LONGHORN ARMY AMMUNITION PLANT KARNACK, TEXAS

ADMINISTRATIVE RECORD

Volume 19

2024

Bate Stamp Numbers
01245996 – 01247974

Prepared for

Department of the Army
Longhorn Army Ammunition Plant

1976–2024

LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS
ADMINISTRATIVE RECORD – CHRONOLOGICAL INDEX

VOLUME 19

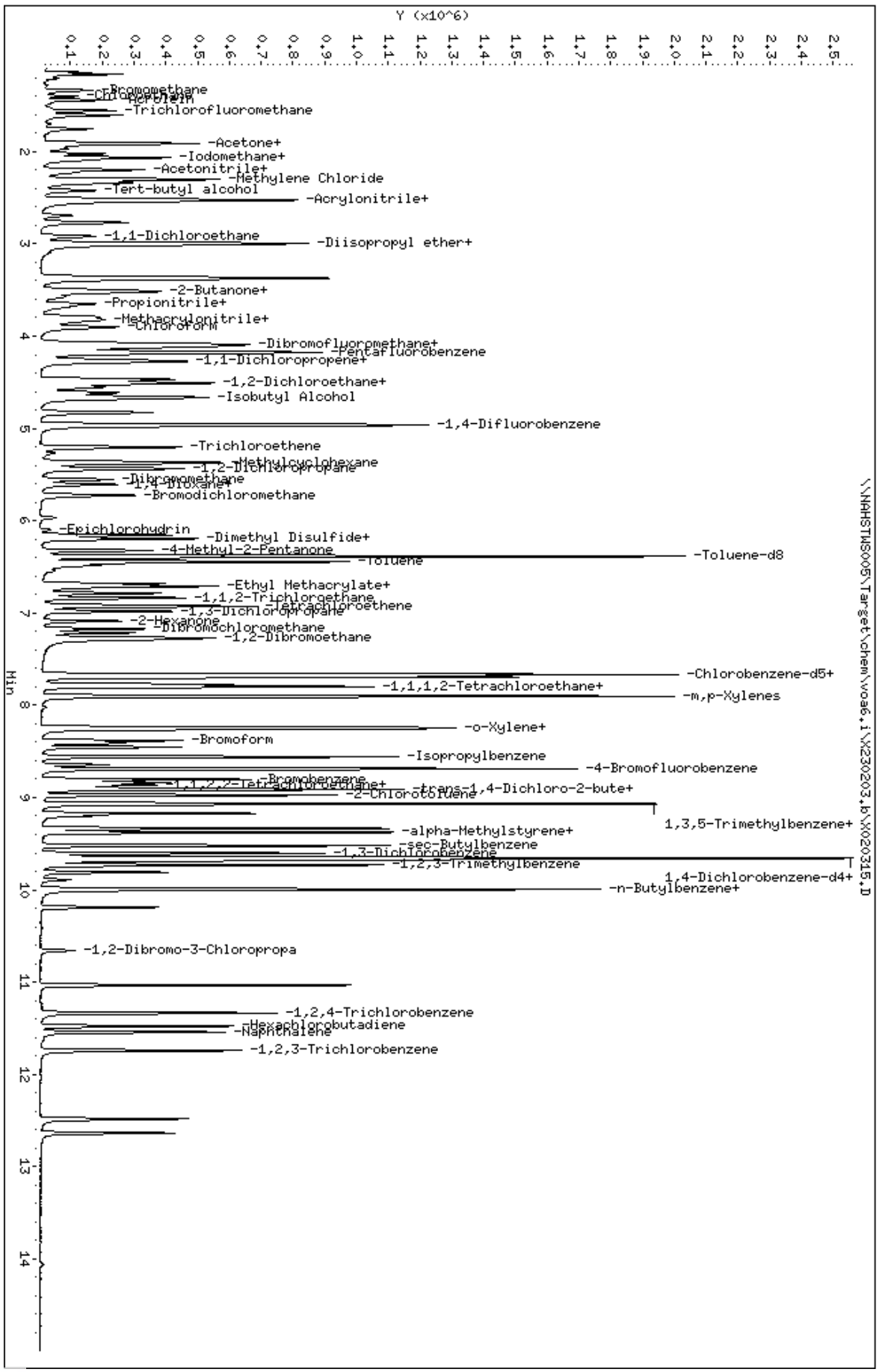
2024

A.	Title:	Report (Cont'd) – Appendix C, File 3 to Draft Final Third Annual Remedial Action Operation Report, LHAAP-16 Landfill, Longhorn Army Ammunition Plant (LHAAP), Karnack, Texas, May 2024
	Author(s):	Department of the Army
	Recipient:	Environmental Protection Agency and Texas Commission on Environmental Quality
	Date:	May 9, 2024
	Bate Stamp:	01245996–01246092
B.	Title:	Memorandum – Memorandum for Record, Extend the operational period of the extraction system at Longhorn Army Ammunition Plant (LHAAP) Site 17 (LHAAP-17), Harrison County, Texas
	Author(s):	Department of the Army
	Recipient:	U.S. Army Environmental Center, Environmental Protection Agency, and Texas Commission on Environmental Quality
	Date:	May 16, 2024
	Bate Stamp:	01246093– 01246093
C.	Title:	Report – Quarterly Evaluation Report, 3rd Quarter (July-September) 2023, Groundwater Treatment Plant, Longhorn Army Ammunition Plant Karnack, Texas
	Author(s):	PCI-Bhate JV
	Recipient:	Environmental Protection Agency and Texas Commission on Environmental Quality
	Date:	May 16, 2024
	Bate Stamp:	01246094– 01246382
D.	Title:	Report (Cont'd) – Appendix C, File 1 to Quarterly Evaluation Report, 3rd Quarter (July-September) 2023, Groundwater Treatment Plant, Longhorn Army Ammunition Plant Karnack, Texas
	Author(s):	PCI-Bhate JV
	Recipient:	Environmental Protection Agency and Texas Commission on Environmental Quality
	Date:	May 16, 2024
	Bate Stamp:	01246383–01247974

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	500812	50.0000	
	71 1,2,3-Trichloropropane	75	8.863	8.863	(0.917)	124086	22.2672	22.26(M)
	73 n-Propylbenzene	91	8.912	8.912	(0.922)	712983	25.7018	25.70
	74 Bromobenzene	156	8.803	8.803	(0.911)	174669	21.2581	21.25
	75 1,3,5-Trimethylbenzene	105	9.066	9.066	(0.938)	512846	25.0256	25.02
	76 2-Chlorotoluene	91	8.972	8.972	(0.929)	431363	23.6965	23.69
	77 4-Chlorotoluene	91	9.070	9.070	(0.939)	496988	23.9490	23.94
	78 tert-Butylbenzene	119	9.336	9.336	(0.966)	439423	26.1956	26.19
	79 1,2,4-Trimethylbenzene	105	9.377	9.377	(0.971)	509432	23.6257	23.62
	81 sec-Butylbenzene	105	9.519	9.519	(0.985)	618997	27.7336	27.73
	82 p-Isopropyltoluene	119	9.647	9.647	(0.998)	537972	26.8982	26.89
	83 1,3-Dichlorobenzene	146	9.606	9.606	(0.994)	304586	22.3342	22.33
	84 1,4-Dichlorobenzene	146	9.681	9.681	(1.002)	316738	21.2836	21.28
	87 n-Butylbenzene	91	9.995	9.992	(1.035)	471593	25.3730	25.37
	88 1,2-Dichlorobenzene	146	9.992	9.992	(1.034)	297980	21.2157	21.21
	89 1,2-Dibromo-3-Chloropropane	155	10.659	10.655	(1.103)	25377	19.9409	19.94
	90 1,2,4-Trichlorobenzene	180	11.338	11.334	(1.173)	208218	23.4908	23.49
	91 Hexachlorobutadiene	225	11.476	11.476	(1.188)	102124	26.1208	26.12
	92 Naphthalene	128	11.544	11.540	(1.195)	430321	21.3375	21.33
	93 1,2,3-Trichlorobenzene	180	11.742	11.739	(1.215)	188667	22.2243	22.22
M	94 1,2-Dichloroethylene (total)	96				249010	36.9121	36.91
M	95 Xylenes (total)	106				720441	66.1371	66.13
	141 Cyclohexane	56	4.118	4.118	(0.987)	191455	27.0334	27.03
	138 Freon TF	101	1.910	1.910	(0.458)	106987	20.2877	20.28
	147 Methylcyclohexane	55	5.377	5.377	(1.083)	295187	23.6724	23.67
	146 Methyl Acetate	43	2.228	2.228	(0.534)	58422	18.0726	18.07
	148 Tert-Butyl alcohol	59	2.423	2.423	(0.581)	203158	408.406	408.40
	149 Isopropyl Alcohol	45	2.090	2.086	(0.501)	111099	427.653	427.65

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.



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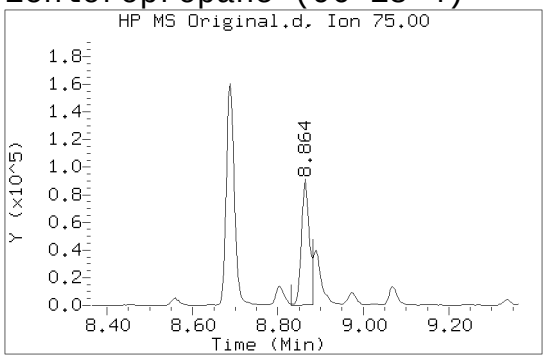
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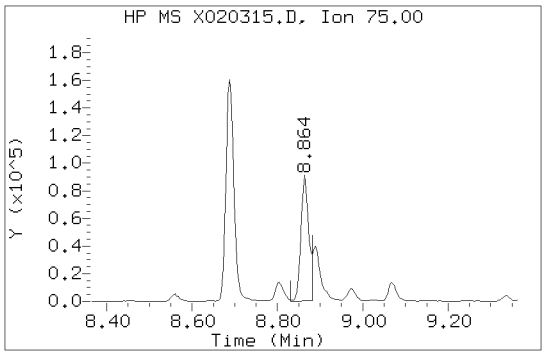
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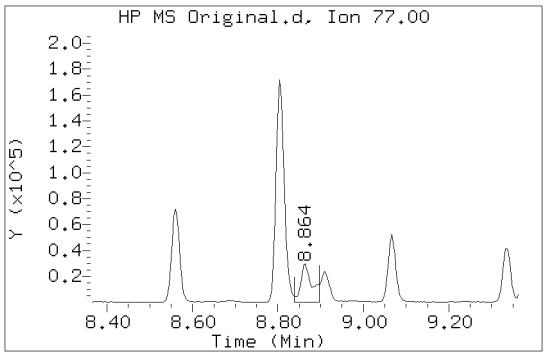
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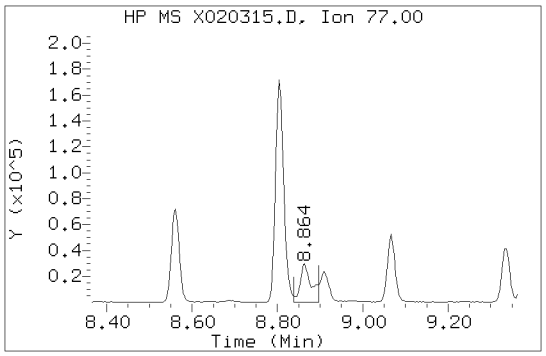
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AFTER

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Report Date: 13-Feb-2023 14:08

ALS Laboratory Group

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Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.174	4.174	(1.000)	713045	50.0000	
135 1,4-Dioxane	88	5.602	5.594	(1.342)	26292	403.377	403.37(a)
140 1,3-Butadiene	54	1.160	1.163	(0.278)	67578	13.8090	13.80
25 Methacrylonitrile	41	3.818	3.814	(0.915)	86253	17.0833	17.08
12 Isobutyl Alcohol	43	4.672	4.668	(1.119)	307095	382.903	382.90
13 Acetonitrile	39	2.195	2.194	(0.526)	121567	187.326	187.32
14 Allyl Chloride	41	2.195	2.194	(0.526)	234086	18.9392	18.93
4 Propionitrile	54	3.649	3.645	(0.874)	127111	174.708	174.70(a)
72 trans-1,4-Dichloro-2-butene	53	8.886	8.886	(1.159)	39509	20.1064	20.10
130 Ethyl Acetate	43	3.653	3.649	(0.875)	106812	19.1969	19.19
40 Methyl Methacrylate	41	5.606	5.602	(1.343)	89132	18.3326	18.33
49 Ethyl Methacrylate	69	6.712	6.708	(1.353)	85081	17.8932	17.89
142 Tetrahydrofuran	42	3.840	3.840	(0.920)	31055	32.9763	32.97
145 alpha-Methylstyrene	118	9.332	9.257	(0.966)	6266	0.57217	0.57(a)
156 Diisopropyl ether	45	2.993	2.993	(0.717)	341562	18.4658	18.46
200 Dimethyl Disulfide	94	6.198	6.194	(0.808)	248220	20.1488	20.14
182 Epichlorohydrin	57	6.097	6.093	(1.229)	24904	56.8835	56.88
166 1,2,3-Trimethylbenzene	105	9.729	9.729	(1.007)	485330	20.3913	20.39
2 Dichlorodifluoromethane	85	0.969	0.969	(0.232)	51181	10.5748	10.57
3 Chloromethane	50	1.074	1.077	(0.257)	94328	16.1863	16.18

5 Vinyl Chloride	62	1.141	1.141 (0.274)	94546	15.1787	15.17
6 Bromomethane	94	1.336	1.340 (0.320)	67717	15.6306	15.63

Data File: \\NAHSTWS005\Target\chem\voa6.i\X230203.b\X020316.D Page 2
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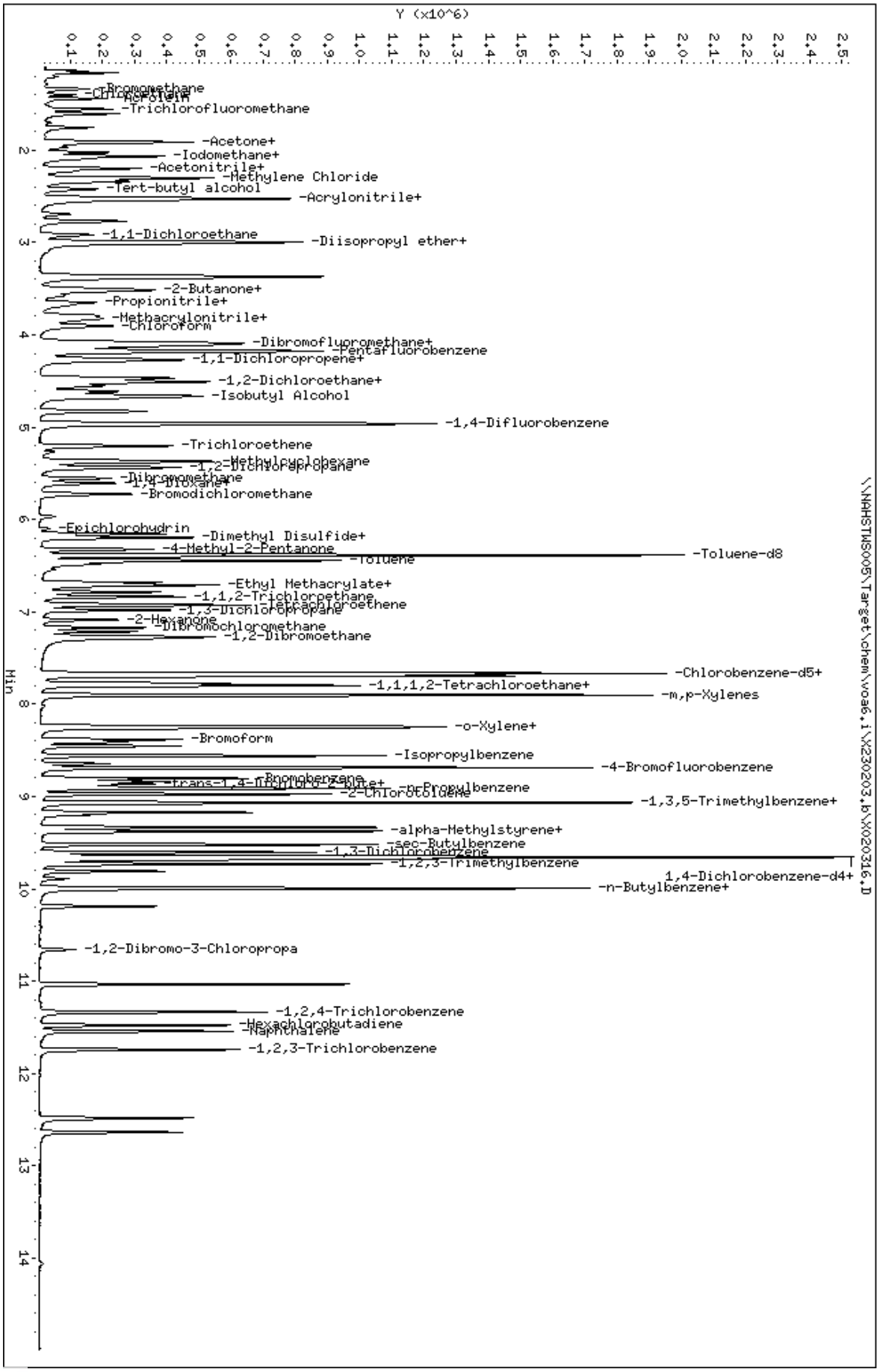
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
	7 Chloroethane	64	1.400	1.400	(0.335)	64974	14.9866	14.98
	8 Trichlorofluoromethane	101	1.557	1.557	(0.373)	162207	18.6089	18.60
	9 Acrolein	56	1.441	1.441	(0.345)	17037	36.7727	36.77
	10 Acetone	43	1.970	1.969	(0.472)	51793	25.8615	25.86
	11 1,1-Dichloroethene	96	1.910	1.909	(0.458)	87536	16.1753	16.17
	15 Iodomethane	142	2.022	2.026	(0.485)	214026	33.1745	33.17
	16 Acrylonitrile	53	2.532	2.528	(0.607)	69394	37.8080	37.80
	17 Methylene Chloride	84	2.300	2.299	(0.551)	116996	15.7611	15.76
	18 Methyl tert-butyl ether	73	2.528	2.528	(0.606)	352129	19.8790	19.87
	19 Carbon Disulfide	76	2.067	2.067	(0.495)	505439	35.6975	35.69
	20 trans-1,2-Dichloroethene	96	2.524	2.524	(0.605)	108469	17.9090	17.90
	21 Vinyl Acetate	43	2.993	2.993	(0.717)	521813	33.5580	33.55
	22 1,1-Dichloroethane	63	2.918	2.918	(0.699)	184616	17.3682	17.36
	24 2-Butanone	43	3.578	3.570	(0.857)	67524	33.8804	33.88
	26 2,2-Dichloropropane	77	3.503	3.506	(0.839)	177532	19.6710	19.67
	27 cis-1,2-Dichloroethene	96	3.522	3.521	(0.844)	128830	17.4783	17.47
	28 Chloroform	83	3.904	3.900	(0.935)	215236	18.0662	18.06
	29 Bromochloromethane	128	3.792	3.791	(0.908)	64883	16.0772	16.07
$	30 Dibromofluoromethane	113	4.091	4.095	(0.980)	299976	43.7930	43.79
	31 1,1,1-Trichloroethane	97	4.080	4.080	(0.978)	191007	20.2071	20.20
	32 1,1-Dichloropropene	75	4.275	4.275	(0.862)	165681	23.1119	23.11
	33 1,2-Dichloroethane	62	4.552	4.552	(0.918)	168714	20.3930	20.39
	34 Carbon Tetrachloride	117	4.264	4.260	(0.859)	165013	21.5560	21.55
$	35 1,2-Dichloroethane-d4	65	4.466	4.470	(1.070)	346873	48.0109	48.01
*	36 1,4-Difluorobenzene	114	4.961	4.961	(1.000)	1009740	50.0000	
	37 Benzene	78	4.508	4.507	(0.909)	471877	19.5699	19.56
	38 Trichloroethene	130	5.205	5.205	(1.049)	143000	20.9094	20.90
	39 Bromodichloromethane	83	5.722	5.726	(1.153)	167143	18.4705	18.47
	42 1,2-Dichloropropane	63	5.433	5.433	(1.095)	117711	18.3521	18.35
	44 Dibromomethane	93	5.550	5.549	(1.119)	78533	18.0137	18.01
	45 4-Methyl-2-Pentanone	43	6.322	6.322	(0.824)	200376	41.1851	41.18
	46 cis-1,3-Dichloropropene	75	6.153	6.153	(1.240)	201090	18.9216	18.92
*	47 Chlorobenzene-d5	117	7.668	7.667	(1.000)	910244	50.0000	
$	48 Toluene-d8	98	6.386	6.385	(0.833)	1170568	52.0420	52.04
	50 Toluene	91	6.446	6.445	(0.841)	521221	20.7167	20.71
	51 trans-1,3-Dichloropropene	75	6.682	6.678	(1.347)	171000	19.3886	19.38
	52 2-Hexanone	43	7.087	7.083	(0.924)	132740	40.1008	40.10
	53 1,1,2-Trichloroethane	83	6.839	6.839	(0.892)	96868	19.1916	19.19
	54 1,3-Dichloropropane	76	6.982	6.978	(0.911)	195246	19.6525	19.65
	55 Dibromochloromethane	129	7.173	7.173	(0.935)	140121	19.2346	19.23
	56 Tetrachloroethene	164	6.925	6.925	(0.903)	121685	23.3759	23.37
	57 1,2-Dibromoethane	107	7.259	7.259	(0.947)	125459	19.8802	19.88
	58 1-Chlorohexane	55	7.694	7.694	(1.551)	123378	25.2837	25.28
	59 Chlorobenzene	112	7.694	7.694	(1.003)	358696	20.1001	20.10
	60 1,1,1,2-Tetrachloroethane	131	7.773	7.772	(1.014)	134240	20.2134	20.21
	61 Ethylbenzene	106	7.799	7.799	(1.017)	185956	22.1215	22.12
	62 m,p-Xylenes	106	7.904	7.904	(1.031)	465384	42.9461	42.94
	63 o-Xylene	106	8.241	8.241	(1.075)	221177	20.6794	20.67
	64 Styrene	104	8.260	8.256	(1.077)	274910	15.3350	15.33
	66 Bromoform	173	8.410	8.410	(1.097)	95371	18.8973	18.89
	67 Isopropylbenzene	105	8.560	8.560	(1.116)	582273	23.8292	23.82
	68 1,1,2,2-Tetrachloroethane	83	8.837	8.837	(0.915)	155062	19.6837	19.68

$	69	4-Bromofluorobenzene	95	8.687	8.687 (1.133)	443413	52.7368	52.73
*	70	1,4-Dichlorobenzene-d4	152	9.662	9.662 (1.000)	494253	50.0000	

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
71	1,2,3-Trichloropropane	75	8.863	8.863	(0.917)	114582	20.8346	20.83(M)
73	n-Propylbenzene	91	8.912	8.912	(0.922)	685005	25.0209	25.02
74	Bromobenzene	156	8.803	8.803	(0.911)	167530	20.6599	20.65
75	1,3,5-Trimethylbenzene	105	9.066	9.066	(0.938)	494039	24.4278	24.42
76	2-Chlorotoluene	91	8.972	8.972	(0.929)	416948	23.2086	23.20
77	4-Chlorotoluene	91	9.070	9.069	(0.939)	471912	23.0424	23.04
78	tert-Butylbenzene	119	9.336	9.336	(0.966)	421569	25.4647	25.46
79	1,2,4-Trimethylbenzene	105	9.377	9.377	(0.971)	493894	23.2091	23.20
81	sec-Butylbenzene	105	9.519	9.519	(0.985)	595167	27.0198	27.01
82	p-Isopropyltoluene	119	9.647	9.647	(0.998)	521107	26.4007	26.40
83	1,3-Dichlorobenzene	146	9.606	9.602	(0.994)	296518	22.0311	22.03
84	1,4-Dichlorobenzene	146	9.681	9.680	(1.002)	309744	21.0899	21.08
87	n-Butylbenzene	91	9.992	9.992	(1.034)	457251	24.9590	24.95
88	1,2-Dichlorobenzene	146	9.992	9.992	(1.034)	288437	20.8087	20.80
89	1,2-Dibromo-3-Chloropropane	155	10.659	10.655	(1.103)	25088	19.9753	19.97
90	1,2,4-Trichlorobenzene	180	11.338	11.337	(1.173)	207212	23.6875	23.68
91	Hexachlorobutadiene	225	11.476	11.476	(1.188)	100265	25.9862	25.98
92	Naphthalene	128	11.544	11.540	(1.195)	429781	21.5935	21.59
93	1,2,3-Trichlorobenzene	180	11.742	11.738	(1.215)	187445	22.3733	22.37
M 94	1,2-Dichloroethylene (total)	96				237299	35.3873	35.38
M 95	Xylenes (total)	106				686561	63.6255	63.62
141	Cyclohexane	56	4.118	4.117	(0.987)	183236	26.1122	26.11
138	Freon TF	101	1.910	1.913	(0.458)	100864	19.2702	19.27
147	Methylcyclohexane	55	5.377	5.377	(1.084)	282996	22.8960	22.89
146	Methyl Acetate	43	2.228	2.228	(0.534)	56769	17.6931	17.69
148	Tert-Butyl alcohol	59	2.423	2.423	(0.581)	202143	409.416	409.41
149	Isopropyl Alcohol	45	2.090	2.089	(0.501)	110425	428.249	428.24

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.



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Column phase: DB624

Instrument: voa6.i
Operator: PC
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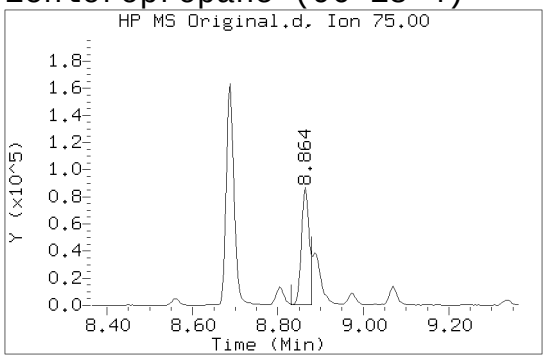
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1,2,3-Trichloropropane (96-18-4)

Reason Code:

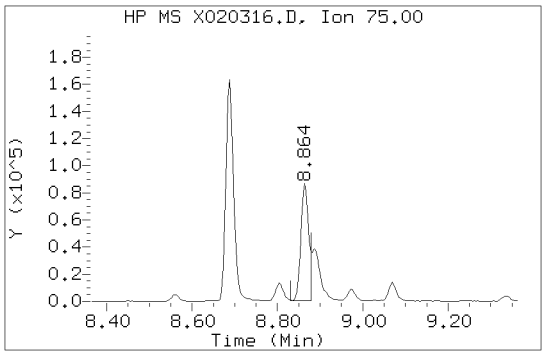
BEFORE

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HEIGHT
86453
09-Feb-2023
17:24
Kori
Bagsby



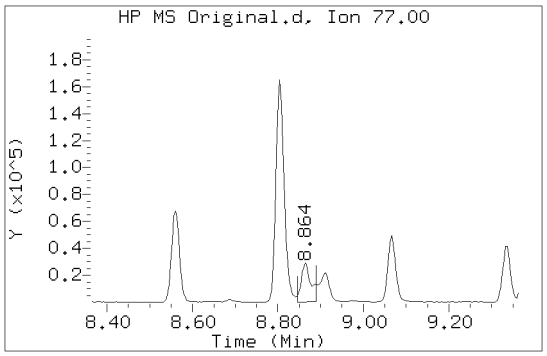
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MASS
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13-Feb-2023
14:07
Kori
Bags



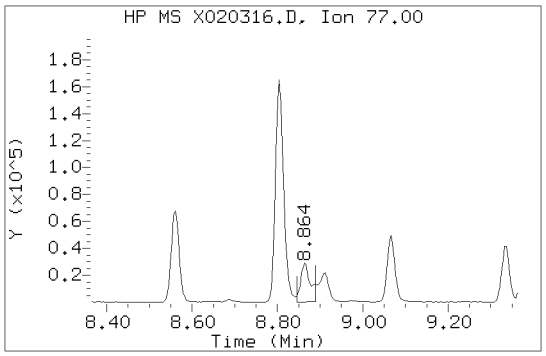
BEFORE

MASS
77
AREA
47574
HEIGHT
29045
09-Feb-2023
17:24
Kori
Bagsby



AFTER

MASS
77
AREA
47574
HEIGHT
29045
13-Feb-2023
14:07
Kori
Bags



Data File: \\NAHSTWS005\Target\chem\voa6.i\X230203.b\X020318.D Page 1
Report Date: 13-Feb-2023 14:08

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X230203.b\X020318.D
Lab Smp Id: HS23011525-02 Client Smp ID: HS23011525-02
Inj Date : 03-FEB-2023 16:28
Operator : PC Inst ID: voa6.i
Smp Info : HS23011525-02;HS23011525-02;;;
Misc Info : V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X230203.b\8260W.m
Meth Date : 13-Feb-2023 14:07 voa6.i Quant Type: ISTD
Cal Date : 16-DEC-2022 14:04 Cal File: X121608.D
Als bottle: 17
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 0474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

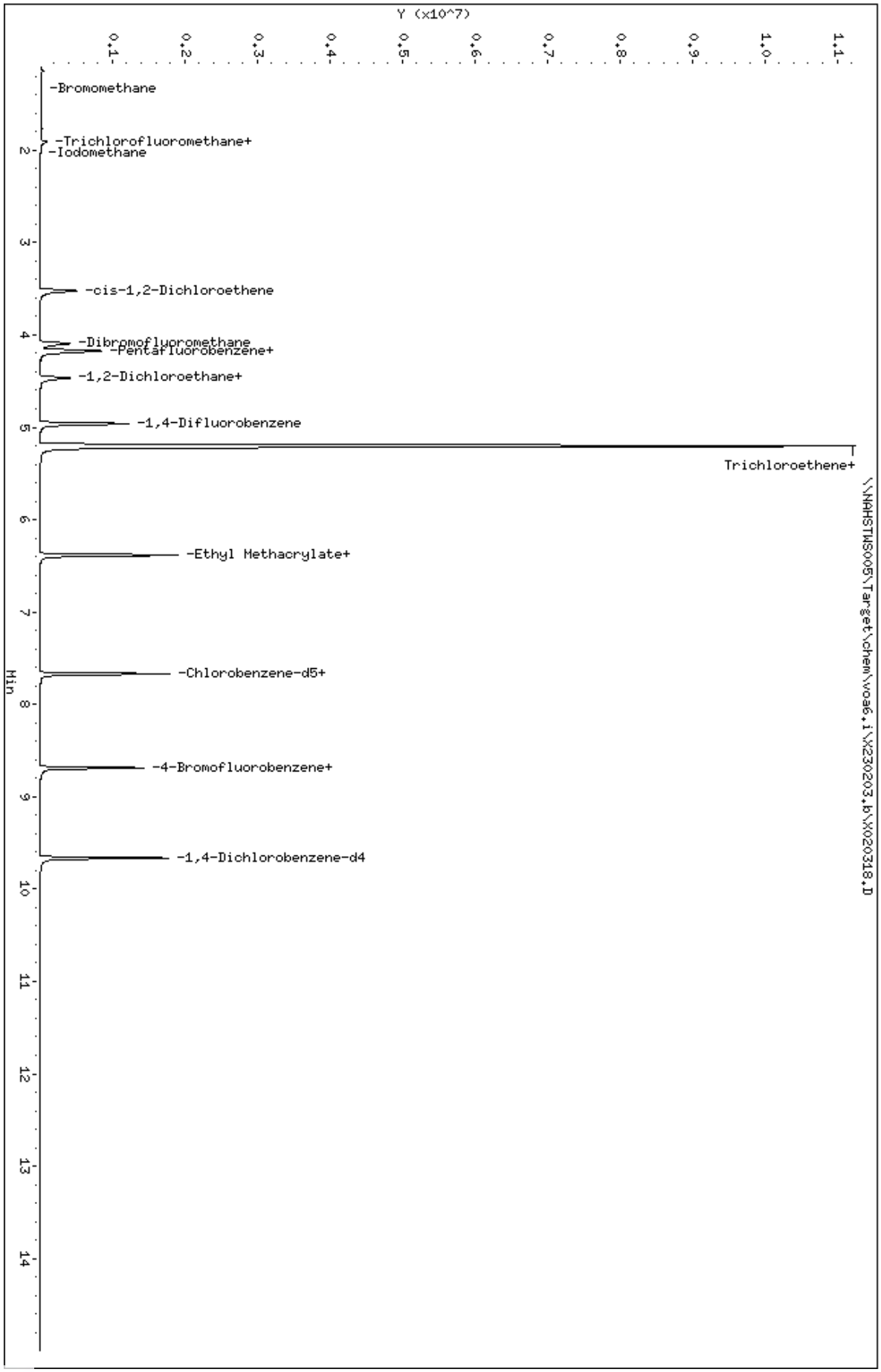
Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.174	4.174	(1.000)	707273	50.0000	
$ 30 Dibromofluoromethane	113	4.095	4.095	(0.981)	306804	45.1605	45.16
$ 35 1,2-Dichloroethane-d4	65	4.466	4.470	(1.070)	347675	48.5118	48.51
* 36 1,4-Difluorobenzene	114	4.961	4.961	(1.000)	1007735	50.0000	
* 47 Chlorobenzene-d5	117	7.667	7.667	(1.000)	883058	50.0000	
$ 48 Toluene-d8	98	6.385	6.385	(0.833)	1144478	52.4485	52.44
$ 69 4-Bromofluorobenzene	95	8.687	8.687	(1.133)	417108	51.1374	51.13
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	451272	50.0000	
5 Vinyl Chloride	62	1.141	1.141	(0.273)	32714	5.29488	5.29
11 1,1-Dichloroethene	96	1.910	1.909	(0.458)	8582	1.59877	1.59(a)
27 cis-1,2-Dichloroethene	96	3.521	3.521	(0.844)	295620	40.4339	40.43
33 1,2-Dichloroethane	62	4.564	4.552	(0.920)	5938	0.71917	0.71(a)
38 Trichloroethene	130	5.201	5.205	(1.048)	3755124	550.164	550.16(A)

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount

exceeded maximum amount.



Data File: \\NAHSTWS005\Target\chem\voa6.i\X230203.b\X020318.D
Date : 03-FEB-2023 16:28
Client ID: HS23011525-02
Sample Info: HS23011525-02;HS23011525-02;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\NAHSTWS005\Target\chem\voa6.i\X230203.b\X020318.D Page 2

Date : 03-FEB-2023 16:28

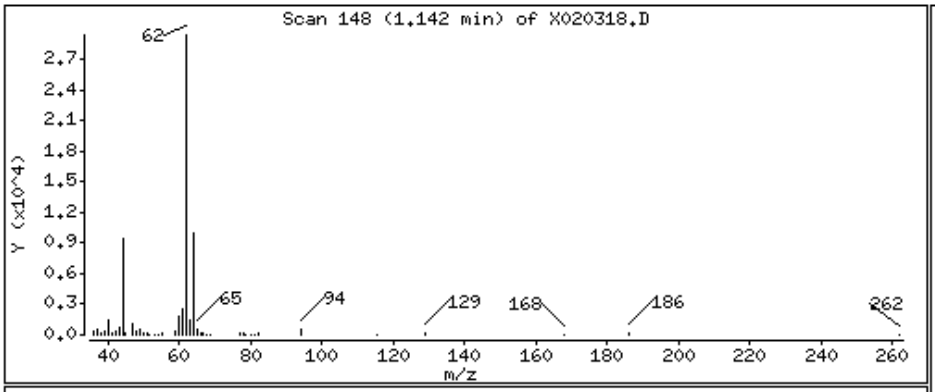
Client ID: HS23011525-02 Instrument: voa6.i

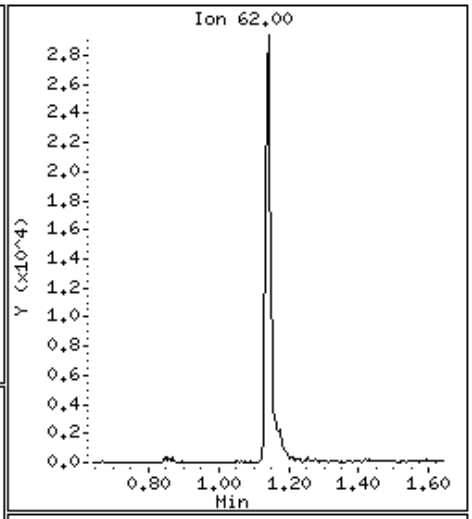
Sample Info: HS23011525-02;HS23011525-02;;;

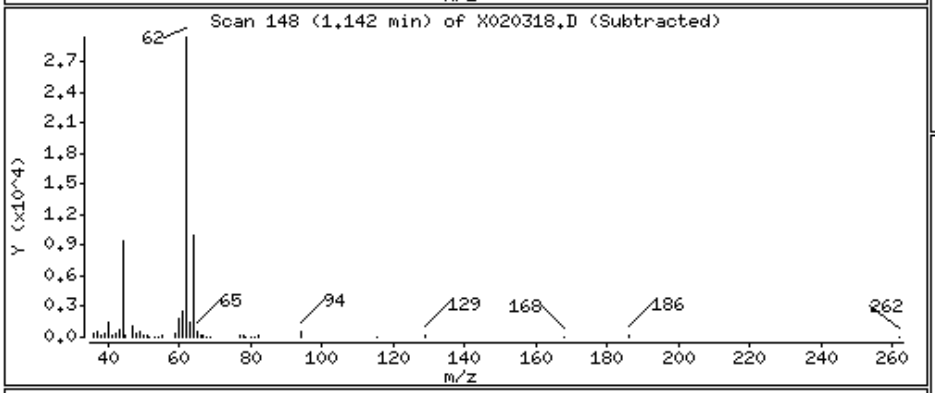
Purge Volume: 5.0 Operator: PC

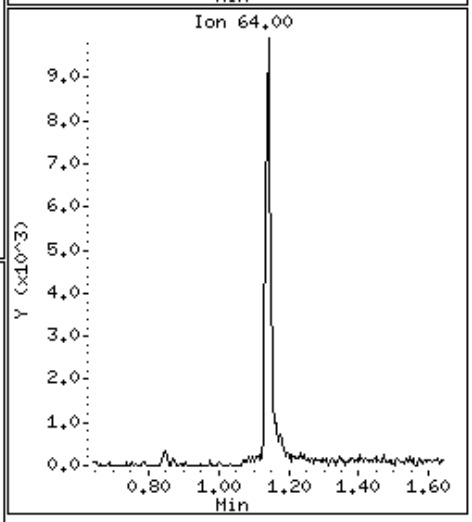
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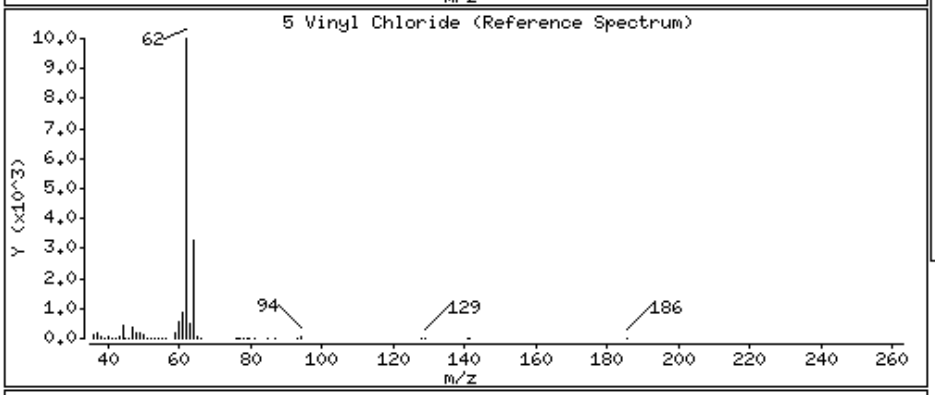
5 Vinyl Chloride Concentration: 5.29 ug/l

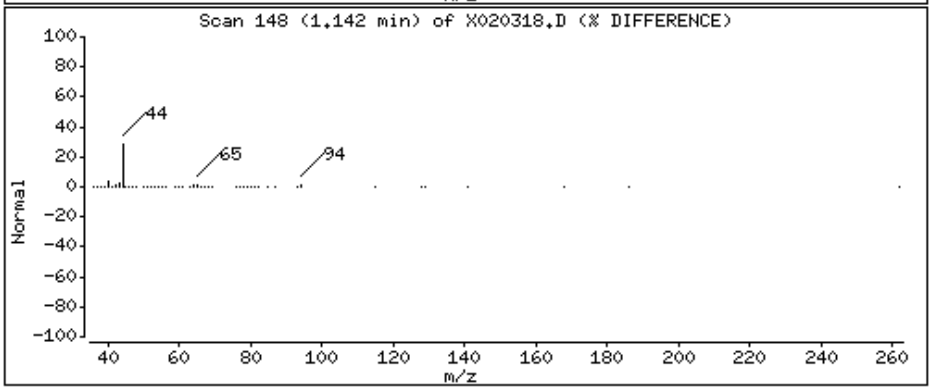












Data File: \\NAHSTWS005\Target\chem\voa6.i\X230203.b\X020318.D Page 3

Date : 03-FEB-2023 16:28

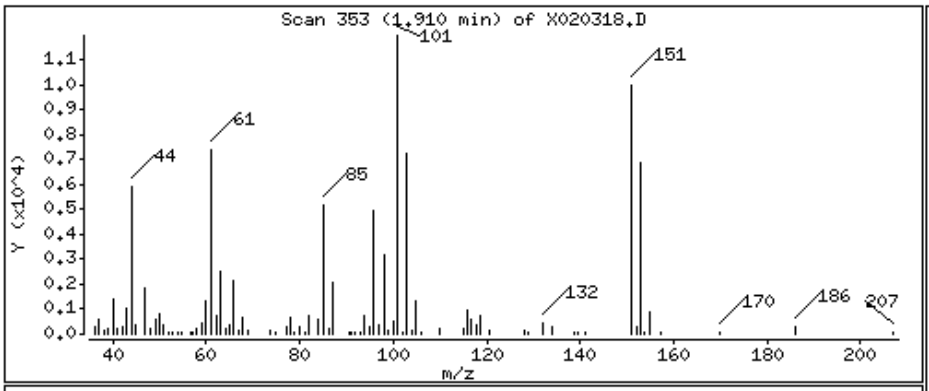
Client ID: HS23011525-02 Instrument: voa6.i

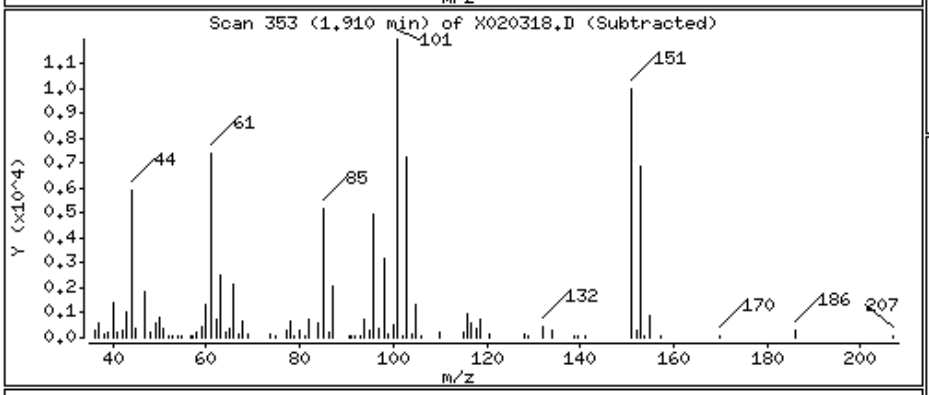
Sample Info: HS23011525-02;HS23011525-02;;;

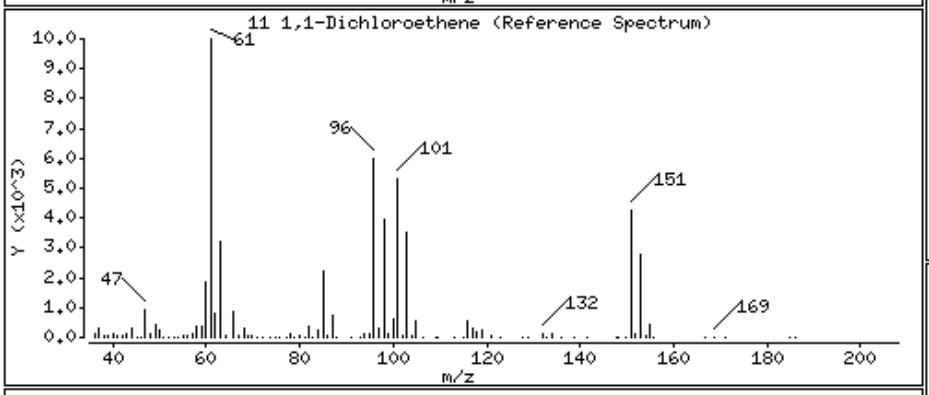
Purge Volume: 5.0 Operator: PC

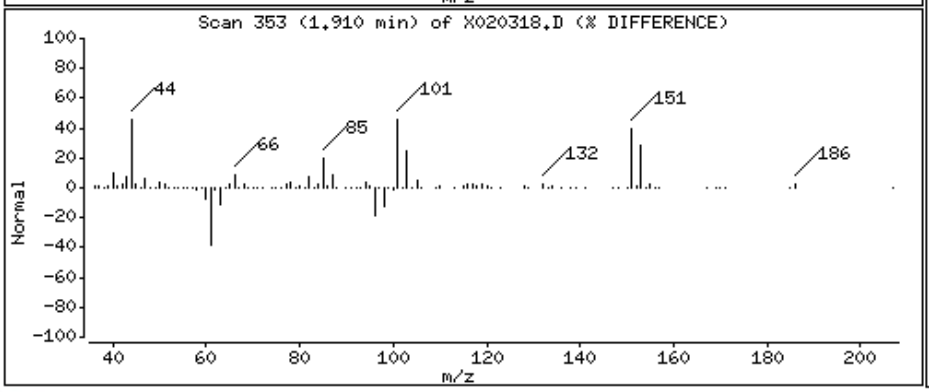
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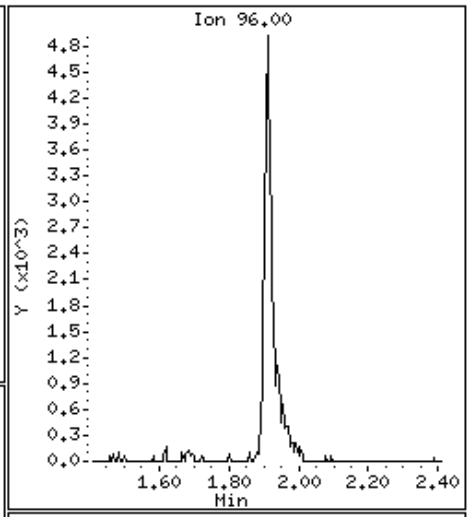
11 1,1-Dichloroethene Concentration: 1.59 ug/l

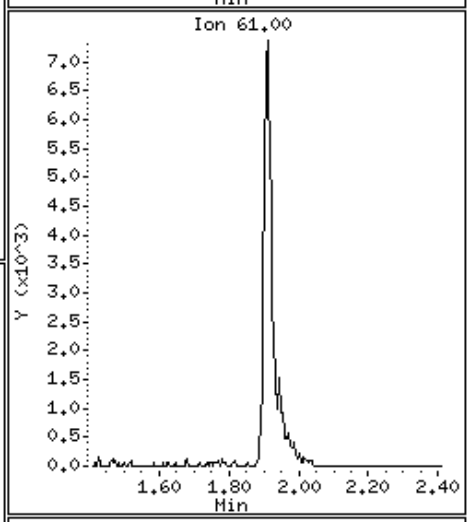


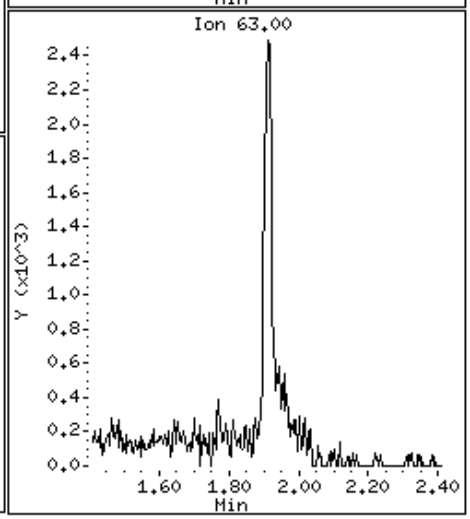












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Date : 03-FEB-2023 16:28

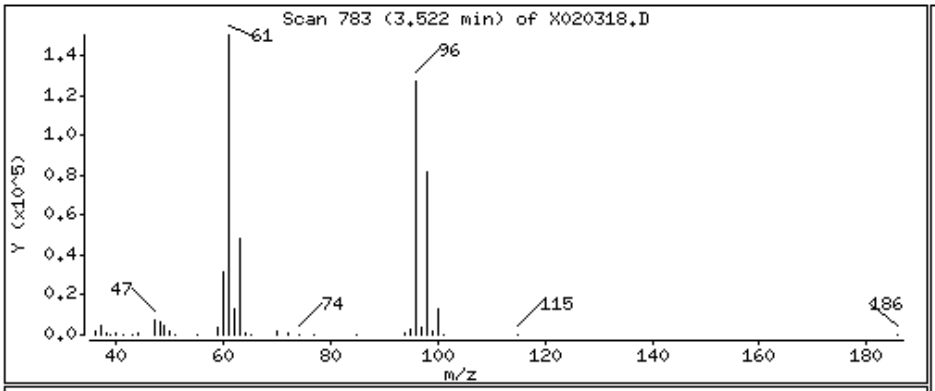
Client ID: HS23011525-02 Instrument: voa6.i

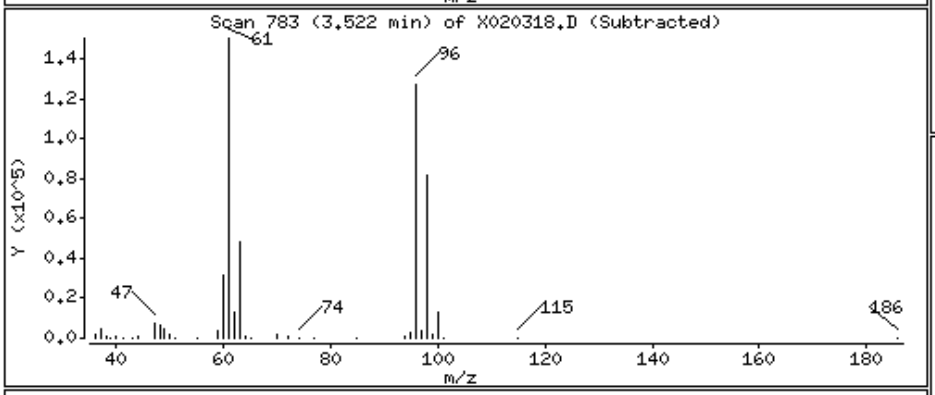
Sample Info: HS23011525-02;HS23011525-02;;;

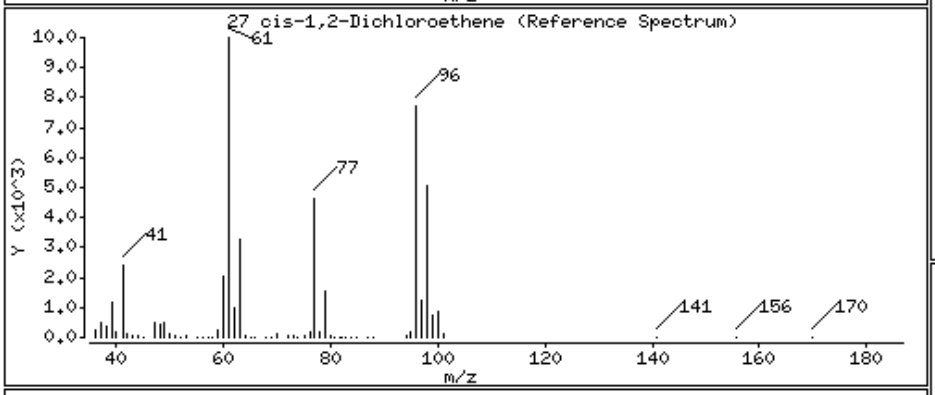
Purge Volume: 5.0 Operator: PC

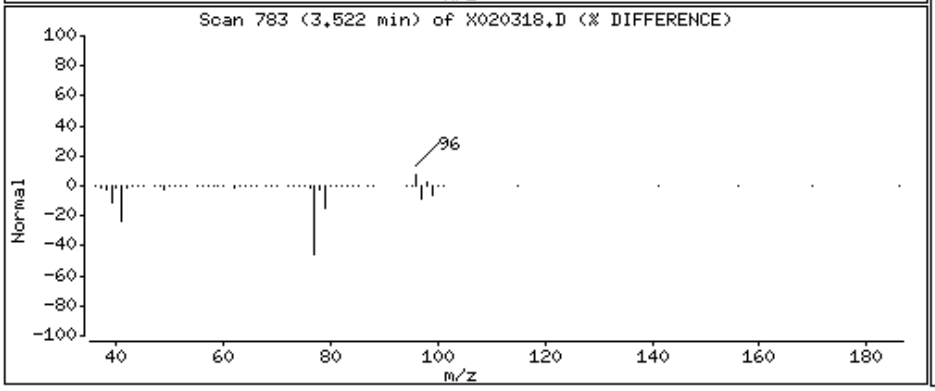
Column phase: DB624 Column diameter: 0.18

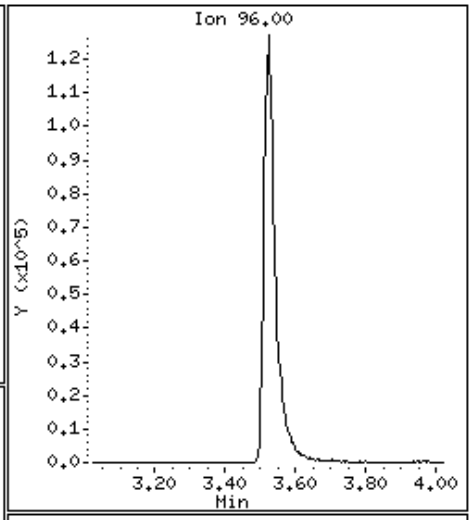
27 cis-1,2-Dichloroethene Concentration: 40.43 ug/l

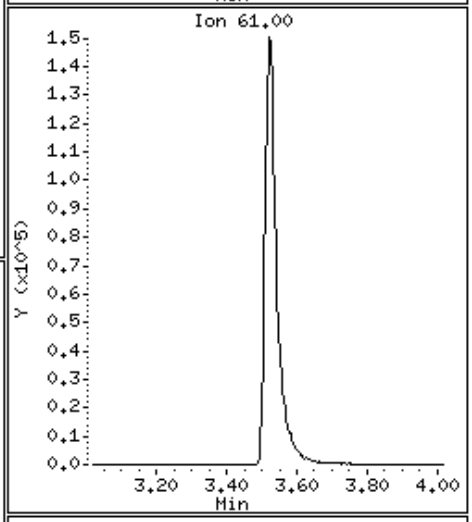


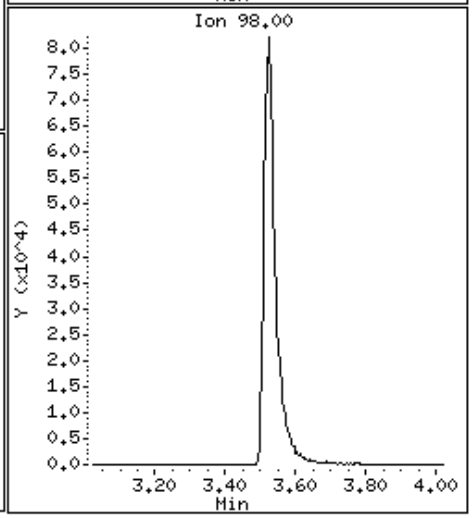












Data File: \\NAHSTWS005\Target\chem\voa6.i\X230203.b\X020318.D Page 5

Date : 03-FEB-2023 16:28

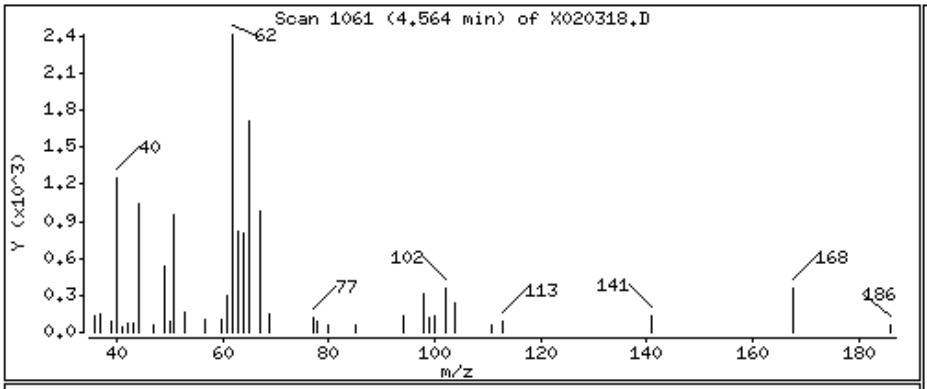
Client ID: HS23011525-02 Instrument: voa6.i

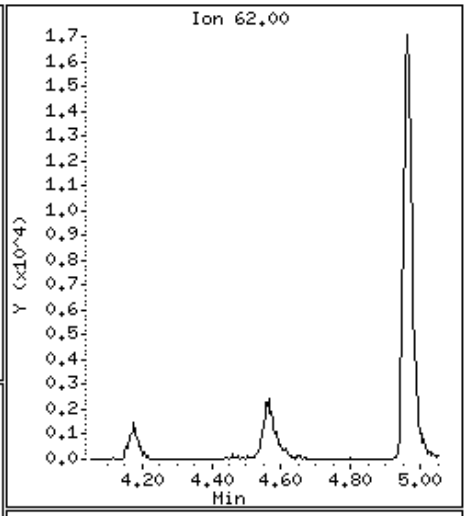
Sample Info: HS23011525-02;HS23011525-02;;;

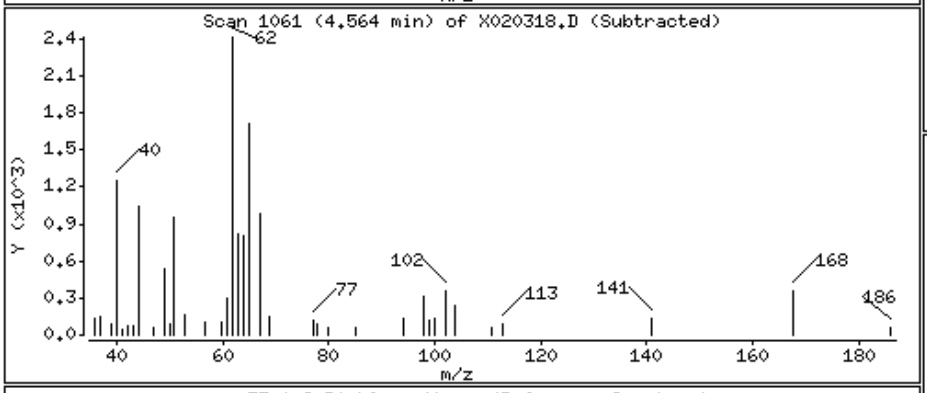
Purge Volume: 5.0 Operator: PC

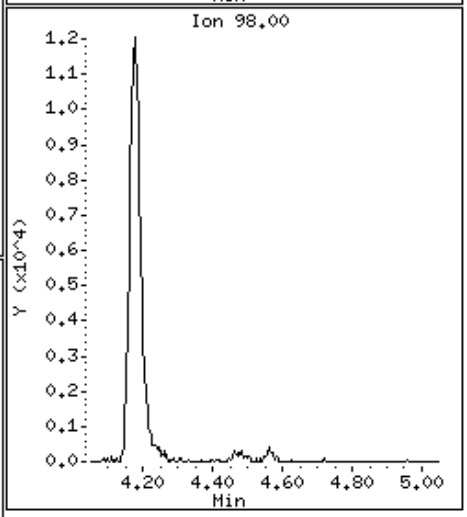
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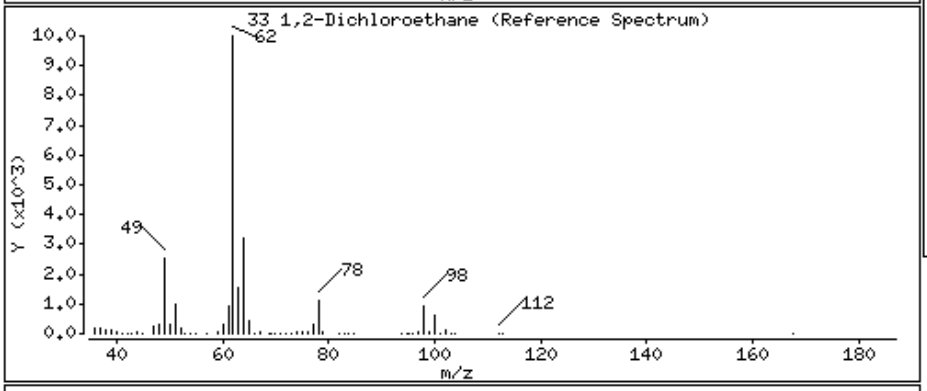
33 1,2-Dichloroethane Concentration: 0.71 ug/l

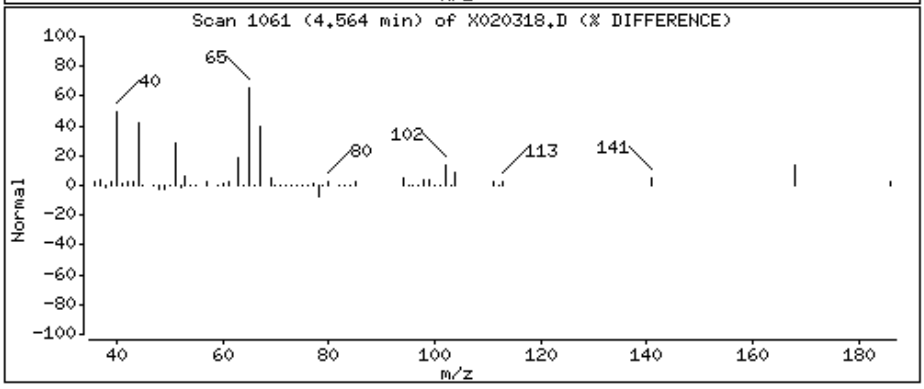












Data File: \\NAHSTWS005\Target\chem\voa6.i\X230203.b\X020318.D Page 6

Date : 03-FEB-2023 16:28

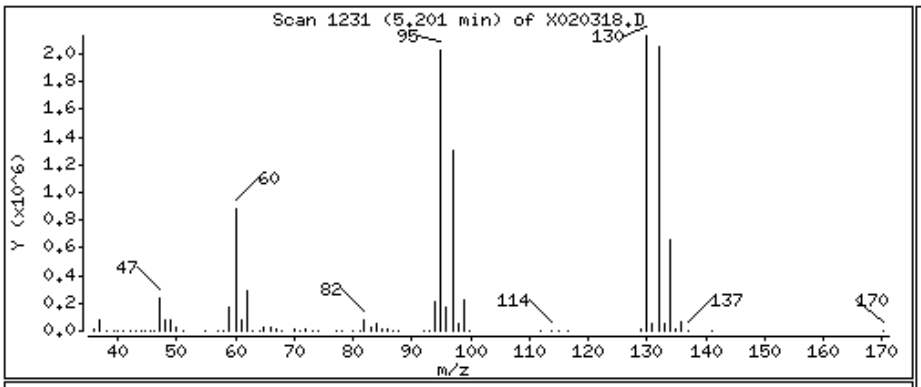
Client ID: HS23011525-02 Instrument: voa6.i

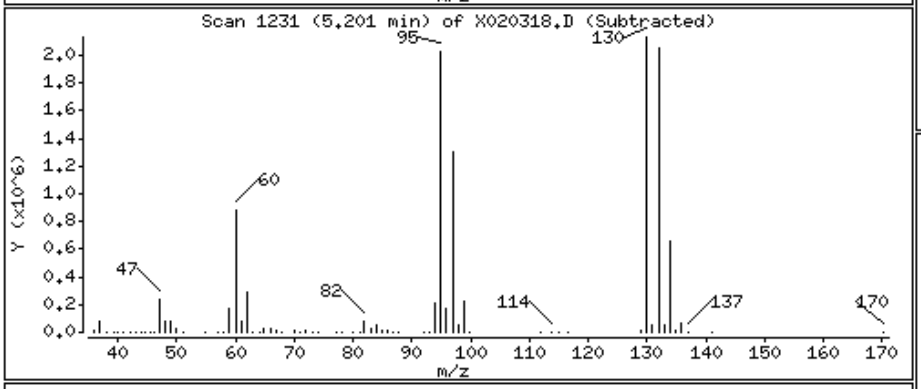
Sample Info: HS23011525-02;HS23011525-02;;;

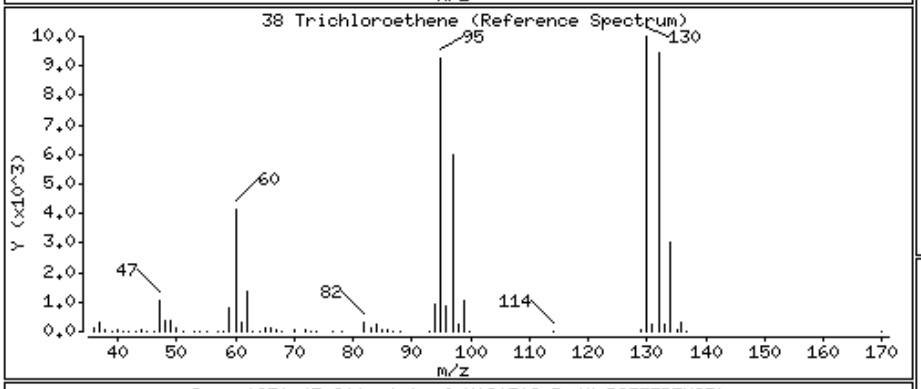
Purge Volume: 5.0 Operator: PC

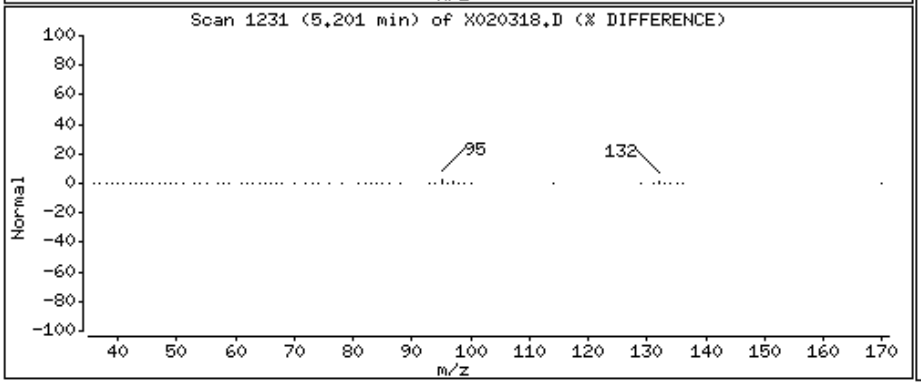
Column phase: DB624 Column diameter: 0.18

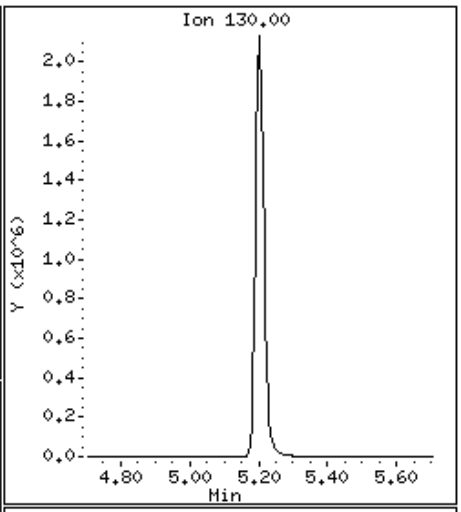
38 Trichloroethene Concentration: 550.16 ug/l

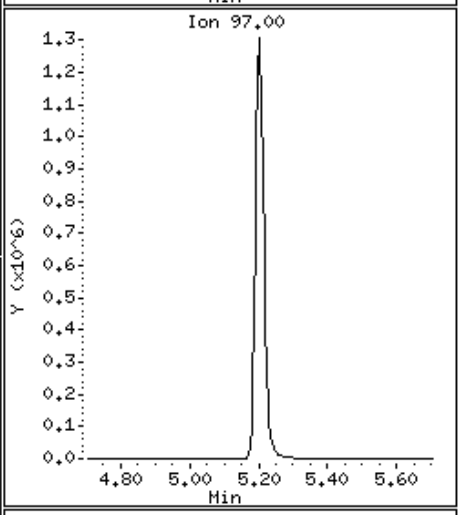


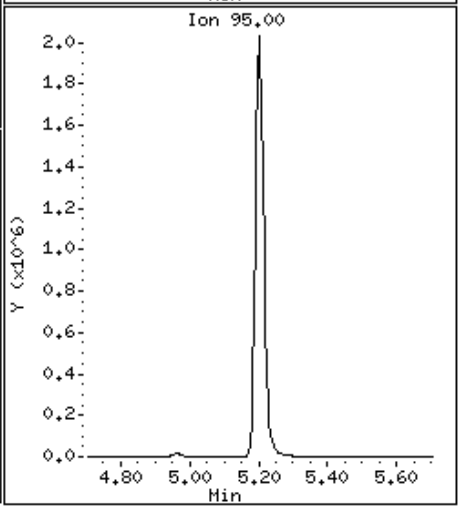












Data File : \\NAHSTWS005\Target\chem\voa6.i\X230203.b\X020318.D
Inj Date : 03-FEB-2023 16:28
InstruID : voa6.i
LabSampID : HS23011525-02

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa6.i\X230203.b\X020330.D Page 1
Report Date: 13-Feb-2023 14:08

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X230203.b\X020330.D
Lab Smp Id: CCV-END Client Smp ID: CCV-END
Inj Date : 03-FEB-2023 20:40
Operator : PC Inst ID: voa6.i
Smp Info : CCV-END;CCV-END;2;;
Misc Info : V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X230203.b\8260W.m
Meth Date : 13-Feb-2023 14:08 voa6.i Quant Type: ISTD
Cal Date : 16-DEC-2022 14:04 Cal File: X121608.D
Als bottle: 29 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1	Pentafluorobenzene	168	4.174	4.174	(1.000)	581666	50.0000	
135	1,4-Dioxane	88	5.595	5.595	(1.340)	59670	1000.00	1122.24
140	1,3-Butadiene	54	1.160	1.160	(0.278)	204527	50.0000	51.23
25	Methacrylonitrile	41	3.818	3.818	(0.915)	211763	50.0000	51.41
12	Isobutyl Alcohol	43	4.672	4.672	(1.119)	693563	1000.00	1060.09
13	Acetonitrile	39	2.195	2.195	(0.526)	254511	500.000	480.76
14	Allyl Chloride	41	2.195	2.195	(0.526)	509763	50.0000	50.55
4	Propionitrile	54	3.645	3.645	(0.873)	308411	500.000	519.64
72	trans-1,4-Dichloro-2-butene	53	8.890	8.890	(1.159)	94644	50.0000	54.08
194	Acetaldehyde	44	1.209	1.209	(0.290)	91864	200.000	255.06
130	Ethyl Acetate	43	3.649	3.649	(0.874)	248022	50.0000	54.64
40	Methyl Methacrylate	41	5.602	5.602	(1.342)	221294	50.0000	55.79
49	Ethyl Methacrylate	69	6.708	6.708	(1.352)	238539	50.0000	58.25
142	Tetrahydrofuran	42	3.840	3.840	(0.920)	70204	100.000	96.99
145	alpha-Methylstyrene	118	9.257	9.257	(0.958)	534707	50.0000	54.19
156	Diisopropyl ether	45	2.993	2.993	(0.717)	723244	50.0000	47.93
200	Dimethyl Disulfide	94	6.194	6.194	(0.808)	553505	50.0000	50.44
182	Epichlorohydrin	57	6.093	6.093	(1.228)	80372	200.000	206.31
166	1,2,3-Trimethylbenzene	105	9.729	9.729	(1.007)	1059729	50.0000	49.42
2	Dichlorodifluoromethane	85	0.969	0.969	(0.232)	467366	50.0000	114.37

3 Chloromethane	50	1.074	1.074 (0.257)	265507	50.0000	50.43
5 Vinyl Chloride	62	1.141	1.141 (0.274)	245333	50.0000	48.28

Data File: \\NAHSTWS005\Target\chem\voa6.i\X230203.b\X020330.D Page 2
Report Date: 13-Feb-2023 14:08

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	6 Bromomethane	94	1.336	1.336	(0.320)	165989	50.0000	43.43
	7 Chloroethane	64	1.400	1.400	(0.335)	152596	50.0000	43.14
	8 Trichlorofluoromethane	101	1.557	1.557	(0.373)	350909	50.0000	49.35
	9 Acrolein	56	1.441	1.441	(0.345)	33218	100.000	83.96
	10 Acetone	43	1.970	1.970	(0.472)	133594	100.000	81.84
	11 1,1-Dichloroethene	96	1.910	1.910	(0.458)	194356	50.0000	44.02
	15 Iodomethane	142	2.022	2.022	(0.485)	523973	100.000	90.74
	16 Acrylonitrile	53	2.528	2.528	(0.606)	160035	100.000	106.88
	17 Methylene Chloride	84	2.300	2.300	(0.551)	281157	50.0000	46.43
	18 Methyl tert-butyl ether	73	2.532	2.532	(0.607)	695507	50.0000	48.13
	19 Carbon Disulfide	76	2.063	2.063	(0.494)	1088735	100.000	94.26
	20 trans-1,2-Dichloroethene	96	2.524	2.524	(0.605)	244587	50.0000	49.50
	21 Vinyl Acetate	43	2.993	2.993	(0.717)	944337	100.000	74.44
	22 1,1-Dichloroethane	63	2.918	2.918	(0.699)	423113	50.0000	48.79
	24 2-Butanone	43	3.570	3.570	(0.855)	178351	100.000	102.93
	26 2,2-Dichloropropane	77	3.503	3.503	(0.839)	346891	50.0000	47.11
	27 cis-1,2-Dichloroethene	96	3.522	3.522	(0.844)	290040	50.0000	48.23
	28 Chloroform	83	3.900	3.900	(0.934)	486855	50.0000	50.09
	29 Bromochloromethane	128	3.788	3.788	(0.908)	153151	50.0000	46.52
$	30 Dibromofluoromethane	113	4.095	4.095	(0.981)	248063	50.0000	44.39
	31 1,1,1-Trichloroethane	97	4.076	4.076	(0.977)	406381	50.0000	52.70
	32 1,1-Dichloropropene	75	4.275	4.275	(0.862)	351763	50.0000	56.98
	33 1,2-Dichloroethane	62	4.552	4.552	(0.918)	379915	50.0000	53.32
	34 Carbon Tetrachloride	117	4.260	4.260	(0.859)	341340	50.0000	51.78
$	35 1,2-Dichloroethane-d4	65	4.466	4.466	(1.070)	286585	50.0000	48.62
*	36 1,4-Difluorobenzene	114	4.961	4.961	(1.000)	869515	50.0000	
	37 Benzene	78	4.508	4.508	(0.909)	1068345	50.0000	51.45
	38 Trichloroethene	130	5.205	5.205	(1.049)	336614	50.0000	57.15
	39 Bromodichloromethane	83	5.722	5.722	(1.153)	392552	50.0000	50.37
	41 2-Chloroethylvinyl ether	63	6.044	6.044	(1.218)	290917	100.000	131.22
	42 1,2-Dichloropropane	63	5.433	5.433	(1.095)	276991	50.0000	50.14
	44 Dibromomethane	93	5.550	5.550	(1.119)	181733	50.0000	48.40
	45 4-Methyl-2-Pentanone	43	6.322	6.322	(0.824)	492699	100.000	113.70
	46 cis-1,3-Dichloropropene	75	6.153	6.153	(1.240)	479037	50.0000	52.34
*	47 Chlorobenzene-d5	117	7.668	7.668	(1.000)	810676	50.0000	
$	48 Toluene-d8	98	6.386	6.386	(0.833)	953016	50.0000	47.57
	50 Toluene	91	6.446	6.446	(0.841)	1168117	50.0000	52.13
	51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.347)	408529	50.0000	53.79
	52 2-Hexanone	43	7.083	7.083	(0.924)	339469	100.000	115.14
	53 1,1,2-Trichloroethane	83	6.835	6.835	(0.891)	230546	50.0000	51.28
	54 1,3-Dichloropropane	76	6.978	6.978	(0.910)	468634	50.0000	52.96
	55 Dibromochloromethane	129	7.173	7.173	(0.935)	340112	50.0000	52.42
	56 Tetrachloroethene	164	6.925	6.925	(0.903)	251136	50.0000	54.16
	57 1,2-Dibromoethane	107	7.259	7.259	(0.947)	302672	50.0000	53.85
	58 1-Chlorohexane	55	7.694	7.694	(1.551)	228791	50.0000	54.44
	59 Chlorobenzene	112	7.690	7.690	(1.003)	811542	50.0000	51.06
	60 1,1,1,2-Tetrachloroethane	131	7.773	7.773	(1.014)	312506	50.0000	52.83
	61 Ethylbenzene	106	7.799	7.799	(1.017)	406830	50.0000	54.34
	62 m,p-Xylenes	106	7.904	7.904	(1.031)	1019777	100.000	105.66
	63 o-Xylene	106	8.241	8.241	(1.075)	500351	50.0000	52.52
	64 Styrene	104	8.256	8.256	(1.077)	873110	50.0000	54.68
	66 Bromoform	173	8.410	8.410	(1.097)	235936	50.0000	52.49

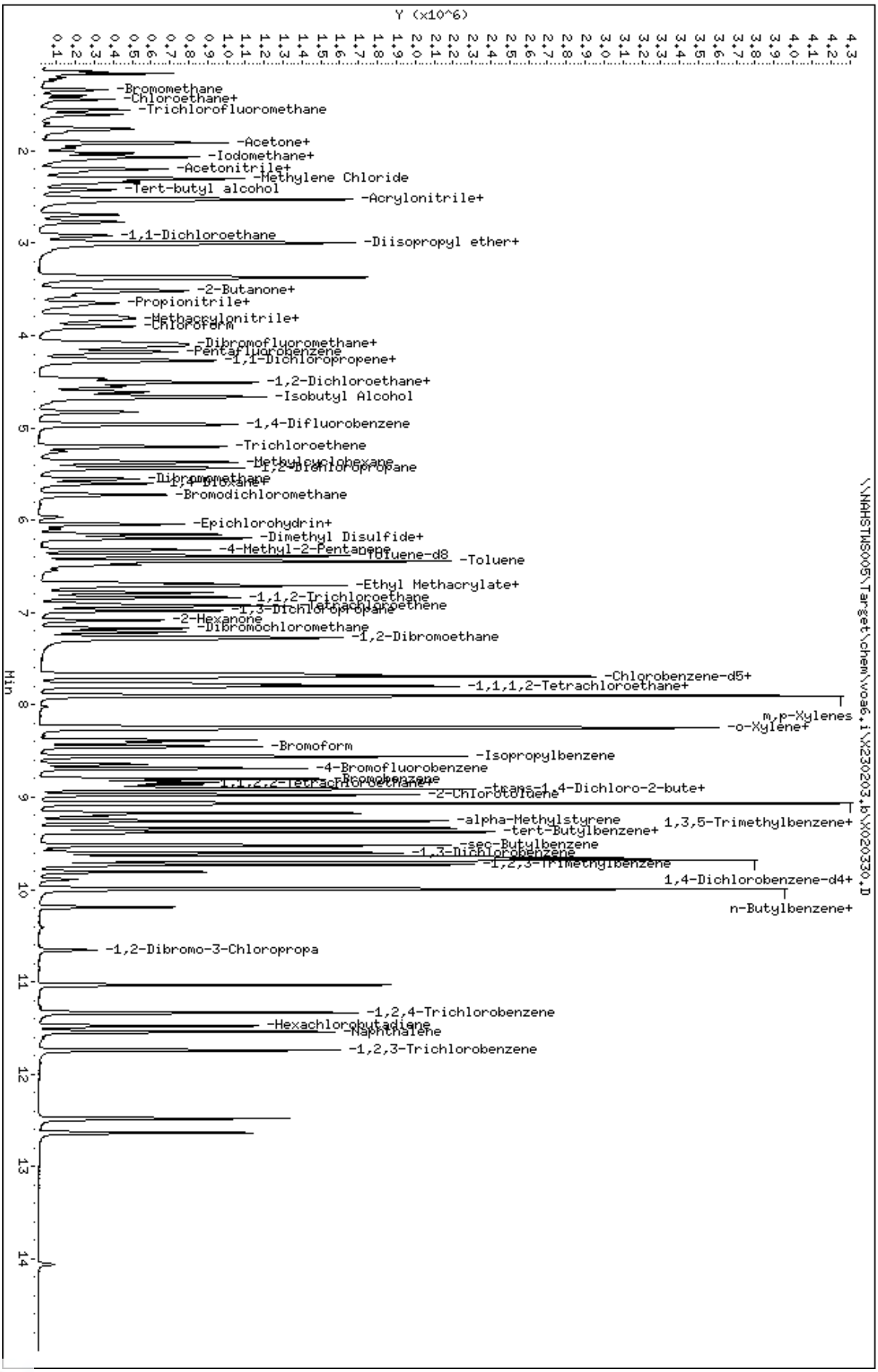
67 Isopropylbenzene	105	8.560	8.560 (1.116)	1229049	50.0000	56.47
68 1,1,2,2-Tetrachloroethane	83	8.837	8.837 (0.915)	350324	50.0000	49.36

Data File: \\NAHSTWS005\Target\chem\voa6.i\X230203.b\X020330.D Page 3
Report Date: 13-Feb-2023 14:08

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
$	69 4-Bromofluorobenzene	95	8.687	8.687	(1.133)	370618	50.0000	49.49
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	445256	50.0000	
	71 1,2,3-Trichloropropane	75	8.863	8.863	(0.917)	290064	50.0000	58.54(M)
	73 n-Propylbenzene	91	8.912	8.912	(0.922)	1446979	50.0000	58.66
	74 Bromobenzene	156	8.803	8.803	(0.911)	393552	50.0000	53.87
	75 1,3,5-Trimethylbenzene	105	9.066	9.066	(0.938)	1078114	50.0000	59.17
	76 2-Chlorotoluene	91	8.972	8.972	(0.929)	926728	50.0000	57.26
	77 4-Chlorotoluene	91	9.070	9.070	(0.939)	1075459	50.0000	58.29
	78 tert-Butylbenzene	119	9.336	9.336	(0.966)	886862	50.0000	59.46
	79 1,2,4-Trimethylbenzene	105	9.377	9.377	(0.971)	1096781	50.0000	57.21
	81 sec-Butylbenzene	105	9.519	9.519	(0.985)	1215032	50.0000	61.23
	82 p-Isopropyltoluene	119	9.647	9.647	(0.998)	1080911	50.0000	60.78
	83 1,3-Dichlorobenzene	146	9.606	9.606	(0.994)	681080	50.0000	56.17
	84 1,4-Dichlorobenzene	146	9.681	9.681	(1.002)	705432	50.0000	53.31
	87 n-Butylbenzene	91	9.992	9.992	(1.034)	937842	50.0000	54.55
	88 1,2-Dichlorobenzene	146	9.992	9.992	(1.034)	678167	50.0000	54.30
	89 1,2-Dibromo-3-Chloropropane	155	10.655	10.655	(1.103)	64671	50.0000	56.98
	90 1,2,4-Trichlorobenzene	180	11.334	11.334	(1.173)	486685	50.0000	61.75
	91 Hexachlorobutadiene	225	11.476	11.476	(1.188)	199574	50.0000	57.05
	92 Naphthalene	128	11.540	11.540	(1.194)	1083445	50.0000	60.42
	93 1,2,3-Trichlorobenzene	180	11.739	11.739	(1.215)	450403	50.0000	59.67
M	94 1,2-Dichloroethylene (total)	96				534627	100.000	(a)
	141 Cyclohexane	56	4.118	4.118	(0.987)	314962	50.0000	53.62
	138 Freon TF	101	1.910	1.910	(0.458)	200229	50.0000	46.89
	147 Methylcyclohexane	55	5.377	5.377	(1.084)	587090	50.0000	55.15
	146 Methyl Acetate	43	2.228	2.228	(0.534)	139547	50.0000	53.31
	148 Tert-Butyl alcohol	59	2.423	2.423	(0.581)	457663	1000.00	1136.30
	149 Isopropyl Alcohol	45	2.086	2.086	(0.500)	247958	1000.00	1178.82

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.



Data File: \\NAHSTWS005\Target\chem\voa6.i\X230203.b\X020330.D
Date : 03-FEB-2023 20:40
Client ID: CCV-END
Sample Info: CCV-END;CCV-END;2;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

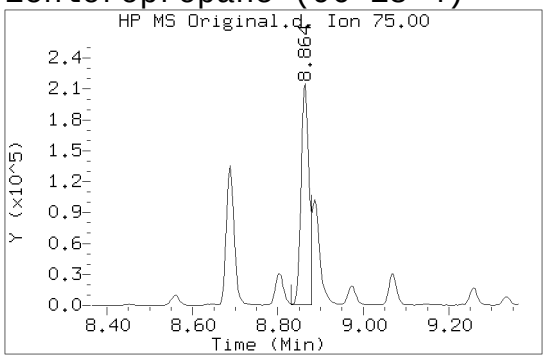
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Inj Date : 03-FEB-2023 20:40
InstruID : voa6.i
LabSampID : CCV-END

1,2,3-Trichloropropane (96-18-4)

Reason Code:

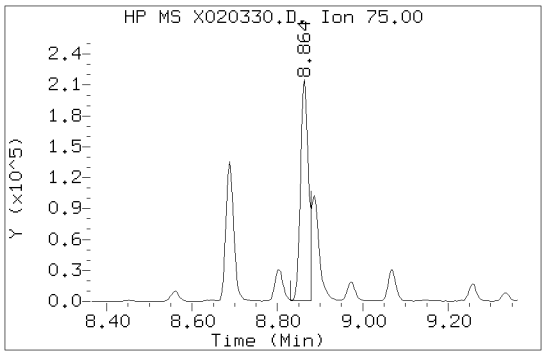
BEFORE

MASS
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AREA
290064
HEIGHT
214725
09-Feb-2023
17:24
Kori
Bagsby



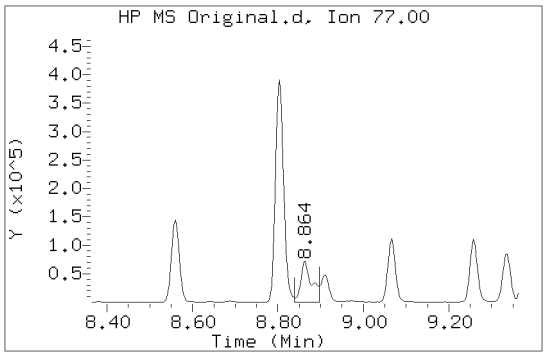
AFTER

MASS
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AREA
290064
HEIGHT
214725
13-Feb-2023
14:07
Kori
Bags



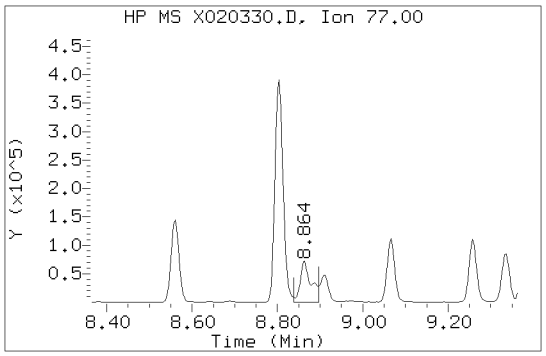
BEFORE

MASS
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AREA
134920
HEIGHT
72172
09-Feb-2023
17:24
Kori
Bagsby



AFTER

MASS
77
AREA
134920
HEIGHT
72172
13-Feb-2023
14:07
Kori
Bags



HS23011525-E2300094 Perchlorate Level IV Report

ALS WO# HS23011525

February 03, 2023 Service Request No:E2300094

Dane Wacasey
ALS Group USA, Corp.
10450 Stancliff Road
Suite 210
Houston, TX 77099-4338

Laboratory Results for: HS23011525

Dear Dane,

Enclosed are the results of the sample(s) submitted to our laboratory January 31, 2023
For your reference, these analyses have been assigned our service request number **E2300094.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current TNI standards, where applicable, and except as noted in the laboratory case narrative provided. All results are intended to be considered in their entirety and ALS Environmental is not responsible for use of less than the complete final report. Results apply only to the items submitted to the laboratory, as received for analysis. In accordance with the current TNI Standard, a statement on the estimated uncertainty of measurement of any quantitative analysis will be supplied upon request.

Please contact me if you have any questions. My extension is 2188. You may also contact me via email at James.Guin@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental



James Guin

Certificate of Analysis

ALS Environmental - Houston HRMS
10450 Stancliff Rd, Suite 210, Houston TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

ALS Environmental

Client:	ALS Environmental - US	**Service Request No.:**	E2300094
Project:	HS23011525	**Date Received:**	01/31/23
Sample Matrix:	Ground Water		

CASE NARRATIVE

All analyses were performed in adherence to the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Five samples were received for analysis at ALS Environmental in Houston on 01/31/23.

The samples were received in good condition and are consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Data Validation Notes and Discussion

Precision and Accuracy:

EQ2300047: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in lieu of a MS/MSD for this extraction batch.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS group USA Corp dba ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

Client: ALS Environmental - US **Service Request:**E2300094
Project: HS23011525

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2300094-001	16WW39-230125	1/25/2023	0910
E2300094-002	16WW31-230125	1/25/2023	1005
E2300094-003	16WW32-230125	1/25/2023	1050
E2300094-004	16WW33-230125	1/25/2023	1140
E2300094-005	16WW34-230125	1/25/2023	1230

Service Request Summary

Folder #: **E2300094**
Client Name: ALS Environmental - US
Project Name: HS23011525
Project Number:

Report To: Dane Wacasey
ALS Group USA, Corp.
10450 Stancliff Road
Houston, TX 77099-4338
USA
Phone Number: 281-575-2190
Cell Number:
Fax Number: 281-530-5887
E-mail: dane.wacasey@alsglobal.com

Project Chemist: James Guin
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 01/31/23
Internal Due Date: 2/10/2023
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS23011525
EDD: EQUIS
EFWEDD_LHAAP

5 120 mL-Plastic Bottle Natural WM Unpreserved
Location: EHRMS-AirArch 1
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2300094-001	16WW39-230125	Ground Water	01/25/23 0910	**IV**
E2300094-002	16WW31-230125	Ground Water	01/25/23 1005	**IV**
E2300094-003	16WW32-230125	Ground Water	01/25/23 1050	**IV**
E2300094-004	16WW33-230125	Ground Water	01/25/23 1140	**IV**
E2300094-005	16WW34-230125	Ground Water	01/25/23 1230	**IV**

Service Request Summary

Folder #: **E2300094**
Client Name: ALS Environmental - US
Project Name: HS23011525
Project Number:

Report To: Dane Wacasey
ALS Group USA, Corp.
10450 Stancliff Road
Houston, TX 77099-4338
USA
Phone Number: 281-575-2190
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Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS23011525
EDD: EQUIS
EFWEDD_LHAAP

5 120 mL-Plastic Bottle Natural WM Unpreserved
Location: EHRMS-AirArch 1
Pressure Gas:

Test Comments:

Group	Test/Method	Samples	Comments
Semivoa GCMS	ClO4 DOD/6850	5	IV Due 2/17

Data Qualifiers

Lab Standard

+	Possible Tedlar bag artifact.
A	TIC is a suspected aldol-condensation product
B	Analyte found in the associated method blank as well as in the sample.
BC	Reported results are not blank corrected.
BH	The back section of the tube yielded higher results than the front.
BT	Results indicated possible breakthrough; back section >=10% front section.
C	Result identification confirmed.
D	Compound identified in an analysis at a secondary dilution factor
D	Spike was diluted out
DE	Reported results are corrected for desorption efficiency.
E	Estimated value. Concentration above calibration range
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
H1	Sample analysis performed past holding time. See case narrative.
H2	Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
H3	Sample was received and analyzed past holding time.
H4	Sample was extracted past required extraction holding time, but analyzed within analysis holding time. See case narrative.
I	(Auto) The reference ion ratio was outside acceptance criteria, which may indicate a potential bias to this result.
I	Internal standard not within the specified limits. See case narrative.
I	The reference ion ratio was outside acceptance criteria, which may indicate a potential bias to this result.
J	Estimated Value. Concentration found below MRL.
K	A deflection in the QC ion may indicate interference with the quantitation of this ion. The concentration of this analyte should be considered as an estimate.
K	Analyte was detected above the method reporting limit prior to normalization.
K	The reference ion ratio was outside acceptance criteria, which may indicate a potential bias to this result.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
L1	Laboratory control sample recovery outside the specified limits; results may be biased high.
L2	Laboratory control sample recovery outside the specified limits; results may be biased low.
L3	Laboratory control sample recovery outside the specified limits.
M	Matrix interference; results may be biased high.
M	The duplicate injection precision not met.

Data Qualifiers

Lab Standard

M1	Matrix interference due to coelution with a non-target compound; results may be biased high.
N	Presumptive evidence of a compound for TICs that have been identified based on a mass spectral library search.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
P	Indicates chlorodiphenyl ether interference present at the retention time of the target compound.
P	Pesticide/Aroclor target analyte > 40% difference for detected concentrations between GC columns
Q	Indicates as estimated value because the P and P + 2 theoretical abundance ratio does not meet method criteria.
R	Duplicate Precision not met.
R1	Duplicate precision not within the specified limits; however, the results are below the MRL and considered estimated.
S	Surrogate recovery not within specified limits.
S	The reported value was determined by the Method of Standard Additions (MSA).
T	Analyte is a tentatively identified compound, result is estimated.
U	Compound was analyzed for, but was not detected (ND).
V1	The continuing calibration verification standard was outside (biased high) the specified limits for this compound.
V2	The continuing calibration verification standard was outside (biased low) the specified limits for this compound.
W	Result quantified, but the corresponding peak was detected outside the generated retention time window.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
X	See case narrative.
Y	Recovery outside limits
Y	The chromatogram resembles a petroleum product but does not match the calibration standard.
Z	The chromatogram does not resemble a petroleum product.
i	The MRL/MDL has been elevated due to a matrix interference.

ALS Laboratory Group

Acronyms

Cal	Calibration
Conc	CONCentration
Dioxin(s)	Polychlorinated dibenzo-p-dioxin(s)
EDL	Estimated Detection Limit
EMPC	Estimated Maximum Possible Concentration
Flags	Data qualifiers
Furan(s)	Polychlorinated dibenzofuran(s)
g	Grams
ICAL	Initial CALibration
ID	IDentifier
Ions	Masses monitored for the analyte during data acquisition
L	Liter (s)
LCS	Laboratory Control Sample
DLCS	Duplicate Laboratory Control Sample
MB	Method Blank
MCL	Method Calibration Limit
MDL	Method Detection Limit
mL	Milliliters
MS	Matrix Spiked sample
DMS	Duplicate Matrix Spiked sample
NO	Number of peaks meeting all identification criteria
PCDD(s)	Polychlorinated dibenzo-p-dioxin(s)
PCDF(s)	Polychlorinated dibenzofuran(s)
ppb	Parts per billion
ppm	Parts per million
ppq	Parts per quadrillion
ppt	Parts per trillion
QA	Quality Assurance
QC	Quality Control
Ratio	Ratio of areas from monitored ions for an analyte
% Rec.	Percent recovery
RPD	Relative Percent Difference
RRF	Relative Response Factor
RT	Retention Time
SDG	Sample Delivery Group
S/N	Signal-to-noise ratio
TEF	Toxicity Equivalence Factor
TEQ	Toxicity Equivalence Quotient

10450 Stancliff Rd, Houston, TX 77099 | 281-530-5656 | www.alsglobal.com

State Certifications, Accreditations, and Licenses

Agency	Number	Expire Date
Arizona Department of Health Services	AZ0793	5/27/2023
Arkansas Department of Environmental Quality	22-041-0	3/27/2023
California Department of Health Services	2919-2023	4/30/2023
Department of Defense	L22-90	3/31/2024
Florida Department of Health	E87611-36	6/30/2023
Florida Department of Health	E87611-36	6/30/2023
Florida Department of Health	E87611-36	6/30/2023
Florida Department of Health	E87611-36	6/30/2023
Hawaii Department of Health	2022	4/30/2023
Illinois Environmental Protection Agency	2000322022-9	5/9/2023
Kansas Department of Health and Environment	E-10352 2022-2023	7/31/2023
Louisiana Department of Environmental Quality	03087-2022	6/30/2023
Louisiana Department of Health and Hospitals	LA028-2023	12/31/2023
Maine Department of Health and Human Services	2022017	6/5/2024
Maryland Department of the Environment	343	6/30/2023
Michigan Depratment of Environmental Quality	9971-2022	4/30/2023
Minnesota Department of Health	2368363	12/31/2023
Nebraska Department of Health and Human Services	NE-OS-25-13	4/30/2023
Nevada Department of Conservation and Natural Resources	TX026932023-1	7/31/2023
New Hampshire Environmental Laboratory Accreditation Program	209422	4/24/2023
New Jersey Department of Environmental Protection	TX008-2023	6/30/2023
New York Department of Health	11707	3/31/2023
Oklahoma Department of Environmental Quality	2022-141	8/31/2023
Oregon Environmental Laboratory Accreditation Program	TX200002	5/15/2023
Pennsylvania Department of Environmental Protection	68-03441-016	6/30/2023
Perry Johnson Laboratory Accreditation	L22-91	3/31/2024
Tennessee Department of Environment and Concervation	04016-2022	4/30/2023
Texas Commision on Environmental Quality	T104704231-22-29	4/30/2023
Utah Department of Health Environmental Laboratory Certification	TX026932022-13	7/31/2023
Washington Department of Ecology	C819-22	11/14/2023

Chain of Custody

ALS Environmental - Houston HRMS
10450 Stancliff Rd, Suite 210, Houston TX 77099
Phone (713)266-1599 Fax (713)266-0130
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10450 Stancliff Rd, Ste 210
Houston, TX 77099
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F: +1 281 530 5887
www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: Dept of Defense **COC ID:** 20861

SUBCONTRACT TO:

ALS Environmental
10450 Stancliff RoadSuite 210
Houston, TX 77084

Phone: +1 281 530 5656

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	Dane J. Wacasey
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	Dane.Wacasey@alsglobal.com
Alternate Contact:	Jumoke M. Lawal
Email:	jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS23011525
TSR:	Ron Martino

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS23011525-02**	**16WW39-230125**	**Groundwater**	**25 Jan 2023 09:10**
	Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			10 Feb 2023
2.	**HS23011525-03**	**16WW31-230125**	**Groundwater**	**25 Jan 2023 10:05**
	Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			10 Feb 2023
3.	**HS23011525-04**	**16WW32-230125**	**Groundwater**	**25 Jan 2023 10:50**
	Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			10 Feb 2023
4.	**HS23011525-05**	**16WW33-230125**	**Groundwater**	**25 Jan 2023 11:40**
	Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			10 Feb 2023
5.	**HS23011525-06**	**16WW34-230125**	**Groundwater**	**25 Jan 2023 12:30**
	Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			10 Feb 2023

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.

QC Level: DOD IV (DoD Data Package)

Subcontract Chain of Custody

SAMPLING STATE: Dept of Defense

COC ID: 20861

Relinquished By: NR

Date/Time:

Received By:

Date/Time: 1-31-23 0800

Cooler ID(s):

Temperature(s):

ALS Environmental

Cooler Receipt Form

Project Chemist JA

Client/Project ALS-HI

Thermometer ID IR31

Date/Time Received: 1-31-23 Initials: CA Date/Time Logged in: 1-31-23 Initials CA

1. Method of delivery: ○ US Mail ○ Fed Ex ○ UPS ○ DHL ⊗ ALS Courier ○ Client

2. Samples received in: ⊗ Cooler ○ Box ○ Envelope ○ Other

3. Were custody seals on coolers? ○ Yes ⊗ No
   Were they intact? ○ Yes ○ No ⊗ N/A
   Were they signed and dated? ○ Yes ○ No ⊗ N/A
   If yes, how many and where?

4. Packing Material: ○ Inserts ⊗ Baggies ○ Bubble Wrap ○ Gel Packs ⊗ Wet Ice ○ Sleeves ○ Other

5. Foreign or Regulated Soil? ○ Yes ○ No Location of Sampling:

Cooler Tracking Number	COC ID	Date Opened	Time Opened	Opened By	Temp. °C	Temp Blank?
NA		1-31-23	0800	CA	0.9	☒
						☐
						☐
						☐

6. Were custody papers properly filled out (ink, signed, dated, etc)? ⊗ Yes ○ No
7. Did all bottles arrive in good condition (not broken, no signs of leakage)? ⊗ Yes ○ No
8. Were all sample labels complete (i.e., sample ID, analysis, preservation, etc)? ⊗ Yes ○ No
9. Were appropriate bottles/containers and volumes received for the requested tests? ⊗ Yes ○ No
10. Did sample labels and tags agree with custody documents? ⊗ Yes ○ No

Notes, Discrepancies, & Resolutions:

Service request Label:

10450 Stancliff Rd., Suite 210
Houston, TX 77099
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F: +1 713 266 1599
www.alsglobal.com

SAMPLE ACCEPTANCE POLICY

This policy outlines the criteria samples must meet to be accepted by ALS Environmental – Houston HRMS.

Cooler Custody Seals (desirable, mandatory if specified in SAP):

- ✓ Intact on outside of cooler, signed and dated

Chain-of-Custody (COC) documentation (mandatory):

The following is required on each COC:

- ✓ Sample ID, the location, date and time of collection, collector's name, preservation type, sample type, and any other special remarks concerning the sampleThe COC must be completed in ink.
- ✓ Signature and date of relinquishing party.

In the absence of a COC at sample receipt, the COC will be requested from the client.

Sample Integrity (mandatory):

Samples are inspected upon arrival to ensure that sample integrity was not compromised during transfer to the laboratory.

- ✓ Sample containers must arrive in good condition (not broken or leaking).
- ✓ Samples must be labeled appropriately, including Sample IDs, and requested test using durable labels and indelible ink.
- ✓ The correct type of sample bottle must be used for the method requested.
- ✓ An appropriate sample volume, or weight, must be received.
- ✓ Sample IDs and number of containers must reconcile with the COC.
- ✓ Samples must be received within the method defined holding time.

Temperature Requirement (varies by sample matrix):

- ✓ Aqueous and Non-aqueous samples must be shipped and stored cold, at 0 to 6ºC.
- ✓ Tissue samples must be shipped and stored frozen, at -20 to -10ºC.
- ✓ Air samples are shipped and stored cold, at 0 to 6ºC
- ✓ The sample temperature must be recorded on the COC

All cooler inspections are documented on the Cooler Receipt Form (CRF). A separate CRF is completed for each service request. Any samples not meeting the above criteria are noted on the CRF and the Project Manager notified. The Project Manager must resolve any sample integrity issues with the client prior to proceeding with the analysis. Such resolutions are documented in writing and filed with the project folder. Data associated with samples received outside of this acceptance policy will be qualified on the case narrative of the final report

Preparation Information Benchsheets

ALS Environmental - Houston HRMS
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Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

Preparation Information Benchsheet

Prep Run#: 413900 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/XMI **Prep Method:** Method **Prep Date/Time:** 2/1/23 10:18

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2300092-001	CTC-44_0123	.01	6850/ClO4			Water	10mL	
2	E2300092-002	EA-100_0123	.01	6850/ClO4			Water	10mL	
3	E2300092-003	EA-110_0123	.01	6850/ClO4			Water	10mL	
4	E2300092-004	CTC-14_0123	.01	6850/ClO4			Water	10mL	
5	E2300094-001	16WW39-230125	.01	6850/ClO4 DOD			Ground Water	10mL	
6	E2300094-002	16WW31-230125	.01	6850/ClO4 DOD			Ground Water	10mL	
7	E2300094-003	16WW32-230125	.01	6850/ClO4 DOD			Ground Water	10mL	
8	E2300094-004	16WW33-230125	.01	6850/ClO4 DOD			Ground Water	10mL	
9	E2300094-005	16WW34-230125	.01	6850/ClO4 DOD			Ground Water	10mL	
10	E2300096-001	16RW09-230125	.01	6850/ClO4 DOD			Ground Water	10mL	
11	E2300096-002	16RW10-230125	.01	6850/ClO4 DOD			Ground Water	10mL	
12	E2300096-003	16WW46-230125	.01	6850/ClO4 DOD			Ground Water	10mL	
13	E2300096-004	16WW12-230125	.01	6850/ClO4 DOD			Ground Water	10mL	
14	E2300096-005	16WW49-230125	.01	6850/ClO4 DOD			Ground Water	10mL	
15	E2300096-006	16WW36-230125	.01	6850/ClO4 DOD			Ground Water	10mL	
16	E2300096-007	16WW36-230125-FD	.01	6850/ClO4 DOD			Ground Water	10mL	
17	EQ2300047-01	MB		6850/ClO4			Liquid	10mL	
18	EQ2300047-02	LCS		6850/ClO4			Liquid	10mL	
19	EQ2300047-03	DLCS		6850/ClO4			Liquid	10mL	
20	R2300589-005	2301231019A JP-3-509	.01	6850/ClO4			Water	10mL	
21	R2300589-010	2301231439A JP-3-689	.01	6850/ClO4			Water	10mL	
22	R2300648-018	2301241035A 100-F-358	.01	6850/ClO4			Water	10mL	
23	R2300648-025	2301241437A 100-G-223	.01	6850/ClO4			Water	10mL	

Spiking Solutions

Name: Perchlorate Internal Standard 1ug/mL Inventory ID 226778 Logbook Ref: Perchlorate Internal Standard Expires On: 05/31/2023

E2300092-001	100.00µL	E2300092-002	100.00µL	E2300092-003	100.00µL	E2300092-004	100.00µL	E2300094-001	100.00µL	E2300094-002	100.00µL
E2300094-003	100.00µL	E2300094-004	100.00µL	E2300094-005	100.00µL	E2300096-001	100.00µL	E2300096-002	100.00µL	E2300096-003	100.00µL
E2300096-004	100.00µL	E2300096-005	100.00µL	E2300096-006	100.00µL	E2300096-007	100.00µL	EQ2300047-01	100.00µL	EQ2300047-01	100.00µL
EQ2300047-02	100.00µL	EQ2300047-02	100.00µL	EQ2300047-03	100.00µL	EQ2300047-03	100.00µL	R2300589-005	100.00µL	R2300589-010	100.00µL
R2300648-018	100.00µL	R2300648-025	100.00µL								

Name: Perchlorate Intermediate Stock1 Inventory ID 227236 Logbook Ref: Perchlorate (1st Source) Expires On: 07/31/2023

EQ2300047-02	1.00µL	EQ2300047-02	1.00µL	EQ2300047-03	1.00µL	EQ2300047-03	1.00µL

Preparation Information Benchsheet

Prep Run#: 413900 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/XMI **Prep Method:** Method **Prep Date/Time:** 2/1/23 10:18

Preparation Materials

Water HPLC Grade	01/04/2023 Water (226857)	6850 Amber Glass screw vial	2mL Screw Top Vial (221894)	6850 0.45um syringe filters	6850 Syringe Filters (224414)
6850 Pipette Tips 50-1000 uL	6850 Pipette Tips (221929)	6850 Luer-Lok Syringes	Luer-Lok Syringes (221305)		

Preparation Steps

Step: Preparation
Started: 2/1/23 10:18
Finished: 2/1/23 11:50
By: XMI
Comments

Comments: _____

Reviewed By: XMI Date: 02/01/23

Chain of Custody

Relinquished By: _____ Date: _____ Extracts Examined

Received By: _____ Date: _____ Yes No

Analytical Results

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ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300094
Project:	HS23011525	**Date Collected:**	1/25/23 0910
Sample Matrix:	Ground Water	**Date Received:**	1/31/23
Sample Name:	16WW39-230125	**Units:**	µg/L
Lab Code:	E2300094-001	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**7.03**		0.100	0.0500	0.0250	1	2/ 1/23	2/1/23 16:47	413900	793296	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300094
Project:	HS23011525	**Date Collected:**	1/25/23 1005
Sample Matrix:	Ground Water	**Date Received:**	1/31/23
Sample Name:	16WW31-230125	**Units:**	µg/L
Lab Code:	E2300094-002	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.100	0.0500	0.0250	1	2/ 1/23	2/1/23 16:52	413900	793296	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300094
Project:	HS23011525	**Date Collected:**	1/25/23 1050
Sample Matrix:	Ground Water	**Date Received:**	1/31/23
Sample Name:	16WW32-230125	**Units:**	µg/L
Lab Code:	E2300094-003	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.100	0.0500	0.0250	1	2/ 1/23	2/1/23 16:58	413900	793296	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300094
Project:	HS23011525	**Date Collected:**	1/25/23 1140
Sample Matrix:	Ground Water	**Date Received:**	1/31/23
Sample Name:	16WW33-230125	**Units:**	µg/L
Lab Code:	E2300094-004	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.100	0.0500	0.0250	1	2/ 1/23	2/1/23 17:04	413900	793296	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300094
Project:	HS23011525	**Date Collected:**	1/25/23 1230
Sample Matrix:	Ground Water	**Date Received:**	1/31/23
Sample Name:	16WW34-230125	**Units:**	µg/L
Lab Code:	E2300094-005	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.100	0.0500	0.0250	1	2/ 1/23	2/1/23 17:10	413900	793296	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300094
Project:	HS23011525	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2300047-01	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.100	0.0500	0.0250	1	2/ 1/23	2/1/23 15:30	413900	793296	

Accuracy & Precision

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ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS23011525
Sample Matrix: Ground Water

Service Request: E2300094
Date Analyzed: 2/ 1/23

Lab Control Sample Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Units: µg/L
Basis: NA

Extraction Lot: 413900

	Lab Control Sample EQ2300047-02			Duplicate Lab Control Sample EQ2300047-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.0995	0.100	100	0.0948	0.100	95	84 - 119	5	15

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300094
Project:	HS23011525	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2300047-02	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.0995**	J	0.100	0.0500	0.0250	1	2/ 1/23	2/1/23 15:36	413900	793296	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300094
Project:	HS23011525	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2300047-03	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.0948**	J	0.100	0.0500	0.0250	1	2/ 1/23	2/1/23 15:41	413900	793296	

Initial Calibration

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20230201-793296

Injection Log

LCMS01 -Shimadzu 8050

1st Review: XMI
2nd Review: Kneir

ICAL Date: 2/1/2023
Cal. Std. xp: 07/31/2023
ICAL ID: EC2300002

Mobile Phases : A:0.10% Formic Acid/Water 3210303-02 **B:**MeOH 224417

	Sample Name		File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	PERCHLORATE1		20230201-003	Perchlorate6850c.lcm	1x	☒	227245	2/1/2023 11:50
2	PERCHLORATE2		20230201-004	Perchlorate6850c.lcm	1x	☒	227246	2/1/2023 11:55
3	PERCHLORATE3		20230201-005	Perchlorate6850c.lcm	1x	☒	227247	2/1/2023 12:01
4	PERCHLORATE4		20230201-006	Perchlorate6850c.lcm	1x	☒	227248	2/1/2023 12:07
5	PERCHLORATE5		20230201-007	Perchlorate6850c.lcm	1x	☒	227249	2/1/2023 12:13
6	PERCHLORATE6		20230201-008	Perchlorate6850c.lcm	1x	☒	227250	2/1/2023 12:19
7	PERCHLORATE7		20230201-009	Perchlorate6850c.lcm	1x	☒	227251	2/1/2023 12:25
8	PERCHLORATE8		20230201-010	Perchlorate6850c.lcm	1x	☒	227252	2/1/2023 12:30
9	PERCHLORATE9		20230201-011	Perchlorate6850c.lcm	1x	☒	227253	2/1/2023 12:36
10	PERCHLORATE10		20230201-012	Perchlorate6850c.lcm	1x	☒	227254	2/1/2023 12:42
11	PERCHLORATEICV		20230201-013	Perchlorate6850c.lcm	1x	☒	227256	2/1/2023 12:48
12	LODV		20230201-014	Perchlorate6850c.lcm	1x	☒	225199	2/1/2023 12:54
13	ICS		20230201-015	Perchlorate6850c.lcm	1x	☒	32103024	2/1/2023 13:00
14	PERCHLORATE7		20230201-016	Perchlorate6850c.lcm	1x	☒	227251	2/1/2023 15:24
15	EQ2300047-01		20230201-017	Perchlorate6850c.lcm	1x	☒		2/1/2023 15:30
16	EQ2300047-02		20230201-018	Perchlorate6850c.lcm	1x	☒		2/1/2023 15:36
17	EQ2300047-03		20230201-019	Perchlorate6850c.lcm	1x	☒		2/1/2023 15:41
18	R2300589-005		20230201-020	Perchlorate6850c.lcm	1x	☒		2/1/2023 15:48
19	R2300589-010		20230201-021	Perchlorate6850c.lcm	1x	☒	DNU-BAD PEAK SHAPE	2/1/2023 15:54
20	R2300648-018		20230201-022	Perchlorate6850c.lcm	1x	☒		2/1/2023 16:00
21	R2300648-025		20230201-023	Perchlorate6850c.lcm	1x	☒		2/1/2023 16:06
22	PERCHLORATE7		20230201-024	Perchlorate6850c.lcm	1x	☒	227251	2/1/2023 16:17
23	E2300092-001		20230201-025	Perchlorate6850c.lcm	1x	☒		2/1/2023 16:23
24	E2300092-002		20230201-026	Perchlorate6850c.lcm	1x	☒		2/1/2023 16:29
25	E2300092-003		20230201-027	Perchlorate6850c.lcm	1x	☒		2/1/2023 16:35
26	E2300092-004		20230201-028	Perchlorate6850c.lcm	1x	☒		2/1/2023 16:41
27	E2300094-001		20230201-029	Perchlorate6850c.lcm	1x	☒		2/1/2023 16:47
28	E2300094-002		20230201-030	Perchlorate6850c.lcm	1x	☒		2/1/2023 16:52
29	E2300094-003		20230201-031	Perchlorate6850c.lcm	1x	☒		2/1/2023 16:58
30	E2300094-004		20230201-032	Perchlorate6850c.lcm	1x	☒		2/1/2023 17:04
31	E2300094-005		20230201-033	Perchlorate6850c.lcm	1x	☒		2/1/2023 17:10
32	PERCHLORATE7		20230201-034	Perchlorate6850c.lcm	1x	☒	227251	2/1/2023 17:16
33	E2300096-001		20230201-035	Perchlorate6850c.lcm	1x	☒		2/1/2023 17:21
34	E2300096-002		20230201-036	Perchlorate6850c.lcm	1x	☒		2/1/2023 17:27
35	E2300096-003		20230201-037	Perchlorate6850c.lcm	1x	☒		2/1/2023 17:33
36	E2300096-004		20230201-038	Perchlorate6850c.lcm	1x	☒		2/1/2023 17:39
37	E2300096-005		20230201-039	Perchlorate6850c.lcm	1x	☒		2/1/2023 17:45
38	E2300096-006		20230201-040	Perchlorate6850c.lcm	1x	☒		2/1/2023 17:51
39	E2300096-007		20230201-041	Perchlorate6850c.lcm	1x	☒		2/1/2023 17:56
40	PERCHLORATE7		20230201-042	Perchlorate6850c.lcm	1x	☒	227251	2/1/2023 18:02

Initial Calibration - Detailed Report

Calibration ID: EC2300002 **Instrument ID:** E-LCMS-01
Column Name: 1

#	Lab Code	Sample Name	File Location	Aquisition Date
01	EC2300002-01	PERCHLORATE1	20230201-003	02/01/2023 11:50
02	EC2300002-02	PERCHLORATE2	20230201-004	02/01/2023 11:55
03	EC2300002-03	PERCHLORATE3	20230201-005	02/01/2023 12:01
04	EC2300002-04	PERCHLORATE4	20230201-006	02/01/2023 12:07
05	EC2300002-05	PERCHLORATE5	20230201-007	02/01/2023 12:13
06	EC2300002-06	PERCHLORATE6	20230201-008	02/01/2023 12:19
07	EC2300002-07	PERCHLORATE7	20230201-009	02/01/2023 12:25
08	EC2300002-08	PERCHLORATE8	20230201-010	02/01/2023 12:30
09	EC2300002-09	PERCHLORATE9	20230201-011	02/01/2023 12:36
10	EC2300002-10	PERCHLORATE10	20230201-012	02/01/2023 12:42

Analyte **Curve Fit** **Weighting**

Perchlorate **Average RF** **RSD = 4.86** **Average RF = 0.1385**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.1000	0.1253	02	0.5000	0.13	03	0.7000	0.1346	04	1.0000	0.1399
05	2.0000	0.1406	06	5.0000	0.1404	07	10.0000	0.1416	08	20.0000	0.1407
09	30.0000	0.1447	10	50.0000	0.1477						

Analyte

Perchlorate RSE = 4.86

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.1000	0.0904	-9.6	02	0.5000	0.469	-6.1	03	0.7000	0.680	-2.8
04	1.0000	1.01	0.9	05	2.0000	2.03	1.5	06	5.0000	5.07	1.3
07	10.0000	10.2	2.2	08	20.0000	20.3	1.5	09	30.0000	31.3	4.5
10	50.0000	53.3	6.6								

Initial Calibration Verification Summary Report

Calibration ID:	EC2300002	**Instrument ID:**	E-LCMS-01
Datafile ID:	20230201-013	**Column Name:**	1

Analyte	Lab Code	Type	Curve Fit	True Value	Calc Conc	Units	Result	Criteria
Perchlorate	EC2300002-11	T	Average RF	10	10.538	ng/mL	5.4	<= 15

Insight Report

Printed at 2/1/2023 2:06:14 PM

Method File: I:\LCMS01\DATA\02012023\20230201.lcm
Project File: I:\LCMS01\DATA\02012023\20230201.damlp

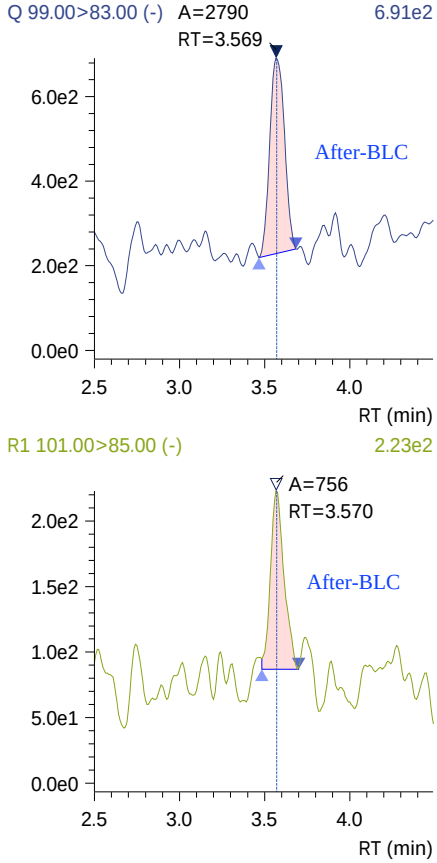
PERCHLORATE1

Sample ID: PERCHLORATE1
Date Acquired: 2/1/2023 11:50:11 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\02012023\20230201-003.lcd
Vial: 1 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	M	3.569	2790	222693	0.0904	ng/mL	101.00 >85.00	27.11	24.11 -44.78
Sodium Perchlorate-18O4 _IS	Auto	3.568	222693	222693	1.0000	ng/mL	----	----	

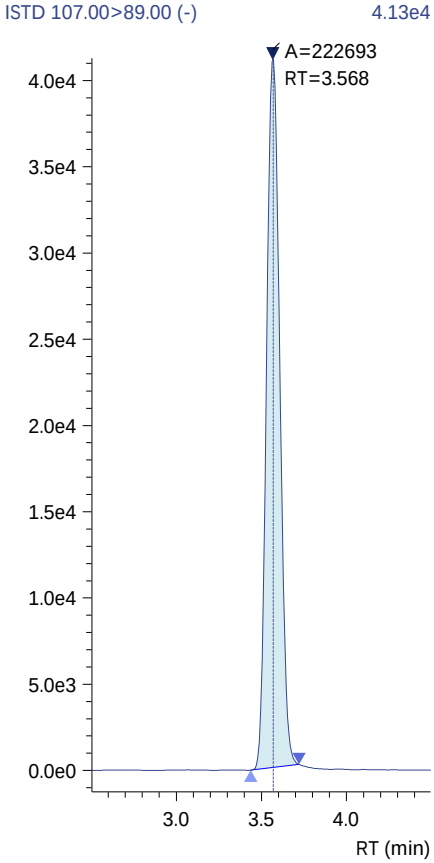
Perchlorate

Conc 0.0904
R#1 27.11 (31.99)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 2/1/2023 1:30:25 PM

Method File: I:\LCMS01\DATA\20230201\20230201ICAL.lcm
Project File: I:\LCMS01\DATA\20230201\20230201ICAL.damIp

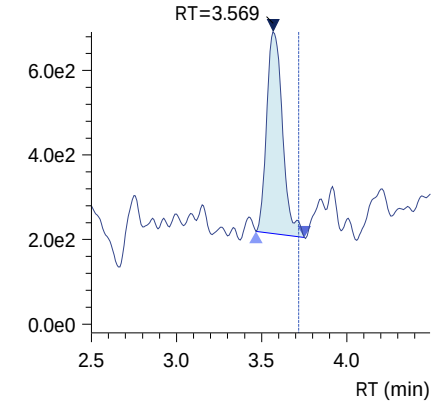
PERCHLORATE1

Sample ID: PERCHLORATE1
Date Acquired: 2/1/2023 11:50:11 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\02012023\20230201-003.lcd
Vial: 1 | Inj. Volume: 25.0000uL | Tray: 1

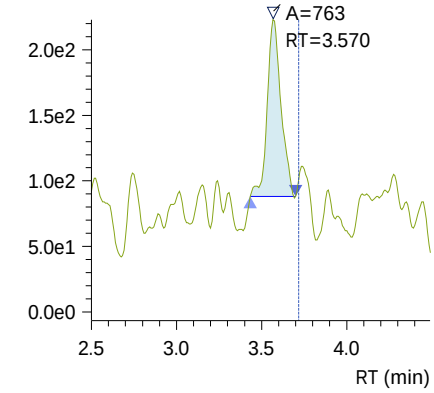
Perchlorate

Conc 0.0996
R#1 24.56 (34.45)

Q 99.00>83.00 (-) A=3105 6.91e2



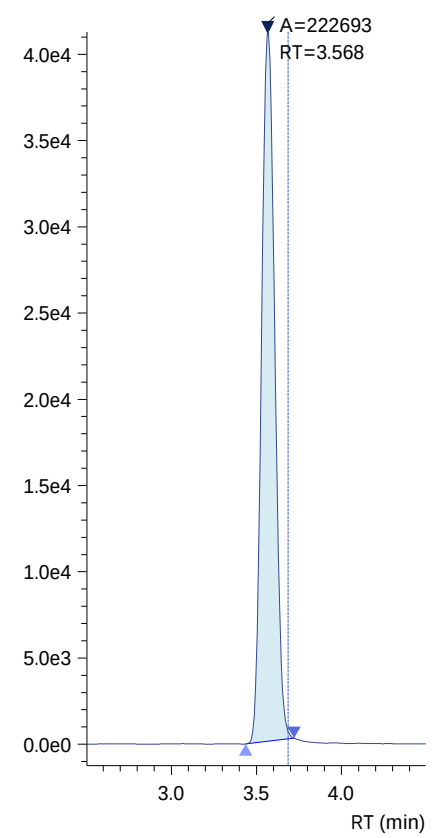
R1 101.00>85.00 (-) 2.23e2



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 4.13e4



Insight Report

Printed at 2/1/2023 2:06:14 PM

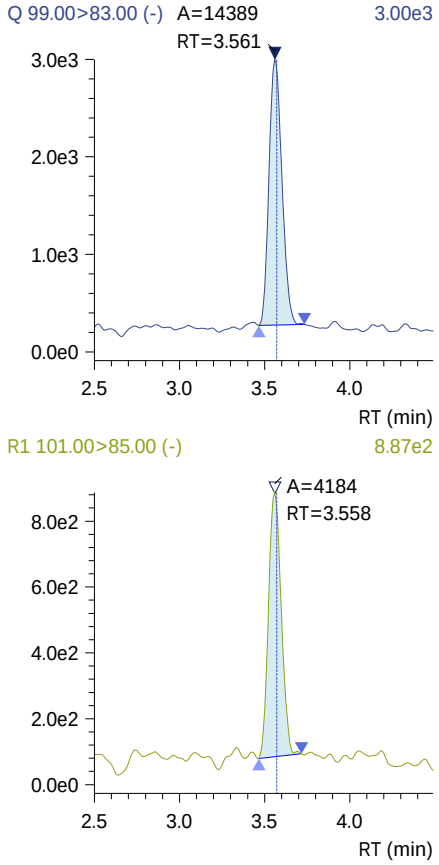
PERCHLORATE2

Sample ID: PERCHLORATE2
Date Acquired: 2/1/2023 11:55:59 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\02012023\20230201-004.lcd
Vial: 2 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.561	14389	221291	0.4694	ng/mL	101.00 >85.00	29.08	24.11 -44.78
Sodium Perchlorate-18O4_IS	Auto	3.558	221291	221291	1.0000	ng/mL	----	----	

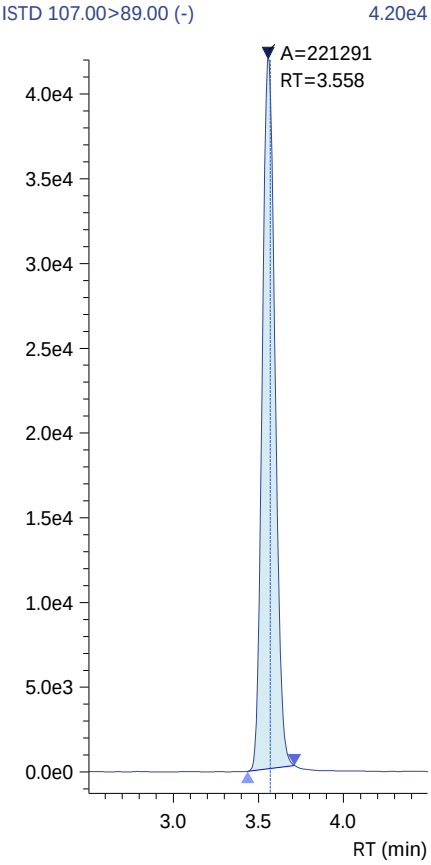
Perchlorate

Conc 0.4694
R#1 29.08 (31.99)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

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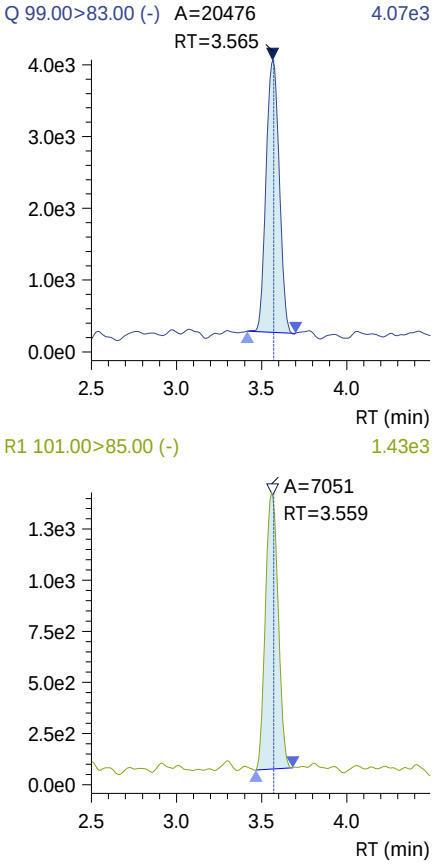
PERCHLORATE3

Sample ID: PERCHLORATE3
Date Acquired: 2/1/2023 12:01:49 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\02012023\20230201-005.lcd
Vial: 3 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.565	20476	217325	0.6801	ng/mL	101.00 >85.00	34.44	24.11 -44.78
Sodium Perchlorate-18O4_IS	Auto	3.559	217325	217325	1.0000	ng/mL	----	----	

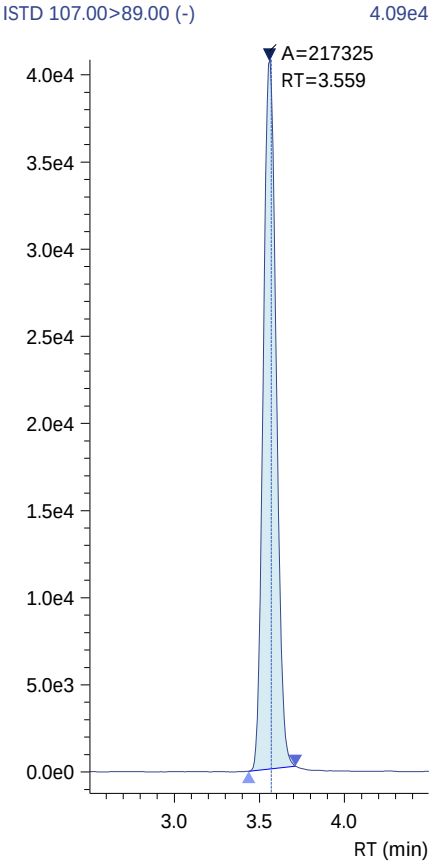
Perchlorate

Conc 0.6801
R#1 34.44 (31.99)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

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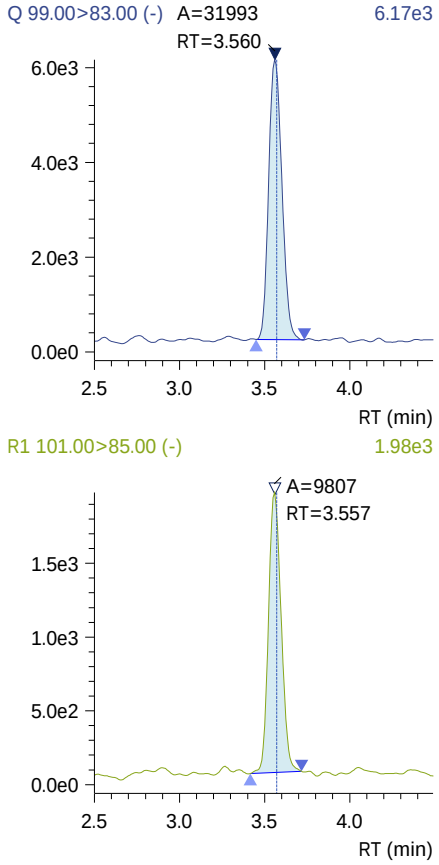
PERCHLORATE4

Sample ID: PERCHLORATE4
Date Acquired: 2/1/2023 12:07:38 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\02012023\20230201-006.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.560	31993	228763	1.0095	ng/mL	101.00 >85.00	30.65	24.11 -44.78
Sodium Perchlorate-18O4_IS	Auto	3.557	228763	228763	1.0000	ng/mL	----	----	

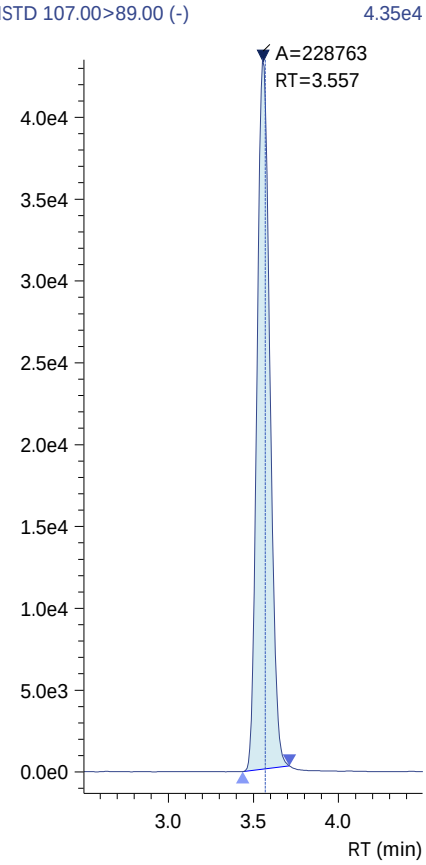
Perchlorate

Conc 1.0095
R#1 30.65 (31.99)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

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PERCHLORATE5

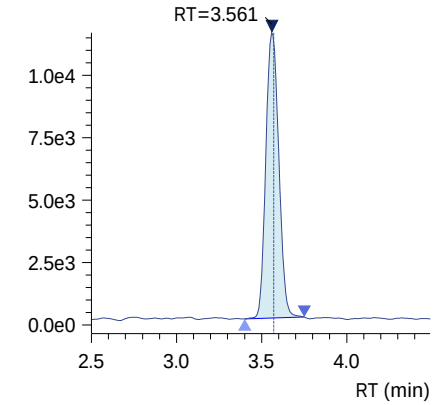
Sample ID: PERCHLORATE5
Date Acquired: 2/1/2023 12:13:29 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\02012023\20230201-007.lcd
Vial: 5 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.561	60751	216066	2.0296	ng/mL	101.00 >85.00	32.70	24.11 -44.78
Sodium Perchlorate-18O4_IS	Auto	3.557	216066	216066	1.0000	ng/mL	----	----	

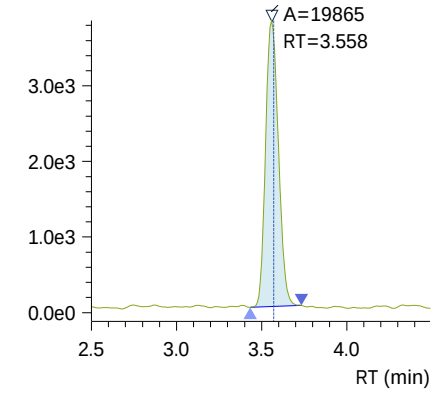
Perchlorate

Conc 2.0296
R#1 32.70 (31.99)

Q 99.00>83.00 (-) A=60751 1.17e4



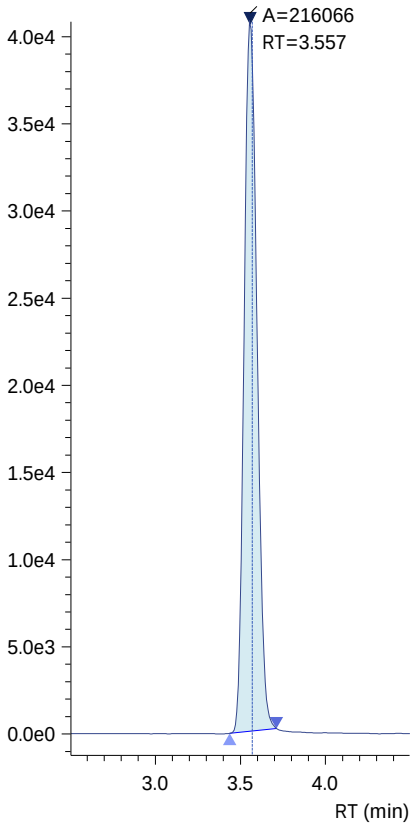
R1 101.00>85.00 (-) 3.87e3



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 4.09e4



Insight Report

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PERCHLORATE6

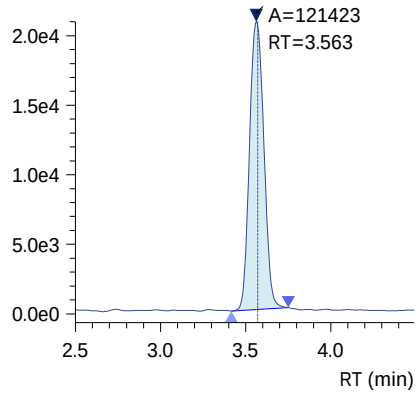
Sample ID: PERCHLORATE6
Date Acquired: 2/1/2023 12:19:20 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\02012023\20230201-008.lcd
Vial: 6 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.563	121423	172986	5.0667	ng/mL	101.00	32.55	24.11
							>85.00		-44.78
Sodium Perchlorate-18O4_IS	Auto	3.558	172986	172986	1.0000	ng/mL	----	----	

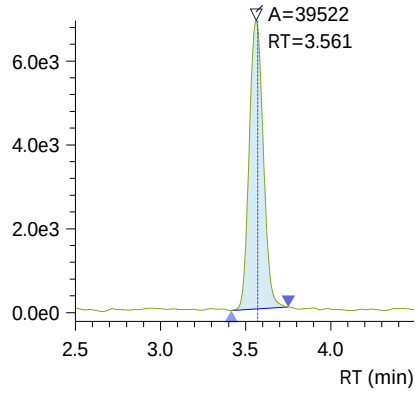
Perchlorate

Conc 5.0667
R#1 32.55 (31.99)

Q 99.00>83.00 (-) 2.10e4



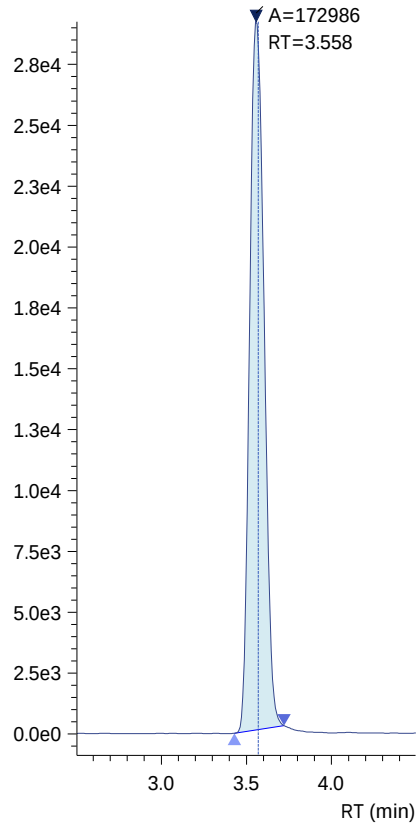
R1 101.00>85.00 (-) 6.97e3



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 2.93e4



Insight Report

Printed at 2/1/2023 2:06:14 PM

PERCHLORATE7

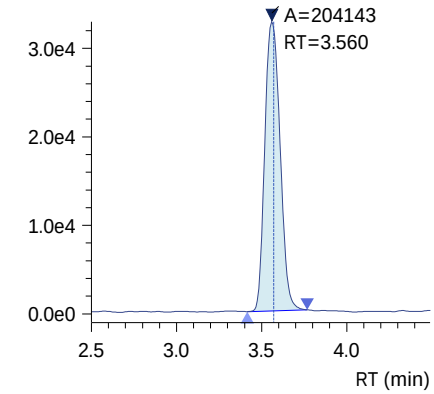
Sample ID: PERCHLORATE7
Date Acquired: 2/1/2023 12:25:10 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\02012023\20230201-009.lcd
Vial: 7 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.560	2041 43	144196	10.2 192	ng/mL	101.00 >85.00	31.99	24.11 -44.78
Sodium Perchlorate-18O4_IS	Auto	3.555	1441 96	144196	1.0000	ng/mL	----	----	

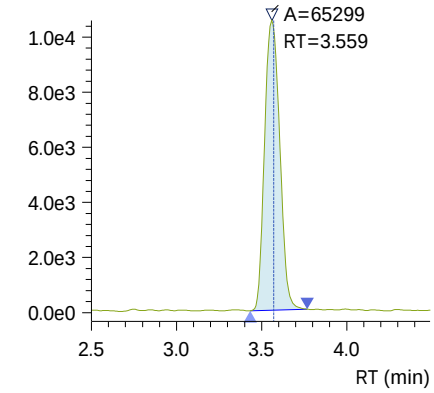
Perchlorate

Conc 10.2192
R#1 31.99 (31.99)

Q 99.00>83.00 (-) 3.30e4



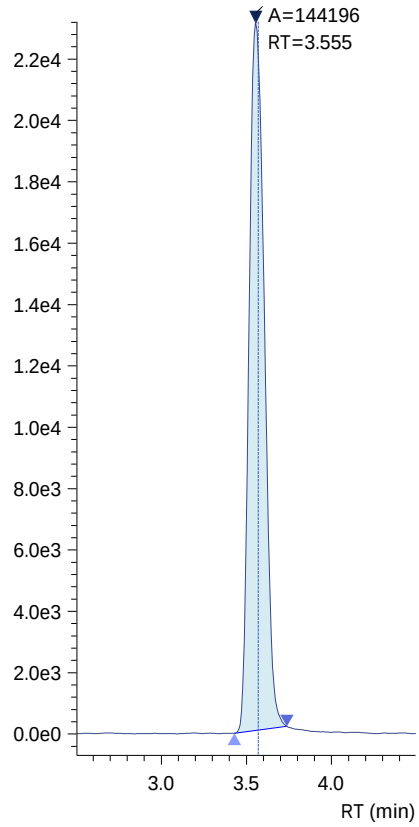
R1 101.00>85.00 (-) 1.06e4



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 2.32e4



Insight Report

Printed at 2/1/2023 2:06:14 PM

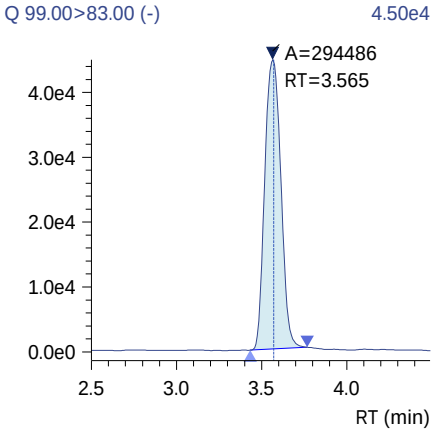
PERCHLORATE8

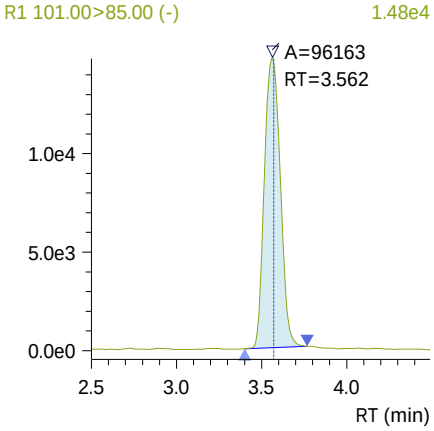
Sample ID: PERCHLORATE8
Date Acquired: 2/1/2023 12:30:57 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\02012023\20230201-010.lcd
Vial: 8 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.565	294486	104680	20.3065	ng/mL	101.00 >85.00	32.66	24.11 -44.78
Sodium Perchlorate-18O4_IS	Auto	3.557	104680	104680	1.0000	ng/mL	----	----	

Perchlorate

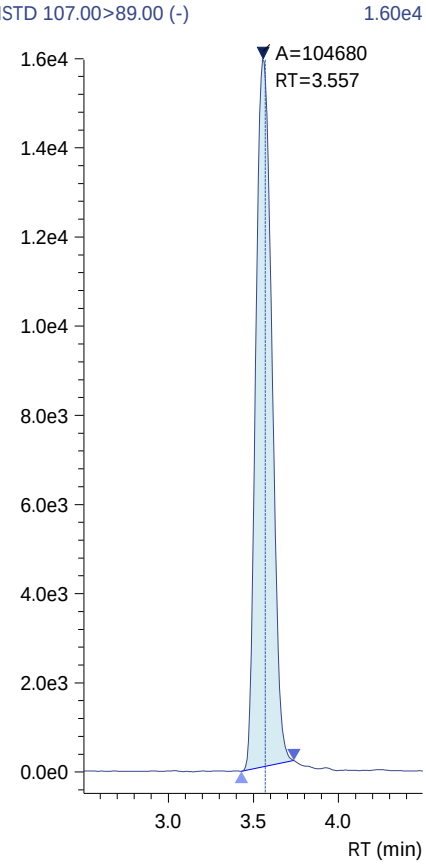
Conc 20.3065
R#1 32.66 (31.99)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

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PERCHLORATE9

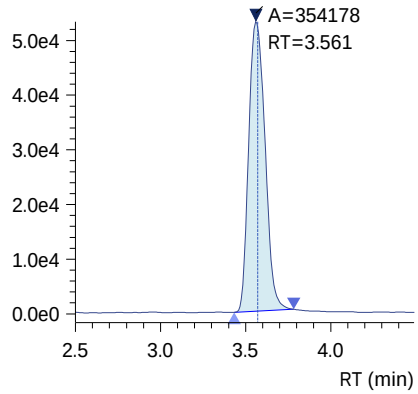
Sample ID: PERCHLORATE9
Date Acquired: 2/1/2023 12:36:45 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\02012023\20230201-011.lcd
Vial: 9 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.561	3541	81577	31.3	ng/mL	101.00	31.89	24.11
			78		395		>85.00		-44.78
Sodium Perchlorate-18O4_IS	Auto	3.557	81577	81577	1.0000	ng/mL	----	----	

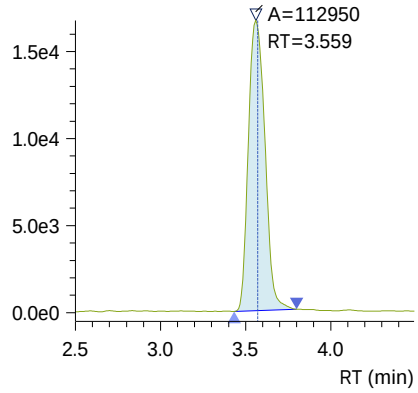
Perchlorate

Conc 31.3395
R#1 31.89 (31.99)

Q 99.00>83.00 (-) 5.34e4



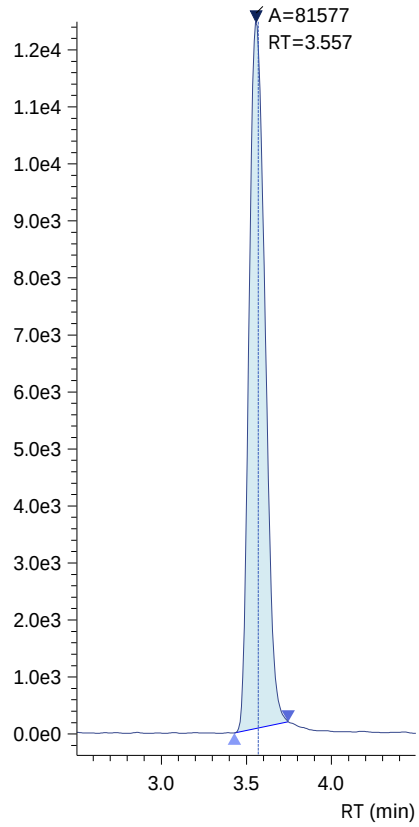
R1 101.00>85.00 (-) 1.68e4



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 1.25e4



Insight Report

Printed at 2/1/2023 2:06:14 PM

PERCHLORATE10

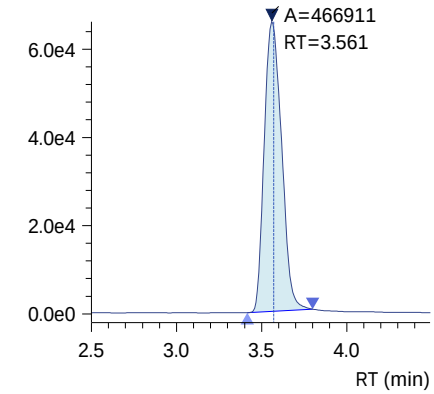
Sample ID: PERCHLORATE10
Date Acquired: 2/1/2023 12:42:34 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\02012023\20230201-012.lcd
Vial: 10 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.561	4669	63237	53.2	ng/mL	101.00	32.40	24.11
			11		964		>85.00		-44.78
Sodium Perchlorate-18O4_IS	Auto	3.554	63237	63237	1.0000	ng/mL	----	----	

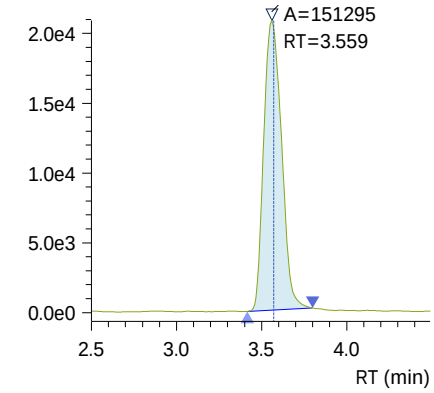
Perchlorate

Conc 53.2964
R#1 32.40 (31.99)

Q 99.00>83.00 (-) 6.62e4



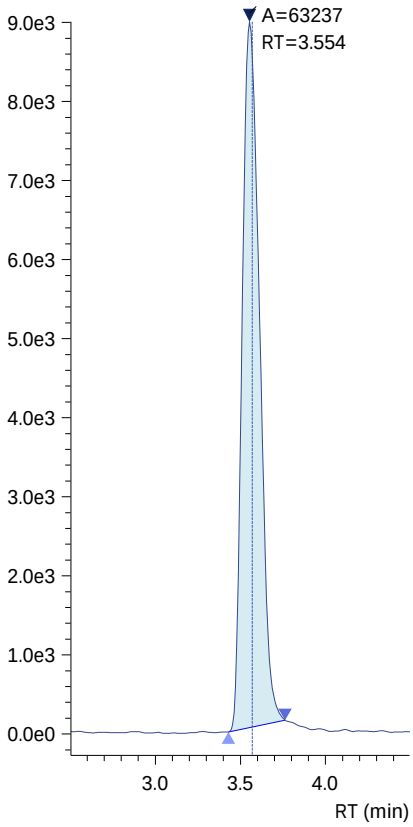
R1 101.00>85.00 (-) 2.09e4



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 9.01e3



Insight Report

Printed at 2/1/2023 2:06:14 PM

PERCHLORATEICV

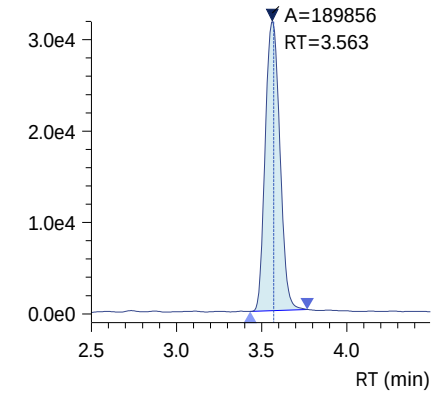
Sample ID: PERCHLORATEICV
Date Acquired: 2/1/2023 12:48:22 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\02012023\20230201-013.lcd
Vial: 11 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.563	189856 56	130049	10.5 379	ng/mL	101.00 >85.00	32.76	24.11 -44.78
Sodium Perchlorate-18O4_IS	Auto	3.557	130049	130049	1.0000	ng/mL	----	----	

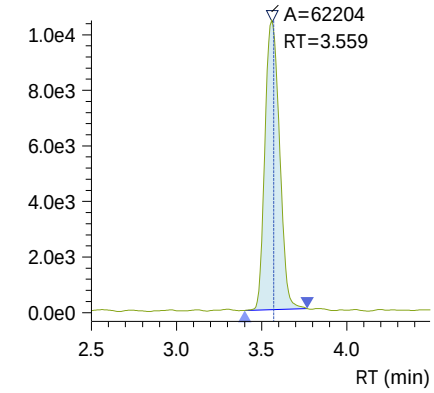
Perchlorate

Conc 10.5379
R#1 32.76 (31.99)

Q 99.00>83.00 (-) 3.20e4



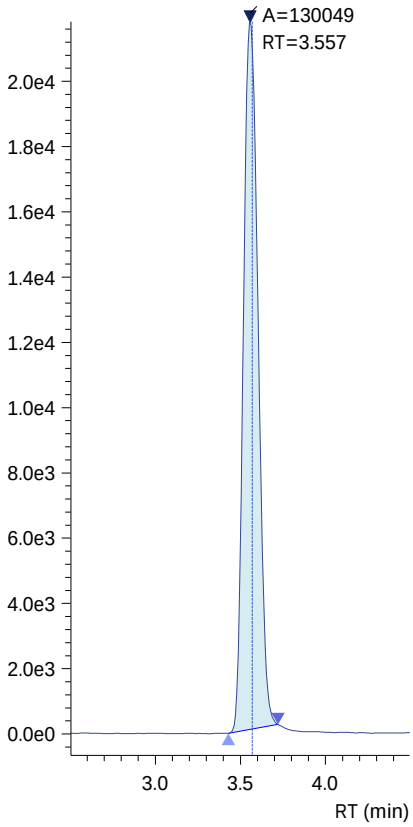
R1 101.00>85.00 (-) 1.05e4



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 2.18e4



Chromatograms and Selected Ion Monitoring

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 320, Houston TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

20230201-793296

Injection Log

LCMS01 -Shimadzu 8050

1st Review: XMI
2nd Review: Kneir

ICAL Date: 2/1/2023
Cal. Std. xp: 07/31/2023
ICAL ID: EC2300002

Mobile Phases : A:0.10% Formic Acid/Water 3210303-02 **B:**MeOH 224417

	Sample Name		File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	PERCHLORATE1		20230201-003	Perchlorate6850c.lcm	1x	☒	227245	2/1/2023 11:50
2	PERCHLORATE2		20230201-004	Perchlorate6850c.lcm	1x	☒	227246	2/1/2023 11:55
3	PERCHLORATE3		20230201-005	Perchlorate6850c.lcm	1x	☒	227247	2/1/2023 12:01
4	PERCHLORATE4		20230201-006	Perchlorate6850c.lcm	1x	☒	227248	2/1/2023 12:07
5	PERCHLORATE5		20230201-007	Perchlorate6850c.lcm	1x	☒	227249	2/1/2023 12:13
6	PERCHLORATE6		20230201-008	Perchlorate6850c.lcm	1x	☒	227250	2/1/2023 12:19
7	PERCHLORATE7		20230201-009	Perchlorate6850c.lcm	1x	☒	227251	2/1/2023 12:25
8	PERCHLORATE8		20230201-010	Perchlorate6850c.lcm	1x	☒	227252	2/1/2023 12:30
9	PERCHLORATE9		20230201-011	Perchlorate6850c.lcm	1x	☒	227253	2/1/2023 12:36
10	PERCHLORATE10		20230201-012	Perchlorate6850c.lcm	1x	☒	227254	2/1/2023 12:42
11	PERCHLORATEICV		20230201-013	Perchlorate6850c.lcm	1x	☒	227256	2/1/2023 12:48
12	LODV		20230201-014	Perchlorate6850c.lcm	1x	☒	225199	2/1/2023 12:54
13	ICS		20230201-015	Perchlorate6850c.lcm	1x	☒	32103024	2/1/2023 13:00
14	PERCHLORATE7		20230201-016	Perchlorate6850c.lcm	1x	☒	227251	2/1/2023 15:24
15	EQ2300047-01		20230201-017	Perchlorate6850c.lcm	1x	☒		2/1/2023 15:30
16	EQ2300047-02		20230201-018	Perchlorate6850c.lcm	1x	☒		2/1/2023 15:36
17	EQ2300047-03		20230201-019	Perchlorate6850c.lcm	1x	☒		2/1/2023 15:41
18	R2300589-005		20230201-020	Perchlorate6850c.lcm	1x	☒		2/1/2023 15:48
19	R2300589-010		20230201-021	Perchlorate6850c.lcm	1x	☒	DNU-BAD PEAK SHAPE	2/1/2023 15:54
20	R2300648-018		20230201-022	Perchlorate6850c.lcm	1x	☒		2/1/2023 16:00
21	R2300648-025		20230201-023	Perchlorate6850c.lcm	1x	☒		2/1/2023 16:06
22	PERCHLORATE7		20230201-024	Perchlorate6850c.lcm	1x	☒	227251	2/1/2023 16:17
23	E2300092-001		20230201-025	Perchlorate6850c.lcm	1x	☒		2/1/2023 16:23
24	E2300092-002		20230201-026	Perchlorate6850c.lcm	1x	☒		2/1/2023 16:29
25	E2300092-003		20230201-027	Perchlorate6850c.lcm	1x	☒		2/1/2023 16:35
26	E2300092-004		20230201-028	Perchlorate6850c.lcm	1x	☒		2/1/2023 16:41
27	E2300094-001		20230201-029	Perchlorate6850c.lcm	1x	☒		2/1/2023 16:47
28	E2300094-002		20230201-030	Perchlorate6850c.lcm	1x	☒		2/1/2023 16:52
29	E2300094-003		20230201-031	Perchlorate6850c.lcm	1x	☒		2/1/2023 16:58
30	E2300094-004		20230201-032	Perchlorate6850c.lcm	1x	☒		2/1/2023 17:04
31	E2300094-005		20230201-033	Perchlorate6850c.lcm	1x	☒		2/1/2023 17:10
32	PERCHLORATE7		20230201-034	Perchlorate6850c.lcm	1x	☒	227251	2/1/2023 17:16
33	E2300096-001		20230201-035	Perchlorate6850c.lcm	1x	☒		2/1/2023 17:21
34	E2300096-002		20230201-036	Perchlorate6850c.lcm	1x	☒		2/1/2023 17:27
35	E2300096-003		20230201-037	Perchlorate6850c.lcm	1x	☒		2/1/2023 17:33
36	E2300096-004		20230201-038	Perchlorate6850c.lcm	1x	☒		2/1/2023 17:39
37	E2300096-005		20230201-039	Perchlorate6850c.lcm	1x	☒		2/1/2023 17:45
38	E2300096-006		20230201-040	Perchlorate6850c.lcm	1x	☒		2/1/2023 17:51
39	E2300096-007		20230201-041	Perchlorate6850c.lcm	1x	☒		2/1/2023 17:56
40	PERCHLORATE7		20230201-042	Perchlorate6850c.lcm	1x	☒	227251	2/1/2023 18:02

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2300094
Project:	HS23011525	**Date Analyzed:**	2/1/23 15:24

Internal Standard Area and RT Summary

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\02012023\20230201-016	**Lab Code:**	EQ2300054-01
Instrument ID:	E-LCMS-01	**Analysis Lot:**	793296
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	163,897	3.56
	Upper Limit ==>	245,846	5.56
	Lower Limit ==>	81,949	1.56
Associated Analyses			
Continuing Calibration Verification	EQ2300054-01	133,036	3.56
Method Blank	EQ2300047-01	204,878	3.56
Lab Control Sample	EQ2300047-02	194,142	3.56
Duplicate Lab Control Sample	EQ2300047-03	196,445	3.56

Results flagged with an asterisk (*) indicate values outside control criteria.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2300094
Project:	HS23011525	**Date Analyzed:**	2/1/23 16:17

Internal Standard Area and RT Summary

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\02012023\20230201-024	**Lab Code:**	EQ2300054-02
Instrument ID:	E-LCMS-01	**Analysis Lot:**	793296
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	163,897	3.56
	Upper Limit ==>	245,846	5.56
	Lower Limit ==>	81,949	1.56
Associated Analyses			
Continuing Calibration Verification	EQ2300054-02	124,928	3.55
16WW39-230125	E2300094-001	125,125	3.45
16WW31-230125	E2300094-002	202,949	3.53
16WW32-230125	E2300094-003	211,154	3.53
16WW33-230125	E2300094-004	197,931	3.52
16WW34-230125	E2300094-005	202,082	3.53

Results flagged with an asterisk (*) indicate values outside control criteria.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2300094
Project:	HS23011525	**Date Analyzed:**	2/1/23 17:16

Internal Standard Area and RT Summary

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\02012023\20230201-034	**Lab Code:**	EQ2300054-03
Instrument ID:	E-LCMS-01	**Analysis Lot:**	793296
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	163,897	3.56
	Upper Limit ==>	245,846	5.56
	Lower Limit ==>	81,949	1.56
Associated Analyses			
Continuing Calibration Verification	EQ2300054-03	126,057	3.55

Results flagged with an asterisk (*) indicate values outside control criteria.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2300094
Project:	HS23011525	**Date Analyzed:**	2/1/23 18:02

Internal Standard Area and RT Summary

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\02012023\20230201-042	**Lab Code:**	EQ2300054-04
Instrument ID:	E-LCMS-01	**Analysis Lot:**	793296
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	163,897	3.56
	Upper Limit ==>	245,846	5.56
	Lower Limit ==>	81,949	1.56
Associated Analyses			
Continuing Calibration Verification	EQ2300054-04	134,643	3.55

Results flagged with an asterisk (*) indicate values outside control criteria.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS23011525

Service Request: E2300094
Date Analyzed: 2/ 1/23

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\02012023\20230201-016

Calibration Date: 2/1/23
Calibration ID: EC2300002
Analysis Lot: 793296
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.0	0.1392	0.1392	0.0	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS23011525

Service Request: E2300094
Date Analyzed: 2/ 1/23

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\02012023\20230201-024

Calibration Date: 2/1/23
Calibration ID: EC2300002
Analysis Lot: 793296
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.3	0.1392	0.1420	2.0	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS23011525

Service Request: E2300094
Date Analyzed: 2/ 1/23

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\02012023\20230201-034

Calibration Date: 2/1/23
Calibration ID: EC2300002
Analysis Lot: 793296
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.1	0.1392	0.1405	0.9	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS23011525

Service Request: E2300094
Date Analyzed: 2/ 1/23

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\02012023\20230201-042

Calibration Date: 2/1/23
Calibration ID: EC2300002
Analysis Lot: 793296
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.1	0.1392	0.1398	0.4	NA	± 15 %	Average RF

Insight Report

Printed at 2/3/2023 11:09:16 AM

Method File: I:\LCMS01\DATA\02012023\20230201.lcm
Project File: I:\LCMS01\DATA\02012023\20230201.damlp

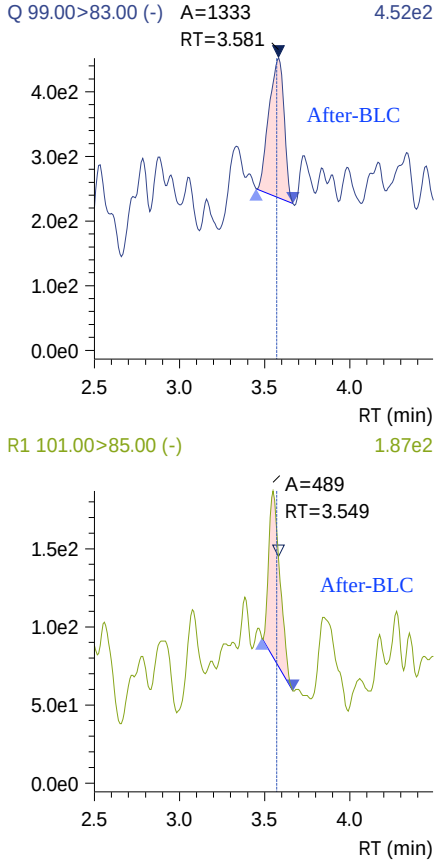
LODV

Sample ID: LODV
Date Acquired: 2/1/2023 12:54:10 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\02012023\20230201-014.lcd
Vial: 1 | Inj. Volume: 25.0000uL | Tray: 0

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	M	3.581	1333	214416	0.0449	ng/mL	101.00 >85.00	36.64	22.55 -41.89
Sodium Perchlorate-18O4_IS	Auto	3.558	214416	214416	1.0000	ng/mL	----	----	

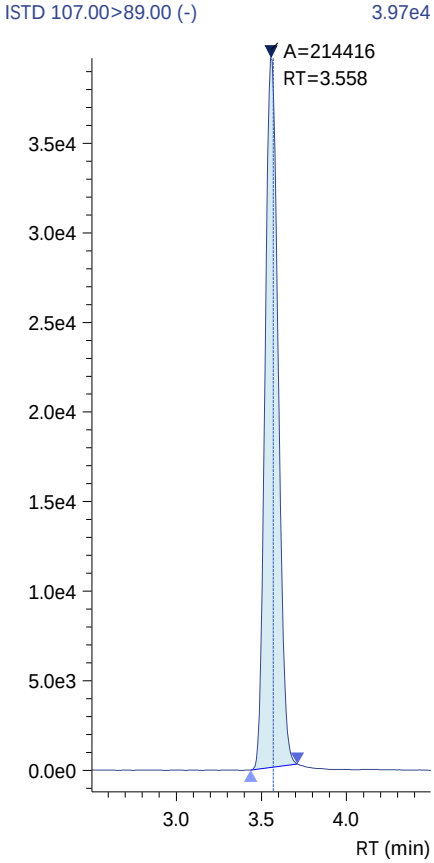
Perchlorate

Conc 0.0449
R#1 36.64 (32.22)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 2/3/2023 11:11:02 AM

Method File: I:\LCMS01\DATA\02012023\20230201.lcm
Project File: I:\LCMS01\DATA\02012023\20230201.damlp

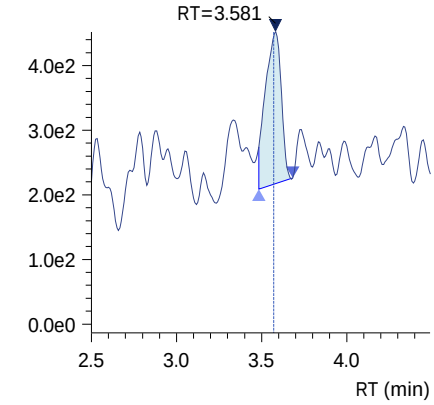
LODV

Sample ID: LODV
Date Acquired: 2/1/2023 12:54:10 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\02012023\20230201-014.lcd
Vial: 1 | Inj. Volume: 25.0000uL | Tray: 0

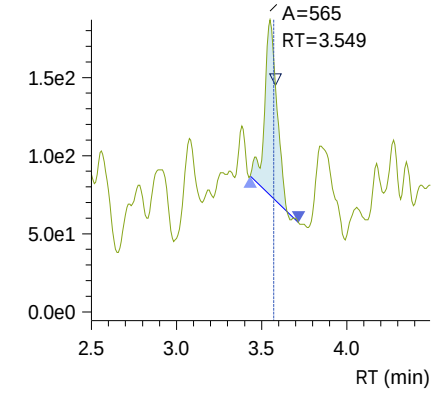
Perchlorate

Conc 0.0512
R#1 36.73 (32.22)

Q 99.00>83.00 (-) A=1537 4.52e2



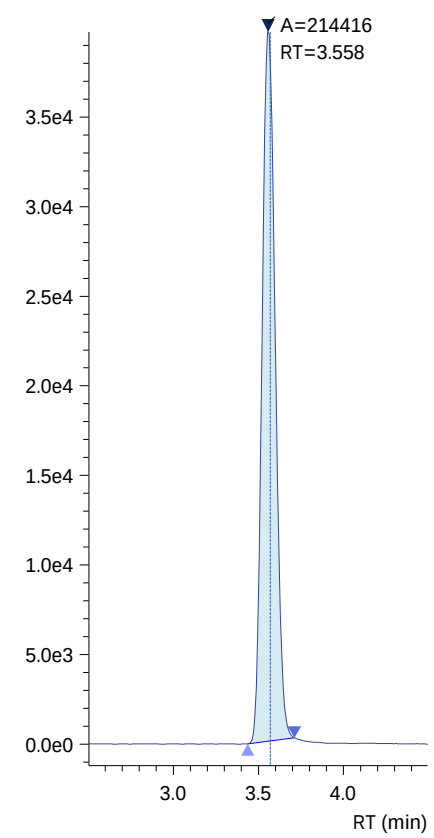
R1 101.00>85.00 (-) 1.87e2



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 3.97e4



Insight Report

Printed at 2/3/2023 11:09:16 AM

ICS

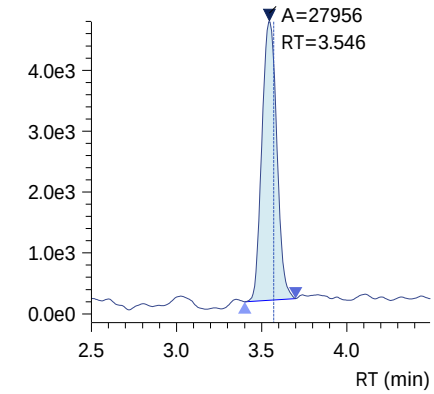
Sample ID: ICS
Date Acquired: 2/1/2023 1:00:00 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\02012023\20230201-015.lcd
Vial: 2 | Inj. Volume: 25.0000uL | Tray: 0

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.546	27956	229557	0.8791	ng/mL	101.00 >85.00	32.47	22.55 -41.89
Sodium Perchlorate-18O4 _IS	Auto	3.540	229557	229557	1.0000	ng/mL	----	----	

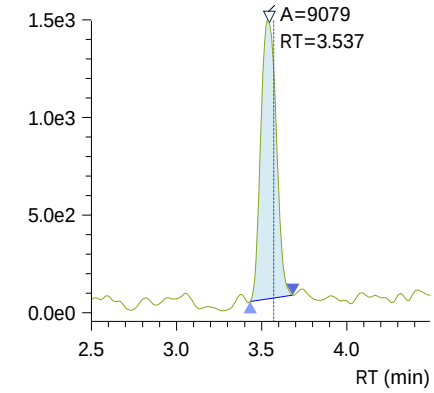
Perchlorate

Conc 0.8791
R#1 32.47 (32.22)

Q 99.00>83.00 (-) 4.80e3



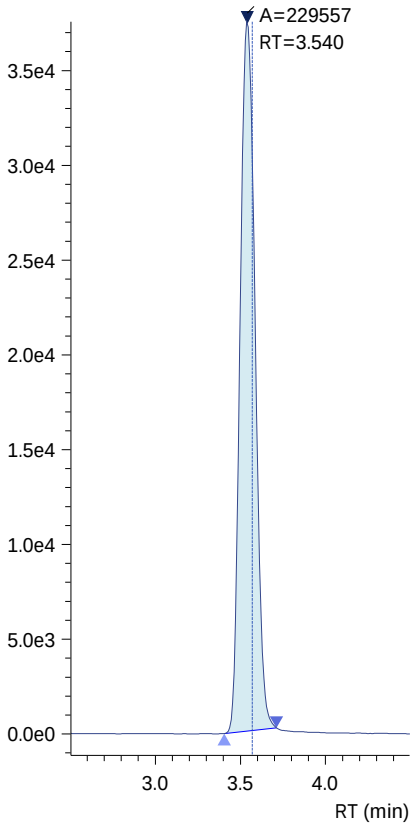
R1 101.00>85.00 (-) 1.50e3



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 3.76e4



Insight Report

Printed at 2/3/2023 11:09:16 AM

PERCHLORATE7

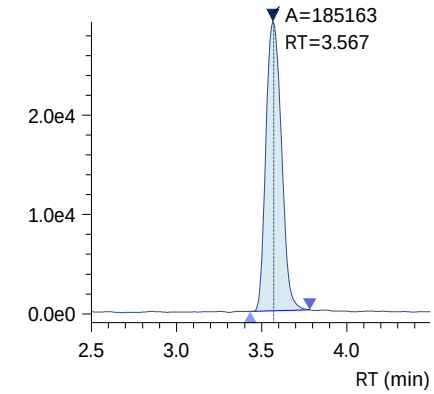
Sample ID: PERCHLORATE7
Date Acquired: 2/1/2023 3:24:37 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\02012023\20230201-016.lcd
Vial: 7 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.567	1851 63	133036	10.0 466	ng/mL	101.00 >85.00	33.54	22.55 -41.89
Sodium Perchlorate-18O4 _IS	Auto	3.561	1330 36	133036	1.0000	ng/mL	----	----	

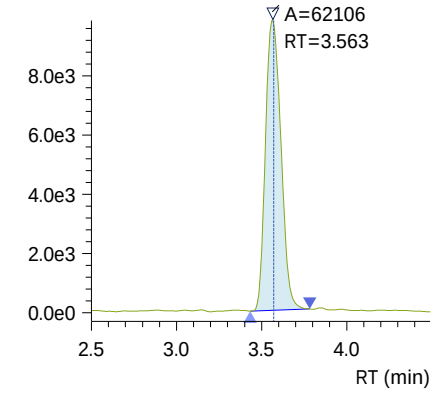
Perchlorate

Conc 10.0466
R#1 33.54 (32.22)

Q 99.00>83.00 (-) 2.94e4



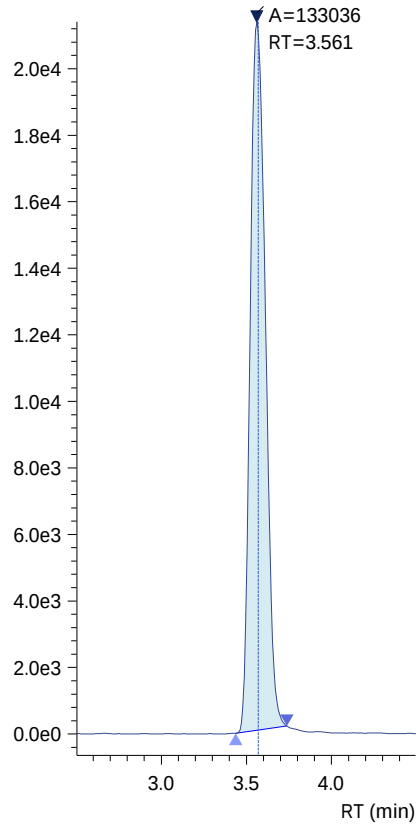
R1 101.00>85.00 (-) 9.87e3



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 2.14e4



Insight Report

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EQ2300047-01

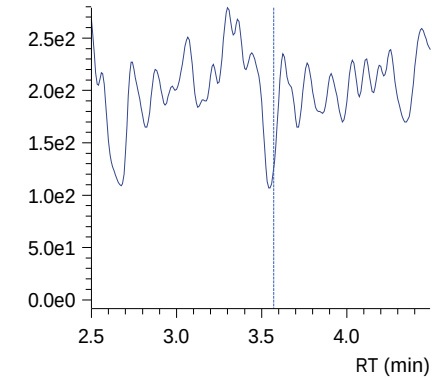
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Date Acquired: 2/1/2023 3:30:24 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\02012023\20230201-017.lcd
Vial: 24 | Inj. Volume: 25.0000uL | Tray: 4

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	ND(W/B)	----	----	204878	----	ng/mL	101.00 >85.00	0.00	22.55 -41.89
Sodium Perchlorate-18O4_IS	Auto	3.559	204878	204878	1.0000	ng/mL	----	----	

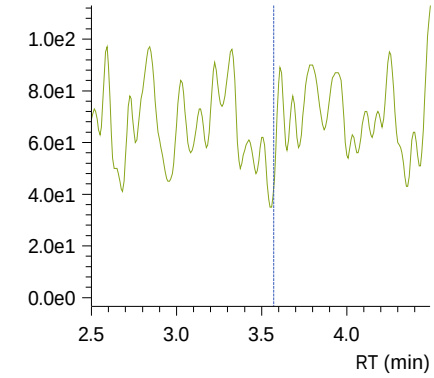
Perchlorate

Conc ----
R#1 0.00 (32.22)

Q 99.00>83.00 (-) 2.79e2



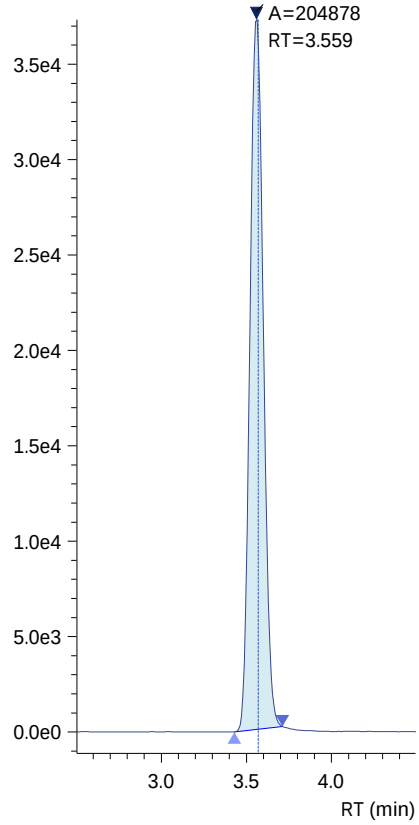
R1 101.00>85.00 (-) 1.13e2



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 3.73e4



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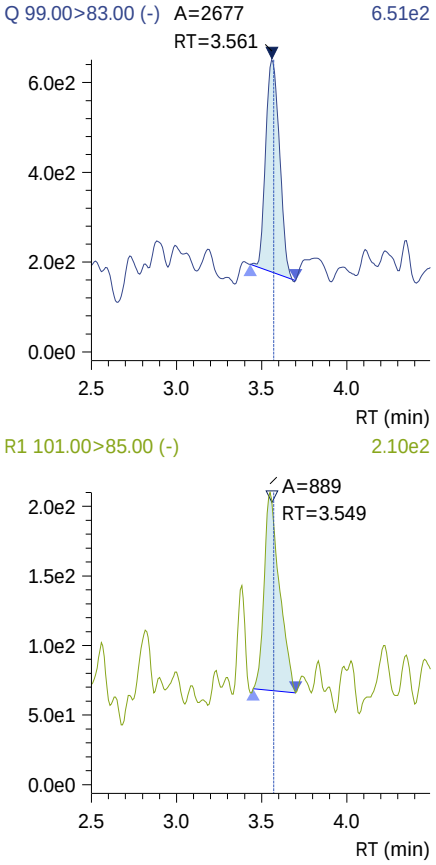
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Vial: 25 | Inj. Volume: 25.0000uL | Tray: 4

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.561	2677	194142	0.0995	ng/mL	101.00 >85.00	33.22	22.55 -41.89
Sodium Perchlorate-18O4_IS	Auto	3.558	1941 42	194142	1.0000	ng/mL	----	----	

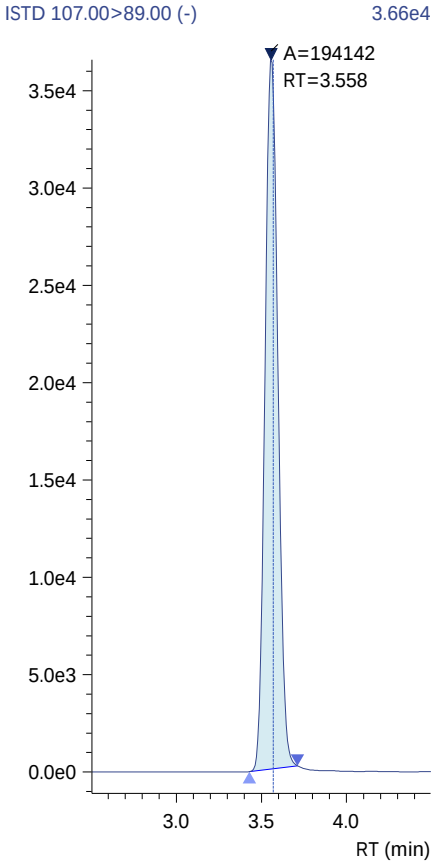
Perchlorate

Conc 0.0995
R#1 33.22 (32.22)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

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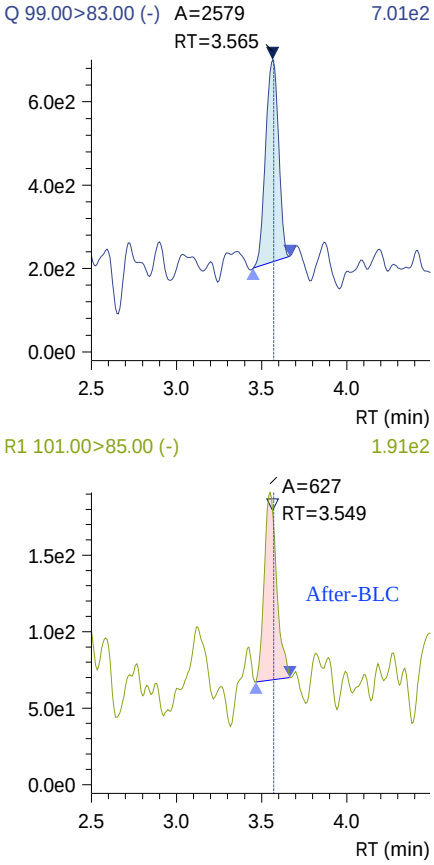
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Acquired by: System Administrator
Data File: I:\LCMS01\DATA\02012023\20230201-019.lcd
Vial: 26 | Inj. Volume: 25.0000uL | Tray: 4

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	MI R1	3.565	2579	196445	0.0948	ng/mL	101.00 >85.00	24.30	22.55 -41.89
Sodium Perchlorate-18O4_IS	Auto	3.558	196445	196445	1.0000	ng/mL	----	----	

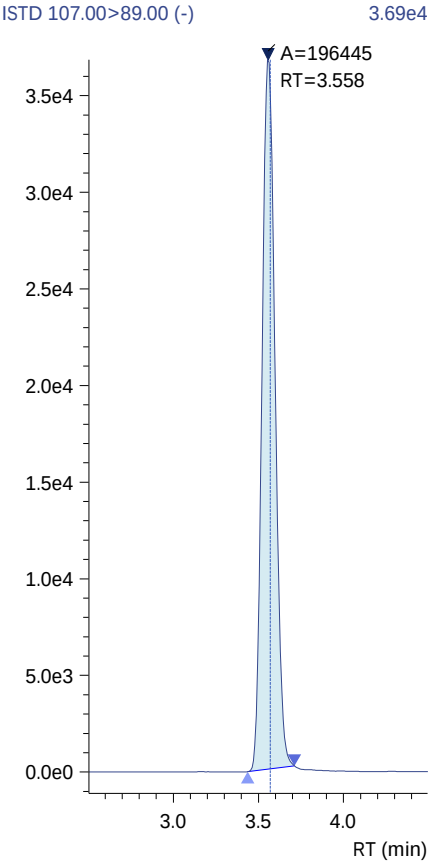
Perchlorate

Conc 0.0948
R#1 24.30 (32.22)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

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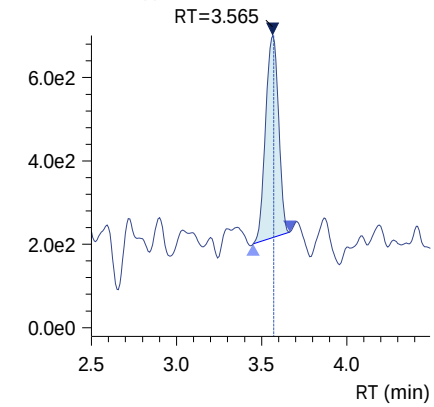
EQ2300047-03

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Vial: 26 | Inj. Volume: 25.0000uL | Tray: 4

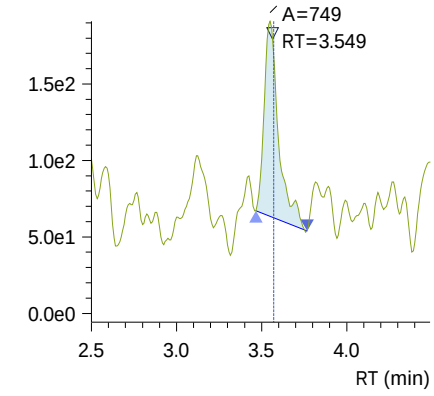
Perchlorate

Conc 0.0938
R#1 29.03 (32.22)

Q 99.00>83.00 (-) A=2579 7.01e2



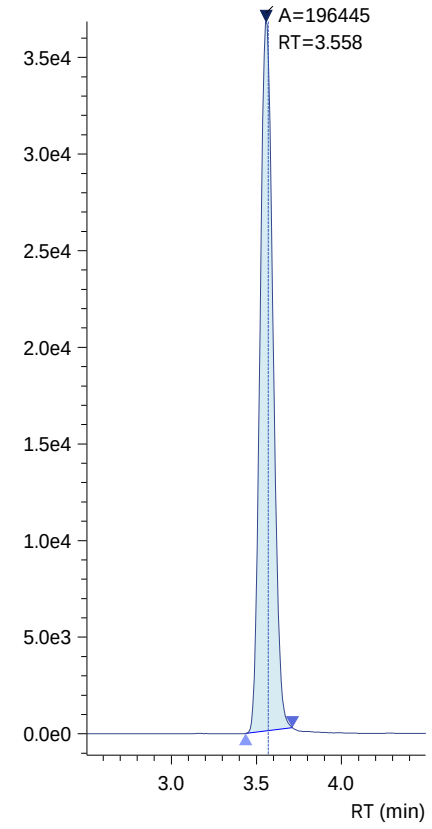
R1 101.00>85.00 (-) 1.91e2



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 3.69e4



Insight Report

Printed at 2/3/2023 11:09:16 AM

PERCHLORATE7

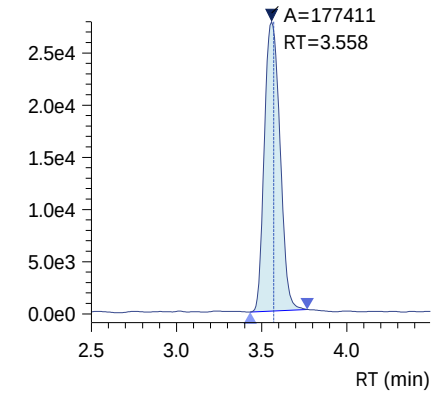
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Date Acquired: 2/1/2023 4:17:58 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\02012023\20230201-024.lcd
Vial: 7 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.558	1774 11	124928	10.2 508	ng/mL	101.00 >85.00	31.12	22.55 -41.89
Sodium Perchlorate-18O4 _IS	Auto	3.552	1249 28	124928	1.0000	ng/mL	----	----	

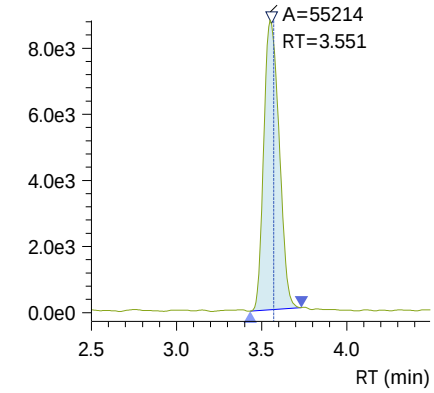
Perchlorate

Conc 10.2508
R#1 31.12 (32.22)

Q 99.00>83.00 (-) 2.80e4



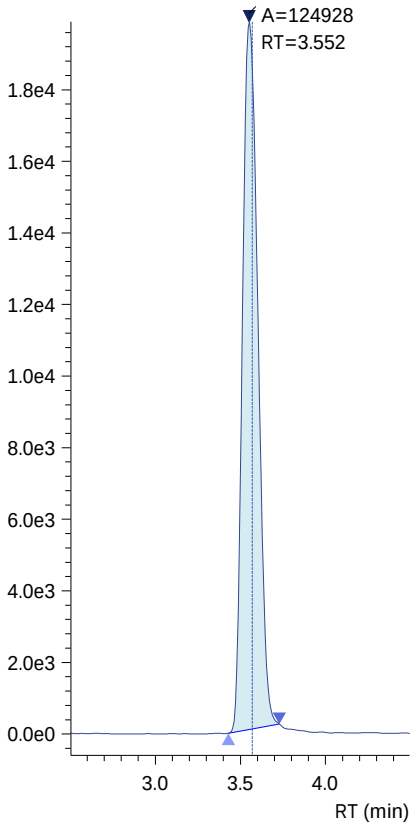
R1 101.00>85.00 (-) 8.84e3



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 1.99e4



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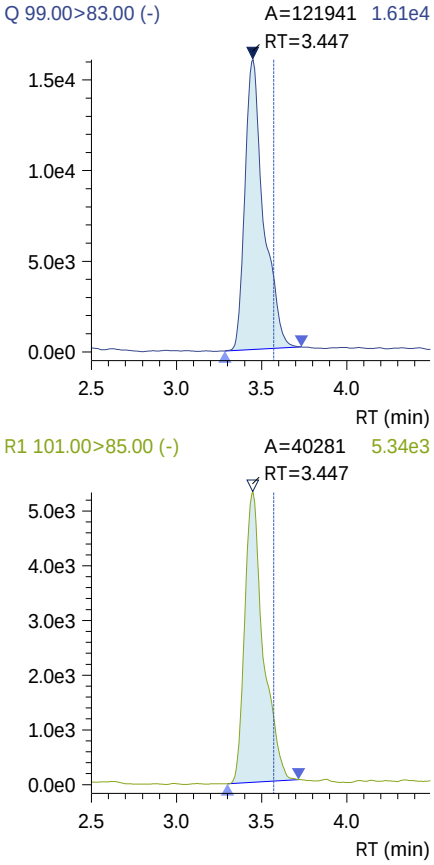
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Vial: 32 | Inj. Volume: 25.0000uL | Tray: 3

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.447	121941	125125	7.0347	ng/mL	101.00 >85.00	33.03	22.55 -41.89
Sodium Perchlorate-18O4_IS	Auto	3.445	125125	125125	1.0000	ng/mL	----	----	

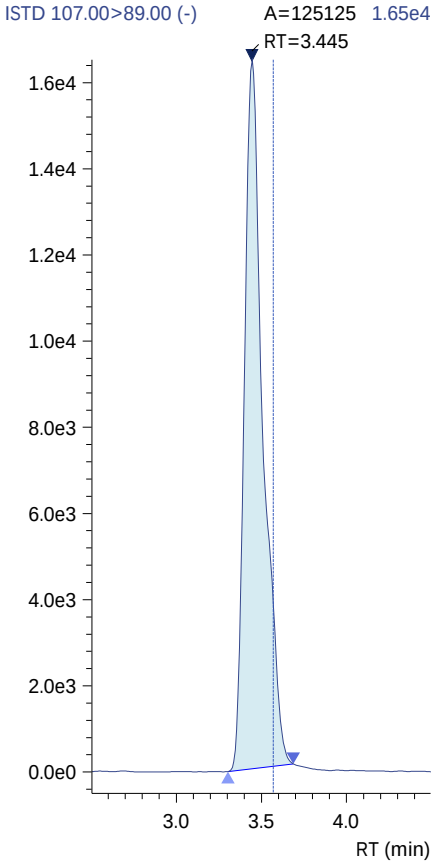
Perchlorate

Conc 7.0347
R#1 33.03 (32.22)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

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E2300094-002

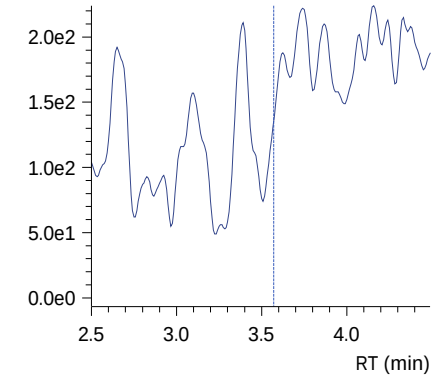
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Vial: 33 | Inj. Volume: 25.0000uL | Tray: 3

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	ND(W/B)	----	----	202949	----	ng/mL	101.00 >85.00	0.00	22.55 -41.89
Sodium Perchlorate-18O4_IS	Auto	3.531	202949	202949	1.0000	ng/mL	----	----	

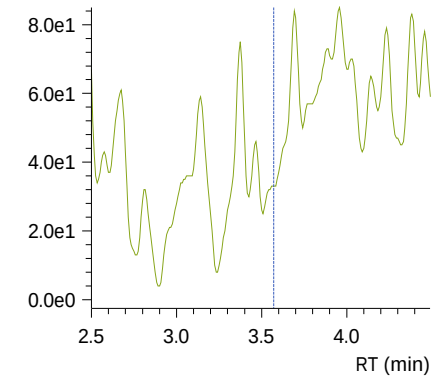
Perchlorate

Conc ----
R#1 0.00 (32.22)

Q 99.00>83.00 (-) 2.24e2



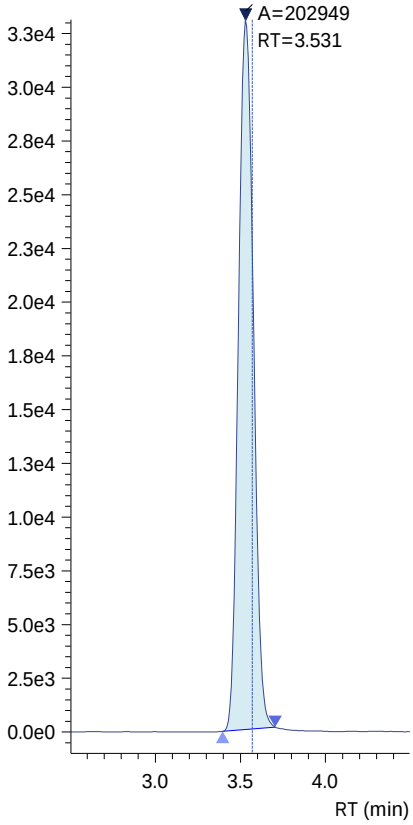
R1 101.00>85.00 (-) 8.50e1



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 3.31e4



Insight Report

Printed at 2/3/2023 11:09:16 AM

E2300094-003

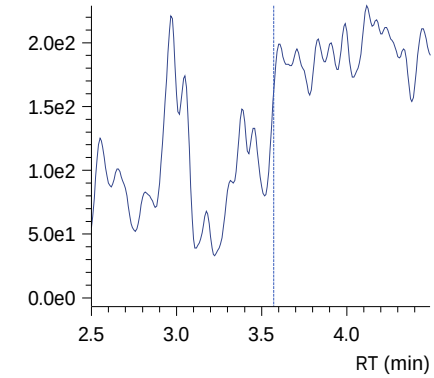
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Vial: 34 | Inj. Volume: 25.0000uL | Tray: 3

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	ND(W/B)	----	----	211154	----	ng/mL	101.00 >85.00	0.00	22.55 -41.89
Sodium Perchlorate-18O4_IS	Auto	3.526	211154	211154	1.0000	ng/mL	----	----	

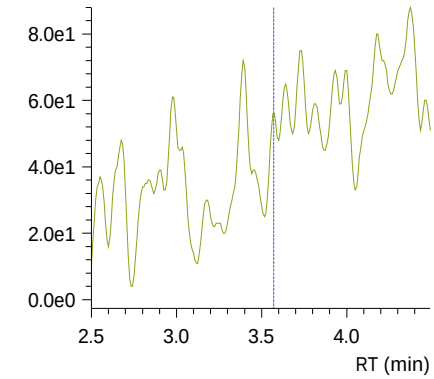
Perchlorate

Conc ----
R#1 0.00 (32.22)

Q 99.00>83.00 (-) 2.29e2



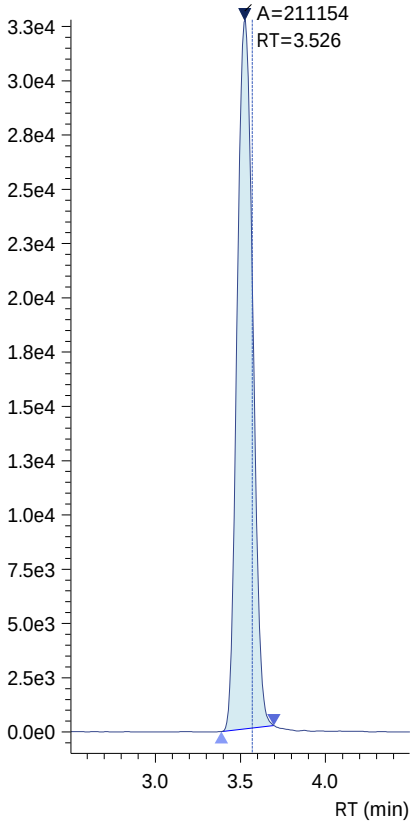
R1 101.00>85.00 (-) 8.80e1



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 3.28e4



Insight Report

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E2300094-004

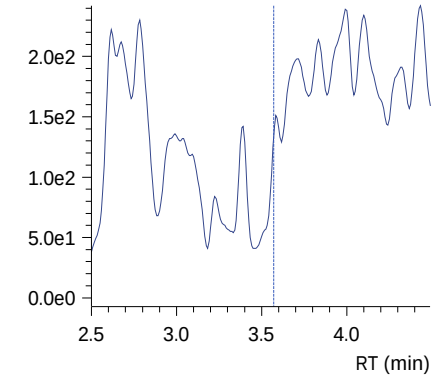
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Date Acquired: 2/1/2023 5:04:23 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\02012023\20230201-032.lcd
Vial: 35 | Inj. Volume: 25.0000uL | Tray: 3

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	ND(W/B)	----	----	197931	----	ng/mL	101.00 >85.00	0.00	22.55 -41.89
Sodium Perchlorate-18O4_IS	Auto	3.516	197931	197931	1.0000	ng/mL	----	----	

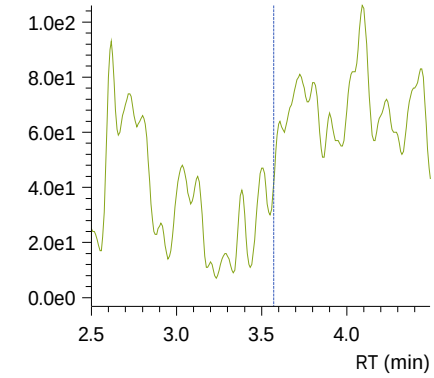
Perchlorate

Conc ----
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Q 99.00>83.00 (-) 2.42e2



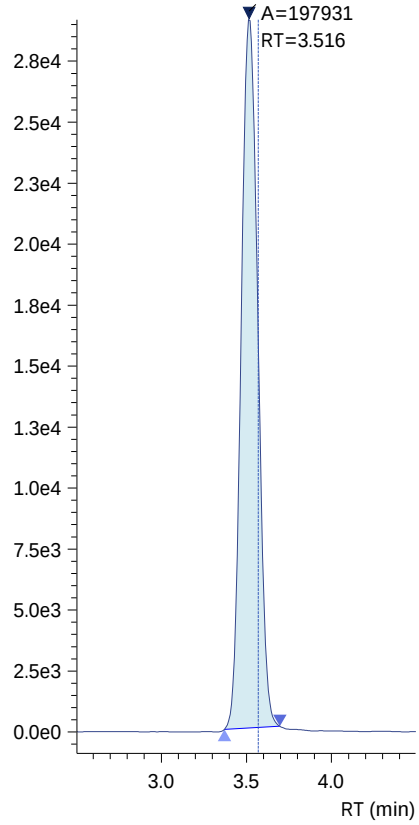
R1 101.00>85.00 (-) 1.06e2



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 2.92e4



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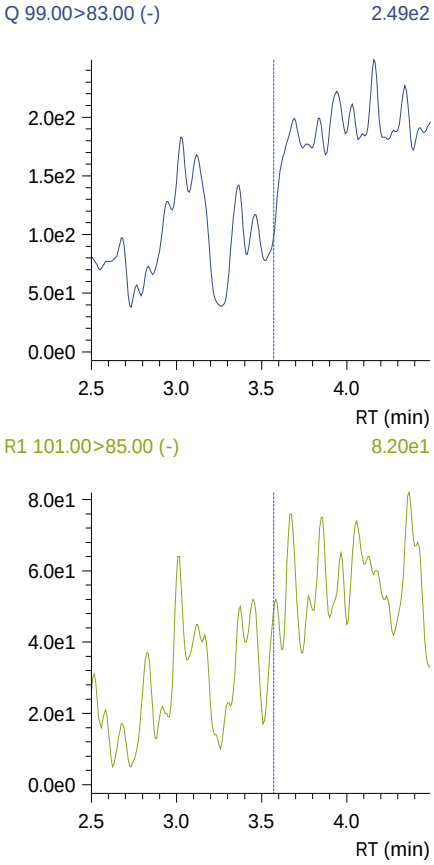
E2300094-005

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Acquired by: System Administrator
Data File: I:\LCMS01\DATA\02012023\20230201-033.lcd
Vial: 36 | Inj. Volume: 25.0000uL | Tray: 3

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	ND(W/B)	----	----	202082	----	ng/mL	101.00 >85.00	0.00	22.55 -41.89
Sodium Perchlorate-18O4_IS	Auto	3.525	202082	202082	1.0000	ng/mL	----	----	

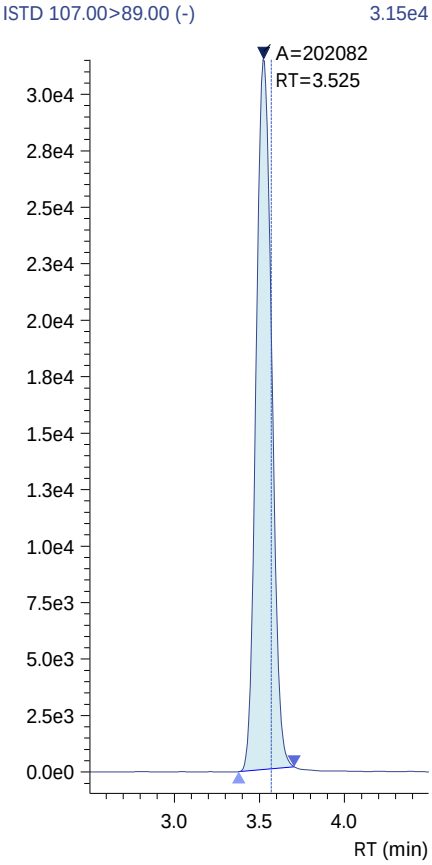
Perchlorate

Conc ----
R#1 0.00 (32.22)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

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PERCHLORATE7

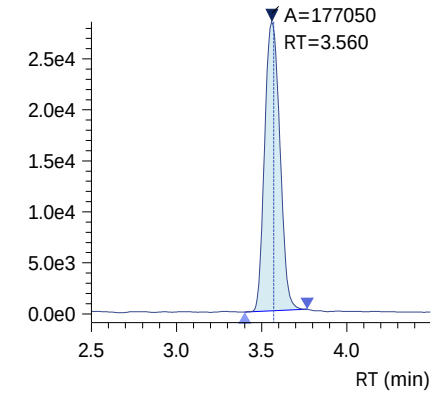
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Date Acquired: 2/1/2023 5:16:05 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\02012023\20230201-034.lcd
Vial: 7 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.560	1770 50	126057	10.1 383	ng/mL	101.00 >85.00	32.21	22.55 -41.89
Sodium Perchlorate-18O4 _IS	Auto	3.553	1260 57	126057	1.0000	ng/mL	----	----	

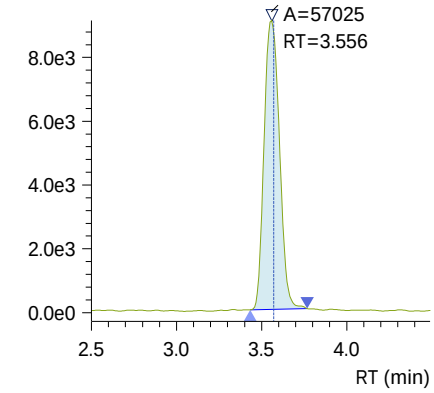
Perchlorate

Conc 10.1383
R#1 32.21 (32.22)

Q 99.00>83.00 (-) 2.86e4



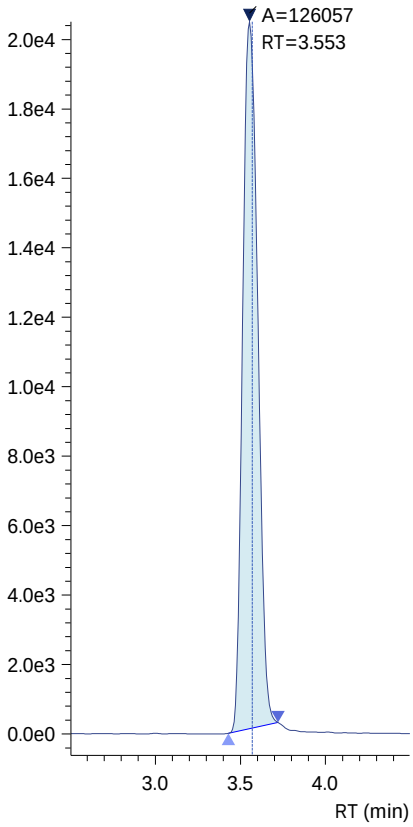
R1 101.00>85.00 (-) 9.16e3



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 2.05e4



May 16, 2024

MEMORANDUM FOR RECORD

SUBJECT: Extend the operational period of the extraction system at Longhorn Army Ammunition Plant (LHAAP) Site 17 (LHAAP-17), Harrison County, Texas

REFERENCES: *Shaw Environmental Inc. (Shaw). August 2016. Final Record of Decision, LHAAP-17 Burning Ground No. 2/Flashing Area Group 2, Longhorn Army Ammunition Plant*, Karnack, Texas.

The U.S. Army, Environmental Protection Agency (EPA) and Texas Commission on Environmental Quality (TCEQ) agree that since the Time Critical Removal Action (TCRA) is still ongoing at LHAAP-17, the 18-month operational period of the extraction system prescribed in the Record of Decision (Shaw, 2016), should be extended until all parties agree on termination.

A copy of this Memorandum will be maintained in the LHAAP Administrative Record.

SIEROCINSKI.LENA.JUDITH.1602047500

Digitally signed by SIEROCINSKI.LENA.JUDITH.1602047500
Date: 2024.05.16 11:30:37 -05'00'

Lena Sierocinski
USAEC Environmental Support Manager

QUARTERLY EVALUATION REPORT
3RD QUARTER (JULY-SEPTEMBER) 2023
GROUNDWATER TREATMENT PLANT
LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

May 2024

Prepared For:

Longhorn Army Ammunition Plant
Karnack, Texas

Under Contract To:

U.S. Army Corps of Engineers
Tulsa District
Tulsa, Oklahoma

Contract Number: W912BV23C0007
Solicitation Number: W912BV23R0022

Prepared By:

Poarch Creek Indians, Government Services, LLC and Bhate Environmental Services, Inc. Joint Venture
11921 Freedom Drive, Suite 550
Reston, VA 20190
1-251-333-1127

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Acronyms and Abbreviations iii

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ACRONYMS AND ABBREVIATIONS

°F	Degrees Fahrenheit
<	Less than
≤	Less than or equal to
“	Inch
%	Percent
A/C	Air Conditioning
AECOM	AECOM Technical Services, Inc.
AIX	Sample collected after the first IX vessel
AMCV(s)	Air Monitoring Comparison Value(s)
amsl	Above mean sea level
Ark-La-Tex	Ark-La-Tex Electric
bgs	Below ground surface
Bhate	Bhate Environmental Associates, Inc.
BIX	Sample collected before the first IX vessel
BL	Blower
BLOC	Bloc Design Build, LLC
CFC 11	trichlorofluoromethane
CFC 12	dichlorodifluoromethane
CFC 13	trichlorotrifluoroethane
DCA	Dichloroethane
DCE	Dichloroethene
e.g.	Example given
Envirogen	Envirogen Technologies
ESD	Explanation of Significant Difference
ESL(s)	Effects Screening Level(s)
FBR	Fluidized bed reactor
ft	Feet or foot
GAC	Granular activated carbon
gpd	Gallons per day
gph	Gallons per hour
gpm	Gallons per minute

GWTP	Groundwater Treatment Plant
HCl	Hydrochloric acid
HDPE	High density polyethylene
ICT(s)	Interception-collection trench(es)
INF	Intermediate-Range Nuclear Forces Treaty
IRP	Installation Restoration Program
IX	Ion exchange
J	Estimated concentration
lbs	Pounds
lbs/hr	Pounds per hour
LHAAP	Longhorn Army Ammunition Plant
MC	Methylene chloride
µg/m^3	Micrograms per cubic meter
µg/L	Micrograms per liter
$Mg(OH)_2$	Magnesium hydroxide
mV	Millivolts
NA	Not applicable
NaOH	Sodium hydroxide
No.	Number
ORP	Oxidation-reduction potential
PBJV	PCI/Bhate Joint Venture
PCI	Poarch Creek Indians, Government Services, LLC
PCE	Tetrachloroethene
pH	Potential of Hydrogen
PID	Photoionization detector
PLC	Programmable Logic Controller
ppm	Parts per million
psi	Pounds per square inch
PVC	Polyvinyl chloride
ROD	Record of Decision
s.u.	Standard unit
SWEPCO	Southwestern Electric Power Company

TAC	Texas Administrative Code
TCE	Trichloroethene
TCEQ	Texas Commission on Environmental Quality
TK	Tank
tpy	Tons per year
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
VC	Vinyl chloride
VOC(s)	Volatile Organic Compound(s)

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EXECUTIVE SUMMARY

The operation of the Groundwater Treatment Plant (GWTP) is part of the Interim Remedial Action at Burning Ground Number (No.) 3, also referred to as Longhorn Army Ammunition Plant (LHAAP)-18/24. A historical pilot test for nearby landfill LHAAP-16 resulted in the installation of eight extraction wells which also contributed groundwater to the GWTP but ceased after implementation of the final remedy in September 2019. The groundwater treated from LHAAP-18/24 is discussed in detail within this Quarterly Evaluation Report. However, the GWTP also receives and treats groundwater extracted from LHAAP-17, which began in August 2022, which is discussed as part of the overall volume of water received and discharged.

The groundwater remediation processing for Burning Ground No. 3 at LHAAP includes the following operable systems:

- Equalization tank (water storage) pretreatment system (metals removal);
- Air stripper system;
- Sludge treatment system (thickening, devolatilization, and belt filter press);
- Perchlorate treatment system (fluidized bed reactor [FBR] and ion exchange [IX] vessels);
- Various pumps, meters, piping, and valves tying the treatment systems together; and
- Programmable Logic Controller (PLC) that communicates the status of the operable systems, including the extraction wells, to a central computer that can then notify the operators of shut-downs and similar issues remotely.

Contaminated water from the extraction wells and interception-collection trenches (ICTs) is pumped into the GWTP and stored in the equalization storage tank. The contaminated water is then pumped to the pretreatment system for precipitation of metals. The sludge from the pretreatment system is delivered to the sludge treatment system to be thickened, air stripped of volatile organic compounds (VOCs), and filter pressed for disposal in a landfill. The water from the pretreatment system is delivered to the air stripper system for air stripping of VOCs. Water from the air stripper is stored in the effluent storage tank for further treatment by the perchlorate system, which consists of a FBR and IX vessels.

To provide the integration necessary for proper water process management, a stand-alone central PLC and operator console are used to control the operating systems of the GWTP. The belt filter press operates independently with a polymer pump and sludge feed pump interfaced with the central PLC.

The pretreatment system and air stripper system are equipped with instrument junction boxes and motor starter control panels. The control panels contain a transformer, run indication lights, motor starters, hand or automatic switches, and relays to interface with the central PLC. The control panels have monitors and/or logic to monitor the operating parameters and determine when abnormal conditions occur.

Interface relays will indicate to the central PLC that there is a problem within the systems. The central PLC will provide the logic for the proper action required for that specific set of circumstances.

Groundwater extraction, treatment, discharge, and monitoring activities consist of:

- Continuous extraction of groundwater from multiple ICTs and extraction wells at LHAAP-18/24;
- Continuous extraction of groundwater from two extraction wells at LHAAP-17;
- Treatment of extracted groundwater for heavy metals, chlorinated compounds, and perchlorate using precipitation, air stripping, and biological methods, respectively;
- Evaluation of the hydraulic effectiveness of the extraction system by groundwater monitoring and groundwater elevation measurements;
- Monitoring and analysis of treated groundwater to ensure compliance with the discharge limits; and
- Discharge of treated water to Harrison Bayou or to a holding pond (Intermediate-Range Nuclear Forces Treaty [INF] Pond), or the treated water may be released as irrigation water on LHAAP-18/24.

The location of the extraction wells and ICTs at LHAAP-18/24 is shown on **Figure A-1** in **Appendix A**. The process flow diagram of the GWTP is shown on **Figure A-2** in **Appendix A**. **Figure ES-1** shows the monthly total volume of groundwater that was extracted from the ICTs and extraction wells at LHAAP-18/24 between March 2018 and September 2023, at LHAAP-16 between March 2018 and September 2019, and at LHAAP-17 between August 2022 and September 2023. Historical details regarding the operation of the GWTP, including downtime and resolutions are discussed in Section 1.1.1 of this Quarterly Evaluation Report.

During the 3rd Quarter 2022 (July – September), the adjacent site (LHAAP-17) groundwater extraction system was brought online and integrated into the GWTP. The LHAAP-17 groundwater extraction system was plumbed into the existing underground piping infrastructure that runs between LHAAP-16 and the GWTP. The LHAAP-17 extraction system was started up on 5 August 2022.

In the 3rd Quarter of 2023, there were multiple power outages in July, August and September due to heavy thunderstorms. However, power was restored in each situation resulting in minimal downtime. Throughout the reporting period, the air compressor was used to air sparge the sand filter, breaking up sediment that had accumulated in the pretreatment system. To further assist with addressing the sediment build up in the sand filter, a new diaphragm pump was installed during the 4th Quarter. Documentation of the pump installation will be covered in the 4th Quarter Evaluation Report.

Additionally, on 2 August 2023, monitoring well 1824DPTMW07 was sampled. However, the analytical results from this sample were presented in the 2nd Quarter Evaluation Report (Bhate Environmental Associates, Inc. [Bhate], December 2023) as part of the June 2023 semi-annual sampling event.

As shown on **Figure ES-1**, the total extracted groundwater volume from LHAAP-18/24 during the 3rd Quarter of 2023 was 499,838 gallons and 185,628 gallons from LHAAP-17. The extracted groundwater volume was recorded on a monthly basis as the sum of the difference between the flow meter totalizer reading at each ICT between the beginning and end of each month. The total extraction quantities in LHAAP-18/24 by month were 42,892 gallons in July 2023; 237,098 gallons in August 2023; and 219,848 gallons in September 2023. Extraction quantities in LHAAP-17 were 71,853 gallons in July 2023; 65,142 gallons in August 2023; and 48,633 gallons in September 2023.

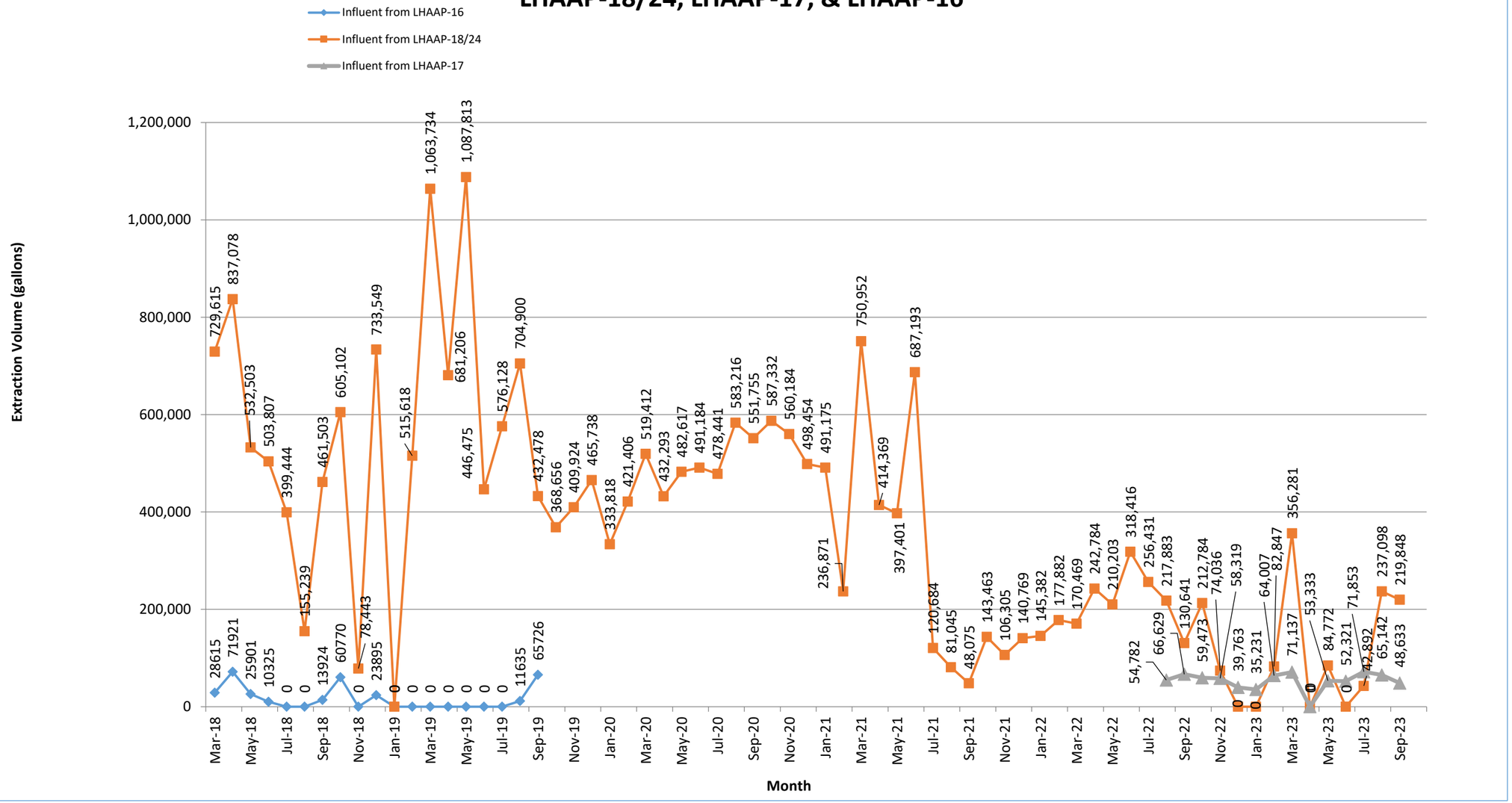
The average discharge flow rate from the GWTP was estimated as 102 gallons per minute (gpm) during the 3rd Quarter of 2023. As listed in **Table ES-1**, approximately 29,133 gallons of groundwater were treated and discharged from the GWTP to the Harrison Bayou and 595,094 gallons of groundwater were treated and discharged from the GWTP to the INF pond. No treated groundwater from the GWTP was discharged to the INF pond or returned to LHAAP-18/24 via the sprinkler system. **Table ES-1** also presents the INF Pond staff gauge readings by date, which is used to determine the freeboard available in the pond.

During the 3rd Quarter of 2023, a monthly GWTP influent sample was collected for perchlorate analysis on 10 July 2023 and perchlorate levels were measured at 57,500 micrograms per liter (µg/L). Additionally, monthly GWTP influent samples were collected for analysis on 1 August 2023 and 12 September 2023, and perchlorate levels were measured at 17,200 µg/L and 14,600 µg/L, respectively. Quarterly influent sampling took place on 16 August 2023 for the 3rd Quarter, and perchlorate levels were detected at 19,200 µg/L. Grab perchlorate samples from the GWTP effluent were collected weekly prior to and after the first IX vessel to confirm perchlorate treatment prior to discharge. None of the perchlorate concentrations in any effluent samples discharged to the Harrison Bayou exceeded the Harrison Bayou Maximum Allowable Daily Discharge Perchlorate Concentration (589 µg/L). Although not a requirement, prior to discharge to the Harrison Bayou, treated groundwater was also processed through the IX vessels to ensure adequate perchlorate treatment.

The treated water quantities each month since March 2018 and discharged into the Harrison Bayou are shown on **Figure ES-2**.

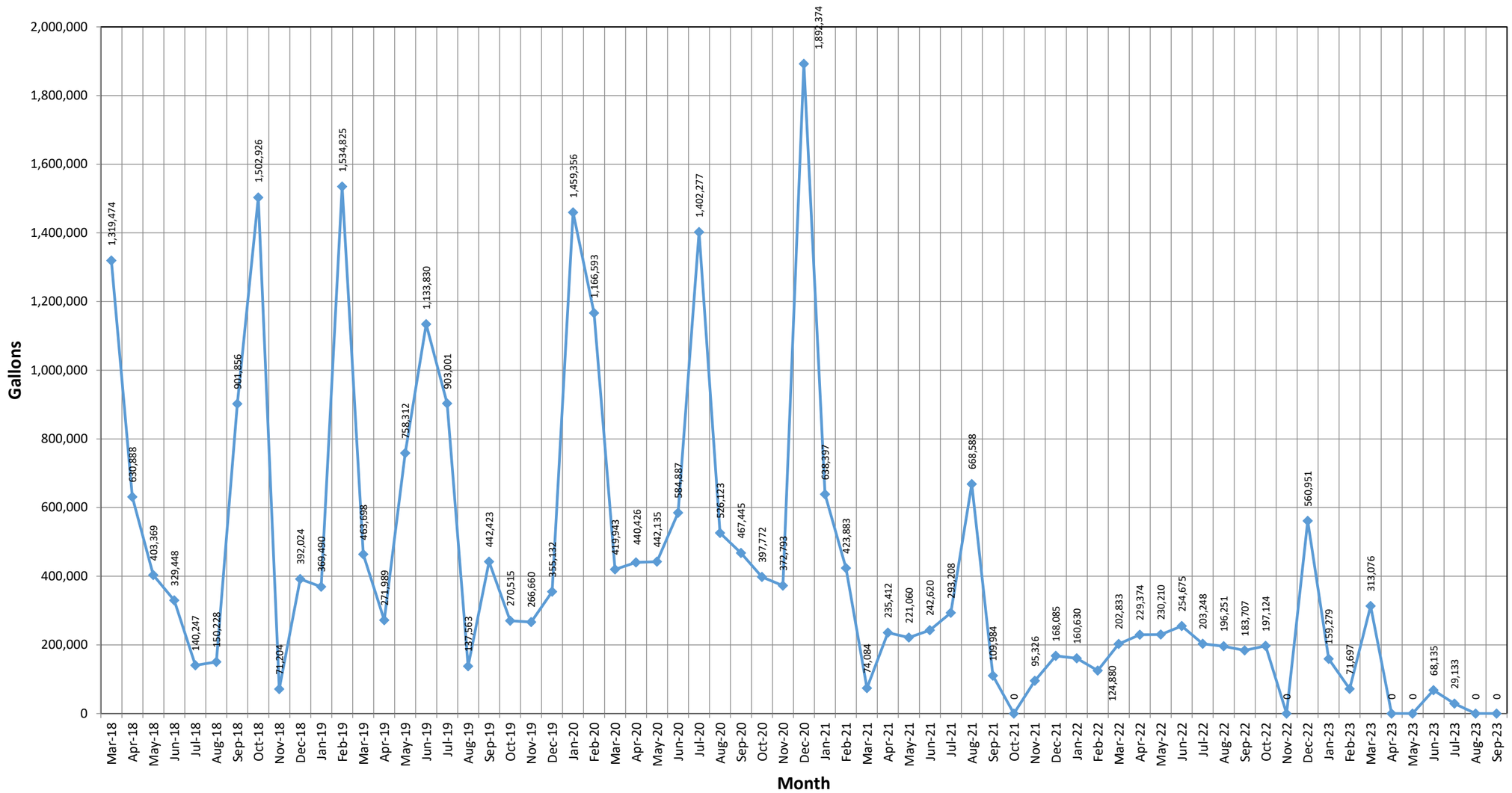
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Figure ES-1. Groundwater Recovery from March 2018 through September 2023 LHAAP-18/24, LHAAP-17, & LHAAP-16



Notes: Starting in September 2019, no groundwater was extracted subsequent to the final remedy of injections being implemented at LHAAP-16. No groundwater was extracted from LHAAP-18/24 in December 2022 and January 2023 due to an extreme freeze event and subsequent repairs. No groundwater was extracted from LHAAP-18/24 or LHAAP-17 in April 2023 due to the GWTP being shut down during contract transition. No groundwater was extracted from LHAAP-18/24 in June 2023 due to maintenance on a blockage in the sand filter.

Figure ES-2. Treated Groundwater Discharged Monthly from March 2018 through September 2023



Notes: No groundwater was discharged to the Harrison Bayou in October 2021 due to the GWTP shutting down from a power outage and HCI pump repairs. No groundwater was discharged in November 2022 due to no flow in the Harrison Bayou. No groundwater was discharged in in April and May 2023 due to the GWTP being shut down during the contract transition and subsequent maintenance on the sand filter. No groundwater was discharged in August and September 2023 due to no flow in the Bayou.

Table ES-1. Discharge Information to Harrison Bayou during 3rd Quarter 2023

DATE	Harrison Bayou Flow (gpm)	Maximum Rate Allowed (gpm)	Released From GWTP To Harrison Bayou (gallons)	Released From INF Pond to Harrison Bayou (gallons)	Released From GWTP to INF Pond (gallons)	Combined Total Released to Harrison Bayou (gallons)	INF Pond Staff Reading (6.20 = 3 feet (ft.) Freeboard)
07/01/2023*	Not applicable (NA)	NA	0	0	0	0	1.52
07/02/2023*	NA	NA	0	0	0	0	1.55
07/03/2023	NA	NA	0	0	0	0	1.59
07/04/2023	NA	NA	0	0	0	0	1.62
07/05/2023	NA	NA	0	0	58,487	0	1.68
07/06/2023	NA	NA	0	0	0	0	1.66
07/07/2023	NA	NA	0	0	0	0	1.65
07/08/2023*	NA	NA	0	0	0	0	1.69
07/09/2023*	NA	NA	0	0	0	0	1.78
07/10/2023	NA	NA	0	0	0	0	1.77
07/11/2023	NA	NA	0	0	0	0	1.77
07/12/2023	NA	NA	0	0	0	0	1.75
07/13/2023	NA	NA	0	0	0	0	1.73
07/14/2023	NA	NA	0	0	0	0	1.71
07/15/2023*	NA	NA	0	0	0	0	1.70
07/16/2023*	NA	NA	0	0	0	0	1.68
07/17/2023	NA	NA	0	0	0	0	1.81
07/18/2023	4,630	1,021	3,930	0	0	3,930	1.79
07/19/2023	3,666	808	16,054	0	0	16,054	1.77
07/20/2023	2,847	628	9,149	0	0	9,149	1.75
07/21/2023	NA	NA	0	0	0	0	1.73
07/22/2023*	NA	NA	0	0	0	0	1.72

07/23/2023*	NA	NA	0	0	0	0	1.70
07/24/2023	NA	NA	0	0	0	0	1.66
07/25/2023	NA	NA	0	0	0	0	1.63
07/26/2023	NA	NA	0	0	0	0	1.60
07/27/2023	NA	NA	0	0	0	0	1.57
07/28/2023	NA	NA	0	0	0	0	1.55
07/29/2023*	NA	NA	0	0	0	0	1.61
07/30/2023*	NA	NA	0	0	0	0	1.72
07/31/2023	NA	NA	0	0	52,048	0	1.83
08/01/2023	NA	NA	0	0	0	0	1.81
08/02/2023	NA	NA	0	0	0	0	1.77
08/03/2023	NA	NA	0	0	0	0	1.73
08/04/2023	NA	NA	0	0	3,119	0	1.70
08/05/2023*	NA	NA	0	0	0	0	1.83
08/06/2023*	NA	NA	0	0	0	0	1.90
08/07/2023	NA	NA	0	0	56,889	0	1.98
08/08/2023	NA	NA	0	0	0	0	1.96
08/09/2023	NA	NA	0	0	0	0	1.93
08/10/2023	NA	NA	0	0	0	0	1.91
08/11/2023	NA	NA	0	0	0	0	1.89
08/12/2023*	NA	NA	0	0	0	0	1.96
08/13/2023*	NA	NA	0	0	0	0	2.03
08/14/2023	NA	NA	0	0	53,638	0	2.10
08/15/2023	NA	NA	0	0	0	0	2.08
08/16/2023	NA	NA	0	0	0	0	2.06
08/17/2023	NA	NA	0	0	0	0	2.05
08/18/2023	NA	NA	0	0	0	0	2.03
08/19/2023*	NA	NA	0	0	0	0	2.07

08/20/2023*	NA	NA	0	0	0	0	2.13
08/21/2023	NA	NA	0	0	46,984	0	2.18
08/22/2023	NA	NA	0	0	3,009	0	2.16
08/23/2023	NA	NA	0	0	18,552	0	2..21
08/24/2023	NA	NA	0	0	12,933	0	2.25
08/25/2023	NA	NA	0	0	12,344	0	2.30
08/26/2023*	NA	NA	0	0	0	0	2.35
08/27/2023*	NA	NA	0	0	0	0	2.40
08/28/2023	NA	NA	0	0	18,807	0	2.44
08/29/2023	NA	NA	0	0	6,288	0	2.47
08/30/2023	NA	NA	0	0	16,381	0	2.53
08/31/2023	NA	NA	0	0	13,920	0	2.58
09/01/2023	NA	NA	0	0	1,068	0	2.56
09/02/2023*	NA	NA	0	0	0	0	2.58
09/03/2023*	NA	NA	0	0	0	0	2.60
09/04/2023	NA	NA	0	0	0	0	2.62
09/05/2023	NA	NA	0	0	41,502	0	2.64
09/06/2023	NA	NA	0	0	15,750	0	2.68
09/07/2023	NA	NA	0	0	5,576	0	2.72
09/08/2023	NA	NA	0	0	17,346	0	2.76
09/09/2023*	NA	NA	0	0	0	0	2.72
09/10/2023*	NA	NA	0	0	0	0	2.68
09/11/2023	NA	NA	0	0	0	0	2.65
09/12/2023	NA	NA	0	0	11,928	0	2.72
09/13/2023	NA	NA	0	0	13,421	0	2.80
09/14/2023	NA	NA	0	0	10,306	0	2.86
09/15/2023	NA	NA	0	0	2,108	0	2.86

09/16/2023*	NA	NA	0	0	0	0	2.87
09/17/2023*	NA	NA	0	0	0	0	2.91
09/18/2023	NA	NA	0	0	32,011	0	2.94
09/19/2023	NA	NA	0	0	11,294	0	2.97
09/20/2023	NA	NA	0	0	11,755	0	3.00
09/21/2023	NA	NA	0	0	8,388	0	3.01
09/22/2023	NA	NA	0	0	7,140	0	3.02
09/23/2023*	NA	NA	0	0	0	0	3.04
09/24/2023*	NA	NA	0	0	0	0	3.58
09/25/2023	NA	NA	0	0	19,132	0	3.70
09/26/2023	NA	NA	0	0	6,455	0	3.71
09/27/2023	NA	NA	0	0	4,066	0	3.72
09/28/2023	NA	NA	0	0	2,449	0	3.73
09/29/2023	NA	NA	0	0	0	0	3.74
09/30/2023*	NA	NA	0	0	0	0	3.75
Totals			**29,133**	**0**	**595,094**	**29,133**	**205.01**

Notes: The maximum discharge rate from the INF Pond is 170 gallons per minute (gpm) and the maximum discharge rate from the GWTP is 30 gpm.
GWTP – Groundwater Treatment Plant; INF – Intermediate-Range Nuclear Forces Treaty
ft. - feet
NA = Not applicable
Treated groundwater volume released over the weekend is included in the total for the next working day. These dates are marked with an asterisk (*).

1 EVALUATION OF GROUNDWATER TREATMENT PLANT

The Groundwater Treatment Plant (GWTP) was constructed as part of the Interim Remedial Action at Burning Ground Number (No.) 3, also referred to as Longhorn Army Ammunition Plant (LHAAP)-18/24, to treat groundwater extracted from interception-collection trenches (ICTs) and extraction wells. **Figure A-1** located in **Appendix A** presents the layout of the ICTs and extraction wells at LHAAP-18/24. The groundwater contamination at LHAAP-18/24 likely resulted from infiltration from an Unlined Evaporation Pond that was used for the treatment, storage, and disposal of solid and liquid explosive, pyrotechnic, and solvent waste by open burning/open detonation, incineration, evaporation, and burial. The groundwater at LHAAP-18/24 is contaminated mainly with chlorinated ethenes and perchlorate, and with lesser concentrations of 1,4-dioxane.

During the 3rd Quarter 2022 (July – September), the adjacent site (LHAAP-17) groundwater extraction system was brought online and integrated into the GWTP. The LHAAP-17 groundwater extraction system was plumbed into the existing underground piping infrastructure that runs between LHAAP-16 and the GWTP. The LHAAP-17 extraction system was started up on 5 August 2022. The groundwater at LHAAP-17 is primarily impacted with perchlorate.

The GWTP no longer receives flow from LHAAP-16 due to injections completed as a part of the final remedy implementation, which commenced in September 2019. The GWTP had previously received flow from eight extraction wells installed at LHAAP-16 as part of a historical treatability study. The extraction wells were installed in 1996 and 1997 at LHAAP-16.

In the 3rd Quarter of 2023, there were multiple power outages in July, August and September due to heavy thunderstorms. However, power was restored in each situation resulting in minimal downtime. Throughout the reporting period, the air compressor was used to air sparge the sand filter, breaking up sediment that had accumulated in the pretreatment system. To further assist with addressing the sediment build up in the sand filter a new diaphragm pump was installed during the 4th Quarter. Documentation of the pump installation will be covered in the 4th Quarter Evaluation Report.

Additionally, on 2 August 2023, monitoring well 1824DPTMW07 was sampled. However, the analytical results from this sample were presented in the 2nd Quarter Evaluation Report (Bhate Environmental Associates, Inc. [Bhate], December 2023) as part of the June 2023 semi-annual sampling event.

1.1 Treatment Configuration

The process flow diagram for the GWTP is presented in **Appendix A, Figure A-2**. Groundwater extraction, treatment, discharge, and monitoring activities consist of the following:

- Continuous extraction of groundwater from multiple ICTs and extraction wells located at LHAAP-18/24;

- Continuous extraction of groundwater from two extraction wells located at LHAAP-17;
- Treatment of extracted groundwater for heavy metals, chlorinated compounds, and perchlorate using precipitation, air stripping, and biological methods, respectively;
- Evaluation of the hydraulic effectiveness of the extraction system by groundwater monitoring and groundwater elevation measurements;
- Monitoring and analysis of treated groundwater to ensure compliance with the discharge limits; and
- Discharge of treated water to Harrison Bayou or to a holding pond (Intermediate-Range Nuclear Forces Treaty [INF] Pond) or the treated water may be released as irrigation water on LHAAP-18/24.

Contaminated water from the extraction wells and ICTs is pumped into the GWTP and stored in the equalization storage tank. The contaminated water is then pumped to the pretreatment system for precipitation of metals. The sludge from the pretreatment system is delivered to the sludge treatment system to be thickened, air stripped of volatile organic compounds (VOCs), and filter pressed for disposal in a landfill. The water from the pretreatment system is delivered to the air stripper system for air stripping of VOCs. Water from the air stripper is stored in the effluent storage tank for further treatment by the perchlorate system, which consists of a fluidized bed reactor (FBR) and ion exchange (IX) vessels. The process flow diagram for the GWTP is presented in **Appendix A, Figure A-2**.

To provide the integration necessary for proper water process management, a stand-alone central Programmable Logic Controller (PLC) and operator console are used to control all of the operating systems of the GWTP. The belt filter press operates independently with a polymer pump and sludge feed pump interfaced with the central PLC.

The pretreatment system and air stripper system are equipped with instrument junction boxes and motor starter control panels. The control panels contain a transformer, run indication lights, motor starters, hand or automatic switches, and relays to interface with the central PLC. The control panels have monitors and/or logic to monitor the operating parameters and determine when abnormal conditions occur. Interface relays will indicate to the central PLC that there is a problem within the systems. The central PLC will provide the logic for the proper action required for that specific set of circumstances.

The GWTP was not operational between 24 May 2012 and 6 September 2012, due to malfunction of the scrubber unit associated with the catalytic oxidizer. Since 6 September 2012, the GWTP has operated without air abatement equipment. Although major repairs were conducted on the GWTP (example given [e.g.], , replacement of level alarms, repair of the hydrochloric acid [HCl] tank, replacement of tank (TK)-650, replacement of malfunctioning valves and flow meters, replacement of metering pumps, repair or replacement of various system pumps, rust removal and repainting of various tanks, and replacement and repair of various extraction pumps, motors, and level switches), the GWTP treatment configuration has remained relatively unchanged. The only exception to this is that IX vessels were installed in November 2018 following the FBR to further remove perchlorate prior to discharging to the INF pond.

1.1.1 Historical GWTP Operation

The GWTP was not operational from 24 May 2012 until 6 September 2012. This was related to meltdown of the scrubber system, associated with the catalytic oxidizer, due to system overheating. Overheating occurred when the blower became inoperable after the bearing on the scrubber blower unit was shattered and damaged the blower. This occurred around 1300 on 21 May 2012.

After developing an interim air monitoring plan and obtaining concurrence from the Texas Commission on Environmental Quality (TCEQ) and the United States Environmental Protection Agency (USEPA) to operate the GWTP without use of air abatement equipment, a pilot run of the GWTP was conducted on 6 September 2012. In that first pilot run, 85,170 gallons of water that had been stored in the influent equalization tank (TK-140) were treated. The treated water was re-circulated through the FBR to revive the FBR after 3 months of dormancy. Treated groundwater samples were collected and analyzed, respectively, for perchlorate, metals, and VOCs. Air samples were collected and analyzed for VOCs only.

On 19 September 2012, a second pilot run was performed at the GWTP, and 107,264 gallons of water were treated. Based on the successful re-start of the GWTP, continuous groundwater extraction began again on 24 September 2012. While groundwater extraction occurs on a continuous basis, operation of the GWTP occurs intermittently due to the low volume of water available for treatment with respect to the design capacity of the GWTP. During the 3rd Quarter of 2012, groundwater extraction occurred only from LHAAP-18/24. Groundwater extraction from LHAAP-16 was not performed due to equipment failure. However, extraction from LHAAP-16 began in October 2012 and the extraction volumes increased steadily throughout the 4th Quarter of 2012, as pumping equipment was gradually repaired/replaced. The GWTP operated under normal conditions until September 2015.

On 14 September 2015, at 1115, the blower (BL-340) on the air stripper malfunctioned during routine operation. The wiring on the blower was repaired and the blower operated for less than 2 hours on 17 September 2015, when the blower malfunctioned again. It was determined that the blower needed to be replaced, and groundwater extraction and operation of the GWTP ceased beginning 18 September 2015, as the influent equalization tank (TK-140) became full. Beginning on 2 October 2015, it was determined that the GWTP could operate without the blower at a reduced extraction rate. The operation of the GWTP allowed extraction of groundwater from ICTs 12E, 13A, 13B, and 13C (13C was changed to 13E on 12 October 2015), which were considered critical ICTs to prevent migration of contaminants to Harrison Bayou. Groundwater extraction was switched frequently between ICTs 12E, 13A, 13B, and 13E to ICTs 14B, 14C, and 14D beginning on 14 December 2015.

Malfunction of the blower on the air stripper (BL-340), on 14 September 2015 and 17 September 2015, disrupted continuous extraction and routine operations of the GWTP, which lasted through 7 January 2016. Prior to this occurrence, the GWTP performed as designed and the GWTP was operated on an as needed basis (i.e., semi-continuous operational basis). During the 4th Quarter of 2015, groundwater was extracted from a limited number of ICTs (ICTs 12E, 13A, 13B, 13C,

and/or 13E, or ICTs 14B, 14C, and 14D). Operation of the GWTP occurred on a batch basis through the FBR. After replacement of the blower, attempts were made to restore continuous operations to the FBR, but they remained predominantly on a batch basis throughout January 2016.

On 12 December 2016, flange bolts at TK-380 failed and allowed HCl to drain into the sump. The secondary containment area was washed down, and the sump contents were transferred into the influent equalization tank (TK-140). Because of the acid release, extraction of groundwater from the ICTs was halted, and the GWTP was put into recycle mode (effluent sent back as influent) until the acid was neutralized and perchlorate, metals, and VOCs were below discharge criteria on 17 March 2017. The FBR performance was challenged by the increased chlorides in the neutralized wastewater, but performance gradually returned to normal in the 1st Quarter of 2017. Groundwater extraction was gradually increased to full rates during the 2nd Quarter of 2017.

On 12 August 2017, severe storms caused a power outage at LHAAP-18/24. When electrical service was restored, the main transformer failed due to a manufacturing defect. A portable emergency generator was brought on-site on 21 August 2017, to allow the FBR to operate in full recycle mode. After a replacement transformer was installed on 12 September 2017, extraction began from ICTs 13B, 13C, 13D, 13E, 13F, 7, and EW01 and the FBR was put into normal operation. Beginning on 21 September 2017, groundwater was extracted from each of the ICTs.

On 27 December 2018, severe storms caused a power outage in Karnack, Texas. When electrical service was restored, the main transformer was determined to have failed. A portable emergency generator was brought on-site on 28 December 2018, to allow the FBR to operate in full recycle mode. On 5 February 2019, the smaller generator mobilized in December 2018 was replaced with a larger generator capable of powering the LHAAP-18/24 well field and the entire GWTP.

On 8 February 2019, the transformer at the GWTP was tested to ensure that it could handle back feeding necessary to power the LHAAP-18/24 well field due to the necessary step-down in power from the generator. Following additional system modifications based upon the testing, the well field at LHAAP-18/24 had power restored on 11 February 2019, using the generator and transformer at the GWTP.

From 11 June to 17 June 2019, a double-walled pipe in the burning grounds (ICTs 14C and 14D) was found to be leaking at a joint and repaired. In addition, the line to well 18WW17 was cut off due to leaks identified following repair of the other section of pipe. The ground was too wet to dig and replace the other double-walled pipe at that time. From 28 October to 31 October 2019, a new double-walled pipe to well 18WW17 was installed by Palmetto Services.

Groundwater is no longer extracted from LHAAP-16 because in situ bioremediation injections were completed in September 2019 as part of the final remedial action. The only groundwater treated and discussed within this report is from LHAAP-18/24 and LHAAP-17.

On 11 January 2020, a possible tornado and straight-line winds came through the area and broke the power lines. The breaker was shut off at the transformer until power lines could be repaired on 14 and 15 January 2020, by Ark-La-Tex Electric (Ark-La-Tex). On 18 January 2020, power was

lost to the GWTP, and it was discovered that there was a blown fuse on the power lines. Ark-La-Tex was called to the site to replace the fuse and power was restored to the GWTP the same day. On 29 March 2020, there was a power glitch that caused the air compressors to shut down. The air compressors and FBR were restarted on the same day. On 13 April 2020, two trees fell across a power line and caused loss of power to the plant. Ark-La-Tex removed the trees and restored power at 0945 on 14 April 2020. On 2 May 2020, a tree fell across Southwestern Electric Power Company's (SWEPCO's) line inside the plant that feeds the GWTP. SWEPCO came out and removed the tree from the line. Power was restored the same day. On 29 December 2020, housing was built for the acetic acid pump associated with the FBR to prevent rainwater from causing it to shut down.

On 13 February 2021, inclement weather began, and it stayed below freezing until 20 February 2021. The level transmitter on TK-650 froze, making the discharge pump inoperable. The level transmitter was thawed out and pumping was restarted. On 20 February 2021, the air compressors were able to be started again. The FBR began operation in recycle mode, but the oxidation-reduction potential (ORP) was greater than the normal operating requirements. From 21 February through 9 March 2021, repairs from the freeze were made on broken polyvinyl chloride (PVC) pipes, valves, fittings, and level transmitters. The ORP on the FBR remained elevated and the FBR was in recycle mode until 25 March 2021 when the ORP returned to normal range and discharge to the Harrison Bayou was able to resume.

A power outage occurred on 12 May through 13 May 2021, due to downed power lines. On 14 May 2021, Ark-La-Tex was on-site to replace the broken power pole and repair broken power lines. On 28 May 2021, a power outage occurred at 0430, due to a downed tree. SWEPCO restored power the following day on 29 May 2021. On 2 June 2021, elevated perchlorate effluent results, precipitated replacement on the acetic acid nutrient feed pump. Perchlorate effluent results dropped below discharge limits, but not to expected concentrations. As a result, the FBR was placed in recycle mode from 18 June 2021 through the end of the 2nd Quarter 2021.

On 29 July 2021, Envirogen Technologies (Envirogen) mobilized to the site to troubleshoot the FBR. The plant was brought offline to diagnose why perchlorate effluent results remained elevated. Envirogen found the fluidization flow at 230 gallons per minute (gpm) and the inlet pressure to the FBR at 14 pounds (lbs) per square inch (psi) as satisfactory. Envirogen determined that the inline potential of hydrogen (pH) probe was not calibrating properly, and it was giving an incorrect reading of 7.4. In July 2021, the pH reading was 8.24, which is above the optimum FBR operating parameters. Ideally, the pH should be between 7.1 and 7.4 in the FBR. A high pH can inhibit biological activity. Envirogen recommended the installation and calibration of a new pH probe. A new inline pH probe was ordered, and replacement and calibration were completed on 6 April 2022.

Additionally, Envirogen noted that the granular activated carbon (GAC) settled bed height was 6.33 feet (ft) and the expanded bed height was 9 ft. The design settled bed height for the GAC was 9 ft and the design expanded bed height was 15 ft, with the expanded bed height being a key performance indicator for the FBR. Therefore, Envirogen recommended the addition of GAC media. One supersack of GAC was delivered, pre-wetted, and loaded in the FBR on 29 July 2021.

After the addition of one supersack of GAC, the settled bed height was measured at 9.1 ft and the expanded bed height was measured at 11.3 ft. Additional GAC was ordered and added to the FBR. The GWTP was brought back online on 3 August 2021.

Palmetto Services was on-site from 20 September through 24 September 2021 to replace sand in the sand filter. The sand in the sand filter collects debris that is filtered out of the water as designed. However, over time the debris restricts the flow of water through the filter. Therefore, the GWTP was taken offline on 20 September 2021 to replace the sand. Palmetto Services removed the sand and screens, acid washed the screens, put the screens back in place, and then added new sand using a crane. Approximately 4.5 tons of 10 x 20 silica sand and 12 tons of 8 x 12 silica sand were placed into the sand filter. While the plant was down for the sand filter activities, the 10-inch (“) PVC line between the clarifier effluent and the sludge tanks was replaced, and the polymer feed line was unclogged. However, before the GWTP could be operated again, the HCl feed pump malfunctioned as discussed below.

On 4 October 2021, the GWTP was unable to operate due to a malfunctioning pump motor on the HCl feed pump (P-390). On 5 October 2021, Bloc Design Build, LLC (BLOC) was on-site to diagnose the problem with the HCl pump motor (P-390) which was seized and inoperable. A new pump motor was ordered and on 14 October 2021, BLOC returned and installed wiring to the new motor on the HCl pump (P-390).

Upon arrival at the GWTP on 5 October 2021, there was no power at the GWTP. A blown fuse was found on SWEPCO’s transformer. SWEPCO replaced the fuse, however, only partial power was restored to the GWTP on 5 October 2021. On 7 October 2021, Ark-La-Tex was on-site to troubleshoot the electrical power issue and determined that the load break switch (commonly referred to as an arc strangler) was blown at the transformer at the GWTP and needed to be replaced. The load break switch malfunction had caused the fuse to fail, cutting power to the GWTP. On 11 October 2021, Ark-La-Tex was on-site to repair the load break switch and restore power to the GWTP. Following the restoration of power and replacement of the HCl pump, the GWTP operation resumed on 18 October 2021.

In March 2022, a severe storm blew down a tree damaging two power poles, but there was no power loss at the time of the storm event. On 16 March 2022 and 17 March 2022, Ark-La-Tex arrived on-site to replace the power poles and to repair the power lines. As a result, power was shut off at the plant for approximately 24 hours from 16 March to 17 March 2022, to allow Ark-La-Tex to safely work with the power lines.

On the afternoon of 2 May 2022, there was partial power loss to the GWTP. After an inspection of the overhead power lines, a fuse was found blown on SWEPCO’s transformer. SWEPCO was alerted and responded on 2 May 2022 to replace the fuse. The GWTP was completely powered down as a safety precaution while SWEPCO addressed the blown fuse. In addition to the blown fuse, there was also a small fire observed on the ground at the base of the transformer load breaker switch at the GWTP. The United States Fish and Wildlife Service was alerted, and the fire was put out with a water sprayer on 2 May 2022. The status of the load breaker switch on the transformer could not be assessed until power was fully restored.

However, before power could be restored to the GWTP, a severe storm on 3 May 2022 knocked down another tree. The downed tree fell on the overhead line, breaking the overhead line and two cross arms. Ark-La-Tex repaired the overhead line, cross arms, and assessed the load breaker switch on 11 May 2022. Power was restored to the GWTP on 11 May 2022 and a new load breaker switch was ordered. Ark-La-Tex returned on 17 May 2022 to install the replacement load breaker switch.

On 10 June 2022, the K-701 air compressors went down due to a power glitch. The air compressors were restarted and the FBR returned to normal operating range.

A supersack of GAC (1,000 lbs) was delivered on 17 June 2022. On 20 June 2022, the FBR was topped off with approximately 150 lbs of GAC, expanding the bed height to 15 ft as designed. The expanded bed height is a key performance indicator for optimal performance of the FBR.

On 22 June 2022, a power outage occurred for 1.5 hours on SWEPCO's side. Power was restored and air compressors were restarted and the FBR was returned to normal operating range.

During the 3rd Quarter 2022 (July – September), the adjacent LHAAP-17 groundwater extraction system was brought online and integrated into the GWTP. The LHAAP-17 groundwater extraction system was plumbed into the existing underground piping infrastructure that runs between LHAAP-16 and the GWTP. The LHAAP-17 extraction system was started up on 5 August 2022. Details regarding the installation of the groundwater extraction system at LHAAP-17 are included in the Interim-Remedial Action Completion Report (TLI Solutions, December 2022). Through the end of September 2022, 121,411 gallons of groundwater had been pumped from LHAAP-17 to the GWTP. Monthly performance monitoring completed at LHAAP-17 and an evaluation of the effectiveness of the LHAAP-17 extraction system will be presented in Annual Remedial Action Operation Reports under separate cover.

To address a potential blockage identified during the 2nd Quarter 2022, the GWTP was brought offline and the metals pretreatment process tanks TK-200A, TK-200B, and TK-200C were drained on 12 September 2022. While, each tank had sediment buildup, no blockage was found inside the metals pretreatment tanks. The blockage was believed to be in the overhead 10" steel piping between tanks TK-200B and TK-200C. However, to safely access the overhead piping, which is elevated approximately 15 ft in the air, scaffolding is necessary. In the interim, the sediment was removed from the metals pretreatment tanks and the GWTP was brought back online on 13 September 2022.

On 14 November 2022, a flange on the sodium hydroxide solution tank (TK-100) was identified as being cracked and the material was released within the containment area of the GWTP. The sodium hydroxide (35 percent [%] weight) was transferred into a 1,500-gallon holding tank. Following the repairs, the sodium hydroxide was pumped back into the storage tank (TK-100) for the system starting on 5 December 2022 and finishing on 8 December 2022.

Unprecedented freezing conditions were observed throughout east Texas in December 2022. Despite attempts to heat tape and freeze protect the GWTP, on 25 December 2022, damage to a number of tanks, piping, and system components was observed due to the freezing

temperatures. Starting on 27 December 2022, repairs to the GWTP system due to damage from extreme freeze commenced. Repairs continued into 2023 and included: replacing broken valves and piping on air lines; removing broken fan from K-701; installing new belts on K-701; replacing broken 2" valve and flanges on level switch on tank TK-300; cutting bolts from flanges and installing new 6" butterfly valve on tank TK-300; cutting bolts from flanges on suction and discharge of P-170; replacing broken 3" and 4" flanges, and elbow on suction of P-170; and replacing broken 4" flange, tee, and pipe on discharge of P-170. The repairs continued through the end of December 2022. At the end of the 4th Quarter 2022, the GWTP FBR was in recycle mode, but full operation of the GWTP had not been restored.

As a result of the repair activities completed, the GWTP only operated 32.50 hours in January 2023. Furthermore, as a result of the broken piping and valves from freezing conditions, untreated groundwater within the GWTP had to be discharged into the secondary containment basin. Therefore, the GWTP was treating groundwater and rainwater stored in the secondary containment basin and groundwater from LHAAP-17 in January 2023, but not extracted groundwater from LHAAP-18/24. The extraction wells and ICT network at LHAAP-18/24 remained off throughout January 2023.

In early February 2023, additional GWTP repairs were completed once the containment basin was emptied of rainwater. On 15 February 2023, the metals pretreatment process piping between tanks TK-200A, TK-200B, and TK-200C was inspected. A sediment blockage was identified between tanks TK-200B and TK-200C. Scale and debris were removed from an 8" pipe, from the outlet of tank TK-200B, and from the inlet of tank TK-200C. The piping was reinstalled, and the manways on tanks TK-200B and TK-200C were closed and tightened. On 22 February 2023, the pretreatment system was tested and ran at 200 gpm with no leaks. The GWTP returned to full operation on 28 February 2023. The GWTP was shut down on 31 March 2023 during the contract transition as discussed above.

During the 2nd Quarter of 2023, the GWTP was shut down on 31 March 2023 during contract transition. The GWTP remained off until 2 May 2023 when the new contract was awarded. The PBJV was awarded solicitation No. W912BV23R0022, under USACE contract No. W912BV23C0007. During the contract transition, no groundwater was extracted from LHAAP-17 or LHAAP-18/24, no groundwater was treated at the GWTP, and no treated effluent was discharged in April 2023.

Power was restored to the GWTP on 2 May 2023, by SWEPCO. On 15 May 2023, the GWTP began processing extracted groundwater, at which point decreased flow within the sand filter was observed. While the GWTP was not operating in April 2023, the sand filter had partially dried out. In addition, sediment had accumulated in the pretreatment system resulting in a decrease in flow through the sand filter from 200 gpm to 50 gpm. In order to address the issue, an air compressor was used to air sparge the sand filter, breaking up the blockages thereby increasing flow to 110 gpm.

1.1.2 3rd Quarter 2023 GWTP Operation

During the 3rd Quarter of 2023 (July – September), the ICT repairs included replacing the fuse at ICT 14E and replacing a faulty breaker in ICT 12E in July 2023. In addition, BLOC was on-site on 12 September 2023 to replace damaged coils in three ICT wells. ICT wells 12D, 13C, and 13F were identified as requiring new pumps, which were replaced in the 4th Quarter of 2023 and will be documented in the 4th Quarter 2023 Report. Previous ICT repairs are summarized in **Table A-2** in **Appendix A.**

In the 3rd Quarter of 2023, the GWTP processed approximately 881,464 gallons of water including influent water from LHAAP-18/24, influent water from LHAAP-17, and rainwater from the secondary containment basin.

During the 3rd Quarter of 2023, the GWTP operated for a total of 143.25 hours. Flow rates for the treatment processes for metals and VOCs ranged between 97 gpm and 109 gpm. The treatment configuration of the plant at these rates (with minor variations) is shown in the following tables.

GWTP Metals Precipitation Operating Parameters

Pretreatment Settings	Tank 200-A Magnesium Hydroxide ($Mg[OH]_2$) Mixing	Tank 200-B Sodium Hydroxide (NaOH) Mixing	Tank 200-C Polymer Mixing	Tank 300 feed line to Air Stripper
pH Adjustment	9.0	10.5	Not applicable (NA)	5.0 to meet less than or equal to (≤) 8.0 release from stripper
Feed Pump Settings	Speed 100 percent (%) Stroke 100% 10 gallons per hour (gph) $Mg(OH)_2$	Speed 100% Stroke 100% 9.0 gph NaOH	Speed 90% Stroke 100% 40 gph water	Speed 80% Stroke 80% 10 gph hydrochloric acid (HCl)
Notes: % - percent, ≤ - less than or equal to, gph - gallons per hour, NaOH - sodium hydroxide, $Mg(OH)_2$ - magnesium hydroxide, HCl – hydrochloric acid, NA - not applicable				

GWTP Air Compressors Operating Parameters

Air Compressors	K-700A	K-700B	K-701
Air Pressure Settings	88 pounds per square inch (psi)	88 psi	105 psi
Notes: psi- pounds per square inch			

GWTP Stripper Operating Parameters

pH Setting	7.4
Inlet Pressure Gauge	Not operational
Stripper Pressure Gauge	Not operational
Air Flow Rate	Not operational

GWTP Fluidized Bed Reactor Operating Parameters

Carbon Bed Height	12 ft and 8 to 11 inches (")
Recycle Flow Rate	200 gallons per minute (gpm)
pH	7.1 to 7.4
Recycle ORP	Less than (<)-430 millivolts (mV)
Note: mV – millivolts, "– inch, ft – feet, gpm – gallons per minute, <- less than, ORP - oxidation-reduction potential	

1.2 Work Performed at the GWTP

Groundwater extraction, treatment, discharge, and monitoring activities consist of:

- Continuous extraction of groundwater from multiple ICTs and extraction wells at LHAAP-18/24 and LHAAP-17;
- Treatment of extracted groundwater for heavy metals, chlorinated compounds, and perchlorate using precipitation, air stripping, and biological methods, respectively;
- Evaluation of the hydraulic effectiveness of the extraction system by groundwater monitoring;
- Monitoring and analysis of treated groundwater to ensure compliance with the discharge limits; and
- Discharge of treated water to Harrison Bayou or to a holding pond (INF Pond).

Maintenance performed at the GWTP during the 3rd Quarter of 2023 is described in the following subsections.

1.2.1 Major Maintenance

The following major maintenance was completed at the GWTP during this quarterly reporting period:

- On 7 July 2023, Hughes Net was on-site to install satellite internet at Army trailer;
- On 28 July 2023, BLOC was on-site to replace main breaker in panel 1 in Burning Grounds No. 3;
- On 28 August 2023, Ark-La-Tex was on-site to replace a blown fuse in overhead power line;
- On 7 September 2023, Ark-La-Tex on-site to replace a blown fuse in overhead power line;
- On 12 September 2023, BLOC was on-site to replace faulty coils in three ICT wells;
- On 25 September 2023, Ark-La-Tex was on-site to replace blown fuse in overhead power line;
- On 26 September 2023, Ark-La-Tex was on-site to repair broken power lines; and

- On 27 September 2023, Roger's Air Conditioning (A/C) was on-site to replace damaged blower motor in A/C unit at GWTP office.

1.2.2 Routine Maintenance

The following routine maintenance was completed at the GWTP during the 3rd Quarter of 2023:

- Performed housekeeping in GWTP Office, Army office trailer, around GWTP and containment area, and in GWTP Shop;
- Mowed grass around GWTP Office, Army trailer, GWTP and containment area, GWTP Shop, decontamination pad, and storage Conex boxes;
- Removed and cleaned basket from 4"strainer on discharge of FBR;
- Air sparged and backwashed sand filter;
- Replaced filter socks in bag filters before IX vessels;
- Changed out battery on automatic gate;
- Removed vegetation around INF pond and discharge valve at Harrison Bayou using a bush hog and weed eater;
- Replaced rusted bolts on flange on tank (TK)-380;
- Repaired road near INF pond
- Repaired wheels on drum dolly;
- Worked on unplugging polymer feed line in GWTP;
- Repaired leaks on 1" potable water line inside of GWTP;
- Installed new V-belts on K-701 air compressor;
- Installed new 2" suction hose on sump pump
- Installed new 1 ½" double diaphragm pump on clarifier;
- Installed new radiator in newer Kubota utility vehicle; and
- Collected quarterly air samples at GWTP.

1.2.2.1 Lubrication

No lubrication maintenance was conducted during the 3rd Quarter of 2023.

1.2.2.2 Air Compressors

New V-belts on the K-701 air compressor were installed in July 2023. On 20 August 2023 and again on 4 September 2023, the air compressor automatically shut down due to high temperature. Coolant was added to the air compressor, and it was restarted, and the FBR was returned to a normal operating state.

1.2.2.3 Belt Press and Waste Disposal

No belt press or waste disposal was conducted during the 3rd Quarter of 2023.

1.2.2.4 Sand Filter

After the GWTP was down in April 2023, the sand filter partially solidified as sediment in the groundwater was settled out. The solidified sand was decreasing flow through the GWTP from

200 gpm to 50 gpm. Therefore, the sand filter was backwashed and air sparged to loosen built-up sediment, increasing flow through the GWTP to 110 gpm by the end of June 2023. The sand filter continued to be backwashed and air sparged throughout the July to September 2023 reporting period. A 1 ½" double diaphragm pump on the clarifier was installed in August 2023 as additional maintenance. The previous pump, while operable, was not working efficiently due to age and environmental conditions. The new diaphragm pump transfers, compresses, and discharges fluid, ensuring the removal of suspended solids within the clarifier tank and preventing future flow restrictions within the sand filter.

Replacement of the polymer pump, identified as a need in June 2023, will prevent future build-up of sediment within the GWTP. Although operable, the current polymer pump is not effectively feeding polymer, which assists with removing sediment from the groundwater after the metals treatment process and before groundwater moves into the sand filter. The polymer feed line was unplugged in September 2023 and installation of the new polymer pump began in October 2023. Documentation of the installation will be covered in the 4th Quarter 2023 Evaluation Report.

1.2.2.5 Well Field at LHAAP-18/24

The following activities were conducted at the well field at LHAAP-18/24 during the reporting period:

- Measured monthly water levels;
- Fixed troubleshooting problem with ICT 12E, and identified a faulty breaker;
- Replaced level probes and repaired broken level probe wire on 18WW17; and
- Sampled new well 1824DPTMW07.

1.2.3 Routine Maintenance (Potable Water Wells)

During the 3rd Quarter of 2023, the potable water lines were flushed.

1.2.4 Non-Routine Maintenance

- On 16 July 2023 at 1815, there was a power outage at 1400 due to heavy thunderstorm in area. Power was restored at 1930 at which time the air compressors were started and the FBR was returned to normal operating state;
- On 20 August 2023 at 1815, the air compressor automatically shut down due to high temperature. Coolant was added to the air compressor, and it was restarted and the FBR was returned to normal operating state;
- On 4 September 2023 at 0700, the air compressor automatically shut down due to high temperature. Coolant was added to the air compressor, and it was restarted and the FBR was returned to normal operating state;
- On 23 September 2023, P-104 (acetic acid feed pump) lost prime. Pump was primed and restarted and the FBR was returned to normal operating state; and
- On 24 September 2023 at 0730, there was a power outage at the GWTP due to a blown fuse in the overhead power line. Main power breaker was turned off at GWTP.

1.3 Filter Cake Operations and Management

No filter cake operations took place during the 3rd Quarter of 2023 reporting period.

1.4 Fluidized Bed Reactor Operations

The operating parameters for the GWTP FBR are presented in **Table 1**.

Table 1. Enhanced Fluidized Bed Reactor Operating Parameters-3rd Quarter 2023

Date	pH (7.1-7.4 S.U.)	ORP (<-430mV)	Temperature Degrees(°F)
7/1/2023	7.3	-548	93
7/2/2023	7.3	-546	93
7/3/2023	7.3	-551	92
7/4/2023	7.3	-554	92
7/5/2023	7.4	-464	89
7/6/2023	7.4	-441	87
7/7/2023	7.4	-507	88
7/8/2023	7.4	-470	89
7/9/2023	7.4	-473	87
7/10/2023	7.4	-560	88
7/11/2023	7.4	-561	88
7/12/2023	7.4	-559	89
7/13/2023	7.4	-500	90
7/14/2023	7.4	-553	91
7/15/2023	7.4	-554	92
7/16/2023	7.4	-560	91
7/17/2023	7.4	-481	91
7/18/2023	7.4	-546	92
7/19/2023	7.4	-555	92
7/20/2023	7.4	-469	90
7/21/2023	7.4	-474	90
7/22/2023	7.4	-545	89
7/23/2023	7.4	-556	90
7/24/2023	7.4	-572	92
7/25/2023	7.4	-569	92
7/26/2023	7.4	-566	93
7/27/2023	7.4	-564	93
7/28/2023	7.4	-567	94
7/29/2023	7.4	-565	94
7/30/2023	7.4	-565	95

7/31/2023	7.4	-479	89
8/1/2023	7.4	-548	90
8/2/2023	7.4	-560	91
8/3/2023	7.4	-561	92
8/4/2023	7.4	-561	93
8/5/2023	7.4	-559	94
8/6/2023	7.4	-555	94
8/7/2023	7.4	-501	90
8/8/2023	7.4	-562	89
8/9/2023	7.4	-559	90
8/10/2023	7.4	-560	91
8/11/2023	7.4	-562	92
8/12/2023	7.4	-549	94
8/13/2023	7.4	-551	95
8/14/2023	7.4	-507	92
8/15/2023	7.4	-542	88
8/16/2023	7.4	-586	88
8/17/2023	7.4	-588	89
8/18/2023	7.4	-589	89
8/19/2023	7.4	-552	93
8/20/2023	7.4	-583	93
8/21/2023	7.4	-465	90
8/22/2023	7.4	-471	90
8/23/2023	7.4	-469	91
8/24/2023	7.4	-498	90
8/25/2023	7.4	-559	90
8/26/2023	7.4	-561	91
8/27/2023	7.4	-539	93
8/28/2023	7.4	-491	90
8/29/2023	7.4	-516	87
8/30/2023	7.4	-541	86
8/31/2023	7.4	-471	83
9/1/2023	7.4	-549	83
9/2/2023	7.4	-552	87
9/3/2023	7.4	-543	88
9/4/2023	7.4	-534	88
9/5/2023	7.4	-490	86
9/6/2023	7.4	-534	87
9/7/2023	7.4	-526	87
9/8/2023	7.4	-504	87
9/9/2023	7.4	-544	90

9/10/2023	7.4	-544	89
9/11/2023	7.4	-528	84
9/12/2023	7.4	-532	83
9/13/2023	7.4	-531	82
9/14/2023	7.4	-510	80
9/15/2023	7.4	-521	79
9/16/2023	7.4	-528	81
9/17/2023	7.3	-526	82
9/18/2023	7.4	-480	80
9/19/2023	7.4	-517	80
9/20/2023	7.3	-521	81
9/21/2023	7.4	-519	81
9/22/2023	7.4	-518	80
9/23/2023	7.4	-495	83
9/24/2023	No Power	No Power	No Power
9/25/2023	7.3	-515	81
9/26/2023	7.2	-500	83
9/27/2023	7.1	-489	83
9/28/2023	7.3	-510	83
9/29/2023	7.3	-510	84
9/30/2023	7.3	-510	85

Notes:
mV = millivolt
pH = Potential of Hydrogen
°F= Degrees Fahrenheit
ORP = Oxidation/Reduction Potential
S.U.= Standard Unit

1.5 Process Chemical Usage at GWTP

Approximate chemical consumption and the quantity delivered during the 3rd Quarter of 2023 are listed in **Table 2**.

Table 2. Chemical Usage and Delivery Table

Chemical	Usage 3rd Quarter 2023	Quantity Delivered 3rd Quarter 2023
Hydrochloric acid	4,555 gallons	22,500 lbs = 1,850 gallons
Sodium hydroxide (35%)	650 gallons	0
Acetic acid (50%)	1 drum = 55 gallons	4 drums = 220 gallons

Phosphoric acid (75%)	9.5 gallons	0
Magnesium hydroxide	155 gallons	0
Urea	266.3 lbs = 23.9 gallons	0
Polymer (magnafloc 110-L)	7.8 liters = 2.1 gallons	0

2 EVALUATION OF LHAAP-18/24 ICT EFFECTIVENESS

The ICT system at Burning Ground No. 3 is composed of 14 sections ranging in length from 100 ft to 1,300 ft. A total of approximately 5,000 linear ft of trench was installed within and around three sides of Burning Ground No. 3. The trench sections extend approximately 22 ft to 45 ft below ground surface (bgs). Most, but not all, of the trenches are as deep as the confining clay layer of the shallow groundwater zone. High density polyethylene (HDPE) liners were installed outside of ICTs 12A-12E and 13A-13G, located on the southwestern and northwestern boundaries of LHAAP-18/24, respectively. The locations of the liners are shown on **Figure A-1** and depths of the ICTs are presented in **Table A-1** in **Appendix A**.

2.1 Groundwater Elevation

Water levels from 98 monitoring wells and 11 piezometers are measured monthly to generate potentiometric surface maps that assist in monitoring the effectiveness of the groundwater extraction system on plume containment. Piezometer 12 (BGPZ-12) was damaged and plugged and abandoned in May 2013, and monitoring wells 18WW01 and 18WW16 were plugged and abandoned in August 2020. The potentiometric surface contours are generated using the water levels from the shallow zone and Wilcox Formation wells. The water level data are presented in **Table 3**. No reinjection of treated groundwater or reapplication of groundwater to LHAAP-18/24 grounds via the existing irrigation system occurred during the 3rd Quarter of 2023. Groundwater elevations measured during the 3rd Quarter of 2023 are discussed in Section 2.2. Potentiometric surface maps based on the groundwater elevations measured during the 3rd Quarter of 2023 are included in **Appendix B**.

2.2 Performance of Plume Capture

The intent of the ICTs is to control horizontal groundwater hydraulic gradients, prevent off-site migration of contaminated groundwater, extract the most highly contaminated groundwater, and reduce the mass of contaminants in groundwater. Liners were installed in the ICTs on the northern (ICT 13) and western (ICT 12) site boundaries to limit migration of contaminated water from the site towards Harrison Bayou. At the same time, the liners reduce or prevent removal of contaminated groundwater that is outside the ICT containment area, between the site and Harrison Bayou. The ICTs are installed within the shallow subsurface at the site and capture primarily shallow zone groundwater (e.g., <40 ft bgs).

In 2007 and 2008, in consultation with the TCEQ and the USEPA, the Army ceased operations of ICTs 1, 3, 5, 10, 12A, and 13G for groundwater extraction (note that extraction from ICT 12A was resumed after pump replacement in December 2012). Two other ICTs (ICT 6 and ICT 9) were changed from extraction ICTs to re-injection ICTs which ceased in July 2012. Groundwater extraction from well EW-1 located in the northeast central portion of the site began in October 2008 and extraction from well 18WW17 located to the northeast of the ICT containment area began in January 2008. **Table A-2** in **Appendix A** presents a summary of extraction equipment replacement since 2011, as dictated by poor extraction performance (malfunctioning pumps,

poor pump positioning with respect to groundwater elevations, non-operational level probes, scale build up, etc.). Further discussion of extraction performance of various ICTs and extraction wells is presented in Section 2.3.

Potentiometric surface maps of the shallow zone groundwater in the vicinity of LHAAP-18/24, based on groundwater elevations measured on 27 July, 28 August, and 28 September 2023, are shown on **Figures B-1, B-2,** and **B-3 in Appendix B**, respectively. The potentiometric surface maps of the shallow zone were contoured using the Kriging geostatistical interpolation method included in the Golden Software Surfer® data analysis software.

The HDPE liners in the ICTs, where present, continue to retard groundwater flow. The potentiometric surface maps for July, August, and September 2023 continue to reflect high groundwater elevations in the shallow zone in the northern/northwestern portion of the site, with groundwater flowing radially outward from an area within the ICT containment area with the highest groundwater elevations. Monitoring well 101, which is installed in the shallow zone, had the highest groundwater elevation in July 2023 of 187.42 ft above mean sea level (amsl). Monitoring well 101 continued to have the highest groundwater elevation in August 2023 of 186.62 ft amsl and additionally continued to have the highest groundwater elevation in September 2023 of 186.30 ft amsl.

Groundwater levels in Wilcox Formation wells (constructed greater than 40 ft bgs) were measured during the 3rd Quarter of 2023 groundwater gauging events. Wilcox Formation wells correspond to those wells previously identified as "intermediate" and "deep" wells. "Intermediate" wells are designated as upper Wilcox Formation wells and "deep" wells are designated as lower Wilcox Formation wells. The upper and lower Wilcox Formation are in hydraulic communication and so can be treated as a single hydrogeologic unit (Remedial Investigation Report, Jacobs Engineering Group, April 2011). Therefore, the groundwater elevations in upper and lower Wilcox wells were used to construct the potentiometric surface maps for the Wilcox Formation. **Figures B-4, B-5,** and **B-6 in Appendix B** show the locations of the Wilcox Formation monitoring wells and the potentiometric surface of the Wilcox Formation, based on static water levels measured during the July, August, and September2023 gauging events, respectively. A groundwater high is present in the Wilcox Formation, whereby groundwater flows radially away, in the area of monitoring well MW-14. A groundwater low is present in the Wilcox formation, whereby groundwater flows inwardly towards 18CPTMW03SW from the northeast, northwest, and southwest. Across the rest of the site, Wilcox Formation groundwater flows primarily in a north-northwest direction, towards Caddo Lake, although groundwater flows in other directions in the southern, southwestern, and southeastern areas outside of the Installation Restoration Program (IRP) boundary. There is a downward vertical hydraulic gradient between the overlying shallow zone and the Wilcox Formation.

The extracted groundwater volume was measured on a monthly basis as the sum of the difference between the flow meter totalizer reading at each ICT between the beginning and end of each month. During the 3rd Quarter of 2023, approximately 499,838 gallons of groundwater were extracted from the LHAAP-18/24 ICTs for treatment (**Table 5**). Additionally, LHAAP-17 contributed another 185,628 gallons to the GWTP during the 3rd Quarter of 2023 for a total of

685,466 gallons of extracted groundwater. Note that the sum of the ICT totalizers does not match up to the influent totalizer (FIT-140) at the GWTP. As shown on **Figure 2-1,** the influent totalizer volume for the 3rd Quarter of 2023 was 881,464 gallons. The influent totalizer is slightly higher because a discrepancy was identified based on inaccurate field meter readings compared to FIT-140 and flow meters at ICT 13F that were replaced in July 2023.

During the 3rd Quarter of 2023, approximately 29,133 gallons of treated groundwater was discharged to Harrison Bayou from the GWTP. No treated groundwater from the GWTP was discharged to the INF pond or returned to LHAAP-18/24 via the sprinkler system during the 3rd Quarter of 2023. Throughout the 3rd Quarter of 2023, the treated groundwater was processed through the IX vessels to provide additional water treatment for perchlorate prior to discharge to Harrison Bayou. **Table 4** presents the daily discharge rates and volume for the 3rd Quarter of 2023.

2.3 Quantity of Water Extracted from LHAAP-18/24 and LHAAP-17

During the 3rd Quarter of 2023, the GWTP operated for 143.25 hours. Flow rates for the treatment processes for metals and VOCs ranged between 97 gpm and 109 gpm.

The average daily extraction rates from the extraction wells at LHAAP-17 were approximately 2,318 gallons per day (gpd) in July 2023, approximately 2,101 gpd in August 2023, and 1,621 gpd in September (**Table 5**). The average daily extraction rates from the ICTs at LHAAP-18/24 were approximately 1,384 gpd in July 2023, 7,648 gpd in August 2023, and 7,328 gpd in September (**Table 5**). The volume of groundwater removed from LHAAP-17 and LHAAP-18/24 during the 3rd Quarter of 2023 measured approximately 712,226 gallons based on the influent totalizer (FIT-140). **Figure 2-1** shows the historical trends of extracted volumes based on the influent totalizer by quarter. The processed water measured on the equalization tank (TK-140) effluent totalizer (FIT-172) was recorded at 881,464 gallons indicating a difference of 169,238 gallons between influent and processed water.

As indicated by **Table 5**, 21 of 27 ICTs, extraction and monitoring wells, produced water in the 3rd Quarter of 2023. ICTs 1, 2, 3, 5, 10, and 13C, did not produce water in the 3rd Quarter of 2023. ICTs 1, 3, 5, and 10 were deactivated on 18 February 2008 as part of a pilot study for system optimization. ICT 13G is dry and no longer active. In July 2023, ICT 12A, ICT 14A, 18WW17, ICT 13F, and EW-01 had low production due to low water table. The fuse on ICT 14E and the breaker on ICT 12E were replaced in addition to the installation of a new flow meter on ICT 13F in July 2023. In August 2023, EW-01 and ICT 14A had low production due to low water table. The pump for ICT 12D was replaced in August 2023. In September 2023, ICT 12A, ICT 13E, ICT 14A, and EW-01 had low production due to a low water table. BLOC was on-site to replace damaged coils in three ICT wells on 12 September 2023. Additionally, ICT 2, ICT 13C, and ICT 13F required new pumps in September 2023, to be replaced in October 2023.

2.4 Groundwater Treatment Plant Sampling and Analysis

Sampling and analysis were conducted in accordance with the requirements specified in the Final Revised Sampling and Analysis Plan (AECOM Technical Services [AECOM], Inc., September 2017).

Besides the sampling requirement established in the Record of Decision (ROD) for the Early Interim Remedial Action (USACE, May 1995), additional sample analyses are typically performed on the influent and effluent samples to monitor the effectiveness of the perchlorate treatment (FBR and/or IX vessels) process. The complete laboratory results are provided in **Appendix C**.

2.4.1 Weekly Perchlorate Sampling

Table 6 presents the weekly effluent perchlorate results for the 3rd Quarter of 2023. Throughout the 3rd Quarter of 2023, the treated groundwater was processed through the IX vessels to provide additional water treatment for perchlorate prior to discharge to the Harrison Bayou. After FBR treatment, the weekly effluent perchlorate samples were collected at two locations including before the first IX vessel (BIX) and after the first IX vessel (AIX). The effluent perchlorate concentrations from samples collected after the FBR treatment and BIX, ranged from 4.57 micrograms per liter (µg/L) (28 September 2023) to 307 µg/L (22 August 2023). However, in the effluent samples collected AIX, perchlorate was not detected above the Harrison Bayou Maximum Allowable Daily Discharge Perchlorate Concentration (589 µg/L). The effluent perchlorate samples collected AIX ranged from 0.0583 J (estimated concentration) µg/L (24 July 2023) to 10.3 µg/L (22 August 2023).

2.4.2 Monthly VOC Sampling

Table 7 presents the effluent VOC results for July 2023. Sampling of the effluent for VOCs was conducted on a monthly and biweekly basis for July 2023, per the Final Installation-Wide Work Plan (Bhate, May 2018). **Table 8** presents the effluent VOC results for August 2023. Sampling of the effluent for VOCs was conducted on a monthly and biweekly basis for August 2023. **Table 9** presents the effluent VOC results for September 2023. Sampling of the effluent for VOCs was conducted on a monthly and biweekly basis for September 2023. Influent concentrations for perchlorate are also provided monthly for July 2023 in **Table 7,** monthly for August 2023 in **Table 8**, and monthly for September 2023 in **Table 9**. The monthly and biweekly effluent results from the 3rd Quarter of 2023 were below the discharge limits.

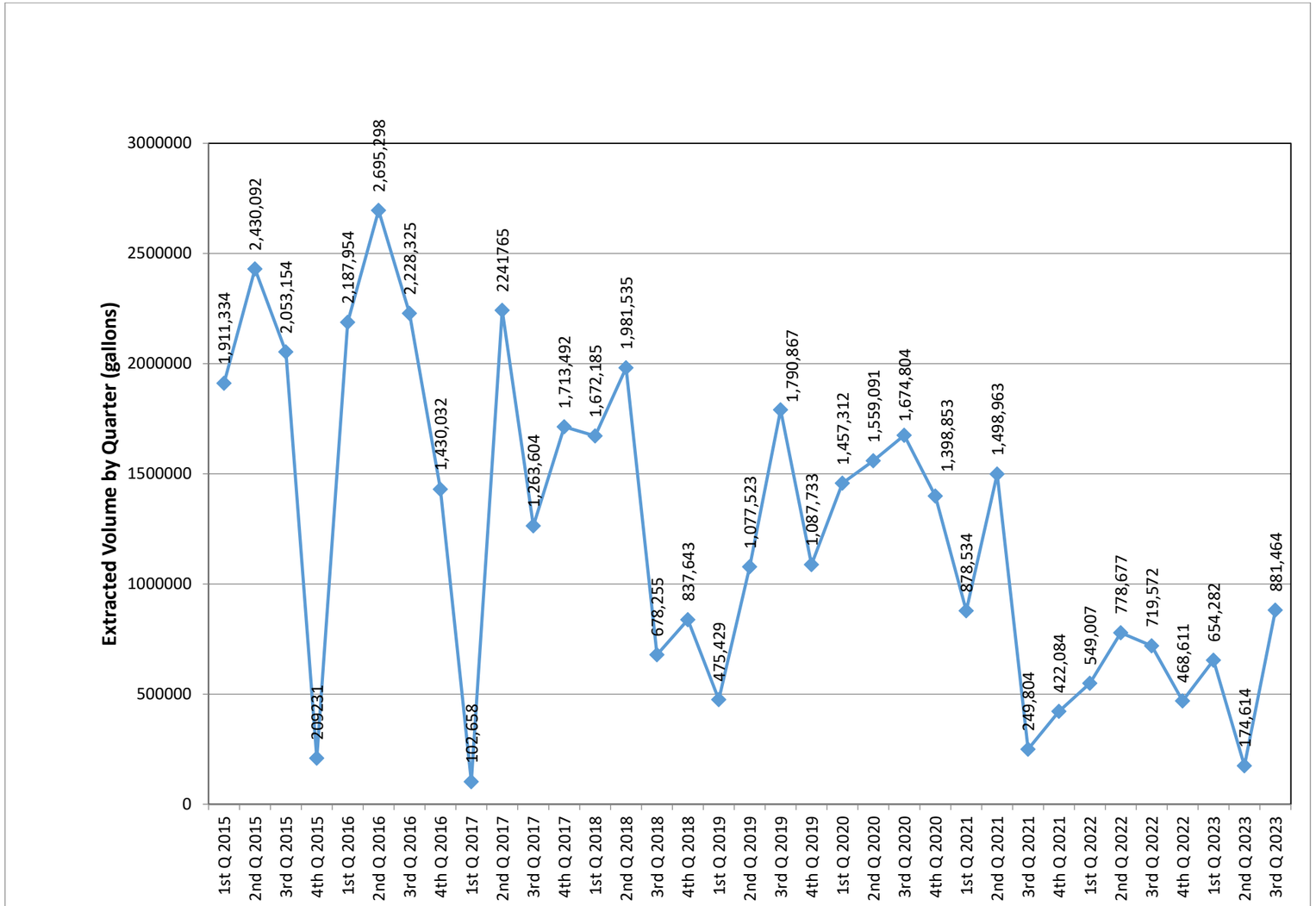
2.4.3 Monthly Metals Sampling

Table 7 presents the monthly influent and effluent metals results for July 2023. Sampling of the influent and effluent for metals was conducted on a monthly basis for July 2023, per the Final Installation Wide Work Plan (Bhate, May 2018). **Table 8** presents the monthly influent and effluent metals results for August 2023. **Table 9** presents the monthly influent and effluent metals results for September 2023. None of the metals exceeded the effluent discharge limits in the 3rd Quarter of 2023.

2.4.4 Quarterly Sampling

Quarterly sampling of the effluent for VOCs, anions, chemical oxygen demand, oil and grease, perchlorate, and metals was conducted on 16 August 2023 during this quarter and the results were below the MCLs. **Table 10** presents the quarterly analytical results for the 3rd Quarter of 2023.

Figure 2-1. Quarterly Extraction Rate



Extraction rate beginning at 3rd Q 2013 is based on FIT-140 (influent totalizer)

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Table 3. Groundwater Elevations at LHAAP-18/24 Piezometers, Monitoring Wells, and Surface Water

Location Identification	Type	Reference Elevation (feet amsl)	Depth to Water (feet) 07/27/2023	Groundwater Elevation (feet amsl) 07/27/2023	Depth to Water (feet) 08/28/2023	Groundwater Elevation (feet amsl) 08/28/2023	Depth to Water (feet) 09/28/2023	Groundwater Elevation (feet amsl) 09/28/2023
BGPZ-1	Piezometer	184.99	6.09	178.90	7.01	177.98	7.12	177.87
BGPZ-2	Piezometer	184.39	13.51	170.88	14.08	170.31	14.27	170.12
BGPZ-3	Piezometer	180.35	10.61	169.74	11.17	169.18	11.31	169.04
BGPZ-4	Piezometer	177.77	8.59	169.18	9.10	168.67	9.45	168.32
BGPZ-5	Piezometer	180.76	9.65	171.11	10.12	170.64	10.28	170.48
BGPZ-6	Piezometer	197.82	27.19	170.63	27.63	170.19	27.79	170.03
BGPZ-7	Piezometer	195.96	26.59	169.37	27.06	168.90	27.20	168.76
BGPZ-8	Piezometer	197.08	28.03	169.05	28.50	168.58	28.65	168.43
BGPZ-9	Piezometer	196.45	25.80	170.65	26.31	170.14	26.44	170.01
BGPZ-10	Piezometer	197.00	27.85	169.15	27.37	169.63	27.49	169.51
BGPZ-11	Piezometer	196.99	26.33	170.66	26.85	170.14	26.98	170.01
BGPZ-12	Piezometer	188.17	NA	Plugged	NA	Plugged	NA	Plugged
AWD-1	Monitoring Well	182.27	8.03	174.24	8.63	173.64	8.77	173.50
AWD-2	Monitoring Well	186.78	13.98	172.80	14.53	172.25	14.66	172.12
AWD-3	Monitoring Well	200.13	26.31	173.82	26.84	173.29	26.95	173.18
AWD-4	Monitoring Well	193.89	22.74	171.15	23.29	170.60	23.42	170.47
MW-1	Monitoring Well	199.22	25.33	173.89	25.87	173.35	26.00	173.22
MW-2	Monitoring Well	196.73	23.99	172.74	24.50	172.23	24.64	172.09
MW-3	Monitoring Well	196.54	25.51	171.03	26.02	170.52	26.19	170.35
MW-4	Monitoring Well	197.27	25.38	171.89	25.94	171.33	26.10	171.17

Table 3. Groundwater Elevations at LHAAP-18/24 Piezometers, Monitoring Wells, and Surface Water

Location Identification	Type	Reference Elevation (feet amsl)	Depth to Water (feet) 07/27/2023	Groundwater Elevation (feet amsl) 07/27/2023	Depth to Water (feet) 08/28/2023	Groundwater Elevation (feet amsl) 08/28/2023	Depth to Water (feet) 09/28/2023	Groundwater Elevation (feet amsl) 09/28/2023
MW-5	Monitoring Well	194.97	24.19	170.78	24.72	170.25	24.88	170.09
MW-6	Monitoring Well	192.18	21.62	170.56	22.12	170.06	22.30	169.88
MW-7	Monitoring Well	188.47	16.90	171.57	17.47	171.00	17.59	170.88
MW-8	Monitoring Well	187.13	15.85	171.28	16.37	170.76	16.50	170.63
MW-9	Monitoring Well	184.73	13.20	171.53	13.75	170.98	13.93	170.80
MW-10	Monitoring Well	178.12	8.12	170.00	8.71	169.41	8.86	169.26
MW-11	Monitoring Well	184.65	15.59	169.06	16.09	168.56	16.25	168.40
MW-12	Monitoring Well	178.33	8.07	170.26	8.71	169.62	8.80	169.53
MW-13	Monitoring Well	176.72	6.88	169.84	7.40	169.32	7.55	169.17
MW-14	Monitoring Well	186.19	12.63	173.56	13.09	173.10	13.26	172.93
MW-16	Monitoring Well	178.59	8.69	169.90	9.29	169.30	9.45	169.14
MW-17	Monitoring Well	179.03	8.81	170.22	9.36	169.67	9.51	169.52
MW-18	Monitoring Well	178.58	8.22	170.36	8.77	169.81	8.95	169.63
MW-19	Monitoring Well	178.60	8.25	170.35	8.81	169.79	8.99	169.61
MW-20	Monitoring Well	186.64	11.55	175.09	12.04	174.60	12.15	174.49
MW-21	Monitoring Well	198.70	28.25	170.45	28.81	169.89	29.94	168.76
MW-22	Monitoring Well	197.51	25.80	171.71	26.33	171.18	26.50	171.01
MW-23	Monitoring Well	198.79	26.27	172.52	26.82	171.97	26.96	171.83
101	Monitoring Well	197.53	10.11	187.42	10.91	186.62	11.23	186.30
102	Monitoring Well	193.94	19.64	174.30	20.15	173.79	20.29	173.65

Table 3. Groundwater Elevations at LHAAP-18/24 Piezometers, Monitoring Wells, and Surface Water

Location Identification	Type	Reference Elevation (feet amsl)	Depth to Water (feet) 07/27/2023	Groundwater Elevation (feet amsl) 07/27/2023	Depth to Water (feet) 08/28/2023	Groundwater Elevation (feet amsl) 08/28/2023	Depth to Water (feet) 09/28/2023	Groundwater Elevation (feet amsl) 09/28/2023
109	Monitoring Well	197.02	25.98	171.04	26.49	170.53	26.63	170.39
120	Monitoring Well	184.19	10.84	173.35	11.39	172.80	11.53	172.66
123	Monitoring Well	186.21	13.16	173.05	13.74	172.47	13.91	172.30
125	Monitoring Well	196.28	24.51	171.77	25.05	171.23	25.27	171.01
126	Monitoring Well	199.37	28.34	171.03	28.90	170.47	29.09	170.28
129	Monitoring Well	197.24	24.02	173.22	24.64	172.60	24.81	172.43
130	Monitoring Well	177.73	7.11	170.62	7.88	169.85	8.02	169.71
C-01	Monitoring Well	193.89	22.87	171.02	23.44	170.45	23.64	170.25
C-02	Monitoring Well	175.95	5.69	170.26	6.57	169.38	6.85	169.10
C-03	Monitoring Well	196.34	25.97	170.37	26.48	169.86	26.67	169.67
C-04	Monitoring Well	194.64	24.54	170.10	25.07	169.57	25.25	169.39
C-04A	Monitoring Well	194.61	24.30	170.31	24.89	169.72	25.01	169.60
C-05	Monitoring Well	180.74	11.81	168.93	12.51	168.23	12.79	167.95
C-06	Monitoring Well	192.22	21.44	170.78	21.98	170.24	22.19	170.03
C-07	Monitoring Well	196.80	28.00	168.80	28.53	168.27	28.75	168.05
C-08	Monitoring Well	193.10	22.86	170.24	23.40	169.70	23.56	169.54
C-09	Monitoring Well	202.35	31.68	170.67	32.24	170.11	32.41	169.94
C-10	Monitoring Well	201.86	31.91	169.95	32.57	169.29	32.74	169.12
17WW08	Monitoring Well	179.72	9.14	170.58	9.71	170.01	9.95	169.77
1824DPTMW01	Monitoring Well	187.97	19.21	168.76	19.81	168.16	19.97	168.00

Table 3. Groundwater Elevations at LHAAP-18/24 Piezometers, Monitoring Wells, and Surface Water

Location Identification	Type	Reference Elevation (feet amsl)	Depth to Water (feet) 07/27/2023	Groundwater Elevation (feet amsl) 07/27/2023	Depth to Water (feet) 08/28/2023	Groundwater Elevation (feet amsl) 08/28/2023	Depth to Water (feet) 09/28/2023	Groundwater Elevation (feet amsl) 09/28/2023
1824DPTMW02	Monitoring Well	197.90	28.29	169.61	28.86	169.04	28.99	168.91
1824DPTMW03	Monitoring Well	197.30	27.93	169.37	28.52	168.78	28.70	168.60
1824DPTMW04	Monitoring Well	196.25	26.60	169.65	27.12	169.13	27.30	168.95
1824DPTMW05	Monitoring Well	197.57	24.75	172.82	25.31	172.26	25.50	172.07
1824DPTMW06	Monitoring Well	180.35	10.08	170.27	10.69	169.66	10.86	169.49
1824DPTMW07	Monitoring Well	174.10	NM	NM	NM	NM	8.61	169.49
18WW02	Monitoring Well	179.30	8.63	170.67	9.19	170.11	9.44	169.86
18WW03	Monitoring Well	195.59	25.71	169.88	26.27	169.32	26.45	169.14
18WW04	Monitoring Well	183.74	16.22	167.52	16.75	166.99	16.95	166.79
18WW05	Monitoring Well	189.59	22.59	167.00	23.08	166.51	23.25	166.34
18WW06	Monitoring Well	179.70	9.65	170.05	10.15	169.55	10.33	169.37
18WW08	Monitoring Well	177.77	8.83	168.94	9.37	168.40	9.55	168.22
18WW09	Monitoring Well	177.51	7.87	169.64	8.40	169.11	8.61	168.90
18WW10	Monitoring Well	182.26	12.58	169.68	13.10	169.16	13.33	168.93
18WW11	Monitoring Well	182.29	12.73	169.56	13.21	169.08	13.40	168.89
18WW14	Monitoring Well	186.47	15.81	170.66	16.36	170.11	16.55	169.92
18WW15	Monitoring Well	186.24	15.08	171.16	15.64	170.60	15.86	170.38
18WW18	Monitoring Well	196.82	26.73	170.09	27.20	169.62	27.43	169.39
18WW19	Monitoring Well	179.56	10.77	168.79	11.31	168.25	11.54	168.02
18WW20	Monitoring Well	180.42	11.52	168.90	12.05	168.37	12.30	168.12

Table 3. Groundwater Elevations at LHAAP-18/24 Piezometers, Monitoring Wells, and Surface Water

Location Identification	Type	Reference Elevation (feet amsl)	Depth to Water (feet) 07/27/2023	Groundwater Elevation (feet amsl) 07/27/2023	Depth to Water (feet) 08/28/2023	Groundwater Elevation (feet amsl) 08/28/2023	Depth to Water (feet) 09/28/2023	Groundwater Elevation (feet amsl) 09/28/2023
18WW21	Monitoring Well	195.20	26.46	168.74	27.00	168.20	27.19	168.01
18WW22	Monitoring Well	195.37	25.66	169.71	26.14	169.23	26.33	169.04
18WW24	Monitoring Well	176.40	7.73	168.67	8.29	168.11	8.51	167.89
18WW25	Monitoring Well	175.15	6.17	168.98	6.87	168.28	7.12	168.03
18CPTMW01SW	Monitoring Well	198.20	26.84	171.36	27.39	170.81	27.57	170.63
18CPTMW01DW	Monitoring Well	197.92	27.70	170.22	28.17	169.75	28.35	169.57
18CPTMW03SW	Monitoring Well	198.53	29.29	169.24	29.85	168.68	29.98	168.55
18CPTMW04	Monitoring Well	196.60	22.56	174.04	23.07	173.53	23.29	173.31
18CPTMW04SW	Monitoring Well	196.42	26.23	170.19	26.80	169.62	26.97	169.45
18CPTMW06	Monitoring Well	198.12	27.90	170.22	26.45	171.67	26.65	171.47
18CPTMW07	Monitoring Well	197.32	27.12	170.20	27.69	169.63	27.87	169.45
18CPTMW08SW	Monitoring Well	196.38	26.02	170.36	26.55	169.83	26.77	169.61
18CPTMW08DW	Monitoring Well	196.59	26.80	169.79	27.31	169.28	27.55	169.04
18CPTMW10SW	Monitoring Well	186.98	16.61	170.37	17.16	169.82	17.39	169.59
18CPTMW10DW	Monitoring Well	187.38	17.05	170.33	17.63	169.75	17.88	169.50
18CPTMW12SW	Monitoring Well	190.90	20.43	170.47	20.98	169.92	21.20	169.70
18CPTMW12DW	Monitoring Well	190.25	20.11	170.14	20.70	169.55	20.93	169.32
18CPTMW14	Monitoring Well	196.69	25.80	170.89	26.33	170.36	26.56	170.13
18CPTMW15	Monitoring Well	179.79	10.23	169.56	10.79	169.00	10.96	168.83
18CPTMW16	Monitoring Well	175.37	6.17	169.20	6.93	168.44	7.21	168.16

Table 3. Groundwater Elevations at LHAAP-18/24 Piezometers, Monitoring Wells, and Surface Water

Location Identification	Type	Reference Elevation (feet amsl)	Depth to Water (feet) 07/27/2023	Groundwater Elevation (feet amsl) 07/27/2023	Depth to Water (feet) 08/28/2023	Groundwater Elevation (feet amsl) 08/28/2023	Depth to Water (feet) 09/28/2023	Groundwater Elevation (feet amsl) 09/28/2023
18CPTMW18	Monitoring Well	194.53	25.97	168.56	26.50	168.03	26.71	167.82
18CPTMW19	Monitoring Well	193.59	23.12	170.47	23.69	169.90	23.93	169.66
18CPTMW19SW	Monitoring Well	193.29	23.44	169.85	23.97	169.32	24.17	169.12
18CPTMW22SW	Monitoring Well	187.79	17.53	170.26	18.05	169.74	18.28	169.51
18CPTMW22R	Monitoring Well	187.23	9.89	177.34	10.44	176.79	10.66	176.57
18CPTMW22DW	Monitoring Well	188.00	17.75	170.25	18.29	169.71	18.51	169.49
18CPTMW23	Monitoring Well	177.47	7.88	169.59	8.41	169.06	8.77	168.70
18CPTMW23SW	Monitoring Well	177.43	7.91	169.52	8.47	168.96	8.83	168.60
18CPTMW24	Monitoring Well	194.89	25.04	169.85	25.61	169.28	25.89	169.00
18CPTMW26	Monitoring Well	182.60	16.49	166.11	17.00	165.60	17.27	165.33
18CPTMW26SW	Monitoring Well	182.00	11.68	170.32	12.11	169.89	12.38	169.62
1824HBSW7	Surface Water Sample	167.92	1.59	169.51	0.22	168.14	0.08	168.00

Notes: amsl- above mean sea level; NA- not applicable; NM- not measured

Table 4. Treated Groundwater Discharged-July through September 2023

DATE	Harrison Bayou Flow (gpm)	Maximum Rate Allowed (gpm)	Released From GWTP To Harrison Bayou (gallons)	Released From INF Pond to Harrison Bayou (gallons)	Released From GWTP to INF Pond (gallons)	Combined Total Released to Harrison Bayou (gallons)	INF Pond Staff Reading (ft) (6.20 = 3 ft Freeboard)
07/01/2023*	NA	NA	0	0	0	0	1.52
07/02/2023*	NA	NA	0	0	0	0	1.55
07/03/2023	NA	NA	0	0	0	0	1.59
07/04/2023	NA	NA	0	0	0	0	1.62
07/05/2023	NA	NA	0	0	58,487	0	1.68
07/06/2023	NA	NA	0	0	0	0	1.66
07/07/2023	NA	NA	0	0	0	0	1.65
07/08/2023*	NA	NA	0	0	0	0	1.69
07/09/2023*	NA	NA	0	0	0	0	1.78
07/10/2023	NA	NA	0	0	0	0	1.77
07/11/2023	NA	NA	0	0	0	0	1.77
07/12/2023	NA	NA	0	0	0	0	1.75
07/13/2023	NA	NA	0	0	0	0	1.73
07/14/2023	NA	NA	0	0	0	0	1.71
07/15/2023*	NA	NA	0	0	0	0	1.70
07/16/2023*	NA	NA	0	0	0	0	1.68
07/17/2023	NA	NA	0	0	0	0	1.81
07/18/2023	4,630	1,021	3,930	0	0	3,930	1.79
07/19/2023	3,666	808	16,054	0	0	16,054	1.77
07/20/2023	2,847	628	9,149	0	0	9,149	1.75
07/21/2023	NA	NA	0	0	0	0	1.73
07/22/2023*	NA	NA	0	0	0	0	1.72
07/23/2023*	NA	NA	0	0	0	0	1.70
07/24/2023	NA	NA	0	0	0	0	1.66

07/25/2023	NA	NA	0	0	0	0	1.63
07/26/2023	NA	NA	0	0	0	0	1.60
07/27/2023	NA	NA	0	0	0	0	1.57
07/28/2023	NA	NA	0	0	0	0	1.55
07/29/2023*	NA	NA	0	0	0	0	1.61
07/30/2023*	NA	NA	0	0	0	0	1.72
07/31/2023	NA	NA	0	0	52,048	0	1.83
08/01/2023	NA	NA	0	0	0	0	1.81
08/02/2023	NA	NA	0	0	0	0	1.77
08/03/2023	NA	NA	0	0	0	0	1.73
08/04/2023	NA	NA	0	0	3,119	0	1.70
08/05/2023*	NA	NA	0	0	0	0	1.83
08/06/2023*	NA	NA	0	0	0	0	1.90
08/07/2023	NA	NA	0	0	56,889	0	1.98
08/08/2023	NA	NA	0	0	0	0	1.96
08/09/2023	NA	NA	0	0	0	0	1.93
08/10/2023	NA	NA	0	0	0	0	1.91
08/11/2023	NA	NA	0	0	0	0	1.89
08/12/2023*	NA	NA	0	0	0	0	1.96
08/13/2023*	NA	NA	0	0	0	0	2.03
08/14/2023	NA	NA	0	0	53,638	0	2.10
08/15/2023	NA	NA	0	0	0	0	2.08
08/16/2023	NA	NA	0	0	0	0	2.06
08/17/2023	NA	NA	0	0	0	0	2.05
08/18/2023	NA	NA	0	0	0	0	2.03
08/19/2023*	NA	NA	0	0	0	0	2.07
08/20/2023*	NA	NA	0	0	0	0	2.13
08/21/2023	NA	NA	0	0	46,984	0	2.18
08/22/2023	NA	NA	0	0	3,009	0	2.16

08/23/2023	NA	NA	0	0	18,552	0	2..21
08/24/2023	NA	NA	0	0	12,933	0	2.25
08/25/2023	NA	NA	0	0	12,344	0	2.30
08/26/2023*	NA	NA	0	0	0	0	2.35
08/27/2023*	NA	NA	0	0	0	0	2.40
08/28/2023	NA	NA	0	0	18,807	0	2.44
08/29/2023	NA	NA	0	0	6,288	0	2.47
08/30/2023	NA	NA	0	0	16,381	0	2.53
08/31/2023	NA	NA	0	0	13,920	0	2.58
09/01/2023	NA	NA	0	0	1,068	0	2.56
09/02/2023*	NA	NA	0	0	0	0	2.58
09/03/2023*	NA	NA	0	0	0	0	2.60
09/04/2023	NA	NA	0	0	0	0	2.62
09/05/2023	NA	NA	0	0	41,502	0	2.64
09/06/2023	NA	NA	0	0	15,750	0	2.68
09/07/2023	NA	NA	0	0	5,576	0	2.72
09/08/2023	NA	NA	0	0	17,346	0	2.76
09/09/2023*	NA	NA	0	0	0	0	2.72
09/10/2023*	NA	NA	0	0	0	0	2.68
09/11/2023	NA	NA	0	0	0	0	2.65
09/12/2023	NA	NA	0	0	11,928	0	2.72
09/13/2023	NA	NA	0	0	13,421	0	2.80
09/14/2023	NA	NA	0	0	10,306	0	2.86
09/15/2023	NA	NA	0	0	2,108	0	2.86
09/16/2023*	NA	NA	0	0	0	0	2.87
09/17/2023*	NA	NA	0	0	0	0	2.91
09/18/2023	NA	NA	0	0	32,011	0	2.94
09/19/2023	NA	NA	0	0	11,294	0	2.97
09/20/2023	NA	NA	0	0	11,755	0	3.00

09/21/2023	NA	NA	0	0	8,388	0	3.01
09/22/2023	NA	NA	0	0	7,140	0	3.02
09/23/2023*	NA	NA	0	0	0	0	3.04
09/24/2023*	NA	NA	0	0	0	0	3.58
09/25/2023	NA	NA	0	0	19,132	0	3.70
09/26/2023	NA	NA	0	0	6,455	0	3.71
09/27/2023	NA	NA	0	0	4,066	0	3.72
09/28/2023	NA	NA	0	0	2,449	0	3.73
09/29/2023	NA	NA	0	0	0	0	3.74
09/30/2023	NA	NA	0	0	0	0	3.75

Notes: The maximum discharge rate from the INF Pond is 170 gallons per minute (gpm) and the maximum discharge rate from the GWTP is 30 gpm; NA = Not applicable; Treated groundwater volume released over the weekend is included in the total for the next working day. These dates are marked with an asterisk (*); The allowable flow rate of GWTP effluent that can be discharged to Harrison Bayou is given by:

$$QE \leq \frac{QS\,(CC - CA)}{(CE - CC)}$$

where:
QE = GWTP effluent flow
QS = Harrison Bayou flow
CC = Criteria concentration (100 milligrams per Liter [mg/L] for chloride, 50 mg/L for sulfate)
CA = Ambient concentration = 10 mg/L
CE = Chloride or sulfate concentration in GWTP effluent

Table 5. Monthly Groundwater Extraction Quantities – July through September 2023

ICT or Well No.	July 2023 (gallons)	August 2023 (gallons)	September 2023 (gallons)	Total
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	4,050	25,005	28,712	57,767
5	0	0	0	0
EW-01	10	8	16	34
7	3,005	6,775	2,742	12,522
8	8,959	29,074	34,391	72,424
18WW17	0	8,100	9614	17,714
10	0	0	0	0
11	1,723	15,491	16,198	33,412
12A	347	2,700	1,393	4,440
12B	4,684	17,538	10,642	32,864
12C	2,477	14,197	12,184	28,858
12D	823	10,798	5,763	17,384
12E	1,715	20,273	13,622	35,610
13A	1,958	4,453	7,489	13,900
13B	3,202	16,731	15,838	35,771
13C	0	0	0	0
13D	3,158	9,410	5,721	18,289
13E	5,055	3,739	1,658	10,452
13F	168	0	0	168
14A	12	945	1,353	2,310
14B	1,546	7,752	11,121	20,419
14C	3,089	8,435	2,771	14,295
14D	7,823	24,498	23,205	55,526
14E	1	11,176	15,415	26,592
LHAAP-18/24 Total	**42,892**	**237,098**	**219,848**	**499,838**
Site 17	71,853	65,142	48,633	185,628
LHAAP-17 Total	**71,853**	**65,142**	**48,633**	**185,628**
Total	**114,745**	**302,240**	**268,481**	**685,466**

Notes: gpd- gallons per day.
ICT 6 & 9 were converted from extraction to infiltration trenches beginning September 18, 2007.
ICTs 1, 3, 5, and 10 were deactivated on February 18, 2008 as part of a pilot study for system optimization;
Low production in ICT 12A, ICT 14A, 18WW17, ICT 13F & EW-01 due to low water table, replaced fuse at ICT 14E, replaced breaker on ICT 12E, new flow meter installed on ICT 13F in July 2023.
Low production in EW-01 and ICT 14A due to low water table in August 2023.
Relatively low production in ICT 12A, 13E, 14A, and EW-01 due to low water table, ICT 2, ICT 13C and ICT 13F require new pumps in September 2023

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Table 6. Weekly Perchlorate Sample Results
3rd Quarter 2023 Groundwater Treatment Plant Report
Longhorn Army Ammunition Plant

Sample Identification	Lab Package	Date Sampled	Sample Location	Harrison Bayou Maximum Allowable Daily Discharge Perchlorate Concentration (µg/L)	INF Pond Discharge Criteria for Perchlorate (µg/L)	Reporting Limit	Influent Perchlorate (6850)	Effluent Perchlorate (6850)	Does Concentration Meet Discharge Limit? (Yes/No)	No Daily Maximum Concentration		
							Result (µg/L)	Result (µg/L) BIX/AIX		Ammonia as N (350.3) (mg/L)	Ortho-Phosphate (365.3) (mg/L)	Organic Carbon (415.1) (mg/L)
LH18/24-SP650_071023_BIX/AIX	HS23070449	7/10/2023	TK-650	589	17	0.1	NA	**36.2/0.0593 J**	Yes	**480**	**4.88**	**74.3**
LH18/24-SP650_071023_AIX (monthly)	HS23070445	7/10/2023	TK-650	589	17	0.1	NA	< 0.0500 U	Yes	--	--	--
LH18/24-SP140_071023 (monthly)	HS23070447	7/10/2023	TK-140	--	NA	NA	**57,500**	NA	--	--	--	--
LH18/24-SP650_072423_BIX/AIX	HS23071455	7/24/2023	TK-650	589	17	0.1	NA	**13.4/0.0583 J**	Yes	**430**	**8.69**	**99.5**
LH18/24-SP650_080123_BIX/AIX	HS23080100	8/1/2023	TK-650	589	17	0.1	NA	**283/9.16**	Yes	**6.9**	**0.848**	**74**
LH18/24-SP650_080123_AIX (monthly)	HS23080101	8/1/2023	TK-650	589	17	0.1	NA	**9.22**	Yes	--	--	--
LH18/24-SP140_080123 (monthly)	HS23080102	8/1/2023	TK-140	--	NA	NA	**17,200**	NA	--	--	--	--
LH18/24-SP650_080823_BIX/Between IX/AIX	HS23080556	8/8/2023	TK-650	589	17	0.1	NA	**157/0.639/0.318**	Yes	**1,800**	**6.35**	**31.4**
LH18/24-SP650_081623_BIX/Between IX/AIX	HS23081039	8/16/2023	TK-650	589	17	0.1	NA	**55/0.383/0.341**	Yes	**380**	**6.43**	**43.2**
LH18/24-SP650_081623_AIX (Quarterly)	HS23081076	8/16/2023	TK-650	589	17	0.1	NA	**0.293**	Yes	--	--	--
LH18/24-SP140_081623 (Quarterly)	HS23081040	8/16/2023	TK-140	--	NA	NA	**19,200**	NA	--	--	--	--
LH18/24-SP650_082223_BIX/AIX	HS23081419	8/22/2023	TK-650	589	17	0.1	NA	**307/10.3**	Yes	**8.8**	**0.359**	**5.99**
LH18/24-SP650_083023_BIX/AIX	HS23081965	8/30/2023	TK-650	589	17	0.1	NA	**154/5.29**	Yes	**13**	**2.71**	**2.97**
LH18/24-SP650_090623_BIX/AIX	HS23090353	9/6/2023	TK-650	589	17	0.1	NA	**107/4.70**	Yes	**13**	**0.387**	**2.92**
LH18/24-SP650_091223_BIX/AIX	HS23090716	9/12/2023	TK-650	589	17	0.1	NA	**67.5/0.185**	Yes	**24**	**4.38**	**42.0**
LH18/24-SP650_091223_AIX (monthly)	HS23090714	9/12/2023	TK-650	589	17	0.1	NA	**0.0578 J**	Yes	--	--	--
LH18/24-SP140_091223 (monthly)	HS23090713	9/12/2023	TK-140	--	NA	NA	**14,600**	NA	--	--	--	--
LH18/24-SP650_091923_BIX/AIX	HS23091132	9/19/2023	TK-650	589	17	0.1	NA	**9.17/4.69**	Yes	**24**	**4.8**	**2.71**
LH18/24-SP650_092823_BIX/AIX	HS23091823	9/28/2023	TK-650	589	17	0.1	NA	**4.57/1.38**	Yes	**17**	**3.21**	**6.38**

Notes:

Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level (PCL)

SP140 samples are influent samples.

µg/L - micrograms per liter

J - Estimated concentration between the detection limit and limit of quantitation and/or due to quality control discrepancies

Detected analytes are in bold.

Red font indicates concentrations above the INF Pond Discharge Criteria for Perchlorate

NA - Not applicable

BIX - Before ion exchange/AIX - After ion exchange

mg/L - milligrams per liter

U - Non-detect and reported to the limit of quantitation

INF- Intermediate-Range Nuclear Forces Treaty

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Table 7. Monthly GWTP Analytical Sampling Results for July 2023
3rd Quarter 2023 Groundwater Treatment Plant Report
Longhorn Army Ammunition Plant

				Sample Location	EFFLUENT - Monthly		INFLUENT - Monthly*		EFFLUENT - Biweekly		Does Concentration Meet Effluent Discharge Limits? (Yes/No)
				Sample Identification	LH18/24-SP650_071023		LH18/24-SP140_071023		LH18/24-SP650_072423		
				Lab Package	HS23070445		HS23070447		HS23071456		
				Sample Date	7/10/2023		7/10/2023		7/24/2023		
				Sample Type	GRAB		GRAB		GRAB		
	Effluent Limitation for Discharge (µg/L) per Table 2 of ROD			Result	DVQ	Result	DVQ	Result	DVQ	
	Daily Average Concentration	Daily Maximum Concentration	INF Pond MCL							
VOLATILES	**µg/L**	**µg/L**	**µg/L**	**µg/L**						
1,1,1-Trichloroethane	3,417	7,230	200	< 1.0	U	NA		< 0.50	U	Yes
1,1,2-Trichloroethane	102.5	216.9	5	< 1.0	U	NA		< 0.50	U	Yes
1,1-Dichloroethane	6,633	14,032	NV	< 1.0	U	NA		< 0.50	U	Yes
1,1-Dichloroethene	119	253	7	< 1.0	U	NA		< 0.50	U	Yes
1,2-Dichloroethane	85	181	5	< 1.0	U	NA		< 0.50	U	Yes
1,2-Dichloropropane	NV	NV	5	< 1.0	U	NA		< 0.50	U	Yes
Acetone	1,132	2,395	NV	< 1.0	U	NA		< 2.0	UJ	Yes
Benzene	85	181	5	< 1.0	U	NA		< 0.50	U	Yes
Carbon Tetrachloride	85	181	5	< 1.0	U	NA		< 0.50	U	Yes
Chlorobenzene	22,300	47,180	100	< 1.0	U	NA		< 0.50	U	Yes
Chloroform	1,708	3,615	NV	< 1.0	U	NA		< 0.50	U	Yes
cis-1,2-Dichloroethene	NV	NV	70	**2.8**		NA		**3.0**		Yes
Ethylbenzene	26,954	57,025	700	< 1.0	U	NA		< 0.50	U	Yes
m,p-Xylenes	39.5	83.6	NV	< 2.0	U	NA		< 1.0	U	Yes
Methylene Chloride	803	1,699	5	< 1.0	U	NA		< 2.0	U	Yes
o-Xylene	39.5	83.6	NV	< 1.0	U	NA		< 0.50	U	Yes
Styrene	2,829	5,987	100	< 1.0	U	NA		< 0.50	U	Yes
Tetrachloroethene	85.4	180.7	5	< 1.0	U	NA		< 0.50	U	Yes
Toluene	1,980	4,189	10	< 1.0	U	NA		< 0.50	U	Yes
Trichloroethene	85	181	5	< 1.0	U	NA		< 0.50	U	Yes
Vinyl Chloride	34	72	2	< 1.0	U	NA		< 0.50	U	Yes
ANIONS	**mg/L**	**mg/L**	**mg/L**	**mg/L**		**mg/L**		**mg/L**		
Chloride	NV	NV	NV	NA		NA		**1,270**		NA
Sulfate	NV	NV	NV	NA		NA		**59.2**		NA
PERCHLORATE	**µg/L**	**µg/L**	**µg/L**	**µg/L**		**µg/L**		**µg/L**		
Perchlorate**	278	589	17	< 0.0500	U	**57,500**		NA		Yes
METALS	**mg/L**	**mg/L**	**mg/L**	**mg/L**		**mg/L**		**mg/L**		
Hexavalent Chromium	0.058	0.124	NV	< 0.00600	U	< 0.00600	U	NA		Yes
Barium	1	2	2	**0.294**		NA		NA		Yes
Lead	0.0022	0.0046	0.015	< 0.00125	U	NA		NA		Yes
Selenium	0.0057	0.0120	0.05	< 0.00250	U	< 0.00250	U	NA		Yes
Silver	0.0014	0.0030	0.1	< 0.000500	U	< 0.000500	UJ	NA		Yes
SEMI-VOLATILES	**µg/L**	**µg/L**	**µg/L**	**µg/L**		**µg/L**		**µg/L**		
1,4-Dioxane***	NV	134.2	NV	**1.3**		NA		NA		Yes

Notes:

µg/L - micrograms per liter
DVQ - Data validation qualifier
GWTP - Groundwater Treatment Plant
U - Non-detect reported to the limit of detection
mg/L - milligrams per liter
INF - Intermediate-Range Nuclear Forces Treaty
MCL - Maximum Contaminant Level
Bolded Values indicate detections
J - Estimated concentration between the detection limit and limit of quantitation and/or due to quality control discrepancy
*Influent sample not compared to discharge limits
**- Perchlorate is also collected weekly and reported in the Weekly Results Table
*** Calculated Effluent Limit
Grab samples are compared to the daily maximum
ROD - Record of Decision
NA - Not applicable or not analyzed
NV - No value
UJ - Estimated non-detect due to quality control discrepancy

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Table 8. Biweekly GWTP Analytical Sampling Results for August 2023
3rd Quarter 2023 Groundwater Treatment Plant Report
Longhorn Army Ammunition Plant

				Sample Location	EFFLUENT - Monthly		INFLUENT - Monthly*		EFFLUENT - Biweekly		EFFLUENT - Biweekly		Does Concentration Meet Effluent Discharge Limits? (Yes/No)
				Sample Identification	LH18/24-SP650_080123		LH18/24-SP140_080123		LH18/24-SP650_080823		LH18/24-SP650_082223		
				Lab Package	HS23080101		HS23080102		HS23080558		HS23081423		
				Sample Date	8/1/2023		8/1/2023		8/8/2023		8/22/2023		
				Sample Type	GRAB		GRAB		GRAB		GRAB		
	Effluent Limitation for Discharge (µg/L) per Table 2 of ROD												
	Daily Average Concentration	Daily Maximum Concentration	INF Pond MCL		Result	DVQ	Result	DVQ	Result	DVQ	Result	DVQ	
VOLATILES	**µg/L**	**µg/L**	**µg/L**		**µg/L**								
1,1,1-Trichloroethane	3,417	7,230	200		< 0.50	U	NA		< 1.0	U	< 1.0	U	Yes
1,1,2-Trichloroethane	102.5	216.9	5		< 0.50	U	NA		< 1.0	U	< 1.0	U	Yes
1,1-Dichloroethane	6,633	14,032	NV		< 0.50	U	NA		< 1.0	U	< 1.0	U	Yes
1,1-Dichloroethene	119	253	7		< 0.50	U	NA		< 1.0	U	< 1.0	U	Yes
1,2-Dichloroethane	85	181	5		< 0.50	U	NA		< 1.0	U	< 1.0	U	Yes
1,2-Dichloropropane	NV	NV	5		< 0.50	U	NA		< 1.0	U	< 1.0	U	Yes
Acetone	1,132	2,395	NV		< 2.0	U	NA		< 1.0	U	< 1.0	U	Yes
Benzene	85	181	5		< 0.50	U	NA		< 1.0	U	< 1.0	U	Yes
Carbon Tetrachloride	85	181	5		< 0.50	U	NA		< 1.0	U	< 1.0	U	Yes
Chlorobenzene	22,300	47,180	100		< 0.50	U	NA		< 1.0	U	< 1.0	U	Yes
Chloroform	1,708	3,615	NV		< 0.50	U	NA		< 1.0	U	< 1.0	U	Yes
cis-1,2-Dichloroethene	NV	NV	70		**3.5**		NA		**3.4**		**3.0**		Yes
Ethylbenzene	26,954	57,025	700		< 0.50	U	NA		< 1.0	U	< 1.0	U	Yes
m,p-Xylenes	39.5	83.6	NV		< 1.0	U	NA		< 2.0	U	< 2.0	U	Yes
Methylene Chloride	803	1,699	5		< 2.0	U	NA		< 1.0	U	< 1.0	U	Yes
o-Xylene	39.5	83.6	NV		< 0.50	U	NA		< 1.0	U	< 1.0	U	Yes
Styrene	2,829	5,987	100		< 0.50	U	NA		< 1.0	U	< 1.0	U	Yes
Tetrachloroethene	85.4	180.7	5		< 0.50	U	NA		< 1.0	U	< 1.0	U	Yes
Toluene	1,980	4,189	10		< 0.50	U	NA		< 1.0	U	< 1.0	U	Yes
Trichloroethene	85	181	5		< 0.50	U	NA		< 1.0	U	< 1.0	U	Yes
Vinyl Chloride	34	72	2		< 0.50	U	NA		< 1.0	U	< 1.0	U	Yes
ANIONS	**mg/L**	**mg/L**	**mg/L**		**mg/L**		**mg/L**		**mg/L**		**mg/L**		
Chloride	NV	NV	NV		NA		NA		**1,310**		**1,200**		NA
Sulfate	NV	NV	NV		NA		NA		**75.1**		**76.9**		NA
PERCHLORATE	**µg/L**	**µg/L**	**µg/L**		**µg/L**		**µg/L**		**µg/L**		**µg/L**		
Perchlorate**	278	589	17		**9.22**		**17,200**		NA		NA		Yes
METALS	**mg/L**	**mg/L**	**mg/L**		**mg/L**		**mg/L**		**mg/L**		**mg/L**		
Hexavalent Chromium	0.058	0.124	NV		< 0.00600	U	< 0.00600	U	NA		NA		Yes
Barium	1	2	2		**0.152**		NA		NA		NA		Yes
Lead	0.0022	0.0046	0.015		< 0.00125	U	NA		NA		NA		Yes
Selenium	0.0057	0.0120	0.05		< 0.00250	U	< 0.00250	U	NA		NA		Yes
Silver	0.0014	0.0030	0.1		< 0.000500	U	< 0.000500	U	NA		NA		Yes
SEMI-VOLATILES	**µg/L**	**µg/L**	**µg/L**		**µg/L**		**µg/L**		**µg/L**		**µg/L**		
1,4-Dioxane***	NV	134.2	NV		**0.90**		NA		NA		NA		Yes

Notes:

µg/L - micrograms per liter

DVQ - Data validation qualifier

GWTP - Groundwater Treatment Plant

U - Non-detect reported to the limit of detection

mg/L - milligrams per liter

INF - Intermediate-Range Nuclear Forces Treaty

MCL - Maximum Contaminant Level

Bolded Values indicate detections

J - Estimated concentration between the detection limit and limit of quantitation and/or due to quality control discrepancy

*Influent sample not compared to discharge limits

**- Perchlorate is also collected weekly and reported on the Weekly Results Table

*** Calculated Effluent Limit

Grab samples are compared to the daily maximum

ROD - Record of Decision

NA - Not applicable or Not analyzed

NV - No value

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Table 9. Biweekly GWTP Analytical Sampling Results for September 2023
3rd Quarter 2023 Groundwater Treatment Plant Report
Longhorn Army Ammunition Plant

			Sample Location	EFFLUENT - Biweekly		EFFLUENT - Monthly		INFLUENT - Monthly*		EFFLUENT - Biweekly		Does Concentration Meet Effluent Discharge Limits? (Yes/No)
			Sample Identification	LH18/24-SP650_090623		LH18/24-SP650_091223		LH18/24-SP140_091223		LH18/24-SP650_091923		
			Lab Package	HS23090424		HS23090714		HS23090713		HS23091194		
			Sample Date	9/6/2023		9/12/2023		9/12/2023		9/19/2023		
			Sample Type	GRAB		GRAB		GRAB		GRAB		
	Effluent Limitation for Discharge (µg/L) per Table 2 of ROD											
	Daily Average Concentration	Daily Maximum Concentration	INF Pond MCL	Result	DVQ	Result	DVQ	Result	DVQ	Result	DVQ	
VOLATILES	**µg/L**	**µg/L**	**µg/L**			**µg/L**						
1,1,1-Trichloroethane	3,417	7,230	200	< 0.50	U	< 0.50	U	NA		< 0.50	U	Yes
1,1,2-Trichloroethane	102.5	216.9	5	< 0.50	U	< 0.50	U	NA		< 0.50	U	Yes
1,1-Dichloroethane	6,633	14,032	NV	< 0.50	U	< 0.50	U	NA		< 0.50	U	Yes
1,1-Dichloroethene	119	253	7	< 0.50	U	< 0.50	U	NA		< 0.50	U	Yes
1,2-Dichloroethane	85	181	5	< 0.50	U	< 0.50	U	NA		< 0.50	U	Yes
1,2-Dichloropropane	NV	NV	5	< 0.50	U	< 0.50	U	NA		< 0.50	U	Yes
Acetone	1,132	2,395	NV	< 2.0	U	< 2.0	U	NA		< 2.0	U	Yes
Benzene	85	181	5	< 0.50	U	< 0.50	U	NA		< 0.50	U	Yes
Carbon Tetrachloride	85	181	5	< 0.50	U	< 0.50	U	NA		< 0.50	U	Yes
Chlorobenzene	22,300	47,180	100	< 0.50	U	< 0.50	U	NA		< 0.50	U	Yes
Chloroform	1,708	3,615	NV	< 0.50	U	< 0.50	U	NA		< 0.50	U	Yes
cis-1,2-Dichloroethene	NV	NV	70	**2.5**		**2.4**		NA		**2.3**		Yes
Ethylbenzene	26,954	57,025	700	< 0.50	U	< 0.50	U	NA		< 0.50	U	Yes
m,p-Xylenes	39.5	83.6	NV	< 1.0	U	< 1.0	U	NA		< 1.0	U	Yes
Methylene Chloride	803	1,699	5	< 2.0	U	< 2.0	U	NA		< 2.0	U	Yes
o-Xylene	39.5	83.6	NV	< 0.50	U	< 0.50	U	NA		< 0.50	U	Yes
Styrene	2,829	5,987	100	< 0.50	U	< 0.50	U	NA		< 0.50	U	Yes
Tetrachloroethene	85.4	180.7	5	< 0.50	U	< 0.50	U	NA		< 0.50	U	Yes
Toluene	1,980	4,189	10	< 0.50	U	< 0.50	U	NA		< 0.50	U	Yes
Trichloroethene	85	181	5	< 0.50	U	< 0.50	U	NA		< 0.50	U	Yes
Vinyl Chloride	34	72	2	< 0.50	U	< 0.50	U	NA		< 0.50	U	Yes
ANIONS	**mg/L**	**mg/L**	**mg/L**	**mg/L**		**mg/L**		**mg/L**		**mg/L**		
Chloride	NV	NV	NV	**973**		NA		NA		**1,000**		NA
Sulfate	NV	NV	NV	**70.2**		NA		NA		**60.0**		NA
PERCHLORATE	**µg/L**	**µg/L**	**µg/L**	**µg/L**		**µg/L**		**µg/L**		**µg/L**		
Perchlorate**	278	589	17	NA		**0.0578**	J	**14,600**		NA		Yes
METALS	**mg/L**	**mg/L**	**mg/L**	**mg/L**		**mg/L**		**mg/L**		**mg/L**		
Hexavalent Chromium	0.058	0.124	NV	NA		< 0.00600	U	< 0.00600	U	NA		Yes
Barium	1	2	2	NA		**0.258**		NA		NA		Yes
Lead	0.0022	0.0046	0.015	NA		< 0.00125	U	NA		NA		Yes
Selenium	0.0057	0.0120	0.05	NA		< 0.00250	U	< 0.00250	U	NA		Yes
Silver	0.0014	0.0030	0.1	NA		< 0.000500	U	< 0.000500	U	NA		Yes
SEMI-VOLATILES	**µg/L**	**µg/L**	**µg/L**	**µg/L**		**µg/L**		**µg/L**		**µg/L**		
1,4-Dioxane***	NV	134.2	NV	NA		**0.48**		NA		NA		Yes

Notes:

µg/L - micrograms per liter

DVQ - Data validation qualifier

GWTP - Groundwater Treatment Plant

U - Non-detect reported to the limit of detection

mg/L - milligrams per liter

INF - Intermediate-Range Nuclear Forces Treaty

MCL - Maximum Contaminant Level

Bolded Values indicate detections

J - Estimated concentration between the detection limit and limit of quantitation and/or due to quality control discrepancy

*Influent sample not compared to discharge limits

**- Perchlorate is also collected weekly and reported on the Weekly Results Table

*** Calculated Effluent Limit

Grab samples are compared to the daily maximum

ROD - Record of Decision

NA - Not applicable or Not analyzed

NV - No value

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Table 10. Quarterly GWTP Analytical Sampling Results
3rd Quarter 2023 Groundwater Treatment Plant Report
Longhorn Army Ammunition Plant

			Sample Location	EFFLUENT		INFLUENT*		Does Concentration Meet Discharge Limits? (Yes/No)
			Sample Identification	LH18/24-SP650_081623		LH18/24-SP140_081623		
			Lab Package	HS23081076		HS23081040		
			Sample Date	8/16/2023		8/16/2023		
			Sample Type	GRAB		GRAB		
	Effluent Limitation for Discharge (µg/L) per Protocol			Result	DVQ	Result	DVQ	
	Daily Average Concentration	Daily Maximum Concentration	INF Pond MCL					
VOLATILES	**µg/L**	**µg/L**	**µg/L**	**µg/L**		**µg/L**		
1,1,1-Trichloroethane	3,417	7,230	200	< 1.0	U	< 10	U	Yes
1,1,2-Trichloroethane	102.5	216.9	5	< 1.0	U	< 10	U	Yes
1,1-Dichloroethane	6,633	14,032	NV	< 1.0	U	**11**		Yes
1,1-Dichloroethene	119	253	7	< 1.0	U	**57**		Yes
1,2-Dichloroethane	85	181	5	< 1.0	U	**34**		Yes
1,2-Dichloropropane	NV	NV	5	< 1.0	U	< 10	U	Yes
Acetone	1,132	2,395	NV	< 1.0	U	< 10	U	Yes
Benzene	85	181	5	< 1.0	U	< 10	U	Yes
Carbon Tetrachloride	85	181	5	< 1.0	U	**6.5**	J	Yes
Chlorobenzene	22,300	47,180	100	< 1.0	U	< 10	U	Yes
Chloroform	1,708	3,615	NV	< 1.0	U	**12**		Yes
cis-1,2-dichloroethene	NV	NV	70	**3.1**		**2,400**		Yes
Ethylbenzene	26,954	57,025	700	< 1.0	U	< 10	U	Yes
m,p-Xylenes	39.5	83.6	NV	< 1.0	U	< 10	U	Yes
Methylene Chloride	803	1,699	5	< 1.0	U	**3,500**		Yes
o-Xylene	39.5	83.6	NV	< 1.0	U	< 10	U	Yes
Styrene	2,829	5,987	100	< 1.0	U	< 10	U	Yes
Tetrachloroethene	85.4	180.7	5	< 1.0	U	**7.1**	J	Yes
Toluene	1,980	4,189	10	< 1.0	U	< 10	U	Yes
Trichloroethene	85	181	5	< 1.0	U	**5,000**		Yes
Vinyl Chloride	34	72	2	**0.80**	J	**90**		Yes
ANIONS	**mg/L**	**mg/L**	**mg/L**	**mg/L**		**mg/L**		
Chloride	NA	NA	NV	**1,240**		**488**		NA
Sulfate	NA	NA	NV	**64.5**		**47.4**		NA
PERCHLORATE	**µg/L**	**µg/L**	**µg/L**	**µg/L**		**µg/L**		
Perchlorate	278	589	17	**0.293**		**19,200**		Yes
METALS	**mg/L**	**mg/L**	**mg/L**	**mg/L**		**mg/L**		
Aluminum	0.777	1.644	NV	0.0105	UB	**0.0497**		Yes
Antimony	NV	NV	0.006	< 0.00125	U	< 0.00125	U	NA

Table 10. Quarterly GWTP Analytical Sampling Results
3rd Quarter 2023 Groundwater Treatment Plant Report
Longhorn Army Ammunition Plant

			Sample Location	EFFLUENT		INFLUENT*		Does Concentration Meet Discharge Limits? (Yes/No)
			Sample Identification	LH18/24-SP650_081623		LH18/24-SP140_081623		
			Lab Package	HS23081076		HS23081040		
			Sample Date	8/16/2023		8/16/2023		
			Sample Type	GRAB		GRAB		
	Effluent Limitation for Discharge (µg/L) per Protocol			Result	DVQ	Result	DVQ	
	Daily Average Concentration	Daily Maximum Concentration	INF Pond MCL					
Arsenic	0.365	0.772	0.01	**0.000623**	J	**0.000658**	J	Yes
Barium	1	2	2	**0.195**		**0.488**		Yes
Beryllium	NV	NV	0.004	**0.000210**	J	< 0.000500	U	NA
Cadmium	0.0016	0.0034	0.005	**0.000267**	J	< 0.000500	U	Yes
Calcium	NV	NV	NV	**13.5**		**52.6**		NA
Chromium	0.355	0.752	0.1	< 0.00125	U	**0.00252**	J	Yes
Cobalt	5.433	11.495	NV	**0.000228**	J	**0.00504**		Yes
Iron	1.132	2.395	NV	**0.0432**	J	**0.569**		Yes
Lead	0.0022	0.0046	0.015	< 0.00125	U	< 0.00125	U	Yes
Magnesium	NV	NV	NV	**17.7**		**39.0**		NA
Manganese	7.323	15.494	NV	**0.0267**		**0.289**		Yes
Nickel	0.087	0.184	NV	< 0.00125	U	**0.0133**		Yes
Potassium	NV	NV	NV	**2.13**		**1.07**		NA
Selenium	0.0057	0.012	0.05	< 0.00250	UJ	< 0.00250	U	Yes
Silver	0.0014	0.003	NV	0.000247	J	< 0.000500	U	Yes
Sodium	NV	NV	NV	**835**		**287**		NA
Thallium	NV	NV	NV	**0.000577**	J	**0.000995**	J	NA
Vanadium	1.698	3.592	NV	0.00162	J	**0.000923**	J	Yes
Zinc	0.146	0.31	NV	**0.00379**	J	**0.0207**		Yes
Mercury	NV	NV	0.002	< 0.000100	U	< 0.000100	U	NA
1,4-DIOXANE	**µg/L**	**µg/L**	**µg/L**	**µg/L**		**µg/L**		
1,4-Dioxane	NV	134.2	NV	**1.2**		**1.3**		Yes
CHEMICAL OXYGEN DEMAND (COD)	**mg/L**	**mg/L**	**mg/L**	**mg/L**		**mg/L**		
COD	NV	200	NV	**100.0**		**16.0**		Yes
OIL AND GREASE (O&G)	**mg/L**	**mg/L**	**mg/L**	**mg/L**		**mg/L**		
O&G	NV	15	NV	< 1.00	U	< 1.00	U	Yes

Notes:

µg/L - micrograms per liter

DVQ - data validation qualifier

Grab samples are compared to the daily maximum and composite samples to the daily average

* only Effluent sample is compared to discharge limits

J - Estimated concentration between the detection limit and limit of quantitation and/or due to quality control discrepancy

U - non detect and reported to the limit of detection

mg/L - milligrams per liter

GWTP - Groundwater Treatment Plant

NV - no value

INF - influent

MCL - Maximum Contaminant Level

UJ - estimated non-detect due to quality control discrepancy

UB - considered an artifact of blank contamination

Bolded Values indicate detections

3 QUALITY CONTROL

This report summarizes the data for samples collected in July, August, and September 2023. The samples were reviewed and validated in accordance with the guidelines in the *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review* (USEPA, January 2017); *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review* (USEPA, January 2017); and the quality control criteria specified in the *Basewide Uniform Federal Policy - Quality Assurance Project Plan Longhorn Army Ammunition Plant* which is in Appendix C of the *Final Installation-Wide Work Plan for Longhorn Army Ammunition Plant Karnack, Texas* (Bhate, May 2018).

The purpose of the sampling program is to evaluate the effectiveness of the groundwater pump and treatment system, assess water quality within the LHAAP-18/24 ICT containment area, and assure compliance with the Interim Remedial Action (USACE, May 1995) and the Memorandum for Record - Development of Proposed Discharge Limits for Perchlorate for the Groundwater Treatment Plant (AECOM, May 2017). Quality control and quality assurance problems noted in the case narratives received from the laboratory are minor and do not affect the usability of the data for compliance at the GWTP. No sample results from the 3rd Quarter of 2023 were rejected due to quality control problems.

ALS Environmental analyzed the compliance samples collected from the GWTP. Independent data verification and validation was performed by the Bhate Project Chemist as described in the Quality Control Summary Report in **Appendix D**. The laboratory reports for the GWTP are included in **Appendix C**. Air monitoring data is presented in **Appendix E**.

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4 TREATED GROUNDWATER DISCHARGED

Reinjection of groundwater in ICT 6 and ICT 9 was discontinued as of 15 July 2012. The last reinjection occurred on 24 May 2012, immediately prior to the scrubber system malfunction which caused GWTP operation to cease temporarily.

Treated groundwater that met the Harrison Bayou Maximum Allowable Daily Discharge Perchlorate Concentration (589 µg/L) was discharged to the Harrison Bayou in accordance with the Protocol for Discharging GWTP Effluent (**Appendix F**). Although not a requirement, prior to discharge to the Harrison Bayou, treated groundwater was also processed through the IX vessels to ensure adequate perchlorate treatment. Additional sample analyses were performed on the effluent samples to monitor the effectiveness of the perchlorate treatment after the FBR and IX processes to evaluate potential optimizations or maintenance requirements. Approximately, 29,133 gallons of treated groundwater were discharged from the GWTP to Harrison Bayou. There was no additional treated groundwater released to the Harrison Bayou from the INF pond. **Table 4** summarizes the daily volume of discharged groundwater from the GWTP or the INF Pond to the Harrison Bayou, the maximum flow rate allowed by chloride and sulfate concentrations, and the approximate volumes discharged for the 3rd Quarter of 2023.

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5 AIR MONITORING

5.1 Summary of Air Monitoring Approach

Operation of the GWTP without air abatement was approved by the TCEQ and USEPA conditioned on collection of air monitoring data to determine the effect of GWTP operation on ambient air quality with respect to potential human health exposure risk. An Interim Air Monitoring Plan was developed and used to implement the air monitoring program in 2012. The air monitoring program included sampling emission concentrations from the air stripper, ambient air at the GWTP, and ambient air downwind of the GWTP. Collection of air data occurred weekly from September 2012 through September 2013, monthly from September 2013 through September 2014, and quarterly since September 2014. The sampling program includes use of Summa canisters and a photoionization detector (PID) to measure vapor phase concentrations. The air stripper emission sample is collected as a grab sample while the ambient air samples are collected as composite samples. The GWTP sample is collected over 8 hours to represent a workday and the downwind sample is collected over 24 hours to represent potential exposure to an off-site receptor[1]. The downwind sample is collected at the closest downwind property boundary based on prevailing wind direction.

PID data (after system calibration) are collected each time the GWTP is operated and serve as a real-time indicator of ambient air conditions at and downwind of the GWTP. Correlations between definitive analytical air data and PID measurements were established and a method to calculate contaminant concentrations from PID measurements was developed. A PID threshold of 0.4 parts per million (ppm) by volume in ambient air was established, such that Summa canister measurements would occur when the PID threshold is exceeded.

The Summa canister samples are analyzed for VOCs in accordance with USEPA Method TO-15 from the *Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air – Second Edition* (EPA/625/R-96/010b), USEPA, January 1999. The PID measurements are collected after instrument calibration. The air sampling results are summarized and reported to the USEPA and TCEQ in the GWTP quarterly reports; however, the air results are reviewed immediately upon receipt for the potential presence of any exceedances of ambient air concentrations. **Appendix G** (**Tables 1** through **3**) includes a comparison of ambient air concentrations with TCEQ Air Monitoring Comparison Values (AMCVs) or the short-term Effects Screening Levels (ESLs) for chemicals with no published AMCVs, calculations of emission rates from the emission point, and a compilation of PID results and calibration records. The air

[1] Off-site receptor - Any recreational area, residence, commercial/industrial facility, or other normally occupied structures not used solely by the owner or operator of the facilities or the owner of the site upon which the facilities are located. Measurements of distances to determine compliance with this distance restriction must be taken toward structures that are in use as of the date that a notification is filed with the commission.

monitoring results to date indicate that all ambient air concentrations are lower than the AMCVs or ESLs. The stripper stack sample concentrations are used to calculate emission rates in pounds per hour (lbs/hr) and tons per year (tpy). The calculated emission rates in lbs/hr are then compared to the allowable emission rates per 30 Texas Administrative Code (TAC) Section 106.533(f)(1). The emission rates have been lower than the allowable emission rates to the conservatively-selected off-site receptor. The calculated emission rate in tpy is compared to the allowable limit of 5 tpy per chemical. All emission rates have been lower than the allowable emission rates.

The air monitoring results from the first few months of operation between September and November 2012 were compiled and submitted in a separate report (December 2012) (along with validated data) to TCEQ to demonstrate compliance with Texas Permit by Rule emission standards. Approval of the analytical results and concurrence that the site will continue to meet Title 30 TAC Section 106.533 without the use of air abatement using a catalytic oxidation system was obtained from the TCEQ via email on 22 February 2013.

On 18 February 2013, AECOM presented analysis of the approach applicable to obtaining a variance for operating the GWTP without air abatement equipment to the TCEQ and USEPA. The analysis indicated that the use of an Explanation of Significant Difference (ESD) was the appropriate approach for the site. Approval of use of an ESD was obtained from the USEPA via email on 21 March 2013. The ESD was developed, reviewed, and accepted by USEPA and TCEQ. The ESD was signed by the designated parties on 3 April 2014, and concurrence from the TCEQ was obtained in a letter dated 16 April 2014.

5.2 Air Monitoring Results for the 3rd Quarter of 2023

During the 3rd Quarter of 2023, air sampling was completed on 28 and 29 August 2023. The laboratory data package is presented in **Appendix E.** A summary of the air sampling results is presented in **Appendix G** (**Tables 1, 2,** and **3**). All results met the criteria described in Section 5.1.

5.2.1 Summa Canister Monitoring Results

Air sampling was conducted using Summa canisters on 28 and 29 July 2023. The samples were collected and analyzed as described in Section 5.1 and per the Interim Air Monitoring Plan (AECOM, August 2012). The analytical results were then compiled in spreadsheets where calculations were completed and comparisons to applicable criteria were made as described in Section 5.1.

5.2.1.1 Ambient Air Results

In August 2023, acetone; trichloroethene (TCE); n-hexane; toluene; dichlorodifluoromethane (CFC 12); ethanol; trichlorofluoromethane (CFC 11); trichlorotrifluoroethane (CFC 113); cis-1,2-Dichloroethene (DCE) and carbon disulfide were detected in the ambient air at the GWTP.

Compounds originating at the GWTP would be expected to have lower concentrations in the downwind sampling location than at the GWTP sampling location. However, the fact that the compounds acetone, benzene, carbon disulfide, methylene chloride (MC), n-hexane, toluene,

ethylbenzene, m,p-Xylenes, o-Xylene, CFC 12, ethanol, CFC 11, CFC 113, alpha-Pinene, and d-Limonene were detected in downwind ambient air, suggests that they are present in the ambient (background) air.

The ambient air results during the quarter met the ambient air criteria, with the exception of carbon disulfide detected at 78 micrograms per cubic meter ($\mu g/m^3$) in the ambient air at the GWTP, as presented in **Table 1** within **Appendix G**.

5.2.1.2 Air Stripper Effluent Results

The VOCs present in groundwater that are removed via the air stripper include 1,1- DCE; 1,2-dichloroethane (DCA); cis-1,2-DCE; MC; TCE; tetrachloroethene (PCE); vinyl chloride (VC); CFC 12; and CFC 113. These compounds are frequently reported in groundwater at the site, with the exception of CFC 113 which is not typically a groundwater analyte at LHAAP. The compound CFC 113 may be present in groundwater based on limited analysis conducted in December 2013, where it was detected in several wells. Many of the chemicals that are reported in ambient air are not detected in the air stripper effluent. This is likely because the reporting limit for the air stripper effluent is higher than the reporting limit for the ambient air samples or the source for some of these chemicals are extraneous to groundwater.

In August 2023, PCE; 1,1-DCE; 1,2-DCA; cis-1,2-DCE; MC; TCE; VC; and CFC 113 were detected in air stripper effluent. The highest concentrations were for cis-1,2-DCE; TCE; and CFC 113. However, the air stripper effluent concentrations were below the emission criteria, as presented in **Table 2** within **Appendix G**.

5.2.2 PID Results

Along with collection of Summa canister air samples, PID measurements from the same sources/areas were collected and recorded. These simultaneous measurements allowed establishing a correlation between PID readings and VOC concentrations in the Summa canister air samples. Conversion from PID to compound concentrations was established by TCEQ in 30 TAC Section106.533(h). The TCEQ equation allows use of a PID to determine individual compound concentrations if the distribution of chemicals in the ambient air is known or assumed. This allows the use of a PID as a tool to measure VOC concentrations and convert the PID results to estimates of compound concentrations. Ambient air PID measurements collected during this quarter were reported at 0.0 ppm. No VOCs were detected at the GWTP ambient air or downwind PID locations. During the 3rd Quarter of 2023, VOC detections at the air stripper PID location ranged between 21.1 ppm and 25.9 ppm at the sampling event. The results of the PID readings collected during GWTP operations are presented in **Table 3** within **Appendix G**.

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6 COMMENTS AND RESPONSES

The 2nd Quarter (April-June) 2023 GWTP Evaluation Report was submitted to TCEQ and USEPA on 31 October 2023. Revisions based on the following comments have been incorporated into this 3rd Quarter (July-September) 2023 GWTP Evaluation Report or will be integrated into the 4th Quarter (October-December) 2023 GWTP Evaluation Report. The only exception is the addition of information into Appendix E as noted below, which was issued via change pages.

The TCEQ provided the following comments on 27 November 2023:

TCEQ Comment 1: Figure ES-2: Please make this figure larger on the page.

> **Response to TCEQ Comment 1:** Concur. Figure ES-2 will be expanded on the page starting with the 3rd Quarter 2023 GWTP Evaluation Report.

TCEQ Comment 2: Figure 2-1: The labels on X-axis are cut off. You could revise labels to 2023 Q1 (for example).

> **Response to TCEQ Comment 2:** Concur. The labels on the X-axis will be formatted to Quarter – Year, starting with the 3rd Quarter 2023 GWTP Evaluation Report.

TCEQ Comment 3: 1.2.4: New Section, please change the title from "Emergency Responses" to "Non-Routine Maintenance".

> **Response to TCEQ Comment 3**: Concur. The section titled "Emergency Responses" will be changed to "Non-Routine Maintenance" starting in the 3rd Quarter Evaluation Report.

TCEQ Comment 4: 2.4: Add details about the screened interval and how the driller attempted to confirm it is completed in the same interval as 18WW08. The well log does not include much information. Are there any photographs of the soil cores you could add to Appendix E?

> **Response to TCEQ Comment 4:** Concur. Appendix E of the 2nd Quarter Evaluation Report will be revised via change pages. The drilling log will be digitized, a note will be added to the drilling log explaining the selection of the screened interval and a copy of the 18WW08 drilling log will be included for reference. Photographs of the soil cores were not obtained during well installation.

TCEQ Comment 5: 2.5: Should the last sentence reference June/August 2023? Suggest you clarify the August results are limited to results from the newly installed well.

> **Response to TCEQ Comment 5:** Concur. The time period of results will be accurately reflected in the 3rd and 4th Quarter Evaluation Reports.

TCEQ Comment 6: 2.5.1: Heading references June/August 2023. Should the 2nd quarter report (April-June) include the August 2023 sample results? If revised, see also Table 6 and 2.5.2.1. Suggest you clarify the August results are limited to results from the newly installed well.

> **Response to TCEQ Comment 6:** Concur. The time period of results will be accurately reflected in the 3rd and 4th Quarter Evaluation Reports.

TCEQ Comment 7: 5.1: Please change the 2nd sentence to "An Interim Air Monitoring Plan was developed and used to implement the air monitoring program in 2012." I believe the interim plan was only used in this transition period when the air stripper was removed and before the ESD was implemented. The revision from the previously used language makes it seem the interim plan is still applicable and that it is a "draft".

> **Response to TCEQ Comment 7:** Concur. The sentence "An Interim Air Monitoring Plan was developed and used to implement the air monitoring program in 2012." will replace the previously used statement starting in the 3rd Quarter Evaluation Report.

TCEQ Comment 8: Table 6: Please adjust column widths and (maybe) include fewer columns per page so the table is legible. The table in Q1 was more legible than the table in Q2 report. The width of the columns seems to be one difference between the two reports, and that contributes to making the font size very small.

> **Response to TCEQ Comment 8:** Noted. The column widths in Table 6 will be adjusted to increase legibility starting in the 4th Quarter Evaluation Report.

TCEQ Comment 9: Figures B-1 through B-4: The notes and title boxes are still not legible at a reasonable zoom. Please try to increase the font size in those areas (which are a much smaller font than the rest of the figure). I do appreciate that the well labels and elevation are legible. For comparison, the font sizes on the D series figures are legible.

> **Response to TCEQ Comment 9:** Concur. The font size on the notes and title boxes will be increased for figures starting in the 3rd Quarter Evaluation Report.

TCEQ Comment 10: Appendix K: Please create a clear and legible version of the Daily Calibration Log for use and discard any illegible printed forms in-stock at the plant. I thought this would happen eventually without intervention, but it hasn't, and the form is getting worse.

> **Response to TCEQ Comment 10:** Concur. A new Daily Calibration Log will be used moving forward.

The USEPA provided the following comments on 23 January 2024:

USEPA Comment 1: Executive Summary, table ES-1, 1st paragraph, last sentence, Awkwardly constructed sentence — appears to be something missing between "sand filter" and "preventing future flow restrictions."

> **Response to USEPA Comment 1:** Concur. The sentence will be changed to "The new clarifier pump ensures the removal of suspended solids within the clarifier tank and prevents future flow restrictions within the sand filter" starting in the 3rd Quarter Evaluation Report.

USEPA Comment 2: Section 1.1.2, p. 1-9, 2nd unnumbered table (GWTP Air Compressors, Operating Parameters), the abbreviation "psi" is not defined in a "Note" row (in same manner as is used in 1st and 4th tables on same page (p. 1-9).

Response to USEPA Comment 2: Concur. The abbreviation "psi" will be defined within the table and in a notes row as "pounds per square inch" starting in the 3rd Quarter Evaluation Report.

USEPA Comment 3: Section 2.2, p. 2-2, 4th paragraph (begins with "Groundwater levels in Wilcox Formation…"), given this paragraph discusses "groundwater highs" in the Wilcox Formation potentiometric-surface map for June 2023, it would be helpful to also discuss the "groundwater low" centered on well 18CPTMW03SW.

Response to USEPA Comment 3: Concur. The following statement will be added to the 3rd Quarter Evaluation Report: "A groundwater low is present in the Wilcox formation, whereby groundwater flows inwardly towards 18CPTMW03SW from the northeast, northwest, and southwest."

USEPA Comment 4: Section 2.2, p. 2-2, 4th paragraph (begins with "Groundwater levels in Wilcox Formation…"), last sentence, sentence indicates groundwater across the rest of the site (not associated with the groundwater highs) flows in a north-northwest direction towards Caddo Lake. This description of flow direction is not entirely accurate because the Wilcox Formation potentiometric-surface maps (figs. B-3 and B-4) indicate groundwater flows in other directions in the southern, southwestern, and southeastern areas outside of the IRP area boundary (yellow line).

Response to USEPA Comment 4: Concur. The sentence will be changed to **"**Across the rest of the site, Wilcox Formation groundwater flows primarily in a north-northwest direction, towards Caddo Lake, although groundwater flows in other directions in the southern, southwestern, and southeastern areas outside of the IRP boundary", starting in the 3rd Quarter Evaluation Report.

USEPA Comment 5: Section 2.3, p. 2-3, 2nd paragraph, 3rd sentence, sentence indicates average daily extraction rate from ICTs was approximately 2,213 gpd in May 2023—this is incorrect because 84,772 gallons/31 days (# days in May) = 2,734.58 gpd ~2,735 gpd.

Response to USEPA Comment 5: Concur. It's noted that the average daily extraction rate was misrepresented for May 2023. The ICT daily extraction rate will accurately reflect the data starting in the 3rd Quarter Evaluation Report.

USEPA Comment 6: Section 2.5.1, p. 2-4, 1st paragraph, 1st sentence, Sentence indicates lowest perchlorate exceedance for June/August 2023 was 51.9 ug/L in well MW-102. This is incorrect because table 6 and fig. D-1 indicate perchlorate was measured at a concentration of 57.3 ug/L in well MW-102. The lowest exceedance for June/August 2023 was at well 18CPTMW15, where perchlorate was measured at a concentration of 54.7 ug/L in the duplicate sample.

Response to USEPA Comment 6: Concur. Monitoring well 18CPTMW15 in the shallow zone, non-duplicate sample, has a perchlorate concentration of 51.9 ug/L, which is the lowest perchlorate exceedance. However, the sentence states the incorrect well. The text will be updated to accurately reflect the well with the lowest perchlorate exceedance starting in the 4th Quarter 2023 Evaluation Report.

USEPA Comment 7: Section 2.5.1, p. 2-4, 1st paragraph, 2nd sentence, based on contour intervals shown in figs. D-1–D-6, believe it would be preferable to identify the highest perchlorate concentrations by using a >10,000 ug/L threshold to match the >10,000 ug/L contours used to identify the areas with highest concentrations on the maps. Thus, this sentence would include all of the currently identified wells plus one additional well (MW-120, with a concentration of 11,900 ug/L).

> **Response to USEPA Comment 7:** Concur. The highest perchlorate concentrations will be identified by using the >10,000 ug/L threshold to match the >10,000 ug/L contours on the maps starting with the 4th Quarter Evaluation Report.

USEPA Comment 8: Section 2.5.1, p. 2-5, 3rd paragraph, 2nd sentence, Sentence indicates detections of TCE in the shallow zone >300 ug/L during June–August 2023 were generally confined to the inside of the ICT boundary. This statement is incorrect because there were 8 wells outside of the ICT boundary with TCE detections greater than 300 ug/L during June–August 2023. Using the black-colored wells [identified as "outside ICTs"] in fig. D-3, the following wells had TCE concentrations >300 ug/L: MW-16, 18CPTM23, 109, MW-21, 8CPTM14, MW-7, MW-8, and MW-9.

> **Response to USEPA Comment 8:** Concur. The section will be updated to accurately reflect the location of wells with TCE detections greater than 300 ug/L starting in the 4th Quarter Evaluation Report.

USEPA Comment 9: Section 2.5.1, p. 2-5, 4th paragraph, last sentence, Use of "significant" or "significantly" should be reserved for discussions of statistical analysis and associated statistical significance/confidence. The "trends" discussed in this section of the report were not evaluated using statistical methods (trends analyses), and thus no "significance" in trends were statistically determined. Consequently, strongly suggest replacing "significant" or "significantly" with "substantial" or "substantially" wherever they occur in this section (and all sections) of this report.

> **Response to USEPA Comment 9:** Concur. The use of the word "significant" or "significantly" will be replaced with the word "substantial" or "substantially" when not referring to statistical analysis starting in the 4th Quarter Evaluation Report.

USEPA Comment 10: Section 2.5.1, p. 2-5, 5th paragraph, 3rd sentence, sentence indicates methylene chloride (MC) concentration in well MW-23 in December 2022 was 130 ug/L—this contradicts appendix F, which lists an MC concentration of 22 ug/L in the table below the figure.

> **Response to USEPA Comment 10:** Clarification. The sentence states "The elevated concentration of MC above the MCL (5 µg/L) in the shallow zone remains centered on MW-2 with a concentration of 74 µg/L. This is a decrease in the MC concentration reported in December 2022 at 130 µg/L and a significant decrease from the concentration in August 2022 at 15,000 µg/L." The sentence is speaking to MW-2, not MW-23.

USEPA Comment 11: Appendix F, Concentration data tabulated below trend lines, Several issues (applies to trend graphs for all wells):

1) Many nondetections are incorrectly reported as "0" values instead of being reported as less than some reporting level (should be reported as less than [<] values).
2) Less than ("<") symbols are missing for many nondetections, leading the reader (and authors of this report) to interpret some/many of the values presented below the graphs as detected concentrations.
3) Concentration values are missing for some constituents for some wells (e.g., methylene chloride and TCE concentrations for well MW-17 figure).
4) Data qualifiers are missing for some reported constituent concentrations (e.g., "J" qualifier for December 2022 methylene chloride concentration for well 120).
5) Commas are missing for many concentration values.

All values presented below these graphs need to be reverified and checked for items #1-5 above.

Response to USEPA Comment 11: Clarification. The excel software used to create the trend plots does not recognize symbols or letters. As a result, qualifiers such as 'J' cannot be added to the trend chart. For non-detects either a 0 needs to be entered or the data entered at the detection limit. It is recommended to recreate new trend plots without the excel generated data table attachment, starting with the 4th Quarter Evaluation Report.

USEPA Comment 12: 2.5.2.1, p. 2-6, 1st black bullet, 2nd sentence (and entire report), Use of "significantly" or "significant" should be reserved for discussions of statistical analysis and associated statistical significance/confidence. The "trends" discussed in this section of the report were not evaluated using statistical methods (trends analyses), and thus no "significance" in trends were statistically determined. Consequently, strongly suggest replacing "significantly" or "significant" with "substantially" or "substantial" wherever they occur in this section (and all sections) of this report.

Response to USEPA Comment 12: Concur. The use of the word "significant" or "significantly" will be replaced with the word "substantial" or "substantially" when not referring to statistical analysis starting in the 4th Quarter Evaluation Report.

USEPA Comment 13: Section 2.5.2.1, p. 2-7, 1st solid black bullet, 6th sentence, A space is missing between "December 2021" and "(3,600 ug/L)".

Response to USEPA Comment 13. Concur. Spaces will be used appropriately starting in the 3rd Quarter Evaluation Report.

USEPA Comment 14: Section 2.5.2.1, p. 2-8, 1st black bullet (well MW-21), 4th sentence, Sentence indicates perchlorate fluctuates seasonally at well MW-21. This appears to be true only through 2020—the appendix F figure for MW-21 indicates concentrations have consistently declined since then (5 samples collected over the following 2 years).

Response to USEPA Comment 14: Concur. The discussion surrounding MW-21 will be updated to reflect seasonal fluctuations as a historical trend, while stating concentrations have then declined since 2021 starting in the 4th Quarter Evaluation Report.

USEPA Comment 15: Section 2.5.2.1, p. 2-8, 2nd black bullet (well MW-22), Important to note steady (no intermittent declines) and substantial increase (~4.5 times) in perchlorate concentration in well MW-22 since June 2021 (484 ug/L in June 2021 and 2,230 ug/L in June 2023).

Response to USEPA Comment 15: Concur. The discussion surrounding MW-22 will be updated to include no intermittent declines and the substantial increase in perchlorate concentration since June 2021 starting in the 4th Quarter Evaluation Report.

USEPA Comment 16: Section 2.5.2.1, p. 2-8, 3rd solid black bullet (well MW-23), 2nd to last sentence, Sentence indicates MC was detected in well MW-23 at 10 ug/L in August 2022—believe this value is actually a non-detect reflecting a reporting limit of 10 ug/L. This is an example of why the tables below the various appendix F figures need to be scrutinized and revised where needed (see comment #11).

Response to USEPA Comment 16: Noted. As explained in the response to comment #11, the software will not recognize symbols or letters, therefore it is recommended to enter the data as the detection limit of 10 µg/L. It is recommended to recreate new trend plots without the excel generated data table attachment, starting in the 4th Quarter Evaluation Report.

USEPA Comment 17: Section 2.5.2.1, p. 2-9, 1st paragraph (continuation of well 109 discussion from previous page), 2nd to last sentence, Sentence indicates TCE fluctuates seasonally at well 109, but this does not appear to always be the case. Specifically, the appendix F figure for well 109 indicates this pattern is not consistent. The seasonal pattern is apparent only for the period of time from September 2011 to June 2016 and from June 2019 to about June 2021. However, evaluation of the seasonal pattern is somewhat hindered by the inconsistent time of sample collection throughout the period of record (spring/summer samples have not been consistently collected during the same month with time).

Response to USEPA Comment 17: Concur. Discussion surrounding seasonal fluctuation at 109 will be updated to reflect inconsistencies in sample collection time as well as in the overall trend starting in the 4th Quarter Evaluation Report.

USEPA Comment 18: Section 2.5.2.1, p. 2-9, 1st paragraph below bullet, 1st sentence (begins with "As of June 2023"), Sentence indicates perchlorate was detected at 0.10 ug/L—this concentration value is rounded because fig. D-1 and table 6 report 0.104 ug/L. Should determine applicable rounding for this measurement/constituent, and apply it consistently among report components.

Response to USEPA Comment 18: Concur. Data will be reported to the same number of significant digits as reported by the laboratory consistently across all report components starting in the 3rd Quarter Evaluation Report.

USEPA Comment 19: Section 2.5.2.2, p. 2-9, 1st solid black bullet, 2nd to last sentence (begins with "TCE was last detected"), Sentence indicates TCE was last detected in well C-03 at 5 ug/L in December 2019—believe this value is actually a non-detect reflecting a reporting limit of 5 ug/L. This conclusion is supported by the tabulated values below the figure—TCE concentrations of 0.5 ug/L are reported for 7 samples in a row (June 2019 through August 2022) and for the sample collected in June 2023. This is another example of why the values listed in the tables below the various appendix F figures need to be scrutinized and revised where needed (see comment #11).

Response to USEPA Comment 19. Noted. It is recommended to recreate new trend plots without the excel generated data table attachment, starting in the 4th Quarter Evaluation Report.

USEPA Comment 20: Section 2.6.2, p. 2-10, 1st paragraph, 2nd sentence, Sentence indicates sampling for effluent for VOCs was conducted on a monthly basis for May 2023—table 8 indicates this should be June 2023.

Response to USEPA Comment 20: Clarification. Table 8 provides bi-weekly sampling data of June 2023; however, Table 9 provides monthly sampling results dated May 22, 2023.

USEPA Comment 21: Fig. B-1, Contours, Several contours or portions of contours are highly inferred and should be dashed. At a minimum, recommend dashing the following:

1) In southwestern portion of map, recommend dashing western part of 172 ft contour line that encircles wells MW-18, 130, and 17WW08.
2) In southeastern portion of map, recommend dashing part of 172 ft contour line that intersects Groundwater Treatment Plant (portion south of Avenue Q).
3) In northern portion of map, recommend dashing eastern and western parts of 169 ft contour and all of 168 ft contour.

Response to USEPA Comment 21: Explanation. The potentiometric surface maps are created using software that creates the contours only where there is data control. Therefore, the potentiometric surface contours are not inferred as presented in the 2nd Quarter 2023 GWTP Report.

USEPA Comment 22: Fig. B-2, Contouring near well AWD-1, It looks like the 174 ft contour line could be extended to include well AWD-1 (this would eliminate the small 174 ft circular contour surrounding the well).

Response to USEPA Comment 22: Noted. Although this change would be consistent with the data, the current depiction also fits the data. No revision is recommended at this time.

USEPA Comment 23: Fig. B-2, Contours, Several contours or portions of contours are highly inferred and should be dashed. At a minimum, recommend dashing the following:

1) In southeastern portion of map, recommend dashing the part of the 171 ft contour line located south of Avenue Q.

2) In northeastern portion of map, recommend dashing the part of the 170 ft contour line north of the flow arrow located north of well 1824DPTMW04.

3) In northeastern portion of map, recommend dashing all of the short 171 ft contour near well C-06.

4) In northern portion of map, recommend dashing all of the 168 and 169 ft contours.

Response to USEPA Comment 23: Explanation. The potentiometric surface maps are created using software that creates the contours only where there is data control. Therefore, the potentiometric surface contours are not inferred as presented in the 2nd Quarter 2023 GWTP Report.

USEPA Comment 24: Fig. B-3, Contours, Several contours or portions of contours are highly inferred and should be dashed. At a minimum, recommend dashing the following:

1) In southeastern corner of map, recommend dashing all of 171 ft contour south of the flow arrow located between wells 18CPTMW07 and 18WW03 and dashing all of 170.50 ft contour line near well C-10.

2) In southern portion of map, recommend dashing all of 171.50 ft contour line surrounding well C-01.

3) In southwestern portion of map, recommend dashing parts of the 170.5 and 171 contours near LHAAP-17.

4) In southwestern portion of map, recommend dashing all of the 171.5 ft near well 18WW15.

5) In northern portion of map, recommend dashing all of the 168 and 168.5 ft contours and the eastern portion of the 169 ft contour.

Response to USEPA Comment 24: Explanation. The potentiometric surface maps are created using software that creates the contours only where there is data control. Therefore, the potentiometric surface contours are not inferred as presented in the 2nd Quarter 2023 GWTP Report.

USEPA Comment 25: Fig. B-4, Contours, Several contours or portions of contours are highly inferred and should be dashed. At a minimum, recommend dashing the following:

1) In southeastern portion of map, recommend dashing all of the 170.5 ft contour line south of where it touches the eastern corner of the IRP area boundary (yellow line).

2) In southern and southeastern portion of map, recommend dashing part of 171 ft contour beginning where it turns south after intersecting Avenue Q and dashing the western part of the same contour where it intersects LHAAP-17 (and continuing westward).

3) In southwestern portion of map, recommend dashing the 171.5 ft contour near well 18WW15.

Response to USEPA Comment 25: Explanation. The potentiometric surface maps are created using software that creates the contours only where there is data control. Therefore, the potentiometric surface contours are not inferred as presented in the 2nd Quarter 2023 GWTP Report.

USEPA Comment 26: Figs. D-1 and D-3, Well MW-102, The "MW-" identifier prefix is missing for well MW-102 (well is located in southern corner of IRP area (yellow line).

Response to USEPA Comment 26: Clarification. Monitoring well 102 does not have a prefix "MW" in the well identification. No change recommended.

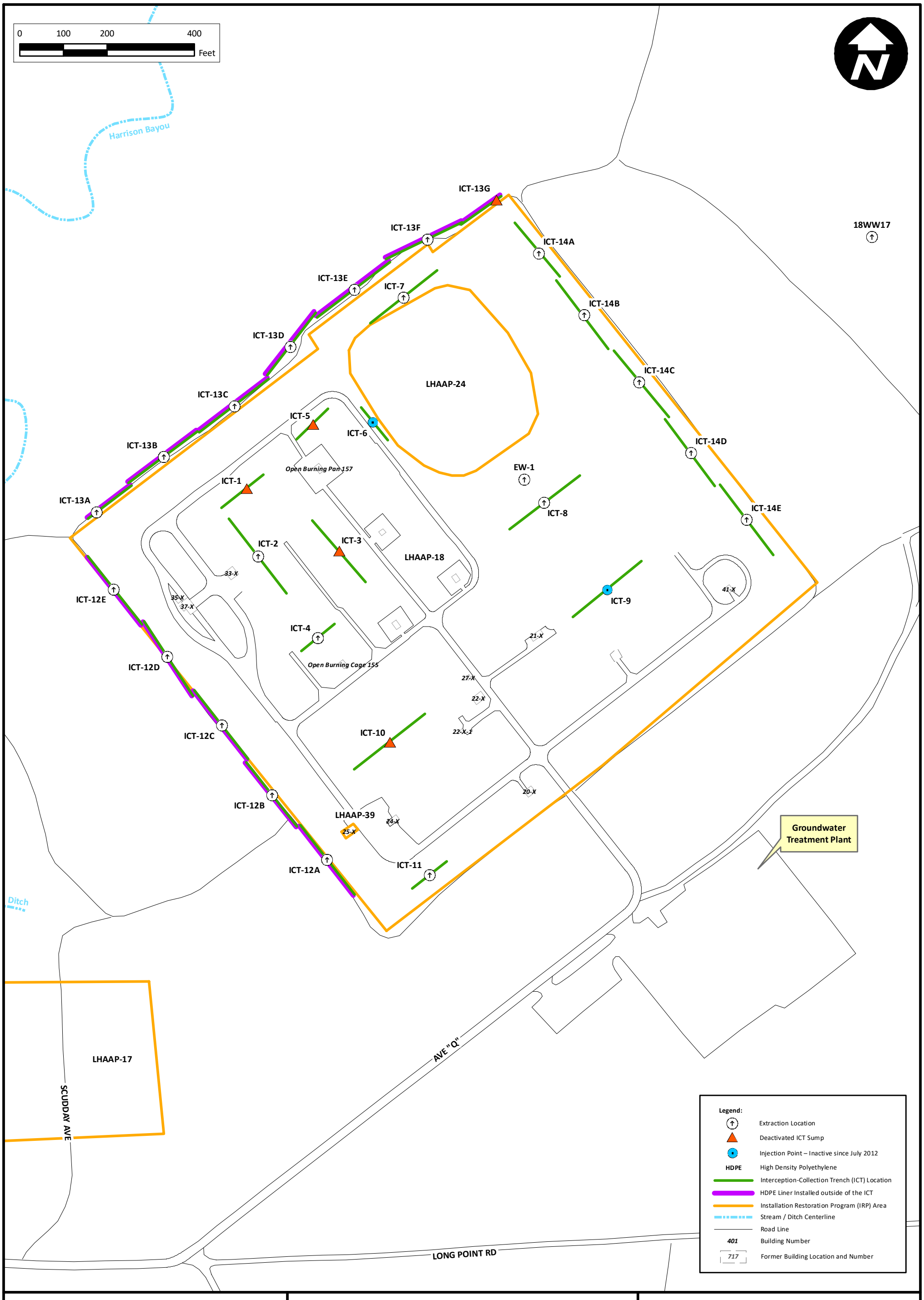
USEPA Comment 27: Fig. D-3, AWD-3, Recommend using a hachured contour line for the 500 ug/L circular contour line surrounding well AWD-3 because the concentration is less than the concentration range for surrounding wells (as defined by the surrounding 1,000 ug/L contour line).

Response to USEPA Comment 27: Concur. A hachured contour line will be considered for the potentiometric surface maps to indicate depressions starting in the 4th Quarter Evaluation Report.

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APPENDIX A
ICT LAYOUT MAP AND GWTP PROCESS FLOW DIAGRAM

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PCIbhate

Quarterly Evaluation Report
Groundwater Treatment Plant
Longhorn Army Ammunition Plant, Karnack, Texas

PROJECT NO:	SCALE:	DATE:	DRAWN BY:
JVPCIBH.0001.0005.03	As Shown	3/19/2024	MRM

ICT Layout Map

Figure A-1

01246177

PROCESS WATER FROM SUMP COLLECTION

FLOW MONITORING METER FIT-140

GROUNDWATER FROM BURNING GROUNDS AND SITE 17

TK-140 EQUALIZATION 300,700 GAL.

FLOW MONITORING METER FIT-172

TK-200A ORP 5,900 GAL.

TK-200B pH 5,700 GAL.

TK-200C POLYMER 3,400 GAL.

POLYMER POTABLE WATER

METALS TREATMENT

TK-240 CLARIFIER 10,000 GAL.

FL-290 SAND FILTER

TK-640 BACK WASH TANK

TK-300 STRIPPER FEED TANK 22,800 GAL.

FLOW MONITORING METER FIT-322

TK-140 Sampling Spigot

VENT HEADER

TK-530 8,670 GAL.

TK-510B 8,670 GAL.

TK-510A 8,670 GAL.

DECANT

DECANT

FILTER PRESS MAKEUP WATER SOURCE

SAND FILTER BACKWASH WATER SOURCE

VENT TO ATMOSPHERE

RECYCLE

FILTER CAKE FOR DISPOSAL

BELT PRESS BFP-560

SOLIDS REMOVAL

COLLECTION FROM FLOOR DRAINS IN CONTAINMENT AREA AND FROM DECON PAD

SUMP

TO TK 140

ELECTRON DONOR SUBSTRATE TANK 55 GAL. DRUM

TK-103 NUTRIENT TANK

P-104

P-103

FILTER PRESS MAKEUP WATER

SAND FILTER BACKWASH WATER

CARBON FILTER

T-330 AIR STRIPPER

TK-630 EFFLUENT STORAGE 127,000 GAL.

P-175

FLOW MONITORING METER FIT-103

Recycle

Liquid Phase Adsorber Protect™ LM-36 Series

VOLATILE ORGANICS TREATMENT

P-101A

P-101B

T-101 FBR

TK-650 1,000 GAL.

P-641

P-642

TO INF POND

TO HARRISON BAYOU

TO IRRIGATION AT BURNING GROUNDS

PERCHLORATE TREATMENT

TK-650 Sampling Spigot

FLOW MONITORING METER FIT-686

NOTES:

GAL.	GALLON
TK or T	TANK
BFP	BELT FILTER PRESS
P	PUMP
FL	FILTER
FBR	FLUIDIZED BED REACTOR
I/X	ION EXCHANGE

Process Flow Diagram

Figure A-2

Quarterly Evaluation Report
Groundwater Treatment Plant
Longhorn Army Ammunition Plant, Karnack, Texas

DRAWN BY: MRM

DATE: 3/19/2024

SCALE: Not to Scale

PROJECT NO: JVPCIBH.0001.0005.03

PCIbhate

Table A-1: ICT Characteristics

ICT	TOC Elevation	Total Depth	Sump Elevation	Comment
1	186.07	22.5	163.57	Taken out of service in 2007.
2	185.02	29.5	155.52	
3	192.27	37.75	154.52	Taken out of service in 2007.
4	193.51	37.5	156.01	
5	192.67	35	157.67	Taken out of service in 2007.
6	197.30	40.75	156.55	Converted to infiltration in 2007. Ceased reinjection in July 2012.
7	198.03	32.33	165.7	
8	198.97	44.5	154.47	
9	197.64	45.5	152.14	Converted to infiltration in 2007. Ceased reinjection in July 2012.
10	198.07	45.42	152.65	Taken out of service in 2007.
11	198.01	43.33	154.68	
12A	189.06	31.5	157.56	Taken out of service in 2007. Reinstituted in December 2012.
12B	191.97	36.25	155.72	
12C	193.90	34.33	159.57	
12D	185.64	33.75	151.89	
12E	183.38	32.25	151.13	
13A	182.59	28.17	154.42	
13B	184.72	29.58	155.14	
13C	186.13	28.17	157.96	
13D	186.72	26.17	160.55	
13E	191.79	27.08	164.71	
13F	197.81	32.33	165.48	
13G	197.03	27.25	169.78	Taken out of service in 2008.
14A	196.8	43.00	153.8	
14B	197.61	43.42	154.19	
14C	197.86	41.33	156.53	
14D	198.47	44.25	154.22	
14E	198.47	43.08	155.39	

Note(s):

ICT - interception-collection trench

TOC - top of casing, measuring point for groundwater elevations

Elevations are reported as feet above mean sea level.

Total depths are reported as feet below TOC.

Sump elevation is calculated by subtracting total depth from TOC elevation.

ICTs were installed in 1998.

ICT 12A was replaced on December 5, 2012, and extraction has resumed.

TOC Elevations and total depth measured in October 2003, 4th Quarter 2003, Groundwater Treatment Plant Report.

Table A-2: Extraction Equipment Maintenance Since 2011

LHAAP-18/24

Well I.D.	Replaced Parts	Date	Contractor
ICT 14E	Pump	3/15/2012	Shaw
ICT 14D	Pump, motor, level probes	3/16/2012	Shaw
ICT 14B	Pump, level probes, level probe wire	3/16/2012	Shaw
ICT 14A	Pump, motor, level probes, level probe wire	3/17/2012	Shaw
ICT 2	Pump, motor	3/17/2012	Shaw
ICT 13D	Pump	3/19/2012	Shaw
ICT 13B	Pump	3/20/2012	Shaw
ICT 14E	Pump, motor, broken piping	11/19/2012	AECOM
ICT 13C	Pump	11/20/2012	AECOM
ICT13E	Pump	11/20/2012	AECOM
ICT 12A	Pump, motor, wiring harness, level probes, level probe wire	12/5/2012	AECOM
ICT 7	Pump, motor, wiring harness, level probes	12/6/2012	AECOM
ICT2	Pump	6/10/2013	AECOM
ICT 13C	Pump	6/11/2013	AECOM
ICT 13D	Pump	6/12/2013	AECOM
ICT 14E	Pump rebuilt	6/15/2013	AECOM
ICT 14E	Replaced low level switch	6/19/2013	AECOM
ICT 13C	Pump, wiring harness, flow meter	4/15/2014	AECOM
ICT 14D	Repaired level probes	6/24/2014	AECOM
ICT 14E	Repaired level probes	6/24/2014	AECOM
ICT 14E	Pump and motor troubleshooting	6/26/2014	AECOM
ICT2, 13F, 14C, 14D, 14E	Repaired level probes	7/7/2014	AECOM
ICT 12E	Pump, motor	10/2/2014	AECOM
ICT 12E	Wiring harness, fixed leak	10/8/2014	AECOM
ICT 12E	Level probes	10/9/2014	AECOM
ICT13A	Pump, piping	10/15/2014	AECOM
ICT 12E	Repaired leaking fittings	10/16/2014	AECOM
ICT 11	1" tee and 1" elbow	1/13/2015	AECOM
ICT 12B	Flow meter	1/13/2015	AECOM
ICT 7	1" tee, repaired 1" pipe	1/13/2015	AECOM
ICT 13A	Flow meter	1/15/2015	AECOM
ICT 13B	Pump	1/15/2015	AECOM
ICT 13C	Pump	1/16/2015	AECOM
ICT 7	Low level probe	1/16/2015	AECOM
ICT 13D	Pump, level probes	1/17/2015	AECOM
ICT 14C	Low level probe	1/17/2015	AECOM
ICT 14C	Low level probe	1/29/2015	AECOM
ICT 14D	Low level probe	1/29/2015	AECOM
ICT 13D	Level probes	1/29/2015	AECOM
ICT 2	Pump	1/30/2015	AECOM
ICT 8	Fuse	3/2/2015	AECOM
ICT 8	Fuse	3/9/2015	AECOM
ICT 12E	Flow meter	3/13/2015	AECOM
ICT 13D	Union	3/13/2015	AECOM
ICT 14C	Cleaned level probes	4/1/2015	AECOM
ICT 14D	Cleaned level probes	4/1/2015	AECOM
ICT 13A	Cleaned level probes	4/21/2015	AECOM
ICT 14C	Cleaned level probes	4/21/2015	AECOM
ICT 8	Low level probe	7/24/2015	AECOM
ICT 13C	Installed New Pump	7/28/2015	AECOM

Table A-2: Extraction Equipment Maintenance Since 2011

Well I.D.	Replaced Parts	Date	Contractor
ICT 14C	Installed New Pump and Electric Motor	7/29/2015	AECOM
ICT 14E	Installed New Pump and Electric Motor	7/31/2015	AECOM
ICT 12E	Repaired wiring	8/12/2015	AECOM
ICT 13E	Replaced high and low level probes	8/12/2015	AECOM
ICT 2	Installed Rebuilt Pump	9/9/2015	AECOM
ICT 12 E, ICT 14E	Replaced high level probe and wiring	9/15/2015	AECOM
ICT 13A	Installed new pump	12/23/2015	AECOM
ICT 13B	Installed new pump	12/24/2015	AECOM
ICT 13D	Replaced high level probe	2/11/2016	Aerotek
ICT 14C	Replace low level probe on ICT 14C	2/15/2016	Aerotek
ICT 8	Installed new pump and electric motor	2/19/2016	Aerotek
ICT 14C	Repaired piping leak	3/10/2016	Aerotek
ICT 14E	Installed high and low level probes, level probe wire	3/22/2016	Aerotek
ICT 13D, ICT 14B	Installed high and low level probes, level probe wire	3/24/2016	Aerotek
ICT 14B	Installed new pump and electric motor	3/31/2016	Aerotek
ICT 14C	Installed new low level probe	4/20/2016	Aerotek
ICT 12B	Installed new mechanical flow meter	6/16/2016	Aerotek
ICT 13C	Installed rebuilt pump and new flow meter	8/10/2016	Aerotek
ICT 13A	Installed rebuilt pump, new flow meter, and new 1" unions	8/24/2016	Aerotek
ICT 14E	Installed new mechanical flow meter	8/26/2016	Aerotek
ICT 12C	Repaired flow meter	8/30/2016	Aerotek
ICT 2	Installed rebuilt pump and new flow meter	8/31/2016	Aerotek
ICT 14C	Cleaned and adjusted level probes	9/7/2016	Aerotek
ICT 14C	Replaced level probes	9/12/2016	Aerotek
ICT 14C	Installed new level probe wire and level probes	9/21/2016	Aerotek
ICT 12C	Installed rebuilt pump, new electric motor, new wiring harness, new level probe wire, and new level probes	9/27/2016	Aerotek
ICT 14C	Cleaned and adjusted level probes	10/14/2016	Aerotek
ICT 13C	Cleaned and adjusted level probes	10/21/2016	Aerotek
ICT 13B	Installed rebuilt pump	10/25/2016	Aerotek
ICT 14D	Installed rebuilt pump	10/27/2016	Aerotek
ICT 13C	Replaced low level probe	11/8/2016	Aerotek
ICT 13B	Replaced relay base plate	11/8/2016	Aerotek
ICT 13E	Cleaned and adjusted low level probe	11/15/2016	Aerotek
ICT 13B	Replaced broken relay base plate and bad level probe wire	11/17/2016	Aerotek
ICT 13C	Cleaned & repaired leaking flow meter	11/18/2016	Aerotek
ICT 13B	Cleaned & adjusted low level probe	11/18/2016	Aerotek
ICT 13A, 13B, & 13E	Clean and adjust low level probes	12/2/2016	Aerotek
ICT 13C & 14C	Pulled piping and pumps	2/8/2017	Aerotek
ICT 14C	Installed new electric motor	2/8/2017	Aerotek
ICT 13C & 14C	Installed rebuilt grundfos pumps	2/8/2017	Aerotek
ICT 7, 13A, & 14D	Repaired sample ports	2/9/2017	Aerotek
ICT 13B & 14E	Cleaned and adjusted low level probes	3/30/2017	Aerotek
ICT 13B & 13F	Installed new flow meters	3/30/2017	Aerotek
ICT 12B	Repair flow meter	4/13/2017	Aerotek
ICT 12C	Replace broken 1" tee	5/1/2017	Aerotek
ICT 11	Installed new manual flow meter	5/5/2017	Aerotek
ICT 2	Installed new flow meter	5/9/2017	Aerotek
ICT 14C & 14D	Cleaned and adjusted low level probes	5/31/2017	Aerotek
ICT 14C	Cleaned and adjusted low level probe	6/27/2017	Aerotek
ICT 8	Cleaned low level probe	7/11/2017	Aerotek
ICT 2 & 14D	Cleaned and replaced level probes	7/17/2017	Aerotek
ICT 14C	Cleaned low level probe	7/24/2017	Aerotek

Table A-2: Extraction Equipment Maintenance Since 2011

Well I.D.	Replaced Parts	Date	Contractor
ICT 13A	Installed new pump and flow meter	8/8/2017	Aerotek
ICT 13C & 13B	Installed new pump and flow meter	8/9/2017	Aerotek
ICT 13B	Installed new low level probe	8/10/2017	Aerotek
ICT 11	Installed new pump and flow meter	8/11/2017	Aerotek
ICT 4	Replaced low level probe	8/11/2017	Aerotek
ICT 2	Installed rebuilt pump	9/19/2017	Aerotek
ICT 13D	Adjusted level probes	9/22/2017	Aerotek
ICT 14C	Cleaned level probes	10/11/2017	Bhate
ICT 13E	Clean and adjust level probes	10/24/2017	Bhate
ICT 12B	Adjusted level probes	11/15/2017	Bhate
ICT 14D	Cleaned level probes	11/15/2017	Bhate
ICT 8	Cleaned and adjusted level probes	11/28/2017	Bhate
ICT 2	Cleaned level probes	12/20/2017	Bhate
ICT 13C	Install new flow meter	1/30/2018	Bhate
ICT 14C	Cleaned level probes	1/30/2018	Bhate
ICT 13C	Cleaned & adjusted level probes	2/1/2018	Bhate
ICT 13B	Repaired broken 1" union	2/1/2018	Bhate
ICT 14A	Repaired 2 broken 1" elbows & lower high level probe	2/1/2018	Bhate
ICT 14B	Repaired broken 1" tee & lower high level probe	2/1/2018	Bhate
ICT 14D	Installed new flow meter	2/8/2018	Bhate
ICT 8	Replaced broken 1" tee & clened level probes	2/8/2018	Bhate
ICT 14D	Cleaned level probes	2/28/2018	Bhate
ICT 14C	Replaced low level probe	2/28/2018	Bhate
ICT 13B	Cleaned level probes	2/28/2018	Bhate
ICT 13A	Installed new motor & replace leaking 1" union	3/14/2018	Bhate
ICT 13C	Cleaned & adjusted level probes	3/21/2018	Bhate
ICT 12B	Replaced broken 1" elbow & install new flow meter	3/21/2018	Bhate
ICT 2	Installed new pump	3/22/2018	Bhate
ICT 13B	Replaced level probes	3/30/2018	Bhate
ICT 14E	Lowered high level probe	3/30/2018	Bhate
ICT 14C	Cleaned level probes	4/27/2018	Bhate
ICT 11	Installed new breaker	4/27/2018	Bhate
ICT 14E	Cleaned level probes	6/7/2018	Bhate
ICT 12C	Cleaned level probes	6/7/2018	Bhate
EW 01	Cleaned level probes	6/7/2018	Bhate
ICT 14E	Replaced level probes	6/8/2018	Bhate
ICT 11	Installed new electrical wire from breaker to well	6/14/2018	Bhate
ICT 12B	Replaced pump	6/25/2018	Bhate
ICT 14E	Cleaned level probes	6/26/2018	Bhate
ICT 8	Cleaned level probes	6/26/2018	Bhate
ICT 14C	Replaced pump	6/27/2018	Bhate
EW01	Replaced level probes	9/12/2018	Bhate
ICT 7	Cleaned level probes	9/12/2018	Bhate
ICT 12C	Replaced low level probe wire and probe	9/12/2018	Bhate
ICT 14D	Replaced high level probe wire & probe	9/13/2018	Bhate
ICT 12B	Replaced high and low level probe wires & probes	9/13/2018	Bhate
ICT 12B	Replaced electrical relay and relay base plate	9/13/2018	Bhate
ICT 14C	Cleaned level probes	9/13/2018	Bhate
ICT 13E	Replaced flow meter	9/14/2018	Bhate
ICT 14D	Replaced low level probe	10/31/2018	Bhate
ICT 8	Cleaned level probes	10/31/2018	Bhate
ICT 14C	Cleaned level probes	10/31/2018	Bhate
ICT 13A	Replaced broken 1" Tee	12/12/2018	Bhate
ICT 14C	Cleaned level probes	12/12/2018	Bhate
ICT 13A	Installed new flow meters	2/14/2019	Bhate

Table A-2: Extraction Equipment Maintenance Since 2011

Well I.D.	Replaced Parts	Date	Contractor
ICT 12D	Replace pump & motor	3/6/2019	Bhate
ICT 13C	Replace pump	3/8/2019	Bhate
ICT 2	Replace pump & flow meter	3/11/2019	Bhate
ICT 14C	Replace pump & motor	3/12/2019	Bhate
ICT 14D	Replace pump	3/12/2019	Bhate
ICT 14E	Replace pump, seal plate & level probes	3/14/2019	Bhate
ICT 14A	Replace pump and repair leaking 1" pipe	3/15/2019	Bhate
ICT 13C	Lower high level probe	3/22/2019	Bhate
ICT 14A	Lower high level probe	3/22/2019	Bhate
EW-01	Replace pump	3/29/2019	Bhate
ICT 8	Clean level probes	4/1/2019	Bhate
ICT 12C	Clean level probes	4/1/2019	Bhate
ICT 13D	Clean level probes	4/1/2019	Bhate
ICT 14E	Replace bad relay	4/2/2019	Bhate
ICT 12A	Replace flow meter	4/3/2019	Bhate
ICT 13F	Replace flow meter	4/3/2019	Bhate
ICT 13D	Replace low level probe	4/3/2019	Bhate
ICT 13C	Clean level probes	5/8/2019	Bhate
ICT 14 C	Clean level probes	5/8/2019	Bhate
ICT 12D	Replace bad relay	5/8/2019	Bhate
ICT 13A	Replace pump	7/10/2019	Bhate
ICT 13D	Replace pump	7/17/2019	Bhate
ICT 14C	Clean level probes	9/25/2019	Bhate
ICT 14D	Clean level probes	9/25/2019	Bhate
ICT 12D	Clean level probes	10/2/2019	Bhate
ICT 13B	Clean level probes	10/2/2019	Bhate
ICT 13C	Clean level probes	10/2/2019	Bhate
ICT 14E	Clean level probes	10/2/2019	Bhate
18WW17	Install double wall pipe	10/28/2019	Bhate
ICT 14C	Clean level probes	4/16/2020	Bhate
ICT 12B	Replace coil in electrical panel	5/5/2020	Bhate
ICT 14D	Replace coil in electrical panel	5/5/2020	Bhate
ICT 11	Replace broken 1" union	5/12/2020	Bhate
ICT 13E	Replace broken 1" union	5/12/2020	Bhate
ICT 14A	Replace broken 1" tee	5/12/2020	Bhate
ICT 14C	Clean level probes	5/12/2020	Bhate
ICT 14A	Clean level probes	5/12/2020	Bhate
ICT 7	Clean level probes	5/12/2020	Bhate
ICT 13C	Replace pump	5/13/2020	Bhate
ICT 13C	Replace broken 1" union and 1" nipple	5/13/2020	Bhate
ICT 13B	Replace pump	5/19/2020	Bhate
ICT 13B	Replace flow meter	5/19/2020	Bhate
ICT 2	Replace pump	5/20/2020	Bhate
ICT 4	Replace flow meter	9/29/2020	Bhate
ICT 8	Replace flow meter	9/29/2020	Bhate
ICT 12C	Repair flow meter	9/29/2020	Bhate
ICT 13C	Replace flow meter	9/30/2020	Bhate
ICT 14B	Replace flow meter	9/30/2020	Bhate
ICT 7	Replace flow meter	9/30/2020	Bhate
ICT 14E	Replace pump	10/6/2020	Bhate
ICT 14C	Replace pump and motor	10/7/2020	Bhate
18WW17	Replace bad coil	12/9/2020	Bhate
ICT 14A	Electrical problem repaired	12/15/2020	Bhate
ICT 13F	Electrical problem repaired	12/15/2020	Bhate
ICT 8	Clean level probes	12/16/2020	Bhate

Table A-2: Extraction Equipment Maintenance Since 2011

Well I.D.	Replaced Parts	Date	Contractor
ICT 14C	Clean level probes	12/16/2020	Bhate
ICT 14B	Replace blown fuse	1/26/2021	Bhate
ICT 13A	Replace pump	1/27/2021	Bhate
ICT 13D	Replace Pump & motor	1/27/2021	Bhate
ICT 2	Replace pump & flowmeter	2/9/2021	Bhate
ICT 12E	Replace pump	2/9/2021	Bhate
ICT14A	Replace broken 1" tee	3/3/2021	Bhate
ICT 8	Replace Pump, repair wiring harness	4/27/2021	Bhate
ICT 14E	Replace pump & motor, spliced in new plug on wiring harness	5/4/2021	Bhate
ICT 14D	Replace pump	5/5/2021	Bhate
ICT 14C	Replace pump	5/5/2021	Bhate
ICT 13A	Repair override switch for electric motor	6/8/2021	Bhate
ICT 2	Replace Flowmeter	2/16/2022	Bhate
ICT 7	Replace Flowmeter	2/16/2022	Bhate
ICT 11	Replace broken nipple on flowmeter	2/16/2022	Bhate
ICT 14E	Replace broken nipple on flowmeter	2/16/2022	Bhate
ICT 8	Replace pump & motor	3/8/2022	Bhate
ICT 13B	Replace pump	3/10/2022	Bhate
ICT 13B	Replace Flowmeter	3/10/2022	Bhate
ICT 13A	Replace Flowmeter	3/10/2022	Bhate
ICT 12B	Replace Flowmeter	3/15/2022	Bhate
ICT 12C	Replace Flowmeter	3/15/2022	Bhate
ICT 14D	Replace pump & motor	3/23/2022	Bhate
ICT 14C	Replace motor	3/23/2022	Bhate
ICT 12D	Replace pump, motor & wiring harness	3/29/2022	Bhate
ICT 12E	Replace Flowmeter	4/29/2022	Bhate
ICT 14E	Clean level probes	11/4/2022	Bhate
ICT 14C	Clean level probes	11/4/2022	Bhate
ICT 7	Replace broken 1" elbow	2/27/2023	Bhate
ICT 11	Replace broken 1" union	2/27/2023	Bhate
ICT 12A	Replace broken 1" elbow	2/27/2023	Bhate
ICT 12C	Replace broken 1" elbow	2/27/2023	Bhate
ICT 12D	Replace broken 1" flowmeter nipple	2/27/2023	Bhate
ICT 12E	Replace broken 1" union	2/27/2023	Bhate
ICT 13B	Replace broken 1" union	2/27/2023	Bhate
ICT 14E	Replace pump & clean level probes	3/7/2023	Bhate
ICT 12C	Replace pump & clean level probes	3/22/2023	Bhate
ICT13F	Replace flow meter	5/13/2023	Bhate
ICT 2	Replace pump & clean level probes	5/16/2023	Bhate
ICT 12D and 13C	Replace fuses/trouble shoot electrical issues	6/2/2023	Bhate
18WW17	Replace level probes and repair broken level probe wire	8/2/2023	Bhate
	LHAAP-16		
Well I.D.	**Replaced Parts**	**Date**	**Contractor**
EW08	New pump	2/28/2011	Shaw
EW01	Rebuild pump	8/25/2011	Shaw
EW06	Rebuild pump	8/25/2011	Shaw
EW02	Rebuild pump	2/12/2012	Shaw
EW03	Rebuild pump	2/12/2012	Shaw
EW08	Rebuild pump	11/8/2012	AECOM
EW01	Rebuild pump	11/8/2012	AECOM
EW04	Repair pump	11/13/2012	AECOM
EW07	Rebuild pump	11/13/2012	AECOM
EW04	Installed New Pump	11/28/2012	AECOM
EW06	Installed New Pump	11/28/2012	AECOM
EW02	Installed New Pump	12/4/2012	AECOM

Table A-2: Extraction Equipment Maintenance Since 2011

Well I.D.	Replaced Parts	Date	Contractor
EW03	Installed New Pump	12/4/2012	AECOM
EW01	Installed New Pump	12/17/2012	AECOM
EW01	Replaced Low level probe	1/17/2015	AECOM
EW01	Cleaned and adjusted level probes	10/21/2016	Aerotek

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APPENDIX B
GROUNDWATER ELEVATION CONTOUR MAPS

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TUSCON AVE

TALVER AVE

LHAAP-35C (53)

Harrison Bayou

18WW05
(167.00)

168.00

169.00

170.00

C-06
(170.78)

C-05
(168.93)

18WW20
(168.90)

18CPTMW16
(169.20)
(Not Used)

1824DPTMW07
(NM)

18WW08
(168.94)

18CPTMW19
(170.47)

BGPZ-6
(170.63)

18WW22
(169.71)

18CPTMW18
(168.56)

1824DPTMW01
(168.76)

1824DPTMW03
(169.37)

AWD-4
(171.15)

MW-5
(170.78)

MW-6
(170.56)

BGPZ-7
(169.37)

125
(171.77)

18WW25
(168.98)

BGPZ-5
(171.11)

109
(171.04)

18CPTMW15
(169.56)

MW-4
(171.89)

1824DPTMW02
(169.61)

18WW24
(168.67)

LHAAP-24

MW-3
(171.03)

BGPZ-4
(169.18)

18CPTMW23
(169.59)

BGPZ-11
(170.66)

BGPZ-8
(169.05)

1824DPTMW04
(169.65)

MW-16
(169.90)

BGPZ-3
(169.74)

MW-11
(169.06)

123
(173.05)

MW-21
(170.45)

BGPZ-9
(170.65)

AWD-2
(172.80)

18CPTMW04
(174.04)

MW-1
(173.89)

18CPTMW24
(169.85)

C-08
(170.24)

MW-12
(170.26)

MW-2
(172.74)

18WW10
(169.68)

C-02
(170.26)

BGPZ-12
(Plugged)

120
(173.35)

101
(187.42)
(Not Used)

MW-10
(170.00)

AWD-1
(174.24)

LHAAP-18

AWD-3
(173.82)

MW-22
(171.71)

MW-17
(170.22)

BGPZ-2
(170.88)

MW-9
(171.53)

129
(173.22)

MW-23
(172.52)

BOBBY JONES RD.

BGPZ-10
(169.15)

18CPTMW14
(170.89)

MW-18
(170.36)

MW-8
(171.28)

1824DPTMW05
(172.82)

MW-7
(171.57)

LHAAP-39

Groundwater Treatment Plant

126
(171.03)

102
(174.30)
(Not Used)

MW-19
(170.35)

BGPZ-1
(178.90)
(Not Used)

Unnamed Ditch

130
(170.62)

18CPTMW26
(166.11)
(Not Used)

LHAAP-17

SCUDDAY AVE

17WW08
(170.58)

18CPTMW22R
(177.34)
(Not Used)

MW-20
(175.09)
(Not Used)

LHAAP-63

18WW14
(170.66)

C-09
(170.67)

AVE "Q"

LONG POINT RD

C-07
(168.80)

HAYSTACK RD.

LHAAP-19

0 75 150 300
Feet

Legend:

- Shallow Monitoring Well Location (inside ICTs)
- Shallow Monitoring Well Location (outside ICTs)
- Shallow Piezometer Location (inside ICTs)
- Shallow Piezometer Location (outside ICTs)
- (171.03) Potentiometric Surface Elevation in Feet Above Mean Sea Level
- (NM) Not Measured
- Potentiometric Surface Contour
- Indicator of a Closed Depression
- Direction of Groundwater Flow
- HDPE High Density Polyethylene
- Interception-Collection Trench (ICT) Location
- HDPE Liner Installed outside of the ICT
- Installation Restoration Program (IRP) Area
- Stream / Ditch Centerline
- Road Line

PCIbhate

Quarterly Evaluation Report 3rd Quarter (July – September) 2023
Groundwater Treatment Plant
Longhorn Army Ammunition Plant, Karnack, Texas

Groundwater Potentiometric Surface Map
Shallow Zone (July 27, 2023) LHAAP-18/24

Figure B-1

GIS User: mmorris - File Path: Z:\Projects\VAPCBH\0001 LHAAP\0005 GWTP\03\2023 Q3\Figure B-1.mxd 4/5/2024

01246189

TUSCON AVE
TALVER AVE
LHAAP-35C (53)
Harrison Bayou
Unnamed Ditch
SCUDDAY AVE
AVE "Q"
HAYSTACK RD.
LONG POINT RD
BOBBY JONES RD.
LHAAP-17
LHAAP-18
LHAAP-19
LHAAP-24
LHAAP-39
LHAAP-63
Groundwater Treatment Plant

18WW05 (166.51)
C-06 (170.24)
C-05 (168.23)
18WW20 (168.37)
18CPTMW16 (168.44) (Not Used)
18CPTMW18 (168.03)
1824DPTMW07 (NM)
18CPTMW19 (169.90)
18WW22 (169.23)
125 (171.23)
1824DPTMW03 (168.78)
1824DPTMW01 (168.16)
BGPZ-6 (170.19)
18WW08 (168.40)
MW-5 (170.25)
AWD-4 (170.60)
BGPZ-7 (168.90)
18WW25 (168.28)
109 (170.53)
BGPZ-5 (170.64)
MW-6 (170.06)
MW-3 (170.52)
18CPTMW15 (169.00)
1824DPTMW02 (169.04)
18WW24 (168.11)
MW-4 (171.33)
BGPZ-4 (168.67)
BGPZ-8 (168.58)
18CPTMW23 (169.06)
BGPZ-11 (170.14)
1824DPTMW04 (169.13)
BGPZ-3 (169.18)
MW-11 (168.56)
123 (172.47)
18CPTMW04 (173.53)
MW-21 (169.89)
BGPZ-9 (170.14)
MW-2 (172.23)
MW-16 (169.30)
AWD-2 (172.25)
MW-1 (173.35)
C-08 (169.70)
C-02 (169.38)
MW-12 (169.62)
120 (172.80)
BGPZ-12 (Plugged)
18CPTMW24 (169.28)
AWD-3 (173.29)
101 (186.62) (Not Used)
18WW10 (169.16)
MW-10 (169.41)
AWD-1 (173.64)
MW-22 (171.18)
MW-17 (169.67)
BGPZ-2 (170.31)
BGPZ-10 (169.63)
MW-23 (171.97)
129 (172.60)
1824DPTMW05 (172.26)
MW-9 (170.98)
18CPTMW14 (170.36)
MW-18 (169.81)
MW-8 (170.76)
MW-7 (171.00)
126 (170.47)
BGPZ-1 (177.98) (Not Used)
102 (173.79) (Not Used)
MW-19 (169.79)
130 (169.85)
18CPTMW26 (165.60) (Not Used)
18CPTMW22R (176.79) (Not Used)
MW-20 (174.60) (Not Used)
17WW08 (170.01)
18WW14 (170.11)
C-09 (170.11)
C-07 (168.27)

168.00
167.00
169.00
170.00
171:00
172:00
173:00

0 75 150 300 Feet

Legend:
- Shallow Monitoring Well Location (inside ICTs)
- Shallow Monitoring Well Location (outside ICTs)
- Shallow Piezometer Location (inside ICTs)
- Shallow Piezometer Location (outside ICTs)
- (170.47) Potentiometric Surface Elevation in Feet Above Mean Sea Level
- (NM) Not Measured
- Potentiometric Surface Contour
- Indicator of a Closed Depression
- Direction of Groundwater Flow
- HDPE High Density Polyethylene
- Interception-Collection Trench (ICT) Location
- HDPE Liner Installed outside of the ICT
- Installation Restoration Program (IRP) Area
- Stream / Ditch Centerline
- Road Line

PCIbhate

Quarterly Evaluation Report 3rd Quarter (July – September) 2023
Groundwater Treatment Plant
Longhorn Army Ammunition Plant, Karnack, Texas

Groundwater Potentiometric Surface Map
Shallow Zone (August 28, 2023) LHAAP-18/24

Figure B-2

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01246190

18WW05
(166.34)

LHAAP-35C (53)

TUSCON AVE

TALVER AVE

167.00

C-06
(170.03)

170.00

Harrison Bayou

C-05
(167.95)

168.00

18WW20
(168.12)

169.00

18CPTMW16
(168.16)
(Not Used)

1824DPTMW07
(169.49)

169.00

18WW08
(168.22)

18CPTMW19
(169.66)

BGPZ-6
(170.03)

125
(171.01)

18WW22
(169.04)

1824DPTMW03
(168.60)

168.00

18CPTMW18
(167.82)

1824DPTMW01
(168.00)

MW-5
(170.09)

AWD-4
(170.47)

BGPZ-7
(168.76)

169

18WW25
(168.03)

BGPZ-5
(170.48)

170

MW-6
(169.88)

MW-3
(170.35)

MW-4
(171.17)

18CPTMW15
(168.83)

1824DPTMW02
(168.91)

18WW24
(167.89)

168.00

BGPZ-4
(168.32)

LHAAP-24

109
(170.39)

18CPTMW23
(168.70)

BGPZ-11
(170.01)

BGPZ-8
(168.43)

1824DPTMW04
(168.95)

MW-16
(169.14)

BGPZ-3
(169.04)

MW-11
(168.40)

123
(172.30)

18CPTMW04
(173.31)

MW-2
(172.09)

MW-21
(168.76)

C-08
(169.54)

AWD-2
(172.12)

MW-1
(173.22)

BGPZ-9
(170.01)

MW-12
(169.53)

120
(172.66)

BGPZ-12
(Plugged)

AWD-3
(173.18)

18CPTMW24
(169.00)

18WW10
(168.93)

C-02
(169.10)

MW-10
(169.26)

AWD-1
(173.50)

LHAAP-18

101
(186.30)
(Not Used)

169.00

173.00

MW-17
(169.52)

MW-22
(171.01)

BGPZ-2
(170.12)

129
(172.43)

170.00

BGPZ-10
(169.51)

MW-9
(170.80)

1824DPTMW05
(172.07)

172.00

MW-23
(171.83)

18CPTMW14
(170.13)

MW-18
(169.63)

MW-8
(170.63)

LHAAP-39

171.00

BOBBY JONES RD.

MW-7
(170.88)

Groundwater Treatment Plant

126
(170.28)

BGPZ-1
(177.87)
(Not Used)

102
(173.65)
(Not Used)

Unnamed Ditch

MW-19
(169.61)

130
(169.71)

MW-20
(174.49)
(Not Used)

18CPTMW26
(165.33)
(Not Used)

18CPTMW22R
(176.57)
(Not Used)

LHAAP-63

LHAAP-17

SCUDDAY AVE

17WW08
(169.77)

170.00

18WW14
(169.92)

C-09
(169.94)

AVE "Q"

LONG POINT RD

169.00

HAYSTACK RD.

C-07
(168.05)

LHAAP-19

0 75 150 300
Feet

Legend:

- Shallow Monitoring Well Location (inside ICTs)
- Shallow Monitoring Well Location (outside ICTs)
- Shallow Piezometer Location (inside ICTs)
- Shallow Piezometer Location (outside ICTs)
- (170.89) Potentiometric Surface Elevation in Feet Above Mean Sea Level
- Potentiometric Surface Contour
- Indicator of a Closed Depression
- Direction of Groundwater Flow
- HDPE High Density Polyethylene
- Interception-Collection Trench (ICT) Location
- HDPE Liner Installed outside of the ICT
- Installation Restoration Program (IRP) Area
- Stream / Ditch Centerline
- Road Line

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Quarterly Evaluation Report 3rd Quarter (July – September) 2023
Groundwater Treatment Plant
Longhorn Army Ammunition Plant, Karnack, Texas

Groundwater Potentiometric Surface Map
Shallow Zone (September 28, 2023) LHAAP-18/24

Figure B-3

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01246191

TUSCON AVE

LHAAP-35C (53)

TALVER AVE

Harrison Bayou

18WW04
(167.52)

168.00

168.50

18WW19
(168.79)

169.00

18WW21
(168.74)

18CPTMW19SW
(169.85)

C-04A
(170.31)

C-04
(170.10)

18WW09
(169.64)

18CPTMW08SW
(170.36)

18CPTMW08DW
(169.79)
(Not Used)

18WW18
(170.09)

C-03
(170.37)

LHAAP-24

18CPTMW23SW
(169.52)

169.50

18CPTMW01SW
(171.36)
(Not Used)

18CPTMW01DW
(170.22)

18CPTMW04SW
(170.19)

18CPTMW07
(170.20)

170.00

18WW06
(170.05)

1824DPTMW06
(170.27)

18WW02
(170.67)
(Not Used)

LHAAP-18

18WW11
(169.56)

MW-13
(169.84)

173.00
172.50
172.00
171.50
171.00
170.50

18WW03
(169.88)

18CPTMW06
(170.22)

MW-14
(173.56)

169.50

18CPTMW03SW
(169.24)

BOBBY JONES RD.

170.00

18CPTMW10DW
(170.33)

18CPTMW10SW
(170.37)

18CPTMW12SW
(170.47)

LHAAP-39

170.00

Groundwater Treatment Plant

18CPTMW12DW
(170.14)

Unnamed Ditch

18CPTMW22DW
(170.25)

18CPTMW22SW
(170.26)

170.50

18CPTMW26SW
(170.32)

LHAAP-63

LHAAP-17

SCUDDAY AVE

C-01
(171.02)

171.00

171.00

18WW15
(171.16)

C-10
(169.95)

AVE "Q"

LONG POINT RD

HAYSTACK RD.

LHAAP-19

0 75 150 300
Feet

Legend:

- Wilcox Formation Monitoring Well Location
- (170.22) Potentiometric Surface Elevation in Feet Above Mean Sea Level
- Potentiometric Surface Contour
- Indicator of a Closed Depression
- Direction of Groundwater Flow
- HDPE — High Density Polyethylene
- Interception-Collection Trench (ICT) Location
- HDPE Liner Installed outside of the ICT
- Installation Restoration Program (IRP) Area
- Stream / Ditch Centerline
- Road Line

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Quarterly Evaluation Report 3rd Quarter (July – September) 2023
Groundwater Treatment Plant
Longhorn Army Ammunition Plant, Karnack, Texas

Groundwater Potentiometric Surface Map
Wilcox Zone (July 27, 2023) LHAAP-18/24

Figure B-4

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01246192

TUSCON AVE

LHAAP-35C (53)

TALVER AVE

Harrison Bayou

18WW04
(166.99)

167.00

167.50

168.00

18WW19
(168.25)

168.50

18WW21
(168.20)

18CPTMW19SW
(169.32)

C-04A
(169.72)

C-04
(169.57)

18WW09
(169.11)

18CPTMW08SW
(169.83)

18CPTMW08DW
(169.28)
(Not Used)

C-03
(169.86)

18WW18
(169.62)

LHAAP-24

18CPTMW23SW
(168.96)

169.00

18CPTMW04SW
(169.62)

18CPTMW01SW
(170.81)
(Not Used)

18CPTMW01DW
(169.75)

18CPTMW07
(169.63)

169.50

MW-14
(173.10)

18WW06
(169.55)

1824DPTMW06
(169.66)

18WW02
(170.11)
(Not Used)

LHAAP-18

18CPTMW06
(171.67)

18WW03
(169.32)

18WW11
(169.08)

MW-13
(169.32)

18CPTMW03SW
(168.68)

173.00
172.50
172.00
171.50
171.00
170.50
170.00

169.00

171.50

171.00

169.50

169.50

18CPTMW10DW
(169.75)

18CPTMW10SW
(169.82)

169.50

BOBBY JONES RD.

18CPTMW12SW
(169.92)

LHAAP-39

170.50

Groundwater Treatment Plant

18CPTMW12DW
(169.55)

18CPTMW22SW
(169.74)

Unnamed Ditch

170.00

18CPTMW26SW
(169.89)

18CPTMW22DW
(169.71)

LHAAP-63

LHAAP-17

SCUDDAY AVE

C-01
(170.45)

169.50

170.50

18WW15
(170.60)

AVE "Q"

LONG POINT RD

C-10
(169.29)

HAYSTACK RD.

LHAAP-19

0 75 150 300
Feet

Legend:

- Wilcox Formation Monitoring Well Location
- (171.67) Potentiometric Surface Elevation in Feet Above Mean Sea Level
- Potentiometric Surface Contour
- Indicator of a Closed Depression
- Direction of Groundwater Flow
- HDPE High Density Polyethylene
- Interception-Collection Trench (ICT) Location
- HDPE Liner Installed outside of the ICT
- Installation Restoration Program (IRP) Area
- Stream / Ditch Centerline
- Road Line

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Quarterly Evaluation Report 3rd Quarter (July – September) 2023
Groundwater Treatment Plant
Longhorn Army Ammunition Plant, Karnack, Texas

Groundwater Potentiometric Surface Map
Wilcox Zone (August 28, 2023) LHAAP-18/24

Figure B-5

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01246193

TUSCON AVE

LHAAP-35C (53)

TALVER AVE

Harrison Bayou

18WW04
(166.79)

167.00

167.50

18WW19
(168.02)

168.00

168.50

18WW21
(168.01)

C-04A
(169.60)
(Not Used)

C-04
(169.39)

18CPTMW19SW
(169.12)

18WW09
(168.90)

18CPTMW08SW
(169.61)
(Not Used)

18CPTMW08DW
(169.04)

18WW18
(169.39)

18CPTMW01SW
(170.63)
(Not Used)

C-03
(169.67)

169.50

18CPTMW01DW
(169.57)

LHAAP-24

18CPTMW23SW
(168.60)

18CPTMW04SW
(169.45)

18WW06
(169.37)

1824DPTMW06
(169.49)

18CPTMW07
(169.45)

MW-14
(172.93)

18WW02
(169.86)
(Not Used)

LHAAP-18

18WW03
(169.14)

18WW11
(168.89)

MW-13
(169.17)

172.50
172.00
171.50
171.00
170.50
170.00

18CPTMW03SW
(168.55)

18CPTMW06
(171.47)

171.00

169.00

169.00

18CPTMW10DW
(169.50)

18CPTMW10SW
(169.59)

170.50

169.50

18CPTMW12SW
(169.70)

LHAAP-39

Groundwater Treatment Plant

169.50

18CPTMW12DW
(169.32)

Unnamed Ditch

18CPTMW22SW
(169.51)

18CPTMW26SW
(169.62)

18CPTMW22DW
(169.49)
(Not Used)

170.00

LHAAP-63

169.50

170.00

LHAAP-17

SCUDDAY AVE

C-01
(170.25)

18WW15
(170.38)

AVE "Q"

LONG POINT RD

C-10
(169.12)

HAYSTACK RD.

LHAAP-19

BOBBY JONES RD.

0 75 150 300
Feet

Legend:

- Wilcox Formation Monitoring Well Location
- (171.47) Potentiometric Surface Elevation in Feet Above Mean Sea Level
- Potentiometric Surface Contour
- Indicator of a Closed Depression
- Direction of Groundwater Flow
- HDPE High Density Polyethylene
- Interception-Collection Trench (ICT) Location
- HDPE Liner Installed outside of the ICT
- Installation Restoration Program (IRP) Area
- Stream / Ditch Centerline
- Road Line

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Quarterly Evaluation Report 3rd Quarter (July – September) 2023
Groundwater Treatment Plant
Longhorn Army Ammunition Plant, Karnack, Texas

Groundwater Potentiometric Surface Map
Wilcox Zone (September 28, 2023) LHAAP-18/24

Figure B-6

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APPENDIX C
GWTP WATER SAMPLING LABORATORY ANALYTICAL RESULTS
(PROVIDED ELECTRONICALLY AS A SEPARATE FILE)

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APPENDIX D
QUALITY CONTROL SUMMARY REPORT

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QUARTERLY CONTROL SUMMARY REPORT
3rd QUARTER (July-September) 2023
GROUNDWATER TREATMENT PLANT
LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

October 2023

Prepared For:

Longhorn Army Ammunition Plant
Karnack, Texas

Under Contract To:

U.S. Army Corps of Engineers
Tulsa District
Tulsa, Oklahoma

Contract Number: W9128F-13-D-0012
Task Order Number: W912BV17F0150

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Tables

Table 1: Field Sample Identification and Laboratory Packages
Table 2: Qualified Analytical Data
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1 INTRODUCTION

Bhate reviewed 25 data packages from ALS Environmental, Houston, Texas. Groundwater samples were collected July 10, 2023 through September 28, 2023 at the Groundwater Treatment Plant (GWTP) at Longhorn Army Ammunition Plant (LHAAP), Karnack, Texas. Data were reviewed for conformance to the requirements of the following guidance documents: *USEPA Contract Laboratory Program* [CLP] *National Functional Guidelines for Superfund Organic Methods Data Review* (USEPA, November 2020), *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review* (USEPA, November 2020) and the *Final Basewide Uniform Federal Policy* [UFP] – *Quality Assurance Project Plan* [QAPP] *Longhorn Army Ammunition Plant* which is in Appendix C of the *Final Installation-Wide Work Plan for Longhorn Army Ammunition Plant Karnack, Texas* (Bhate, May 2018).

1.1 Intended Use of Data

The objective of sampling at the GWTP is to monitor effluent streams to confirm compliance with discharge limits. The LHAAP 18/24 sampling is part of the annual interim action sampling event.

Analyses performed include:

- SW6850 – Perchlorate
- E350.3 – Nitrogen, Ammonia
- E365.3 – Orthophosphate
- E415.1 – Total Organic Carbon
- SW8260C- Volatiles
- SW8270 SIM- 1,4-Dioxane
- SW6020A/7470A – Metals
- SW9056A – Chloride (Cl) and Sulfate (SO_4)
- SW7196A – Hexavalent Chromium
- E410.4 – Chemical Oxygen Demand
- E1664A – Oil and Grease
- TO-15 – Volatiles in Air

Table 1 lists the sample identification numbers (IDs) and their associated laboratory package.

Table 2 lists qualified results with the qualification flag and reason code.

The following narrative is a brief synopsis of data that required qualification due to quality control discrepancies.

1.2 Preservation and Holding Times

Sample identification data were evaluated for agreement with the chain-of-custody (COC). All samples were received in appropriate containers, within the proper temperature range, in good condition, and within the required hold time.

1.3 Calibrations

All analytes reported must be present in the initial and continuing calibration. The calibrations must meet the acceptance criteria specified in Worksheet 24 (Analytical Instrument Calibration) of the QAPP. All results reported must be within the calibration range. Samples were diluted, if necessary, to bring analyte responses within the calibration range

1.3.1 Continuing Calibration Verifications

The calibrations must meet the following criteria otherwise the compound is qualified J or UJ: The continuing calibration verification (CCV) criteria are 20 percent difference (%D) for VOCs and SVOCs and 50% for closing CCVs. Metals and general chemistry - 10%D; perchlorate - 15%D; and volatiles in air - 30%D.

The following sample was outside calibration limits:

- The CCV in sample LH18/24-SP650_072423 for acetone.

The associated sample compound was qualified estimated non-detected “UJ”.

1.4 Blanks

If the analyte result for an associated sample was less than 5X (10X for common laboratory contaminants) the analyte concentration in the blank, that result was qualified “UB” and considered an artifact of blank contamination. Where the sample result for the affected analyte was non-detect or greater than 5X the amount in the blank, no qualifier was applied.

1.4.1 Metals - SW6020A

The following sample reported metals <5x the method blank concentration:

- LH18/24-SP650_081623 for aluminum.

This compound was considered artifacts of blank contamination and flagged “UB”.

1.5 Surrogates

Surrogates were evaluated using limits defined by each method in the project-specific QAPP Worksheet 28.

No surrogate recoveries were outside control limits.

1.6 Laboratory Control Sample/Laboratory Control Sample Duplicate

Laboratory Control Sample/ Laboratory Control Sample Duplicate (LCS)/(LCSD) recoveries were evaluated using limits defined in the project-specific QAPP
Worksheet 15.

The LCS/LCSD recoveries of 1,1-dichloroethene for air sample LH18/24-Air_082923_Stripper were above control limits. The higher of the two values for the Stripper and duplicate were reported and flagged as estimated “J”.

1.7 Matrix Spike/Matrix Spike Duplicate Sample

Matrix Spike/Matrix Spike Duplicate (MS)/(MSD) recoveries were evaluated using limits defined in Worksheet 15 of the project-specific QAPP. When sample results were greater than 4x the spike amount, control limits were not applicable and require no qualification. Furthermore, if a MS/MSD analyses was performed on a batched (unrelated) sample no qualification was made to the sample data. Otherwise, only the sample used for spiking requires qualification.

1.7.1 Metals - SW6020A

The spike sample LH18/24-SP140_071023 reported silver below MS/MSD recovery limits. Sample LH18/24-SP650_081623 reported the MS/MSD recoveries of selenium below control limits. These metals were qualified estimated “J/UJ”.

1.8 Internal Standards

If the %R for an internal standard in a sample is not within the limit, the associated sample is qualified for those analytes associated with the internal standard(s) outside of the limit.

Internal standards were within acceptance criteria for the associated compounds.

1.9 Precision

Precision is the measure of variability of individual sample measurements. Evaluation of laboratory and/or field duplicates for precision was done using the relative percent difference (RPD). The RPD is defined as the difference between two duplicate samples divided by the mean and expressed as a percent. Field duplicate RPD limits were set at <30% for groundwater and air matrices. Laboratory duplicate RPD limits were set at <25% for air matrices.

No RPD was outside control limits.

2 DATA USABILITY SUMMARY

The data are usable for the intended purposes of the project (Table 3). The data quality objectives have been met for the project.

Table 1: Field Sample Identification and Laboratory Packages

Client Sample ID	Lab Package	SW6850	E350.3	E365.3	E415.1	SW8270 SIM	SW8260C	SW6020A	SW9056A	SW7196A	E410.4	1664A	TO-15
GWTP Samples													
LH18/24-SP650_071023_AIX/BIX	HS23070449	X	X	X	X								
LH18/24-SP650_071023_AIX	HS23070445	X				X	X	X		X			
LH18/24-SP140_071023	HS23070447	X						X		X			
LH18/24-SP650_072423_AIX/BIX	HS23071455	X	X	X	X								
LH18/24-SP650_072423	HS23071456						X		X				
LH18/24-SP650_080123_AIX/BIX	HS23080100	X	X	X	X								
LH18/24-SP650_080123_AIX	HS23080101	X				X	X	X		X			
LH18/24-SP140_080123	HS23080102	X						X		X			
LH18/24-SP650_080823_AIX/BIX	HS23080556	X	X	X	X								
LH18/24-SP650_080823	HS23080558						X		X				
LH18/24-SP650_081623_AIX/BIX	HS23081039	X	X	X	X								
LH18/24-SP650_081623_AIX	HS23081076	X				X	X	X	X		X	X	
LH18/24-SP140_081623	HS23081040	X				X	X	X	X		X	X	
LH18/24-SP650_082223_AIX/BIX	HS23081419	X	X	X	X								
LH18/24-SP650_082223	HS23081423						X		X				
LH18/24-SP650_083023_AIX/BIX	HS23081965	X	X	X	X								
LH18/24-SP650_090623_AIX/BIX	HS23090353	X	X	X	X								
LH18/24-SP650_090623	HS23090424						X		X				
LH18/24-SP650_091223_AIX/BIX	HS23090716	X	X	X	X								
LH18/24-SP650_091223_AIX	HS23090714	X				X	X	X		X			
LH18/24-SP140_091223	HS23090713	X						X		X			
LH18/24-SP650_091923_AIX/BIX	HS23091132	X	X	X	X								
LH18/24-SP650_091923	HS23091194						X		X				
LH18/24-SP650_092823_AIX/BIX	HS23091823	X	X	X	X								
Air Samples													
LH18/24-Air_082923_Stripper	P2304228												X
LH18/24-Air_082923_Stripper_a	P2304228												X
LH18/24-Air_082923_GWTP	P2304228												X
LH18/24-Air_082923_Downwind	P2304228												X

GWTP – Groundwater Treatment Plant
ID – Identification
MW – Monitoring Well
SM – Standard Method
SW-846 - Test Methods for Evaluating Solid Waste, Physical/Chemical Methods.
E – U.S. Environmental Protection Agency Method
HS – Houston
ICT – Interceptor Collection Trench

Table 2: Qualified Analytical Data

Client Sample ID Laboratory	Laboratory Package	Analyte Name	Data Validation Qualifier (VOCs and perchlorate in µg/L/metals in mg/L)	Reason for Qualification
LH18/24-SP140_071023	HS23070447	Silver	< 0.000500 UJ	MS/MSD <
LH18/24-SP650_072423	HS23071456	Acetone	< 2.0 UJ	CCV
LH18/24-SP650_081623	HS23081076	Aluminum Selenium	0.0105 UB < 0.00250 UJ	MB MS/MSD <
LH18/24-Air_082923_Stripper	P2304228	1,1-Dichloroethene	94 J	LCS/LCSD >

GWTP – Groundwater Treatment Plant, ID – identification, HS – Houston
J – Estimated: The analyte was positively identified; the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
UJ – Estimated not detected; The analyte was not detected but considered estimated due to discrepancies in meeting quality control criteria and reported to the limit of detection. UB – considered an artifact of blank contamination
MB – Method Blank contamination
CCV – Continuing calibration verification percent recovery outside control limits
MS/MSD <– Matrix spike/Matrix spike duplicate below control limits
LCS/LCSD > - laboratory control sample/duplicate recovery above control limits

Table 3: Completeness by Method

Method	No. of Rejected Results	% Completeness
SW6850	0	100
E350.3	0	100
E365.3	0	100
E415.1	0	100
SW8270 SIM	0	100
SW8260C	0	100
SW6020A/7470A	0	100
SW9056A	0	100
SW7196A	0	100
E410.4	0	100
E1664A	0	100
TO-15	0	100
E – U.S. Environmental Protection Agency method. SW-846 - Test Methods for Evaluating Solid Waste, Physical/Chemical Methods		

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APPENDIX E
AIR MONITORING ANALYTICAL LABORATORY REPORT

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ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

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LABORATORY REPORT

September 27, 2023

Marcia Olive
Bhate Environmental Associates, Inc.
Suite 129445 Union Blvd.
Lakewood, CO 80228

RE: LHAAP-GWTP / JVPCIB.H.0001

Dear Marcia:

Enclosed are the results of the samples submitted to our laboratory on September 5, 2023. For your reference, these analyses have been assigned our service request number P2304228.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

ALS | Environmental

shaarazetta.robinson 9/27/23 2:03 pm

Shaarazetta Robinson
Project Manager

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Simi Valley, CA 93065
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Client: Bhate Environmental Associates, Inc. Service Request No: P2304228
Project: LHAAP-GWTP / JVPCIB.H.0001

CASE NARRATIVE

The samples were received intact under chain of custody on September 5, 2023 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph/mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The upper control criterion was exceeded for Acetonitrile, Acrolein, Acrylonitrile in the Continuing Calibration Verification (CCV) analyzed on September 19, 2023. The analytes in question were not detected in the associated field samples. Since the error associated with the elevated recovery equates to a high bias, the sample data has not been significantly affected. The data has been flagged accordingly. No corrective action was required.

The spike recoveries of Acetonitrile, 1,1-Dichloroethene, and Ethyl Acetate for the Laboratory Control Sample (LCS) and Duplicate Laboratory Control Sample (DLCS) analyzed on September 19, 2023 was outside the Laboratory generated control criteria. The recovery error equates to a potential high bias. However, the spike recoveries of the analytes in question were within the method criteria; therefore, the data quality is not significantly affected. No further corrective action

was taken.

The containers were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.4 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

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CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	https://dec.alaska.gov/spar/csp/lab-approval/list-of-approved-labs	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	https://internet.deq.louisiana.gov/portal/divisions/lelap/accredited-laboratories	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtm	2022028
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	006-999-456
New Jersey DEP (NELAP)	https://dep.nj.gov/dsr/oqa/certified-laboratories/	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oklahoma DEQ (NELAP)	labaccreditation.deq.ok.gov/labaccreditation/	2207
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-011
Pennsylvania DEP	hhttp://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-23-14
Utah DOH (NELAP)	https://uphl.utah.gov/certifications/environmental-laboratory-certification/	CA016272023-15
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: Bhate Environmental Associates, Inc. Service Request: P2304228
Project ID: LHAAP-GWTP / JVPCIB.H.0001

Date Received: 9/5/2023
Time Received: 10:45

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pfl (psig)	TO-15 - VOC Cans
LH18/24-Air_082923_Stripper	P2304228-001	Air	8/29/2023	14:00	AC02239	-0.29	5.24	X
LH18/24-Air_082923_Stripper_a	P2304228-002	Air	8/29/2023	14:00	AC02083	-0.45	3.97	X
LH18/24-Air_082923_GWTP	P2304228-003	Air	8/29/2023	14:15	AS01238	-2.20	4.23	X
LH18/24-Air_082923_Downwind	P2304228-004	Air	8/29/2023	07:00	AS00618	-0.28	4.26	X

Air - Chain of Custody Record & Analytical Service Request

Page 1 of 1

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Simi Valley, California 93065
Phone (805) 526-7161

Requested Turnaround Time in Business Days (Surcharges) please circle
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day-Standard

ALS Project No. P230422

ALS Contact:

Company Name & Address (Reporting Information)
BHATE ENVIRONMENTAL
445 UNION BLVD. STE 129
LAKEWOOD CO. 80228

Project Name: LHAAP - GWTP

Project Number: JVPCIBH.0001

Project Manager: ZACK BECK

P.O. # / Billing Information

Phone: 205-918-4000

Fax:

Email Address for Result Reporting: molive@bhate.com

Sampler (Print & Sign): Scott Beesinger Scott Beesinger

Analysis Method

TO-15

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg/psig	Sample Volume		Comments e.g. Actual Preservative or specific instructions
~~LHAAP-AIR_082323_STRIPPER~~	~~SB~~	~~8/23/23~~	~~1100~~	~~AC02251~~		~~-28~~		~~6L~~	~~X~~	
~~LHAAP-AIR_082323_STRIPPER~~	~~SB~~	~~8/23/23~~	~~1100~~	~~AC02083~~		~~-30~~		~~6L~~	~~X~~	
~~LHAAP-AIR_082323_GWTP~~	~~SB~~	~~8/23/23~~	~~1415~~	~~AS01238~~	~~FCR00579~~	~~-30~~		~~6L~~	~~X~~	
~~LHAAP-AIR_082323_DOWNWIND~~	~~SB~~	~~8/23/23~~	~~0700~~	~~AS00618~~	~~FCR00550~~	~~-30~~		~~6L~~	~~X~~	
LHAAP-AIR_082923_STRIPPER	1	8/29/23	1400	AC02239		-28	0	6L	X	
LHAAP-AIR_082923_STRIPPER	2	8/29/23	1400	AC02083		-30	0	6L	X	
LHAAP-AIR_082923_GWTP	3	8/29/23	1415	AS01238	FCR00579	-30	-2	6L	X	
LHAAP-AIR_082923_DOWNWIND	4	8/29/23	0700	AS00618	FCR00550	-30	0	6L	X	

Report Tier Levels please select

Tier I - Results (Default if not specified) ____
Tier II (Results + QC Summaries) ____
Tier III (Results + QC & Calibration Summaries) ____
Tier IV (Data Validation Package) 10% Surcharge ____

EDD required Yes / No
Type: ____ Units: ____

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Project Requirements (MRLs, QAPP)

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Scott Beesinger	8/30/23	07:15	FEDEX		
Relinquished by: (Signature) FEDEX	Date:	Time:	Received by: (Signature)	9-1-23	10 45

Cooler / Blank Temperature ____ °C

ALS Environmental
Sample Acceptance Check Form

Client: Bhate Environmental Associates, Inc. Work order: P2304228

Project: LHAAP-GWTP / JVPCIB.H.0001

Sample(s) received on: 9/5/23 Date opened: 9/5/23 by: ADAVID

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2304228-001.01	6.0 L Ambient Can					
P2304228-002.01	6.0 L Ambient Can					
P2304228-003.01	6.0 L Silonite Can					
P2304228-004.01	6.0 L Silonite Can					

Explain any discrepancies: (include lab sample ID numbers): _____

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Bhate Environmental Associates, Inc.**
Client Sample ID: **LH18/24-Air_082923_Stripper** ALS Project ID: P2304228
Client Project ID: **LHAAP-GWTP / JVPCIB.H.0001** ALS Sample ID: P2304228-001

Test Code: EPA TO-15 Date Collected: 8/29/23
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 9/5/23
Analyst: Topacio Zavala Date Analyzed: 9/19/23
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.025 Liter(s)
Test Notes:
Container ID: AC02239

Initial Pressure (psig): -0.29 Final Pressure (psig): 5.24

Canister Dilution Factor: 1.38

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	29	ND	17	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	29	ND	5.9	
74-87-3	Chloromethane	ND	29	ND	14	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	29	ND	4.1	
75-01-4	Vinyl Chloride	**360**	28	**140**	11	
106-99-0	1,3-Butadiene	ND	29	ND	13	
74-83-9	Bromomethane	ND	28	ND	7.3	
75-00-3	Chloroethane	ND	29	ND	11	
64-17-5	Ethanol	ND	280	ND	150	
75-05-8	Acetonitrile	ND	55	ND	33	
107-02-8	Acrolein	ND	55	ND	24	
67-64-1	Acetone	ND	290	ND	120	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	29	ND	5.1	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	57	ND	23	
107-13-1	Acrylonitrile	ND	28	ND	13	
75-35-4	1,1-Dichloroethene	**94**	30	**24**	7.5	
75-09-2	Methylene Chloride	**29**	29	**8.5**	8.4	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	29	ND	9.4	
76-13-1	Trichlorotrifluoroethane (CFC 113)	**4,200**	30	**550**	3.9	
75-15-0	Carbon Disulfide	ND	59	ND	19	
156-60-5	trans-1,2-Dichloroethene	ND	30	ND	7.5	
75-34-3	1,1-Dichloroethane	ND	30	ND	7.4	
1634-04-4	Methyl tert-Butyl Ether	ND	30	ND	8.3	
108-05-4	Vinyl Acetate	ND	280	ND	78	
78-93-3	2-Butanone (MEK)	ND	57	ND	19	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Bhate Environmental Associates, Inc.**
Client Sample ID: **LH18/24-Air_082923_Stripper** ALS Project ID: P2304228
Client Project ID: **LHAAP-GWTP / JVPCIB.H.0001** ALS Sample ID: P2304228-001

Test Code: EPA TO-15 Date Collected: 8/29/23
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 9/5/23
Analyst: Topacio Zavala Date Analyzed: 9/19/23
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.025 Liter(s)
Test Notes:
Container ID: AC02239

Initial Pressure (psig): -0.29 Final Pressure (psig): 5.24

Canister Dilution Factor: 1.38

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	**4,900**	29	**1,200**	7.4	
141-78-6	Ethyl Acetate	ND	120	ND	32	
110-54-3	n-Hexane	ND	29	ND	8.3	
67-66-3	Chloroform	ND	29	ND	6.0	
109-99-9	Tetrahydrofuran (THF)	ND	55	ND	19	
107-06-2	1,2-Dichloroethane	**44**	30	**11**	7.4	
71-55-6	1,1,1-Trichloroethane	ND	29	ND	5.4	
71-43-2	Benzene	ND	30	ND	9.3	
56-23-5	Carbon Tetrachloride	ND	29	ND	4.6	
110-82-7	Cyclohexane	ND	58	ND	17	
78-87-5	1,2-Dichloropropane	ND	29	ND	6.3	
75-27-4	Bromodichloromethane	ND	30	ND	4.5	
79-01-6	Trichloroethene	**4,600**	29	**860**	5.4	
123-91-1	1,4-Dioxane	ND	29	ND	8.1	
80-62-6	Methyl Methacrylate	ND	61	ND	15	
142-82-5	n-Heptane	ND	29	ND	7.1	
10061-01-5	cis-1,3-Dichloropropene	ND	30	ND	6.6	
108-10-1	4-Methyl-2-pentanone	ND	61	ND	15	
10061-02-6	trans-1,3-Dichloropropene	ND	28	ND	6.2	
79-00-5	1,1,2-Trichloroethane	ND	29	ND	5.4	
108-88-3	Toluene	ND	29	ND	7.8	
591-78-6	2-Hexanone	ND	61	ND	15	
124-48-1	Dibromochloromethane	ND	30	ND	3.5	
106-93-4	1,2-Dibromoethane	ND	29	ND	3.7	
123-86-4	n-Butyl Acetate	ND	55	ND	12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Bhate Environmental Associates, Inc.**
Client Sample ID: **LH18/24-Air_082923_Stripper** ALS Project ID: P2304228
Client Project ID: **LHAAP-GWTP / JVPCIB.H.0001** ALS Sample ID: P2304228-001

Test Code: EPA TO-15 Date Collected: 8/29/23
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 9/5/23
Analyst: Topacio Zavala Date Analyzed: 9/19/23
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.025 Liter(s)
Test Notes:
Container ID: AC02239

Initial Pressure (psig): -0.29 Final Pressure (psig): 5.24

Canister Dilution Factor: 1.38

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	30	ND	6.4	
127-18-4	Tetrachloroethene	**58**	29	**8.5**	4.3	
108-90-7	Chlorobenzene	ND	29	ND	6.4	
100-41-4	Ethylbenzene	ND	29	ND	6.7	
179601-23-1	m,p-Xylenes	ND	61	ND	14	
75-25-2	Bromoform	ND	30	ND	2.9	
100-42-5	Styrene	ND	29	ND	6.9	
95-47-6	o-Xylene	ND	29	ND	6.7	
111-84-2	n-Nonane	ND	29	ND	5.6	
79-34-5	1,1,2,2-Tetrachloroethane	ND	29	ND	4.3	
98-82-8	Cumene	ND	30	ND	6.1	
80-56-8	alpha-Pinene	ND	61	ND	11	
103-65-1	n-Propylbenzene	ND	30	ND	6.1	
622-96-8	4-Ethyltoluene	ND	30	ND	6.2	
108-67-8	1,3,5-Trimethylbenzene	ND	29	ND	6.0	
95-63-6	1,2,4-Trimethylbenzene	ND	29	ND	6.0	
100-44-7	Benzyl Chloride	ND	120	ND	22	
541-73-1	1,3-Dichlorobenzene	ND	29	ND	4.9	
106-46-7	1,4-Dichlorobenzene	ND	29	ND	4.9	
95-50-1	1,2-Dichlorobenzene	ND	30	ND	5.0	
5989-27-5	d-Limonene	ND	61	ND	11	
96-12-8	1,2-Dibromo-3-chloropropane	ND	61	ND	6.3	
120-82-1	1,2,4-Trichlorobenzene	ND	61	ND	8.2	
91-20-3	Naphthalene	ND	30	ND	5.8	
87-68-3	Hexachlorobutadiene	ND	29	ND	2.7	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Bhate Environmental Associates, Inc.**
Client Sample ID: **LH18/24-Air_082923_Stripper_a** ALS Project ID: P2304228
Client Project ID: **LHAAP-GWTP / JVPCIB.H.0001** ALS Sample ID: P2304228-002

Test Code: EPA TO-15 Date Collected: 8/29/23
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 9/5/23
Analyst: Topacio Zavala Date Analyzed: 9/19/23
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.035 Liter(s)
Test Notes: 0.015 Liter(s)
Container ID: AC02083

Initial Pressure (psig): -0.45 Final Pressure (psig): 3.97

Canister Dilution Factor: 1.31

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	20	ND	12	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	20	ND	4.0	
74-87-3	Chloromethane	ND	19	ND	9.4	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	19	ND	2.8	
75-01-4	Vinyl Chloride	**340**	19	**130**	7.5	
106-99-0	1,3-Butadiene	ND	20	ND	9.0	
74-83-9	Bromomethane	ND	19	ND	4.9	
75-00-3	Chloroethane	ND	19	ND	7.4	
64-17-5	Ethanol	ND	190	ND	99	
75-05-8	Acetonitrile	ND	37	ND	22	
107-02-8	Acrolein	ND	37	ND	16	
67-64-1	Acetone	ND	200	ND	83	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	19	ND	3.5	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	38	ND	16	
107-13-1	Acrylonitrile	ND	19	ND	8.6	
75-35-4	1,1-Dichloroethene	**89**	20	**22**	5.1	
75-09-2	Methylene Chloride	**28**	20	**8.2**	5.7	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	20	ND	6.3	
76-13-1	Trichlorotrifluoroethane (CFC 113)	**4,000**	47	**520**	6.2	**D**
75-15-0	Carbon Disulfide	ND	40	ND	13	
156-60-5	trans-1,2-Dichloroethene	ND	20	ND	5.1	
75-34-3	1,1-Dichloroethane	ND	20	ND	5.0	
1634-04-4	Methyl tert-Butyl Ether	ND	20	ND	5.6	
108-05-4	Vinyl Acetate	ND	190	ND	53	
78-93-3	2-Butanone (MEK)	ND	39	ND	13	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Bhate Environmental Associates, Inc.**
Client Sample ID: **LH18/24-Air_082923_Stripper_a** ALS Project ID: P2304228
Client Project ID: **LHAAP-GWTP / JVPCIB.H.0001** ALS Sample ID: P2304228-002

Test Code: EPA TO-15 Date Collected: 8/29/23
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 9/5/23
Analyst: Topacio Zavala Date Analyzed: 9/19/23
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.035 Liter(s)
Test Notes: 0.015 Liter(s)
Container ID: AC02083

Initial Pressure (psig): -0.45 Final Pressure (psig): 3.97

Canister Dilution Factor: 1.31

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	**4,600**	46	**1,200**	12	**D**
141-78-6	Ethyl Acetate	ND	79	ND	22	
110-54-3	n-Hexane	ND	20	ND	5.6	
67-66-3	Chloroform	ND	20	ND	4.1	
109-99-9	Tetrahydrofuran (THF)	ND	37	ND	13	
107-06-2	1,2-Dichloroethane	**45**	20	**11**	5.0	
71-55-6	1,1,1-Trichloroethane	ND	20	ND	3.6	
71-43-2	Benzene	ND	20	ND	6.3	
56-23-5	Carbon Tetrachloride	ND	19	ND	3.1	
110-82-7	Cyclohexane	ND	39	ND	11	
78-87-5	1,2-Dichloropropane	ND	20	ND	4.3	
75-27-4	Bromodichloromethane	ND	20	ND	3.0	
79-01-6	Trichloroethene	**4,400**	46	**820**	8.6	**D**
123-91-1	1,4-Dioxane	ND	20	ND	5.5	
80-62-6	Methyl Methacrylate	ND	41	ND	10	
142-82-5	n-Heptane	ND	20	ND	4.8	
10061-01-5	cis-1,3-Dichloropropene	ND	20	ND	4.5	
108-10-1	4-Methyl-2-pentanone	ND	41	ND	10	
10061-02-6	trans-1,3-Dichloropropene	ND	19	ND	4.2	
79-00-5	1,1,2-Trichloroethane	ND	20	ND	3.6	
108-88-3	Toluene	ND	20	ND	5.3	
591-78-6	2-Hexanone	ND	41	ND	10	
124-48-1	Dibromochloromethane	ND	20	ND	2.4	
106-93-4	1,2-Dibromoethane	ND	19	ND	2.5	
123-86-4	n-Butyl Acetate	ND	37	ND	7.9	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Bhate Environmental Associates, Inc.**
Client Sample ID: **LH18/24-Air_082923_Stripper_a** ALS Project ID: P2304228
Client Project ID: **LHAAP-GWTP / JVPCIB.H.0001** ALS Sample ID: P2304228-002

Test Code: EPA TO-15 Date Collected: 8/29/23
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 9/5/23
Analyst: Topacio Zavala Date Analyzed: 9/19/23
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.035 Liter(s)
Test Notes: 0.015 Liter(s)
Container ID: AC02083

Initial Pressure (psig): -0.45 Final Pressure (psig): 3.97

Canister Dilution Factor: 1.31

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	20	ND	4.3	
127-18-4	Tetrachloroethene	**58**	20	**8.6**	2.9	
108-90-7	Chlorobenzene	ND	20	ND	4.3	
100-41-4	Ethylbenzene	ND	20	ND	4.6	
179601-23-1	m,p-Xylenes	ND	41	ND	9.5	
75-25-2	Bromoform	ND	20	ND	2.0	
100-42-5	Styrene	ND	20	ND	4.7	
95-47-6	o-Xylene	ND	20	ND	4.6	
111-84-2	n-Nonane	ND	20	ND	3.8	
79-34-5	1,1,2,2-Tetrachloroethane	ND	20	ND	2.9	
98-82-8	Cumene	ND	20	ND	4.1	
80-56-8	alpha-Pinene	ND	41	ND	7.4	
103-65-1	n-Propylbenzene	ND	20	ND	4.1	
622-96-8	4-Ethyltoluene	ND	21	ND	4.2	
108-67-8	1,3,5-Trimethylbenzene	ND	20	ND	4.0	
95-63-6	1,2,4-Trimethylbenzene	ND	20	ND	4.0	
100-44-7	Benzyl Chloride	ND	79	ND	15	
541-73-1	1,3-Dichlorobenzene	ND	20	ND	3.3	
106-46-7	1,4-Dichlorobenzene	ND	20	ND	3.3	
95-50-1	1,2-Dichlorobenzene	ND	20	ND	3.4	
5989-27-5	d-Limonene	ND	41	ND	7.4	
96-12-8	1,2-Dibromo-3-chloropropane	ND	41	ND	4.3	
120-82-1	1,2,4-Trichlorobenzene	ND	41	ND	5.5	
91-20-3	Naphthalene	ND	21	ND	3.9	
87-68-3	Hexachlorobutadiene	ND	20	ND	1.9	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Bhate Environmental Associates, Inc.**
Client Sample ID: **LH18/24-Air_082923_GWTP** ALS Project ID: P2304228
Client Project ID: **LHAAP-GWTP / JVPCIB.H.0001** ALS Sample ID: P2304228-003

Test Code: EPA TO-15 Date Collected: 8/29/23
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 9/5/23
Analyst: Topacio Zavala Date Analyzed: 9/19/23
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01238

Initial Pressure (psig): -2.20 Final Pressure (psig): 4.23

Canister Dilution Factor: 1.51

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.80	ND	0.47	
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.3**	0.80	**0.47**	0.16	
74-87-3	Chloromethane	ND	0.79	ND	0.38	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.79	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.77	ND	0.30	
106-99-0	1,3-Butadiene	ND	0.80	ND	0.36	
74-83-9	Bromomethane	ND	0.77	ND	0.20	
75-00-3	Chloroethane	ND	0.79	ND	0.30	
64-17-5	Ethanol	**21**	7.6	**11**	4.0	
75-05-8	Acetonitrile	ND	1.5	ND	0.90	
107-02-8	Acrolein	ND	1.5	ND	0.66	
67-64-1	Acetone	**24**	8.0	**9.9**	3.4	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.4**	0.79	**0.25**	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	**8.7**	1.5	**3.5**	0.63	
107-13-1	Acrylonitrile	ND	0.76	ND	0.35	
75-35-4	1,1-Dichloroethene	ND	0.82	ND	0.21	
75-09-2	Methylene Chloride	ND	0.80	ND	0.23	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.80	ND	0.26	
76-13-1	Trichlorotrifluoroethane (CFC 113)	**4.4**	0.82	**0.58**	0.11	
75-15-0	Carbon Disulfide	**78**	1.6	**25**	0.52	
156-60-5	trans-1,2-Dichloroethene	ND	0.82	ND	0.21	
75-34-3	1,1-Dichloroethane	ND	0.82	ND	0.20	
1634-04-4	Methyl tert-Butyl Ether	ND	0.82	ND	0.23	
108-05-4	Vinyl Acetate	ND	7.6	ND	2.1	
78-93-3	2-Butanone (MEK)	**2.6**	1.6	**0.88**	0.53	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Bhate Environmental Associates, Inc.**
Client Sample ID: **LH18/24-Air_082923_GWTP** ALS Project ID: P2304228
Client Project ID: **LHAAP-GWTP / JVPCIB.H.0001** ALS Sample ID: P2304228-003

Test Code: EPA TO-15 Date Collected: 8/29/23
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 9/5/23
Analyst: Topacio Zavala Date Analyzed: 9/19/23
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01238

Initial Pressure (psig): -2.20 Final Pressure (psig): 4.23

Canister Dilution Factor: 1.51

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	**5.1**	0.80	**1.3**	0.20	
141-78-6	Ethyl Acetate	ND	3.2	ND	0.88	
110-54-3	n-Hexane	**2.2**	0.80	**0.62**	0.23	
67-66-3	Chloroform	ND	0.80	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	1.5	ND	0.51	
107-06-2	1,2-Dichloroethane	ND	0.82	ND	0.20	
71-55-6	1,1,1-Trichloroethane	ND	0.80	ND	0.15	
71-43-2	Benzene	ND	0.82	ND	0.26	
56-23-5	Carbon Tetrachloride	ND	0.79	ND	0.12	
110-82-7	Cyclohexane	ND	1.6	ND	0.46	
78-87-5	1,2-Dichloropropane	ND	0.80	ND	0.17	
75-27-4	Bromodichloromethane	ND	0.82	ND	0.12	
79-01-6	Trichloroethene	**4.7**	0.80	**0.88**	0.15	
123-91-1	1,4-Dioxane	ND	0.80	ND	0.22	
80-62-6	Methyl Methacrylate	ND	1.7	ND	0.41	
142-82-5	n-Heptane	ND	0.80	ND	0.20	
10061-01-5	cis-1,3-Dichloropropene	ND	0.82	ND	0.18	
108-10-1	4-Methyl-2-pentanone	ND	1.7	ND	0.41	
10061-02-6	trans-1,3-Dichloropropene	ND	0.77	ND	0.17	
79-00-5	1,1,2-Trichloroethane	ND	0.80	ND	0.15	
108-88-3	Toluene	**0.90**	0.80	**0.24**	0.21	
591-78-6	2-Hexanone	ND	1.7	ND	0.41	
124-48-1	Dibromochloromethane	ND	0.82	ND	0.096	
106-93-4	1,2-Dibromoethane	ND	0.79	ND	0.10	
123-86-4	n-Butyl Acetate	ND	1.5	ND	0.32	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Bhate Environmental Associates, Inc.**
Client Sample ID: **LH18/24-Air_082923_GWTP** ALS Project ID: P2304228
Client Project ID: **LHAAP-GWTP / JVPCIB.H.0001** ALS Sample ID: P2304228-003

Test Code: EPA TO-15 Date Collected: 8/29/23
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 9/5/23
Analyst: Topacio Zavala Date Analyzed: 9/19/23
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01238

Initial Pressure (psig): -2.20 Final Pressure (psig): 4.23

Canister Dilution Factor: 1.51

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.82	ND	0.17	
127-18-4	Tetrachloroethene	ND	0.80	ND	0.12	
108-90-7	Chlorobenzene	ND	0.80	ND	0.17	
100-41-4	Ethylbenzene	ND	0.80	ND	0.18	
179601-23-1	m,p-Xylenes	ND	1.7	ND	0.38	
75-25-2	Bromoform	ND	0.82	ND	0.079	
100-42-5	Styrene	ND	0.80	ND	0.19	
95-47-6	o-Xylene	ND	0.80	ND	0.18	
111-84-2	n-Nonane	ND	0.80	ND	0.15	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.80	ND	0.12	
98-82-8	Cumene	ND	0.82	ND	0.17	
80-56-8	alpha-Pinene	ND	1.7	ND	0.30	
103-65-1	n-Propylbenzene	ND	0.82	ND	0.17	
622-96-8	4-Ethyltoluene	ND	0.83	ND	0.17	
108-67-8	1,3,5-Trimethylbenzene	ND	0.80	ND	0.16	
95-63-6	1,2,4-Trimethylbenzene	ND	0.80	ND	0.16	
100-44-7	Benzyl Chloride	ND	3.2	ND	0.61	
541-73-1	1,3-Dichlorobenzene	ND	0.80	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.80	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.82	ND	0.14	
5989-27-5	d-Limonene	ND	1.7	ND	0.30	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.7	ND	0.17	
120-82-1	1,2,4-Trichlorobenzene	ND	1.7	ND	0.22	
91-20-3	Naphthalene	ND	0.83	ND	0.16	
87-68-3	Hexachlorobutadiene	ND	0.80	ND	0.075	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Bhate Environmental Associates, Inc.**
Client Sample ID: **LH18/24-Air_082923_Downwind** ALS Project ID: P2304228
Client Project ID: **LHAAP-GWTP / JVPCIB.H.0001** ALS Sample ID: P2304228-004

Test Code: EPA TO-15 Date Collected: 8/29/23
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 9/5/23
Analyst: Topacio Zavala Date Analyzed: 9/19/23
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00618

Initial Pressure (psig): -0.28 Final Pressure (psig): 4.26

Canister Dilution Factor: 1.31

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.69	ND	0.40	
75-71-8	Dichlorodifluoromethane (CFC 12)	**3.1**	0.69	**0.62**	0.14	
74-87-3	Chloromethane	ND	0.68	ND	0.33	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.68	ND	0.097	
75-01-4	Vinyl Chloride	ND	0.67	ND	0.26	
106-99-0	1,3-Butadiene	ND	0.69	ND	0.31	
74-83-9	Bromomethane	ND	0.67	ND	0.17	
75-00-3	Chloroethane	ND	0.68	ND	0.26	
64-17-5	Ethanol	**10**	6.6	**5.3**	3.5	
75-05-8	Acetonitrile	ND	1.3	ND	0.78	
107-02-8	Acrolein	ND	1.3	ND	0.57	
67-64-1	Acetone	**21**	6.9	**9.0**	2.9	
75-69-4	Trichlorofluoromethane (CFC 11)	**5.2**	0.68	**0.93**	0.12	
67-63-0	2-Propanol (Isopropyl Alcohol)	**17**	1.3	**6.9**	0.55	
107-13-1	Acrylonitrile	ND	0.66	ND	0.30	
75-35-4	1,1-Dichloroethene	ND	0.71	ND	0.18	
75-09-2	Methylene Chloride	**1.0**	0.69	**0.30**	0.20	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.69	ND	0.22	
76-13-1	Trichlorotrifluoroethane (CFC 113)	**1.9**	0.71	**0.25**	0.092	
75-15-0	Carbon Disulfide	**9.6**	1.4	**3.1**	0.45	
156-60-5	trans-1,2-Dichloroethene	ND	0.71	ND	0.18	
75-34-3	1,1-Dichloroethane	ND	0.71	ND	0.17	
1634-04-4	Methyl tert-Butyl Ether	ND	0.71	ND	0.20	
108-05-4	Vinyl Acetate	ND	6.6	ND	1.9	
78-93-3	2-Butanone (MEK)	**5.0**	1.4	**1.7**	0.46	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Bhate Environmental Associates, Inc.**
Client Sample ID: **LH18/24-Air_082923_Downwind** ALS Project ID: P2304228
Client Project ID: **LHAAP-GWTP / JVPCIB.H.0001** ALS Sample ID: P2304228-004

Test Code: EPA TO-15 Date Collected: 8/29/23
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 9/5/23
Analyst: Topacio Zavala Date Analyzed: 9/19/23
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00618

Initial Pressure (psig): -0.28 Final Pressure (psig): 4.26

Canister Dilution Factor: 1.31

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.69	ND	0.18	
141-78-6	Ethyl Acetate	**3.4**	2.8	**0.96**	0.76	
110-54-3	n-Hexane	**21**	0.69	**5.9**	0.20	
67-66-3	Chloroform	ND	0.69	ND	0.14	
109-99-9	Tetrahydrofuran (THF)	**10**	1.3	**3.4**	0.44	
107-06-2	1,2-Dichloroethane	ND	0.71	ND	0.17	
71-55-6	1,1,1-Trichloroethane	ND	0.69	ND	0.13	
71-43-2	Benzene	**1.9**	0.71	**0.58**	0.22	
56-23-5	Carbon Tetrachloride	ND	0.68	ND	0.11	
110-82-7	Cyclohexane	ND	1.4	ND	0.40	
78-87-5	1,2-Dichloropropane	ND	0.69	ND	0.15	
75-27-4	Bromodichloromethane	ND	0.71	ND	0.11	
79-01-6	Trichloroethene	ND	0.69	ND	0.13	
123-91-1	1,4-Dioxane	ND	0.69	ND	0.19	
80-62-6	Methyl Methacrylate	ND	1.4	ND	0.35	
142-82-5	n-Heptane	**1.2**	0.69	**0.30**	0.17	
10061-01-5	cis-1,3-Dichloropropene	ND	0.71	ND	0.16	
108-10-1	4-Methyl-2-pentanone	ND	1.4	ND	0.35	
10061-02-6	trans-1,3-Dichloropropene	ND	0.67	ND	0.15	
79-00-5	1,1,2-Trichloroethane	ND	0.69	ND	0.13	
108-88-3	Toluene	**5.8**	0.69	**1.5**	0.18	
591-78-6	2-Hexanone	ND	1.4	ND	0.35	
124-48-1	Dibromochloromethane	ND	0.71	ND	0.083	
106-93-4	1,2-Dibromoethane	ND	0.68	ND	0.089	
123-86-4	n-Butyl Acetate	ND	1.3	ND	0.28	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Bhate Environmental Associates, Inc.**
Client Sample ID: **LH18/24-Air_082923_Downwind** ALS Project ID: P2304228
Client Project ID: **LHAAP-GWTP / JVPCIB.H.0001** ALS Sample ID: P2304228-004

Test Code: EPA TO-15 Date Collected: 8/29/23
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 9/5/23
Analyst: Topacio Zavala Date Analyzed: 9/19/23
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00618

Initial Pressure (psig): -0.28 Final Pressure (psig): 4.26

Canister Dilution Factor: 1.31

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.71	ND	0.15	
127-18-4	Tetrachloroethene	ND	0.69	ND	0.10	
108-90-7	Chlorobenzene	ND	0.69	ND	0.15	
100-41-4	Ethylbenzene	**0.78**	0.69	**0.18**	0.16	
179601-23-1	m,p-Xylenes	**2.4**	1.4	**0.56**	0.33	
75-25-2	Bromoform	ND	0.71	ND	0.068	
100-42-5	Styrene	ND	0.69	ND	0.16	
95-47-6	o-Xylene	**0.92**	0.69	**0.21**	0.16	
111-84-2	n-Nonane	ND	0.69	ND	0.13	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.69	ND	0.10	
98-82-8	Cumene	ND	0.71	ND	0.14	
80-56-8	alpha-Pinene	**5.6**	1.4	**1.0**	0.26	
103-65-1	n-Propylbenzene	ND	0.71	ND	0.14	
622-96-8	4-Ethyltoluene	ND	0.72	ND	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.69	ND	0.14	
95-63-6	1,2,4-Trimethylbenzene	**0.90**	0.69	**0.18**	0.14	
100-44-7	Benzyl Chloride	ND	2.8	ND	0.53	
541-73-1	1,3-Dichlorobenzene	ND	0.69	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.69	ND	0.12	
95-50-1	1,2-Dichlorobenzene	ND	0.71	ND	0.12	
5989-27-5	d-Limonene	**1.6**	1.4	**0.29**	0.26	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.4	ND	0.15	
120-82-1	1,2,4-Trichlorobenzene	ND	1.4	ND	0.19	
91-20-3	Naphthalene	ND	0.72	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.69	ND	0.065	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Bhate Environmental Associates, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2304228
Client Project ID: **LHAAP-GWTP / JVPCIB.H.0001** ALS Sample ID: P230919-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Topacio Zavala Date Analyzed: 9/19/23
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.53	ND	0.31	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.53	ND	0.11	
74-87-3	Chloromethane	ND	0.52	ND	0.25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.52	ND	0.074	
75-01-4	Vinyl Chloride	ND	0.51	ND	0.20	
106-99-0	1,3-Butadiene	ND	0.53	ND	0.24	
74-83-9	Bromomethane	ND	0.51	ND	0.13	
75-00-3	Chloroethane	ND	0.52	ND	0.20	
64-17-5	Ethanol	ND	5.0	ND	2.7	
75-05-8	Acetonitrile	ND	1.0	ND	0.60	
107-02-8	Acrolein	ND	1.0	ND	0.44	
67-64-1	Acetone	ND	5.3	ND	2.2	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	0.52	ND	0.093	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.0	ND	0.42	
107-13-1	Acrylonitrile	ND	0.50	ND	0.23	
75-35-4	1,1-Dichloroethene	ND	0.54	ND	0.14	
75-09-2	Methylene Chloride	ND	0.53	ND	0.15	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.53	ND	0.17	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.54	ND	0.070	
75-15-0	Carbon Disulfide	ND	1.1	ND	0.34	
156-60-5	trans-1,2-Dichloroethene	ND	0.54	ND	0.14	
75-34-3	1,1-Dichloroethane	ND	0.54	ND	0.13	
1634-04-4	Methyl tert-Butyl Ether	ND	0.54	ND	0.15	
108-05-4	Vinyl Acetate	ND	5.0	ND	1.4	
78-93-3	2-Butanone (MEK)	ND	1.0	ND	0.35	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Bhate Environmental Associates, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2304228
Client Project ID: **LHAAP-GWTP / JVPCIB.H.0001** ALS Sample ID: P230919-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Topacio Zavala Date Analyzed: 9/19/23
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.53	ND	0.13	
141-78-6	Ethyl Acetate	ND	2.1	ND	0.58	
110-54-3	n-Hexane	ND	0.53	ND	0.15	
67-66-3	Chloroform	ND	0.53	ND	0.11	
109-99-9	Tetrahydrofuran (THF)	ND	1.0	ND	0.34	
107-06-2	1,2-Dichloroethane	ND	0.54	ND	0.13	
71-55-6	1,1,1-Trichloroethane	ND	0.53	ND	0.097	
71-43-2	Benzene	ND	0.54	ND	0.17	
56-23-5	Carbon Tetrachloride	ND	0.52	ND	0.083	
110-82-7	Cyclohexane	ND	1.1	ND	0.31	
78-87-5	1,2-Dichloropropane	ND	0.53	ND	0.11	
75-27-4	Bromodichloromethane	ND	0.54	ND	0.081	
79-01-6	Trichloroethene	ND	0.53	ND	0.099	
123-91-1	1,4-Dioxane	ND	0.53	ND	0.15	
80-62-6	Methyl Methacrylate	ND	1.1	ND	0.27	
142-82-5	n-Heptane	ND	0.53	ND	0.13	
10061-01-5	cis-1,3-Dichloropropene	ND	0.54	ND	0.12	
108-10-1	4-Methyl-2-pentanone	ND	1.1	ND	0.27	
10061-02-6	trans-1,3-Dichloropropene	ND	0.51	ND	0.11	
79-00-5	1,1,2-Trichloroethane	ND	0.53	ND	0.097	
108-88-3	Toluene	ND	0.53	ND	0.14	
591-78-6	2-Hexanone	ND	1.1	ND	0.27	
124-48-1	Dibromochloromethane	ND	0.54	ND	0.063	
106-93-4	1,2-Dibromoethane	ND	0.52	ND	0.068	
123-86-4	n-Butyl Acetate	ND	1.0	ND	0.21	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Bhate Environmental Associates, Inc.**

Client Sample ID: **Method Blank** ALS Project ID: P2304228

Client Project ID: **LHAAP-GWTP / JVPCIB.H.0001** ALS Sample ID: P230919-MB

Test Code: EPA TO-15 Date Collected: NA

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA

Analyst: Topacio Zavala Date Analyzed: 9/19/23

Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)

Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.54	ND	0.12	
127-18-4	Tetrachloroethene	ND	0.53	ND	0.078	
108-90-7	Chlorobenzene	ND	0.53	ND	0.12	
100-41-4	Ethylbenzene	ND	0.53	ND	0.12	
179601-23-1	m,p-Xylenes	ND	1.1	ND	0.25	
75-25-2	Bromoform	ND	0.54	ND	0.052	
100-42-5	Styrene	ND	0.53	ND	0.12	
95-47-6	o-Xylene	ND	0.53	ND	0.12	
111-84-2	n-Nonane	ND	0.53	ND	0.10	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.53	ND	0.077	
98-82-8	Cumene	ND	0.54	ND	0.11	
80-56-8	alpha-Pinene	ND	1.1	ND	0.20	
103-65-1	n-Propylbenzene	ND	0.54	ND	0.11	
622-96-8	4-Ethyltoluene	ND	0.55	ND	0.11	
108-67-8	1,3,5-Trimethylbenzene	ND	0.53	ND	0.11	
95-63-6	1,2,4-Trimethylbenzene	ND	0.53	ND	0.11	
100-44-7	Benzyl Chloride	ND	2.1	ND	0.41	
541-73-1	1,3-Dichlorobenzene	ND	0.53	ND	0.088	
106-46-7	1,4-Dichlorobenzene	ND	0.53	ND	0.088	
95-50-1	1,2-Dichlorobenzene	ND	0.54	ND	0.090	
5989-27-5	d-Limonene	ND	1.1	ND	0.20	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.1	ND	0.11	
120-82-1	1,2,4-Trichlorobenzene	ND	1.1	ND	0.15	
91-20-3	Naphthalene	ND	0.55	ND	0.10	
87-68-3	Hexachlorobutadiene	ND	0.53	ND	0.050	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **Bhate Environmental Associates, Inc.**
Client Project ID: **LHAAP-GWTP / JVPCIB.H.0001** ALS Project ID: P2304228

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date(s) Collected: 8/29/23
Analyst: Topacio Zavala Date(s) Received: 9/5/23
Sample Type: 6.0 L Summa Canister(s) / 6.0 L Silonite Canister(s) Date(s) Analyzed: 9/19/23
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P230919-MB	**103**	**101**	**81**	70-130	
Lab Control Sample	P230919-LCS	**99**	**101**	**83**	70-130	
Duplicate Lab Control Sample	P230919-DLCS	**104**	**102**	**81**	70-130	
LH18/24-Air_082923_Stripper	P2304228-001	**99**	**101**	**82**	70-130	
LH18/24-Air_082923_Stripper_a	P2304228-002	**99**	**101**	**81**	70-130	
LH18/24-Air_082923_GWTP	P2304228-003	**100**	**99**	**82**	70-130	
LH18/24-Air_082923_Downwind	P2304228-004	**96**	**99**	**81**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **Bhate Environmental Associates, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2304228
Client Project ID: **LHAAP-GWTP / JVPCIB.H.0001** ALS Sample ID: P230919-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Topacio Zavala Date Analyzed: 9/19/23
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	42.0	47.8	48.5	**114**	**115**	50-133	0.9	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	41.6	39.1	39.5	**94**	**95**	66-122	1	25	
74-87-3	Chloromethane	42.8	50.0	50.7	**117**	**118**	56-131	0.9	25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	43.6	39.3	39.8	**90**	**91**	63-120	1	25	
75-01-4	Vinyl Chloride	42.4	40.3	41.6	**95**	**98**	57-129	3	25	
106-99-0	1,3-Butadiene	42.4	45.6	46.5	**108**	**110**	62-132	2	25	
74-83-9	Bromomethane	40.8	43.7	43.6	**107**	**107**	72-120	0	25	
75-00-3	Chloroethane	44.0	48.3	48.1	**110**	**109**	67-123	0.9	25	
64-17-5	Ethanol	196	226	230	**115**	**117**	52-120	2	25	
75-05-8	Acetonitrile	38.4	46.6	47.3	**121**	**123**	50-114	2	25	**L**
107-02-8	Acrolein	86.0	103	102	**120**	**119**	63-125	0.8	25	
67-64-1	Acetone	204	214	214	**105**	**105**	61-120	0	25	
75-69-4	Trichlorofluoromethane (CFC 11)	40.4	36.4	37.2	**90**	**92**	65-122	2	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	79.2	91.2	91.5	**115**	**116**	59-132	0.9	25	
107-13-1	Acrylonitrile	80.0	96.6	96.8	**121**	**121**	60-128	0	25	
75-35-4	1,1-Dichloroethene	36.0	44.6	45.0	**124**	**125**	75-120	0.8	25	**L**
75-09-2	Methylene Chloride	36.4	40.5	41.0	**111**	**113**	71-123	2	25	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	43.2	45.1	45.1	**104**	**104**	50-118	0	25	
76-13-1	Trichlorotrifluoroethane (CFC 113)	36.0	37.1	37.1	**103**	**103**	65-121	0	25	
75-15-0	Carbon Disulfide	82.8	84.5	85.8	**102**	**104**	69-115	2	25	
156-60-5	trans-1,2-Dichloroethene	42.0	45.8	45.8	**109**	**109**	67-123	0	25	
75-34-3	1,1-Dichloroethane	41.2	46.2	46.2	**112**	**112**	66-120	0	25	
1634-04-4	Methyl tert-Butyl Ether	42.8	44.6	45.9	**104**	**107**	65-124	3	25	
108-05-4	Vinyl Acetate	215	230	237	**107**	**110**	76-147	3	25	
78-93-3	2-Butanone (MEK)	81.2	86.6	88.0	**107**	**108**	70-125	0.9	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.
L = Laboratory control sample recovery outside the specified limits, results may be biased high.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **Bhate Environmental Associates, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2304228
Client Project ID: **LHAAP-GWTP / JVPCIB.H.0001** ALS Sample ID: P230919-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Topacio Zavala Date Analyzed: 9/19/23
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	41.2	42.4	42.3	**103**	**103**	64-120	0	25	
141-78-6	Ethyl Acetate	78.4	96.4	96.1	**123**	**123**	56-120	0	25	**L**
110-54-3	n-Hexane	42.0	46.6	48.0	**111**	**114**	60-125	3	25	
67-66-3	Chloroform	42.8	40.9	41.4	**96**	**97**	64-121	1	25	
109-99-9	Tetrahydrofuran (THF)	75.6	77.6	77.4	**103**	**102**	67-117	1	25	
107-06-2	1,2-Dichloroethane	40.8	38.2	38.7	**94**	**95**	64-138	1	25	
71-55-6	1,1,1-Trichloroethane	41.2	35.1	35.4	**85**	**86**	67-125	1	25	
71-43-2	Benzene	40.8	38.8	39.4	**95**	**97**	73-128	2	25	
56-23-5	Carbon Tetrachloride	41.2	33.8	34.2	**82**	**83**	71-134	1	25	
110-82-7	Cyclohexane	84.0	86.6	85.0	**103**	**101**	71-118	2	25	
78-87-5	1,2-Dichloropropane	43.2	45.7	46.5	**106**	**108**	68-121	2	25	
75-27-4	Bromodichloromethane	42.4	39.5	38.4	**93**	**91**	70-125	2	25	
79-01-6	Trichloroethene	41.2	35.6	35.8	**86**	**87**	68-124	1	25	
123-91-1	1,4-Dioxane	41.6	41.4	41.0	**100**	**99**	76-127	1	25	
80-62-6	Methyl Methacrylate	84.4	83.7	82.9	**99**	**98**	77-118	1	25	
142-82-5	n-Heptane	42.0	45.4	45.2	**108**	**108**	72-121	0	25	
10061-01-5	cis-1,3-Dichloropropene	42.0	37.8	39.0	**90**	**93**	87-137	3	25	
108-10-1	4-Methyl-2-pentanone	84.0	92.5	94.4	**110**	**112**	67-137	2	25	
10061-02-6	trans-1,3-Dichloropropene	39.2	35.7	36.3	**91**	**93**	73-127	2	25	
79-00-5	1,1,2-Trichloroethane	43.6	39.3	40.1	**90**	**92**	71-119	2	25	
108-88-3	Toluene	43.2	39.4	39.5	**91**	**91**	64-121	0	25	
591-78-6	2-Hexanone	81.6	91.0	92.0	**112**	**113**	70-136	0.9	25	
124-48-1	Dibromochloromethane	40.8	36.0	36.8	**88**	**90**	67-128	2	25	
106-93-4	1,2-Dibromoethane	41.2	37.7	38.0	**92**	**92**	69-129	0	25	
123-86-4	n-Butyl Acetate	83.2	94.6	95.6	**114**	**115**	70-135	0.9	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.
L = Laboratory control sample recovery outside the specified limits, results may be biased high.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **Bhate Environmental Associates, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2304228
Client Project ID: **LHAAP-GWTP / JVPCIB.H.0001** ALS Sample ID: P230919-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Topacio Zavala Date Analyzed: 9/19/23
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
111-65-9	n-Octane	42.4	45.3	45.3	**107**	**107**	66-124	0	25	
127-18-4	Tetrachloroethene	42.8	34.4	34.8	**80**	**81**	55-132	1	25	
108-90-7	Chlorobenzene	42.8	37.5	36.5	**88**	**85**	63-124	3	25	
100-41-4	Ethylbenzene	43.6	40.3	39.6	**92**	**91**	64-119	1	25	
179601-23-1	m,p-Xylenes	85.6	78.6	76.8	**92**	**90**	64-121	2	25	
75-25-2	Bromoform	43.6	36.4	36.7	**83**	**84**	63-132	1	25	
100-42-5	Styrene	42.4	38.7	38.6	**91**	**91**	71-125	0	25	
95-47-6	o-Xylene	43.2	39.0	38.8	**90**	**90**	66-122	0	25	
111-84-2	n-Nonane	41.6	48.3	46.9	**116**	**113**	65-129	3	25	
79-34-5	1,1,2,2-Tetrachloroethane	43.2	42.3	41.6	**98**	**96**	71-128	2	25	
98-82-8	Cumene	41.6	37.3	36.7	**90**	**88**	66-126	2	25	
80-56-8	alpha-Pinene	42.8	39.5	39.8	**92**	**93**	65-129	1	25	
103-65-1	n-Propylbenzene	41.2	38.2	38.1	**93**	**92**	67-126	1	25	
622-96-8	4-Ethyltoluene	41.2	38.3	37.3	**93**	**91**	67-128	2	25	
108-67-8	1,3,5-Trimethylbenzene	43.2	37.2	36.8	**86**	**85**	66-125	1	25	
95-63-6	1,2,4-Trimethylbenzene	41.6	36.7	35.2	**88**	**85**	67-130	3	25	
100-44-7	Benzyl Chloride	82.8	69.7	69.1	**84**	**83**	58-151	1	25	
541-73-1	1,3-Dichlorobenzene	41.2	33.5	32.5	**81**	**79**	57-135	3	25	
106-46-7	1,4-Dichlorobenzene	41.6	32.7	32.2	**79**	**77**	56-129	3	25	
95-50-1	1,2-Dichlorobenzene	41.1	32.4	31.8	**79**	**77**	57-138	3	25	
5989-27-5	d-Limonene	40.0	42.6	42.0	**107**	**105**	70-129	2	25	
96-12-8	1,2-Dibromo-3-chloropropane	82.4	69.9	66.9	**85**	**81**	63-138	5	25	
120-82-1	1,2,4-Trichlorobenzene	85.6	61.4	62.9	**72**	**73**	50-137	1	25	
91-20-3	Naphthalene	40.4	26.3	27.3	**65**	**68**	50-157	5	25	
87-68-3	Hexachlorobutadiene	40.4	28.3	27.8	**70**	**69**	50-133	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Bhate Environmental Associates, Inc.** ALS Project ID: P2304228
Client Project ID: **LHAAP-GWTP / JVPCIB.H.0001**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Lab File ID: 09192301.D
Analyst: Topacio Zavala Date Analyzed: 9/19/23
Sample Type: 6.0 L Summa Canister(s) Time Analyzed: 01:54
Test Notes:

		IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	24 Hour Standard	146788	7.34	672635	9.38	153484	14.88
	Upper Limit	205503	7.67	941689	9.71	214878	15.21
	Lower Limit	88073	7.01	403581	9.05	92090	14.55
	Client Sample ID						
01	Method Blank	134057	7.30	605462	9.36	139306	14.87
02	Lab Control Sample	142976	7.31	626654	9.36	140036	14.87
03	Duplicate Lab Control Sample	141852	7.32	633862	9.37	143137	14.87
04	LH18/24-Air_082923_Stripper	157607	7.31	679702	9.36	154029	14.87
05	LH18/24-Air_082923_Stripper_a	153191	7.31	670493	9.36	150660	14.87
06	LH18/24-Air_082923_Stripper_a (Dilution)	151718	7.30	652907	9.36	146997	14.87
07	LH18/24-Air_082923_GWTP	155464	7.30	696109	9.36	161284	14.87
08	LH18/24-Air_082923_Downwind	160260	7.30	691610	9.36	161076	14.87
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2023_09\19\09192308.D Vial: 3
Acq On : 19 Sep 2023 10:14 Operator: TZ
Sample : P2304228-001 (25mL) Inst : MS13
Misc : S37-09012301

TZ 9/20/23

Quant Time: Sep 20 09:08:12 2023
Quant Method : I:\MS13\METHODS\R13090423A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Sep 16 07:16:40 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.31	130	157607	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.36	114	679702	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.87	54	154029	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.07	65	338655	12.313	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.48%				
57) Toluene-d8 (SS2)	12.47	98	766556	12.628	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.04%				
73) Bromofluorobenzene (SS3)	16.85	174	273590	10.311	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 82.48%				
Target Compounds							Qvalue
2) Propene	3.39	42	3424	N.D.			
3) Dichlorodifluoromethan...	3.41	85	9181	N.D.			
4) Chloromethane	3.60	50	664	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	3.79	62	126581	6.481	ng		99
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.42	45	2851	N.D.			
11) Acetonitrile	4.57	41	111	N.D.			
12) Acrolein	4.65	56	197	N.D.			
13) Acetone	4.75	58	20266	2.202	ng	#	71
14) Trichlorofluoromethane	4.85	101	943	N.D.			
15) 2-Propanol (Isopropanol)	4.98	45	2139	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	5.35	96	22728	1.708	ng		100
18) 2-Methyl-2-Propanol (t...	5.45	59	1459	N.D.			
19) Methylene Chloride	5.44	84	7844	0.532	ng		93
20) 3-Chloro-1-propene (Al...	5.55	41	116	N.D.			
21) Trichlorotrifluoroethane	5.67	151	1289960	75.772	ng		88
22) Carbon Disulfide	5.71	76	8721	N.D.			
23) trans-1,2-Dichloroethene	6.22	61	6603	N.D.			
24) 1,1-Dichloroethane	6.40	63	7237	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	6.77	72	3314	N.D.			
28) cis-1,2-Dichloroethene	7.15	61	1859353	89.597	ng		93
29) Diisopropyl Ether	7.43	87	615	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	7.43	83	8738	N.D.			
34) Tetrahydrofuran (THF)	7.87	72	129	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.19	62	24487	0.805	ng		96
38) 1,1,1-Trichloroethane	8.46	97	782	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.93	56	219	No Calib		#	
41) Benzene	8.97	78	2685	N.D.			
42) Carbon Tetrachloride	9.14	117	2528	N.D.			
43) Cyclohexane	9.28	84	1935	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	10.21	130	1598780	83.437	ng		100
48) 1,4-Dioxane	10.23	88	996	N.D.			
49) 2,2,4-Trimethylpentane...	10.22	57	261	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

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Acq On : 19 Sep 2023 10:14 Operator: TZ
Sample : P2304228-001 (25mL) Inst : MS13
Misc : S37-09012301

Quant Time: Sep 20 09:08:12 2023
Quant Method : I:\MS13\METHODS\R13090423A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Sep 16 07:16:40 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

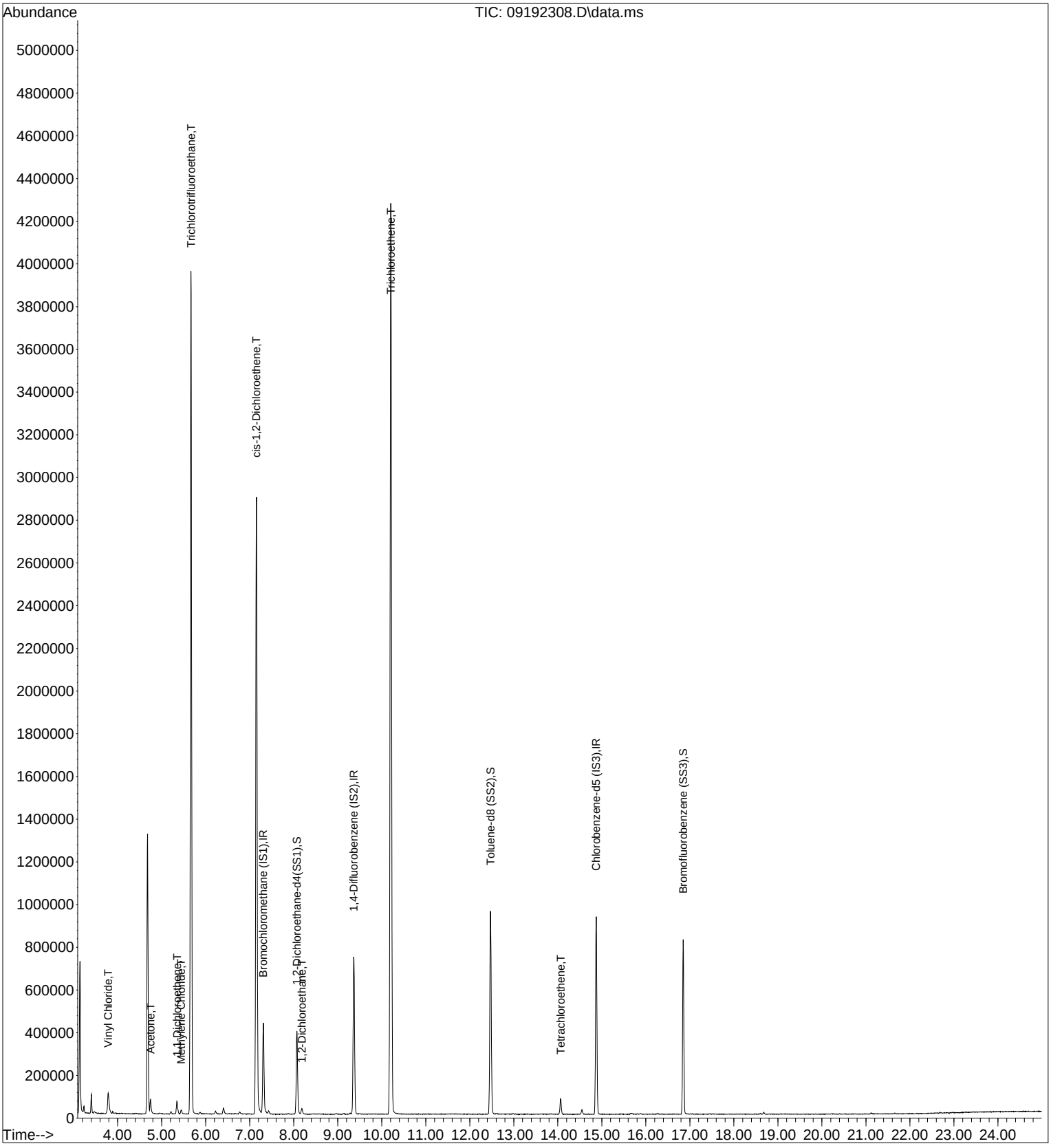
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	12.22	97	533	N.D.	
58) Toluene	12.60	91	4565	N.D.	
59) 2-Hexanone	12.99	43	3806	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.83	43	2008	N.D.	
63) n-Octane	13.95	57	117	N.D.	
64) Tetrachloroethene	14.07	166	24050	1.045 ng	99
65) Chlorobenzene	14.92	112	224	N.D.	
66) Ethylbenzene	15.44	91	2113	N.D.	
67) m- & p-Xylenes	15.66	91	5487	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.14	104	164	N.D.	
70) o-Xylene	16.27	91	2433	N.D.	
71) n-Nonane	0.00	43	0	N.D.	
72) 1,1,2,2-Tetrachloroethane	16.24	83	135	N.D.	
74) Cumene	17.06	105	599	N.D.	
75) alpha-Pinene	17.56	93	197	N.D.	
76) n-Propylbenzene	17.75	91	893	N.D.	
77) 3-Ethyltoluene	17.06	105	599	No Calib	#
78) 4-Ethyltoluene	17.94	105	649	N.D.	
79) 1,3,5-Trimethylbenzene	18.06	105	636	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.06	105	599	No Calib	#
82) 1,2,4-Trimethylbenzene	18.60	105	1377	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.86	146	133	N.D.	
86) 1,4-Dichlorobenzene	18.86	146	133	N.D.	
87) sec-Butylbenzene	18.96	105	654	N.D.	
88) 4-Isopropyltoluene (p-...	19.16	119	640	N.D.	
89) 1,2,3-Trimethylbenzene	17.06	105	599	No Calib	#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	21.43	180	352	N.D.	
95) Naphthalene	21.55	128	1195	N.D.	
96) n-Dodecane	19.10	57	718	No Calib	#
97) Hexachlorobutadiene	21.98	225	333	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.59	119	670	N.D.	
100) n-Butylbenzene	19.71	91	380	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

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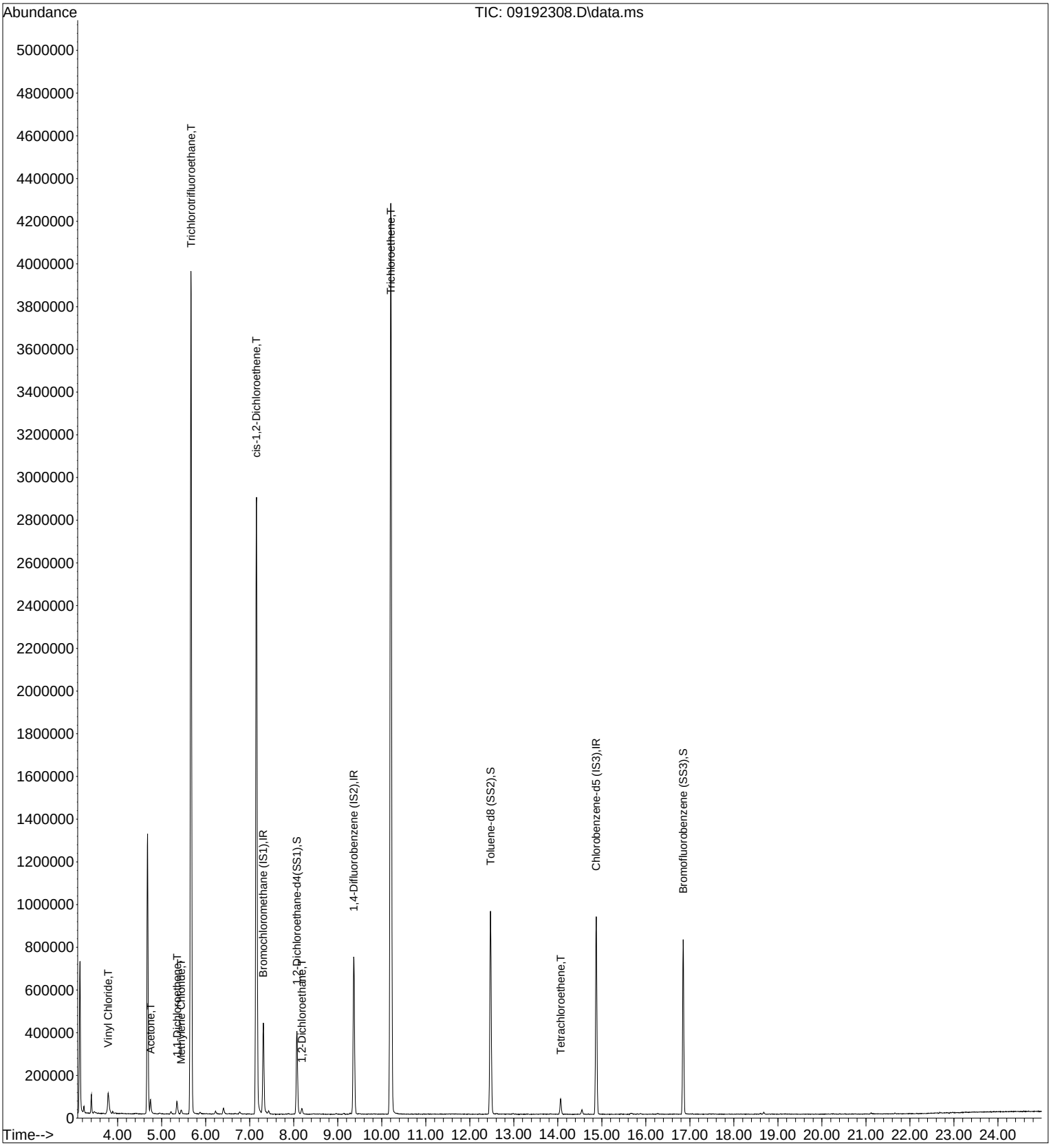
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Spiked Amount 12.500	Range 70 - 130		Recovery = 101.04%				
73) Bromofluorobenzene (SS3)	16.85	174	273590	10.311	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 82.48%				
Target Compounds							Qvalue
6) Vinyl Chloride	3.79	62	126581	6.481	ng		99
13) Acetone	4.75	58	20266	2.202	ng	#	71
17) 1,1-Dichloroethene	5.35	96	22728	1.708	ng		100
19) Methylene Chloride	5.44	84	7844	0.532	ng		93
21) Trichlorotrifluoroethane	5.67	151	1289960	75.772	ng		88
28) cis-1,2-Dichloroethene	7.15	61	1859353	89.597	ng		93
36) 1,2-Dichloroethane	8.19	62	24487	0.805	ng		96
47) Trichloroethene	10.21	130	1598780	83.437	ng		100
64) Tetrachloroethene	14.07	166	24050	1.045	ng		99

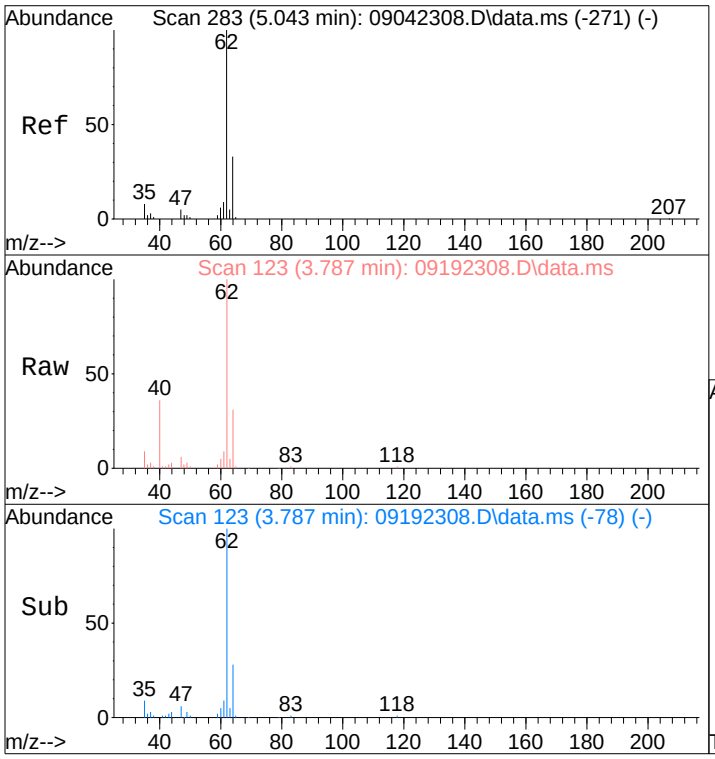
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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Quant Method : I:\MS13\METHODS\R13090423A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Sep 16 07:16:40 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

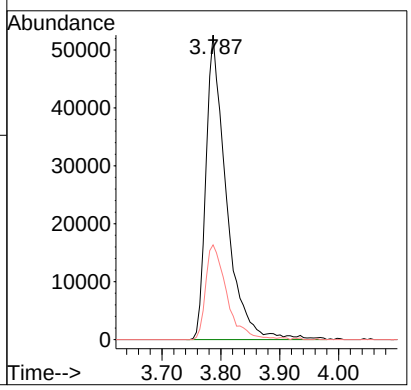


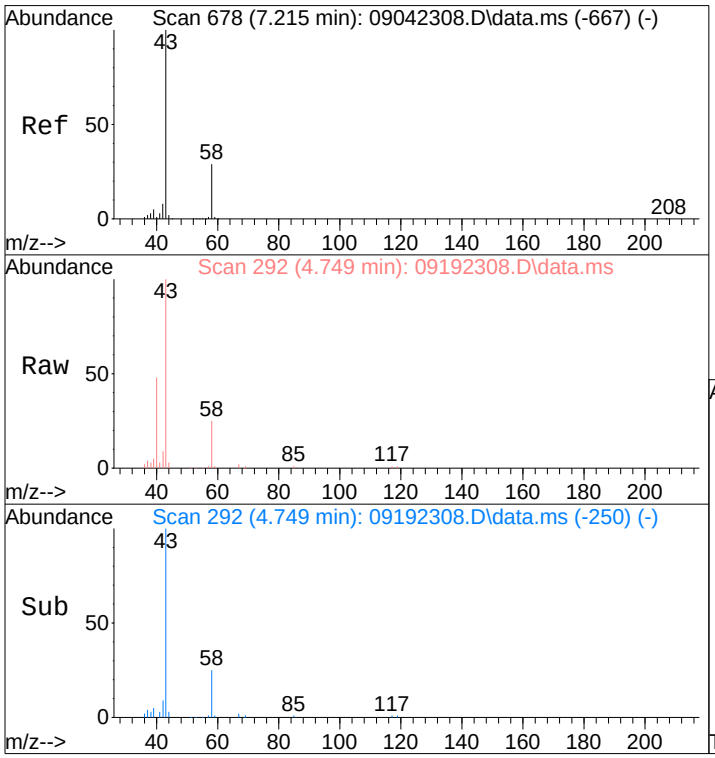


#6
Vinyl Chloride
Concen: 6.48 ng
RT: 3.79 min Scan# 123
Delta R.T. 0.006 min
Lab File: 09192308.D
Acq: 19 Sep 2023 10:14

Tgt Ion: 62 Resp: 126581

Ion	Ratio	Lower	Upper
62	100		
64	32.2	11.9	51.9

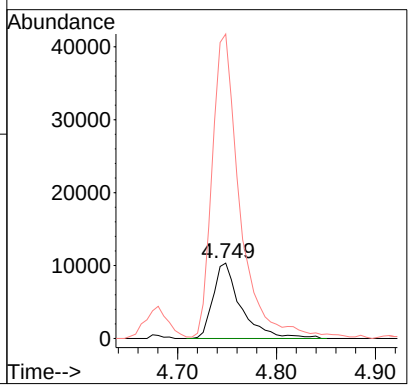


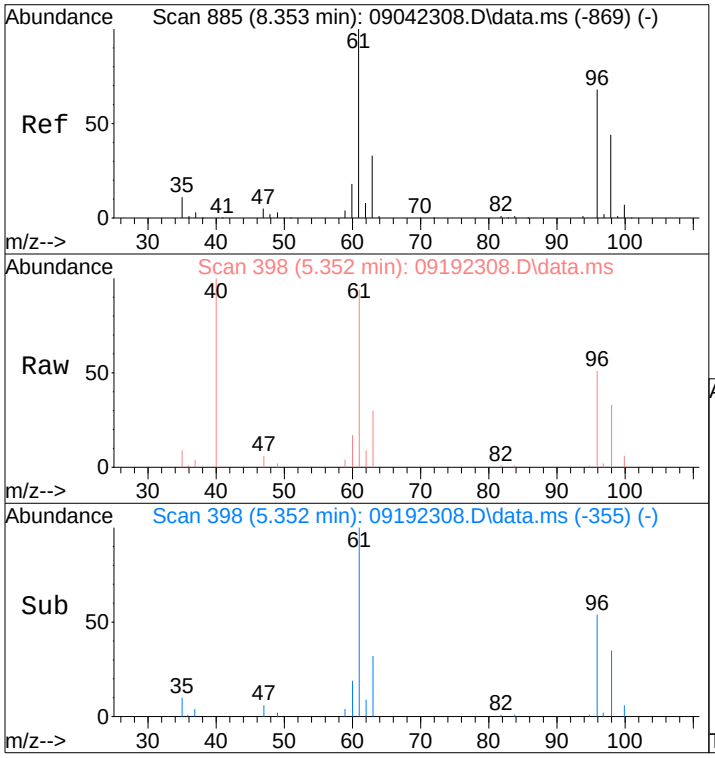


#13
Acetone
Concen: 2.20 ng
RT: 4.75 min Scan# 292
Delta R.T. -0.011 min
Lab File: 09192308.D
Acq: 19 Sep 2023 10:14

Tgt Ion: 58 Resp: 20266

Ion	Ratio	Lower	Upper
58	100		
43	406.5	454.1	514.1#

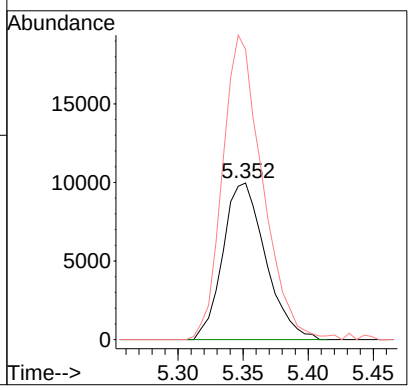


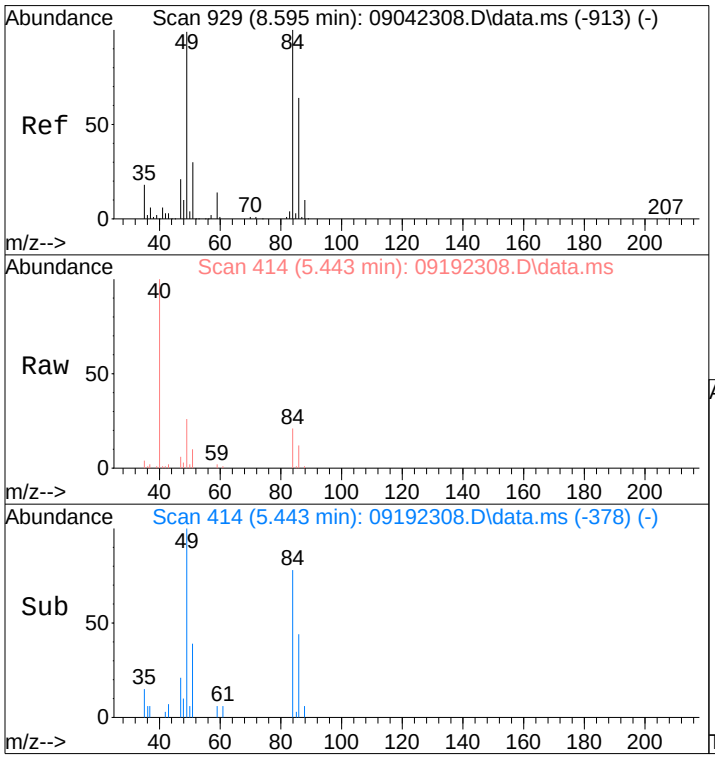


#17
1,1-Dichloroethene
Concen: 1.71 ng
RT: 5.35 min Scan# 398
Delta R.T. -0.006 min
Lab File: 09192308.D
Acq: 19 Sep 2023 10:14

Tgt Ion: 96 Resp: 22728

Ion	Ratio	Lower	Upper
96	100		
61	182.5	163.2	203.2

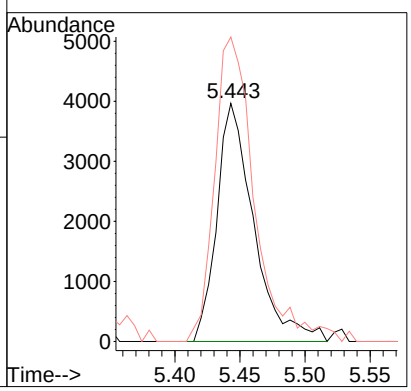


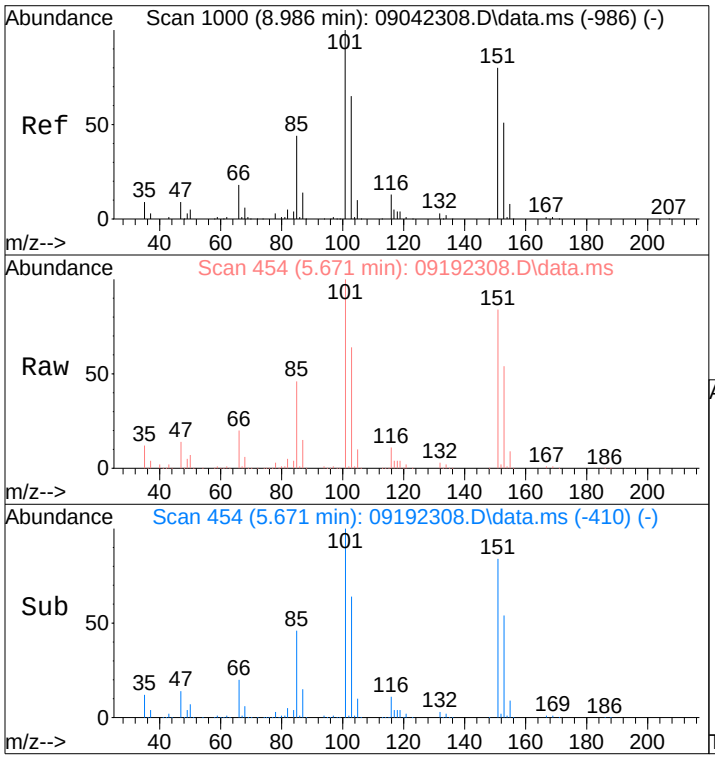


#19
Methylene Chloride
Concen: 0.53 ng
RT: 5.44 min Scan# 414
Delta R.T. -0.046 min
Lab File: 09192308.D
Acq: 19 Sep 2023 10:14

Tgt Ion: 84 Resp: 7844

Ion	Ratio	Lower	Upper
84	100		
49	138.9	105.7	155.7

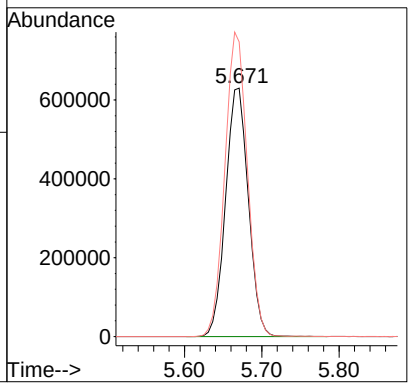


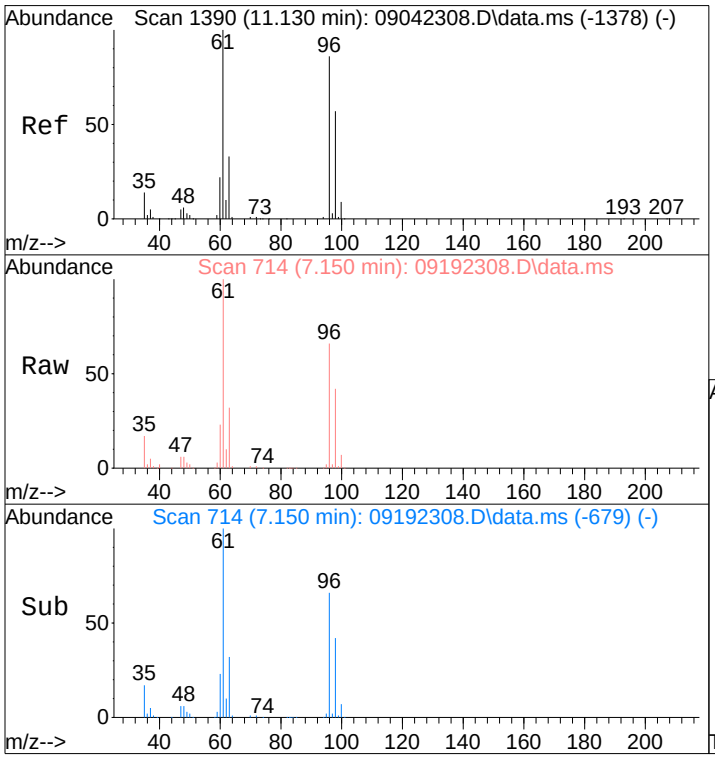


#21
Trichlorotrifluoroethane
Concen: 75.77 ng
RT: 5.67 min Scan# 454
Delta R.T. -0.000 min
Lab File: 09192308.D
Acq: 19 Sep 2023 10:14

Tgt Ion:151 Resp: 1289960

Ion	Ratio	Lower	Upper
151	100		
101	121.5	89.0	129.0

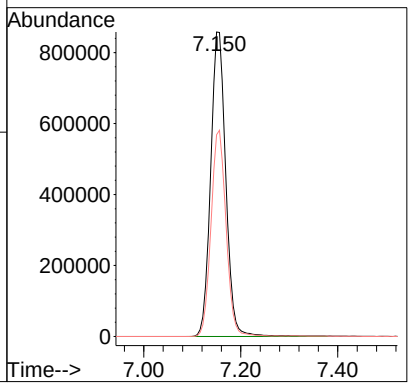


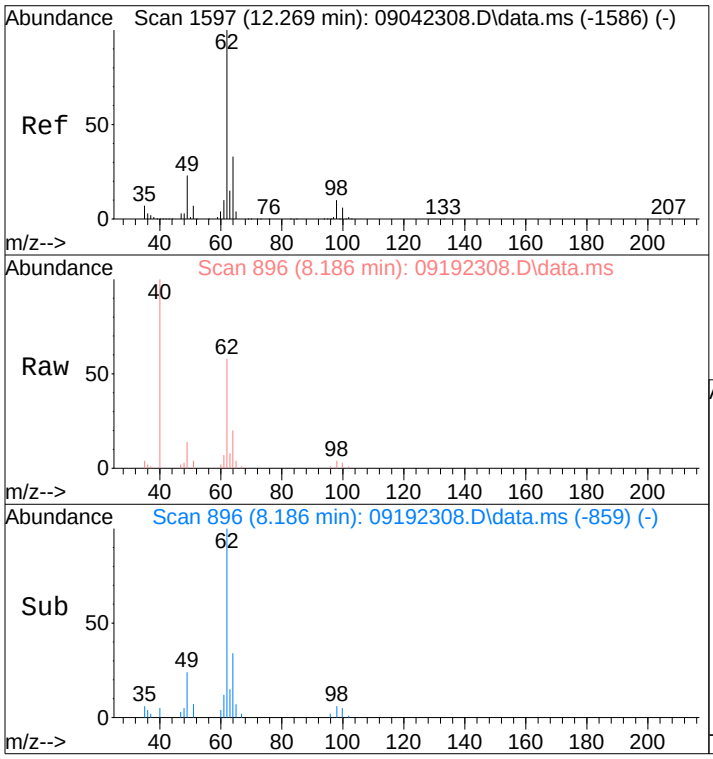


#28
cis-1,2-Dichloroethene
Concen: 89.60 ng
RT: 7.15 min Scan# 714
Delta R.T. -0.051 min
Lab File: 09192308.D
Acq: 19 Sep 2023 10:14

Tgt Ion: 61 Resp: 1859353

Ion	Ratio	Lower	Upper
61	100		
96	67.4	53.0	93.0

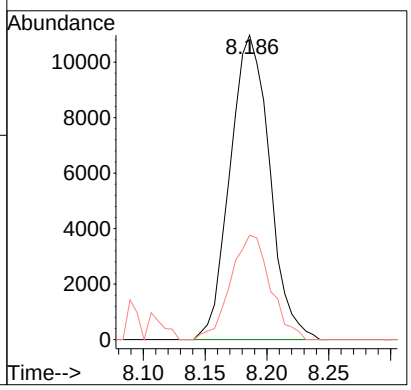


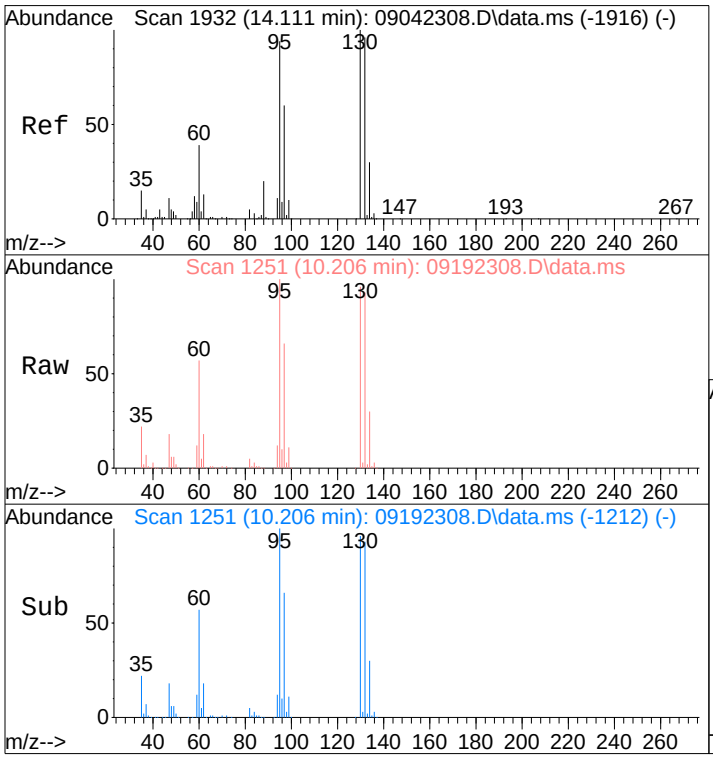


#36
1,2-Dichloroethane
Concen: 0.80 ng
RT: 8.19 min Scan# 896
Delta R.T. -0.040 min
Lab File: 09192308.D
Acq: 19 Sep 2023 10:14

Tgt Ion: 62 Resp: 24487

Ion	Ratio	Lower	Upper
62	100		
64	34.5	12.2	52.2

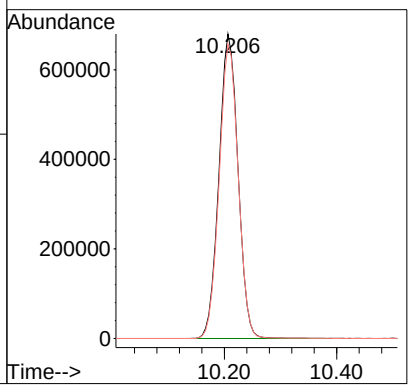


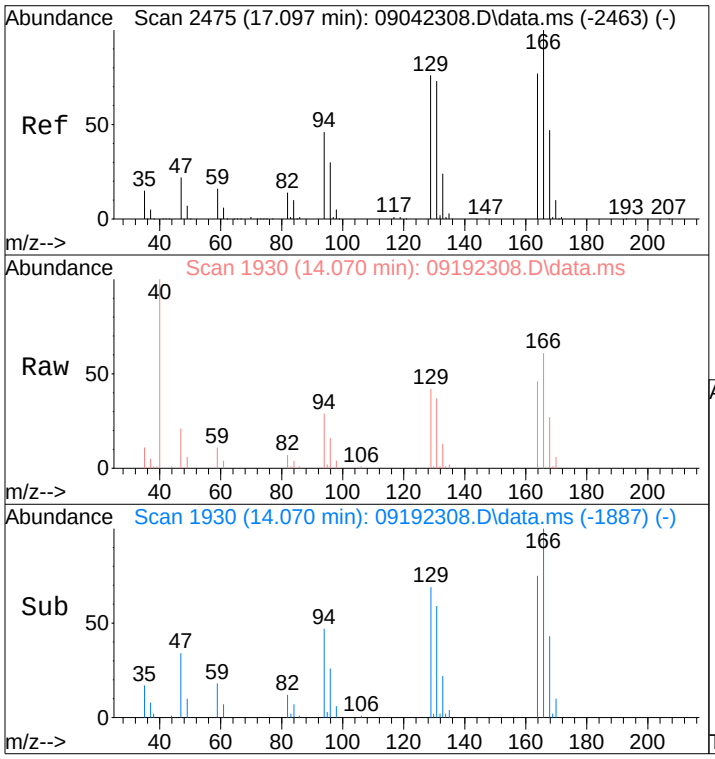


#47
Trichloroethene
Concen: 83.44 ng
RT: 10.21 min Scan# 1251
Delta R.T. -0.028 min
Lab File: 09192308.D
Acq: 19 Sep 2023 10:14

Tgt Ion:130 Resp: 1598780

Ion	Ratio	Lower	Upper
130	100		
132	96.5	77.0	117.0

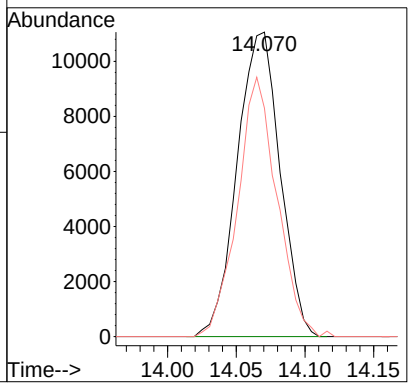




#64
Tetrachloroethene
Concen: 1.05 ng
RT: 14.07 min Scan# 1930
Delta R.T. -0.006 min
Lab File: 09192308.D
Acq: 19 Sep 2023 10:14

Tgt Ion:166 Resp: 24050

Ion	Ratio	Lower	Upper
166	100		
164	78.4	58.0	98.0



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2023_09\19\09192313.D Vial: 4
Acq On : 19 Sep 2023 13:27 Operator: TZ
Sample : P2304228-002 (35mL) Inst : MS13
Misc : S37-09012301

TZ 9/20/23

Quant Time: Sep 20 09:09:54 2023
Quant Method : I:\MS13\METHODS\R13090423A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Sep 16 07:16:40 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.31	130	153191	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.36	114	670493	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.87	54	150660	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.07	65	329408	12.322	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.56%				
57) Toluene-d8 (SS2)	12.47	98	750231	12.636	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.12%				
73) Bromofluorobenzene (SS3)	16.85	174	264203	10.180	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 81.44%				
Target Compounds							Qvalue
2) Propene	3.38	42	5550	0.454	ng		99
3) Dichlorodifluoromethan...	3.45	85	2312	N.D.			
4) Chloromethane	3.60	50	618	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	3.78	62	174535	9.194	ng		100
7) 1,3-Butadiene	3.88	54	169	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.42	45	4709	0.503	ng		91
11) Acetonitrile	4.56	41	530	N.D.			
12) Acrolein	4.66	56	592	N.D.			
13) Acetone	4.74	58	39323	4.395	ng	#	75
14) Trichlorofluoromethane	4.85	101	1328	N.D.			
15) 2-Propanol (Isopropanol)	4.96	45	2259	N.D.			
16) Acrylonitrile	5.21	53	4214	N.D.			
17) 1,1-Dichloroethene	5.34	96	30711	2.374	ng		90
18) 2-Methyl-2-Propanol (t...	5.45	59	3480	N.D.			
19) Methylene Chloride	5.44	84	10893	0.760	ng		91
20) 3-Chloro-1-propene (Al...	5.46	41	956	N.D.			
21) Trichlorotrifluoroethane	5.66	151	1792307	108.315	ng		87
22) Carbon Disulfide	5.70	76	4668	N.D.			
23) trans-1,2-Dichloroethene	6.22	61	9955	0.480	ng		90
24) 1,1-Dichloroethane	6.40	63	10085	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	6.77	72	6776	0.854	ng	#	84
28) cis-1,2-Dichloroethene	7.15	61	2669964	132.367	ng		92
29) Diisopropyl Ether	7.43	87	1185	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	7.38	57	462	N.D.			
32) Chloroform	7.44	83	12472	N.D.			
34) Tetrahydrofuran (THF)	7.87	72	344	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.19	62	35696	1.207	ng		100
38) 1,1,1-Trichloroethane	8.47	97	1222	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.92	56	953	No Calib		#	
41) Benzene	8.97	78	5929	N.D.			
42) Carbon Tetrachloride	9.14	117	3908	N.D.			
43) Cyclohexane	9.28	84	2774	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	10.21	130	2273674	120.289	ng		100
48) 1,4-Dioxane	10.22	88	961	N.D.			
49) 2,2,4-Trimethylpentane...	10.23	57	698	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Data File : I:\MS13\DATA\2023_09\19\09192313.D Vial: 4
Acq On : 19 Sep 2023 13:27 Operator: TZ
Sample : P2304228-002 (35mL) Inst : MS13
Misc : S37-09012301

Quant Time: Sep 20 09:09:54 2023
Quant Method : I:\MS13\METHODS\R13090423A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Sep 16 07:16:40 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

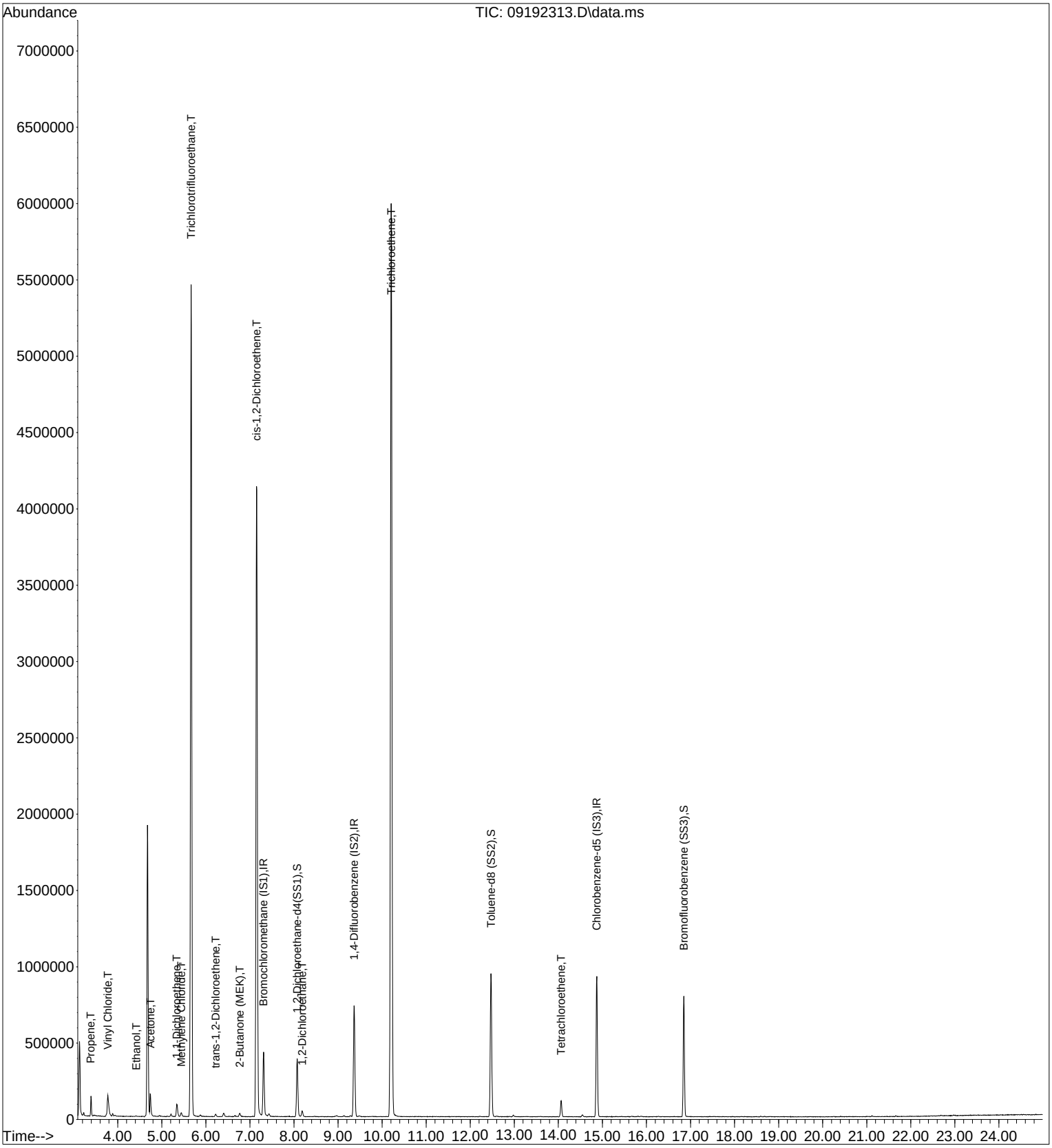
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	12.22	97	1031	N.D.		
58) Toluene	12.60	91	4158	N.D.		
59) 2-Hexanone	12.98	43	7831	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	14.06	166	34973	1.554	ng	99
65) Chlorobenzene	14.92	112	162	N.D.		
66) Ethylbenzene	15.44	91	1589	N.D.		
67) m- & p-Xylenes	15.65	91	3445	N.D.		
68) Bromoform	15.70	173	149	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	16.27	91	2146	N.D.		
71) n-Nonane	16.65	43	116	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	17.06	105	606	N.D.		
75) alpha-Pinene	17.56	93	367	N.D.		
76) n-Propylbenzene	17.74	91	807	N.D.		
77) 3-Ethyltoluene	17.06	105	606	No Calib	#	
78) 4-Ethyltoluene	17.95	105	738	N.D.		
79) 1,3,5-Trimethylbenzene	18.05	105	638	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.06	105	606	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.60	105	1819	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	18.95	105	563	N.D.		
88) 4-Isopropyltoluene (p-...	19.17	119	715	N.D.		
89) 1,2,3-Trimethylbenzene	17.06	105	606	No Calib	#	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	21.43	180	116	N.D.		
95) Naphthalene	21.57	128	258	N.D.		
96) n-Dodecane	19.10	57	107	No Calib	#	
97) Hexachlorobutadiene	21.99	225	338	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.59	119	653	N.D.		
100) n-Butylbenzene	19.72	91	708	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2023_09\19\09192313.D Vial: 4
Acq On : 19 Sep 2023 13:27 Operator: TZ
Sample : P2304228-002 (35mL) Inst : MS13
Misc : S37-09012301

Quant Time: Sep 20 09:09:54 2023
Quant Method : I:\MS13\METHODS\R13090423A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Sep 16 07:16:40 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2023_09\19\09192313.D Vial: 4
Acq On : 19 Sep 2023 13:27 Operator: TZ
Sample : P2304228-002 (35mL) Inst : MS13
Misc : S37-09012301

TZ 9/20/23

Quant Time: Sep 20 09:09:54 2023
Quant Method : I:\MS13\METHODS\R13090423A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Sep 16 07:16:40 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

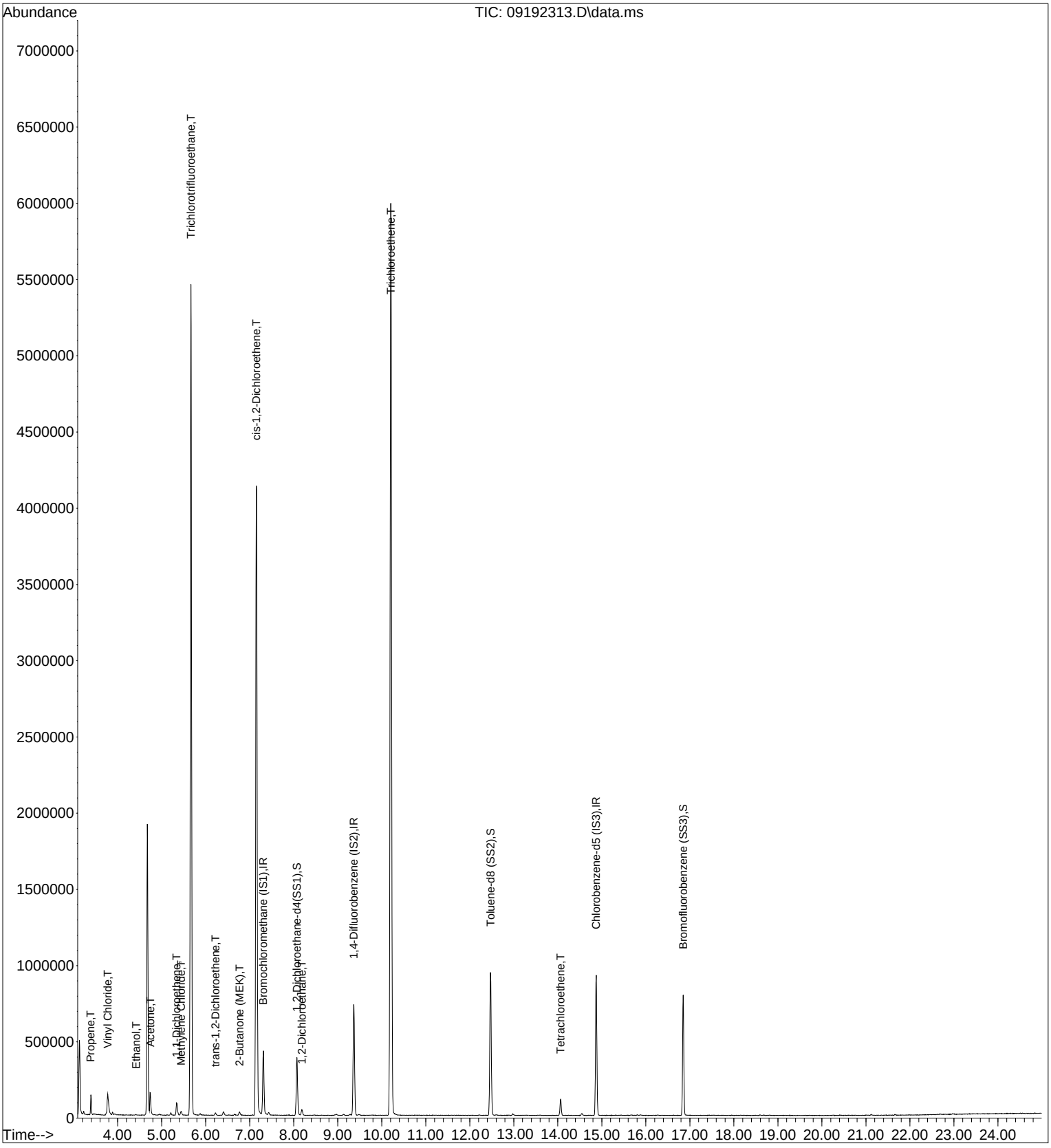
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.31	130	153191	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.36	114	670493	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.87	54	150660	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.07	65	329408	12.322	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.56%				
57) Toluene-d8 (SS2)	12.47	98	750231	12.636	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.12%				
73) Bromofluorobenzene (SS3)	16.85	174	264203	10.180	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 81.44%				
Target Compounds							Qvalue
2) Propene	3.38	42	5550	0.454	ng		99
6) Vinyl Chloride	3.78	62	174535	9.194	ng		100
10) Ethanol	4.42	45	4709	0.503	ng		91
13) Acetone	4.74	58	39323	4.395	ng	#	75
17) 1,1-Dichloroethene	5.34	96	30711	2.374	ng		90
19) Methylene Chloride	5.44	84	10893	0.760	ng		91
21) Trichlorotrifluoroethane	5.66	151	1792307	108.315	ng		87
23) trans-1,2-Dichloroethene	6.22	61	9955	0.480	ng		90
27) 2-Butanone (MEK)	6.77	72	6776	0.854	ng	#	84
28) cis-1,2-Dichloroethene	7.15	61	2669964	132.367	ng		92
36) 1,2-Dichloroethane	8.19	62	35696	1.207	ng		100
47) Trichloroethene	10.21	130	2273674	120.289	ng		100
64) Tetrachloroethene	14.06	166	34973	1.554	ng		99

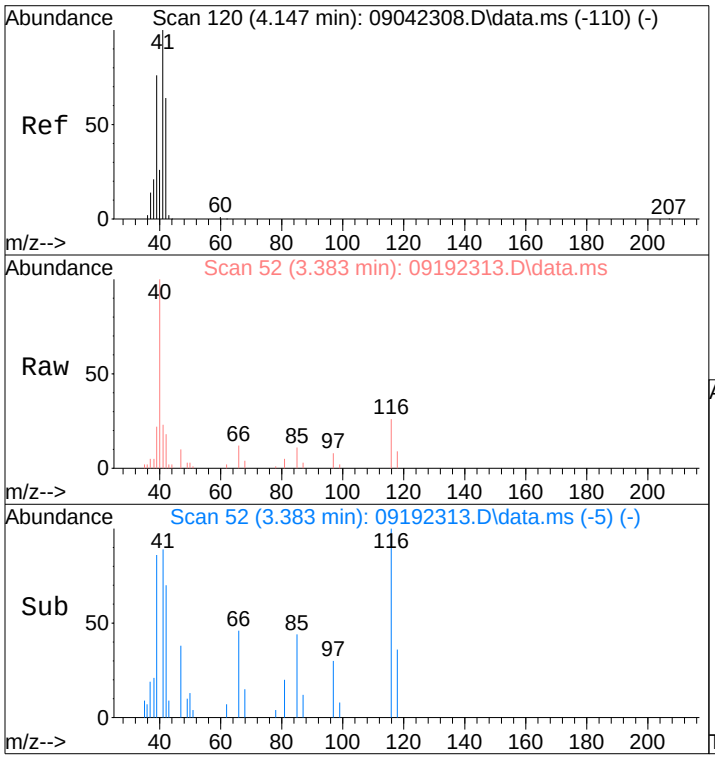
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2023_09\19\09192313.D Vial: 4
Acq On : 19 Sep 2023 13:27 Operator: TZ
Sample : P2304228-002 (35mL) Inst : MS13
Misc : S37-09012301

Quant Time: Sep 20 09:09:54 2023
Quant Method : I:\MS13\METHODS\R13090423A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Sep 16 07:16:40 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

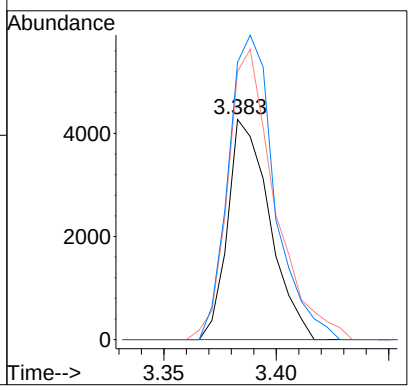


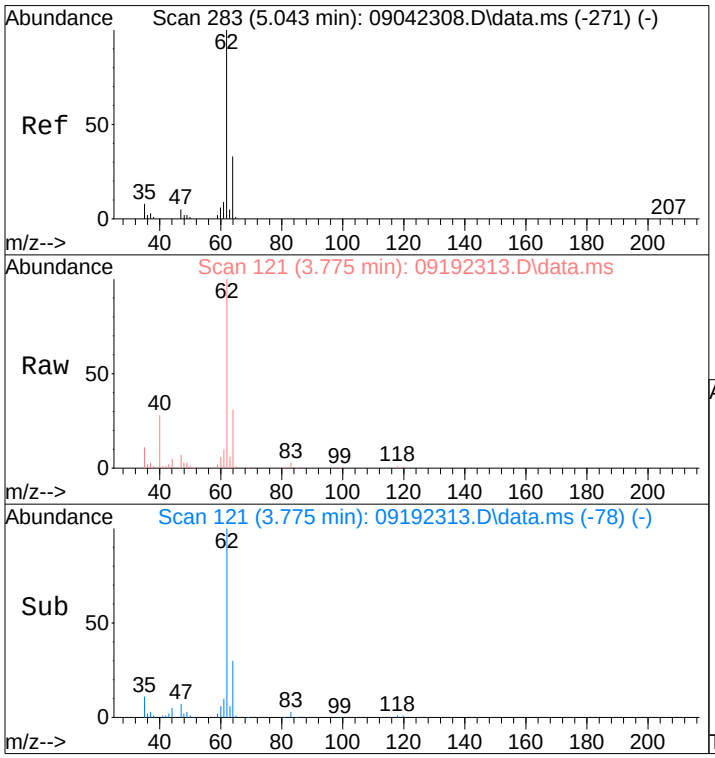


#2
Propene
Concen: 0.45 ng
RT: 3.38 min Scan# 52
Delta R.T. 0.017 min
Lab File: 09192313.D
Acq: 19 Sep 2023 13:27

Tgt Ion: 42 Resp: 5550

Ion	Ratio	Lower	Upper
42	100		
39	147.8	128.0	168.0
41	152.6	133.7	173.7

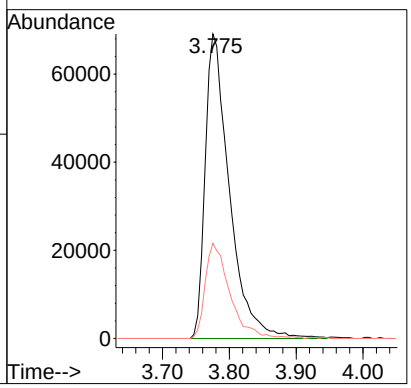


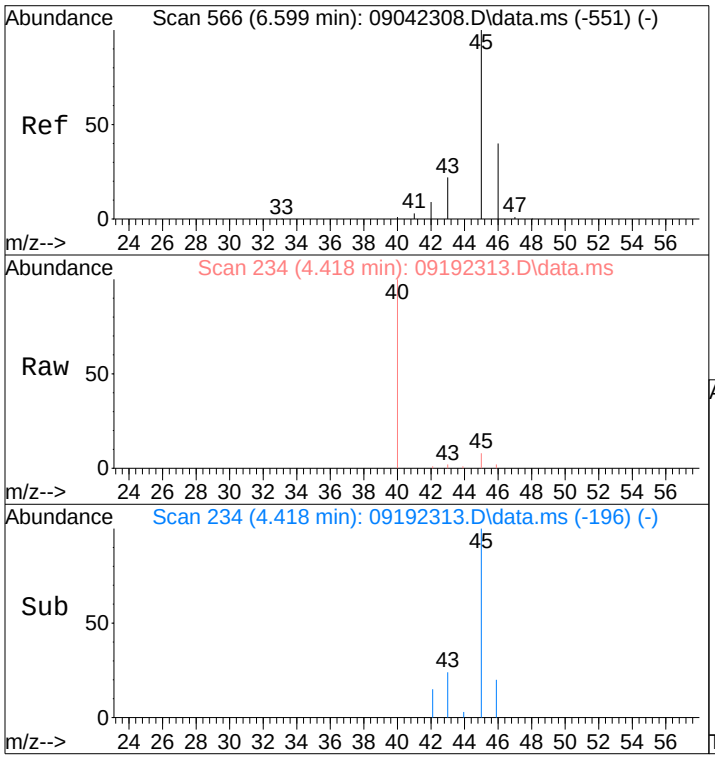


#6
Vinyl Chloride
Concen: 9.19 ng
RT: 3.78 min Scan# 121
Delta R.T. -0.006 min
Lab File: 09192313.D
Acq: 19 Sep 2023 13:27

Tgt Ion: 62 Resp: 174535

Ion	Ratio	Lower	Upper
62	100		
64	31.8	11.9	51.9

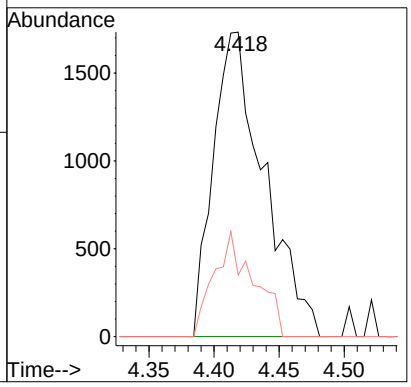


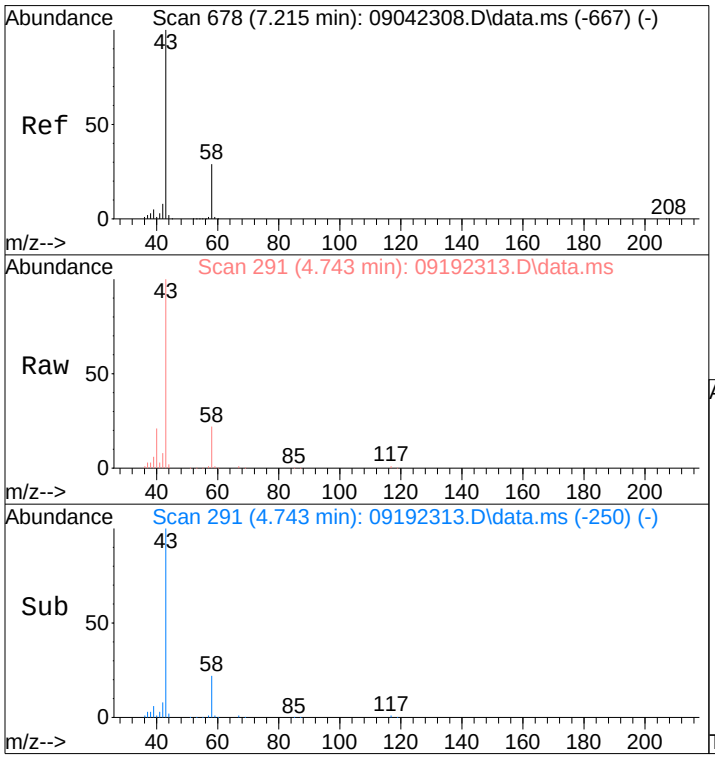


#10
Ethanol
Concen: 0.50 ng
RT: 4.42 min Scan# 234
Delta R.T. -0.034 min
Lab File: 09192313.D
Acq: 19 Sep 2023 13:27

Tgt Ion: 45 Resp: 4709

Ion	Ratio	Lower	Upper
45	100		
46	26.8	11.8	51.8

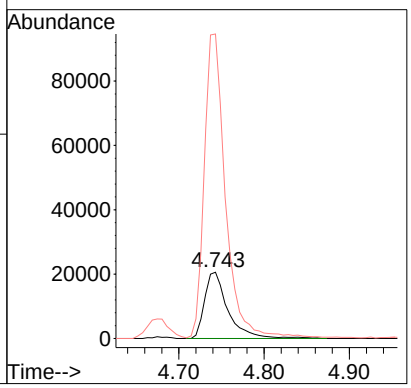


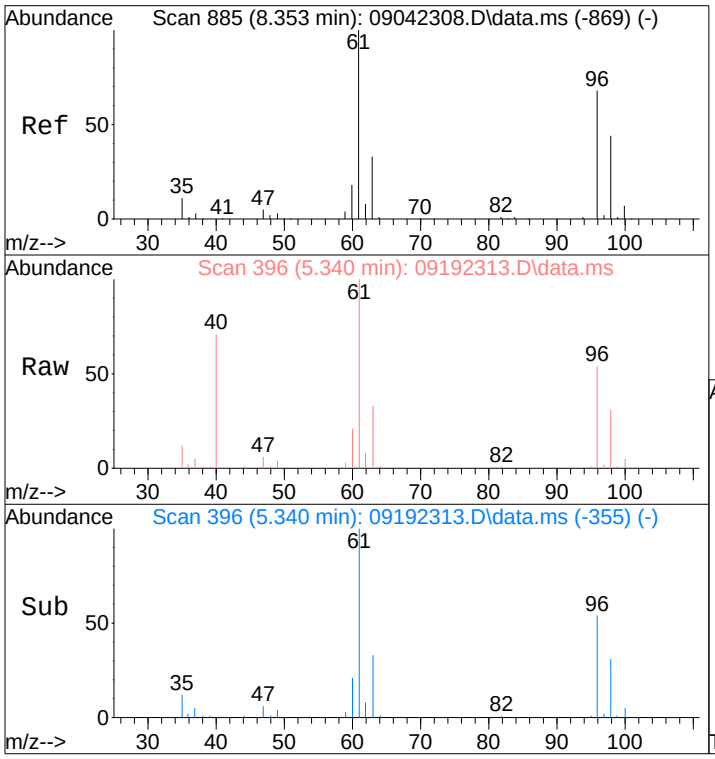


#13
Acetone
Concen: 4.40 ng
RT: 4.74 min Scan# 291
Delta R.T. -0.017 min
Lab File: 09192313.D
Acq: 19 Sep 2023 13:27

Tgt Ion: 58 Resp: 39323

Ion	Ratio	Lower	Upper
58	100		
43	417.0	454.1	514.1#

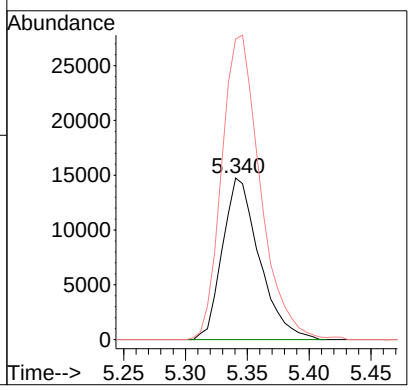


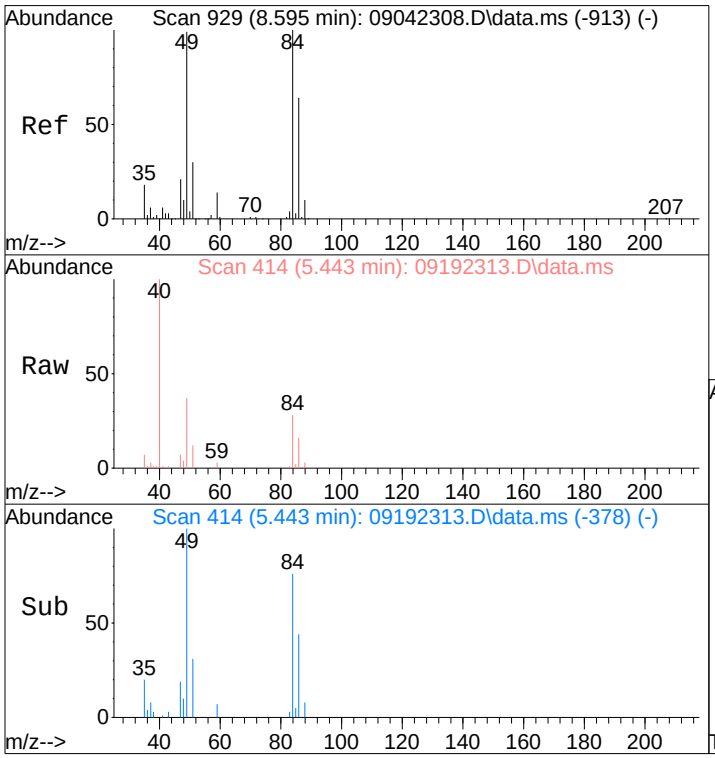


#17
1,1-Dichloroethene
Concen: 2.37 ng
RT: 5.34 min Scan# 396
Delta R.T. -0.017 min
Lab File: 09192313.D
Acq: 19 Sep 2023 13:27

Tgt Ion: 96 Resp: 30711

Ion	Ratio	Lower	Upper
96	100		
61	197.2	163.2	203.2

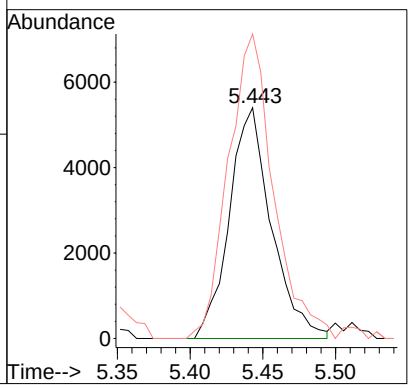


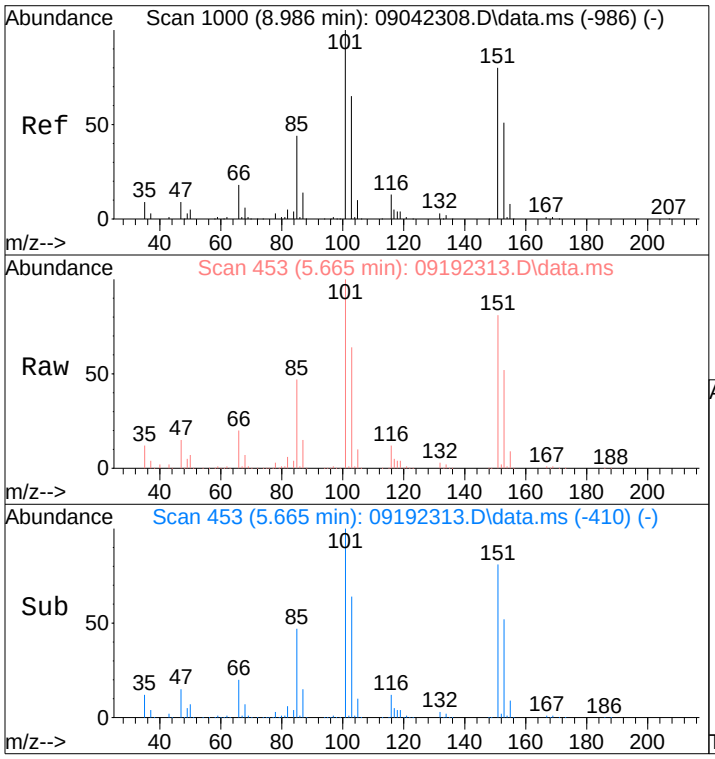


#19
Methylene Chloride
Concen: 0.76 ng
RT: 5.44 min Scan# 414
Delta R.T. -0.046 min
Lab File: 09192313.D
Acq: 19 Sep 2023 13:27

Tgt Ion: 84 Resp: 10893

Ion	Ratio	Lower	Upper
84	100		
49	141.4	105.7	155.7

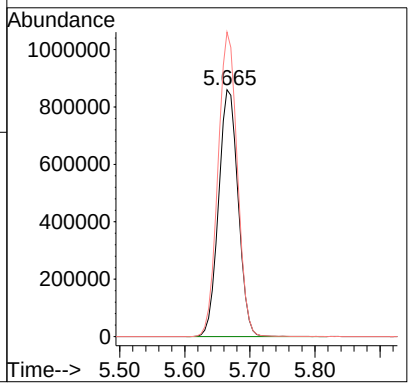


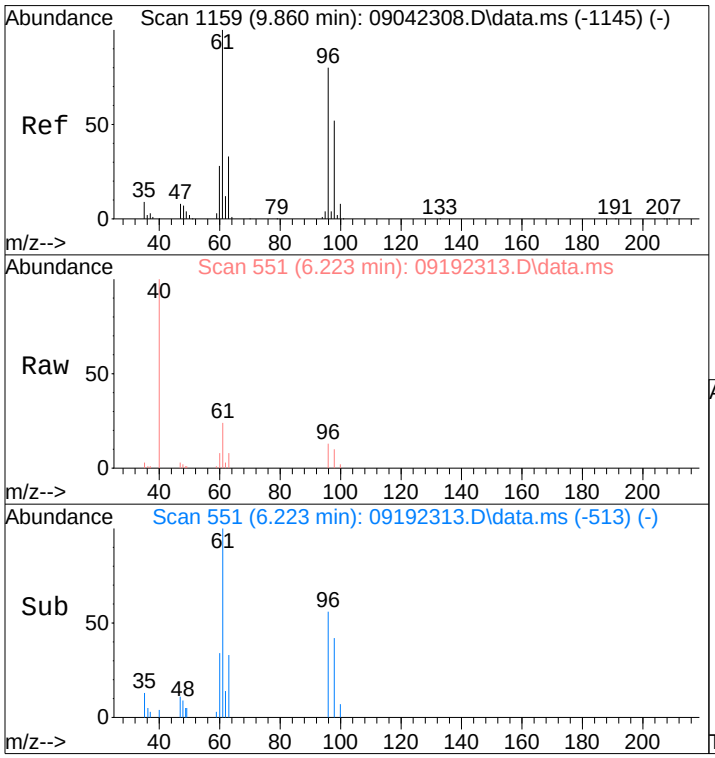


#21
Trichlorotrifluoroethane
Concen: 108.31 ng
RT: 5.66 min Scan# 453
Delta R.T. -0.006 min
Lab File: 09192313.D
Acq: 19 Sep 2023 13:27

Tgt Ion:151 Resp: 1792307

Ion	Ratio	Lower	Upper
151	100		
101	122.4	89.0	129.0

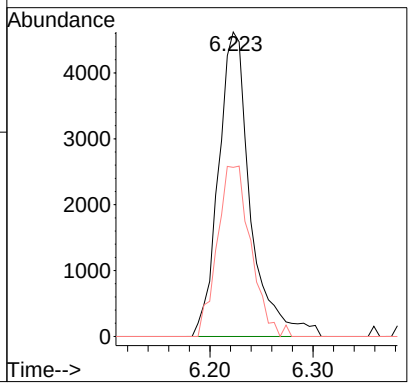


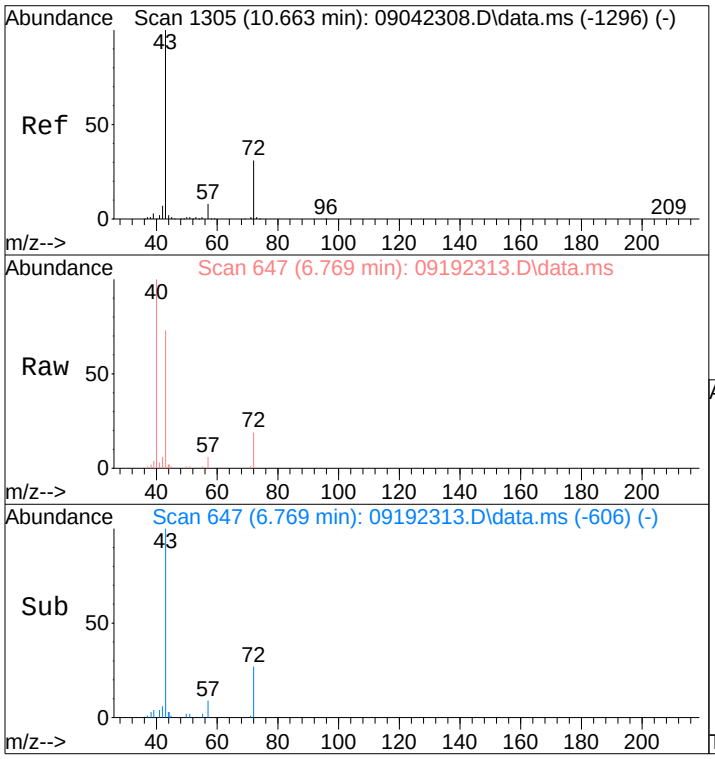


#23
trans-1,2-Dichloroethene
Concen: 0.48 ng
RT: 6.22 min Scan# 551
Delta R.T. -0.034 min
Lab File: 09192313.D
Acq: 19 Sep 2023 13:27

Tgt Ion: 61 Resp: 9955

Ion	Ratio	Lower	Upper
61	100		
96	58.8	46.7	86.7

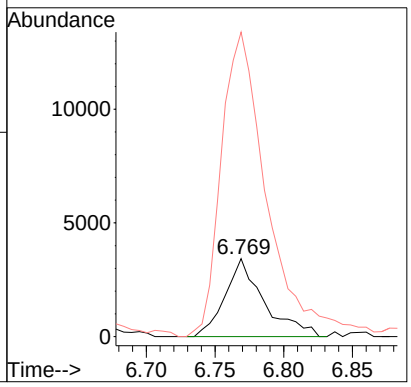


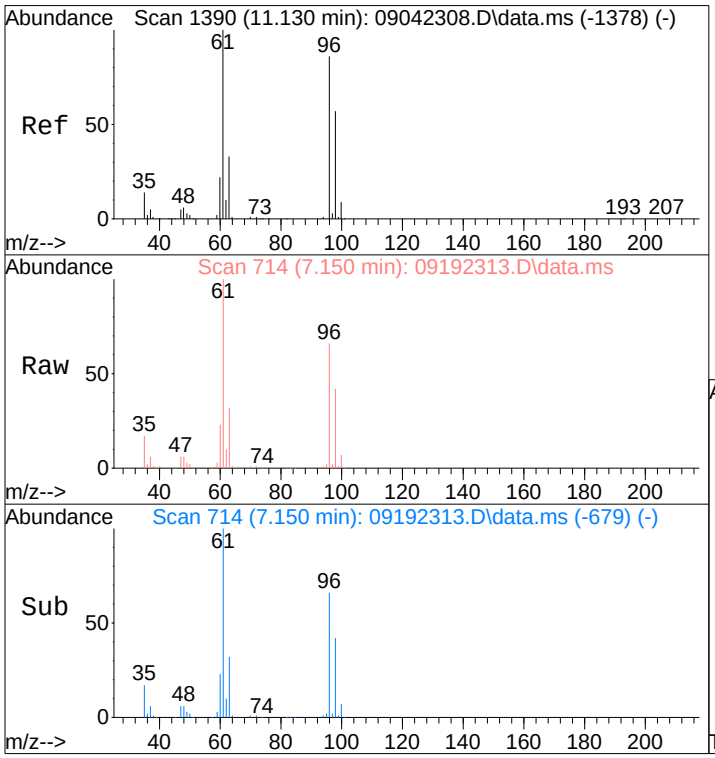


#27
2-Butanone (MEK)
Concen: 0.85 ng
RT: 6.77 min Scan# 647
Delta R.T. -0.017 min
Lab File: 09192313.D
Acq: 19 Sep 2023 13:27

Tgt Ion: 72 Resp: 6776

Ion	Ratio	Lower	Upper
72	100		
43	460.4	401.7	441.7#

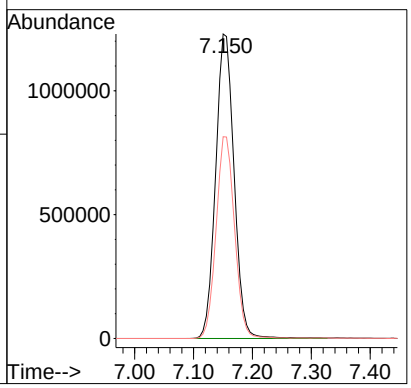


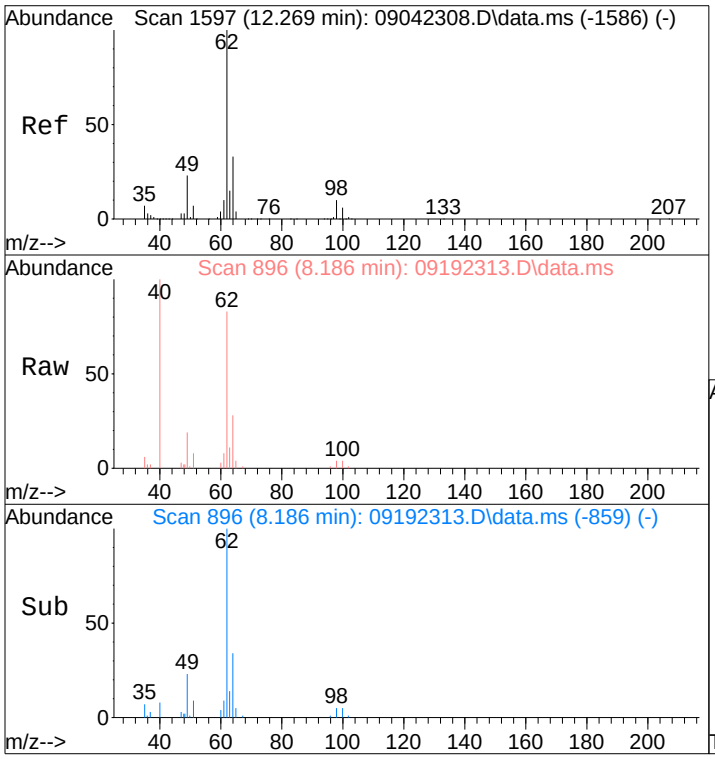


#28
cis-1,2-Dichloroethene
Concen: 132.37 ng
RT: 7.15 min Scan# 714
Delta R.T. -0.051 min
Lab File: 09192313.D
Acq: 19 Sep 2023 13:27

Tgt Ion: 61 Resp: 2669964

Ion	Ratio	Lower	Upper
61	100		
96	66.6	53.0	93.0

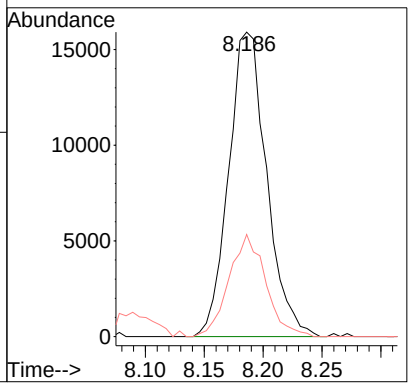


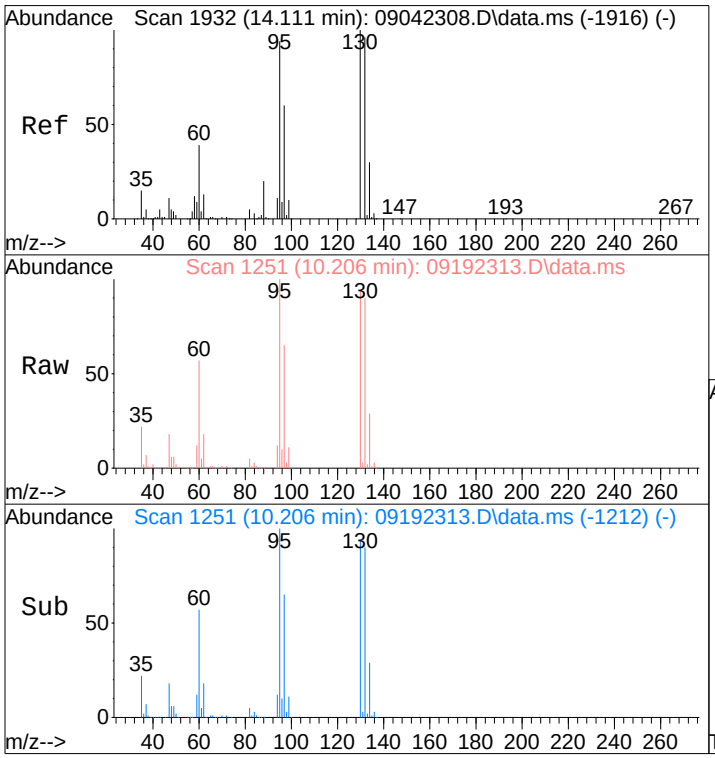


#36
1,2-Dichloroethane
Concen: 1.21 ng
RT: 8.19 min Scan# 896
Delta R.T. -0.040 min
Lab File: 09192313.D
Acq: 19 Sep 2023 13:27

Tgt Ion: 62 Resp: 35696

Ion	Ratio	Lower	Upper
62	100		
64	32.4	12.2	52.2

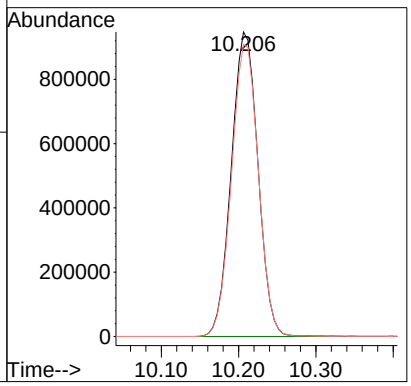


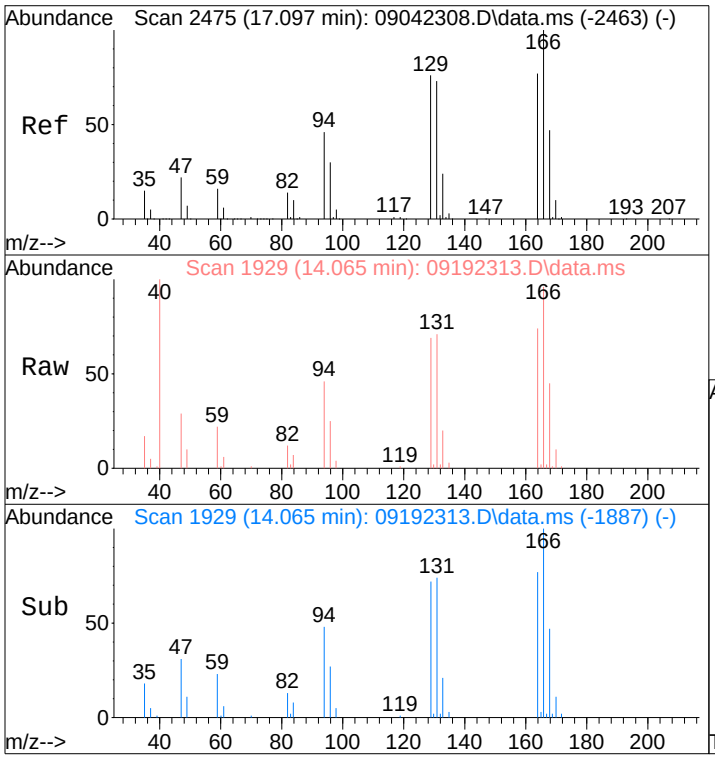


#47
Trichloroethene
Concen: 120.29 ng
RT: 10.21 min Scan# 1251
Delta R.T. -0.028 min
Lab File: 09192313.D
Acq: 19 Sep 2023 13:27

Tgt Ion:130 Resp: 2273674

Ion	Ratio	Lower	Upper
130	100		
132	96.9	77.0	117.0

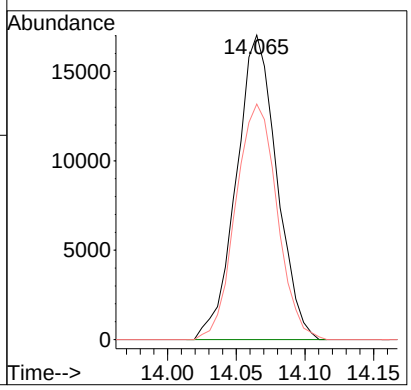




#64
Tetrachloroethene
Concen: 1.55 ng
RT: 14.06 min Scan# 1929
Delta R.T. -0.011 min
Lab File: 09192313.D
Acq: 19 Sep 2023 13:27

Tgt Ion:166 Resp: 34973

Ion	Ratio	Lower	Upper
166	100		
164	79.1	58.0	98.0



01246256

Data File : I:\MS13\DATA\2023_09\19\09192315.D Vial: 4
Acq On : 19 Sep 2023 14:41 Operator: TZ
Sample : P2304228-002dil (15mL) Inst : MS13
Misc : S37-09012301

TZ 9/20/23

Quant Time: Sep 20 09:17:42 2023
Quant Method : I:\MS13\METHODS\R13090423A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Sep 16 07:16:40 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.30	130	151718	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.36	114	652907	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.87	54	146997	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.07	65	326186	12.320	ng		-0.05
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.56%				
57) Toluene-d8 (SS2)	12.47	98	731970	12.635	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.12%				
73) Bromofluorobenzene (SS3)	16.85	174	251241	9.922	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 79.36%				
Target Compounds							Qvalue
2) Propene	3.39	42	2069	N.D.			
3) Dichlorodifluoromethan...	3.41	85	5227	N.D.			
4) Chloromethane	3.60	50	395	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	3.79	62	69946	3.720	ng		98
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.41	45	2949	N.D.			
11) Acetonitrile	4.54	41	168	N.D.			
12) Acrolein	4.65	56	190	N.D.			
13) Acetone	4.73	58	16206	1.829	ng	#	71
14) Trichlorofluoromethane	4.85	101	534	N.D.			
15) 2-Propanol (Isopropanol)	4.97	45	1262	N.D.			
16) Acrylonitrile	5.20	53	1579	N.D.			
17) 1,1-Dichloroethene	5.35	96	11897	0.929	ng		95
18) 2-Methyl-2-Propanol (t...	5.46	59	1516	N.D.			
19) Methylene Chloride	5.44	84	4526	N.D.			
20) 3-Chloro-1-propene (Al...	5.46	41	141	N.D.			
21) Trichlorotrifluoroethane	5.66	151	748912	45.699	ng		90
22) Carbon Disulfide	5.71	76	4113	N.D.			
23) trans-1,2-Dichloroethene	6.22	61	3823	N.D.			
24) 1,1-Dichloroethane	6.39	63	3704	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	6.78	72	2267	N.D.			
28) cis-1,2-Dichloroethene	7.14	61	1051378	52.630	ng		94
29) Diisopropyl Ether	7.42	87	176	N.D.			
30) Ethyl Acetate	7.43	61	386	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	7.42	83	4800	N.D.			
34) Tetrahydrofuran (THF)	7.88	72	187	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.18	62	13929	0.476	ng		99
38) 1,1,1-Trichloroethane	8.46	97	388	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.94	56	162	No Calib		#	
41) Benzene	8.97	78	2651	N.D.			
42) Carbon Tetrachloride	9.14	117	1486	N.D.			
43) Cyclohexane	9.28	84	919	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	10.20	130	925029	50.257	ng		99
48) 1,4-Dioxane	10.23	88	342	N.D.			
49) 2,2,4-Trimethylpentane...	10.22	57	126	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Data File : I:\MS13\DATA\2023_09\19\09192315.D Vial: 4
Acq On : 19 Sep 2023 14:41 Operator: TZ
Sample : P2304228-002dil (15mL) Inst : MS13
Misc : S37-09012301

Quant Time: Sep 20 09:17:42 2023
Quant Method : I:\MS13\METHODS\R13090423A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Sep 16 07:16:40 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

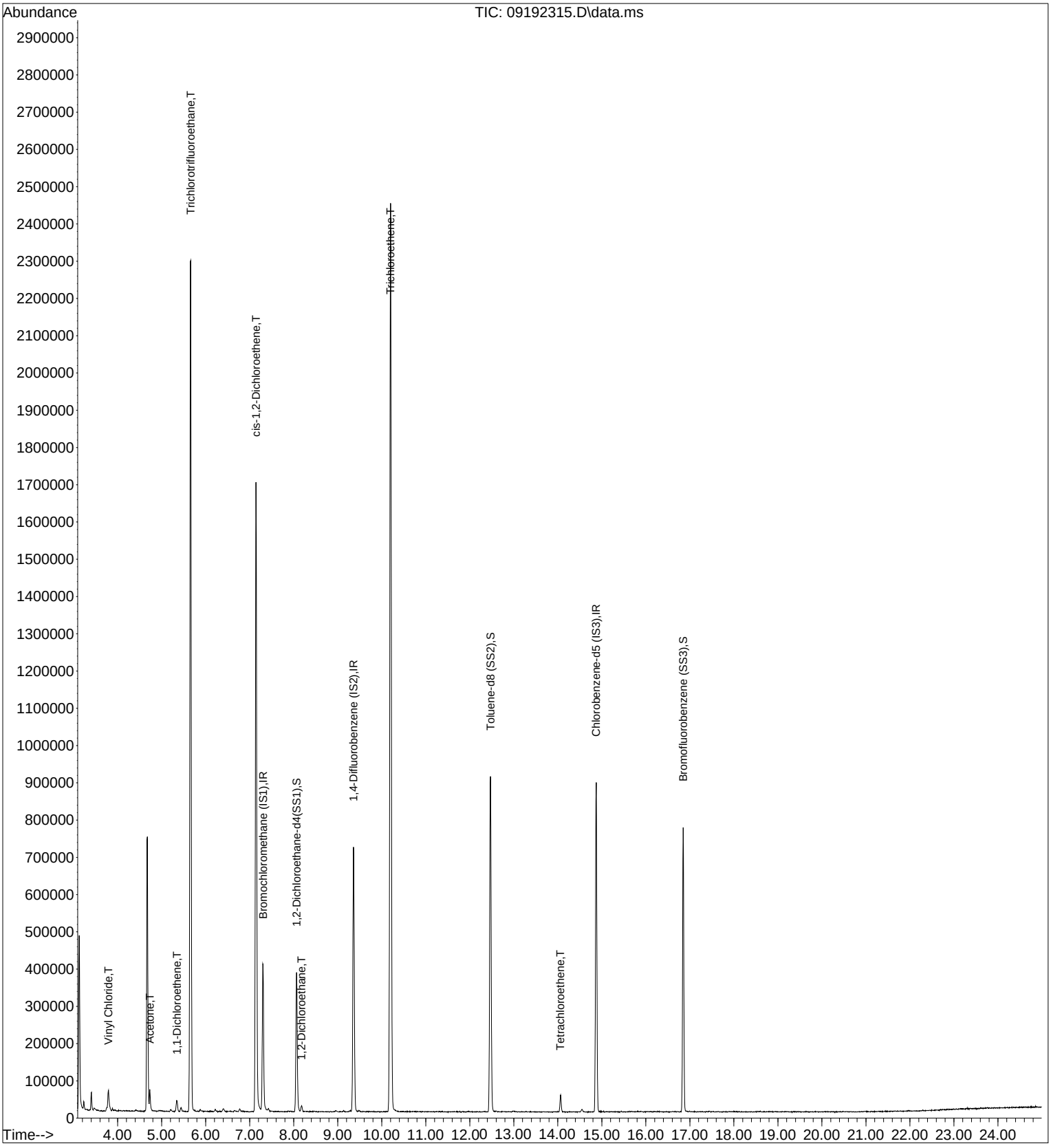
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	12.23	97	463	N.D.		
58) Toluene	12.60	91	1882	N.D.		
59) 2-Hexanone	12.99	43	2858	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	14.06	166	14595	0.665	ng	99
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	15.44	91	941	N.D.		
67) m- & p-Xylenes	15.67	91	1239	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	16.27	91	1034	N.D.		
71) n-Nonane	0.00	43	0	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	17.05	105	382	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	17.75	91	600	N.D.		
77) 3-Ethyltoluene	17.05	105	382	No Calib	#	
78) 4-Ethyltoluene	17.94	105	425	N.D.		
79) 1,3,5-Trimethylbenzene	18.06	105	411	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.05	105	382	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.60	105	866	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	18.95	105	514	N.D.		
88) 4-Isopropyltoluene (p-...	19.18	119	496	N.D.		
89) 1,2,3-Trimethylbenzene	17.05	105	382	No Calib	#	
90) 1,2-Dichlorobenzene	19.29	146	115	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	0.00	128	0	N.D.		
96) n-Dodecane	0.00	57	0	N.D.		
97) Hexachlorobutadiene	21.99	225	462	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.59	119	400	N.D.		
100) n-Butylbenzene	19.72	91	249	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

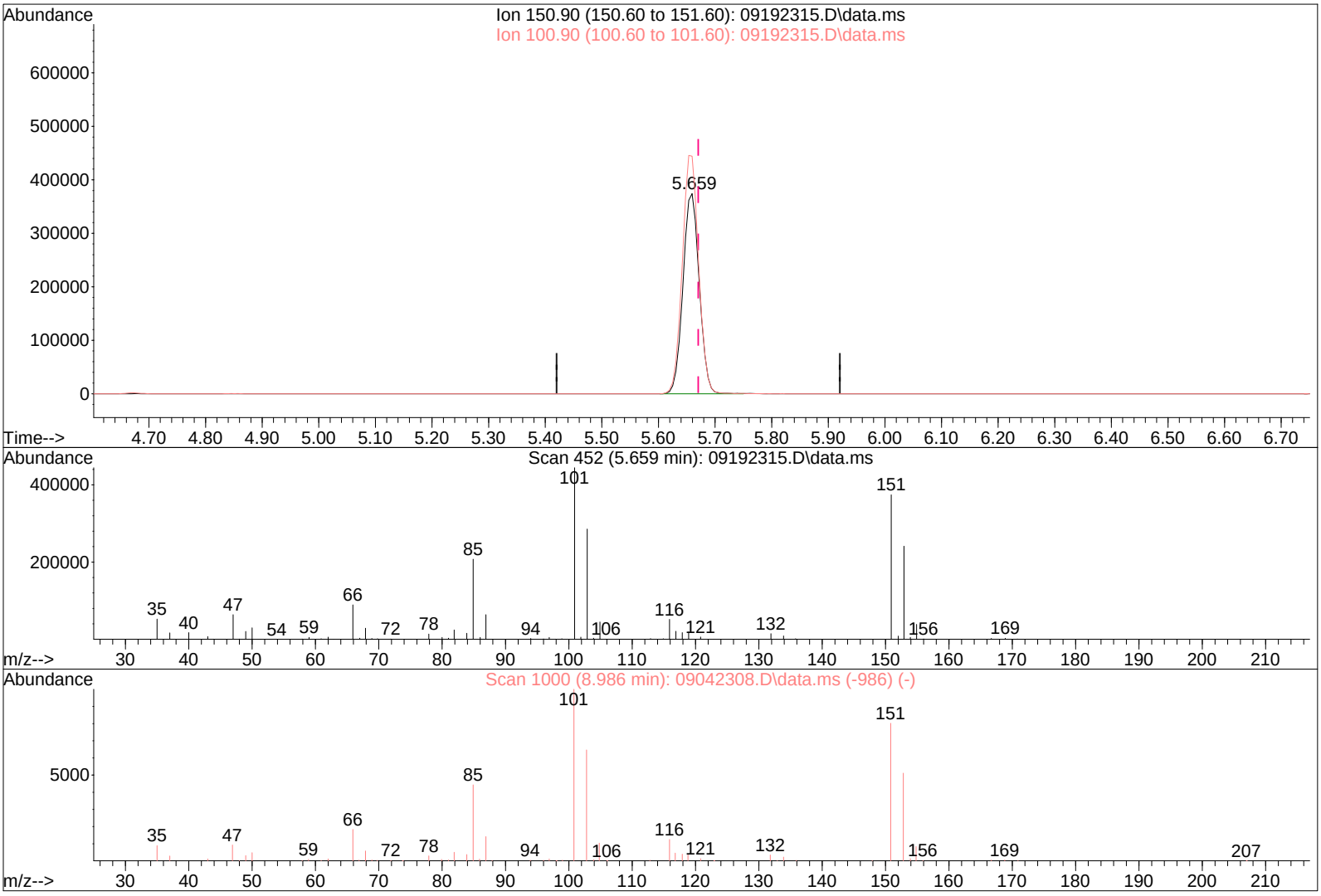
Data File : I:\MS13\DATA\2023_09\19\09192315.D Vial: 4
Acq On : 19 Sep 2023 14:41 Operator: TZ
Sample : P2304228-002dil (15mL) Inst : MS13
Misc : S37-09012301

Quant Time: Sep 20 09:17:42 2023
Quant Method : I:\MS13\METHODS\R13090423A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Sep 16 07:16:40 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M



Data File : I:\MS13\DATA\2023_09\19\09192315.D Vial: 4
Acq On : 19 Sep 2023 14:41 Operator: TZ
Sample : P2304228-002dil (15mL) Inst : MS13
Misc : S37-09012301

Quant Time: Sep 19 16:22:19 2023
Quant Method : I:\MS13\METHODS\R13090423A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Sep 16 07:16:40 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09192315.D\data.ms

(21) Trichlorotrifluoroethane (T)

5.659min (-0.011) 45.70ng

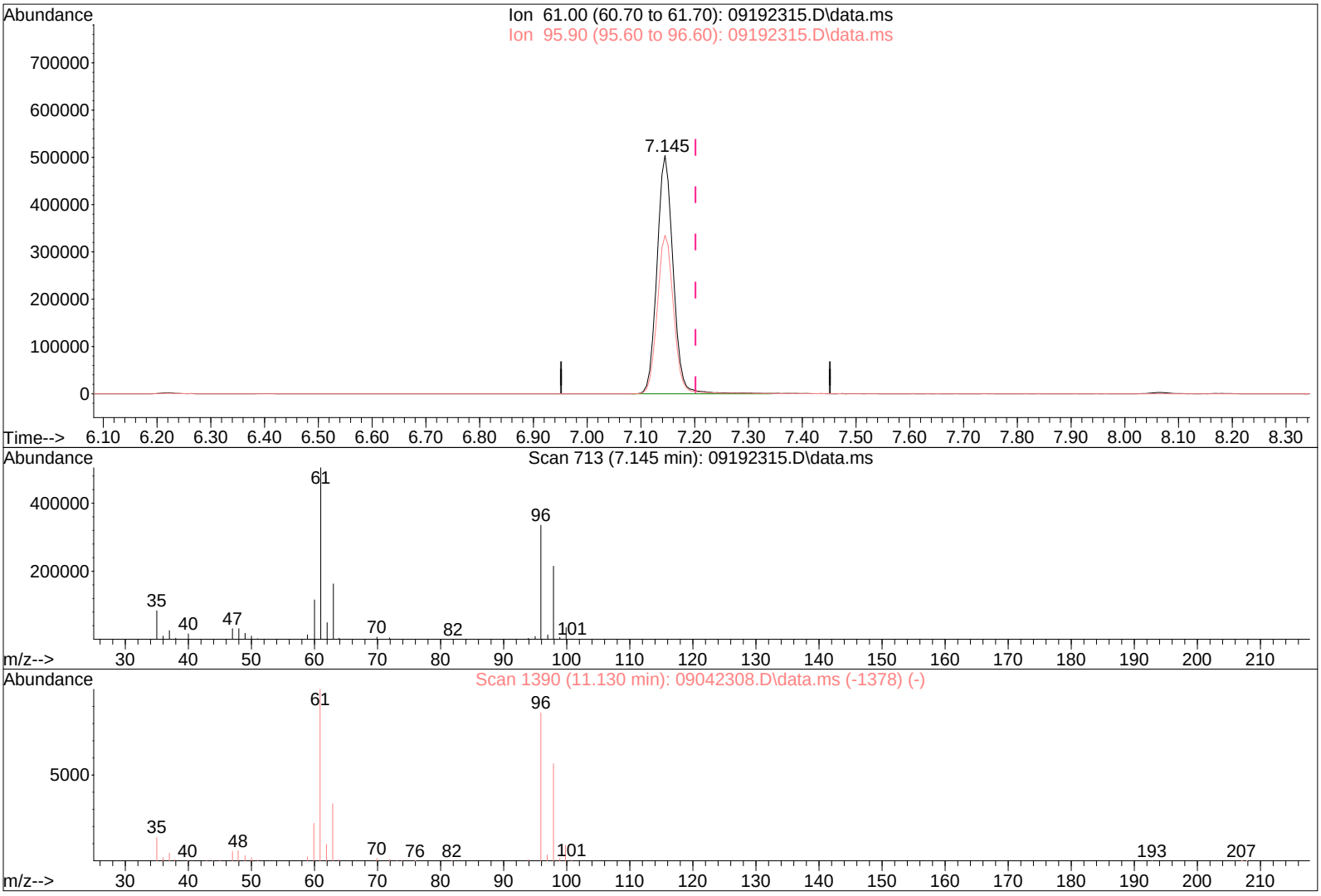
response 748912

Ion	Exp%	Act%
150.90	100	100
100.90	109.00	119.61
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS13\DATA\2023_09\19\09192315.D Vial: 4
Acq On : 19 Sep 2023 14:41 Operator: TZ
Sample : P2304228-002dil (15mL) Inst : MS13
Misc : S37-09012301

Quant Time: Sep 19 16:22:19 2023
Quant Method : I:\MS13\METHODS\R13090423A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Sep 16 07:16:40 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09192315.D\data.ms

(28) cis-1,2-Dichloroethene (T)

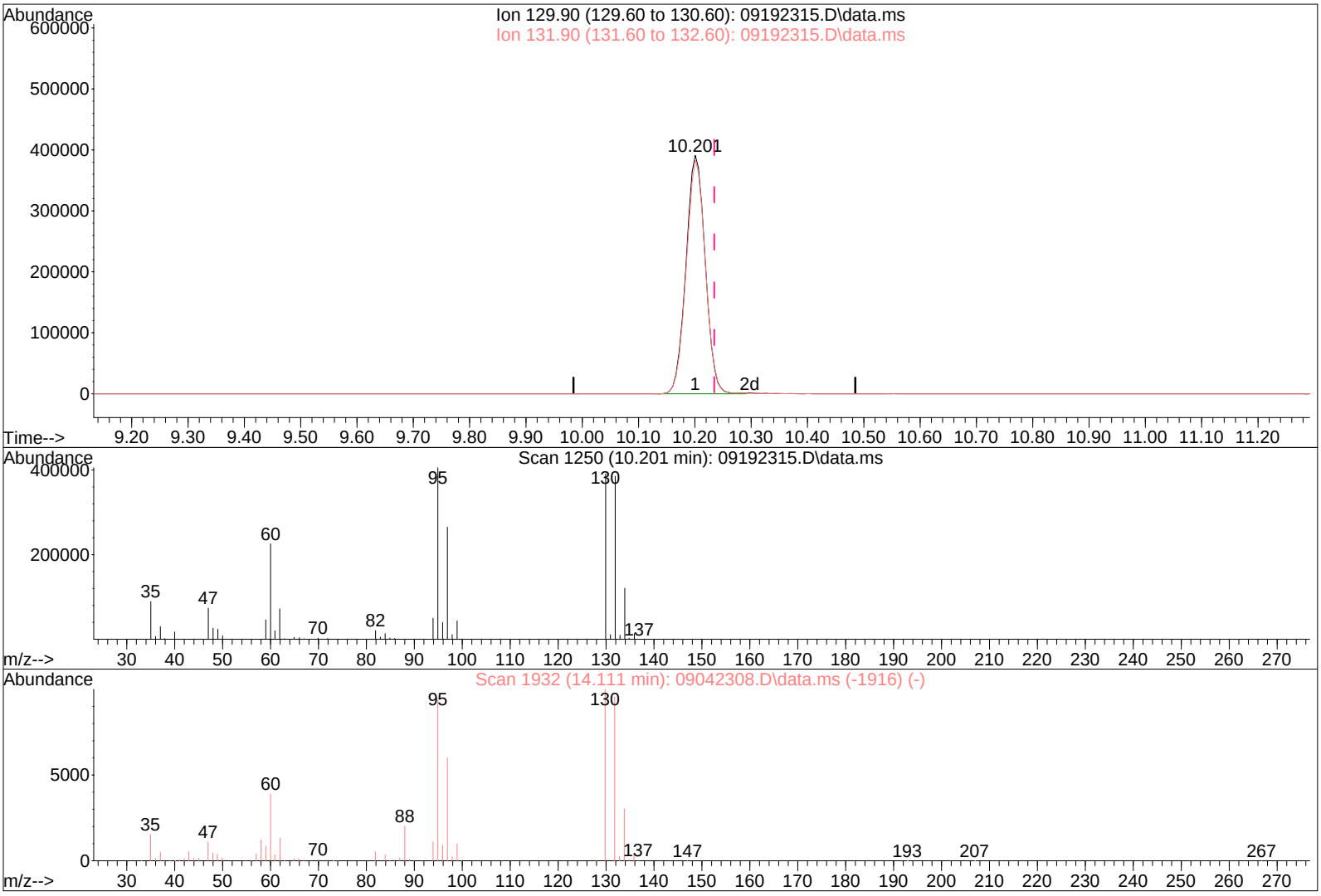
7.145min (-0.057) 52.63ng

response 1051378

Ion	Exp%	Act%
61.00	100	100
95.90	73.00	67.91
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS13\DATA\2023_09\19\09192315.D Vial: 4
Acq On : 19 Sep 2023 14:41 Operator: TZ
Sample : P2304228-002dil (15mL) Inst : MS13
Misc : S37-09012301

Quant Time: Sep 19 16:22:19 2023
Quant Method : I:\MS13\METHODS\R13090423A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Sep 16 07:16:40 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09192315.D\data.ms

(47) Trichloroethene (T)

10.201min (-0.034) 50.26ng

response 925029

Ion	Exp%	Act%
129.90	100	100
131.90	97.00	97.56
0.00	0.00	0.00
0.00	0.00	0.00

01246262

TZ 9/20/23

Data File : I:\MS13\DATA\2023_09\19\09192317.D Vial: 5
Acq On : 19 Sep 2023 16:39 Operator: TZ
Sample : P2304228-003 (1000mL) Inst : MS13
Misc : S37-09012301

Quant Time: Sep 20 09:12:55 2023
Quant Method : I:\MS13\METHODS\R13090423A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Sep 16 07:16:40 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.30	130	155464	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.36	114	696109	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.87	54	161284	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.07	65	339461	12.512	ng		-0.05
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.08%				
57) Toluene-d8 (SS2)	12.47	98	788715	12.409	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.28%				
73) Bromofluorobenzene (SS3)	16.85	174	283478	10.204	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 81.60%				
Target Compounds							Qvalue
2) Propene	3.39	42	5268	N.D.			
3) Dichlorodifluoromethan...	3.46	85	61223m	1.523	ng		
4) Chloromethane	3.59	50	4908	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.71	135	1137	N.D.			
6) Vinyl Chloride	3.80	62	4810	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	4.12	94	242	N.D.			
9) Chloroethane	4.22	64	514	N.D.			
10) Ethanol	4.38	45	129382	13.629	ng		96
11) Acetonitrile	0.00	41	0	N.D. d			
12) Acrolein	4.63	56	4628	0.601	ng		89
13) Acetone	4.71	58	141929	15.631	ng	#	80
14) Trichlorofluoromethane	4.85	101	36490	0.919	ng		98
15) 2-Propanol (Isopropanol)	4.92	45	219383	5.738	ng		93
16) Acrylonitrile	5.12	53	1071	N.D.			
17) 1,1-Dichloroethene	5.35	96	894	N.D.			
18) 2-Methyl-2-Propanol (t...	5.41	59	5783	N.D.			
19) Methylene Chloride	5.44	84	7663	0.526	ng		86
20) 3-Chloro-1-propene (Al...	5.43	41	519	N.D.			
21) Trichlorotrifluoroethane	5.66	151	49153	2.927	ng		92
22) Carbon Disulfide	5.69	76	2704285	51.540	ng		98
23) trans-1,2-Dichloroethene	6.22	61	167	N.D.			
24) 1,1-Dichloroethane	6.40	63	353	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	6.54	86	2044	0.750	ng	#	76
27) 2-Butanone (MEK)	6.74	72	13848	1.720	ng	#	83
28) cis-1,2-Dichloroethene	7.15	61	68549	3.349	ng		92
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	7.36	61	6684	1.588	ng		94
31) n-Hexane	7.37	57	27683	1.439	ng		98
32) Chloroform	7.42	83	2064	N.D.			
34) Tetrahydrofuran (THF)	7.83	72	7799	0.950	ng	#	76
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.18	62	2225	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.87	56	9898	No Calib		#	
41) Benzene	8.96	78	21867	N.D.			
42) Carbon Tetrachloride	9.12	117	8187	N.D.			
43) Cyclohexane	9.28	84	2035	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.19	83	910	N.D.			
47) Trichloroethene	10.20	130	61361	3.127	ng		98
48) 1,4-Dioxane	0.00	88	0	N.D. d			
49) 2,2,4-Trimethylpentane...	10.29	57	8866	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Data File : I:\MS13\DATA\2023_09\19\09192317.D Vial: 5
Acq On : 19 Sep 2023 16:39 Operator: TZ
Sample : P2304228-003 (1000mL) Inst : MS13
Misc : S37-09012301

Quant Time: Sep 20 09:12:55 2023
Quant Method : I:\MS13\METHODS\R13090423A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Sep 16 07:16:40 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

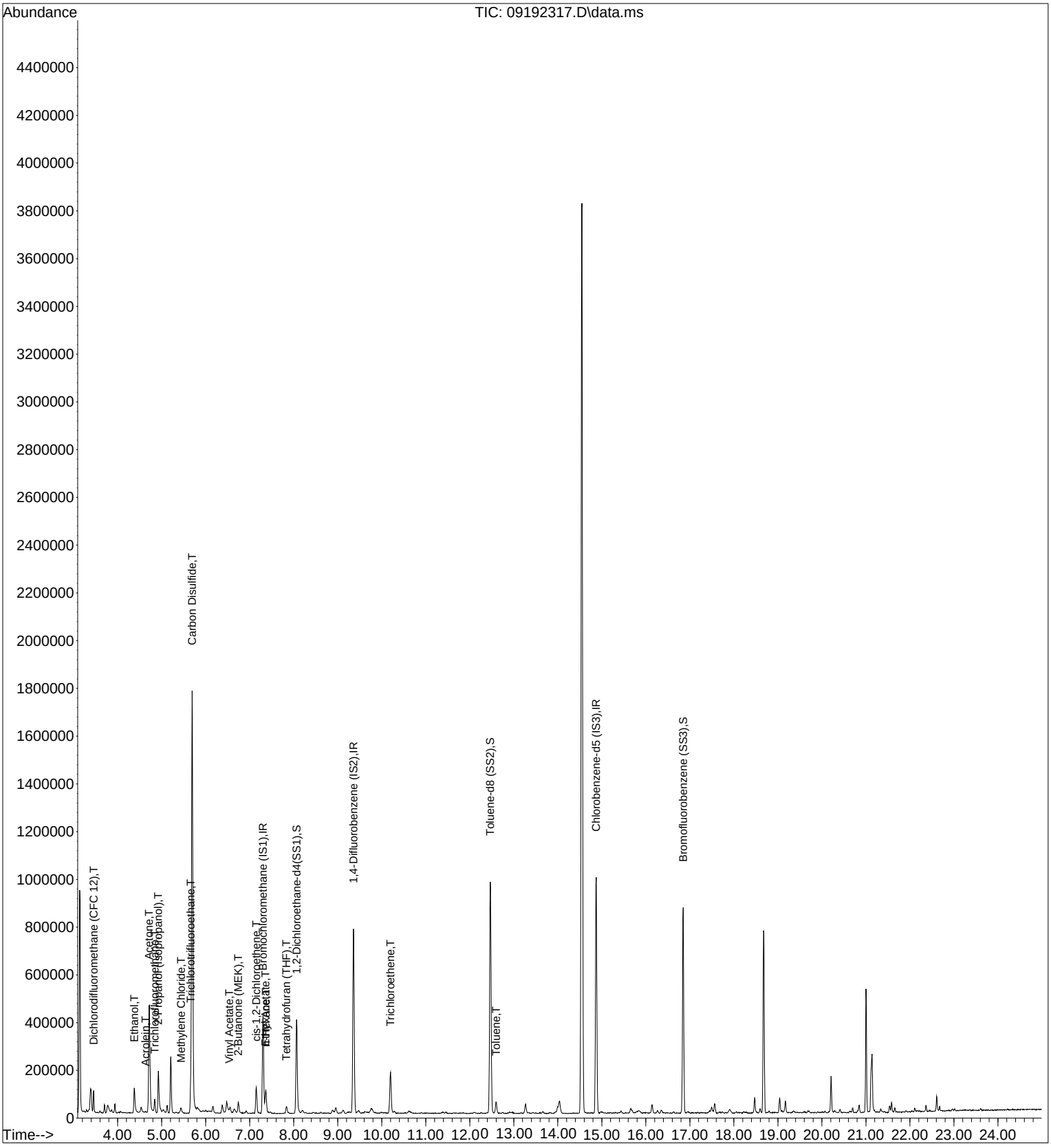
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	10.62	71	2627	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.38	58	1903	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.60	91	39488	0.598	ng	99
59) 2-Hexanone	12.96	43	5062	N.D.		
60) Dibromochloromethane	13.11	129	107	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.83	43	2391	N.D.		
63) n-Octane	13.95	57	1468	N.D.		
64) Tetrachloroethene	14.06	166	1438	N.D.		
65) Chlorobenzene	14.92	112	245	N.D.		
66) Ethylbenzene	15.44	91	7851	N.D.		
67) m- & p-Xylenes	15.66	91	17611	N.D.		
68) Bromoform	15.70	173	135	N.D.		
69) Styrene	16.12	104	802	N.D.		
70) o-Xylene	16.27	91	7713	N.D.		
71) n-Nonane	16.63	43	3266	N.D.		
72) 1,1,2,2-Tetrachloroethane	16.23	83	109	N.D.		
74) Cumene	17.05	105	1589	N.D.		
75) alpha-Pinene	17.56	93	16672	N.D.		
76) n-Propylbenzene	17.74	91	2816	N.D.		
77) 3-Ethyltoluene	17.05	105	1589	No Calib		
78) 4-Ethyltoluene	17.95	105	3373	N.D.		
79) 1,3,5-Trimethylbenzene	18.05	105	2769	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.05	105	1589	No Calib		
82) 1,2,4-Trimethylbenzene	18.60	105	9770	N.D.		
83) n-Decane	17.13	58	495	No Calib	#	
84) Benzyl Chloride	18.75	91	322	N.D.		
85) 1,3-Dichlorobenzene	18.86	146	464	N.D.		
86) 1,4-Dichlorobenzene	18.86	146	464	N.D.		
87) sec-Butylbenzene	18.95	105	1171	N.D.		
88) 4-Isopropyltoluene (p-...	19.18	119	27068	N.D.		
89) 1,2,3-Trimethylbenzene	17.05	105	1589	No Calib		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	19.36	68	1466	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	17.88	58	328	No Calib	#	
94) 1,2,4-Trichlorobenzene	21.43	180	380	N.D.		
95) Naphthalene	21.55	128	4082	N.D.		
96) n-Dodecane	19.04	57	10146	No Calib		
97) Hexachlorobutadiene	21.99	225	519	N.D.		
98) Cyclohexanone	15.20	55	305	No Calib	#	
99) tert-Butylbenzene	18.59	119	1611	N.D.		
100) n-Butylbenzene	19.70	91	3164	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2023_09\19\09192317.D Vial: 5
Acq On : 19 Sep 2023 16:39 Operator: TZ
Sample : P2304228-003 (1000mL) Inst : MS13
Misc : S37-09012301

Quant Time: Sep 20 09:12:55 2023
Quant Method : I:\MS13\METHODS\R13090423A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Sep 16 07:16:40 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2023_09\19\09192317.D Vial: 5
Acq On : 19 Sep 2023 16:39 Operator: TZ
Sample : P2304228-003 (1000mL) Inst : MS13
Misc : S37-09012301

Quant Time: Sep 20 09:12:55 2023
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Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Sep 16 07:16:40 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

TZ 9/20/23

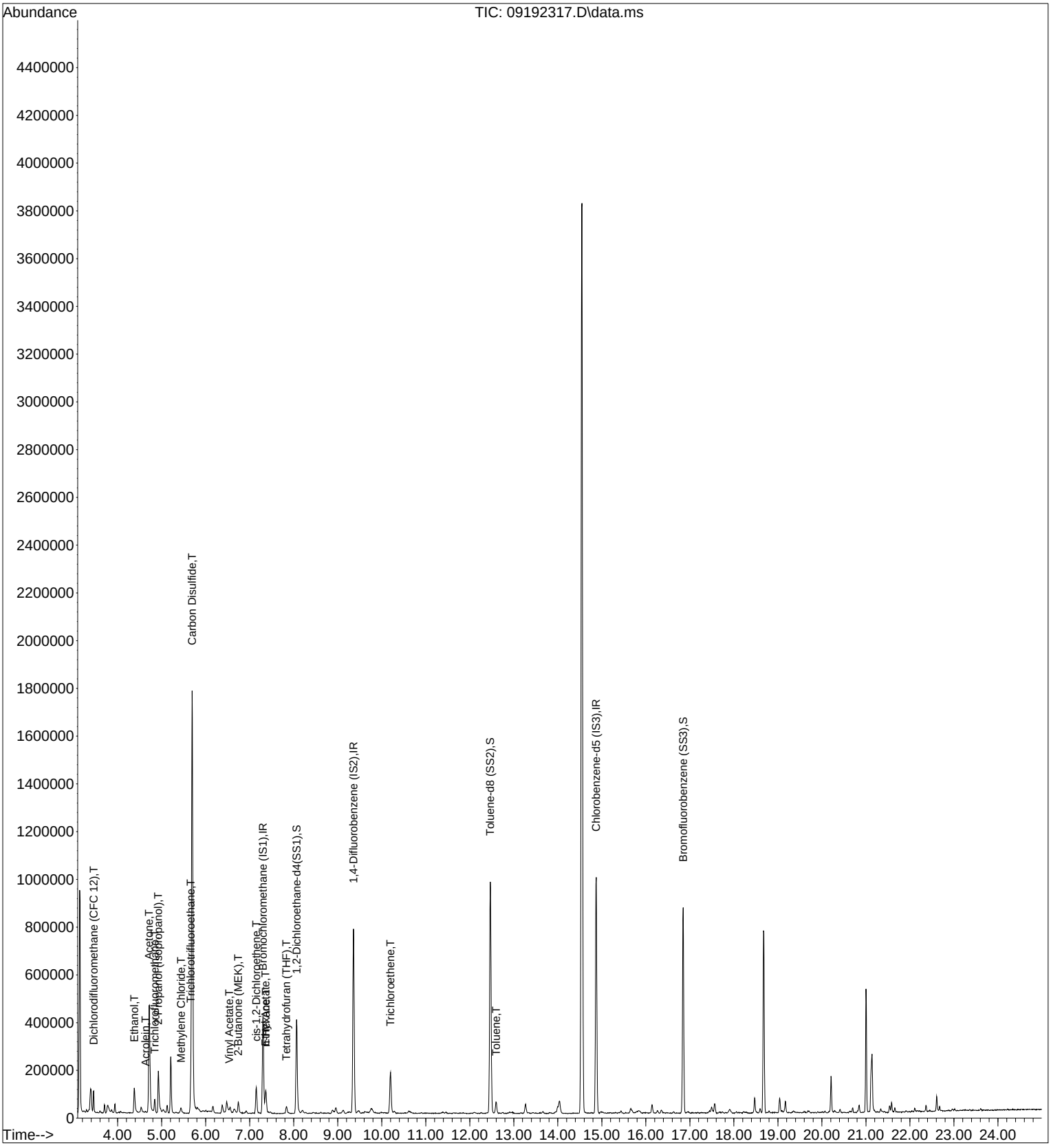
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.30	130	155464	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.36	114	696109	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.87	54	161284	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.07	65	339461	12.512	ng		-0.05
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.08%				
57) Toluene-d8 (SS2)	12.47	98	788715	12.409	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.28%				
73) Bromofluorobenzene (SS3)	16.85	174	283478	10.204	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 81.60%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.46	85	61223m	1.523	ng		
10) Ethanol	4.38	45	129382	13.629	ng		96
12) Acrolein	4.63	56	4628	0.601	ng		89
13) Acetone	4.71	58	141929	15.631	ng	#	80
14) Trichlorofluoromethane	4.85	101	36490	0.919	ng		98
15) 2-Propanol (Isopropanol)	4.92	45	219383	5.738	ng		93
19) Methylene Chloride	5.44	84	7663	0.526	ng		86
21) Trichlorotrifluoroethane	5.66	151	49153	2.927	ng		92
22) Carbon Disulfide	5.69	76	2704285	51.540	ng		98
26) Vinyl Acetate	6.54	86	2044	0.750	ng	#	76
27) 2-Butanone (MEK)	6.74	72	13848	1.720	ng	#	83
28) cis-1,2-Dichloroethene	7.15	61	68549	3.349	ng		92
30) Ethyl Acetate	7.36	61	6684	1.588	ng		94
31) n-Hexane	7.37	57	27683	1.439	ng		98
34) Tetrahydrofuran (THF)	7.83	72	7799	0.950	ng	#	76
47) Trichloroethene	10.20	130	61361	3.127	ng		98
58) Toluene	12.60	91	39488	0.598	ng		99

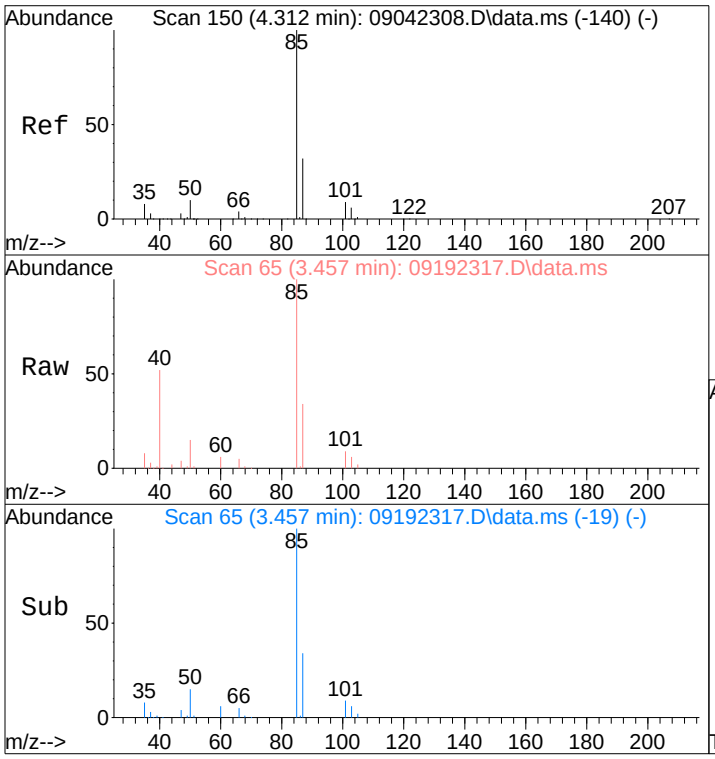
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2023_09\19\09192317.D Vial: 5
Acq On : 19 Sep 2023 16:39 Operator: TZ
Sample : P2304228-003 (1000mL) Inst : MS13
Misc : S37-09012301

Quant Time: Sep 20 09:12:55 2023
Quant Method : I:\MS13\METHODS\R13090423A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Sep 16 07:16:40 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

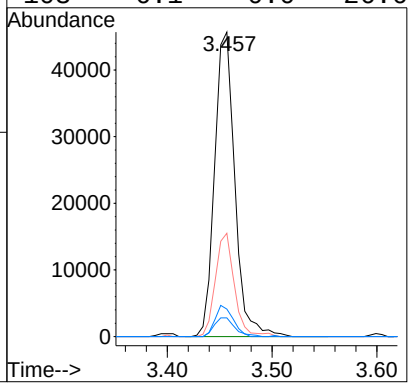


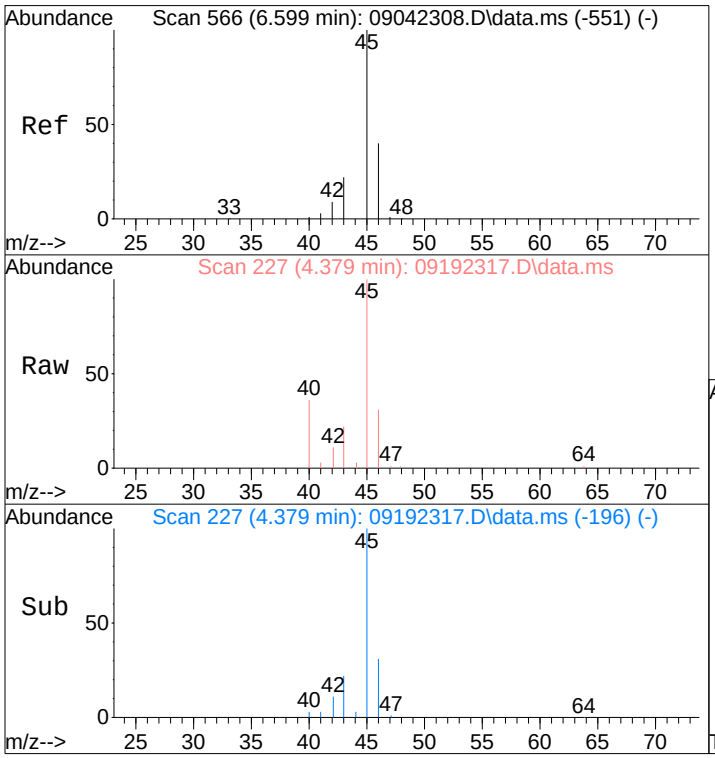


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.52 ng m
RT: 3.46 min Scan# 65
Delta R.T. 0.011 min
Lab File: 09192317.D
Acq: 19 Sep 2023 16:39

Tgt Ion: 85 Resp: 61223

Ion	Ratio	Lower	Upper
85	100		
87	31.8	12.7	52.7
101	9.3	0.0	30.1
103	6.1	0.0	26.6

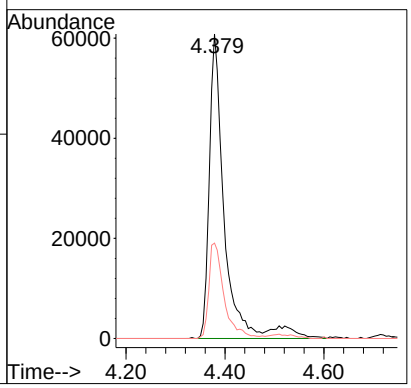


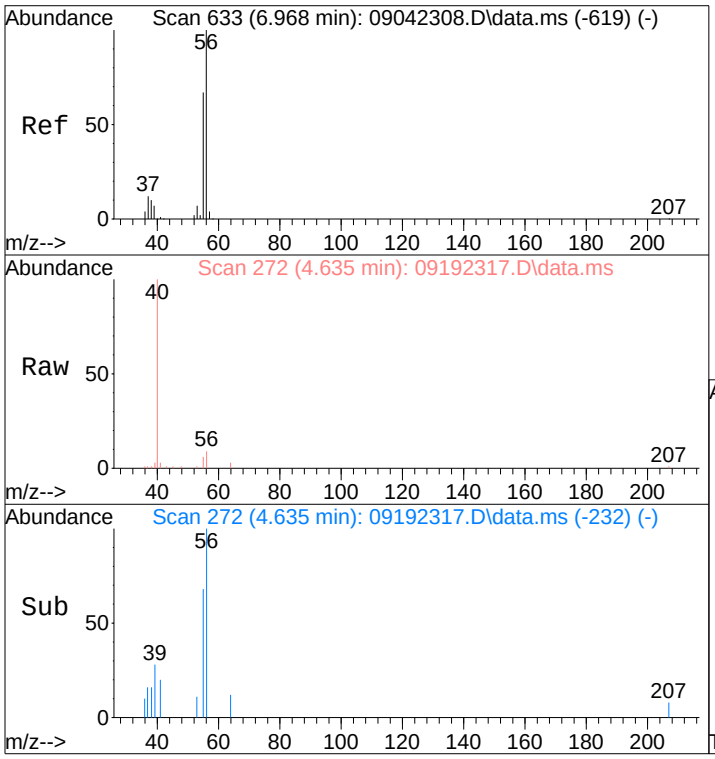


#10
Ethanol
Concen: 13.63 ng
RT: 4.38 min Scan# 227
Delta R.T. -0.074 min
Lab File: 09192317.D
Acq: 19 Sep 2023 16:39

Tgt Ion: 45 Resp: 129382

Ion	Ratio	Lower	Upper
45	100		
46	33.8	11.8	51.8

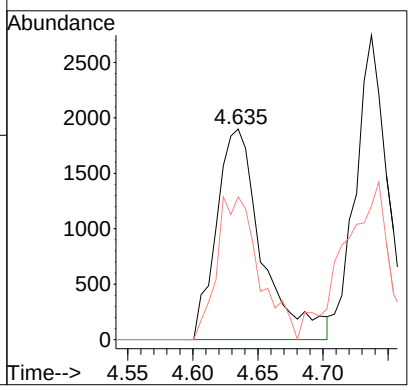


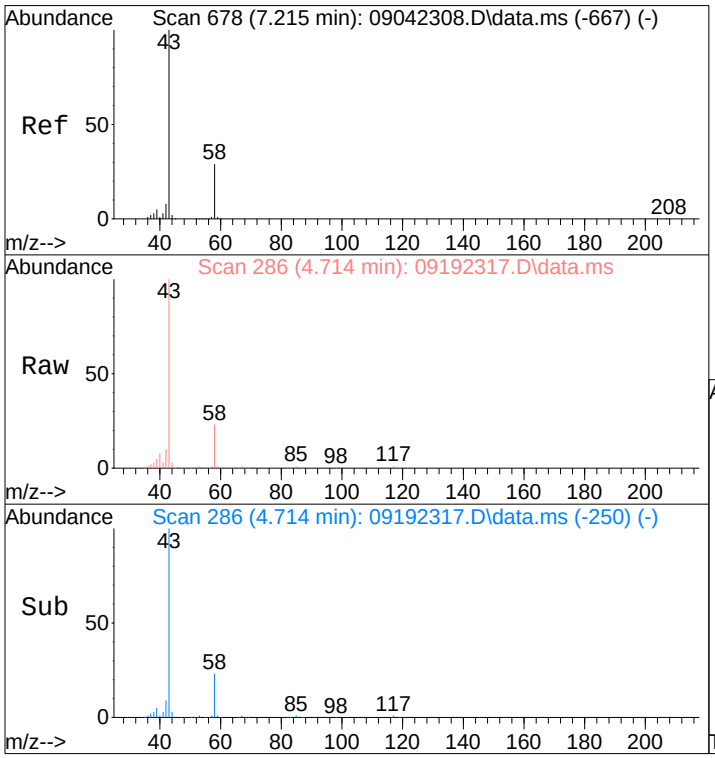


#12
Acrolein
Concen: 0.60 ng
RT: 4.63 min Scan# 272
Delta R.T. -0.023 min
Lab File: 09192317.D
Acq: 19 Sep 2023 16:39

Tgt Ion: 56 Resp: 4628

Ion	Ratio	Lower	Upper
56	100		
55	63.0	52.2	92.2

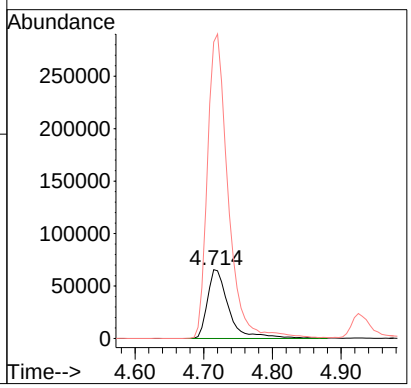


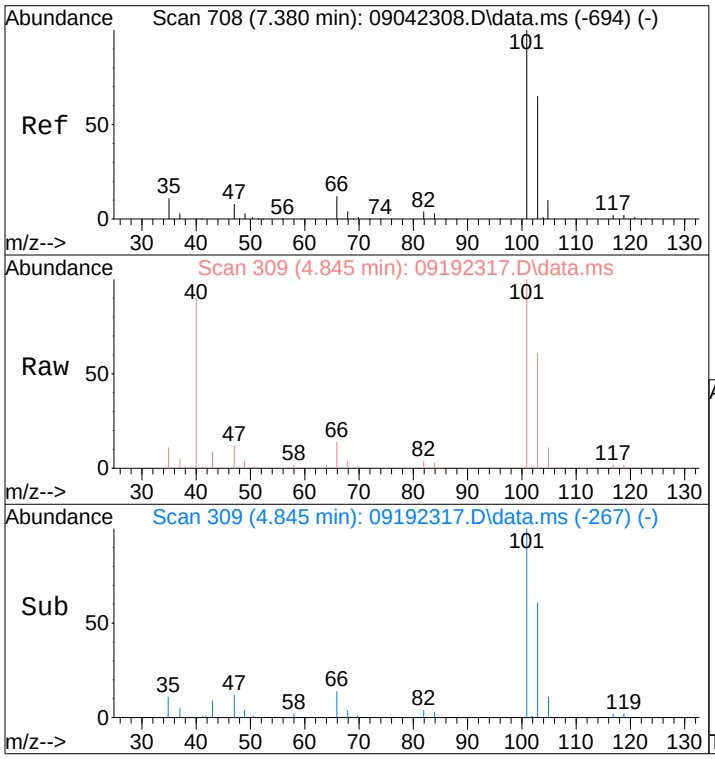


#13
Acetone
Concen: 15.63 ng
RT: 4.71 min Scan# 286
Delta R.T. -0.046 min
Lab File: 09192317.D
Acq: 19 Sep 2023 16:39

Tgt Ion: 58 Resp: 141929

Ion	Ratio	Lower	Upper
58	100		
43	430.4	454.1	514.1#

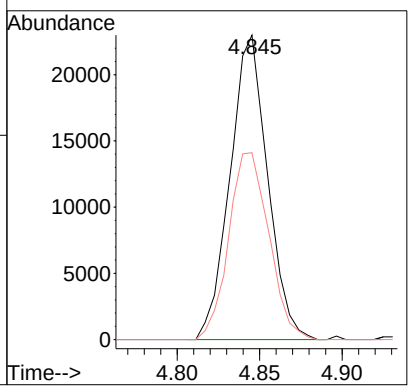


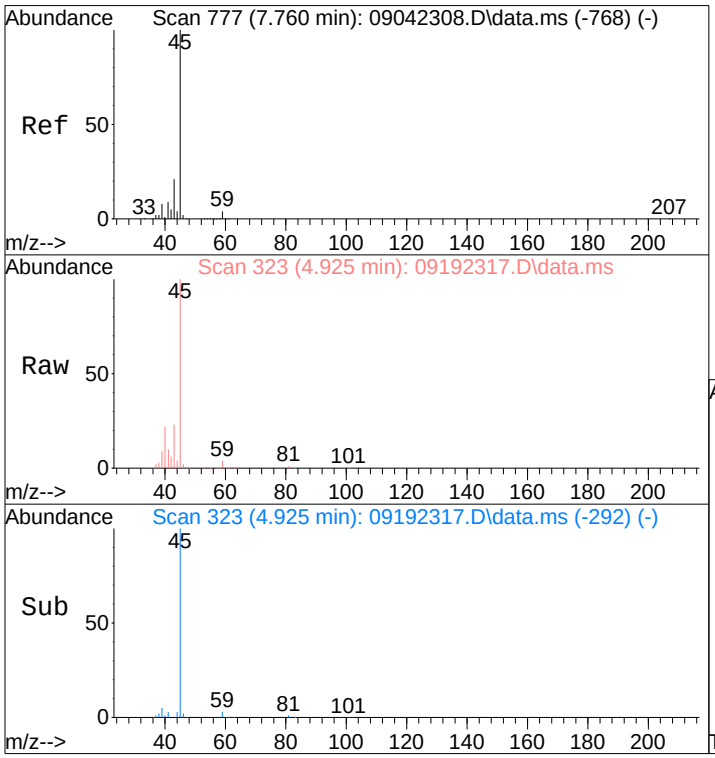


#14
Trichlorofluoromethane
Concen: 0.92 ng
RT: 4.85 min Scan# 309
Delta R.T. -0.011 min
Lab File: 09192317.D
Acq: 19 Sep 2023 16:39

Tgt Ion:101 Resp: 36490

Ion	Ratio	Lower	Upper
101	100		
103	65.6	43.7	83.7

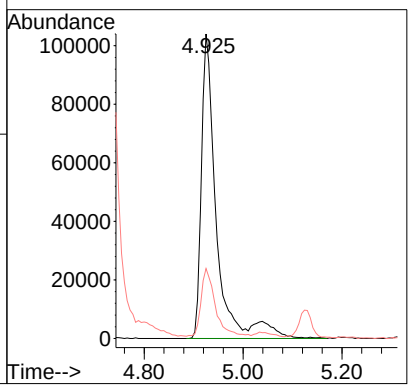


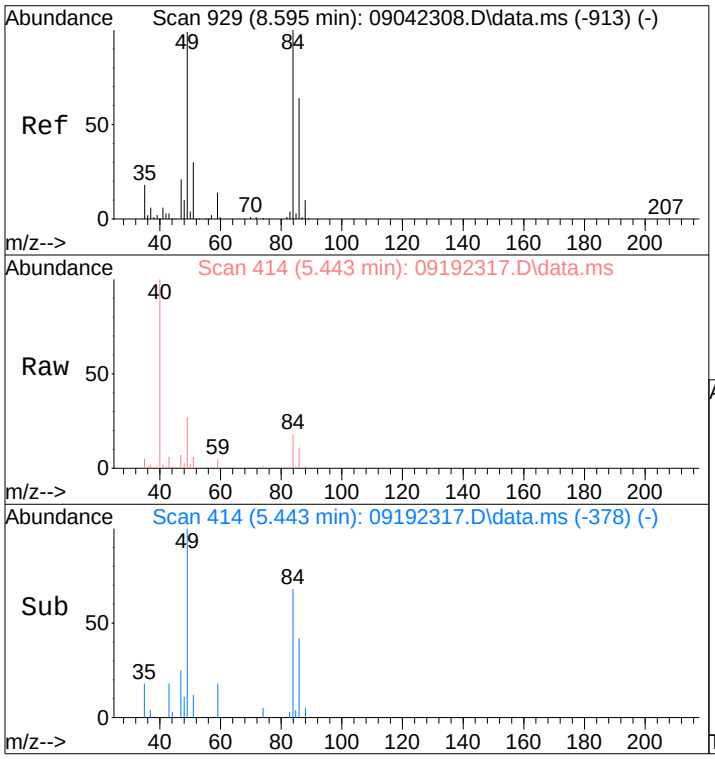


#15
2-Propanol (Isopropanol)
Concen: 5.74 ng
RT: 4.92 min Scan# 323
Delta R.T. -0.074 min
Lab File: 09192317.D
Acq: 19 Sep 2023 16:39

Tgt Ion: 45 Resp: 219383

Ion	Ratio	Lower	Upper
45	100		
43	23.6	7.2	47.2

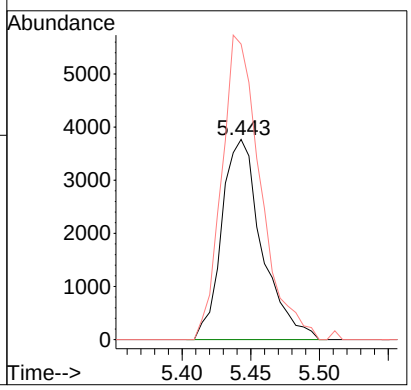


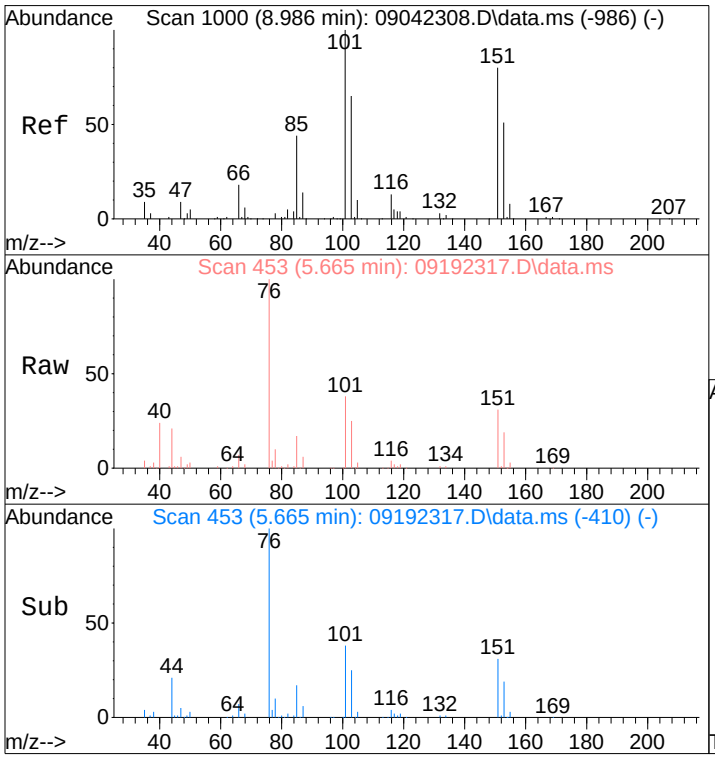


#19
Methylene Chloride
Concen: 0.53 ng
RT: 5.44 min Scan# 414
Delta R.T. -0.046 min
Lab File: 09192317.D
Acq: 19 Sep 2023 16:39

Tgt Ion: 84 Resp: 7663

Ion	Ratio	Lower	Upper
84	100		
49	147.2	105.7	155.7

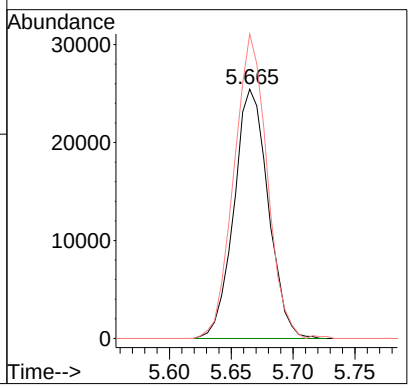


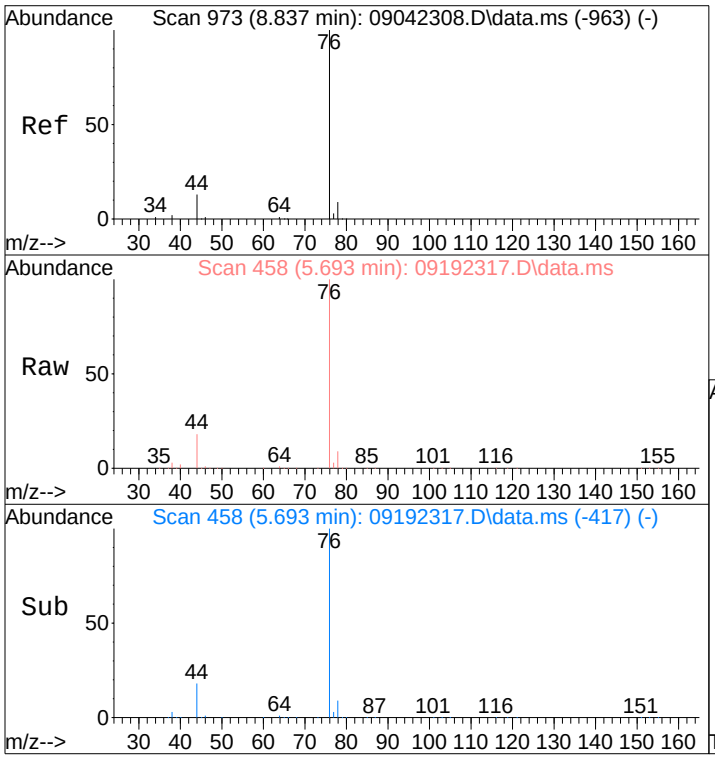


#21
Trichlorotrifluoroethane
Concen: 2.93 ng
RT: 5.66 min Scan# 453
Delta R.T. -0.006 min
Lab File: 09192317.D
Acq: 19 Sep 2023 16:39

Tgt Ion:151 Resp: 49153

Ion	Ratio	Lower	Upper
151	100		
101	117.8	89.0	129.0

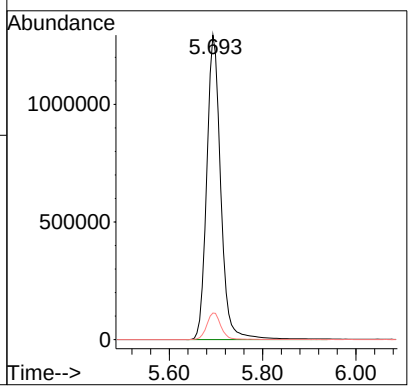


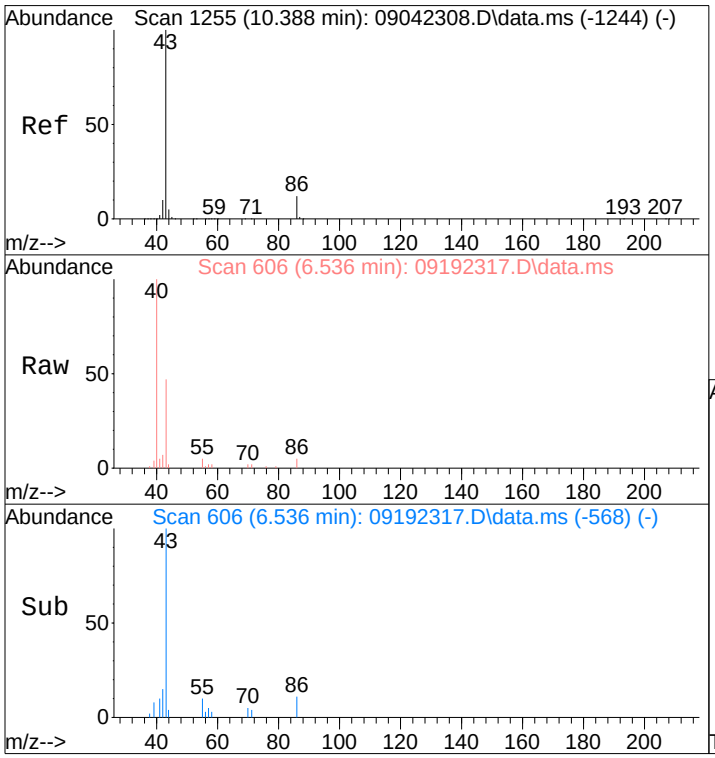


#22
Carbon Disulfide
Concen: 51.54 ng
RT: 5.69 min Scan# 458
Delta R.T. -0.017 min
Lab File: 09192317.D
Acq: 19 Sep 2023 16:39

Tgt Ion: 76 Resp: 2704285

Ion	Ratio	Lower	Upper
76	100		
78	8.9	0.0	29.6

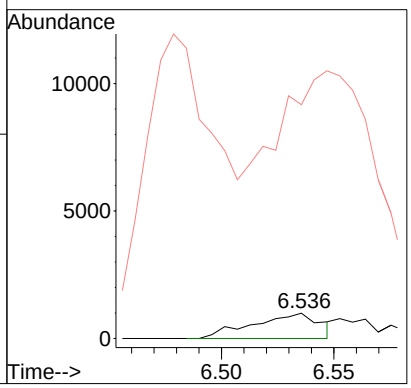


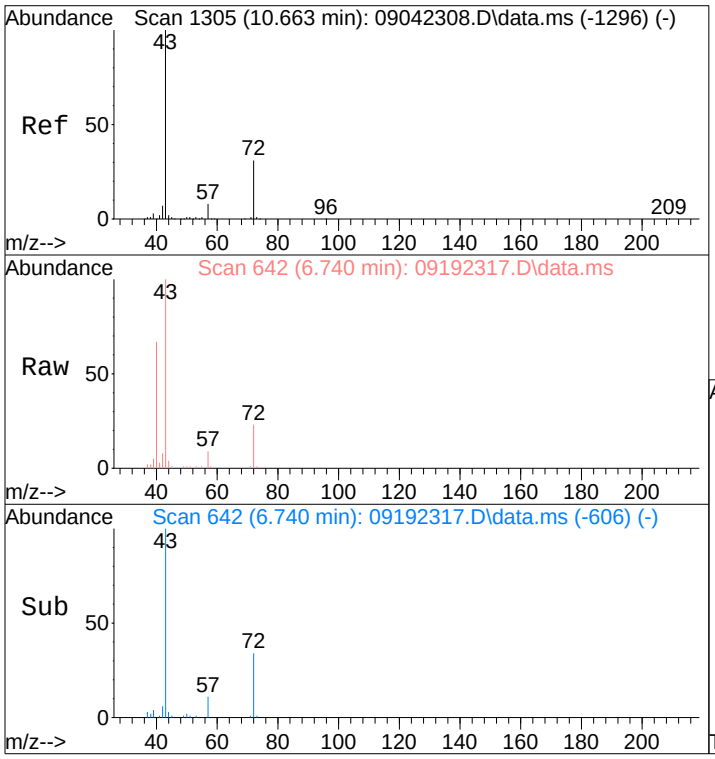


#26
Vinyl Acetate
Concen: 0.75 ng
RT: 6.54 min Scan# 606
Delta R.T. -0.034 min
Lab File: 09192317.D
Acq: 19 Sep 2023 16:39

Tgt Ion: 86 Resp: 2044

Ion	Ratio	Lower	Upper
86	100		
43	1428.2	1279.1	1319.1#

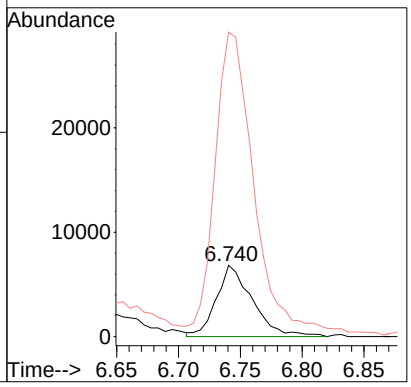


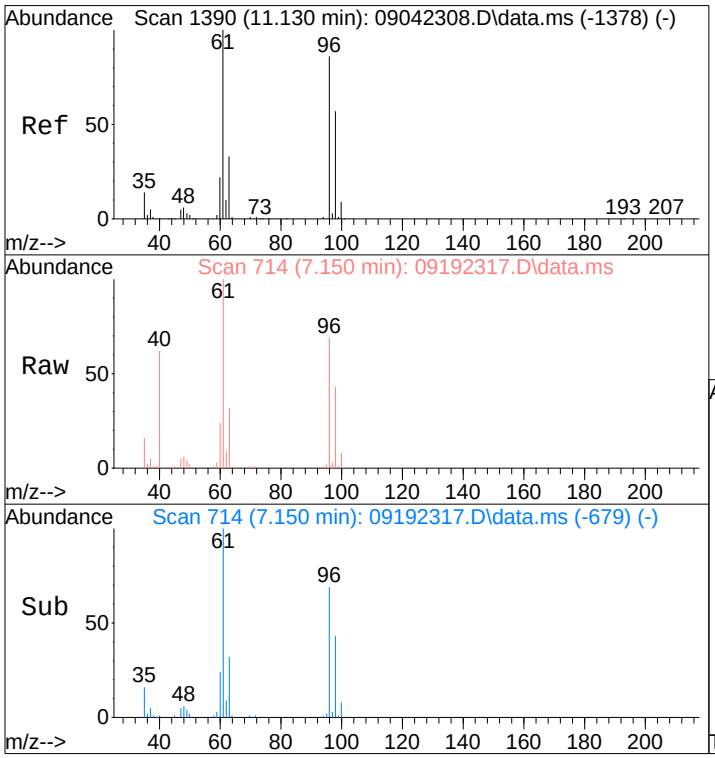


#27
2-Butanone (MEK)
Concen: 1.72 ng
RT: 6.74 min Scan# 642
Delta R.T. -0.046 min
Lab File: 09192317.D
Acq: 19 Sep 2023 16:39

Tgt Ion: 72 Resp: 13848

Ion	Ratio	Lower	Upper
72	100		
43	462.8	401.7	441.7#

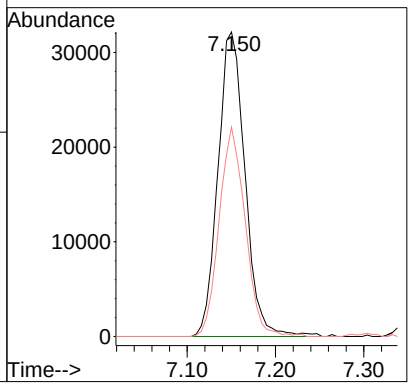


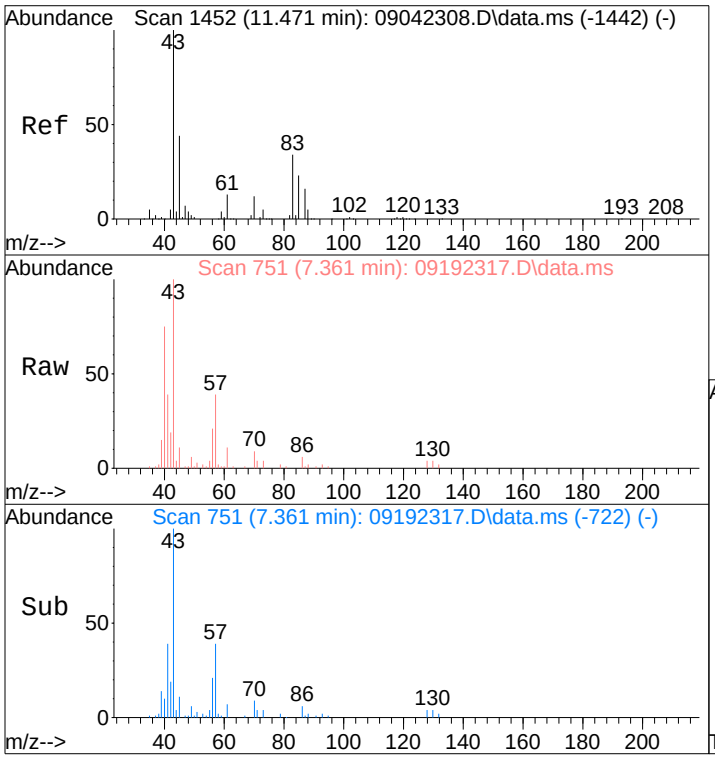


#28
cis-1,2-Dichloroethene
Concen: 3.35 ng
RT: 7.15 min Scan# 714
Delta R.T. -0.051 min
Lab File: 09192317.D
Acq: 19 Sep 2023 16:39

Tgt Ion: 61 Resp: 68549

Ion	Ratio	Lower	Upper
61	100		
96	66.1	53.0	93.0

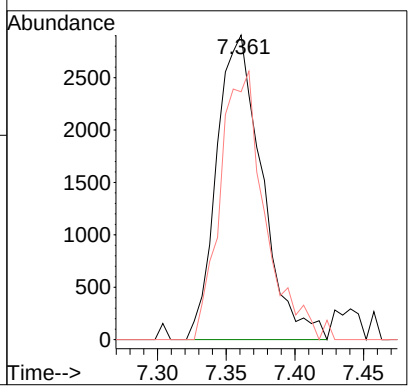


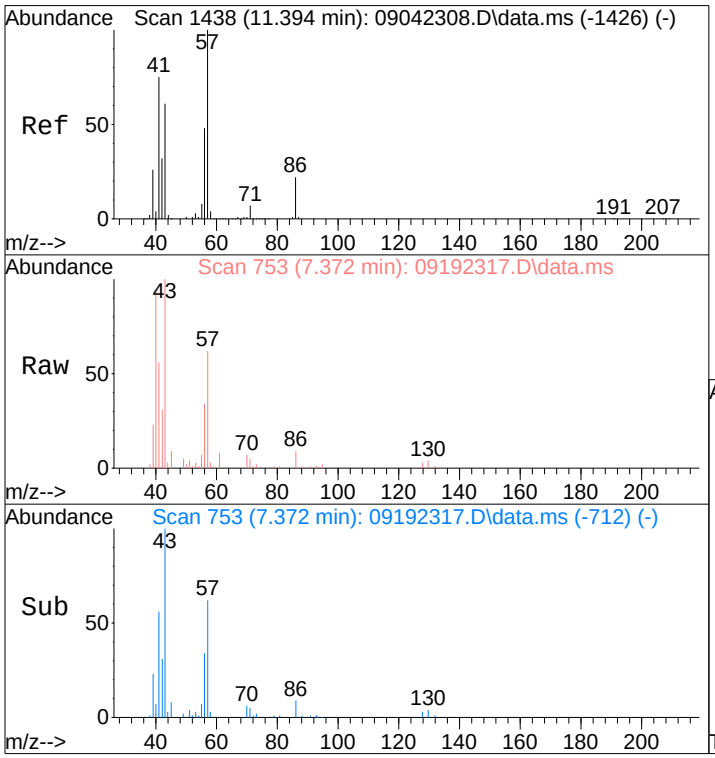


#30
Ethyl Acetate
Concen: 1.59 ng
RT: 7.36 min Scan# 751
Delta R.T. -0.034 min
Lab File: 09192317.D
Acq: 19 Sep 2023 16:39

Tgt Ion: 61 Resp: 6684

Ion	Ratio	Lower	Upper
61	100		
70	86.6	72.8	112.8

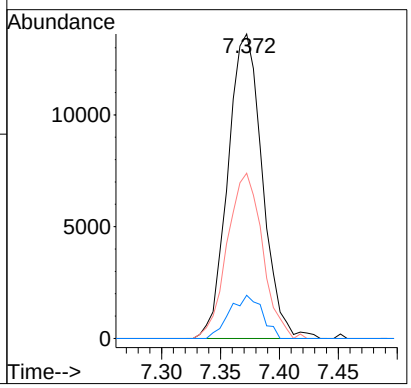


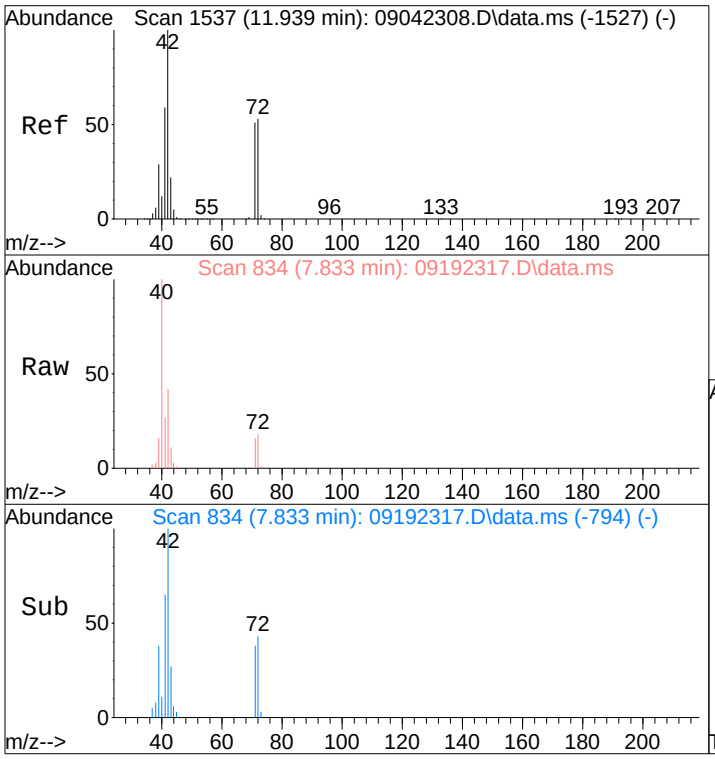


#31
n-Hexane
Concen: 1.44 ng
RT: 7.37 min Scan# 753
Delta R.T. -0.017 min
Lab File: 09192317.D
Acq: 19 Sep 2023 16:39

Tgt Ion: 57 Resp: 27683

Ion	Ratio	Lower	Upper
57	100		
56	55.6	45.2	67.8
86	13.4	12.6	19.0

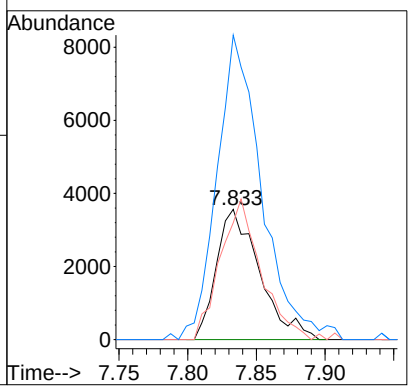


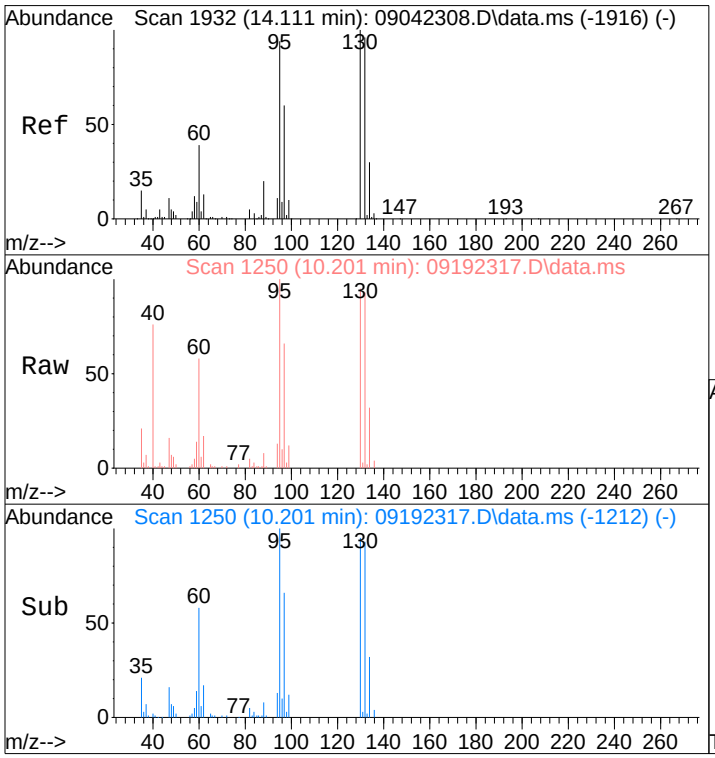


#34
Tetrahydrofuran (THF)
Concen: 0.95 ng
RT: 7.83 min Scan# 834
Delta R.T. -0.023 min
Lab File: 09192317.D
Acq: 19 Sep 2023 16:39

Tgt Ion: 72 Resp: 7799

Ion	Ratio	Lower	Upper
72	100		
71	100.8	78.3	118.3
42	242.6	171.2	211.2#

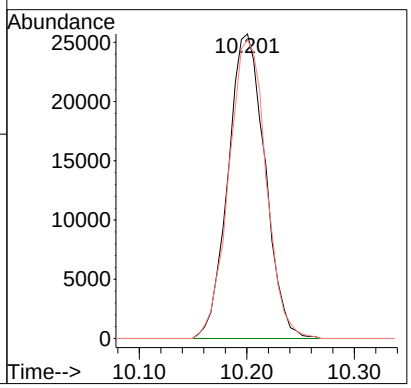


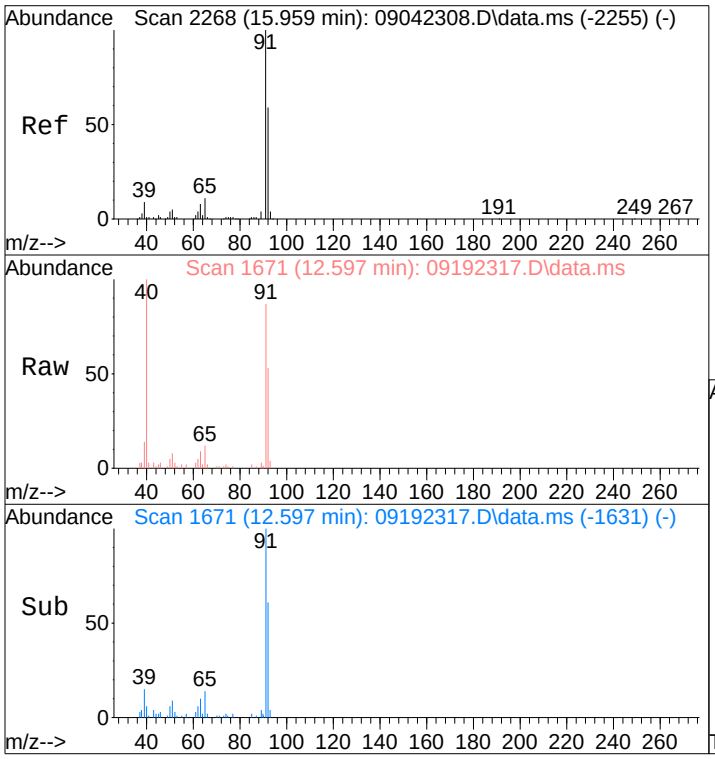


#47
Trichloroethene
Concen: 3.13 ng
RT: 10.20 min Scan# 1250
Delta R.T. -0.034 min
Lab File: 09192317.D
Acq: 19 Sep 2023 16:39

Tgt Ion:130 Resp: 61361

Ion	Ratio	Lower	Upper
130	100		
132	98.9	77.0	117.0

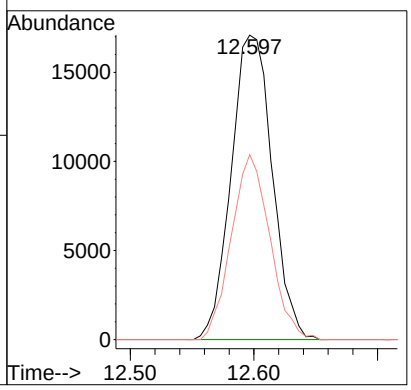




#58
Toluene
Concen: 0.60 ng
RT: 12.60 min Scan# 1671
Delta R.T. -0.023 min
Lab File: 09192317.D
Acq: 19 Sep 2023 16:39

Tgt Ion: 91 Resp: 39488

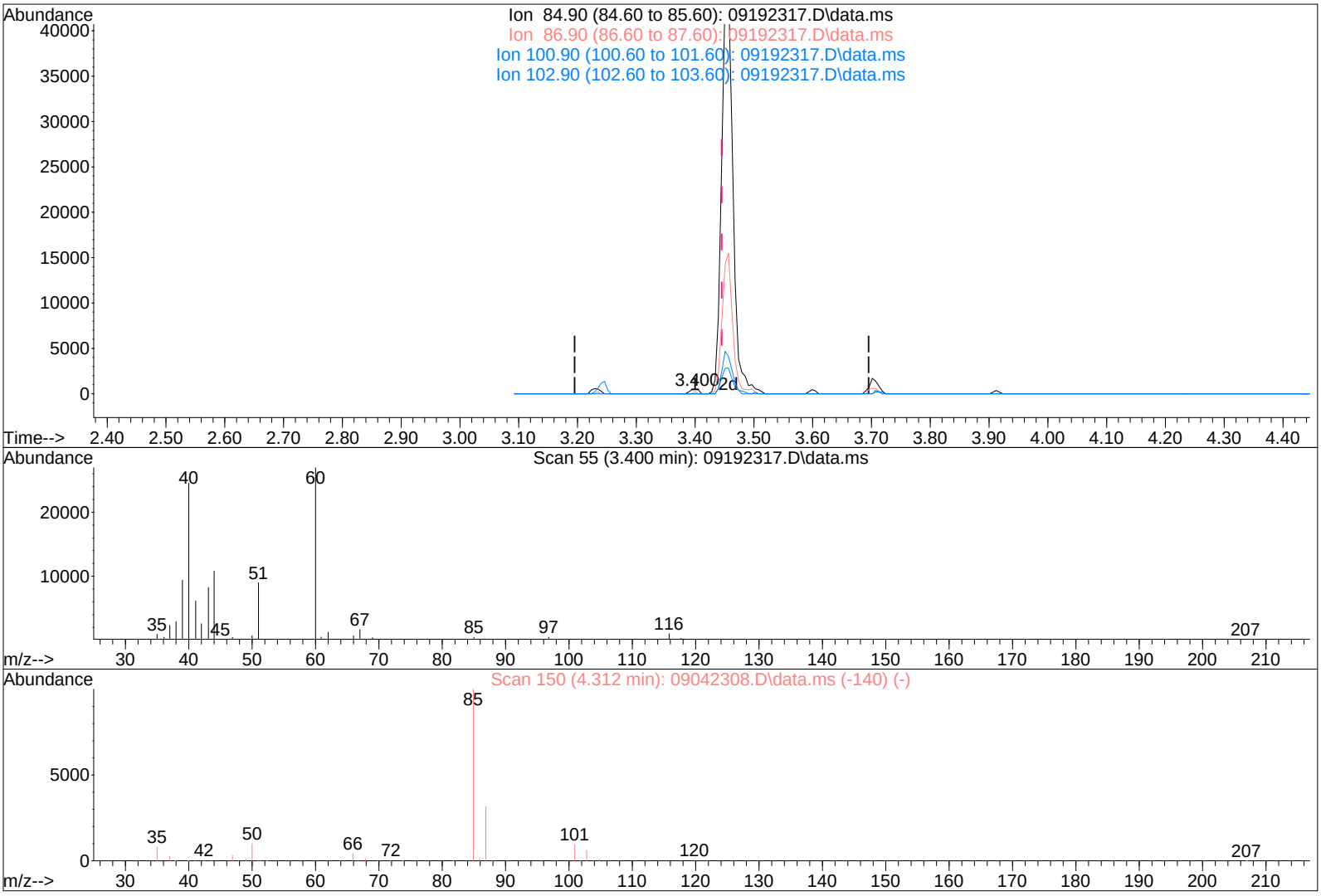
Ion	Ratio	Lower	Upper
91	100		
92	56.9	37.3	77.3



Quantitation Report (Qedit)

Data File : I:\MS13\DATA\2023_09\19\09192317.D Vial: 5
Acq On : 19 Sep 2023 16:39 Operator: TZ
Sample : P2304228-003 (1000mL) Inst : MS13
Misc : S37-09012301

Quant Time: Sep 20 07:55:06 2023
Quant Method : I:\MS13\METHODS\R13090423A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Sep 16 07:16:40 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09192317.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

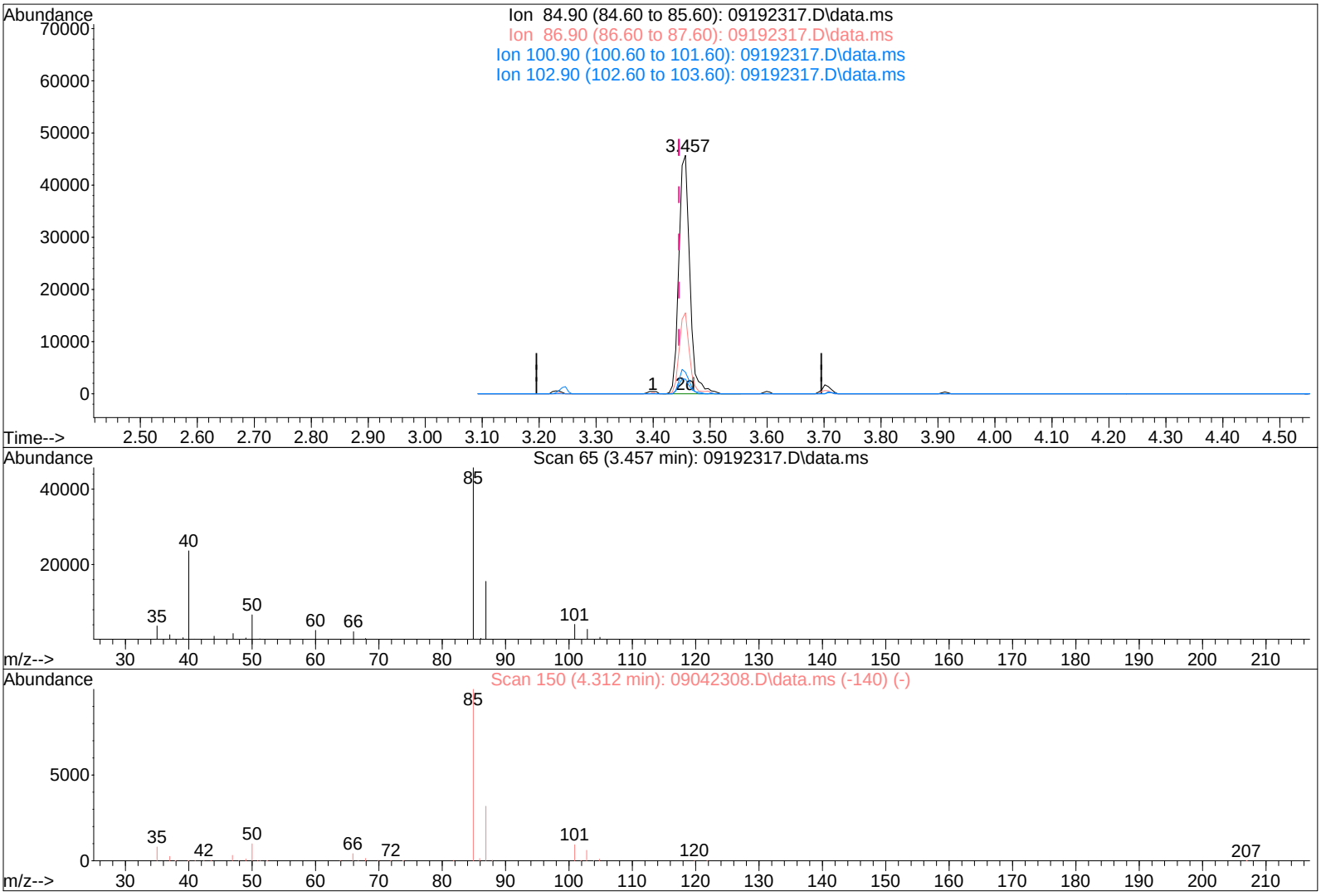
3.400min (-0.046) 0.01ng

response 505

Ion	Exp%	Act%
84.90	100	100
86.90	32.70	0.00#
100.90	10.10	0.00
102.90	6.60	0.00

Data File : I:\MS13\DATA\2023_09\19\09192317.D Vial: 5
Acq On : 19 Sep 2023 16:39 Operator: TZ
Sample : P2304228-003 (1000mL) Inst : MS13
Misc : S37-09012301

Quant Time: Sep 20 07:55:06 2023
Quant Method : I:\MS13\METHODS\R13090423A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Sep 16 07:16:40 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09192317.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.457min (+0.011) 1.52ng m

response 61223

Ion	Exp%	Act%
84.90	100	100
86.90	32.70	31.81
100.90	10.10	9.32
102.90	6.60	6.08

MP

Tz 9/20/23

LH 9/20/23

Quantitation Report (QT Reviewed)

Tz 9/20/23

Data File : I:\MS13\DATA\2023_09\19\09192318.D Vial: 6
Acq On : 19 Sep 2023 17:15 Operator: TZ
Sample : P2304228-004 (1000mL) Inst : MS13
Misc : S37-09012301

Quant Time: Sep 20 09:14:45 2023
Quant Method : I:\MS13\METHODS\R13090423A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Sep 16 07:16:40 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.30	130	160260	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.36	114	691610	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.87	54	161076	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.07	65	335125	11.983	ng		-0.05
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.84%				
57) Toluene-d8 (SS2)	12.47	98	787927	12.413	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.28%				
73) Bromofluorobenzene (SS3)	16.85	174	281902	10.160	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 81.28%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	3.46	85	97494	2.353	ng		99
4) Chloromethane	3.60	50	7646	0.451	ng		94
5) 1,2-Dichloro-1,1,2,2-t...	3.70	135	1441	N.D.			
6) Vinyl Chloride	3.79	62	109	N.D.			
7) 1,3-Butadiene	3.93	54	315	N.D.			
8) Bromomethane	4.12	94	462	N.D.			
9) Chloroethane	4.24	64	613	N.D.			
10) Ethanol	4.38	45	74652	7.628	ng		97
11) Acetonitrile	0.00	41	0	N.D. d			
12) Acrolein	4.62	56	3505	N.D.			
13) Acetone	4.71	58	151961	16.235	ng		95
14) Trichlorofluoromethane	4.84	101	163269	3.987	ng		99
15) 2-Propanol (Isopropanol)	4.93	45	513445	13.028	ng		92
16) Acrylonitrile	5.12	53	2555	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.41	59	4503	N.D.			
19) Methylene Chloride	5.44	84	11972	0.798	ng		91
20) 3-Chloro-1-propene (Al...	5.48	41	3349	N.D.			
21) Trichlorotrifluoroethane	5.66	151	25138	1.452	ng		86
22) Carbon Disulfide	5.69	76	395852	7.319	ng		98
23) trans-1,2-Dichloroethene	6.22	61	109	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	6.37	73	251	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	6.74	72	31404	3.783	ng	#	86
28) cis-1,2-Dichloroethene	7.16	61	1516	N.D.			
29) Diisopropyl Ether	7.37	87	2933	N.D.			
30) Ethyl Acetate	7.36	61	11423	2.632	ng		83
31) n-Hexane	7.37	57	316629	15.970	ng		97
32) Chloroform	7.43	83	2521	N.D.			
34) Tetrahydrofuran (THF)	7.82	72	65199	7.706	ng	#	78
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.18	62	2542	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.90	56	7332	No Calib		#	
41) Benzene	8.95	78	82156	1.419	ng		99
42) Carbon Tetrachloride	9.13	117	9724	N.D.			
43) Cyclohexane	9.28	84	12065	0.617	ng		86
44) tert-Amyl Methyl Ether	9.62	73	1586	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.14	83	449	N.D.			
47) Trichloroethene	10.20	130	7385	N.D.			
48) 1,4-Dioxane	10.21	88	1807	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Data File : I:\MS13\DATA\2023_09\19\09192318.D Vial: 6
Acq On : 19 Sep 2023 17:15 Operator: TZ
Sample : P2304228-004 (1000mL) Inst : MS13
Misc : S37-09012301

Quant Time: Sep 20 09:14:45 2023
Quant Method : I:\MS13\METHODS\R13090423A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Sep 16 07:16:40 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

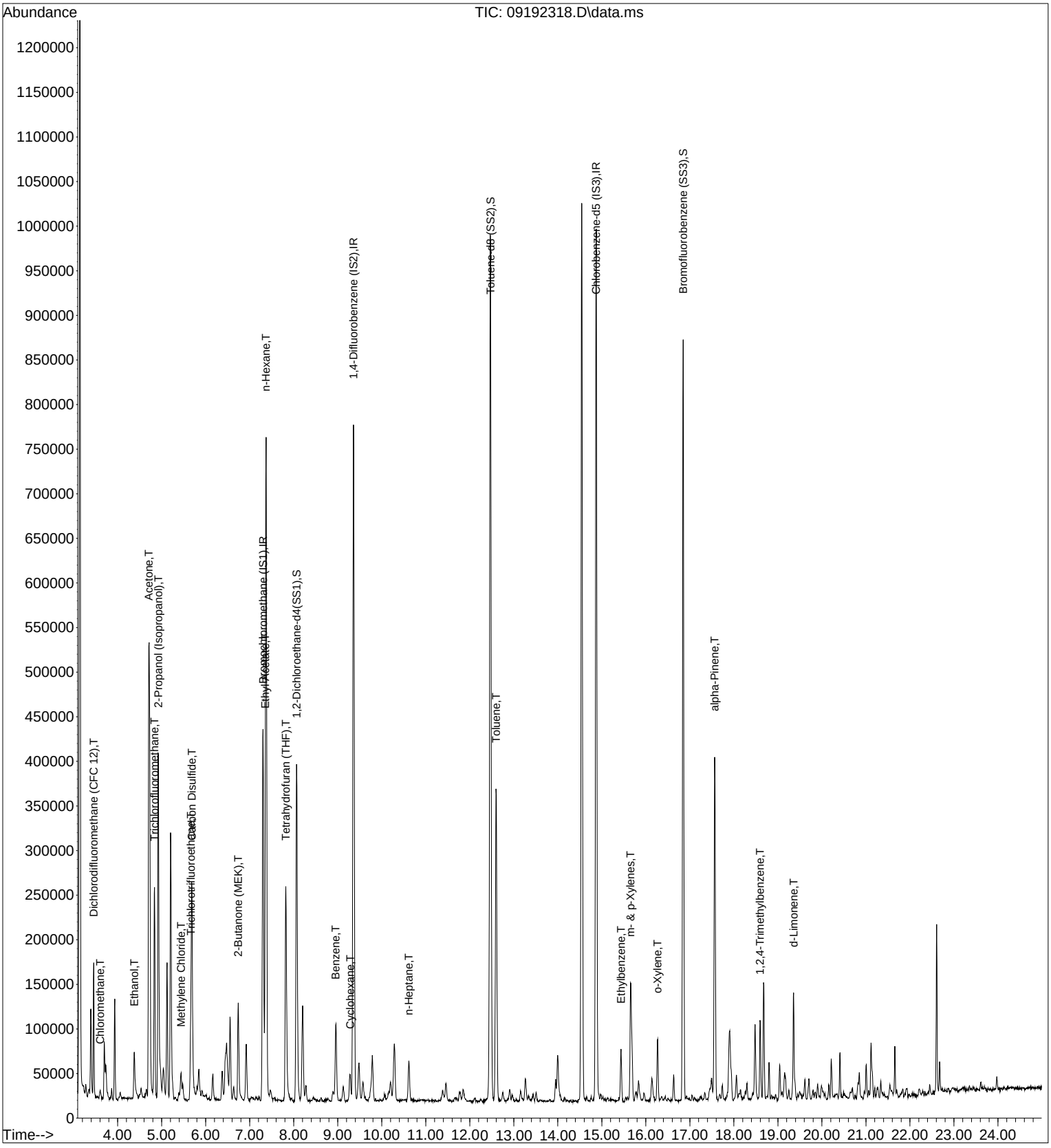
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.62	71	11241	0.928	ng		88
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.			
53) 4-Methyl-2-pentanone	11.38	58	3320	N.D.			
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.			
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.			
58) Toluene	12.60	91	292891	4.443	ng		100
59) 2-Hexanone	12.96	43	5006	N.D.			
60) Dibromochloromethane	13.11	129	245	N.D.			
61) 1,2-Dibromoethane	0.00	107	0	N.D.			
62) n-Butyl Acetate	13.81	43	1853	N.D.			
63) n-Octane	13.95	57	4117	N.D.			
64) Tetrachloroethene	14.06	166	628	N.D.			
65) Chlorobenzene	14.92	112	4396	N.D.			
66) Ethylbenzene	15.44	91	46088	0.592	ng		99
67) m- & p-Xylenes	15.65	91	123688	1.840	ng		98
68) Bromoform	15.70	173	170	N.D.			
69) Styrene	16.13	104	6996	N.D.			
70) o-Xylene	16.27	91	46142	0.699	ng		99
71) n-Nonane	16.64	43	10636	N.D.			
72) 1,1,2,2-Tetrachloroethane	16.24	83	176	N.D.			
74) Cumene	17.05	105	4497	N.D.			
75) alpha-Pinene	17.56	93	164064	4.257	ng		99
76) n-Propylbenzene	17.74	91	14202	N.D.			
77) 3-Ethyltoluene	17.05	105	4497	No Calib			
78) 4-Ethyltoluene	17.94	105	17086	N.D.			
79) 1,3,5-Trimethylbenzene	18.05	105	13245	N.D.			
80) alpha-Methylstyrene	0.00	118	0	N.D.			
81) 2-Ethyltoluene	17.05	105	4497	No Calib			
82) 1,2,4-Trimethylbenzene	18.59	105	50900	0.689	ng		91
83) n-Decane	0.00	58	0	N.D.			
84) Benzyl Chloride	18.78	91	359	N.D.			
85) 1,3-Dichlorobenzene	18.75	146	255	N.D.			
86) 1,4-Dichlorobenzene	18.86	146	1897	N.D.			
87) sec-Butylbenzene	18.96	105	2619	N.D.			
88) 4-Isopropyltoluene (p-...	19.17	119	14582	N.D.			
89) 1,2,3-Trimethylbenzene	17.05	105	4497	No Calib			
90) 1,2-Dichlorobenzene	19.29	146	139	N.D.			
91) d-Limonene	19.36	68	24695	1.227	ng		91
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.			
93) n-Undecane	17.95	58	336	No Calib		#	
94) 1,2,4-Trichlorobenzene	21.43	180	146	N.D.			
95) Naphthalene	21.55	128	3457	N.D.			
96) n-Dodecane	19.04	57	8050	No Calib			
97) Hexachlorobutadiene	21.98	225	602	N.D.			
98) Cyclohexanone	15.25	55	789	No Calib		#	
99) tert-Butylbenzene	18.59	119	6194	N.D.			
100) n-Butylbenzene	19.70	91	6112	N.D.			
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2023_09\19\09192318.D Vial: 6
Acq On : 19 Sep 2023 17:15 Operator: TZ
Sample : P2304228-004 (1000mL) Inst : MS13
Misc : S37-09012301

Quant Time: Sep 20 09:14:45 2023
Quant Method : I:\MS13\METHODS\R13090423A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Sep 16 07:16:40 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2023_09\19\09192318.D Vial: 6
Acq On : 19 Sep 2023 17:15 Operator: TZ
Sample : P2304228-004 (1000mL) Inst : MS13
Misc : S37-09012301

TZ 9/20/23

Quant Time: Sep 20 09:14:45 2023
Quant Method : I:\MS13\METHODS\R13090423A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Sep 16 07:16:40 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

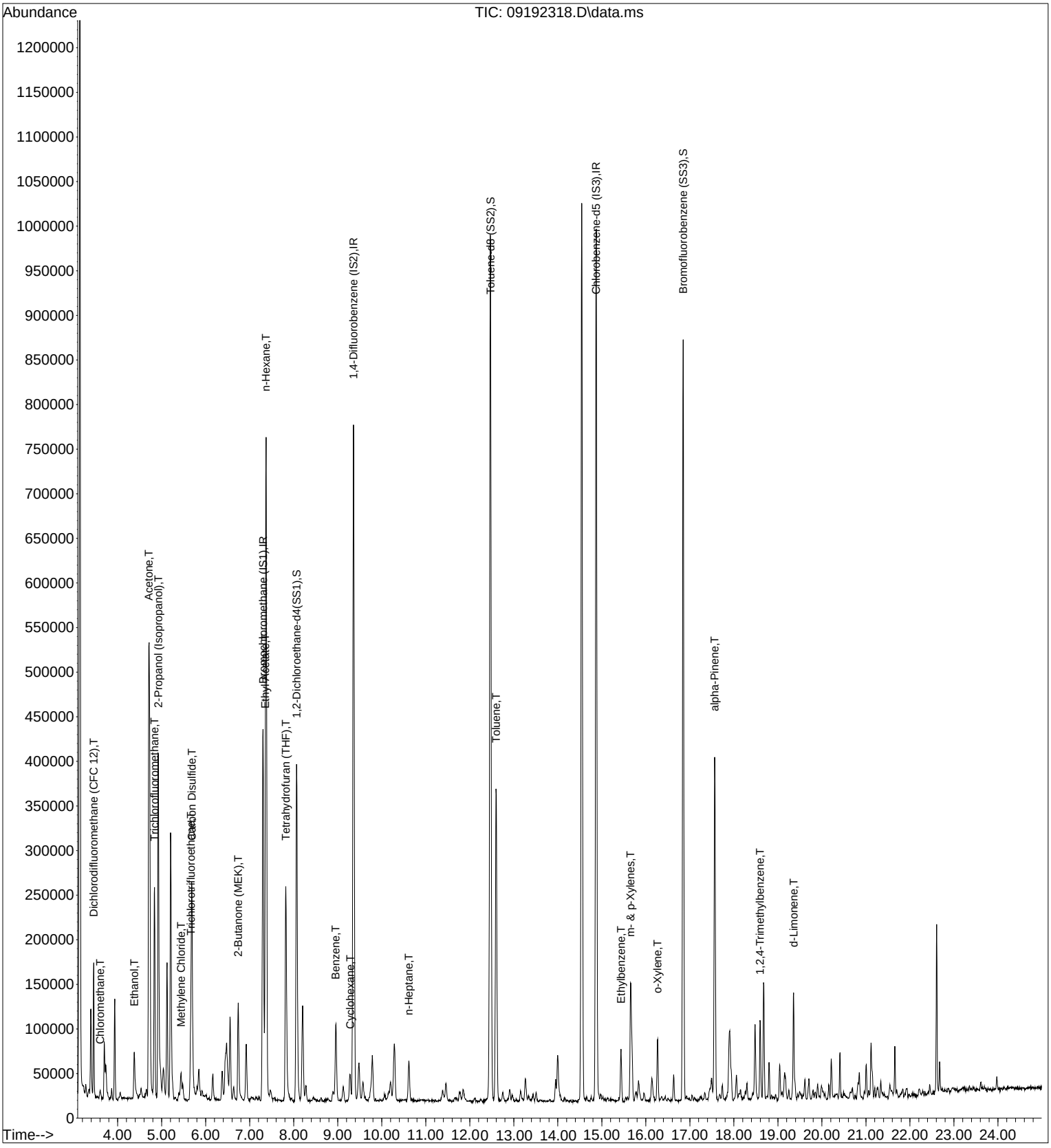
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.30	130	160260	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.36	114	691610	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.87	54	161076	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.07	65	335125	11.983	ng		-0.05
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.84%				
57) Toluene-d8 (SS2)	12.47	98	787927	12.413	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.28%				
73) Bromofluorobenzene (SS3)	16.85	174	281902	10.160	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 81.28%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.46	85	97494	2.353	ng		99
4) Chloromethane	3.60	50	7646	0.451	ng		94
10) Ethanol	4.38	45	74652	7.628	ng		97
13) Acetone	4.71	58	151961	16.235	ng		95
14) Trichlorofluoromethane	4.84	101	163269	3.987	ng		99
15) 2-Propanol (Isopropanol)	4.93	45	513445	13.028	ng		92
19) Methylene Chloride	5.44	84	11972	0.798	ng		91
21) Trichlorotrifluoroethane	5.66	151	25138	1.452	ng		86
22) Carbon Disulfide	5.69	76	395852	7.319	ng		98
27) 2-Butanone (MEK)	6.74	72	31404	3.783	ng	#	86
30) Ethyl Acetate	7.36	61	11423	2.632	ng		83
31) n-Hexane	7.37	57	316629	15.970	ng		97
34) Tetrahydrofuran (THF)	7.82	72	65199	7.706	ng	#	78
41) Benzene	8.95	78	82156	1.419	ng		99
43) Cyclohexane	9.28	84	12065	0.617	ng		86
51) n-Heptane	10.62	71	11241	0.928	ng		88
58) Toluene	12.60	91	292891	4.443	ng		100
66) Ethylbenzene	15.44	91	46088	0.592	ng		99
67) m- & p-Xylenes	15.65	91	123688	1.840	ng		98
70) o-Xylene	16.27	91	46142	0.699	ng		99
75) alpha-Pinene	17.56	93	164064	4.257	ng		99
82) 1,2,4-Trimethylbenzene	18.59	105	50900	0.689	ng		91
91) d-Limonene	19.36	68	24695	1.227	ng		91

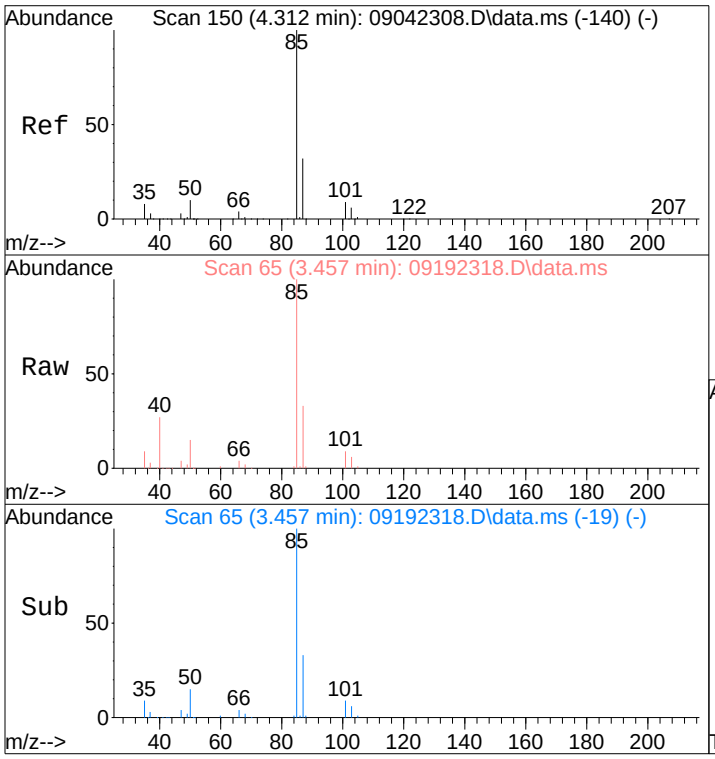
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2023_09\19\09192318.D Vial: 6
Acq On : 19 Sep 2023 17:15 Operator: TZ
Sample : P2304228-004 (1000mL) Inst : MS13
Misc : S37-09012301

Quant Time: Sep 20 09:14:45 2023
Quant Method : I:\MS13\METHODS\R13090423A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Sep 16 07:16:40 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

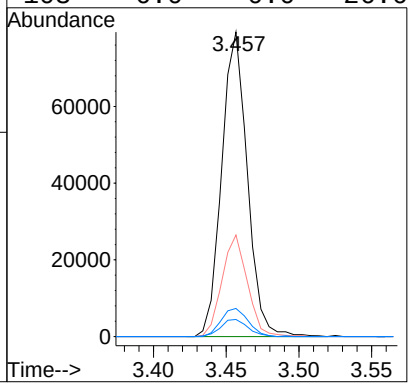


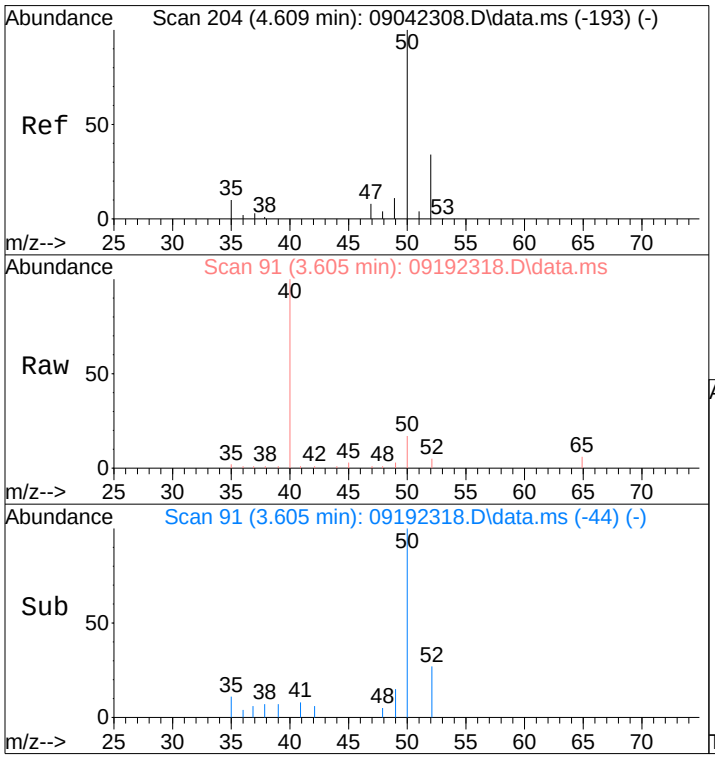


#3
Dichlorodifluoromethane (CFC 12)
Concen: 2.35 ng
RT: 3.46 min Scan# 65
Delta R.T. 0.011 min
Lab File: 09192318.D
Acq: 19 Sep 2023 17:15

Tgt Ion: 85 Resp: 97494

Ion	Ratio	Lower	Upper
85	100		
87	33.0	12.7	52.7
101	9.8	0.0	30.1
103	6.0	0.0	26.6

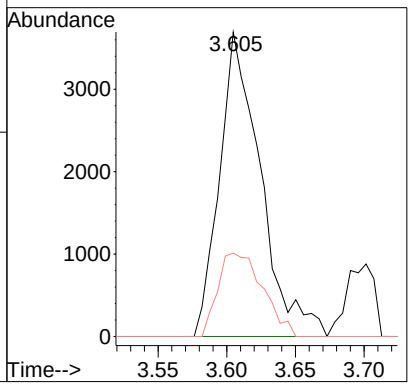


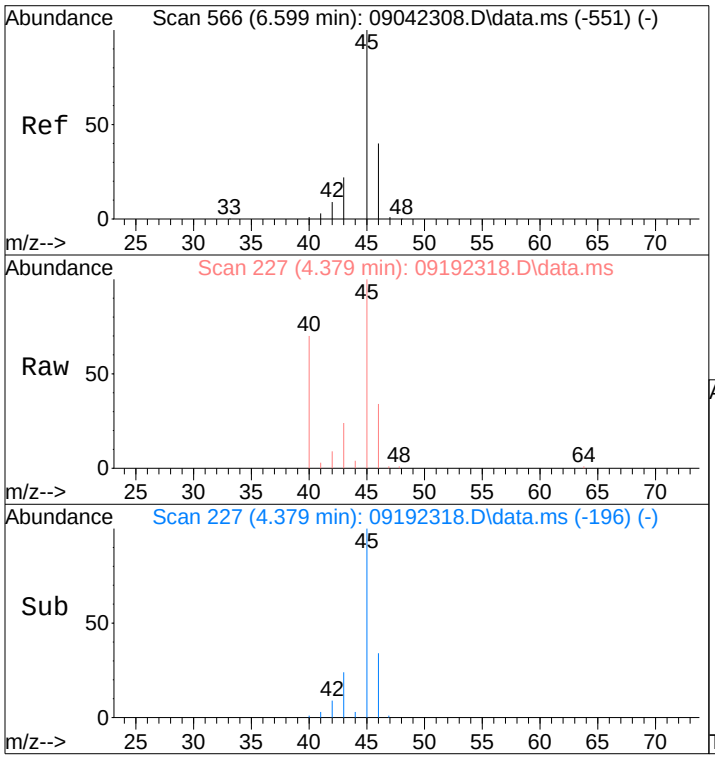


#4
Chloromethane
Concen: 0.45 ng
RT: 3.60 min Scan# 91
Delta R.T. 0.017 min
Lab File: 09192318.D
Acq: 19 Sep 2023 17:15

Tgt Ion: 50 Resp: 7646

Ion	Ratio	Lower	Upper
50	100		
52	30.0	13.6	53.6

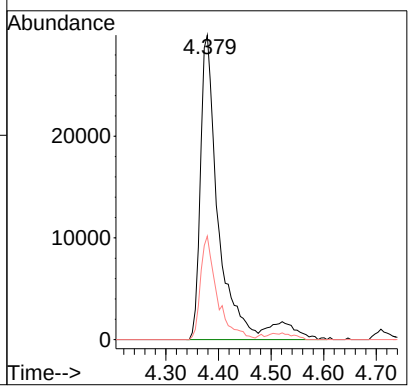


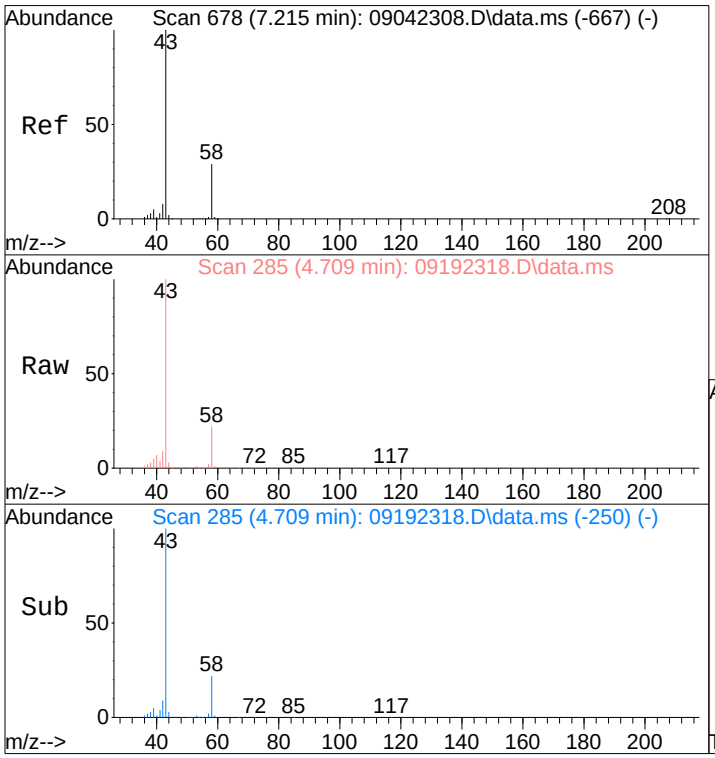


#10
Ethanol
Concen: 7.63 ng
RT: 4.38 min Scan# 227
Delta R.T. -0.074 min
Lab File: 09192318.D
Acq: 19 Sep 2023 17:15

Tgt Ion: 45 Resp: 74652

Ion	Ratio	Lower	Upper
45	100		
46	30.1	11.8	51.8

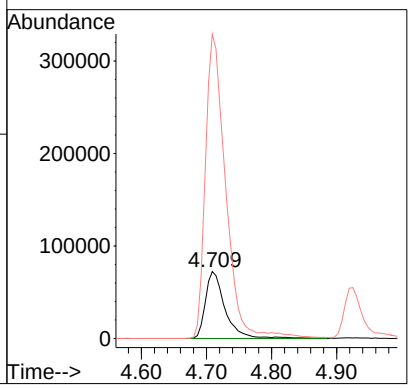


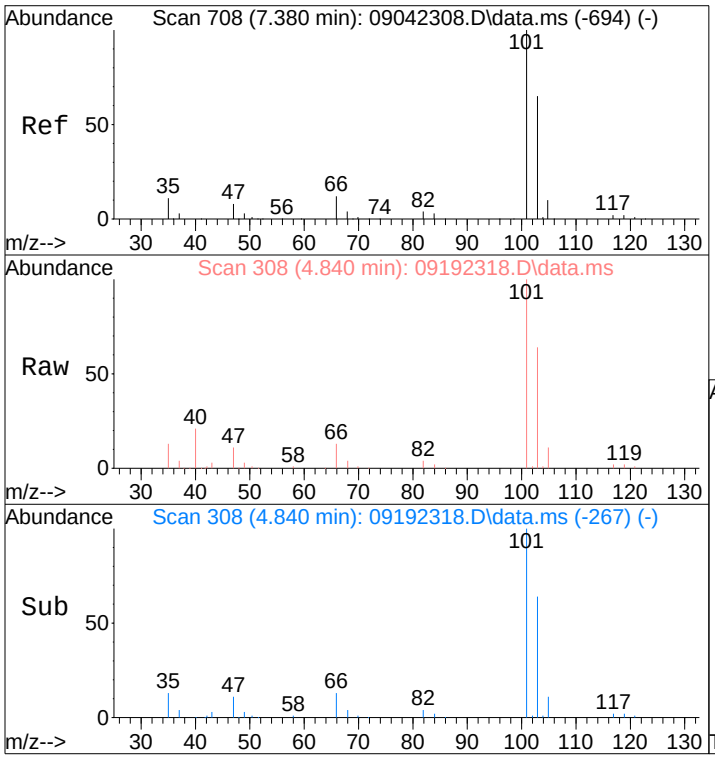


#13
Acetone
Concen: 16.24 ng
RT: 4.71 min Scan# 285
Delta R.T. -0.051 min
Lab File: 09192318.D
Acq: 19 Sep 2023 17:15

Tgt Ion: 58 Resp: 151961

Ion	Ratio	Lower	Upper
58	100		
43	470.3	454.1	514.1

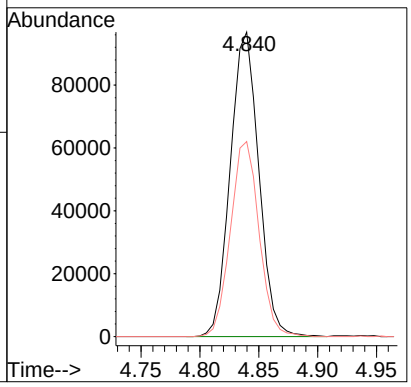


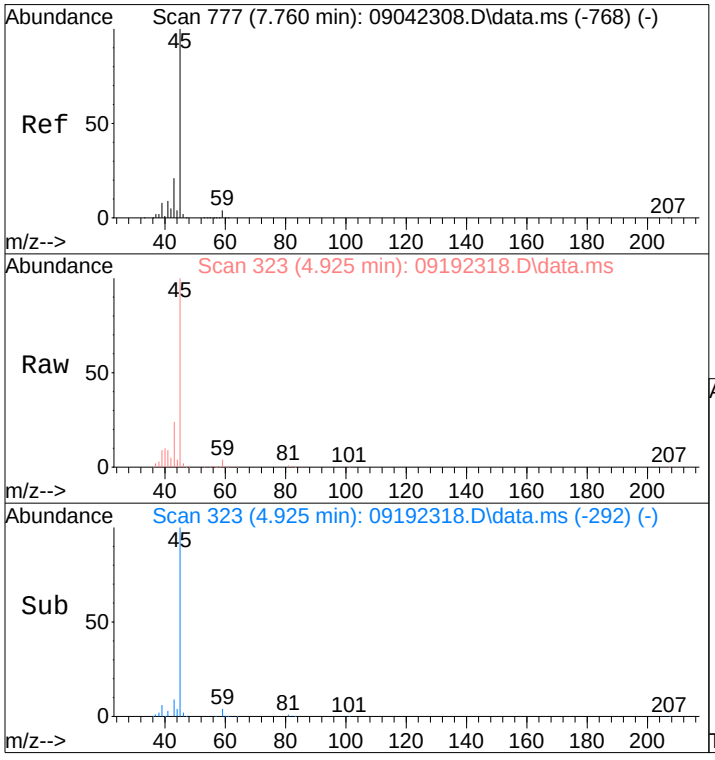


#14
Trichlorofluoromethane
Concen: 3.99 ng
RT: 4.84 min Scan# 308
Delta R.T. -0.017 min
Lab File: 09192318.D
Acq: 19 Sep 2023 17:15

Tgt Ion:101 Resp: 163269

Ion	Ratio	Lower	Upper
101	100		
103	64.3	43.7	83.7

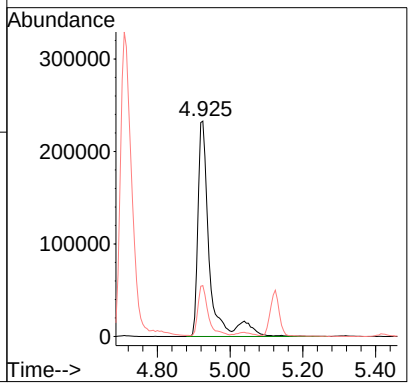


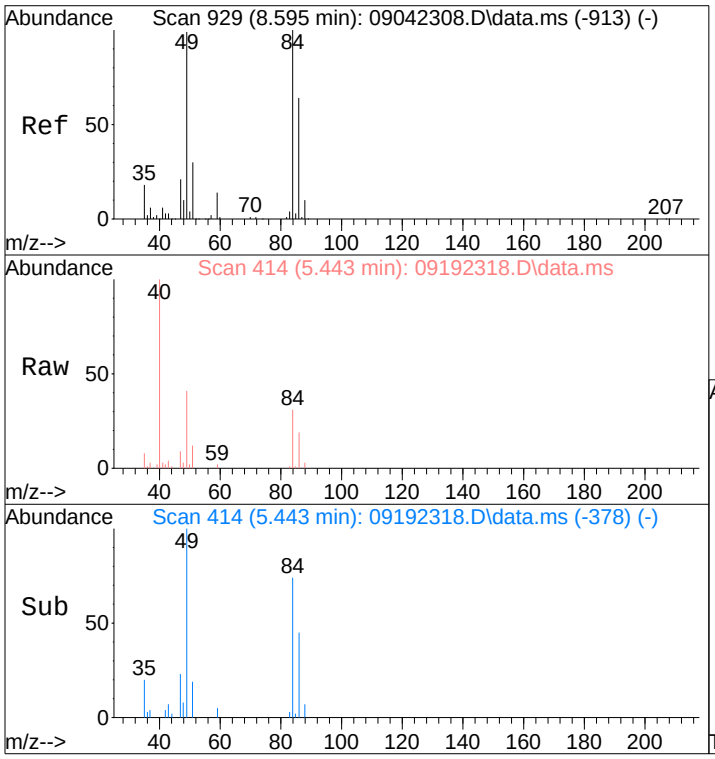


#15
2-Propanol (Isopropanol)
Concen: 13.03 ng
RT: 4.93 min Scan# 323
Delta R.T. -0.074 min
Lab File: 09192318.D
Acq: 19 Sep 2023 17:15

Tgt Ion: 45 Resp: 513445

Ion	Ratio	Lower	Upper
45	100		
43	22.8	7.2	47.2

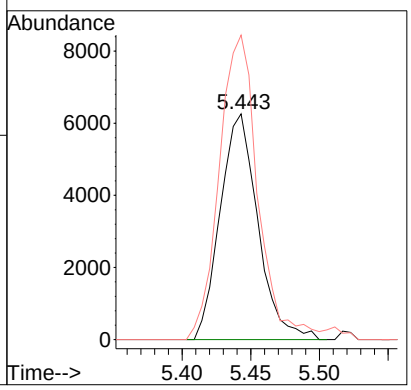


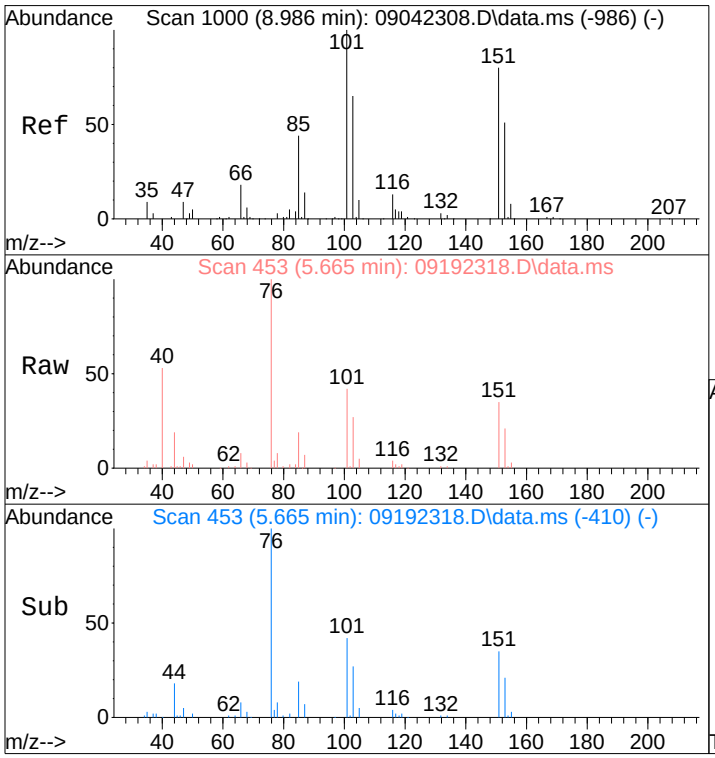


#19
Methylene Chloride
Concen: 0.80 ng
RT: 5.44 min Scan# 414
Delta R.T. -0.046 min
Lab File: 09192318.D
Acq: 19 Sep 2023 17:15

Tgt Ion: 84 Resp: 11972

Ion	Ratio	Lower	Upper
84	100		
49	140.8	105.7	155.7

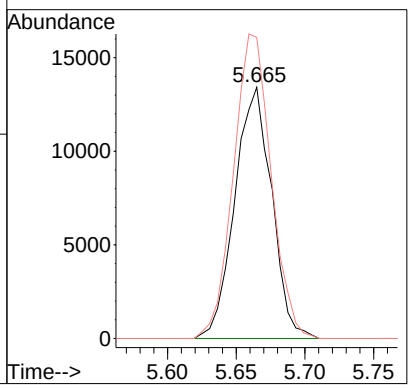


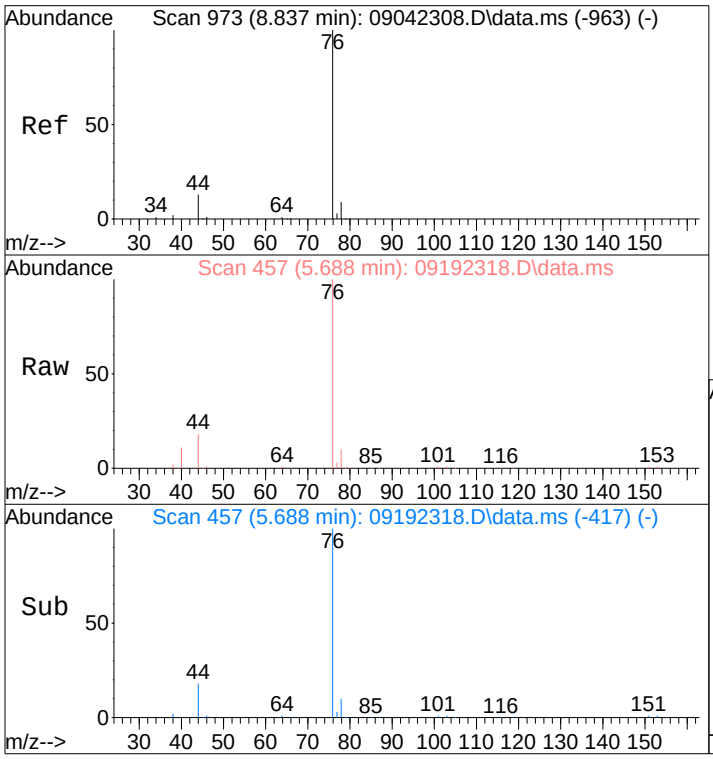


#21
Trichlorotrifluoroethane
Concen: 1.45 ng
RT: 5.66 min Scan# 453
Delta R.T. -0.006 min
Lab File: 09192318.D
Acq: 19 Sep 2023 17:15

Tgt Ion:151 Resp: 25138

Ion	Ratio	Lower	Upper
151	100		
101	123.7	89.0	129.0

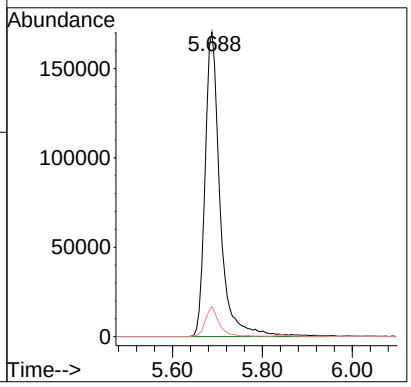


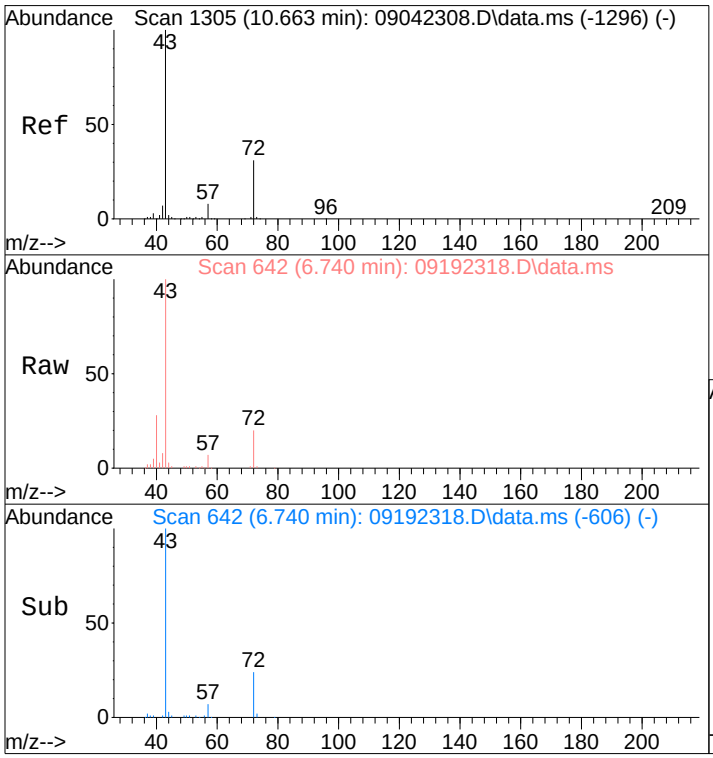


#22
Carbon Disulfide
Concen: 7.32 ng
RT: 5.69 min Scan# 457
Delta R.T. -0.022 min
Lab File: 09192318.D
Acq: 19 Sep 2023 17:15

Tgt Ion: 76 Resp: 395852

Ion	Ratio	Lower	Upper
76	100		
78	8.9	0.0	29.6

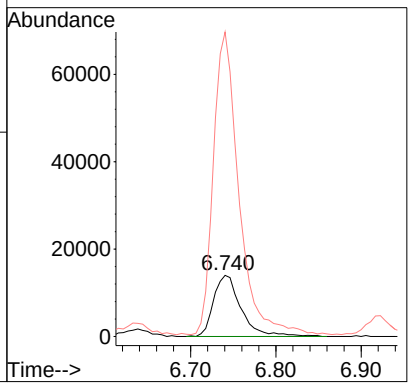


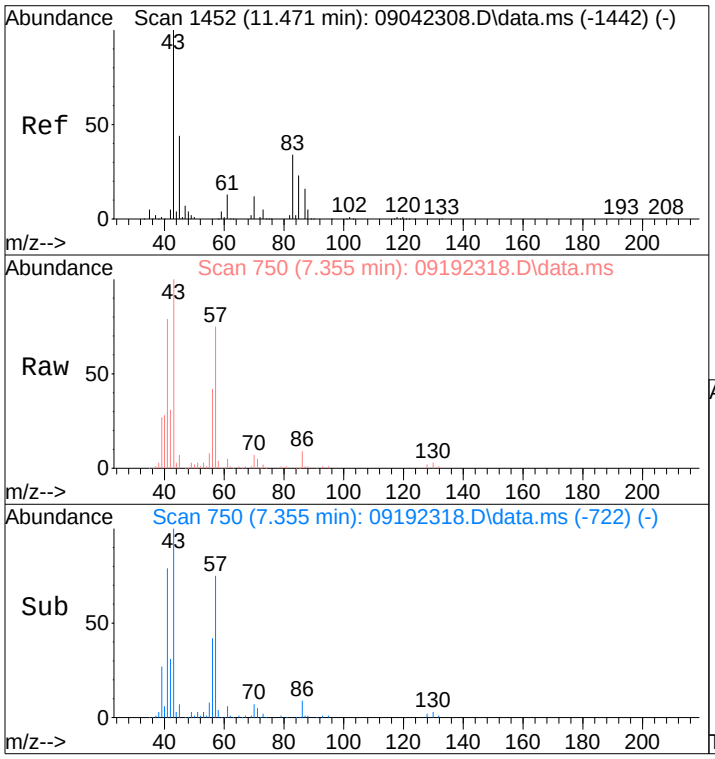


#27
2-Butanone (MEK)
Concen: 3.78 ng
RT: 6.74 min Scan# 642
Delta R.T. -0.046 min
Lab File: 09192318.D
Acq: 19 Sep 2023 17:15

Tgt Ion: 72 Resp: 31404

Ion	Ratio	Lower	Upper
72	100		
43	457.3	401.7	441.7#

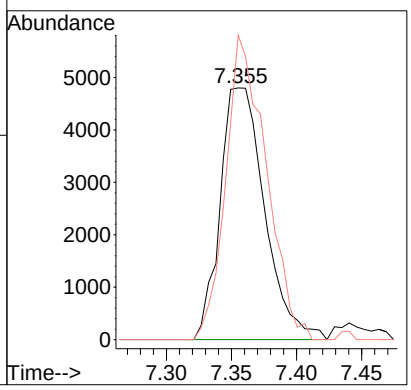


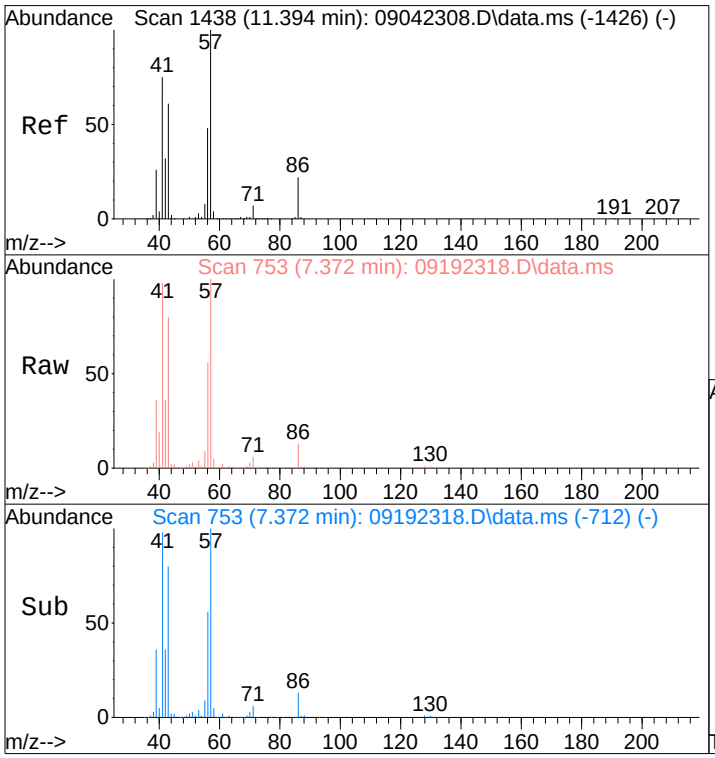


#30
Ethyl Acetate
Concen: 2.63 ng
RT: 7.36 min Scan# 750
Delta R.T. -0.040 min
Lab File: 09192318.D
Acq: 19 Sep 2023 17:15

Tgt Ion: 61 Resp: 11423

Ion	Ratio	Lower	Upper
61	100		
70	109.5	72.8	112.8

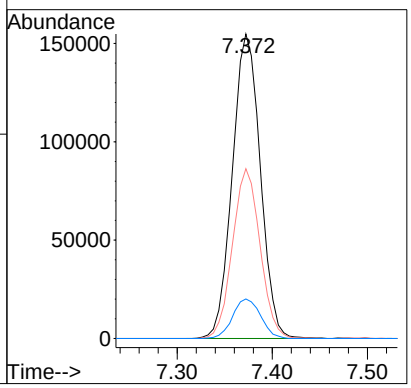


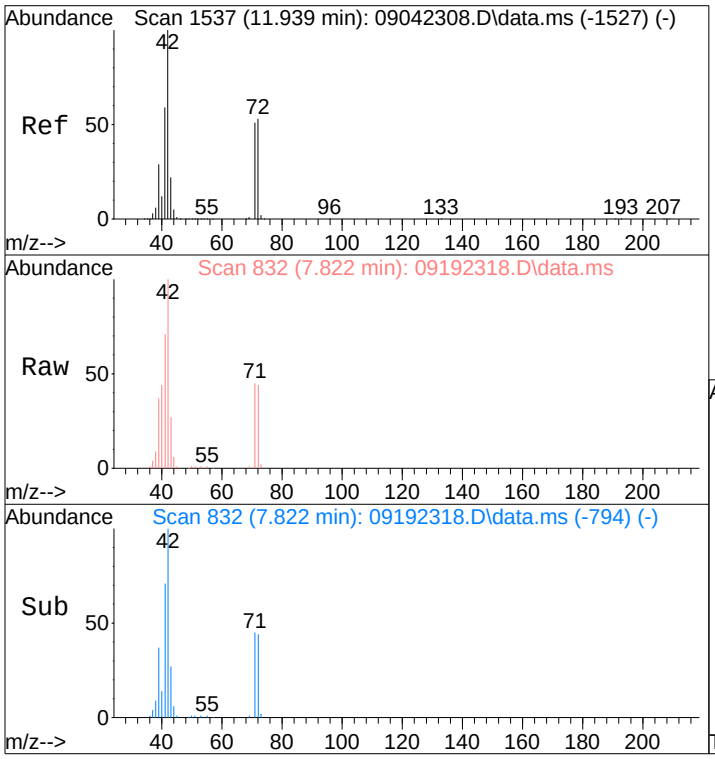


#31
n-Hexane
Concen: 15.97 ng
RT: 7.37 min Scan# 753
Delta R.T. -0.017 min
Lab File: 09192318.D
Acq: 19 Sep 2023 17:15

Tgt Ion: 57 Resp: 316629

Ion	Ratio	Lower	Upper
57	100		
56	54.9	45.2	67.8
86	13.0	12.6	19.0

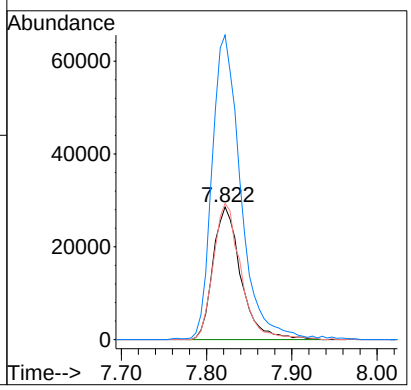


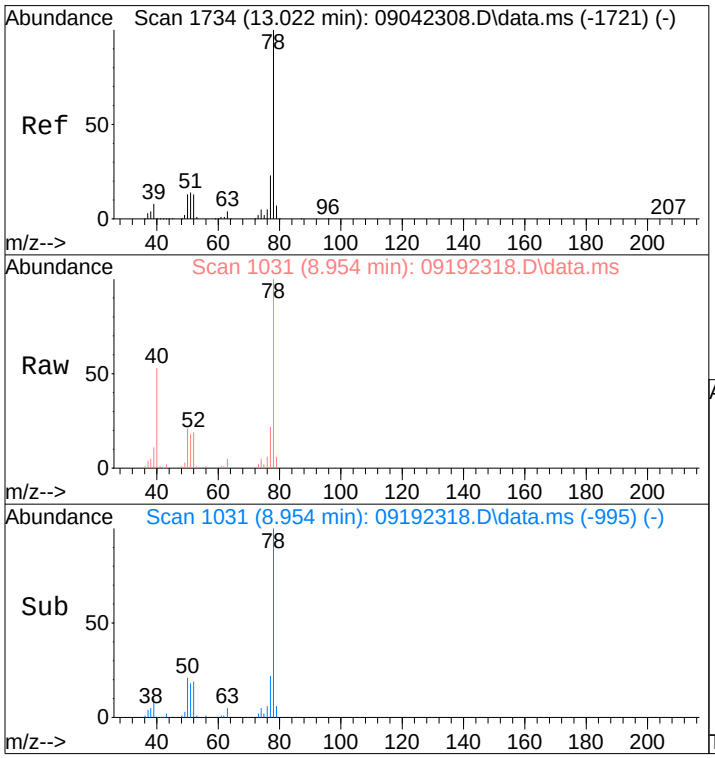


#34
Tetrahydrofuran (THF)
Concen: 7.71 ng
RT: 7.82 min Scan# 832
Delta R.T. -0.034 min
Lab File: 09192318.D
Acq: 19 Sep 2023 17:15

Tgt Ion: 72 Resp: 65199

Ion	Ratio	Lower	Upper
72	100		
71	101.5	78.3	118.3
42	237.0	171.2	211.2#

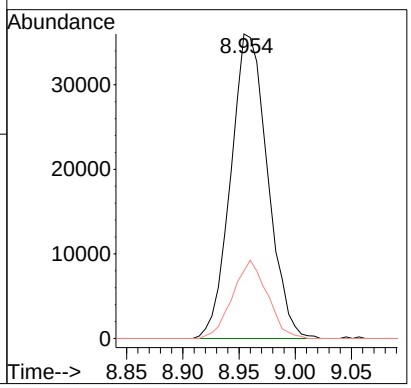


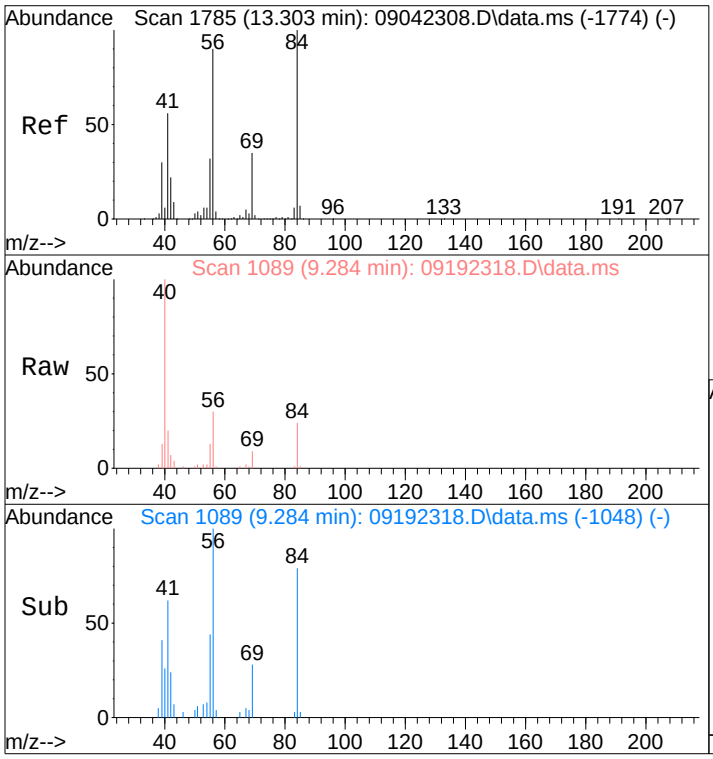


#41
Benzene
Concen: 1.42 ng
RT: 8.95 min Scan# 1031
Delta R.T. -0.046 min
Lab File: 09192318.D
Acq: 19 Sep 2023 17:15

Tgt Ion: 78 Resp: 82156

Ion	Ratio	Lower	Upper
78	100		
77	24.3	3.6	43.6

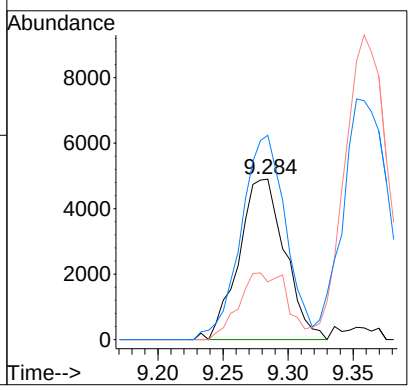


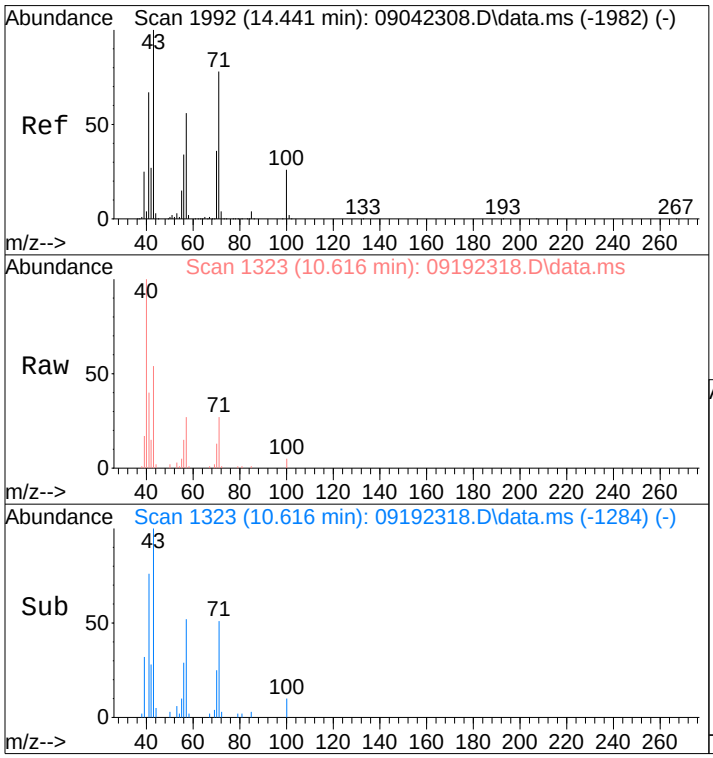


#43
Cyclohexane
Concen: 0.62 ng
RT: 9.28 min Scan# 1089
Delta R.T. -0.017 min
Lab File: 09192318.D
Acq: 19 Sep 2023 17:15

Tgt Ion: 84 Resp: 12065

Ion	Ratio	Lower	Upper
84	100		
69	43.4	18.7	58.7
56	123.1	85.8	125.8

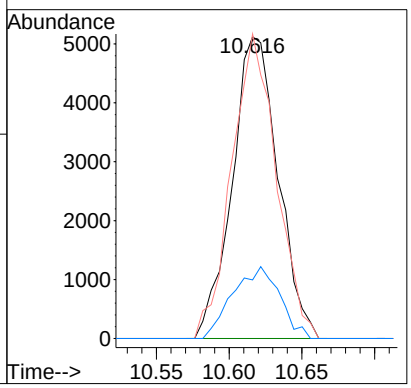


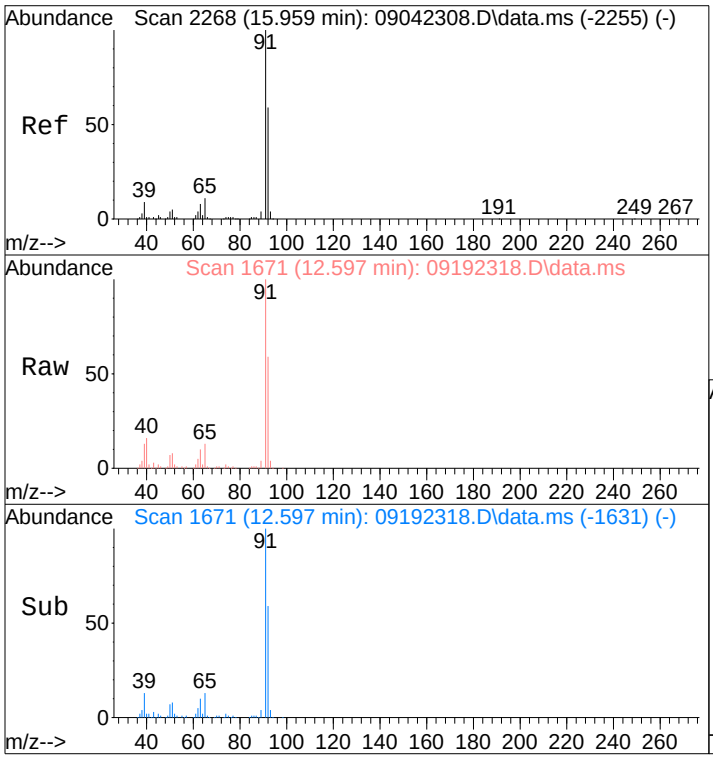


#51
n-Heptane
Concen: 0.93 ng
RT: 10.62 min Scan# 1323
Delta R.T. -0.028 min
Lab File: 09192318.D
Acq: 19 Sep 2023 17:15

Tgt Ion: 71 Resp: 11241

Ion	Ratio	Lower	Upper
71	100		
57	98.0	66.1	106.1
100	24.4	8.5	48.5

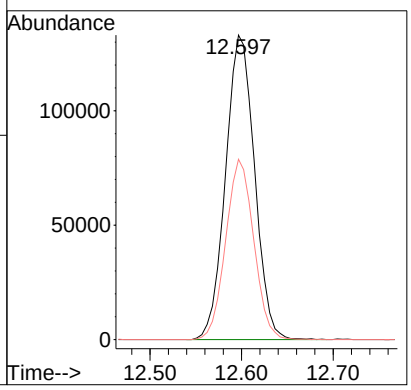


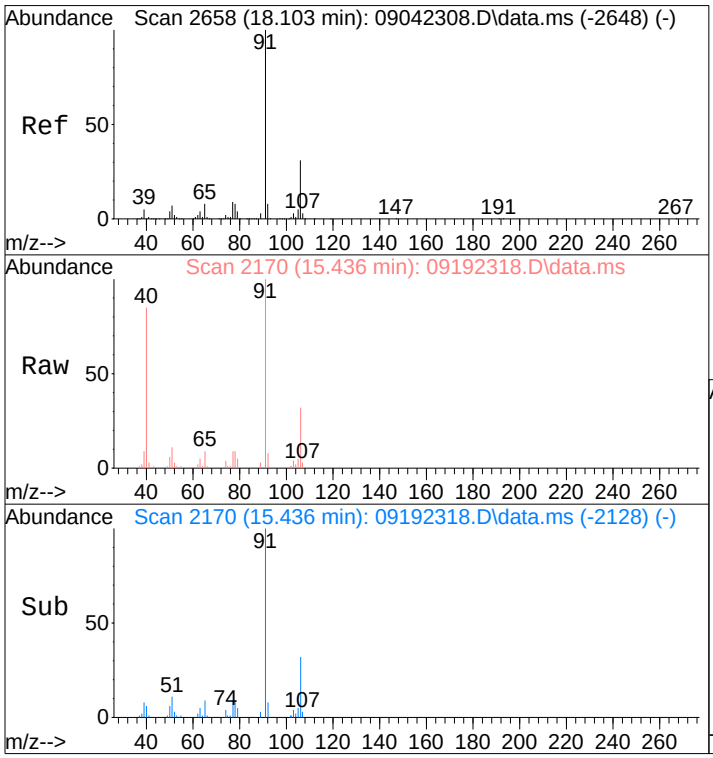


#58
Toluene
Concen: 4.44 ng
RT: 12.60 min Scan# 1671
Delta R.T. -0.023 min
Lab File: 09192318.D
Acq: 19 Sep 2023 17:15

Tgt Ion: 91 Resp: 292891

Ion	Ratio	Lower	Upper
91	100		
92	57.3	37.3	77.3

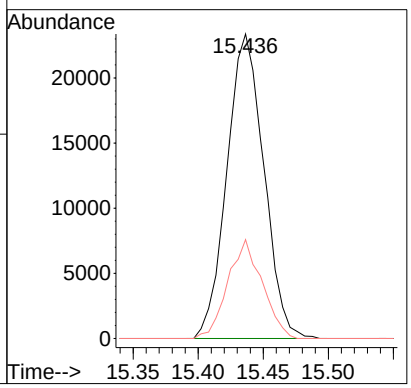


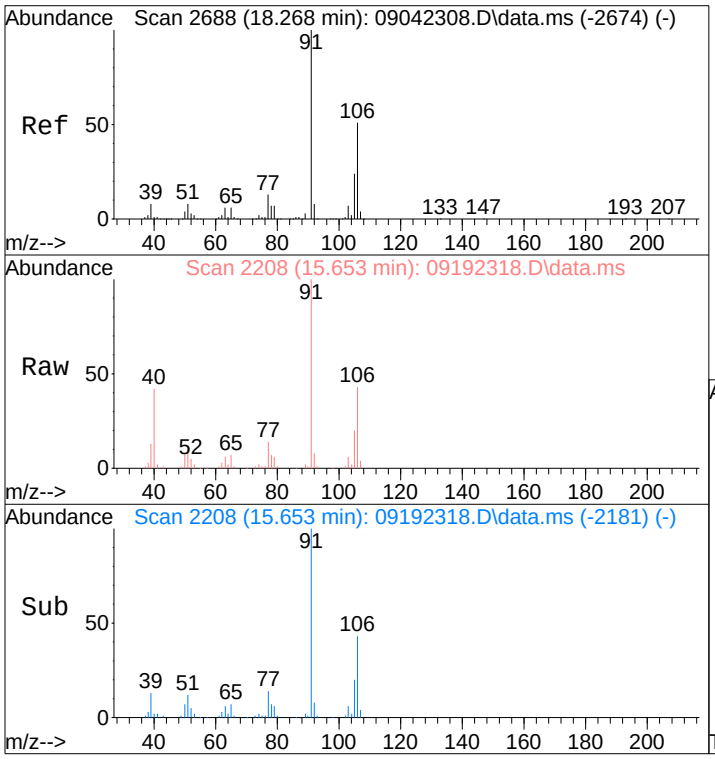


#66
Ethylbenzene
Concen: 0.59 ng
RT: 15.44 min Scan# 2170
Delta R.T. -0.011 min
Lab File: 09192318.D
Acq: 19 Sep 2023 17:15

Tgt Ion: 91 Resp: 46088

Ion	Ratio	Lower	Upper
91	100		
106	30.3	9.5	49.5

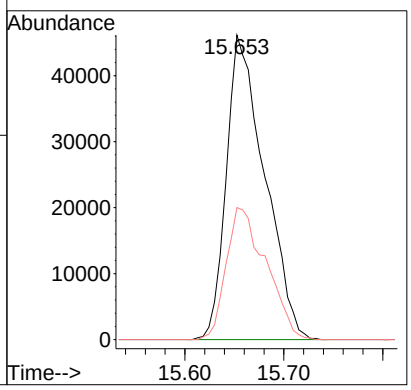


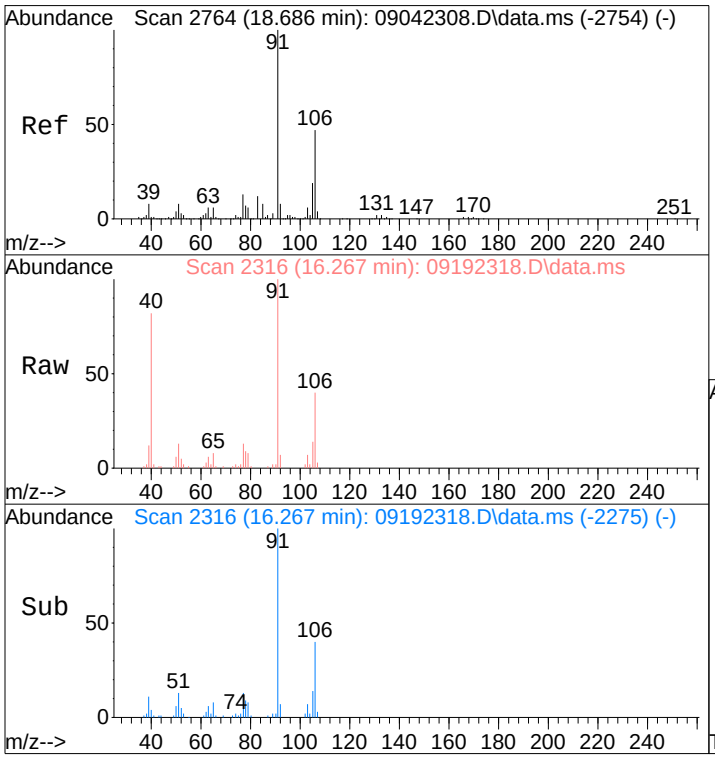


#67
m- & p-Xylenes
Concen: 1.84 ng
RT: 15.65 min Scan# 2208
Delta R.T. -0.046 min
Lab File: 09192318.D
Acq: 19 Sep 2023 17:15

Tgt Ion: 91 Resp: 123688

Ion	Ratio	Lower	Upper
91	100		
106	45.3	23.7	63.7

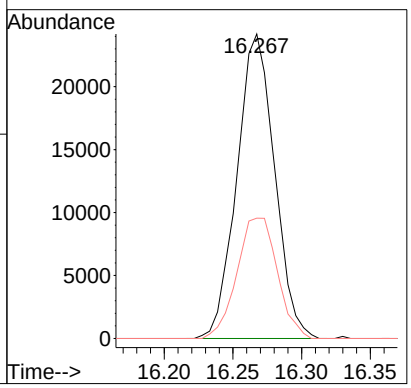


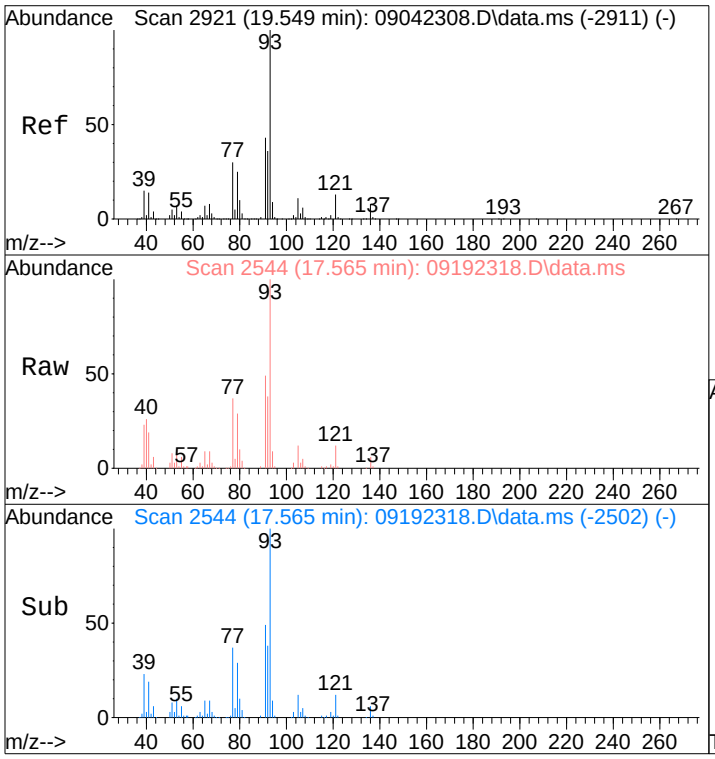


#70
o-Xylene
Concen: 0.70 ng
RT: 16.27 min Scan# 2316
Delta R.T. -0.017 min
Lab File: 09192318.D
Acq: 19 Sep 2023 17:15

Tgt Ion: 91 Resp: 46142

Ion	Ratio	Lower	Upper
91	100		
106	42.5	22.1	62.1

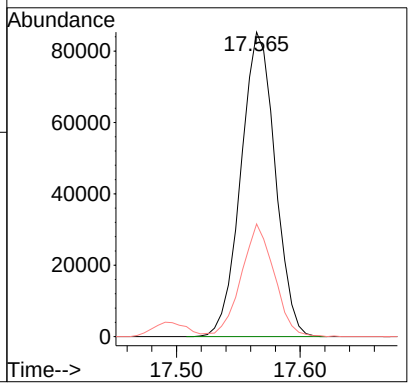


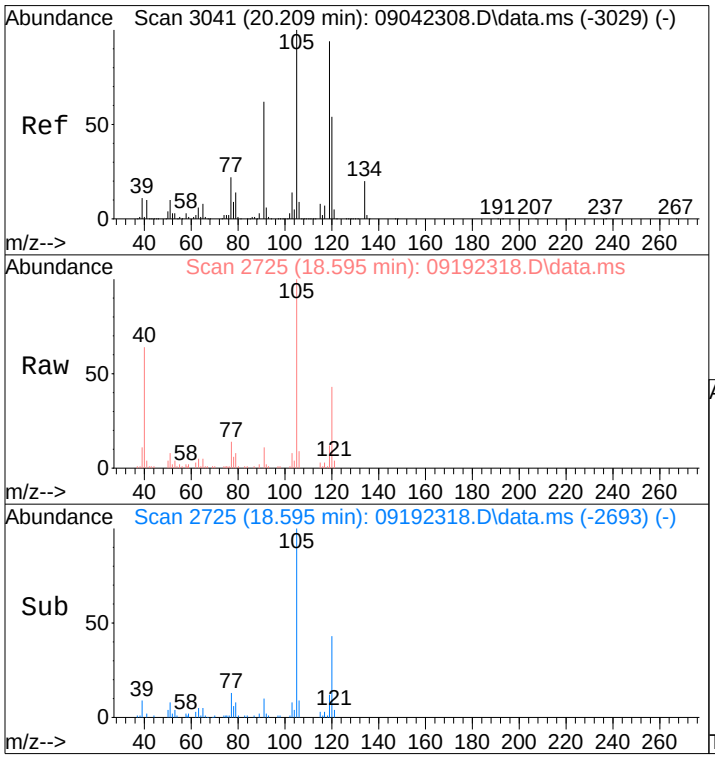


#75
alpha-Pinene
Concen: 4.26 ng
RT: 17.56 min Scan# 2544
Delta R.T. -0.011 min
Lab File: 09192318.D
Acq: 19 Sep 2023 17:15

Tgt Ion: 93 Resp: 164064

Ion	Ratio	Lower	Upper
93	100		
77	35.9	16.8	56.8

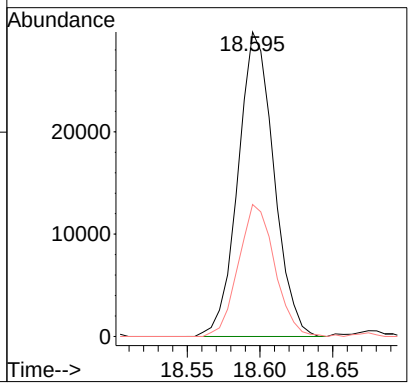


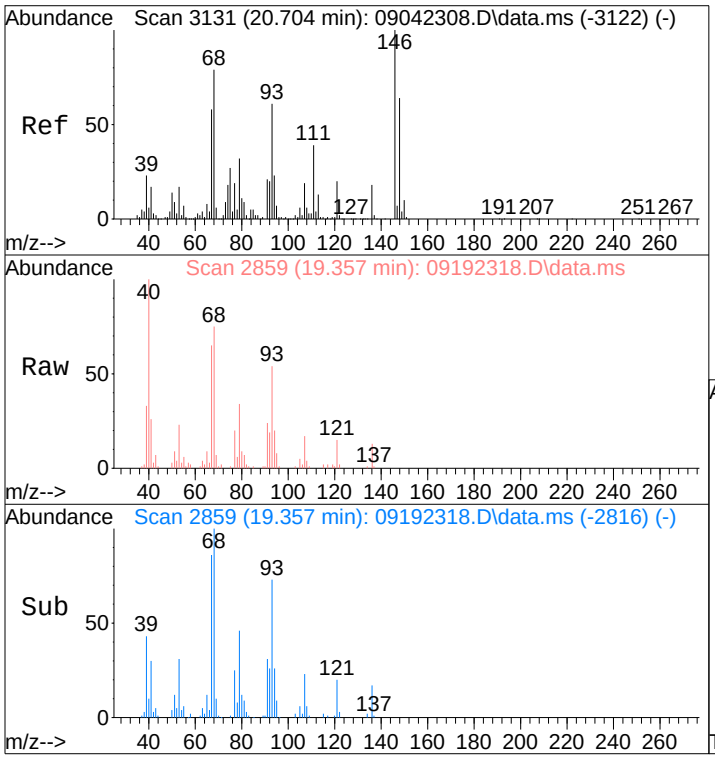


#82
1,2,4-Trimethylbenzene
Concen: 0.69 ng
RT: 18.59 min Scan# 2725
Delta R.T. -0.017 min
Lab File: 09192318.D
Acq: 19 Sep 2023 17:15

Tgt Ion:105 Resp: 50900

Ion	Ratio	Lower	Upper
105	100		
120	43.9	30.1	70.1

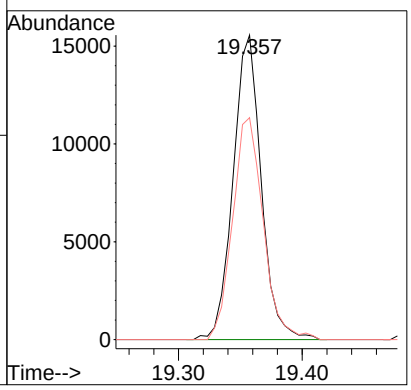




#91
d-Limonene
Concen: 1.23 ng
RT: 19.36 min Scan# 2859
Delta R.T. -0.006 min
Lab File: 09192318.D
Acq: 19 Sep 2023 17:15

Tgt Ion: 68 Resp: 24695

Ion	Ratio	Lower	Upper
68	100		
93	79.4	68.1	108.1



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2023_09\19\09192303.D Vial: 1
Acq On : 19 Sep 2023 3:06 Operator: TZ
Sample : MB R13091923 1000mL Inst : MS13
Misc : S37-09012301/AC01837

TZ 9/19/23

Quant Time: Sep 19 07:42:53 2023
Quant Method : I:\MS13\METHODS\R13090423A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Sep 16 07:16:40 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.30	130	134057	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.36	114	605462	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.87	54	139306	12.500	ng		-0.02
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.07	65	301617	12.892	ng		-0.05
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.12%				
57) Toluene-d8 (SS2)	12.47	98	690653	12.580	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.64%				
73) Bromofluorobenzene (SS3)	16.85	174	241814	10.077	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 80.64%				
Target Compounds							Qvalue
2) Propene	3.43	42	205	N.D.			
3) Dichlorodifluoromethan...	0.00	85	0	N.D.			
4) Chloromethane	3.55	50	528	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.42	45	2174	0.266	ng		73
11) Acetonitrile	4.60	41	664	N.D.			
12) Acrolein	4.69	56	53	N.D.			
13) Acetone	4.78	58	1262	0.161	ng	#	79
14) Trichlorofluoromethane	0.00	101	0	N.D.			
15) 2-Propanol (Isopropanol)	4.98	45	1456	N.D.			
16) Acrylonitrile	5.14	53	140	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	5.45	84	368	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	5.73	76	3828	0.085	ng		84
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	0.00	72	0	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	8.95	78	196	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.34	84	797	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Data File : I:\MS13\DATA\2023_09\19\09192303.D Vial: 1
Acq On : 19 Sep 2023 3:06 Operator: TZ
Sample : MB R13091923 1000mL Inst : MS13
Misc : S37-09012301/AC01837

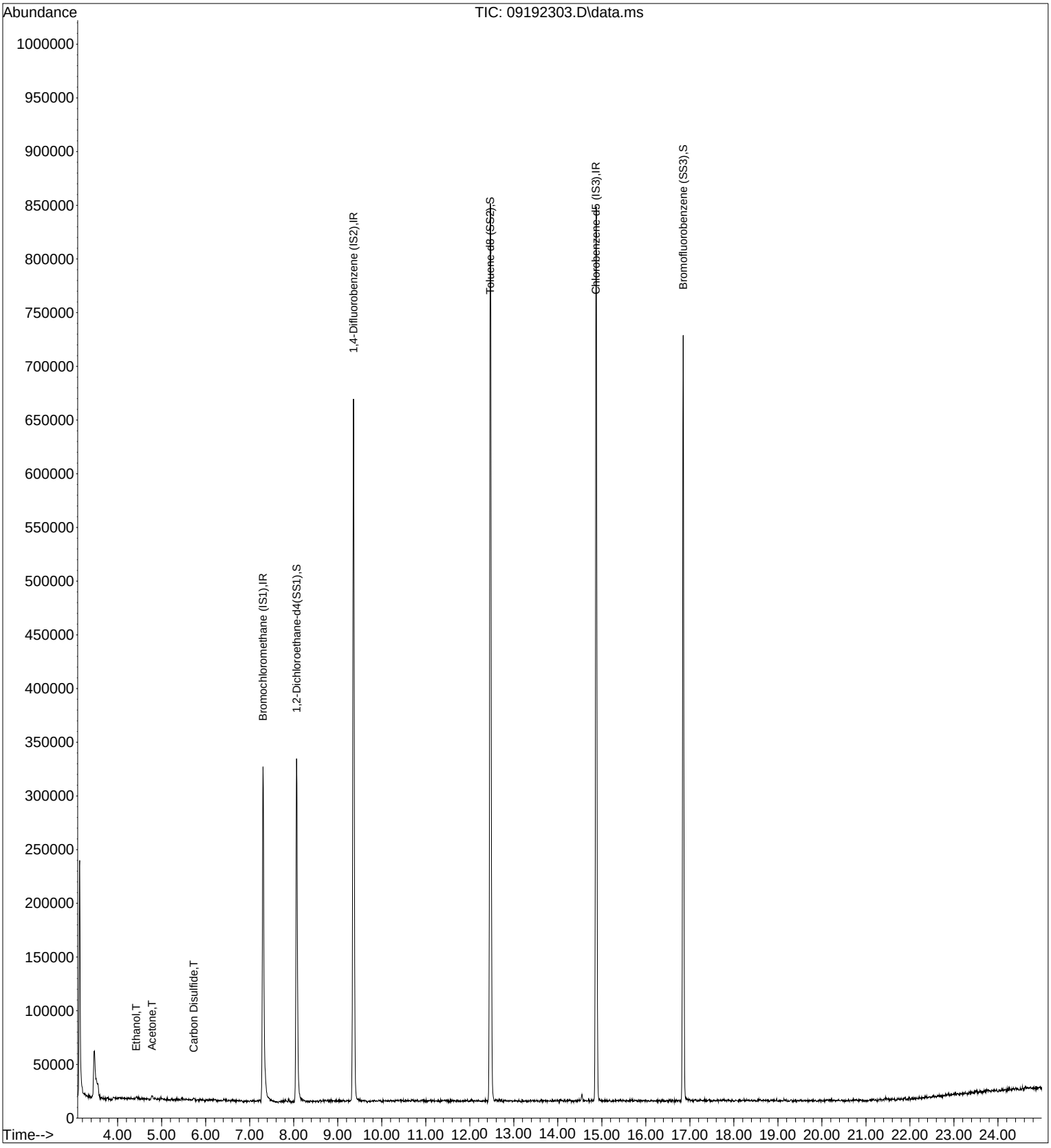
Quant Time: Sep 19 07:42:53 2023
Quant Method : I:\MS13\METHODS\R13090423A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Sep 16 07:16:40 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.60	91	590	N.D.		
59) 2-Hexanone	12.99	43	408	N.D.		
60) Dibromochloromethane	13.11	129	141	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.85	43	444	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	14.93	112	129	N.D.		
66) Ethylbenzene	15.43	91	576	N.D.		
67) m- & p-Xylenes	15.68	91	903	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	16.27	91	269	N.D.		
71) n-Nonane	0.00	43	0	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	17.06	105	523	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	17.75	91	1213	N.D.		
77) 3-Ethyltoluene	17.06	105	523	No Calib		#
78) 4-Ethyltoluene	17.95	105	396	N.D.		
79) 1,3,5-Trimethylbenzene	18.06	105	346	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.06	105	523	No Calib		#
82) 1,2,4-Trimethylbenzene	18.60	105	228	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	18.75	91	606	N.D.		
85) 1,3-Dichlorobenzene	18.77	146	186	N.D.		
86) 1,4-Dichlorobenzene	18.86	146	303	N.D.		
87) sec-Butylbenzene	18.96	105	430	N.D.		
88) 4-Isopropyltoluene (p-...	19.18	119	368	N.D.		
89) 1,2,3-Trimethylbenzene	17.06	105	523	No Calib		#
90) 1,2-Dichlorobenzene	19.30	146	341	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	21.45	180	1208	N.D.		
95) Naphthalene	21.60	128	433	N.D.		
96) n-Dodecane	0.00	57	0	N.D.		
97) Hexachlorobutadiene	21.98	225	712	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.60	119	224	N.D.		
100) n-Butylbenzene	19.72	91	195	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data File : I:\MS13\DATA\2023_09\19\09192303.D Vial: 1
Acq On : 19 Sep 2023 3:06 Operator: TZ
Sample : MB R13091923 1000mL Inst : MS13
Misc : S37-09012301/AC01837

Quant Time: Sep 19 07:42:53 2023
Quant Method : I:\MS13\METHODS\R13090423A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Sep 16 07:16:40 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2023_09\19\09192304.D Vial: 1
Acq On : 19 Sep 2023 3:42 Operator: TZ
Sample : LCS R13091923 5.0ng Inst : MS13
Misc : S37-09012301/S37-09052301 (10/5)

TZ 9/20/23

Quant Time: Sep 19 07:42:55 2023
Quant Method : I:\MS13\METHODS\R13090423A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Sep 16 07:16:40 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.31	130	142976	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.36	114	626654	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.87	54	140036	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.07	65	307680	12.331	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.64%				
57) Toluene-d8 (SS2)	12.47	98	696046	12.613	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.88%				
73) Bromofluorobenzene (SS3)	16.85	174	249001	10.323	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 82.56%				
Target Compounds							Qvalue
2) Propene	3.37	42	68040	5.969	ng		95
3) Dichlorodifluoromethan...	3.44	85	180756	4.890	ng		99
4) Chloromethane	3.58	50	94657	6.252	ng		97
5) 1,2-Dichloro-1,1,2,2-t...	3.69	135	73073	4.908	ng		96
6) Vinyl Chloride	3.76	62	89209	5.035	ng		99
7) 1,3-Butadiene	3.88	54	75045	5.699	ng		100
8) Bromomethane	4.10	94	62617	5.460	ng		99
9) Chloroethane	4.24	64	43416	6.038	ng		99
10) Ethanol	4.38	45	246937	28.284	ng		97
11) Acetonitrile	4.53	41	107674	5.821	ng		94
12) Acrolein	4.61	56	91150	12.862	ng		97
13) Acetone	4.71	58	223154	26.723	ng	#	88
14) Trichlorofluoromethane	4.84	101	166198	4.549	ng		98
15) 2-Propanol (Isopropanol)	4.93	45	400987	11.404	ng		96
16) Acrylonitrile	5.08	53	166014	12.075	ng		97
17) 1,1-Dichloroethene	5.34	96	67254	5.570	ng		94
18) 2-Methyl-2-Propanol (t...	5.40	59	429765	11.726	ng		98
19) Methylene Chloride	5.44	84	67820	5.067	ng		91
20) 3-Chloro-1-propene (Al...	5.53	41	95269	5.633	ng		91
21) Trichlorotrifluoroethane	5.65	151	71674	4.641	ng		88
22) Carbon Disulfide	5.68	76	509582	10.560	ng		100
23) trans-1,2-Dichloroethene	6.22	61	110844	5.730	ng		95
24) 1,1-Dichloroethane	6.40	63	130935	5.775	ng		99
25) Methyl tert-Butyl Ether	6.44	73	240443	5.579	ng		97
26) Vinyl Acetate	6.52	86	72100	28.749	ng	#	73
27) 2-Butanone (MEK)	6.74	72	80129	10.820	ng	#	80
28) cis-1,2-Dichloroethene	7.16	61	99885	5.306	ng		94
29) Diisopropyl Ether	7.35	87	102992	10.225	ng	#	77
30) Ethyl Acetate	7.35	61	46678	12.055	ng		89
31) n-Hexane	7.37	57	103007	5.824	ng		98
32) Chloroform	7.44	83	142732	5.114	ng		100
34) Tetrahydrofuran (THF)	7.82	72	73259	9.705	ng	#	87
35) Ethyl tert-Butyl Ether	7.89	87	165716	10.323	ng		90
36) 1,2-Dichloroethane	8.19	62	131796	4.775	ng		98
38) 1,1,1-Trichloroethane	8.46	97	142798	4.382	ng		97
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	8.97	78	254448	4.851	ng		100
42) Carbon Tetrachloride	9.13	117	135823	4.231	ng		100
43) Cyclohexane	9.28	84	191732	10.824	ng		92
44) tert-Amyl Methyl Ether	9.65	73	412070	10.321	ng		99
45) 1,2-Dichloropropane	9.92	63	62256	5.717	ng		96
46) Bromodichloromethane	10.13	83	119004	4.943	ng		98
47) Trichloroethene	10.21	130	78724	4.456	ng		100
48) 1,4-Dioxane	10.18	88	53701	5.177	ng		92
49) 2,2,4-Trimethylpentane...	10.29	57	264220	5.974	ng		93
50) Methyl Methacrylate	10.46	100	53559	10.462	ng		93

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2023_09\19\09192304.D Vial: 1
Acq On : 19 Sep 2023 3:42 Operator: TZ
Sample : LCS R13091923 5.0ng Inst : MS13
Misc : S37-09012301/S37-09052301 (10/5)

Quant Time: Sep 19 07:42:55 2023
Quant Method : I:\MS13\METHODS\R13090423A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Sep 16 07:16:40 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

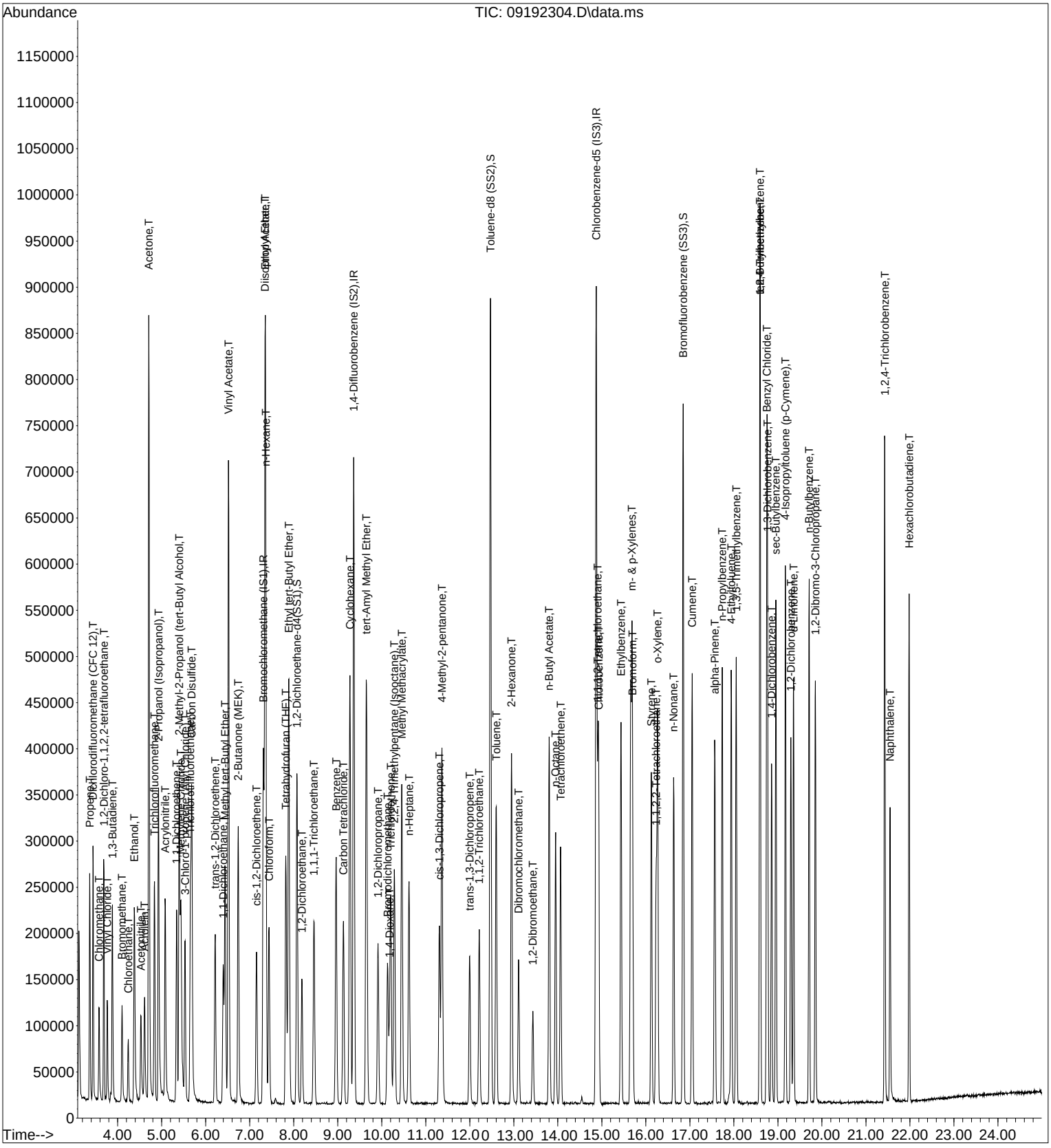
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.62	71	62318	5.679	ng		93
52) cis-1,3-Dichloropropene	11.31	75	123223	4.723	ng		99
53) 4-Methyl-2-pentanone	11.37	58	118100	11.560	ng		95
54) trans-1,3-Dichloropropene	12.00	75	101303	4.466	ng		98
55) 1,1,2-Trichloroethane	12.22	97	68217	4.912	ng		93
58) Toluene	12.60	91	282154	4.923	ng		100
59) 2-Hexanone	12.95	43	311874	11.380	ng		98
60) Dibromochloromethane	13.11	129	97956	4.504	ng		100
61) 1,2-Dibromoethane	13.43	107	80889	4.711	ng		97
62) n-Butyl Acetate	13.80	43	345454	11.819	ng		99
63) n-Octane	13.95	57	54343	5.666	ng		93
64) Tetrachloroethene	14.06	166	89991	4.302	ng		99
65) Chlorobenzene	14.93	112	192447	4.688	ng		99
66) Ethylbenzene	15.44	91	341315	5.041	ng		99
67) m- & p-Xylenes	15.68	91	574014	9.822	ng		100
68) Bromoform	15.70	173	88851	4.552	ng		99
69) Styrene	16.12	104	184187	4.833	ng		99
70) o-Xylene	16.27	91	280076	4.880	ng		99
71) n-Nonane	16.63	43	134447	6.036	ng		95
72) 1,1,2,2-Tetrachloroethane	16.23	83	122143	5.283	ng		99
74) Cumene	17.05	105	338214	4.666	ng		99
75) alpha-Pinene	17.56	93	165282	4.933	ng		99
76) n-Propylbenzene	17.74	91	408489	4.773	ng		98
77) 3-Ethyltoluene	17.05	105	338214	No Calib			
78) 4-Ethyltoluene	17.94	105	332854	4.789	ng		99
79) 1,3,5-Trimethylbenzene	18.05	105	294466	4.654	ng		100
80) alpha-Methylstyrene	17.06	118	1081	No Calib		#	
81) 2-Ethyltoluene	17.05	105	338214	No Calib			
82) 1,2,4-Trimethylbenzene	18.59	105	294334	4.586	ng		100
83) n-Decane	17.05	58	2051	No Calib			
84) Benzyl Chloride	18.75	91	428062	8.710	ng		99
85) 1,3-Dichlorobenzene	18.77	146	158628	4.190	ng		99
86) 1,4-Dichlorobenzene	18.86	146	153484	4.086	ng		99
87) sec-Butylbenzene	18.95	105	376089	4.676	ng		99
88) 4-Isopropyltoluene (p-...	19.17	119	327957	4.576	ng		99
89) 1,2,3-Trimethylbenzene	17.05	105	338214	No Calib			
90) 1,2-Dichlorobenzene	19.29	146	155569	4.054	ng		98
91) d-Limonene	19.36	68	93262	5.328	ng		90
92) 1,2-Dibromo-3-Chloropr...	19.85	157	120996	8.740	ng		93
93) n-Undecane	17.95	58	4810	No Calib		#	
94) 1,2,4-Trichlorobenzene	21.43	180	216721	7.676	ng		100
95) Naphthalene	21.55	128	245183	3.293	ng		100
96) n-Dodecane	18.95	57	2824	No Calib		#	
97) Hexachlorobutadiene	21.98	225	98727	3.543	ng		99
98) Cyclohexanone	0.00	55	0	N.D.			
99) tert-Butylbenzene	18.59	119	277048	4.655	ng		100
100) n-Butylbenzene	19.71	91	299478	4.623	ng		98
101) 1,1,1,2-Tetrachloroethane	14.91	131	81794	4.599	ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2023_09\19\09192304.D Vial: 1
Acq On : 19 Sep 2023 3:42 Operator: TZ
Sample : LCS R13091923 5.0ng Inst : MS13
Misc : S37-09012301/S37-09052301 (10/5)

Quant Time: Sep 19 07:42:55 2023
Quant Method : I:\MS13\METHODS\R13090423A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Sep 16 07:16:40 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2023_09\19\09192305.D Vial: 1
Acq On : 19 Sep 2023 4:18 Operator: TZ
Sample : LCSD R13091923 5.0ng Inst : MS13
Misc : S37-09012301/S37-09052301 (10/5)

TZ 9/20/23

Quant Time: Sep 19 07:42:57 2023
Quant Method : I:\MS13\METHODS\R13090423A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Sep 16 07:16:40 2023
Response via : Initial Calibration
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Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.32	130	141852	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	9.37	114	633862	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.87	54	143137	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.08	65	320524	12.948	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.60%				
57) Toluene-d8 (SS2)	12.47	98	717547	12.721	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.76%				
73) Bromofluorobenzene (SS3)	16.85	174	249412	10.116	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 80.96%				
Target Compounds							Qvalue
2) Propene	3.37	42	68545	6.061	ng		95
3) Dichlorodifluoromethan...	3.45	85	181214	4.941	ng		99
4) Chloromethane	3.59	50	95151	6.334	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.70	135	73449	4.973	ng		99
6) Vinyl Chloride	3.77	62	91501	5.205	ng		97
7) 1,3-Butadiene	3.89	54	75986	5.816	ng		97
8) Bromomethane	4.11	94	62080	5.456	ng		99
9) Chloroethane	4.25	64	42927	6.017	ng		98
10) Ethanol	4.38	45	248563	28.696	ng		98
11) Acetonitrile	4.53	41	108580	5.917	ng		92
12) Acrolein	4.62	56	89664	12.752	ng		95
13) Acetone	4.71	58	221169	26.695	ng		89
14) Trichlorofluoromethane	4.85	101	168585	4.651	ng		99
15) 2-Propanol (Isopropanol)	4.94	45	398865	11.434	ng		97
16) Acrylonitrile	5.08	53	165103	12.104	ng		98
17) 1,1-Dichloroethene	5.35	96	67409	5.627	ng		94
18) 2-Methyl-2-Propanol (t...	5.40	59	437464	12.031	ng		98
19) Methylene Chloride	5.44	84	68064	5.125	ng		93
20) 3-Chloro-1-propene (Al...	5.53	41	94645	5.641	ng		91
21) Trichlorotrifluoroethane	5.66	151	71089	4.640	ng		89
22) Carbon Disulfide	5.69	76	513669	10.729	ng		99
23) trans-1,2-Dichloroethene	6.22	61	109885	5.726	ng		96
24) 1,1-Dichloroethane	6.40	63	129806	5.771	ng		99
25) Methyl tert-Butyl Ether	6.44	73	245409	5.739	ng		97
26) Vinyl Acetate	6.52	86	73674	29.610	ng	#	72
27) 2-Butanone (MEK)	6.75	72	80839	11.003	ng	#	88
28) cis-1,2-Dichloroethene	7.16	61	98718	5.285	ng		97
29) Diisopropyl Ether	7.36	87	103964	10.403	ng	#	78
30) Ethyl Acetate	7.36	61	46125	12.007	ng		92
31) n-Hexane	7.37	57	105343	6.003	ng		97
32) Chloroform	7.45	83	143190	5.171	ng		100
34) Tetrahydrofuran (THF)	7.82	72	72414	9.669	ng	#	86
35) Ethyl tert-Butyl Ether	7.90	87	167684	10.528	ng		90
36) 1,2-Dichloroethane	8.19	62	132600	4.842	ng		100
38) 1,1,1-Trichloroethane	8.46	97	145898	4.426	ng		98
39) Isopropyl Acetate	9.65	61	115	No Calib		#	
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	8.97	78	261081	4.921	ng		99
42) Carbon Tetrachloride	9.13	117	138615	4.269	ng		98
43) Cyclohexane	9.28	84	190413	10.628	ng		90
44) tert-Amyl Methyl Ether	9.65	73	420731	10.418	ng		99
45) 1,2-Dichloropropane	9.92	63	64066	5.817	ng		96
46) Bromodichloromethane	10.14	83	116896	4.800	ng		97
47) Trichloroethene	10.21	130	80021	4.478	ng		99
48) 1,4-Dioxane	10.18	88	53712	5.120	ng		89
49) 2,2,4-Trimethylpentane...	10.29	57	262262	5.862	ng		93
50) Methyl Methacrylate	10.46	100	53667	10.364	ng		89

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Sample : LCSD R13091923 5.0ng Inst : MS13
Misc : S37-09012301/S37-09052301 (10/5)

Quant Time: Sep 19 07:42:57 2023
Quant Method : I:\MS13\METHODS\R13090423A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Sep 16 07:16:40 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

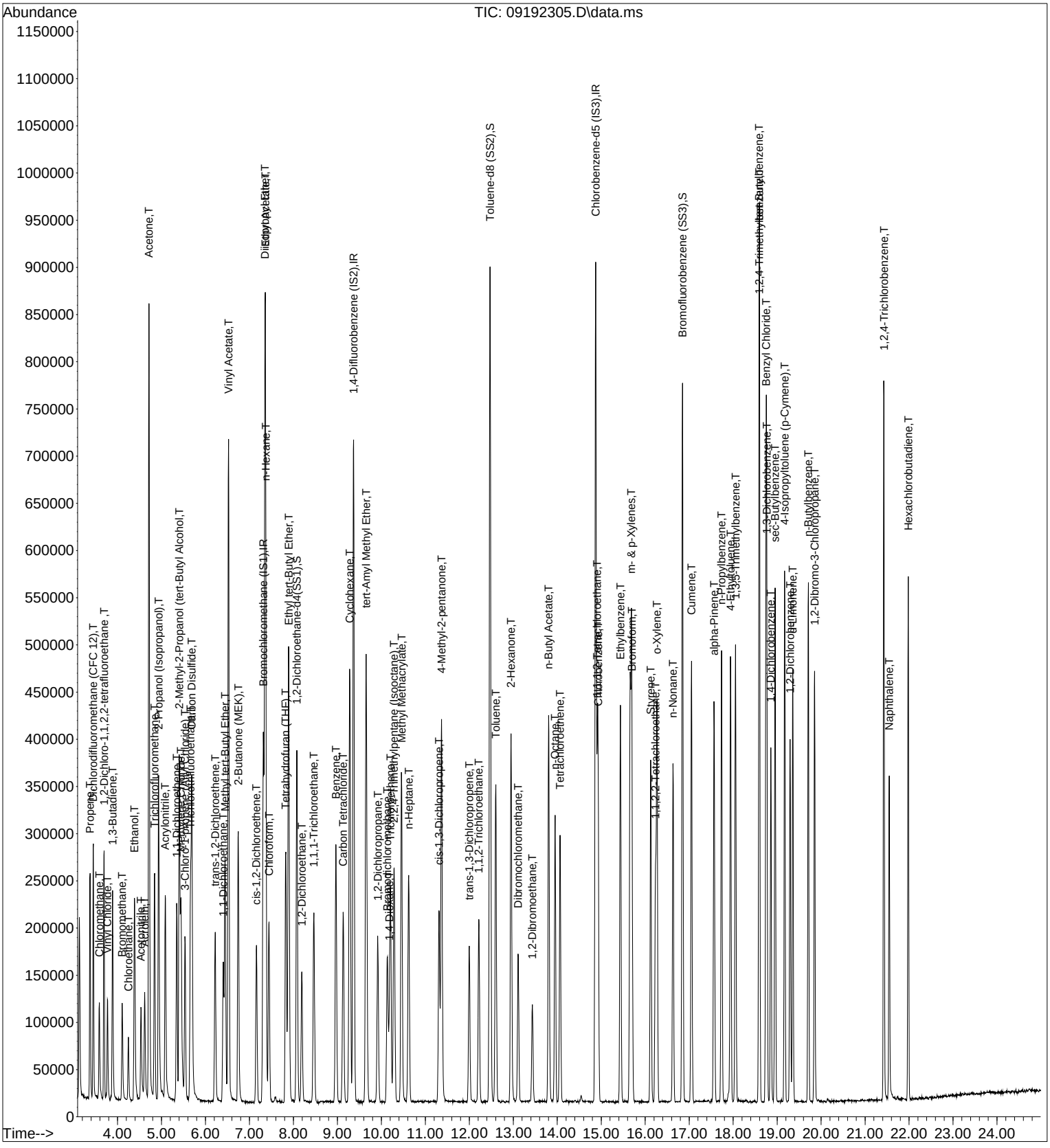
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.62	71	62732	5.652	ng		96
52) cis-1,3-Dichloropropene	11.31	75	128667	4.875	ng		100
53) 4-Methyl-2-pentanone	11.37	58	121883	11.794	ng		95
54) trans-1,3-Dichloropropene	12.00	75	104099	4.537	ng		100
55) 1,1,2-Trichloroethane	12.22	97	70451	5.015	ng		95
58) Toluene	12.60	91	289109	4.935	ng		100
59) 2-Hexanone	12.95	43	322049	11.497	ng		99
60) Dibromochloromethane	13.11	129	102366	4.604	ng		99
61) 1,2-Dibromoethane	13.43	107	83324	4.747	ng		98
62) n-Butyl Acetate	13.80	43	356905	11.946	ng		99
63) n-Octane	13.95	57	55457	5.657	ng		92
64) Tetrachloroethene	14.06	166	93133	4.355	ng		100
65) Chlorobenzene	14.93	112	191581	4.566	ng		100
66) Ethylbenzene	15.44	91	342888	4.954	ng		100
67) m- & p-Xylenes	15.68	91	573673	9.604	ng		100
68) Bromoform	15.70	173	91596	4.591	ng		97
69) Styrene	16.13	104	187996	4.827	ng		99
70) o-Xylene	16.27	91	284522	4.850	ng		100
71) n-Nonane	16.63	43	133581	5.867	ng		97
72) 1,1,2,2-Tetrachloroethane	16.23	83	122924	5.202	ng		98
74) Cumene	17.05	105	339863	4.587	ng		100
75) alpha-Pinene	17.56	93	170255	4.972	ng		98
76) n-Propylbenzene	17.74	91	417089	4.768	ng		98
77) 3-Ethyltoluene	17.05	105	339863	No Calib			
78) 4-Ethyltoluene	17.94	105	331495	4.666	ng		99
79) 1,3,5-Trimethylbenzene	18.05	105	297419	4.599	ng		99
80) alpha-Methylstyrene	17.05	118	1100	No Calib		#	
81) 2-Ethyltoluene	17.05	105	339863	No Calib			
82) 1,2,4-Trimethylbenzene	18.59	105	288684	4.400	ng		99
83) n-Decane	17.05	58	2294	No Calib			
84) Benzyl Chloride	18.75	91	433787	8.635	ng		99
85) 1,3-Dichlorobenzene	18.77	146	157288	4.064	ng		100
86) 1,4-Dichlorobenzene	18.86	146	154543	4.025	ng		99
87) sec-Butylbenzene	18.95	105	373484	4.543	ng		99
88) 4-Isopropyltoluene (p-...	19.17	119	318970	4.354	ng		100
89) 1,2,3-Trimethylbenzene	17.05	105	339863	No Calib			
90) 1,2-Dichlorobenzene	19.30	146	156009	3.978	ng		100
91) d-Limonene	19.35	68	93838	5.245	ng		91
92) 1,2-Dibromo-3-Chloropr...	19.85	157	118295	8.360	ng		91
93) n-Undecane	17.94	58	4713	No Calib		#	
94) 1,2,4-Trichlorobenzene	21.43	180	226950	7.865	ng		100
95) Naphthalene	21.55	128	259907	3.415	ng		100
96) n-Dodecane	18.96	57	2159	No Calib		#	
97) Hexachlorobutadiene	21.98	225	99036	3.477	ng		99
98) Cyclohexanone	0.00	55	0	N.D.			
99) tert-Butylbenzene	18.59	119	276521	4.545	ng		100
100) n-Butylbenzene	19.71	91	297558	4.494	ng		99
101) 1,1,1,2-Tetrachloroethane	14.91	131	84132	4.628	ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

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Acq On : 19 Sep 2023 4:18 Operator: TZ
Sample : LCSD R13091923 5.0ng Inst : MS13
Misc : S37-09012301/S37-09052301 (10/5)

Quant Time: Sep 19 07:42:57 2023
Quant Method : I:\MS13\METHODS\R13090423A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Sep 16 07:16:40 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M



Response Factor Report MS13

Method Path : I:\MS13\METHODS\
Method File : R13090423A.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Sat Sep 16 07:16:40 2023
Response Via : Initial Calibration

TZ 9/18/23

Calibration Files
0.1 =09042303.D 0.2 =09042304.D 0.5 =09042313.D 1.0 =09042306.D 5.0 =09042307.D 25 =09042308.D 50 =09042309.D
100 =09042310.D

		Compound	0.1	0.2	0.5	1.0	5.0	25	50	100	Avg	%RSD
1)	IR	Bromochloromethane...	----------ISTD----------									
2)	T	Propene	1.131	0.863	1.252	0.825	0.957	0.879	0.962	1.103	0.997	15.11
3)	T	Dichlorodifluo...	3.500	2.951	3.274	3.298	3.544	3.166	3.116	3.006	3.232	6.65
4)	T	Chloromethane	1.360	1.442	1.587	1.310	1.419	1.253	1.228	0.991	1.324	13.36
5)	T	1,2-Dichloro-1...	1.161	1.311	1.317	1.371	1.476	1.285	1.280	1.212	1.302	7.36
6)	T	Vinyl Chloride	1.499	1.423	1.584	1.603	1.632	1.500	1.583	1.568	1.549	4.46
7)	T	1,3-Butadiene	1.037	1.026	1.286	1.045	1.101	1.151	1.263	1.301	1.151	10.15
8)	T	Bromomethane	0.921	0.925	1.006	1.021	1.081	0.986	1.036	1.045	1.003	5.65
9)	T	Chloroethane	0.553	0.620	0.720	0.605	0.638	0.592	0.642	0.659	0.629	7.86
10)	T	Ethanol	0.866	0.763	0.863	0.702	0.729	0.666	0.738	0.779	0.763	9.36
11)	T	Acetonitrile			1.770	1.473	1.543	1.483	1.665	1.770	1.617	8.45
12)	T	Acrolein	0.455	0.522	0.727	0.595	0.666	0.620	0.676	0.696	0.620	14.94
13)	T	Acetone	0.856	0.784	0.866	0.633	0.675	0.641	0.686	0.700	0.730	12.72
14)	T	Trichlorofluor...	3.165	3.355	2.893	3.417	3.450	3.151	3.130	2.990	3.194	6.27
15)	T	2-Propanol (Is...	3.682	3.115	3.091	2.800	3.023	2.897	3.045	2.938	3.074	8.70
16)	T	Acrylonitrile	1.068	1.128	1.213	1.111	1.235	1.192	1.307	1.362	1.202	8.29
17)	T	1,1-Dichloroet...	1.005	1.020	1.053	0.967	1.112	1.064	1.117	1.106	1.056	5.20
18)	T	2-Methyl-2-Pro...	3.425	3.031	3.204	3.204	3.572	3.382	3.313	2.504	3.204	10.20
19)	T	Methylene Chlo...	1.355	1.066	1.294	1.101	1.154	1.099	1.154	1.140	1.170	8.65
20)	T	3-Chloro-1-pro...	1.552	1.340	1.558	1.322	1.486	1.421	1.563	1.586	1.479	7.12
21)	T	Trichlorotrifl...	1.569	1.303	1.206	1.380	1.464	1.316	1.320	1.243	1.350	8.77
22)	T	Carbon Disulfide			5.217	3.993	4.076	4.111	3.860	4.134	4.140	4.219	10.70
23)	T	trans-1,2-Dich...	1.581	1.545	1.775	1.576	1.812	1.689	1.760	1.792	1.691	6.46
24)	T	1,1-Dichloroet...	1.949	1.909	2.167	1.846	2.032	1.936	2.000	2.018	1.982	4.88
25)	T	Methyl tert-Bu...	3.341	3.991	3.559	3.670	4.143	3.888	3.884	3.668	3.768	6.83
26)	T	Vinyl Acetate	0.176	0.176	0.230	0.212	0.243	0.234	0.244	0.239	0.219	13.09
27)	T	2-Butanone (MEK)	0.549	0.544	0.722	0.618	0.674	0.663	0.698	0.713	0.647	10.85
28)	T	cis-1,2-Dichlo...	1.579	1.560	1.729	1.562	1.698	1.633	1.691	1.713	1.646	4.31
29)	T	Diisopropyl Ether	0.941	0.859	0.904	0.827	0.906	0.857	0.875	0.877	0.881	4.02
30)	T	Ethyl Acetate	0.205	0.301	0.369	0.318	0.369	0.359	0.381	0.406	0.339	18.77
31)	T	n-Hexane	1.501	1.389	1.758	1.466	1.524	1.470	1.588	1.677	1.546	7.86
32)	T	Chloroform	2.607	2.344	2.468	2.345	2.534	2.394	2.410	2.419	2.440	3.77
33)	S	1,2-Dichloroet...	2.148	2.196	2.096	2.216	2.204	2.209	2.195	2.188	2.181	1.84
34)	T	Tetrahydrofura...	0.775	0.681	0.658	0.597	0.633	0.624	0.650	0.662	0.660	8.07
35)	T	Ethyl tert-But...	1.343	1.369	1.347	1.362	1.486	1.430	1.441	1.449	1.403	3.88
36)	T	1,2-Dichloroet...	2.412	2.364	2.336	2.341	2.588	2.417	2.426	2.423	2.413	3.30

37)	IR	1,4-Difluorobenzen...	----------ISTD----------									
38)	T	1,1,1-Trichlor...	0.742	0.644	0.579	0.637	0.719	0.635	0.637	0.606	0.650	8.41

39)	T	Isopropyl Acetate									0.000	-1.00
40)	T	1-Butanol									0.000	-1.00
41)	T	Benzene	1.082	1.034	1.067	1.012	1.068	1.009	1.054	1.043	1.046	2.52
42)	T	Carbon Tetrach...	0.762	0.653	0.560	0.630	0.696	0.624	0.619	0.578	0.640	10.09
43)	T	Cyclohexane	0.315	0.341	0.361	0.333	0.384	0.371	0.364	0.358	0.353	6.38
44)	T	tert-Amyl Meth...	0.790	0.738	0.765	0.743	0.860	0.810	0.838	0.827	0.796	5.66
45)	T	1,2-Dichloropr...	0.223	0.197	0.223	0.203	0.227	0.210	0.225	0.230	0.217	5.72
46)	T	Bromodichlorom...	0.518	0.459	0.466	0.464	0.520	0.463	0.486	0.466	0.480	5.20
47)	T	Trichloroethene	0.395	0.366	0.337	0.341	0.378	0.335	0.344	0.324	0.352	6.97
48)	T	1,4-Dioxane	0.181	0.190	0.215	0.194	0.228	0.209	0.223	0.215	0.207	8.13
49)	T	2,2,4-Trimethy...	0.783	0.834	0.929	0.847	0.933	0.866	0.934	0.932	0.882	6.59
50)	T	Methyl Methacr...	0.080	0.108	0.097	0.091	0.117	0.105	0.112	0.107	0.102	11.87
51)	T	n-Heptane	0.208	0.182	0.233	0.216	0.234	0.217	0.234	0.228	0.219	8.12
52)	T	cis-1,3-Dichlo...	0.480	0.461	0.517	0.491	0.559	0.546	0.559	0.552	0.520	7.49
53)	T	4-Methyl-2-pen...	0.174	0.170	0.219	0.197	0.218	0.210	0.221	0.222	0.204	10.46
54)	T	trans-1,3-Dich...	0.375	0.390	0.455	0.424	0.492	0.482	0.502	0.500	0.452	11.19
55)	T	1,1,2-Trichlor...	0.297	0.274	0.270	0.269	0.290	0.272	0.277	0.267	0.277	3.85
56)	IR	Chlorobenzene-d5 (...	----------ISTD----------									
57)	S	Toluene-d8 (SS2)	4.825	4.925	5.200	4.840	4.854	4.907	4.975	4.882	4.926	2.46
58)	T	Toluene	5.079	5.486	5.486	4.686	5.222	4.969	5.049	4.950	5.116	5.36
59)	T	2-Hexanone	2.033	1.972	2.640	2.160	2.684	2.597	2.715	2.769	2.446	13.56
60)	T	Dibromochlorom...	2.025	1.882	1.963	1.880	2.051	1.932	1.946	1.854	1.942	3.62
61)	T	1,2-Dibromoethane	1.403	1.430	1.593	1.474	1.627	1.568	1.605	1.563	1.533	5.55
62)	T	n-Butyl Acetate	1.941	2.242	2.861	2.227	2.861	2.758	2.965	3.017	2.609	15.67
63)	T	n-Octane	0.751	0.842	0.965	0.795	0.877	0.839	0.881	0.899	0.856	7.64
64)	T	Tetrachloroethene	2.019	2.036	1.864	1.894	1.966	1.755	1.745	1.660	1.867	7.36
65)	T	Chlorobenzene	3.770	3.859	3.866	3.552	3.763	3.558	3.549	3.399	3.665	4.70
66)	T	Ethylbenzene	5.931	5.596	6.358	5.556	6.391	6.151	6.263	6.106	6.044	5.35
67)	T	m- & p-Xylenes	4.844	4.847	5.358	5.006	5.697	5.346	5.417	5.217	5.216	5.74
68)	T	Bromoform	1.755	1.742	1.687	1.674	1.913	1.773	1.762	1.633	1.742	4.87
69)	T	Styrene	2.888	2.993	3.297	2.955	3.781	3.767	3.817	3.714	3.401	12.12
70)	T	o-Xylene	4.994	4.693	5.286	4.846	5.522	5.245	5.278	5.119	5.123	5.23
71)	T	n-Nonane	1.534	1.762	2.290	1.816	2.087	2.063	2.163	2.190	1.988	12.96
72)	T	1,1,2,2-Tetrac...	2.021	2.187	2.215	1.793	2.107	2.049	2.080	2.057	2.064	6.22
73)	S	Bromofluoroben...	2.163	2.244	1.915	2.196	2.259	2.231	2.146	2.071	2.153	5.30
74)	T	Cumene	6.287	6.475	6.776	6.116	6.858	6.513	6.494	6.247	6.471	3.94
75)	T	alpha-Pinene	2.560	2.812	3.255	2.717	3.137	3.173	3.176	3.093	2.991	8.58
76)	T	n-Propylbenzene	7.648	7.392	8.098	6.739	8.062	7.751	7.839	7.591	7.640	5.68
77)	T	3-Ethyltoluene									0.000	-1.00
78)	T	4-Ethyltoluene	5.523	5.670	6.615	5.669	6.880	6.449	6.528	6.297	6.204	8.25
79)	T	1,3,5-Trimethy...	5.411	5.313	5.831	5.428	6.094	5.780	5.768	5.559	5.648	4.68
80)	T	alpha-Methylst...									0.000	-1.00
81)	T	2-Ethyltoluene									0.000	-1.00
82)	T	1,2,4-Trimethy...	4.886	5.439	5.949	5.511	6.228	6.069	6.048	5.704	5.729	7.69
83)	T	n-Decane									0.000	-1.00
84)	T	Benzyl Chloride	3.003	3.507	4.126	3.733	4.984	5.223	5.346	5.173	4.387	20.71
85)	T	1,3-Dichlorobe...	3.219	3.546	3.273	3.167	3.666	3.528	3.464	3.175	3.380	5.73
86)	T	1,4-Dichlorobe...	3.072	3.242	3.431	3.105	3.635	3.555	3.479	3.303	3.353	6.15
87)	T	sec-Butylbenzene	6.494	7.026	7.380	6.805	7.658	7.459	7.496	7.111	7.179	5.49
88)	T	4-Isopropyltol...	5.999	5.901	6.411	5.898	7.043	6.746	6.821	6.363	6.398	6.92
89)	T	1,2,3-Trimethy...									0.000	-1.00
90)	T	1,2-Dichlorobe...	3.576	3.178	3.586	3.149	3.664	3.508	3.491	3.250	3.425	5.89
91)	T	d-Limonene	1.336	1.305	1.541	1.364	1.709	1.717	1.785	1.742	1.562	12.90

92)	T	1,2-Dibromo-3-...	1.063	1.119	1.273	1.079	1.384	1.362	1.344	1.262	1.236	10.58
93)	T	n-Undecane									0.000	-1.00
94)	T	1,2,4-Trichlor...	2.081	2.143	2.695	2.038	2.884	2.911	2.803	2.606	2.520	14.78
95)	T	Naphthalene			6.993	3.363	6.934	7.629	7.490	7.465	6.646	24.57
96)	T	n-Dodecane									0.000	-1.00
97)	T	Hexachlorobuta...	2.741	2.851	2.686	2.348	2.508	2.391	2.246	2.128	2.488	10.22
98)	T	Cyclohexanone									0.000	-1.00
99)	T	tert-Butylbenzene	5.233	5.128	5.620	4.873	5.725	5.512	5.390	5.019	5.313	5.65
100)	T	n-Butylbenzene	4.817	5.271	6.095	5.305	6.325	6.218	6.271	5.955	5.782	9.86
101)	T	1,1,1,2-Tetrac...	1.533	1.643	1.773	1.586	1.655	1.537	1.529	1.443	1.587	6.37

(#) = Out of Range

R13090423A.M Mon Sep 18 13:21:50 2023

Primary Source Standards Concentrations (Working & Initial Calibration)

TL 9/7/23

1ng/L Std. ID:
4ng/L Std. ID: S37-08312301
20ng/L Std. ID: S37-08302305
40ng/L Std. ID:
200ng/L Std. ID: S37-08302301
1000ng/L Std. ID:

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	4	20	200	200	200	200
	Source Std.			Primary Working Standards				Injection (L):	0.025	0.050	0.1250	0.050	0.025	0.125	0.25	0.50
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
Propene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Dichlorodifluoromethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Chloromethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Freon-114	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
Vinyl Chloride	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,3-Butadiene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Bromomethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Chloroethane	1.10	1100	220	44.0	22.0	4.40	1.10		0.110	0.220	0.550	1.10	5.50	27.50	55.0	110
Ethanol	4.91	4910	982	196.4	98.2	19.64	4.91		0.491	0.982	2.455	4.91	24.55	122.75	245.5	491
Acetonitrile	0.96	960	192	38.4	19.2	3.84	0.96		0.096	0.192	0.480	0.96	4.80	24.00	48.0	96
Acrolein	2.15	2150	430	86.0	43.0	8.60	2.15		0.215	0.430	1.075	2.15	10.75	53.75	107.5	215
Acetone	5.11	5110	1022	204.4	102.2	20.44	5.11		0.511	1.022	2.555	5.11	25.55	127.75	255.5	511
Trichlorofluoromethane	1.01	1010	202	40.4	20.2	4.04	1.01		0.101	0.202	0.505	1.01	5.05	25.25	50.5	101
Isopropanol	1.98	1980	396	79.2	39.6	7.92	1.98		0.198	0.396	0.990	1.98	9.90	49.50	99.0	198
Acrylonitrile	2.00	2000	400	80.0	40.0	8.00	2.00		0.200	0.400	1.000	2.00	10.00	50.00	100.0	200
1,1-Dichloroethene	0.90	900	180	36.0	18.0	3.60	0.90		0.090	0.180	0.450	0.90	4.50	22.50	45.0	90
tert-Butanol	2.07	2070	414	82.8	41.4	8.28	2.07		0.207	0.414	1.035	2.07	10.35	51.75	103.5	207
Methylene Chloride	0.91	910	182	36.4	18.2	3.64	0.91		0.091	0.182	0.455	0.91	4.55	22.75	45.5	91
Allyl Chloride	2.08	2080	416	83.2	41.6	8.32	2.08		0.208	0.416	1.040	2.08	10.40	52.00	104.0	208
Trichlorotrifluoroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Carbon Disulfide	0.90	900	180	36.0	18.0	3.60	0.90		0.090	0.180	0.450	0.90	4.50	22.50	45.0	90
trans-1,2-Dichloroethene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,1-Dichloroethane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Methyl tert-Butyl Ether	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Vinyl Acetate	5.37	5370	1074	214.8	107.4	21.48	5.37		0.537	1.074	2.685	5.37	26.85	134.25	268.5	537
2-Butanone	2.03	2030	406	81.2	40.6	8.12	2.03		0.203	0.406	1.015	2.03	10.15	50.75	101.5	203
cis-1,2-Dichloroethene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Diisopropyl Ether	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Ethyl Acetate	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
n-Hexane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Chloroform	1.96	1960	392	78.4	39.2	7.84	1.96		0.196	0.392	0.980	1.96	9.80	49.00	98.0	196
Tetrahydrofuran	1.89	1890	378	75.6	37.8	7.56	1.89		0.189	0.378	0.945	1.89	9.45	47.25	94.5	189
Ethyl tert-Butyl Ether	2.11	2110	422	84.4	42.2	8.44	2.11		0.211	0.422	1.055	2.11	10.55	52.75	105.5	211
1,2-Dichloroethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
1,1,1-Trichloroethane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Benzene	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Carbon Tetrachloride	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Cyclohexane	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
tert-Amyl Methyl Ether	2.11	2110	422	84.4	42.2	8.44	2.11		0.211	0.422	1.055	2.11	10.55	52.75	105.5	211
1,2-Dichloropropane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Bromodichloromethane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Trichloroethene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,4-Dioxane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Isooctane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Methyl Methacrylate	2.11	2110	422	84.4	42.2	8.44	2.11		0.211	0.422	1.055	2.11	10.55	52.75	105.5	211
n-Heptane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID: | **40ng/L Std. ID:**
4ng/L Std. ID: S37-08312301 | **200ng/L Std. ID:** S37-08302301
20ng/L Std. ID: S37-08302305 | **1000ng/L Std. ID:**

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	4	20	200	200	200	200
	Source Std.			Primary Working Standards				Injection (L):	0.025	0.050	0.1250	0.050	0.025	0.125	0.25	0.50
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
cis-1,3-Dichloropropene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
4-Methyl-2-pentanone	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
trans-1,3-Dichloropropene	0.98	980	196	39.2	19.6	3.92	0.98		0.098	0.196	0.490	0.98	4.90	24.50	49.0	98
1,1,2-Trichloroethane	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
Toluene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
2-Hexanone	2.04	2040	408	81.6	40.8	8.16	2.04		0.204	0.408	1.020	2.04	10.20	51.00	102.0	204
Dibromochloromethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
1,2-Dibromoethane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
n-Butyl Acetate	2.08	2080	416	83.2	41.6	8.32	2.08		0.208	0.416	1.040	2.08	10.40	52.00	104.0	208
n-Octane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Tetrachloroethene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Chlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Ethylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
m-&p-Xylene	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
Bromoform	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Styrene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
o-Xylene	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
n-Nonane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1,2,2-Tetrachloroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Cumene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
alpha-Pinene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Propylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
4-Ethyltoluene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,3,5-Trimethylbenzene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
1,2,4-Trimethylbenzene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Benzyl Chloride	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,3-Dichlorobenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,4-Dichlorobenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
sec-Butylbenzene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
p-Isopropyltoluene	2.07	2070	414	82.8	41.4	8.28	2.07		0.207	0.414	1.035	2.07	10.35	51.75	103.5	207
1,2-Dichlorobenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
d-Limonene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
1,2-Dibromo-3-chloropropane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
1,2,4-Trichlorobenzene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Naphthalene	1.00	1000	200	40.0	20.0	4.00	1.00		0.100	0.200	0.500	1.00	5.00	25.00	50.0	100
Hexachloro-1,3-butadiene	1.00	1000	200	40.0	20.0	4.00	1.00		0.100	0.200	0.500	1.00	5.00	25.00	50.0	100
tert-Butylbenzene	2.06	2060	412	82.4	41.2	8.24	2.06		0.206	0.412	1.030	2.06	10.30	51.50	103.0	206
n-Butylbenzene	2.14	2140	428	85.6	42.8	8.56	2.14		0.214	0.428	1.070	2.14	10.70	53.50	107.0	214
1,1,1,2-Tetrachloroethane	1.01	1010	202	40.4	20.2	4.04	1.01		0.101	0.202	0.505	1.01	5.05	25.25	50.5	101

Calibration Status Report MS13

Method : I:\MS13\METHODS\R13090423.M (RTE Integrator)
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) TR 9/14/23
Last Update : Wed Sep 06 07:33:29 2023
Response via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	0.1	0	13	I:\MS13\DATA\2023_09\04\09042303.D
2	0.2	0	13	I:\MS13\DATA\2023_09\04\09042304.D
3	0.5	1	13	I:\MS13\DATA\2023_09\04\09042313.D
4	1.0	1	13	I:\MS13\DATA\2023_09\04\09042306.D
6	5.0	5	13	I:\MS13\DATA\2023_09\04\09042307.D
7	25	26	13	I:\MS13\DATA\2023_09\04\09042308.D
8	50	53	13	I:\MS13\DATA\2023_09\04\09042309.D
9	100	105	13	I:\MS13\DATA\2023_09\04\09042310.D

#	ID	Update Time	Quant Time	Acquisition Time
1	0.1	Sep 06 07:31 2023	Sep 05 12:12 2023	4 Sep 2023 21:10
2	0.2	Sep 06 07:31 2023	Sep 05 13:20 2023	4 Sep 2023 21:47
3	0.5	Sep 06 07:32 2023	Sep 05 12:29 2023	5 Sep 2023 8:36
4	1.0	Sep 06 07:32 2023	Sep 05 12:16 2023	4 Sep 2023 23:01
6	5.0	Sep 06 07:32 2023	Sep 05 12:16 2023	4 Sep 2023 23:38
7	25	Sep 06 07:33 2023	Sep 05 12:17 2023	5 Sep 2023 00:15
8	50	Sep 06 07:33 2023	Sep 05 12:18 2023	5 Sep 2023 00:52
9	100	Sep 06 07:33 2023	Sep 05 12:18 2023	5 Sep 2023 1:30

R13090423.M Thu Sep 14 10:10:34 2023

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2023_09\04\09042303.D Vial: 13
Acq On : 4 Sep 2023 21:10 Operator: WA
Sample : 0.1ng R13090423 ICAL Std Inst : MS13
Misc : S37-09012301/S37-08312301 (9/29)

TL 9/6/23

Quant Time: Sep 05 12:12:32 2023
Quant Method : I:\MS13\METHODS\R13090423.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 05 12:10:00 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.30	130	139121	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	9.36	114	561441	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.87	54	129812	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.06	65	298868	16.173	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 129.36%				
57) Toluene-d8 (SS2)	12.47	98	626366	8.692	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 69.52%#				
73) Bromofluorobenzene (SS3)	16.85	174	280829	12.127	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.04%				
Target Compounds							Qvalue
2) Propene	3.42	42	1322	0.112	ng	#	87
3) Dichlorodifluoromethan...	3.48	85	4051	0.144	ng		98
4) Chloromethane	3.62	50	1620	0.134	ng		89
5) 1,2-Dichloro-1,1,2,2-t...	3.72	135	1408	0.110	ng		94
6) Vinyl Chloride	3.82	62	1769	0.123	ng		96
7) 1,3-Butadiene	3.93	54	1223	0.132	ng	#	76
8) Bromomethane	4.14	94	1045	0.106	ng		94
9) Chloroethane	4.28	64	677	0.082	ng		92
10) Ethanol	4.40	45	4730	0.643	ng		92
11) Acetonitrile	0.00	41	0	N.D.	d		
12) Acrolein	4.65	56	1089	0.168	ng	#	61
13) Acetone	4.74	58	4869	0.628	ng	#	86
14) Trichlorofluoromethane	4.87	101	3558	0.132	ng		97
15) 2-Propanol (Isopropanol)	4.96	45	8114	0.350	ng		91
16) Acrylonitrile	5.09	53	2378	0.195	ng		83
17) 1,1-Dichloroethene	5.36	96	1007	0.082	ng	#	79
18) 2-Methyl-2-Propanol (t...	5.44	59	7928	0.299	ng		91
19) Methylene Chloride	5.44	84	1372	0.102	ng		97
20) 3-Chloro-1-propene (Al...	5.55	41	1866	0.122	ng		93
21) Trichlorotrifluoroethane	5.66	151	1572	0.134	ng		91
22) Carbon Disulfide	5.71	76	15960	0.372	ng		97
23) trans-1,2-Dichloroethene	6.22	61	1847	0.120	ng		88
24) 1,1-Dichloroethane	6.39	63	2234	0.116	ng		95
25) Methyl tert-Butyl Ether	6.47	73	3979	0.103	ng		97
26) Vinyl Acetate	6.52	86	1050	0.515	ng	#	77
27) 2-Butanone (MEK)	6.77	72	1241	0.153	ng	#	44
28) cis-1,2-Dichloroethene	7.14	61	1810	0.120	ng		86
29) Diisopropyl Ether	7.37	87	2199	0.198	ng	#	76
30) Ethyl Acetate	7.38	61	447	0.115	ng	#	59
31) n-Hexane	7.38	57	1754	0.102	ng	#	88
32) Chloroform	7.42	83	3105	0.144	ng		94
34) Tetrahydrofuran (THF)	7.86	72	1630	0.215	ng		93
35) Ethyl tert-Butyl Ether	7.90	87	3155	0.208	ng		97
36) 1,2-Dichloroethane	8.17	62	2738	0.153	ng		94
38) 1,1,1-Trichloroethane	8.46	97	3435	0.157	ng		93
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	8.97	78	4955	0.096	ng		94
42) Carbon Tetrachloride	9.12	117	3526	0.172	ng		88
43) Cyclohexane	9.28	84	2969	0.165	ng		89
44) tert-Amyl Methyl Ether	9.67	73	7490	0.231	ng		97
45) 1,2-Dichloropropane	9.90	63	1080	0.109	ng		92
46) Bromodichloromethane	10.13	83	2464	0.153	ng		91
47) Trichloroethene	10.20	130	1827	0.127	ng		88
48) 1,4-Dioxane	10.22	88	845	0.094	ng	#	66
49) 2,2,4-Trimethylpentane...	10.28	57	3763	0.093	ng		84
50) Methyl Methacrylate	10.47	100	761	0.160	ng	#	70

Data File : I:\MS13\DATA\2023_09\04\09042303.D Vial: 13
Acq On : 4 Sep 2023 21:10 Operator: WA
Sample : 0.1ng R13090423 ICAL Std Inst : MS13
Misc : S37-09012301/S37-08312301 (9/29)

Quant Time: Sep 05 12:12:32 2023
Quant Method : I:\MS13\METHODS\R13090423.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 05 12:10:00 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

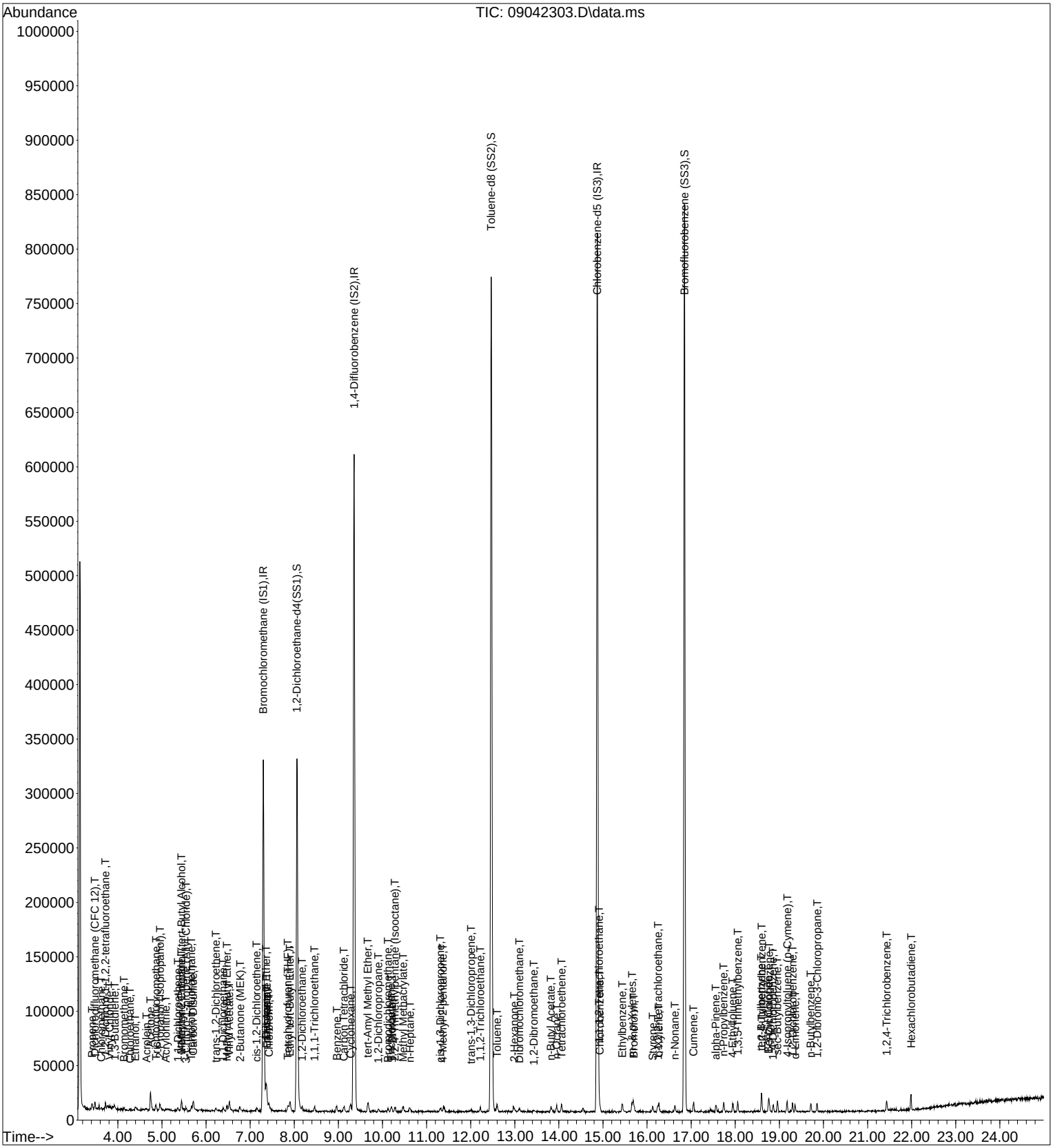
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.63	71	981	0.084	ng		80
52) cis-1,3-Dichloropropene	11.32	75	2114	0.097	ng		71
53) 4-Methyl-2-pentanone	11.37	58	1639	0.201	ng	#	84
54) trans-1,3-Dichloropropene	12.01	75	1650	0.092	ng	#	63
55) 1,1,2-Trichloroethane	12.22	97	1454	0.131	ng		83
58) Toluene	12.60	91	5697	0.082	ng		99
59) 2-Hexanone	12.99	43	4308	0.150	ng		94
60) Dibromochloromethane	13.10	129	2145	0.101	ng		93
61) 1,2-Dibromoethane	13.43	107	1501	0.080	ng		100
62) n-Butyl Acetate	13.82	43	4192	0.130	ng		93
63) n-Octane	13.95	57	827	0.071	ng	#	81
64) Tetrachloroethene	14.06	166	2243	0.111	ng		98
65) Chlorobenzene	14.92	112	4189	0.084	ng		99
66) Ethylbenzene	15.44	91	6714	0.083	ng		98
67) m- & p-Xylenes	15.66	91	10766	0.167	ng	#	66
68) Bromoform	15.70	173	1987	0.126	ng		99
69) Styrene	16.13	104	3179	0.066	ng		91
70) o-Xylene	16.27	91	5601	0.086	ng		100
71) n-Nonane	16.63	43	1657	0.061	ng	#	81
72) 1,1,2,2-Tetrachloroethane	16.25	83	2267	0.083	ng		93
74) Cumene	17.05	105	6790	0.078	ng		99
75) alpha-Pinene	17.55	93	2845	0.067	ng		96
76) n-Propylbenzene	17.74	91	8181	0.080	ng		97
77) 3-Ethyltoluene	0.00	105	0	N.D.	d		
78) 4-Ethyltoluene	17.94	105	5908	0.069	ng		98
79) 1,3,5-Trimethylbenzene	18.05	105	6069	0.084	ng		99
80) alpha-Methylstyrene	0.00	118	0	N.D.			
81) 2-Ethyltoluene	0.00	105	0	N.D.	d		
82) 1,2,4-Trimethylbenzene	18.60	105	5277	0.070	ng		99
83) n-Decane	0.00	58	0	N.D.			
84) Benzyl Chloride	18.75	91	6455	0.109	ng		98
85) 1,3-Dichlorobenzene	18.77	146	3443	0.080	ng		98
86) 1,4-Dichlorobenzene	18.86	146	3318	0.079	ng		98
87) sec-Butylbenzene	18.95	105	6946	0.070	ng		98
88) 4-Isopropyltoluene (p-...	19.18	119	6355	0.071	ng		98
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d		
90) 1,2-Dichlorobenzene	19.30	146	3825	0.093	ng		94
91) d-Limonene	19.36	68	1387	0.061	ng		99
92) 1,2-Dibromo-3-Chloropr...	19.86	157	2274	0.160	ng	#	72
93) n-Undecane	0.00	58	0	N.D.			
94) 1,2,4-Trichlorobenzene	21.43	180	4624	0.163	ng		98
95) Naphthalene	0.00	128	0	N.D.	d		
96) n-Dodecane	0.00	57	0	N.D.			
97) Hexachlorobutadiene	21.99	225	2875	0.143	ng		93
98) Cyclohexanone	0.00	55	0	N.D.			
99) tert-Butylbenzene	18.59	119	5652	0.075	ng		95
100) n-Butylbenzene	19.71	91	5002	0.064	ng		98
101) 1,1,1,2-Tetrachloroethane	14.91	131	1704	0.093	ng		90

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2023_09\04\09042303.D Vial: 13
Acq On : 4 Sep 2023 21:10 Operator: WA
Sample : 0.1ng R13090423 ICAL Std Inst : MS13
Misc : S37-09012301/S37-08312301 (9/29)

Quant Time: Sep 05 12:12:32 2023
Quant Method : I:\MS13\METHODS\R13090423.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 05 12:10:00 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2023_09\04\09042304.D Vial: 13
Acq On : 4 Sep 2023 21:47 Operator: WA
Sample : 0.2ng R13090423 ICAL Std Inst : MS13
Misc : S37-09012301/S37-08312301 (9/29)

Quant Time: Sep 05 13:20:36 2023 TR 9/6/23
Quant Method : I:\MS13\METHODS\R13090423.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 05 12:10:00 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.30	130	126587	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	9.36	114	531245	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.87	54	119645	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.06	65	278040	16.535	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 132.32%#				
57) Toluene-d8 (SS2)	12.47	98	589218	8.871	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 70.96%				
73) Bromofluorobenzene (SS3)	16.85	174	268536	12.581	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.64%				
Target Compounds							Qvalue
2) Propene	3.41	42	1836	0.171	ng	#	74
3) Dichlorodifluoromethan...	3.47	85	6215	0.244	ng		91
4) Chloromethane	3.62	50	3124	0.284	ng		96
5) 1,2-Dichloro-1,1,2,2-t...	3.71	135	2895	0.248	ng		99
6) Vinyl Chloride	3.81	62	3054	0.233	ng		100
7) 1,3-Butadiene	3.91	54	2203	0.261	ng		95
8) Bromomethane	4.13	94	1911	0.212	ng		88
9) Chloroethane	4.27	64	1382	0.184	ng		90
10) Ethanol	4.39	45	7587	1.134	ng		89
11) Acetonitrile	0.00	41	0	N.D.	d		
12) Acrolein	4.63	56	2271	0.386	ng		92
13) Acetone	4.74	58	8110	1.150	ng	#	88
14) Trichlorofluoromethane	4.87	101	6864	0.280	ng		96
15) 2-Propanol (Isopropanol)	4.94	45	12493	0.592	ng		87
16) Acrylonitrile	5.08	53	4568	0.413	ng		97
17) 1,1-Dichloroethene	5.36	96	1859	0.166	ng		87
18) 2-Methyl-2-Propanol (t...	5.43	59	12768	0.529	ng		93
19) Methylene Chloride	5.44	84	1964	0.160	ng	#	75
20) 3-Chloro-1-propene (Al...	5.55	41	2931m	0.210	ng		
21) Trichlorotrifluoroethane	5.66	151	2376	0.222	ng		98
22) Carbon Disulfide	5.70	76	21873	0.560	ng		95
23) trans-1,2-Dichloroethene	6.23	61	3285	0.235	ng		93
24) 1,1-Dichloroethane	6.40	63	3982	0.227	ng		97
25) Methyl tert-Butyl Ether	6.47	73	8649	0.246	ng		97
26) Vinyl Acetate	6.52	86	1913	1.031	ng	#	93
27) 2-Butanone (MEK)	6.76	72	2235	0.304	ng	#	74
28) cis-1,2-Dichloroethene	7.15	61	3255	0.238	ng		98
29) Diisopropyl Ether	7.36	87	3654	0.361	ng	#	82
30) Ethyl Acetate	7.37	61	1195	0.339	ng	#	68
31) n-Hexane	7.37	57	2953	0.189	ng	#	84
32) Chloroform	7.43	83	5080	0.258	ng		92
34) Tetrahydrofuran (THF)	7.85	72	2608	0.379	ng		91
35) Ethyl tert-Butyl Ether	7.90	87	5851	0.425	ng		92
36) 1,2-Dichloroethane	8.18	62	4883	0.299	ng		90
38) 1,1,1-Trichloroethane	8.45	97	5639	0.273	ng		97
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	8.96	78	8969	0.183	ng		95
42) Carbon Tetrachloride	9.13	117	5716	0.295	ng		91
43) Cyclohexane	9.28	84	6079	0.356	ng		96
44) tert-Amyl Methyl Ether	9.66	73	13229	0.431	ng		95
45) 1,2-Dichloropropane	9.90	63	1805	0.193	ng		95
46) Bromodichloromethane	10.14	83	4140	0.272	ng		92
47) Trichloroethene	10.21	130	3208	0.236	ng		96
48) 1,4-Dioxane	10.21	88	1676	0.196	ng		75
49) 2,2,4-Trimethylpentane...	10.29	57	7589	0.199	ng		93
50) Methyl Methacrylate	10.46	100	1931	0.430	ng	#	75

Data File : I:\MS13\DATA\2023_09\04\09042304.D Vial: 13
Acq On : 4 Sep 2023 21:47 Operator: WA
Sample : 0.2ng R13090423 ICAL Std Inst : MS13
Misc : S37-09012301/S37-08312301 (9/29)

Quant Time: Sep 05 13:20:36 2023
Quant Method : I:\MS13\METHODS\R13090423.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 05 12:10:00 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

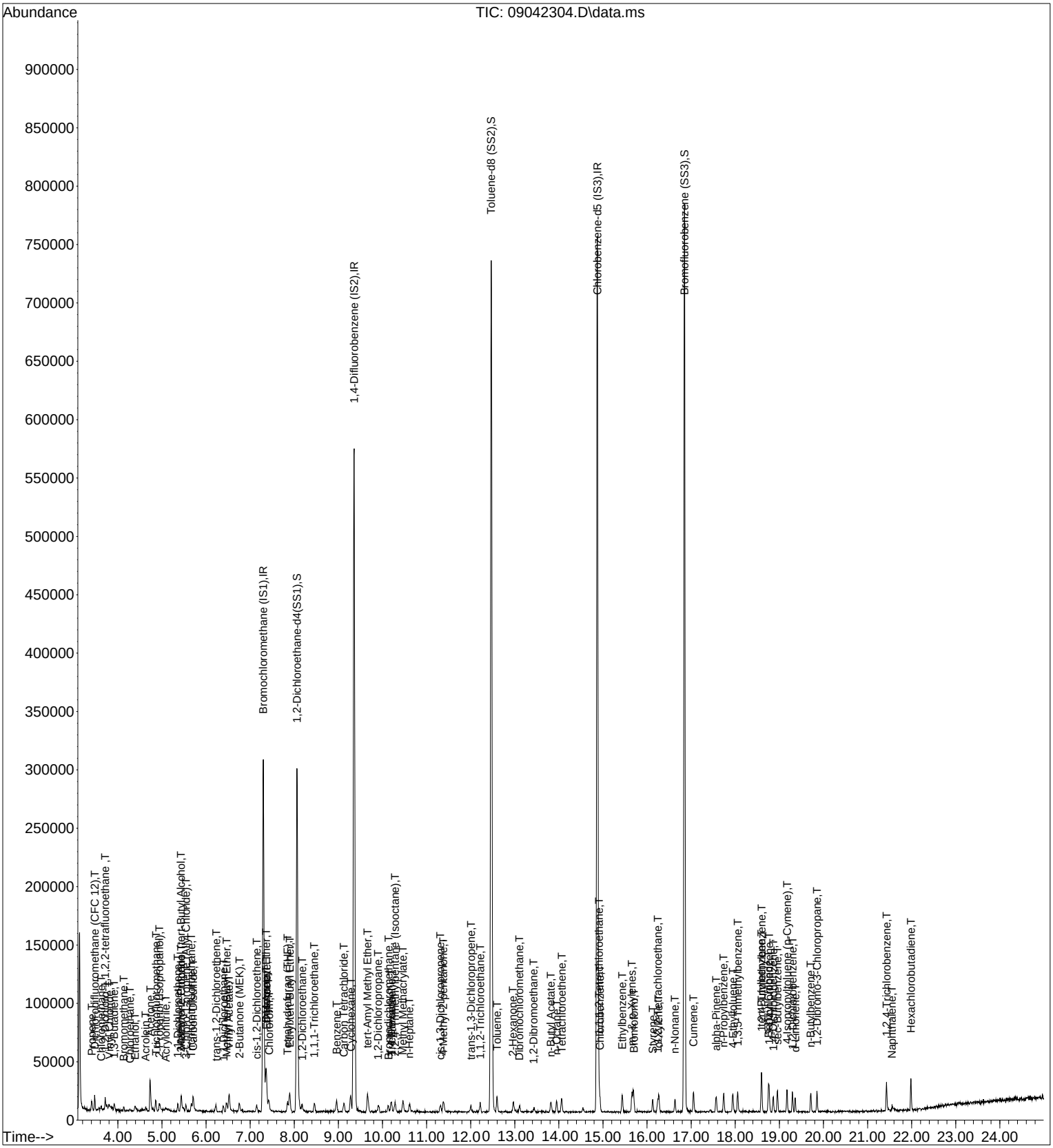
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	10.61	71	1625	0.147	ng	90
52) cis-1,3-Dichloropropene	11.31	75	3839	0.186	ng	95
53) 4-Methyl-2-pentanone	11.38	58	3036	0.393	ng	99
54) trans-1,3-Dichloropropene	12.01	75	3248	0.191	ng	82
55) 1,1,2-Trichloroethane	12.22	97	2541	0.241	ng	94
58) Toluene	12.60	91	11343	0.178	ng	94
59) 2-Hexanone	12.96	43	7700	0.292	ng	100
60) Dibromochloromethane	13.10	129	3674	0.188	ng	98
61) 1,2-Dibromoethane	13.43	107	2819	0.163	ng	96
62) n-Butyl Acetate	13.81	43	8928	0.300	ng	94
63) n-Octane	13.95	57	1709	0.160	ng	88
64) Tetrachloroethene	14.06	166	4171	0.223	ng	92
65) Chlorobenzene	14.93	112	7905	0.173	ng	94
66) Ethylbenzene	15.44	91	11677	0.156	ng	94
67) m- & p-Xylenes	15.66	91	19855	0.335	ng	96
68) Bromoform	15.70	173	3634	0.251	ng	94
69) Styrene	16.13	104	6073	0.138	ng	91
70) o-Xylene	16.26	91	9702	0.162	ng	94
71) n-Nonane	16.63	43	3508	0.141	ng	91
72) 1,1,2,2-Tetrachloroethane	16.24	83	4521	0.180	ng	95
74) Cumene	17.05	105	12892	0.160	ng	96
75) alpha-Pinene	17.57	93	5760	0.148	ng	98
76) n-Propylbenzene	17.74	91	14575	0.156	ng	98
77) 3-Ethyltoluene	0.00	105	0	N.D.	d	
78) 4-Ethyltoluene	17.95	105	11180	0.141	ng	89
79) 1,3,5-Trimethylbenzene	18.05	105	10984	0.165	ng	99
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D.	d	
82) 1,2,4-Trimethylbenzene	18.60	105	10828	0.156	ng	100
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	18.75	91	13898	0.255	ng	95
85) 1,3-Dichlorobenzene	18.77	146	6991	0.177	ng	94
86) 1,4-Dichlorobenzene	18.86	146	6454	0.168	ng	98
87) sec-Butylbenzene	18.96	105	13854	0.152	ng	96
88) 4-Isopropyltoluene (p-...	19.18	119	11522	0.139	ng	96
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d	
90) 1,2-Dichlorobenzene	19.30	146	6267	0.165	ng	93
91) d-Limonene	19.36	68	2498	0.119	ng	95
92) 1,2-Dibromo-3-Chloropr...	19.85	157	4412	0.337	ng	90
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	21.43	180	8779	0.335	ng	95
95) Naphthalene	21.55	128	6987	0.085	ng	77
96) n-Dodecane	0.00	57	0	N.D.		
97) Hexachlorobutadiene	21.98	225	5513	0.298	ng	91
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.59	119	10210	0.148	ng	98
100) n-Butylbenzene	19.71	91	10091	0.141	ng	95
101) 1,1,1,2-Tetrachloroethane	14.91	131	3366	0.200	ng	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2023_09\04\09042304.D Vial: 13
Acq On : 4 Sep 2023 21:47 Operator: WA
Sample : 0.2ng R13090423 ICAL Std Inst : MS13
Misc : S37-09012301/S37-08312301 (9/29)

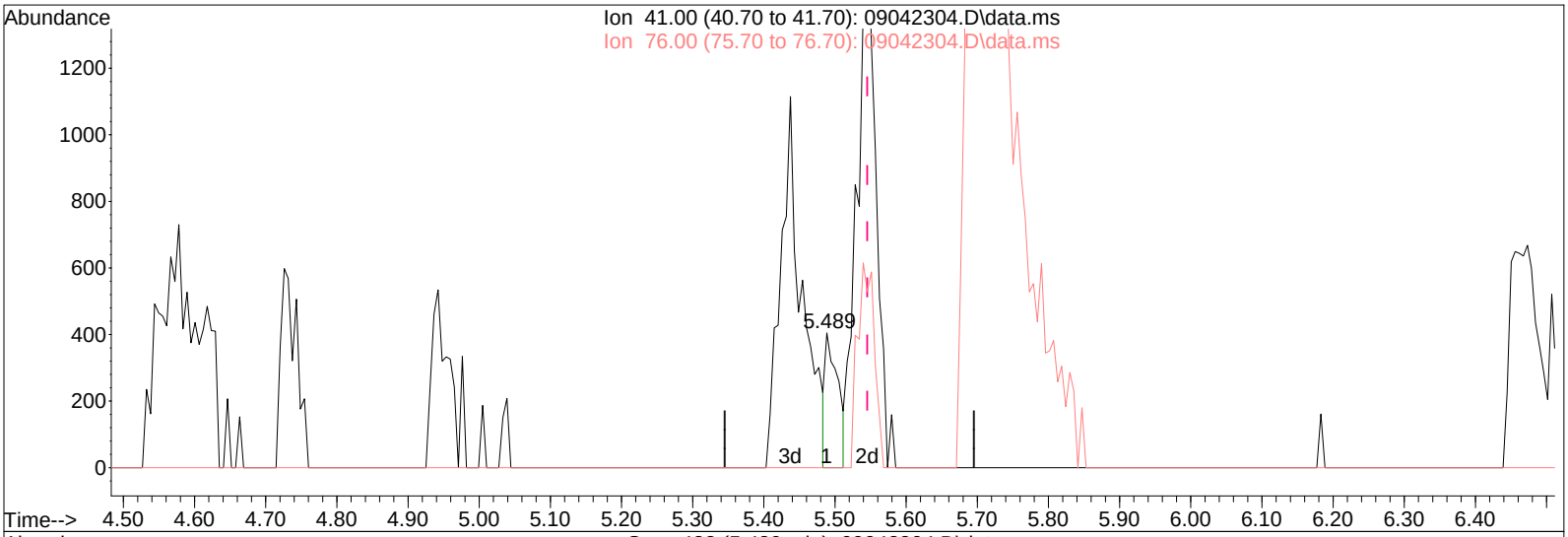
Quant Time: Sep 05 13:20:36 2023
Quant Method : I:\MS13\METHODS\R13090423.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 05 12:10:00 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

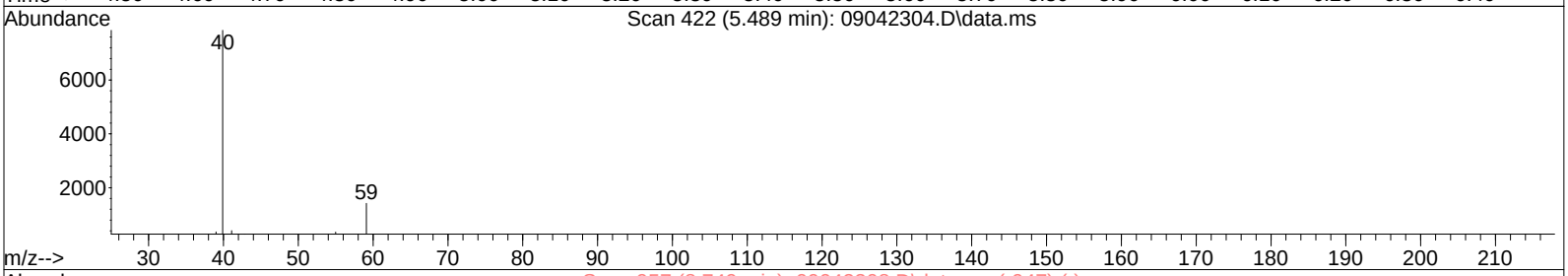


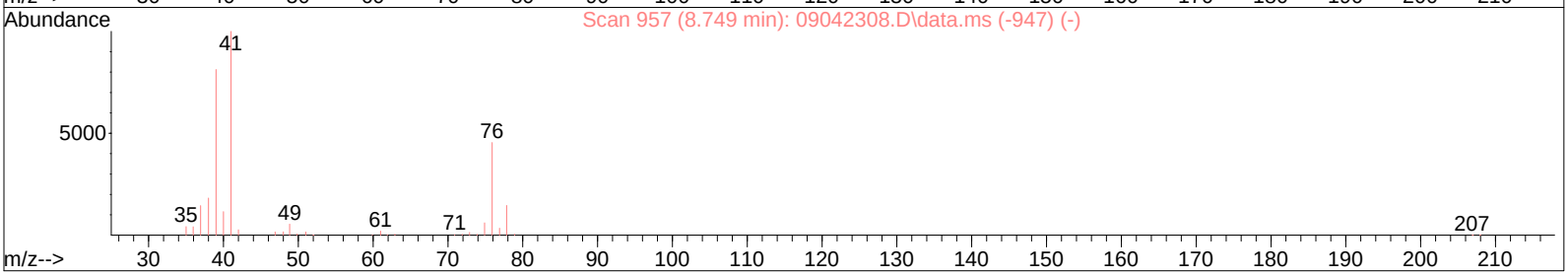
Quantitation Report (Qedit)

Data File : I:\MS13\DATA\2023_09\04\09042304.D Vial: 13
Acq On : 4 Sep 2023 21:47 Operator: WA
Sample : 0.2ng R13090423 ICAL Std Inst : MS13
Misc : S37-09012301/S37-08312301 (9/29)

Quant Time: Sep 05 12:13:32 2023
Quant Method : I:\MS13\METHODS\R13090423.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 05 12:10:00 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 09042304.D\data.ms

(20) 3-Chloro-1-propene (Allyl Chloride) (T)

5.489min (-0.057) 0.04ng

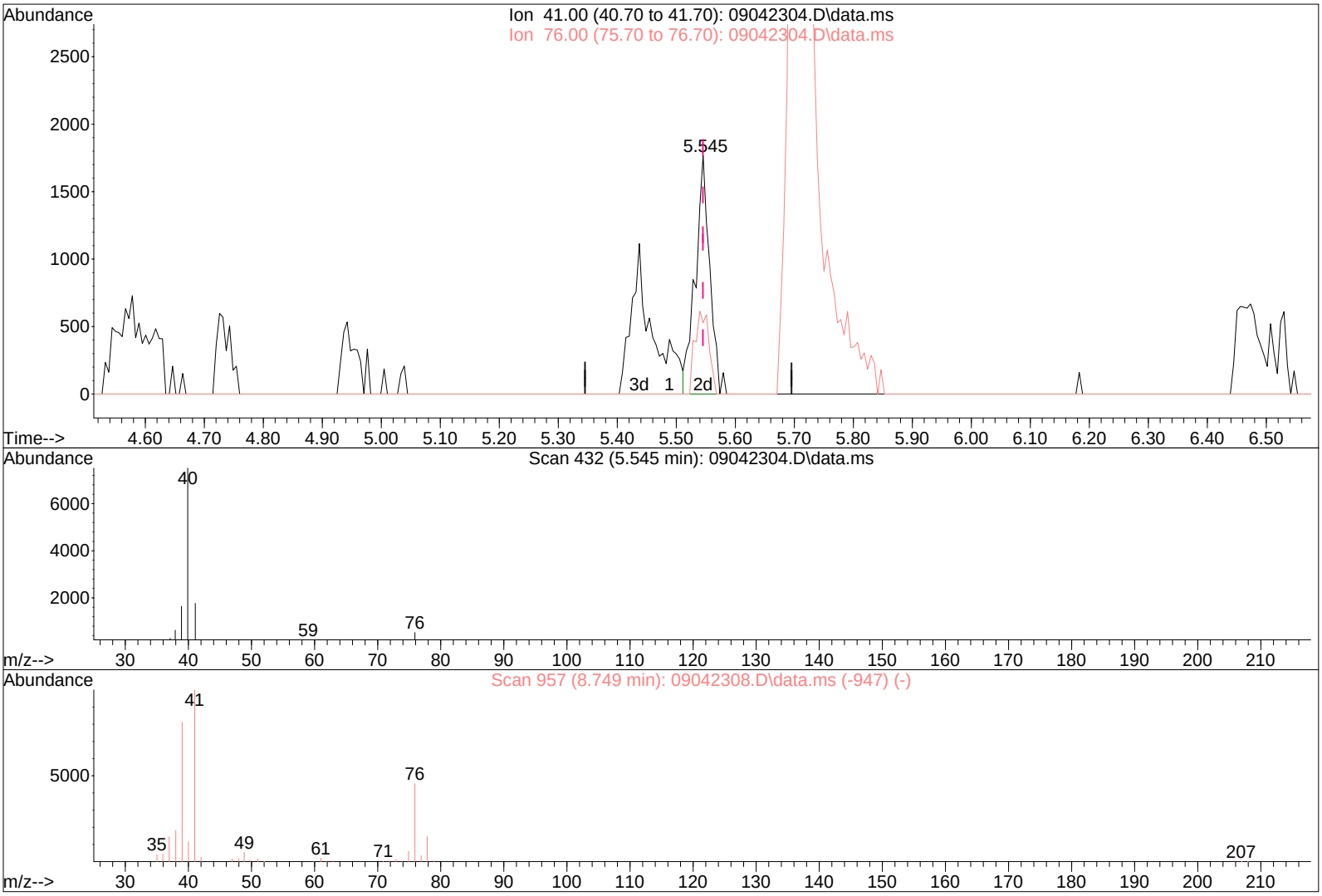
response 495

Ion	Exp%	Act%
41.00	100	100
76.00	39.20	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS13\DATA\2023_09\04\09042304.D Vial: 13
Acq On : 4 Sep 2023 21:47 Operator: WA
Sample : 0.2ng R13090423 ICAL Std Inst : MS13
Misc : S37-09012301/S37-08312301 (9/29)

Quant Time: Sep 05 12:13:32 2023
Quant Method : I:\MS13\METHODS\R13090423.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 05 12:10:00 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09042304.D\data.ms

(20) 3-Chloro-1-propene (Allyl Chloride) (T)

5.545min (+0.000) 0.21ng m

response 2931

Ion	Exp%	Act%
41.00	100	100
76.00	39.20	34.66
0.00	0.00	0.00
0.00	0.00	0.00

MP

TZ 9/5/23

CG 9/13/23

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2023_09\04\09042313.D Vial: 13
Acq On : 5 Sep 2023 8:36 Operator: TZ
Sample : 0.5ng R13090423 ICAL Std Inst : MS13
Misc : S37-09012301/S37-08312301 (9/29)

TZ 9/6/23

Quant Time: Sep 05 12:29:17 2023
Quant Method : I:\MS13\METHODS\R13090423.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 05 12:22:37 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.30	130	178639	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.36	114	761502	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.87	54	161632	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.07	65	374466	12.012	ng		-0.05
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.08%				
57) Toluene-d8 (SS2)	12.47	98	840487	13.195	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.60%				
73) Bromofluorobenzene (SS3)	16.85	174	309565	11.119	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.96%				
Target Compounds							Qvalue
2) Propene	3.41	42	9395	0.660	ng		97
3) Dichlorodifluoromethan...	3.47	85	24328	0.602	ng		95
4) Chloromethane	3.62	50	12135	0.641	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	3.71	135	10254	0.551	ng		95
6) Vinyl Chloride	3.80	62	11997	0.542	ng		92
7) 1,3-Butadiene	3.91	54	9739	0.590	ng		96
8) Bromomethane	4.13	94	7332	0.512	ng		99
9) Chloroethane	4.26	64	5656	0.630	ng		90
10) Ethanol	4.38	45	30290	2.777	ng		94
11) Acetonitrile	4.54	41	12139	0.525	ng	#	1
12) Acrolein	4.63	56	11165	1.261	ng		95
13) Acetone	4.73	58	31614	3.030	ng	#	79
14) Trichlorofluoromethane	4.86	101	20877	0.457	ng		100
15) 2-Propanol (Isopropanol)	4.94	45	43739	1.061	ng		94
16) Acrylonitrile	5.09	53	17335	1.009	ng		98
17) 1,1-Dichloroethene	5.36	96	6772	0.449	ng		94
18) 2-Methyl-2-Propanol (t...	5.43	59	47617	1.040	ng		93
19) Methylene Chloride	5.44	84	8416	0.503	ng		94
20) 3-Chloro-1-propene (Al...	5.55	41	12021m	0.713	ng		
21) Trichlorotrifluoroethane	5.68	151	7759	0.402	ng		91
22) Carbon Disulfide	5.70	76	59068	0.907	ng		98
23) trans-1,2-Dichloroethene	6.22	61	13316	0.551	ng		91
24) 1,1-Dichloroethane	6.40	63	15948	0.563	ng		99
25) Methyl tert-Butyl Ether	6.46	73	27214	0.505	ng		94
26) Vinyl Acetate	6.53	86	8838	2.821	ng	#	91
27) 2-Butanone (MEK)	6.75	72	10466	1.131	ng		98
28) cis-1,2-Dichloroethene	7.15	61	12728	0.541	ng		93
29) Diisopropyl Ether	7.36	87	13567	1.078	ng	#	92
30) Ethyl Acetate	7.36	61	5172	1.069	ng		97
31) n-Hexane	7.38	57	13191	0.597	ng		96
32) Chloroform	7.43	83	18870	0.541	ng		93
34) Tetrahydrofuran (THF)	7.84	72	8885	0.942	ng	#	76
35) Ethyl tert-Butyl Ether	7.89	87	20312	1.013	ng		93
36) 1,2-Dichloroethane	8.17	62	17024	0.494	ng		96
38) 1,1,1-Trichloroethane	8.45	97	18159	0.459	ng		94
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	8.96	78	33166	0.520	ng		99
42) Carbon Tetrachloride	9.13	117	17576	0.451	ng		99
43) Cyclohexane	9.28	84	23119	1.074	ng		94
44) tert-Amyl Methyl Ether	9.66	73	49159	1.013	ng		98
45) 1,2-Dichloropropane	9.92	63	7346	0.555	ng		93
46) Bromodichloromethane	10.13	83	15035	0.514	ng		92
47) Trichloroethene	10.20	130	10564	0.492	ng		96
48) 1,4-Dioxane	10.20	88	6798	0.539	ng		96
49) 2,2,4-Trimethylpentane...	10.29	57	30270	0.563	ng		95
50) Methyl Methacrylate	10.46	100	6233	1.002	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2023_09\04\09042313.D Vial: 13
Acq On : 5 Sep 2023 8:36 Operator: TZ
Sample : 0.5ng R13090423 ICAL Std Inst : MS13
Misc : S37-09012301/S37-08312301 (9/29)

Quant Time: Sep 05 12:29:17 2023
Quant Method : I:\MS13\METHODS\R13090423.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 05 12:22:37 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

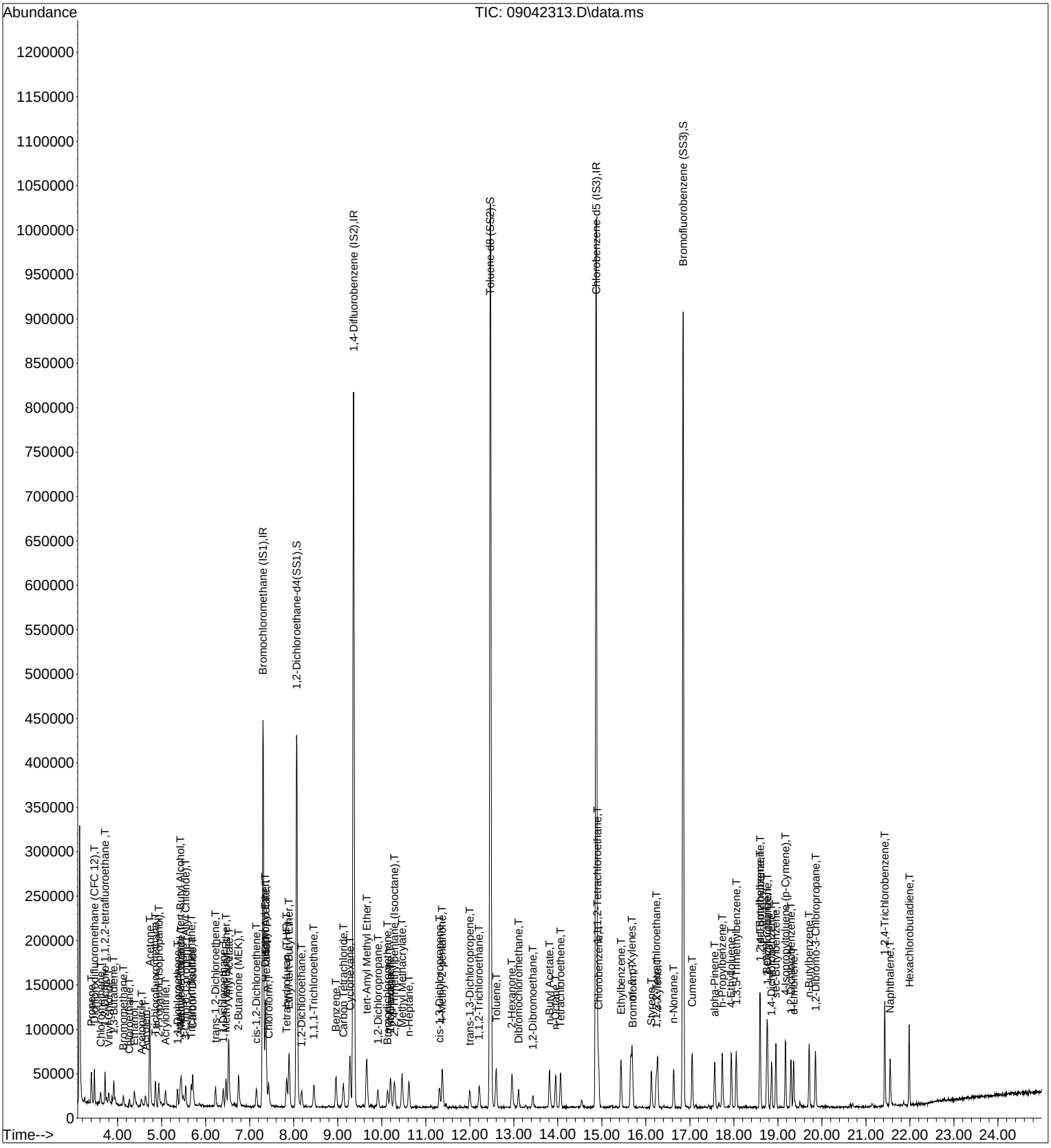
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.62	71	7451	0.559	ng		94
52) cis-1,3-Dichloropropene	11.32	75	15422	0.486	ng		97
53) 4-Methyl-2-pentanone	11.37	58	14023	1.130	ng		91
54) trans-1,3-Dichloropropene	12.00	75	13590	0.493	ng		97
55) 1,1,2-Trichloroethane	12.21	97	8963	0.531	ng		97
58) Toluene	12.60	91	38307	0.579	ng		99
59) 2-Hexanone	12.96	43	34821	1.101	ng		98
60) Dibromochloromethane	13.11	129	12944	0.516	ng		97
61) 1,2-Dibromoethane	13.43	107	10605	0.535	ng		98
62) n-Butyl Acetate	13.81	43	38476	1.140	ng		98
63) n-Octane	13.95	57	6615	0.598	ng		98
64) Tetrachloroethene	14.06	166	12897	0.534	ng		98
65) Chlorobenzene	14.92	112	26744	0.564	ng		96
66) Ethylbenzene	15.44	91	44805	0.573	ng		97
67) m- & p-Xylenes	15.68	91	74125	1.099	ng		99
68) Bromoform	15.70	173	11887	0.528	ng		97
69) Styrene	16.13	104	22592	0.514	ng		98
70) o-Xylene	16.27	91	36909	0.557	ng		98
71) n-Nonane	16.63	43	15398	0.599	ng		96
72) 1,1,2,2-Tetrachloroethane	16.24	83	15466	0.580	ng		97
74) Cumene	17.05	105	45560	0.545	ng		99
75) alpha-Pinene	17.56	93	22521	0.582	ng		96
76) n-Propylbenzene	17.74	91	53924	0.546	ng		99
77) 3-Ethyltoluene	17.05	105	45560	No Calib			
78) 4-Ethyltoluene	17.94	105	44054	0.549	ng		98
79) 1,3,5-Trimethylbenzene	18.05	105	40713	0.557	ng		98
80) alpha-Methylstyrene	17.05	118	204	No Calib		#	
81) 2-Ethyltoluene	17.05	105	45560	No Calib			
82) 1,2,4-Trimethylbenzene	18.60	105	39998	0.540	ng		98
83) n-Decane	17.05	58	306	No Calib		#	
84) Benzyl Chloride	18.75	91	55225	0.974	ng		98
85) 1,3-Dichlorobenzene	18.77	146	21798	0.499	ng		91
86) 1,4-Dichlorobenzene	18.86	146	23073	0.532	ng		99
87) sec-Butylbenzene	18.95	105	49148	0.529	ng		96
88) 4-Isopropyltoluene (p-...	19.17	119	42277	0.511	ng		98
89) 1,2,3-Trimethylbenzene	17.05	105	45560	No Calib			
90) 1,2-Dichlorobenzene	19.30	146	23878	0.539	ng		99
91) d-Limonene	19.36	68	9966	0.493	ng		95
92) 1,2-Dibromo-3-Chloropr...	19.86	157	16956	1.061	ng		97
93) n-Undecane	17.95	58	751	No Calib		#	
94) 1,2,4-Trichlorobenzene	21.43	180	37294	1.144	ng		99
95) Naphthalene	21.55	128	45661	0.568	ng		98
96) n-Dodecane	19.04	57	192	No Calib		#	
97) Hexachlorobutadiene	21.99	225	17541	0.545	ng		97
98) Cyclohexanone	15.22	55	507	No Calib		#	
99) tert-Butylbenzene	18.60	119	37788	0.550	ng		97
100) n-Butylbenzene	19.71	91	39406	0.527	ng		99
101) 1,1,1,2-Tetrachloroethane	14.90	131	12263	0.597	ng		93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2023_09\04\09042313.D Vial: 13
Acq On : 5 Sep 2023 8:36 Operator: TZ
Sample : 0.5ng R13090423 ICAL Std Inst : MS13
Misc : S37-09012301/S37-08312301 (9/29)

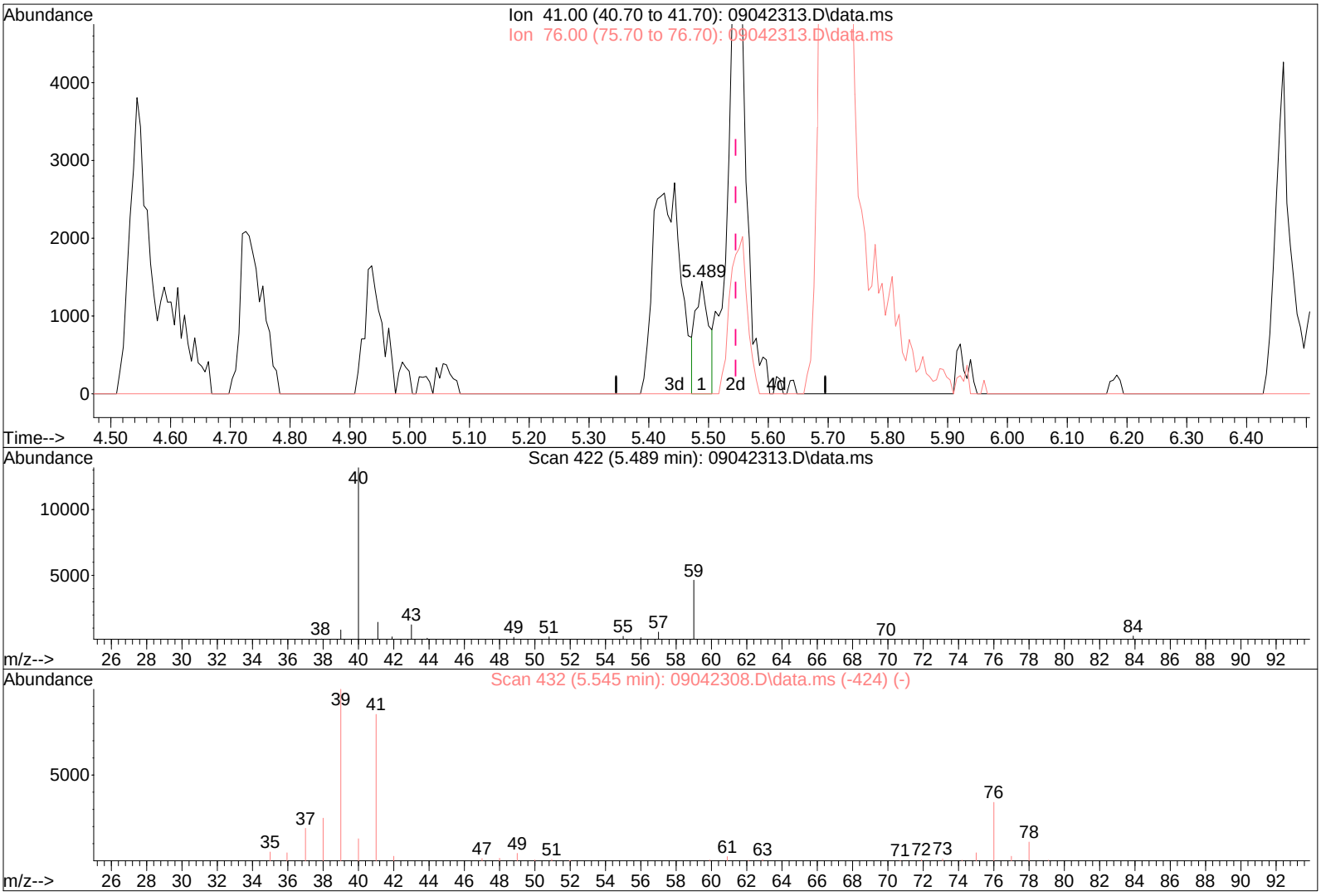
Quant Time: Sep 05 12:29:17 2023
Quant Method : I:\MS13\METHODS\R13090423.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 05 12:22:37 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS13\DATA\2023_09\04\09042313.D Vial: 13
Acq On : 5 Sep 2023 8:36 Operator: TZ
Sample : 0.5ng R13090423 ICAL Std Inst : MS13
Misc : S37-09012301/S37-08312301 (9/29)

Quant Time: Sep 05 09:08:44 2023
Quant Method : I:\MS13\METHODS\R13090423.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 05 08:06:51 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09042313.D\data.ms

(20) 3-Chloro-1-propene (Allyl Chloride) (T)

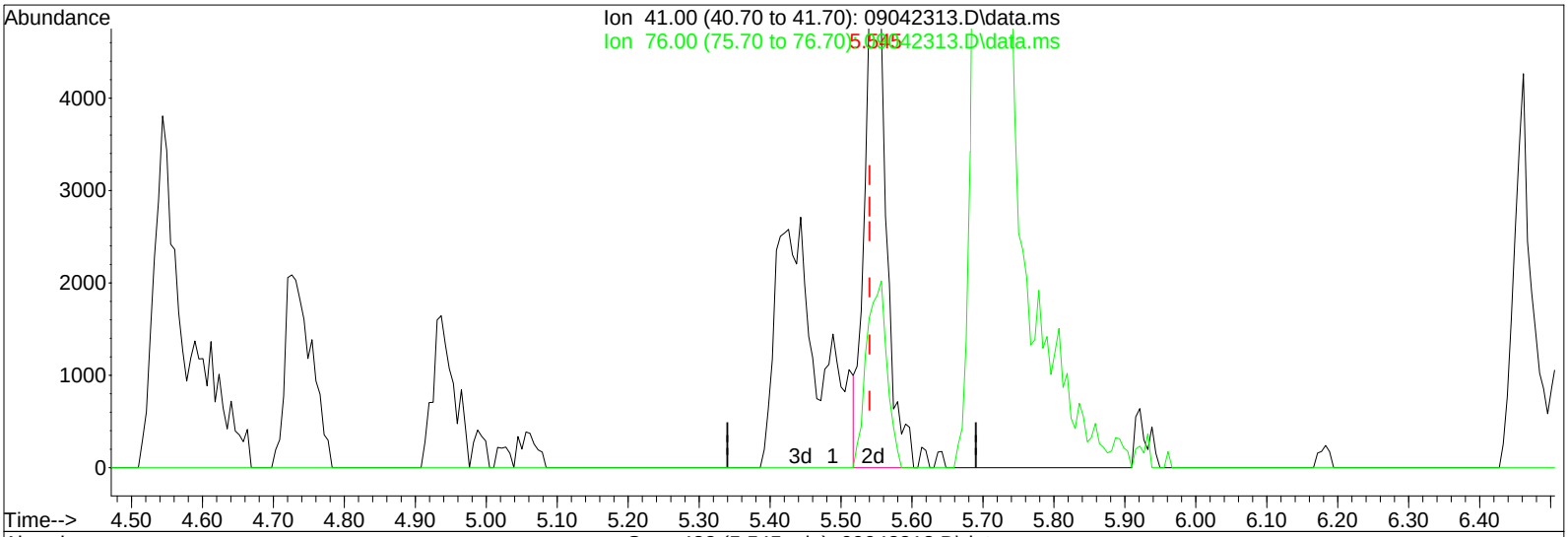
5.489min (-0.057) 0.10ng

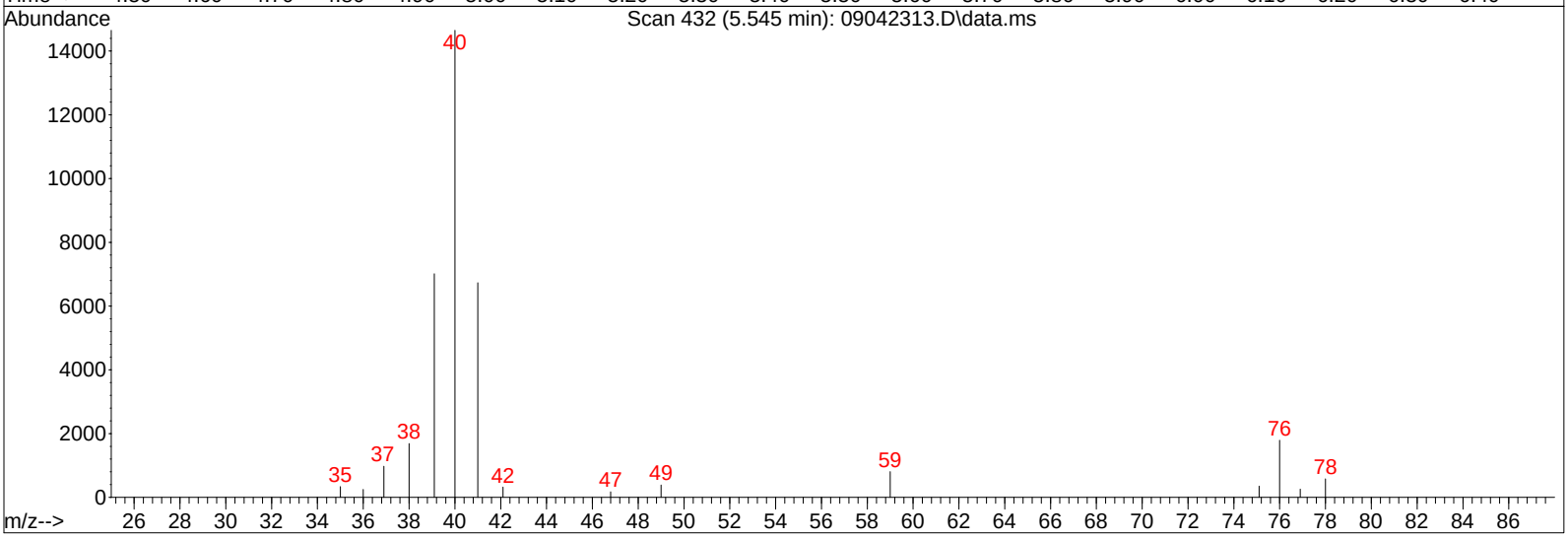
response 2211

Ion	Exp%	Act%
41.00	100	100
76.00	39.10	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS13\DATA\2023_09\04\09042313.D Vial: 13
Acq On : 5 Sep 2023 8:36 Operator: TZ
Sample : 0.5ng R13090423 ICAL Std Inst : MS13
Misc : S37-09012301/S37-08312301 (9/29)

Quant Time: Sep 05 12:28:53 2023
Quant Method : I:\MS13\METHODS\R13090423.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 05 12:22:37 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M





TIC: 09042313.D\data.ms

(20) 3-Chloro-1-propene (Allyl Chloride) (T)

5.545min (+0.005) 0.71ng m

response 12021

Ion	Exp%	Act%
41.00	100	100
76.00	39.20	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

MP

Tz 9/7/23

CG 9/13/23

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2023_09\04\09042306.D Vial: 14
Acq On : 4 Sep 2023 23:01 Operator: WA
Sample : 1.0ng R13090423 ICAL Std Inst : MS13
Misc : S37-09012301/S37-08302305 (9/29)

TL 9/6/23

Quant Time: Sep 05 12:16:19 2023
Quant Method : I:\MS13\METHODS\R13090423.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 05 12:10:00 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.30	130	121029	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	9.36	114	511739	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.87	54	116373	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.07	65	268197	16.682	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 133.44%#				
57) Toluene-d8 (SS2)	12.47	98	563276	8.719	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 69.76%#				
73) Bromofluorobenzene (SS3)	16.85	174	255576	12.311	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.48%				
Target Compounds							Qvalue
2) Propene	3.39	42	8384	0.819	ng		88
3) Dichlorodifluoromethan...	3.46	85	33205	1.361	ng		98
4) Chloromethane	3.60	50	13567	1.291	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.70	135	14464	1.294	ng		99
6) Vinyl Chloride	3.78	62	16448	1.312	ng		94
7) 1,3-Butadiene	3.90	54	10729	1.330	ng		99
8) Bromomethane	4.11	94	10081	1.171	ng		96
9) Chloroethane	4.26	64	6446	0.898	ng		98
10) Ethanol	4.37	45	33389	5.219	ng		91
11) Acetonitrile	4.53	41	13690	0.823	ng	#	18
12) Acrolein	4.62	56	12396	2.204	ng		94
13) Acetone	4.71	58	31343	4.649	ng		95
14) Trichlorofluoromethane	4.85	101	33418	1.426	ng		100
15) 2-Propanol (Isopropanol)	4.92	45	53676	2.662	ng		88
16) Acrylonitrile	5.07	53	21509	2.032	ng		99
17) 1,1-Dichloroethene	5.35	96	8430	0.787	ng	#	79
18) 2-Methyl-2-Propanol (t...	5.40	59	64521	2.794	ng		98
19) Methylene Chloride	5.43	84	9697	0.825	ng		99
20) 3-Chloro-1-propene (Al...	5.53	41	13822	1.037	ng		100
21) Trichlorotrifluoroethane	5.66	151	12022	1.176	ng		97
22) Carbon Disulfide	5.70	76	81687	2.188	ng		99
23) trans-1,2-Dichloroethene	6.22	61	16023	1.199	ng		99
24) 1,1-Dichloroethane	6.39	63	18409	1.097	ng		98
25) Methyl tert-Butyl Ether	6.46	73	38019	1.131	ng		99
26) Vinyl Acetate	6.51	86	11000	6.199	ng	#	95
27) 2-Butanone (MEK)	6.73	72	12139	1.724	ng		96
28) cis-1,2-Dichloroethene	7.15	61	15580	1.190	ng		97
29) Diisopropyl Ether	7.36	87	16821	1.740	ng		97
30) Ethyl Acetate	7.36	61	6042	1.793	ng		99
31) n-Hexane	7.37	57	14900	0.995	ng		100
32) Chloroform	7.43	83	24290	1.291	ng		98
34) Tetrahydrofuran (THF)	7.83	72	10916	1.659	ng		95
35) Ethyl tert-Butyl Ether	7.89	87	27819	2.112	ng		98
36) 1,2-Dichloroethane	8.17	62	23119	1.481	ng		95
38) 1,1,1-Trichloroethane	8.45	97	26867	1.350	ng		98
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	8.97	78	42275	0.895	ng		99
42) Carbon Tetrachloride	9.12	117	26546	1.422	ng		99
43) Cyclohexane	9.27	84	28598	1.740	ng		98
44) tert-Amyl Methyl Ether	9.65	73	64213	2.170	ng		99
45) 1,2-Dichloropropane	9.91	63	8975	0.998	ng		100
46) Bromodichloromethane	10.13	83	20156	1.375	ng		100
47) Trichloroethene	10.20	130	14366	1.097	ng		99
48) 1,4-Dioxane	10.18	88	8276	1.007	ng		98
49) 2,2,4-Trimethylpentane...	10.29	57	37085	1.010	ng		100
50) Methyl Methacrylate	10.46	100	7820	1.809	ng		90

Data File : I:\MS13\DATA\2023_09\04\09042306.D Vial: 14
Acq On : 4 Sep 2023 23:01 Operator: WA
Sample : 1.0ng R13090423 ICAL Std Inst : MS13
Misc : S37-09012301/S37-08302305 (9/29)

Quant Time: Sep 05 12:16:19 2023
Quant Method : I:\MS13\METHODS\R13090423.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 05 12:10:00 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

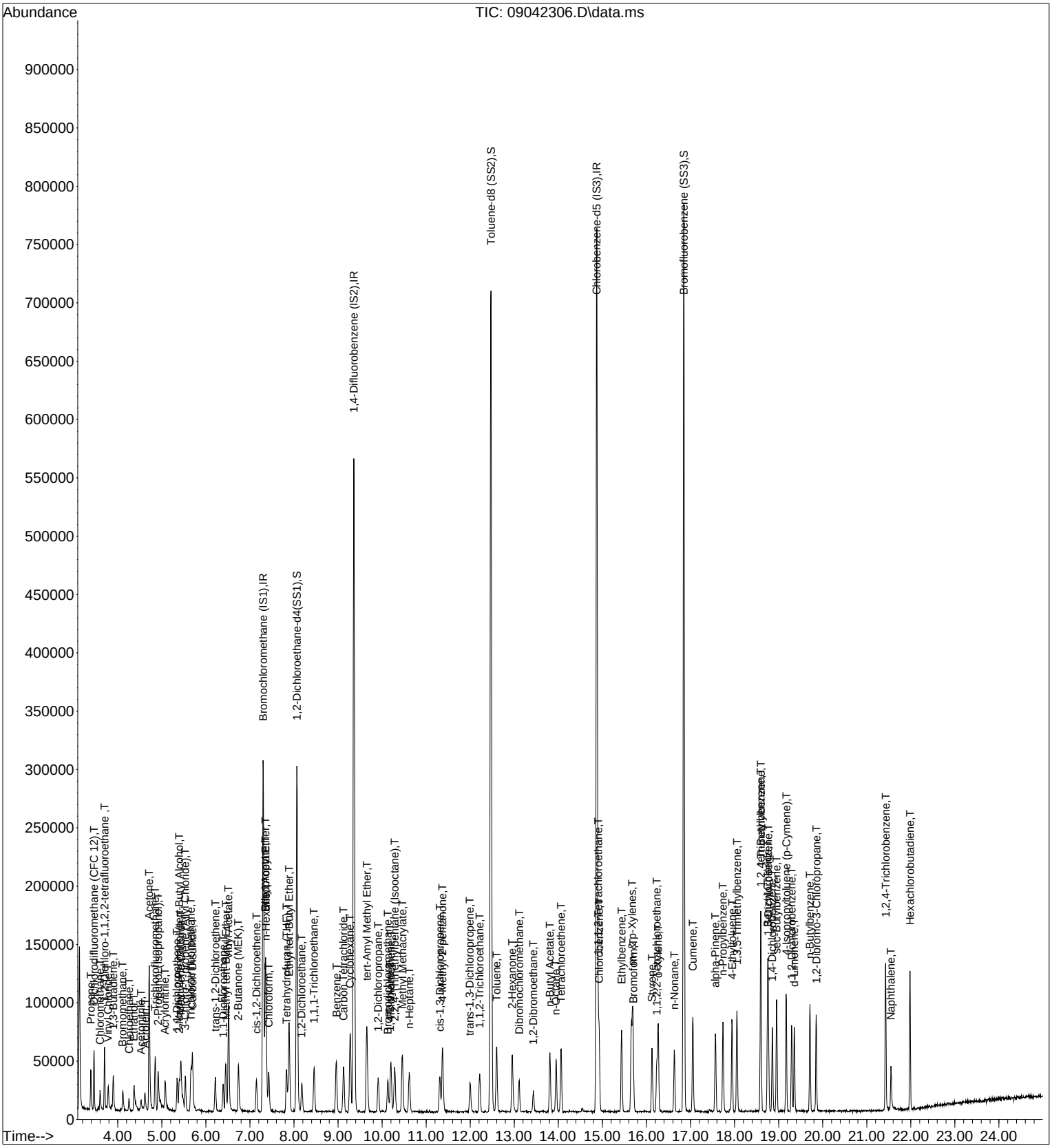
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	10.62	71	9278	0.874	ng	95
52) cis-1,3-Dichloropropene	11.32	75	19684	0.989	ng	93
53) 4-Methyl-2-pentanone	11.37	58	16894	2.270	ng	93
54) trans-1,3-Dichloropropene	11.99	75	16992	1.039	ng	97
55) 1,1,2-Trichloroethane	12.22	97	12015	1.183	ng	98
58) Toluene	12.60	91	47113	0.760	ng	95
59) 2-Hexanone	12.95	43	41024	1.598	ng	99
60) Dibromochloromethane	13.11	129	17849	0.939	ng	94
61) 1,2-Dibromoethane	13.43	107	14135	0.842	ng	94
62) n-Butyl Acetate	13.81	43	43118	1.489	ng	97
63) n-Octane	13.95	57	7848	0.756	ng	93
64) Tetrachloroethene	14.06	166	18864	1.037	ng	100
65) Chlorobenzene	14.93	112	35381	0.795	ng	98
66) Ethylbenzene	15.44	91	56383	0.775	ng	100
67) m- & p-Xylenes	15.68	91	99729	1.729	ng	100
68) Bromoform	15.70	173	16989	1.206	ng	100
69) Styrene	16.12	104	29162	0.680	ng	99
70) o-Xylene	16.27	91	48726	0.834	ng	99
71) n-Nonane	16.64	43	17584	0.726	ng	99
72) 1,1,2,2-Tetrachloroethane	16.23	83	18029	0.739	ng	91
74) Cumene	17.05	105	59215	0.755	ng	99
75) alpha-Pinene	17.56	93	27069	0.714	ng	96
76) n-Propylbenzene	17.74	91	64617	0.709	ng	99
77) 3-Ethyltoluene	0.00	105	0	N.D.	d	
78) 4-Ethyltoluene	17.95	105	54363	0.706	ng	97
79) 1,3,5-Trimethylbenzene	18.05	105	54574	0.841	ng	100
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D.	d	
82) 1,2,4-Trimethylbenzene	18.60	105	53362	0.788	ng	99
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	18.75	91	71943	1.359	ng	100
85) 1,3-Dichlorobenzene	18.77	146	30365	0.792	ng	99
86) 1,4-Dichlorobenzene	18.86	146	30067	0.803	ng	99
87) sec-Butylbenzene	18.95	105	65252	0.734	ng	98
88) 4-Isopropyltoluene (p-...	19.18	119	56008	0.695	ng	98
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d	
90) 1,2-Dichlorobenzene	19.29	146	30195	0.819	ng	100
91) d-Limonene	19.35	68	12702	0.624	ng	95
92) 1,2-Dibromo-3-Chloropr...	19.86	157	20694	1.626	ng	90
93) n-Undecane	0.00	58	0	N.D.	d	
94) 1,2,4-Trichlorobenzene	21.43	180	40606	1.595	ng	98
95) Naphthalene	21.55	128	31621	0.395	ng	96
96) n-Dodecane	0.00	57	0	N.D.		
97) Hexachlorobutadiene	21.98	225	22079	1.227	ng	97
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.59	119	47181	0.703	ng	98
100) n-Butylbenzene	19.71	91	49388	0.709	ng	97
101) 1,1,1,2-Tetrachloroethane	14.91	131	15798	0.963	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2023_09\04\09042306.D Vial: 14
Acq On : 4 Sep 2023 23:01 Operator: WA
Sample : 1.0ng R13090423 ICAL Std Inst : MS13
Misc : S37-09012301/S37-08302305 (9/29)

Quant Time: Sep 05 12:16:19 2023
Quant Method : I:\MS13\METHODS\R13090423.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 05 12:10:00 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2023_09\04\09042307.D Vial: 15
Acq On : 4 Sep 2023 23:38 Operator: WA
Sample : 5.0ng R13090423 ICAL Std Inst : MS13
Misc : S37-09012301/S37-08302301 (9/29)

TZ 9/6/23

Quant Time: Sep 05 12:16:50 2023
Quant Method : I:\MS13\METHODS\R13090423.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 05 12:10:00 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.32	130	124154	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	9.37	114	509970	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	14.87	54	118421	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.08	65	273586	16.589	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 132.72%#				
57) Toluene-d8 (SS2)	12.47	98	574814	8.744	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 69.92%#				
73) Bromofluorobenzene (SS3)	16.85	174	267549	12.665	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.28%				
Target Compounds							Qvalue
2) Propene	3.37	42	49911	4.751	ng		99
3) Dichlorodifluoromethan...	3.45	85	183034	7.314	ng		99
4) Chloromethane	3.58	50	75412	6.997	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.69	135	79912	6.971	ng		99
6) Vinyl Chloride	3.77	62	85910	6.680	ng		99
7) 1,3-Butadiene	3.88	54	57973	7.005	ng		96
8) Bromomethane	4.10	94	54772	6.204	ng		97
9) Chloroethane	4.24	64	34879	4.735	ng		99
10) Ethanol	4.38	45	177878	27.101	ng		100
11) Acetonitrile	4.53	41	73547	4.309	ng		85
12) Acrolein	4.62	56	71071	12.319	ng		93
13) Acetone	4.71	58	171405	24.786	ng		98
14) Trichlorofluoromethane	4.84	101	173044	7.196	ng		98
15) 2-Propanol (Isopropanol)	4.93	45	297260	14.370	ng		96
16) Acrylonitrile	5.08	53	122702	11.302	ng		98
17) 1,1-Dichloroethene	5.35	96	49687	4.522	ng		93
18) 2-Methyl-2-Propanol (t...	5.40	59	368953	15.577	ng		99
19) Methylene Chloride	5.44	84	52160	4.326	ng		98
20) 3-Chloro-1-propene (Al...	5.53	41	79697	5.830	ng		99
21) Trichlorotrifluoroethane	5.66	151	65417	6.237	ng		95
22) Carbon Disulfide	5.69	76	422611	11.035	ng		100
23) trans-1,2-Dichloroethene	6.22	61	94477	6.893	ng		97
24) 1,1-Dichloroethane	6.40	63	103948	6.041	ng		99
25) Methyl tert-Butyl Ether	6.44	73	220168	6.385	ng		100
26) Vinyl Acetate	6.52	86	64774	35.586	ng	#	90
27) 2-Butanone (MEK)	6.74	72	67978	9.413	ng		99
28) cis-1,2-Dichloroethene	7.16	61	86872	6.468	ng		100
29) Diisopropyl Ether	7.36	87	94474	9.528	ng		94
30) Ethyl Acetate	7.36	61	35881	10.382	ng		100
31) n-Hexane	7.37	57	79463	5.172	ng		97
32) Chloroform	7.45	83	134653	6.975	ng		100
34) Tetrahydrofuran (THF)	7.82	72	59417	8.801	ng		99
35) Ethyl tert-Butyl Ether	7.89	87	155735	11.524	ng		98
36) 1,2-Dichloroethane	8.19	62	131088	8.187	ng		99
38) 1,1,1-Trichloroethane	8.46	97	151076	7.618	ng		100
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	8.97	78	222191	4.719	ng		99
42) Carbon Tetrachloride	9.13	117	146268	7.860	ng		99
43) Cyclohexane	9.28	84	164690	10.053	ng		99
44) tert-Amyl Methyl Ether	9.65	73	370196	12.554	ng		99
45) 1,2-Dichloropropane	9.92	63	50100	5.592	ng		97
46) Bromodichloromethane	10.14	83	112378	7.691	ng		99
47) Trichloroethene	10.21	130	79345	6.080	ng		98
48) 1,4-Dioxane	10.18	88	48379	5.907	ng		100
49) 2,2,4-Trimethylpentane...	10.29	57	203622	5.563	ng		97
50) Methyl Methacrylate	10.46	100	50476	11.716	ng		96

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2023_09\04\09042307.D Vial: 15
Acq On : 4 Sep 2023 23:38 Operator: WA
Sample : 5.0ng R13090423 ICAL Std Inst : MS13
Misc : S37-09012301/S37-08302301 (9/29)

Quant Time: Sep 05 12:16:50 2023
Quant Method : I:\MS13\METHODS\R13090423.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 05 12:10:00 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

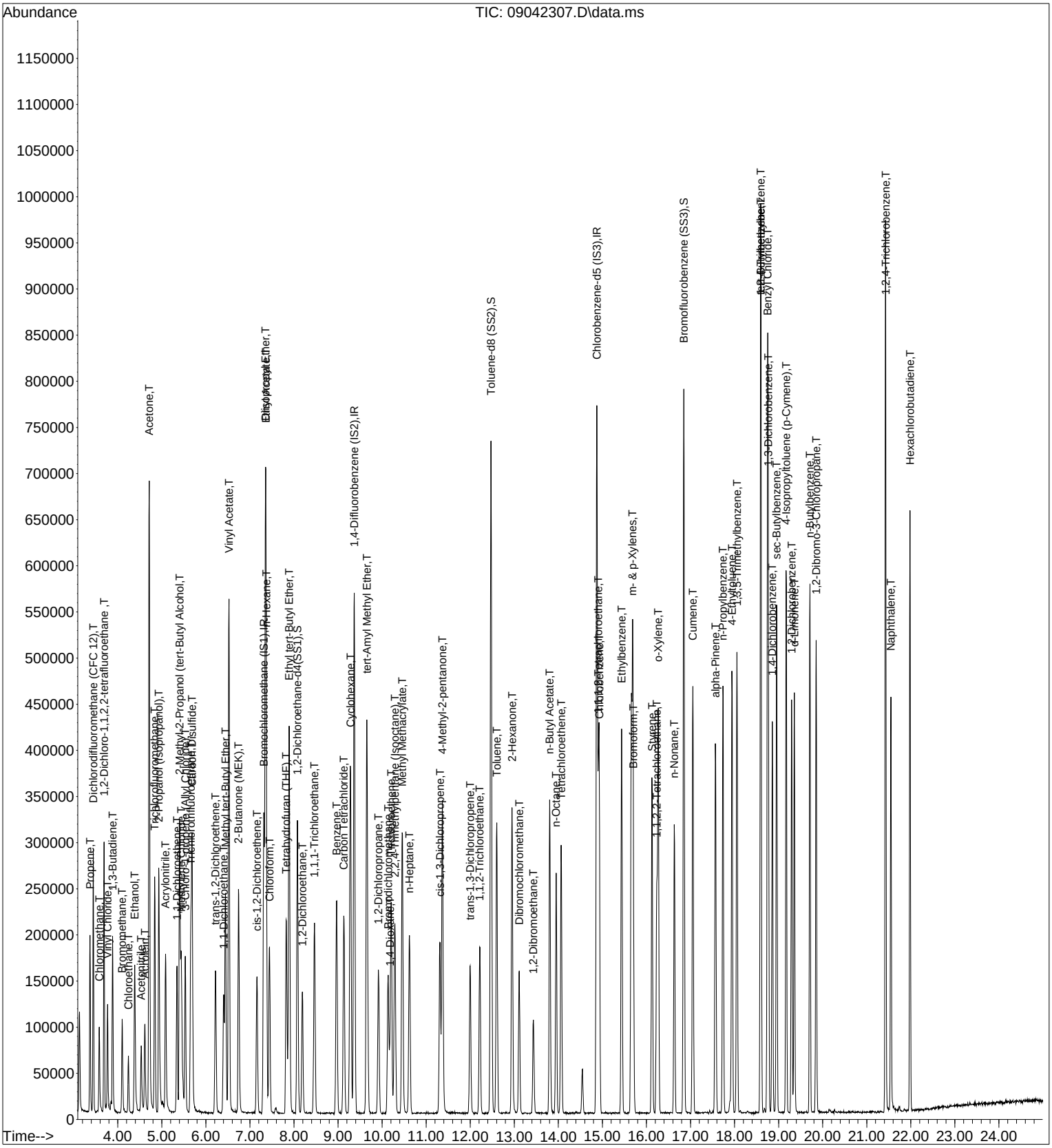
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	10.62	71	50057	4.732	ng	97
52) cis-1,3-Dichloropropene	11.32	75	111652	5.629	ng	97
53) 4-Methyl-2-pentanone	11.37	58	93337	12.587	ng	98
54) trans-1,3-Dichloropropene	12.00	75	98437	6.039	ng	97
55) 1,1,2-Trichloroethane	12.22	97	64441	6.369	ng	97
58) Toluene	12.60	91	267155	4.232	ng	98
59) 2-Hexanone	12.95	43	259376	9.931	ng	97
60) Dibromochloromethane	13.11	129	99086	5.123	ng	98
61) 1,2-Dibromoethane	13.43	107	79364	4.645	ng	100
62) n-Butyl Acetate	13.80	43	281907	9.569	ng	100
63) n-Octane	13.95	57	44018	4.168	ng	97
64) Tetrachloroethene	14.06	166	99649	5.382	ng	99
65) Chlorobenzene	14.93	112	190749	4.214	ng	99
66) Ethylbenzene	15.44	91	329952	4.455	ng	99
67) m- & p-Xylenes	15.68	91	577468	9.837	ng	100
68) Bromoform	15.70	173	98763	6.891	ng	99
69) Styrene	16.13	104	189835	4.353	ng	99
70) o-Xylene	16.27	91	282495	4.752	ng	99
71) n-Nonane	16.63	43	102805	4.170	ng	99
72) 1,1,2,2-Tetrachloroethane	16.23	83	107787	4.340	ng	99
74) Cumene	17.05	105	337868	4.236	ng	100
75) alpha-Pinene	17.56	93	159000	4.122	ng	96
76) n-Propylbenzene	17.74	91	393350	4.240	ng	100
77) 3-Ethyltoluene	0.00	105	0	N.D.	d	
78) 4-Ethyltoluene	17.94	105	335661	4.284	ng	100
79) 1,3,5-Trimethylbenzene	18.05	105	311733	4.721	ng	100
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D.	d	
82) 1,2,4-Trimethylbenzene	18.59	105	306797	4.455	ng	99
83) n-Decane	0.00	58	0	N.D.	d	
84) Benzyl Chloride	18.75	91	488659	9.072	ng	99
85) 1,3-Dichlorobenzene	18.77	146	178851	4.584	ng	99
86) 1,4-Dichlorobenzene	18.86	146	179081	4.701	ng	99
87) sec-Butylbenzene	18.95	105	373624	4.129	ng	99
88) 4-Isopropyltoluene (p-...	19.17	119	340299	4.152	ng	99
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d	
90) 1,2-Dichlorobenzene	19.29	146	178755	4.763	ng	98
91) d-Limonene	19.36	68	80966	3.908	ng	98
92) 1,2-Dibromo-3-Chloropr...	19.85	157	135017	10.427	ng	98
93) n-Undecane	0.00	58	0	N.D.	d	
94) 1,2,4-Trichlorobenzene	21.43	180	292314	11.285	ng	100
95) Naphthalene	21.55	128	331715	4.077	ng	100
96) n-Dodecane	0.00	57	0	N.D.	d	
97) Hexachlorobutadiene	21.98	225	120001	6.553	ng	98
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.59	119	282053	4.128	ng	100
100) n-Butylbenzene	19.71	91	299622	4.229	ng	99
101) 1,1,1,2-Tetrachloroethane	14.91	131	83869	5.025	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2023_09\04\09042307.D Vial: 15
Acq On : 4 Sep 2023 23:38 Operator: WA
Sample : 5.0ng R13090423 ICAL Std Inst : MS13
Misc : S37-09012301/S37-08302301 (9/29)

Quant Time: Sep 05 12:16:50 2023
Quant Method : I:\MS13\METHODS\R13090423.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 05 12:10:00 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2023_09\04\09042308.D Vial: 15
Acq On : 5 Sep 2023 00:15 Operator: WA
Sample : 25ng R13090423 ICAL Std Inst : MS13
Misc : S37-09012301/S37-08302301 (9/29)

TR 9/6/23

Quant Time: Sep 05 12:17:27 2023
Quant Method : I:\MS13\METHODS\R13090423.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 05 12:10:00 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.34	130	134882	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	9.38	114	574976	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	14.87	54	130630	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.09	65	297926	16.628	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 133.04%#			
57) Toluene-d8 (SS2)	12.48	98	641066	8.840	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 70.72%			
73) Bromofluorobenzene (SS3)	16.85	174	291397	12.504	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.00%			
Target Compounds						Qvalue
2) Propene	3.36	42	249039	21.820	ng	100
3) Dichlorodifluoromethan...	3.44	85	888199	32.671	ng	100
4) Chloromethane	3.58	50	361683	30.888	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	3.69	135	377781	30.332	ng	100
6) Vinyl Chloride	3.77	62	429032	30.707	ng	100
7) 1,3-Butadiene	3.88	54	329238	36.616	ng	100
8) Bromomethane	4.11	94	271432	28.301	ng	100
9) Chloroethane	4.24	64	175766	21.965	ng	100
10) Ethanol	4.42	45	881687	123.649	ng	100
11) Acetonitrile	4.56	41	384030	20.712	ng	100
12) Acrolein	4.63	56	359495	57.355	ng	100
13) Acetone	4.74	58	883153	117.549	ng	100
14) Trichlorofluoromethane	4.84	101	858572	32.866	ng	100
15) 2-Propanol (Isopropanol)	4.96	45	1547125	68.840	ng	100
16) Acrylonitrile	5.11	53	643156	54.527	ng	100
17) 1,1-Dichloroethene	5.35	96	258373	21.642	ng	100
18) 2-Methyl-2-Propanol (t...	5.43	59	1897401	73.737	ng	100
19) Methylene Chloride	5.47	84	269776	20.594	ng	100
20) 3-Chloro-1-propene (Al...	5.55	41	413951	27.871	ng	100
21) Trichlorotrifluoroethane	5.66	151	319617	28.050	ng	100
22) Carbon Disulfide	5.70	76	2155390	51.805	ng	100
23) trans-1,2-Dichloroethene	6.24	61	478327	32.123	ng	100
24) 1,1-Dichloroethane	6.42	63	538034	28.780	ng	100
25) Methyl tert-Butyl Ether	6.46	73	1122269	29.959	ng	100
26) Vinyl Acetate	6.55	86	339560	171.715	ng	100
27) 2-Butanone (MEK)	6.76	72	362964	46.263	ng	100
28) cis-1,2-Dichloroethene	7.18	61	453825	31.104	ng	100
29) Diisopropyl Ether	7.37	87	485212	45.041	ng	100
30) Ethyl Acetate	7.37	61	189881	50.571	ng	100
31) n-Hexane	7.38	57	416249	24.938	ng	100
32) Chloroform	7.46	83	691149	32.956	ng	100
34) Tetrahydrofuran (THF)	7.83	72	318036	43.362	ng	100
35) Ethyl tert-Butyl Ether	7.90	87	813808	55.431	ng	100
36) 1,2-Dichloroethane	8.21	62	665050	38.232	ng	100
38) 1,1,1-Trichloroethane	8.48	97	752331	33.645	ng	100
39) Isopropyl Acetate	0.00	61	0	N.D.	d	
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	8.98	78	1183928	22.302	ng	100
42) Carbon Tetrachloride	9.15	117	739650	35.251	ng	100
43) Cyclohexane	9.29	84	857673	46.436	ng	100
44) tert-Amyl Methyl Ether	9.67	73	1965481	59.118	ng	100
45) 1,2-Dichloropropane	9.93	63	260310	25.769	ng	100
46) Bromodichloromethane	10.14	83	564281	34.251	ng	100
47) Trichloroethene	10.22	130	396421	26.943	ng	100
48) 1,4-Dioxane	10.18	88	249922	27.064	ng	100
49) 2,2,4-Trimethylpentane...	10.30	57	1065412	25.816	ng	100
50) Methyl Methacrylate	10.47	100	255453	52.592	ng	100

Data File : I:\MS13\DATA\2023_09\04\09042308.D Vial: 15
Acq On : 5 Sep 2023 00:15 Operator: WA
Sample : 25ng R13090423 ICAL Std Inst : MS13
Misc : S37-09012301/S37-08302301 (9/29)

Quant Time: Sep 05 12:17:27 2023
Quant Method : I:\MS13\METHODS\R13090423.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 05 12:10:00 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

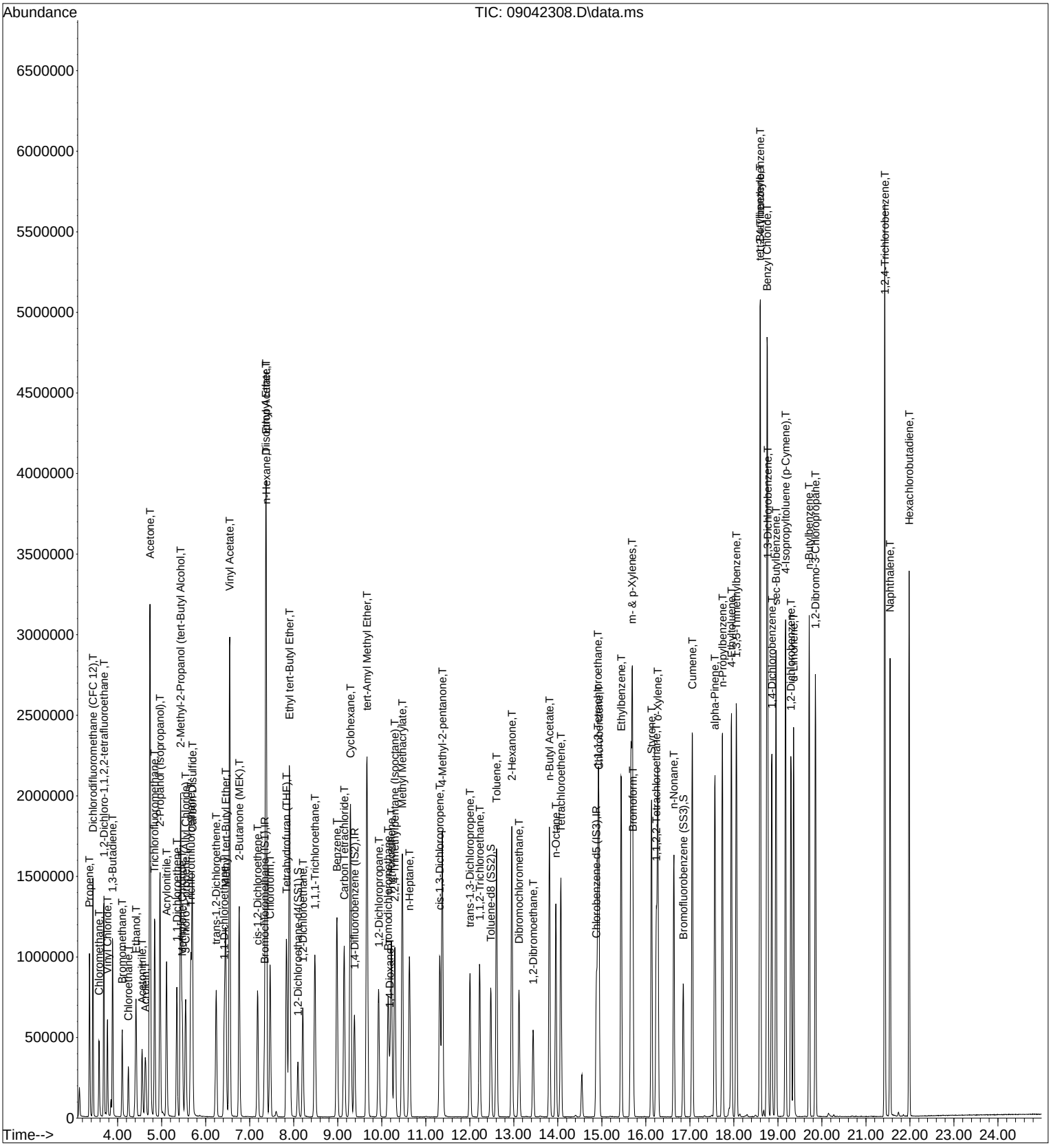
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	10.63	71	261695	21.940	ng	100
52) cis-1,3-Dichloropropene	11.32	75	615027	27.500	ng	100
53) 4-Methyl-2-pentanone	11.38	58	507889	60.750	ng	100
54) trans-1,3-Dichloropropene	12.00	75	543736	29.586	ng	100
55) 1,1,2-Trichloroethane	12.23	97	340893	29.884	ng	100
58) Toluene	12.61	91	1402166	20.138	ng	100
59) 2-Hexanone	12.96	43	1384331	48.048	ng	100
60) Dibromochloromethane	13.12	129	514913	24.133	ng	100
61) 1,2-Dibromoethane	13.44	107	421903	22.383	ng	100
62) n-Butyl Acetate	13.81	43	1498856	46.120	ng	100
63) n-Octane	13.96	57	232313	19.940	ng	100
64) Tetrachloroethene	14.07	166	490483	24.016	ng	100
65) Chlorobenzene	14.94	112	994647	19.919	ng	100
66) Ethylbenzene	15.44	91	1751634	21.441	ng	100
67) m- & p-Xylenes	15.69	91	2989086	46.158	ng	100
68) Bromoform	15.71	173	505036	31.942	ng	100
69) Styrene	16.13	104	1043286	21.685	ng	100
70) o-Xylene	16.27	91	1480034	22.571	ng	100
71) n-Nonane	16.64	43	560665	20.618	ng	100
72) 1,1,2,2-Tetrachloroethane	16.24	83	578121	21.104	ng	100
74) Cumene	17.06	105	1769517	20.110	ng	100
75) alpha-Pinene	17.57	93	886930	20.842	ng	100
76) n-Propylbenzene	17.74	91	2085705	20.383	ng	100
77) 3-Ethyltoluene	0.00	105	0	N.D.	d	
78) 4-Ethyltoluene	17.95	105	1735334	20.076	ng	100
79) 1,3,5-Trimethylbenzene	18.05	105	1630811	22.391	ng	100
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D.	d	
82) 1,2,4-Trimethylbenzene	18.60	105	1649035	21.707	ng	100
83) n-Decane	0.00	58	0	N.D.	d	
84) Benzyl Chloride	18.75	91	2824875	47.542	ng	100
85) 1,3-Dichlorobenzene	18.77	146	949315	22.055	ng	100
86) 1,4-Dichlorobenzene	18.86	146	965846	22.985	ng	100
87) sec-Butylbenzene	18.96	105	2007302	20.111	ng	100
88) 4-Isopropyltoluene (p-...	19.18	119	1797821	19.887	ng	100
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d	
90) 1,2-Dichlorobenzene	19.29	146	943895	22.799	ng	100
91) d-Limonene	19.36	68	448505	19.627	ng	100
92) 1,2-Dibromo-3-Chloropr...	19.85	157	733141	51.329	ng	100
93) n-Undecane	0.00	58	0	N.D.	d	
94) 1,2,4-Trichlorobenzene	21.43	180	1627296	56.950	ng	100
95) Naphthalene	21.55	128	2012994	22.429	ng	100
96) n-Dodecane	0.00	57	0	N.D.	d	
97) Hexachlorobutadiene	21.98	225	630789	31.226	ng	100
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.59	119	1497763	19.873	ng	100
100) n-Butylbenzene	19.71	91	1624588	20.788	ng	100
101) 1,1,1,2-Tetrachloroethane	14.91	131	429665	23.338	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2023_09\04\09042308.D Vial: 15
Acq On : 5 Sep 2023 00:15 Operator: WA
Sample : 25ng R13090423 ICAL Std Inst : MS13
Misc : S37-09012301/S37-08302301 (9/29)

Quant Time: Sep 05 12:17:27 2023
Quant Method : I:\MS13\METHODS\R13090423.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 05 12:10:00 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2023_09\04\09042309.D Vial: 15
Acq On : 5 Sep 2023 00:52 Operator: WA
Sample : 50ng R13090423 ICAL Std Inst : MS13
Misc : S37-09012301/S37-08302301 (9/29)

TZ 9/6/23

Quant Time: Sep 05 12:18:17 2023
Quant Method : I:\MS13\METHODS\R13090423.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 05 12:10:00 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.34	130	146855	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.39	114	623412	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.88	54	142710	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.11	65	322286	16.521	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 132.16%#				
57) Toluene-d8 (SS2)	12.48	98	709961	8.961	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 71.68%				
73) Bromofluorobenzene (SS3)	16.85	174	306200	12.027	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.24%				
Target Compounds							Qvalue
2) Propene	3.37	42	593060	47.727	ng		99
3) Dichlorodifluoromethan...	3.44	85	1903858	64.320	ng		99
4) Chloromethane	3.58	50	771621	60.525	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.69	135	819841	60.459	ng		100
6) Vinyl Chloride	3.78	62	985769	64.802	ng		99
7) 1,3-Butadiene	3.90	54	786536	80.343	ng		100
8) Bromomethane	4.11	94	620451	59.417	ng		100
9) Chloroethane	4.25	64	414593	47.587	ng		99
10) Ethanol	4.43	45	2128710	274.195	ng		100
11) Acetonitrile	4.57	41	938722	46.500	ng		99
12) Acrolein	4.65	56	853690	125.096	ng		99
13) Acetone	4.75	58	2058244	251.621	ng		98
14) Trichlorofluoromethane	4.85	101	1856770	65.282	ng		99
15) 2-Propanol (Isopropanol)	4.98	45	3542160	144.761	ng		96
16) Acrylonitrile	5.12	53	1535292	119.549	ng		98
17) 1,1-Dichloroethene	5.35	96	590546	45.432	ng		99
18) 2-Methyl-2-Propanol (t...	5.44	59	4048530	144.508	ng		99
19) Methylene Chloride	5.48	84	616985	43.258	ng		100
20) 3-Chloro-1-propene (Al...	5.55	41	991856	61.337	ng		98
21) Trichlorotrifluoroethane	5.67	151	697936	56.258	ng		98
22) Carbon Disulfide	5.70	76	5026870	110.970	ng		100
23) trans-1,2-Dichloroethene	6.25	61	1085438	66.953	ng		99
24) 1,1-Dichloroethane	6.43	63	1210033	59.448	ng		100
25) Methyl tert-Butyl Ether	6.46	73	2440984	59.849	ng		100
26) Vinyl Acetate	6.56	86	769383	357.354	ng	#	90
27) 2-Butanone (MEK)	6.77	72	831914	97.389	ng		98
28) cis-1,2-Dichloroethene	7.19	61	1023339	64.418	ng		98
29) Diisopropyl Ether	7.37	87	1079009	91.996	ng	#	91
30) Ethyl Acetate	7.38	61	438844	107.348	ng		99
31) n-Hexane	7.38	57	979564	53.903	ng		99
32) Chloroform	7.47	83	1514724	66.338	ng		100
34) Tetrahydrofuran (THF)	7.84	72	721322	90.329	ng		97
35) Ethyl tert-Butyl Ether	7.91	87	1786516	111.764	ng		96
36) 1,2-Dichloroethane	8.21	62	1453587	76.749	ng		99
38) 1,1,1-Trichloroethane	8.49	97	1636707	67.509	ng		99
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	8.99	78	2680160	46.564	ng		100
42) Carbon Tetrachloride	9.15	117	1590640	69.919	ng		100
43) Cyclohexane	9.30	84	1903871	95.071	ng		98
44) tert-Amyl Methyl Ether	9.67	73	4411389	122.377	ng		99
45) 1,2-Dichloropropane	9.93	63	605498	55.284	ng		98
46) Bromodichloromethane	10.15	83	1284567	71.913	ng		99
47) Trichloroethene	10.22	130	884449	55.442	ng		100
48) 1,4-Dioxane	10.20	88	578905	57.818	ng		97
49) 2,2,4-Trimethylpentane...	10.30	57	2493114	55.717	ng		98
50) Methyl Methacrylate	10.47	100	589898	112.011	ng		98

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2023_09\04\09042309.D Vial: 15
Acq On : 5 Sep 2023 00:52 Operator: WA
Sample : 50ng R13090423 ICAL Std Inst : MS13
Misc : S37-09012301/S37-08302301 (9/29)

Quant Time: Sep 05 12:18:17 2023
Quant Method : I:\MS13\METHODS\R13090423.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 05 12:10:00 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

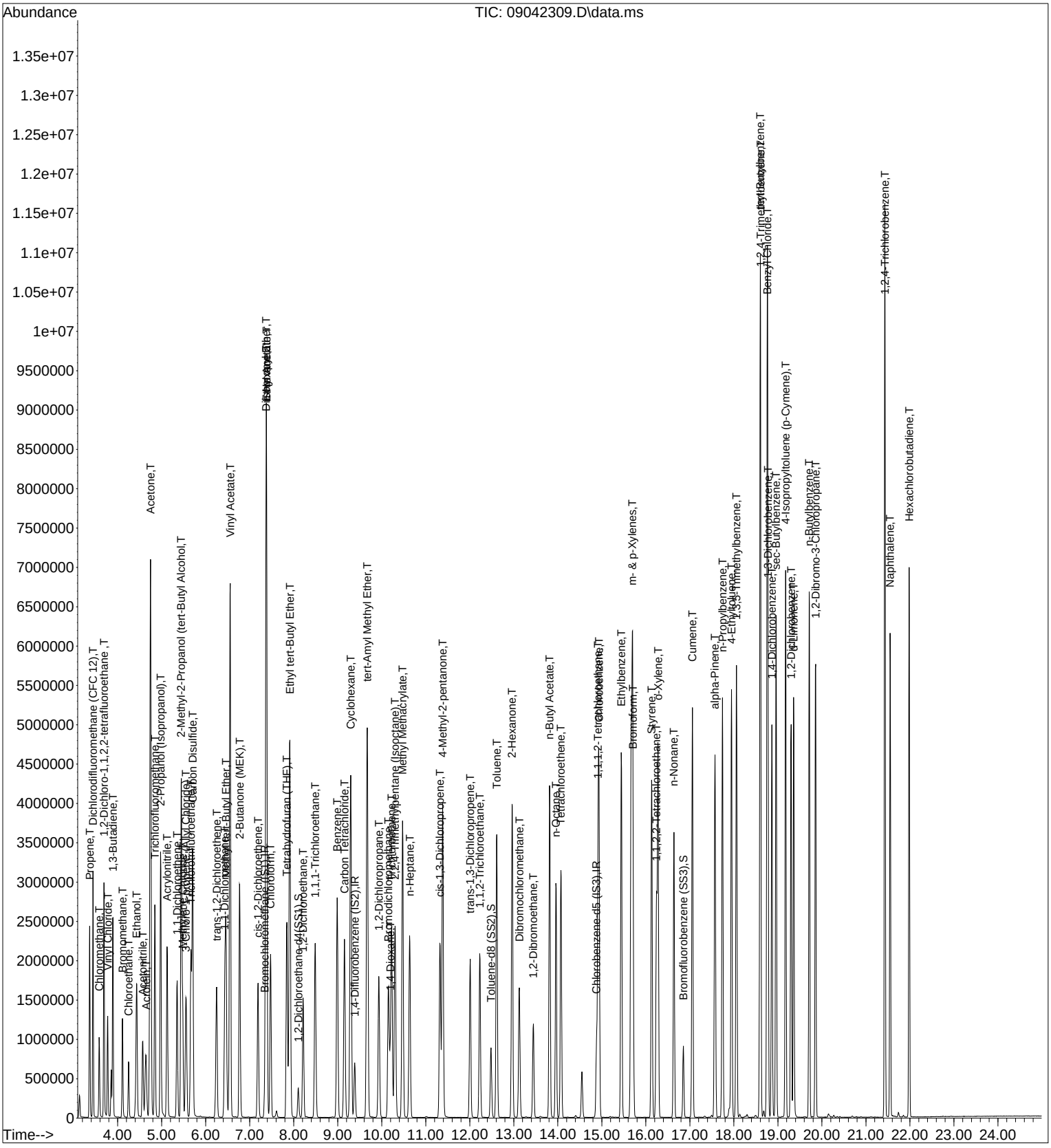
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	10.64	71	612650	47.372	ng	98
52) cis-1,3-Dichloropropene	11.32	75	1364892	56.287	ng	99
53) 4-Methyl-2-pentanone	11.38	58	1155927	127.522	ng	99
54) trans-1,3-Dichloropropene	12.01	75	1226741	61.563	ng	99
55) 1,1,2-Trichloroethane	12.23	97	751779	60.783	ng	99
58) Toluene	12.61	91	3112888	40.923	ng	100
59) 2-Hexanone	12.96	43	3161263	100.435	ng	100
60) Dibromochloromethane	13.13	129	1133320	48.620	ng	98
61) 1,2-Dibromoethane	13.44	107	943796	45.833	ng	99
62) n-Butyl Acetate	13.81	43	3520656	99.161	ng	100
63) n-Octane	13.96	57	532846	41.863	ng	99
64) Tetrachloroethene	14.07	166	1065894	47.772	ng	99
65) Chlorobenzene	14.94	112	2167451	39.731	ng	100
66) Ethylbenzene	15.44	91	3896803	43.661	ng	99
67) m- & p-Xylenes	15.69	91	6617158	93.533	ng	99
68) Bromoform	15.71	173	1096645	63.489	ng	100
69) Styrene	16.13	104	2309817	43.947	ng	100
70) o-Xylene	16.28	91	3253716	45.421	ng	100
71) n-Nonane	16.64	43	1283838	43.216	ng	99
72) 1,1,2,2-Tetrachloroethane	16.24	83	1282565	42.857	ng	100
74) Cumene	17.06	105	3855374	40.107	ng	99
75) alpha-Pinene	17.57	93	1939911	41.728	ng	99
76) n-Propylbenzene	17.74	91	4609181	41.231	ng	99
77) 3-Ethyltoluene	0.00	105	0	N.D.	d	
78) 4-Ethyltoluene	17.95	105	3838490	40.649	ng	99
79) 1,3,5-Trimethylbenzene	18.06	105	3555958	44.691	ng	100
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D.	d	
82) 1,2,4-Trimethylbenzene	18.61	105	3590523	43.263	ng	99
83) n-Decane	0.00	58	0	N.D.	d	
84) Benzyl Chloride	18.76	91	6317451	97.322	ng	99
85) 1,3-Dichlorobenzene	18.78	146	2036570	43.309	ng	100
86) 1,4-Dichlorobenzene	18.86	146	2065369	44.990	ng	99
87) sec-Butylbenzene	18.96	105	4407678	40.421	ng	99
88) 4-Isopropyltoluene (p-...	19.18	119	3971442	40.212	ng	99
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d	
90) 1,2-Dichlorobenzene	19.30	146	2052819	45.387	ng	100
91) d-Limonene	19.36	68	1018907	40.814	ng	98
92) 1,2-Dibromo-3-Chloropr...	19.86	157	1580204	101.268	ng	99
93) n-Undecane	0.00	58	0	N.D.	d	
94) 1,2,4-Trichlorobenzene	21.43	180	3424339	109.696	ng	100
95) Naphthalene	21.55	128	4318351	44.044	ng	100
96) n-Dodecane	0.00	57	0	N.D.	d	
97) Hexachlorobutadiene	21.98	225	1295196	58.689	ng	99
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.60	119	3200057	38.866	ng	99
100) n-Butylbenzene	19.71	91	3579975	41.931	ng	100
101) 1,1,1,2-Tetrachloroethane	14.91	131	934162	46.445	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2023_09\04\09042309.D Vial: 15
Acq On : 5 Sep 2023 00:52 Operator: WA
Sample : 50ng R13090423 ICAL Std Inst : MS13
Misc : S37-09012301/S37-08302301 (9/29)

Quant Time: Sep 05 12:18:17 2023
Quant Method : I:\MS13\METHODS\R13090423.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 05 12:10:00 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2023_09\04\09042310.D Vial: 15
Acq On : 5 Sep 2023 1:30 Operator: WA
Sample : 100ng R13090423 ICAL Std Inst : MS13
Misc : S37-09012301/S37-08302301 (9/29)

TR 9/6/23

Quant Time: Sep 05 12:18:57 2023
Quant Method : I:\MS13\METHODS\R13090423.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 05 12:10:00 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.36	130	164797	12.500	ng		0.02
37) 1,4-Difluorobenzene (IS2)	9.39	114	723006	12.500	ng		0.01
56) Chlorobenzene-d5 (IS3)	14.88	54	164230	12.500	ng		0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.11	65	360505	16.469	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 131.76%#				
57) Toluene-d8 (SS2)	12.49	98	801832	8.795	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 70.32%				
73) Bromofluorobenzene (SS3)	16.85	174	340095	11.608	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.88%				
Target Compounds							Qvalue
2) Propene	3.37	42	1526972	109.504	ng		98
3) Dichlorodifluoromethan...	3.45	85	4121988	124.097	ng		99
4) Chloromethane	3.59	50	1398049	97.723	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.70	135	1741674	114.455	ng		99
6) Vinyl Chloride	3.78	62	2191781	128.396	ng		100
7) 1,3-Butadiene	3.90	54	1817925	165.479	ng		97
8) Bromomethane	4.12	94	1405324	119.927	ng		99
9) Chloroethane	4.26	64	955581	97.740	ng		99
10) Ethanol	4.45	45	5043050	578.863	ng		100
11) Acetonitrile	4.59	41	2240421	98.897	ng		97
12) Acrolein	4.66	56	1974077	257.778	ng		99
13) Acetone	4.76	58	4714139	513.560	ng		89
14) Trichlorofluoromethane	4.86	101	3981682	124.750	ng		99
15) 2-Propanol (Isopropanol)	5.00	45	7669732	279.320	ng		95
16) Acrylonitrile	5.14	53	3590314	249.131	ng		99
17) 1,1-Dichloroethene	5.36	96	1312242	89.963	ng		99
18) 2-Methyl-2-Propanol (t...	5.47	59	6866326	218.403	ng		99
19) Methylene Chloride	5.49	84	1367256	85.424	ng		99
20) 3-Chloro-1-propene (Al...	5.56	41	2258240	124.447	ng		97
21) Trichlorotrifluoroethane	5.67	151	1474292	105.900	ng		95
22) Carbon Disulfide	5.71	76	11299303	222.279	ng		100
23) trans-1,2-Dichloroethene	6.26	61	2481320	136.390	ng		98
24) 1,1-Dichloroethane	6.44	63	2740008	119.959	ng		100
25) Methyl tert-Butyl Ether	6.47	73	5173724	113.040	ng		98
26) Vinyl Acetate	6.57	86	1694889	701.514	ng	#	94
27) 2-Butanone (MEK)	6.79	72	1907623	199.005	ng		93
28) cis-1,2-Dichloroethene	7.20	61	2326628	130.514	ng		98
29) Diisopropyl Ether	7.38	87	2427122	184.407	ng	#	81
30) Ethyl Acetate	7.39	61	1048065	228.461	ng		97
31) n-Hexane	7.39	57	2320830	113.805	ng		98
32) Chloroform	7.49	83	3412836	133.194	ng		100
34) Tetrahydrofuran (THF)	7.86	72	1650371	184.169	ng		94
35) Ethyl tert-Butyl Ether	7.92	87	4030549	224.697	ng		93
36) 1,2-Dichloroethane	8.23	62	3257819	153.285	ng		99
38) 1,1,1-Trichloroethane	8.50	97	3609767	128.381	ng		99
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	9.00	78	6155675	92.215	ng		100
42) Carbon Tetrachloride	9.16	117	3444197	130.540	ng		100
43) Cyclohexane	9.30	84	4349524	187.277	ng		94
44) tert-Amyl Methyl Ether	9.68	73	10087060	241.280	ng		99
45) 1,2-Dichloropropane	9.94	63	1438136	113.218	ng		99
46) Bromodichloromethane	10.16	83	2859927	138.050	ng		99
47) Trichloroethene	10.23	130	1928307	104.225	ng		100
48) 1,4-Dioxane	10.21	88	1295978	111.606	ng		95
49) 2,2,4-Trimethylpentane...	10.31	57	5770793	111.203	ng		95
50) Methyl Methacrylate	10.49	100	1303749	213.457	ng		95

Data File : I:\MS13\DATA\2023_09\04\09042310.D Vial: 15
Acq On : 5 Sep 2023 1:30 Operator: WA
Sample : 100ng R13090423 ICAL Std Inst : MS13
Misc : S37-09012301/S37-08302301 (9/29)

Quant Time: Sep 05 12:18:57 2023
Quant Method : I:\MS13\METHODS\R13090423.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 05 12:10:00 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

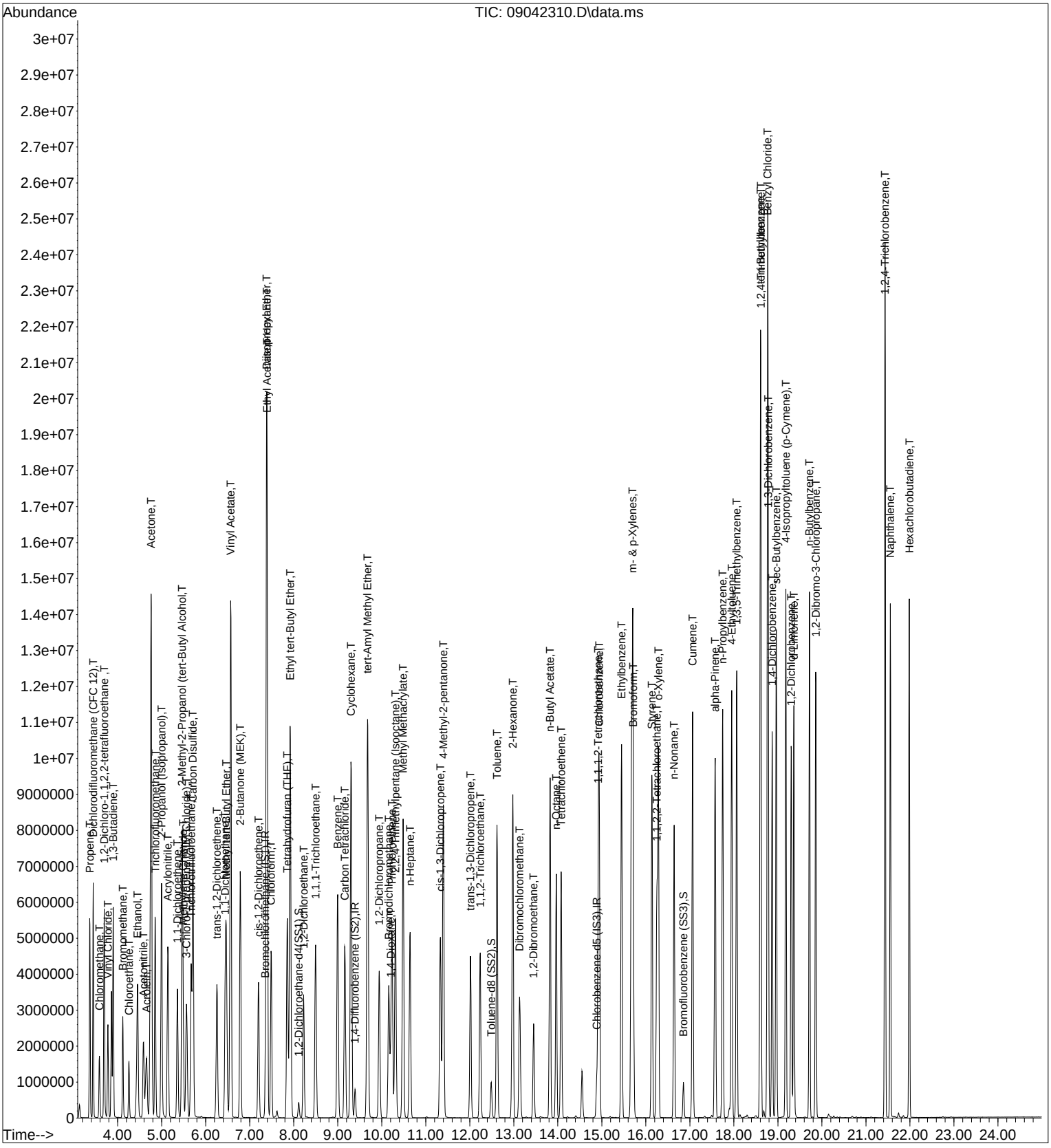
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	10.64	71	1382663	92.186	ng	97
52) cis-1,3-Dichloropropene	11.33	75	3131770	111.361	ng	99
53) 4-Methyl-2-pentanone	11.40	58	2694413	256.302	ng	98
54) trans-1,3-Dichloropropene	12.02	75	2831508	122.523	ng	100
55) 1,1,2-Trichloroethane	12.24	97	1686311	117.560	ng	97
58) Toluene	12.62	91	7023124	80.229	ng	100
59) 2-Hexanone	12.98	43	7421310	204.884	ng	99
60) Dibromochloromethane	13.13	129	2484194	92.609	ng	100
61) 1,2-Dibromoethane	13.45	107	2115530	89.274	ng	99
62) n-Butyl Acetate	13.83	43	8244674	201.786	ng	99
63) n-Octane	13.96	57	1251589	85.447	ng	96
64) Tetrachloroethene	14.08	166	2334314	90.913	ng	100
65) Chlorobenzene	14.94	112	4778745	76.120	ng	100
66) Ethylbenzene	15.45	91	8744507	85.139	ng	99
67) m- & p-Xylenes	15.70	91	14669393	180.181	ng	98
68) Bromoform	15.72	173	2338064	117.623	ng	100
69) Styrene	16.14	104	5172654	85.520	ng	99
70) o-Xylene	16.28	91	7262909	88.103	ng	100
71) n-Nonane	16.64	43	2992875	87.545	ng	98
72) 1,1,2,2-Tetrachloroethane	16.25	83	2918636	84.747	ng	100
74) Cumene	17.06	105	8536148	77.164	ng	98
75) alpha-Pinene	17.58	93	4348505	81.281	ng	99
76) n-Propylbenzene	17.75	91	10273122	79.855	ng	98
77) 3-Ethyltoluene	0.00	105	0	N.D.	d	
78) 4-Ethyltoluene	17.95	105	8520920	78.411	ng	98
79) 1,3,5-Trimethylbenzene	18.07	105	7887602	86.141	ng	99
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D.	d	
82) 1,2,4-Trimethylbenzene	18.61	105	7794160	81.608	ng	98
83) n-Decane	0.00	58	0	N.D.	d	
84) Benzyl Chloride	18.77	91	14068240	188.327	ng	98
85) 1,3-Dichlorobenzene	18.78	146	4297095	79.407	ng	100
86) 1,4-Dichlorobenzene	18.87	146	4512753	85.421	ng	100
87) sec-Butylbenzene	18.96	105	9623512	76.689	ng	99
88) 4-Isopropyltoluene (p-...	19.18	119	8527484	75.030	ng	99
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d	
90) 1,2-Dichlorobenzene	19.31	146	4398174	84.499	ng	100
91) d-Limonene	19.36	68	2288180	79.647	ng	95
92) 1,2-Dibromo-3-Chloropr...	19.86	157	3415871	190.224	ng	97
93) n-Undecane	0.00	58	0	N.D.	d	
94) 1,2,4-Trichlorobenzene	21.43	180	7327320	203.968	ng	100
95) Naphthalene	21.55	128	9906374	87.797	ng	100
96) n-Dodecane	0.00	57	0	N.D.	d	
97) Hexachlorobutadiene	21.99	225	2824287	111.206	ng	100
98) Cyclohexanone	0.00	55	0	N.D.	d	
99) tert-Butylbenzene	18.61	119	6858125	72.380	ng	99
100) n-Butylbenzene	19.72	91	7824195	79.635	ng	99
101) 1,1,1,2-Tetrachloroethane	14.92	131	2028983	87.658	ng	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2023_09\04\09042310.D Vial: 15
Acq On : 5 Sep 2023 1:30 Operator: WA
Sample : 100ng R13090423 ICAL Std Inst : MS13
Misc : S37-09012301/S37-08302301 (9/29)

Quant Time: Sep 05 12:18:57 2023
Quant Method : I:\MS13\METHODS\R13090423.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 05 12:10:00 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2023_09\04\09042314.D Vial: 1
Acq On : 5 Sep 2023 9:21 Operator: TZ
Sample : ICV R13090423 25ng Inst : MS13
Misc : S37-09012301/S37-08152301 (9/14)

TZ 9/6/23

Quant Time: Sep 06 07:35:28 2023
Quant Method : I:\MS13\METHODS\R13090423.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 06 07:33:29 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.34	130	178843	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	9.38	114	736823	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	14.88	54	163957	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.10	65	377374	12.091	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.72%				
57) Toluene-d8 (SS2)	12.48	98	832516	12.885	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.04%				
73) Bromofluorobenzene (SS3)	16.85	174	320629	11.353	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.80%				
Target Compounds							Qvalue
2) Propene	3.37	42	385839	27.061	ng		97
3) Dichlorodifluoromethan...	3.45	85	1129575	24.430	ng		99
4) Chloromethane	3.58	50	541217	28.578	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.69	135	494893	26.576	ng		99
6) Vinyl Chloride	3.77	62	591047	26.668	ng		100
7) 1,3-Butadiene	3.89	54	465392	28.185	ng		98
8) Bromomethane	4.11	94	393180	27.410	ng		100
9) Chloroethane	4.25	64	249972	27.791	ng		99
10) Ethanol	4.42	45	1386827	126.988	ng		99
11) Acetonitrile	4.56	41	614234	26.548	ng		98
12) Acrolein	4.63	56	528649	59.635	ng		100
13) Acetone	4.74	58	1281109	122.648	ng		93
14) Trichlorofluoromethane	4.85	101	1040179	22.762	ng		99
15) 2-Propanol (Isopropanol)	4.97	45	2299014	55.697	ng		95
16) Acrylonitrile	5.12	53	972019	56.523	ng		97
17) 1,1-Dichloroethene	5.35	96	411471	27.246	ng		98
18) 2-Methyl-2-Propanol (t...	5.44	59	2580116	56.280	ng		99
19) Methylene Chloride	5.47	84	411952	24.604	ng		98
20) 3-Chloro-1-propene (Al...	5.55	41	550058	26.003	ng		98
21) Trichlorotrifluoroethane	5.67	151	463485	23.992	ng		95
22) Carbon Disulfide	5.70	76	3068182	50.831	ng		100
23) trans-1,2-Dichloroethene	6.25	61	669219	27.659	ng		98
24) 1,1-Dichloroethane	6.43	63	767657	27.070	ng		99
25) Methyl tert-Butyl Ether	6.46	73	1468599	27.242	ng		99
26) Vinyl Acetate	6.55	86	468388	149.325	ng	#	91
27) 2-Butanone (MEK)	6.77	72	498852	53.853	ng		96
28) cis-1,2-Dichloroethene	7.18	61	629703	26.741	ng		98
29) Diisopropyl Ether	7.37	87	647030	51.353	ng	#	90
30) Ethyl Acetate	7.38	61	269342	55.612	ng		97
31) n-Hexane	7.38	57	606613	27.417	ng		98
32) Chloroform	7.47	83	904249	25.900	ng		100
34) Tetrahydrofuran (THF)	7.84	72	460985	48.823	ng		94
35) Ethyl tert-Butyl Ether	7.91	87	1067014	53.138	ng		94
36) 1,2-Dichloroethane	8.21	62	839708	24.321	ng		100
38) 1,1,1-Trichloroethane	8.49	97	920500	24.025	ng		99
39) Isopropyl Acetate	9.66	61	1835	No Calib	#		
40) 1-Butanol	8.90	56	758	No Calib	#		
41) Benzene	8.98	78	1575396	25.544	ng		100
42) Carbon Tetrachloride	9.15	117	875337	23.190	ng		100
43) Cyclohexane	9.29	84	1160622	55.727	ng		96
44) tert-Amyl Methyl Ether	9.67	73	2574830	54.848	ng		99
45) 1,2-Dichloropropane	9.93	63	369846	28.887	ng		98
46) Bromodichloromethane	10.15	83	745870	26.346	ng		100
47) Trichloroethene	10.22	130	503782	24.253	ng		100
48) 1,4-Dioxane	10.19	88	347010	28.454	ng		95
49) 2,2,4-Trimethylpentane...	10.30	57	1511630	29.066	ng		94
50) Methyl Methacrylate	10.47	100	343399	57.047	ng		97

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2023_09\04\09042314.D Vial: 1
Acq On : 5 Sep 2023 9:21 Operator: TZ
Sample : ICV R13090423 25ng Inst : MS13
Misc : S37-09012301/S37-08152301 (9/14)

Quant Time: Sep 06 07:35:28 2023
Quant Method : I:\MS13\METHODS\R13090423.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 06 07:33:29 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

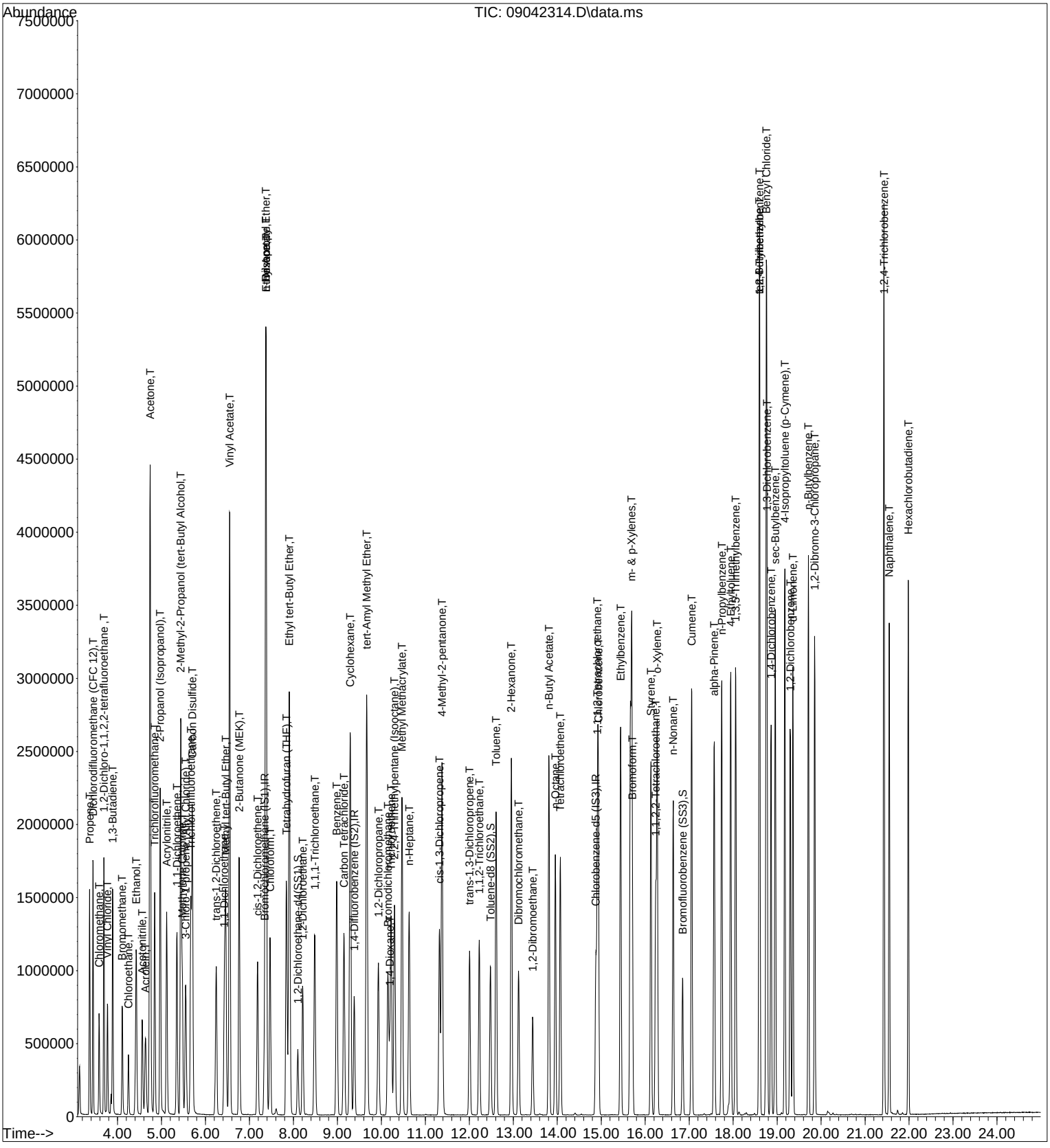
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.63	71	375319	29.091	ng		98
52) cis-1,3-Dichloropropene	11.32	75	792035	25.817	ng		99
53) 4-Methyl-2-pentanone	11.38	58	713700	59.412	ng		98
54) trans-1,3-Dichloropropene	12.00	75	696849	26.126	ng		100
55) 1,1,2-Trichloroethane	12.23	97	435522	26.670	ng		97
58) Toluene	12.61	91	1788957	26.659	ng		100
59) 2-Hexanone	12.96	43	1938498	60.413	ng		99
60) Dibromochloromethane	13.12	129	653259	25.652	ng		99
61) 1,2-Dibromoethane	13.44	107	537621	26.740	ng		98
62) n-Butyl Acetate	13.81	43	2090870	61.098	ng		99
63) n-Octane	13.96	57	327774	29.190	ng		96
64) Tetrachloroethene	14.07	166	596800	24.366	ng		99
65) Chlorobenzene	14.94	112	1238423	25.765	ng		100
66) Ethylbenzene	15.44	91	2199736	27.748	ng		99
67) m- & p-Xylenes	15.69	91	3662518	53.529	ng		100
68) Bromoform	15.71	173	624487	27.324	ng		100
69) Styrene	16.13	104	1300404	29.147	ng		100
70) o-Xylene	16.27	91	1819597	27.080	ng		99
71) n-Nonane	16.64	43	779319	29.884	ng		99
72) 1,1,2,2-Tetrachloroethane	16.24	83	751923	27.779	ng		100
74) Cumene	17.06	105	2212250	26.065	ng		99
75) alpha-Pinene	17.57	93	1101324	28.077	ng		98
76) n-Propylbenzene	17.74	91	2654066	26.485	ng		99
77) 3-Ethyltoluene	17.06	105	2212250	No Calib			
78) 4-Ethyltoluene	17.95	105	2198380	27.016	ng		99
79) 1,3,5-Trimethylbenzene	18.05	105	1931494	26.073	ng		100
80) alpha-Methylstyrene	17.06	118	4095	No Calib		#	
81) 2-Ethyltoluene	17.06	105	2212250	No Calib			
82) 1,2,4-Trimethylbenzene	18.60	105	1959919	26.081	ng		100
83) n-Decane	17.07	58	12758	No Calib			
84) Benzyl Chloride	18.75	91	3522569	61.217	ng		99
85) 1,3-Dichlorobenzene	18.77	146	1102330	24.867	ng		99
86) 1,4-Dichlorobenzene	18.86	146	1118294	25.429	ng		100
87) sec-Butylbenzene	18.96	105	2458598	26.111	ng		99
88) 4-Isopropyltoluene (p-...	19.18	119	2169819	25.856	ng		99
89) 1,2,3-Trimethylbenzene	17.06	105	2212250	No Calib			
90) 1,2-Dichlorobenzene	19.30	146	1104629	24.587	ng		99
91) d-Limonene	19.36	68	601585	29.356	ng		95
92) 1,2-Dibromo-3-Chloropr...	19.85	157	881774	54.403	ng		99
93) n-Undecane	17.93	58	26748	No Calib		#	
94) 1,2,4-Trichlorobenzene	21.43	180	1807335	54.677	ng		99
95) Naphthalene	21.55	128	2358563	27.058	ng		100
96) n-Dodecane	18.96	57	12735	No Calib		#	
97) Hexachlorobutadiene	21.98	225	667529	20.459	ng		100
98) Cyclohexanone	0.00	55	0	N.D.			
99) tert-Butylbenzene	18.59	119	1809314	25.964	ng		100
100) n-Butylbenzene	19.71	91	2010234	26.505	ng		100
101) 1,1,1,2-Tetrachloroethane	14.91	131	534392	25.665	ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2023_09\04\09042314.D Vial: 1
Acq On : 5 Sep 2023 9:21 Operator: TZ
Sample : ICV R13090423 25ng Inst : MS13
Misc : S37-09012301/S37-08152301 (9/14)

Quant Time: Sep 06 07:35:28 2023
Quant Method : I:\MS13\METHODS\R13090423.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 06 07:33:29 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M



ALS Environmental

LCS Acceptance Criteria

TZ 9/19/23

ICV R13090423 25ng

	RT
Bromochloromethane (IS1)	7.34
1,4-Difluorobenzene (IS2)	9.38
Chlorobenzene-d5 (IS3)	14.88

Datafile: 09042314.D
Instrument: MS-13
Date: 9/5/2023

CAS No	Analyte	Amount Found	Spike Amount	% REC	ALS LCS Limits	ALS Pass/Fail	70-130 LCS Limits	70-130 Pass/Fail	DOD LCS Limits	DOD Pass/Fail
115-07-1	Propene	27.061	26.5	102	56-128	ok	70-130	ok	57-136	ok
75-71-8	Dichlorodifluoromethane	24.430	26.5	92	71-112	ok	70-130	ok	59-128	ok
74-87-3	Chloromethane	28.578	26.3	109	53-126	ok	70-130	ok	59-132	ok
76-14-2	Freon 114	26.576	26.8	99	62-121	ok	70-130	ok	63-121	ok
75-01-4	Vinyl Chloride	26.668	26.3	101	63-123	ok	70-130	ok	64-127	ok
106-99-0	1,3-Butadiene	28.252	26.3	107	63-135	ok	70-130	ok	66-134	ok
74-83-9	Bromomethane	27.410	26.3	104	71-112	ok	70-130	ok	63-134	ok
75-00-3	Chloroethane	27.791	26.5	105	66-117	ok	70-130	ok	63-127	ok
64-17-5	Ethanol	126.988	138	92	57-117	ok	70-130	ok	59-125	ok
75-05-8	Acetonitrile	26.548	26.8	99	59-131	ok	70-130	ok	63-132	ok
107-02-8	Acrolein	59.635	55.0	108	71-123	ok	70-130	ok	62-126	ok
67-64-1	Acetone	122.648	133	92	60-117	ok	70-130	ok	58-128	ok
75-69-4	Trichlorofluoromethane	22.762	26.3	87	71-114	ok	70-130	ok	62-126	ok
67-63-0	Isopropanol	52.273	51.8	101	61-124	ok	70-130	ok	52-125	ok
107-13-1	Acrylonitrile	56.523	52.3	108	65-130	ok	70-130	ok	71-137	ok
75-35-4	1,1-Dichloroethene	27.246	25.5	107	74-114	ok	70-130	ok	61-133	ok
75-65-0	tert-Butanol	56.280	51.0	110	56-135	ok	70-130	ok	24-150	ok
75-09-2	Methylene Chloride	24.604	25.5	96	75-112	ok	70-130	ok	62-115	ok
107-05-1	Allyl Chloride	26.003	26.5	98	57-127	ok	70-130	ok	71-131	ok
76-13-1	Trichlorotrifluoroethane	23.992	26.3	91	73-114	ok	70-130	ok	66-126	ok
75-15-0	Carbon Disulfide	50.831	53.8	94	70-113	ok	70-130	ok	57-134	ok
156-60-5	trans-1,2-Dichloroethene	27.659	27.0	102	76-119	ok	70-130	ok	67-124	ok
75-34-3	1,1-Dichloroethane	27.070	27.0	100	70-114	ok	70-130	ok	68-126	ok
1634-04-4	Methyl tert-Butyl Ether	27.242	27.0	101	72-118	ok	70-130	ok	66-126	ok
108-05-4	Vinyl Acetate	149.311	138	108	56-137	ok	70-130	ok	56-139	ok
78-93-3	2-Butanone	53.853	51.8	104	74-121	ok	70-130	ok	67-130	ok
156-59-2	cis-1,2-Dichloroethene	26.741	26.8	100	73-117	ok	70-130	ok	70-121	ok
108-20-3	Diisopropyl Ether	51.353	53.3	96	58-124	ok	70-130	ok	70-117	ok
141-78-6	Ethyl Acetate	55.612	49.8	112	59-161	ok	70-130	ok	65-128	ok
110-54-3	n-Hexane	27.417	26.5	103	55-130	ok	70-130	ok	63-120	ok
67-66-3	Chloroform	25.900	27.0	96	71-114	ok	70-130	ok	68-123	ok
109-99-9	Tetrahydrofuran	48.823	50.3	97	73-114	ok	70-130	ok	64-123	ok
637-92-3	Ethyl tert-Butyl Ether	53.138	53.3	100	76-119	ok	70-130	ok	61-130	ok
107-06-2	1,2-Dichloroethane	24.321	25.5	95	71-119	ok	70-130	ok	65-128	ok
71-55-6	1,1,1-Trichloroethane	24.025	26.3	91	73-119	ok	70-130	ok	68-125	ok
108-21-4	Isopropyl Acetate	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	65-129	#N/A
71-36-3	1-Butanol	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	62-133	#N/A
71-43-2	Benzene	25.544	25.5	100	72-113	ok	70-130	ok	69-119	ok
56-23-5	Carbon Tetrachloride	23.190	26.3	88	67-123	ok	70-130	ok	68-132	ok
110-82-7	Cyclohexane	55.727	53.3	105	70-119	ok	70-130	ok	70-117	ok
994-05-8	tert-Amyl Methyl Ether	54.848	53.3	103	74-120	ok	70-130	ok	62-133	ok
78-87-5	1,2-Dichloropropane	28.887	26.8	108	70-118	ok	70-130	ok	69-123	ok
75-27-4	Bromodichloromethane	26.346	27.0	98	74-119	ok	70-130	ok	72-128	ok
79-01-6	Trichloroethene	24.253	26.5	92	74-115	ok	70-130	ok	71-123	ok
123-91-1	1,4-Dioxane	28.454	26.5	107	77-124	ok	70-130	ok	71-122	ok
540-84-1	Isooctane	29.066	26.8	108	65-120	ok	70-130	ok	68-121	ok
80-62-6	Methyl Methacrylate	57.047	53.5	107	78-126	ok	70-130	ok	70-128	ok
142-82-5	n-Heptane	29.091	26.8	109	70-119	ok	70-130	ok	69-123	ok
10061-01-5	cis-1,3-Dichloropropene	25.817	26.5	97	81-126	ok	70-130	ok	70-128	ok
108-10-1	4-Methyl-2-pentanone	59.412	53.3	111	73-129	ok	70-130	ok	67-130	ok

ALS Environmental

LCS Acceptance Criteria

ICV R13090423 25ng

	RT
Bromochloromethane (IS1)	7.34
1,4-Difluorobenzene (IS2)	9.38
Chlorobenzene-d5 (IS3)	14.88

Datafile: 09042314.D
Instrument: MS-13
Date: 9/5/2023

CAS No	Analyte	Amount Found	Spike Amount	% REC	ALS LCS Limits	ALS Pass/Fail	70-130 LCS Limits	70-130 Pass/Fail	DOD LCS Limits	DOD Pass/Fail
10061-02-6	trans-1,3-Dichloropropene	26.126	24.5	107	80-127	ok	70-130	ok	75-133	ok
79-00-5	1,1,2-Trichloroethane	26.670	27.0	99	78-117	ok	70-130	ok	73-119	ok
108-88-3	Toluene	26.659	26.8	99	70-118	ok	70-130	ok	66-119	ok
591-78-6	2-Hexanone	60.413	53.3	113	74-132	ok	70-130	ok	62-128	ok
124-48-1	Dibromochloromethane	25.652	26.8	96	69-137	ok	70-130	ok	70-130	ok
106-93-4	1,2-Dibromoethane	26.740	25.5	105	76-128	ok	70-130	ok	74-122	ok
123-86-4	Butyl Acetate	61.098	53.0	115	75-134	ok	70-130	ok	65-134	ok
111-65-9	n-Octane	29.190	26.5	110	68-120	ok	70-130	ok	69-121	ok
127-18-4	Tetrachloroethene	24.366	26.8	91	63-130	ok	70-130	ok	66-124	ok
108-90-7	Chlorobenzene	25.765	27.0	95	70-118	ok	70-130	ok	70-119	ok
100-41-4	Ethylbenzene	27.748	27.3	102	71-123	ok	70-130	ok	70-124	ok
179601-23-1	m- & p-Xylene	53.529	53.8	99	67-127	ok	70-130	ok	61-134	ok
75-25-2	Bromoform	27.324	27.3	100	65-149	ok	70-130	ok	66-139	ok
100-42-5	Styrene	29.147	26.8	109	76-132	ok	70-130	ok	73-127	ok
95-47-6	o-Xylene	27.080	27.0	100	69-124	ok	70-130	ok	67-125	ok
111-84-2	n-Nonane	29.884	26.8	112	64-127	ok	70-130	ok	63-128	ok
79-34-5	1,1,2,2-Tetrachloroethane	27.779	27.0	103	69-128	ok	70-130	ok	65-127	ok
98-82-8	Cumene	26.065	26.5	98	69-125	ok	70-130	ok	68-124	ok
80-56-8	alpha-Pinene	28.077	27.0	104	68-129	ok	70-130	ok	62-136	ok
103-65-1	n-Propylbenzene	26.485	26.5	100	70-127	ok	70-130	ok	69-123	ok
620-14-4	3-Ethyltoluene	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	62-123	#N/A
622-96-8	4-Ethyltoluene	27.016	27.3	99	69-127	ok	70-130	ok	67-129	ok
108-67-8	1,3,5-Trimethylbenzene	26.073	27.0	97	66-129	ok	70-130	ok	67-130	ok
98-83-9	alpha-Methylstyrene	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	67-128	#N/A
611-14-3	2-Ethyltoluene	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	66-121	#N/A
95-63-6	1,2,4-Trimethylbenzene	26.081	26.5	98	63-142	ok	70-130	ok	66-132	ok
124-18-5	n-Decane	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	70-118	#N/A
100-44-7	Benzyl Chloride	61.217	53.5	114	73-145	ok	70-130	ok	50-147	ok
541-73-1	1,3-Dichlorobenzene	24.867	26.8	93	67-136	ok	70-130	ok	65-130	ok
106-46-7	1,4-Dichlorobenzene	25.429	26.8	95	63-134	ok	70-130	ok	60-131	ok
135-98-8	sec-Butylbenzene	26.111	26.3	99	68-130	ok	70-130	ok	68-125	ok
99-87-6	p-Isopropyltoluene	25.856	26.3	98	60-139	ok	70-130	ok	67-130	ok
526-73-8	1,2,3-Trimethylbenzene	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	60-134	#N/A
95-50-1	1,2-Dichlorobenzene	24.587	26.5	93	64-139	ok	70-130	ok	63-129	ok
5989-27-5	d-Limonene	29.356	26.0	113	63-137	ok	70-130	ok	65-136	ok
96-12-8	1,2-Dibromo-3-Chloropropane	54.403	52.0	105	72-145	ok	70-130	ok	73-133	ok
1120-21-4	n-Undecane	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	69-123	#N/A
120-82-1	1,2,4-Trichlorobenzene	54.677	55.0	99	62-154	ok	70-130	ok	55-142	ok
91-20-3	Naphthalene	27.058	27.5	98	62-156	ok	70-130	ok	57-138	ok
112-40-3	n-Dodecane	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	62-147	#N/A
87-68-3	Hexachloro-1,3-butadiene	20.459	27.3	75	55-142	ok	70-130	ok	56-138	ok
108-94-1	Cyclohexanone	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	61-132	#N/A
98-06-6	tert-Butylbenzene	25.964	26.5	98	61-140	ok	70-130	ok	65-124	ok
104-51-8	n-Butylbenzene	26.505	26.0	102	70-131	ok	70-130	ok	66-130	ok

Evaluate Continuing Calibration Report

Data File : I:\MS13\DATA\2023_09\19\09192301.D Vial: 1
Acq On : 19 Sep 2023 1:54 Operator: TZ
Sample : CCV R13091923 25ng Inst : MS13
Misc : S37-09012301/S37-09142302 (10/14)

TZ 9/19/23

Quant Time: Sep 19 07:42:49 2023
Quant Method : I:\MS13\METHODS\R13090423A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Sep 16 07:16:40 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	109	-0.02
2	T	Propene	0.997	1.230	-23.4	152	0.00
3	T	Dichlorodifluoromethane (CF	3.232	3.125	3.3	107	0.00
4	T	Chloromethane	1.324	1.532	-15.7	133	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.302	1.139	12.5	96	0.00
6	T	Vinyl Chloride	1.549	1.560	-0.7	113	-0.01
7	T	1,3-Butadiene	1.151	1.203	-4.5	114	-0.01
8	T	Bromomethane	1.003	1.081	-7.8	119	-0.01
9	T	Chloroethane	0.629	0.771	-22.6	142	-0.01
10	T	Ethanol	0.763	0.905	-18.6	148	-0.03
11	T	Acetonitrile	1.617	2.209	-36.6#	162	-0.03
12	T	Acrolein	0.620	0.827	-33.4#	145	-0.02
13	T	Acetone	0.730	0.792	-8.5	135	-0.02
14	T	Trichlorofluoromethane	3.194	3.019	5.5	104	-0.01
15	T	2-Propanol (Isopropanol)	3.074	3.719	-21.0	140	-0.03
16	T	Acrylonitrile	1.202	1.601	-33.2#	146	-0.03
17	T	1,1-Dichloroethene	1.056	1.184	-12.1	121	-0.01
18	T	2-Methyl-2-Propanol (tert-B	3.204	3.848	-20.1	124	-0.03
19	T	Methylene Chloride	1.170	1.263	-7.9	125	-0.02
20	T	3-Chloro-1-propene (Allyl C	1.479	1.885	-27.5	144	-0.02
21	T	Trichlorotrifluoroethane	1.350	1.264	6.4	104	0.00
22	T	Carbon Disulfide	4.219	4.543	-7.7	128	-0.01
23	T	trans-1,2-Dichloroethene	1.691	1.904	-12.6	123	-0.02
24	T	1,1-Dichloroethane	1.982	2.259	-14.0	127	-0.02
25	T	Methyl tert-Butyl Ether	3.768	4.176	-10.8	117	-0.01
26	T	Vinyl Acetate	0.219	0.245	-11.9	114	-0.02
27	T	2-Butanone (MEK)	0.647	0.713	-10.2	117	-0.02
28	T	cis-1,2-Dichloroethene	1.646	1.759	-6.9	117	-0.02
29	T	Diisopropyl Ether	0.881	0.870	1.2	111	-0.02
30	T	Ethyl Acetate	0.339	0.407	-20.1	123	-0.02
31	T	n-Hexane	1.546	1.718	-11.1	127	-0.01
32	T	Chloroform	2.440	2.469	-1.2	112	-0.02
33	S	1,2-Dichloroethane-d4(SS1)	2.181	2.246	-3.0	111	-0.01
34	T	Tetrahydrofuran (THF)	0.660	0.697	-5.6	122	-0.02
35	T	Ethyl tert-Butyl Ether	1.403	1.479	-5.4	113	-0.01
36	T	1,2-Dichloroethane	2.413	2.440	-1.1	110	-0.02
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	117	-0.01
38	T	1,1,1-Trichloroethane	0.650	0.566	12.9	104	-0.02
39	T	Isopropyl Acetate	0.000	0.000	0.0	0#	0.00
40	T	1-Butanol	0.000	0.000	0.0	0#	0.00
41	T	Benzene	1.046	1.068	-2.1	124	-0.02
42	T	Carbon Tetrachloride	0.640	0.536	16.2	100	-0.01
43	T	Cyclohexane	0.353	0.381	-7.9	120	-0.01
44	T	tert-Amyl Methyl Ether	0.796	0.826	-3.8	119	-0.01
45	T	1,2-Dichloropropane	0.217	0.247	-13.8	138	-0.02
46	T	Bromodichloromethane	0.480	0.455	5.2	115	-0.02
47	T	Trichloroethene	0.352	0.316	10.2	110	-0.01
48	T	1,4-Dioxane	0.207	0.216	-4.3	121	-0.02
49	T	2,2,4-Trimethylpentane (Iso	0.882	1.017	-15.3	137	-0.02
50	T	Methyl Methacrylate	0.102	0.108	-5.9	120	-0.02
51	T	n-Heptane	0.219	0.245	-11.9	132	-0.01
52	T	cis-1,3-Dichloropropene	0.520	0.557	-7.1	119	-0.01
53	T	4-Methyl-2-pentanone	0.204	0.239	-17.2	133	-0.02
54	T	trans-1,3-Dichloropropene	0.452	0.482	-6.6	117	-0.01
55	T	1,1,2-Trichloroethane	0.277	0.269	2.9	116	-0.01

Data File : I:\MS13\DATA\2023_09\19\09192301.D Vial: 1
Acq On : 19 Sep 2023 1:54 Operator: TZ
Sample : CCV R13091923 25ng Inst : MS13
Misc : S37-09012301/S37-09142302 (10/14)

Quant Time: Sep 19 07:42:49 2023
Quant Method : I:\MS13\METHODS\R13090423A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Sep 16 07:16:40 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	117	0.00
57	S	Toluene-d8 (SS2)	4.926	4.842	1.7	116	-0.01
58	T	Toluene	5.116	4.746	7.2	112	-0.01
59	T	2-Hexanone	2.446	2.873	-17.5	130	-0.02
60	T	Dibromochloromethane	1.942	1.723	11.3	105	-0.01
61	T	1,2-Dibromoethane	1.533	1.480	3.5	111	-0.01
62	T	n-Butyl Acetate	2.609	3.140	-20.4	134	-0.02
63	T	n-Octane	0.856	0.946	-10.5	132	0.00
64	T	Tetrachloroethene	1.867	1.543	17.4	103	0.00
65	T	Chlorobenzene	3.665	3.289	10.3	109	0.00
66	T	Ethylbenzene	6.044	5.829	3.6	111	0.00
67	T	m- & p-Xylenes	5.216	4.922	5.6	108	-0.01
68	T	Bromoform	1.742	1.501	13.8	99	0.00
69	T	Styrene	3.401	3.489	-2.6	109	0.00
70	T	o-Xylene	5.123	4.823	5.9	108	-0.01
71	T	n-Nonane	1.988	2.391	-20.3	136	0.00
72	T	1,1,2,2-Tetrachloroethane	2.064	2.094	-1.5	120	-0.01
73	S	Bromofluorobenzene (SS3)	2.153	1.725	19.9	91	0.00
74	T	Cumene	6.471	5.851	9.6	106	-0.01
75	T	alpha-Pinene	2.991	3.002	-0.4	111	0.00
76	T	n-Propylbenzene	7.640	7.194	5.8	109	0.00
77	T	3-Ethyltoluene	0.000	0.000	0.0	0#	0.00
78	T	4-Ethyltoluene	6.204	5.834	6.0	106	0.00
79	T	1,3,5-Trimethylbenzene	5.648	5.050	10.6	103	-0.01
80	T	alpha-Methylstyrene	0.000	0.000	0.0	0#	0.01
81	T	2-Ethyltoluene	0.000	0.000	0.0	0#	0.00
82	T	1,2,4-Trimethylbenzene	5.729	5.265	8.1	102	-0.01
83	T	n-Decane	0.000	0.000	0.0	0#	0.00
84	T	Benzyl Chloride	4.387	4.527	-3.2	102	-0.01
85	T	1,3-Dichlorobenzene	3.380	2.971	12.1	99	-0.01
86	T	1,4-Dichlorobenzene	3.353	2.962	11.7	98	0.00
87	T	sec-Butylbenzene	7.179	6.648	7.4	105	0.00
88	T	4-Isopropyltoluene (p-Cymen	6.398	5.827	8.9	101	0.00
89	T	1,2,3-Trimethylbenzene	0.000	0.000	0.0	0#	0.00
90	T	1,2-Dichlorobenzene	3.425	2.941	14.1	99	-0.01
91	T	d-Limonene	1.562	1.721	-10.2	118	0.00
92	T	1,2-Dibromo-3-Chloropropane	1.236	1.108	10.4	96	-0.01
93	T	n-Undecane	0.000	0.000	0.0	0#	0.00
94	T	1,2,4-Trichlorobenzene	2.520	2.141	15.0	86	0.00
95	T	Naphthalene	6.646	5.695	14.3	88	0.00
96	T	n-Dodecane	0.000	0.000	0.0	0#	0.00
97	T	Hexachlorobutadiene	2.488	1.755	29.5	86	0.00
98	T	Cyclohexanone	0.000	0.000	0.0	0#	-15.22#
99	T	tert-Butylbenzene	5.313	4.700	11.5	100	-0.01
100	T	n-Butylbenzene	5.782	5.557	3.9	105	0.00
101	T	1,1,1,2-Tetrachloroethane	1.587	1.373	13.5	105	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2023_09\19\09192301.D Vial: 1
Acq On : 19 Sep 2023 1:54 Operator: TZ
Sample : CCV R13091923 25ng Inst : MS13
Misc : S37-09012301/S37-09142302 (10/14)

TZ 9/19/23

Quant Time: Sep 19 07:42:49 2023
Quant Method : I:\MS13\METHODS\R13090423A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Sep 16 07:16:40 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.34	130	146788	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	9.38	114	672635	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	14.88	54	153484	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.10	65	329683	12.870	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.96%				
57) Toluene-d8 (SS2)	12.48	98	743168	12.287	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.32%				
73) Bromofluorobenzene (SS3)	16.85	174	264697	10.012	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 80.08%				
Target Compounds							Qvalue
2) Propene	3.37	42	379256	32.408	ng		96
3) Dichlorodifluoromethan...	3.45	85	954072	25.140	ng		100
4) Chloromethane	3.58	50	481353	30.967	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	3.69	135	364484	23.847	ng		98
6) Vinyl Chloride	3.77	62	485522	26.691	ng		100
7) 1,3-Butadiene	3.89	54	374499	27.699	ng		94
8) Bromomethane	4.11	94	323727	27.497	ng		98
9) Chloroethane	4.25	64	248941	33.720	ng		99
10) Ethanol	4.42	45	1304080	145.488	ng		99
11) Acetonitrile	4.56	41	622516	32.781	ng		98
12) Acrolein	4.63	56	522303	71.786	ng		97
13) Acetone	4.74	58	1188427	138.621	ng		91
14) Trichlorofluoromethane	4.85	101	895209	23.868	ng		99
15) 2-Propanol (Isopropanol)	4.96	45	2161891	59.890	ng		93
16) Acrylonitrile	5.11	53	940049	66.601	ng		97
17) 1,1-Dichloroethene	5.35	96	312875	25.241	ng		95
18) 2-Methyl-2-Propanol (t...	5.44	59	2350038	62.456	ng		98
19) Methylene Chloride	5.47	84	337395	24.551	ng		92
20) 3-Chloro-1-propene (Al...	5.55	41	597710	34.426	ng		92
21) Trichlorotrifluoroethane	5.67	151	333992	21.065	ng		89
22) Carbon Disulfide	5.70	76	2760530	55.722	ng		100
23) trans-1,2-Dichloroethene	6.24	61	586845	29.551	ng		95
24) 1,1-Dichloroethane	6.43	63	683051	29.346	ng		99
25) Methyl tert-Butyl Ether	6.46	73	1311720	29.645	ng		96
26) Vinyl Acetate	6.55	86	386768	150.216	ng	#	67
27) 2-Butanone (MEK)	6.76	72	424730	55.864	ng	#	83
28) cis-1,2-Dichloroethene	7.18	61	531755	27.512	ng		94
29) Diisopropyl Ether	7.37	87	536355	51.865	ng	#	73
30) Ethyl Acetate	7.38	61	234239	58.925	ng		94
31) n-Hexane	7.38	57	529491	29.158	ng		97
32) Chloroform	7.47	83	775678	27.069	ng		100
34) Tetrahydrofuran (THF)	7.84	72	386684	49.897	ng	#	87
35) Ethyl tert-Butyl Ether	7.91	87	916447	55.606	ng		89
36) 1,2-Dichloroethane	8.21	62	730593	25.781	ng		100
38) 1,1,1-Trichloroethane	8.48	97	784484	22.429	ng		98
39) Isopropyl Acetate	9.65	61	1552	No Calib		#	
40) 1-Butanol	8.89	56	2391	No Calib		#	
41) Benzene	8.98	78	1465268	26.025	ng		100
42) Carbon Tetrachloride	9.15	117	742821	21.557	ng		100
43) Cyclohexane	9.29	84	1030738	54.214	ng		90
44) tert-Amyl Methyl Ether	9.67	73	2343808	54.691	ng		99
45) 1,2-Dichloropropane	9.93	63	359501	30.759	ng		98
46) Bromodichloromethane	10.14	83	648176	25.080	ng		99
47) Trichloroethene	10.22	130	437779	23.087	ng		99
48) 1,4-Dioxane	10.19	88	301512	27.082	ng		91
49) 2,2,4-Trimethylpentane...	10.30	57	1463554	30.827	ng		93
50) Methyl Methacrylate	10.47	100	306440	55.765	ng		89

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2023_09\19\09192301.D Vial: 1
Acq On : 19 Sep 2023 1:54 Operator: TZ
Sample : CCV R13091923 25ng Inst : MS13
Misc : S37-09012301/S37-09142302 (10/14)

Quant Time: Sep 19 07:42:49 2023
Quant Method : I:\MS13\METHODS\R13090423A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Sep 16 07:16:40 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

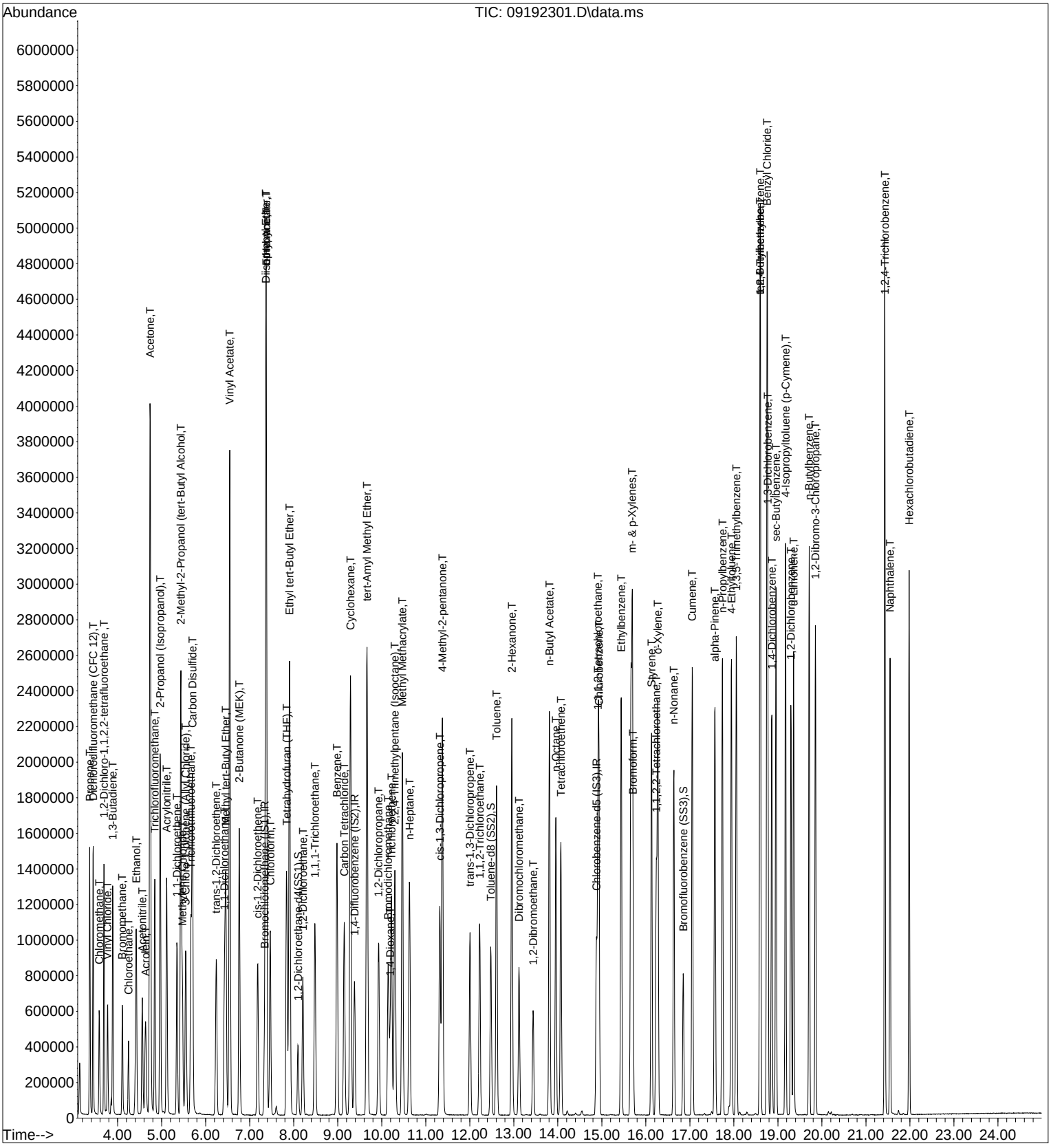
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.63	71	346738	29.440	ng		94
52) cis-1,3-Dichloropropene	11.32	75	734248	26.217	ng		99
53) 4-Methyl-2-pentanone	11.38	58	673829	61.445	ng		95
54) trans-1,3-Dichloropropene	12.00	75	634802	26.071	ng		99
55) 1,1,2-Trichloroethane	12.23	97	395117	26.504	ng		95
58) Toluene	12.61	91	1573525	25.049	ng		99
59) 2-Hexanone	12.96	43	1799089	59.895	ng		100
60) Dibromochloromethane	13.12	129	539573	22.634	ng		100
61) 1,2-Dibromoethane	13.44	107	467965	24.864	ng		100
62) n-Butyl Acetate	13.81	43	2004800	62.581	ng		99
63) n-Octane	13.96	57	307779	29.279	ng		92
64) Tetrachloroethene	14.07	166	506902	22.107	ng		99
65) Chlorobenzene	14.94	112	1080158	24.006	ng		99
66) Ethylbenzene	15.44	91	1950313	26.280	ng		99
67) m- & p-Xylenes	15.69	91	3233336	50.481	ng		99
68) Bromoform	15.71	173	502369	23.481	ng		99
69) Styrene	16.13	104	1135371	27.184	ng		100
70) o-Xylene	16.27	91	1598979	25.421	ng		100
71) n-Nonane	16.64	43	763287	31.266	ng		93
72) 1,1,2,2-Tetrachloroethane	16.24	83	694213	27.397	ng		100
74) Cumene	17.05	105	1868058	23.512	ng		99
75) alpha-Pinene	17.57	93	986028	26.853	ng		99
76) n-Propylbenzene	17.74	91	2274688	24.248	ng		99
77) 3-Ethyltoluene	17.05	105	1868058	No Calib			
78) 4-Ethyltoluene	17.95	105	1844514	24.214	ng		99
79) 1,3,5-Trimethylbenzene	18.05	105	1674323	24.144	ng		100
80) alpha-Methylstyrene	17.06	118	3516	No Calib		#	
81) 2-Ethyltoluene	17.05	105	1868058	No Calib			
82) 1,2,4-Trimethylbenzene	18.60	105	1680837	23.893	ng		99
83) n-Decane	17.05	58	11877	No Calib			
84) Benzyl Chloride	18.75	91	2876600	53.402	ng		98
85) 1,3-Dichlorobenzene	18.77	146	939443	22.639	ng		99
86) 1,4-Dichlorobenzene	18.86	146	945599	22.969	ng		100
87) sec-Butylbenzene	18.96	105	2102082	23.848	ng		99
88) 4-Isopropyltoluene (p-...	19.18	119	1824563	23.226	ng		99
89) 1,2,3-Trimethylbenzene	17.05	105	1868058	No Calib			
90) 1,2-Dichlorobenzene	19.30	146	929879	22.110	ng		100
91) d-Limonene	19.36	68	528382	27.543	ng		89
92) 1,2-Dibromo-3-Chloropr...	19.85	157	700841	46.190	ng		92
93) n-Undecane	17.95	58	21354	No Calib		#	
94) 1,2,4-Trichlorobenzene	21.43	180	1406721	45.461	ng		100
95) Naphthalene	21.55	128	1765663	21.638	ng		100
96) n-Dodecane	19.04	57	928	No Calib		#	
97) Hexachlorobutadiene	21.98	225	544224	17.818	ng		100
98) Cyclohexanone	0.00	55	0	N.D.			
99) tert-Butylbenzene	18.60	119	1500483	23.002	ng		99
100) n-Butylbenzene	19.71	91	1705792	24.026	ng		99
101) 1,1,1,2-Tetrachloroethane	14.91	131	451019	23.139	ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS13\DATA\2023_09\19\09192301.D Vial: 1
Acq On : 19 Sep 2023 1:54 Operator: TZ
Sample : CCV R13091923 25ng Inst : MS13
Misc : S37-09012301/S37-09142302 (10/14)

Quant Time: Sep 19 07:42:49 2023
Quant Method : I:\MS13\METHODS\R13090423A.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Sep 16 07:16:40 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

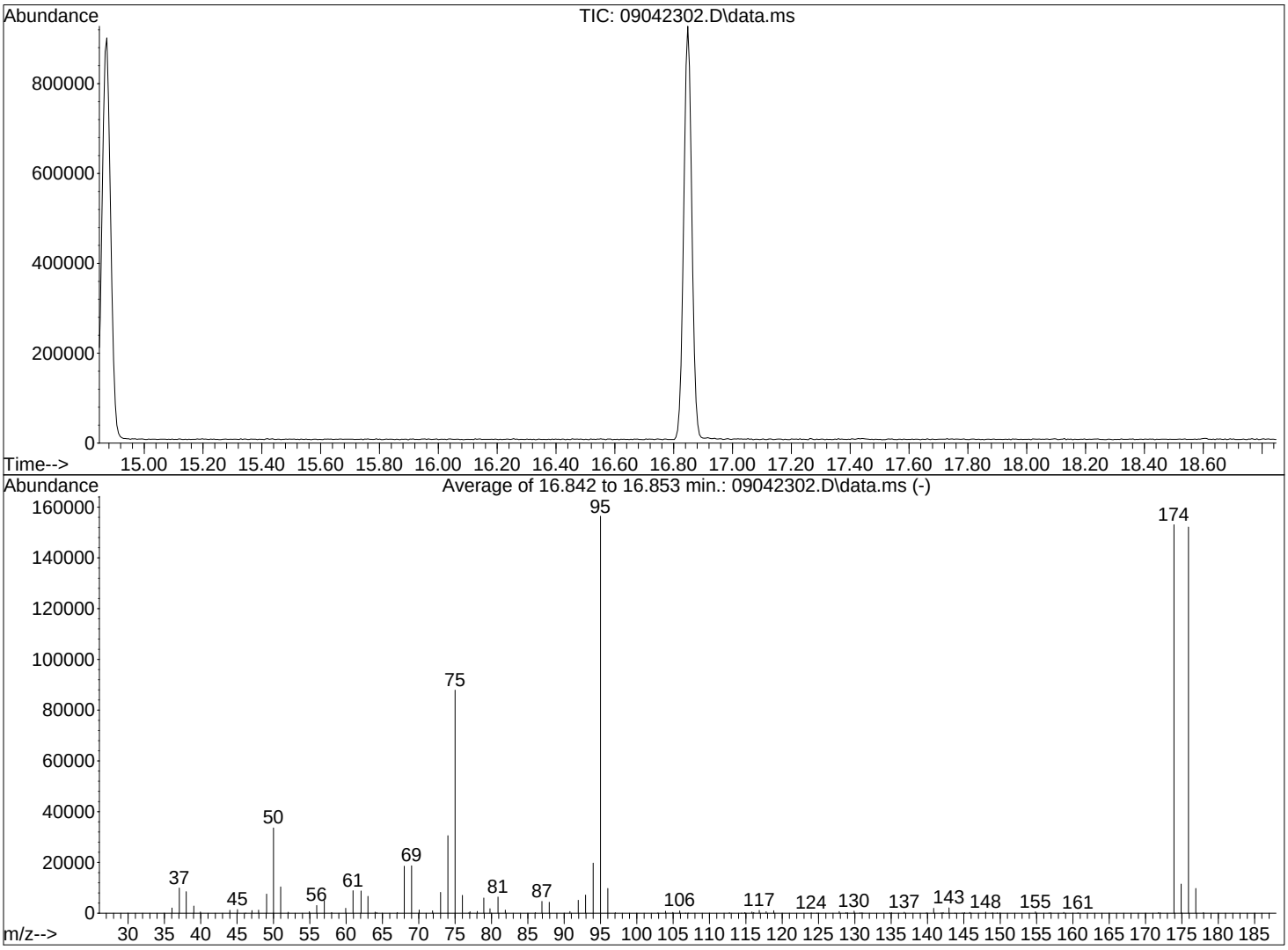


01246348

Data Path : I:\MS13\DATA\2023_09\04\
Data File : 09042302.D
Acq On : 4 Sep 2023 20:26
Operator : WA
Sample : BFB Std
Misc : S37-09012301
ALS Vial : 1 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS13\METHODS\R13090423.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Tue Sep 05 08:06:51 2023



AutoFind: Scans 2417, 2418, 2419; Background Corrected with Scan 2409

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	21.5	33629	PASS
75	95	30	66	56.2	87899	PASS
95	95	100	100	100.0	156437	PASS
96	95	5	9	6.2	9737	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	97.8	153067	PASS
175	174	4	9	7.5	11461	PASS
176	174	93	101	99.4	152149	PASS
177	176	5	9	6.4	9780	PASS

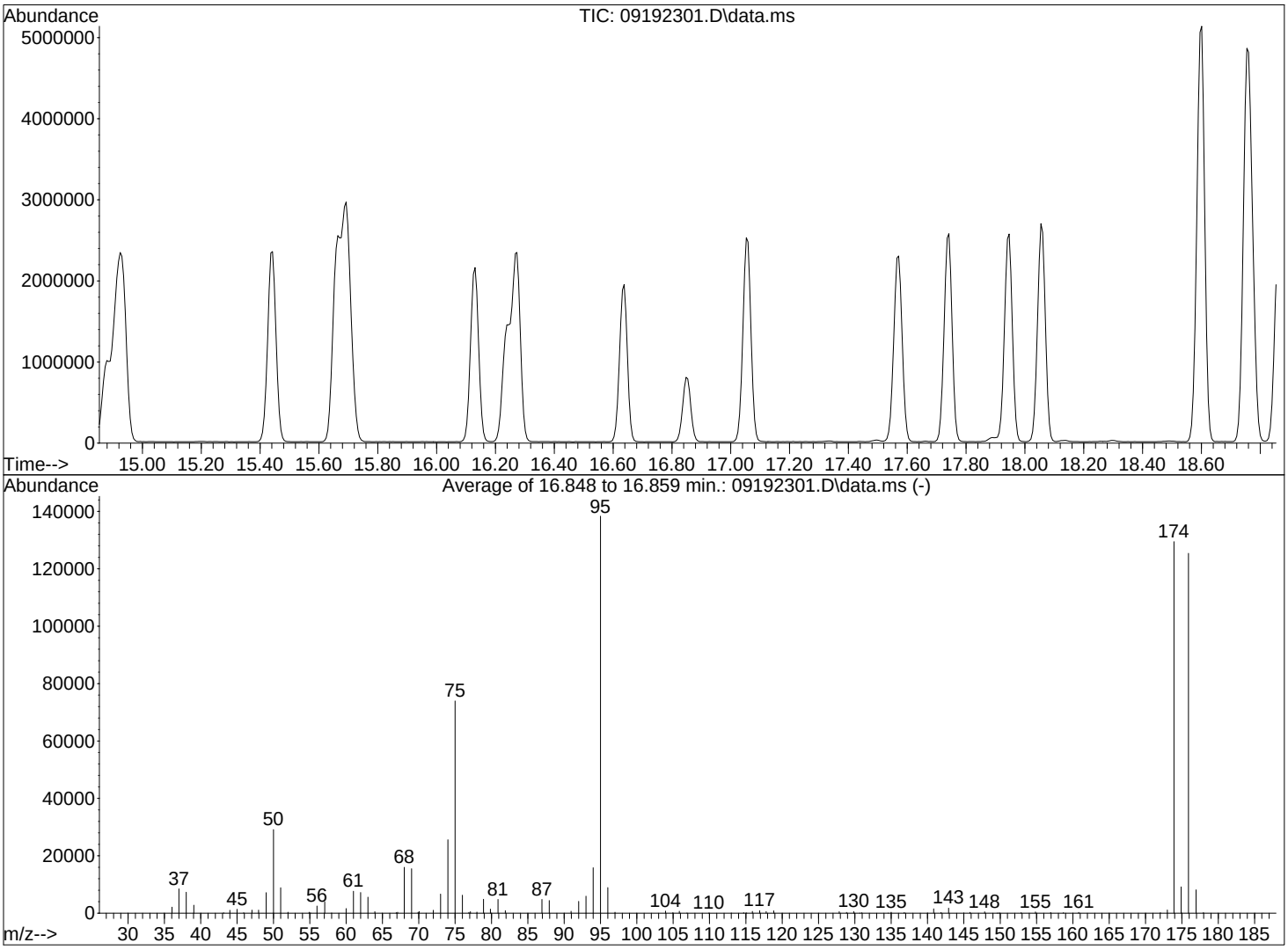
TR 9/5/23

01246349

Data Path : I:\MS13\DATA\2023_09\19\
Data File : 09192301.D
Acq On : 19 Sep 2023 1:54
Operator : TZ
Sample : CCV R13091923 25ng
Misc : S37-09012301/S37-09142302 (10/14)
ALS Vial : 1 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS13\METHODS\R13090423A.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Sat Sep 16 07:16:40 2023



AutoFind: Scans 2418, 2419, 2420; Background Corrected with Scan 2409

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	21.1	29125	PASS
75	95	30	66	53.5	73952	PASS
95	95	100	100	100.0	138349	PASS
96	95	5	9	6.4	8911	PASS
173	174	0.00	2	0.9	1156	PASS
174	95	50	120	93.6	129459	PASS
175	174	4	9	7.1	9193	PASS
176	174	93	101	96.9	125419	PASS
177	176	5	9	6.5	8122	PASS

TZ 9/19/23

TZ 9/7/23

Injection Log

Directory: J:\MS13\DATA\2023_09\04\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	9/4/23 19:46	09042301.D	Blank (Fil 2-1365)	S37-09012301	WA	1	
2	9/4/23 20:26	09042302.D	BFB Std	S37-09012301	WA	1	passed
3	9/4/23 21:10	09042303.D	0.1ng R13090423 ICAL Std	S37-09012301/S37-08312301 (9/29)	WA	13	
4	9/4/23 21:47	09042304.D	0.2ng R13090423 ICAL Std	S37-09012301/S37-08312301 (9/29)	WA	13	
5	9/4/23 22:24	09042305.D	0.5ng R13090423 ICAL Std	S37-09012301/S37-08302305 (9/29)	WA	14	not reporting
6	9/4/23 23:01	09042306.D	1.0ng R13090423 ICAL Std	S37-09012301/S37-08302305 (9/29)	WA	14	
7	9/4/23 23:38	09042307.D	5.0ng R13090423 ICAL Std	S37-09012301/S37-08302301 (9/29)	WA	15	
8	9/5/23 0:15	09042308.D	25ng R13090423 ICAL Std	S37-09012301/S37-08302301 (9/29)	WA	15	
9	9/5/23 0:52	09042309.D	50ng R13090423 ICAL Std	S37-09012301/S37-08302301 (9/29)	WA	15	
10	9/5/23 1:30	09042310.D	100ng R13090423 ICAL Std	S37-09012301/S37-08302301 (9/29)	WA	15	
11	9/5/23 4:21	09042311.D	Blank	S37-09012301	WA	1	
12	9/5/23 4:58	09042312.D	ICV R13090423_25ng	S37-09012301/S37-08072301 (9/6)	WA	16	
13	9/5/23 8:36	09042313.D	0.5ng R13090423 ICAL Std	S37-09012301/S37-08312301 (9/29)	TZ	13	passed
14	9/5/23 9:21	09042314.D	ICV R13090423 25ng	S37-09012301/S37-08152301 (9/14)	TZ	1	passed

R13090423.M ranges from 0.1->100ng except: Acetonitrile and Naphthalene: 0.5ng->100ng and Carbon Disulfide: 0.4ng->200ng

Injection Log

Directory: I:\MS13\DATA\2023_09\19\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	9/19/23 1:54	09192301.D	CCV R13091923 25ng	S37-09012301/S37-09142302 (10/14)	TZ	1	passed
2	9/19/23 2:30	09192302.D	CCV C13091923 5.0ng	S37-09012301/S37-08222301 (9/21)	TZ	16	not needed
3	9/19/23 3:06	09192303.D	MB R13091923 1000mL	S37-09012301/AC01837	TZ	1	passed
4	9/19/23 3:42	09192304.D	LCS R13091923 5.0ng	S37-09012301/S37-09052301 (10/5)	TZ	1	passed
5	9/19/23 4:18	09192305.D	LCSD R13091923 5.0ng	S37-09012301/S37-09052301 (10/5)	TZ	1	passed
6	9/19/23 8:32	09192306.D	P2304195-007dil (100mL)	S37-09012301	TZ	7	
7	9/19/23 9:37	09192307.D	P2304347-001 (1000mL)	S37-09012301	TZ	2	
8	9/19/23 10:14	09192308.D	P2304228-001 (25mL)	S37-09012301	TZ	3	
9	9/19/23 10:50	09192309.D	P2304241-001 (8.0mL)	S37-09012301	TZ	12	Surr-3 low
10	9/19/23 11:37	09192310.D	Blank	S37-09012301	TZ	1	
11	9/19/23 12:13	09192311.D	P2304241-005 (15mL)	S37-09012301	TZ	15	
12	9/19/23 12:50	09192312.D	P2304241-004 (100mL)	S37-09012301	TZ	14	over diluted
13	9/19/23 13:27	09192313.D	P2304228-002 (35mL)	S37-09012301	TZ	4	
14	9/19/23 14:04	09192314.D	P2304241-004 (400mL)	S37-09012301	TZ	14	
15	9/19/23 14:41	09192315.D	P2304228-002dil (15mL)	S37-09012301	TZ	4	
16	9/19/23 16:03	09192316.D	P2304195-003dil (100mL)	S37-09012301	TZ	2	wrong injection volume
17	9/19/23 16:39	09192317.D	P2304228-003 (1000mL)	S37-09012301	TZ	5	
18	9/19/23 17:15	09192318.D	P2304228-004 (1000mL)	S37-09012301	TZ	6	
19	9/19/23 17:52	09192319.D	P2304247-001 (400mL)	S37-09012301	TZ	7	need dilution
20	9/19/23 18:29	09192320.D	P2304247-002 (400mL)	S37-09012301	TZ	8	
21	9/19/23 19:05	09192321.D	P2304247-003 (400mL)	S37-09012301	TZ	9	
22	9/19/23 19:42	09192322.D	P2304247-004 (400mL)	S37-09012301	TZ	10	
23	9/19/23 20:19	09192323.D	P2304247-005 (400mL)	S37-09012301	TZ	11	
24	9/19/23 20:56	09192324.D	P2304241-002 (400mL)	S37-09012301	TZ	12	
25	9/19/23 21:33	09192325.D	P2304241-003 (400mL)	S37-09012301	TZ	13	
26	9/19/23 22:11	09192326.D	P2304416-001 (1000mL)	S37-09012301	TZ	3	
27	9/19/23 22:48	09192327.D	P2304416-002 (1000mL)	S37-09012301	TZ	4	
28	9/19/23 23:24	09192328.D	P2304416-003 (1000mL)	S37-09012301	TZ	14	
29	9/20/23 0:01	09192329.D	P2304416-004 (1000mL)	S37-09012301	TZ	15	
30	9/20/23 0:37	09192330.D	P2304416-004dup (1000mL)	S37-09012301	TZ	15	passed

CCV: Acetonitrile, Acrolein, Acrylonitrile out high
LCS/LCSD: Acetonitrile, 1,1-DCE, Ethyl Acetate out high, w/in method

TZ 9/20/23

APPENDIX F
PROTOCOL FOR DISCHARGING GWTP EFFLUENT

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MEMORANDUM

DATE: August 28, 2017

PROJECT NAME: Remediation of Multiple Sites, Longhorn Army Ammunition Plant, Karnack, TX

TO:	Richard Mayer	Senior Project Engineer US Environmental Protection Agency Federal Facilities Section (6PD-F)
	April Palmie	Project and Grant Manager Superfund Section, Remediation Division Texas Commission on Environmental Quality
FROM:	Rose M. Zeiler, Ph.D.	Longhorn AAP Site Manager

SUBJECT: **Protocol for Discharging GWTP Effluent**
Longhorn Army Ammunition Plant, Karnack, TX
(Contract: W912DY-09-D-0059, Task Order DS01)

INTRODUCTION

The purpose of this memo is to document the protocol for discharging Longhorn Army Ammunition Plant groundwater treatment plant (GWTP) effluent to Harrison Bayou, the INF-Pond, or LHAAP-18/24.

The GWTP is designed to:

- Extract groundwater from LHAAP-18/24 and LHAAP-16 for hydraulic control;
- Remove metals by pH adjustment, polymer addition, and gravity separation;
- Remove volatile organic compounds (VOCs) by air stripping;
- Remove perchlorate in a fluidized bed reactor (FBR) and an ion exchange scavenger system; and
- Discharge the effluent continuously.

DISCHARGE CRITERIA

The discharge criteria established for discharge to Harrison Bayou are:

Parameter	Discharge Criteria (µg/L)	
	Daily Average	Daily Maximum
Volatiles		
1,1,1-Trichloroethane	3,417	7,230
1,1,2-Trichloroethane	102.5	216.9
1,1-Dichloroethane	6,633	14,032
1,1-Dichloroethene	119	253
1,2-Dichloroethane	85	181
Acetone	1,132	2,395
Benzene	85	181
Carbon Tetrachloride	85	181
Chlorobenzene	22,300	47,180
Chloroform	1,708	3,615
Ethylbenzene	26,954	57,025
Xylenes	39.5	83.6
Methylene Chloride	803	1,699
Styrene	2,829	5,987
Tetrachloroethene	85.4	180.7
Toluene	1,980	4,189
Trichloroethene	85	181
Vinyl Chloride	34	72
Anions		
Chloride	*	*
Sulfate	*	*
Perchlorate**	278	589
Metals		
Aluminum	777	1,644
Arsenic	365	772
Barium	1,000	2,000
Cadmium	1.6	3.4
Chromium, Total	355	752
Chromium, Hexavalent	58	124
Cobalt	5,433	11,495
Iron	1,132	2,395
Lead	2.2	4.6
Nickel	87	184
Manganese	7,323	15,494
Silver	1.4	3
Selenium	5.7	12
Vanadium	1,698	3,592
Zinc	146	310
Other		
Hexachlorobenzene	0.22	0.47
1,4-Dioxane		134.2
Oil and Grease		15
Chemical Oxygen Demand		200

* - Based upon flow in Harrison Bayou

** - Discharge criteria, when diverted to the INF Pond, is 17 µg/L

PROTOCOL FOR DISCHARGING GWTP EFFLUENT

In accordance with the *Sampling and Analysis Plan, Groundwater Treatment Plant and Well Fields* (SAP) Table 2-2, indicator parameters for the FBR, such as temperature, pH and oxidation reduction potential (ORP), are monitored in real time to predict FBR performance and perchlorate removal. Based upon these indicator parameters, the operator of the GWTP can make adjustments such as:

- Bring the ion exchange system online;
- Increase or decrease the addition rate of electron donor (acetic acid);
- Increase or decrease the nutrient addition rate (urea or phosphoric acid); or
- Increase or decrease the FBR recirculation rate

Samples of the GWTP effluent are collected weekly, analyzed for perchlorate, nutrients (ammonia-nitrogen and ortho-phosphate), total organic carbon (TOC), chloride, and sulfate, with the results received from the laboratory 14 days later. Other parameters (e.g. Record of Decision metals and volatiles) are collected and analyzed in GWTP effluent samples according to the frequencies listed in Table 2-1 of the SAP.

As shown in Figure 1, groundwater is continuously extracted, treated, and discharged. If Harrison Bayou is flowing and indicator parameters are within their historical optimal ranges, then the ion exchange vessels can be bypassed and the GWTP effluent sample will be collected after the FBR. If Harrison Bayou is not flowing or the indicator parameters are not within historical optimal ranges, then the ion exchange vessels will be put on line, and the GWTP effluent sample will be collected between the lead and lag ion exchange vessel. Professional judgement may also be used as to when to bring the ion exchange vessels online, such as after a power outage or during anticipated cold temperatures when the FBR has historically not performed optimally.

If a parameter is measured in the effluent at a concentration above the discharge criteria, then a confirmation sample and an effluent sample after the lag ion exchange vessel will be collected and analyzed for the parameter with a 24-hour turnaround time. Corrective measures (e.g. increased nutrient or electron donor addition rates, bring ion exchange vessels on line) will be implemented as appropriate to bring the parameter back within the discharge criteria. ***If an upset condition in the FBR leads to high concentrations of perchlorate going into the lead ion exchange vessel and breaking through at the sample location between the vessels, the lag vessel will still remove perchlorate before it is discharged to Harrison Bayou, the INF Pond, or LHAAP-18/24.*** It is estimated that the lag ion exchange vessel can remove all of the perchlorate from two weeks of typical groundwater extraction at a concentration of 920 µg/L. If the residual perchlorate concentration after the FBR and lead ion exchange vessel is only 600 µg/L, the lag ion exchange vessel could last almost 2.5 years before perchlorate would be detected in the discharged effluent.

If a parameter exceeds the discharge criteria by more than 40% (see Appendix A-2, SAP, Section 7c of Monitoring and Reporting Requirements) or reaches 920 µg/L of perchlorate, then the GWTP will be put into full recycle mode (no discharge) until the parameter is below the discharge criteria again. Appendix A-2 of the SAP requires GWTP data to be provided to TCEQ monthly including a list of noncompliance(s), if applicable.

Discharge to Harrison Bayou

As shown in Figure 1, the GWTP effluent will be discharged to Harrison Bayou as long as it has a measurable flow. The flowrate in Harrison Bayou is estimated by measuring the height of water with a staff gauge and velocity in feet/sec at intervals along the width as described in the Installation-Wide Work Plan, Standard Operating Procedures, Attachment 18 – Water Depth and Velocity Measurements (AECOM, July 2014).

The allowable flow rate of GWTP effluent that can be discharged to Harrison Bayou is given by:

$$QE \leq \frac{QS\,(CC - CA)}{(CE - CC)}$$

where Q_E = GWTP effluent flow Q_S = Harrison Bayou flow

C_C = Criteria concentration (100 mg/L for chloride, 50 mg/L for sulfate)

C_A = Ambient concentration = 10 mg/L

C_E = Chloride or sulfate concentration in GWTP effluent

The allowable GWTP effluent flow will be the lower of the calculated values given the measured concentrations of chloride and sulfate in the discharge stream. For each day that GWTP effluent is discharged to Harrison Bayou, the measured Harrison Bayou flow, the allowable effluent flow, and the actual effluent flow are recorded.

Discharge to INF Pond

If Harrison Bayou is not flowing, then GWTP effluent will be discharged to the Intermediate-Range Nuclear Forces (INF) Pond for temporary storage until Harrison Bayou flow resumes. Perchlorate concentration detected in the effluent must be 17 µg/L or less, when this occurs.

The INF Pond has a flexible membrane liner protected by a soil cover with a gravity discharge pipe (and valve) to Harrison Bayou. The INF Pond has a nominal capacity of 3 million gallons with a staff gage to measure the height of water stored in the pond. The GWTP operator maintains the INF Pond by visually inspecting for erosion, vegetative growth including tree growth along the anchor trench, and liner integrity and making necessary repairs. Periodically, accumulated debris must be removed from the influent and effluent piping to the INF Pond.

Prior to discharging to the INF Pond, a lead and lag ion exchange vessel will be brought online. The GWTP Operator will also confirm that the discharge valve is closed, will record the reading on the effluent totalizer, and will record the height of water using the staff gage. The GWTP Operator will then configure valves and pumps to direct GWTP effluent to the INF Pond. The height of water in the INF Pond and totalizer reading will be recorded at the beginning and end of each shift for the duration of active discharge. When the height of water in the pond reaches 3 feet below the height of the berm (freeboard), the GWTP Operator will stop discharging to the INF Pond and TCEQ will be notified. After the TCEQ acknowledges the INF Pond level, GWTP effluent may be discharged to the INF Pond again until 2 feet of freeboard is reached. The GWTP Operator will stop discharging to the INF Pond and TCEQ will be notified again. After the TCEQ acknowledges 2 feet of freeboard in the INF Pond,GWTP effluent may be discharged again until 1 foot of freeboard remains. No additional GWTP effluent can be accepted at the INF Pond until greater than 1 foot of freeboard is measured.

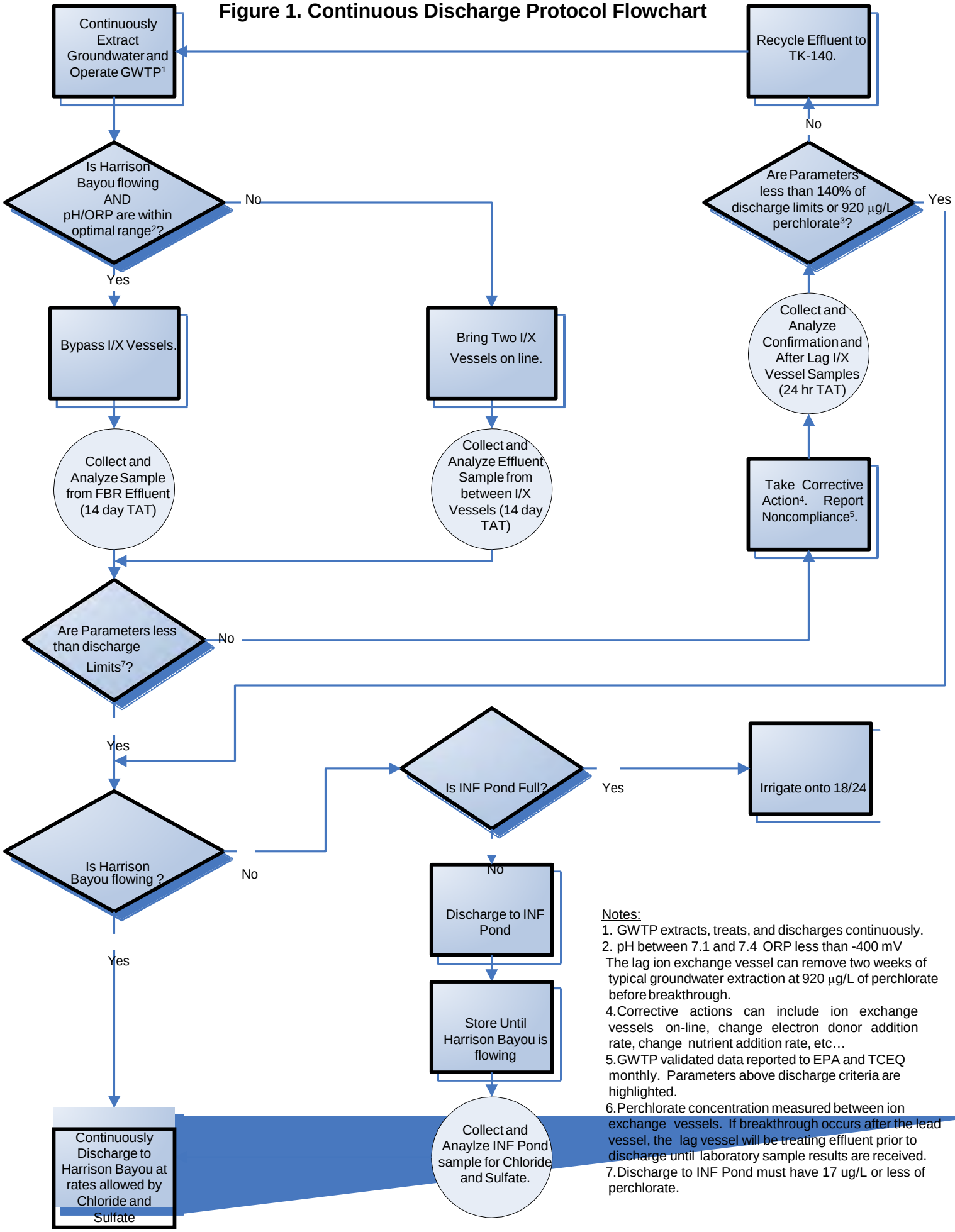
As soon as flow in Harrison Bayou returns, stored GWTP effluent from the INF Pond will be discharged. As with direct discharges from the GWTP to Harrison Bayou, the allowable flowrate of effluent from the INF Pond is calculated based upon the chloride and sulfate concentrations in the pond and the flow in Harrison Bayou. If effluent from the INF Pond and the GWTP are discharged simultaneously, total flow of both streams together should not exceed the calculated discharge level for either discharge location. For each day that INF Pond contents are discharged to Harrison Bayou, the measured Harrison Bayou flow, the allowable effluent flow, and the actual effluent flow are recorded.

Irrigation onto LHAAP-18/24

If Harrison Bayou is not flowing and the INF Pond has less than 1 foot of freeboard, then GWTP effluent will be irrigated onto LHAAP-18/24 using one of the three main sprinkler lines. To avoid pooling and runoff of irrigation water, only one line will be used for half a day at a time, with a separate line being used the second half of the day. If needed, the irrigation will occur 5 days a week for 8 hours each day (using 3 sprinklers in each line). If conditions are wet due to rain events, irrigation will not be conducted to avoid ponding and potential runoff, the GWTP will be put into recycle mode, and groundwater extraction will be interrupted if storage space is not available.

While irrigating, site inspections will be performed to ensure pooling and runoff are not occurring. During the irrigation activities, inspections will be performed twice a day, once approximately three hours and again approximately six hours into the 8-hour irrigation shift. The system will be inspected to ensure that the sprinkler heads are operating properly and not leaking large amounts of water. If ponding or runoff is observed, irrigation at that sprinkler line will cease, and irrigation at another sprinkler line will be started if possible. Volumes of GWTP effluent and twice daily inspections will be recorded daily and reported monthly until flow resumes in Harrison Bayou or greater than 1 foot of freeboard is available in the INF Pond.

Figure 1. Continuous Discharge Protocol Flowchart



Notes:

1. GWTP extracts, treats, and discharges continuously.
2. pH between 7.1 and 7.4 ORP less than -400 mV
   The lag ion exchange vessel can remove two weeks of typical groundwater extraction at 920 µg/L of perchlorate before breakthrough.
4. Corrective actions can include ion exchange vessels on-line, change electron donor addition rate, change nutrient addition rate, etc…
5. GWTP validated data reported to EPA and TCEQ monthly. Parameters above discharge criteria are highlighted.
6. Perchlorate concentration measured between ion exchange vessels. If breakthrough occurs after the lead vessel, the lag vessel will be treating effluent prior to discharge until laboratory sample results are received.
7. Discharge to INF Pond must have 17 ug/L or less of perchlorate.

APPENDIX G
AIR DATA TABLES, PID READINGS, AND CALIBRATION LOGS

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Appendix G Table 1. Ambient Air Data - August 2023
Longhorn Army Ammunition Plant
Groundwater Treatment Plant

Pollutant	CAS #	Short Term ESL March 2012	AMCVs (Short Term Health)	GWTP Ambient Air Concentrations (1)		Status (3)	Downwind Ambient Air Concentrations (2)		Status (3)
		µg/m^3	µg/m^3	µg/m^3			µg/m^3		
1,1-Dichloroethane	75-34-3	4,000	4,047	0.82	U	PASS	0.71	U	PASS
1,1-Dichloroethene	75-35-4	210	714	0.82	U	PASS	0.71	U	PASS
1,2-Dichloroethane	107-06-2	160	162	0.82	U	PASS	0.71	U	PASS
Acetone	67-64-1	5,900	NA	**24**		PASS	**21**		PASS
Benzene	71-43-2	170	575	0.82	U	PASS	**1.9**		PASS
Carbon disulfide	75-15-0	30	NA	**78**		FAIL	**9.6**		PASS
Chloroform	67-66-3	100	98	0.80	U	PASS	0.69	U	PASS
cis-1,2-Dichloroethene	156-59-2	7,900	NA	**5.1**		PASS	0.69	U	PASS
Methylene chloride	75-09-2	3,600	12,158	0.80	U	PASS	**1.0**		PASS
Tetrachloroethene	127-18-4	2,000	6,782	0.80	U	PASS	0.69	U	PASS
trans-1,2-Dichloroethene	156-60-5	7,900	NA	0.82	U	PASS	0.71	U	PASS
Trichloroethene	79-01-6	540	537	**4.7**		PASS	0.69	U	PASS
Vinyl chloride	75-01-4	20,000	66,460	0.77	U	PASS	0.67	U	PASS
n-Hexane	110-54-3	5,300	6,336	**2.2**		PASS	**21**		PASS
Styrene	100-42-5	110	21,725	0.80	U	PASS	0.69	U	PASS
Toluene	108-88-3	640	15,074	**0.90**		PASS	**5.8**		PASS
Ethylbenzene	100-41-4	740	86,844	0.80	U	PASS	**0.78**		PASS
m,p-Xylenes	179601-23-1	180	7,382	1.7	U	PASS	**2.4**		PASS
o-Xylene	95-47-6	1,600	7,382	0.80	U	PASS	**0.92**		PASS
1,3-Dichlorobenzene	541-73-1	720	NA	0.80	U	PASS	0.69	U	PASS
Propene (C3H6)	115-07-1	Asphyxiant	Asphyxiant	0.80	U	NA	0.69	U	NA
Dichlorodifluoromethane (CFC 12)	75-71-8	50,000	49,452	**2.3**		PASS	**3.1**		PASS
Ethanol	64-17-5	18,800	NA	**21**		PASS	**10**		PASS
Trichlorofluoromethane (CFC 11)	75-69-4	28,000	56,184	**1.4**		PASS	**5.2**		PASS
Trichlorotrifluoroethane (CFC 113)	76-13-1	38,000	NA	**4.4**		PASS	**1.9**		PASS
alpha-Pinene	80-56-8	60	3,499	1.7	U	PASS	**5.6**		PASS
d-Limonene	5989-27-5	1,100	NA	1.7	U	PASS	**1.6**		PASS

Notes:

(1) Sample collected over an 8-hour period on August 29, 2023, between 07:00 AM and 03:00 PM

(2) Sample collected over a 24-hour period beginning on August 28, 2023 at 07:00 AM and ending on August 29, 2023 at 07:00 AM

(3) Status based on comparison of air sample result to Air Monitoring Comparison Values (AMCVs). When there is no AMCV value for a chemical, the air sample concentration is compared to the short-term Effects Screening Level (ESL).

CAS # = Chemical Abstracts Service Number

GWTP = Groundwater Treatment Plant

U = non-detect

µg/m^3 = micrograms per cubic meter

g/mole = gram/mole

mol/m3 = mole per cubic meter

NA - Not applicable

Bold text denotes detections

Appendix G Table 2. Emission Stack Air Data - August 2023
Longhorn Army Ammunition Plant
Groundwater Treatment Plant

Pollutant	CAS #	Measured Air Stripper Stack Concentrations (1)		Air Stripper Emission Rates (2)		Air Stripper Emission Rates (2a)		Allowable Annual Emission (3)	Status (4)	TLV (5)	TLV Reference	Compliance section	Distance Downwind to nearest off-site Receptor (D)	(K) conversion value	Allowable Maximum Hourly Emission Limit at Nearest off-site Receptor (6)(7) (E) = L/K	Status (8)
		µg/m^3		lb/hr		tpy		tpy		mg/m^3			feet		lb/hr	
1,1-Dichloroethane	75-34-3	30	U	2.46E-04	U	1.60E-04	U	5	PASS	405	ACGIH List	30 TAC 106.533(f)(1)(A)(ii)	2,000	14	1.0	PASS
1,1-Dichloroethene	75-35-4	**94**	J	1.54E-03		1.00E-03		5	PASS	20	ACGIH List	30 TAC 106.533(f)(1)(A)(ii)	2,000	14	1.4	PASS
1,2-Dichloroethane	107-06-2	**44**		7.21E-04		4.69E-04		5	PASS	40	ACGIH List	30 TAC 106.533(f)(1)(A)(ii)	2,000	14	2.9	PASS
Acetone	67-64-1	290	U	2.38E-03	U	1.55E-03	U	5	PASS	590	106.262 List	30 TAC 106.533(f)(1)(A)(ii)	2,000	14	1.0	PASS
Benzene	71-43-2	30	U	2.46E-04	U	1.60E-04	U	5	PASS	3	106.262 List	30 TAC 106.533(f)(1)(A)(ii)	2,000	14	0.21	PASS
Carbon disulfide	75-15-0	59	U	4.84E-04	U	3.14E-04	U	5	PASS	31	ACGIH List	30 TAC 106.533(f)(1)(A)(ii)	2,000	14	2.2	PASS
Chloroform	67-66-3	29.0	U	2.38E-04	U	1.55E-04	U	5	PASS	10	106.262 List	30 TAC 106.533(f)(1)(A)(ii)	2,000	14	0.71	PASS
cis-1,2-Dichloroethene	156-59-2	**4,900**		8.03E-02		5.22E-02		5	PASS	793	ACGIH List	30 TAC 106.533(f)(1)(A)(ii)	2,000	14	1.0	PASS
Methylene chloride	75-09-2	**29**		4.75E-04		3.09E-04		5	PASS	26	106.262 List	30 TAC 106.533(f)(1)(A)(ii)	2,000	14	1.9	PASS
Tetrachloroethene	127-18-4	**58**		9.51E-04		6.18E-04		5	PASS	33.5	106.262 List	30 TAC 106.533(f)(1)(A)(ii)	2,000	14	2.4	PASS
trans-1,2-Dichloroethene	156-60-5	30	U	2.46E-04	U	1.60E-04	U	5	PASS	793	ACGIH List	30 TAC 106.533(f)(1)(A)(ii)	2,000	14	1.0	PASS
Trichloroethene	79-01-6	**4,600**		7.54E-02		4.90E-02		5	PASS	135	106.262 List	30 TAC 106.533(f)(1)(A)(ii)	2,000	14	6.0	PASS
Vinyl chloride	75-01-4	**360**		5.90E-03		3.84E-03		5	PASS	2	106.262 List	30 TAC 106.533(f)(1)(A)(ii)	2,000	14	0.14	PASS
n-Hexane	110-54-3	29	U	2.38E-04	U	1.55E-04	U	5	PASS	1,800	ACGIH List	30 TAC 106.533(f)(1)(A)(ii)	2,000	14	1.0	PASS
Styrene	100-42-5	29	U	2.38E-04	U	1.55E-04	U	5	PASS	21	106.262 List	30 TAC 106.533(f)(1)(A)(ii)	2,000	14	1.5	PASS
Toluene	108-88-3	29	U	2.38E-04	U	1.55E-04	U	5	PASS	188	ACGIH List	30 TAC 106.533(f)(1)(A)(ii)	2,000	14	6.0	PASS
Ethylbenzene	100-41-4	29	U	2.38E-04	U	1.55E-04	U	5	PASS	434	ACGIH List	30 TAC 106.533(f)(1)(A)(ii)	2,000	14	1.0	PASS
m,p-Xylenes	179601-23-1	61	U	5.00E-04	U	3.25E-04	U	5	PASS	434	ACGIH List	30 TAC 106.533(f)(1)(A)(ii)	2,000	14	1.0	PASS
o-Xylene	95-47-6	29	U	2.38E-04	U	1.55E-04	U	5	PASS	434	ACGIH List	30 TAC 106.533(f)(1)(A)(ii)	2,000	14	1.0	PASS
1,3-Dichlorobenzene	541-73-1	29	U	2.38E-04	U	1.55E-04	U	5	PASS	(5)	--	30 TAC 106.533(f)(1)(A)(i)	2,000	14	1.0	PASS
Propene (C3H6)	115-07-1	29	U	2.38E-04	U	1.55E-04	U	5	PASS	(5)	--	30 TAC 106.533(f)(1)(A)(i)	2,000	14	6.0	PASS
Dichlorodifluoromethane (CFC 12)	75-71-8	29	U	2.38E-04	U	1.55E-04	U	5	PASS	4,950	ACGIH List	30 TAC 106.533(f)(1)(A)(ii)	2,000	14	1.0	PASS
Ethanol	64-17-5	280	U	2.30E-03	U	1.49E-03	U	5	PASS	1,880	ACGIH List	30 TAC 106.533(f)(1)(A)(ii)	2,000	14	1.0	PASS
Trichlorofluoromethane (CFC 11)	75-69-4	29	U	2.38E-04	U	1.55E-04	U	5	PASS	5,620	ACGIH List	30 TAC 106.533(f)(1)(A)(ii)	2,000	14	1.0	PASS
Trichlorotrifluoroethane (CFC 113)	76-13-1	**4,200**		6.89E-02		4.48E-02		5	PASS	7,670	ACGIH List	30 TAC 106.533(f)(1)(A)(ii)	2,000	14	1.0	PASS
alpha-Pinene	80-56-8	61	U	5.00E-04	U	3.25E-04	U	5	PASS	(5)	--	30 TAC 106.533(f)(1)(A)(i)	2,000	14	1.0	PASS
d-Limonene	5989-27-5	61	U	5.00E-04	U	3.25E-04	U	5	PASS	(5)	--	30 TAC 106.533(f)(1)(A)(i)	2,000	14	1.0	PASS
		TOTAL		0.244												

Notes:

(1) Sample collected on August 29,2023. The higher value of the sample or duplicate is reported.

(2) Based on a blower flow rate of 4,390 cubic feet per minute (cfm). Note that plant operates less than or equal to 25 hours per week. 1/2 of detection limit was used for estimating mass rate

(2a) Based on operation of 25 hours per week, 52 weeks per year.

(3) Per 30 TAC 106.533(f)(1)(B)

(4) Based on comparing the calculated air stripper stack sample emission rate in tons per year (tpy) to the allowable annual emission limit per chemical of 5 tpy.

(5) No Threshold Limit Values (TLVs) for these chemicals

(6) The maximum hourly limit allowed by 30 Texas Administrative Code (TAC) 106.262, per pollutant, is 6 pounds per hour (lb/hr) per "Figure 1: 30 TAC 106.262(a)". The E value was overridden with 6 lb/hr when the calculated E was higher.

(7) The maximum hourly emission rate allowed by 30 TAC 106.261(a)(3) for chemicals with a limit value (L) greater than 200 mg/m^3 is 1 lb/hr.

(8) Based on comparing the calculated air stripper stack sample emission rate in pounds per hour (lb/hr) to the allowable maximum emission limit per chemical based on distance downwind to nearest off-site receptor.

CAS # = Chemical Abstracts Service Number

mg/m^3 = milligrams per cubic meter

µg/m^3 = micrograms per cubic meter

ACGIH = American Conference of Governmental Industrial Hygienists

U = Non-detect

J - Estimated value between the detection limit and limit of quantitation and/or due to quality contol issues

Bold text denotes detections

Appendix G. Table 3 PID Readings 3rd Quarter 2023 Longhorn Army Ammunition Plant
Groundwater Treatment Plant

7/5/2023	8:00	Outside GWTP Office	2376 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 81°F
7/5/2023	8:00	Downwind	2376 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 81°F
7/5/2023	8:00	Stripper	2376 ACFM	MiniRAE 3000	Kennie Moore	Max. 22.9 ppm Steady State 6.3 ppm	Clear 81°F
7/5/2023	13:00	Outside GWTP Office	2255 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm	Clear 89°F
7/5/2023	13:00	Downwind	2255 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm	Clear 89°F
7/5/2023	13:00	Stripper	2255 ACFM	MiniRAE 3000	Scott Beesinger	Max. 24.4 ppm Steady State 7.1 ppm	Clear 89°F
7/6/2023	8:00	Outside GWTP Office	2232 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 77°F
7/6/2023	8:00	Downwind	2232 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 77°F
7/6/2023	8:00	Stripper	2232 ACFM	MiniRAE 3000	Kennie Moore	Max. 22.1 ppm Steady State 6.3 ppm	Clear 77°F
7/6/2023	12:00	Outside GWTP Office	2130 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm	Clear 92°F
7/6/2023	12:00	Downwind	2130 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm	Clear 92°F
7/6/2023	12:00	Stripper	2130 ACFM	MiniRAE 3000	Scott Beesinger	Max. 23.3 ppm Steady State 6.7 ppm	Clear 92°F
7/20/2023	8:00	Outside GWTP Office	2261 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 80°F
7/20/2023	8:00	Downwind	2261 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 80°F
7/20/2023	8:00	Stripper	2261 ACFM	MiniRAE 3000	Kennie Moore	Max. 23.1 ppm Steady State 6.2 ppm	Clear 80°F
7/20/2023	11:00	Outside GWTP Office	2126 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 87°F
7/20/2023	11:00	Downwind	2126 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 87°F
7/20/2023	11:00	Stripper	2126 ACFM	MiniRAE 3000	Kennie Moore	Max. 22.2 ppm Steady State 5.1 ppm	Clear 87°F
7/31/2023	8:00	Outside GWTP Office	2287 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 79°F
7/31/2023	8:00	Downwind	2287 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 79°F
7/31/2023	8:00	Stripper	2287 ACFM	MiniRAE 3000	Kennie Moore	Max. 24.9 ppm Steady State 7.4 ppm	Clear 79°F
7/31/2023	14:00	Outside GWTP Office	2132 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm	Clear 95°F
7/31/2023	14:00	Downwind	2132 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm	Clear 95°F
7/31/2023	14:00	Stripper	2132 ACFM	MiniRAE 3000	Scott Beesinger	Max. 22.8 ppm Steady State 6.9 ppm	Clear 95°F
8/7/2023	8:00	Outside GWTP Office	2187 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 82°F
8/7/2023	8:00	Downwind	2187 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 82°F
8/7/2023	8:00	Stripper	2187 ACFM	MiniRAE 3000	Kennie Moore	Max. 24.7 ppm Steady State 6.9 ppm	Clear 82°F
8/7/2023	14:00	Outside GWTP Office	2037 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm	Clear 96°F
8/7/2023	14:00	Downwind	2037 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm	Clear 96°F
8/7/2023	14:00	Stripper	2037 ACFM	MiniRAE 3000	Scott Beesinger	Max. 23.1 ppm Steady State 6.6 ppm	Clear 96°F
8/14/2023	8:00	Outside GWTP Office	2246 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 82°F
8/14/2023	8:00	Downwind	2246 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 82°F
8/14/2023	8:00	Stripper	2246 ACFM	MiniRAE 3000	Kennie Moore	Max. 22.1 ppm Steady State 6.3 ppm	Clear 82°F
8/14/2023	14:00	Outside GWTP Office	2193 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm	Clear 102°F
8/14/2023	14:00	Downwind	2193 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm	Clear 102°F
8/14/2023	14:00	Stripper	2193 ACFM	MiniRAE 3000	Scott Beesinger	Max. 24.8 ppm Steady State 7.2 ppm	Clear 102°F
8/15/2023	8:00	Outside GWTP Office	2345 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 74°F
8/15/2023	8:00	Downwind	2345 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 74°F
8/15/2023	8:00	Stripper	2345 ACFM	MiniRAE 3000	Kennie Moore	Max. 23.7 ppm Steady State 5.8 ppm	Clear 74°F
8/15/2023	10:30	Outside GWTP Office	2284 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm	Clear 83°F
8/15/2023	10:30	Downwind	2284 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm	Clear 83°F
8/15/2023	10:30	Stripper	2284 ACFM	MiniRAE 3000	Scott Beesinger	Max. 21.1 ppm Steady State 5.2 ppm	Clear 83°F
8/21/2023	8:00	Outside GWTP Office	2247 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 82°F
8/21/2023	8:00	Downwind	2247 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 82°F
8/21/2023	8:00	Stripper	2247 ACFM	MiniRAE 3000	Kennie Moore	Max. 24.9 ppm Steady State 7.3 ppm	Clear 82°F
8/21/2023	14:00	Outside GWTP Office	2182 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 101°F
8/21/2023	14:00	Downwind	2182 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 101°F
8/21/2023	14:00	Stripper	2182 ACFM	MiniRAE 3000	Kennie Moore	Max. 22.2 ppm Steady State 6.5 ppm	Clear 101°F
8/24/2023	8:00	Outside GWTP Office	2265 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 82°F
8/24/2023	8:00	Downwind	2265 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 82°F
8/24/2023	8:00	Stripper	2265 ACFM	MiniRAE 3000	Kennie Moore	Max. 22.6 ppm Steady State 6.1 ppm	Clear 82°F
8/24/2023	11:00	Outside GWTP Office	2098 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm	Clear 96°F
8/24/2023	11:00	Downwind	2098 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm	Clear 96°F
8/24/2023	11:00	Stripper	2098 ACFM	MiniRAE 3000	Scott Beesinger	Max. 21.2 ppm Steady State 5.3 ppm	Clear 96°F
8/29/2023	8:00	Outside GWTP Office	2196 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 77°F
8/29/2023	8:00	Downwind	2196 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 77°F
8/29/2023	8:00	Stripper	2196 ACFM	MiniRAE 3000	Kennie Moore	Max. 22.1 ppm Steady State 5.9 ppm	Clear 77°F
8/29/2023	14:00	Outside GWTP Office	2164 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 91°F
8/29/2023	14:00	Downwind	2164 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 91°F
8/29/2023	14:00	Stripper	2164 ACFM	MiniRAE 3000	Kennie Moore	Max. 23.3 ppm Steady State 6.4 ppm	Clear 91°F
8/31/2023	8:00	Outside GWTP Office	2152 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 74°F
8/31/2023	8:00	Downwind	2152 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 74°F
8/31/2023	8:00	Stripper	2152 ACFM	MiniRAE 3000	Kennie Moore	Max. 22.6 ppm Steady State 5.9 ppm	Clear 74°F
8/31/2023	10:30	Outside GWTP Office	2013 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 81°F
8/31/2023	10:30	Downwind	2013 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 81°F
8/31/2023	10:30	Stripper	2013 ACFM	MiniRAE 3000	Kennie Moore	Max. 22.1 ppm Steady State 4.7 ppm	Clear 81°F
9/5/2023	8:00	Outside GWTP Office	2286 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 76°F
9/5/2023	8:00	Downwind	2286 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 76°F
9/5/2023	8:00	Stripper	2286 ACFM	MiniRAE 3000	Kennie Moore	Max. 25.1 ppm Steady State 7.7 ppm	Clear 76°F
9/5/2023	14:00	Outside GWTP Office	2147 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm	Clear 95°F
9/5/2023	14:00	Downwind	2147 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm	Clear 95°F
9/5/2023	14:00	Stripper	2147 ACFM	MiniRAE 3000	Scott Beesinger	Max. 22.9 ppm Steady State 6.3 ppm	Clear 95°F
9/11/2023	8:00	Outside GWTP Office	2327 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 62°F

Appendix G. Table 3 PID Readings 3rd Quarter 2023 Longhorn Army Ammunition Plant
Groundwater Treatment Plant

9/11/2023	8:00	Downwind	2327 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 62°F
9/11/2023	8:00	Stripper	2327 ACFM	MiniRAE 3000	Kennie Moore	Max. 25.9 ppm Steady State 7.6 ppm	Clear 62°F
9/11/2023	14:00	Outside GWTP Office	2314 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm	Clear 85°F
9/11/2023	14:00	Downwind	2314 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm	Clear 85°F
9/11/2023	14:00	Stripper	2314 ACFM	MiniRAE 3000	Scott Beesinger	Max. 21.7 ppm Steady State 6.0 ppm	Clear 85°F
9/14/2023	8:00	Outside GWTP Office	2365 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 72°F
9/14/2023	8:00	Downwind	2365 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 72°F
9/14/2023	8:00	Stripper	2365 ACFM	MiniRAE 3000	Kennie Moore	Max. 24.4 ppm Steady State 6.2 ppm	Clear 72°F
9/14/2023	14:00	Outside GWTP Office	2383 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm	Clear 75°F
9/14/2023	14:00	Downwind	2383 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm	Clear 75°F
9/14/2023	14:00	Stripper	2383 ACFM	MiniRAE 3000	Scott Beesinger	Max. 22.0 ppm Steady State 5.6 ppm	Clear 75°F
9/18/2023	8:00	Outside GWTP Office	2325 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 61°F
9/18/2023	8:00	Downwind	2325 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 61°F
9/18/2023	8:00	Stripper	2325 ACFM	MiniRAE 3000	Kennie Moore	Max. 25.7 ppm Steady State 7.7 ppm	Clear 61°F
9/18/2023	14:00	Outside GWTP Office	2275 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm	Clear 91°F
9/18/2023	14:00	Downwind	2275 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm	Clear 91°F
9/18/2023	14:00	Stripper	2275 ACFM	MiniRAE 3000	Scott Beesinger	Max. 22.3 ppm Steady State 6.8 ppm	Clear 91°F
9/21/2023	8:00	Outside GWTP Office	2263 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 66°F
9/21/2023	8:00	Downwind	2263 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 66°F
9/21/2023	8:00	Stripper	2263 ACFM	MiniRAE 3000	Kennie Moore	Max. 22.9 ppm Steady State 6.1 ppm	Clear 66°F
9/21/2023	14:00	Outside GWTP Office	2177 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm	Clear 90°F
9/21/2023	14:00	Downwind	2177 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm	Clear 90°F
9/21/2023	14:00	Stripper	2177 ACFM	MiniRAE 3000	Scott Beesinger	Max. 21.1 ppm Steady State 5.5 ppm	Clear 90°F
9/27/2023	8:00	Outside GWTP Office	2276 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 72°F
9/27/2023	8:00	Downwind	2276 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 72°F
9/27/2023	8:00	Stripper	2276 ACFM	MiniRAE 3000	Kennie Moore	Max. 23.1 ppm Steady State 6.3 ppm	Clear 72°F
9/27/2023	14:00	Outside GWTP Office	2166 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm	Clear 91°F
9/27/2023	14:00	Downwind	2166 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm	Clear 91°F
9/27/2023	14:00	Stripper	2166 ACFM	MiniRAE 3000	Scott Beesinger	Max. 21.4 ppm Steady State 5.8 ppm	Clear 91°F

EQUIPMENT CALIBRATION DAILY LOG

Date: 7/5/23

Project Number: JVPCIBH.0001

Project Name: LHAAP-GWTP

Recorded By: Scott Beesinger

PID

Model: MiniRAE 3000 Bulb: 10.6 eV

Equipment ID #:

	Parameter	Standard	Exp. Date	Lot#	Morning Calibration	Evening Check	Additional Calib./Check (if necessary)
First Point Calibration					Time: 0615	Time:	Time:
					Initials: SB	Initials:	Initials:
	Vapor conc. (ppm)	0.0 (ambient air)	NA	NA	Value: TO 2420 SB	Value:	Value:
Second Point Calibration	Vapor conc. (ppm)	100 ppm (isobutylene)	12/28/23	JGB-250-100-20	Value: SB	Value:	Value:

COMB. GAS/O_2 METER

Model:

Equipment ID #:

	Parameter	Standard	Exp. Date	Lot#	Morning Calibration	Evening Check	Additional Calib./Check (if necessary)
First Point Calibration					Time:	Time:	Time:
					Initials:	Initials:	Initials:
	O2 (%)				Value:	Value:	Value:
	% LEL Pentane				Value:	Value:	Value:

WATER QUALITY METER

Model:

Equipment ID #:

	Parameter	Standard	Exp. Date	Lot#	Morning Calibration/Check	Evening Check (one point only)	Additional Calib./Check (if necessary)
					Time:	Time:	Time:
					Initials:	Initials:	Initials:
First Point Calibration (Field)	pH	4.00			Value:	Value:	Value:
	Conductivity (mS/cm)	4.49			Value:	Value:	Value:
	Turbidity (NTU)	0			Value:	Value:	Value:
	DO (mg/L)	8.3-9.1 (ambient air)	NA	NA	Value:	Value:	Value:
Second Point Calibration (Laboratory)	pH	6.86			Value:	Value:	Value:
	Conductivity (mS/cm)	89.7			Value:	Value:	Value:
	Turbidity (NTU)	100			Value:	Value:	Value:
Third Point Calibration	pH	9.18			Value:	Value:	Value:
	Conductivity (mS/cm)	89.7			Value:	Value:	Value:
	Turbidity (NTU)	100			Value:	Value:	Value:

Additional Parameters:

01246367

EQUIPMENT CALIBRATION DAILY LOG

Date: 7/6/23

Project Number: JVPCIBH.0001

Project Name: LHAAP-GWTP

Recorded By: Scott Beesinger

PID

Model: MiniRAE 3000

Equipment ID #: Rae 1148

Parameter	Standard	Exp. Date	Lot #	Morning Calibration	Evening Check	Additional Calib. Check (if necessary)
First Point Calibration (Calibration Gas)	Vapor conc. (ppm)	0.0 (ambient air)	NA	NA	Time: 0620 Initials: SB	Time: Initials:	Time: Initials:
Second Point Calibration	Vapor conc. (ppm)	100 ppm (isobutylene)	12/28/23	JGB-250-100-20	Value: TO ZERO SB	Value:	Value:

COMB. GAS/O2 METER

Model:

Equipment ID #:

Parameter	Standard	Exp. Date	Lot #	Morning Calibration	Evening Check	Additional Calib. Check (if necessary)
First Point Calibration	O2 (%)				Time: Initials:	Time: Initials:	Time: Initials:
	% LEL Pentane				Value:	Value:	Value:

WATER QUALITY METER

Model:

Equipment ID #:

Parameter	Standard	Exp. Date	Lot #	Morning Calibration Check	Evening Check (one point only)	Additional Calib. Check (if necessary)
First Point Calibration (Buffer)	pH	4.00			Time: Initials:	Time: Initials:	Time: Initials:
	Conductivity (mS/cm)	4.49			Value:	Value:	Value:
	Turbidity (NTU)	0			Value:	Value:	Value:
	DO (mg/L)	6.3-8.1 (ambient air)	NA	NA	Value:	Value:	Value:
Second Point Calibration	pH	9.00			Value:	Value:	Value:
	Conductivity (mS/cm)	58.7			Value:	Value:	Value:
	Turbidity (NTU)	100			Value:	Value:	Value:
Third Point Calibration	pH	9.00			Value:	Value:	Value:
	Conductivity (mS/cm)	58.7			Value:	Value:	Value:
	Turbidity (NTU)	100			Value:	Value:	Value:

Additional Remarks:

01246368

EQUIPMENT CALIBRATION DAILY LOG

Date: 7/20/23
Project Number: JVPCIBH.0001
Project Name: LHAAP-GWTP
Recorded By: Scott Beasinger

PID

Model: MiniRAE 3000 Rule: 10.8 mel
Equipment ID #:

Parameter	Standard	Exp. Date	Lot #	Morning Calibration	Evening Check	Additional Calib. Check if necessary
First Period Calibration	Vapor conc. (ppm)	0.0 (ambient air)	NA	NA	Time: 0630 Initials: SB	Time: Initials:	Time: Initials:
Second Period Calibration	Vapor conc. (ppm)	100 ppm (isobutylene)	12/28/23	JGB-250-100-20	Value: TD 24.20 SB	Value:	Value:

COMB. GAS/O2 METER

Model:
Equipment ID #:

Parameter	Standard	Exp. Date	Lot #	Morning Calibration	Evening Check	Additional Calib. Check if necessary
First Period Calibration	O2 (%)			Time: Initials: Value:	Time: Initials: Value:	Time: Initials: Value:
	% LEL Pentane			Value:	Value:	Value:

WATER QUALITY METER

Model:
Equipment ID #:

Parameter	Standard	Exp. Date	Lot #	Morning Calibration Check	Evening Check (one parameter)	Additional Calib. Check if necessary
First Period Calibration (Grab)	pH	4.01		Time: Initials: Value:	Time: Initials: Value:	Time: Initials: Value:
	Conductivity (mS/cm)	1.413		Value:	Value:	Value:
	Turbidity (NTU)	0		Value:	Value:	Value:
	DO (mg/L)	6.5-8.3 (ambient air)	NA	NA		
Second Period Calibration	pH	6.86		Value:	Value:	Value:
	Conductivity (mS/cm)	58.7		Value:	Value:	Value:
	Turbidity (NTU)	100		Value:	Value:	Value:
Third Period Calibration	pH	9.18		Value:	Value:	Value:
	Conductivity (mS/cm)	82.7		Value:	Value:	Value:
	Turbidity (NTU)	100		Value:	Value:	Value:

01246369

EQUIPMENT CALIBRATION DAILY LOG

Date: 7/31/23

Project Number: JVPCIBH.0001

Project Name: LHAAP-GWTP

Recorded By: Scott Beesinger

PID

Model: MiniRAE 3000

Equipment ID #: Bulk Battery 11.8

Parameter	Standard	Exp. Date	Lot #	Morning Calibration	Evening Check	Additional Calib. Check (if necessary)
First Point Calibration	Vapor conc. (ppm)	0.0 (ambient air)	NA	NA	Time: 0625 Initials: SB Value: TO ZERO SB	Time: Initials: Value:	Time: Initials: Value:
Second Point Calibration	Vapor conc. (ppm)	100 ppm (isobutylene)	12/28/23	MGB-250-100-20	Value: SB	Value:	Value:

COMB. GAS/O$_2$ METER

Model:

Equipment ID #:

Parameter	Standard	Exp. Date	Lot #	Morning Calibration	Evening Check	Additional Calib. Check (if necessary)
First Point Calibration	O2 (%)				Time: Initials: Value:	Time: Initials: Value:	Time: Initials: Value:
	%LEL Pentane				Value:	Value:	Value:

WATER QUALITY METER

Model:

Equipment ID #:

Parameter	Standard	Exp. Date	Lot #	Morning Calibration Check	Evening Check (one parameter)	Additional Calib. Check (if necessary)
First Point Calibration (Water)	pH	4.00			Time: Initials: Value:	Time: Initials: Value:	Time: Initials: Value:
	Conductivity (mS/cm)	4.49			Value:	Value:	Value:
	Turbidity (NTU)	0			Value:	Value:	Value:
	DO (mg/L)	8.5-9.1 (ambient air)	NA	NA	Value:	Value:	Value:
Second Point Calibration	pH	6.86			Value:	Value:	Value:
	Conductivity (mS/cm)	58.7			Value:	Value:	Value:
	Turbidity (NTU)	100			Value:	Value:	Value:
Third Point Calibration	pH	9.18			Value:	Value:	Value:
	Conductivity (mS/cm)	82.7			Value:	Value:	Value:
	Turbidity (NTU)	100			Value:	Value:	Value:

Additional Notes:

EQUIPMENT CALIBRATION DAILY LOG

Date: 8/7/23

Project Number: JVPCIBH.0001

Project Name: LHAAP-GWTP

Recorded By: Scott Beegle/NB&C

PID

Model: MiniRAE 3000 Bulb: 10.6

Equipment ID #:

	Parameter	Standard	Exp. Date	Lot #	Morning Calibration	Evening Check	Additional Calib. Check (if necessary)
First Point Calibration	Vapor conc. (ppm)	0.0 (ambient air)	NA	NA	Time: 0640 Initials: SB	Time: Initials:	Time: Initials:
Second Point Calibration	Vapor conc. (ppm)	100 ppm (isobutylene)	12/28/23	JGB-250-100-20	Value: TO ZERO SB Value: SB	Value: Value:	Value: Value:

COMB. GAS/O$_2$ METER

Model:

Equipment ID #:

	Parameter	Standard	Exp. Date	Lot #	Morning Calibration	Evening Check	Additional Calib. Check (if necessary)
First Point Calibration	O2 (%)				Time: Initials:	Time: Initials:	Time: Initials:
	% LEL Pentane				Value: Value:	Value: Value:	Value: Value:

WATER QUALITY METER

Model:

Equipment ID #:

	Parameter	Standard	Exp. Date	Lot #	Morning Calibration Check	Evening Check (one point only)	Additional Calib. Check (if necessary)
First Point Calibration (Buffer)					Time: Initials:	Time: Initials:	Time: Initials:
	pH	4.01			Value:	Value:	Value:
	Conductivity (mS/cm)	4.49			Value:	Value:	Value:
	Turbidity (NTU)	0			Value:	Value:	Value:
	DO (mg/L)	8.9-9.1 (ambient air)	NA	NA			
Second Point Calibration	pH	6.86			Value:	Value:	Value:
	Conductivity (mS/cm)	83.7			Value:	Value:	Value:
	Turbidity (NTU)	400			Value:	Value:	Value:
Third Point Calibration	pH	9.18			Value:	Value:	Value:
	Conductivity (mS/cm)	82.7			Value:	Value:	Value:
	Turbidity (NTU)	800			Value:	Value:	Value:

01246371

EQUIPMENT CALIBRATION DAILY LOG

Date: 8/14/23

Project Number: JVPCIBH.0001

Project Name: LHAAP-GWTP

Recorded By: Scott Beasinger

PID

Model: Mini RAE 3000

Equipment ID #: Built-in

	Parameter	Standard	Exp. Date	Lot #	Morning Calibration	Evening Check	Additional Calib. Check (if necessary)
First Point Calibration	Vapor conc. (ppm)	0.0 (ambient air)	NA	NA	Time: 0630 Initials: SB	Time: Initials:	Time: Initials:
Second Point Calibration	Vapor conc. (ppm)	100 ppm (isobutylene)	12/28/23	JGB-250-100-20	Value: TO ZERO SB Value: SB	Value: Value:	Value: Value:

CONS. GAS/O2 METER

Model:

Equipment ID #:

	Parameter	Standard	Exp. Date	Lot #	Morning Calibration	Evening Check	Additional Calib. Check (if necessary)
First Point Calibration	O2 (%)				Time: Initials: Value:	Time: Initials: Value:	Time: Initials: Value:
	%LEL Pentane				Value:	Value:	Value:

WATER QUALITY METER

Model:

Equipment ID #:

	Parameter	Standard	Exp. Date	Lot #	Morning Calibration Check	Evening Check (one parameter)	Additional Calib. Check (if necessary)
First Point Calibration (Packet)	pH	4.00			Time: Initials: Value:	Time: Initials: Value:	Time: Initials: Value:
	Conductivity (mS/cm)	4.49			Value:	Value:	Value:
	Turbidity (NTU)	0			Value:	Value:	Value:
	DO (mg/L)	8.9-9.1 (ambient air)	NA	NA			
Second Point Calibration	pH	6.86			Value:	Value:	Value:
	Conductivity (mS/cm)	58.7			Value:	Value:	Value:
	Turbidity (NTU)	100			Value:	Value:	Value:
Third Point Calibration	pH	9.18			Value:	Value:	Value:
	Conductivity (mS/cm)	82.7			Value:	Value:	Value:
	Turbidity (NTU)	100					

Additional Remarks:

01246372

EQUIPMENT CALIBRATION DAILY LOG

Date: 8/15/23
Project Number: JVPCIBH.0001
Project Name: LHAAP-GWTP
Recorded By: Scott Beesinger

PID

Model: MiniRAE 3000 Bolt: 11.8
Equipment ID #:

	Parameter	Standard	Exp. Date	Lot #	Morning Calibration	Evening Check	Additional Calib. Check (if necessary)
Field Portable Calibration	Vapor conc. (ppm)	0.0 (ambient air)	NA	NA	Time: 0645 Initials: SB Value: TO ZERO SB	Time: Initials: Value:	Time: Initials: Value:
Second Point Calibration	Vapor conc. (ppm)	100 ppm (isobutylene)	12/28/23	JGB-250-100-20	Value: SB	Value:	Value:

COMB. GAS/O2 METER

Model:
Equipment ID #:

	Parameter	Standard	Exp. Date	Lot #	Morning Calibration	Evening Check	Additional Calib. Check (if necessary)
Field Portable Calibration	O2 (%)				Time: Initials: Value:	Time: Initials: Value:	Time: Initials: Value:
	% LEL Pentane				Value:	Value:	Value:

WATER QUALITY METER

Model:
Equipment ID #:

	Parameter	Standard	Exp. Date	Lot #	Morning Calibration Check	Evening Check (one point only)	Additional Calib. Check (if necessary)
Field Portable Calibration (Quality)	pH	4.00			Time: Initials: Value:	Time: Initials: Value:	Time: Initials: Value:
	Conductivity (mS/cm)	1.413			Value:	Value:	Value:
	Turbidity (NTU)	0			Value:	Value:	Value:
	DO (mg/L)	8.5-8.7 (ambient air)	NA	NA	Value:		
Second Point Calibration	pH	9.86			Value:	Value:	Value:
	Conductivity (mS/cm)	53.7			Value:	Value:	Value:
	Turbidity (NTU)	100			Value:	Value:	Value:
Third Point Calibration	pH	9.86			Value:	Value:	Value:
	Conductivity (mS/cm)	53.7			Value:	Value:	Value:
	Turbidity (NTU)	100			Value:	Value:	Value:

01246373

EQUIPMENT CALIBRATION DAILY LOG

Date: 8/2/23

Project Number: JVPCIBH.0001

Project Name: LHAAP-GWTP

Recorded By: Scott Beasinger

PID

Model: MiniRAE 3000

Equipment ID #: [illegible]

Batt. [illegible]: 11.8

Parameter	Standard	Exp. Date	Lot #	Morning Calibration	Evening Check	Additional Calib. Check (if necessary)
First Point Calibration	Vapor conc. (ppm)	0.0 (ambient air)	NA	NA	Time: 0700	Time:	Time:
				Initials: SB	Initials:	Initials:
Second Point Calibration	Vapor conc. (ppm)	100 ppm (isobutylene)	12/28/23	JGB-250-100-20	Value: TD 2420 SB	Value:	Value:
					Value: SB	Value:	Value:

COMB. GAS/O2 METER

Model:

Equipment ID #:

Parameter	Standard	Exp. Date	Lot #	Morning Calibration	Evening Check	Additional Calib. Check (if necessary)
First Point Calibration	O2 (%)			Time:	Time:	Time:
				Initials:	Initials:	Initials:
	% LEL Pentane			Value:	Value:	Value:
				Value:	Value:	Value:

WATER QUALITY METER

Model:

Equipment ID #:

Parameter	Standard	Exp. Date	Lot #	Morning Calibration Check	Evening Check (one parameter)	Additional Calib. Check (if necessary)
First Point Calibration (Check)	pH	4.00		Time:	Time:	Time:
				Initials:	Initials:	Initials:
	Conductivity (mS/cm)	4.49		Value:	Value:	Value:
	Turbidity (NTU)	0		Value:	Value:	Value:
	DO (mg/L)	8.3-8.1 (ambient air)	NA	NA	Value:	Value:	Value:
Second Point Calibration	pH	9.00			Value:	Value:	Value:
	Conductivity (mS/cm)	58.7			Value:	Value:	Value:
	Turbidity (NTU)	100			Value:	Value:	Value:
Third Point Calibration	pH	9.46			Value:	Value:	Value:
	Conductivity (mS/cm)	82.7			Value:	Value:	Value:
	Turbidity (NTU)	100			Value:	Value:	Value:

Additional Comments:

01246374

EQUIPMENT CALIBRATION DAILY LOG

Date: 8/24/23

Project Number: JVPCIBH.0001

Project Name: LHAAP-GWTP

Recorded By: Scott Beasinger

PID

Model: MiniRAE 3000 Batt. %: 100

Equipment ID #:

	Parameter	Standard	Exp. Date	Lot #	Morning Calibration	Evening Check	Additional Calib. Check if Necessary
First Point Calibration	Vapor conc. (ppm)	0.0 (ambient air)	NA	NA	Time: 0650 Initials: SB Value: TO ZERO SB	Time: Initials: Value:	Time: Initials: Value:
Second Point Calibration	Vapor conc. (ppm)	100 ppm (isobutylene)	12/28/23	JGB-250-100-20	Value: SB	Value:	Value:

COMB. GAS/O2 METER

Model:

Equipment ID #:

	Parameter	Standard	Exp. Date	Lot #	Morning Calibration	Evening Check	Additional Calib. Check if Necessary
First Point Calibration	O2 (%)				Time: Initials: Value:	Time: Initials: Value:	Time: Initials: Value:
	% LEL Pentane				Value:	Value:	Value:

WATER QUALITY METER

Model:

Equipment ID #:

	Parameter	Standard	Exp. Date	Lot #	Morning Calibration Check	Evening Check (one point only)	Additional Calib. Check if Necessary
First Point Calibration (Field)	pH	4.01			Time: Initials: Value:	Time: Initials: Value:	Time: Initials: Value:
	Conductivity (mS/cm)	4.49			Value:	Value:	Value:
	Turbidity (NTU)	0			Value:	Value:	Value:
	DO (mg/L)	8.9-9.1 (ambient air)	NA	NA	Value:		
Second Point Calibration	pH	6.86			Value:	Value:	Value:
	Conductivity (mS/cm)	80.7			Value:	Value:	Value:
	Turbidity (NTU)	100			Value:	Value:	Value:
Third Point Calibration	pH	4.01			Value:	Value:	Value:
	Conductivity (mS/cm)	80.7			Value:	Value:	Value:
	Turbidity (NTU)	100			Value:	Value:	Value:

Additional Comments:

01246375

EQUIPMENT CALIBRATION DAILY LOG

Date: 8/29/23

Project Number: JVPCIBH.0001

Project Name: LHAAP-GWTP

Recorded By: Scott Beesinger

PID

Model: MiniRAE 3000

Equipment ID #: Batt: 11.8 Init

Parameter	Standard	Exp. Date	Lot #	Morning Calibration	Evening Check	Additional Calib. Check (if necessary)
First Point Calibration	Vapor conc. (ppm)	0.0 (ambient air)	NA	NA	Time: 0620 Initials: SB	Time: Initials:	Time: Initials:
Second Point Calibration	Vapor conc. (ppm)	100 ppm (isobutylene)	12/28/23	JGB-250-100-20	TO 24RD SB	Value: Value:	Value: Value:

COMB. GAS/O2 METER

Model:

Equipment ID #:

Parameter	Standard	Exp. Date	Lot #	Morning Calibration	Evening Check	Additional Calib. Check (if necessary)
First Point Calibration	O2 (%)				Time: Initials:	Time: Initials:	Time: Initials:
	% LEL Pentane				Value: Value:	Value: Value:	Value: Value:

WATER QUALITY METER

Model:

Equipment ID #:

Parameter	Standard	Exp. Date	Lot #	Morning Calibration Check	Evening Check (one parameter)	Additional Calib. Check (if necessary)
First Point Calibration (Standard)	pH	4.00		Time: Initials:	Time: Initials:	Time: Initials:
	Conductivity (mS/cm)	4.49		Value:	Value:	Value:
	Turbidity (NTU)	0		Value:	Value:	Value:
	DO (mg/L)	6.5-8.3 (ambient air)	NA	Value:	Value:	Value:
Second Point Calibration (Standard)	pH	6.86		Value:	Value:	Value:
	Conductivity (mS/cm)	58.7		Value:	Value:	Value:
	Turbidity (NTU)	100		Value:	Value:	Value:
Third Point Calibration (Standard)	pH	9.18		Value:	Value:	Value:
	Conductivity (mS/cm)	82.7		Value:	Value:	Value:
	Turbidity (NTU)	400		Value:	Value:	Value:

01246376

EQUIPMENT CALIBRATION DAILY LOG

Date: 8/31/23

Project Number: JVPCIBH.0001

Project Name: LHAAP-GWTP

Recorded By: Scott Beasinger

PID

Model: MiniRAE 3000

Equipment ID #: Batt: 11.8 mV

	Parameter	Standard	Exp. Date	Lot #	Morning Calibration	Evening Check	Additional Calib. Check (if necessary)
Span Point Calibration (Gallery)	Vapor conc. (ppm)	0.0 (ambient air)	NA	NA	Time: 0635 Initials: SB Value: TO ZERO SB	Time: Initials: Value:	Time: Initials: Value:
Second Point Calibration	Vapor conc. (ppm)	100 ppm (isobutylene)	12/28/23	JGB-250-100-20	Value: SB	Value:	Value:

COMB. GAS/O2 METER

Model:

Equipment ID #:

	Parameter	Standard	Exp. Date	Lot #	Morning Calibration	Evening Check	Additional Calib. Check (if necessary)
Mid Point Calibration	O2 (%)				Time: Initials: Value:	Time: Initials: Value:	Time: Initials: Value:
	% LEL Pentane				Value:	Value:	Value:

WATER QUALITY METER

Model:

Equipment ID #:

	Parameter	Standard	Exp. Date	Lot #	Morning Calibration Check	Evening Check (one parameter)	Additional Calib. Check (if necessary)
Mid Point Calibration (Gallery)	pH	4.00			Time: Initials: Value:	Time: Initials: Value:	Time: Initials: Value:
	Conductivity (mS/cm)	4.49			Value:	Value:	Value:
	Turbidity (NTU)	0			Value:	Value:	Value:
	DO (mg/L)	8.8-9.1 (ambient air)	NA	NA	Value:		
Second Point Calibration	pH	9.00			Value:	Value:	Value:
	Conductivity (mS/cm)	58.7			Value:	Value:	Value:
	Turbidity (NTU)	100			Value:	Value:	Value:
Third Point Calibration	pH	9.00			Value:	Value:	Value:
	Conductivity (mS/cm)	58.7			Value:	Value:	Value:
	Turbidity (NTU)	100			Value:	Value:	Value:

EQUIPMENT CALIBRATION DAILY LOG

Date: 9/5/23

Project Number: JVPCIBH.0001

Project Name: LHAAP-GWTP

Reviewed By: Scott Beesinger

PID

Model: MiniRAE 3000

Equipment ID #: [illegible]

Parameter	Standard	Exp. Date	Lot #	Morning Calibration	Evening Check	Additional Calib. Check (if necessary)
First Point Calibration	Vapor conc. (ppm)	0.0 (ambient air)	NA	NA	Time: 0645 Initials: SB	Time: Initials:	Time: Initials:
Second Point Calibration	Vapor conc. (ppm)	100 ppm (isobutylene)	12/28/23	JGB-250-100-20	Value: TO ZERO SB Value: SB	Value: Value:	Value: Value:

COMB. GAS/O2 METER

Model:

Equipment ID #:

Parameter	Standard	Exp. Date	Lot #	Morning Calibration	Evening Check	Additional Calib. Check (if necessary)
First Point Calibration	O2 (%)				Time: Initials:	Time: Initials:	Time: Initials:
	% LEL Pentane				Value: Value:	Value: Value:	Value: Value:

WATER QUALITY METER

Model:

Equipment ID #:

	Parameter	Standard	Exp. Date	Lot #	Morning Calibration Check	Evening Check (one parameter)	Additional Calib. Check (if necessary)
First Point Calibration (Field)	pH	4.00			Time: Initials:	Time: Initials:	Time: Initials:
	Conductivity (mS/cm)	4.49			Value: Value:	Value: Value:	Value: Value:
	Turbidity (NTU)	0			Value: Value:	Value: Value:	Value: Value:
	DO (mg/L)	6.5-8.1 (ambient air)	NA	NA			
Second Point Calibration	pH	6.86			Value:	Value:	Value:
	Conductivity (mS/cm)	58.7			Value:	Value:	Value:
	Turbidity (NTU)	100			Value:	Value:	Value:
Third Point Calibration	pH	9.18			Value:	Value:	Value:
	Conductivity (mS/cm)	80.0			Value:	Value:	Value:
	Turbidity (NTU)	800			Value:	Value:	Value:

EQUIPMENT CALIBRATION DAILY LOG

Date: 9/11/23

Project Number: JVPCIBH.0001

Project Name: LHAAP-GWTP

Recorded By: Scott Beasinger

PID

Model: MiniRAE 3000

Equipment ID #: [illegible]

	Parameter	Standard	Exp. Date	Lot #	Morning Calibration	Evening Check	Additional Calib. Check if Necessary
First Point Calibration	Vapor conc. (ppm)	0.0 (ambient air)	NA	NA	Time: 0640 Initials: SB Value: TO ZERO SB	Time: Initials: Value:	Time: Initials: Value:
Second Point Calibration	Vapor conc. (ppm)	100 ppm (isobutylene)	12/28/23	JGB-250-100-20	Value: SB	Value:	Value:

COMB. GAS/O2 METER

Model:

Equipment ID #:

	Parameter	Standard	Exp. Date	Lot #	Morning Calibration	Evening Check	Additional Calib. Check if Necessary
First Point Calibration	O2 (%)				Time: Initials: Value:	Time: Initials: Value:	Time: Initials: Value:
	% LEL Pentane				Value:	Value:	Value:

WATER QUALITY METER

Model:

Equipment ID #:

	Parameter	Standard	Exp. Date	Lot #	Morning Calibration Check	Evening Check (one point only)	Additional Calib. Check if Necessary
First Point Calibration (Buffer)	pH	4.00			Time: Initials: Value:	Time: Initials: Value:	Time: Initials: Value:
	Conductivity (mS/cm)	4.49			Value:	Value:	Value:
	Turbidity (NTU)	0			Value:	Value:	Value:
	DO (mg/L)	6.5-8.1 (ambient air)	NA	NA	Value:	Value:	Value:
Second Point Calibration	pH	6.86			Value:	Value:	Value:
	Conductivity (mS/cm)	83.7			Value:	Value:	Value:
	Turbidity (NTU)	100			Value:	Value:	Value:
Third Point Calibration	pH	9.18			Value:	Value:	Value:
	Conductivity (mS/cm)	82.7			Value:	Value:	Value:
	Turbidity (NTU)	100			Value:	Value:	Value:

01246379

EQUIPMENT CALIBRATION DAILY LOG

Date: 9/14/23

Project Number: IVPCIBH.0001

Project Name: LHAAP-GWTP

Recorded By: Scott Beesinger

PID

Model: Mini RAE 3000

Equipment ID #: Bulk: 11.8 met

Parameter	Standard	Exp. Date	Lot#	Morning Calibration	Evening Check	Additional Calib. Check (if necessary)
First Point Calibration	Vapor conc. (ppm)	0.0 (ambient air)	NA	NA	Time: 0700 Initials: SB	Time: Initials:	Time: Initials:
Second Point Calibration	Vapor conc. (ppm)	100 ppm (isobutylene)	12/28/23	JGB-250-100-20	TO ZERO SB Value: SB	Value:	Value:

COMB. GAS/O2 METER

Model:

Equipment ID #:

Parameter	Standard	Exp. Date	Lot#	Morning Calibration	Evening Check	Additional Calib. Check (if necessary)
First Point Calibration	O2 (%)				Value:	Value:	Value:
	% LEL Pentane				Value:	Value:	Value:

WATER QUALITY METER

Model:

Equipment ID #:

Parameter	Standard	Exp. Date	Lot#	Morning Calibration Check	Evening Check (one parameter)	Additional Calib. Check (if necessary)
First Point Calibration (Check)	pH	4.00			Value:	Value:	Value:
	Conductivity (mS/cm)	4.49			Value:	Value:	Value:
	Turbidity (NTU)	0			Value:	Value:	Value:
	DO (mg/L)	6.5-8.1 (ambient air)	NA	NA	Value:	Value:	Value:
Second Point Calibration	pH	6.86			Value:	Value:	Value:
	Conductivity (mS/cm)	80.7			Value:	Value:	Value:
	Turbidity (NTU)	100			Value:	Value:	Value:
Third Point Calibration	pH	9.18			Value:	Value:	Value:
	Conductivity (mS/cm)	82.7			Value:	Value:	Value:
	Turbidity (NTU)	100			Value:	Value:	Value:

EQUIPMENT CALIBRATION DAILY LOG

Date: 9/18/23

Project Number: JVPCIBH.0001

Project Name: LHAAP-GWTP

Recorded By: Scott Beasinger

PID

Model: MiniRAE 3000 Equipment ID #: 10.8

Parameter	Standard	Exp. Date	Lot #	Morning Calibration	Evening Check	Additional Calib. Check if necessary
First Point Calibration: Calibration Gas	Vapor conc. (ppm)	0.0 (ambient air)	NA	NA	Time: 0630 Initials: SB	Time: Initials:	Time: Initials:
Second Point Calibration: Calibration Gas	Vapor conc. (ppm)	100 ppm (isobutylene)	12/28/23	NGB-250-100-20	Value: TD 24.20 SB	Value:	Value:

COMB. GAS/O2 METER

Model:

Equipment ID #:

Parameter	Standard	Exp. Date	Lot #	Morning Calibration	Evening Check	Additional Calib. Check if necessary
First Point Calibration:	O2 (%)				Time:	Time:	Time:
	% LEL Pentane				Initials:	Initials:	Initials:
					Value:	Value:	Value:
					Value:	Value:	Value:

WATER QUALITY METER

Model:

Equipment ID #:

Parameter	Standard	Exp. Date	Lot #	Morning Calibration Check	Evening Check (one parameter)	Additional Calib. Check if necessary
First Point Calibration (Combo)	pH	4.00			Time:	Time:	Time:
	Conductivity (mS/cm)	4.49			Initials:	Initials:	Initials:
	Turbidity (NTU)	0			Value:	Value:	Value:
	DO (mg/L)	6.5-8.1 (ambient air)	NA	NA	Value:	Value:	Value:
Second Point Calibration	pH	6.86			Value:	Value:	Value:
	Conductivity (mS/cm)	59.7			Value:	Value:	Value:
	Turbidity (NTU)	100			Value:	Value:	Value:
Third Point Calibration	pH	9.18			Value:	Value:	Value:
	Conductivity (mS/cm)	82.7			Value:	Value:	Value:
	Turbidity (NTU)	800			Value:	Value:	Value:

01246381

EQUIPMENT CALIBRATION DAILY LOG

Date: 9/21/23

Project Number: JVPCIBH.0001

Project Name: LHAAP-GWTP

Recorded By: Scott Beasinger

PID

Model: MiniRAE 3000

Equipment ID #: [redacted]

Date: 11/8 mw

Parameter	Standard	Exp. Date	Lot#	Morning Calibration	Evening Check	Additional Calib. Check (if necessary)
Field Pulled Calibration	Vapor conc. (ppm)	0.0 (ambient air)	NA	Time: 0635 Initials: SB	Time: Initials:	Time: Initials:
Second Point Calibration	Vapor conc. (ppm)	100 ppm (isobutylene)	12/28/23	JGB-250-100-20	TO ZERO SB Value: SB	Value:

COMB. GAS/O2 METER

Model:

Equipment ID #:

Parameter	Standard	Exp. Date	Lot#	Morning Calibration	Evening Check	Additional Calib. Check (if necessary)
Field Pulled Calibration	O2 (%)			Time: Initials: Value:	Time: Initials: Value:	Time: Initials: Value:
	% LEL Pentane			Value:	Value:	Value:

WATER QUALITY METER

Model:

Equipment ID #:

Parameter	Standard	Exp. Date	Lot#	Morning Calibration Check	Evening Check (one parameter)	Additional Calib. Check (if necessary)
Field Pulled Calibration (Quality)	pH	4.00		Time: Initials: Value:	Time: Initials: Value:	Time: Initials: Value:
	Conductivity (mS/cm)	4.49		Value:	Value:	Value:
	Turbidity (NTU)	0		Value:	Value:	Value:
	DO (mg/L)	8.5-8.7 (ambient air)	NA	Value:	Value:	Value:
Second Point Calibration	pH	6.86		Value:	Value:	Value:
	Conductivity (mS/cm)	83.7		Value:	Value:	Value:
	Turbidity (NTU)	400		Value:	Value:	Value:
Third Point Calibration	pH	9.18		Value:	Value:	Value:
	Conductivity (mS/cm)	83.7		Value:	Value:	Value:
	Turbidity (NTU)	400		Value:	Value:	Value:

01246382

EQUIPMENT CALIBRATION DAILY LOG

Date: 9/29/23

Project Number: JVPCIBH.0001

Project Name: LHAAP-GWTP

Recorded By: Scott Beasinger

PID

Model: MiniRAE 3000

Equipment ID #: Bale: 10.8 eV

	Parameter	Standard	Exp. Date	Lot #	Morning Calibration	Evening Check	Additional Calib. Check (if necessary)
Field Point Calibration	Vapor conc. (ppm)	0.0 (ambient air)	NA	NA	Time: 0620	Time:	Time:
					Initials: SB	Initials:	Initials:
Secondary Point Calibration	Vapor conc. (ppm)	100 ppm (isobutylene)	12/28/23	NGB-250-100-20	Value: TD 2420 SB	Value:	Value:
					Value: SB	Value:	Value:

CONDS. GAS/O2 METER

Model:

Equipment ID #:

	Parameter	Standard	Exp. Date	Lot #	Morning Calibration	Evening Check	Additional Calib. Check (if necessary)
Field Point Calibration	O2 (%)				Time:	Time:	Time:
					Initials:	Initials:	Initials:
	% LEL Pentane				Value:	Value:	Value:
					Value:	Value:	Value:

WATER QUALITY METER

Model:

Equipment ID #:

	Parameter	Standard	Exp. Date	Lot #	Morning Calibration Check	Evening Check (one parameter)	Additional Calib. Check (if necessary)
Field Point Calibration (Grab)					Time:	Time:	Time:
					Initials:	Initials:	Initials:
	pH	4.00			Value:	Value:	Value:
	Conductivity (mS/cm)	4.49			Value:	Value:	Value:
	Turbidity (NTU)	0			Value:	Value:	Value:
	DO (mg/L)	8.8-9.1 (ambient air)	NA	NA	Value:	Value:	Value:
Secondary Point Calibration	pH	6.86			Value:	Value:	Value:
	Conductivity (mS/cm)	80.7			Value:	Value:	Value:
	Turbidity (NTU)	100			Value:	Value:	Value:
Field Point Grab Sample	pH	9.16			Value:	Value:	Value:
	Conductivity (mS/cm)	82.7			Value:	Value:	Value:
	Turbidity (NTU)	100			Value:	Value:	Value:

HS23070445 Longhorn GW Treatment Plant
Monthly Effluent Samples Cover Page

ALS WO# HS23070445

ALS Environmental
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WorkOrder: HS23070445

Longhorn GW Treatment Plant Monthly Effluent Samples

Bhate Environmental Associates, Inc.

Marcia Olive
445 Union Blvd Ste 129
Lakewood CO 80228

20-Jul-2023

HS23070445 Longhorn GW Treatment Plant
Monthly Effluent Samples Final

ALS WO# HS23070445

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July 27, 2023

Marcia Olive
Bhate Environmental Associates, Inc.
445 Union Blvd Ste 129
Lakewood, CO 80228

Work Order: **HS23070445**

Laboratory Results for: **Longhorn GW Treatment Plant Monthly Effluent Samples**

Dear Marcia Olive,

ALS Environmental received 3 sample(s) on Jul 11, 2023 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: JUMOKE.LAWAL
James Guin

ALS Houston, US Date: 27-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
Work Order: HS23070445

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS23070445-01	LH18/24-SP650_071023	Water		10-Jul-2023 13:00	11-Jul-2023 09:20	☐
HS23070445-02	LH18/24-SP650_071023_AIX	Water		10-Jul-2023 13:00	11-Jul-2023 09:20	☐
HS23070445-03	Trip Blank	Water		10-Jul-2023 00:00	11-Jul-2023 09:20	☐

ALS Houston, US Date: 27-Jul-23

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
Work Order: HS23070445

Work Order Comments

• The analysis for Perchlorate was subcontracted to ALS Houston High-Res Lab. Final report attached

GCMS Semivolatiles by Method SW8270SIM

Batch ID: 197520

Sample ID: HS23070451-04MS

• MS and MSD are for an unrelated sample

GCMS Volatiles by Method SW8260

Batch ID: R441458

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Metals by Method SW6020A

Batch ID: 197656

Sample ID: HS23070447-01MS

• MS and MSD are for an unrelated sample

WetChemistry by Method SW7196

Batch ID: R441079

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

ALS Houston, US Date: 27-Jul-23

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**

Project: Longhorn GW Treatment Plant Monthly Effluent Samples WorkOrder:HS23070445

Sample ID: LH18/24-SP650_071023 Lab ID:HS23070445-01

Collection Date: 10-Jul-2023 13:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	14-Jul-2023 21:33
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	14-Jul-2023 21:33
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	14-Jul-2023 21:33
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	14-Jul-2023 21:33
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	14-Jul-2023 21:33
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	14-Jul-2023 21:33
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Jul-2023 21:33
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Jul-2023 21:33
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	14-Jul-2023 21:33
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	14-Jul-2023 21:33
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Jul-2023 21:33
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	14-Jul-2023 21:33
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	14-Jul-2023 21:33
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	14-Jul-2023 21:33
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	14-Jul-2023 21:33
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	14-Jul-2023 21:33
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Jul-2023 21:33
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Jul-2023 21:33
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	14-Jul-2023 21:33
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Jul-2023 21:33
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	14-Jul-2023 21:33
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	14-Jul-2023 21:33
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Jul-2023 21:33
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	14-Jul-2023 21:33
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Jul-2023 21:33
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Jul-2023 21:33
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	14-Jul-2023 21:33
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	14-Jul-2023 21:33
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	14-Jul-2023 21:33
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Jul-2023 21:33
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	14-Jul-2023 21:33
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	14-Jul-2023 21:33
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	14-Jul-2023 21:33
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	14-Jul-2023 21:33
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	14-Jul-2023 21:33
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	14-Jul-2023 21:33
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Jul-2023 21:33
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	14-Jul-2023 21:33
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	14-Jul-2023 21:33

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 27-Jul-23

Client: Bhate Environmental Associates, Inc.
ANALYTICAL REPORT
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder:HS23070445
Sample ID: LH18/24-SP650_071023
Lab ID:HS23070445-01
Collection Date: 10-Jul-2023 13:00
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	14-Jul-2023 21:33
cis-1,2-Dichloroethene	**2.8**		**0.20**	**1.0**	**1.0**	**ug/L**	1	14-Jul-2023 21:33
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	14-Jul-2023 21:33
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	14-Jul-2023 21:33
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	14-Jul-2023 21:33
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	14-Jul-2023 21:33
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Jul-2023 21:33
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	14-Jul-2023 21:33
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Jul-2023 21:33
m,p-Xylene	2.0	U	0.50	2.0	2.0	ug/L	1	14-Jul-2023 21:33
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	14-Jul-2023 21:33
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Jul-2023 21:33
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Jul-2023 21:33
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Jul-2023 21:33
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Jul-2023 21:33
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Jul-2023 21:33
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Jul-2023 21:33
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Jul-2023 21:33
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Jul-2023 21:33
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	14-Jul-2023 21:33
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	14-Jul-2023 21:33
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	14-Jul-2023 21:33
Trichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	14-Jul-2023 21:33
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	14-Jul-2023 21:33
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	14-Jul-2023 21:33
Surr: 1,2-Dichloroethane-d4	*103*			**0**	*81-118*	*%REC*	*1*	*14-Jul-2023 21:33*
Surr: 4-Bromofluorobenzene	*94.9*			**0**	*85-114*	*%REC*	*1*	*14-Jul-2023 21:33*
Surr: Dibromofluoromethane	*105*			**0**	*80-119*	*%REC*	*1*	*14-Jul-2023 21:33*
Surr: Toluene-d8	*103*			**0**	*89-112*	*%REC*	*1*	*14-Jul-2023 21:33*
SEMIVOLATILES SIM	**Method:SW8270SIM**					Prep:SW3510 / 13-Jul-2023		Analyst: JL
1,4-Dioxane	**1.3**	a	**0.10**	**0.10**	**0.10**	**ug/L**	10	14-Jul-2023 14:00
Surr: 2-Fluorobiphenyl	*118*			**0**	*40-140*	*%REC*	*10*	*14-Jul-2023 14:00*
Surr: 4-Terphenyl-d14	*113*			**0**	*40-140*	*%REC*	*10*	*14-Jul-2023 14:00*
Surr: Nitrobenzene-d5	*116*			**0**	*40-140*	*%REC*	*10*	*14-Jul-2023 14:00*
METALS BY ICPMS BY SW6020A	**Method:SW6020A**					Prep:SW3010A / 17-Jul-2023		Analyst: JC
Barium	**0.294**		**0.00190**	**0.00250**	**0.00500**	**mg/L**	1	17-Jul-2023 22:32
Lead	0.00125	U	0.000600	0.00125	0.00500	mg/L	1	17-Jul-2023 22:32
Selenium	0.00250	U	0.00110	0.00250	0.00500	mg/L	1	17-Jul-2023 22:32
Silver	0.000500	U	0.000200	0.000500	0.00500	mg/L	1	17-Jul-2023 22:32

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 27-Jul-23

Client: Bhate Environmental Associates, Inc.
ANALYTICAL REPORT
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder:HS23070445
Sample ID: LH18/24-SP650_071023
Lab ID:HS23070445-01
Collection Date: 10-Jul-2023 13:00
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
HEXAVALENT CHROMIUM BY SW7196A	**Method:SW7196**							Analyst: MZD
Chromium, Hexavalent	0.00600	U	0.00600	0.00600	0.0100	mg/L	1	11-Jul-2023 10:18

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 27-Jul-23

Client: Bhate Environmental Associates, Inc.

ANALYTICAL REPORT

Project: Longhorn GW Treatment Plant Monthly Effluent Samples WorkOrder:HS23070445

Sample ID: LH18/24-SP650_071023_AIX Lab ID:HS23070445-02

Collection Date: 10-Jul-2023 13:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	25-Jul-2023 15:03

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 27-Jul-23

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**

Project: Longhorn GW Treatment Plant Monthly Effluent Samples WorkOrder:HS23070445

Sample ID: Trip Blank Lab ID:HS23070445-03

Collection Date: 10-Jul-2023 00:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	14-Jul-2023 20:52
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	14-Jul-2023 20:52
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	14-Jul-2023 20:52
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	14-Jul-2023 20:52
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	14-Jul-2023 20:52
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	14-Jul-2023 20:52
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Jul-2023 20:52
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Jul-2023 20:52
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	14-Jul-2023 20:52
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	14-Jul-2023 20:52
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Jul-2023 20:52
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	14-Jul-2023 20:52
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	14-Jul-2023 20:52
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	14-Jul-2023 20:52
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	14-Jul-2023 20:52
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	14-Jul-2023 20:52
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Jul-2023 20:52
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Jul-2023 20:52
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	14-Jul-2023 20:52
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Jul-2023 20:52
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	14-Jul-2023 20:52
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	14-Jul-2023 20:52
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Jul-2023 20:52
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	14-Jul-2023 20:52
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Jul-2023 20:52
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Jul-2023 20:52
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	14-Jul-2023 20:52
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	14-Jul-2023 20:52
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	14-Jul-2023 20:52
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Jul-2023 20:52
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	14-Jul-2023 20:52
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	14-Jul-2023 20:52
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	14-Jul-2023 20:52
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	14-Jul-2023 20:52
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	14-Jul-2023 20:52
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	14-Jul-2023 20:52
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Jul-2023 20:52
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	14-Jul-2023 20:52
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	14-Jul-2023 20:52

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 27-Jul-23

Client: Bhate Environmental Associates, Inc.
ANALYTICAL REPORT
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder:HS23070445
Sample ID: Trip Blank
Lab ID:HS23070445-03
Collection Date: 10-Jul-2023 00:00
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	14-Jul-2023 20:52
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	14-Jul-2023 20:52
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	14-Jul-2023 20:52
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	14-Jul-2023 20:52
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	14-Jul-2023 20:52
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	14-Jul-2023 20:52
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Jul-2023 20:52
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	14-Jul-2023 20:52
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Jul-2023 20:52
m,p-Xylene	2.0	U	0.50	2.0	2.0	ug/L	1	14-Jul-2023 20:52
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	14-Jul-2023 20:52
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	14-Jul-2023 20:52
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Jul-2023 20:52
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Jul-2023 20:52
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Jul-2023 20:52
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Jul-2023 20:52
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Jul-2023 20:52
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Jul-2023 20:52
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	14-Jul-2023 20:52
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	14-Jul-2023 20:52
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	14-Jul-2023 20:52
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	14-Jul-2023 20:52
Trichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	14-Jul-2023 20:52
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	14-Jul-2023 20:52
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	14-Jul-2023 20:52
Surr: 1,2-Dichloroethane-d4	*104*			**0**	*81-118*	*%REC*	*1*	*14-Jul-2023 20:52*
Surr: 4-Bromofluorobenzene	*94.8*			**0**	*85-114*	*%REC*	*1*	*14-Jul-2023 20:52*
Surr: Dibromofluoromethane	*104*			**0**	*80-119*	*%REC*	*1*	*14-Jul-2023 20:52*
Surr: Toluene-d8	*103*			**0**	*89-112*	*%REC*	*1*	*14-Jul-2023 20:52*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Weight / Prep Log

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS23070445

Batch ID: 197520 **Start Date:** 13 Jul 2023 11:30 **End Date:** 13 Jul 2023 11:30
Method: SV AQ SEP FUN EXTRACT-LOWLEV - 3510C **Prep Code:** 3510_B_SIM

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS23070445-01	1	1000 (mL)	1 (mL)	0.001	1-liter amber glass, Neat

Batch ID: 197656 **Start Date:** 17 Jul 2023 08:30 **End Date:** 17 Jul 2023 08:30
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS23070445-01		10 (mL)	10 (mL)	1	120 plastic HNO3

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS23070445

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 197520 (0)	**Test Name :** SEMIVOLATILES SIM				**Matrix:** Water	
HS23070445-01	LH18/24-SP650_071023	10 Jul 2023 13:00		13 Jul 2023 11:30	14 Jul 2023 14:00	10
Batch ID: 197656 (0)	**Test Name :** METALS BY ICPMS BY SW6020A				**Matrix:** Water	
HS23070445-01	LH18/24-SP650_071023	10 Jul 2023 13:00		17 Jul 2023 08:30	17 Jul 2023 22:32	1
Batch ID: R441079 (0)	**Test Name :** HEXAVALENT CHROMIUM BY SW7196A				**Matrix:** Water	
HS23070445-01	LH18/24-SP650_071023	10 Jul 2023 13:00			11 Jul 2023 10:18	1
Batch ID: R441458 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS23070445-01	LH18/24-SP650_071023	10 Jul 2023 13:00			14 Jul 2023 21:33	1
HS23070445-03	Trip Blank	10 Jul 2023 00:00			14 Jul 2023 20:52	1
Batch ID: R442239 (0)	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)				**Matrix:** Water	
HS23070445-02	LH18/24-SP650_071023_AIX	10 Jul 2023 13:00			25 Jul 2023 15:03	1

ALS Houston, US Date: 27-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS23070445

QC BATCH REPORT

Batch ID: 197656 (0) **Instrument: ICPMS06** **Method: METALS BY ICPMS BY SW6020A**

MBLK Sample ID: **MBLK-197656** Units: **mg/L** Analysis Date: **18-Jul-2023 13:47**
Client ID: Run ID: **ICPMS06_441630** SeqNo: **7435593** PrepDate: **17-Jul-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	0.00250	0.00500								U
Lead	0.00125	0.00500								U
Selenium	0.00250	0.00500								U
Silver	0.000500	0.00500								U

LCS Sample ID: **LCS-197656** Units: **mg/L** Analysis Date: **17-Jul-2023 22:16**
Client ID: Run ID: **ICPMS06_441593** SeqNo: **7434190** PrepDate: **17-Jul-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	0.04406	0.00500	0.05	0	88.1	86 - 114				
Selenium	0.04512	0.00500	0.05	0	90.2	80 - 120				
Silver	0.04367	0.00500	0.05	0	87.3	85 - 116				

LCS Sample ID: **LCS-197656** Units: **mg/L** Analysis Date: **18-Jul-2023 13:50**
Client ID: Run ID: **ICPMS06_441630** SeqNo: **7435594** PrepDate: **17-Jul-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lead	0.04902	0.00500	0.05	0	98.0	88 - 115				

MS Sample ID: **HS23070447-01MS** Units: **mg/L** Analysis Date: **17-Jul-2023 22:22**
Client ID: Run ID: **ICPMS06_441593** SeqNo: **7434193** PrepDate: **17-Jul-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	0.2787	0.00500	0.05	0.2248	108	86 - 114				O
Lead	0.04434	0.00500	0.05	0.000238	88.2	88 - 115				
Selenium	0.04331	0.00500	0.05	0.000407	85.8	80 - 120				
Silver	0.04171	0.00500	0.05	0.000007	83.4	85 - 116				S

ALS Houston, US Date: 27-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS23070445

QC BATCH REPORT

Batch ID: 197656 (0) **Instrument: ICPMS06** **Method: METALS BY ICPMS BY SW6020A**

MSD Sample ID: **HS23070447-01MSD** Units: **mg/L** Analysis Date: **17-Jul-2023 22:24**
Client ID: Run ID: **ICPMS06_441593** SeqNo: **7434194** PrepDate: **17-Jul-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	0.2761	0.00500	0.05	0.2248	103	86 - 114	0.2787	0.948	20	O
Lead	0.04486	0.00500	0.05	0.000238	89.3	88 - 115	0.04434	1.18	20	
Selenium	0.04436	0.00500	0.05	0.000407	87.9	80 - 120	0.04331	2.38	20	
Silver	0.04124	0.00500	0.05	0.000007	82.5	85 - 116	0.04171	1.14	20	S

PDS Sample ID: **HS23070447-01PDS** Units: **mg/L** Analysis Date: **17-Jul-2023 22:26**
Client ID: Run ID: **ICPMS06_441593** SeqNo: **7434195** PrepDate: **17-Jul-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	0.3249	0.00500	0.1	0.2248	100	80 - 120				
Lead	0.08964	0.00500	0.1	0.000238	89.4	80 - 120				
Selenium	0.0887	0.00500	0.1	0.000407	88.3	80 - 120				
Silver	0.0905	0.00500	0.1	0.000007	90.5	80 - 120				

SD Sample ID: **HS23070447-01SD** Units: **mg/L** Analysis Date: **17-Jul-2023 22:20**
Client ID: Run ID: **ICPMS06_441593** SeqNo: **7434192** PrepDate: **17-Jul-2023** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Lead	0.00625	0.0250					0.000238	0	10	U
Selenium	0.0125	0.0250					0.000407	0	10	U
Silver	0.00250	0.0250					0.000007	0	10	U

The following samples were analyzed in this batch: HS23070445-01

ALS Houston, US Date: 27-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS23070445

QC BATCH REPORT

Batch ID: 197520 (0) **Instrument: SV-6** **Method: SEMIVOLATILES SIM**

MBLK Sample ID: **MBLK-197520** Units: **ug/L** Analysis Date: **14-Jul-2023 11:37**
Client ID: Run ID: **SV-6_441538** SeqNo: **7432615** PrepDate: **13-Jul-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dioxane	0.010	0.030								U
Surr: 2-Fluorobiphenyl	*0.09182*	*0*	*0.08*	*0*	*115*	*40 - 140*				
Surr: 4-Terphenyl-d14	*0.08642*	*0*	*0.08*	*0*	*108*	*40 - 140*				
Surr: Nitrobenzene-d5	*0.0818*	*0*	*0.08*	*0*	*102*	*40 - 140*				

LCS Sample ID: **LCS-197520** Units: **ug/L** Analysis Date: **14-Jul-2023 11:55**
Client ID: Run ID: **SV-6_441538** SeqNo: **7432616** PrepDate: **13-Jul-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dioxane	0.07185	0.030	0.08	0	89.8	40 - 140				
Surr: 2-Fluorobiphenyl	*0.09038*	*0*	*0.08*	*0*	*113*	*40 - 140*				
Surr: 4-Terphenyl-d14	*0.09356*	*0*	*0.08*	*0*	*117*	*40 - 140*				
Surr: Nitrobenzene-d5	*0.07926*	*0*	*0.08*	*0*	*99.1*	*40 - 140*				

LCSD Sample ID: **LCSD-197520** Units: **ug/L** Analysis Date: **14-Jul-2023 12:13**
Client ID: Run ID: **SV-6_441538** SeqNo: **7432617** PrepDate: **13-Jul-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dioxane	0.07035	0.030	0.08	0	87.9	40 - 140	0.07185	2.1	20	
Surr: 2-Fluorobiphenyl	*0.09015*	*0*	*0.08*	*0*	*113*	*40 - 140*	*0.09038*	*0.259*	*20*	
Surr: 4-Terphenyl-d14	*0.09118*	*0*	*0.08*	*0*	*114*	*40 - 140*	*0.09356*	*2.58*	*20*	
Surr: Nitrobenzene-d5	*0.08532*	*0*	*0.08*	*0*	*107*	*40 - 140*	*0.07926*	*7.37*	*20*	

The following samples were analyzed in this batch: HS23070445-01

ALS Houston, US Date: 27-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS23070445

QC BATCH REPORT

Batch ID: R441458 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-230714** Units: **ug/L** Analysis Date: **14-Jul-2023 19:10**
Client ID: Run ID: **VOA6_441458** SeqNo: **7430561** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	1.0	1.0								U
1,1,1-Trichloroethane	1.0	1.0								U
1,1,2,2-Tetrachloroethane	1.0	1.0								U
1,1,2-Trichloroethane	1.0	1.0								U
1,1-Dichloroethane	1.0	1.0								U
1,1-Dichloroethene	1.0	1.0								U
1,1-Dichloropropene	1.0	1.0								U
1,2,3-Trichlorobenzene	1.0	1.0								U
1,2,3-Trichloropropane	1.0	1.0								U
1,2,4-Trichlorobenzene	1.0	1.0								U
1,2,4-Trimethylbenzene	1.0	1.0								U
1,2-Dibromo-3-chloropropane	1.0	1.0								U
1,2-Dibromoethane	1.0	1.0								U
1,2-Dichlorobenzene	1.0	1.0								U
1,2-Dichloroethane	1.0	1.0								U
1,2-Dichloropropane	1.0	1.0								U
1,3,5-Trimethylbenzene	1.0	1.0								U
1,3-Dichlorobenzene	1.0	1.0								U
1,3-Dichloropropane	1.0	1.0								U
1,4-Dichlorobenzene	1.0	1.0								U
2,2-Dichloropropane	1.0	1.0								U
2-Butanone	1.0	2.0								U
2-Chlorotoluene	1.0	1.0								U
2-Hexanone	1.0	2.0								U
4-Chlorotoluene	1.0	1.0								U
4-Isopropyltoluene	1.0	1.0								U
4-Methyl-2-pentanone	1.0	2.0								U
Acetone	1.0	2.0								U
Benzene	1.0	1.0								U
Bromobenzene	1.0	1.0								U
Bromochloromethane	1.0	1.0								U
Bromodichloromethane	1.0	1.0								U
Bromoform	1.0	1.0								U
Bromomethane	1.0	1.0								U

ALS Houston, US Date: 27-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS23070445

QC BATCH REPORT

Batch ID: R441458 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-230714** Units: **ug/L** Analysis Date: **14-Jul-2023 19:10**
Client ID: Run ID: **VOA6_441458** SeqNo: **7430561** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	1.0	2.0								U
Carbon tetrachloride	1.0	1.0								U
Chlorobenzene	1.0	1.0								U
Chloroethane	1.0	1.0								U
Chloroform	1.0	1.0								U
Chloromethane	1.0	1.0								U
cis-1,2-Dichloroethene	1.0	1.0								U
cis-1,3-Dichloropropene	1.0	1.0								U
Dibromochloromethane	1.0	1.0								U
Dibromomethane	1.0	1.0								U
Dichlorodifluoromethane	1.0	1.0								U
Ethylbenzene	1.0	1.0								U
Hexachlorobutadiene	1.0	1.0								U
Isopropylbenzene	1.0	1.0								U
m,p-Xylene	2.0	2.0								U
Methylene chloride	1.0	2.0								U
Naphthalene	1.0	1.0								U
n-Butylbenzene	1.0	1.0								U
n-Propylbenzene	1.0	1.0								U
o-Xylene	1.0	1.0								U
sec-Butylbenzene	1.0	1.0								U
Styrene	1.0	1.0								U
tert-Butylbenzene	1.0	1.0								U
Tetrachloroethene	1.0	1.0								U
Toluene	1.0	1.0								U
trans-1,2-Dichloroethene	1.0	1.0								U
trans-1,3-Dichloropropene	1.0	1.0								U
Trichloroethene	1.0	1.0								U
Trichlorofluoromethane	1.0	1.0								U
Vinyl chloride	1.0	1.0								U
Surr: 1,2-Dichloroethane-d4	*51.92*	*1.0*	*50*	*0*	*104*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*45.83*	*1.0*	*50*	*0*	*91.7*	*85 - 114*				
Surr: Dibromofluoromethane	*51.38*	*1.0*	*50*	*0*	*103*	*80 - 119*				
Surr: Toluene-d8	*50.91*	*1.0*	*50*	*0*	*102*	*89 - 112*				

ALS Houston, US Date: 27-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS23070445

QC BATCH REPORT

Batch ID: R441458 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-230714** Units: **ug/L** Analysis Date: **14-Jul-2023 18:29**
Client ID: Run ID: **VOA6_441458** SeqNo: **7430560** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	20.7	1.0	20	0	103	78 - 124				
1,1,1-Trichloroethane	20.52	1.0	20	0	103	74 - 131				
1,1,2,2-Tetrachloroethane	20.52	1.0	20	0	103	71 - 121				
1,1,2-Trichloroethane	20.26	1.0	20	0	101	80 - 119				
1,1-Dichloroethane	20.15	1.0	20	0	101	77 - 125				
1,1-Dichloroethene	19.86	1.0	20	0	99.3	71 - 131				
1,1-Dichloropropene	20.02	1.0	20	0	100	78 - 125				
1,2,3-Trichlorobenzene	18.52	1.0	20	0	92.6	69 - 129				
1,2,3-Trichloropropane	19.18	1.0	20	0	95.9	73 - 122				
1,2,4-Trichlorobenzene	18.32	1.0	20	0	91.6	69 - 130				
1,2,4-Trimethylbenzene	20.02	1.0	20	0	100	76 - 124				
1,2-Dibromo-3-chloropropane	20.05	1.0	20	0	100	62 - 128				
1,2-Dibromoethane	19.23	1.0	20	0	96.2	77 - 121				
1,2-Dichlorobenzene	20.94	1.0	20	0	105	80 - 119				
1,2-Dichloroethane	20.68	1.0	20	0	103	73 - 128				
1,2-Dichloropropane	20.11	1.0	20	0	101	78 - 122				
1,3,5-Trimethylbenzene	19.79	1.0	20	0	99.0	75 - 124				
1,3-Dichlorobenzene	20.54	1.0	20	0	103	80 - 119				
1,3-Dichloropropane	19.87	1.0	20	0	99.4	80 - 119				
1,4-Dichlorobenzene	19.7	1.0	20	0	98.5	79 - 118				
2,2-Dichloropropane	20.37	1.0	20	0	102	60 - 139				
2-Butanone	37.78	2.0	40	0	94.4	56 - 143				
2-Chlorotoluene	20.62	1.0	20	0	103	79 - 122				
2-Hexanone	42.1	2.0	40	0	105	57 - 139				
4-Chlorotoluene	20.89	1.0	20	0	104	78 - 122				
4-Isopropyltoluene	19.86	1.0	20	0	99.3	77 - 127				
4-Methyl-2-pentanone	40.25	2.0	40	0	101	67 - 130				
Acetone	43.73	2.0	40	0	109	39 - 160				
Benzene	20.02	1.0	20	0	100	79 - 120				
Bromobenzene	20.72	1.0	20	0	104	80 - 120				
Bromochloromethane	19.73	1.0	20	0	98.6	78 - 123				
Bromodichloromethane	19.15	1.0	20	0	95.8	79 - 125				
Bromoform	20.47	1.0	20	0	102	66 - 130				
Bromomethane	21.85	1.0	20	0	109	53 - 141				

ALS Houston, US Date: 27-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS23070445

QC BATCH REPORT

Batch ID: R441458 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-230714** Units: **ug/L** Analysis Date: **14-Jul-2023 18:29**
Client ID: Run ID: **VOA6_441458** SeqNo: **7430560** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	39.86	2.0	40	0	99.7	64 - 133				
Carbon tetrachloride	19.26	1.0	20	0	96.3	72 - 136				
Chlorobenzene	20.29	1.0	20	0	101	82 - 118				
Chloroethane	19.18	1.0	20	0	95.9	60 - 138				
Chloroform	20.03	1.0	20	0	100	79 - 124				
Chloromethane	20.62	1.0	20	0	103	50 - 139				
cis-1,2-Dichloroethene	20.26	1.0	20	0	101	78 - 123				
cis-1,3-Dichloropropene	20.06	1.0	20	0	100	75 - 124				
Dibromochloromethane	19.7	1.0	20	0	98.5	74 - 126				
Dibromomethane	20.14	1.0	20	0	101	79 - 123				
Dichlorodifluoromethane	19.66	1.0	20	0	98.3	32 - 152				
Ethylbenzene	20.09	1.0	20	0	100	79 - 121				
Hexachlorobutadiene	20.31	1.0	20	0	102	66 - 134				
Isopropylbenzene	20.24	1.0	20	0	101	72 - 131				
m,p-Xylene	41.22	2.0	40	0	103	80 - 121				
Methylene chloride	21.1	2.0	20	0	105	74 - 124				
Naphthalene	18.36	1.0	20	0	91.8	61 - 128				
n-Butylbenzene	20.69	1.0	20	0	103	75 - 128				
n-Propylbenzene	21.46	1.0	20	0	107	76 - 126				
o-Xylene	20.8	1.0	20	0	104	78 - 122				
sec-Butylbenzene	21.05	1.0	20	0	105	77 - 126				
Styrene	20.33	1.0	20	0	102	78 - 123				
tert-Butylbenzene	20.58	1.0	20	0	103	78 - 124				
Tetrachloroethene	20.94	1.0	20	0	105	74 - 129				
Toluene	20.44	1.0	20	0	102	80 - 121				
trans-1,2-Dichloroethene	19.19	1.0	20	0	95.9	75 - 124				
trans-1,3-Dichloropropene	19.57	1.0	20	0	97.8	73 - 127				
Trichloroethene	20.01	1.0	20	0	100	79 - 123				
Trichlorofluoromethane	20.82	1.0	20	0	104	65 - 141				
Vinyl chloride	19.72	1.0	20	0	98.6	58 - 137				
Surr: 1,2-Dichloroethane-d4	*52.91*	*1.0*	*50*	*0*	*106*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.67*	*1.0*	*50*	*0*	*101*	*85 - 114*				
Surr: Dibromofluoromethane	*53.75*	*1.0*	*50*	*0*	*107*	*80 - 119*				
Surr: Toluene-d8	*46.79*	*1.0*	*50*	*0*	*93.6*	*89 - 112*				

ALS Houston, US Date: 27-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS23070445

QC BATCH REPORT

Batch ID: R441458 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS23070451-04MS** Units: **ug/L** Analysis Date: **14-Jul-2023 22:14**
Client ID: Run ID: **VOA6_441458** SeqNo: **7430566** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	21.65	1.0	20	0	108	78 - 124				
1,1,1-Trichloroethane	21.4	1.0	20	0	107	74 - 131				
1,1,2,2-Tetrachloroethane	23.31	1.0	20	0	117	71 - 121				
1,1,2-Trichloroethane	22.17	1.0	20	0	111	80 - 119				
1,1-Dichloroethane	21.35	1.0	20	0	107	77 - 125				
1,1-Dichloroethene	21.32	1.0	20	0	107	71 - 131				
1,1-Dichloropropene	21.91	1.0	20	0	110	78 - 125				
1,2,3-Trichlorobenzene	16.21	1.0	20	0	81.0	69 - 129				
1,2,3-Trichloropropane	22.3	1.0	20	0	111	73 - 122				
1,2,4-Trichlorobenzene	18.02	1.0	20	0	90.1	69 - 130				
1,2,4-Trimethylbenzene	20.29	1.0	20	0	101	76 - 124				
1,2-Dibromo-3-chloropropane	24.47	1.0	20	0	122	62 - 128				
1,2-Dibromoethane	24	1.0	20	0	120	77 - 121				
1,2-Dichlorobenzene	21.39	1.0	20	0	107	80 - 119				
1,2-Dichloroethane	22.21	1.0	20	0	111	73 - 128				
1,2-Dichloropropane	22.29	1.0	20	0	111	78 - 122				
1,3,5-Trimethylbenzene	19.06	1.0	20	0	95.3	75 - 124				
1,3-Dichlorobenzene	20.9	1.0	20	0	105	80 - 119				
1,3-Dichloropropane	22.58	1.0	20	0	113	80 - 119				
1,4-Dichlorobenzene	20.96	1.0	20	0	105	79 - 118				
2,2-Dichloropropane	19.65	1.0	20	0	98.3	60 - 139				
2-Butanone	42.74	2.0	40	0	107	56 - 143				
2-Chlorotoluene	21.24	1.0	20	0	106	79 - 122				
2-Hexanone	59.44	2.0	40	9.482	125	57 - 139				
4-Chlorotoluene	22.5	1.0	20	0	112	78 - 122				
4-Isopropyltoluene	21.22	1.0	20	0	106	77 - 127				
4-Methyl-2-pentanone	57.77	2.0	40	9.854	120	67 - 130				
Acetone	45.94	2.0	40	0	115	39 - 160				
Benzene	22.85	1.0	20	0	114	79 - 120				
Bromobenzene	22.13	1.0	20	0	111	80 - 120				
Bromochloromethane	20.28	1.0	20	0	101	78 - 123				
Bromodichloromethane	20.94	1.0	20	0	105	79 - 125				
Bromoform	22.18	1.0	20	0	111	66 - 130				
Bromomethane	9.431	1.0	20	0	47.2	53 - 141				S

ALS Houston, US Date: 27-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS23070445

QC BATCH REPORT

Batch ID: R441458 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS23070451-04MS** Units: **ug/L** Analysis Date: **14-Jul-2023 22:14**
Client ID: Run ID: **VOA6_441458** SeqNo: **7430566** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	56.75	2.0	40	43.44	33.3	64 - 133				S
Carbon tetrachloride	19.75	1.0	20	0	98.8	72 - 136				
Chlorobenzene	21.81	1.0	20	0	109	82 - 118				
Chloroethane	20.52	1.0	20	0	103	60 - 138				
Chloroform	20.21	1.0	20	0	101	79 - 124				
Chloromethane	15.32	1.0	20	0	76.6	50 - 139				
cis-1,2-Dichloroethene	21.66	1.0	20	1.043	103	78 - 123				
cis-1,3-Dichloropropene	20.63	1.0	20	0	103	75 - 124				
Dibromochloromethane	21.9	1.0	20	0	109	74 - 126				
Dibromomethane	21.26	1.0	20	0	106	79 - 123				
Dichlorodifluoromethane	16.03	1.0	20	0	80.2	32 - 152				
Ethylbenzene	21.9	1.0	20	0	109	79 - 121				
Hexachlorobutadiene	18.31	1.0	20	0	91.5	66 - 134				
Isopropylbenzene	22.24	1.0	20	0	111	72 - 131				
m,p-Xylene	44.3	2.0	40	0	111	80 - 121				
Methylene chloride	21.38	2.0	20	0	107	74 - 124				
Naphthalene	13.32	1.0	20	0	66.6	61 - 128				
n-Butylbenzene	20.51	1.0	20	0	103	75 - 128				
n-Propylbenzene	22.83	1.0	20	0	114	76 - 126				
o-Xylene	22.76	1.0	20	0	114	78 - 122				
sec-Butylbenzene	21.89	1.0	20	0	109	77 - 126				
Styrene	20.75	1.0	20	0	104	78 - 123				
tert-Butylbenzene	21.36	1.0	20	0	107	78 - 124				
Tetrachloroethene	24.76	1.0	20	0	124	74 - 129				
Toluene	23.27	1.0	20	0	116	80 - 121				
trans-1,2-Dichloroethene	21.86	1.0	20	0.6444	106	75 - 124				
trans-1,3-Dichloropropene	20.87	1.0	20	0	104	73 - 127				
Trichloroethene	23.96	1.0	20	1.757	111	79 - 123				
Trichlorofluoromethane	20.31	1.0	20	0	102	65 - 141				
Vinyl chloride	20.25	1.0	20	0	101	58 - 137				
Surr: 1,2-Dichloroethane-d4	*53.09*	*1.0*	*50*	*0*	*106*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*48.44*	*1.0*	*50*	*0*	*96.9*	*85 - 114*				
Surr: Dibromofluoromethane	*52.53*	*1.0*	*50*	*0*	*105*	*80 - 119*				
Surr: Toluene-d8	*51.26*	*1.0*	*50*	*0*	*103*	*89 - 112*				

ALS Houston, US Date: 27-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS23070445

QC BATCH REPORT

Batch ID: R441458 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS23070451-04MSD** Units: **ug/L** Analysis Date: **14-Jul-2023 22:34**
Client ID: Run ID: **VOA6_441458** SeqNo: **7430567** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	22.17	1.0	20	0	111	78 - 124	21.65	2.38	20	
1,1,1-Trichloroethane	21.88	1.0	20	0	109	74 - 131	21.4	2.24	20	
1,1,2,2-Tetrachloroethane	24.89	1.0	20	0	124	71 - 121	23.31	6.56	20	S
1,1,2-Trichloroethane	23.33	1.0	20	0	117	80 - 119	22.17	5.1	20	
1,1-Dichloroethane	20.93	1.0	20	0	105	77 - 125	21.35	1.95	20	
1,1-Dichloroethene	21.69	1.0	20	0	108	71 - 131	21.32	1.73	20	
1,1-Dichloropropene	23.01	1.0	20	0	115	78 - 125	21.91	4.92	20	
1,2,3-Trichlorobenzene	16.91	1.0	20	0	84.6	69 - 129	16.21	4.25	20	
1,2,3-Trichloropropane	24.21	1.0	20	0	121	73 - 122	22.3	8.22	20	
1,2,4-Trichlorobenzene	18.63	1.0	20	0	93.1	69 - 130	18.02	3.33	20	
1,2,4-Trimethylbenzene	22.08	1.0	20	0	110	76 - 124	20.29	8.43	20	
1,2-Dibromo-3-chloropropane	27.8	1.0	20	0	139	62 - 128	24.47	12.8	20	S
1,2-Dibromoethane	23.13	1.0	20	0	116	77 - 121	24	3.69	20	
1,2-Dichlorobenzene	22.4	1.0	20	0	112	80 - 119	21.39	4.61	20	
1,2-Dichloroethane	22.06	1.0	20	0	110	73 - 128	22.21	0.687	20	
1,2-Dichloropropane	22.31	1.0	20	0	112	78 - 122	22.29	0.0745	20	
1,3,5-Trimethylbenzene	20.64	1.0	20	0	103	75 - 124	19.06	7.98	20	
1,3-Dichlorobenzene	22.71	1.0	20	0	114	80 - 119	20.9	8.3	20	
1,3-Dichloropropane	22.63	1.0	20	0	113	80 - 119	22.58	0.22	20	
1,4-Dichlorobenzene	21.96	1.0	20	0	110	79 - 118	20.96	4.66	20	
2,2-Dichloropropane	19.6	1.0	20	0	98.0	60 - 139	19.65	0.274	20	
2-Butanone	41.39	2.0	40	0	103	56 - 143	42.74	3.2	20	
2-Chlorotoluene	21.86	1.0	20	0	109	79 - 122	21.24	2.86	20	
2-Hexanone	59.75	2.0	40	9.482	126	57 - 139	59.44	0.528	20	
4-Chlorotoluene	23.43	1.0	20	0	117	78 - 122	22.5	4.07	20	
4-Isopropyltoluene	22.74	1.0	20	0	114	77 - 127	21.22	6.95	20	
4-Methyl-2-pentanone	57.69	2.0	40	9.854	120	67 - 130	57.77	0.14	20	
Acetone	47.95	2.0	40	0	120	39 - 160	45.94	4.29	20	
Benzene	22.08	1.0	20	0	110	79 - 120	22.85	3.4	20	
Bromobenzene	23.62	1.0	20	0	118	80 - 120	22.13	6.52	20	
Bromochloromethane	21.17	1.0	20	0	106	78 - 123	20.28	4.3	20	
Bromodichloromethane	20.97	1.0	20	0	105	79 - 125	20.94	0.148	20	
Bromoform	22.25	1.0	20	0	111	66 - 130	22.18	0.285	20	
Bromomethane	11.34	1.0	20	0	56.7	53 - 141	9.431	18.4	20	

ALS Houston, US Date: 27-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS23070445

QC BATCH REPORT

Batch ID: R441458 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS23070451-04MSD** Units: **ug/L** Analysis Date: **14-Jul-2023 22:34**
Client ID: Run ID: **VOA6_441458** SeqNo: **7430567** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	57.5	2.0	40	43.44	35.1	64 - 133	56.75	1.31	20	S
Carbon tetrachloride	19.68	1.0	20	0	98.4	72 - 136	19.75	0.381	20	
Chlorobenzene	22.56	1.0	20	0	113	82 - 118	21.81	3.37	20	
Chloroethane	20.94	1.0	20	0	105	60 - 138	20.52	2.02	20	
Chloroform	19.99	1.0	20	0	100.0	79 - 124	20.21	1.09	20	
Chloromethane	15.61	1.0	20	0	78.1	50 - 139	15.32	1.86	20	
cis-1,2-Dichloroethene	22.03	1.0	20	1.043	105	78 - 123	21.66	1.7	20	
cis-1,3-Dichloropropene	20.95	1.0	20	0	105	75 - 124	20.63	1.56	20	
Dibromochloromethane	21.76	1.0	20	0	109	74 - 126	21.9	0.642	20	
Dibromomethane	21.49	1.0	20	0	107	79 - 123	21.26	1.07	20	
Dichlorodifluoromethane	17.1	1.0	20	0	85.5	32 - 152	16.03	6.42	20	
Ethylbenzene	22.5	1.0	20	0	113	79 - 121	21.9	2.73	20	
Hexachlorobutadiene	20.43	1.0	20	0	102	66 - 134	18.31	11	20	
Isopropylbenzene	22.85	1.0	20	0	114	72 - 131	22.24	2.7	20	
m,p-Xylene	46.16	2.0	40	0	115	80 - 121	44.3	4.11	20	
Methylene chloride	21.28	2.0	20	0	106	74 - 124	21.38	0.448	20	
Naphthalene	14.37	1.0	20	0	71.8	61 - 128	13.32	7.56	20	
n-Butylbenzene	23.32	1.0	20	0	117	75 - 128	20.51	12.8	20	
n-Propylbenzene	24.1	1.0	20	0	121	76 - 126	22.83	5.41	20	
o-Xylene	23.15	1.0	20	0	116	78 - 122	22.76	1.7	20	
sec-Butylbenzene	23.28	1.0	20	0	116	77 - 126	21.89	6.18	20	
Styrene	21.48	1.0	20	0	107	78 - 123	20.75	3.47	20	
tert-Butylbenzene	23.18	1.0	20	0	116	78 - 124	21.36	8.15	20	
Tetrachloroethene	25.23	1.0	20	0	126	74 - 129	24.76	1.89	20	
Toluene	24.05	1.0	20	0	120	80 - 121	23.27	3.29	20	
trans-1,2-Dichloroethene	22.37	1.0	20	0.6444	109	75 - 124	21.86	2.34	20	
trans-1,3-Dichloropropene	20.83	1.0	20	0	104	73 - 127	20.87	0.2	20	
Trichloroethene	23.91	1.0	20	1.757	111	79 - 123	23.96	0.227	20	
Trichlorofluoromethane	21.03	1.0	20	0	105	65 - 141	20.31	3.5	20	
Vinyl chloride	20.81	1.0	20	0	104	58 - 137	20.25	2.74	20	
Surr: 1,2-Dichloroethane-d4	*53.61*	*1.0*	*50*	*0*	*107*	*81 - 118*	*53.09*	*0.976*	*20*	
Surr: 4-Bromofluorobenzene	*48.71*	*1.0*	*50*	*0*	*97.4*	*85 - 114*	*48.44*	*0.539*	*20*	
Surr: Dibromofluoromethane	*53.95*	*1.0*	*50*	*0*	*108*	*80 - 119*	*52.53*	*2.66*	*20*	
Surr: Toluene-d8	*51.24*	*1.0*	*50*	*0*	*102*	*89 - 112*	*51.26*	*0.0393*	*20*	

ALS Houston, US Date: 27-Jul-23

Client:	Bhate Environmental Associates, Inc.
Project:	Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder:	HS23070445

QC BATCH REPORT

Batch ID:	**R441458 (0)**	**Instrument:**	**VOA6**	**Method:**	**VOLATILES ORGANICS BY METHOD 8260C**

The following samples were analyzed in this batch: HS23070445-01 HS23070445-03

ALS Houston, US Date: 27-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS23070445

QC BATCH REPORT

Batch ID: R441079 (0) **Instrument: UV-2450** **Method: HEXAVALENT CHROMIUM BY SW7196A**

MBLK Sample ID: **MBLK-R441079** Units: **mg/L** Analysis Date: **11-Jul-2023 10:18**
Client ID: Run ID: **UV-2450_441079** SeqNo: **7421070** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0	0.0100								U

LCS Sample ID: **LCS-R441079** Units: **mg/L** Analysis Date: **11-Jul-2023 10:18**
Client ID: Run ID: **UV-2450_441079** SeqNo: **7421069** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.251	0.0100	0.25	0	100	80 - 120				

MS Sample ID: **HS23070378-01MS** Units: **mg/L** Analysis Date: **11-Jul-2023 10:18**
Client ID: Run ID: **UV-2450_441079** SeqNo: **7421072** PrepDate: DF: **50**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	12.55	0.500	12.5	0	100	86 - 117				

MSD Sample ID: **HS23070378-01MSD** Units: **mg/L** Analysis Date: **11-Jul-2023 10:18**
Client ID: Run ID: **UV-2450_441079** SeqNo: **7421071** PrepDate: DF: **50**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	12.55	0.500	12.5	0	100	86 - 117	12.55	0	15	

The following samples were analyzed in this batch: HS23070445-01

ALS Houston, US Date: 27-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: **HS23070445**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	88-00356	27-Mar-2024
California	2919; 2024	30-Apr-2024
Dept of Defense	L23-358	31-May-2025
Florida	E87611-38	30-Jun-2024
Illinois	2000322023-11	30-Jun-2024
Kansas	E-10352; 2022-2023	31-Jul-2023
Louisiana	03087-2023	30-Jun-2024
Maryland	343; 2023-2024	30-Jun-2024
North Carolina	624-2023	31-Dec-2023
North Dakota	R-193 2023-2024	30-Apr-2024
Oklahoma	2022-141	31-Aug-2023
Texas	T104704231-23-31	30-Apr-2024
Utah	TX026932023-14	31-Jul-2024

ALS Houston, US Date: 27-Jul-23

Sample Receipt Checklist

Work Order ID: HS23070445 **Date/Time Received:** 11-Jul-2023 09:20

Client Name: Bhate Environmental **Received by:** Paresh M. Giga

Completed By: /S/ Nilesh D. Ranchod (eSignature) 11-Jul-2023 09:20 (Date/Time) **Reviewed by:** (eSignature) (Date/Time)

Matrices: **Water** Carrier name: **FedEx Priority Overnight**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:none
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	2.5C/2.4C U/C	IR31
Cooler(s)/Kit(s):	46293	
Date/Time sample(s) sent to storage:	07/11/23 11:45	

Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

CHAIN OF CUSTODY

Name Of Lab Shipping To: ALS 10450 Stancliff Rd., Suite 210 Houston, TX 77099 (281) 530 - 5656 ATTN: Dane Wacasey

Project: BHATE
LONGHORN ARMY AMMN. PLANT (LHAAP)
GROUNDWATER TREATMENT PLANT (GWTP)
KARNACK, TEXAS

Project No. NWO1312.0150.0 16.0001

Job:
GROUNDWATER TREATMENT PLANT MONTHLY EFFLUENT SAMPLES

Prepared By: Scott Beesinger

P.O. Number

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	VOLATILES	SILVER, SELENIUM, LEAD, BARIUM	HEXAVALENT CHROMIUM	1, 4 - DIOXANE	PERCHLORATE						Remarks (Preservatives, etc.)
LH18/24-SP650_071023	Water	07/10/23 / 13:00		3	X										HCL
LH18/24-SP650_071023	Water	07/10/23 / 13:00		2			X	X							NONE
LH18/24-SP650_071023_AIX	Water	07/10/23 / 13:00		1					X						NONE
LH18/24-SP650_071023	Water	07/10/23 / 13:00		1		X									HNO3
Trip Blank	Water	07/10/23		2	X										HCL

Bhate Environmental Associates, Inc.
Longhorn GW Treatment Plant Monthly Effluent Sam

HS23070445

Additional Remarks: **Standard TAT on all parameters**

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	07/10/23	13:30		7/11/23	08:20						

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition

Remarks: 46293 VIC 2.5 +31 Gi=.1

[Word] 8.5" Less Forms\Chain of Custody - BiWeekly

ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

46293

CUSTODY SEAL

Date: 7/10/23 Time: 1330
Name: Scott Beesinger
Company: Bhate

Seal Broken By:
Date: 07/11/23

46293 JUL 11 2023

46293

ORIGIN ID:SGRA (903) 930-6783
ATT: SCOTT BEESINGER
APTIM ENVIRONMENTAL & INFRAST. INC
1203-B EAST GRAND AVE PMB202

MARSHALL, TX 75670
UNITED STATES US

SHIP DATE: 31JAN23
ACTWGT: 1.00 LB MAN
CAD: 0221247/CAFE3616
DIMS: 19x16x13 IN

TO SHIPPING DEPT
ALS LABORATORY GROUP
10450 STANCLIFF RD
SUITE 210
HOUSTON TX 77099
) 530-5656

REF: LHAAP-46-90619-DW

RMA:

FedEx Express

FedEx
TRK# 0221 6230 2994 7786

TUE - 11 JUL AA
PRIORITY OVERNIGHT

XA SGRA

77099
TX-US
IAH

July 21, 2023 Service Request No:E2300630

Bernadette Fini
ALS Laboratory Group
10450 Stancliff Road
Suite 210
Houston, TX 77099-4338

Laboratory Results for: HS23070445

Dear Bernadette,

Enclosed are the results of the sample(s) submitted to our laboratory July 19, 2023
For your reference, these analyses have been assigned our service request number **E2300630.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current TNI standards, where applicable, and except as noted in the laboratory case narrative provided. All results are intended to be considered in their entirety and ALS Environmental is not responsible for use of less than the complete final report. Results apply only to the items submitted to the laboratory, as received for analysis. In accordance with the current TNI Standard, a statement on the estimated uncertainty of measurement of any quantitative analysis will be supplied upon request.

Please contact me if you have any questions. My extension is 2188. You may also contact me via email at James.Guin@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental



James Guin

ADDRESS 10450 Stancliff Rd., Suite 210, Houston, TX 77099
PHONE +1 281 530 5656 | FAX +1 281 530 5887
ALS Group USA, Corp.
dba ALS Environmental

Certificate of Analysis

ALS Environmental - Houston Specialties Laboratory
10450 Stancliff Rd., Suite 210, Houston TX 77099
Phone (281)530-5656 Fax (281)530-5887
www.alsglobal.com

ALS Environmental

Client:	ALS Environmental - US	**Service Request No.:**	E2300630
Project:	HS23070445	**Date Received:**	07/19/2023
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed in adherence to the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

One sample was received for analysis at ALS Environmental in Houston on 07/19/2023.

The sample was received in good condition and is consistent with the accompanying chain of custody form. The sample was stored in a refrigerator at 4°C upon receipt at the laboratory.

Data Validation Notes and Discussion

Precision and Accuracy:

EQ2300346: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in lieu of a MS/MSD for this extraction batch.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS group USA Corp dba ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

Client: ALS Environmental - US **Service Request:**E2300630
Project: HS23070445

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2300630-001	LH18/24-SP650_071023_AIX	7/10/2023	1300

Service Request Summary

Folder #: **E2300630**
Client Name: ALS Environmental - US
Project Name: HS23070445
Project Number:

Report To: Bernadette Fini
ALS Laboratory Group
10450 Stancliff Road
Houston, TX 77099-4338
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number: 281-530-5887
E-mail: bernadette.fini@alsglobal.com

Project Chemist: James Guin
Originating Lab: HOUSTON
Logged By: KBROWN
Date Received: 07/19/23
Internal Due Date: 7/21/2023
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number:
EDD: No EDD Specified

1 120 mL-Plastic Bottle Natural WM Unpreserved
Location: SUBBED
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2300630-001	LH18/24-SP650_071023_AIX	Water	07/10/23 1300	IV

Service Request Summary

Folder #: **E2300630**
Client Name: ALS Environmental - US
Project Name: HS23070445
Project Number:

Report To: Bernadette Fini
ALS Laboratory Group
10450 Stancliff Road
Houston, TX 77099-4338
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number: 281-530-5887
E-mail: bernadette.fini@alsglobal.com

Project Chemist: James Guin
Originating Lab: HOUSTON
Logged By: KBROWN
Date Received: 07/19/23
Internal Due Date: 7/21/2023
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number:
EDD: No EDD Specified

1 120 mL-Plastic Bottle Natural WM Unpreserved
Location: SUBBED
Pressure Gas:

Data Qualifiers

Lab Standard

+	Possible Tedlar bag artifact.
A	TIC is a suspected aldol-condensation product
B	Analyte found in the associated method blank as well as in the sample.
BC	Reported results are not blank corrected.
BH	The back section of the tube yielded higher results than the front.
BT	Results indicated possible breakthrough; back section >=10% front section.
C	Result identification confirmed.
D	Compound identified in an analysis at a secondary dilution factor
D	Spike was diluted out
DE	Reported results are corrected for desorption efficiency.
E	Estimated value. Concentration above calibration range
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
H1	Sample analysis performed past holding time. See case narrative.
H2	Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
H3	Sample was received and analyzed past holding time.
H4	Sample was extracted past required extraction holding time, but analyzed within analysis holding time. See case narrative.
I	(Auto) The reference ion ratio was outside acceptance criteria, which may indicate a potential bias to this result.
I	Internal standard not within the specified limits. See case narrative.
I	The reference ion ratio was outside acceptance criteria, which may indicate a potential bias to this result.
J	Estimated Value. Concentration found below MRL.
K	A deflection in the QC ion may indicate interference with the quantitation of this ion. The concentration of this analyte should be considered as an estimate.
K	Analyte was detected above the method reporting limit prior to normalization.
K	The reference ion ratio was outside acceptance criteria, which may indicate a potential bias to this result.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
L1	Laboratory control sample recovery outside the specified limits; results may be biased high.
L2	Laboratory control sample recovery outside the specified limits; results may be biased low.
L3	Laboratory control sample recovery outside the specified limits.
M	Matrix interference; results may be biased high.
M	The duplicate injection precision not met.

Data Qualifiers

Lab Standard

M1	Matrix interference due to coelution with a non-target compound; results may be biased high.
N	Presumptive evidence of a compound for TICs that have been identified based on a mass spectral library search.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
P	Indicates chlorodiphenyl ether interference present at the retention time of the target compound.
P	Pesticide/Aroclor target analyte > 40% difference for detected concentrations between GC columns
Q	Indicates as estimated value because the P and P + 2 theoretical abundance ratio does not meet method criteria.
R	Duplicate Precision not met.
R1	Duplicate precision not within the specified limits; however, the results are below the MRL and considered estimated.
S	Surrogate recovery not within specified limits.
S	The reported value was determined by the Method of Standard Additions (MSA).
T	Analyte is a tentatively identified compound, result is estimated.
U	Compound was analyzed for, but was not detected (ND).
V1	The continuing calibration verification standard was outside (biased high) the specified limits for this compound.
V2	The continuing calibration verification standard was outside (biased low) the specified limits for this compound.
W	Result quantified, but the corresponding peak was detected outside the generated retention time window.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
X	See case narrative.
Y	Recovery outside limits
Y	The chromatogram resembles a petroleum product but does not match the calibration standard.
Z	The chromatogram does not resemble a petroleum product.
i	The MRL/MDL has been elevated due to a matrix interference.

ALS Laboratory Group

Acronyms

Cal	Calibration
Conc	CONCentration
Dioxin(s)	Polychlorinated dibenzo-p-dioxin(s)
EDL	Estimated Detection Limit
EMPC	Estimated Maximum Possible Concentration
Flags	Data qualifiers
Furan(s)	Polychlorinated dibenzofuran(s)
g	Grams
ICAL	Initial CALibration
ID	IDentifier
Ions	Masses monitored for the analyte during data acquisition
L	Liter (s)
LCS	Laboratory Control Sample
DLCS	Duplicate Laboratory Control Sample
MB	Method Blank
MCL	Method Calibration Limit
MDL	Method Detection Limit
mL	Milliliters
MS	Matrix Spiked sample
DMS	Duplicate Matrix Spiked sample
NO	Number of peaks meeting all identification criteria
PCDD(s)	Polychlorinated dibenzo-p-dioxin(s)
PCDF(s)	Polychlorinated dibenzofuran(s)
ppb	Parts per billion
ppm	Parts per million
ppq	Parts per quadrillion
ppt	Parts per trillion
QA	Quality Assurance
QC	Quality Control
Ratio	Ratio of areas from monitored ions for an analyte
% Rec.	Percent recovery
RPD	Relative Percent Difference
RRF	Relative Response Factor
RT	Retention Time
SDG	Sample Delivery Group
S/N	Signal-to-noise ratio
TEF	Toxicity Equivalence Factor
TEQ	Toxicity Equivalence Quotient

10450 Stancliff Rd, Houston, TX 77099 | 281-530-5656 | www.alsglobal.com

ALS Environmental

State Certifications, Accreditations, and Licenses

Agency	Number	Expire Date
Arizona Department of Health Services	AZ0793_2024	5/27/2024
Arkansas Department of Environmental Quality	88-00356	3/27/2024
California State Environmental Laboratory Accreditation Program	2919	4/30/2024
Department of Defense	L22-90	3/31/2024
Department of Defense	L23-358	5/31/2025
Florida Department of Health	E87611-38	6/30/2024
Illinois Environmental Protection Agency	2000322023-11	6/30/2024
Kansas Department of Health and Environment	E-10352 2022-2023	7/31/2023
Louisiana Department of Environmental Quality	03087-2023	6/30/2024
Louisiana Department of Health and Hospitals	LA028-2023	12/31/2023
Maine Department of Health and Human Services	2022017	6/5/2024
Maryland Department of the Environment	343	7/31/2023
Michigan Depratment of Environmental Quality	9971-2023	4/30/2024
Minnesota Department of Health	2368363	12/31/2023
Nebraska Department of Health and Human Services	NE-OS-25-13	4/30/2024
Nevada Department of Conservation and Natural Resources	TX026932023-1	7/31/2023
New Hampshire Environmental Laboratory Accreditation Program	209423	4/24/2024
New Jersey Department of Environmental Protection	TX008-2024	6/30/2024
New York Department of Health	11707	3/31/2024
Oklahoma Department of Environmental Quality	2022-141	8/31/2023
Pennsylvania Department of Environmental Protection	68-03441-017	6/30/2024
Perry Johnson Laboratory Accreditation	L22-91	3/31/2024
Tennessee Department of Environment and Concervation	TN04016-2023	4/30/2024
Texas Commision on Environmental Quality	T104704231-23-30	4/30/2024
Utah Department of Health Environmental Laboratory Certification	TX026932022-13	7/31/2023
Washington Department of Ecology	C819-22	11/14/2023

Chain of Custody

ALS Environmental - Houston Specialties Laboratory
10450 Stancliff Rd., Suite 210, Houston TX 77099
Phone (281)530-5656 Fax (281)530-5887
www.alsglobal.com

10450 Stancliff Rd, Ste 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID: 22314**

SUBCONTRACT TO:

ALS Environmental
10450 Stancliff RoadSuite 210
Houston, TX 77084 **Phone:** +1 281 530 5656

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	James Guin
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	James.Guin@alsglobal.com
Alternate Contact:	Jumoke M. Lawal
Email:	jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS23070445
TSR:	Houston House Acct

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS23070445-02**	**LH18/24-SP650_071023_AIX**	**Water**	**10 Jul 2023 13:00**
	Provide Level II and Level IV reports in separate pdf			18 Jul 2023

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.

QC Level: DOD IV (DoD Data Package)

Relinquished By: _____ Date/Time: _____

Received By: _____ Date/Time: 07/14/2023 1400

Cooler ID(s): _____ Temperature(s): _____

10450 Stancliff Rd., Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

SAMPLE ACCEPTANCE POLICY

This policy outlines the criteria samples must meet to be accepted by ALS Environmental – Houston HRMS.

Cooler Custody Seals (desirable, mandatory if specified in SAP):

- ✓ Intact on outside of cooler, signed and dated

Chain-of-Custody (COC) documentation (mandatory):

The following is required on each COC:

- ✓ Sample ID, the location, date and time of collection, collector's name, preservation type, sample type, and any other special remarks concerning the sampleThe COC must be completed in ink.
- ✓ Signature and date of relinquishing party.

In the absence of a COC at sample receipt, the COC will be requested from the client.

Sample Integrity (mandatory):

Samples are inspected upon arrival to ensure that sample integrity was not compromised during transfer to the laboratory.

- ✓ Sample containers must arrive in good condition (not broken or leaking).
- ✓ Samples must be labeled appropriately, including Sample IDs, and requested test using durable labels and indelible ink.
- ✓ The correct type of sample bottle must be used for the method requested.
- ✓ An appropriate sample volume, or weight, must be received.
- ✓ Sample IDs and number of containers must reconcile with the COC.
- ✓ Samples must be received within the method defined holding time.

Temperature Requirement (varies by sample matrix):

- ✓ Aqueous and Non-aqueous samples must be shipped and stored cold, at 0 to 6ºC.
- ✓ Tissue samples must be shipped and stored frozen, at -20 to -10ºC.
- ✓ Air samples are shipped and stored cold, at 0 to 6ºC
- ✓ The sample temperature must be recorded on the COC

All cooler inspections are documented on the Cooler Receipt Form (CRF). A separate CRF is completed for each service request. Any samples not meeting the above criteria are noted on the CRF and the Project Manager notified. The Project Manager must resolve any sample integrity issues with the client prior to proceeding with the analysis. Such resolutions are documented in writing and filed with the project folder. Data associated with samples received outside of this acceptance policy will be qualified on the case narrative of the final report

Preparation Information Benchsheets

ALS Environmental - Houston Specialties Laboratory
10450 Stancliff Rd., Suite 210, Houston TX 77099
Phone (281)530-5656 Fax (281)530-5887
www.alsglobal.com

Preparation Information Benchsheet

Prep Run#: 423378 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/XMI **Prep Method:** Method **Prep Date/Time:** 7/20/23 08:43

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2300630-001	LH18/24-SP650_071023_AIX	.01	6850/ClO4 DOD			Water	10mL	
2	E2300631-001	EA-20_0323	.01	6850/ClO4			Water	10mL	
3	E2300631-002	CTC-48_0323	.01	6850/ClO4			Water	10mL	
4	E2300631-003	EA-55-0323	.01	6850/ClO4			Water	10mL	
5	E2300631-004	CTC-29-0323	.01	6850/ClO4			Water	10mL	
6	E2300637-001	EA-5_0323	.01	6850/ClO4			Water	10mL	
7	E2300637-002	WELL-3_0323	.01	6850/ClO4			Water	10mL	
8	E2300637-003	CTC-47_0323	.01	6850/ClO4			Water	10mL	
9	E2300637-004	EA40_0323	.01	6850/ClO4			Water	10mL	
10	E2300637-005	EA-53_0323	.01	6850/ClO4			Water	10mL	
11	E2300642-001	MW-2	.01	6850/ClO4			Water	10mL	
12	E2300643-001	LH18/24-SP140_071023	.01	6850/ClO4 DOD			Water	10mL	
13	EQ2300346-01	MB		6850/ClO4			Liquid	10mL	
14	EQ2300346-02	LCS		6850/ClO4			Liquid	10mL	
15	EQ2300346-03	DLCS		6850/ClO4			Liquid	10mL	
16	K2307522-001	LGAC-INF-070323	.01	6850/ClO4			Water	10mL	
17	K2307522-002	LGAC-INT1-070323	.01	6850/ClO4			Water	10mL	
18	K2307522-003	LGAC-INT2-070323	.01	6850/ClO4			Water	10mL	
19	K2307692-001	FBR-INF-071023	.01	6850/ClO4			Water	10mL	
20	K2307692-002	LGAC-INF-071023	.01	6850/ClO4			Water	10mL	
21	K2307692-003	LGAC-INT1-071023	.01	6850/ClO4			Water	10mL	
22	K2307692-004	LGAC-INT2-071023	.01	6850/ClO4			Water	10mL	

Spiking Solutions

Name: Perchlorate Intermediate Stock1 Inventory ID 227236 Logbook Ref: Perchlorate (1st Source) Expires On: 07/31/2023

EQ2300346-02	1.00µL	EQ2300346-02	1.00µL	EQ2300346-03	1.00µL	EQ2300346-03	1.00µL

Name: Perchlorate Internal Standard 1ug/mL Inventory ID 227244 Logbook Ref: Perchlorate Internal Standard Expires On: 07/31/2023

E2300630-001	100.00µL	E2300631-001	100.00µL	E2300631-002	100.00µL	E2300631-003	100.00µL	E2300631-004	100.00µL	E2300637-001	100.00µL
E2300637-002	100.00µL	E2300637-003	100.00µL	E2300637-004	100.00µL	E2300637-005	100.00µL	E2300642-001	100.00µL	E2300643-001	100.00µL
EQ2300346-01	100.00µL	EQ2300346-01	100.00µL	EQ2300346-02	100.00µL	EQ2300346-02	100.00µL	EQ2300346-03	100.00µL	EQ2300346-03	100.00µL
K2307522-001	100.00µL	K2307522-002	100.00µL	K2307522-003	100.00µL	K2307692-001	100.00µL	K2307692-002	100.00µL	K2307692-003	100.00µL
K2307692-004	100.00µL										

Preparation Information Benchsheet

Prep Run#: 423378 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/XMI **Prep Method:** Method **Prep Date/Time:** 7/20/23 08:43

Preparation Materials

Water HPLC Grade	HPLC water 5/18/23CG (229315)	6850 Amber Glass screw vial	2mL Screw Top Vial (221894)	6850 0.45um syringe filters	6850 0.45 SYRING FILTER (229979)
6850 Luer-Lok Syringes	luer-lock syringes (228116)				

Preparation Steps

Step: Preparation
Started: 7/20/23 08:43
Finished: 7/20/23 09:55
By: XMI
Comments

Comments: _____

Reviewed By: _____ Date: _____

Chain of Custody

Relinquished By: _____ Date: _____ Extracts Examined

Received By: _____ Date: _____ Yes No

Analytical Results

ALS Environmental - Houston Specialties Laboratory
10450 Stancliff Rd., Suite 210, Houston TX 77099
Phone (281)530-5656 Fax (281)530-5887
www.alsglobal.com

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300630
Project:	HS23070445	**Date Collected:**	7/10/23 1300
Sample Matrix:	Water	**Date Received:**	7/19/23
Sample Name:	LH18/24-SP650_071023_AIX	**Units:**	µg/L
Lab Code:	E2300630-001	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.100	0.0500	0.0250	1	7/20/23	7/21/23 09:42	423378	811375	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300630
Project:	HS23070445	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2300346-01	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.100	0.0500	0.0250	1	7/20/23	7/20/23 15:27	423378	811363	

Accuracy & Precision

ALS Environmental - Houston Specialties Laboratory
10450 Stancliff Rd., Suite 210, Houston TX 77099
Phone (281)530-5656 Fax (281)530-5887
www.alsglobal.com

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS23070445
Sample Matrix: Water

Service Request: E2300630
Date Analyzed: 7/20/23

Lab Control Sample Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Units: µg/L
Basis: NA

Extraction Lot: 423378

	Lab Control Sample EQ2300346-02			Duplicate Lab Control Sample EQ2300346-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.111	0.100	111	0.0967	0.100	97	84 - 119	14	15

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300630
Project:	HS23070445	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2300346-02	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.111**		0.100	0.0500	0.0250	1	7/20/23	7/20/23 15:39	423378	811363	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300630
Project:	HS23070445	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2300346-03	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.0967**	J	0.100	0.0500	0.0250	1	7/20/23	7/20/23 15:55	423378	811363	

HS23070445-MSVOA-SW8260

ALS WO# HS23070445

01246441

right solutions.
right partner.

Form 1

Organic Analysis Data Sheet

Volatiles by EPA 8260

Workorder

HS23070445

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Monthly Effluent Samples

07/20/2023

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder **HS23070445**

Volatiles by EPA 8260

HS23070445-01	Collected	Received	Matrix	Basis
LH18/24-SP650_071023	07/10/23 13:00	07/11/23 09:20	Water	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
1,1,1,2-Tetrachloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
1,1,1-Trichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
1,1,2,2-Tetrachloroethane	ug/L	1.0	U	0.50	1.0	1.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
1,1,2-Trichloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
1,1-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
1,1-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
1,1-Dichloropropene	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
1,2,3-Trichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
1,2,3-Trichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
1,2,4-Trichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
1,2,4-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
1,2-Dibromo-3-chloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
1,2-Dibromoethane	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
1,2-Dichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
1,2-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
1,2-Dichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
1,3,5-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
1,3-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
1,3-Dichloropropane	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
1,4-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
2,2-Dichloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
2-Butanone	ug/L	2.0	U	0.50	2.0	2.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
2-Chlorotoluene	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
2-Hexanone	ug/L	2.0	U	1.0	2.0	2.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
4-Chlorotoluene	ug/L	1.0	U	0.40	1.0	1.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
4-Isopropyltoluene	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
4-Methyl-2-pentanone	ug/L	2.0	U	0.70	2.0	2.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
Acetone	ug/L	2.0	U	0.40	2.0	2.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
Benzene	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
Bromobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
Bromochloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
Bromodichloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
Bromoform	ug/L	1.0	U	0.40	1.0	1.0	1	07/14/23 21:33	VOA6_441458	Y071414.D

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder **HS23070445**

Volatiles by EPA 8260

HS23070445-01	Collected	Received	Matrix	Basis
LH18/24-SP650_071023	07/10/23 13:00	07/11/23 09:20	Water	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Bromomethane	ug/L	1.0	U	0.40	1.0	1.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
Carbon disulfide	ug/L	2.0	U	0.60	2.0	2.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
Carbon tetrachloride	ug/L	1.0	U	0.50	1.0	1.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
Chlorobenzene	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
Chloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
Chloroform	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
Chloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
cis-1,2-Dichloroethene	ug/L	2.8		0.20	1.0	1.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
cis-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
Dibromochloromethane	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
Dibromomethane	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
Dichlorodifluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
Ethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
Hexachlorobutadiene	ug/L	1.0	U	1.0	1.0	1.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
Isopropylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
m,p-Xylene	ug/L	2.0	U	0.50	2.0	2.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
Methylene chloride	ug/L	2.0	U	0.40	2.0	2.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
Naphthalene	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
n-Butylbenzene	ug/L	1.0	U	0.40	1.0	1.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
n-Propylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
o-Xylene	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
sec-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
Styrene	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
tert-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
Tetrachloroethene	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
Toluene	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
trans-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
trans-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
Trichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
Trichlorofluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 21:33	VOA6_441458	Y071414.D
Vinyl chloride	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 21:33	VOA6_441458	Y071414.D

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder **HS23070445**

Volatiles by EPA 8260

HS23070445-03

Trip Blank

Collected	Received	Matrix	Basis
07/10/23 00:00	07/11/23 09:20	Water	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
1,1,1,2-Tetrachloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
1,1,1-Trichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
1,1,2,2-Tetrachloroethane	ug/L	1.0	U	0.50	1.0	1.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
1,1,2-Trichloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
1,1-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
1,1-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
1,1-Dichloropropene	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
1,2,3-Trichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
1,2,3-Trichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
1,2,4-Trichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
1,2,4-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
1,2-Dibromo-3-chloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
1,2-Dibromoethane	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
1,2-Dichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
1,2-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
1,2-Dichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
1,3,5-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
1,3-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
1,3-Dichloropropane	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
1,4-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
2,2-Dichloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
2-Butanone	ug/L	2.0	U	0.50	2.0	2.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
2-Chlorotoluene	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
2-Hexanone	ug/L	2.0	U	1.0	2.0	2.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
4-Chlorotoluene	ug/L	1.0	U	0.40	1.0	1.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
4-Isopropyltoluene	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
4-Methyl-2-pentanone	ug/L	2.0	U	0.70	2.0	2.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
Acetone	ug/L	2.0	U	0.40	2.0	2.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
Benzene	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
Bromobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
Bromochloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
Bromodichloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
Bromoform	ug/L	1.0	U	0.40	1.0	1.0	1	07/14/23 20:52	VOA6_441458	Y071412.D

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder **HS23070445**

Volatiles by EPA 8260

HS23070445-03

Trip Blank

Collected	Received	Matrix	Basis
07/10/23 00:00	07/11/23 09:20	Water	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Bromomethane	ug/L	1.0	U	0.40	1.0	1.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
Carbon disulfide	ug/L	2.0	U	0.60	2.0	2.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
Carbon tetrachloride	ug/L	1.0	U	0.50	1.0	1.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
Chlorobenzene	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
Chloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
Chloroform	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
Chloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
cis-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
cis-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
Dibromochloromethane	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
Dibromomethane	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
Dichlorodifluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
Ethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
Hexachlorobutadiene	ug/L	1.0	U	1.0	1.0	1.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
Isopropylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
m,p-Xylene	ug/L	2.0	U	0.50	2.0	2.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
Methylene chloride	ug/L	2.0	U	0.40	2.0	2.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
Naphthalene	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
n-Butylbenzene	ug/L	1.0	U	0.40	1.0	1.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
n-Propylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
o-Xylene	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
sec-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
Styrene	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
tert-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
Tetrachloroethene	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
Toluene	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
trans-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
trans-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
Trichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
Trichlorofluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 20:52	VOA6_441458	Y071412.D
Vinyl chloride	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 20:52	VOA6_441458	Y071412.D

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder **HS23070445**

Volatiles by EPA 8260

VBLKW-230714	Collected	Received	Matrix	Basis
VBLKW-230714	NA	NA	Aqueous	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
1,1,1,2-Tetrachloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
1,1,1-Trichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
1,1,2,2-Tetrachloroethane	ug/L	1.0	U	0.50	1.0	1.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
1,1,2-Trichloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
1,1-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
1,1-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
1,1-Dichloropropene	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
1,2,3-Trichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
1,2,3-Trichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
1,2,4-Trichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
1,2,4-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
1,2-Dibromo-3-chloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
1,2-Dibromoethane	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
1,2-Dichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
1,2-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
1,2-Dichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
1,3,5-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
1,3-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
1,3-Dichloropropane	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
1,4-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
2,2-Dichloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
2-Butanone	ug/L	2.0	U	0.50	2.0	2.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
2-Chlorotoluene	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
2-Hexanone	ug/L	2.0	U	1.0	2.0	2.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
4-Chlorotoluene	ug/L	1.0	U	0.40	1.0	1.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
4-Isopropyltoluene	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
4-Methyl-2-pentanone	ug/L	2.0	U	0.70	2.0	2.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
Acetone	ug/L	2.0	U	0.40	2.0	2.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
Benzene	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
Bromobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
Bromochloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
Bromodichloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
Bromoform	ug/L	1.0	U	0.40	1.0	1.0	1	07/14/23 19:10	VOA6_441458	Y071407.D

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder **HS23070445**

Volatiles by EPA 8260

VBLKW-230714	Collected	Received	Matrix	Basis
VBLKW-230714	NA	NA	Aqueous	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Bromomethane	ug/L	1.0	U	0.40	1.0	1.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
Carbon disulfide	ug/L	2.0	U	0.60	2.0	2.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
Carbon tetrachloride	ug/L	1.0	U	0.50	1.0	1.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
Chlorobenzene	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
Chloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
Chloroform	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
Chloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
cis-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
cis-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
Dibromochloromethane	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
Dibromomethane	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
Dichlorodifluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
Ethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
Hexachlorobutadiene	ug/L	1.0	U	1.0	1.0	1.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
Isopropylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
m,p-Xylene	ug/L	2.0	U	0.50	2.0	2.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
Methylene chloride	ug/L	2.0	U	0.40	2.0	2.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
Naphthalene	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
n-Butylbenzene	ug/L	1.0	U	0.40	1.0	1.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
n-Propylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
o-Xylene	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
sec-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
Styrene	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
tert-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
Tetrachloroethene	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
Toluene	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
trans-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
trans-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
Trichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
Trichlorofluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	07/14/23 19:10	VOA6_441458	Y071407.D
Vinyl chloride	ug/L	1.0	U	0.20	1.0	1.0	1	07/14/23 19:10	VOA6_441458	Y071407.D

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Form 2

System Monitoring Compound Recovery

Volatiles by EPA 8260

Workorder

HS23070445

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Monthly Effluent Samples

07/20/2023

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Form 2 - System Monitoring Compound Recovery

Client	Bhate Environmental Associates, Inc.	Workorder	
Project	Longhorn GW Treatment Plant Monthly Effluent Samples	HS23070445	

RunID

Volatiles by EPA 8260

VOA6-441458

CCB-CCB	Analyzed	Conc Units	Dilution
CCB	07/14/23	%REC	1

Surrogate	Result Conc	Spike Conc	%Recovery	Q	%Recovery Limits
1,2-Dichloroethane-d4	52.54	50	105		80-120
4-Bromofluorobenzene	47.78	50	95.6		80-120
Dibromofluoromethane	52.42	50	105		80-120
Toluene-d8	52.46	50	105		80-120

CCV-CCV	Analyzed	Conc Units	Dilution
CCV	07/14/23	%REC	1

Surrogate	Result Conc	Spike Conc	%Recovery	Q	%Recovery Limits
1,2-Dichloroethane-d4	50.88	50	102		80-120
4-Bromofluorobenzene	52.14	50	104		80-120
Dibromofluoromethane	51.82	50	104		80-120
Toluene-d8	48.02	50	96.0		80-120

HS23070445-01	Analyzed	Conc Units	Dilution
LH18/24-SP650_071023	07/14/23	%REC	1

Surrogate	Result Conc	Spike Conc	%Recovery	Q	%Recovery Limits
1,2-Dichloroethane-d4	51	50	103		81-118
4-Bromofluorobenzene	47	50	94.9		85-114
Dibromofluoromethane	53	50	105		80-119
Toluene-d8	51	50	103		89-112

Form 2 - System Monitoring Compound Recovery

Client	Bhate Environmental Associates, Inc.	Workorder	
Project	Longhorn GW Treatment Plant Monthly Effluent Samples	HS23070445	

RunID

Volatiles by EPA 8260

VOA6-441458

HS23070445-03	Analyzed	Conc Units	Dilution
Trip Blank	07/14/23	%REC	1

Surrogate	Result Conc	Spike Conc	%Recovery	Q	%Recovery Limits
1,2-Dichloroethane-d4	52	50	104		81-118
4-Bromofluorobenzene	47	50	94.8		85-114
Dibromofluoromethane	52	50	104		80-119
Toluene-d8	52	50	103		89-112

HS23070451-04MS	Analyzed	Conc Units	Dilution
BatchQC	07/14/23	%REC	1

Surrogate	Result Conc	Spike Conc	%Recovery	Q	%Recovery Limits
1,2-Dichloroethane-d4	53.09	50	106		81-118
4-Bromofluorobenzene	48.44	50	96.9		85-114
Dibromofluoromethane	52.53	50	105		80-119
Toluene-d8	51.26	50	103		89-112

HS23070451-04MSD	Analyzed	Conc Units	Dilution
BatchQC	07/14/23	%REC	1

Surrogate	Result Conc	Spike Conc	%Recovery	Q	%Recovery Limits
1,2-Dichloroethane-d4	53.61	50	107		81-118
4-Bromofluorobenzene	48.71	50	97.4		85-114
Dibromofluoromethane	53.95	50	108		80-119
Toluene-d8	51.24	50	102		89-112

Form 2 - System Monitoring Compound Recovery

Client	Bhate Environmental Associates, Inc.	Workorder	
Project	Longhorn GW Treatment Plant Monthly Effluent Samples	**HS23070445**	

RunID

Volatiles by EPA 8260

VOA6-441458

VBLKW-230714	Analyzed	Conc Units	Dilution
VBLKW-230714	07/14/23	%REC	1

Surrogate	Result Conc	Spike Conc	%Recovery	Q	%Recovery Limits
1,2-Dichloroethane-d4	51.92	50	104		81-118
4-Bromofluorobenzene	45.83	50	91.7		85-114
Dibromofluoromethane	51.38	50	103		80-119
Toluene-d8	50.91	50	102		89-112

VLCSW-230714	Analyzed	Conc Units	Dilution
VLCSW-230714	07/14/23	%REC	1

Surrogate	Result Conc	Spike Conc	%Recovery	Q	%Recovery Limits
1,2-Dichloroethane-d4	52.91	50	106		81-118
4-Bromofluorobenzene	50.67	50	101		85-114
Dibromofluoromethane	53.75	50	107		80-119
Toluene-d8	46.79	50	93.6		89-112

01246452

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Form 3A

Matrix Spike/Spike Duplicate Recovery

Volatiles by EPA 8260

Workorder

HS23070445

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Monthly Effluent Samples

07/20/2023

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Form 3A - Matrix Spike/Spike Duplicate Recovery

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder **HS23070445**

RunID VOA6-441458

Volatiles by EPA 8260

BatchQC (HS23070451-04)				HS23070451-04MS				HS23070451-04MSD						
Sample Matrix: Aqueous			Run Date	07/14/23				07/14/23						
Result Units: ug/L			Run Time	22:14				22:34						
			Data File	Y071416.D				Y071417.D						
Analyte	%R Limits	DF	Sample Result	MS Result	Spike Added	%R	Q	MSD Result	Spike Added	%R	Q	RPD Limit	RPD	Q
1,1,1,2-Tetrachloroethane	78-124	1	0	21.65	20	108		22.17	20	111		20	2.38	
1,1,1-Trichloroethane	74-131	1	0	21.4	20	107		21.88	20	109		20	2.24	
1,1,2,2-Tetrachloroethane	71-121	1	0	23.31	20	117		24.89	20	124		20	6.56	
1,1,2-Trichloroethane	80-119	1	0	22.17	20	111		23.33	20	117		20	5.1	
1,1-Dichloroethane	77-125	1	0	21.35	20	107		20.93	20	105		20	1.95	
1,1-Dichloroethene	71-131	1	0	21.32	20	107		21.69	20	108		20	1.73	
1,1-Dichloropropene	78-125	1	0	21.91	20	110		23.01	20	115		20	4.92	
1,2,3-Trichlorobenzene	69-129	1	0	16.21	20	81		16.91	20	85		20	4.25	
1,2,3-Trichloropropane	73-122	1	0	22.3	20	111		24.21	20	121		20	8.22	
1,2,4-Trichlorobenzene	69-130	1	0	18.02	20	90		18.63	20	93		20	3.33	
1,2,4-Trimethylbenzene	76-124	1	0	20.29	20	101		22.08	20	110		20	8.43	
1,2-Dibromo-3-chloropropane	62-128	1	0	24.47	20	122		27.8	20	139		20	12.8	
1,2-Dibromoethane	77-121	1	0	24	20	120		23.13	20	116		20	3.69	
1,2-Dichlorobenzene	80-119	1	0	21.39	20	107		22.4	20	112		20	4.61	
1,2-Dichloroethane	73-128	1	0	22.21	20	111		22.06	20	110		20	0.687	
1,2-Dichloropropane	78-122	1	0	22.29	20	111		22.31	20	112		20	0.0745	
1,3,5-Trimethylbenzene	75-124	1	0	19.06	20	95		20.64	20	103		20	7.98	
1,3-Dichlorobenzene	80-119	1	0	20.9	20	105		22.71	20	114		20	8.3	
1,3-Dichloropropane	80-119	1	0	22.58	20	113		22.63	20	113		20	0.22	
1,4-Dichlorobenzene	79-118	1	0	20.96	20	105		21.96	20	110		20	4.66	
2,2-Dichloropropane	60-139	1	0	19.65	20	98		19.6	20	98		20	0.274	
2-Butanone	56-143	1	0	42.74	40	107		41.39	40	103		20	3.2	
2-Chlorotoluene	79-122	1	0	21.24	20	106		21.86	20	109		20	2.86	
2-Hexanone	57-139	1	9.482	59.44	40	125		59.75	40	126		20	0.528	
4-Chlorotoluene	78-122	1	0	22.5	20	112		23.43	20	117		20	4.07	
4-Isopropyltoluene	77-127	1	0	21.22	20	106		22.74	20	114		20	6.95	
4-Methyl-2-pentanone	67-130	1	9.854	57.77	40	120		57.69	40	120		20	0.14	
Acetone	39-160	1	0	45.94	40	115		47.95	40	120		20	4.29	
Benzene	79-120	1	0	22.85	20	114		22.08	20	110		20	3.4	
Bromobenzene	80-120	1	0	22.13	20	111		23.62	20	118		20	6.52	
Bromochloromethane	78-123	1	0	20.28	20	101		21.17	20	106		20	4.3	
Bromodichloromethane	79-125	1	0	20.94	20	105		20.97	20	105		20	0.148	
Bromoform	66-130	1	0	22.18	20	111		22.25	20	111		20	0.285	
Bromomethane	53-141	1	0	9.431	20	47		11.34	20	57		20	18.4	

Q - %Recovery / RPD Flag * - %Recovery / RPD Outside Limits OL - Outside Limits %R - %Recovery DF - Dilution Factor Amt - Amount (weight or volume)

Form 3A - Matrix Spike/Spike Duplicate Recovery

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder **HS23070445**

RunID VOA6-441458

Volatiles by EPA 8260

BatchQC (HS23070451-04)				HS23070451-04MS				HS23070451-04MSD						
Sample Matrix: Aqueous			Run Date	07/14/23				07/14/23						
Result Units: ug/L			Run Time	22:14				22:34						
			Data File	Y071416.D				Y071417.D						
Analyte	%R Limits	DF	Sample Result	MS Result	Spike Added	%R	Q	MSD Result	Spike Added	%R	Q	RPD Limit	RPD	Q
Carbon disulfide	64-133	1	43.44	56.75	40	33		57.5	40	35		20	1.31	
Carbon tetrachloride	72-136	1	0	19.75	20	99		19.68	20	98		20	0.381	
Chlorobenzene	82-118	1	0	21.81	20	109		22.56	20	113		20	3.37	
Chloroethane	60-138	1	0	20.52	20	103		20.94	20	105		20	2.02	
Chloroform	79-124	1	0	20.21	20	101		19.99	20	100		20	1.09	
Chloromethane	50-139	1	0	15.32	20	77		15.61	20	78		20	1.86	
cis-1,2-Dichloroethene	78-123	1	1.043	21.66	20	103		22.03	20	105		20	1.7	
cis-1,3-Dichloropropene	75-124	1	0	20.63	20	103		20.95	20	105		20	1.56	
Dibromochloromethane	74-126	1	0	21.9	20	109		21.76	20	109		20	0.642	
Dibromomethane	79-123	1	0	21.26	20	106		21.49	20	107		20	1.07	
Dichlorodifluoromethane	32-152	1	0	16.03	20	80		17.1	20	86		20	6.42	
Ethylbenzene	79-121	1	0	21.9	20	109		22.5	20	113		20	2.73	
Hexachlorobutadiene	66-134	1	0	18.31	20	92		20.43	20	102		20	11	
Isopropylbenzene	72-131	1	0	22.24	20	111		22.85	20	114		20	2.7	
m,p-Xylene	80-121	1	0	44.3	40	111		46.16	40	115		20	4.11	
Methylene chloride	74-124	1	0	21.38	20	107		21.28	20	106		20	0.448	
Naphthalene	61-128	1	0	13.32	20	67		14.37	20	72		20	7.56	
n-Butylbenzene	75-128	1	0	20.51	20	103		23.32	20	117		20	12.8	
n-Propylbenzene	76-126	1	0	22.83	20	114		24.1	20	121		20	5.41	
o-Xylene	78-122	1	0	22.76	20	114		23.15	20	116		20	1.7	
sec-Butylbenzene	77-126	1	0	21.89	20	109		23.28	20	116		20	6.18	
Styrene	78-123	1	0	20.75	20	104		21.48	20	107		20	3.47	
tert-Butylbenzene	78-124	1	0	21.36	20	107		23.18	20	116		20	8.15	
Tetrachloroethene	74-129	1	0	24.76	20	124		25.23	20	126		20	1.89	
Toluene	80-121	1	0	23.27	20	116		24.05	20	120		20	3.29	
trans-1,2-Dichloroethene	75-124	1	0.6444	21.86	20	106		22.37	20	109		20	2.34	
trans-1,3-Dichloropropene	73-127	1	0	20.87	20	104		20.83	20	104		20	0.2	
Trichloroethene	79-123	1	1.757	23.96	20	111		23.91	20	111		20	0.227	
Trichlorofluoromethane	65-141	1	0	20.31	20	102		21.03	20	105		20	3.5	
Vinyl chloride	58-137	1	0	20.25	20	101		20.81	20	104		20	2.74	

Q - %Recovery / RPD Flag * - %Recovery / RPD Outside Limits OL - Outside Limits %R - %Recovery DF - Dilution Factor Amt - Amount (weight or volume)

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Form 3B

Laboratory Control Sample Recovery

Volatiles by EPA 8260

Workorder

HS23070445

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Monthly Effluent Samples

07/20/2023

ALS Environmental–Houston Laboratory
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www.alsglobal.com

Form 3B - Laboratory Control Sample Recovery

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder **HS23070445**

SAMPLENUM VLCSW-230714

Volatiles by EPA 8260

VOA6_441458			VLCSW-230714		
Spike Matrix	Aqueous	**Run Date**	07/14/23		
Result Units	ug/L	**Run Time**	18:29		
		Data File	Y071405.D		

Analyte	%Recovery Limits	Spike Added	LCS Result	%R	Q
1,1,1,2-Tetrachloroethane	78-124	20	20.7	103	
1,1,1-Trichloroethane	74-131	20	20.52	103	
1,1,2,2-Tetrachloroethane	71-121	20	20.52	103	
1,1,2-Trichloroethane	80-119	20	20.26	101	
1,1-Dichloroethane	77-125	20	20.15	101	
1,1-Dichloroethene	71-131	20	19.86	99	
1,1-Dichloropropene	78-125	20	20.02	100	
1,2,3-Trichlorobenzene	69-129	20	18.52	93	
1,2,3-Trichloropropane	73-122	20	19.18	96	
1,2,4-Trichlorobenzene	69-130	20	18.32	92	
1,2,4-Trimethylbenzene	76-124	20	20.02	100	
1,2-Dibromo-3-chloropropane	62-128	20	20.05	100	
1,2-Dibromoethane	77-121	20	19.23	96	
1,2-Dichlorobenzene	80-119	20	20.94	105	
1,2-Dichloroethane	73-128	20	20.68	103	
1,2-Dichloropropane	78-122	20	20.11	101	
1,3,5-Trimethylbenzene	75-124	20	19.79	99	
1,3-Dichlorobenzene	80-119	20	20.54	103	
1,3-Dichloropropane	80-119	20	19.87	99	
1,4-Dichlorobenzene	79-118	20	19.7	98	
2,2-Dichloropropane	60-139	20	20.37	102	
2-Butanone	56-143	40	37.78	94	
2-Chlorotoluene	79-122	20	20.62	103	
2-Hexanone	57-139	40	42.1	105	
4-Chlorotoluene	78-122	20	20.89	104	
4-Isopropyltoluene	77-127	20	19.86	99	
4-Methyl-2-pentanone	67-130	40	40.25	101	
Acetone	39-160	40	43.73	109	
Benzene	79-120	20	20.02	100	
Bromobenzene	80-120	20	20.72	104	
Bromochloromethane	78-123	20	19.73	99	
Bromodichloromethane	79-125	20	19.15	96	
Bromoform	66-130	20	20.47	102	
Bromomethane	53-141	20	21.85	109	

Q - %Recovery / RPD Flag * - %Recovery / RPD Outside Limits %R - %Recovery DF - Dilution Factor Amt - Amount (weight or volume)

Form 3B - Laboratory Control Sample Recovery

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder **HS23070445**

SAMPLENUM VLCSW-230714

Volatiles by EPA 8260

VOA6_441458			VLCSW-230714			
Spike Matrix	Aqueous	**Run Date**	07/14/23			
Result Units	ug/L	**Run Time**	18:29			
		Data File	Y071405.D			
Analyte	%Recovery Limits	Spike Added	LCS Result	%R	Q	
Carbon disulfide	64-133	40	39.86	100		
Carbon tetrachloride	72-136	20	19.26	96		
Chlorobenzene	82-118	20	20.29	101		
Chloroethane	60-138	20	19.18	96		
Chloroform	79-124	20	20.03	100		
Chloromethane	50-139	20	20.62	103		
cis-1,2-Dichloroethene	78-123	20	20.26	101		
cis-1,3-Dichloropropene	75-124	20	20.06	100		
Dibromochloromethane	74-126	20	19.7	98		
Dibromomethane	79-123	20	20.14	101		
Dichlorodifluoromethane	32-152	20	19.66	98		
Ethylbenzene	79-121	20	20.09	100		
Hexachlorobutadiene	66-134	20	20.31	102		
Isopropylbenzene	72-131	20	20.24	101		
m,p-Xylene	80-121	40	41.22	103		
Methylene chloride	74-124	20	21.1	105		
Naphthalene	61-128	20	18.36	92		
n-Butylbenzene	75-128	20	20.69	103		
n-Propylbenzene	76-126	20	21.46	107		
o-Xylene	78-122	20	20.8	104		
sec-Butylbenzene	77-126	20	21.05	105		
Styrene	78-123	20	20.33	102		
tert-Butylbenzene	78-124	20	20.58	103		
Tetrachloroethene	74-129	20	20.94	105		
Toluene	80-121	20	20.44	102		
trans-1,2-Dichloroethene	75-124	20	19.19	96		
trans-1,3-Dichloropropene	73-127	20	19.57	98		
Trichloroethene	79-123	20	20.01	100		
Trichlorofluoromethane	65-141	20	20.82	104		
Vinyl chloride	58-137	20	19.72	99		

Q - %Recovery / RPD Flag * - %Recovery / RPD Outside Limits %R - %Recovery DF - Dilution Factor Amt - Amount (weight or volume)

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Form 4

Method Blank Summary

Volatiles by EPA 8260

Workorder

HS23070445

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Monthly Effluent Samples

07/20/2023

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Form 4 - Method Blank Summary

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder **HS23070445**

Volatiles by EPA 8260

Client Sample ID	Type	Lab Sample ID	File ID	Date Analyzed	Run ID
METHOD BLANK	MBLK	VBLKW-230714	Y071407.D	07/14/23 19:10	VOA6_441458
VLCSW-230714	LCS	VLCSW-230714	Y071405.D	07/14/23 18:29	VOA6_441458
Trip Blank	SAMP	HS23070445-03	Y071412.D	07/14/23 20:52	VOA6_441458
LH18/24-SP650_071023	SAMP	HS23070445-01	Y071414.D	07/14/23 21:33	VOA6_441458
BatchQC	MS	HS23070451-04MS	Y071416.D	07/14/23 22:14	VOA6_441458
BatchQC	MSD	HS23070451-04MSD	Y071417.D	07/14/23 22:34	VOA6_441458

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Form 5

Instrument Performance Check

Volatiles by EPA 8260

Workorder

HS23070445

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Monthly Effluent Samples

07/20/2023

ALS Environmental–Houston Laboratory
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Form 5 - Instrument Performance Check

Client	Bhate Environmental Associates, Inc.	Workorder	
Project	Longhorn GW Treatment Plant Monthly Effluent Samples	**HS23070445**	

RunID

Volatiles by EPA 8260

VOA6-441456

Tune File X071401.D 07/14/23 7/14/2023

m / e	Ion Abundance Criterion	%RA
50	15.0 - 40.0% of mass 95	25.9 (25.9)
75	30.0 - 60.0% of mass 95	52 (52)
95	Base peak, 100% RA	100 (100)
96	5.0 - 9.0% of mass 95	5.6 (5.63)
173	Less than 2.0% of mass 174	0.8 (0.926) 1
174	50.0 - 120.0% of mass 95	82.2 (82.2)
175	4.0 - 9.0% of mass 174	5.4 (6.56) 1
176	93.0 - 101.0% of mass 174	79.3 (96.5) 1
177	5.0 - 9.0% of mass 176	4.5 (5.64) 2

%RA - Percent Relative Abundance

This check applies to the following analyses

	Lab Samp ID	Type	Date Analyzed	Lab File ID	Sample ID
1	VSTD000.25	ICAL1	7/14/2023	X071402	VSTD000.25
2	VSTD000.5	ICAL2	7/14/2023	X071403	VSTD000.5
3	VSTD001	ICAL3	7/14/2023	X071404	VSTD001
4	VSTD002	ICAL4	7/14/2023	X071405	VSTD002
5	VSTD005	ICAL5	7/14/2023	X071406	VSTD005
6	VSTD020	ICAL6	7/14/2023	X071407	VSTD020
7	VSTD050	ICAL7	7/14/2023	X071408	VSTD050
8	VSTD100	ICAL8	7/14/2023	X071409	VSTD100
9	VSTD150	ICAL9	7/14/2023	X071410	VSTD150
10	VSTD200	ICAL	7/14/2023	X071411	VSTD200
11	CCV	ICV	7/14/2023	X071413	CCV

Form 5 - Instrument Performance Check

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder **HS23070445**

RunID VOA6-441458

Volatiles by EPA 8260

Tune File Y071401.D 07/14/23 7/14/2023

m / e	Ion Abundance Criterion	%RA
50	15.0 - 40.0% of mass 95	21.6 (21.6)
75	30.0 - 60.0% of mass 95	43.9 (43.9)
95	Base peak, 100% RA	100 (100)
96	5.0 - 9.0% of mass 95	6.3 (6.29)
173	Less than 2.0% of mass 174	1.3 (1.58) 1
174	50.0 - 120.0% of mass 95	81.8 (81.8)
175	4.0 - 9.0% of mass 174	6.4 (7.86) 1
176	93.0 - 101.0% of mass 174	78.5 (96) 1
177	5.0 - 9.0% of mass 176	5.9 (7.48) 2

%RA - Percent Relative Abundance

This check applies to the following analyses

	Lab Samp ID	Type	Date Analyzed	Lab File ID	Sample ID
1	CCV	CCV	7/14/2023	Y071403	CCV
2	CCB	CCB	7/14/2023	Y071404	CCB
3	VLCSW-	LCS	7/14/2023	Y071405	VLCSW-230714
4	VBLKW-	MBLK	7/14/2023	Y071407	VBLKW-230714
5	HS23070445-	SAMP	7/14/2023	Y071412	Trip Blank
6	HS23070445-	SAMP	7/14/2023	Y071414	LH18/24-SP650_071023
7	HS23070451-	MS	7/14/2023	Y071416	ZZZZZZMS
8	HS23070451-	MSD	7/14/2023	Y071417	ZZZZZZMSD
9	CCV-END	CCV_EN	7/15/2023	Y071431	CCV-END

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Form 6

Initial Calibration Data

Volatiles by EPA 8260

Workorder

HS23070445

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Monthly Effluent Samples

07/20/2023

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
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Initial Calibration Data

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder HS23070445

RunID VOA6_441456

Volatiles by EPA 8260

Compound	50.00 Level 7 / 0.250 Level 1	100.00 Level 8 / 0.500 Level 2	150.00 Level 9 / 1.00 Level 3	200.00 Level 10 / 2.00 Level 4	5.00 Level 5	20.00 Level 6	Curve	b	m1	m2	%RSD or R2	Q
Dichlorodifluoromethane	NE 235300	1663 576963	3668 822037	9210 1105119	21541	94710	LINR	0.02191	0.52294		0.99807	
Chloromethane	NE 0.67753	0.84001 0.79824	0.66306 0.81227	0.83928 0.82447	0.68468	0.65730	AVRG		0.75520		10.80318	
Propionitrile	NE 0.09423	0.10390 0.10017	0.09941 0.10114	0.09874 0.09819	0.09448	0.10115	AVRG		0.09905		3.16658	
Vinyl Chloride	NE 0.60823	0.69203 0.70202	0.53140 0.67183	0.72188 0.65918	0.61204	0.62458	AVRG		0.64702		9.14675	
Bromomethane	NE 0.25218	0.27789 0.28534	0.24476 0.29658	0.27563 0.28725	0.25296	0.23720	AVRG		0.26775		7.93201	
Chloroethane	NE 0.34475	0.43063 0.37168	0.35796 0.36290	0.40526 0.34794	0.34800	0.35515	AVRG		0.36936		7.97570	
Trichlorofluoromethane	NE 0.60292	0.58636 0.75016	0.55773 0.71606	0.73670 0.70274	0.59809	0.65059	AVRG		0.65570		11.03396	
Acrolein	NE 19251	268 38657	510 60619	917 82636	2341	6957	LINR	0.02257	0.01915		0.99956	
Acetone	NE 210033	7150 413238	8098 616513	15631 806431	26152	92232	LINR	-0.09778	0.18861		0.99933	
1,1-Dichloroethene	NE 0.35132	0.34284 0.39971	0.33390 0.37449	0.40741 0.37144	0.35652	0.35911	AVRG		0.36630		6.73637	

NE - Not Evaluated, AVRG - Averaged, LINR - Linear Regression, WLIN - Weighted Linear, QUAD - Quadratic, * - Curve Fit Outside Limits

Initial Calibration Data

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder HS23070445

RunID VOA6_441456

Volatiles by EPA 8260

ICAL Summary Page 2 / 12

Compound	50.00 Level 7 0.250 Level 1	100.00 Level 8 0.500 Level 2	150.00 Level 9 1.00 Level 3	200.00 Level 10 2.00 Level 4	5.00 Level 5	20.00 Level 6	Curve	b	m1	m2	%RSD or R2	Q
Isobutyl Alcohol	NE 0.09486	0.09915 0.10064	0.08022 0.09926	0.09038 0.09480	0.09479	0.09891	AVRG		0.09478		6.69321	
Acetonitrile	NE 0.06830	0.07163 0.06960	0.07422 0.07051	0.07419 0.06805	0.06612	0.06841	AVRG		0.07011		3.98876	
Allyl Chloride	NE 1.52604	1.95513 1.56199	1.82721 1.56589	1.62093 1.51692	1.61860	1.58159	AVRG		1.64159		9.09372	
Iodomethane	NE 473625	2897 1101288	4792 1666204	11682 2365259	29645	147770	QUAD	0.07604	2.04557	-0.05646	0.99916	
Acrylonitrile	NE 0.22535	0.30341 0.23200	0.22558 0.23458	0.25182 0.22663	0.25615	0.23734	AVRG		0.24365		10.26343	
Methylene Chloride	NE 228969	3115 461890	7389 679924	11880 893552	25734	93705	LINR	-0.02821	0.42039		0.99928	
Methyl tert-butyl ether	NE 1.28013	1.42757 1.32509	1.50562 1.32040	1.44539 1.27025	1.34304	1.34355	AVRG		1.36234		5.84889	
Carbon Disulfide	NE 1.09141	1.19715 1.22733	1.02400 1.19261	1.26579 1.18678	1.08532	1.09253	AVRG		1.15144		6.97191	
trans-1,2-Dichloroethene	NE 0.40397	0.50790 0.43050	0.34716 0.41204	0.45461 0.41226	0.43607	0.40889	AVRG		0.42371		10.21222	
Vinyl Acetate	NE 1.67574	1.80993 1.76700	1.71245 1.76631	1.79630 1.74491	1.73508	1.76334	AVRG		1.75234		2.35224	
1,1-Dichloroethane	NE 0.89937	1.04282 0.93166	0.87723 0.90417	1.03426 0.88702	0.90313	0.88859	AVRG		0.92980		6.83106	
Chloroprene	NE 0.19474	0.25663 0.23640	0.22753 0.23331	0.21787 0.23204	0.21758	0.20725	AVRG		0.22482		8.00705	

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Initial Calibration Data

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder HS23070445

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Compound	50.00 Level 7 0.250 Level 1	100.00 Level 8 0.500 Level 2	150.00 Level 9 1.00 Level 3	200.00 Level 10 2.00 Level 4	5.00 Level 5	20.00 Level 6	Curve	b	m1	m2	%RSD or R2	Q
2-Butanone	NE 0.25660	0.28077 0.28522	0.26281 0.27741	0.24974 0.28148	0.24863	0.25377	AVRG		0.26627		5.58805	
Methacrylonitrile	NE 0.62768	0.71944 0.66925	0.58681 0.67273	0.61854 0.65439	0.59811	0.66152	AVRG		0.64539		6.44560	
2,2-Dichloropropane	NE 357279	3703 797830	7001 1150093	15882 1535535	34523	136770	LINR	0.00416	0.72480		0.99899	
cis-1,2-Dichloroethene	NE 0.52561	0.58080 0.55258	0.55205 0.52870	0.55103 0.51702	0.52518	0.52498	AVRG		0.53977		3.81784	
Chloroform	NE 0.90021	1.12088 0.94131	0.94789 0.91371	1.04563 0.88871	0.89046	0.91369	AVRG		0.95139		8.37790	
Bromochloromethane	NE 0.28615	0.34105 0.29492	0.28436 0.28865	0.36073 0.28298	0.29741	0.28625	AVRG		0.30250		9.34540	
1,1,1-Trichloroethane	NE 0.70136	0.76811 0.80905	0.60604 0.78046	0.76445 0.77179	0.67544	0.71465	AVRG		0.73237		8.70697	
1,1-Dichloropropene	NE 0.37472	0.46667 0.45240	0.37410 0.42446	0.41961 0.42714	0.34598	0.38546	AVRG		0.40784		9.80634	
1,2-Dichloroethane	NE 0.52114	0.65388 0.55719	0.55646 0.54137	0.52020 0.54393	0.51464	0.54481	AVRG		0.55040		7.59848	
Carbon Tetrachloride	NE 0.35583	0.45034 0.44940	0.42963 0.42389	0.40208 0.42272	0.37338	0.39061	AVRG		0.41088		7.99245	
Benzene	NE 1.14556	1.30726 1.25702	1.13102 1.18986	1.22322 1.19963	1.12620	1.18395	AVRG		1.19597		5.00630	
Trichloroethene	NE 0.32325	0.36259 0.36148	0.29151 0.34333	0.38072 0.34832	0.30457	0.32879	AVRG		0.33829		8.55214	

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Volatiles by EPA 8260

ICAL Summary Page 4 / 12

Compound	50.00 Level 7 0.250 Level 1	100.00 Level 8 0.500 Level 2	150.00 Level 9 1.00 Level 3	200.00 Level 10 2.00 Level 4	5.00 Level 5	20.00 Level 6	Curve	b	m1	m2	%RSD or R2	Q
Bromodichloromethane	NE 0.43234	0.56576 0.45884	0.42748 0.45203	0.45204 0.46018	0.42979	0.44442	AVRG		0.45810		9.21563	
Methyl Methacrylate	NE 0.55557	0.64774 0.60054	0.67348 0.60150	0.61013 0.58254	0.58540	0.57437	AVRG		0.60347		6.09532	
2-Chloroethylvinyl ether	NE 0.13958	0.13748 0.15371	0.12812 0.14777	0.12943 0.15040	0.13129	0.14103	AVRG		0.13987		6.65248	
1,2-Dichloropropane	NE 0.37714	0.43289 0.40397	0.31618 0.38726	0.39071 0.39014	0.37483	0.38801	AVRG		0.38457		8.02856	
2-Nitropropane	NE 0.18456	0.23319 0.19499	0.19456 0.20657	0.22145 0.20342	0.16115	0.18784	AVRG		0.19864		10.60581	
Dibromomethane	NE 0.20339	0.24779 0.21844	0.21543 0.20650	0.23770 0.20862	0.20762	0.21371	AVRG		0.21769		6.96902	
4-Methyl-2-Pentanone	NE 0.46063	0.58655 0.48903	0.46075 0.48195	0.49135 0.48645	0.48596	0.48555	AVRG		0.49202		7.57687	
cis-1,3-Dichloropropene	NE 0.51175	0.61537 0.55605	0.45166 0.53397	0.53404 0.54067	0.47196	0.51998	AVRG		0.52616		8.99460	
Ethyl Methacrylate	NE 0.26930	0.34651 0.30905	0.35275 0.33292	0.35012 0.34232	0.32495	0.31920	AVRG		0.32746		8.05273	
Toluene	NE 1.35355	1.36539 1.44404	1.14100 1.39074	1.37686 1.39027	1.31689	1.33460	AVRG		1.34593		6.32428	
trans-1,3-Dichloropropene	NE 0.42358	0.49608 0.46734	0.38674 0.45302	0.44837 0.46834	0.41009	0.43827	AVRG		0.44354		7.48885	
2-Hexanone	NE 0.30067	0.30395 0.32110	0.33705 0.32372	0.32917 0.32526	0.33286	0.33513	AVRG		0.32321		4.01955	

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Volatiles by EPA 8260

ICAL Summary Page 5 / 12

Compound	50.00 Level 7 0.250 Level 1	100.00 Level 8 0.500 Level 2	150.00 Level 9 1.00 Level 3	200.00 Level 10 2.00 Level 4	5.00 Level 5	20.00 Level 6	Curve	b	m1	m2	%RSD or R2	Q
1,1,2-Trichloroethane	NE 0.27496	0.30232 0.28103	0.28933 0.27111	0.30515 0.27281	0.28408	0.28886	AVRG		0.28552		4.28271	
1,3-Dichloropropane	NE 0.56268	0.68555 0.57784	0.56076 0.55478	0.58546 0.55874	0.58510	0.57884	AVRG		0.58331		6.87413	
Dibromochloromethane	NE 0.40608	0.42594 0.43396	0.39216 0.42165	0.41047 0.42582	0.38971	0.40387	AVRG		0.41218		3.79175	
Tetrachloroethene	NE 0.26863	0.24343 0.31076	0.22414 0.29395	0.32780 0.29098	0.27159	0.27129	AVRG		0.27806		11.54647	
1,2-Dibromoethane	NE 0.30967	0.35535 0.31558	0.31873 0.30475	0.33131 0.31110	0.34997	0.33995	AVRG		0.32627		5.69357	
1-Chlorohexane	NE 0.33296	0.43114 0.42814	0.40883 0.40776	0.43814 0.41598	0.36414	0.38805	AVRG		0.40168		8.58201	
Chlorobenzene	NE 0.90189	1.07531 0.96048	0.86917 0.93481	0.96582 0.94343	0.89774	0.91892	AVRG		0.94084		6.30233	
1,1,1,2-Tetrachloroethane	NE 0.36189	0.40907 0.38531	0.32801 0.37705	0.36574 0.37837	0.34420	0.36531	AVRG		0.36833		6.36041	
Ethylbenzene	NE 0.45381	0.53160 0.50085	0.40783 0.48317	0.49648 0.48539	0.44109	0.44588	AVRG		0.47179		7.99221	
m,p-Xylenes	NE 0.58355	0.58138 0.63520	0.51291 0.61039	0.66213 0.61758	0.54279	0.58097	AVRG		0.59188		7.73323	
o-Xylene	NE 0.54985	0.60028 0.59157	0.50413 0.57426	0.58077 0.58210	0.50944	0.55204	AVRG		0.56049		6.17548	
Styrene	NE 0.97719	1.10605 1.02091	0.86982 0.99759	0.96217 1.01131	0.89239	0.96159	AVRG		0.97767		7.16726	

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Bromoform	NE 0.26395	0.26832 0.27994	0.21153 0.27771	0.29273 0.28394	0.24404	0.25796	AVRG		0.26446		9.32941	
Isopropylbenzene	NE 1.36958	1.45474 1.59321	1.15694 1.51601	1.62659 1.55523	1.31430	1.37984	AVRG		1.44071		10.47090	
1,1,2,2-Tetrachloroethane	NE 0.78472	0.94445 0.81779	0.83194 0.80619	0.90896 0.80829	0.84185	0.81425	AVRG		0.83983		6.25761	
1,2,3-Trichloropropane	NE 0.62245	0.70743 0.65589	0.66768 0.64581	0.66994 0.64574	0.70648	0.67647	AVRG		0.66643		4.21060	
trans-1,4-Dichloro-2-butene	NE 0.15148	0.15286 0.16770	0.12745 0.16789	0.14444 0.16922	0.13548	0.15209	AVRG		0.15207		9.66771	
n-Propylbenzene	NE 2.91361	2.94838 3.40683	2.53997 3.24372	3.16964 3.29645	2.67171	3.00288	AVRG		3.02147		9.55626	
Bromobenzene	NE 0.73926	0.82736 0.79512	0.75995 0.76647	0.82086 0.78754	0.76608	0.77520	AVRG		0.78198		3.67998	
1,3,5-Trimethylbenzene	NE 2.12204	2.47615 2.50410	1.87986 2.44372	2.39387 2.46514	1.97150	2.11509	AVRG		2.26350		10.68239	
2-Chlorotoluene	NE 1.91345	2.19364 2.08147	2.04515 2.01122	2.15846 2.03095	1.86416	2.04541	AVRG		2.03821		5.12320	
4-Chlorotoluene	NE 2.19714	2.25128 2.40271	1.82096 2.33521	2.37563 2.37480	2.11635	2.28352	AVRG		2.23973		8.15437	
tert-Butylbenzene	NE 1.75584	2.09594 2.12022	1.61179 2.04664	2.20774 2.05649	1.74066	1.83461	AVRG		1.94110		10.71222	
1,2,4-Trimethylbenzene	NE 2.11967	2.62916 2.46832	1.84573 2.41069	2.42858 2.45093	1.92871	2.14683	AVRG		2.26985		11.86510	

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Volatiles by EPA 8260

ICAL Summary Page 7 / 12

Compound	50.00 Level 7 / 0.250 Level 1	100.00 Level 8 / 0.500 Level 2	150.00 Level 9 / 1.00 Level 3	200.00 Level 10 / 2.00 Level 4	5.00 Level 5	20.00 Level 6	Curve	b	m1	m2	%RSD or R2	Q
sec-Butylbenzene	NE 2.38650	2.39008 2.98896	2.08647 2.87301	2.89395 2.88374	2.26832	2.51515	AVRG		2.58735		12.68595	
p-Isopropyltoluene	NE 2.17688	2.52552 2.69684	1.93671 2.58444	2.48463 2.61384	2.04517	2.20747	AVRG		2.36350		11.64663	
1,3-Dichlorobenzene	NE 1.28863	1.54565 1.44980	1.17676 1.41160	1.40461 1.40967	1.24164	1.33205	AVRG		1.36227		8.33210	
1,4-Dichlorobenzene	NE 1.38557	1.65292 1.53566	1.32318 1.45287	1.69562 1.48161	1.44532	1.46978	AVRG		1.49361		7.97047	
Benzyl Chloride	NE 558112	6245 1321247	10259 2041719	17851 2751633	45616	196200	LINR	0.04694	0.89268		0.99874	
n-Butylbenzene	NE 1.83535	1.84574 2.37633	1.70944 2.27255	1.96808 2.30080	1.70778	1.79924	AVRG		1.97948		13.42128	
1,2-Dichlorobenzene	NE 1.27471	1.35749 1.42525	1.25645 1.37391	1.38320 1.38665	1.26217	1.33374	AVRG		1.33929		4.58000	
1,2-Dibromo-3-Chloropropane	NE 51434	675 119154	831 181917	1953 242707	5268	19568	LINR	0.02176	0.14112		0.99931	
1,2,4-Trichlorobenzene	NE 0.80524	1.05947 0.97476	0.91279 0.95753	0.94981 0.97711	0.85502	0.78698	AVRG		0.91986		9.65852	
Hexachlorobutadiene	NE 139894	1357 382401	2109 564457	6844 760294	13714	52647	LINR	0.04709	0.44481		0.99698	
Naphthalene	NE 2.02307	2.67698 2.35582	2.32669 2.27389	2.26771 2.32875	2.16067	2.07687	AVRG		2.27672		8.35550	
1,2,3-Trichlorobenzene	NE 0.74794	0.99382 0.88744	0.89482 0.86237	0.93334 0.87314	0.76923	0.78029	AVRG		0.86027		9.42402	

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Ethyl Acetate	NE 0.70402	0.85233 0.73854	0.68267 0.71854	0.73966 0.71045	0.76533	0.77227	AVRG		0.74265		6.75864	
Methyl Acrylate	NE 0.62114	0.66840 0.77600	0.54731 0.78843	0.64052 0.76129	0.64695	0.66691	AVRG		0.67966		11.81743	
n-Butanol	NE 0.01560	0.01615 0.01818	0.01470 0.01945	0.01778 0.01980	0.01318	0.01496	AVRG		0.01664		13.67270	
Ethyl Acrylate	NE 1.56849	1.63514 1.70663	1.72358 1.77502	1.50263 1.75049	1.60242	1.64950	AVRG		1.65710		5.42882	
Cyclohexanone	NE 0.03949	0.05394 0.03979	0.05115 0.03982	0.04786 0.03661	0.04626	0.04568	AVRG		0.04451		13.30149	
1,4-Dioxane	0.00529 0.00540	0.00687 0.00595	0.00611 0.00600	0.00555 0.00602	0.00636	0.00586	AVRG		0.00594		7.82889	
n-Hexane	NE 244351	2320 700280	5000 NE	11984 NE	26276	106667	QUAD	-0.01727	2.41947	-0.68015	0.99837	
Freon TF	NE 154547	1274 422615	2818 NE	7195 NE	16656	67796	QUAD	-0.01499	3.77998	-1.58677	0.99832	
Methyl Acetate	NE 0.42203	0.46559 0.43221	0.47286 0.43028	0.45346 0.42016	0.45829	0.45001	AVRG		0.44499		4.35037	
Methylcyclohexane	NE 0.98734	1.14273 1.10411	0.96842 1.12748	0.95973 1.14019	1.03867	1.02958	AVRG		1.05536		7.08148	
Isopropyl alcohol	NE 0.03536	0.04517 0.03638	0.04439 0.03714	0.04149 0.03689	0.03687	0.03873	AVRG		0.03916		9.28018	
Amyl alcohol	NE 0.01277	0.01442 0.01513	0.01288 0.01573	0.01448 0.01580	0.01462	0.01358	AVRG		0.01438		7.75370	

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Allyl alcohol	NE 244351	2068 700280	5000 NE	14314 NE	26276	106667	QUAD	-0.39232	48.54112	-13.69022	0.99834	
4-Methyl-2-pentanol	NE 0.08687	0.12600 0.10145	0.10791 0.10473	0.11127 0.10925	0.11234	0.10455	AVRG		0.10715		9.67860	
Tert-butyl alcohol	NE 0.05636	0.07802 0.05963	0.06140 0.05977	0.06995 0.05928	0.06161	0.06194	AVRG		0.06311		10.61812	
Diethyl ether	NE 0.43908	0.51744 0.44851	0.49360 0.44689	0.51199 0.43020	0.45058	0.45793	AVRG		0.46625		6.99240	
1,3-Butadiene	NE 0.58528	0.63622 0.71010	0.57213 0.67222	0.73345 0.66543	0.59805	0.60945	AVRG		0.64248		8.80211	
Cyclohexane	NE 0.73558	0.85829 1.03245	0.72681 0.97434	0.92986 0.96744	0.75844	0.81693	AVRG		0.86668		13.16994	
Tetrahydrofuran	NE 0.12218	0.14083 0.12495	0.13332 0.12609	0.13514 0.12108	0.12274	0.13136	AVRG		0.12863		5.31484	
alpha-Methylstyrene	NE 1.02454	1.23006 1.16376	0.99517 1.14646	1.09377 1.14475	0.99115	1.02796	AVRG		1.09085		7.81543	
Diisopropyl ether	NE 1.95747	2.14800 2.03902	2.34506 2.05555	2.06794 1.95720	1.91324	2.06344	AVRG		2.06077		6.23686	
Dichlorofluoromethane	NE 0.76153	0.85332 0.78724	0.92289 0.78703	0.84028 0.76192	0.75366	0.78256	AVRG		0.80560		6.93852	
Propylene oxide	NE 0.05692	0.06108 0.05582	0.06673 0.05455	0.06684 0.04985	0.07410	0.06618	AVRG		0.06134		12.54653	
3-Methyl-1-butanol	NE 0.01195	0.01323 0.01394	0.01183 0.01419	0.00888 0.01408	0.01158	0.01110	AVRG		0.01231		14.14320	

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Butyl acrylate	NE	0.92245	0.88753	0.86138	0.86060	0.94857						
	0.95529	1.02517	1.04707	1.05297			AVRG		0.95123		7.98920	
Butyl methacrylate	NE	1.22102	1.20704	1.20789	1.13145	1.15942						
	1.15197	1.29239	1.21819	1.18934			AVRG		1.19763		3.97564	
Dicyclopentadiene	NE	2.80389	3.12078	2.84202	2.58546	2.86391						
	2.75252	2.95979	3.02021	2.97202			AVRG		2.88007		5.53053	
1,2,3-Trimethylbenzene	NE	2.33141	2.44039	2.00963	2.11668	2.24288						
	2.26318	2.44349	2.48171	2.47220			AVRG		2.31129		7.26158	
Ethanol	NE	1082	1613	3219	7997	30252						
	72445	150451	220615	291912			LINR	-0.37330	0.00686		0.99938	
tert-Butyl formate	NE	0.60414	0.54120	0.56992	0.53335	0.49959						
	0.46269	0.51460	0.53820	0.54329			AVRG		0.53411		7.55066	
3,3-Dimethyl-1-butanol	NE	0.07070	0.05527	0.05594	0.05364	0.05224						
	0.04382	0.04890	0.05244	0.05101			AVRG		0.05377		13.60012	
tert-Amyl methyl ether	NE	1.86257	1.86766	1.49761	1.62072	1.56664						
	1.60911	1.58140	1.64949	1.54826			AVRG		1.64483		8.04479	
tert-Butyl ethyl ether	NE	2.48449	2.24930	2.05003	2.12663	2.03642						
	1.97744	2.04789	2.06704	2.01150			AVRG		2.11675		7.49756	
tert-Amyl alcohol	NE	0.06041	0.05141	0.06972	0.05333	0.05084						
	0.04627	0.05146	0.05382	0.05433			AVRG		0.05462		12.42201	
Epichlorohydrin	NE	0.03842	0.03655	0.03704	0.03577	0.03679						
	0.03559	0.03914	0.03819	0.03863			AVRG		0.03735		3.45493	
Isoprene	NE	0.16745	0.14351	0.16283	0.17487	0.17231						
	0.14969	0.17829	0.17017	0.16423			AVRG		0.16482		6.98920	

NE - Not Evaluated, AVRG - Averaged, LINR - Linear Regression, WLIN - Weighted Linear, QUAD - Quadratic, * - Curve Fit Outside Limits

Initial Calibration Data

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder HS23070445

RunID VOA6_441456

Volatiles by EPA 8260

Compound	50.00 Level 7 0.250 Level 1	100.00 Level 8 0.500 Level 2	150.00 Level 9 1.00 Level 3	200.00 Level 10 2.00 Level 4	5.00 Level 5	20.00 Level 6	Curve	b	m1	m2	%RSD or R2	Q
n-Amyl acetate	NE 0.81039	1.01275 0.90629	1.04196 0.91309	0.90756 0.92294	0.85545	0.87675	AVRG		0.91635		7.88906	
Isopropyl acetate	NE 1.19423	1.44350 1.30224	1.45714 1.26100	1.48440 1.24685	1.21182	1.26381	AVRG		1.31833		8.51827	
n-Butyl acetate	NE 0.73443	0.87010 0.79624	0.63987 0.80262	0.70296 0.81276	0.74526	0.79294	AVRG		0.76635		8.91130	
Acetaldehyde	NE 101552	NE 189053	5117 265471	8114 347350	20987	39093	LINR	-0.45320	0.04030		0.99713	
Methyl Amyl Ketone	NE 0.96318	1.20532 1.04745	0.94521 1.08877	0.97102 1.09326	1.04102	1.05023	AVRG		1.04505		7.72385	
Dimethyl Disulfide	NE 0.69887	0.66624 0.73618	0.61152 0.73656	0.60301 0.73622	0.60088	0.68043	AVRG		0.67444		8.55931	
Isobutylene	NE 0.07008	0.09932 0.08656	0.08288 0.08198	0.07903 0.07923	0.07898	0.08593	AVRG		0.08267		9.56800	
2-Ethylhexyl Acrylate	NE 1.36334	1.09488 1.47049	1.12671 1.45960	1.14640 1.46017	1.06053	1.31158	AVRG		1.27708		13.35344	
94 1,2-Dichloroethylene (total)	NE 0.46479	0.54435 0.49154	0.44960 0.47037	0.50282 0.46464	0.48062	0.46694	AVRG		0.48174		5.88171	
95 Xylenes (total)	NE 0.51459	0.53863 0.58017	0.47900 0.55693	0.57974 0.56971	0.47946	0.52696	AVRG		0.53613		7.35273	
30 Dibromofluoromethane	NE 227290	3536 502644	5859 719790	10131 959895	26145	100577	LINR	-0.01526	0.45137		0.99889	
35 1,2-Dichloroethane-d4	NE 282994	5342 615043	7805 911155	14667 1203985	31653	125030	LINR	-0.01246	0.56601		0.99932	

NE - Not Evaluated, AVRG - Averaged, LINR - Linear Regression, WLIN - Weighted Linear, QUAD - Quadratic, * - Curve Fit Outside Limits

Initial Calibration Data

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder HS23070445

RunID VOA6_441456

Volatiles by EPA 8260

Compound	50.00 Level 7 / 0.250 Level 1	100.00 Level 8 / 0.500 Level 2	150.00 Level 9 / 1.00 Level 3	200.00 Level 10 / 2.00 Level 4	5.00 Level 5	20.00 Level 6	Curve	b	m1	m2	%RSD or R2	Q
48 Toluene-d8	NE 1.07891	1.41149 1.19952	1.42719 NE	1.38594 NE	1.29623	1.21214	AVRG		1.28735		10.10735	
69 4-Bromofluorobenzene	NE 355682	7819 767493	11517 1135204	17835 1538168	40007	153161	LINR	-0.00857	0.49361		0.99967	

NE - Not Evaluated, AVRG - Averaged, LINR - Linear Regression, WLIN - Weighted Linear, QUAD - Quadratic, * - Curve Fit Outside Limits

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Form 6I

Initial Calibration Verification (ICV)

Volatiles by EPA 8260

Workorder

HS23070445

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Monthly Effluent Samples

07/20/2023

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Initial Calibration Verification (ICV)

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder HS23070445

RunID VOA6_441456

Volatiles by EPA 8260

Sample Matrix LIQUID
Lab Smp Id ICV
Level LOW
Fraction VOA
Client Smp ID ICV
Operator PC

Compound	Conc Added	Conc Recovered	% Recovered	Limits	Q
1,1,1,2-Tetrachloroethane	50.00	49.01	98.02	80-120	
1,1,1-Trichloroethane	50.00	46.46	92.93	80-120	
1,1,2,2-Tetrachloroethane	50.00	48.23	96.47	80-120	
Freon TF	50.00	50.73	101.47	80-120	
Methyl acetate	50.00	48.60	97.20	80-120	
Cyclohexane	50.00	43.28	86.57	80-120	
Methylcyclohexane	50.00	47.44	94.90	80-120	
Carbon Disulfide	100.00	92.54	92.54	80-120	
2-Hexanone	100.00	100.41	100.42	80-120	
1,1,2-Trichloroethane	50.00	48.51	97.03	80-120	
1,1-Dichloroethane	50.00	46.83	93.66	80-120	
1,1-Dichloroethene	50.00	45.26	90.53	80-120	
1,1-Dichloropropene	50.00	45.59	91.20	80-120	
1,2,3-Trichlorobenzene	50.00	43.05	86.12	80-120	
1,2,3-Trichloropropane	50.00	48.09	96.20	80-120	
1,2,4-Trichlorobenzene	50.00	43.35	86.72	80-120	
1,2,4-Trimethylbenzene	50.00	44.77	89.55	80-120	
1,2-Dibromo-3-Chloropropane	50.00	48.27	96.54	80-120	
1,2-Dibromoethane	50.00	47.85	95.71	80-120	
Acrolein	100.00	95.33	95.34	80-120	
Acrylonitrile	100.00	96.95	96.95	80-120	
1,2-Dichlorobenzene	50.00	47.75	95.52	80-120	
1,2-Dichloroethane	50.00	47.45	94.92	80-120	
1,2-Dichloropropane	50.00	49.01	98.02	80-120	
1,3,5-Trimethylbenzene	50.00	44.65	89.31	80-120	
1,3-Dichlorobenzene	50.00	46.44	92.88	80-120	
1,3-Dichloropropane	50.00	48.46	96.93	80-120	
1,4-Dichlorobenzene	50.00	45.87	91.75	80-120	
1-Chlorohexane	50.00	40.17	80.36	80-120	
2,2-Dichloropropane	50.00	47.06	94.14	80-120	
2-Butanone	100.00	105.06	105.06	80-120	
2-Chloroethylvinyl ether	100.00	103.48	103.49	80-120	
2-Chlorotoluene	50.00	45.07	90.16	80-120	
4-Chlorotoluene	50.00	47.10	94.21	80-120	

Initial Calibration Verification (ICV)

Client Bhate Environmental Associates, Inc.
Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder HS23070445

RunID VOA6_441456

Volatiles by EPA 8260

Sample Matrix LIQUID
Lab Smp Id ICV
Level LOW
Fraction VOA
Client Smp ID ICV
Operator PC

Compound	Conc Added	Conc Recovered	% Recovered	Limits	Q
p-Isopropyltoluene	50.00	42.46	84.92	80-120	
4-Methyl-2-Pentanone	100.00	96.77	96.78	80-120	
Acetone	100.00	109.68	109.69	80-120	
Acetonitrile	500.00	477.86	95.57	80-120	
Allyl Chloride	50.00	46.25	92.52	80-120	
Benzene	50.00	47.17	94.35	80-120	
Bromobenzene	50.00	47.14	94.28	80-120	
Bromochloromethane	50.00	47.57	95.15	80-120	
Bromodichloromethane	50.00	47.04	94.09	80-120	
Bromoform	50.00	50.48	100.97	80-120	
Bromomethane	50.00	52.69	105.40	80-120	
Carbon Tetrachloride	50.00	43.89	87.80	80-120	
Chlorobenzene	50.00	47.93	95.88	80-120	
Chloroethane	50.00	45.13	90.26	80-120	
Chloroform	50.00	45.97	91.96	80-120	
Chloromethane	50.00	46.75	93.50	80-120	
Chloroprene	50.00	45.07	90.15	80-120	
cis-1,2-Dichloroethene	50.00	47.65	95.31	80-120	
cis-1,3-Dichloropropene	50.00	49.60	99.21	80-120	
Dibromochloromethane	50.00	50.99	101.99	80-120	
Dibromomethane	50.00	47.45	94.92	80-120	
Dichlorodifluoromethane	50.00	44.13	88.28	80-120	
Ethylbenzene	50.00	46.22	92.44	80-120	
Ethyl Methacrylate	50.00	42.56	85.14	80-120	
Iodomethane	100.00	85.27	85.27	80-120	
Isobutyl Alcohol	1000.00	1037.79	103.78	70-130	
Propionitrile	500.00	495.72	99.15	70-130	
Hexachlorobutadiene	50.00	40.81	81.63	80-120	
Isopropylbenzene	50.00	44.80	89.60	80-120	
m,p-Xylenes	100.00	94.37	94.38	80-120	
Methyl tert-butyl ether	50.00	48.10	96.20	80-120	
Methylene Chloride	50.00	48.91	97.83	80-120	
Methacrylonitrile	50.00	51.28	102.56	80-120	
Methyl Methacrylate	50.00	48.63	97.28	80-120	

Initial Calibration Verification (ICV)

Client Bhate Environmental Associates, Inc.
Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder HS23070445

RunID VOA6_441456

Volatiles by EPA 8260

Sample Matrix LIQUID
Lab Smp Id ICV
Level LOW
Fraction VOA
Client Smp ID ICV
Operator PC

Compound	Conc Added	Conc Recovered	% Recovered	Limits	Q
n-Butylbenzene	50.00	43.07	86.14	80-120	
n-Propylbenzene	50.00	44.93	89.87	80-120	
Naphthalene	50.00	45.05	90.10	80-120	
o-Xylene	50.00	47.84	95.69	80-120	
sec-Butylbenzene	50.00	42.83	85.66	80-120	
Styrene	50.00	49.01	98.02	80-120	
tert-Butylbenzene	50.00	42.55	85.10	80-120	
Tetrachloroethene	50.00	47.18	94.38	80-120	
Toluene	50.00	48.91	97.82	80-120	
trans-1,2-Dichloroethene	50.00	45.43	90.87	80-120	
trans-1,3-Dichloropropene	50.00	49.09	98.19	80-120	
trans-1,4-Dichloro-2-butene	50.00	53.16	106.34	80-120	
Trichloroethene	50.00	46.63	93.27	80-120	
Trichlorofluoromethane	50.00	46.87	93.76	80-120	
Vinyl Acetate	100.00	100.31	100.31	80-120	
Vinyl Chloride	50.00	46.46	92.92	80-120	
1,2-Dichloroethylene (total)	100.00	93.08	93.09	80-120	
Xylenes (total)	150.00	142.22	94.81	80-120	
1,4-Dioxane	1000.00	988.21	98.82	80-120	
Dibromofluoromethane	50.00	52.53	105.08	71-125	
1,2-Dichloroethane-d4	50.00	52.09	104.19	70-125	
Toluene-d8	50.00	48.16	96.34	75-125	

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Form 7

Continuing Calibration Verification (CCV)

Volatiles by EPA 8260

Workorder

HS23070445

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Monthly Effluent Samples

07/20/2023

ALS Environmental–Houston Laboratory

10450 Stancliff Road, Suite 210, Houston, TX 77099

Phone (281) 530-5656 Fax (281) 530-5887

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Continuing Calibration Verification (CCV)

Client Bhate Environmental Associates, Inc.
Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder HS23070445

RunID VOA6_441458

Volatiles by EPA 8260

Instrument ID VOA6.I
Lab File ID Y071403.D
Analysis Type WATER
Lab Sample ID CCV

Injection Date :48
ICAL Date(s) 14-JUL-2023 14-JUL-2023
ICAL Times :41 15:25
Quant Type ISTD

Compound	$\overline{RRF}$ / Conc	RF50 / Conc	CCV RRF50	Min RRF	%D / %Drift	Max %D / %Drift	Curve Type	Q
Dichlorodifluoromethane	50.0	50.40348	0.51570	0.100	-0.80697	20.0	Linear	
Chloromethane	0.75520	0.79242	0.79242	0.100	-4.92783	20.0	Averaged	
Propionitrile	0.09905	0.09841	0.09841	0.010	0.64496	20.0	Averaged	
Vinyl Chloride	0.64702	0.64752	0.64752	0.100	-0.07693	20.0	Averaged	
Bromomethane	0.26775	0.28290	0.28290	0.100	-5.65535	20.0	Averaged	
Chloroethane	0.36936	0.35440	0.35440	0.100	4.05120	20.0	Averaged	
Trichlorofluoromethane	0.65570	0.66309	0.66309	0.100	-1.12581	20.0	Averaged	
Acrolein	100	96.53456	0.01827	0.010	3.46544	20.0	Linear	
Acetone	100	107	0.21150	0.100	-7.25089	20.0	Linear	
1,1-Dichloroethene	0.36630	0.37721	0.37721	0.100	-2.97831	20.0	Averaged	
Isobutyl Alcohol	0.09478	0.09714	0.09714	0.005	-2.49521	20.0	Averaged	
Acetonitrile	0.07011	0.06702	0.06702	0.005	4.41187	20.0	Averaged	
Allyl Chloride	1.64159	1.51592	1.51592	0.100	7.65532	20.0	Averaged	
Iodomethane	100	98.01565	0.47292	0.100	1.98435	20.0	Quadratic	
Acrylonitrile	0.24365	0.23637	0.23637	0.050	2.98883	20.0	Averaged	
Methylene Chloride	50.0	51.90906	0.44830	0.100	-3.81813	20.0	Linear	
Methyl tert-butyl ether	1.36234	1.31817	1.31817	0.100	3.24192	20.0	Averaged	
Carbon Disulfide	1.15144	1.16492	1.16492	0.100	-1.17082	20.0	Averaged	
trans-1,2-Dichloroethene	0.42371	0.42083	0.42083	0.100	0.67976	20.0	Averaged	
Vinyl Acetate	1.75234	1.74984	1.74984	0.010	0.14284	20.0	Averaged	
1,1-Dichloroethane	0.92980	0.92712	0.92712	0.200	0.28897	20.0	Averaged	
Chloroprene	0.22482	0.21833	0.21833	0.100	2.88377	20.0	Averaged	
2-Butanone	0.26627	0.27722	0.27722	0.100	-4.11357	20.0	Averaged	
Methacrylonitrile	0.64539	0.65997	0.65997	0.100	-2.26039	20.0	Averaged	
2,2-Dichloropropane	50.0	50.62323	0.73082	0.100	-1.24645	20.0	Linear	
cis-1,2-Dichloroethene	0.53977	0.53962	0.53962	0.100	0.02766	20.0	Averaged	
Chloroform	0.95139	0.91701	0.91701	0.200	3.61353	20.0	Averaged	
Bromochloromethane	0.30250	0.29861	0.29861	0.100	1.28562	20.0	Averaged	
30 Dibromofluoromethane	50.0	51.81780	0.47466	0.100	-3.63561	20.0	Linear	
1,1,1-Trichloroethane	0.73237	0.75637	0.75637	0.100	-3.27612	20.0	Averaged	
1,1-Dichloropropene	0.40784	0.41099	0.41099	0.100	-0.77308	20.0	Averaged	
1,2-Dichloroethane	0.55040	0.54898	0.54898	0.100	0.25890	20.0	Averaged	
Carbon Tetrachloride	0.41088	0.39916	0.39916	0.100	2.85205	20.0	Averaged	
35 1,2-Dichloroethane-d4	50.0	50.87655	0.58298	0.100	-1.75309	20.0	Linear	

Continuing Calibration Verification (CCV)

Client Bhate Environmental Associates, Inc.
Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder HS23070445

RunID VOA6_441458

Volatiles by EPA 8260

Instrument ID VOA6.I
Lab File ID Y071403.D
Analysis Type WATER
Lab Sample ID CCV

Injection Date :48
ICAL Date(s) 14-JUL-2023 14-JUL-2023
ICAL Times :41 15:25
Quant Type ISTD

Compound	$\overline{RRF}$ / Conc	RF50 / Conc	CCV RRF50	Min RRF	%D / %Drift	Max %D / %Drift	Curve Type	Q
Benzene	1.19597	1.21641	1.21641	0.500	-1.70894	20.0	Averaged	
Trichloroethene	0.33829	0.34398	0.34398	0.200	-1.68298	20.0	Averaged	
Bromodichloromethane	0.45810	0.45021	0.45021	0.200	1.72211	20.0	Averaged	
Methyl Methacrylate	0.60347	0.59615	0.59615	0.100	1.21418	20.0	Averaged	
2-Chloroethylvinyl ether	0.13987	0.14846	0.14846	0.001	-6.14159	20.0	Averaged	
1,2-Dichloropropane	0.38457	0.39249	0.39249	0.100	-2.05942	20.0	Averaged	
2-Nitropropane	0.19864	0.18991	0.18991	0.000	4.39289	20.0	Averaged	
Dibromomethane	0.21769	0.21358	0.21358	0.100	1.88716	20.0	Averaged	
4-Methyl-2-Pentanone	0.49202	0.47307	0.47307	0.100	3.85187	20.0	Averaged	
cis-1,3-Dichloropropene	0.52616	0.52816	0.52816	0.200	-0.38028	20.0	Averaged	
48 Toluene-d8	1.28735	1.23641	1.23641	0.100	3.95675	20.0	Averaged	
Ethyl Methacrylate	0.32746	0.28874	0.28874	0.100	11.82416	20.0	Averaged	
Toluene	1.34593	1.39898	1.39898	0.400	-3.94134	20.0	Averaged	
trans-1,3-Dichloropropene	0.44354	0.44834	0.44834	0.100	-1.08371	20.0	Averaged	
2-Hexanone	0.32321	0.31794	0.31794	0.100	1.63018	20.0	Averaged	
1,1,2-Trichloroethane	0.28552	0.28826	0.28826	0.100	-0.96112	20.0	Averaged	
1,3-Dichloropropane	0.58331	0.57232	0.57232	0.100	1.88345	20.0	Averaged	
Dibromochloromethane	0.41218	0.41914	0.41914	0.100	-1.68753	20.0	Averaged	
Tetrachloroethene	0.27806	0.28445	0.28445	0.200	-2.29662	20.0	Averaged	
1,2-Dibromoethane	0.32627	0.31369	0.31369	0.100	3.85559	20.0	Averaged	
1-Chlorohexane	0.40168	0.37326	0.37326	0.100	7.07527	20.0	Averaged	
Chlorobenzene	0.94084	0.94979	0.94979	0.500	-0.95169	20.0	Averaged	
1,1,1,2-Tetrachloroethane	0.36833	0.37991	0.37991	0.100	-3.14306	20.0	Averaged	
Ethylbenzene	0.47179	0.47531	0.47531	0.100	-0.74578	20.0	Averaged	
m,p-Xylenes	0.59188	0.61929	0.61929	0.100	-4.63193	20.0	Averaged	
o-Xylene	0.56049	0.57728	0.57728	0.300	-2.99499	20.0	Averaged	
Styrene	0.97767	1.02389	1.02389	0.300	-4.72783	20.0	Averaged	
Bromoform	0.26446	0.27674	0.27674	0.100	-4.64414	20.0	Averaged	
Isopropylbenzene	1.44071	1.46152	1.46152	0.100	-1.44435	20.0	Averaged	
1,1,2,2-Tetrachloroethane	0.83983	0.82578	0.82578	0.300	1.67220	20.0	Averaged	
1,2,3-Trichloropropane	0.66643	0.65821	0.65821	0.100	1.23398	20.0	Averaged	
trans-1,4-Dichloro-2-butene	0.15207	0.15907	0.15907	0.050	-4.60694	20.0	Averaged	
n-Propylbenzene	3.02147	3.09335	3.09335	0.100	-2.37916	20.0	Averaged	
Bromobenzene	0.78198	0.80468	0.80468	0.100	-2.90301	20.0	Averaged	

Continuing Calibration Verification (CCV)

Client Bhate Environmental Associates, Inc.
Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder HS23070445

RunID VOA6_441458

Volatiles by EPA 8260

Instrument ID VOA6.I
Lab File ID Y071403.D
Analysis Type WATER
Lab Sample ID CCV

Injection Date :48
ICAL Date(s) 14-JUL-2023 14-JUL-2023
ICAL Times :41 15:25
Quant Type ISTD

Compound	$\overline{RRF}$ / Conc	RF50 / Conc	CCV RRF50	Min RRF	%D / %Drift	Max %D / %Drift	Curve Type	Q
1,3,5-Trimethylbenzene	2.26350	2.25059	2.25059	0.100	0.57022	20.0	Averaged	
2-Chlorotoluene	2.03821	2.02013	2.02013	0.100	0.88721	20.0	Averaged	
4-Chlorotoluene	2.23973	2.31455	2.31455	0.100	-3.34056	20.0	Averaged	
tert-Butylbenzene	1.94110	1.92629	1.92629	0.100	0.76299	20.0	Averaged	
1,2,4-Trimethylbenzene	2.26985	2.25148	2.25148	0.100	0.80916	20.0	Averaged	
sec-Butylbenzene	2.58735	2.61411	2.61411	0.100	-1.03423	20.0	Averaged	
p-Isopropyltoluene	2.36350	2.36672	2.36672	0.100	-0.13623	20.0	Averaged	
1,3-Dichlorobenzene	1.36227	1.40773	1.40773	0.600	-3.33728	20.0	Averaged	
1,4-Dichlorobenzene	1.49361	1.49444	1.49444	0.400	-0.05538	20.0	Averaged	
Benzyl Chloride	50.0	47.44184	0.80511	0.010	5.11632	20.0	Linear	
n-Butylbenzene	1.97948	1.97185	1.97185	0.500	0.38552	20.0	Averaged	
1,2-Dichlorobenzene	1.33929	1.35721	1.35721	0.400	-1.33872	20.0	Averaged	
1,2-Dibromo-3-Chloropropane	50.0	46.40671	0.12791	0.040	7.18658	20.0	Linear	
1,2,4-Trichlorobenzene	0.91986	0.84795	0.84795	0.100	7.81693	20.0	Averaged	
Hexachlorobutadiene	50.0	46.26217	0.39061	0.100	7.47567	20.0	Linear	
Naphthalene	2.27672	2.13260	2.13260	0.200	6.33019	20.0	Averaged	
1,2,3-Trichlorobenzene	0.86027	0.81602	0.81602	0.010	5.14354	20.0	Averaged	
Methyl Acetate	0.44499	0.43354	0.43354	0.100	2.57232	20.0	Averaged	
Freon TF	50.0	56.58384	0.35679	0.100	-13.16768	20.0	Quadratic	
Cyclohexane	0.86668	0.88710	0.88710	0.100	-2.35599	20.0	Averaged	
Tetrahydrofuran	0.12863	0.12260	0.12260	0.001	4.69334	20.0	Averaged	
Methylcyclohexane	1.05536	1.00438	1.00438	0.100	4.83121	20.0	Averaged	
1,4-Dioxane	0.00594	0.00552	0.00552	0.001	7.17064	20.0	Averaged	
n-Butanol	0.01664	0.01569	0.01569	0.005	5.74077	20.0	Averaged	
Methyl Acrylate	0.67966	0.67855	0.67855	0.100	0.16373	20.0	Averaged	
Ethyl Acrylate	1.65710	1.55720	1.55720	0.100	6.02853	20.0	Averaged	
n-Hexane	50.0	56.60070	0.56464	0.100	-13.20140	20.0	Quadratic	
Diethyl ether	0.46625	0.44050	0.44050	0.100	5.52164	20.0	Averaged	
Tert-butyl alcohol	0.06311	0.05820	0.05820	0.005	7.77666	20.0	Averaged	
Isopropyl alcohol	0.03916	0.03629	0.03629	0.005	7.32853	20.0	Averaged	
Diisopropyl ether	2.06077	1.94486	1.94486	0.100	5.62449	20.0	Averaged	
2-Methylnaphthalene	++++	1.08129	1.08129	0.100	++++	20.0	Averaged	*
1,2,3-Trimethylbenzene	2.31129	2.32912	2.32912	0.100	-0.77176	20.0	Averaged	
Ethanol	1000	989	0.00691	0.001	1.13402	20.0	Linear	

Continuing Calibration Verification (CCV)

Client Bhate Environmental Associates, Inc.
Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder HS23070445

RunID VOA6_441458

Volatiles by EPA 8260

Instrument ID VOA6.I
Lab File ID Y071403.D
Analysis Type WATER
Lab Sample ID CCV

Injection Date :48
ICAL Date(s) 14-JUL-2023 14-JUL-2023
ICAL Times :41 15:25
Quant Type ISTD

Compound	$\overline{RRF}$ / Conc	RF50 / Conc	CCV RRF50	Min RRF	%D / %Drift	Max %D / %Drift	Curve Type	Q
tert-Butyl formate	0.53411	0.47541	0.47541	0.100	10.98963	20.0	Averaged	
3,3-Dimethyl-1-butanol	0.05377	0.04770	0.04770	0.005	11.28849	20.0	Averaged	
tert-Amyl methyl ether	1.64483	1.66180	1.66180	0.005	-1.03169	20.0	Averaged	
tert-Butyl ethyl ether	2.11675	2.02650	2.02650	0.100	4.26373	20.0	Averaged	
tert-Amyl alcohol	0.05462	0.04754	0.04754	0.005	12.96273	20.0	Averaged	
4-Methyl-2-pentanol	0.10715	0.09319	0.09319	0.005	13.03323	20.0	Averaged	
1-Methylnaphthalene	++++	1.08129	1.08129	0.100	++++	20.0	Averaged	*
1,3-Butadiene	0.64248	0.64627	0.64627	0.100	-0.58926	20.0	Averaged	
Amyl alcohol	0.01438	0.01302	0.01302	0.005	9.42031	20.0	Averaged	
Dichlorofluoromethane	0.80560	0.74803	0.74803	0.100	7.14643	20.0	Averaged	
Propylene oxide	0.06134	0.06042	0.06042	0.005	1.50100	20.0	Averaged	
3-Methyl-1-butanol	0.01231	0.01162	0.01162	0.005	5.57689	20.0	Averaged	
Butyl acrylate	0.95123	1.01592	1.01592	0.100	-6.80091	20.0	Averaged	
Butyl methacrylate	1.19763	1.21826	1.21826	0.100	-1.72235	20.0	Averaged	
Dicyclopentadiene	2.88007	2.74199	2.74199	0.100	4.79435	20.0	Averaged	
Epichlorohydrin	0.03735	0.03740	0.03740	0.001	-0.13815	20.0	Averaged	
94 1,2-Dichloroethylene (total	0.48174	0.48023	0.48023	0.200	0.31443	20.0	Averaged	
95 Xylenes (total)	0.53613	0.55100	0.55100	0.100	-2.77332	20.0	Averaged	
alpha-Methylstyrene	1.09085	1.11056	1.11056	0.100	-1.80750	20.0	Averaged	
Ethyl Acetate	0.74265	0.71659	0.71659	0.100	3.50788	20.0	Averaged	
Cyclohexanone	0.04451	0.04306	0.04306	0.005	3.25936	20.0	Averaged	
Isoprene	0.16482	0.16928	0.16928	0.100	-2.70614	20.0	Averaged	
Isopropyl acetate	1.31833	1.25290	1.25290	0.100	4.96290	20.0	Averaged	
n-Amyl acetate	0.91635	0.86256	0.86256	0.100	5.87029	20.0	Averaged	
n-Butyl acetate	0.76635	0.76863	0.76863	0.100	-0.29688	20.0	Averaged	
Allyl alcohol	1000	1133	0.02823	0.004	-13.25591	20.0	Quadratic	
Acetaldehyde	200	231	0.05114	0.001	-15.57727	20.0	Linear	
Methyl Amyl Ketone	1.04505	1.04036	1.04036	0.100	0.44914	20.0	Averaged	
Dimethyl Disulfide	0.67444	0.71441	0.71441	0.100	-5.92683	20.0	Averaged	
Isobutylene	0.08267	0.06678	0.06678	0.010	19.22295	20.0	Averaged	
2-Ethylhexyl Acrylate	1.27708	1.44438	1.44438	0.100	-13.10067	20.0	Averaged	

Continuing Calibration Verification (CCV)

Client Bhate Environmental Associates, Inc.
Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder HS23070445

RunID VOA6_441458

Volatiles by EPA 8260

Instrument ID VOA6.I
Lab File ID Y071431.D
Analysis Type WATER
Lab Sample ID CCV-END

Injection Date :21
ICAL Date(s) 14-JUL-2023 14-JUL-2023
ICAL Times :41 15:25
Quant Type ISTD

Compound	$\overline{RRF}$ / Conc	RF50 / Conc	CCV RRF50	Min RRF	%D / %Drift	Max %D / %Drift	Curve Type	Q
1,4-Dioxane	0.00594	0.00624	0.00624	0.001	-5.00094	50.0	Averaged	
1,3-Butadiene	0.64248	0.70730	0.70730	0.100	-10.08907	50.0	Averaged	
Methacrylonitrile	0.64539	0.71364	0.71364	0.100	-10.57626	50.0	Averaged	
Isobutyl Alcohol	0.09478	0.10492	0.10492	0.005	-10.70202	50.0	Averaged	
Acetonitrile	0.07011	0.07869	0.07869	0.005	-12.22667	50.0	Averaged	
Allyl Chloride	1.64159	1.86669	1.86669	0.100	-13.71237	50.0	Averaged	
Propionitrile	0.09905	0.10586	0.10586	0.010	-6.88372	50.0	Averaged	
trans-1,4-Dichloro-2-butene	0.15207	0.15863	0.15863	0.050	-4.31324	50.0	Averaged	
Acetaldehyde	200	309	0.06688	0.001	-54.62433	50.0	Linear	
Chloroprene	0.22482	0.28019	0.28019	0.100	-24.63127	50.0	Averaged	
Ethyl Acetate	0.74265	0.80038	0.80038	0.100	-7.77439	50.0	Averaged	
Methyl Methacrylate	0.60347	0.62382	0.62382	0.100	-3.37141	50.0	Averaged	
Ethyl Methacrylate	0.32746	0.31754	0.31754	0.100	3.02737	50.0	Averaged	
Methyl Acrylate	0.67966	0.68620	0.68620	0.100	-0.96163	50.0	Averaged	
n-Butanol	0.01664	0.01752	0.01752	0.005	-5.28245	50.0	Averaged	
n-Hexane	50.0	58.04655	0.58228	0.100	-16.09311	50.0	Quadratic	
Diethyl ether	0.46625	0.53202	0.53202	0.100	-14.10604	50.0	Averaged	
Tetrahydrofuran	0.12863	0.13941	0.13941	0.001	-8.37912	50.0	Averaged	
alpha-Methylstyrene	1.09085	1.12298	1.12298	0.100	-2.94539	50.0	Averaged	
Diisopropyl ether	2.06077	2.23911	2.23911	0.100	-8.65398	50.0	Averaged	
Butyl acrylate	0.95123	1.00234	1.00234	0.100	-5.37402	50.0	Averaged	
Ethanol	1000	1246	0.00868	0.001	-24.57410	50.0	Linear	
Dimethyl Disulfide	0.67444	0.70043	0.70043	0.100	-3.85355	50.0	Averaged	
Epichlorohydrin	0.03735	0.03810	0.03810	0.001	-2.02091	50.0	Averaged	
Dicyclopentadiene	2.88007	2.70461	2.70461	0.100	6.09222	50.0	Averaged	
1,2,3-Trimethylbenzene	2.31129	2.25650	2.25650	0.100	2.37029	50.0	Averaged	
2-Ethylhexyl Acrylate	1.27708	1.39260	1.39260	0.100	-9.04575	50.0	Averaged	
Benzyl Chloride	50.0	37.06706	0.61988	0.010	25.86588	50.0	Linear	
Cyclohexanone	0.04451	0.04421	0.04421	0.005	0.67440	50.0	Averaged	
Isobutylene	0.08267	++++	3.517e+66	0.010	++++	50.0	Averaged	*
Ethyl Acrylate	1.65710	1.67869	1.67869	0.100	-1.30313	50.0	Averaged	
Butyl methacrylate	1.19763	1.21523	1.21523	0.100	-1.46898	50.0	Averaged	
Isopropyl acetate	1.31833	1.28994	1.28994	0.100	2.15352	50.0	Averaged	
n-Butyl acetate	0.76635	0.77639	0.77639	0.100	-1.30929	50.0	Averaged	

Continuing Calibration Verification (CCV)

Client Bhate Environmental Associates, Inc.
Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder HS23070445

RunID VOA6_441458

Volatiles by EPA 8260

Instrument ID VOA6.I
Lab File ID Y071431.D
Analysis Type WATER
Lab Sample ID CCV-END

Injection Date :21
ICAL Date(s) 14-JUL-2023 14-JUL-2023
ICAL Times :41 15:25
Quant Type ISTD

Compound	$\overline{RRF}$ / Conc	RF50 / Conc	CCV RRF50	Min RRF	%D / %Drift	Max %D / %Drift	Curve Type	Q
Dichlorodifluoromethane	50.0	53.06304	0.54352	0.100	-6.12608	50.0	Linear	
Chloromethane	0.75520	0.63252	0.63252	0.100	16.24481	50.0	Averaged	
Vinyl Chloride	0.64702	0.70412	0.70412	0.100	-8.82528	50.0	Averaged	
Bromomethane	0.26775	0.26746	0.26746	0.100	0.10829	50.0	Averaged	
Chloroethane	0.36936	0.39407	0.39407	0.100	-6.68925	50.0	Averaged	
Trichlorofluoromethane	0.65570	0.78565	0.78565	0.100	-19.81708	50.0	Averaged	
Acrolein	100	145	0.02760	0.010	-45.26158	50.0	Linear	
Acetone	100	120	0.23593	0.100	-20.20101	50.0	Linear	
1,1-Dichloroethene	0.36630	0.40360	0.40360	0.100	-10.18080	50.0	Averaged	
Iodomethane	100	91.58622	0.43982	0.100	8.41378	50.0	Quadratic	
Acrylonitrile	0.24365	0.25387	0.25387	0.050	-4.19592	50.0	Averaged	
Methylene Chloride	50.0	58.13824	0.50067	0.100	-16.27647	50.0	Linear	
Methyl tert-butyl ether	1.36234	1.37388	1.37388	0.100	-0.84719	50.0	Averaged	
Carbon Disulfide	1.15144	1.23232	1.23232	0.100	-7.02476	50.0	Averaged	
trans-1,2-Dichloroethene	0.42371	0.44744	0.44744	0.100	-5.60045	50.0	Averaged	
Vinyl Acetate	1.75234	1.75981	1.75981	0.010	-0.42592	50.0	Averaged	
1,1-Dichloroethane	0.92980	1.04125	1.04125	0.200	-11.98609	50.0	Averaged	
2-Butanone	0.26627	0.29992	0.29992	0.100	-12.63731	50.0	Averaged	
2,2-Dichloropropane	50.0	46.60158	0.67252	0.100	6.79684	50.0	Linear	
cis-1,2-Dichloroethene	0.53977	0.56759	0.56759	0.100	-5.15330	50.0	Averaged	
Chloroform	0.95139	0.97864	0.97864	0.200	-2.86433	50.0	Averaged	
Bromochloromethane	0.30250	0.31187	0.31187	0.100	-3.09928	50.0	Averaged	
30 Dibromofluoromethane	50.0	53.94255	0.49385	0.100	-7.88510	50.0	Linear	
1,1,1-Trichloroethane	0.73237	0.81378	0.81378	0.100	-11.11577	50.0	Averaged	
1,1-Dichloropropene	0.40784	0.42608	0.42608	0.100	-4.47369	50.0	Averaged	
1,2-Dichloroethane	0.55040	0.55198	0.55198	0.100	-0.28654	50.0	Averaged	
Carbon Tetrachloride	0.41088	0.41886	0.41886	0.100	-1.94239	50.0	Averaged	
35 1,2-Dichloroethane-d4	50.0	52.07105	0.59651	0.100	-4.14211	50.0	Linear	
Benzene	1.19597	1.23305	1.23305	0.500	-3.10079	50.0	Averaged	
Trichloroethene	0.33829	0.35518	0.35518	0.200	-4.99286	50.0	Averaged	
Bromodichloromethane	0.45810	0.45708	0.45708	0.200	0.22337	50.0	Averaged	
2-Chloroethylvinyl ether	0.13987	0.15169	0.15169	0.001	-8.45558	50.0	Averaged	
1,2-Dichloropropane	0.38457	0.40797	0.40797	0.100	-6.08556	50.0	Averaged	
Dibromomethane	0.21769	0.21649	0.21649	0.100	0.55115	50.0	Averaged	

Continuing Calibration Verification (CCV)

Client Bhate Environmental Associates, Inc.
Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder HS23070445

RunID VOA6_441458

Volatiles by EPA 8260

Instrument ID VOA6.I
Lab File ID Y071431.D
Analysis Type WATER
Lab Sample ID CCV-END

Injection Date :21
ICAL Date(s) 14-JUL-2023 14-JUL-2023
ICAL Times :41 15:25
Quant Type ISTD

Compound	$\overline{RRF}$ / Conc	RF50 / Conc	CCV RRF50	Min RRF	%D / %Drift	Max %D / %Drift	Curve Type	Q
4-Methyl-2-Pentanone	0.49202	0.48533	0.48533	0.100	1.36084	50.0	Averaged	
cis-1,3-Dichloropropene	0.52616	0.52963	0.52963	0.200	-0.65889	50.0	Averaged	
48 Toluene-d8	1.28735	1.19833	1.19833	0.100	6.91470	50.0	Averaged	
Toluene	1.34593	1.41006	1.41006	0.400	-4.76466	50.0	Averaged	
trans-1,3-Dichloropropene	0.44354	0.44080	0.44080	0.100	0.61626	50.0	Averaged	
2-Hexanone	0.32321	0.33063	0.33063	0.100	-2.29652	50.0	Averaged	
1,1,2-Trichloroethane	0.28552	0.28445	0.28445	0.100	0.37255	50.0	Averaged	
1,3-Dichloropropane	0.58331	0.57816	0.57816	0.100	0.88223	50.0	Averaged	
Dibromochloromethane	0.41218	0.42370	0.42370	0.100	-2.79457	50.0	Averaged	
Tetrachloroethene	0.27806	0.29436	0.29436	0.200	-5.86256	50.0	Averaged	
1,2-Dibromoethane	0.32627	0.32083	0.32083	0.100	1.66754	50.0	Averaged	
1-Chlorohexane	0.40168	0.39257	0.39257	0.100	2.26989	50.0	Averaged	
Chlorobenzene	0.94084	0.95028	0.95028	0.500	-1.00331	50.0	Averaged	
1,1,1,2-Tetrachloroethane	0.36833	0.37394	0.37394	0.100	-1.52219	50.0	Averaged	
Ethylbenzene	0.47179	0.47888	0.47888	0.100	-1.50265	50.0	Averaged	
m,p-Xylenes	0.59188	0.61009	0.61009	0.100	-3.07780	50.0	Averaged	
o-Xylene	0.56049	0.57626	0.57626	0.300	-2.81243	50.0	Averaged	
Styrene	0.97767	1.00408	1.00408	0.300	-2.70120	50.0	Averaged	
Bromoform	0.26446	0.26760	0.26760	0.100	-1.18857	50.0	Averaged	
Isopropylbenzene	1.44071	1.52421	1.52421	0.100	-5.79537	50.0	Averaged	
1,1,2,2-Tetrachloroethane	0.83983	0.78766	0.78766	0.300	6.21184	50.0	Averaged	
1,2,3-Trichloropropane	0.66643	0.64771	0.64771	0.100	2.81021	50.0	Averaged	
n-Propylbenzene	3.02147	3.18989	3.18989	0.100	-5.57420	50.0	Averaged	
Bromobenzene	0.78198	0.79722	0.79722	0.100	-1.94812	50.0	Averaged	
1,3,5-Trimethylbenzene	2.26350	2.31978	2.31978	0.100	-2.48678	50.0	Averaged	
2-Chlorotoluene	2.03821	2.04763	2.04763	0.100	-0.46186	50.0	Averaged	
4-Chlorotoluene	2.23973	2.30804	2.30804	0.100	-3.04985	50.0	Averaged	
tert-Butylbenzene	1.94110	2.01462	2.01462	0.100	-3.78733	50.0	Averaged	
1,2,4-Trimethylbenzene	2.26985	2.31770	2.31770	0.100	-2.10812	50.0	Averaged	
sec-Butylbenzene	2.58735	2.76392	2.76392	0.100	-6.82436	50.0	Averaged	
p-Isopropyltoluene	2.36350	2.40276	2.40276	0.100	-1.66113	50.0	Averaged	
1,3-Dichlorobenzene	1.36227	1.38440	1.38440	0.600	-1.62433	50.0	Averaged	
1,4-Dichlorobenzene	1.49361	1.44454	1.44454	0.400	3.28546	50.0	Averaged	
n-Butylbenzene	1.97948	2.04008	2.04008	0.500	-3.06130	50.0	Averaged	

Continuing Calibration Verification (CCV)

Client Bhate Environmental Associates, Inc.
Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder HS23070445

RunID VOA6_441458

Volatiles by EPA 8260

Instrument ID VOA6.I
Lab File ID Y071431.D
Analysis Type WATER
Lab Sample ID CCV-END

Injection Date :21
ICAL Date(s) 14-JUL-2023 14-JUL-2023
ICAL Times :41 15:25
Quant Type ISTD

Compound	$\overline{RRF}$ / Conc	RF50 / Conc	CCV RRF50	Min RRF	%D / %Drift	Max %D / %Drift	Curve Type	Q
1,2-Dichlorobenzene	1.33929	1.36895	1.36895	0.400	-2.21459	50.0	Averaged	
1,2-Dibromo-3-Chloropropane	50.0	48.54243	0.13393	0.040	2.91514	50.0	Linear	
1,2,4-Trichlorobenzene	0.91986	0.86424	0.86424	0.100	6.04638	50.0	Averaged	
Hexachlorobutadiene	50.0	46.37116	0.39158	0.100	7.25769	50.0	Linear	
Naphthalene	2.27672	2.18488	2.18488	0.200	4.03372	50.0	Averaged	
1,2,3-Trichlorobenzene	0.86027	0.80671	0.80671	0.010	6.22585	50.0	Averaged	
94 1,2-Dichloroethylene (total	0.48174	0.50751	0.50751	0.200	-5.34994	50.0	Averaged	
95 Xylenes (total)	0.53613	0.55602	0.55602	0.100	-3.71029	50.0	Averaged	
Cyclohexane	0.86668	1.00611	1.00611	0.100	-16.08752	50.0	Averaged	
Freon TF	50.0	60.44307	0.38647	0.100	-20.88614	50.0	Quadratic	
Methylcyclohexane	1.05536	1.03063	1.03063	0.100	2.34397	50.0	Averaged	
Methyl Acetate	0.44499	0.56139	0.56139	0.100	-26.15742	50.0	Averaged	
Tert-butyl alcohol	0.06311	0.06564	0.06564	0.005	-4.01285	50.0	Averaged	
Isopropyl alcohol	0.03916	0.04060	0.04060	0.005	-3.69165	50.0	Averaged	

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Form 8

Internal Standard Area and RT Summary

Volatiles by EPA 8260

Workorder

HS23070445

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Monthly Effluent Samples

07/20/2023

ALS Environmental–Houston Laboratory

10450 Stancliff Road, Suite 210, Houston, TX 77099

Phone (281) 530-5656 Fax (281) 530-5887

www.alsglobal.com

Form 8 - Internal Standard Area and RT Summary

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder **HS23070445**

Volatiles by EPA 8260

VOA6_441458		Pentafluorobenzene				1,4-Difluorobenzene				Chlorobenzene				1,4-Dichlorobenze			
Sample ID	File ID	Area	#	RT	#	Area	#	RT	#	Area	#	RT	#	Area	#	RT	#
12-HOUR STD (CCV)	Y071403.D	512075	#	4.18	#	793930	#	4.97	#	722724	#	7.67	#	397495	#	9.66	#
HS23070445-01	Y071414.D	535298		4.18		779842		4.97		703134		7.67		367686		9.66	
HS23070445-03	Y071412.D	520593		4.18		749694		4.97		660229		7.67		326202		9.66	
VBLKW-230714	Y071407.D	526276		4.18		772082		4.97		677726		7.67		329433		9.66	
VLCSW-230714	Y071405.D	496979		4.18		785043		4.97		726669		7.67		386725		9.66	
MS-ZZZZZZMS	Y071416.D	537364		4.18		801325		4.97		722907		7.67		388627		9.66	
ZZZZZZMSD	Y071417.D	529973		4.18		794491		4.97		703408		7.67		358964		9.66	

AREA UPPER LIMIT = +100% of 12H STD IS Area
AREA LOWER LIMIT = - 50% of 12H STD IS Area
RT - Retention IS - Internal StandardTime

RT UPPER LIMIT = + 0.50 of 12H STD IS RT
RT LOWER LIMIT = - 0.50 of 12H STD IS RT
CCV - Continuing Calibration Verification

- Area or RT Limit Flag
* - Value Outside Area or RT limits
H - Hour STD - Standard

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Analysis Run Log

Volatiles by EPA 8260

Workorder

HS23070445

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Form 13 - Analysis Run Log

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder **HS23070445**

RunID VOA6-441456

Volatiles by EPA 8260

Run ID VOA6_441456 **Start Date** 07/14/23 **EndDate** 07/14/23

Inj. Time	Client Sample ID	Type	Lab Sample ID	File ID	Analysis Date	DF
11:20	BFB	TUNE	BFB	X071401.D	07/14/23	1
12:01	VSTD000.25	ICAL1	VSTD000.25	X071402.D	07/14/23	1
12:22	VSTD000.5	ICAL2	VSTD000.5	X071403.D	07/14/23	1
13:02	VSTD001	ICAL3	VSTD001	X071404.D	07/14/23	1
13:23	VSTD002	ICAL4	VSTD002	X071405.D	07/14/23	1
13:43	VSTD005	ICAL5	VSTD005	X071406.D	07/14/23	1
14:04	VSTD020	ICAL6	VSTD020	X071407.D	07/14/23	1
14:24	VSTD050	ICAL7	VSTD050	X071408.D	07/14/23	1
14:44	VSTD100	ICAL8	VSTD100	X071409.D	07/14/23	1
15:05	VSTD150	ICAL9	VSTD150	X071410.D	07/14/23	1
15:25	VSTD200	ICAL	VSTD200	X071411.D	07/14/23	1
16:06	CCV	ICV	CCV	X071413.D	07/14/23	1

Form 13 - Analysis Run Log

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder
HS23070445

RunID
VOA6-441458

Volatiles by EPA 8260

Run ID VOA6_441458 **Start Date** 07/14/23 **EndDate** 07/15/23

Inj. Time	Client Sample ID	Type	Lab Sample ID	File ID	Analysis Date	DF
17:07	BFB	TUNE	BFB	Y071401.D	07/14/23	1
17:48	CCV	CCV	CCV	Y071403.D	07/14/23	1
18:08	CCB	CCB	CCB	Y071404.D	07/14/23	1
18:29	VLCSW-230714	LCS	VLCSW-230714	Y071405.D	07/14/23	1
19:10	VBLKW-230714	MBLK	VBLKW-230714	Y071407.D	07/14/23	1
20:52	HS23070445-03	SAMP	Trip Blank	Y071412.D	07/14/23	1
21:12	HS23070451-10	SAMP	ZZZZZZZZZZ	Y071413.D	07/14/23	1
21:33	HS23070445-01	SAMP	LH18/24-	Y071414.D	07/14/23	1
21:53	HS23070451-04	SAMP	ZZZZZZZZZZ	Y071415.D	07/14/23	1
22:14	HS23070451-04MS	MS	ZZZZZZMS	Y071416.D	07/14/23	1
22:34	HS23070451-04MSD	MSD	ZZZZZZMSD	Y071417.D	07/14/23	1
23:15	HS23070451-01	SAMP	ZZZZZZZZZZ	Y071419.D	07/14/23	1
23:36	HS23070451-02	SAMP	ZZZZZZZZZZ	Y071420.D	07/14/23	1
23:56	HS23070451-05	SAMP	ZZZZZZZZZZ	Y071421.D	07/14/23	1
00:17	HS23070546-02	SAMP	ZZZZZZZZZZ	Y071422.D	07/15/23	5
00:37	HS23070546-01	SAMP	ZZZZZZZZZZ	Y071423.D	07/15/23	50
00:58	HS23070451-09	SAMP	ZZZZZZZZZZ	Y071424.D	07/15/23	50
01:18	HS23070451-06	SAMP	ZZZZZZZZZZ	Y071425.D	07/15/23	50
01:39	HS23070451-06	SAMP	ZZZZZZZZZZ	Y071426.D	07/15/23	250
01:59	HS23070451-07	SAMP	ZZZZZZZZZZ	Y071427.D	07/15/23	50
02:20	HS23070451-07	SAMP	ZZZZZZZZZZ	Y071428.D	07/15/23	250
02:40	HS23070451-08	SAMP	ZZZZZZZZZZ	Y071429.D	07/15/23	200
03:21	CCV-END	CCV_END	CCV-END	Y071431.D	07/15/23	1

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Raw Data VOA6 441456

Volatiles by EPA 8260

Workorder

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07/20/2023

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Data File: \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071401.D Page 1
Report Date: 14-Jul-2023 12:16

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071401.D
Lab Smp Id: BFB Client Smp ID: BFB
Inj Date : 14-JUL-2023 11:20
Operator : PC Inst ID: voa6.i
Smp Info : BFB;BFB;3;;BFB
Misc Info : V6;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\bfb.m
Meth Date : 14-Mar-2023 15:45 Linh.Pham Quant Type: ISTD
Cal Date : Cal File:
Als bottle: 1 QC Sample: BFB
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.14 Sample Matrix: WATER
Processing Host: NAHSTW7051

Concentration Formula: Amt * DF * Uf * Vf * Vi * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vf	1.000	Volumetric correction factor
Vi	2.000	Injection Volume
Cpnd Variable		Local Compound Variable

					CONCENTRATIONS ON-COL (ug/L)	CONCENTRATIONS FINAL (ug/l)		
RT	EXP RT	REL RT	MASS	RESPONSE			TARGET RANGE	RATIO
1 bfb							CAS #: 460-00-4	
8.687	8.889	(0.000)	95	75584			0.00- 100.00	100.00
8.687	8.889	(0.000)	50	19544			15.00- 40.00	25.86
8.687	8.889	(0.000)	75	39336			30.00- 60.00	52.04
8.687	8.889	(0.000)	96	4254			5.00- 9.00	5.63
8.687	8.889	(0.000)	173	575			0.00- 2.00	0.93
8.687	8.889	(0.000)	174	62120			50.00- 0.00	82.19
8.687	8.889	(0.000)	175	4074			5.00- 9.00	6.56
8.687	8.889	(0.000)	176	59920			95.00- 101.00	96.46
8.687	8.889	(0.000)	177	3382			5.00- 9.00	5.64

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	25.86
75	30.00 - 60.00% of mass 95	52.04
96	5.00 - 9.00% of mass 95	5.63
173	Less than 2.00% of mass 174	0.76 (0.93)
174	Greater than 50.00% of mass 95	82.19
175	5.00 - 9.00% of mass 174	5.39 (6.56)
176	95.00 - 101.00% of mass 174	79.28 (96.46)
177	5.00 - 9.00% of mass 176	4.47 (5.64)

Data File: X071401.D
Spectrum: Scan 2159 (8.68)
Location of Maximum: 95.10
Number of points: 86

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	1001	59.90	684	88.00	3732	134.80	342
37.00	4000	61.00	4199	91.20	205	137.00	155
38.10	3490	62.10	4176	92.00	2613	140.00	79
39.20	1334	63.00	2135	93.00	3158	140.80	1031
39.90	3559	64.10	319	94.00	8834	142.20	140
40.70	64	67.00	413	95.10	75584	142.90	753
42.00	125	68.10	6971	96.00	4254	145.70	149
43.00	148	69.10	7538	97.30	71	147.80	317
44.10	2032	70.10	1203	104.00	361	148.70	68
45.10	1709	72.20	463	105.00	140	155.00	115
46.10	218	73.20	3048	105.90	261	156.90	305
47.00	2031	74.00	11989	107.00	78	158.60	77
47.80	299	75.00	39336	114.80	122	167.70	60
48.30	315	76.10	3185	115.70	131	169.70	59
49.00	4410	76.90	966	116.70	450	172.20	197
50.00	19544	78.10	384	118.00	134	173.00	575
51.00	6014	78.90	2349	118.90	176	174.00	62120
52.20	624	79.90	148	127.80	434	175.00	4074
55.10	243	80.80	1499	128.50	116	176.00	59920
55.90	1173	82.00	347	129.50	194	177.00	3382
57.00	2234	85.90	194	129.90	123		
57.80	62	87.00	3285	131.00	91		

Data File: \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071401.D Page 1

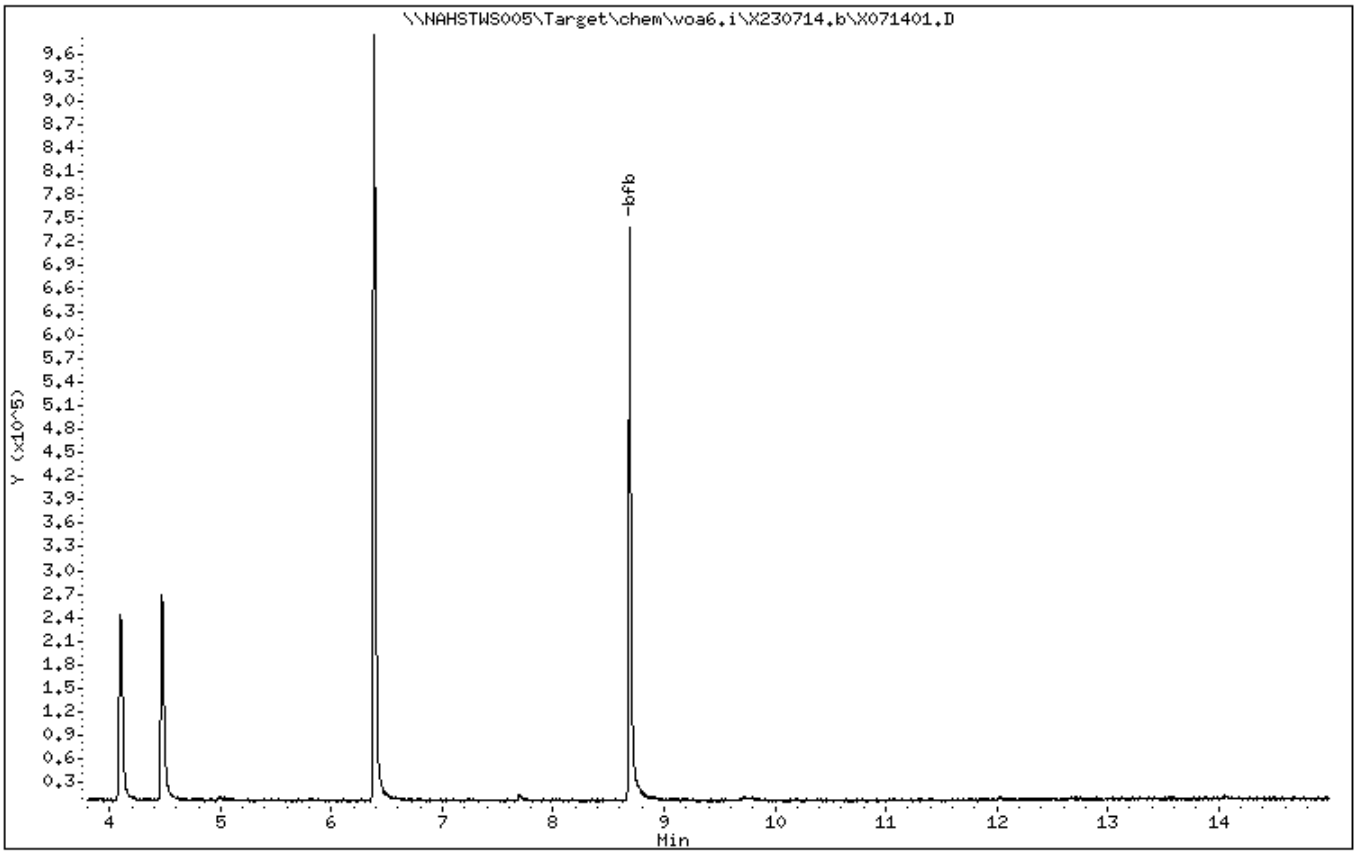
Date : 14-JUL-2023 11:20

Client ID: BFB Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0 Operator: PC

Column phase: DB624 Column diameter: 0.25



Data File: \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071401.D Page 2

Date : 14-JUL-2023 11:20

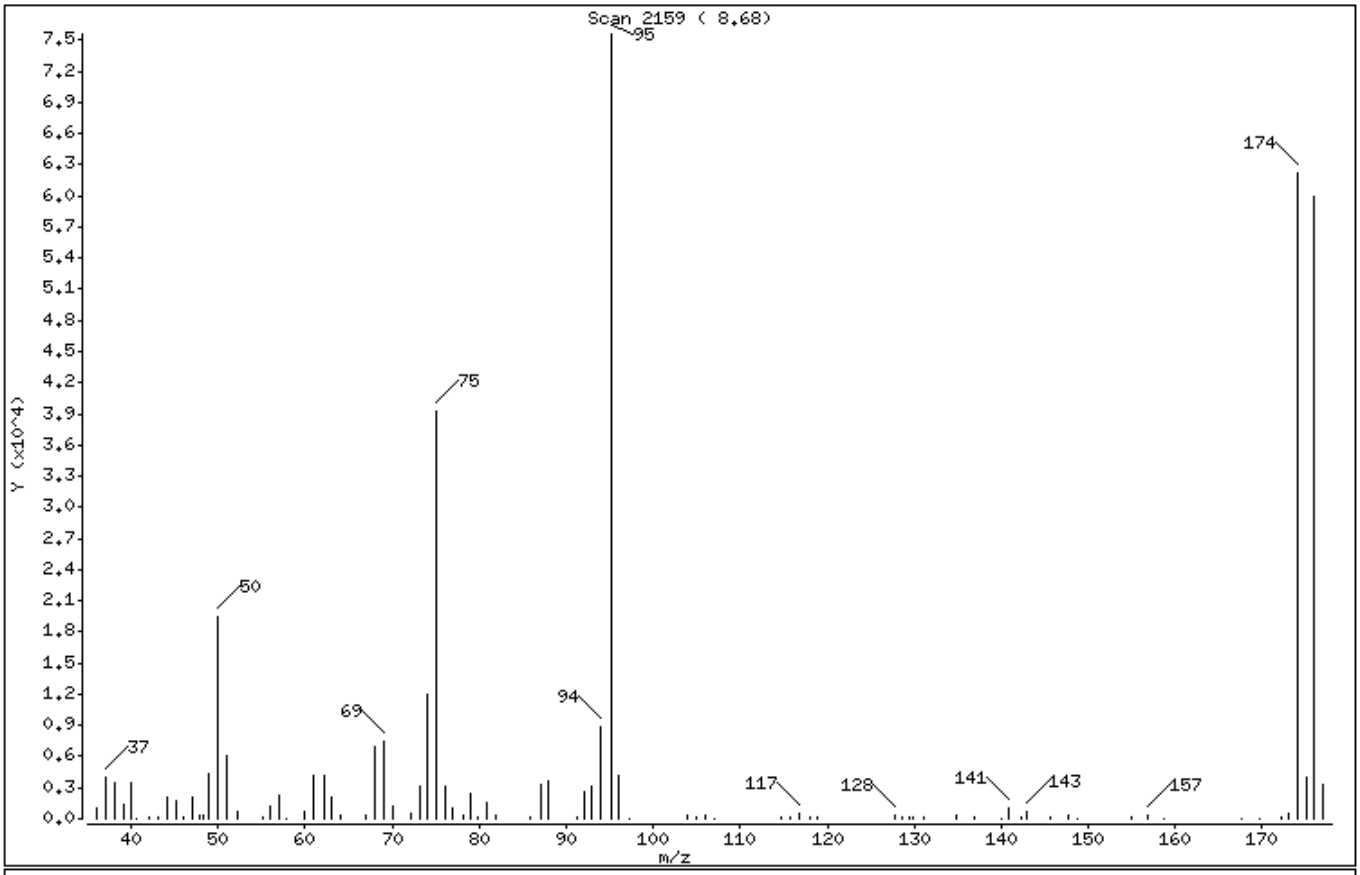
Client ID: BFB Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0 Operator: PC

Column phase: DB624 Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	25.86
75	30.00 - 60.00% of mass 95	52.04
96	5.00 - 9.00% of mass 95	5.63
173	Less than 2.00% of mass 174	0.76 (0.93)
174	Greater than 50.00% of mass 95	82.19
175	5.00 - 9.00% of mass 174	5.39 (6.56)
176	95.00 - 101.00% of mass 174	79.28 (96.46)
177	5.00 - 9.00% of mass 176	4.47 (5.64)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071401.D Page 3

Date : 14-JUL-2023 11:20

Client ID: BFB Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0 Operator: PC

Column phase: DB624 Column diameter: 0.25

Data File: X071401.D
Spectrum: Scan 2159 (8.68)
Location of Maximum: 95.10
Number of points: 86

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	1001	59.90	684	88.00	3732	134.80	342
37.00	4000	61.00	4199	91.20	205	137.00	155
38.10	3490	62.10	4176	92.00	2613	140.00	79
39.20	1334	63.00	2135	93.00	3158	140.80	1031
39.90	3559	64.10	319	94.00	8834	142.20	140
40.70	64	67.00	413	95.10	75584	142.90	753
42.00	125	68.10	6971	96.00	4254	145.70	149
43.00	148	69.10	7538	97.30	71	147.80	317
44.10	2032	70.10	1203	104.00	361	148.70	68
45.10	1709	72.20	463	105.00	140	155.00	115
46.10	218	73.20	3048	105.90	261	156.90	305
47.00	2031	74.00	11989	107.00	78	158.60	77
47.80	299	75.00	39336	114.80	122	167.70	60
48.30	315	76.10	3185	115.70	131	169.70	59
49.00	4410	76.90	966	116.70	450	172.20	197
50.00	19544	78.10	384	118.00	134	173.00	575
51.00	6014	78.90	2349	118.90	176	174.00	62120
52.20	624	79.90	148	127.80	434	175.00	4074
55.10	243	80.80	1499	128.50	116	176.00	59920
55.90	1173	82.00	347	129.50	194	177.00	3382
57.00	2234	85.90	194	129.90	123		
57.80	62	87.00	3285	131.00	91		

Data File: \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071402.D Page 1
Report Date: 20-Jul-2023 15:04

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071402.D
Lab Smp Id: VSTD000.25 Client Smp ID: VSTD000.25
Inj Date : 14-JUL-2023 12:01
Operator : PC Inst ID: voa6.i
Smp Info : VSTD000.25;VSTD000.25;1;1;
Misc Info : V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\8260W.m
Meth Date : 20-Jul-2023 15:04 voa6.i Quant Type: ISTD
Cal Date : 14-JUL-2023 14:24 Cal File: X071408.D
Als bottle: 3 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000_8260.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

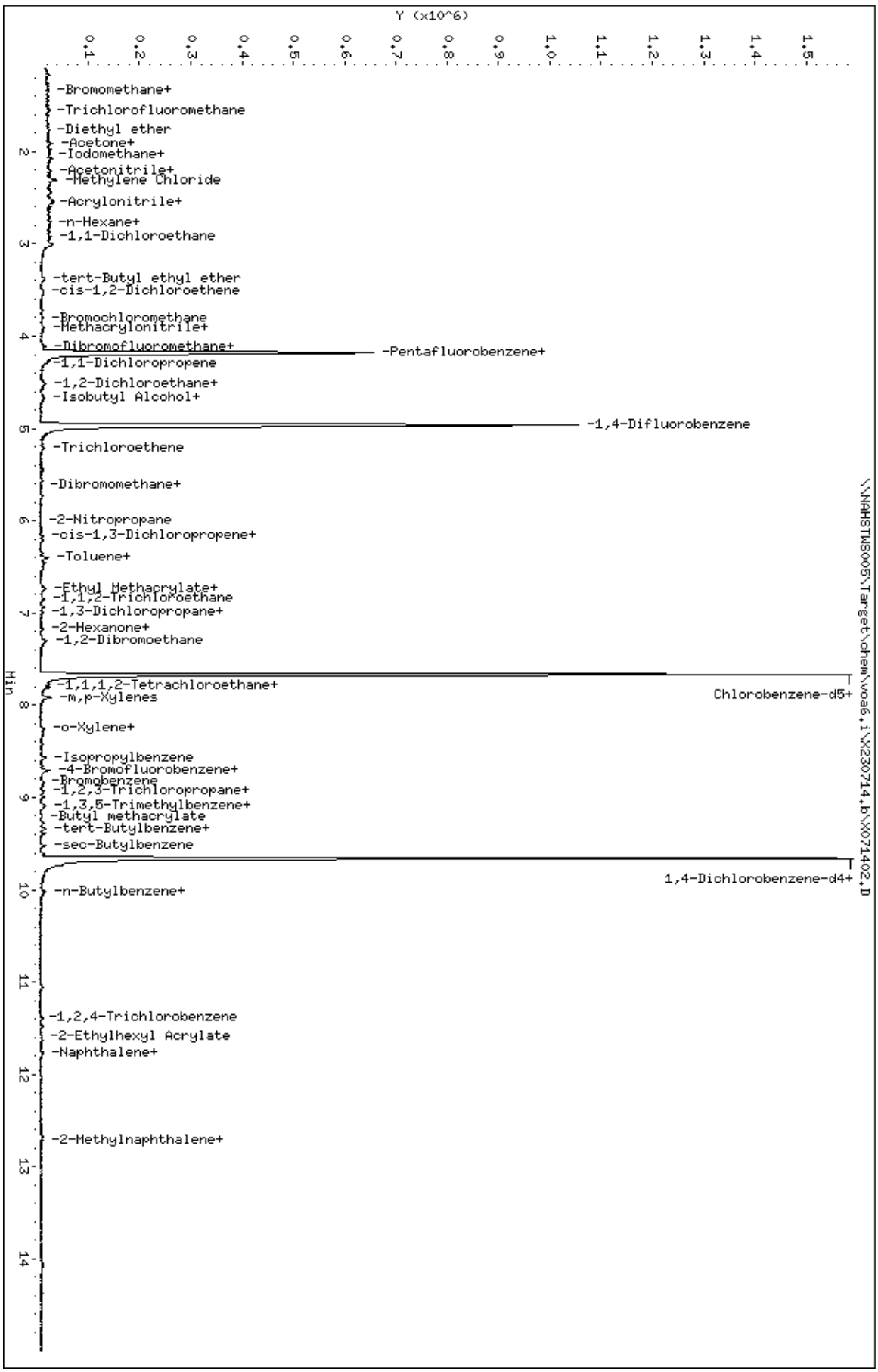
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.177	4.177	(1.000)	513772	50.0000	
	2 Dichlorodifluoromethane	85	0.972	0.972	(0.233)	1327	0.25000	1.34
	6 Bromomethane	94	1.344	1.344	(0.322)	1426	0.25000	0.51
	7 Chloroethane	64	1.404	1.404	(0.336)	2235	0.25000	0.58
	13 Acetonitrile	39	2.206	2.206	(0.528)	1743	2.50000	2.41(a)
	15 Iodomethane	142	2.026	2.026	(0.485)	1361	0.50000	4.07(T)
	34 Carbon Tetrachloride	117	4.177	4.177	(0.841)	45277	0.25000	6.79
*	36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	810653	50.0000	
	43 2-Nitropropane	43	5.992	5.992	(1.434)	882	0.25000	0.43(a)
	44 Dibromomethane	93	5.557	5.557	(1.119)	982	0.25000	0.27(a)
	46 cis-1,3-Dichloropropene	75	6.164	6.164	(1.242)	2135	0.25000	0.25(a)
*	47 Chlorobenzene-d5	117	7.667	7.667	(1.000)	750028	50.0000	
$	48 Toluene-d8	98	6.400	6.400	(0.835)	9790	0.25000	0.50(aM)
	49 Ethyl Methacrylate	69	6.738	6.738	(1.357)	1122	0.25000	0.21(a)
	50 Toluene	91	6.457	6.457	(0.842)	5493	0.25000	0.27(a)
	53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	800	0.25000	0.18(a)
	54 1,3-Dichloropropane	76	6.993	6.993	(0.912)	2465	0.25000	0.28(a)
	55 Dibromochloromethane	129	7.180	7.180	(0.936)	1520	0.25000	0.24(a)
	56 Tetrachloroethene	164	6.940	6.940	(0.905)	1306	0.25000	0.31(a)
	57 1,2-Dibromoethane	107	7.285	7.285	(0.950)	1533	0.25000	0.31(a)

58 1-Chlorohexane	55	7.667	7.667 (1.544)	8221	0.25000	1.26(a)
59 Chlorobenzene	112	7.694	7.694 (1.003)	4381	0.25000	0.31(a)

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
60	1,1,1,2-Tetrachloroethane	131	7.780	7.780	(1.015)	1432	0.25000	0.25(a)
61	Ethylbenzene	106	7.810	7.810	(1.019)	1916	0.25000	0.27(a)
62	m,p-Xylenes	106	7.915	7.915	(1.032)	4768	0.50000	0.53(a)
63	o-Xylene	106	8.252	8.252	(1.076)	2524	0.25000	0.30(a)
64	Styrene	104	8.316	8.316	(1.085)	2747	0.25000	0.18(a)
67	Isopropylbenzene	105	8.567	8.567	(1.117)	5899	0.25000	0.27(a)
$ 69	4-Bromofluorobenzene	95	8.710	8.710	(1.136)	5758	0.25000	0.34(a)
* 70	1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	386421	50.0000	
71	1,2,3-Trichloropropane	75	8.871	8.871	(0.918)	2014	0.25000	0.39(a)
73	n-Propylbenzene	91	8.927	8.927	(0.924)	5784	0.25000	0.24(a)
74	Bromobenzene	156	8.818	8.818	(0.913)	1741	0.25000	0.28(a)
75	1,3,5-Trimethylbenzene	105	9.081	9.081	(0.940)	5918	0.25000	0.33(a)
76	2-Chlorotoluene	91	8.991	8.991	(0.931)	3339	0.25000	0.21(a)
77	4-Chlorotoluene	91	9.114	9.114	(0.943)	4046	0.25000	0.23(a)
78	tert-Butylbenzene	119	9.339	9.339	(0.967)	4275	0.25000	0.28(a)
79	1,2,4-Trimethylbenzene	105	9.392	9.392	(0.972)	5781	0.25000	0.32(a)
81	sec-Butylbenzene	105	9.519	9.519	(0.985)	5830	0.25000	0.29(a)
82	p-Isopropyltoluene	119	9.654	9.654	(0.999)	5470	0.25000	0.29(a)
83	1,3-Dichlorobenzene	146	9.624	9.624	(0.996)	3790	0.25000	0.35(a)
84	1,4-Dichlorobenzene	146	9.684	9.684	(1.002)	4376	0.25000	0.37(a)
88	1,2-Dichlorobenzene	146	10.018	10.018	(1.037)	2842	0.25000	0.27(a)
93	1,2,3-Trichlorobenzene	180	11.780	11.780	(1.219)	1828	0.25000	0.27(a)
141	Cyclohexane	56	4.174	4.174	(0.999)	9736	0.25000	1.09(a)
135	1,4-Dioxane	88	5.621	5.621	(1.345)	272	5.00000	4.45(aM)
136	n-Hexane	57	2.772	2.772	(0.664)	1827	0.25000	(a)
139	Diethyl ether	59	1.760	1.760	(0.421)	1325	0.25000	0.27(a)
149	Isopropyl alcohol	45	2.097	2.097	(0.502)	2990	5.00000	7.43(T)
166	1,2,3-Trimethylbenzene	105	9.737	9.737	(1.008)	3283	0.25000	0.18(a)
174	tert-Amyl methyl ether	73	4.665	4.665	(1.117)	5098	0.25000	0.30(Ta)
175	tert-Butyl ethyl ether	59	3.379	3.379	(0.809)	5067	0.25000	0.23(a)
176	tert-Amyl alcohol	59	4.646	4.646	(1.112)	1684	5.00000	3.00(a)
151	4-Methyl-2-pentanol	45	6.734	6.734	(1.356)	10871	5.00000	6.25
180	1-Methylnaphthalene	142	12.672	12.672	(1.312)	2289	0.25000	(a)
140	1,3-Butadiene	54	1.171	1.171	(0.280)	1955	0.25000	0.29(a)
M 94	1,2-Dichloroethylene (total)	96				3006	0.50000	(a)
134	Cyclohexanone	55	8.653	8.653	(0.896)	2370	5.00000	6.88(a)
150	Allyl alcohol	57	2.772	2.772	(0.664)	1827	5.00000	(a)
200	Dimethyl Disulfide	94	6.202	6.202	(0.809)	2328	0.25000	0.23(a)

QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.



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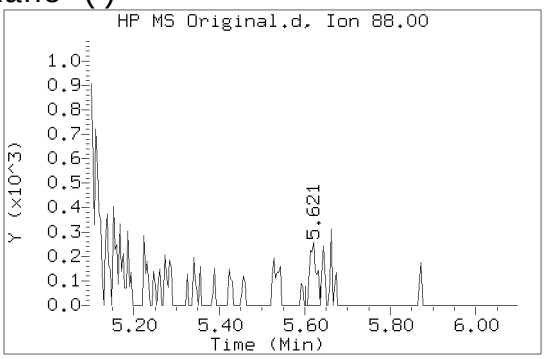
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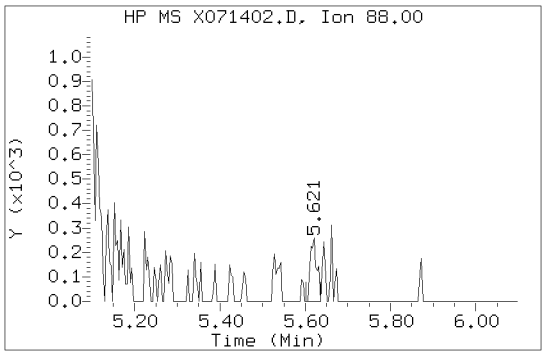
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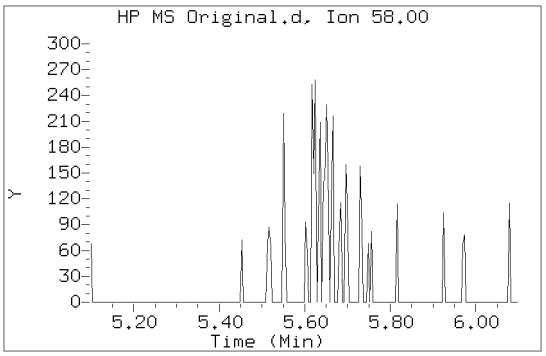
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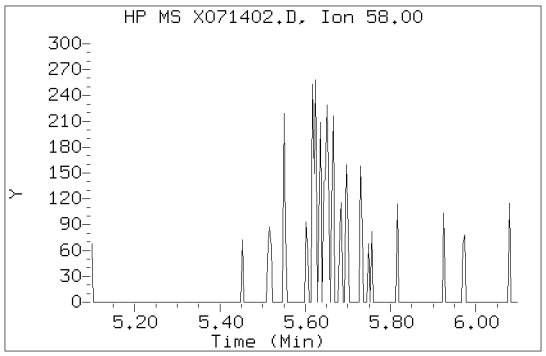
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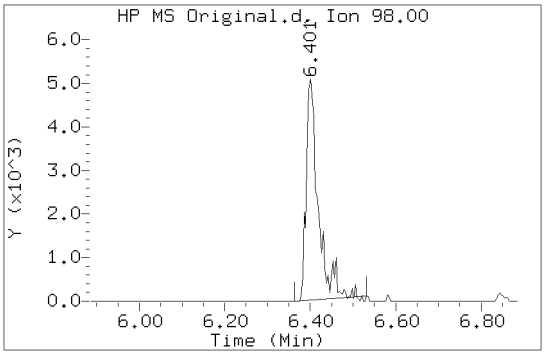
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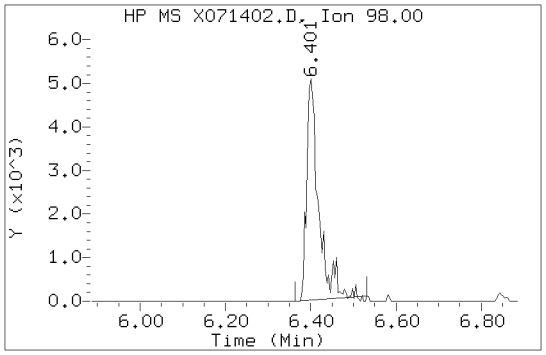
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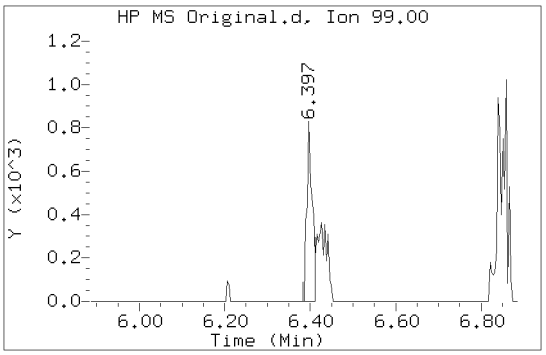
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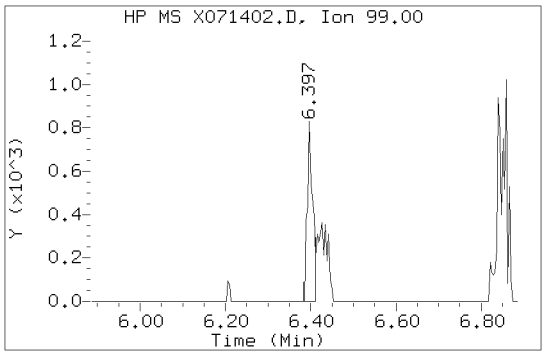
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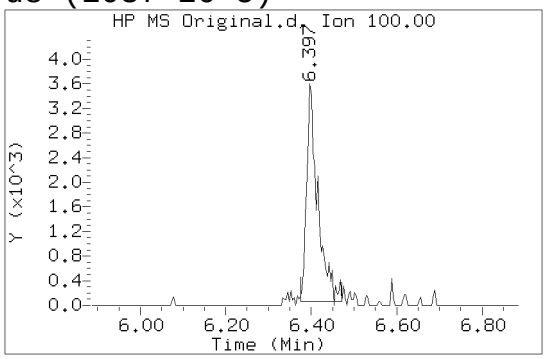
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LabSampID : VSTD000.25

Toluene-d8 (2037-26-5)

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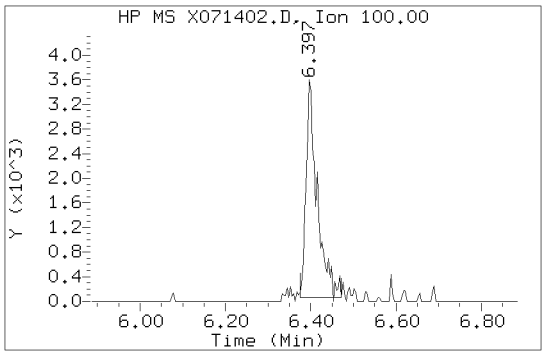
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Data File: \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071403.D Page 1
Report Date: 20-Jul-2023 15:04

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071403.D
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Inj Date : 14-JUL-2023 12:22
Operator : PC Inst ID: voa6.i
Smp Info : VSTD000.5;VSTD000.5;1;2;
Misc Info : V6;WATER;0;1;
Comment   :
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Meth Date : 20-Jul-2023 15:04 voa6.i Quant Type: ISTD
Cal Date : 14-JUL-2023 12:01 Cal File: X071402.D
Als bottle: 3 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000_8260.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1	Pentafluorobenzene	168	4.181	4.181	(1.000)	503444	50.0000	
2	Dichlorodifluoromethane	85	0.976	0.976	(0.234)	1663	0.50000	1.41
3	Chloromethane	50	1.081	1.081	(0.259)	4229	0.50000	0.55
4	Propionitrile	54	3.701	3.701	(0.885)	5231	5.00000	5.24(aM)
5	Vinyl Chloride	62	1.145	1.145	(0.274)	3484	0.50000	0.53
6	Bromomethane	94	1.340	1.340	(0.321)	1399	0.50000	0.51(M)
7	Chloroethane	64	1.407	1.407	(0.337)	2168	0.50000	0.58(M)
9	Acrolein	56	1.868	1.868	(0.447)	268	1.00000	2.51(aM)
12	Isobutyl Alcohol	43	4.695	4.695	(1.123)	9983	10.0000	10.46(a)
13	Acetonitrile	39	2.213	2.213	(0.529)	3606	5.00000	5.10(aM)
14	Allyl Chloride	41	2.202	2.202	(0.527)	9843	0.50000	0.59(a)
15	Iodomethane	142	2.026	2.026	(0.485)	2897	1.00000	4.39(TM)
16	Acrylonitrile	53	2.539	2.539	(0.607)	3055	1.00000	1.24(M)
18	Methyl tert-butyl ether	73	2.539	2.539	(0.607)	7187	0.50000	0.52(M)
19	Carbon Disulfide	76	2.078	2.078	(0.497)	12054	1.00000	1.03
20	trans-1,2-Dichloroethene	96	2.543	2.543	(0.608)	2557	0.50000	0.59
21	Vinyl Acetate	43	3.019	3.019	(0.722)	18224	1.00000	1.03(M)
22	1,1-Dichloroethane	63	2.929	2.929	(0.701)	5250	0.50000	0.56(TM)
23	Chloroprene	53	1.786	1.786	(0.427)	1292	0.50000	0.57(aM)
24	2-Butanone	43	3.675	3.675	(0.879)	2827	1.00000	1.05(M)

25 Methacrylonitrile	41	3.893	3.893 (0.931)	3622	0.50000	0.55(aM)
26 2,2-Dichloropropane	77	3.506	3.506 (0.839)	3703	0.50000	0.71(M)

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
27	cis-1,2-Dichloroethene	96	3.540	3.540	(0.847)	2924	0.50000	0.53(M)
28	Chloroform	83	3.911	3.911	(0.935)	5643	0.50000	0.58(M)
29	Bromochloromethane	128	3.810	3.810	(0.911)	1717	0.50000	0.56(M)
31	1,1,1-Trichloroethane	97	4.080	4.080	(0.976)	3867	0.50000	0.52
32	1,1-Dichloropropene	75	4.286	4.286	(0.863)	3744	0.50000	0.57(M)
33	1,2-Dichloroethane	62	4.564	4.564	(0.919)	5246	0.50000	0.59(M)
34	Carbon Tetrachloride	117	4.256	4.256	(0.857)	3613	0.50000	0.54(M)
* 36	1,4-Difluorobenzene	114	4.965	4.965	(1.000)	802287	50.0000	
37	Benzene	78	4.526	4.526	(0.912)	10488	0.50000	0.54
38	Trichloroethene	130	5.216	5.216	(1.051)	2909	0.50000	0.53(a)
39	Bromodichloromethane	83	5.737	5.737	(1.156)	4539	0.50000	0.61(aM)
40	Methyl Methacrylate	41	5.636	5.636	(1.348)	3261	0.50000	0.53(aM)
41	2-Chloroethylvinyl ether	63	6.082	6.082	(1.225)	2206	1.00000	0.98(aM)
42	1,2-Dichloropropane	63	5.448	5.448	(1.097)	3473	0.50000	0.56(aM)
43	2-Nitropropane	43	5.984	5.984	(1.431)	1174	0.50000	0.58(aM)
44	Dibromomethane	93	5.568	5.568	(1.122)	1988	0.50000	0.56(a)
45	4-Methyl-2-Pentanone	43	6.348	6.348	(0.828)	8626	1.00000	1.19(a)
46	cis-1,3-Dichloropropene	75	6.168	6.168	(1.242)	4937	0.50000	0.58(a)
* 47	Chlorobenzene-d5	117	7.667	7.667	(1.000)	735322	50.0000	
$ 48	Toluene-d8	98	6.400	6.400	(0.835)	10379	0.50000	0.54(aM)
49	Ethyl Methacrylate	69	6.727	6.727	(1.355)	2780	0.50000	0.52(aM)
50	Toluene	91	6.453	6.453	(0.842)	10040	0.50000	0.50(a)
51	trans-1,3-Dichloropropene	75	6.700	6.700	(1.350)	3980	0.50000	0.55(a)
52	2-Hexanone	43	7.113	7.113	(0.928)	4470	1.00000	0.94(aM)
53	1,1,2-Trichloroethane	83	6.843	6.843	(0.892)	2223	0.50000	0.52(aM)
54	1,3-Dichloropropane	76	6.993	6.993	(0.912)	5041	0.50000	0.58(a)
55	Dibromochloromethane	129	7.184	7.184	(0.937)	3132	0.50000	0.51(aM)
56	Tetrachloroethene	164	6.933	6.933	(0.904)	1790	0.50000	0.43(a)
57	1,2-Dibromoethane	107	7.270	7.270	(0.948)	2613	0.50000	0.54(a)
58	1-Chlorohexane	55	7.701	7.701	(1.551)	3459	0.50000	0.53(aM)
59	Chlorobenzene	112	7.694	7.694	(1.003)	7907	0.50000	0.57(aM)
60	1,1,1,2-Tetrachloroethane	131	7.776	7.776	(1.014)	3008	0.50000	0.55(aM)
61	Ethylbenzene	106	7.802	7.802	(1.018)	3909	0.50000	0.56(aM)
62	m,p-Xylenes	106	7.907	7.907	(1.031)	8550	1.00000	0.98(a)
63	o-Xylene	106	8.256	8.256	(1.077)	4414	0.50000	0.53(aM)
64	Styrene	104	8.290	8.290	(1.081)	8133	0.50000	0.56(aM)
66	Bromoform	173	8.417	8.417	(1.098)	1973	0.50000	0.50(Ta)
67	Isopropylbenzene	105	8.563	8.563	(1.117)	10697	0.50000	0.50(a)
68	1,1,2,2-Tetrachloroethane	83	8.848	8.848	(0.916)	3654	0.50000	0.56(aM)
$ 69	4-Bromofluorobenzene	95	8.702	8.702	(1.135)	7819	0.50000	0.64(aM)
* 70	1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	386891	50.0000	
71	1,2,3-Trichloropropane	75	8.871	8.871	(0.918)	2737	0.50000	0.53(aM)
72	trans-1,4-Dichloro-2-butene	53	8.927	8.927	(1.164)	1124	0.50000	0.50(aM)
73	n-Propylbenzene	91	8.927	8.927	(0.924)	11407	0.50000	0.48(a)
74	Bromobenzene	156	8.818	8.818	(0.913)	3201	0.50000	0.52(aM)
75	1,3,5-Trimethylbenzene	105	9.077	9.077	(0.939)	9580	0.50000	0.54(a)
76	2-Chlorotoluene	91	8.983	8.983	(0.930)	8487	0.50000	0.53(aM)
77	4-Chlorotoluene	91	9.088	9.088	(0.941)	8710	0.50000	0.50(a)
78	tert-Butylbenzene	119	9.339	9.339	(0.967)	8109	0.50000	0.53(a)
79	1,2,4-Trimethylbenzene	105	9.392	9.392	(0.972)	10172	0.50000	0.57(aM)
81	sec-Butylbenzene	105	9.523	9.523	(0.986)	9247	0.50000	0.46(aM)
82	p-Isopropyltoluene	119	9.651	9.651	(0.999)	9771	0.50000	0.53(aM)

83 1,3-Dichlorobenzene	146	9.609	9.609 (0.995)	5980	0.50000	0.56(a)
84 1,4-Dichlorobenzene	146	9.681	9.681 (1.002)	6395	0.50000	0.55(a)

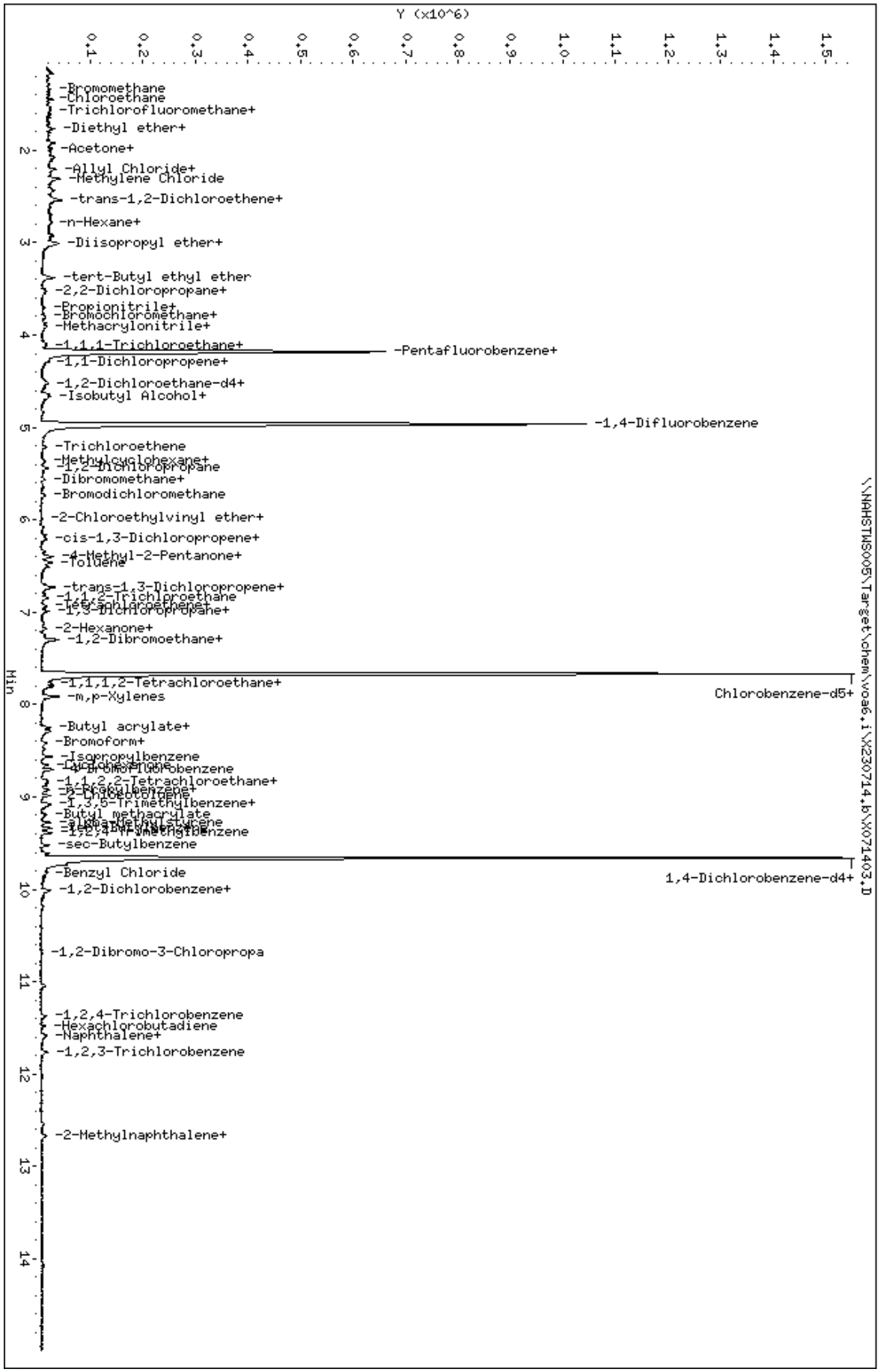
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
86	Benzyl Chloride	91	9.827	9.827	(1.282)	6245	0.50000	2.82(aM)
87	n-Butylbenzene	91	10.014	10.014	(1.036)	7141	0.50000	0.46(aM)
88	1,2-Dichlorobenzene	146	10.010	10.010	(1.036)	5252	0.50000	0.50(a)
89	1,2-Dibromo-3-Chloropropane	155	10.681	10.681	(1.106)	675	0.50000	1.70(aM)
90	1,2,4-Trichlorobenzene	180	11.371	11.371	(1.177)	4099	0.50000	0.57(aM)
91	Hexachlorobutadiene	225	11.484	11.484	(1.189)	1357	0.50000	2.74(aM)
92	Naphthalene	128	11.574	11.574	(1.198)	10357	0.50000	0.58(aM)
93	1,2,3-Trichlorobenzene	180	11.761	11.761	(1.217)	3845	0.50000	0.57(aM)
146	Methyl acetate	43	2.232	2.232	(0.534)	2344	0.50000	0.52(aM)
141	Cyclohexane	56	4.163	4.163	(0.996)	4321	0.50000	0.49(aM)
142	Tetrahydrofuran	42	3.870	3.870	(0.926)	1418	1.00000	1.09(aM)
147	Methylcyclohexane	55	5.366	5.366	(1.081)	9168	0.50000	0.54(aM)
135	1,4-Dioxane	88	5.624	5.624	(1.345)	692	10.0000	11.56(aM)
132	n-Butanol	56	5.355	5.355	(1.281)	1626	10.0000	9.70(aM)
131	Methyl Acrylate	55	3.750	3.750	(0.897)	3365	0.50000	0.49(aM)
133	Ethyl Acrylate	55	5.366	5.366	(1.283)	8232	0.50000	0.49(aM)
136	n-Hexane	57	2.787	2.787	(0.667)	2320	0.50000	(aM)
139	Diethyl ether	59	1.767	1.767	(0.423)	2605	0.50000	0.55(a)
148	Tert-butyl alcohol	59	2.442	2.442	(0.584)	7856	10.0000	12.36(M)
149	Isopropyl alcohol	45	2.105	2.105	(0.503)	4548	10.0000	11.53(T)
156	Diisopropyl ether	45	3.008	3.008	(0.719)	10814	0.50000	0.52(Ta)
166	1,2,3-Trimethylbenzene	105	9.737	9.737	(1.008)	9020	0.50000	0.50(a)
167	Ethanol	45	1.696	1.696	(0.406)	1082	10.0000	(aM)
172	tert-Butyl formate	59	4.646	4.646	(1.111)	6083	1.00000	1.13(aM)
173	3,3-Dimethyl-1-butanol	57	7.296	7.296	(0.952)	10397	10.0000	13.14(M)
174	tert-Amyl methyl ether	73	4.669	4.669	(1.117)	9377	0.50000	0.56(TaM)
175	tert-Butyl ethyl ether	59	3.390	3.390	(0.811)	12508	0.50000	0.58(a)
176	tert-Amyl alcohol	59	4.646	4.646	(1.111)	6083	10.0000	11.06(M)
151	4-Methyl-2-pentanol	45	6.723	6.723	(1.354)	20217	10.0000	11.75(M)
180	1-Methylnaphthalene	142	12.672	12.672	(1.312)	3667	0.50000	(a)
140	1,3-Butadiene	54	1.167	1.167	(0.279)	3203	0.50000	0.49(a)
152	Amyl alcohol	42	6.970	6.970	(0.909)	2120	10.0000	10.02(M)
158	Dichlorofluoromethane	67	1.538	1.538	(0.368)	4296	0.50000	0.52(M)
159	Propylene oxide	43	1.801	1.801	(0.431)	615	1.00000	0.99(aM)
161	3-Methyl-1-butanol	55	6.948	6.948	(0.906)	1945	10.0000	10.74(M)
162	Butyl acrylate	55	8.286	8.286	(1.081)	6783	0.50000	0.48(a)
163	Butyl methacrylate	41	9.182	9.182	(0.950)	4724	0.50000	0.50(aM)
182	Epichlorohydrin	57	6.127	6.127	(1.234)	1233	2.00000	2.05(aM)
M 94	1,2-Dichloroethylene (total)	96				5481	1.00000	(a)
130	Ethyl Acetate	43	3.690	3.690	(0.883)	4291	0.50000	0.57(aM)
134	Cyclohexanone	55	8.653	8.653	(0.896)	4174	10.0000	12.11(aM)
185	Isoprene	39	1.756	1.756	(0.420)	843	0.50000	0.50(aM)
188	Isopropyl acetate	43	4.695	4.695	(0.946)	11581	0.50000	0.54(a)
187	n-Amyl acetate	43	8.477	8.477	(1.106)	7447	0.50000	0.55(aM)
189	n-Butyl acetate	43	7.248	7.248	(0.945)	6398	0.50000	0.56(aM)
150	Allyl alcohol	57	2.787	2.787	(0.667)	2068	10.0000	(aM)
194	Acetaldehyde	44	1.212	1.212	(0.290)	32460	2.00000	57.33
195	Methyl Amyl Ketone	43	8.413	8.413	(1.097)	8863	0.50000	0.57(a)
200	Dimethyl Disulfide	94	6.213	6.213	(0.810)	4899	0.50000	0.49(a)

QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

QC Flag Legend

M - Compound response manually integrated.



Data File: \\NAHSTNS005\Target\chem\voa6,i\X230714,b\X071403,D
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Client ID: VSTD000,5
Sample Info: VSTD000,5;VSTD000,5;1;2;
Purge Volume: 5.0
Column phase: DB624

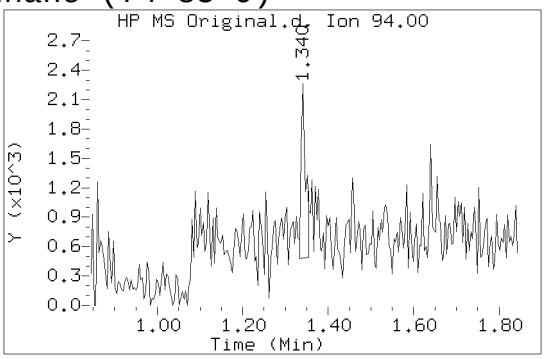
Instrument: voa6,i
Operator: PC
Column diameter: 0.18

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Inj Date : 14-JUL-2023 12:22
InstruID : voa6.i
LabSampID : VSTD000.5

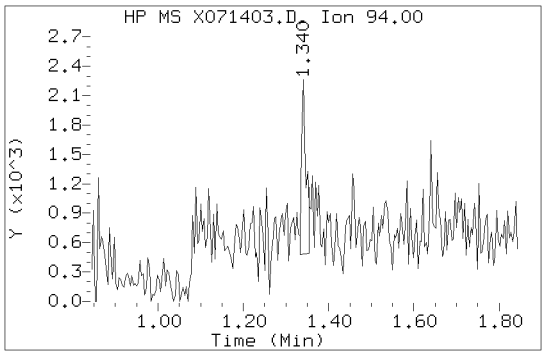
Bromomethane (74-83-9)

Reason Code:

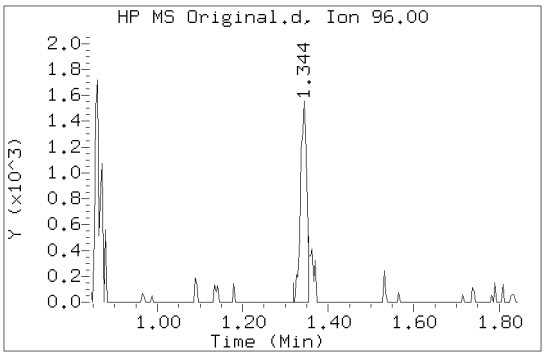
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1399
HEIGHT
1780
20-Jul-2023
15:04
linh
pham



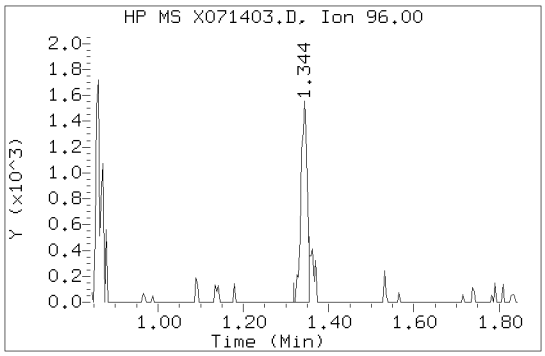
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20-Jul-2023
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BEFORE
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1662
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1558
20-Jul-2023
15:04
linh
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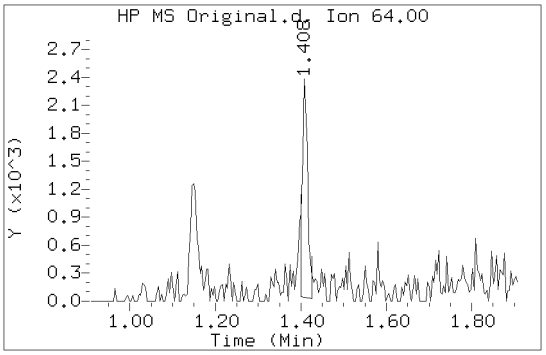
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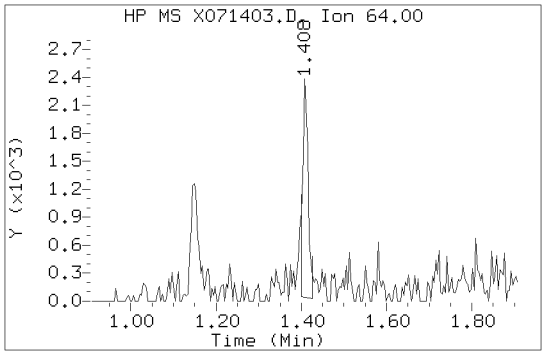
Chloroethane (75-00-3)

Reason Code:

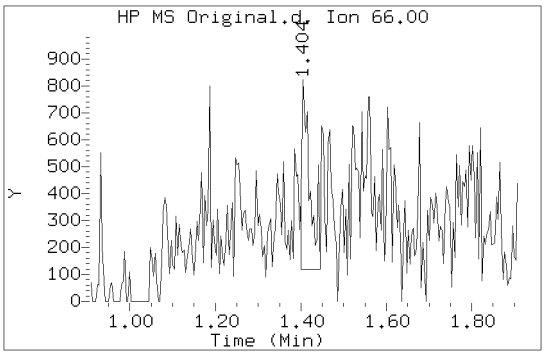
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20-Jul-2023
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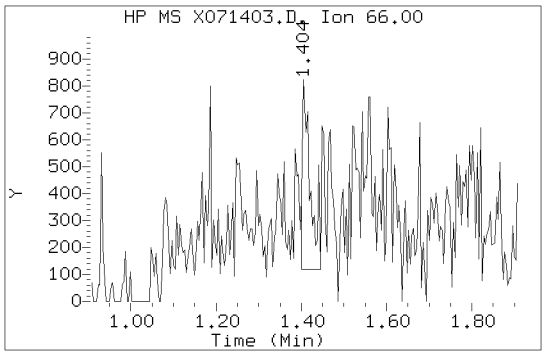
AFTER
MASS
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AREA
2168
HEIGHT
2339
20-Jul-2023
15:04
linh
pham



BEFORE
MASS
66
AREA
934
HEIGHT
704
20-Jul-2023
15:04
linh
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AFTER
MASS
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AREA
934
HEIGHT
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20-Jul-2023
15:04
linh
pham

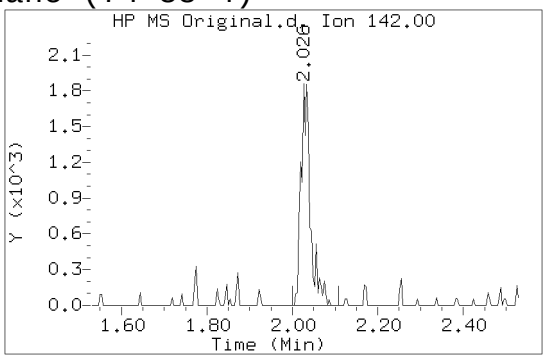


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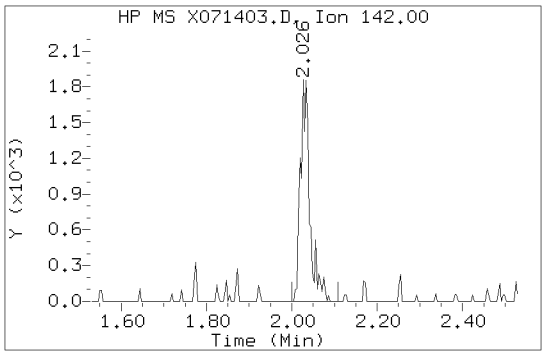
Iodomethane (74-88-4)

Reason Code:

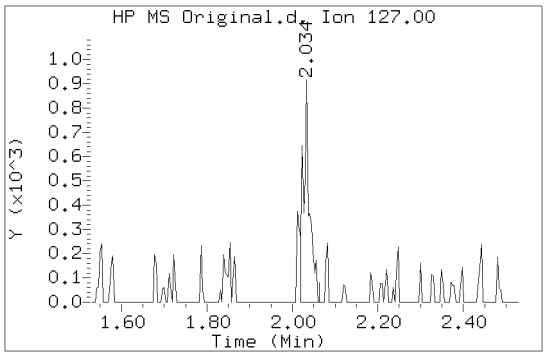
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HEIGHT
1860
20-Jul-2023
15:04
linh
pham



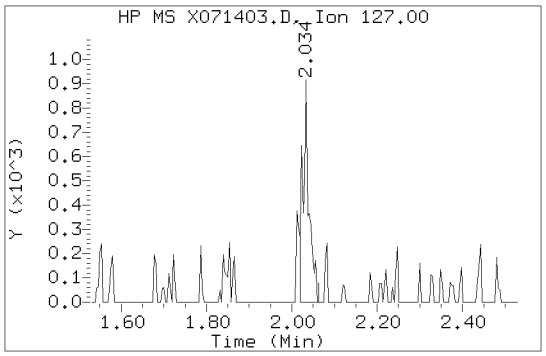
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HEIGHT
1860
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15:04
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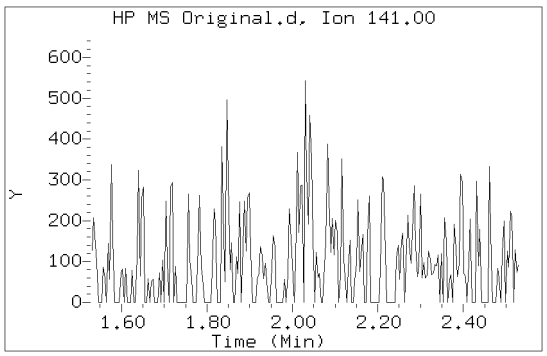
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955
HEIGHT
916
20-Jul-2023
15:04
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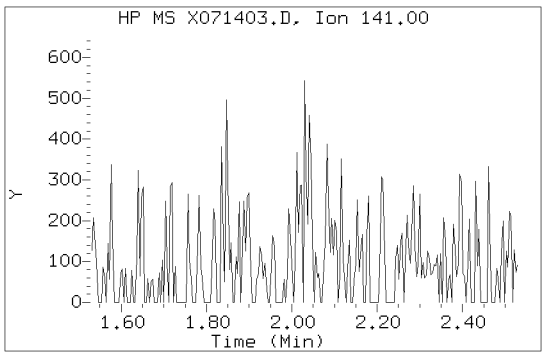
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AREA
955
HEIGHT
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BEFORE
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20-Jul-2023
15:04
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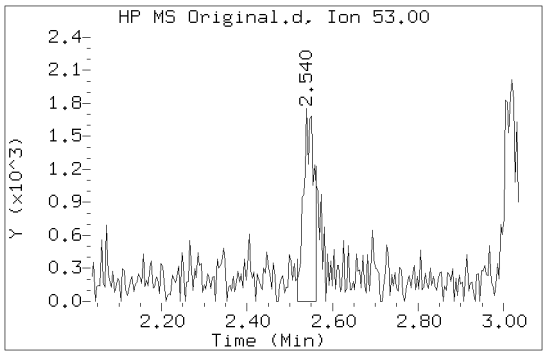
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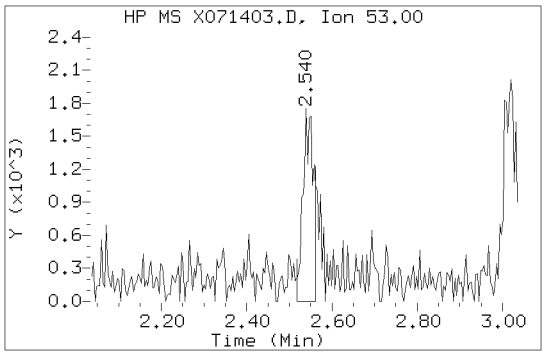
Acrylonitrile (107-13-1)

Reason Code:

BEFORE
MASS
53
AREA
3055
HEIGHT
1753
20-Jul-2023
15:04
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pham



AFTER
MASS
53
AREA
3055
HEIGHT
1753
20-Jul-2023
15:04
linh
pham

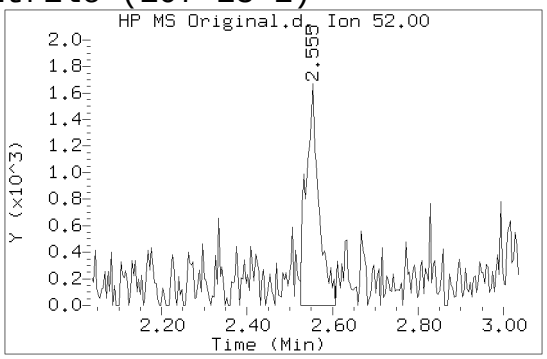


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InstruID : voa6.i
LabSampID : VSTD000.5

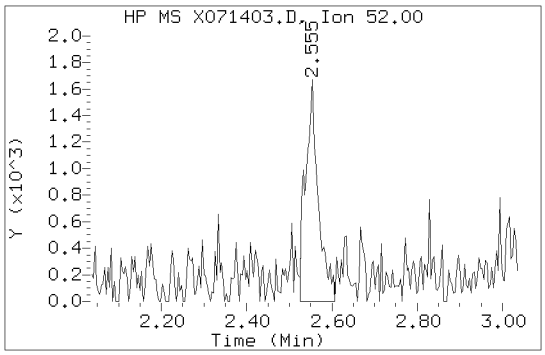
Acrylonitrile (107-13-1)

Reason Code:

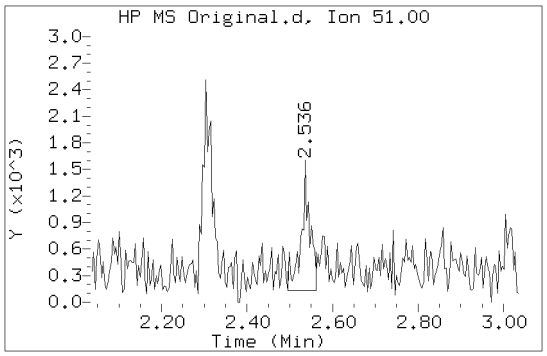
BEFORE
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AREA
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HEIGHT
1670
20-Jul-2023
15:04
linh
pham



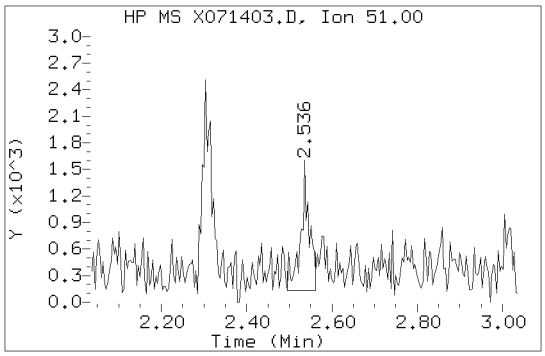
AFTER
MASS
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AREA
3501
HEIGHT
1670
20-Jul-2023
15:04
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pham



BEFORE
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AREA
2140
HEIGHT
1479
20-Jul-2023
15:04
linh
pham



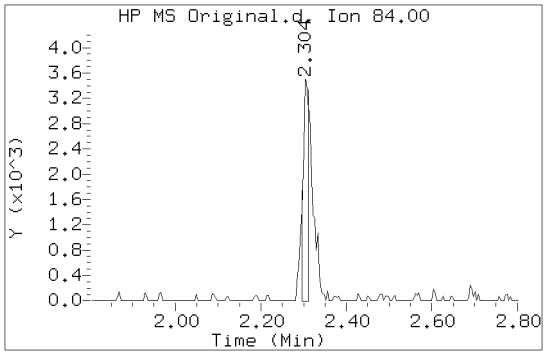
AFTER
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HEIGHT
1479
20-Jul-2023
15:04
linh
pham



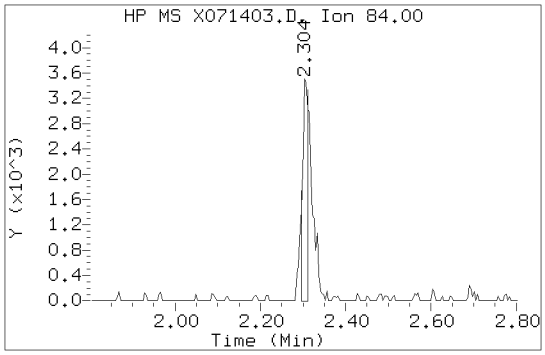
Methylene Chloride (75-09-2)

Reason Code:

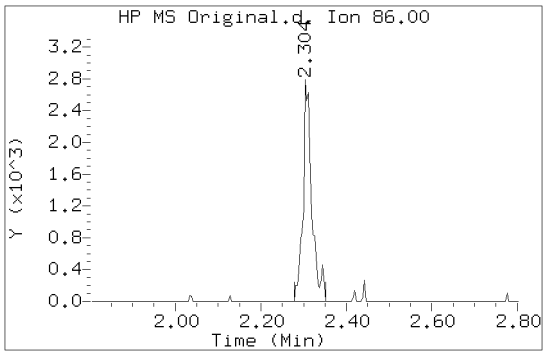
BEFORE
MASS
84
AREA
3115
HEIGHT
3513
20-Jul-2023
15:04
linh
pham



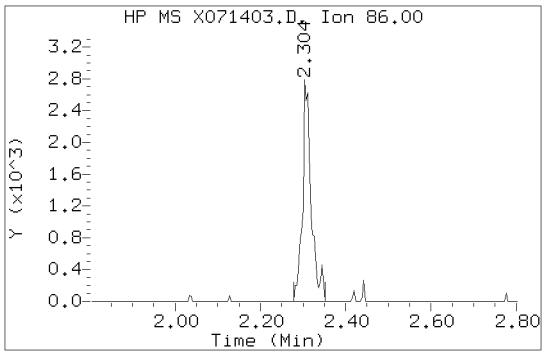
AFTER
MASS
84
AREA
3115
HEIGHT
3513
20-Jul-2023
15:04
linh
pham



BEFORE
MASS
86
AREA
4061
HEIGHT
2789
20-Jul-2023
15:04
linh
pham



AFTER
MASS
86
AREA
4061
HEIGHT
2789
20-Jul-2023
15:04
linh
pham



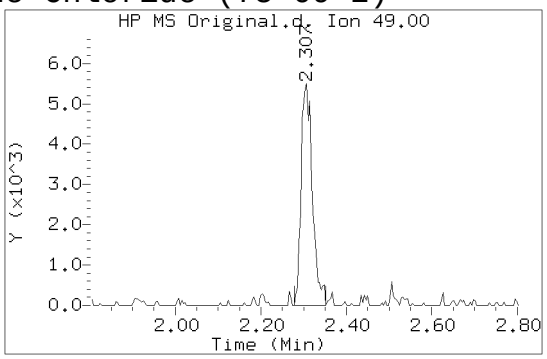
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Inj Date : 14-JUL-2023 12:22
InstruID : voa6.i
LabSampID : VSTD000.5

Methylene Chloride (75-09-2)

Reason Code:

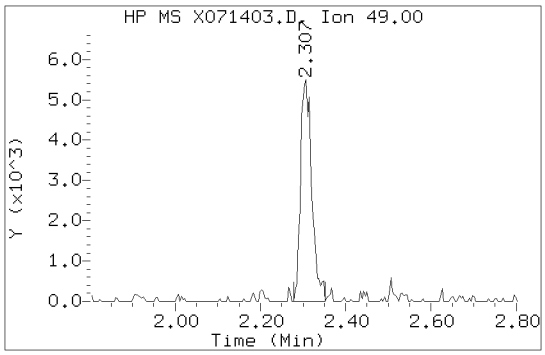
BEFORE

MASS
49
AREA
10268
HEIGHT
5500
20-Jul-2023
15:04
linh
pham



AFTER

MASS
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AREA
10268
HEIGHT
5500
20-Jul-2023
15:04
linh
pham

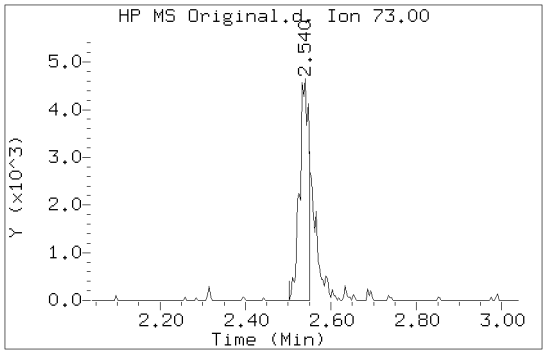


Methyl tert-butyl ether (1634-04-4)

Reason Code:

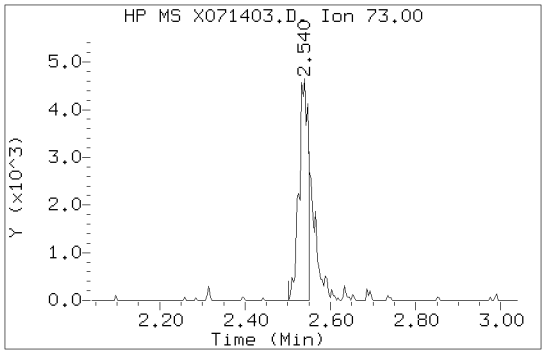
BEFORE

MASS
73
AREA
7187
HEIGHT
4650
20-Jul-2023
15:04
linh
pham



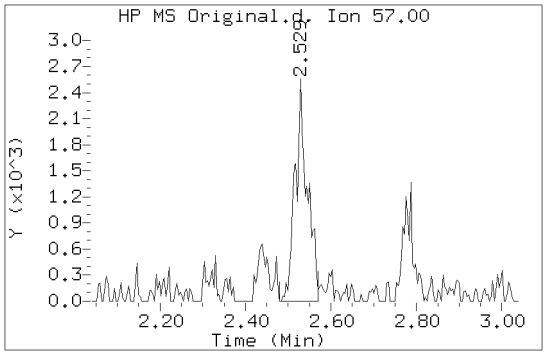
AFTER

MASS
73
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7187
HEIGHT
4650
20-Jul-2023
15:04
linh
pham



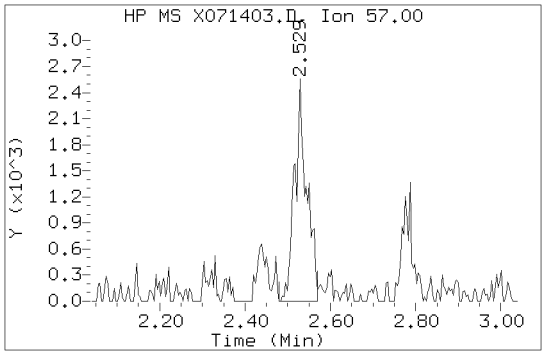
BEFORE

MASS
57
AREA
5084
HEIGHT
2558
20-Jul-2023
15:04
linh
pham



AFTER

MASS
57
AREA
5084
HEIGHT
2558
20-Jul-2023
15:04
linh
pham

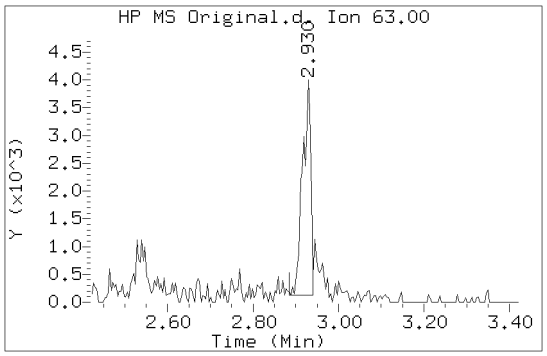


1,1-Dichloroethane (75-34-3)

Reason Code:

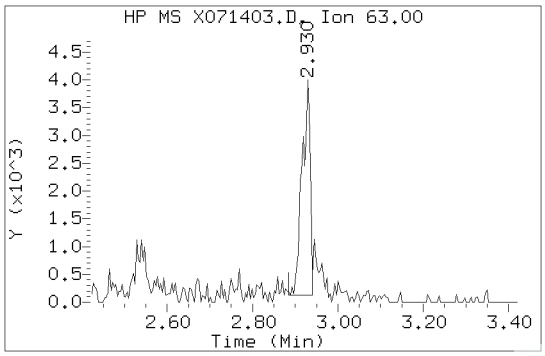
BEFORE

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HEIGHT
3871
20-Jul-2023
15:04
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AFTER

MASS
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AREA
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HEIGHT
3871
20-Jul-2023
15:04
linh
pham

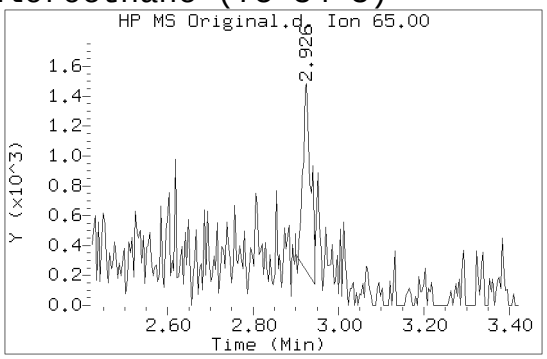


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Inj Date : 14-JUL-2023 12:22
InstruID : voa6.i
LabSampID : VSTD000.5

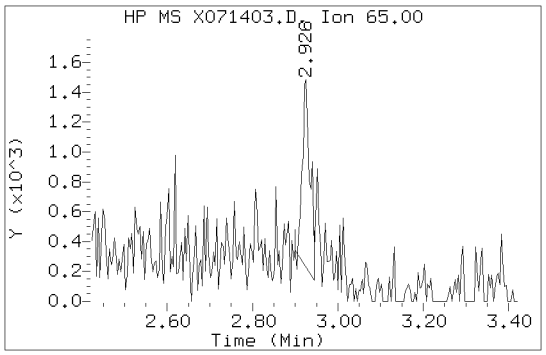
1,1-Dichloroethane (75-34-3)

Reason Code:

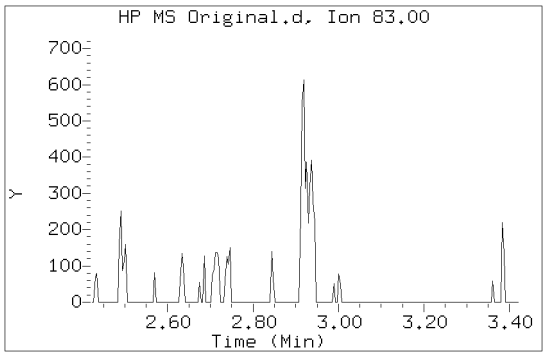
BEFORE
MASS
65
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1602
HEIGHT
1258
20-Jul-2023
15:04
linh
pham



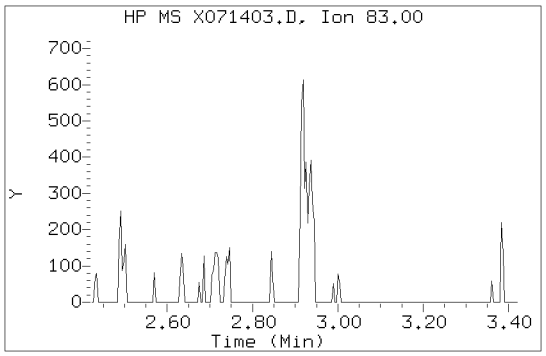
AFTER
MASS
65
AREA
1602
HEIGHT
1258
20-Jul-2023
15:04
linh
pham



BEFORE
MASS
83
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



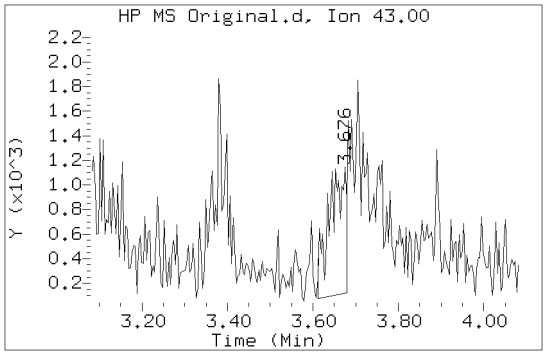
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HEIGHT
0
20-Jul-2023
15:04
linh
pham



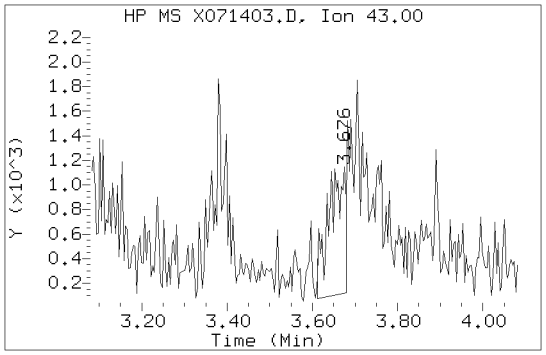
2-Butanone (78-93-3)

Reason Code:

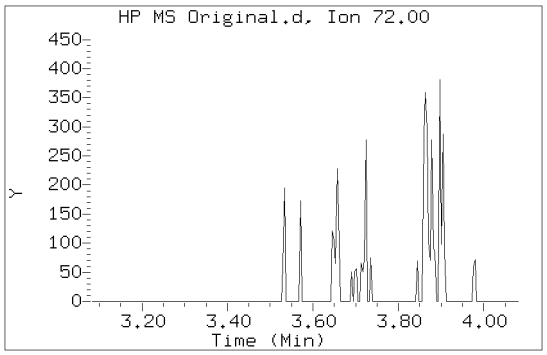
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MASS
43
AREA
2827
HEIGHT
1024
20-Jul-2023
15:04
linh
pham



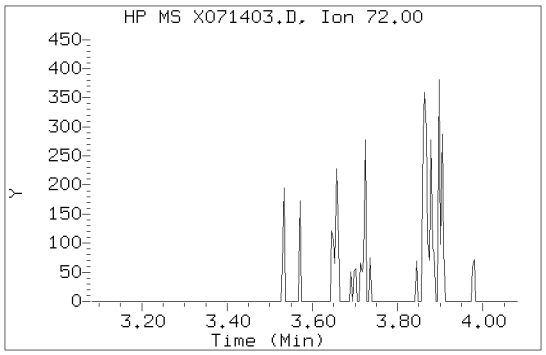
AFTER
MASS
43
AREA
2827
HEIGHT
1024
20-Jul-2023
15:04
linh
pham



BEFORE
MASS
72
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



AFTER
MASS
72
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham

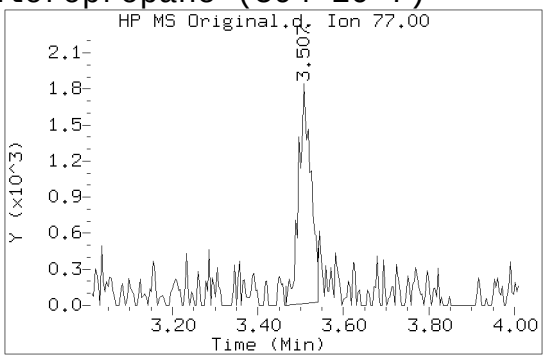


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Inj Date : 14-JUL-2023 12:22
InstruID : voa6.i
LabSampID : VSTD000.5

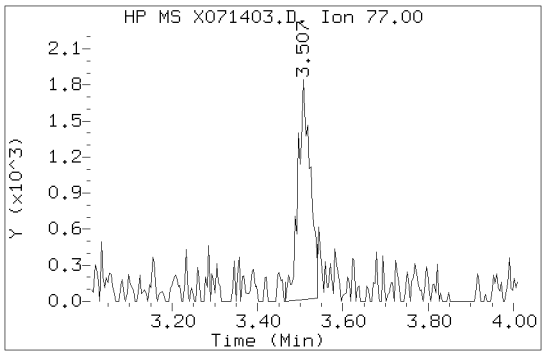
2,2-Dichloropropane (594-20-7)

Reason Code:

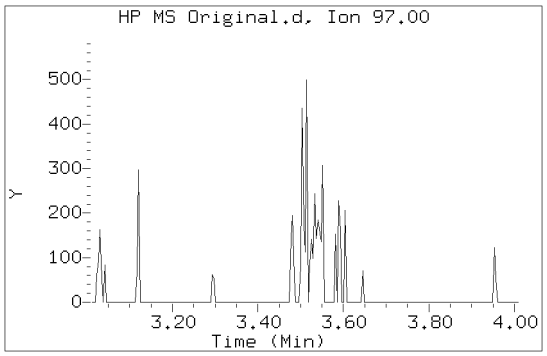
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MASS
77
AREA
3703
HEIGHT
1829
20-Jul-2023
15:04
linh
pham



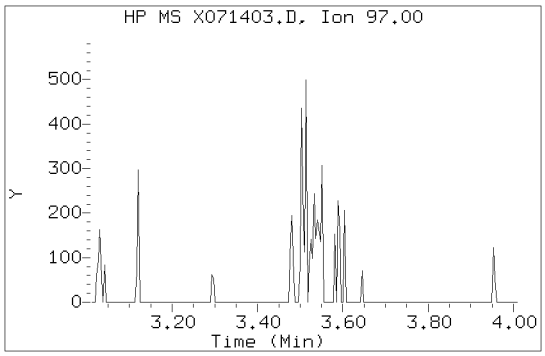
AFTER
MASS
77
AREA
3703
HEIGHT
1829
20-Jul-2023
15:04
linh
pham



BEFORE
MASS
97
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



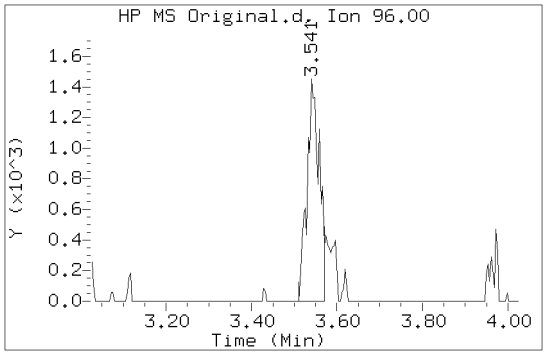
AFTER
MASS
97
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



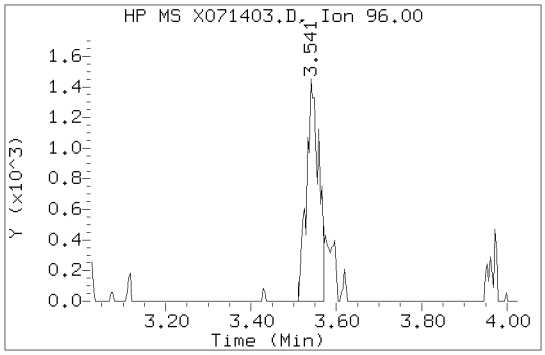
cis-1,2-Dichloroethene (156-59-2)

Reason Code:

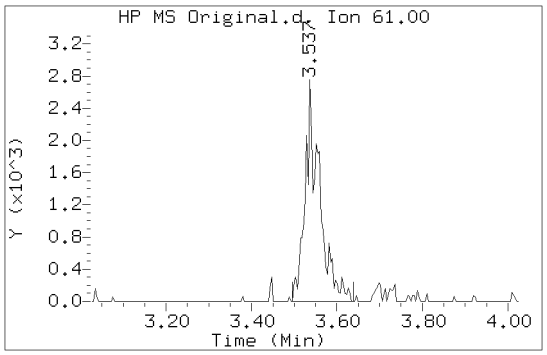
BEFORE
MASS
96
AREA
2924
HEIGHT
1452
20-Jul-2023
15:04
linh
pham



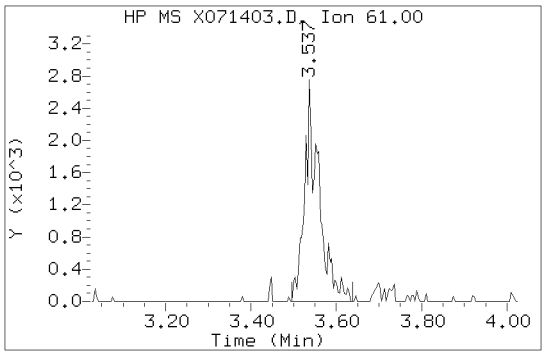
AFTER
MASS
96
AREA
2924
HEIGHT
1452
20-Jul-2023
15:04
linh
pham



BEFORE
MASS
61
AREA
6464
HEIGHT
2755
20-Jul-2023
15:04
linh
pham



AFTER
MASS
61
AREA
6464
HEIGHT
2755
20-Jul-2023
15:04
linh
pham



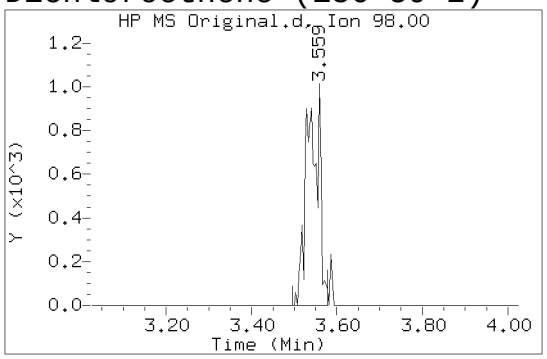
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Inj Date : 14-JUL-2023 12:22
InstruID : voa6.i
LabSampID : VSTD000.5

cis-1,2-Dichloroethene (156-59-2)

Reason Code:

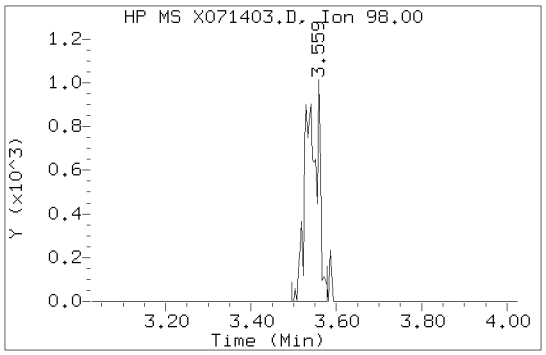
BEFORE

MASS
98
AREA
2118
HEIGHT
1014
20-Jul-2023
15:04
linh
pham



AFTER

MASS
98
AREA
2118
HEIGHT
1014
20-Jul-2023
15:04
linh
pham

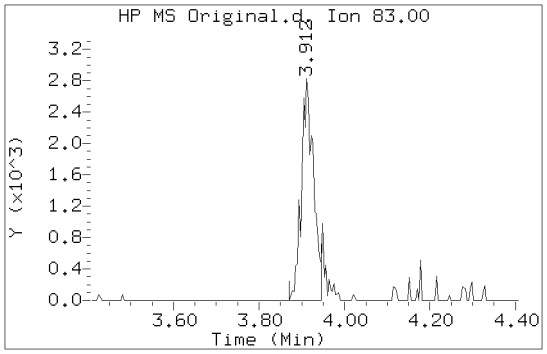


Chloroform (67-66-3)

Reason Code:

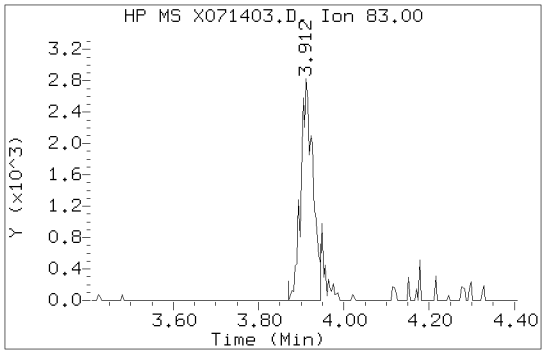
BEFORE

MASS
83
AREA
5643
HEIGHT
2826
20-Jul-2023
15:04
linh
pham



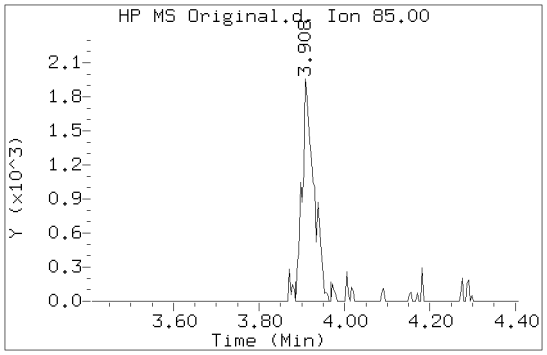
AFTER

MASS
83
AREA
5643
HEIGHT
2826
20-Jul-2023
15:04
linh
pham



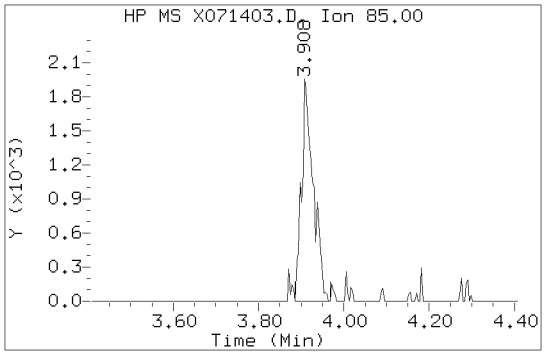
BEFORE

MASS
85
AREA
3815
HEIGHT
1958
20-Jul-2023
15:04
linh
pham



AFTER

MASS
85
AREA
3815
HEIGHT
1958
20-Jul-2023
15:04
linh
pham

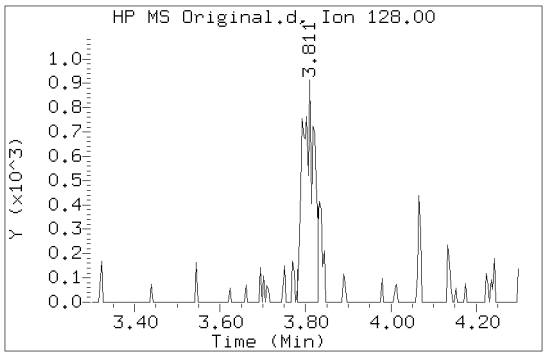


Bromochloromethane (74-97-5)

Reason Code:

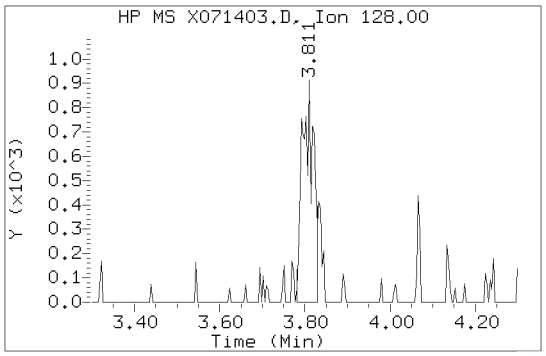
BEFORE

MASS
128
AREA
1717
HEIGHT
914
20-Jul-2023
15:04
linh
pham



AFTER

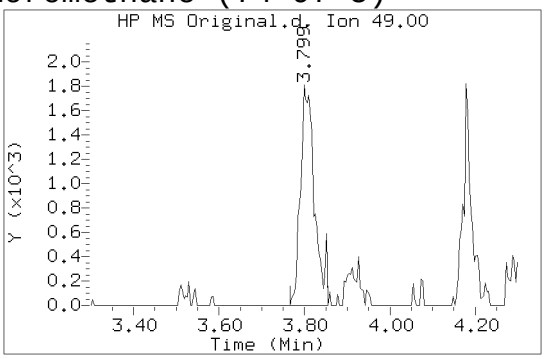
MASS
128
AREA
1717
HEIGHT
914
20-Jul-2023
15:04
linh
pham



Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071403.D
Inj Date : 14-JUL-2023 12:22
InstruID : voa6.i
LabSampID : VSTD000.5

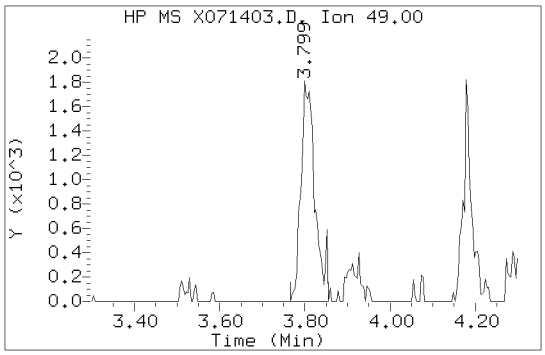
Bromochloromethane (74-97-5)

BEFORE
MASS
49
AREA
4173
HEIGHT
1811
20-Jul-2023
15:04
linh
pham

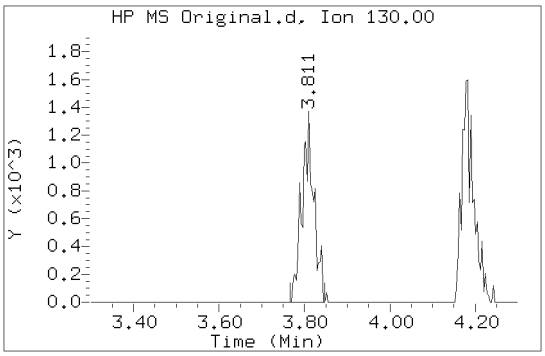


Reason Code:

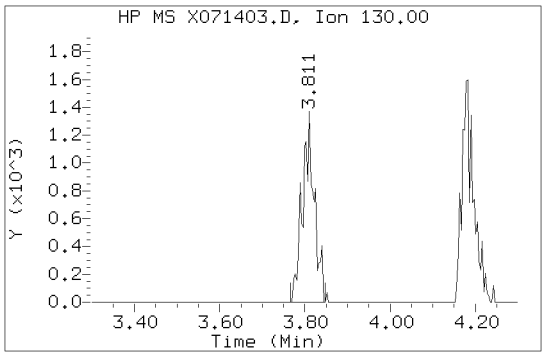
AFTER
MASS
49
AREA
4173
HEIGHT
1811
20-Jul-2023
15:04
linh
pham



BEFORE
MASS
130
AREA
2643
HEIGHT
1372
20-Jul-2023
15:04
linh
pham



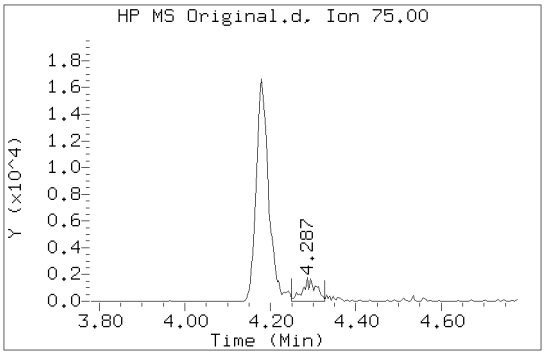
AFTER
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130
AREA
2643
HEIGHT
1372
20-Jul-2023
15:04
linh
pham



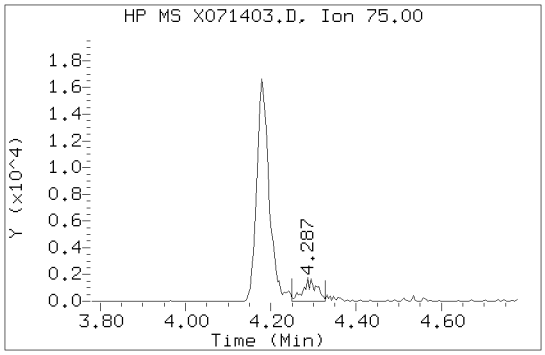
1,1-Dichloropropene (563-58-6)

Reason Code:

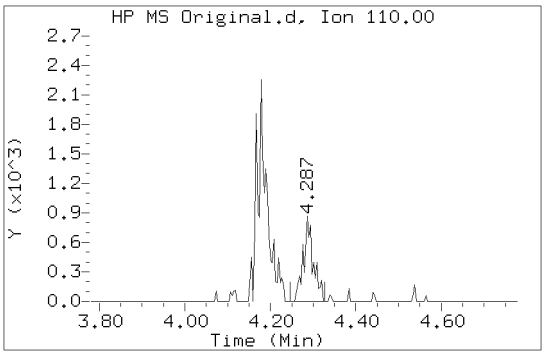
BEFORE
MASS
75
AREA
3744
HEIGHT
1770
20-Jul-2023
15:04
linh
pham



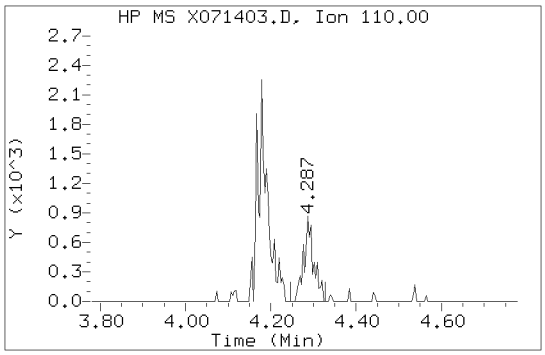
AFTER
MASS
75
AREA
3744
HEIGHT
1770
20-Jul-2023
15:04
linh
pham



BEFORE
MASS
110
AREA
1389
HEIGHT
866
20-Jul-2023
15:04
linh
pham



AFTER
MASS
110
AREA
1389
HEIGHT
866
20-Jul-2023
15:04
linh
pham

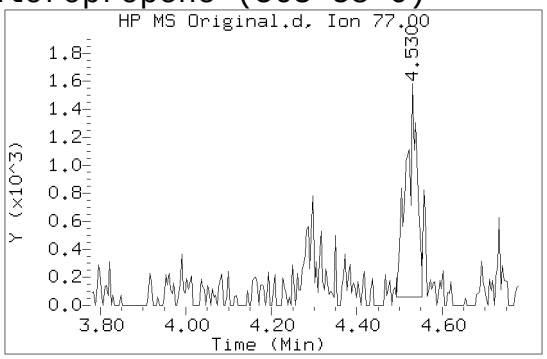


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InstruID : voa6.i
LabSampID : VSTD000.5

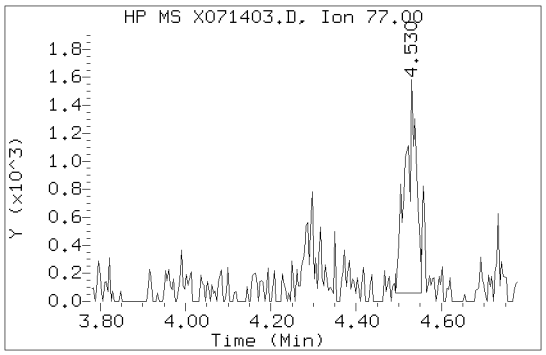
1,1-Dichloropropene (563-58-6)

Reason Code:

BEFORE
MASS
77
AREA
2714
HEIGHT
1524
20-Jul-2023
15:04
linh
pham



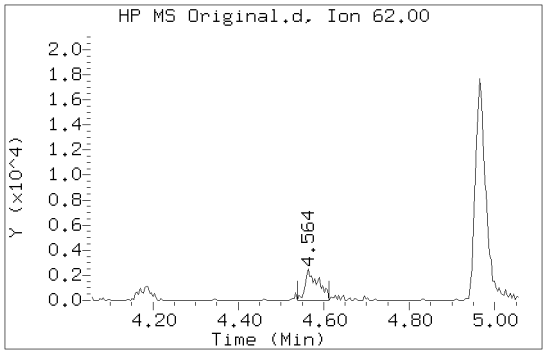
AFTER
MASS
77
AREA
2714
HEIGHT
1524
20-Jul-2023
15:04
linh
pham



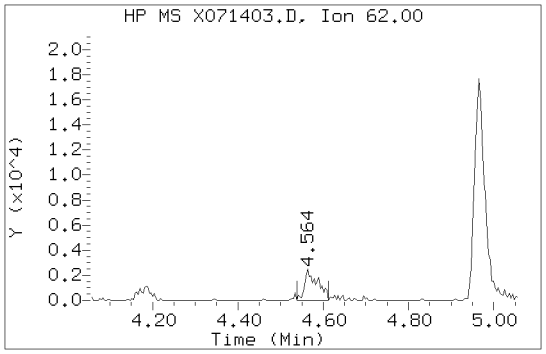
1,2-Dichloroethane (107-06-2)

Reason Code:

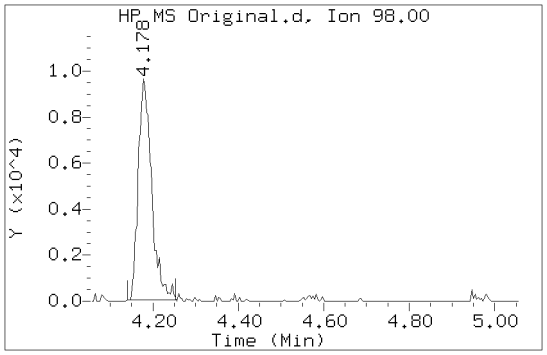
BEFORE
MASS
62
AREA
5246
HEIGHT
2498
20-Jul-2023
15:04
linh
pham



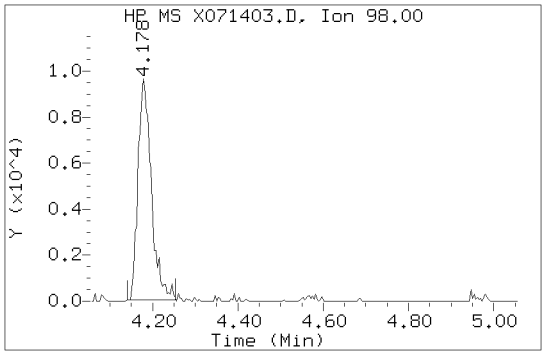
AFTER
MASS
62
AREA
5246
HEIGHT
2498
20-Jul-2023
15:04
linh
pham



BEFORE
MASS
98
AREA
20890
HEIGHT
9608
20-Jul-2023
15:04
linh
pham



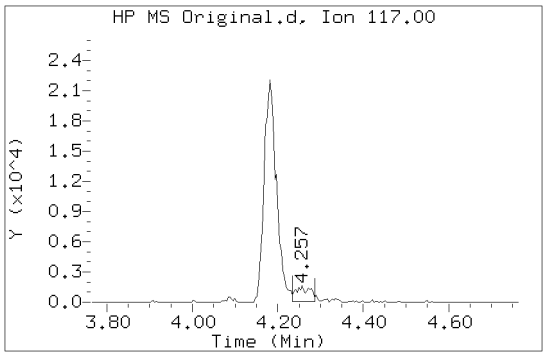
AFTER
MASS
98
AREA
20890
HEIGHT
9608
20-Jul-2023
15:04
linh
pham



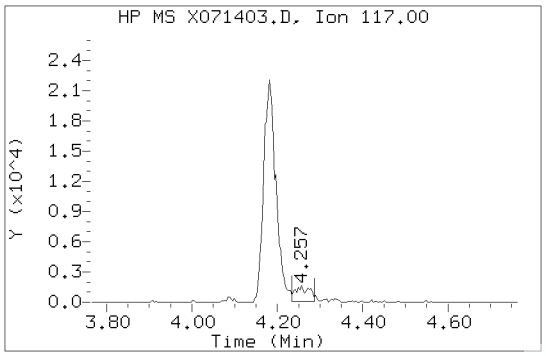
Carbon Tetrachloride (56-23-5)

Reason Code:

BEFORE
MASS
117
AREA
3613
HEIGHT
1577
20-Jul-2023
15:04
linh
pham



AFTER
MASS
117
AREA
3613
HEIGHT
1577
20-Jul-2023
15:04
linh
pham



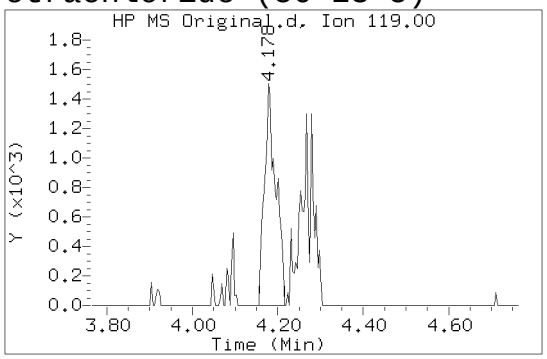
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071403.D
Inj Date : 14-JUL-2023 12:22
InstruID : voa6.i
LabSampID : VSTD000.5

Carbon Tetrachloride (56-23-5)

Reason Code:

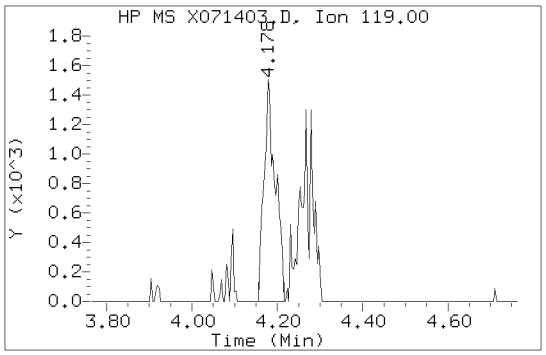
BEFORE

MASS
119
AREA
2769
HEIGHT
1504
20-Jul-2023
15:04
linh
pham



AFTER

MASS
119
AREA
2769
HEIGHT
1504
20-Jul-2023
15:04
linh
pham

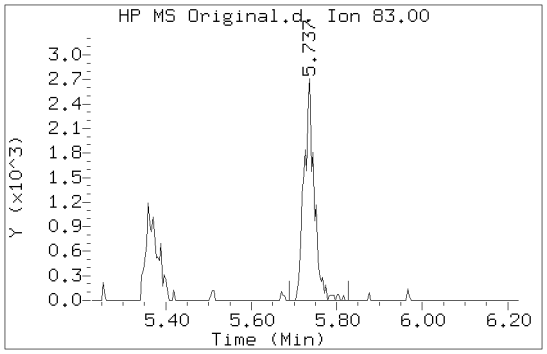


Bromodichloromethane (75-27-4)

Reason Code:

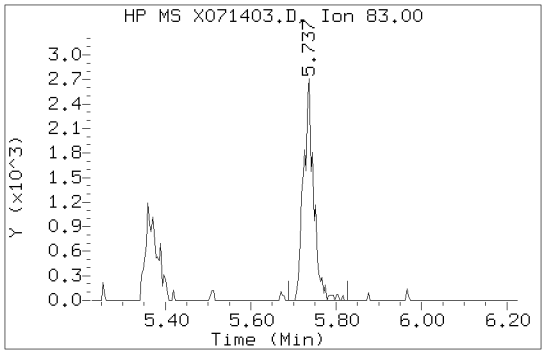
BEFORE

MASS
83
AREA
4539
HEIGHT
2709
20-Jul-2023
15:04
linh
pham



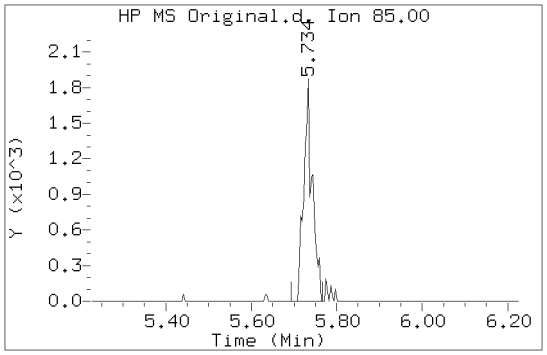
AFTER

MASS
83
AREA
4539
HEIGHT
2709
20-Jul-2023
15:04
linh
pham



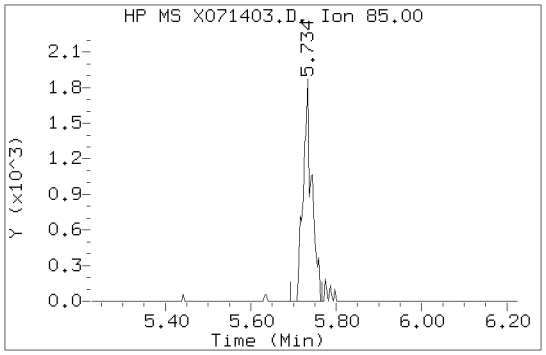
BEFORE

MASS
85
AREA
2648
HEIGHT
1873
20-Jul-2023
15:04
linh
pham



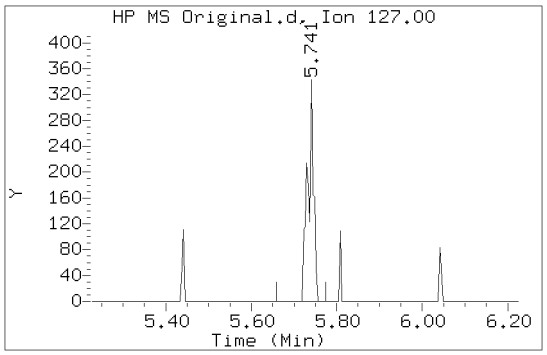
AFTER

MASS
85
AREA
2648
HEIGHT
1873
20-Jul-2023
15:04
linh
pham



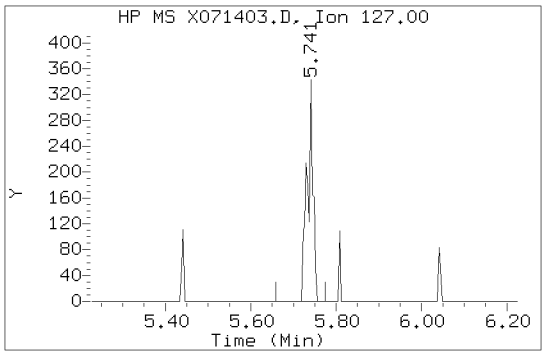
BEFORE

MASS
127
AREA
328
HEIGHT
343
20-Jul-2023
15:04
linh
pham



AFTER

MASS
127
AREA
328
HEIGHT
343
20-Jul-2023
15:04
linh
pham



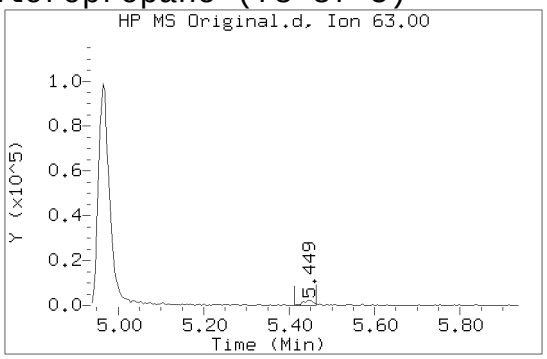
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071403.D
Inj Date : 14-JUL-2023 12:22
InstruID : voa6.i
LabSampID : VSTD000.5

1,2-Dichloropropane (78-87-5)

Reason Code:

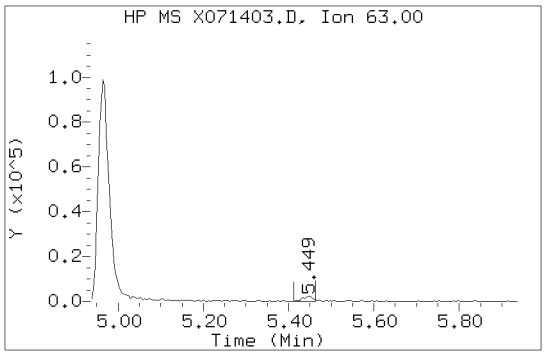
BEFORE

MASS
63
AREA
3473
HEIGHT
2209
20-Jul-2023
15:04
linh
pham



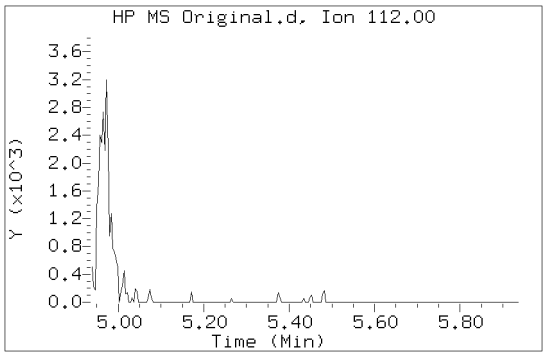
AFTER

MASS
63
AREA
3473
HEIGHT
2209
20-Jul-2023
15:04
linh
pham



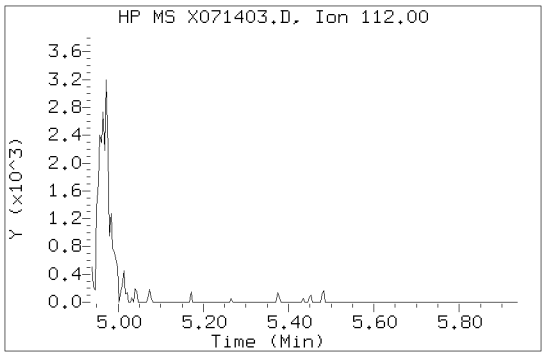
BEFORE

MASS
112
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



AFTER

MASS
112
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham

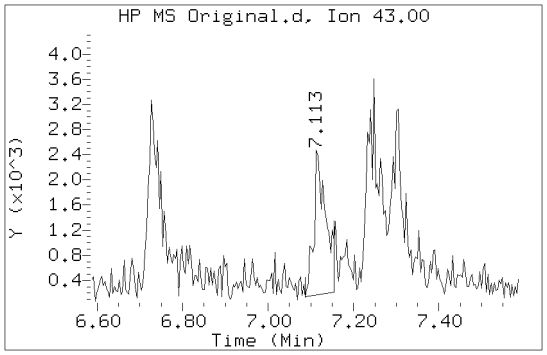


2-Hexanone (591-78-6)

Reason Code:

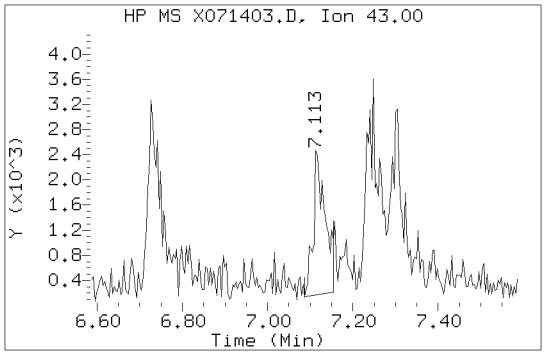
BEFORE

MASS
43
AREA
4470
HEIGHT
2301
20-Jul-2023
15:04
linh
pham



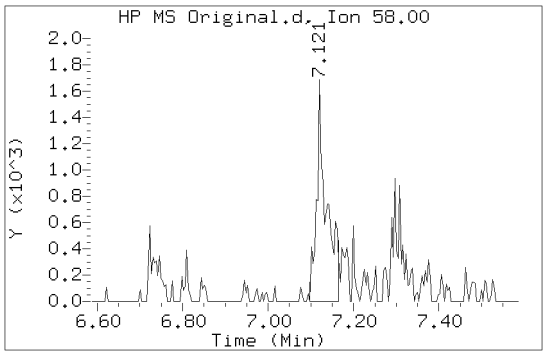
AFTER

MASS
43
AREA
4470
HEIGHT
2301
20-Jul-2023
15:04
linh
pham



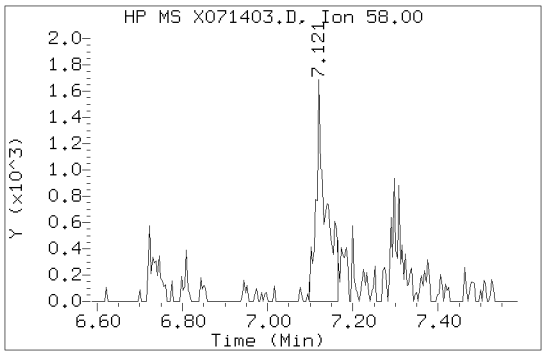
BEFORE

MASS
58
AREA
2664
HEIGHT
1687
20-Jul-2023
15:04
linh
pham



AFTER

MASS
58
AREA
2664
HEIGHT
1687
20-Jul-2023
15:04
linh
pham



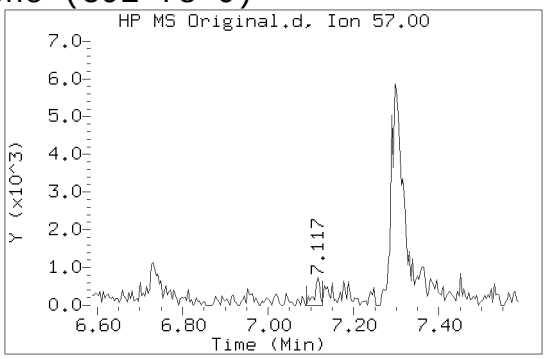
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071403.D
Inj Date : 14-JUL-2023 12:22
InstruID : voa6.i
LabSampID : VSTD000.5

2-Hexanone (591-78-6)

Reason Code:

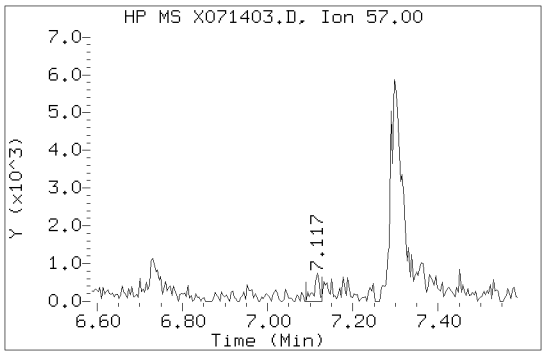
BEFORE

MASS
57
AREA
683
HEIGHT
740
20-Jul-2023
15:04
linh
pham



AFTER

MASS
57
AREA
683
HEIGHT
740
20-Jul-2023
15:04
linh
pham

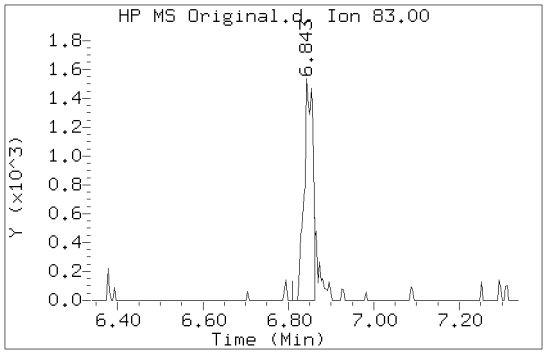


1,1,2-Trichloroethane (79-00-5)

Reason Code:

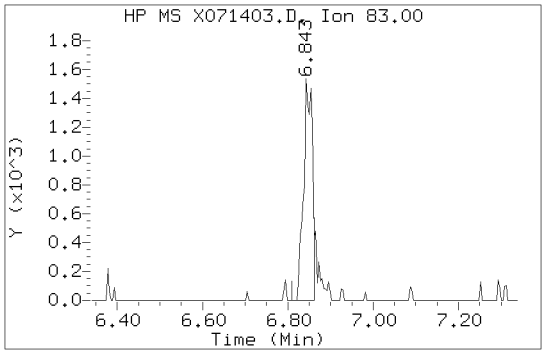
BEFORE

MASS
83
AREA
2223
HEIGHT
1536
20-Jul-2023
15:04
linh
pham



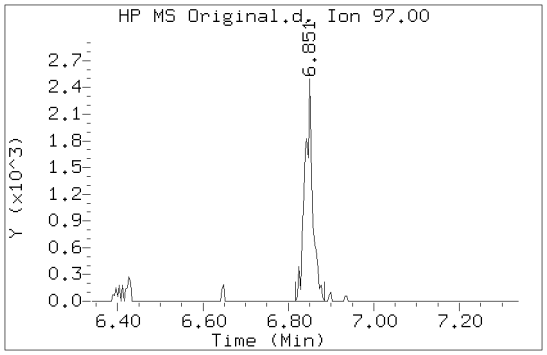
AFTER

MASS
83
AREA
2223
HEIGHT
1536
20-Jul-2023
15:04
linh
pham



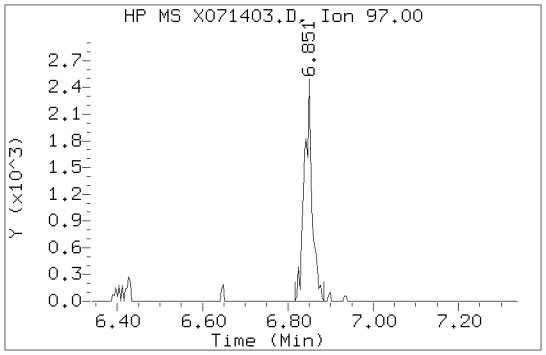
BEFORE

MASS
97
AREA
3209
HEIGHT
2495
20-Jul-2023
15:04
linh
pham



AFTER

MASS
97
AREA
3209
HEIGHT
2495
20-Jul-2023
15:04
linh
pham

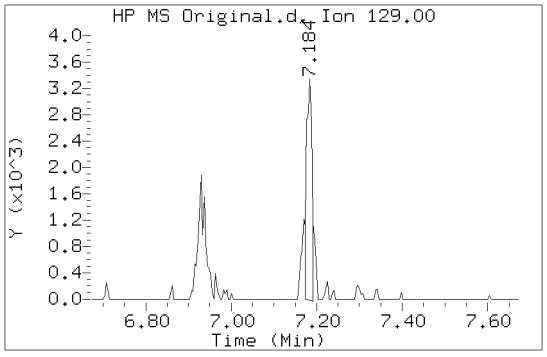


Dibromochloromethane (124-48-1)

Reason Code:

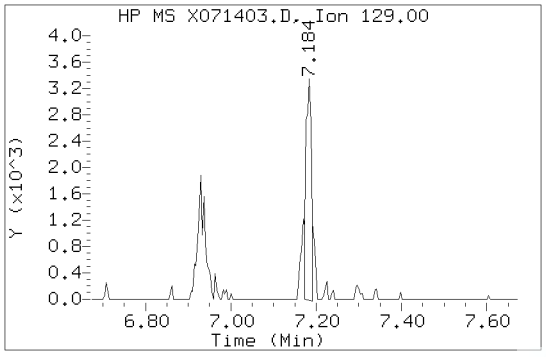
BEFORE

MASS
129
AREA
3132
HEIGHT
3366
20-Jul-2023
15:04
linh
pham



AFTER

MASS
129
AREA
3132
HEIGHT
3366
20-Jul-2023
15:04
linh
pham



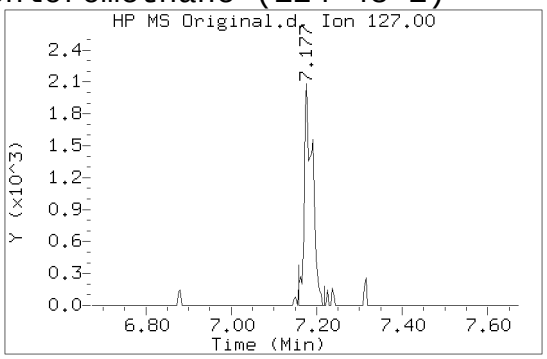
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071403.D
Inj Date : 14-JUL-2023 12:22
InstruID : voa6.i
LabSampID : VSTD000.5

Dibromochloromethane (124-48-1)

Reason Code:

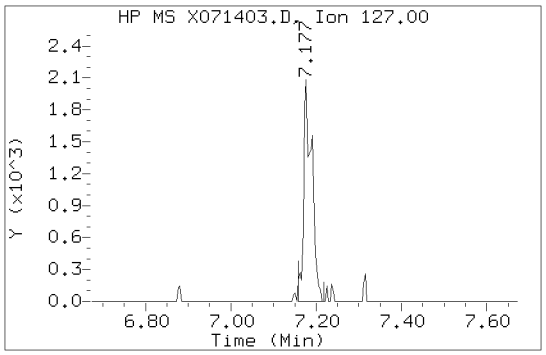
BEFORE

MASS
127
AREA
2854
HEIGHT
2083
20-Jul-2023
15:04
linh
pham



AFTER

MASS
127
AREA
2854
HEIGHT
2083
20-Jul-2023
15:04
linh
pham

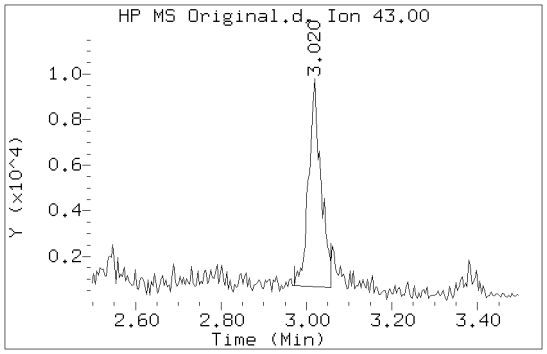


Vinyl Acetate (108-05-4)

Reason Code:

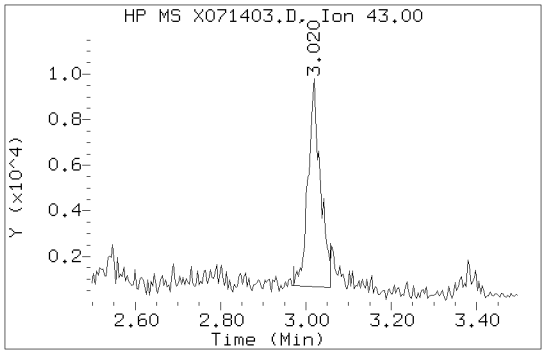
BEFORE

MASS
43
AREA
18224
HEIGHT
9126
20-Jul-2023
15:04
linh
pham



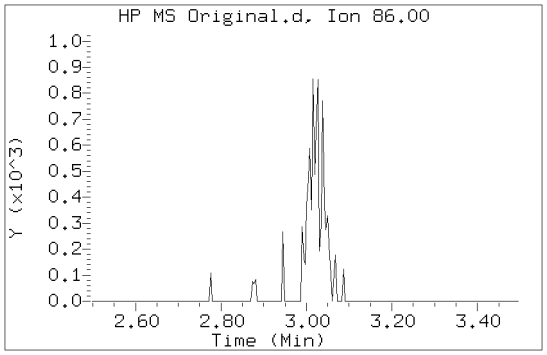
AFTER

MASS
43
AREA
18224
HEIGHT
9126
20-Jul-2023
15:04
linh
pham



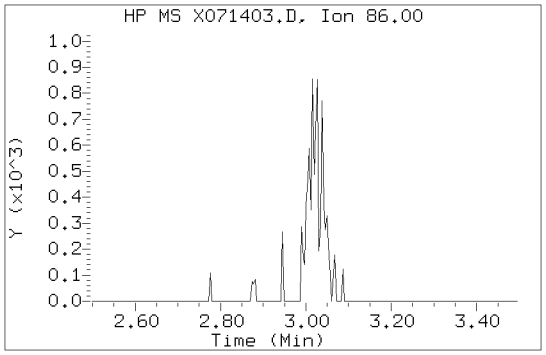
BEFORE

MASS
86
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



AFTER

MASS
86
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham

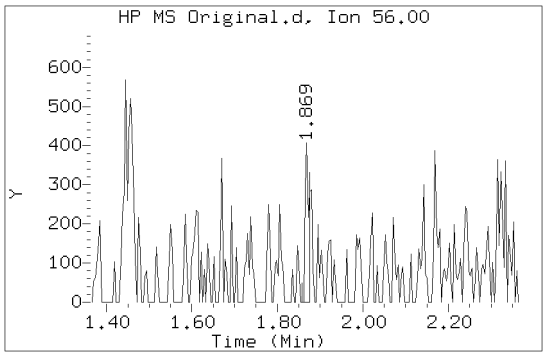


Acrolein (107-02-8)

Reason Code:

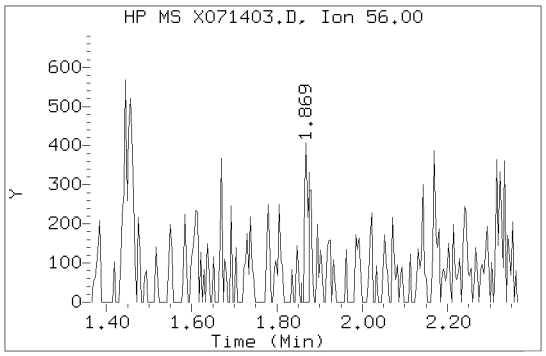
BEFORE

MASS
56
AREA
268
HEIGHT
407
20-Jul-2023
15:04
linh
pham



AFTER

MASS
56
AREA
268
HEIGHT
407
20-Jul-2023
15:04
linh
pham



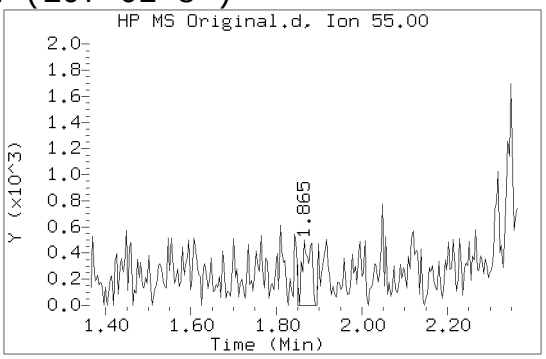
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071403.D
Inj Date : 14-JUL-2023 12:22
InstruID : voa6.i
LabSampID : VSTD000.5

Acrolein (107-02-8)

Reason Code:

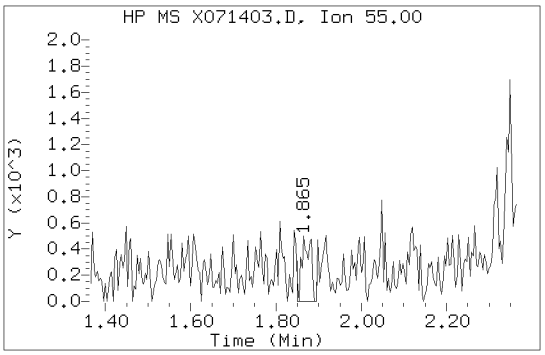
BEFORE

MASS
55
AREA
759
HEIGHT
500
20-Jul-2023
15:04
linh
pham



AFTER

MASS
55
AREA
759
HEIGHT
500
20-Jul-2023
15:04
linh
pham

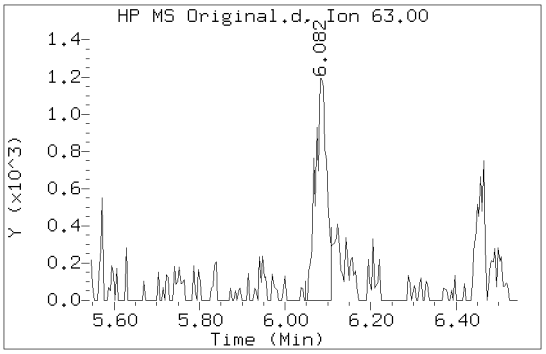


2-Chloroethylvinyl ether (110-75-8)

Reason Code:

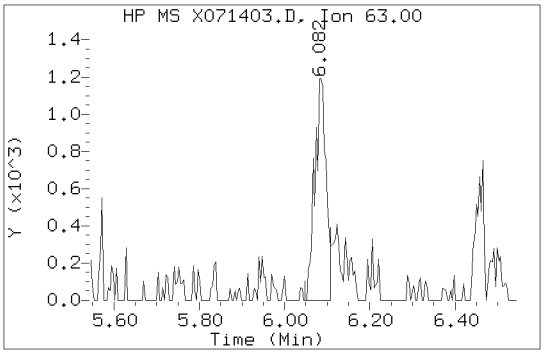
BEFORE

MASS
63
AREA
2206
HEIGHT
1191
20-Jul-2023
15:04
linh
pham



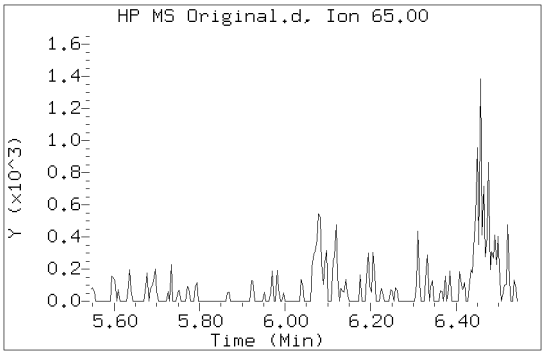
AFTER

MASS
63
AREA
2206
HEIGHT
1191
20-Jul-2023
15:04
linh
pham



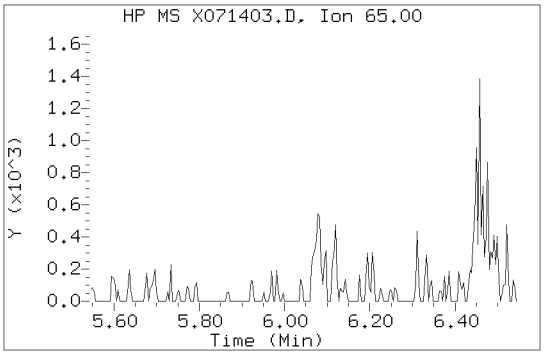
BEFORE

MASS
65
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



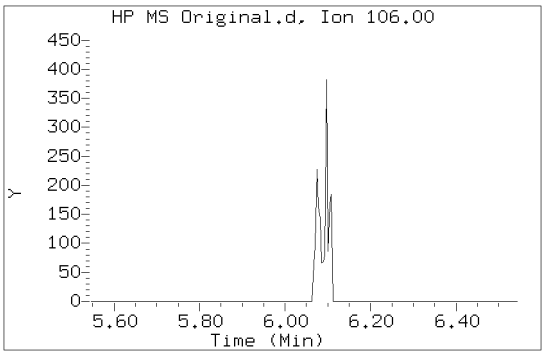
AFTER

MASS
65
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



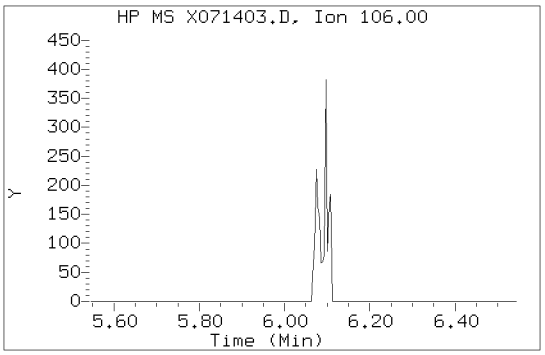
BEFORE

MASS
106
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



AFTER

MASS
106
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



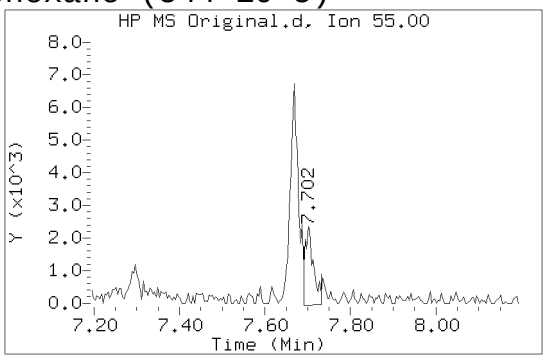
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071403.D
Inj Date : 14-JUL-2023 12:22
InstruID : voa6.i
LabSampID : VSTD000.5

1-Chlorohexane (544-10-5)

Reason Code:

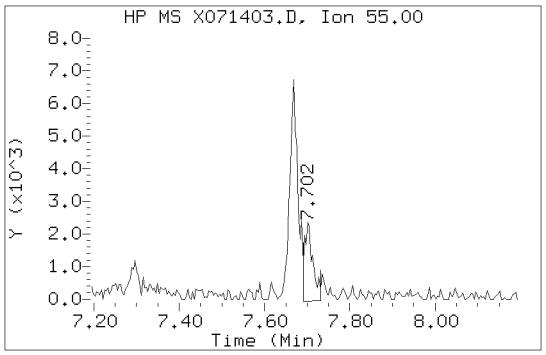
BEFORE

MASS
55
AREA
3459
HEIGHT
2414
20-Jul-2023
15:04
linh
pham



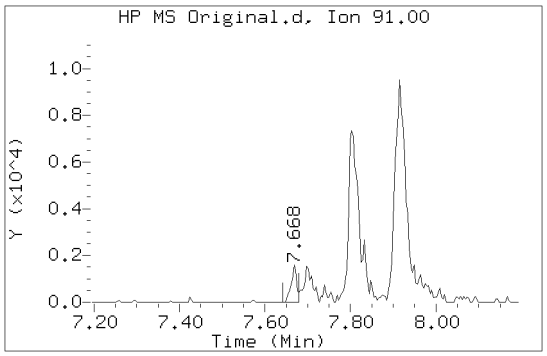
AFTER

MASS
55
AREA
3459
HEIGHT
2414
20-Jul-2023
15:04
linh
pham



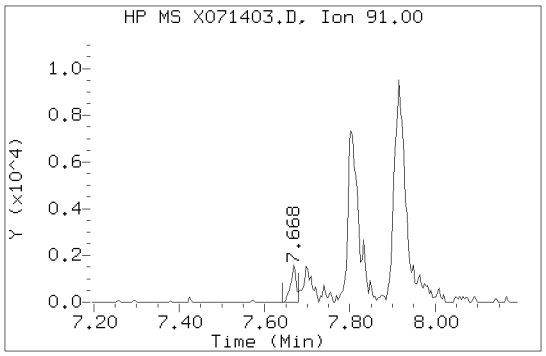
BEFORE

MASS
91
AREA
1435
HEIGHT
1592
20-Jul-2023
15:04
linh
pham



AFTER

MASS
91
AREA
1435
HEIGHT
1592
20-Jul-2023
15:04
linh
pham

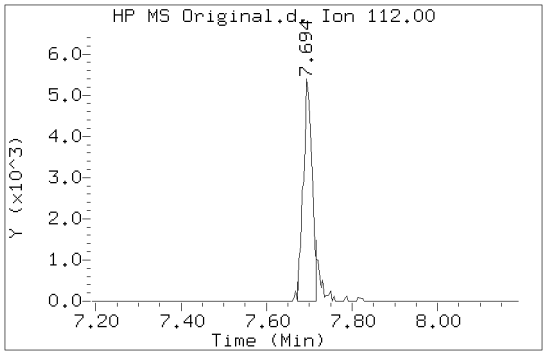


Chlorobenzene (108-90-7)

Reason Code:

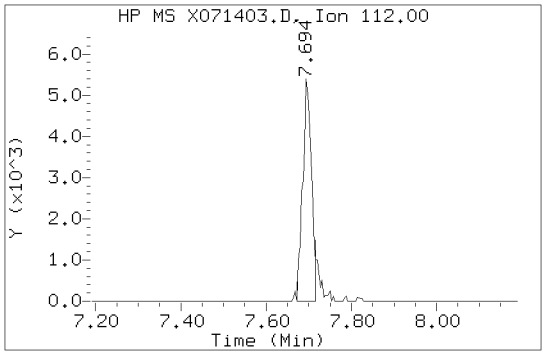
BEFORE

MASS
112
AREA
7907
HEIGHT
5398
20-Jul-2023
15:04
linh
pham



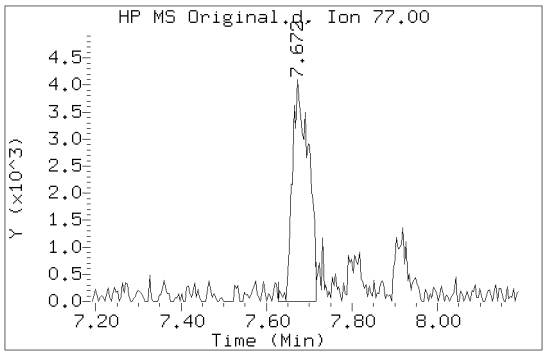
AFTER

MASS
112
AREA
7907
HEIGHT
5398
20-Jul-2023
15:04
linh
pham



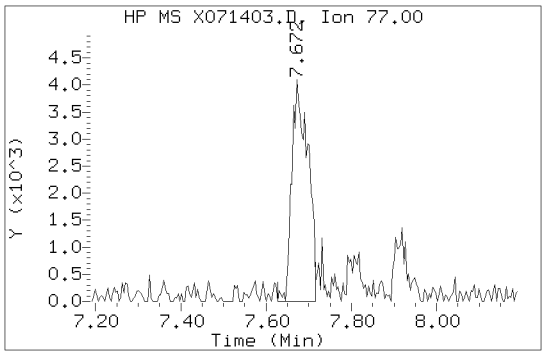
BEFORE

MASS
77
AREA
10872
HEIGHT
4098
20-Jul-2023
15:04
linh
pham



AFTER

MASS
77
AREA
10872
HEIGHT
4098
20-Jul-2023
15:04
linh
pham



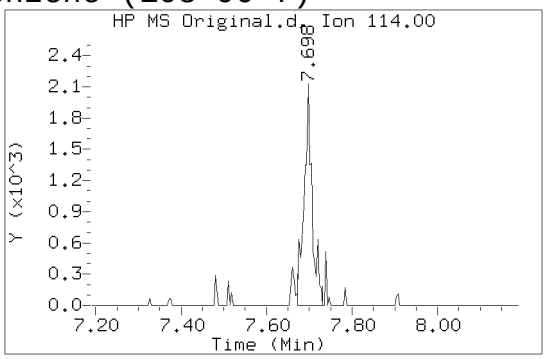
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071403.D
Inj Date : 14-JUL-2023 12:22
InstruID : voa6.i
LabSampID : VSTD000.5

Chlorobenzene (108-90-7)

Reason Code:

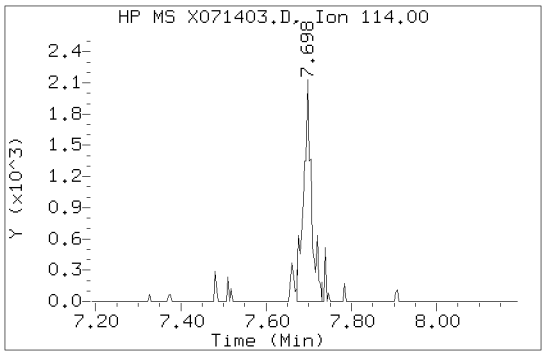
BEFORE

MASS
114
AREA
2819
HEIGHT
2130
20-Jul-2023
15:04
linh
pham



AFTER

MASS
114
AREA
2819
HEIGHT
2130
20-Jul-2023
15:04
linh
pham

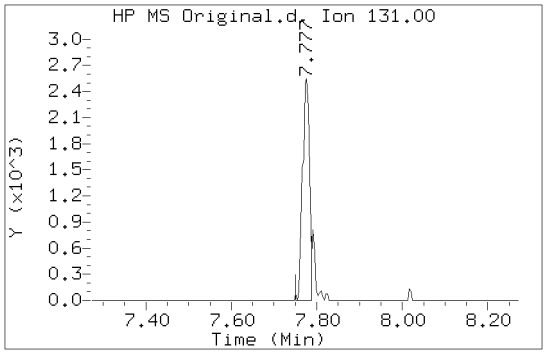


1,1,1,2-Tetrachloroethane (630-20-6)

Reason Code:

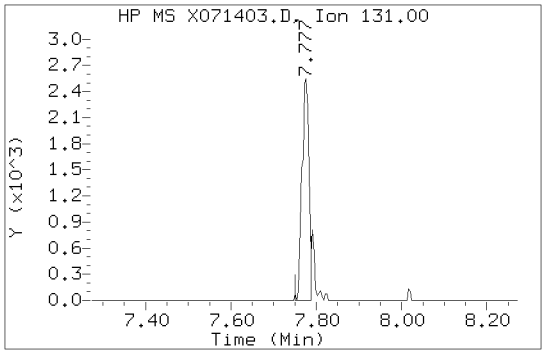
BEFORE

MASS
131
AREA
3008
HEIGHT
2547
20-Jul-2023
15:04
linh
pham



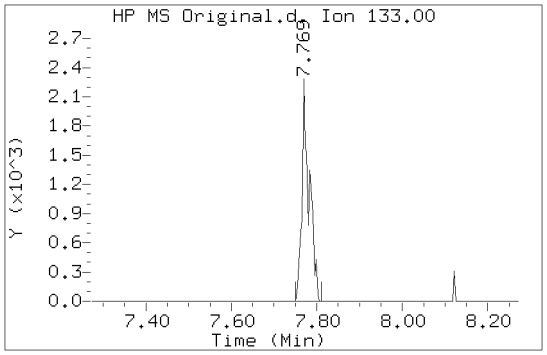
AFTER

MASS
131
AREA
3008
HEIGHT
2547
20-Jul-2023
15:04
linh
pham



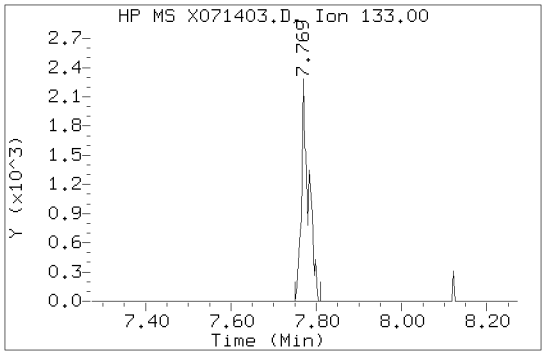
BEFORE

MASS
133
AREA
2774
HEIGHT
2284
20-Jul-2023
15:04
linh
pham



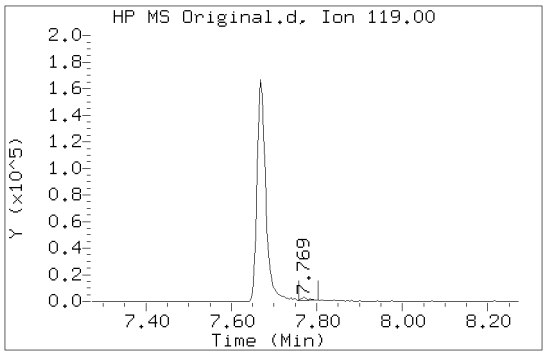
AFTER

MASS
133
AREA
2774
HEIGHT
2284
20-Jul-2023
15:04
linh
pham



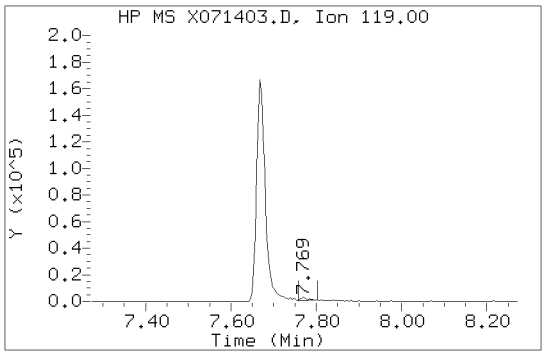
BEFORE

MASS
119
AREA
2799
HEIGHT
2519
20-Jul-2023
15:04
linh
pham



AFTER

MASS
119
AREA
2799
HEIGHT
2519
20-Jul-2023
15:04
linh
pham



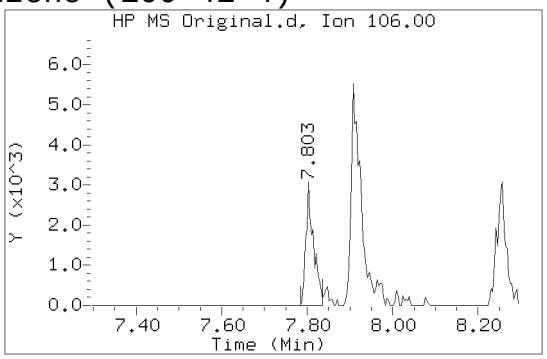
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Inj Date : 14-JUL-2023 12:22
InstruID : voa6.i
LabSampID : VSTD000.5

Ethylbenzene (100-41-4)

Reason Code:

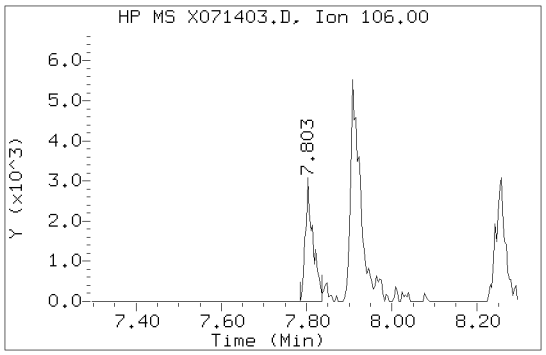
BEFORE

MASS
106
AREA
3909
HEIGHT
3078
20-Jul-2023
15:04
linh
pham



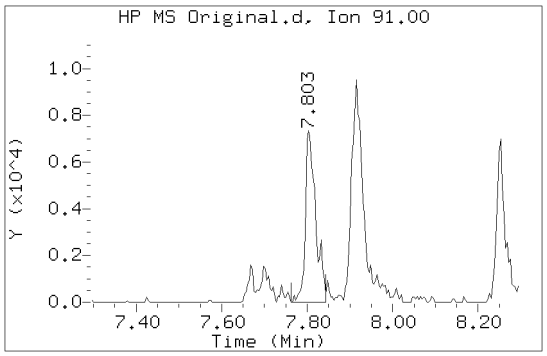
AFTER

MASS
106
AREA
3909
HEIGHT
3078
20-Jul-2023
15:04
linh
pham



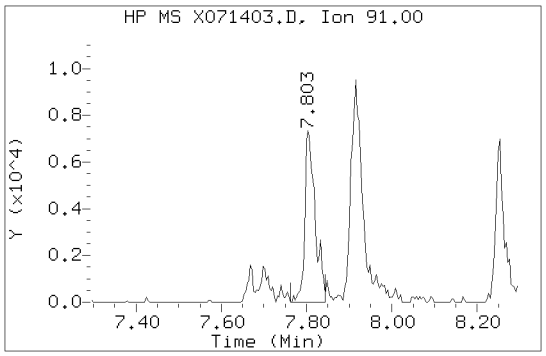
BEFORE

MASS
91
AREA
12659
HEIGHT
7347
20-Jul-2023
15:04
linh
pham



AFTER

MASS
91
AREA
12659
HEIGHT
7347
20-Jul-2023
15:04
linh
pham

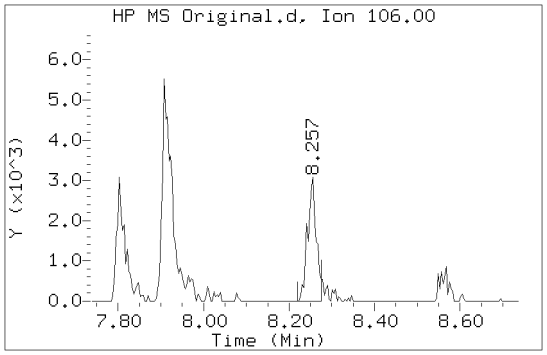


o-Xylene (95-47-6)

Reason Code:

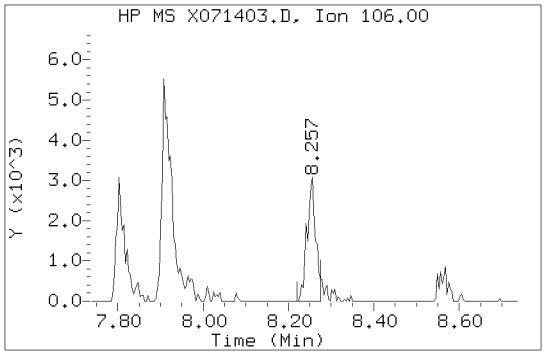
BEFORE

MASS
106
AREA
4414
HEIGHT
3089
20-Jul-2023
15:04
linh
pham



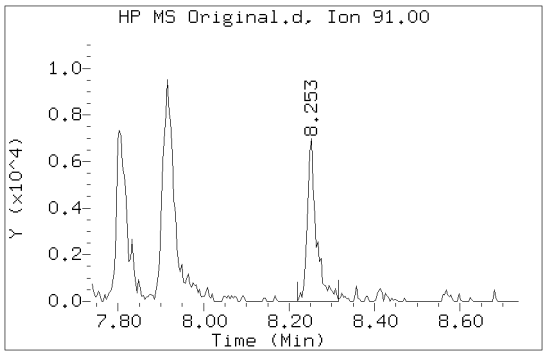
AFTER

MASS
106
AREA
4414
HEIGHT
3089
20-Jul-2023
15:04
linh
pham



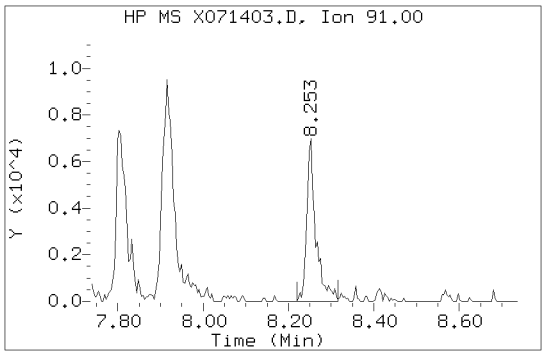
BEFORE

MASS
91
AREA
10415
HEIGHT
7000
20-Jul-2023
15:04
linh
pham



AFTER

MASS
91
AREA
10415
HEIGHT
7000
20-Jul-2023
15:04
linh
pham

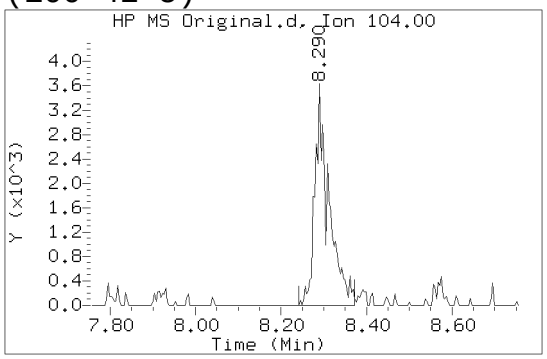


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071403.D
Inj Date : 14-JUL-2023 12:22
InstruID : voa6.i
LabSampID : VSTD000.5

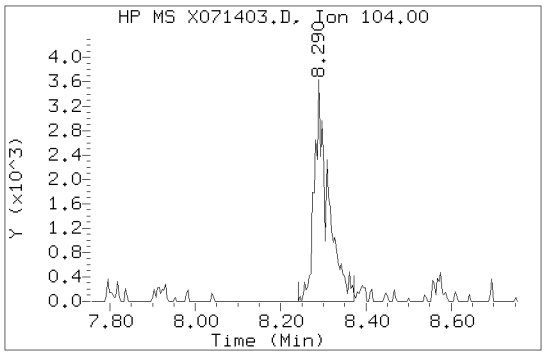
Styrene (100-42-5)

Reason Code:

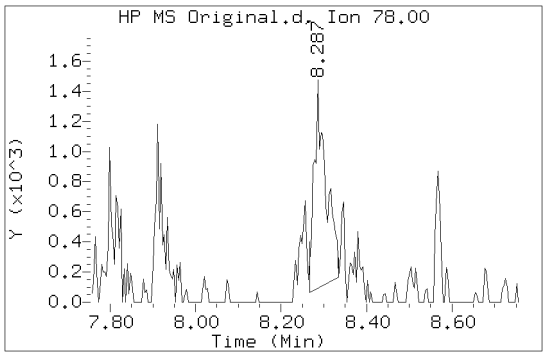
BEFORE
MASS
104
AREA
8133
HEIGHT
3635
20-Jul-2023
15:04
linh
pham



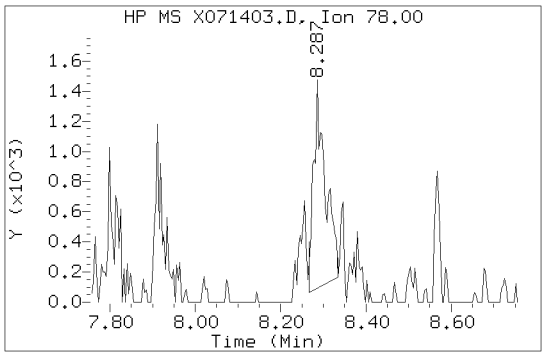
AFTER
MASS
104
AREA
8133
HEIGHT
3635
20-Jul-2023
15:04
linh
pham



BEFORE
MASS
78
AREA
2633
HEIGHT
1381
20-Jul-2023
15:04
linh
pham



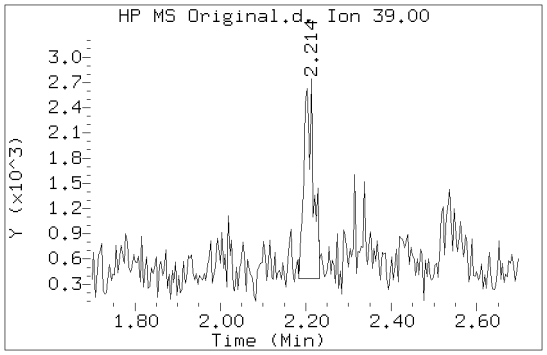
AFTER
MASS
78
AREA
2633
HEIGHT
1381
20-Jul-2023
15:04
linh
pham



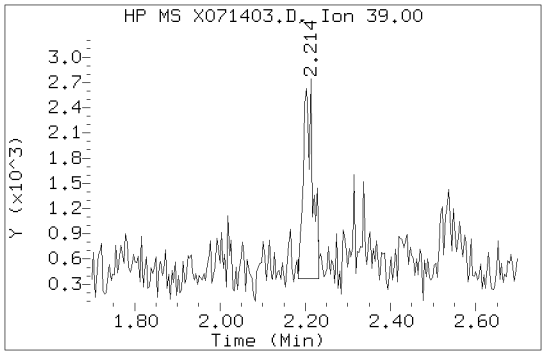
Acetonitrile (75-05-8)

Reason Code:

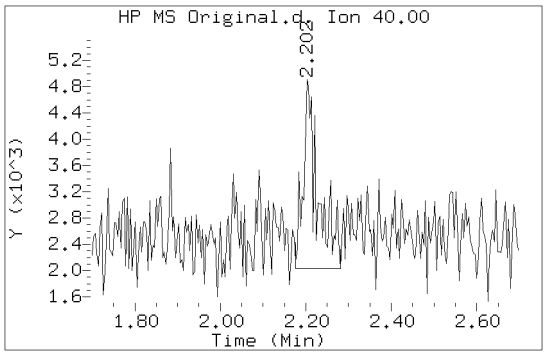
BEFORE
MASS
39
AREA
3606
HEIGHT
2378
20-Jul-2023
15:04
linh
pham



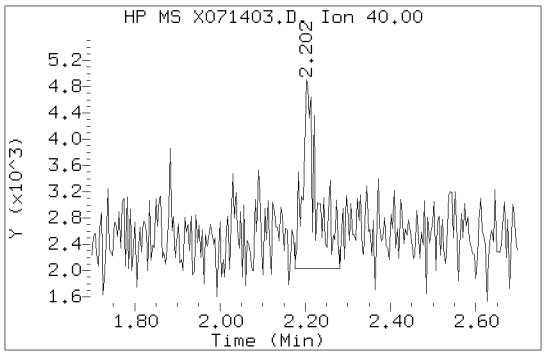
AFTER
MASS
39
AREA
3606
HEIGHT
2378
20-Jul-2023
15:04
linh
pham



BEFORE
MASS
40
AREA
6842
HEIGHT
2874
20-Jul-2023
15:04
linh
pham



AFTER
MASS
40
AREA
6842
HEIGHT
2874
20-Jul-2023
15:04
linh
pham



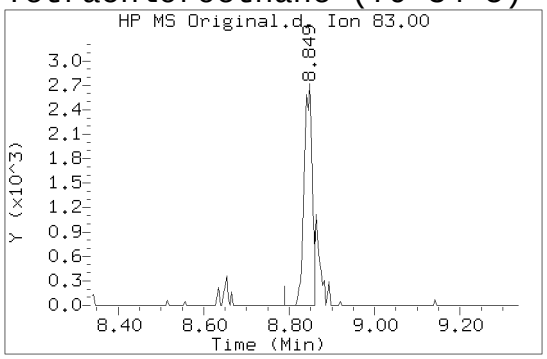
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071403.D
Inj Date : 14-JUL-2023 12:22
InstruID : voa6.i
LabSampID : VSTD000.5

1,1,2,2-Tetrachloroethane (79-34-5)

Reason Code:

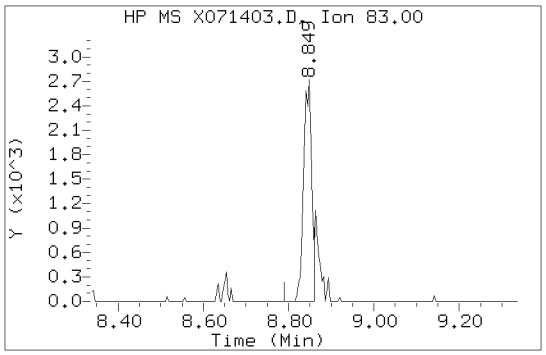
BEFORE

MASS
83
AREA
3654
HEIGHT
2720
20-Jul-2023
15:04
linh
pham



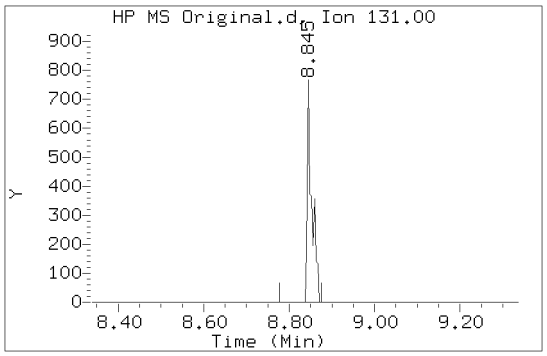
AFTER

MASS
83
AREA
3654
HEIGHT
2720
20-Jul-2023
15:04
linh
pham



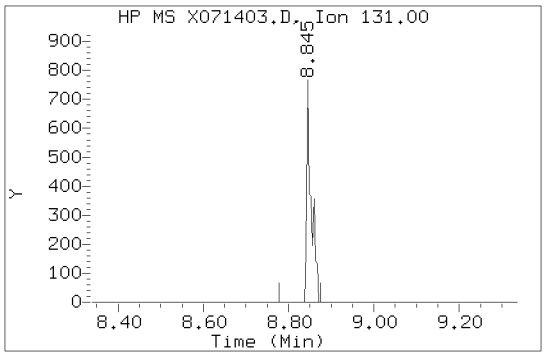
BEFORE

MASS
131
AREA
565
HEIGHT
767
20-Jul-2023
15:04
linh
pham



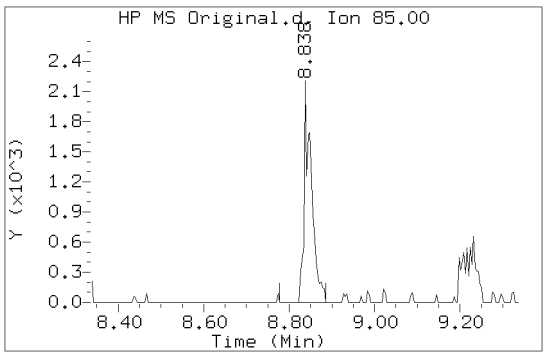
AFTER

MASS
131
AREA
565
HEIGHT
767
20-Jul-2023
15:04
linh
pham



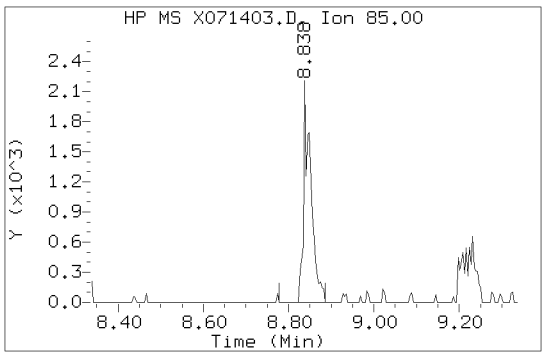
BEFORE

MASS
85
AREA
2735
HEIGHT
2209
20-Jul-2023
15:04
linh
pham



AFTER

MASS
85
AREA
2735
HEIGHT
2209
20-Jul-2023
15:04
linh
pham

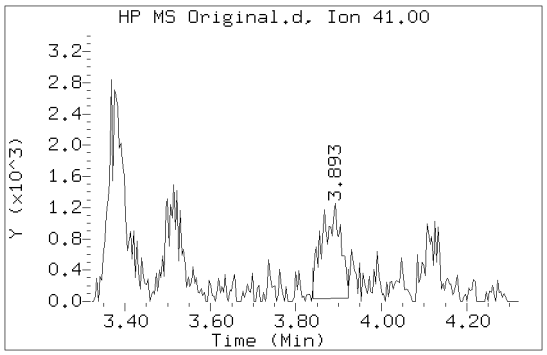


Methacrylonitrile (126-98-7)

Reason Code:

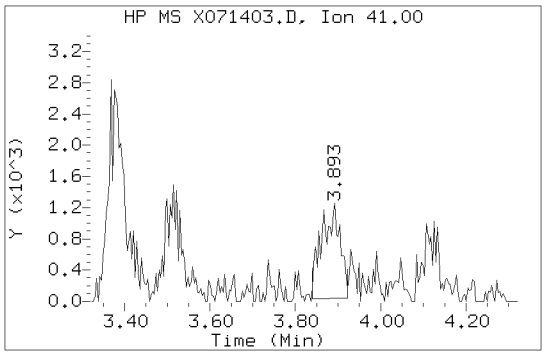
BEFORE

MASS
41
AREA
3622
HEIGHT
1212
20-Jul-2023
15:04
linh
pham



AFTER

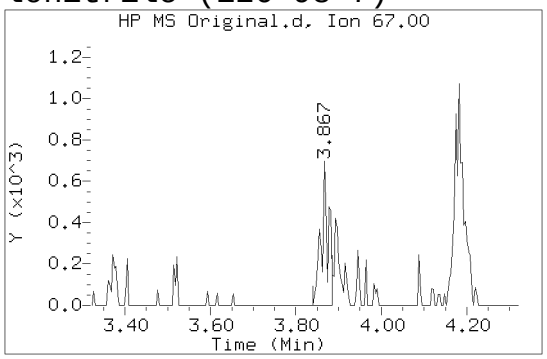
MASS
41
AREA
3622
HEIGHT
1212
20-Jul-2023
15:04
linh
pham



Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071403.D
Inj Date : 14-JUL-2023 12:22
InstruID : voa6.i
LabSampID : VSTD000.5

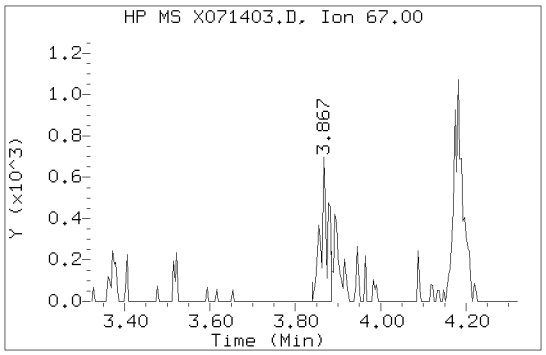
Methacrylonitrile (126-98-7)

BEFORE
MASS
67
AREA
806
HEIGHT
697
20-Jul-2023
15:04
linh
pham

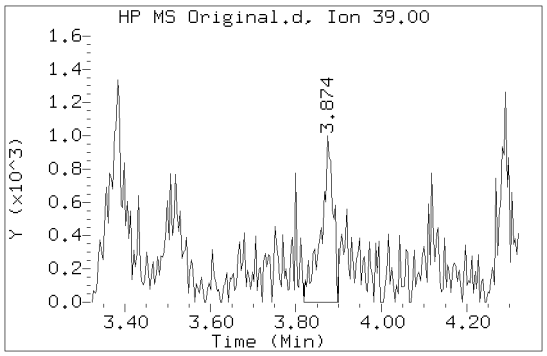


Reason Code:

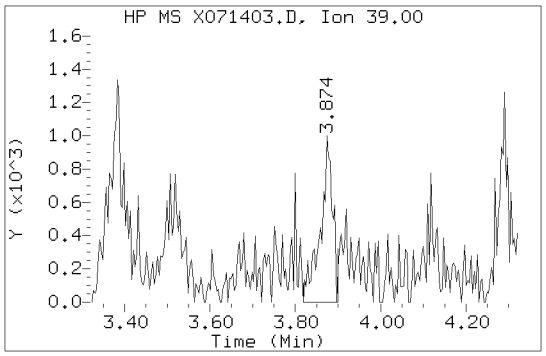
AFTER
MASS
67
AREA
806
HEIGHT
697
20-Jul-2023
15:04
linh
pham



BEFORE
MASS
39
AREA
1986
HEIGHT
1000
20-Jul-2023
15:04
linh
pham

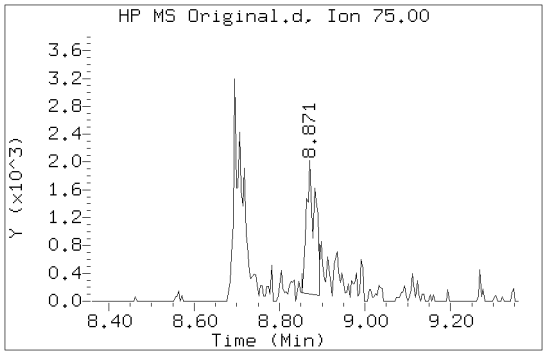


AFTER
MASS
39
AREA
1986
HEIGHT
1000
20-Jul-2023
15:04
linh
pham



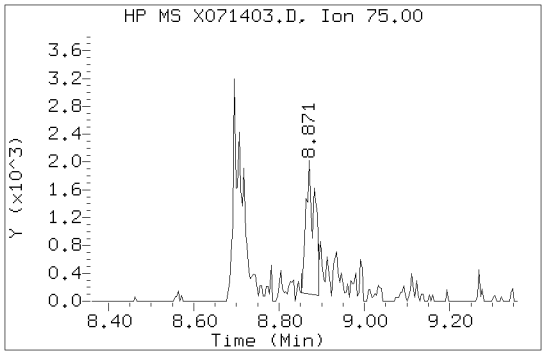
1,2,3-Trichloropropane (96-18-4)

BEFORE
MASS
75
AREA
2737
HEIGHT
1922
20-Jul-2023
15:04
linh
pham

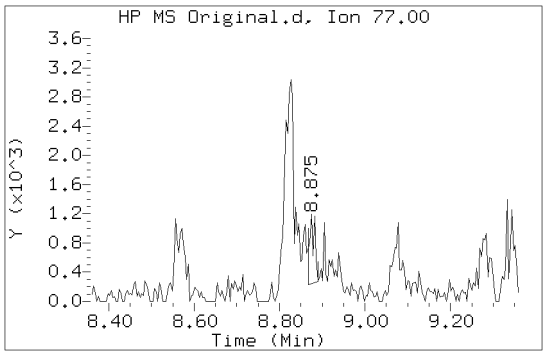


Reason Code:

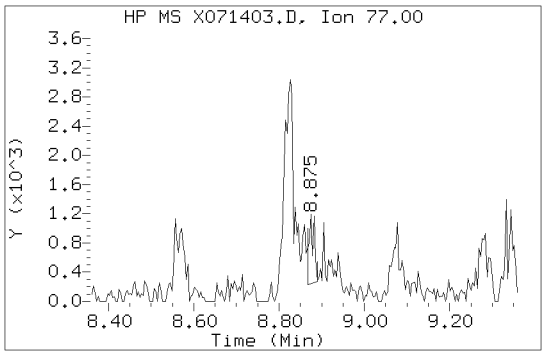
AFTER
MASS
75
AREA
2737
HEIGHT
1922
20-Jul-2023
15:04
linh
pham



BEFORE
MASS
77
AREA
813
HEIGHT
948
20-Jul-2023
15:04
linh
pham



AFTER
MASS
77
AREA
813
HEIGHT
948
20-Jul-2023
15:04
linh
pham

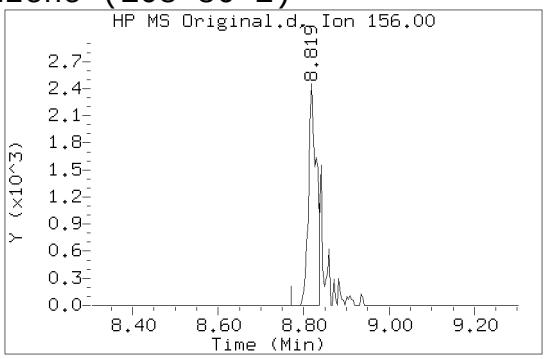


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Inj Date : 14-JUL-2023 12:22
InstruID : voa6.i
LabSampID : VSTD000.5

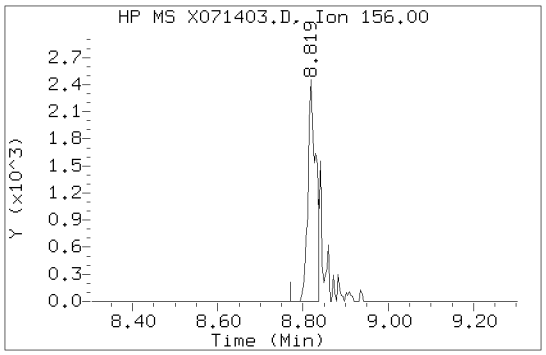
Bromobenzene (108-86-1)

Reason Code:

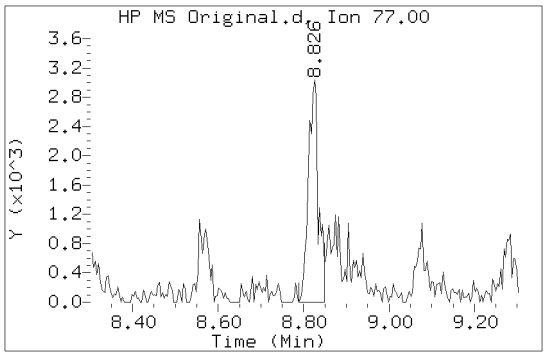
BEFORE
MASS
156
AREA
3201
HEIGHT
2455
20-Jul-2023
15:04
linh
pham



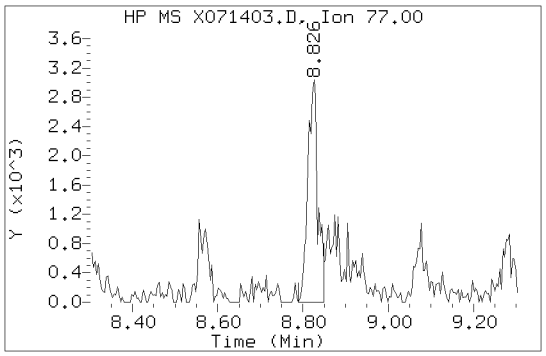
AFTER
MASS
156
AREA
3201
HEIGHT
2455
20-Jul-2023
15:04
linh
pham



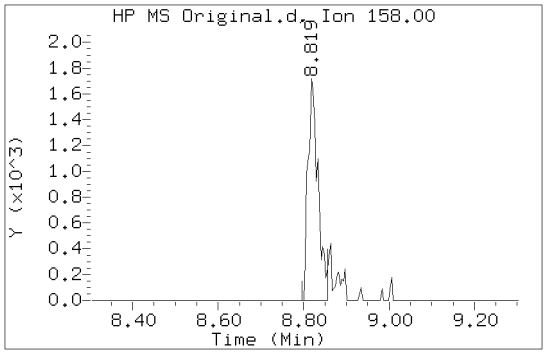
BEFORE
MASS
77
AREA
5003
HEIGHT
3037
20-Jul-2023
15:04
linh
pham



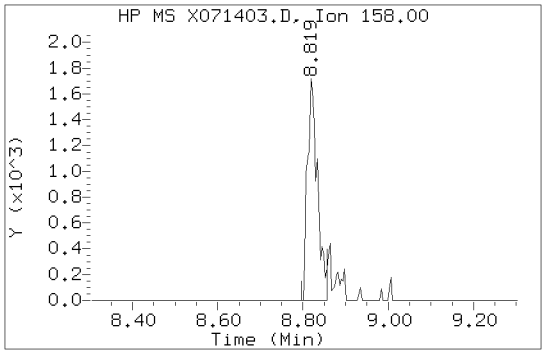
AFTER
MASS
77
AREA
5003
HEIGHT
3037
20-Jul-2023
15:04
linh
pham



BEFORE
MASS
158
AREA
2823
HEIGHT
1718
20-Jul-2023
15:04
linh
pham



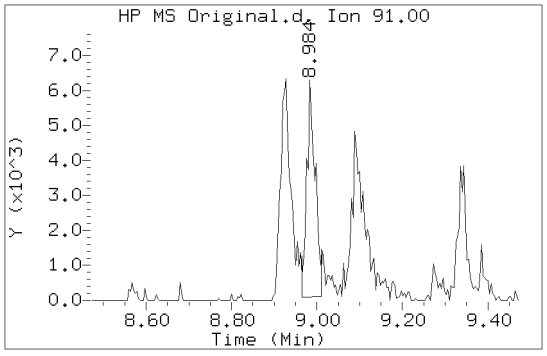
AFTER
MASS
158
AREA
2823
HEIGHT
1718
20-Jul-2023
15:04
linh
pham



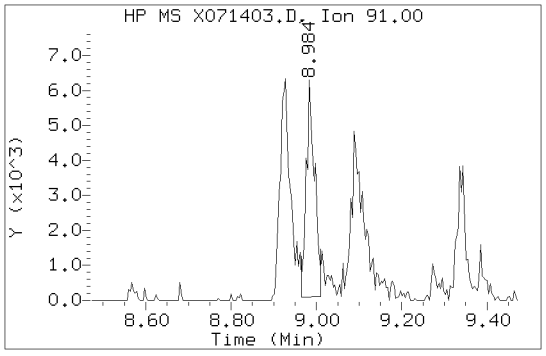
2-Chlorotoluene (95-49-8)

Reason Code:

BEFORE
MASS
91
AREA
8487
HEIGHT
6195
20-Jul-2023
15:04
linh
pham



AFTER
MASS
91
AREA
8487
HEIGHT
6195
20-Jul-2023
15:04
linh
pham



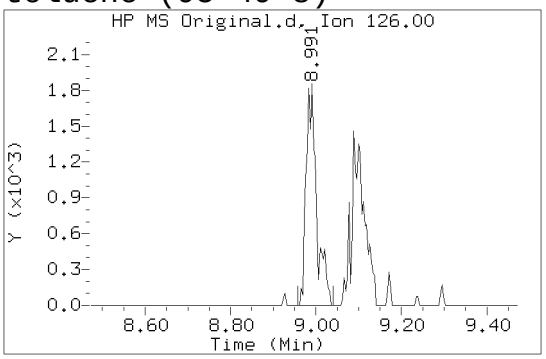
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Inj Date : 14-JUL-2023 12:22
InstruID : voa6.i
LabSampID : VSTD000.5

2-Chlorotoluene (95-49-8)

Reason Code:

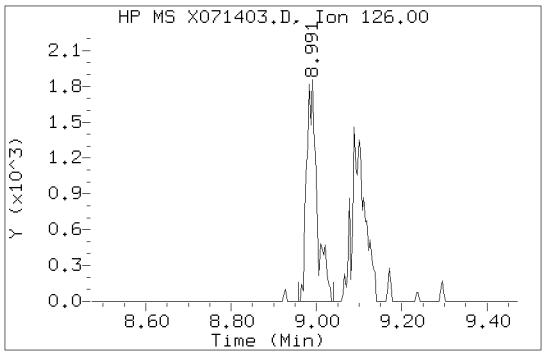
BEFORE

MASS
126
AREA
3192
HEIGHT
1856
20-Jul-2023
15:04
linh
pham



AFTER

MASS
126
AREA
3192
HEIGHT
1856
20-Jul-2023
15:04
linh
pham

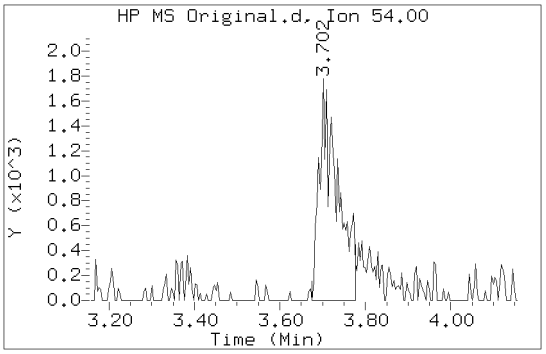


Propionitrile (107-12-0)

Reason Code:

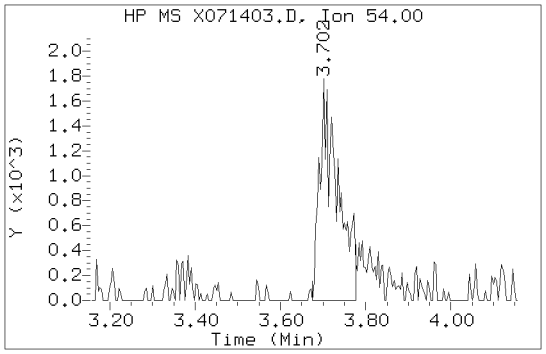
BEFORE

MASS
54
AREA
5231
HEIGHT
1779
20-Jul-2023
15:04
linh
pham



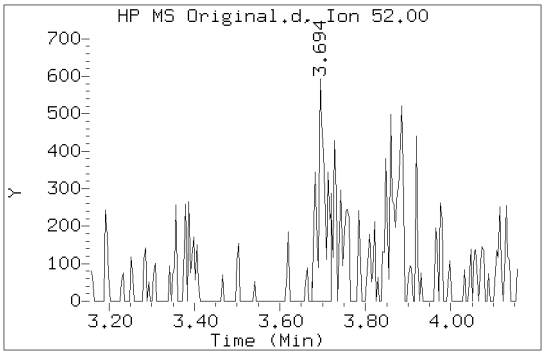
AFTER

MASS
54
AREA
5231
HEIGHT
1779
20-Jul-2023
15:04
linh
pham



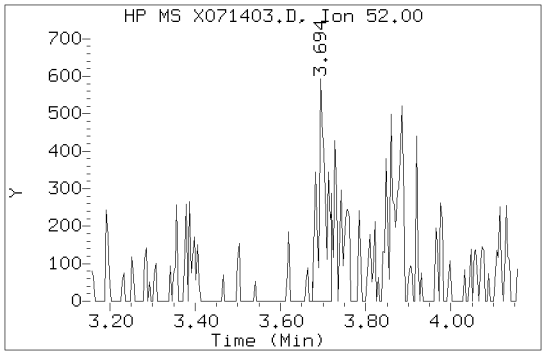
BEFORE

MASS
52
AREA
779
HEIGHT
593
20-Jul-2023
15:04
linh
pham



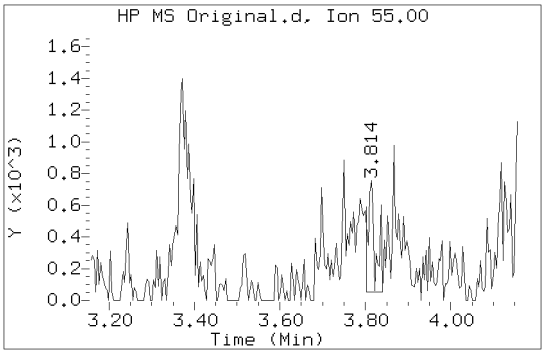
AFTER

MASS
52
AREA
779
HEIGHT
593
20-Jul-2023
15:04
linh
pham



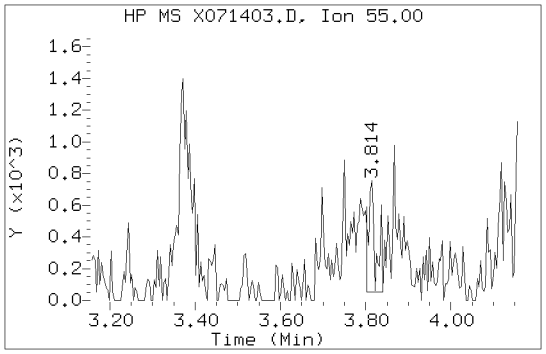
BEFORE

MASS
55
AREA
826
HEIGHT
704
20-Jul-2023
15:04
linh
pham



AFTER

MASS
55
AREA
826
HEIGHT
704
20-Jul-2023
15:04
linh
pham

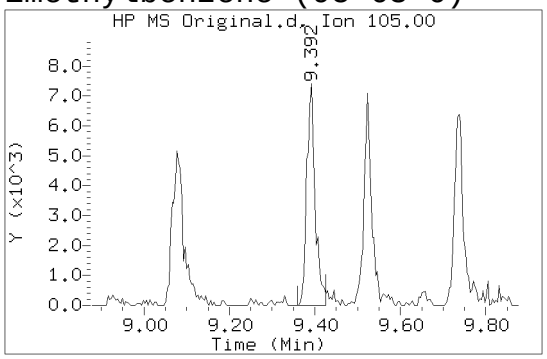


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Inj Date : 14-JUL-2023 12:22
InstruID : voa6.i
LabSampID : VSTD000.5

1,2,4-Trimethylbenzene (95-63-6)

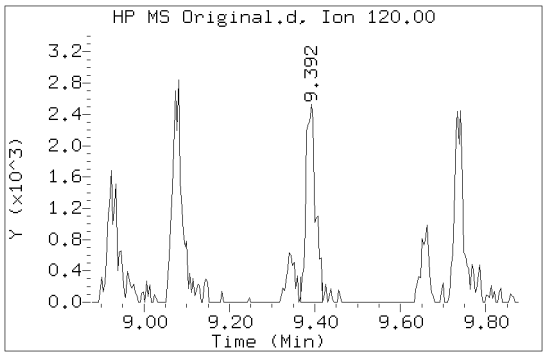
BEFORE

MASS
105
AREA
10172
HEIGHT
7414
20-Jul-2023
15:04
linh
pham



BEFORE

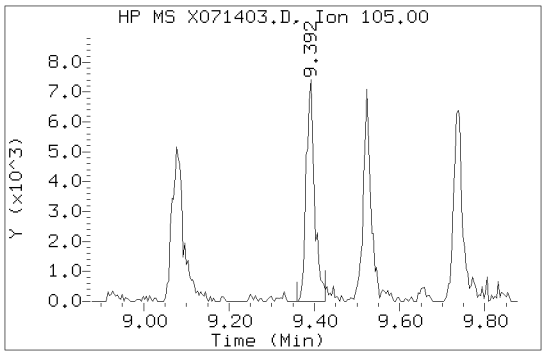
MASS
120
AREA
3980
HEIGHT
2527
20-Jul-2023
15:04
linh
pham



Reason Code:

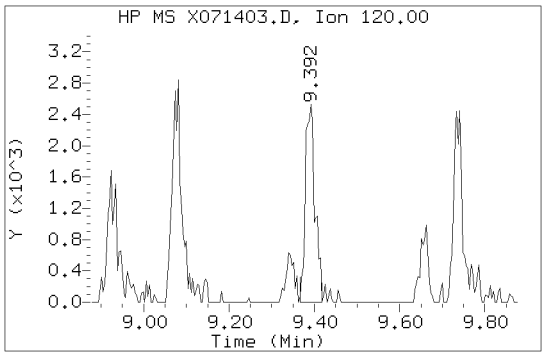
AFTER

MASS
105
AREA
10172
HEIGHT
7414
20-Jul-2023
15:04
linh
pham



AFTER

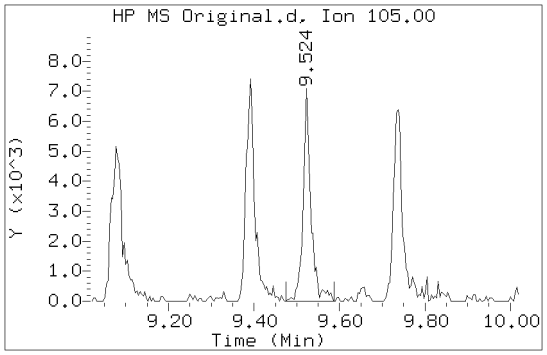
MASS
120
AREA
3980
HEIGHT
2527
20-Jul-2023
15:04
linh
pham



sec-Butylbenzene (135-98-8)

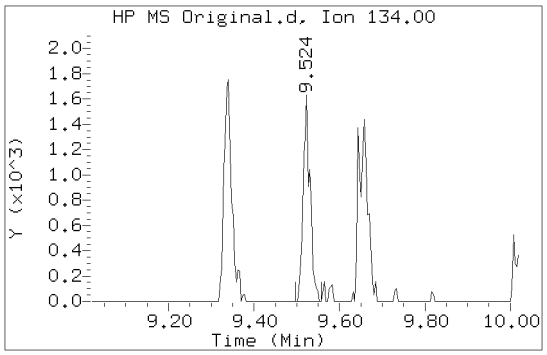
BEFORE

MASS
105
AREA
9247
HEIGHT
7103
20-Jul-2023
15:04
linh
pham



BEFORE

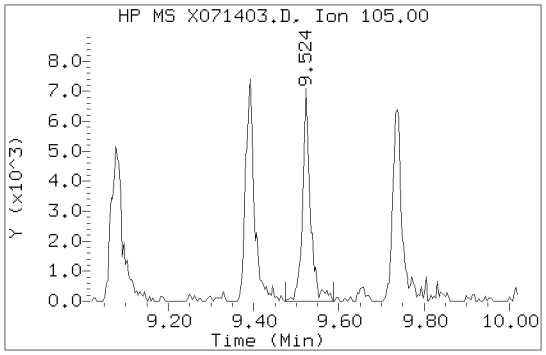
MASS
134
AREA
1861
HEIGHT
1631
20-Jul-2023
15:04
linh
pham



Reason Code:

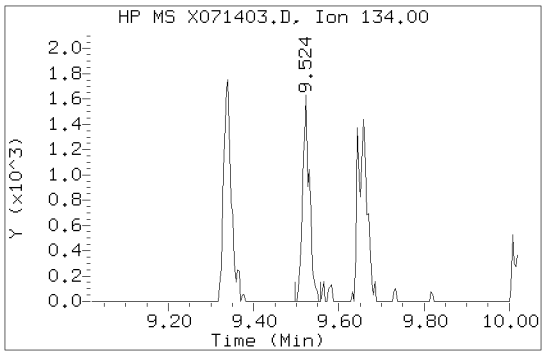
AFTER

MASS
105
AREA
9247
HEIGHT
7103
20-Jul-2023
15:04
linh
pham



AFTER

MASS
134
AREA
1861
HEIGHT
1631
20-Jul-2023
15:04
linh
pham

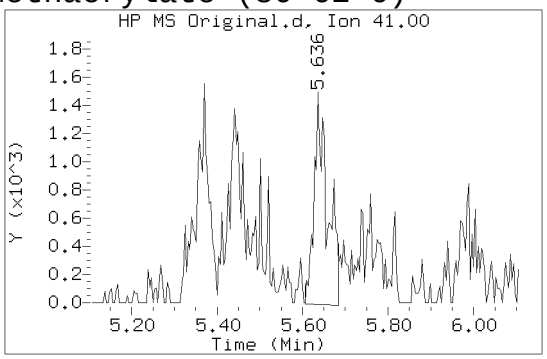


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InstruID : voa6.i
LabSampID : VSTD000.5

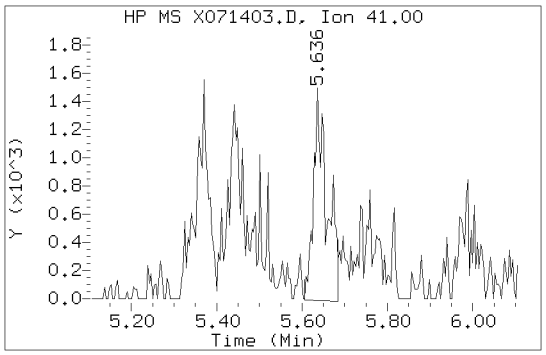
Methyl Methacrylate (80-62-6)

Reason Code:

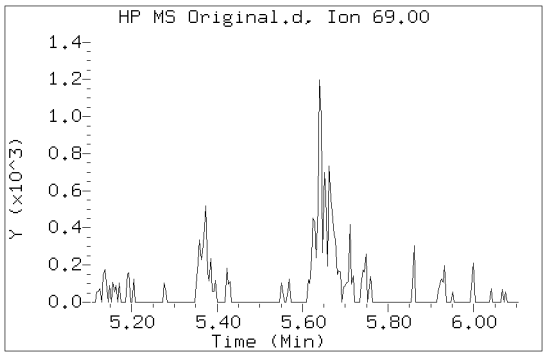
BEFORE
MASS
41
AREA
3261
HEIGHT
1505
20-Jul-2023
15:04
linh
pham



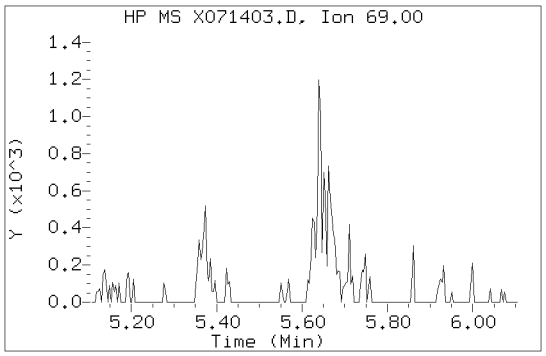
AFTER
MASS
41
AREA
3261
HEIGHT
1505
20-Jul-2023
15:04
linh
pham



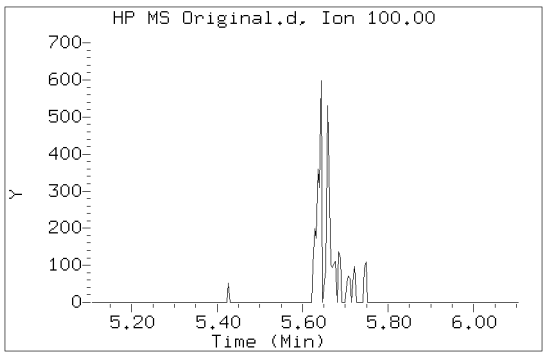
BEFORE
MASS
69
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



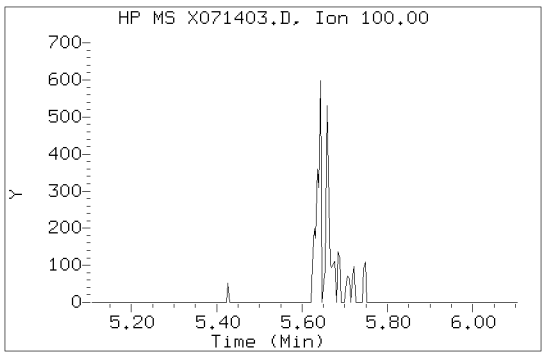
AFTER
MASS
69
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



BEFORE
MASS
100
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



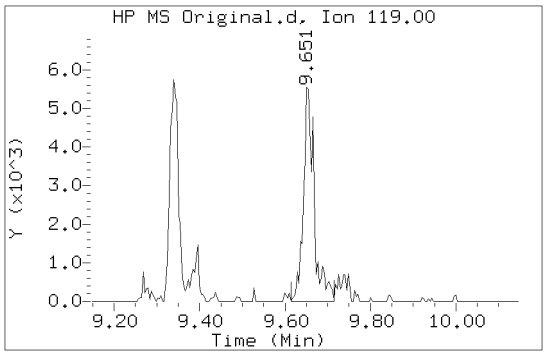
AFTER
MASS
100
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



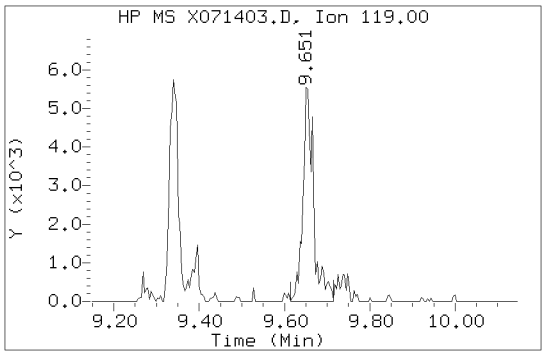
p-Isopropyltoluene (99-87-6)

Reason Code:

BEFORE
MASS
119
AREA
9771
HEIGHT
5556
20-Jul-2023
15:04
linh
pham



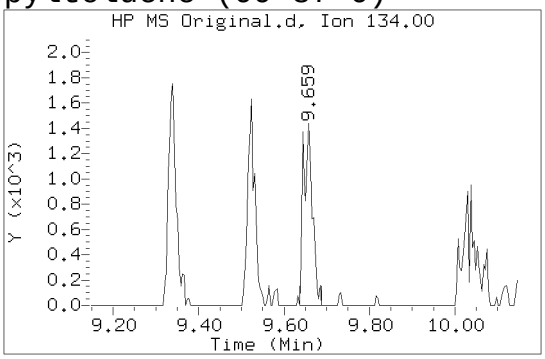
AFTER
MASS
119
AREA
9771
HEIGHT
5556
20-Jul-2023
15:04
linh
pham



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Inj Date : 14-JUL-2023 12:22
InstruID : voa6.i
LabSampID : VSTD000.5

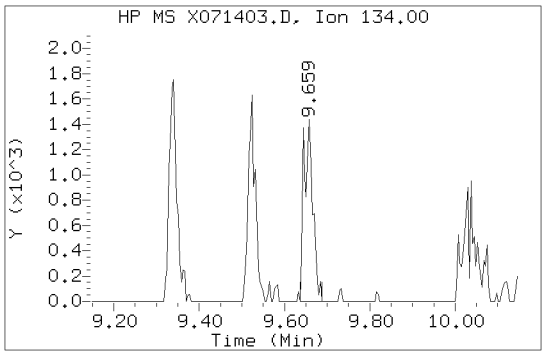
p-Isopropyltoluene (99-87-6)

BEFORE
MASS
134
AREA
2131
HEIGHT
1438
20-Jul-2023
15:04
linh
pham

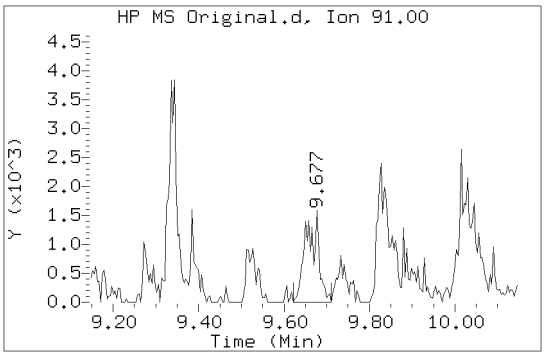


Reason Code:

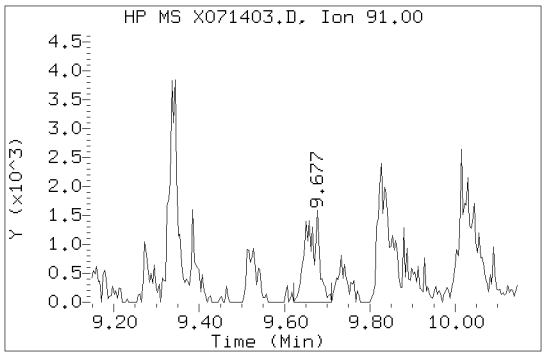
AFTER
MASS
134
AREA
2131
HEIGHT
1438
20-Jul-2023
15:04
linh
pham



BEFORE
MASS
91
AREA
3352
HEIGHT
1591
20-Jul-2023
15:04
linh
pham



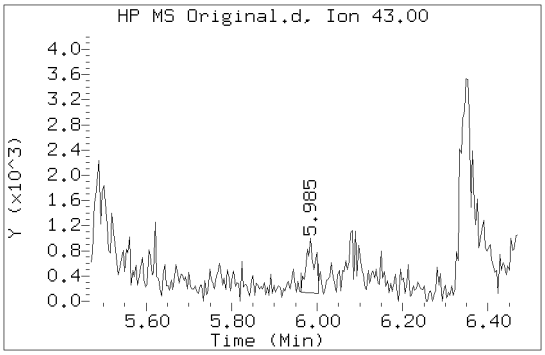
AFTER
MASS
91
AREA
3352
HEIGHT
1591
20-Jul-2023
15:04
linh
pham



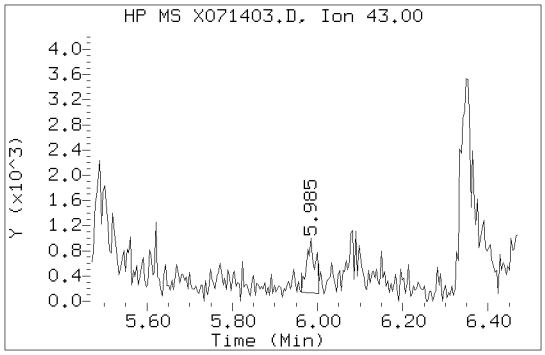
2-Nitropropane (79-46-9)

Reason Code:

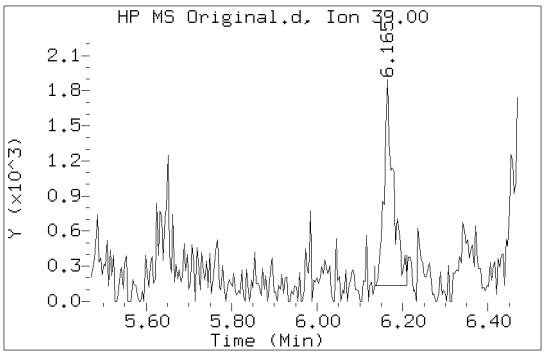
BEFORE
MASS
43
AREA
1174
HEIGHT
872
20-Jul-2023
15:04
linh
pham



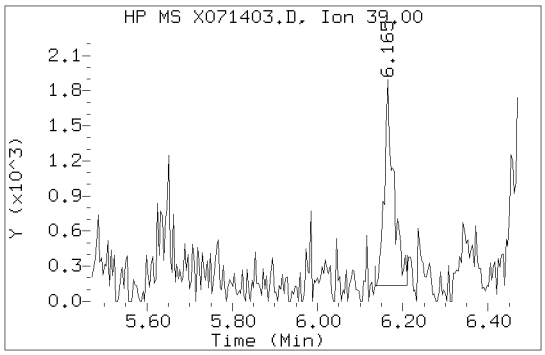
AFTER
MASS
43
AREA
1174
HEIGHT
872
20-Jul-2023
15:04
linh
pham



BEFORE
MASS
39
AREA
2649
HEIGHT
1759
20-Jul-2023
15:04
linh
pham



AFTER
MASS
39
AREA
2649
HEIGHT
1759
20-Jul-2023
15:04
linh
pham



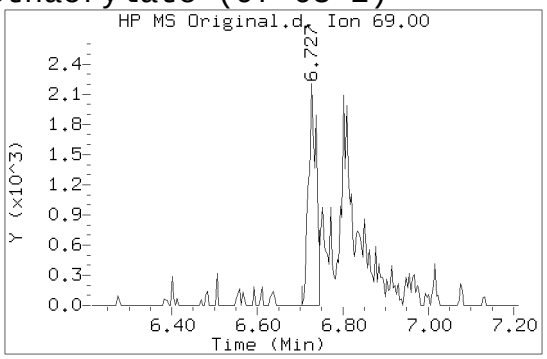
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071403.D
Inj Date : 14-JUL-2023 12:22
InstruID : voa6.i
LabSampID : VSTD000.5

Ethyl Methacrylate (97-63-2)

Reason Code:

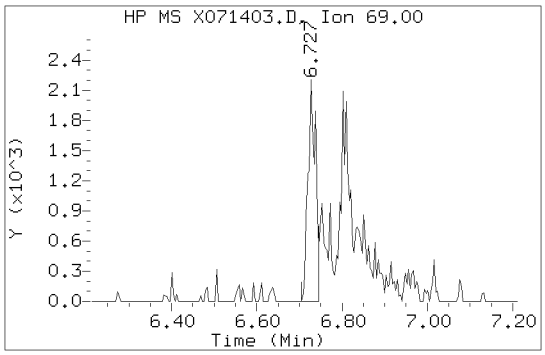
BEFORE

MASS
69
AREA
2780
HEIGHT
2206
20-Jul-2023
15:04
linh
pham



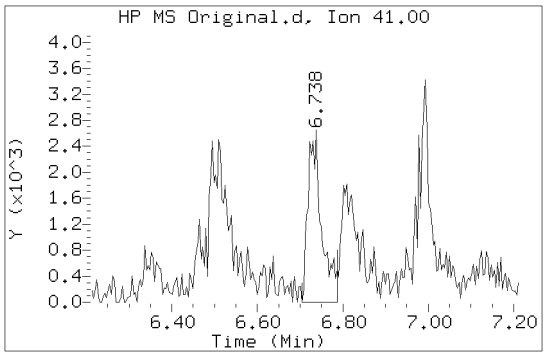
AFTER

MASS
69
AREA
2780
HEIGHT
2206
20-Jul-2023
15:04
linh
pham



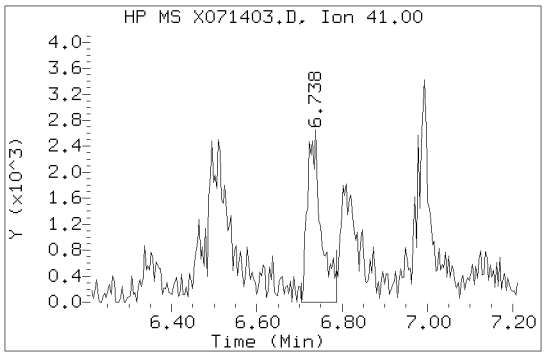
BEFORE

MASS
41
AREA
5900
HEIGHT
2651
20-Jul-2023
15:04
linh
pham



AFTER

MASS
41
AREA
5900
HEIGHT
2651
20-Jul-2023
15:04
linh
pham

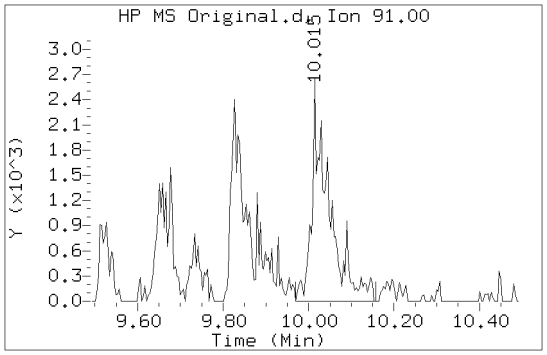


n-Butylbenzene (104-51-8)

Reason Code:

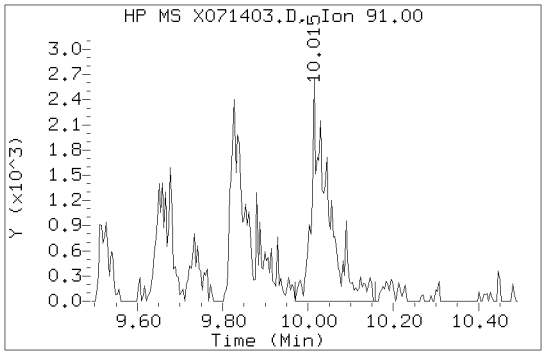
BEFORE

MASS
91
AREA
7141
HEIGHT
2647
20-Jul-2023
15:04
linh
pham



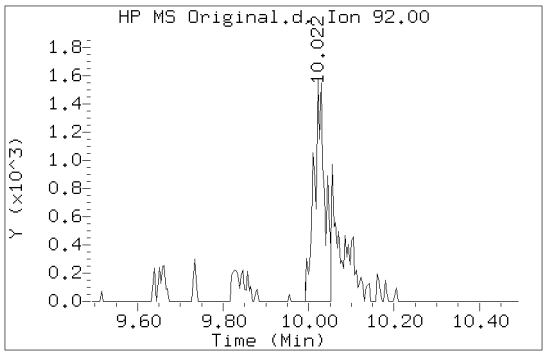
AFTER

MASS
91
AREA
7141
HEIGHT
2647
20-Jul-2023
15:04
linh
pham



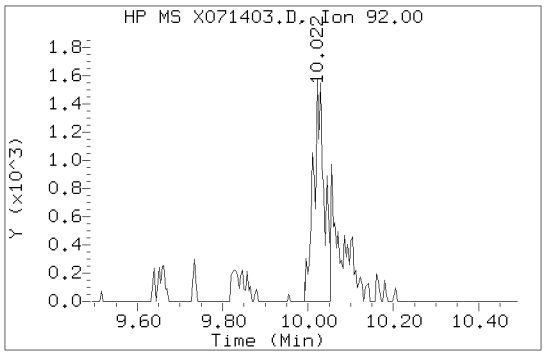
BEFORE

MASS
92
AREA
2733
HEIGHT
1571
20-Jul-2023
15:04
linh
pham



AFTER

MASS
92
AREA
2733
HEIGHT
1571
20-Jul-2023
15:04
linh
pham



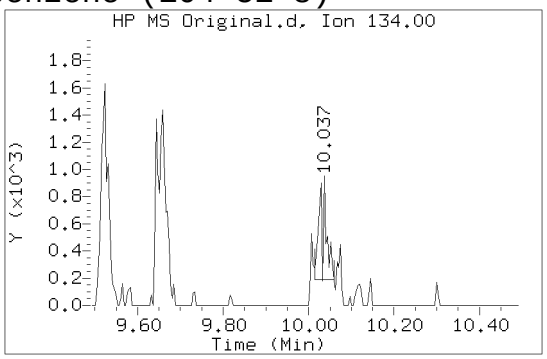
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071403.D
Inj Date : 14-JUL-2023 12:22
InstruID : voa6.i
LabSampID : VSTD000.5

n-Butylbenzene (104-51-8)

Reason Code:

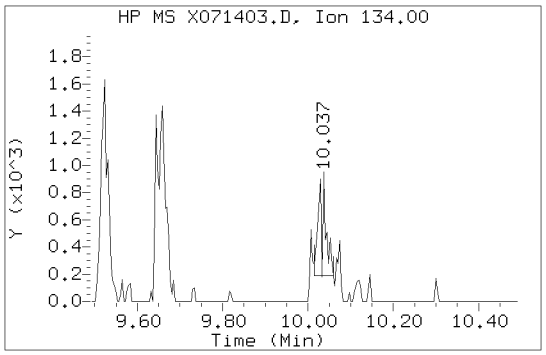
BEFORE

MASS
134
AREA
825
HEIGHT
766
20-Jul-2023
15:04
linh
pham



AFTER

MASS
134
AREA
825
HEIGHT
766
20-Jul-2023
15:04
linh
pham

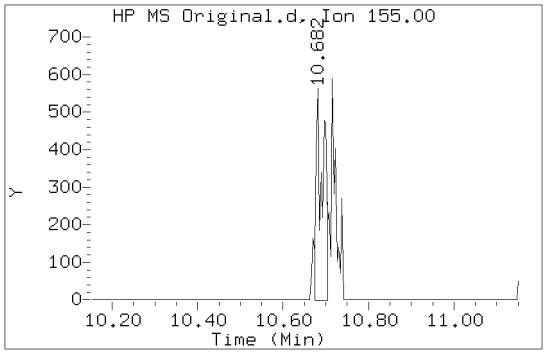


1,2-Dibromo-3-Chloropropane (96-12-8)

Reason Code:

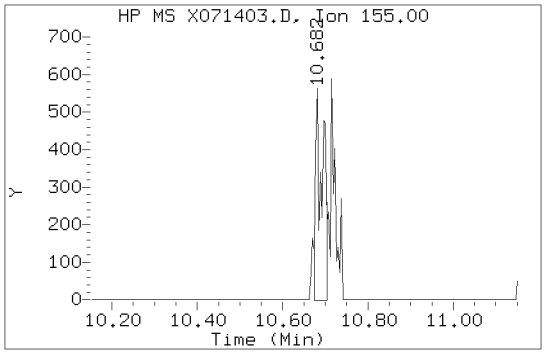
BEFORE

MASS
155
AREA
675
HEIGHT
564
20-Jul-2023
15:04
linh
pham



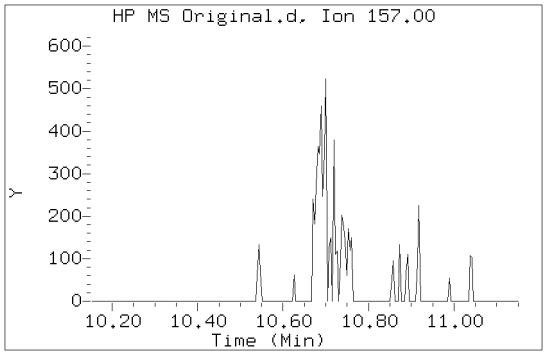
AFTER

MASS
155
AREA
675
HEIGHT
564
20-Jul-2023
15:04
linh
pham



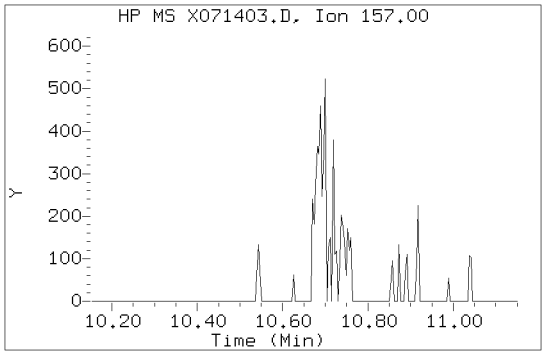
BEFORE

MASS
157
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



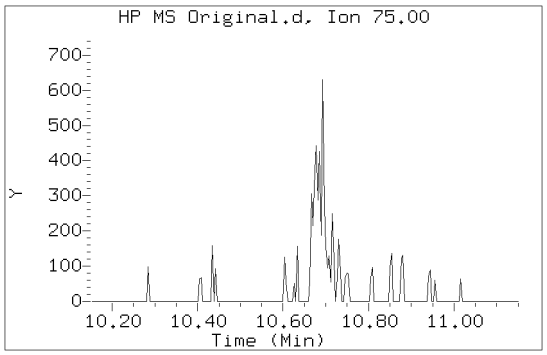
AFTER

MASS
157
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



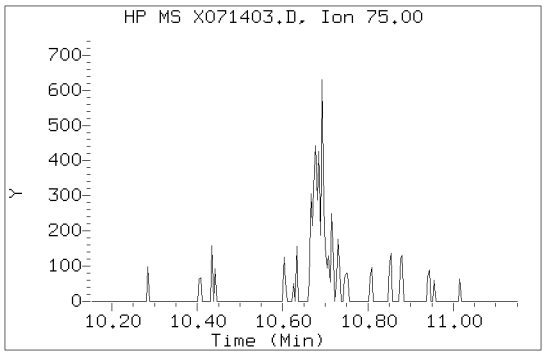
BEFORE

MASS
75
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



AFTER

MASS
75
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



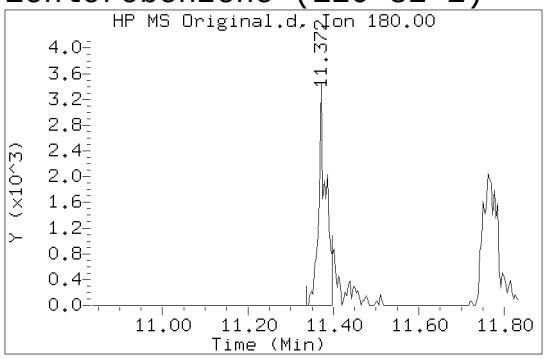
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071403.D
Inj Date : 14-JUL-2023 12:22
InstruID : voa6.i
LabSampID : VSTD000.5

1,2,4-Trichlorobenzene (120-82-1)

Reason Code:

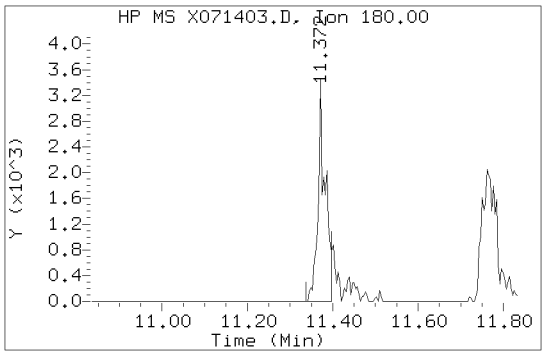
BEFORE

MASS
180
AREA
4099
HEIGHT
3445
20-Jul-2023
15:04
linh
pham



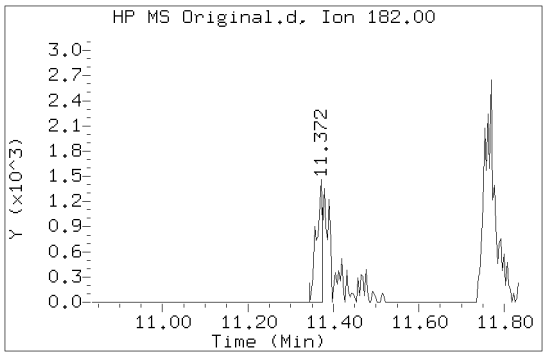
AFTER

MASS
180
AREA
4099
HEIGHT
3445
20-Jul-2023
15:04
linh
pham



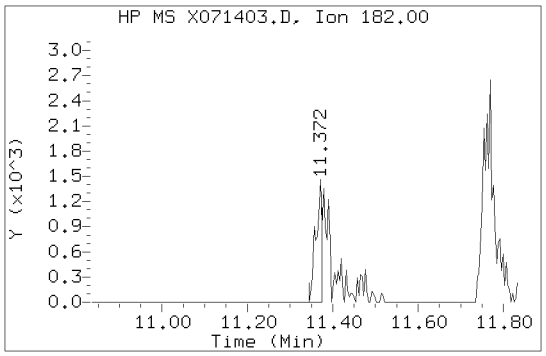
BEFORE

MASS
182
AREA
1413
HEIGHT
1466
20-Jul-2023
15:04
linh
pham



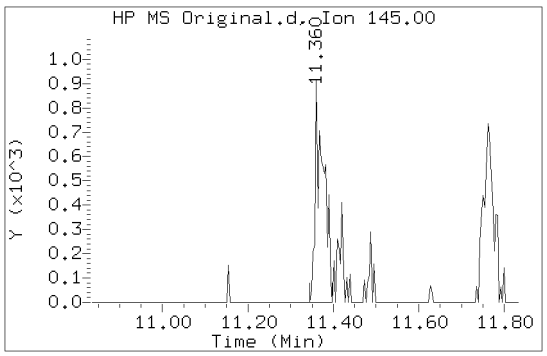
AFTER

MASS
182
AREA
1413
HEIGHT
1466
20-Jul-2023
15:04
linh
pham



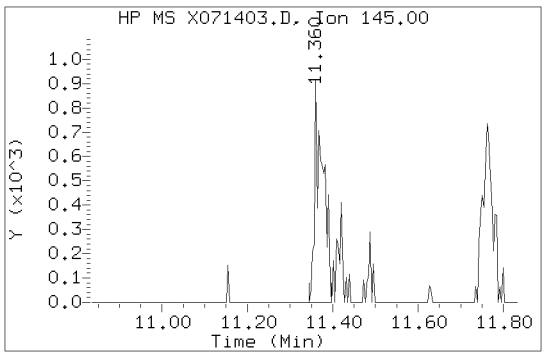
BEFORE

MASS
145
AREA
1239
HEIGHT
912
20-Jul-2023
15:04
linh
pham



AFTER

MASS
145
AREA
1239
HEIGHT
912
20-Jul-2023
15:04
linh
pham

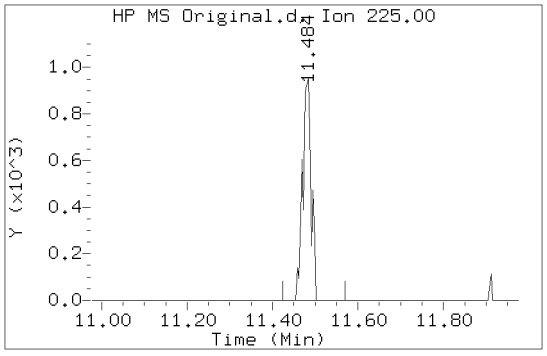


Hexachlorobutadiene (87-68-3)

Reason Code:

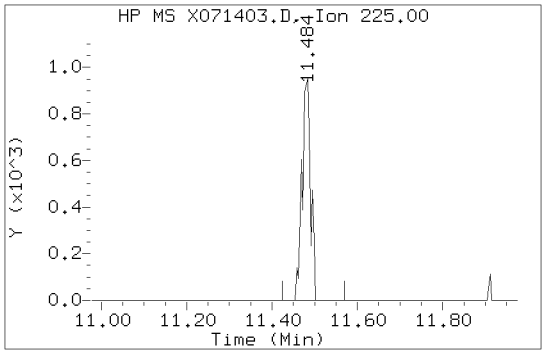
BEFORE

MASS
225
AREA
1357
HEIGHT
951
20-Jul-2023
15:04
linh
pham



AFTER

MASS
225
AREA
1357
HEIGHT
951
20-Jul-2023
15:04
linh
pham

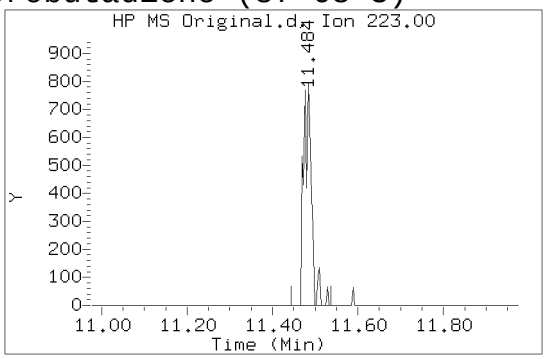


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071403.D
Inj Date : 14-JUL-2023 12:22
InstruID : voa6.i
LabSampID : VSTD000.5

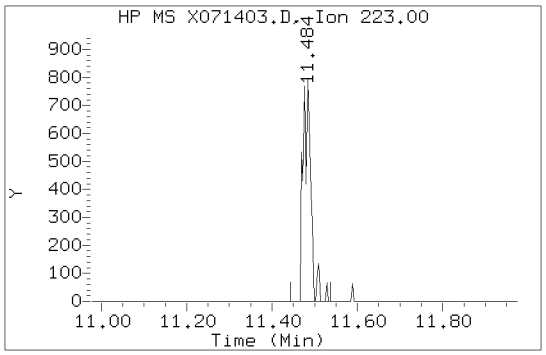
Hexachlorobutadiene (87-68-3)

Reason Code:

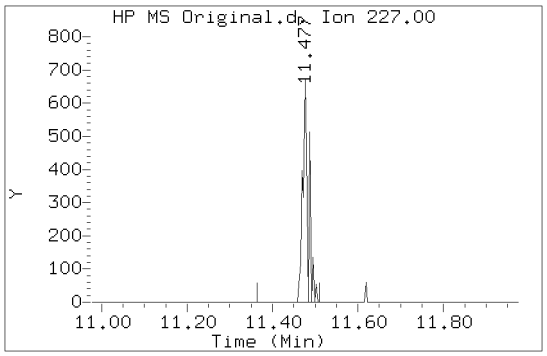
BEFORE
MASS
223
AREA
1025
HEIGHT
792
20-Jul-2023
15:04
linh
pham



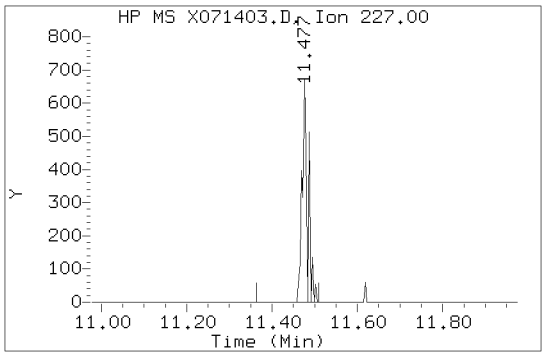
AFTER
MASS
223
AREA
1025
HEIGHT
792
20-Jul-2023
15:04
linh
pham



BEFORE
MASS
227
AREA
611
HEIGHT
670
20-Jul-2023
15:04
linh
pham



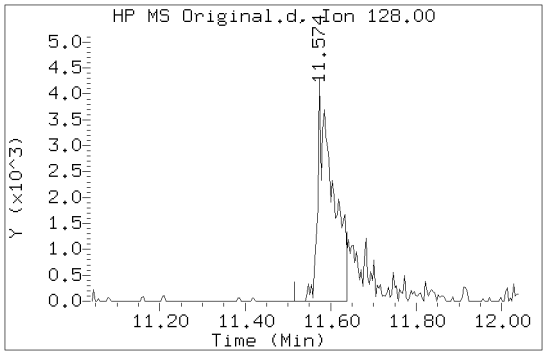
AFTER
MASS
227
AREA
611
HEIGHT
670
20-Jul-2023
15:04
linh
pham



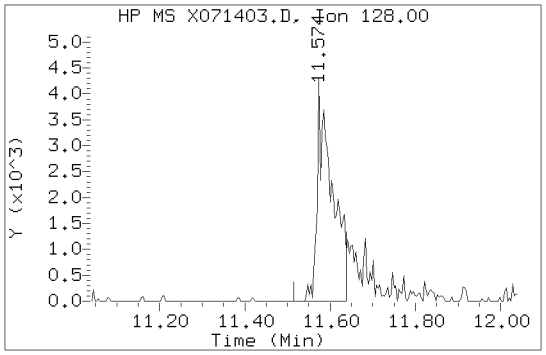
Naphthalene (91-20-3)

Reason Code:

BEFORE
MASS
128
AREA
10357
HEIGHT
4289
20-Jul-2023
15:04
linh
pham



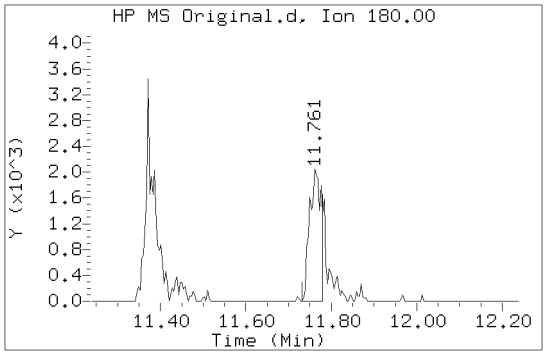
AFTER
MASS
128
AREA
10357
HEIGHT
4289
20-Jul-2023
15:04
linh
pham



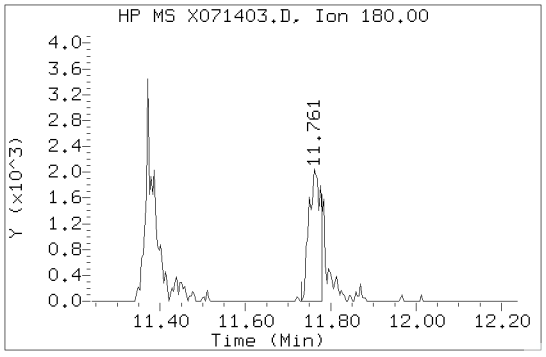
1,2,3-Trichlorobenzene (87-61-6)

Reason Code:

BEFORE
MASS
180
AREA
3845
HEIGHT
2053
20-Jul-2023
15:04
linh
pham



AFTER
MASS
180
AREA
3845
HEIGHT
2053
20-Jul-2023
15:04
linh
pham

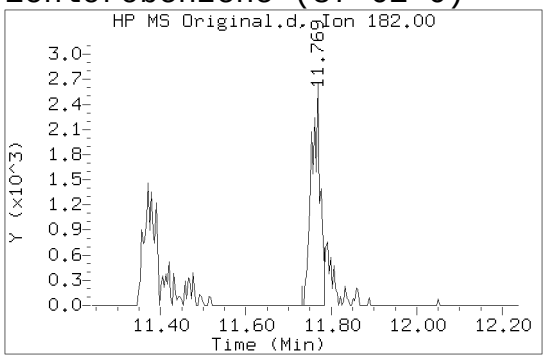


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071403.D
Inj Date : 14-JUL-2023 12:22
InstruID : voa6.i
LabSampID : VSTD000.5

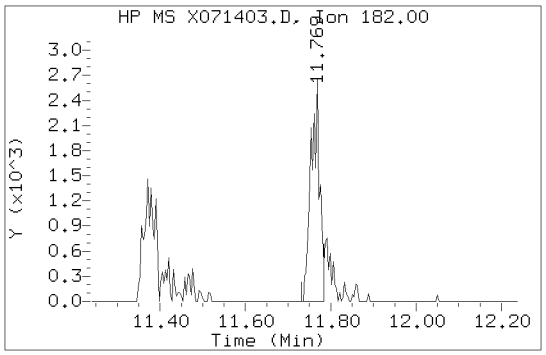
1,2,3-Trichlorobenzene (87-61-6)

Reason Code:

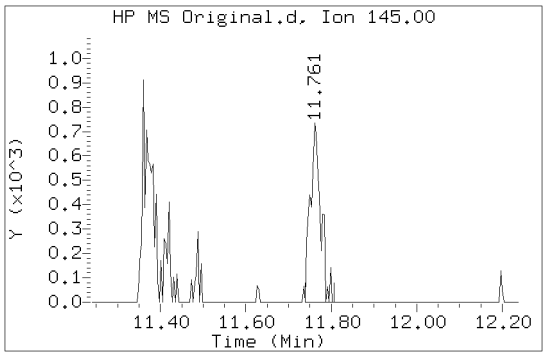
BEFORE
MASS
182
AREA
3757
HEIGHT
2648
20-Jul-2023
15:04
linh
pham



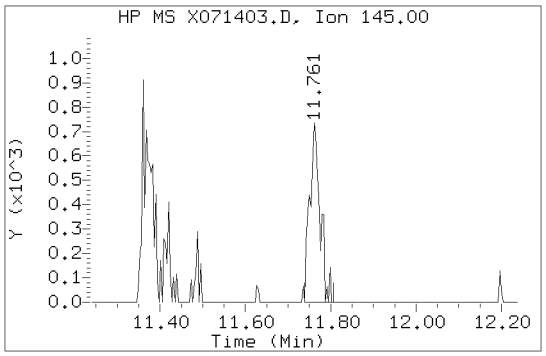
AFTER
MASS
182
AREA
3757
HEIGHT
2648
20-Jul-2023
15:04
linh
pham



BEFORE
MASS
145
AREA
1239
HEIGHT
737
20-Jul-2023
15:04
linh
pham



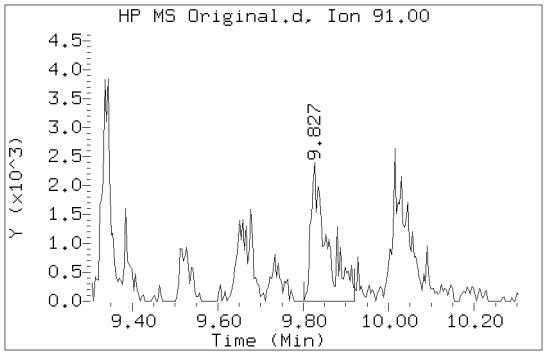
AFTER
MASS
145
AREA
1239
HEIGHT
737
20-Jul-2023
15:04
linh
pham



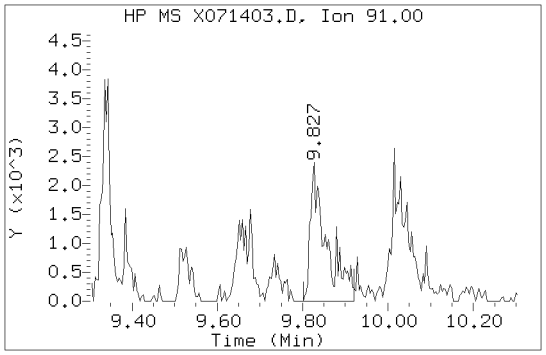
Benzyl Chloride (100-44-7)

Reason Code:

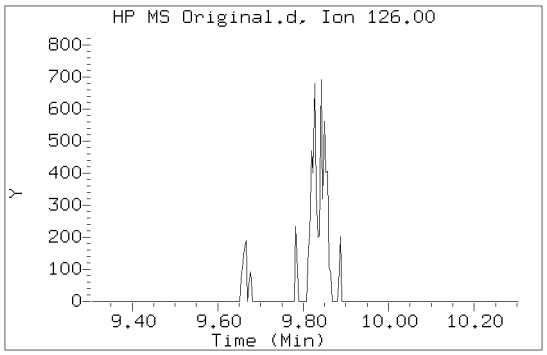
BEFORE
MASS
91
AREA
6245
HEIGHT
2401
20-Jul-2023
15:04
linh
pham



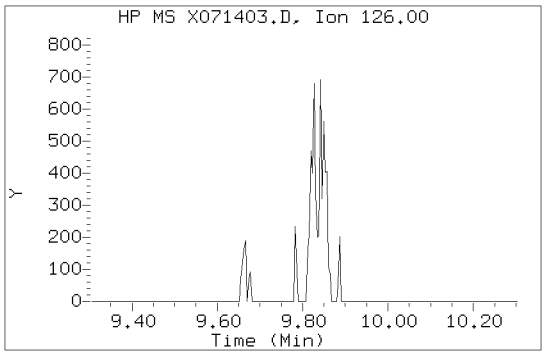
AFTER
MASS
91
AREA
6245
HEIGHT
2401
20-Jul-2023
15:04
linh
pham



BEFORE
MASS
126
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



AFTER
MASS
126
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham

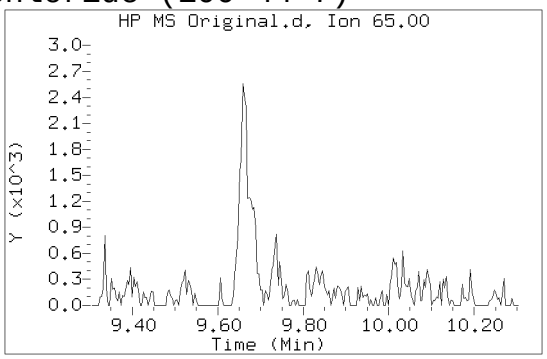


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Inj Date : 14-JUL-2023 12:22
InstruID : voa6.i
LabSampID : VSTD000.5

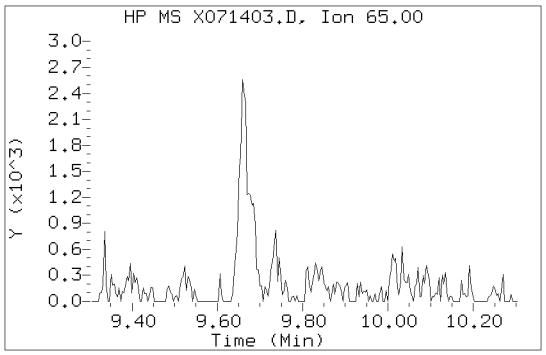
Benzyl Chloride (100-44-7)

Reason Code:

BEFORE
MASS
65
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



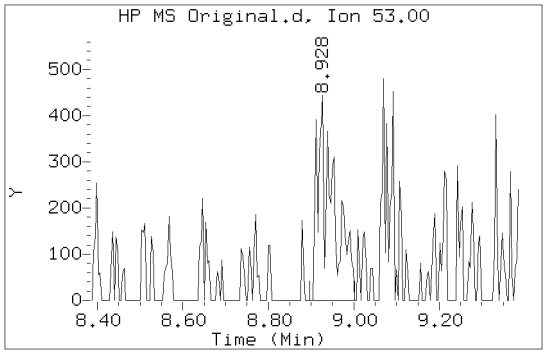
AFTER
MASS
65
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



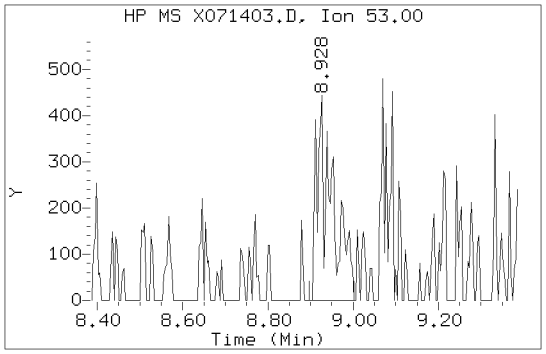
trans-1,4-Dichloro-2-butene (110-57-6)

Reason Code:

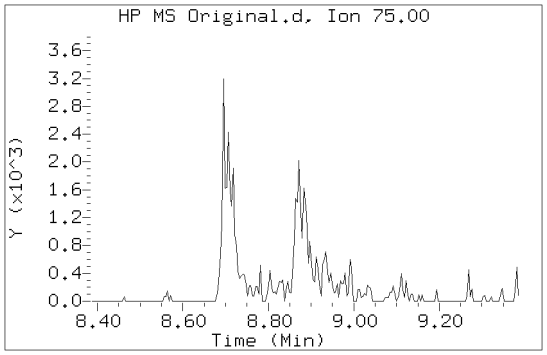
BEFORE
MASS
53
AREA
1124
HEIGHT
444
20-Jul-2023
15:04
linh
pham



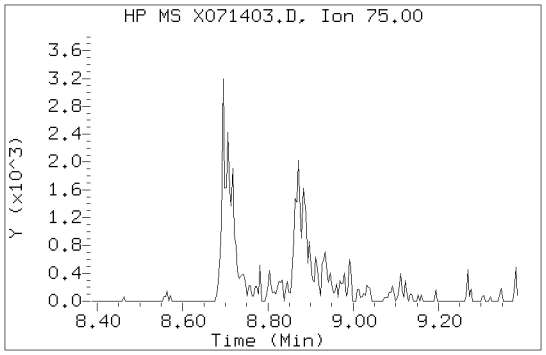
AFTER
MASS
53
AREA
1124
HEIGHT
444
20-Jul-2023
15:04
linh
pham



BEFORE
MASS
75
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



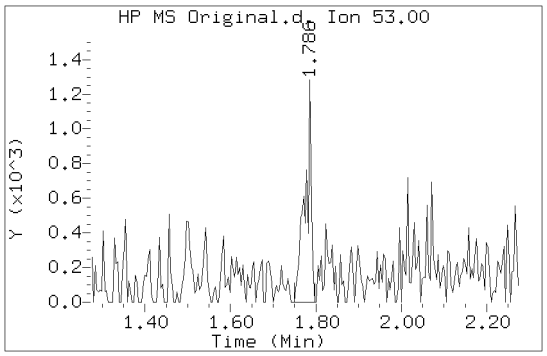
AFTER
MASS
75
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



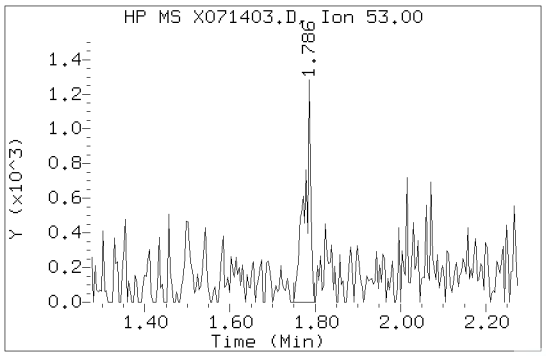
Chloroprene (126-99-8)

Reason Code:

BEFORE
MASS
53
AREA
1292
HEIGHT
1283
20-Jul-2023
15:04
linh
pham



AFTER
MASS
53
AREA
1292
HEIGHT
1283
20-Jul-2023
15:04
linh
pham



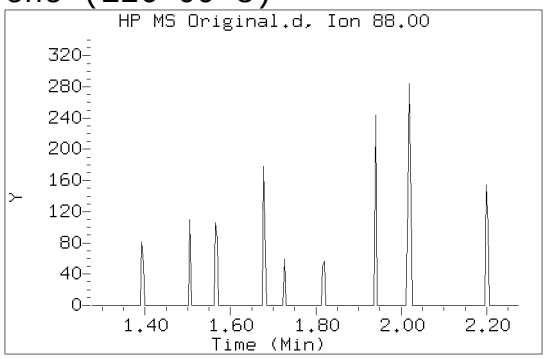
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071403.D
Inj Date : 14-JUL-2023 12:22
InstruID : voa6.i
LabSampID : VSTD000.5

Chloroprene (126-99-8)

Reason Code:

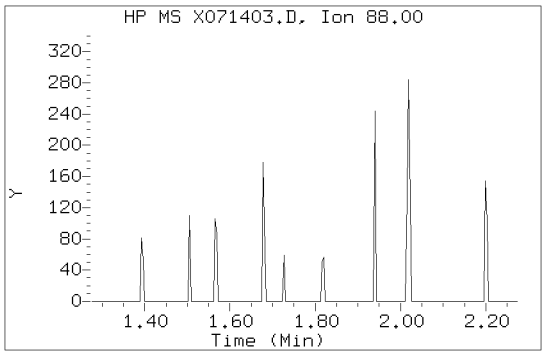
BEFORE

MASS
88
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



AFTER

MASS
88
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham

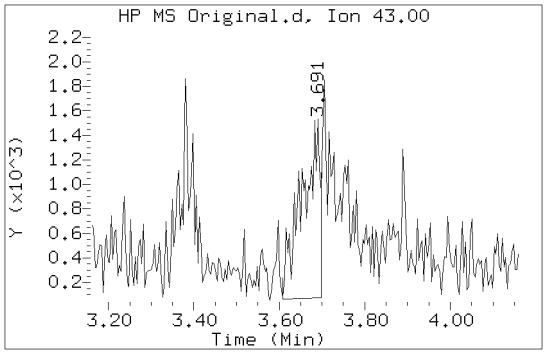


Ethyl Acetate (141-78-6)

Reason Code:

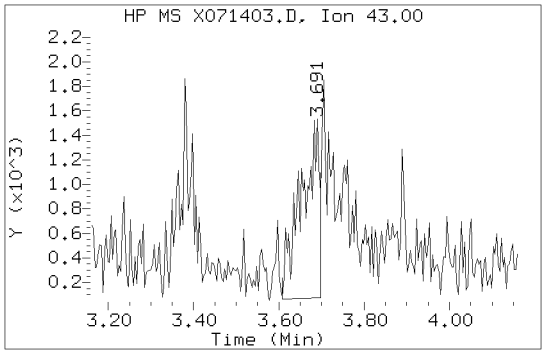
BEFORE

MASS
43
AREA
4291
HEIGHT
1463
20-Jul-2023
15:04
linh
pham



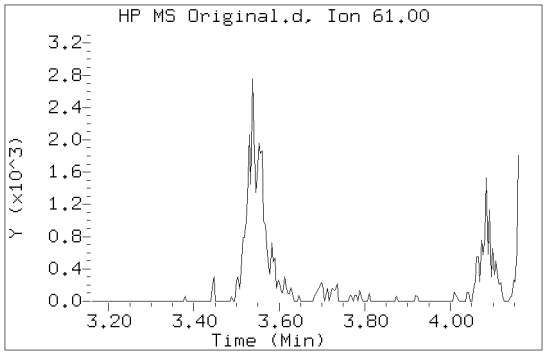
AFTER

MASS
43
AREA
4291
HEIGHT
1463
20-Jul-2023
15:04
linh
pham



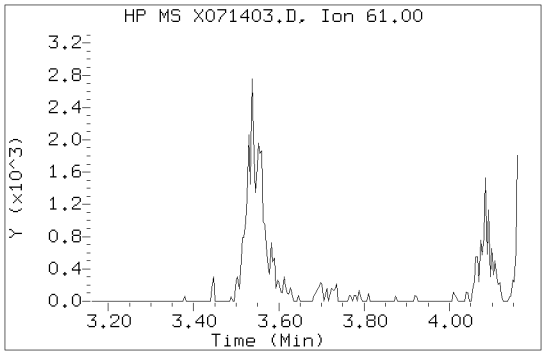
BEFORE

MASS
61
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



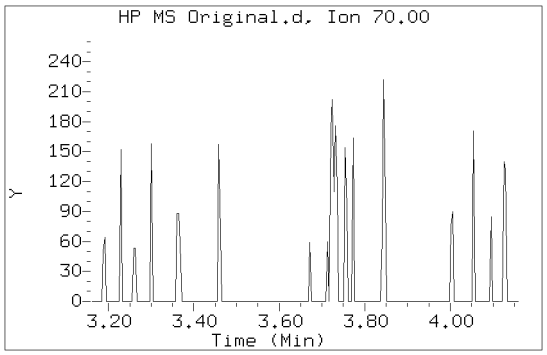
AFTER

MASS
61
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



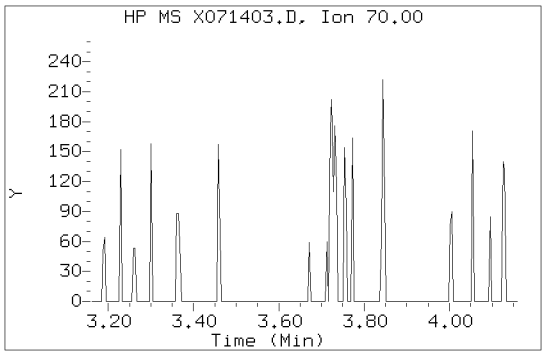
BEFORE

MASS
70
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



AFTER

MASS
70
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham

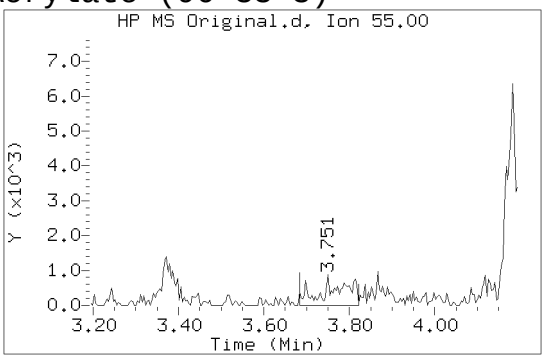


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071403.D
Inj Date : 14-JUL-2023 12:22
InstruID : voa6.i
LabSampID : VSTD000.5

Methyl Acrylate (96-33-3)

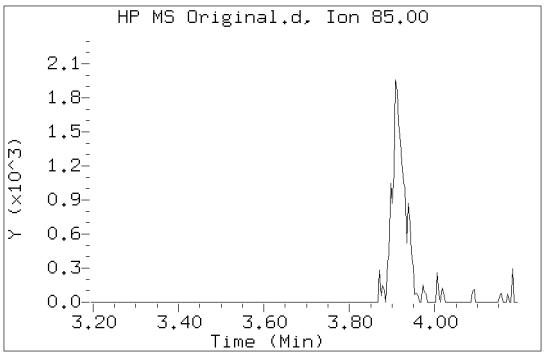
BEFORE

MASS
55
AREA
3365
HEIGHT
887
20-Jul-2023
15:04
linh
pham



BEFORE

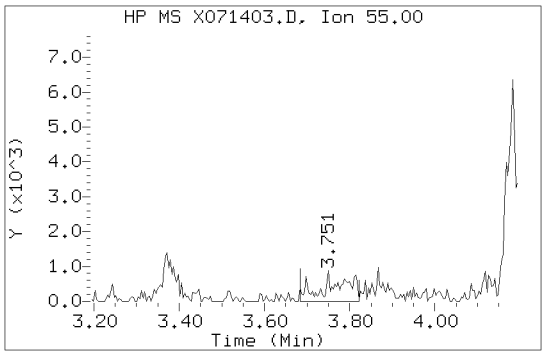
MASS
85
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



Reason Code:

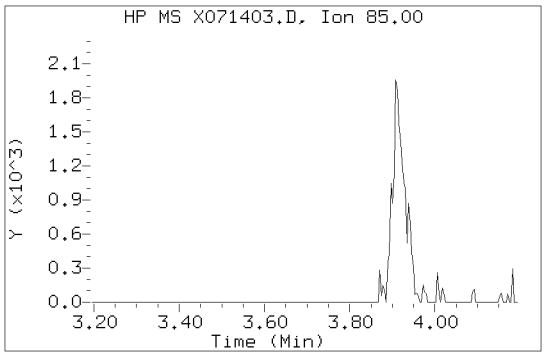
AFTER

MASS
55
AREA
3365
HEIGHT
887
20-Jul-2023
15:04
linh
pham



AFTER

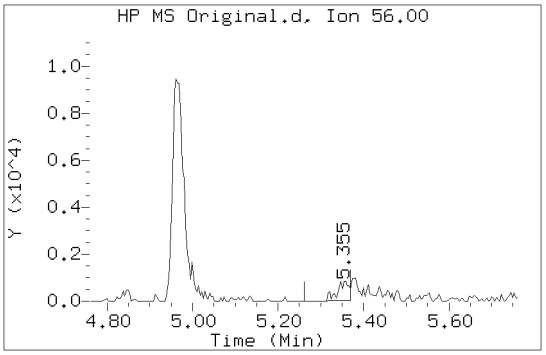
MASS
85
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



n-Butanol (71-36-3)

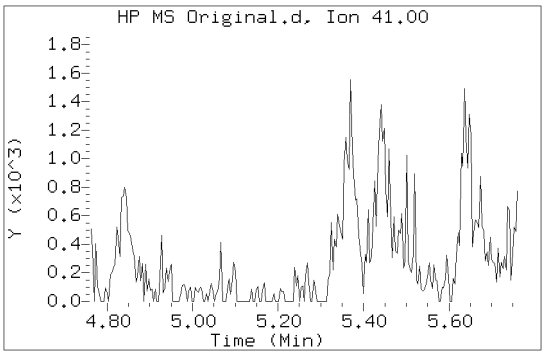
BEFORE

MASS
56
AREA
1626
HEIGHT
848
20-Jul-2023
15:04
linh
pham



BEFORE

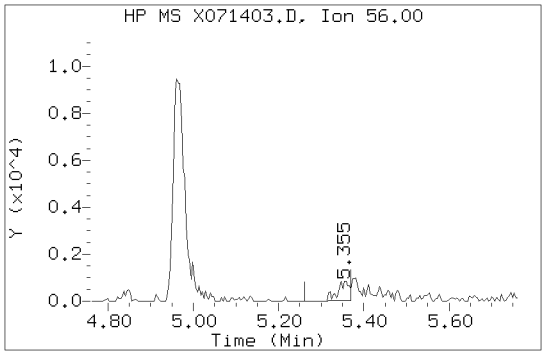
MASS
41
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



Reason Code:

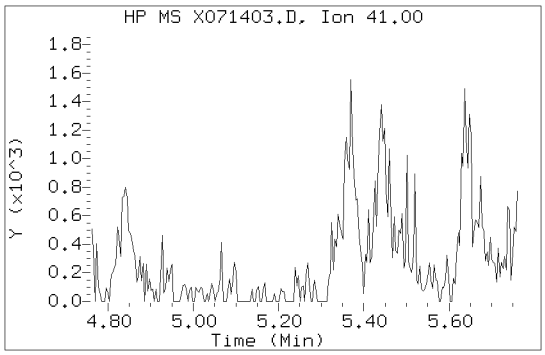
AFTER

MASS
56
AREA
1626
HEIGHT
848
20-Jul-2023
15:04
linh
pham



AFTER

MASS
41
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham

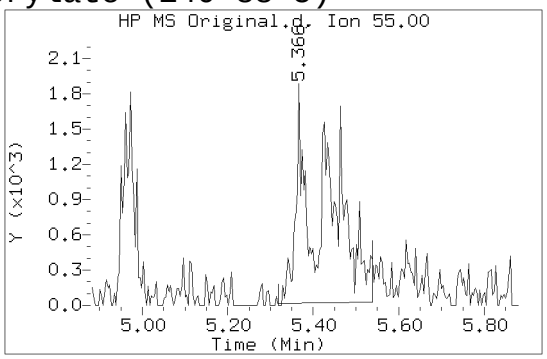


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Inj Date : 14-JUL-2023 12:22
InstruID : voa6.i
LabSampID : VSTD000.5

Ethyl Acrylate (140-88-5)

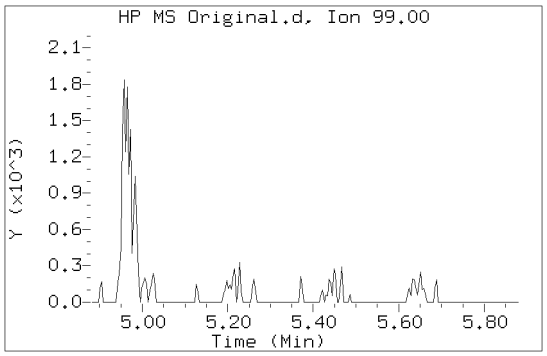
BEFORE

MASS
55
AREA
8232
HEIGHT
1867
20-Jul-2023
15:04
linh
pham



BEFORE

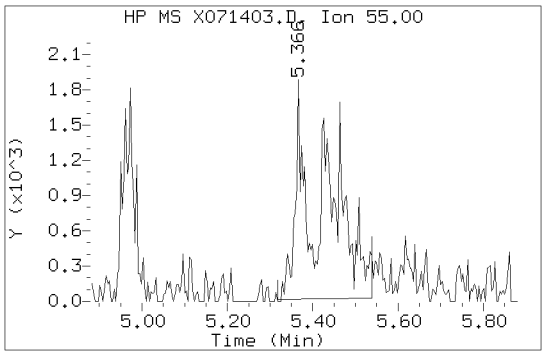
MASS
99
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



Reason Code:

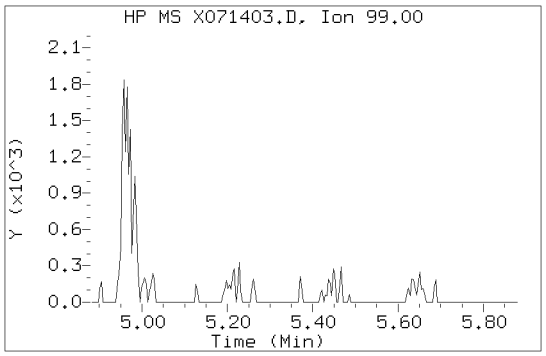
AFTER

MASS
55
AREA
8232
HEIGHT
1867
20-Jul-2023
15:04
linh
pham



AFTER

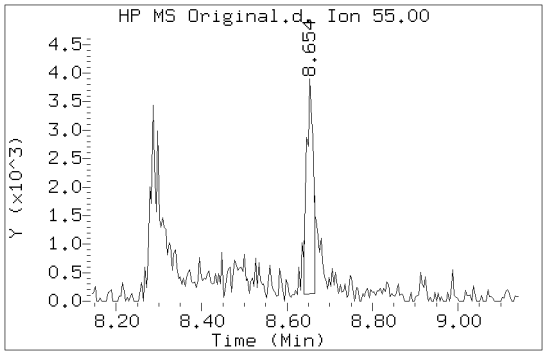
MASS
99
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



Cyclohexanone (108-94-1)

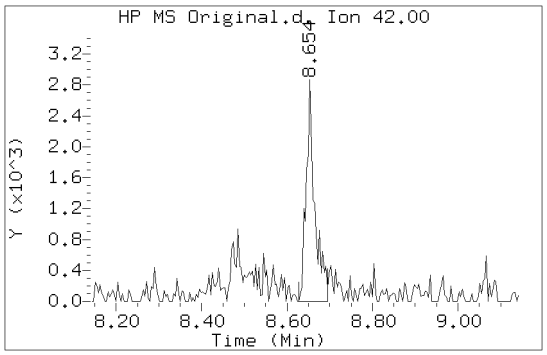
BEFORE

MASS
55
AREA
4174
HEIGHT
3766
20-Jul-2023
15:04
linh
pham



BEFORE

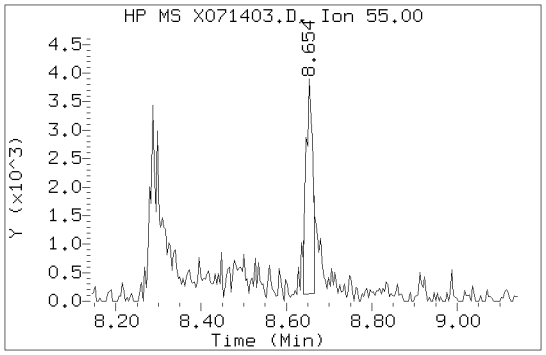
MASS
42
AREA
4022
HEIGHT
2868
20-Jul-2023
15:04
linh
pham



Reason Code:

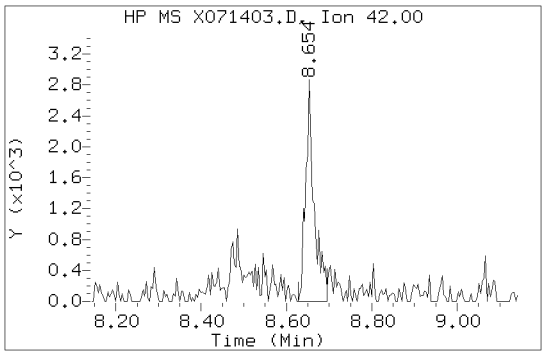
AFTER

MASS
55
AREA
4174
HEIGHT
3766
20-Jul-2023
15:04
linh
pham



AFTER

MASS
42
AREA
4022
HEIGHT
2868
20-Jul-2023
15:04
linh
pham



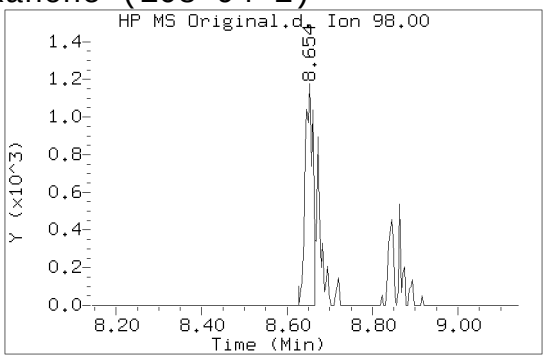
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Inj Date : 14-JUL-2023 12:22
InstruID : voa6.i
LabSampID : VSTD000.5

Cyclohexanone (108-94-1)

Reason Code:

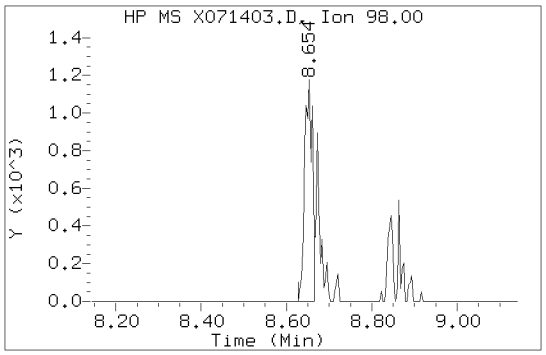
BEFORE

MASS
98
AREA
1506
HEIGHT
1177
20-Jul-2023
15:04
linh
pham



AFTER

MASS
98
AREA
1506
HEIGHT
1177
20-Jul-2023
15:04
linh
pham

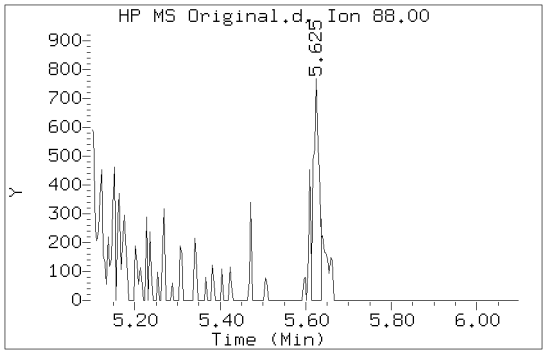


1,4-Dioxane ()

Reason Code:

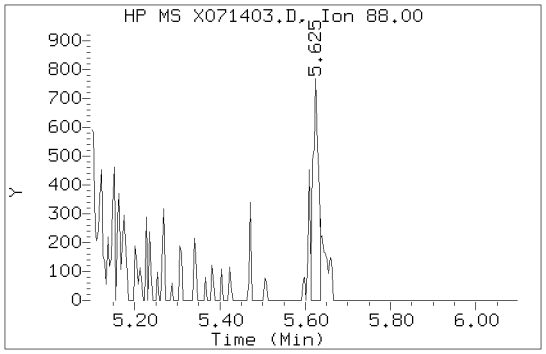
BEFORE

MASS
88
AREA
692
HEIGHT
769
20-Jul-2023
15:04
linh
pham



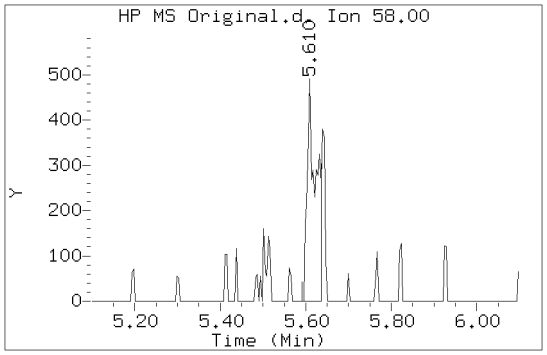
AFTER

MASS
88
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692
HEIGHT
769
20-Jul-2023
15:04
linh
pham



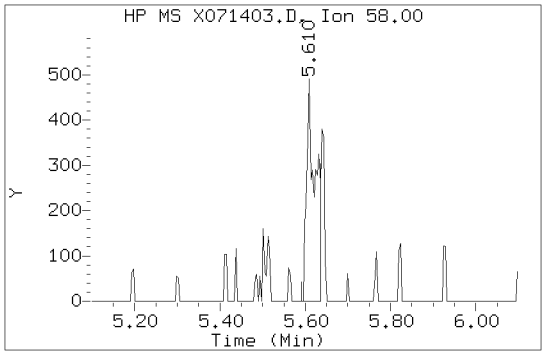
BEFORE

MASS
58
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715
HEIGHT
491
20-Jul-2023
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AFTER

MASS
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AREA
715
HEIGHT
491
20-Jul-2023
15:04
linh
pham

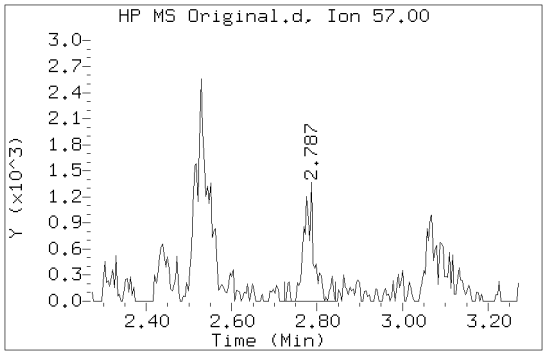


n-Hexane (110-54-3)

Reason Code:

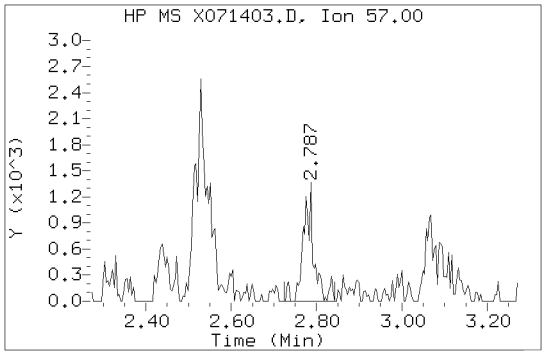
BEFORE

MASS
57
AREA
2320
HEIGHT
1372
20-Jul-2023
15:04
linh
pham



AFTER

MASS
57
AREA
2320
HEIGHT
1372
20-Jul-2023
15:04
linh
pham

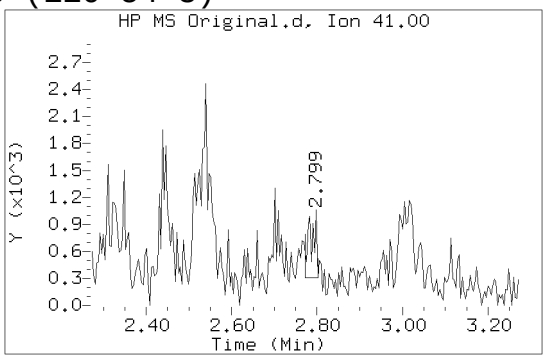


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Inj Date : 14-JUL-2023 12:22
InstruID : voa6.i
LabSampID : VSTD000.5

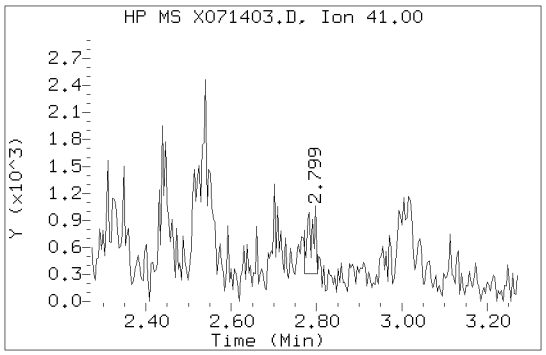
n-Hexane (110-54-3)

Reason Code:

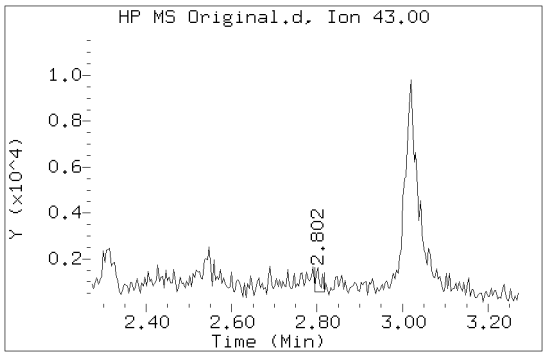
BEFORE
MASS
41
AREA
798
HEIGHT
755
20-Jul-2023
15:04
linh
pham



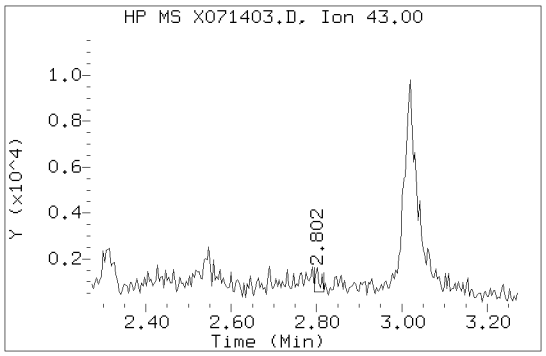
AFTER
MASS
41
AREA
798
HEIGHT
755
20-Jul-2023
15:04
linh
pham



BEFORE
MASS
43
AREA
753
HEIGHT
1069
20-Jul-2023
15:04
linh
pham



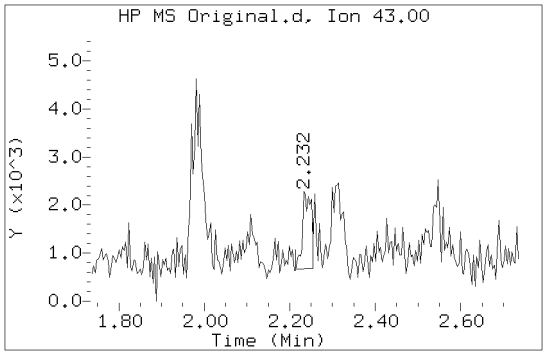
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HEIGHT
1069
20-Jul-2023
15:04
linh
pham



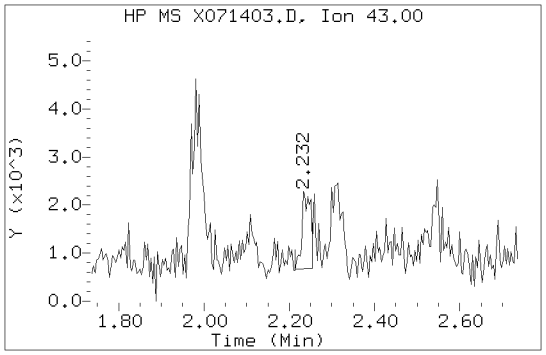
Methyl acetate (79-20-9)

Reason Code:

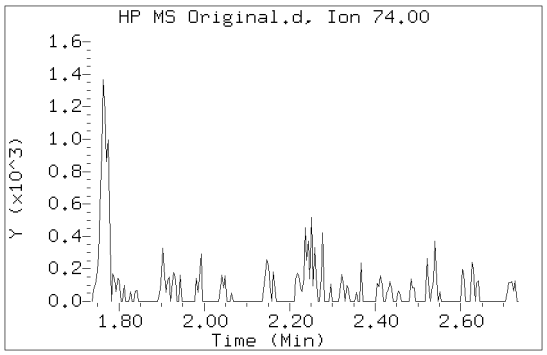
BEFORE
MASS
43
AREA
2344
HEIGHT
1617
20-Jul-2023
15:04
linh
pham



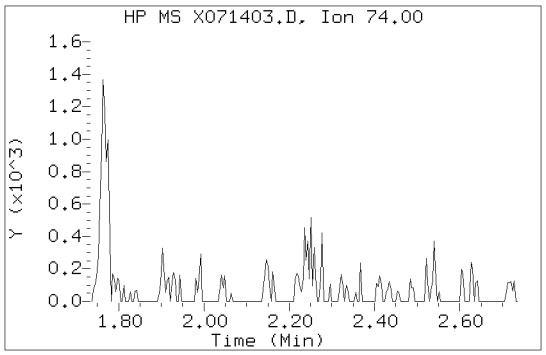
AFTER
MASS
43
AREA
2344
HEIGHT
1617
20-Jul-2023
15:04
linh
pham



BEFORE
MASS
74
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



AFTER
MASS
74
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham

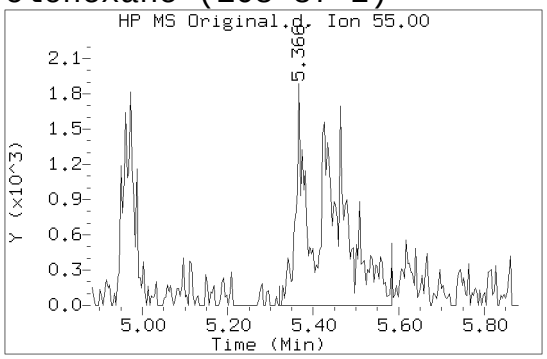


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Inj Date : 14-JUL-2023 12:22
InstruID : voa6.i
LabSampID : VSTD000.5

Methylcyclohexane (108-87-2)

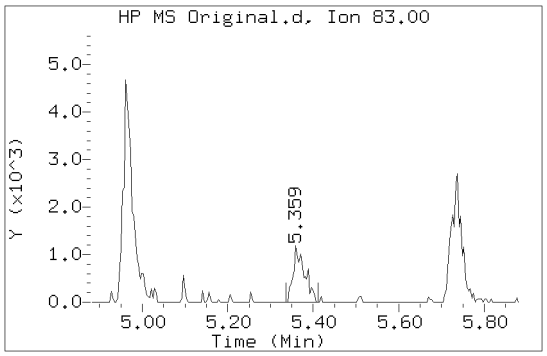
BEFORE

MASS
55
AREA
9168
HEIGHT
1886
20-Jul-2023
15:04
linh
pham



BEFORE

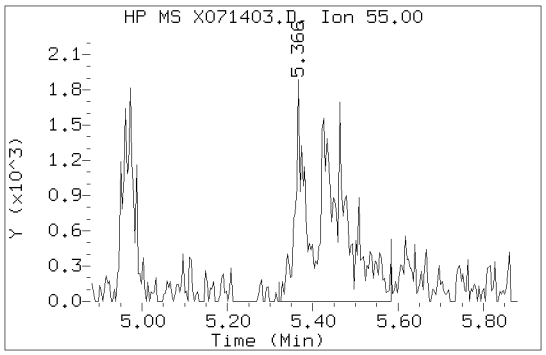
MASS
83
AREA
2193
HEIGHT
1189
20-Jul-2023
15:04
linh
pham



Reason Code:

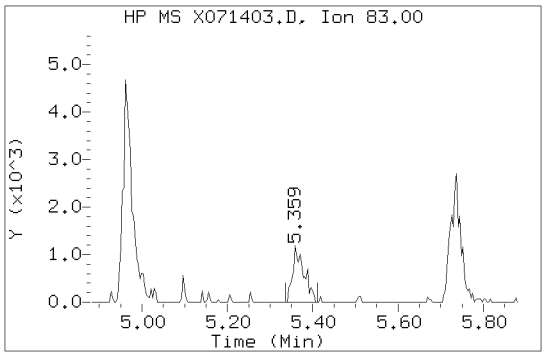
AFTER

MASS
55
AREA
9168
HEIGHT
1886
20-Jul-2023
15:04
linh
pham



AFTER

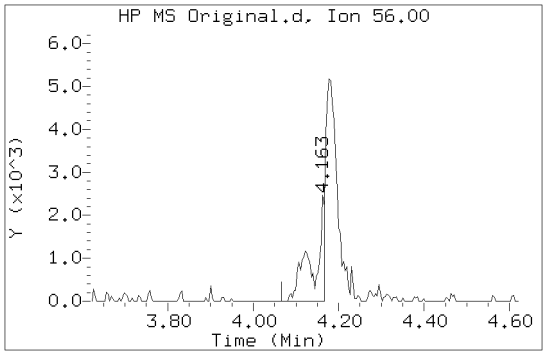
MASS
83
AREA
2193
HEIGHT
1189
20-Jul-2023
15:04
linh
pham



Cyclohexane (110-82-7)

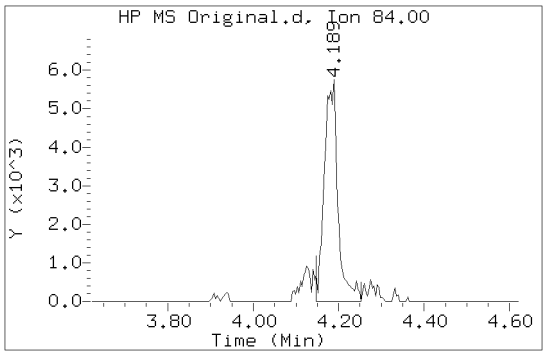
BEFORE

MASS
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AREA
4321
HEIGHT
2474
20-Jul-2023
15:04
linh
pham



BEFORE

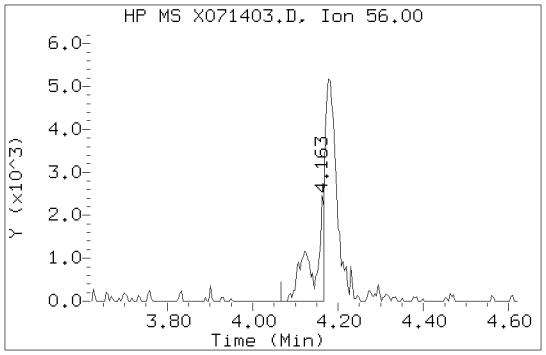
MASS
84
AREA
12654
HEIGHT
5754
20-Jul-2023
15:04
linh
pham



Reason Code:

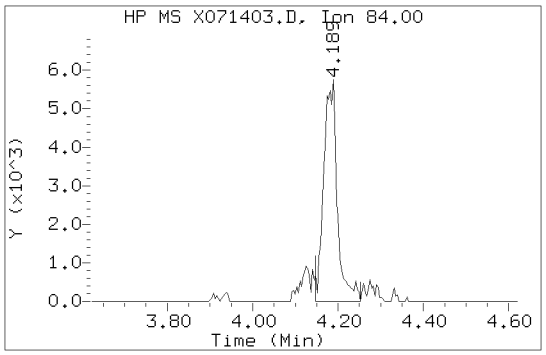
AFTER

MASS
56
AREA
4321
HEIGHT
2474
20-Jul-2023
15:04
linh
pham



AFTER

MASS
84
AREA
12654
HEIGHT
5754
20-Jul-2023
15:04
linh
pham



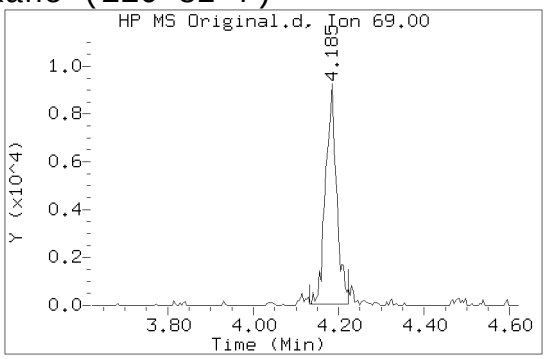
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Inj Date : 14-JUL-2023 12:22
InstruID : voa6.i
LabSampID : VSTD000.5

Cyclohexane (110-82-7)

Reason Code:

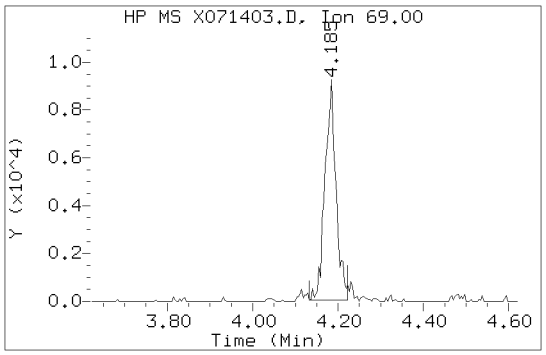
BEFORE

MASS
69
AREA
16448
HEIGHT
9203
20-Jul-2023
15:04
linh
pham



AFTER

MASS
69
AREA
16448
HEIGHT
9203
20-Jul-2023
15:04
linh
pham

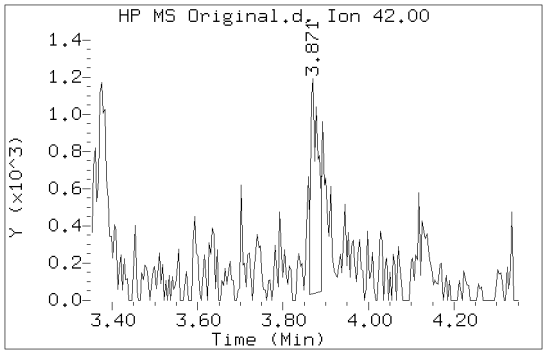


Tetrahydrofuran (109-99-9)

Reason Code:

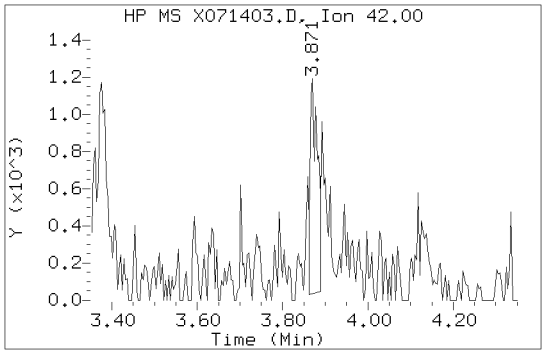
BEFORE

MASS
42
AREA
1418
HEIGHT
1157
20-Jul-2023
15:04
linh
pham



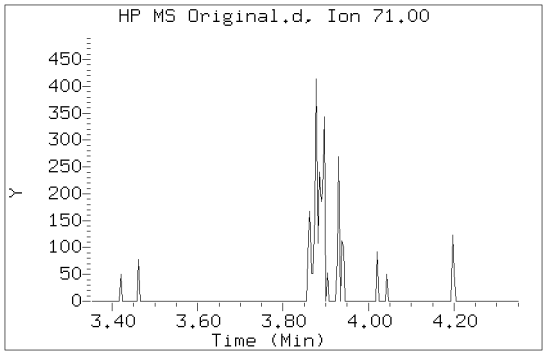
AFTER

MASS
42
AREA
1418
HEIGHT
1157
20-Jul-2023
15:04
linh
pham



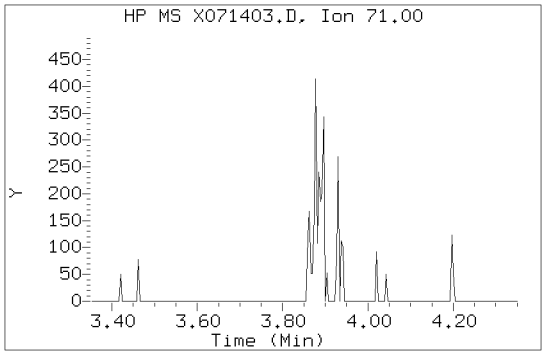
BEFORE

MASS
71
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



AFTER

MASS
71
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham

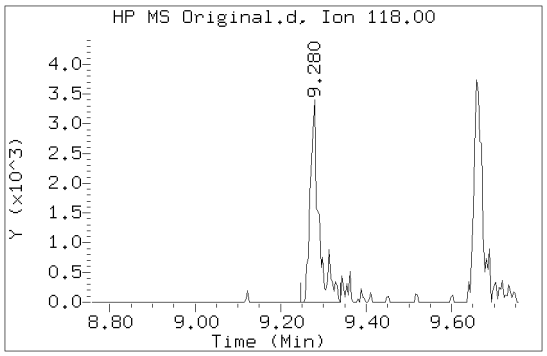


alpha-Methylstyrene (98-83-9)

Reason Code:

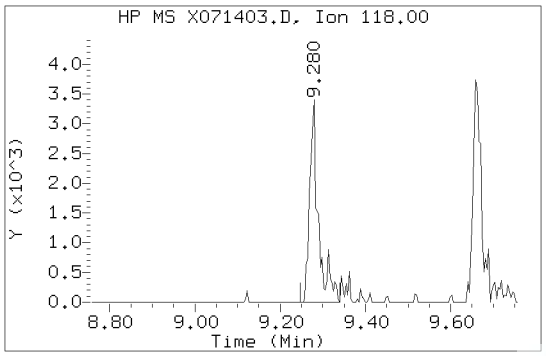
BEFORE

MASS
118
AREA
4759
HEIGHT
3401
20-Jul-2023
15:04
linh
pham



AFTER

MASS
118
AREA
4759
HEIGHT
3401
20-Jul-2023
15:04
linh
pham



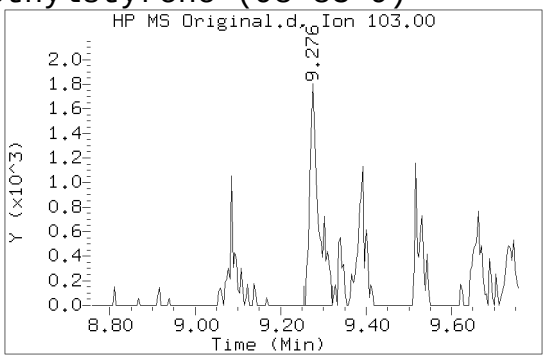
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Inj Date : 14-JUL-2023 12:22
InstruID : voa6.i
LabSampID : VSTD000.5

alpha-Methylstyrene (98-83-9)

Reason Code:

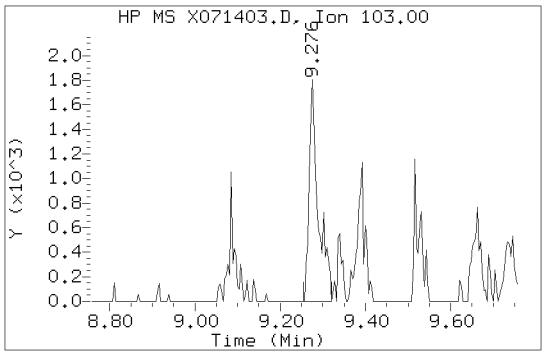
BEFORE

MASS
103
AREA
2652
HEIGHT
1804
20-Jul-2023
15:04
linh
pham



AFTER

MASS
103
AREA
2652
HEIGHT
1804
20-Jul-2023
15:04
linh
pham

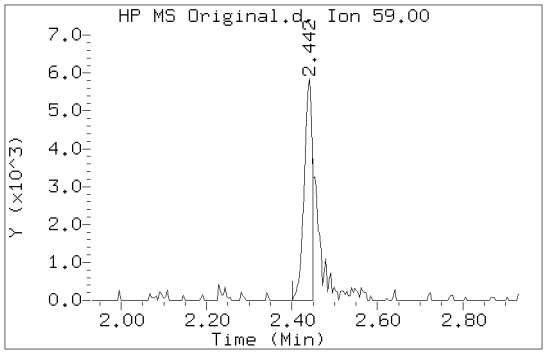


Tert-butyl alcohol (75-65-0)

Reason Code:

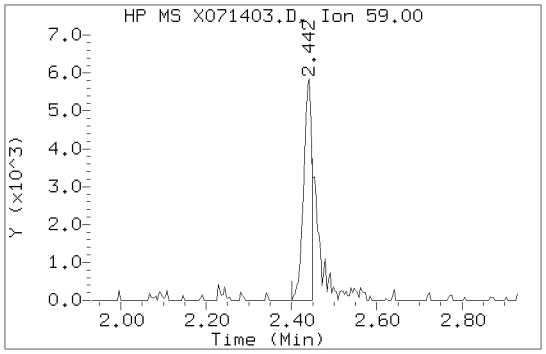
BEFORE

MASS
59
AREA
7856
HEIGHT
5851
20-Jul-2023
15:04
linh
pham



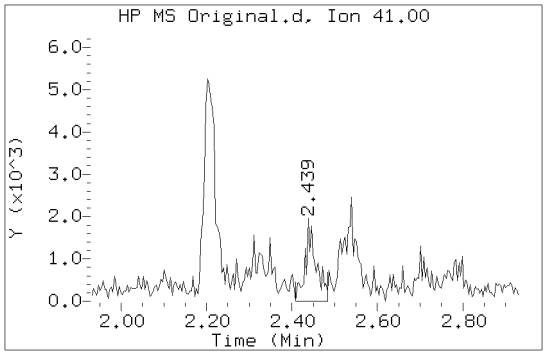
AFTER

MASS
59
AREA
7856
HEIGHT
5851
20-Jul-2023
15:04
linh
pham



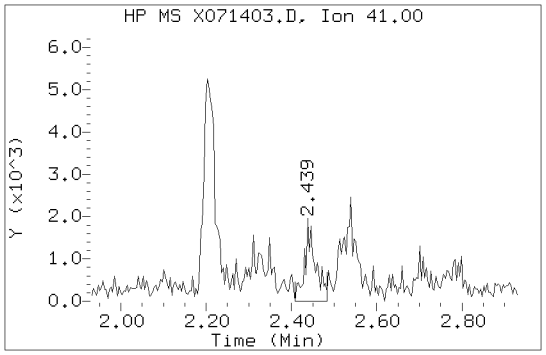
BEFORE

MASS
41
AREA
3380
HEIGHT
1954
20-Jul-2023
15:04
linh
pham



AFTER

MASS
41
AREA
3380
HEIGHT
1954
20-Jul-2023
15:04
linh
pham

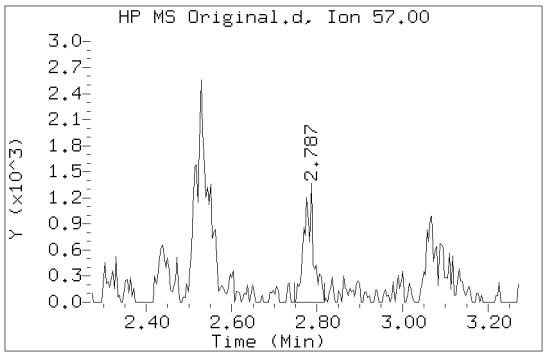


Allyl alcohol (107-18-6)

Reason Code:

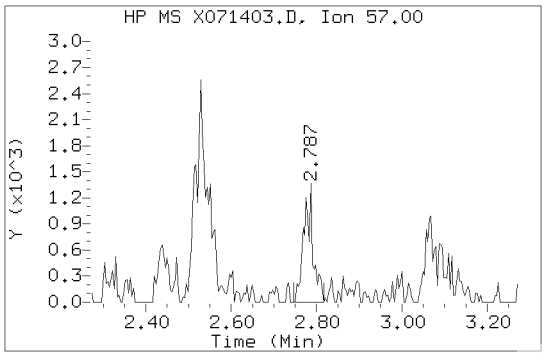
BEFORE

MASS
57
AREA
2068
HEIGHT
1372
20-Jul-2023
15:04
linh
pham



AFTER

MASS
57
AREA
2068
HEIGHT
1372
20-Jul-2023
15:04
linh
pham



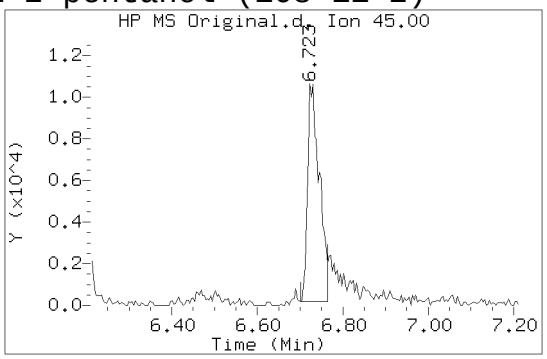
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Inj Date : 14-JUL-2023 12:22
InstruID : voa6.i
LabSampID : VSTD000.5

4-Methyl-2-pentanol (108-11-2)

Reason Code:

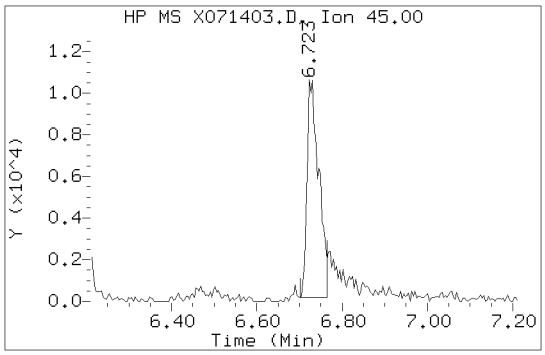
BEFORE

MASS
45
AREA
20217
HEIGHT
10478
20-Jul-2023
15:04
linh
pham



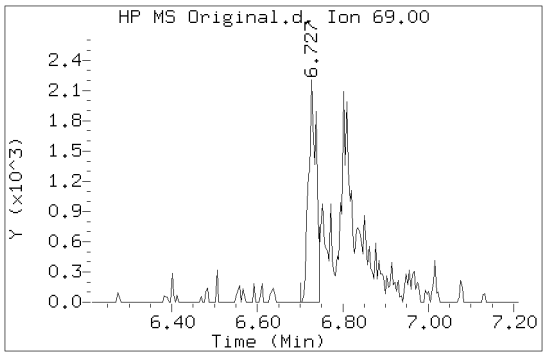
AFTER

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20217
HEIGHT
10478
20-Jul-2023
15:04
linh
pham



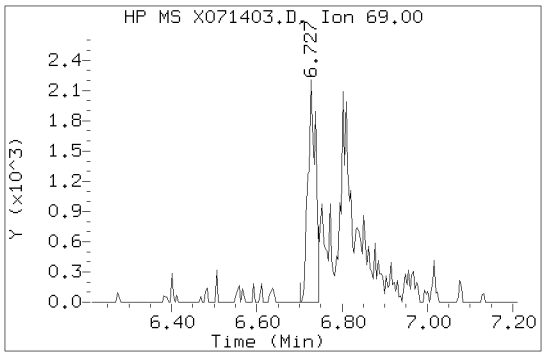
BEFORE

MASS
69
AREA
2780
HEIGHT
2206
20-Jul-2023
15:04
linh
pham



AFTER

MASS
69
AREA
2780
HEIGHT
2206
20-Jul-2023
15:04
linh
pham

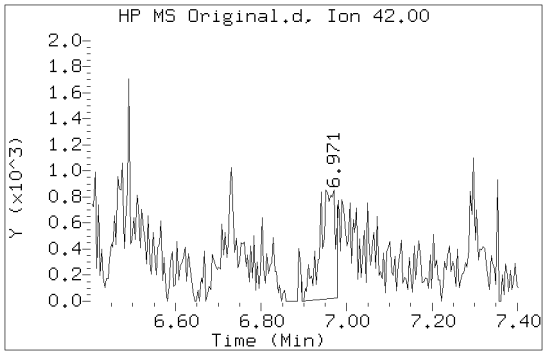


Amyl alcohol (71-41-0)

Reason Code:

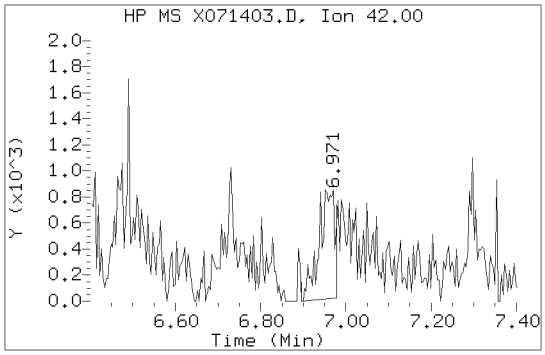
BEFORE

MASS
42
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2120
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829
20-Jul-2023
15:04
linh
pham



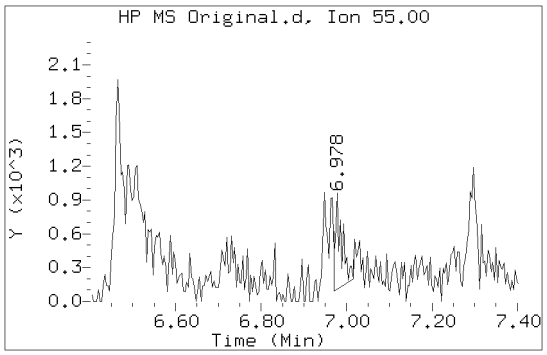
AFTER

MASS
42
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2120
HEIGHT
829
20-Jul-2023
15:04
linh
pham



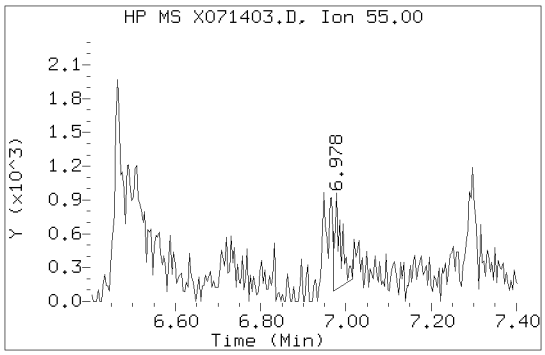
BEFORE

MASS
55
AREA
884
HEIGHT
854
20-Jul-2023
15:04
linh
pham



AFTER

MASS
55
AREA
884
HEIGHT
854
20-Jul-2023
15:04
linh
pham



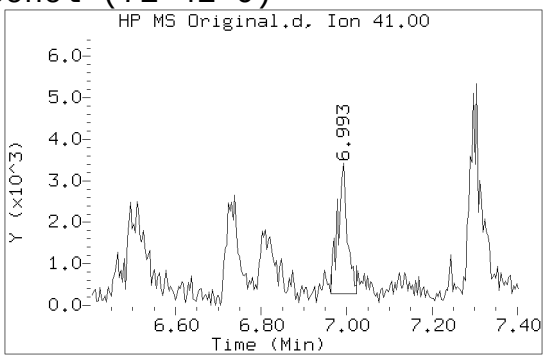
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Inj Date : 14-JUL-2023 12:22
InstruID : voa6.i
LabSampID : VSTD000.5

Amyl alcohol (71-41-0)

Reason Code:

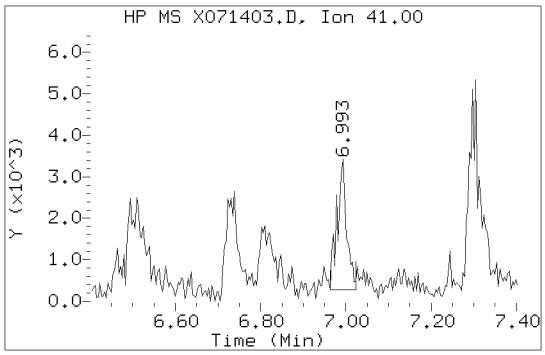
BEFORE

MASS
41
AREA
4891
HEIGHT
3144
20-Jul-2023
15:04
linh
pham



AFTER

MASS
41
AREA
4891
HEIGHT
3144
20-Jul-2023
15:04
linh
pham

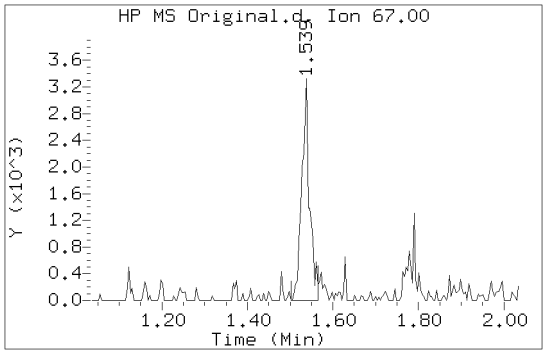


Dichlorofluoromethane (75-43-4)

Reason Code:

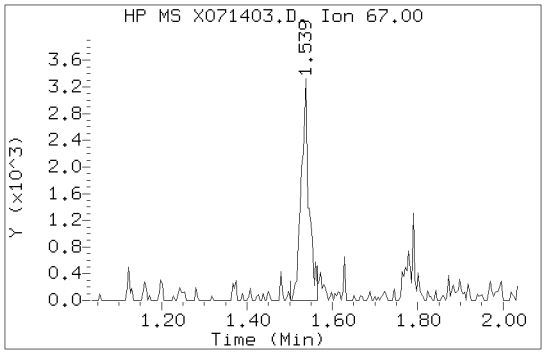
BEFORE

MASS
67
AREA
4296
HEIGHT
3324
20-Jul-2023
15:04
linh
pham



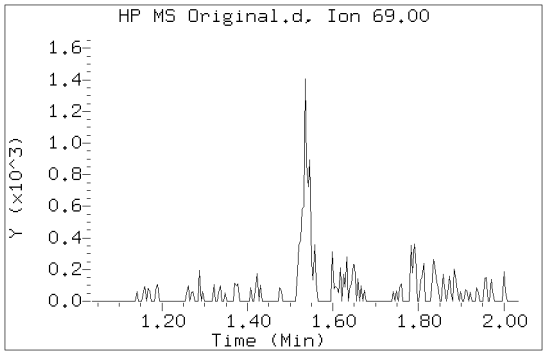
AFTER

MASS
67
AREA
4296
HEIGHT
3324
20-Jul-2023
15:04
linh
pham



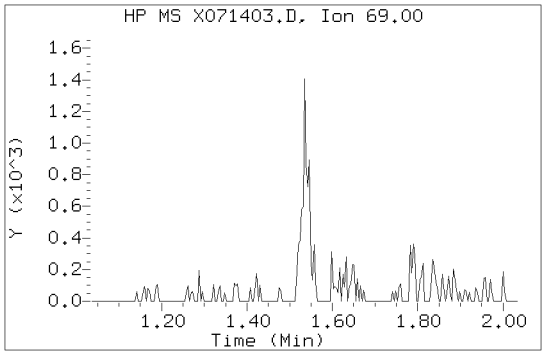
BEFORE

MASS
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AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



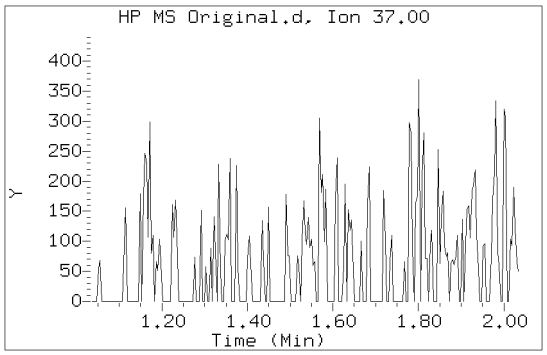
AFTER

MASS
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AREA
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HEIGHT
0
20-Jul-2023
15:04
linh
pham



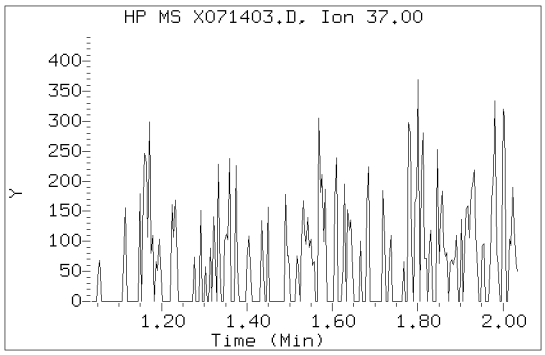
BEFORE

MASS
37
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



AFTER

MASS
37
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham

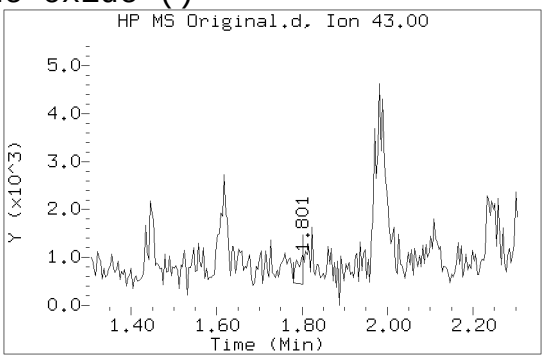


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071403.D
Inj Date : 14-JUL-2023 12:22
InstruID : voa6.i
LabSampID : VSTD000.5

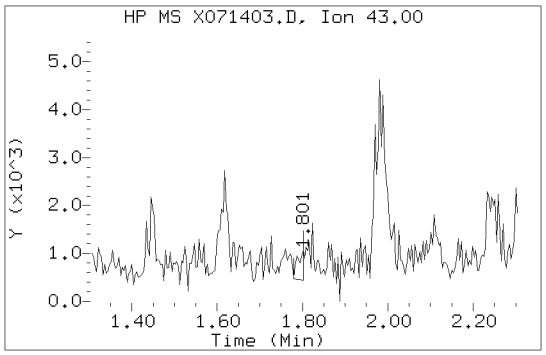
Propylene oxide ()

Reason Code:

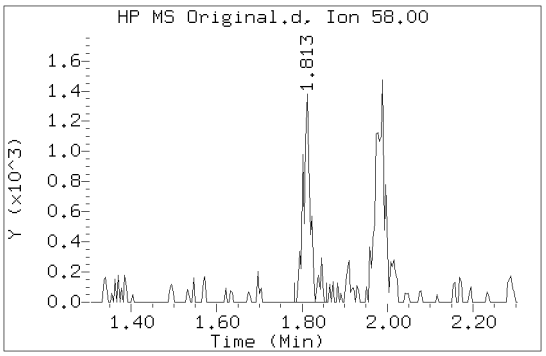
BEFORE
MASS
43
AREA
615
HEIGHT
640
20-Jul-2023
15:04
linh
pham



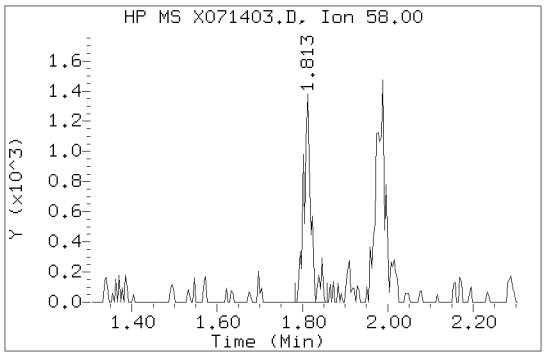
AFTER
MASS
43
AREA
615
HEIGHT
640
20-Jul-2023
15:04
linh
pham



BEFORE
MASS
58
AREA
1675
HEIGHT
1380
20-Jul-2023
15:04
linh
pham



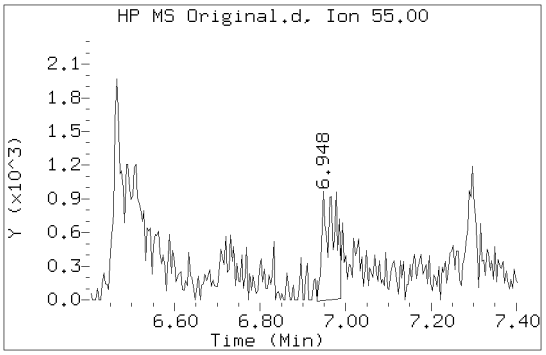
AFTER
MASS
58
AREA
1675
HEIGHT
1380
20-Jul-2023
15:04
linh
pham



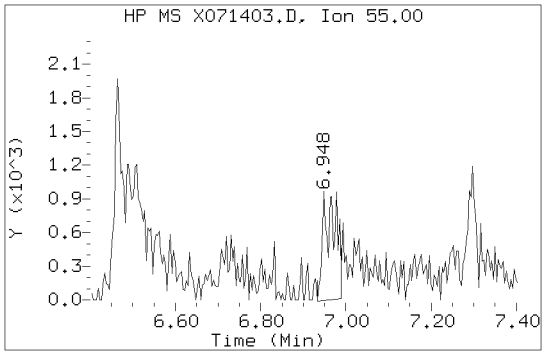
3-Methyl-1-butanol (123-51-3)

Reason Code:

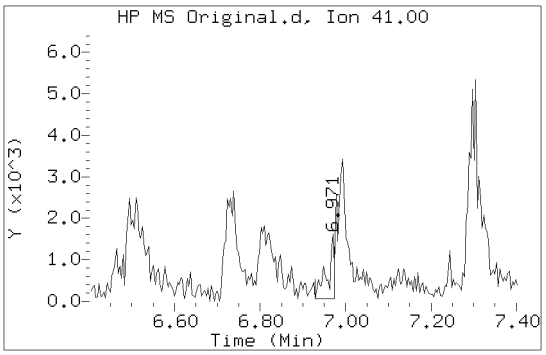
BEFORE
MASS
55
AREA
1945
HEIGHT
970
20-Jul-2023
15:04
linh
pham



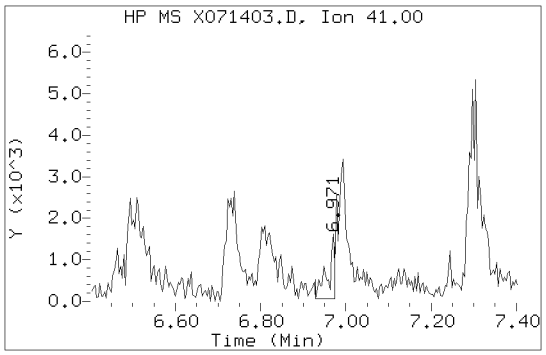
AFTER
MASS
55
AREA
1945
HEIGHT
970
20-Jul-2023
15:04
linh
pham



BEFORE
MASS
41
AREA
1621
HEIGHT
1554
20-Jul-2023
15:04
linh
pham



AFTER
MASS
41
AREA
1621
HEIGHT
1554
20-Jul-2023
15:04
linh
pham



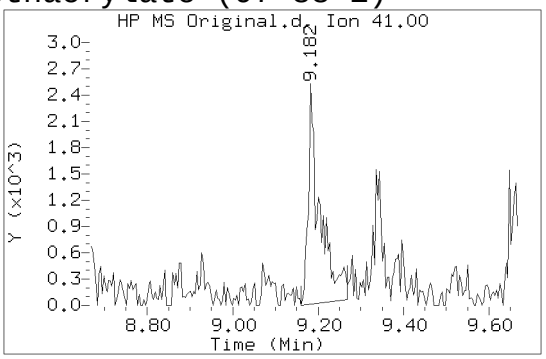
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071403.D
Inj Date : 14-JUL-2023 12:22
InstruID : voa6.i
LabSampID : VSTD000.5

Butyl methacrylate (97-88-1)

Reason Code:

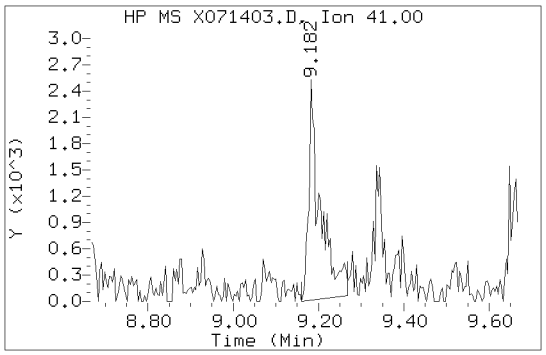
BEFORE

MASS
41
AREA
4724
HEIGHT
2516
20-Jul-2023
15:04
linh
pham



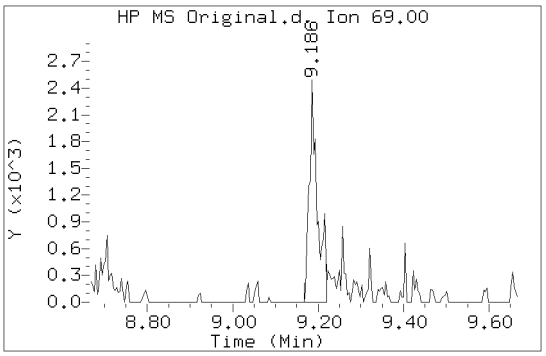
AFTER

MASS
41
AREA
4724
HEIGHT
2516
20-Jul-2023
15:04
linh
pham



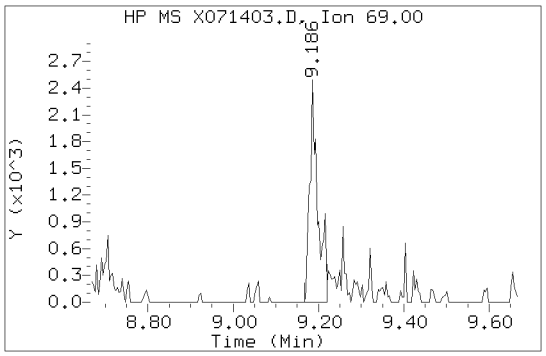
BEFORE

MASS
69
AREA
3258
HEIGHT
2492
20-Jul-2023
15:04
linh
pham



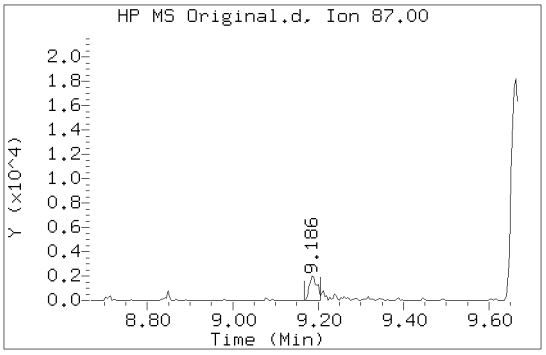
AFTER

MASS
69
AREA
3258
HEIGHT
2492
20-Jul-2023
15:04
linh
pham



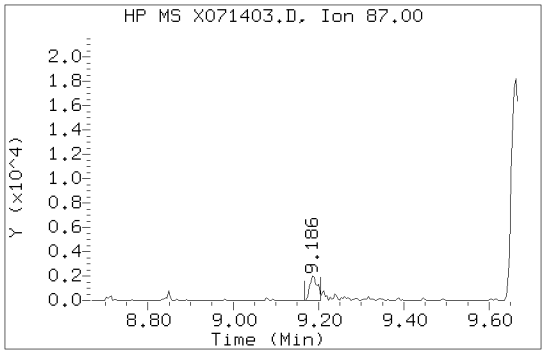
BEFORE

MASS
87
AREA
2479
HEIGHT
2026
20-Jul-2023
15:04
linh
pham



AFTER

MASS
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AREA
2479
HEIGHT
2026
20-Jul-2023
15:04
linh
pham

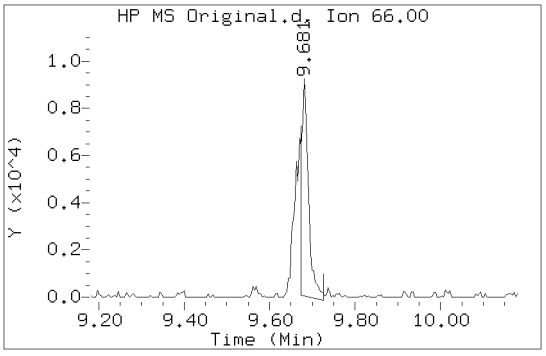


Dicyclopentadiene (77-73-6)

Reason Code:

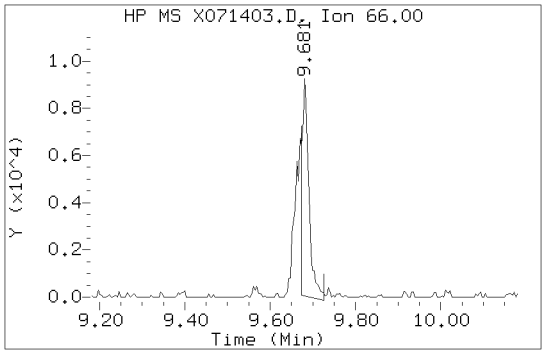
BEFORE

MASS
66
AREA
10848
HEIGHT
9195
20-Jul-2023
15:04
linh
pham



AFTER

MASS
66
AREA
10848
HEIGHT
9195
20-Jul-2023
15:04
linh
pham



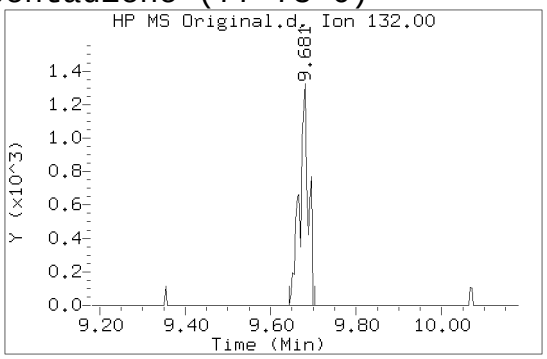
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071403.D
Inj Date : 14-JUL-2023 12:22
InstruID : voa6.i
LabSampID : VSTD000.5

Dicyclopentadiene (77-73-6)

Reason Code:

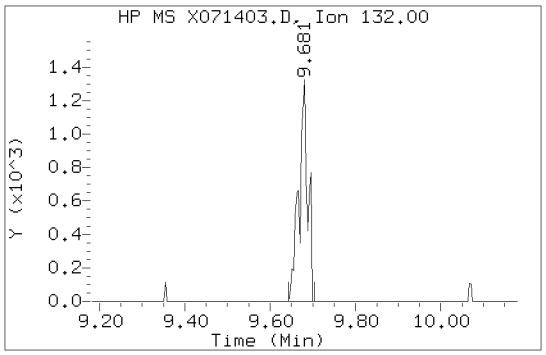
BEFORE

MASS
132
AREA
1955
HEIGHT
1325
20-Jul-2023
15:04
linh
pham



AFTER

MASS
132
AREA
1955
HEIGHT
1325
20-Jul-2023
15:04
linh
pham

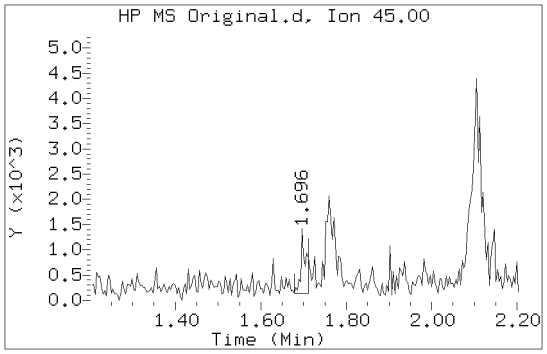


Ethanol (64-17-5)

Reason Code:

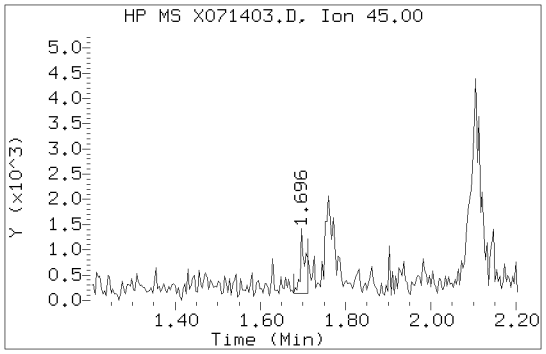
BEFORE

MASS
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AREA
1082
HEIGHT
1281
20-Jul-2023
15:04
linh
pham



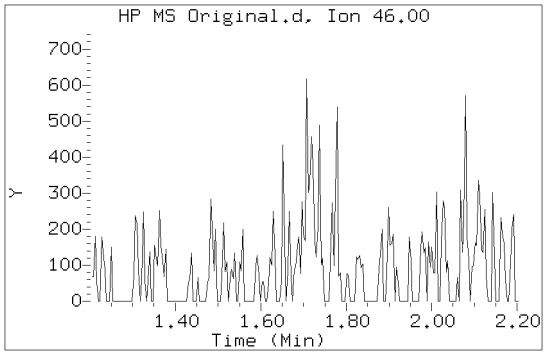
AFTER

MASS
45
AREA
1082
HEIGHT
1281
20-Jul-2023
15:04
linh
pham



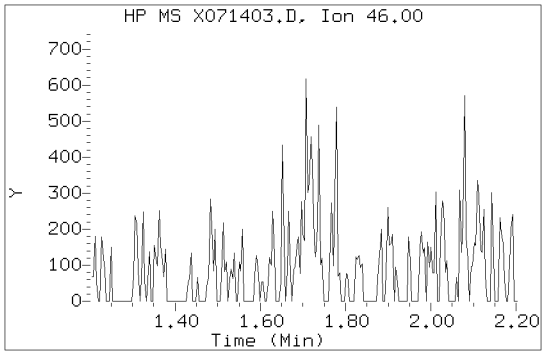
BEFORE

MASS
46
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



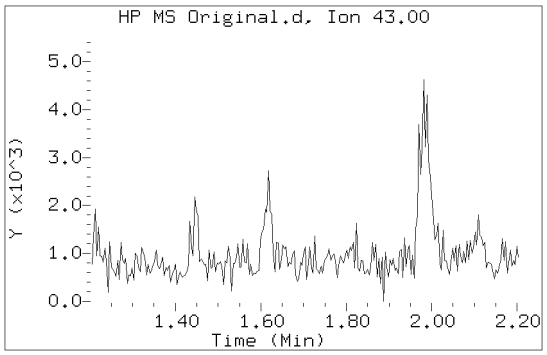
AFTER

MASS
46
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



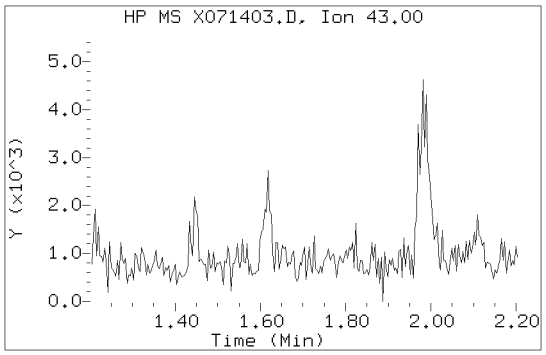
BEFORE

MASS
43
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



AFTER

MASS
43
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham

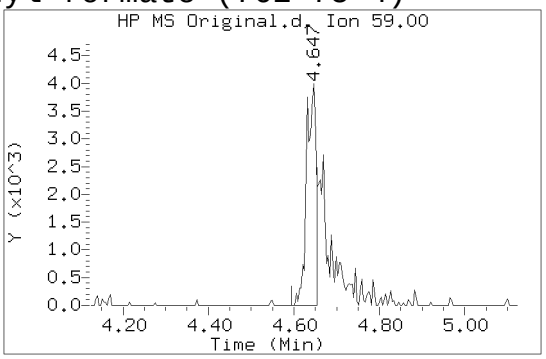


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Inj Date : 14-JUL-2023 12:22
InstruID : voa6.i
LabSampID : VSTD000.5

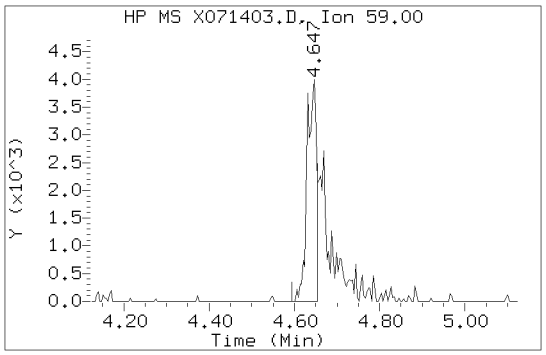
tert-Butyl formate (762-75-4)

Reason Code:

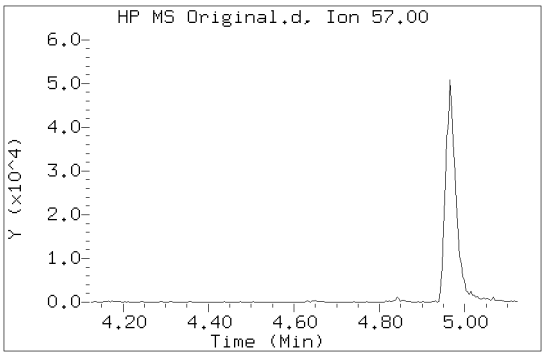
BEFORE
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59
AREA
6083
HEIGHT
3995
20-Jul-2023
15:04
linh
pham



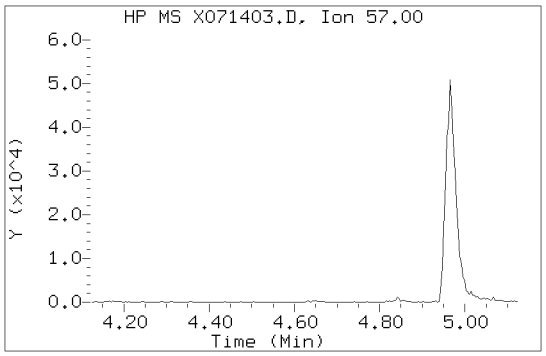
AFTER
MASS
59
AREA
6083
HEIGHT
3995
20-Jul-2023
15:04
linh
pham



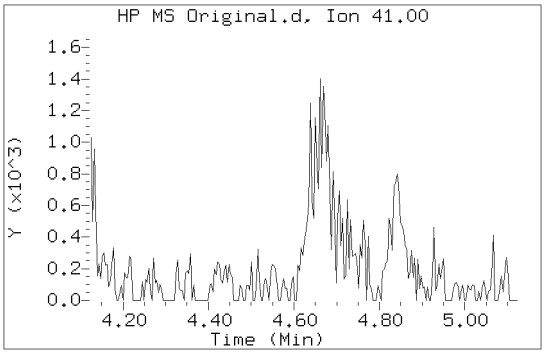
BEFORE
MASS
57
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



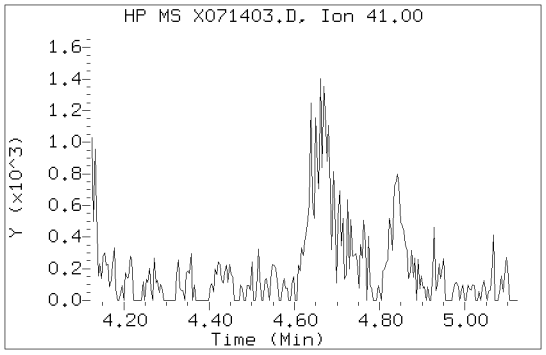
AFTER
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57
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0
20-Jul-2023
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BEFORE
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20-Jul-2023
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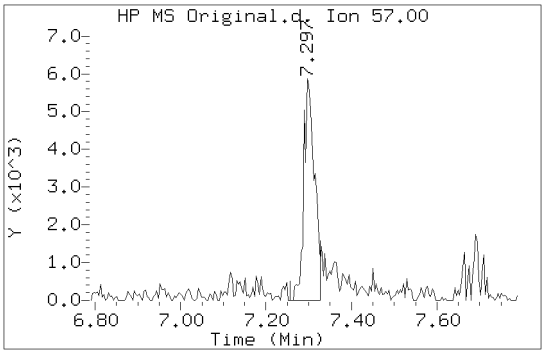
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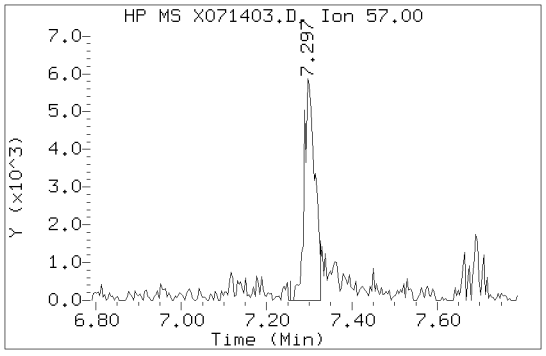
3,3-Dimethyl-1-butanol (624-95-3)

Reason Code:

BEFORE
MASS
57
AREA
10397
HEIGHT
5870
20-Jul-2023
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linh
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AFTER
MASS
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AREA
10397
HEIGHT
5870
20-Jul-2023
15:04
linh
pham

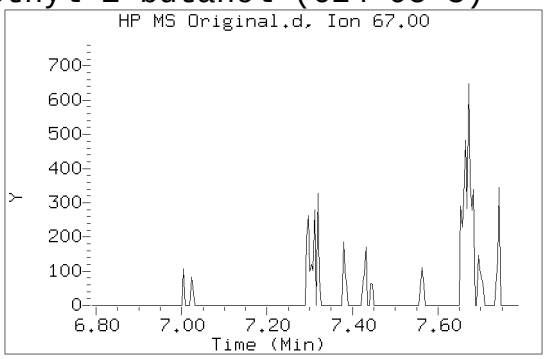


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Inj Date : 14-JUL-2023 12:22
InstruID : voa6.i
LabSampID : VSTD000.5

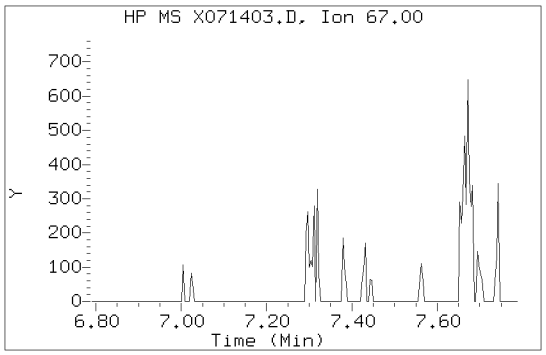
3,3-Dimethyl-1-butanol (624-95-3)

Reason Code:

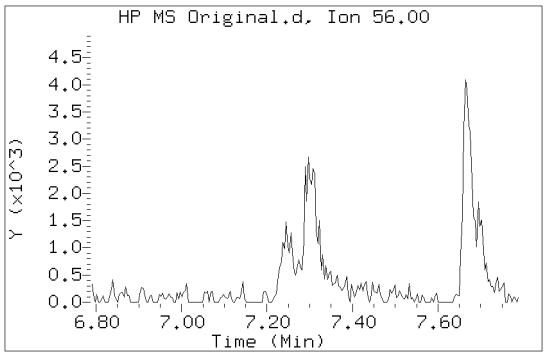
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0
20-Jul-2023
15:04
linh
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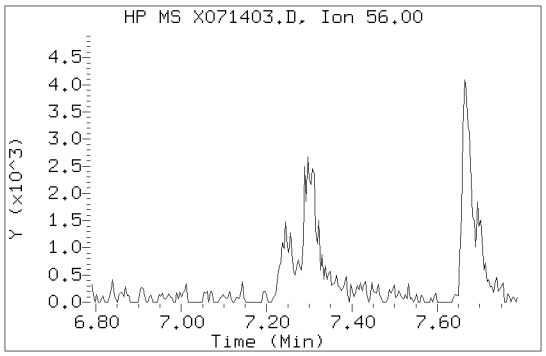
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67
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20-Jul-2023
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BEFORE
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0
20-Jul-2023
15:04
linh
pham



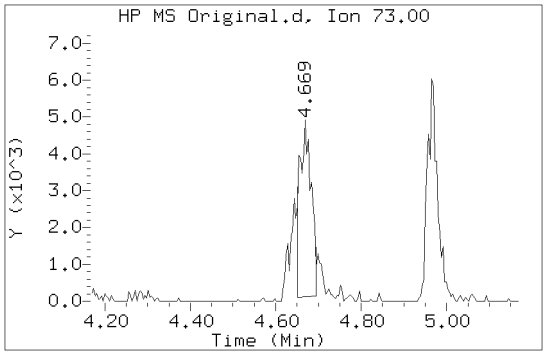
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56
AREA
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HEIGHT
0
20-Jul-2023
15:04
linh
pham



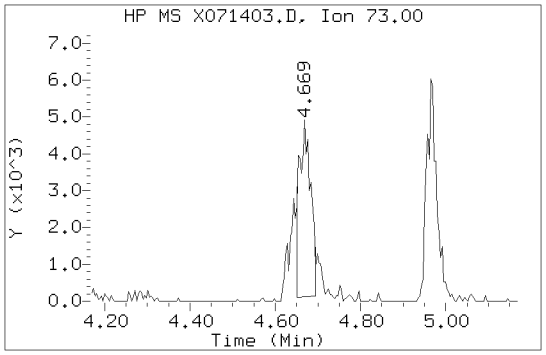
tert-Amyl methyl ether (974-05-08)

Reason Code:

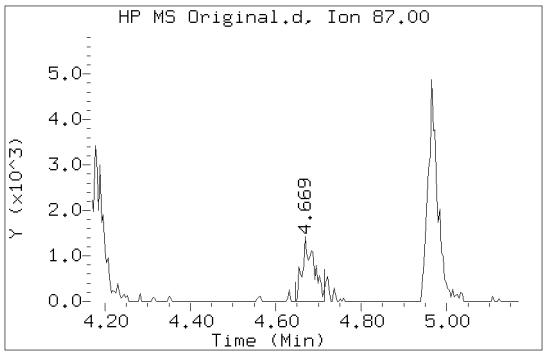
BEFORE
MASS
73
AREA
9377
HEIGHT
4800
20-Jul-2023
15:04
linh
pham



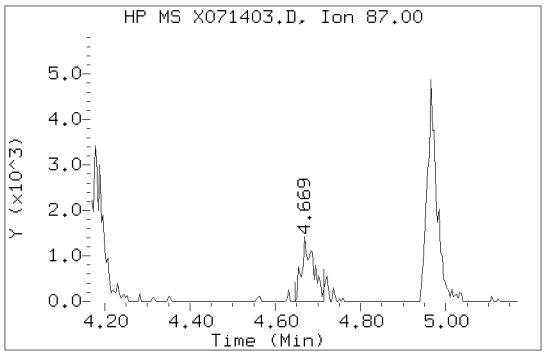
AFTER
MASS
73
AREA
9377
HEIGHT
4800
20-Jul-2023
15:04
linh
pham



BEFORE
MASS
87
AREA
2769
HEIGHT
1423
20-Jul-2023
15:04
linh
pham



AFTER
MASS
87
AREA
2769
HEIGHT
1423
20-Jul-2023
15:04
linh
pham



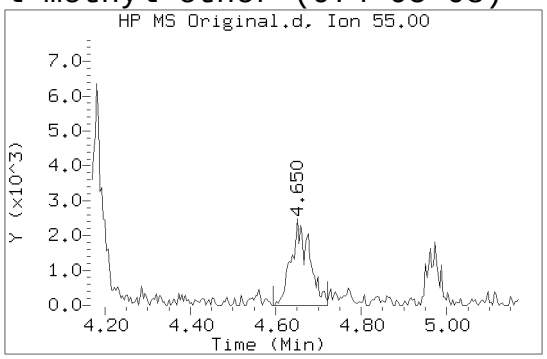
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Inj Date : 14-JUL-2023 12:22
InstruID : voa6.i
LabSampID : VSTD000.5

tert-Amyl methyl ether (974-05-08)

Reason Code:

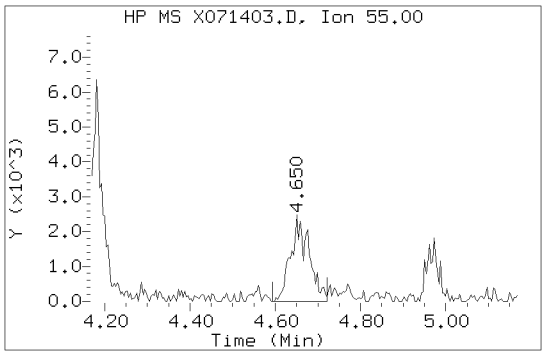
BEFORE

MASS
55
AREA
7426
HEIGHT
2483
20-Jul-2023
15:04
linh
pham



AFTER

MASS
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AREA
7426
HEIGHT
2483
20-Jul-2023
15:04
linh
pham

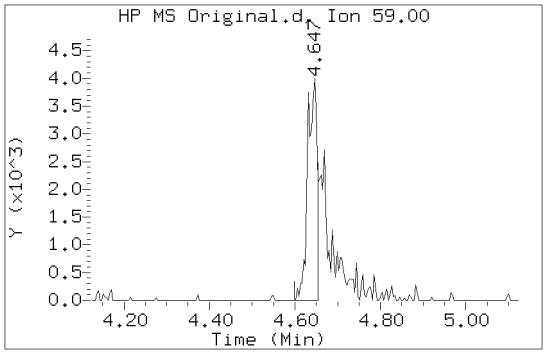


tert-Amyl alcohol (75-85-4)

Reason Code:

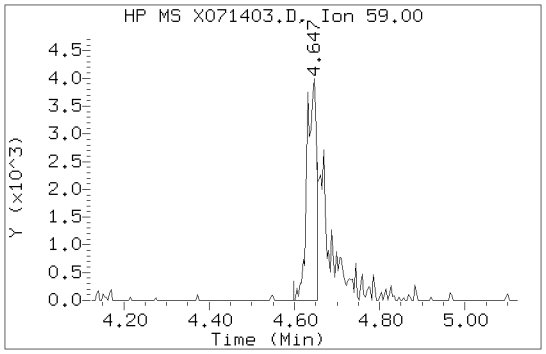
BEFORE

MASS
59
AREA
6083
HEIGHT
3995
20-Jul-2023
15:04
linh
pham



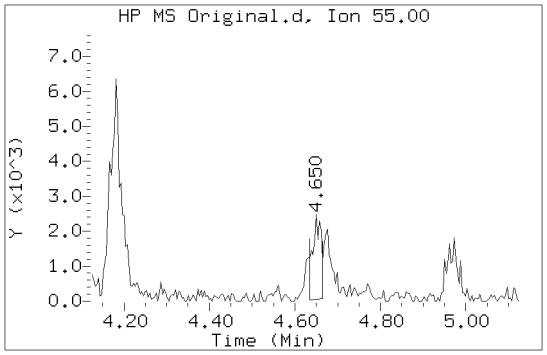
AFTER

MASS
59
AREA
6083
HEIGHT
3995
20-Jul-2023
15:04
linh
pham



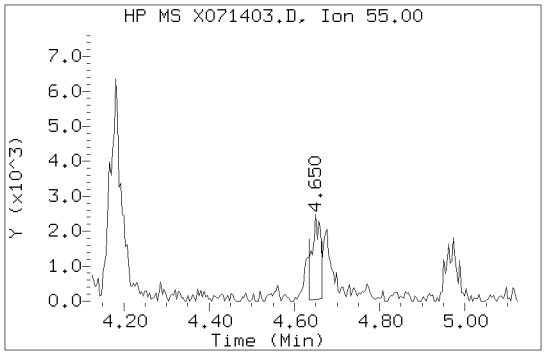
BEFORE

MASS
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AREA
3364
HEIGHT
2424
20-Jul-2023
15:04
linh
pham



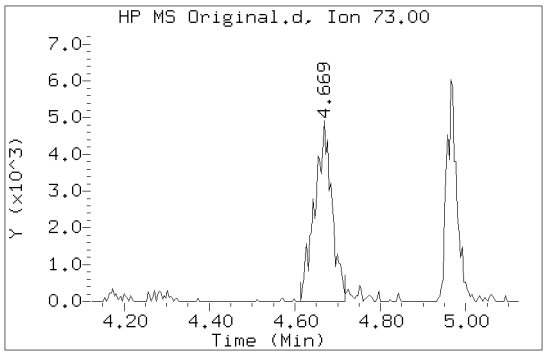
AFTER

MASS
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AREA
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HEIGHT
2424
20-Jul-2023
15:04
linh
pham



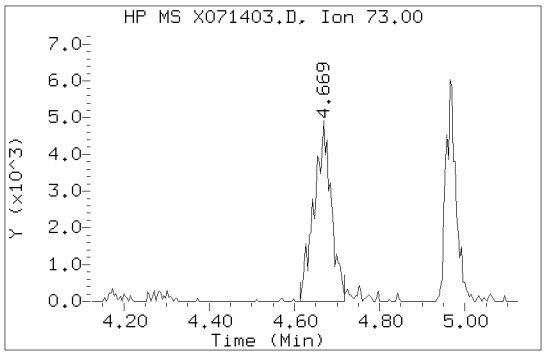
BEFORE

MASS
73
AREA
13761
HEIGHT
4914
20-Jul-2023
15:04
linh
pham



AFTER

MASS
73
AREA
13761
HEIGHT
4914
20-Jul-2023
15:04
linh
pham



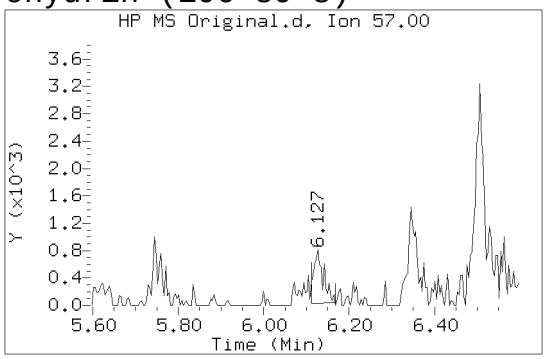
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Inj Date : 14-JUL-2023 12:22
InstruID : voa6.i
LabSampID : VSTD000.5

Epichlorohydrin (106-89-8)

Reason Code:

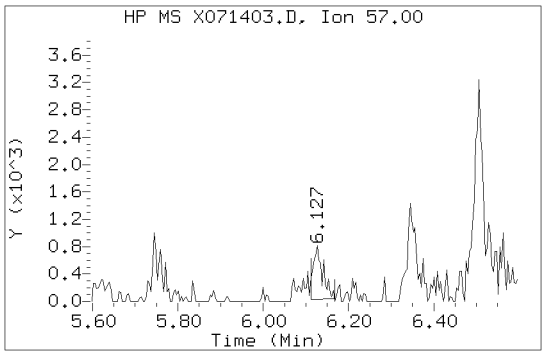
BEFORE

MASS
57
AREA
1233
HEIGHT
788
20-Jul-2023
15:04
linh
pham



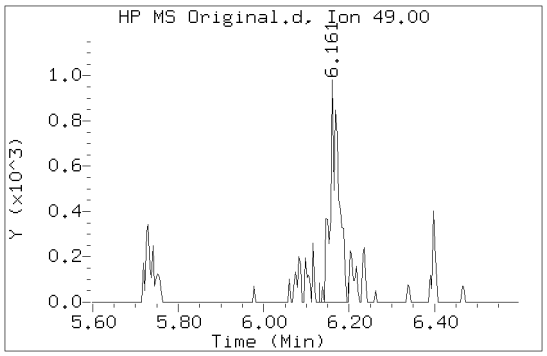
AFTER

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AREA
1233
HEIGHT
788
20-Jul-2023
15:04
linh
pham



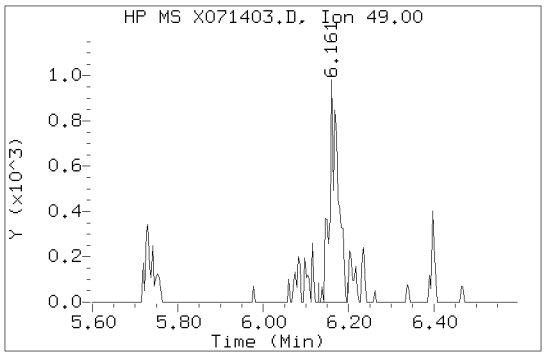
BEFORE

MASS
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AREA
1383
HEIGHT
981
20-Jul-2023
15:04
linh
pham



AFTER

MASS
49
AREA
1383
HEIGHT
981
20-Jul-2023
15:04
linh
pham

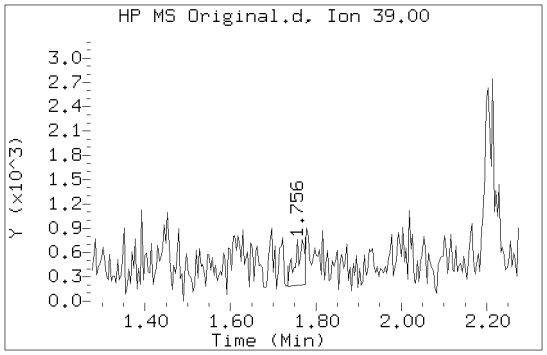


Isoprene (78-79-5)

Reason Code:

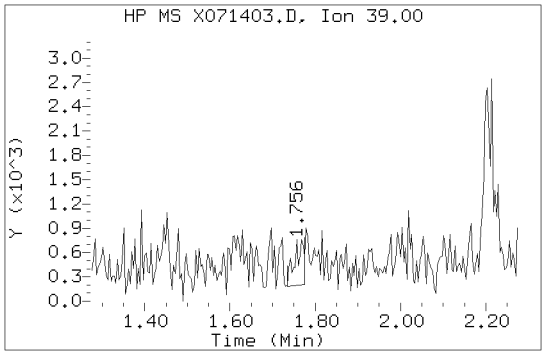
BEFORE

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AREA
843
HEIGHT
570
20-Jul-2023
15:04
linh
pham



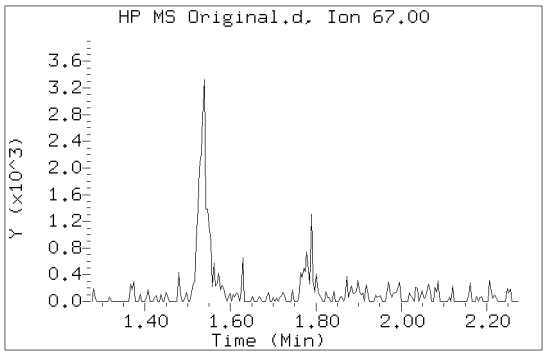
AFTER

MASS
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HEIGHT
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20-Jul-2023
15:04
linh
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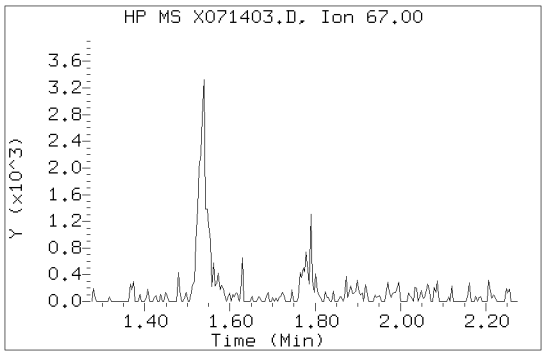
BEFORE

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HEIGHT
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20-Jul-2023
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pham



AFTER

MASS
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AREA
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HEIGHT
0
20-Jul-2023
15:04
linh
pham



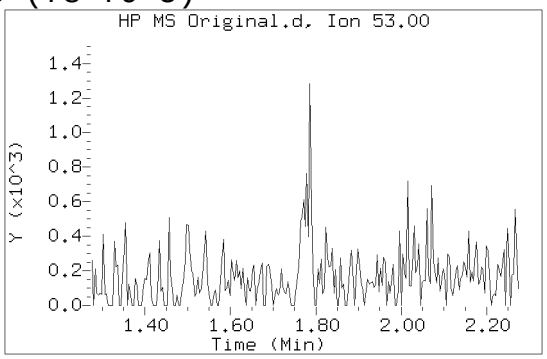
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Inj Date : 14-JUL-2023 12:22
InstruID : voa6.i
LabSampID : VSTD000.5

Isoprene (78-79-5)

Reason Code:

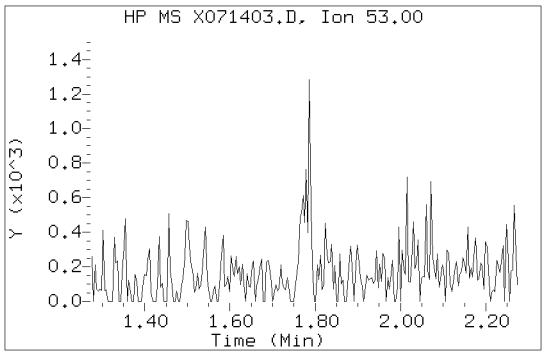
BEFORE

MASS
53
AREA
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HEIGHT
0
20-Jul-2023
15:04
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pham



AFTER

MASS
53
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham

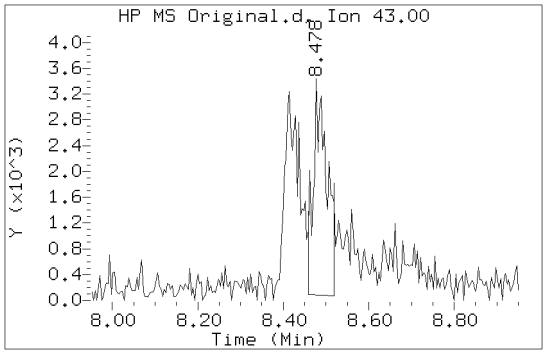


n-Amyl acetate (628-63-7)

Reason Code:

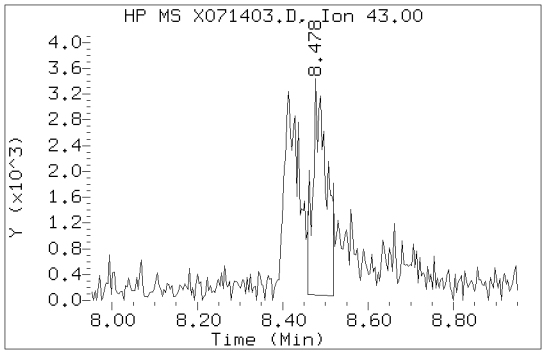
BEFORE

MASS
43
AREA
7447
HEIGHT
3352
20-Jul-2023
15:04
linh
pham



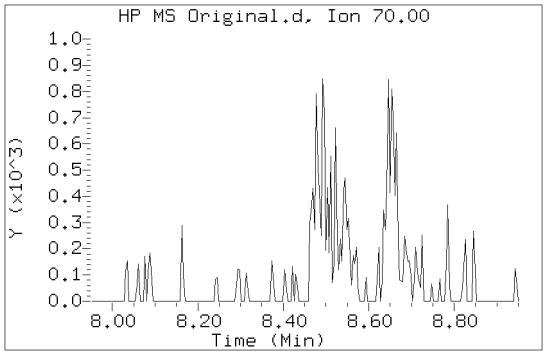
AFTER

MASS
43
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7447
HEIGHT
3352
20-Jul-2023
15:04
linh
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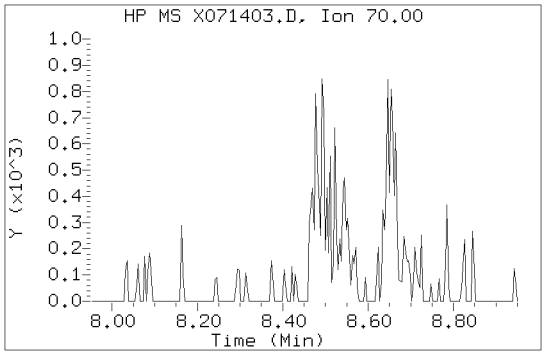
BEFORE

MASS
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AREA
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HEIGHT
0
20-Jul-2023
15:04
linh
pham



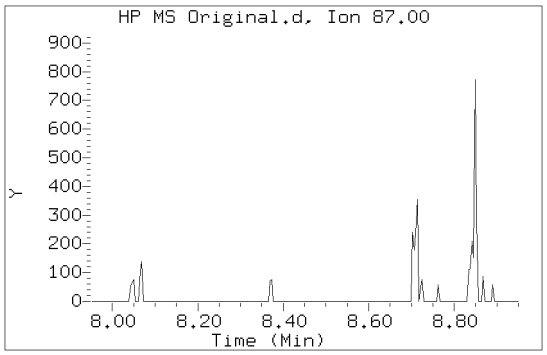
AFTER

MASS
70
AREA
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HEIGHT
0
20-Jul-2023
15:04
linh
pham



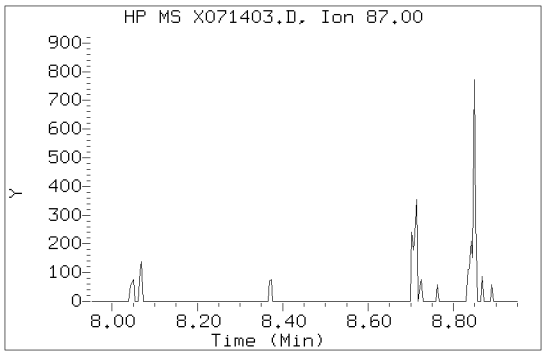
BEFORE

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HEIGHT
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20-Jul-2023
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pham



AFTER

MASS
87
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



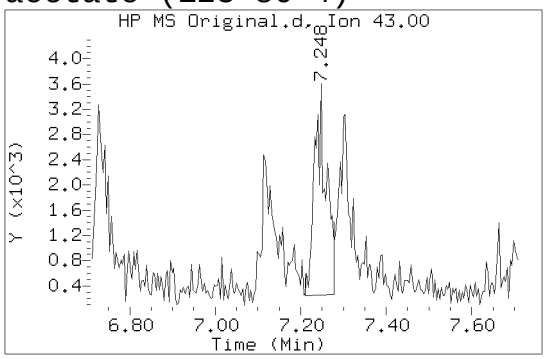
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Inj Date : 14-JUL-2023 12:22
InstruID : voa6.i
LabSampID : VSTD000.5

n-Butyl acetate (123-86-4)

Reason Code:

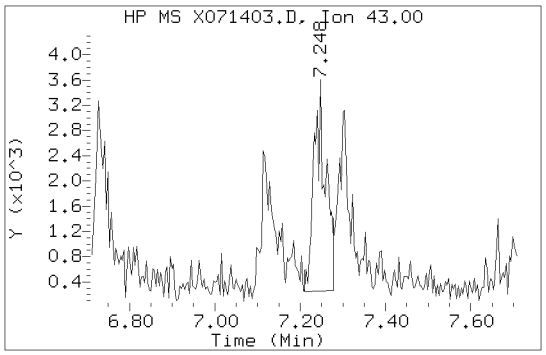
BEFORE

MASS
43
AREA
6398
HEIGHT
3352
20-Jul-2023
15:04
linh
pham



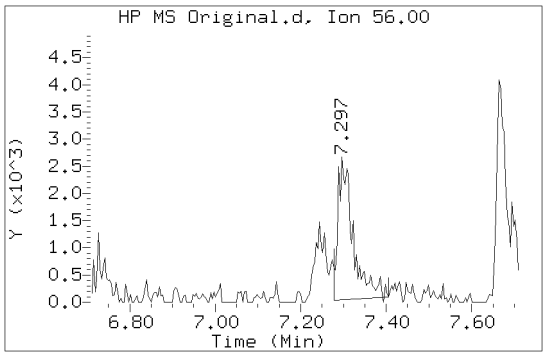
AFTER

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6398
HEIGHT
3352
20-Jul-2023
15:04
linh
pham



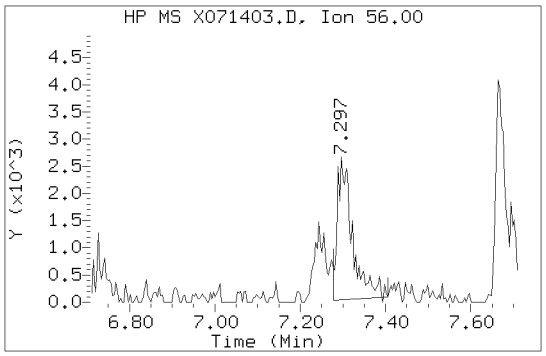
BEFORE

MASS
56
AREA
6426
HEIGHT
2636
20-Jul-2023
15:04
linh
pham



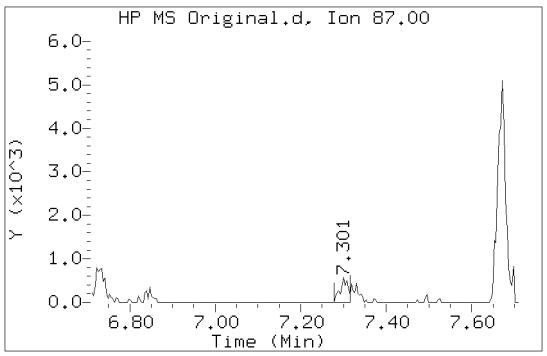
AFTER

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AREA
6426
HEIGHT
2636
20-Jul-2023
15:04
linh
pham



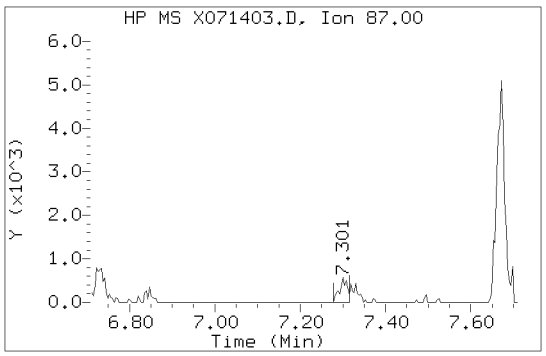
BEFORE

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20-Jul-2023
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pham



AFTER

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709
HEIGHT
572
20-Jul-2023
15:04
linh
pham

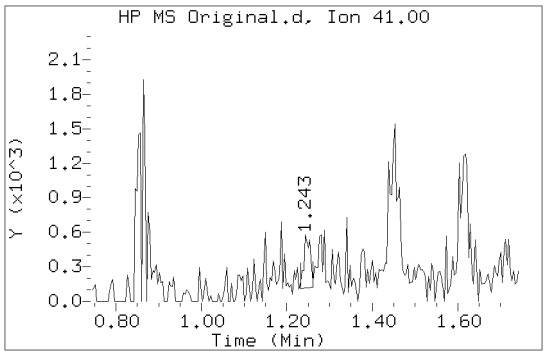


Isobutylene (115-11-7)

Reason Code:

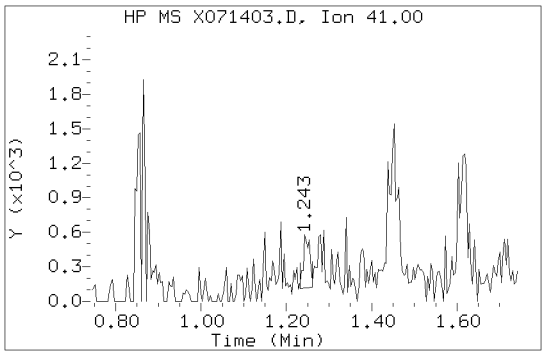
BEFORE

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HEIGHT
462
20-Jul-2023
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AFTER

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20-Jul-2023
15:04
linh
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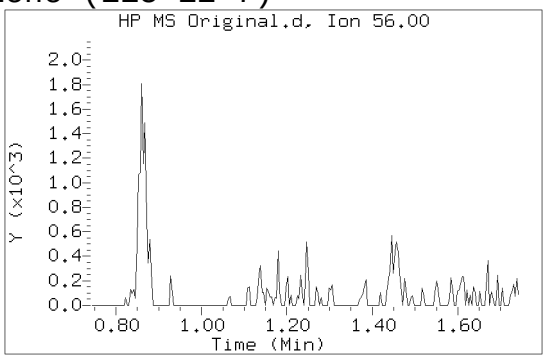


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InstruID : voa6.i
LabSampID : VSTD000.5

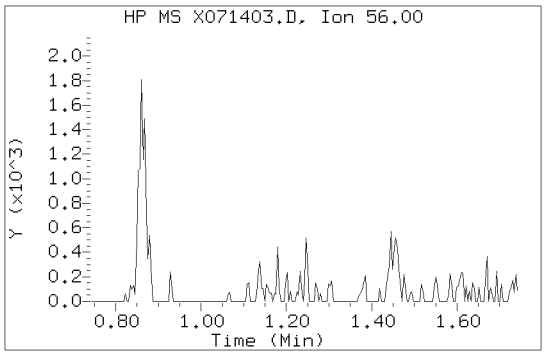
Isobutylene (115-11-7)

Reason Code:

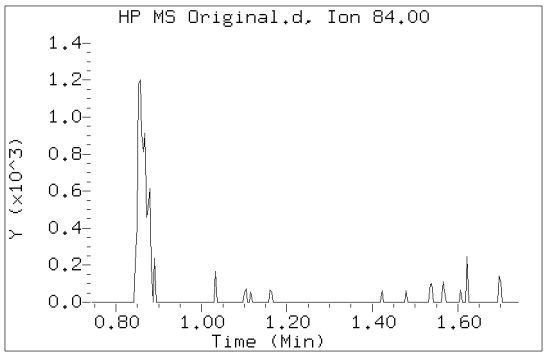
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0
20-Jul-2023
15:04
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pham



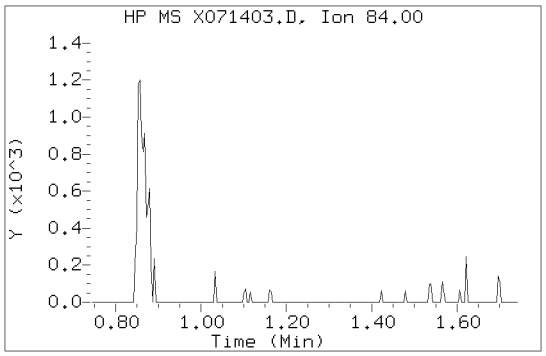
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20-Jul-2023
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BEFORE
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HEIGHT
0
20-Jul-2023
15:04
linh
pham



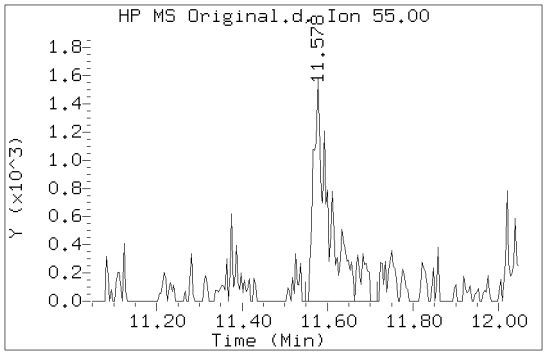
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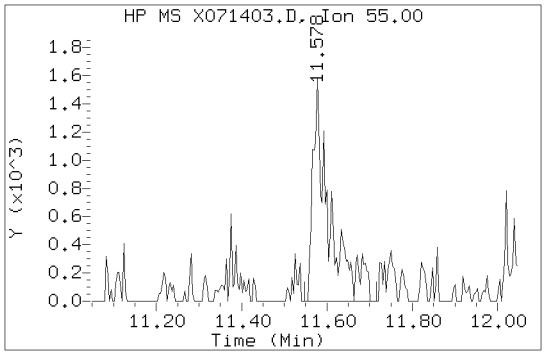
2-Ethylhexyl Acrylate (103-11-7)

Reason Code:

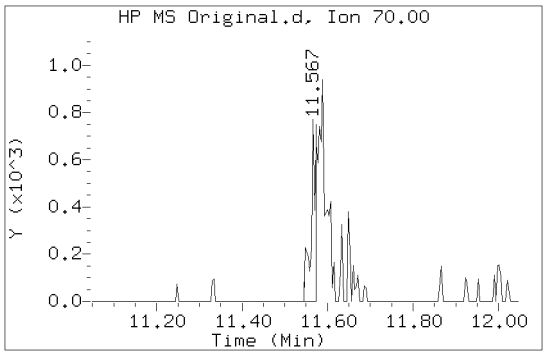
BEFORE
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AREA
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HEIGHT
1577
20-Jul-2023
15:04
linh
pham



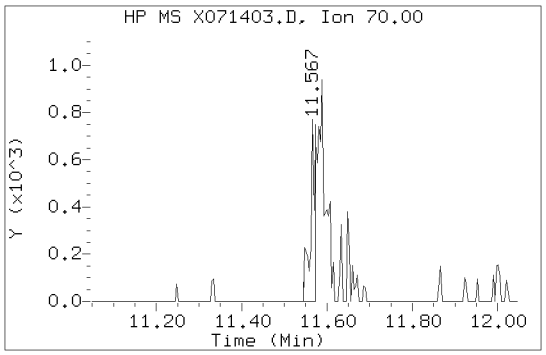
AFTER
MASS
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AREA
4236
HEIGHT
1577
20-Jul-2023
15:04
linh
pham



BEFORE
MASS
70
AREA
631
HEIGHT
771
20-Jul-2023
15:04
linh
pham



AFTER
MASS
70
AREA
631
HEIGHT
771
20-Jul-2023
15:04
linh
pham



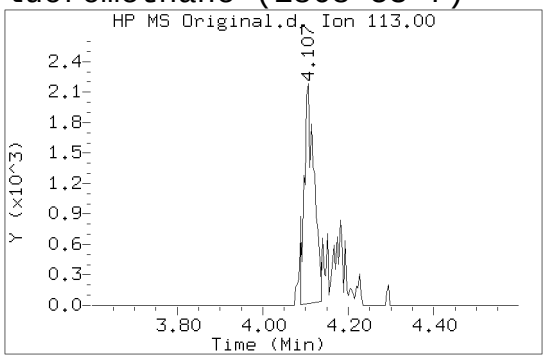
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Inj Date : 14-JUL-2023 12:22
InstruID : voa6.i
LabSampID : VSTD000.5

Dibromofluoromethane (1868-53-7)

Reason Code:

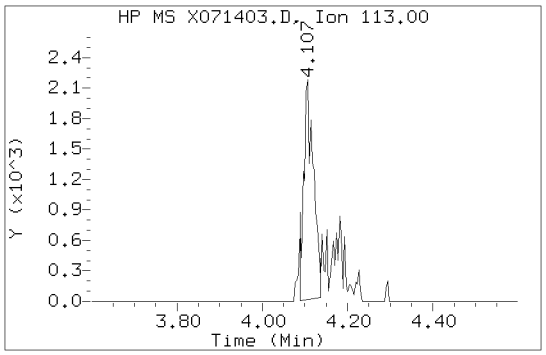
BEFORE

MASS
113
AREA
3536
HEIGHT
2165
20-Jul-2023
15:04
linh
pham



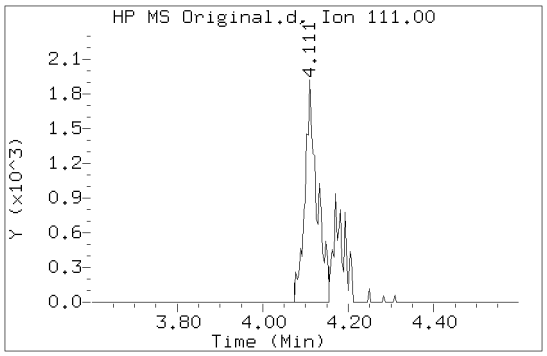
AFTER

MASS
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AREA
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HEIGHT
2165
20-Jul-2023
15:04
linh
pham



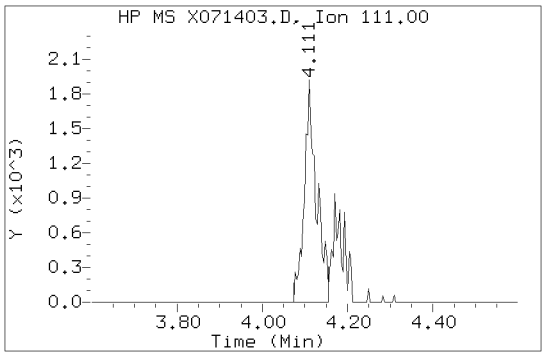
BEFORE

MASS
111
AREA
3831
HEIGHT
1919
20-Jul-2023
15:04
linh
pham



AFTER

MASS
111
AREA
3831
HEIGHT
1919
20-Jul-2023
15:04
linh
pham

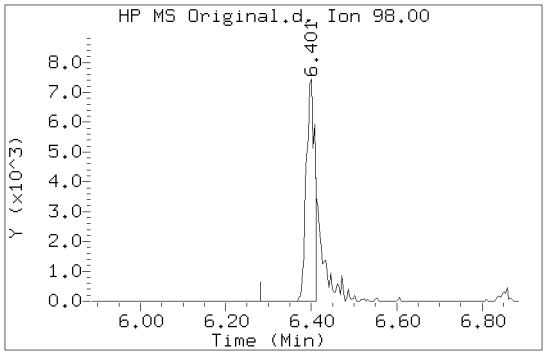


Toluene-d8 (2037-26-5)

Reason Code:

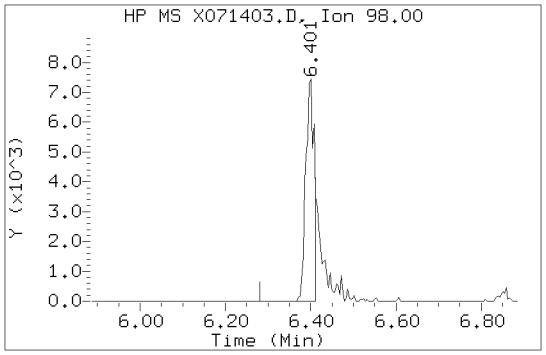
BEFORE

MASS
98
AREA
10379
HEIGHT
7449
20-Jul-2023
15:04
linh
pham



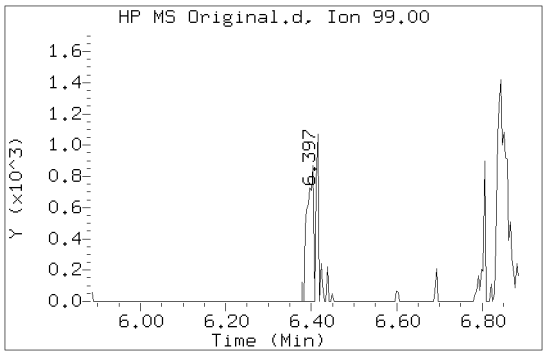
AFTER

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10379
HEIGHT
7449
20-Jul-2023
15:04
linh
pham



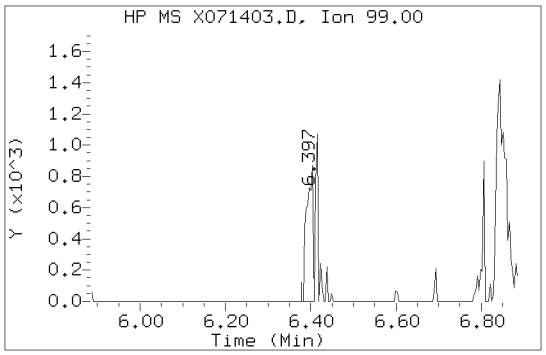
BEFORE

MASS
99
AREA
897
HEIGHT
727
20-Jul-2023
15:04
linh
pham



AFTER

MASS
99
AREA
897
HEIGHT
727
20-Jul-2023
15:04
linh
pham



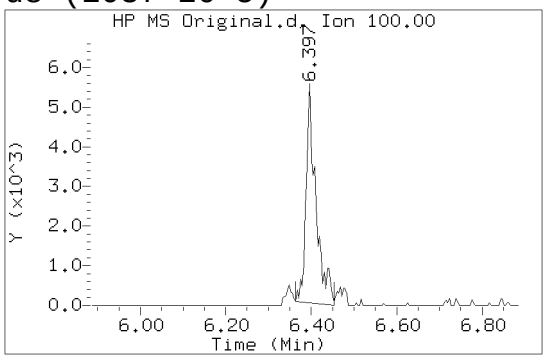
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Inj Date : 14-JUL-2023 12:22
InstruID : voa6.i
LabSampID : VSTD000.5

Toluene-d8 (2037-26-5)

Reason Code:

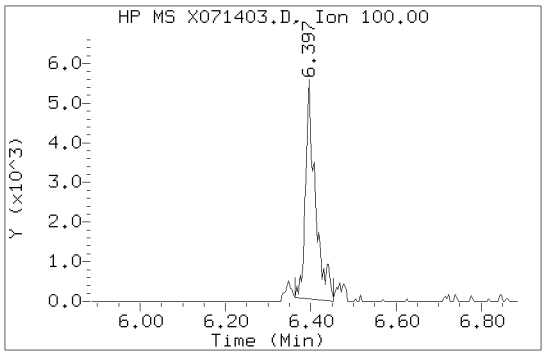
BEFORE

MASS
100
AREA
8943
HEIGHT
5534
20-Jul-2023
15:04
linh
pham



AFTER

MASS
100
AREA
8943
HEIGHT
5534
20-Jul-2023
15:04
linh
pham

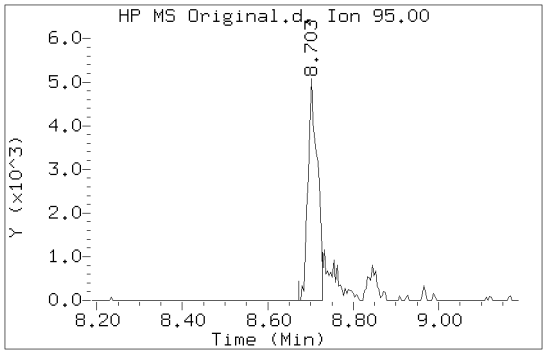


4-Bromofluorobenzene (460-00-4)

Reason Code:

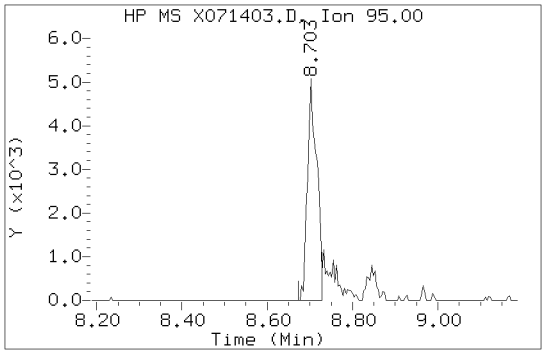
BEFORE

MASS
95
AREA
7819
HEIGHT
5079
20-Jul-2023
15:04
linh
pham



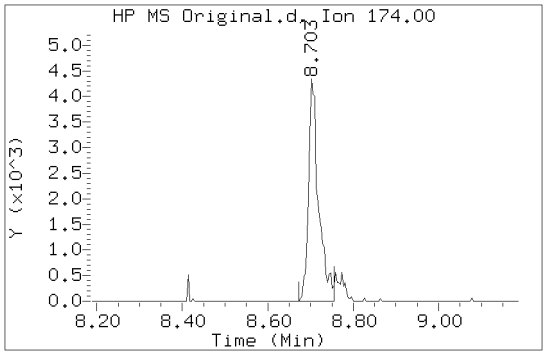
AFTER

MASS
95
AREA
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HEIGHT
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20-Jul-2023
15:04
linh
pham



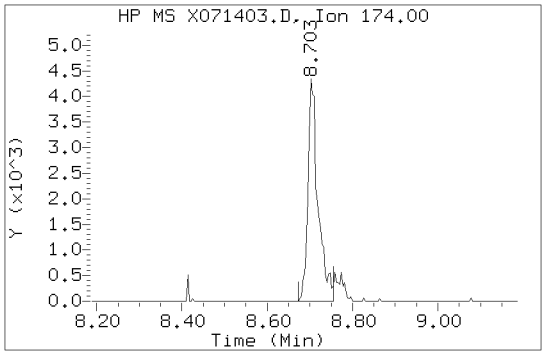
BEFORE

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AREA
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HEIGHT
4342
20-Jul-2023
15:04
linh
pham



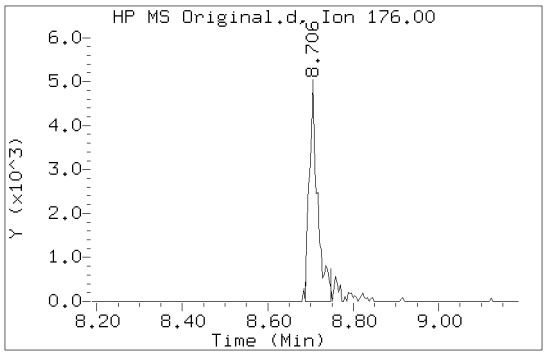
AFTER

MASS
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AREA
7142
HEIGHT
4342
20-Jul-2023
15:04
linh
pham



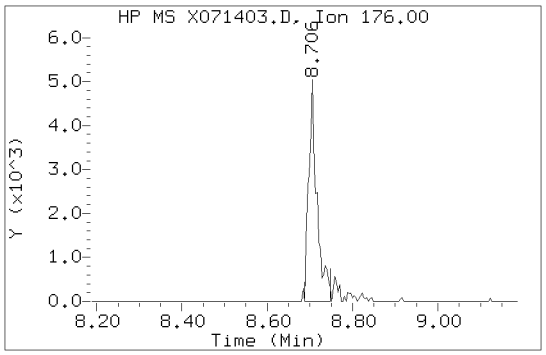
BEFORE

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AREA
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HEIGHT
5044
20-Jul-2023
15:04
linh
pham



AFTER

MASS
176
AREA
6702
HEIGHT
5044
20-Jul-2023
15:04
linh
pham



Data File: \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071404.D Page 1
Report Date: 20-Jul-2023 15:05

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071404.D
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Inj Date : 14-JUL-2023 13:02
Operator : PC Inst ID: voa6.i
Smp Info : VSTD001;VSTD001;1;3;
Misc Info : V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\8260W.m
Meth Date : 20-Jul-2023 15:05 voa6.i Quant Type: ISTD
Cal Date : 14-JUL-2023 12:22 Cal File: X071403.D
Als bottle: 5 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000_8260.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.178	4.178	(1.000)	527854	50.0000	
2 Dichlorodifluoromethane	85	0.976	0.976	(0.234)	3668	1.00000	1.76
3 Chloromethane	50	1.081	1.081	(0.259)	7000	1.00000	0.87
4 Propionitrile	54	3.690	3.690	(0.883)	10495	10.0000	10.03(aM)
5 Vinyl Chloride	62	1.149	1.149	(0.275)	5610	1.00000	0.82
6 Bromomethane	94	1.344	1.344	(0.322)	2584	1.00000	0.91
7 Chloroethane	64	1.407	1.407	(0.337)	3779	1.00000	0.96
8 Trichlorofluoromethane	101	1.561	1.561	(0.374)	5888	1.00000	0.85(M)
9 Acrolein	56	1.861	1.861	(0.446)	510	2.00000	3.65(aM)
11 1,1-Dichloroethene	96	1.913	1.913	(0.458)	3525	1.00000	0.91(M)
12 Isobutyl Alcohol	43	4.687	4.687	(1.122)	16938	20.0000	16.92(aM)
13 Acetonitrile	39	2.198	2.198	(0.526)	7835	10.0000	10.58(a)
14 Allyl Chloride	41	2.202	2.202	(0.527)	19290	1.00000	1.11(a)
15 Iodomethane	142	2.030	2.030	(0.486)	4792	2.00000	4.73(M)
16 Acrylonitrile	53	2.551	2.551	(0.611)	4763	2.00000	1.85(M)
18 Methyl tert-butyl ether	73	2.543	2.543	(0.609)	15895	1.00000	1.10
19 Carbon Disulfide	76	2.071	2.071	(0.496)	21621	2.00000	1.77
20 trans-1,2-Dichloroethene	96	2.536	2.536	(0.607)	3665	1.00000	0.81
21 Vinyl Acetate	43	3.015	3.015	(0.722)	36157	2.00000	1.95
22 1,1-Dichloroethane	63	2.929	2.929	(0.701)	9261	1.00000	0.94

23 Chloroprene	53	1.786	1.786 (0.428)	2402	1.00000	1.01(aM)
24 2-Butanone	43	3.686	3.686 (0.882)	5549	2.00000	1.97(M)

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	25 Methacrylonitrile	41	3.874	3.874	(0.927)	6195	1.00000	0.90(aM)
	26 2,2-Dichloropropane	77	3.518	3.518	(0.842)	7001	1.00000	1.12(M)
	27 cis-1,2-Dichloroethene	96	3.540	3.540	(0.847)	5828	1.00000	1.02(M)
	28 Chloroform	83	3.915	3.915	(0.937)	10007	1.00000	0.99
	29 Bromochloromethane	128	3.799	3.799	(0.909)	3002	1.00000	0.94(M)
	31 1,1,1-Trichloroethane	97	4.084	4.084	(0.978)	6398	1.00000	0.82(M)
	32 1,1-Dichloropropene	75	4.286	4.286	(0.863)	6097	1.00000	0.91(M)
	33 1,2-Dichloroethane	62	4.564	4.564	(0.919)	9069	1.00000	1.01
	34 Carbon Tetrachloride	117	4.264	4.264	(0.859)	7002	1.00000	1.04(M)
$	35 1,2-Dichloroethane-d4	65	4.485	4.485	(1.074)	7805	1.00000	0.68
*	36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	814886	50.0000	
	37 Benzene	78	4.515	4.515	(0.909)	18433	1.00000	0.94
	38 Trichloroethene	130	5.212	5.212	(1.050)	4751	1.00000	0.86(a)
	39 Bromodichloromethane	83	5.730	5.730	(1.154)	6967	1.00000	0.93(aM)
	40 Methyl Methacrylate	41	5.628	5.628	(1.347)	7110	1.00000	1.11(a)
	41 2-Chloroethylvinyl ether	63	6.071	6.071	(1.223)	4176	2.00000	1.83(aM)
	42 1,2-Dichloropropane	63	5.441	5.441	(1.096)	5153	1.00000	0.82(aM)
	43 2-Nitropropane	43	5.992	5.992	(1.434)	2054	1.00000	0.97(aM)
	44 Dibromomethane	93	5.557	5.557	(1.119)	3511	1.00000	0.98(a)
	45 4-Methyl-2-Pentanone	43	6.337	6.337	(0.826)	14106	2.00000	1.87(aM)
	46 cis-1,3-Dichloropropene	75	6.168	6.168	(1.242)	7361	1.00000	0.85(a)
*	47 Chlorobenzene-d5	117	7.668	7.668	(1.000)	765384	50.0000	
$	48 Toluene-d8	98	6.397	6.397	(0.834)	21847	1.00000	1.10(aM)
	49 Ethyl Methacrylate	69	6.730	6.730	(1.356)	5749	1.00000	1.07(aM)
	50 Toluene	91	6.453	6.453	(0.842)	17466	1.00000	0.84(a)
	51 trans-1,3-Dichloropropene	75	6.693	6.693	(1.348)	6303	1.00000	0.87(a)
	52 2-Hexanone	43	7.113	7.113	(0.928)	10319	2.00000	2.08(aM)
	53 1,1,2-Trichloroethane	83	6.843	6.843	(0.892)	4429	1.00000	1.01(a)
	54 1,3-Dichloropropane	76	6.985	6.985	(0.911)	8584	1.00000	0.96(a)
	55 Dibromochloromethane	129	7.180	7.180	(0.936)	6003	1.00000	0.95(a)
	56 Tetrachloroethene	164	6.929	6.929	(0.904)	3431	1.00000	0.80(aM)
	57 1,2-Dibromoethane	107	7.270	7.270	(0.948)	4879	1.00000	0.97(a)
	58 1-Chlorohexane	55	7.705	7.705	(1.552)	6663	1.00000	1.01(aM)
	59 Chlorobenzene	112	7.698	7.698	(1.004)	13305	1.00000	0.92(a)
	60 1,1,1,2-Tetrachloroethane	131	7.776	7.776	(1.014)	5021	1.00000	0.89(a)
	61 Ethylbenzene	106	7.806	7.806	(1.018)	6243	1.00000	0.86(a)
	62 m,p-Xylenes	106	7.915	7.915	(1.032)	15703	2.00000	1.73(aM)
	63 o-Xylene	106	8.249	8.249	(1.076)	7717	1.00000	0.89(a)
	64 Styrene	104	8.271	8.271	(1.079)	13315	1.00000	0.88(aM)
	66 Bromoform	173	8.421	8.421	(1.098)	3238	1.00000	0.79(TaM)
	67 Isopropylbenzene	105	8.567	8.567	(1.117)	17710	1.00000	0.80(a)
	68 1,1,2,2-Tetrachloroethane	83	8.841	8.841	(0.915)	6483	1.00000	0.99(a)
$	69 4-Bromofluorobenzene	95	8.702	8.702	(1.135)	11517	1.00000	1.09(aM)
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	389630	50.0000	
	71 1,2,3-Trichloropropane	75	8.871	8.871	(0.918)	5203	1.00000	1.00(aM)
	72 trans-1,4-Dichloro-2-butene	53	8.912	8.912	(1.162)	1951	1.00000	0.83(aM)
	73 n-Propylbenzene	91	8.920	8.920	(0.923)	19793	1.00000	0.84(a)
	74 Bromobenzene	156	8.815	8.815	(0.912)	5922	1.00000	0.97(a)
	75 1,3,5-Trimethylbenzene	105	9.077	9.077	(0.939)	14649	1.00000	0.83(aM)
	76 2-Chlorotoluene	91	8.980	8.980	(0.929)	15937	1.00000	1.00(aM)
	77 4-Chlorotoluene	91	9.085	9.085	(0.940)	14190	1.00000	0.81(a)
	78 tert-Butylbenzene	119	9.339	9.339	(0.967)	12560	1.00000	0.83(a)

79 1,2,4-Trimethylbenzene	105	9.388	9.388 (0.972)	14383	1.00000	0.81(a)
81 sec-Butylbenzene	105	9.519	9.519 (0.985)	16259	1.00000	0.80(a)

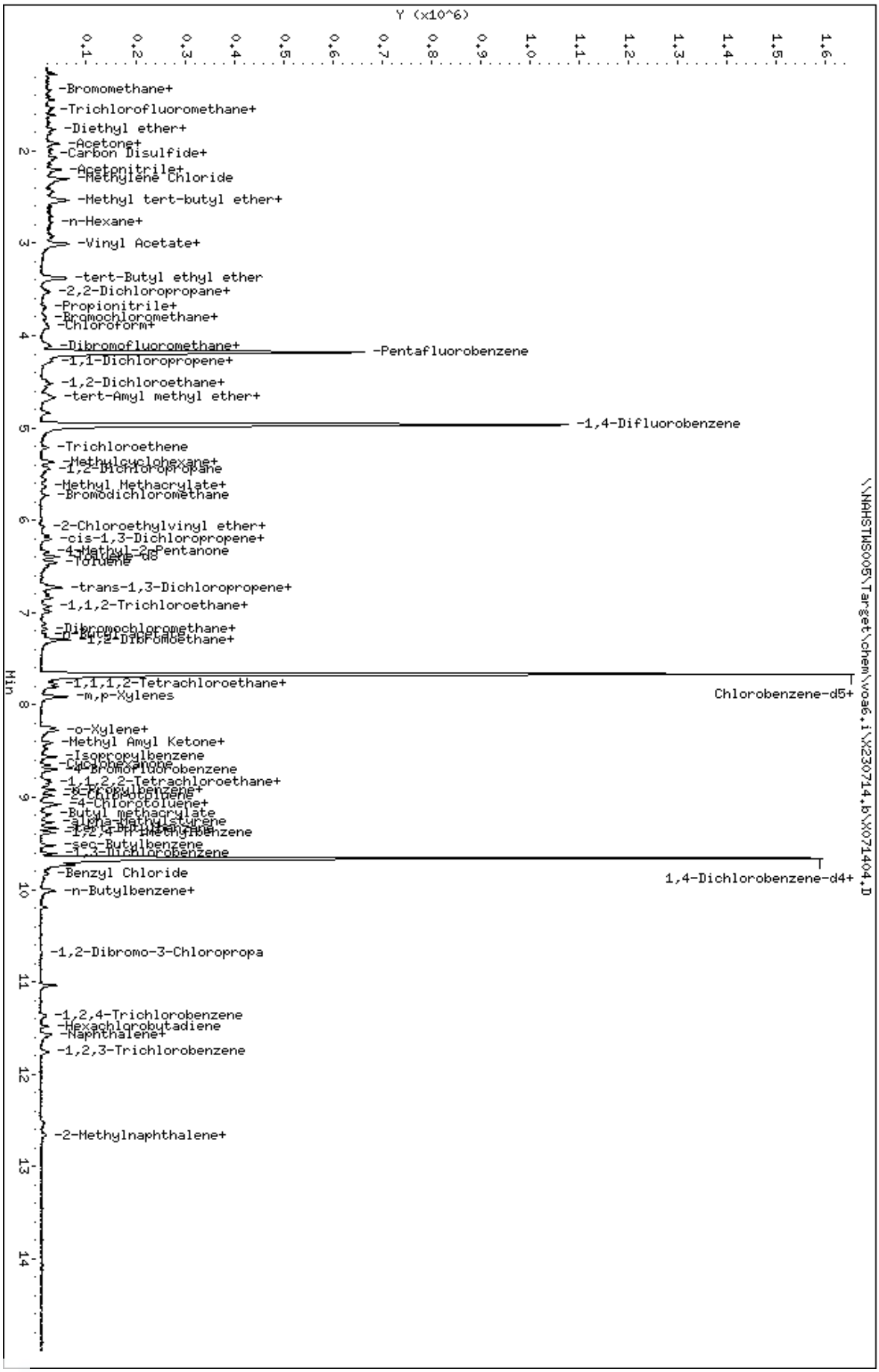
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
82	p-Isopropyltoluene	119	9.651	9.651	(0.999)	15092	1.00000	0.81(aM)
83	1,3-Dichlorobenzene	146	9.609	9.609	(0.995)	9170	1.00000	0.86(a)
84	1,4-Dichlorobenzene	146	9.684	9.684	(1.002)	10311	1.00000	0.88(a)
86	Benzyl Chloride	91	9.827	9.827	(1.282)	10259	1.00000	3.09(aM)
87	n-Butylbenzene	91	10.014	10.014	(1.036)	13321	1.00000	0.86(aM)
88	1,2-Dichlorobenzene	146	10.003	10.003	(1.035)	9791	1.00000	0.93(aM)
89	1,2-Dibromo-3-Chloropropane	155	10.700	10.700	(1.107)	831	1.00000	1.84(aM)
90	1,2,4-Trichlorobenzene	180	11.364	11.364	(1.176)	7113	1.00000	0.99(aM)
91	Hexachlorobutadiene	225	11.480	11.480	(1.188)	2109	1.00000	2.96(a)
92	Naphthalene	128	11.574	11.574	(1.198)	18131	1.00000	1.02(aM)
93	1,2,3-Trichlorobenzene	180	11.765	11.765	(1.218)	6973	1.00000	1.04(a)
146	Methyl acetate	43	2.243	2.243	(0.537)	4992	1.00000	1.06(aM)
138	Freon TF	101	1.917	1.917	(0.459)	2818	1.00000	0.25(aM)
141	Cyclohexane	56	4.121	4.121	(0.987)	7673	1.00000	0.83(aM)
142	Tetrahydrofuran	42	3.874	3.874	(0.927)	2815	2.00000	2.07(aM)
147	Methylcyclohexane	55	5.370	5.370	(1.082)	15783	1.00000	0.91(aM)
135	1,4-Dioxane	88	5.613	5.613	(1.344)	1290	20.0000	20.56(M)
132	n-Butanol	56	5.370	5.370	(1.285)	3103	20.0000	17.65(aM)
131	Methyl Acrylate	55	3.750	3.750	(0.898)	5778	1.00000	0.80(aM)
133	Ethyl Acrylate	55	5.370	5.370	(1.285)	18196	1.00000	1.04(M)
136	n-Hexane	57	2.776	2.776	(0.664)	5000	1.00000	0.27(aM)
139	Diethyl ether	59	1.767	1.767	(0.423)	5211	1.00000	1.05(a)
148	Tert-butyl alcohol	59	2.442	2.442	(0.585)	12965	20.0000	19.46(M)
149	Isopropyl alcohol	45	2.097	2.097	(0.502)	9372	20.0000	22.67(TM)
156	Diisopropyl ether	45	3.012	3.012	(0.721)	24757	1.00000	1.13(Ta)
166	1,2,3-Trimethylbenzene	105	9.733	9.733	(1.007)	19017	1.00000	1.05(a)
167	Ethanol	45	1.703	1.703	(0.408)	1613	20.0000	3.59(aM)
172	tert-Butyl formate	59	4.639	4.639	(1.110)	11427	2.00000	2.02(aM)
173	3,3-Dimethyl-1-butanol	57	7.293	7.293	(0.951)	16922	20.0000	20.55(M)
174	tert-Amyl methyl ether	73	4.669	4.669	(1.118)	19717	1.00000	1.13(a)
175	tert-Butyl ethyl ether	59	3.387	3.387	(0.811)	23746	1.00000	1.06(a)
176	tert-Amyl alcohol	59	4.639	4.639	(1.110)	10855	20.0000	18.82
151	4-Methyl-2-pentanol	45	6.727	6.727	(1.355)	35175	20.0000	20.14(M)
180	1-Methylnaphthalene	142	12.657	12.657	(1.310)	6480	1.00000	(a)
140	1,3-Butadiene	54	1.167	1.167	(0.280)	6040	1.00000	0.89(aM)
152	Amyl alcohol	42	6.989	6.989	(0.912)	3944	20.0000	17.91(M)
158	Dichlorofluoromethane	67	1.531	1.531	(0.367)	9743	1.00000	1.14(M)
159	Propylene oxide	43	1.805	1.805	(0.432)	1409	2.00000	2.17(aM)
161	3-Methyl-1-butanol	55	6.944	6.944	(0.906)	3623	20.0000	19.22(M)
162	Butyl acrylate	55	8.279	8.279	(1.080)	13586	1.00000	0.93(a)
163	Butyl methacrylate	41	9.178	9.178	(0.950)	9406	1.00000	1.00(a)
164	Dicyclopentadiene	66	9.677	9.677	(1.002)	24319	1.00000	1.08(aM)
182	Epichlorohydrin	57	6.119	6.119	(1.233)	2383	4.00000	3.91(aM)
M 94	1,2-Dichloroethylene (total)	96				9493	2.00000	(a)
130	Ethyl Acetate	43	3.713	3.713	(0.889)	7207	1.00000	0.91(TaM)
134	Cyclohexanone	55	8.646	8.646	(0.895)	7972	20.0000	22.98(aM)
185	Isoprene	39	1.778	1.778	(0.426)	1515	1.00000	0.87(a)
188	Isopropyl acetate	43	4.687	4.687	(0.944)	23748	1.00000	1.10(a)
187	n-Amyl acetate	43	8.474	8.474	(1.105)	15950	1.00000	1.13(aM)
189	n-Butyl acetate	43	7.233	7.233	(0.943)	9795	1.00000	0.83(aM)
150	Allyl alcohol	57	2.776	2.776	(0.664)	5000	20.0000	3.31(aM)
194	Acetaldehyde	44	1.216	1.216	(0.291)	5117	4.00000	(aM)

195 Methyl Amyl Ketone	43	8.406	8.406 (1.096)	14469	1.00000	0.90(a)
200 Dimethyl Disulfide	94	6.202	6.202 (0.809)	9361	1.00000	0.90(a)

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
202 Isobutylene	41	1.246	1.246	(0.298)	875	1.00000	1.00(aM)
205 2-Ethylhexyl Acrylate	55	11.562	11.562	(1.197)	8780	1.00000	0.88(aM)

QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.



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Column Phase: DB624

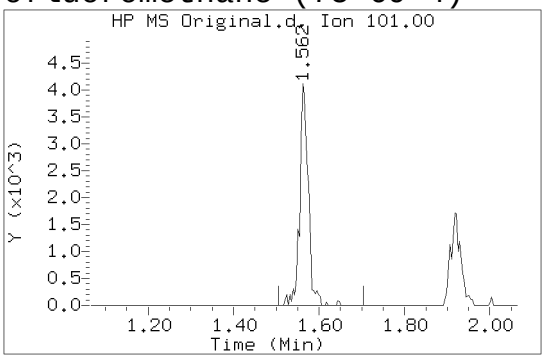
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Operator: PC
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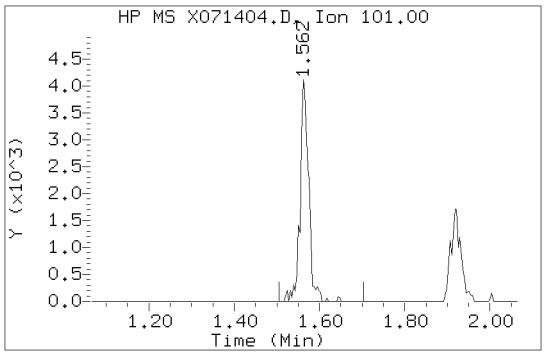
Trichlorofluoromethane (75-69-4)

Reason Code:

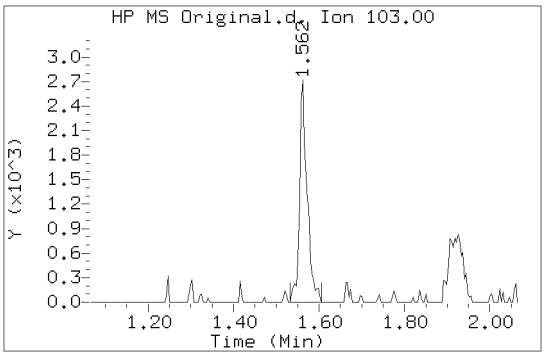
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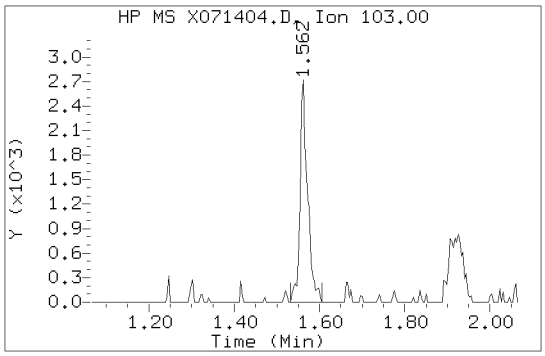
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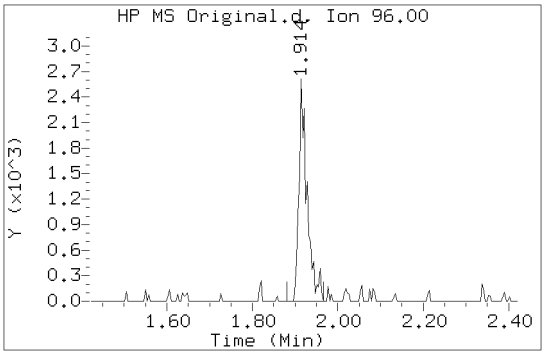
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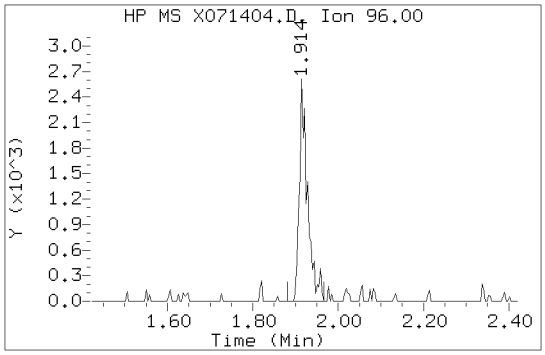
1,1-Dichloroethene (75-35-4)

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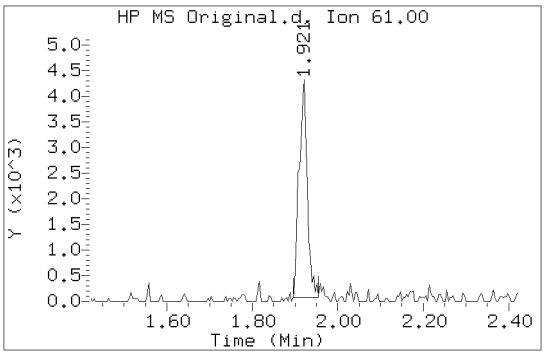
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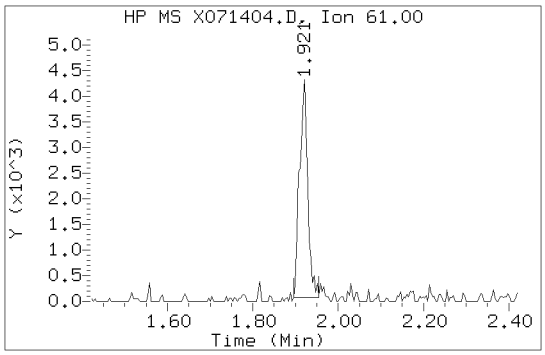
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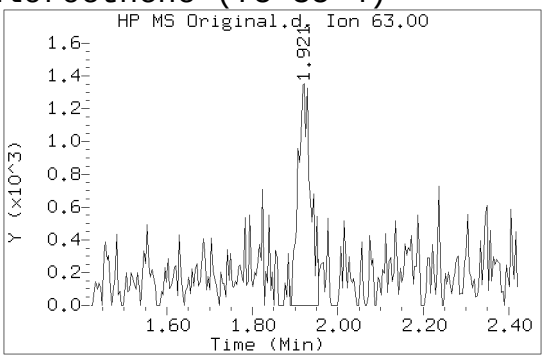
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InstruID : voa6.i
LabSampID : VSTD001

1,1-Dichloroethene (75-35-4)

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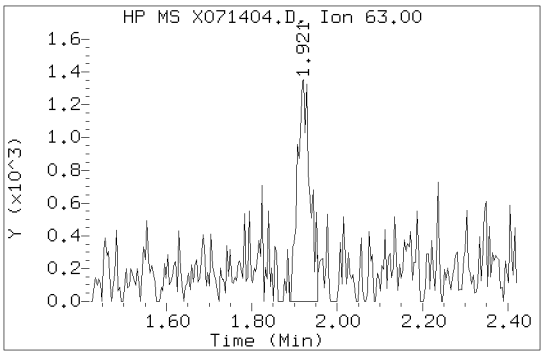
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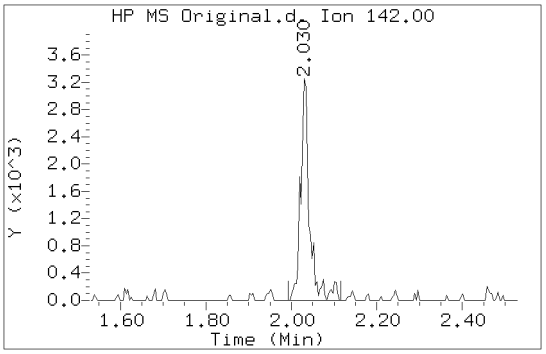


Iodomethane (74-88-4)

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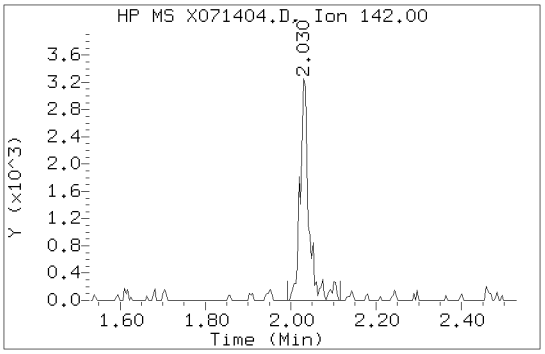
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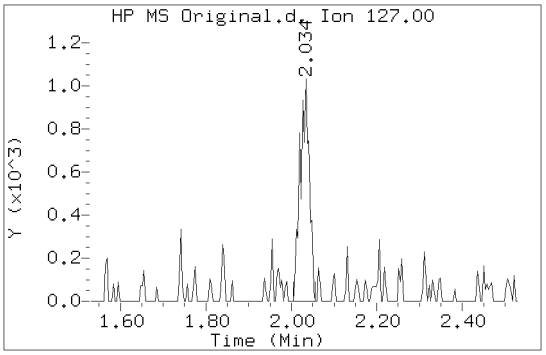
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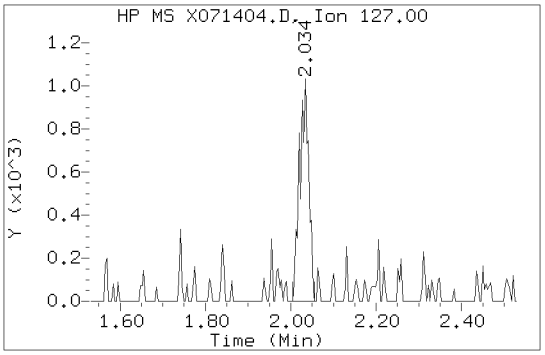
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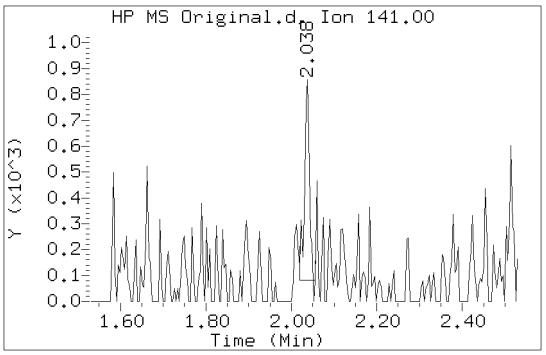
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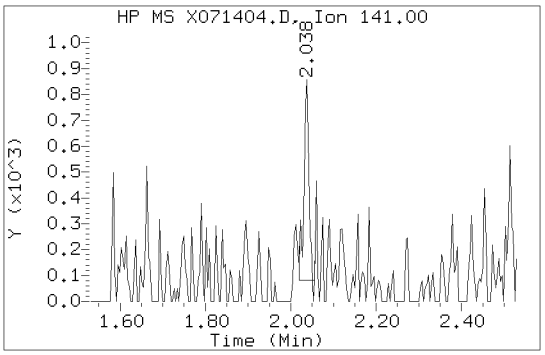
BEFORE

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AFTER

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20-Jul-2023
15:04
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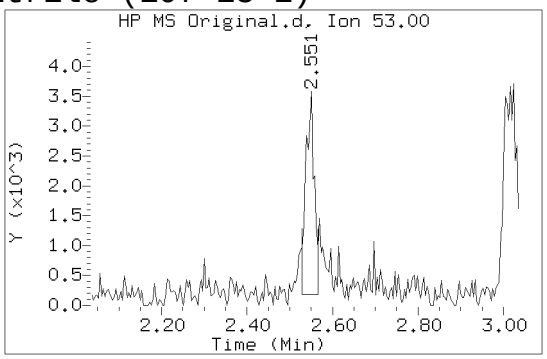
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LabSampID : VSTD001

Acrylonitrile (107-13-1)

Reason Code:

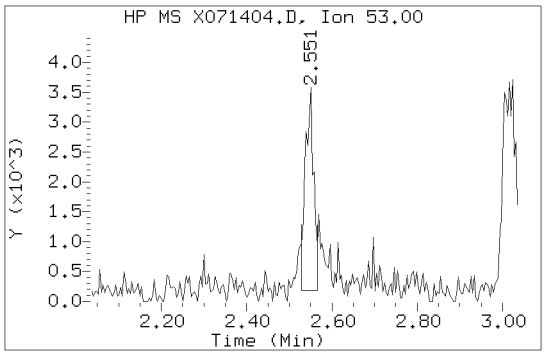
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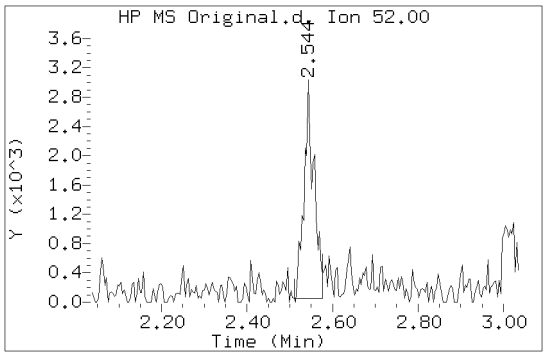
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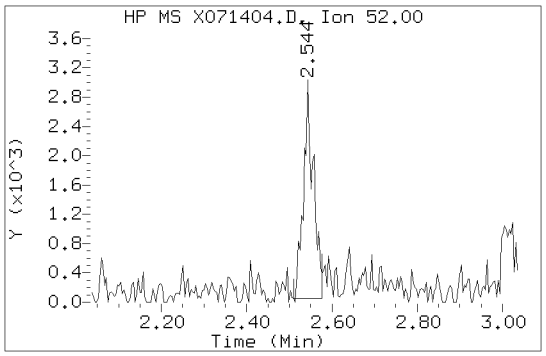
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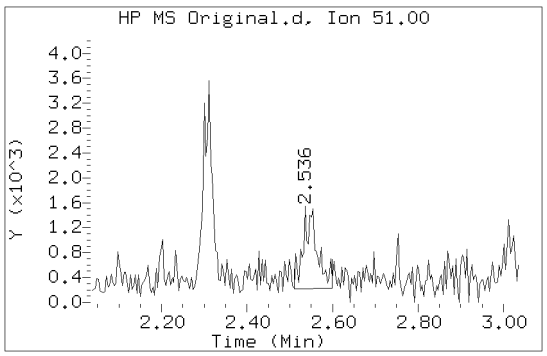
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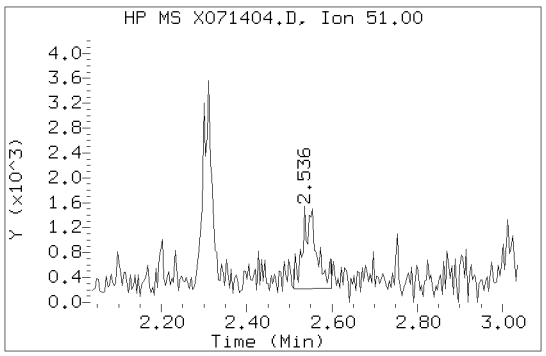
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AFTER

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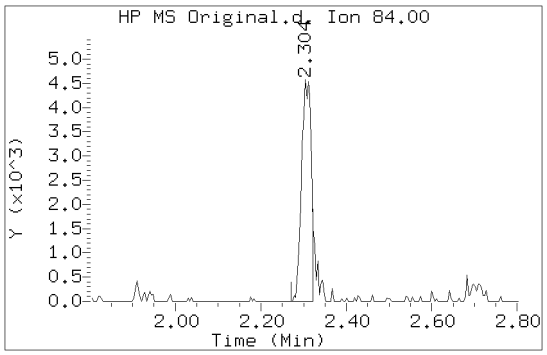


Methylene Chloride (75-09-2)

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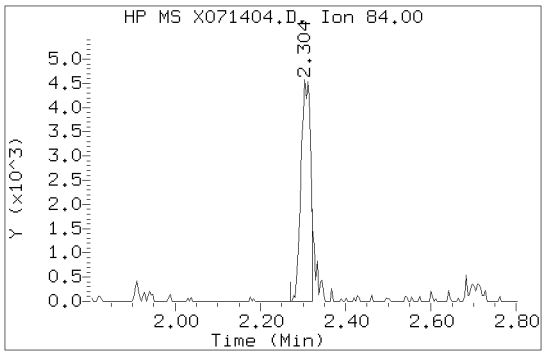
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AFTER

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pham

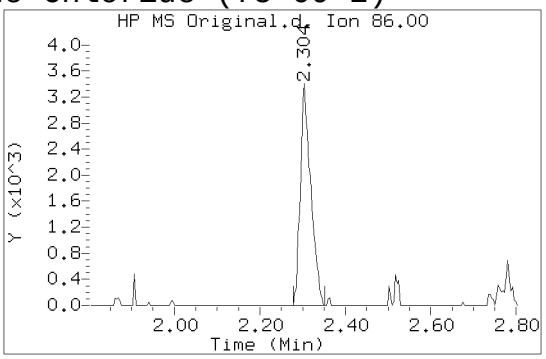


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Inj Date : 14-JUL-2023 13:02
InstruID : voa6.i
LabSampID : VSTD001

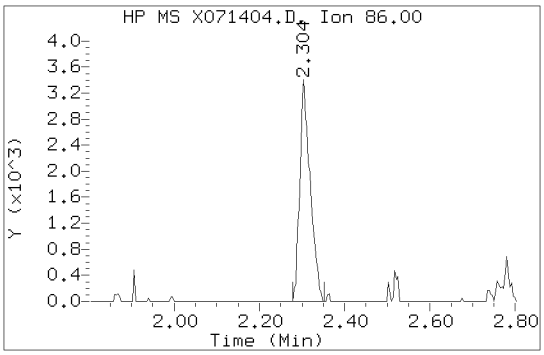
Methylene Chloride (75-09-2)

Reason Code:

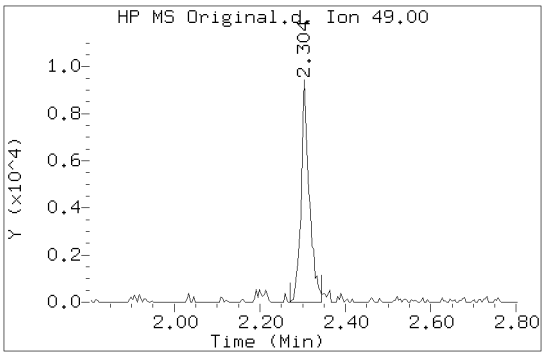
BEFORE
MASS
86
AREA
5890
HEIGHT
3405
20-Jul-2023
15:04
linh
pham



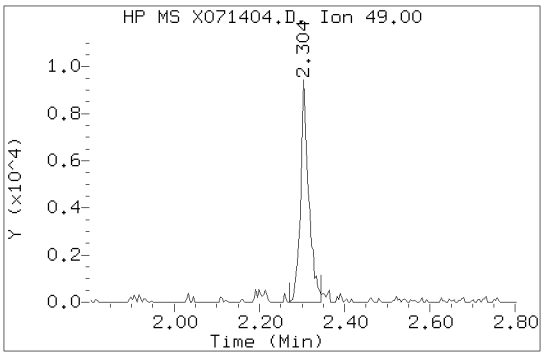
AFTER
MASS
86
AREA
5890
HEIGHT
3405
20-Jul-2023
15:04
linh
pham



BEFORE
MASS
49
AREA
12826
HEIGHT
9432
20-Jul-2023
15:04
linh
pham



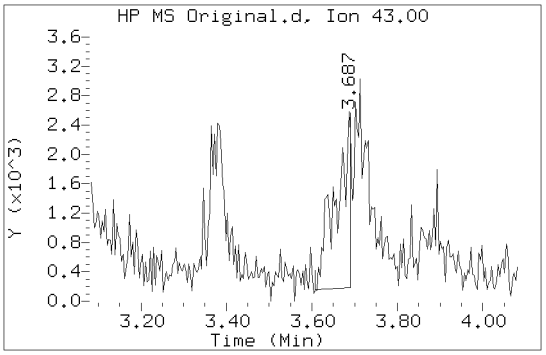
AFTER
MASS
49
AREA
12826
HEIGHT
9432
20-Jul-2023
15:04
linh
pham



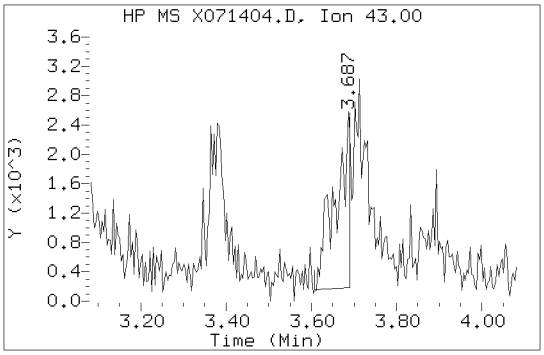
2-Butanone (78-93-3)

Reason Code:

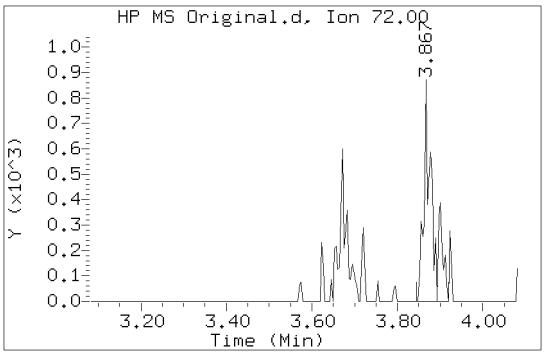
BEFORE
MASS
43
AREA
5549
HEIGHT
2403
20-Jul-2023
15:04
linh
pham



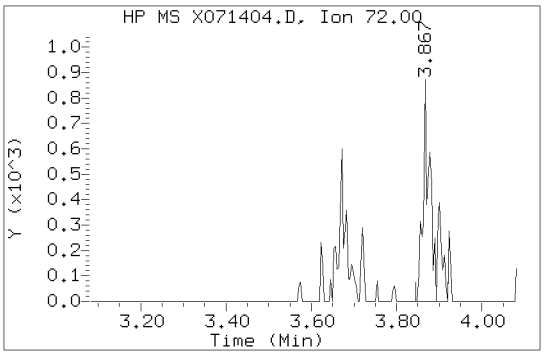
AFTER
MASS
43
AREA
5549
HEIGHT
2403
20-Jul-2023
15:04
linh
pham



BEFORE
MASS
72
AREA
1227
HEIGHT
872
20-Jul-2023
15:04
linh
pham



AFTER
MASS
72
AREA
1227
HEIGHT
872
20-Jul-2023
15:04
linh
pham

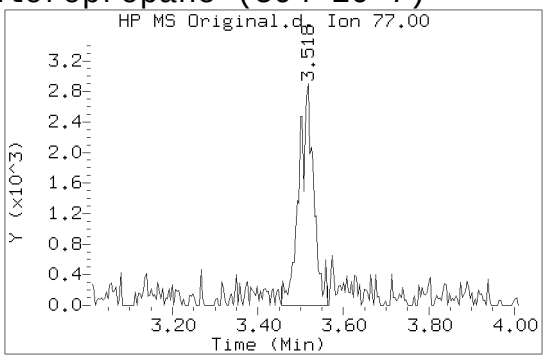


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Inj Date : 14-JUL-2023 13:02
InstruID : voa6.i
LabSampID : VSTD001

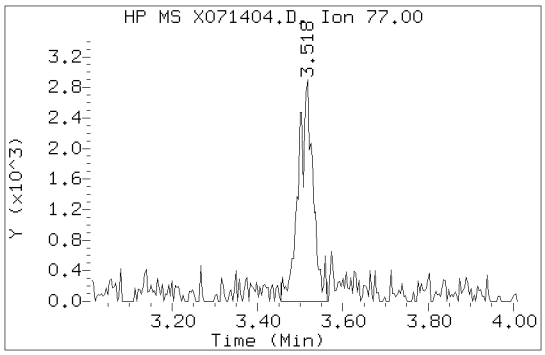
2,2-Dichloropropane (594-20-7)

Reason Code:

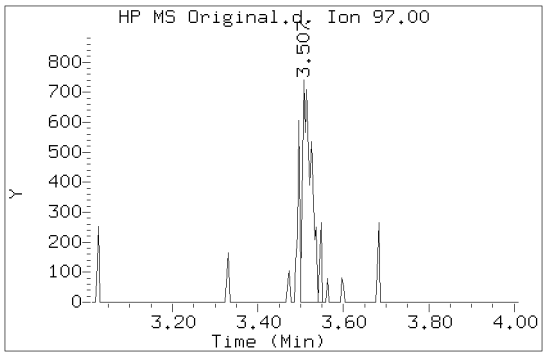
BEFORE
MASS
77
AREA
7001
HEIGHT
2901
20-Jul-2023
15:04
linh
pham



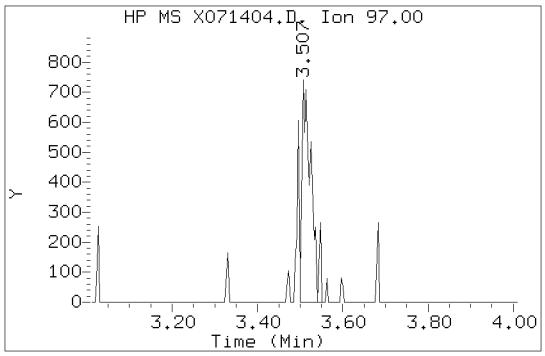
AFTER
MASS
77
AREA
7001
HEIGHT
2901
20-Jul-2023
15:04
linh
pham



BEFORE
MASS
97
AREA
1144
HEIGHT
741
20-Jul-2023
15:04
linh
pham



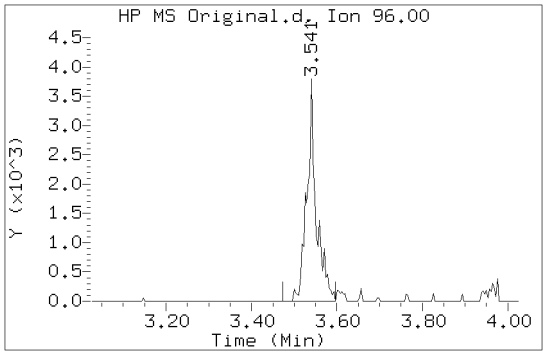
AFTER
MASS
97
AREA
1144
HEIGHT
741
20-Jul-2023
15:04
linh
pham



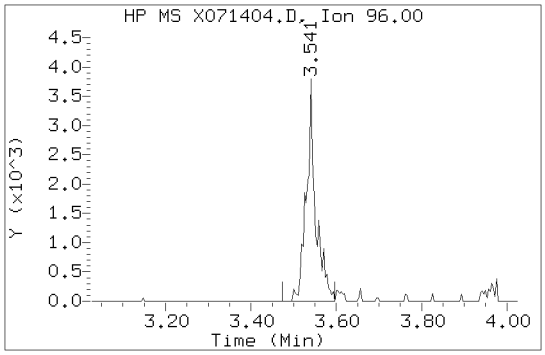
cis-1,2-Dichloroethene (156-59-2)

Reason Code:

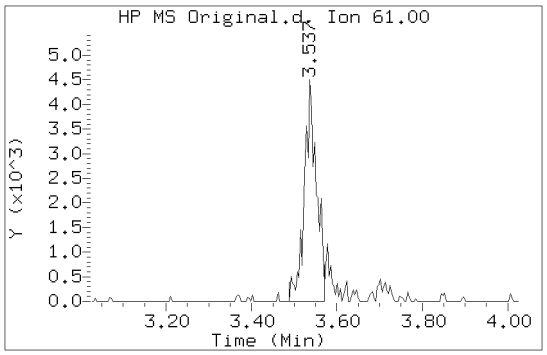
BEFORE
MASS
96
AREA
5828
HEIGHT
3797
20-Jul-2023
15:04
linh
pham



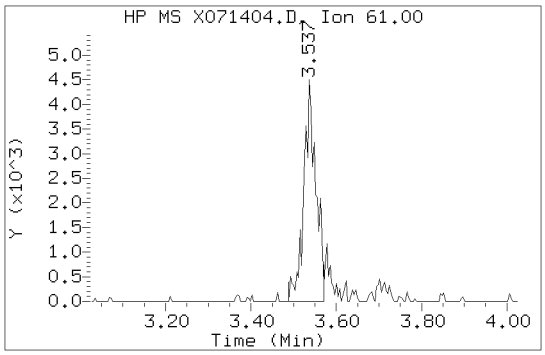
AFTER
MASS
96
AREA
5828
HEIGHT
3797
20-Jul-2023
15:04
linh
pham



BEFORE
MASS
61
AREA
9003
HEIGHT
4504
20-Jul-2023
15:04
linh
pham



AFTER
MASS
61
AREA
9003
HEIGHT
4504
20-Jul-2023
15:04
linh
pham



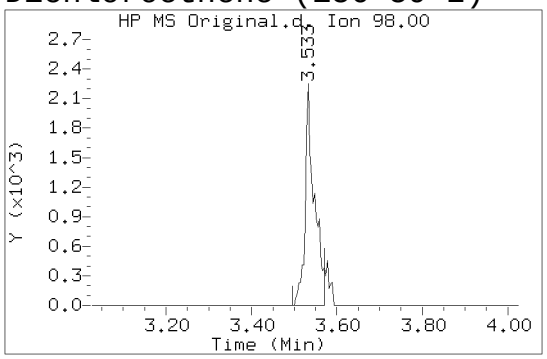
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071404.D
Inj Date : 14-JUL-2023 13:02
InstruID : voa6.i
LabSampID : VSTD001

cis-1,2-Dichloroethene (156-59-2)

Reason Code:

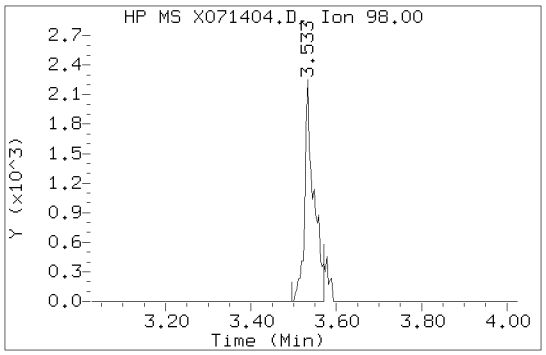
BEFORE

MASS
98
AREA
3384
HEIGHT
2251
20-Jul-2023
15:04
linh
pham



AFTER

MASS
98
AREA
3384
HEIGHT
2251
20-Jul-2023
15:04
linh
pham

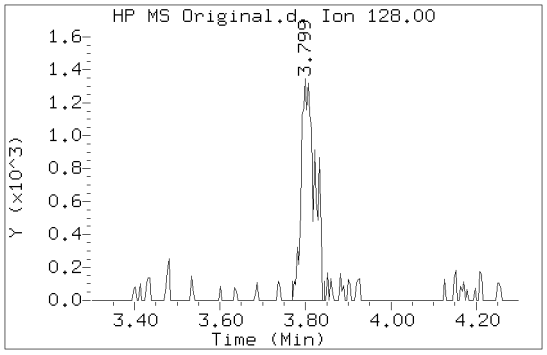


Bromochloromethane (74-97-5)

Reason Code:

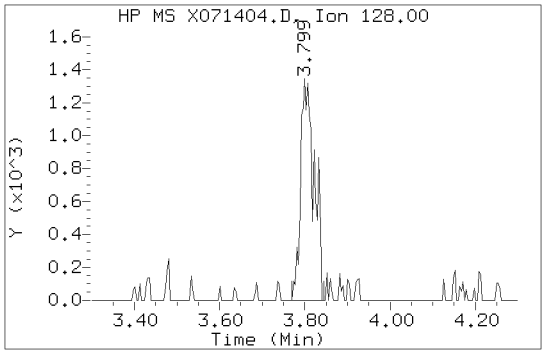
BEFORE

MASS
128
AREA
3002
HEIGHT
1346
20-Jul-2023
15:04
linh
pham



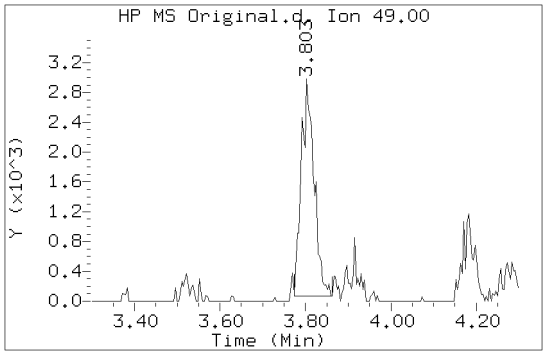
AFTER

MASS
128
AREA
3002
HEIGHT
1346
20-Jul-2023
15:04
linh
pham



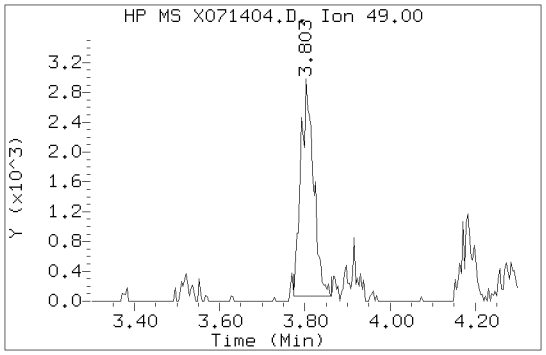
BEFORE

MASS
49
AREA
6119
HEIGHT
2913
20-Jul-2023
15:04
linh
pham



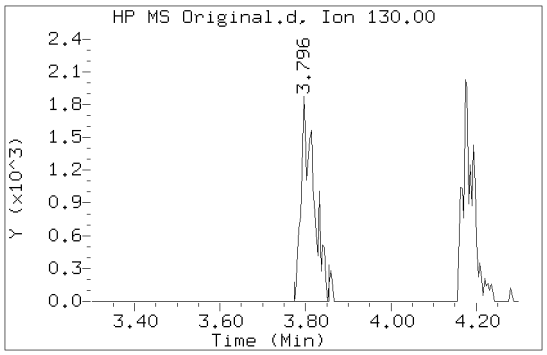
AFTER

MASS
49
AREA
6119
HEIGHT
2913
20-Jul-2023
15:04
linh
pham



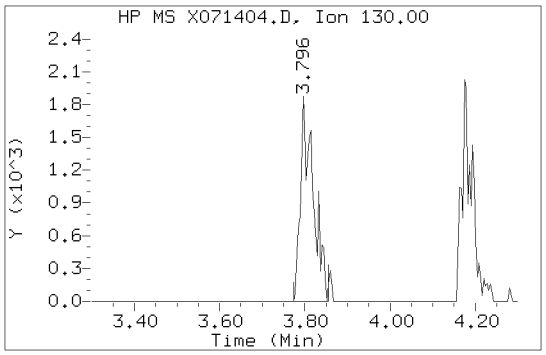
BEFORE

MASS
130
AREA
3970
HEIGHT
1875
20-Jul-2023
15:04
linh
pham



AFTER

MASS
130
AREA
3970
HEIGHT
1875
20-Jul-2023
15:04
linh
pham



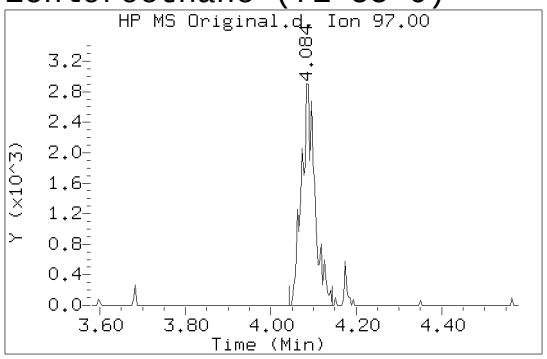
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071404.D
Inj Date : 14-JUL-2023 13:02
InstruID : voa6.i
LabSampID : VSTD001

1,1,1-Trichloroethane (71-55-6)

Reason Code:

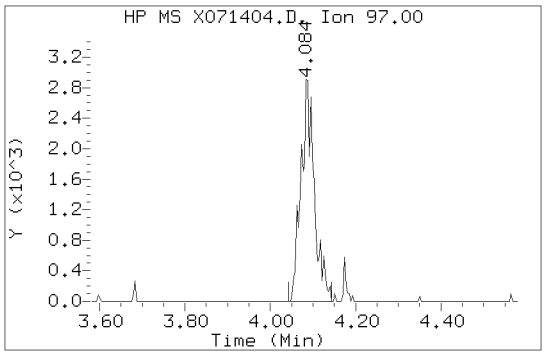
BEFORE

MASS
97
AREA
6398
HEIGHT
2905
20-Jul-2023
15:04
linh
pham



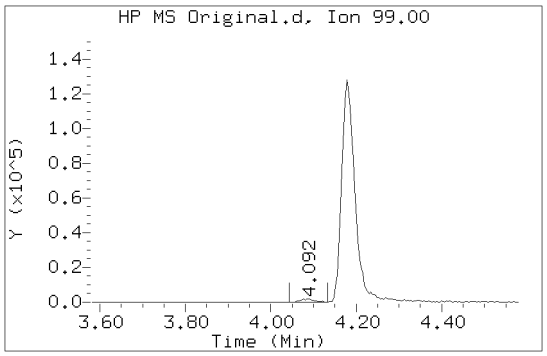
AFTER

MASS
97
AREA
6398
HEIGHT
2905
20-Jul-2023
15:04
linh
pham



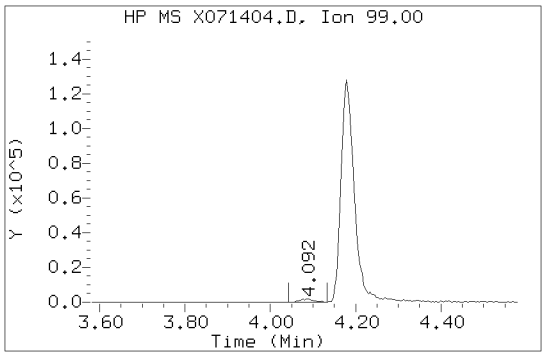
BEFORE

MASS
99
AREA
4128
HEIGHT
1962
20-Jul-2023
15:04
linh
pham



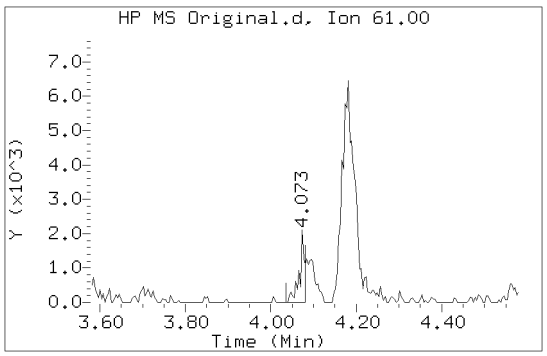
AFTER

MASS
99
AREA
4128
HEIGHT
1962
20-Jul-2023
15:04
linh
pham



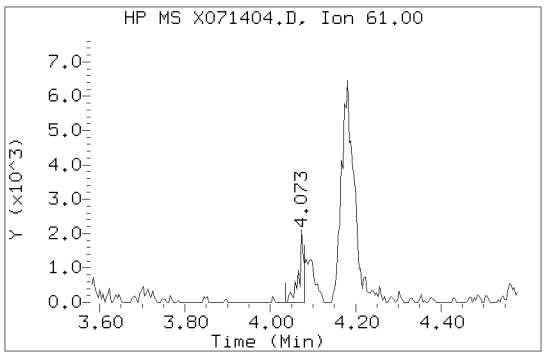
BEFORE

MASS
61
AREA
1719
HEIGHT
2107
20-Jul-2023
15:04
linh
pham



AFTER

MASS
61
AREA
1719
HEIGHT
2107
20-Jul-2023
15:04
linh
pham

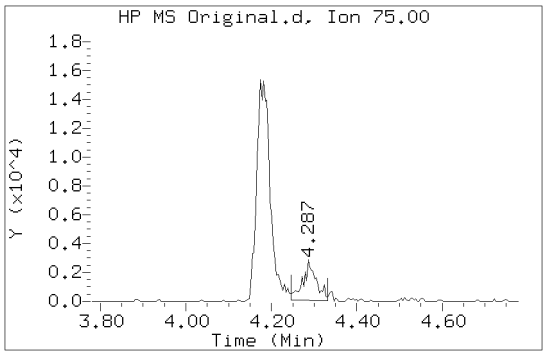


1,1-Dichloropropene (563-58-6)

Reason Code:

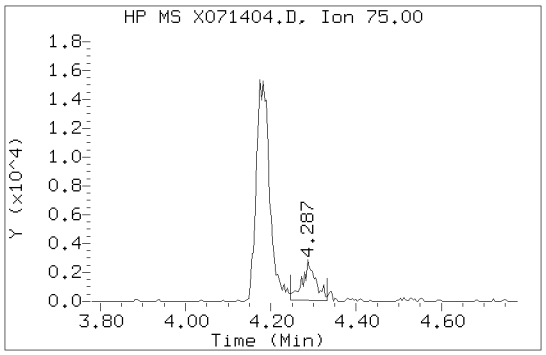
BEFORE

MASS
75
AREA
6097
HEIGHT
2831
20-Jul-2023
15:04
linh
pham



AFTER

MASS
75
AREA
6097
HEIGHT
2831
20-Jul-2023
15:04
linh
pham



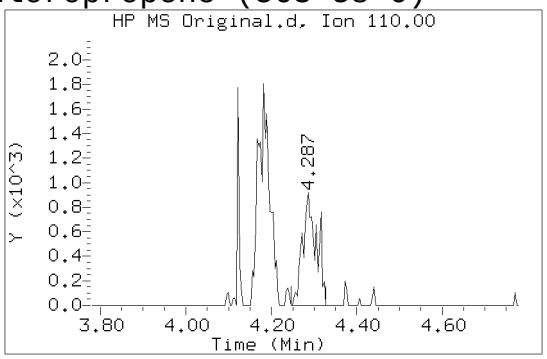
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Inj Date : 14-JUL-2023 13:02
InstruID : voa6.i
LabSampID : VSTD001

1,1-Dichloropropene (563-58-6)

Reason Code:

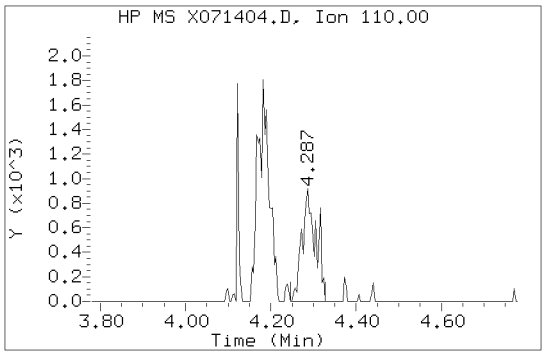
BEFORE

MASS
110
AREA
2079
HEIGHT
917
20-Jul-2023
15:04
linh
pham



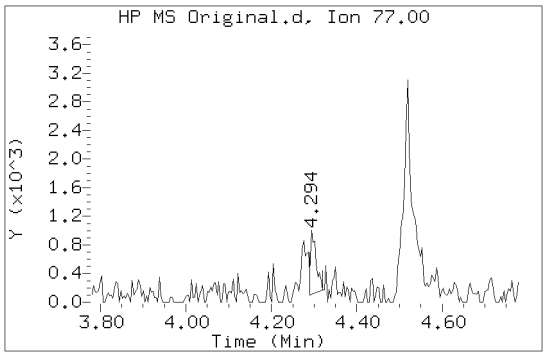
AFTER

MASS
110
AREA
2079
HEIGHT
917
20-Jul-2023
15:04
linh
pham



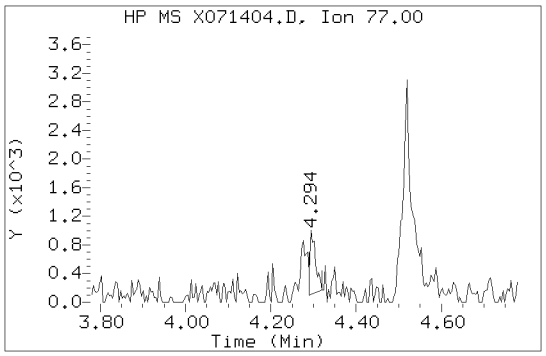
BEFORE

MASS
77
AREA
821
HEIGHT
892
20-Jul-2023
15:04
linh
pham



AFTER

MASS
77
AREA
821
HEIGHT
892
20-Jul-2023
15:04
linh
pham

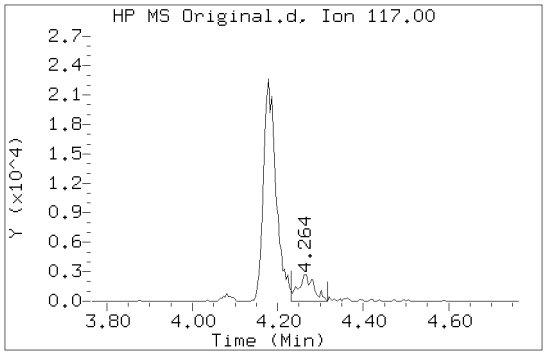


Carbon Tetrachloride (56-23-5)

Reason Code:

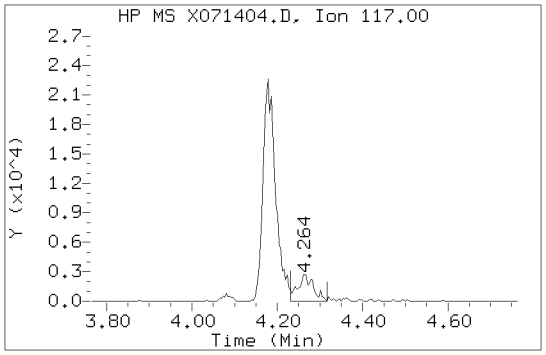
BEFORE

MASS
117
AREA
7002
HEIGHT
2701
20-Jul-2023
15:04
linh
pham



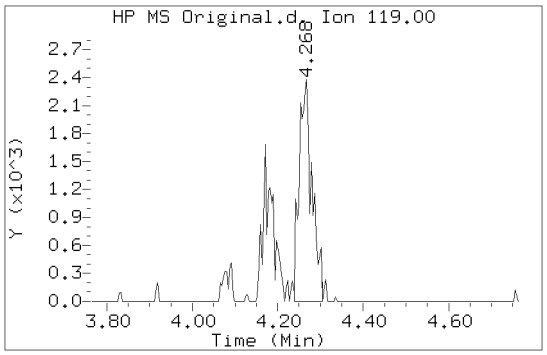
AFTER

MASS
117
AREA
7002
HEIGHT
2701
20-Jul-2023
15:04
linh
pham



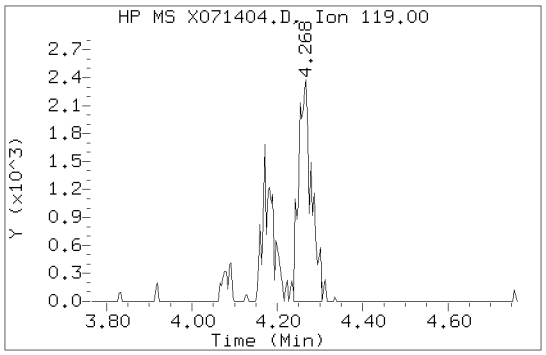
BEFORE

MASS
119
AREA
5029
HEIGHT
2378
20-Jul-2023
15:04
linh
pham



AFTER

MASS
119
AREA
5029
HEIGHT
2378
20-Jul-2023
15:04
linh
pham

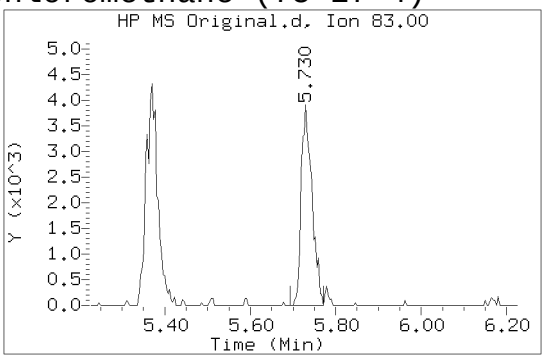


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071404.D
Inj Date : 14-JUL-2023 13:02
InstruID : voa6.i
LabSampID : VSTD001

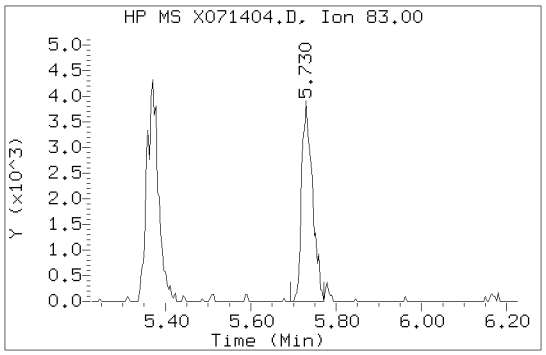
Bromodichloromethane (75-27-4)

Reason Code:

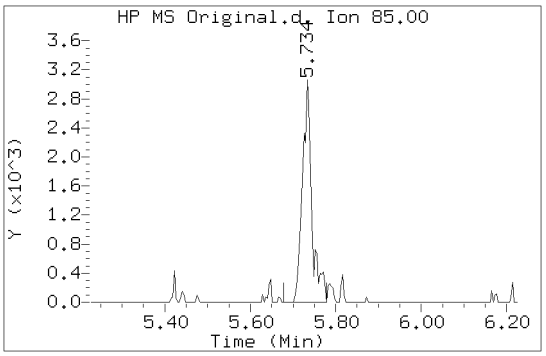
BEFORE
MASS
83
AREA
6967
HEIGHT
3917
20-Jul-2023
15:04
linh
pham



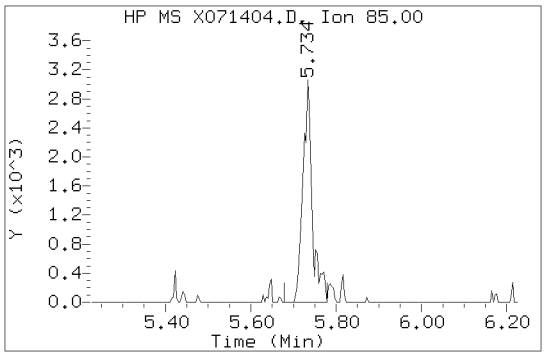
AFTER
MASS
83
AREA
6967
HEIGHT
3917
20-Jul-2023
15:04
linh
pham



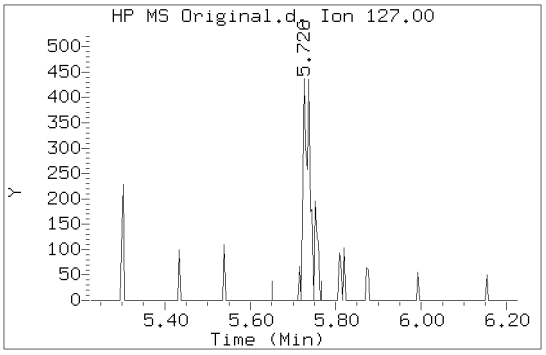
BEFORE
MASS
85
AREA
4797
HEIGHT
3061
20-Jul-2023
15:04
linh
pham



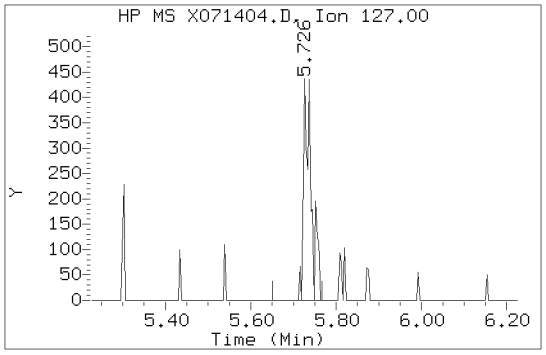
AFTER
MASS
85
AREA
4797
HEIGHT
3061
20-Jul-2023
15:04
linh
pham



BEFORE
MASS
127
AREA
568
HEIGHT
437
20-Jul-2023
15:04
linh
pham



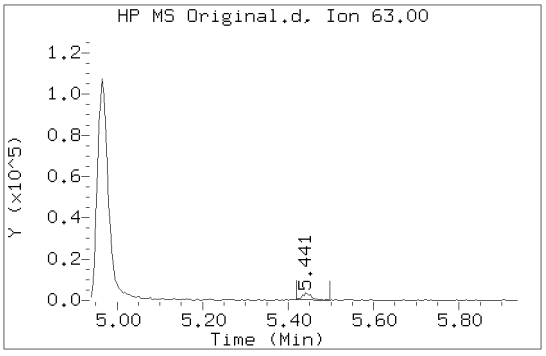
AFTER
MASS
127
AREA
568
HEIGHT
437
20-Jul-2023
15:04
linh
pham



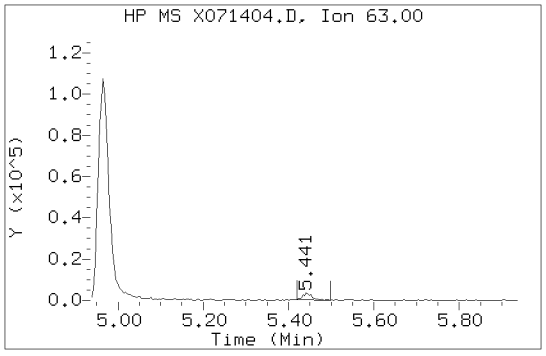
1,2-Dichloropropane (78-87-5)

Reason Code:

BEFORE
MASS
63
AREA
5153
HEIGHT
3474
20-Jul-2023
15:04
linh
pham



AFTER
MASS
63
AREA
5153
HEIGHT
3474
20-Jul-2023
15:04
linh
pham



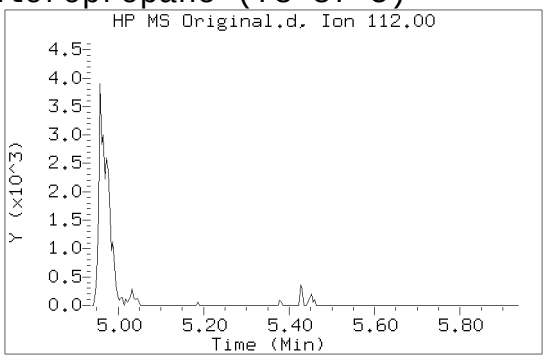
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071404.D
Inj Date : 14-JUL-2023 13:02
InstruID : voa6.i
LabSampID : VSTD001

1,2-Dichloropropane (78-87-5)

Reason Code:

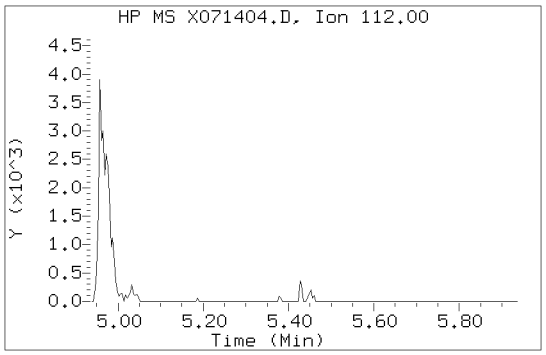
BEFORE

MASS
112
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



AFTER

MASS
112
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham

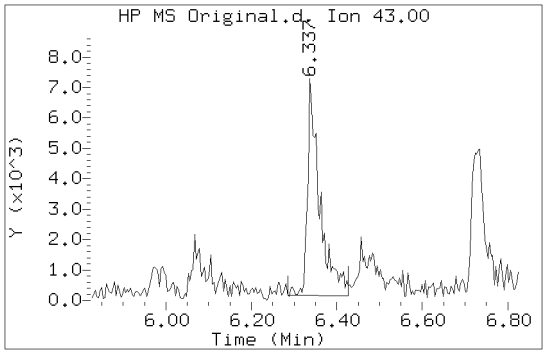


4-Methyl-2-Pentanone (108-10-1)

Reason Code:

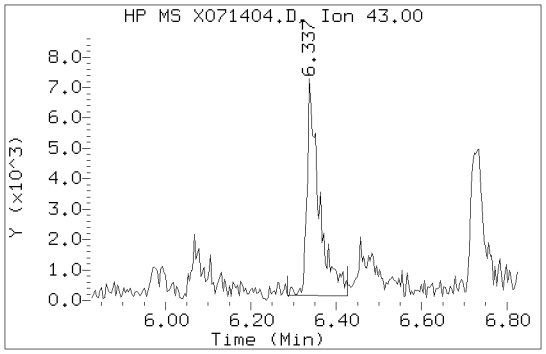
BEFORE

MASS
43
AREA
14106
HEIGHT
7121
20-Jul-2023
15:04
linh
pham



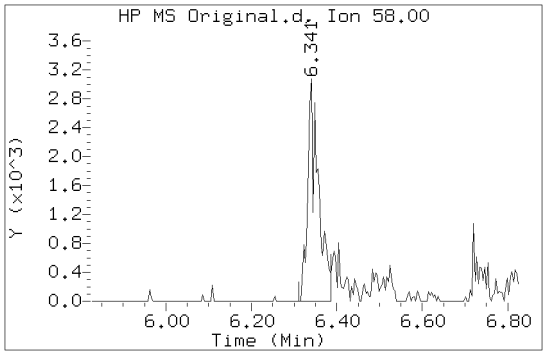
AFTER

MASS
43
AREA
14106
HEIGHT
7121
20-Jul-2023
15:04
linh
pham



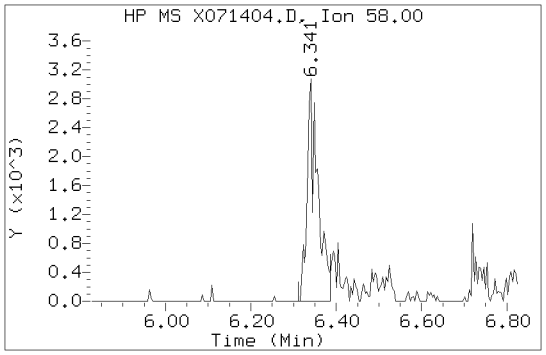
BEFORE

MASS
58
AREA
5370
HEIGHT
3077
20-Jul-2023
15:04
linh
pham



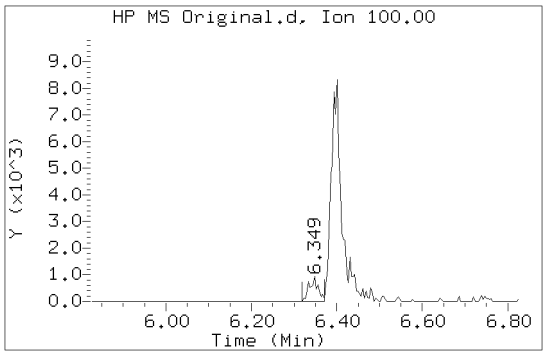
AFTER

MASS
58
AREA
5370
HEIGHT
3077
20-Jul-2023
15:04
linh
pham



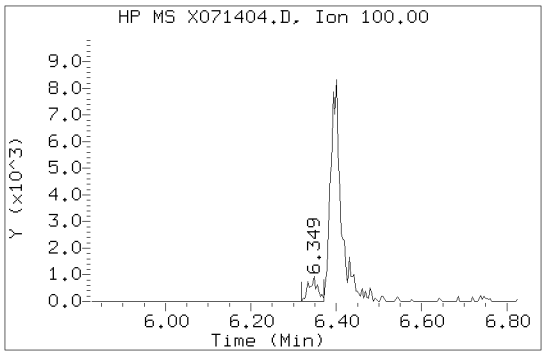
BEFORE

MASS
100
AREA
1328
HEIGHT
944
20-Jul-2023
15:04
linh
pham



AFTER

MASS
100
AREA
1328
HEIGHT
944
20-Jul-2023
15:04
linh
pham



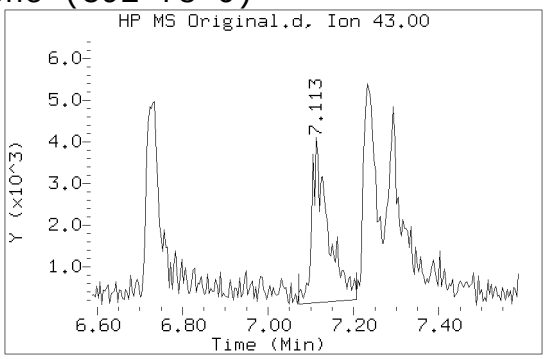
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071404.D
Inj Date : 14-JUL-2023 13:02
InstruID : voa6.i
LabSampID : VSTD001

2-Hexanone (591-78-6)

Reason Code:

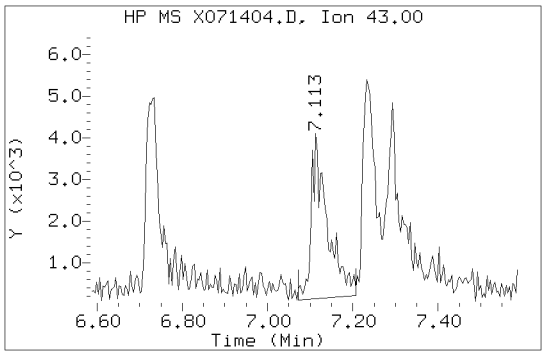
BEFORE

MASS
43
AREA
10319
HEIGHT
3957
20-Jul-2023
15:04
linh
pham



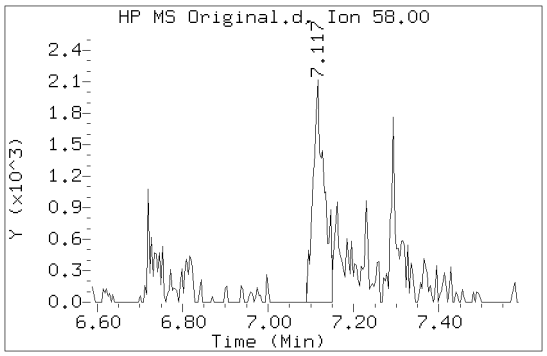
AFTER

MASS
43
AREA
10319
HEIGHT
3957
20-Jul-2023
15:04
linh
pham



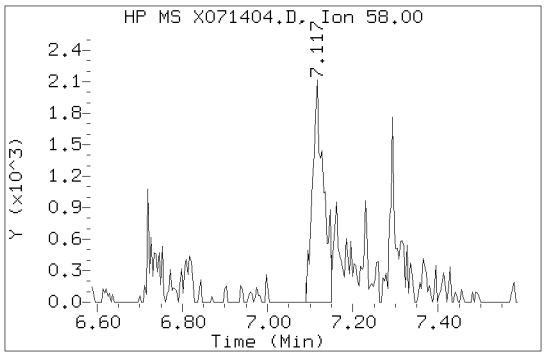
BEFORE

MASS
58
AREA
3772
HEIGHT
2118
20-Jul-2023
15:04
linh
pham



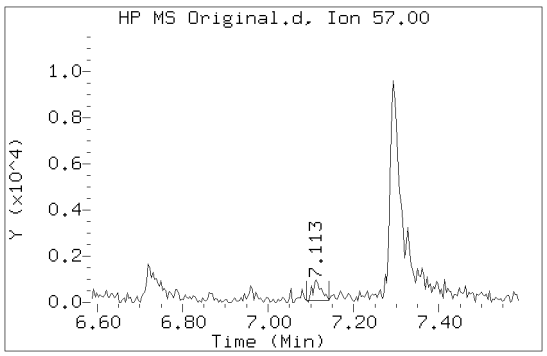
AFTER

MASS
58
AREA
3772
HEIGHT
2118
20-Jul-2023
15:04
linh
pham



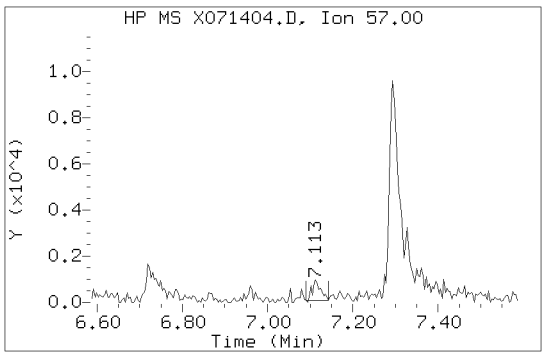
BEFORE

MASS
57
AREA
1177
HEIGHT
882
20-Jul-2023
15:04
linh
pham



AFTER

MASS
57
AREA
1177
HEIGHT
882
20-Jul-2023
15:04
linh
pham

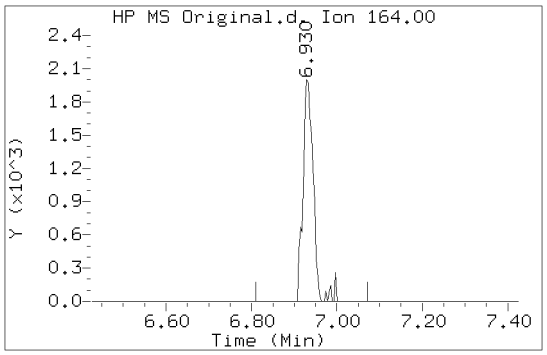


Tetrachloroethene (127-18-4)

Reason Code:

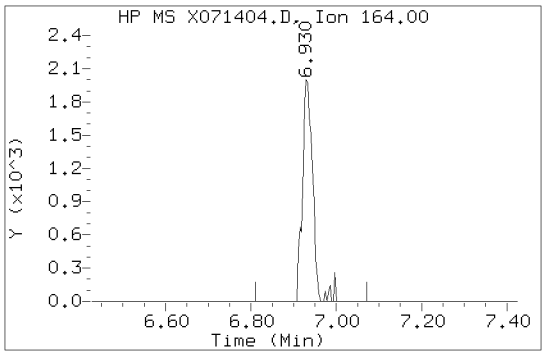
BEFORE

MASS
164
AREA
3431
HEIGHT
2001
20-Jul-2023
15:04
linh
pham



AFTER

MASS
164
AREA
3431
HEIGHT
2001
20-Jul-2023
15:04
linh
pham



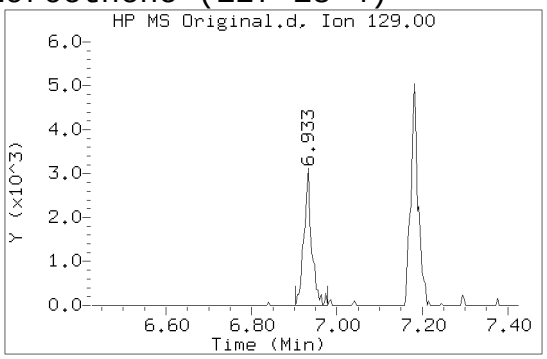
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071404.D
Inj Date : 14-JUL-2023 13:02
InstruID : voa6.i
LabSampID : VSTD001

Tetrachloroethene (127-18-4)

Reason Code:

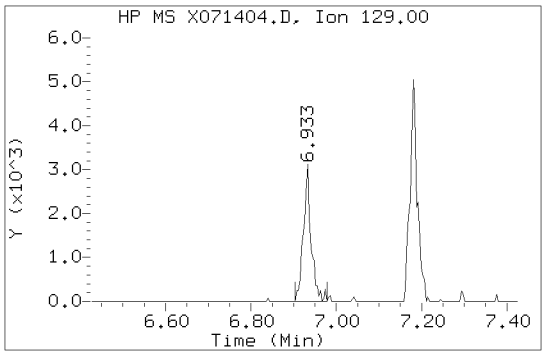
BEFORE

MASS
129
AREA
3977
HEIGHT
3127
20-Jul-2023
15:04
linh
pham



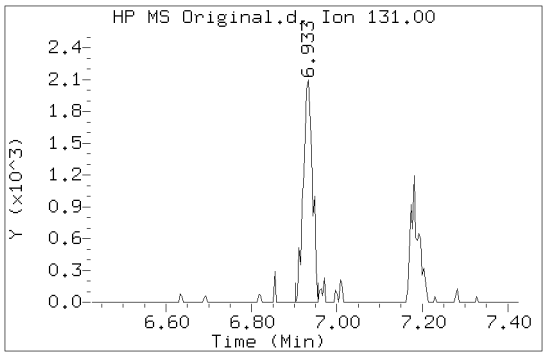
AFTER

MASS
129
AREA
3977
HEIGHT
3127
20-Jul-2023
15:04
linh
pham



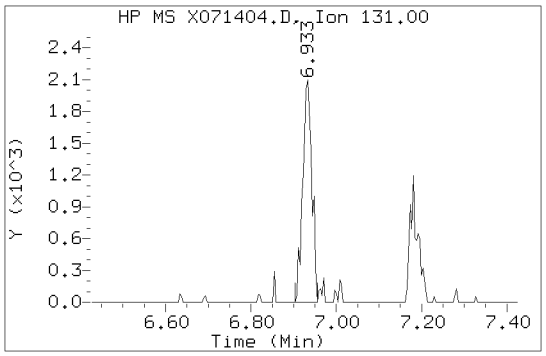
BEFORE

MASS
131
AREA
3184
HEIGHT
2098
20-Jul-2023
15:04
linh
pham



AFTER

MASS
131
AREA
3184
HEIGHT
2098
20-Jul-2023
15:04
linh
pham

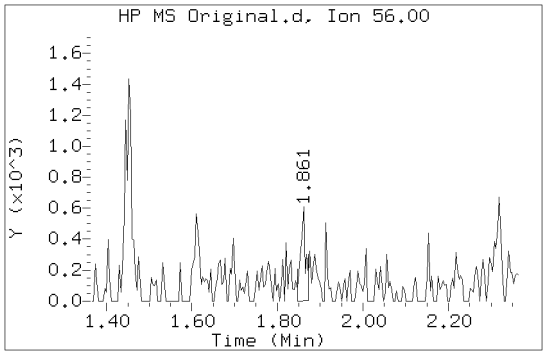


Acrolein (107-02-8)

Reason Code:

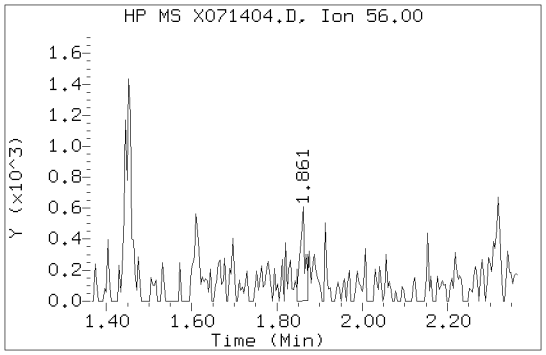
BEFORE

MASS
56
AREA
510
HEIGHT
608
20-Jul-2023
15:04
linh
pham



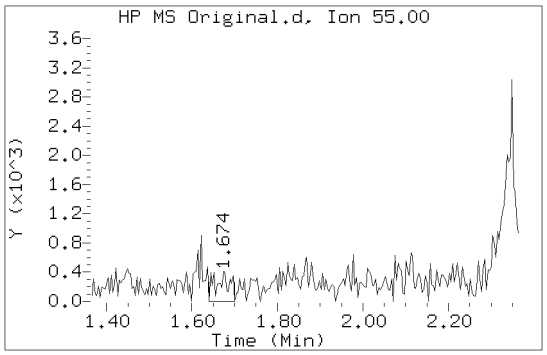
AFTER

MASS
56
AREA
510
HEIGHT
608
20-Jul-2023
15:04
linh
pham



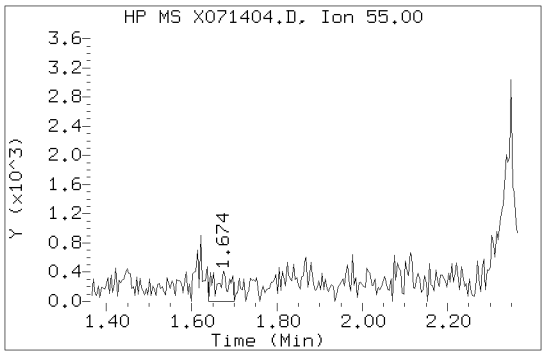
BEFORE

MASS
55
AREA
888
HEIGHT
412
20-Jul-2023
15:04
linh
pham



AFTER

MASS
55
AREA
888
HEIGHT
412
20-Jul-2023
15:04
linh
pham



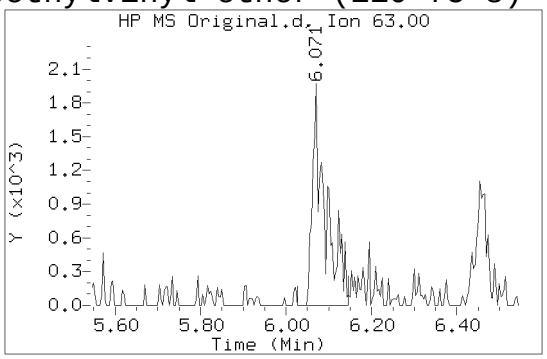
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071404.D
Inj Date : 14-JUL-2023 13:02
InstruID : voa6.i
LabSampID : VSTD001

2-Chloroethylvinyl ether (110-75-8)

Reason Code:

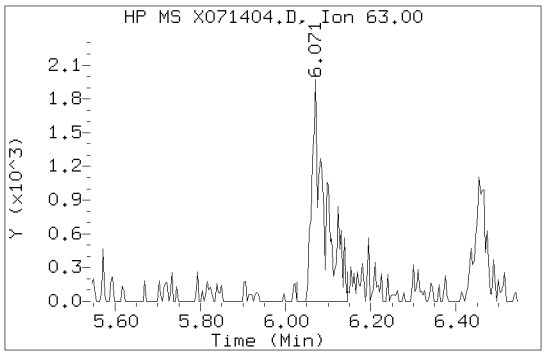
BEFORE

MASS
63
AREA
4176
HEIGHT
1971
20-Jul-2023
15:04
linh
pham



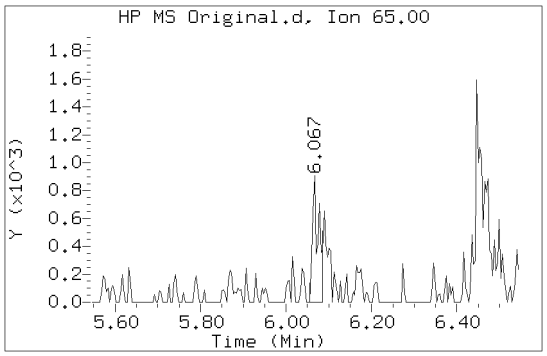
AFTER

MASS
63
AREA
4176
HEIGHT
1971
20-Jul-2023
15:04
linh
pham



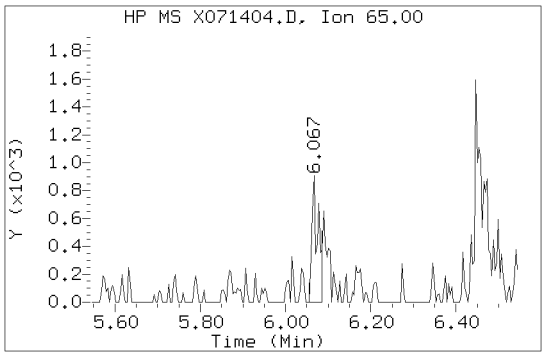
BEFORE

MASS
65
AREA
920
HEIGHT
907
20-Jul-2023
15:04
linh
pham



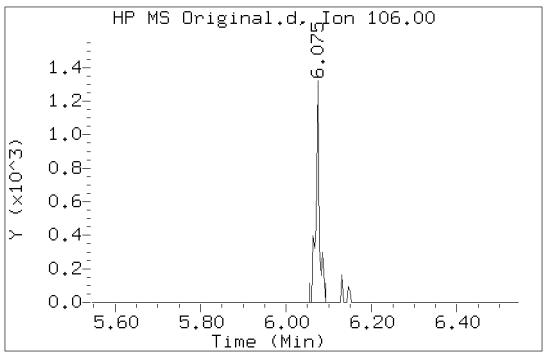
AFTER

MASS
65
AREA
920
HEIGHT
907
20-Jul-2023
15:04
linh
pham



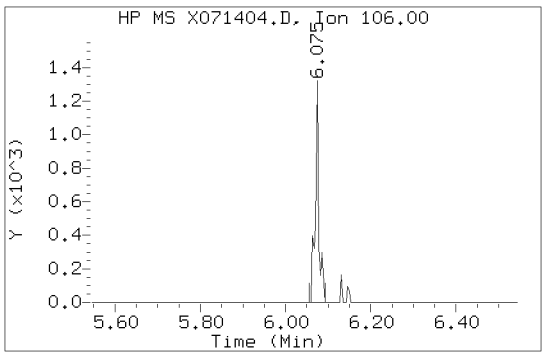
BEFORE

MASS
106
AREA
764
HEIGHT
1322
20-Jul-2023
15:04
linh
pham



AFTER

MASS
106
AREA
764
HEIGHT
1322
20-Jul-2023
15:04
linh
pham

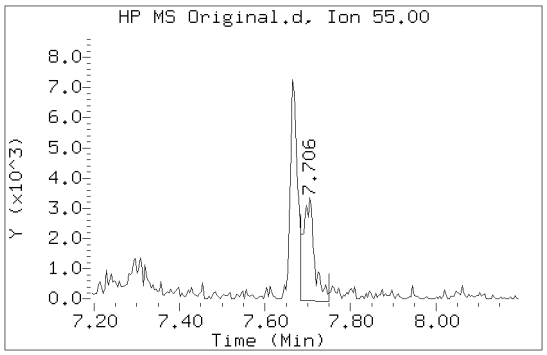


1-Chlorohexane (544-10-5)

Reason Code:

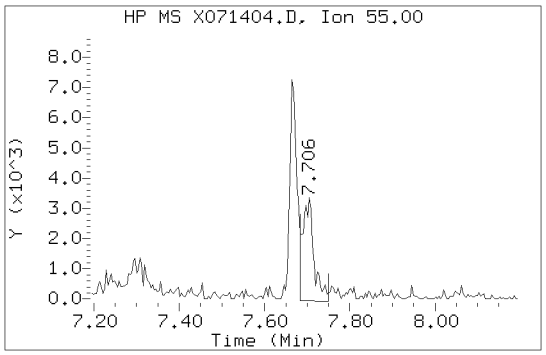
BEFORE

MASS
55
AREA
6663
HEIGHT
3425
20-Jul-2023
15:04
linh
pham



AFTER

MASS
55
AREA
6663
HEIGHT
3425
20-Jul-2023
15:04
linh
pham



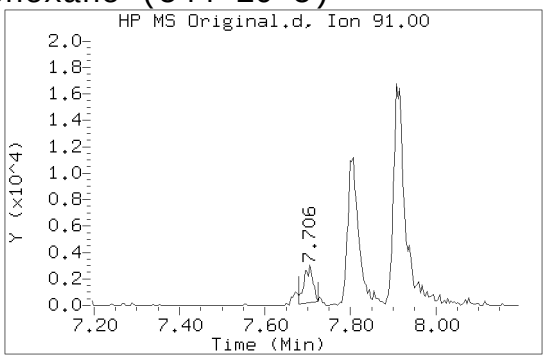
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071404.D
Inj Date : 14-JUL-2023 13:02
InstruID : voa6.i
LabSampID : VSTD001

1-Chlorohexane (544-10-5)

Reason Code:

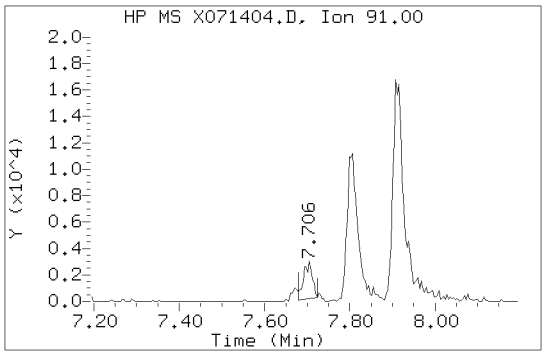
BEFORE

MASS
91
AREA
4133
HEIGHT
2845
20-Jul-2023
15:04
linh
pham



AFTER

MASS
91
AREA
4133
HEIGHT
2845
20-Jul-2023
15:04
linh
pham

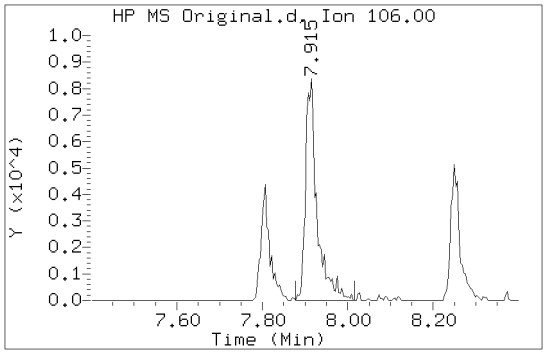


m,p-Xylenes ()

Reason Code:

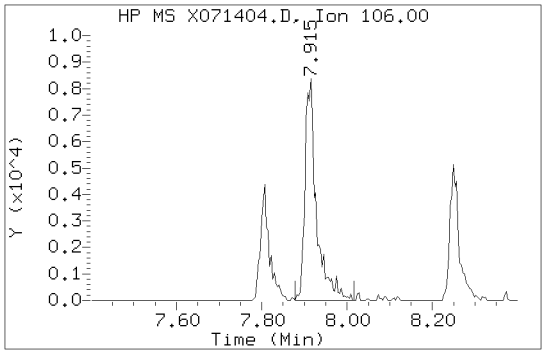
BEFORE

MASS
106
AREA
15703
HEIGHT
8376
20-Jul-2023
15:04
linh
pham



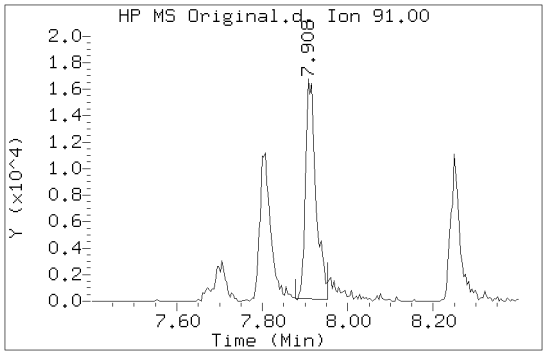
AFTER

MASS
106
AREA
15703
HEIGHT
8376
20-Jul-2023
15:04
linh
pham



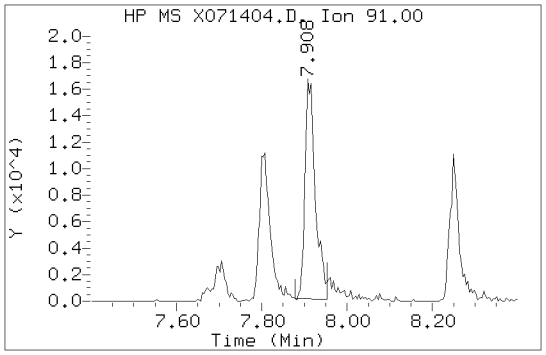
BEFORE

MASS
91
AREA
28386
HEIGHT
16587
20-Jul-2023
15:04
linh
pham



AFTER

MASS
91
AREA
28386
HEIGHT
16587
20-Jul-2023
15:04
linh
pham

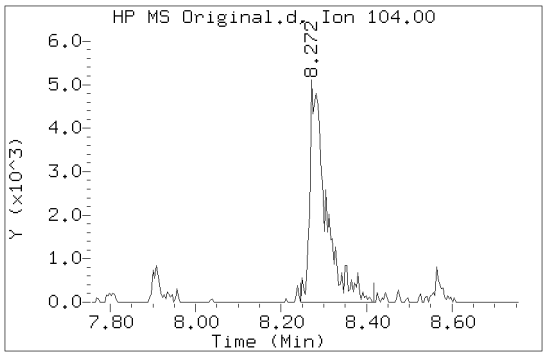


Styrene (100-42-5)

Reason Code:

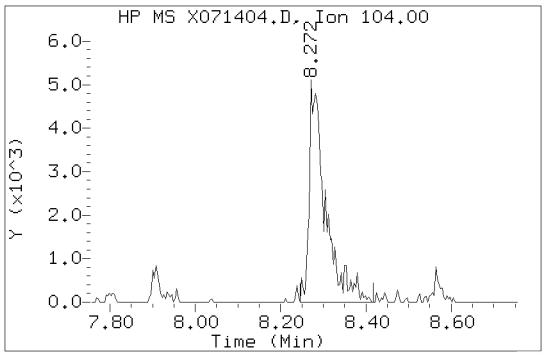
BEFORE

MASS
104
AREA
13315
HEIGHT
5109
20-Jul-2023
15:04
linh
pham



AFTER

MASS
104
AREA
13315
HEIGHT
5109
20-Jul-2023
15:04
linh
pham



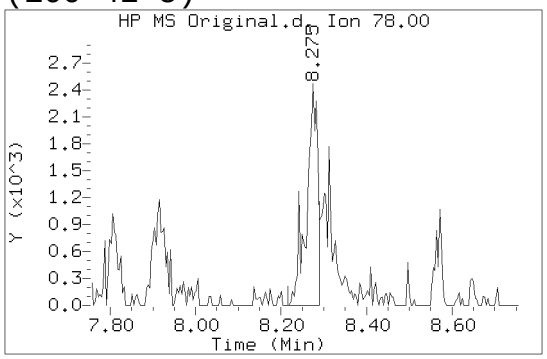
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Inj Date : 14-JUL-2023 13:02
InstruID : voa6.i
LabSampID : VSTD001

Styrene (100-42-5)

Reason Code:

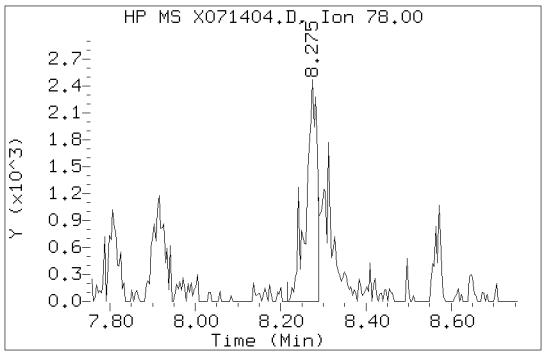
BEFORE

MASS
78
AREA
4442
HEIGHT
2469
20-Jul-2023
15:04
linh
pham



AFTER

MASS
78
AREA
4442
HEIGHT
2469
20-Jul-2023
15:04
linh
pham

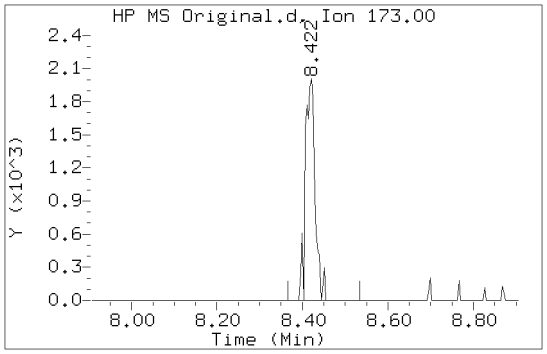


Bromoform (75-25-2)

Reason Code:

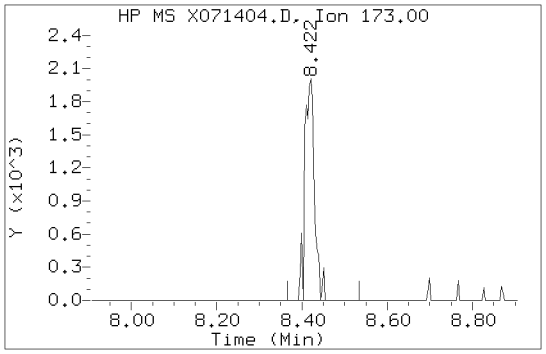
BEFORE

MASS
173
AREA
3238
HEIGHT
2008
20-Jul-2023
15:04
linh
pham



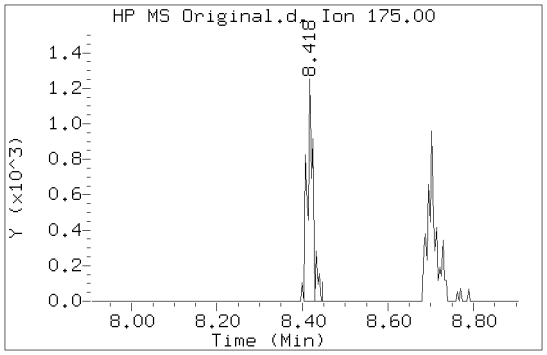
AFTER

MASS
173
AREA
3238
HEIGHT
2008
20-Jul-2023
15:04
linh
pham



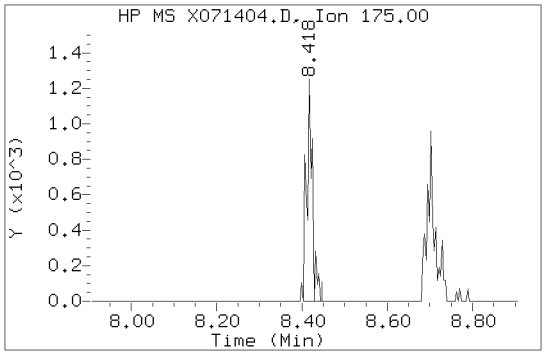
BEFORE

MASS
175
AREA
1174
HEIGHT
1253
20-Jul-2023
15:04
linh
pham



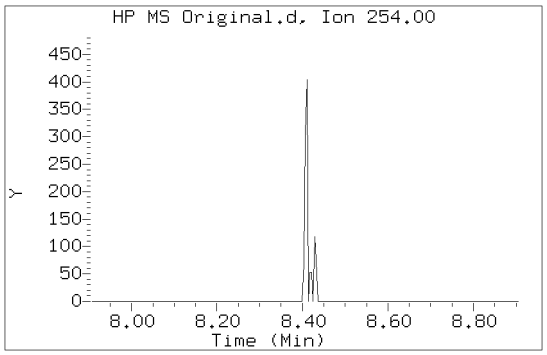
AFTER

MASS
175
AREA
1174
HEIGHT
1253
20-Jul-2023
15:04
linh
pham



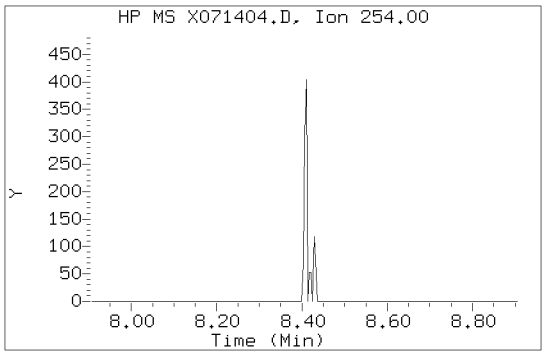
BEFORE

MASS
254
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



AFTER

MASS
254
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham

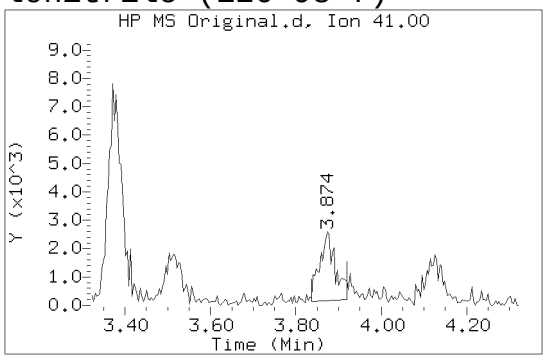


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071404.D
Inj Date : 14-JUL-2023 13:02
InstruID : voa6.i
LabSampID : VSTD001

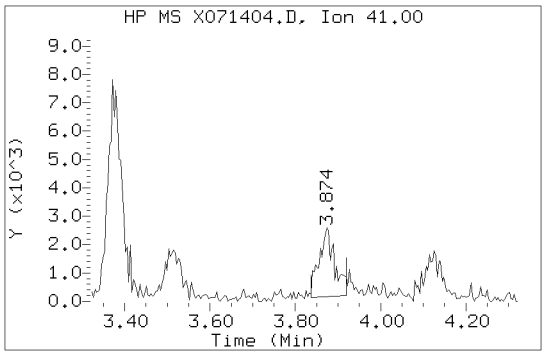
Methacrylonitrile (126-98-7)

Reason Code:

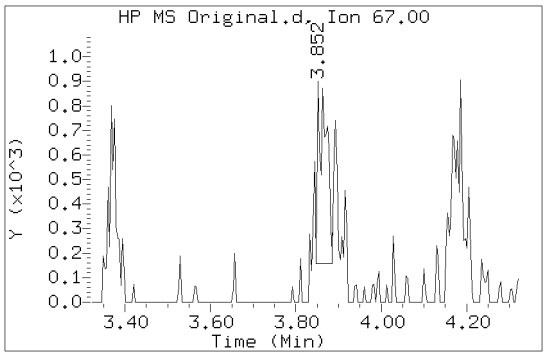
BEFORE
MASS
41
AREA
6195
HEIGHT
2436
20-Jul-2023
15:04
linh
pham



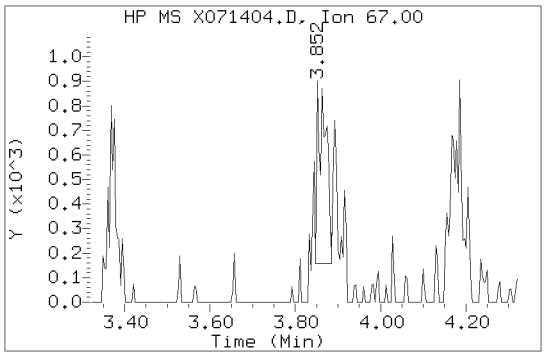
AFTER
MASS
41
AREA
6195
HEIGHT
2436
20-Jul-2023
15:04
linh
pham



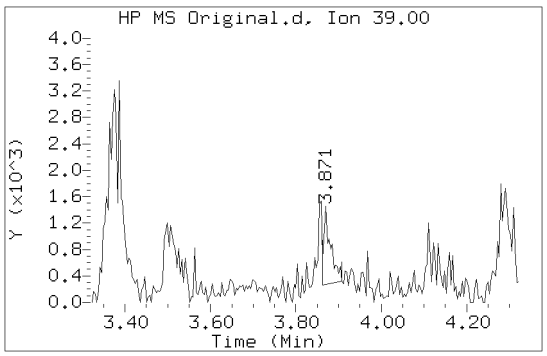
BEFORE
MASS
67
AREA
1024
HEIGHT
744
20-Jul-2023
15:04
linh
pham



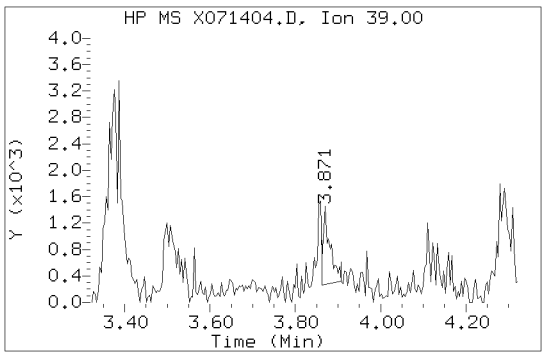
AFTER
MASS
67
AREA
1024
HEIGHT
744
20-Jul-2023
15:04
linh
pham



BEFORE
MASS
39
AREA
1324
HEIGHT
1187
20-Jul-2023
15:04
linh
pham



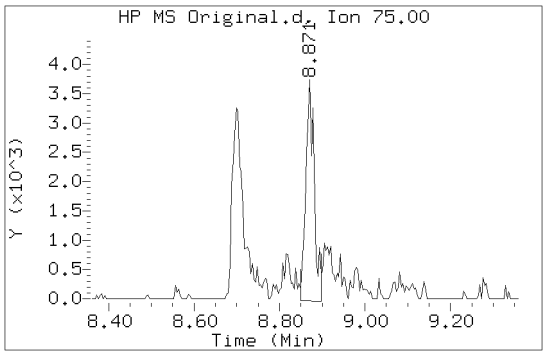
AFTER
MASS
39
AREA
1324
HEIGHT
1187
20-Jul-2023
15:04
linh
pham



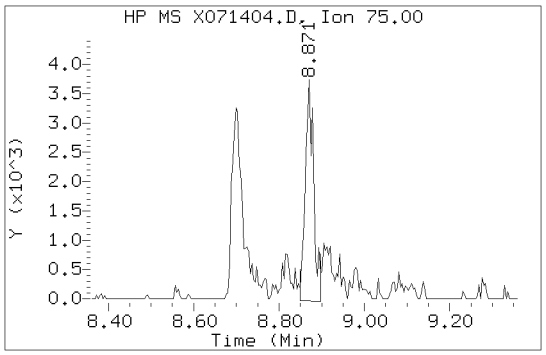
1,2,3-Trichloropropane (96-18-4)

Reason Code:

BEFORE
MASS
75
AREA
5203
HEIGHT
3776
20-Jul-2023
15:04
linh
pham



AFTER
MASS
75
AREA
5203
HEIGHT
3776
20-Jul-2023
15:04
linh
pham



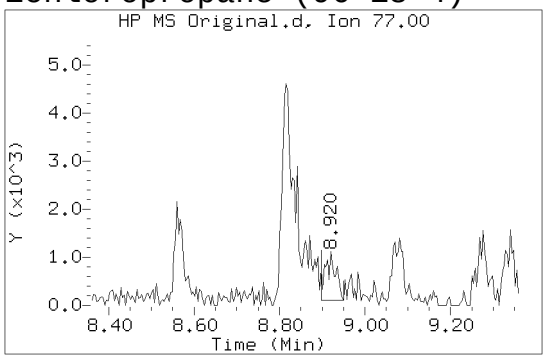
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071404.D
Inj Date : 14-JUL-2023 13:02
InstruID : voa6.i
LabSampID : VSTD001

1,2,3-Trichloropropane (96-18-4)

Reason Code:

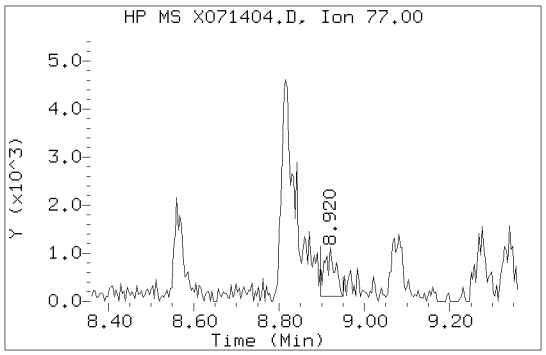
BEFORE

MASS
77
AREA
1749
HEIGHT
1014
20-Jul-2023
15:04
linh
pham



AFTER

MASS
77
AREA
1749
HEIGHT
1014
20-Jul-2023
15:04
linh
pham

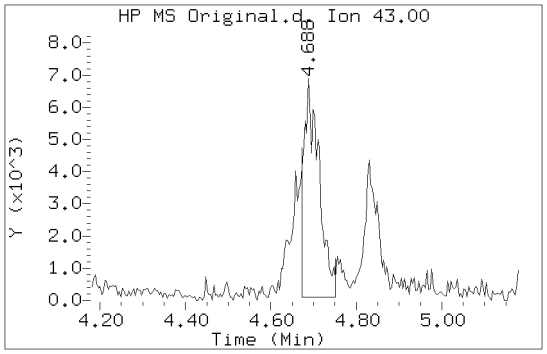


Isobutyl Alcohol (78-83-1)

Reason Code:

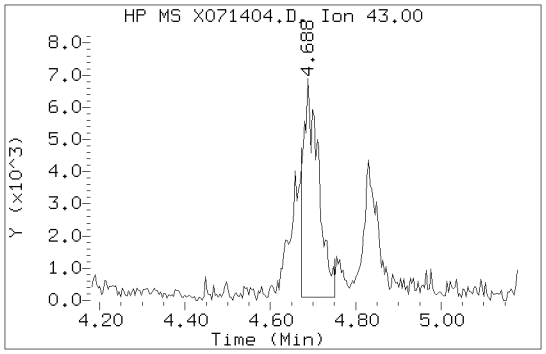
BEFORE

MASS
43
AREA
16938
HEIGHT
6786
20-Jul-2023
15:04
linh
pham



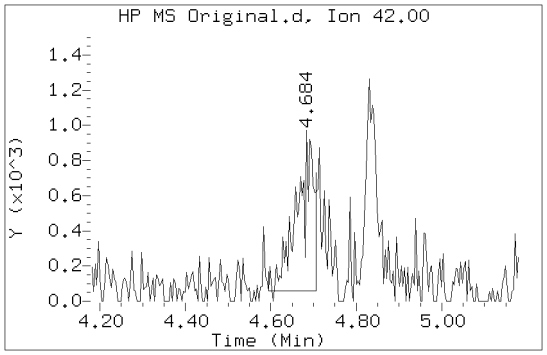
AFTER

MASS
43
AREA
16938
HEIGHT
6786
20-Jul-2023
15:04
linh
pham



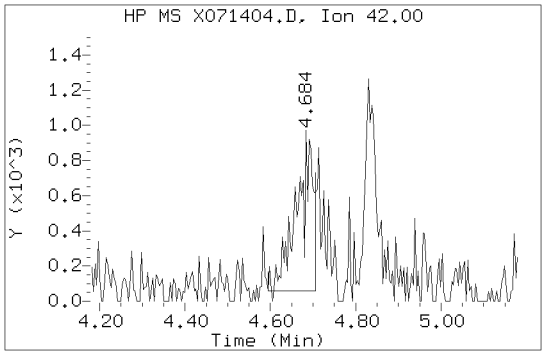
BEFORE

MASS
42
AREA
2469
HEIGHT
914
20-Jul-2023
15:04
linh
pham



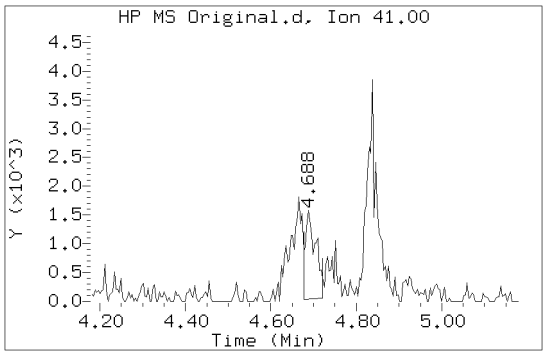
AFTER

MASS
42
AREA
2469
HEIGHT
914
20-Jul-2023
15:04
linh
pham



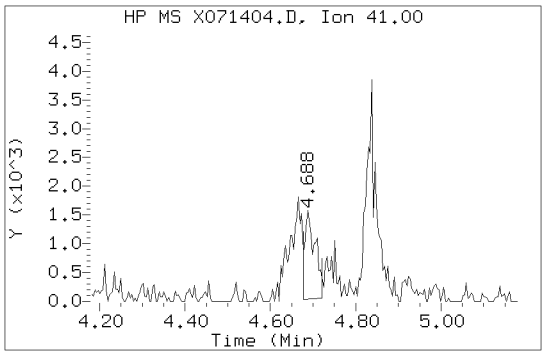
BEFORE

MASS
41
AREA
2733
HEIGHT
1544
20-Jul-2023
15:04
linh
pham



AFTER

MASS
41
AREA
2733
HEIGHT
1544
20-Jul-2023
15:04
linh
pham



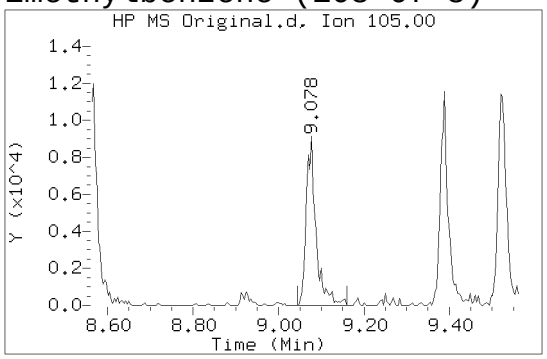
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071404.D
Inj Date : 14-JUL-2023 13:02
InstruID : voa6.i
LabSampID : VSTD001

1,3,5-Trimethylbenzene (108-67-8)

Reason Code:

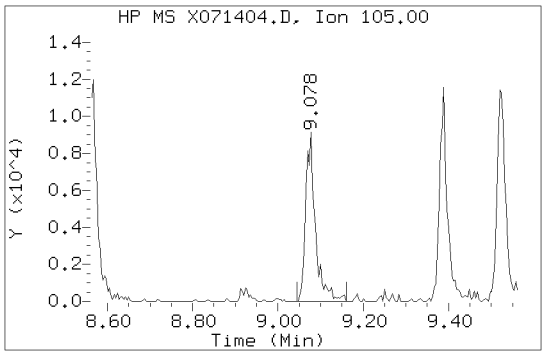
BEFORE

MASS
105
AREA
14649
HEIGHT
9159
20-Jul-2023
15:04
linh
pham



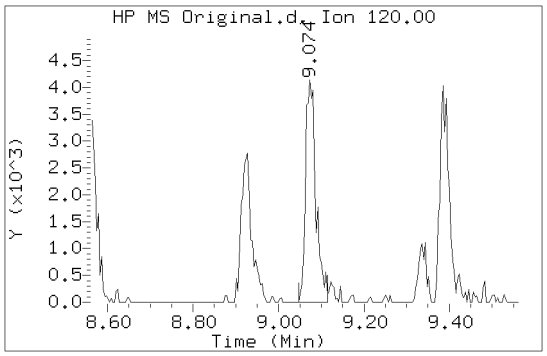
AFTER

MASS
105
AREA
14649
HEIGHT
9159
20-Jul-2023
15:04
linh
pham



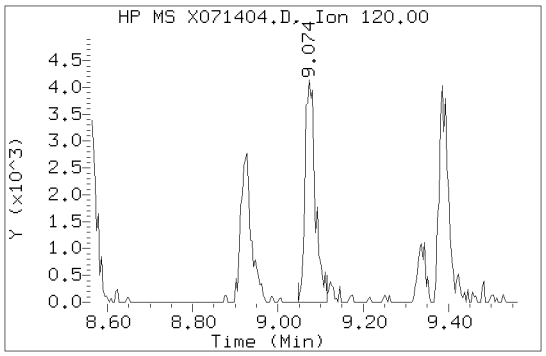
BEFORE

MASS
120
AREA
6985
HEIGHT
4141
20-Jul-2023
15:04
linh
pham



AFTER

MASS
120
AREA
6985
HEIGHT
4141
20-Jul-2023
15:04
linh
pham

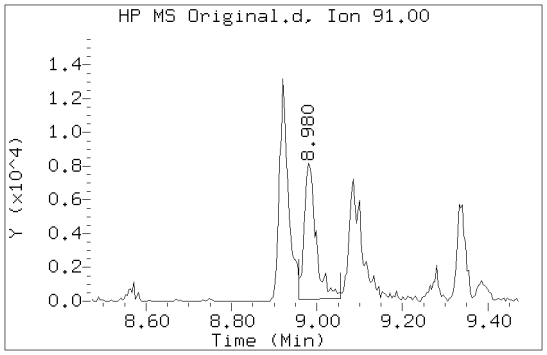


2-Chlorotoluene (95-49-8)

Reason Code:

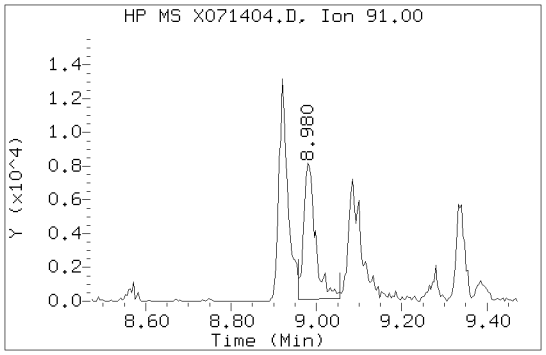
BEFORE

MASS
91
AREA
15937
HEIGHT
8082
20-Jul-2023
15:04
linh
pham



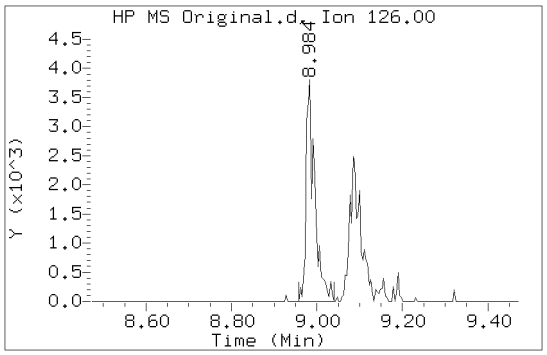
AFTER

MASS
91
AREA
15937
HEIGHT
8082
20-Jul-2023
15:04
linh
pham



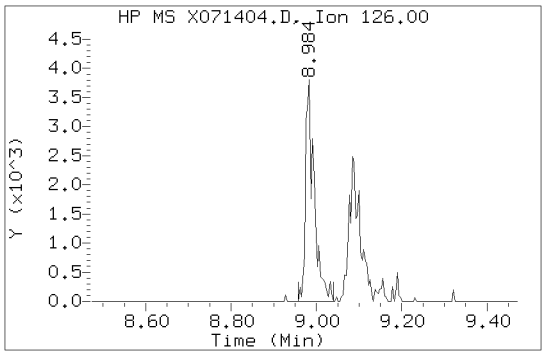
BEFORE

MASS
126
AREA
5351
HEIGHT
3805
20-Jul-2023
15:04
linh
pham



AFTER

MASS
126
AREA
5351
HEIGHT
3805
20-Jul-2023
15:04
linh
pham



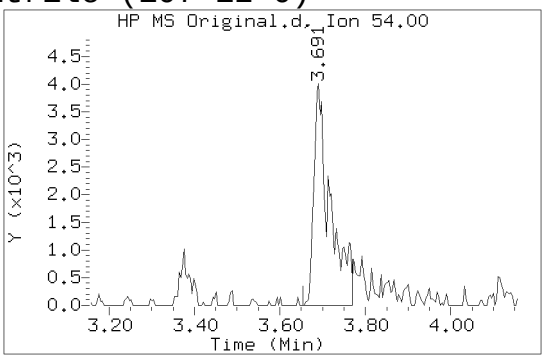
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071404.D
Inj Date : 14-JUL-2023 13:02
InstruID : voa6.i
LabSampID : VSTD001

Propionitrile (107-12-0)

Reason Code:

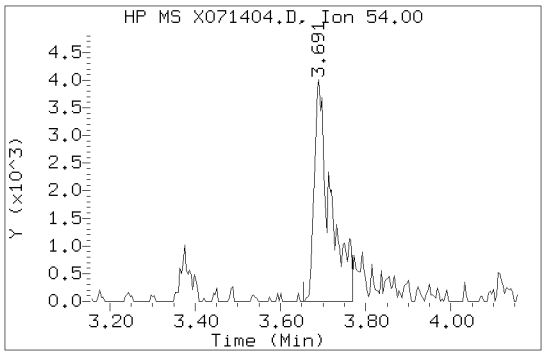
BEFORE

MASS
54
AREA
10495
HEIGHT
4008
20-Jul-2023
15:04
linh
pham



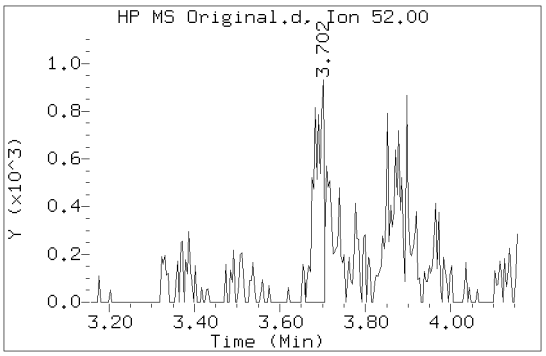
AFTER

MASS
54
AREA
10495
HEIGHT
4008
20-Jul-2023
15:04
linh
pham



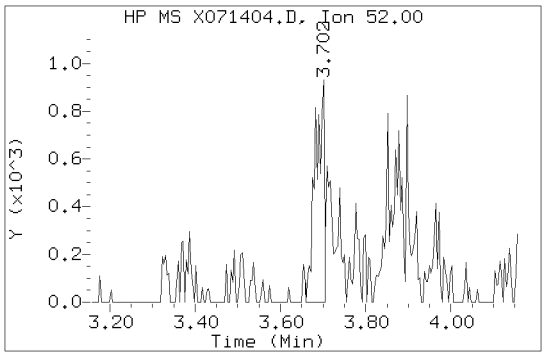
BEFORE

MASS
52
AREA
1356
HEIGHT
931
20-Jul-2023
15:04
linh
pham



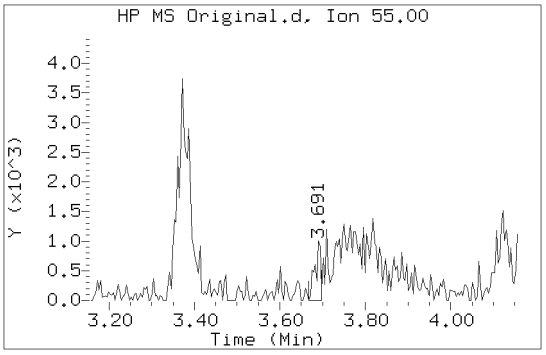
AFTER

MASS
52
AREA
1356
HEIGHT
931
20-Jul-2023
15:04
linh
pham



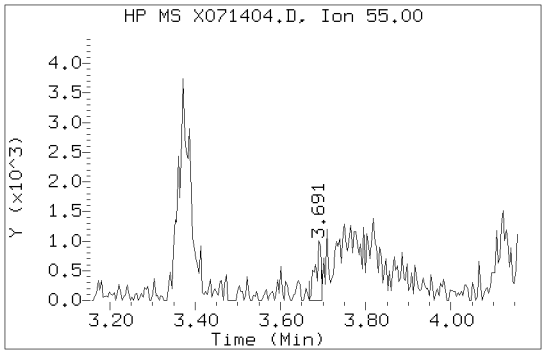
BEFORE

MASS
55
AREA
924
HEIGHT
1009
20-Jul-2023
15:04
linh
pham



AFTER

MASS
55
AREA
924
HEIGHT
1009
20-Jul-2023
15:04
linh
pham

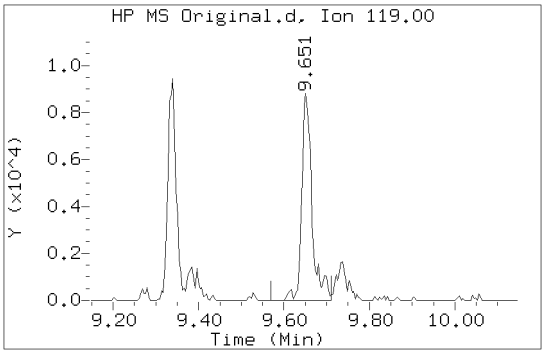


p-Isopropyltoluene (99-87-6)

Reason Code:

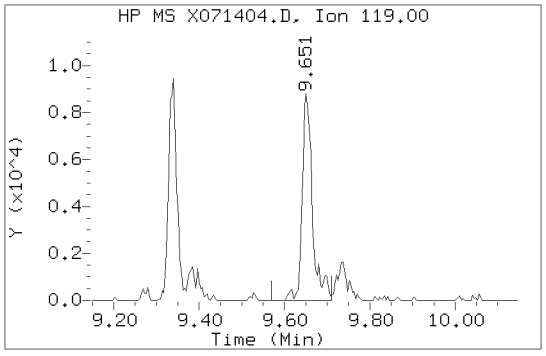
BEFORE

MASS
119
AREA
15092
HEIGHT
8813
20-Jul-2023
15:04
linh
pham



AFTER

MASS
119
AREA
15092
HEIGHT
8813
20-Jul-2023
15:04
linh
pham

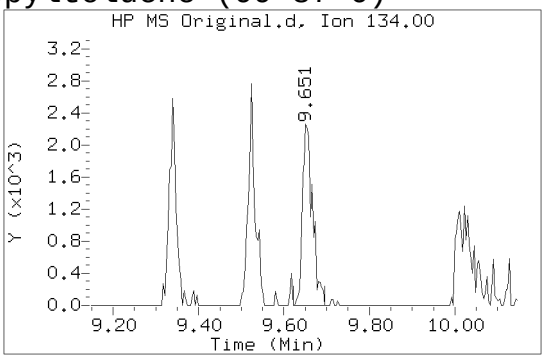


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Inj Date : 14-JUL-2023 13:02
InstruID : voa6.i
LabSampID : VSTD001

p-Isopropyltoluene (99-87-6)

BEFORE

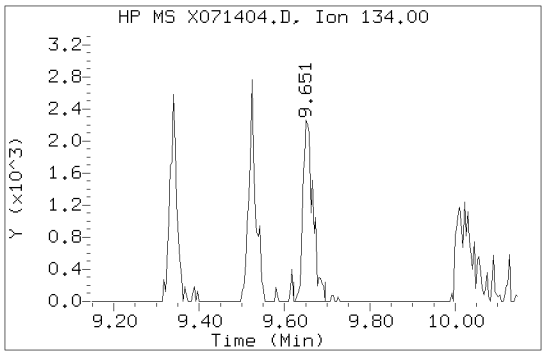
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134
AREA
3764
HEIGHT
2261
20-Jul-2023
15:04
linh
pham



Reason Code:

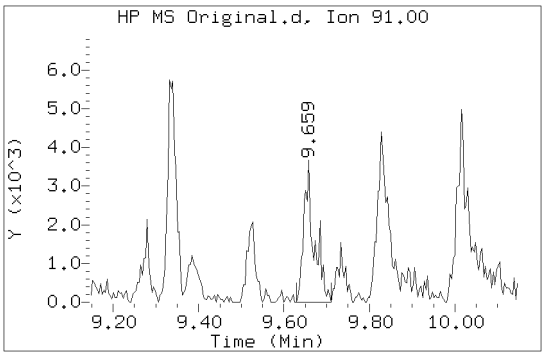
AFTER

MASS
134
AREA
3764
HEIGHT
2261
20-Jul-2023
15:04
linh
pham



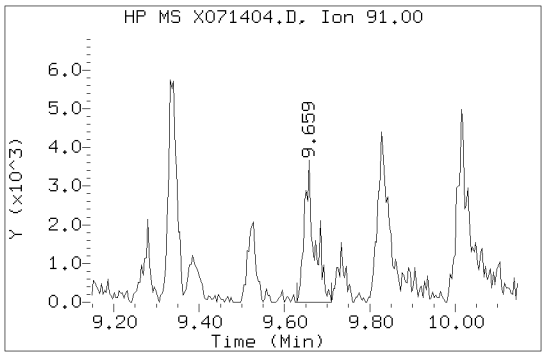
BEFORE

MASS
91
AREA
6124
HEIGHT
3669
20-Jul-2023
15:04
linh
pham



AFTER

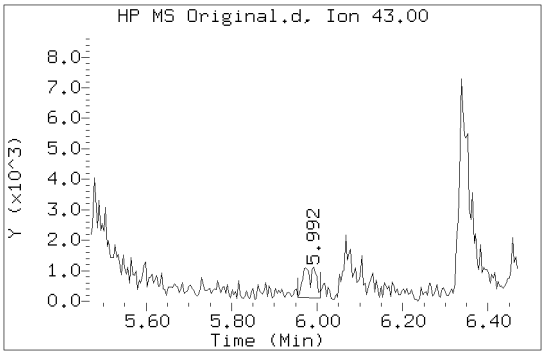
MASS
91
AREA
6124
HEIGHT
3669
20-Jul-2023
15:04
linh
pham



2-Nitropropane (79-46-9)

BEFORE

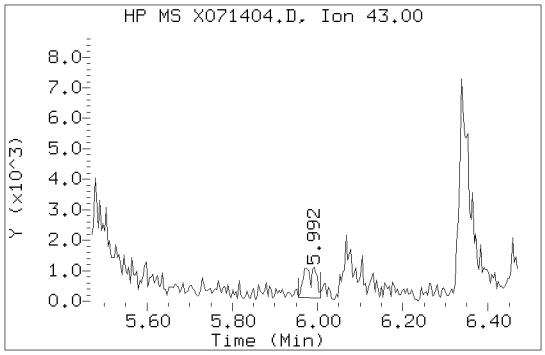
MASS
43
AREA
2054
HEIGHT
1008
20-Jul-2023
15:04
linh
pham



Reason Code:

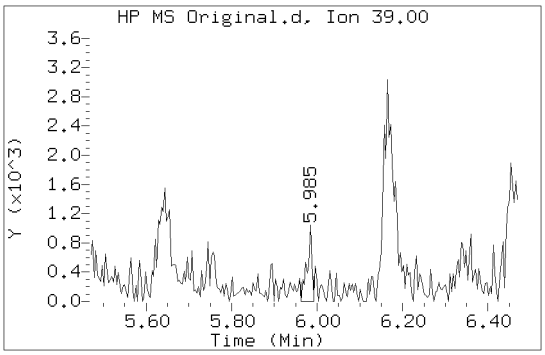
AFTER

MASS
43
AREA
2054
HEIGHT
1008
20-Jul-2023
15:04
linh
pham



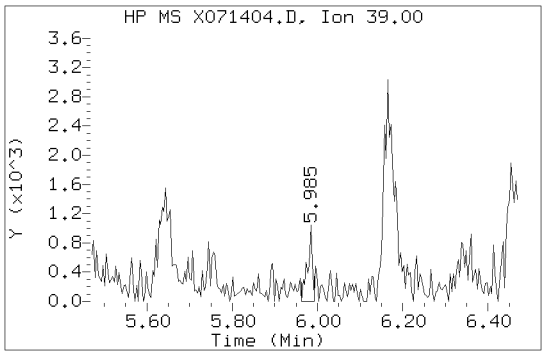
BEFORE

MASS
39
AREA
807
HEIGHT
1040
20-Jul-2023
15:04
linh
pham



AFTER

MASS
39
AREA
807
HEIGHT
1040
20-Jul-2023
15:04
linh
pham



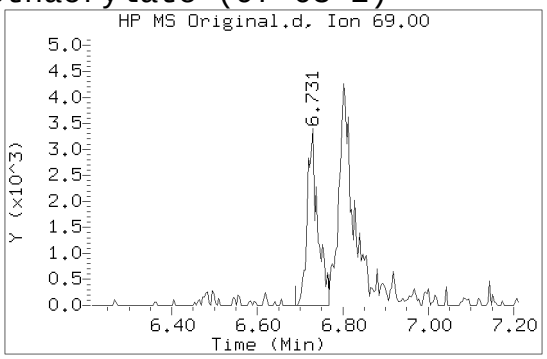
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071404.D
Inj Date : 14-JUL-2023 13:02
InstruID : voa6.i
LabSampID : VSTD001

Ethyl Methacrylate (97-63-2)

Reason Code:

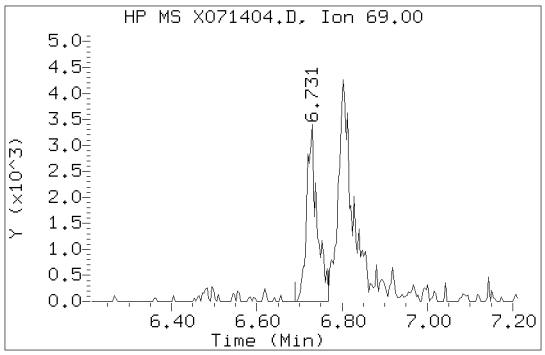
BEFORE

MASS
69
AREA
5749
HEIGHT
3399
20-Jul-2023
15:04
linh
pham



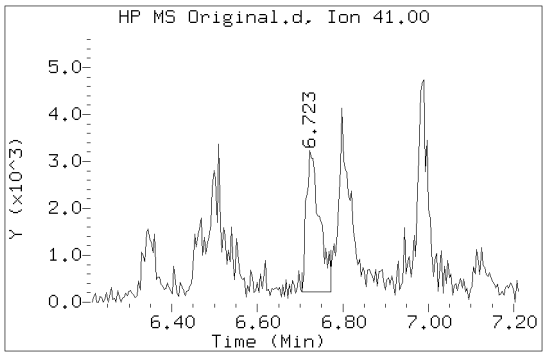
AFTER

MASS
69
AREA
5749
HEIGHT
3399
20-Jul-2023
15:04
linh
pham



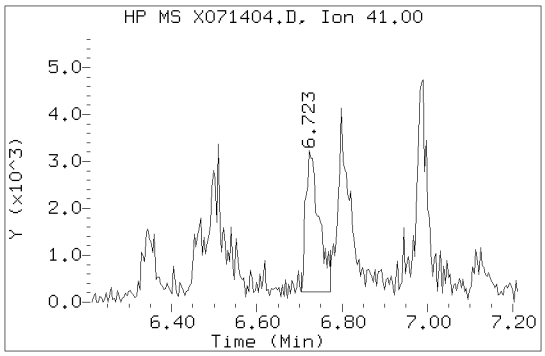
BEFORE

MASS
41
AREA
6505
HEIGHT
3006
20-Jul-2023
15:04
linh
pham



AFTER

MASS
41
AREA
6505
HEIGHT
3006
20-Jul-2023
15:04
linh
pham

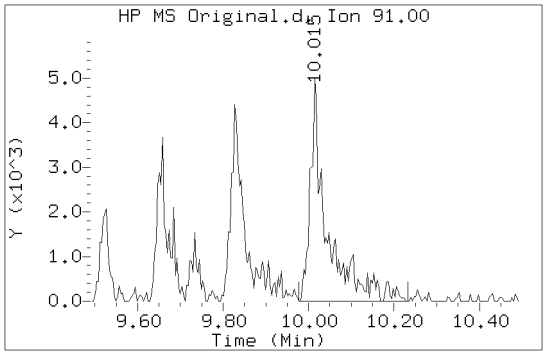


n-Butylbenzene (104-51-8)

Reason Code:

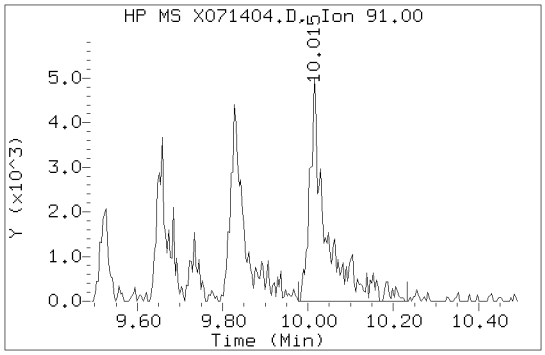
BEFORE

MASS
91
AREA
13321
HEIGHT
4981
20-Jul-2023
15:04
linh
pham



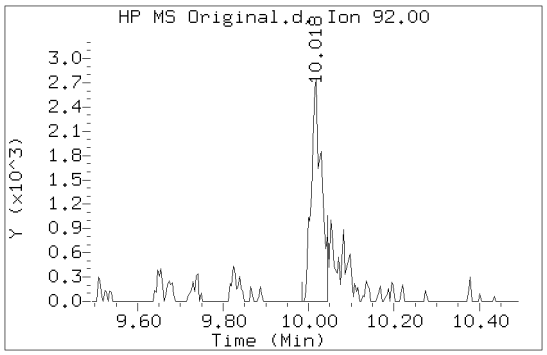
AFTER

MASS
91
AREA
13321
HEIGHT
4981
20-Jul-2023
15:04
linh
pham



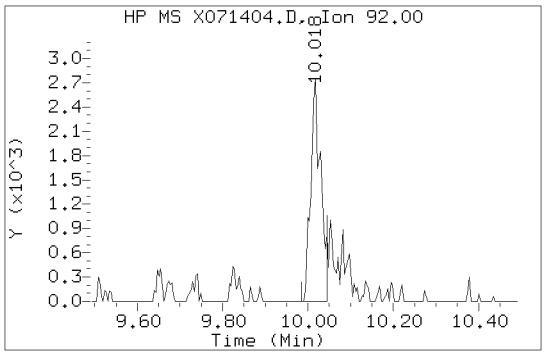
BEFORE

MASS
92
AREA
4505
HEIGHT
2738
20-Jul-2023
15:04
linh
pham



AFTER

MASS
92
AREA
4505
HEIGHT
2738
20-Jul-2023
15:04
linh
pham



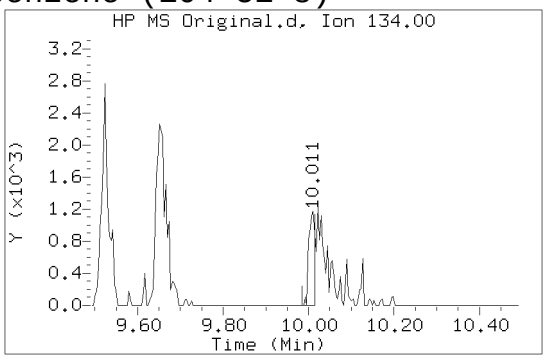
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071404.D
Inj Date : 14-JUL-2023 13:02
InstruID : voa6.i
LabSampID : VSTD001

n-Butylbenzene (104-51-8)

Reason Code:

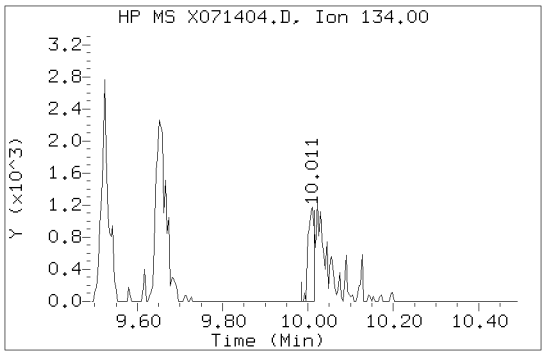
BEFORE

MASS
134
AREA
1125
HEIGHT
1172
20-Jul-2023
15:04
linh
pham



AFTER

MASS
134
AREA
1125
HEIGHT
1172
20-Jul-2023
15:04
linh
pham

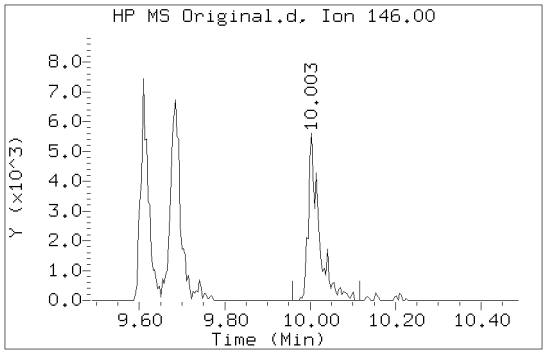


1,2-Dichlorobenzene (95-50-1)

Reason Code:

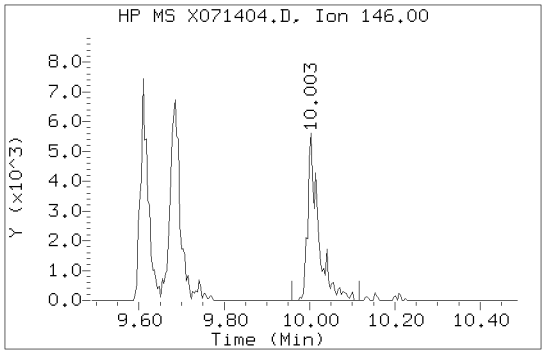
BEFORE

MASS
146
AREA
9791
HEIGHT
5614
20-Jul-2023
15:04
linh
pham



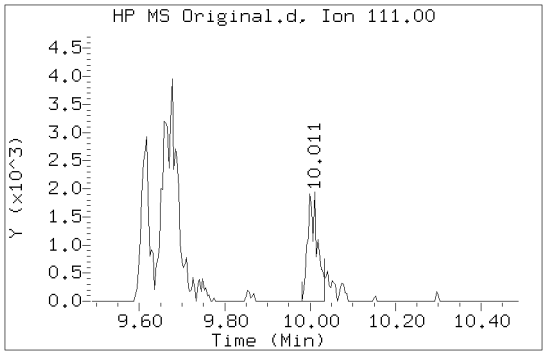
AFTER

MASS
146
AREA
9791
HEIGHT
5614
20-Jul-2023
15:04
linh
pham



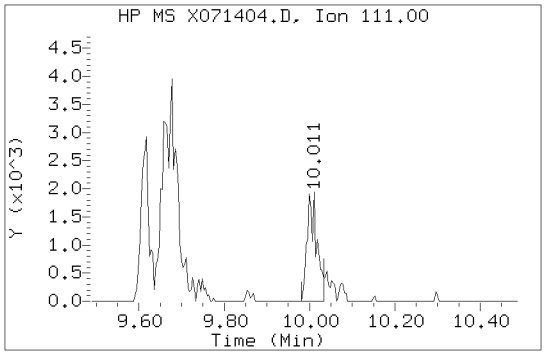
BEFORE

MASS
111
AREA
3070
HEIGHT
1939
20-Jul-2023
15:04
linh
pham



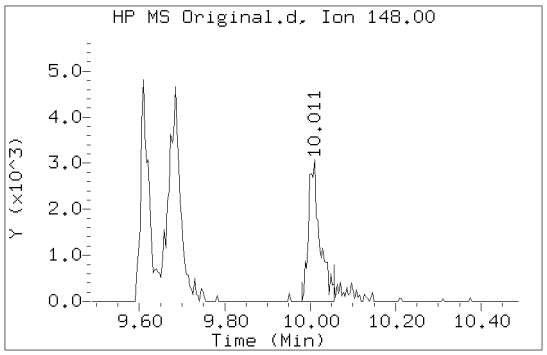
AFTER

MASS
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AREA
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HEIGHT
1939
20-Jul-2023
15:04
linh
pham



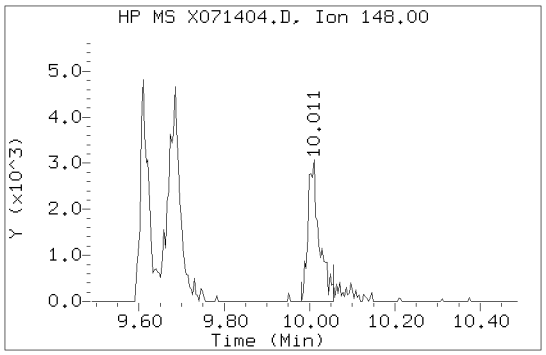
BEFORE

MASS
148
AREA
5707
HEIGHT
3072
20-Jul-2023
15:04
linh
pham



AFTER

MASS
148
AREA
5707
HEIGHT
3072
20-Jul-2023
15:04
linh
pham

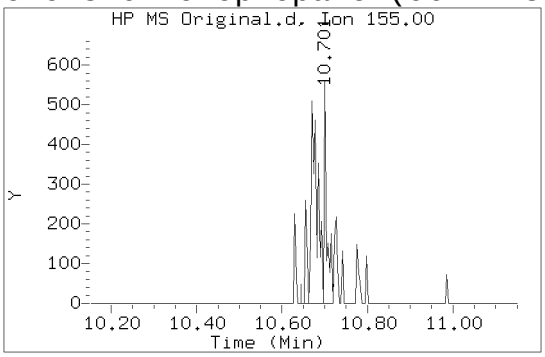


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Inj Date : 14-JUL-2023 13:02
InstruID : voa6.i
LabSampID : VSTD001

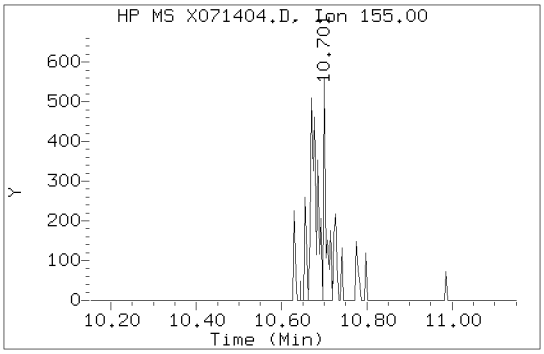
1,2-Dibromo-3-Chloropropane (96-12-8)

Reason Code:

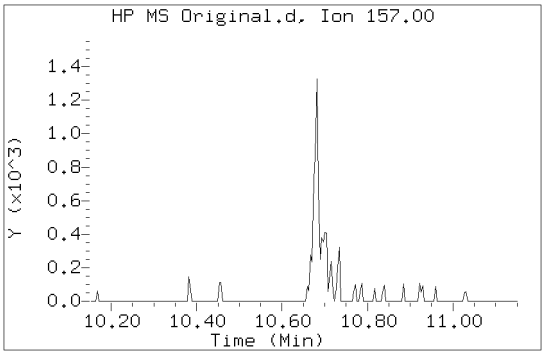
BEFORE
MASS
155
AREA
831
HEIGHT
558
20-Jul-2023
15:04
linh
pham



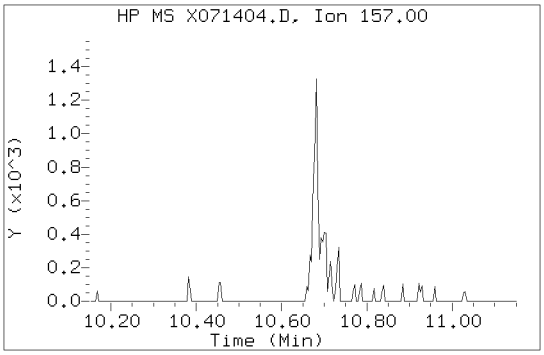
AFTER
MASS
155
AREA
831
HEIGHT
558
20-Jul-2023
15:04
linh
pham



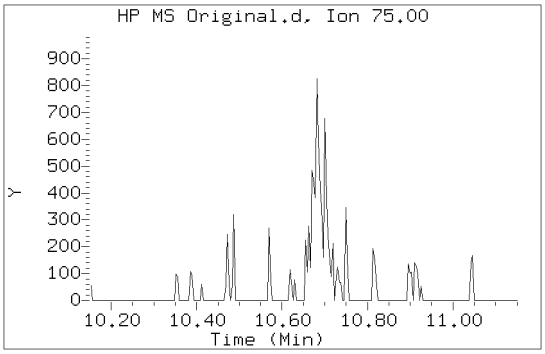
BEFORE
MASS
157
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



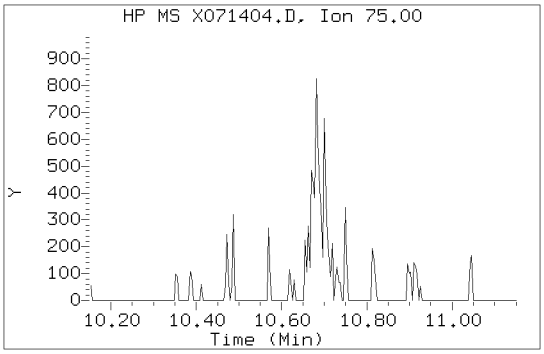
AFTER
MASS
157
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



BEFORE
MASS
75
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



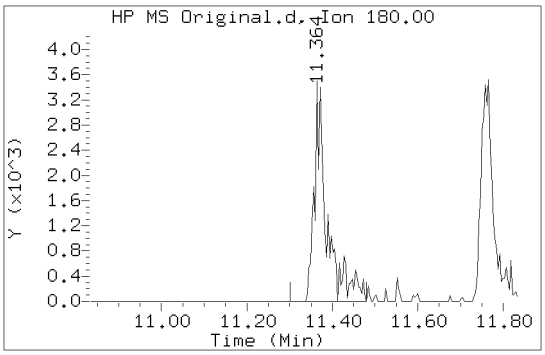
AFTER
MASS
75
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



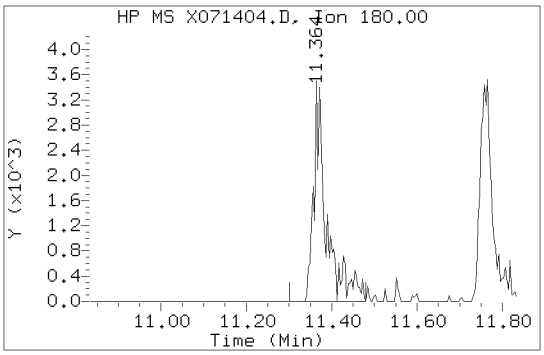
1,2,4-Trichlorobenzene (120-82-1)

Reason Code:

BEFORE
MASS
180
AREA
7113
HEIGHT
3499
20-Jul-2023
15:04
linh
pham



AFTER
MASS
180
AREA
7113
HEIGHT
3499
20-Jul-2023
15:04
linh
pham



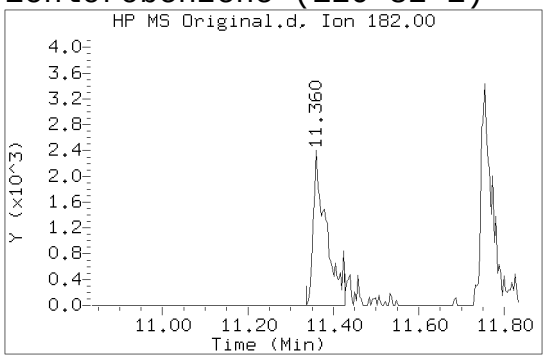
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071404.D
Inj Date : 14-JUL-2023 13:02
InstruID : voa6.i
LabSampID : VSTD001

1,2,4-Trichlorobenzene (120-82-1)

Reason Code:

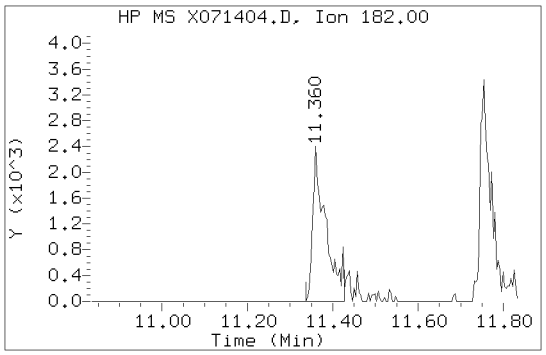
BEFORE

MASS
182
AREA
5066
HEIGHT
2401
20-Jul-2023
15:04
linh
pham



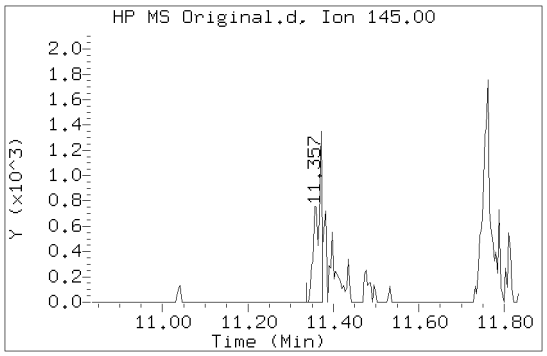
AFTER

MASS
182
AREA
5066
HEIGHT
2401
20-Jul-2023
15:04
linh
pham



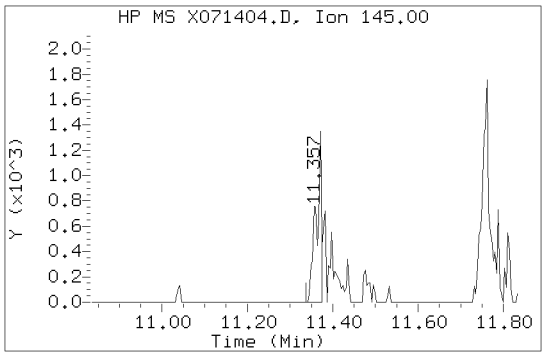
BEFORE

MASS
145
AREA
1146
HEIGHT
757
20-Jul-2023
15:04
linh
pham



AFTER

MASS
145
AREA
1146
HEIGHT
757
20-Jul-2023
15:04
linh
pham

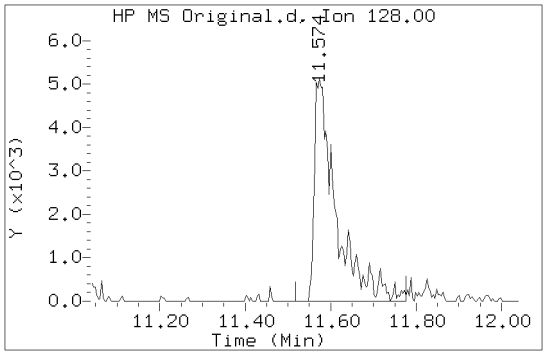


Naphthalene (91-20-3)

Reason Code:

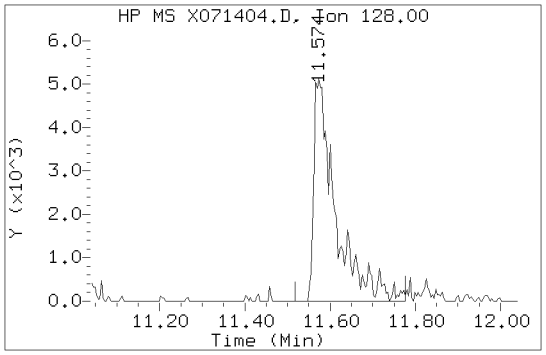
BEFORE

MASS
128
AREA
18131
HEIGHT
5123
20-Jul-2023
15:04
linh
pham



AFTER

MASS
128
AREA
18131
HEIGHT
5123
20-Jul-2023
15:04
linh
pham

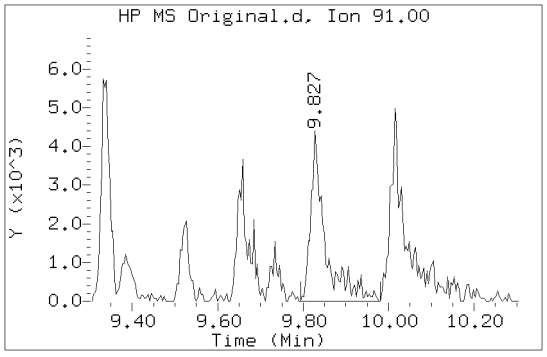


Benzyl Chloride (100-44-7)

Reason Code:

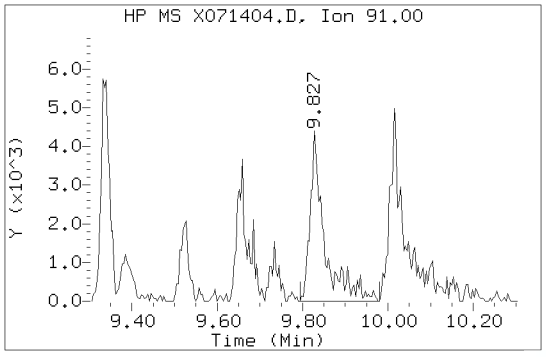
BEFORE

MASS
91
AREA
10259
HEIGHT
4403
20-Jul-2023
15:04
linh
pham



AFTER

MASS
91
AREA
10259
HEIGHT
4403
20-Jul-2023
15:04
linh
pham

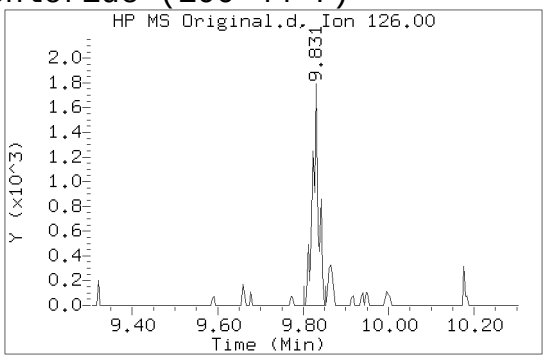


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Inj Date : 14-JUL-2023 13:02
InstruID : voa6.i
LabSampID : VSTD001

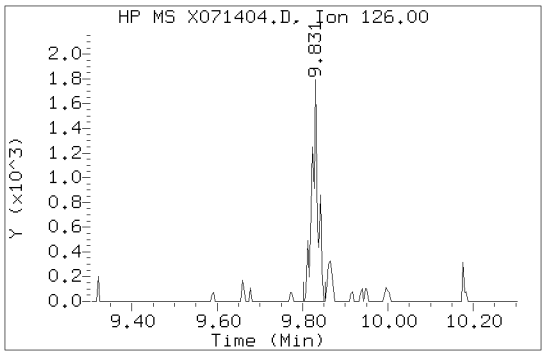
Benzyl Chloride (100-44-7)

Reason Code:

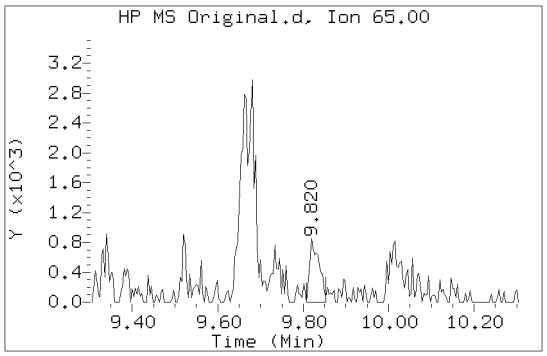
BEFORE
MASS
126
AREA
1709
HEIGHT
1793
20-Jul-2023
15:04
linh
pham



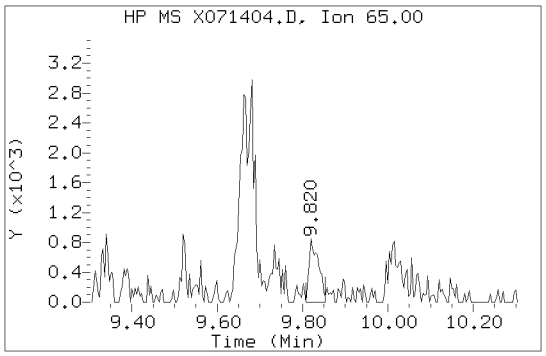
AFTER
MASS
126
AREA
1709
HEIGHT
1793
20-Jul-2023
15:04
linh
pham



BEFORE
MASS
65
AREA
1300
HEIGHT
848
20-Jul-2023
15:04
linh
pham



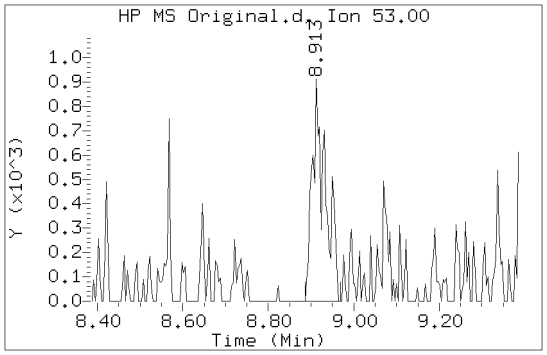
AFTER
MASS
65
AREA
1300
HEIGHT
848
20-Jul-2023
15:04
linh
pham



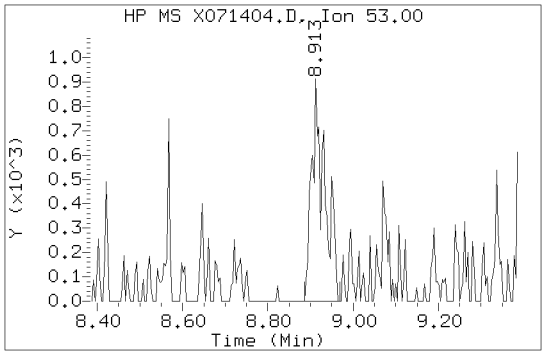
trans-1,4-Dichloro-2-butene (110-57-6)

Reason Code:

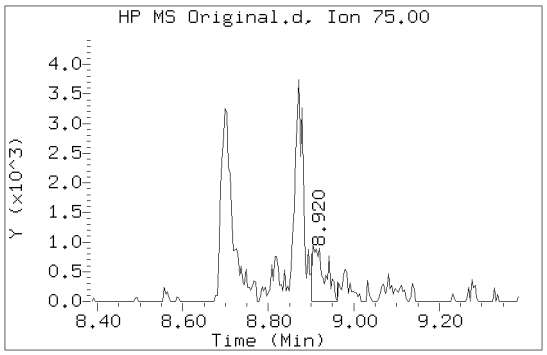
BEFORE
MASS
53
AREA
1951
HEIGHT
913
20-Jul-2023
15:04
linh
pham



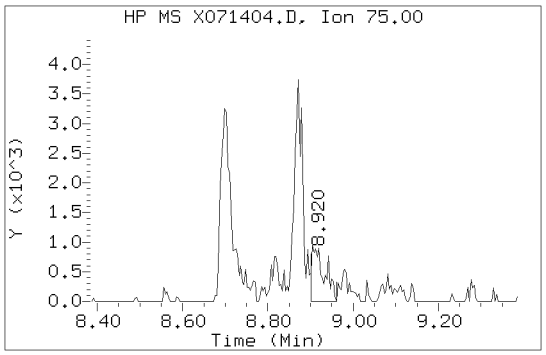
AFTER
MASS
53
AREA
1951
HEIGHT
913
20-Jul-2023
15:04
linh
pham



BEFORE
MASS
75
AREA
1917
HEIGHT
902
20-Jul-2023
15:04
linh
pham



AFTER
MASS
75
AREA
1917
HEIGHT
902
20-Jul-2023
15:04
linh
pham

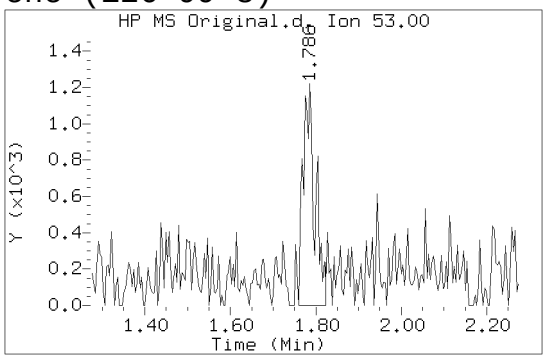


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Inj Date : 14-JUL-2023 13:02
InstruID : voa6.i
LabSampID : VSTD001

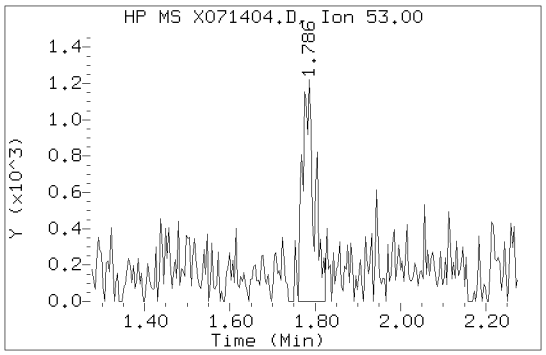
Chloroprene (126-99-8)

Reason Code:

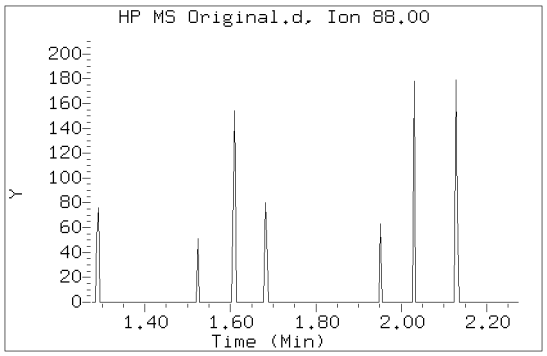
BEFORE
MASS
53
AREA
2402
HEIGHT
1221
20-Jul-2023
15:04
linh
pham



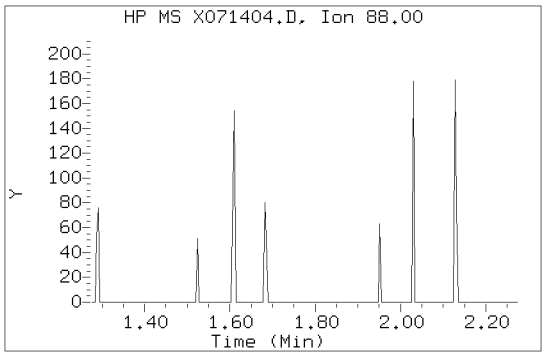
AFTER
MASS
53
AREA
2402
HEIGHT
1221
20-Jul-2023
15:04
linh
pham



BEFORE
MASS
88
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



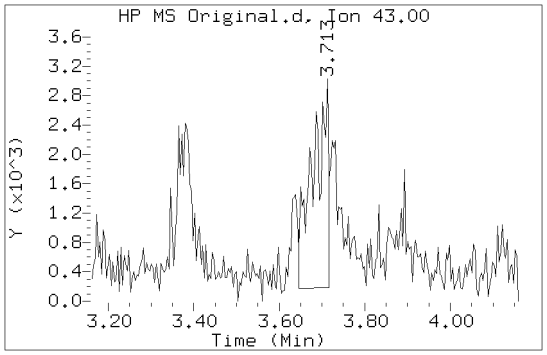
AFTER
MASS
88
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



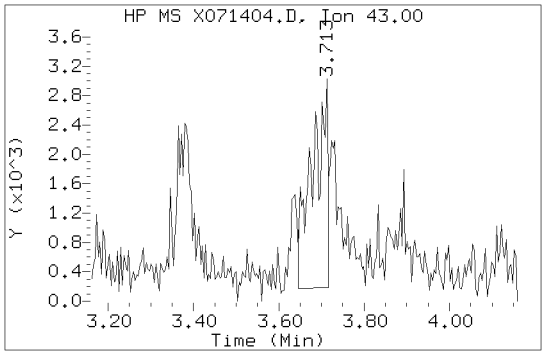
Ethyl Acetate (141-78-6)

Reason Code:

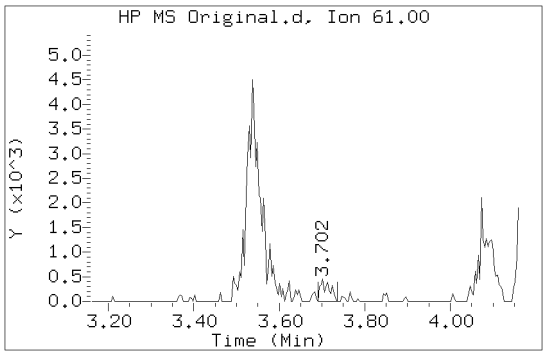
BEFORE
MASS
43
AREA
7207
HEIGHT
2844
20-Jul-2023
15:04
linh
pham



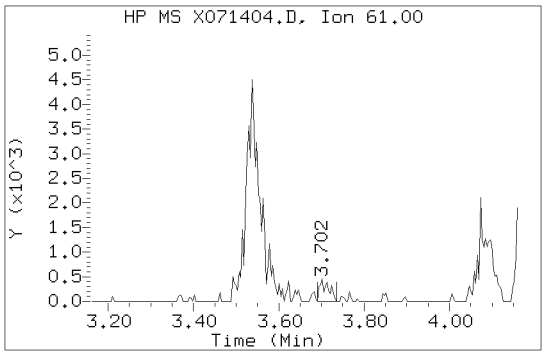
AFTER
MASS
43
AREA
7207
HEIGHT
2844
20-Jul-2023
15:04
linh
pham



BEFORE
MASS
61
AREA
652
HEIGHT
462
20-Jul-2023
15:04
linh
pham



AFTER
MASS
61
AREA
652
HEIGHT
462
20-Jul-2023
15:04
linh
pham



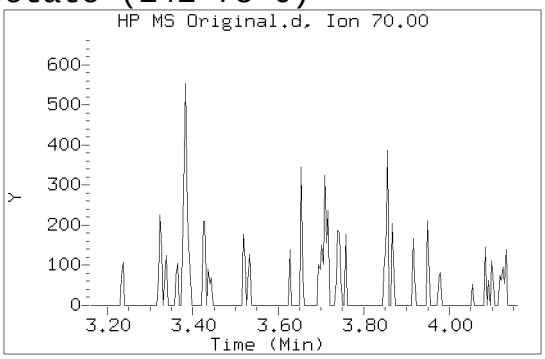
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071404.D
Inj Date : 14-JUL-2023 13:02
InstruID : voa6.i
LabSampID : VSTD001

Ethyl Acetate (141-78-6)

Reason Code:

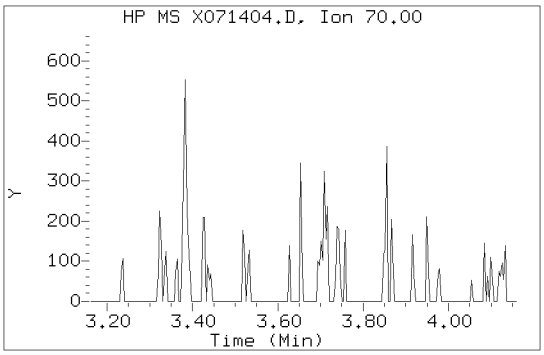
BEFORE

MASS
70
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



AFTER

MASS
70
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham

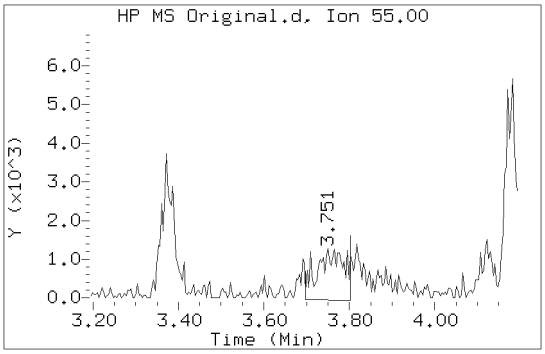


Methyl Acrylate (96-33-3)

Reason Code:

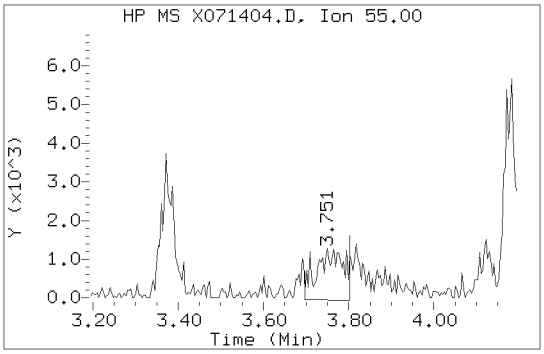
BEFORE

MASS
55
AREA
5778
HEIGHT
1338
20-Jul-2023
15:04
linh
pham



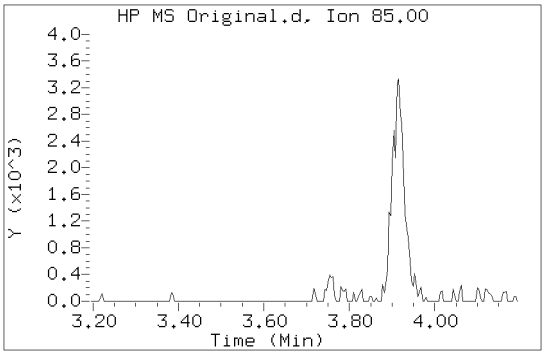
AFTER

MASS
55
AREA
5778
HEIGHT
1338
20-Jul-2023
15:04
linh
pham



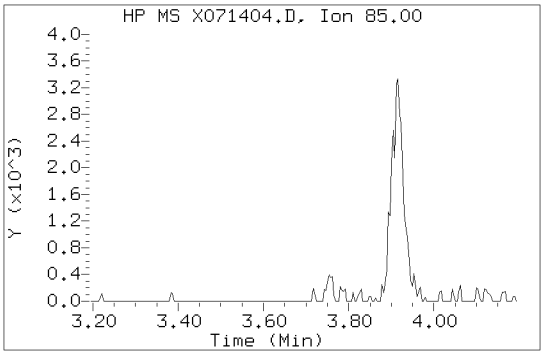
BEFORE

MASS
85
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



AFTER

MASS
85
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham

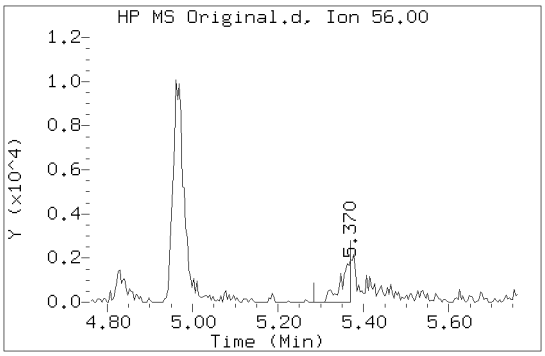


n-Butanol (71-36-3)

Reason Code:

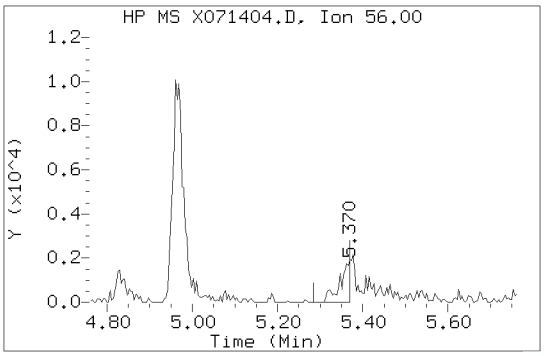
BEFORE

MASS
56
AREA
3103
HEIGHT
1929
20-Jul-2023
15:04
linh
pham



AFTER

MASS
56
AREA
3103
HEIGHT
1929
20-Jul-2023
15:04
linh
pham



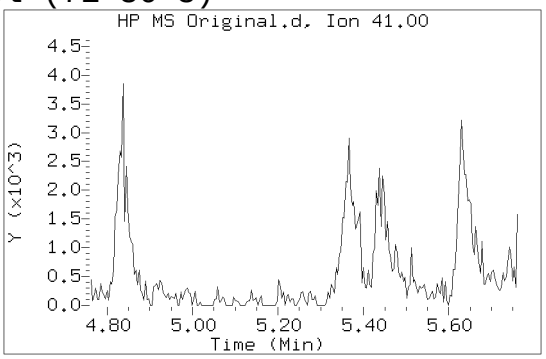
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Inj Date : 14-JUL-2023 13:02
InstruID : voa6.i
LabSampID : VSTD001

n-Butanol (71-36-3)

Reason Code:

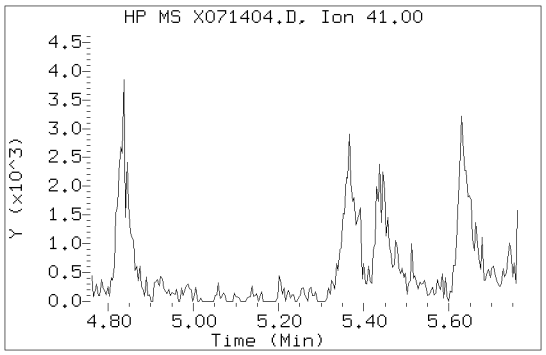
BEFORE

MASS
41
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



AFTER

MASS
41
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham

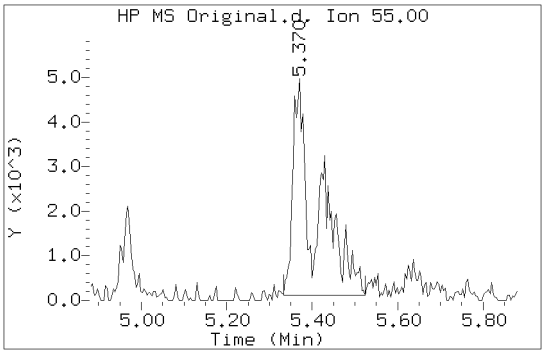


Ethyl Acrylate (140-88-5)

Reason Code:

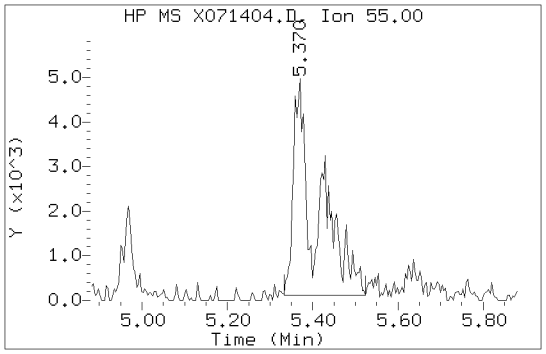
BEFORE

MASS
55
AREA
18196
HEIGHT
4857
20-Jul-2023
15:04
linh
pham



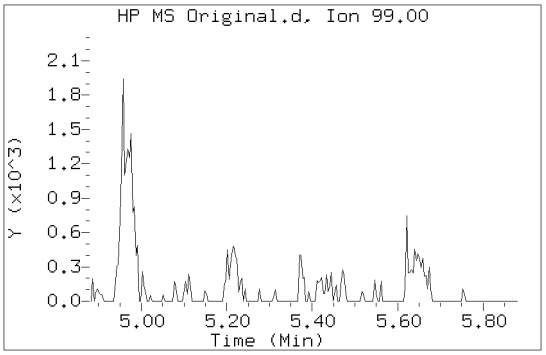
AFTER

MASS
55
AREA
18196
HEIGHT
4857
20-Jul-2023
15:04
linh
pham



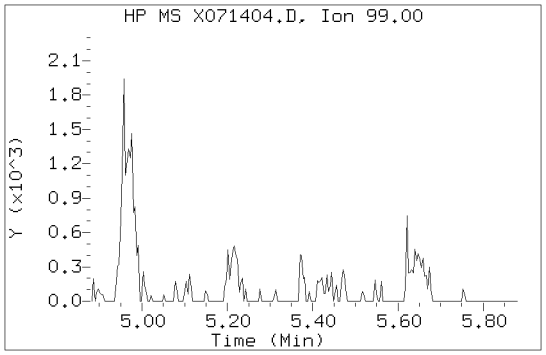
BEFORE

MASS
99
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



AFTER

MASS
99
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham

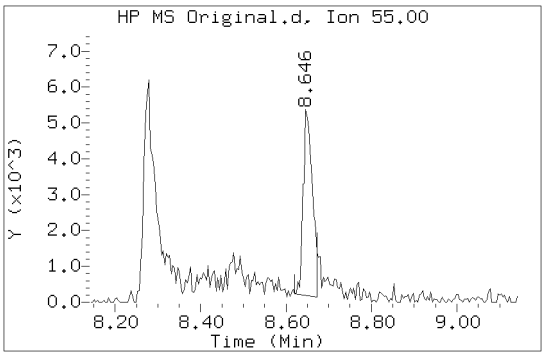


Cyclohexanone (108-94-1)

Reason Code:

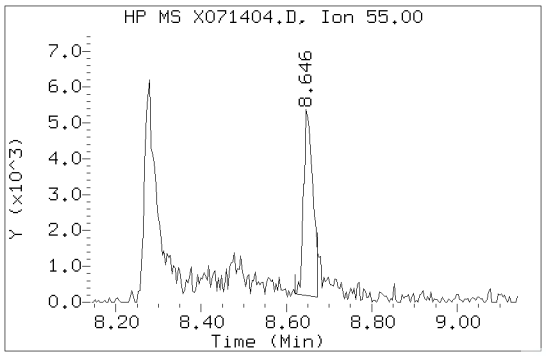
BEFORE

MASS
55
AREA
7972
HEIGHT
5194
20-Jul-2023
15:04
linh
pham



AFTER

MASS
55
AREA
7972
HEIGHT
5194
20-Jul-2023
15:04
linh
pham



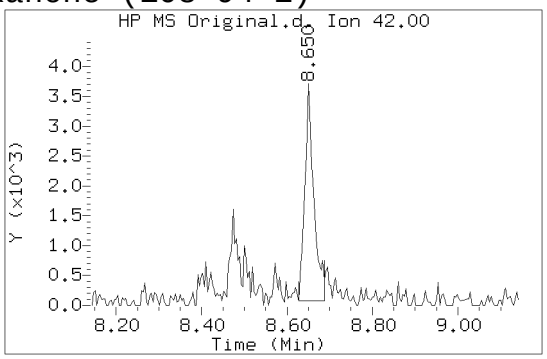
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071404.D
Inj Date : 14-JUL-2023 13:02
InstruID : voa6.i
LabSampID : VSTD001

Cyclohexanone (108-94-1)

Reason Code:

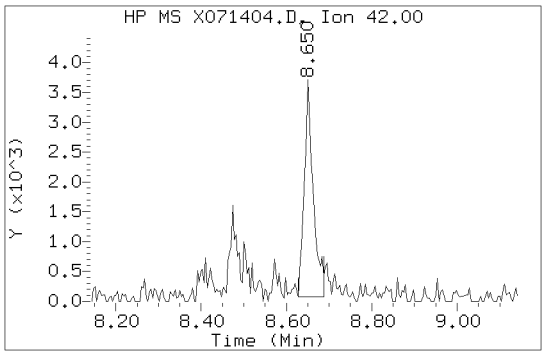
BEFORE

MASS
42
AREA
5392
HEIGHT
3640
20-Jul-2023
15:04
linh
pham



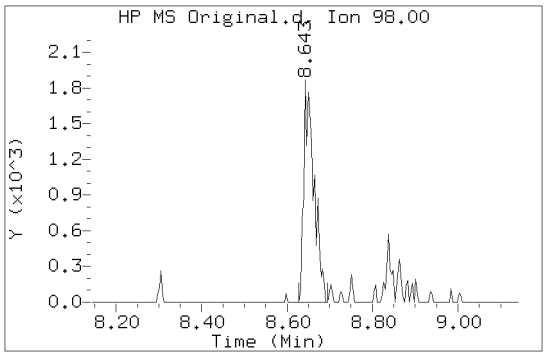
AFTER

MASS
42
AREA
5392
HEIGHT
3640
20-Jul-2023
15:04
linh
pham



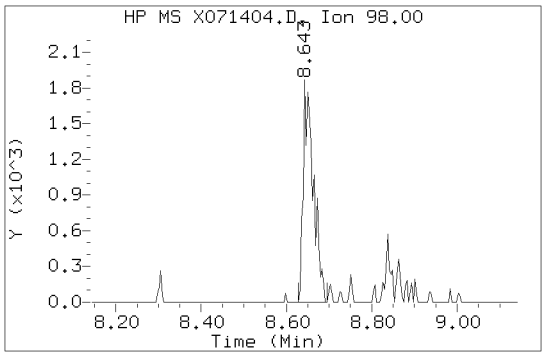
BEFORE

MASS
98
AREA
3142
HEIGHT
1869
20-Jul-2023
15:04
linh
pham



AFTER

MASS
98
AREA
3142
HEIGHT
1869
20-Jul-2023
15:04
linh
pham

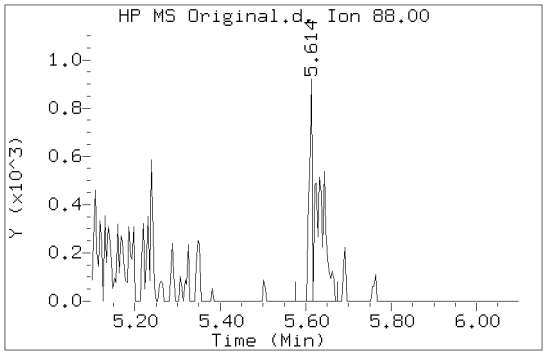


1,4-Dioxane ()

Reason Code:

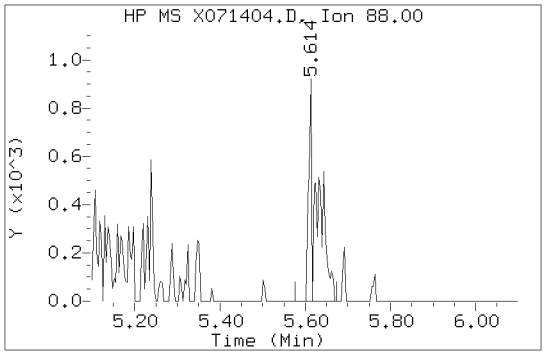
BEFORE

MASS
88
AREA
1290
HEIGHT
921
20-Jul-2023
15:04
linh
pham



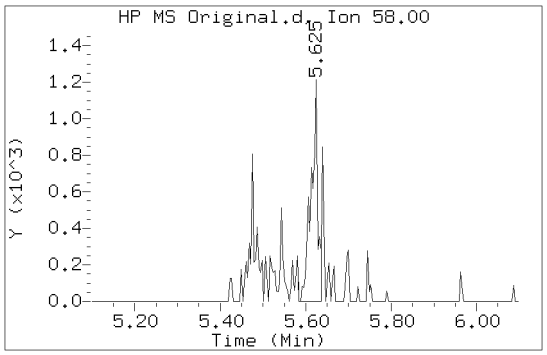
AFTER

MASS
88
AREA
1290
HEIGHT
921
20-Jul-2023
15:04
linh
pham



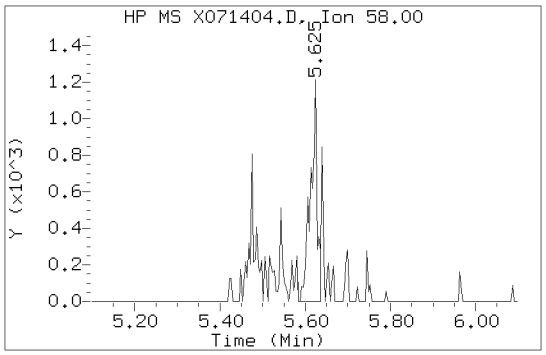
BEFORE

MASS
58
AREA
1310
HEIGHT
1214
20-Jul-2023
15:04
linh
pham



AFTER

MASS
58
AREA
1310
HEIGHT
1214
20-Jul-2023
15:04
linh
pham

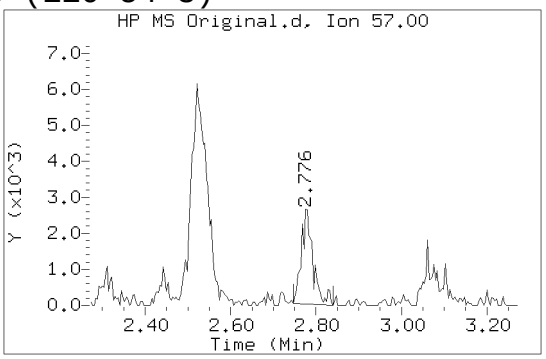


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Inj Date : 14-JUL-2023 13:02
InstruID : voa6.i
LabSampID : VSTD001

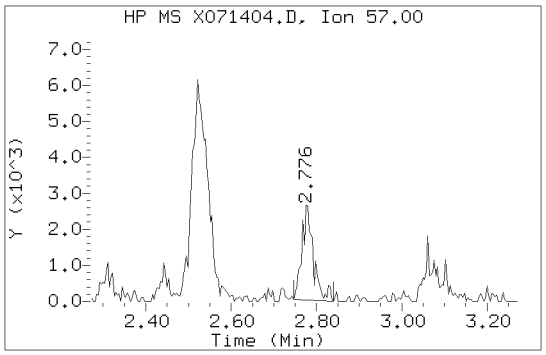
n-Hexane (110-54-3)

Reason Code:

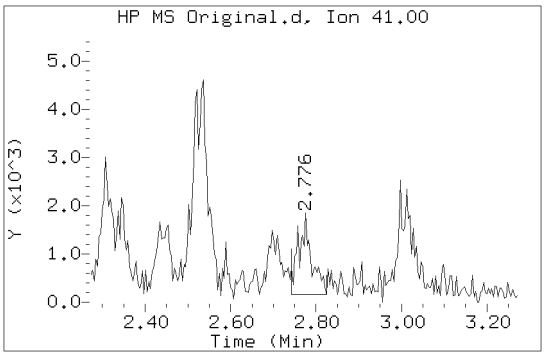
BEFORE
MASS
57
AREA
5000
HEIGHT
2629
20-Jul-2023
15:04
linh
pham



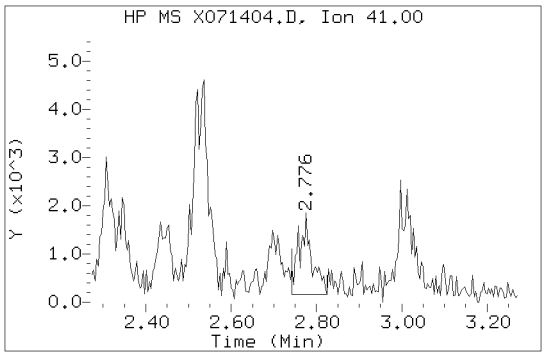
AFTER
MASS
57
AREA
5000
HEIGHT
2629
20-Jul-2023
15:04
linh
pham



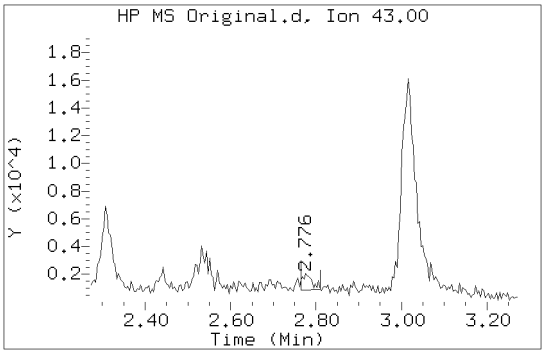
BEFORE
MASS
41
AREA
3569
HEIGHT
1692
20-Jul-2023
15:04
linh
pham



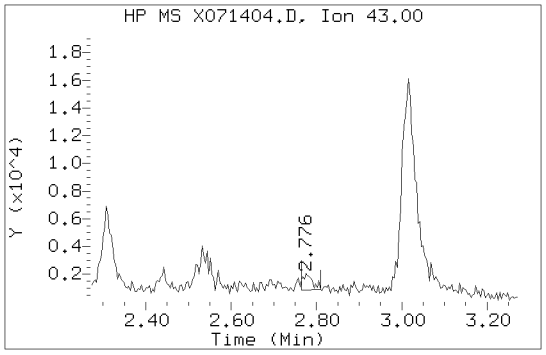
AFTER
MASS
41
AREA
3569
HEIGHT
1692
20-Jul-2023
15:04
linh
pham



BEFORE
MASS
43
AREA
1865
HEIGHT
1174
20-Jul-2023
15:04
linh
pham



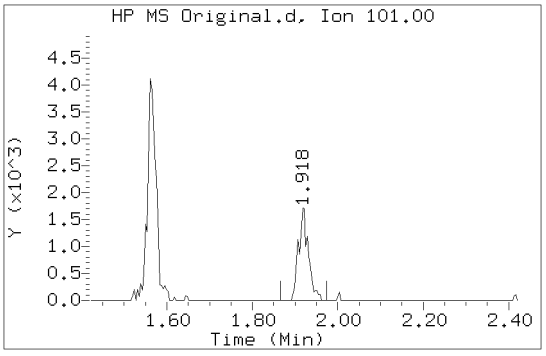
AFTER
MASS
43
AREA
1865
HEIGHT
1174
20-Jul-2023
15:04
linh
pham



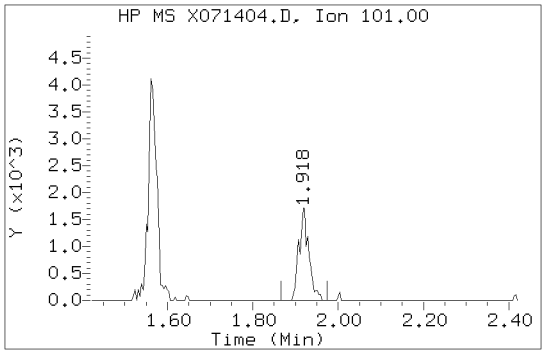
Freon TF (76-13-1)

Reason Code:

BEFORE
MASS
101
AREA
2818
HEIGHT
1714
20-Jul-2023
15:04
linh
pham



AFTER
MASS
101
AREA
2818
HEIGHT
1714
20-Jul-2023
15:04
linh
pham

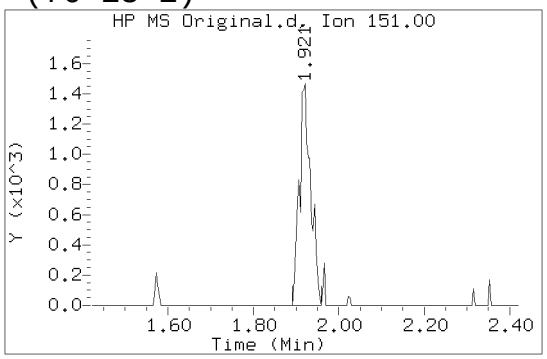


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071404.D
Inj Date : 14-JUL-2023 13:02
InstruID : voa6.i
LabSampID : VSTD001

Freon TF (76-13-1)

BEFORE

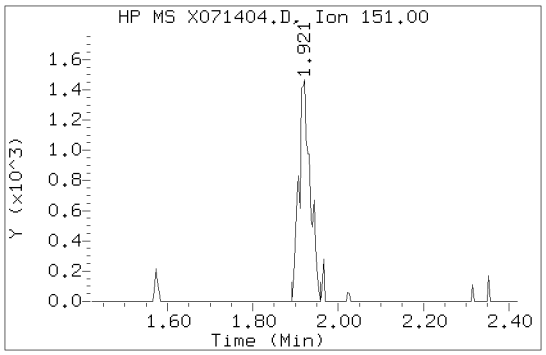
MASS
151
AREA
2770
HEIGHT
1467
20-Jul-2023
15:04
linh
pham



Reason Code:

AFTER

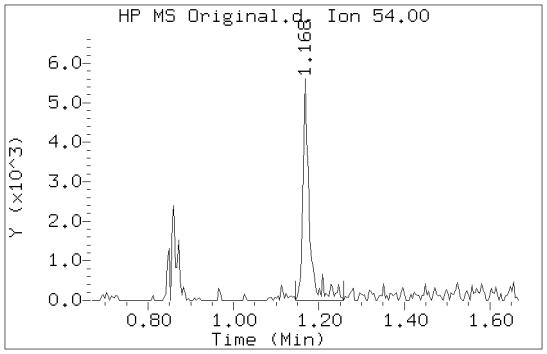
MASS
151
AREA
2770
HEIGHT
1467
20-Jul-2023
15:04
linh
pham



1,3-Butadiene (106-99-0)

BEFORE

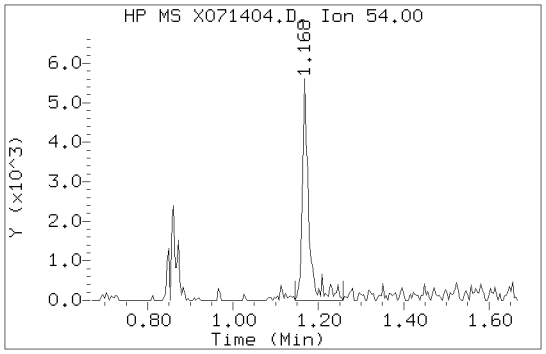
MASS
54
AREA
6040
HEIGHT
5609
20-Jul-2023
15:04
linh
pham



Reason Code:

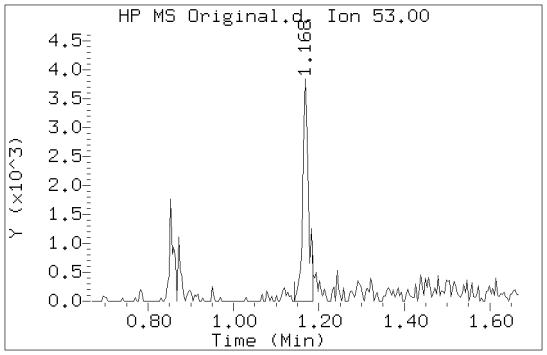
AFTER

MASS
54
AREA
6040
HEIGHT
5609
20-Jul-2023
15:04
linh
pham



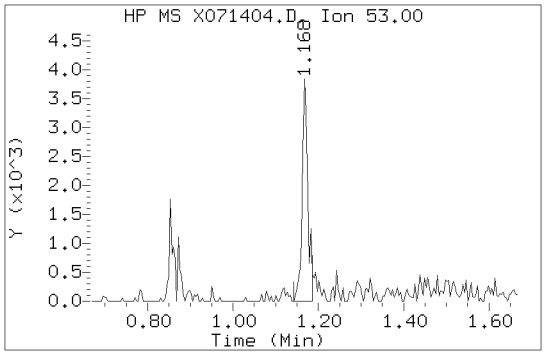
BEFORE

MASS
53
AREA
3632
HEIGHT
3843
20-Jul-2023
15:04
linh
pham



AFTER

MASS
53
AREA
3632
HEIGHT
3843
20-Jul-2023
15:04
linh
pham

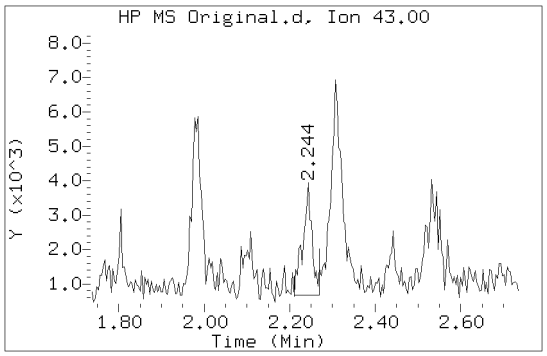


Methyl acetate (79-20-9)

Reason Code:

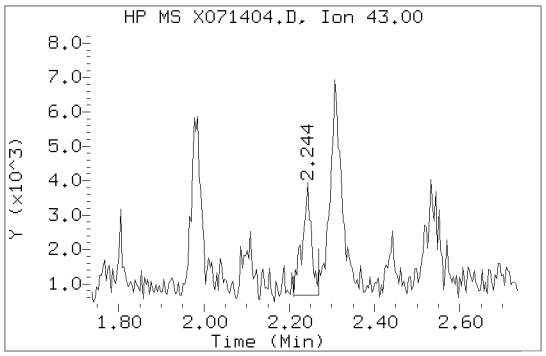
BEFORE

MASS
43
AREA
4992
HEIGHT
3260
20-Jul-2023
15:04
linh
pham



AFTER

MASS
43
AREA
4992
HEIGHT
3260
20-Jul-2023
15:04
linh
pham



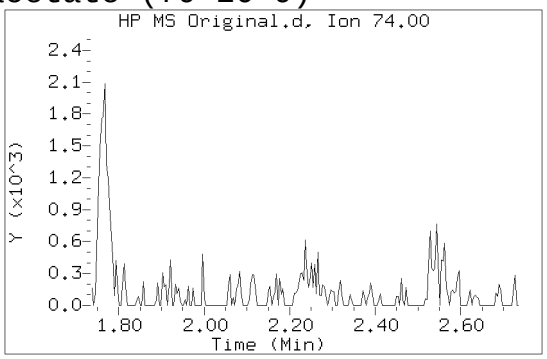
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071404.D
Inj Date : 14-JUL-2023 13:02
InstruID : voa6.i
LabSampID : VSTD001

Methyl acetate (79-20-9)

Reason Code:

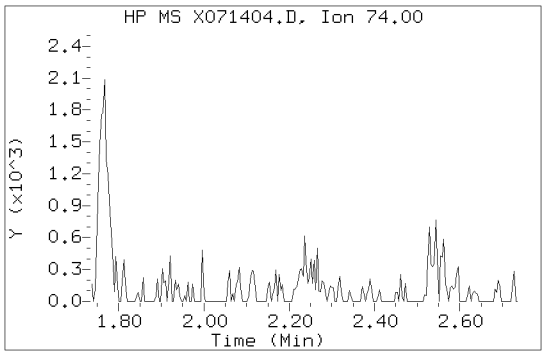
BEFORE

MASS
74
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



AFTER

MASS
74
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham

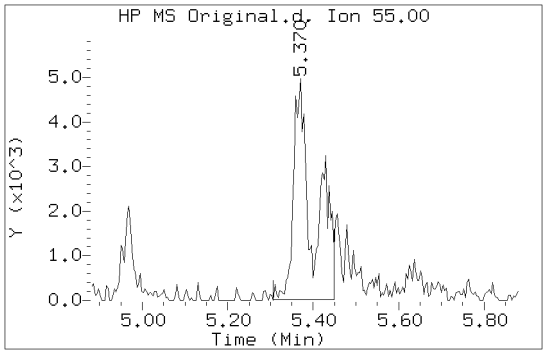


Methylcyclohexane (108-87-2)

Reason Code:

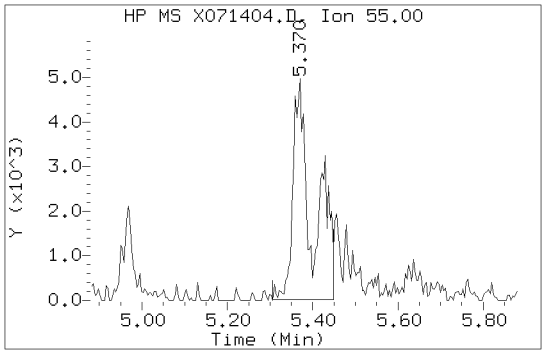
BEFORE

MASS
55
AREA
15783
HEIGHT
4958
20-Jul-2023
15:04
linh
pham



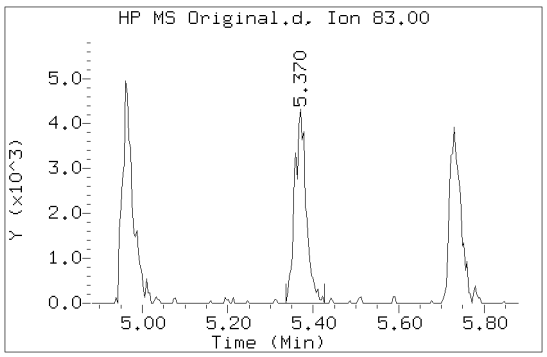
AFTER

MASS
55
AREA
15783
HEIGHT
4958
20-Jul-2023
15:04
linh
pham



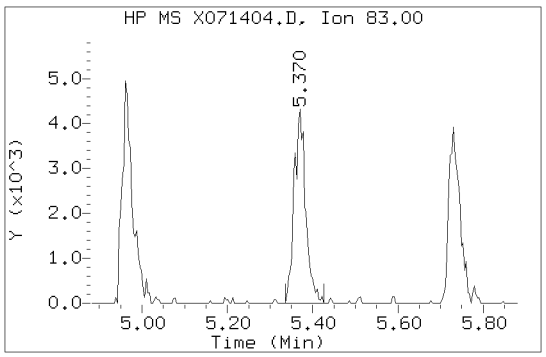
BEFORE

MASS
83
AREA
8157
HEIGHT
4322
20-Jul-2023
15:04
linh
pham



AFTER

MASS
83
AREA
8157
HEIGHT
4322
20-Jul-2023
15:04
linh
pham

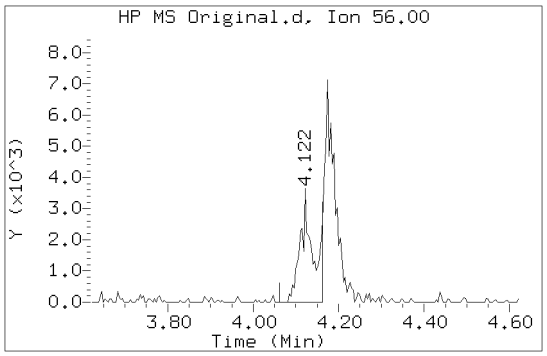


Cyclohexane (110-82-7)

Reason Code:

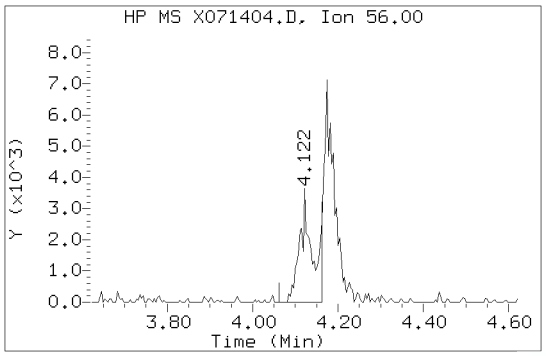
BEFORE

MASS
56
AREA
7673
HEIGHT
3640
20-Jul-2023
15:04
linh
pham



AFTER

MASS
56
AREA
7673
HEIGHT
3640
20-Jul-2023
15:04
linh
pham

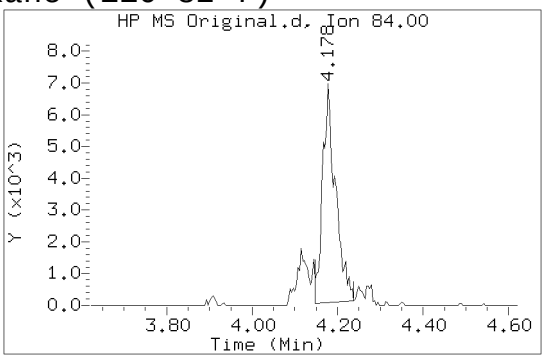


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Inj Date : 14-JUL-2023 13:02
InstruID : voa6.i
LabSampID : VSTD001

Cyclohexane (110-82-7)

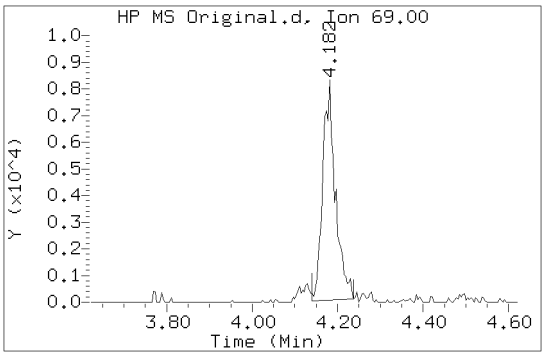
BEFORE

MASS
84
AREA
14444
HEIGHT
6891
20-Jul-2023
15:04
linh
pham



BEFORE

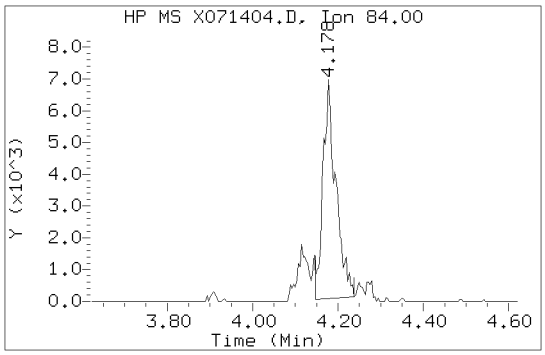
MASS
69
AREA
16995
HEIGHT
8270
20-Jul-2023
15:04
linh
pham



Reason Code:

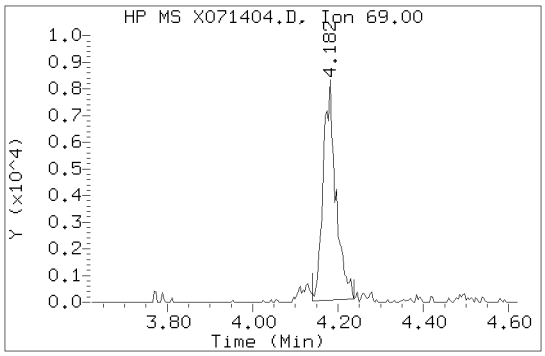
AFTER

MASS
84
AREA
14444
HEIGHT
6891
20-Jul-2023
15:04
linh
pham



AFTER

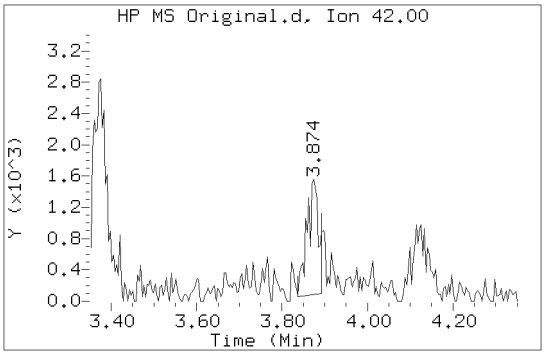
MASS
69
AREA
16995
HEIGHT
8270
20-Jul-2023
15:04
linh
pham



Tetrahydrofuran (109-99-9)

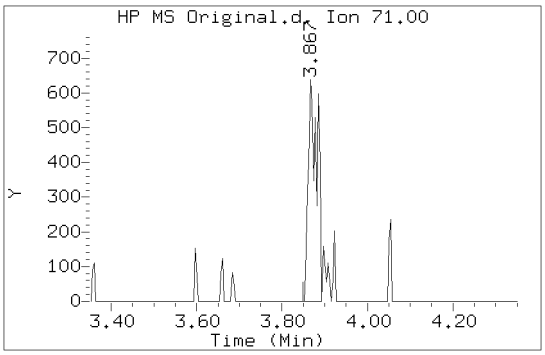
BEFORE

MASS
42
AREA
2815
HEIGHT
1476
20-Jul-2023
15:04
linh
pham



BEFORE

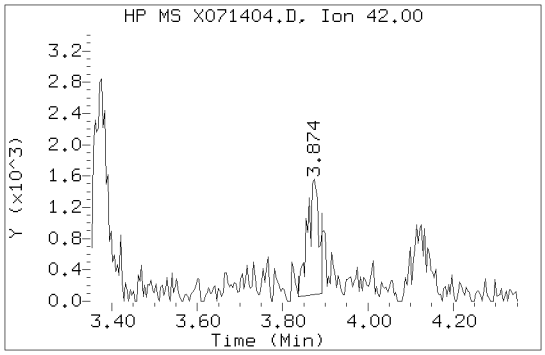
MASS
71
AREA
933
HEIGHT
638
20-Jul-2023
15:04
linh
pham



Reason Code:

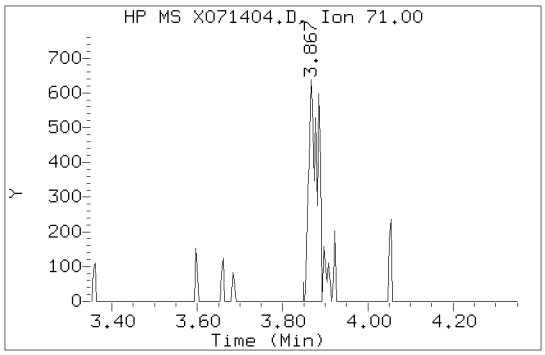
AFTER

MASS
42
AREA
2815
HEIGHT
1476
20-Jul-2023
15:04
linh
pham



AFTER

MASS
71
AREA
933
HEIGHT
638
20-Jul-2023
15:04
linh
pham



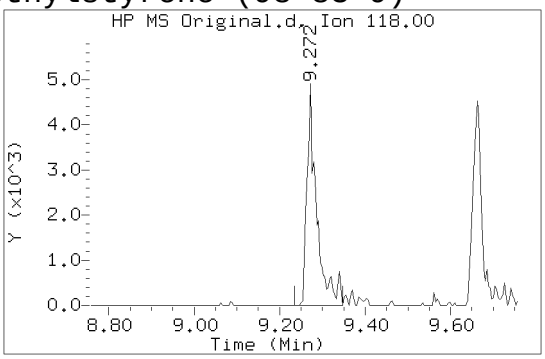
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071404.D
Inj Date : 14-JUL-2023 13:02
InstruID : voa6.i
LabSampID : VSTD001

alpha-Methylstyrene (98-83-9)

Reason Code:

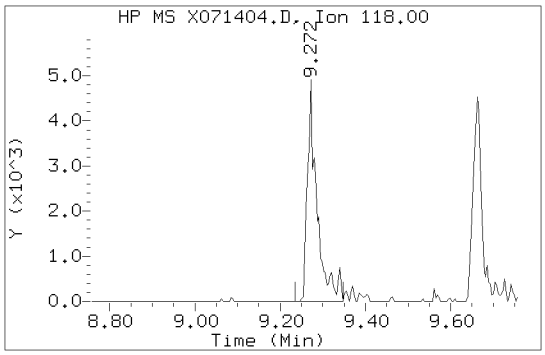
BEFORE

MASS
118
AREA
7755
HEIGHT
4913
20-Jul-2023
15:04
linh
pham



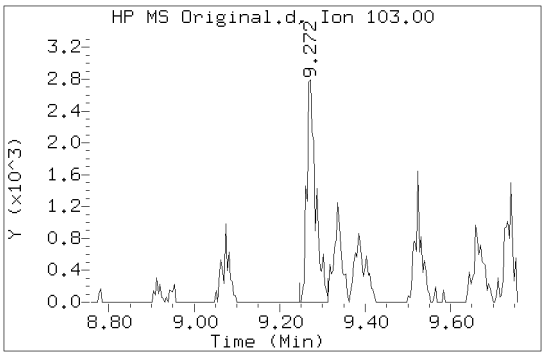
AFTER

MASS
118
AREA
7755
HEIGHT
4913
20-Jul-2023
15:04
linh
pham



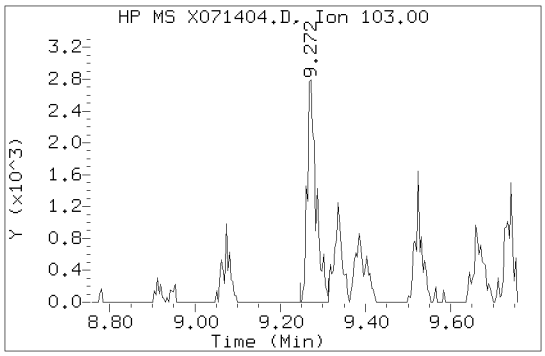
BEFORE

MASS
103
AREA
4028
HEIGHT
2790
20-Jul-2023
15:04
linh
pham



AFTER

MASS
103
AREA
4028
HEIGHT
2790
20-Jul-2023
15:04
linh
pham

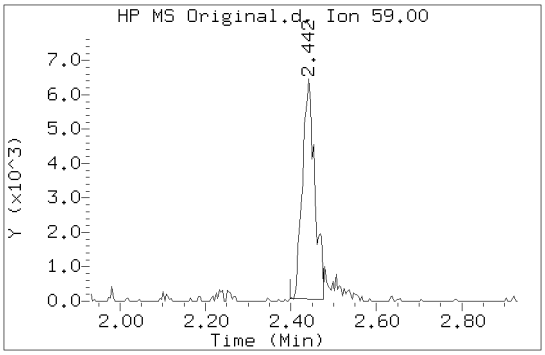


Tert-butyl alcohol (75-65-0)

Reason Code:

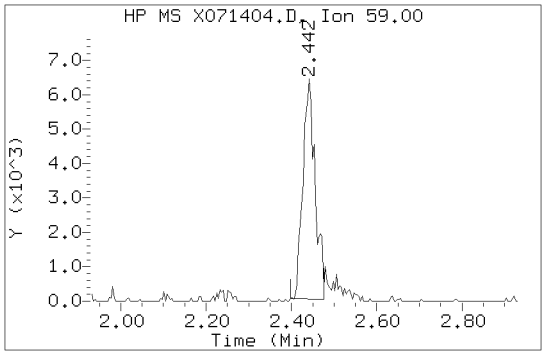
BEFORE

MASS
59
AREA
12965
HEIGHT
6400
20-Jul-2023
15:04
linh
pham



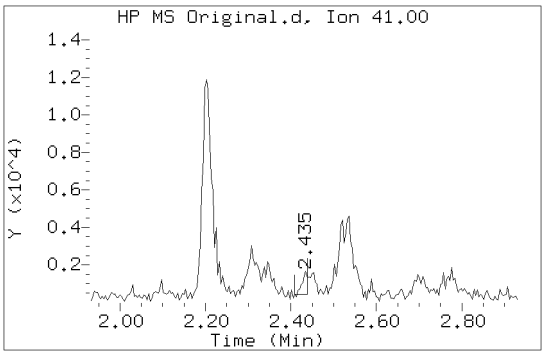
AFTER

MASS
59
AREA
12965
HEIGHT
6400
20-Jul-2023
15:04
linh
pham



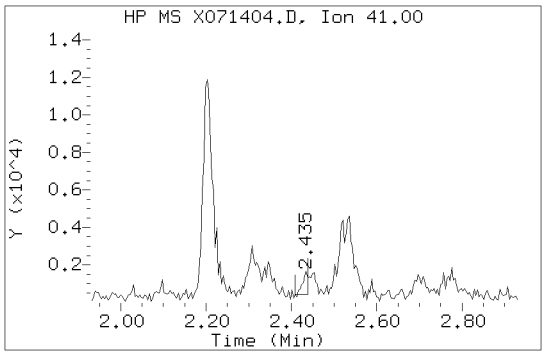
BEFORE

MASS
41
AREA
1041
HEIGHT
1246
20-Jul-2023
15:04
linh
pham



AFTER

MASS
41
AREA
1041
HEIGHT
1246
20-Jul-2023
15:04
linh
pham



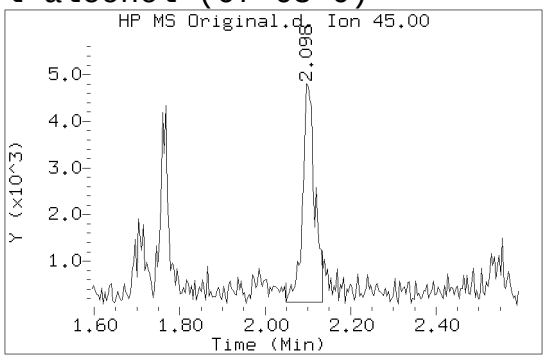
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Inj Date : 14-JUL-2023 13:02
InstruID : voa6.i
LabSampID : VSTD001

Isopropyl alcohol (67-63-0)

Reason Code:

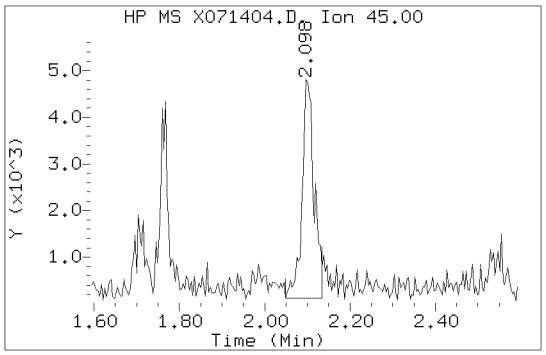
BEFORE

MASS
45
AREA
9372
HEIGHT
4685
20-Jul-2023
15:04
linh
pham



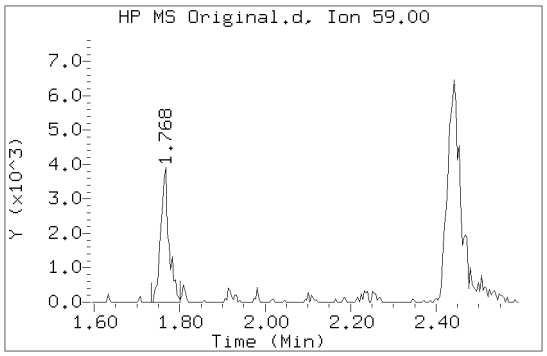
AFTER

MASS
45
AREA
9372
HEIGHT
4685
20-Jul-2023
15:04
linh
pham



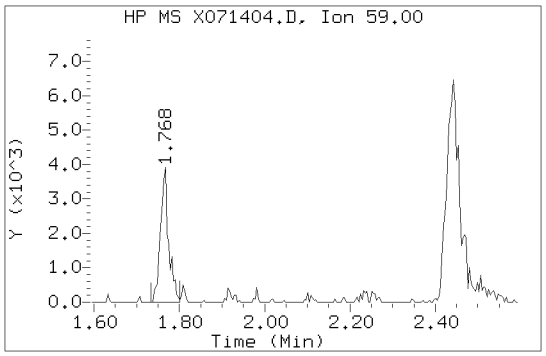
BEFORE

MASS
59
AREA
5211
HEIGHT
3930
20-Jul-2023
15:04
linh
pham



AFTER

MASS
59
AREA
5211
HEIGHT
3930
20-Jul-2023
15:04
linh
pham

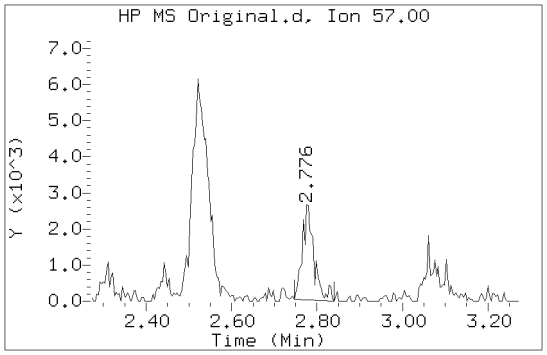


Allyl alcohol (107-18-6)

Reason Code:

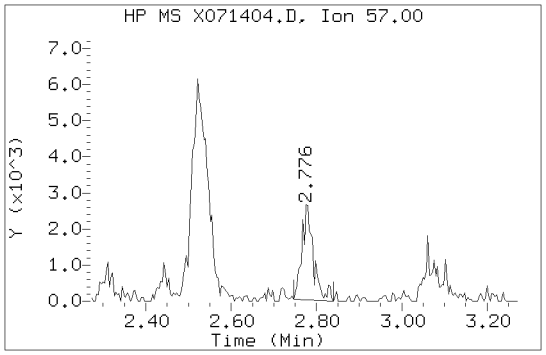
BEFORE

MASS
57
AREA
5000
HEIGHT
2629
20-Jul-2023
15:04
linh
pham



AFTER

MASS
57
AREA
5000
HEIGHT
2629
20-Jul-2023
15:04
linh
pham

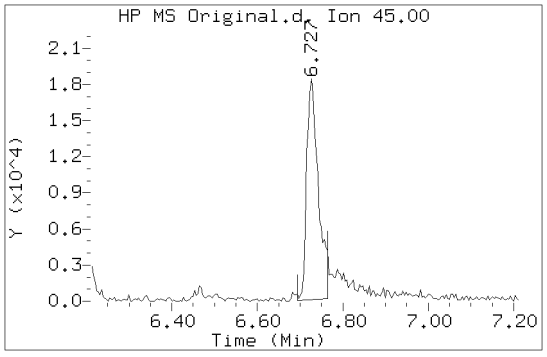


4-Methyl-2-pentanol (108-11-2)

Reason Code:

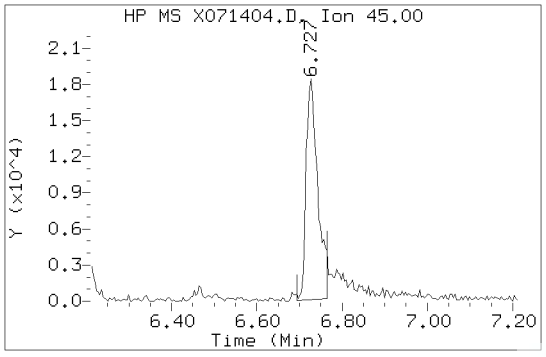
BEFORE

MASS
45
AREA
35175
HEIGHT
18341
20-Jul-2023
15:04
linh
pham



AFTER

MASS
45
AREA
35175
HEIGHT
18341
20-Jul-2023
15:04
linh
pham



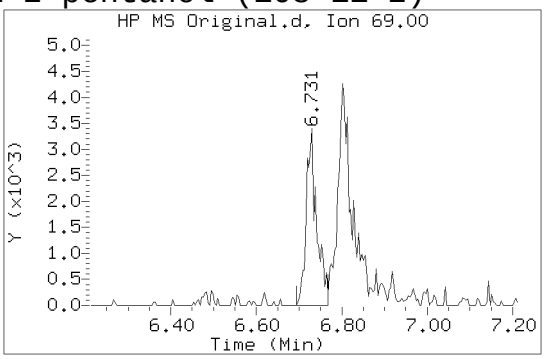
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071404.D
Inj Date : 14-JUL-2023 13:02
InstruID : voa6.i
LabSampID : VSTD001

4-Methyl-2-pentanol (108-11-2)

Reason Code:

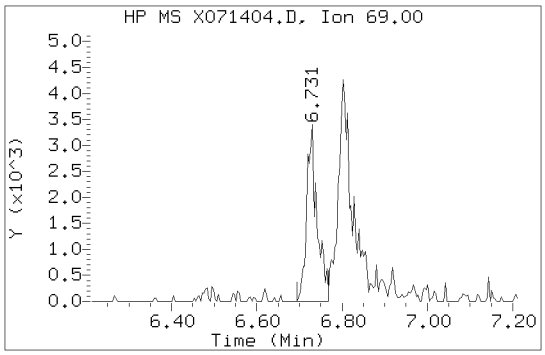
BEFORE

MASS
69
AREA
5748
HEIGHT
3399
20-Jul-2023
15:04
linh
pham



AFTER

MASS
69
AREA
5748
HEIGHT
3399
20-Jul-2023
15:04
linh
pham

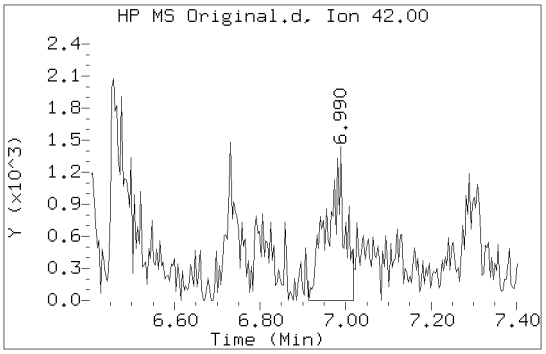


Amyl alcohol (71-41-0)

Reason Code:

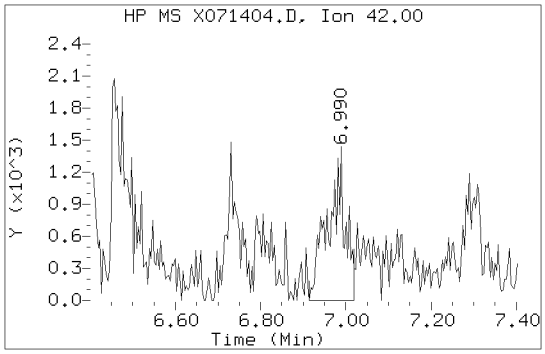
BEFORE

MASS
42
AREA
3944
HEIGHT
1442
20-Jul-2023
15:04
linh
pham



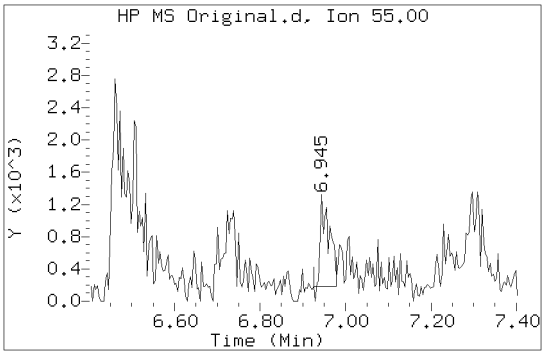
AFTER

MASS
42
AREA
3944
HEIGHT
1442
20-Jul-2023
15:04
linh
pham



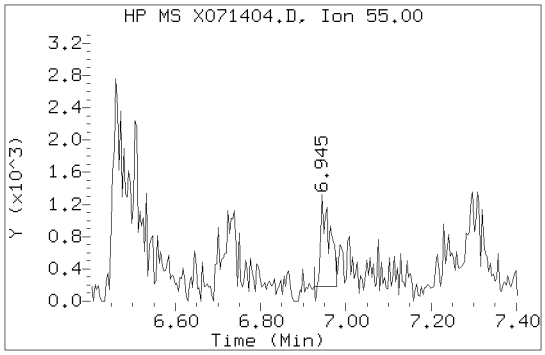
BEFORE

MASS
55
AREA
1617
HEIGHT
1137
20-Jul-2023
15:04
linh
pham



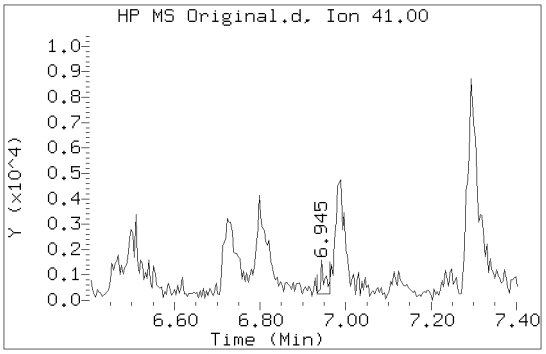
AFTER

MASS
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AREA
1617
HEIGHT
1137
20-Jul-2023
15:04
linh
pham



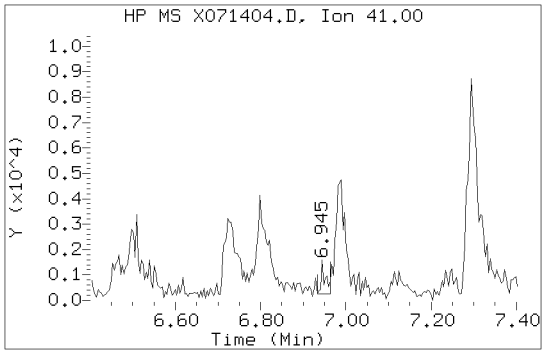
BEFORE

MASS
41
AREA
915
HEIGHT
1326
20-Jul-2023
15:04
linh
pham



AFTER

MASS
41
AREA
915
HEIGHT
1326
20-Jul-2023
15:04
linh
pham



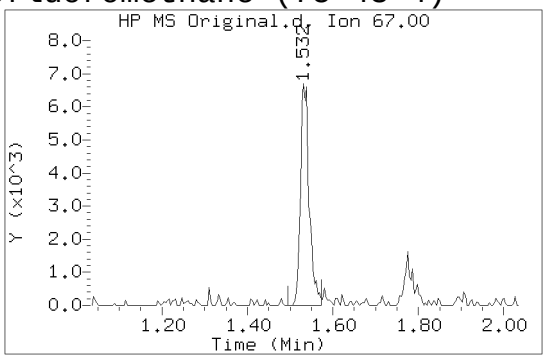
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071404.D
Inj Date : 14-JUL-2023 13:02
InstruID : voa6.i
LabSampID : VSTD001

Dichlorofluoromethane (75-43-4)

Reason Code:

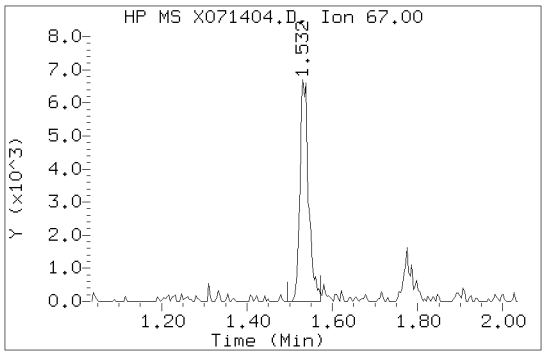
BEFORE

MASS
67
AREA
9743
HEIGHT
6701
20-Jul-2023
15:04
linh
pham



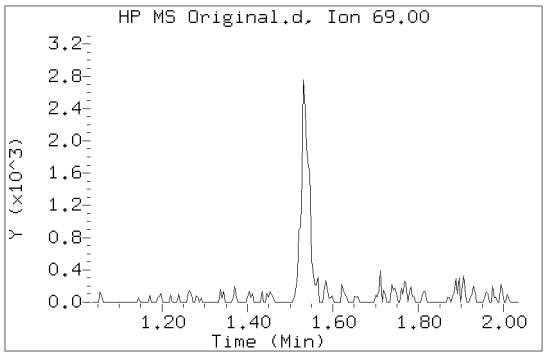
AFTER

MASS
67
AREA
9743
HEIGHT
6701
20-Jul-2023
15:04
linh
pham



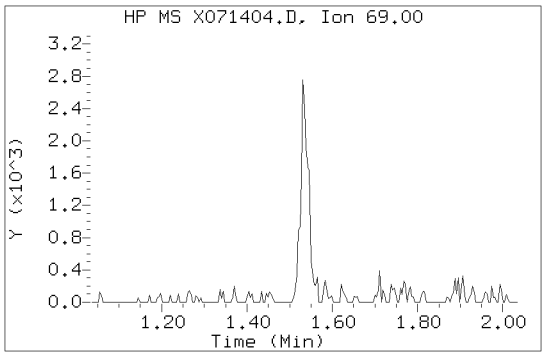
BEFORE

MASS
69
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



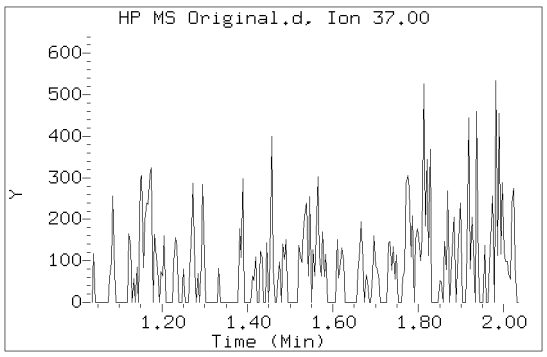
AFTER

MASS
69
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



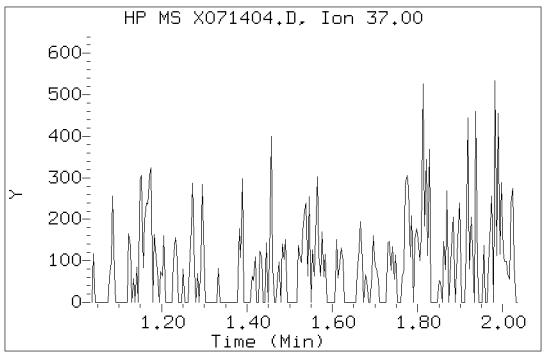
BEFORE

MASS
37
AREA
0
HEIGHT
0
20-Jul-2023
15:04
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pham



AFTER

MASS
37
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham

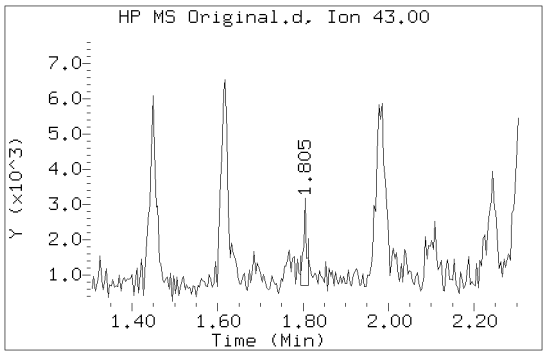


Propylene oxide ()

Reason Code:

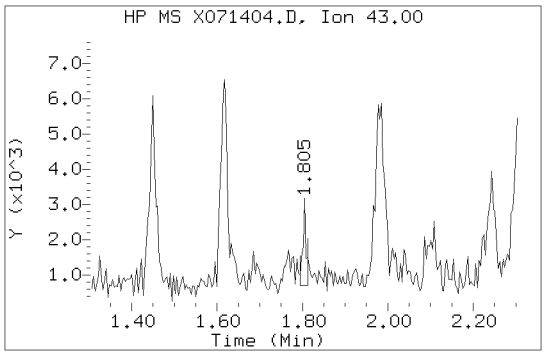
BEFORE

MASS
43
AREA
1409
HEIGHT
2479
20-Jul-2023
15:04
linh
pham



AFTER

MASS
43
AREA
1409
HEIGHT
2479
20-Jul-2023
15:04
linh
pham



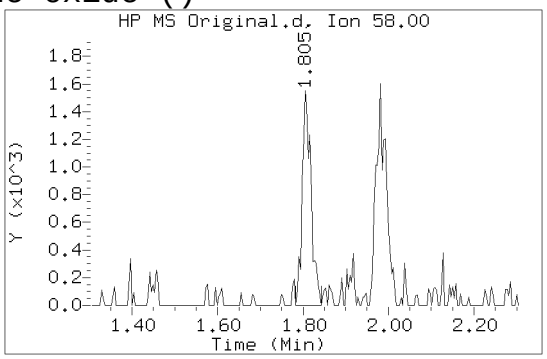
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071404.D
Inj Date : 14-JUL-2023 13:02
InstruID : voa6.i
LabSampID : VSTD001

Propylene oxide ()

Reason Code:

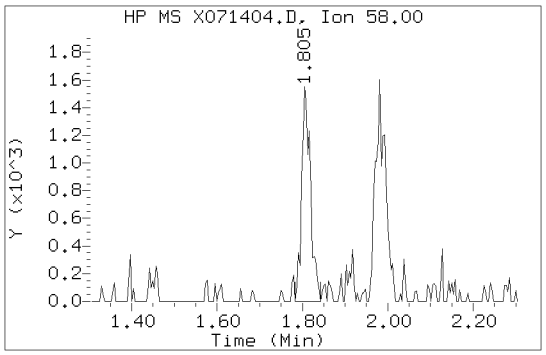
BEFORE

MASS
58
AREA
2276
HEIGHT
1552
20-Jul-2023
15:04
linh
pham



AFTER

MASS
58
AREA
2276
HEIGHT
1552
20-Jul-2023
15:04
linh
pham

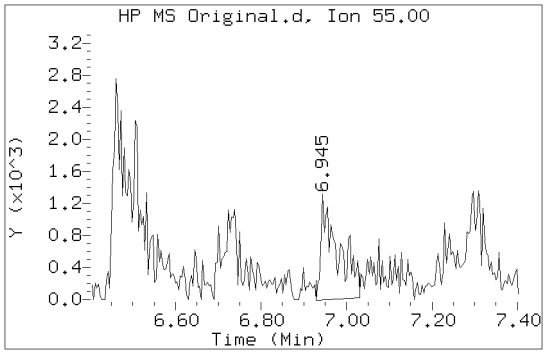


3-Methyl-1-butanol (123-51-3)

Reason Code:

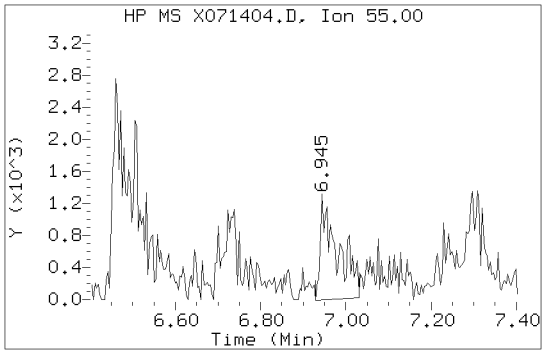
BEFORE

MASS
55
AREA
3623
HEIGHT
1323
20-Jul-2023
15:04
linh
pham



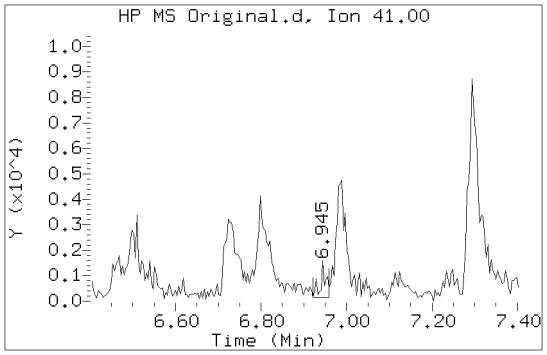
AFTER

MASS
55
AREA
3623
HEIGHT
1323
20-Jul-2023
15:04
linh
pham



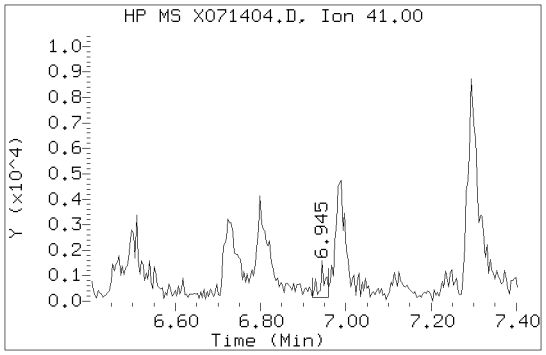
BEFORE

MASS
41
AREA
1239
HEIGHT
1440
20-Jul-2023
15:04
linh
pham



AFTER

MASS
41
AREA
1239
HEIGHT
1440
20-Jul-2023
15:04
linh
pham

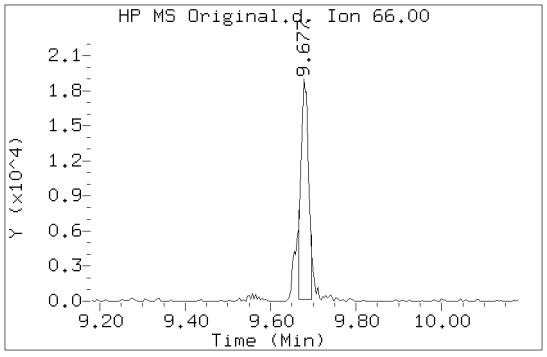


Dicyclopentadiene (77-73-6)

Reason Code:

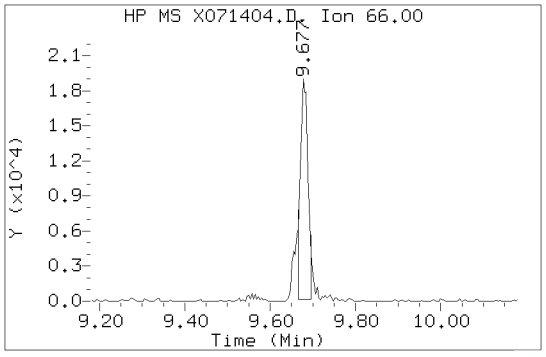
BEFORE

MASS
66
AREA
24319
HEIGHT
18861
20-Jul-2023
15:04
linh
pham



AFTER

MASS
66
AREA
24319
HEIGHT
18861
20-Jul-2023
15:04
linh
pham



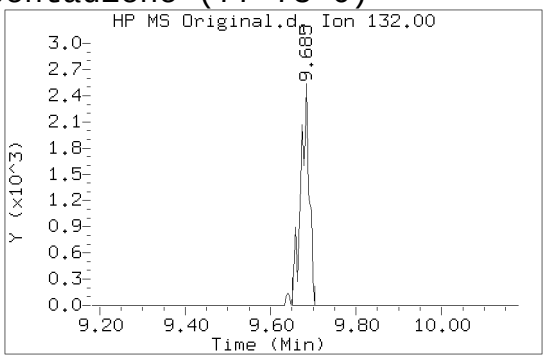
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071404.D
Inj Date : 14-JUL-2023 13:02
InstruID : voa6.i
LabSampID : VSTD001

Dicyclopentadiene (77-73-6)

Reason Code:

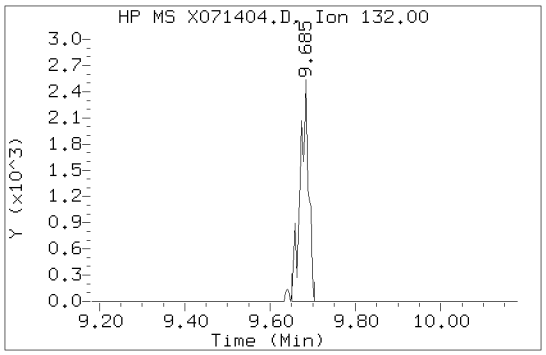
BEFORE

MASS
132
AREA
3579
HEIGHT
2538
20-Jul-2023
15:04
linh
pham



AFTER

MASS
132
AREA
3579
HEIGHT
2538
20-Jul-2023
15:04
linh
pham

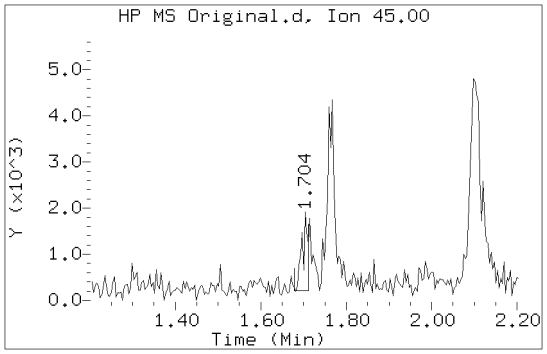


Ethanol (64-17-5)

Reason Code:

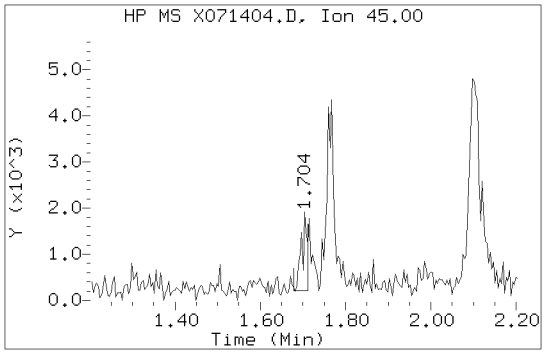
BEFORE

MASS
45
AREA
1613
HEIGHT
1703
20-Jul-2023
15:04
linh
pham



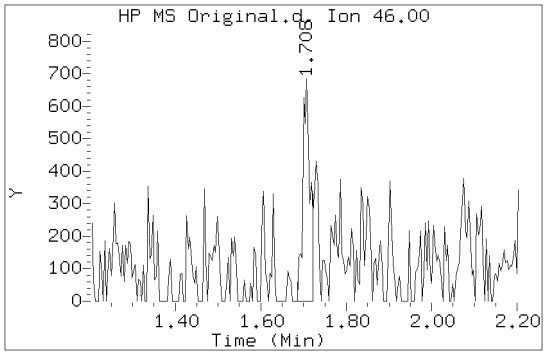
AFTER

MASS
45
AREA
1613
HEIGHT
1703
20-Jul-2023
15:04
linh
pham



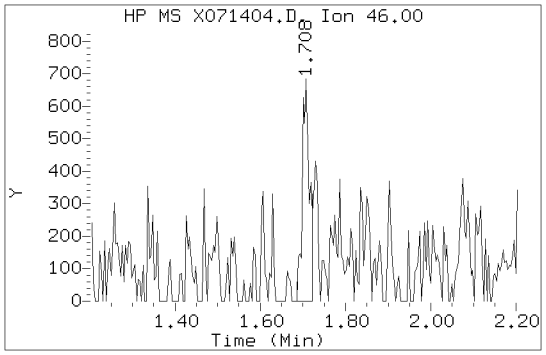
BEFORE

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684
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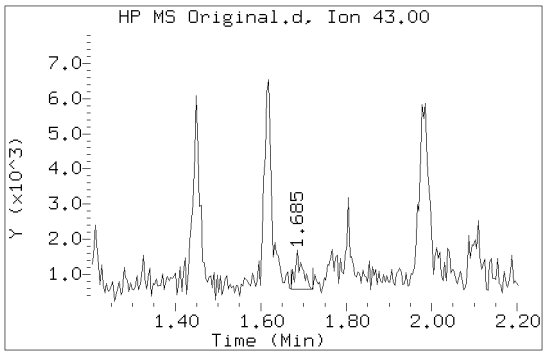
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684
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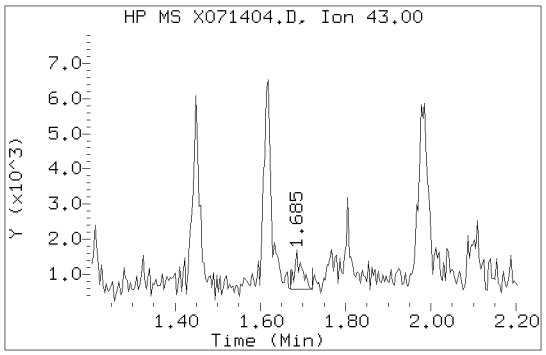
BEFORE

MASS
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HEIGHT
1114
20-Jul-2023
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AFTER

MASS
43
AREA
1337
HEIGHT
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20-Jul-2023
15:04
linh
pham



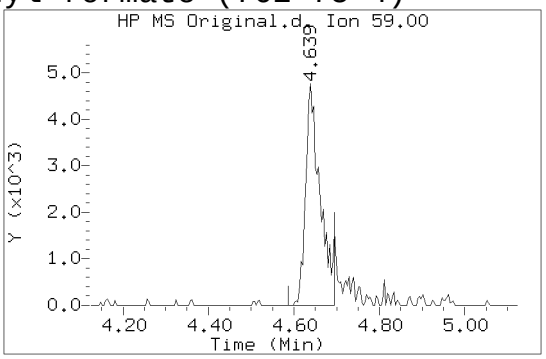
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Inj Date : 14-JUL-2023 13:02
InstruID : voa6.i
LabSampID : VSTD001

tert-Butyl formate (762-75-4)

Reason Code:

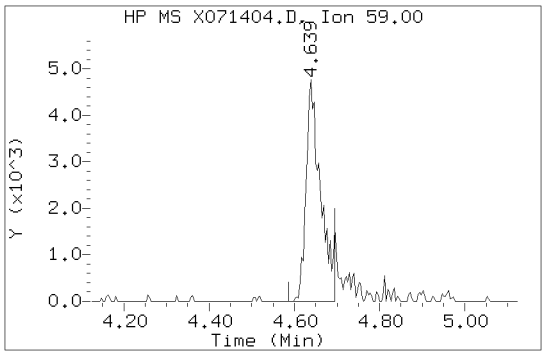
BEFORE

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11427
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4768
20-Jul-2023
15:04
linh
pham



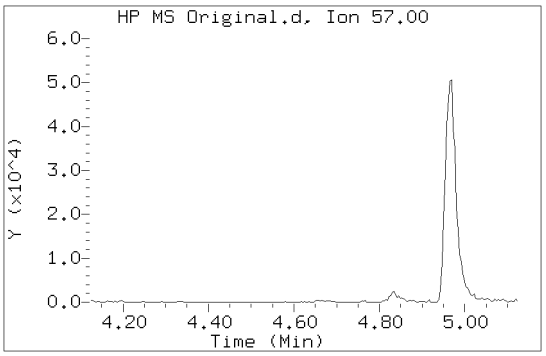
AFTER

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11427
HEIGHT
4768
20-Jul-2023
15:04
linh
pham



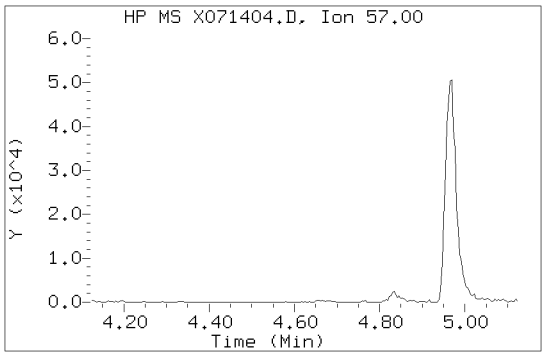
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20-Jul-2023
15:04
linh
pham



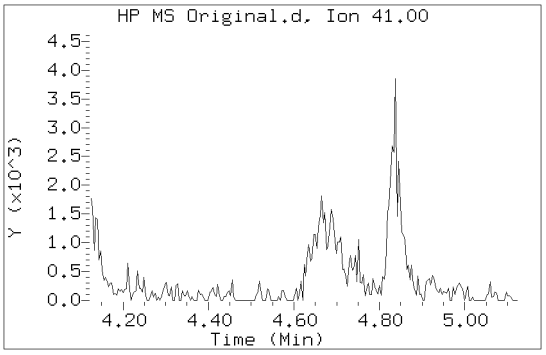
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HEIGHT
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15:04
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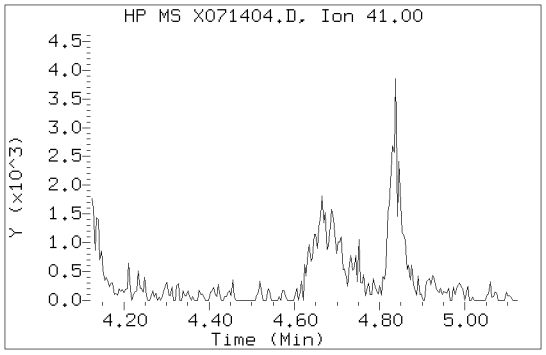
BEFORE

MASS
41
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HEIGHT
0
20-Jul-2023
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AFTER

MASS
41
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham

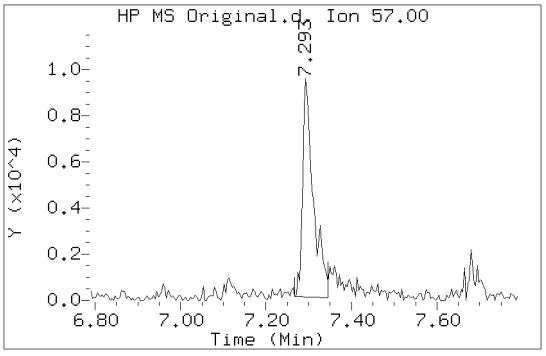


3,3-Dimethyl-1-butanol (624-95-3)

Reason Code:

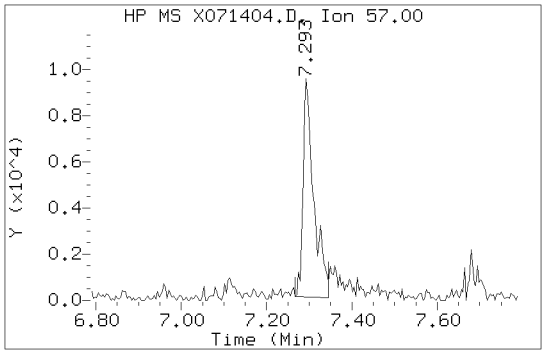
BEFORE

MASS
57
AREA
16922
HEIGHT
9467
20-Jul-2023
15:04
linh
pham



AFTER

MASS
57
AREA
16922
HEIGHT
9467
20-Jul-2023
15:04
linh
pham



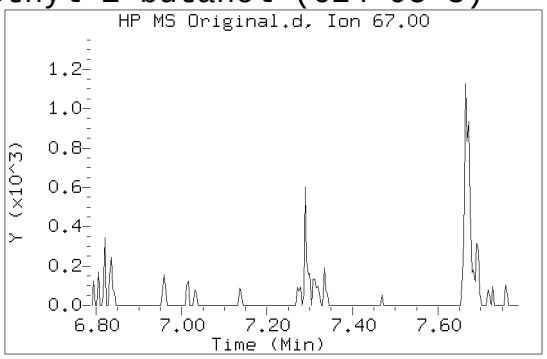
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Inj Date : 14-JUL-2023 13:02
InstruID : voa6.i
LabSampID : VSTD001

3,3-Dimethyl-1-butanol (624-95-3)

Reason Code:

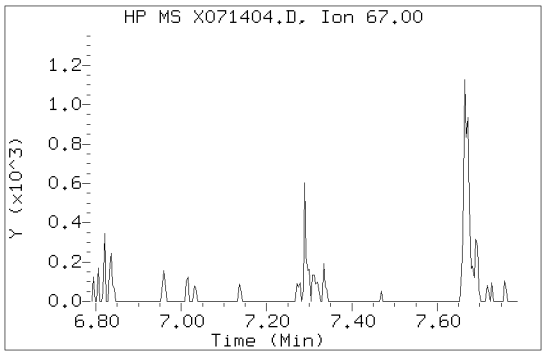
BEFORE

MASS
67
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



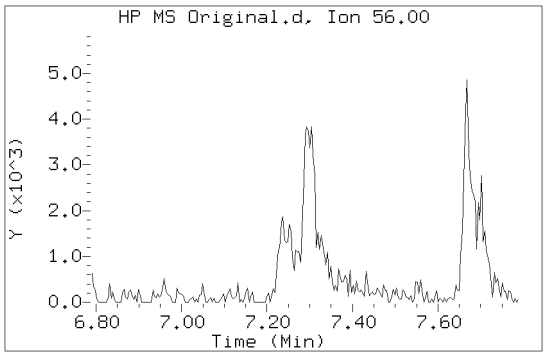
AFTER

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0
20-Jul-2023
15:04
linh
pham



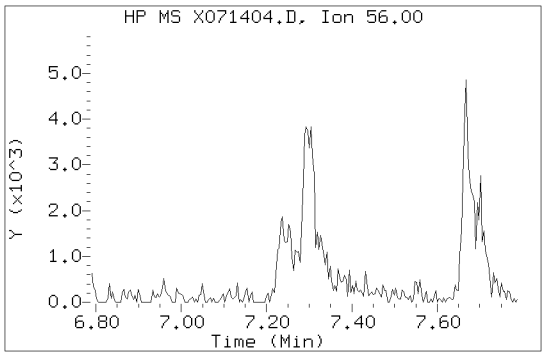
BEFORE

MASS
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AREA
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HEIGHT
0
20-Jul-2023
15:04
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AFTER

MASS
56
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham

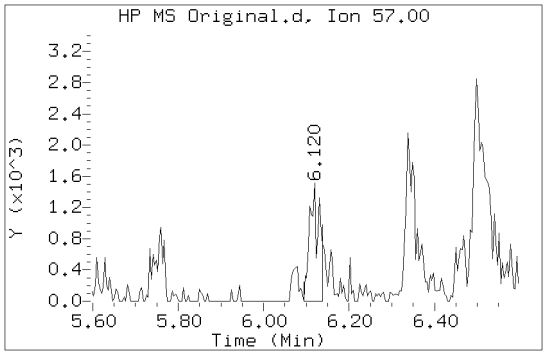


Epichlorohydrin (106-89-8)

Reason Code:

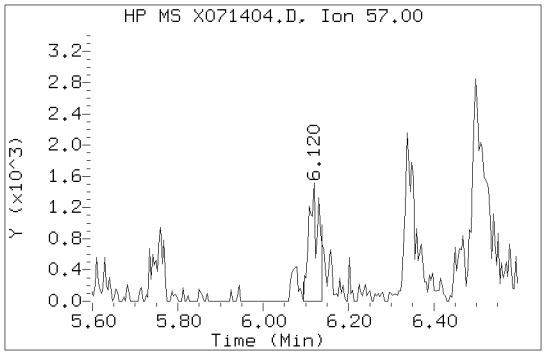
BEFORE

MASS
57
AREA
2383
HEIGHT
1514
20-Jul-2023
15:04
linh
pham



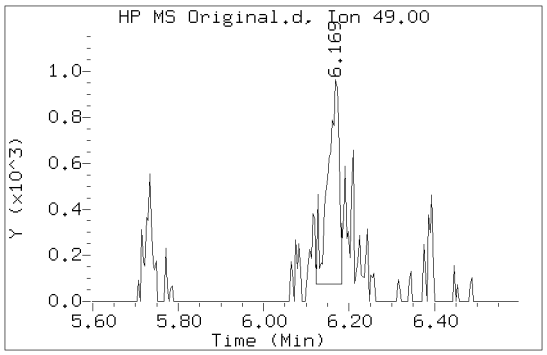
AFTER

MASS
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AREA
2383
HEIGHT
1514
20-Jul-2023
15:04
linh
pham



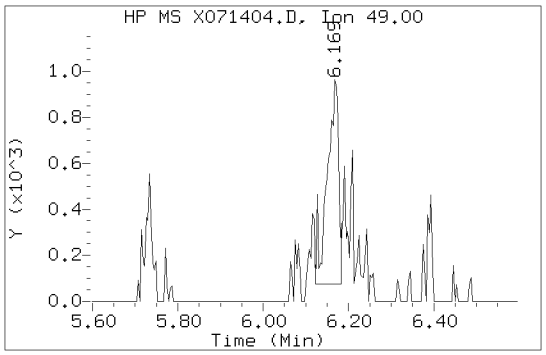
BEFORE

MASS
49
AREA
1633
HEIGHT
889
20-Jul-2023
15:04
linh
pham



AFTER

MASS
49
AREA
1633
HEIGHT
889
20-Jul-2023
15:04
linh
pham



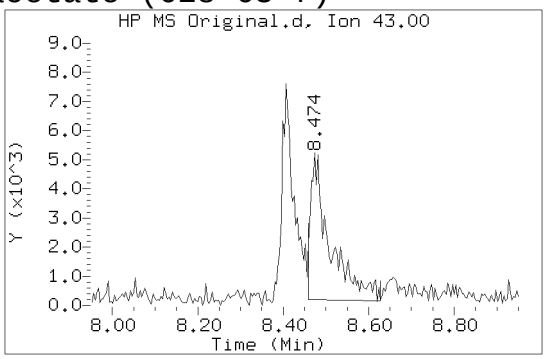
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071404.D
Inj Date : 14-JUL-2023 13:02
InstruID : voa6.i
LabSampID : VSTD001

n-Amyl acetate (628-63-7)

Reason Code:

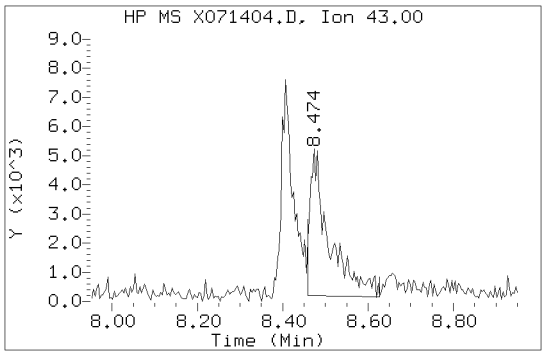
BEFORE

MASS
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AREA
15950
HEIGHT
5045
20-Jul-2023
15:04
linh
pham



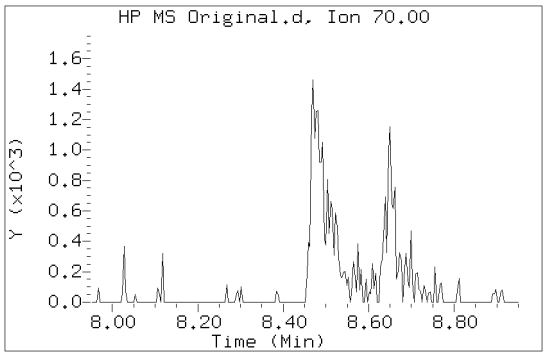
AFTER

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15950
HEIGHT
5045
20-Jul-2023
15:04
linh
pham



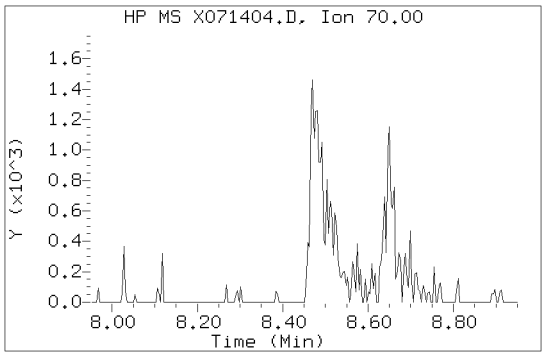
BEFORE

MASS
70
AREA
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HEIGHT
0
20-Jul-2023
15:04
linh
pham



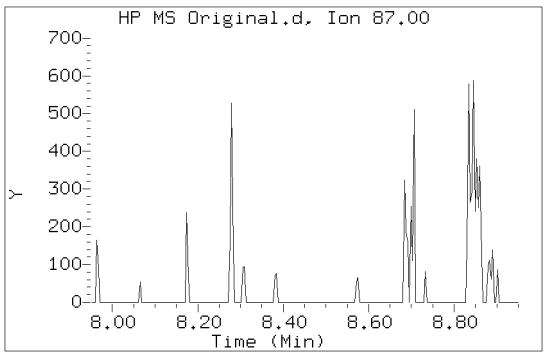
AFTER

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AREA
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HEIGHT
0
20-Jul-2023
15:04
linh
pham



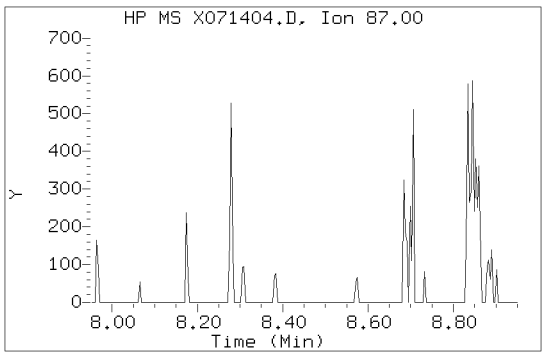
BEFORE

MASS
87
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



AFTER

MASS
87
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham

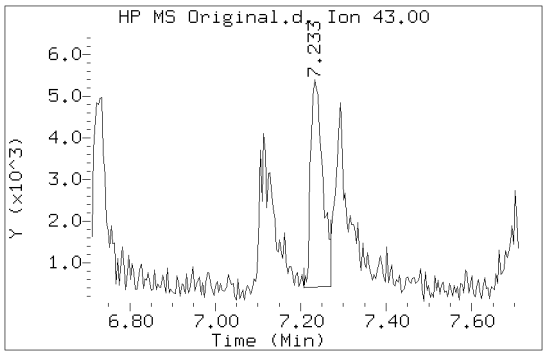


n-Butyl acetate (123-86-4)

Reason Code:

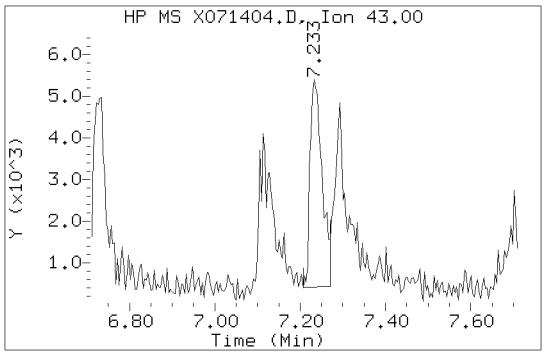
BEFORE

MASS
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AREA
9795
HEIGHT
4977
20-Jul-2023
15:04
linh
pham



AFTER

MASS
43
AREA
9795
HEIGHT
4977
20-Jul-2023
15:04
linh
pham



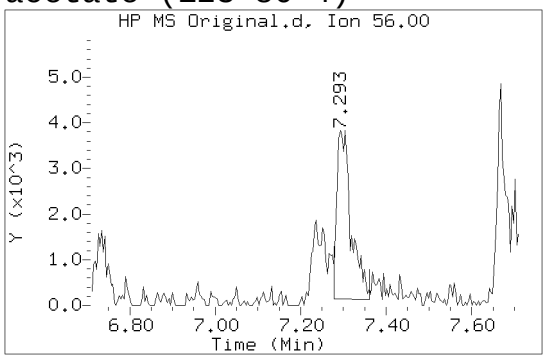
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071404.D
Inj Date : 14-JUL-2023 13:02
InstruID : voa6.i
LabSampID : VSTD001

n-Butyl acetate (123-86-4)

Reason Code:

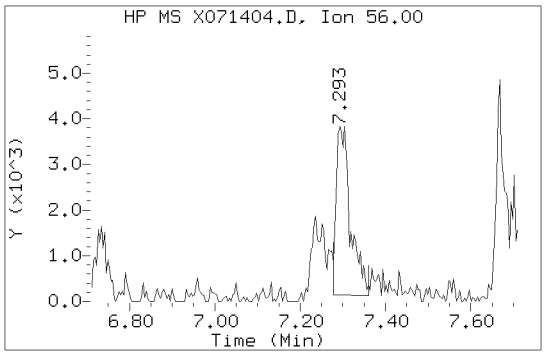
BEFORE

MASS
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AREA
8623
HEIGHT
3689
20-Jul-2023
15:04
linh
pham



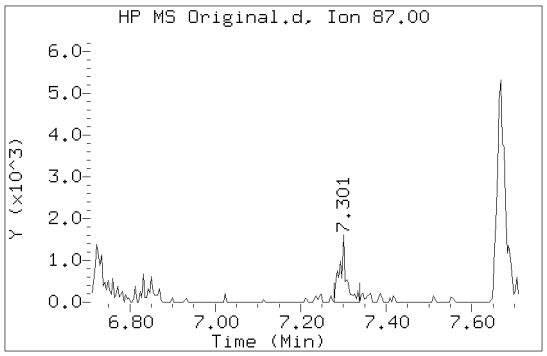
AFTER

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HEIGHT
3689
20-Jul-2023
15:04
linh
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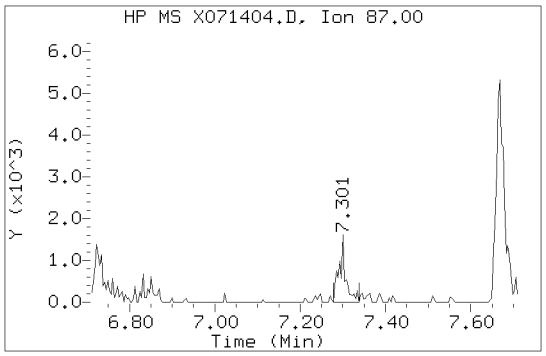
BEFORE

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AREA
1682
HEIGHT
1613
20-Jul-2023
15:04
linh
pham



AFTER

MASS
87
AREA
1682
HEIGHT
1613
20-Jul-2023
15:04
linh
pham

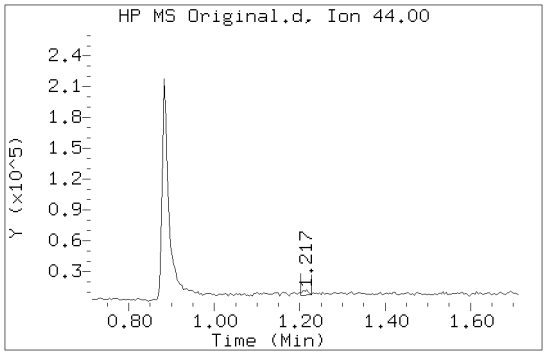


Acetaldehyde (75-07-0)

Reason Code:

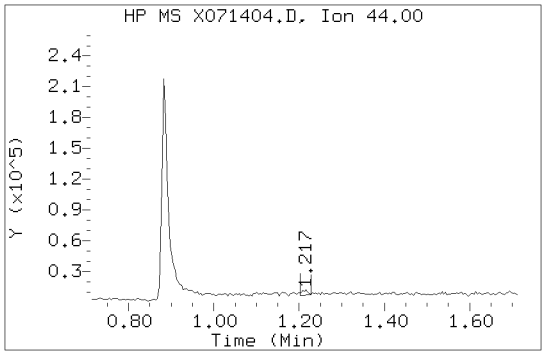
BEFORE

MASS
44
AREA
5117
HEIGHT
4908
20-Jul-2023
15:04
linh
pham



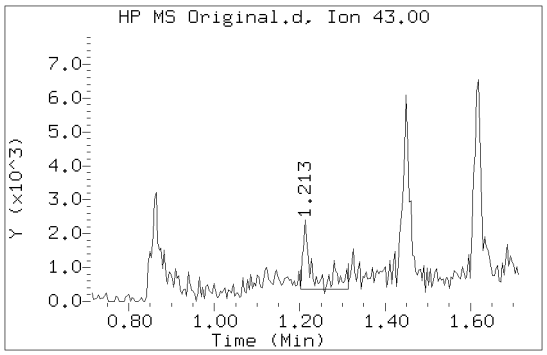
AFTER

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AREA
5117
HEIGHT
4908
20-Jul-2023
15:04
linh
pham



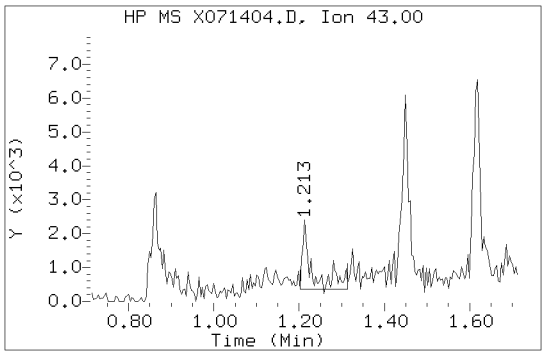
BEFORE

MASS
43
AREA
3201
HEIGHT
2038
20-Jul-2023
15:04
linh
pham



AFTER

MASS
43
AREA
3201
HEIGHT
2038
20-Jul-2023
15:04
linh
pham



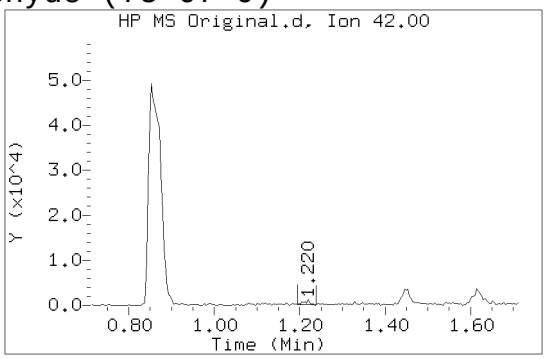
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071404.D
Inj Date : 14-JUL-2023 13:02
InstruID : voa6.i
LabSampID : VSTD001

Acetaldehyde (75-07-0)

Reason Code:

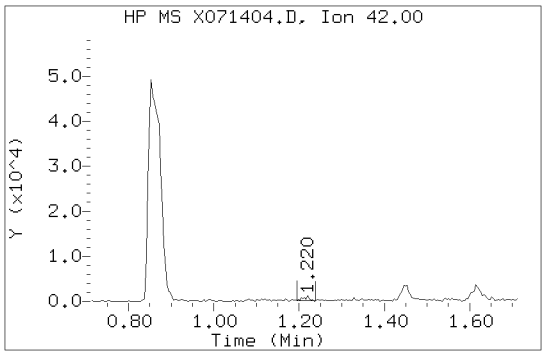
BEFORE

MASS
42
AREA
1038
HEIGHT
1152
20-Jul-2023
15:04
linh
pham



AFTER

MASS
42
AREA
1038
HEIGHT
1152
20-Jul-2023
15:04
linh
pham

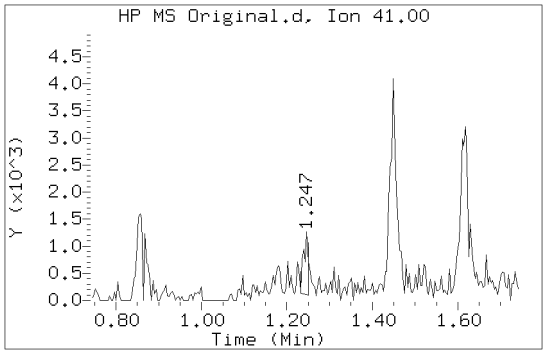


Isobutylene (115-11-7)

Reason Code:

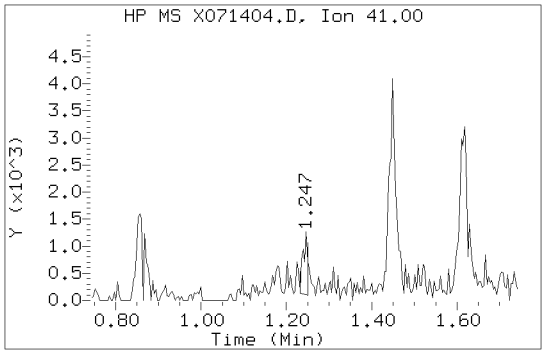
BEFORE

MASS
41
AREA
875
HEIGHT
1172
20-Jul-2023
15:04
linh
pham



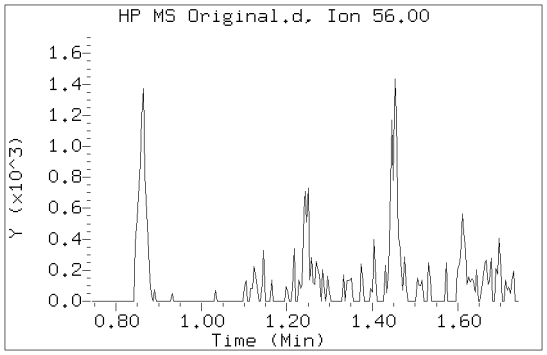
AFTER

MASS
41
AREA
875
HEIGHT
1172
20-Jul-2023
15:04
linh
pham



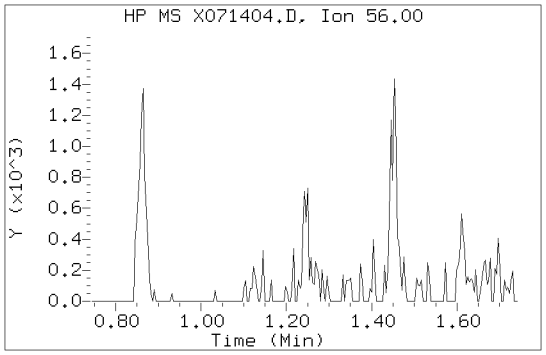
BEFORE

MASS
56
AREA
0
HEIGHT
0
20-Jul-2023
15:04
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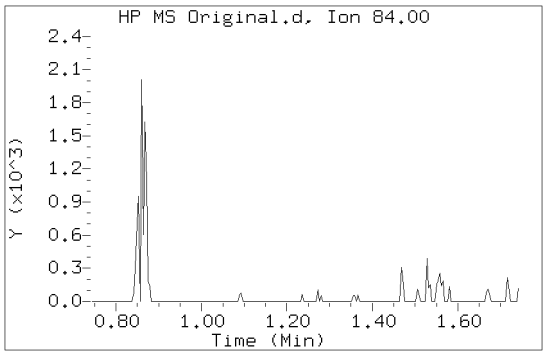
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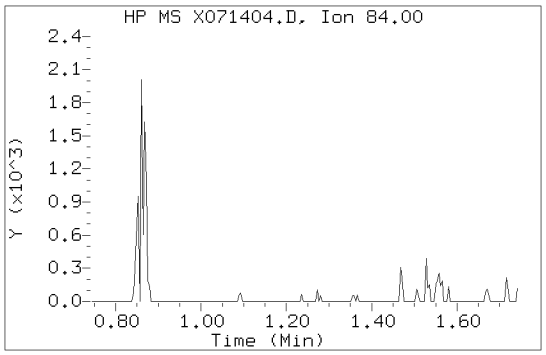
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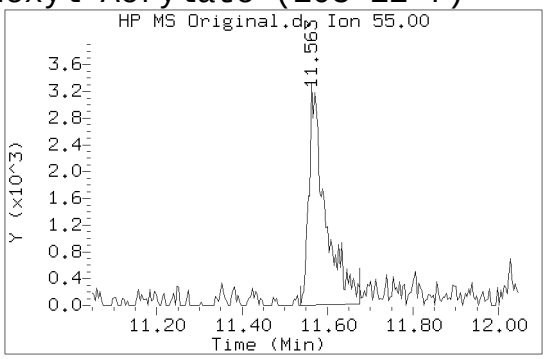
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2-Ethylhexyl Acrylate (103-11-7)

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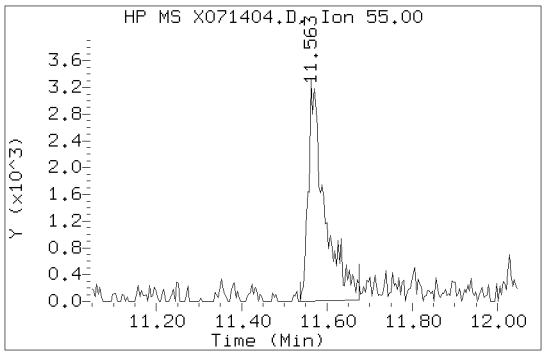
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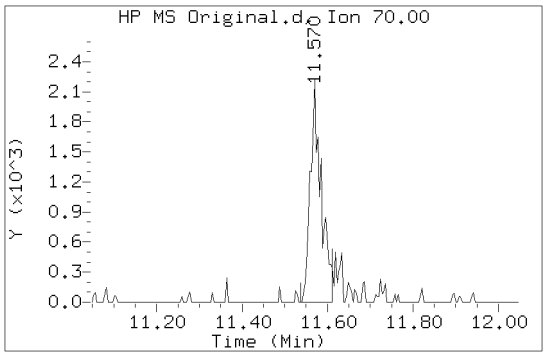
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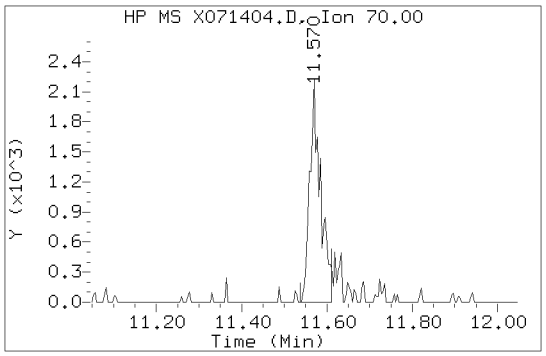
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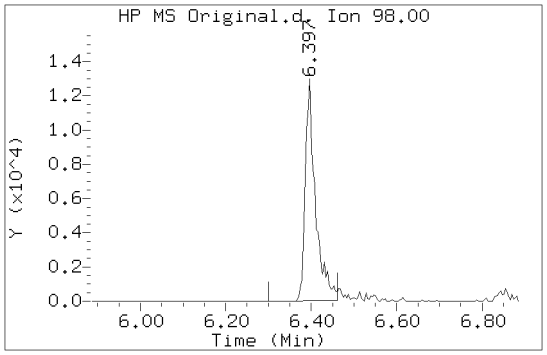


Toluene-d8 (2037-26-5)

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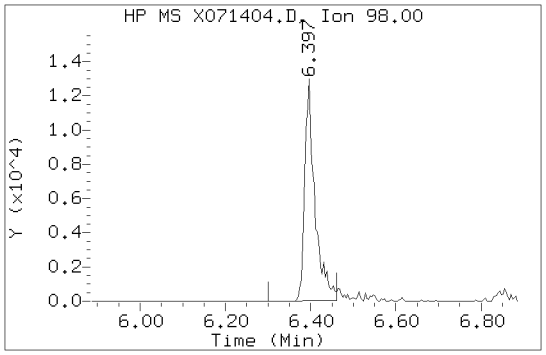
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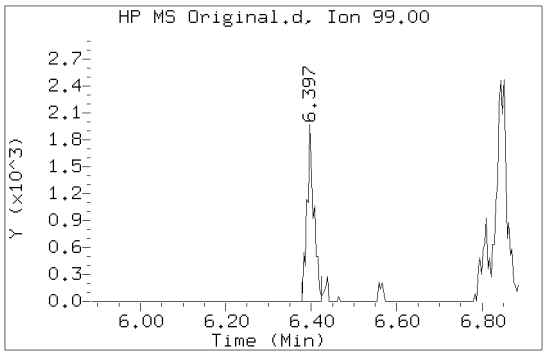
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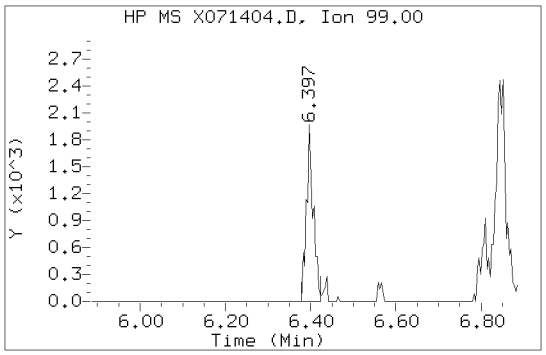
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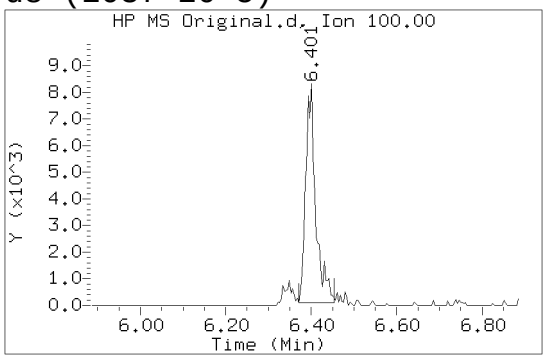
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Toluene-d8 (2037-26-5)

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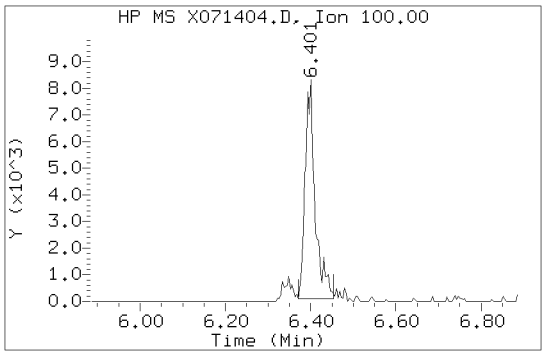
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AFTER

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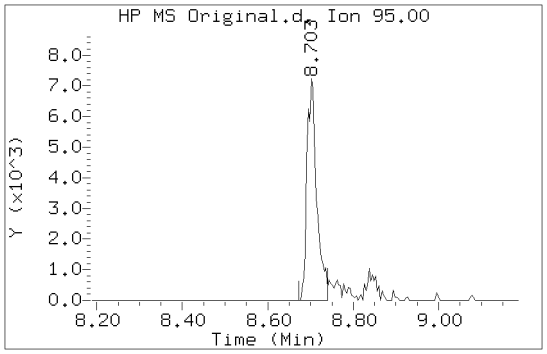


4-Bromofluorobenzene (460-00-4)

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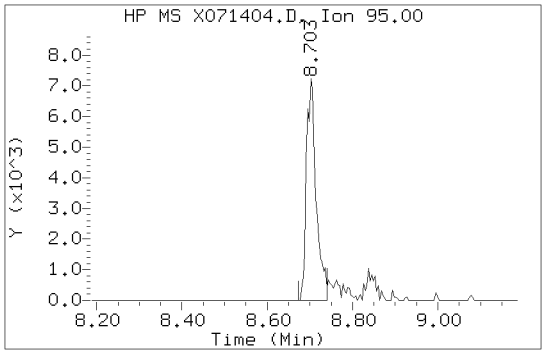
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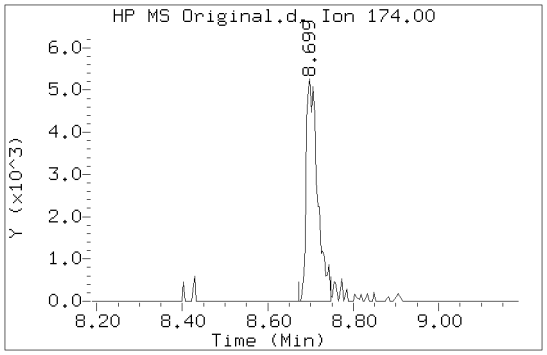
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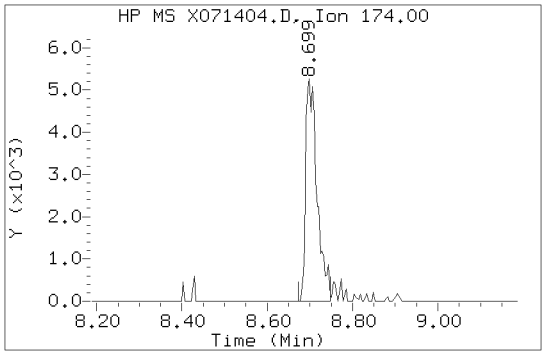
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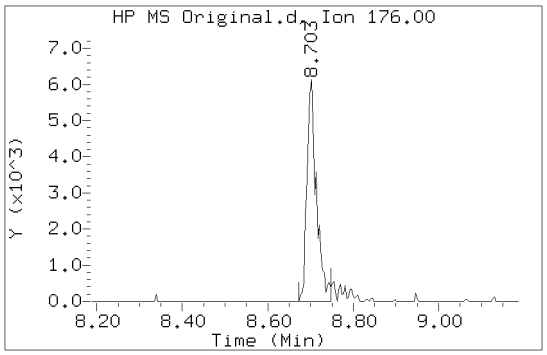
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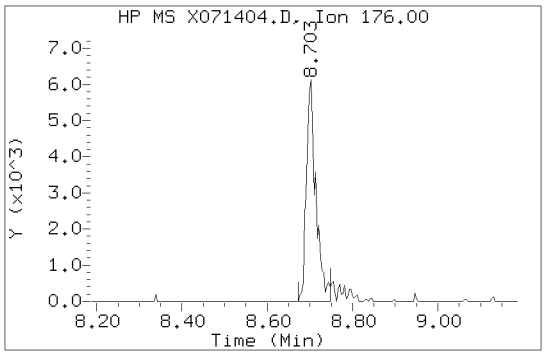
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AFTER

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ALS Laboratory Group

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Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000_8260.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1	Pentafluorobenzene	168	4.181	4.181	(1.000)	523249	50.0000	
2	Dichlorodifluoromethane	85	0.976	0.976	(0.234)	9210	2.00000	2.77(M)
3	Chloromethane	50	1.085	1.085	(0.260)	17566	2.00000	2.22
4	Propionitrile	54	3.683	3.683	(0.881)	20667	20.0000	19.93(aM)
5	Vinyl Chloride	62	1.145	1.145	(0.274)	15109	2.00000	2.23
6	Bromomethane	94	1.347	1.347	(0.322)	5769	2.00000	2.05(M)
7	Chloroethane	64	1.404	1.404	(0.336)	8482	2.00000	2.19(M)
8	Trichlorofluoromethane	101	1.561	1.561	(0.373)	15419	2.00000	2.24
9	Acrolein	56	1.861	1.861	(0.445)	917	4.00000	5.70(aMH)
10	Acetone	43	1.977	1.977	(0.473)	15631	4.00000	3.03
11	1,1-Dichloroethene	96	1.921	1.921	(0.459)	8527	2.00000	2.22
12	Isobutyl Alcohol	43	4.684	4.684	(1.120)	37832	40.0000	38.14(aM)
13	Acetonitrile	39	2.202	2.202	(0.527)	15528	20.0000	21.16(a)
14	Allyl Chloride	41	2.202	2.202	(0.527)	33926	2.00000	1.97(a)
15	Iodomethane	142	2.030	2.030	(0.485)	11682	4.00000	6.08(M)
16	Acrylonitrile	53	2.547	2.547	(0.609)	10541	4.00000	4.13
17	Methylene Chloride	84	2.303	2.303	(0.551)	11880	2.00000	1.28(M)
18	Methyl tert-butyl ether	73	2.543	2.543	(0.608)	30252	2.00000	2.12
19	Carbon Disulfide	76	2.075	2.075	(0.496)	52986	4.00000	4.39
20	trans-1,2-Dichloroethene	96	2.532	2.532	(0.606)	9515	2.00000	2.14

21 Vinyl Acetate	43	3.004	3.004 (0.719)	75193	4.00000	4.10
22 1,1-Dichloroethane	63	2.922	2.922 (0.699)	21647	2.00000	2.22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	23 Chloroprene	53	1.771	1.771	(0.424)	4560	2.00000	1.93(aM)
	24 2-Butanone	43	3.672	3.672	(0.878)	10454	4.00000	3.75(M)
	25 Methacrylonitrile	41	3.870	3.870	(0.926)	12946	2.00000	1.91(a)
	26 2,2-Dichloropropane	77	3.514	3.514	(0.840)	15882	2.00000	2.30
	27 cis-1,2-Dichloroethene	96	3.537	3.537	(0.846)	11533	2.00000	2.04(M)
	28 Chloroform	83	3.915	3.915	(0.936)	21885	2.00000	2.19
	29 Bromochloromethane	128	3.799	3.799	(0.909)	7550	2.00000	2.38
$	30 Dibromofluoromethane	113	4.106	4.106	(0.982)	10131	2.00000	1.38
	31 1,1,1-Trichloroethane	97	4.088	4.088	(0.978)	16000	2.00000	2.08
	32 1,1-Dichloropropene	75	4.283	4.283	(0.863)	13616	2.00000	2.05
	33 1,2-Dichloroethane	62	4.564	4.564	(0.919)	16880	2.00000	1.89(M)
	34 Carbon Tetrachloride	117	4.264	4.264	(0.859)	13047	2.00000	1.95(M)
$	35 1,2-Dichloroethane-d4	65	4.477	4.477	(1.071)	14667	2.00000	1.85
*	36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	811220	50.0000	
	37 Benzene	78	4.519	4.519	(0.910)	39692	2.00000	2.04
	38 Trichloroethene	130	5.208	5.208	(1.049)	12354	2.00000	2.25(a)
	39 Bromodichloromethane	83	5.733	5.733	(1.155)	14668	2.00000	1.97(a)
	40 Methyl Methacrylate	41	5.625	5.625	(1.345)	12770	2.00000	2.02(aM)
	41 2-Chloroethylvinyl ether	63	6.059	6.059	(1.220)	8400	4.00000	3.70(a)
	42 1,2-Dichloropropane	63	5.441	5.441	(1.096)	12678	2.00000	2.03(aM)
	43 2-Nitropropane	43	5.973	5.973	(1.428)	4635	2.00000	2.22(a)
	44 Dibromomethane	93	5.557	5.557	(1.119)	7713	2.00000	2.18(a)
	45 4-Methyl-2-Pentanone	43	6.333	6.333	(0.826)	29112	4.00000	3.99(a)
	46 cis-1,3-Dichloropropene	75	6.164	6.164	(1.242)	17329	2.00000	2.02(a)
*	47 Chlorobenzene-d5	117	7.668	7.668	(1.000)	740616	50.0000	
$	48 Toluene-d8	98	6.389	6.389	(0.833)	41058	2.00000	2.15(aM)
	49 Ethyl Methacrylate	69	6.723	6.723	(1.354)	11361	2.00000	2.13(a)
	50 Toluene	91	6.449	6.449	(0.841)	40789	2.00000	2.04(a)
	51 trans-1,3-Dichloropropene	75	6.689	6.689	(1.347)	14549	2.00000	2.02(a)
	52 2-Hexanone	43	7.105	7.105	(0.927)	19503	4.00000	4.07(a)
	53 1,1,2-Trichloroethane	83	6.843	6.843	(0.892)	9040	2.00000	2.13(a)
	54 1,3-Dichloropropane	76	6.985	6.985	(0.911)	17344	2.00000	2.00(a)
	55 Dibromochloromethane	129	7.180	7.180	(0.936)	12160	2.00000	1.99(a)
	56 Tetrachloroethene	164	6.929	6.929	(0.904)	9711	2.00000	2.35(aM)
	57 1,2-Dibromoethane	107	7.263	7.263	(0.947)	9815	2.00000	2.03(a)
	58 1-Chlorohexane	55	7.694	7.694	(1.550)	14217	2.00000	2.18(a)
	59 Chlorobenzene	112	7.694	7.694	(1.003)	28612	2.00000	2.05(a)
	60 1,1,1,2-Tetrachloroethane	131	7.773	7.773	(1.014)	10835	2.00000	1.98(a)
	61 Ethylbenzene	106	7.799	7.799	(1.017)	14708	2.00000	2.10(a)
	62 m,p-Xylenes	106	7.904	7.904	(1.031)	39231	4.00000	4.47(a)
	63 o-Xylene	106	8.245	8.245	(1.075)	17205	2.00000	2.07(a)
	64 Styrene	104	8.275	8.275	(1.079)	28504	2.00000	1.96(a)
	66 Bromoform	173	8.414	8.414	(1.097)	8672	2.00000	2.21(Ta)
	67 Isopropylbenzene	105	8.560	8.560	(1.116)	48187	2.00000	2.25(a)
	68 1,1,2,2-Tetrachloroethane	83	8.841	8.841	(0.915)	14352	2.00000	2.16(aM)
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	17835	2.00000	2.01(a)
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	394737	50.0000	
	71 1,2,3-Trichloropropane	75	8.863	8.863	(0.917)	10578	2.00000	2.01(aM)
	72 trans-1,4-Dichloro-2-butene	53	8.901	8.901	(1.161)	4279	2.00000	1.89(aM)
	73 n-Propylbenzene	91	8.916	8.916	(0.923)	50047	2.00000	2.09(a)
	74 Bromobenzene	156	8.815	8.815	(0.912)	12961	2.00000	2.09(a)
	75 1,3,5-Trimethylbenzene	105	9.070	9.070	(0.939)	37798	2.00000	2.11(a)

76	2-Chlorotoluene	91	8.980	8.980 (0.929)	34081	2.00000	2.11(a)
77	4-Chlorotoluene	91	9.077	9.077 (0.939)	37510	2.00000	2.12(a)

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Report Date: 20-Jul-2023 15:05

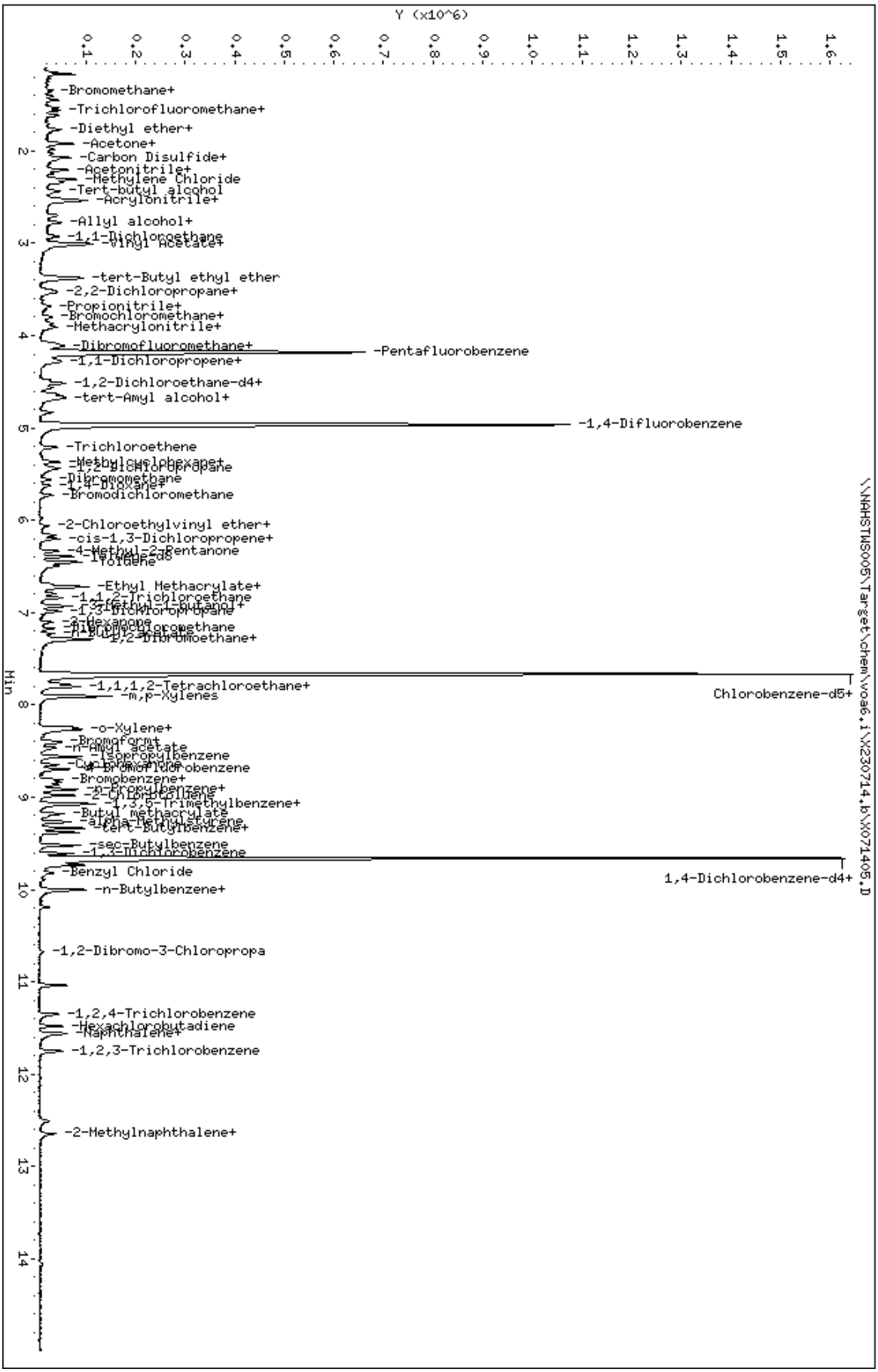
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
78	tert-Butylbenzene	119	9.336	9.336	(0.966)	34859	2.00000	2.27(a)
79	1,2,4-Trimethylbenzene	105	9.381	9.381	(0.971)	38346	2.00000	2.13(a)
81	sec-Butylbenzene	105	9.519	9.519	(0.985)	45694	2.00000	2.23(a)
82	p-Isopropyltoluene	119	9.647	9.647	(0.998)	39231	2.00000	2.10(a)
83	1,3-Dichlorobenzene	146	9.609	9.609	(0.995)	22178	2.00000	2.06(a)
84	1,4-Dichlorobenzene	146	9.681	9.681	(1.002)	26773	2.00000	2.27(a)
86	Benzyl Chloride	91	9.823	9.823	(1.281)	17851	2.00000	3.69(aM)
87	n-Butylbenzene	91	10.003	10.003	(1.035)	31075	2.00000	1.98(a)
88	1,2-Dichlorobenzene	146	9.999	9.999	(1.035)	21840	2.00000	2.06(a)
89	1,2-Dibromo-3-Chloropropane	155	10.678	10.678	(1.105)	1953	2.00000	2.84(a)
90	1,2,4-Trichlorobenzene	180	11.360	11.360	(1.176)	14997	2.00000	2.06(a)
91	Hexachlorobutadiene	225	11.476	11.476	(1.188)	6844	2.00000	4.30(aM)
92	Naphthalene	128	11.559	11.559	(1.196)	35806	2.00000	1.99(aM)
93	1,2,3-Trichlorobenzene	180	11.742	11.742	(1.215)	14737	2.00000	2.16(a)
146	Methyl acetate	43	2.247	2.247	(0.537)	9491	2.00000	2.03(aM)
138	Freon TF	101	1.917	1.917	(0.459)	7195	2.00000	1.83(aM)
141	Cyclohexane	56	4.121	4.121	(0.986)	19462	2.00000	2.14(aH)
142	Tetrahydrofuran	42	3.866	3.866	(0.925)	5657	4.00000	4.20(a)
147	Methylcyclohexane	55	5.370	5.370	(1.082)	31142	2.00000	1.81(aM)
135	1,4-Dioxane	88	5.617	5.617	(1.343)	2323	40.0000	37.36(M)
132	n-Butanol	56	5.362	5.362	(1.282)	7443	40.0000	42.73(aM)
131	Methyl Acrylate	55	3.743	3.743	(0.895)	13406	2.00000	1.88(aM)
133	Ethyl Acrylate	55	5.370	5.370	(1.284)	31450	2.00000	1.81(M)
136	n-Hexane	57	2.768	2.768	(0.662)	11984	2.00000	1.88(aM)
139	Diethyl ether	59	1.760	1.760	(0.421)	10716	2.00000	2.19(a)
148	Tert-butyl alcohol	59	2.442	2.442	(0.584)	29280	40.0000	44.33(M)
149	Isopropyl alcohol	45	2.097	2.097	(0.502)	17366	40.0000	42.37(T)
156	Diisopropyl ether	45	3.008	3.008	(0.719)	43282	2.00000	2.00(Ta)
166	1,2,3-Trimethylbenzene	105	9.733	9.733	(1.007)	31731	2.00000	1.73(a)
167	Ethanol	45	1.711	1.711	(0.409)	3219	40.0000	26.14(M)
172	tert-Butyl formate	59	4.635	4.635	(1.108)	23857	4.00000	4.26(aM)
173	3,3-Dimethyl-1-butanol	57	7.293	7.293	(0.951)	33143	40.0000	41.61
174	tert-Amyl methyl ether	73	4.672	4.672	(1.117)	31345	2.00000	1.82(aM)
175	tert-Butyl ethyl ether	59	3.383	3.383	(0.809)	42907	2.00000	1.93(a)
176	tert-Amyl alcohol	59	4.635	4.635	(1.108)	29185	40.0000	51.05
151	4-Methyl-2-pentanol	45	6.723	6.723	(1.354)	72210	40.0000	41.53(M)
180	1-Methylnaphthalene	142	12.649	12.649	(1.309)	14828	2.00000	(a)
140	1,3-Butadiene	54	1.167	1.167	(0.279)	15351	2.00000	2.28(aM)
152	Amyl alcohol	42	6.933	6.933	(0.904)	8579	40.0000	40.28(M)
158	Dichlorofluoromethane	67	1.535	1.535	(0.367)	17587	2.00000	2.08
159	Propylene oxide	43	1.805	1.805	(0.432)	2798	4.00000	4.35(a)
161	3-Methyl-1-butanol	55	6.929	6.929	(0.904)	5263	40.0000	28.86
162	Butyl acrylate	55	8.267	8.267	(1.078)	25518	2.00000	1.81(a)
163	Butyl methacrylate	41	9.178	9.178	(0.950)	19072	2.00000	2.01(a)
164	Dicyclopentadiene	66	9.681	9.681	(1.002)	44874	2.00000	1.97(a)
182	Epichlorohydrin	57	6.112	6.112	(1.231)	4808	8.00000	7.93
M 94	1,2-Dichloroethylene (total)	96				21048	4.00000	(a)
130	Ethyl Acetate	43	3.683	3.683	(0.881)	15481	2.00000	1.99(TaM)
134	Cyclohexanone	55	8.646	8.646	(0.895)	15113	40.0000	43.00(a)
185	Isoprene	39	1.771	1.771	(0.424)	3408	2.00000	1.97(aM)
188	Isopropyl acetate	43	4.684	4.684	(0.943)	48167	2.00000	2.25(a)
187	n-Amyl acetate	43	8.462	8.462	(1.104)	26886	2.00000	1.98(aM)

189 n-Butyl acetate	43	7.225	7.225 (0.942)	20825	2.00000	1.83(aM)
150 Allyl alcohol	57	2.768	2.768 (0.662)	14314	40.0000	46.26

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
194 Acetaldehyde	44	1.212	1.212	(0.290)	8114	8.00000	(aM)
195 Methyl Amyl Ketone	43	8.391	8.391	(1.094)	28766	2.00000	1.85(a)
200 Dimethyl Disulfide	94	6.202	6.202	(0.809)	17864	2.00000	1.78(a)
202 Isobutylene	41	1.246	1.246	(0.298)	1654	2.00000	1.91(aM)
205 2-Ethylhexyl Acrylate	55	11.559	11.559	(1.196)	18101	2.00000	1.79(aM)

QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.



Data File: \\NAHSTWS005\Target\chem\voa6,i\X230714,b\X071405,D
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Client ID: VSTD002
Sample Info: VSTD002;VSTD002;1;4;
Purge Volume: 5.0
Column phase: DB624

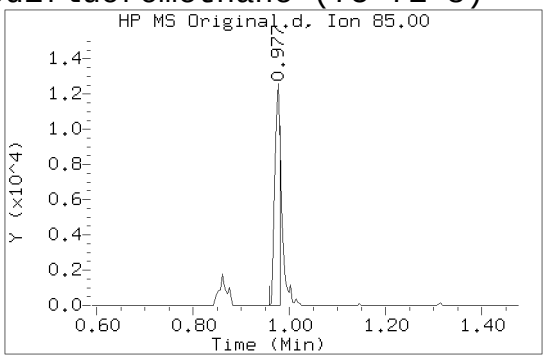
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Operator: PC
Column diameter: 0.18

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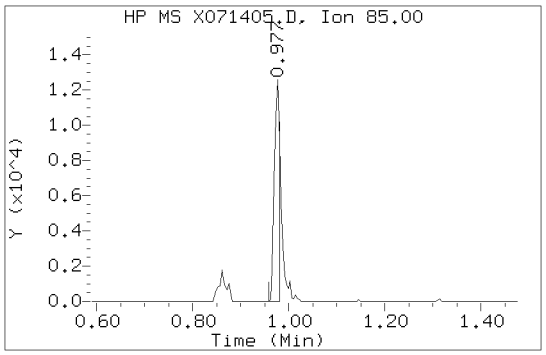
Dichlorodifluoromethane (75-71-8)

Reason Code:

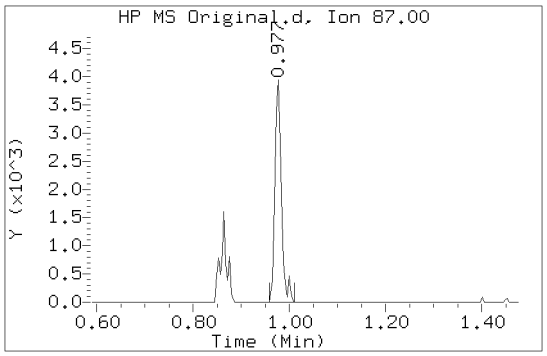
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20-Jul-2023
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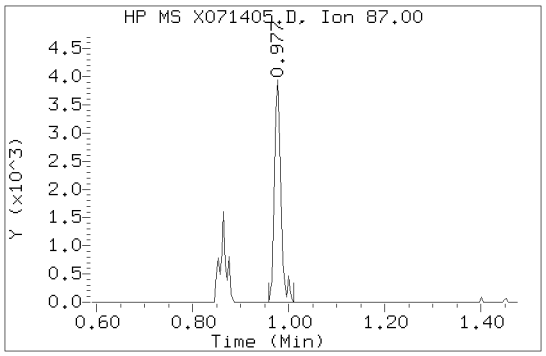
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BEFORE
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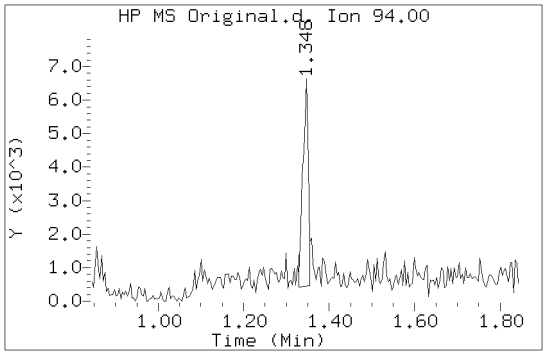
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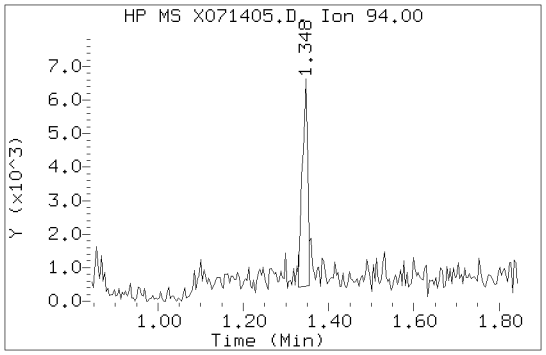
Bromomethane (74-83-9)

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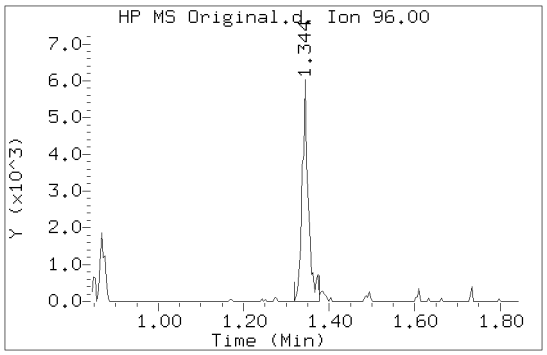
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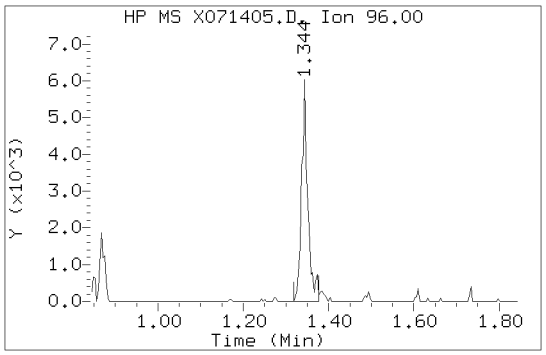
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BEFORE
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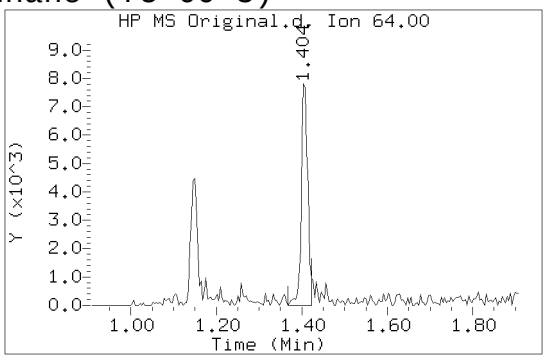
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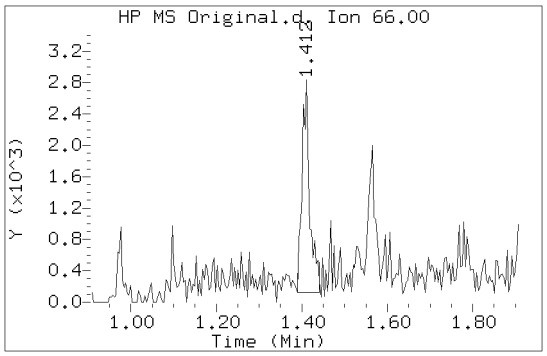
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InstruID : voa6.i
LabSampID : VSTD002

Chloroethane (75-00-3)

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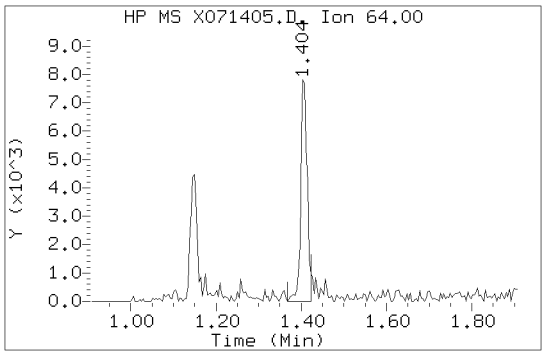


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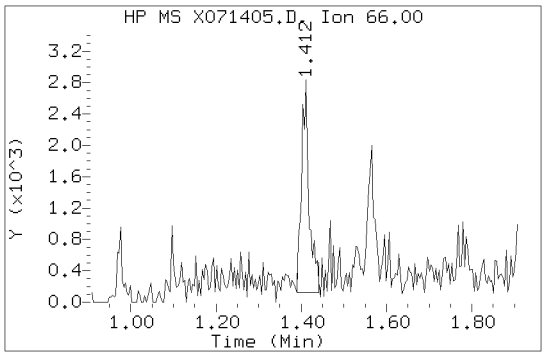


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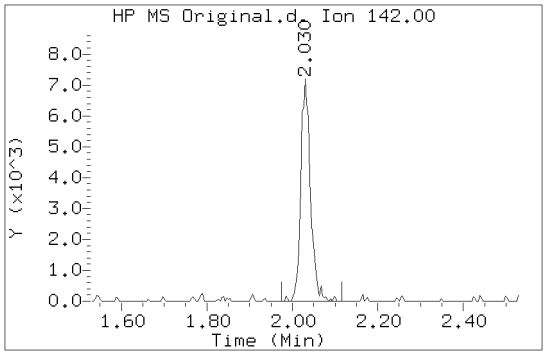


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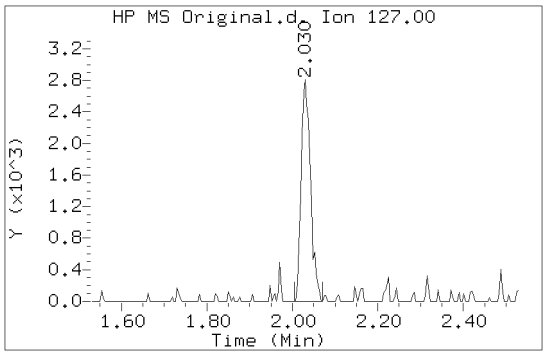


Iodomethane (74-88-4)

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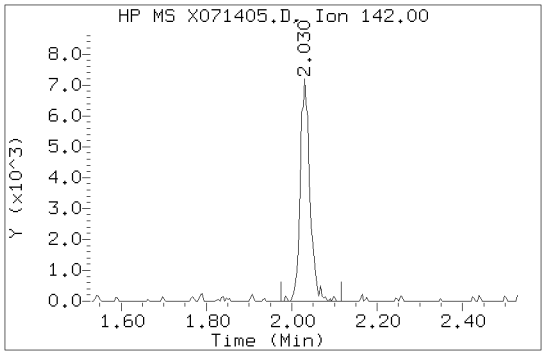


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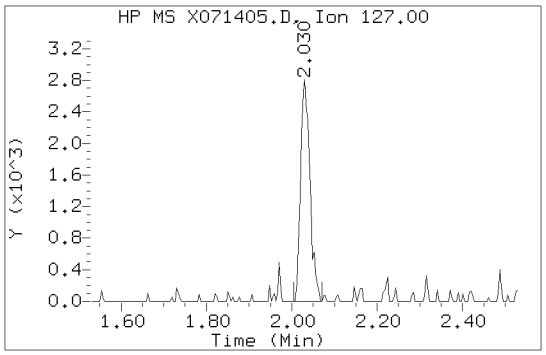


Reason Code:

AFTER
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HEIGHT
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20-Jul-2023
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AFTER
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20-Jul-2023
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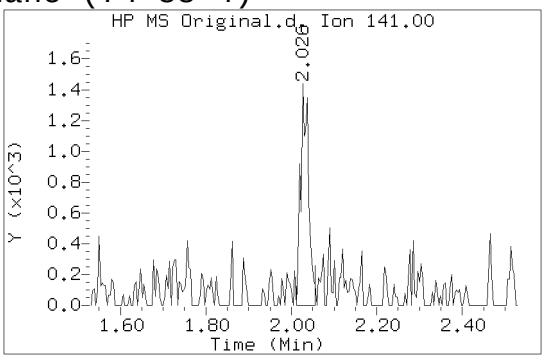


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LabSampID : VSTD002

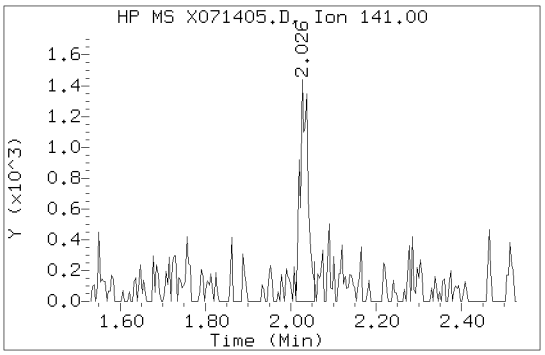
Iodomethane (74-88-4)

Reason Code:

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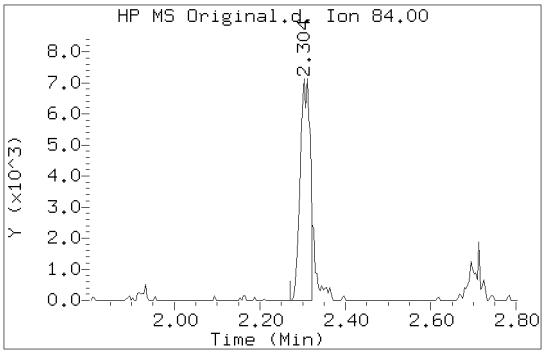
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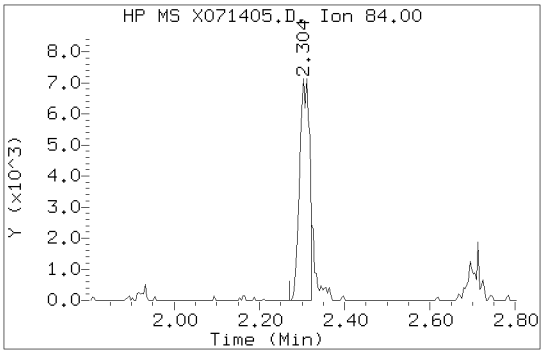
Methylene Chloride (75-09-2)

Reason Code:

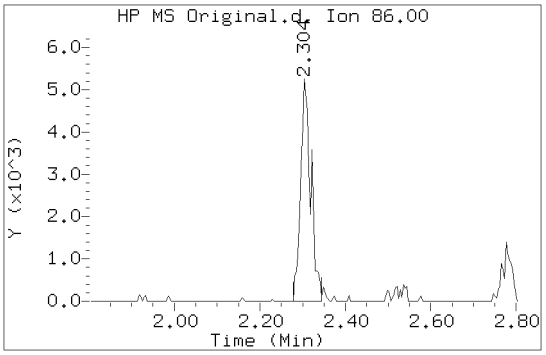
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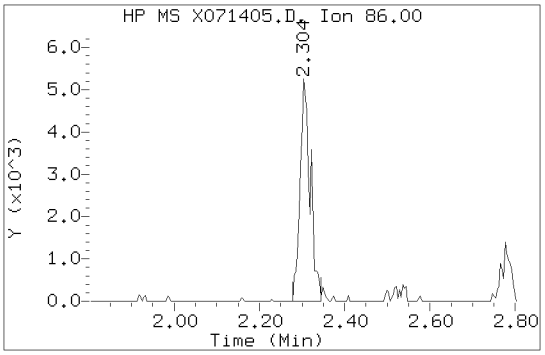
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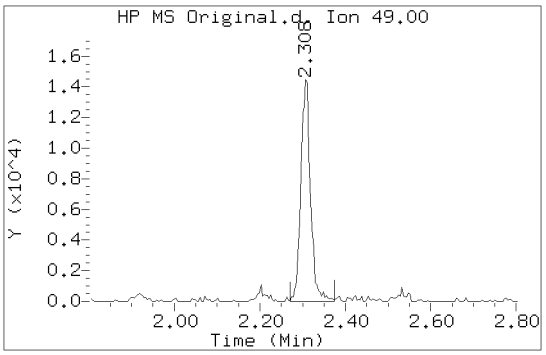
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20-Jul-2023
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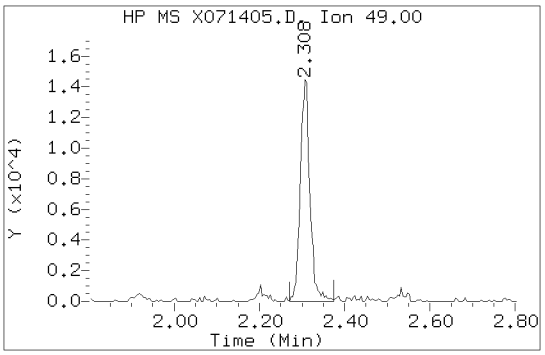
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BEFORE
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AFTER
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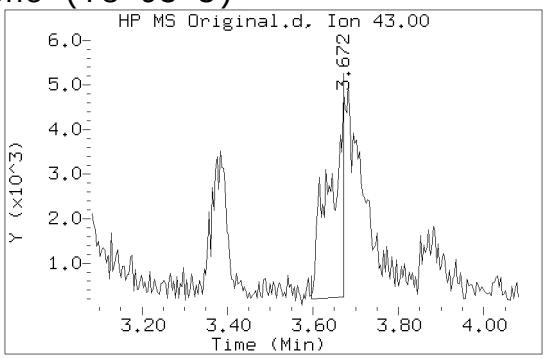


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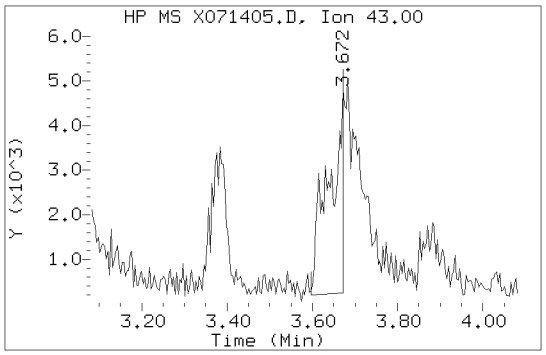
2-Butanone (78-93-3)

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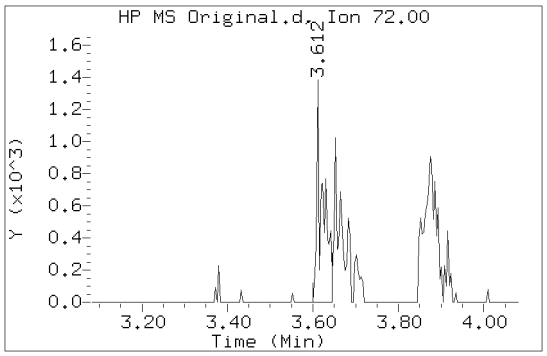
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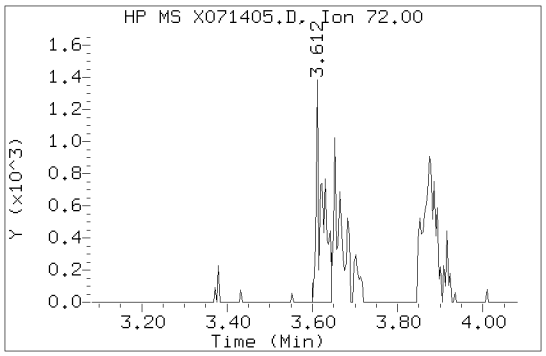
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BEFORE
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HEIGHT
1384
20-Jul-2023
15:04
linh
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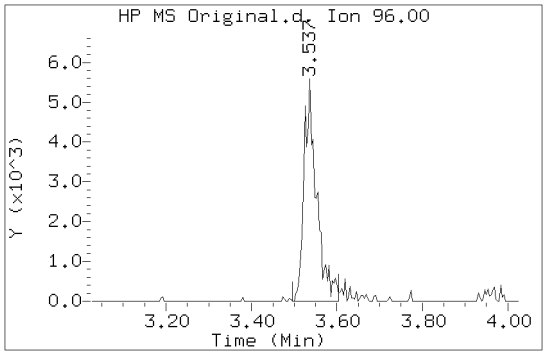
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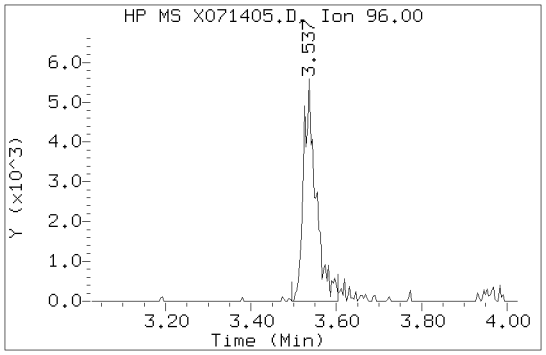
cis-1,2-Dichloroethene (156-59-2)

Reason Code:

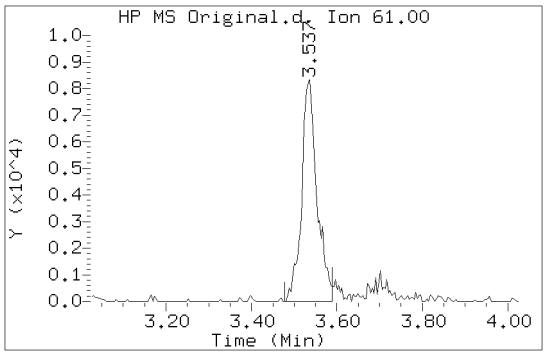
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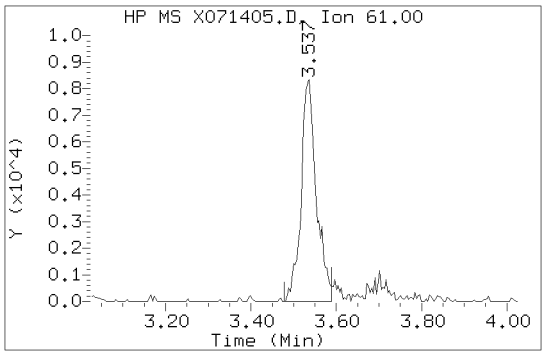
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BEFORE
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8339
20-Jul-2023
15:04
linh
pham



AFTER
MASS
61
AREA
21081
HEIGHT
8339
20-Jul-2023
15:04
linh
pham

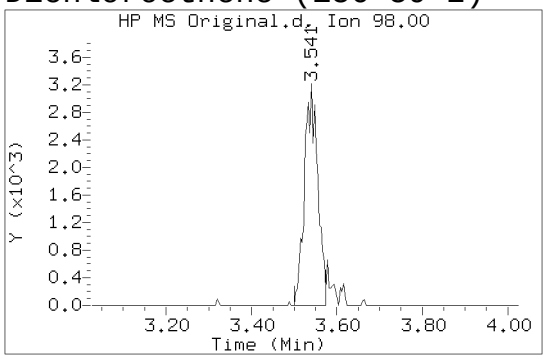


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Inj Date : 14-JUL-2023 13:23
InstruID : voa6.i
LabSampID : VSTD002

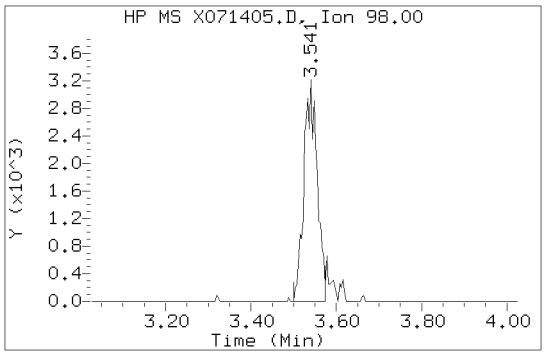
cis-1,2-Dichloroethene (156-59-2)

Reason Code:

BEFORE
MASS
98
AREA
6988
HEIGHT
3216
20-Jul-2023
15:04
linh
pham



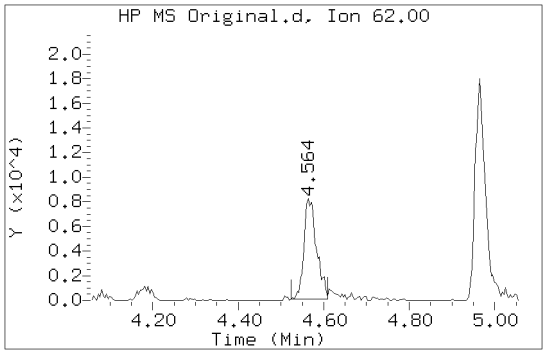
AFTER
MASS
98
AREA
6988
HEIGHT
3216
20-Jul-2023
15:04
linh
pham



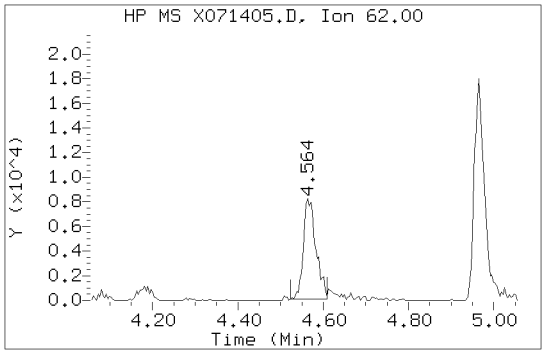
1,2-Dichloroethane (107-06-2)

Reason Code:

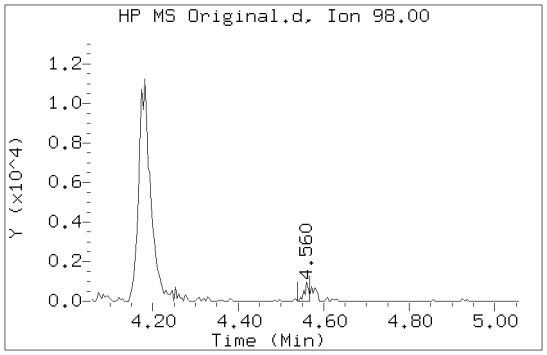
BEFORE
MASS
62
AREA
16880
HEIGHT
8150
20-Jul-2023
15:04
linh
pham



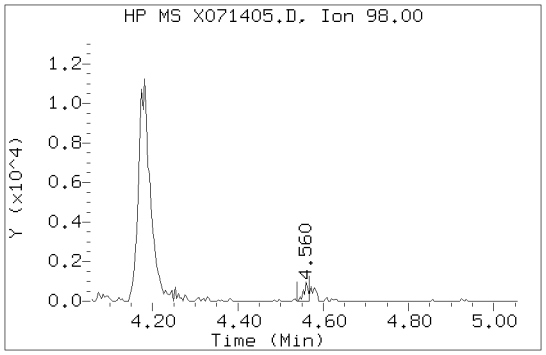
AFTER
MASS
62
AREA
16880
HEIGHT
8150
20-Jul-2023
15:04
linh
pham



BEFORE
MASS
98
AREA
708
HEIGHT
981
20-Jul-2023
15:04
linh
pham



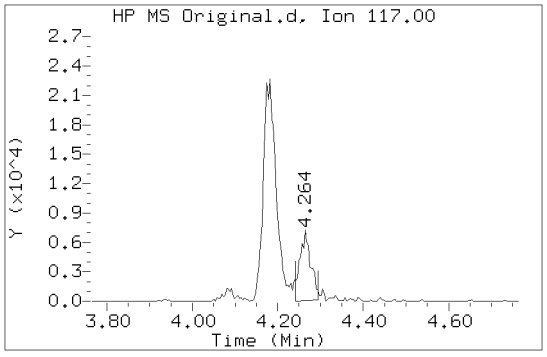
AFTER
MASS
98
AREA
708
HEIGHT
981
20-Jul-2023
15:04
linh
pham



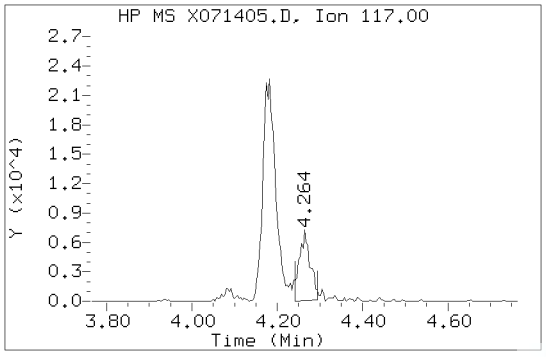
Carbon Tetrachloride (56-23-5)

Reason Code:

BEFORE
MASS
117
AREA
13047
HEIGHT
7258
20-Jul-2023
15:04
linh
pham



AFTER
MASS
117
AREA
13047
HEIGHT
7258
20-Jul-2023
15:04
linh
pham



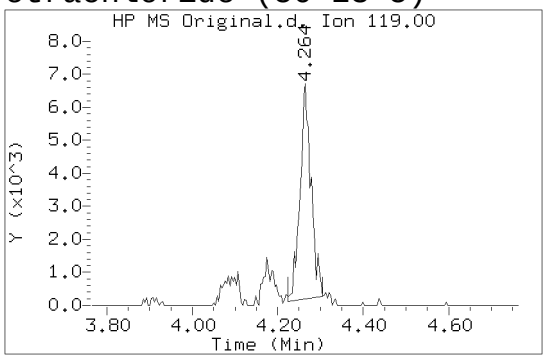
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Inj Date : 14-JUL-2023 13:23
InstruID : voa6.i
LabSampID : VSTD002

Carbon Tetrachloride (56-23-5)

Reason Code:

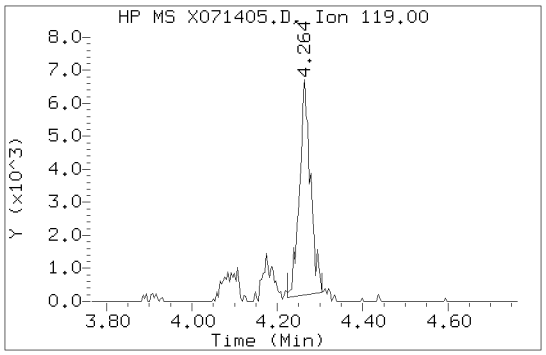
BEFORE

MASS
119
AREA
11949
HEIGHT
6520
20-Jul-2023
15:04
linh
pham



AFTER

MASS
119
AREA
11949
HEIGHT
6520
20-Jul-2023
15:04
linh
pham

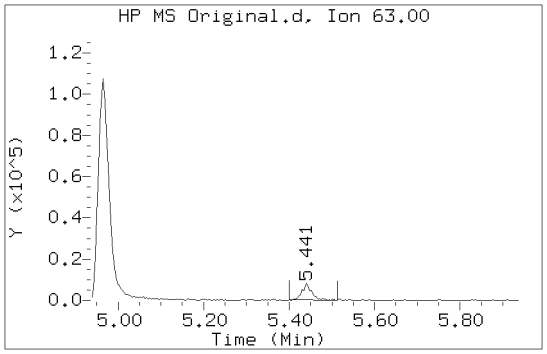


1,2-Dichloropropane (78-87-5)

Reason Code:

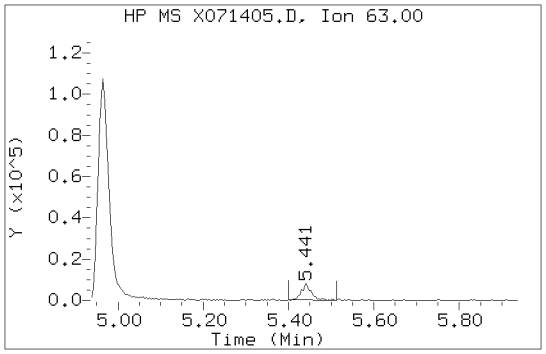
BEFORE

MASS
63
AREA
12678
HEIGHT
8183
20-Jul-2023
15:04
linh
pham



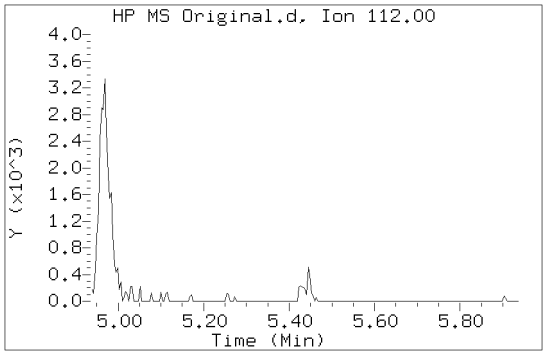
AFTER

MASS
63
AREA
12678
HEIGHT
8183
20-Jul-2023
15:04
linh
pham



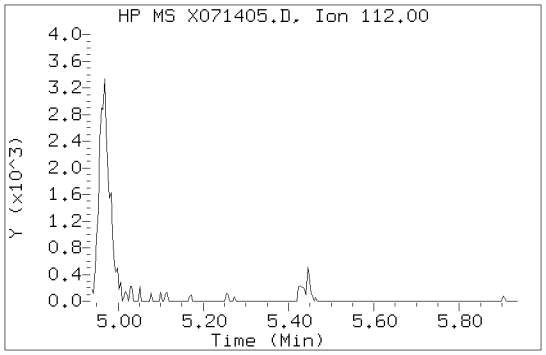
BEFORE

MASS
112
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



AFTER

MASS
112
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham

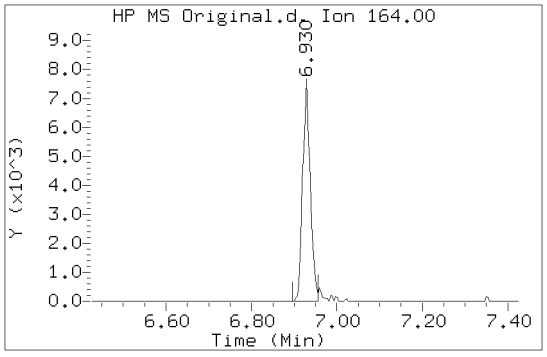


Tetrachloroethene (127-18-4)

Reason Code:

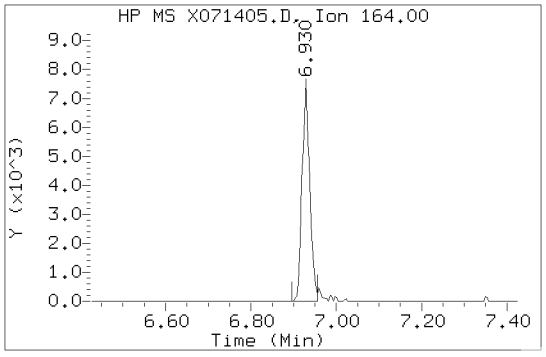
BEFORE

MASS
164
AREA
9711
HEIGHT
7674
20-Jul-2023
15:04
linh
pham



AFTER

MASS
164
AREA
9711
HEIGHT
7674
20-Jul-2023
15:04
linh
pham

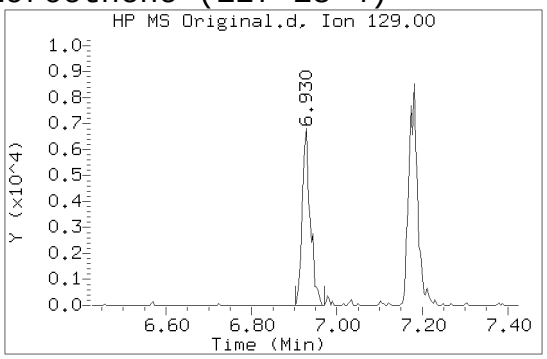


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071405.D
Inj Date : 14-JUL-2023 13:23
InstruID : voa6.i
LabSampID : VSTD002

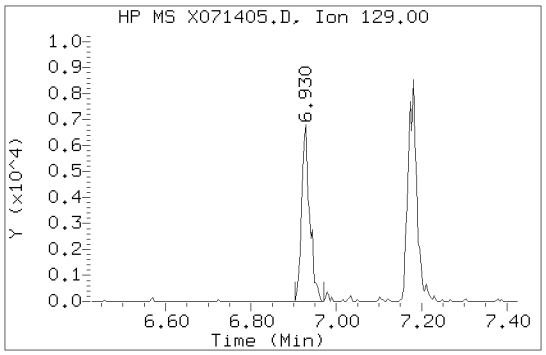
Tetrachloroethene (127-18-4)

Reason Code:

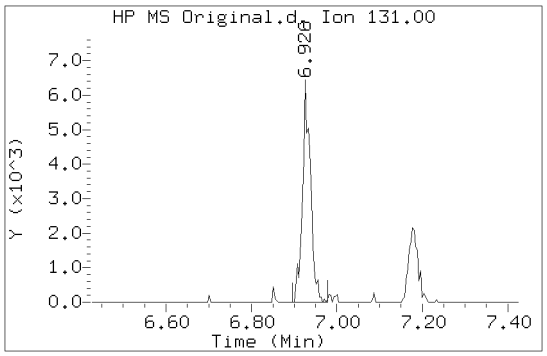
BEFORE
MASS
129
AREA
9180
HEIGHT
6806
20-Jul-2023
15:04
linh
pham



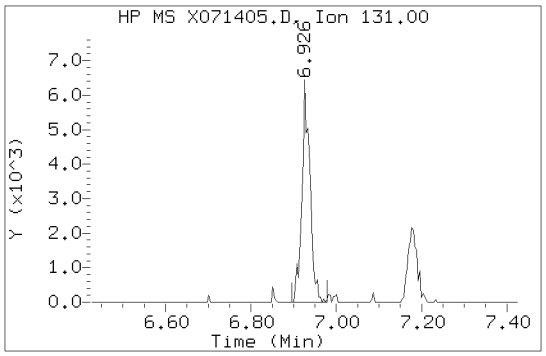
AFTER
MASS
129
AREA
9180
HEIGHT
6806
20-Jul-2023
15:04
linh
pham



BEFORE
MASS
131
AREA
8692
HEIGHT
6442
20-Jul-2023
15:04
linh
pham



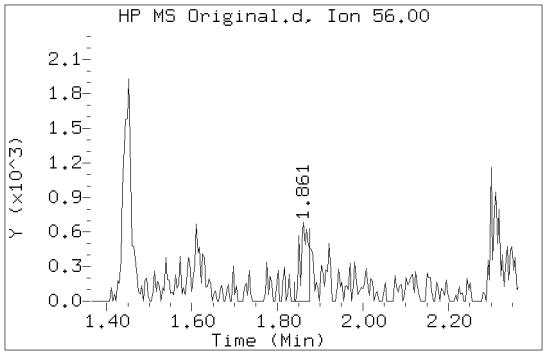
AFTER
MASS
131
AREA
8692
HEIGHT
6442
20-Jul-2023
15:04
linh
pham



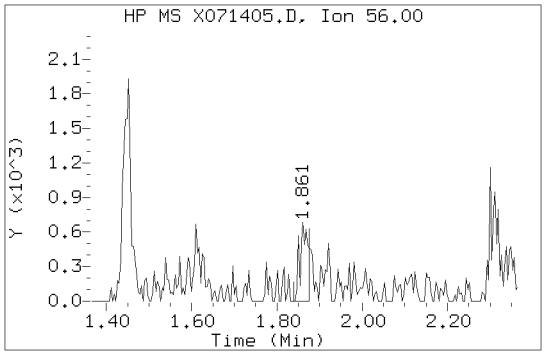
Acrolein (107-02-8)

Reason Code:

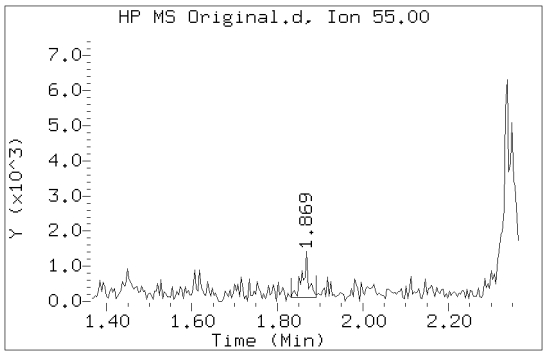
BEFORE
MASS
56
AREA
917
HEIGHT
685
20-Jul-2023
15:04
linh
pham



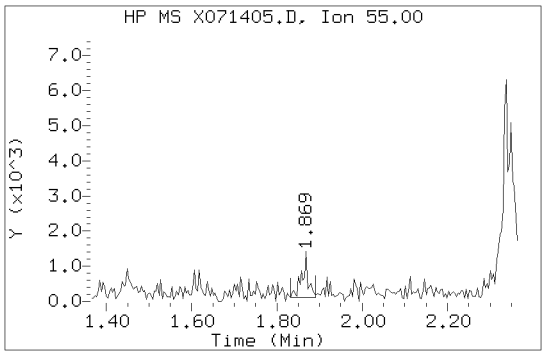
AFTER
MASS
56
AREA
917
HEIGHT
685
20-Jul-2023
15:04
linh
pham



BEFORE
MASS
55
AREA
1362
HEIGHT
1313
20-Jul-2023
15:04
linh
pham



AFTER
MASS
55
AREA
1362
HEIGHT
1313
20-Jul-2023
15:04
linh
pham

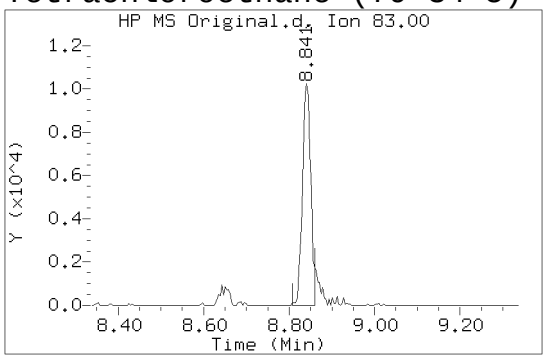


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Inj Date : 14-JUL-2023 13:23
InstruID : voa6.i
LabSampID : VSTD002

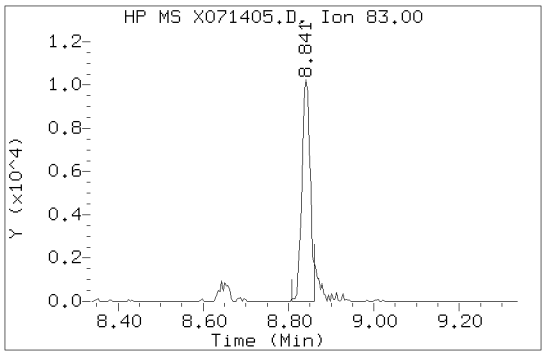
1,1,2,2-Tetrachloroethane (79-34-5)

Reason Code:

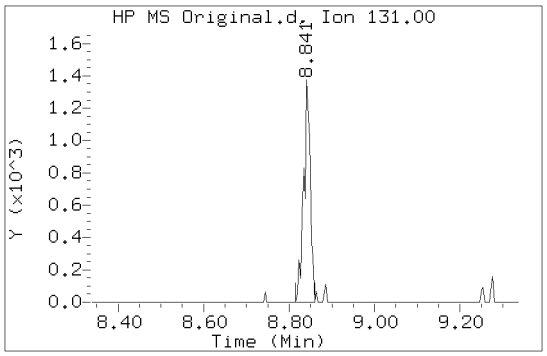
BEFORE
MASS
83
AREA
14352
HEIGHT
10244
20-Jul-2023
15:04
linh
pham



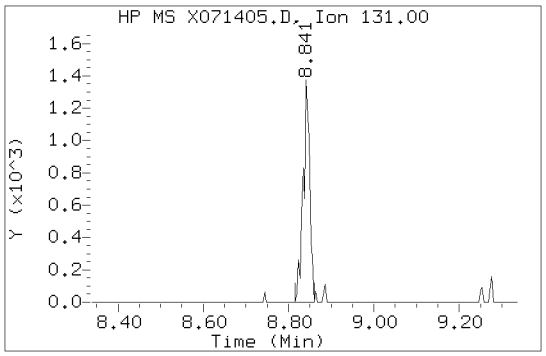
AFTER
MASS
83
AREA
14352
HEIGHT
10244
20-Jul-2023
15:04
linh
pham



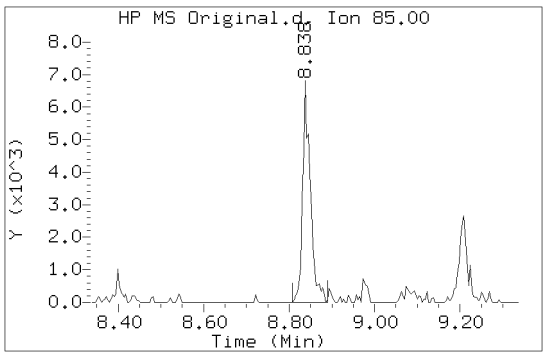
BEFORE
MASS
131
AREA
1498
HEIGHT
1375
20-Jul-2023
15:04
linh
pham



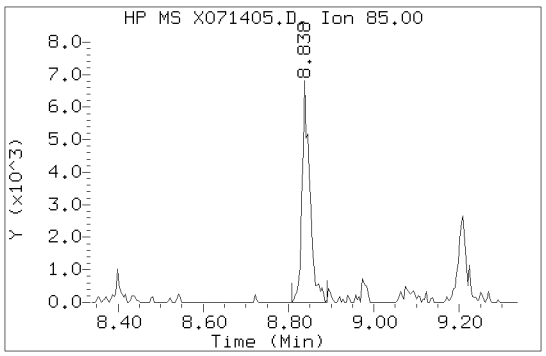
AFTER
MASS
131
AREA
1498
HEIGHT
1375
20-Jul-2023
15:04
linh
pham



BEFORE
MASS
85
AREA
8867
HEIGHT
6812
20-Jul-2023
15:04
linh
pham



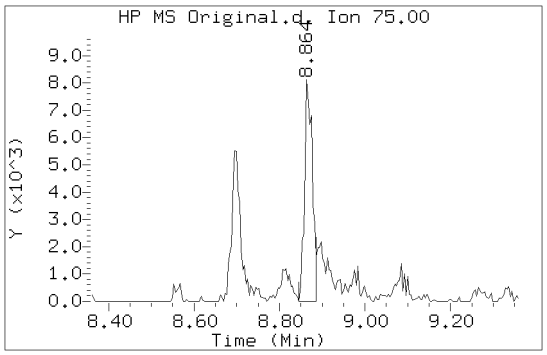
AFTER
MASS
85
AREA
8867
HEIGHT
6812
20-Jul-2023
15:04
linh
pham



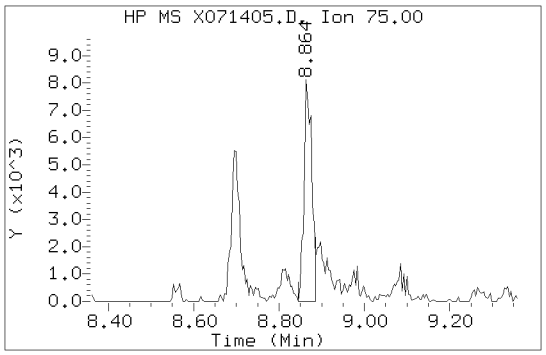
1,2,3-Trichloropropane (96-18-4)

Reason Code:

BEFORE
MASS
75
AREA
10578
HEIGHT
8119
20-Jul-2023
15:04
linh
pham



AFTER
MASS
75
AREA
10578
HEIGHT
8119
20-Jul-2023
15:04
linh
pham



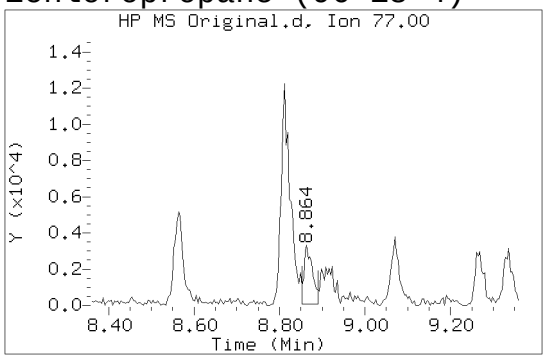
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071405.D
Inj Date : 14-JUL-2023 13:23
InstruID : voa6.i
LabSampID : VSTD002

1,2,3-Trichloropropane (96-18-4)

Reason Code:

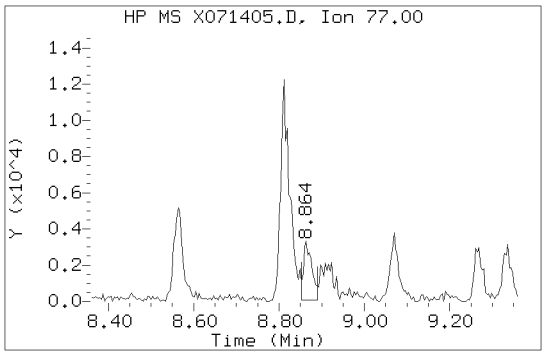
BEFORE

MASS
77
AREA
4616
HEIGHT
3271
20-Jul-2023
15:04
linh
pham



AFTER

MASS
77
AREA
4616
HEIGHT
3271
20-Jul-2023
15:04
linh
pham

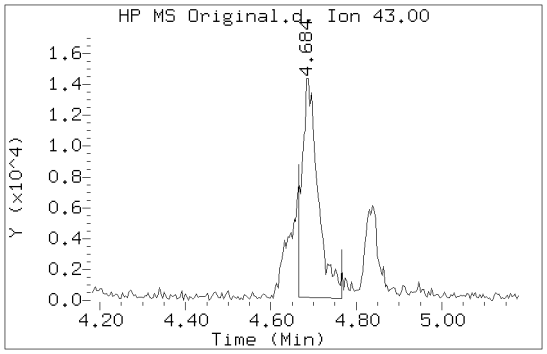


Isobutyl Alcohol (78-83-1)

Reason Code:

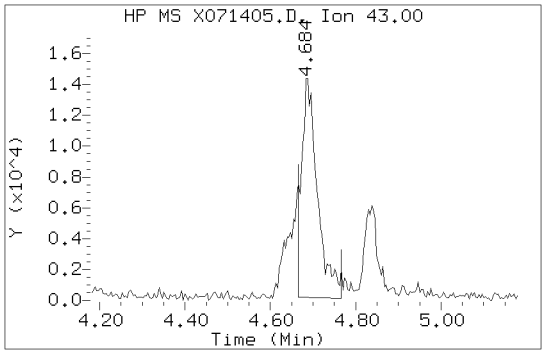
BEFORE

MASS
43
AREA
37832
HEIGHT
14170
20-Jul-2023
15:04
linh
pham



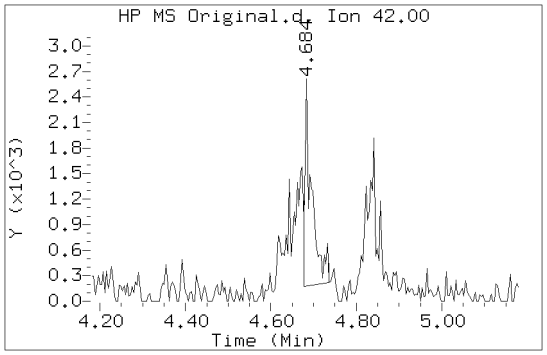
AFTER

MASS
43
AREA
37832
HEIGHT
14170
20-Jul-2023
15:04
linh
pham



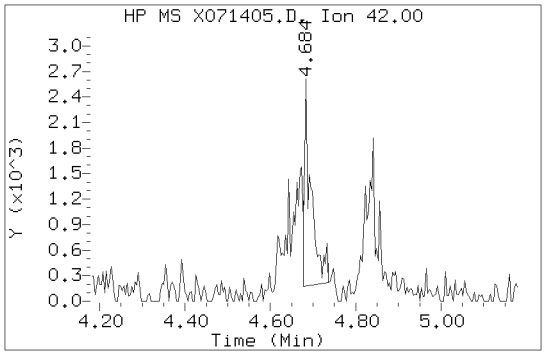
BEFORE

MASS
42
AREA
2790
HEIGHT
2433
20-Jul-2023
15:04
linh
pham



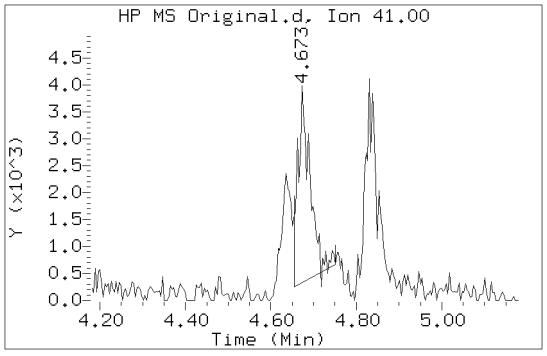
AFTER

MASS
42
AREA
2790
HEIGHT
2433
20-Jul-2023
15:04
linh
pham



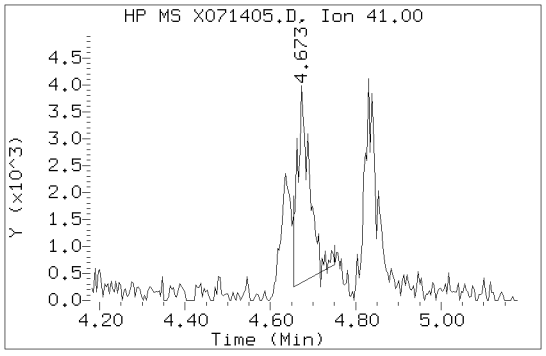
BEFORE

MASS
41
AREA
7292
HEIGHT
3653
20-Jul-2023
15:04
linh
pham



AFTER

MASS
41
AREA
7292
HEIGHT
3653
20-Jul-2023
15:04
linh
pham

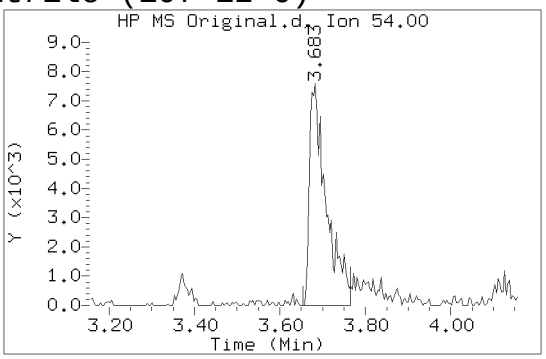


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Inj Date : 14-JUL-2023 13:23
InstruID : voa6.i
LabSampID : VSTD002

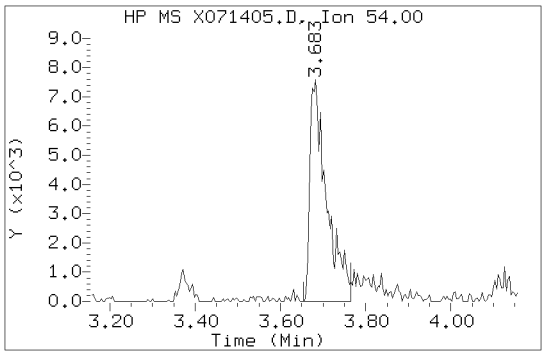
Propionitrile (107-12-0)

Reason Code:

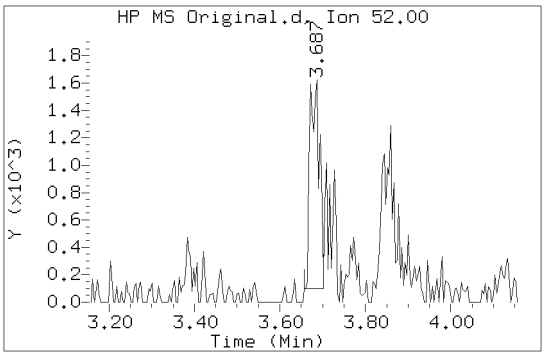
BEFORE
MASS
54
AREA
20667
HEIGHT
7586
20-Jul-2023
15:04
linh
pham



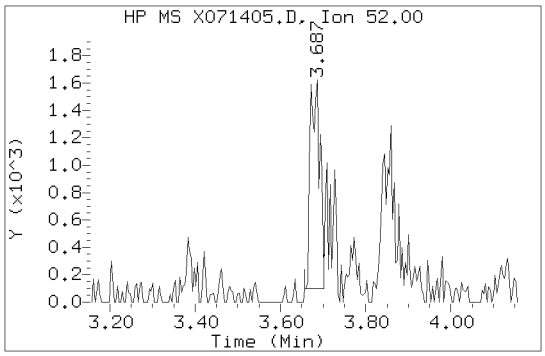
AFTER
MASS
54
AREA
20667
HEIGHT
7586
20-Jul-2023
15:04
linh
pham



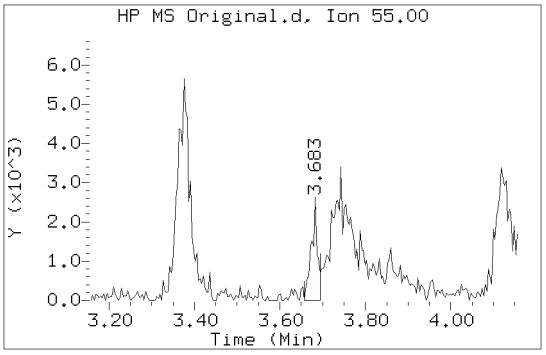
BEFORE
MASS
52
AREA
2370
HEIGHT
1524
20-Jul-2023
15:04
linh
pham



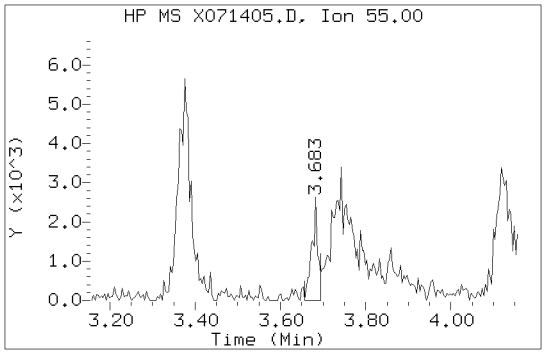
AFTER
MASS
52
AREA
2370
HEIGHT
1524
20-Jul-2023
15:04
linh
pham



BEFORE
MASS
55
AREA
2547
HEIGHT
2627
20-Jul-2023
15:04
linh
pham



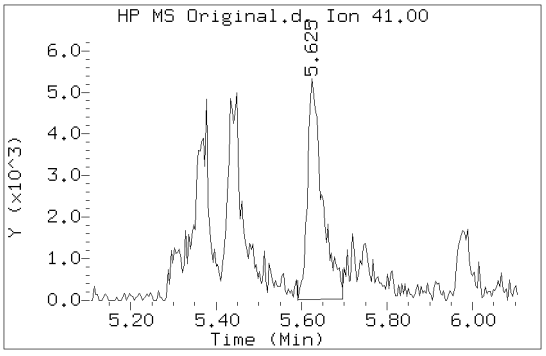
AFTER
MASS
55
AREA
2547
HEIGHT
2627
20-Jul-2023
15:04
linh
pham



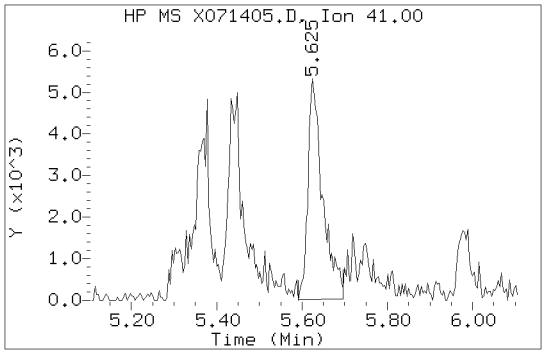
Methyl Methacrylate (80-62-6)

Reason Code:

BEFORE
MASS
41
AREA
12770
HEIGHT
5309
20-Jul-2023
15:04
linh
pham



AFTER
MASS
41
AREA
12770
HEIGHT
5309
20-Jul-2023
15:04
linh
pham



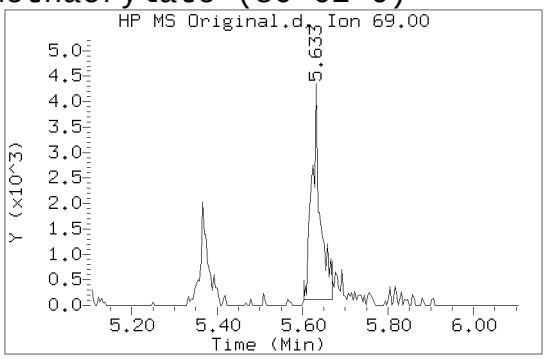
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071405.D
Inj Date : 14-JUL-2023 13:23
InstruID : voa6.i
LabSampID : VSTD002

Methyl Methacrylate (80-62-6)

Reason Code:

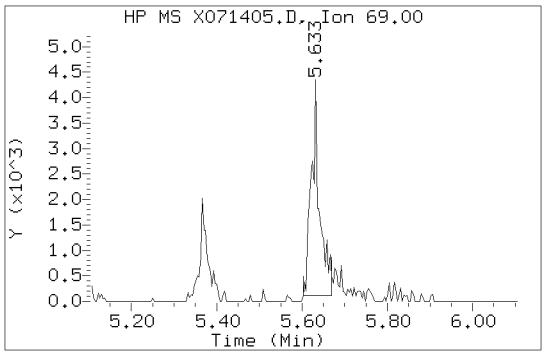
BEFORE

MASS
69
AREA
5709
HEIGHT
4235
20-Jul-2023
15:04
linh
pham



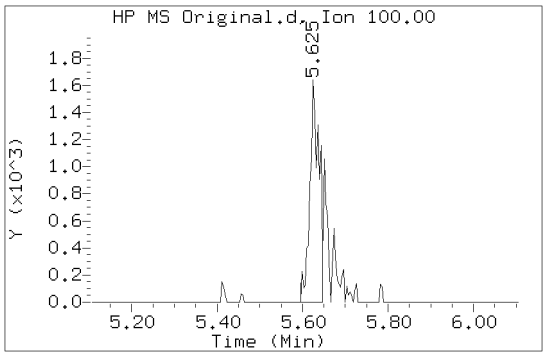
AFTER

MASS
69
AREA
5709
HEIGHT
4235
20-Jul-2023
15:04
linh
pham



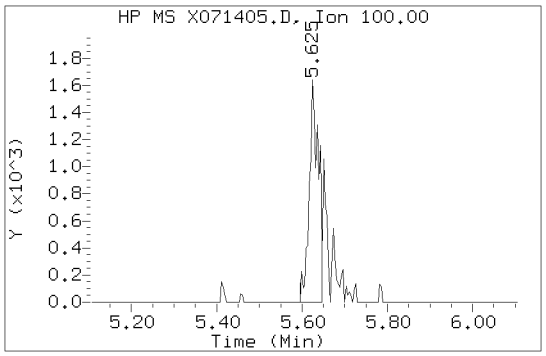
BEFORE

MASS
100
AREA
2452
HEIGHT
1641
20-Jul-2023
15:04
linh
pham



AFTER

MASS
100
AREA
2452
HEIGHT
1641
20-Jul-2023
15:04
linh
pham

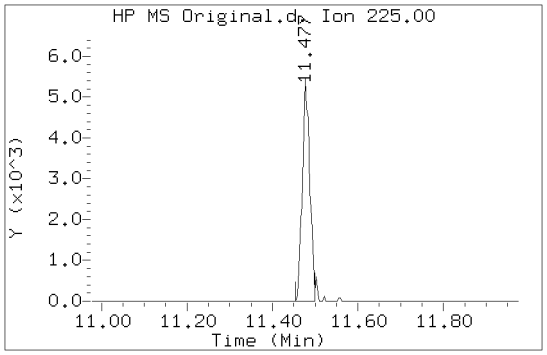


Hexachlorobutadiene (87-68-3)

Reason Code:

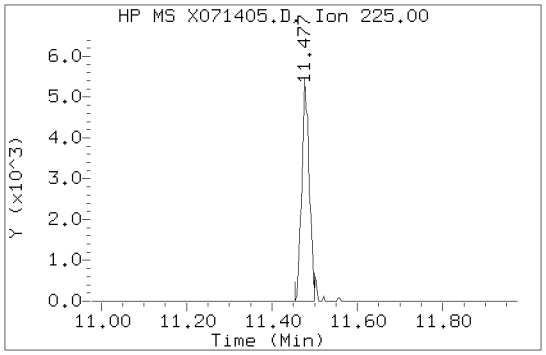
BEFORE

MASS
225
AREA
6844
HEIGHT
5446
20-Jul-2023
15:04
linh
pham



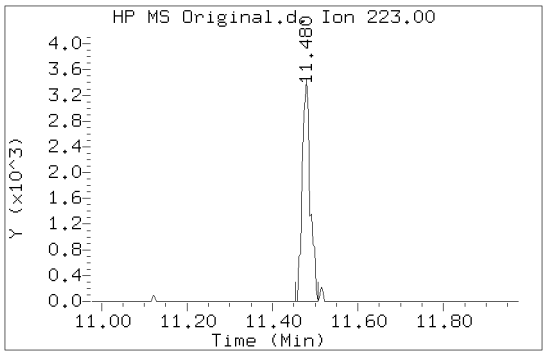
AFTER

MASS
225
AREA
6844
HEIGHT
5446
20-Jul-2023
15:04
linh
pham



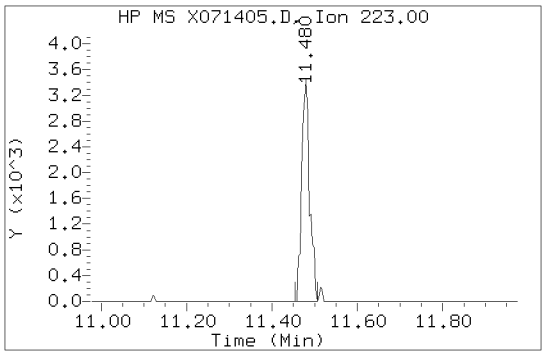
BEFORE

MASS
223
AREA
4606
HEIGHT
3443
20-Jul-2023
15:04
linh
pham



AFTER

MASS
223
AREA
4606
HEIGHT
3443
20-Jul-2023
15:04
linh
pham



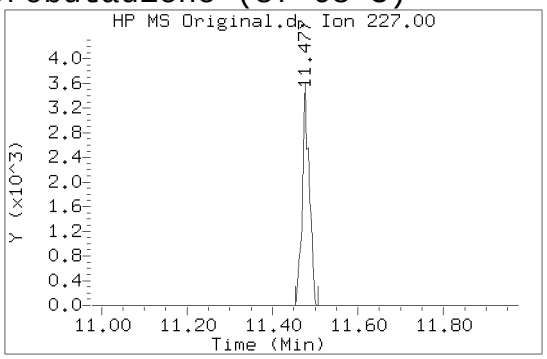
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071405.D
Inj Date : 14-JUL-2023 13:23
InstruID : voa6.i
LabSampID : VSTD002

Hexachlorobutadiene (87-68-3)

Reason Code:

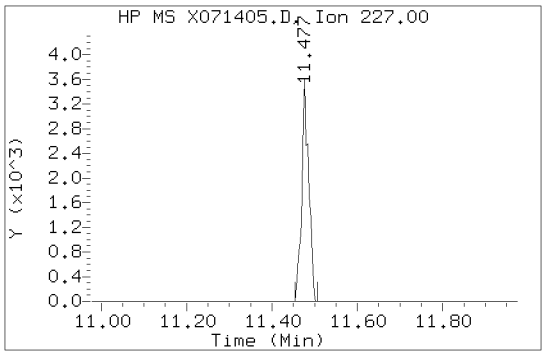
BEFORE

MASS
227
AREA
4231
HEIGHT
3595
20-Jul-2023
15:04
linh
pham



AFTER

MASS
227
AREA
4231
HEIGHT
3595
20-Jul-2023
15:04
linh
pham

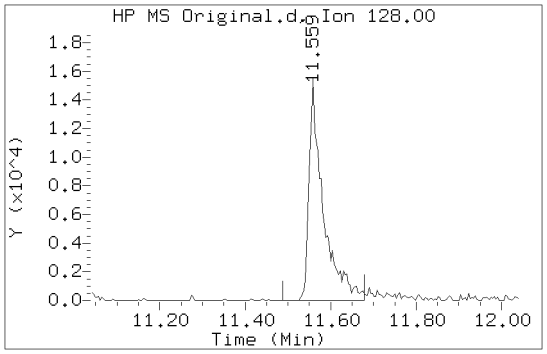


Naphthalene (91-20-3)

Reason Code:

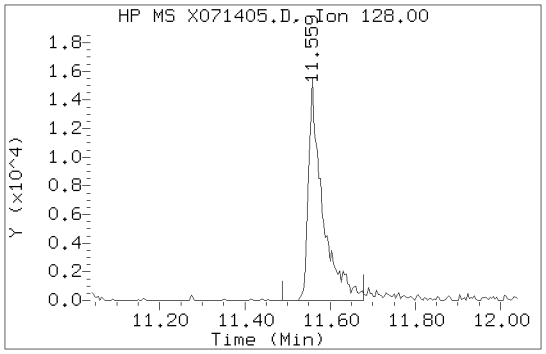
BEFORE

MASS
128
AREA
35806
HEIGHT
15488
20-Jul-2023
15:04
linh
pham



AFTER

MASS
128
AREA
35806
HEIGHT
15488
20-Jul-2023
15:04
linh
pham

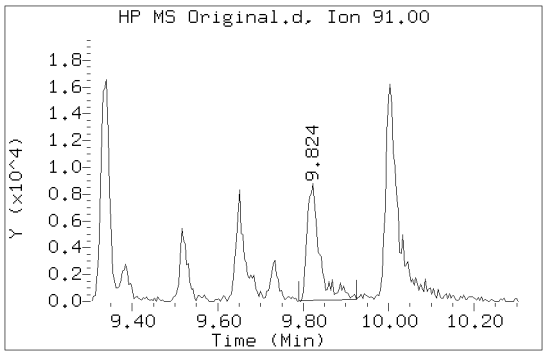


Benzyl Chloride (100-44-7)

Reason Code:

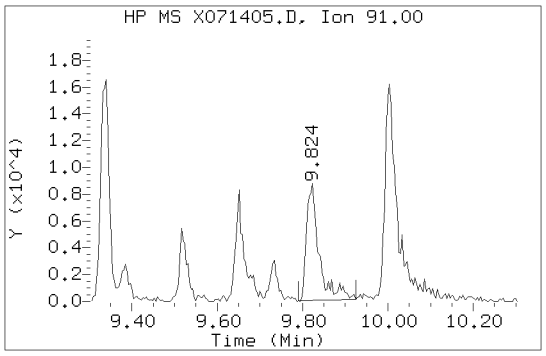
BEFORE

MASS
91
AREA
17851
HEIGHT
8726
20-Jul-2023
15:04
linh
pham



AFTER

MASS
91
AREA
17851
HEIGHT
8726
20-Jul-2023
15:04
linh
pham

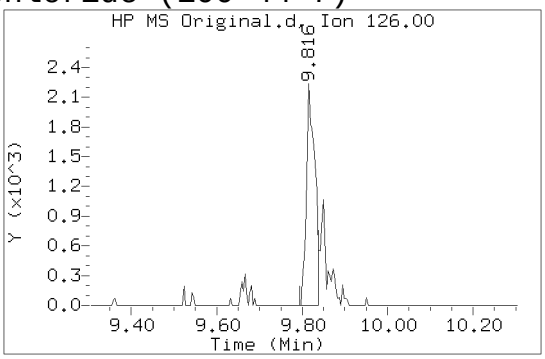


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071405.D
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InstruID : voa6.i
LabSampID : VSTD002

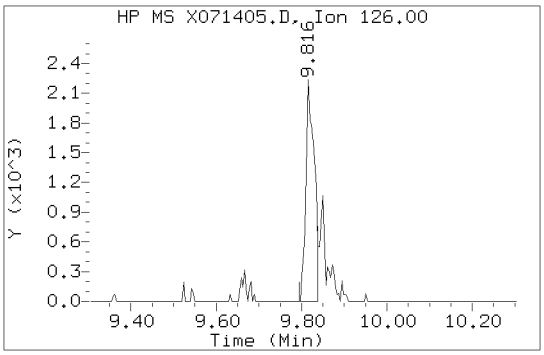
Benzyl Chloride (100-44-7)

Reason Code:

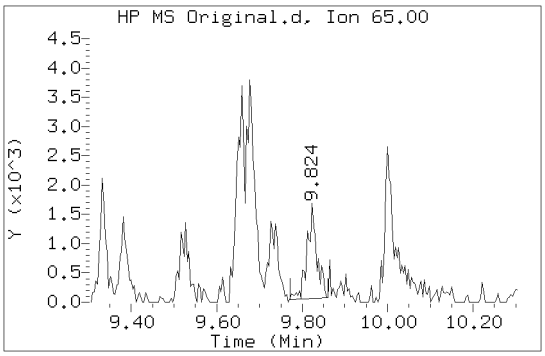
BEFORE
MASS
126
AREA
3073
HEIGHT
2237
20-Jul-2023
15:04
linh
pham



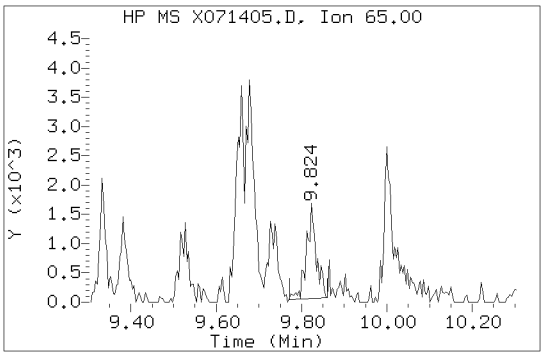
AFTER
MASS
126
AREA
3073
HEIGHT
2237
20-Jul-2023
15:04
linh
pham



BEFORE
MASS
65
AREA
2588
HEIGHT
1635
20-Jul-2023
15:04
linh
pham



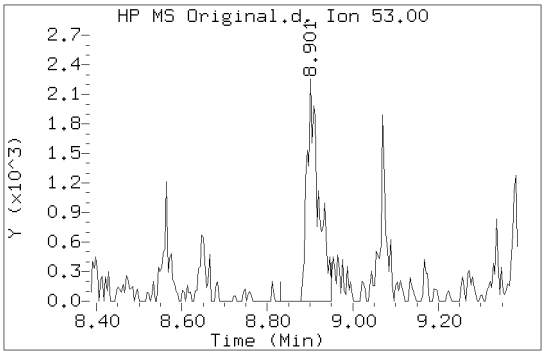
AFTER
MASS
65
AREA
2588
HEIGHT
1635
20-Jul-2023
15:04
linh
pham



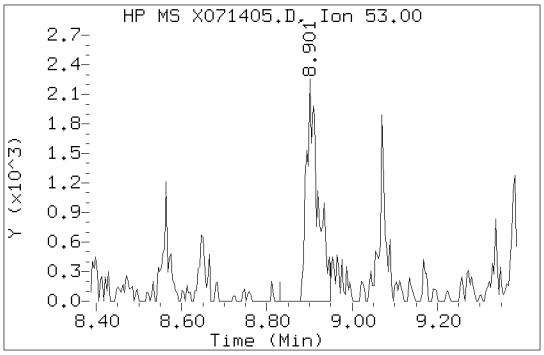
trans-1,4-Dichloro-2-butene (110-57-6)

Reason Code:

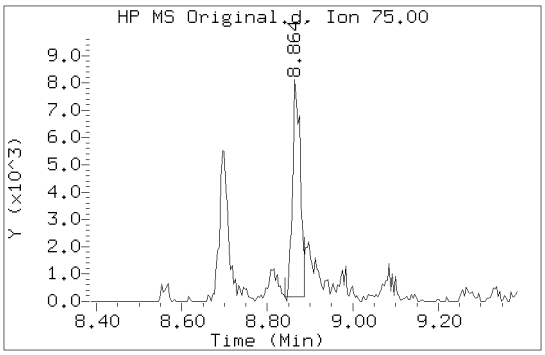
BEFORE
MASS
53
AREA
4279
HEIGHT
2257
20-Jul-2023
15:04
linh
pham



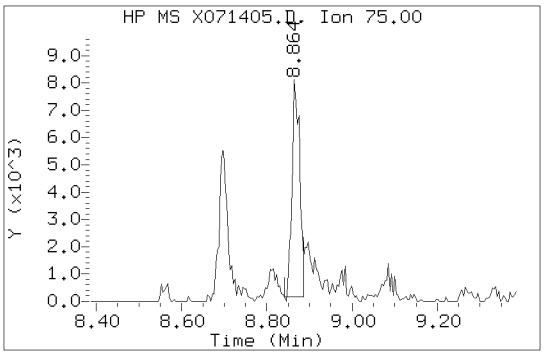
AFTER
MASS
53
AREA
4279
HEIGHT
2257
20-Jul-2023
15:04
linh
pham



BEFORE
MASS
75
AREA
10144
HEIGHT
7958
20-Jul-2023
15:04
linh
pham



AFTER
MASS
75
AREA
10144
HEIGHT
7958
20-Jul-2023
15:04
linh
pham

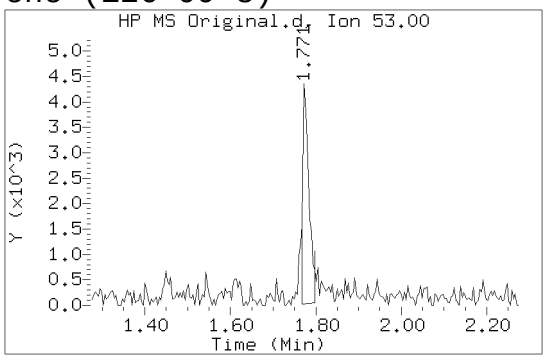


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Inj Date : 14-JUL-2023 13:23
InstruID : voa6.i
LabSampID : VSTD002

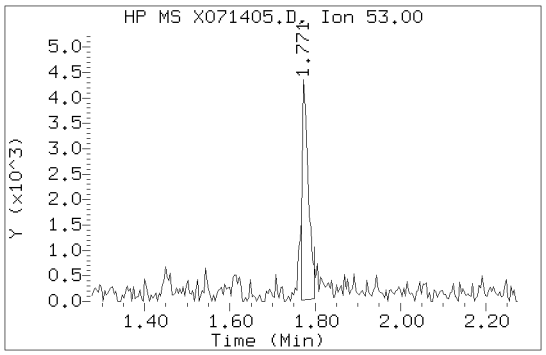
Chloroprene (126-99-8)

Reason Code:

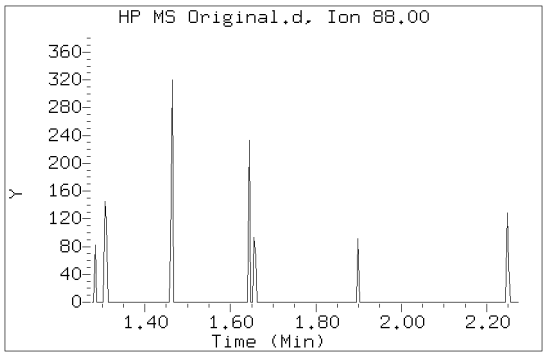
BEFORE
MASS
53
AREA
4560
HEIGHT
4328
20-Jul-2023
15:04
linh
pham



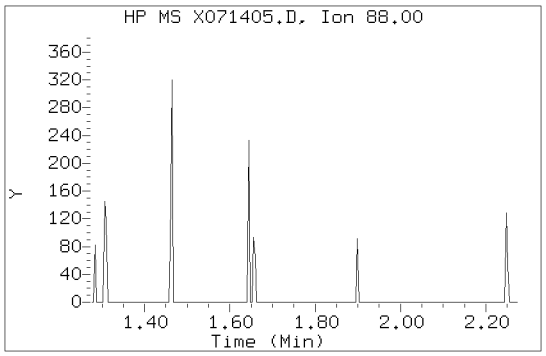
AFTER
MASS
53
AREA
4560
HEIGHT
4328
20-Jul-2023
15:04
linh
pham



BEFORE
MASS
88
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



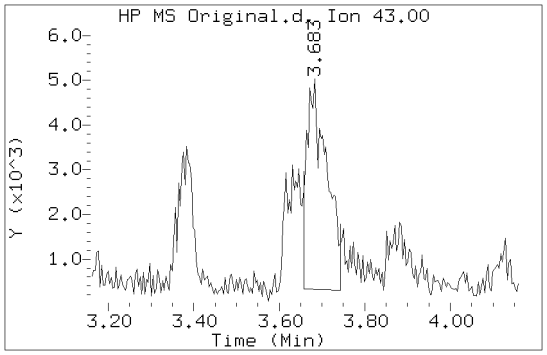
AFTER
MASS
88
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



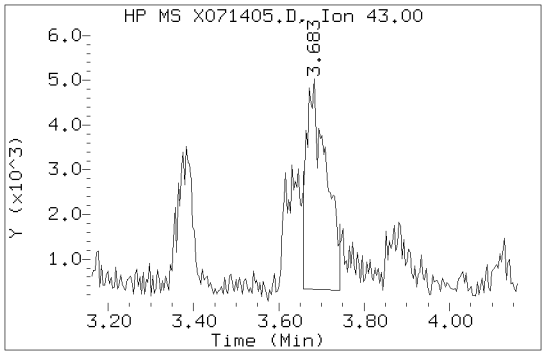
Ethyl Acetate (141-78-6)

Reason Code:

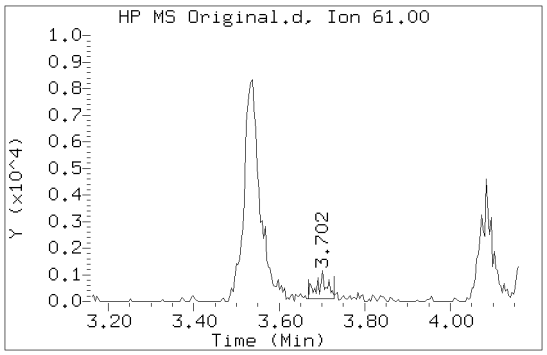
BEFORE
MASS
43
AREA
15481
HEIGHT
4704
20-Jul-2023
15:04
linh
pham



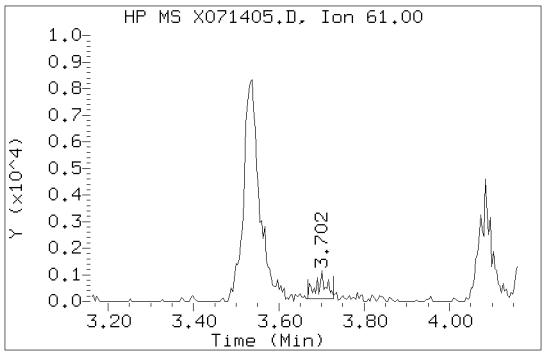
AFTER
MASS
43
AREA
15481
HEIGHT
4704
20-Jul-2023
15:04
linh
pham



BEFORE
MASS
61
AREA
1598
HEIGHT
1061
20-Jul-2023
15:04
linh
pham



AFTER
MASS
61
AREA
1598
HEIGHT
1061
20-Jul-2023
15:04
linh
pham



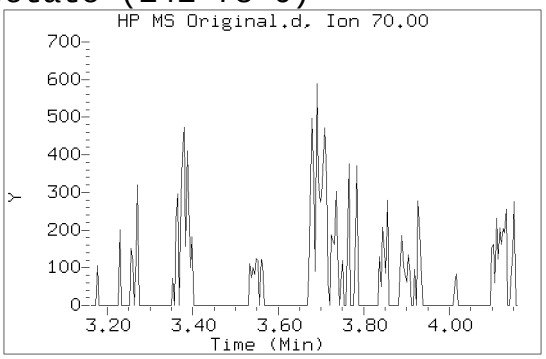
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071405.D
Inj Date : 14-JUL-2023 13:23
InstruID : voa6.i
LabSampID : VSTD002

Ethyl Acetate (141-78-6)

Reason Code:

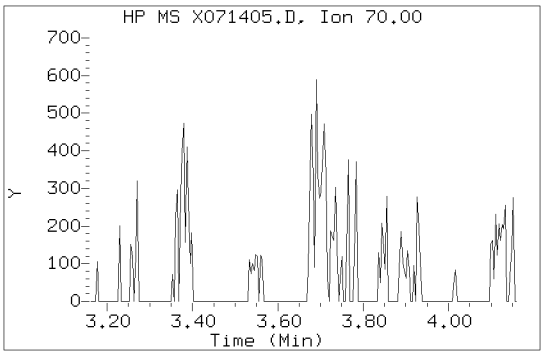
BEFORE

MASS
70
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



AFTER

MASS
70
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham

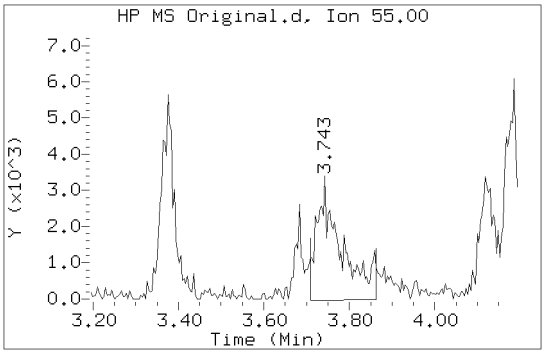


Methyl Acrylate (96-33-3)

Reason Code:

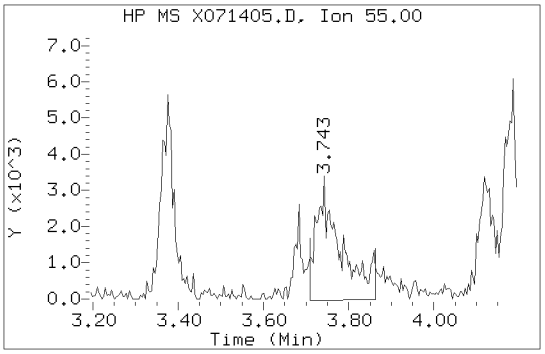
BEFORE

MASS
55
AREA
13406
HEIGHT
3436
20-Jul-2023
15:04
linh
pham



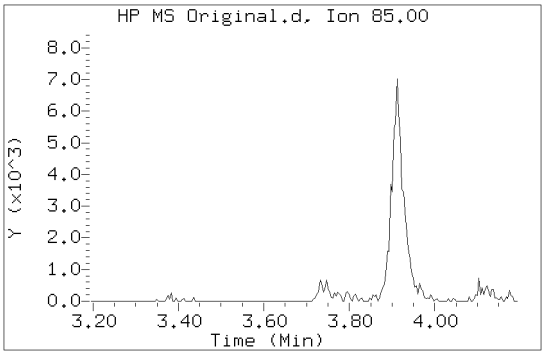
AFTER

MASS
55
AREA
13406
HEIGHT
3436
20-Jul-2023
15:04
linh
pham



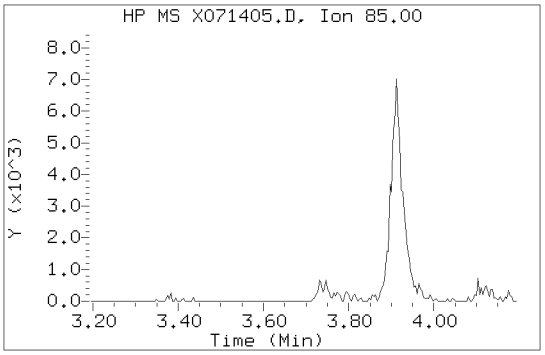
BEFORE

MASS
85
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



AFTER

MASS
85
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham

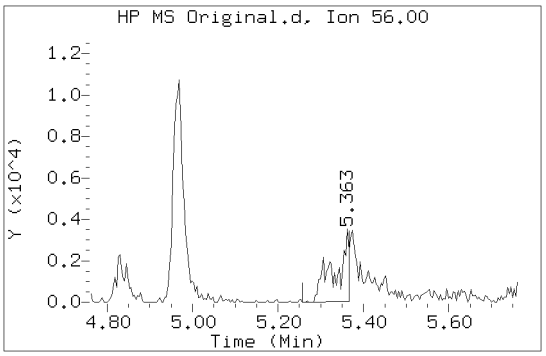


n-Butanol (71-36-3)

Reason Code:

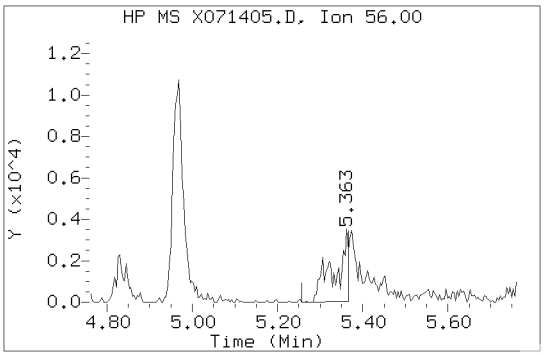
BEFORE

MASS
56
AREA
7443
HEIGHT
3529
20-Jul-2023
15:04
linh
pham



AFTER

MASS
56
AREA
7443
HEIGHT
3529
20-Jul-2023
15:04
linh
pham



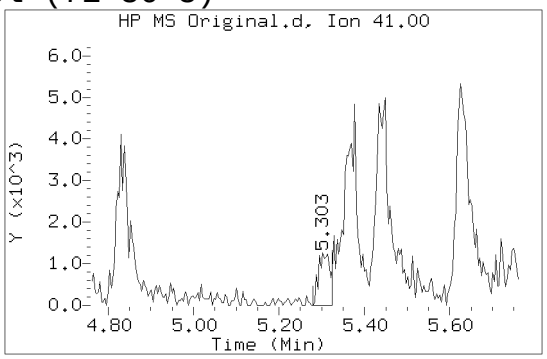
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Inj Date : 14-JUL-2023 13:23
InstruID : voa6.i
LabSampID : VSTD002

n-Butanol (71-36-3)

Reason Code:

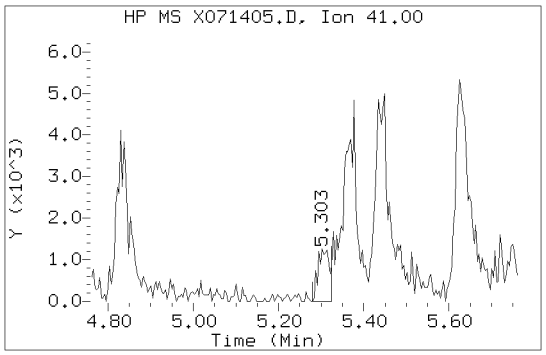
BEFORE

MASS
41
AREA
2384
HEIGHT
1261
20-Jul-2023
15:04
linh
pham



AFTER

MASS
41
AREA
2384
HEIGHT
1261
20-Jul-2023
15:04
linh
pham

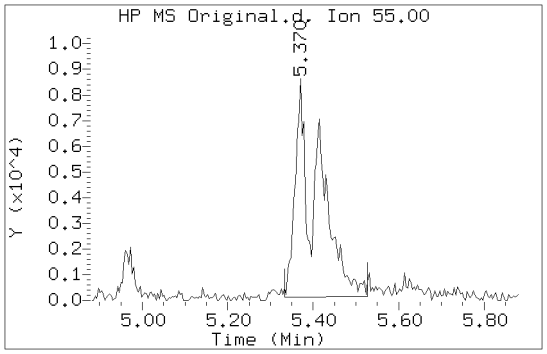


Ethyl Acrylate (140-88-5)

Reason Code:

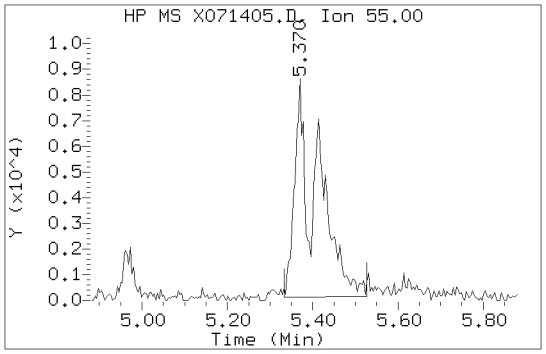
BEFORE

MASS
55
AREA
31450
HEIGHT
8507
20-Jul-2023
15:04
linh
pham



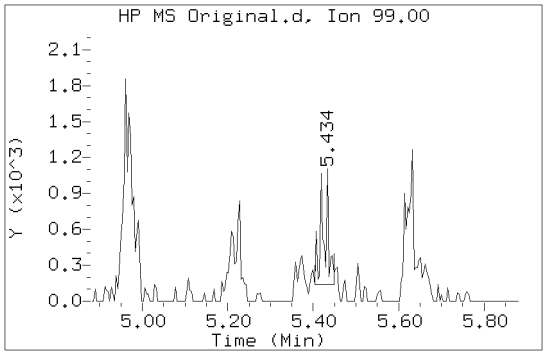
AFTER

MASS
55
AREA
31450
HEIGHT
8507
20-Jul-2023
15:04
linh
pham



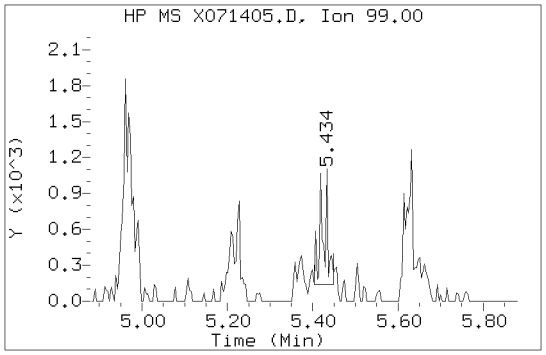
BEFORE

MASS
99
AREA
888
HEIGHT
965
20-Jul-2023
15:04
linh
pham



AFTER

MASS
99
AREA
888
HEIGHT
965
20-Jul-2023
15:04
linh
pham

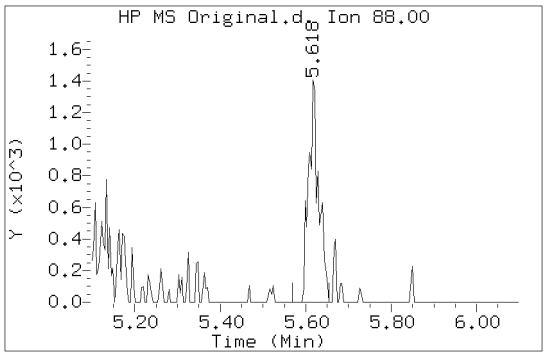


1,4-Dioxane ()

Reason Code:

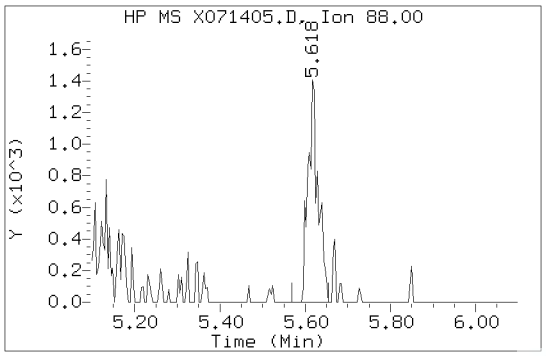
BEFORE

MASS
88
AREA
2323
HEIGHT
1407
20-Jul-2023
15:04
linh
pham



AFTER

MASS
88
AREA
2323
HEIGHT
1407
20-Jul-2023
15:04
linh
pham



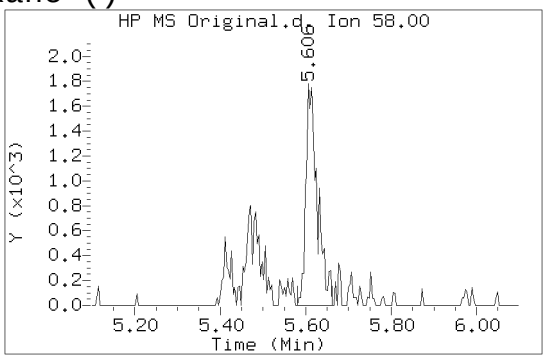
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Inj Date : 14-JUL-2023 13:23
InstruID : voa6.i
LabSampID : VSTD002

1,4-Dioxane ()

Reason Code:

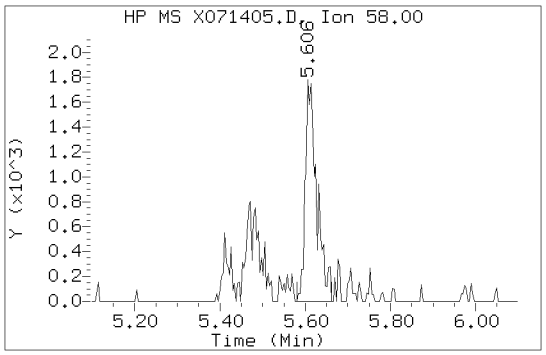
BEFORE

MASS
58
AREA
3341
HEIGHT
1781
20-Jul-2023
15:04
linh
pham



AFTER

MASS
58
AREA
3341
HEIGHT
1781
20-Jul-2023
15:04
linh
pham

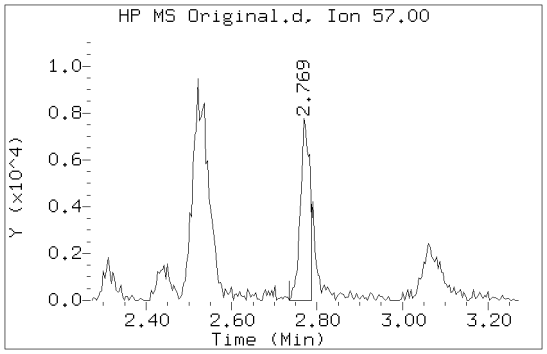


n-Hexane (110-54-3)

Reason Code:

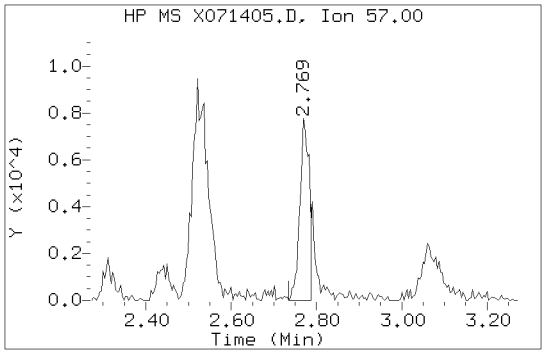
BEFORE

MASS
57
AREA
11984
HEIGHT
7776
20-Jul-2023
15:04
linh
pham



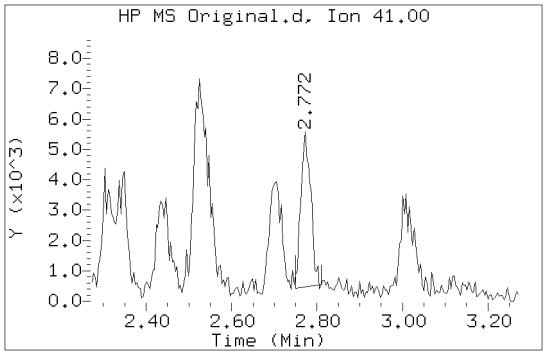
AFTER

MASS
57
AREA
11984
HEIGHT
7776
20-Jul-2023
15:04
linh
pham



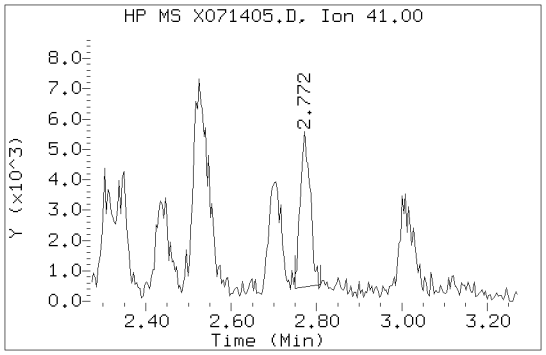
BEFORE

MASS
41
AREA
8381
HEIGHT
5113
20-Jul-2023
15:04
linh
pham



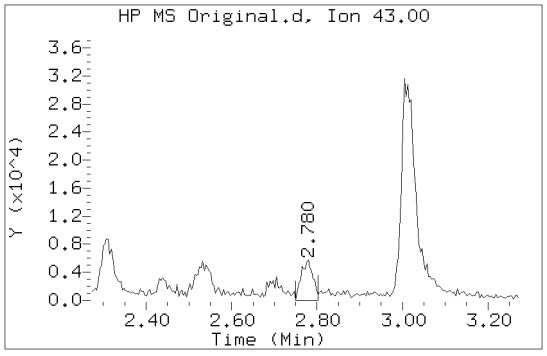
AFTER

MASS
41
AREA
8381
HEIGHT
5113
20-Jul-2023
15:04
linh
pham



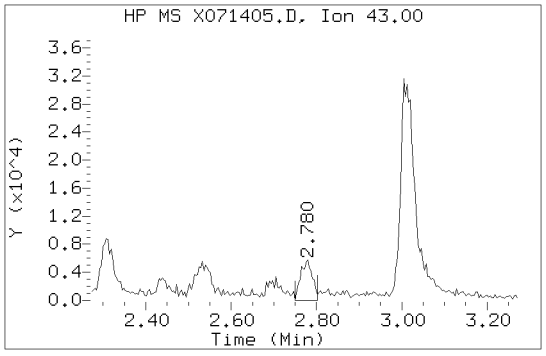
BEFORE

MASS
43
AREA
11133
HEIGHT
5721
20-Jul-2023
15:04
linh
pham



AFTER

MASS
43
AREA
11133
HEIGHT
5721
20-Jul-2023
15:04
linh
pham

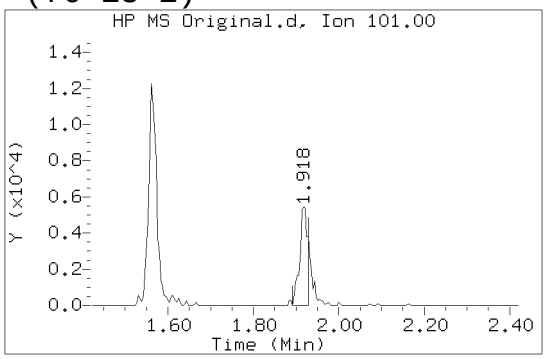


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Inj Date : 14-JUL-2023 13:23
InstruID : voa6.i
LabSampID : VSTD002

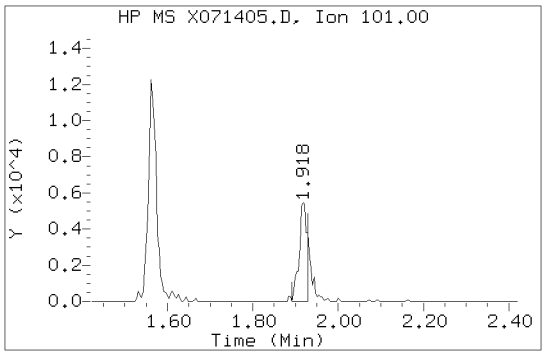
Freon TF (76-13-1)

Reason Code:

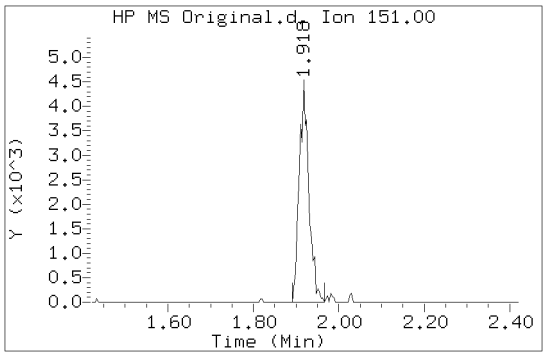
BEFORE
MASS
101
AREA
7195
HEIGHT
5473
20-Jul-2023
15:04
linh
pham



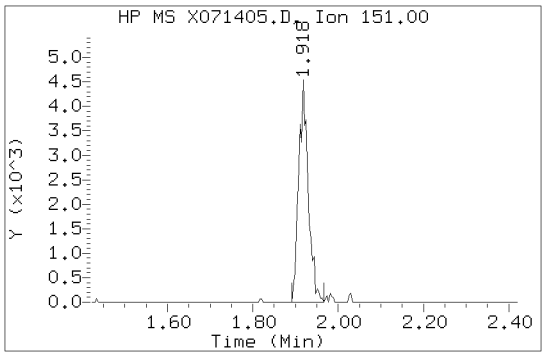
AFTER
MASS
101
AREA
7195
HEIGHT
5473
20-Jul-2023
15:04
linh
pham



BEFORE
MASS
151
AREA
7204
HEIGHT
4541
20-Jul-2023
15:04
linh
pham



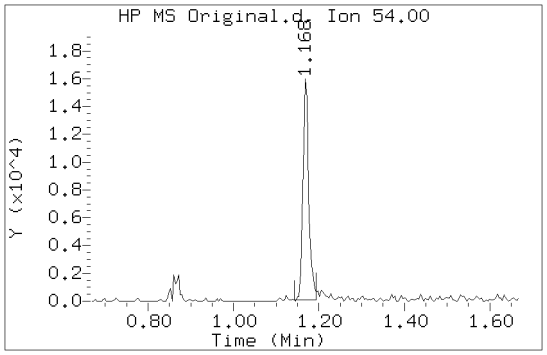
AFTER
MASS
151
AREA
7204
HEIGHT
4541
20-Jul-2023
15:04
linh
pham



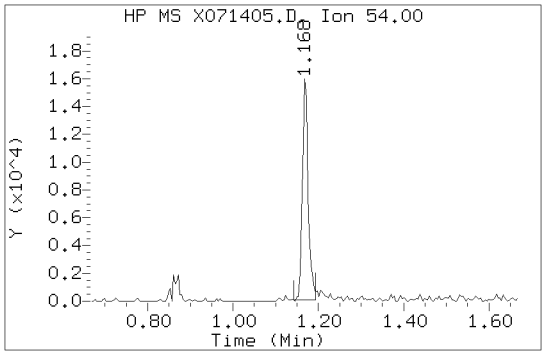
1,3-Butadiene (106-99-0)

Reason Code:

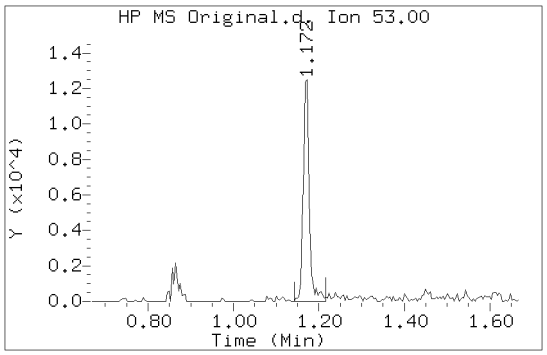
BEFORE
MASS
54
AREA
15351
HEIGHT
15893
20-Jul-2023
15:04
linh
pham



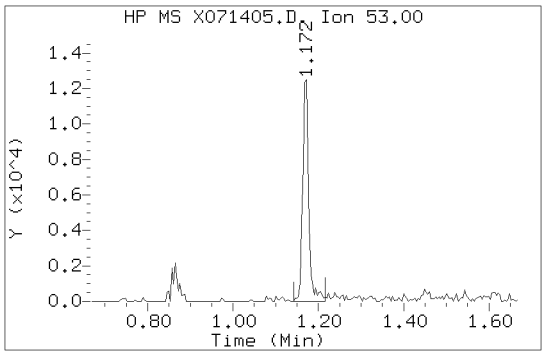
AFTER
MASS
54
AREA
15351
HEIGHT
15893
20-Jul-2023
15:04
linh
pham



BEFORE
MASS
53
AREA
12769
HEIGHT
12495
20-Jul-2023
15:04
linh
pham



AFTER
MASS
53
AREA
12769
HEIGHT
12495
20-Jul-2023
15:04
linh
pham

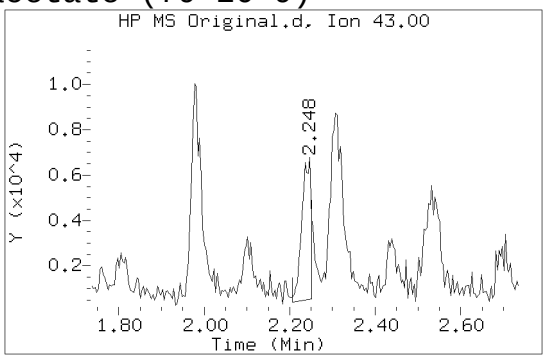


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Inj Date : 14-JUL-2023 13:23
InstruID : voa6.i
LabSampID : VSTD002

Methyl acetate (79-20-9)

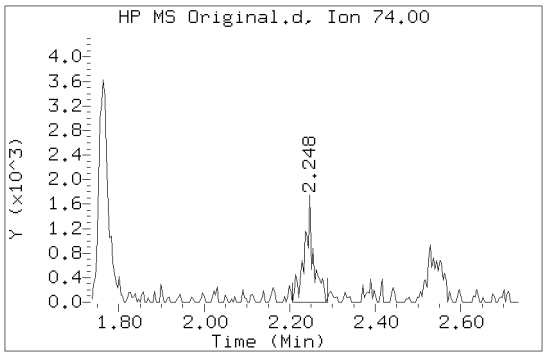
BEFORE

MASS
43
AREA
9491
HEIGHT
6252
20-Jul-2023
15:04
linh
pham



BEFORE

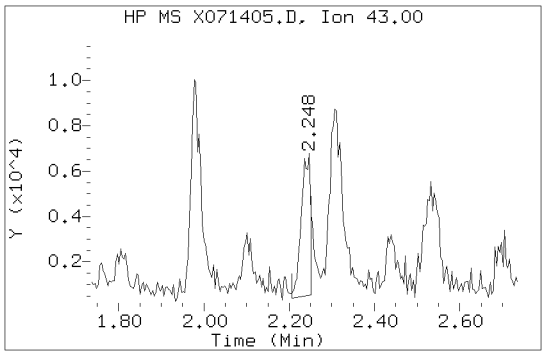
MASS
74
AREA
2612
HEIGHT
1756
20-Jul-2023
15:04
linh
pham



Reason Code:

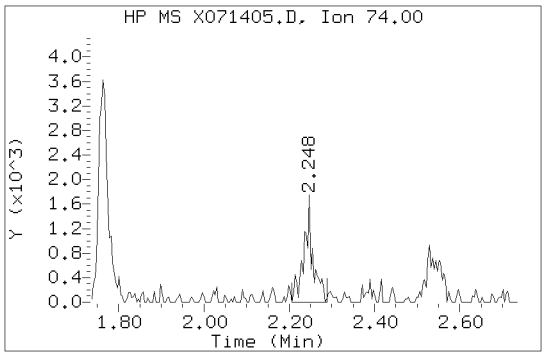
AFTER

MASS
43
AREA
9491
HEIGHT
6252
20-Jul-2023
15:04
linh
pham



AFTER

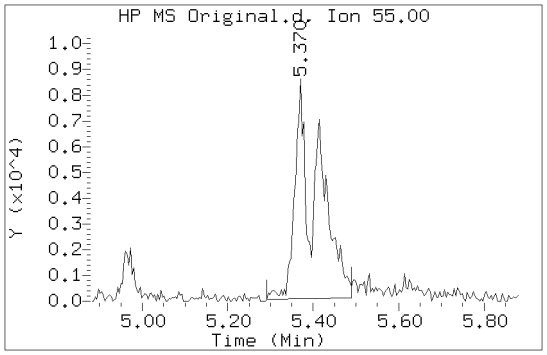
MASS
74
AREA
2612
HEIGHT
1756
20-Jul-2023
15:04
linh
pham



Methylcyclohexane (108-87-2)

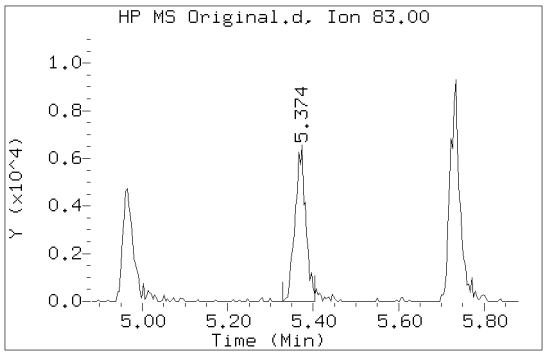
BEFORE

MASS
55
AREA
31142
HEIGHT
8535
20-Jul-2023
15:04
linh
pham



BEFORE

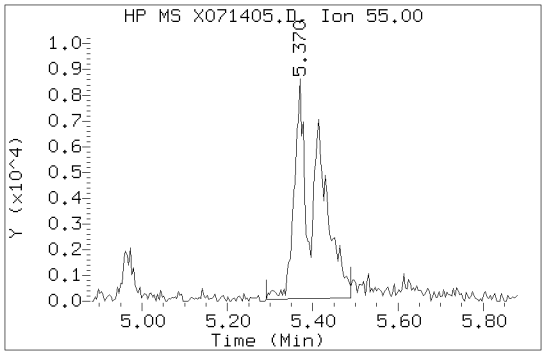
MASS
83
AREA
11484
HEIGHT
6566
20-Jul-2023
15:04
linh
pham



Reason Code:

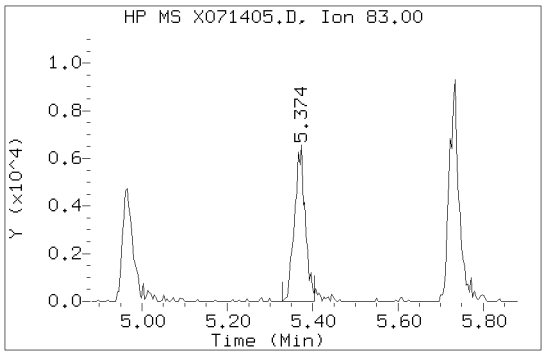
AFTER

MASS
55
AREA
31142
HEIGHT
8535
20-Jul-2023
15:04
linh
pham



AFTER

MASS
83
AREA
11484
HEIGHT
6566
20-Jul-2023
15:04
linh
pham

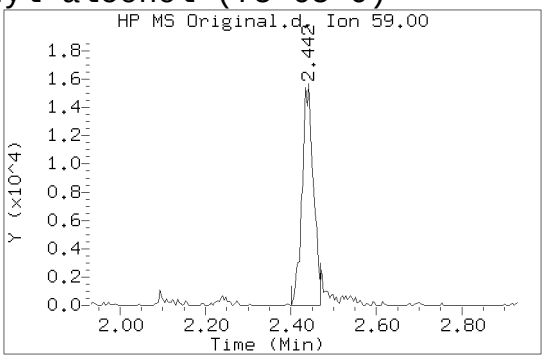


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Inj Date : 14-JUL-2023 13:23
InstruID : voa6.i
LabSampID : VSTD002

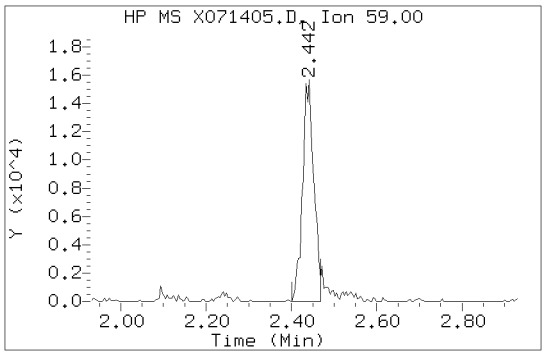
Tert-butyl alcohol (75-65-0)

Reason Code:

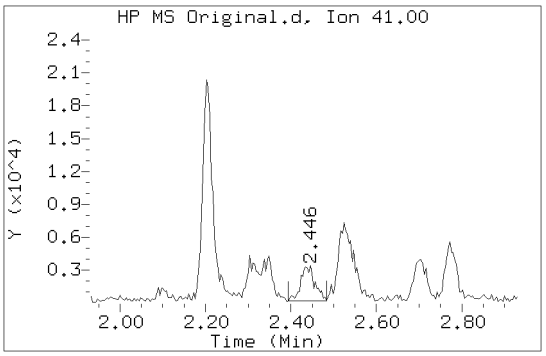
BEFORE
MASS
59
AREA
29280
HEIGHT
15681
20-Jul-2023
15:04
linh
pham



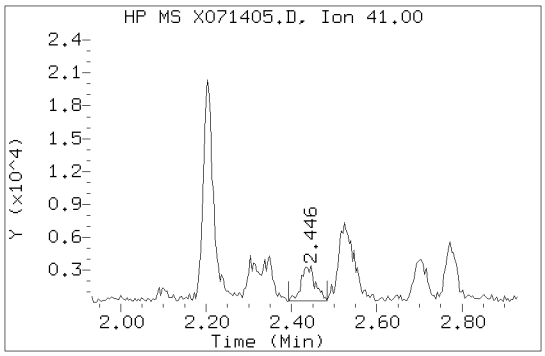
AFTER
MASS
59
AREA
29280
HEIGHT
15681
20-Jul-2023
15:04
linh
pham



BEFORE
MASS
41
AREA
7457
HEIGHT
3224
20-Jul-2023
15:04
linh
pham



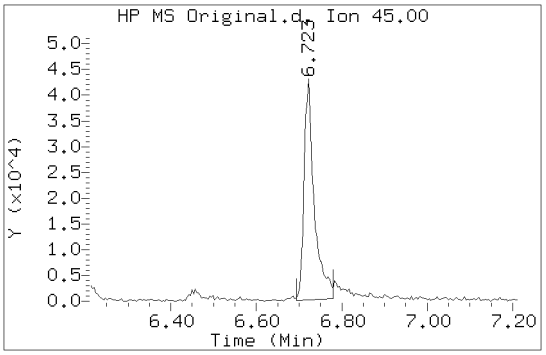
AFTER
MASS
41
AREA
7457
HEIGHT
3224
20-Jul-2023
15:04
linh
pham



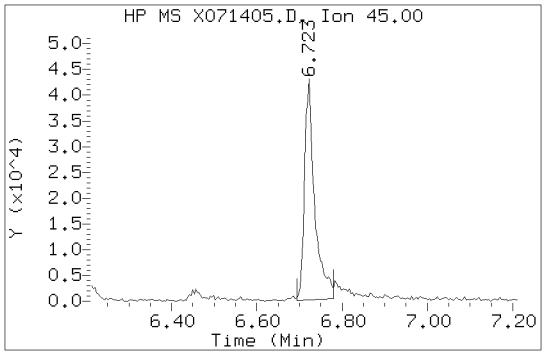
4-Methyl-2-pentanol (108-11-2)

Reason Code:

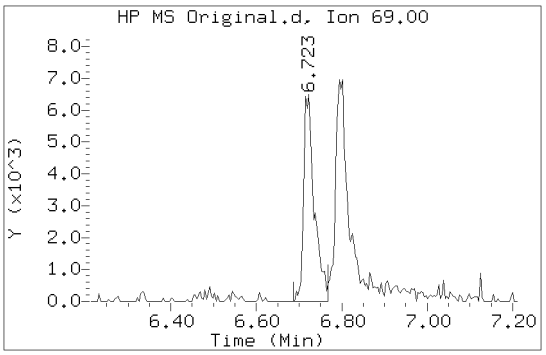
BEFORE
MASS
45
AREA
72210
HEIGHT
42882
20-Jul-2023
15:04
linh
pham



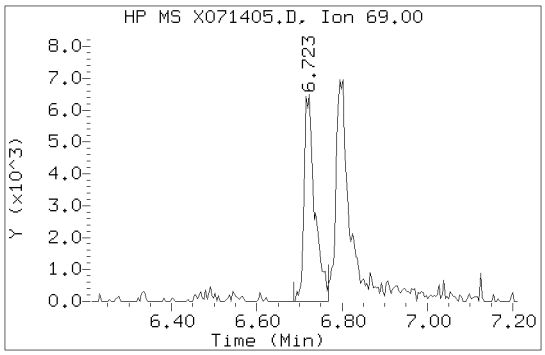
AFTER
MASS
45
AREA
72210
HEIGHT
42882
20-Jul-2023
15:04
linh
pham



BEFORE
MASS
69
AREA
11484
HEIGHT
6492
20-Jul-2023
15:04
linh
pham



AFTER
MASS
69
AREA
11484
HEIGHT
6492
20-Jul-2023
15:04
linh
pham



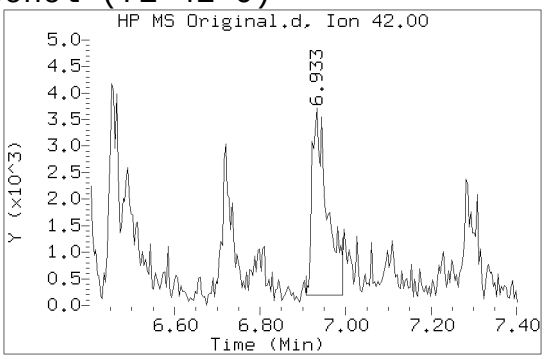
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071405.D
Inj Date : 14-JUL-2023 13:23
InstruID : voa6.i
LabSampID : VSTD002

Amyl alcohol (71-41-0)

Reason Code:

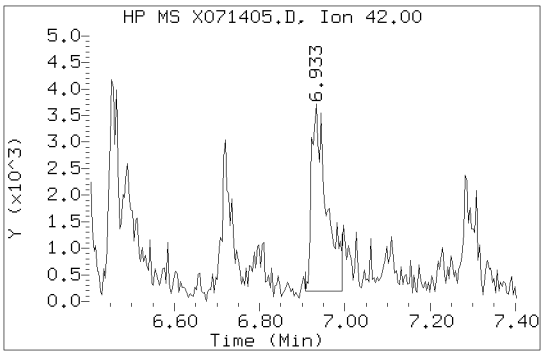
BEFORE

MASS
42
AREA
8579
HEIGHT
3524
20-Jul-2023
15:04
linh
pham



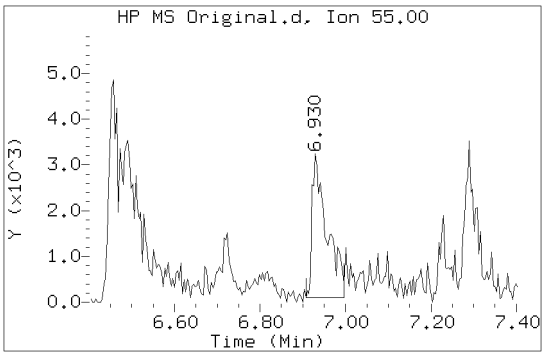
AFTER

MASS
42
AREA
8579
HEIGHT
3524
20-Jul-2023
15:04
linh
pham



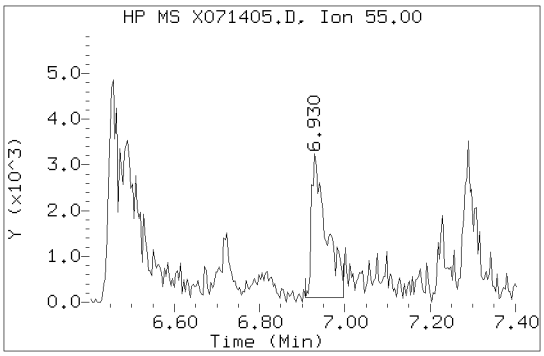
BEFORE

MASS
55
AREA
7591
HEIGHT
3153
20-Jul-2023
15:04
linh
pham



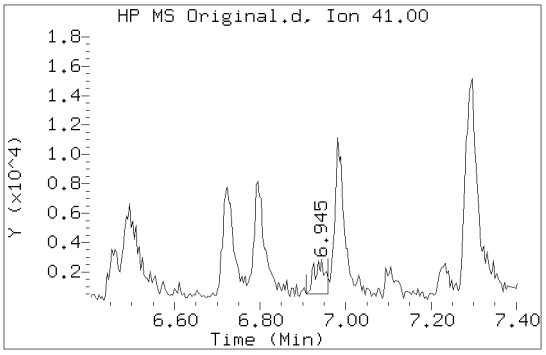
AFTER

MASS
55
AREA
7591
HEIGHT
3153
20-Jul-2023
15:04
linh
pham



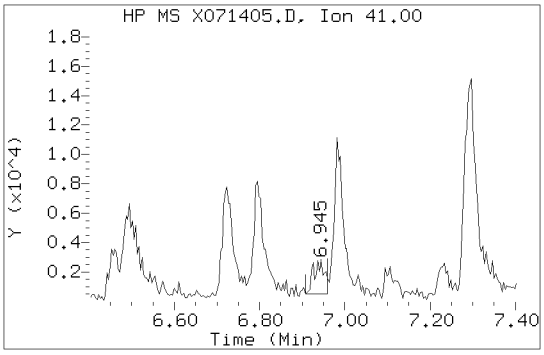
BEFORE

MASS
41
AREA
4124
HEIGHT
2354
20-Jul-2023
15:04
linh
pham



AFTER

MASS
41
AREA
4124
HEIGHT
2354
20-Jul-2023
15:04
linh
pham

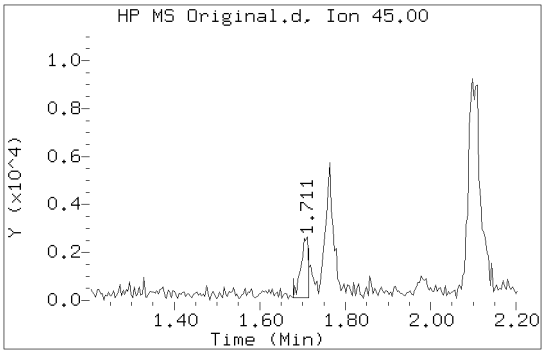


Ethanol (64-17-5)

Reason Code:

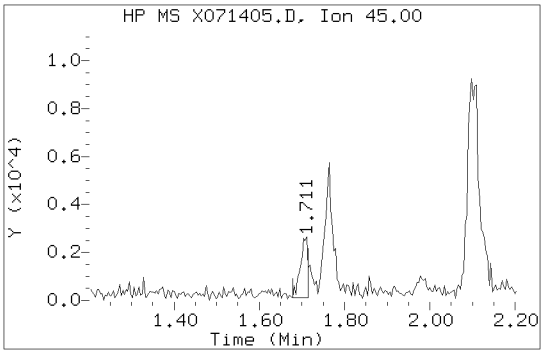
BEFORE

MASS
45
AREA
3219
HEIGHT
2559
20-Jul-2023
15:04
linh
pham



AFTER

MASS
45
AREA
3219
HEIGHT
2559
20-Jul-2023
15:04
linh
pham



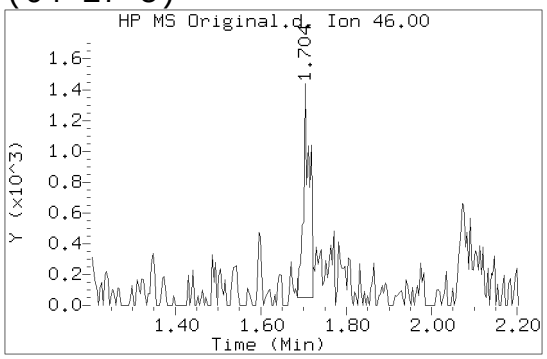
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071405.D
Inj Date : 14-JUL-2023 13:23
InstruID : voa6.i
LabSampID : VSTD002

Ethanol (64-17-5)

Reason Code:

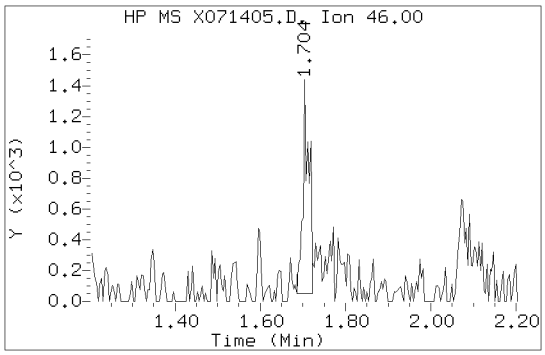
BEFORE

MASS
46
AREA
1433
HEIGHT
1387
20-Jul-2023
15:04
linh
pham



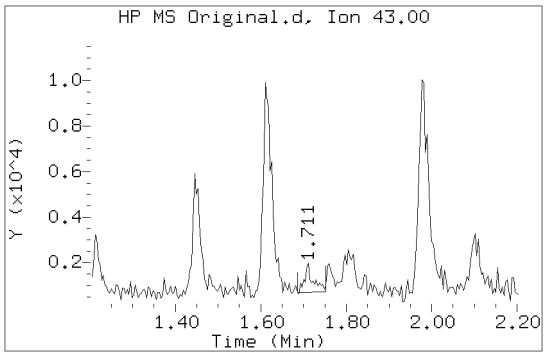
AFTER

MASS
46
AREA
1433
HEIGHT
1387
20-Jul-2023
15:04
linh
pham



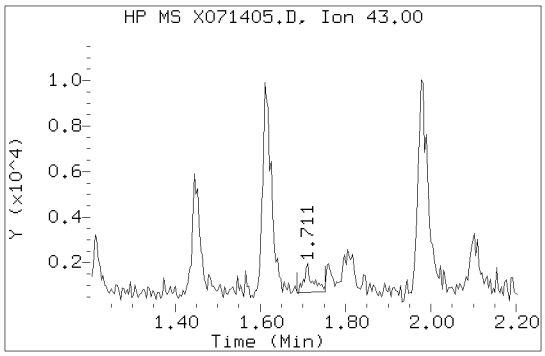
BEFORE

MASS
43
AREA
1776
HEIGHT
1290
20-Jul-2023
15:04
linh
pham



AFTER

MASS
43
AREA
1776
HEIGHT
1290
20-Jul-2023
15:04
linh
pham

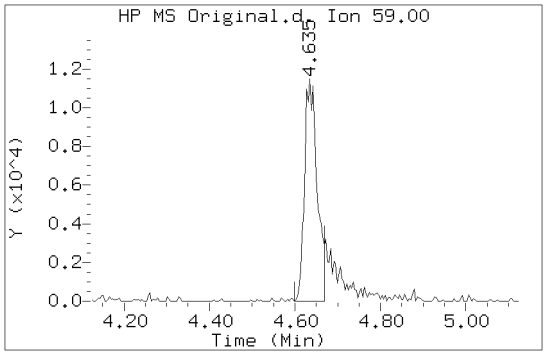


tert-Butyl formate (762-75-4)

Reason Code:

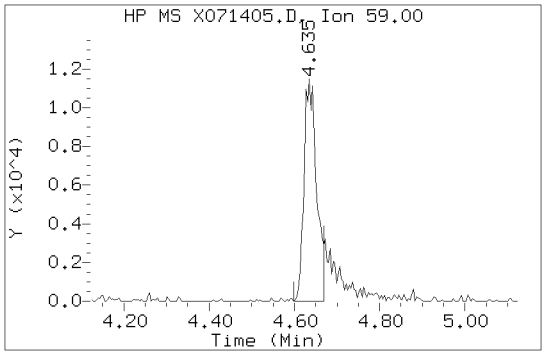
BEFORE

MASS
59
AREA
23857
HEIGHT
11486
20-Jul-2023
15:04
linh
pham



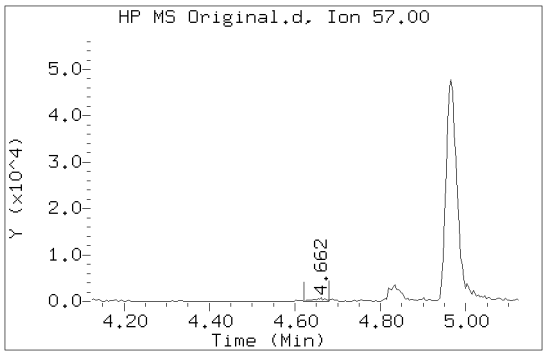
AFTER

MASS
59
AREA
23857
HEIGHT
11486
20-Jul-2023
15:04
linh
pham



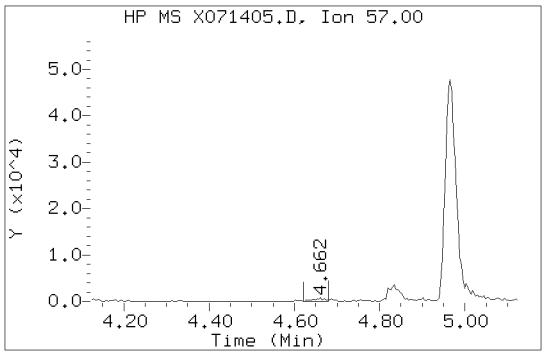
BEFORE

MASS
57
AREA
1334
HEIGHT
778
20-Jul-2023
15:04
linh
pham



AFTER

MASS
57
AREA
1334
HEIGHT
778
20-Jul-2023
15:04
linh
pham



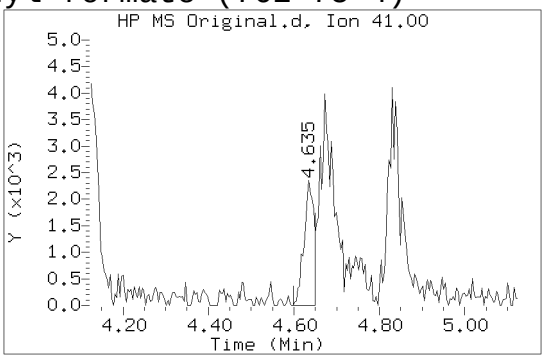
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071405.D
Inj Date : 14-JUL-2023 13:23
InstruID : voa6.i
LabSampID : VSTD002

tert-Butyl formate (762-75-4)

Reason Code:

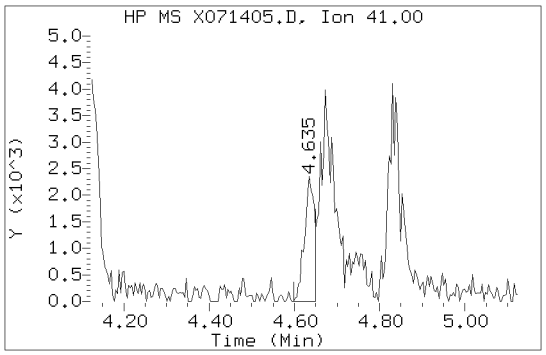
BEFORE

MASS
41
AREA
3833
HEIGHT
2355
20-Jul-2023
15:04
linh
pham



AFTER

MASS
41
AREA
3833
HEIGHT
2355
20-Jul-2023
15:04
linh
pham

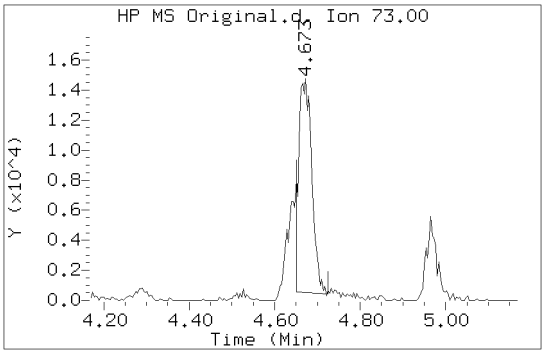


tert-Amyl methyl ether (974-05-08)

Reason Code:

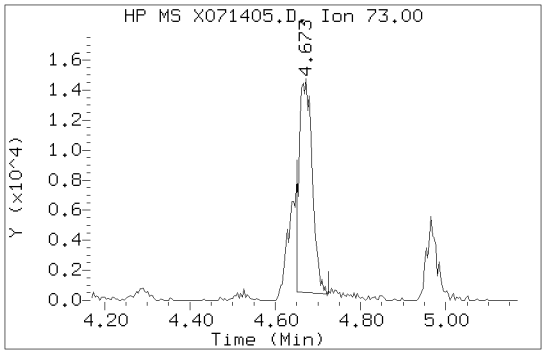
BEFORE

MASS
73
AREA
31345
HEIGHT
14253
20-Jul-2023
15:04
linh
pham



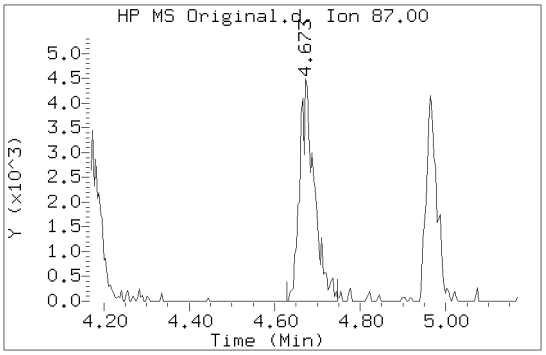
AFTER

MASS
73
AREA
31345
HEIGHT
14253
20-Jul-2023
15:04
linh
pham



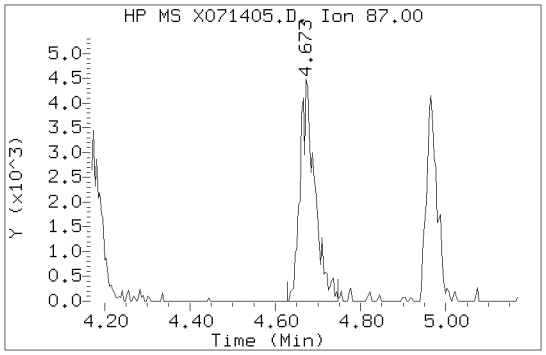
BEFORE

MASS
87
AREA
10923
HEIGHT
4489
20-Jul-2023
15:04
linh
pham



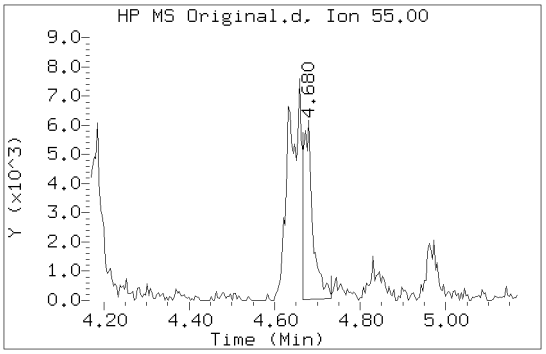
AFTER

MASS
87
AREA
10923
HEIGHT
4489
20-Jul-2023
15:04
linh
pham



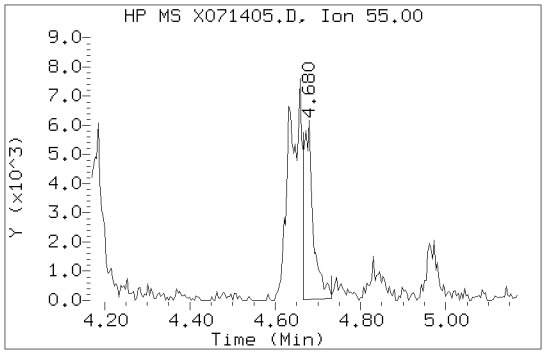
BEFORE

MASS
55
AREA
9755
HEIGHT
6135
20-Jul-2023
15:04
linh
pham



AFTER

MASS
55
AREA
9755
HEIGHT
6135
20-Jul-2023
15:04
linh
pham



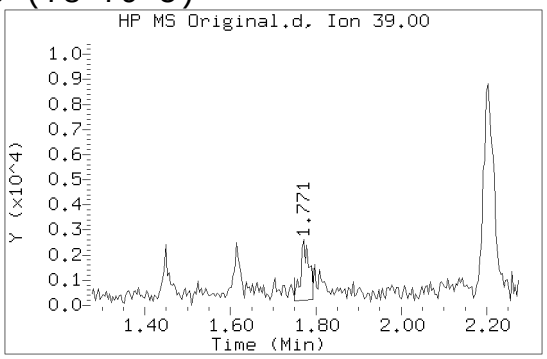
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Inj Date : 14-JUL-2023 13:23
InstruID : voa6.i
LabSampID : VSTD002

Isoprene (78-79-5)

Reason Code:

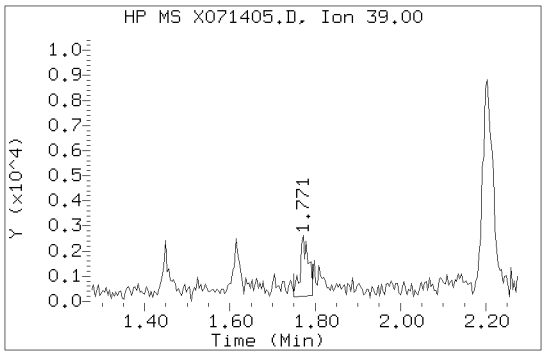
BEFORE

MASS
39
AREA
3408
HEIGHT
2427
20-Jul-2023
15:04
linh
pham



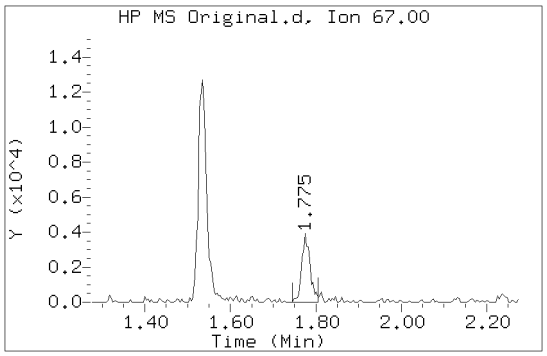
AFTER

MASS
39
AREA
3408
HEIGHT
2427
20-Jul-2023
15:04
linh
pham



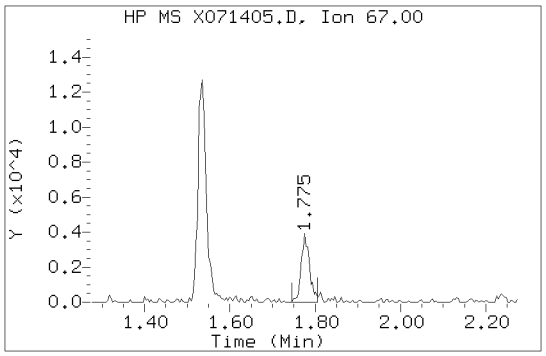
BEFORE

MASS
67
AREA
5482
HEIGHT
3925
20-Jul-2023
15:04
linh
pham



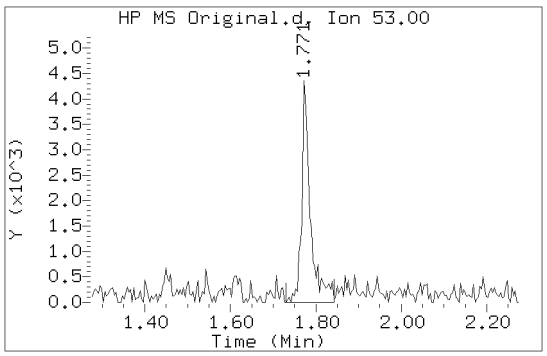
AFTER

MASS
67
AREA
5482
HEIGHT
3925
20-Jul-2023
15:04
linh
pham



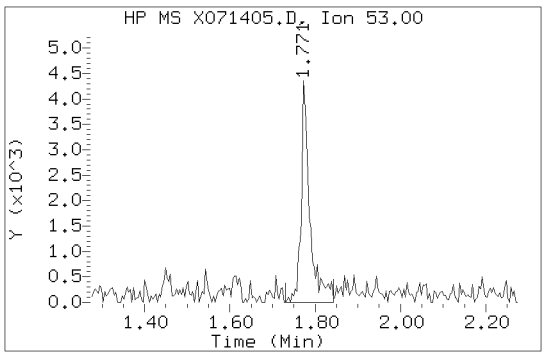
BEFORE

MASS
53
AREA
6318
HEIGHT
4358
20-Jul-2023
15:04
linh
pham



AFTER

MASS
53
AREA
6318
HEIGHT
4358
20-Jul-2023
15:04
linh
pham

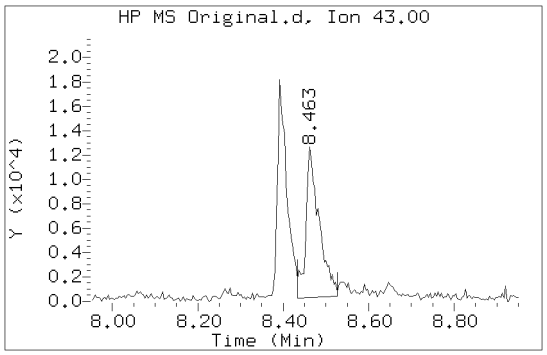


n-Amyl acetate (628-63-7)

Reason Code:

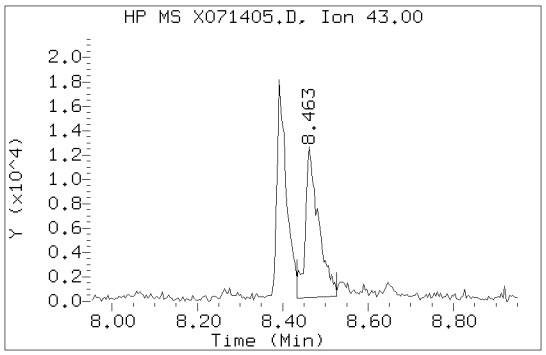
BEFORE

MASS
43
AREA
26886
HEIGHT
12364
20-Jul-2023
15:04
linh
pham



AFTER

MASS
43
AREA
26886
HEIGHT
12364
20-Jul-2023
15:04
linh
pham

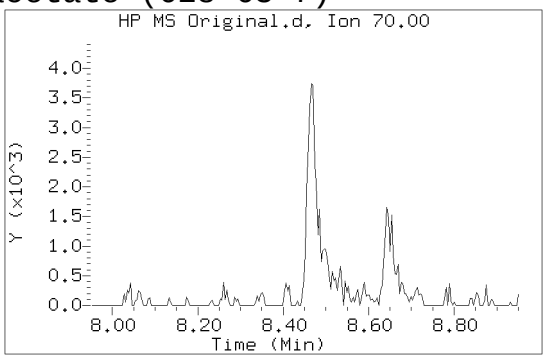


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071405.D
Inj Date : 14-JUL-2023 13:23
InstruID : voa6.i
LabSampID : VSTD002

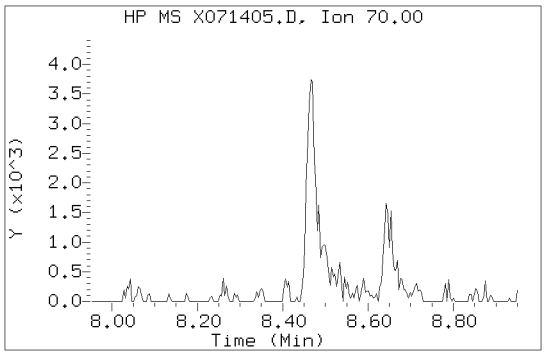
n-Amyl acetate (628-63-7)

Reason Code:

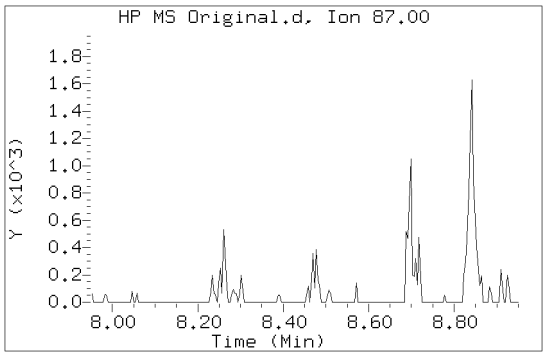
BEFORE
MASS
70
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



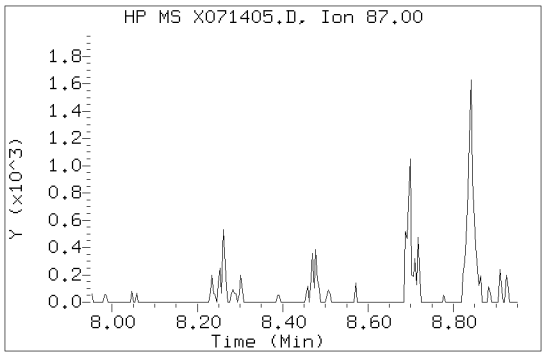
AFTER
MASS
70
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



BEFORE
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20-Jul-2023
15:04
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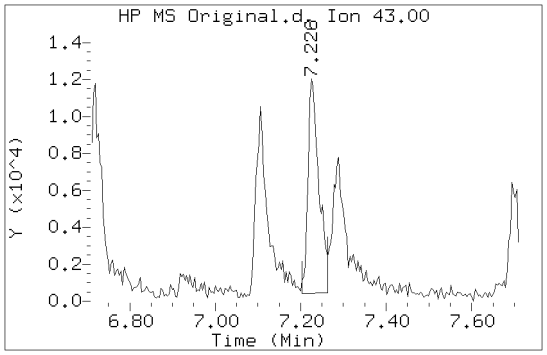
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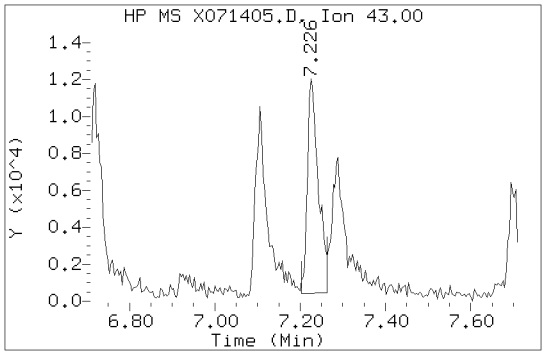
n-Butyl acetate (123-86-4)

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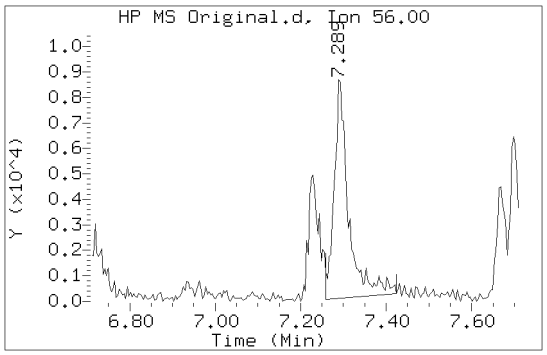
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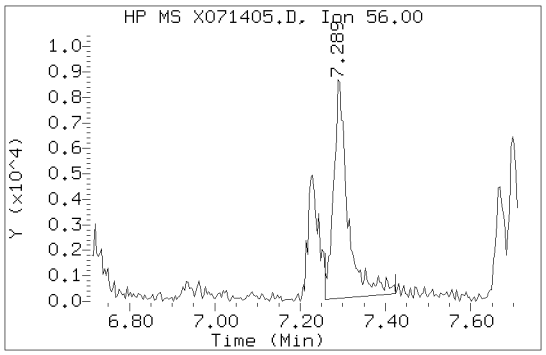
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20-Jul-2023
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AFTER
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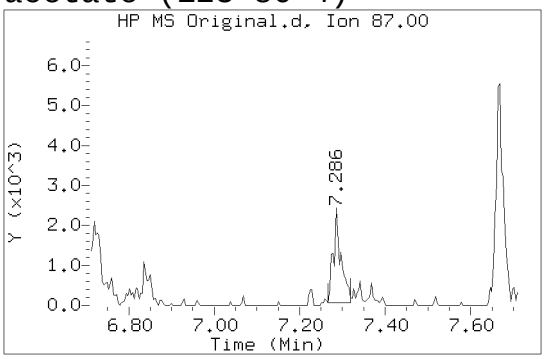
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Inj Date : 14-JUL-2023 13:23
InstruID : voa6.i
LabSampID : VSTD002

n-Butyl acetate (123-86-4)

Reason Code:

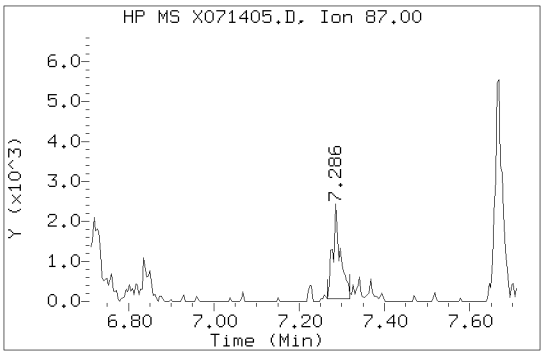
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AFTER

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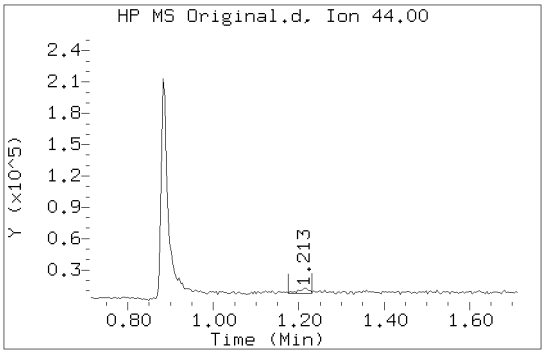


Acetaldehyde (75-07-0)

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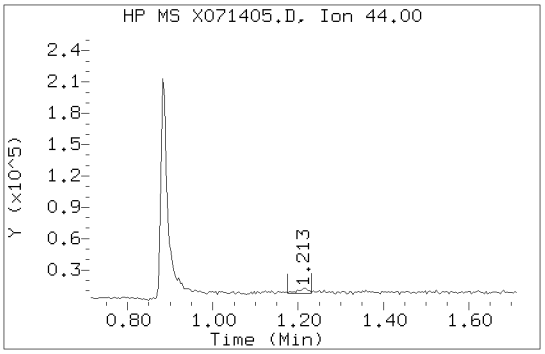
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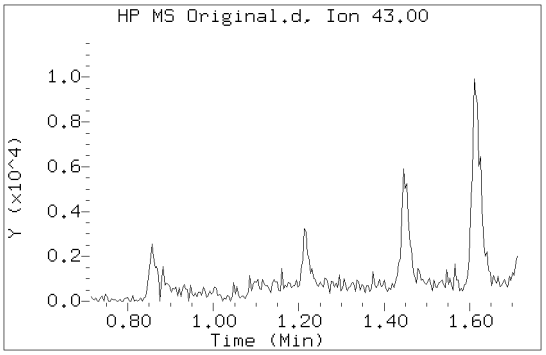
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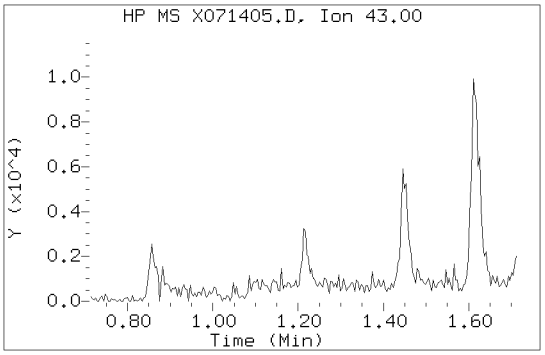
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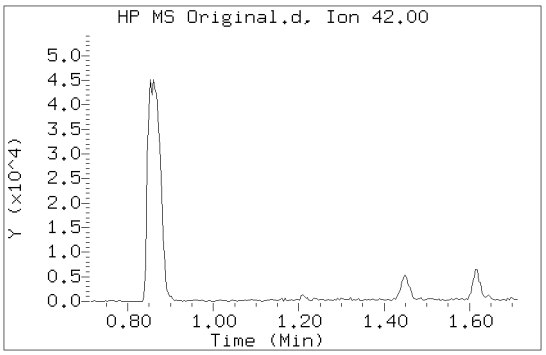
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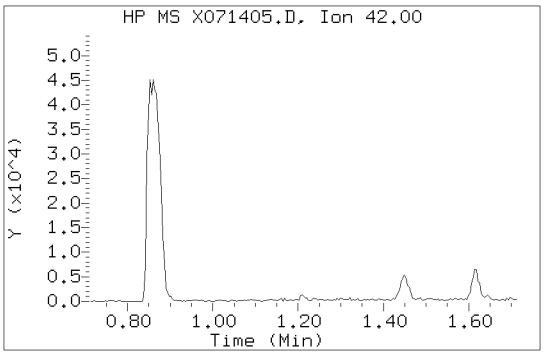
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AFTER

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20-Jul-2023
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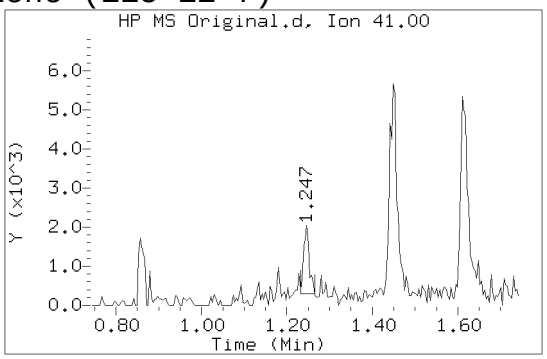


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Inj Date : 14-JUL-2023 13:23
InstruID : voa6.i
LabSampID : VSTD002

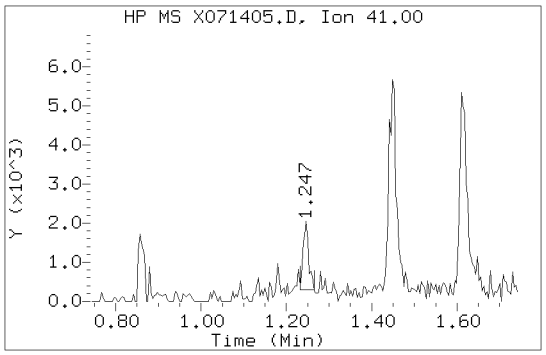
Isobutylene (115-11-7)

Reason Code:

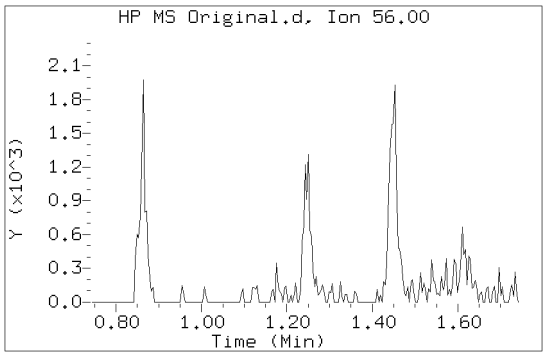
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1749
20-Jul-2023
15:04
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pham



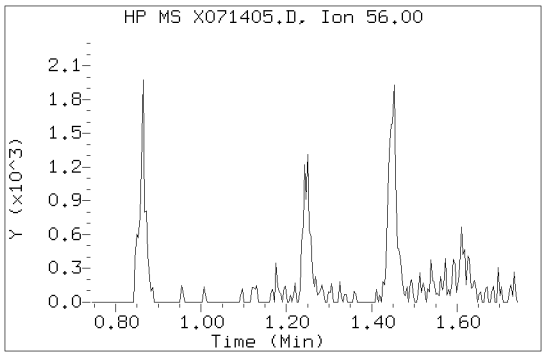
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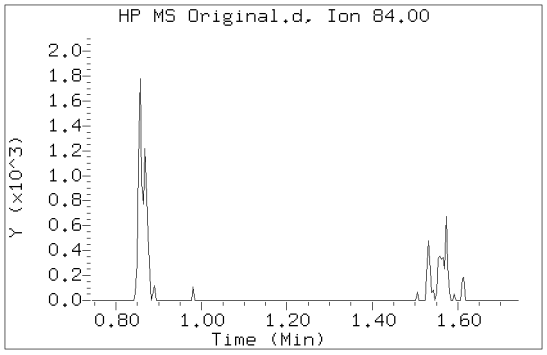
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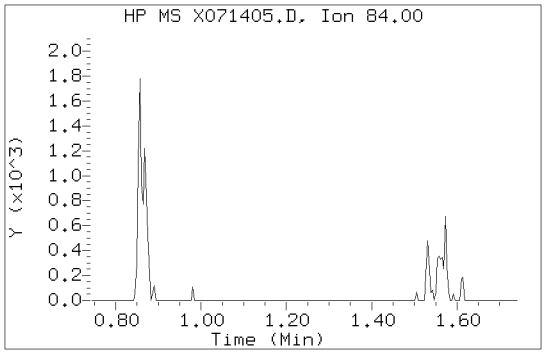
AFTER
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BEFORE
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20-Jul-2023
15:04
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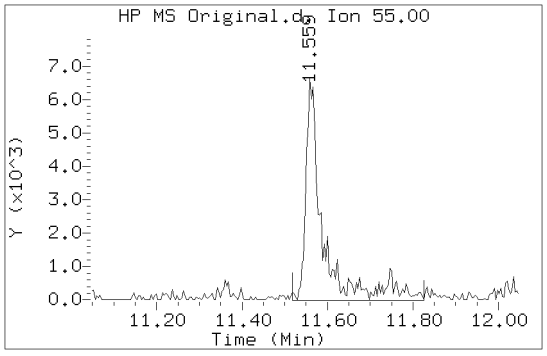
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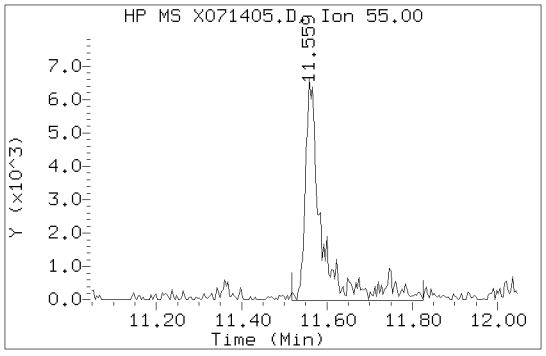
2-Ethylhexyl Acrylate (103-11-7)

Reason Code:

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20-Jul-2023
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AFTER
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20-Jul-2023
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linh
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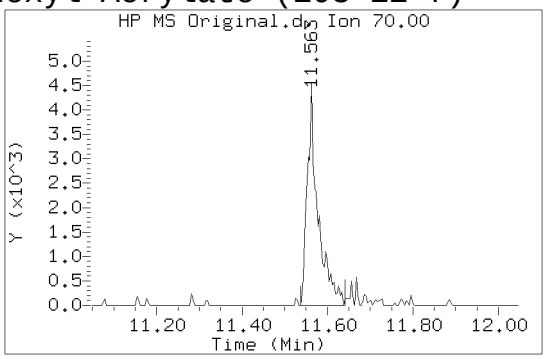
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Inj Date : 14-JUL-2023 13:23
InstruID : voa6.i
LabSampID : VSTD002

2-Ethylhexyl Acrylate (103-11-7)

Reason Code:

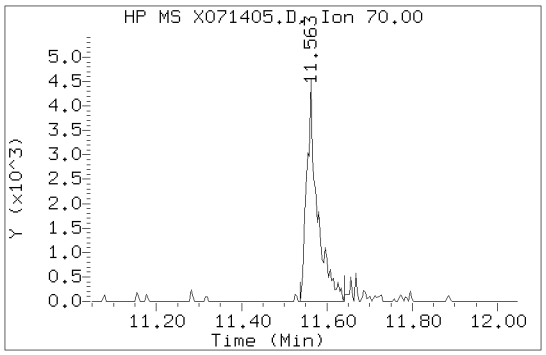
BEFORE

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20-Jul-2023
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AFTER

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20-Jul-2023
15:04
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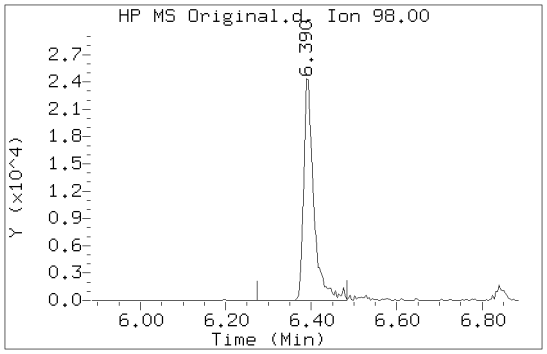


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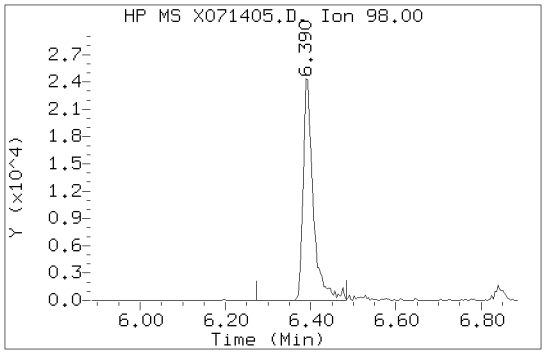
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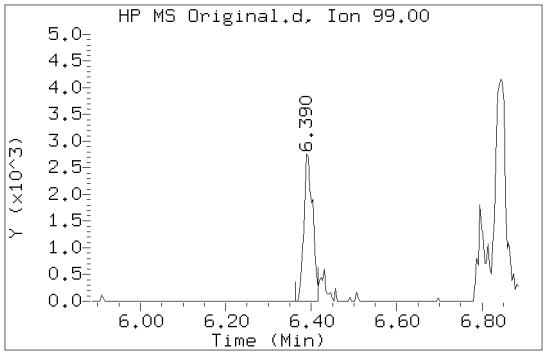
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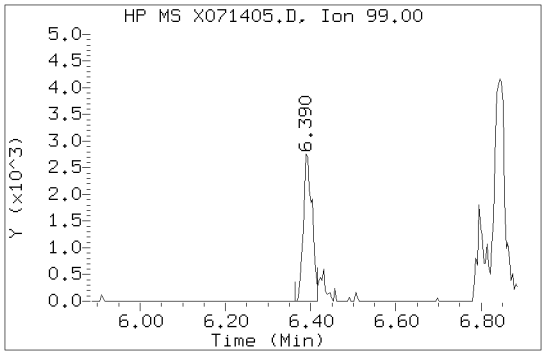
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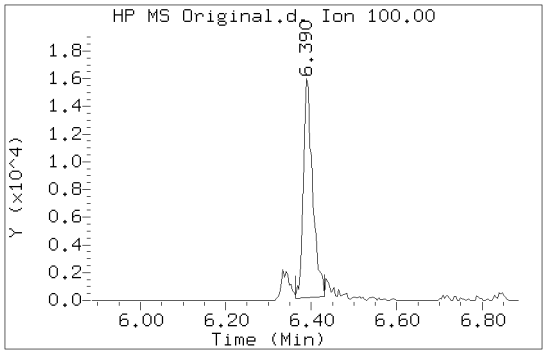
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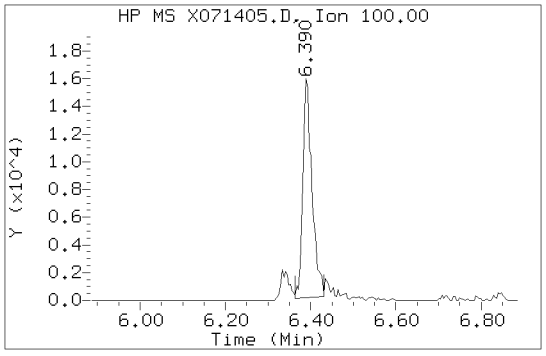
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AFTER

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24373
HEIGHT
15816
20-Jul-2023
15:04
linh
pham



Data File: \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071406.D Page 1
Report Date: 20-Jul-2023 15:05

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071406.D
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Inj Date : 14-JUL-2023 13:43
Operator : PC Inst ID: voa6.i
Smp Info : VSTD005;VSTD005;1;5;
Misc Info : V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\8260W.m
Meth Date : 20-Jul-2023 15:05 voa6.i Quant Type: ISTD
Cal Date : 14-JUL-2023 13:23 Cal File: X071405.D
Als bottle: 7 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000_8260.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.177	4.177	(1.000)	515309	50.0000	
	2 Dichlorodifluoromethane	85	0.976	0.976	(0.234)	21541	5.00000	5.09
	3 Chloromethane	50	1.081	1.081	(0.259)	35282	5.00000	4.53(M)
	4 Propionitrile	54	3.671	3.671	(0.879)	48685	50.0000	47.69(a)
	5 Vinyl Chloride	62	1.149	1.149	(0.275)	31539	5.00000	4.72
	6 Bromomethane	94	1.343	1.343	(0.322)	13035	5.00000	4.72(M)
	7 Chloroethane	64	1.407	1.407	(0.337)	17933	5.00000	4.71
	8 Trichlorofluoromethane	101	1.565	1.565	(0.375)	30820	5.00000	4.56
	9 Acrolein	56	1.868	1.868	(0.447)	2341	10.0000	12.99(aH)
	10 Acetone	43	1.977	1.977	(0.473)	26152	10.0000	8.56
	11 1,1-Dichloroethene	96	1.917	1.917	(0.459)	18372	5.00000	4.86
	12 Isobutyl Alcohol	43	4.684	4.684	(1.121)	97691	100.000	100.01(a)
	13 Acetonitrile	39	2.206	2.206	(0.528)	34072	50.0000	47.15(a)
	14 Allyl Chloride	41	2.206	2.206	(0.528)	83408	5.00000	4.92(a)
	15 Iodomethane	142	2.029	2.029	(0.486)	29645	10.0000	9.67(M)
	16 Acrylonitrile	53	2.539	2.539	(0.608)	26399	10.0000	10.51
	17 Methylene Chloride	84	2.307	2.307	(0.552)	25734	5.00000	4.52
	18 Methyl tert-butyl ether	73	2.543	2.543	(0.609)	69208	5.00000	4.92
	19 Carbon Disulfide	76	2.074	2.074	(0.497)	111855	10.0000	9.42
	20 trans-1,2-Dichloroethene	96	2.532	2.532	(0.606)	22471	5.00000	5.14

21 Vinyl Acetate	43	3.008	3.008 (0.720)	178820	10.0000	9.90
22 1,1-Dichloroethane	63	2.925	2.925 (0.700)	46539	5.00000	4.85

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	23 Chloroprene	53	1.778	1.778	(0.426)	11212	5.00000	4.83(aM)
	24 2-Butanone	43	3.608	3.608	(0.864)	25624	10.0000	9.33(M)
	25 Methacrylonitrile	41	3.848	3.848	(0.921)	30821	5.00000	4.63(a)
	26 2,2-Dichloropropane	77	3.506	3.506	(0.839)	34523	5.00000	4.82
	27 cis-1,2-Dichloroethene	96	3.529	3.529	(0.845)	27063	5.00000	4.86
	28 Chloroform	83	3.908	3.908	(0.935)	45886	5.00000	4.67
	29 Bromochloromethane	128	3.803	3.803	(0.910)	15326	5.00000	4.91
$	30 Dibromofluoromethane	113	4.102	4.102	(0.982)	26145	5.00000	4.85
	31 1,1,1-Trichloroethane	97	4.076	4.076	(0.976)	34806	5.00000	4.61
	32 1,1-Dichloropropene	75	4.282	4.282	(0.863)	28199	5.00000	4.24
	33 1,2-Dichloroethane	62	4.564	4.564	(0.919)	41945	5.00000	4.67
	34 Carbon Tetrachloride	117	4.264	4.264	(0.859)	30432	5.00000	4.54
$	35 1,2-Dichloroethane-d4	65	4.477	4.477	(1.072)	31653	5.00000	4.80
*	36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	815041	50.0000	
	37 Benzene	78	4.515	4.515	(0.909)	91790	5.00000	4.70
	38 Trichloroethene	130	5.212	5.212	(1.050)	24824	5.00000	4.50(a)
	39 Bromodichloromethane	83	5.726	5.726	(1.153)	35030	5.00000	4.69(a)
	40 Methyl Methacrylate	41	5.617	5.617	(1.345)	30166	5.00000	4.85(a)
	41 2-Chloroethylvinyl ether	63	6.056	6.056	(1.220)	21401	10.0000	9.38(a)
	42 1,2-Dichloropropane	63	5.437	5.437	(1.095)	30550	5.00000	4.87(a)
	43 2-Nitropropane	43	5.981	5.981	(1.432)	8304	5.00000	4.05(a)
	44 Dibromomethane	93	5.557	5.557	(1.119)	16922	5.00000	4.76(a)
	45 4-Methyl-2-Pentanone	43	6.329	6.329	(0.825)	71437	10.0000	9.87
	46 cis-1,3-Dichloropropene	75	6.160	6.160	(1.241)	38467	5.00000	4.48(a)
*	47 Chlorobenzene-d5	117	7.667	7.667	(1.000)	735002	50.0000	
$	48 Toluene-d8	98	6.385	6.385	(0.833)	95273	5.00000	5.03(M)
	49 Ethyl Methacrylate	69	6.715	6.715	(1.353)	26485	5.00000	4.96(a)
	50 Toluene	91	6.445	6.445	(0.841)	96792	5.00000	4.89(a)
	51 trans-1,3-Dichloropropene	75	6.685	6.685	(1.347)	33424	5.00000	4.62(a)
	52 2-Hexanone	43	7.098	7.098	(0.926)	48930	10.0000	10.29
	53 1,1,2-Trichloroethane	83	6.843	6.843	(0.892)	20880	5.00000	4.97(a)
	54 1,3-Dichloropropane	76	6.981	6.981	(0.911)	43005	5.00000	5.01
	55 Dibromochloromethane	129	7.173	7.173	(0.935)	28644	5.00000	4.72(a)
	56 Tetrachloroethene	164	6.929	6.929	(0.904)	19962	5.00000	4.88(a)
	57 1,2-Dibromoethane	107	7.263	7.263	(0.947)	25723	5.00000	5.36
	58 1-Chlorohexane	55	7.697	7.697	(1.550)	29679	5.00000	4.53(a)
	59 Chlorobenzene	112	7.694	7.694	(1.003)	65984	5.00000	4.77(a)
	60 1,1,1,2-Tetrachloroethane	131	7.776	7.776	(1.014)	25299	5.00000	4.67(a)
	61 Ethylbenzene	106	7.799	7.799	(1.017)	32420	5.00000	4.67(a)
	62 m,p-Xylenes	106	7.907	7.907	(1.031)	79790	10.0000	9.17(a)
	63 o-Xylene	106	8.241	8.241	(1.075)	37444	5.00000	4.54(a)
	64 Styrene	104	8.267	8.267	(1.078)	65591	5.00000	4.56(a)
	66 Bromoform	173	8.413	8.413	(1.097)	17937	5.00000	4.61(a)
	67 Isopropylbenzene	105	8.560	8.560	(1.116)	96601	5.00000	4.56(a)
	68 1,1,2,2-Tetrachloroethane	83	8.837	8.837	(0.915)	33128	5.00000	5.01
$	69 4-Bromofluorobenzene	95	8.691	8.691	(1.133)	40007	5.00000	5.08
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	393512	50.0000	
	71 1,2,3-Trichloropropane	75	8.863	8.863	(0.917)	27801	5.00000	5.30
	72 trans-1,4-Dichloro-2-butene	53	8.893	8.893	(1.160)	9958	5.00000	4.45(aM)
	73 n-Propylbenzene	91	8.912	8.912	(0.922)	105135	5.00000	4.42(a)
	74 Bromobenzene	156	8.811	8.811	(0.912)	30146	5.00000	4.89(a)
	75 1,3,5-Trimethylbenzene	105	9.066	9.066	(0.938)	77581	5.00000	4.35(a)

76	2-Chlorotoluene	91	8.972	8.972 (0.929)	73357	5.00000	4.57(a)
77	4-Chlorotoluene	91	9.073	9.073 (0.939)	83281	5.00000	4.72(a)

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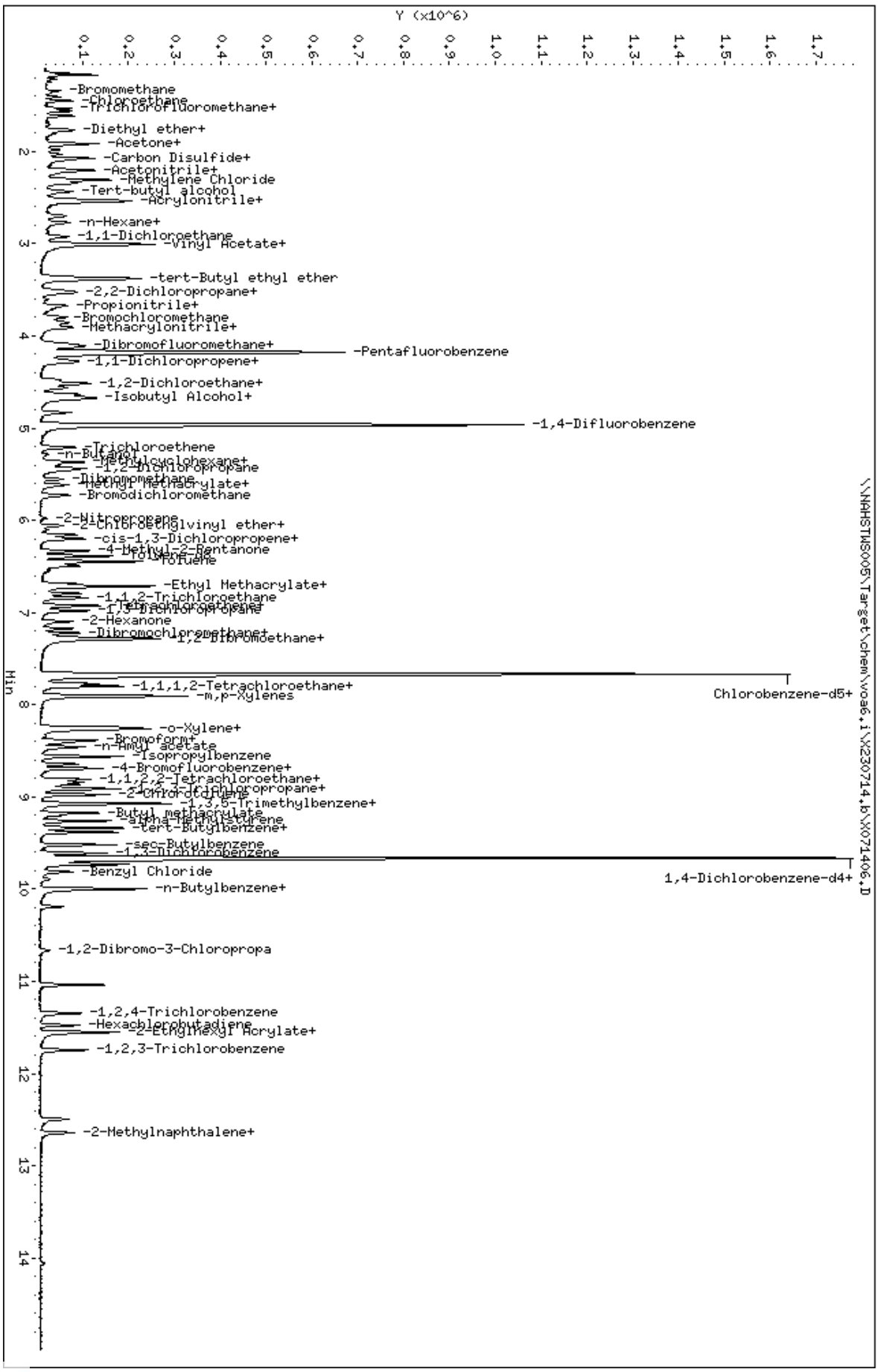
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
78	tert-Butylbenzene	119	9.336	9.336	(0.966)	68497	5.00000	4.48(a)
79	1,2,4-Trimethylbenzene	105	9.381	9.381	(0.971)	75897	5.00000	4.24(a)
81	sec-Butylbenzene	105	9.519	9.519	(0.985)	89261	5.00000	4.38(a)
82	p-Isopropyltoluene	119	9.647	9.647	(0.998)	80480	5.00000	4.32(a)
83	1,3-Dichlorobenzene	146	9.609	9.609	(0.995)	48860	5.00000	4.55(a)
84	1,4-Dichlorobenzene	146	9.680	9.680	(1.002)	56875	5.00000	4.83(a)
86	Benzyl Chloride	91	9.815	9.815	(1.280)	45616	5.00000	5.82(M)
87	n-Butylbenzene	91	9.995	9.995	(1.035)	67203	5.00000	4.31(a)
88	1,2-Dichlorobenzene	146	9.995	9.995	(1.035)	49668	5.00000	4.71(a)
89	1,2-Dibromo-3-Chloropropane	155	10.659	10.659	(1.103)	5268	5.00000	5.83(M)
90	1,2,4-Trichlorobenzene	180	11.349	11.349	(1.175)	33646	5.00000	4.64(aM)
91	Hexachlorobutadiene	225	11.476	11.476	(1.188)	13714	5.00000	6.27
92	Naphthalene	128	11.551	11.551	(1.196)	85025	5.00000	4.74(aM)
93	1,2,3-Trichlorobenzene	180	11.742	11.742	(1.215)	30270	5.00000	4.47(a)
146	Methyl acetate	43	2.236	2.236	(0.535)	23616	5.00000	5.14
138	Freon TF	101	1.921	1.921	(0.460)	16656	5.00000	5.27
141	Cyclohexane	56	4.121	4.121	(0.987)	39083	5.00000	4.37(aH)
142	Tetrahydrofuran	42	3.863	3.863	(0.925)	12650	10.0000	9.54
147	Methylcyclohexane	55	5.399	5.399	(1.088)	84656	5.00000	4.92(aM)
135	1,4-Dioxane	88	5.617	5.617	(1.345)	6551	100.000	106.98(M)
132	n-Butanol	56	5.287	5.287	(1.266)	13588	100.000	79.21(aM)
131	Methyl Acrylate	55	3.716	3.716	(0.890)	33338	5.00000	4.75(aMH)
133	Ethyl Acrylate	55	5.399	5.399	(1.293)	82574	5.00000	4.83(M)
136	n-Hexane	57	2.775	2.775	(0.664)	26276	5.00000	5.21
139	Diethyl ether	59	1.763	1.763	(0.422)	23219	5.00000	4.83(a)
148	Tert-butyl alcohol	59	2.434	2.434	(0.583)	63493	100.000	97.62
149	Isopropyl alcohol	45	2.101	2.101	(0.503)	37998	100.000	94.15
156	Diisopropyl ether	45	3.008	3.008	(0.720)	98591	5.00000	4.64(Ta)
166	1,2,3-Trimethylbenzene	105	9.729	9.729	(1.007)	83294	5.00000	4.57(a)
167	Ethanol	45	1.703	1.703	(0.408)	7997	100.000	94.37
172	tert-Butyl formate	59	4.627	4.627	(1.108)	54968	10.0000	9.98
173	3,3-Dimethyl-1-butanol	57	7.289	7.289	(0.951)	78844	100.000	99.74
174	tert-Amyl methyl ether	73	4.669	4.669	(1.118)	83517	5.00000	4.92(aM)
175	tert-Butyl ethyl ether	59	3.379	3.379	(0.809)	109587	5.00000	5.02
176	tert-Amyl alcohol	59	4.627	4.627	(1.108)	54968	100.000	97.64
151	4-Methyl-2-pentanol	45	6.715	6.715	(1.353)	183123	100.000	104.84(M)
180	1-Methylnaphthalene	142	12.642	12.642	(1.308)	33519	5.00000	(a)
140	1,3-Butadiene	54	1.167	1.167	(0.280)	30818	5.00000	4.65(a)
152	Amyl alcohol	42	6.921	6.921	(0.903)	21498	100.000	101.70(M)
158	Dichlorofluoromethane	67	1.535	1.535	(0.367)	38837	5.00000	4.67
159	Propylene oxide	43	1.808	1.808	(0.433)	7637	10.0000	12.08
161	3-Methyl-1-butanol	55	6.921	6.921	(0.903)	17029	100.000	94.10(M)
162	Butyl acrylate	55	8.256	8.256	(1.077)	63254	5.00000	4.52(a)
163	Butyl methacrylate	41	9.178	9.178	(0.950)	44524	5.00000	4.72(a)
164	Dicyclopentadiene	66	9.680	9.680	(1.002)	101741	5.00000	4.48(a)
182	Epichlorohydrin	57	6.104	6.104	(1.230)	11661	20.0000	19.15
M 94	1,2-Dichloroethylene (total)	96				49534	10.0000	(a)
130	Ethyl Acetate	43	3.679	3.679	(0.881)	39438	5.00000	5.15(M)
134	Cyclohexanone	55	8.646	8.646	(0.895)	36410	100.000	103.93(a)
185	Isoprene	39	1.775	1.775	(0.425)	9011	5.00000	5.30
188	Isopropyl acetate	43	4.684	4.684	(0.943)	98768	5.00000	4.59(a)
187	n-Amyl acetate	43	8.458	8.458	(1.103)	62876	5.00000	4.66(a)

189 n-Butyl acetate	43	7.221	7.221 (0.942)	54777	5.00000	4.86(aH)
150 Allyl alcohol	57	2.775	2.775 (0.664)	26276	100.000	102.36

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
194 Acetaldehyde	44	1.212	1.212	(0.290)	20987	20.0000	27.87(M)
195 Methyl Amyl Ketone	43	8.387	8.387	(1.094)	76515	5.00000	4.98(aH)
200 Dimethyl Disulfide	94	6.202	6.202	(0.809)	44165	5.00000	4.45(a)
202 Isobutylene	41	1.246	1.246	(0.298)	4070	5.00000	4.77(aM)
205 2-Ethylhexyl Acrylate	55	11.551	11.551	(1.196)	41733	5.00000	4.15(a)

QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.



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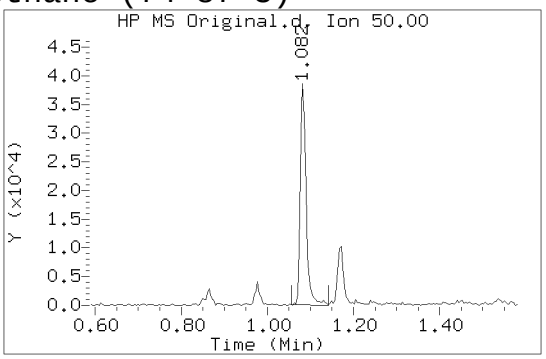
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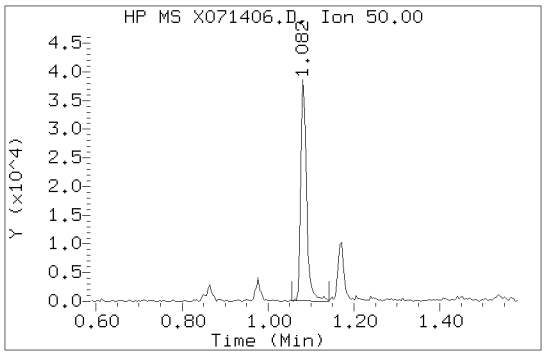
Chloromethane (74-87-3)

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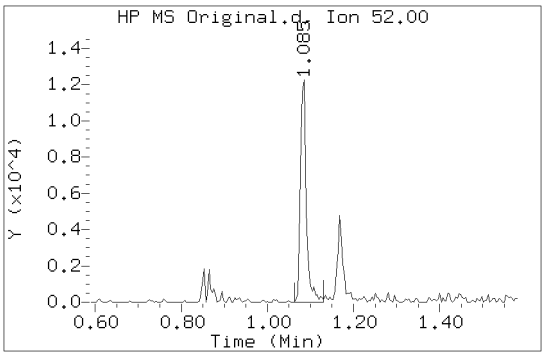
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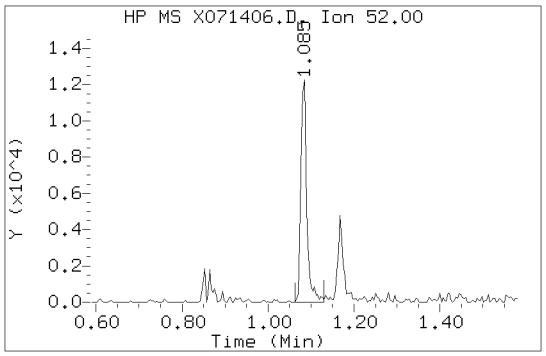
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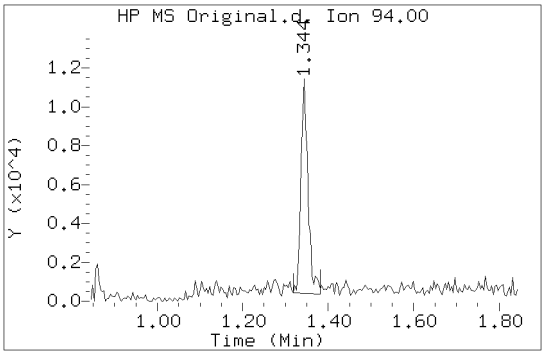
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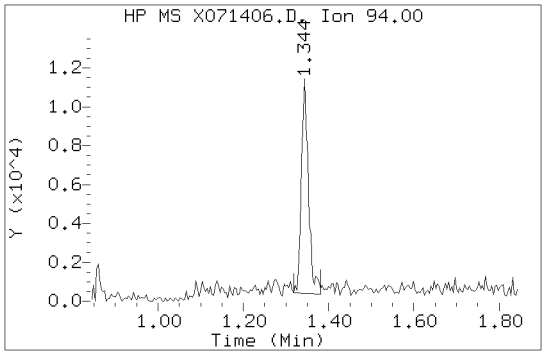
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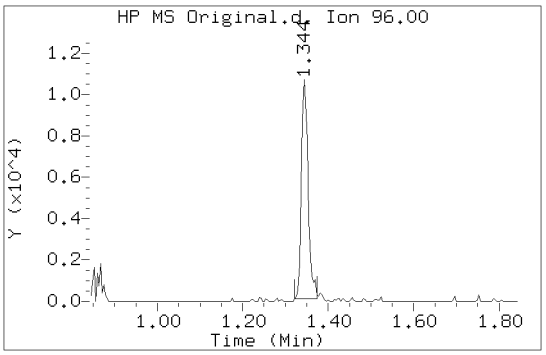
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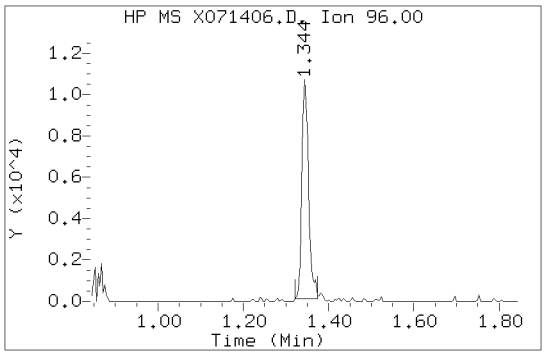
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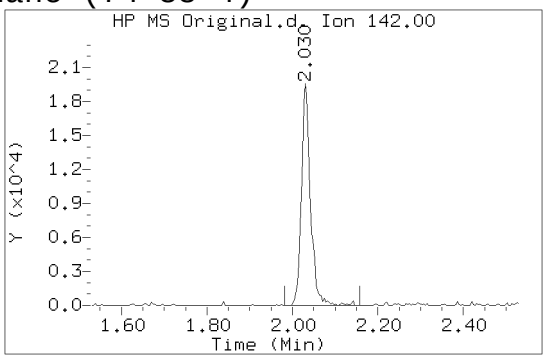
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Iodomethane (74-88-4)

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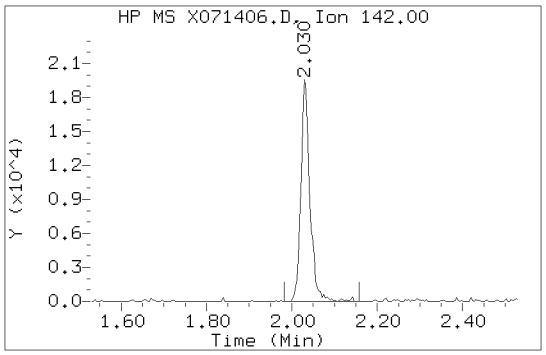
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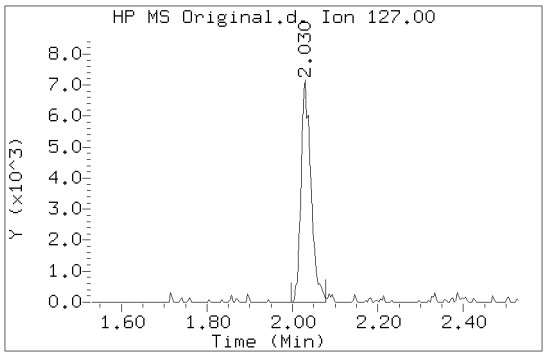
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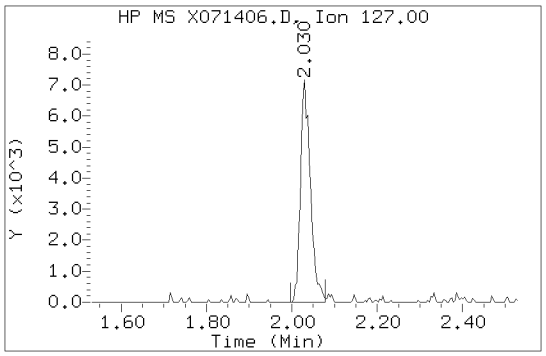
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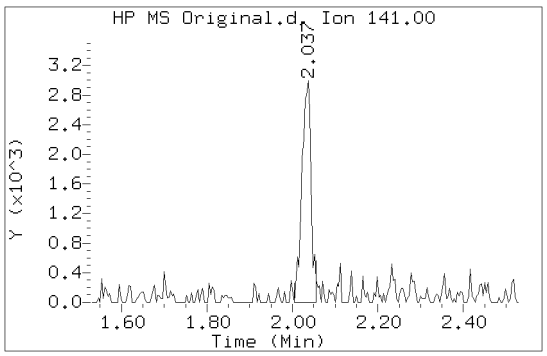
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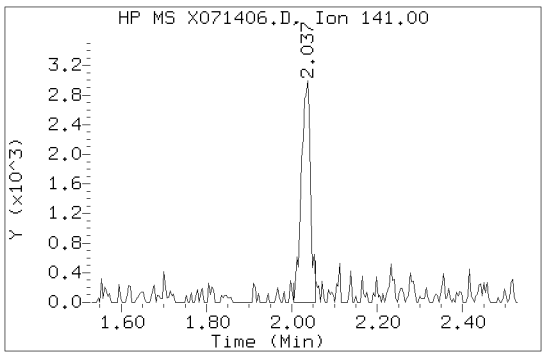
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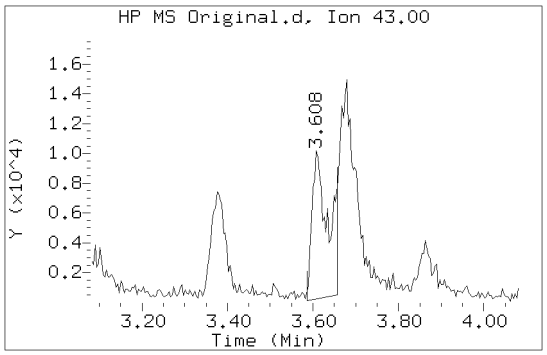


2-Butanone (78-93-3)

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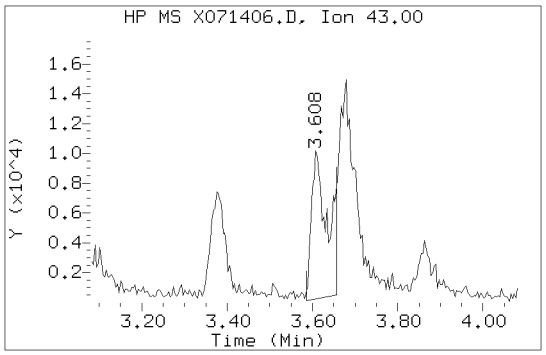
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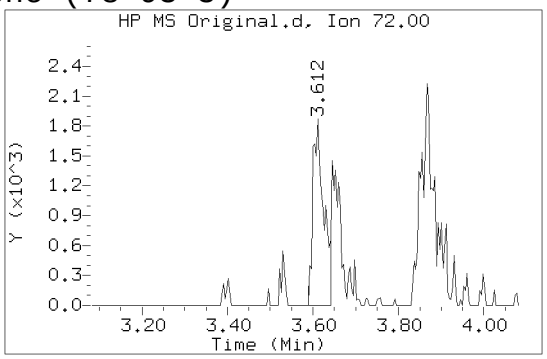
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2-Butanone (78-93-3)

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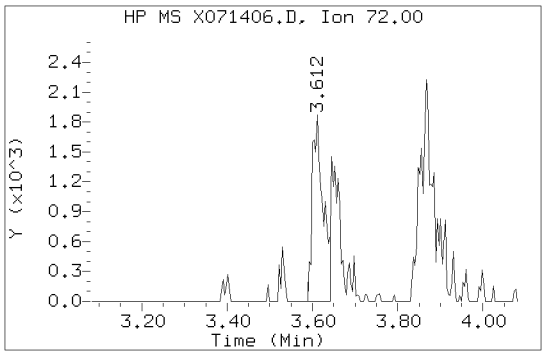
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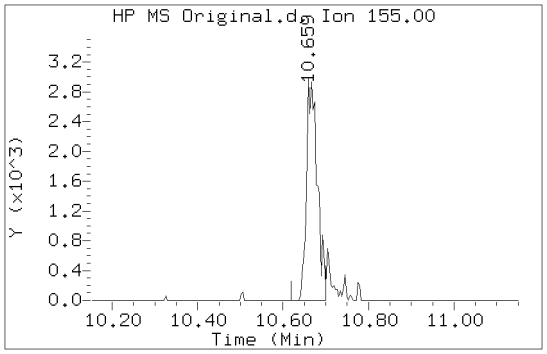


1,2-Dibromo-3-Chloropropane (96-12-8)

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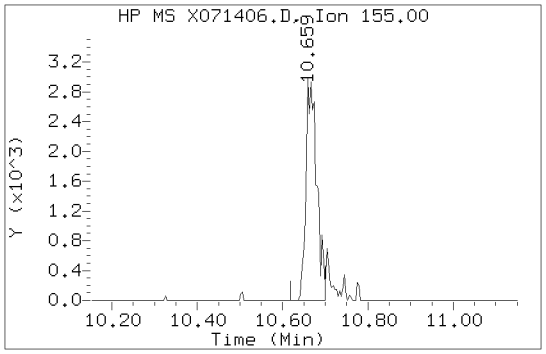
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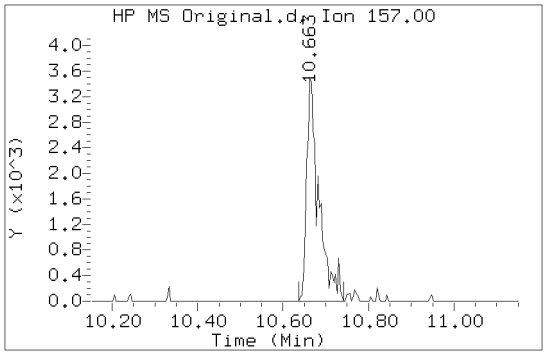
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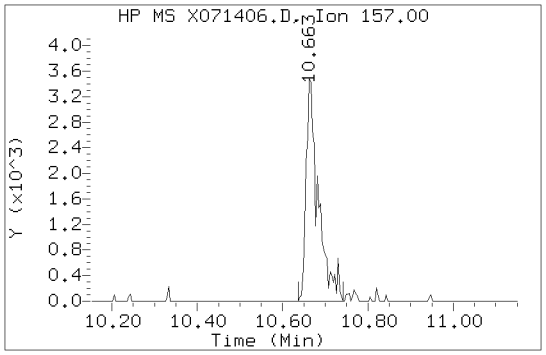
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6914
HEIGHT
3477
20-Jul-2023
15:04
linh
pham



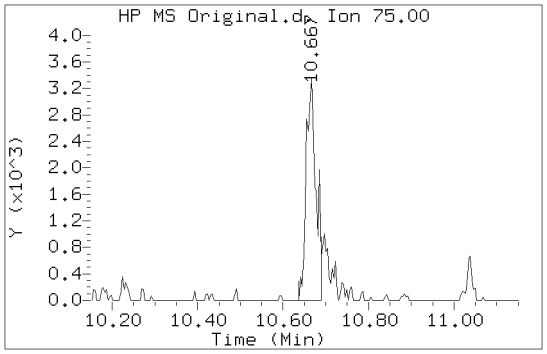
AFTER

MASS
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HEIGHT
3477
20-Jul-2023
15:04
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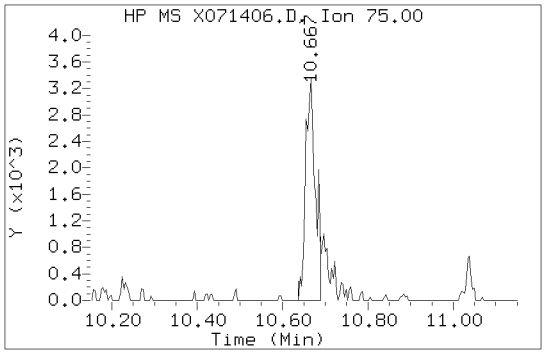
BEFORE

MASS
75
AREA
5387
HEIGHT
3348
20-Jul-2023
15:04
linh
pham



AFTER

MASS
75
AREA
5387
HEIGHT
3348
20-Jul-2023
15:04
linh
pham



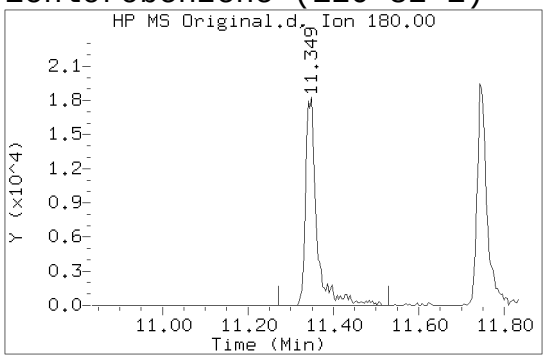
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071406.D
Inj Date : 14-JUL-2023 13:43
InstruID : voa6.i
LabSampID : VSTD005

1,2,4-Trichlorobenzene (120-82-1)

Reason Code:

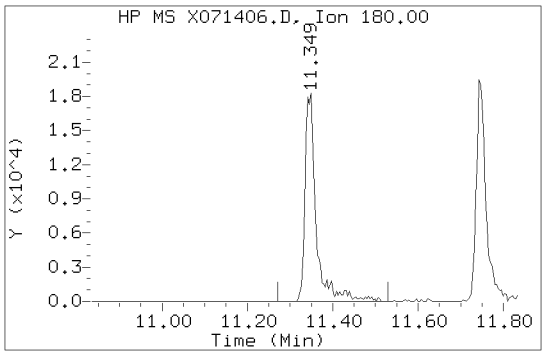
BEFORE

MASS
180
AREA
33646
HEIGHT
18264
20-Jul-2023
15:04
linh
pham



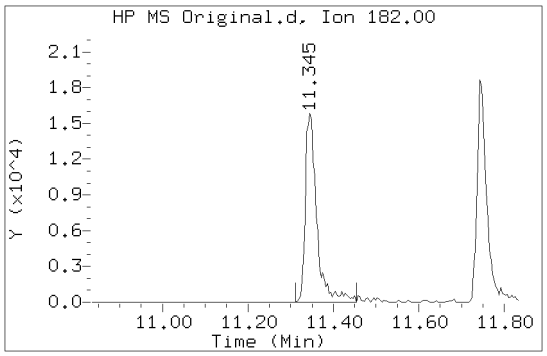
AFTER

MASS
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AREA
33646
HEIGHT
18264
20-Jul-2023
15:04
linh
pham



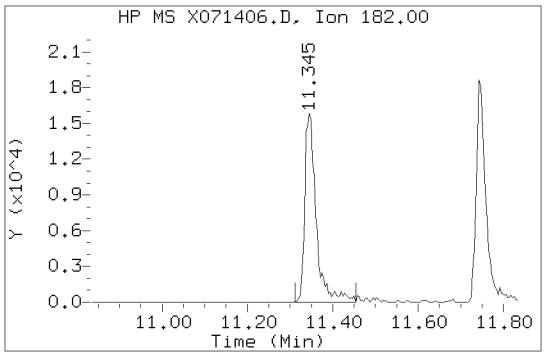
BEFORE

MASS
182
AREA
29855
HEIGHT
15861
20-Jul-2023
15:04
linh
pham



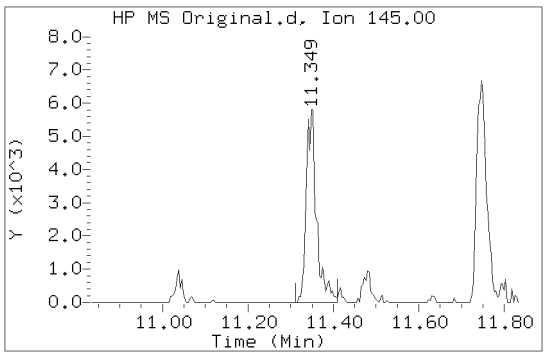
AFTER

MASS
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AREA
29855
HEIGHT
15861
20-Jul-2023
15:04
linh
pham



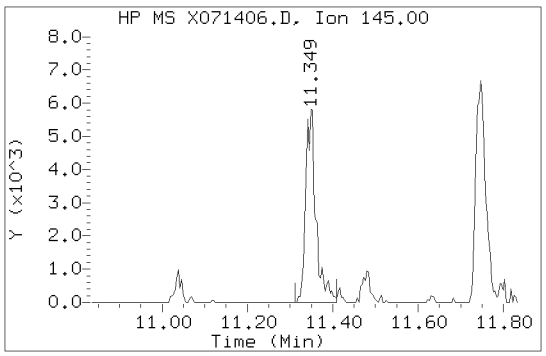
BEFORE

MASS
145
AREA
9753
HEIGHT
5817
20-Jul-2023
15:04
linh
pham



AFTER

MASS
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AREA
9753
HEIGHT
5817
20-Jul-2023
15:04
linh
pham

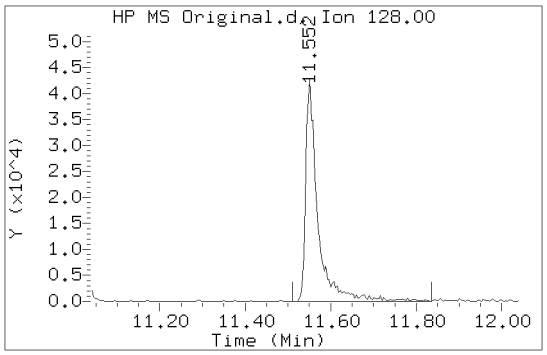


Naphthalene (91-20-3)

Reason Code:

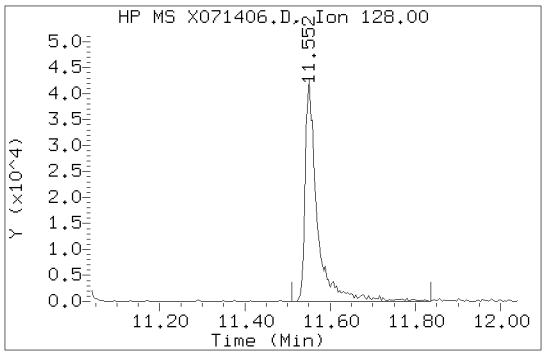
BEFORE

MASS
128
AREA
85025
HEIGHT
42672
20-Jul-2023
15:04
linh
pham



AFTER

MASS
128
AREA
85025
HEIGHT
42672
20-Jul-2023
15:04
linh
pham

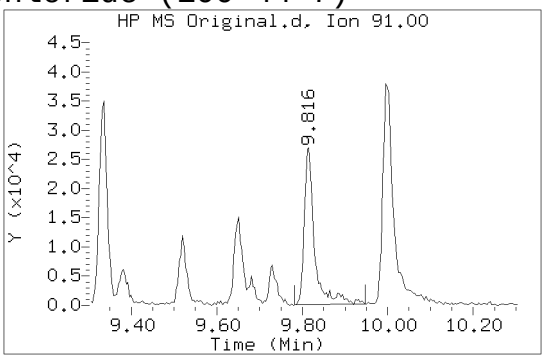


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Inj Date : 14-JUL-2023 13:43
InstruID : voa6.i
LabSampID : VSTD005

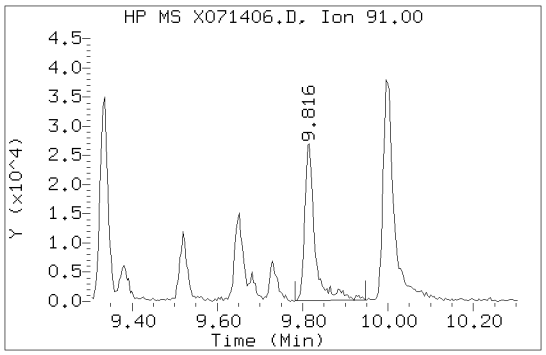
Benzyl Chloride (100-44-7)

Reason Code:

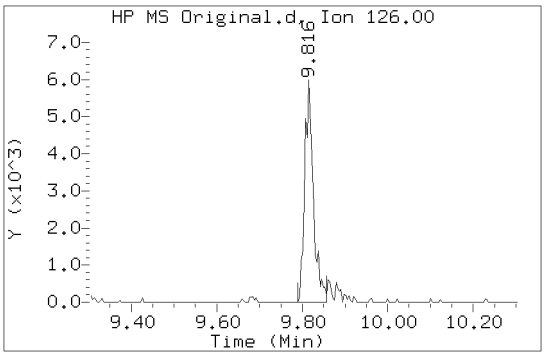
BEFORE
MASS
91
AREA
45616
HEIGHT
26893
20-Jul-2023
15:04
linh
pham



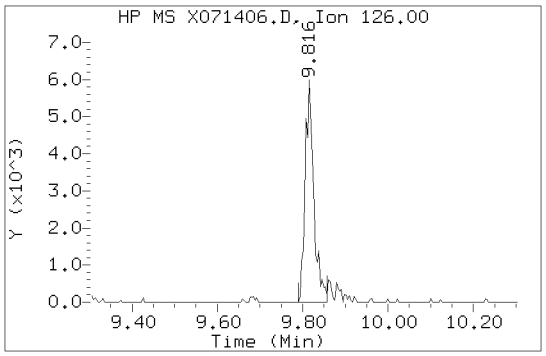
AFTER
MASS
91
AREA
45616
HEIGHT
26893
20-Jul-2023
15:04
linh
pham



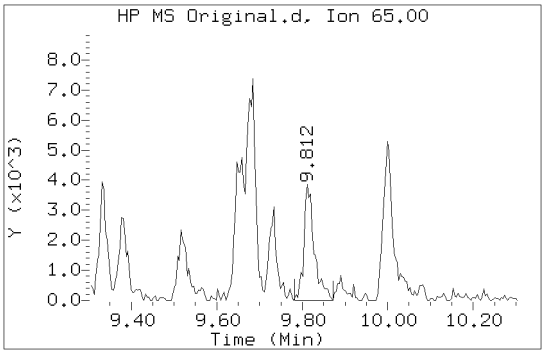
BEFORE
MASS
126
AREA
8499
HEIGHT
5989
20-Jul-2023
15:04
linh
pham



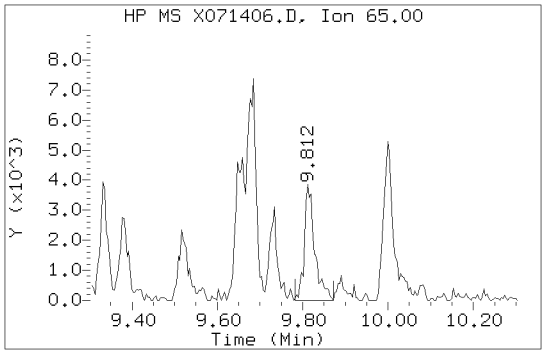
AFTER
MASS
126
AREA
8499
HEIGHT
5989
20-Jul-2023
15:04
linh
pham



BEFORE
MASS
65
AREA
6591
HEIGHT
3852
20-Jul-2023
15:04
linh
pham



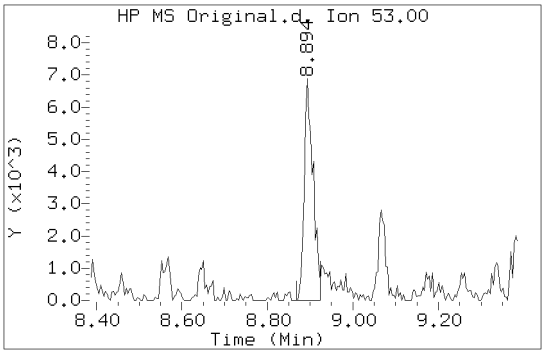
AFTER
MASS
65
AREA
6591
HEIGHT
3852
20-Jul-2023
15:04
linh
pham



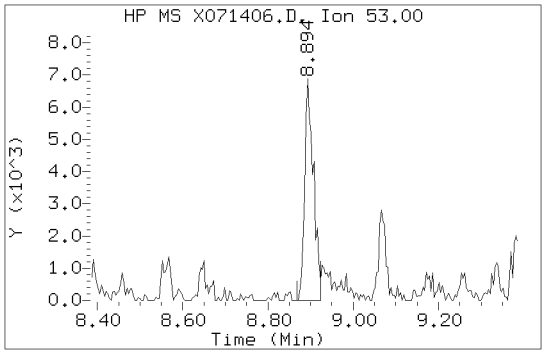
trans-1,4-Dichloro-2-butene (110-57-6)

Reason Code:

BEFORE
MASS
53
AREA
9958
HEIGHT
6886
20-Jul-2023
15:04
linh
pham



AFTER
MASS
53
AREA
9958
HEIGHT
6886
20-Jul-2023
15:04
linh
pham



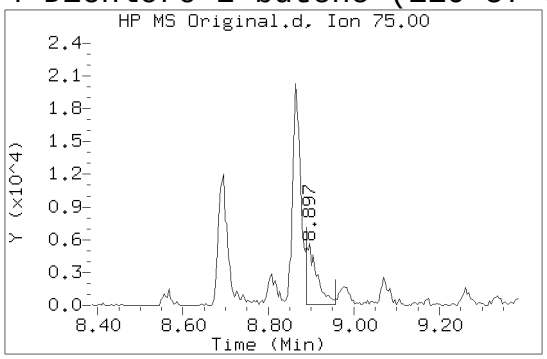
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Inj Date : 14-JUL-2023 13:43
InstruID : voa6.i
LabSampID : VSTD005

trans-1,4-Dichloro-2-butene (110-57-6)

Reason Code:

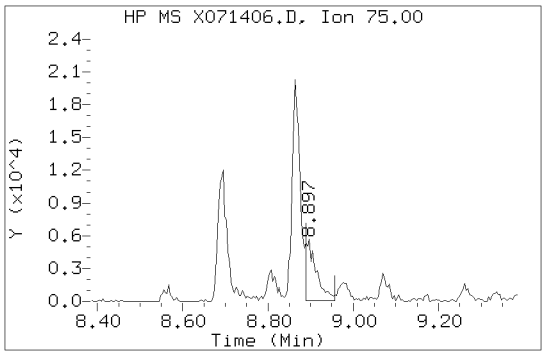
BEFORE

MASS
75
AREA
9615
HEIGHT
5621
20-Jul-2023
15:04
linh
pham



AFTER

MASS
75
AREA
9615
HEIGHT
5621
20-Jul-2023
15:04
linh
pham

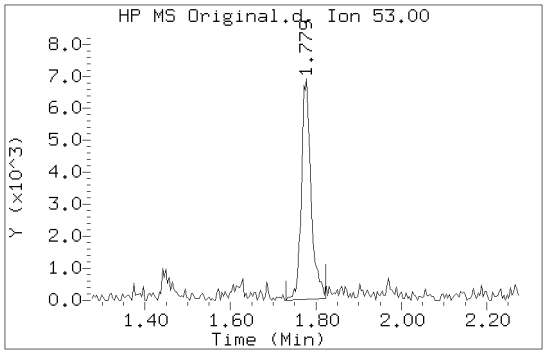


Chloroprene (126-99-8)

Reason Code:

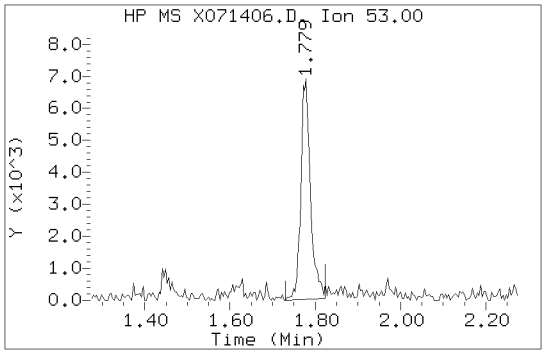
BEFORE

MASS
53
AREA
11212
HEIGHT
6900
20-Jul-2023
15:04
linh
pham



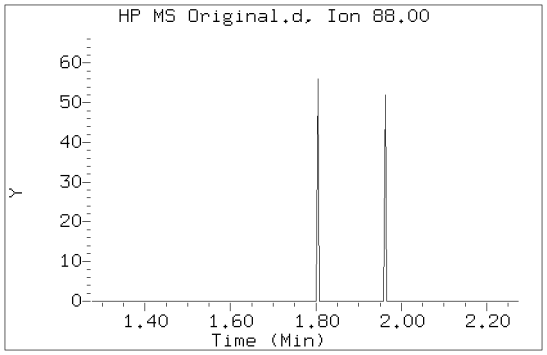
AFTER

MASS
53
AREA
11212
HEIGHT
6900
20-Jul-2023
15:04
linh
pham



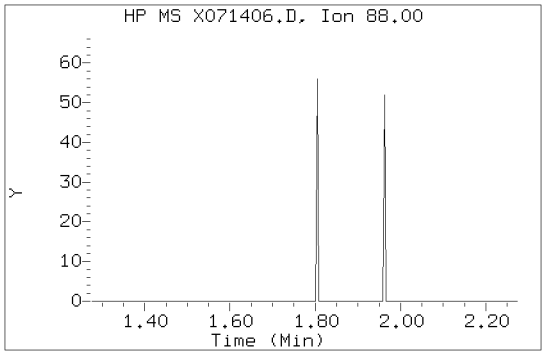
BEFORE

MASS
88
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



AFTER

MASS
88
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham

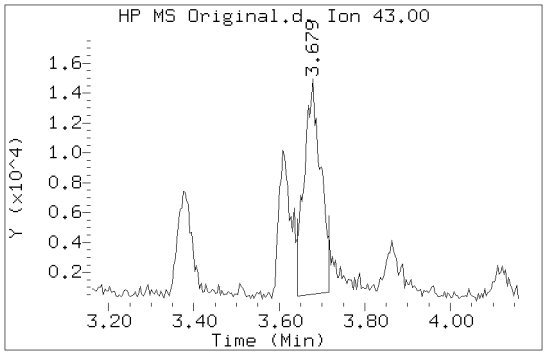


Ethyl Acetate (141-78-6)

Reason Code:

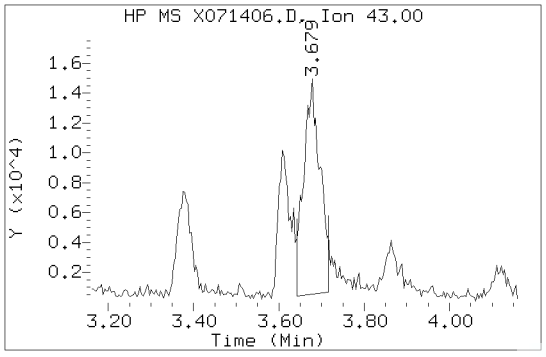
BEFORE

MASS
43
AREA
39438
HEIGHT
14396
20-Jul-2023
15:04
linh
pham



AFTER

MASS
43
AREA
39438
HEIGHT
14396
20-Jul-2023
15:04
linh
pham

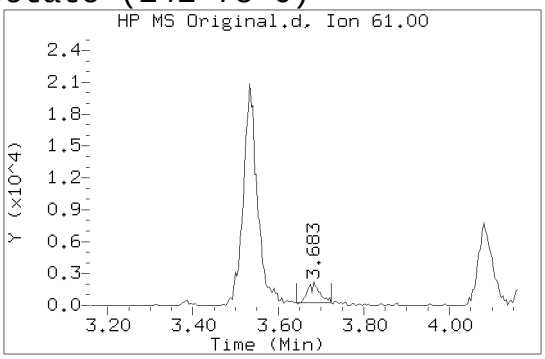


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Inj Date : 14-JUL-2023 13:43
InstruID : voa6.i
LabSampID : VSTD005

Ethyl Acetate (141-78-6)

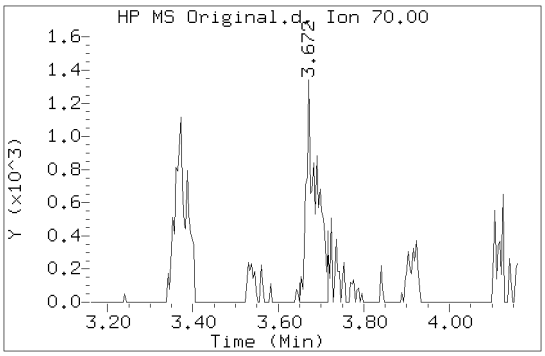
BEFORE

MASS
61
AREA
3702
HEIGHT
2000
20-Jul-2023
15:04
linh
pham



BEFORE

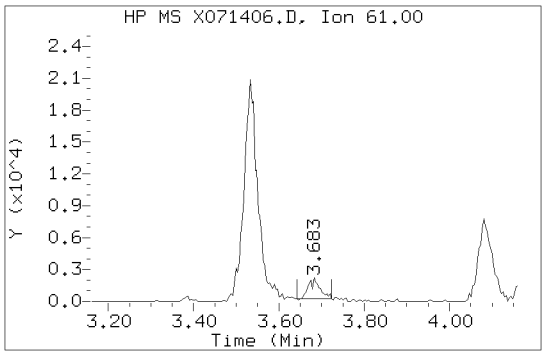
MASS
70
AREA
2283
HEIGHT
1341
20-Jul-2023
15:04
linh
pham



Reason Code:

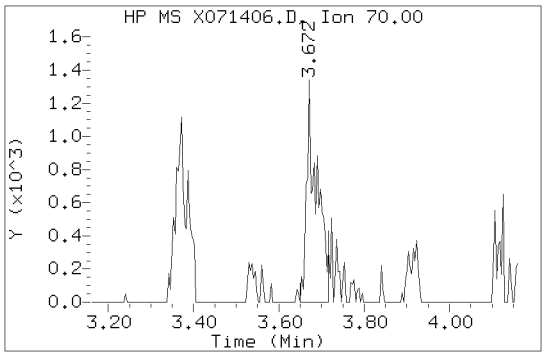
AFTER

MASS
61
AREA
3702
HEIGHT
2000
20-Jul-2023
15:04
linh
pham



AFTER

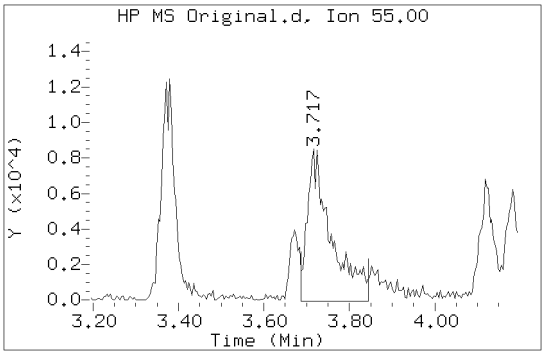
MASS
70
AREA
2283
HEIGHT
1341
20-Jul-2023
15:04
linh
pham



Methyl Acrylate (96-33-3)

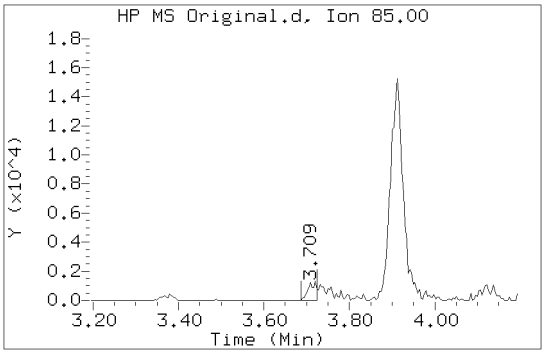
BEFORE

MASS
55
AREA
33338
HEIGHT
8583
20-Jul-2023
15:04
linh
pham



BEFORE

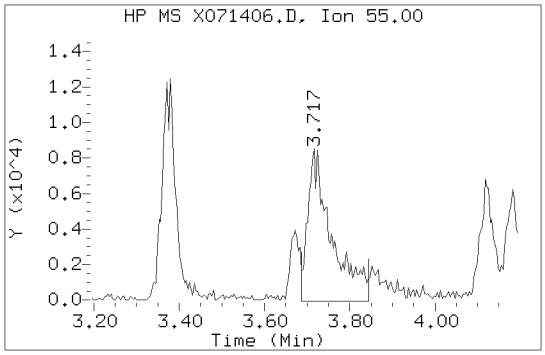
MASS
85
AREA
1657
HEIGHT
1216
20-Jul-2023
15:04
linh
pham



Reason Code:

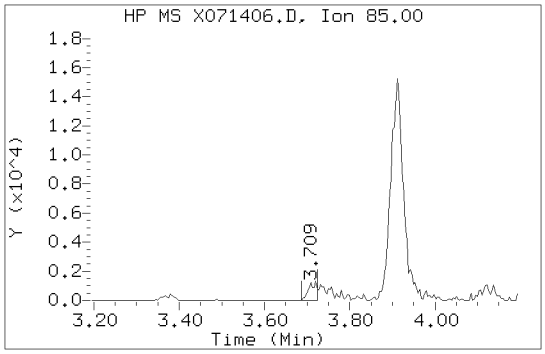
AFTER

MASS
55
AREA
33338
HEIGHT
8583
20-Jul-2023
15:04
linh
pham



AFTER

MASS
85
AREA
1657
HEIGHT
1216
20-Jul-2023
15:04
linh
pham



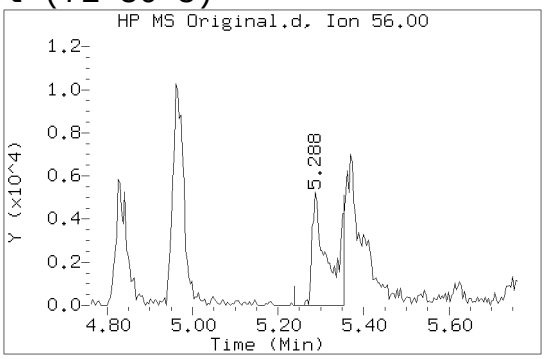
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071406.D
Inj Date : 14-JUL-2023 13:43
InstruID : voa6.i
LabSampID : VSTD005

n-Butanol (71-36-3)

Reason Code:

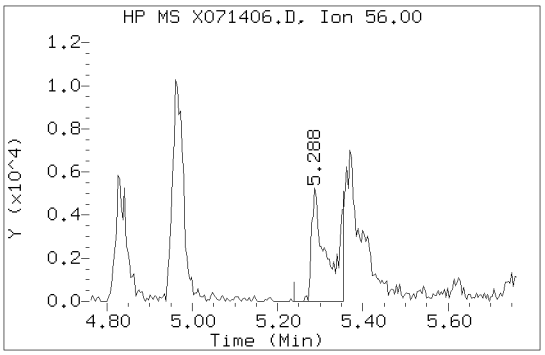
BEFORE

MASS
56
AREA
13588
HEIGHT
5250
20-Jul-2023
15:04
linh
pham



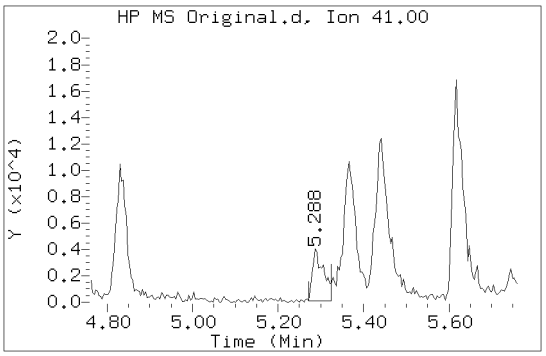
AFTER

MASS
56
AREA
13588
HEIGHT
5250
20-Jul-2023
15:04
linh
pham



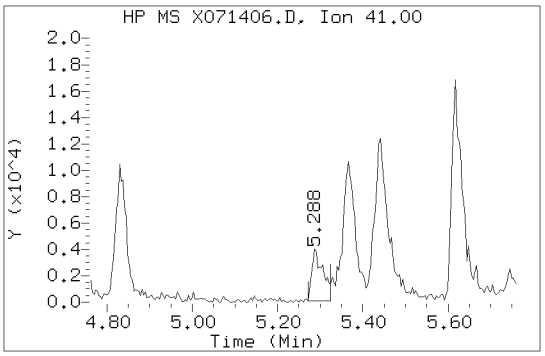
BEFORE

MASS
41
AREA
7179
HEIGHT
3942
20-Jul-2023
15:04
linh
pham



AFTER

MASS
41
AREA
7179
HEIGHT
3942
20-Jul-2023
15:04
linh
pham

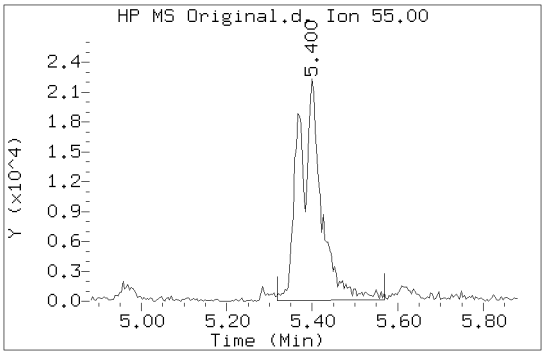


Ethyl Acrylate (140-88-5)

Reason Code:

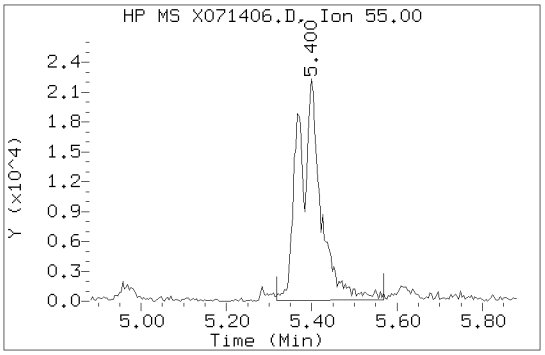
BEFORE

MASS
55
AREA
82574
HEIGHT
22225
20-Jul-2023
15:04
linh
pham



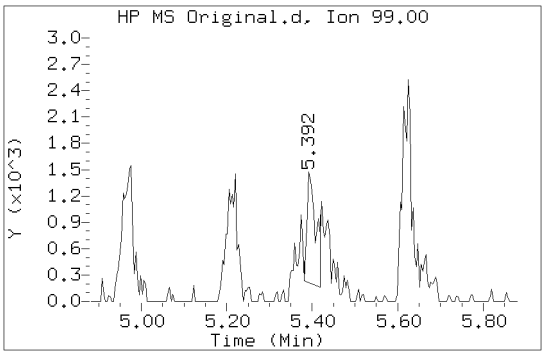
AFTER

MASS
55
AREA
82574
HEIGHT
22225
20-Jul-2023
15:04
linh
pham



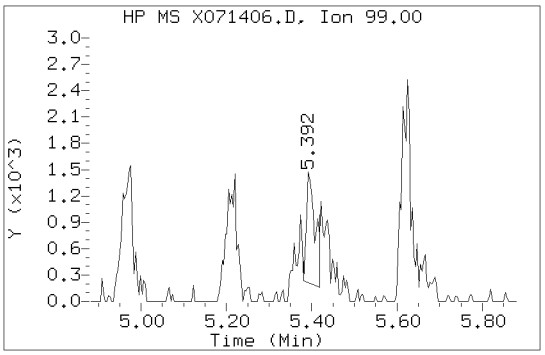
BEFORE

MASS
99
AREA
1773
HEIGHT
1256
20-Jul-2023
15:04
linh
pham



AFTER

MASS
99
AREA
1773
HEIGHT
1256
20-Jul-2023
15:04
linh
pham

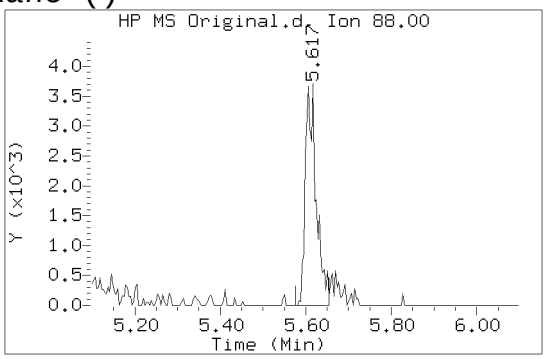


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Inj Date : 14-JUL-2023 13:43
InstruID : voa6.i
LabSampID : VSTD005

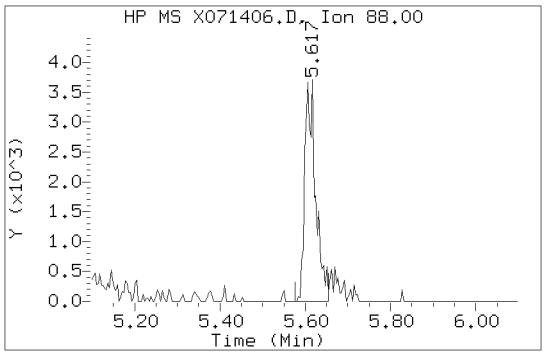
1,4-Dioxane ()

Reason Code:

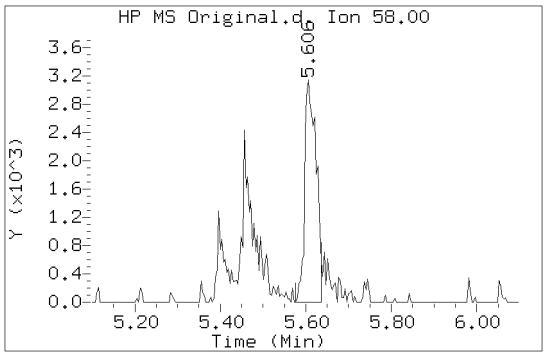
BEFORE
MASS
88
AREA
6551
HEIGHT
3709
20-Jul-2023
15:04
linh
pham



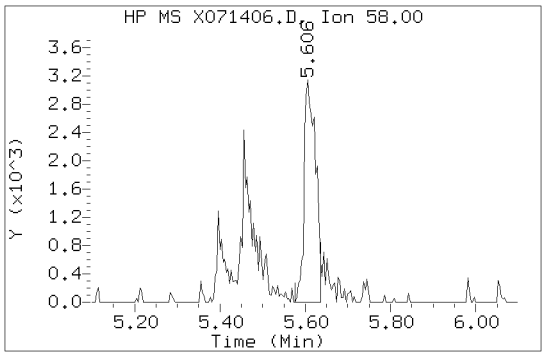
AFTER
MASS
88
AREA
6551
HEIGHT
3709
20-Jul-2023
15:04
linh
pham



BEFORE
MASS
58
AREA
5961
HEIGHT
3144
20-Jul-2023
15:04
linh
pham



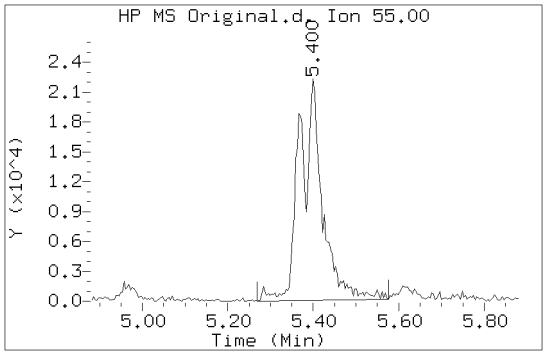
AFTER
MASS
58
AREA
5961
HEIGHT
3144
20-Jul-2023
15:04
linh
pham



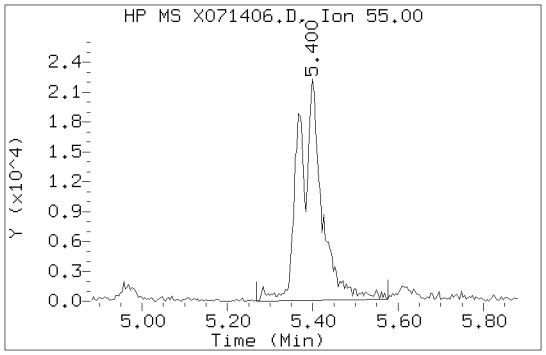
Methylcyclohexane (108-87-2)

Reason Code:

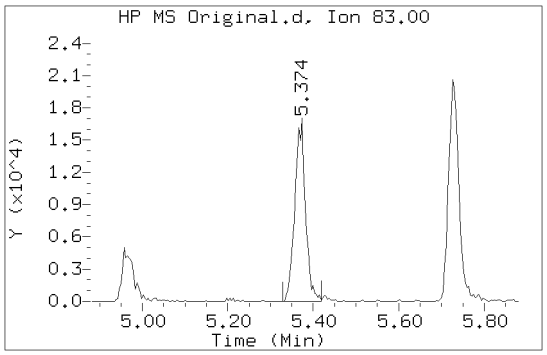
BEFORE
MASS
55
AREA
84656
HEIGHT
22257
20-Jul-2023
15:04
linh
pham



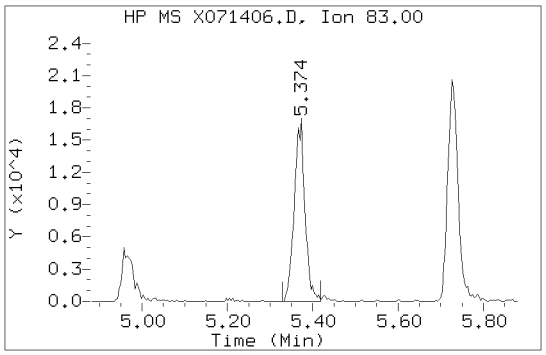
AFTER
MASS
55
AREA
84656
HEIGHT
22257
20-Jul-2023
15:04
linh
pham



BEFORE
MASS
83
AREA
30014
HEIGHT
17040
20-Jul-2023
15:04
linh
pham



AFTER
MASS
83
AREA
30014
HEIGHT
17040
20-Jul-2023
15:04
linh
pham



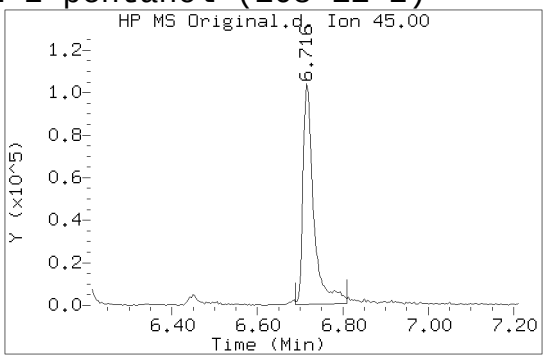
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Inj Date : 14-JUL-2023 13:43
InstruID : voa6.i
LabSampID : VSTD005

4-Methyl-2-pentanol (108-11-2)

Reason Code:

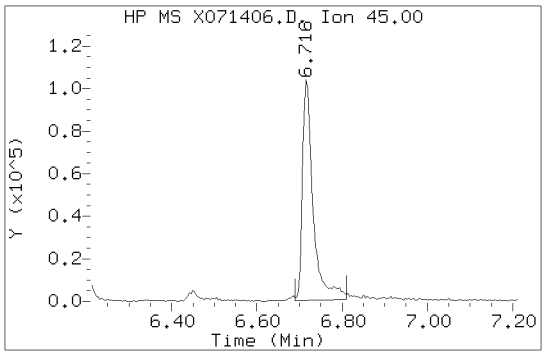
BEFORE

MASS
45
AREA
183123
HEIGHT
103764
20-Jul-2023
15:04
linh
pham



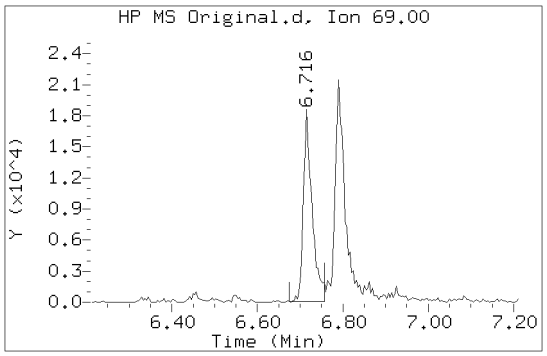
AFTER

MASS
45
AREA
183123
HEIGHT
103764
20-Jul-2023
15:04
linh
pham



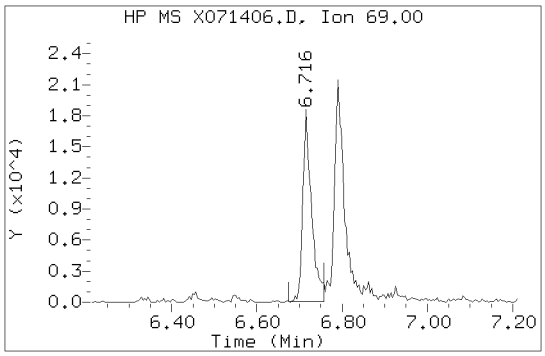
BEFORE

MASS
69
AREA
26485
HEIGHT
18576
20-Jul-2023
15:04
linh
pham



AFTER

MASS
69
AREA
26485
HEIGHT
18576
20-Jul-2023
15:04
linh
pham

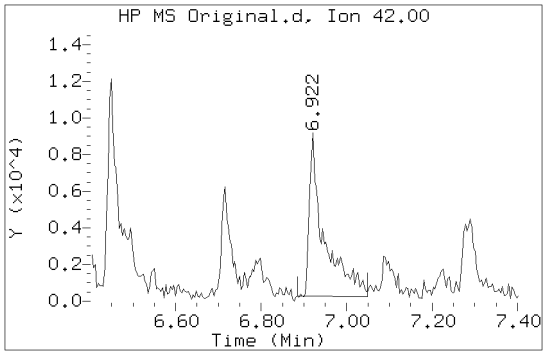


Amyl alcohol (71-41-0)

Reason Code:

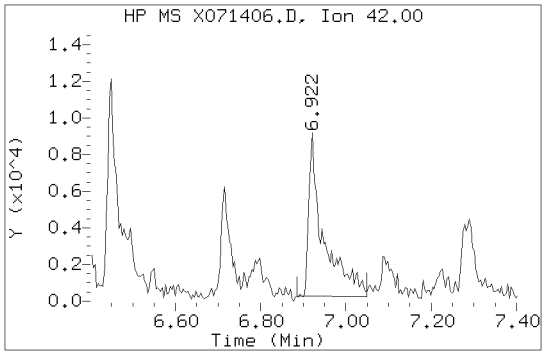
BEFORE

MASS
42
AREA
21498
HEIGHT
8913
20-Jul-2023
15:04
linh
pham



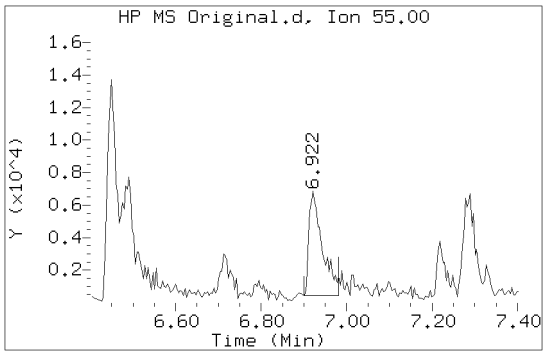
AFTER

MASS
42
AREA
21498
HEIGHT
8913
20-Jul-2023
15:04
linh
pham



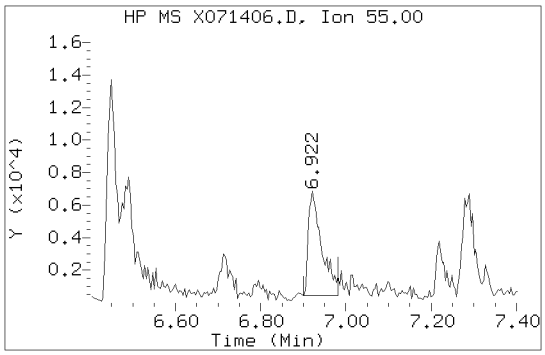
BEFORE

MASS
55
AREA
14214
HEIGHT
6435
20-Jul-2023
15:04
linh
pham



AFTER

MASS
55
AREA
14214
HEIGHT
6435
20-Jul-2023
15:04
linh
pham



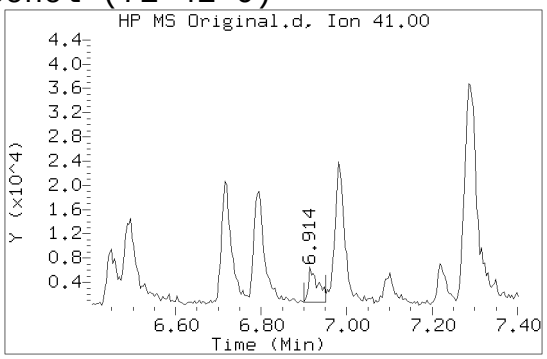
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Inj Date : 14-JUL-2023 13:43
InstruID : voa6.i
LabSampID : VSTD005

Amyl alcohol (71-41-0)

Reason Code:

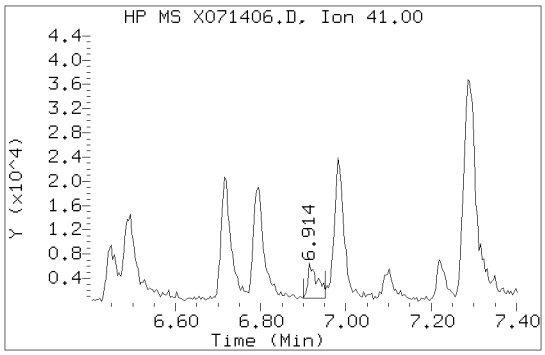
BEFORE

MASS
41
AREA
8850
HEIGHT
5781
20-Jul-2023
15:04
linh
pham



AFTER

MASS
41
AREA
8850
HEIGHT
5781
20-Jul-2023
15:04
linh
pham

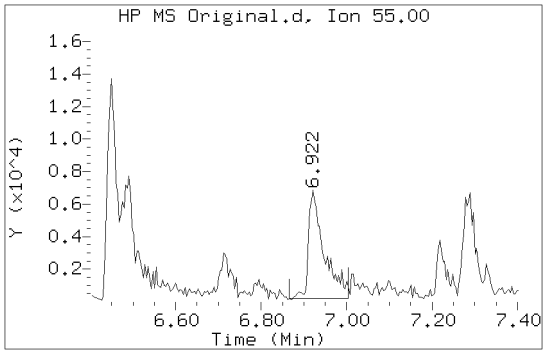


3-Methyl-1-butanol (123-51-3)

Reason Code:

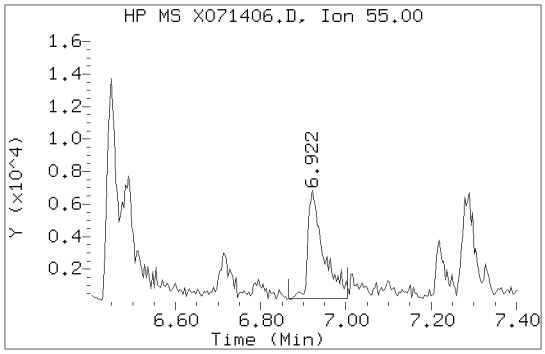
BEFORE

MASS
55
AREA
17029
HEIGHT
6664
20-Jul-2023
15:04
linh
pham



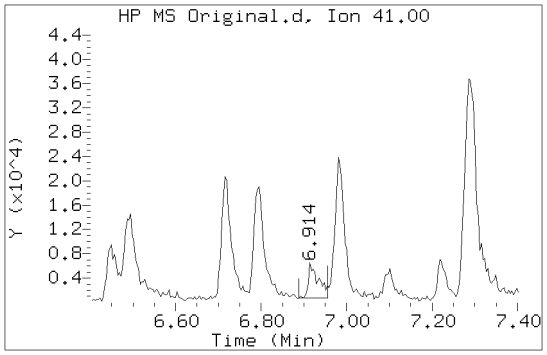
AFTER

MASS
55
AREA
17029
HEIGHT
6664
20-Jul-2023
15:04
linh
pham



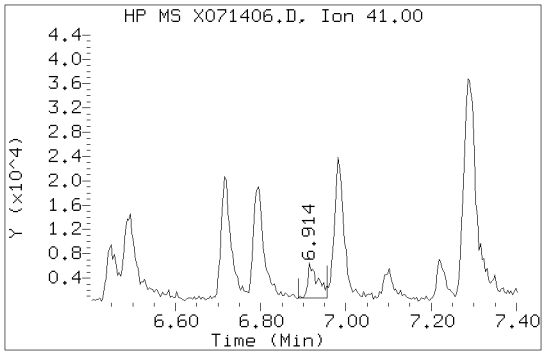
BEFORE

MASS
41
AREA
9490
HEIGHT
5807
20-Jul-2023
15:04
linh
pham



AFTER

MASS
41
AREA
9490
HEIGHT
5807
20-Jul-2023
15:04
linh
pham

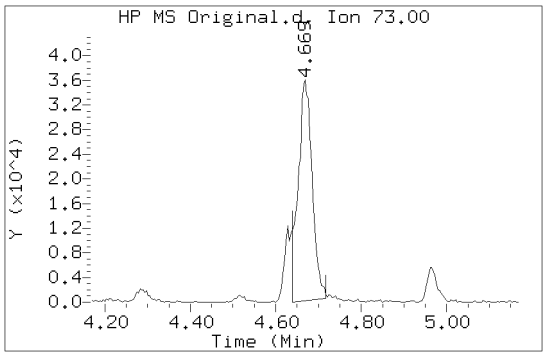


tert-Amyl methyl ether (974-05-08)

Reason Code:

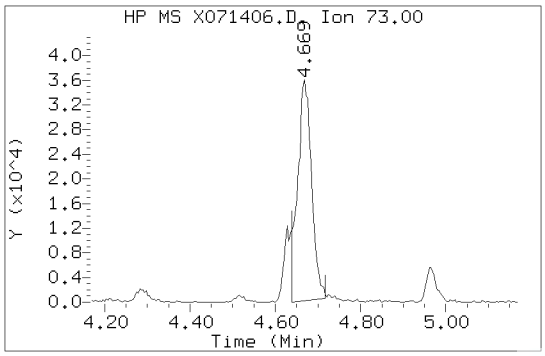
BEFORE

MASS
73
AREA
83517
HEIGHT
35784
20-Jul-2023
15:04
linh
pham



AFTER

MASS
73
AREA
83517
HEIGHT
35784
20-Jul-2023
15:04
linh
pham

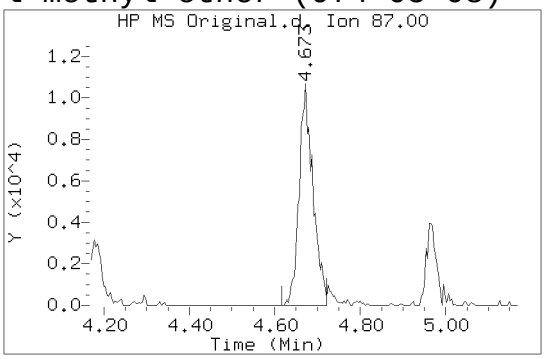


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Inj Date : 14-JUL-2023 13:43
InstruID : voa6.i
LabSampID : VSTD005

tert-Amyl methyl ether (974-05-08)

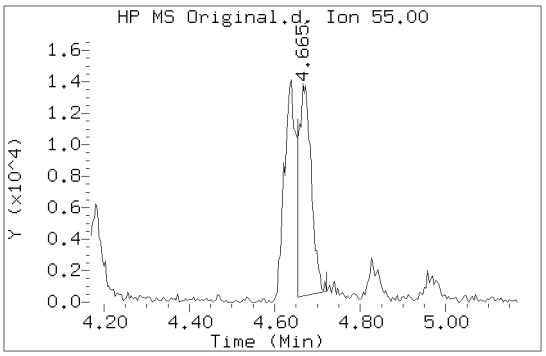
BEFORE

MASS
87
AREA
24319
HEIGHT
10688
20-Jul-2023
15:04
linh
pham



BEFORE

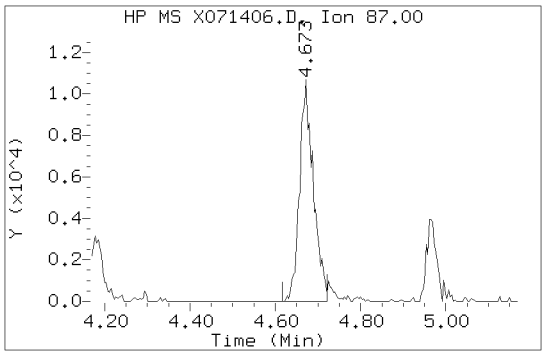
MASS
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AREA
27476
HEIGHT
13484
20-Jul-2023
15:04
linh
pham



Reason Code:

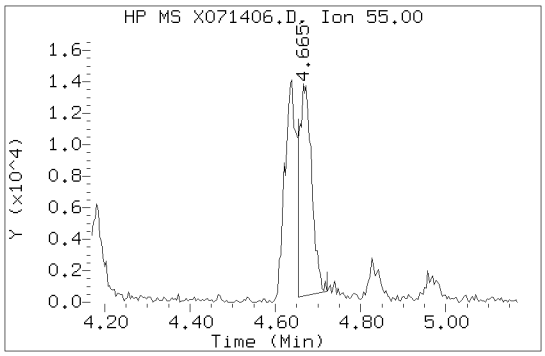
AFTER

MASS
87
AREA
24319
HEIGHT
10688
20-Jul-2023
15:04
linh
pham



AFTER

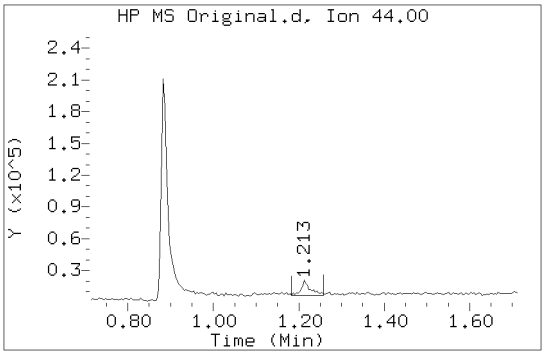
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HEIGHT
13484
20-Jul-2023
15:04
linh
pham



Acetaldehyde (75-07-0)

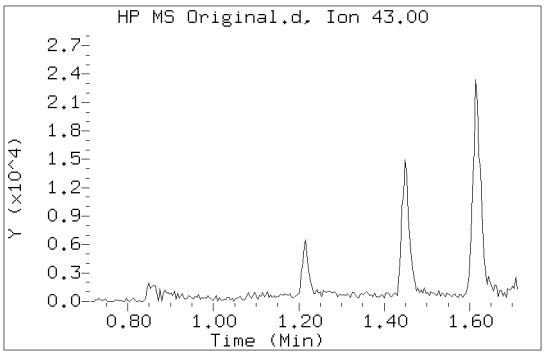
BEFORE

MASS
44
AREA
20987
HEIGHT
14166
20-Jul-2023
15:04
linh
pham



BEFORE

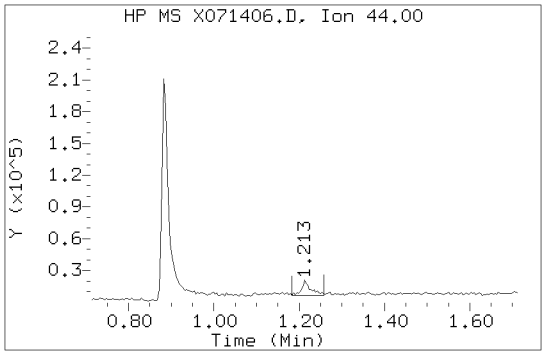
MASS
43
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



Reason Code:

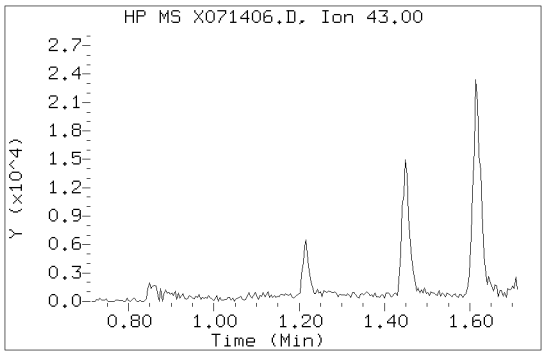
AFTER

MASS
44
AREA
20987
HEIGHT
14166
20-Jul-2023
15:04
linh
pham



AFTER

MASS
43
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



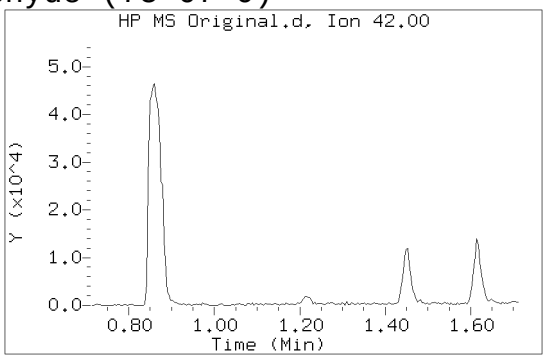
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Inj Date : 14-JUL-2023 13:43
InstruID : voa6.i
LabSampID : VSTD005

Acetaldehyde (75-07-0)

Reason Code:

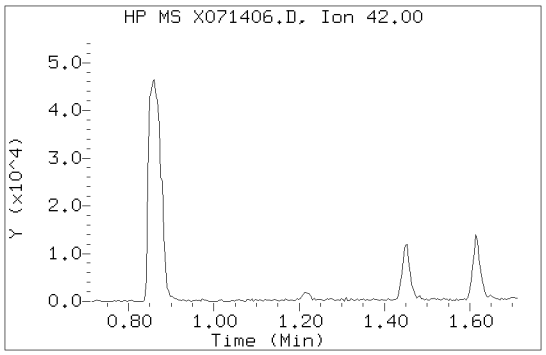
BEFORE

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AREA
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HEIGHT
0
20-Jul-2023
15:04
linh
pham



AFTER

MASS
42
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham

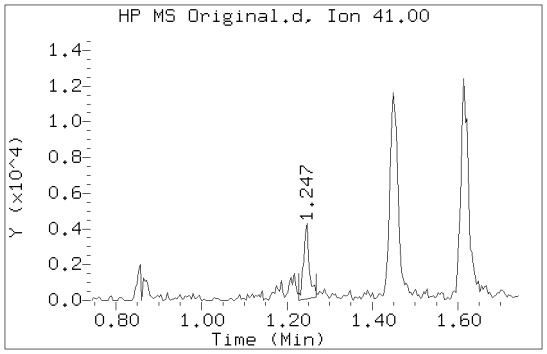


Isobutylene (115-11-7)

Reason Code:

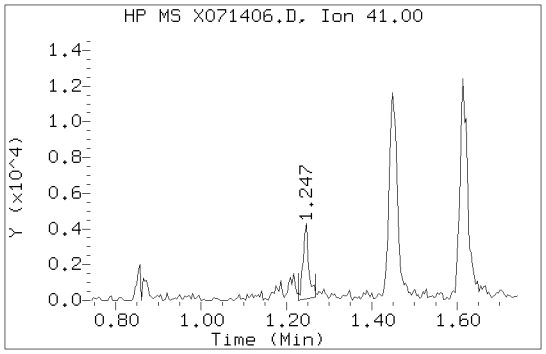
BEFORE

MASS
41
AREA
4070
HEIGHT
4236
20-Jul-2023
15:04
linh
pham



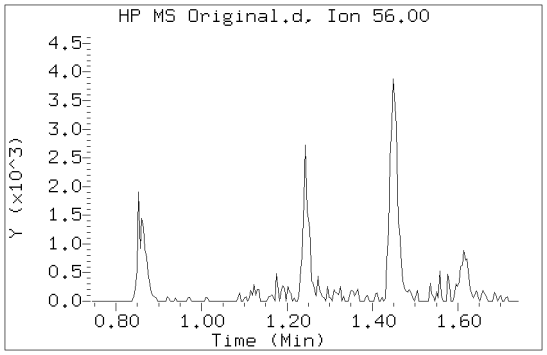
AFTER

MASS
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AREA
4070
HEIGHT
4236
20-Jul-2023
15:04
linh
pham



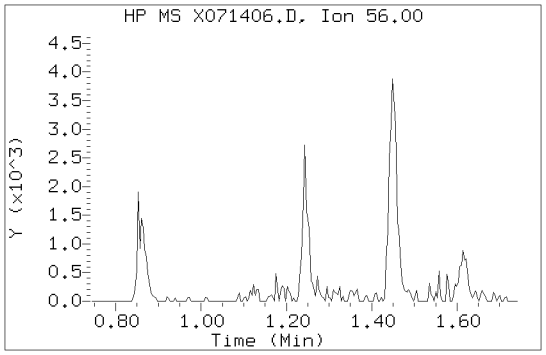
BEFORE

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56
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



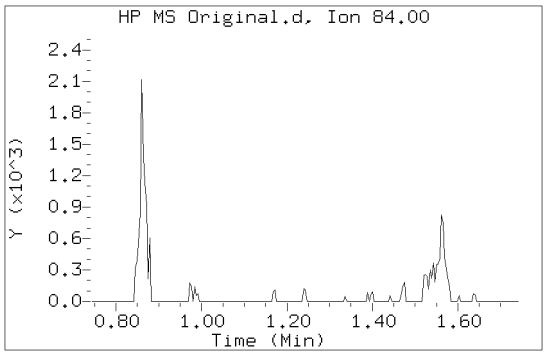
AFTER

MASS
56
AREA
0
HEIGHT
0
20-Jul-2023
15:04
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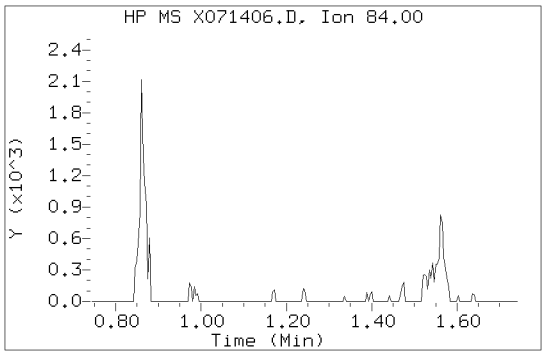
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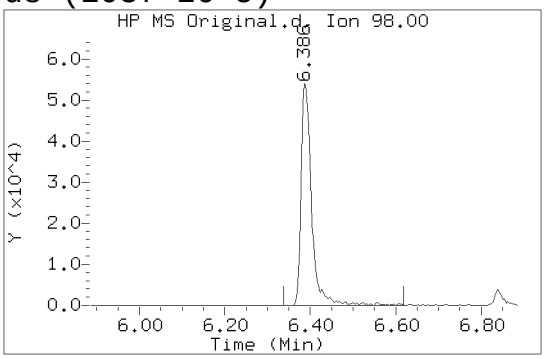


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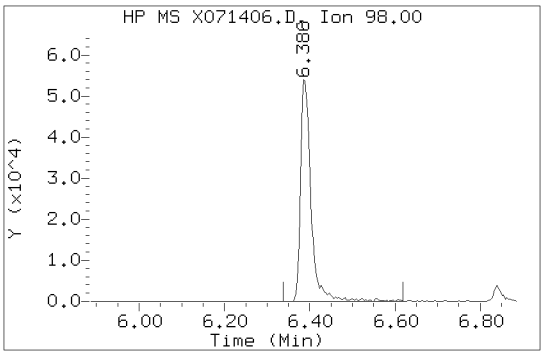
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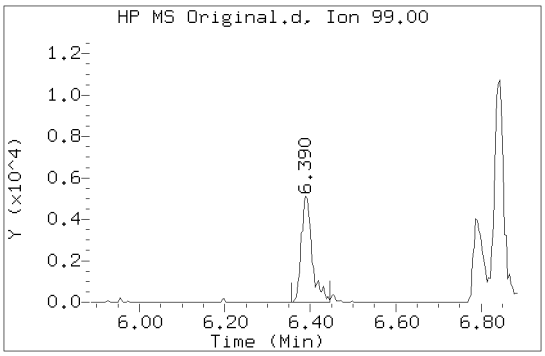
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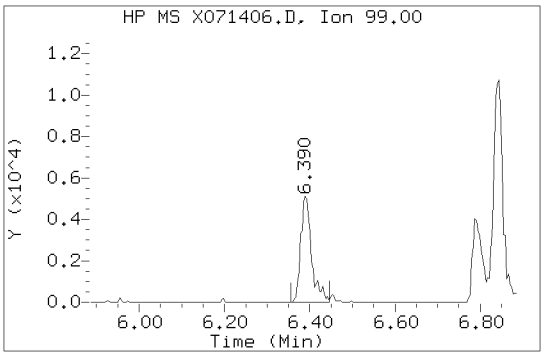
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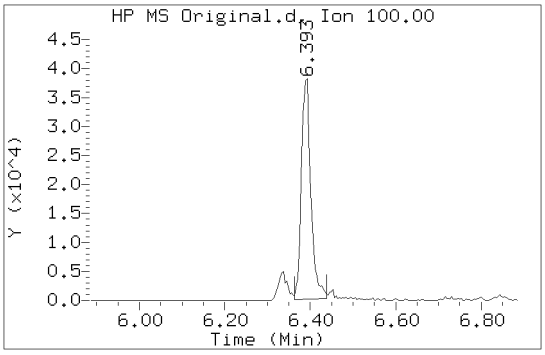
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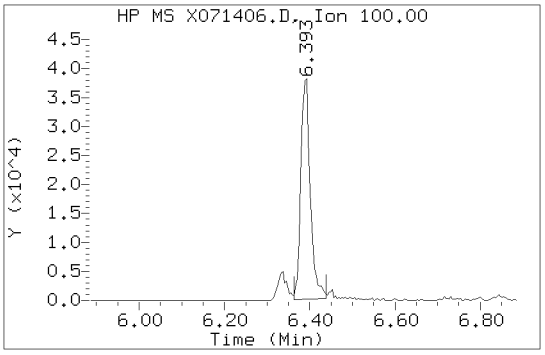
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Data File: \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071407.D Page 1
Report Date: 20-Jul-2023 15:05

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071407.D
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Als bottle: 8 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000_8260.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1	Pentafluorobenzene	168	4.178	4.178	(1.000)	507763	50.0000	
2	Dichlorodifluoromethane	85	0.976	0.976	(0.234)	94710	20.0000	18.92
3	Chloromethane	50	1.081	1.081	(0.259)	133501	20.0000	17.40
4	Propionitrile	54	3.660	3.660	(0.876)	205441	200.000	204.24(a)
5	Vinyl Chloride	62	1.145	1.145	(0.274)	126856	20.0000	19.30
6	Bromomethane	94	1.344	1.344	(0.322)	48177	20.0000	17.71
7	Chloroethane	64	1.407	1.407	(0.337)	72133	20.0000	19.23
8	Trichlorofluoromethane	101	1.561	1.561	(0.374)	132138	20.0000	19.84
9	Acrolein	56	1.865	1.865	(0.446)	6957	40.0000	36.90(H)
10	Acetone	43	1.977	1.977	(0.473)	92232	40.0000	43.26
11	1,1-Dichloroethene	96	1.917	1.917	(0.459)	72938	20.0000	19.60
12	Isobutyl Alcohol	43	4.680	4.680	(1.120)	401784	400.000	417.43(a)
13	Acetonitrile	39	2.198	2.198	(0.526)	138938	200.000	195.13(a)
14	Allyl Chloride	41	2.198	2.198	(0.526)	321229	20.0000	19.26(a)
15	Iodomethane	142	2.030	2.030	(0.486)	147770	40.0000	33.32
16	Acrylonitrile	53	2.539	2.539	(0.608)	96410	40.0000	38.96
17	Methylene Chloride	84	2.303	2.303	(0.551)	93705	20.0000	20.53
18	Methyl tert-butyl ether	73	2.539	2.539	(0.608)	272881	20.0000	19.72
19	Carbon Disulfide	76	2.075	2.075	(0.497)	443798	40.0000	37.95
20	trans-1,2-Dichloroethene	96	2.528	2.528	(0.605)	83048	20.0000	19.30

21 Vinyl Acetate	43	3.004	3.004 (0.719)	716288	40.0000	40.25
22 1,1-Dichloroethane	63	2.922	2.922 (0.699)	180478	20.0000	19.11

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	23 Chloroprene	53	1.775	1.775	(0.425)	42093	20.0000	18.43(M)
	24 2-Butanone	43	3.593	3.593	(0.860)	103083	40.0000	38.12
	25 Methacrylonitrile	41	3.833	3.833	(0.917)	134358	20.0000	20.49(a)
	26 2,2-Dichloropropane	77	3.510	3.510	(0.840)	136770	20.0000	18.78
	27 cis-1,2-Dichloroethene	96	3.525	3.525	(0.844)	106626	20.0000	19.45
	28 Chloroform	83	3.904	3.904	(0.935)	185575	20.0000	19.20
	29 Bromochloromethane	128	3.799	3.799	(0.909)	58138	20.0000	18.92
$	30 Dibromofluoromethane	113	4.103	4.103	(0.982)	100577	20.0000	21.17
	31 1,1,1-Trichloroethane	97	4.084	4.084	(0.978)	145149	20.0000	19.51
	32 1,1-Dichloropropene	75	4.283	4.283	(0.863)	122898	20.0000	18.90
	33 1,2-Dichloroethane	62	4.556	4.556	(0.918)	173705	20.0000	19.79
	34 Carbon Tetrachloride	117	4.264	4.264	(0.859)	124542	20.0000	19.01
$	35 1,2-Dichloroethane-d4	65	4.470	4.470	(1.070)	125030	20.0000	21.12
*	36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	797093	50.0000	
	37 Benzene	78	4.511	4.511	(0.909)	377488	20.0000	19.79
	38 Trichloroethene	130	5.208	5.208	(1.049)	104832	20.0000	19.43
	39 Bromodichloromethane	83	5.726	5.726	(1.153)	141699	20.0000	19.40
	40 Methyl Methacrylate	41	5.610	5.610	(1.343)	116657	20.0000	19.03(a)
	41 2-Chloroethylvinyl ether	63	6.048	6.048	(1.218)	89929	40.0000	40.33
	42 1,2-Dichloropropane	63	5.437	5.437	(1.095)	123713	20.0000	20.17
	43 2-Nitropropane	43	5.969	5.969	(1.429)	38152	20.0000	18.91
	44 Dibromomethane	93	5.553	5.553	(1.119)	68138	20.0000	19.63
	45 4-Methyl-2-Pentanone	43	6.326	6.326	(0.825)	285574	40.0000	39.47
	46 cis-1,3-Dichloropropene	75	6.153	6.153	(1.239)	165788	20.0000	19.76
*	47 Chlorobenzene-d5	117	7.668	7.668	(1.000)	735188	50.0000	
$	48 Toluene-d8	98	6.386	6.386	(0.833)	356461	20.0000	18.83(M)
	49 Ethyl Methacrylate	69	6.712	6.712	(1.352)	101772	20.0000	19.49(a)
	50 Toluene	91	6.446	6.446	(0.841)	392472	20.0000	19.83
	51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.346)	139738	20.0000	19.76
	52 2-Hexanone	43	7.090	7.090	(0.925)	197105	40.0000	41.47
	53 1,1,2-Trichloroethane	83	6.835	6.835	(0.891)	84947	20.0000	20.23
	54 1,3-Dichloropropane	76	6.982	6.982	(0.911)	170222	20.0000	19.84
	55 Dibromochloromethane	129	7.173	7.173	(0.935)	118768	20.0000	19.59
	56 Tetrachloroethene	164	6.922	6.922	(0.903)	79779	20.0000	19.51
	57 1,2-Dibromoethane	107	7.259	7.259	(0.947)	99972	20.0000	20.83
	58 1-Chlorohexane	55	7.694	7.694	(1.550)	123726	20.0000	19.32
	59 Chlorobenzene	112	7.694	7.694	(1.003)	270232	20.0000	19.53
	60 1,1,1,2-Tetrachloroethane	131	7.773	7.773	(1.014)	107430	20.0000	19.83
	61 Ethylbenzene	106	7.795	7.795	(1.017)	131122	20.0000	18.90
	62 m,p-Xylenes	106	7.904	7.904	(1.031)	341700	40.0000	39.26
	63 o-Xylene	106	8.237	8.237	(1.074)	162342	20.0000	19.69
	64 Styrene	104	8.260	8.260	(1.077)	282779	20.0000	19.67
	66 Bromoform	173	8.406	8.406	(1.096)	75861	20.0000	19.50
	67 Isopropylbenzene	105	8.560	8.560	(1.116)	405778	20.0000	19.15
	68 1,1,2,2-Tetrachloroethane	83	8.837	8.837	(0.915)	127719	20.0000	19.39
$	69 4-Bromofluorobenzene	95	8.687	8.687	(1.133)	153161	20.0000	20.67
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	392137	50.0000	
	71 1,2,3-Trichloropropane	75	8.860	8.860	(0.917)	106108	20.0000	20.30(M)
	72 trans-1,4-Dichloro-2-butene	53	8.886	8.886	(1.159)	44727	20.0000	20.00(a)
	73 n-Propylbenzene	91	8.908	8.908	(0.922)	471016	20.0000	19.87
	74 Bromobenzene	156	8.803	8.803	(0.911)	121594	20.0000	19.82
	75 1,3,5-Trimethylbenzene	105	9.066	9.066	(0.938)	331762	20.0000	18.68

76	2-Chlorotoluene	91	8.972	8.972 (0.929)	320833	20.0000	20.07
77	4-Chlorotoluene	91	9.070	9.070 (0.939)	358181	20.0000	20.39

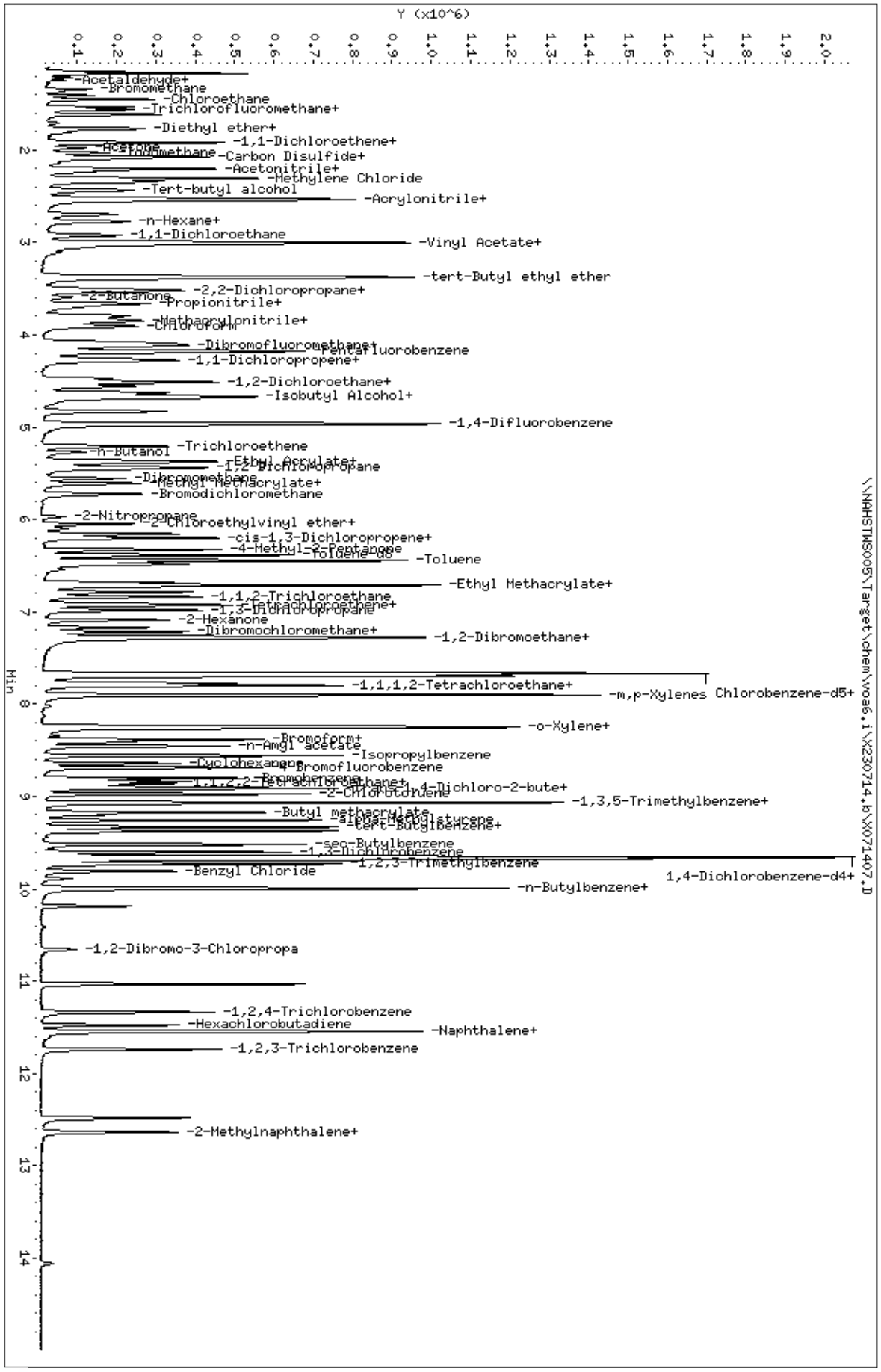
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
78	tert-Butylbenzene	119	9.332	9.332	(0.966)	287767	20.0000	18.90
79	1,2,4-Trimethylbenzene	105	9.377	9.377	(0.971)	336741	20.0000	18.91
81	sec-Butylbenzene	105	9.519	9.519	(0.985)	394513	20.0000	19.44
82	p-Isopropyltoluene	119	9.647	9.647	(0.998)	346253	20.0000	18.67
83	1,3-Dichlorobenzene	146	9.606	9.606	(0.994)	208939	20.0000	19.55
84	1,4-Dichlorobenzene	146	9.677	9.677	(1.002)	230542	20.0000	19.68
86	Benzyl Chloride	91	9.808	9.808	(1.279)	196200	20.0000	17.29
87	n-Butylbenzene	91	9.992	9.992	(1.034)	282220	20.0000	18.17
88	1,2-Dichlorobenzene	146	9.992	9.992	(1.034)	209204	20.0000	19.91
89	1,2-Dibromo-3-Chloropropane	155	10.659	10.659	(1.103)	19568	20.0000	18.76
90	1,2,4-Trichlorobenzene	180	11.337	11.337	(1.173)	123442	20.0000	17.11
91	Hexachlorobutadiene	225	11.476	11.476	(1.188)	52647	20.0000	17.44
92	Naphthalene	128	11.540	11.540	(1.194)	325767	20.0000	18.24
93	1,2,3-Trichlorobenzene	180	11.739	11.739	(1.215)	122392	20.0000	18.14
146	Methyl acetate	43	2.232	2.232	(0.534)	91399	20.0000	20.22
138	Freon TF	101	1.917	1.917	(0.459)	67796	20.0000	23.07(M)
141	Cyclohexane	56	4.121	4.121	(0.987)	165922	20.0000	18.85(H)
142	Tetrahydrofuran	42	3.851	3.851	(0.922)	53361	40.0000	40.84
147	Methylcyclohexane	55	5.388	5.388	(1.085)	328269	20.0000	19.51(M)
135	1,4-Dioxane	88	5.606	5.606	(1.342)	23823	400.000	394.82
132	n-Butanol	56	5.265	5.265	(1.260)	60771	400.000	359.52(a)
131	Methyl Acrylate	55	3.702	3.702	(0.886)	135453	20.0000	19.62(H)
133	Ethyl Acrylate	55	5.388	5.388	(1.290)	335022	20.0000	19.90
136	n-Hexane	57	2.772	2.772	(0.664)	106667	20.0000	23.04
139	Diethyl ether	59	1.763	1.763	(0.422)	93008	20.0000	19.64
148	Tert-butyl alcohol	59	2.434	2.434	(0.583)	251621	400.000	392.62
149	Isopropyl alcohol	45	2.097	2.097	(0.502)	157344	400.000	395.67
156	Diisopropyl ether	45	3.008	3.008	(0.720)	419096	20.0000	20.02
166	1,2,3-Trimethylbenzene	105	9.729	9.729	(1.007)	351806	20.0000	19.40
167	Ethanol	45	1.703	1.703	(0.408)	30252	400.000	415.32
172	tert-Butyl formate	59	4.627	4.627	(1.108)	202938	40.0000	37.41(M)
173	3,3-Dimethyl-1-butanol	57	7.285	7.285	(0.950)	307235	400.000	388.58
174	tert-Amyl methyl ether	73	4.669	4.669	(1.118)	318193	20.0000	19.04
175	tert-Butyl ethyl ether	59	3.379	3.379	(0.809)	413607	20.0000	19.24
176	tert-Amyl alcohol	59	4.627	4.627	(1.108)	206505	400.000	372.28(M)
151	4-Methyl-2-pentanol	45	6.712	6.712	(1.352)	666674	400.000	390.27(M)
180	1-Methylnaphthalene	142	12.635	12.635	(1.308)	150919	20.0000	(a)
140	1,3-Butadiene	54	1.167	1.167	(0.280)	123783	20.0000	18.97
152	Amyl alcohol	42	6.907	6.907	(0.901)	79891	400.000	377.87(M)
158	Dichlorofluoromethane	67	1.535	1.535	(0.367)	158942	20.0000	19.42
159	Propylene oxide	43	1.808	1.808	(0.433)	26882	40.0000	43.15
161	3-Methyl-1-butanol	55	6.907	6.907	(0.901)	65296	400.000	360.74
162	Butyl acrylate	55	8.252	8.252	(1.076)	278950	20.0000	19.94
163	Butyl methacrylate	41	9.167	9.167	(0.949)	181860	20.0000	19.36
164	Dicyclopentadiene	66	9.681	9.681	(1.002)	449218	20.0000	19.88
182	Epichlorohydrin	57	6.101	6.101	(1.229)	46921	80.0000	78.80
M 94	1,2-Dichloroethylene (total)	96				189674	40.0000	(a)
145	alpha-Methylstyrene	118	9.257	9.257	(0.958)	161241	20.0000	18.84
130	Ethyl Acetate	43	3.660	3.660	(0.876)	156852	20.0000	20.79
134	Cyclohexanone	55	8.642	8.642	(0.894)	143296	400.000	410.46(a)
185	Isoprene	39	1.771	1.771	(0.424)	34997	20.0000	20.90
188	Isopropyl acetate	43	4.680	4.680	(0.943)	402950	20.0000	19.17

187 n-Amyl acetate	43	8.451	8.451 (1.102)	257831	20.0000	19.13
189 n-Butyl acetate	43	7.214	7.214 (0.941)	233185	20.0000	20.69(H)

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
150 Allyl alcohol	57	2.772	2.772	(0.664)	106667	400.000	460.03
194 Acetaldehyde	44	1.212	1.212	(0.290)	39093	80.0000	72.86(M)
195 Methyl Amyl Ketone	43	8.380	8.380	(1.093)	308846	20.0000	20.09(H)
200 Dimethyl Disulfide	94	6.198	6.198	(0.808)	200098	20.0000	20.17
202 Isobutylene	41	1.242	1.242	(0.297)	17453	20.0000	20.78(M)
205 2-Ethylhexyl Acrylate	55	11.547	11.547	(1.195)	205728	20.0000	20.54

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.



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Column phase: DB624

Instrument: voa6,i
Operator: PC
Column diameter: 0.18

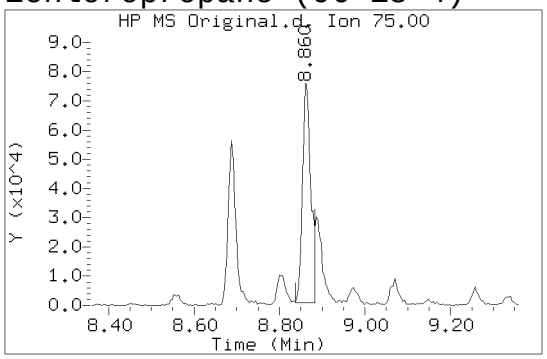
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Inj Date : 14-JUL-2023 14:04
InstruID : voa6.i
LabSampID : VSTD020

1,2,3-Trichloropropane (96-18-4)

Reason Code:

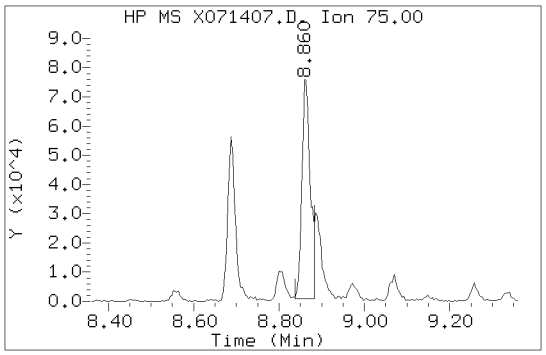
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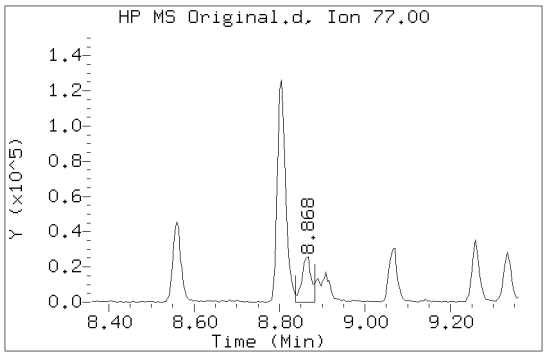
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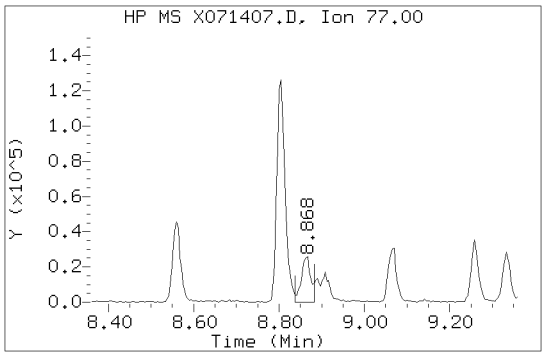
BEFORE

MASS
77
AREA
41493
HEIGHT
25771
20-Jul-2023
15:04
linh
pham



AFTER

MASS
77
AREA
41493
HEIGHT
25771
20-Jul-2023
15:04
linh
pham

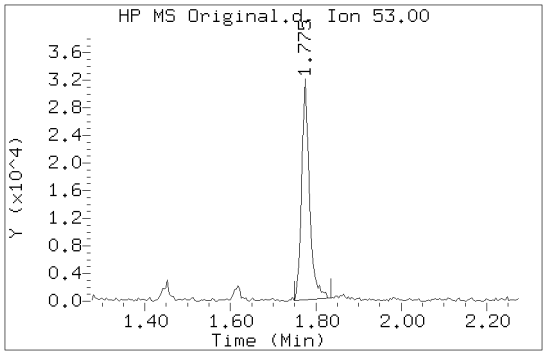


Chloroprene (126-99-8)

Reason Code:

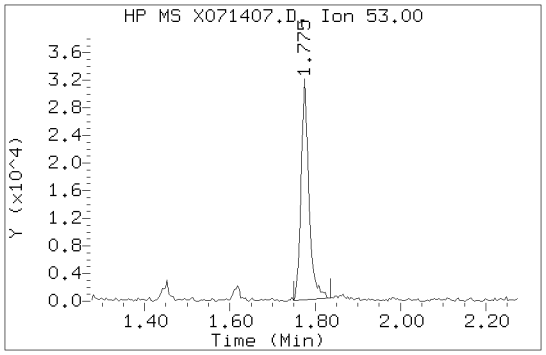
BEFORE

MASS
53
AREA
42093
HEIGHT
31980
20-Jul-2023
15:04
linh
pham



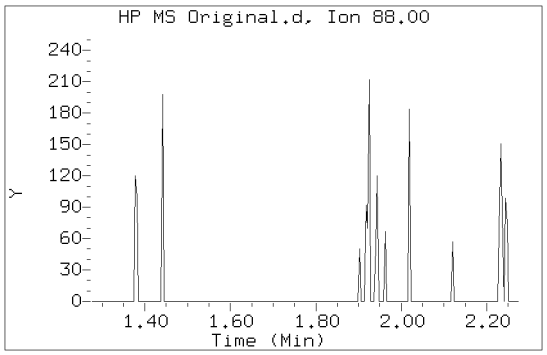
AFTER

MASS
53
AREA
42093
HEIGHT
31980
20-Jul-2023
15:04
linh
pham



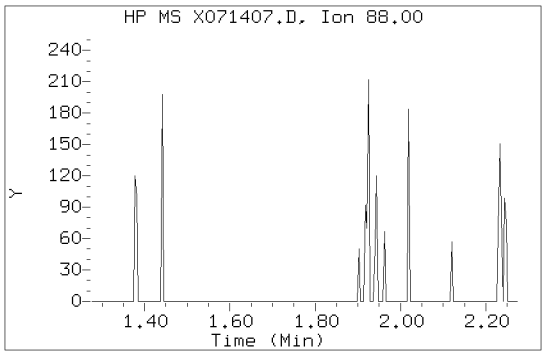
BEFORE

MASS
88
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



AFTER

MASS
88
AREA
0
HEIGHT
0
20-Jul-2023
15:04
linh
pham



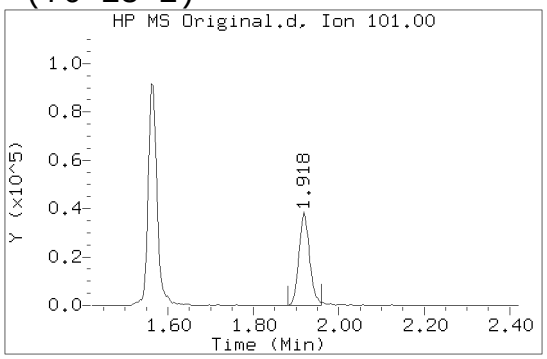
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071407.D
Inj Date : 14-JUL-2023 14:04
InstruID : voa6.i
LabSampID : VSTD020

Freon TF (76-13-1)

Reason Code:

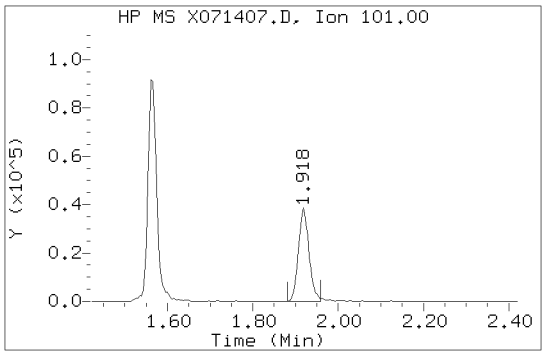
BEFORE

MASS
101
AREA
67796
HEIGHT
38600
20-Jul-2023
15:04
linh
pham



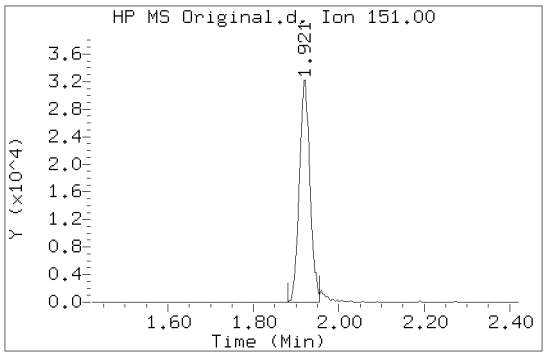
AFTER

MASS
101
AREA
67796
HEIGHT
38600
20-Jul-2023
15:04
linh
pham



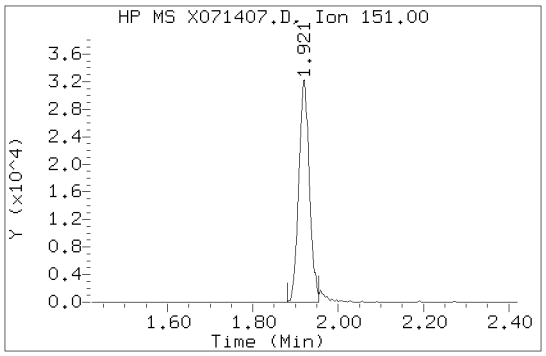
BEFORE

MASS
151
AREA
57051
HEIGHT
32248
20-Jul-2023
15:04
linh
pham



AFTER

MASS
151
AREA
57051
HEIGHT
32248
20-Jul-2023
15:04
linh
pham

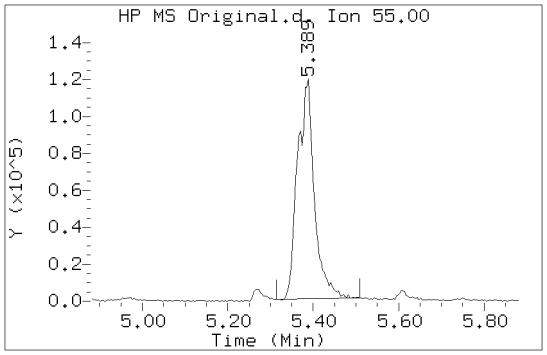


Methylcyclohexane (108-87-2)

Reason Code:

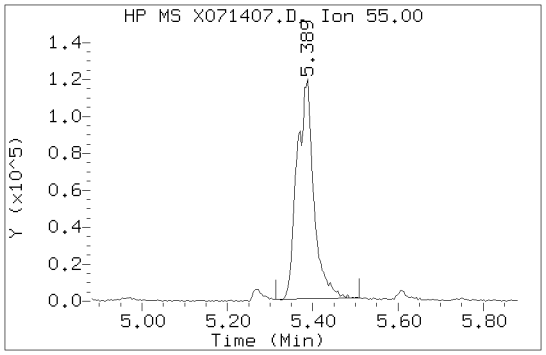
BEFORE

MASS
55
AREA
328269
HEIGHT
118927
20-Jul-2023
15:04
linh
pham



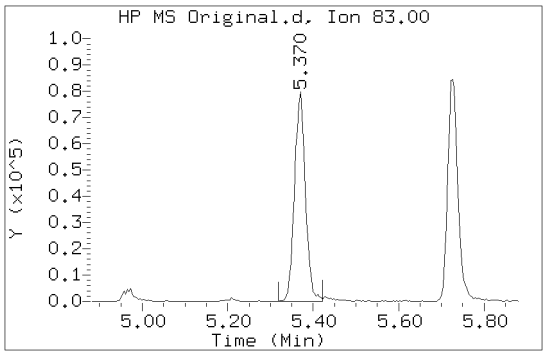
AFTER

MASS
55
AREA
328269
HEIGHT
118927
20-Jul-2023
15:04
linh
pham



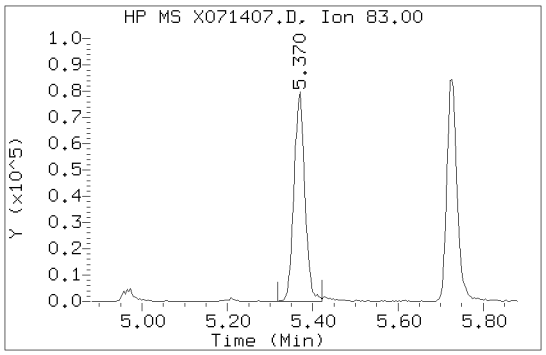
BEFORE

MASS
83
AREA
142887
HEIGHT
79744
20-Jul-2023
15:04
linh
pham



AFTER

MASS
83
AREA
142887
HEIGHT
79744
20-Jul-2023
15:04
linh
pham



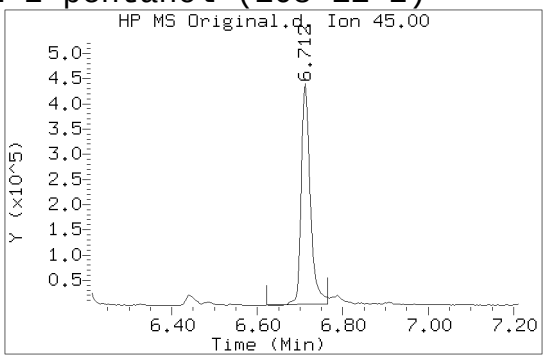
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071407.D
Inj Date : 14-JUL-2023 14:04
InstruID : voa6.i
LabSampID : VSTD020

4-Methyl-2-pentanol (108-11-2)

Reason Code:

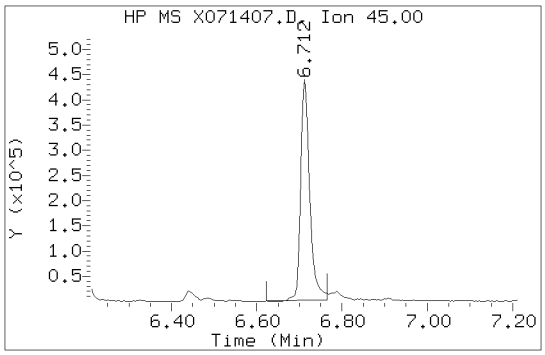
BEFORE

MASS
45
AREA
666674
HEIGHT
437957
20-Jul-2023
15:04
linh
pham



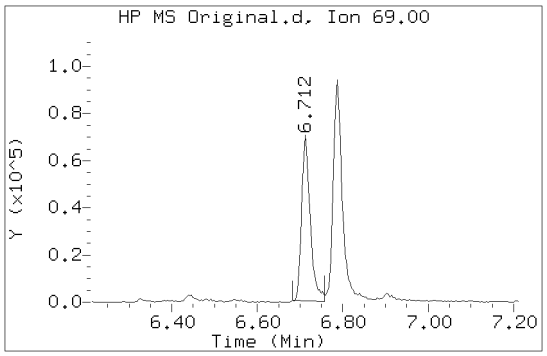
AFTER

MASS
45
AREA
666674
HEIGHT
437957
20-Jul-2023
15:04
linh
pham



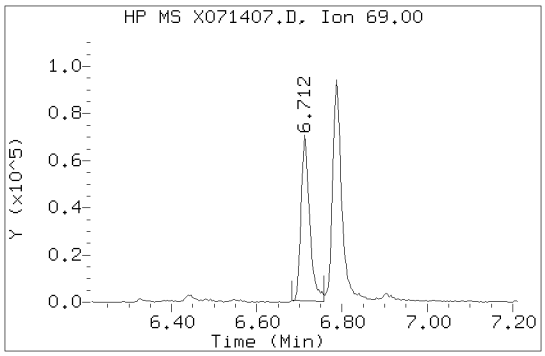
BEFORE

MASS
69
AREA
101772
HEIGHT
70395
20-Jul-2023
15:04
linh
pham



AFTER

MASS
69
AREA
101772
HEIGHT
70395
20-Jul-2023
15:04
linh
pham

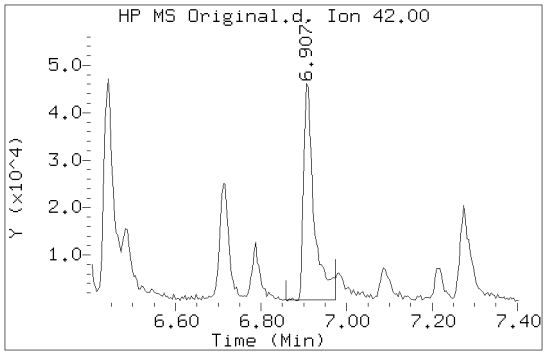


Amyl alcohol (71-41-0)

Reason Code:

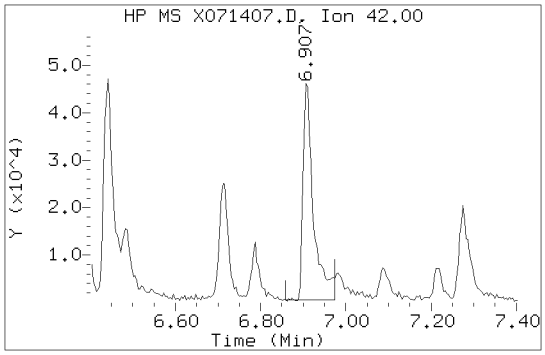
BEFORE

MASS
42
AREA
79891
HEIGHT
45629
20-Jul-2023
15:04
linh
pham



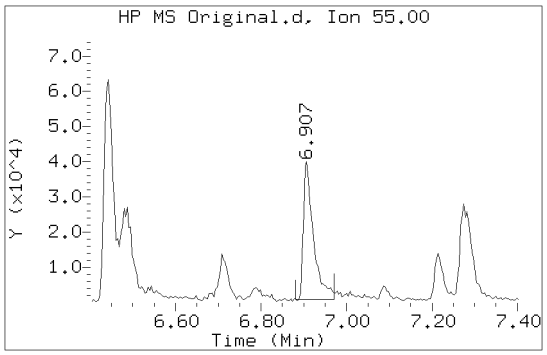
AFTER

MASS
42
AREA
79891
HEIGHT
45629
20-Jul-2023
15:04
linh
pham



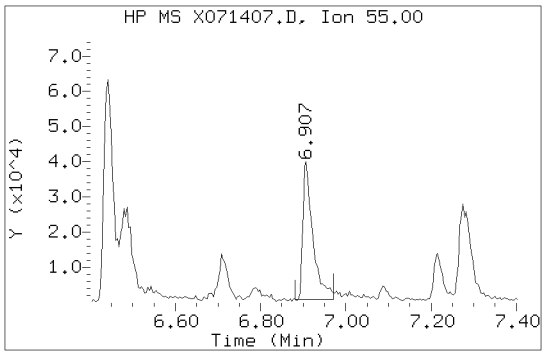
BEFORE

MASS
55
AREA
65296
HEIGHT
39055
20-Jul-2023
15:04
linh
pham



AFTER

MASS
55
AREA
65296
HEIGHT
39055
20-Jul-2023
15:04
linh
pham



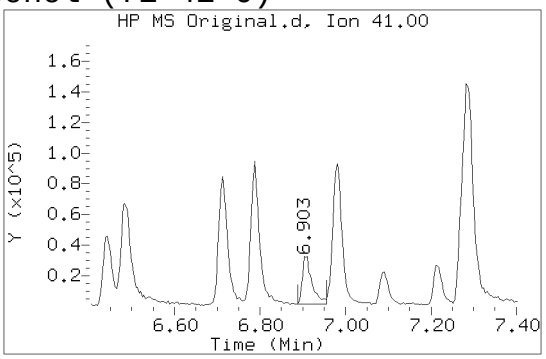
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Inj Date : 14-JUL-2023 14:04
InstruID : voa6.i
LabSampID : VSTD020

Amyl alcohol (71-41-0)

Reason Code:

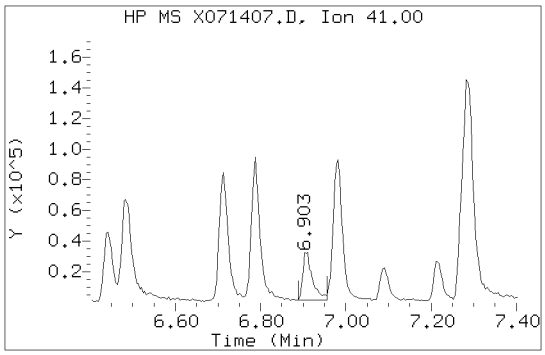
BEFORE

MASS
41
AREA
49579
HEIGHT
30812
20-Jul-2023
15:04
linh
pham



AFTER

MASS
41
AREA
49579
HEIGHT
30812
20-Jul-2023
15:04
linh
pham

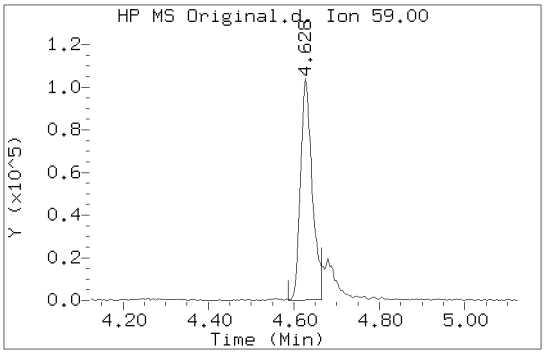


tert-Butyl formate (762-75-4)

Reason Code:

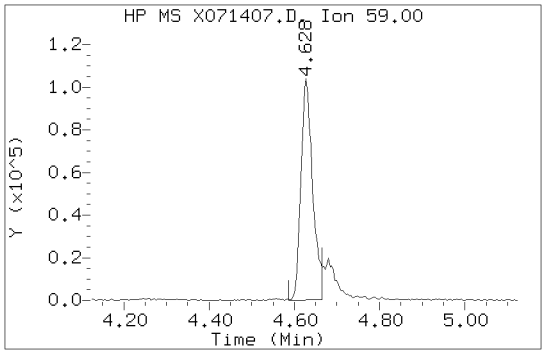
BEFORE

MASS
59
AREA
202938
HEIGHT
103862
20-Jul-2023
15:04
linh
pham



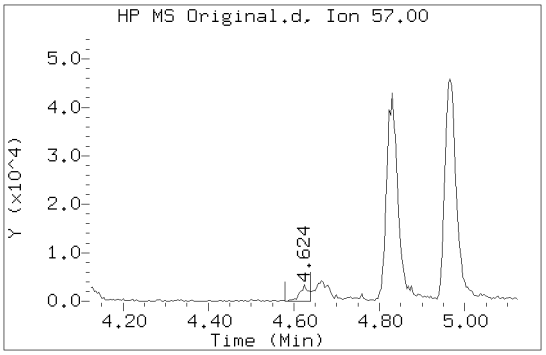
AFTER

MASS
59
AREA
202938
HEIGHT
103862
20-Jul-2023
15:04
linh
pham



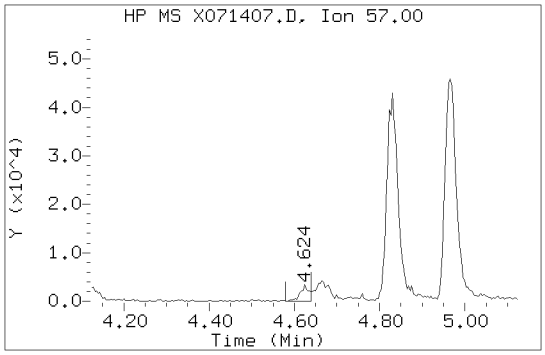
BEFORE

MASS
57
AREA
4882
HEIGHT
3421
20-Jul-2023
15:04
linh
pham



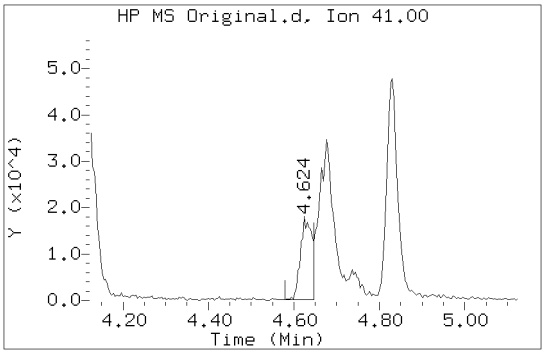
AFTER

MASS
57
AREA
4882
HEIGHT
3421
20-Jul-2023
15:04
linh
pham



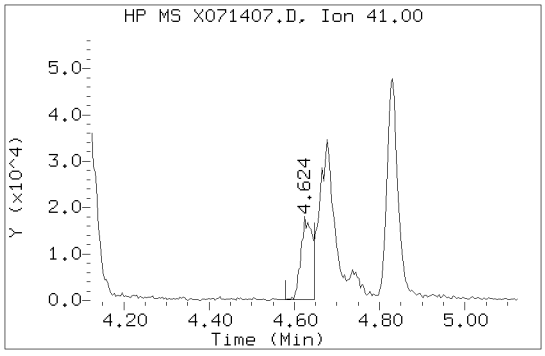
BEFORE

MASS
41
AREA
34265
HEIGHT
18036
20-Jul-2023
15:04
linh
pham



AFTER

MASS
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AREA
34265
HEIGHT
18036
20-Jul-2023
15:04
linh
pham

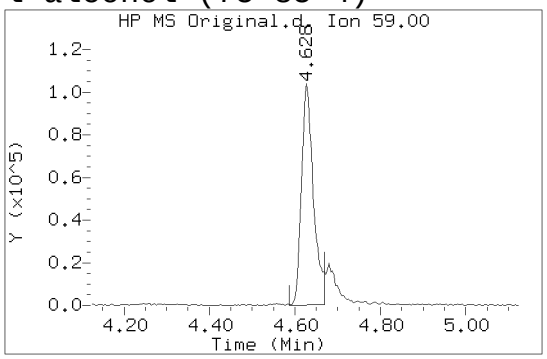


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Inj Date : 14-JUL-2023 14:04
InstruID : voa6.i
LabSampID : VSTD020

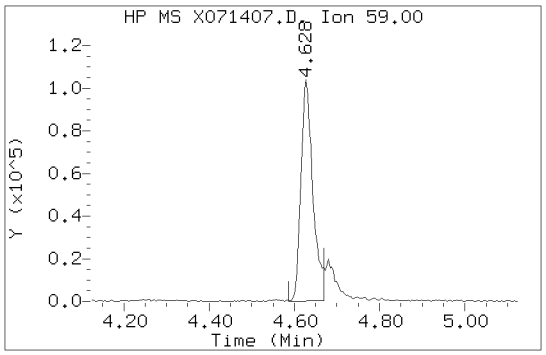
tert-Amyl alcohol (75-85-4)

Reason Code:

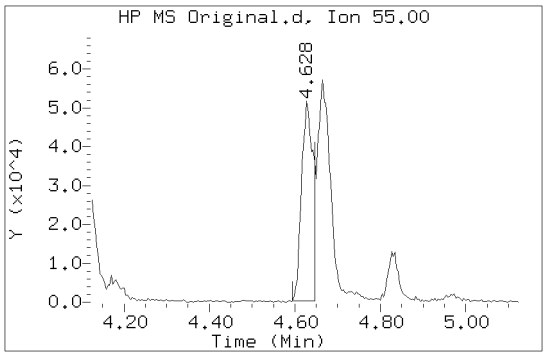
BEFORE
MASS
59
AREA
206505
HEIGHT
103862
20-Jul-2023
15:04
linh
pham



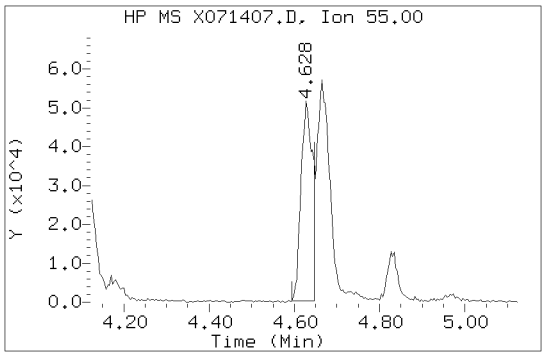
AFTER
MASS
59
AREA
206505
HEIGHT
103862
20-Jul-2023
15:04
linh
pham



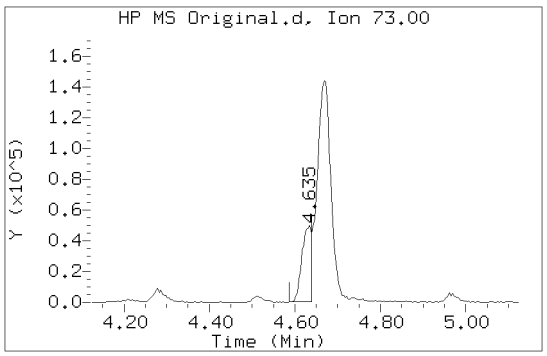
BEFORE
MASS
55
AREA
96489
HEIGHT
51399
20-Jul-2023
15:04
linh
pham



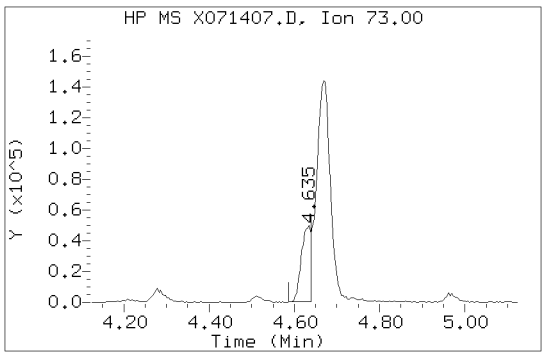
AFTER
MASS
55
AREA
96489
HEIGHT
51399
20-Jul-2023
15:04
linh
pham



BEFORE
MASS
73
AREA
78871
HEIGHT
49677
20-Jul-2023
15:04
linh
pham



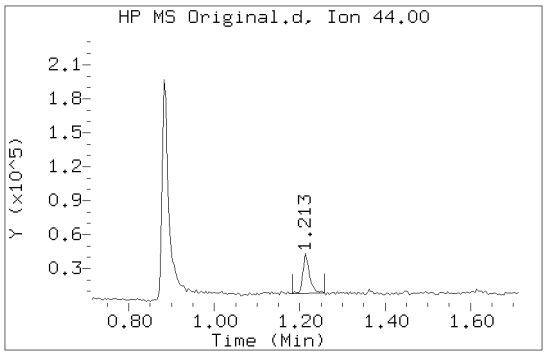
AFTER
MASS
73
AREA
78871
HEIGHT
49677
20-Jul-2023
15:04
linh
pham



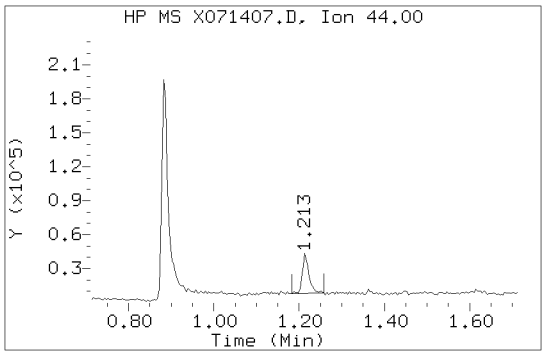
Acetaldehyde (75-07-0)

Reason Code:

BEFORE
MASS
44
AREA
39093
HEIGHT
35571
20-Jul-2023
15:04
linh
pham



AFTER
MASS
44
AREA
39093
HEIGHT
35571
20-Jul-2023
15:04
linh
pham

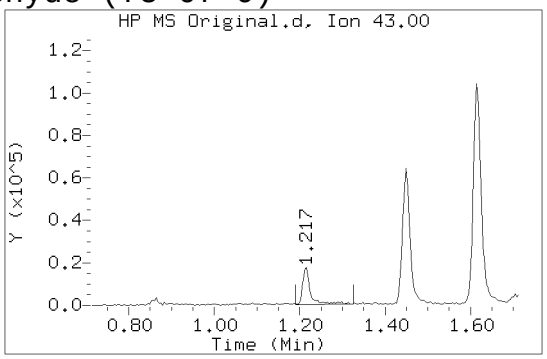


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Inj Date : 14-JUL-2023 14:04
InstruID : voa6.i
LabSampID : VSTD020

Acetaldehyde (75-07-0)

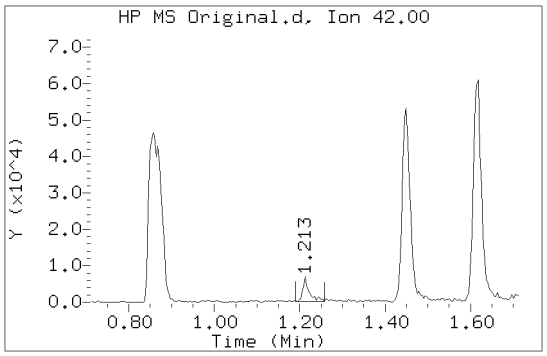
BEFORE

MASS
43
AREA
22978
HEIGHT
17443
20-Jul-2023
15:04
linh
pham



BEFORE

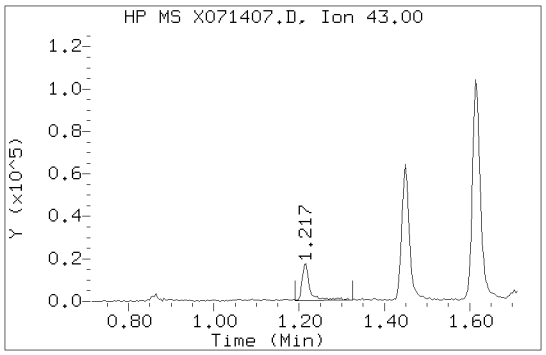
MASS
42
AREA
7214
HEIGHT
6800
20-Jul-2023
15:04
linh
pham



Reason Code:

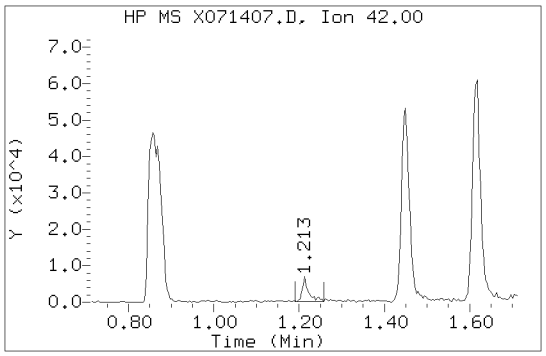
AFTER

MASS
43
AREA
22978
HEIGHT
17443
20-Jul-2023
15:04
linh
pham



AFTER

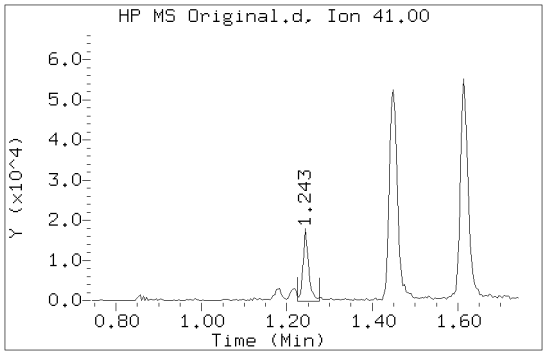
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Isobutylene (115-11-7)

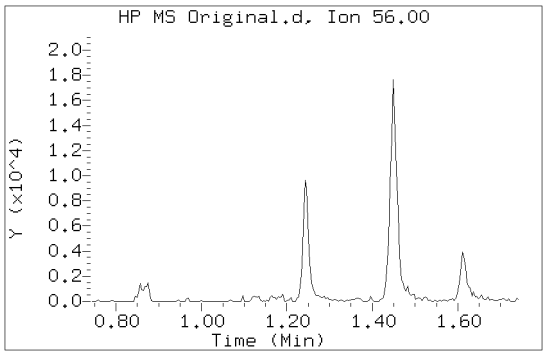
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BEFORE

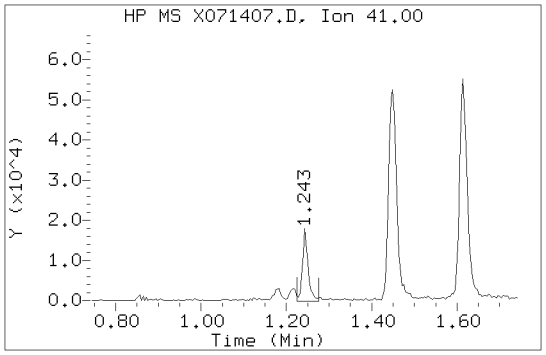
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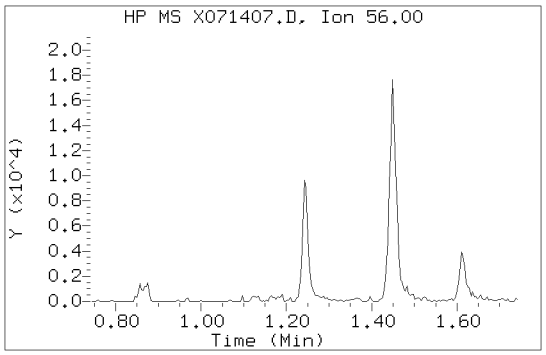
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AFTER

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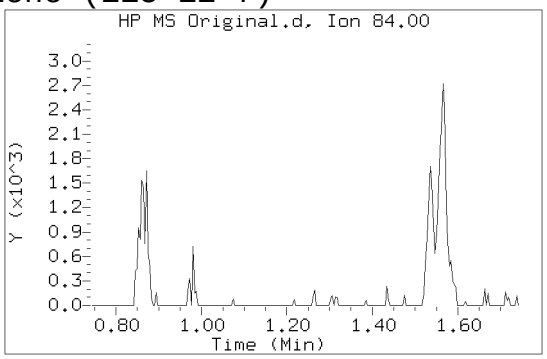
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Isobutylene (115-11-7)

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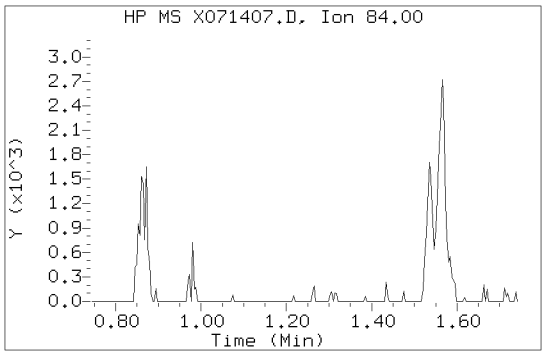
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AFTER

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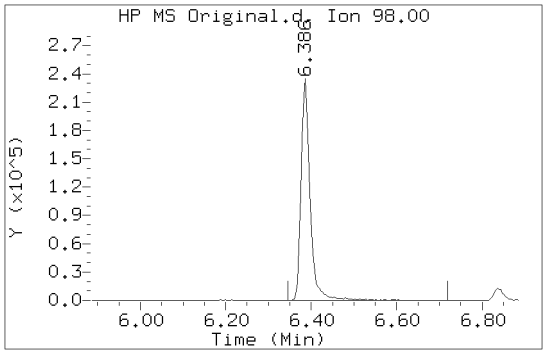


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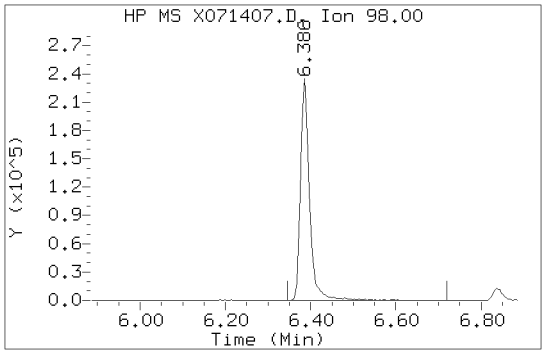
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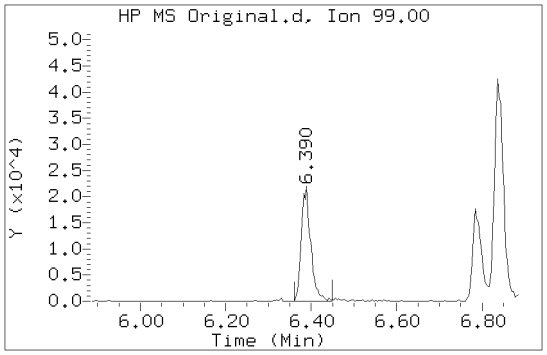
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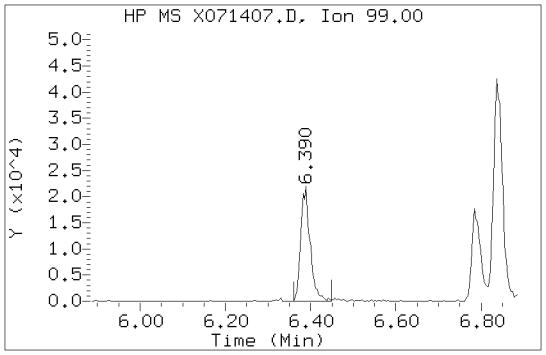
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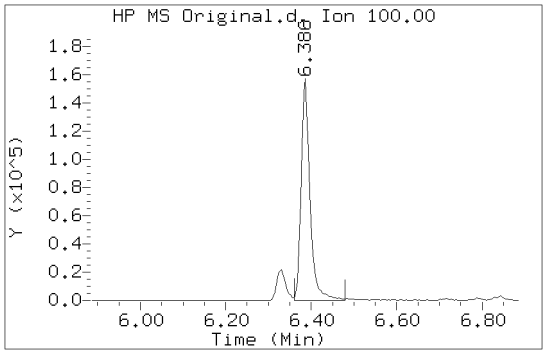
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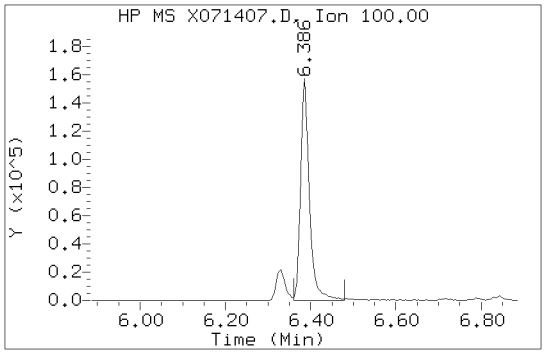
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AFTER

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ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071408.D
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Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000_8260.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1	Pentafluorobenzene	168	4.178	4.178	(1.000)	523013	50.0000	
2	Dichlorodifluoromethane	85	0.976	0.976	(0.234)	235300	50.0000	44.11
3	Chloromethane	50	1.081	1.081	(0.259)	354356	50.0000	44.85
4	Propionitrile	54	3.656	3.656	(0.875)	492839	500.000	475.69
5	Vinyl Chloride	62	1.145	1.145	(0.274)	318113	50.0000	47.00
6	Bromomethane	94	1.344	1.344	(0.322)	131891	50.0000	47.09
7	Chloroethane	64	1.407	1.407	(0.337)	180308	50.0000	46.66
8	Trichlorofluoromethane	101	1.561	1.561	(0.374)	315333	50.0000	45.97
9	Acrolein	56	1.861	1.861	(0.446)	19251	100.000	97.23(H)
10	Acetone	43	1.973	1.973	(0.472)	210033	100.000	101.57
11	1,1-Dichloroethene	96	1.913	1.913	(0.458)	183746	50.0000	47.95
12	Isobutyl Alcohol	43	4.680	4.680	(1.120)	992232	1000.00	1000.83
13	Acetonitrile	39	2.198	2.198	(0.526)	357196	500.000	487.03
14	Allyl Chloride	41	2.198	2.198	(0.526)	798138	50.0000	46.48
15	Iodomethane	142	2.030	2.030	(0.486)	473625	100.000	94.10
16	Acrylonitrile	53	2.532	2.532	(0.606)	235726	100.000	92.49
17	Methylene Chloride	84	2.307	2.307	(0.552)	228969	50.0000	50.65
18	Methyl tert-butyl ether	73	2.539	2.539	(0.608)	669525	50.0000	46.98
19	Carbon Disulfide	76	2.071	2.071	(0.496)	1141643	100.000	94.78
20	trans-1,2-Dichloroethene	96	2.528	2.528	(0.605)	211279	50.0000	47.66

21 Vinyl Acetate	43	2.997	2.997 (0.717)	1752870	100.000	95.62
22 1,1-Dichloroethane	63	2.922	2.922 (0.699)	470383	50.0000	48.36

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	23 Chloroprene	53	1.775	1.775	(0.425)	101850	50.0000	43.31(M)
	24 2-Butanone	43	3.582	3.582	(0.857)	268410	100.000	96.36
	25 Methacrylonitrile	41	3.821	3.821	(0.915)	328284	50.0000	48.62(a)
	26 2,2-Dichloropropane	77	3.507	3.507	(0.839)	357279	50.0000	47.33
	27 cis-1,2-Dichloroethene	96	3.525	3.525	(0.844)	274899	50.0000	48.68
	28 Chloroform	83	3.904	3.904	(0.935)	470821	50.0000	47.31
	29 Bromochloromethane	128	3.791	3.791	(0.908)	149658	50.0000	47.29
$	30 Dibromofluoromethane	113	4.099	4.099	(0.981)	227290	50.0000	47.37
	31 1,1,1-Trichloroethane	97	4.084	4.084	(0.978)	366818	50.0000	47.88
	32 1,1-Dichloropropene	75	4.279	4.279	(0.862)	311339	50.0000	45.93
	33 1,2-Dichloroethane	62	4.556	4.556	(0.918)	432993	50.0000	47.34
	34 Carbon Tetrachloride	117	4.268	4.268	(0.860)	295641	50.0000	43.30
$	35 1,2-Dichloroethane-d4	65	4.470	4.470	(1.070)	282994	50.0000	47.17
*	36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	830857	50.0000	
	37 Benzene	78	4.511	4.511	(0.909)	951794	50.0000	47.89
	38 Trichloroethene	130	5.205	5.205	(1.048)	268578	50.0000	47.77
	39 Bromodichloromethane	83	5.722	5.722	(1.153)	359212	50.0000	47.18
	40 Methyl Methacrylate	41	5.606	5.606	(1.342)	290569	50.0000	46.03
	41 2-Chloroethylvinyl ether	63	6.048	6.048	(1.218)	231938	100.000	99.79
	42 1,2-Dichloropropane	63	5.433	5.433	(1.094)	313347	50.0000	49.03
	43 2-Nitropropane	43	5.969	5.969	(1.429)	96529	50.0000	46.45
	44 Dibromomethane	93	5.550	5.550	(1.118)	168989	50.0000	46.71
	45 4-Methyl-2-Pentanone	43	6.326	6.326	(0.825)	688236	100.000	93.62
	46 cis-1,3-Dichloropropene	75	6.153	6.153	(1.239)	425194	50.0000	48.63
*	47 Chlorobenzene-d5	117	7.668	7.668	(1.000)	747052	50.0000	
$	48 Toluene-d8	98	6.385	6.385	(0.833)	806003	50.0000	41.90(M)
	49 Ethyl Methacrylate	69	6.712	6.712	(1.352)	223750	50.0000	41.11
	50 Toluene	91	6.445	6.445	(0.841)	1011174	50.0000	50.28
	51 trans-1,3-Dichloropropene	75	6.678	6.678	(1.345)	351933	50.0000	47.75
	52 2-Hexanone	43	7.086	7.086	(0.924)	449229	100.000	93.02
	53 1,1,2-Trichloroethane	83	6.835	6.835	(0.891)	205411	50.0000	48.15
	54 1,3-Dichloropropane	76	6.978	6.978	(0.910)	420354	50.0000	48.23
	55 Dibromochloromethane	129	7.173	7.173	(0.935)	303363	50.0000	49.25
	56 Tetrachloroethene	164	6.925	6.925	(0.903)	200679	50.0000	48.30
	57 1,2-Dibromoethane	107	7.259	7.259	(0.947)	231339	50.0000	47.45
	58 1-Chlorohexane	55	7.694	7.694	(1.550)	276645	50.0000	41.44
	59 Chlorobenzene	112	7.690	7.690	(1.003)	673755	50.0000	47.92
	60 1,1,1,2-Tetrachloroethane	131	7.772	7.772	(1.014)	270349	50.0000	49.12
	61 Ethylbenzene	106	7.795	7.795	(1.017)	339019	50.0000	48.09
	62 m,p-Xylenes	106	7.900	7.900	(1.030)	871877	100.000	98.59
	63 o-Xylene	106	8.237	8.237	(1.074)	410767	50.0000	49.05
	64 Styrene	104	8.256	8.256	(1.077)	730009	50.0000	49.97
	66 Bromoform	173	8.406	8.406	(1.096)	197185	50.0000	49.90
	67 Isopropylbenzene	105	8.560	8.560	(1.116)	1023144	50.0000	47.53
	68 1,1,2,2-Tetrachloroethane	83	8.837	8.837	(0.915)	323110	50.0000	46.71
$	69 4-Bromofluorobenzene	95	8.687	8.687	(1.133)	355682	50.0000	47.79
*	70 1,4-Dichlorobenzene-d4	152	9.658	9.658	(1.000)	411751	50.0000	
	71 1,2,3-Trichloropropane	75	8.860	8.860	(0.917)	256294	50.0000	46.70(M)
	72 trans-1,4-Dichloro-2-butene	53	8.886	8.886	(1.159)	113164	50.0000	49.80
	73 n-Propylbenzene	91	8.908	8.908	(0.922)	1199683	50.0000	48.21
	74 Bromobenzene	156	8.803	8.803	(0.912)	304391	50.0000	47.26
	75 1,3,5-Trimethylbenzene	105	9.062	9.062	(0.938)	873751	50.0000	46.87

76	2-Chlorotoluene	91	8.972	8.972 (0.929)	787863	50.0000	46.93
77	4-Chlorotoluene	91	9.066	9.066 (0.939)	904673	50.0000	49.04

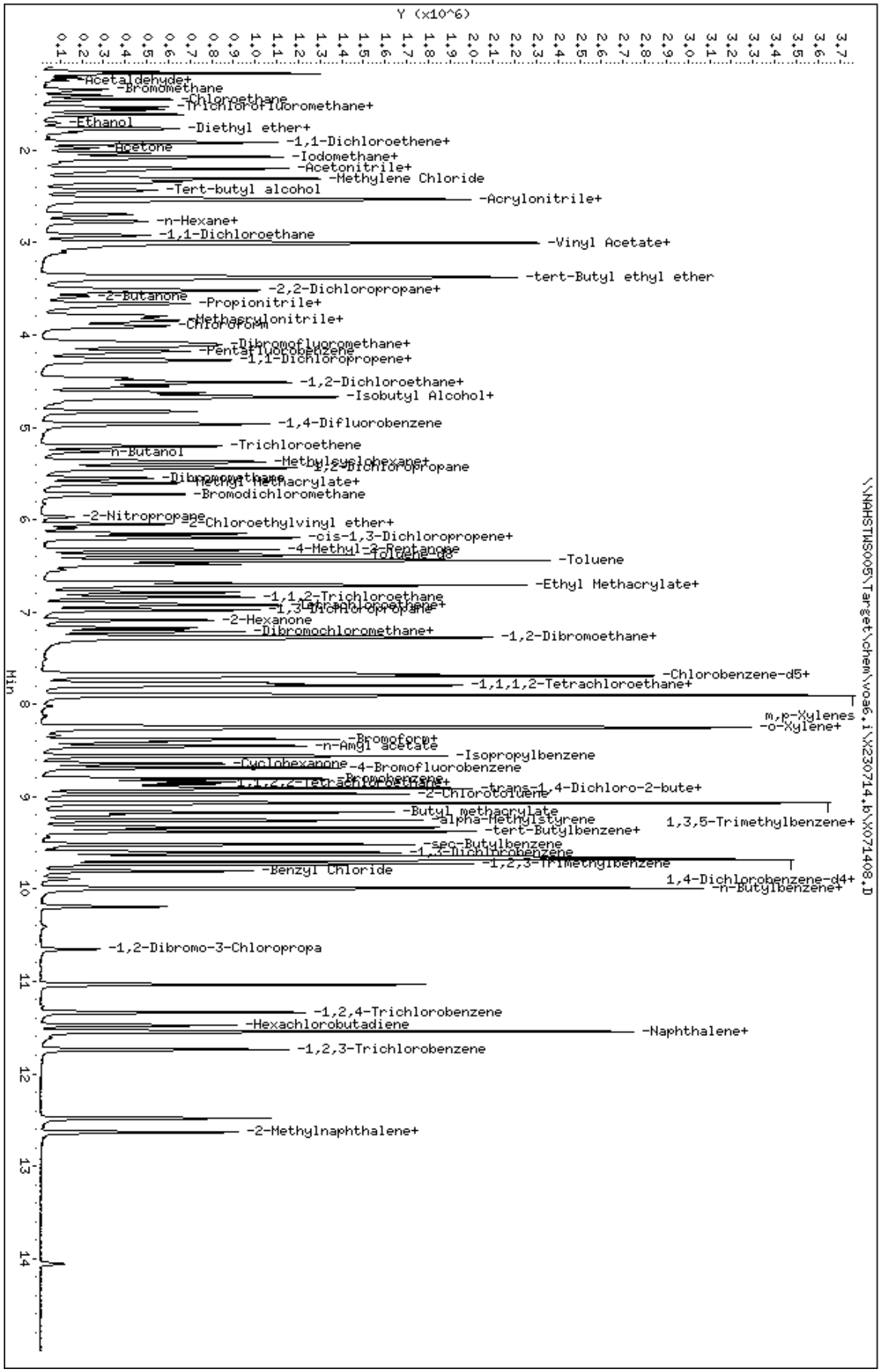
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)	
78	tert-Butylbenzene	119	9.336	9.336	(0.967)	722967	50.0000	45.22	
79	1,2,4-Trimethylbenzene	105	9.377	9.377	(0.971)	872776	50.0000	46.69	
81	sec-Butylbenzene	105	9.519	9.519	(0.986)	982642	50.0000	46.11	
82	p-Isopropyltoluene	119	9.647	9.647	(0.999)	896333	50.0000	46.05	
83	1,3-Dichlorobenzene	146	9.602	9.602	(0.994)	530593	50.0000	47.29	
84	1,4-Dichlorobenzene	146	9.681	9.681	(1.002)	570511	50.0000	46.38	
86	Benzyl Chloride	91	9.804	9.804	(1.279)	558112	50.0000	44.19	
87	n-Butylbenzene	91	9.992	9.992	(1.035)	755707	50.0000	46.35	
88	1,2-Dichlorobenzene	146	9.988	9.988	(1.034)	524864	50.0000	47.58	
89	1,2-Dibromo-3-Chloropropane	155	10.651	10.651	(1.103)	51434	50.0000	45.34	
90	1,2,4-Trichlorobenzene	180	11.334	11.334	(1.173)	331560	50.0000	43.77	
91	Hexachlorobutadiene	225	11.476	11.476	(1.188)	139894	50.0000	40.54	
92	Naphthalene	128	11.540	11.540	(1.195)	833003	50.0000	44.42	
93	1,2,3-Trichlorobenzene	180	11.739	11.739	(1.215)	307966	50.0000	43.47	
146	Methyl acetate	43	2.232	2.232	(0.534)	220729	50.0000	47.42	
138	Freon TF	101	1.917	1.917	(0.459)	154547	50.0000	48.17	
141	Cyclohexane	56	4.125	4.125	(0.987)	384719	50.0000	42.43	
142	Tetrahydrofuran	42	3.851	3.851	(0.922)	127806	100.000	94.98	
147	Methylcyclohexane	55	5.381	5.381	(1.084)	820341	50.0000	46.77	
135	1,4-Dioxane	88	5.602	5.602	(1.341)	56497	1000.00	909.04	
132	n-Butanol	56	5.261	5.261	(1.259)	163155	1000.00	937.09	
131	Methyl Acrylate	55	3.690	3.690	(0.883)	324862	50.0000	45.69	
133	Ethyl Acrylate	55	5.381	5.381	(1.288)	820341	50.0000	47.32	
136	n-Hexane	57	2.772	2.772	(0.664)	244351	50.0000	48.23	
139	Diethyl ether	59	1.760	1.760	(0.421)	229645	50.0000	47.08	
148	Tert-butyl alcohol	59	2.434	2.434	(0.583)	589524	1000.00	893.06	
149	Isopropyl alcohol	45	2.093	2.093	(0.501)	369866	1000.00	902.98	
156	Diisopropyl ether	45	3.004	3.004	(0.719)	1023782	50.0000	47.49	
166	1,2,3-Trimethylbenzene	105	9.729	9.729	(1.007)	931868	50.0000	48.95	
167	Ethanol	45	1.703	1.703	(0.408)	72445	1000.00	990.30	
172	tert-Butyl formate	59	4.627	4.627	(1.108)	483988	100.000	86.62	
173	3,3-Dimethyl-1-butanol	57	7.285	7.285	(0.950)	654787	1000.00	815.00	
174	tert-Amyl methyl ether	73	4.669	4.669	(1.118)	841588	50.0000	48.91	
175	tert-Butyl ethyl ether	59	3.379	3.379	(0.809)	1034229	50.0000	46.70	
176	tert-Amyl alcohol	59	4.627	4.627	(1.108)	483988	1000.00	847.08	
151	4-Methyl-2-pentanol	45	6.712	6.712	(1.352)	1443508	1000.00	810.70	
180	1-Methylnaphthalene	142	12.634	12.634	(1.308)	377609	50.0000	(a)	
140	1,3-Butadiene	54	1.167	1.167	(0.280)	306107	50.0000	45.54	
152	Amyl alcohol	42	6.903	6.903	(0.900)	190741	1000.00	887.85	
158	Dichlorofluoromethane	67	1.535	1.535	(0.367)	398292	50.0000	47.26	
159	Propylene oxide	43	1.805	1.805	(0.432)	59535	100.000	92.78	
161	3-Methyl-1-butanol	55	6.903	6.903	(0.900)	178568	1000.00	970.88	
162	Butyl acrylate	55	8.249	8.249	(1.076)	713652	50.0000	50.21	
163	Butyl methacrylate	41	9.167	9.167	(0.949)	474324	50.0000	48.09	
164	Dicyclopentadiene	66	9.681	9.681	(1.002)	1133352	50.0000	47.78	
182	Epichlorohydrin	57	6.093	6.093	(1.227)	118291	200.000	190.60	
M 94	1,2-Dichloroethylene (total)	96				486178	100.000	(a)	
145	alpha-Methylstyrene	118	9.257	9.257	(0.958)	421857	50.0000	46.96	
130	Ethyl Acetate	43	3.660	3.660	(0.876)	368212	50.0000	47.39	
134	Cyclohexanone	55	8.642	8.642	(0.895)	325236	1000.00	887.25	
185	Isoprene	39	1.775	1.775	(0.425)	78291	50.0000	45.41	
188	Isopropyl acetate	43	4.680	4.680	(0.943)	992232	50.0000	45.29	

187 n-Amyl acetate	43	8.451	8.451 (1.102)	605401	50.0000	44.21
189 n-Butyl acetate	43	7.210	7.210 (0.940)	548658	50.0000	47.91(H)

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
150 Allyl alcohol	57	2.772	2.772	(0.664)	244351	1000.00	964.89
194 Acetaldehyde	44	1.212	1.212	(0.290)	101552	200.000	218.25(M)
195 Methyl Amyl Ketone	43	8.380	8.380	(1.093)	719543	50.0000	46.08
200 Dimethyl Disulfide	94	6.194	6.194	(0.808)	522090	50.0000	51.81
202 Isobutylene	41	1.242	1.242	(0.297)	36655	50.0000	42.38(M)
205 2-Ethylhexyl Acrylate	55	11.547	11.547	(1.196)	561357	50.0000	53.37

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.



Data File: \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071408.D
Date : 14-JUL-2023 14:24
Client ID: VSTD050
Sample Info: VSTD050;VSTD050;1;7;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

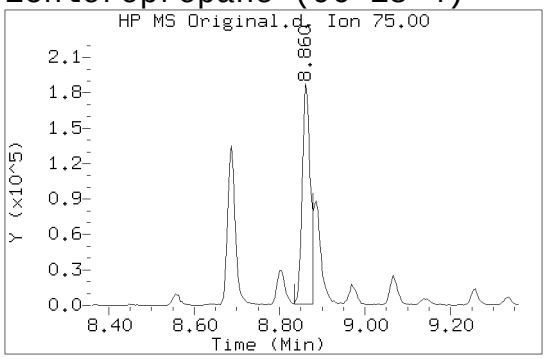
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Inj Date : 14-JUL-2023 14:24
InstruID : voa6.i
LabSampID : VSTD050

1,2,3-Trichloropropane (96-18-4)

Reason Code:

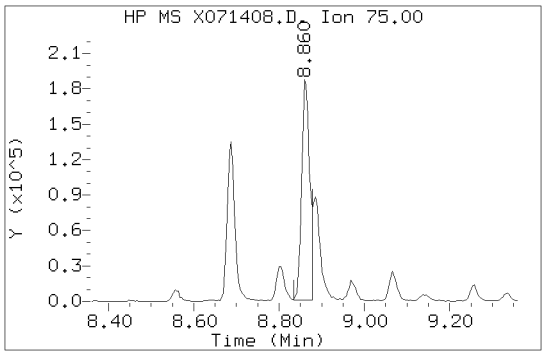
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20-Jul-2023
15:04
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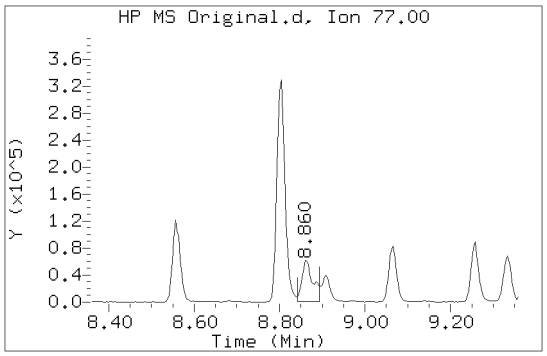
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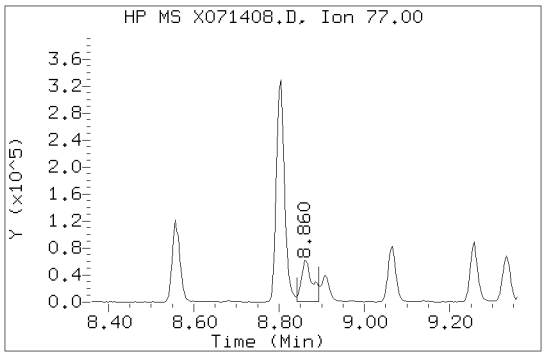
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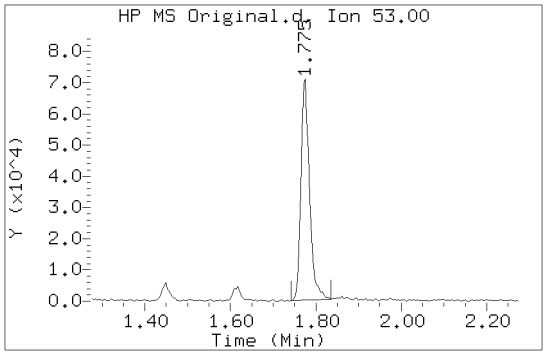


Chloroprene (126-99-8)

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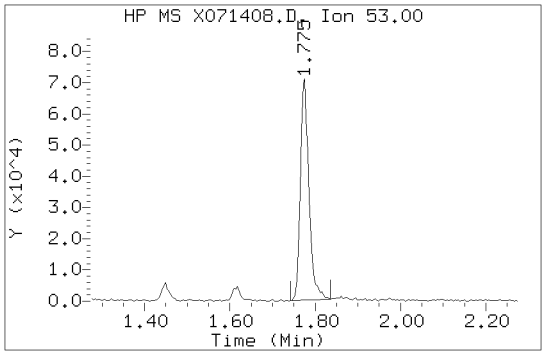
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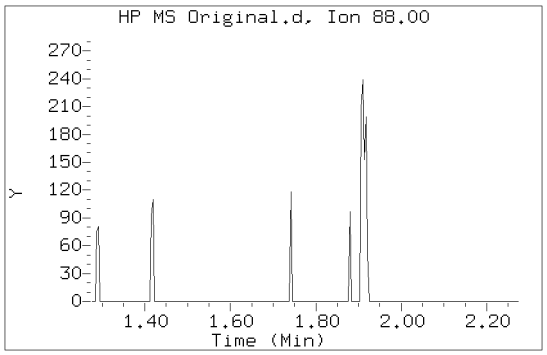
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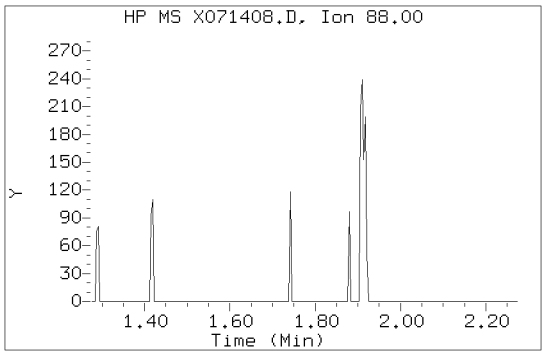
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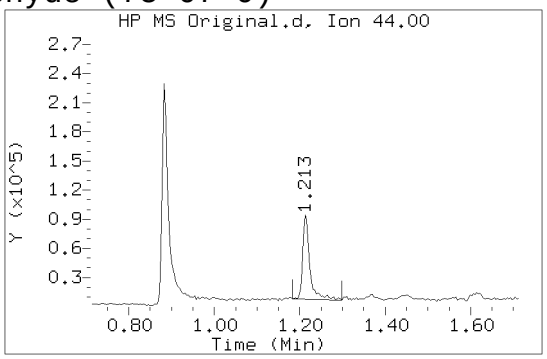
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InstruID : voa6.i
LabSampID : VSTD050

Acetaldehyde (75-07-0)

Reason Code:

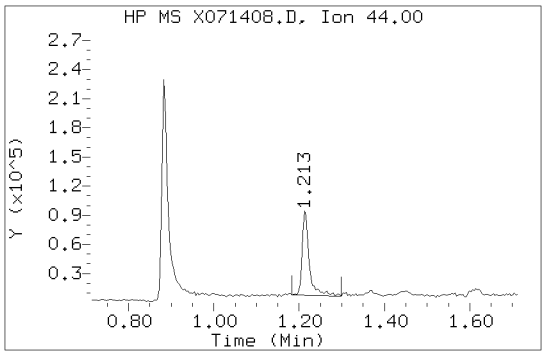
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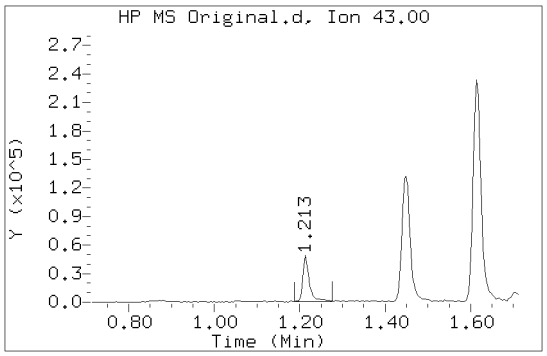
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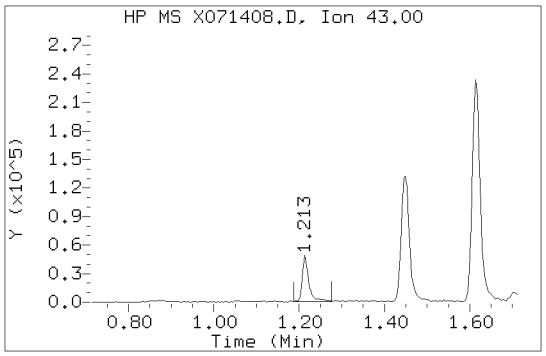
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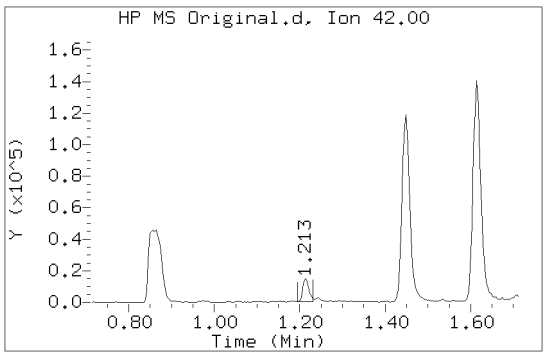
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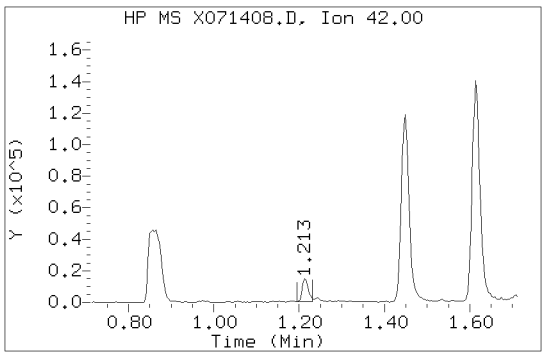
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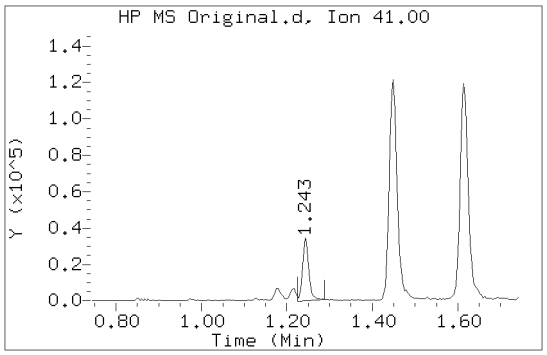


Isobutylene (115-11-7)

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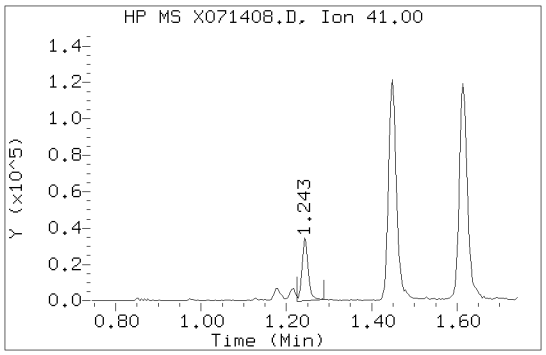
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AFTER

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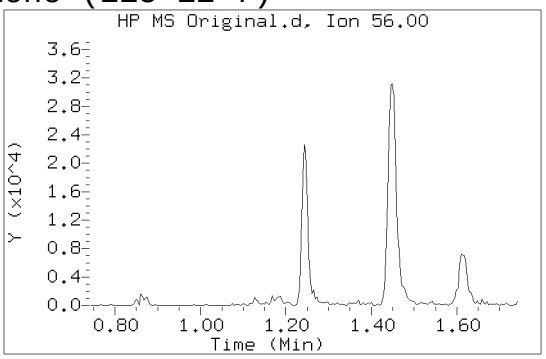


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Inj Date : 14-JUL-2023 14:24
InstruID : voa6.i
LabSampID : VSTD050

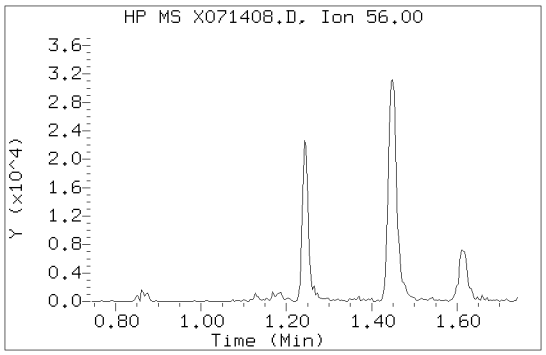
Isobutylene (115-11-7)

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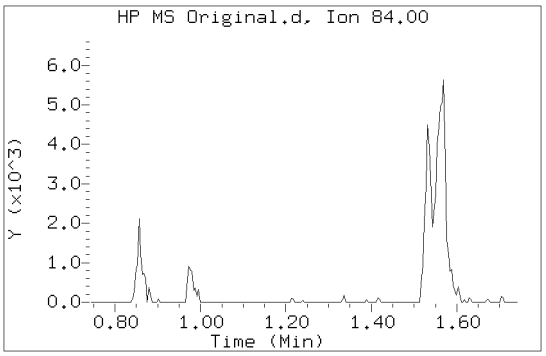
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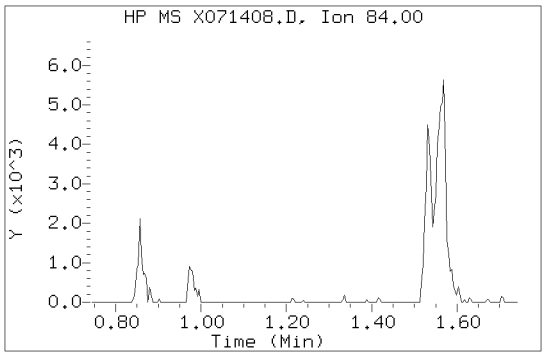
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BEFORE
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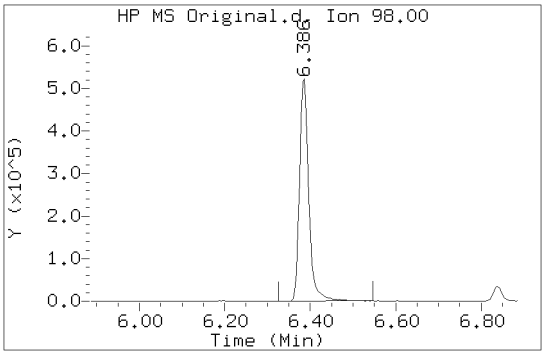
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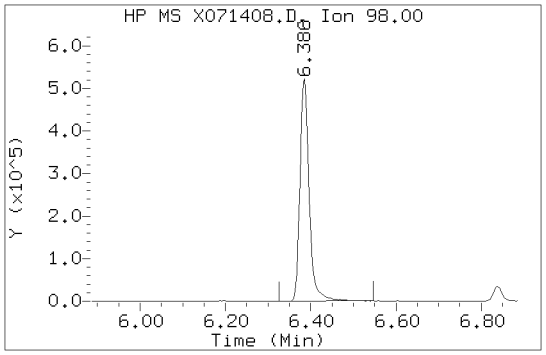
Toluene-d8 (2037-26-5)

Reason Code:

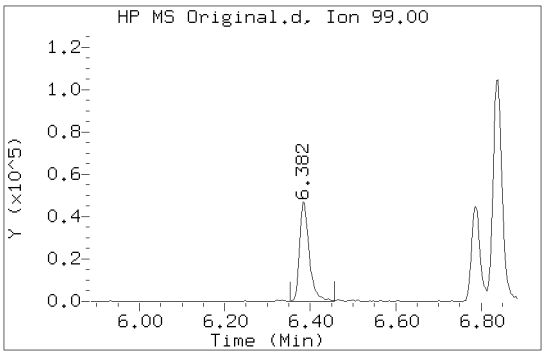
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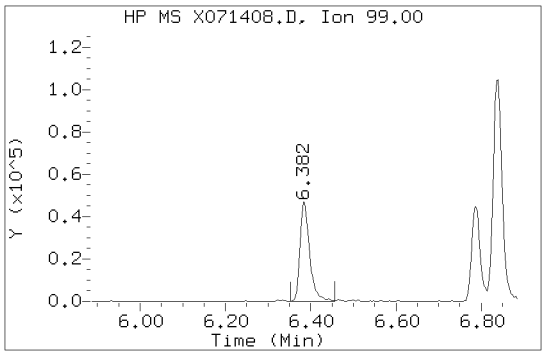
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BEFORE
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46732
20-Jul-2023
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AFTER
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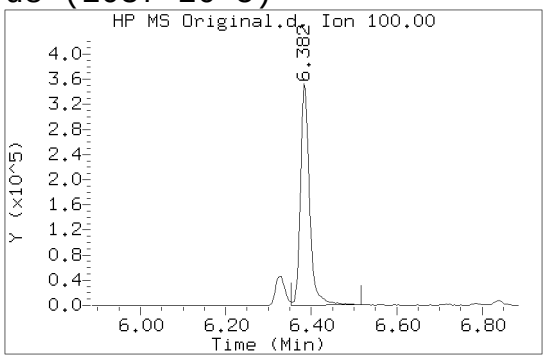
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Inj Date : 14-JUL-2023 14:24
InstruID : voa6.i
LabSampID : VSTD050

Toluene-d8 (2037-26-5)

Reason Code:

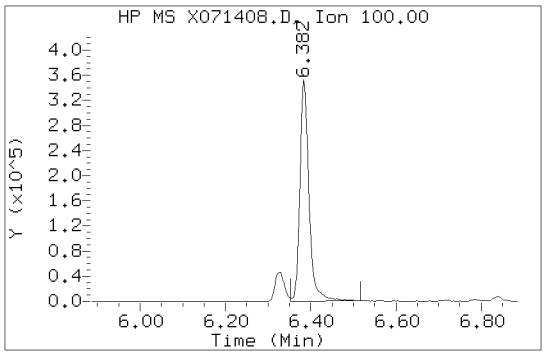
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AFTER

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ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071409.D
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Inj Date : 14-JUL-2023 14:44
Operator : PC Inst ID: voa6.i
Smp Info : VSTD100;VSTD100;1;8;
Misc Info : V6;WATER;0;1;
Comment :
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Meth Date : 20-Jul-2023 15:05 voa6.i Quant Type: ISTD
Cal Date : 14-JUL-2023 14:24 Cal File: X071408.D
Als bottle: 10 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000_8260.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1	Pentafluorobenzene	168	4.178	4.178	(1.000)	523083	50.0000	
2	Dichlorodifluoromethane	85	0.976	0.976	(0.234)	576963	100.000	106.55
3	Chloromethane	50	1.081	1.081	(0.259)	835087	100.000	105.69
4	Propionitrile	54	3.657	3.657	(0.875)	1047975	1000.00	1011.37
5	Vinyl Chloride	62	1.145	1.145	(0.274)	734431	100.000	108.50
6	Bromomethane	94	1.340	1.340	(0.321)	298512	100.000	106.56
7	Chloroethane	64	1.404	1.404	(0.336)	388839	100.000	100.62
8	Trichlorofluoromethane	101	1.561	1.561	(0.374)	784790	100.000	114.40
9	Acrolein	56	1.861	1.861	(0.446)	38657	200.000	194.08(H)
10	Acetone	43	1.973	1.973	(0.472)	413238	200.000	204.54
11	1,1-Dichloroethene	96	1.917	1.917	(0.459)	418161	100.000	109.11
12	Isobutyl Alcohol	43	4.676	4.676	(1.119)	2105793	2000.00	2123.76
13	Acetonitrile	39	2.198	2.198	(0.526)	728143	1000.00	992.69
14	Allyl Chloride	41	2.198	2.198	(0.526)	1634102	100.000	95.15
15	Iodomethane	142	2.030	2.030	(0.486)	1101288	200.000	206.62
16	Acrylonitrile	53	2.532	2.532	(0.606)	485413	200.000	190.43
17	Methylene Chloride	84	2.303	2.303	(0.551)	461890	100.000	103.61
18	Methyl tert-butyl ether	73	2.539	2.539	(0.608)	1386267	100.000	97.26
19	Carbon Disulfide	76	2.071	2.071	(0.496)	2567979	200.000	213.18
20	trans-1,2-Dichloroethene	96	2.528	2.528	(0.605)	450376	100.000	101.60

21 Vinyl Acetate	43	3.001	3.001 (0.718)	3697154	200.000	201.67
22 1,1-Dichloroethane	63	2.918	2.918 (0.699)	974667	100.000	100.19

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	23 Chloroprene	53	1.775	1.775	(0.425)	247316	100.000	105.15(M)
	24 2-Butanone	43	3.582	3.582	(0.857)	596777	200.000	214.23
	25 Methacrylonitrile	41	3.821	3.821	(0.915)	700145	100.000	103.69(a)
	26 2,2-Dichloropropane	77	3.507	3.507	(0.839)	797830	100.000	105.42
	27 cis-1,2-Dichloroethene	96	3.525	3.525	(0.844)	578093	100.000	102.37
	28 Chloroform	83	3.904	3.904	(0.935)	984765	100.000	98.94
	29 Bromochloromethane	128	3.795	3.795	(0.908)	308539	100.000	97.49
$	30 Dibromofluoromethane	113	4.099	4.099	(0.981)	502644	100.000	105.68
	31 1,1,1-Trichloroethane	97	4.084	4.084	(0.978)	846403	100.000	110.47
	32 1,1-Dichloropropene	75	4.279	4.279	(0.862)	731563	100.000	110.92
	33 1,2-Dichloroethane	62	4.556	4.556	(0.918)	901009	100.000	101.23
	34 Carbon Tetrachloride	117	4.260	4.260	(0.858)	726709	100.000	109.37
$	35 1,2-Dichloroethane-d4	65	4.470	4.470	(1.070)	615043	100.000	103.24
*	36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	808530	50.0000	
	37 Benzene	78	4.511	4.511	(0.909)	2032676	100.000	105.10
	38 Trichloroethene	130	5.201	5.201	(1.048)	584538	100.000	106.85
	39 Bromodichloromethane	83	5.726	5.726	(1.153)	741977	100.000	100.16
	40 Methyl Methacrylate	41	5.606	5.606	(1.342)	628263	100.000	99.51
	41 2-Chloroethylvinyl ether	63	6.044	6.044	(1.217)	497113	200.000	219.79
	42 1,2-Dichloropropane	63	5.433	5.433	(1.094)	653249	100.000	105.04
	43 2-Nitropropane	43	5.969	5.969	(1.429)	203991	100.000	98.16
	44 Dibromomethane	93	5.550	5.550	(1.118)	353228	100.000	100.34
	45 4-Methyl-2-Pentanone	43	6.326	6.326	(0.825)	1478418	200.000	198.78
	46 cis-1,3-Dichloropropene	75	6.153	6.153	(1.239)	899164	100.000	105.68
*	47 Chlorobenzene-d5	117	7.668	7.668	(1.000)	755792	50.0000	
$	48 Toluene-d8	98	6.386	6.386	(0.833)	1813180	100.000	93.17(M)
	49 Ethyl Methacrylate	69	6.712	6.712	(1.352)	499748	100.000	94.37
	50 Toluene	91	6.442	6.442	(0.840)	2182793	100.000	107.28
	51 trans-1,3-Dichloropropene	75	6.678	6.678	(1.345)	755710	100.000	105.36
	52 2-Hexanone	43	7.087	7.087	(0.924)	970744	200.000	198.69
	53 1,1,2-Trichloroethane	83	6.835	6.835	(0.891)	424795	100.000	98.42
	54 1,3-Dichloropropane	76	6.978	6.978	(0.910)	873450	100.000	99.06
	55 Dibromochloromethane	129	7.173	7.173	(0.935)	655964	100.000	105.28
	56 Tetrachloroethene	164	6.925	6.925	(0.903)	469739	100.000	111.75
	57 1,2-Dibromoethane	107	7.259	7.259	(0.947)	477019	100.000	96.72
	58 1-Chlorohexane	55	7.694	7.694	(1.550)	692334	100.000	106.58
	59 Chlorobenzene	112	7.690	7.690	(1.003)	1451842	100.000	102.08
	60 1,1,1,2-Tetrachloroethane	131	7.773	7.773	(1.014)	582430	100.000	104.61
	61 Ethylbenzene	106	7.795	7.795	(1.017)	757084	100.000	106.16
	62 m,p-Xylenes	106	7.900	7.900	(1.030)	1920317	200.000	214.63
	63 o-Xylene	106	8.237	8.237	(1.074)	894211	100.000	105.54
	64 Styrene	104	8.256	8.256	(1.077)	1543196	100.000	104.42
	66 Bromoform	173	8.410	8.410	(1.097)	423146	100.000	105.85
	67 Isopropylbenzene	105	8.560	8.560	(1.116)	2408268	100.000	110.58
	68 1,1,2,2-Tetrachloroethane	83	8.837	8.837	(0.915)	686871	100.000	97.37
$	69 4-Bromofluorobenzene	95	8.687	8.687	(1.133)	767493	100.000	102.43
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	419955	50.0000	
	71 1,2,3-Trichloropropane	75	8.860	8.860	(0.917)	550885	100.000	98.41(M)
	72 trans-1,4-Dichloro-2-butene	53	8.886	8.886	(1.159)	253486	100.000	110.27
	73 n-Propylbenzene	91	8.908	8.908	(0.922)	2861434	100.000	112.75
	74 Bromobenzene	156	8.803	8.803	(0.911)	667827	100.000	101.67
	75 1,3,5-Trimethylbenzene	105	9.066	9.066	(0.938)	2103222	100.000	110.62

76	2-Chlorotoluene	91	8.972	8.972 (0.929)	1748246	100.000	102.12
77	4-Chlorotoluene	91	9.066	9.066 (0.938)	2018059	100.000	107.27

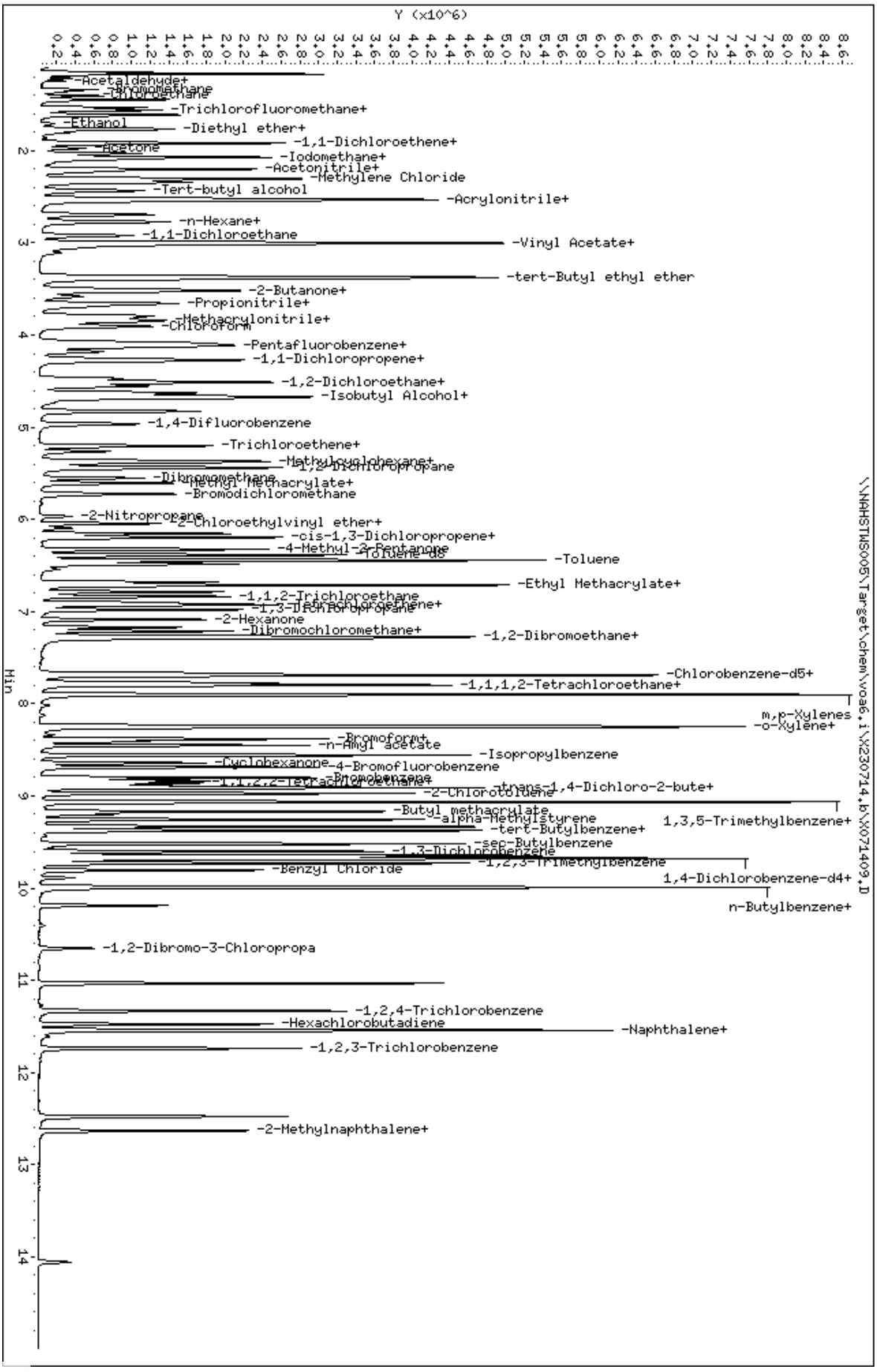
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
78	tert-Butylbenzene	119	9.336	9.336	(0.966)	1780796	100.000	109.22
79	1,2,4-Trimethylbenzene	105	9.377	9.377	(0.971)	2073163	100.000	108.74
81	sec-Butylbenzene	105	9.519	9.519	(0.985)	2510459	100.000	115.52
82	p-Isopropyltoluene	119	9.647	9.647	(0.998)	2265107	100.000	114.10
83	1,3-Dichlorobenzene	146	9.602	9.602	(0.994)	1217703	100.000	106.42
84	1,4-Dichlorobenzene	146	9.681	9.681	(1.002)	1289815	100.000	102.81
86	Benzyl Chloride	91	9.804	9.804	(1.279)	1321247	100.000	100.26
87	n-Butylbenzene	91	9.992	9.992	(1.034)	1995906	100.000	120.04
88	1,2-Dichlorobenzene	146	9.988	9.988	(1.034)	1197079	100.000	106.41
89	1,2-Dibromo-3-Chloropropane	155	10.651	10.651	(1.102)	119154	100.000	101.61
90	1,2,4-Trichlorobenzene	180	11.334	11.334	(1.173)	818711	100.000	105.96
91	Hexachlorobutadiene	225	11.476	11.476	(1.188)	382401	100.000	104.71
92	Naphthalene	128	11.540	11.540	(1.194)	1978675	100.000	103.47
93	1,2,3-Trichlorobenzene	180	11.739	11.739	(1.215)	745369	100.000	103.15
146	Methyl acetate	43	2.228	2.228	(0.533)	452160	100.000	97.12
138	Freon TF	101	1.917	1.917	(0.459)	422615	100.000	100.16
141	Cyclohexane	56	4.118	4.118	(0.986)	1080112	100.000	119.12
142	Tetrahydrofuran	42	3.848	3.848	(0.921)	261433	200.000	194.26
147	Methylcyclohexane	55	5.381	5.381	(1.084)	1785418	100.000	104.61(A)
135	1,4-Dioxane	88	5.598	5.598	(1.340)	124490	2000.00	2002.78
132	n-Butanol	56	5.261	5.261	(1.259)	380486	2000.00	2185.06
131	Methyl Acrylate	55	3.690	3.690	(0.883)	811825	100.000	114.17
133	Ethyl Acrylate	55	5.381	5.381	(1.288)	1785418	100.000	102.98
136	n-Hexane	57	2.772	2.772	(0.664)	700280	100.000	100.13
139	Diethyl ether	59	1.760	1.760	(0.421)	469212	100.000	96.19
148	Tert-butyl alcohol	59	2.434	2.434	(0.583)	1247600	2000.00	1889.72
149	Isopropyl alcohol	45	2.097	2.097	(0.502)	761231	2000.00	1858.21
156	Diisopropyl ether	45	3.004	3.004	(0.719)	2133149	100.000	98.94
166	1,2,3-Trimethylbenzene	105	9.729	9.729	(1.007)	2052311	100.000	105.71
167	Ethanol	45	1.703	1.703	(0.408)	150451	2000.00	2076.45
172	tert-Butyl formate	59	4.627	4.627	(1.108)	1076721	200.000	192.69
173	3,3-Dimethyl-1-butanol	57	7.289	7.289	(0.951)	1478367	2000.00	1818.81
174	tert-Amyl methyl ether	73	4.669	4.669	(1.118)	1654411	100.000	96.14
175	tert-Butyl ethyl ether	59	3.383	3.383	(0.810)	2142435	100.000	96.74
176	tert-Amyl alcohol	59	4.627	4.627	(1.108)	1076721	2000.00	1884.24
151	4-Methyl-2-pentanol	45	6.712	6.712	(1.352)	3281154	2000.00	1893.64
180	1-Methylnaphthalene	142	12.635	12.635	(1.308)	878613	100.000	(a)
140	1,3-Butadiene	54	1.167	1.167	(0.280)	742885	100.000	110.52
152	Amyl alcohol	42	6.903	6.903	(0.900)	457453	2000.00	2104.71
158	Dichlorofluoromethane	67	1.531	1.531	(0.367)	823584	100.000	97.72
159	Propylene oxide	43	1.805	1.805	(0.432)	116784	200.000	181.98
161	3-Methyl-1-butanol	55	6.899	6.899	(0.900)	421402	2000.00	2264.68
162	Butyl acrylate	55	8.249	8.249	(1.076)	1549632	100.000	107.77
163	Butyl methacrylate	41	9.167	9.167	(0.949)	1085490	100.000	107.91
164	Dicyclopentadiene	66	9.681	9.681	(1.002)	2485958	100.000	102.76
182	Epichlorohydrin	57	6.093	6.093	(1.227)	253170	400.000	419.20
M 94	1,2-Dichloroethylene (total)	96				1028469	200.000	(a)
145	alpha-Methylstyrene	118	9.257	9.257	(0.958)	977451	100.000	106.68
130	Ethyl Acetate	43	3.660	3.660	(0.876)	772631	100.000	99.44
134	Cyclohexanone	55	8.642	8.642	(0.894)	668441	2000.00	1787.90
185	Isoprene	39	1.771	1.771	(0.424)	186523	100.000	108.17
188	Isopropyl acetate	43	4.676	4.676	(0.942)	2105793	100.000	98.77

187 n-Amyl acetate	43	8.451	8.451 (1.102)	1369941	100.000	98.90
189 n-Butyl acetate	43	7.210	7.210 (0.940)	1203586	100.000	103.89(H)

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
150 Allyl alcohol	57	2.772	2.772	(0.664)	700280	2000.00	2002.79
194 Acetaldehyde	44	1.212	1.212	(0.290)	189053	400.000	425.78(M)
195 Methyl Amyl Ketone	43	8.380	8.380	(1.093)	1583303	100.000	100.22
200 Dimethyl Disulfide	94	6.194	6.194	(0.808)	1112805	100.000	109.15
202 Isobutylene	41	1.242	1.242	(0.297)	90557	100.000	104.71(M)
205 2-Ethylhexyl Acrylate	55	11.544	11.544	(1.195)	1235080	100.000	115.14

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount
exceeded maximum amount.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.



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Client ID: VSTD100
Sample Info: VSTD100;VSTD100;1;8;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

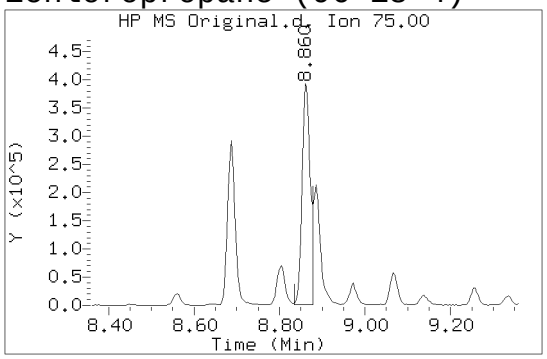
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InstruID : voa6.i
LabSampID : VSTD100

1,2,3-Trichloropropane (96-18-4)

Reason Code:

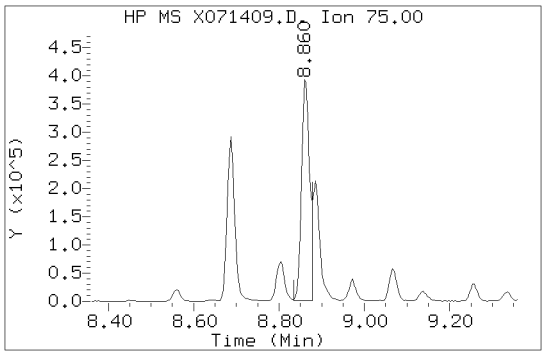
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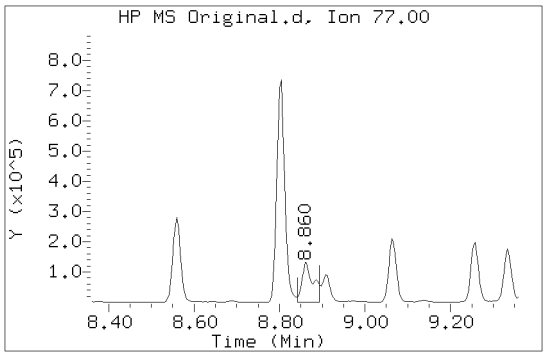
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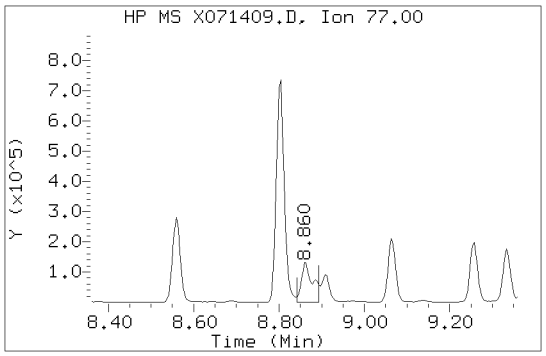
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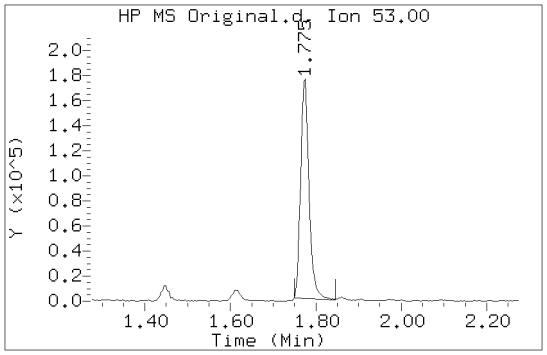


Chloroprene (126-99-8)

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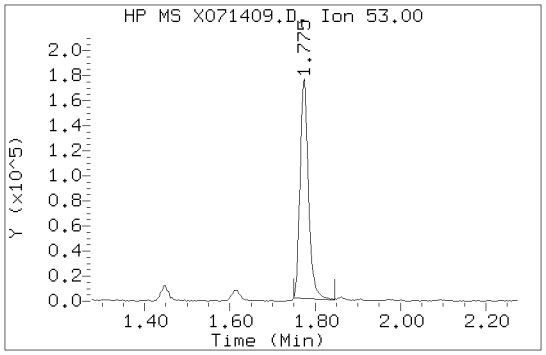
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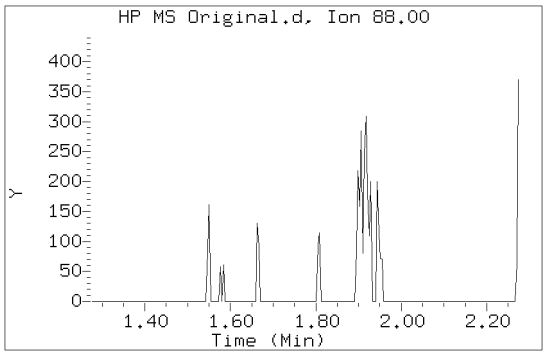
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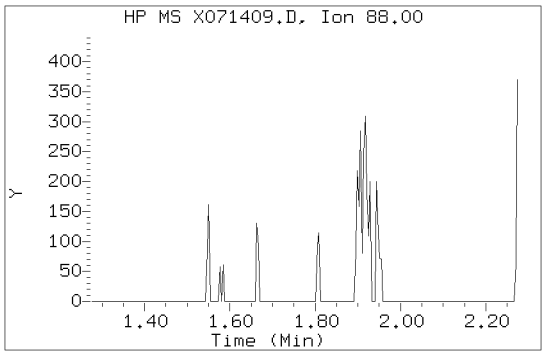
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AFTER

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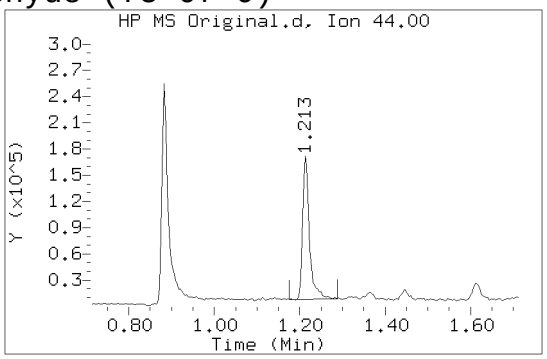
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InstruID : voa6.i
LabSampID : VSTD100

Acetaldehyde (75-07-0)

Reason Code:

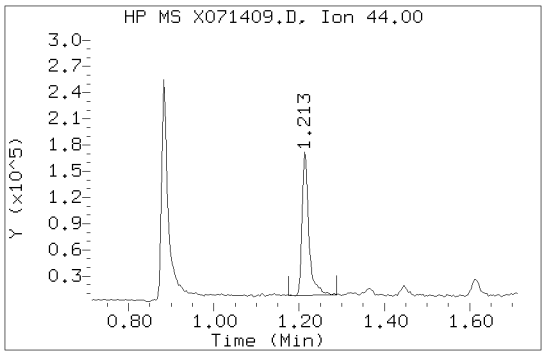
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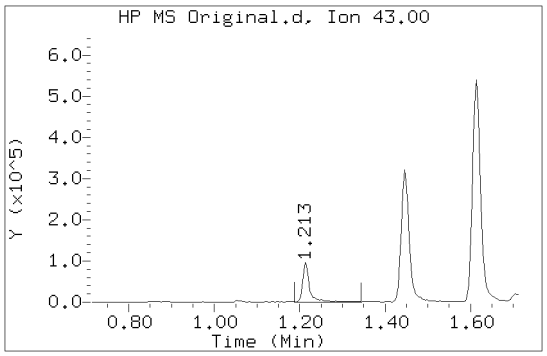
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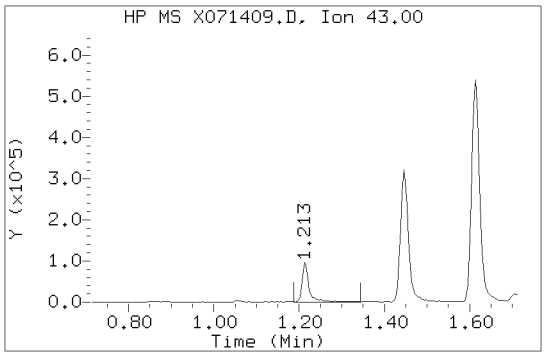
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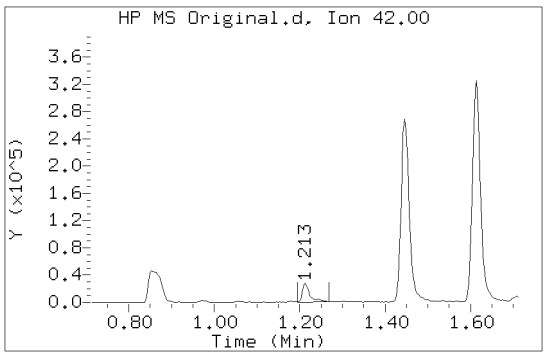
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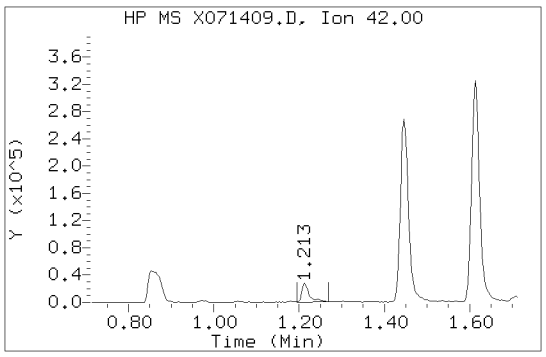
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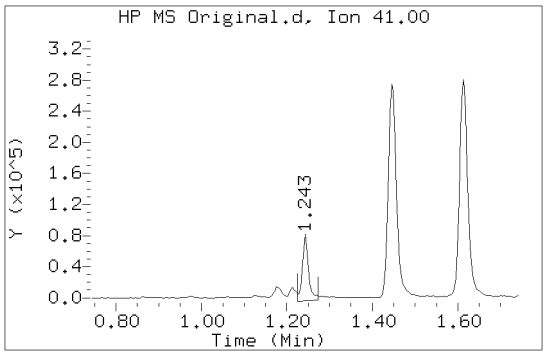


Isobutylene (115-11-7)

Reason Code:

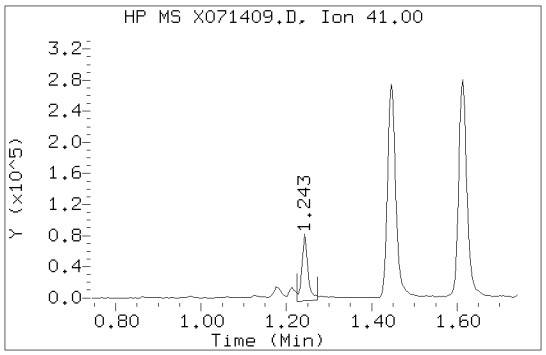
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20-Jul-2023
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AFTER

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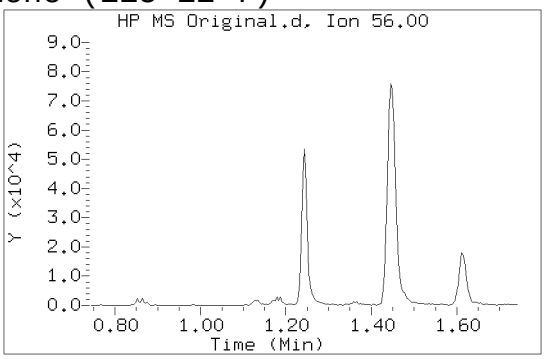


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LabSampID : VSTD100

Isobutylene (115-11-7)

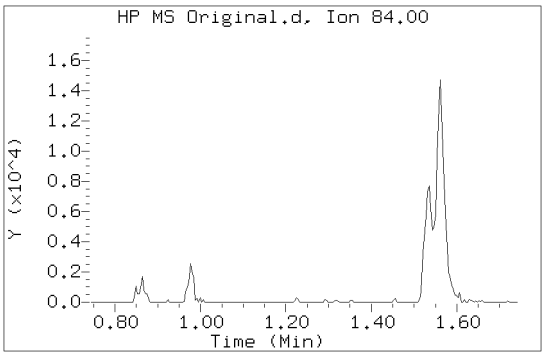
BEFORE

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BEFORE

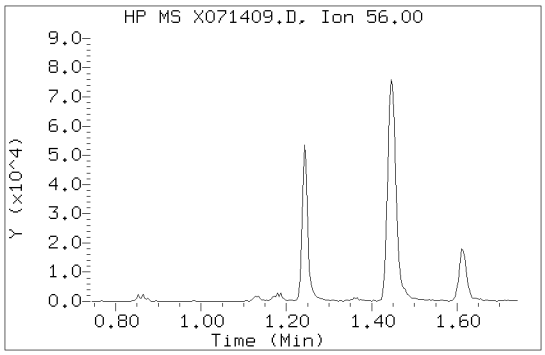
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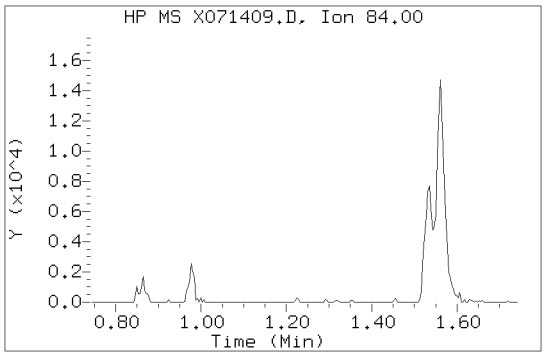
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AFTER

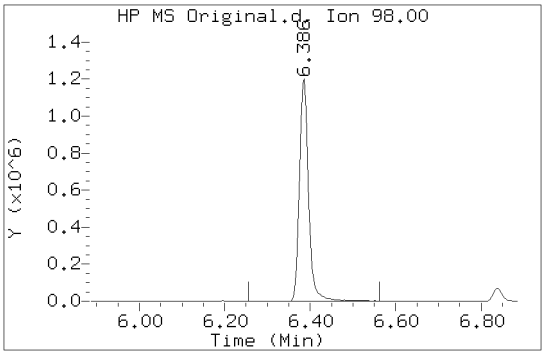
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Toluene-d8 (2037-26-5)

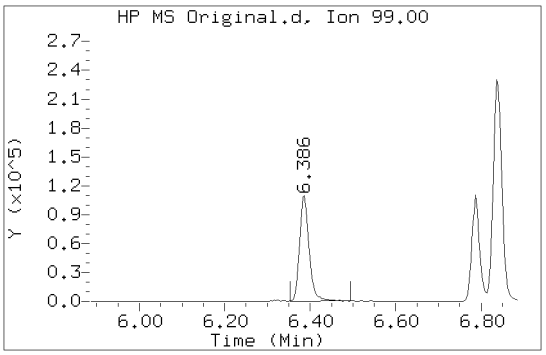
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BEFORE

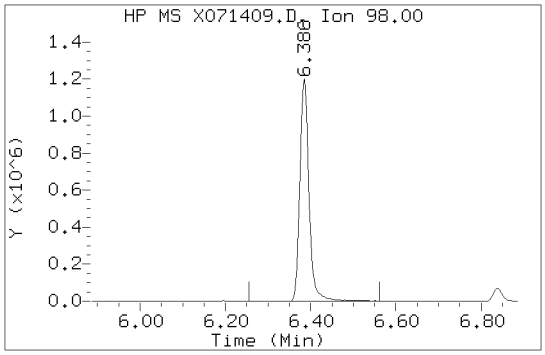
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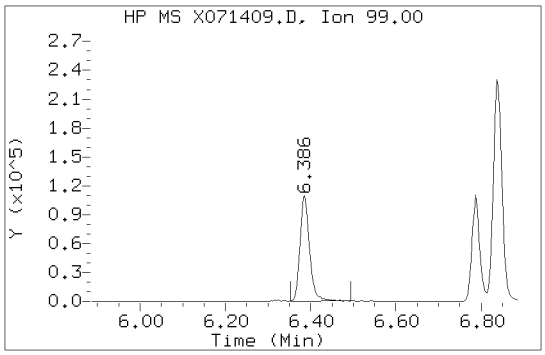
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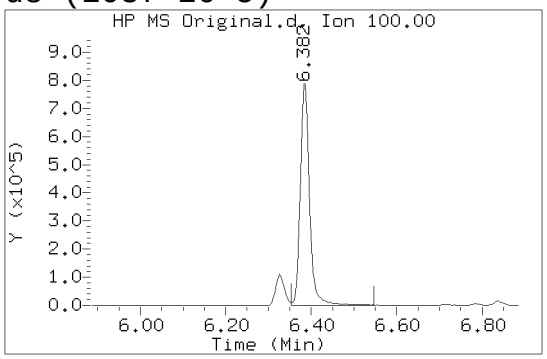
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LabSampID : VSTD100

Toluene-d8 (2037-26-5)

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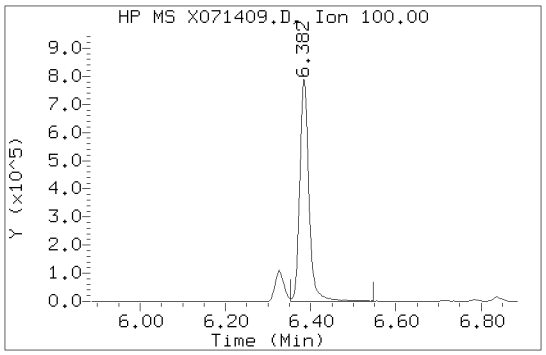
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ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071410.D
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Inj Date : 14-JUL-2023 15:05
Operator : PC Inst ID: voa6.i
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Cal Date : 14-JUL-2023 14:44 Cal File: X071409.D
Als bottle: 11 Calibration Sample, Level: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000_8260.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.178	4.178	(1.000)	527810	50.0000	
2 Dichlorodifluoromethane	85	0.976	0.976	(0.234)	822037	150.000	150.00
3 Chloromethane	50	1.081	1.081	(0.259)	1286174	150.000	161.33
4 Propionitrile	54	3.656	3.656	(0.875)	1601430	1500.00	1531.66
5 Vinyl Chloride	62	1.145	1.145	(0.274)	1063794	150.000	155.75
6 Bromomethane	94	1.336	1.336	(0.320)	469612	150.000	166.14
7 Chloroethane	64	1.404	1.404	(0.336)	574620	150.000	147.37
8 Trichlorofluoromethane	101	1.561	1.561	(0.374)	1133831	150.000	163.80
9 Acrolein	56	1.861	1.861	(0.446)	60619	300.000	301.00(M)
10 Acetone	43	1.973	1.973	(0.472)	616513	300.000	304.76
11 1,1-Dichloroethene	96	1.913	1.913	(0.458)	592973	150.000	153.35
12 Isobutyl Alcohol	43	4.676	4.676	(1.119)	3143464	3000.00	3141.89
13 Acetonitrile	39	2.198	2.198	(0.526)	1116521	1500.00	1508.54
14 Allyl Chloride	41	2.198	2.198	(0.526)	2479475	150.000	143.08
15 Iodomethane	142	2.030	2.030	(0.486)	1666204	300.000	298.54
16 Acrylonitrile	53	2.532	2.532	(0.606)	742882	300.000	288.83
17 Methylene Chloride	84	2.303	2.303	(0.551)	679924	150.000	151.80
18 Methyl tert-butyl ether	73	2.539	2.539	(0.608)	2090757	150.000	145.38
19 Carbon Disulfide	76	2.071	2.071	(0.496)	3776842	300.000	310.72
20 trans-1,2-Dichloroethene	96	2.528	2.528	(0.605)	652435	150.000	145.86

21 Vinyl Acetate	43	3.000	3.000 (0.718)	5593666	300.000	302.39
22 1,1-Dichloroethane	63	2.922	2.922 (0.699)	1431683	150.000	145.86

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
23	Chloroprene	53	1.771	1.771	(0.424)	369436	150.000	155.66
24	2-Butanone	43	3.581	3.581	(0.857)	878521	300.000	312.55
25	Methacrylonitrile	41	3.821	3.821	(0.915)	1065216	150.000	156.35(aM)
26	2,2-Dichloropropane	77	3.507	3.507	(0.839)	1150093	150.000	150.52
27	cis-1,2-Dichloroethene	96	3.522	3.522	(0.843)	837160	150.000	146.92
28	Chloroform	83	3.904	3.904	(0.935)	1446796	150.000	144.05
29	Bromochloromethane	128	3.791	3.791	(0.908)	457063	150.000	143.13
$ 30	Dibromofluoromethane	113	4.099	4.099	(0.981)	719790	150.000	150.30
31	1,1,1-Trichloroethane	97	4.080	4.080	(0.977)	1235806	150.000	159.84
32	1,1-Dichloropropene	75	4.279	4.279	(0.862)	1058110	150.000	156.11
33	1,2-Dichloroethane	62	4.552	4.552	(0.917)	1349536	150.000	147.53
34	Carbon Tetrachloride	117	4.264	4.264	(0.859)	1056698	150.000	154.75(H)
$ 35	1,2-Dichloroethane-d4	65	4.470	4.470	(1.070)	911155	150.000	151.87
* 36	1,4-Difluorobenzene	114	4.965	4.965	(1.000)	830945	50.0000	
37	Benzene	78	4.511	4.511	(0.909)	2966123	150.000	149.23
38	Trichloroethene	130	5.205	5.205	(1.048)	855874	150.000	152.23
39	Bromodichloromethane	83	5.726	5.726	(1.153)	1126828	150.000	148.01
40	Methyl Methacrylate	41	5.606	5.606	(1.342)	952441	150.000	149.51
41	2-Chloroethylvinyl ether	63	6.044	6.044	(1.217)	736745	300.000	316.95
42	1,2-Dichloropropane	63	5.437	5.437	(1.095)	965373	150.000	151.04
43	2-Nitropropane	43	5.969	5.969	(1.429)	327090	150.000	155.99
44	Dibromomethane	93	5.550	5.550	(1.118)	514778	150.000	142.29
45	4-Methyl-2-Pentanone	43	6.325	6.325	(0.825)	2236545	300.000	293.85
46	cis-1,3-Dichloropropene	75	6.153	6.153	(1.239)	1331094	150.000	152.22
* 47	Chlorobenzene-d5	117	7.668	7.668	(1.000)	773431	50.0000	
$ 48	Toluene-d8	98	6.385	6.385	(0.833)	2609088	150.000	131.02(M)
49	Ethyl Methacrylate	69	6.715	6.715	(1.353)	829910	150.000	152.50
50	Toluene	91	6.442	6.442	(0.840)	3226930	150.000	154.99
51	trans-1,3-Dichloropropene	75	6.678	6.678	(1.345)	1129301	150.000	153.20
52	2-Hexanone	43	7.086	7.086	(0.924)	1502232	300.000	300.46
53	1,1,2-Trichloroethane	83	6.839	6.839	(0.892)	629049	150.000	142.43
54	1,3-Dichloropropane	76	6.978	6.978	(0.910)	1287243	150.000	142.66
55	Dibromochloromethane	129	7.173	7.173	(0.935)	978359	150.000	153.44
56	Tetrachloroethene	164	6.925	6.925	(0.903)	682053	150.000	158.57
57	1,2-Dibromoethane	107	7.255	7.255	(0.946)	707106	150.000	140.10
58	1-Chlorohexane	55	7.694	7.694	(1.550)	1016479	150.000	152.26
59	Chlorobenzene	112	7.690	7.690	(1.003)	2169037	150.000	149.03
60	1,1,1,2-Tetrachloroethane	131	7.772	7.772	(1.014)	874873	150.000	153.55
61	Ethylbenzene	106	7.795	7.795	(1.017)	1121097	150.000	153.61
62	m,p-Xylenes	106	7.900	7.900	(1.030)	2832546	300.000	309.38
63	o-Xylene	106	8.237	8.237	(1.074)	1332457	150.000	153.68
64	Styrene	104	8.256	8.256	(1.077)	2314702	150.000	153.05
66	Bromoform	173	8.406	8.406	(1.096)	644372	150.000	157.51
67	Isopropylbenzene	105	8.560	8.560	(1.116)	3517587	150.000	157.83
68	1,1,2,2-Tetrachloroethane	83	8.837	8.837	(0.915)	1039682	150.000	143.99
$ 69	4-Bromofluorobenzene	95	8.687	8.687	(1.133)	1135204	150.000	148.24
* 70	1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	429875	50.0000	
71	1,2,3-Trichloropropane	75	8.860	8.860	(0.917)	832853	150.000	145.35(M)
72	trans-1,4-Dichloro-2-butene	53	8.886	8.886	(1.159)	389558	150.000	165.60
73	n-Propylbenzene	91	8.908	8.908	(0.922)	4183180	150.000	161.03
74	Bromobenzene	156	8.803	8.803	(0.911)	988462	150.000	147.02
75	1,3,5-Trimethylbenzene	105	9.066	9.066	(0.938)	3151476	150.000	161.94

76	2-Chlorotoluene	91	8.972	8.972 (0.929)	2593717	150.000	148.01
77	4-Chlorotoluene	91	9.066	9.066 (0.938)	3011546	150.000	156.39

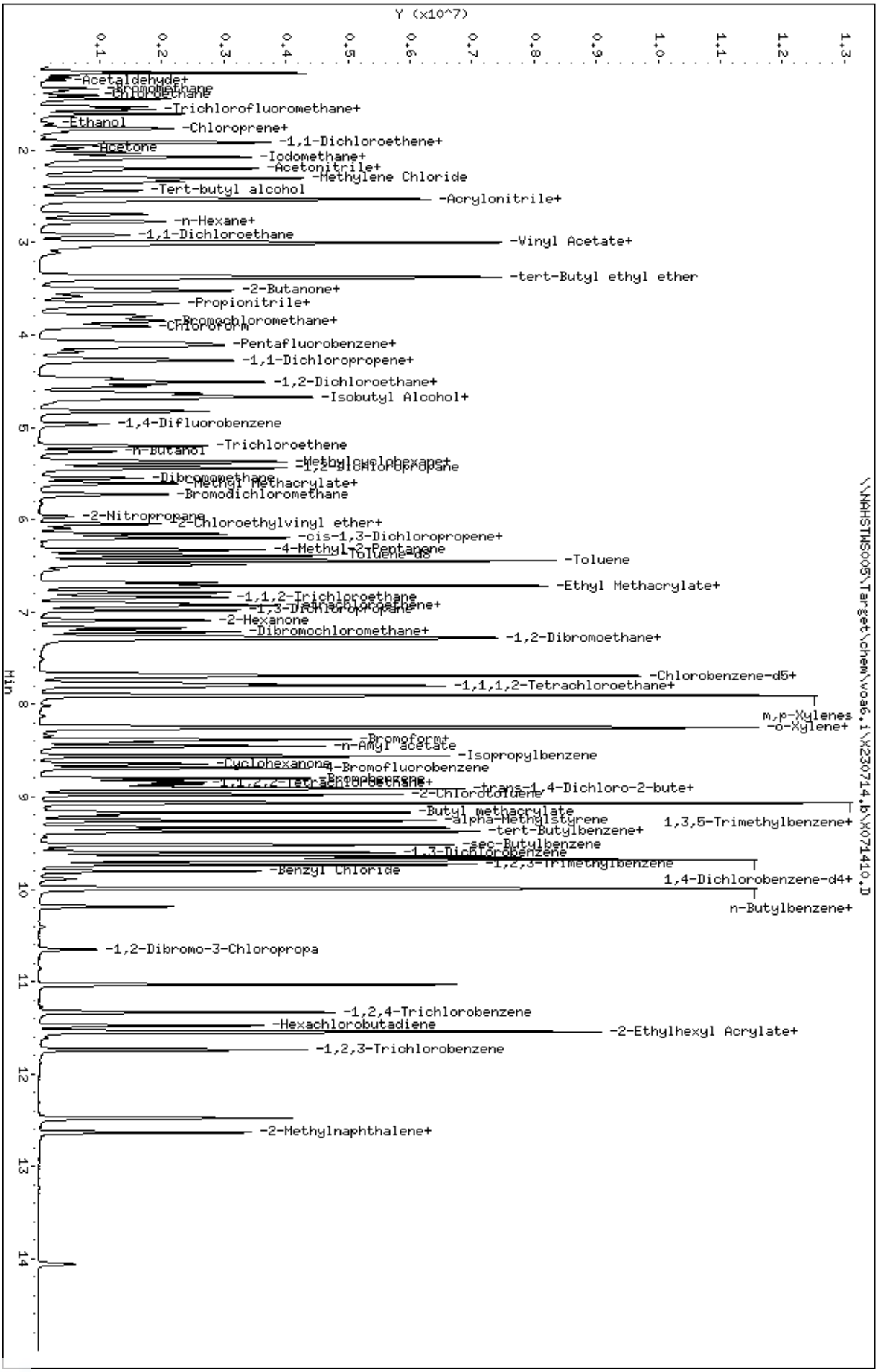
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
78	tert-Butylbenzene	119	9.336	9.336	(0.966)	2639400	150.000	158.15
79	1,2,4-Trimethylbenzene	105	9.377	9.377	(0.971)	3108890	150.000	159.30
81	sec-Butylbenzene	105	9.519	9.519	(0.985)	3705100	150.000	166.56
82	p-Isopropyltoluene	119	9.647	9.647	(0.998)	3332963	150.000	164.02
83	1,3-Dichlorobenzene	146	9.602	9.602	(0.994)	1820441	150.000	155.43
84	1,4-Dichlorobenzene	146	9.681	9.681	(1.002)	1873658	150.000	145.90
86	Benzyl Chloride	91	9.804	9.804	(1.279)	2041719	150.000	150.20
87	n-Butylbenzene	91	9.992	9.992	(1.034)	2930740	150.000	172.20
88	1,2-Dichlorobenzene	146	9.988	9.988	(1.034)	1771825	150.000	153.87
89	1,2-Dibromo-3-Chloropropane	155	10.651	10.651	(1.102)	181917	150.000	151.02
90	1,2,4-Trichlorobenzene	180	11.334	11.334	(1.173)	1234851	150.000	156.14
91	Hexachlorobutadiene	225	11.476	11.476	(1.188)	564457	150.000	149.95
92	Naphthalene	128	11.536	11.536	(1.194)	2932468	150.000	149.81(H)
93	1,2,3-Trichlorobenzene	180	11.739	11.739	(1.215)	1112132	150.000	150.36
146	Methyl acetate	43	2.228	2.228	(0.533)	681317	150.000	145.04
138	Freon TF	101	1.917	1.917	(0.459)	606555	150.000	111.66
141	Cyclohexane	56	4.118	4.118	(0.986)	1542802	150.000	168.63
142	Tetrahydrofuran	42	3.851	3.851	(0.922)	399301	300.000	294.06
147	Methylcyclohexane	55	5.377	5.377	(1.083)	2810624	150.000	160.25(A)
135	1,4-Dioxane	88	5.602	5.602	(1.341)	190045	3000.00	3030.04
132	n-Butanol	56	5.261	5.261	(1.259)	615802	3000.00	3504.76
131	Methyl Acrylate	55	3.690	3.690	(0.883)	1248423	150.000	174.00
133	Ethyl Acrylate	55	5.377	5.377	(1.287)	2810624	150.000	160.67
136	n-Hexane	57	2.772	2.772	(0.664)	1037045	150.000	105.54
139	Diethyl ether	59	1.756	1.756	(0.420)	707615	150.000	143.77
148	Tert-butyl alcohol	59	2.438	2.438	(0.584)	1892876	3000.00	2841.43
149	Isopropyl alcohol	45	2.097	2.097	(0.502)	1176234	3000.00	2845.54
156	Diisopropyl ether	45	3.004	3.004	(0.719)	3254817	150.000	149.61
166	1,2,3-Trimethylbenzene	105	9.729	9.729	(1.007)	3200479	150.000	161.06
167	Ethanol	45	1.711	1.711	(0.410)	220615	3000.00	3026.01
172	tert-Butyl formate	59	4.631	4.631	(1.109)	1704396	300.000	302.29(A)
173	3,3-Dimethyl-1-butanol	57	7.289	7.289	(0.951)	2433401	3000.00	2925.50
174	tert-Amyl methyl ether	73	4.669	4.669	(1.118)	2611847	150.000	150.42(M)
175	tert-Butyl ethyl ether	59	3.383	3.383	(0.810)	3273017	150.000	146.47
176	tert-Amyl alcohol	59	4.631	4.631	(1.109)	1704396	3000.00	2955.95
151	4-Methyl-2-pentanol	45	6.715	6.715	(1.353)	5221709	3000.00	2932.29
180	1-Methylnaphthalene	142	12.631	12.631	(1.307)	1346422	150.000	(a)
140	1,3-Butadiene	54	1.167	1.167	(0.280)	1064415	150.000	156.94
152	Amyl alcohol	42	6.903	6.903	(0.900)	729736	3000.00	3280.90
158	Dichlorofluoromethane	67	1.531	1.531	(0.367)	1246213	150.000	146.54
159	Propylene oxide	43	1.805	1.805	(0.432)	172752	300.000	266.78
161	3-Methyl-1-butanol	55	6.903	6.903	(0.900)	658666	3000.00	3459.04
162	Butyl acrylate	55	8.249	8.249	(1.076)	2429512	150.000	165.11
163	Butyl methacrylate	41	9.167	9.167	(0.949)	1571014	150.000	152.57
164	Dicyclopentadiene	66	9.684	9.684	(1.002)	3894938	150.000	157.29(H)
182	Epichlorohydrin	57	6.093	6.093	(1.227)	380786	600.000	613.50
M 94	1,2-Dichloroethylene (total)	96				1489595	300.000	(a)
145	alpha-Methylstyrene	118	9.257	9.257	(0.958)	1478505	150.000	157.64
130	Ethyl Acetate	43	3.660	3.660	(0.876)	1137763	150.000	145.13
134	Cyclohexanone	55	8.642	8.642	(0.894)	1027116	3000.00	2683.87
185	Isoprene	39	1.771	1.771	(0.424)	269460	150.000	154.87
188	Isopropyl acetate	43	4.676	4.676	(0.942)	3143464	150.000	143.47

187 n-Amyl acetate	43	8.451	8.451 (1.102)	2118647	150.000	149.46
189 n-Butyl acetate	43	7.210	7.210 (0.940)	1862306	150.000	157.09(H)

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
150 Allyl alcohol	57	2.772	2.772	(0.664)	1037045	3000.00	2106.54
194 Acetaldehyde	44	1.212	1.212	(0.290)	265471	600.000	601.40(M)
195 Methyl Amyl Ketone	43	8.380	8.380	(1.093)	2526261	150.000	156.27
200 Dimethyl Disulfide	94	6.194	6.194	(0.808)	1709034	150.000	163.81
202 Isobutylene	41	1.242	1.242	(0.297)	129814	150.000	148.75(M)
205 2-Ethylhexyl Acrylate	55	11.544	11.544	(1.195)	1882332	150.000	171.43

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount
exceeded maximum amount.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.



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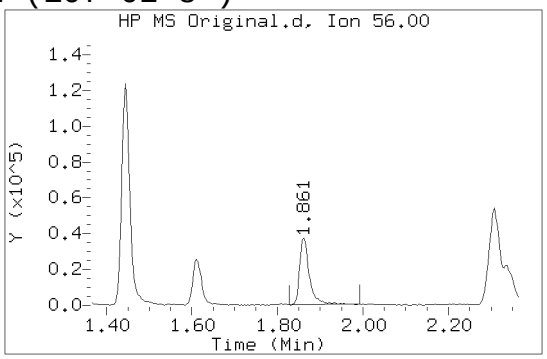
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Operator: PC
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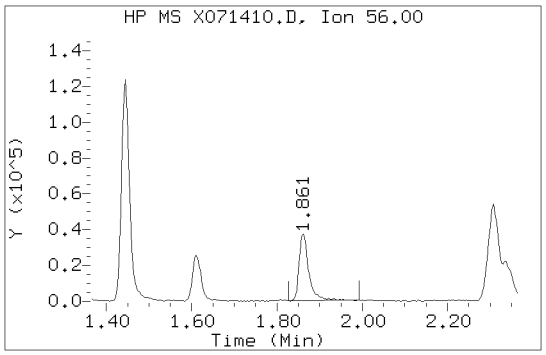
Acrolein (107-02-8)

Reason Code:

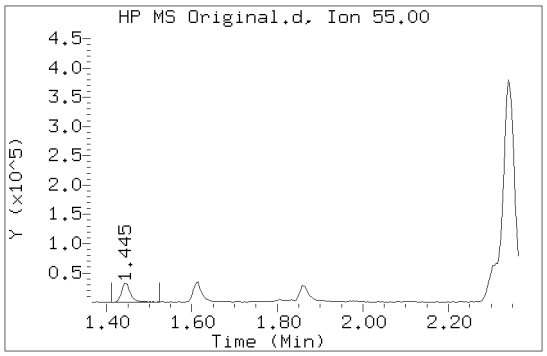
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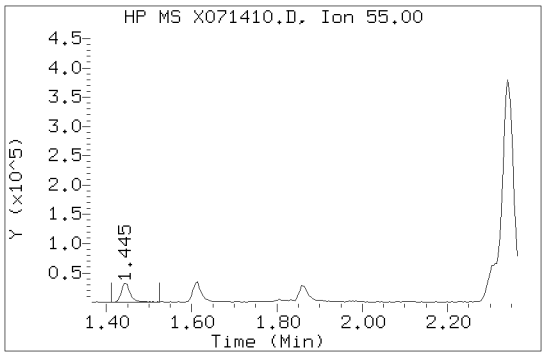
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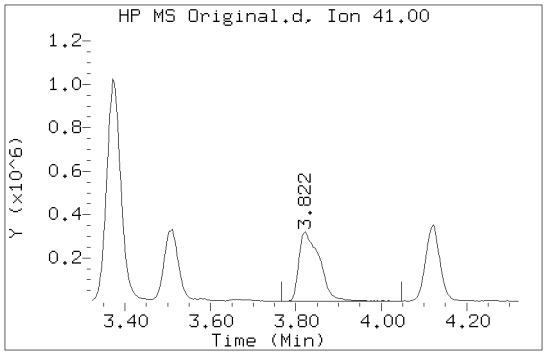
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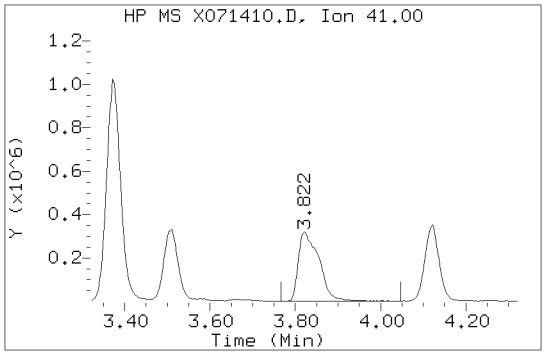
Methacrylonitrile (126-98-7)

Reason Code:

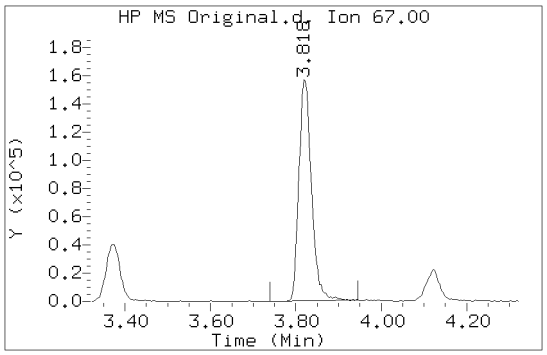
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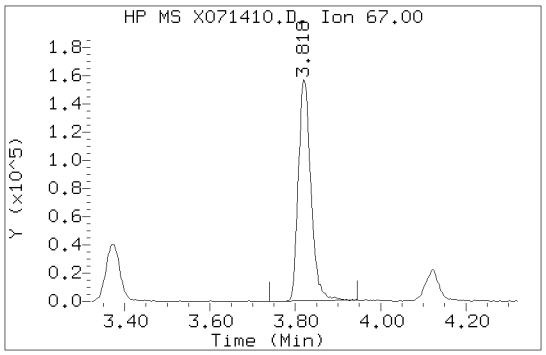
AFTER
MASS
41
AREA
1065216
HEIGHT
318629
20-Jul-2023
15:04
linh
pham



BEFORE
MASS
67
AREA
327199
HEIGHT
157063
20-Jul-2023
15:04
linh
pham



AFTER
MASS
67
AREA
327199
HEIGHT
157063
20-Jul-2023
15:04
linh
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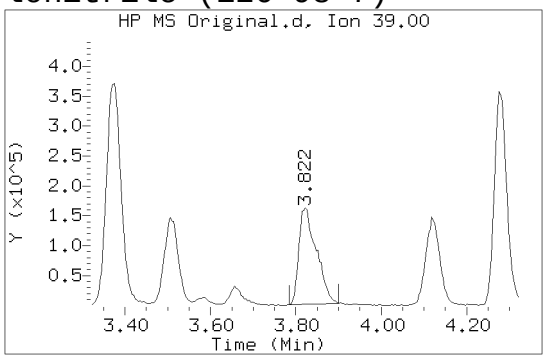
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InstruID : voa6.i
LabSampID : VSTD150

Methacrylonitrile (126-98-7)

Reason Code:

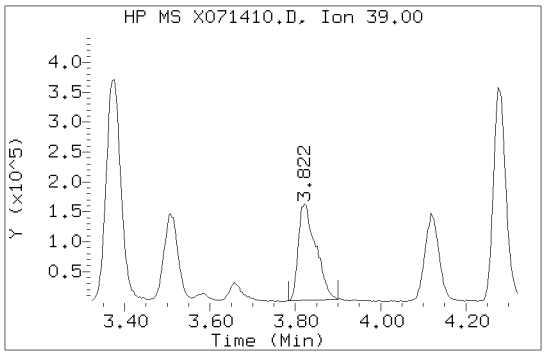
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20-Jul-2023
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AFTER

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HEIGHT
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20-Jul-2023
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pham

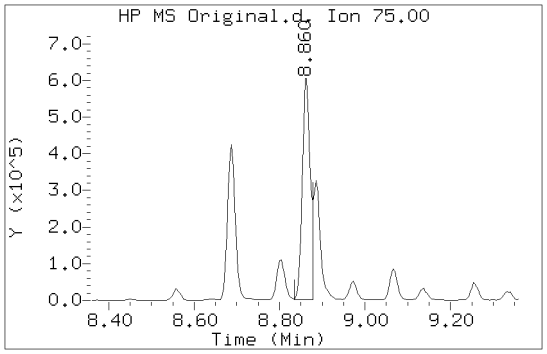


1,2,3-Trichloropropane (96-18-4)

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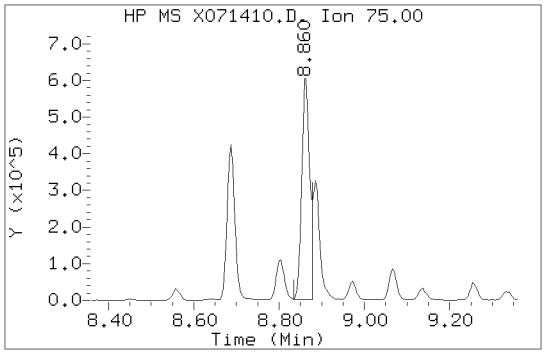
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15:04
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pham



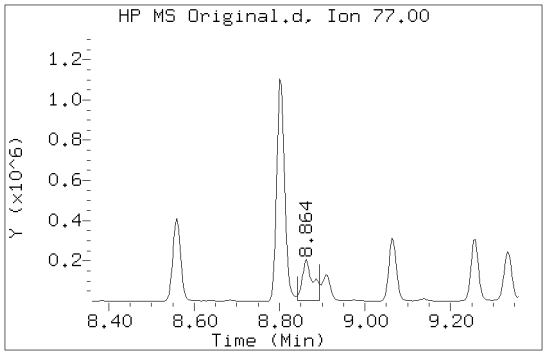
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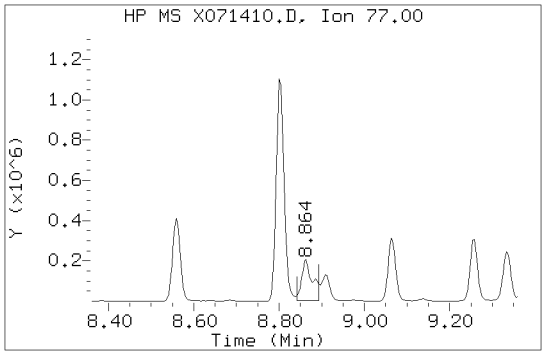
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202553
20-Jul-2023
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AFTER

MASS
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366391
HEIGHT
202553
20-Jul-2023
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linh
pham

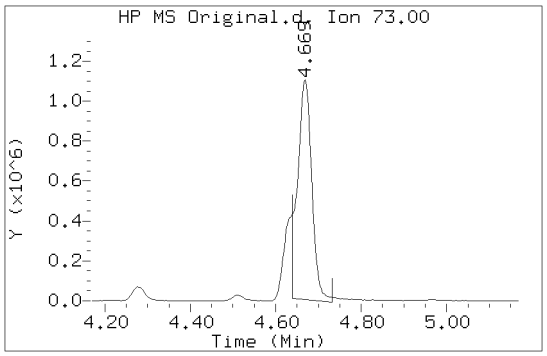


tert-Amyl methyl ether (974-05-08)

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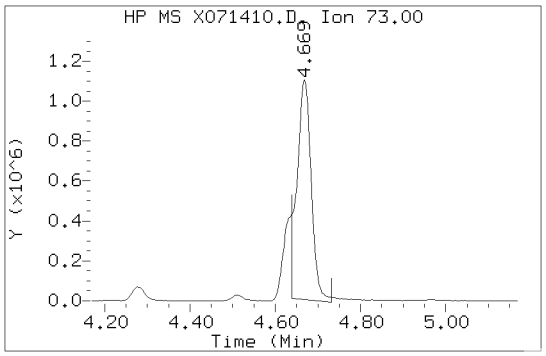
BEFORE

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HEIGHT
1100641
20-Jul-2023
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pham



AFTER

MASS
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20-Jul-2023
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pham

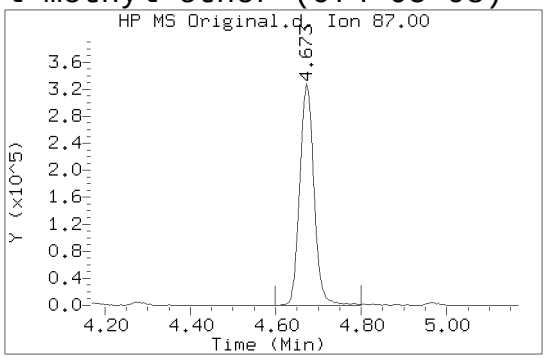


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InstruID : voa6.i
LabSampID : VSTD150

tert-Amyl methyl ether (974-05-08)

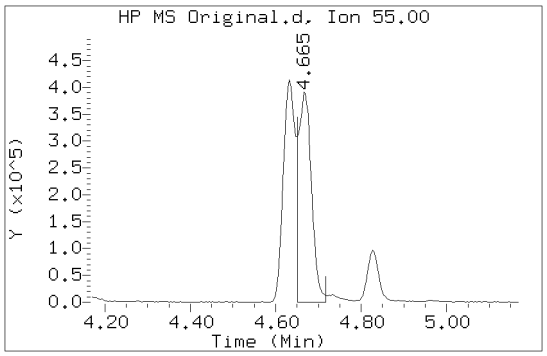
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MASS
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AREA
775395
HEIGHT
328192
20-Jul-2023
15:04
linh
pham



BEFORE

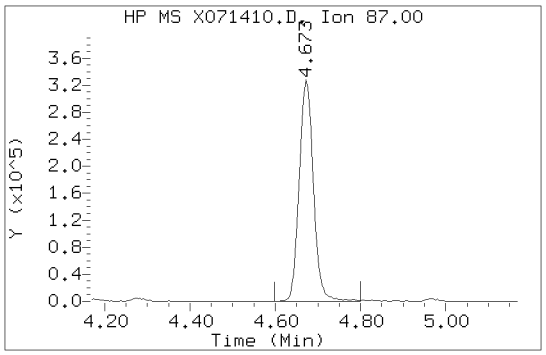
MASS
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853298
HEIGHT
391260
20-Jul-2023
15:04
linh
pham



Reason Code:

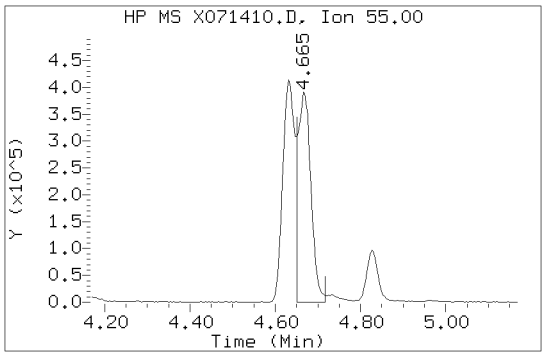
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AFTER

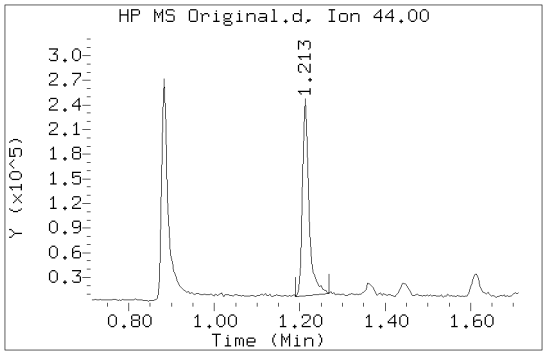
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15:04
linh
pham



Acetaldehyde (75-07-0)

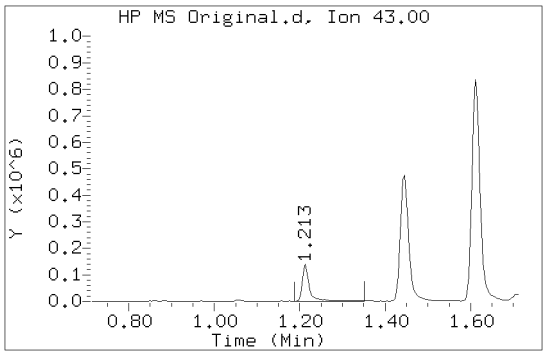
BEFORE

MASS
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20-Jul-2023
15:04
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pham



BEFORE

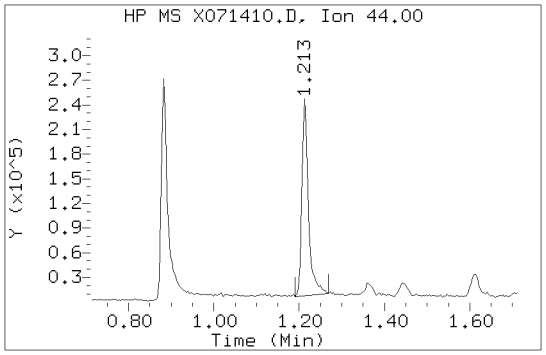
MASS
43
AREA
162116
HEIGHT
140408
20-Jul-2023
15:04
linh
pham



Reason Code:

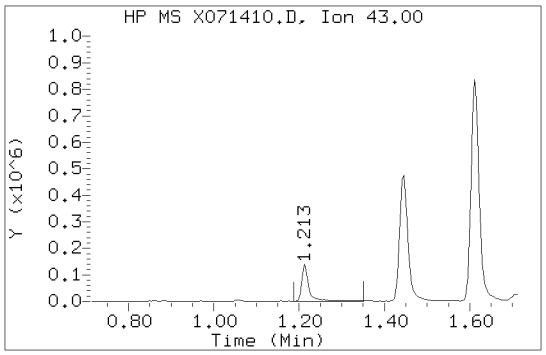
AFTER

MASS
44
AREA
265471
HEIGHT
240024
20-Jul-2023
15:04
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pham



AFTER

MASS
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AREA
162116
HEIGHT
140408
20-Jul-2023
15:04
linh
pham



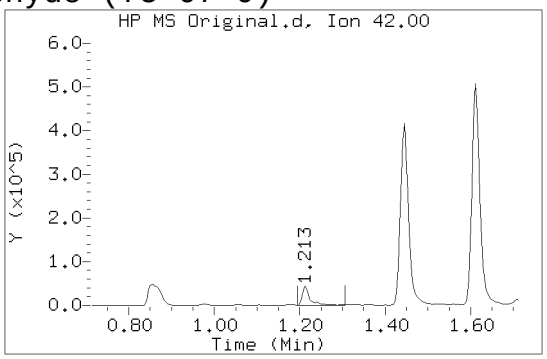
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InstruID : voa6.i
LabSampID : VSTD150

Acetaldehyde (75-07-0)

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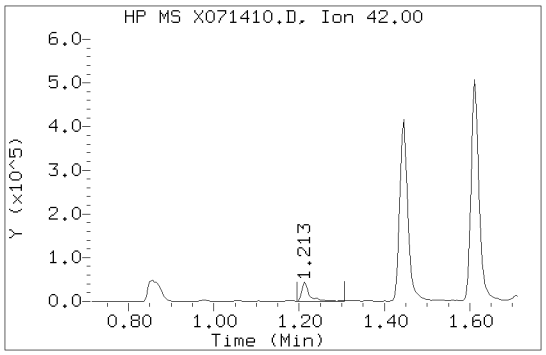
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42843
20-Jul-2023
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AFTER

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53628
HEIGHT
42843
20-Jul-2023
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linh
pham

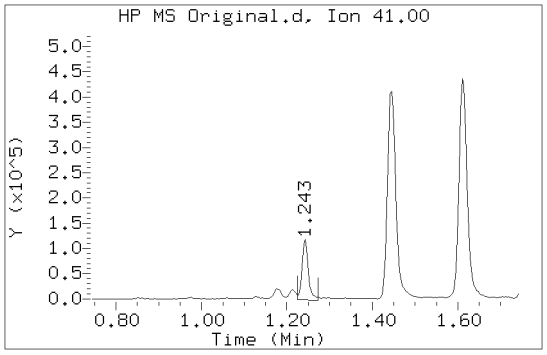


Isobutylene (115-11-7)

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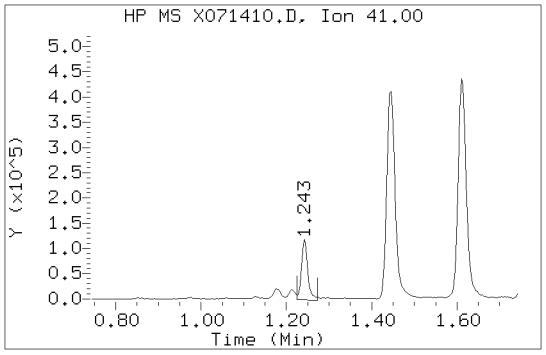
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20-Jul-2023
15:04
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pham



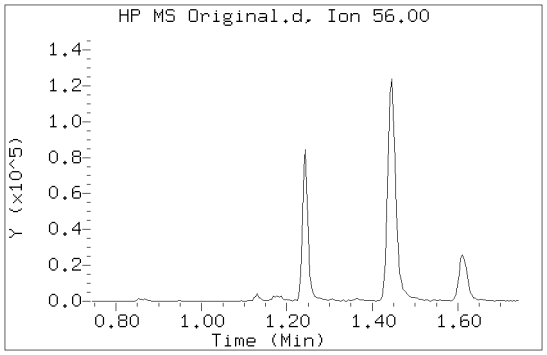
AFTER

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120099
20-Jul-2023
15:04
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pham



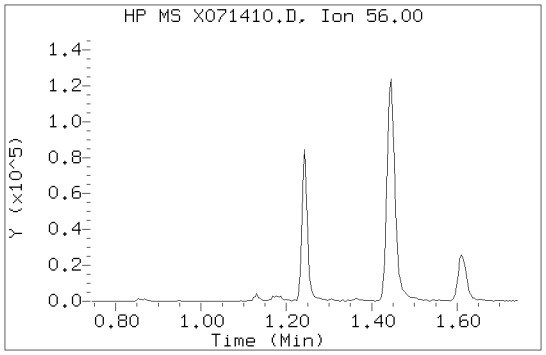
BEFORE

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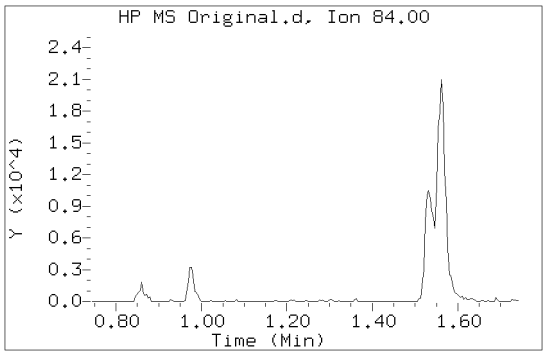
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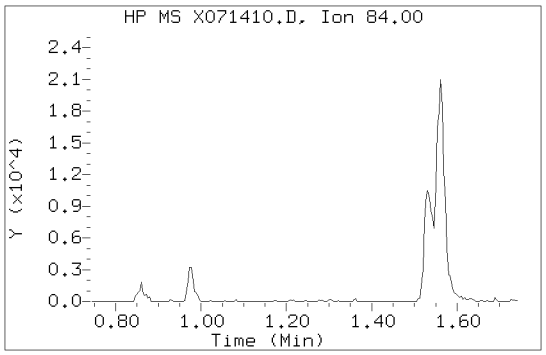
BEFORE

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0
20-Jul-2023
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AFTER

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20-Jul-2023
15:04
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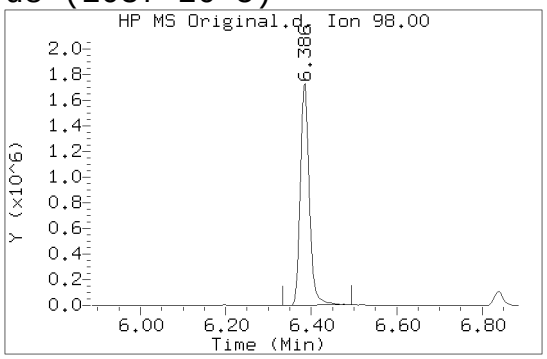


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Inj Date : 14-JUL-2023 15:05
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LabSampID : VSTD150

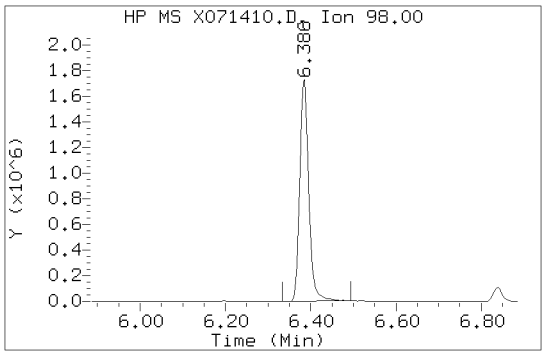
Toluene-d8 (2037-26-5)

Reason Code:

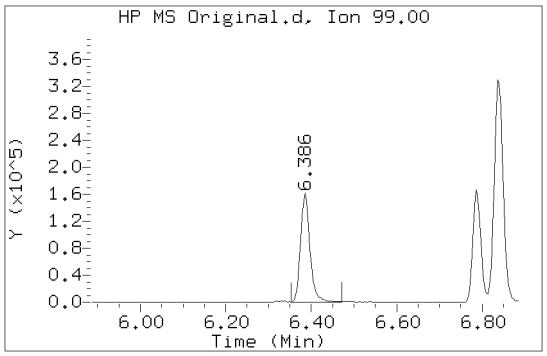
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20-Jul-2023
15:04
linh
pham



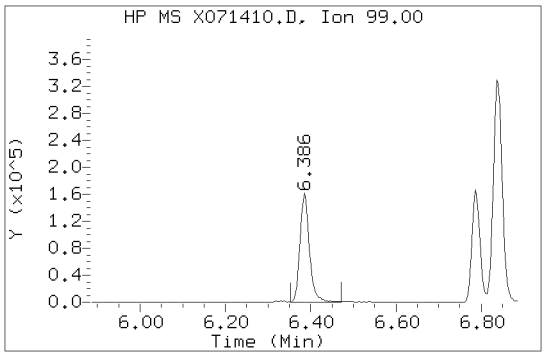
AFTER
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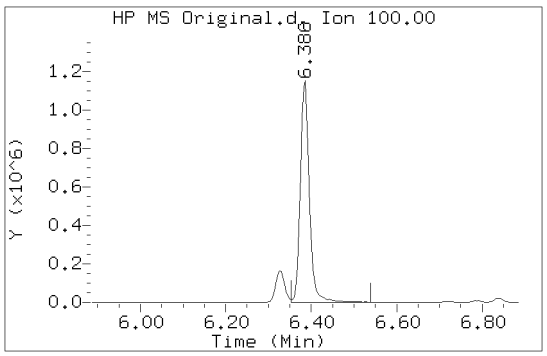
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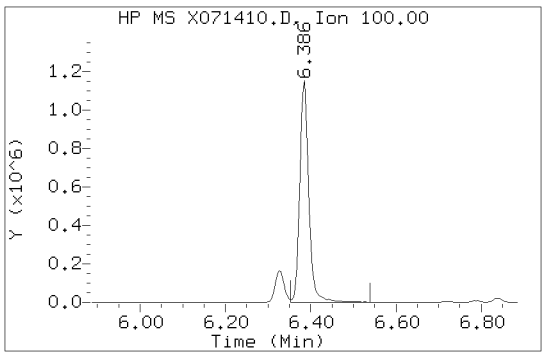
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BEFORE
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1734764
HEIGHT
1151862
20-Jul-2023
15:04
linh
pham



AFTER
MASS
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1734764
HEIGHT
1151862
20-Jul-2023
15:04
linh
pham



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Report Date: 20-Jul-2023 15:05

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071411.D
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Inj Date : 14-JUL-2023 15:25
Operator : PC Inst ID: voa6.i
Smp Info : VSTD200;VSTD200;1;10;
Misc Info : V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\8260W.m
Meth Date : 20-Jul-2023 15:05 voa6.i Quant Type: ISTD
Cal Date : 14-JUL-2023 15:05 Cal File: X071410.D
Als bottle: 12 Calibration Sample, Level: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000_8260.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.181	4.181	(1.000)	537032	50.0000	
2 Dichlorodifluoromethane	85	0.976	0.976	(0.234)	1105119	200.000	197.85
3 Chloromethane	50	1.081	1.081	(0.259)	1771073	200.000	218.34(A)
4 Propionitrile	54	3.660	3.660	(0.875)	2109183	2000.00	1982.65
5 Vinyl Chloride	62	1.145	1.145	(0.274)	1416013	200.000	203.75(A)
6 Bromomethane	94	1.332	1.332	(0.319)	617046	200.000	214.56(A)
7 Chloroethane	64	1.400	1.400	(0.335)	747413	200.000	188.39
8 Trichlorofluoromethane	101	1.561	1.561	(0.373)	1509581	200.000	214.34(A)
9 Acrolein	56	1.857	1.857	(0.444)	82636	400.000	402.90(AM)
10 Acetone	43	1.973	1.973	(0.472)	806431	400.000	393.20
11 1,1-Dichloroethene	96	1.913	1.913	(0.458)	797906	200.000	202.80(A)
12 Isobutyl Alcohol	43	4.680	4.680	(1.119)	4072757	4000.00	4000.82(A)
13 Acetonitrile	39	2.198	2.198	(0.526)	1461877	2000.00	1941.23
14 Allyl Chloride	41	2.198	2.198	(0.526)	3258545	200.000	184.81
15 Iodomethane	142	2.029	2.029	(0.485)	2365259	400.000	399.51
16 Acrylonitrile	53	2.535	2.535	(0.606)	973671	400.000	372.06
17 Methylene Chloride	84	2.303	2.303	(0.551)	893552	200.000	196.48
18 Methyl tert-butyl ether	73	2.535	2.535	(0.606)	2728667	200.000	186.48
19 Carbon Disulfide	76	2.071	2.071	(0.495)	5098731	400.000	412.27(A)
20 trans-1,2-Dichloroethene	96	2.528	2.528	(0.605)	885590	200.000	194.59

21 Vinyl Acetate	43	3.000	3.000 (0.718)	7496591	400.000	398.30
22 1,1-Dichloroethane	63	2.922	2.922 (0.699)	1905438	200.000	190.79

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
23	Chloroprene	53	1.771	1.771	(0.424)	498457	200.000	206.42(A)
24	2-Butanone	43	3.581	3.581	(0.857)	1209313	400.000	422.85(A)
25	Methacrylonitrile	41	3.818	3.818	(0.913)	1405724	200.000	202.79(aA)
26	2,2-Dichloropropane	77	3.506	3.506	(0.839)	1535535	200.000	197.45
27	cis-1,2-Dichloroethene	96	3.521	3.521	(0.842)	1110625	200.000	191.56
28	Chloroform	83	3.904	3.904	(0.934)	1909053	200.000	186.82
29	Bromochloromethane	128	3.791	3.791	(0.907)	607870	200.000	187.09
$ 30	Dibromofluoromethane	113	4.099	4.099	(0.980)	959895	200.000	197.23
31	1,1,1-Trichloroethane	97	4.080	4.080	(0.976)	1657906	200.000	210.76(A)
32	1,1-Dichloropropene	75	4.279	4.279	(0.862)	1408668	200.000	209.46(A)
33	1,2-Dichloroethane	62	4.552	4.552	(0.917)	1793850	200.000	197.64
34	Carbon Tetrachloride	117	4.260	4.260	(0.858)	1394099	200.000	205.76(AH)
$ 35	1,2-Dichloroethane-d4	65	4.470	4.470	(1.069)	1203985	200.000	197.42
* 36	1,4-Difluorobenzene	114	4.965	4.965	(1.000)	824484	50.0000	
37	Benzene	78	4.511	4.511	(0.909)	3956301	200.000	200.61(A)
38	Trichloroethene	130	5.205	5.205	(1.048)	1148728	200.000	205.93(A)
39	Bromodichloromethane	83	5.722	5.722	(1.153)	1517659	200.000	200.91(A)
40	Methyl Methacrylate	41	5.606	5.606	(1.341)	1251379	200.000	193.06
41	2-Chloroethylvinyl ether	63	6.048	6.048	(1.218)	991998	400.000	430.11(A)
42	1,2-Dichloropropane	63	5.437	5.437	(1.095)	1286655	200.000	202.89(A)
43	2-Nitropropane	43	5.969	5.969	(1.428)	436967	200.000	204.81(A)
44	Dibromomethane	93	5.549	5.549	(1.118)	688009	200.000	191.66
45	4-Methyl-2-Pentanone	43	6.325	6.325	(0.825)	3017637	400.000	395.46
46	cis-1,3-Dichloropropene	75	6.153	6.153	(1.239)	1783083	200.000	205.51(A)
* 47	Chlorobenzene-d5	117	7.667	7.667	(1.000)	775428	50.0000	
$ 48	Toluene-d8	98	6.385	6.385	(0.833)	3447548	200.000	172.68(M)
49	Ethyl Methacrylate	69	6.719	6.719	(1.353)	1128954	200.000	209.07
50	Toluene	91	6.445	6.445	(0.841)	4312229	200.000	206.58(A)
51	trans-1,3-Dichloropropene	75	6.678	6.678	(1.345)	1544556	200.000	211.18(A)
52	2-Hexanone	43	7.086	7.086	(0.924)	2017738	400.000	402.53(A)
53	1,1,2-Trichloroethane	83	6.839	6.839	(0.892)	846183	200.000	191.10
54	1,3-Dichloropropane	76	6.981	6.981	(0.911)	1733058	200.000	191.57
55	Dibromochloromethane	129	7.173	7.173	(0.935)	1320761	200.000	206.61(A)
56	Tetrachloroethene	164	6.925	6.925	(0.903)	902535	200.000	209.29(A)
57	1,2-Dibromoethane	107	7.259	7.259	(0.947)	964928	200.000	190.69
58	1-Chlorohexane	55	7.694	7.694	(1.550)	1371878	200.000	207.11(A)
59	Chlorobenzene	112	7.690	7.690	(1.003)	2926240	200.000	200.54(A)
60	1,1,1,2-Tetrachloroethane	131	7.772	7.772	(1.014)	1173596	200.000	205.45(A)
61	Ethylbenzene	106	7.799	7.799	(1.017)	1505552	200.000	205.76(A)
62	m,p-Xylenes	106	7.900	7.900	(1.030)	3831125	400.000	417.37(A)
63	o-Xylene	106	8.241	8.241	(1.075)	1805494	200.000	207.70(A)
64	Styrene	104	8.256	8.256	(1.077)	3136788	200.000	206.88(A)
66	Bromoform	173	8.406	8.406	(1.096)	880696	200.000	214.73(A)
67	Isopropylbenzene	105	8.560	8.560	(1.116)	4823863	200.000	215.89(A)
68	1,1,2,2-Tetrachloroethane	83	8.837	8.837	(0.915)	1401164	200.000	192.48
$ 69	4-Bromofluorobenzene	95	8.687	8.687	(1.133)	1538168	200.000	200.50(A)
* 70	1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	433375	50.0000	
71	1,2,3-Trichloropropane	75	8.863	8.863	(0.917)	1119387	200.000	193.78(M)
72	trans-1,4-Dichloro-2-butene	53	8.886	8.886	(1.159)	524884	200.000	222.56(A)
73	n-Propylbenzene	91	8.912	8.912	(0.922)	5714404	200.000	218.20(A)
74	Bromobenzene	156	8.803	8.803	(0.911)	1365207	200.000	201.42(A)
75	1,3,5-Trimethylbenzene	105	9.066	9.066	(0.938)	4273312	200.000	217.81(A)

76	2-Chlorotoluene	91	8.972	8.972 (0.929)	3520653	200.000	199.28
77	4-Chlorotoluene	91	9.069	9.069 (0.939)	4116709	200.000	212.06(A)

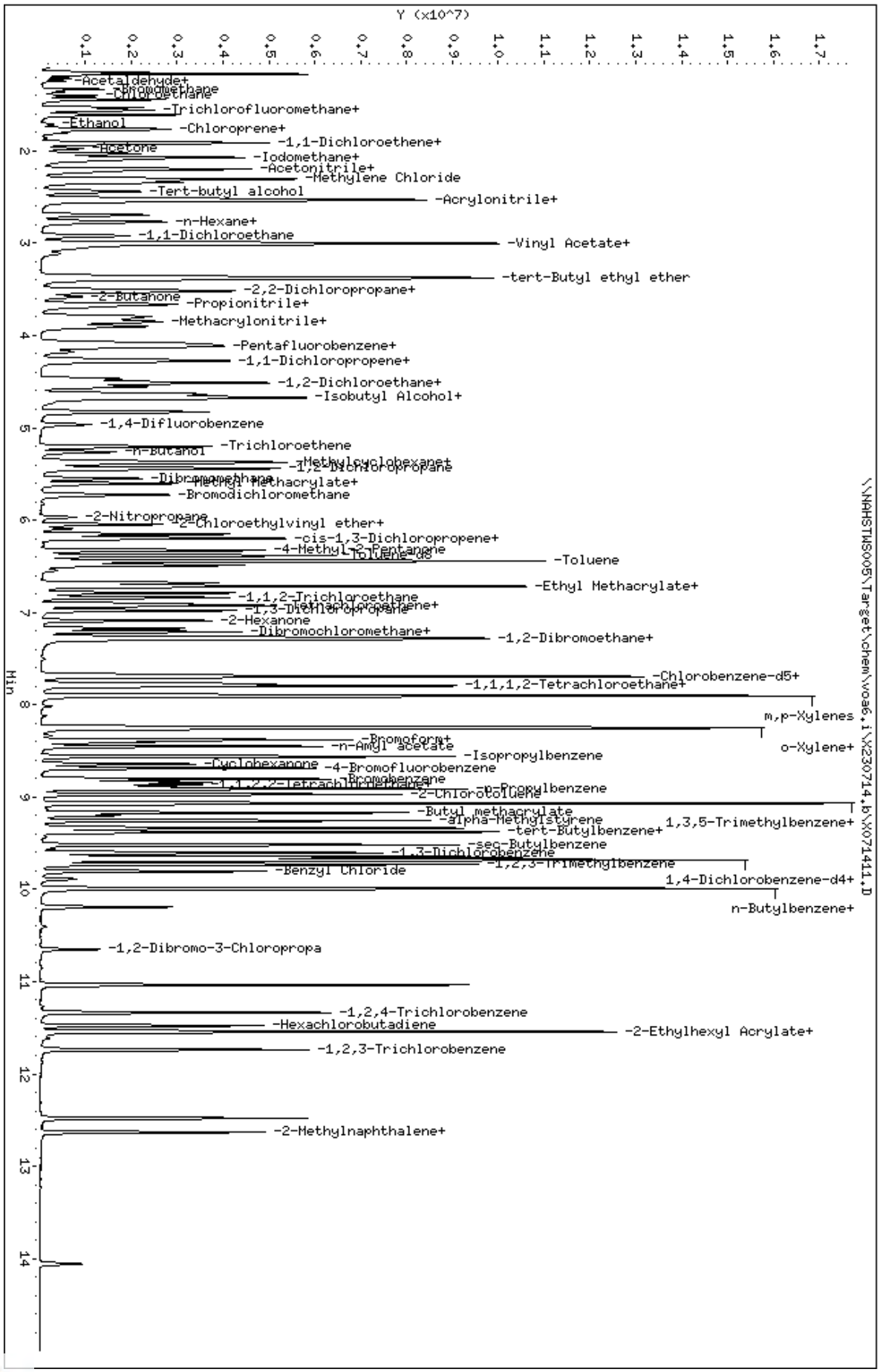
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
78	tert-Butylbenzene	119	9.336	9.336	(0.966)	3564918	200.000	211.88(A)
79	1,2,4-Trimethylbenzene	105	9.377	9.377	(0.971)	4248690	200.000	215.95(A)
81	sec-Butylbenzene	105	9.519	9.519	(0.985)	4998963	200.000	222.91(A)
82	p-Isopropyltoluene	119	9.647	9.647	(0.998)	4531097	200.000	221.18(A)
83	1,3-Dichlorobenzene	146	9.602	9.602	(0.994)	2443663	200.000	206.95(A)
84	1,4-Dichlorobenzene	146	9.680	9.680	(1.002)	2568367	200.000	198.39
86	Benzyl Chloride	91	9.804	9.804	(1.279)	2751633	200.000	201.10(A)
87	n-Butylbenzene	91	9.992	9.992	(1.034)	3988441	200.000	232.46(A)
88	1,2-Dichlorobenzene	146	9.992	9.992	(1.034)	2403758	200.000	207.07(A)
89	1,2-Dibromo-3-Chloropropane	155	10.651	10.651	(1.102)	242707	200.000	199.51
90	1,2,4-Trichlorobenzene	180	11.334	11.334	(1.173)	1693827	200.000	212.44(A)
91	Hexachlorobutadiene	225	11.480	11.480	(1.188)	760294	200.000	199.55
92	Naphthalene	128	11.536	11.536	(1.194)	4036891	200.000	204.57(AH)
93	1,2,3-Trichlorobenzene	180	11.738	11.738	(1.215)	1513592	200.000	202.99(A)
146	Methyl acetate	43	2.228	2.228	(0.533)	902568	200.000	188.84
138	Freon TF	101	1.917	1.917	(0.459)	815067	200.000	103.34
141	Cyclohexane	56	4.117	4.117	(0.985)	2078176	200.000	223.25(A)
142	Tetrahydrofuran	42	3.851	3.851	(0.921)	520211	400.000	376.52
147	Methylcyclohexane	55	5.381	5.381	(1.084)	3760283	200.000	216.07(A)
135	1,4-Dioxane	88	5.602	5.602	(1.340)	258483	4000.00	4050.44(A)
132	n-Butanol	56	5.261	5.261	(1.258)	850812	4000.00	4759.14(A)
131	Methyl Acrylate	55	3.686	3.686	(0.882)	1635344	200.000	224.02(A)
133	Ethyl Acrylate	55	5.381	5.381	(1.287)	3760283	200.000	211.27(A)
136	n-Hexane	57	2.768	2.768	(0.662)	1402092	200.000	83.16
139	Diethyl ether	59	1.760	1.760	(0.421)	924117	200.000	184.53
148	Tert-butyl alcohol	59	2.442	2.442	(0.584)	2546793	4000.00	3757.39
149	Isopropyl alcohol	45	2.101	2.101	(0.502)	1585037	4000.00	3768.67
156	Diisopropyl ether	45	3.008	3.008	(0.719)	4204307	200.000	189.94
166	1,2,3-Trimethylbenzene	105	9.729	9.729	(1.007)	4285563	200.000	213.92(A)
167	Ethanol	45	1.711	1.711	(0.409)	291912	4000.00	3940.79
172	tert-Butyl formate	59	4.635	4.635	(1.108)	2334112	400.000	406.87(AM)
173	3,3-Dimethyl-1-butanol	57	7.293	7.293	(0.951)	3164338	4000.00	3794.46
174	tert-Amyl methyl ether	73	4.668	4.668	(1.117)	3325871	200.000	188.25(M)
175	tert-Butyl ethyl ether	59	3.379	3.379	(0.808)	4320968	200.000	190.05
176	tert-Amyl alcohol	59	4.635	4.635	(1.108)	2334112	4000.00	3978.56(M)
151	4-Methyl-2-pentanol	45	6.715	6.715	(1.353)	7205996	4000.00	4078.30(A)
180	1-Methylnaphthalene	142	12.631	12.631	(1.307)	1852094	200.000	(a)
140	1,3-Butadiene	54	1.167	1.167	(0.279)	1429438	200.000	207.14(A)
152	Amyl alcohol	42	6.903	6.903	(0.900)	980159	4000.00	4395.46(A)
158	Dichlorofluoromethane	67	1.531	1.531	(0.366)	1636710	200.000	189.15
159	Propylene oxide	43	1.805	1.805	(0.432)	214178	400.000	325.08
161	3-Methyl-1-butanol	55	6.903	6.903	(0.900)	873259	4000.00	4574.19(A)
162	Butyl acrylate	55	8.248	8.248	(1.076)	3266024	200.000	221.39(A)
163	Butyl methacrylate	41	9.171	9.171	(0.949)	2061719	200.000	198.61
164	Dicyclopentadiene	66	9.684	9.684	(1.002)	5152004	200.000	206.38(A)
182	Epichlorohydrin	57	6.093	6.093	(1.227)	509575	800.000	827.43(A)
M 94	1,2-Dichloroethylene (total)	96				1996215	400.000	(a)
145	alpha-Methylstyrene	118	9.257	9.257	(0.958)	1984425	200.000	209.88(A)
130	Ethyl Acetate	43	3.660	3.660	(0.875)	1526148	200.000	191.33
134	Cyclohexanone	55	8.642	8.642	(0.894)	1269424	4000.00	3290.23
185	Isoprene	39	1.771	1.771	(0.424)	352780	200.000	199.28
188	Isopropyl acetate	43	4.680	4.680	(0.943)	4112016	200.000	189.15

187 n-Amyl acetate	43	8.451	8.451 (1.102)	2862687	200.000	201.43(A)
189 n-Butyl acetate	43	7.210	7.210 (0.940)	2520952	200.000	212.11(AH)

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
150 Allyl alcohol	57	2.768	2.768	(0.662)	1402092	4000.00	1651.10
194 Acetaldehyde	44	1.212	1.212	(0.290)	347350	800.000	779.86(M)
195 Methyl Amyl Ketone	43	8.380	8.380	(1.093)	3390972	200.000	209.22
200 Dimethyl Disulfide	94	6.198	6.198	(0.808)	2283547	200.000	218.32(A)
202 Isobutylene	41	1.242	1.242	(0.297)	170200	200.000	191.69(M)
205 2-Ethylhexyl Acrylate	55	11.547	11.547	(1.195)	2531204	200.000	228.67(A)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount
exceeded maximum amount.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.



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Instrument: voa6.i
Operator: PC
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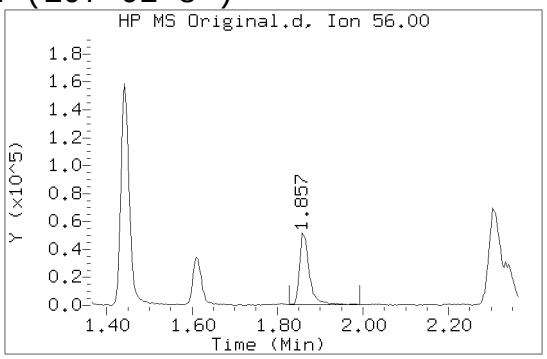
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Acrolein (107-02-8)

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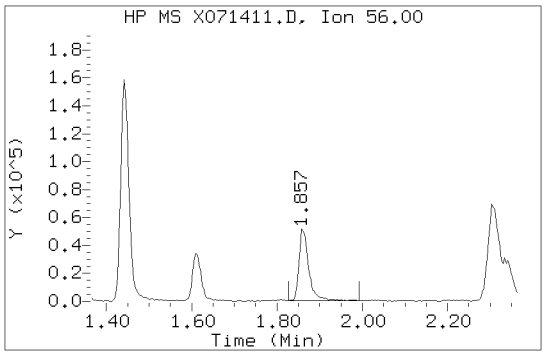
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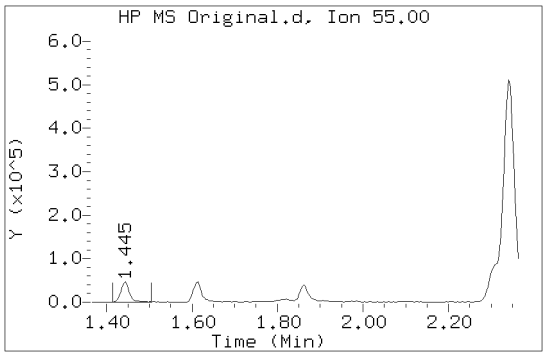
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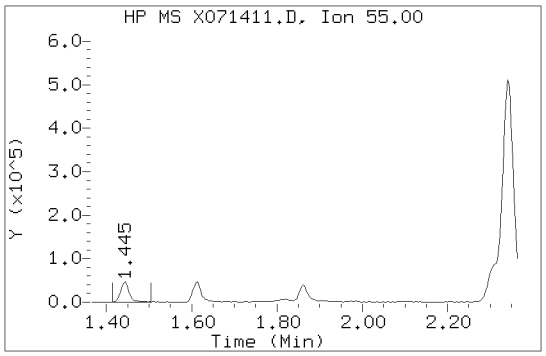
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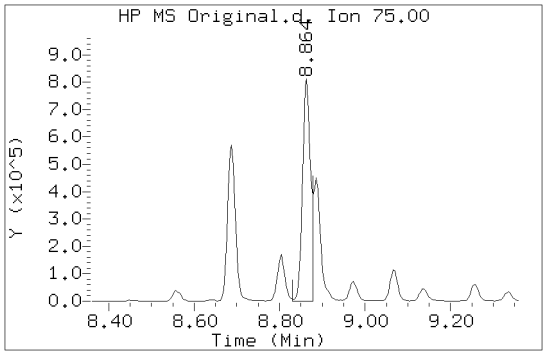


1,2,3-Trichloropropane (96-18-4)

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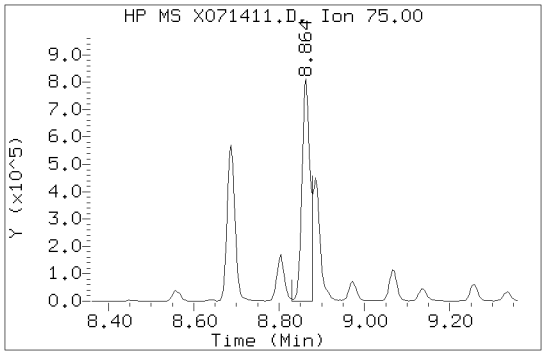
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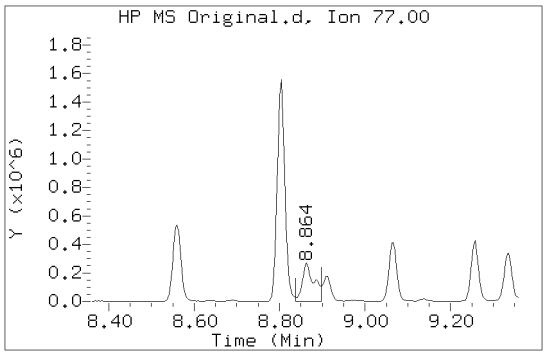
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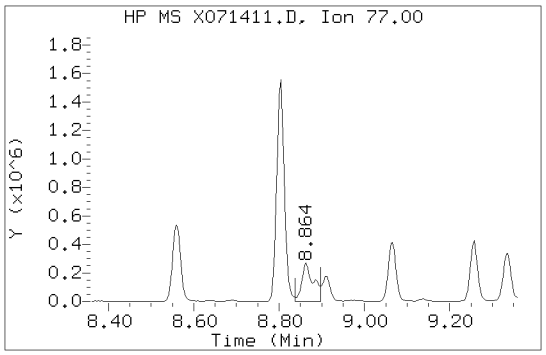
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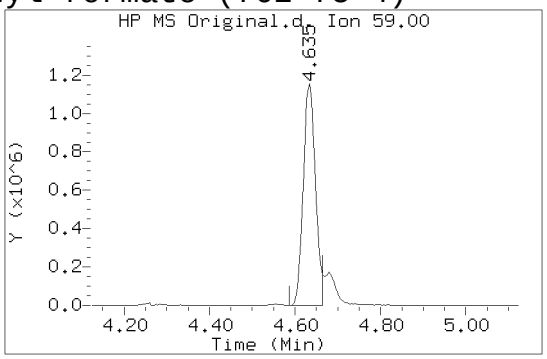
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tert-Butyl formate (762-75-4)

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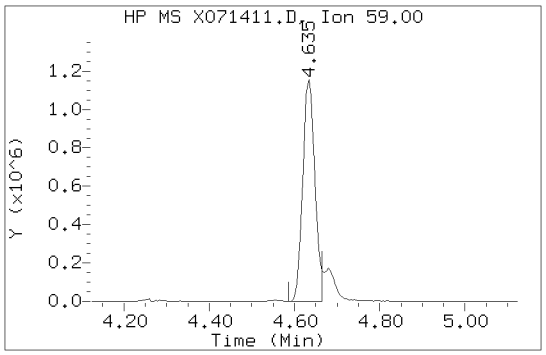
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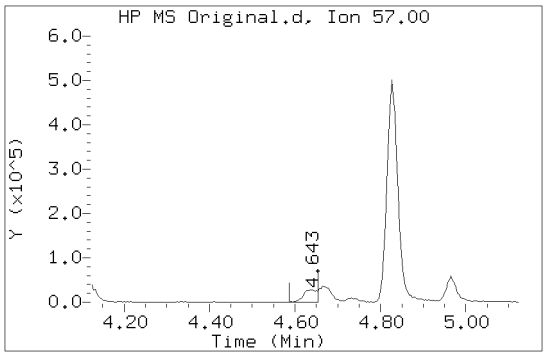
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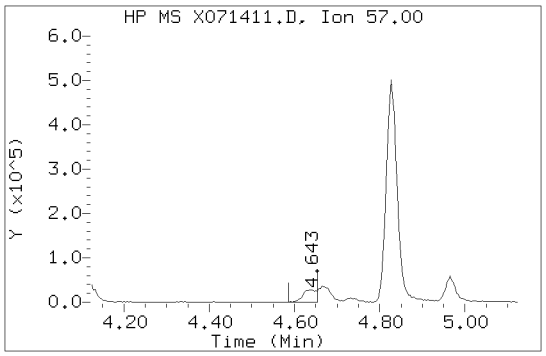
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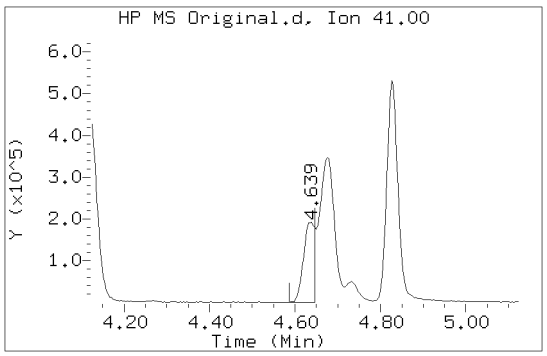
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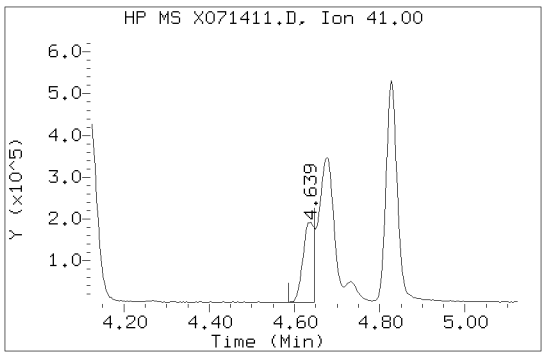
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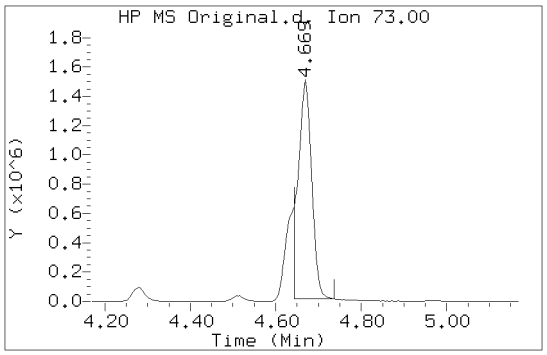


tert-Amyl methyl ether (974-05-08)

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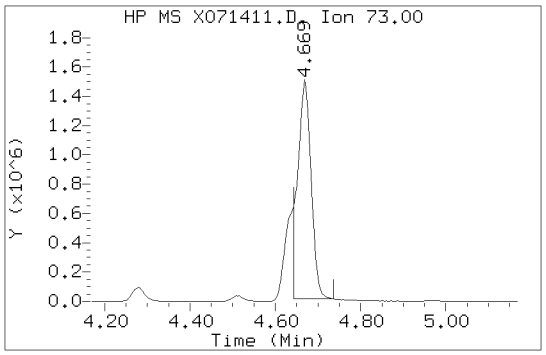
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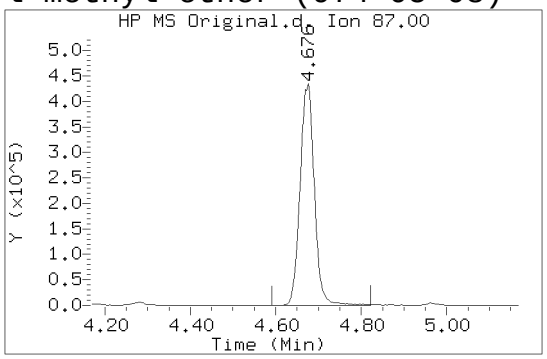
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tert-Amyl methyl ether (974-05-08)

Reason Code:

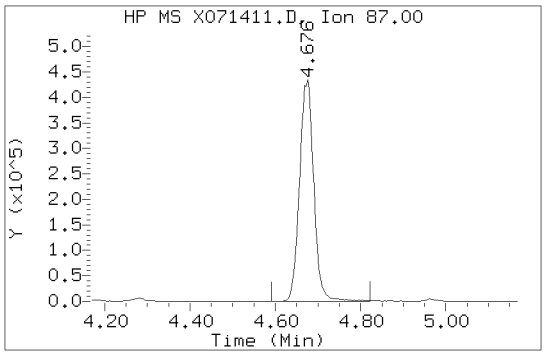
BEFORE

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HEIGHT
434624
20-Jul-2023
15:04
linh
pham



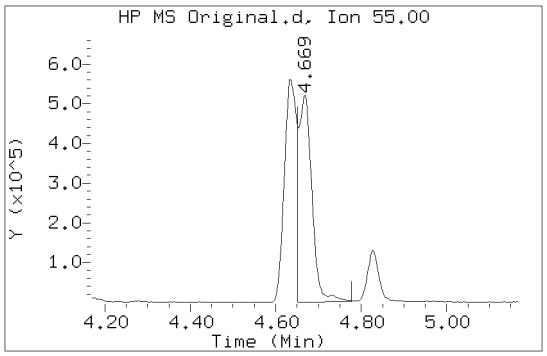
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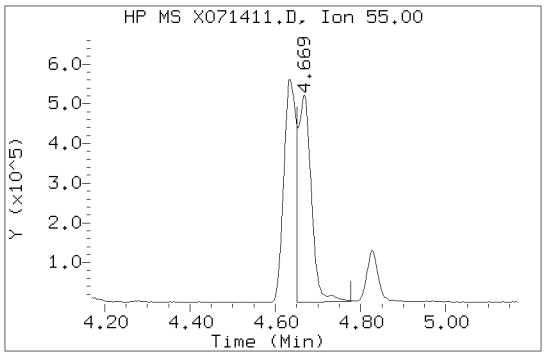
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AFTER

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linh
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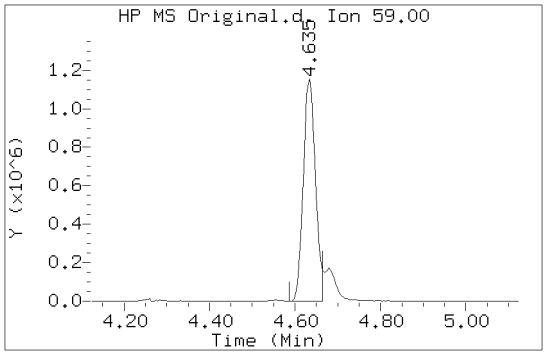


tert-Amyl alcohol (75-85-4)

Reason Code:

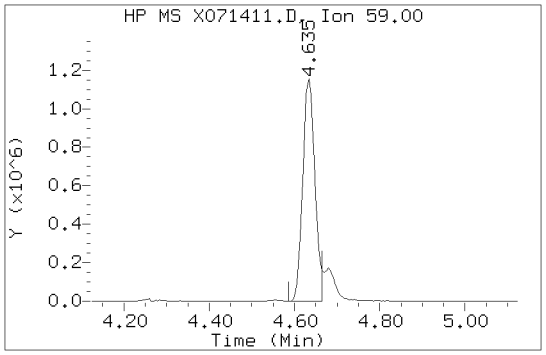
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20-Jul-2023
15:04
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pham



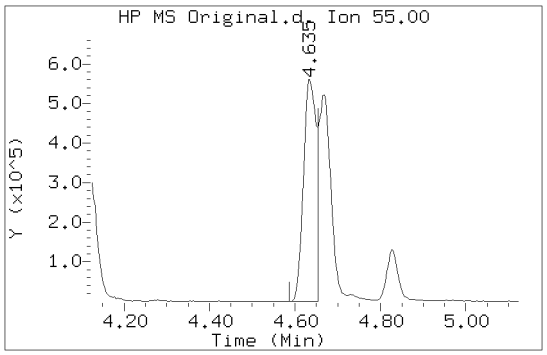
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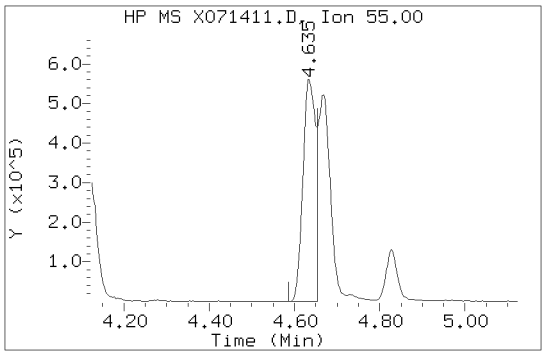
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20-Jul-2023
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AFTER

MASS
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20-Jul-2023
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linh
pham



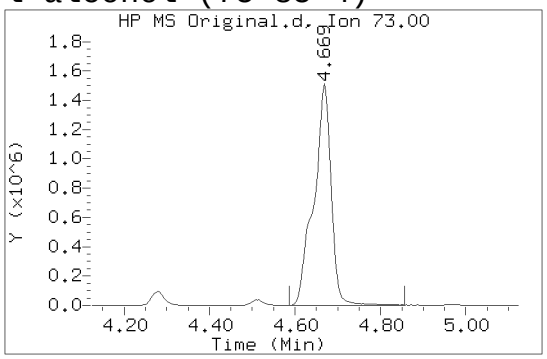
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Inj Date : 14-JUL-2023 15:25
InstruID : voa6.i
LabSampID : VSTD200

tert-Amyl alcohol (75-85-4)

Reason Code:

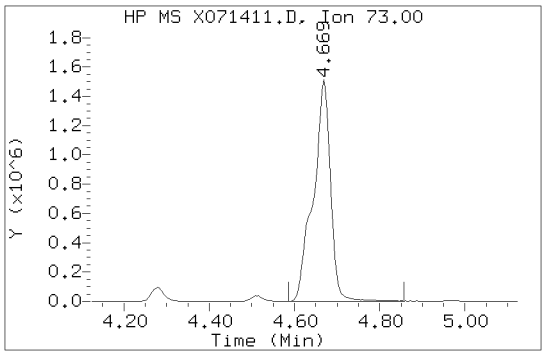
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20-Jul-2023
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AFTER

MASS
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20-Jul-2023
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pham

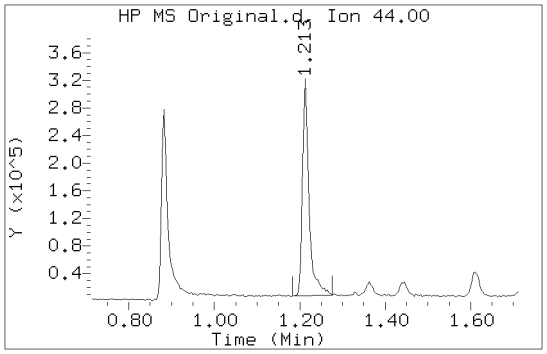


Acetaldehyde (75-07-0)

Reason Code:

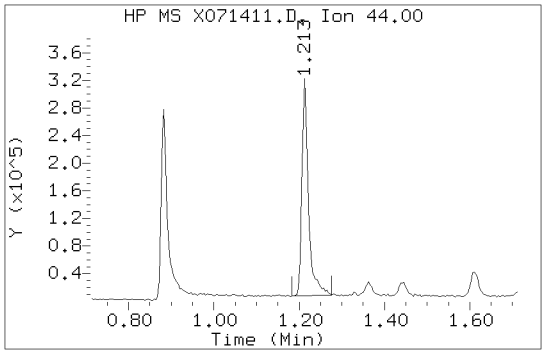
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20-Jul-2023
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pham



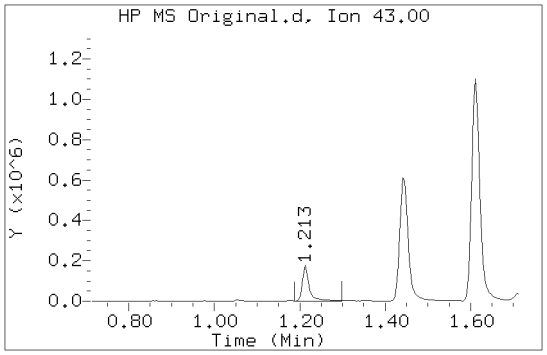
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20-Jul-2023
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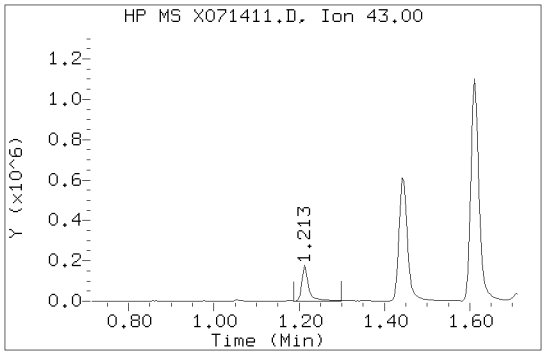
BEFORE

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43
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20-Jul-2023
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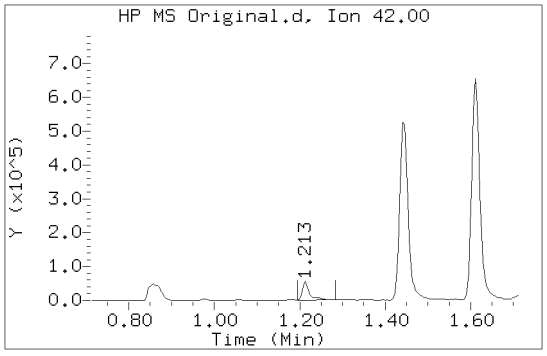
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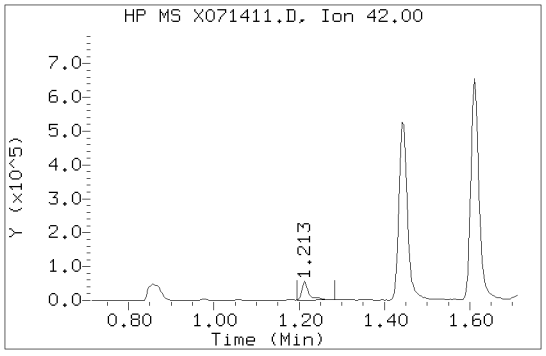
BEFORE

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55441
20-Jul-2023
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AFTER

MASS
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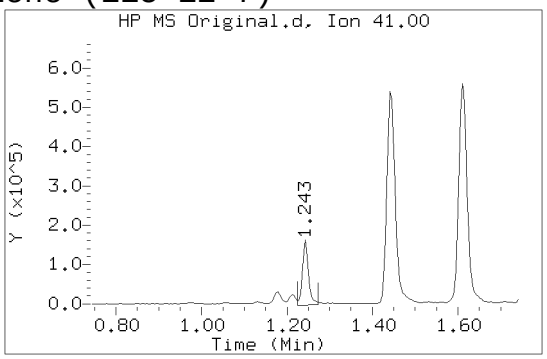


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InstruID : voa6.i
LabSampID : VSTD200

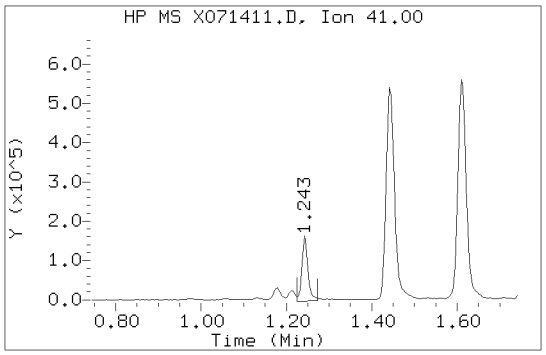
Isobutylene (115-11-7)

Reason Code:

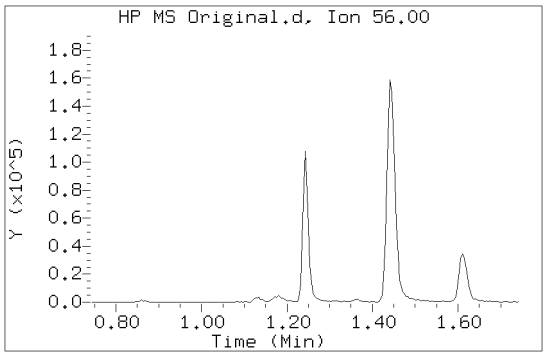
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HEIGHT
165804
20-Jul-2023
15:04
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pham



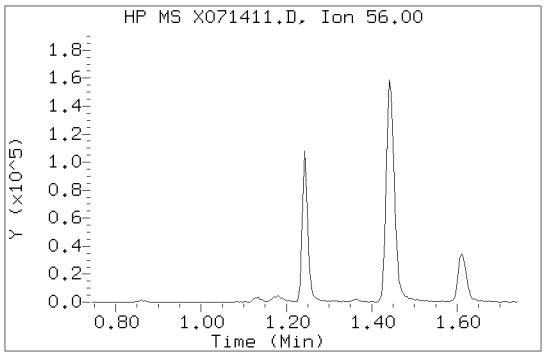
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15:04
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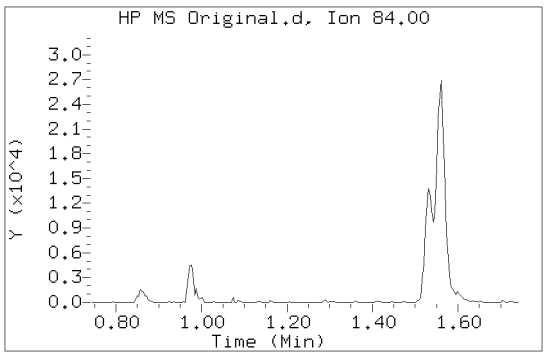
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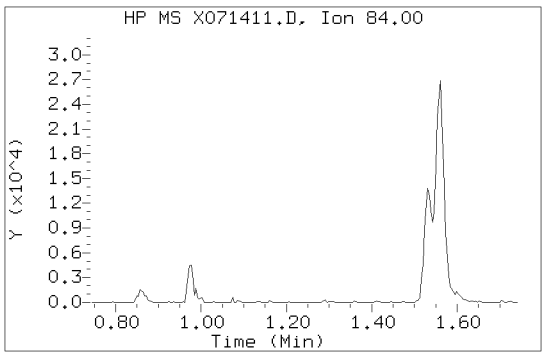
AFTER
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20-Jul-2023
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BEFORE
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20-Jul-2023
15:04
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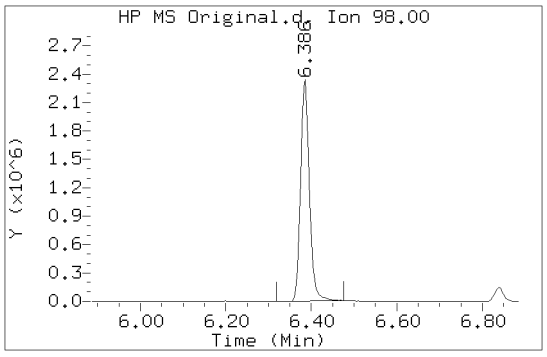
AFTER
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15:04
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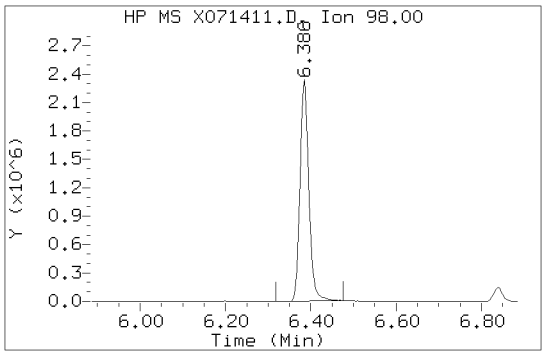
Toluene-d8 (2037-26-5)

Reason Code:

BEFORE
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98
AREA
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20-Jul-2023
15:04
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AFTER
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20-Jul-2023
15:04
linh
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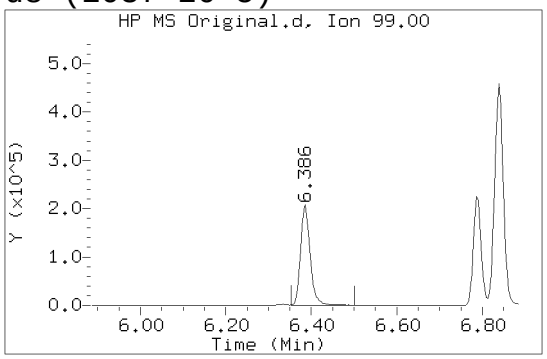
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Inj Date : 14-JUL-2023 15:25
InstruID : voa6.i
LabSampID : VSTD200

Toluene-d8 (2037-26-5)

Reason Code:

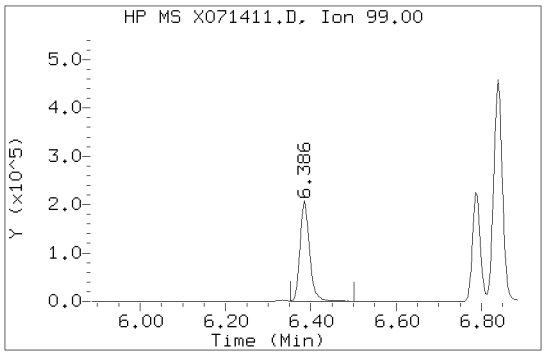
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20-Jul-2023
15:04
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pham



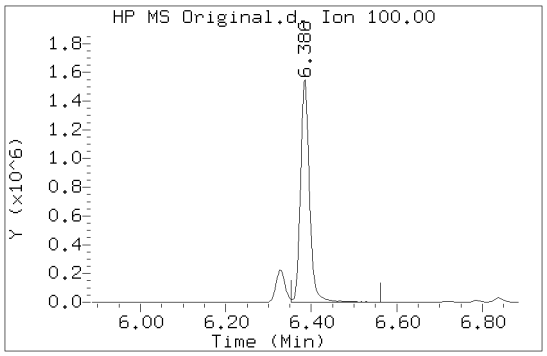
AFTER

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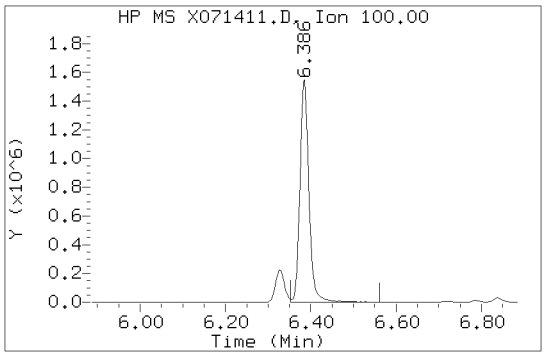
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20-Jul-2023
15:04
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pham



AFTER

MASS
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2330683
HEIGHT
1547095
20-Jul-2023
15:04
linh
pham



Data File: \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071413.D Page 1
Report Date: 20-Jul-2023 15:05

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\X071413.D
Lab Smp Id: ICV Client Smp ID: ICV
Inj Date : 14-JUL-2023 16:06
Operator : PC Inst ID: voa6.i
Smp Info : CCV;CCV;2;;ICV
Misc Info : V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\8260W.m
Meth Date : 20-Jul-2023 15:05 voa6.i Quant Type: ISTD
Cal Date : 14-JUL-2023 15:25 Cal File: X071411.D
Als bottle: 14 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000_8260.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.178	4.181	(1.000)	523560	50.0000	
2 Dichlorodifluoromethane	85	0.976	0.976	(0.234)	235700	44.1394	44.13
3 Chloromethane	50	1.081	1.081	(0.259)	369706	46.7515	46.75
4 Propionitrile	54	3.656	3.660	(0.875)	514137	495.730	495.72
5 Vinyl Chloride	62	1.145	1.145	(0.274)	314786	46.4622	46.46
6 Bromomethane	94	1.344	1.332	(0.322)	147749	52.6978	52.69
7 Chloroethane	64	1.404	1.400	(0.336)	174555	45.1318	45.13
8 Trichlorofluoromethane	101	1.561	1.561	(0.374)	321870	46.8787	46.87
9 Acrolein	56	1.857	1.857	(0.445)	18891	95.3394	95.33
10 Acetone	43	1.973	1.973	(0.472)	226282	109.688	109.68
11 1,1-Dichloroethene	96	1.913	1.913	(0.458)	173630	45.2674	45.26
12 Isobutyl Alcohol	43	4.680	4.680	(1.120)	1029947	1037.79	1037.79
13 Acetonitrile	39	2.202	2.198	(0.527)	350837	477.867	477.86
14 Allyl Chloride	41	2.198	2.198	(0.526)	795160	46.2587	46.25
15 Iodomethane	142	2.030	2.029	(0.486)	426627	85.2702	85.27
16 Acrylonitrile	53	2.536	2.535	(0.607)	247354	96.9514	96.95
17 Methylene Chloride	84	2.303	2.303	(0.551)	221542	48.9173	48.91
18 Methyl tert-butyl ether	73	2.539	2.535	(0.608)	686179	48.1012	48.10
19 Carbon Disulfide	76	2.071	2.071	(0.496)	1115788	92.5432	92.54
20 trans-1,2-Dichloroethene	96	2.528	2.528	(0.605)	201576	45.4331	45.43

21 Vinyl Acetate	43	3.000	3.000 (0.718)	1840684	100.315	100.31
22 1,1-Dichloroethane	63	2.918	2.922 (0.699)	455953	46.8308	46.83

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
23	Chloroprene	53	1.771	1.771	(0.424)	106109	45.0742	45.07(M)
24	2-Butanone	43	3.582	3.581	(0.857)	292924	105.060	105.06
25	Methacrylonitrile	41	3.825	3.818	(0.916)	346558	51.2815	51.28(a)
26	2,2-Dichloropropane	77	3.510	3.506	(0.840)	355659	47.0700	47.06
27	cis-1,2-Dichloroethene	96	3.522	3.521	(0.843)	269347	47.6547	47.65
28	Chloroform	83	3.904	3.904	(0.935)	458057	45.9797	45.97
29	Bromochloromethane	128	3.795	3.791	(0.908)	150697	47.5755	47.57
$ 30	Dibromofluoromethane	113	4.099	4.099	(0.981)	251919	52.5379	52.53
31	1,1,1-Trichloroethane	97	4.076	4.080	(0.976)	356334	46.4653	46.46
32	1,1-Dichloropropene	75	4.279	4.279	(0.862)	303929	45.5996	45.59
33	1,2-Dichloroethane	62	4.552	4.552	(0.917)	426885	47.4578	47.45
34	Carbon Tetrachloride	117	4.264	4.260	(0.859)	294766	43.8978	43.89
$ 35	1,2-Dichloroethane-d4	65	4.474	4.470	(1.071)	312436	52.0928	52.09
* 36	1,4-Difluorobenzene	114	4.965	4.965	(1.000)	817135	50.0000	
37	Benzene	78	4.511	4.511	(0.909)	922063	47.1756	47.17
38	Trichloroethene	130	5.205	5.205	(1.048)	257816	46.6338	46.63
39	Bromodichloromethane	83	5.722	5.722	(1.153)	352205	47.0449	47.04
40	Methyl Methacrylate	41	5.606	5.606	(1.342)	307355	48.6390	48.63
41	2-Chloroethylvinyl ether	63	6.044	6.048	(1.217)	236549	103.486	103.48
42	1,2-Dichloropropane	63	5.433	5.437	(1.094)	308027	49.0106	49.01
43	2-Nitropropane	43	5.966	5.969	(1.428)	100815	48.4694	48.46
44	Dibromomethane	93	5.550	5.549	(1.118)	168843	47.4595	47.45
45	4-Methyl-2-Pentanone	43	6.326	6.325	(0.825)	705887	96.7791	96.77
46	cis-1,3-Dichloropropene	75	6.153	6.153	(1.239)	426551	49.6054	49.60
* 47	Chlorobenzene-d5	117	7.668	7.667	(1.000)	741203	50.0000	
$ 48	Toluene-d8	98	6.382	6.385	(0.832)	919255	48.1696	48.16
49	Ethyl Methacrylate	69	6.712	6.719	(1.352)	227813	42.5696	42.56
50	Toluene	91	6.442	6.445	(0.840)	975883	48.9113	48.91
51	trans-1,3-Dichloropropene	75	6.682	6.678	(1.346)	355856	49.0932	49.09
52	2-Hexanone	43	7.086	7.086	(0.924)	481140	100.419	100.41
53	1,1,2-Trichloroethane	83	6.835	6.839	(0.891)	205333	48.5132	48.51
54	1,3-Dichloropropane	76	6.982	6.981	(0.911)	419059	48.4632	48.46
55	Dibromochloromethane	129	7.173	7.173	(0.935)	311577	50.9926	50.99
56	Tetrachloroethene	164	6.925	6.925	(0.903)	194514	47.1890	47.18
57	1,2-Dibromoethane	107	7.259	7.259	(0.947)	231451	47.8539	47.85
58	1-Chlorohexane	55	7.694	7.694	(1.550)	263762	40.1795	40.17
59	Chlorobenzene	112	7.690	7.690	(1.003)	668608	47.9390	47.93
60	1,1,1,2-Tetrachloroethane	131	7.772	7.772	(1.014)	267606	49.0109	49.01
61	Ethylbenzene	106	7.795	7.799	(1.017)	323263	46.2211	46.22
62	m,p-Xylenes	106	7.900	7.900	(1.030)	828056	94.3758	94.37
63	o-Xylene	106	8.237	8.241	(1.074)	397534	47.8450	47.84
64	Styrene	104	8.256	8.256	(1.077)	710304	49.0101	49.01
66	Bromoform	173	8.406	8.406	(1.096)	197925	50.4868	50.48
67	Isopropylbenzene	105	8.560	8.560	(1.116)	956821	44.8008	44.80
68	1,1,2,2-Tetrachloroethane	83	8.837	8.837	(0.915)	331151	48.2326	48.23
$ 69	4-Bromofluorobenzene	95	8.687	8.687	(1.133)	388935	52.7245	52.72
* 70	1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	408757	50.0000	
71	1,2,3-Trichloropropane	75	8.863	8.863	(0.917)	262052	48.0990	48.09(M)
72	trans-1,4-Dichloro-2-butene	53	8.886	8.886	(1.159)	119855	53.1678	53.16
73	n-Propylbenzene	91	8.908	8.912	(0.922)	1109886	44.9330	44.93
74	Bromobenzene	156	8.803	8.803	(0.911)	301361	47.1405	47.14
75	1,3,5-Trimethylbenzene	105	9.062	9.066	(0.938)	826279	44.6531	44.65

76	2-Chlorotoluene	91	8.972	8.972 (0.929)	751134	45.0789	45.07
77	4-Chlorotoluene	91	9.070	9.069 (0.939)	862507	47.1055	47.10

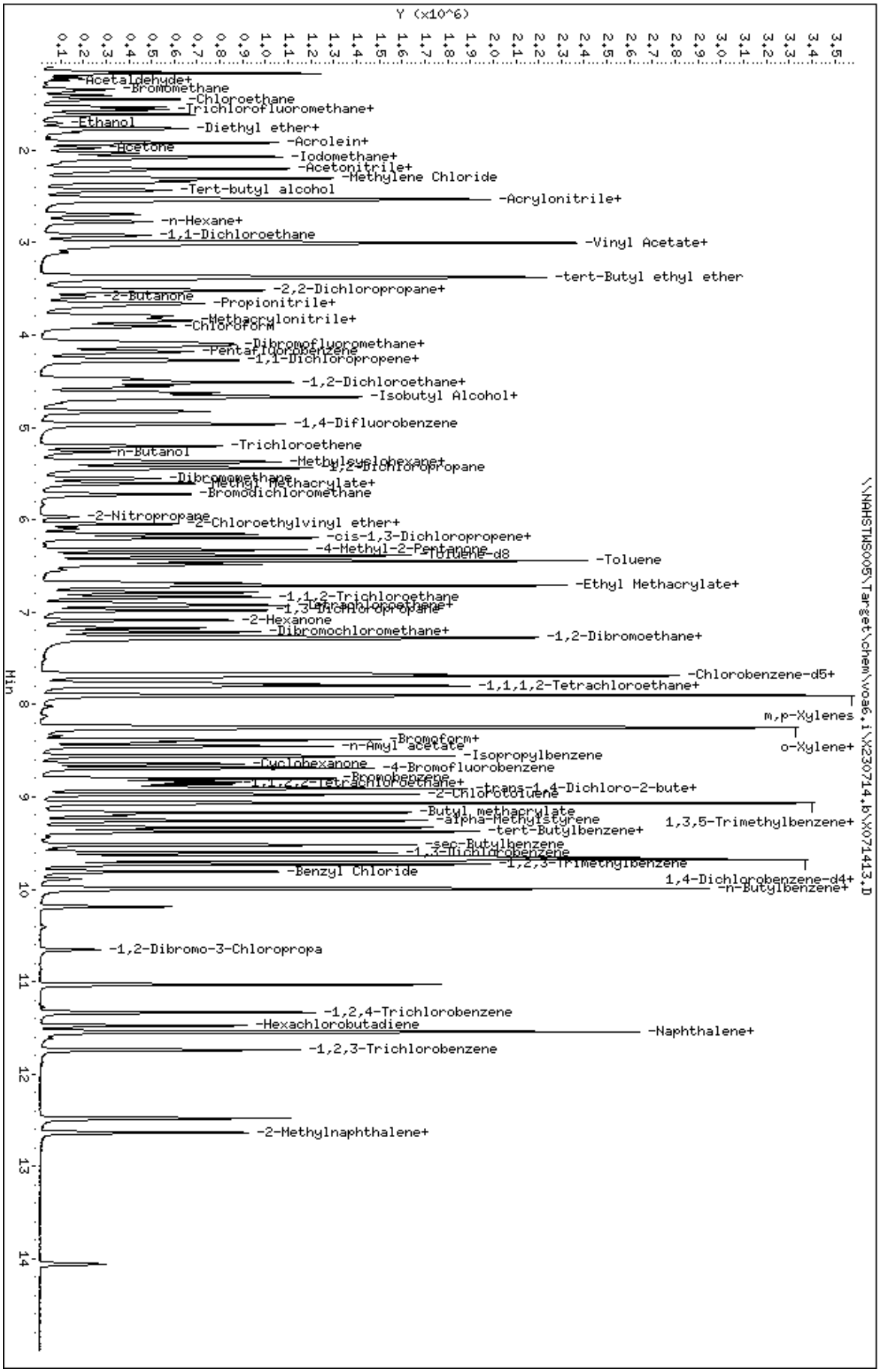
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	
78	tert-Butylbenzene	119	9.332	9.336	(0.966)	675255	42.5524	42.55	
79	1,2,4-Trimethylbenzene	105	9.377	9.377	(0.971)	830881	44.7762	44.77	
81	sec-Butylbenzene	105	9.519	9.519	(0.985)	905955	42.8308	42.83	
82	p-Isopropyltoluene	119	9.647	9.647	(0.998)	820416	42.4603	42.46	
83	1,3-Dichlorobenzene	146	9.602	9.602	(0.994)	517212	46.4420	46.44	
84	1,4-Dichlorobenzene	146	9.681	9.680	(1.002)	560136	45.8733	45.87	
86	Benzyl Chloride	91	9.808	9.804	(1.279)	615356	48.8480	48.84	
87	n-Butylbenzene	91	9.992	9.992	(1.034)	697021	43.0724	43.07	
88	1,2-Dichlorobenzene	146	9.992	9.992	(1.034)	522905	47.7589	47.75	
89	1,2-Dibromo-3-Chloropropane	155	10.651	10.651	(1.102)	54433	48.2708	48.27	
90	1,2,4-Trichlorobenzene	180	11.334	11.334	(1.173)	326047	43.3575	43.35	
91	Hexachlorobutadiene	225	11.476	11.480	(1.188)	139858	40.8152	40.81	
92	Naphthalene	128	11.540	11.536	(1.194)	838509	45.0509	45.05	
93	1,2,3-Trichlorobenzene	180	11.739	11.738	(1.215)	302822	43.0586	43.05	
146	Methyl acetate	43	2.232	2.228	(0.534)	226459	48.6009	48.60	
138	Freon TF	101	1.917	1.917	(0.459)	164256	50.7362	50.73	
141	Cyclohexane	56	4.121	4.117	(0.987)	392805	43.2834	43.28	
142	Tetrahydrofuran	42	3.848	3.851	(0.921)	129569	96.1946	96.19	
147	Methylcyclohexane	55	5.381	5.381	(1.084)	818352	47.4476	47.44	
135	1,4-Dioxane	88	5.602	5.602	(1.341)	61482	988.216	988.21	
132	n-Butanol	56	5.261	5.261	(1.259)	170908	980.599	980.59	
131	Methyl Acrylate	55	3.690	3.686	(0.883)	366966	51.5629	51.56	
133	Ethyl Acrylate	55	5.381	5.381	(1.288)	818352	47.1623	47.16	
136	n-Hexane	57	2.772	2.768	(0.664)	239027	47.2779	47.27	
139	Diethyl ether	59	1.760	1.760	(0.421)	234998	48.1340	48.13	
148	Tert-butyl alcohol	59	2.434	2.442	(0.583)	626708	948.402	948.40	
149	Isopropyl alcohol	45	2.093	2.101	(0.501)	377497	920.653	920.65	
156	Diisopropyl ether	45	3.004	3.008	(0.719)	1037147	48.0634	48.06	
166	1,2,3-Trimethylbenzene	105	9.729	9.729	(1.007)	913282	48.3344	48.33	
167	Ethanol	45	1.703	1.711	(0.408)	74613	1019.42	1019.41	
172	tert-Butyl formate	59	4.627	4.635	(1.108)	507413	90.7266	90.72	
173	3,3-Dimethyl-1-butanol	57	7.285	7.293	(0.950)	688113	863.240	863.23	
174	tert-Amyl methyl ether	73	4.669	4.668	(1.118)	862678	50.0877	50.08	
175	tert-Butyl ethyl ether	59	3.379	3.379	(0.809)	1050302	47.3858	47.38	
176	tert-Amyl alcohol	59	4.627	4.635	(1.108)	507413	887.155	887.15	
151	4-Methyl-2-pentanol	45	6.712	6.715	(1.352)	1515654	865.514	865.51	
180	1-Methylnaphthalene	142	12.634	12.631	(1.308)	384606			(a)
140	1,3-Butadiene	54	1.167	1.167	(0.280)	301891	44.8739	44.87	
152	Amyl alcohol	42	6.903	6.903	(0.900)	195847	918.818	918.81	
158	Dichlorofluoromethane	67	1.531	1.531	(0.367)	380825	45.1447	45.14	
159	Propylene oxide	43	1.805	1.805	(0.432)	61412	95.6112	95.61	
161	3-Methyl-1-butanol	55	6.903	6.903	(0.900)	186846	1023.91	1023.90	
162	Butyl acrylate	55	8.249	8.248	(1.076)	731306	51.8619	51.86	
163	Butyl methacrylate	41	9.167	9.171	(0.949)	489010	49.9457	49.94	
164	Dicyclopentadiene	66	9.681	9.684	(1.002)	1106669	47.0024	47.00	
182	Epichlorohydrin	57	6.093	6.093	(1.227)	124324	203.690	203.69	
M 94	1,2-Dichloroethylene (total)	96				470923	93.0878	93.08	
M 95	Xylenes (total)	106				1225590	142.221	142.22	
145	alpha-Methylstyrene	118	9.257	9.257	(0.958)	409265	45.8929	45.89	
130	Ethyl Acetate	43	3.660	3.660	(0.876)	382709	49.2142	49.21	
134	Cyclohexanone	55	8.642	8.642	(0.894)	353883	972.476	972.47	
185	Isoprene	39	1.771	1.771	(0.424)	82361	47.7228	47.72	

188 Isopropyl acetate	43	4.680	4.680 (0.943)	1029947	47.8043	47.80
187 n-Amyl acetate	43	8.451	8.451 (1.102)	635386	46.7743	46.77

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
189 n-Butyl acetate	43	7.214	7.210	(0.941)	567096	49.9183	49.91(H)
150 Allyl alcohol	57	2.772	2.768	(0.664)	239027	945.764	945.76
194 Acetaldehyde	44	1.212	1.212	(0.290)	96727	206.571	206.57
195 Methyl Amyl Ketone	43	8.380	8.380	(1.093)	761129	49.1308	49.13
200 Dimethyl Disulfide	94	6.194	6.198	(0.808)	522553	52.2664	52.26
202 Isobutylene	41	1.242	1.242	(0.297)	41486	47.9266	47.92(M)
205 2-Ethylhexyl Acrylate	55	11.547	11.547	(1.195)	553935	53.0575	53.05

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.



Data File: \\NAHSTMS005\Target\chem\voa6.i\X230714.b\X071413.D
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Client ID: ICV
Sample Info: CCV;CCV;2;;ICV
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

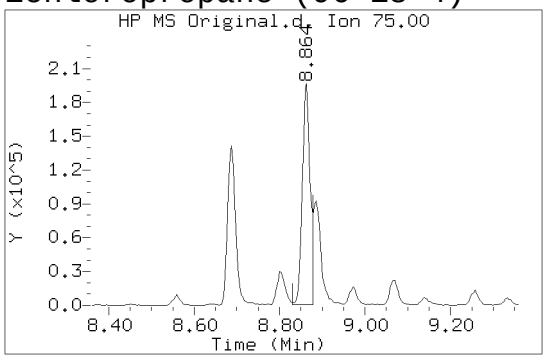
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Inj Date : 14-JUL-2023 16:06
InstruID : voa6.i
LabSampID : ICV

1,2,3-Trichloropropane (96-18-4)

Reason Code:

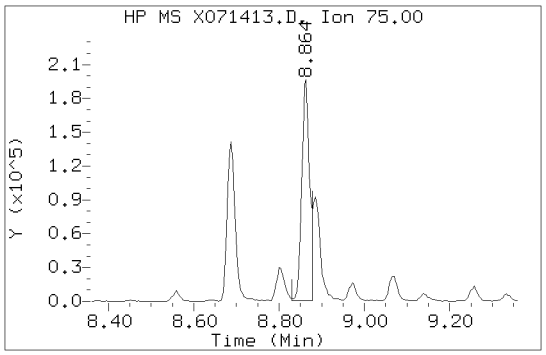
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HEIGHT
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20-Jul-2023
15:04
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pham



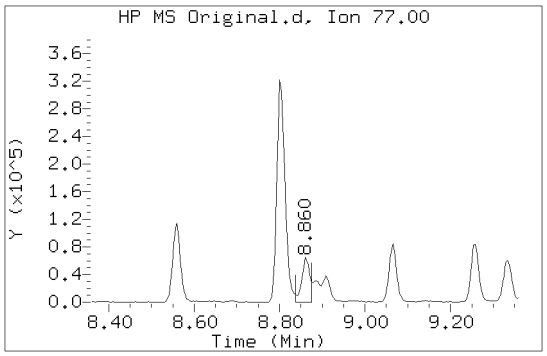
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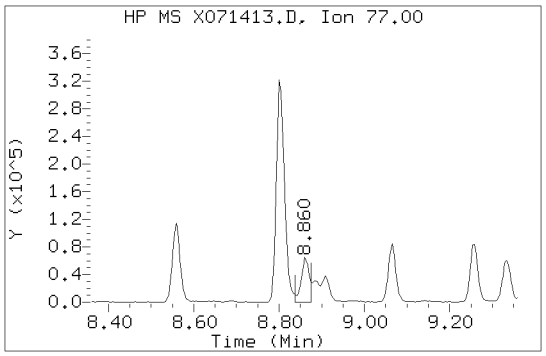
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AFTER

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20-Jul-2023
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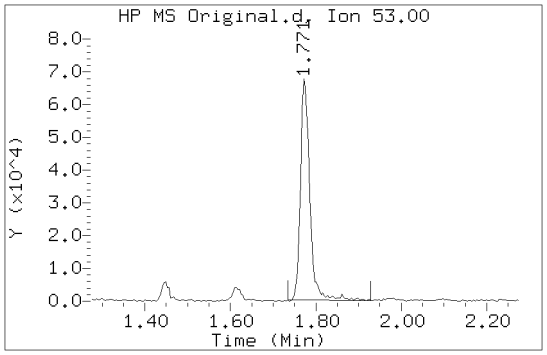


Chloroprene (126-99-8)

Reason Code:

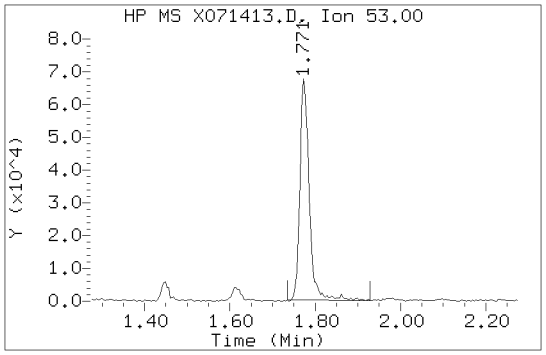
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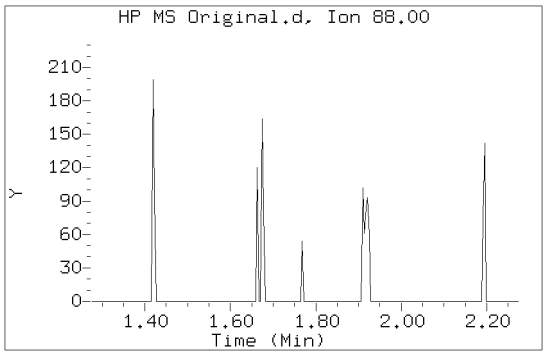
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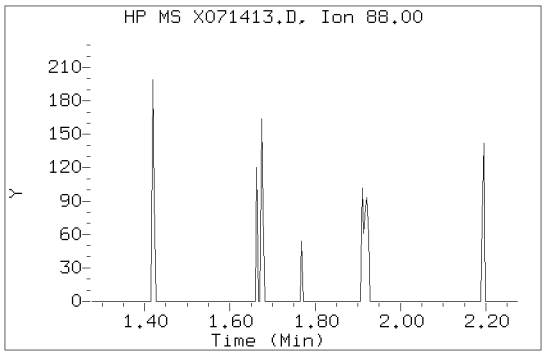
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AFTER

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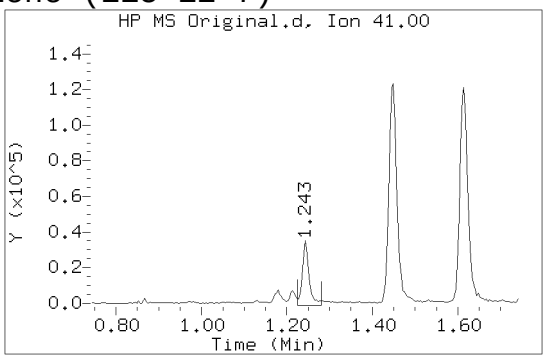
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Inj Date : 14-JUL-2023 16:06
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LabSampID : ICV

Isobutylene (115-11-7)

Reason Code:

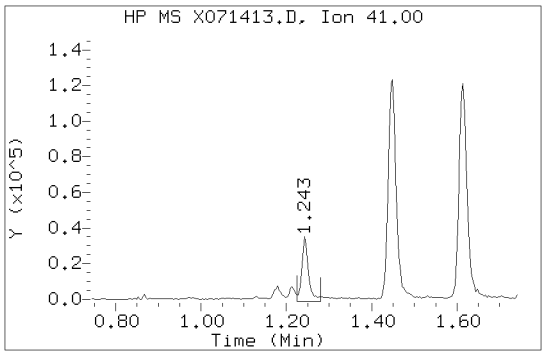
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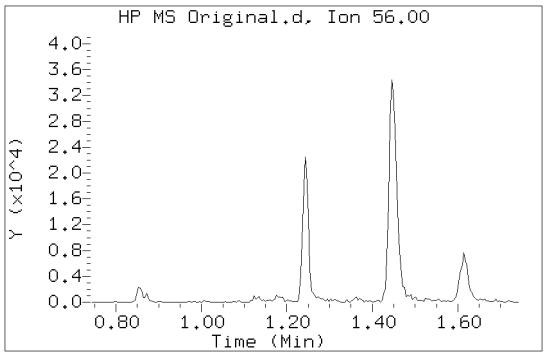
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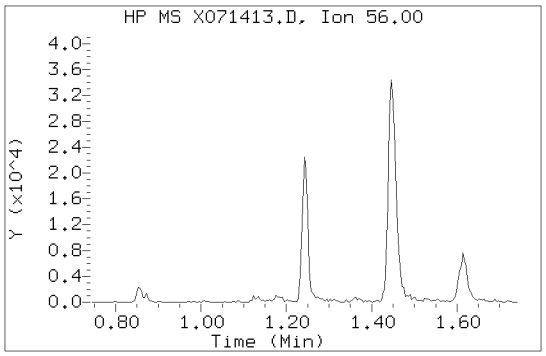
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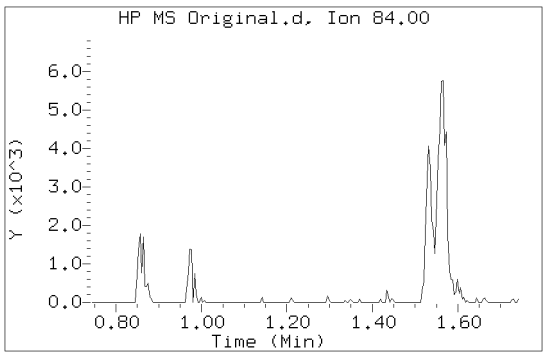
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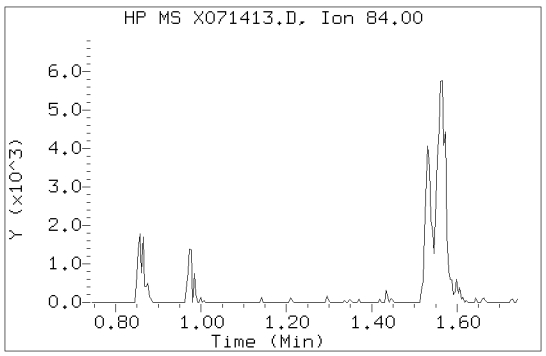
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linh
pham



AFTER

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AREA
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HEIGHT
0
20-Jul-2023
15:04
linh
pham



01246756

right solutions.
right partner.

Raw Data VOA6 441458

Volatiles by EPA 8260

Workorder

HS23070445

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Monthly Effluent Samples

07/20/2023

ALS Environmental–Houston Laboratory

10450 Stancliff Road, Suite 210, Houston, TX 77099

Phone (281) 530-5656 Fax (281) 530-5887

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Data File: \\NAHSTWS005\Target\chem\voa6.i\X230714.b\Y071401.D Page 1
Report Date: 16-Jul-2023 20:55

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\Y071401.D
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Inj Date : 14-JUL-2023 17:07
Operator : PC Inst ID: voa6.i
Smp Info : BFB;BFB;3;;BFB
Misc Info : V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\bfb.m
Meth Date : 14-Mar-2023 15:45 Linh.Pham Quant Type: ISTD
Cal Date : Cal File:
Als bottle: 17 QC Sample: BFB
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.14 Sample Matrix: WATER
Processing Host: NAHSTW7051

Concentration Formula: Amt * DF * Uf * Vf * Vi * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vf	1.000	Volumetric correction factor
Vi	2.000	Injection Volume
Cpnd Variable		Local Compound Variable

					CONCENTRATIONS ON-COL (ug/L)	CONCENTRATIONS FINAL (ug/l)		
RT	EXP RT	REL RT	MASS	RESPONSE			TARGET RANGE	RATIO
1 bfb							CAS #: 460-00-4	
8.687	8.889	(0.000)	95	262720			0.00- 100.00	100.00
8.687	8.889	(0.000)	50	56640			15.00- 40.00	21.56
8.687	8.889	(0.000)	75	115296			30.00- 60.00	43.89
8.687	8.889	(0.000)	96	16520			5.00- 9.00	6.29
8.687	8.889	(0.000)	173	3384			0.00- 2.00	1.58
8.687	8.889	(0.000)	174	214784			50.00- 0.00	81.75
8.687	8.889	(0.000)	175	16872			5.00- 9.00	7.86
8.687	8.889	(0.000)	176	206208			95.00- 101.00	96.01
8.687	8.889	(0.000)	177	15420			5.00- 9.00	7.48

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	21.56
75	30.00 - 60.00% of mass 95	43.89
96	5.00 - 9.00% of mass 95	6.29
173	Less than 2.00% of mass 174	1.29 (1.58)
174	Greater than 50.00% of mass 95	81.75
175	5.00 - 9.00% of mass 174	6.42 (7.86)
176	95.00 - 101.00% of mass 174	78.49 (96.01)
177	5.00 - 9.00% of mass 176	5.87 (7.48)

Data File: Y071401.D
Spectrum: Scan 2161 (8.69)
Location of Maximum: 95.00
Number of points: 118

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37.00	12754	68.10	24040	103.10	371	141.80	226
38.10	11610	69.00	24168	103.90	1226	142.80	1857
39.10	4906	70.20	2879	104.70	629	144.80	159
40.00	3264	71.20	102	106.00	1241	145.90	253
41.00	2041	72.00	1406	106.80	720	146.60	192
42.10	2866	73.10	12365	107.80	98	147.70	620
43.10	1865	74.00	39112	108.70	434	148.00	715
43.90	2417	75.00	115296	110.80	199	149.20	144
45.00	2931	76.00	10168	111.80	59	152.70	171
45.90	143	76.90	1307	112.80	177	154.00	254
47.10	5030	77.80	575	114.80	357	154.80	477
48.00	2260	78.90	5607	115.90	1039	156.00	171
49.00	13203	80.00	1531	117.00	1241	157.00	390
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53.10	304	84.10	82	122.00	76	170.20	126
54.10	651	86.00	400	123.00	180	170.80	72
55.00	3562	86.90	10719	125.00	59	173.10	3384
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57.00	7977	88.80	159	126.70	151	175.00	16872
57.90	500	91.00	966	127.90	1548	176.00	206208
59.00	190	92.00	6116	129.10	287	177.00	15420
60.00	3946	93.00	9275	129.70	515	177.90	722
61.00	12414	94.00	24056	130.00	534	205.70	109
62.00	12508	95.00	262720	130.80	304	236.00	277
63.00	9089	96.10	16520	134.90	476	262.20	82
64.00	884	96.90	256	136.90	612		
64.90	382	98.10	1156	138.90	114		

Data File: \\NAHSTWS005\Target\chem\voa6.i\X230714.b\Y071401.D Page 1

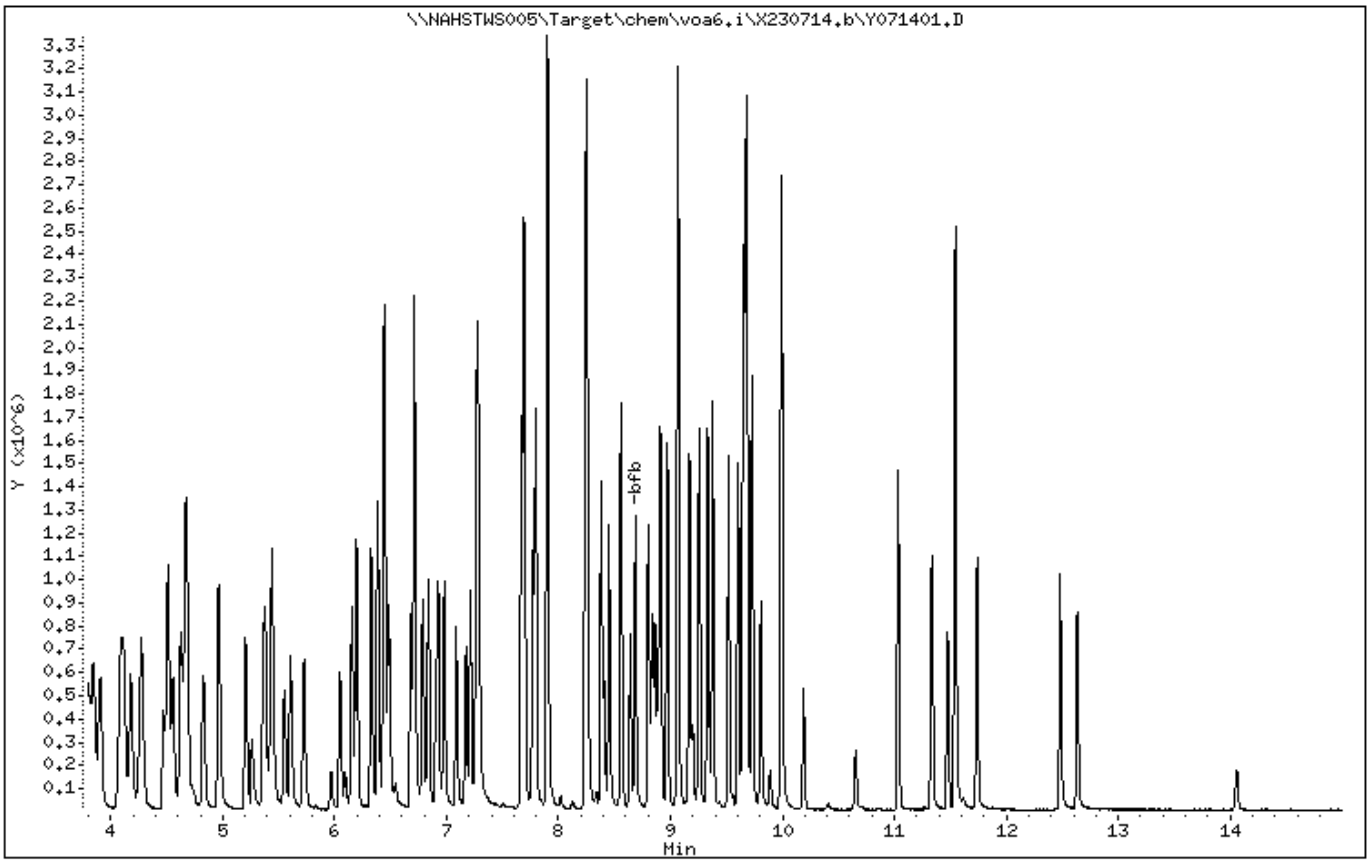
Date : 14-JUL-2023 17:07

Client ID: BFB Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0 Operator: PC

Column phase: DB624 Column diameter: 0.25



Data File: \\NAHSTWS005\Target\chem\voa6.i\X230714.b\Y071401.D

Date : 14-JUL-2023 17:07

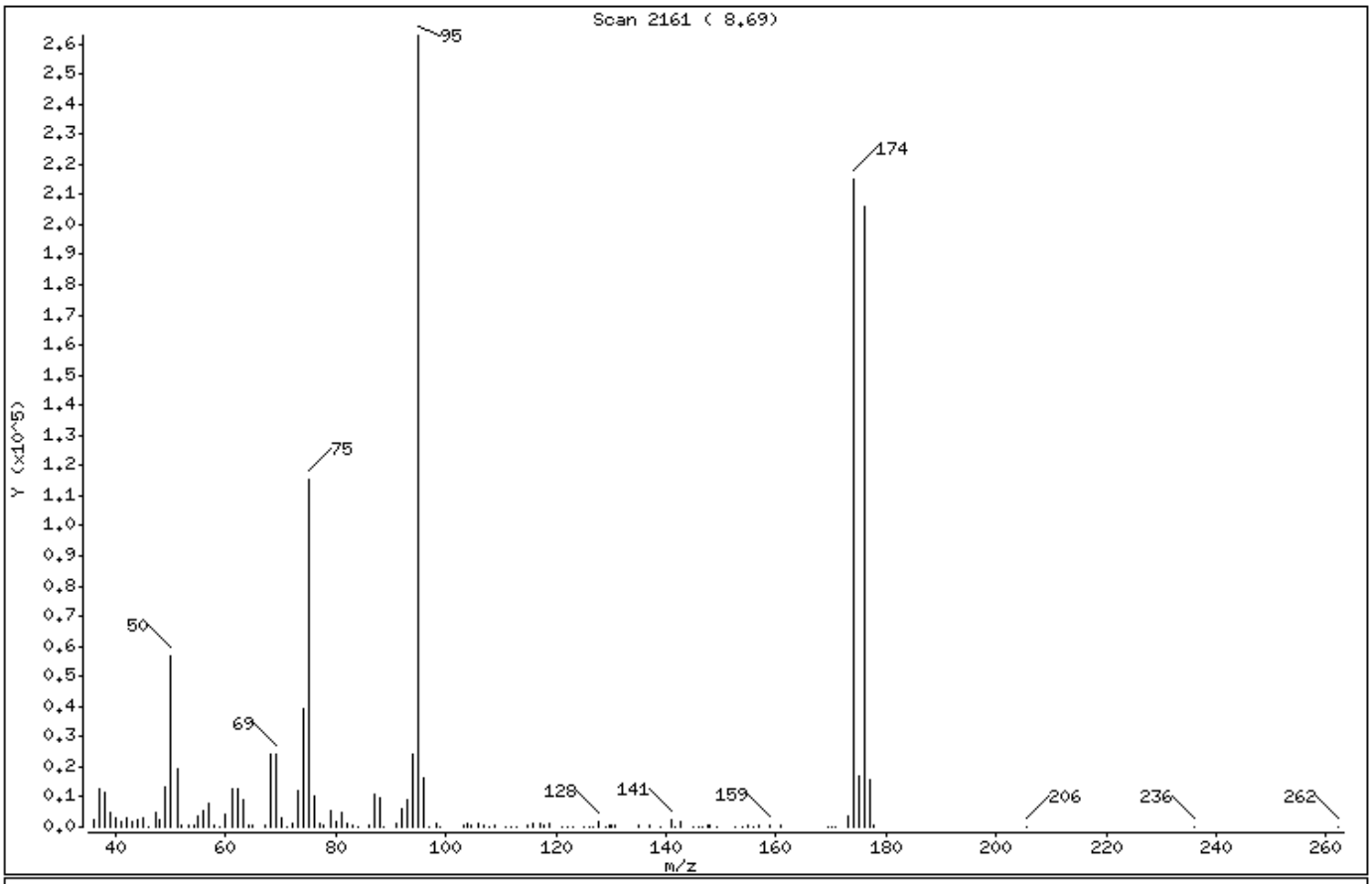
Client ID: BFB Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0 Operator: PC

Column phase: DB624 Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	21.56
75	30.00 - 60.00% of mass 95	43.89
96	5.00 - 9.00% of mass 95	6.29
173	Less than 2.00% of mass 174	1.29 (1.58)
174	Greater than 50.00% of mass 95	81.75
175	5.00 - 9.00% of mass 174	6.42 (7.86)
176	95.00 - 101.00% of mass 174	78.49 (96.01)
177	5.00 - 9.00% of mass 176	5.87 (7.48)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X230714.b\Y071401.D

Date : 14-JUL-2023 17:07

Client ID: BFB Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0 Operator: PC

Column phase: DB624 Column diameter: 0.25

Data File: Y071401.D
Spectrum: Scan 2161 (8.69)
Location of Maximum: 95.00
Number of points: 118

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	2396	67.10	454	98.90	111	141.00	2618
37.00	12754	68.10	24040	103.10	371	141.80	226
38.10	11610	69.00	24168	103.90	1226	142.80	1857
39.10	4906	70.20	2879	104.70	629	144.80	159
40.00	3264	71.20	102	106.00	1241	145.90	253
41.00	2041	72.00	1406	106.80	720	146.60	192
42.10	2866	73.10	12365	107.80	98	147.70	620
43.10	1865	74.00	39112	108.70	434	148.00	715
43.90	2417	75.00	115296	110.80	199	149.20	144
45.00	2931	76.00	10168	111.80	59	152.70	171
45.90	143	76.90	1307	112.80	177	154.00	254
47.10	5030	77.80	575	114.80	357	154.80	477
48.00	2260	78.90	5607	115.90	1039	156.00	171
49.00	13203	80.00	1531	117.00	1241	157.00	390
50.00	56640	80.90	5096	117.80	718	158.80	516
51.10	19104	81.90	1381	118.90	922	160.70	489
52.00	681	83.00	482	121.20	68	169.60	72
53.10	304	84.10	82	122.00	76	170.20	126
54.10	651	86.00	400	123.00	180	170.80	72
55.00	3562	86.90	10719	125.00	59	173.10	3384
56.00	5678	88.00	9896	126.20	54	174.00	214784
57.00	7977	88.80	159	126.70	151	175.00	16872
57.90	500	91.00	966	127.90	1548	176.00	206208
59.00	190	92.00	6116	129.10	287	177.00	15420
60.00	3946	93.00	9275	129.70	515	177.90	722
61.00	12414	94.00	24056	130.00	534	205.70	109
62.00	12508	95.00	262720	130.80	304	236.00	277
63.00	9089	96.10	16520	134.90	476	262.20	82
64.00	884	96.90	256	136.90	612		
64.90	382	98.10	1156	138.90	114		

Data File: \\NAHSTWS005\Target\chem\voa6.i\X230714.b\Y071403.D Page 1
Report Date: 20-Jul-2023 15:05

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\Y071403.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 14-JUL-2023 17:48
Operator : PC Inst ID: voa6.i
Smp Info : CCV;CCV;2;;
Misc Info : V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\8260W.m
Meth Date : 20-Jul-2023 15:05 voa6.i Quant Type: ISTD
Cal Date : 14-JUL-2023 15:25 Cal File: X071411.D
Als bottle: 19 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000_8260.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1	Pentafluorobenzene	168	4.178	4.178	(1.000)	512075	50.0000	
2	Dichlorodifluoromethane	85	0.976	0.976	(0.234)	264078	50.0000	50.40
3	Chloromethane	50	1.081	1.081	(0.259)	405778	50.0000	52.46
4	Propionitrile	54	3.657	3.657	(0.875)	503919	500.000	496.77
5	Vinyl Chloride	62	1.145	1.145	(0.274)	331579	50.0000	50.03
6	Bromomethane	94	1.344	1.344	(0.322)	144864	50.0000	52.82
7	Chloroethane	64	1.407	1.407	(0.337)	181479	50.0000	47.97
8	Trichlorofluoromethane	101	1.565	1.565	(0.375)	339550	50.0000	50.56
9	Acrolein	56	1.861	1.861	(0.446)	18711	100.000	96.53
10	Acetone	43	1.973	1.973	(0.472)	216610	100.000	107.25
11	1,1-Dichloroethene	96	1.917	1.917	(0.459)	193162	50.0000	51.48
12	Isobutyl Alcohol	43	4.680	4.680	(1.120)	994892	1000.00	1024.95
13	Acetonitrile	39	2.198	2.198	(0.526)	343194	500.000	477.94
14	Allyl Chloride	41	2.198	2.198	(0.526)	776265	50.0000	46.17
15	Iodomethane	142	2.030	2.030	(0.486)	484340	100.000	98.01
16	Acrylonitrile	53	2.532	2.532	(0.606)	242077	100.000	97.01
17	Methylene Chloride	84	2.307	2.307	(0.552)	229563	50.0000	51.90
18	Methyl tert-butyl ether	73	2.536	2.536	(0.607)	675003	50.0000	48.37
19	Carbon Disulfide	76	2.071	2.071	(0.496)	1193052	100.000	101.17
20	trans-1,2-Dichloroethene	96	2.528	2.528	(0.605)	215497	50.0000	49.66

21 Vinyl Acetate	43	3.001	3.001 (0.718)	1792097	100.000	99.85
22 1,1-Dichloroethane	63	2.922	2.922 (0.699)	474754	50.0000	49.85

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	23 Chloroprene	53	1.775	1.775	(0.425)	111803	50.0000	48.55(M)
	24 2-Butanone	43	3.585	3.585	(0.858)	283917	100.000	104.11
	25 Methacrylonitrile	41	3.821	3.821	(0.915)	337956	50.0000	51.13(a)
	26 2,2-Dichloropropane	77	3.507	3.507	(0.839)	374233	50.0000	50.62
	27 cis-1,2-Dichloroethene	96	3.529	3.529	(0.845)	276327	50.0000	49.98
	28 Chloroform	83	3.904	3.904	(0.935)	469577	50.0000	48.19
	29 Bromochloromethane	128	3.795	3.795	(0.908)	152911	50.0000	49.35
$	30 Dibromofluoromethane	113	4.099	4.099	(0.981)	243064	50.0000	51.81
	31 1,1,1-Trichloroethane	97	4.080	4.080	(0.977)	387316	50.0000	51.63
	32 1,1-Dichloropropene	75	4.275	4.275	(0.861)	326298	50.0000	50.38
	33 1,2-Dichloroethane	62	4.556	4.556	(0.918)	435849	50.0000	49.87
	34 Carbon Tetrachloride	117	4.264	4.264	(0.859)	316903	50.0000	48.57
$	35 1,2-Dichloroethane-d4	65	4.470	4.470	(1.070)	298532	50.0000	50.87
*	36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	793930	50.0000	
	37 Benzene	78	4.511	4.511	(0.909)	965742	50.0000	50.85
	38 Trichloroethene	130	5.205	5.205	(1.048)	273096	50.0000	50.84
	39 Bromodichloromethane	83	5.726	5.726	(1.153)	357435	50.0000	49.13
	40 Methyl Methacrylate	41	5.606	5.606	(1.342)	305272	50.0000	49.39
	41 2-Chloroethylvinyl ether	63	6.048	6.048	(1.218)	235729	100.000	106.14
	42 1,2-Dichloropropane	63	5.433	5.433	(1.094)	311609	50.0000	51.02
	43 2-Nitropropane	43	5.969	5.969	(1.429)	97249	50.0000	47.80
	44 Dibromomethane	93	5.550	5.550	(1.118)	169568	50.0000	49.05
	45 4-Methyl-2-Pentanone	43	6.326	6.326	(0.825)	683801	100.000	96.14
	46 cis-1,3-Dichloropropene	75	6.153	6.153	(1.239)	419323	50.0000	50.19
*	47 Chlorobenzene-d5	117	7.668	7.668	(1.000)	722724	50.0000	
$	48 Toluene-d8	98	6.382	6.382	(0.832)	893583	50.0000	48.02
	49 Ethyl Methacrylate	69	6.712	6.712	(1.352)	229238	50.0000	44.08
	50 Toluene	91	6.442	6.442	(0.840)	1011073	50.0000	51.97
	51 trans-1,3-Dichloropropene	75	6.678	6.678	(1.345)	355953	50.0000	50.54
	52 2-Hexanone	43	7.087	7.087	(0.924)	459569	100.000	98.36
	53 1,1,2-Trichloroethane	83	6.839	6.839	(0.892)	208333	50.0000	50.48
	54 1,3-Dichloropropane	76	6.982	6.982	(0.911)	413629	50.0000	49.05
	55 Dibromochloromethane	129	7.173	7.173	(0.935)	302922	50.0000	50.84
	56 Tetrachloroethene	164	6.925	6.925	(0.903)	205578	50.0000	51.14
	57 1,2-Dibromoethane	107	7.259	7.259	(0.947)	226710	50.0000	48.07
	58 1-Chlorohexane	55	7.694	7.694	(1.550)	296345	50.0000	46.46
	59 Chlorobenzene	112	7.690	7.690	(1.003)	686439	50.0000	50.47
	60 1,1,1,2-Tetrachloroethane	131	7.769	7.769	(1.013)	274567	50.0000	51.57
	61 Ethylbenzene	106	7.795	7.795	(1.017)	343517	50.0000	50.37
	62 m,p-Xylenes	106	7.900	7.900	(1.030)	895156	100.000	104.63
	63 o-Xylene	106	8.237	8.237	(1.074)	417214	50.0000	51.49
	64 Styrene	104	8.256	8.256	(1.077)	739991	50.0000	52.36
	66 Bromoform	173	8.406	8.406	(1.096)	200006	50.0000	52.32
	67 Isopropylbenzene	105	8.556	8.556	(1.116)	1056277	50.0000	50.72
	68 1,1,2,2-Tetrachloroethane	83	8.837	8.837	(0.915)	328245	50.0000	49.16
$	69 4-Bromofluorobenzene	95	8.687	8.687	(1.133)	375036	50.0000	52.13
*	70 1,4-Dichlorobenzene-d4	152	9.658	9.658	(1.000)	397495	50.0000	
	71 1,2,3-Trichloropropane	75	8.860	8.860	(0.917)	261635	50.0000	49.38(M)
	72 trans-1,4-Dichloro-2-butene	53	8.886	8.886	(1.159)	114967	50.0000	52.30
	73 n-Propylbenzene	91	8.908	8.908	(0.922)	1229592	50.0000	51.18
	74 Bromobenzene	156	8.803	8.803	(0.912)	319858	50.0000	51.45
	75 1,3,5-Trimethylbenzene	105	9.062	9.062	(0.938)	894598	50.0000	49.71

76	2-Chlorotoluene	91	8.972	8.972 (0.929)	802991	50.0000	49.55
77	4-Chlorotoluene	91	9.066	9.066 (0.939)	920023	50.0000	51.67

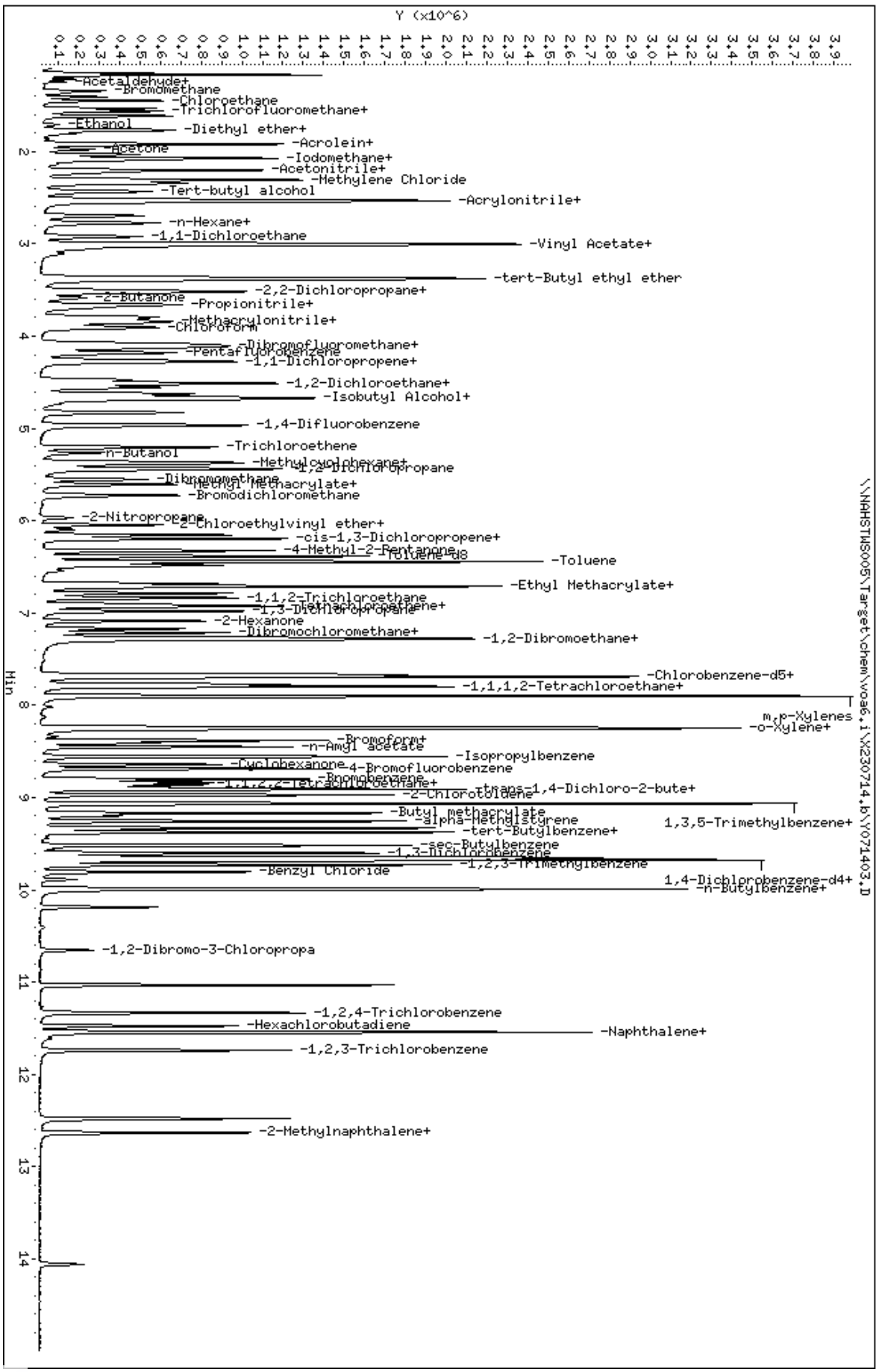
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)	
78	tert-Butylbenzene	119	9.332	9.332	(0.966)	765691	50.0000	49.61	
79	1,2,4-Trimethylbenzene	105	9.377	9.377	(0.971)	894952	50.0000	49.59	
81	sec-Butylbenzene	105	9.519	9.519	(0.986)	1039096	50.0000	50.51	
82	p-Isopropyltoluene	119	9.647	9.647	(0.999)	940760	50.0000	50.06	
83	1,3-Dichlorobenzene	146	9.602	9.602	(0.994)	559566	50.0000	51.66	
84	1,4-Dichlorobenzene	146	9.681	9.681	(1.002)	594033	50.0000	50.02	
86	Benzyl Chloride	91	9.804	9.804	(1.279)	581871	50.0000	47.44	
87	n-Butylbenzene	91	9.992	9.992	(1.035)	783800	50.0000	49.80	
88	1,2-Dichlorobenzene	146	9.988	9.988	(1.034)	539486	50.0000	50.66	
89	1,2-Dibromo-3-Chloropropane	155	10.655	10.655	(1.103)	50842	50.0000	46.40	
90	1,2,4-Trichlorobenzene	180	11.334	11.334	(1.173)	337057	50.0000	46.09	
91	Hexachlorobutadiene	225	11.476	11.476	(1.188)	155266	50.0000	46.26	
92	Naphthalene	128	11.540	11.540	(1.195)	847697	50.0000	46.83	
93	1,2,3-Trichlorobenzene	180	11.739	11.739	(1.215)	324363	50.0000	47.42	
146	Methyl acetate	43	2.232	2.232	(0.534)	222006	50.0000	48.71	
138	Freon TF	101	1.917	1.917	(0.459)	182703	50.0000	56.58	
141	Cyclohexane	56	4.121	4.121	(0.987)	454262	50.0000	51.17	
142	Tetrahydrofuran	42	3.851	3.851	(0.922)	125557	100.000	95.30	
147	Methylcyclohexane	55	5.381	5.381	(1.084)	797404	50.0000	47.58	
135	1,4-Dioxane	88	5.602	5.602	(1.341)	56487	1000.00	928.29	
132	n-Butanol	56	5.261	5.261	(1.259)	160680	1000.00	942.59	
131	Methyl Acrylate	55	3.690	3.690	(0.883)	347467	50.0000	49.91	
133	Ethyl Acrylate	55	5.381	5.381	(1.288)	797404	50.0000	46.98	
136	n-Hexane	57	2.772	2.772	(0.664)	289137	50.0000	56.60	
139	Diethyl ether	59	1.760	1.760	(0.421)	225570	50.0000	47.23	
148	Tert-butyl alcohol	59	2.434	2.434	(0.583)	596047	1000.00	922.23	
149	Isopropyl alcohol	45	2.097	2.097	(0.502)	371647	1000.00	926.71	
156	Diisopropyl ether	45	3.004	3.004	(0.719)	995915	50.0000	47.18	
166	1,2,3-Trimethylbenzene	105	9.729	9.729	(1.007)	925815	50.0000	50.38	
167	Ethanol	45	1.703	1.703	(0.408)	70814	1000.00	988.65	
172	tert-Butyl formate	59	4.624	4.624	(1.107)	486894	100.000	89.01	
173	3,3-Dimethyl-1-butanol	57	7.285	7.285	(0.950)	689515	1000.00	887.11	
174	tert-Amyl methyl ether	73	4.669	4.669	(1.118)	850966	50.0000	50.51	
175	tert-Butyl ethyl ether	59	3.379	3.379	(0.809)	1037718	50.0000	47.86	
176	tert-Amyl alcohol	59	4.624	4.624	(1.107)	486894	1000.00	870.37	
151	4-Methyl-2-pentanol	45	6.712	6.712	(1.352)	1479680	1000.00	869.66	
180	1-Methylnaphthalene	142	12.635	12.635	(1.308)	429808	50.0000		(a)
140	1,3-Butadiene	54	1.167	1.167	(0.280)	330937	50.0000	50.29	
152	Amyl alcohol	42	6.903	6.903	(0.900)	188258	1000.00	905.79	
158	Dichlorofluoromethane	67	1.535	1.535	(0.367)	383049	50.0000	46.42	
159	Propylene oxide	43	1.805	1.805	(0.432)	61879	100.000	98.49	
161	3-Methyl-1-butanol	55	6.903	6.903	(0.900)	168011	1000.00	944.23	
162	Butyl acrylate	55	8.249	8.249	(1.076)	734228	50.0000	53.40	
163	Butyl methacrylate	41	9.167	9.167	(0.949)	484253	50.0000	50.86	
164	Dicyclopentadiene	66	9.681	9.681	(1.002)	1089926	50.0000	47.60	
182	Epichlorohydrin	57	6.093	6.093	(1.227)	118769	200.000	200.27	
M 94	1,2-Dichloroethylene (total)	96				491824	100.000		(a)
145	alpha-Methylstyrene	118	9.253	9.253	(0.958)	441444	50.0000	50.90	
130	Ethyl Acetate	43	3.664	3.664	(0.877)	366950	50.0000	48.24	
134	Cyclohexanone	55	8.638	8.638	(0.894)	342339	1000.00	967.40	
185	Isoprene	39	1.771	1.771	(0.424)	86682	50.0000	51.35	
188	Isopropyl acetate	43	4.680	4.680	(0.943)	994717	50.0000	47.51	

187 n-Amyl acetate	43	8.451	8.451 (1.102)	623394	50.0000	47.06
189 n-Butyl acetate	43	7.210	7.210 (0.940)	555507	50.0000	50.14

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
150 Allyl alcohol	57	2.772	2.772	(0.664)	289137	1000.00	1132.55
194 Acetaldehyde	44	1.212	1.212	(0.290)	104751	200.000	231.15
195 Methyl Amyl Ketone	43	8.380	8.380	(1.093)	751890	50.0000	49.77
200 Dimethyl Disulfide	94	6.194	6.194	(0.808)	516320	50.0000	52.96
202 Isobutylene	41	1.242	1.242	(0.297)	34194	50.0000	40.38(M)
205 2-Ethylhexyl Acrylate	55	11.547	11.547	(1.196)	574135	50.0000	56.55

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.



Data File: \\NAHSTWS005\Target\chem\voa6.i\X230714.b\Y071403.D
Date : 14-JUL-2023 17:48
Client ID: CCV
Sample Info: CCV;CCV;2;;
Purge Volume: 5.0
Column phase: DB624

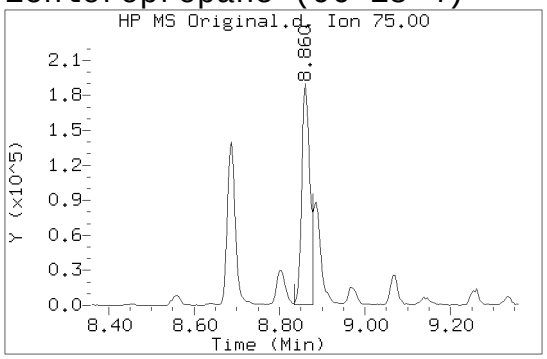
Instrument: voa6.i
Operator: PC
Column diameter: 0.18

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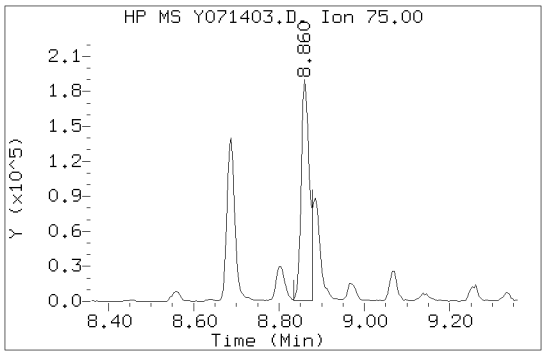
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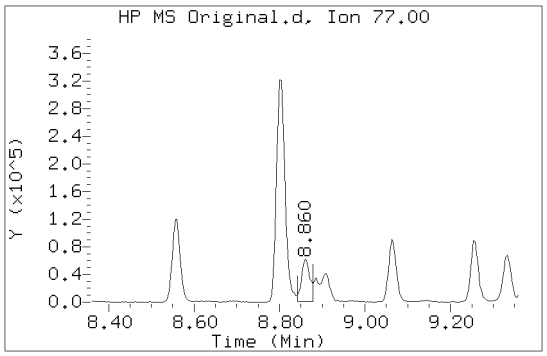
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20-Jul-2023
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pham



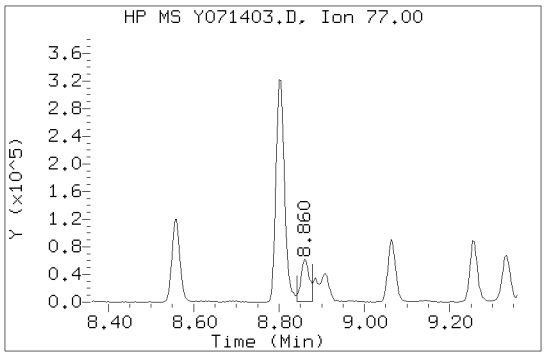
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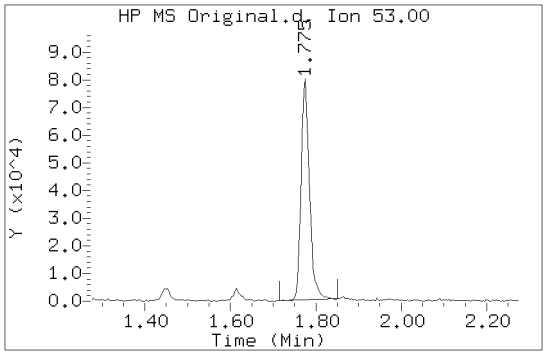
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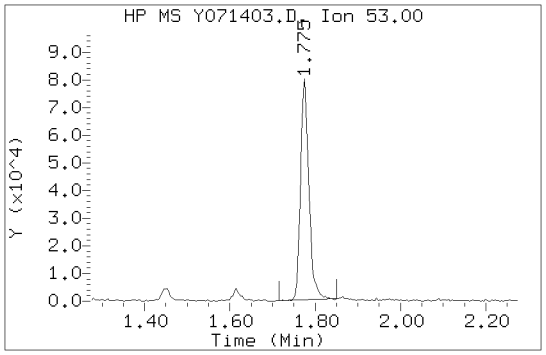
Chloroprene (126-99-8)

Reason Code:

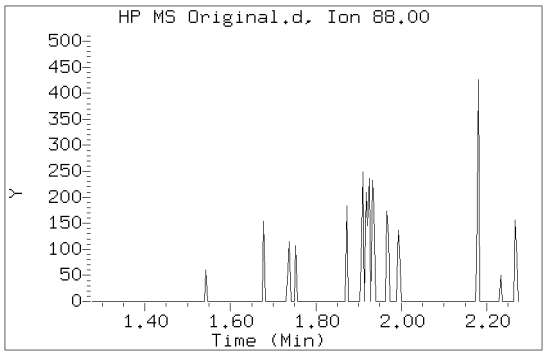
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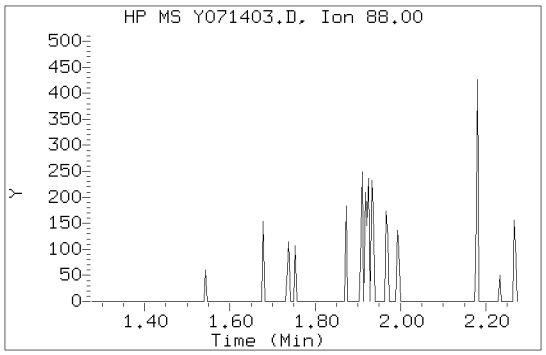
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BEFORE
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AFTER
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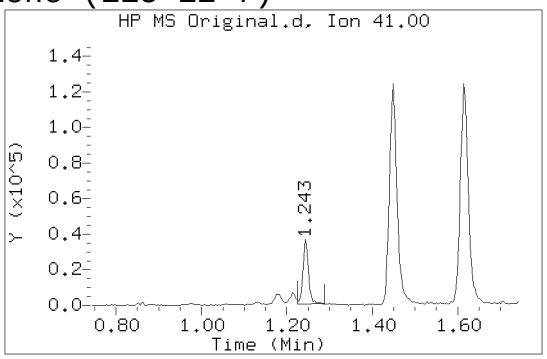
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Inj Date : 14-JUL-2023 17:48
InstruID : voa6.i
LabSampID : CCV

Isobutylene (115-11-7)

Reason Code:

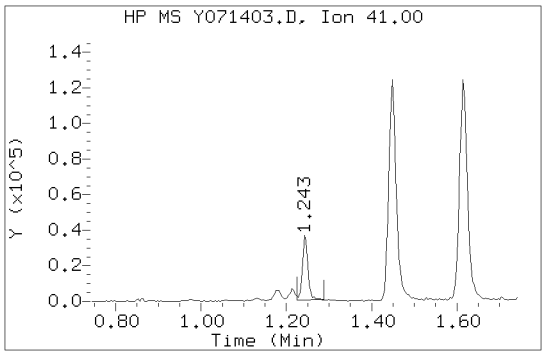
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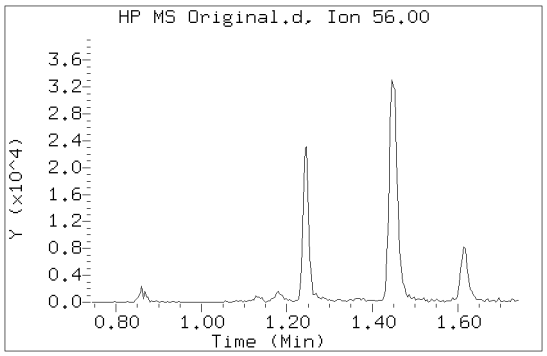
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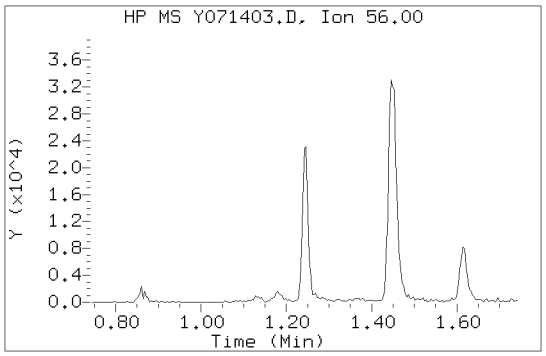
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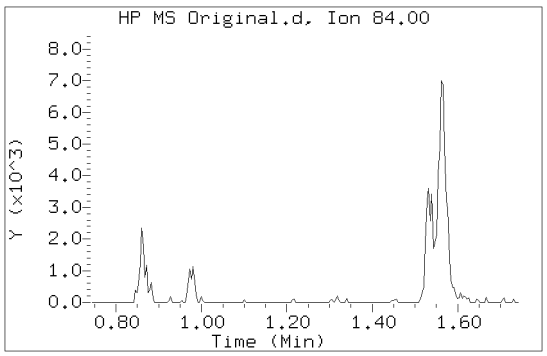
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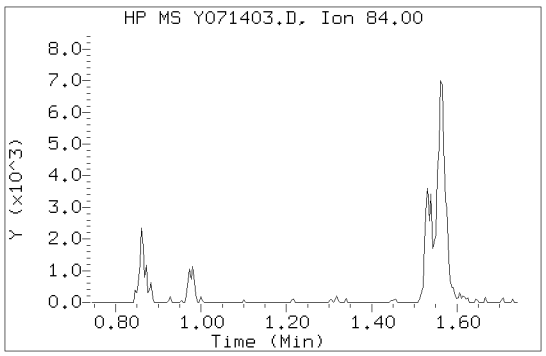
BEFORE

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20-Jul-2023
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AFTER

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AREA
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HEIGHT
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20-Jul-2023
15:04
linh
pham



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\Y071404.D
Lab Smp Id: CCB Client Smp ID: CCB
Inj Date : 14-JUL-2023 18:08
Operator : PC Inst ID: voa6.i
Smp Info : CCB;CCB;;;
Misc Info : V6;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\8260W.m
Meth Date : 20-Jul-2023 15:05 voa6.i Quant Type: ISTD
Cal Date : 14-JUL-2023 15:25 Cal File: X071411.D
Als bottle: 20
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.178	4.178	(1.000)	510529	50.0000	
$ 30 Dibromofluoromethane	113	4.099	4.099	(0.981)	245093	52.4173	52.41
$ 35 1,2-Dichloroethane-d4	65	4.470	4.470	(1.070)	307261	52.5429	52.54
* 36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	756039	50.0000	
* 47 Chlorobenzene-d5	117	7.667	7.668	(1.000)	664131	50.0000	
$ 48 Toluene-d8	98	6.385	6.382	(0.833)	896991	52.4576	52.45
$ 69 4-Bromofluorobenzene	95	8.687	8.687	(1.133)	316042	47.7751	47.77
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.658	(1.000)	345715	50.0000	

01246774

Data File: \\NAHSTWS005\Target\chem\voa6.i\X230714.b\Y071404.D

Date : 14-JUL-2023 18:08

Client ID: CCB

Instrument: voa6.i

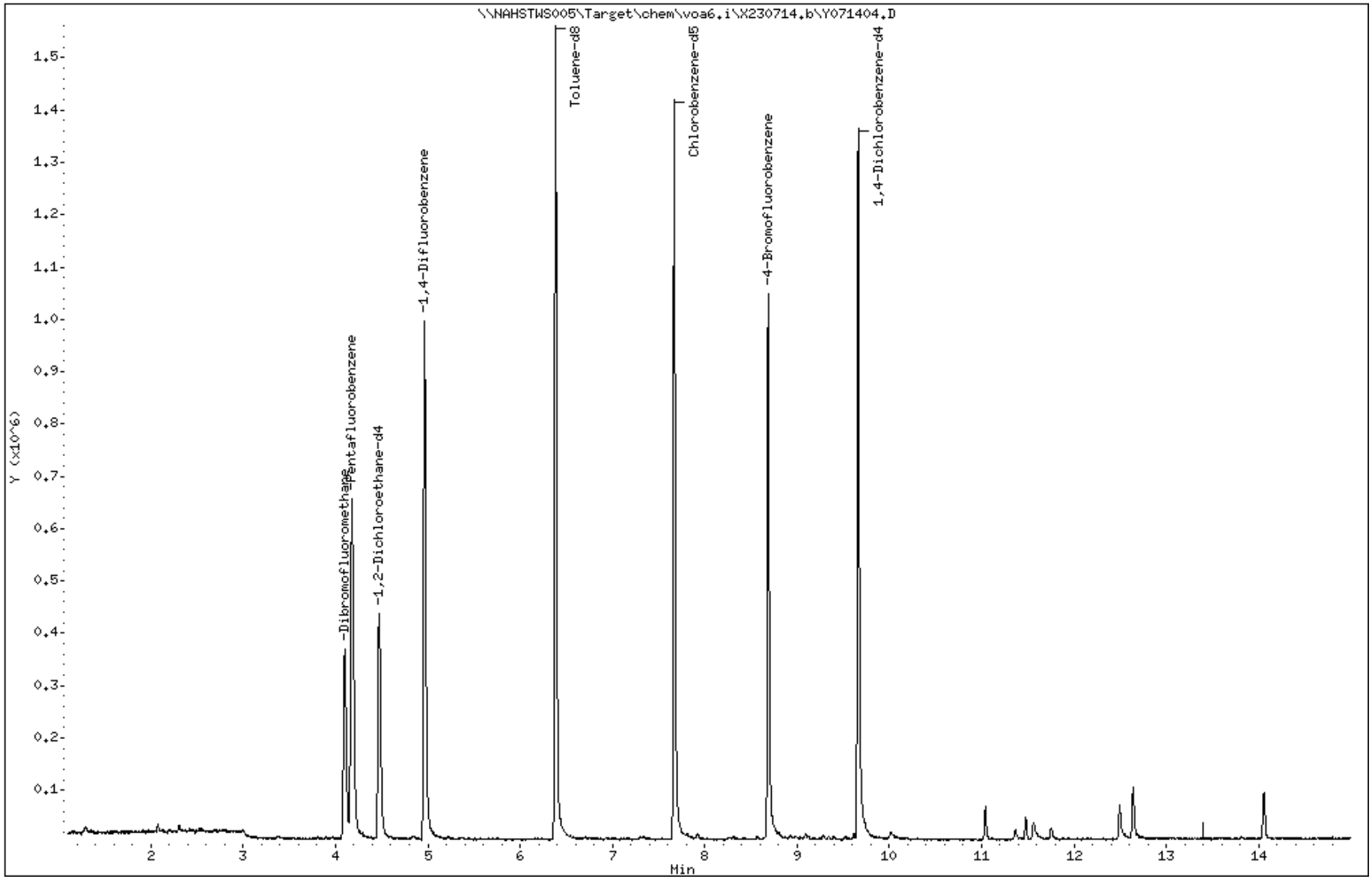
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Purge Volume: 5.0

Operator: PC

Column phase: DB624

Column diameter: 0.18



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Inj Date : 14-JUL-2023 18:08
InstruID : voa6.i
LabSampID : CCB

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa6.i\X230714.b\Y071405.D Page 1
Report Date: 20-Jul-2023 15:05

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\Y071405.D
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Inj Date : 14-JUL-2023 18:29
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Misc Info : V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\8260W.m
Meth Date : 20-Jul-2023 15:05 voa6.i Quant Type: ISTD
Cal Date : 14-JUL-2023 15:25 Cal File: X071411.D
Als bottle: 21 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.178	4.178	(1.000)	496979	50.0000	
135 1,4-Dioxane	88	5.606	5.602	(1.342)	24770	419.429	419.42(a)
140 1,3-Butadiene	54	1.167	1.167	(0.280)	120991	18.9463	18.94
25 Methacrylonitrile	41	3.836	3.821	(0.918)	136632	21.2993	21.29
12 Isobutyl Alcohol	43	4.684	4.680	(1.121)	403637	428.464	428.46
13 Acetonitrile	39	2.202	2.198	(0.527)	136165	195.387	195.38
14 Allyl Chloride	41	2.202	2.198	(0.527)	311663	19.1008	19.10
4 Propionitrile	54	3.660	3.657	(0.876)	203192	206.396	206.39(a)
72 trans-1,4-Dichloro-2-butene	53	8.886	8.886	(1.159)	45898	20.7676	20.76
194 Acetaldehyde	44	1.212	1.212	(0.290)	54221	112.710	112.70
23 Chloroprene	53	1.775	1.775	(0.425)	41706	18.6639	18.66(M)
130 Ethyl Acetate	43	3.664	3.664	(0.877)	157202	21.2965	21.29
40 Methyl Methacrylate	41	5.610	5.606	(1.343)	114813	19.1410	19.14
49 Ethyl Methacrylate	69	6.712	6.712	(1.352)	105013	20.4251	20.42
131 Methyl Acrylate	55	3.702	3.690	(0.886)	107922	15.9753	15.97
132 n-Butanol	56	5.268	5.261	(1.261)	60049	362.964	362.96(a)
136 n-Hexane	57	2.772	2.772	(0.664)	118986	26.1505	26.15
139 Diethyl ether	59	1.760	1.760	(0.421)	90095	19.4409	19.44
142 Tetrahydrofuran	42	3.855	3.851	(0.923)	49187	38.4705	38.47
145 alpha-Methylstyrene	118	9.257	9.253	(0.958)	170084	20.1589	20.15

156	Diisopropyl ether	45	3.004	3.004 (0.719)	402156	19.6335	19.63
162	Butyl acrylate	55	8.252	8.249 (1.076)	279272	20.2012	20.20

Data File: \\NAHSTWS005\Target\chem\voa6.i\X230714.b\Y071405.D Page 2
Report Date: 20-Jul-2023 15:05

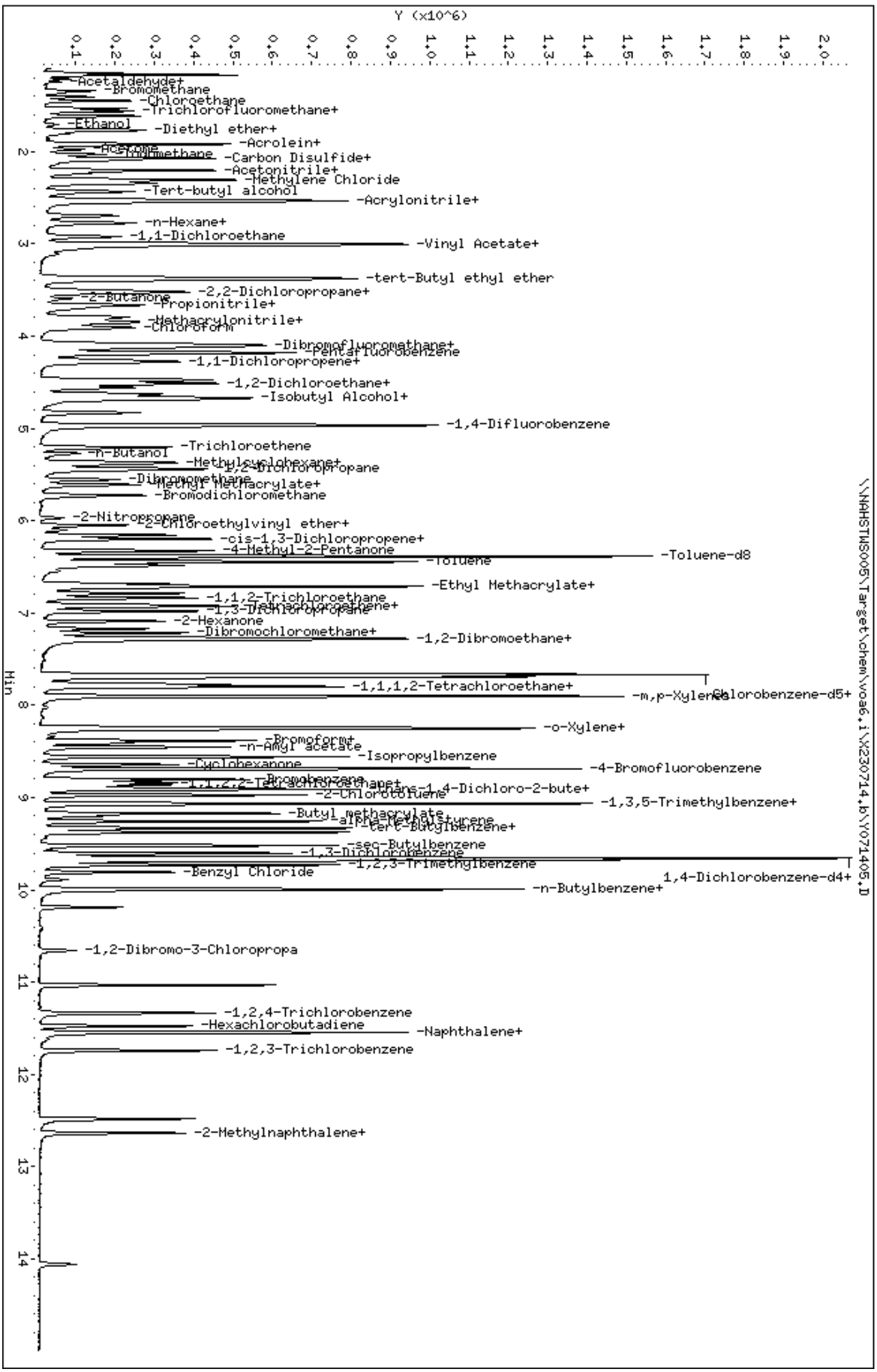
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
167	Ethanol	45	1.703	1.703	(0.408)	29720	416.942	416.94
200	Dimethyl Disulfide	94	6.198	6.194	(0.808)	192841	19.6740	19.67
182	Epichlorohydrin	57	6.097	6.093	(1.228)	48004	81.8639	81.86
164	Dicyclopentadiene	66	9.681	9.681	(1.002)	405544	18.2055	18.20
166	1,2,3-Trimethylbenzene	105	9.729	9.729	(1.007)	337587	18.8843	18.88
205	2-Ethylhexyl Acrylate	55	11.547	11.547	(1.195)	189571	19.1921	19.19
86	Benzyl Chloride	91	9.804	9.804	(1.279)	203311	18.0179	18.01
134	Cyclohexanone	55	8.642	8.638	(0.894)	141672	411.496	411.49(a)
202	Isobutylene	41	1.242	1.242	(0.297)	13218	16.0868	16.08(M)
133	Ethyl Acrylate	55	5.385	5.381	(1.289)	294605	17.8864	17.88
163	Butyl methacrylate	41	9.171	9.167	(0.949)	186511	20.1348	20.13
188	Isopropyl acetate	43	4.684	4.680	(0.943)	406417	19.6347	19.63
189	n-Butyl acetate	43	7.214	7.210	(0.941)	226121	20.3023	20.30
2	Dichlorodifluoromethane	85	0.976	0.976	(0.234)	96480	19.6573	19.65
3	Chloromethane	50	1.081	1.081	(0.259)	154765	20.6177	20.61
5	Vinyl Chloride	62	1.145	1.145	(0.274)	126808	19.7178	19.71
6	Bromomethane	94	1.344	1.344	(0.322)	58149	21.8494	21.84
7	Chloroethane	64	1.407	1.407	(0.337)	70412	19.1790	19.17
8	Trichlorofluoromethane	101	1.561	1.565	(0.374)	135661	20.8151	20.81
9	Acrolein	56	1.865	1.861	(0.446)	7551	40.8001	40.80
10	Acetone	43	1.977	1.973	(0.473)	91150	43.7330	43.73
11	1,1-Dichloroethene	96	1.917	1.917	(0.459)	72311	19.8607	19.86
15	Iodomethane	142	2.030	2.030	(0.486)	147064	33.8208	33.82
16	Acrylonitrile	53	2.539	2.532	(0.608)	97231	40.1484	40.14
17	Methylene Chloride	84	2.303	2.307	(0.551)	94052	21.0980	21.09
18	Methyl tert-butyl ether	73	2.539	2.536	(0.608)	267407	19.7479	19.74
19	Carbon Disulfide	76	2.071	2.071	(0.496)	456225	39.8630	39.86
20	trans-1,2-Dichloroethene	96	2.532	2.528	(0.606)	80808	19.1874	19.18
21	Vinyl Acetate	43	3.004	3.001	(0.719)	713531	40.9662	40.96
22	1,1-Dichloroethane	63	2.922	2.922	(0.699)	186200	20.1474	20.14
24	2-Butanone	43	3.593	3.585	(0.860)	99986	37.7790	37.77
26	2,2-Dichloropropane	77	3.510	3.507	(0.840)	145279	20.3739	20.37
27	cis-1,2-Dichloroethene	96	3.529	3.529	(0.845)	108722	20.2647	20.26
28	Chloroform	83	3.908	3.904	(0.935)	189373	20.0259	20.02
29	Bromochloromethane	128	3.799	3.795	(0.909)	59320	19.7291	19.72
$ 30	Dibromofluoromethane	113	4.103	4.099	(0.982)	244547	53.7455	53.74
31	1,1,1-Trichloroethane	97	4.080	4.080	(0.977)	149389	20.5220	20.52
32	1,1-Dichloropropene	75	4.283	4.275	(0.863)	128177	20.0170	20.01
33	1,2-Dichloroethane	62	4.560	4.556	(0.918)	178729	20.6820	20.68
34	Carbon Tetrachloride	117	4.260	4.264	(0.858)	124280	19.2649	19.26
$ 35	1,2-Dichloroethane-d4	65	4.470	4.470	(1.070)	301196	52.9144	52.91
* 36	1,4-Difluorobenzene	114	4.965	4.965	(1.000)	785043	50.0000	
37	Benzene	78	4.511	4.511	(0.909)	375932	20.0201	20.02
38	Trichloroethene	130	5.205	5.205	(1.048)	106303	20.0142	20.01
39	Bromodichloromethane	83	5.726	5.726	(1.153)	137740	19.1504	19.15
41	2-Chloroethylvinyl ether	63	6.048	6.048	(1.218)	90614	41.2626	41.26
42	1,2-Dichloropropane	63	5.433	5.433	(1.094)	121453	20.1145	20.11
44	Dibromomethane	93	5.557	5.550	(1.119)	68841	20.1413	20.14
45	4-Methyl-2-Pentanone	43	6.326	6.326	(0.825)	287845	40.2537	40.25
46	cis-1,3-Dichloropropene	75	6.157	6.153	(1.240)	165727	20.0610	20.06
* 47	Chlorobenzene-d5	117	7.668	7.668	(1.000)	726669	50.0000	
$ 48	Toluene-d8	98	6.382	6.382	(0.832)	875510	46.7949	46.79

50	Toluene	91	6.446	6.442 (0.841)	399769	20.4372	20.43
51	trans-1,3-Dichloropropene	75	6.682	6.678 (1.346)	136263	19.5670	19.56

			QUANT SIG					CONCENTRATIONS	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/l)	FINAL (ug/l)
	52	2-Hexanone	43	7.087	7.087	(0.924)	197765	42.1014	42.10
	53	1,1,2-Trichloroethane	83	6.839	6.839	(0.892)	84059	20.2575	20.25
	54	1,3-Dichloropropane	76	6.982	6.982	(0.911)	168461	19.8718	19.87
	55	Dibromochloromethane	129	7.173	7.173	(0.935)	117993	19.6969	19.69
	56	Tetrachloroethene	164	6.925	6.925	(0.903)	84638	20.9438	20.94
	57	1,2-Dibromoethane	107	7.259	7.259	(0.947)	91204	19.2342	19.23
	58	1-Chlorohexane	55	7.690	7.694	(1.549)	127090	20.1513	20.15
	59	Chlorobenzene	112	7.690	7.690	(1.003)	277444	20.2905	20.29
	60	1,1,1,2-Tetrachloroethane	131	7.773	7.769	(1.014)	110788	20.6962	20.69
	61	Ethylbenzene	106	7.799	7.795	(1.017)	137736	20.0878	20.08
	62	m,p-Xylenes	106	7.904	7.900	(1.031)	354576	41.2203	41.22
	63	o-Xylene	106	8.237	8.237	(1.074)	169425	20.7989	20.79
	64	Styrene	104	8.256	8.256	(1.077)	288813	20.3263	20.32
	66	Bromoform	173	8.406	8.406	(1.096)	78676	20.4701	20.47
	67	Isopropylbenzene	105	8.560	8.556	(1.116)	423815	20.2410	20.24
	68	1,1,2,2-Tetrachloroethane	83	8.837	8.837	(0.915)	133283	20.5188	20.51
$	69	4-Bromofluorobenzene	95	8.687	8.687	(1.133)	366605	50.6749	50.67
*	70	1,4-Dichlorobenzene-d4	152	9.662	9.658	(1.000)	386725	50.0000	
	71	1,2,3-Trichloropropane	75	8.860	8.860	(0.917)	98871	19.1814	19.18(M)
	73	n-Propylbenzene	91	8.908	8.908	(0.922)	501586	21.4632	21.46
	74	Bromobenzene	156	8.803	8.803	(0.911)	125342	20.7237	20.72
	75	1,3,5-Trimethylbenzene	105	9.066	9.062	(0.938)	346474	19.7906	19.79
	76	2-Chlorotoluene	91	8.972	8.972	(0.929)	325001	20.6159	20.61
	77	4-Chlorotoluene	91	9.070	9.066	(0.939)	361849	20.8881	20.88
	78	tert-Butylbenzene	119	9.336	9.332	(0.966)	308949	20.5782	20.57
	79	1,2,4-Trimethylbenzene	105	9.377	9.377	(0.971)	351418	20.0168	20.01
	81	sec-Butylbenzene	105	9.519	9.519	(0.985)	421286	21.0518	21.05
	82	p-Isopropyltoluene	119	9.647	9.647	(0.998)	362972	19.8557	19.85
	83	1,3-Dichlorobenzene	146	9.606	9.602	(0.994)	216392	20.5374	20.53
	84	1,4-Dichlorobenzene	146	9.681	9.681	(1.002)	227538	19.6962	19.69
	87	n-Butylbenzene	91	9.992	9.992	(1.034)	316846	20.6950	20.69
	88	1,2-Dichlorobenzene	146	9.992	9.988	(1.034)	216921	20.9409	20.94
	89	1,2-Dibromo-3-Chloropropane	155	10.663	10.655	(1.104)	20701	20.0540	20.05
	90	1,2,4-Trichlorobenzene	180	11.337	11.334	(1.173)	130350	18.3214	18.32
	91	Hexachlorobutadiene	225	11.476	11.476	(1.188)	61778	20.3112	20.31
	92	Naphthalene	128	11.544	11.540	(1.195)	323332	18.3615	18.36
	93	1,2,3-Trichlorobenzene	180	11.742	11.739	(1.215)	123250	18.5235	18.52
M	94	1,2-Dichloroethylene (total)	96				189530	39.4521	39.45
M	95	Xylenes (total)	106				524001	62.0192	62.01
	141	Cyclohexane	56	4.121	4.121	(0.987)	190866	22.1565	22.15
	138	Freon TF	101	1.917	1.917	(0.459)	70705	24.5336	24.53
	147	Methylcyclohexane	55	5.385	5.381	(1.085)	294605	17.7793	17.77
	146	Methyl Acetate	43	2.232	2.232	(0.534)	89416	20.2161	20.21
	148	Tert-Butyl alcohol	59	2.434	2.434	(0.583)	250649	399.597	399.59
	149	Isopropyl Alcohol	45	2.097	2.097	(0.502)	143843	369.573	369.57

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.



Data File: \\NAHSTWS005\Target\chem\voa6,i\X230714,b\Y071405,D
Date : 14-JUL-2023 18:29
Client ID: VLCSW-230714
Sample Info: VLCSW-230714;VLCSW-230714;3;;LCS
Purge Volume: 5.0
Column phase: DB624

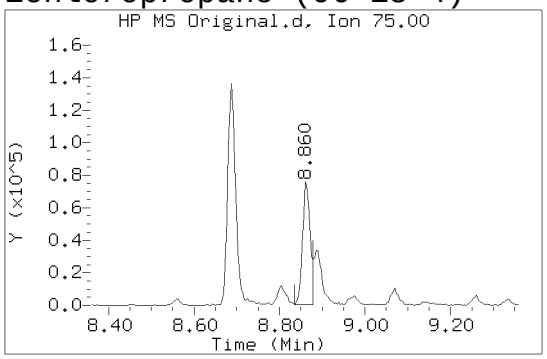
Instrument: voa6,i
Operator: PC
Column diameter: 0.18

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LabSampID : VLCSW-230714

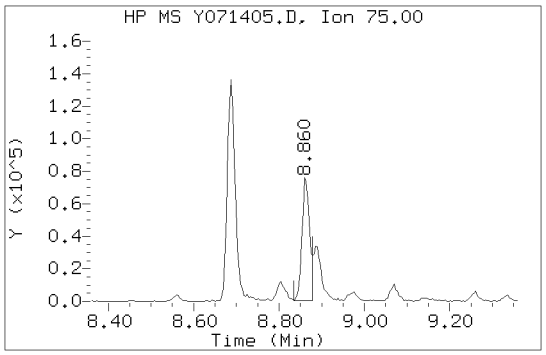
1,2,3-Trichloropropane (96-18-4)

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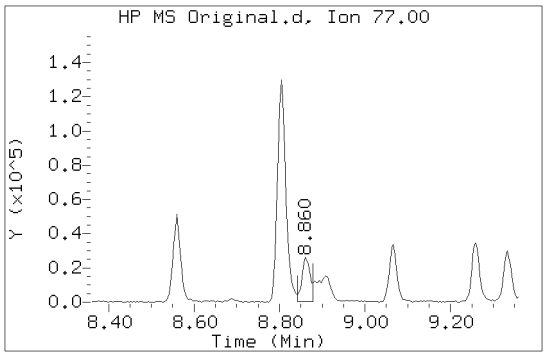
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75666
20-Jul-2023
15:04
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pham



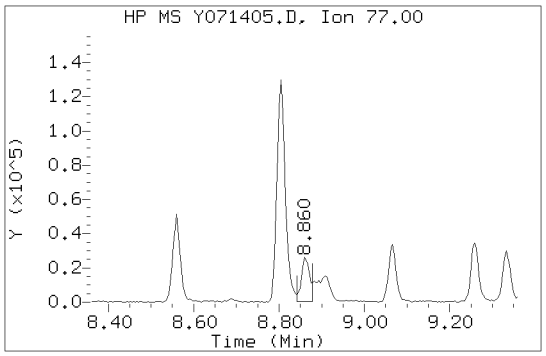
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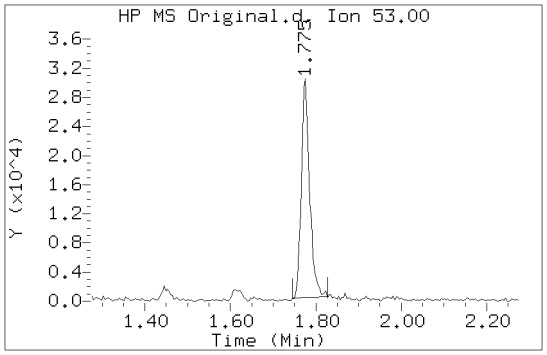
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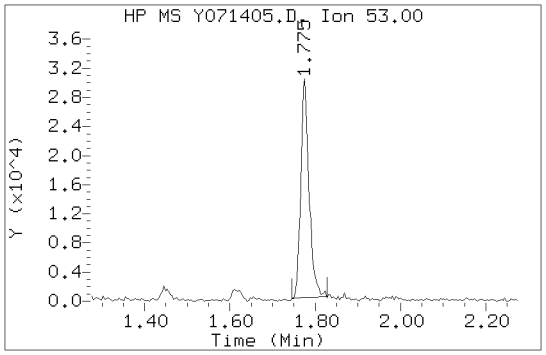
Chloroprene (126-99-8)

Reason Code:

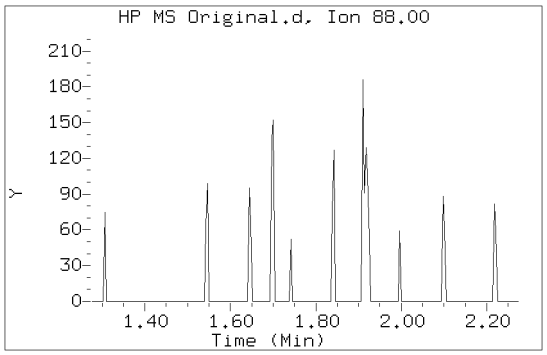
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20-Jul-2023
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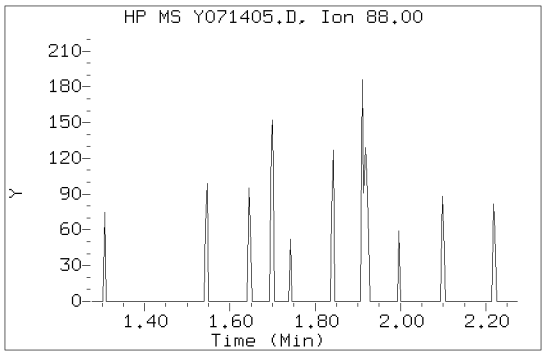
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BEFORE
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AFTER
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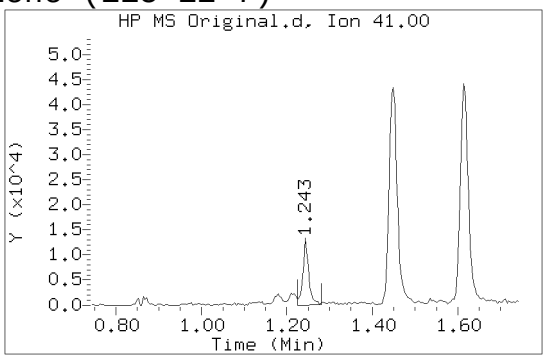


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\Y071405.D
Inj Date : 14-JUL-2023 18:29
InstruID : voa6.i
LabSampID : VLCSW-230714

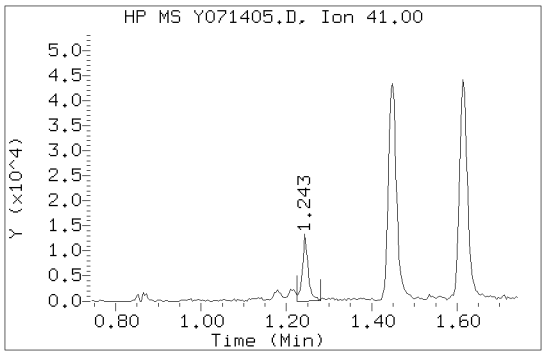
Isobutylene (115-11-7)

Reason Code:

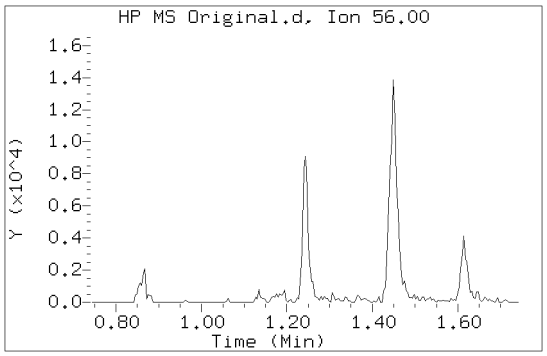
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20-Jul-2023
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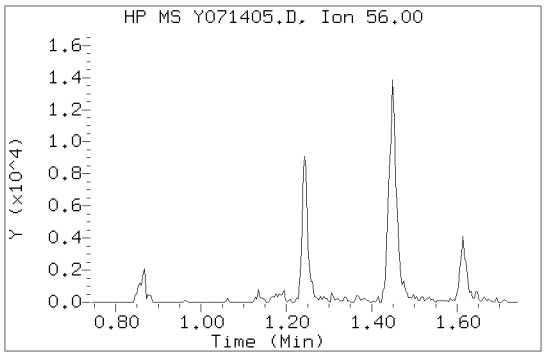
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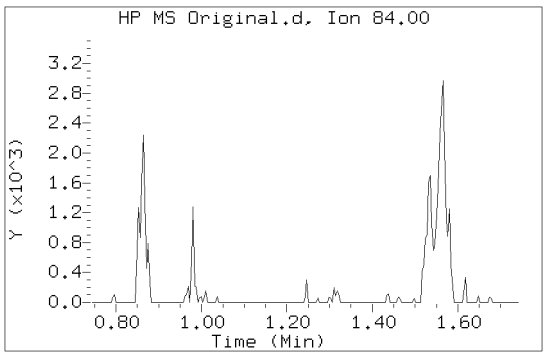
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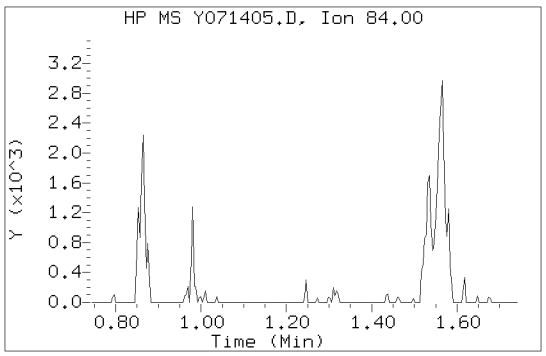
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BEFORE
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AFTER
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HEIGHT
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20-Jul-2023
15:04
linh
pham



Data File: \\NAHSTWS005\Target\chem\voa6.i\X230714.b\Y071407.D Page 1
Report Date: 20-Jul-2023 15:05

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\Y071407.D
Lab Smp Id: VBLKW-230714 Client Smp ID: VBLKW-230714
Inj Date : 14-JUL-2023 19:10
Operator : PC Inst ID: voa6.i
Smp Info : VBLKW-230714;VBLKW-230714;3;;BLANK
Misc Info : V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\8260W.m
Meth Date : 20-Jul-2023 15:05 voa6.i Quant Type: ISTD
Cal Date : 14-JUL-2023 15:25 Cal File: X071411.D
Als bottle: 23 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.178	4.178	(1.000)	526276	50.0000	
$ 30 Dibromofluoromethane	113	4.099	4.099	(0.981)	247732	51.3815	51.38
$ 35 1,2-Dichloroethane-d4	65	4.474	4.470	(1.071)	313050	51.9238	51.92
* 36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	772082	50.0000	
* 47 Chlorobenzene-d5	117	7.668	7.668	(1.000)	677726	50.0000	
$ 48 Toluene-d8	98	6.386	6.382	(0.833)	888273	50.9057	50.90
$ 69 4-Bromofluorobenzene	95	8.687	8.687	(1.133)	309489	45.8287	45.82
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.658	(1.000)	329433	50.0000	

01246785

Data File: \\NAHSTWS005\Target\chem\voa6.i\X230714.b\Y071407.D

Date : 14-JUL-2023 19:10

Client ID: VBLKW-230714

Instrument: voa6.i

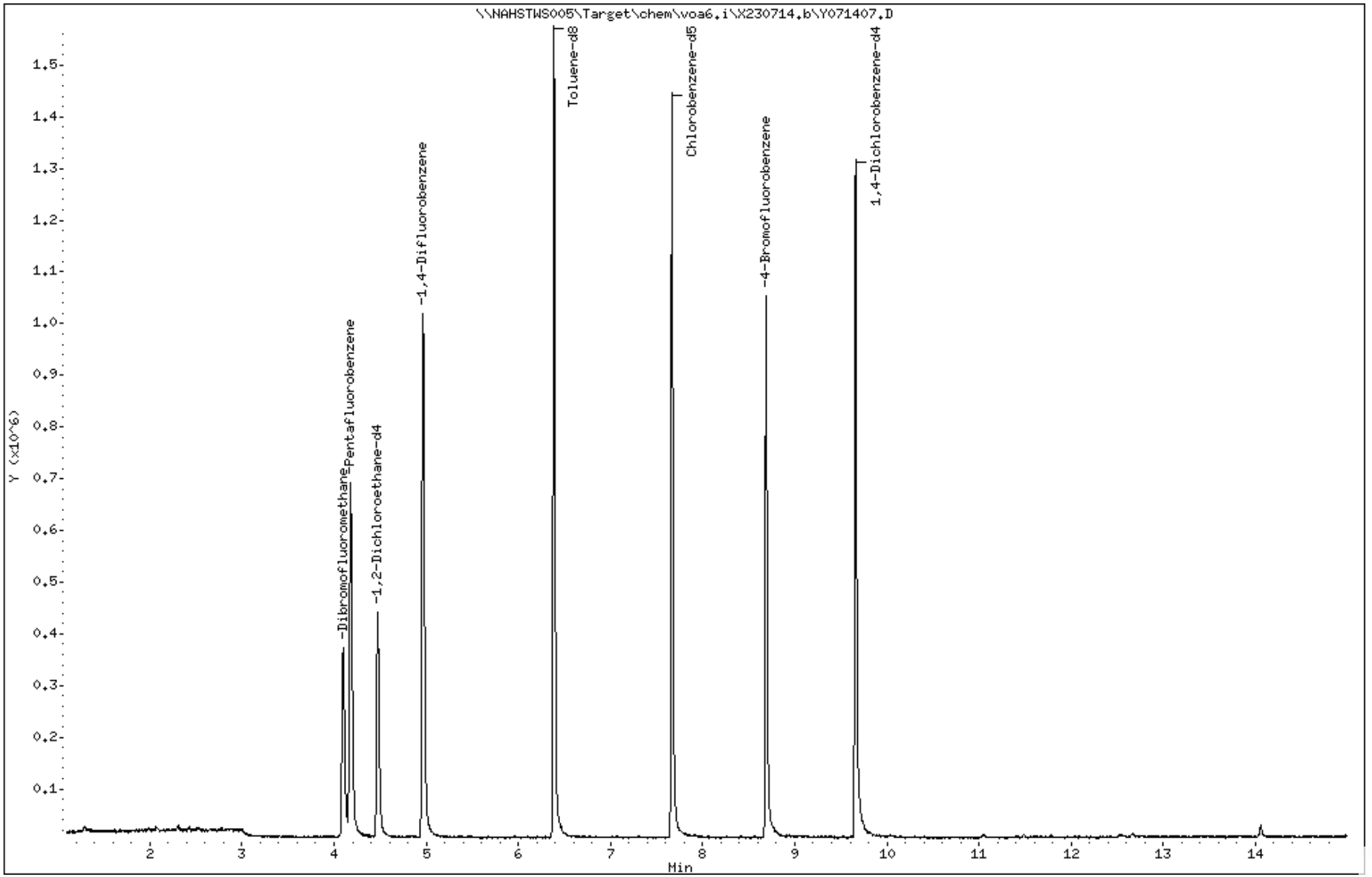
Sample Info: VBLKW-230714;VBLKW-230714;3;;BLANK

Purge Volume: 5.0

Operator: PC

Column phase: DB624

Column diameter: 0.18



Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\Y071407.D
Inj Date : 14-JUL-2023 19:10
InstruID : voa6.i
LabSampID : VBLKW-230714

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa6.i\X230714.b\Y071412.D Page 1
Report Date: 20-Jul-2023 15:05

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\Y071412.D
Lab Smp Id: HS23070445-03 Client Smp ID: HS23070445-03
Inj Date : 14-JUL-2023 20:52
Operator : PC Inst ID: voa6.i
Smp Info : HS23070445-03;HS23070445-03;;;
Misc Info : V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\8260W.m
Meth Date : 20-Jul-2023 15:05 voa6.i Quant Type: ISTD
Cal Date : 14-JUL-2023 15:25 Cal File: X071411.D
Als bottle: 28
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.178	4.178	(1.000)	520593	50.0000	
$ 30 Dibromofluoromethane	113	4.099	4.099	(0.981)	248170	52.0440	52.04
$ 35 1,2-Dichloroethane-d4	65	4.470	4.470	(1.070)	308827	51.7808	51.78
* 36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	749694	50.0000	
* 47 Chlorobenzene-d5	117	7.668	7.668	(1.000)	660229	50.0000	
$ 48 Toluene-d8	98	6.386	6.382	(0.833)	879264	51.7248	51.72
$ 69 4-Bromofluorobenzene	95	8.687	8.687	(1.133)	311780	47.4061	47.40
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.658	(1.000)	326202	50.0000	

01246788

Data File: \\NAHSTWS005\Target\chem\voa6.i\X230714.b\Y071412.D

Date : 14-JUL-2023 20:52

Client ID: HS23070445-03

Instrument: voa6.i

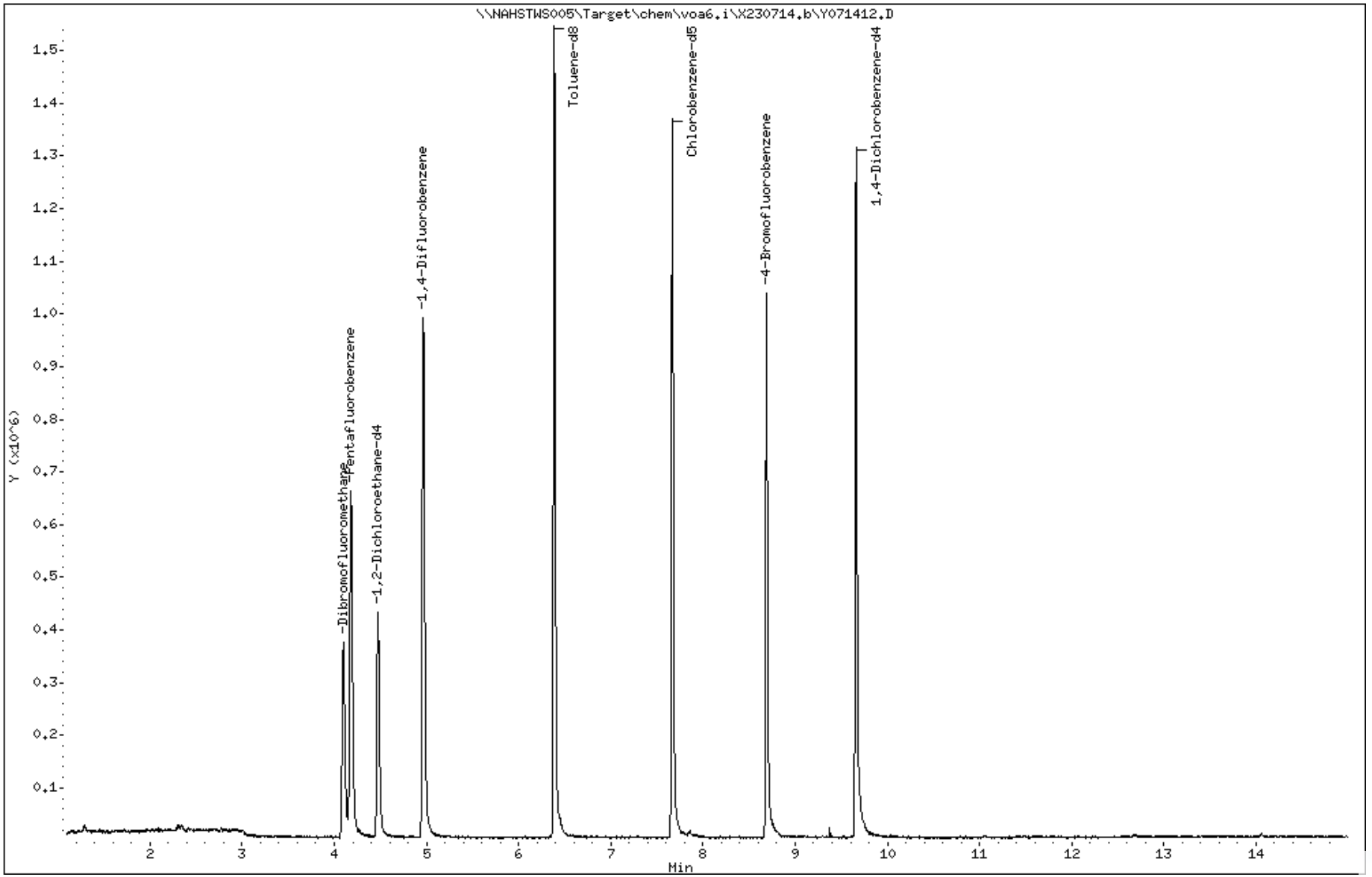
Sample Info: HS23070445-03;HS23070445-03;;;

Purge Volume: 5.0

Operator: PC

Column phase: DB624

Column diameter: 0.18



Data File : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\Y071412.D
Inj Date : 14-JUL-2023 20:52
InstruID : voa6.i
LabSampID : HS23070445-03

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa6.i\X230714.b\Y071414.D Page 1
Report Date: 20-Jul-2023 15:05

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\Y071414.D
Lab Smp Id: HS23070445-01 Client Smp ID: HS23070445-01
Inj Date : 14-JUL-2023 21:33
Operator : PC Inst ID: voa6.i
Smp Info : HS23070445-01;HS23070445-01;;;
Misc Info : V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\8260W.m
Meth Date : 20-Jul-2023 15:05 voa6.i Quant Type: ISTD
Cal Date : 14-JUL-2023 15:25 Cal File: X071411.D
Als bottle: 30
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.177	4.178	(1.000)	535298	50.0000	
135 1,4-Dioxane	88	5.621	5.602	(1.345)	770	12.1050	12.10(a)
27 cis-1,2-Dichloroethene	96	3.540	3.529	(0.847)	16458	2.84801	2.84(a)
$ 30 Dibromofluoromethane	113	4.099	4.099	(0.981)	257620	52.5489	52.54
$ 35 1,2-Dichloroethane-d4	65	4.474	4.470	(1.071)	315551	51.4509	51.45
* 36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	779842	50.0000	
* 47 Chlorobenzene-d5	117	7.667	7.668	(1.000)	703134	50.0000	
$ 48 Toluene-d8	98	6.385	6.382	(0.833)	929074	51.3200	51.32
$ 69 4-Bromofluorobenzene	95	8.687	8.687	(1.133)	332288	47.4416	47.44
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.658	(1.000)	367686	50.0000	
M 94 1,2-Dichloroethylene (total)	96				16458	2.84801	2.84(a)

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).

01246791

Data File: \\NAHSTWS005\Target\chem\voa6.i\X230714.b\Y071414.D

Date : 14-JUL-2023 21:33

Client ID: HS23070445-01

Instrument: voa6.i

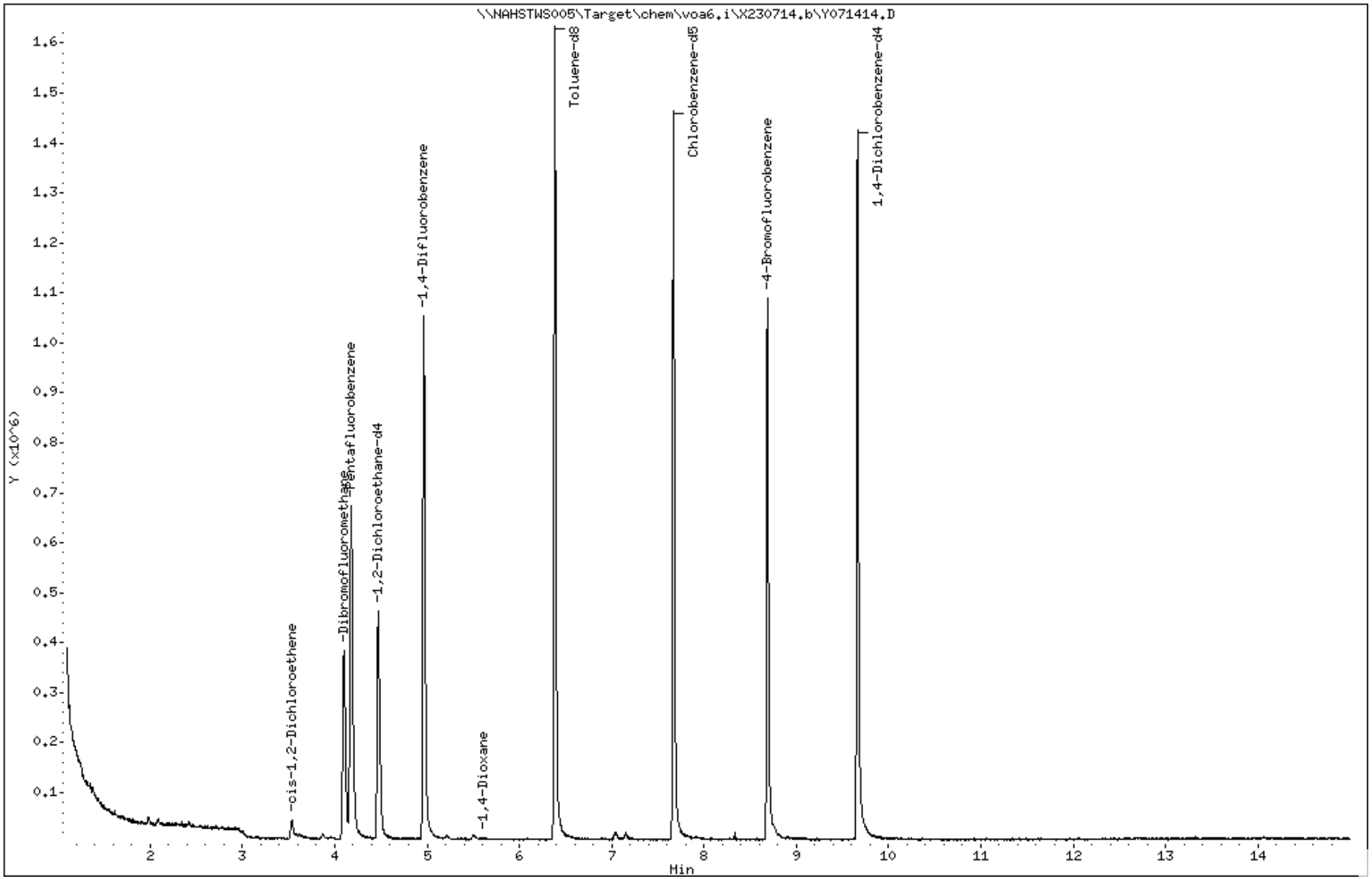
Sample Info: HS23070445-01;HS23070445-01;;;

Purge Volume: 5.0

Operator: PC

Column phase: DB624

Column diameter: 0.18



Data File: \\NAHSTWS005\Target\chem\voa6.i\X230714.b\Y071414.D

Date : 14-JUL-2023 21:33

Client ID: HS23070445-01

Instrument: voa6.i

Sample Info: HS23070445-01;HS23070445-01;;;

Purge Volume: 5.0

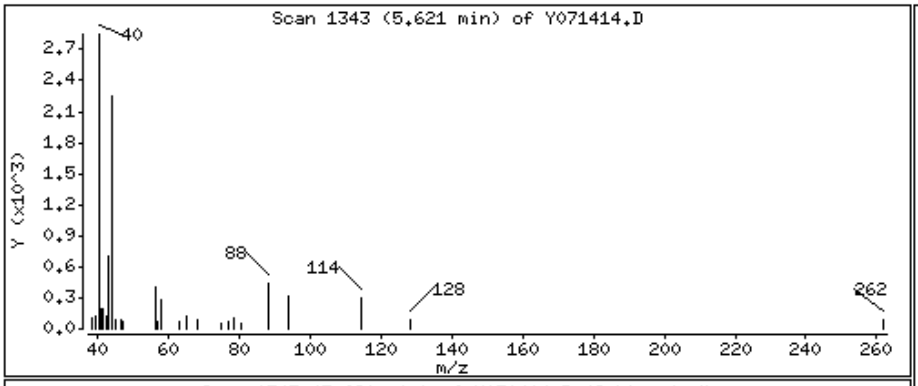
Operator: PC

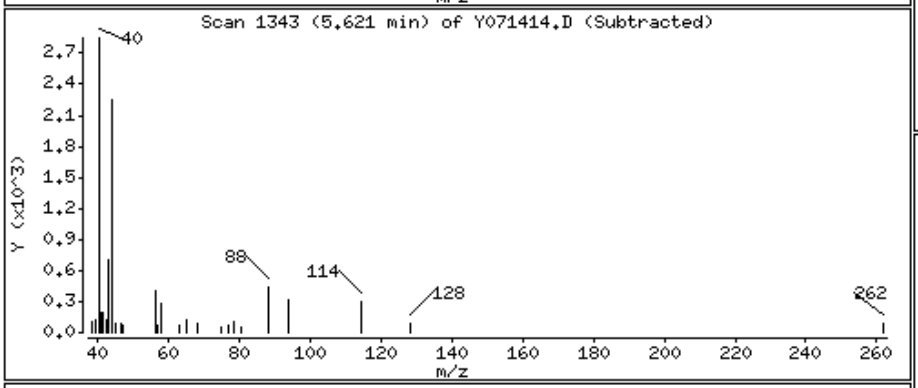
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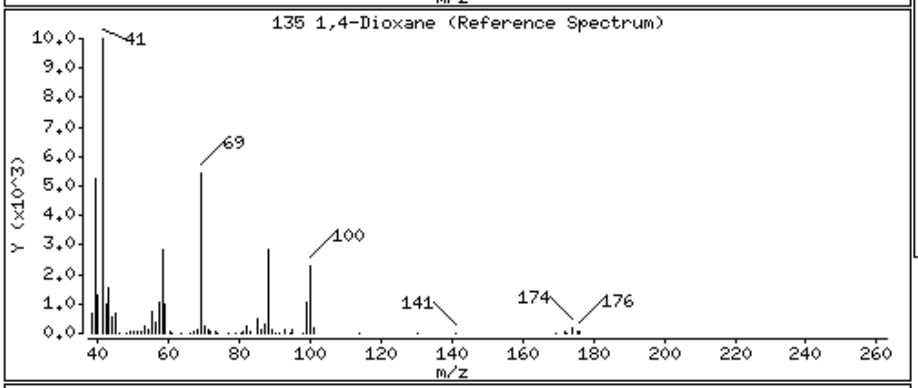
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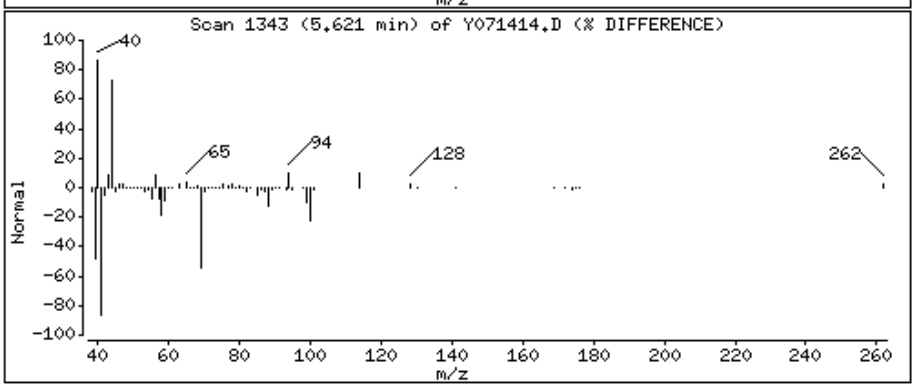
135 1,4-Dioxane

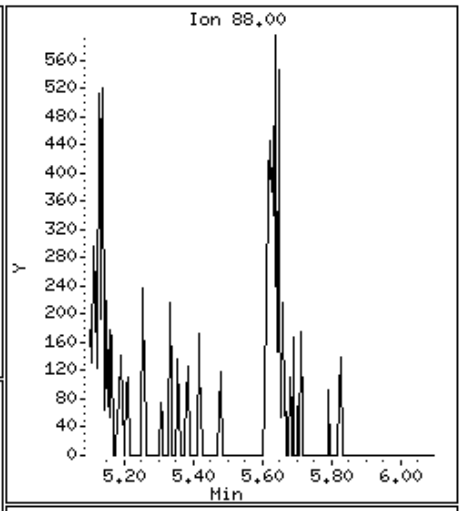
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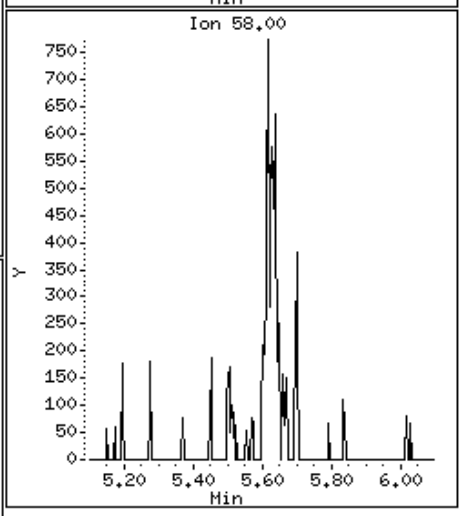












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Client ID: HS23070445-01

Instrument: voa6.i

Sample Info: HS23070445-01;HS23070445-01;;;

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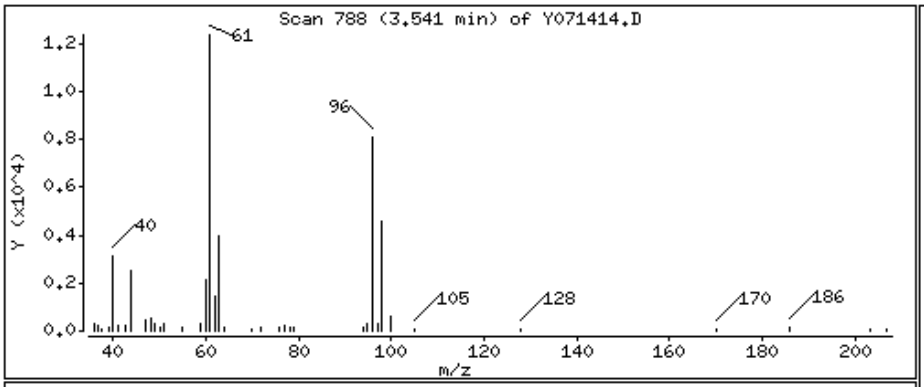
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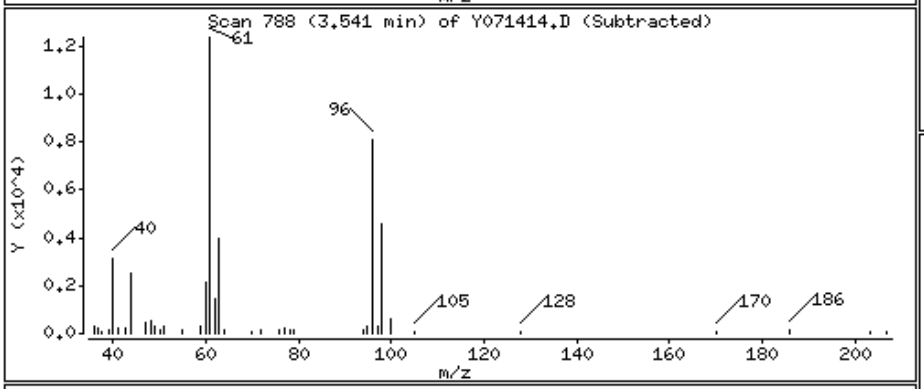
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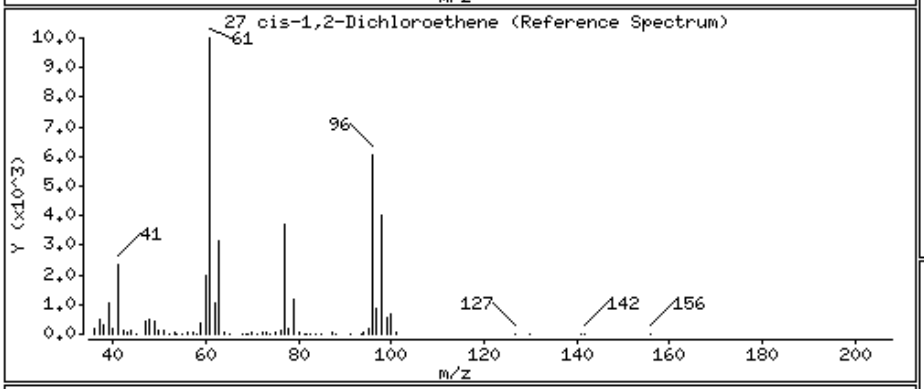
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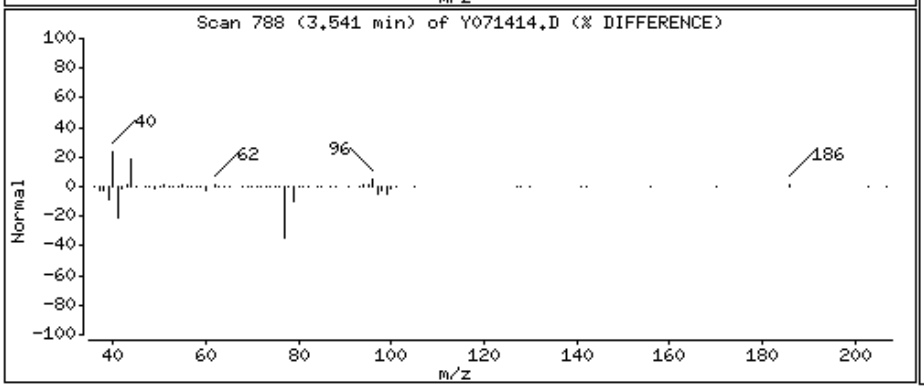
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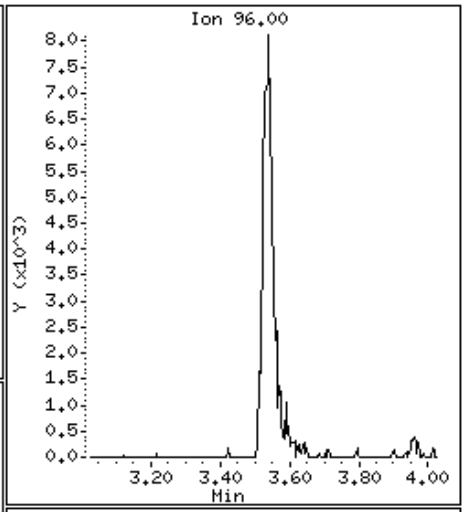
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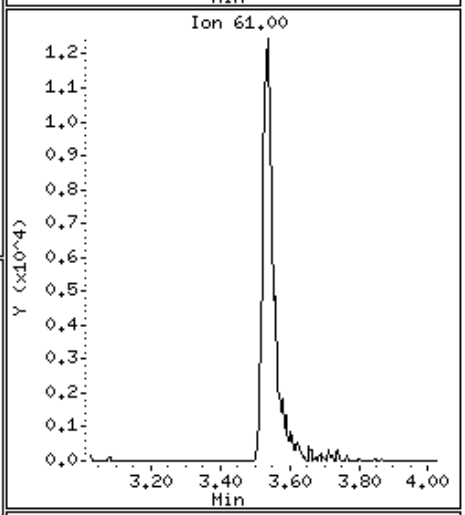


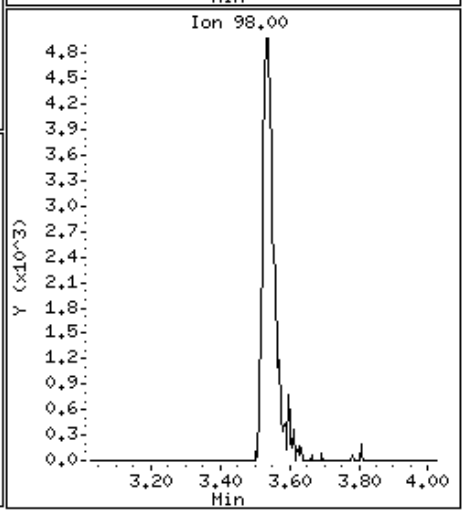












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NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa6.i\X230714.b\Y071416.D Page 1
Report Date: 20-Jul-2023 15:05

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\Y071416.D
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Inj Date : 14-JUL-2023 22:14
Operator : PC Inst ID: voa6.i
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Misc Info : V6;WATER;0;1;
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Meth Date : 20-Jul-2023 15:05 voa6.i Quant Type: ISTD
Cal Date : 14-JUL-2023 15:25 Cal File: X071411.D
Als bottle: 32 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.181	4.178	(1.000)	537364	50.0000	
135 1,4-Dioxane	88	5.606	5.602	(1.341)	28776	450.643	450.64(a)
140 1,3-Butadiene	54	1.167	1.167	(0.279)	122869	17.7944	17.79
25 Methacrylonitrile	41	3.836	3.821	(0.918)	151328	21.8173	21.81
12 Isobutyl Alcohol	43	4.680	4.680	(1.119)	460227	451.819	451.81
13 Acetonitrile	39	2.198	2.198	(0.526)	149947	198.993	198.99
14 Allyl Chloride	41	2.202	2.198	(0.527)	345102	19.5607	19.56
4 Propionitrile	54	3.660	3.657	(0.875)	215651	202.589	202.58(a)
72 trans-1,4-Dichloro-2-butene	53	8.886	8.886	(1.159)	53003	24.1073	24.10
194 Acetaldehyde	44	1.212	1.212	(0.290)	68493	135.490	135.49
23 Chloroprene	53	1.775	1.775	(0.424)	48534	20.0872	20.08(M)
130 Ethyl Acetate	43	3.660	3.664	(0.875)	179303	22.4651	22.46
40 Methyl Methacrylate	41	5.609	5.606	(1.342)	149798	23.0966	23.09
49 Ethyl Methacrylate	69	6.712	6.712	(1.352)	146282	27.8739	27.87
131 Methyl Acrylate	55	3.698	3.690	(0.884)	157598	21.5755	21.57
132 n-Butanol	56	5.268	5.261	(1.260)	65081	363.816	363.81(a)
136 n-Hexane	57	2.768	2.772	(0.662)	142381	28.8025	28.80
139 Diethyl ether	59	1.760	1.760	(0.421)	100942	20.1446	20.14
142 Tetrahydrofuran	42	3.859	3.851	(0.923)	57241	41.4052	41.40
145 alpha-Methylstyrene	118	9.257	9.253	(0.958)	161131	19.0043	19.00

156	Diisopropyl ether	45	3.004	3.004 (0.719)	433965	19.5942	19.59
162	Butyl acrylate	55	8.248	8.249 (1.076)	379242	27.5753	27.57

		QUANT SIG					CONCENTRATIONS ON-COLUMN	FINAL
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	(ug/l)	(ug/l)
	167 Ethanol	45	1.707	1.703	(0.408)	31872	413.376	413.37
	200 Dimethyl Disulfide	94	6.194	6.194	(0.808)	225281	23.1032	23.10
	182 Epichlorohydrin	57	6.101	6.093	(1.229)	45338	75.7465	75.74
	164 Dicyclopentadiene	66	9.680	9.681	(1.002)	480865	21.4812	21.48
	166 1,2,3-Trimethylbenzene	105	9.729	9.729	(1.007)	384161	21.3844	21.38
	205 2-Ethylhexyl Acrylate	55	11.547	11.547	(1.195)	200650	20.2143	20.21
	86 Benzyl Chloride	91	9.804	9.804	(1.279)	212698	18.8268	18.82
	134 Cyclohexanone	55	8.642	8.638	(0.894)	118642	342.918	342.91(a)
	133 Ethyl Acrylate	55	5.385	5.381	(1.288)	376630	21.1479	21.14
	163 Butyl methacrylate	41	9.171	9.167	(0.949)	225120	24.1839	24.18
	188 Isopropyl acetate	43	4.680	4.680	(0.943)	463279	21.9270	21.92
	189 n-Butyl acetate	43	7.214	7.210	(0.941)	293509	26.4898	26.48
	2 Dichlorodifluoromethane	85	0.976	0.976	(0.234)	83955	16.0337	16.03
	3 Chloromethane	50	1.081	1.081	(0.259)	124365	15.3227	15.32
	5 Vinyl Chloride	62	1.145	1.145	(0.274)	140783	20.2457	20.24
	6 Bromomethane	94	1.340	1.344	(0.320)	27139	9.43105	9.43
	7 Chloroethane	64	1.407	1.407	(0.337)	81457	20.5200	20.51(M)
	8 Trichlorofluoromethane	101	1.561	1.565	(0.373)	143096	20.3058	20.30
	9 Acrolein	56	1.868	1.861	(0.447)	4621	23.5819	23.58
	10 Acetone	43	1.977	1.973	(0.473)	103030	45.9398	45.93
	11 1,1-Dichloroethene	96	1.917	1.917	(0.459)	83939	21.3218	21.32
	15 Iodomethane	142	2.029	2.030	(0.485)	174593	36.7351	36.73
	16 Acrylonitrile	53	2.536	2.532	(0.606)	109144	41.6805	41.68
	17 Methylene Chloride	84	2.303	2.307	(0.551)	102971	21.3804	21.38
	18 Methyl tert-butyl ether	73	2.539	2.536	(0.607)	300076	20.4950	20.49
	19 Carbon Disulfide	76	2.071	2.071	(0.495)	702278	56.7505	56.75
	20 trans-1,2-Dichloroethene	96	2.528	2.528	(0.605)	99533	21.8574	21.85
	21 Vinyl Acetate	43	3.000	3.001	(0.718)	804835	42.7356	42.73
	22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	213313	21.3465	21.34
	24 2-Butanone	43	3.585	3.585	(0.857)	122307	42.7398	42.73
	26 2,2-Dichloropropane	77	3.506	3.507	(0.839)	151456	19.6514	19.65
	27 cis-1,2-Dichloroethene	96	3.525	3.529	(0.843)	125639	21.6579	21.65
	28 Chloroform	83	3.908	3.904	(0.935)	206652	20.2108	20.21
	29 Bromochloromethane	128	3.795	3.795	(0.908)	65940	20.2827	20.28
$	30 Dibromofluoromethane	113	4.099	4.099	(0.980)	258535	52.5325	52.53
	31 1,1,1-Trichloroethane	97	4.080	4.080	(0.976)	168415	21.3969	21.39
	32 1,1-Dichloropropene	75	4.279	4.275	(0.862)	143198	21.9084	21.90
	33 1,2-Dichloroethane	62	4.560	4.556	(0.918)	195912	22.2097	22.20
	34 Carbon Tetrachloride	117	4.260	4.264	(0.858)	130074	19.7534	19.75
$	35 1,2-Dichloroethane-d4	65	4.470	4.470	(1.069)	326756	53.0927	53.09
*	36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	801325	50.0000	
	37 Benzene	78	4.511	4.511	(0.909)	437877	22.8451	22.84
	38 Trichloroethene	130	5.208	5.205	(1.049)	129919	23.9634	23.96
	39 Bromodichloromethane	83	5.726	5.726	(1.153)	153756	20.9428	20.94
	41 2-Chloroethylvinyl ether	63	6.048	6.048	(1.218)	97604	43.5425	43.54
	42 1,2-Dichloropropane	63	5.433	5.433	(1.094)	137371	22.2885	22.28
	44 Dibromomethane	93	5.553	5.550	(1.119)	74175	21.2610	21.26
	45 4-Methyl-2-Pentanone	43	6.325	6.326	(0.825)	410959	57.7696	57.76
	46 cis-1,3-Dichloropropene	75	6.157	6.153	(1.240)	173946	20.6280	20.62
*	47 Chlorobenzene-d5	117	7.667	7.668	(1.000)	722907	50.0000	
$	48 Toluene-d8	98	6.385	6.382	(0.833)	954030	51.2571	51.25
	50 Toluene	91	6.445	6.442	(0.841)	452795	23.2685	23.26

51 trans-1,3-Dichloropropene	75	6.682	6.678 (1.346)	148385	20.8748	20.87
52 2-Hexanone	43	7.086	7.087 (0.924)	277744	59.4355	59.43

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
53	1,1,2-Trichloroethane	83	6.839	6.839	(0.892)	91513	22.1686	22.16
54	1,3-Dichloropropane	76	6.981	6.982	(0.911)	190470	22.5849	22.58
55	Dibromochloromethane	129	7.176	7.173	(0.936)	130486	21.8958	21.89
56	Tetrachloroethene	164	6.925	6.925	(0.903)	99536	24.7585	24.75
57	1,2-Dibromoethane	107	7.259	7.259	(0.947)	113212	23.9997	23.99
58	1-Chlorohexane	55	7.694	7.694	(1.550)	135408	21.0340	21.03
59	Chlorobenzene	112	7.694	7.690	(1.003)	296684	21.8105	21.81
60	1,1,1,2-Tetrachloroethane	131	7.769	7.769	(1.013)	115306	21.6523	21.65
61	Ethylbenzene	106	7.799	7.795	(1.017)	149364	21.8970	21.89
62	m,p-Xylenes	106	7.900	7.900	(1.030)	379098	44.3003	44.30
63	o-Xylene	106	8.241	8.237	(1.075)	184411	22.7564	22.75
64	Styrene	104	8.260	8.256	(1.077)	293318	20.7508	20.75
66	Bromoform	173	8.406	8.406	(1.096)	84818	22.1830	22.18
67	Isopropylbenzene	105	8.560	8.556	(1.116)	463184	22.2364	22.23
68	1,1,2,2-Tetrachloroethane	83	8.837	8.837	(0.915)	152170	23.3118	23.31
$ 69	4-Bromofluorobenzene	95	8.687	8.687	(1.133)	348788	48.4443	48.44
* 70	1,4-Dichlorobenzene-d4	152	9.662	9.658	(1.000)	388627	50.0000	
71	1,2,3-Trichloropropane	75	8.860	8.860	(0.917)	115487	22.2953	22.29
73	n-Propylbenzene	91	8.908	8.908	(0.922)	536251	22.8343	22.83
74	Bromobenzene	156	8.803	8.803	(0.911)	134496	22.1283	22.12
75	1,3,5-Trimethylbenzene	105	9.066	9.062	(0.938)	335330	19.0603	19.06
76	2-Chlorotoluene	91	8.972	8.972	(0.929)	336535	21.2431	21.24
77	4-Chlorotoluene	91	9.069	9.066	(0.939)	391676	22.4992	22.49
78	tert-Butylbenzene	119	9.332	9.332	(0.966)	322272	21.3605	21.36
79	1,2,4-Trimethylbenzene	105	9.377	9.377	(0.971)	358044	20.2944	20.29
81	sec-Butylbenzene	105	9.519	9.519	(0.985)	440215	21.8900	21.89
82	p-Isopropyltoluene	119	9.647	9.647	(0.998)	389762	21.2168	21.21
83	1,3-Dichlorobenzene	146	9.602	9.602	(0.994)	221321	20.9024	20.90
84	1,4-Dichlorobenzene	146	9.680	9.681	(1.002)	243369	20.9635	20.96
87	n-Butylbenzene	91	9.992	9.992	(1.034)	315555	20.5098	20.50
88	1,2-Dichlorobenzene	146	9.992	9.988	(1.034)	222707	21.3943	21.39
89	1,2-Dibromo-3-Chloropropane	155	10.655	10.655	(1.103)	25646	24.4695	24.46
90	1,2,4-Trichlorobenzene	180	11.337	11.334	(1.173)	128830	18.0191	18.01
91	Hexachlorobutadiene	225	11.472	11.476	(1.187)	55156	18.3080	18.30
92	Naphthalene	128	11.544	11.540	(1.195)	235679	13.3183	13.31
93	1,2,3-Trichlorobenzene	180	11.738	11.739	(1.215)	108377	16.2084	16.20
M 94	1,2-Dichloroethylene (total)	96				225172	43.5153	43.51
M 95	Xylenes (total)	106				563509	67.0568	67.05
141	Cyclohexane	56	4.125	4.121	(0.987)	216407	23.2334	23.23
138	Freon TF	101	1.917	1.917	(0.459)	79654	25.5229	25.52
147	Methylcyclohexane	55	5.385	5.381	(1.085)	376630	22.2677	22.26
146	Methyl Acetate	43	2.236	2.232	(0.535)	104778	21.9090	21.90
148	Tert-Butyl alcohol	59	2.434	2.434	(0.582)	284209	419.047	419.04
149	Isopropyl Alcohol	45	2.097	2.097	(0.502)	165687	393.703	393.70

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

01246800

Data File: \\NAHSTWS005\Target\chem\voa6.i\X230714.b\Y071416.D

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Date : 14-JUL-2023 22:14

Client ID: HS23070451-04MS

Instrument: voa6.i

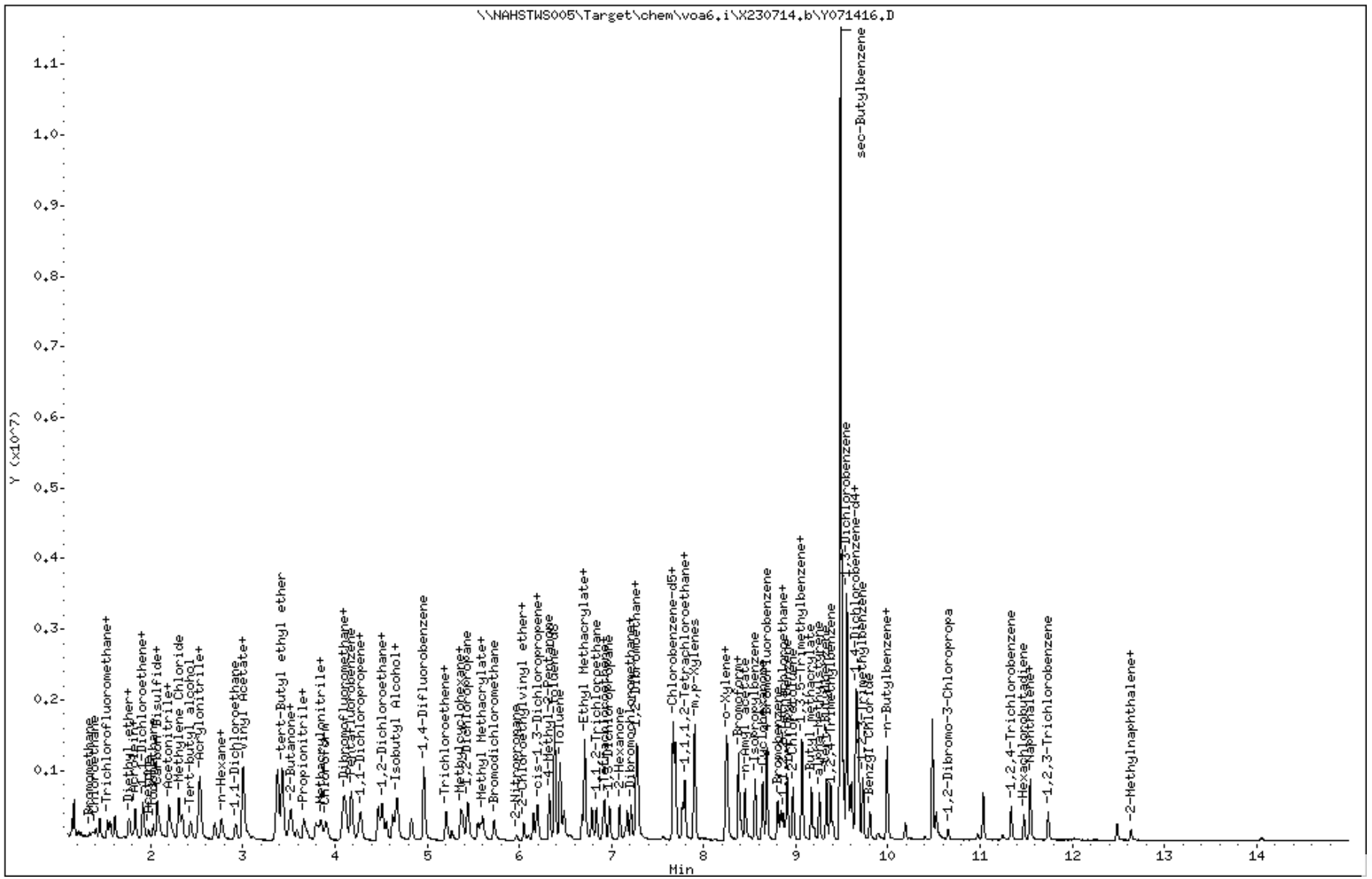
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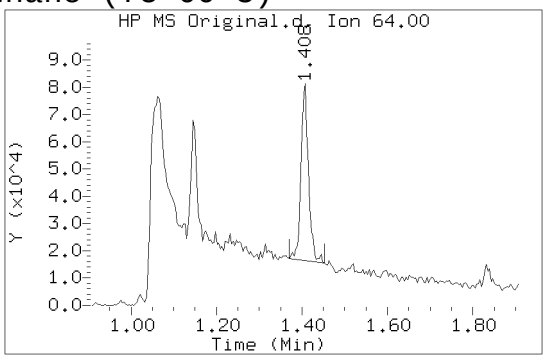
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Inj Date : 14-JUL-2023 22:14
InstruID : voa6.i
LabSampID : HS23070451-04MS

Chloroethane (75-00-3)

Reason Code:

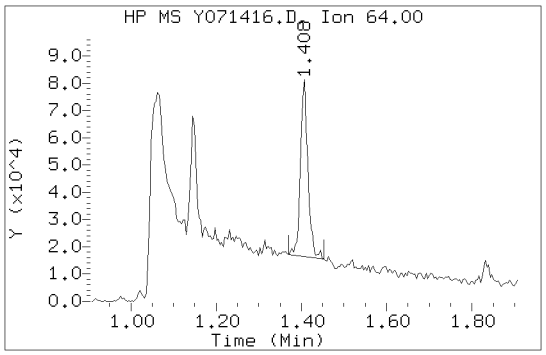
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20-Jul-2023
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pham



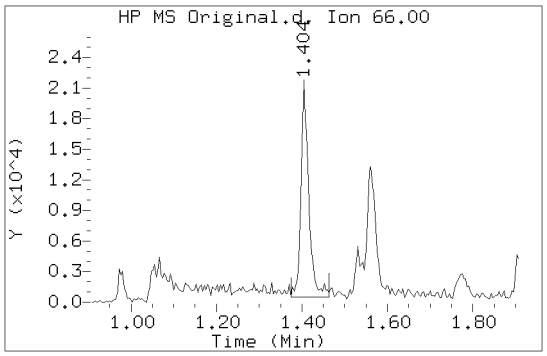
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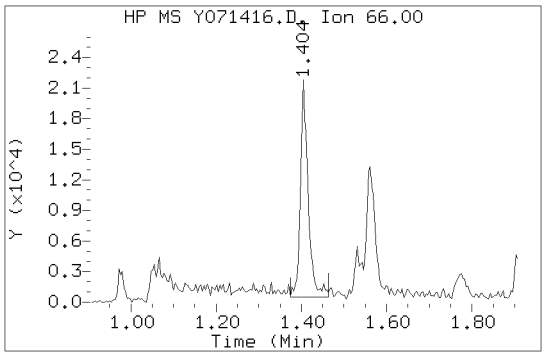
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AFTER

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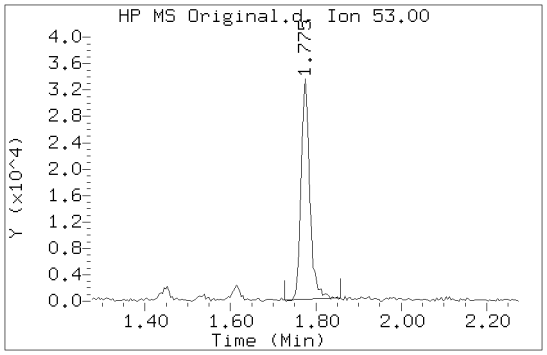


Chloroprene (126-99-8)

Reason Code:

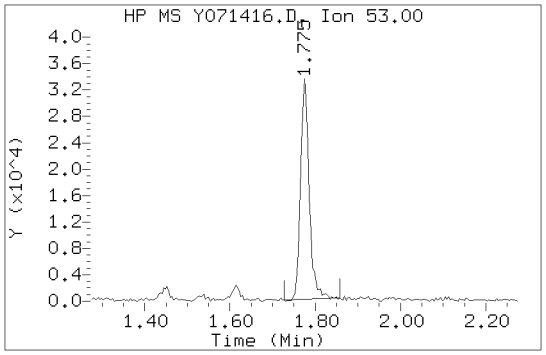
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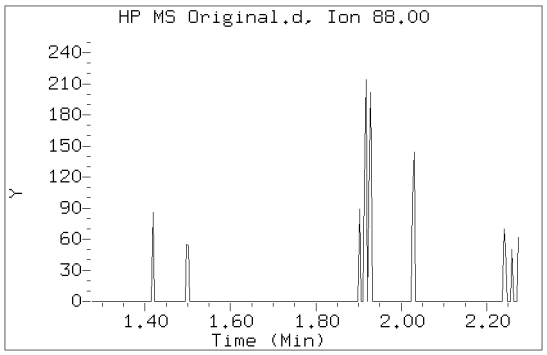
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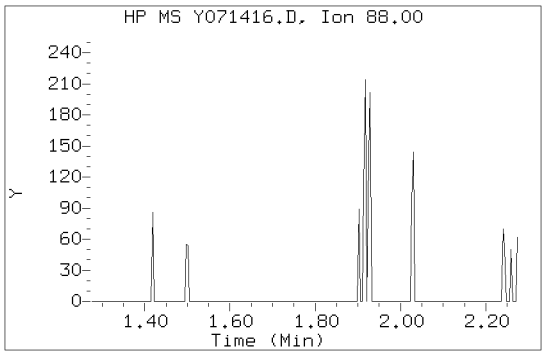
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AFTER

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Data File: \\NAHSTWS005\Target\chem\voa6.i\X230714.b\Y071417.D Page 1
Report Date: 20-Jul-2023 15:05

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\Y071417.D
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Inj Date : 14-JUL-2023 22:34
Operator : PC Inst ID: voa6.i
Smp Info : HS23070445104MSD;HS23070451-04MSD;3;;MSD
Misc Info : V6;WATER;0;1;
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Meth Date : 20-Jul-2023 15:05 voa6.i Quant Type: ISTD
Cal Date : 14-JUL-2023 15:25 Cal File: X071411.D
Als bottle: 32 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.177	4.178	(1.000)	529973	50.0000	
135 1,4-Dioxane	88	5.606	5.602	(1.342)	25730	408.561	408.56(a)
140 1,3-Butadiene	54	1.167	1.167	(0.280)	124048	18.2157	18.21
25 Methacrylonitrile	41	3.833	3.821	(0.917)	150614	22.0172	22.01
12 Isobutyl Alcohol	43	4.680	4.680	(1.120)	443156	441.127	441.12
13 Acetonitrile	39	2.198	2.198	(0.526)	150861	202.998	202.99
14 Allyl Chloride	41	2.202	2.198	(0.527)	340731	19.5823	19.58
4 Propionitrile	54	3.660	3.657	(0.876)	215209	204.993	204.99(a)
72 trans-1,4-Dichloro-2-butene	53	8.886	8.886	(1.159)	53824	25.1593	25.15
194 Acetaldehyde	44	1.212	1.212	(0.290)	145163	317.195	317.19
23 Chloroprene	53	1.775	1.775	(0.425)	47967	20.1294	20.12(M)
130 Ethyl Acetate	43	3.664	3.664	(0.877)	176964	22.4812	22.48
40 Methyl Methacrylate	41	5.606	5.606	(1.342)	148638	23.2374	23.23
49 Ethyl Methacrylate	69	6.712	6.712	(1.352)	140332	26.9701	26.97
131 Methyl Acrylate	55	3.698	3.690	(0.885)	169780	23.5674	23.56
132 n-Butanol	56	5.268	5.261	(1.261)	65051	368.719	368.71(a)
136 n-Hexane	57	2.772	2.772	(0.664)	143445	29.3885	29.38
139 Diethyl ether	59	1.760	1.760	(0.421)	101509	20.5402	20.54
142 Tetrahydrofuran	42	3.855	3.851	(0.923)	51683	37.9062	37.90
145 alpha-Methylstyrene	118	9.257	9.253	(0.958)	164788	21.0417	21.04

156	Diisopropyl ether	45	3.004	3.004 (0.719)	432677	19.8085	19.80
162	Butyl acrylate	55	8.248	8.249 (1.076)	375828	28.0846	28.08

Data File: \\NAHSTWS005\Target\chem\voa6.i\X230714.b\Y071417.D Page 2
Report Date: 20-Jul-2023 15:05

		QUANT SIG					CONCENTRATIONS	
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/l)	FINAL (ug/l)
	167 Ethanol	45	1.707	1.703	(0.409)	29588	388.008	388.00
	200 Dimethyl Disulfide	94	6.198	6.194	(0.808)	225534	23.7703	23.77
	182 Epichlorohydrin	57	6.100	6.093	(1.229)	47547	80.1203	80.12
	164 Dicyclopentadiene	66	9.680	9.681	(1.002)	478767	23.1548	23.15
	166 1,2,3-Trimethylbenzene	105	9.729	9.729	(1.007)	370720	22.3415	22.34
	205 2-Ethylhexyl Acrylate	55	11.547	11.547	(1.196)	204985	22.3575	22.35
	86 Benzyl Chloride	91	9.808	9.804	(1.279)	207462	18.8667	18.86
	134 Cyclohexanone	55	8.642	8.638	(0.895)	113085	353.866	353.86(a)
	133 Ethyl Acrylate	55	5.385	5.381	(1.289)	378175	21.5308	21.53
	163 Butyl methacrylate	41	9.167	9.167	(0.949)	219275	25.5026	25.50
	188 Isopropyl acetate	43	4.680	4.680	(0.943)	443156	21.1550	21.15
	189 n-Butyl acetate	43	7.214	7.210	(0.941)	287943	26.7079	26.70
	2 Dichlorodifluoromethane	85	0.976	0.976	(0.234)	88691	17.0965	17.09
	3 Chloromethane	50	1.081	1.081	(0.259)	124963	15.6111	15.61
	5 Vinyl Chloride	62	1.145	1.145	(0.274)	142707	20.8086	20.80
	6 Bromomethane	94	1.340	1.344	(0.321)	32191	11.3427	11.34
	7 Chloroethane	64	1.403	1.407	(0.336)	81974	20.9382	20.93(M)
	8 Trichlorofluoromethane	101	1.561	1.565	(0.374)	146155	21.0292	21.02
	9 Acrolein	56	1.857	1.861	(0.445)	4771	24.6340	24.63
	10 Acetone	43	1.977	1.973	(0.473)	105636	47.9522	47.95
	11 1,1-Dichloroethene	96	1.917	1.917	(0.459)	84226	21.6930	21.69
	15 Iodomethane	142	2.026	2.030	(0.485)	195850	41.2134	41.21
	16 Acrylonitrile	53	2.536	2.532	(0.607)	102618	39.7348	39.73
	17 Methylene Chloride	84	2.307	2.307	(0.552)	101129	21.2849	21.28
	18 Methyl tert-butyl ether	73	2.536	2.536	(0.607)	297609	20.6100	20.60
	19 Carbon Disulfide	76	2.071	2.071	(0.496)	701722	57.4964	57.49
	20 trans-1,2-Dichloroethene	96	2.528	2.528	(0.605)	100485	22.3742	22.37
	21 Vinyl Acetate	43	3.000	3.001	(0.718)	791470	42.6120	42.61
	22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	206312	20.9338	20.93
	24 2-Butanone	43	3.589	3.585	(0.859)	116821	41.3920	41.39
	26 2,2-Dichloropropane	77	3.506	3.507	(0.839)	148959	19.5975	19.59
	27 cis-1,2-Dichloroethene	96	3.525	3.529	(0.844)	126038	22.0297	22.02
	28 Chloroform	83	3.908	3.904	(0.935)	201596	19.9913	19.99
	29 Bromochloromethane	128	3.795	3.795	(0.908)	67891	21.1740	21.17
$	30 Dibromofluoromethane	113	4.099	4.099	(0.981)	261755	53.9488	53.94
	31 1,1,1-Trichloroethane	97	4.080	4.080	(0.977)	169859	21.8813	21.88
	32 1,1-Dichloropropene	75	4.275	4.275	(0.861)	149132	23.0125	23.01
	33 1,2-Dichloroethane	62	4.556	4.556	(0.918)	192911	22.0576	22.05
	34 Carbon Tetrachloride	117	4.260	4.264	(0.858)	128474	19.6782	19.67
$	35 1,2-Dichloroethane-d4	65	4.470	4.470	(1.070)	325386	53.6134	53.61
*	36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	794491	50.0000	
	37 Benzene	78	4.515	4.511	(0.909)	419618	22.0808	22.08
	38 Trichloroethene	130	5.208	5.205	(1.049)	128519	23.9091	23.90
	39 Bromodichloromethane	83	5.726	5.726	(1.153)	152671	20.9739	20.97
	41 2-Chloroethylvinyl ether	63	6.048	6.048	(1.218)	92400	41.5755	41.57
	42 1,2-Dichloropropane	63	5.433	5.433	(1.094)	136301	22.3052	22.30
	44 Dibromomethane	93	5.553	5.550	(1.119)	74333	21.4895	21.48
	45 4-Methyl-2-Pentanone	43	6.325	6.326	(0.825)	399315	57.6889	57.68
	46 cis-1,3-Dichloropropene	75	6.153	6.153	(1.239)	175175	20.9525	20.95
*	47 Chlorobenzene-d5	117	7.667	7.668	(1.000)	703408	50.0000	
$	48 Toluene-d8	98	6.385	6.382	(0.833)	927932	51.2369	51.23
	50 Toluene	91	6.445	6.442	(0.841)	455332	24.0475	24.04

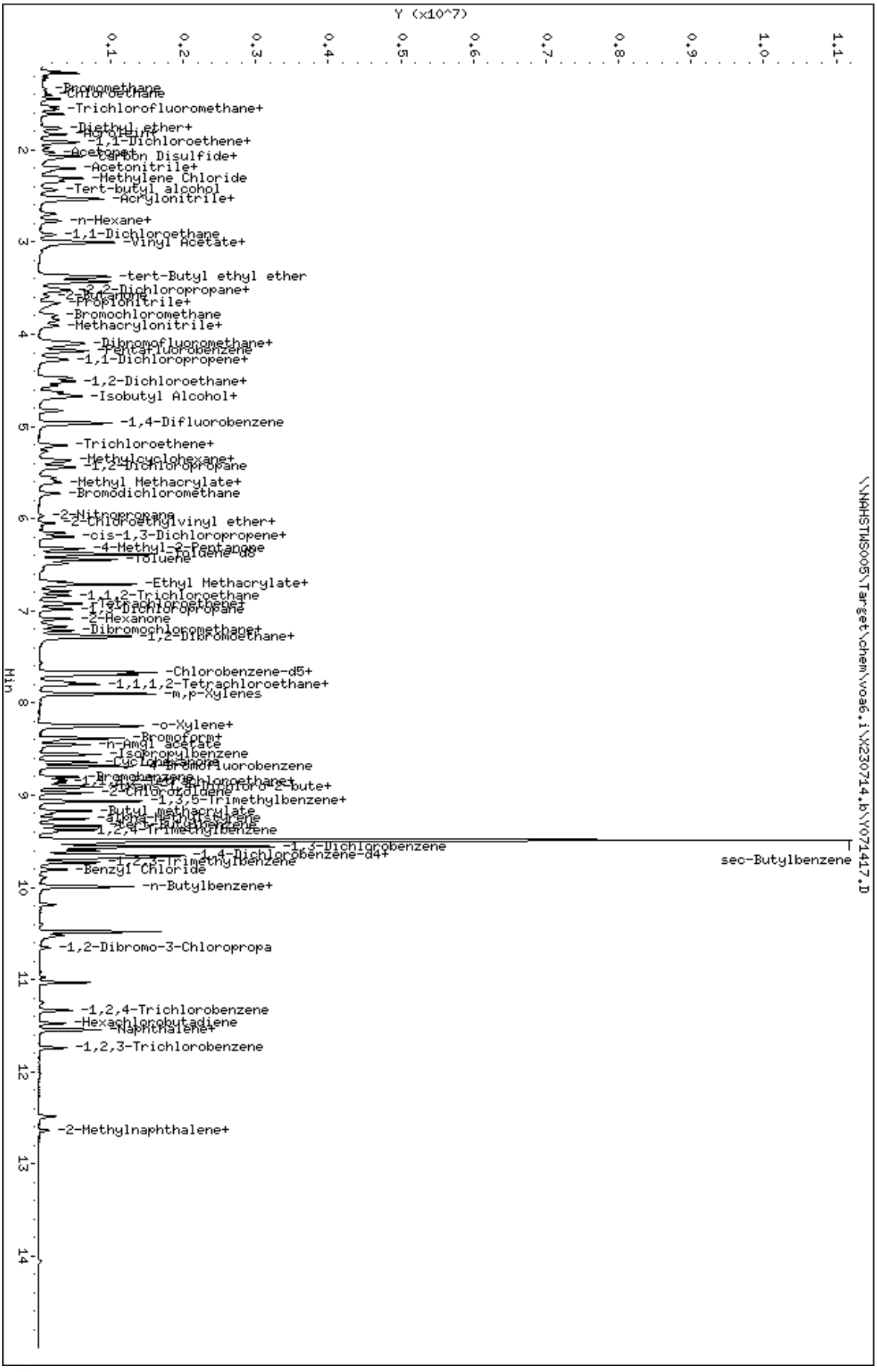
51 trans-1,3-Dichloropropene	75	6.682	6.678 (1.346)	146825	20.8330	20.83
52 2-Hexanone	43	7.086	7.087 (0.924)	271683	59.7501	59.75

Data File: \\NAHSTWS005\Target\chem\voa6.i\X230714.b\Y071417.D Page 3
Report Date: 20-Jul-2023 15:05

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
53	1,1,2-Trichloroethane	83	6.835	6.839	(0.891)	93703	23.3284	23.32
54	1,3-Dichloropropane	76	6.978	6.982	(0.910)	185740	22.6346	22.63
55	Dibromochloromethane	129	7.173	7.173	(0.935)	126154	21.7557	21.75
56	Tetrachloroethene	164	6.925	6.925	(0.903)	98696	25.2301	25.23
57	1,2-Dibromoethane	107	7.259	7.259	(0.947)	106168	23.1303	23.13
58	1-Chlorohexane	55	7.694	7.694	(1.550)	148733	23.3026	23.30
59	Chlorobenzene	112	7.694	7.690	(1.003)	298563	22.5571	22.55
60	1,1,1,2-Tetrachloroethane	131	7.772	7.769	(1.014)	114899	22.1740	22.17
61	Ethylbenzene	106	7.799	7.795	(1.017)	149358	22.5031	22.50
62	m,p-Xylenes	106	7.900	7.900	(1.030)	384336	46.1574	46.15
63	o-Xylene	106	8.241	8.237	(1.075)	182513	23.1465	23.14
64	Styrene	104	8.260	8.256	(1.077)	295479	21.4831	21.48
66	Bromoform	173	8.406	8.406	(1.096)	82766	22.2464	22.24
67	Isopropylbenzene	105	8.560	8.556	(1.116)	463029	22.8451	22.84
68	1,1,2,2-Tetrachloroethane	83	8.837	8.837	(0.915)	150084	24.8922	24.89
$ 69	4-Bromofluorobenzene	95	8.687	8.687	(1.133)	341199	48.7062	48.70
* 70	1,4-Dichlorobenzene-d4	152	9.658	9.658	(1.000)	358964	50.0000	
71	1,2,3-Trichloropropane	75	8.859	8.860	(0.917)	115812	24.2056	24.20(M)
73	n-Propylbenzene	91	8.912	8.908	(0.923)	522884	24.1050	24.10
74	Bromobenzene	156	8.803	8.803	(0.912)	132598	23.6188	23.61
75	1,3,5-Trimethylbenzene	105	9.066	9.062	(0.939)	335463	20.6435	20.64
76	2-Chlorotoluene	91	8.972	8.972	(0.929)	319878	21.8602	21.86
77	4-Chlorotoluene	91	9.069	9.066	(0.939)	376820	23.4346	23.43
78	tert-Butylbenzene	119	9.332	9.332	(0.966)	322971	23.1758	23.17
79	1,2,4-Trimethylbenzene	105	9.377	9.377	(0.971)	359816	22.0802	22.08
81	sec-Butylbenzene	105	9.519	9.519	(0.986)	432526	23.2850	23.28
82	p-Isopropyltoluene	119	9.647	9.647	(0.999)	385927	22.7441	22.74
83	1,3-Dichlorobenzene	146	9.602	9.602	(0.994)	222129	22.7123	22.71
84	1,4-Dichlorobenzene	146	9.680	9.681	(1.002)	235515	21.9634	21.96
87	n-Butylbenzene	91	9.992	9.992	(1.035)	331452	23.3232	23.32
88	1,2-Dichlorobenzene	146	9.988	9.988	(1.034)	215409	22.4032	22.40
89	1,2-Dibromo-3-Chloropropane	155	10.655	10.655	(1.103)	27067	27.8043	27.80
90	1,2,4-Trichlorobenzene	180	11.337	11.334	(1.174)	123027	18.6294	18.62
91	Hexachlorobutadiene	225	11.476	11.476	(1.188)	57732	20.4329	20.43
92	Naphthalene	128	11.540	11.540	(1.195)	234803	14.3653	14.36
93	1,2,3-Trichlorobenzene	180	11.738	11.739	(1.215)	104454	16.9126	16.91
M 94	1,2-Dichloroethylene (total)	96				226523	44.4039	44.40
M 95	Xylenes (total)	106				566849	69.3040	69.30
141	Cyclohexane	56	4.117	4.121	(0.986)	216701	23.5894	23.58
138	Freon TF	101	1.917	1.917	(0.459)	83200	26.9661	26.96
147	Methylcyclohexane	55	5.385	5.381	(1.085)	378175	22.5513	22.55
146	Methyl Acetate	43	2.236	2.232	(0.535)	100893	21.3909	21.39
148	Tert-Butyl alcohol	59	2.434	2.434	(0.583)	269089	402.287	402.28
149	Isopropyl Alcohol	45	2.097	2.097	(0.502)	157089	378.478	378.47

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.



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Instrument: voa6.i
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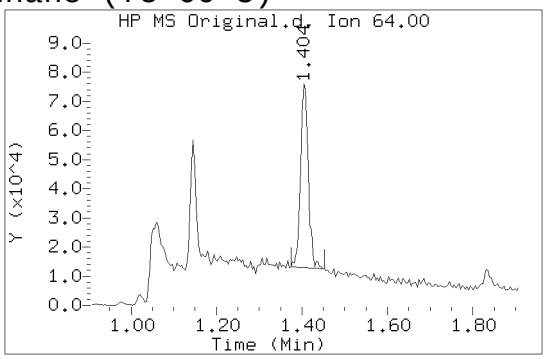
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LabSampID : HS23070451-04MSD

Chloroethane (75-00-3)

Reason Code:

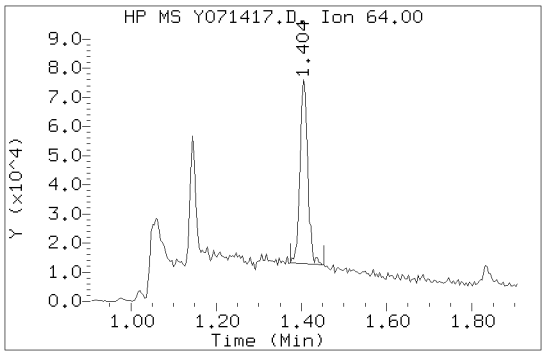
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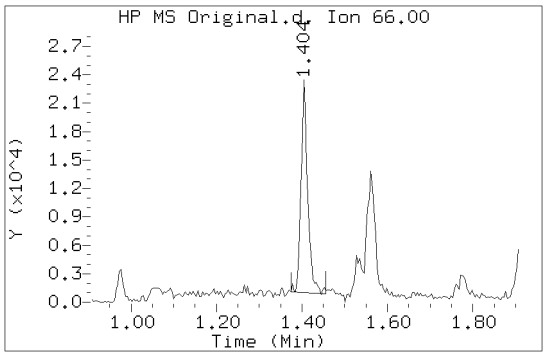
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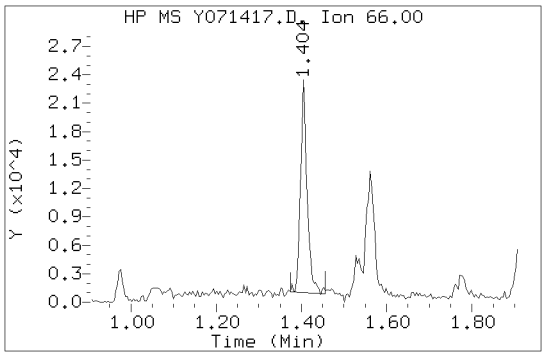
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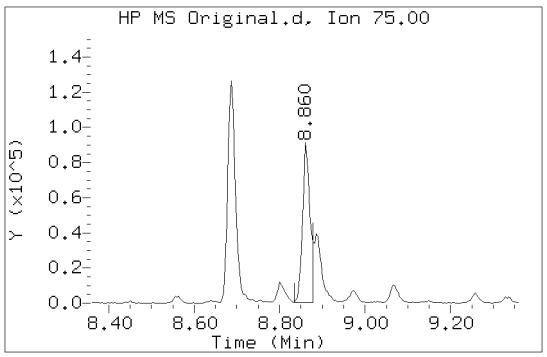


1,2,3-Trichloropropane (96-18-4)

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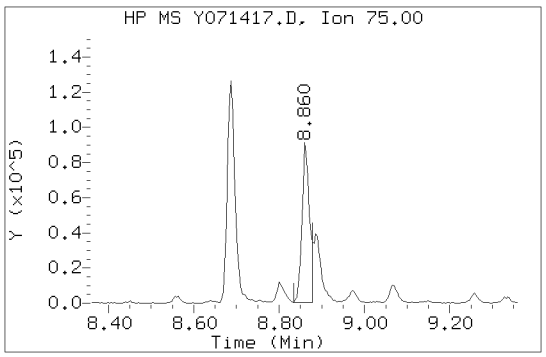
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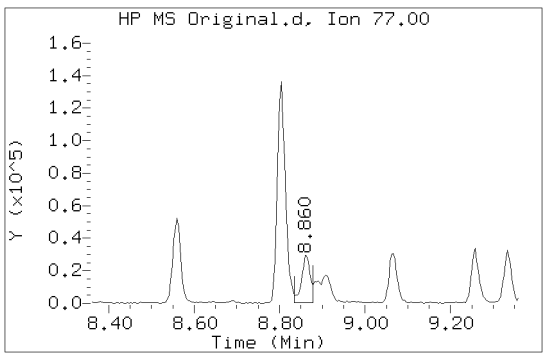
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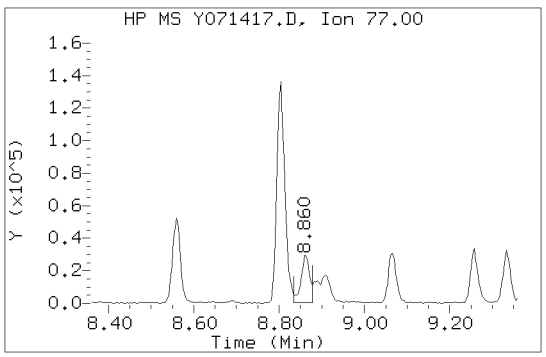
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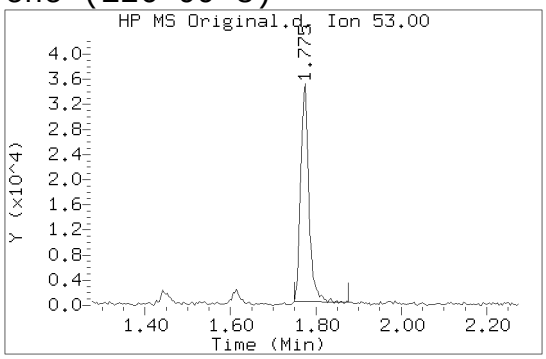
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LabSampID : HS23070451-04MSD

Chloroprene (126-99-8)

Reason Code:

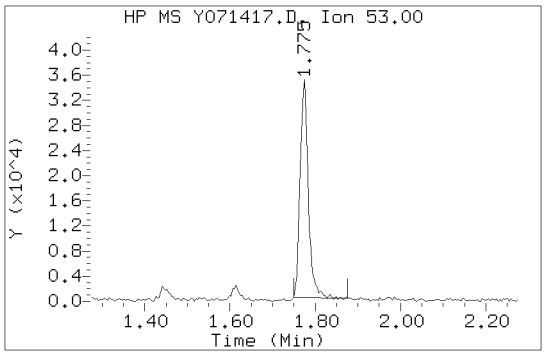
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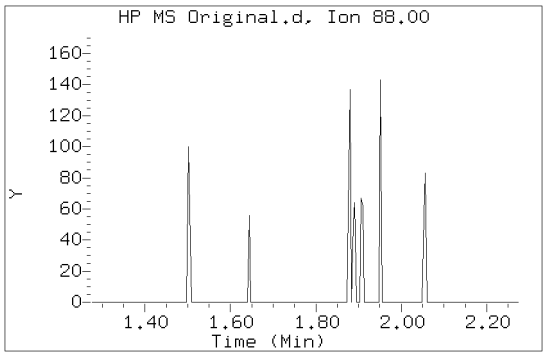
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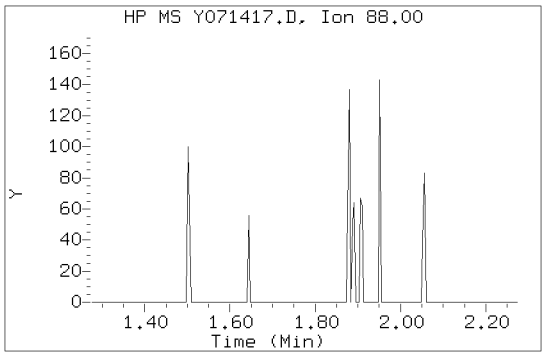
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AFTER

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linh
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ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X230714.b\Y071431.D
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Inj Date : 15-JUL-2023 03:21
Operator : PC Inst ID: voa6.i
Smp Info : CCV-END;CCV-END;2;;
Misc Info : V6;WATER;0;1;
Comment :
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Meth Date : 20-Jul-2023 15:06 voa6.i Quant Type: ISTD
Cal Date : 14-JUL-2023 15:25 Cal File: X071411.D
Als bottle: 46 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1	Pentafluorobenzene	168	4.178	4.178	(1.000)	498591	50.0000	
135	1,4-Dioxane	88	5.598	5.598	(1.340)	62211	1000.00	1050.00
140	1,3-Butadiene	54	1.167	1.167	(0.280)	352654	50.0000	55.04
25	Methacrylonitrile	41	3.822	3.822	(0.915)	355816	50.0000	55.28
12	Isobutyl Alcohol	43	4.680	4.680	(1.120)	1046258	1000.00	1107.02
13	Acetonitrile	39	2.198	2.198	(0.526)	392322	500.000	561.13
14	Allyl Chloride	41	2.198	2.198	(0.526)	930715	50.0000	56.85
4	Propionitrile	54	3.657	3.657	(0.875)	527829	500.000	534.41
72	trans-1,4-Dichloro-2-butene	53	8.886	8.886	(1.159)	119618	50.0000	52.15
194	Acetaldehyde	44	1.212	1.212	(0.290)	133374	200.000	309.24
23	Chloroprene	53	1.775	1.775	(0.425)	139701	50.0000	62.31(M)
130	Ethyl Acetate	43	3.660	3.660	(0.876)	399063	50.0000	53.88
40	Methyl Methacrylate	41	5.606	5.606	(1.342)	311031	50.0000	51.68
49	Ethyl Methacrylate	69	6.712	6.712	(1.352)	257881	50.0000	48.48
131	Methyl Acrylate	55	3.694	3.694	(0.884)	342131	50.0000	50.48
132	n-Butanol	56	5.261	5.261	(1.259)	174745	1000.00	1052.82
136	n-Hexane	57	2.772	2.772	(0.664)	290318	50.0000	58.04
139	Diethyl ether	59	1.760	1.760	(0.421)	265258	50.0000	57.05
142	Tetrahydrofuran	42	3.852	3.852	(0.922)	139019	100.000	108.37
145	alpha-Methylstyrene	118	9.257	9.257	(0.958)	457957	50.0000	51.47

156 Diisopropyl ether	45	3.004	3.004 (0.719)	1116399	50.0000	54.32
162 Butyl acrylate	55	8.249	8.249 (1.076)	755847	50.0000	52.68

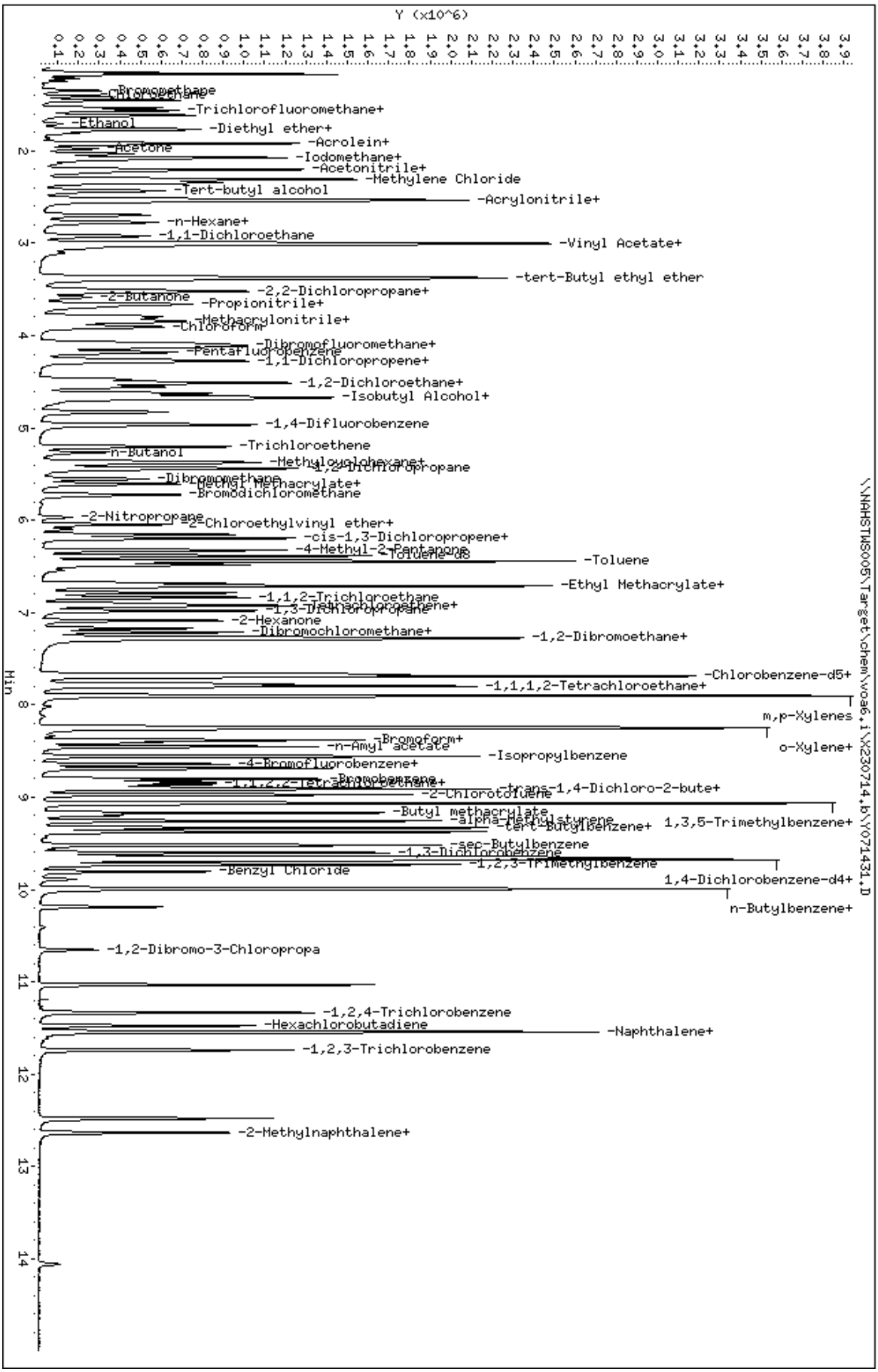
		QUANT SIG					AMOUNTS CAL-AMT	AMOUNTS ON-COL
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	(ug/l)	(ug/l)
	167 Ethanol	45	1.704	1.704	(0.408)	86546	1000.00	1245.74
	200 Dimethyl Disulfide	94	6.194	6.194	(0.808)	528176	50.0000	51.92
	182 Epichlorohydrin	57	6.097	6.097	(1.228)	123773	200.000	204.04
	164 Dicyclopentadiene	66	9.681	9.681	(1.002)	1102955	50.0000	46.95
	166 1,2,3-Trimethylbenzene	105	9.726	9.726	(1.007)	920215	50.0000	48.81
	205 2-Ethylhexyl Acrylate	55	11.547	11.547	(1.196)	567910	50.0000	54.52
	86 Benzyl Chloride	91	9.804	9.804	(1.279)	467439	50.0000	37.06
	134 Cyclohexanone	55	8.642	8.642	(0.895)	360604	1000.00	993.25
	133 Ethyl Acrylate	55	5.381	5.381	(1.288)	836982	50.0000	50.65
	163 Butyl methacrylate	41	9.167	9.167	(0.949)	495577	50.0000	50.73
	188 Isopropyl acetate	43	4.680	4.680	(0.943)	1047574	50.0000	48.92
	189 n-Butyl acetate	43	7.210	7.210	(0.940)	585458	50.0000	50.65
	2 Dichlorodifluoromethane	85	0.976	0.976	(0.234)	270993	50.0000	53.06
	3 Chloromethane	50	1.081	1.081	(0.259)	315370	50.0000	41.87
	5 Vinyl Chloride	62	1.145	1.145	(0.274)	351070	50.0000	54.41
	6 Bromomethane	94	1.344	1.344	(0.322)	133355	50.0000	49.94
	7 Chloroethane	64	1.407	1.407	(0.337)	196480	50.0000	53.34
	8 Trichlorofluoromethane	101	1.565	1.565	(0.375)	391716	50.0000	59.90
	9 Acrolein	56	1.865	1.865	(0.446)	27523	100.000	145.26
	10 Acetone	43	1.977	1.977	(0.473)	235262	100.000	120.20
	11 1,1-Dichloroethene	96	1.921	1.921	(0.460)	201230	50.0000	55.09
	15 Iodomethane	142	2.030	2.030	(0.486)	438581	100.000	91.58
	16 Acrylonitrile	53	2.536	2.536	(0.607)	253159	100.000	104.19
	17 Methylene Chloride	84	2.303	2.303	(0.551)	249631	50.0000	58.13
	18 Methyl tert-butyl ether	73	2.539	2.539	(0.608)	685004	50.0000	50.42
	19 Carbon Disulfide	76	2.071	2.071	(0.496)	1228851	100.000	107.02
	20 trans-1,2-Dichloroethene	96	2.532	2.532	(0.606)	223090	50.0000	52.80
	21 Vinyl Acetate	43	2.997	2.997	(0.717)	1754846	100.000	100.42
	22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	519159	50.0000	55.99
	24 2-Butanone	43	3.582	3.582	(0.857)	299073	100.000	112.63
	26 2,2-Dichloropropane	77	3.510	3.510	(0.840)	335312	50.0000	46.60
	27 cis-1,2-Dichloroethene	96	3.525	3.525	(0.844)	282994	50.0000	52.57
	28 Chloroform	83	3.908	3.908	(0.935)	487940	50.0000	51.43
	29 Bromochloromethane	128	3.799	3.799	(0.909)	155498	50.0000	51.54
$	30 Dibromofluoromethane	113	4.099	4.099	(0.981)	246227	50.0000	53.94
	31 1,1,1-Trichloroethane	97	4.080	4.080	(0.977)	405744	50.0000	55.55
	32 1,1-Dichloropropene	75	4.279	4.279	(0.862)	346027	50.0000	52.23
	33 1,2-Dichloroethane	62	4.556	4.556	(0.918)	448268	50.0000	50.14
	34 Carbon Tetrachloride	117	4.264	4.264	(0.859)	340158	50.0000	50.97
$	35 1,2-Dichloroethane-d4	65	4.470	4.470	(1.070)	297413	50.0000	52.07
*	36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	812111	50.0000	
	37 Benzene	78	4.511	4.511	(0.909)	1001376	50.0000	51.55
	38 Trichloroethene	130	5.205	5.205	(1.048)	288443	50.0000	52.49
	39 Bromodichloromethane	83	5.726	5.726	(1.153)	371196	50.0000	49.88
	41 2-Chloroethylvinyl ether	63	6.044	6.044	(1.217)	246384	100.000	108.45
	42 1,2-Dichloropropane	63	5.437	5.437	(1.095)	331319	50.0000	53.04
	44 Dibromomethane	93	5.553	5.553	(1.119)	175813	50.0000	49.72
	45 4-Methyl-2-Pentanone	43	6.326	6.326	(0.825)	731952	100.000	98.63
	46 cis-1,3-Dichloropropene	75	6.153	6.153	(1.239)	430116	50.0000	50.32
*	47 Chlorobenzene-d5	117	7.668	7.668	(1.000)	754079	50.0000	
$	48 Toluene-d8	98	6.386	6.386	(0.833)	903636	50.0000	46.54
	50 Toluene	91	6.442	6.442	(0.840)	1063294	50.0000	52.38

51	trans-1,3-Dichloropropene	75	6.682	6.682 (1.346)	357981	50.0000	49.69
52	2-Hexanone	43	7.087	7.087 (0.924)	498648	100.000	102.29

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
53	1,1,2-Trichloroethane	83	6.839	6.839	(0.892)	214500	50.0000	49.81
54	1,3-Dichloropropane	76	6.978	6.978	(0.910)	435978	50.0000	49.55
55	Dibromochloromethane	129	7.173	7.173	(0.935)	319505	50.0000	51.39
56	Tetrachloroethene	164	6.925	6.925	(0.903)	221974	50.0000	52.93
57	1,2-Dibromoethane	107	7.259	7.259	(0.947)	241929	50.0000	49.16
58	1-Chlorohexane	55	7.694	7.694	(1.550)	318807	50.0000	48.86
59	Chlorobenzene	112	7.690	7.690	(1.003)	716586	50.0000	50.50
60	1,1,1,2-Tetrachloroethane	131	7.773	7.773	(1.014)	281977	50.0000	50.76
61	Ethylbenzene	106	7.795	7.795	(1.017)	361113	50.0000	50.75
62	m,p-Xylenes	106	7.900	7.900	(1.030)	920119	100.000	103.07
63	o-Xylene	106	8.237	8.237	(1.074)	434543	50.0000	51.40
64	Styrene	104	8.256	8.256	(1.077)	757154	50.0000	51.35
66	Bromoform	173	8.406	8.406	(1.096)	201792	50.0000	50.59
67	Isopropylbenzene	105	8.560	8.560	(1.116)	1149373	50.0000	52.89
68	1,1,2,2-Tetrachloroethane	83	8.837	8.837	(0.915)	321212	50.0000	46.89
$ 69	4-Bromofluorobenzene	95	8.687	8.687	(1.133)	374832	50.0000	49.92
* 70	1,4-Dichlorobenzene-d4	152	9.658	9.658	(1.000)	407806	50.0000	
71	1,2,3-Trichloropropane	75	8.860	8.860	(0.917)	264138	50.0000	48.59(M)
73	n-Propylbenzene	91	8.908	8.908	(0.922)	1300856	50.0000	52.78
74	Bromobenzene	156	8.803	8.803	(0.912)	325110	50.0000	50.97
75	1,3,5-Trimethylbenzene	105	9.062	9.062	(0.938)	946022	50.0000	51.24
76	2-Chlorotoluene	91	8.972	8.972	(0.929)	835034	50.0000	50.23
77	4-Chlorotoluene	91	9.066	9.066	(0.939)	941233	50.0000	51.52
78	tert-Butylbenzene	119	9.332	9.332	(0.966)	821573	50.0000	51.89
79	1,2,4-Trimethylbenzene	105	9.377	9.377	(0.971)	945171	50.0000	51.05
81	sec-Butylbenzene	105	9.519	9.519	(0.986)	1127144	50.0000	53.41
82	p-Isopropyltoluene	119	9.647	9.647	(0.999)	979861	50.0000	50.83
83	1,3-Dichlorobenzene	146	9.602	9.602	(0.994)	564565	50.0000	50.81
84	1,4-Dichlorobenzene	146	9.677	9.677	(1.002)	589093	50.0000	48.35
87	n-Butylbenzene	91	9.992	9.992	(1.035)	831956	50.0000	51.53
88	1,2-Dichlorobenzene	146	9.988	9.988	(1.034)	558264	50.0000	51.10
89	1,2-Dibromo-3-Chloropropane	155	10.652	10.652	(1.103)	54619	50.0000	48.54
90	1,2,4-Trichlorobenzene	180	11.334	11.334	(1.173)	352442	50.0000	46.97
91	Hexachlorobutadiene	225	11.476	11.476	(1.188)	159689	50.0000	46.37
92	Naphthalene	128	11.540	11.540	(1.195)	891008	50.0000	47.98
93	1,2,3-Trichlorobenzene	180	11.739	11.739	(1.215)	328980	50.0000	46.88
M 94	1,2-Dichloroethylene (total)	96				506084	100.000	(a)
141	Cyclohexane	56	4.121	4.121	(0.987)	501637	50.0000	58.04
138	Freon TF	101	1.921	1.921	(0.460)	192690	50.0000	60.44
147	Methylcyclohexane	55	5.381	5.381	(1.084)	836982	50.0000	48.82
146	Methyl Acetate	43	2.236	2.236	(0.535)	279902	50.0000	63.07
148	Tert-Butyl alcohol	59	2.431	2.431	(0.582)	654542	1000.00	1040.12
149	Isopropyl Alcohol	45	2.093	2.093	(0.501)	404892	1000.00	1036.91

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.



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Sample Info: CCV-END;CCV-END;2;;
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Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

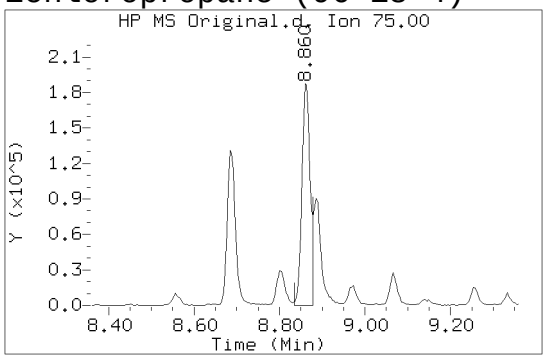
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LabSampID : CCV-END

1,2,3-Trichloropropane (96-18-4)

Reason Code:

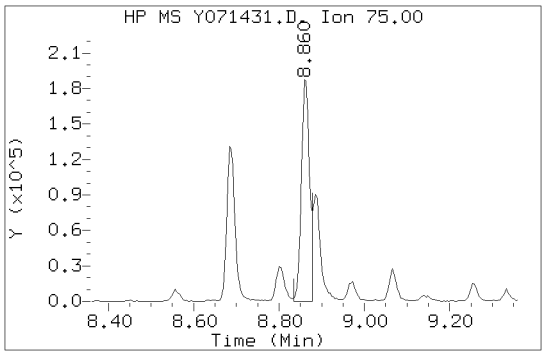
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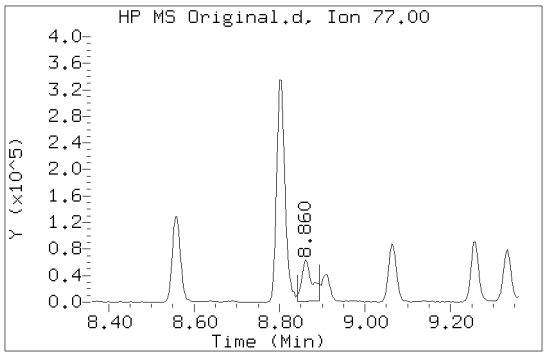
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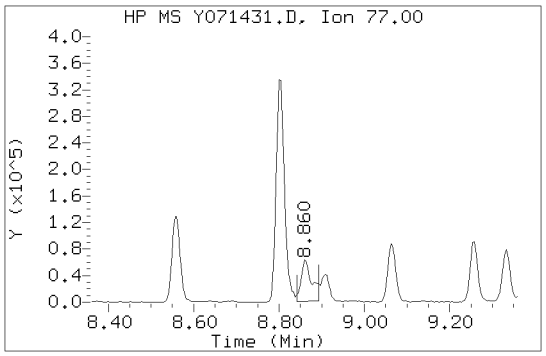
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AFTER

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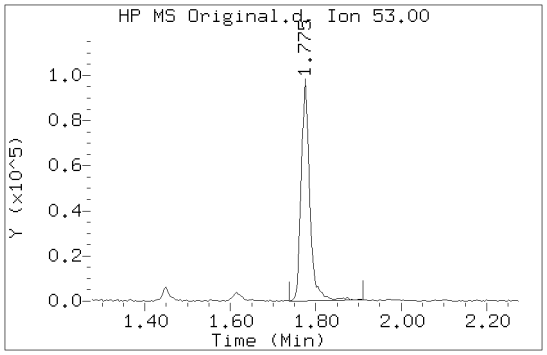


Chloroprene (126-99-8)

Reason Code:

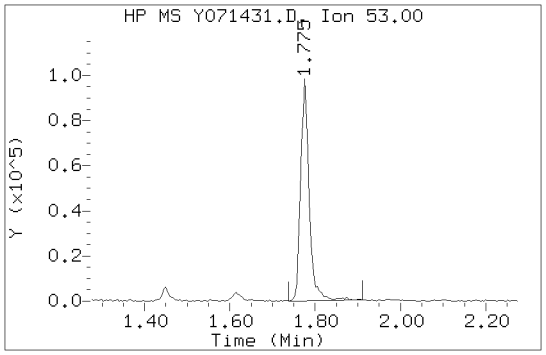
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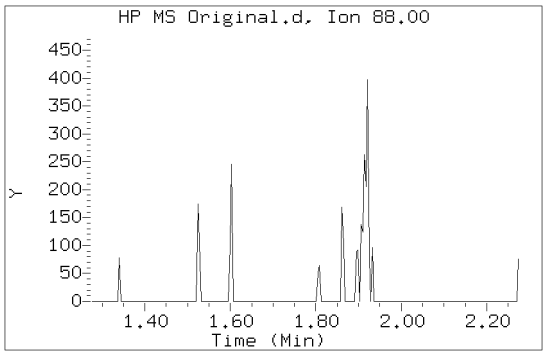
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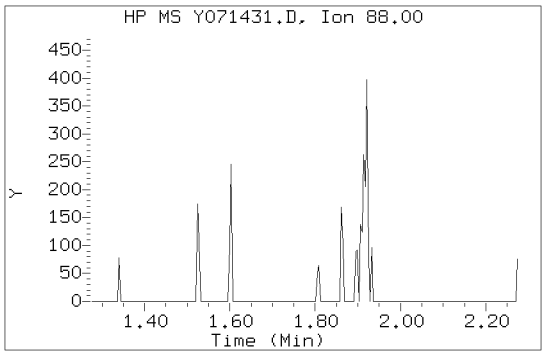
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20-Jul-2023
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HS23070445-MSSEMI-SW8270SIM

ALS WO# HS23070445

01246818

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Form 1

Organic Analysis Data Sheet

Semi-Volatiles by EPA 8270SIM

Workorder

HS23070445

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Monthly Effluent Samples

07/20/2023

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder **HS23070445**

Semi-Volatiles by EPA 8270SIM

HS23070445-01

LH18/24-SP650_071023

Collected	Received	Matrix	Basis
07/10/23 13:00	07/11/23 09:20	Water	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile	PrepBatch
1,4-Dioxane	ug/L	1.3	a	0.10	0.10	0.10	10	07/14/23 14:00	SV-6_441538	12.D	197520

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder **HS23070445**

Semi-Volatiles by EPA 8270SIM

MBLK-197520

MBLK-197520

Collected	Received	Matrix	Basis
NA	NA	Aqueous	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile	PrepBatch
1,4-Dioxane	ug/L	0.030	U	0.010	0.030	0.030	1	07/14/23 11:37	SV-6_441538	06.D	197520

01246821

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Form 2

System Monitoring Compound Recovery

Semi-Volatiles by EPA 8270SIM

Workorder

HS23070445

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Monthly Effluent Samples

07/20/2023

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Form 2 - System Monitoring Compound Recovery

Client: Bhate Environmental Associates, Inc.

Project: Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder: HS23070445

RunID: SV-6-441538

Semi-Volatiles by EPA 8270SIM

HS23070445-01	Analyzed	Conc Units	Dilution
LH18/24-SP650_071023	07/14/23	%REC	10

Surrogate	Result Conc	Spike Conc	%Recovery	Q	%Recovery Limits
2-Fluorobiphenyl	0.095	0.08	118		40-140
4-Terphenyl-d14	0.09	0.08	113		40-140
Nitrobenzene-d5	0.093	0.08	116		40-140

LCS-197520	Analyzed	Conc Units	Dilution
LCS-197520	07/14/23	%REC	1

Surrogate	Result Conc	Spike Conc	%Recovery	Q	%Recovery Limits
2-Fluorobiphenyl	0.09038	0.08	113		40-140
4-Terphenyl-d14	0.09356	0.08	117		40-140
Nitrobenzene-d5	0.07926	0.08	99.1		40-140

LCSD-197520	Analyzed	Conc Units	Dilution
LCSD-197520	07/14/23	%REC	1

Surrogate	Result Conc	Spike Conc	%Recovery	Q	%Recovery Limits
2-Fluorobiphenyl	0.09015	0.08	113		40-140
4-Terphenyl-d14	0.09118	0.08	114		40-140
Nitrobenzene-d5	0.08532	0.08	107		40-140

MBLK-197520	Analyzed	Conc Units	Dilution
MBLK-197520	07/14/23	%REC	1

Surrogate	Result Conc	Spike Conc	%Recovery	Q	%Recovery Limits
2-Fluorobiphenyl	0.09182	0.08	115		40-140
4-Terphenyl-d14	0.08642	0.08	108		40-140
Nitrobenzene-d5	0.0818	0.08	102		40-140

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Form 3B

Laboratory Control Sample Recovery

Semi-Volatiles by EPA 8270SIM

Workorder

HS23070445

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Monthly Effluent Samples

07/20/2023

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Form 3B - Laboratory Control Sample Recovery

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder **HS23070445**

SAMPLENUM LCS-197520

Semi-Volatiles by EPA 8270SIM

SV-6_441538				LCS-197520			LCSD-197520					
Spike Matrix	Aqueous		Run Date	07/14/23			07/14/23					
Result Units	ug/L		Run Time	11:55			12:13					
Prep Method	Prep Batch	Prep Date	Data File	07.D			08.D					
SW3510	07/13/23	197520	Prep Amt	1000 mL			1000 mL					
Analyte		%Recovery Limits	Spike Added	LCS Result	%R	Q	LCSD Result	%R	Q	RPD Limit	RPD	Q
1,4-Dioxane		40-140	0.08	0.07185	90		0.07035	88.0		20	2.1	

Q - %Recovery / RPD Flag * - %Recovery / RPD Outside Limits %R - %Recovery DF - Dilution Factor Amt - Amount (weight or volume)

Form 3B - Laboratory Control Sample Recovery

Client	Bhate Environmental Associates, Inc.	Workorder	
Project	Longhorn GW Treatment Plant Monthly Effluent Samples	**HS23070445**	

SAMPLENUM

LCSD-197520

Semi-Volatiles by EPA 8270SIM

SV-6_441538				LCSD-197520		
Spike Matrix	Aqueous		**Run Date**	07/14/23		
Result Units	ug/L		**Run Time**	12:13		
Prep Method	**Prep Batch**	**Prep Date**	**Data File**	08.D		
SW3510	07/13/23	197520	**Prep Amt**	1000 mL		

Analyte	%Recovery Limits	Spike Added	LCS Result	%R	Q
1,4-Dioxane	40-140	0.08	0.07035	88	

Q - %Recovery / RPD Flag * - %Recovery / RPD Outside Limits %R - %Recovery DF - Dilution Factor Amt - Amount (weight or volume)

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Form 4

Method Blank Summary

Semi-Volatiles by EPA 8270SIM

Workorder

HS23070445

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Monthly Effluent Samples

07/20/2023

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Form 4 - Method Blank Summary

Client	Bhate Environmental Associates, Inc.	Workorder	
Project	Longhorn GW Treatment Plant Monthly Effluent Samples	**HS23070445**	

Semi-Volatiles by EPA 8270SIM

Client Sample ID	Type	Lab Sample ID	File ID	Date Analyzed	Run ID
METHOD BLANK	MBLK	MBLK-197520	06.D	07/14/23 11:37	SV-6_441538
LCS-197520	LCS	LCS-197520	07.D	07/14/23 11:55	SV-6_441538
LCSD-197520	LCSD	LCSD-197520	08.D	07/14/23 12:13	SV-6_441538
LH18/24-SP650_071023	SAMP	HS23070445-01	12.D	07/14/23 14:00	SV-6_441538

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Form 5

Instrument Performance Check

Semi-Volatiles by EPA 8270SIM

Workorder

HS23070445

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Monthly Effluent Samples

07/20/2023

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Form 5 - Instrument Performance Check

Client	Bhate Environmental Associates, Inc.	Workorder	
Project	Longhorn GW Treatment Plant Monthly Effluent Samples	**HS23070445**	

RunID

Semi-Volatiles by EPA 8270SIM

SV-6-439923

Tune File 01.D 06/16/23 6/16/2023

m / e	Ion Abundance Criterion	%RA
51	30.0 - 80.0% of mass 198	40.3 (40.3)
68	Less than 2.0% of mass 69	0.5 (1.44) 1
69	Mass 69 RA	32.2 (32.2)
70	Less than 2.0% of mass 69	0.2 (0.502) 1
127	25.0 - 75.0% of mass 198	38.5 (38.5)
197	Less than 1.0% of mass 198	0.5 (0.46)
198	Base peak, 100% RA	100 (83.3)
199	5.0 - 9.0% of mass 198	6.5 (6.46)
275	10.0 - 30.0% of mass 198	25.8 (25.8)
365	Greater than 0.75% of mass 198	3.4 (3.43)
441	Present, but less than mass 443	17.7 (76.4)
442	40.0 - 110.0% of mass 198	120.1 (120)
443	15.0 - 24.0% of mass 442	23.2 (19.3) 2

%RA - Percent Relative Abundance

This check applies to the following analyses

	Lab Samp ID	Type	Date Analyzed	Lab File ID	Sample ID
1	14DXICAL-	ICAL1	6/16/2023	04	14DXICAL-0.01
2	14DXICAL-	ICAL2	6/16/2023	05	14DXICAL-0.03
3	14DXICAL-	ICAL3	6/16/2023	06	14DXICAL-0.05
4	14DXICAL-	ICAL4	6/16/2023	07	14DXICAL-0.08
5	14DXICAL-	ICAL6	6/16/2023	09	14DXICAL-0.15
6	14DXICAL-0.1	ICAL5	6/16/2023	12	14DXICAL-0.1
7	14DXICAL-0.5	ICAL8	6/16/2023	14	14DXICAL-0.5
8	14DXICAL-0.2	ICAL7	6/16/2023	15	14DXICAL-0.2
9	14DXICV-0.08	ICV	6/16/2023	16	14DXICV-0.08

Form 5 - Instrument Performance Check

Client	Bhate Environmental Associates, Inc.	Workorder	
Project	Longhorn GW Treatment Plant Monthly Effluent Samples	**HS23070445**	

RunID

Semi-Volatiles by EPA 8270SIM

SV-6-441538

Tune File 01.D 07/14/23 7/14/2023

m / e	Ion Abundance Criterion	%RA
51	30.0 - 80.0% of mass 198	51.4 (51.35)
68	Less than 2.0% of mass 69	0.6 (1.33) 1
69	Mass 69 RA	42.8 (42.84)
70	Less than 2.0% of mass 69	0.3 (0.65) 1
127	25.0 - 75.0% of mass 198	44.5 (44.53)
197	Less than 1.0% of mass 198	0.5 (0.53)
198	Base peak, 100% RA	100 (100)
199	5.0 - 9.0% of mass 198	6.5 (6.5)
275	10.0 - 30.0% of mass 198	24.2 (24.21)
365	Greater than 0.75% of mass 198	2.9 (2.9)
441	Present, but less than mass 443	14.2 (75.25)
442	40.0 - 110.0% of mass 198	95.1 (95.15)
443	15.0 - 24.0% of mass 442	18.9 (19.9) 2

%RA - Percent Relative Abundance

This check applies to the following analyses

	Lab Samp ID	Type	Date Analyzed	Lab File ID	Sample ID
1	14DX-0.08	CCV	7/14/2023	03	14DX-0.08
2	MBLK-197520	MBLK	7/14/2023	06	MBLK-197520
3	LCS-197520	LCS	7/14/2023	07	LCS-197520
4	LCSD-197520	LCSD	7/14/2023	08	LCSD-197520
5	HS23070445-	SAMP	7/14/2023	12	LH18/24-SP650_071023
6	14DXCCV-	CCV	7/14/2023	13	14DXCCV-END

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Form 6

Initial Calibration Data

Semi-Volatiles by EPA 8270SIM

Workorder

HS23070445

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Monthly Effluent Samples

07/20/2023

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Initial Calibration Data

Client Bhate Environmental Associates, Inc.
Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder HS23070445

RunID SV-6_439923

Semi-Volatiles by EPA 8270SIM

ICAL Start Date 10-MAR-2022 1025
ICAL End Date 16-JUN-2023 1556

Calibration Files

Calibration file names
Level 1..target\chem\sv6.i\230616.b\04.d
Level 2..target\chem\sv6.i\230616.b\05.d
Level 3..target\chem\sv6.i\230616.b\06.d
Level 4..target\chem\sv6.i\230616.b\07.d
Level 5..target\chem\sv6.i\230616.b\12.d
Level 6..target\chem\sv6.i\230616.b\09.d
Level 7..target\chem\sv6.i\230616.b\15.d
Level 8..target\chem\sv6.i\230616.b\14.d

Compound	0.20000 Level 7 0.01000 Level 1	0.50000 Level 8 0.03000 Level 2	0.05000 Level 3	0.08000 Level 4	0.10000 Level 5	0.15000 Level 6	RRF	%RSD	Q
1,4-Dioxane	0.30124 0.40150	0.32659 0.31193	0.32643	0.34940	0.35892	0.33837	0.33930	9.241	
2-Fluorophenol	0.40150 NE NE	0.31193 NE NE	NE	NE	NE	NE	0.33930 NE	9.241 NE	
13 Phenol-d6	NE NE	NE NE	NE	NE	NE	NE	NE	NE	
33 Nitrobenzene-d5	0.28832 0.34832	0.28035 0.27609	0.30204	0.32108	0.30808	0.30634	0.30383	7.735	
69 2-Fluorobiphenyl	0.98985 1.25227	0.97067 0.94386	0.97876	1.06873	0.97017	1.00640	1.02259	9.764	
105 2,4,6-Tribromophenol	NE NE	NE NE	NE	NE	NE	NE	NE	NE	
158 4-Terphenyl-d14	0.60104 1.00267	0.68127 0.75942	0.64541	0.74244	0.75380	0.71602	0.73776	16.347	

NE - Not Evaluated, AVRG - Averaged, LINR - Linear Regression, WLIN - Weighted Linear, QUAD - Quadratic, * - Curve Fit Outside Limits

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Form 6I

Initial Calibration Verification (ICV)

Semi-Volatiles by EPA 8270SIM

Workorder

HS23070445

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Monthly Effluent Samples

07/20/2023

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Initial Calibration Verification (ICV)

Client	Bhate Environmental Associates, Inc.	**Workorder**	
Project	Longhorn GW Treatment Plant Monthly Effluent Samples	**HS23070445**	

RunID

Semi-Volatiles by EPA 8270SIM

SV-6_439923

Sample Matrix	LIQUID	**Fraction**	SV
Lab Smp Id	14DXICV-0.08	**Client Smp ID**	14DXICV-0.08
Level	LOW	**Operator**	LG

Compound	CONC Added	CONC Recovered	% Recovered	Limits	Q
1,4-Dioxane	0.08000	0.07070	88.38	40-140	
Nitrobenzene-d5	0.08000	0.07086	88.57	40-140	
2-Fluorobiphenyl	0.08000	0.08036	100.45	40-140	
4-Terphenyl-d14	0.08000	0.08379	104.74	40-140	

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Form 7

Continuing Calibration Verification (CCV)

Semi-Volatiles by EPA 8270SIM

Workorder

HS23070445

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Monthly Effluent Samples

07/20/2023

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Continuing Calibration Verification (CCV)

Client Bhate Environmental Associates, Inc. **Workorder**

Project Longhorn GW Treatment Plant Monthly Effluent Samples **HS23070445**

RunID

Semi-Volatiles by EPA 8270SIM

SV-6_441538

Instrument ID SV6.I
Lab File ID 03.D
Analysis Type WATER
Lab Sample ID 14DX-0.08

Injection Date :57
ICAL Date(s) 10-MAR-2022 16-JUN-2023
ICAL Times :25 15:56
Quant Type ISTD

Compound	$\overline{RRF}$ / Conc	RF0.080	Min RRF	%D / %DRIFT	Max %D / %DRIFT	CURVE TYPE	Q
33 Nitrobenzene-d5	0.30383	0.27380	0.010	-9.88263	20.0	Averaged	
69 2-Fluorobiphenyl	1.02259	1.06471	0.010	4.11894	20.0	Averaged	
158 4-Terphenyl-d14	0.73776	0.77567	0.010	5.13832	20.0	Averaged	
1,4-Dioxane	0.33930	0.33291	0.010	-1.88371	20.0	Averaged	

Continuing Calibration Verification (CCV)

Client Bhate Environmental Associates, Inc. **Workorder**

Project Longhorn GW Treatment Plant Monthly Effluent Samples **HS23070445**

RunID

Semi-Volatiles by EPA 8270SIM

SV-6_441538

Instrument ID SV6.I
Lab File ID 13.D
Analysis Type WATER
Lab Sample ID 14DXCCV-END Quant Type

Injection Date :18
ICAL Date(s) 10-MAR-2022 16-JUN-2023
ICAL Times :25 15:56
ISTD

Compound	$\overline{RRF}$ / Conc	RF0.080	Min RRF	%D / %DRIFT	Max %D / %DRIFT	CURVE TYPE	Q
33 Nitrobenzene-d5	0.30383	0.27832	0.010	-8.39631	50.0	Averaged	
69 2-Fluorobiphenyl	1.02259	1.01413	0.010	-0.82723	50.0	Averaged	
158 4-Terphenyl-d14	0.73776	0.65011	0.010	-11.88021	50.0	Averaged	
1,4-Dioxane	0.33930	0.31085	0.010	-8.38304	50.0	Averaged	

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Form 12

Preparation Log

Semi-VolatilesEPA 3510

Workorder

HS23070445

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Monthly Effluent Samples

07/20/2023

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Form 12 - Preparation Log

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder **HS23070445**

RunID 197520

Semi-VolatilesEPA 3510

Prep Batch 197520 **Prep Date** 07/13/23

	Matrix	Type	Client Sample ID	Lab Sample ID	Initial Amt (mL)	Final Amt (mL)
1	Aqueous	MBLK	MBLK-197520	MBLK-197520	1000	1
2	Aqueous	LCS	LCS-197520	LCS-197520	1000	1
3	Aqueous	LCSD	LCSD-197520	LCSD-197520	1000	1
4	Water	SAMP	LH18/24-SP650_071023	HS23070445-01	1000	1

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Analysis Run Log

Semi-Volatiles by EPA 8270SIM

Workorder

HS23070445

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Monthly Effluent Samples

07/20/2023

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Form 13 - Analysis Run Log

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder
HS23070445

RunID
SV-6-439923

Semi-Volatiles by EPA 8270SIM

Run ID SV-6_439923 **Start Date** 06/16/23 **EndDate** 06/16/23

Inj. Time	Client Sample ID	Type	Lab Sample ID	File ID	Analysis Date	DF
09:28	DFTPP	TUNE	DFTPP	01.D	06/16/23	1
11:08	14DXICAL-0.01	ICAL1	14DXICAL-0.01	04.D	06/16/23	1
11:26	14DXICAL-0.03	ICAL2	14DXICAL-0.03	05.D	06/16/23	1
11:44	14DXICAL-0.05	ICAL3	14DXICAL-0.05	06.D	06/16/23	1
12:02	14DXICAL-0.08	ICAL4	14DXICAL-0.08	07.D	06/16/23	1
12:38	14DXICAL-0.15	ICAL6	14DXICAL-0.15	09.D	06/16/23	1
14:15	14DXICAL-0.1	ICAL5	14DXICAL-0.1	12.D	06/16/23	1
14:51	14DXICAL-0.5	ICAL8	14DXICAL-0.5	14.D	06/16/23	1
15:56	14DXICAL-0.2	ICAL7	14DXICAL-0.2	15.D	06/16/23	1
16:22	14DXICV-0.08	ICV	14DXICV-0.08	16.D	06/16/23	1

Form 13 - Analysis Run Log

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder
HS23070445

RunID
SV-6-441538

Semi-Volatiles by EPA 8270SIM

Run ID SV-6_441538 **Start Date** 07/14/23 **EndDate** 07/14/23

Inj. Time	Client Sample ID	Type	Lab Sample ID	File ID	Analysis Date	DF
09:11	DFTPP	TUNE	DFTPP	01.D	07/14/23	1
09:57	14DX-0.08	CCV	14DX-0.08	03.D	07/14/23	1
11:37	MBLK-197520	MBLK	MBLK-197520	06.D	07/14/23	1
11:55	LCS-197520	LCS	LCS-197520	07.D	07/14/23	1
12:13	LCSD-197520	LCSD	LCSD-197520	08.D	07/14/23	1
12:49	HS23070549-02	SAMP	ZZZZZZZZZZ	10.D	07/14/23	1
13:07	HS23070549-04	SAMP	ZZZZZZZZZZ	11.D	07/14/23	1
14:00	HS23070445-01	SAMP	LH18/24-	12.D	07/14/23	10
14:18	14DXCCV-END	CCV	14DXCCV-END	13.D	07/14/23	1

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Raw Data SV 6 439923

Semi-Volatiles by EPA 8270SIM

Workorder

HS23070445

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Monthly Effluent Samples

07/20/2023

ALS Environmental–Houston Laboratory

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Data File: \\nahstws005\Target\chem\SV6.i\230616.b\01.D Page 1
Report Date: 16-Jun-2023 09:41

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\SV6.i\230616.b\01.D
Lab Smp Id: DFTPP Client Smp ID: DFTPP
Inj Date : 16-JUN-2023 09:28
Operator : smith Inst ID: SV6.i
Smp Info : DFTPP;DFTPP;3;;DFTPP
Misc Info :
Comment :
Method : \\nahstws005\Target\chem\SV6.i\230616.b\DFTPP.m
Meth Date : 14-Mar-2023 15:59 Linh.Pham Quant Type: ESTD
Cal Date : Cal File:
Als bottle: 1 QC Sample: DFTPP
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.14 Sample Matrix: None
Processing Host: NAHSTW7015

RT	EXP RT	DLT RT	MASS	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	CONCENTRATIONS FINAL (ug/L)	TARGET RANGE	RATIO
1 dftpp						CAS #: 5074-71-5		
5.009	6.357	-1.348	198	573312			0.00- 100.00	83.28
5.009	6.357	-1.348	51	231176			10.00- 80.00	40.32
5.009	6.357	-1.348	68	2654			0.00- 2.00	1.44
5.009	6.357	-1.348	69	184729			0.00- 0.00	32.22
5.009	6.357	-1.348	70	927			0.00- 2.00	0.50
5.009	6.357	-1.348	127	220864			10.00- 80.00	38.52
5.009	6.357	-1.348	197	2637			0.00- 2.00	0.46
5.009	6.357	-1.348	199	37040			5.00- 9.00	6.46
5.009	6.357	-1.348	275	147776			10.00- 60.00	25.78
5.009	6.357	-1.348	365	19688			1.00- 100.00	3.43
5.009	6.357	-1.348	441	101568			0.01- 99.99	76.45
5.009	6.357	-1.348	442	688448			50.00- 150.00	120.08
5.009	6.357	-1.348	443	132864			15.00- 24.00	19.30

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 198	40.32
68	Less than 2.00% of mass 69	0.46 (1.44)
69	Mass 69 relative abundance	32.22
70	Less than 2.00% of mass 69	0.16 (0.50)
127	10.00 - 80.00% of mass 198	38.52
197	Less than 2.00% of mass 198	0.46
199	5.00 - 9.00% of mass 198	6.46
275	10.00 - 60.00% of mass 198	25.78
365	1.00 - 100.00% of mass 198	3.43
441	Present, but less than mass 443	17.72
442	50.00 - 150.00% of mass 198	120.08
443	15.00 - 24.00% of mass 442	23.17 (19.30)

Data File: 01.D
Spectrum: HP ChemStation MS 01.D, Scan 453: 5.010 min. (SUB)
Location of Maximum: 442.10
Number of points: 316

m/z	Y	m/z	Y	m/z	Y	m/z	Y
37.10	691	128.10	16159	209.00	1513	297.00	5492
38.00	1909	129.00	84336	210.10	2201	298.00	365
39.10	12523	130.00	6769	211.00	6102	301.00	640
40.00	181	131.00	1444	213.00	401	302.00	602
40.90	276	132.10	794	214.00	192	303.10	4693
45.00	312	133.10	248	215.00	1503	304.00	1179
49.00	1051	134.00	2156	216.00	2932	304.90	175
50.10	53200	135.00	6519	217.00	39448	308.00	557
51.10	231168	136.00	2427	218.00	4584	309.00	385
52.10	12049	137.10	3257	219.00	408	310.00	461
53.00	444	138.10	689	221.10	31488	311.10	249
55.00	841	139.00	436	221.70	5812	311.90	184
56.00	6699	140.00	864	223.00	9377	312.90	383
57.00	16176	141.00	10733	224.10	87680	314.00	1739
58.00	734	142.00	3754	225.10	21984	315.00	3954
61.00	2603	143.00	2343	226.00	2230	316.10	2781
62.00	2746	144.00	787	227.00	33024	317.00	633
63.00	8959	145.00	657	228.00	4457	319.90	232
64.00	1134	146.10	1823	229.00	7608	321.00	1268
65.10	3754	147.00	5380	230.00	950	322.00	605
66.20	170	148.00	12478	231.00	3201	323.10	14516
66.90	176	149.00	2115	232.00	487	324.00	2985
68.00	2654	150.00	633	233.00	674	325.00	302
69.00	184704	151.60	2531	234.00	1838	326.00	247
70.00	927	152.00	808	235.00	2392	327.00	2521
71.10	180	153.00	3358	236.00	1374	328.00	1205
73.00	1217	154.00	2616	237.00	2292	329.00	338
74.00	17520	155.00	6177	238.00	338	332.00	1141
75.00	28192	156.10	9411	239.00	1122	333.00	1368
76.10	9960	157.00	2001	240.00	936	334.10	8776
77.10	218880	158.00	2113	241.00	1871	335.00	2203
78.10	13466	159.00	1675	242.00	4359	336.00	187
79.00	12046	160.10	3244	243.10	4502	339.10	380
80.00	9791	161.00	5606	244.10	67632	339.90	281
81.00	14216	162.00	1730	245.10	8922	341.00	1623
82.00	3653	163.00	400	246.00	11263	342.10	476
83.00	3381	164.00	727	247.00	2407	346.00	2738
84.00	184	165.00	4330	248.10	663	347.00	596
85.00	2227	166.00	3419	249.00	2399	350.90	220
86.00	3237	167.00	24512	250.00	534	352.10	4359
87.00	1991	168.00	9507	251.00	626	353.00	3284
88.00	676	169.10	1791	252.00	592	354.10	4838
89.00	341	170.00	842	253.00	1532	355.00	896
91.00	2912	170.90	1000	254.00	2136	359.00	467
92.00	3110	172.00	2269	255.00	354304	365.00	19688

93.00	21304	173.10	2549	256.00	51136	366.00	2752
94.00	1218	174.00	5175	257.00	3611	370.10	513
95.00	484	175.00	9799	258.00	18768	371.00	1054
96.00	924	176.00	2683	259.00	3038	372.00	8081
97.10	374	177.00	3904	260.00	415	373.10	1766
98.00	16345	178.00	1303	261.00	547	374.00	321
99.00	11441	179.00	17472	263.00	216	377.00	254
100.00	1118	180.00	12918	264.00	482	383.00	2280
101.00	8931	181.00	6121	265.00	7562	384.00	529
101.90	481	182.10	939	266.00	1247	385.00	199
103.00	2466	183.00	711	267.90	202	390.10	1132
104.00	4787	184.00	1198	270.00	419	391.00	640
105.00	4856	185.10	9374	270.90	595	392.00	528
106.00	1473	186.10	74288	272.00	859	401.00	506
107.00	67952	187.10	20504	273.00	9955	402.00	3420
108.00	9807	188.00	2068	274.00	26688	403.00	5432
109.00	1838	189.00	3837	275.00	147776	404.00	1627
110.00	123544	189.90	682	276.10	18968	405.00	236
111.00	17696	191.00	2262	277.00	11809	415.00	201
112.00	1819	192.00	6230	278.00	1774	421.00	5131
112.90	638	193.10	7049	279.00	482	422.00	3941
114.00	179	194.00	1444	280.90	159	423.00	33192
114.80	238	195.00	1036	282.00	357	424.00	5796
116.00	3334	196.10	15513	283.00	1383	425.00	632
117.00	50184	197.00	2637	284.00	975	434.00	155
118.10	3139	198.00	573312	285.00	2248	436.70	155
119.00	504	199.00	37040	286.10	556	441.10	101568
120.00	697	200.00	3218	289.00	393	442.10	688448
121.00	285	201.50	2802	290.00	552	443.10	132864
122.00	4036	203.00	3916	291.00	367	444.10	12072
123.10	5628	204.00	19400	291.90	558	445.00	733
124.00	2843	205.10	32656	293.00	2916		
125.00	2735	206.10	146944	294.00	680		
126.10	975	207.10	18016	295.00	908		
127.00	220864	208.10	4201	296.00	40008		

Data File: \\nahstws005\target\chem\sv6.i\230616.b\01.d

Date : 16-JUN-2023 09:28

Client ID: DFTPP

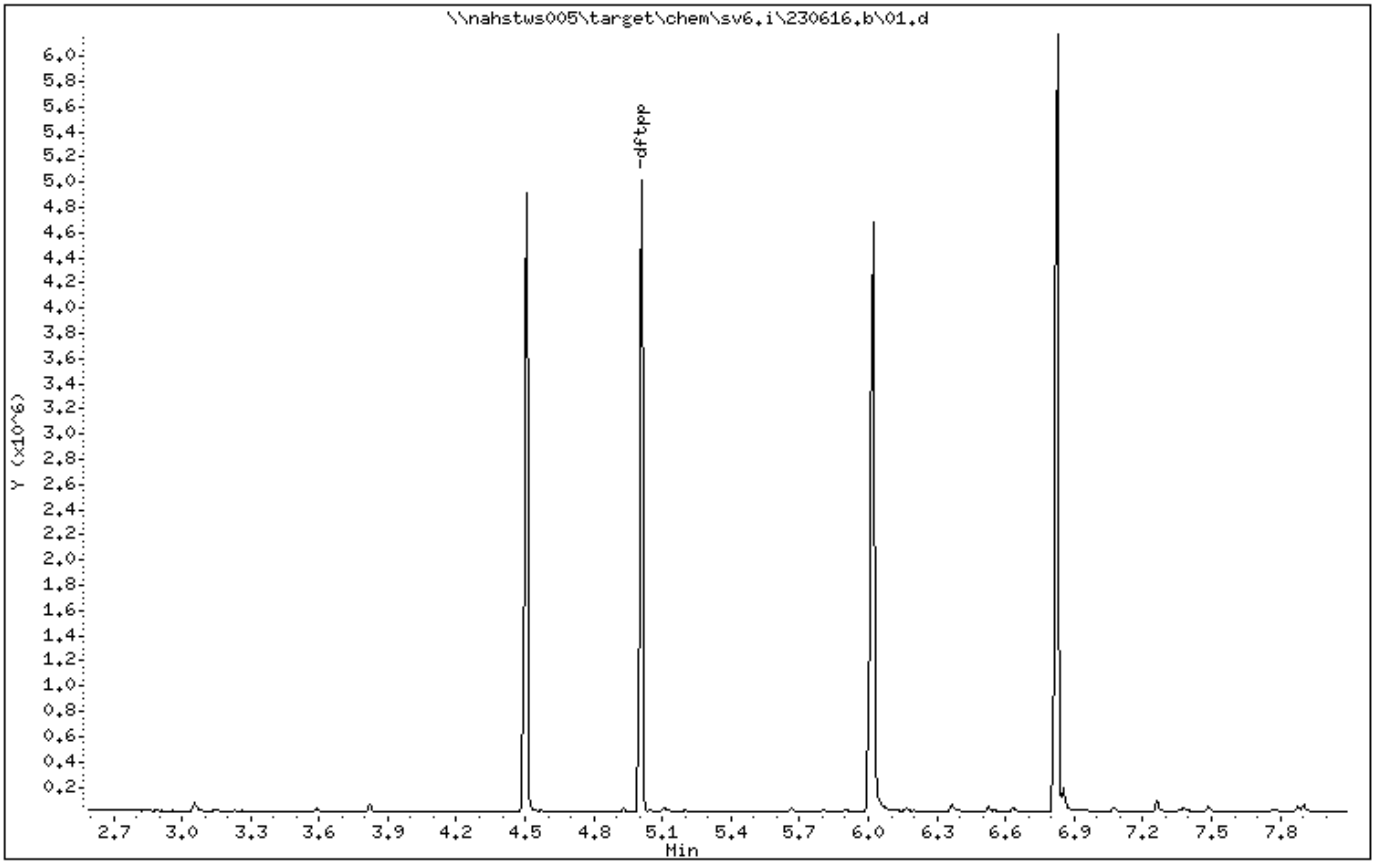
Instrument: SV6.i

Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: smith

Column phase: DB-5MS

Column diameter: 0.25



Data File : \\nahstws005\target\chem\sv6.i\230616.b\01.d
Inj Date : 16-JUN-2023 09:28
InstruID : SV6.i
LabSampID : DFTPP

NO MANUAL INTEGRATIONS

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\230616.b\04.D
Lab Smp Id: 14DXICAL-0.01 Client Smp ID: 14DXICAL-0.01
Inj Date : 16-JUN-2023 11:08
Operator : LG Inst ID: SV6.i
Smp Info : 14DXICAL-0.01
Misc Info : ;;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\SV6.i\230616.b\DXSIM.m
Meth Date : 29-Jun-2023 14:27 SV6.i Quant Type: ISTD
Cal Date : 16-JUN-2023 12:20 Cal File: 08.D
Als bottle: 4 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	AMOUNTS ON-COL (NG)
* 20 1,4-Dichlorobenzene-d4	152	3.128	3.128	(1.000)	5079	0.10000	(a)
* 45 Naphthalene-d8	136	4.220	4.220	(1.000)	17862	0.10000	
$ 33 Nitrobenzene-d5	82	3.584	3.584	(0.849)	515	0.01000	0.009537(QM)
* 86 Acenaphthene-d10	164	5.883	5.883	(1.000)	10143	0.10000	
$ 69 2-Fluorobiphenyl	172	5.245	5.245	(0.891)	1004	0.01000	0.009665(M)
* 126 Phenanthrene-d10	188	7.322	7.322	(1.000)	20228	0.10000	
* 182 Chrysene-d12	240	10.023	10.023	(1.000)	14841	0.10000	(M)
$ 158 4-Terphenyl-d14	244	8.909	8.909	(0.889)	892	0.01000	0.008235(M)
* 198 Perylene-d12	264	11.945	11.945	(1.000)	14498	0.10000	(M)
1 1,4-Dioxane	58	1.486	1.486	(0.475)	153	0.01000	0.008943(aQM)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.

01246851

Data File: \\NAHSTWS005\Target\chem\SV6.i\230616.b\04.D

Date : 16-JUN-2023 11:08

Client ID: 14DXICAL-0.01

Instrument: SV6.i

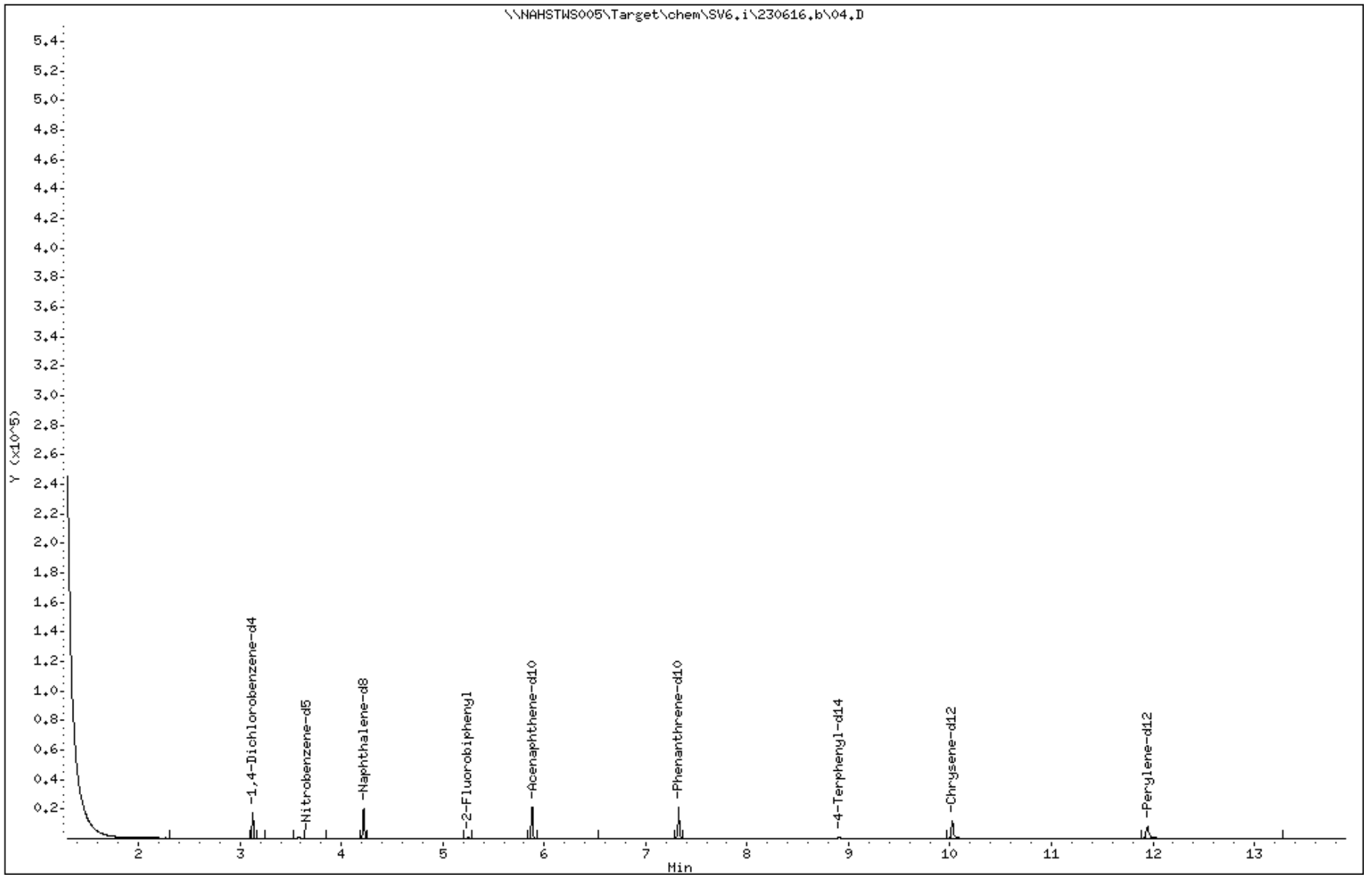
Sample Info: 14DXICAL-0.01

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28



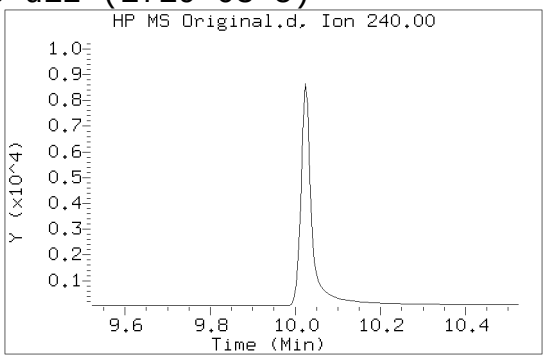
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Inj Date : 16-JUN-2023 11:08
InstruID : SV6.i
LabSampID : 14DXICAL-0.01

Chrysene-d12 (1719-03-5)

Reason Code:

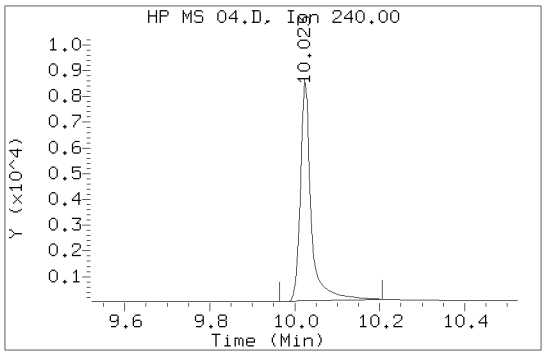
BEFORE

MASS
240
AREA
0
HEIGHT
0
16-Jun-2023
11:24
ALSHS
Server



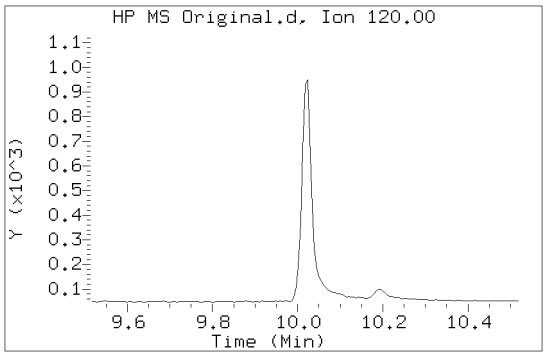
AFTER

MASS
240
AREA
14841
HEIGHT
8583
29-Jun-2023
14:26
ALSHS
Ser



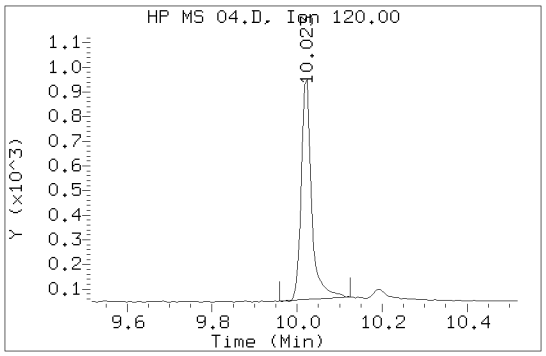
BEFORE

MASS
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AREA
0
HEIGHT
0
16-Jun-2023
11:24
ALSHS
Server



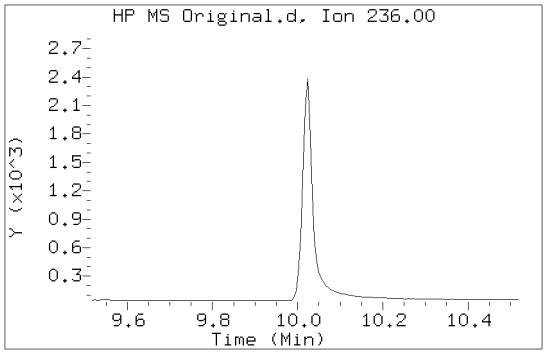
AFTER

MASS
120
AREA
1504
HEIGHT
891
29-Jun-2023
14:26
ALSHS
Ser



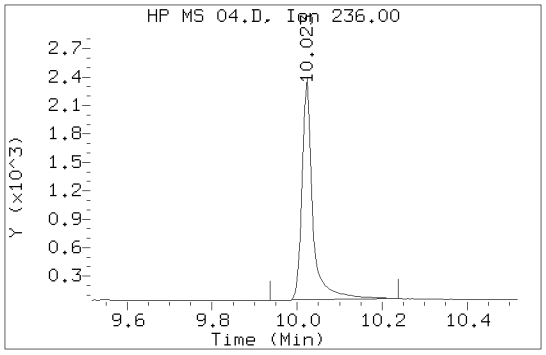
BEFORE

MASS
236
AREA
0
HEIGHT
0
16-Jun-2023
11:24
ALSHS
Server



AFTER

MASS
236
AREA
4047
HEIGHT
2330
29-Jun-2023
14:26
ALSHS
Ser

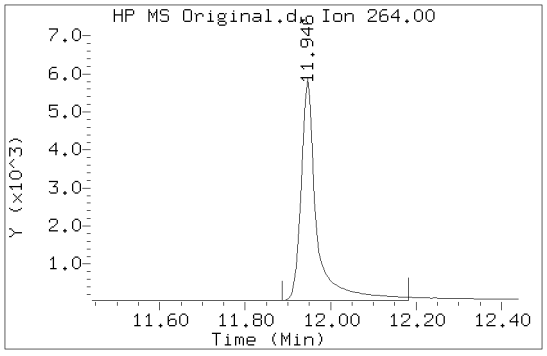


Perylene-d12 (1520-96-3)

Reason Code:

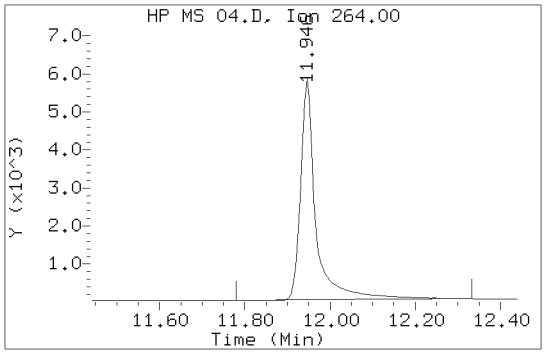
BEFORE

MASS
264
AREA
14674
HEIGHT
5826
16-Jun-2023
11:24
ALSHS
Server



AFTER

MASS
264
AREA
14498
HEIGHT
5814
29-Jun-2023
14:26
ALSHS
Ser



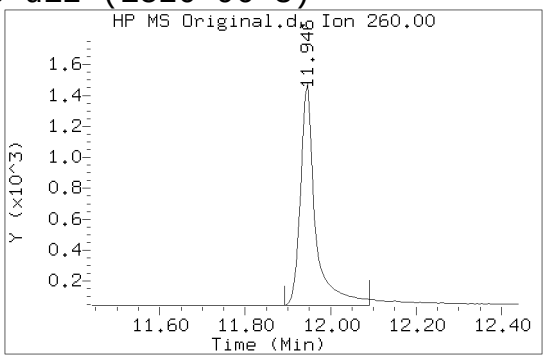
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\04.D
Inj Date : 16-JUN-2023 11:08
InstruID : SV6.i
LabSampID : 14DXICAL-0.01

Perylene-d12 (1520-96-3)

Reason Code:

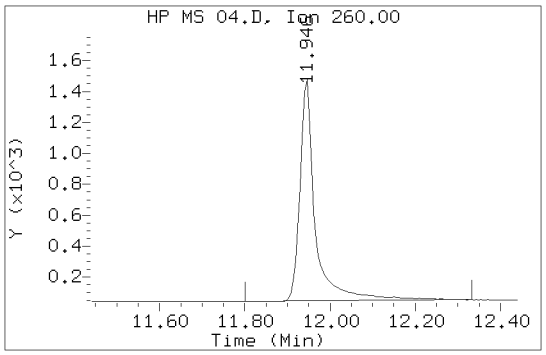
BEFORE

MASS
260
AREA
3461
HEIGHT
1431
16-Jun-2023
11:24
ALSHS
Server



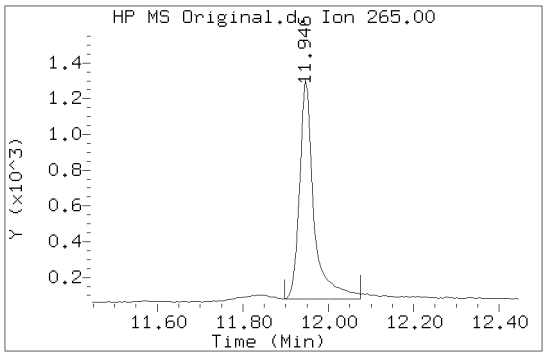
AFTER

MASS
260
AREA
3563
HEIGHT
1428
29-Jun-2023
14:26
ALSHS
Ser



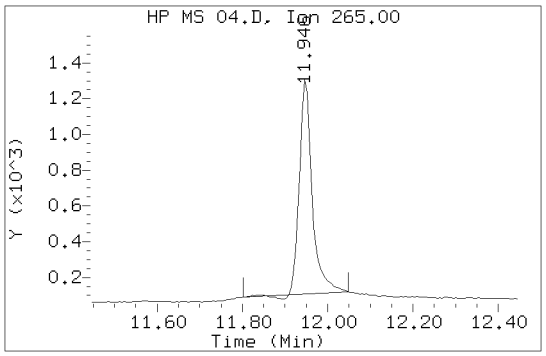
BEFORE

MASS
265
AREA
2841
HEIGHT
1225
16-Jun-2023
11:24
ALSHS
Server



AFTER

MASS
265
AREA
2485
HEIGHT
1196
29-Jun-2023
14:26
ALSHS
Ser

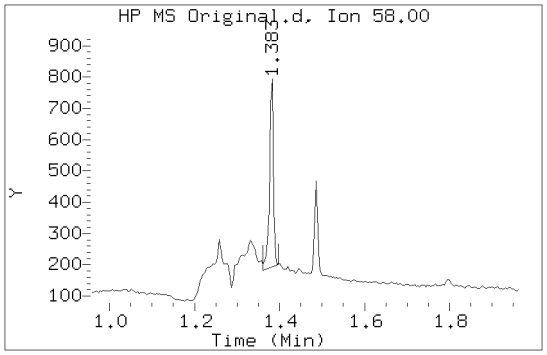


1,4-Dioxane ()

Reason Code:

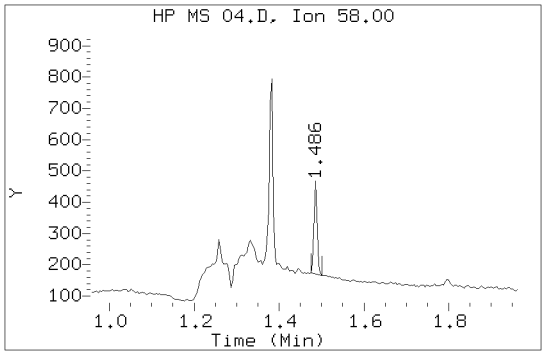
BEFORE

MASS
58
AREA
375
HEIGHT
599
16-Jun-2023
11:24
ALSHS
Server



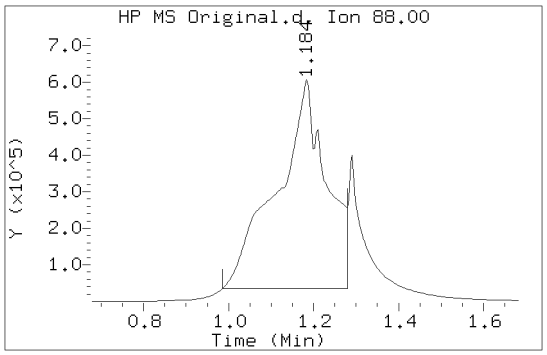
AFTER

MASS
58
AREA
153
HEIGHT
296
29-Jun-2023
14:26
ALSHS
Ser



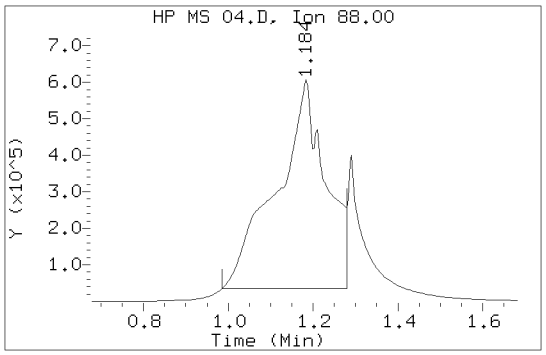
BEFORE

MASS
88
AREA
4618745
HEIGHT
572488
16-Jun-2023
11:24
ALSHS
Server



AFTER

MASS
88
AREA
4618745
HEIGHT
572488
29-Jun-2023
14:26
ALSHS
Ser

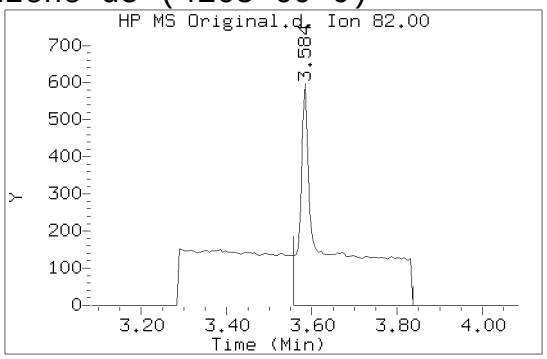


Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\04.D
Inj Date : 16-JUN-2023 11:08
InstruID : SV6.i
LabSampID : 14DXICAL-0.01

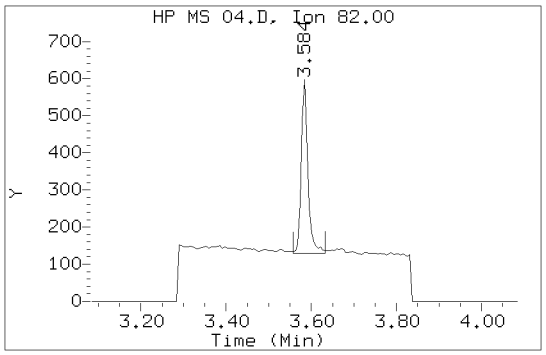
Nitrobenzene-d5 (4165-60-0)

Reason Code:

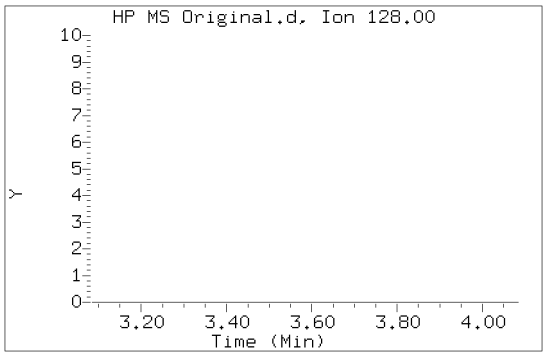
BEFORE
MASS
82
AREA
2695
HEIGHT
597
16-Jun-2023
11:24
ALSHS
Server



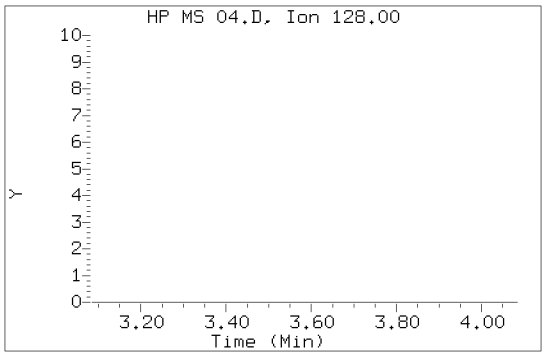
AFTER
MASS
82
AREA
515
HEIGHT
468
29-Jun-2023
14:26
ALSHS
Ser



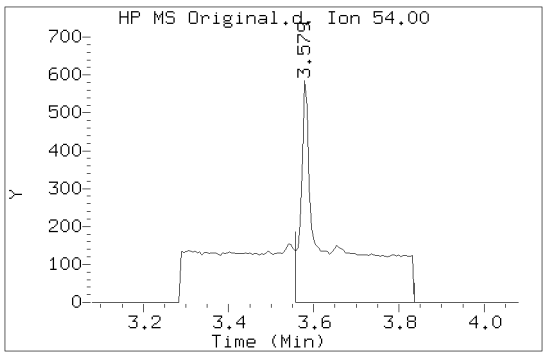
BEFORE
MASS
128
AREA
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HEIGHT
0
16-Jun-2023
11:24
ALSHS
Server



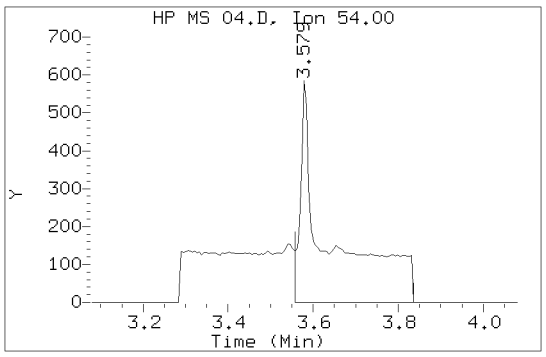
AFTER
MASS
128
AREA
0
HEIGHT
0
29-Jun-2023
14:26
ALSHS
Ser



BEFORE
MASS
54
AREA
2634
HEIGHT
585
16-Jun-2023
11:24
ALSHS
Server



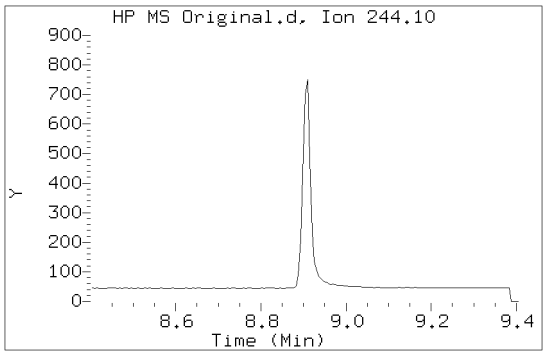
AFTER
MASS
54
AREA
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HEIGHT
585
29-Jun-2023
14:26
ALSHS
Ser



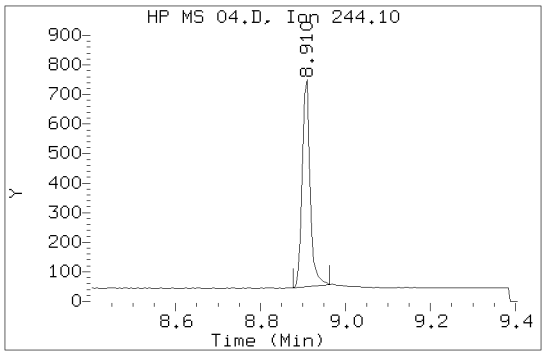
4-Terphenyl-d14 (1718-51-0)

Reason Code:

BEFORE
MASS
244.1
AREA
0
HEIGHT
0
16-Jun-2023
11:24
ALSHS
Server



AFTER
MASS
244.1
AREA
892
HEIGHT
699
29-Jun-2023
14:26
ALSHS
Ser



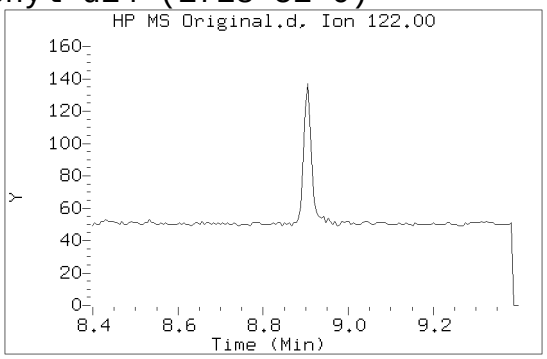
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Inj Date : 16-JUN-2023 11:08
InstruID : SV6.i
LabSampID : 14DXICAL-0.01

4-Terphenyl-d14 (1718-51-0)

Reason Code:

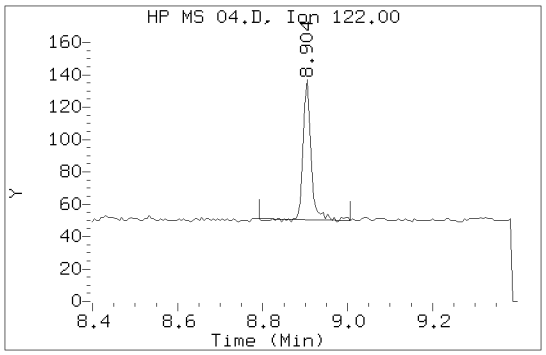
BEFORE

MASS
122
AREA
0
HEIGHT
0
16-Jun-2023
11:24
ALSHS
Server



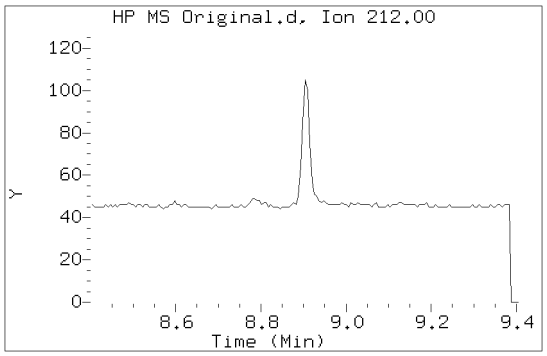
AFTER

MASS
122
AREA
109
HEIGHT
86
29-Jun-2023
14:26
ALSHS
Ser



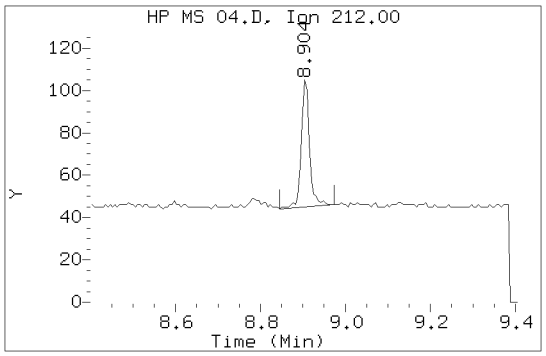
BEFORE

MASS
212
AREA
0
HEIGHT
0
16-Jun-2023
11:24
ALSHS
Server



AFTER

MASS
212
AREA
80
HEIGHT
60
29-Jun-2023
14:26
ALSHS
Ser

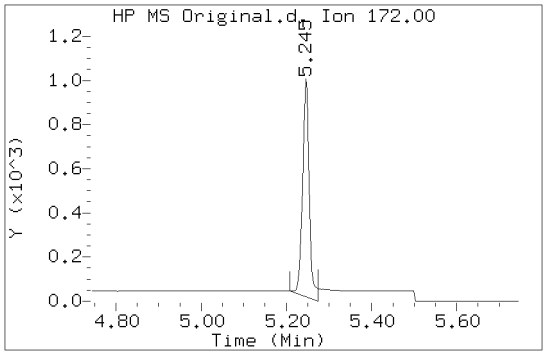


2-Fluorobiphenyl (321-60-8)

Reason Code:

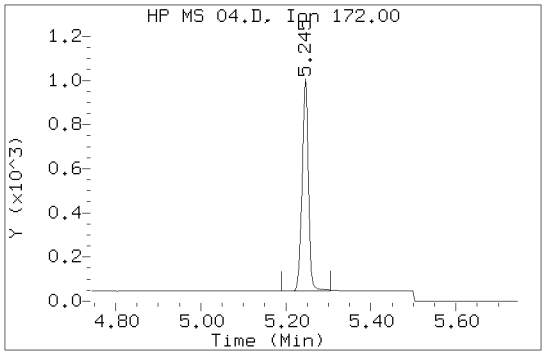
BEFORE

MASS
172
AREA
1093
HEIGHT
986
16-Jun-2023
11:24
ALSHS
Server



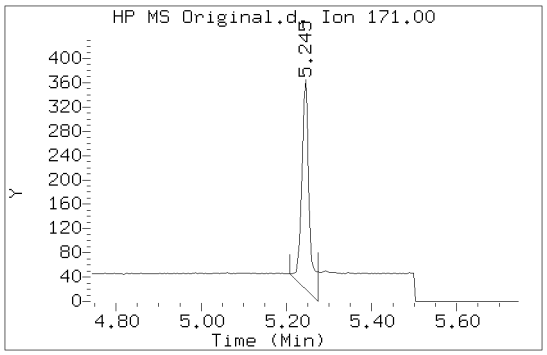
AFTER

MASS
172
AREA
1004
HEIGHT
960
29-Jun-2023
14:26
ALSHS
Ser



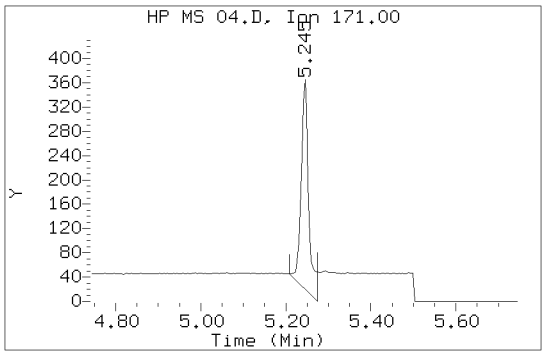
BEFORE

MASS
171
AREA
428
HEIGHT
345
16-Jun-2023
11:24
ALSHS
Server



AFTER

MASS
171
AREA
428
HEIGHT
345
29-Jun-2023
14:26
ALSHS
Ser



Data File: \\NAHSTWS005\Target\chem\SV6.i\230616.b\05.D Page 1
Report Date: 29-Jun-2023 14:27

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\230616.b\05.D
Lab Smp Id: 14DXICAL-0.03 Client Smp ID: 14DXICAL-0.03
Inj Date : 16-JUN-2023 11:26
Operator : LG Inst ID: SV6.i
Smp Info : 14DXICAL-0.03
Misc Info : ;;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\SV6.i\230616.b\DXSIM.m
Meth Date : 29-Jun-2023 14:27 SV6.i Quant Type: ISTD
Cal Date : 16-JUN-2023 11:08 Cal File: 04.D
Als bottle: 5 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 20 1,4-Dichlorobenzene-d4	152	3.128	3.128	(1.000)	4348	0.10000	(aM)
* 45 Naphthalene-d8	136	4.220	4.220	(1.000)	14672	0.10000	(M)
$ 33 Nitrobenzene-d5	82	3.584	3.584	(0.849)	1234	0.03000	0.02782(QM)
* 86 Acenaphthene-d10	164	5.883	5.883	(1.000)	8616	0.10000	
$ 69 2-Fluorobiphenyl	172	5.245	5.245	(0.891)	2509	0.03000	0.02843(M)
* 126 Phenanthrene-d10	188	7.322	7.322	(1.000)	16998	0.10000	
* 182 Chrysene-d12	240	10.023	10.023	(1.000)	11821	0.10000	(M)
$ 158 4-Terphenyl-d14	244	8.904	8.904	(0.888)	2416	0.03000	0.02800(M)
* 198 Perylene-d12	264	11.940	11.940	(1.000)	10677	0.10000	(M)
1 1,4-Dioxane	58	1.467	1.467	(0.469)	426	0.03000	0.02909(QM)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.

01246857

Data File: \\NAHSTWS005\Target\chem\SV6.i\230616.b\05.D

Date : 16-JUN-2023 11:26

Client ID: 14DXICAL-0.03

Instrument: SV6.i

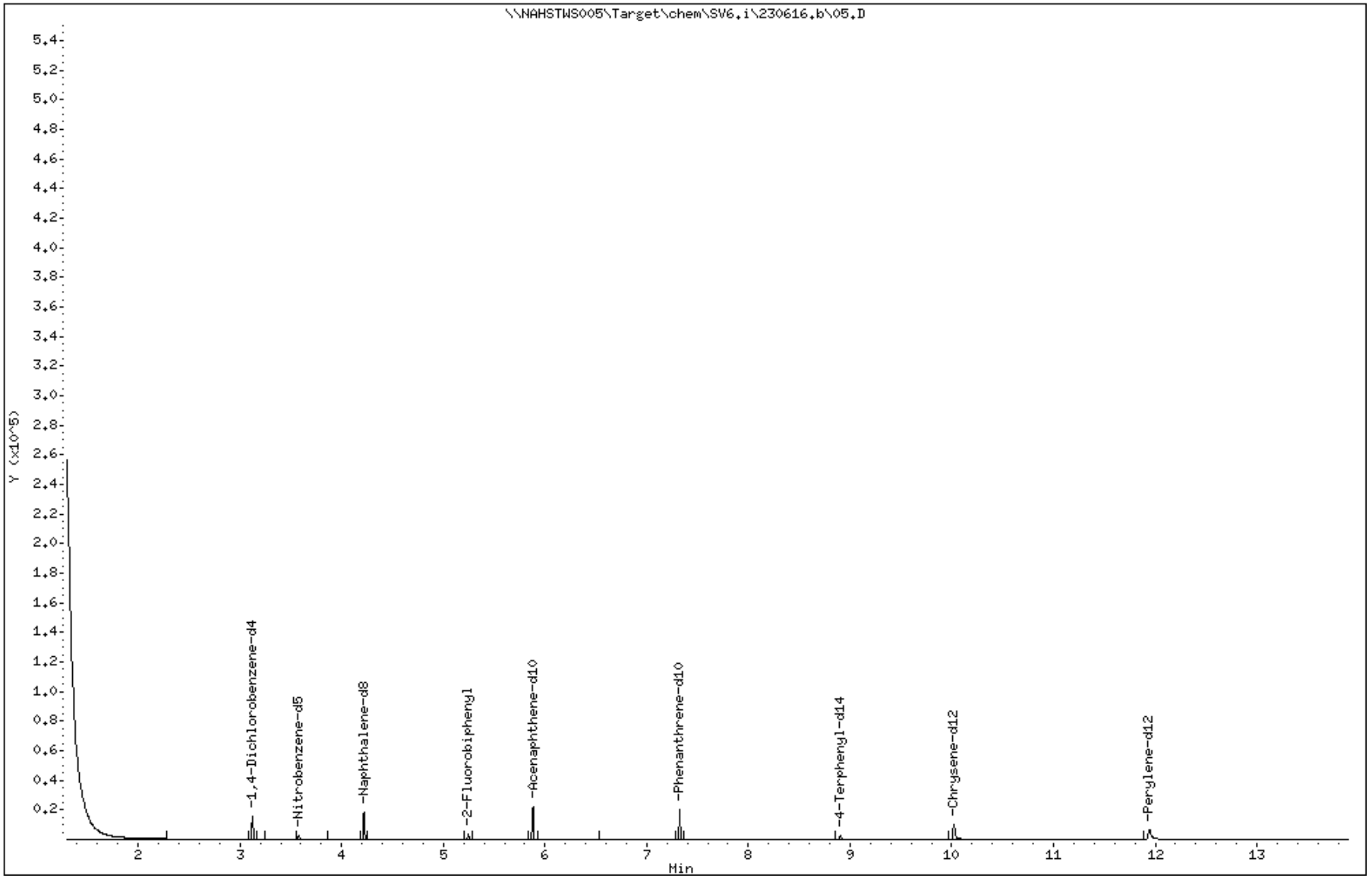
Sample Info: 14DXICAL-0.03

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28



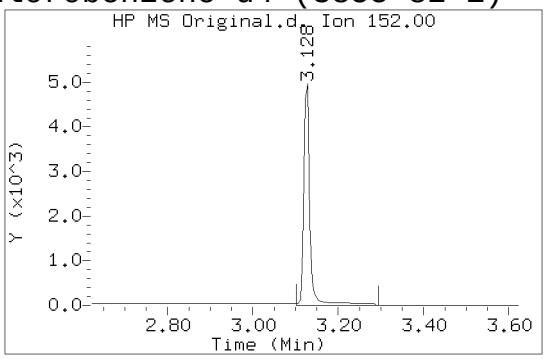
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\05.D
Inj Date : 16-JUN-2023 11:26
InstruID : SV6.i
LabSampID : 14DXICAL-0.03

1,4-Dichlorobenzene-d4 (3855-82-1)

Reason Code:

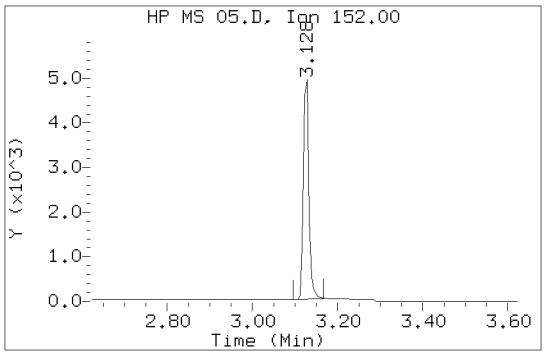
BEFORE

MASS
152
AREA
4935
HEIGHT
4966
16-Jun-2023
11:42
ALSHS
Server



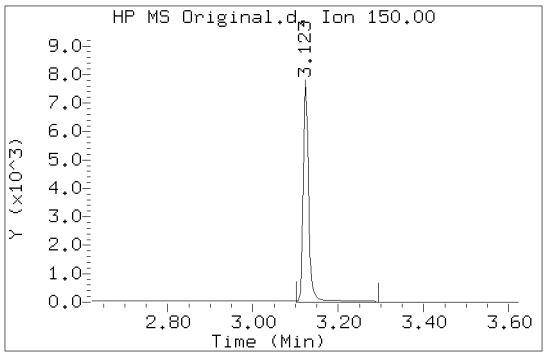
AFTER

MASS
152
AREA
4348
HEIGHT
4916
29-Jun-2023
14:26
ALSHS
Ser



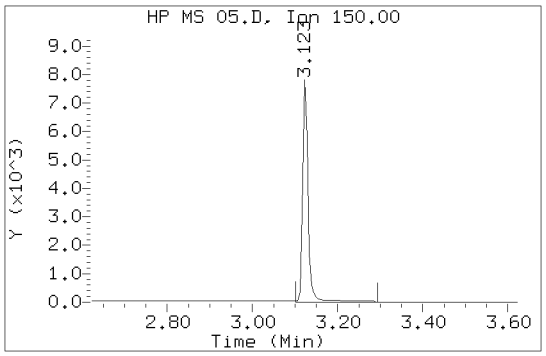
BEFORE

MASS
150
AREA
6954
HEIGHT
7812
16-Jun-2023
11:42
ALSHS
Server



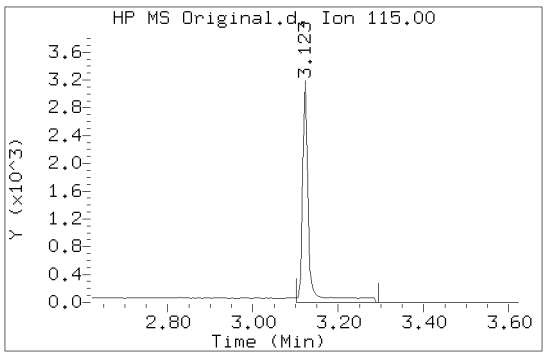
AFTER

MASS
150
AREA
6954
HEIGHT
7812
29-Jun-2023
14:26
ALSHS
Ser



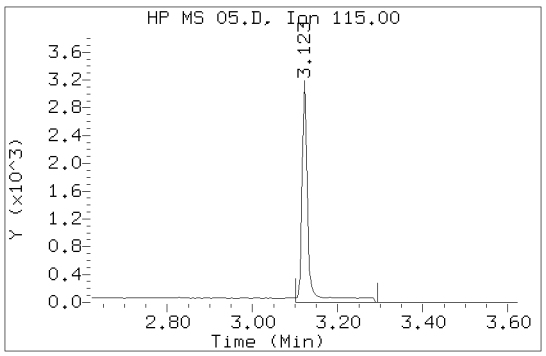
BEFORE

MASS
115
AREA
3189
HEIGHT
3190
16-Jun-2023
11:42
ALSHS
Server



AFTER

MASS
115
AREA
3189
HEIGHT
3190
29-Jun-2023
14:26
ALSHS
Ser

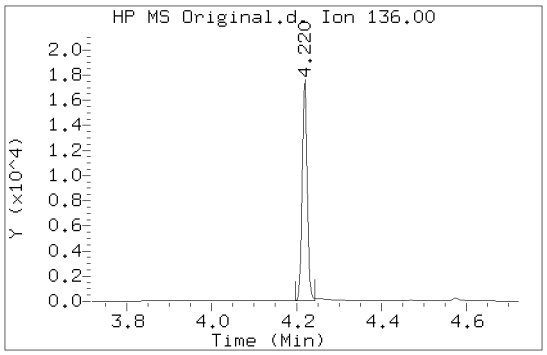


Naphthalene-d8 (1146-65-2)

Reason Code:

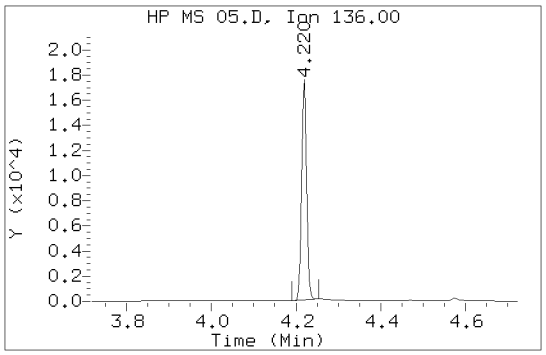
BEFORE

MASS
136
AREA
14851
HEIGHT
17567
16-Jun-2023
11:42
ALSHS
Server



AFTER

MASS
136
AREA
14672
HEIGHT
17505
29-Jun-2023
14:26
ALSHS
Ser



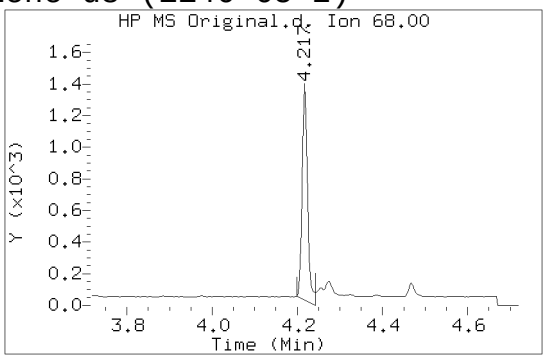
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Inj Date : 16-JUN-2023 11:26
InstruID : SV6.i
LabSampID : 14DXICAL-0.03

Naphthalene-d8 (1146-65-2)

Reason Code:

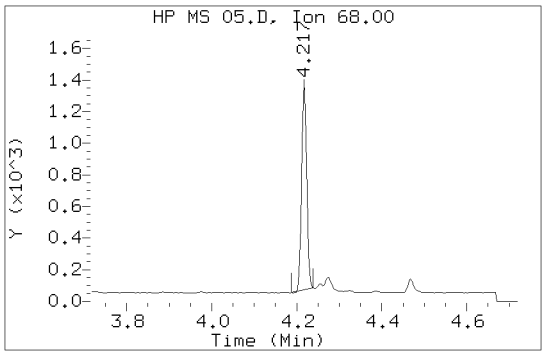
BEFORE

MASS
68
AREA
1196
HEIGHT
1368
16-Jun-2023
11:42
ALSHS
Server



AFTER

MASS
68
AREA
1062
HEIGHT
1328
29-Jun-2023
14:26
ALSHS
Ser

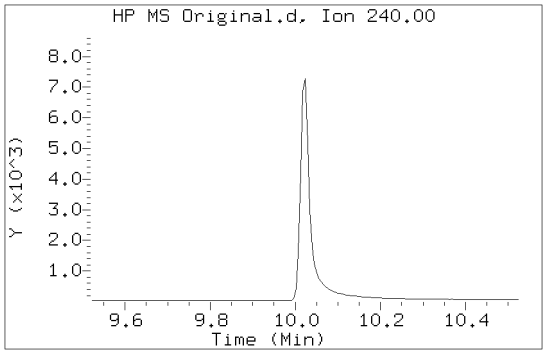


Chrysene-d12 (1719-03-5)

Reason Code:

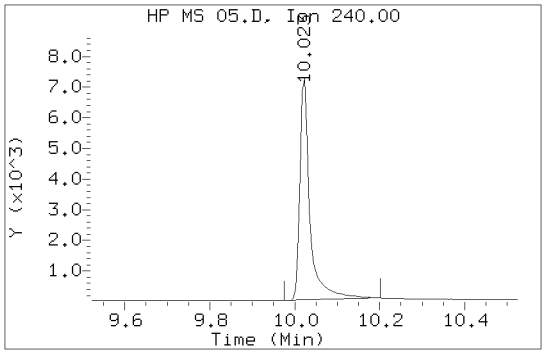
BEFORE

MASS
240
AREA
0
HEIGHT
0
16-Jun-2023
11:42
ALSHS
Server



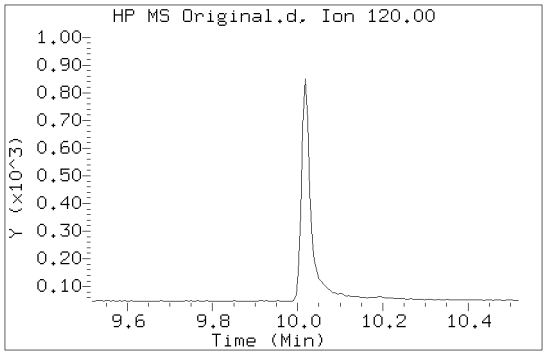
AFTER

MASS
240
AREA
11821
HEIGHT
7215
29-Jun-2023
14:26
ALSHS
Ser



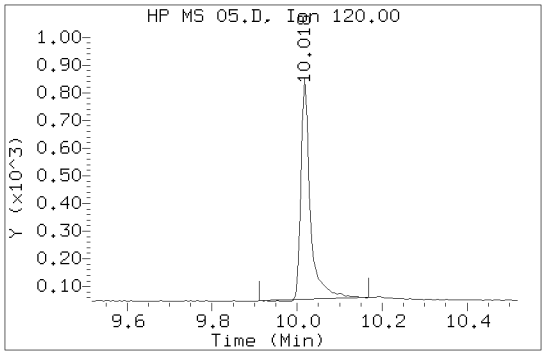
BEFORE

MASS
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AREA
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HEIGHT
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16-Jun-2023
11:42
ALSHS
Server



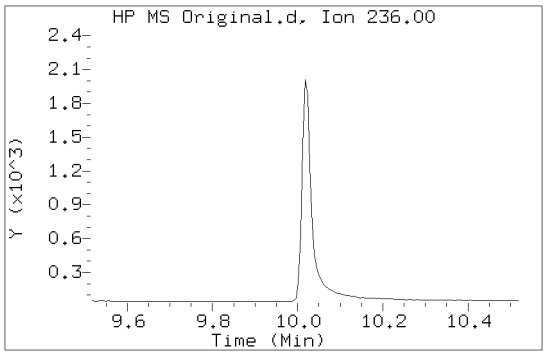
AFTER

MASS
120
AREA
1207
HEIGHT
796
29-Jun-2023
14:26
ALSHS
Ser



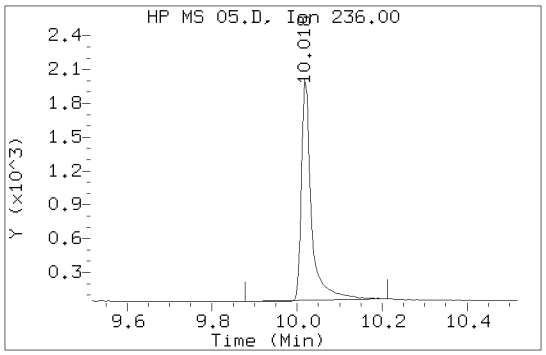
BEFORE

MASS
236
AREA
0
HEIGHT
0
16-Jun-2023
11:42
ALSHS
Server



AFTER

MASS
236
AREA
3185
HEIGHT
1956
29-Jun-2023
14:26
ALSHS
Ser



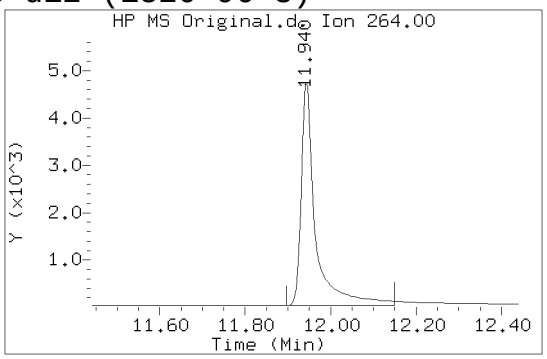
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Inj Date : 16-JUN-2023 11:26
InstruID : SV6.i
LabSampID : 14DXICAL-0.03

Perylene-d12 (1520-96-3)

Reason Code:

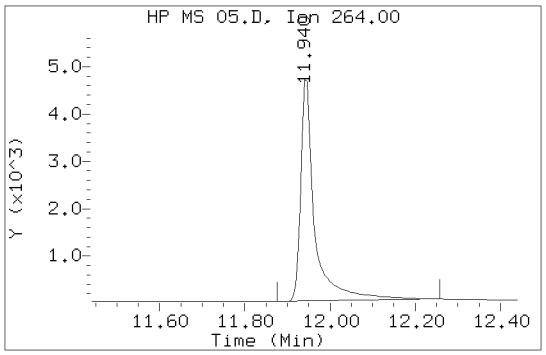
BEFORE

MASS
264
AREA
10829
HEIGHT
4681
16-Jun-2023
11:42
ALSHS
Server



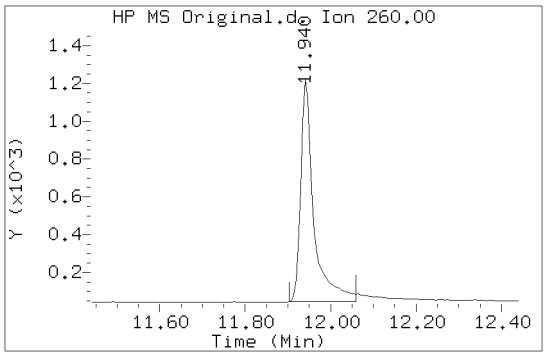
AFTER

MASS
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AREA
10677
HEIGHT
4673
29-Jun-2023
14:26
ALSHS
Ser



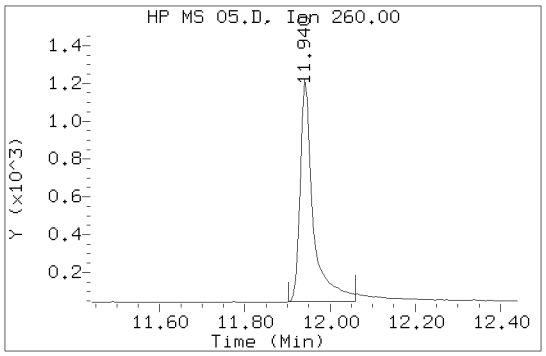
BEFORE

MASS
260
AREA
2488
HEIGHT
1174
16-Jun-2023
11:42
ALSHS
Server



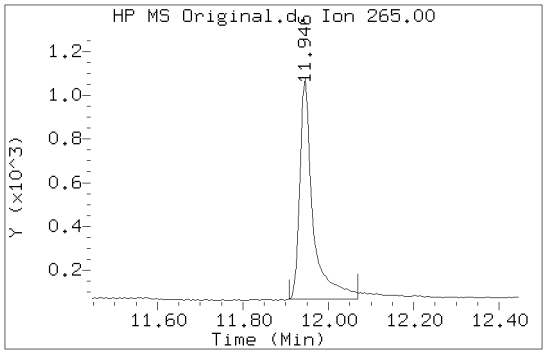
AFTER

MASS
260
AREA
2488
HEIGHT
1174
29-Jun-2023
14:26
ALSHS
Ser



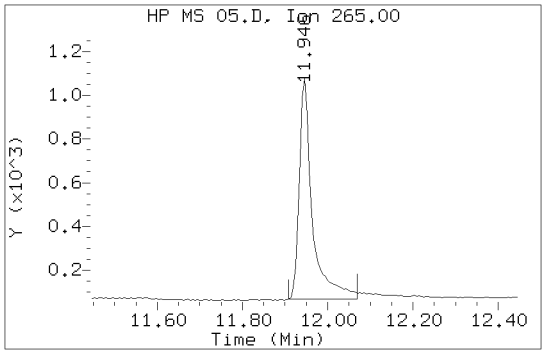
BEFORE

MASS
265
AREA
2154
HEIGHT
1009
16-Jun-2023
11:42
ALSHS
Server



AFTER

MASS
265
AREA
2154
HEIGHT
1009
29-Jun-2023
14:26
ALSHS
Ser

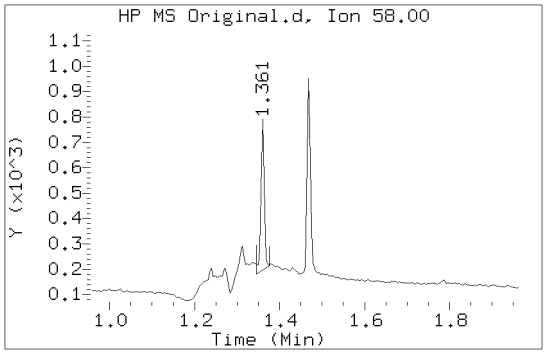


1,4-Dioxane ()

Reason Code:

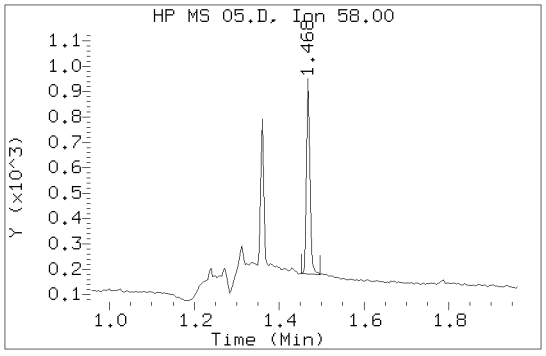
BEFORE

MASS
58
AREA
319
HEIGHT
594
16-Jun-2023
11:42
ALSHS
Server



AFTER

MASS
58
AREA
426
HEIGHT
768
29-Jun-2023
14:26
ALSHS
Ser



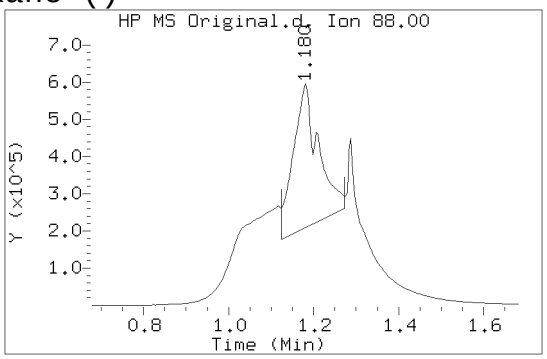
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\05.D
Inj Date : 16-JUN-2023 11:26
InstruID : SV6.i
LabSampID : 14DXICAL-0.03

1,4-Dioxane ()

Reason Code:

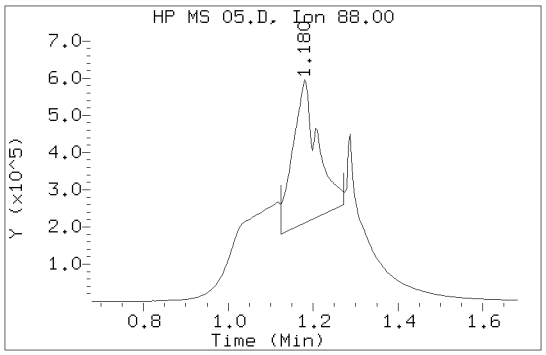
BEFORE

MASS
88
AREA
1599767
HEIGHT
386587
16-Jun-2023
11:42
ALSHS
Server



AFTER

MASS
88
AREA
1591467
HEIGHT
385442
29-Jun-2023
14:26
ALSHS
Ser

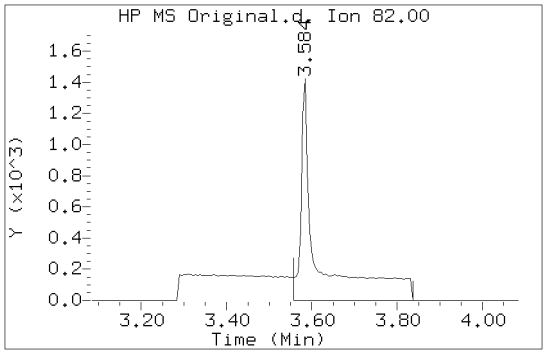


Nitrobenzene-d5 (4165-60-0)

Reason Code:

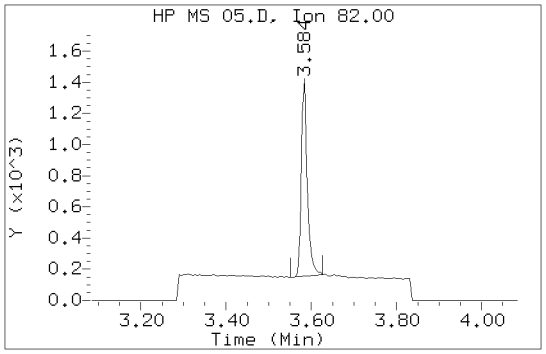
BEFORE

MASS
82
AREA
3739
HEIGHT
1423
16-Jun-2023
11:42
ALSHS
Server



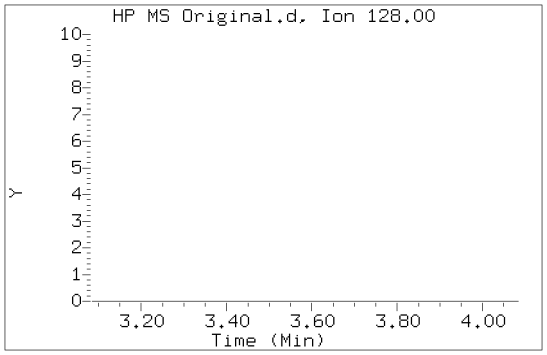
AFTER

MASS
82
AREA
1234
HEIGHT
1266
29-Jun-2023
14:26
ALSHS
Ser



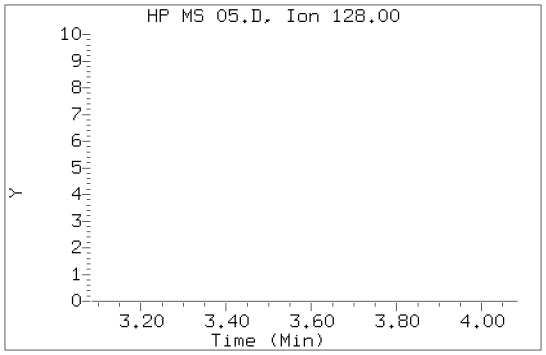
BEFORE

MASS
128
AREA
0
HEIGHT
0
16-Jun-2023
11:42
ALSHS
Server



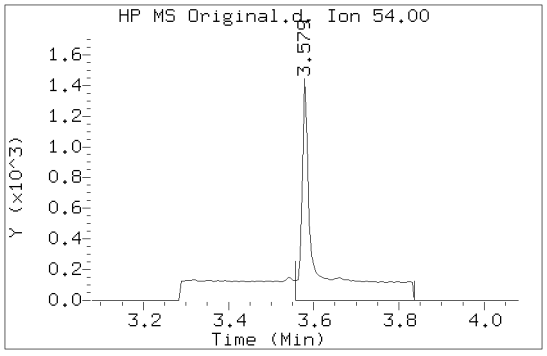
AFTER

MASS
128
AREA
0
HEIGHT
0
29-Jun-2023
14:26
ALSHS
Ser



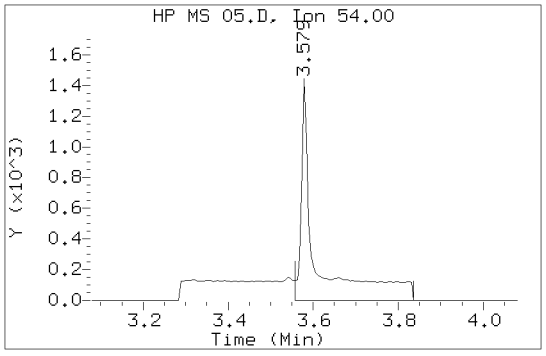
BEFORE

MASS
54
AREA
3364
HEIGHT
1444
16-Jun-2023
11:42
ALSHS
Server



AFTER

MASS
54
AREA
3364
HEIGHT
1444
29-Jun-2023
14:26
ALSHS
Ser



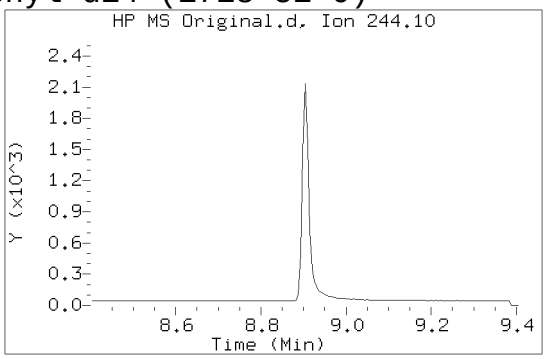
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\05.D
Inj Date : 16-JUN-2023 11:26
InstruID : SV6.i
LabSampID : 14DXICAL-0.03

4-Terphenyl-d14 (1718-51-0)

Reason Code:

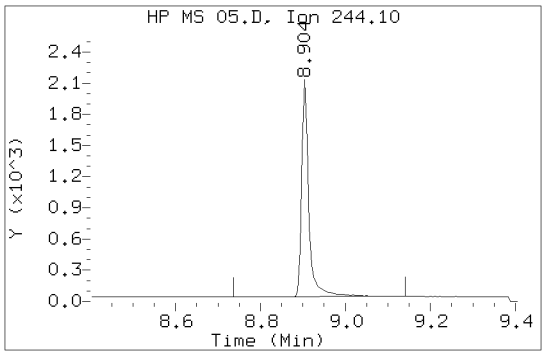
BEFORE

MASS
244.1
AREA
0
HEIGHT
0
16-Jun-2023
11:42
ALSHS
Server



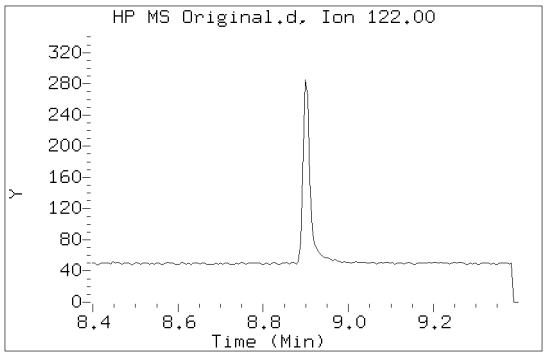
AFTER

MASS
244.1
AREA
2416
HEIGHT
2087
29-Jun-2023
14:26
ALSHS
Ser



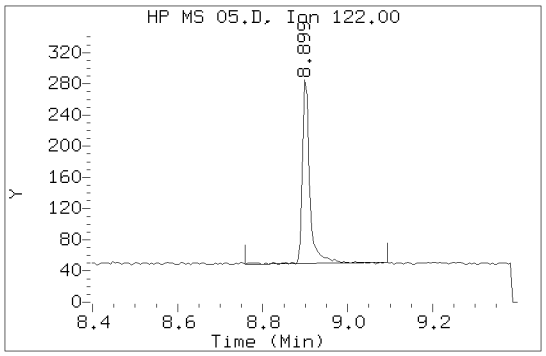
BEFORE

MASS
122
AREA
0
HEIGHT
0
16-Jun-2023
11:42
ALSHS
Server



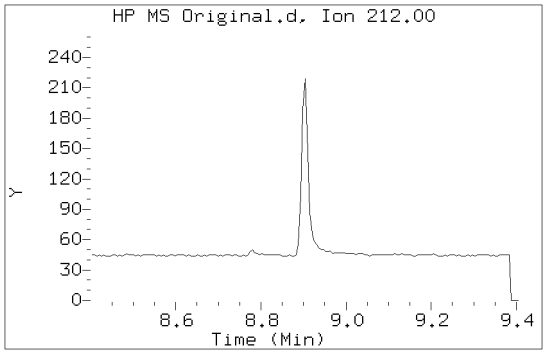
AFTER

MASS
122
AREA
278
HEIGHT
235
29-Jun-2023
14:26
ALSHS
Ser



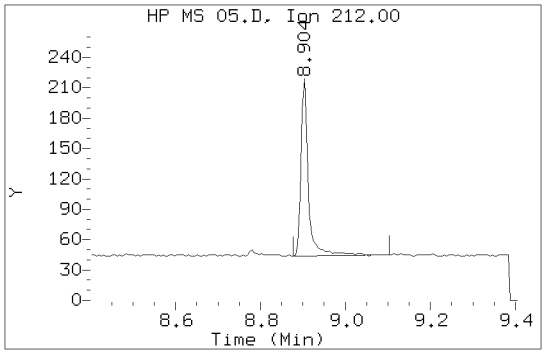
BEFORE

MASS
212
AREA
0
HEIGHT
0
16-Jun-2023
11:42
ALSHS
Server



AFTER

MASS
212
AREA
205
HEIGHT
174
29-Jun-2023
14:26
ALSHS
Ser

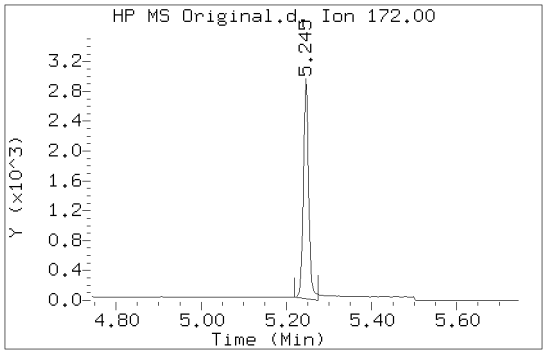


2-Fluorobiphenyl (321-60-8)

Reason Code:

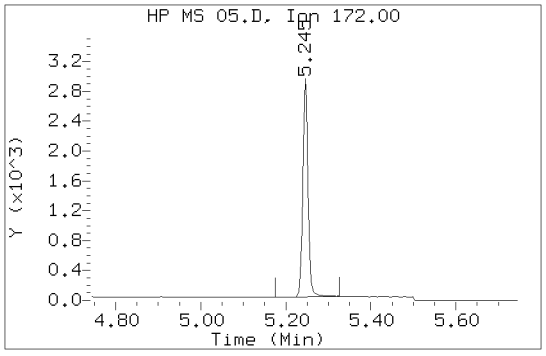
BEFORE

MASS
172
AREA
2588
HEIGHT
2943
16-Jun-2023
11:42
ALSHS
Server



AFTER

MASS
172
AREA
2509
HEIGHT
2918
29-Jun-2023
14:26
ALSHS
Ser



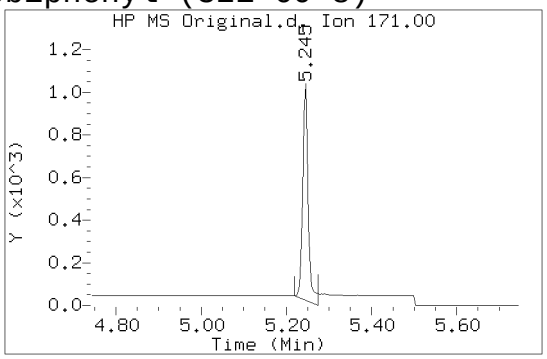
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\05.D
Inj Date : 16-JUN-2023 11:26
InstruID : SV6.i
LabSampID : 14DXICAL-0.03

2-Fluorobiphenyl (321-60-8)

Reason Code:

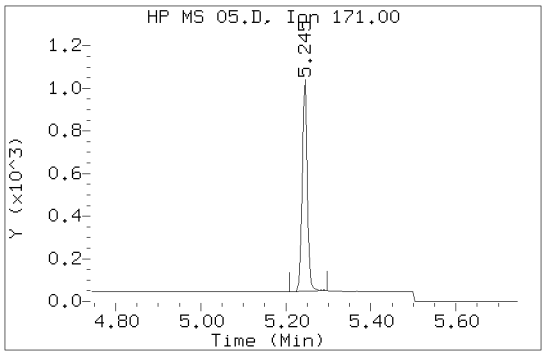
BEFORE

MASS
171
AREA
921
HEIGHT
1017
16-Jun-2023
11:42
ALSHS
Server



AFTER

MASS
171
AREA
834
HEIGHT
993
29-Jun-2023
14:26
ALSHS
Ser



ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\230616.b\06.D
Lab Smp Id: 14DXICAL-0.05 Client Smp ID: 14DXICAL-0.05
Inj Date : 16-JUN-2023 11:44
Operator : LG Inst ID: SV6.i
Smp Info : 14DXICAL-0.05
Misc Info : ;;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\SV6.i\230616.b\DXSIM.m
Meth Date : 29-Jun-2023 14:27 SV6.i Quant Type: ISTD
Cal Date : 16-JUN-2023 11:26 Cal File: 05.D
Als bottle: 6 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	AMOUNTS ON-COL (NG)
* 20 1,4-Dichlorobenzene-d4	152	3.128	3.128	(1.000)	5073	0.10000	(a)
* 45 Naphthalene-d8	136	4.216	4.216	(1.000)	17044	0.10000	(M)
$ 33 Nitrobenzene-d5	82	3.584	3.584	(0.850)	2574	0.05000	0.04995(QM)
* 86 Acenaphthene-d10	164	5.883	5.883	(1.000)	10027	0.10000	(M)
$ 69 2-Fluorobiphenyl	172	5.245	5.245	(0.891)	4907	0.05000	0.04778(M)
* 126 Phenanthrene-d10	188	7.322	7.322	(1.000)	19800	0.10000	
* 182 Chrysene-d12	240	10.017	10.017	(1.000)	14524	0.10000	(M)
$ 158 4-Terphenyl-d14	244	8.904	8.904	(0.889)	4687	0.05000	0.04422(M)
* 198 Perylene-d12	264	11.940	11.940	(1.000)	12549	0.10000	(M)
1 1,4-Dioxane	58	1.486	1.486	(0.475)	828	0.05000	0.04846(QM)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.

01246865

Data File: \\NAHSTWS005\Target\chem\SV6.i\230616.b\06.D

Date : 16-JUN-2023 11:44

Client ID: 14DXICAL-0.05

Instrument: SV6.i

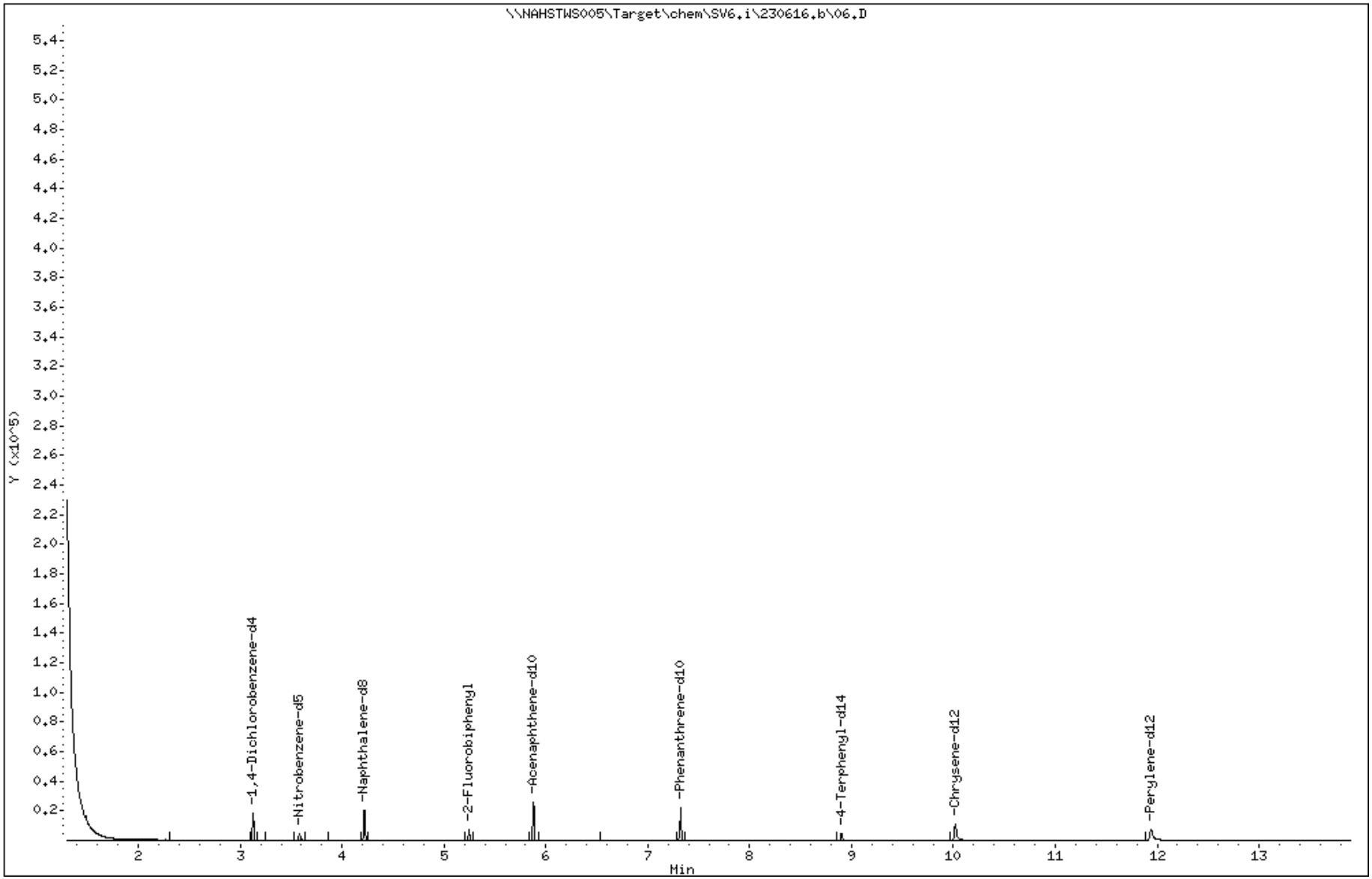
Sample Info: 14DXICAL-0.05

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28



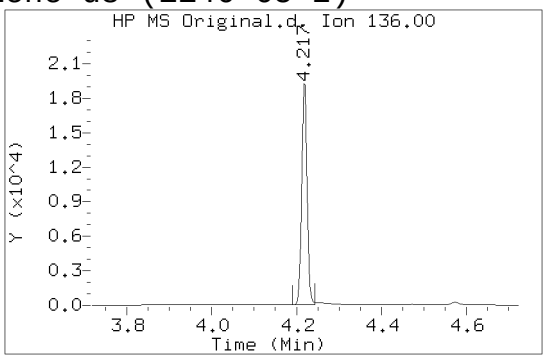
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\06.D
Inj Date : 16-JUN-2023 11:44
InstruID : SV6.i
LabSampID : 14DXICAL-0.05

Naphthalene-d8 (1146-65-2)

Reason Code:

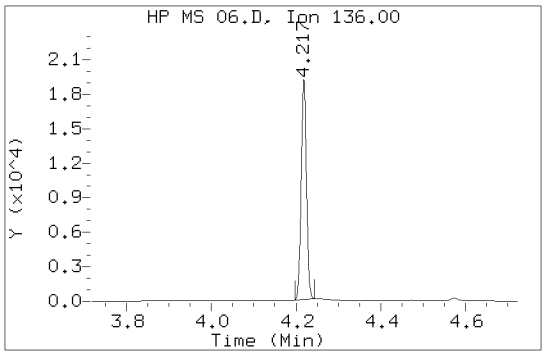
BEFORE

MASS
136
AREA
17378
HEIGHT
19211
16-Jun-2023
11:59
ALSHS
Server



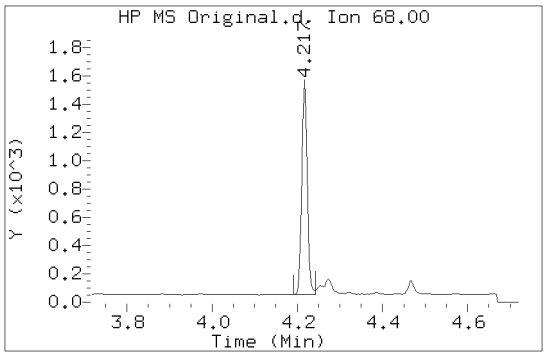
AFTER

MASS
136
AREA
17044
HEIGHT
19106
29-Jun-2023
14:26
ALSHS
Ser



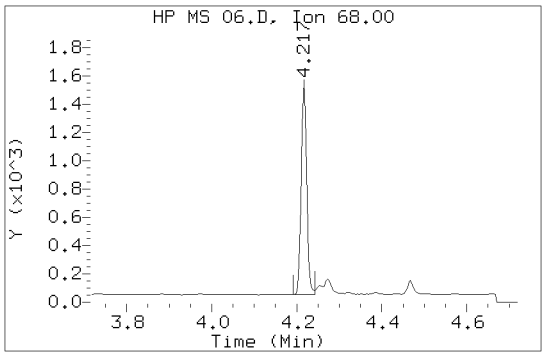
BEFORE

MASS
68
AREA
1330
HEIGHT
1515
16-Jun-2023
11:59
ALSHS
Server



AFTER

MASS
68
AREA
1330
HEIGHT
1515
29-Jun-2023
14:26
ALSHS
Ser

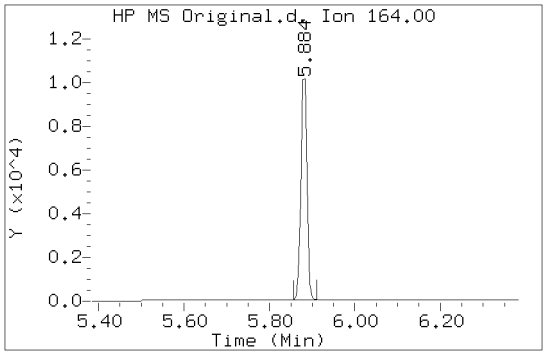


Acenaphthene-d10 (15067-26-2)

Reason Code:

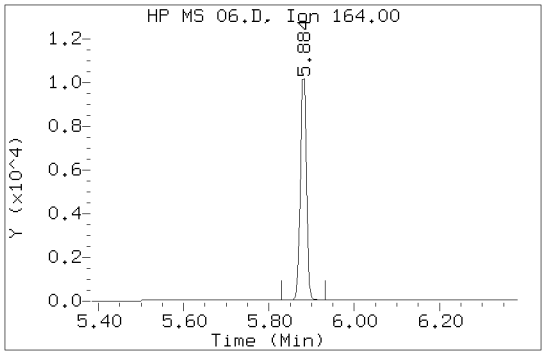
BEFORE

MASS
164
AREA
9969
HEIGHT
10109
16-Jun-2023
11:59
ALSHS
Server



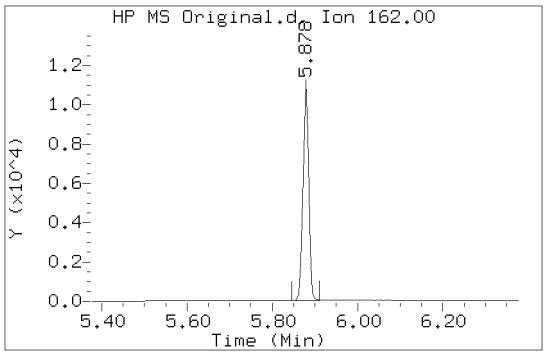
AFTER

MASS
164
AREA
10027
HEIGHT
10124
29-Jun-2023
14:26
ALSHS
Ser



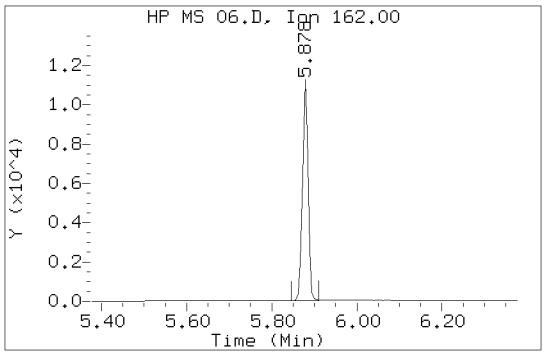
BEFORE

MASS
162
AREA
10122
HEIGHT
11230
16-Jun-2023
11:59
ALSHS
Server



AFTER

MASS
162
AREA
10122
HEIGHT
11230
29-Jun-2023
14:26
ALSHS
Ser



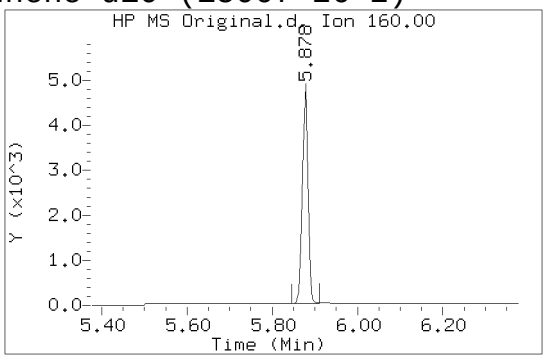
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\06.D
Inj Date : 16-JUN-2023 11:44
InstruID : SV6.i
LabSampID : 14DXICAL-0.05

Acenaphthene-d10 (15067-26-2)

Reason Code:

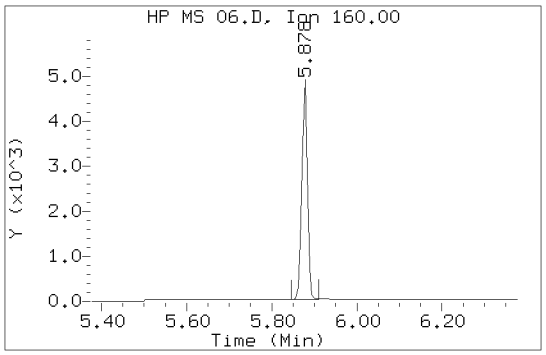
BEFORE

MASS
160
AREA
4359
HEIGHT
4881
16-Jun-2023
11:59
ALSHS
Server



AFTER

MASS
160
AREA
4359
HEIGHT
4881
29-Jun-2023
14:26
ALSHS
Ser

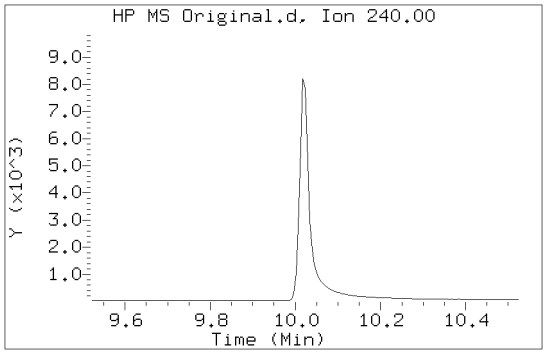


Chrysene-d12 (1719-03-5)

Reason Code:

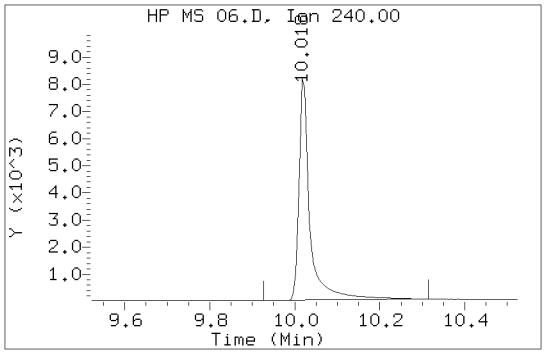
BEFORE

MASS
240
AREA
0
HEIGHT
0
16-Jun-2023
11:59
ALSHS
Server



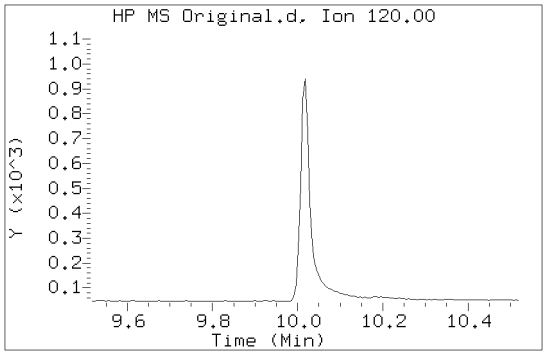
AFTER

MASS
240
AREA
14524
HEIGHT
8152
29-Jun-2023
14:26
ALSHS
Ser



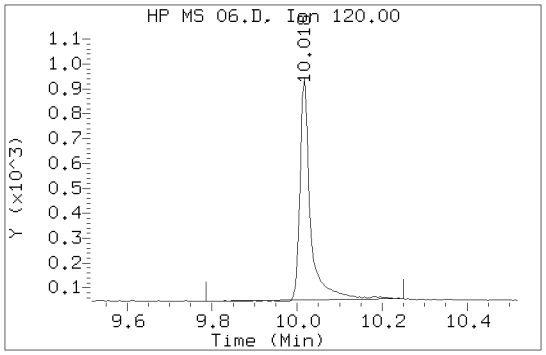
BEFORE

MASS
120
AREA
0
HEIGHT
0
16-Jun-2023
11:59
ALSHS
Server



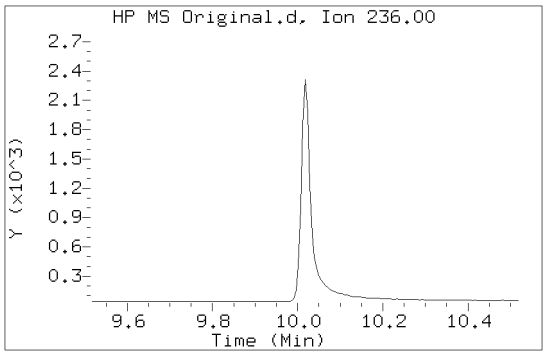
AFTER

MASS
120
AREA
1511
HEIGHT
888
29-Jun-2023
14:26
ALSHS
Ser



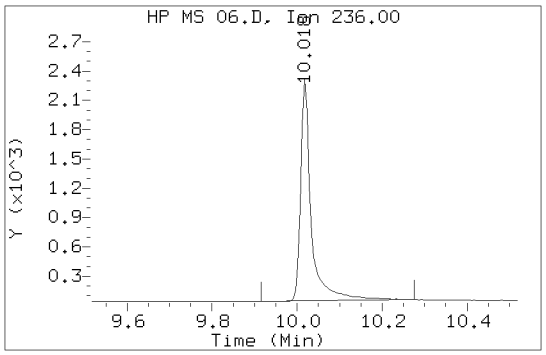
BEFORE

MASS
236
AREA
0
HEIGHT
0
16-Jun-2023
11:59
ALSHS
Server



AFTER

MASS
236
AREA
3903
HEIGHT
2262
29-Jun-2023
14:26
ALSHS
Ser



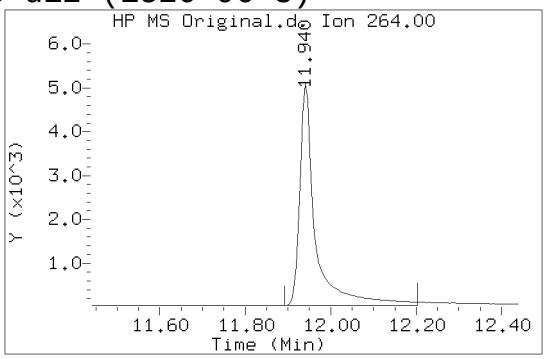
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\06.D
Inj Date : 16-JUN-2023 11:44
InstruID : SV6.i
LabSampID : 14DXICAL-0.05

Perylene-d12 (1520-96-3)

Reason Code:

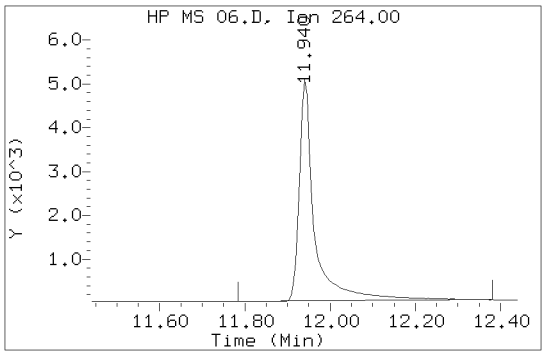
BEFORE

MASS
264
AREA
12686
HEIGHT
5050
16-Jun-2023
11:59
ALSHS
Server



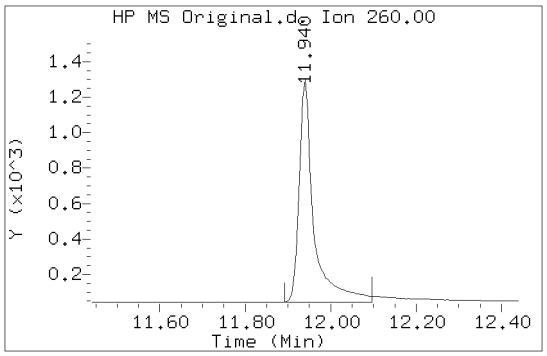
AFTER

MASS
264
AREA
12549
HEIGHT
5041
29-Jun-2023
14:26
ALSHS
Ser



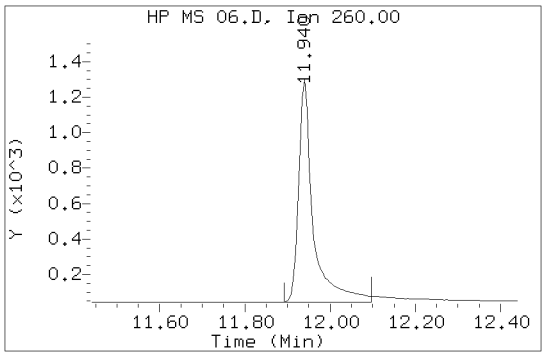
BEFORE

MASS
260
AREA
2978
HEIGHT
1253
16-Jun-2023
11:59
ALSHS
Server



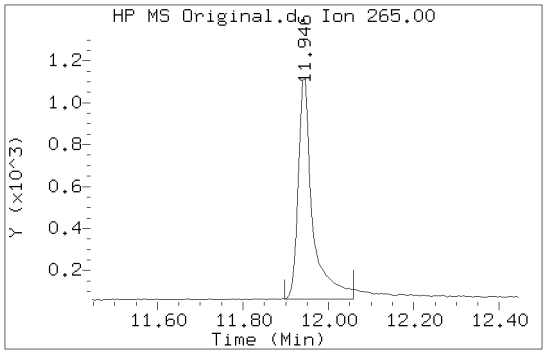
AFTER

MASS
260
AREA
2978
HEIGHT
1253
29-Jun-2023
14:26
ALSHS
Ser



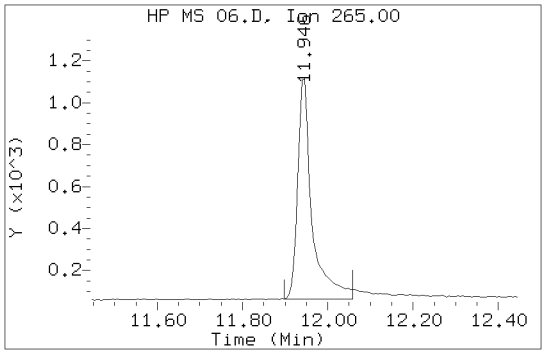
BEFORE

MASS
265
AREA
2473
HEIGHT
1053
16-Jun-2023
11:59
ALSHS
Server



AFTER

MASS
265
AREA
2473
HEIGHT
1053
29-Jun-2023
14:26
ALSHS
Ser

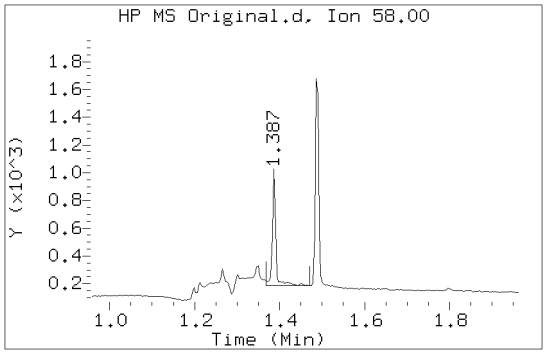


1,4-Dioxane ()

Reason Code:

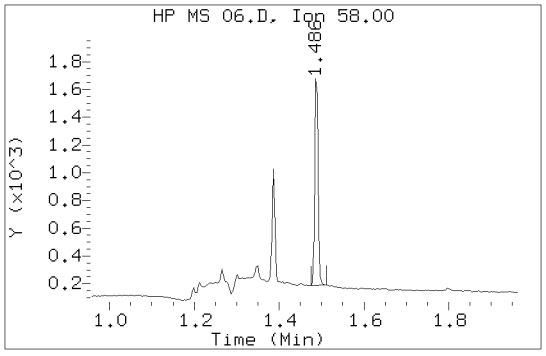
BEFORE

MASS
58
AREA
474
HEIGHT
839
16-Jun-2023
11:59
ALSHS
Server



AFTER

MASS
58
AREA
828
HEIGHT
1488
29-Jun-2023
14:26
ALSHS
Ser



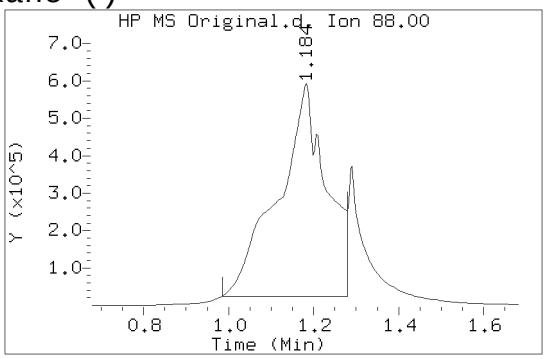
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\06.D
Inj Date : 16-JUN-2023 11:44
InstruID : SV6.i
LabSampID : 14DXICAL-0.05

1,4-Dioxane ()

Reason Code:

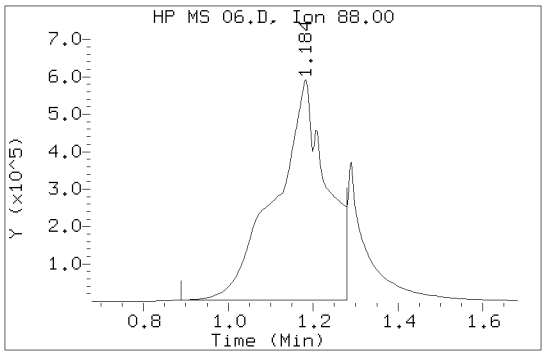
BEFORE

MASS
88
AREA
4490753
HEIGHT
567696
16-Jun-2023
11:59
ALSHS
Server



AFTER

MASS
88
AREA
4905096
HEIGHT
589066
29-Jun-2023
14:26
ALSHS
Ser

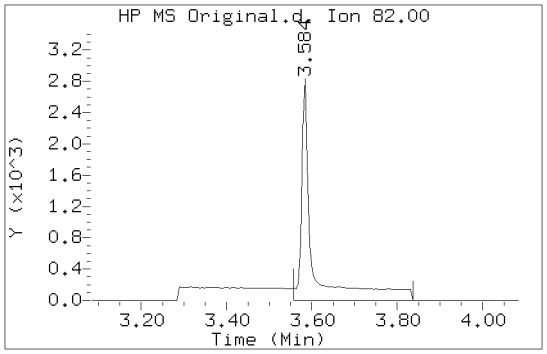


Nitrobenzene-d5 (4165-60-0)

Reason Code:

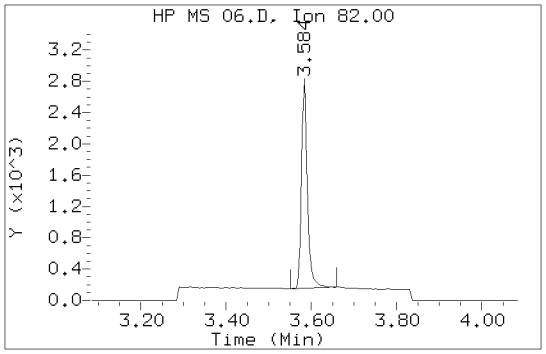
BEFORE

MASS
82
AREA
5121
HEIGHT
2833
16-Jun-2023
11:59
ALSHS
Server



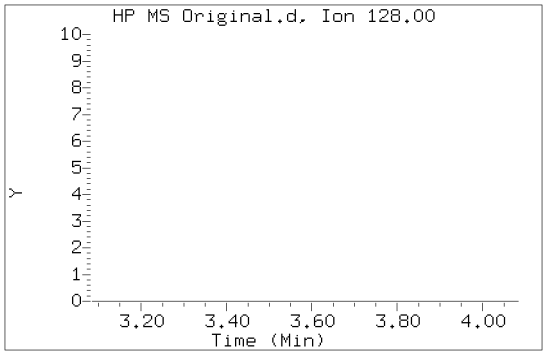
AFTER

MASS
82
AREA
2574
HEIGHT
2676
29-Jun-2023
14:26
ALSHS
Ser



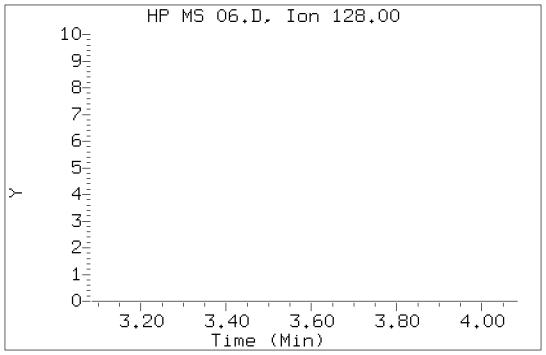
BEFORE

MASS
128
AREA
0
HEIGHT
0
16-Jun-2023
11:59
ALSHS
Server



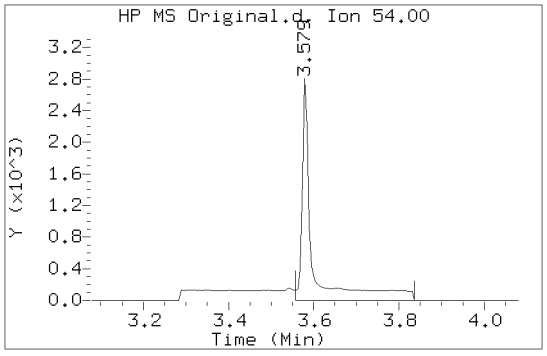
AFTER

MASS
128
AREA
0
HEIGHT
0
29-Jun-2023
14:26
ALSHS
Ser



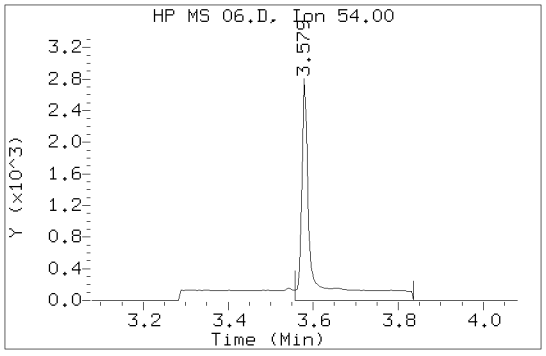
BEFORE

MASS
54
AREA
4709
HEIGHT
2805
16-Jun-2023
11:59
ALSHS
Server



AFTER

MASS
54
AREA
4709
HEIGHT
2805
29-Jun-2023
14:26
ALSHS
Ser



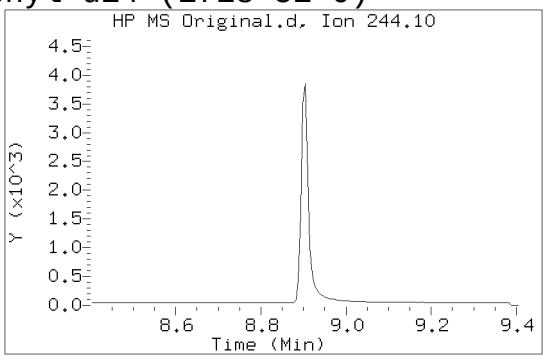
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\06.D
Inj Date : 16-JUN-2023 11:44
InstruID : SV6.i
LabSampID : 14DXICAL-0.05

4-Terphenyl-d14 (1718-51-0)

Reason Code:

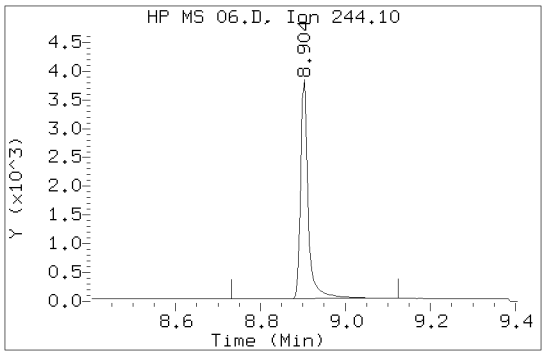
BEFORE

MASS
244.1
AREA
0
HEIGHT
0
16-Jun-2023
11:59
ALSHS
Server



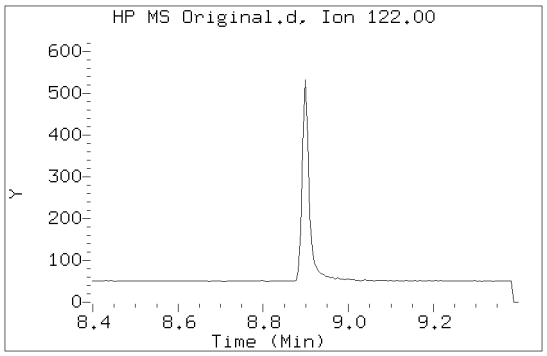
AFTER

MASS
244.1
AREA
4687
HEIGHT
3802
29-Jun-2023
14:26
ALSHS
Ser



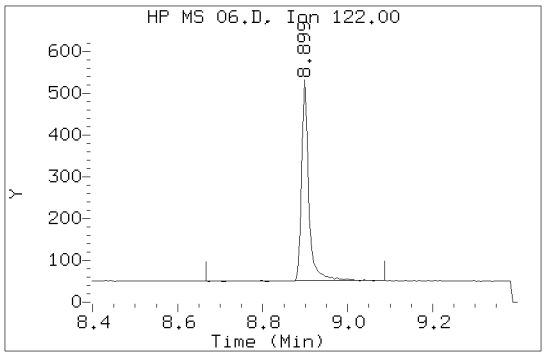
BEFORE

MASS
122
AREA
0
HEIGHT
0
16-Jun-2023
11:59
ALSHS
Server



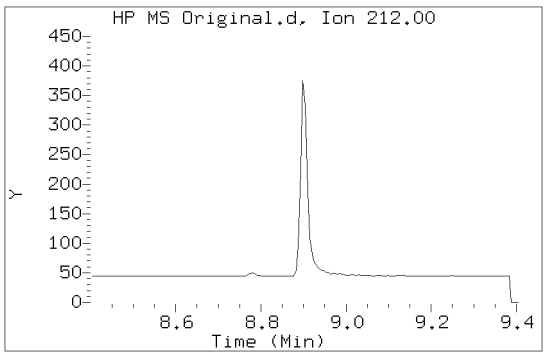
AFTER

MASS
122
AREA
540
HEIGHT
480
29-Jun-2023
14:26
ALSHS
Ser



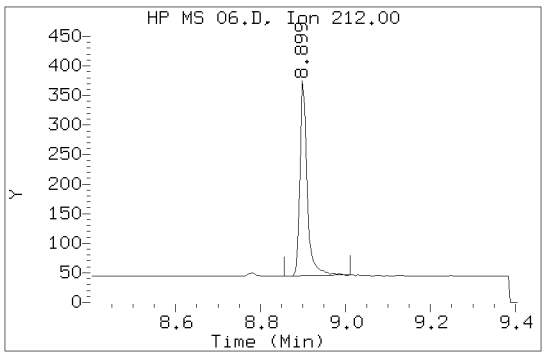
BEFORE

MASS
212
AREA
0
HEIGHT
0
16-Jun-2023
11:59
ALSHS
Server



AFTER

MASS
212
AREA
383
HEIGHT
330
29-Jun-2023
14:26
ALSHS
Ser

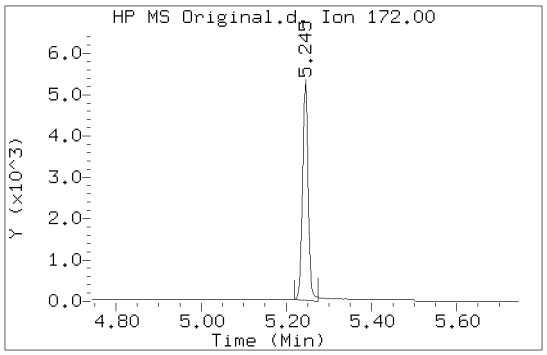


2-Fluorobiphenyl (321-60-8)

Reason Code:

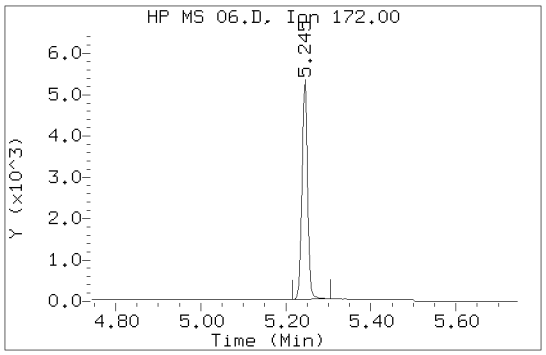
BEFORE

MASS
172
AREA
4989
HEIGHT
5338
16-Jun-2023
11:59
ALSHS
Server



AFTER

MASS
172
AREA
4907
HEIGHT
5312
29-Jun-2023
14:26
ALSHS
Ser



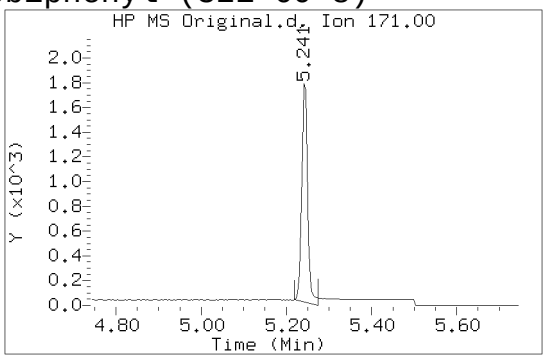
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\06.D
Inj Date : 16-JUN-2023 11:44
InstruID : SV6.i
LabSampID : 14DXICAL-0.05

2-Fluorobiphenyl (321-60-8)

Reason Code:

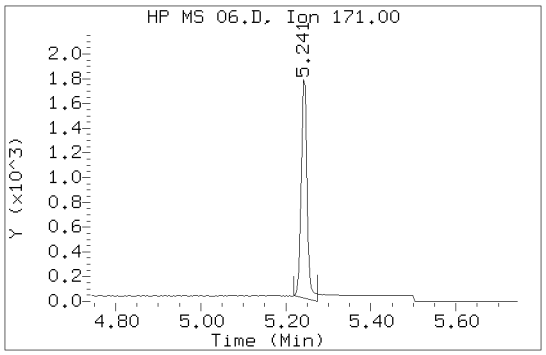
BEFORE

MASS
171
AREA
1727
HEIGHT
1764
16-Jun-2023
11:59
ALSHS
Server



AFTER

MASS
171
AREA
1727
HEIGHT
1764
29-Jun-2023
14:26
ALSHS
Ser



ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\230616.b\07.D
Lab Smp Id: 14DXICAL-0.08 Client Smp ID: 14DXICAL-0.08
Inj Date : 16-JUN-2023 12:02
Operator : LG Inst ID: SV6.i
Smp Info : 14DXICAL-0.08
Misc Info : ;;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\SV6.i\230616.b\DXSIM.m
Meth Date : 29-Jun-2023 14:27 SV6.i Quant Type: ISTD
Cal Date : 16-JUN-2023 11:44 Cal File: 06.D
Als bottle: 7 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 20 1,4-Dichlorobenzene-d4	152	3.128	3.128	(1.000)	4590	0.10000	(a)
* 45 Naphthalene-d8	136	4.220	4.220	(1.000)	15619	0.10000	(M)
$ 33 Nitrobenzene-d5	82	3.584	3.584	(0.849)	4012	0.08000	0.08496(M)
* 86 Acenaphthene-d10	164	5.883	5.883	(1.000)	9075	0.10000	(M)
$ 69 2-Fluorobiphenyl	172	5.245	5.245	(0.891)	7759	0.08000	0.08348
* 126 Phenanthrene-d10	188	7.322	7.322	(1.000)	18261	0.10000	
* 182 Chrysene-d12	240	10.017	10.017	(1.000)	12097	0.10000	(M)
$ 158 4-Terphenyl-d14	244	8.904	8.904	(0.889)	7185	0.08000	0.08138(M)
* 198 Perylene-d12	264	11.940	11.940	(1.000)	10759	0.10000	(M)
1 1,4-Dioxane	58	1.482	1.482	(0.474)	1283	0.08000	0.08298(QH)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

01246873

Data File: \\NAHSTWS005\Target\chem\SV6.i\230616.b\07.D

Date : 16-JUN-2023 12:02

Client ID: 14DXICAL-0.08

Instrument: SV6.i

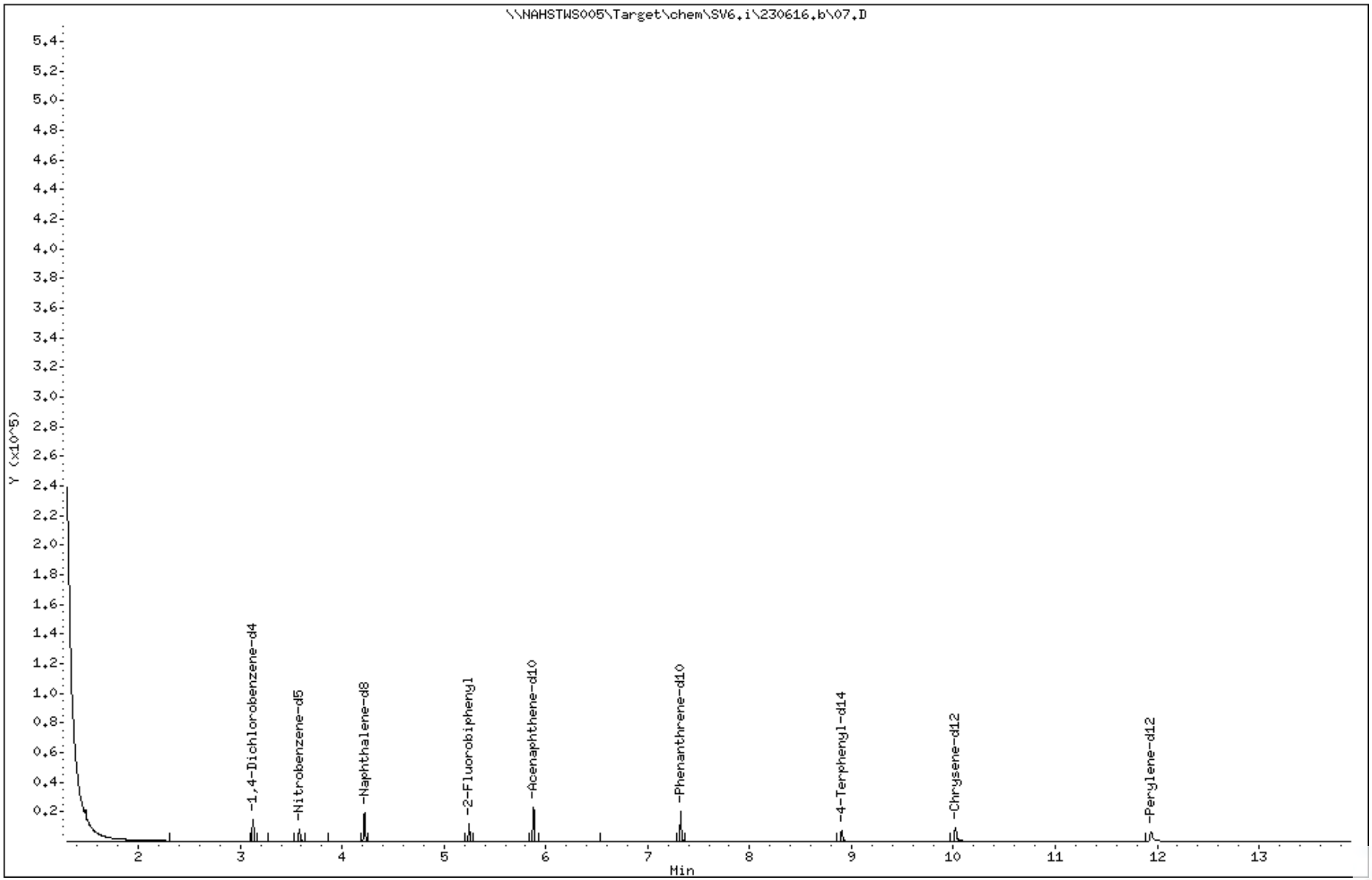
Sample Info: 14DXICAL-0.08

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28



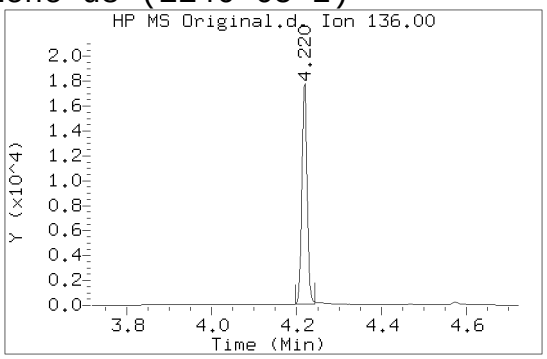
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\07.D
Inj Date : 16-JUN-2023 12:02
InstruID : SV6.i
LabSampID : 14DXICAL-0.08

Naphthalene-d8 (1146-65-2)

Reason Code:

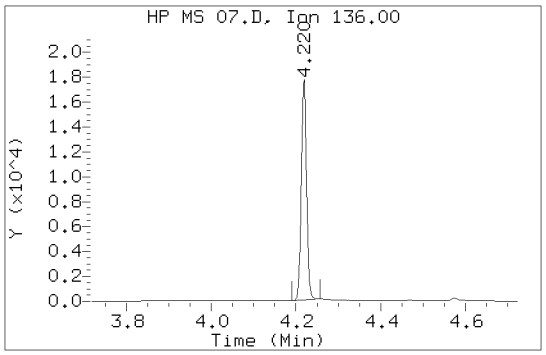
BEFORE

MASS
136
AREA
15744
HEIGHT
17718
16-Jun-2023
12:18
ALSHS
Server



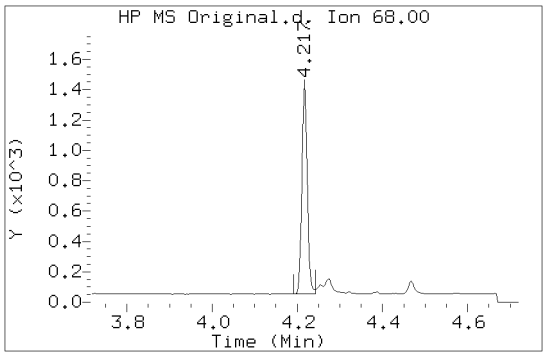
AFTER

MASS
136
AREA
15619
HEIGHT
17670
29-Jun-2023
14:26
ALSHS
Ser



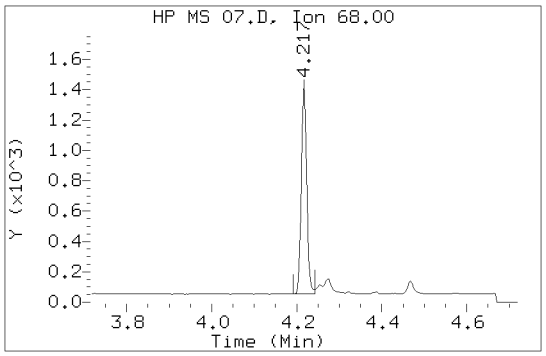
BEFORE

MASS
68
AREA
1209
HEIGHT
1411
16-Jun-2023
12:18
ALSHS
Server



AFTER

MASS
68
AREA
1209
HEIGHT
1411
29-Jun-2023
14:26
ALSHS
Ser

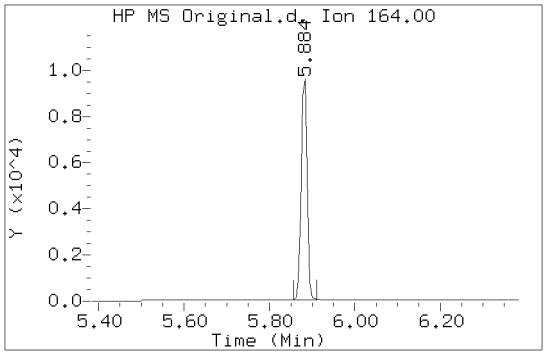


Acenaphthene-d10 (15067-26-2)

Reason Code:

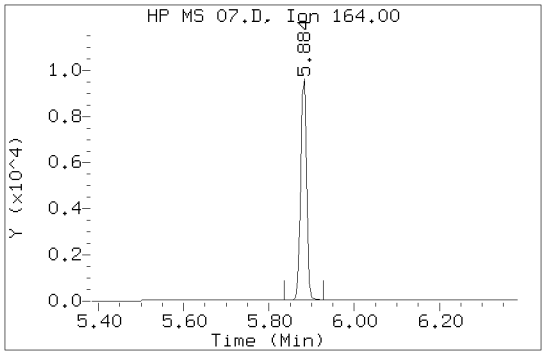
BEFORE

MASS
164
AREA
9060
HEIGHT
9568
16-Jun-2023
12:18
ALSHS
Server



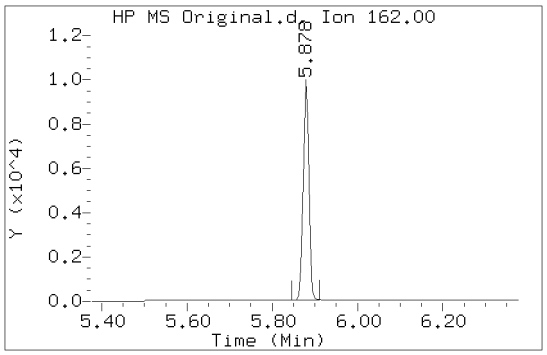
AFTER

MASS
164
AREA
9075
HEIGHT
9571
29-Jun-2023
14:26
ALSHS
Ser



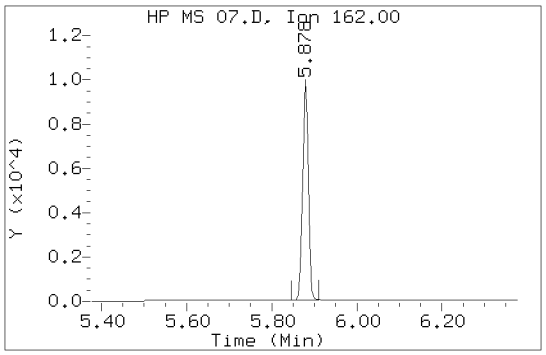
BEFORE

MASS
162
AREA
9173
HEIGHT
9961
16-Jun-2023
12:18
ALSHS
Server



AFTER

MASS
162
AREA
9173
HEIGHT
9961
29-Jun-2023
14:26
ALSHS
Ser



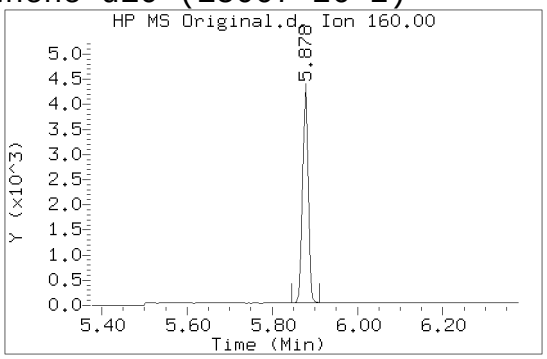
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\07.D
Inj Date : 16-JUN-2023 12:02
InstruID : SV6.i
LabSampID : 14DXICAL-0.08

Acenaphthene-d10 (15067-26-2)

Reason Code:

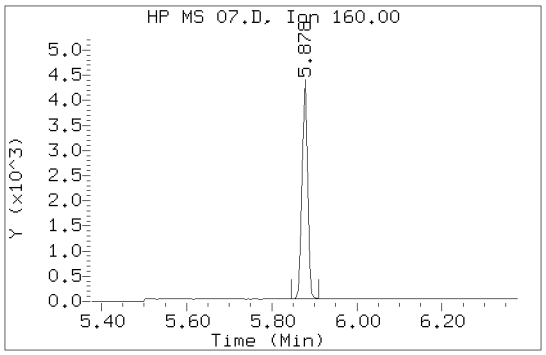
BEFORE

MASS
160
AREA
3928
HEIGHT
4365
16-Jun-2023
12:18
ALSHS
Server



AFTER

MASS
160
AREA
3928
HEIGHT
4365
29-Jun-2023
14:26
ALSHS
Ser

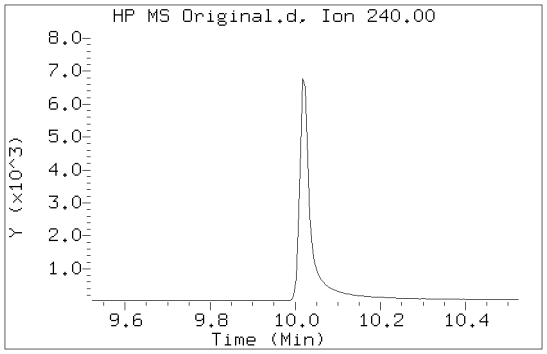


Chrysene-d12 (1719-03-5)

Reason Code:

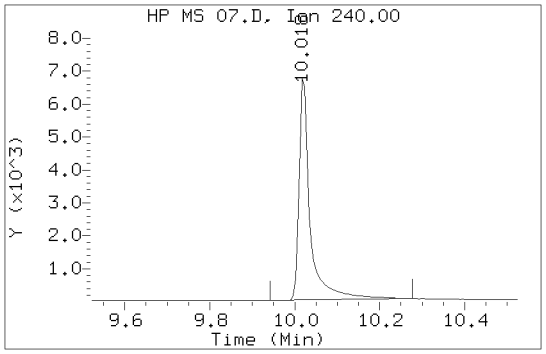
BEFORE

MASS
240
AREA
0
HEIGHT
0
16-Jun-2023
12:18
ALSHS
Server



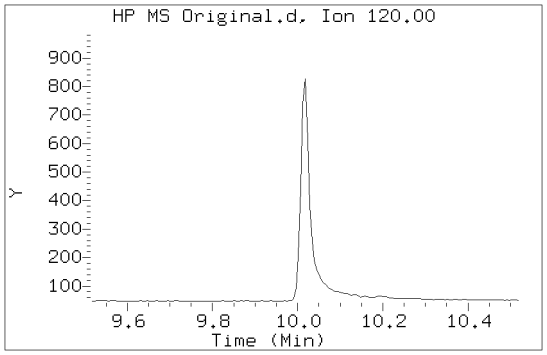
AFTER

MASS
240
AREA
12097
HEIGHT
6713
29-Jun-2023
14:26
ALSHS
Ser



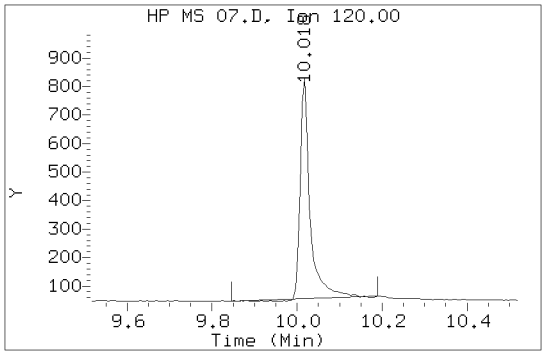
BEFORE

MASS
120
AREA
0
HEIGHT
0
16-Jun-2023
12:18
ALSHS
Server



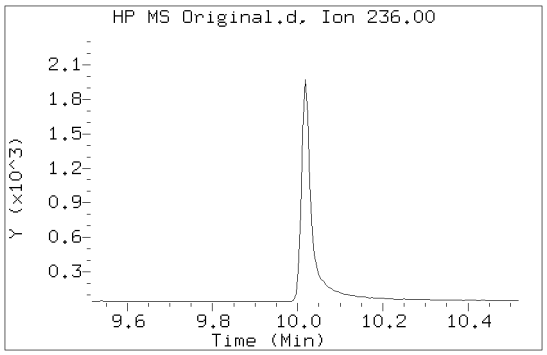
AFTER

MASS
120
AREA
1207
HEIGHT
771
29-Jun-2023
14:26
ALSHS
Ser



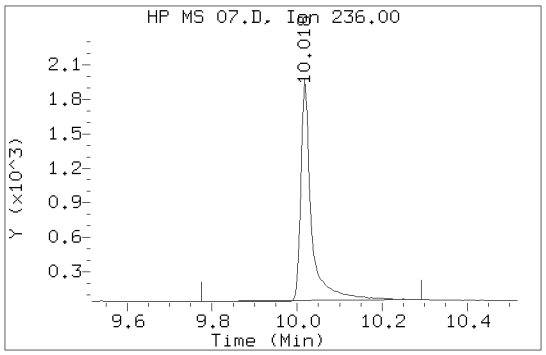
BEFORE

MASS
236
AREA
0
HEIGHT
0
16-Jun-2023
12:18
ALSHS
Server



AFTER

MASS
236
AREA
3279
HEIGHT
1919
29-Jun-2023
14:26
ALSHS
Ser



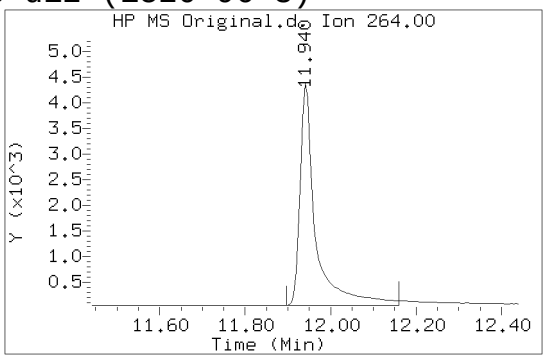
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\07.D
Inj Date : 16-JUN-2023 12:02
InstruID : SV6.i
LabSampID : 14DXICAL-0.08

Perylene-d12 (1520-96-3)

Reason Code:

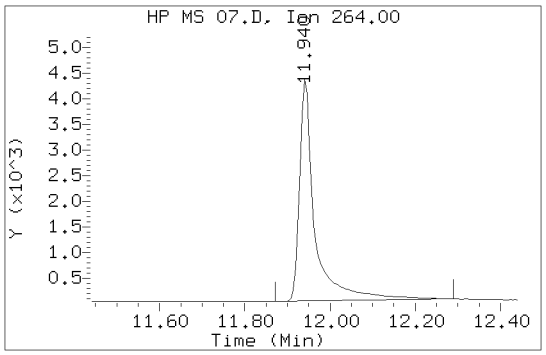
BEFORE

MASS
264
AREA
10879
HEIGHT
4324
16-Jun-2023
12:18
ALSHS
Server



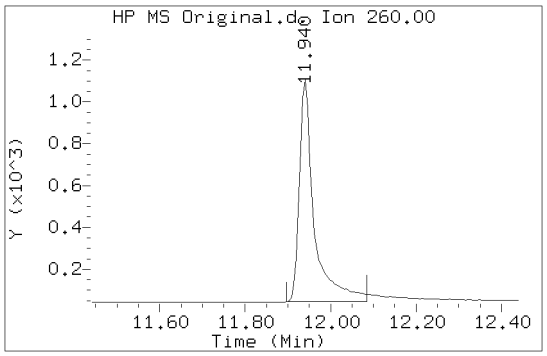
AFTER

MASS
264
AREA
10759
HEIGHT
4317
29-Jun-2023
14:26
ALSHS
Ser



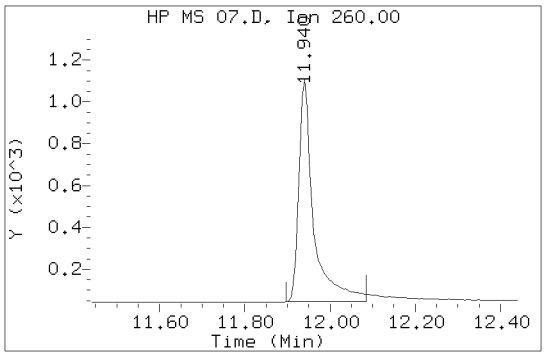
BEFORE

MASS
260
AREA
2559
HEIGHT
1060
16-Jun-2023
12:18
ALSHS
Server



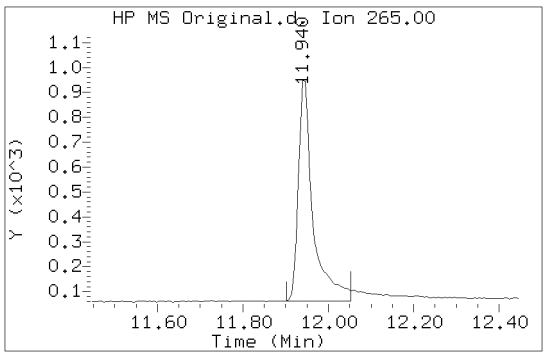
AFTER

MASS
260
AREA
2559
HEIGHT
1060
29-Jun-2023
14:26
ALSHS
Ser



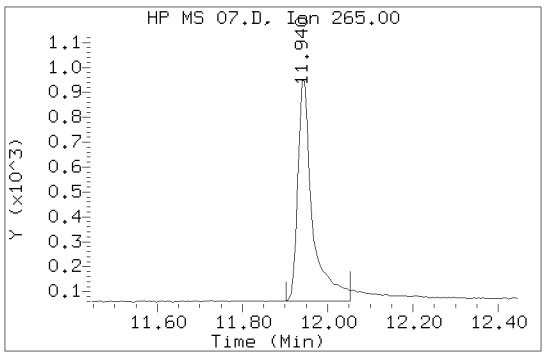
BEFORE

MASS
265
AREA
2115
HEIGHT
884
16-Jun-2023
12:18
ALSHS
Server



AFTER

MASS
265
AREA
2115
HEIGHT
884
29-Jun-2023
14:26
ALSHS
Ser

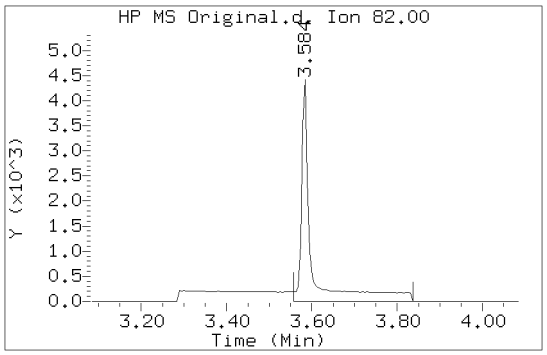


Nitrobenzene-d5 (4165-60-0)

Reason Code:

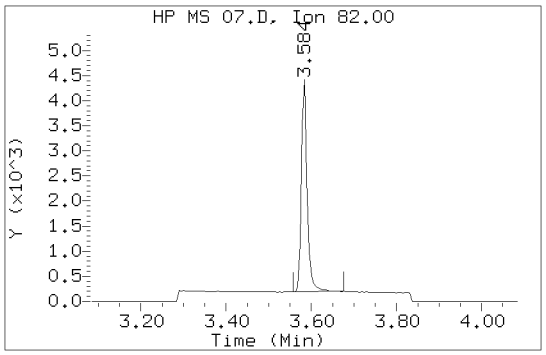
BEFORE

MASS
82
AREA
7140
HEIGHT
4418
16-Jun-2023
12:18
ALSHS
Server



AFTER

MASS
82
AREA
4012
HEIGHT
4226
29-Jun-2023
14:26
ALSHS
Ser



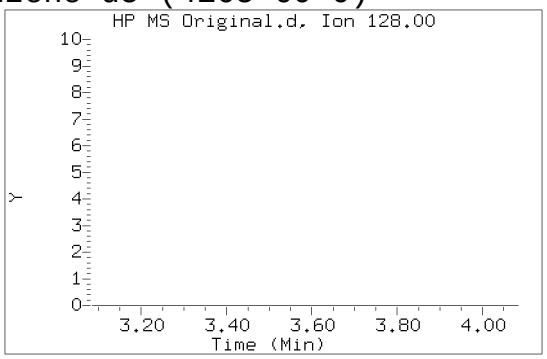
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\07.D
Inj Date : 16-JUN-2023 12:02
InstruID : SV6.i
LabSampID : 14DXICAL-0.08

Nitrobenzene-d5 (4165-60-0)

Reason Code:

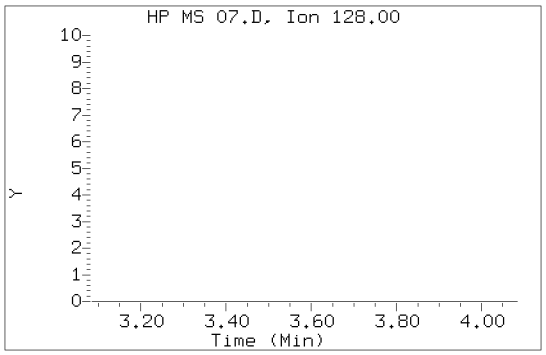
BEFORE

MASS
128
AREA
0
HEIGHT
0
16-Jun-2023
12:18
ALSHS
Server



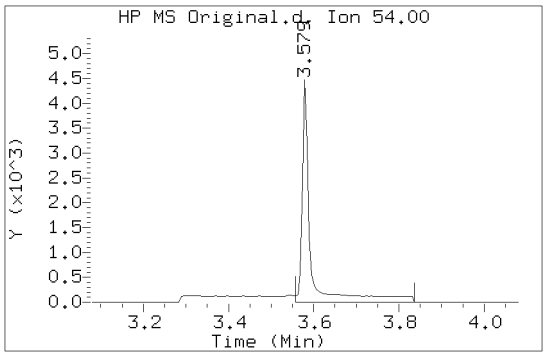
AFTER

MASS
128
AREA
0
HEIGHT
0
29-Jun-2023
14:26
ALSHS
Ser



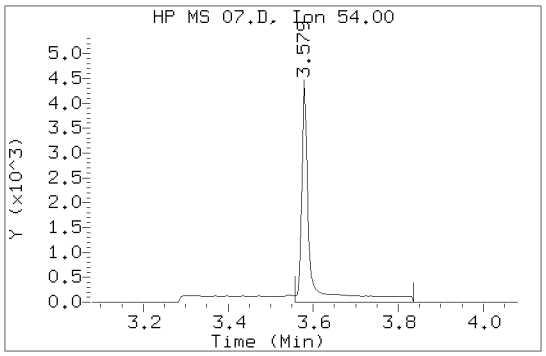
BEFORE

MASS
54
AREA
6137
HEIGHT
4470
16-Jun-2023
12:18
ALSHS
Server



AFTER

MASS
54
AREA
6137
HEIGHT
4470
29-Jun-2023
14:26
ALSHS
Ser

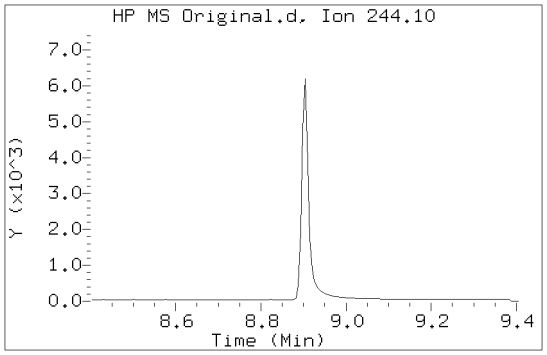


4-Terphenyl-d14 (1718-51-0)

Reason Code:

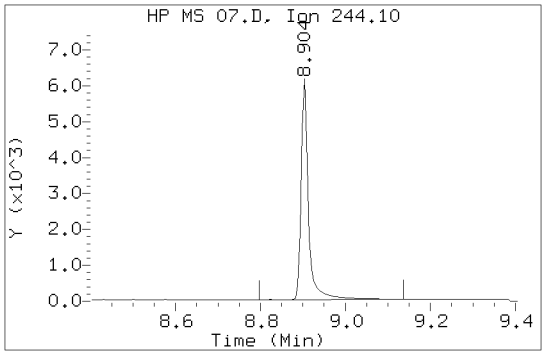
BEFORE

MASS
244.1
AREA
0
HEIGHT
0
16-Jun-2023
12:18
ALSHS
Server



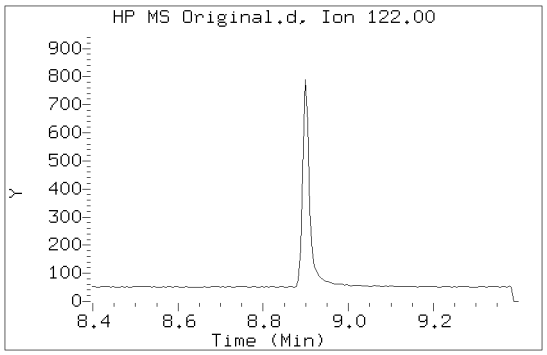
AFTER

MASS
244.1
AREA
7185
HEIGHT
6143
29-Jun-2023
14:26
ALSHS
Ser



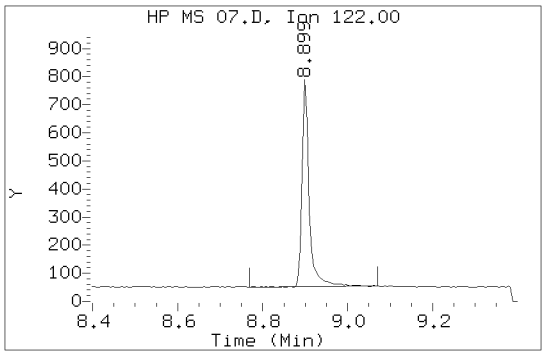
BEFORE

MASS
122
AREA
0
HEIGHT
0
16-Jun-2023
12:18
ALSHS
Server



AFTER

MASS
122
AREA
850
HEIGHT
736
29-Jun-2023
14:26
ALSHS
Ser



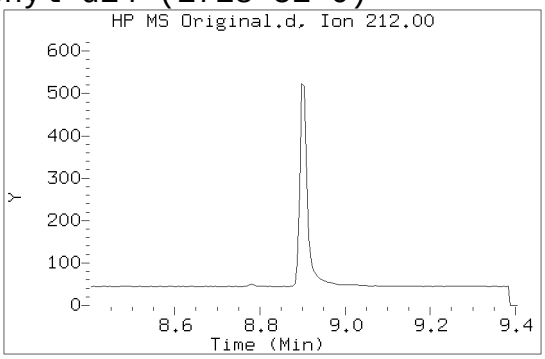
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\07.D
Inj Date : 16-JUN-2023 12:02
InstruID : SV6.i
LabSampID : 14DXICAL-0.08

4-Terphenyl-d14 (1718-51-0)

Reason Code:

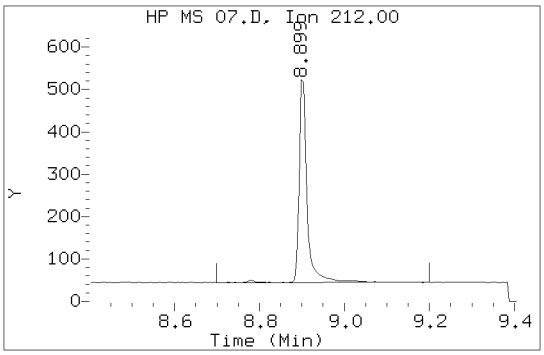
BEFORE

MASS
212
AREA
0
HEIGHT
0
16-Jun-2023
12:18
ALSHS
Server



AFTER

MASS
212
AREA
622
HEIGHT
478
29-Jun-2023
14:26
ALSHS
Ser



ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\230616.b\09.D
Lab Smp Id: 14DXICAL-0.15 Client Smp ID: 14DXICAL-0.15
Inj Date : 16-JUN-2023 12:38
Operator : LG Inst ID: SV6.i
Smp Info : 14DXICAL-0.15
Misc Info : ;;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\SV6.i\230616.b\DXSIM.m
Meth Date : 29-Jun-2023 14:27 SV6.i Quant Type: ISTD
Cal Date : 16-JUN-2023 12:20 Cal File: 08.D
Als bottle: 9 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 20 1,4-Dichlorobenzene-d4	152	3.128	3.128	(1.000)	3901	0.10000	(aM)
* 45 Naphthalene-d8	136	4.220	4.220	(1.000)	13349	0.10000	
$ 33 Nitrobenzene-d5	82	3.584	3.584	(0.849)	6134	0.15000	0.1520(AQM)
* 86 Acenaphthene-d10	164	5.883	5.883	(1.000)	7708	0.10000	
$ 69 2-Fluorobiphenyl	172	5.245	5.245	(0.891)	11636	0.15000	0.1474
* 126 Phenanthrene-d10	188	7.323	7.323	(1.000)	15157	0.10000	
* 182 Chrysene-d12	240	10.018	10.018	(1.000)	10131	0.10000	(M)
$ 158 4-Terphenyl-d14	244	8.904	8.904	(0.889)	10881	0.15000	0.1472(M)
* 198 Perylene-d12	264	11.940	11.940	(1.000)	7987	0.10000	(M)
1 1,4-Dioxane	58	1.464	1.464	(0.468)	1980	0.15000	0.1507(QH)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount
exceeded maximum amount.
Q - Qualifier signal failed the ratio test.

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

01246881

Data File: \\NAHSTWS005\Target\chem\SV6.i\230616.b\09.D

Date : 16-JUN-2023 12:38

Client ID: 14DXICAL-0.15

Instrument: SV6.i

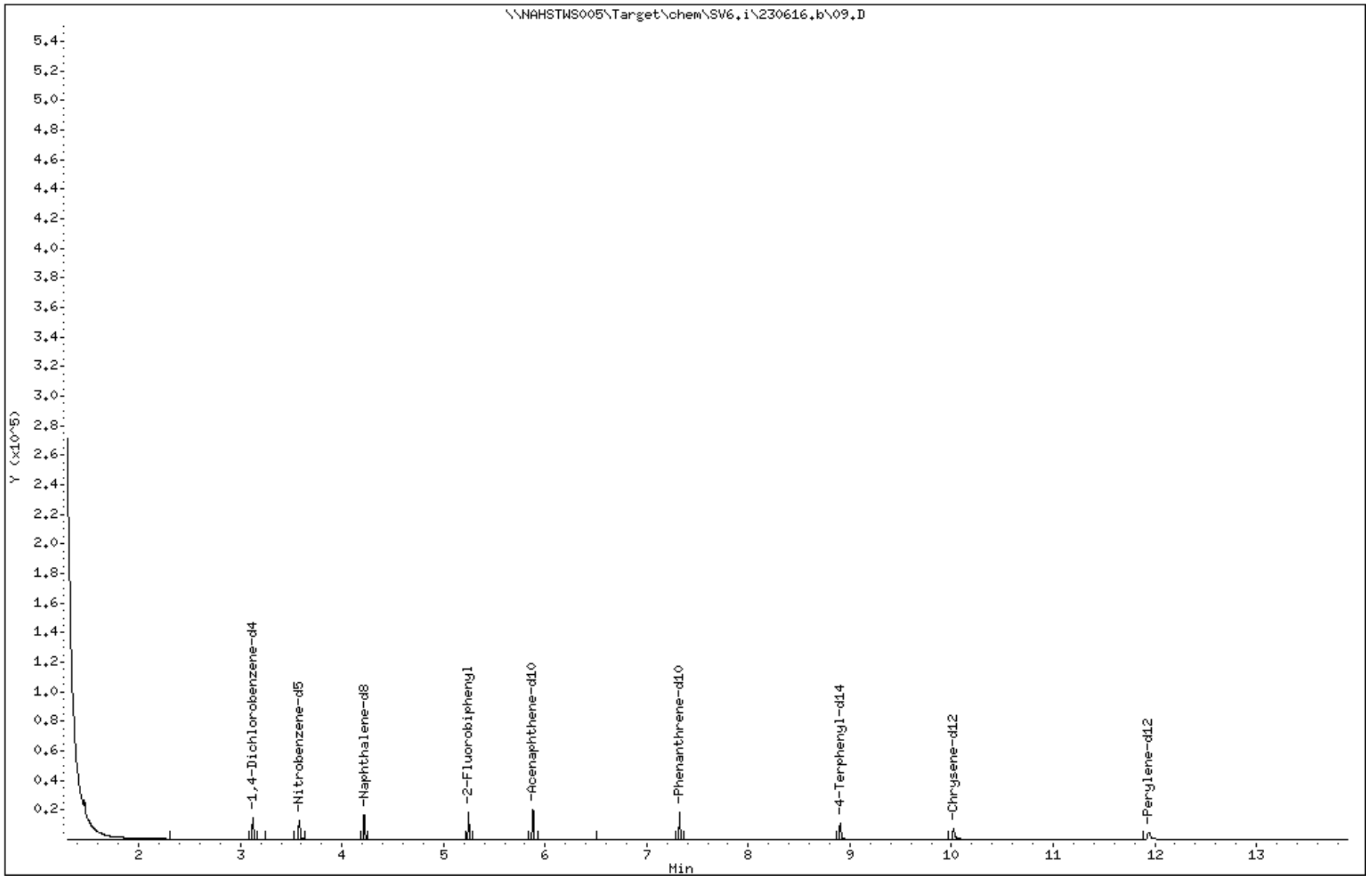
Sample Info: 14DXICAL-0.15

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28



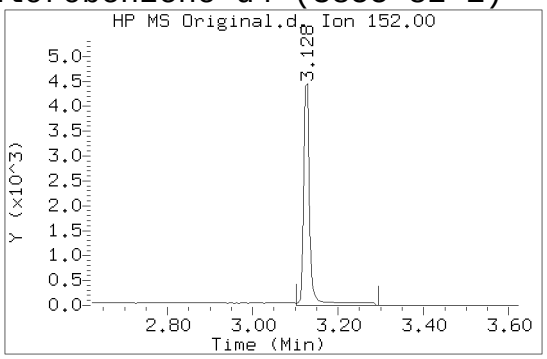
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\09.D
Inj Date : 16-JUN-2023 12:38
InstruID : SV6.i
LabSampID : 14DXICAL-0.15

1,4-Dichlorobenzene-d4 (3855-82-1)

Reason Code:

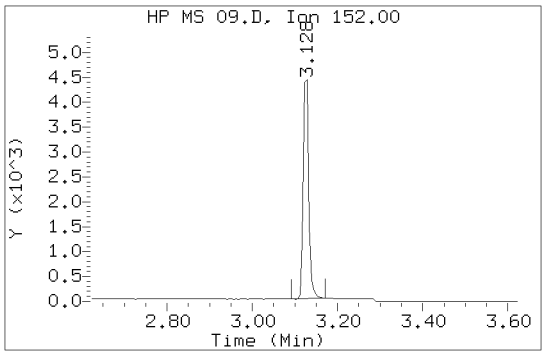
BEFORE

MASS
152
AREA
4505
HEIGHT
4453
16-Jun-2023
12:57
ALSHS
Server



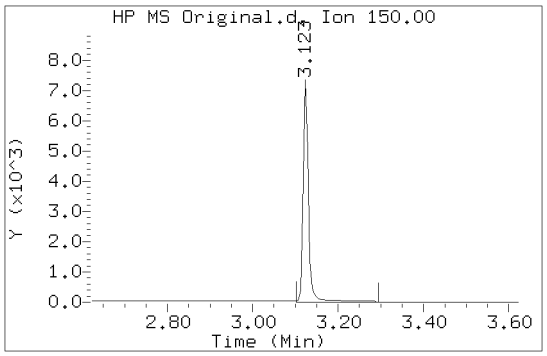
AFTER

MASS
152
AREA
3901
HEIGHT
4398
29-Jun-2023
14:27
ALSHS
Ser



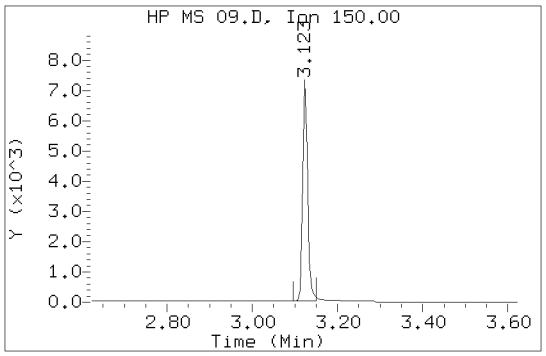
BEFORE

MASS
150
AREA
6326
HEIGHT
7351
16-Jun-2023
12:57
ALSHS
Server



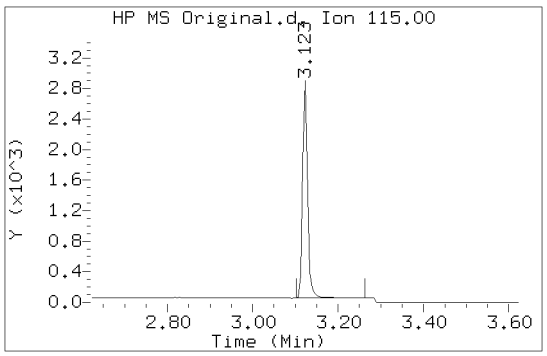
AFTER

MASS
150
AREA
5706
HEIGHT
7305
29-Jun-2023
14:27
ALSHS
Ser



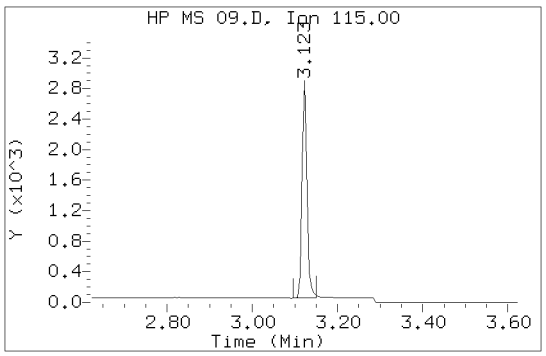
BEFORE

MASS
115
AREA
2255
HEIGHT
2847
16-Jun-2023
12:57
ALSHS
Server



AFTER

MASS
115
AREA
2210
HEIGHT
2846
29-Jun-2023
14:27
ALSHS
Ser

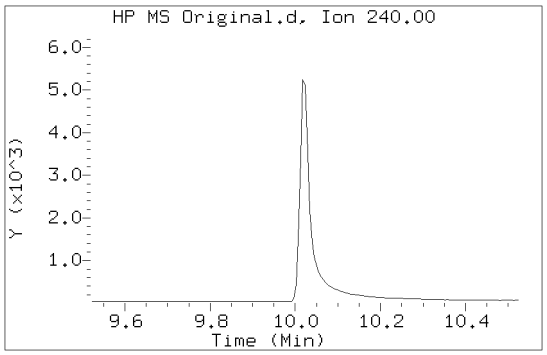


Chrysene-d12 (1719-03-5)

Reason Code:

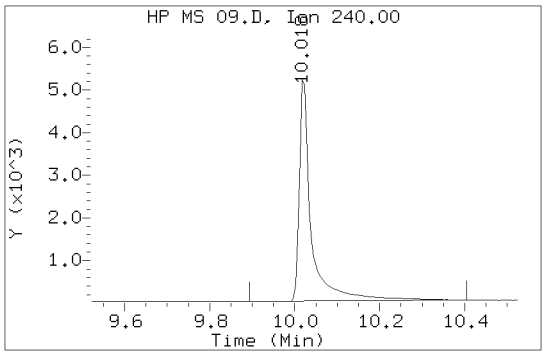
BEFORE

MASS
240
AREA
0
HEIGHT
0
16-Jun-2023
12:57
ALSHS
Server



AFTER

MASS
240
AREA
10131
HEIGHT
5190
29-Jun-2023
14:27
ALSHS
Ser



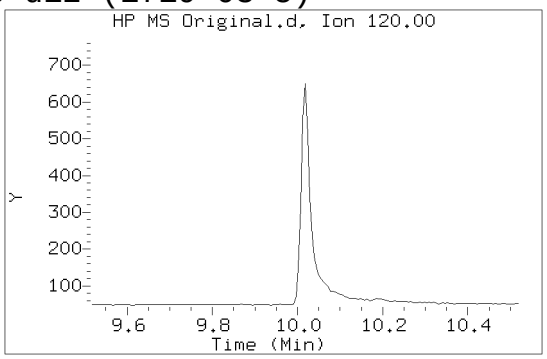
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\09.D
Inj Date : 16-JUN-2023 12:38
InstruID : SV6.i
LabSampID : 14DXICAL-0.15

Chrysene-d12 (1719-03-5)

Reason Code:

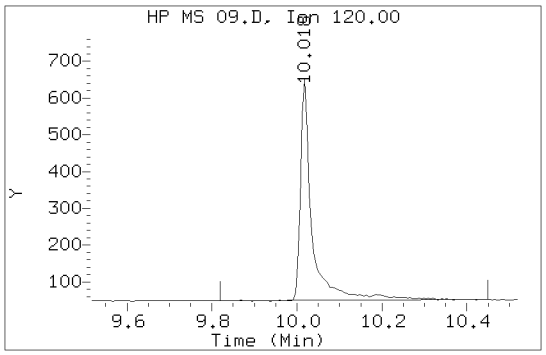
BEFORE

MASS
120
AREA
0
HEIGHT
0
16-Jun-2023
12:57
ALSHS
Server



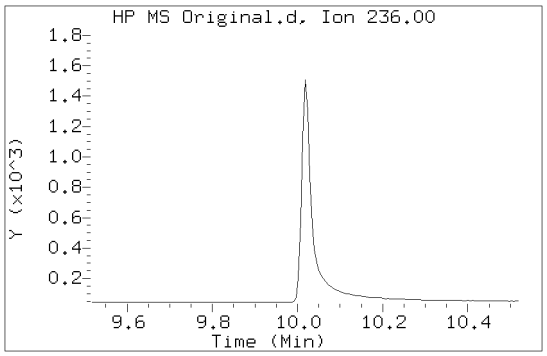
AFTER

MASS
120
AREA
1131
HEIGHT
600
29-Jun-2023
14:27
ALSHS
Ser



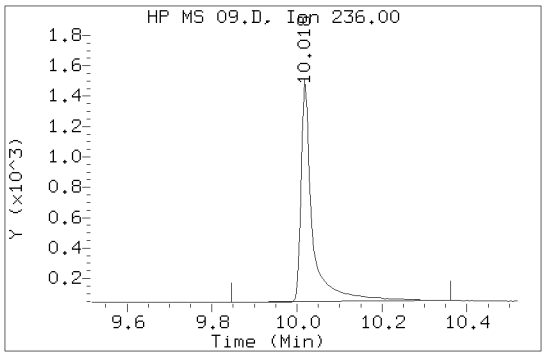
BEFORE

MASS
236
AREA
0
HEIGHT
0
16-Jun-2023
12:57
ALSHS
Server



AFTER

MASS
236
AREA
2695
HEIGHT
1458
29-Jun-2023
14:27
ALSHS
Ser

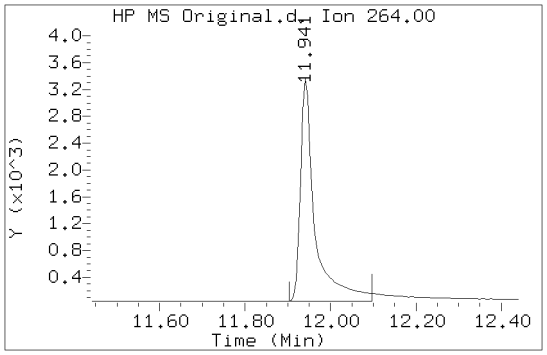


Perylene-d12 (1520-96-3)

Reason Code:

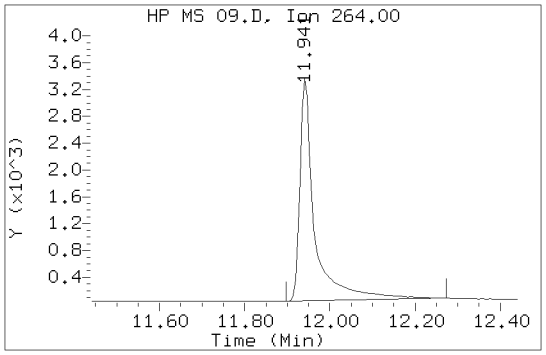
BEFORE

MASS
264
AREA
7735
HEIGHT
3310
16-Jun-2023
12:57
ALSHS
Server



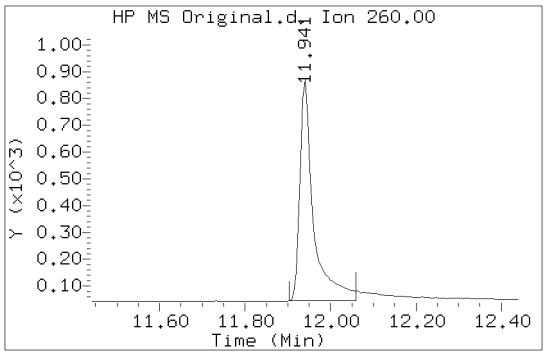
AFTER

MASS
264
AREA
7987
HEIGHT
3307
29-Jun-2023
14:27
ALSHS
Ser



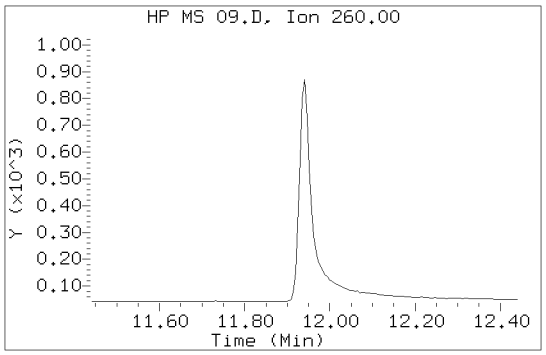
BEFORE

MASS
260
AREA
1816
HEIGHT
824
16-Jun-2023
12:57
ALSHS
Server



AFTER

MASS
260
AREA
2012
HEIGHT
823
29-Jun-2023
14:27
ALSHS
Ser



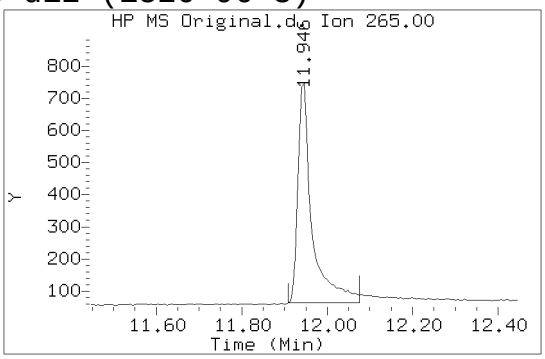
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Inj Date : 16-JUN-2023 12:38
InstruID : SV6.i
LabSampID : 14DXICAL-0.15

Perylene-d12 (1520-96-3)

Reason Code:

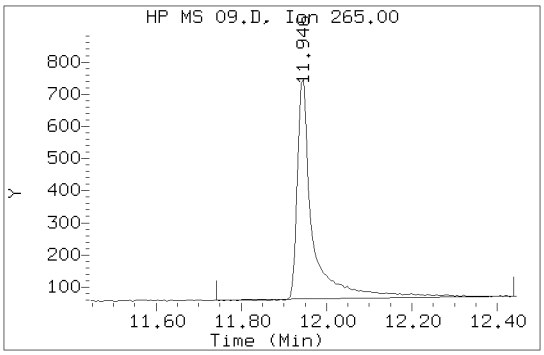
BEFORE

MASS
265
AREA
1571
HEIGHT
682
16-Jun-2023
12:57
ALSHS
Server



AFTER

MASS
265
AREA
1706
HEIGHT
682
29-Jun-2023
14:27
ALSHS
Ser

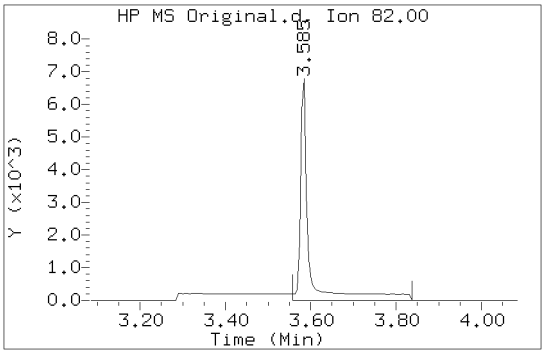


Nitrobenzene-d5 (4165-60-0)

Reason Code:

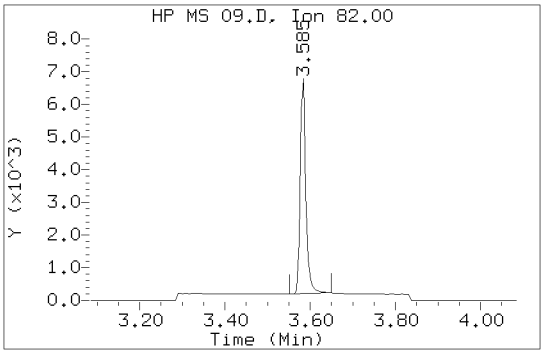
BEFORE

MASS
82
AREA
9487
HEIGHT
6787
16-Jun-2023
12:57
ALSHS
Server



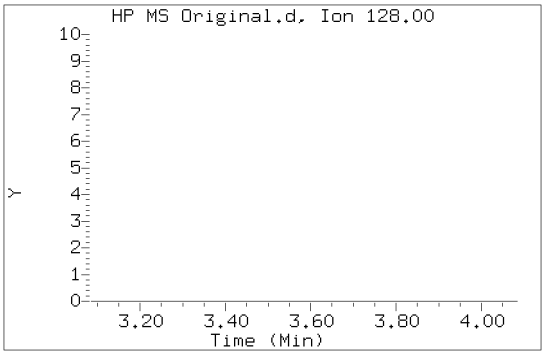
AFTER

MASS
82
AREA
6134
HEIGHT
6582
29-Jun-2023
14:27
ALSHS
Ser



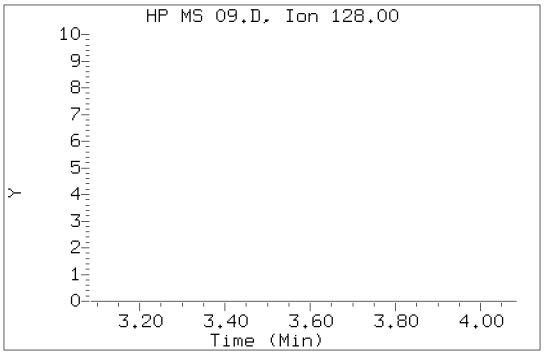
BEFORE

MASS
128
AREA
0
HEIGHT
0
16-Jun-2023
12:57
ALSHS
Server



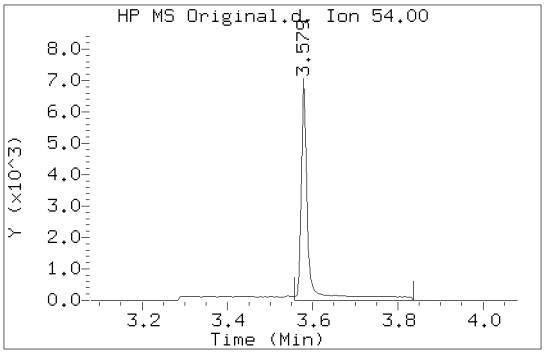
AFTER

MASS
128
AREA
0
HEIGHT
0
29-Jun-2023
14:27
ALSHS
Ser



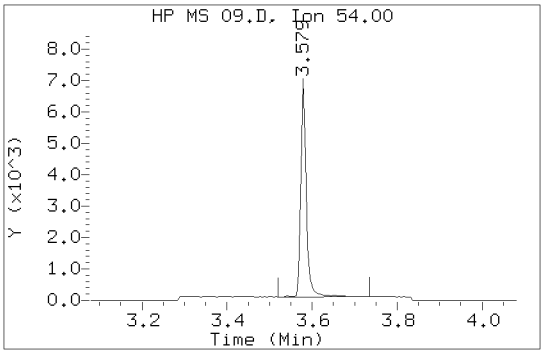
BEFORE

MASS
54
AREA
8200
HEIGHT
7059
16-Jun-2023
12:57
ALSHS
Server



AFTER

MASS
54
AREA
6294
HEIGHT
6945
29-Jun-2023
14:27
ALSHS
Ser

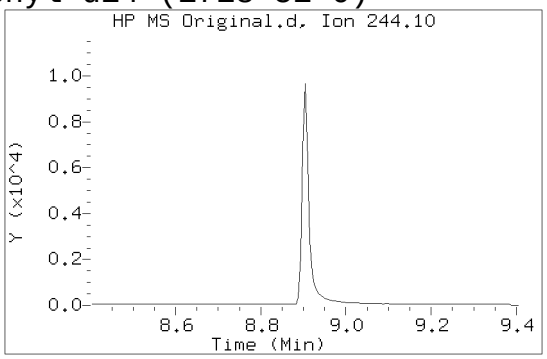


Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\09.D
Inj Date : 16-JUN-2023 12:38
InstruID : SV6.i
LabSampID : 14DXICAL-0.15

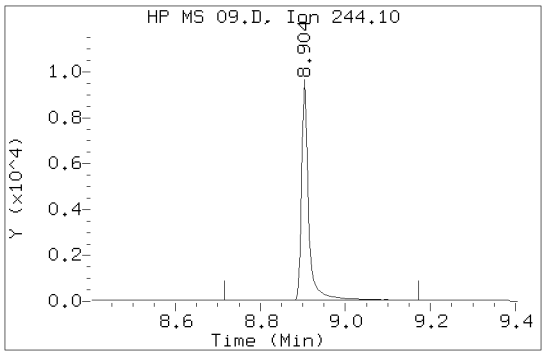
4-Terphenyl-d14 (1718-51-0)

Reason Code:

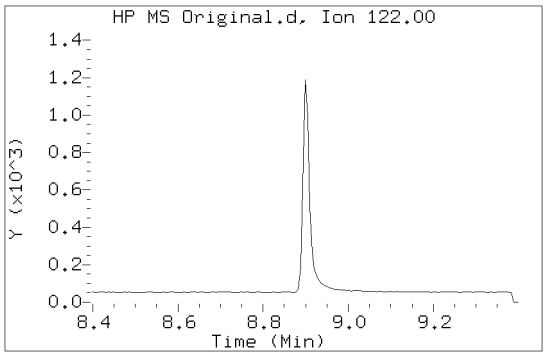
BEFORE
MASS
244.1
AREA
0
HEIGHT
0
16-Jun-2023
12:57
ALSHS
Server



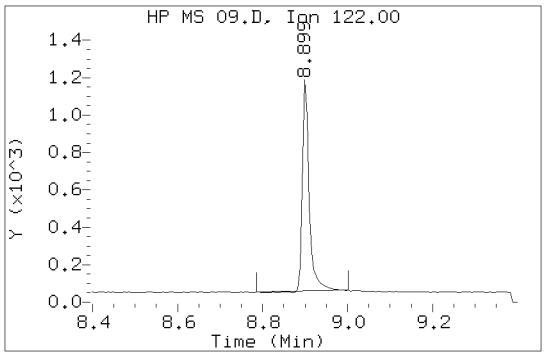
AFTER
MASS
244.1
AREA
10881
HEIGHT
9614
29-Jun-2023
14:27
ALSHS
Ser



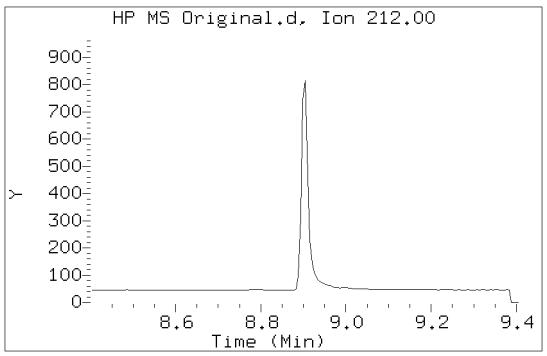
BEFORE
MASS
122
AREA
0
HEIGHT
0
16-Jun-2023
12:57
ALSHS
Server



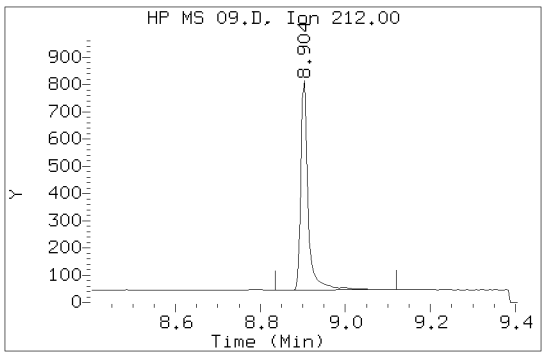
AFTER
MASS
122
AREA
1222
HEIGHT
1128
29-Jun-2023
14:27
ALSHS
Ser



BEFORE
MASS
212
AREA
0
HEIGHT
0
16-Jun-2023
12:57
ALSHS
Server



AFTER
MASS
212
AREA
918
HEIGHT
769
29-Jun-2023
14:27
ALSHS
Ser



ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\230616.b\12.D
Lab Smp Id: 14DXICAL-0.1 Client Smp ID: 14DXICAL-0.1
Inj Date : 16-JUN-2023 14:15
Operator : LG Inst ID: SV6.i
Smp Info : 14DXICAL-0.1
Misc Info : ;;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\SV6.i\230616.b\DXSIM.m
Meth Date : 29-Jun-2023 15:48 SV6.i Quant Type: ISTD
Cal Date : 16-JUN-2023 15:56 Cal File: 15.D
Als bottle: 12 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	AMOUNTS ON-COL (NG)
* 20 1,4-Dichlorobenzene-d4	152	3.128	3.128	(1.000)	4026	0.10000	(aM)
* 45 Naphthalene-d8	136	4.220	4.220	(1.000)	13383	0.10000	(M)
$ 33 Nitrobenzene-d5	82	3.584	3.584	(0.849)	4123	0.10000	0.1019(QM)
* 86 Acenaphthene-d10	164	5.883	5.883	(1.000)	7945	0.10000	(M)
$ 69 2-Fluorobiphenyl	172	5.248	5.248	(0.892)	7708	0.10000	0.09473(M)
* 126 Phenanthrene-d10	188	7.328	7.328	(1.000)	15519	0.10000	(M)
* 182 Chrysene-d12	240	10.028	10.028	(1.000)	9988	0.10000	(M)
$ 158 4-Terphenyl-d14	244	8.909	8.909	(0.888)	7529	0.10000	0.1033(M)
* 198 Perylene-d12	264	11.946	11.946	(1.000)	8963	0.10000	(M)
1 1,4-Dioxane	58	1.471	1.471	(0.470)	1445	0.10000	0.1066(Q)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.

01246887

Data File: \\NAHSTWS005\Target\chem\SV6.i\230616.b\12.D

Date : 16-JUN-2023 14:15

Client ID: 14DXICAL-0.1

Instrument: SV6.i

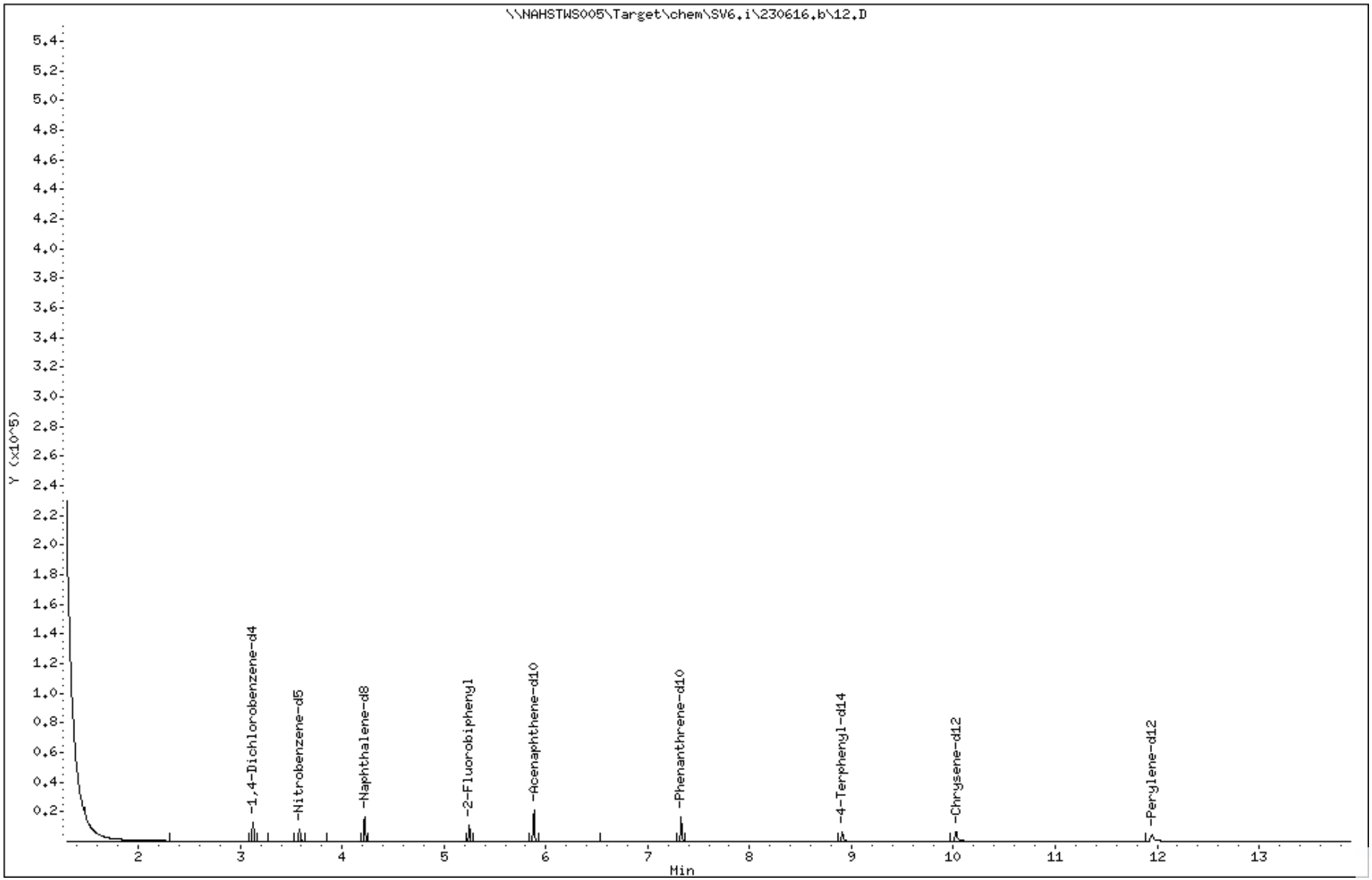
Sample Info: 14DXICAL-0.1

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28

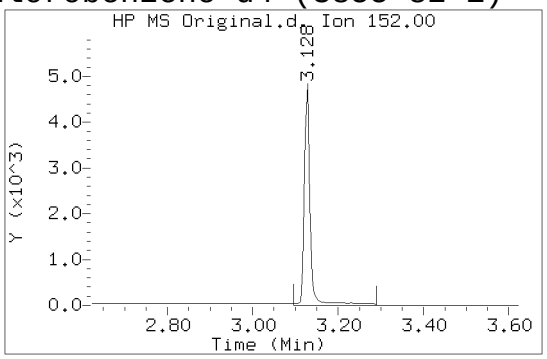


Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\12.D
Inj Date : 16-JUN-2023 14:15
InstruID : SV6.i
LabSampID : 14DXICAL-0.1

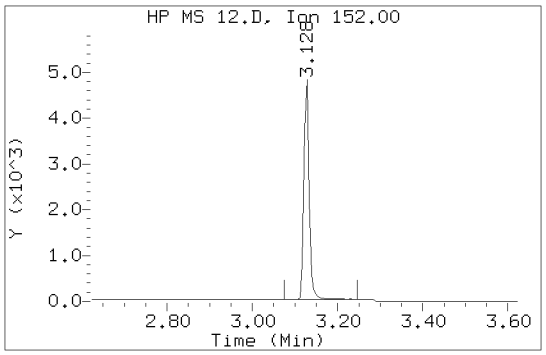
1,4-Dichlorobenzene-d4 (3855-82-1)

Reason Code:

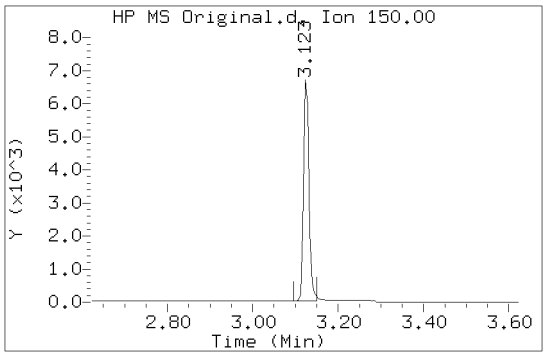
BEFORE
MASS
152
AREA
4570
HEIGHT
4842
16-Jun-2023
14:59
jiayi
lu



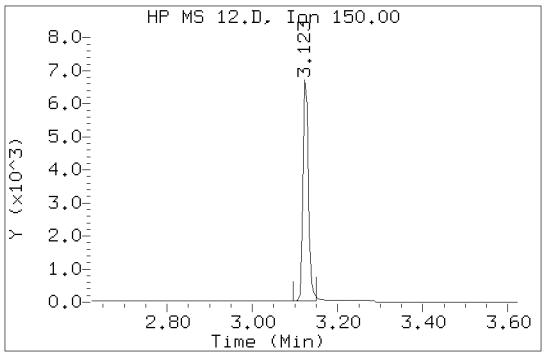
AFTER
MASS
152
AREA
4026
HEIGHT
4796
29-Jun-2023
15:48



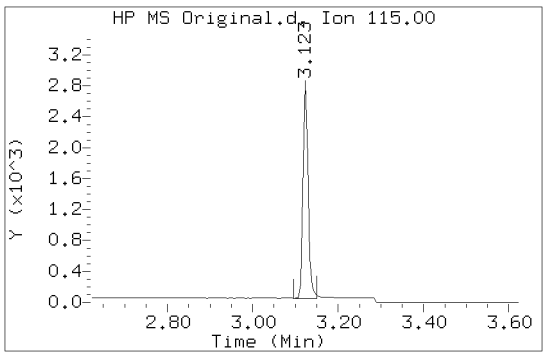
BEFORE
MASS
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AREA
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HEIGHT
6676
16-Jun-2023
14:59
jiayi
lu



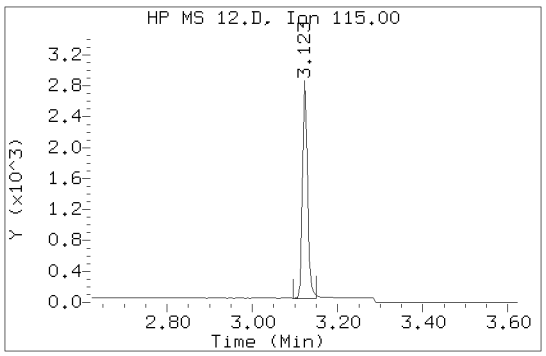
AFTER
MASS
150
AREA
5752
HEIGHT
6676
29-Jun-2023
15:48



BEFORE
MASS
115
AREA
2249
HEIGHT
2814
16-Jun-2023
14:59
jiayi
lu



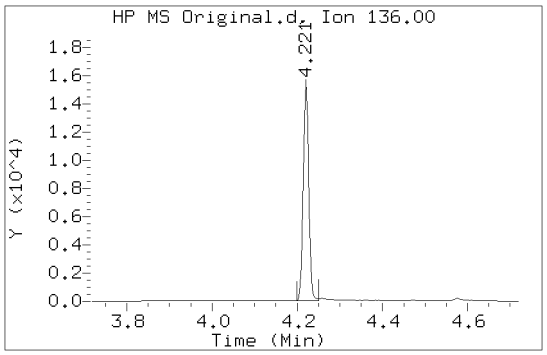
AFTER
MASS
115
AREA
2249
HEIGHT
2814
29-Jun-2023
15:48



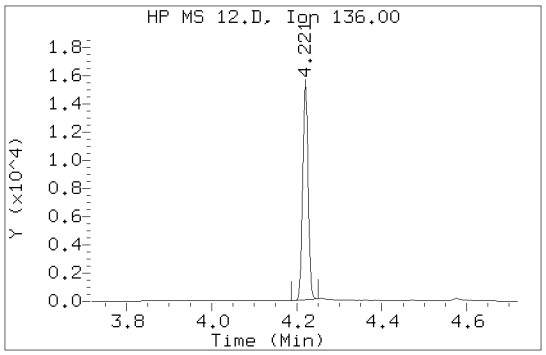
Naphthalene-d8 (1146-65-2)

Reason Code:

BEFORE
MASS
136
AREA
13619
HEIGHT
15676
16-Jun-2023
14:59
jiayi
lu



AFTER
MASS
136
AREA
13383
HEIGHT
15614
29-Jun-2023
15:48



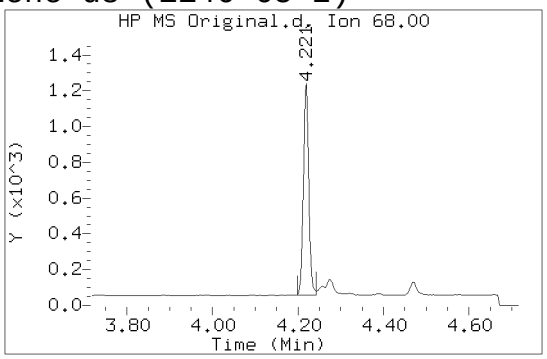
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\12.D
Inj Date : 16-JUN-2023 14:15
InstruID : SV6.i
LabSampID : 14DXICAL-0.1

Naphthalene-d8 (1146-65-2)

Reason Code:

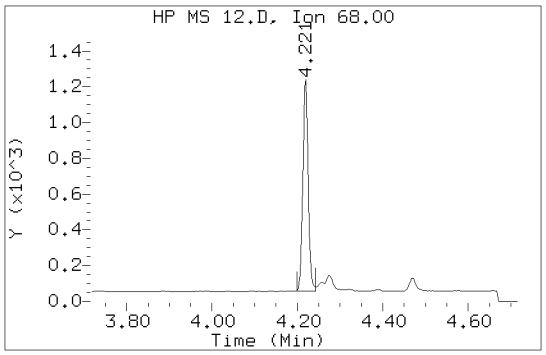
BEFORE

MASS
68
AREA
1062
HEIGHT
1182
16-Jun-2023
14:59
jiayi
lu



AFTER

MASS
68
AREA
1062
HEIGHT
1182
29-Jun-2023
15:48

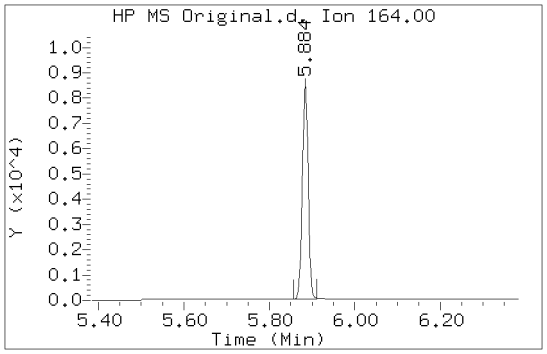


Acenaphthene-d10 (15067-26-2)

Reason Code:

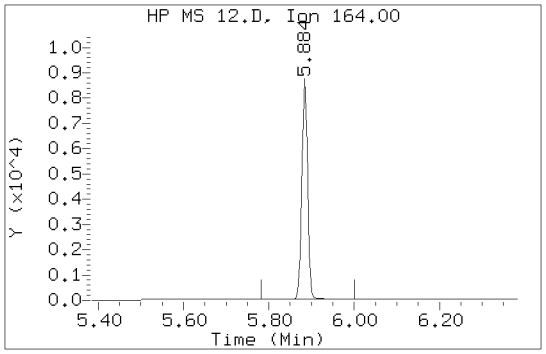
BEFORE

MASS
164
AREA
7893
HEIGHT
8717
16-Jun-2023
14:59
jiayi
lu



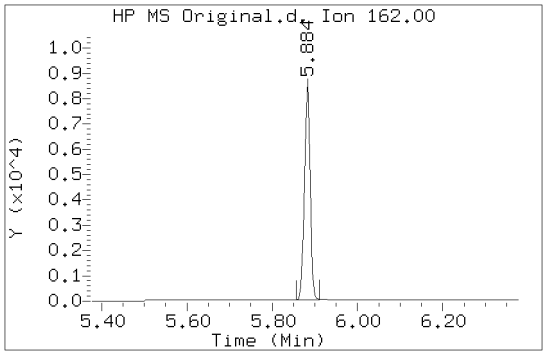
AFTER

MASS
164
AREA
7945
HEIGHT
8719
29-Jun-2023
15:48



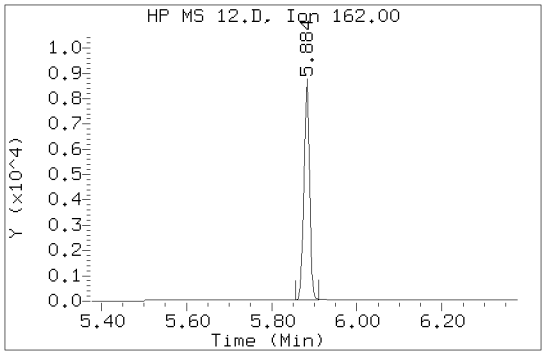
BEFORE

MASS
162
AREA
7978
HEIGHT
8729
16-Jun-2023
14:59
jiayi
lu



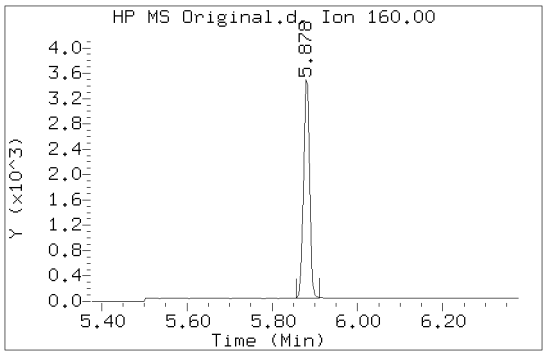
AFTER

MASS
162
AREA
7978
HEIGHT
8729
29-Jun-2023
15:48



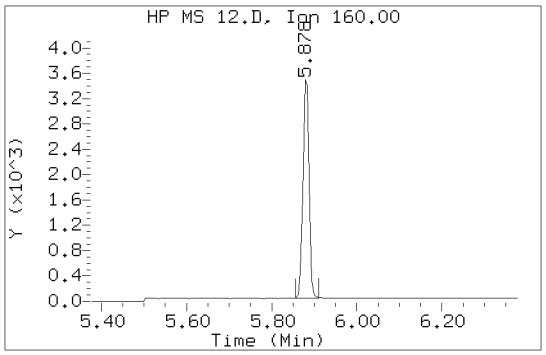
BEFORE

MASS
160
AREA
3420
HEIGHT
3449
16-Jun-2023
14:59
jiayi
lu



AFTER

MASS
160
AREA
3420
HEIGHT
3449
29-Jun-2023
15:48

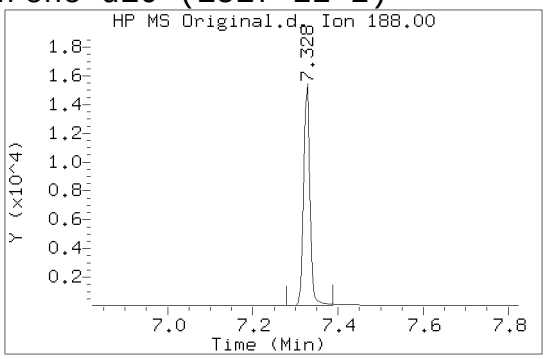


Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\12.D
Inj Date : 16-JUN-2023 14:15
InstruID : SV6.i
LabSampID : 14DXICAL-0.1

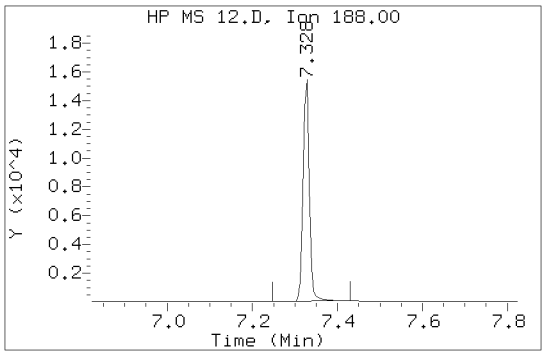
Phenanthrene-d10 (1517-22-2)

Reason Code:

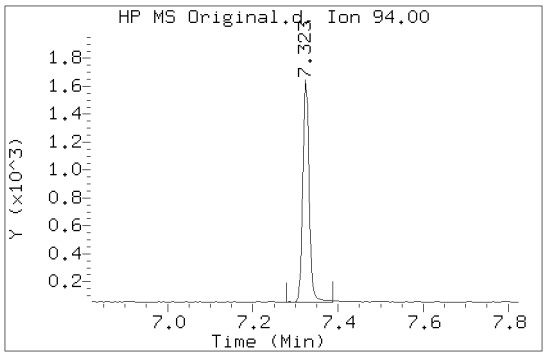
BEFORE
MASS
188
AREA
15580
HEIGHT
15412
16-Jun-2023
14:59
jiayi
lu



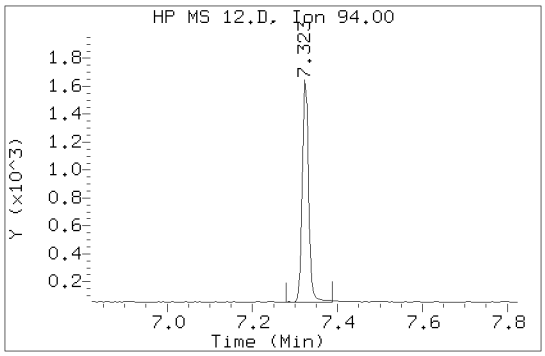
AFTER
MASS
188
AREA
15519
HEIGHT
15398
29-Jun-2023
15:48



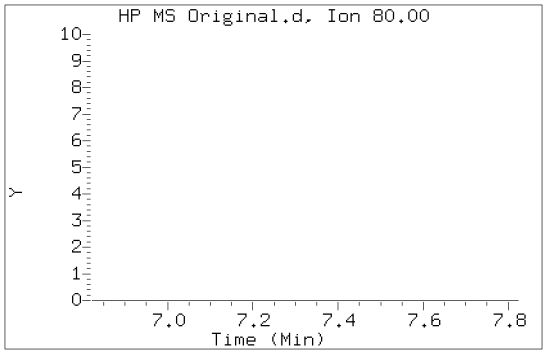
BEFORE
MASS
94
AREA
1615
HEIGHT
1589
16-Jun-2023
14:59
jiayi
lu



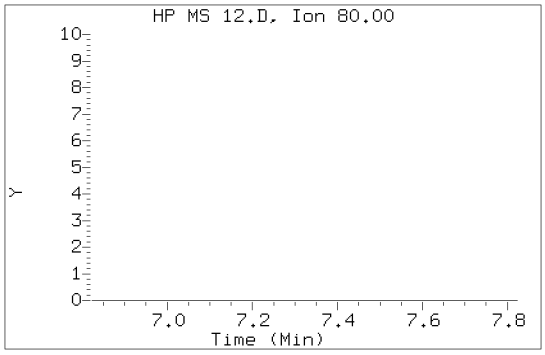
AFTER
MASS
94
AREA
1615
HEIGHT
1589
29-Jun-2023
15:48



BEFORE
MASS
80
AREA
0
HEIGHT
0
16-Jun-2023
14:59
jiayi
lu



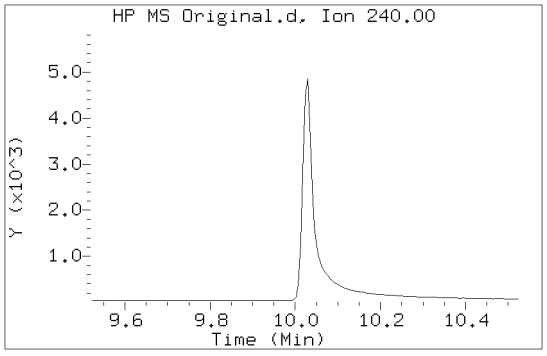
AFTER
MASS
80
AREA
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HEIGHT
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29-Jun-2023
15:48



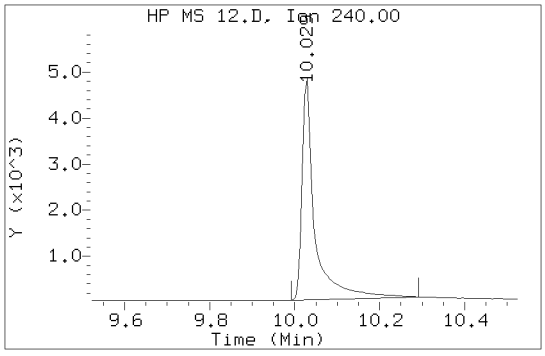
Chrysene-d12 (1719-03-5)

Reason Code:

BEFORE
MASS
240
AREA
0
HEIGHT
0
16-Jun-2023
14:59
jiayi
lu



AFTER
MASS
240
AREA
9988
HEIGHT
4801
29-Jun-2023
15:48

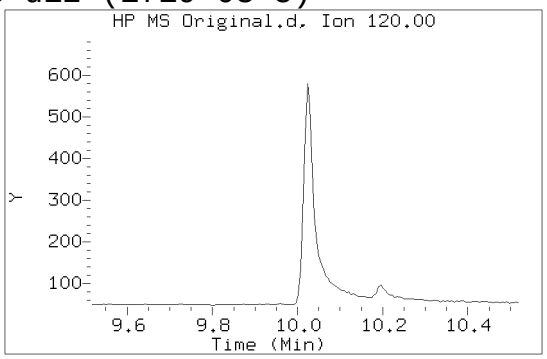


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Inj Date : 16-JUN-2023 14:15
InstruID : SV6.i
LabSampID : 14DXICAL-0.1

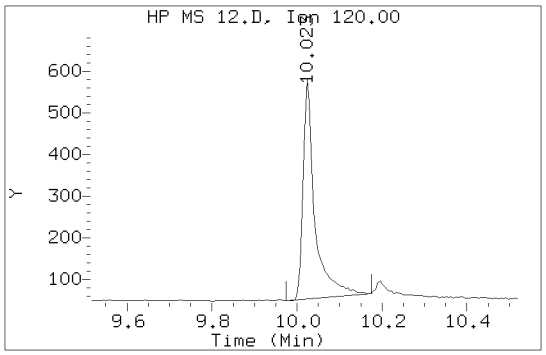
Chrysene-d12 (1719-03-5)

Reason Code:

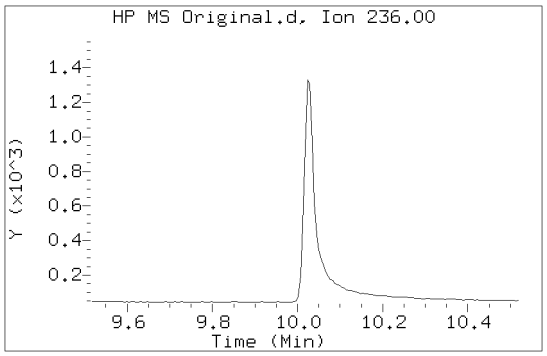
BEFORE
MASS
120
AREA
0
HEIGHT
0
16-Jun-2023
14:59
jiayi
lu



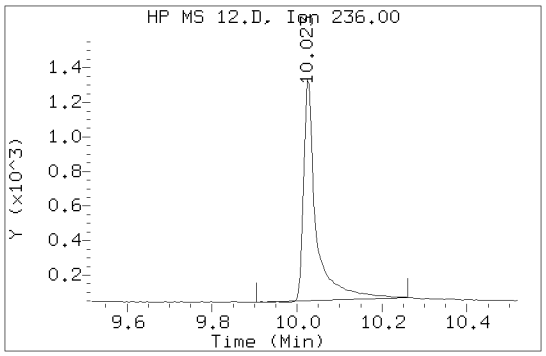
AFTER
MASS
120
AREA
998
HEIGHT
525
29-Jun-2023
15:48



BEFORE
MASS
236
AREA
0
HEIGHT
0
16-Jun-2023
14:59
jiayi
lu



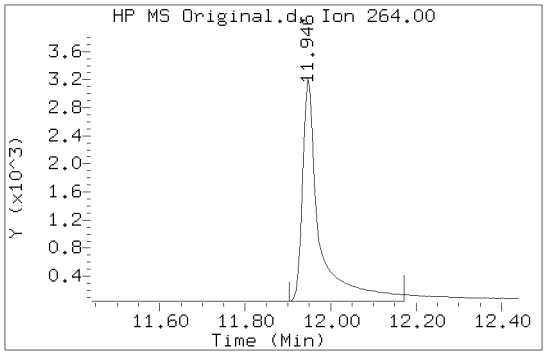
AFTER
MASS
236
AREA
2622
HEIGHT
1277
29-Jun-2023
15:48



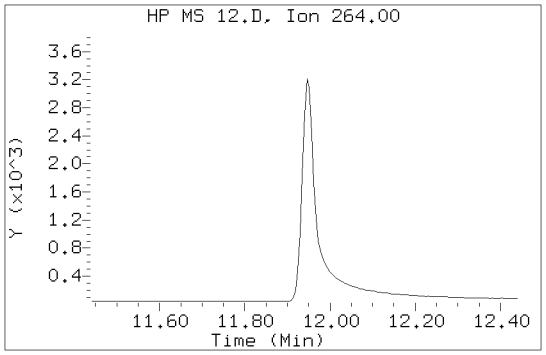
Perylene-d12 (1520-96-3)

Reason Code:

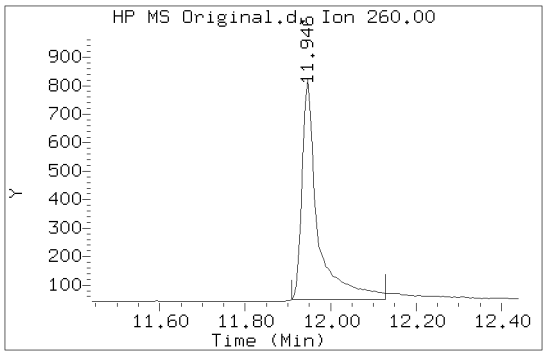
BEFORE
MASS
264
AREA
8613
HEIGHT
3164
16-Jun-2023
14:59
jiayi
lu



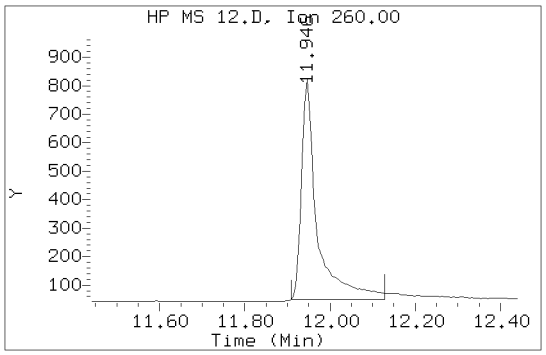
AFTER
MASS
264
AREA
8963
HEIGHT
3161
29-Jun-2023
15:48



BEFORE
MASS
260
AREA
1977
HEIGHT
772
16-Jun-2023
14:59
jiayi
lu



AFTER
MASS
260
AREA
1977
HEIGHT
772
29-Jun-2023
15:48



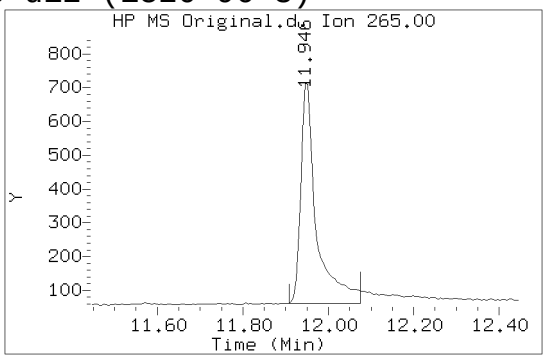
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Inj Date : 16-JUN-2023 14:15
InstruID : SV6.i
LabSampID : 14DXICAL-0.1

Perylene-d12 (1520-96-3)

Reason Code:

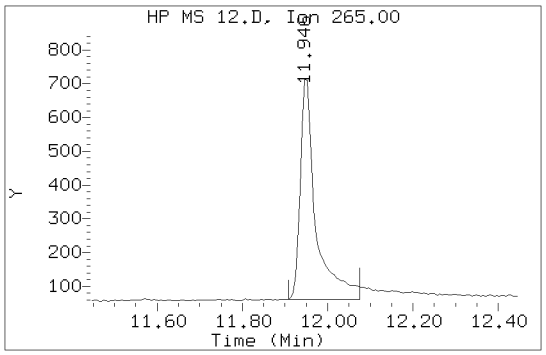
BEFORE

MASS
265
AREA
1666
HEIGHT
651
16-Jun-2023
14:59
jiayi
lu



AFTER

MASS
265
AREA
1666
HEIGHT
651
29-Jun-2023
15:48

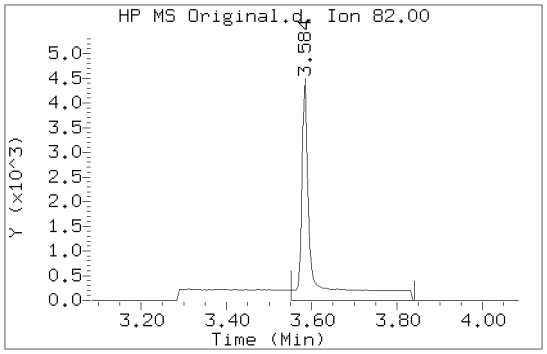


Nitrobenzene-d5 (4165-60-0)

Reason Code:

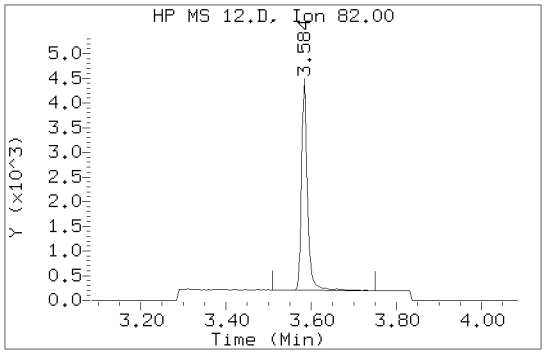
BEFORE

MASS
82
AREA
7524
HEIGHT
4492
16-Jun-2023
14:59
jiayi
lu



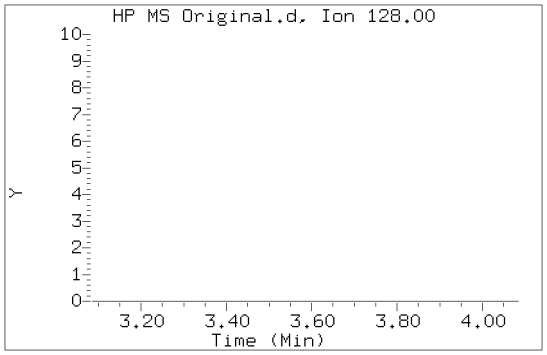
AFTER

MASS
82
AREA
4123
HEIGHT
4285
29-Jun-2023
15:48



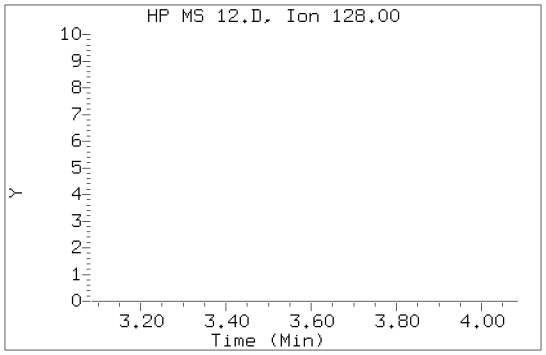
BEFORE

MASS
128
AREA
0
HEIGHT
0
16-Jun-2023
14:59
jiayi
lu



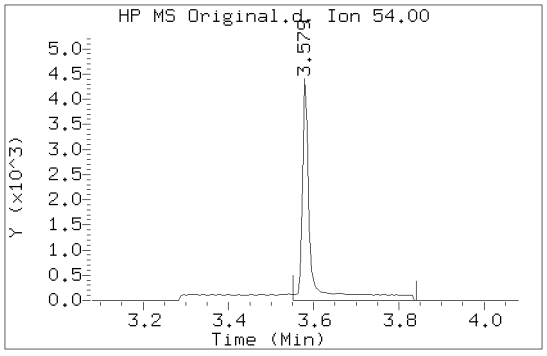
AFTER

MASS
128
AREA
0
HEIGHT
0
29-Jun-2023
15:48



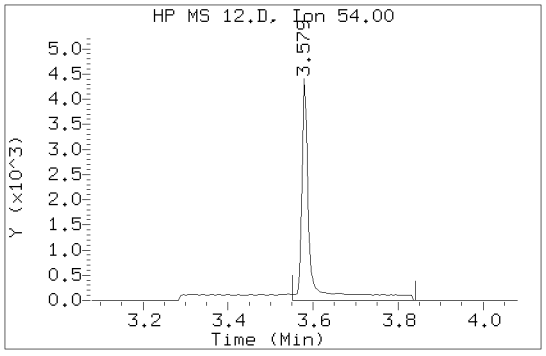
BEFORE

MASS
54
AREA
6015
HEIGHT
4407
16-Jun-2023
14:59
jiayi
lu



AFTER

MASS
54
AREA
6015
HEIGHT
4407
29-Jun-2023
15:48



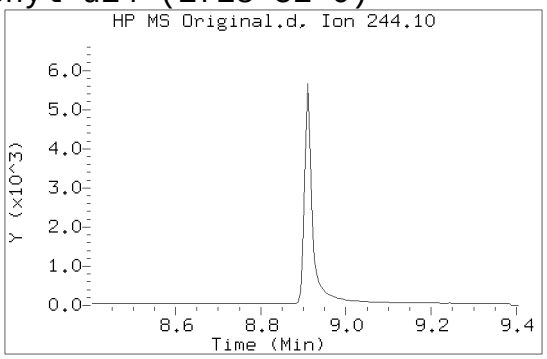
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Inj Date : 16-JUN-2023 14:15
InstruID : SV6.i
LabSampID : 14DXICAL-0.1

4-Terphenyl-d14 (1718-51-0)

Reason Code:

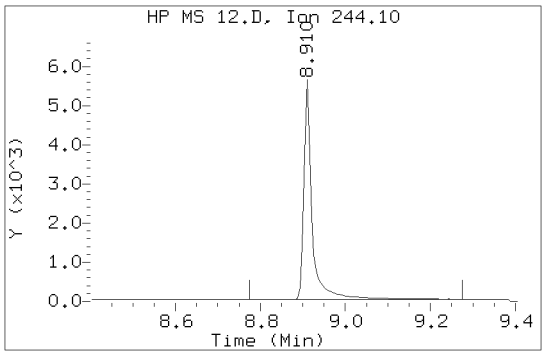
BEFORE

MASS
244.1
AREA
0
HEIGHT
0
16-Jun-2023
14:59
jiayi
lu



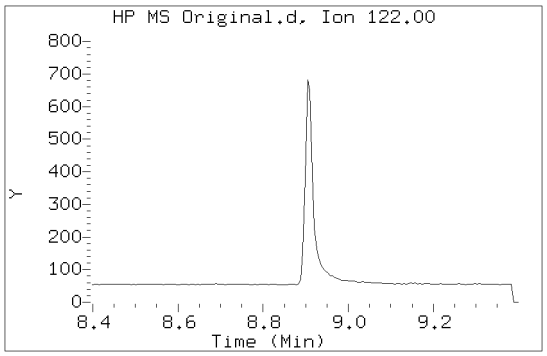
AFTER

MASS
244.1
AREA
7529
HEIGHT
5616
29-Jun-2023
15:48



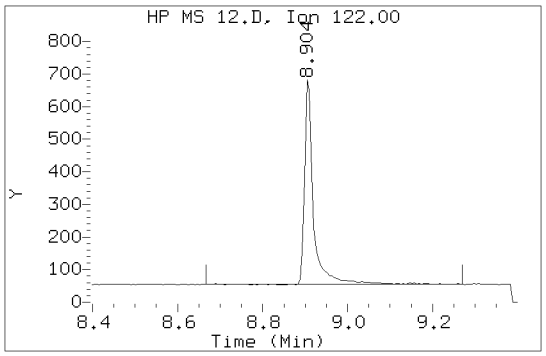
BEFORE

MASS
122
AREA
0
HEIGHT
0
16-Jun-2023
14:59
jiayi
lu



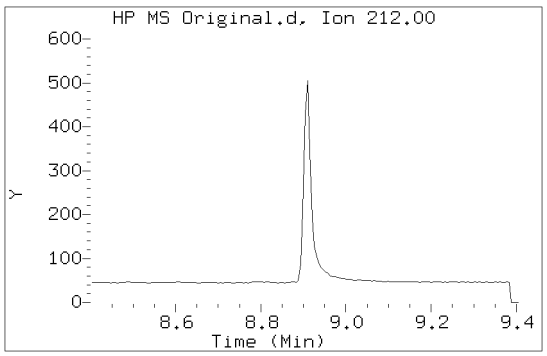
AFTER

MASS
122
AREA
918
HEIGHT
627
29-Jun-2023
15:48



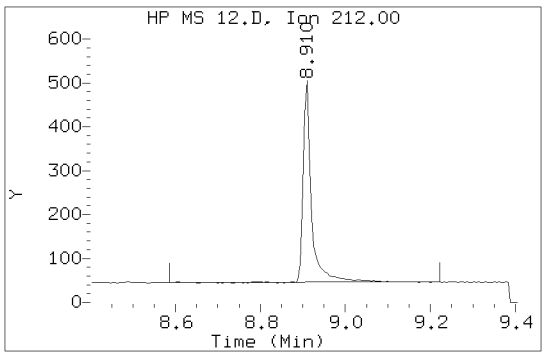
BEFORE

MASS
212
AREA
0
HEIGHT
0
16-Jun-2023
14:59
jiayi
lu



AFTER

MASS
212
AREA
625
HEIGHT
459
29-Jun-2023
15:48

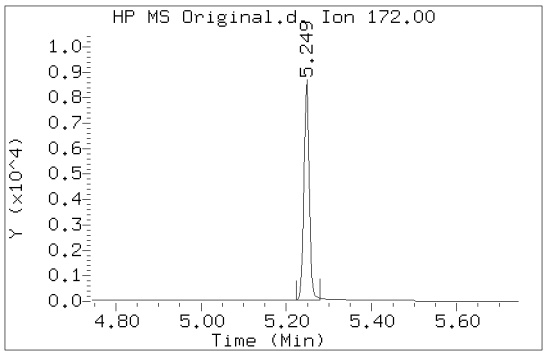


2-Fluorobiphenyl (321-60-8)

Reason Code:

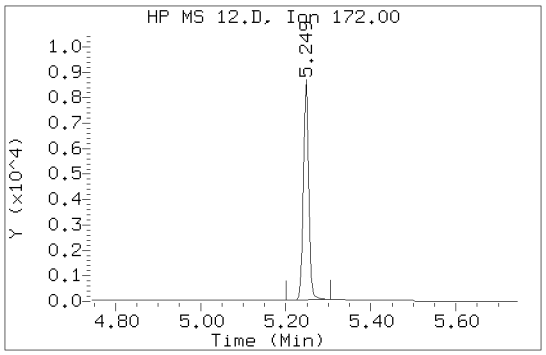
BEFORE

MASS
172
AREA
7733
HEIGHT
8663
16-Jun-2023
14:59
jiayi
lu



AFTER

MASS
172
AREA
7708
HEIGHT
8650
29-Jun-2023
15:48



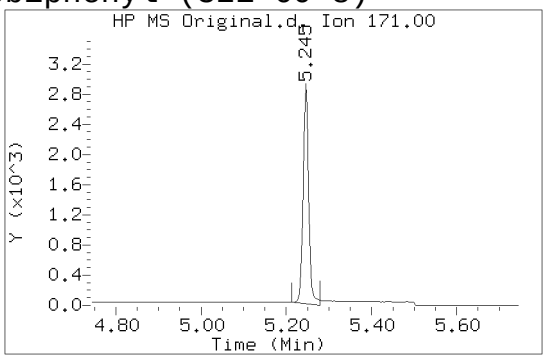
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Inj Date : 16-JUN-2023 14:15
InstruID : SV6.i
LabSampID : 14DXICAL-0.1

2-Fluorobiphenyl (321-60-8)

Reason Code:

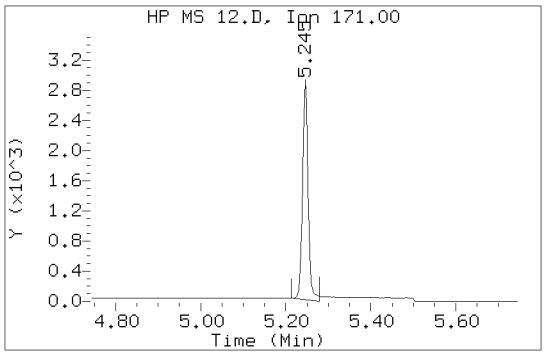
BEFORE

MASS
171
AREA
2685
HEIGHT
2917
16-Jun-2023
14:59
jiayi
lu



AFTER

MASS
171
AREA
2685
HEIGHT
2917
29-Jun-2023
15:48



ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\230616.b\14.D
Lab Smp Id: 14DXICAL-0.5 Client Smp ID: 14DXICAL-0.5
Inj Date : 16-JUN-2023 14:51
Operator : LG Inst ID: SV6.i
Smp Info : 14DXICAL-0.5
Misc Info : ;;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\SV6.i\230616.b\DXSIM.m
Meth Date : 29-Jun-2023 14:27 SV6.i Quant Type: ISTD
Cal Date : 16-JUN-2023 12:38 Cal File: 09.D
Als bottle: 14 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 20 1,4-Dichlorobenzene-d4	152	3.122	3.122	(1.000)	4165	0.10000	(aM)
* 45 Naphthalene-d8	136	4.220	4.220	(1.000)	13989	0.10000	(M)
$ 33 Nitrobenzene-d5	82	3.579	3.579	(0.848)	19311	0.50000	0.4566(AM)
* 86 Acenaphthene-d10	164	5.883	5.883	(1.000)	8414	0.10000	
$ 69 2-Fluorobiphenyl	172	5.245	5.245	(0.891)	39708	0.50000	0.4608(AM)
* 126 Phenanthrene-d10	188	7.322	7.322	(1.000)	16472	0.10000	(M)
* 182 Chrysene-d12	240	10.017	10.017	(1.000)	10483	0.10000	(M)
$ 158 4-Terphenyl-d14	244	8.904	8.904	(0.889)	39805	0.50000	0.5203(AM)
* 198 Perylene-d12	264	11.940	11.940	(1.000)	8460	0.10000	(M)
1 1,4-Dioxane	58	1.452	1.452	(0.465)	6496	0.50000	0.4630(QM)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount
exceeded maximum amount.
Q - Qualifier signal failed the ratio test.

M - Compound response manually integrated.

01246897

Data File: \\NAHSTWS005\Target\chem\SV6.i\230616.b\14.D

Page 1

Date : 16-JUN-2023 14:51

Client ID: 14DXICAL-0.5

Instrument: SV6.i

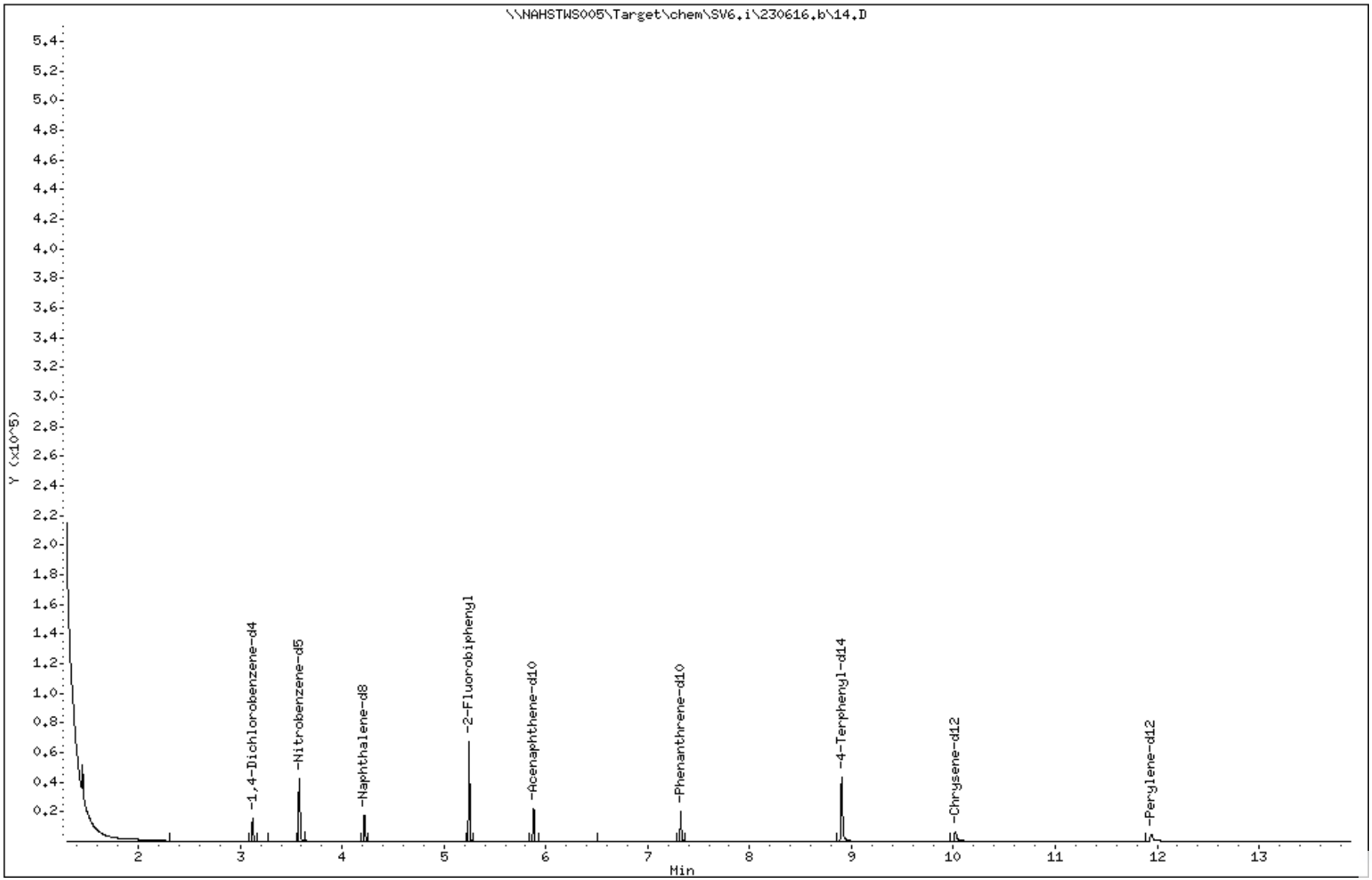
Sample Info: 14DXICAL-0.5

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28



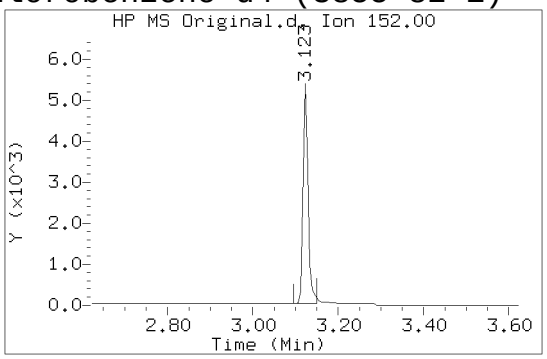
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Inj Date : 16-JUN-2023 14:51
InstruID : SV6.i
LabSampID : 14DXICAL-0.5

1,4-Dichlorobenzene-d4 (3855-82-1)

Reason Code:

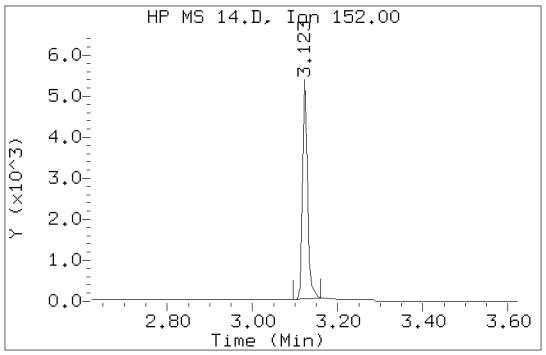
BEFORE

MASS
152
AREA
4211
HEIGHT
5358
16-Jun-2023
15:06
ALSHS
Server



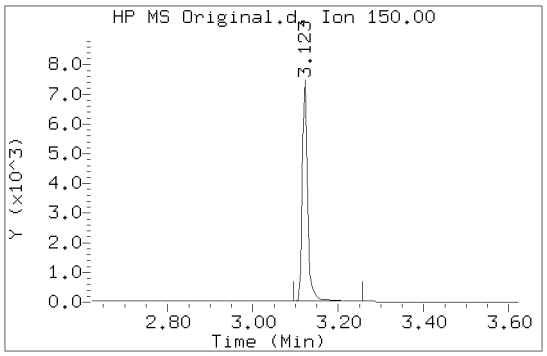
AFTER

MASS
152
AREA
4165
HEIGHT
5341
29-Jun-2023
14:27
ALSHS
Ser



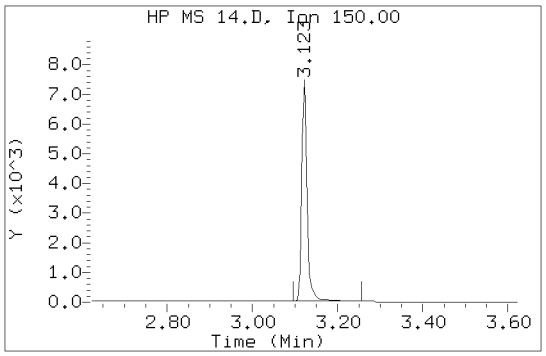
BEFORE

MASS
150
AREA
6228
HEIGHT
7441
16-Jun-2023
15:06
ALSHS
Server



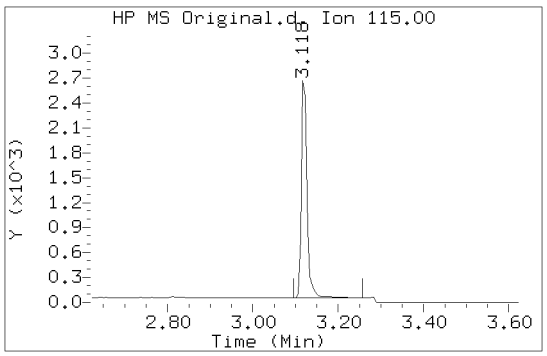
AFTER

MASS
150
AREA
6228
HEIGHT
7441
29-Jun-2023
14:27
ALSHS
Ser



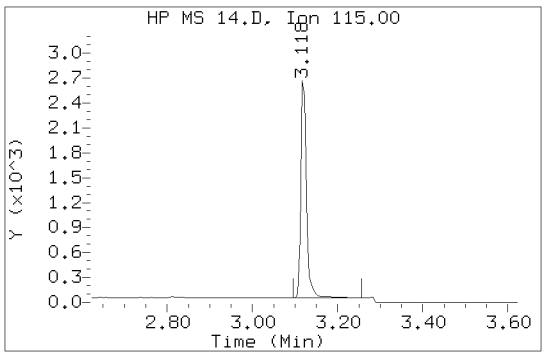
BEFORE

MASS
115
AREA
2367
HEIGHT
2615
16-Jun-2023
15:06
ALSHS
Server



AFTER

MASS
115
AREA
2367
HEIGHT
2615
29-Jun-2023
14:27
ALSHS
Ser

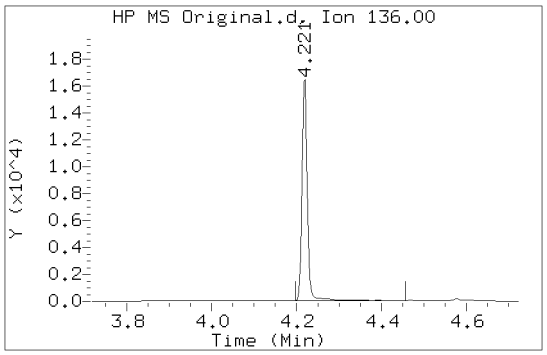


Naphthalene-d8 (1146-65-2)

Reason Code:

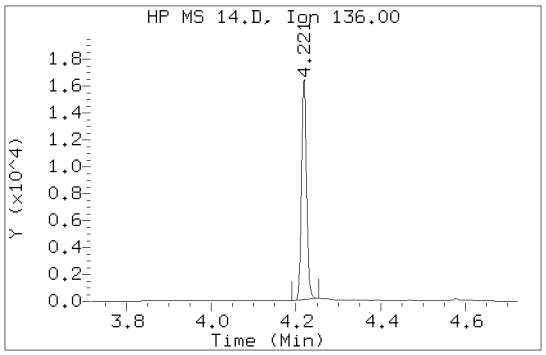
BEFORE

MASS
136
AREA
14856
HEIGHT
16448
16-Jun-2023
15:06
ALSHS
Server



AFTER

MASS
136
AREA
13989
HEIGHT
16349
29-Jun-2023
14:27
ALSHS
Ser



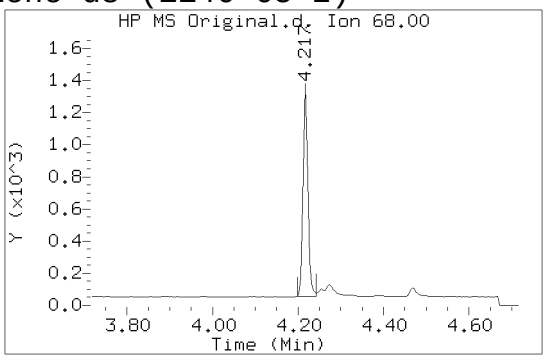
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\14.D
Inj Date : 16-JUN-2023 14:51
InstruID : SV6.i
LabSampID : 14DXICAL-0.5

Naphthalene-d8 (1146-65-2)

Reason Code:

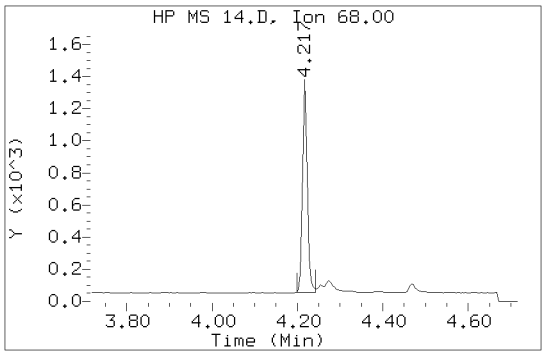
BEFORE

MASS
68
AREA
1074
HEIGHT
1326
16-Jun-2023
15:06
ALSHS
Server



AFTER

MASS
68
AREA
1074
HEIGHT
1326
29-Jun-2023
14:27
ALSHS
Ser

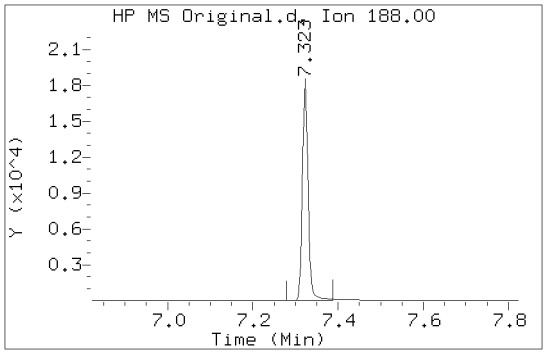


Phenanthrene-d10 (1517-22-2)

Reason Code:

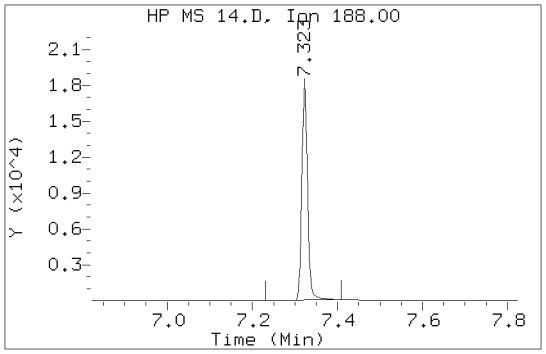
BEFORE

MASS
188
AREA
16664
HEIGHT
18523
16-Jun-2023
15:06
ALSHS
Server



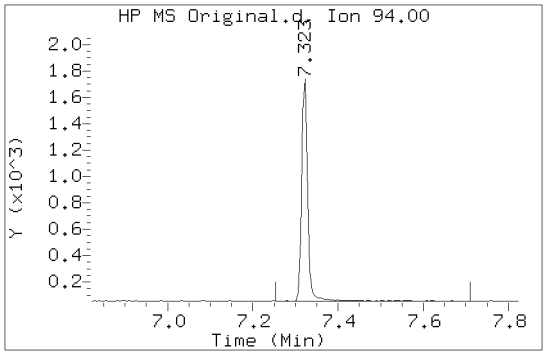
AFTER

MASS
188
AREA
16472
HEIGHT
18498
29-Jun-2023
14:27
ALSHS
Ser



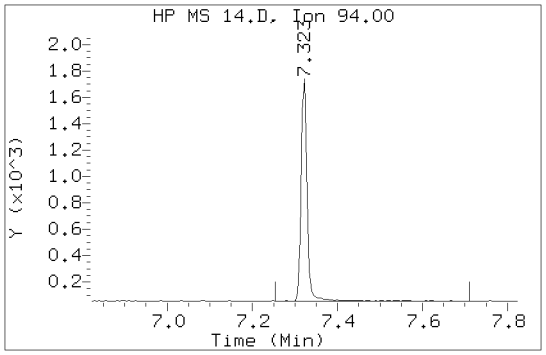
BEFORE

MASS
94
AREA
1634
HEIGHT
1685
16-Jun-2023
15:06
ALSHS
Server



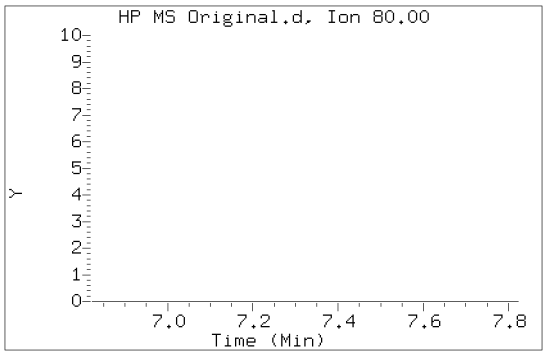
AFTER

MASS
94
AREA
1634
HEIGHT
1685
29-Jun-2023
14:27
ALSHS
Ser



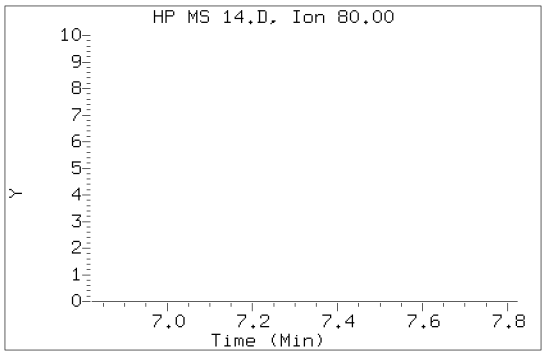
BEFORE

MASS
80
AREA
0
HEIGHT
0
16-Jun-2023
15:06
ALSHS
Server



AFTER

MASS
80
AREA
0
HEIGHT
0
29-Jun-2023
14:27
ALSHS
Ser

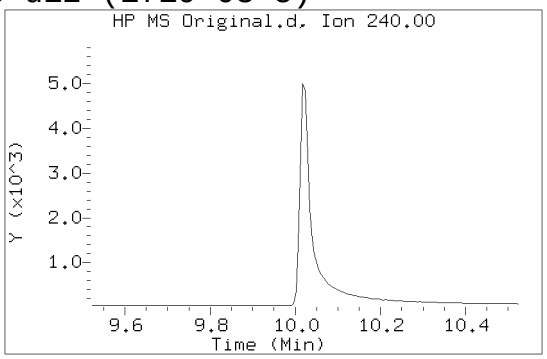


Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\14.D
Inj Date : 16-JUN-2023 14:51
InstruID : SV6.i
LabSampID : 14DXICAL-0.5

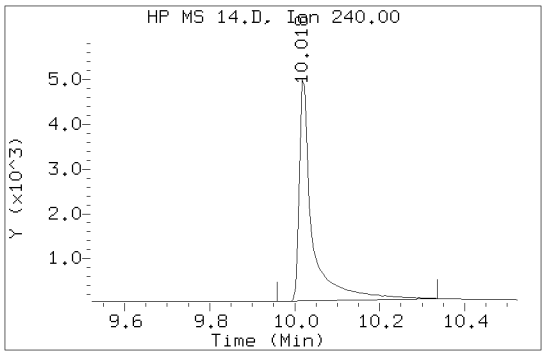
Chrysene-d12 (1719-03-5)

Reason Code:

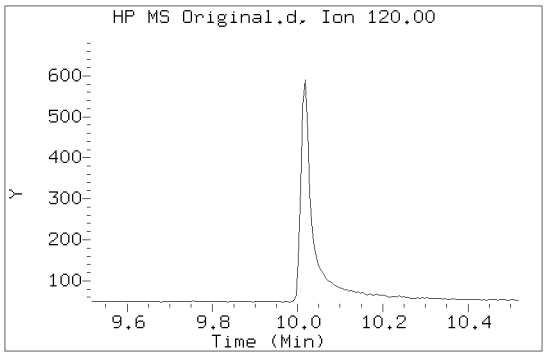
BEFORE
MASS
240
AREA
0
HEIGHT
0
16-Jun-2023
15:06
ALSHS
Server



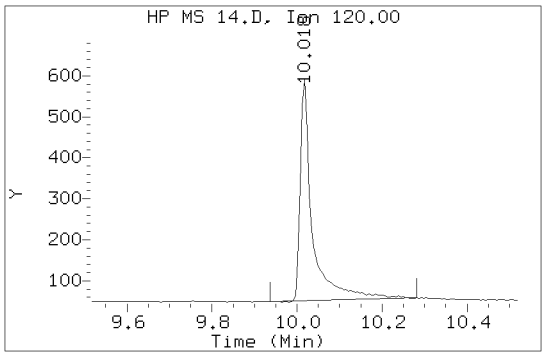
AFTER
MASS
240
AREA
10483
HEIGHT
4943
29-Jun-2023
14:27
ALSHS
Ser



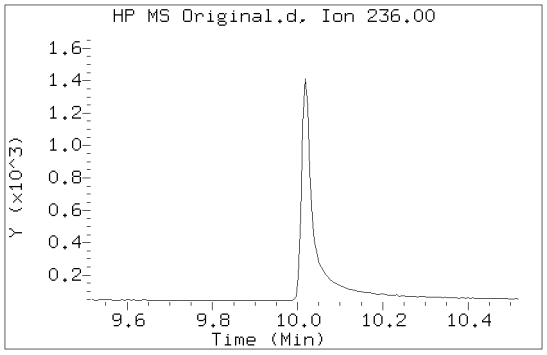
BEFORE
MASS
120
AREA
0
HEIGHT
0
16-Jun-2023
15:06
ALSHS
Server



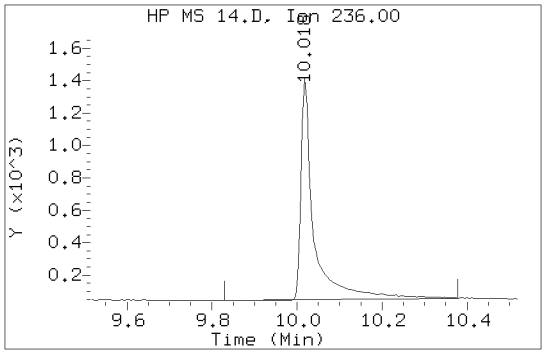
AFTER
MASS
120
AREA
1068
HEIGHT
538
29-Jun-2023
14:27
ALSHS
Ser



BEFORE
MASS
236
AREA
0
HEIGHT
0
16-Jun-2023
15:06
ALSHS
Server



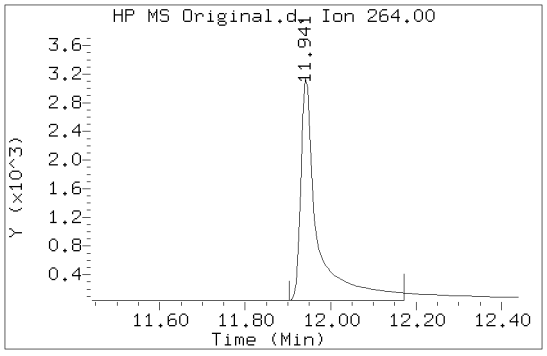
AFTER
MASS
236
AREA
2872
HEIGHT
1362
29-Jun-2023
14:27
ALSHS
Ser



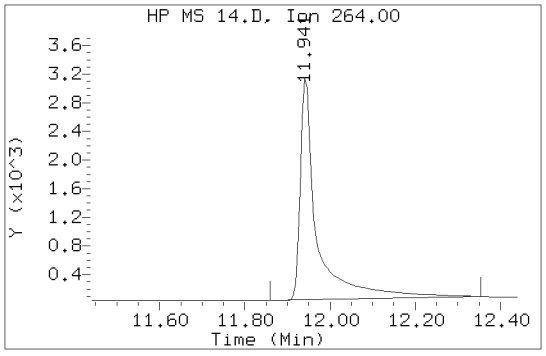
Perylene-d12 (1520-96-3)

Reason Code:

BEFORE
MASS
264
AREA
8406
HEIGHT
3088
16-Jun-2023
15:06
ALSHS
Server



AFTER
MASS
264
AREA
8460
HEIGHT
3081
29-Jun-2023
14:27
ALSHS
Ser



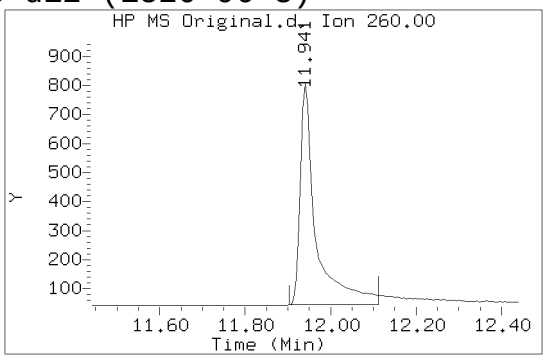
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\14.D
Inj Date : 16-JUN-2023 14:51
InstruID : SV6.i
LabSampID : 14DXICAL-0.5

Perylene-d12 (1520-96-3)

Reason Code:

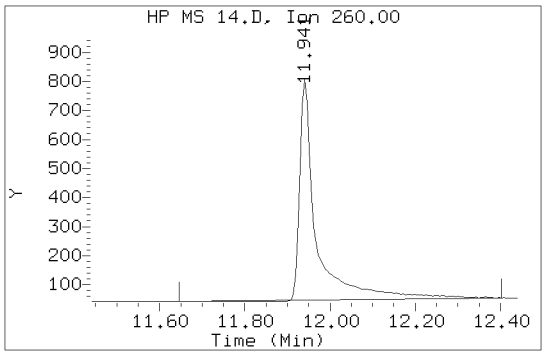
BEFORE

MASS
260
AREA
1950
HEIGHT
761
16-Jun-2023
15:06
ALSHS
Server



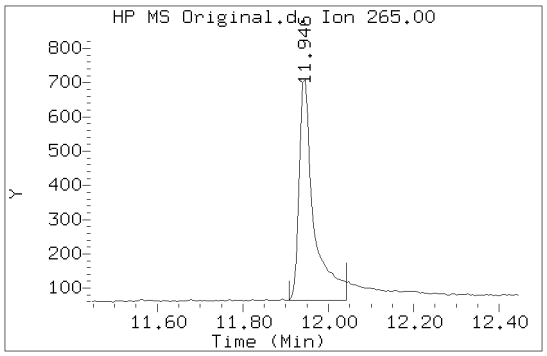
AFTER

MASS
260
AREA
2034
HEIGHT
757
29-Jun-2023
14:27
ALSHS
Ser



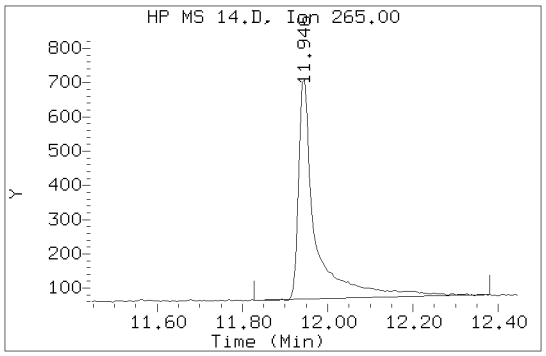
BEFORE

MASS
265
AREA
1539
HEIGHT
643
16-Jun-2023
15:06
ALSHS
Server



AFTER

MASS
265
AREA
1765
HEIGHT
639
29-Jun-2023
14:27
ALSHS
Ser

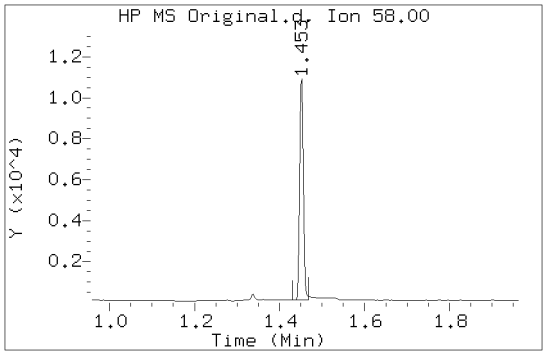


1,4-Dioxane ()

Reason Code:

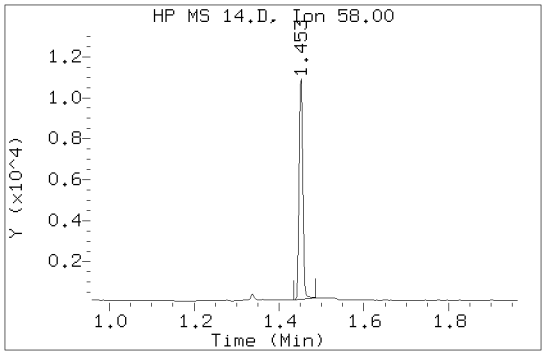
BEFORE

MASS
58
AREA
6535
HEIGHT
10789
16-Jun-2023
15:06
ALSHS
Server



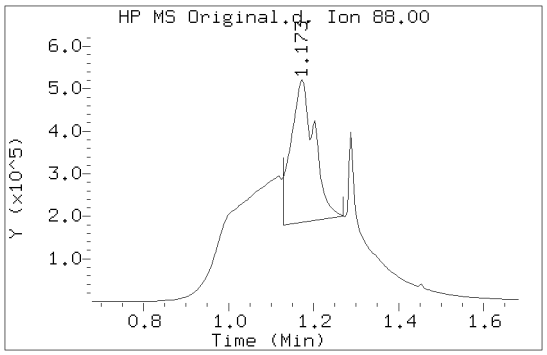
AFTER

MASS
58
AREA
6496
HEIGHT
10751
29-Jun-2023
14:27
ALSHS
Ser



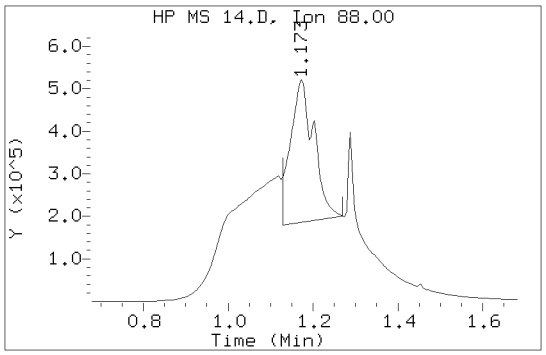
BEFORE

MASS
88
AREA
1285756
HEIGHT
334955
16-Jun-2023
15:06
ALSHS
Server



AFTER

MASS
88
AREA
1285756
HEIGHT
334955
29-Jun-2023
14:27
ALSHS
Ser



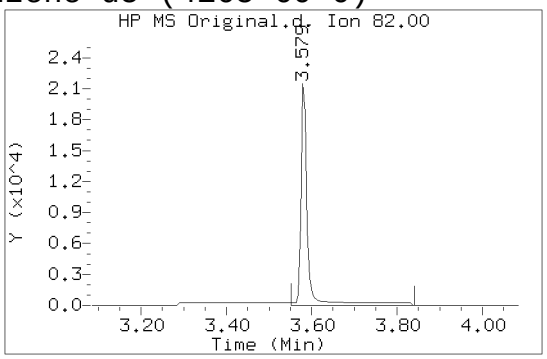
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Inj Date : 16-JUN-2023 14:51
InstruID : SV6.i
LabSampID : 14DXICAL-0.5

Nitrobenzene-d5 (4165-60-0)

Reason Code:

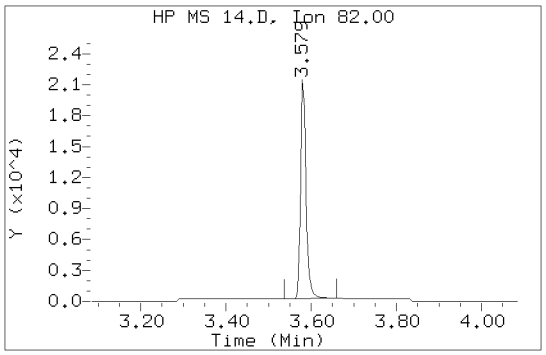
BEFORE

MASS
82
AREA
23560
HEIGHT
21488
16-Jun-2023
15:06
ALSHS
Server



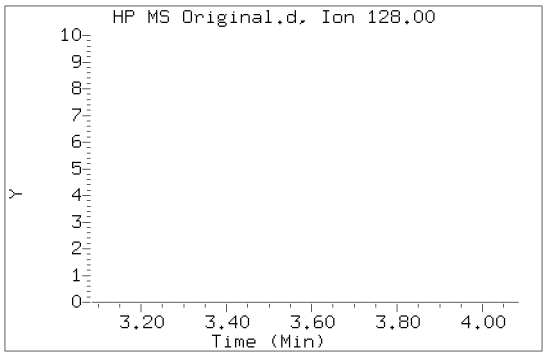
AFTER

MASS
82
AREA
19311
HEIGHT
21230
29-Jun-2023
14:27
ALSHS
Ser



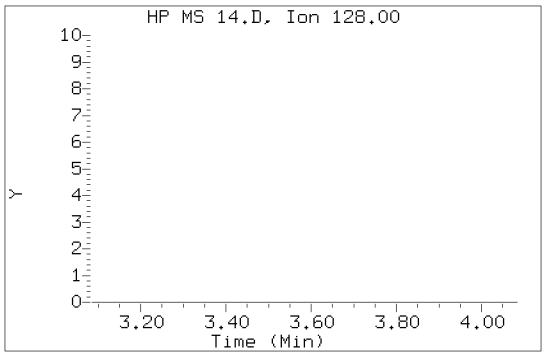
BEFORE

MASS
128
AREA
0
HEIGHT
0
16-Jun-2023
15:06
ALSHS
Server



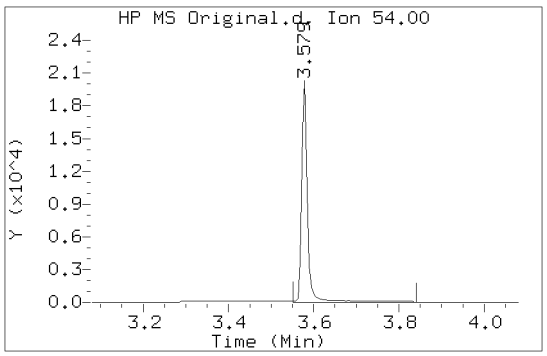
AFTER

MASS
128
AREA
0
HEIGHT
0
29-Jun-2023
14:27
ALSHS
Ser



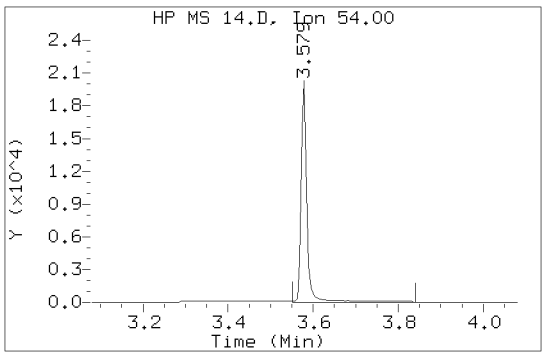
BEFORE

MASS
54
AREA
20065
HEIGHT
20304
16-Jun-2023
15:06
ALSHS
Server



AFTER

MASS
54
AREA
20065
HEIGHT
20304
29-Jun-2023
14:27
ALSHS
Ser

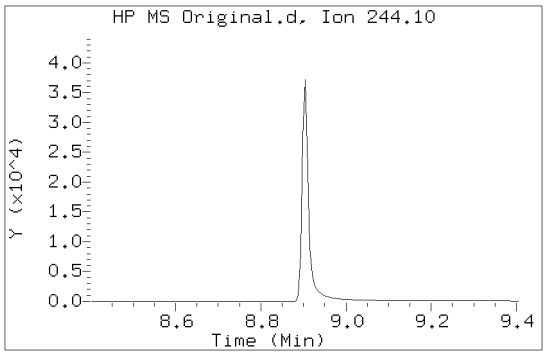


4-Terphenyl-d14 (1718-51-0)

Reason Code:

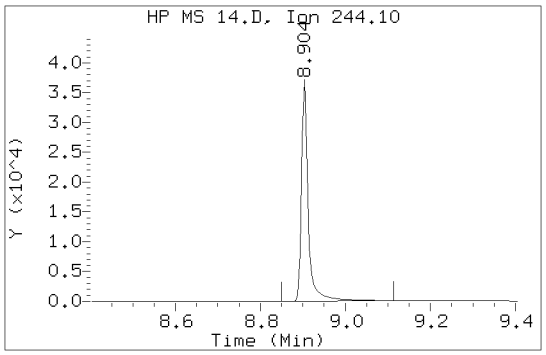
BEFORE

MASS
244.1
AREA
0
HEIGHT
0
16-Jun-2023
15:06
ALSHS
Server



AFTER

MASS
244.1
AREA
39805
HEIGHT
37107
29-Jun-2023
14:27
ALSHS
Ser



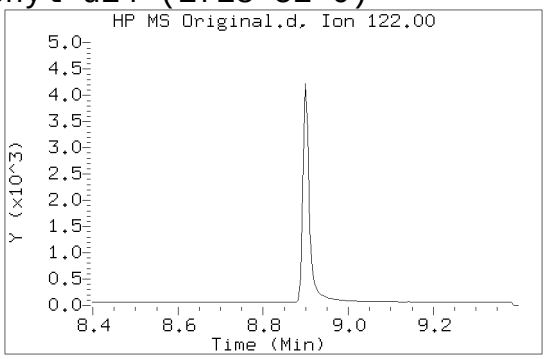
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\14.D
Inj Date : 16-JUN-2023 14:51
InstruID : SV6.i
LabSampID : 14DXICAL-0.5

4-Terphenyl-d14 (1718-51-0)

Reason Code:

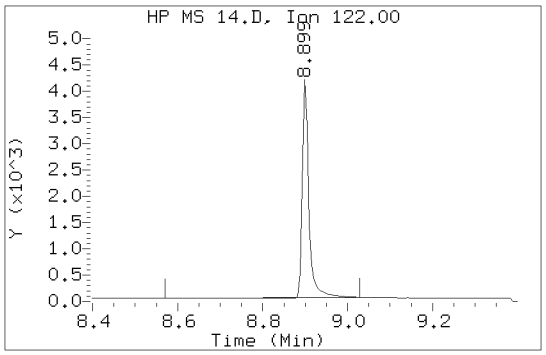
BEFORE

MASS
122
AREA
0
HEIGHT
0
16-Jun-2023
15:06
ALSHS
Server



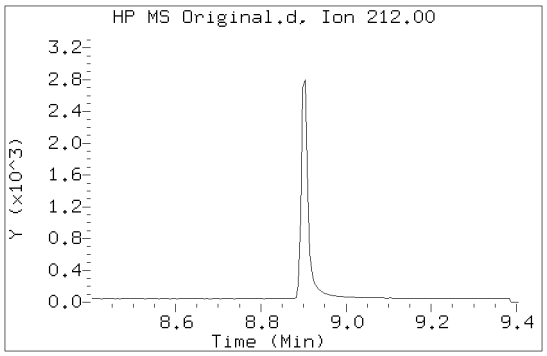
AFTER

MASS
122
AREA
4228
HEIGHT
4149
29-Jun-2023
14:27
ALSHS
Ser



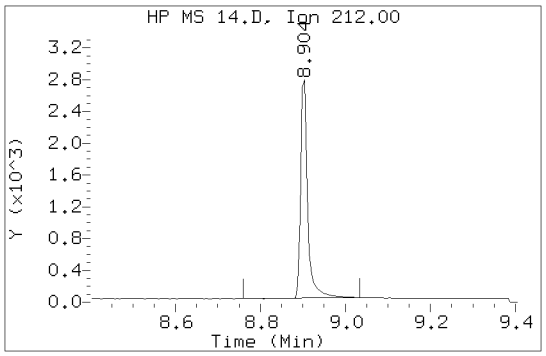
BEFORE

MASS
212
AREA
0
HEIGHT
0
16-Jun-2023
15:06
ALSHS
Server



AFTER

MASS
212
AREA
3105
HEIGHT
2745
29-Jun-2023
14:27
ALSHS
Ser

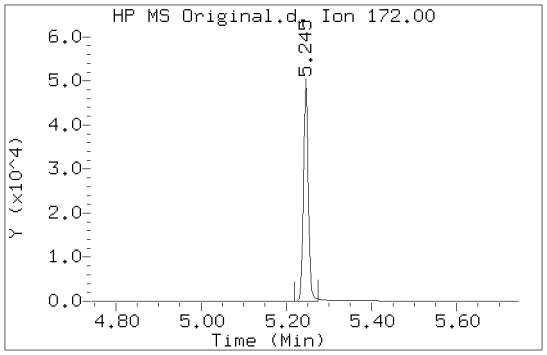


2-Fluorobiphenyl (321-60-8)

Reason Code:

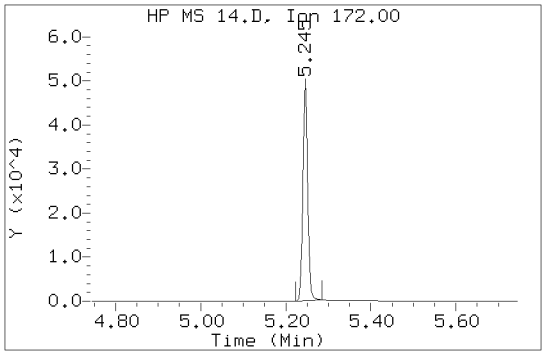
BEFORE

MASS
172
AREA
40002
HEIGHT
50410
16-Jun-2023
15:06
ALSHS
Server



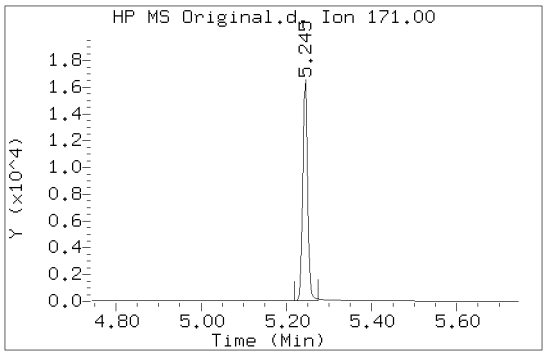
AFTER

MASS
172
AREA
39708
HEIGHT
50322
29-Jun-2023
14:27
ALSHS
Ser



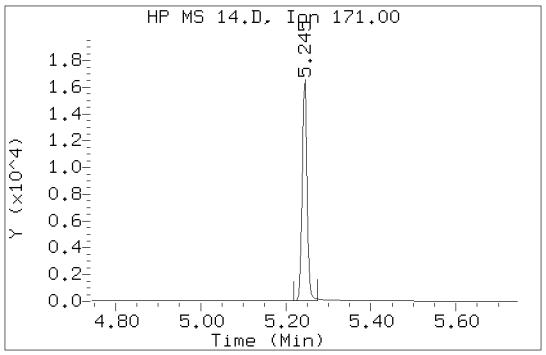
BEFORE

MASS
171
AREA
13389
HEIGHT
16514
16-Jun-2023
15:06
ALSHS
Server



AFTER

MASS
171
AREA
13389
HEIGHT
16514
29-Jun-2023
14:27
ALSHS
Ser



Data File: \\NAHSTWS005\Target\chem\SV6.i\230616.b\15.D Page 1
Report Date: 29-Jun-2023 14:27

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\230616.b\15.D
Lab Smp Id: 14DXICAL-0.2 Client Smp ID: 14DXICAL-0.2
Inj Date : 16-JUN-2023 15:56
Operator : LG Inst ID: SV6.i
Smp Info : 14DXICAL-0.2RR
Misc Info : ;;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\SV6.i\230616.b\DXSIM.m
Meth Date : 29-Jun-2023 14:27 SV6.i Quant Type: ISTD
Cal Date : 16-JUN-2023 14:51 Cal File: 14.D
Als bottle: 15 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 20 1,4-Dichlorobenzene-d4	152	3.122	3.122	(1.000)	3731	0.10000	(aM)
* 45 Naphthalene-d8	136	4.220	4.220	(1.000)	12688	0.10000	(M)
$ 33 Nitrobenzene-d5	82	3.584	3.584	(0.849)	8839	0.20000	0.2304(AM)
* 86 Acenaphthene-d10	164	5.883	5.883	(1.000)	7256	0.10000	(M)
$ 69 2-Fluorobiphenyl	172	5.245	5.245	(0.891)	18173	0.20000	0.2446(AM)
* 126 Phenanthrene-d10	188	7.322	7.322	(1.000)	14346	0.10000	
* 182 Chrysene-d12	240	10.023	10.023	(1.000)	8796	0.10000	(M)
$ 158 4-Terphenyl-d14	244	8.904	8.904	(0.888)	17639	0.20000	0.2748(AM)
* 198 Perylene-d12	264	11.940	11.940	(1.000)	6565	0.10000	(M)
1 1,4-Dioxane	58	1.460	1.460	(0.468)	2996	0.20000	0.2384(Q)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount
exceeded maximum amount.
Q - Qualifier signal failed the ratio test.

M - Compound response manually integrated.

01246906

Data File: \\NAHSTWS005\Target\chem\SV6.i\230616.b\15.D

Date : 16-JUN-2023 15:56

Client ID: 14DXICAL-0.2

Instrument: SV6.i

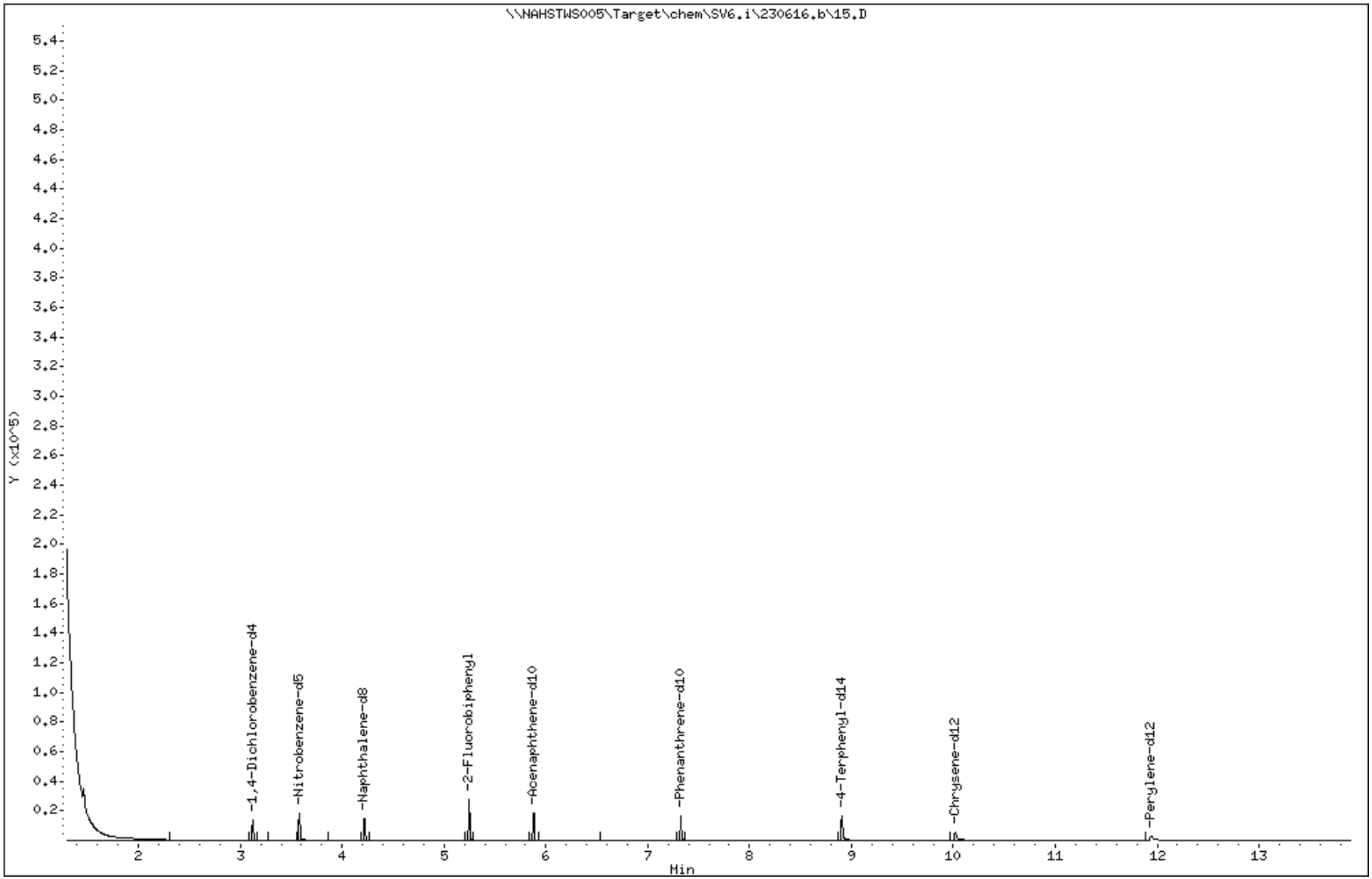
Sample Info: 14DXICAL-0.2RR

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28



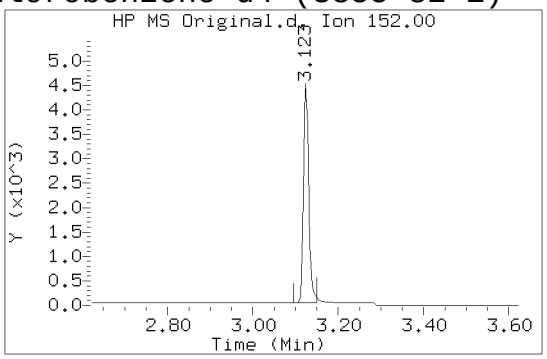
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\15.D
Inj Date : 16-JUN-2023 15:56
InstruID : SV6.i
LabSampID : 14DXICAL-0.2

1,4-Dichlorobenzene-d4 (3855-82-1)

Reason Code:

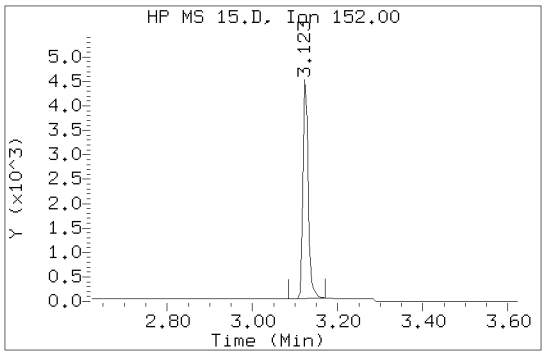
BEFORE

MASS
152
AREA
3749
HEIGHT
4489
16-Jun-2023
16:11
ALSHS
Server



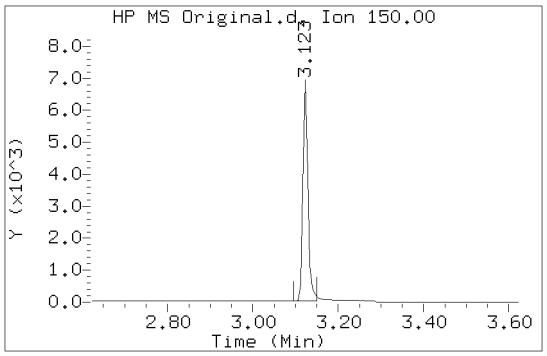
AFTER

MASS
152
AREA
3731
HEIGHT
4478
29-Jun-2023
14:27
ALSHS
Ser



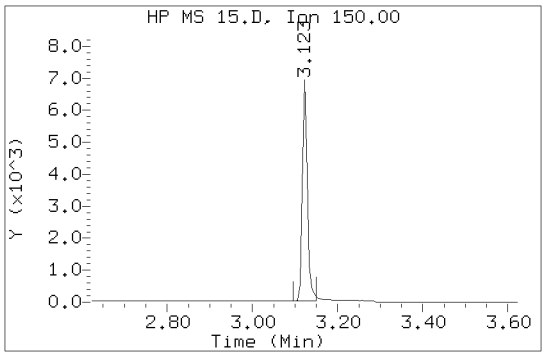
BEFORE

MASS
150
AREA
5426
HEIGHT
6903
16-Jun-2023
16:11
ALSHS
Server



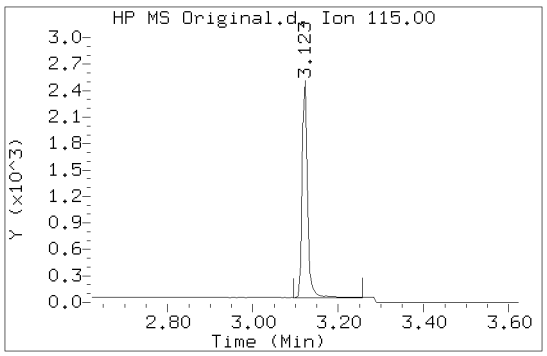
AFTER

MASS
150
AREA
5426
HEIGHT
6903
29-Jun-2023
14:27
ALSHS
Ser



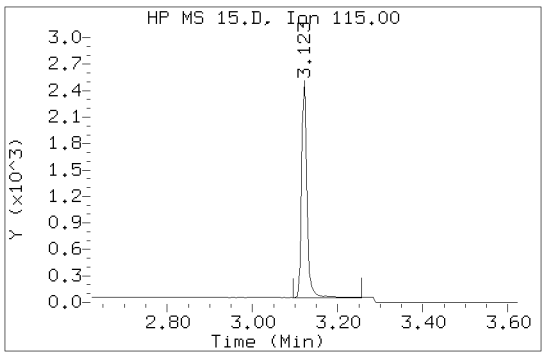
BEFORE

MASS
115
AREA
2094
HEIGHT
2459
16-Jun-2023
16:11
ALSHS
Server



AFTER

MASS
115
AREA
2094
HEIGHT
2459
29-Jun-2023
14:27
ALSHS
Ser

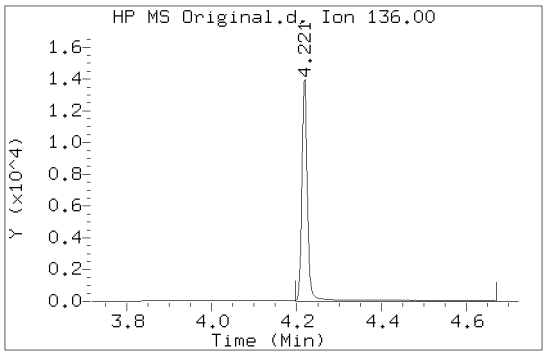


Naphthalene-d8 (1146-65-2)

Reason Code:

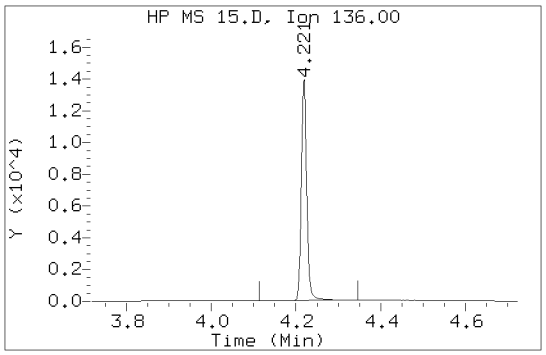
BEFORE

MASS
136
AREA
14465
HEIGHT
13959
16-Jun-2023
16:11
ALSHS
Server



AFTER

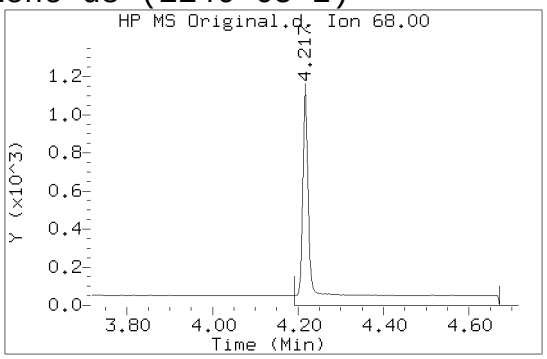
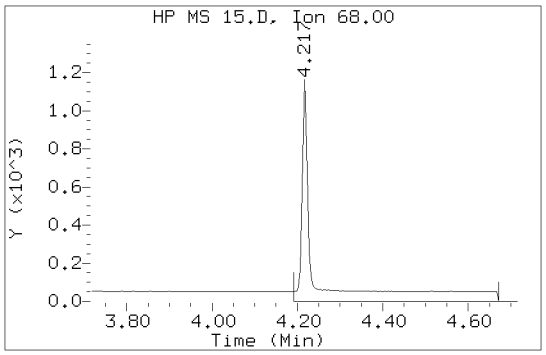
MASS
136
AREA
12688
HEIGHT
13897
29-Jun-2023
14:27
ALSHS
Ser



Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\15.D
Inj Date : 16-JUN-2023 15:56
InstruID : SV6.i
LabSampID : 14DXICAL-0.2

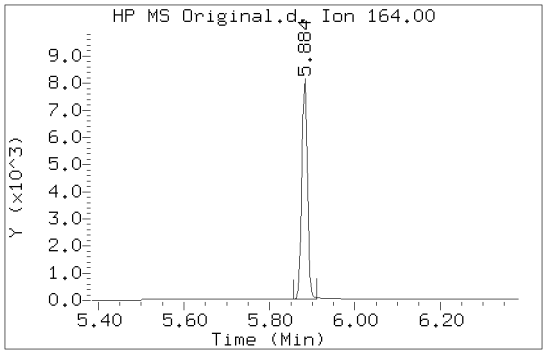
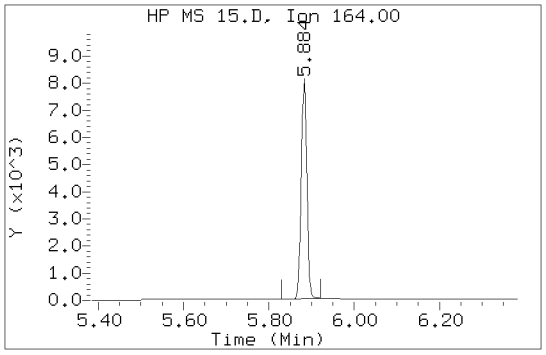
Naphthalene-d8 (1146-65-2)

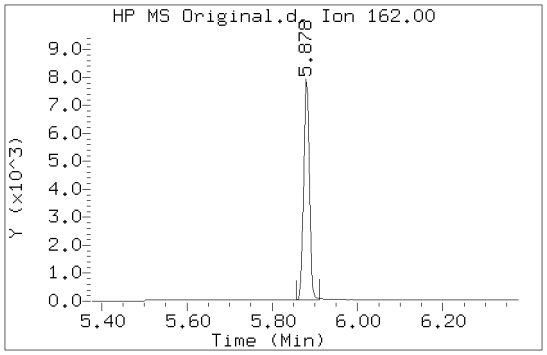
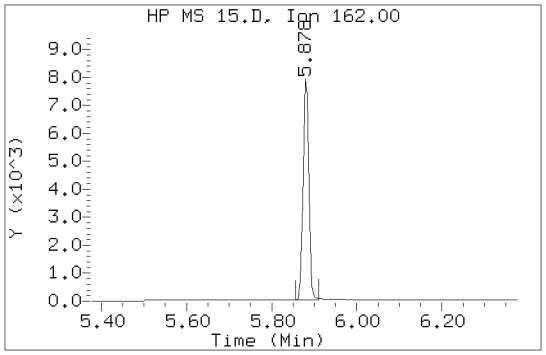
Reason Code:

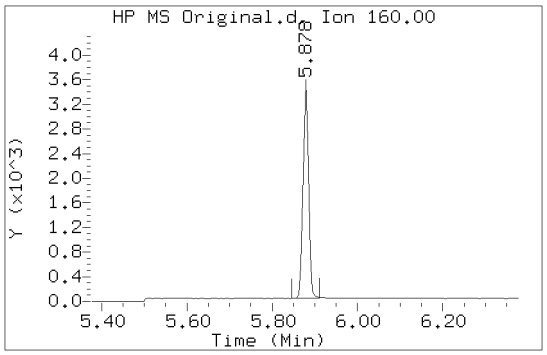
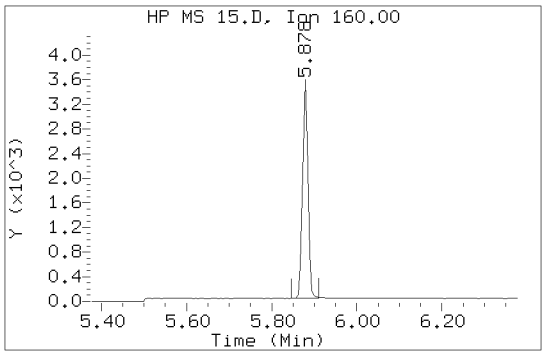
BEFORE		AFTER	
MASS		MASS	
68		68	
AREA		AREA	
2461		2461	
HEIGHT		HEIGHT	
1163		1163	
16-Jun-2023		29-Jun-2023	
16:11		14:27	
ALSHS		ALSHS	
Server		Ser	

Acenaphthene-d10 (15067-26-2)

Reason Code:

BEFORE		AFTER	
MASS		MASS	
164		164	
AREA		AREA	
7305		7256	
HEIGHT		HEIGHT	
8114		8100	
16-Jun-2023		29-Jun-2023	
16:11		14:27	
ALSHS		ALSHS	
Server		Ser	

BEFORE		AFTER	
MASS		MASS	
162		162	
AREA		AREA	
7389		7389	
HEIGHT		HEIGHT	
7893		7893	
16-Jun-2023		29-Jun-2023	
16:11		14:27	
ALSHS		ALSHS	
Server		Ser	

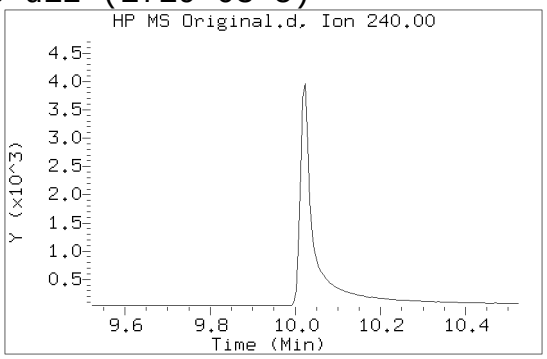
BEFORE		AFTER	
MASS		MASS	
160		160	
AREA		AREA	
3110		3110	
HEIGHT		HEIGHT	
3554		3554	
16-Jun-2023		29-Jun-2023	
16:11		14:27	
ALSHS		ALSHS	
Server		Ser	

Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\15.D
Inj Date : 16-JUN-2023 15:56
InstruID : SV6.i
LabSampID : 14DXICAL-0.2

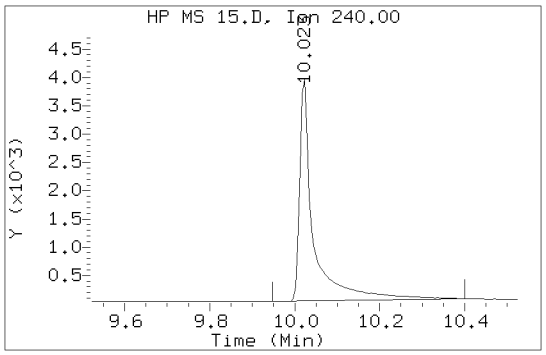
Chrysene-d12 (1719-03-5)

Reason Code:

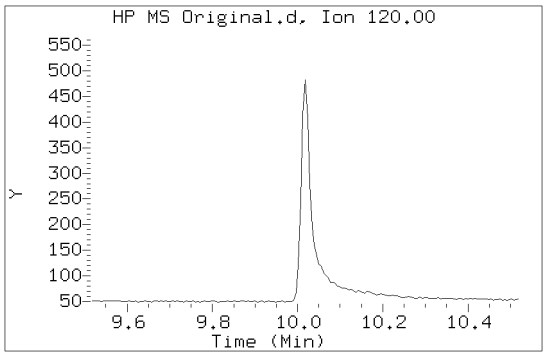
BEFORE
MASS
240
AREA
0
HEIGHT
0
16-Jun-2023
16:11
ALSHS
Server



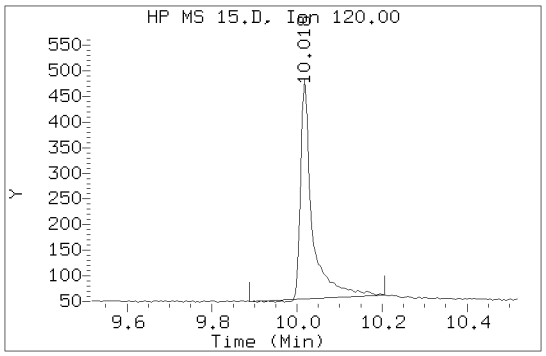
AFTER
MASS
240
AREA
8796
HEIGHT
3907
29-Jun-2023
14:27
ALSHS
Ser



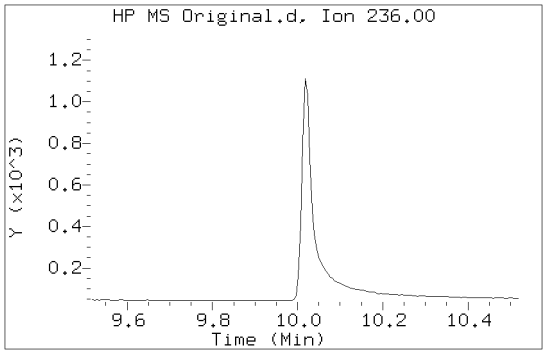
BEFORE
MASS
120
AREA
0
HEIGHT
0
16-Jun-2023
16:11
ALSHS
Server



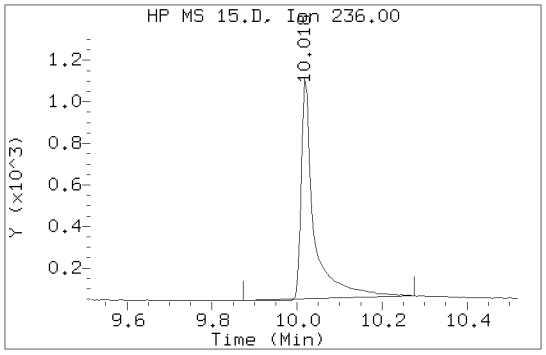
AFTER
MASS
120
AREA
798
HEIGHT
426
29-Jun-2023
14:27
ALSHS
Ser



BEFORE
MASS
236
AREA
0
HEIGHT
0
16-Jun-2023
16:11
ALSHS
Server



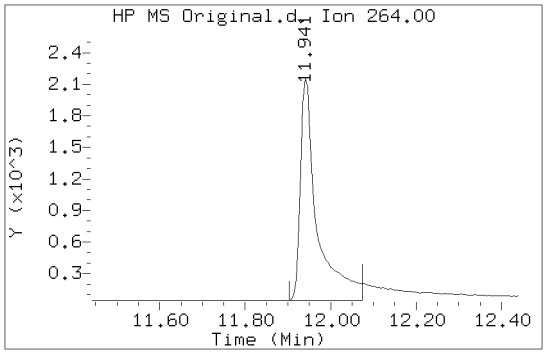
AFTER
MASS
236
AREA
2198
HEIGHT
1058
29-Jun-2023
14:27
ALSHS
Ser



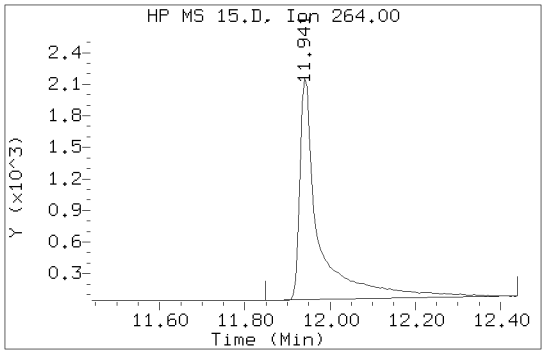
Perylene-d12 (1520-96-3)

Reason Code:

BEFORE
MASS
264
AREA
5713
HEIGHT
2106
16-Jun-2023
16:11
ALSHS
Server



AFTER
MASS
264
AREA
6565
HEIGHT
2100
29-Jun-2023
14:27
ALSHS
Ser



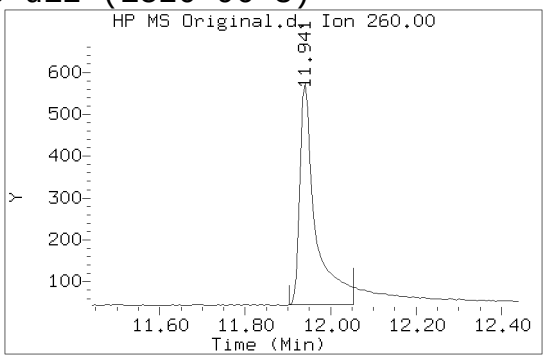
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Inj Date : 16-JUN-2023 15:56
InstruID : SV6.i
LabSampID : 14DXICAL-0.2

Perylene-d12 (1520-96-3)

Reason Code:

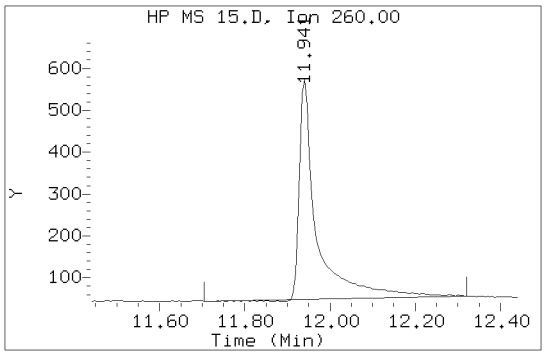
BEFORE

MASS
260
AREA
1348
HEIGHT
528
16-Jun-2023
16:11
ALSHS
Server



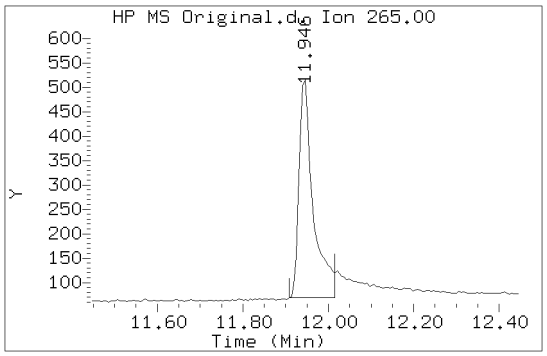
AFTER

MASS
260
AREA
1491
HEIGHT
524
29-Jun-2023
14:27
ALSHS
Ser



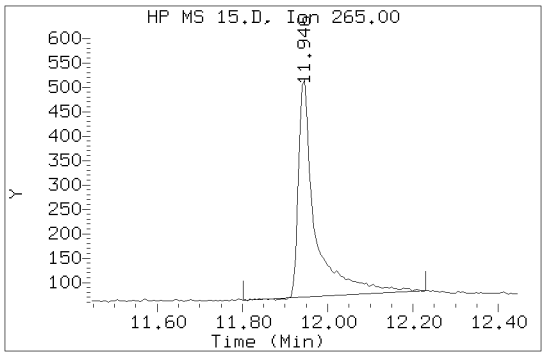
BEFORE

MASS
265
AREA
1037
HEIGHT
446
16-Jun-2023
16:11
ALSHS
Server



AFTER

MASS
265
AREA
1210
HEIGHT
444
29-Jun-2023
14:27
ALSHS
Ser

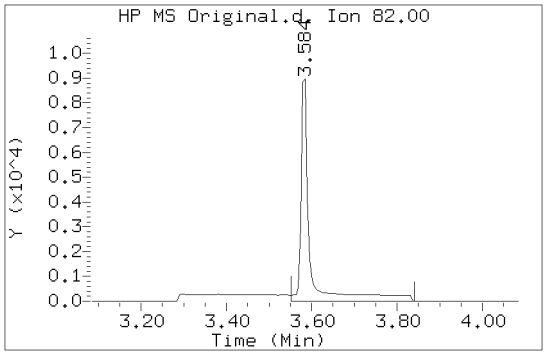


Nitrobenzene-d5 (4165-60-0)

Reason Code:

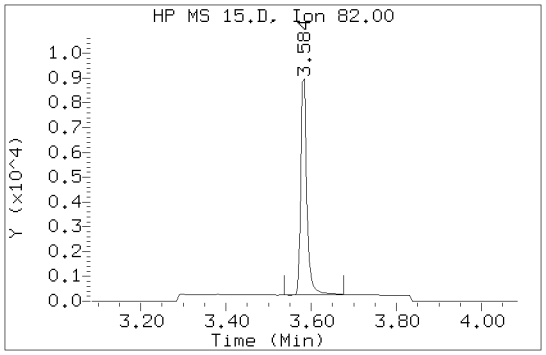
BEFORE

MASS
82
AREA
13113
HEIGHT
8968
16-Jun-2023
16:11
ALSHS
Server



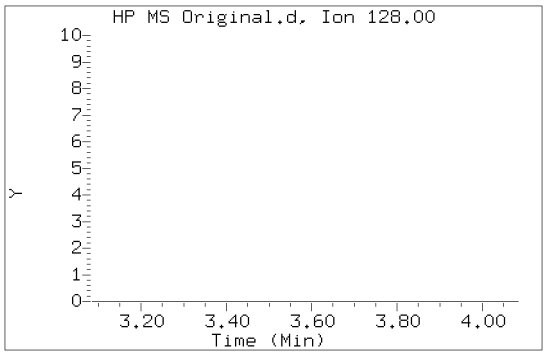
AFTER

MASS
82
AREA
8839
HEIGHT
8709
29-Jun-2023
14:27
ALSHS
Ser



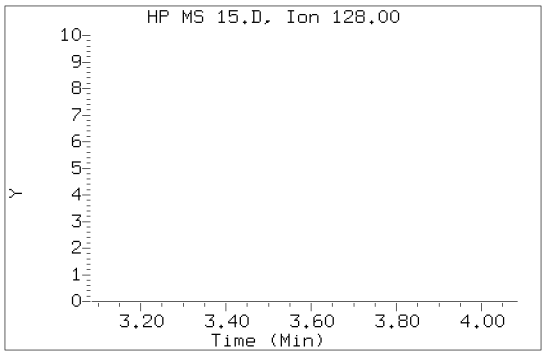
BEFORE

MASS
128
AREA
0
HEIGHT
0
16-Jun-2023
16:11
ALSHS
Server



AFTER

MASS
128
AREA
0
HEIGHT
0
29-Jun-2023
14:27
ALSHS
Ser



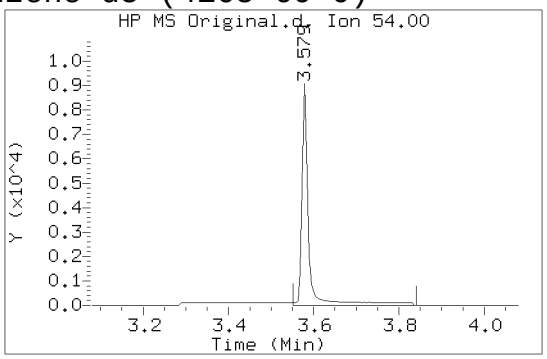
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\15.D
Inj Date : 16-JUN-2023 15:56
InstruID : SV6.i
LabSampID : 14DXICAL-0.2

Nitrobenzene-d5 (4165-60-0)

Reason Code:

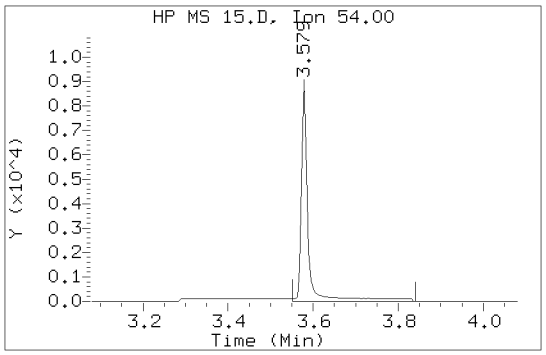
BEFORE

MASS
54
AREA
10106
HEIGHT
9078
16-Jun-2023
16:11
ALSHS
Server



AFTER

MASS
54
AREA
10106
HEIGHT
9078
29-Jun-2023
14:27
ALSHS
Ser

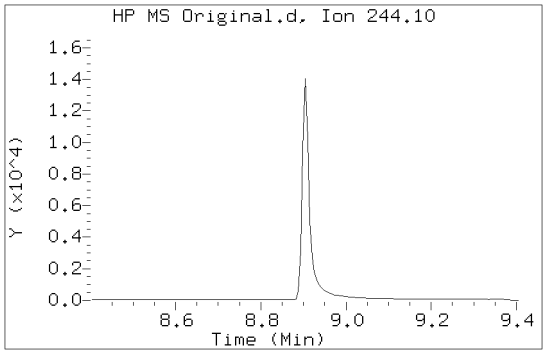


4-Terphenyl-d14 (1718-51-0)

Reason Code:

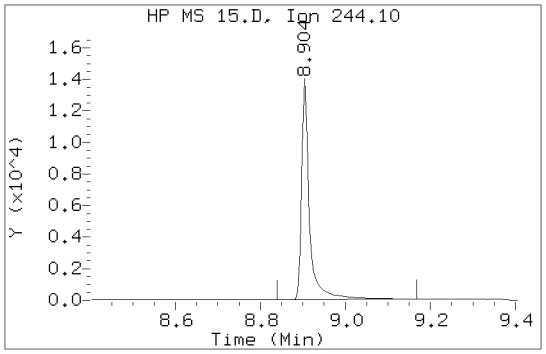
BEFORE

MASS
244.1
AREA
0
HEIGHT
0
16-Jun-2023
16:11
ALSHS
Server



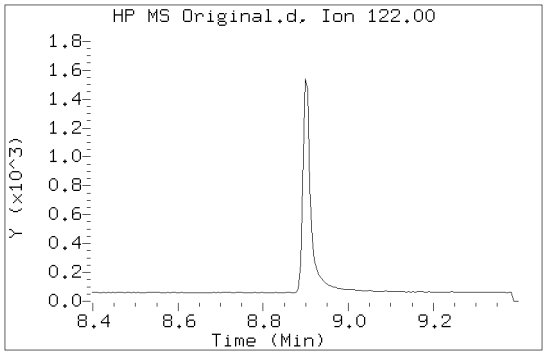
AFTER

MASS
244.1
AREA
17639
HEIGHT
13989
29-Jun-2023
14:27
ALSHS
Ser



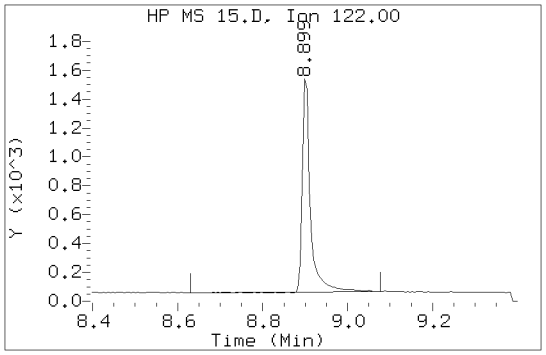
BEFORE

MASS
122
AREA
0
HEIGHT
0
16-Jun-2023
16:11
ALSHS
Server



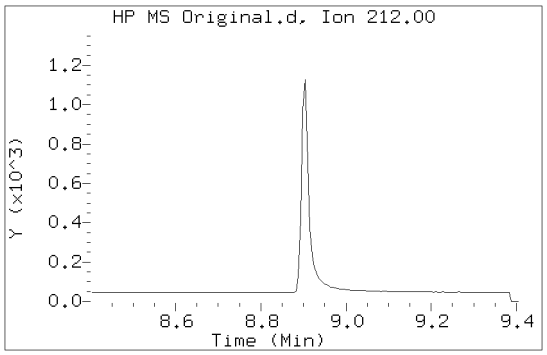
AFTER

MASS
122
AREA
1896
HEIGHT
1474
29-Jun-2023
14:27
ALSHS
Ser



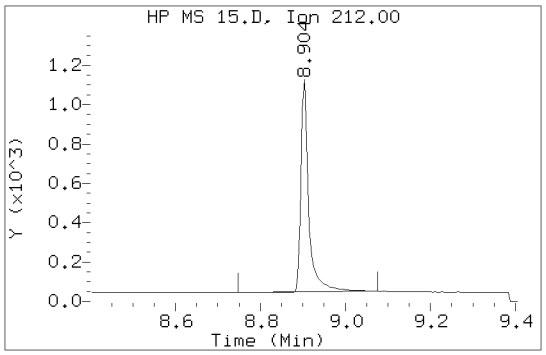
BEFORE

MASS
212
AREA
0
HEIGHT
0
16-Jun-2023
16:11
ALSHS
Server



AFTER

MASS
212
AREA
1371
HEIGHT
1079
29-Jun-2023
14:27
ALSHS
Ser



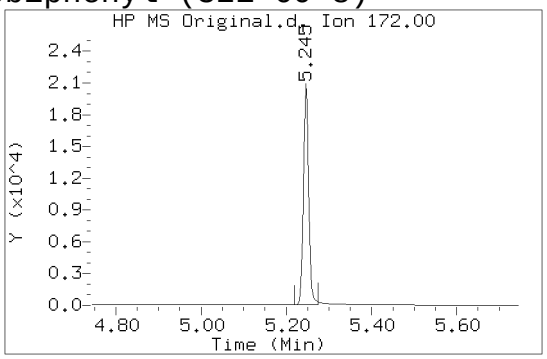
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Inj Date : 16-JUN-2023 15:56
InstruID : SV6.i
LabSampID : 14DXICAL-0.2

2-Fluorobiphenyl (321-60-8)

Reason Code:

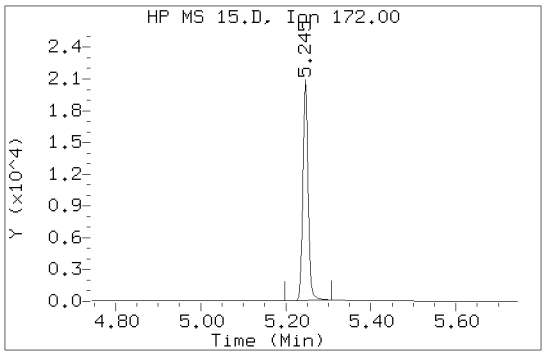
BEFORE

MASS
172
AREA
18197
HEIGHT
20880
16-Jun-2023
16:11
ALSHS
Server



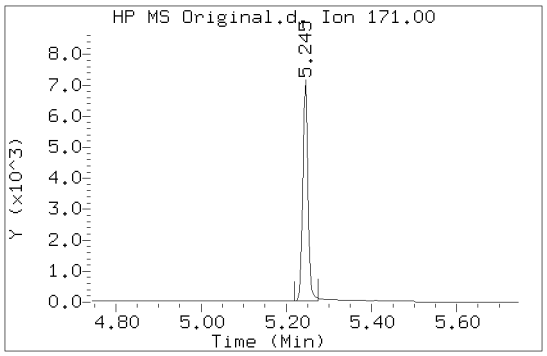
AFTER

MASS
172
AREA
18173
HEIGHT
20843
29-Jun-2023
14:27
ALSHS
Ser



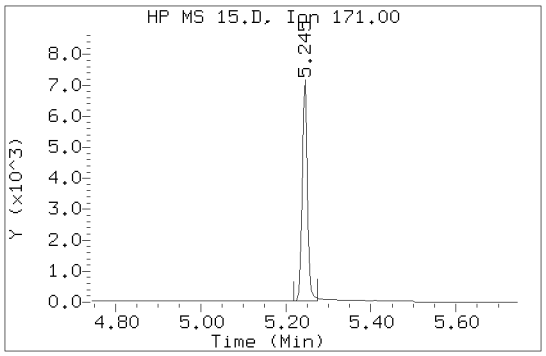
BEFORE

MASS
171
AREA
6120
HEIGHT
7129
16-Jun-2023
16:11
ALSHS
Server



AFTER

MASS
171
AREA
6120
HEIGHT
7129
29-Jun-2023
14:27
ALSHS
Ser



ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\230616.b\16.D
Lab Smp Id: 14DXICV-0.08 Client Smp ID: 14DXICV-0.08
Inj Date : 16-JUN-2023 16:22
Operator : LG Inst ID: SV6.i
Smp Info : 14DXICV-0.08
Misc Info : ;;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\SV6.i\230616.b\DXSIM.m
Meth Date : 29-Jun-2023 14:27 SV6.i Quant Type: ISTD
Cal Date : 16-JUN-2023 15:56 Cal File: 15.D
Als bottle: 16 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	FINAL (ug/L)
* 20 1,4-Dichlorobenzene-d4	152	3.128	3.122	(1.000)	5295	0.10000	(aM)
* 45 Naphthalene-d8	136	4.220	4.220	(1.000)	17725	0.10000	(M)
$ 33 Nitrobenzene-d5	82	3.584	3.584	(0.849)	3797	0.07086	0.07086(M)
* 86 Acenaphthene-d10	164	5.883	5.883	(1.000)	10379	0.10000	(M)
$ 69 2-Fluorobiphenyl	172	5.248	5.245	(0.892)	8542	0.08036	0.08036(M)
* 126 Phenanthrene-d10	188	7.328	7.322	(1.000)	20505	0.10000	(M)
* 182 Chrysene-d12	240	10.023	10.023	(1.000)	12662	0.10000	(M)
$ 158 4-Terphenyl-d14	244	8.909	8.904	(0.889)	7743	0.08379	0.08379(M)
* 198 Perylene-d12	264	11.945	11.940	(1.000)	10635	0.10000	(M)
1 1,4-Dioxane	58	1.464	1.460	(0.468)	1261	0.07070	0.07070(M)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

01246914

Data File: \\NAHSTWS005\Target\chem\SV6.i\230616.b\16.D

Date : 16-JUN-2023 16:22

Client ID: 14DXICV-0.08

Instrument: SV6.i

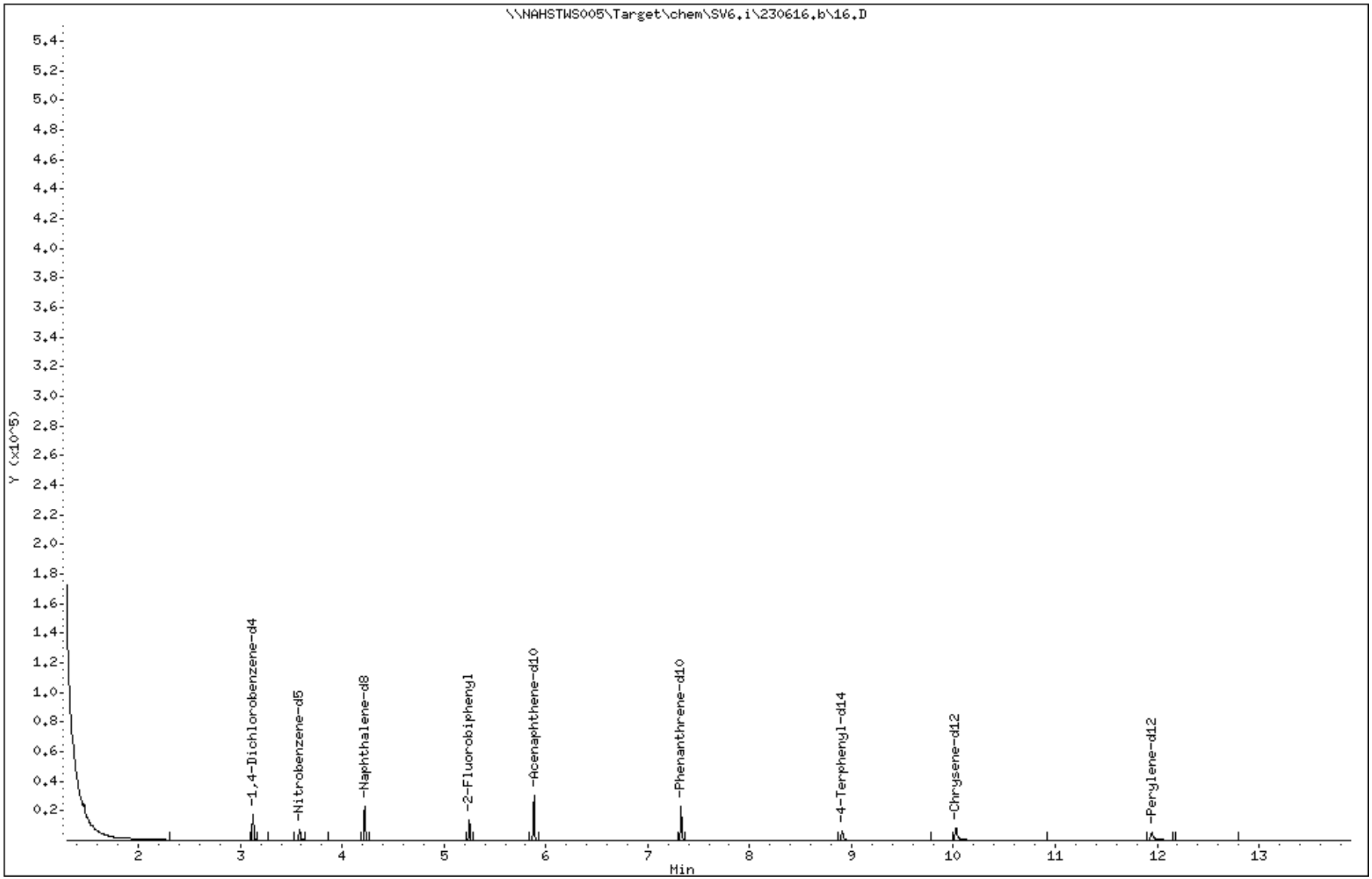
Sample Info: 14DXICV-0.08

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28



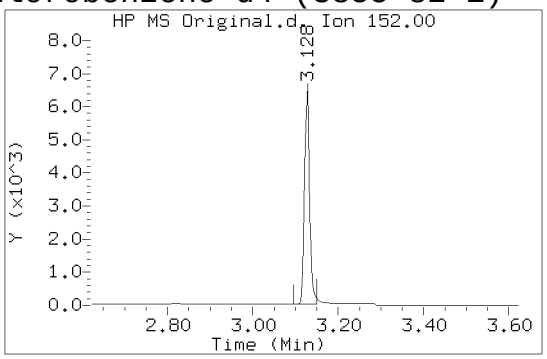
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\16.D
Inj Date : 16-JUN-2023 16:22
InstruID : SV6.i
LabSampID : 14DXICV-0.08

1,4-Dichlorobenzene-d4 (3855-82-1)

Reason Code:

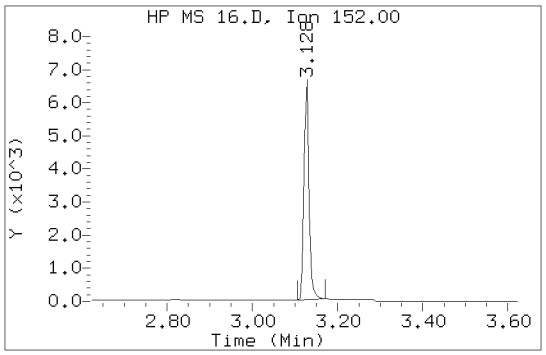
BEFORE

MASS
152
AREA
5292
HEIGHT
6650
16-Jun-2023
16:37
ALSHS
Server



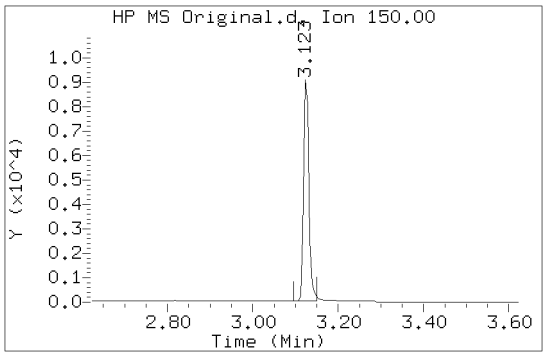
AFTER

MASS
152
AREA
5295
HEIGHT
6641
29-Jun-2023
14:27
ALSHS
Ser



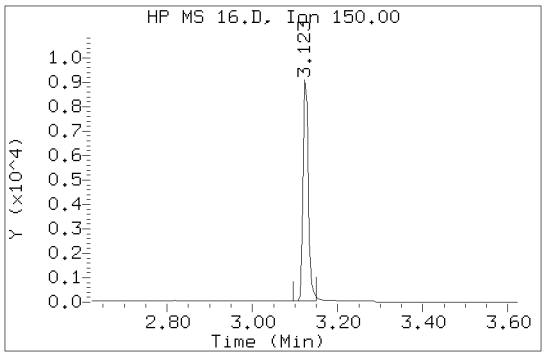
BEFORE

MASS
150
AREA
7668
HEIGHT
9050
16-Jun-2023
16:37
ALSHS
Server



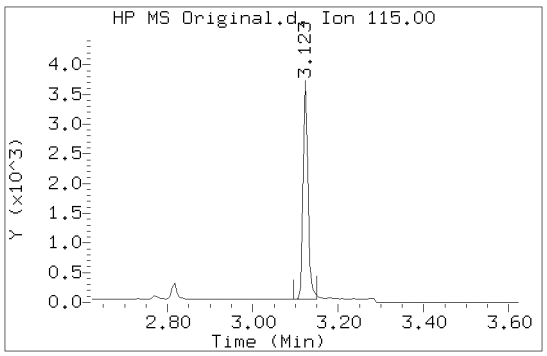
AFTER

MASS
150
AREA
7668
HEIGHT
9050
29-Jun-2023
14:27
ALSHS
Ser



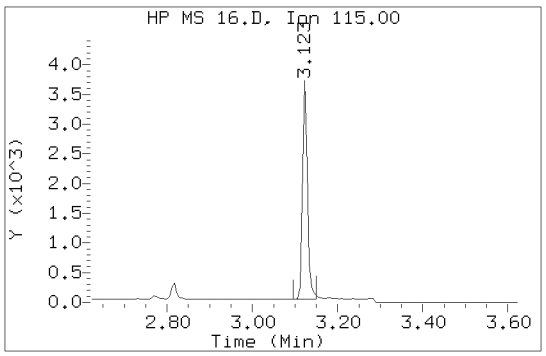
BEFORE

MASS
115
AREA
2824
HEIGHT
3676
16-Jun-2023
16:37
ALSHS
Server



AFTER

MASS
115
AREA
2824
HEIGHT
3676
29-Jun-2023
14:27
ALSHS
Ser

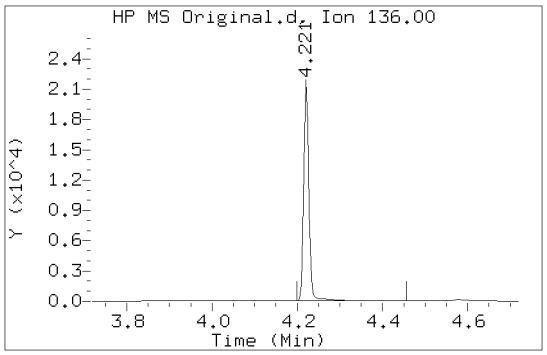


Naphthalene-d8 (1146-65-2)

Reason Code:

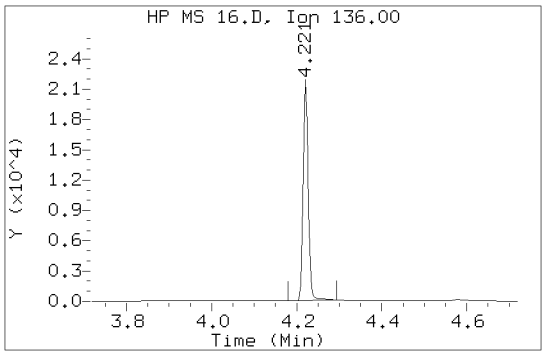
BEFORE

MASS
136
AREA
18147
HEIGHT
21880
16-Jun-2023
16:37
ALSHS
Server



AFTER

MASS
136
AREA
17725
HEIGHT
21858
29-Jun-2023
14:27
ALSHS
Ser



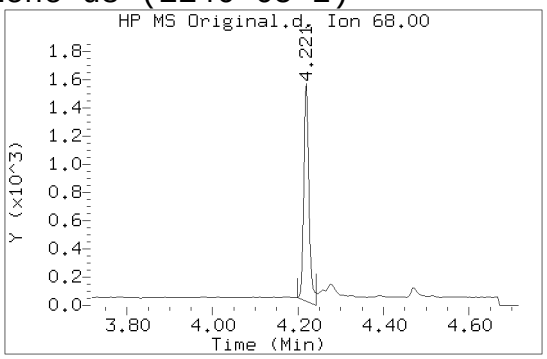
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\16.D
Inj Date : 16-JUN-2023 16:22
InstruID : SV6.i
LabSampID : 14DXICV-0.08

Naphthalene-d8 (1146-65-2)

Reason Code:

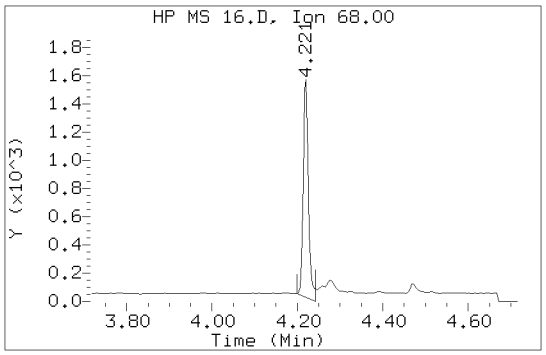
BEFORE

MASS
68
AREA
1351
HEIGHT
1544
16-Jun-2023
16:37
ALSHS
Server



AFTER

MASS
68
AREA
1351
HEIGHT
1544
29-Jun-2023
14:27
ALSHS
Ser

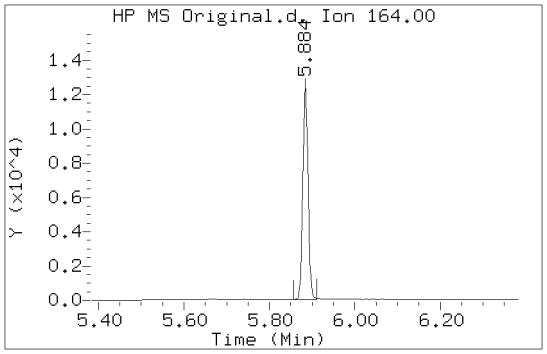


Acenaphthene-d10 (15067-26-2)

Reason Code:

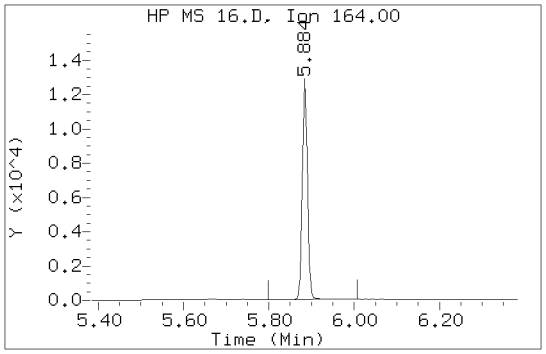
BEFORE

MASS
164
AREA
10322
HEIGHT
12879
16-Jun-2023
16:37
ALSHS
Server



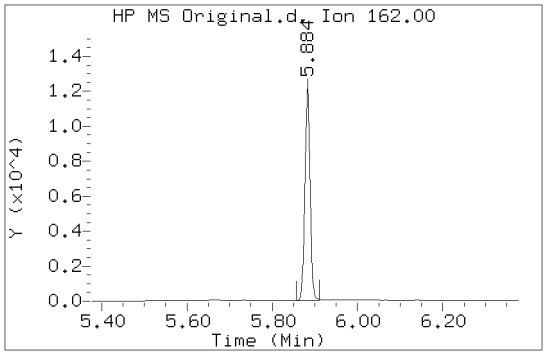
AFTER

MASS
164
AREA
10379
HEIGHT
12877
29-Jun-2023
14:27
ALSHS
Ser



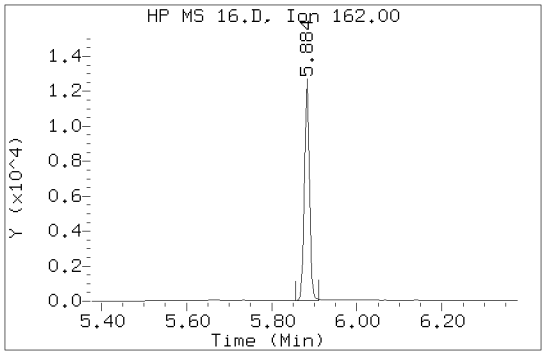
BEFORE

MASS
162
AREA
10387
HEIGHT
12657
16-Jun-2023
16:37
ALSHS
Server



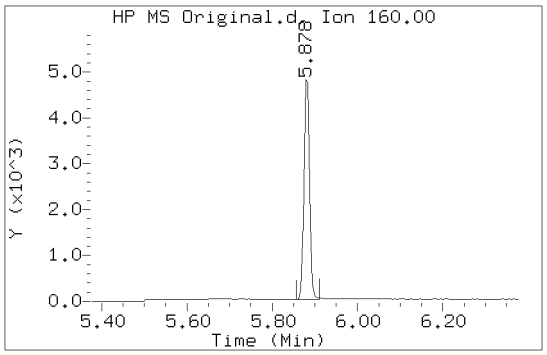
AFTER

MASS
162
AREA
10387
HEIGHT
12657
29-Jun-2023
14:27
ALSHS
Ser



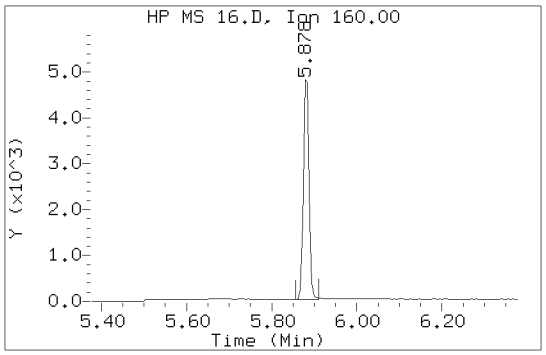
BEFORE

MASS
160
AREA
4356
HEIGHT
4785
16-Jun-2023
16:37
ALSHS
Server



AFTER

MASS
160
AREA
4356
HEIGHT
4785
29-Jun-2023
14:27
ALSHS
Ser



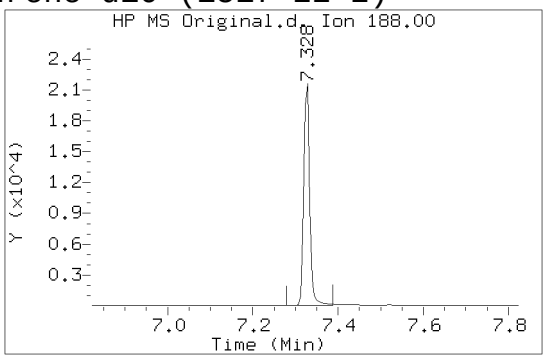
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\16.D
Inj Date : 16-JUN-2023 16:22
InstruID : SV6.i
LabSampID : 14DXICV-0.08

Phenanthrene-d10 (1517-22-2)

Reason Code:

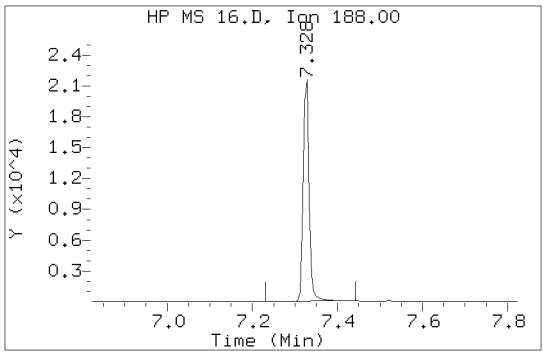
BEFORE

MASS
188
AREA
20554
HEIGHT
21579
16-Jun-2023
16:37
ALSHS
Server



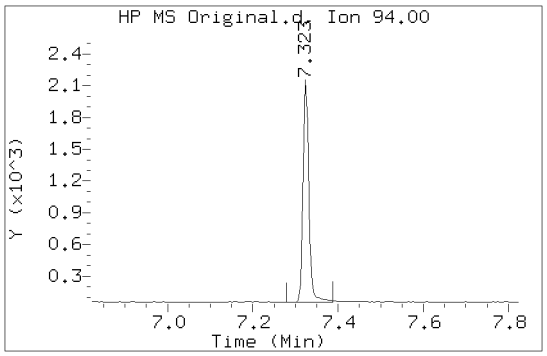
AFTER

MASS
188
AREA
20505
HEIGHT
21562
29-Jun-2023
14:27
ALSHS
Ser



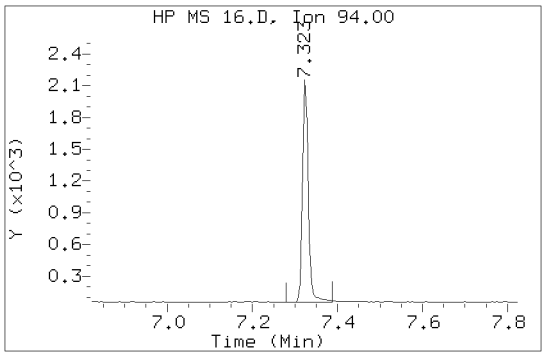
BEFORE

MASS
94
AREA
1950
HEIGHT
2099
16-Jun-2023
16:37
ALSHS
Server



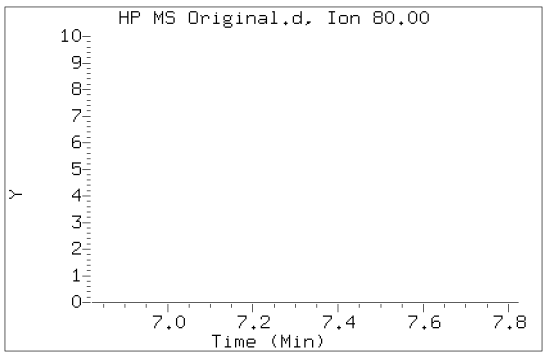
AFTER

MASS
94
AREA
1950
HEIGHT
2099
29-Jun-2023
14:27
ALSHS
Ser



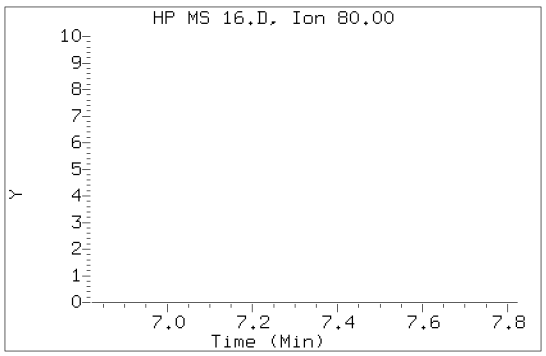
BEFORE

MASS
80
AREA
0
HEIGHT
0
16-Jun-2023
16:37
ALSHS
Server



AFTER

MASS
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AREA
0
HEIGHT
0
29-Jun-2023
14:27
ALSHS
Ser

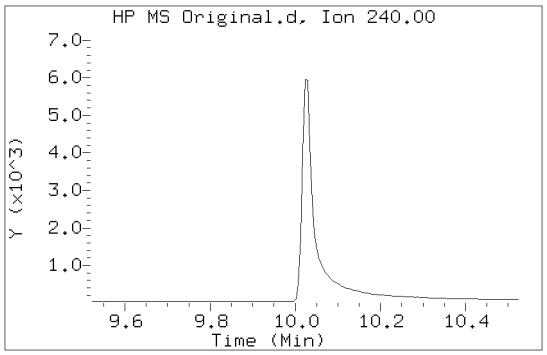


Chrysene-d12 (1719-03-5)

Reason Code:

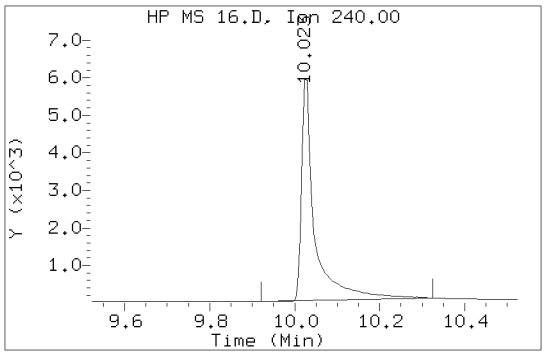
BEFORE

MASS
240
AREA
0
HEIGHT
0
16-Jun-2023
16:37
ALSHS
Server



AFTER

MASS
240
AREA
12662
HEIGHT
5881
29-Jun-2023
14:27
ALSHS
Ser

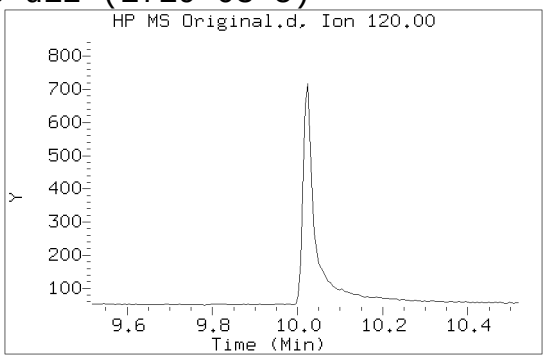


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Inj Date : 16-JUN-2023 16:22
InstruID : SV6.i
LabSampID : 14DXICV-0.08

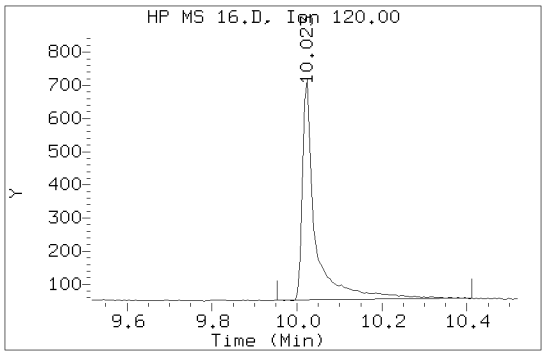
Chrysene-d12 (1719-03-5)

Reason Code:

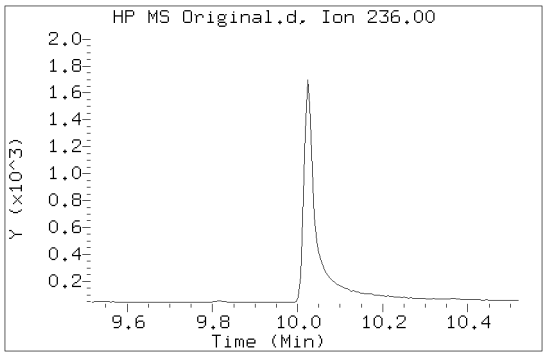
BEFORE
MASS
120
AREA
0
HEIGHT
0
16-Jun-2023
16:37
ALSHS
Server



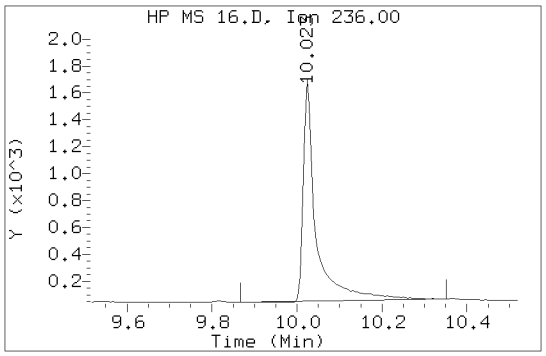
AFTER
MASS
120
AREA
1417
HEIGHT
664
29-Jun-2023
14:27
ALSHS
Ser



BEFORE
MASS
236
AREA
0
HEIGHT
0
16-Jun-2023
16:37
ALSHS
Server



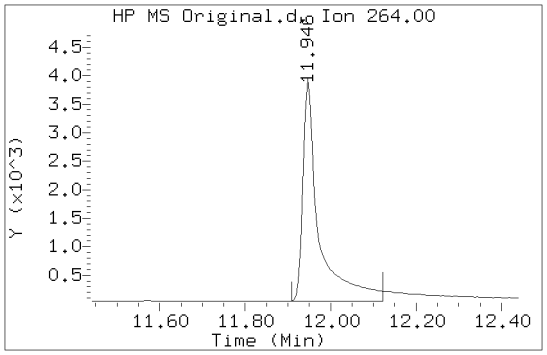
AFTER
MASS
236
AREA
3367
HEIGHT
1641
29-Jun-2023
14:27
ALSHS
Ser



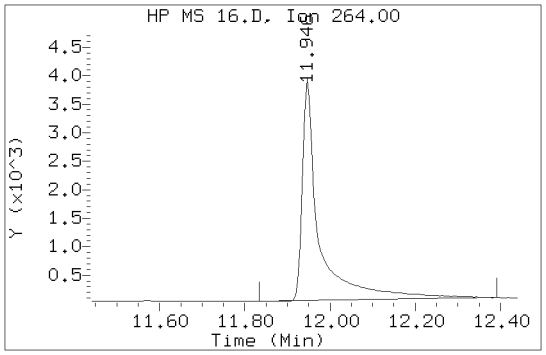
Perylene-d12 (1520-96-3)

Reason Code:

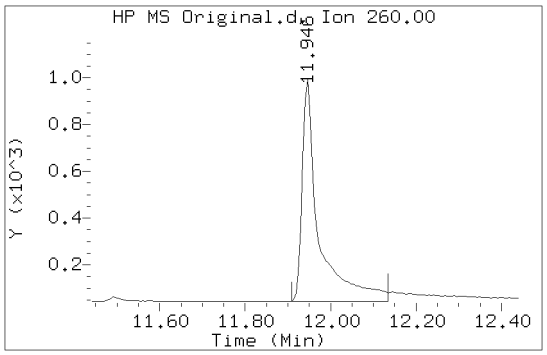
BEFORE
MASS
264
AREA
10066
HEIGHT
3896
16-Jun-2023
16:37
ALSHS
Server



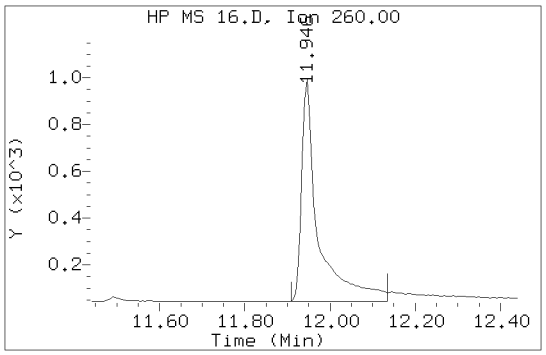
AFTER
MASS
264
AREA
10635
HEIGHT
3885
29-Jun-2023
14:27
ALSHS
Ser



BEFORE
MASS
260
AREA
2544
HEIGHT
947
16-Jun-2023
16:37
ALSHS
Server



AFTER
MASS
260
AREA
2544
HEIGHT
947
29-Jun-2023
14:27
ALSHS
Ser



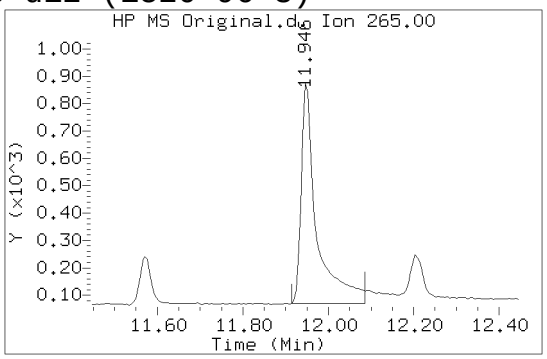
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Inj Date : 16-JUN-2023 16:22
InstruID : SV6.i
LabSampID : 14DXICV-0.08

Perylene-d12 (1520-96-3)

Reason Code:

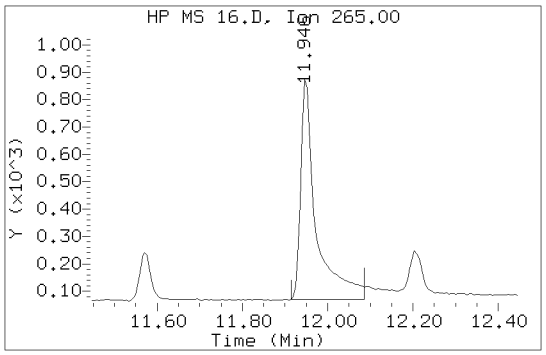
BEFORE

MASS
265
AREA
2015
HEIGHT
803
16-Jun-2023
16:37
ALSHS
Server



AFTER

MASS
265
AREA
2015
HEIGHT
803
29-Jun-2023
14:27
ALSHS
Ser

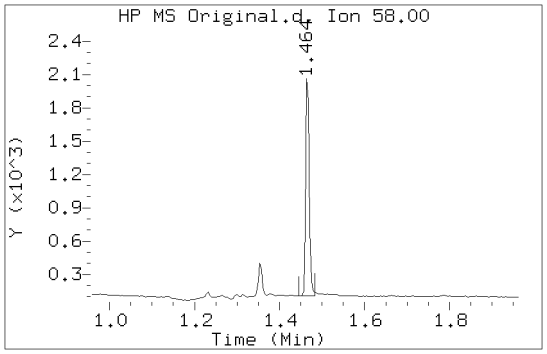


1,4-Dioxane ()

Reason Code:

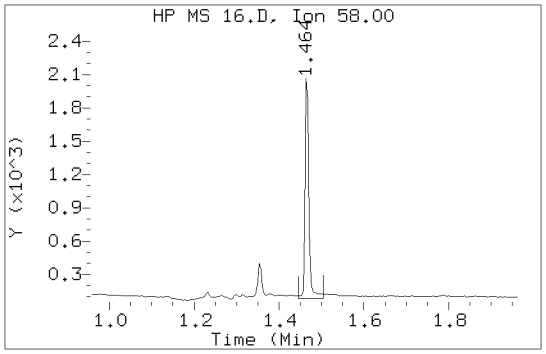
BEFORE

MASS
58
AREA
1149
HEIGHT
1956
16-Jun-2023
16:37
ALSHS
Server



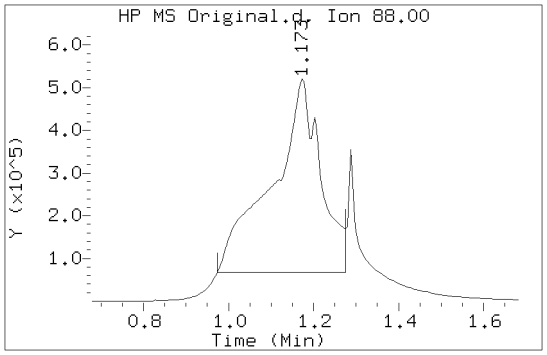
AFTER

MASS
58
AREA
1261
HEIGHT
1979
29-Jun-2023
14:27
ALSHS
Ser



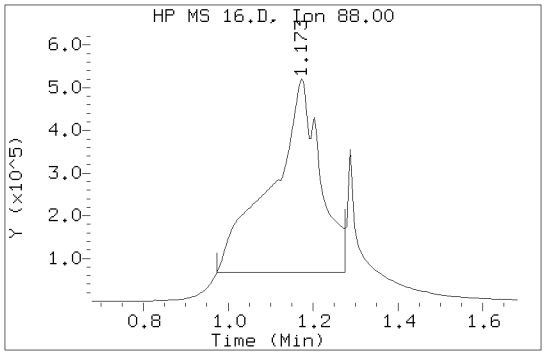
BEFORE

MASS
88
AREA
3609729
HEIGHT
452352
16-Jun-2023
16:37
ALSHS
Server



AFTER

MASS
88
AREA
3609729
HEIGHT
452352
29-Jun-2023
14:27
ALSHS
Ser

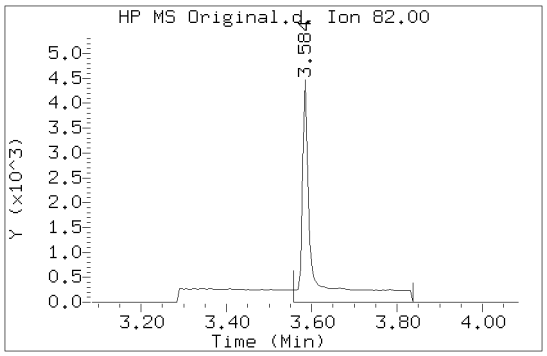


Nitrobenzene-d5 (4165-60-0)

Reason Code:

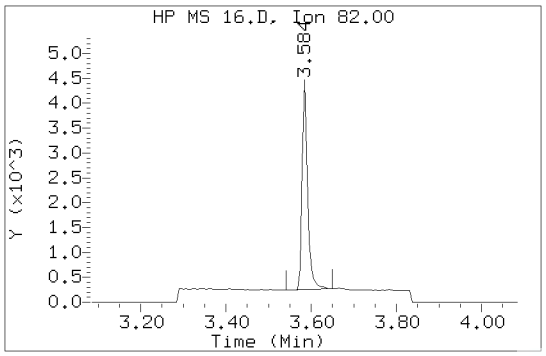
BEFORE

MASS
82
AREA
8001
HEIGHT
4469
16-Jun-2023
16:37
ALSHS
Server



AFTER

MASS
82
AREA
3797
HEIGHT
4214
29-Jun-2023
14:27
ALSHS
Ser



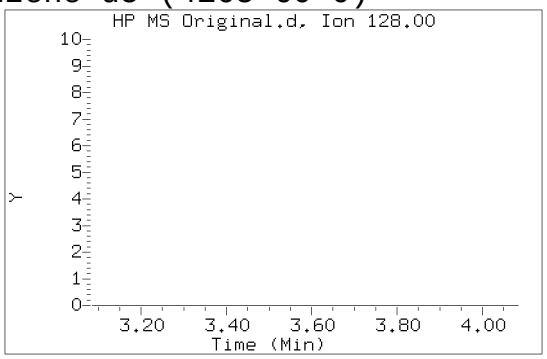
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\16.D
Inj Date : 16-JUN-2023 16:22
InstruID : SV6.i
LabSampID : 14DXICV-0.08

Nitrobenzene-d5 (4165-60-0)

Reason Code:

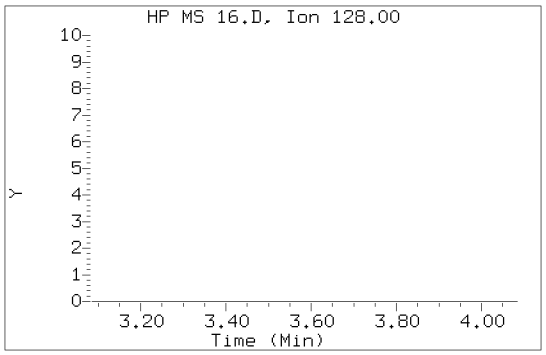
BEFORE

MASS
128
AREA
0
HEIGHT
0
16-Jun-2023
16:37
ALSHS
Server



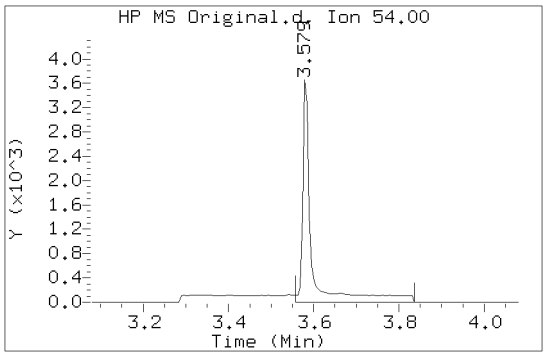
AFTER

MASS
128
AREA
0
HEIGHT
0
29-Jun-2023
14:27
ALSHS
Ser



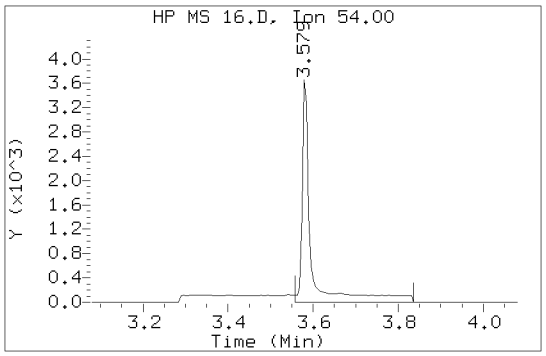
BEFORE

MASS
54
AREA
5382
HEIGHT
3655
16-Jun-2023
16:37
ALSHS
Server



AFTER

MASS
54
AREA
5382
HEIGHT
3655
29-Jun-2023
14:27
ALSHS
Ser

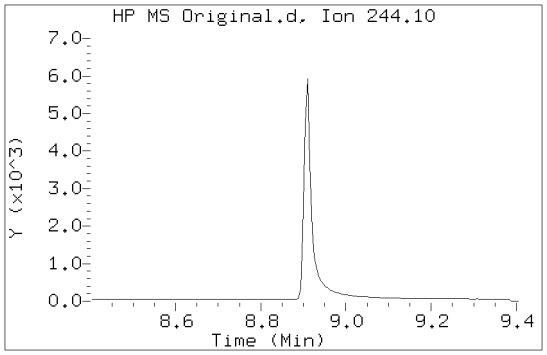


4-Terphenyl-d14 (1718-51-0)

Reason Code:

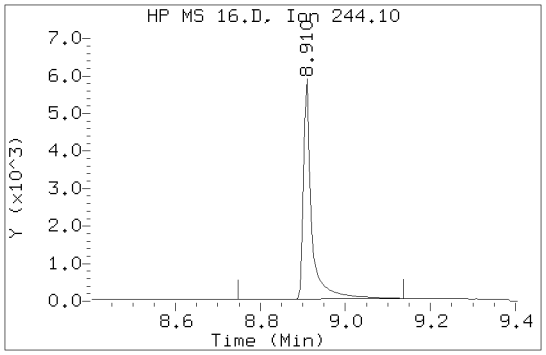
BEFORE

MASS
244.1
AREA
0
HEIGHT
0
16-Jun-2023
16:37
ALSHS
Server



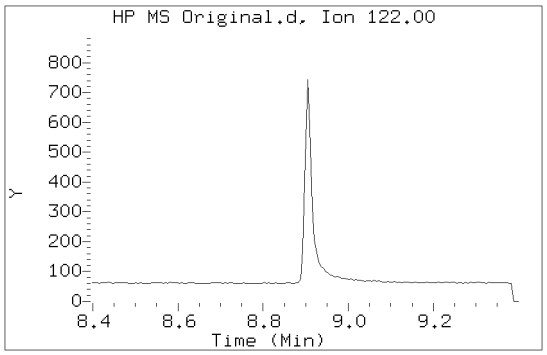
AFTER

MASS
244.1
AREA
7743
HEIGHT
5864
29-Jun-2023
14:27
ALSHS
Ser



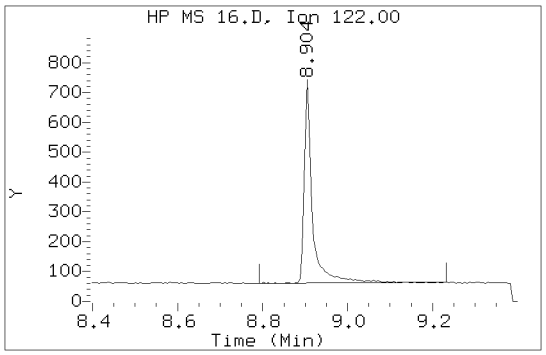
BEFORE

MASS
122
AREA
0
HEIGHT
0
16-Jun-2023
16:37
ALSHS
Server



AFTER

MASS
122
AREA
889
HEIGHT
681
29-Jun-2023
14:27
ALSHS
Ser



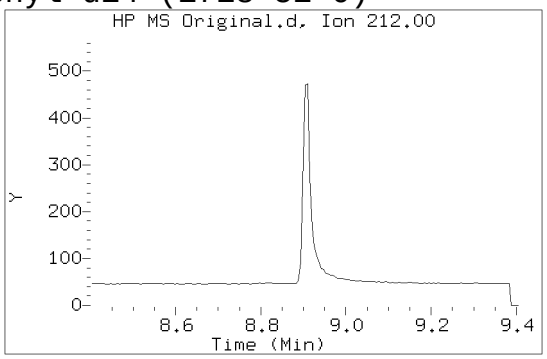
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\16.D
Inj Date : 16-JUN-2023 16:22
InstruID : SV6.i
LabSampID : 14DXICV-0.08

4-Terphenyl-d14 (1718-51-0)

Reason Code:

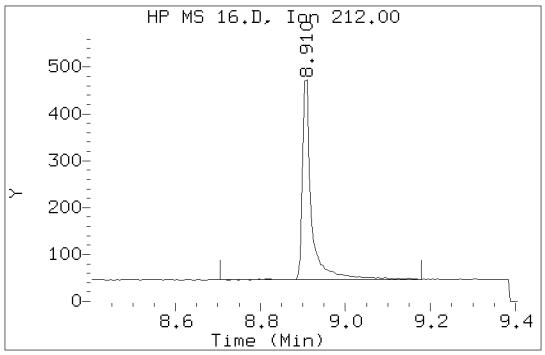
BEFORE

MASS
212
AREA
0
HEIGHT
0
16-Jun-2023
16:37
ALSHS
Server



AFTER

MASS
212
AREA
632
HEIGHT
426
29-Jun-2023
14:27
ALSHS
Ser

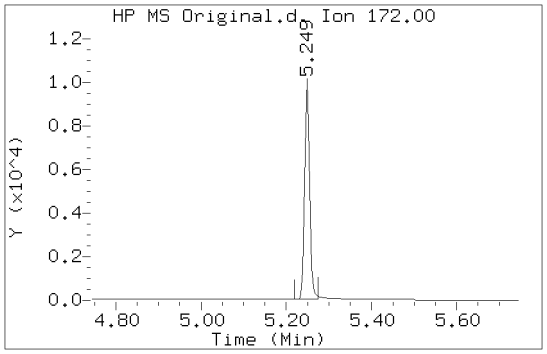


2-Fluorobiphenyl (321-60-8)

Reason Code:

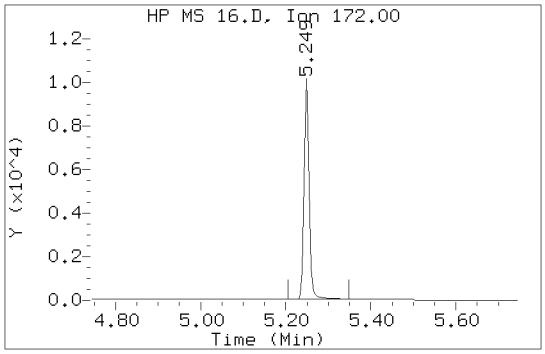
BEFORE

MASS
172
AREA
8416
HEIGHT
10125
16-Jun-2023
16:37
ALSHS
Server



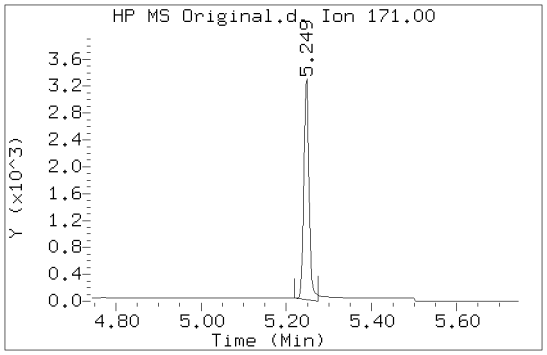
AFTER

MASS
172
AREA
8542
HEIGHT
10120
29-Jun-2023
14:27
ALSHS
Ser



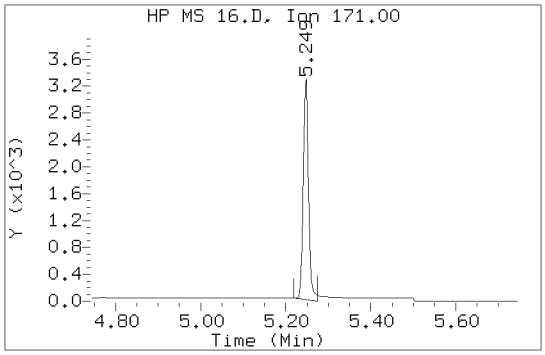
BEFORE

MASS
171
AREA
2911
HEIGHT
3286
16-Jun-2023
16:37
ALSHS
Server



AFTER

MASS
171
AREA
2911
HEIGHT
3286
29-Jun-2023
14:27
ALSHS
Ser



01246922

right solutions.
right partner.

Raw Data SV 6 441538

Semi-Volatiles by EPA 8270SIM

Workorder

HS23070445

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Monthly Effluent Samples

07/20/2023

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Data File: \\nahstws005\Target\chem\SV6.i\230714.b\01.D Page 1
Report Date: 14-Jul-2023 09:27

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\SV6.i\230714.b\01.D
Lab Smp Id: DFTPP Client Smp ID: DFTPP
Inj Date : 14-JUL-2023 09:11
Operator : smith Inst ID: SV6.i
Smp Info : DFTPP;DFTPP;3;;DFTPP
Misc Info :
Comment :
Method : \\nahstws005\Target\chem\SV6.i\230714.b\DFTPP.m
Meth Date : 14-Mar-2023 15:59 Linh.Pham Quant Type: ESTD
Cal Date : Cal File:
Als bottle: 1 QC Sample: DFTPP
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.14 Sample Matrix: None
Processing Host: NAHSTW7015

RT	EXP RT	DLT RT	MASS	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	CONCENTRATIONS FINAL (ug/L)	TARGET RANGE	RATIO
1 dftpp						CAS #: 5074-71-5		
4.095	6.357	-2.262	198	178048			0.00- 100.00	100.00
4.095	6.357	-2.262	51	91435			10.00- 80.00	51.35
4.095	6.357	-2.262	68	1018			0.00- 2.00	1.33
4.095	6.357	-2.262	69	76280			0.00- 0.00	42.84
4.095	6.357	-2.262	70	499			0.00- 2.00	0.65
4.095	6.357	-2.262	127	79288			10.00- 80.00	44.53
4.095	6.357	-2.262	197	942			0.00- 2.00	0.53
4.095	6.357	-2.262	199	11568			5.00- 9.00	6.50
4.095	6.357	-2.262	275	43104			10.00- 60.00	24.21
4.095	6.357	-2.262	365	5169			1.00- 100.00	2.90
4.095	6.357	-2.262	441	25368			0.01- 99.99	75.25
4.095	6.357	-2.262	442	169408			50.00- 150.00	95.15
4.095	6.357	-2.262	443	33712			15.00- 24.00	19.90

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 198	51.35
68	Less than 2.00% of mass 69	0.57 (1.33)
69	Mass 69 relative abundance	42.84
70	Less than 2.00% of mass 69	0.28 (0.65)
127	10.00 - 80.00% of mass 198	44.53
197	Less than 2.00% of mass 198	0.53
199	5.00 - 9.00% of mass 198	6.50
275	10.00 - 60.00% of mass 198	24.21
365	1.00 - 100.00% of mass 198	2.90
441	Present, but less than mass 443	14.25
442	50.00 - 150.00% of mass 198	95.15
443	15.00 - 24.00% of mass 442	18.93 (19.90)

Data File: 01.D
Spectrum: HP ChemStation MS 01.D, Scan 281: 4.090 min. (SUB)
Location of Maximum: 198.00
Number of points: 265

m/z	Y	m/z	Y	m/z	Y	m/z	Y
37.00	496	123.00	2082	193.00	2214	270.00	182
38.00	923	124.00	1175	193.90	543	271.00	254
39.10	4873	125.00	912	195.10	317	271.90	305
40.00	83	126.20	530	196.10	4496	273.00	2941
41.10	271	127.00	79288	197.00	942	274.00	7143
45.00	179	128.00	6084	198.00	178048	275.00	43104
50.00	21856	129.00	30112	199.00	11568	276.00	5653
51.10	91432	130.00	2598	200.00	1004	277.00	3363
52.10	4345	131.10	331	201.60	849	277.90	734
53.00	181	132.00	337	203.00	1225	283.00	445
55.00	306	134.00	721	204.00	6818	284.00	205
56.00	2675	135.00	2238	205.00	10662	285.10	672
57.00	6898	136.00	838	206.10	43560	292.00	264
58.00	357	137.00	1151	207.10	5673	293.00	803
59.10	198	137.90	275	208.00	1358	293.90	274
61.00	1082	140.00	264	209.00	456	295.00	198
62.00	1141	141.00	3915	210.00	711	296.00	11844
63.10	2998	142.00	1318	211.10	1482	297.00	1698
64.00	432	143.00	723	213.00	184	302.00	202
65.00	1510	144.00	176	215.00	536	303.00	1460
68.00	1018	145.00	210	216.00	933	304.00	448
69.00	76280	146.00	780	217.00	12230	308.00	156
70.00	499	147.00	1991	218.00	1805	313.10	165
73.00	421	148.00	4757	218.90	185	314.00	584
74.00	6722	149.00	756	221.00	9102	314.90	1242
75.00	11741	149.90	152	221.90	1510	316.10	641
76.10	4006	151.10	587	223.00	2861	321.00	453
77.10	82736	152.00	502	224.10	27088	322.00	237
78.00	5443	153.00	991	225.10	6214	323.00	3810
79.00	4504	154.00	1000	226.00	694	324.10	652
80.00	3861	155.00	2393	227.00	10895	327.00	801
81.00	5542	156.10	2986	228.00	1322	328.10	378
82.00	1511	157.00	637	229.00	2400	332.00	269
83.00	1385	158.00	744	230.00	332	333.00	361
84.00	23	159.00	602	231.00	846	334.00	2327
85.00	1010	160.00	1091	233.00	208	335.00	631
86.00	1612	161.00	1904	233.90	518	341.00	470
87.00	600	162.00	646	235.00	818	346.00	709
88.00	301	164.00	270	236.00	559	352.00	1262
89.00	158	165.00	1633	237.00	1030	353.00	922
91.00	1105	166.00	1070	238.90	424	354.00	1522
92.00	1244	167.00	7770	240.00	434	355.00	357
93.00	7830	168.00	3219	241.00	548	365.00	5169
94.00	615	169.00	803	242.00	1518	366.00	738
95.00	200	170.10	350	243.00	1401	369.90	178

96.00	361	171.00	334	244.10	19168	371.00	315
98.00	6668	172.00	844	245.00	2851	372.00	1937
99.00	4537	173.00	967	246.00	3668	373.10	582
100.10	407	174.00	1897	247.00	640	382.90	624
101.00	3068	175.00	2897	249.00	881	383.90	199
102.00	189	176.00	781	250.00	175	390.00	295
103.00	1033	177.00	1289	251.00	180	391.00	175
104.00	1643	178.00	575	251.90	185	402.00	806
105.00	1801	179.00	6370	253.00	388	402.90	1129
106.00	594	180.00	4293	254.00	601	404.00	398
107.00	25776	181.10	2085	255.00	108688	421.00	1093
108.00	3956	182.00	350	256.00	15576	422.00	1059
109.00	635	182.90	242	257.00	1019	423.00	7900
110.00	44080	183.90	603	258.00	5811	424.00	1486
111.00	6388	185.00	3105	259.00	987	441.00	25368
112.00	712	186.10	22648	260.00	206	442.00	169408
112.90	254	187.00	6730	261.00	266	443.00	33712
116.00	1235	188.00	613	262.90	208	444.00	3227
117.00	18224	189.00	1344	263.90	232	444.90	188
118.00	1306	190.00	239	265.00	2614		
120.00	393	191.10	531	266.00	459		
122.00	1283	192.00	2010	266.80	175		

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GC/MS Semivolatiles EPA method 8270D

Data file : \\nahstws005\Target\chem\SV6.i\230714.b\03.D
Lab Smp Id: 14DX-0.08 Client Smp ID: 14DX-0.08
Inj Date : 14-JUL-2023 09:57
Operator : LG Inst ID: SV6.i
Smp Info : 14DX-0.08
Misc Info : ;;0;1;
Comment :
Method : \\nahstws005\Target\chem\SV6.i\230714.b\DXSIM.m
Meth Date : 14-Jul-2023 10:19 jiayi.lu Quant Type: ISTD
Cal Date : 16-JUN-2023 15:56 Cal File: 15.D
Als bottle: 3 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTW7015

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 20 1,4-Dichlorobenzene-d4	152	2.400	2.400	(1.000)	5865	0.10000	(aM)
* 45 Naphthalene-d8	136	3.446	3.446	(1.000)	19179	0.10000	(M)
$ 33 Nitrobenzene-d5	82	2.840	2.840	(0.824)	4201	0.08000	0.07209(M)
* 86 Acenaphthene-d10	164	5.067	5.067	(1.000)	10895	0.10000	
$ 69 2-Fluorobiphenyl	172	4.467	4.467	(0.882)	9280	0.08000	0.08330(M)
* 126 Phenanthrene-d10	188	6.480	6.480	(1.000)	20721	0.10000	
* 182 Chrysene-d12	240	9.024	9.024	(1.000)	16012	0.10000	(M)
$ 158 4-Terphenyl-d14	244	8.066	8.066	(1.000)	9936	0.08000	0.08411
* 198 Perylene-d12	264	10.592	10.592	(1.000)	12154	0.10000	
1 1,4-Dioxane	58	0.927	0.927	(0.386)	1562	0.08000	0.07849(Q)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.

01246928

Data File: \\nahstws005\Target\chem\SV6.i\230714.b\03.D

Date : 14-JUL-2023 09:57

Client ID: 14DX-0.08

Instrument: SV6.i

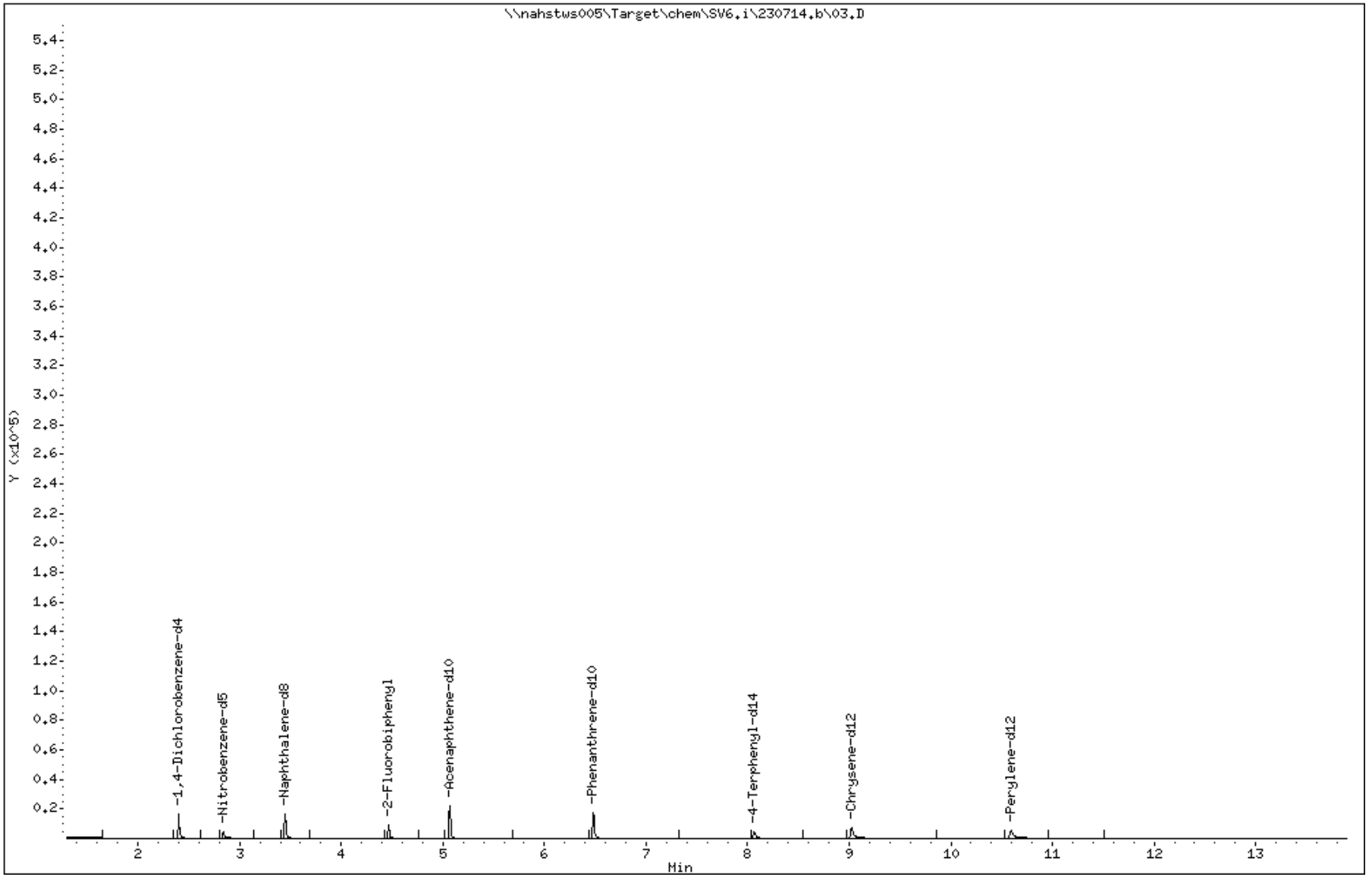
Sample Info: 14DX-0.08

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28

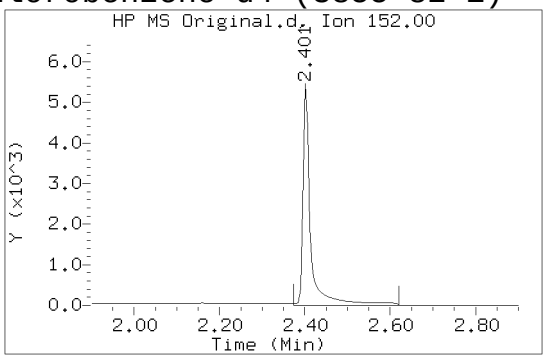


Data File : \\nahstws005\Target\chem\SV6.i\230714.b\03.D
Inj Date : 14-JUL-2023 09:57
InstruID : SV6.i
LabSampID : 14DX-0.08

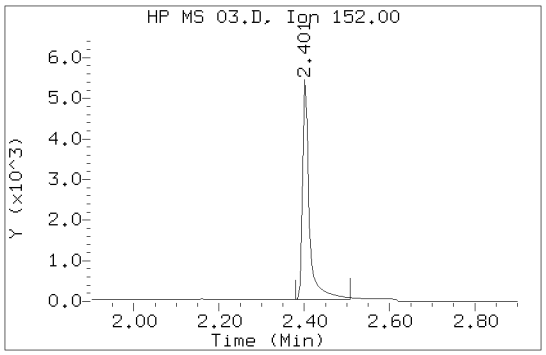
1,4-Dichlorobenzene-d4 (3855-82-1)

Reason Code:

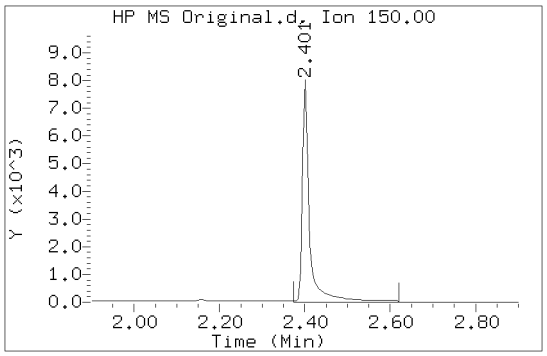
BEFORE
MASS
152
AREA
6697
HEIGHT
5458
14-Jul-2023
10:13
ALSHS
Server



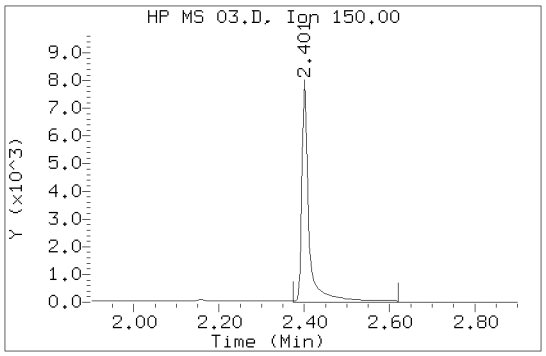
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MASS
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AREA
5865
HEIGHT
5408
14-Jul-2023
10:23
ALSHS
Se



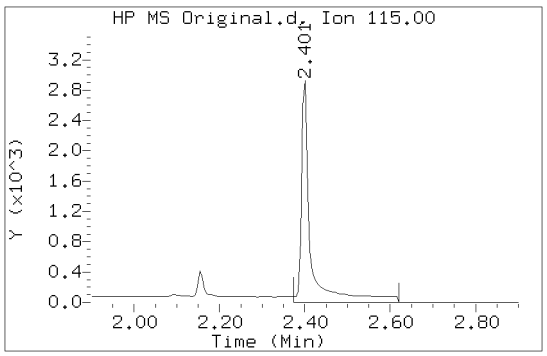
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MASS
150
AREA
9386
HEIGHT
8023
14-Jul-2023
10:13
ALSHS
Server



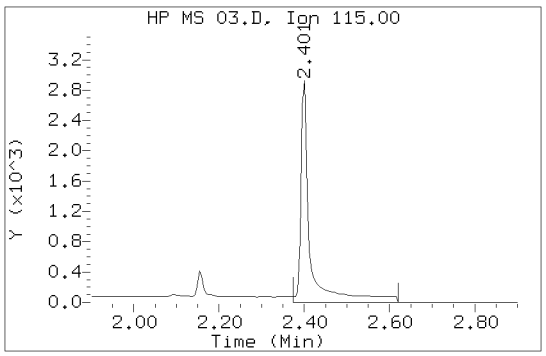
AFTER
MASS
150
AREA
9386
HEIGHT
8023
14-Jul-2023
10:23
ALSHS
Se



BEFORE
MASS
115
AREA
4318
HEIGHT
2924
14-Jul-2023
10:13
ALSHS
Server



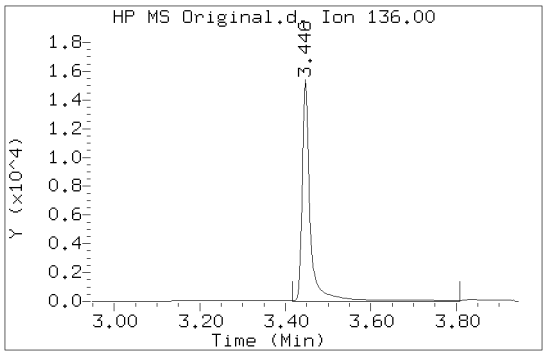
AFTER
MASS
115
AREA
4318
HEIGHT
2924
14-Jul-2023
10:23
ALSHS
Se



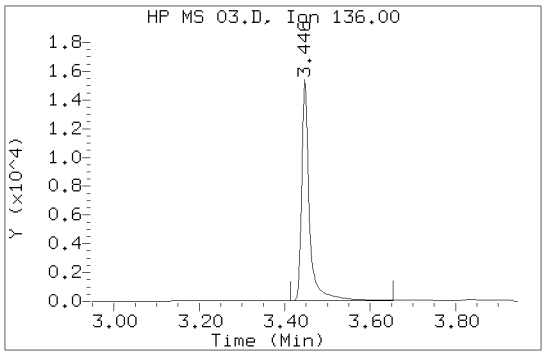
Naphthalene-d8 (1146-65-2)

Reason Code:

BEFORE
MASS
136
AREA
20616
HEIGHT
15409
14-Jul-2023
10:13
ALSHS
Server



AFTER
MASS
136
AREA
19179
HEIGHT
15354
14-Jul-2023
10:23
ALSHS
Se



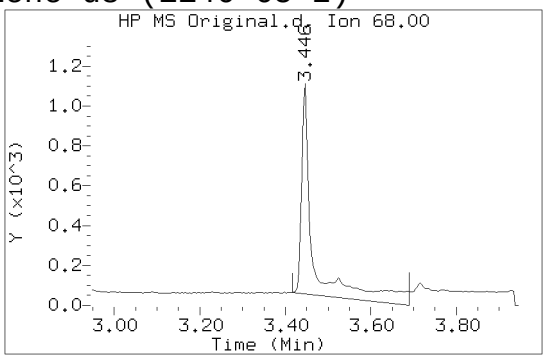
Data File : \\nahstws005\Target\chem\SV6.i\230714.b\03.D
Inj Date : 14-JUL-2023 09:57
InstruID : SV6.i
LabSampID : 14DX-0.08

Naphthalene-d8 (1146-65-2)

Reason Code:

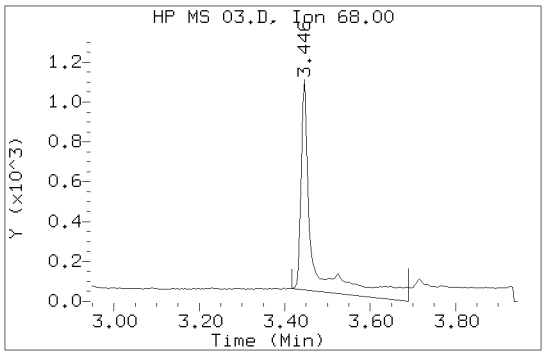
BEFORE

MASS
68
AREA
1987
HEIGHT
1054
14-Jul-2023
10:13
ALSHS
Server



AFTER

MASS
68
AREA
1987
HEIGHT
1054
14-Jul-2023
10:23
ALSHS
Se

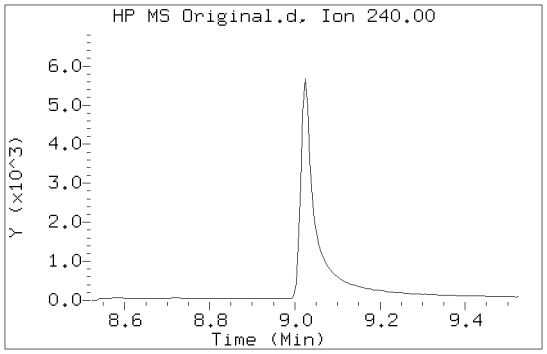


Chrysene-d12 (1719-03-5)

Reason Code:

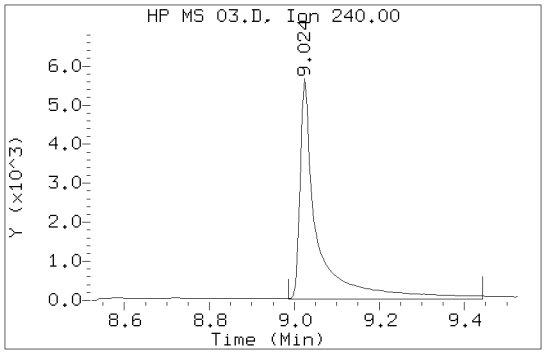
BEFORE

MASS
240
AREA
0
HEIGHT
0
14-Jul-2023
10:13
ALSHS
Server



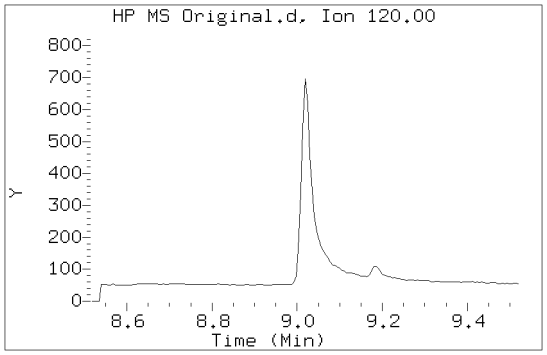
AFTER

MASS
240
AREA
16012
HEIGHT
5646
14-Jul-2023
10:23
ALSHS
Se



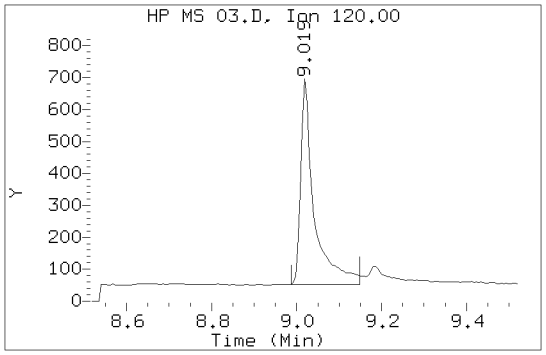
BEFORE

MASS
120
AREA
0
HEIGHT
0
14-Jul-2023
10:13
ALSHS
Server



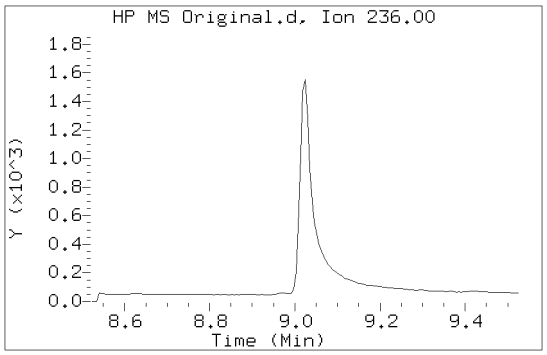
AFTER

MASS
120
AREA
1407
HEIGHT
644
14-Jul-2023
10:23
ALSHS
Se



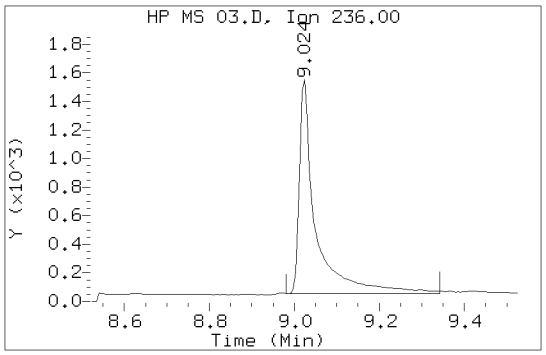
BEFORE

MASS
236
AREA
0
HEIGHT
0
14-Jul-2023
10:13
ALSHS
Server



AFTER

MASS
236
AREA
4012
HEIGHT
1498
14-Jul-2023
10:23
ALSHS
Se



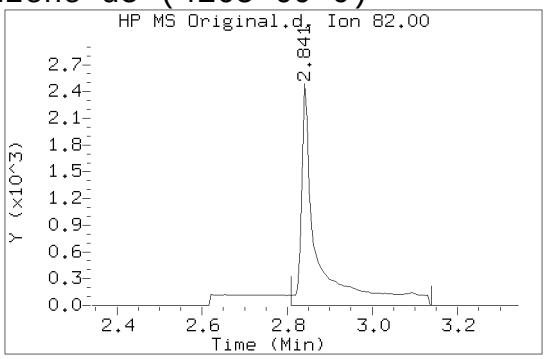
Data File : \\nahstws005\Target\chem\SV6.i\230714.b\03.D
Inj Date : 14-JUL-2023 09:57
InstruID : SV6.i
LabSampID : 14DX-0.08

Nitrobenzene-d5 (4165-60-0)

Reason Code:

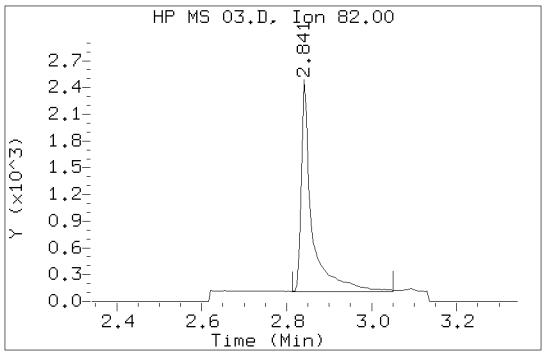
BEFORE

MASS
82
AREA
6358
HEIGHT
2487
14-Jul-2023
10:13
ALSHS
Server



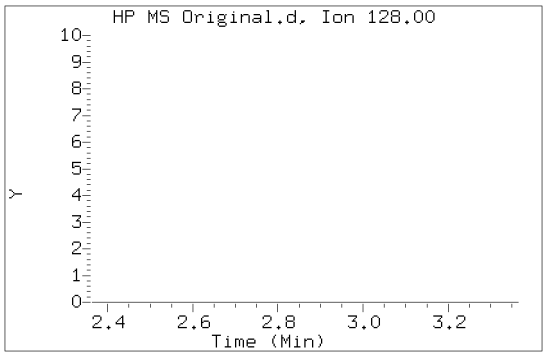
AFTER

MASS
82
AREA
4201
HEIGHT
2379
14-Jul-2023
10:23
ALSHS
Se



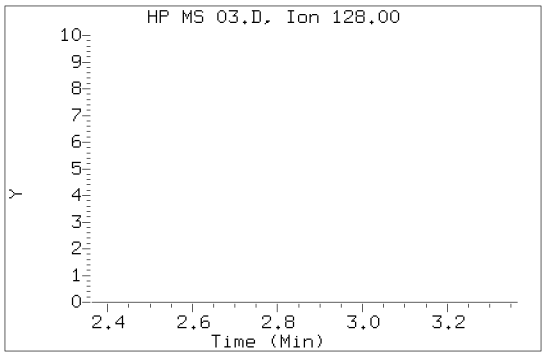
BEFORE

MASS
128
AREA
0
HEIGHT
0
14-Jul-2023
10:13
ALSHS
Server



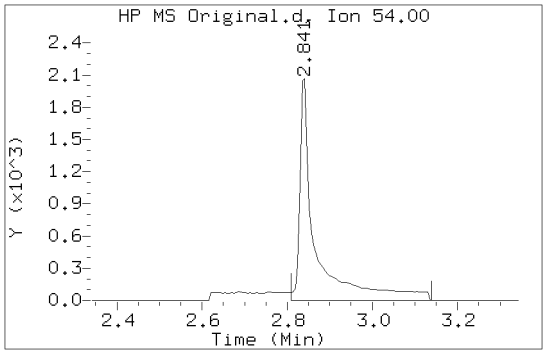
AFTER

MASS
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AREA
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HEIGHT
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14-Jul-2023
10:23
ALSHS
Se



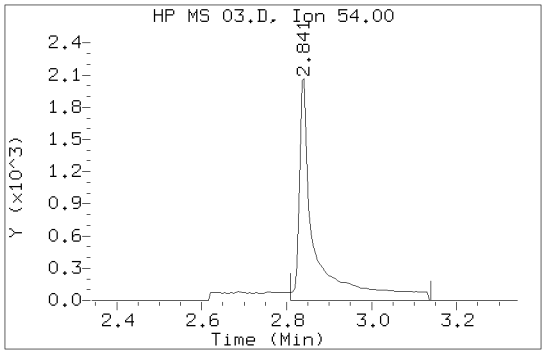
BEFORE

MASS
54
AREA
5198
HEIGHT
2067
14-Jul-2023
10:13
ALSHS
Server



AFTER

MASS
54
AREA
5198
HEIGHT
2067
14-Jul-2023
10:23
ALSHS
Se

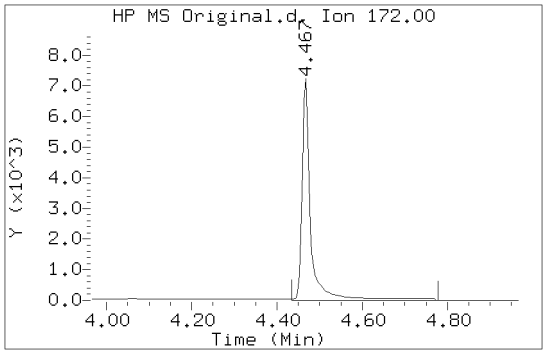


2-Fluorobiphenyl (321-60-8)

Reason Code:

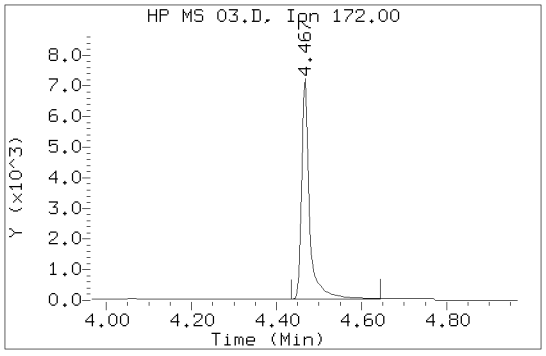
BEFORE

MASS
172
AREA
10278
HEIGHT
7236
14-Jul-2023
10:13
ALSHS
Server



AFTER

MASS
172
AREA
9280
HEIGHT
7193
14-Jul-2023
10:23
ALSHS
Se



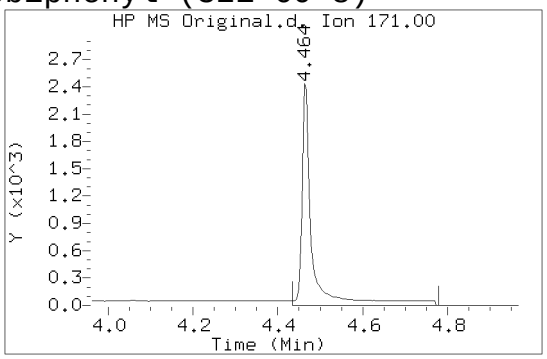
Data File : \\nahstws005\Target\chem\SV6.i\230714.b\03.D
Inj Date : 14-JUL-2023 09:57
InstruID : SV6.i
LabSampID : 14DX-0.08

2-Fluorobiphenyl (321-60-8)

Reason Code:

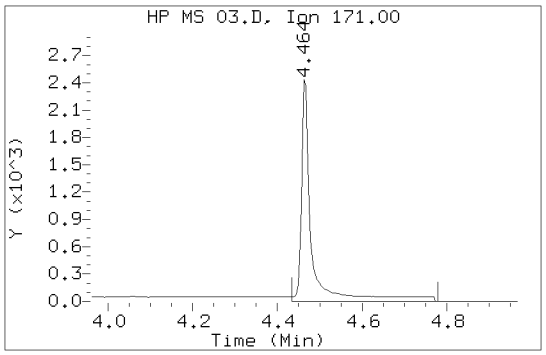
BEFORE

MASS
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AREA
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HEIGHT
2434
14-Jul-2023
10:13
ALSHS
Server



AFTER

MASS
171
AREA
4100
HEIGHT
2434
14-Jul-2023
10:23
ALSHS
Se



ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\nahstws005\Target\chem\SV6.i\230714.b\06.D
Lab Smp Id: MBLK-197520 Client Smp ID: MBLK-197520
Inj Date : 14-JUL-2023 11:37
Operator : LG Inst ID: SV6.i
Smp Info : MBLK-197520
Misc Info : ;;0;1;
Comment :
Method : \\nahstws005\Target\chem\SV6.i\230714.b\DXSIM.m
Meth Date : 14-Jul-2023 11:38 jiayi.lu Quant Type: ISTD
Cal Date : 16-JUN-2023 15:56 Cal File: 15.D
Als bottle: 6 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTW7015

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	FINAL (ug/L)
* 20 1,4-Dichlorobenzene-d4	152	2.401	2.400	(1.000)	4448	0.10000	(a)
* 45 Naphthalene-d8	136	3.446	3.446	(1.000)	11617	0.10000	(M)
$ 33 Nitrobenzene-d5	82	2.841	2.621	(0.824)	2887	0.08179	0.08179(M)
* 86 Acenaphthene-d10	164	5.069	5.069	(1.000)	6763	0.10000	(QM)
$ 69 2-Fluorobiphenyl	172	4.467	4.467	(0.881)	6350	0.09182	0.09182(M)
* 126 Phenanthrene-d10	188	6.476	6.481	(1.000)	12506	0.10000	
* 182 Chrysene-d12	240	9.020	9.020	(1.000)	9832	0.10000	(M)
$ 158 4-Terphenyl-d14	244	8.063	8.066	(0.894)	6269	0.08643	0.08642(M)
* 198 Perylene-d12	264	10.589	10.594	(1.000)	6035	0.10000	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.

01246934

Data File: \\nahstws005\Target\chem\SV6.i\230714.b\06.D

Date : 14-JUL-2023 11:37

Client ID: MBLK-197520

Instrument: SV6.i

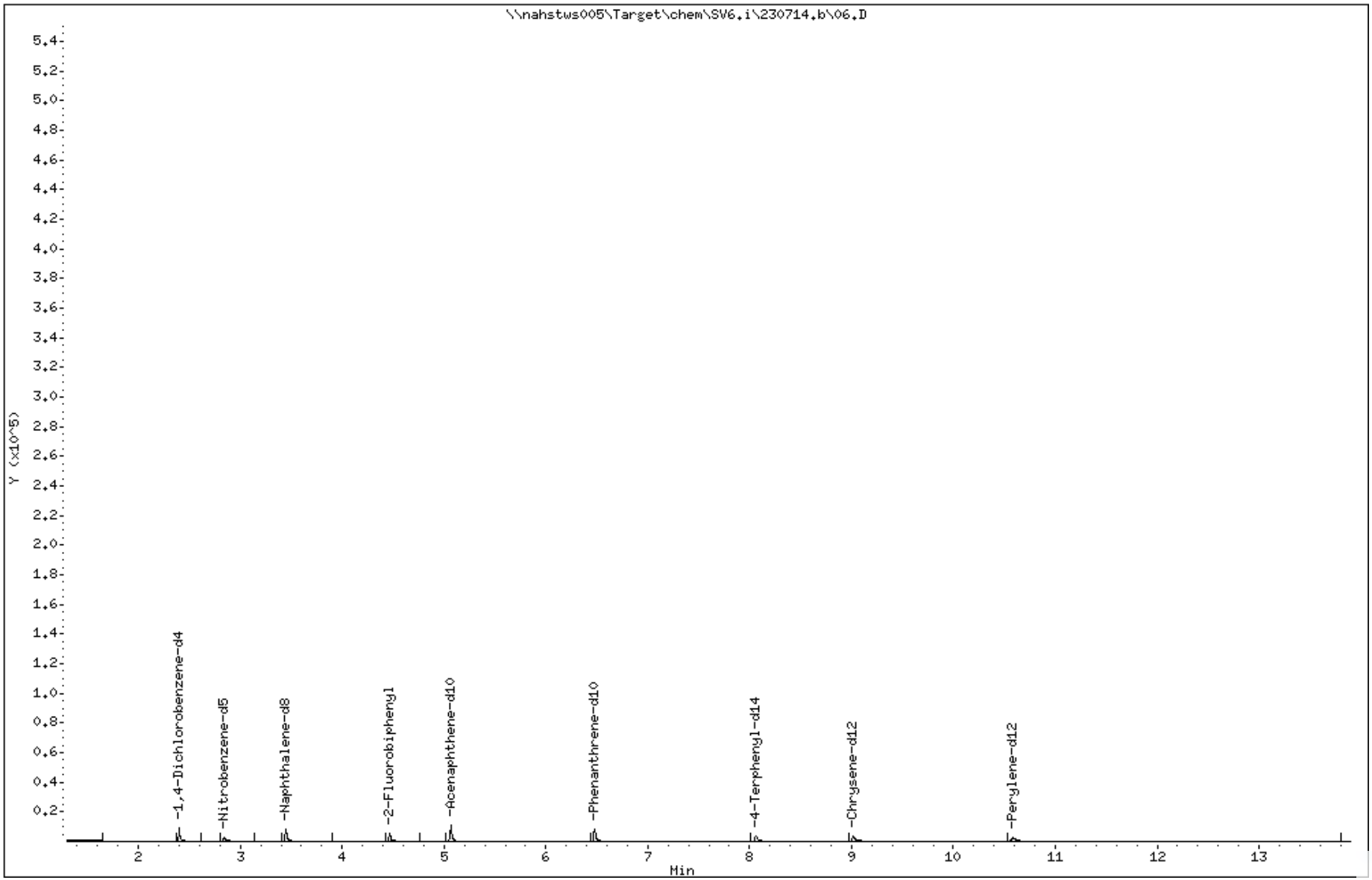
Sample Info: MBLK-197520

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28



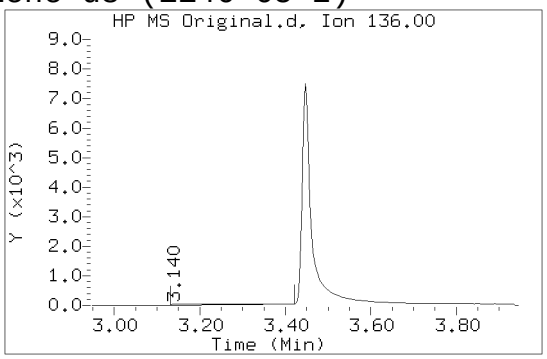
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Inj Date : 14-JUL-2023 11:37
InstruID : SV6.i
LabSampID : MBLK-197520

Naphthalene-d8 (1146-65-2)

Reason Code:

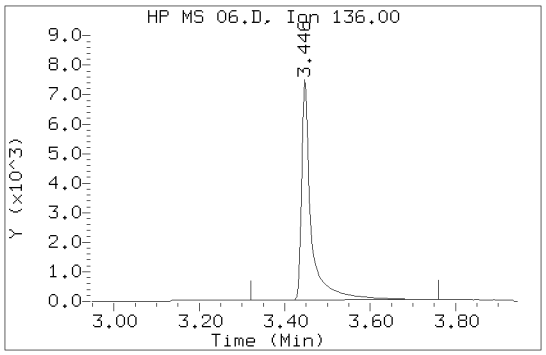
BEFORE

MASS
136
AREA
409
HEIGHT
47
14-Jul-2023
11:52
ALSHS
Server



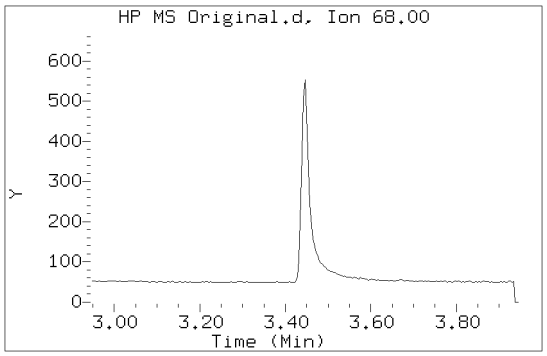
AFTER

MASS
136
AREA
11617
HEIGHT
7454
14-Jul-2023
14:11
ALSHS
Se



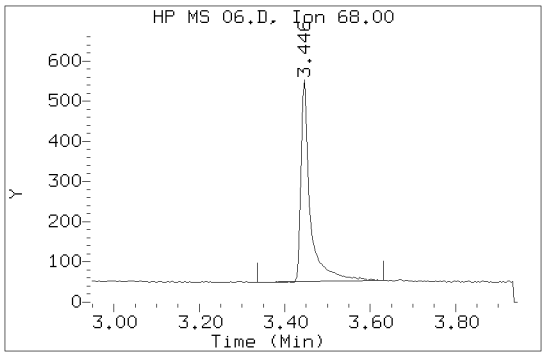
BEFORE

MASS
68
AREA
0
HEIGHT
0
14-Jul-2023
11:52
ALSHS
Server



AFTER

MASS
68
AREA
740
HEIGHT
501
14-Jul-2023
14:11
ALSHS
Se

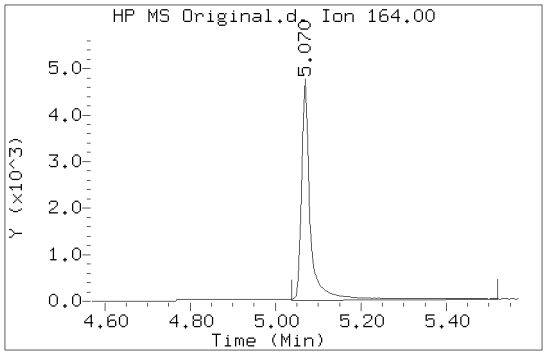


Acenaphthene-d10 (15067-26-2)

Reason Code:

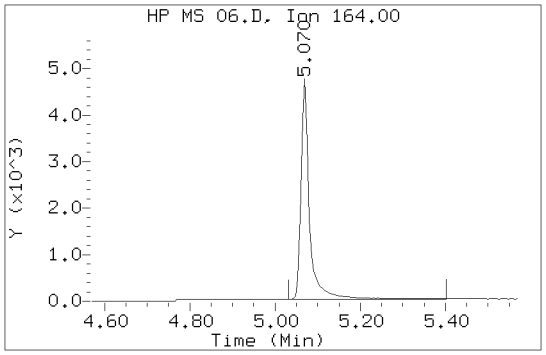
BEFORE

MASS
164
AREA
6964
HEIGHT
4760
14-Jul-2023
11:52
ALSHS
Server



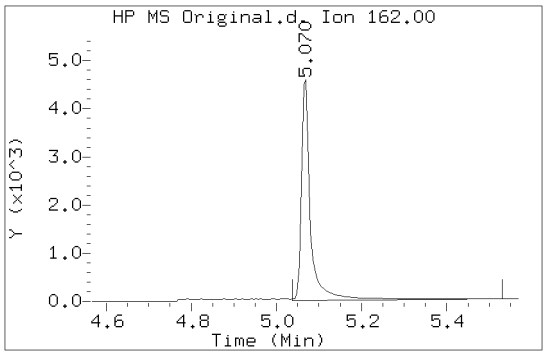
AFTER

MASS
164
AREA
6763
HEIGHT
4744
14-Jul-2023
14:11
ALSHS
Se



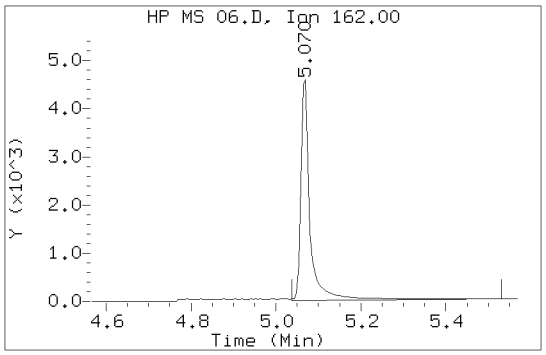
BEFORE

MASS
162
AREA
7033
HEIGHT
4584
14-Jul-2023
11:52
ALSHS
Server



AFTER

MASS
162
AREA
7033
HEIGHT
4584
14-Jul-2023
14:11
ALSHS
Se



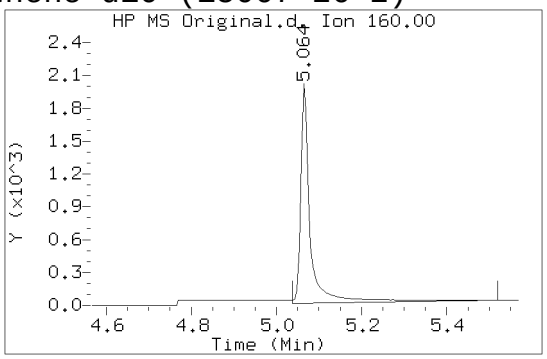
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Inj Date : 14-JUL-2023 11:37
InstruID : SV6.i
LabSampID : MBLK-197520

Acenaphthene-d10 (15067-26-2)

Reason Code:

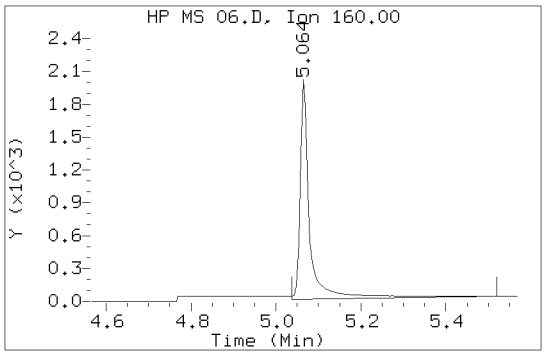
BEFORE

MASS
160
AREA
3203
HEIGHT
2007
14-Jul-2023
11:52
ALSHS
Server



AFTER

MASS
160
AREA
3203
HEIGHT
2007
14-Jul-2023
14:11
ALSHS
Se

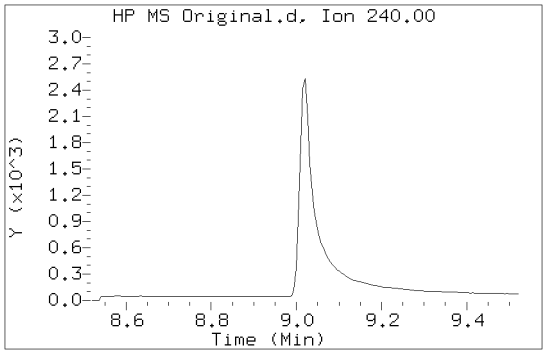


Chrysene-d12 (1719-03-5)

Reason Code:

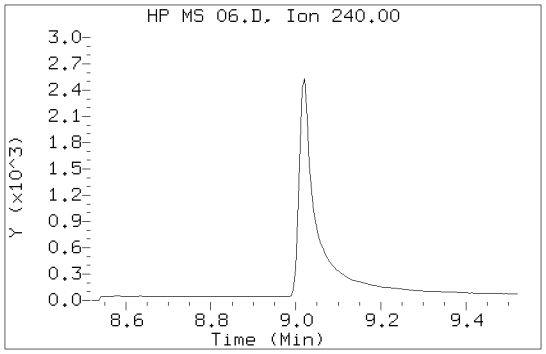
BEFORE

MASS
240
AREA
0
HEIGHT
0
14-Jul-2023
11:52
ALSHS
Server



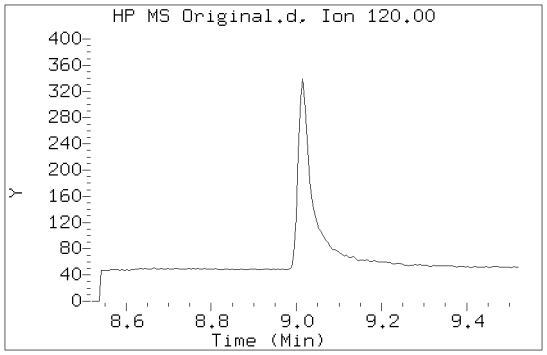
AFTER

MASS
240
AREA
9832
HEIGHT
2509
14-Jul-2023
14:11
ALSHS
Se



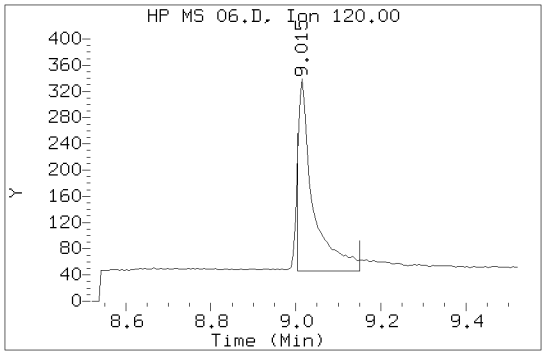
BEFORE

MASS
120
AREA
0
HEIGHT
0
14-Jul-2023
11:52
ALSHS
Server



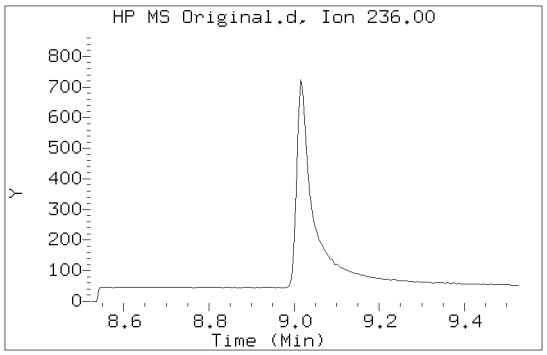
AFTER

MASS
120
AREA
708
HEIGHT
293
14-Jul-2023
14:11
ALSHS
Se



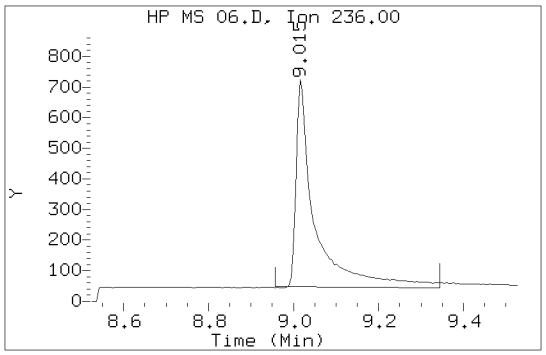
BEFORE

MASS
236
AREA
0
HEIGHT
0
14-Jul-2023
11:52
ALSHS
Server



AFTER

MASS
236
AREA
2075
HEIGHT
676
14-Jul-2023
14:11
ALSHS
Se



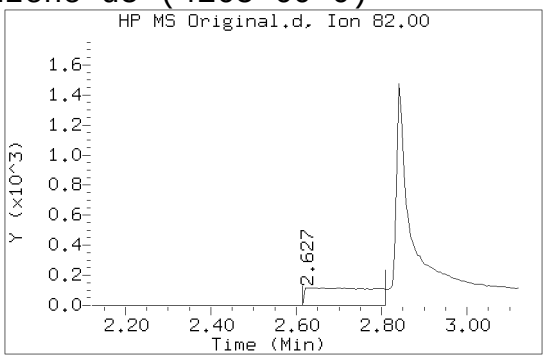
Data File : \\nahstws005\Target\chem\SV6.i\230714.b\06.D
Inj Date : 14-JUL-2023 11:37
InstruID : SV6.i
LabSampID : MBLK-197520

Nitrobenzene-d5 (4165-60-0)

Reason Code:

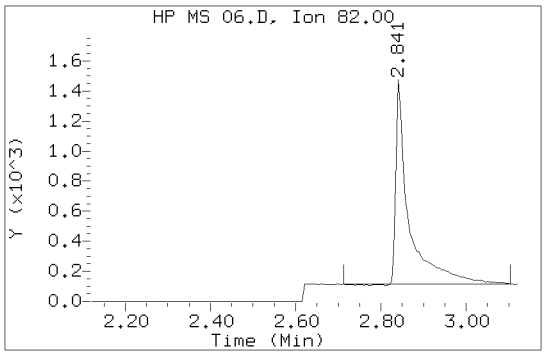
BEFORE

MASS
82
AREA
1292
HEIGHT
117
14-Jul-2023
11:52
ALSHS
Server



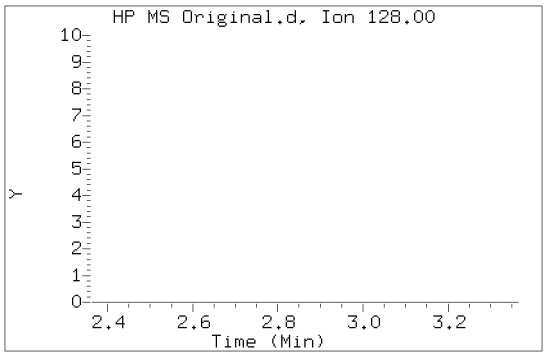
AFTER

MASS
82
AREA
2887
HEIGHT
1361
14-Jul-2023
14:11
ALSHS
Se



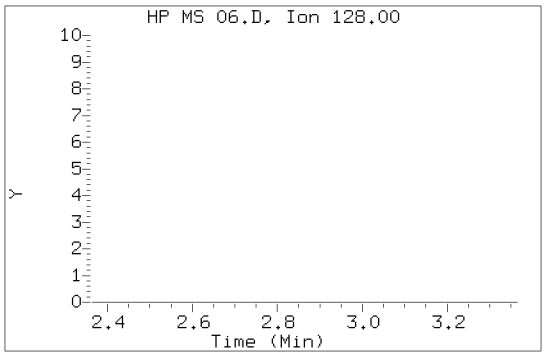
BEFORE

MASS
128
AREA
0
HEIGHT
0
14-Jul-2023
11:52
ALSHS
Server



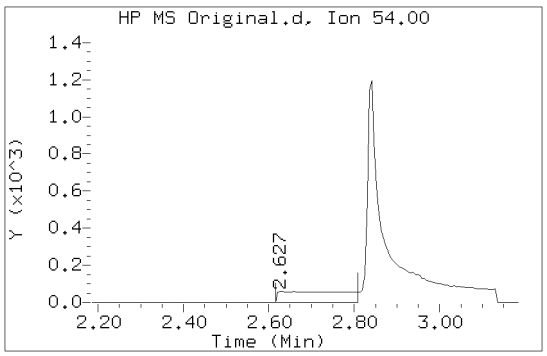
AFTER

MASS
128
AREA
0
HEIGHT
0
14-Jul-2023
14:11
ALSHS
Se



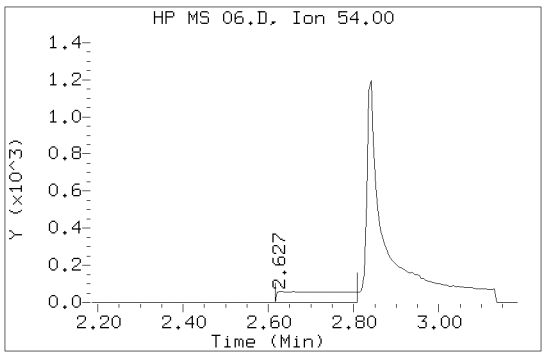
BEFORE

MASS
54
AREA
651
HEIGHT
58
14-Jul-2023
11:52
ALSHS
Server



AFTER

MASS
54
AREA
651
HEIGHT
58
14-Jul-2023
14:11
ALSHS
Se

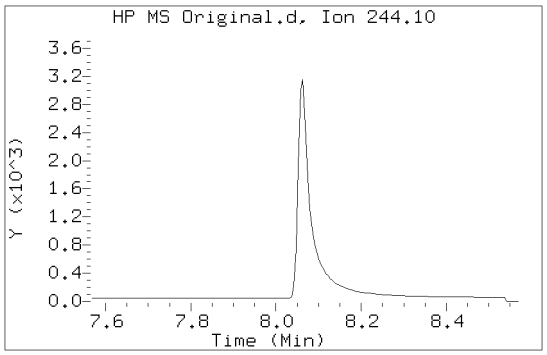


4-Terphenyl-d14 (1718-51-0)

Reason Code:

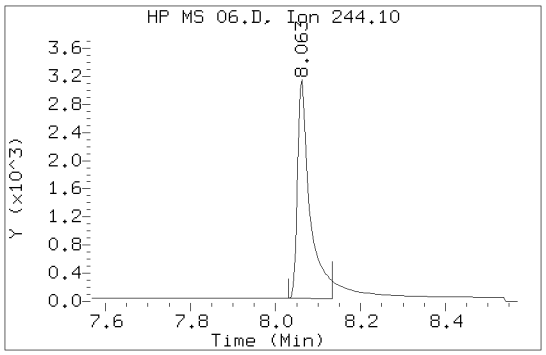
BEFORE

MASS
244.1
AREA
0
HEIGHT
0
14-Jul-2023
11:52
ALSHS
Server



AFTER

MASS
244.1
AREA
6269
HEIGHT
3110
14-Jul-2023
14:11
ALSHS
Se



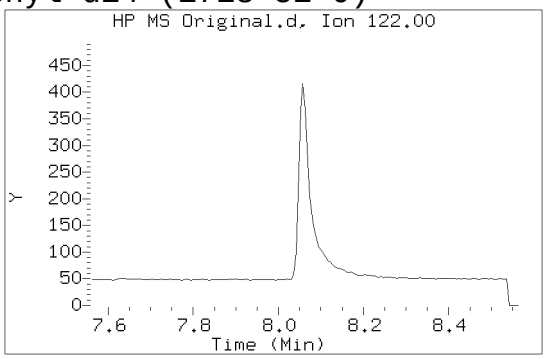
Data File : \\nahstws005\Target\chem\SV6.i\230714.b\06.D
Inj Date : 14-JUL-2023 11:37
InstruID : SV6.i
LabSampID : MBLK-197520

4-Terphenyl-d14 (1718-51-0)

Reason Code:

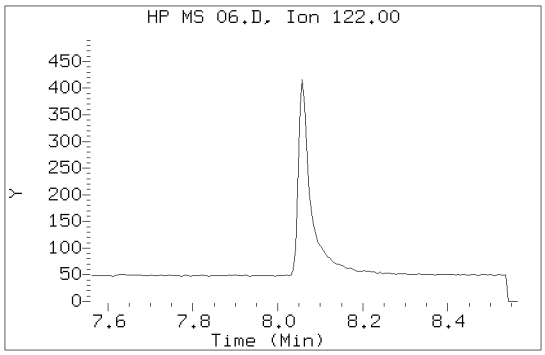
BEFORE

MASS
122
AREA
0
HEIGHT
0
14-Jul-2023
11:52
ALSHS
Server



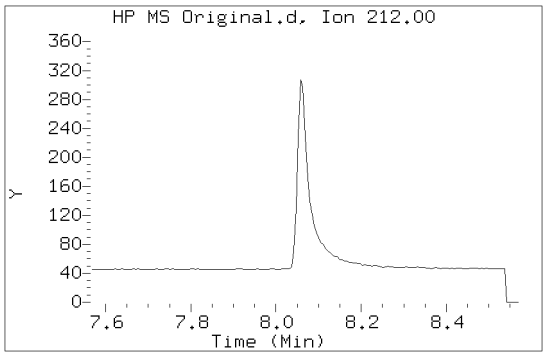
AFTER

MASS
122
AREA
0
HEIGHT
0
14-Jul-2023
14:11
ALSHS
Se



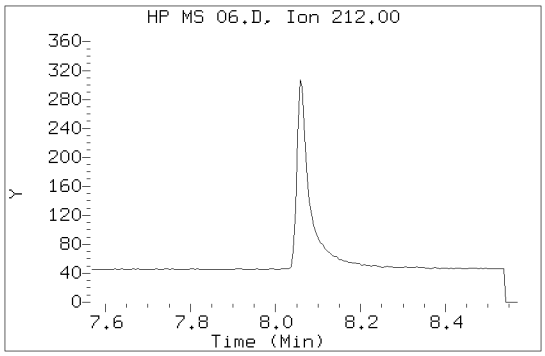
BEFORE

MASS
212
AREA
0
HEIGHT
0
14-Jul-2023
11:52
ALSHS
Server



AFTER

MASS
212
AREA
0
HEIGHT
0
14-Jul-2023
14:11
ALSHS
Se

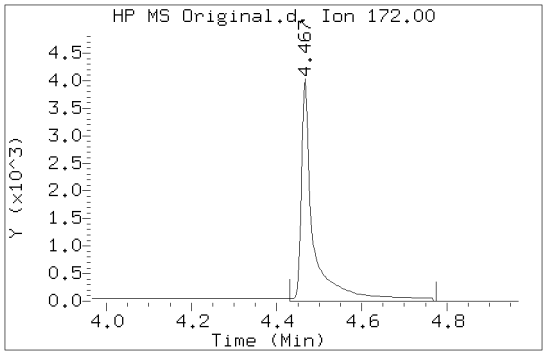


2-Fluorobiphenyl (321-60-8)

Reason Code:

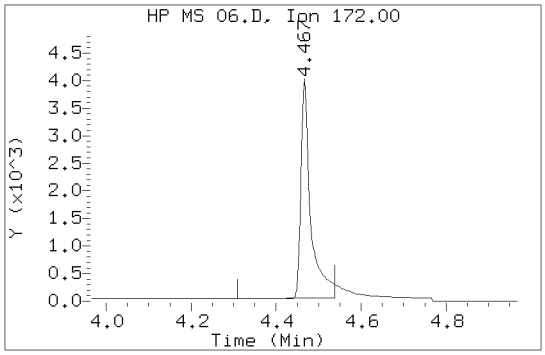
BEFORE

MASS
172
AREA
8212
HEIGHT
4031
14-Jul-2023
11:52
ALSHS
Server



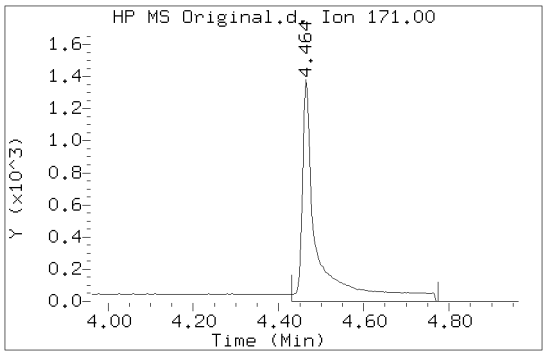
AFTER

MASS
172
AREA
6350
HEIGHT
3979
14-Jul-2023
14:11
ALSHS
Se



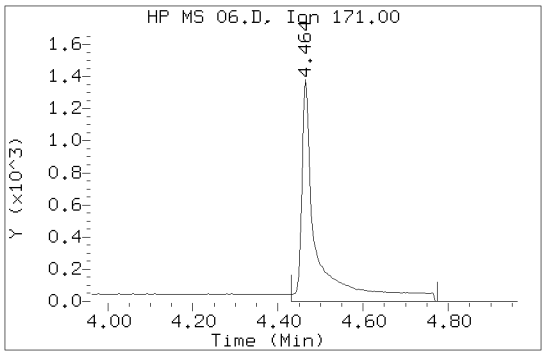
BEFORE

MASS
171
AREA
3374
HEIGHT
1380
14-Jul-2023
11:52
ALSHS
Server



AFTER

MASS
171
AREA
3374
HEIGHT
1380
14-Jul-2023
14:11
ALSHS
Se



Data File: \\nahstws005\Target\chem\SV6.i\230714.b\07.D Page 1
Report Date: 14-Jul-2023 14:20

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\nahstws005\Target\chem\SV6.i\230714.b\07.D
Lab Smp Id: LCS-197520 Client Smp ID: LCS-197520
Inj Date : 14-JUL-2023 11:55
Operator : LG Inst ID: SV6.i
Smp Info : LCS-197520
Misc Info : ;;0;1;
Comment :
Method : \\nahstws005\Target\chem\SV6.i\230714.b\DXSIM.m
Meth Date : 14-Jul-2023 11:38 jiayi.lu Quant Type: ISTD
Cal Date : 16-JUN-2023 15:56 Cal File: 15.D
Als bottle: 7 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTW7015

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	FINAL (ug/L)
* 20 1,4-Dichlorobenzene-d4	152	2.401	2.400	(1.000)	2970	0.10000	(aM)
* 45 Naphthalene-d8	136	3.446	3.446	(1.000)	10137	0.10000	(M)
$ 33 Nitrobenzene-d5	82	2.841	2.621	(0.824)	2441	0.07926	0.07926(M)
* 86 Acenaphthene-d10	164	5.069	5.069	(1.000)	6150	0.10000	(QM)
$ 69 2-Fluorobiphenyl	172	4.467	4.467	(0.881)	5684	0.09038	0.09038(M)
* 126 Phenanthrene-d10	188	6.476	6.481	(1.000)	10318	0.10000	
* 182 Chrysene-d12	240	9.020	9.020	(1.000)	7971	0.10000	(M)
$ 158 4-Terphenyl-d14	244	8.063	8.066	(0.894)	5502	0.09356	0.09356(M)
* 198 Perylene-d12	264	10.583	10.594	(1.000)	5954	0.10000	
1 1,4-Dioxane	58	0.920	0.927	(0.383)	724	0.07185	0.07184

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.

01246940

Data File: \\nahstws005\Target\chem\SV6.i\230714.b\07.D

Date : 14-JUL-2023 11:55

Client ID: LCS-197520

Instrument: SV6.i

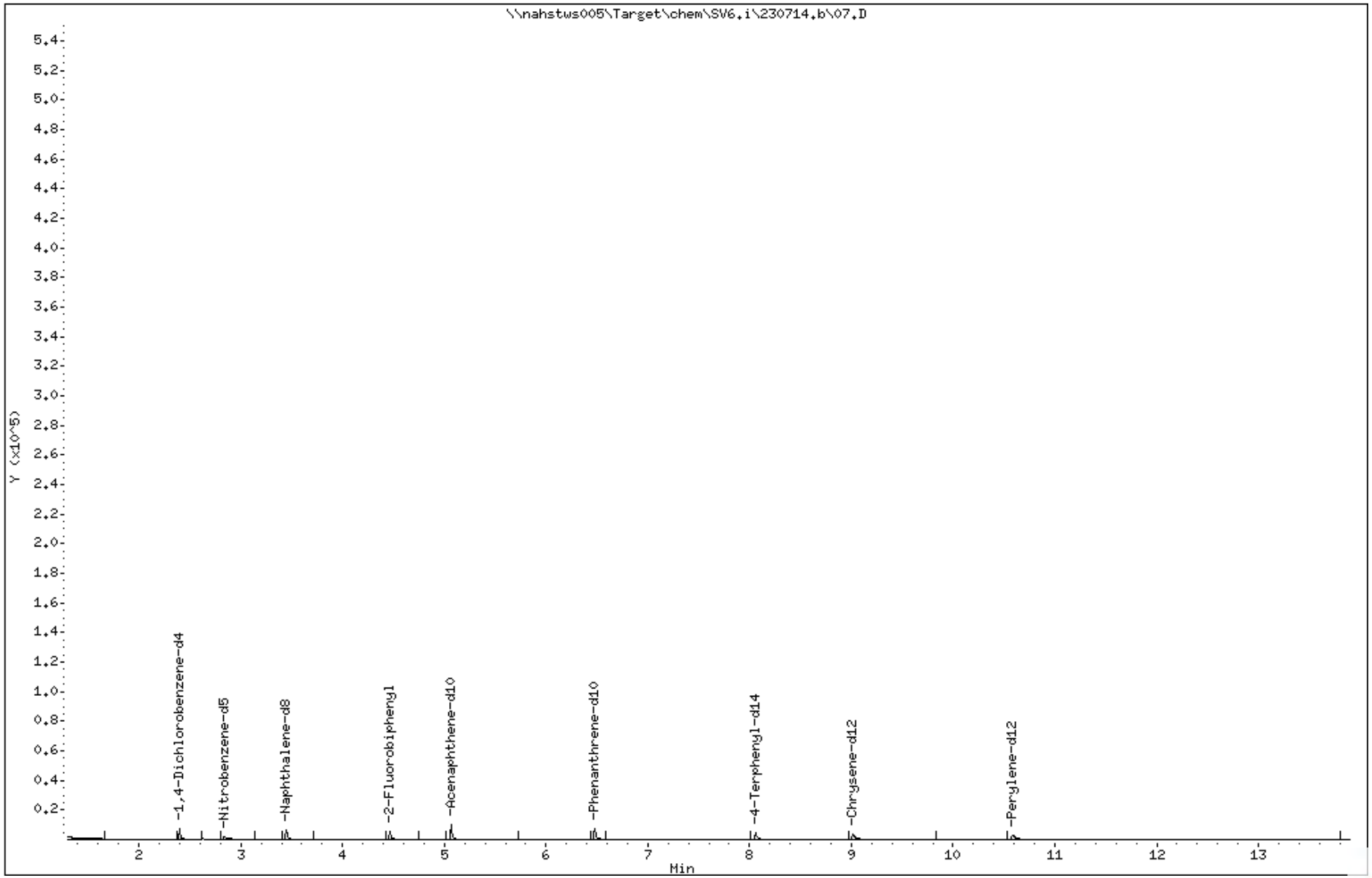
Sample Info: LCS-197520

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28



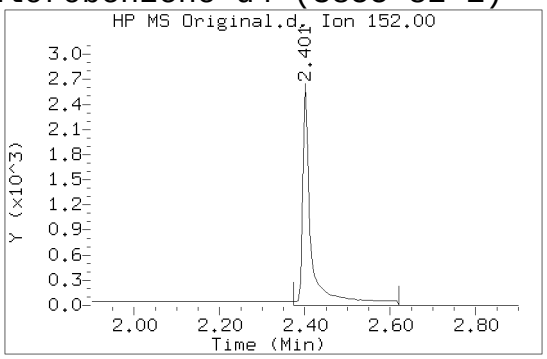
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Inj Date : 14-JUL-2023 11:55
InstruID : SV6.i
LabSampID : LCS-197520

1,4-Dichlorobenzene-d4 (3855-82-1)

Reason Code:

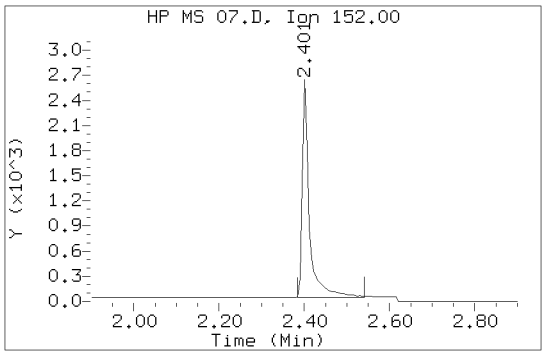
BEFORE

MASS
152
AREA
3694
HEIGHT
2648
14-Jul-2023
12:10
ALSHS
Server



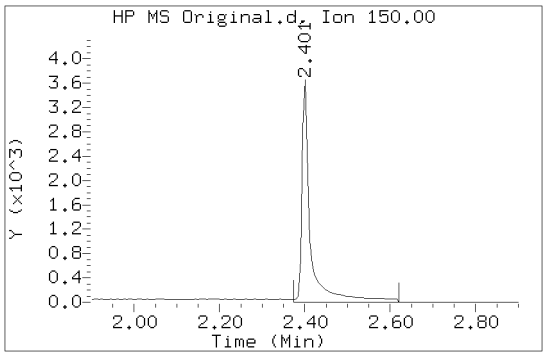
AFTER

MASS
152
AREA
2970
HEIGHT
2602
14-Jul-2023
14:20
ALSHS
Se



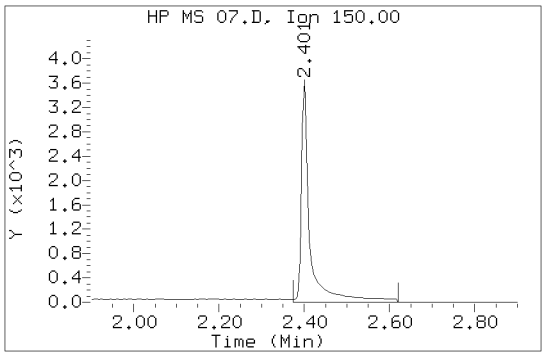
BEFORE

MASS
150
AREA
5047
HEIGHT
3653
14-Jul-2023
12:10
ALSHS
Server



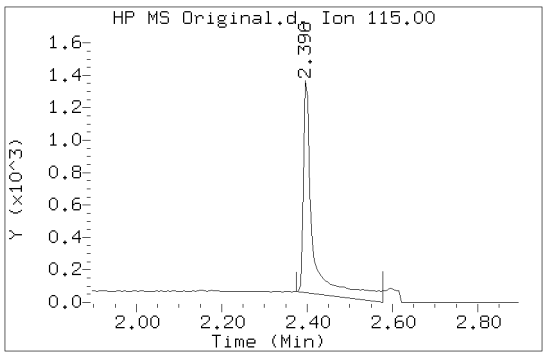
AFTER

MASS
150
AREA
5047
HEIGHT
3653
14-Jul-2023
14:20
ALSHS
Se



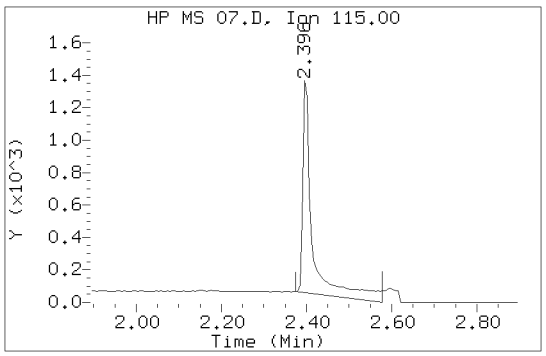
BEFORE

MASS
115
AREA
2041
HEIGHT
1307
14-Jul-2023
12:10
ALSHS
Server



AFTER

MASS
115
AREA
2041
HEIGHT
1307
14-Jul-2023
14:20
ALSHS
Se

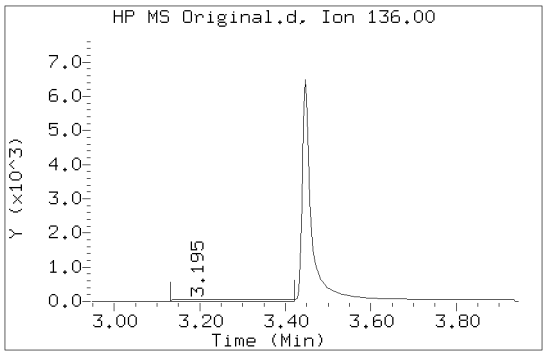


Naphthalene-d8 (1146-65-2)

Reason Code:

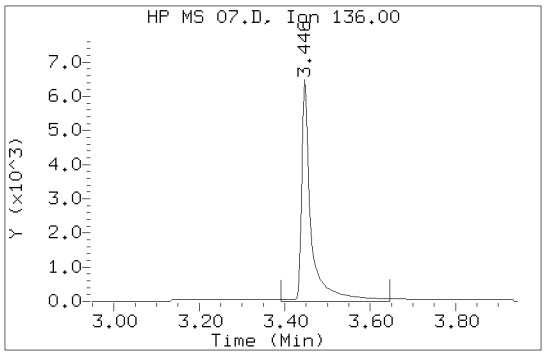
BEFORE

MASS
136
AREA
846
HEIGHT
50
14-Jul-2023
12:10
ALSHS
Server



AFTER

MASS
136
AREA
10137
HEIGHT
6482
14-Jul-2023
14:20
ALSHS
Se



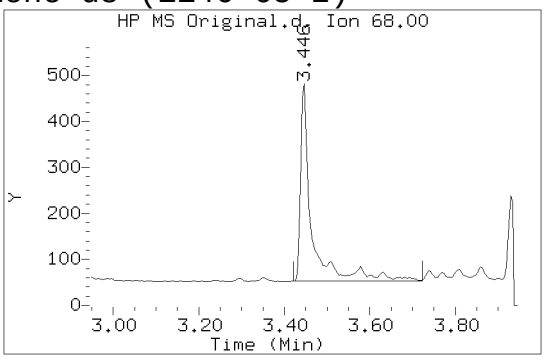
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Inj Date : 14-JUL-2023 11:55
InstruID : SV6.i
LabSampID : LCS-197520

Naphthalene-d8 (1146-65-2)

Reason Code:

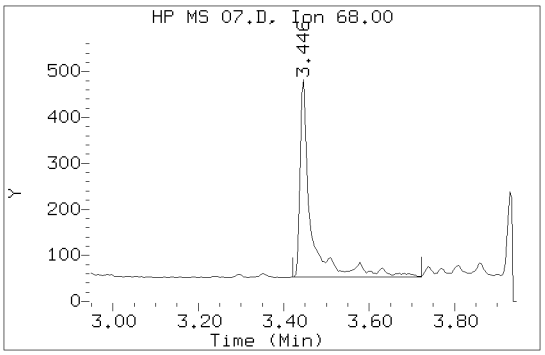
BEFORE

MASS
68
AREA
764
HEIGHT
429
14-Jul-2023
12:10
ALSHS
Server



AFTER

MASS
68
AREA
764
HEIGHT
429
14-Jul-2023
14:20
ALSHS
Se

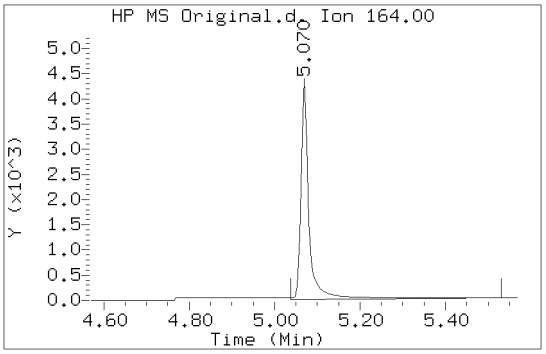


Acenaphthene-d10 (15067-26-2)

Reason Code:

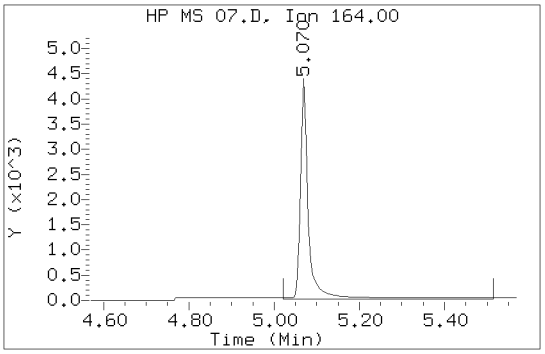
BEFORE

MASS
164
AREA
5821
HEIGHT
4381
14-Jul-2023
12:10
ALSHS
Server



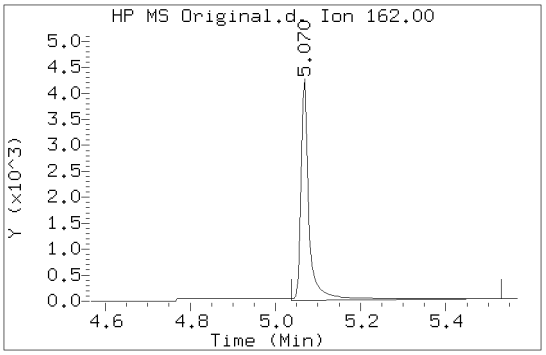
AFTER

MASS
164
AREA
6150
HEIGHT
4379
14-Jul-2023
14:20
ALSHS
Se



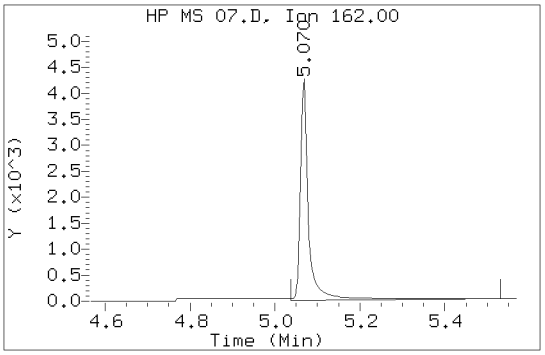
BEFORE

MASS
162
AREA
5873
HEIGHT
4258
14-Jul-2023
12:10
ALSHS
Server



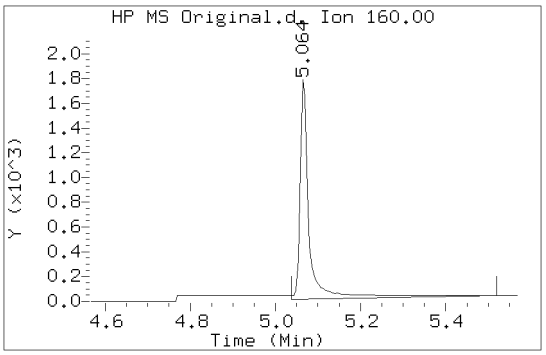
AFTER

MASS
162
AREA
5873
HEIGHT
4258
14-Jul-2023
14:20
ALSHS
Se



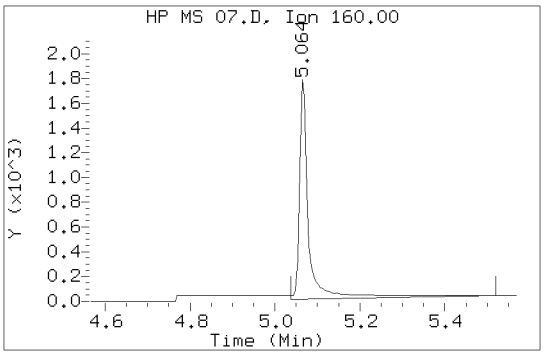
BEFORE

MASS
160
AREA
2696
HEIGHT
1772
14-Jul-2023
12:10
ALSHS
Server



AFTER

MASS
160
AREA
2696
HEIGHT
1772
14-Jul-2023
14:20
ALSHS
Se



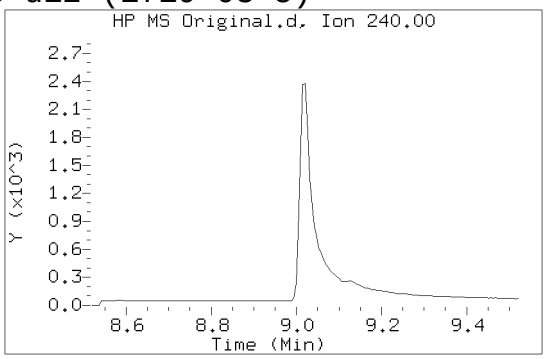
Data File : \\nahstws005\Target\chem\SV6.i\230714.b\07.D
Inj Date : 14-JUL-2023 11:55
InstruID : SV6.i
LabSampID : LCS-197520

Chrysene-d12 (1719-03-5)

Reason Code:

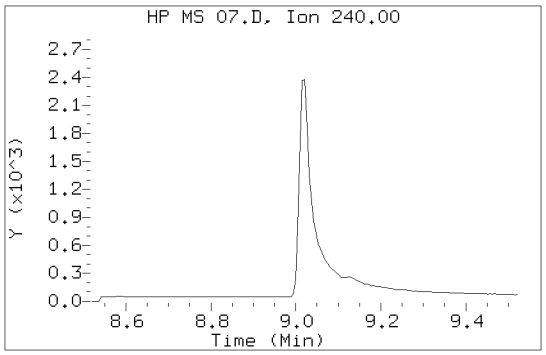
BEFORE

MASS
240
AREA
0
HEIGHT
0
14-Jul-2023
12:10
ALSHS
Server



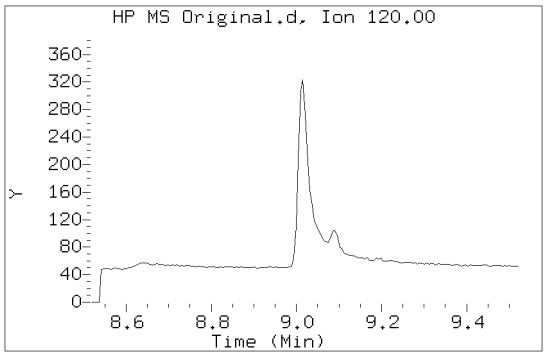
AFTER

MASS
240
AREA
7971
HEIGHT
2341
14-Jul-2023
14:20
ALSHS
Se



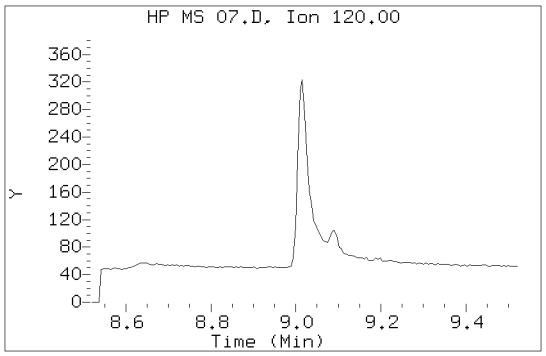
BEFORE

MASS
120
AREA
0
HEIGHT
0
14-Jul-2023
12:10
ALSHS
Server



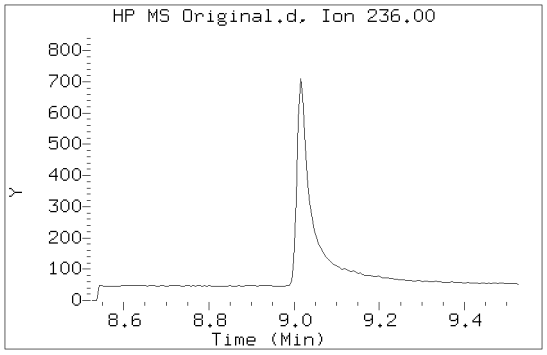
AFTER

MASS
120
AREA
0
HEIGHT
0
14-Jul-2023
14:20
ALSHS
Se



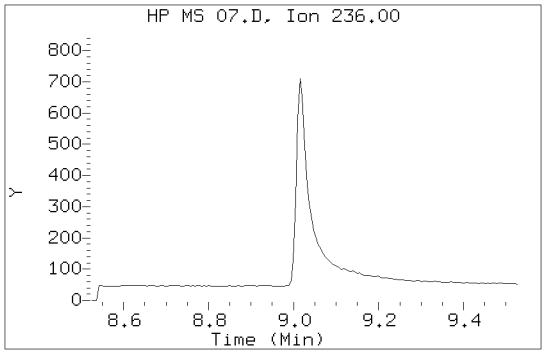
BEFORE

MASS
236
AREA
0
HEIGHT
0
14-Jul-2023
12:10
ALSHS
Server



AFTER

MASS
236
AREA
0
HEIGHT
0
14-Jul-2023
14:20
ALSHS
Se

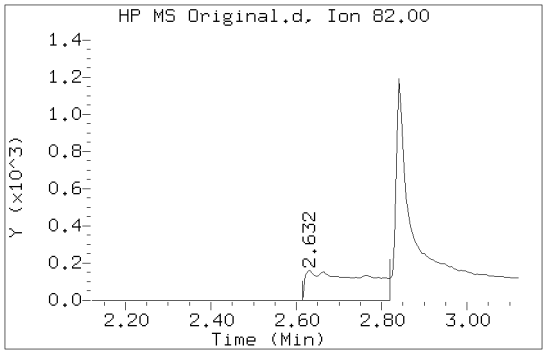


Nitrobenzene-d5 (4165-60-0)

Reason Code:

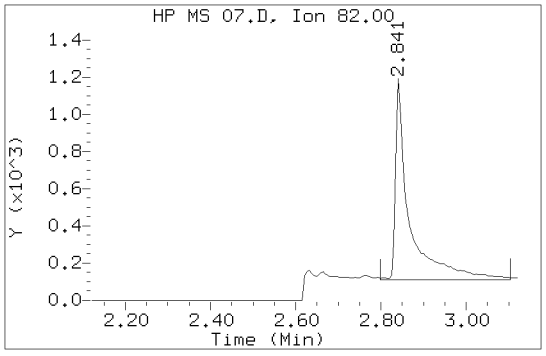
BEFORE

MASS
82
AREA
1582
HEIGHT
163
14-Jul-2023
12:10
ALSHS
Server



AFTER

MASS
82
AREA
2441
HEIGHT
1081
14-Jul-2023
14:20
ALSHS
Se



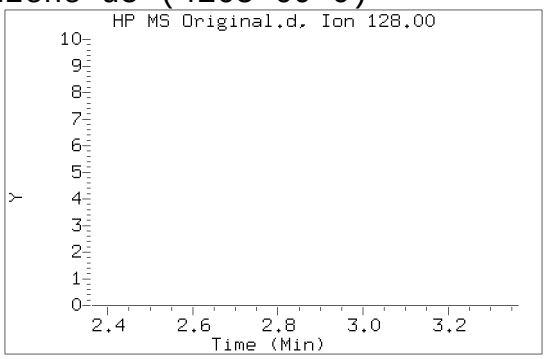
Data File : \\nahstws005\Target\chem\SV6.i\230714.b\07.D
Inj Date : 14-JUL-2023 11:55
InstruID : SV6.i
LabSampID : LCS-197520

Nitrobenzene-d5 (4165-60-0)

Reason Code:

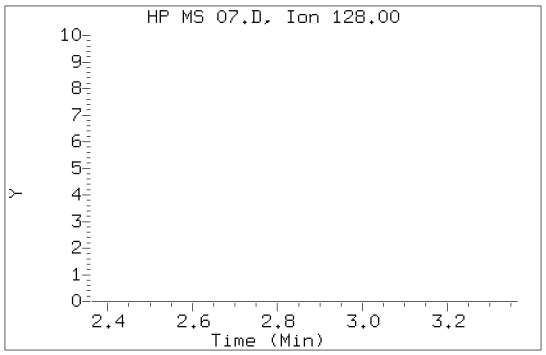
BEFORE

MASS
128
AREA
0
HEIGHT
0
14-Jul-2023
12:10
ALSHS
Server



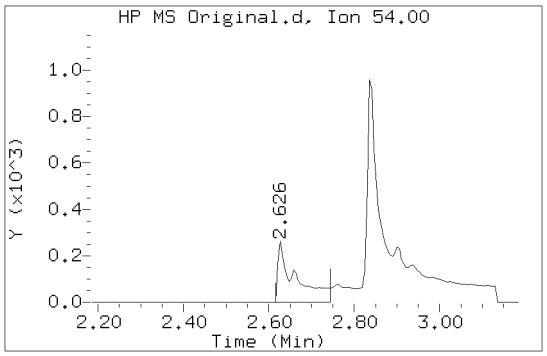
AFTER

MASS
128
AREA
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HEIGHT
0
14-Jul-2023
14:20
ALSHS
Se



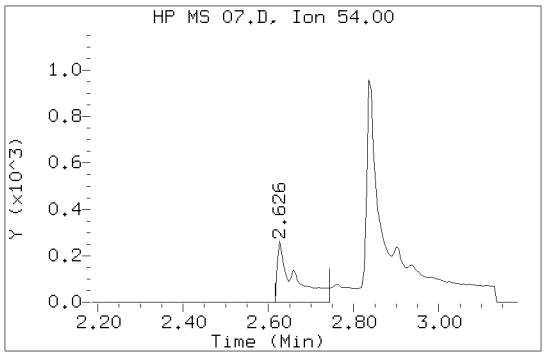
BEFORE

MASS
54
AREA
755
HEIGHT
262
14-Jul-2023
12:10
ALSHS
Server



AFTER

MASS
54
AREA
755
HEIGHT
262
14-Jul-2023
14:20
ALSHS
Se

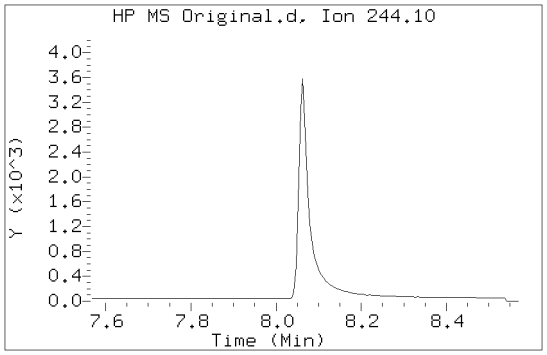


4-Terphenyl-d14 (1718-51-0)

Reason Code:

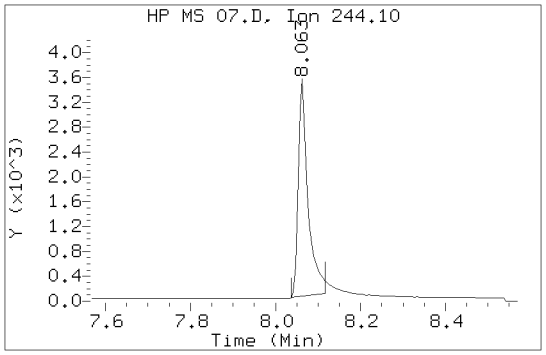
BEFORE

MASS
244.1
AREA
0
HEIGHT
0
14-Jul-2023
12:10
ALSHS
Server



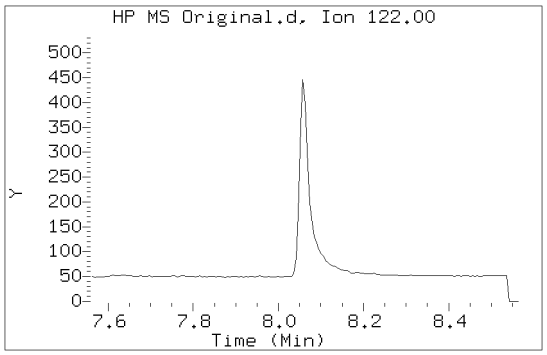
AFTER

MASS
244.1
AREA
5502
HEIGHT
3491
14-Jul-2023
14:20
ALSHS
Se



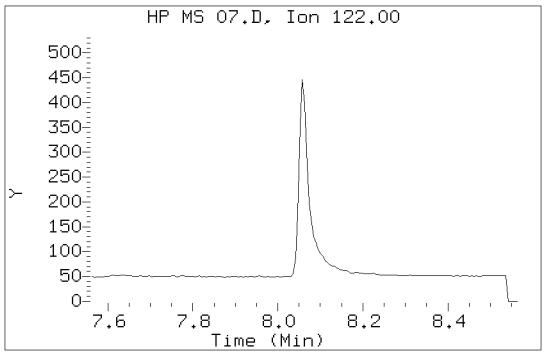
BEFORE

MASS
122
AREA
0
HEIGHT
0
14-Jul-2023
12:10
ALSHS
Server



AFTER

MASS
122
AREA
0
HEIGHT
0
14-Jul-2023
14:20
ALSHS
Se

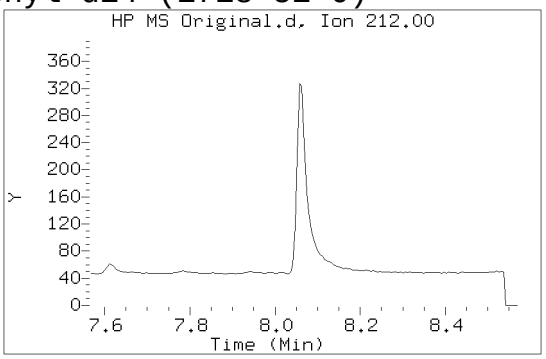


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Inj Date : 14-JUL-2023 11:55
InstruID : SV6.i
LabSampID : LCS-197520

4-Terphenyl-d14 (1718-51-0)

BEFORE

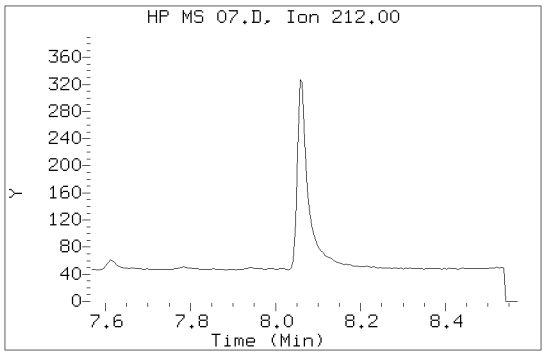
MASS
212
AREA
0
HEIGHT
0
14-Jul-2023
12:10
ALSHS
Server



Reason Code:

AFTER

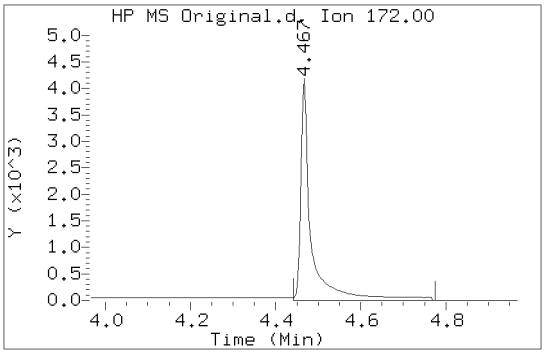
MASS
212
AREA
0
HEIGHT
0
14-Jul-2023
14:20
ALSHS
Se



2-Fluorobiphenyl (321-60-8)

BEFORE

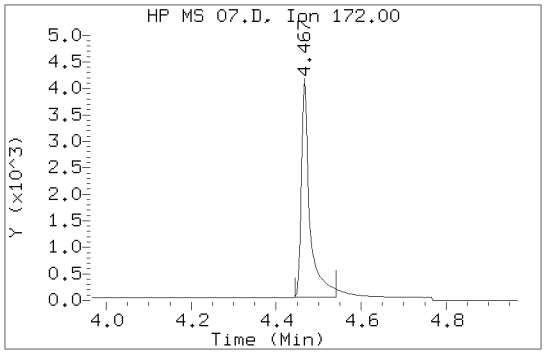
MASS
172
AREA
7180
HEIGHT
4182
14-Jul-2023
12:10
ALSHS
Server



Reason Code:

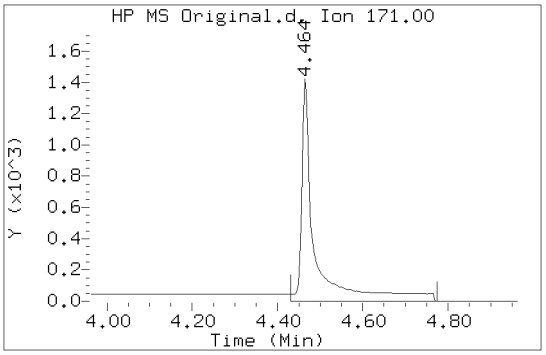
AFTER

MASS
172
AREA
5684
HEIGHT
4122
14-Jul-2023
14:20
ALSHS
Se



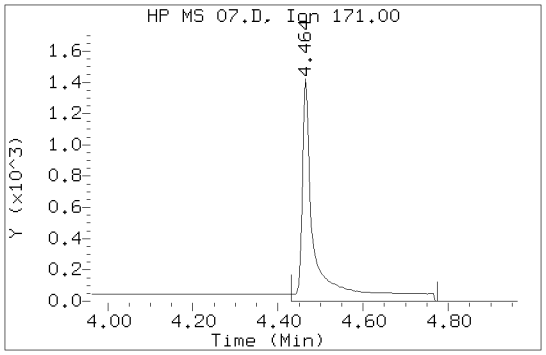
BEFORE

MASS
171
AREA
3041
HEIGHT
1422
14-Jul-2023
12:10
ALSHS
Server



AFTER

MASS
171
AREA
3041
HEIGHT
1422
14-Jul-2023
14:20
ALSHS
Se



Data File: \\NAHSTWS005\Target\chem\SV6.i\230714.b\08.D Page 1
Report Date: 20-Jul-2023 15:26

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\230714.b\08.D
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Inj Date : 14-JUL-2023 12:13
Operator : LG Inst ID: SV6.i
Smp Info : LCSD-197520
Misc Info : ;;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\SV6.i\230714.b\DXSIM.m
Meth Date : 14-Jul-2023 11:38 jiayi.lu Quant Type: ISTD
Cal Date : 16-JUN-2023 15:56 Cal File: 15.D
Als bottle: 8 QC Sample: LCSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	FINAL (ug/L)
* 20 1,4-Dichlorobenzene-d4	152	2.406	2.400	(1.000)	3209	0.10000	(aM)
* 45 Naphthalene-d8	136	3.446	3.446	(1.000)	10389	0.10000	(M)
$ 33 Nitrobenzene-d5	82	2.841	2.621	(0.824)	2693	0.08532	0.08532(M)
* 86 Acenaphthene-d10	164	5.069	5.069	(1.000)	6934	0.10000	(QM)
$ 69 2-Fluorobiphenyl	172	4.467	4.467	(0.881)	6392	0.09015	0.09015(M)
* 126 Phenanthrene-d10	188	6.476	6.481	(1.000)	11496	0.10000	
* 182 Chrysene-d12	240	9.015	9.020	(1.000)	9580	0.10000	(M)
$ 158 4-Terphenyl-d14	244	8.063	8.066	(0.894)	6444	0.09117	0.09117(M)
* 198 Perylene-d12	264	10.589	10.594	(1.000)	6740	0.10000	
1 1,4-Dioxane	58	0.934	0.927	(0.388)	766	0.07035	0.07035

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.

01246947

Data File: \\NAHSTWS005\Target\chem\SV6.i\230714.b\08.D

Date : 14-JUL-2023 12:13

Client ID: LCSD-197520

Instrument: SV6.i

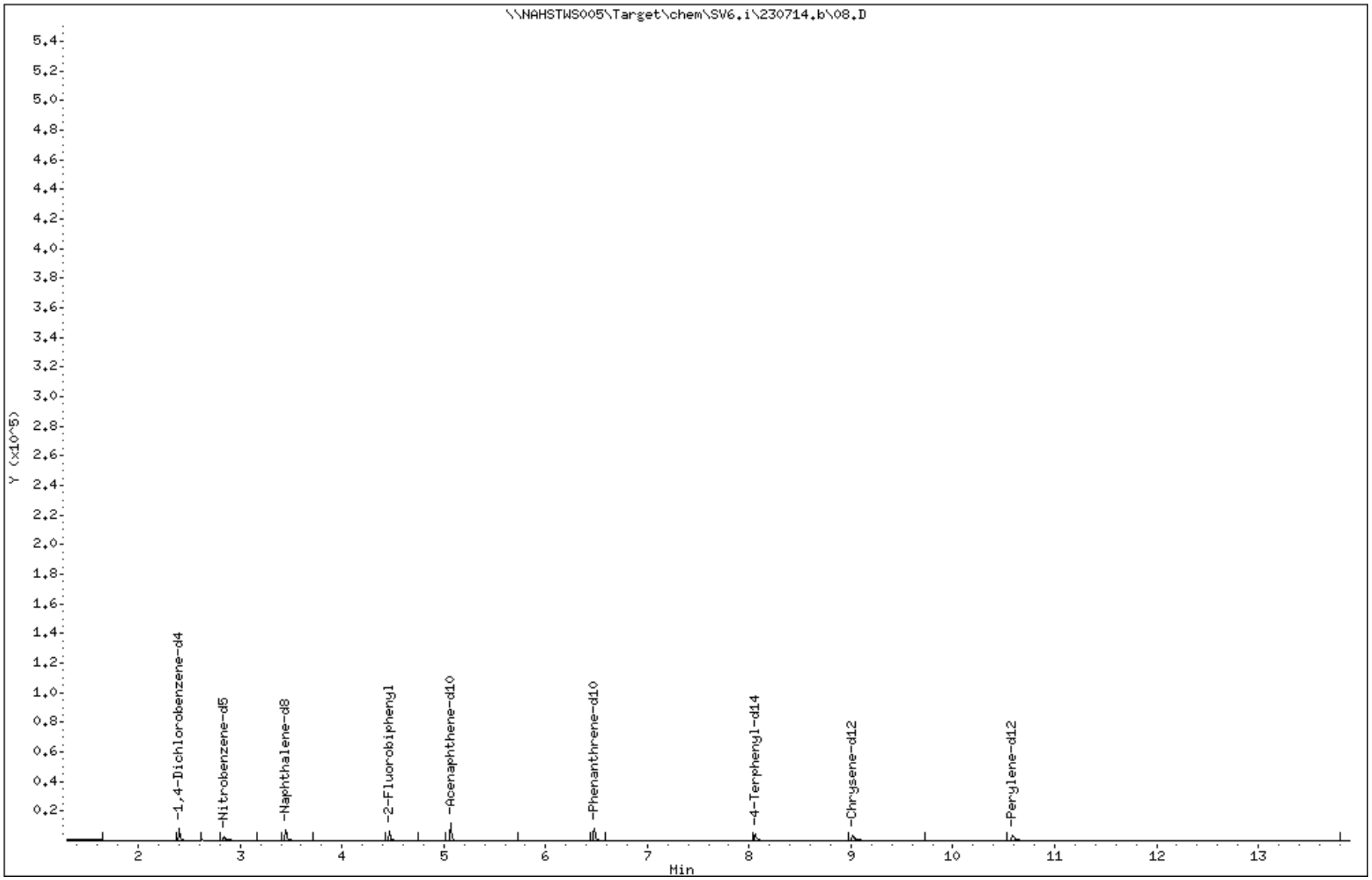
Sample Info: LCSD-197520

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28



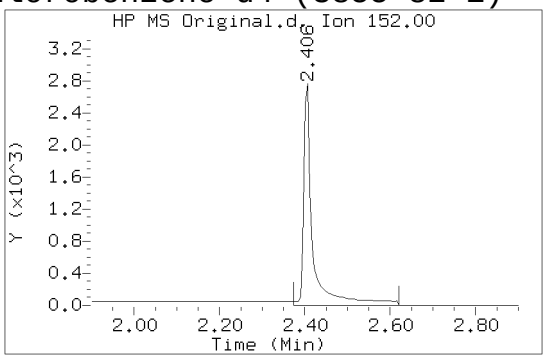
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Inj Date : 14-JUL-2023 12:13
InstruID : SV6.i
LabSampID : LCSD-197520

1,4-Dichlorobenzene-d4 (3855-82-1)

Reason Code:

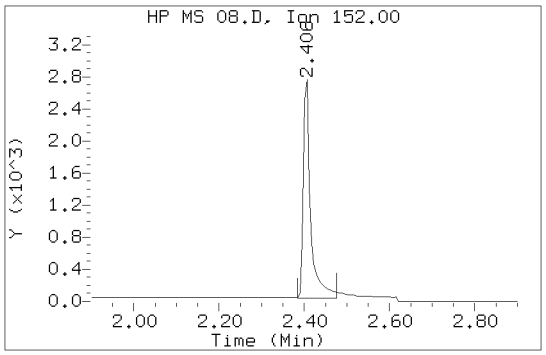
BEFORE

MASS
152
AREA
4036
HEIGHT
2765
14-Jul-2023
12:28
ALSHS
Server



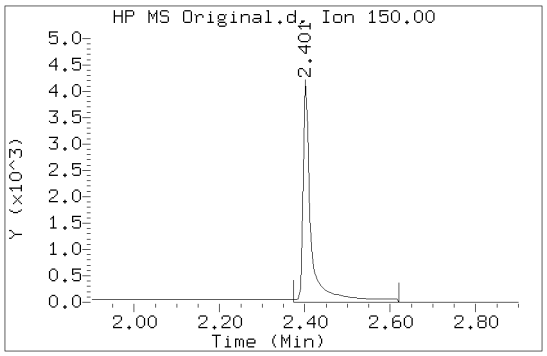
AFTER

MASS
152
AREA
3209
HEIGHT
2724
20-Jul-2023
15:26
ALSHS
Ser



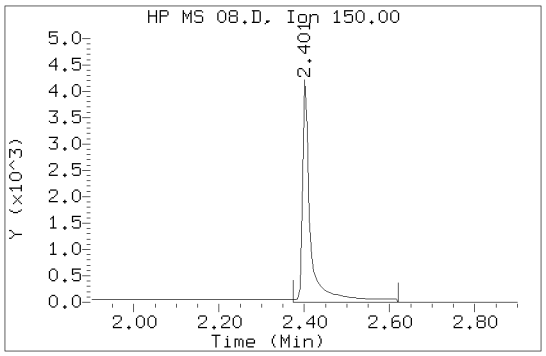
BEFORE

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AREA
5538
HEIGHT
4215
14-Jul-2023
12:28
ALSHS
Server



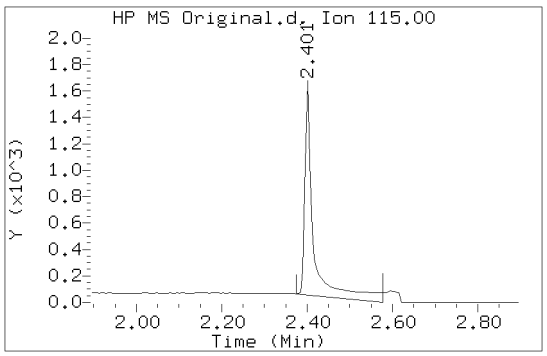
AFTER

MASS
150
AREA
5538
HEIGHT
4215
20-Jul-2023
15:26
ALSHS
Ser



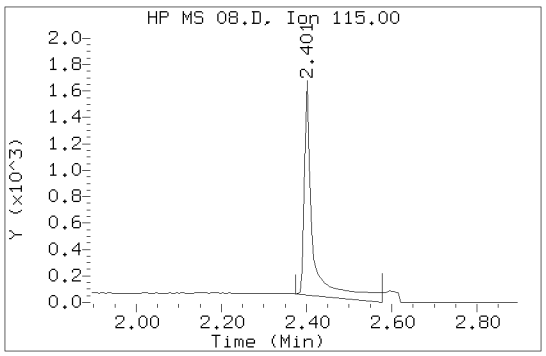
BEFORE

MASS
115
AREA
2241
HEIGHT
1621
14-Jul-2023
12:28
ALSHS
Server



AFTER

MASS
115
AREA
2241
HEIGHT
1621
20-Jul-2023
15:26
ALSHS
Ser

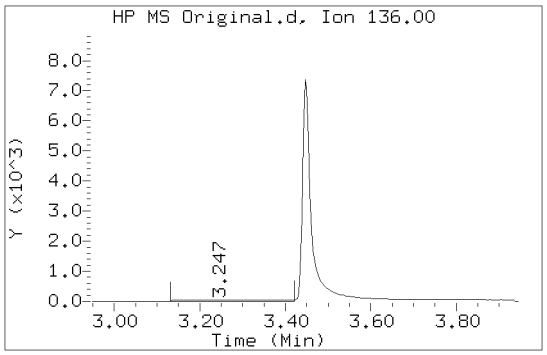


Naphthalene-d8 (1146-65-2)

Reason Code:

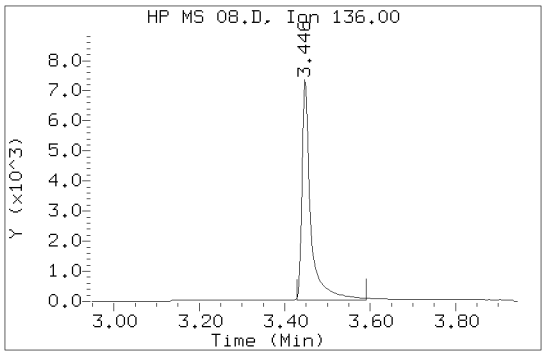
BEFORE

MASS
136
AREA
851
HEIGHT
51
14-Jul-2023
12:28
ALSHS
Server



AFTER

MASS
136
AREA
10389
HEIGHT
7327
20-Jul-2023
15:26
ALSHS
Ser



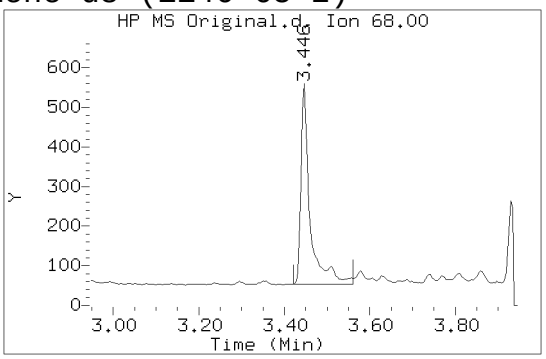
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Inj Date : 14-JUL-2023 12:13
InstruID : SV6.i
LabSampID : LCSD-197520

Naphthalene-d8 (1146-65-2)

Reason Code:

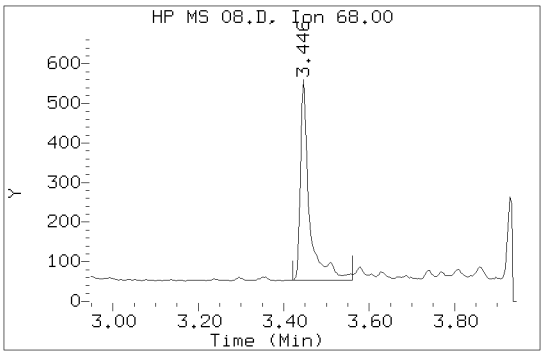
BEFORE

MASS
68
AREA
745
HEIGHT
507
14-Jul-2023
12:28
ALSHS
Server



AFTER

MASS
68
AREA
745
HEIGHT
507
20-Jul-2023
15:26
ALSHS
Ser

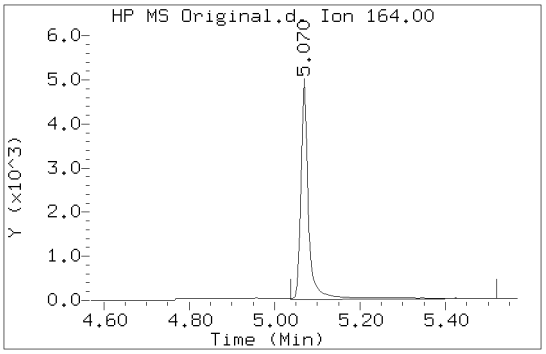


Acenaphthene-d10 (15067-26-2)

Reason Code:

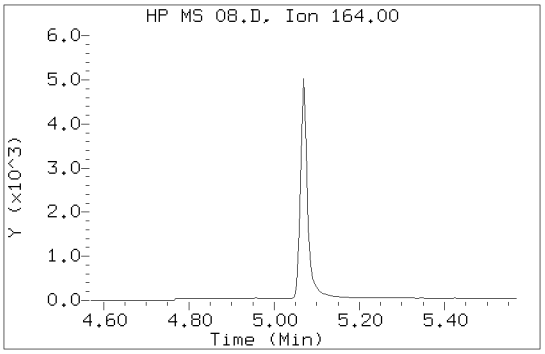
BEFORE

MASS
164
AREA
6382
HEIGHT
5009
14-Jul-2023
12:28
ALSHS
Server



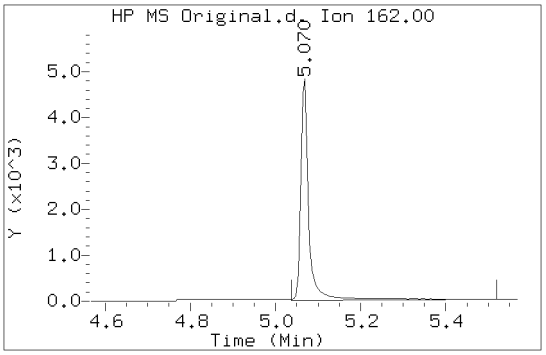
AFTER

MASS
164
AREA
6934
HEIGHT
5008
20-Jul-2023
15:26
ALSHS
Ser



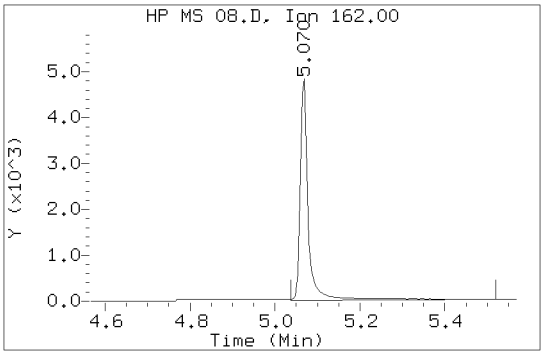
BEFORE

MASS
162
AREA
6433
HEIGHT
4823
14-Jul-2023
12:28
ALSHS
Server



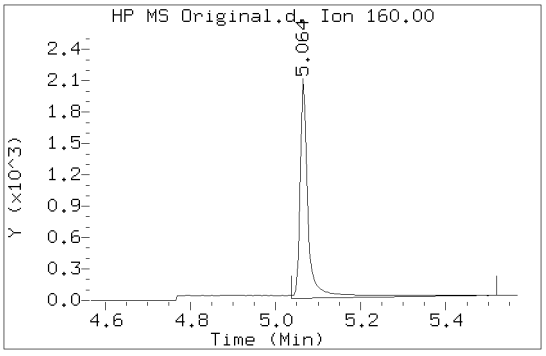
AFTER

MASS
162
AREA
6433
HEIGHT
4823
20-Jul-2023
15:26
ALSHS
Ser



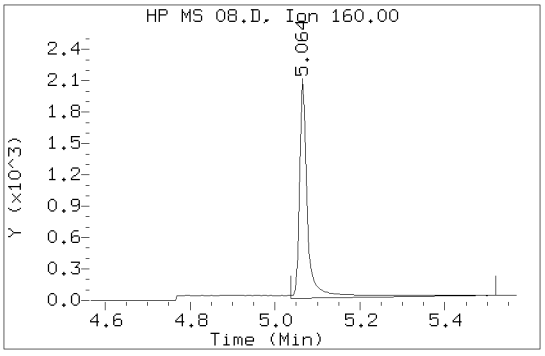
BEFORE

MASS
160
AREA
2961
HEIGHT
2102
14-Jul-2023
12:28
ALSHS
Server



AFTER

MASS
160
AREA
2961
HEIGHT
2102
20-Jul-2023
15:26
ALSHS
Ser



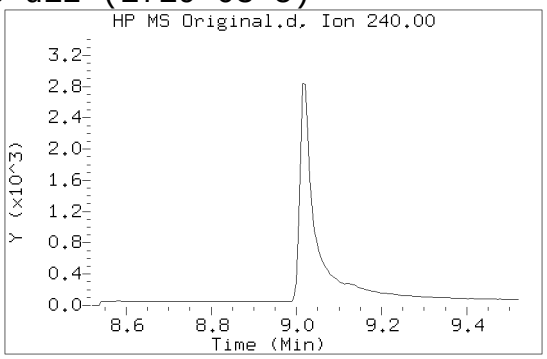
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Inj Date : 14-JUL-2023 12:13
InstruID : SV6.i
LabSampID : LCSD-197520

Chrysene-d12 (1719-03-5)

Reason Code:

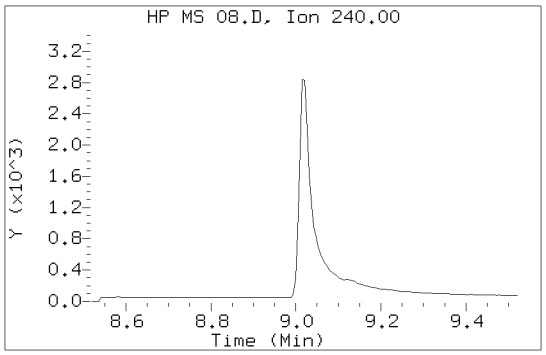
BEFORE

MASS
240
AREA
0
HEIGHT
0
14-Jul-2023
12:28
ALSHS
Server



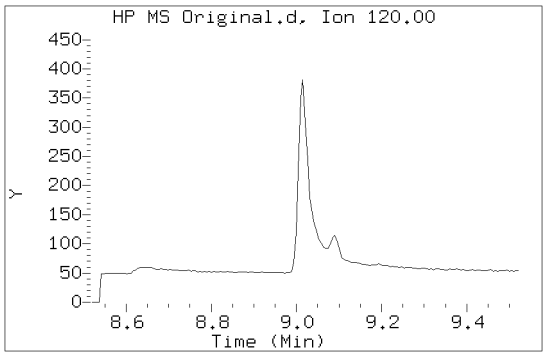
AFTER

MASS
240
AREA
9580
HEIGHT
2808
20-Jul-2023
15:26
ALSHS
Ser



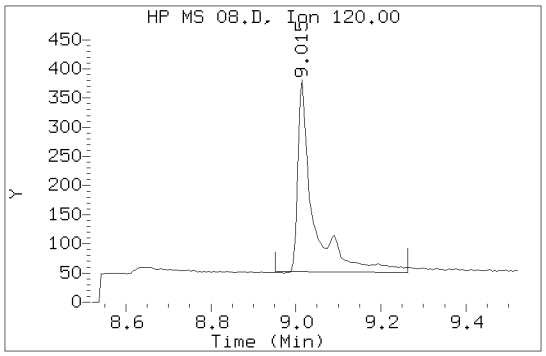
BEFORE

MASS
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AREA
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HEIGHT
0
14-Jul-2023
12:28
ALSHS
Server



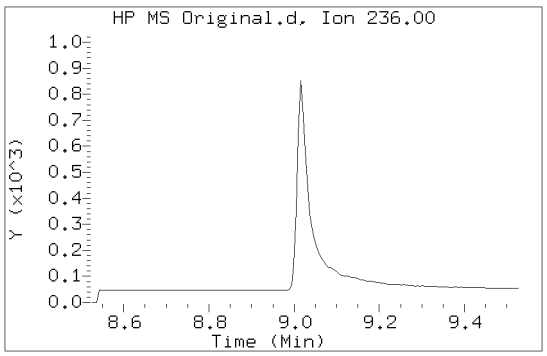
AFTER

MASS
120
AREA
827
HEIGHT
328
20-Jul-2023
15:26
ALSHS
Ser



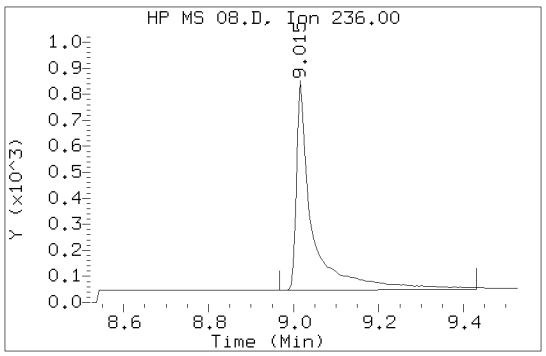
BEFORE

MASS
236
AREA
0
HEIGHT
0
14-Jul-2023
12:28
ALSHS
Server



AFTER

MASS
236
AREA
2138
HEIGHT
805
20-Jul-2023
15:26
ALSHS
Ser

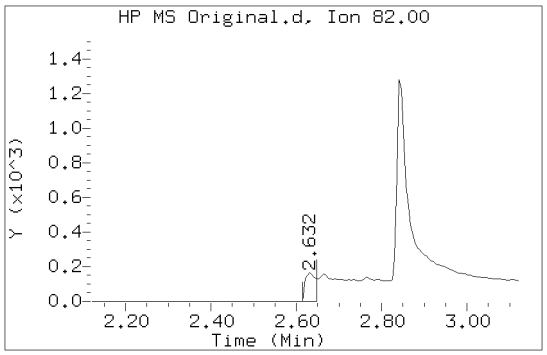


Nitrobenzene-d5 (4165-60-0)

Reason Code:

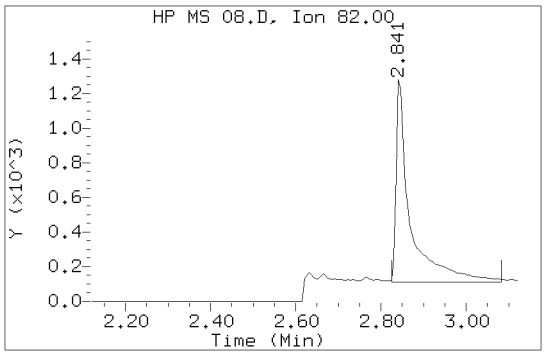
BEFORE

MASS
82
AREA
281
HEIGHT
168
14-Jul-2023
12:28
ALSHS
Server



AFTER

MASS
82
AREA
2693
HEIGHT
1169
20-Jul-2023
15:26
ALSHS
Ser

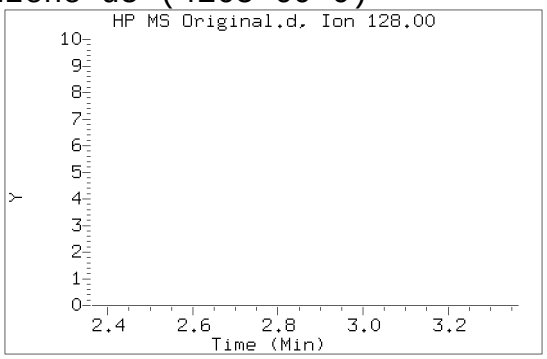


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Inj Date : 14-JUL-2023 12:13
InstruID : SV6.i
LabSampID : LCSD-197520

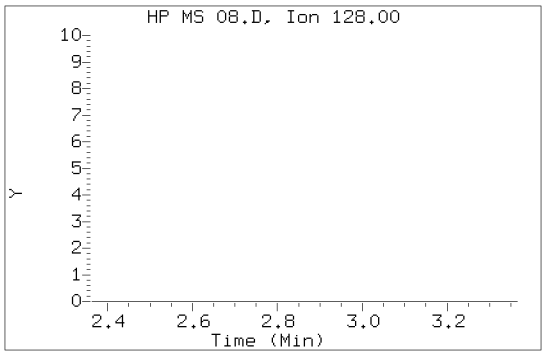
Nitrobenzene-d5 (4165-60-0)

Reason Code:

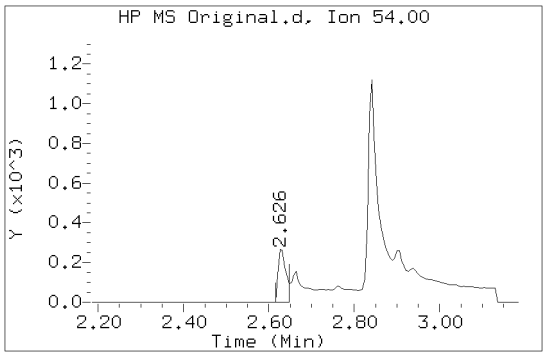
BEFORE
MASS
128
AREA
0
HEIGHT
0
14-Jul-2023
12:28
ALSHS
Server



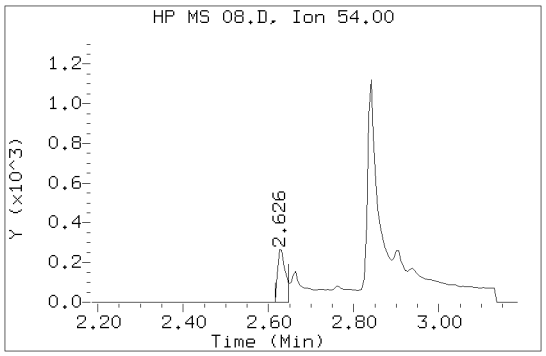
AFTER
MASS
128
AREA
0
HEIGHT
0
20-Jul-2023
15:26
ALSHS
Ser



BEFORE
MASS
54
AREA
342
HEIGHT
265
14-Jul-2023
12:28
ALSHS
Server



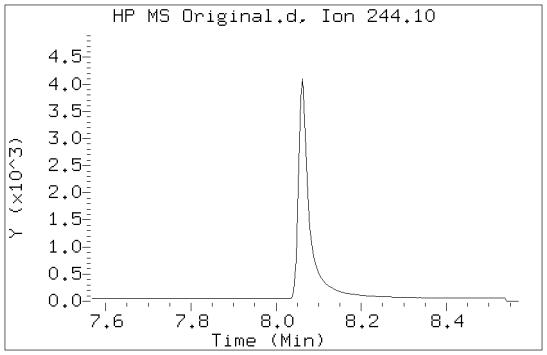
AFTER
MASS
54
AREA
342
HEIGHT
265
20-Jul-2023
15:26
ALSHS
Ser



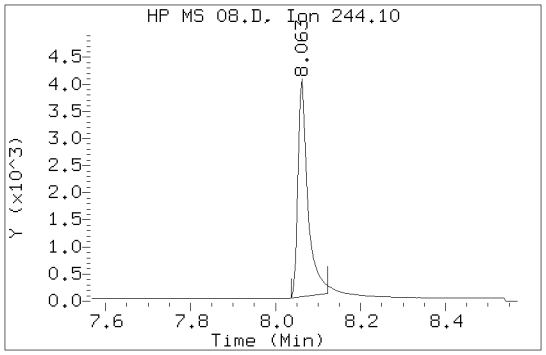
4-Terphenyl-d14 (1718-51-0)

Reason Code:

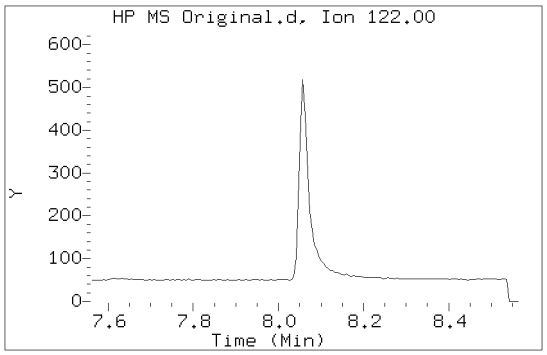
BEFORE
MASS
244.1
AREA
0
HEIGHT
0
14-Jul-2023
12:28
ALSHS
Server



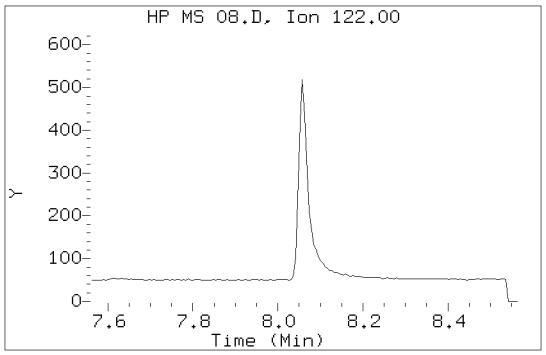
AFTER
MASS
244.1
AREA
6444
HEIGHT
4016
20-Jul-2023
15:26
ALSHS
Ser



BEFORE
MASS
122
AREA
0
HEIGHT
0
14-Jul-2023
12:28
ALSHS
Server



AFTER
MASS
122
AREA
0
HEIGHT
0
20-Jul-2023
15:26
ALSHS
Ser



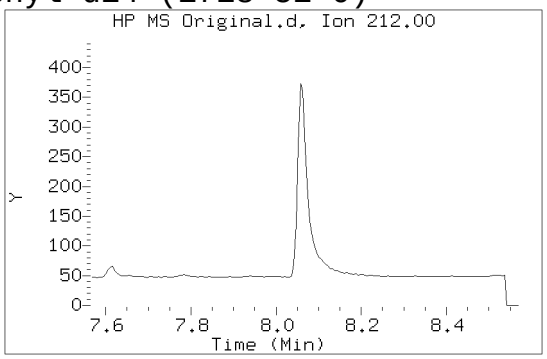
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Inj Date : 14-JUL-2023 12:13
InstruID : SV6.i
LabSampID : LCSD-197520

4-Terphenyl-d14 (1718-51-0)

Reason Code:

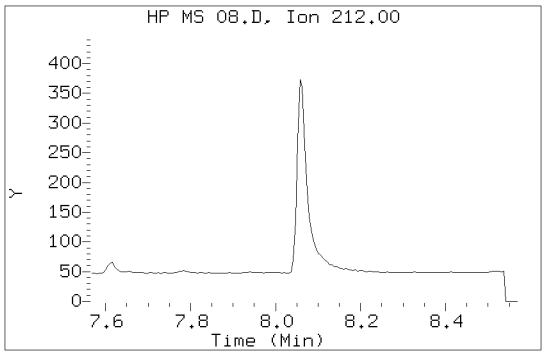
BEFORE

MASS
212
AREA
0
HEIGHT
0
14-Jul-2023
12:28
ALSHS
Server



AFTER

MASS
212
AREA
0
HEIGHT
0
20-Jul-2023
15:26
ALSHS
Ser

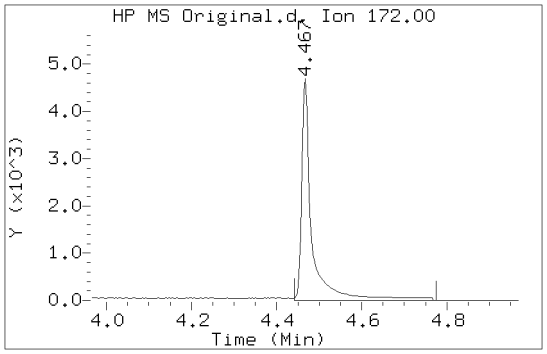


2-Fluorobiphenyl (321-60-8)

Reason Code:

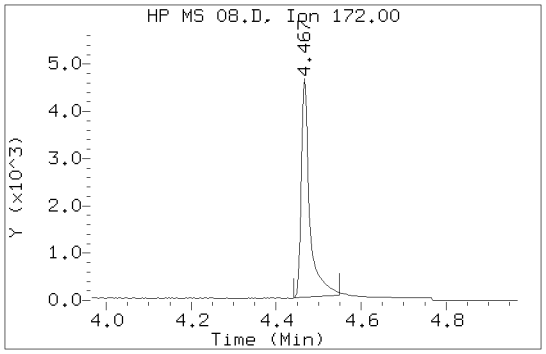
BEFORE

MASS
172
AREA
7915
HEIGHT
4691
14-Jul-2023
12:28
ALSHS
Server



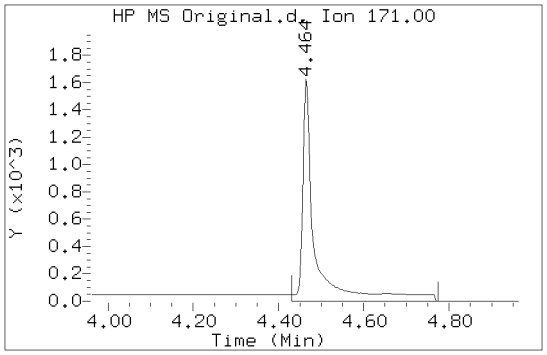
AFTER

MASS
172
AREA
6392
HEIGHT
4625
20-Jul-2023
15:26
ALSHS
Ser



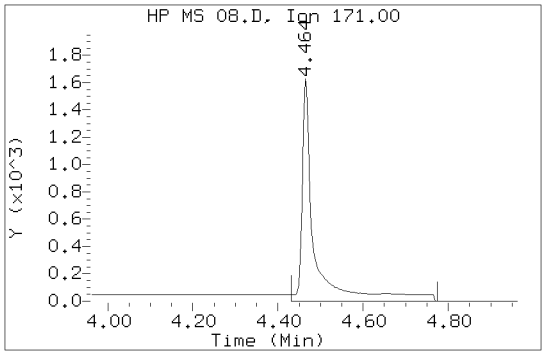
BEFORE

MASS
171
AREA
3308
HEIGHT
1627
14-Jul-2023
12:28
ALSHS
Server



AFTER

MASS
171
AREA
3308
HEIGHT
1627
20-Jul-2023
15:26
ALSHS
Ser



Data File: \\nahstws005\Target\chem\SV6.i\230714.b\12.D Page 1
Report Date: 14-Jul-2023 14:28

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\nahstws005\Target\chem\SV6.i\230714.b\12.D
Lab Smp Id: HS23070445-1 Client Smp ID: HS23070445-1
Inj Date : 14-JUL-2023 14:00
Operator : LG Inst ID: SV6.i
Smp Info : HS23070445-1X10
Misc Info : ;;0;1;
Comment :
Method : \\nahstws005\Target\chem\SV6.i\230714.b\DXSIM.m
Meth Date : 14-Jul-2023 11:38 jiayi.lu Quant Type: ISTD
Cal Date : 16-JUN-2023 15:56 Cal File: 15.D
Als bottle: 12
Dil Factor: 10.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTW7015

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	10.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	FINAL (ug/L)
* 20 1,4-Dichlorobenzene-d4	152	2.400	2.400	(1.000)	3943	0.10000	(a)
* 45 Naphthalene-d8	136	3.449	3.446	(1.000)	9709	0.10000	(M)
$ 33 Nitrobenzene-d5	82	2.841	2.621	(0.824)	273	0.00925	0.09255(M)
* 86 Acenaphthene-d10	164	5.069	5.069	(1.000)	7382	0.10000	(QM)
$ 69 2-Fluorobiphenyl	172	4.467	4.467	(0.881)	715	0.00947	0.09472(M)
* 126 Phenanthrene-d10	188	6.481	6.481	(1.000)	11321	0.10000	
* 182 Chrysene-d12	240	9.026	9.020	(1.000)	9729	0.10000	(M)
$ 158 4-Terphenyl-d14	244	8.068	8.066	(0.894)	648	0.00903	0.09028(M)
* 198 Perylene-d12	264	10.594	10.594	(1.000)	6362	0.10000	
1 1,4-Dioxane	58	0.931	0.927	(0.388)	1729	0.12924	1.292(Q)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.

01246954

Data File: \\nahstws005\Target\chem\SV6.i\230714.b\12.D

Date : 14-JUL-2023 14:00

Client ID: HS23070445-1

Instrument: SV6.i

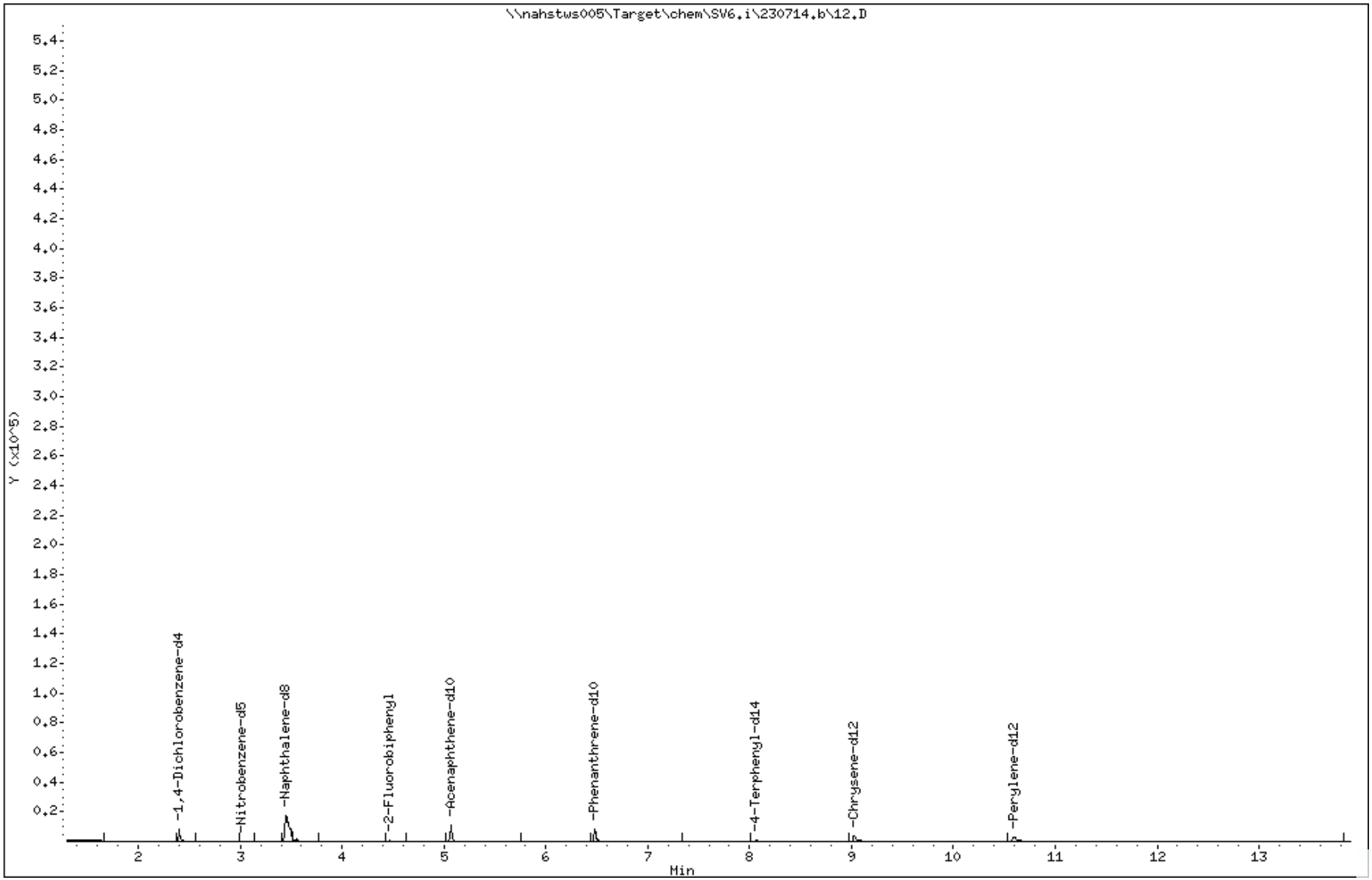
Sample Info: HS23070445-1X10

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28



Data File: \\nahstws005\Target\chem\SV6.i\230714.b\12.D

Date : 14-JUL-2023 14:00

Client ID: HS23070445-1

Instrument: SV6.i

Sample Info: HS23070445-1X10

Purge Volume: 1000.0

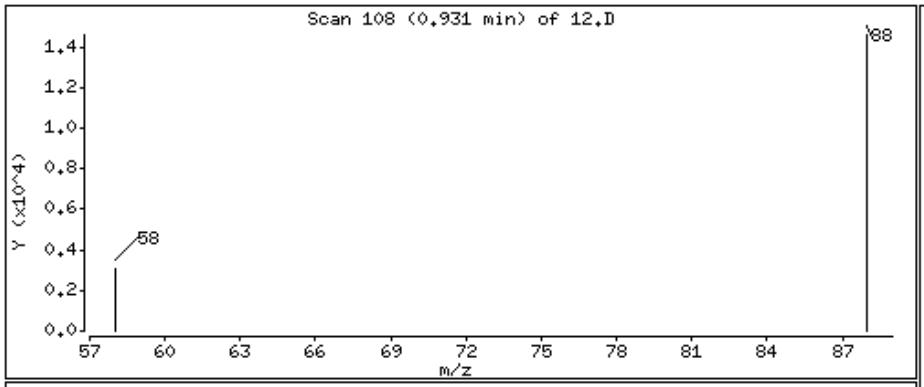
Operator: LG

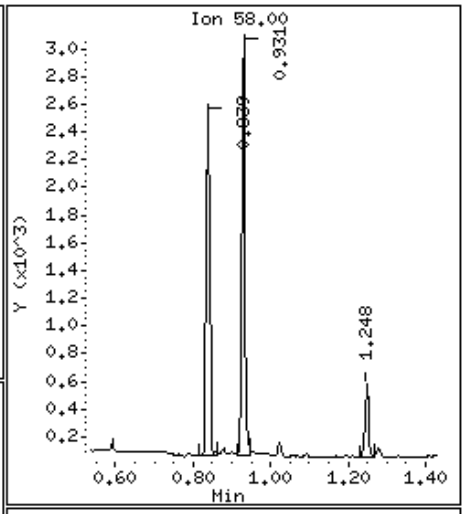
Column phase: RTX-5SIL MS

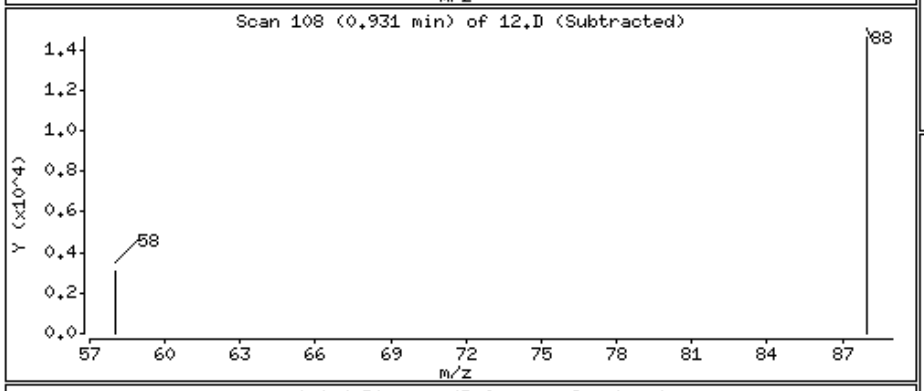
Column diameter: 0.28

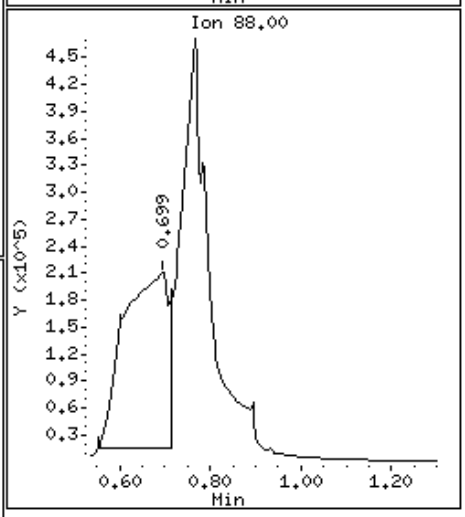
1 1,4-Dioxane

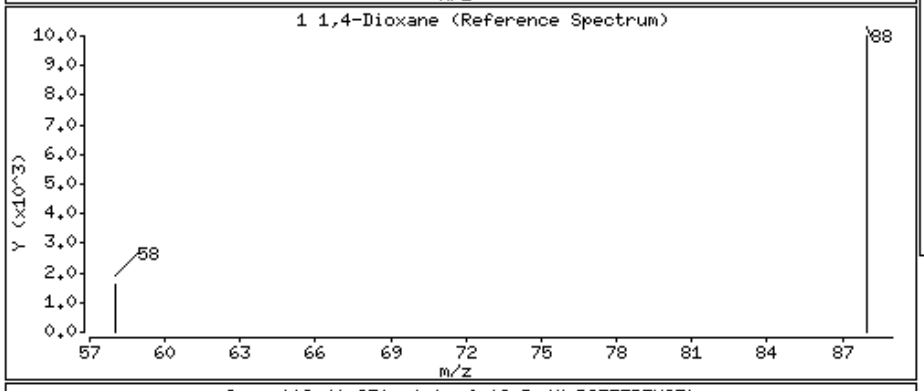
Concentration: 1.292 ug/L

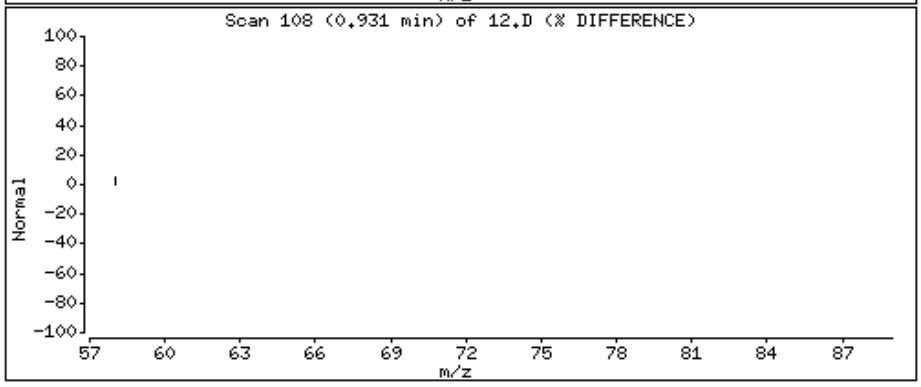












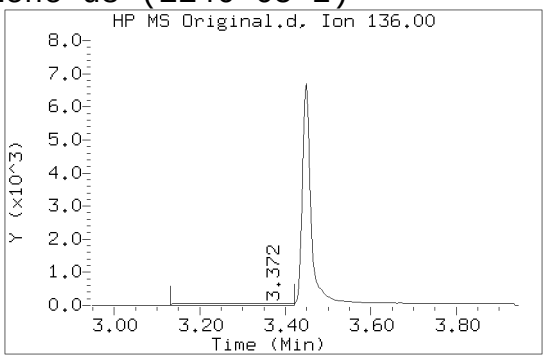
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Inj Date : 14-JUL-2023 14:00
InstruID : SV6.i
LabSampID : HS23070445-1

Naphthalene-d8 (1146-65-2)

Reason Code:

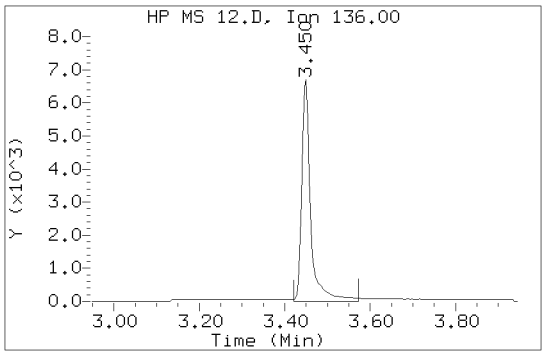
BEFORE

MASS
136
AREA
888
HEIGHT
60
14-Jul-2023
14:15
ALSHS
Server



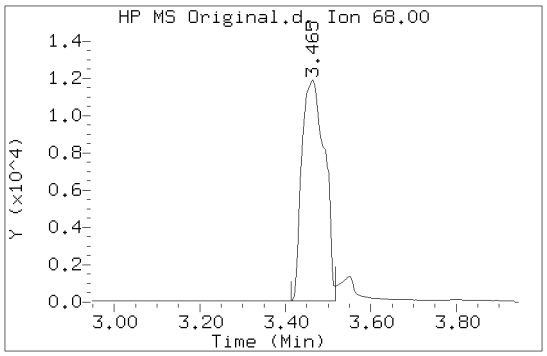
AFTER

MASS
136
AREA
9709
HEIGHT
6702
14-Jul-2023
14:28
ALSHS
Se



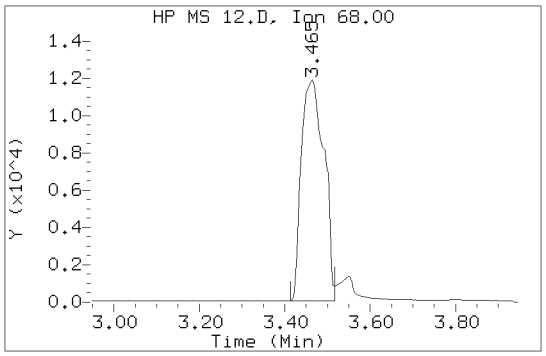
BEFORE

MASS
68
AREA
43809
HEIGHT
11860
14-Jul-2023
14:15
ALSHS
Server



AFTER

MASS
68
AREA
43809
HEIGHT
11860
14-Jul-2023
14:28
ALSHS
Se

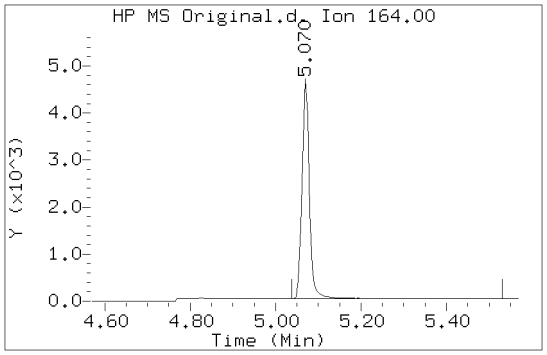


Acenaphthene-d10 (15067-26-2)

Reason Code:

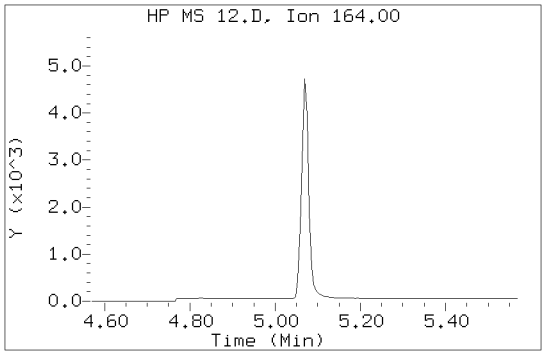
BEFORE

MASS
164
AREA
5704
HEIGHT
4673
14-Jul-2023
14:15
ALSHS
Server



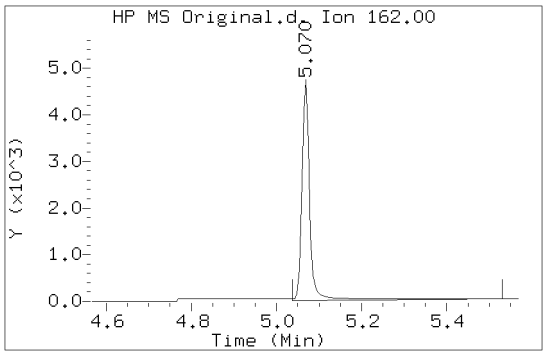
AFTER

MASS
164
AREA
7382
HEIGHT
4715
14-Jul-2023
14:28
ALSHS
Se



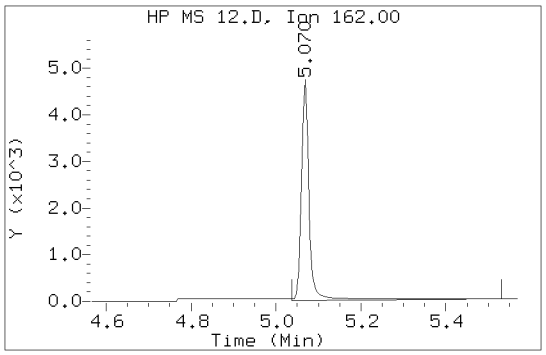
BEFORE

MASS
162
AREA
6232
HEIGHT
4733
14-Jul-2023
14:15
ALSHS
Server



AFTER

MASS
162
AREA
6232
HEIGHT
4733
14-Jul-2023
14:28
ALSHS
Se



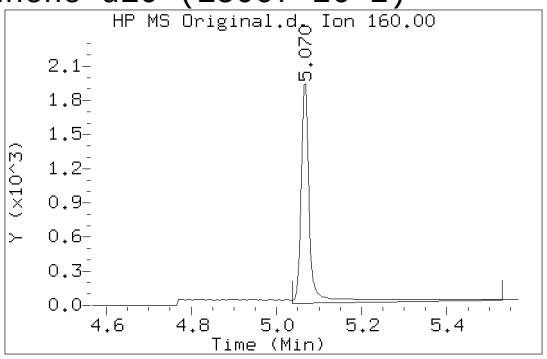
Data File : \\nahstws005\Target\chem\SV6.i\230714.b\12.D
Inj Date : 14-JUL-2023 14:00
InstruID : SV6.i
LabSampID : HS23070445-1

Acenaphthene-d10 (15067-26-2)

Reason Code:

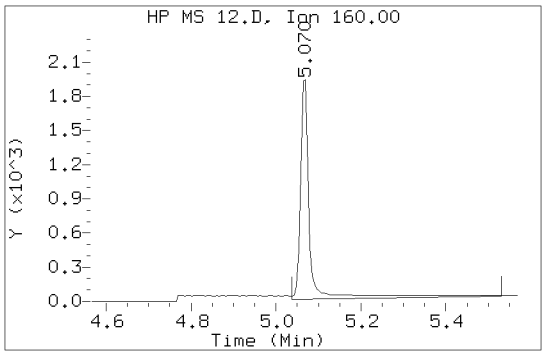
BEFORE

MASS
160
AREA
2916
HEIGHT
1927
14-Jul-2023
14:15
ALSHS
Server



AFTER

MASS
160
AREA
2916
HEIGHT
1927
14-Jul-2023
14:28
ALSHS
Se

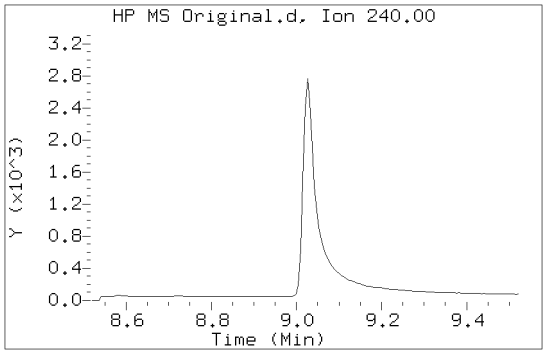


Chrysene-d12 (1719-03-5)

Reason Code:

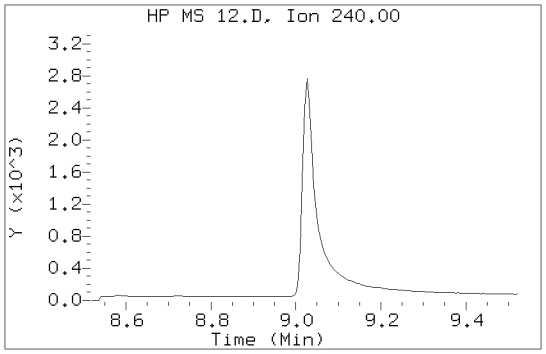
BEFORE

MASS
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AREA
0
HEIGHT
0
14-Jul-2023
14:15
ALSHS
Server



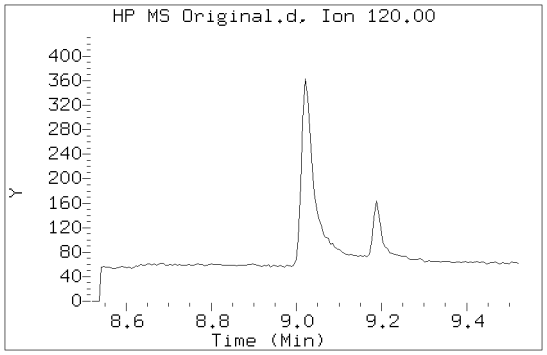
AFTER

MASS
240
AREA
9729
HEIGHT
2739
14-Jul-2023
14:28
ALSHS
Se



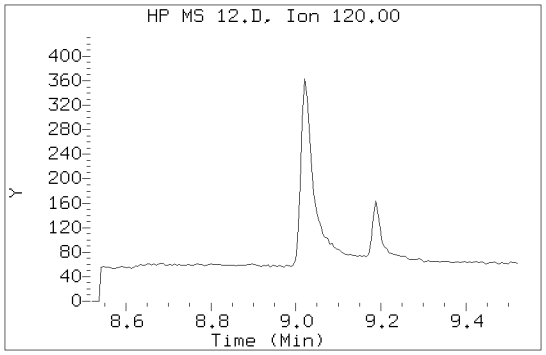
BEFORE

MASS
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AREA
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HEIGHT
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14-Jul-2023
14:15
ALSHS
Server



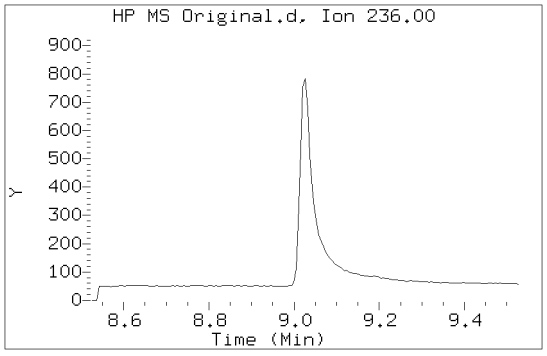
AFTER

MASS
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AREA
0
HEIGHT
0
14-Jul-2023
14:28
ALSHS
Se



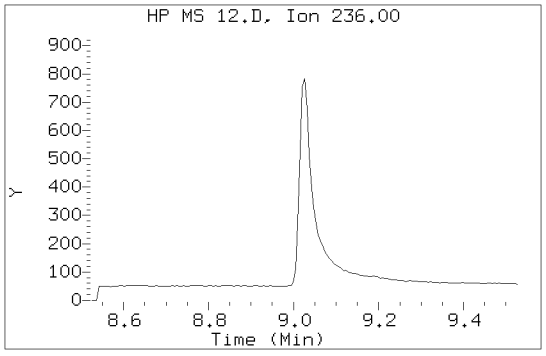
BEFORE

MASS
236
AREA
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HEIGHT
0
14-Jul-2023
14:15
ALSHS
Server



AFTER

MASS
236
AREA
0
HEIGHT
0
14-Jul-2023
14:28
ALSHS
Se



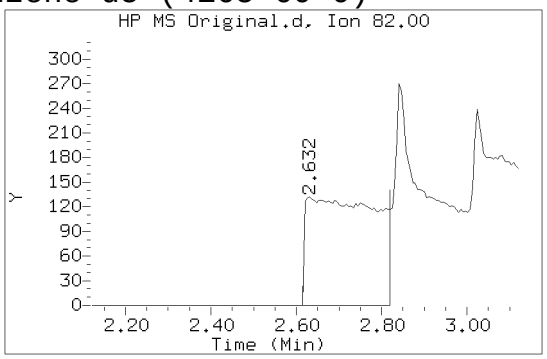
Data File : \\nahstws005\Target\chem\SV6.i\230714.b\12.D
Inj Date : 14-JUL-2023 14:00
InstruID : SV6.i
LabSampID : HS23070445-1

Nitrobenzene-d5 (4165-60-0)

Reason Code:

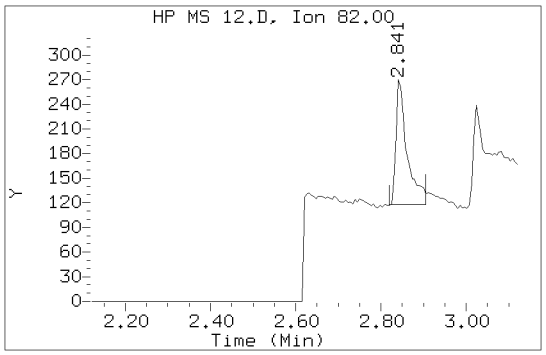
BEFORE

MASS
82
AREA
1500
HEIGHT
132
14-Jul-2023
14:15
ALSHS
Server



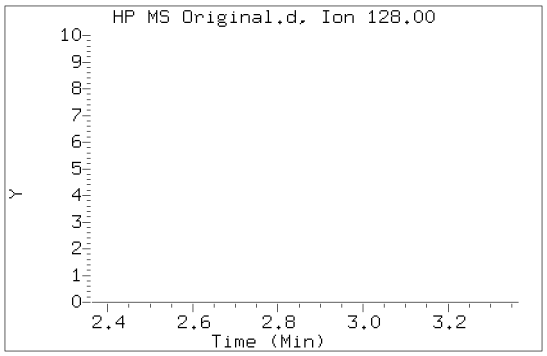
AFTER

MASS
82
AREA
273
HEIGHT
152
14-Jul-2023
14:28
ALSHS
Se



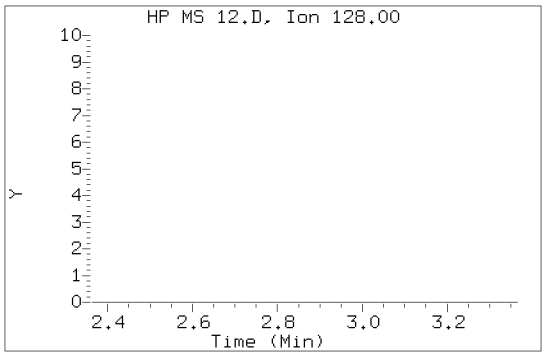
BEFORE

MASS
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AREA
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HEIGHT
0
14-Jul-2023
14:15
ALSHS
Server



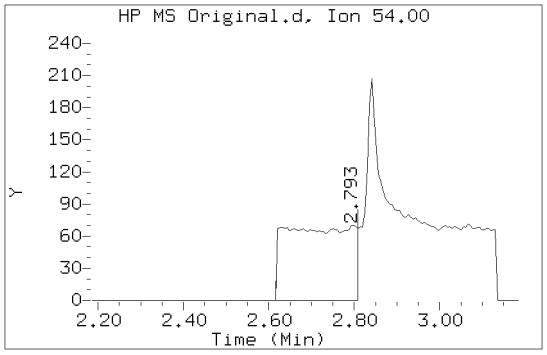
AFTER

MASS
128
AREA
0
HEIGHT
0
14-Jul-2023
14:28
ALSHS
Se



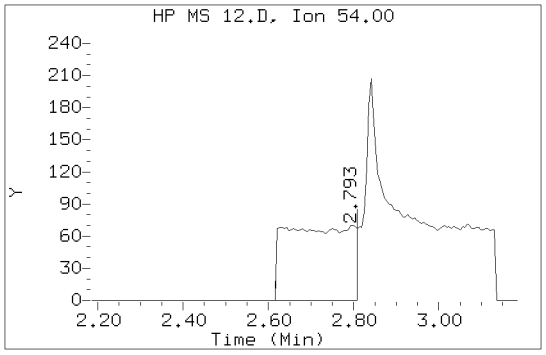
BEFORE

MASS
54
AREA
763
HEIGHT
70
14-Jul-2023
14:15
ALSHS
Server



AFTER

MASS
54
AREA
763
HEIGHT
70
14-Jul-2023
14:28
ALSHS
Se

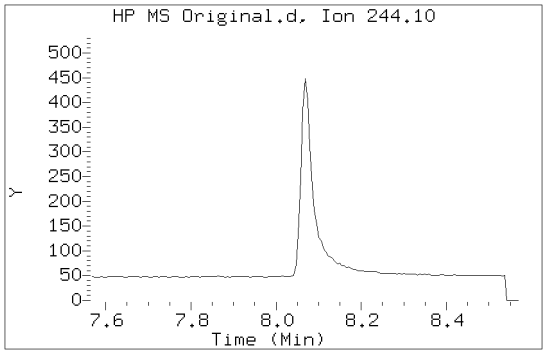


4-Terphenyl-d14 (1718-51-0)

Reason Code:

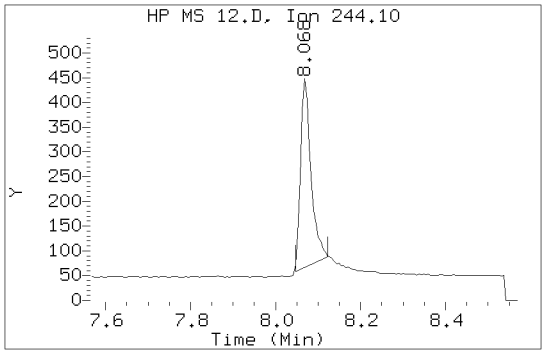
BEFORE

MASS
244.1
AREA
0
HEIGHT
0
14-Jul-2023
14:15
ALSHS
Server



AFTER

MASS
244.1
AREA
648
HEIGHT
381
14-Jul-2023
14:28
ALSHS
Se



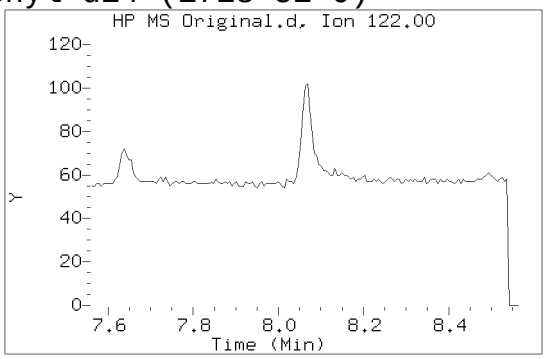
Data File : \\nahstws005\Target\chem\SV6.i\230714.b\12.D
Inj Date : 14-JUL-2023 14:00
InstruID : SV6.i
LabSampID : HS23070445-1

4-Terphenyl-d14 (1718-51-0)

Reason Code:

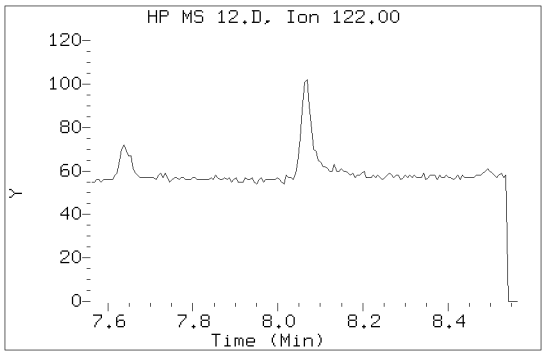
BEFORE

MASS
122
AREA
0
HEIGHT
0
14-Jul-2023
14:15
ALSHS
Server



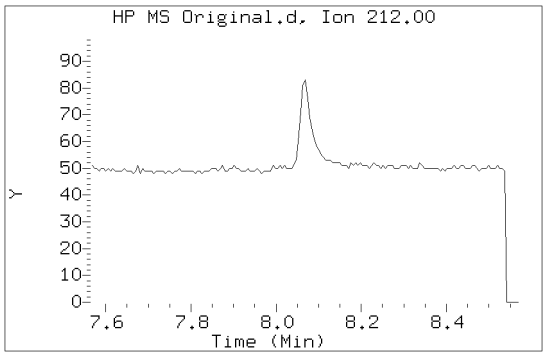
AFTER

MASS
122
AREA
0
HEIGHT
0
14-Jul-2023
14:28
ALSHS
Se



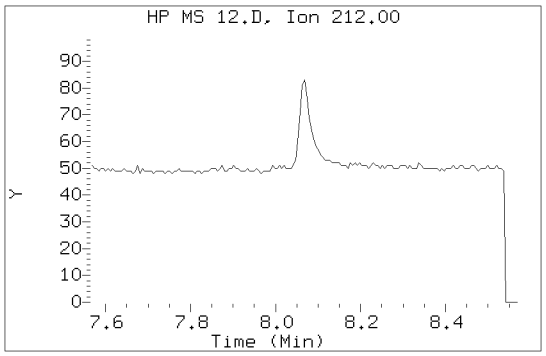
BEFORE

MASS
212
AREA
0
HEIGHT
0
14-Jul-2023
14:15
ALSHS
Server



AFTER

MASS
212
AREA
0
HEIGHT
0
14-Jul-2023
14:28
ALSHS
Se

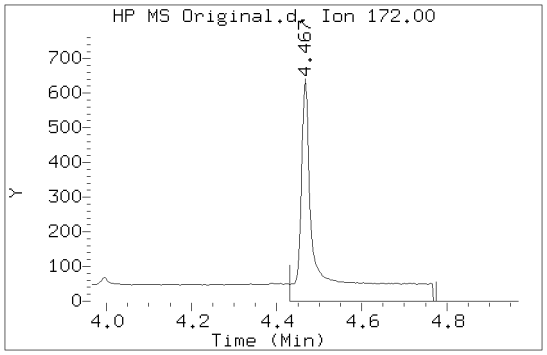


2-Fluorobiphenyl (321-60-8)

Reason Code:

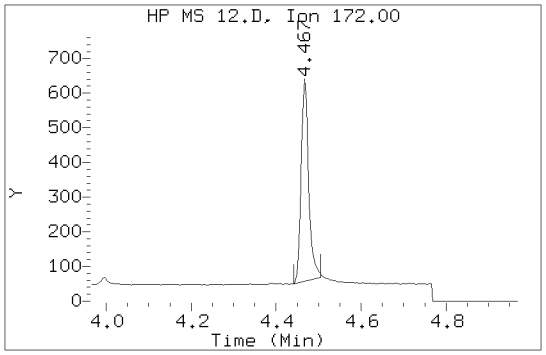
BEFORE

MASS
172
AREA
1825
HEIGHT
641
14-Jul-2023
14:15
ALSHS
Server



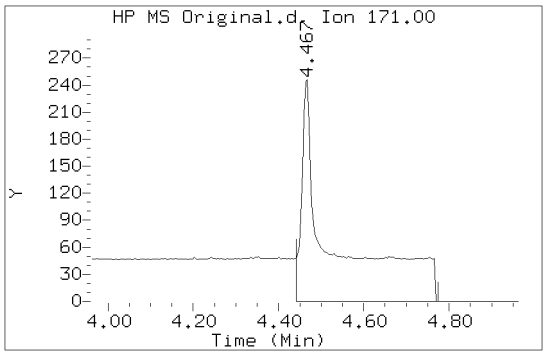
AFTER

MASS
172
AREA
715
HEIGHT
583
14-Jul-2023
14:28
ALSHS
Se



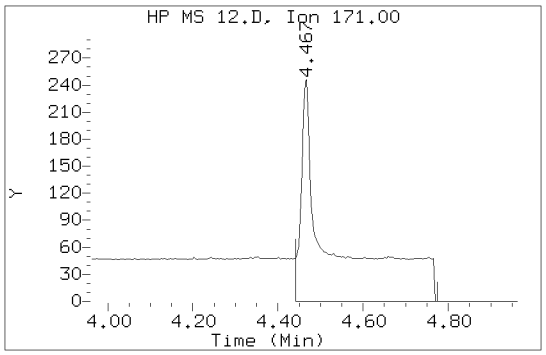
BEFORE

MASS
171
AREA
1215
HEIGHT
246
14-Jul-2023
14:15
ALSHS
Server



AFTER

MASS
171
AREA
1215
HEIGHT
246
14-Jul-2023
14:28
ALSHS
Se



ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\230714.b\13.D
Lab Smp Id: 14DXCCV-END Client Smp ID: 14DXCCV-END
Inj Date : 14-JUL-2023 14:18
Operator : LG Inst ID: SV6.i
Smp Info : 14DXCCV-END
Misc Info : ;;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\SV6.i\230714.b\DXSIM.m
Meth Date : 20-Jul-2023 15:27 SV6.i Quant Type: ISTD
Cal Date : 16-JUN-2023 15:56 Cal File: 15.D
Als bottle: 13 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	AMOUNTS ON-COL (NG)
* 20 1,4-Dichlorobenzene-d4	152	2.401	2.401	(1.000)	5509	0.10000	(aM)
* 45 Naphthalene-d8	136	3.446	3.446	(1.000)	16456	0.10000	(M)
$ 33 Nitrobenzene-d5	82	2.841	2.841	(0.824)	3664	0.08000	0.07328(QM)
* 86 Acenaphthene-d10	164	5.069	5.069	(1.000)	9926	0.10000	(Q)
$ 69 2-Fluorobiphenyl	172	4.467	4.467	(0.881)	8053	0.08000	0.07934(M)
* 126 Phenanthrene-d10	188	6.481	6.481	(1.000)	19621	0.10000	
* 182 Chrysene-d12	240	9.020	9.020	(1.000)	14236	0.10000	(M)
$ 158 4-Terphenyl-d14	244	8.063	8.063	(0.894)	7404	0.08000	0.07050(M)
* 198 Perylene-d12	264	10.594	10.594	(1.000)	12349	0.10000	
1 1,4-Dioxane	58	0.920	0.920	(0.383)	1370	0.08000	0.07329(QM)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.

01246961

Data File: \\NAHSTWS005\Target\chem\SV6.i\230714.b\13.D

Date : 14-JUL-2023 14:18

Client ID: 14DXCCV-END

Instrument: SV6.i

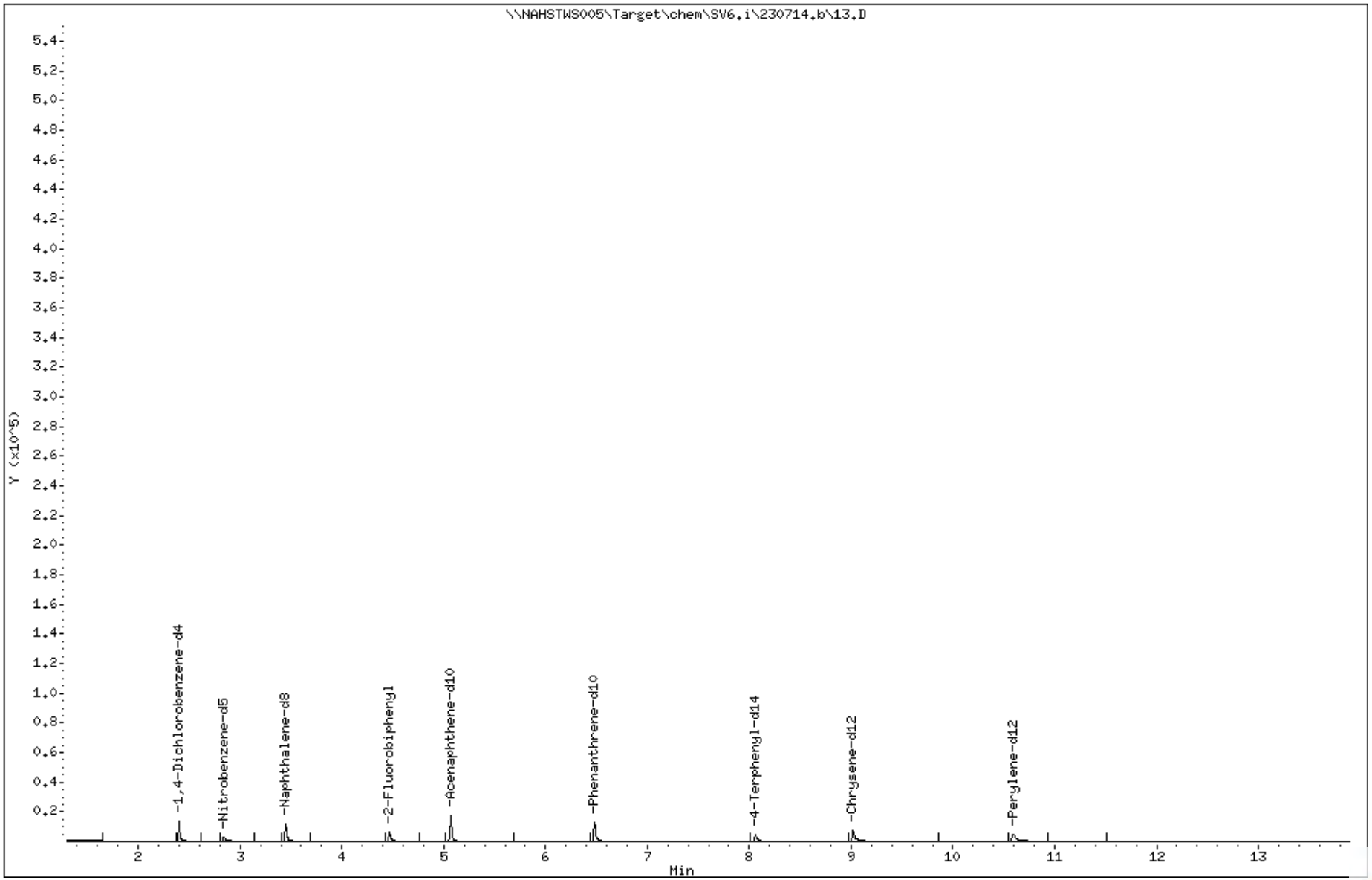
Sample Info: 14DXCCV-END

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28



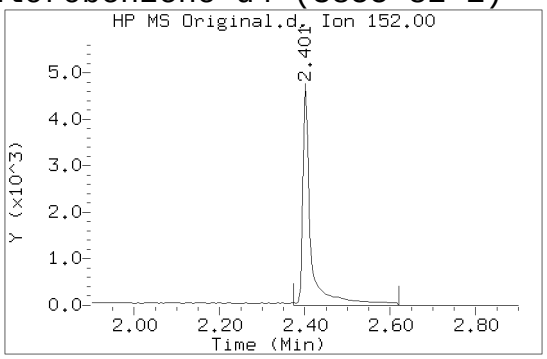
Data File : \\NAHSTWS005\Target\chem\SV6.i\230714.b\13.D
Inj Date : 14-JUL-2023 14:18
InstruID : SV6.i
LabSampID : 14DXCCV-END

1,4-Dichlorobenzene-d4 (3855-82-1)

Reason Code:

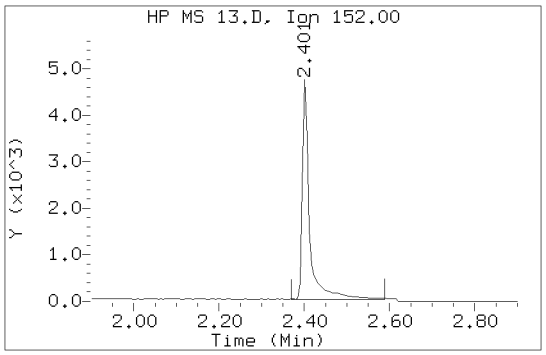
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14-Jul-2023
14:33
ALSHS
Server



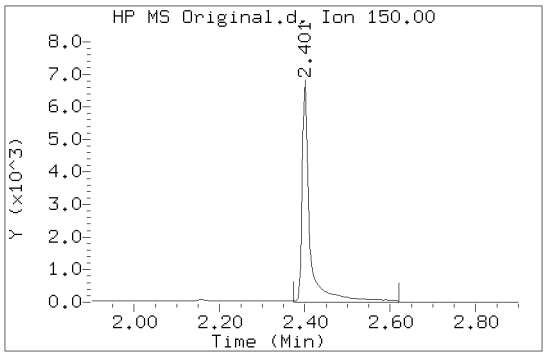
AFTER

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HEIGHT
4728
20-Jul-2023
15:27
ALSHS
Ser



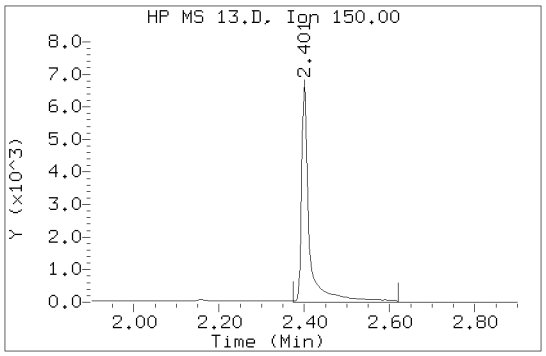
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HEIGHT
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14-Jul-2023
14:33
ALSHS
Server



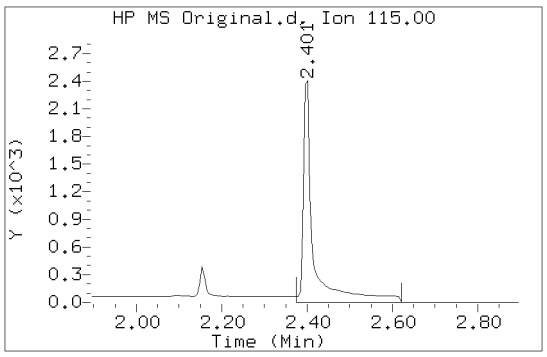
AFTER

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HEIGHT
6830
20-Jul-2023
15:27
ALSHS
Ser



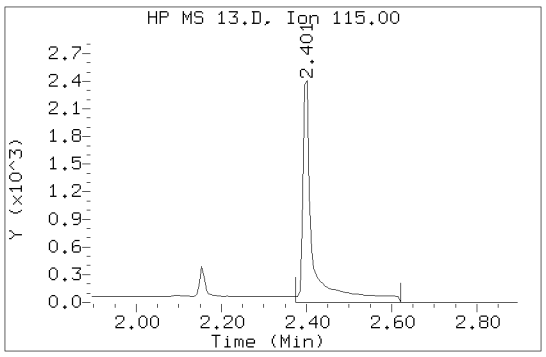
BEFORE

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AREA
3879
HEIGHT
2405
14-Jul-2023
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ALSHS
Server



AFTER

MASS
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3879
HEIGHT
2405
20-Jul-2023
15:27
ALSHS
Ser

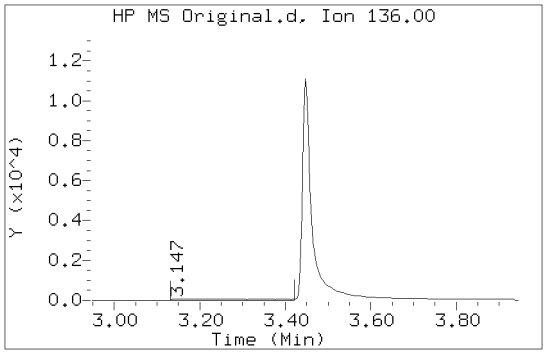


Naphthalene-d8 (1146-65-2)

Reason Code:

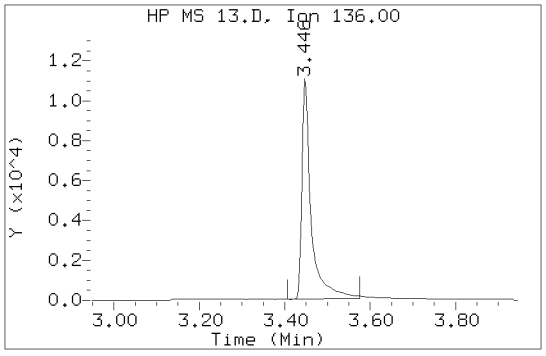
BEFORE

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136
AREA
866
HEIGHT
53
14-Jul-2023
14:33
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Server



AFTER

MASS
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AREA
16456
HEIGHT
11044
20-Jul-2023
15:27
ALSHS
Ser



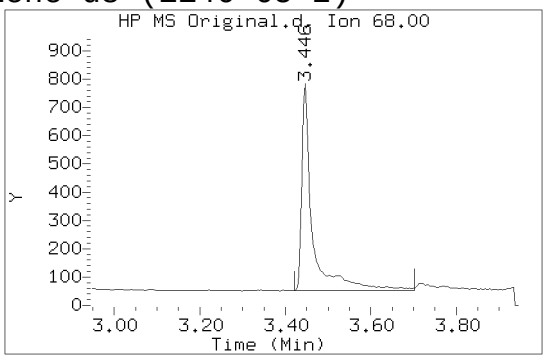
Data File : \\NAHSTWS005\Target\chem\SV6.i\230714.b\13.D
Inj Date : 14-JUL-2023 14:18
InstruID : SV6.i
LabSampID : 14DXCCV-END

Naphthalene-d8 (1146-65-2)

Reason Code:

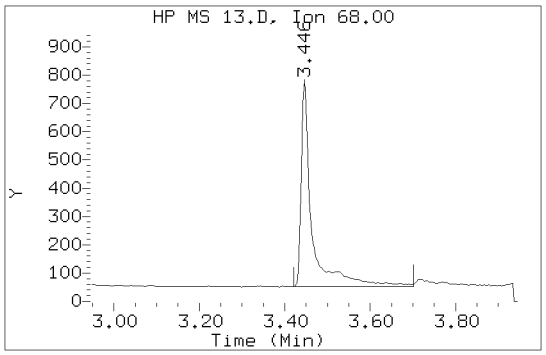
BEFORE

MASS
68
AREA
1266
HEIGHT
731
14-Jul-2023
14:33
ALSHS
Server



AFTER

MASS
68
AREA
1266
HEIGHT
731
20-Jul-2023
15:27
ALSHS
Ser

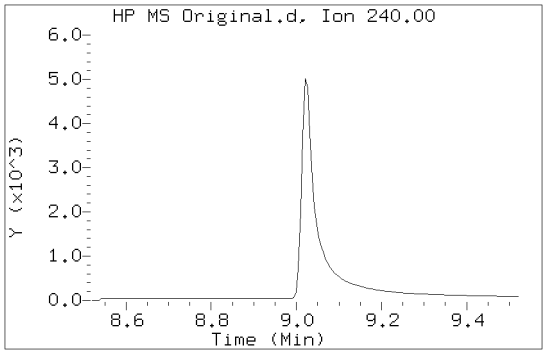


Chrysene-d12 (1719-03-5)

Reason Code:

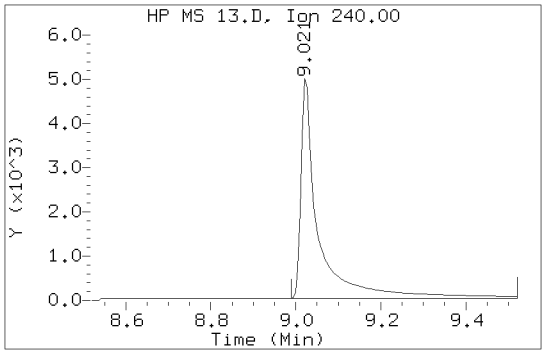
BEFORE

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AREA
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HEIGHT
0
14-Jul-2023
14:33
ALSHS
Server



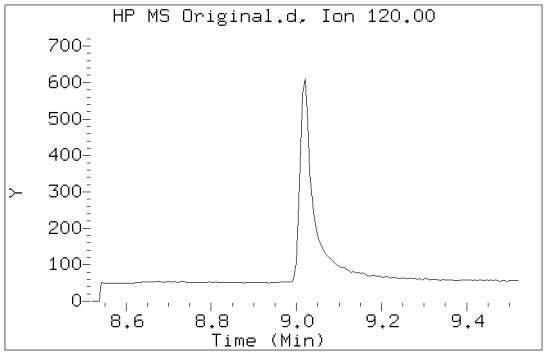
AFTER

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HEIGHT
4966
20-Jul-2023
15:27
ALSHS
Ser



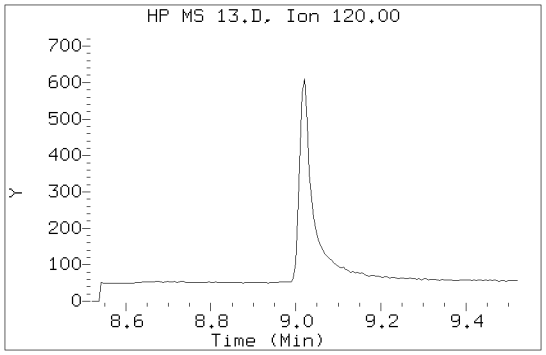
BEFORE

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HEIGHT
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14-Jul-2023
14:33
ALSHS
Server



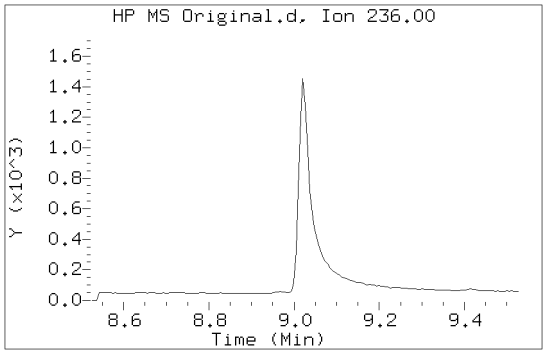
AFTER

MASS
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AREA
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HEIGHT
0
20-Jul-2023
15:27
ALSHS
Ser



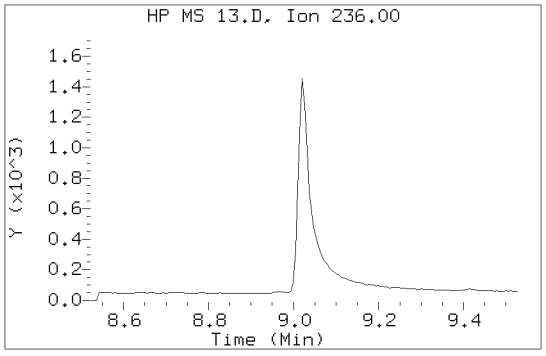
BEFORE

MASS
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AREA
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HEIGHT
0
14-Jul-2023
14:33
ALSHS
Server



AFTER

MASS
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AREA
0
HEIGHT
0
20-Jul-2023
15:27
ALSHS
Ser

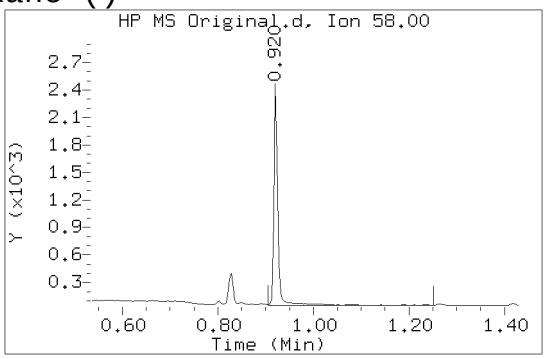


Data File : \\NAHSTWS005\Target\chem\SV6.i\230714.b\13.D
Inj Date : 14-JUL-2023 14:18
InstruID : SV6.i
LabSampID : 14DXCCV-END

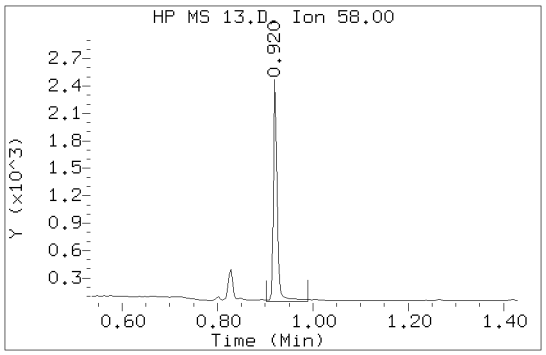
1,4-Dioxane ()

Reason Code:

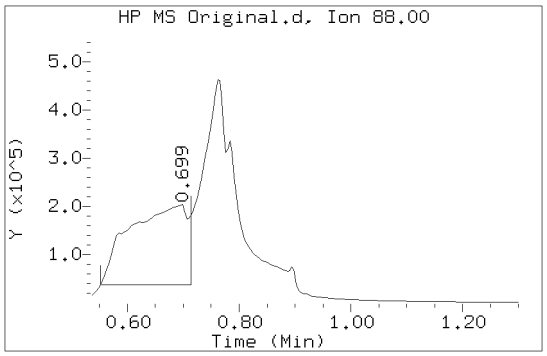
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MASS
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AREA
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HEIGHT
2417
14-Jul-2023
14:33
ALSHS
Server



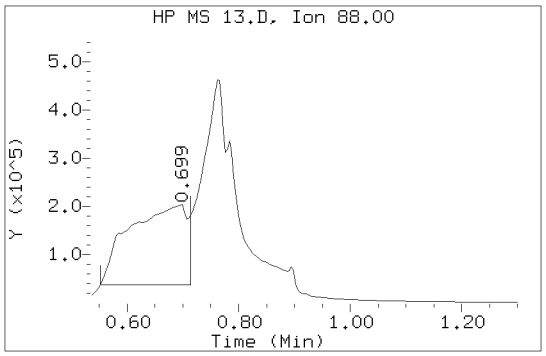
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AREA
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HEIGHT
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20-Jul-2023
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ALSHS
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BEFORE
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AREA
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HEIGHT
166568
14-Jul-2023
14:33
ALSHS
Server



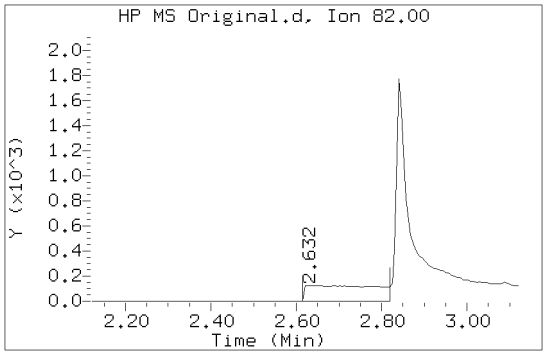
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HEIGHT
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15:27
ALSHS
Ser



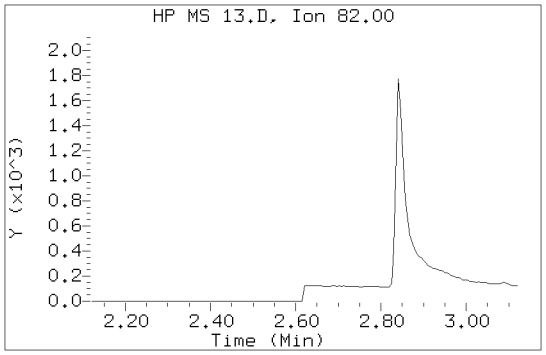
Nitrobenzene-d5 (4165-60-0)

Reason Code:

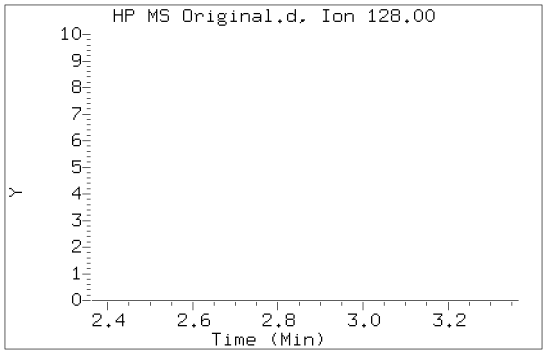
BEFORE
MASS
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AREA
1452
HEIGHT
124
14-Jul-2023
14:33
ALSHS
Server



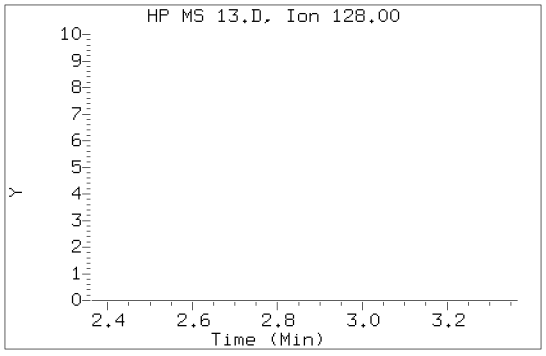
AFTER
MASS
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AREA
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20-Jul-2023
15:27
ALSHS
Ser



BEFORE
MASS
128
AREA
0
HEIGHT
0
14-Jul-2023
14:33
ALSHS
Server



AFTER
MASS
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AREA
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HEIGHT
0
20-Jul-2023
15:27
ALSHS
Ser



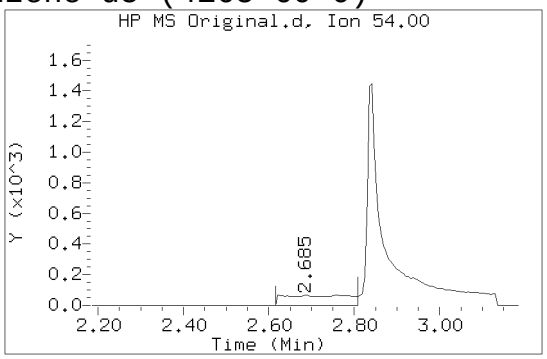
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Inj Date : 14-JUL-2023 14:18
InstruID : SV6.i
LabSampID : 14DXCCV-END

Nitrobenzene-d5 (4165-60-0)

Reason Code:

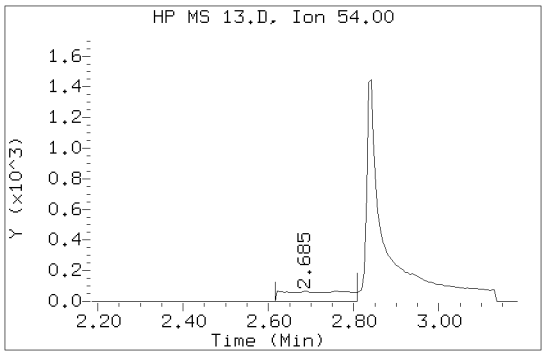
BEFORE

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AREA
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HEIGHT
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14-Jul-2023
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Server



AFTER

MASS
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AREA
703
HEIGHT
69
20-Jul-2023
15:27
ALSHS
Ser

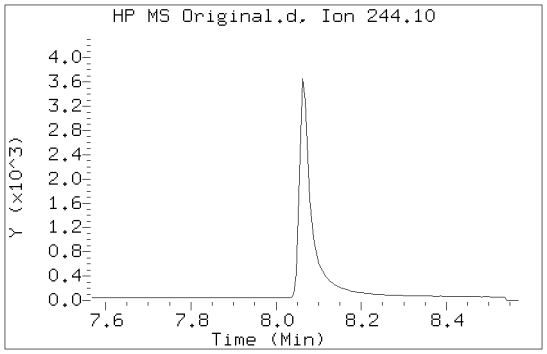


4-Terphenyl-d14 (1718-51-0)

Reason Code:

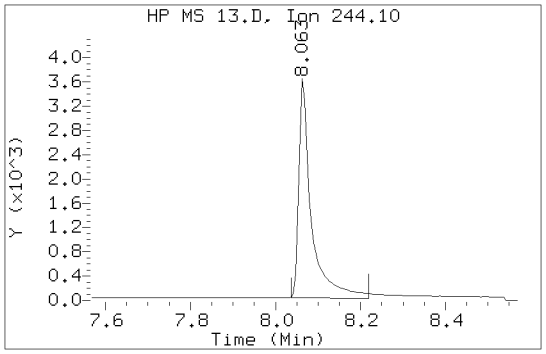
BEFORE

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AREA
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14-Jul-2023
14:33
ALSHS
Server



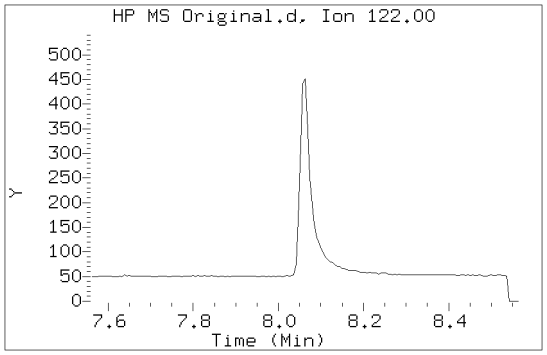
AFTER

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AREA
7404
HEIGHT
3616
20-Jul-2023
15:27
ALSHS
Ser



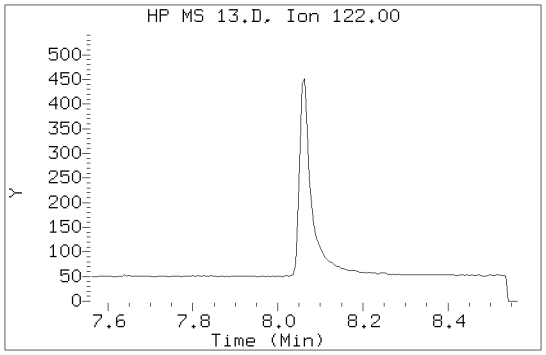
BEFORE

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HEIGHT
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14:33
ALSHS
Server



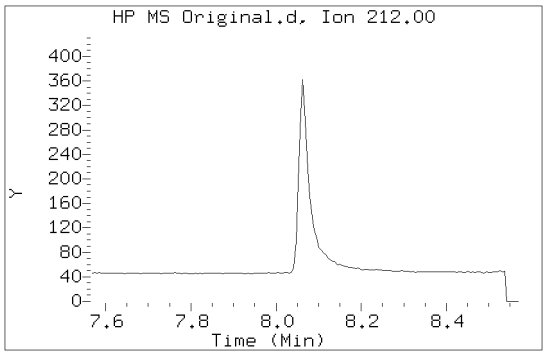
AFTER

MASS
122
AREA
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HEIGHT
0
20-Jul-2023
15:27
ALSHS
Ser



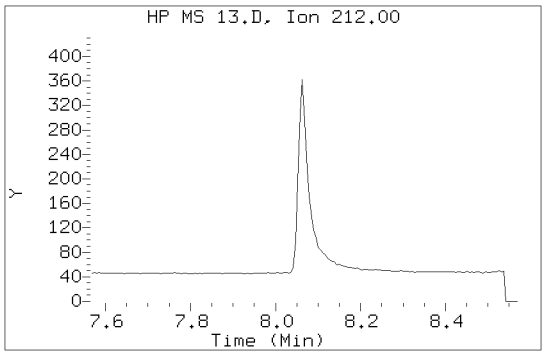
BEFORE

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HEIGHT
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14-Jul-2023
14:33
ALSHS
Server



AFTER

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AREA
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HEIGHT
0
20-Jul-2023
15:27
ALSHS
Ser



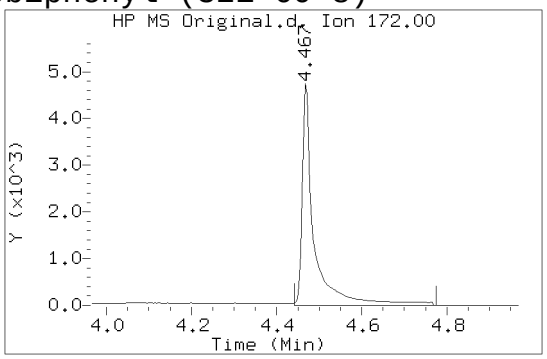
Data File : \\NAHSTWS005\Target\chem\SV6.i\230714.b\13.D
Inj Date : 14-JUL-2023 14:18
InstruID : SV6.i
LabSampID : 14DXCCV-END

2-Fluorobiphenyl (321-60-8)

Reason Code:

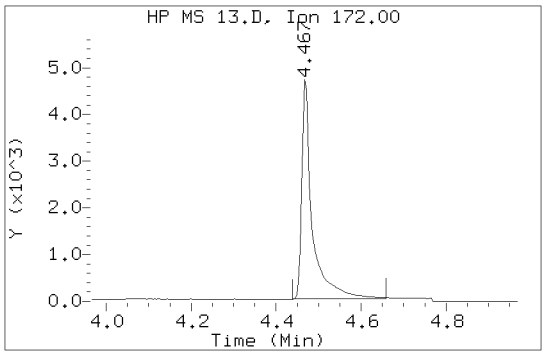
BEFORE

MASS
172
AREA
9262
HEIGHT
4744
14-Jul-2023
14:33
ALSHS
Server



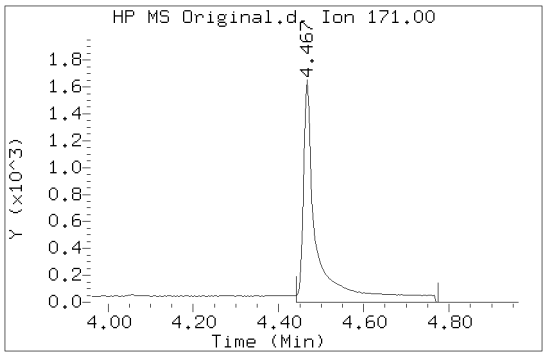
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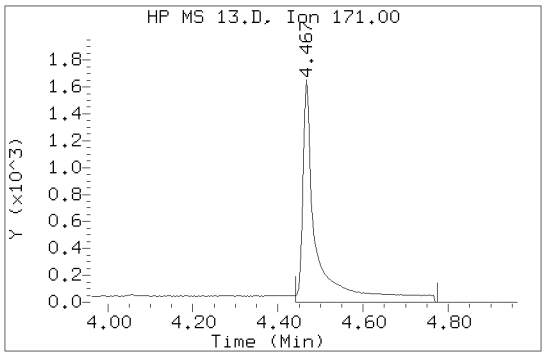
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AFTER

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AREA
3724
HEIGHT
1652
20-Jul-2023
15:27
ALSHS
Ser



HS23070445 - ME - ICP_W_DOD

ALS WO# HS23070445

ALS Houston, US Date: 20-Jul-23

Form 11 - INTERNAL STANDARD ASSOCIATION

Client: Bhate Environmental Associates, Inc. Instrument:ICPMS06
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS23070445

Mass	Analyte	Assoc Int Standard 1	Assoc Int Standard 2	Mode
9	Beryllium	Lithium		Ar
11	Boron	Lithium		Ar
23	Sodium	Germanium		ArHe
24	Magnesium	Germanium		ArHe
27	Aluminum	Germanium		ArHe
39	Potassium	Germanium		ArHe
44	Calcium	Germanium		Ar
47	Titanium	Germanium		Ar
51	Vanadium	Germanium		ArHe
52	Chromium	Germanium		ArHe
55	Manganese	Germanium		ArHe
56	Iron	Germanium		ArHe
59	Cobalt	Germanium		ArHe
60	Nickel	Germanium		ArHe
63	Copper	Germanium		ArHe
66	Zinc	Germanium		ArHe
75	Arsenic	Germanium		ArHe
82	Selenium	Germanium		Ar
88	Strontium	Indium		Ar
95	Molybdenum	Indium		Ar
105	Palladium	Germanium		Ar
107	Silver	Indium		Ar
114	Cadmium	Indium		Ar
118	Tin	Indium		Ar
121	Antimony	Germanium		ArHe
137	Barium	Indium		Ar
205	Thallium	Bismuth		Ar
208	Lead	Bismuth		Ar

ALS Houston, US

Date: 20-Jul-23

FORM 13 - ANALYSIS RUN LOG

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS23070445
Start Date: 17-Jul-2023 End Date: 17-Jul-2023

Run ID:ICPMS06_441593
Instrument:ICPMS06
Method:

Sample No.	D/F	Time	FileID	Analytes
ICPMS06_441593_Tune	1	17-Jul-2023 00:00	ICPMS06_441593_Tune_1	
CAL BLK	1	17-Jul-2023 19:34	009CALB.d_7434150	AG BA PB SE
2/10/200	1	17-Jul-2023 19:36	010CALS.d_7434151	AG BA PB SE
5/25/500	1	17-Jul-2023 19:38	011CALS.d_7434152	AG BA PB SE
10/50/100	1	17-Jul-2023 19:40	012CALS.d_7434153	AG BA PB SE
100/500/10K	1	17-Jul-2023 19:42	013CALS.d_7434154	AG BA PB SE
200/1000/20K	1	17-Jul-2023 19:44	014CALS.d_7434155	AG BA PB SE
ICV	1	17-Jul-2023 19:50	017_ICV.d_7434156	AG BA PB SE
LLICV2	1	17-Jul-2023 19:54	019LCV2.d_7434157	AG BA PB SE
LLICV5	1	17-Jul-2023 19:56	020LCV5.d_7434158	AG BA PB SE
ICB	1	17-Jul-2023 19:58	021_ICB.d_7434159	AG BA PB SE
ICSA	1	17-Jul-2023 20:05	023ICSA.d_7434160	AG BA PB SE
ICSAB	1	17-Jul-2023 20:07	024ICSB.d_7434161	AG BA PB SE
CCV 1	1	17-Jul-2023 22:09	083_CCV.d_7434187	AG BA PB SE
CCB 1	1	17-Jul-2023 22:12	084_CCB.d_7434188	AG BA PB SE
LCS-197656	1	17-Jul-2023 22:16	086SMPL.d_7434190	AG BA SE
ZZZZZZSD	5	17-Jul-2023 22:20	088SMPL.d_7434192	AG PB SE
ZZZZZZMS	1	17-Jul-2023 22:22	089SMPL.d_7434193	AG BA PB SE
ZZZZZZMSD	1	17-Jul-2023 22:24	090SMPL.d_7434194	AG BA PB SE
ZZZZZZPDS	1	17-Jul-2023 22:26	091SMPL.d_7434195	AG BA PB SE
CCV 2	1	17-Jul-2023 22:28	092_CCV.d_7434196	AG BA PB SE
CCB 2	1	17-Jul-2023 22:30	093_CCB.d_7434197	AG BA PB SE
LH18/24-SP650_071023	1	17-Jul-2023 22:32	094SMPL.d_7434198	AG BA PB SE
CCV 3	1	17-Jul-2023 22:44	100_CCV.d_7434204	AG BA PB SE
CCB 3	1	17-Jul-2023 22:46	101_CCB.d_7434205	AG BA PB SE
LLCCV2	1	17-Jul-2023 22:48	102LCV2.d_7434206	AG BA PB SE
LLCCV5	1	17-Jul-2023 22:50	103LCV5.d_7434207	AG BA PB SE
ICSA	1	17-Jul-2023 22:52	104ICSA.d_7434208	AG BA PB SE
ICSAB	1	17-Jul-2023 22:54	105ICSB.d_7434209	AG BA PB SE

ALS Houston, US

Date: 20-Jul-23

FORM 13 - ANALYSIS RUN LOG

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS23070445
Start Date: 18-Jul-2023 End Date: 18-Jul-2023

Run ID:ICPMS06_441630
Instrument:ICPMS06
Method:SW6020A

Sample No.	D/F	Time	FileID	Analytes
CAL BLK	1	18-Jul-2023 12:59	009CALB.d_7434915	AG BA PB SE
2/10/200	1	18-Jul-2023 13:01	010CALS.d_7434902	AG BA PB SE
5/25/500	1	18-Jul-2023 13:03	011CALS.d_7434903	AG BA PB SE
10/50/100	1	18-Jul-2023 13:05	012CALS.d_7434904	AG BA PB SE
100/500/10K	1	18-Jul-2023 13:07	013CALS.d_7434905	AG BA PB SE
200/1000/20K	1	18-Jul-2023 13:09	014CALS.d_7434906	AG BA PB SE
ICV	1	18-Jul-2023 13:21	016_ICV.d_7434908	AG BA PB SE
LLICV2	1	18-Jul-2023 13:25	018LCV2.d_7434910	AG BA PB SE
LLICV5	1	18-Jul-2023 13:27	019LCV5.d_7434911	AG BA PB SE
ICB	1	18-Jul-2023 13:29	020_ICB.d_7434912	AG BA PB SE
ICSA	1	18-Jul-2023 13:31	021ICSA.d_7434913	AG BA PB SE
ICSAB	1	18-Jul-2023 13:33	022ICSB.d_7434914	AG BA PB SE
CCV 1	1	18-Jul-2023 13:42	024_CCV.d_7435591	AG BA PB SE
CCB 1	1	18-Jul-2023 13:44	025_CCB.d_7435592	AG BA PB SE
MBLK-197656	1	18-Jul-2023 13:47	026SMPL.d_7435593	AG BA PB SE
LCS-197656	1	18-Jul-2023 13:50	027SMPL.d_7435594	PB
CCV 2	1	18-Jul-2023 14:09	036_CCV.d_7435595	AG BA PB SE
CCB 2	1	18-Jul-2023 14:11	037_CCB.d_7435596	AG BA PB SE

ALS Houston, US Date: 20-Jul-23

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS23070445

Run ID: ICPMS06_441593
Instrument: ICPMS06
Method: SW6020A

ICV Date: 17-Jul-2023 19:50 Seq: 7434156 ICV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Barium	100	96.385	96	90-110	
Lead	100	95.134	95	90-110	
Selenium	100	97.725	98	90-110	
Silver	100	95.855	96	90-110	

CCV1 Date: 17-Jul-2023 22:09 Seq: 7434187 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Barium	100	98.014	98	90-110	
Lead	100	97.988	98	90-110	
Selenium	100	99.858	100	90-110	
Silver	100	96.789	97	90-110	

CCV2 Date: 17-Jul-2023 22:28 Seq: 7434196 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Barium	100	98.066	98	90-110	
Lead	100	96.318	96	90-110	
Selenium	100	95.049	95	90-110	
Silver	100	97.362	97	90-110	

CCV3 Date: 17-Jul-2023 22:44 Seq: 7434204 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Barium	100	98.307	98	90-110	
Lead	100	97.566	98	90-110	
Selenium	100	97.519	98	90-110	
Silver	100	99.587	100	90-110	

ALS Houston, US Date: 20-Jul-23

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS23070445

Run ID: ICPMS06_441630
Instrument: ICPMS06
Method: SW6020A

ICV Date: 18-Jul-2023 13:21 Seq: 7434908 ICV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Barium	100	99.486	100	90-110	
Lead	100	100.431	100	90-110	
Selenium	100	99.616	100	90-110	
Silver	100	96.797	97	90-110	

CCV1 Date: 18-Jul-2023 13:42 Seq: 7435591 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Barium	100	99.385	99	90-110	
Lead	100	99.124	99	90-110	
Selenium	100	100.58	101	90-110	
Silver	100	95.878	96	90-110	

CCV2 Date: 18-Jul-2023 14:09 Seq: 7435595 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Barium	100	100.26	100	90-110	
Lead	100	98.963	99	90-110	
Selenium	100	100.33	100	90-110	
Silver	100	97.103	97	90-110	

ALS Houston, US Date: 20-Jul-23

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS23070445

Run ID: ICPMS06_441593
Instrument: ICPMS06
Method: SW6020A

ICB	Date: 17-Jul-2023 19:58		Seq: 7434159	ICB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	5	1.9	5	U	
Lead	5	0.6	5	U	
Selenium	5	1.1	5	U	
Silver	5	0.2	5	U	

CCB1	Date: 17-Jul-2023 22:12		Seq: 7434188	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB2	Date: 17-Jul-2023 22:30		Seq: 7434197	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB3	Date: 17-Jul-2023 22:46		Seq: 7434205	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

ALS Houston, US Date: 20-Jul-23

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS23070445

Run ID: ICPMS06_441630
Instrument: ICPMS06
Method: SW6020A

ICB	Date: 18-Jul-2023 13:29		Seq: 7434912	ICB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	5	1.9	5	U	
Lead	5	0.6	5	U	
Selenium	5	1.1	5	U	
Silver	5	0.2	5	U	

CCB1	Date: 18-Jul-2023 13:44		Seq: 7435592	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

MBLK-197656	Date: 18-Jul-2023 13:47		Seq: 7435593	MBLK	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	5	1.9	5	U	
Lead	5	0.6	5	U	
Selenium	5	1.1	5	U	
Silver	5	0.2	5	U	

CCB2	Date: 18-Jul-2023 14:11		Seq: 7435596	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

ALS Houston, US Date: 20-Jul-23

Form 4 - ICP Interference Check Sample

Client: Bhate Environmental Associates, Inc. Run ID:ICPMS06_441593
Project: Longhorn GW Treatment Plant Monthly Effluent Samples Instrument:ICPMS06
WorkOrder: HS23070445 Method:SW6020A

ICSA	Date: 17-Jul-2023 20:05	Seq: 7434160	ICSA	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Barium		0.513	0	
Lead		0.163	0	
Selenium		0.204	0	
Silver		0.141	0	
ICSAB	Date: 17-Jul-2023 20:07	Seq: 7434161	ICSAB	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Barium	100	97.86	97.9	
Lead	100	97.85	97.9	
Selenium	100	99.55	99.5	
Silver	100	95.71	95.7	
ICSA	Date: 17-Jul-2023 22:52	Seq: 7434208	ICSA	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Barium		0.535	0	
Lead		0.181	0	
Selenium		0.422	0	
Silver		0.143	0	
ICSAB	Date: 17-Jul-2023 22:54	Seq: 7434209	ICSAB	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Barium	100	101.1	101	
Lead	100	98.25	98.2	
Selenium	100	97.95	98.0	
Silver	100	95.91	95.9	

ALS Houston, US Date: 20-Jul-23

Form 4 - ICP Interference Check Sample

Client: Bhate Environmental Associates, Inc. Run ID:ICPMS06_441630
Project: Longhorn GW Treatment Plant Monthly Effluent Samples Instrument:ICPMS06
WorkOrder: HS23070445 Method:SW6020A

ICSA	Date: 18-Jul-2023 13:31	Seq: 7434913	ICSA	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Barium		0.761	0	
Lead		0.206	0	
Selenium		-0.131	0	
Silver		0.14	0	

ICSAB	Date: 18-Jul-2023 13:33	Seq: 7434914	ICSAB	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Barium	100	110.8	111	
Lead	100	110.3	110	
Selenium	100	109.5	110	
Silver	100	101.6	102	

ALS Houston, US

Date: 20-Jul-23

Form 5A - Matrix Spike/Matrix Spike Duplicate Recovery

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS23070445

Date Analyzed: 17-Jul-2023 22:24
Date Extracted: 17-Jul-2023 08:30
Units: ug/L

Matrix Spike: HS23070447-01MS
Client Sample ID:

Analysis Method: SW6020A

Analyte	Sample Result	MS Result	Spike Amount	% Rec	MSD Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Barium	224.8	278.7	50.00	108	276.1	50.00	103	86-114	0.948	20
Lead	5.000	44.34	50.00	88.2	44.86	50.00	89.3	88-115	1.18	20
Selenium	5.000	43.31	50.00	85.8	44.36	50.00	87.9	80-120	2.38	20
Silver	5.000	41.71	50.00	83.4	41.24	50.00	82.5	85-116	1.14	20

ALS Houston, US Date: 20-Jul-23

Form 5B - Post Digest Sample Recovery

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS23070445

Date Analyzed: 17-Jul-2023 22:26
Date Extracted: 17-Jul-2023 08:30
Units: ug/L

Lab Sample ID: HS23070447-01PDS
Client Sample ID:

Analysis Method: SW6020A

Analyte	Sample Result	PDS Result	Spike Amount	% Rec	% Rec Limits
Barium	224.8	324.9	100	100	80-120
Lead	0	89.64	100	89	80-120
Selenium	0	88.7	100	88	80-120
Silver	0	90.5	100	91	80-120

ALS Houston, US Date: 20-Jul-23

Form 7 - Laboratory Control Sample

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS23070445

Date Analyzed: 17-Jul-2023 22:16
Date Extracted: 17-Jul-2023 08:30
Units: ug/L

Lab Sample ID: LCS-197656 Analysis Method: SW6020A

Analyte	Spike Amount	LCS Result	% Rec	% Rec Limits
Barium	50	44.06	88	86-114
Selenium	50	45.12	90	80-120
Silver	50	43.67	87	85-116

ALS Houston, US Date: 20-Jul-23

Form 7 - Laboratory Control Sample

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS23070445

Date Analyzed: 18-Jul-2023 13:50
Date Extracted: 17-Jul-2023 08:30
Units: ug/L

Lab Sample ID: LCS-197656 Analysis Method: SW6020A

Analyte	Spike Amount	LCS Result	% Rec	% Rec Limits
Lead	50	49.02	98	88-115

ALS Houston, US Date: 20-Jul-23

Form 8 - ICP Serial Dilutions

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS23070445

Date Analyzed: 17-Jul-2023 22:20
Date Extracted: 17-Jul-2023 08:30
Units: ug/L

Lab Sample ID: HS23070447-01SD
Client Sample ID:

Analysis Method: SW6020A

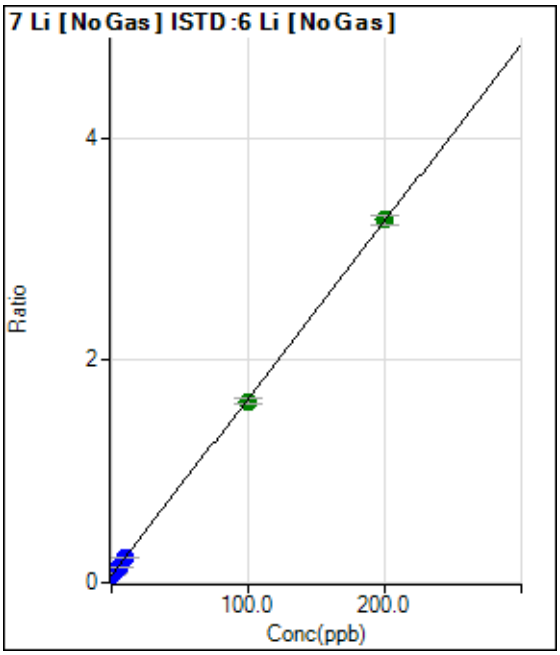
Analyte	Sample Result	C	SD Result	C	RPD	Q
Lead	0	U	0	U	0	
Selenium	0	U	0	U	0	
Silver	0	U	0	U	0	

Calibration for 017_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\071723B.b\
Analysis File: 071723B.batch.bin
DA Date-Time: 7/17/2023 7:51:16 PM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	009CALB.d	CAL BLK	7/17/2023 7:34:24 PM
2	010CALS.d	2/10/200	7/17/2023 7:36:20 PM
3	011CALS.d	5/25/500	7/17/2023 7:38:41 PM
4	012CALS.d	10/50/100	7/17/2023 7:40:36 PM
5	013CALS.d	100/500/10K	7/17/2023 7:42:34 PM
6	014CALS.d	200/1000/20K	7/17/2023 7:44:25 PM

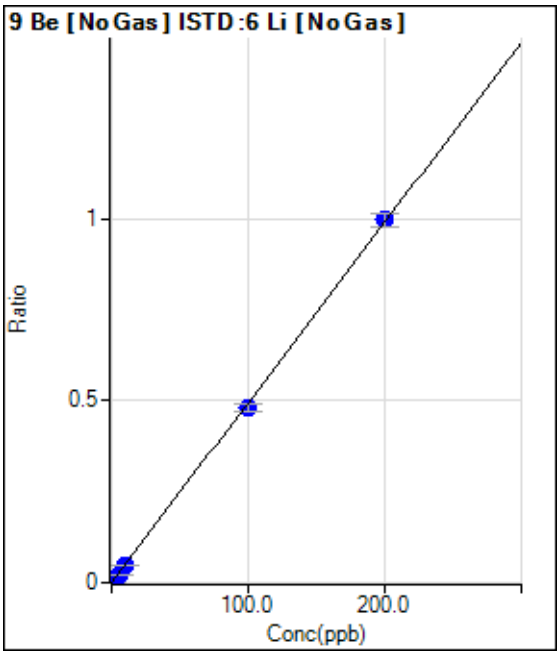
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	50192.38	0.0655	P	1.3
2	☐	2.000	1.825	73738.23	0.0945	P	0.5
3	☐	5.000	4.893	108373.19	0.1434	P	2.1
4	☐	10.000	9.522	163774.15	0.2171	P	0.5
5	☐	100.000	98.340	1167395.79	1.6314	A	2.9
6	☐	200.000	200.859	2158527.26	3.2640	A	3.0

y = 0.0159 * x + 0.0655
R = 1.0000
DL = 0.1601
BEC = 4.111

Weight: <None>
Min Conc: <None>

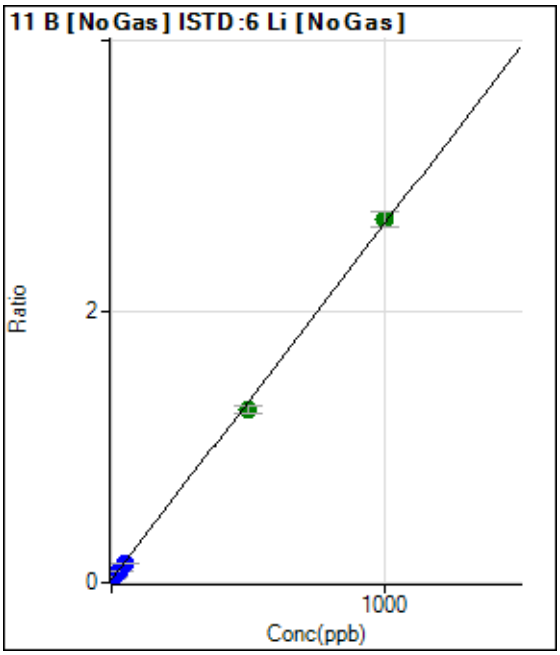


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	15.00	0.0000	P	54.8
2	☐	2.000	1.850	7148.53	0.0092	P	2.0
3	☐	5.000	4.737	17716.21	0.0234	P	1.1
4	☐	10.000	9.170	34211.60	0.0453	P	0.7
5	☐	100.000	96.999	343024.35	0.4795	P	3.7
6	☐	200.000	201.550	658784.24	0.9963	P	3.6

y = 0.0049 * x + 1.9378E-005
R = 0.9998
DL = 0.006444
BEC = 0.00392

Weight: <None>
Min Conc: <None>

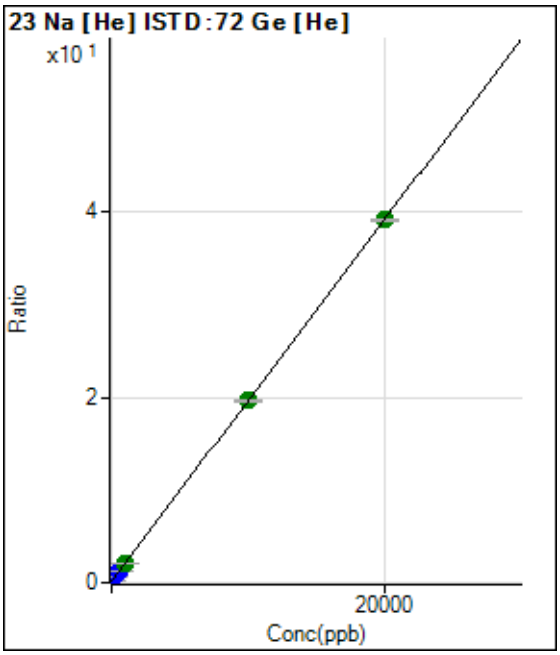
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	17392.50	0.0227	P	4.2
2	☐	10.000	7.715	33508.15	0.0430	P	2.8
3	☐	25.000	22.287	61390.01	0.0812	P	3.0
4	☐	50.000	43.905	104122.28	0.1380	P	1.1
5	☐	500.000	478.616	915560.14	1.2800	A	4.3
6	☐	1000.000	1011.087	1770925.23	2.6787	A	4.4

y = 0.0026 * x + 0.0227
R = 0.9997
DL = 1.091
BEC = 8.64

Weight: <None>
Min Conc: <None>

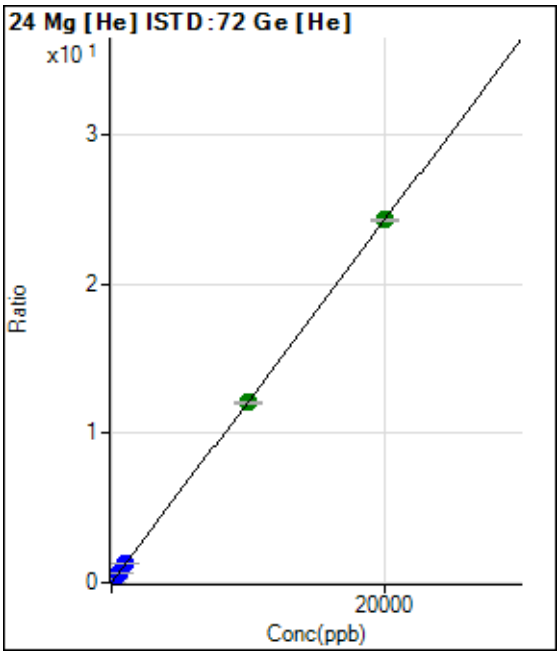


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	62727.55	0.1405	P	2.0
2	☐	200.000	219.806	250779.20	0.5694	P	1.0
3	☐	500.000	564.213	534350.93	1.2413	P	0.1
4	☐	1000.000	1018.930	925515.01	2.1284	A	1.5
5	☐	10000.000	10006.337	8457448.62	19.6622	A	0.8
6	☐	20000.000	19994.082	16232418.51	39.1476	A	0.7

y = 0.0020 * x + 0.1405
R = 1.0000
DL = 4.407
BEC = 72.03

Weight: <None>
Min Conc: <None>

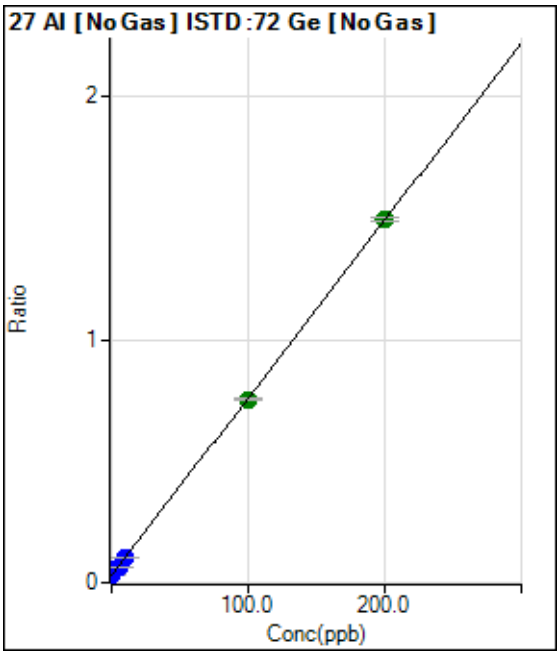
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1570.12	0.0035	P	8.6
2	☐	200.000	221.949	120097.16	0.2727	P	2.7
3	☐	500.000	565.225	296619.90	0.6890	P	0.6
4	☐	1000.000	1082.689	572471.93	1.3166	P	0.9
5	☐	10000.000	9936.143	5184956.38	12.0540	A	1.2
6	☐	20000.000	20025.944	10072482.98	24.2909	A	0.7

y = 0.0012 * x + 0.0035
R = 1.0000
DL = 0.7515
BEC = 2.899

Weight: <None>
Min Conc: <None>

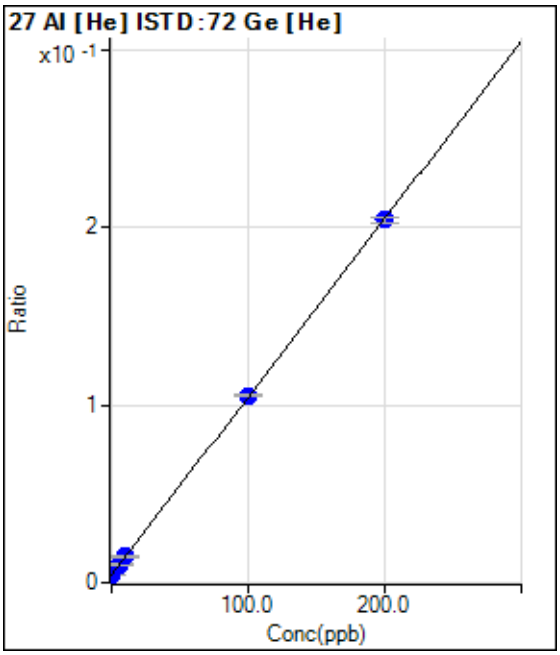


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	53867.61	0.0299	P	2.9
2	☐	2.000	3.158	96110.45	0.0529	P	1.3
3	☐	5.000	4.970	118575.23	0.0662	P	1.5
4	☐	10.000	10.020	185759.85	0.1030	P	2.5
5	☐	100.000	99.266	1348268.52	0.7545	A	1.3
6	☐	200.000	200.355	2525165.22	1.4923	A	1.0

y = 0.0073 * x + 0.0299
R = 1.0000
DL = 0.3569
BEC = 4.095

Weight: <None>
Min Conc: <None>

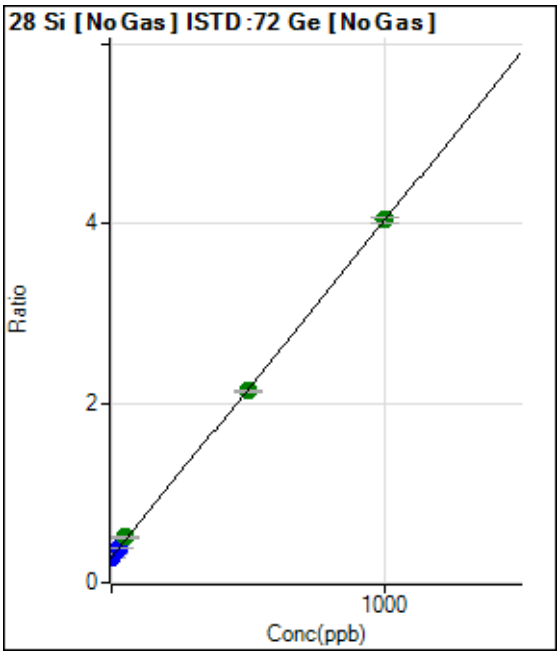
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1936.84	0.0043	P	2.7
2	☐	2.000	3.757	3567.32	0.0081	P	9.1
3	☐	5.000	5.809	4374.10	0.0102	P	6.9
4	☐	10.000	10.455	6441.60	0.0148	P	5.8
5	☐	100.000	100.819	45310.74	0.1053	P	0.9
6	☐	200.000	199.530	84679.89	0.2042	P	1.3

y = 0.0010 * x + 0.0043
R = 1.0000
DL = 0.3455
BEC = 4.332

Weight: <None>
Min Conc: <None>

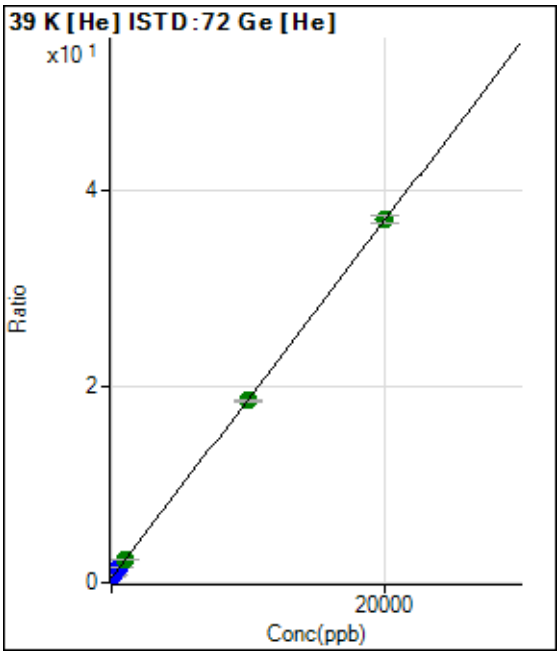


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	510427.12	0.2833	P	3.3
2	☐	10.000	8.247	570471.15	0.3142	P	2.0
3	☐	25.000	27.603	693338.24	0.3869	P	0.5
4	☐	50.000	58.861	909395.07	0.5043	A	1.7
5	☐	500.000	495.074	3828324.00	2.1423	A	1.0
6	☐	1000.000	1001.972	6845275.11	4.0458	A	1.4

y = 0.0038 * x + 0.2833
R = 0.9999
DL = 7.417
BEC = 75.43

Weight: <None>
Min Conc: <None>

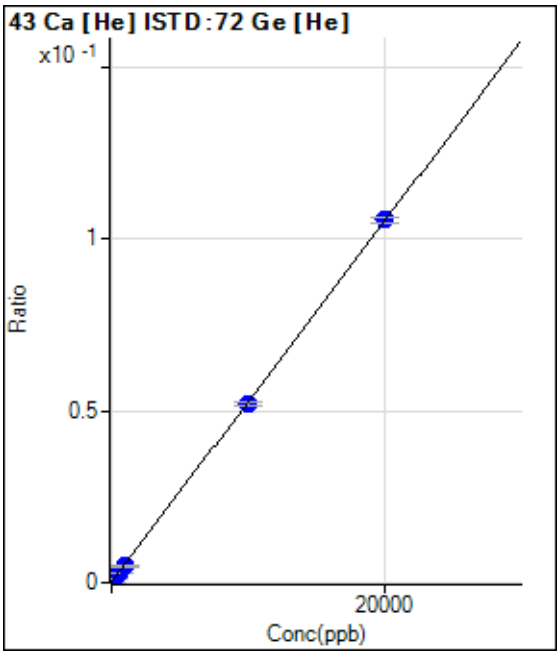
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	219683.66	0.4922	P	1.0
2	☐	200.000	206.936	382503.83	0.8684	P	1.3
3	☐	500.000	543.484	637288.02	1.4803	P	0.8
4	☐	1000.000	1006.096	1009423.76	2.3215	A	1.2
5	☐	10000.000	9910.914	7962783.84	18.5123	A	1.0
6	☐	20000.000	20043.082	15313329.35	36.9346	A	2.2

y = 0.0018 * x + 0.4922
R = 1.0000
DL = 8.43
BEC = 270.7

Weight: <None>
Min Conc: <None>

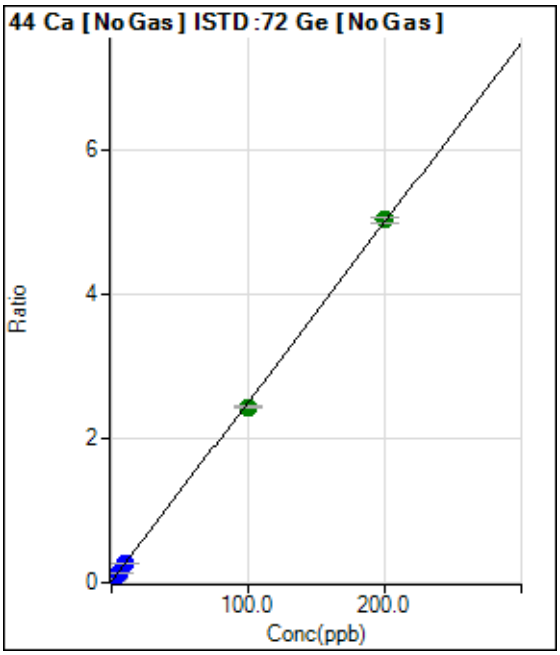


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	93.33	0.0002	P	5.8
2	☐	200.000	173.664	493.35	0.0011	P	10.1
3	☐	500.000	484.207	1183.41	0.0027	P	6.9
4	☐	1000.000	883.623	2106.87	0.0048	P	12.3
5	☐	10000.000	9875.666	22375.14	0.0520	P	2.2
6	☐	20000.000	20068.644	43729.71	0.1055	P	1.7

y = 5.2450E-006 * x + 2.0908E-004
R = 1.0000
DL = 6.917
BEC = 39.86

Weight: <None>
Min Conc: <None>

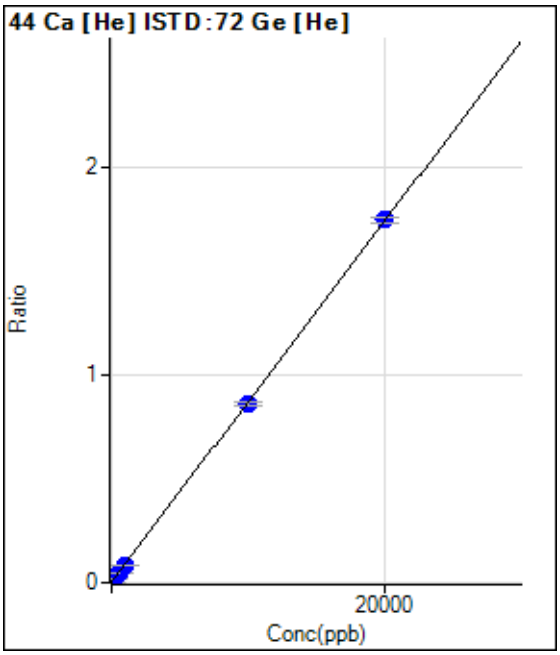
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	28079.12	0.0156	P	2.7
2	☐	2.000	2.002	118624.18	0.0653	P	0.8
3	☐	5.000	5.186	258881.99	0.1445	P	0.7
4	☐	10.000	10.146	482769.86	0.2678	P	2.5
5	☐	100.000	97.218	4345767.64	2.4318	A	1.2
6	☐	200.000	201.379	8494708.62	5.0206	A	1.3

y = 0.0249 * x + 0.0156
R = 0.9999
DL = 0.05106
BEC = 0.6269

Weight: <None>
Min Conc: <None>

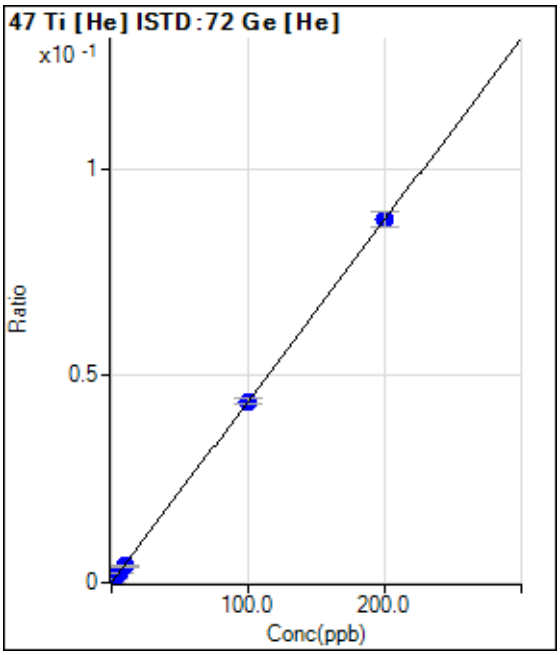


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1196.74	0.0027	P	7.2
2	☐	200.000	185.093	8259.30	0.0188	P	6.0
3	☐	500.000	520.511	20615.82	0.0479	P	1.5
4	☐	1000.000	962.207	37504.70	0.0862	P	1.8
5	☐	10000.000	9846.435	368971.37	0.8579	P	2.1
6	☐	20000.000	20078.309	724179.02	1.7465	P	1.3

y = 8.6851E-005 * x + 0.0027
R = 1.0000
DL = 6.634
BEC = 30.87

Weight: <None>
Min Conc: <None>

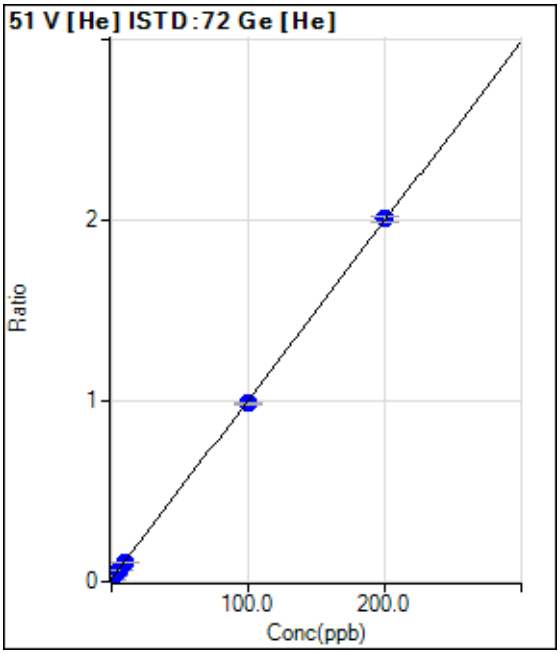
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	13.33	0.0000	P	42.8
2	☐	2.000	1.954	390.01	0.0009	P	29.7
3	☐	5.000	4.937	943.38	0.0022	P	5.2
4	☐	10.000	9.285	1780.15	0.0041	P	11.6
5	☐	100.000	100.091	18856.53	0.0438	P	2.5
6	☐	200.000	199.992	36308.34	0.0876	P	4.1

y = 4.3780E-004 * x + 2.9837E-005
R = 1.0000
DL = 0.08757
BEC = 0.06815

Weight: <None>
Min Conc: <None>

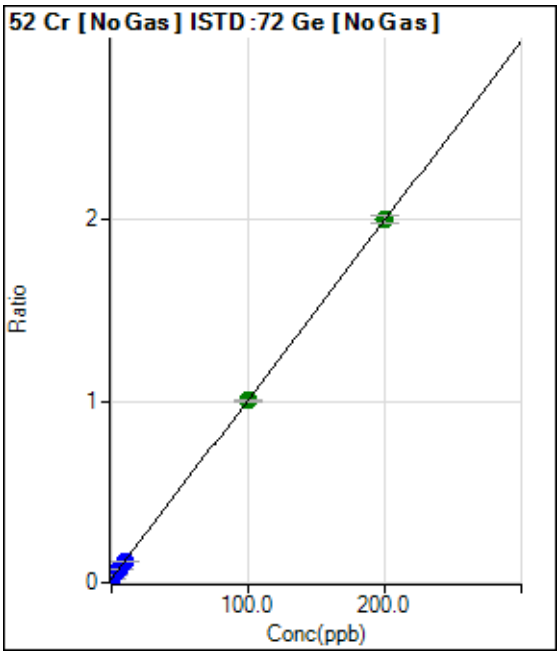


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	6109.18	0.0137	P	2.7
2	☐	2.000	1.901	14330.84	0.0325	P	1.2
3	☐	5.000	4.979	27143.53	0.0631	P	0.9
4	☐	10.000	9.604	47355.85	0.1089	P	1.8
5	☐	100.000	97.905	423422.32	0.9845	P	1.5
6	☐	200.000	201.069	832354.78	2.0074	P	1.4

y = 0.0099 * x + 0.0137
R = 0.9999
DL = 0.1109
BEC = 1.38

Weight: <None>
Min Conc: <None>

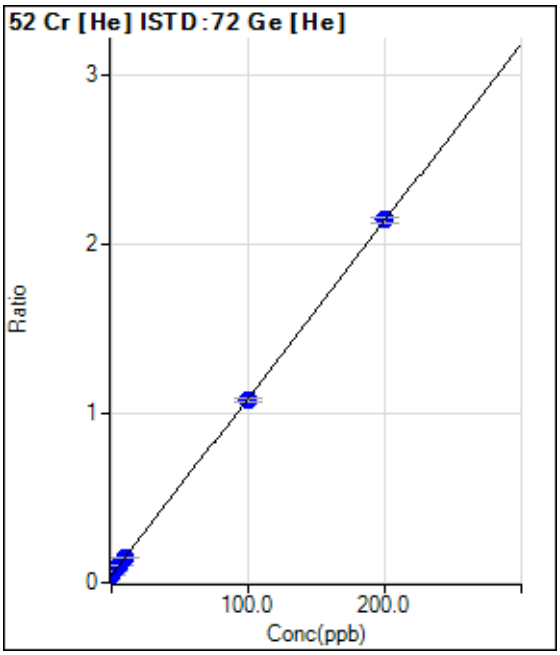
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	37839.25	0.0210	P	3.6
2	☐	2.000	2.435	81786.52	0.0450	P	0.5
3	☐	5.000	4.956	125350.05	0.0700	P	0.8
4	☐	10.000	9.542	207780.27	0.1152	P	2.3
5	☐	100.000	99.345	1790831.59	1.0021	A	0.9
6	☐	200.000	200.347	3383395.68	1.9996	A	2.1

y = 0.0099 * x + 0.0210
R = 1.0000
DL = 0.2324
BEC = 2.126

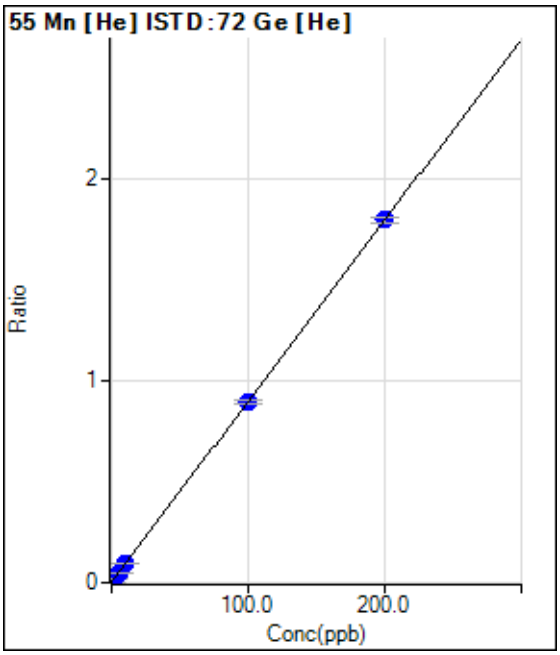
Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	19707.85	0.0442	P	2.7
2	☐	2.000	2.494	30965.37	0.0703	P	3.2
3	☐	5.000	5.280	42833.88	0.0995	P	0.9
4	☐	10.000	9.833	64016.06	0.1472	P	1.0
5	☐	100.000	98.750	464187.12	1.0793	P	2.3
6	☐	200.000	200.621	890247.77	2.1471	P	1.5

y = 0.0105 * x + 0.0442
R = 1.0000
DL = 0.3474
BEC = 4.212

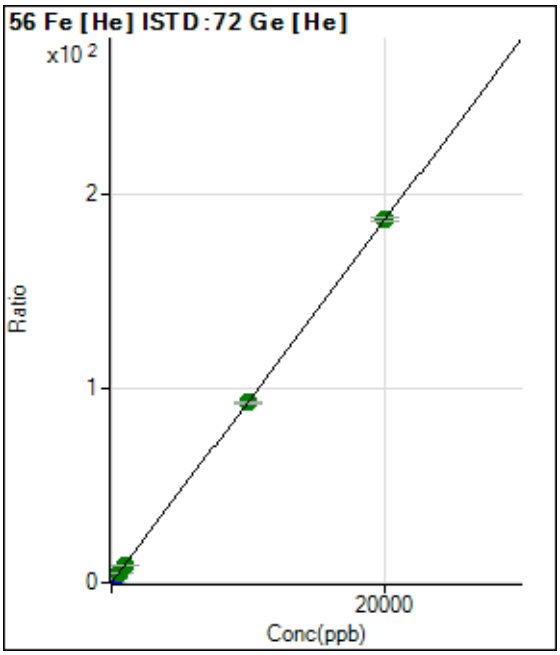
Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1256.75	0.0028	P	8.9
2	☐	2.000	1.861	8586.16	0.0195	P	0.3
3	☐	5.000	5.078	20806.19	0.0483	P	3.4
4	☐	10.000	9.957	40032.29	0.0921	P	0.8
5	☐	100.000	99.340	384130.22	0.8932	P	2.4
6	☐	200.000	200.331	745683.50	1.7985	P	1.5

y = 0.0090 * x + 0.0028
R = 1.0000
DL = 0.08352
BEC = 0.3141

Weight: <None>
Min Conc: <None>

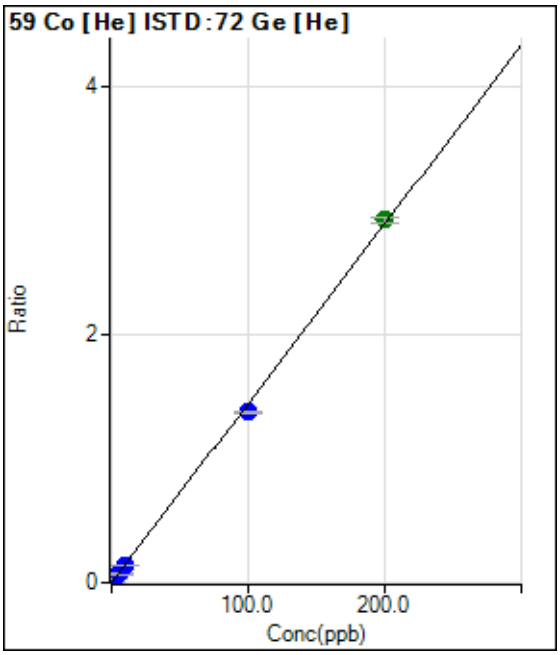


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	29559.02	0.0662	P	2.2
2	☐	200.000	207.675	879994.78	1.9978	P	0.5
3	☐	500.000	524.863	2130251.69	4.9480	A	2.9
4	☐	1000.000	994.465	4050769.11	9.3159	A	0.3
5	☐	10000.000	9943.052	39807801.07	92.5479	A	1.0
6	☐	20000.000	20028.053	77268367.18	186.3498	A	1.0

y = 0.0093 * x + 0.0662
R = 1.0000
DL = 0.4674
BEC = 7.12

Weight: <None>
Min Conc: <None>

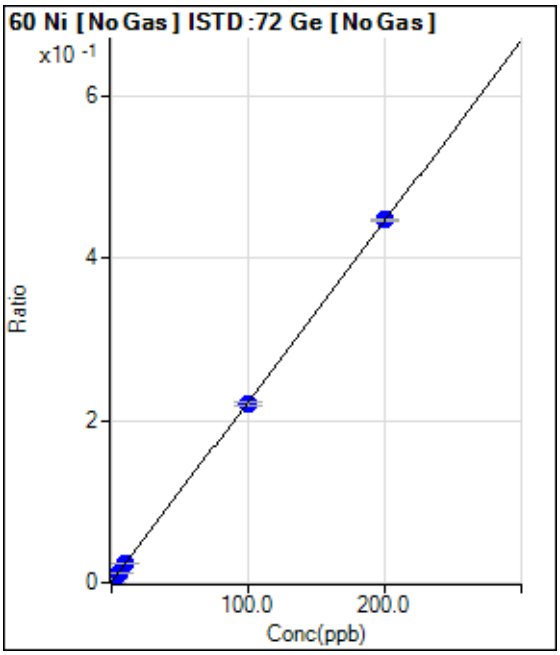
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	136.67	0.0003	P	9.2
2	☐	2.000	1.955	12569.37	0.0285	P	2.5
3	☐	5.000	4.825	30133.63	0.0700	P	2.0
4	☐	10.000	9.295	58509.13	0.1346	P	1.4
5	☐	100.000	95.195	591514.61	1.3753	P	1.3
6	☐	200.000	202.443	1212472.64	2.9243	A	1.7

y = 0.0144 * x + 3.0633E-004
R = 0.9996
DL = 0.005875
BEC = 0.02121

Weight: <None>
Min Conc: <None>

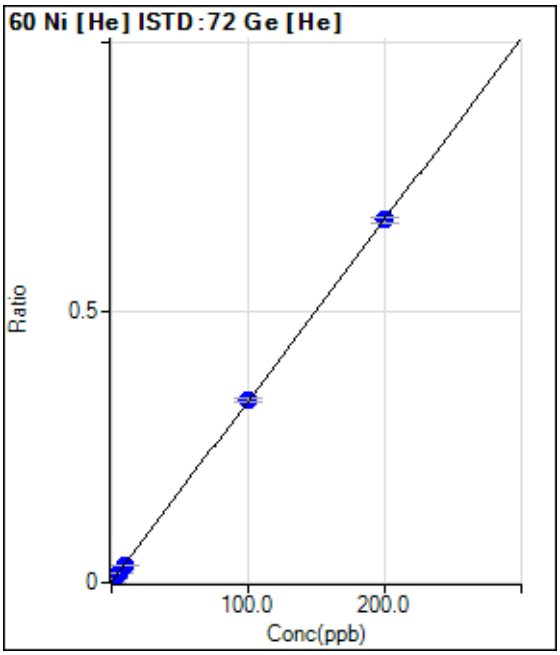


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1146.74	0.0006	P	7.6
2	☐	2.000	2.048	9423.42	0.0052	P	4.6
3	☐	5.000	4.991	21039.81	0.0117	P	1.3
4	☐	10.000	10.036	41406.62	0.0230	P	3.0
5	☐	100.000	98.590	393172.19	0.2200	P	1.6
6	☐	200.000	200.703	756719.57	0.4472	P	0.3

y = 0.0022 * x + 6.3520E-004
R = 1.0000
DL = 0.06467
BEC = 0.2855

Weight: <None>
Min Conc: <None>

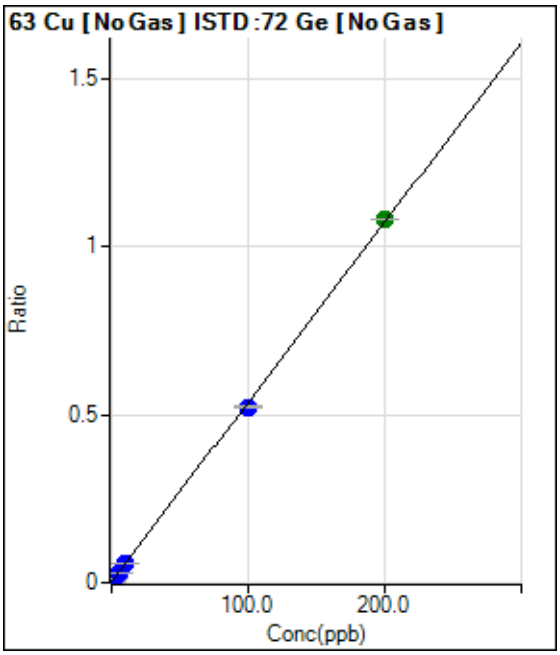
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	340.01	0.0008	P	11.4
2	☐	2.000	1.947	3210.44	0.0073	P	6.1
3	☐	5.000	5.191	7819.07	0.0182	P	3.7
4	☐	10.000	9.756	14548.00	0.0335	P	1.7
5	☐	100.000	100.182	144735.79	0.3365	P	1.9
6	☐	200.000	199.917	278120.36	0.6708	P	1.7

y = 0.0034 * x + 7.6219E-004
R = 1.0000
DL = 0.07759
BEC = 0.2274

Weight: <None>
Min Conc: <None>

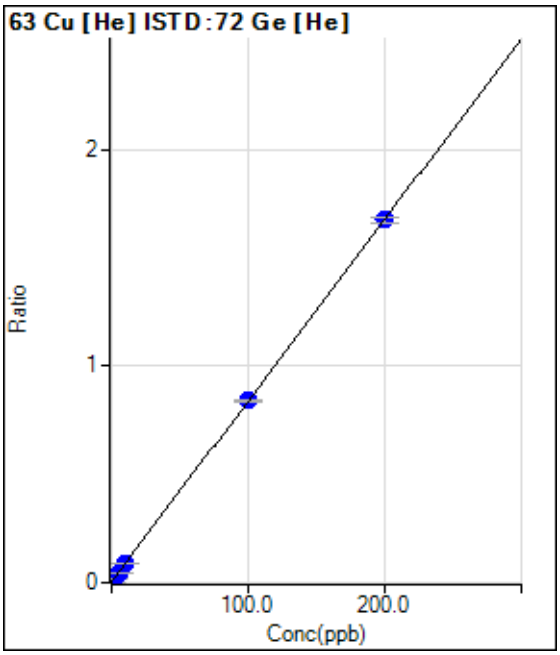


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	5227.75	0.0029	P	3.0
2	☐	2.000	2.031	25000.00	0.0138	P	0.8
3	☐	5.000	5.142	54502.85	0.0304	P	1.3
4	☐	10.000	10.254	104146.34	0.0578	P	2.9
5	☐	100.000	97.040	933050.27	0.5221	P	1.1
6	☐	200.000	201.464	1828880.34	1.0809	A	0.1

y = 0.0054 * x + 0.0029
R = 0.9998
DL = 0.04858
BEC = 0.5422

Weight: <None>
Min Conc: <None>

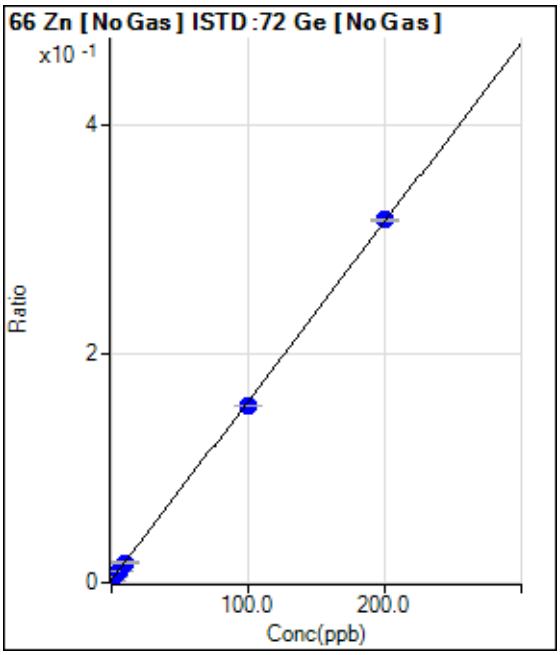
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1773.49	0.0040	P	5.8
2	☐	2.000	1.959	8953.10	0.0203	P	3.7
3	☐	5.000	5.281	20689.31	0.0481	P	2.9
4	☐	10.000	10.479	39768.45	0.0915	P	0.5
5	☐	100.000	100.005	360786.39	0.8389	P	1.6
6	☐	200.000	199.967	693832.44	1.6734	P	1.4

y = 0.0083 * x + 0.0040
R = 1.0000
DL = 0.08244
BEC = 0.476

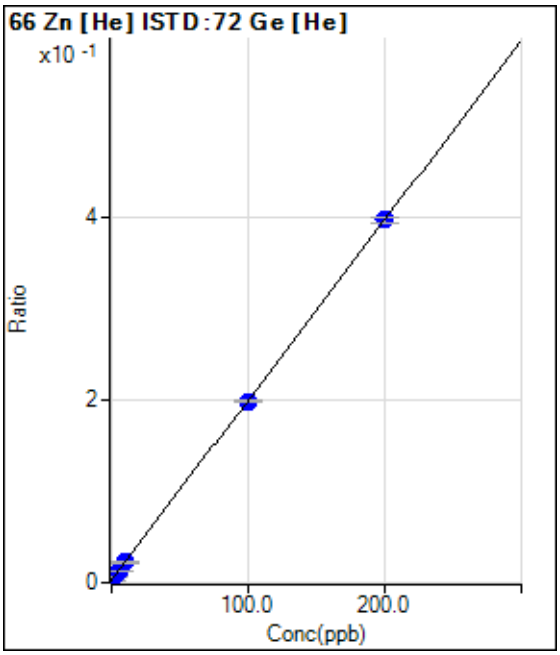
Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3880.63	0.0022	P	3.5
2	☐	2.000	2.042	9707.00	0.0053	P	1.6
3	☐	5.000	4.964	17768.66	0.0099	P	1.2
4	☐	10.000	9.827	31573.64	0.0175	P	5.4
5	☐	100.000	97.699	276845.36	0.1549	P	0.4
6	☐	200.000	201.160	535850.30	0.3167	P	0.9

y = 0.0016 * x + 0.0022
R = 0.9999
DL = 0.1464
BEC = 1.377

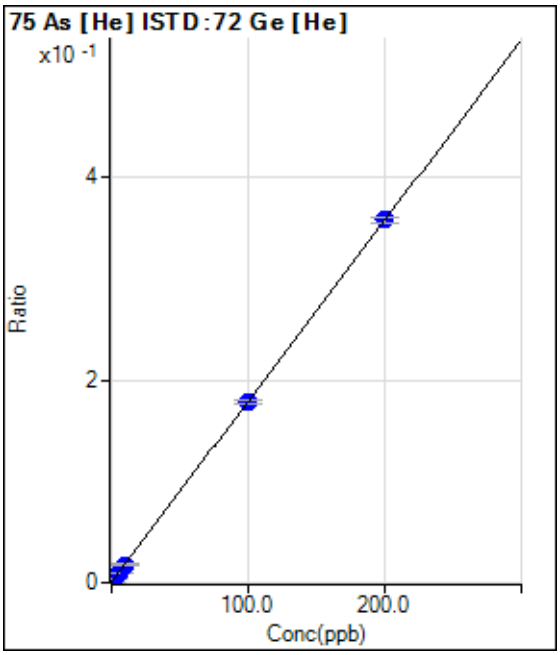
Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1323.42	0.0030	P	9.7
2	☐	2.000	2.015	3053.74	0.0069	P	7.1
3	☐	5.000	5.114	5614.59	0.0130	P	2.3
4	☐	10.000	9.931	9800.39	0.0225	P	4.1
5	☐	100.000	99.510	85616.12	0.1991	P	1.9
6	☐	200.000	200.245	164871.80	0.3976	P	1.6

y = 0.0020 * x + 0.0030
R = 1.0000
DL = 0.4393
BEC = 1.504

Weight: <None>
Min Conc: <None>

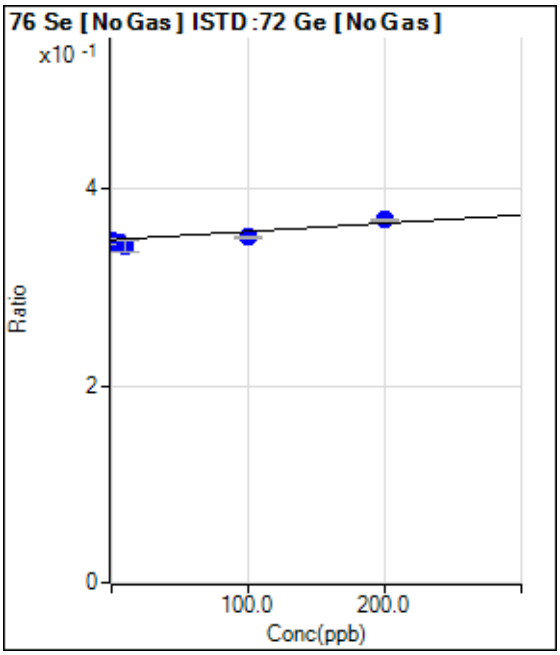


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	321.12	0.0007	P	12.1
2	☐	2.000	1.963	1859.03	0.0042	P	2.2
3	☐	5.000	5.094	4221.79	0.0098	P	2.9
4	☐	10.000	9.567	7734.48	0.0178	P	3.4
5	☐	100.000	99.193	76411.53	0.1777	P	2.3
6	☐	200.000	200.423	148541.54	0.3583	P	1.3

y = 0.0018 * x + 7.1979E-004
R = 1.0000
DL = 0.146
BEC = 0.4035

Weight: <None>
Min Conc: <None>

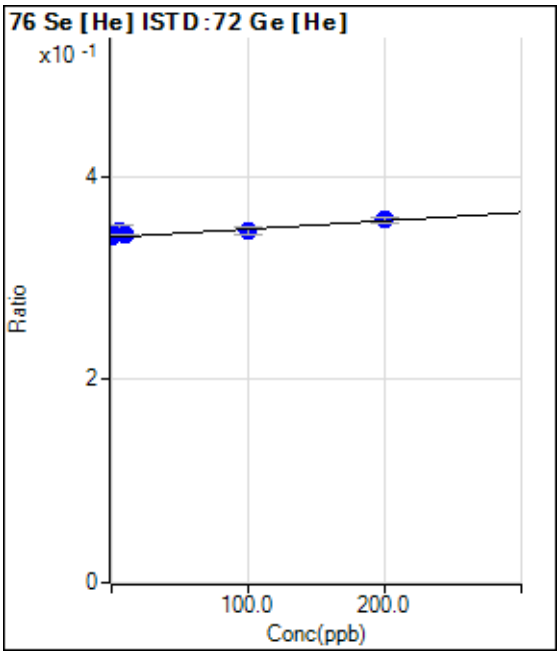
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	627758.42	0.3483	P	2.7
2	☐	2.000	-38.026	626605.83	0.3451	P	0.4
3	☐	5.000	-23.102	620707.27	0.3464	P	1.7
4	☐	10.000	-72.570	616939.63	0.3422	P	3.2
5	☐	100.000	32.161	627324.13	0.3510	P	0.8
6	☐	200.000	239.151	623487.09	0.3685	P	0.5

y = 8.4261E-005 * x + 0.3483
R = 0.9397
DL = 340.5
BEC = 4134

Weight: <None>
Min Conc: <None>

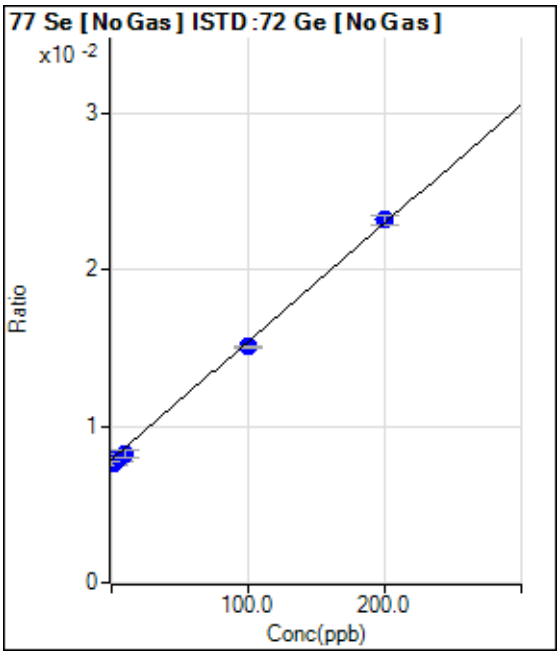


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	151800.22	0.3401	P	0.9
2	☐	2.000	31.760	150960.29	0.3427	P	0.8
3	☐	5.000	74.349	149026.86	0.3462	P	3.3
4	☐	10.000	23.496	148726.48	0.3420	P	0.2
5	☐	100.000	74.961	148911.54	0.3463	P	2.2
6	☐	200.000	209.813	148162.95	0.3573	P	1.5

y = 8.2118E-005 * x + 0.3401
R = 0.9218
DL = 112.8
BEC = 4142

Weight: <None>
Min Conc: <None>

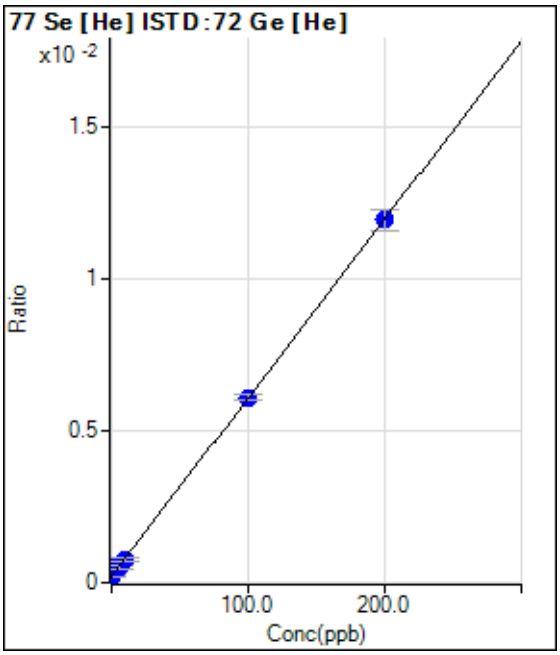
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	14164.36	0.0079	P	7.9
2	☐	2.000	-4.244	13703.82	0.0075	P	2.6
3	☐	5.000	1.727	14334.59	0.0080	P	5.2
4	☐	10.000	4.283	14758.39	0.0082	P	6.5
5	☐	100.000	95.615	26953.95	0.0151	P	0.9
6	☐	200.000	202.622	39177.04	0.0232	P	2.6

y = 7.5447E-005 * x + 0.0079
R = 0.9995
DL = 24.87
BEC = 104.3

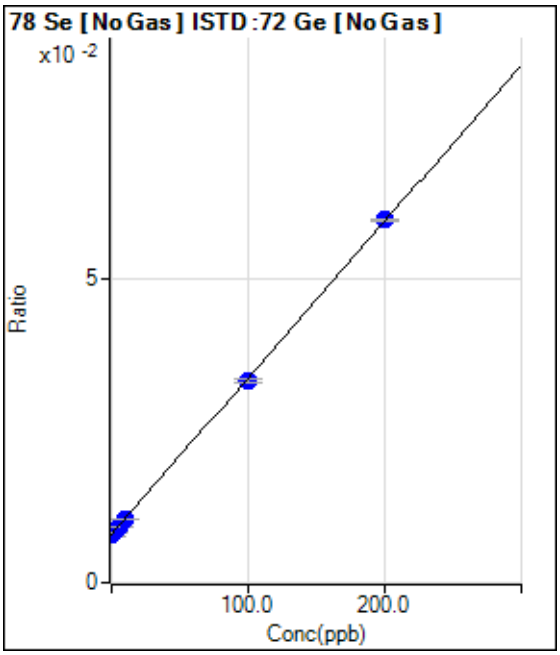
Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	93.33	0.0002	P	35.3
2	☐	2.000	5.218	226.67	0.0005	P	30.1
3	☐	5.000	5.142	220.00	0.0005	P	24.1
4	☐	10.000	9.754	340.01	0.0008	P	15.1
5	☐	100.000	100.404	2623.64	0.0061	P	3.7
6	☐	200.000	199.774	4947.69	0.0119	P	5.7

y = 5.8660E-005 * x + 2.0947E-004
R = 0.9999
DL = 3.778
BEC = 3.571

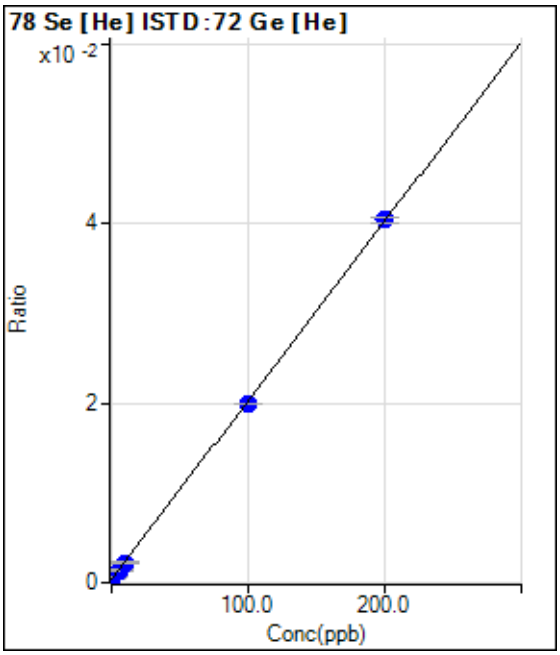
Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	14381.26	0.0080	P	7.0
2	☐	2.000	1.489	15195.43	0.0084	P	5.2
3	☐	5.000	4.693	16473.61	0.0092	P	0.1
4	☐	10.000	9.145	18646.45	0.0103	P	0.4
5	☐	100.000	98.213	59387.66	0.0332	P	1.7
6	☐	200.000	200.949	100919.66	0.0596	P	0.7

y = 2.5705E-004 * x + 0.0080
R = 0.9999
DL = 6.491
BEC = 31.07

Weight: <None>
Min Conc: <None>

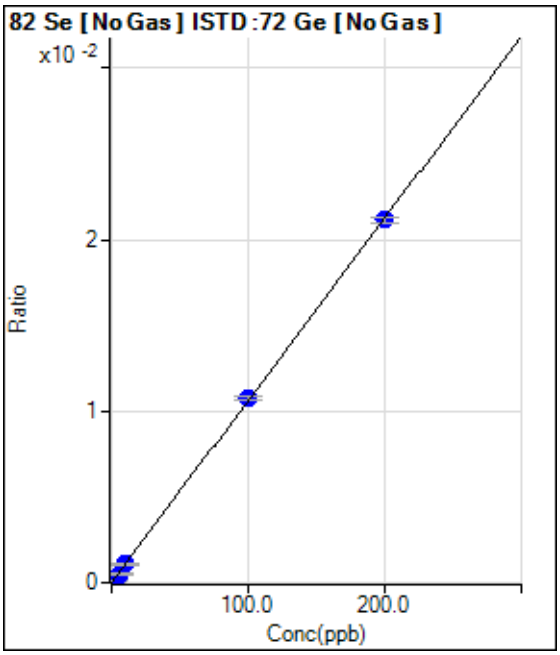


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	164.67	0.0004	P	5.7
2	☐	2.000	2.000	338.01	0.0008	P	8.8
3	☐	5.000	5.064	593.35	0.0014	P	2.7
4	☐	10.000	9.364	972.04	0.0022	P	1.5
5	☐	100.000	98.207	8580.08	0.0199	P	0.4
6	☐	200.000	200.927	16761.75	0.0404	P	1.8

y = 1.9935E-004 * x + 3.6886E-004
R = 0.9999
DL = 0.319
BEC = 1.85

Weight: <None>
Min Conc: <None>

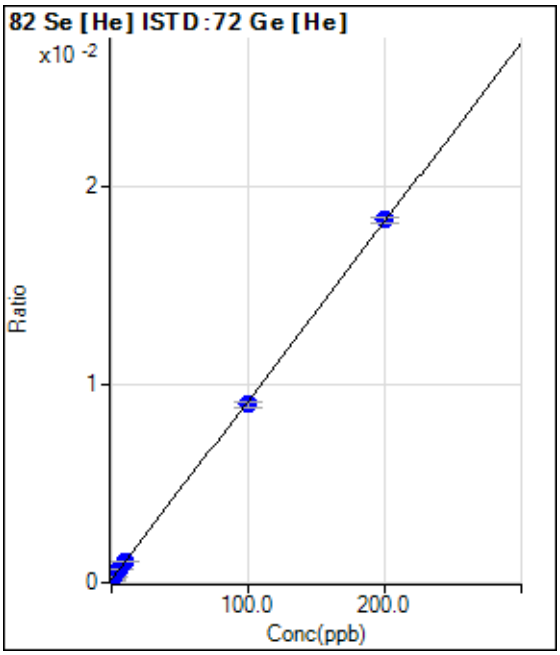
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	14.00	0.0000	P	215.9
2	☐	2.000	1.558	313.78	0.0002	P	40.5
3	☐	5.000	4.487	867.10	0.0005	P	14.8
4	☐	10.000	10.150	1953.71	0.0011	P	9.2
5	☐	100.000	101.505	19262.14	0.0108	P	2.1
6	☐	200.000	199.257	35789.39	0.0212	P	1.7

y = 1.0612E-004 * x + 7.7111E-006
R = 1.0000
DL = 0.4707
BEC = 0.07266

Weight: <None>
Min Conc: <None>

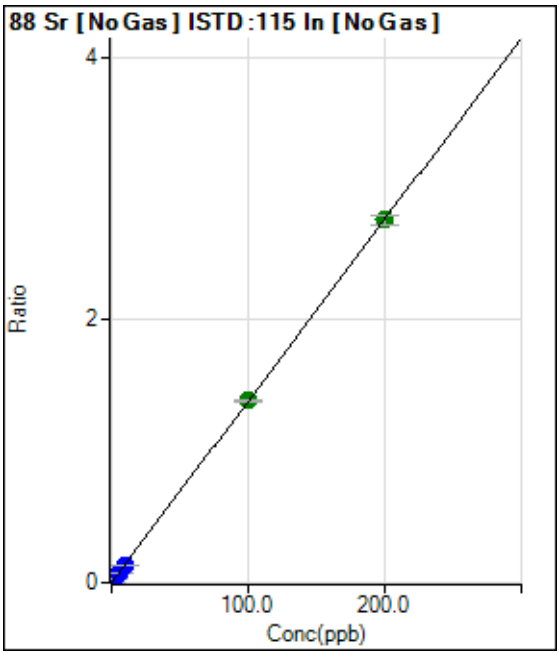


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	66.67	0.0001	P	18.1
2	☐	2.000	1.447	123.33	0.0003	P	26.4
3	☐	5.000	5.803	290.01	0.0007	P	12.1
4	☐	10.000	10.316	470.02	0.0011	P	3.5
5	☐	100.000	97.840	3863.96	0.0090	P	3.4
6	☐	200.000	201.050	7588.94	0.0183	P	1.3

y = 9.0291E-005 * x + 1.4950E-004
R = 0.9999
DL = 0.9006
BEC = 1.656

Weight: <None>
Min Conc: <None>

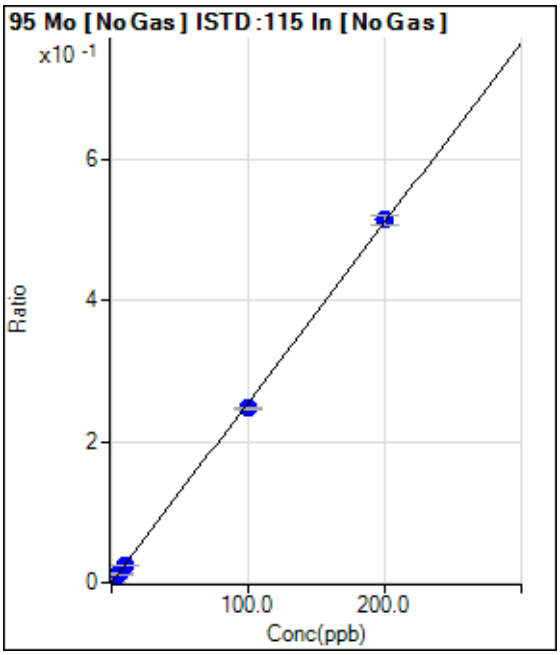
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2223.56	0.0011	P	7.7
2	☐	2.000	1.938	56254.85	0.0279	P	0.1
3	☐	5.000	4.814	134681.99	0.0675	P	0.8
4	☐	10.000	9.560	265384.35	0.1330	P	0.6
5	☐	100.000	100.202	2704315.79	1.3835	A	1.4
6	☐	200.000	199.926	5176610.86	2.7593	A	2.8

y = 0.0138 * x + 0.0011
R = 1.0000
DL = 0.01878
BEC = 0.08153

Weight: <None>
Min Conc: <None>

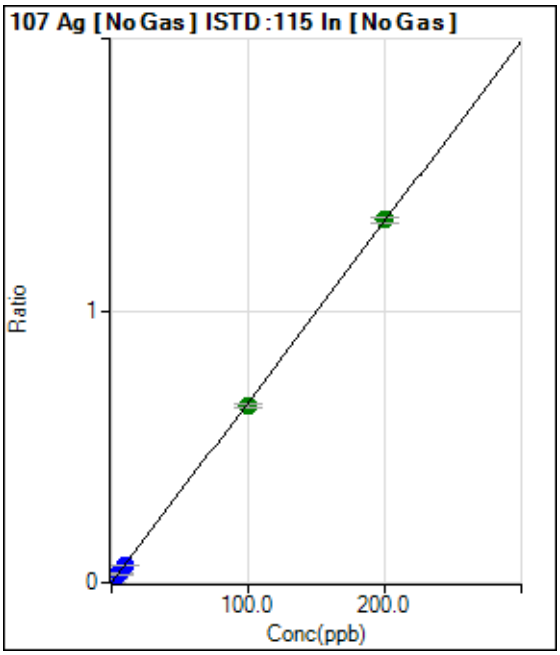


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	840.04	0.0004	P	12.3
2	☐	2.000	1.883	10551.02	0.0052	P	3.1
3	☐	5.000	4.721	24846.78	0.0125	P	3.3
4	☐	10.000	9.381	48578.59	0.0243	P	1.3
5	☐	100.000	96.985	484213.81	0.2478	P	0.9
6	☐	200.000	201.547	965057.54	0.5144	P	2.7

y = 0.0026 * x + 4.2516E-004
R = 0.9998
DL = 0.06171
BEC = 0.1667

Weight: <None>
Min Conc: <None>

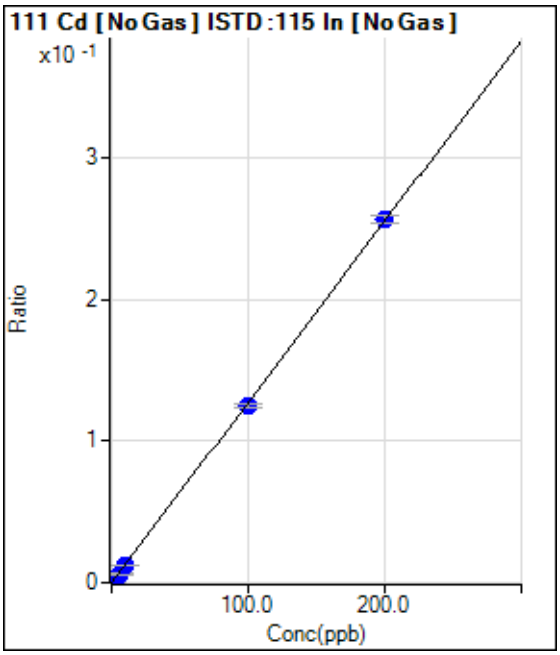
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	150.00	0.0001	P	21.8
2	☐	2.000	1.911	25785.28	0.0128	P	3.0
3	☐	5.000	4.794	63626.14	0.0319	P	2.0
4	☐	10.000	9.417	124945.84	0.0626	P	0.4
5	☐	100.000	98.258	1275499.33	0.6527	A	2.3
6	☐	200.000	200.906	2504039.08	1.3345	A	1.9

y = 0.0066 * x + 7.5708E-005
R = 0.9999
DL = 0.007448
BEC = 0.0114

Weight: <None>
Min Conc: <None>

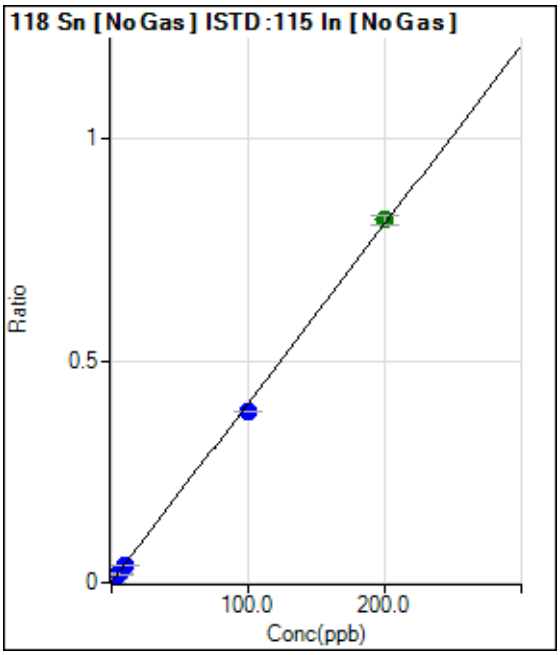


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	-4.06	0.0000	P	-144.7
2	☐	2.000	1.958	5041.34	0.0025	P	6.5
3	☐	5.000	4.758	12106.40	0.0061	P	5.4
4	☐	10.000	9.548	24319.78	0.0122	P	2.1
5	☐	100.000	98.113	244850.22	0.1253	P	1.5
6	☐	200.000	200.973	481511.53	0.2566	P	2.3

y = 0.0013 * x - 2.1026E-006
R = 0.9999
DL = 0.007145
BEC = -0.001647

Weight: <None>
Min Conc: <None>

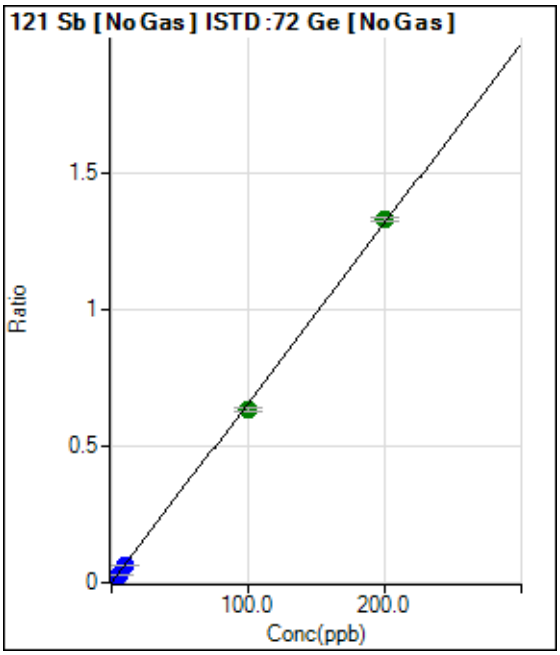
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2633.66	0.0013	P	10.1
2	☐	2.000	1.689	16457.18	0.0082	P	2.1
3	☐	5.000	4.586	39549.74	0.0198	P	3.5
4	☐	10.000	9.103	75959.38	0.0381	P	1.6
5	☐	100.000	95.271	754084.65	0.3858	P	0.6
6	☐	200.000	202.423	1535319.72	0.8183	A	2.3

y = 0.0040 * x + 0.0013
R = 0.9996
DL = 0.09988
BEC = 0.3308

Weight: <None>
Min Conc: <None>

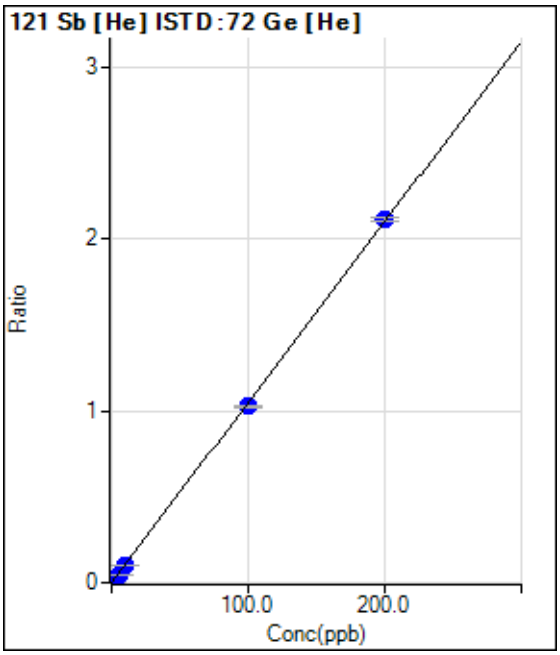


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	310.01	0.0002	P	4.0
2	☐	2.000	1.872	22689.94	0.0125	P	0.6
3	☐	5.000	4.646	55115.84	0.0308	P	1.0
4	☐	10.000	9.259	110226.78	0.0611	P	2.1
5	☐	100.000	96.367	1134111.44	0.6346	A	1.6
6	☐	200.000	201.864	2249047.36	1.3292	A	1.0

y = 0.0066 * x + 1.7183E-004
R = 0.9998
DL = 0.003144
BEC = 0.0261

Weight: <None>
Min Conc: <None>

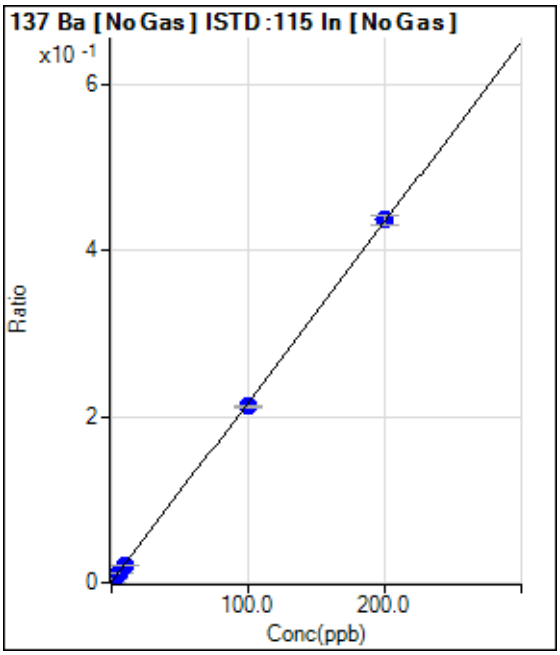
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	103.33	0.0002	P	38.6
2	☐	2.000	1.886	8813.14	0.0200	P	1.9
3	☐	5.000	4.696	21297.61	0.0495	P	0.8
4	☐	10.000	9.346	42709.97	0.0982	P	0.4
5	☐	100.000	97.687	440644.48	1.0245	P	1.2
6	☐	200.000	201.198	874784.47	2.1098	P	1.1

y = 0.0105 * x + 2.3127E-004
R = 0.9999
DL = 0.02557
BEC = 0.02206

Weight: <None>
Min Conc: <None>

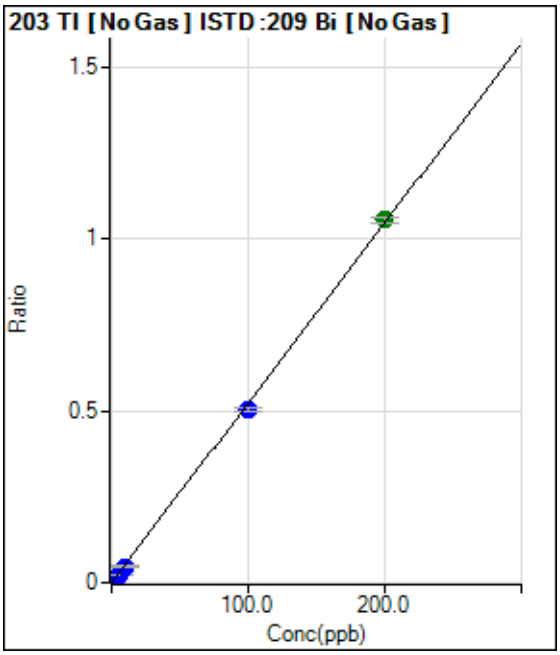


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1183.41	0.0006	P	5.9
2	☐	2.000	1.798	9089.98	0.0045	P	4.5
3	☐	5.000	4.850	22179.28	0.0111	P	2.2
4	☐	10.000	9.505	42352.55	0.0212	P	3.1
5	☐	100.000	97.638	415321.22	0.2125	P	1.5
6	☐	200.000	201.211	820440.77	0.4373	P	2.7

y = 0.0022 * x + 5.9830E-004
R = 0.9999
DL = 0.04891
BEC = 0.2757

Weight: <None>
Min Conc: <None>

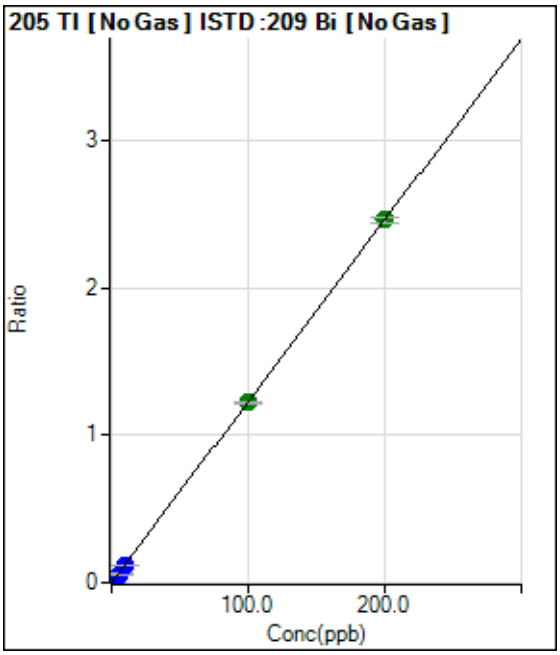
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	120.00	0.0001	P	26.3
2	☐	2.000	1.863	14939.16	0.0098	P	4.1
3	☐	5.000	4.639	36650.92	0.0243	P	2.0
4	☐	10.000	9.054	72339.36	0.0474	P	1.6
5	☐	100.000	96.322	762531.86	0.5030	P	1.4
6	☐	200.000	201.897	1556005.03	1.0542	A	1.4

y = 0.0052 * x + 8.0799E-005
R = 0.9998
DL = 0.0122
BEC = 0.01548

Weight: <None>
Min Conc: <None>

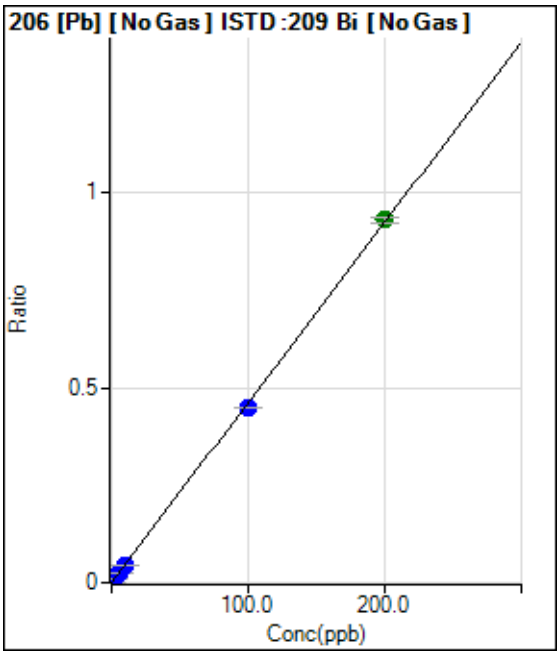


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	220.01	0.0001	P	21.6
2	☐	2.000	1.889	35557.73	0.0233	P	2.0
3	☐	5.000	4.742	88009.40	0.0584	P	2.4
4	☐	10.000	9.256	173842.59	0.1138	P	1.0
5	☐	100.000	99.634	1854452.52	1.2233	A	1.2
6	☐	200.000	200.228	3628319.22	2.4582	A	1.4

y = 0.0123 * x + 1.4801E-004
R = 1.0000
DL = 0.007826
BEC = 0.01206

Weight: <None>
Min Conc: <None>

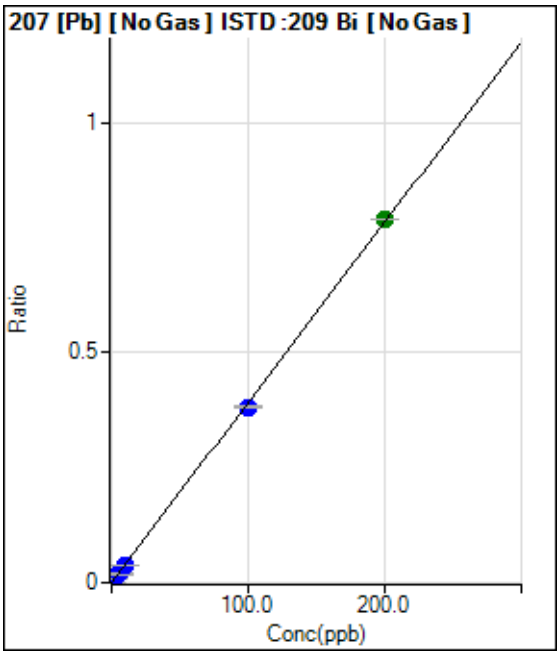
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	240.01	0.0002	P	25.5
2	☐	2.000	2.007	14368.52	0.0094	P	7.1
3	☐	5.000	4.827	33896.37	0.0225	P	2.2
4	☐	10.000	9.565	67770.90	0.0444	P	3.2
5	☐	100.000	97.041	680285.49	0.4487	P	0.7
6	☐	200.000	201.505	1375261.28	0.9316	A	1.3

y = 0.0046 * x + 1.6133E-004
R = 0.9998
DL = 0.02668
BEC = 0.0349

Weight: <None>
Min Conc: <None>

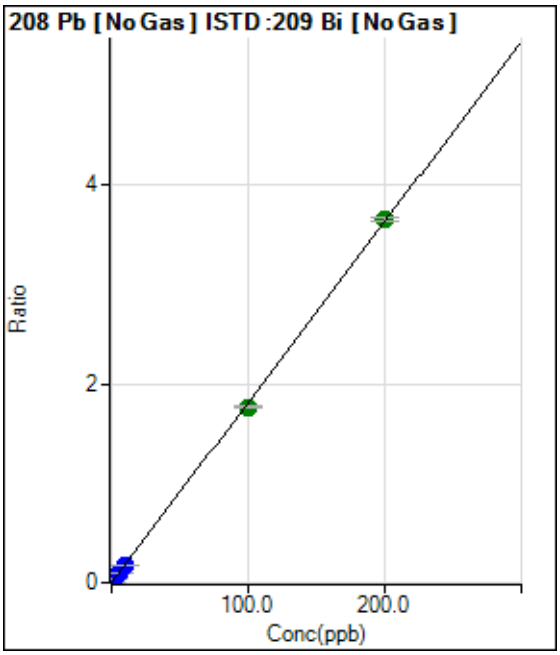


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	206.67	0.0001	P	31.3
2	☐	2.000	2.001	12136.11	0.0080	P	5.2
3	☐	5.000	4.771	28365.86	0.0188	P	1.4
4	☐	10.000	9.583	57502.73	0.0376	P	1.1
5	☐	100.000	97.280	577227.53	0.3808	P	1.2
6	☐	200.000	201.386	1163437.14	0.7881	A	0.1

y = 0.0039 * x + 1.3957E-004
R = 0.9999
DL = 0.03353
BEC = 0.03567

Weight: <None>
Min Conc: <None>

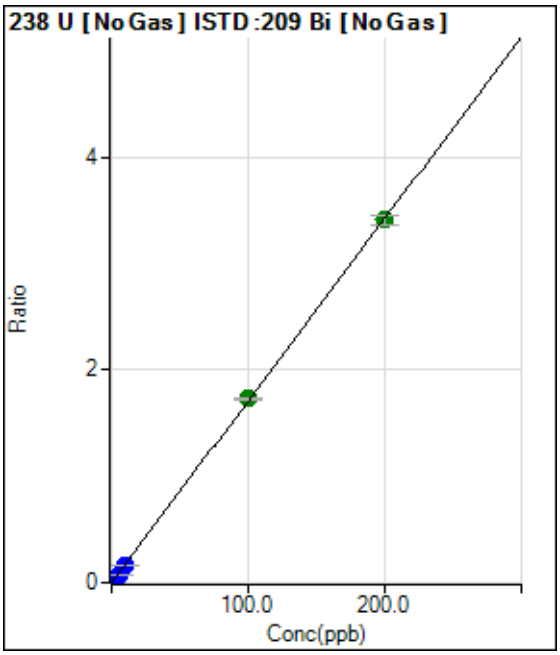
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	910.03	0.0006	P	6.2
2	☐	2.000	1.977	55578.95	0.0365	P	3.7
3	☐	5.000	4.836	133240.82	0.0884	P	2.8
4	☐	10.000	9.527	264997.96	0.1735	P	1.5
5	☐	100.000	97.502	2682787.11	1.7697	A	0.7
6	☐	200.000	201.277	5391440.67	3.6526	A	0.9

y = 0.0181 * x + 6.1218E-004
R = 0.9999
DL = 0.006285
BEC = 0.03374

Weight: <None>
Min Conc: <None>

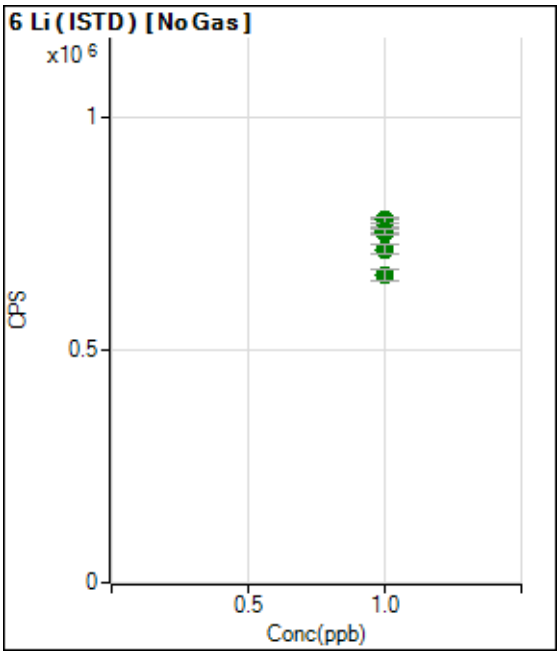


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	36.67	0.0000	P	57.2
2	☐	2.000	1.878	48924.83	0.0321	P	4.8
3	☐	5.000	4.635	119459.43	0.0792	P	2.3
4	☐	10.000	9.304	242830.49	0.1590	P	3.1
5	☐	100.000	101.122	2619003.03	1.7278	A	1.2
6	☐	200.000	199.484	5030382.11	3.4083	A	2.6

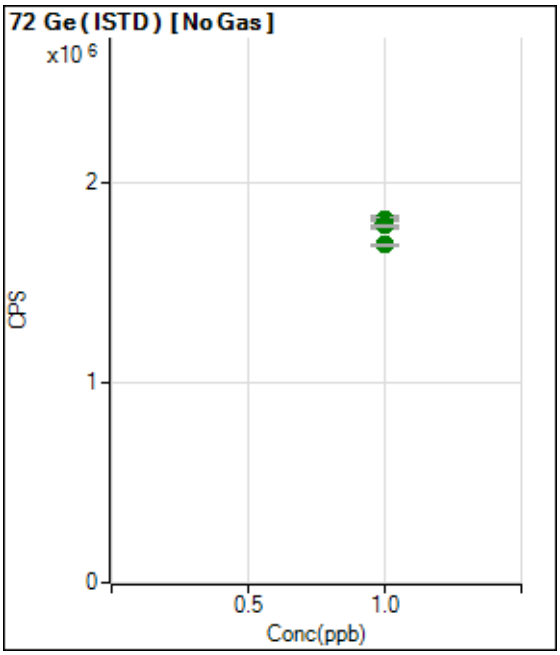
y = 0.0171 * x + 2.4731E-005
R = 1.0000
DL = 0.002483
BEC = 0.001447

Weight: <None>
Min Conc: <None>

Calibration for 017_ICV.d

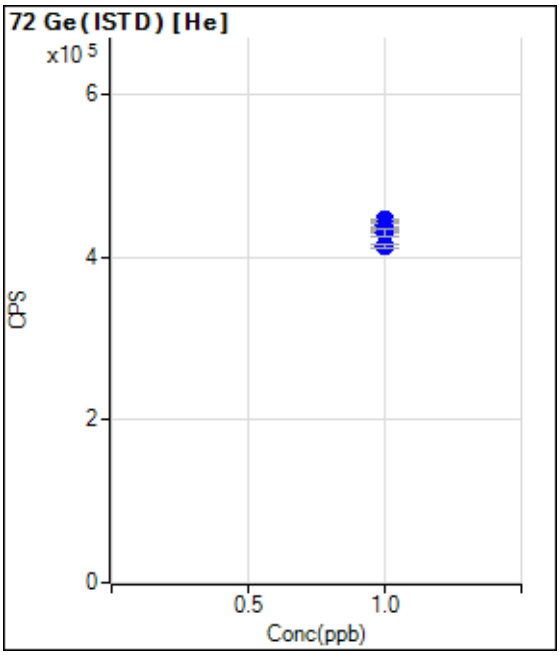


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		766868.18		A	3.6
2	☐	1.000		780090.54		A	1.2
3	☐	1.000		755990.26		A	2.2
4	☐	1.000		754422.94		A	1.5
5	☐	1.000		715928.39		A	3.0
6	☐	1.000		661739.95		A	3.2

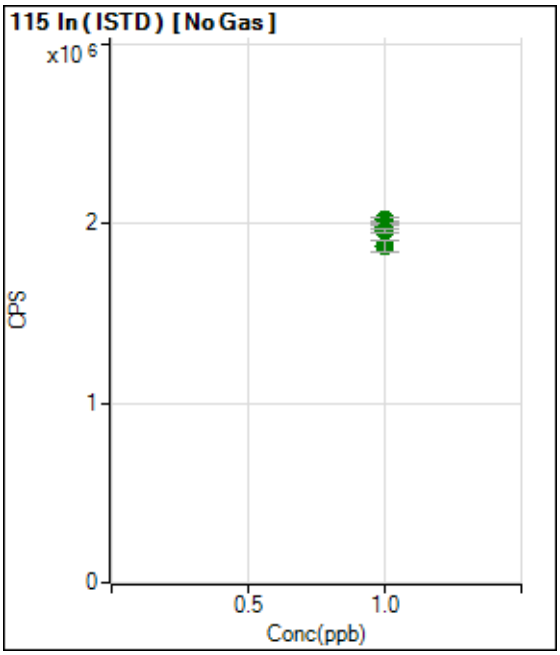


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1803283.83		A	3.4
2	☐	1.000		1815572.42		A	0.6
3	☐	1.000		1791964.14		A	0.1
4	☐	1.000		1803911.54		A	3.0
5	☐	1.000		1787040.60		A	0.4
6	☐	1.000		1692064.98		A	0.7

Calibration for 017_ICV.d

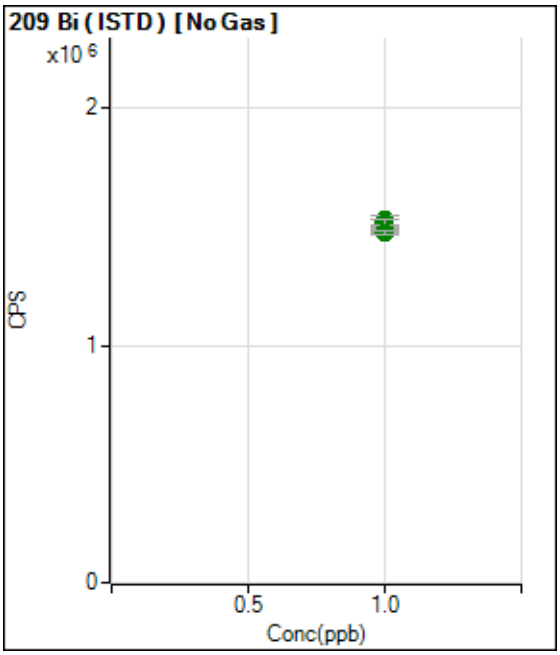


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		446345.60		P	0.8
2	☐	1.000		440475.54		P	0.9
3	☐	1.000		430488.82		P	0.4
4	☐	1.000		434823.83		P	0.4
5	☐	1.000		430188.70		P	2.2
6	☐	1.000		414669.90		P	1.1



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1975978.41		A	2.9
2	☐	1.000		2019187.75		A	1.3
3	☐	1.000		1994152.78		A	2.2
4	☐	1.000		1995148.16		A	0.8
5	☐	1.000		1954570.02		A	1.1
6	☐	1.000		1877226.12		A	3.4

Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1487949.93		A	2.4
2	☐	1.000		1524630.50		A	3.2
3	☐	1.000		1508689.82		A	2.7
4	☐	1.000		1528081.38		A	2.7
5	☐	1.000		1516057.74		A	1.7
6	☐	1.000		1476164.98		A	1.2

Calibration Blank Report

Sample Table

Sample Name	CAL BLK
Data File Name	009CALB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\071723B.b
Acq Date Time	2023-07-17T19:34:24-05:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li	7	1	No Gas	50192	0.00
Be	9	1	No Gas	15	384.90
V	51	2	He	6109	0.04
Cr	52	2	He	19708	0.01
Fe	56	2	He	29559	0.01
Se	78	2	He	165	3.79
As	75	2	He	321	3.56
Ca	44	2	He	1197	0.63
Na	23	2	He	62728	0.00
Mg	24	2	He	1570	0.59
K	39	2	He	219684	0.00
Mn	55	2	He	1257	0.73
Co	59	2	He	137	6.18
Ni	60	2	He	340	3.12
Cu	63	2	He	1773	0.30
Zn	66	2	He	1323	0.75
Al	27	2	He	1937	0.13
B	11	1	No Gas	17392	0.02
Al	27	1	No Gas	53868	0.00
Si	28	1	No Gas	510427	0.00
Ag	107	1	No Gas	150	16.02
Sr	88	1	No Gas	2224	0.41
Mo	95	1	No Gas	840	1.50
Sn	118	1	No Gas	2634	0.29
Sb	121	1	No Gas	310	2.08
Ba	137	1	No Gas	1183	0.73
Tl	205	1	No Gas	220	9.47
Tl	203	1	No Gas	120	20.83
Pb	208	1	No Gas	910	0.44
U	238	1	No Gas	37	154.83
Ca	43	2	He	93	6.63
Sb	121	2	He	103	37.85
Ti	47	2	He	13	324.76
Cu	63	1	No Gas	5228	0.01

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li	6	1	No Gas	766868	3.63

Calibration Blank Report

Ge	72	2	He	446346	0.75
Ge	72	1	No Gas	1803284	3.37
In	115	1	No Gas	1975978	2.90
Bi	209	1	No Gas	1487950	2.35

Calibration Standard Report

Sample Table

Sample Name	2/10/200
Data File Name	010CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\071723B.b
Acq Date Time	2023-07-17T19:36:20-05:00
Sample Type	CalStd
Level	2
Dilution	1
Comment	
ISTD Ref File Name	009CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	No Gas	7149	0.01
V	51	2	He	14331	0.00
Cr	52	2	He	30965	0.01
Fe	56	2	He	879995	0.00
Se	78	2	He	338	2.43
As	75	2	He	1859	0.07
Ca	44	2	He	8259	0.06
Na	23	2	He	250779	0.00
Mg	24	2	He	120097	0.00
K	39	2	He	382504	0.00
Mn	55	2	He	8586	0.01
Co	59	2	He	12569	0.02
Ni	60	2	He	3210	0.19
Cu	63	2	He	8953	0.04
Zn	66	2	He	3054	0.21
Al	27	2	He	3567	0.23
B	11	1	No Gas	33508	0.01
Al	27	1	No Gas	96110	0.00
Si	28	1	No Gas	570471	0.00
Ag	107	1	No Gas	25785	0.01
Cd	111	1	No Gas	5041	0.12
Sr	88	1	No Gas	56255	0.00
Mo	95	1	No Gas	10551	0.02
Sn	118	1	No Gas	16457	0.01
Sb	121	1	No Gas	22690	0.00
Ba	137	1	No Gas	9090	0.06
Tl	205	1	No Gas	35558	0.00
Tl	203	1	No Gas	14939	0.01
Pb	208	1	No Gas	55579	0.00
U	238	1	No Gas	48925	0.01
Ca	43	2	He	493	2.07
Sb	121	2	He	8813	0.03
Cu	63	1	No Gas	25000	0.00

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	780091	1.24	766868	101.72	70	120	
Ge	72	2	He	440476	0.94	446346	98.68	70	120	
Ge	72	1	No Gas	1815572	0.58	1803284	100.68	70	120	

Calibration Standard Report

In	115	1	No Gas	2019188	1.29	1975978	102.19	70	120	
Bi	209	1	No Gas	1524630	3.20	1487950	102.47	70	120	

Calibration Standard Report

Sample Table

Sample Name	5/25/500
Data File Name	011CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\071723B.b
Acq Date Time	2023-07-17T19:38:41-05:00
Sample Type	CalStd
Level	3
Dilution	1
Comment	
ISTD Ref File Name	009CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	No Gas	17716	0.01
V	51	2	He	27144	0.00
Cr	52	2	He	42834	0.00
Fe	56	2	He	2130252	0.00
Se	78	2	He	593	0.43
As	75	2	He	4222	0.07
Ca	44	2	He	20616	0.01
Na	23	2	He	534351	0.00
Mg	24	2	He	296620	0.00
K	39	2	He	637288	0.00
Mn	55	2	He	20806	0.02
Co	59	2	He	30134	0.01
Ni	60	2	He	7819	0.05
Cu	63	2	He	20689	0.01
Zn	66	2	He	5615	0.03
Al	27	2	He	4374	0.17
B	11	1	No Gas	61390	0.00
Al	27	1	No Gas	118575	0.00
Si	28	1	No Gas	693338	0.00
Ag	107	1	No Gas	63626	0.00
Cd	111	1	No Gas	12106	0.04
Sr	88	1	No Gas	134682	0.00
Mo	95	1	No Gas	24847	0.01
Sn	118	1	No Gas	39550	0.00
Sb	121	1	No Gas	55116	0.00
Ba	137	1	No Gas	22179	0.01
Tl	205	1	No Gas	88009	0.00
Tl	203	1	No Gas	36651	0.00
Pb	208	1	No Gas	133241	0.00
U	238	1	No Gas	119459	0.00
Ca	43	2	He	1183	0.59
Sb	121	2	He	21298	0.01
Cu	63	1	No Gas	54503	0.00

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	755990	2.22	766868	98.58	70	120	
Ge	72	2	He	430489	0.45	446346	96.45	70	120	
Ge	72	1	No Gas	1791964	0.13	1803284	99.37	70	120	

Calibration Standard Report

In	115	1	No Gas	1994153	2.15	1975978	100.92	70	120	
Bi	209	1	No Gas	1508690	2.71	1487950	101.39	70	120	

Calibration Standard Report

Sample Table

Sample Name	10/50/100
Data File Name	012CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\071723B.b
Acq Date Time	2023-07-17T19:40:36-05:00
Sample Type	CalStd
Level	4
Dilution	1
Comment	
ISTD Ref File Name	009CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	No Gas	34212	0.01
V	51	2	He	47356	0.00
Cr	52	2	He	64016	0.00
Fe	56	2	He	4050769	0.00
Se	78	2	He	972	0.15
As	75	2	He	7734	0.05
Ca	44	2	He	37505	0.01
Na	23	2	He	925515	0.00
Mg	24	2	He	572472	0.00
K	39	2	He	1009424	0.00
Mn	55	2	He	40032	0.00
Co	59	2	He	58509	0.00
Ni	60	2	He	14548	0.01
Cu	63	2	He	39768	0.00
Zn	66	2	He	9800	0.05
Al	27	2	He	6442	0.09
B	11	1	No Gas	104122	0.00
Al	27	1	No Gas	185760	0.00
Si	28	1	No Gas	909395	0.00
Ag	107	1	No Gas	124946	0.00
Cd	111	1	No Gas	24320	0.01
Sr	88	1	No Gas	265384	0.00
Mo	95	1	No Gas	48579	0.00
Sn	118	1	No Gas	75959	0.00
Sb	121	1	No Gas	110227	0.00
Ba	137	1	No Gas	42353	0.01
Tl	205	1	No Gas	173843	0.00
Tl	203	1	No Gas	72339	0.00
Pb	208	1	No Gas	264998	0.00
U	238	1	No Gas	242830	0.00
Ca	43	2	He	2107	0.60
Sb	121	2	He	42710	0.00
Cu	63	1	No Gas	104146	0.00

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	754423	1.49	766868	98.38	70	120	
Ge	72	2	He	434824	0.44	446346	97.42	70	120	
Ge	72	1	No Gas	1803912	3.03	1803284	100.03	70	120	

Calibration Standard Report

In	115	1	No Gas	1995148	0.78	1975978	100.97	70	120	
Bi	209	1	No Gas	1528081	2.72	1487950	102.70	70	120	

Calibration Standard Report

Sample Table

Sample Name	100/500/10K
Data File Name	013CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\071723B.b
Acq Date Time	2023-07-17T19:42:34-05:00
Sample Type	CalStd
Level	5
Dilution	1
Comment	
ISTD Ref File Name	009CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	No Gas	343024	0.00
V	51	2	He	423422	0.00
Cr	52	2	He	464187	0.00
Fe	56	2	He	39807801	0.00
Se	78	2	He	8580	0.02
As	75	2	He	76412	0.00
Ca	44	2	He	368971	0.00
Na	23	2	He	8457449	0.00
Mg	24	2	He	5184956	0.00
K	39	2	He	7962784	0.00
Mn	55	2	He	384130	0.00
Co	59	2	He	591515	0.00
Ni	60	2	He	144736	0.00
Cu	63	2	He	360786	0.00
Zn	66	2	He	85616	0.00
Al	27	2	He	45311	0.00
B	11	1	No Gas	915560	0.00
Al	27	1	No Gas	1348269	0.00
Si	28	1	No Gas	3828324	0.00
Ag	107	1	No Gas	1275499	0.00
Cd	111	1	No Gas	244850	0.00
Sr	88	1	No Gas	2704316	0.00
Mo	95	1	No Gas	484214	0.00
Sn	118	1	No Gas	754085	0.00
Sb	121	1	No Gas	1134111	0.00
Ba	137	1	No Gas	415321	0.00
Tl	205	1	No Gas	1854453	0.00
Tl	203	1	No Gas	762532	0.00
Pb	208	1	No Gas	2682787	0.00
U	238	1	No Gas	2619003	0.00
Ca	43	2	He	22375	0.02
Sb	121	2	He	440644	0.00
Cu	63	1	No Gas	933050	0.00

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	715928	3.04	766868	93.36	70	120	
Ge	72	2	He	430189	2.16	446346	96.38	70	120	
Ge	72	1	No Gas	1787041	0.39	1803284	99.10	70	120	

Calibration Standard Report

In	115	1	No Gas	1954570	1.12	1975978	98.92	70	120	
Bi	209	1	No Gas	1516058	1.71	1487950	101.89	70	120	

Calibration Standard Report

Sample Table

Sample Name	200/1000/20K
Data File Name	014CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\071723B.b
Acq Date Time	2023-07-17T19:44:25-05:00
Sample Type	CalStd
Level	6
Dilution	1
Comment	
ISTD Ref File Name	009CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	No Gas	658784	0.00
V	51	2	He	832355	0.00
Cr	52	2	He	890248	0.00
Fe	56	2	He	77268367	0.00
Se	78	2	He	16762	0.01
As	75	2	He	148542	0.00
Ca	44	2	He	724179	0.00
Na	23	2	He	16232419	0.00
Mg	24	2	He	10072483	0.00
K	39	2	He	15313329	0.00
Mn	55	2	He	745684	0.00
Co	59	2	He	1212473	0.00
Ni	60	2	He	278120	0.00
Cu	63	2	He	693832	0.00
Zn	66	2	He	164872	0.00
Al	27	2	He	84680	0.00
B	11	1	No Gas	1770925	0.00
Al	27	1	No Gas	2525165	0.00
Si	28	1	No Gas	6845275	0.00
Ag	107	1	No Gas	2504039	0.00
Cd	111	1	No Gas	481512	0.00
Sr	88	1	No Gas	5176611	0.00
Mo	95	1	No Gas	965058	0.00
Sn	118	1	No Gas	1535320	0.00
Sb	121	1	No Gas	2249047	0.00
Ba	137	1	No Gas	820441	0.00
Tl	205	1	No Gas	3628319	0.00
Tl	203	1	No Gas	1556005	0.00
Pb	208	1	No Gas	5391441	0.00
U	238	1	No Gas	5030382	0.00
Ca	43	2	He	43730	0.00
Sb	121	2	He	874784	0.00
Cu	63	1	No Gas	1828880	0.00

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	661740	3.21	766868	86.29	70	120	
Ge	72	2	He	414670	1.14	446346	92.90	70	120	
Ge	72	1	No Gas	1692065	0.68	1803284	93.83	70	120	

Calibration Standard Report

In	115	1	No Gas	1877226	3.38	1975978	95.00	70	120	
Bi	209	1	No Gas	1476165	1.23	1487950	99.21	70	120	

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICV
Data File Name	017_ICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\071723B.b
Acq Date Time	2023-07-17T19:50:34-05:00
Sample Type	ICV
Dilution	1
Comment	
ISTD Ref File Name	009CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	No Gas	95.363	1.512	1131784	1.02	100	95.4	90	110	
Be	9	1	No Gas	94.730	0.930	334585	0.23	100	94.7	90	110	
V	51	2	He	96.032	1.357	431050	0.43	100	96.0	90	110	
Cr	52	2	He	98.062	1.712	478411	0.42	100	98.1	90	110	
Fe	56	2	He	9660.698	0.391	40132911	1.29	10000	96.6	90	110	
Se	78	2	He	97.725	1.086	8860	1.95	100	97.7	90	110	
As	75	2	He	98.100	2.478	78409	1.24	100	98.1	90	110	
Ca	44	2	He	9683.409	2.058	376488	0.85	10000	96.8	90	110	
Na	23	2	He	9515.443	2.185	8346636	1.14	10000	95.2	90	110	
Mg	24	2	He	9639.146	1.447	5218478	0.48	10000	96.4	90	110	
K	39	2	He	9530.684	2.230	7952488	1.34	10000	95.3	90	110	
Mn	55	2	He	98.306	1.859	394464	0.79	100	98.3	90	110	
Co	59	2	He	93.710	0.957	604183	0.41	100	93.7	90	110	
Ni	60	2	He	98.748	0.988	148041	1.02	100	98.7	90	110	
Cu	63	2	He	98.105	0.641	367294	0.59	100	98.1	90	110	
Zn	66	2	He	98.428	0.969	87890	0.53	100	98.4	90	110	
Al	27	2	He	96.876	3.314	45240	2.04	100	96.9	90	110	
B	11	1	No Gas	476.043	0.668	909768	1.48	500	95.2	90	110	
Al	27	1	No Gas	96.973	3.011	1329855	2.32	100	97.0	90	110	
Si	28	1	No Gas	473.926	2.430	3718783	1.58	500	94.8	90	110	
Ag	107	1	No Gas	95.855	3.540	1304222	3.96	100	95.9	90	110	
Cd	111	1	No Gas	96.607	1.960	252619	0.19	100	96.6	90	110	
Sr	88	1	No Gas	96.089	2.437	2716881	0.99	100	96.1	90	110	
Mo	95	1	No Gas	94.078	2.652	492131	1.02	100	94.1	90	110	
Sn	118	1	No Gas	91.968	1.916	762808	0.49	100	92.0	90	110	
Sb	121	1	No Gas	96.285	0.283	1143126	0.57	100	96.3	90	110	
Ba	137	1	No Gas	96.385	1.096	429668	1.01	100	96.4	90	110	
Tl	205	1	No Gas	103.950	1.366	2065108	1.89	100	104.0	90	110	
Tl	203	1	No Gas	100.048	1.547	845241	0.64	100	100.0	90	110	
Pb	208	1	No Gas	95.134	1.972	2793722	1.73	100	95.1	90	110	
U	238	1	No Gas	97.290	2.842	2688943	1.30	100	97.3	90	110	
Ca	43	2	He	9515.429	1.797	22365	0.90	10000	95.2	90	110	
Sb	121	2	He	94.043	1.333	440133	0.28	100	94.0	90	110	
Ti	47	2	He	96.961	1.367	18960	2.34	100	97.0	90	110	
Cu	63	1	No Gas	96.680	0.169	937830	0.49	100	96.7	90	110	
Se	82	1	No Gas	101.193	1.876	19375	2.53	100	101.2	90	110	

QC ISTD Table

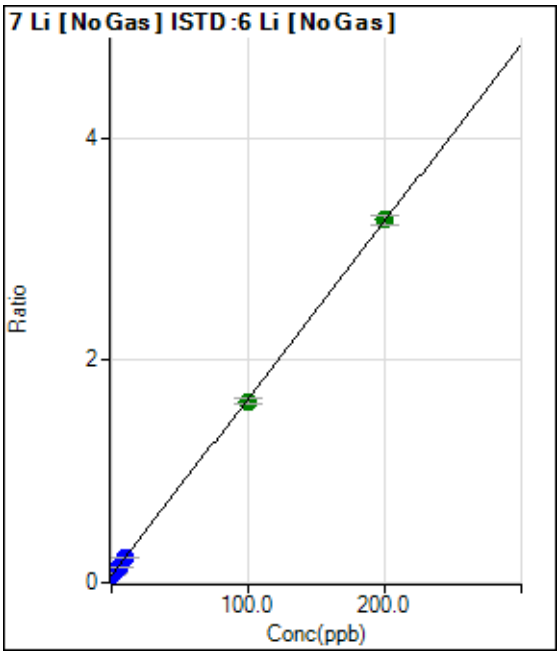
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	714544	1.15	766868	93.18	70	120	
Ge	72	2	He	446310	1.22	446346	99.99	70	120	
Ge	72	1	No Gas	1802835	0.66	1803284	99.98	70	120	
In	115	1	No Gas	2048384	2.09	1975978	103.66	70	120	
Bi	209	1	No Gas	1618099	1.54	1487950	108.75	70	120	

Calibration for 017_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\071723B.b\
Analysis File: 071723B.batch.bin
DA Date-Time: 7/17/2023 7:51:16 PM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	009CALB.d	CAL BLK	7/17/2023 7:34:24 PM
2	010CALS.d	2/10/200	7/17/2023 7:36:20 PM
3	011CALS.d	5/25/500	7/17/2023 7:38:41 PM
4	012CALS.d	10/50/100	7/17/2023 7:40:36 PM
5	013CALS.d	100/500/10K	7/17/2023 7:42:34 PM
6	014CALS.d	200/1000/20K	7/17/2023 7:44:25 PM

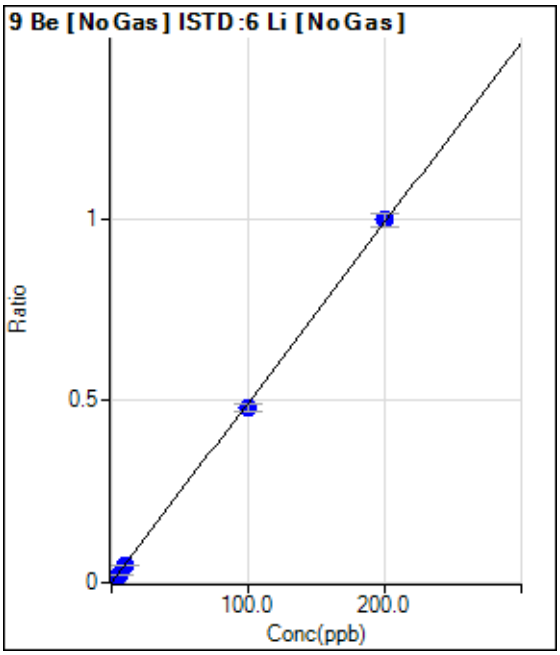
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	50192.38	0.0655	P	1.3
2	☐	2.000	1.825	73738.23	0.0945	P	0.5
3	☐	5.000	4.893	108373.19	0.1434	P	2.1
4	☐	10.000	9.522	163774.15	0.2171	P	0.5
5	☐	100.000	98.340	1167395.79	1.6314	A	2.9
6	☐	200.000	200.859	2158527.26	3.2640	A	3.0

y = 0.0159 * x + 0.0655
R = 1.0000
DL = 0.1601
BEC = 4.111

Weight: <None>
Min Conc: <None>

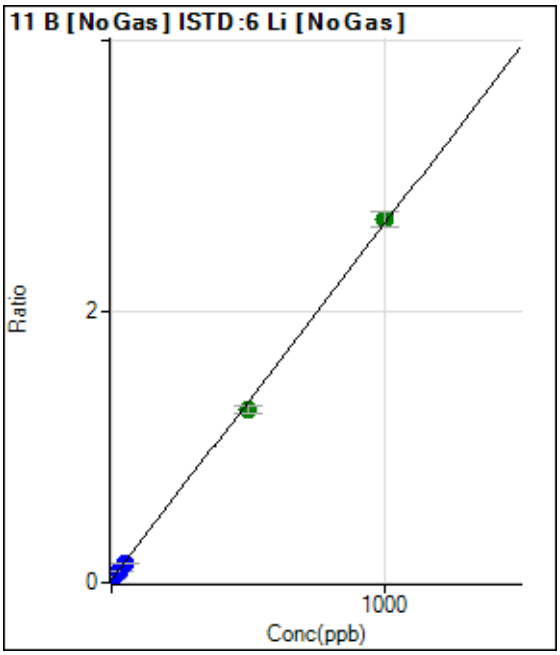


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	15.00	0.0000	P	54.8
2	☐	2.000	1.850	7148.53	0.0092	P	2.0
3	☐	5.000	4.737	17716.21	0.0234	P	1.1
4	☐	10.000	9.170	34211.60	0.0453	P	0.7
5	☐	100.000	96.999	343024.35	0.4795	P	3.7
6	☐	200.000	201.550	658784.24	0.9963	P	3.6

y = 0.0049 * x + 1.9378E-005
R = 0.9998
DL = 0.006444
BEC = 0.00392

Weight: <None>
Min Conc: <None>

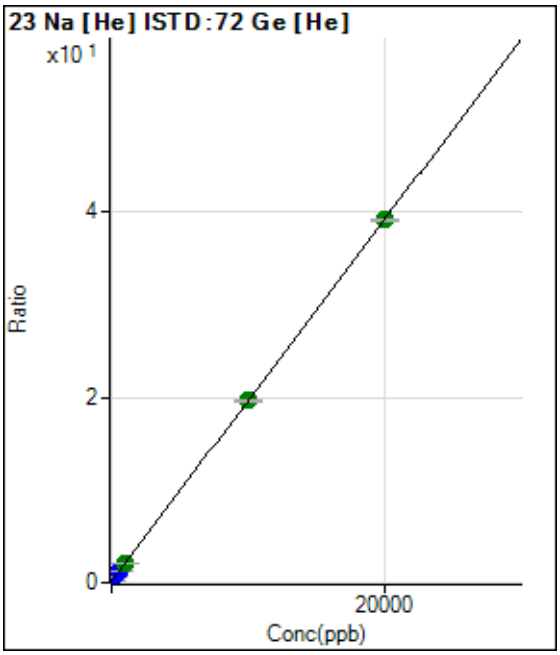
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	17392.50	0.0227	P	4.2
2	☐	10.000	7.715	33508.15	0.0430	P	2.8
3	☐	25.000	22.287	61390.01	0.0812	P	3.0
4	☐	50.000	43.905	104122.28	0.1380	P	1.1
5	☐	500.000	478.616	915560.14	1.2800	A	4.3
6	☐	1000.000	1011.087	1770925.23	2.6787	A	4.4

y = 0.0026 * x + 0.0227
R = 0.9997
DL = 1.091
BEC = 8.64

Weight: <None>
Min Conc: <None>

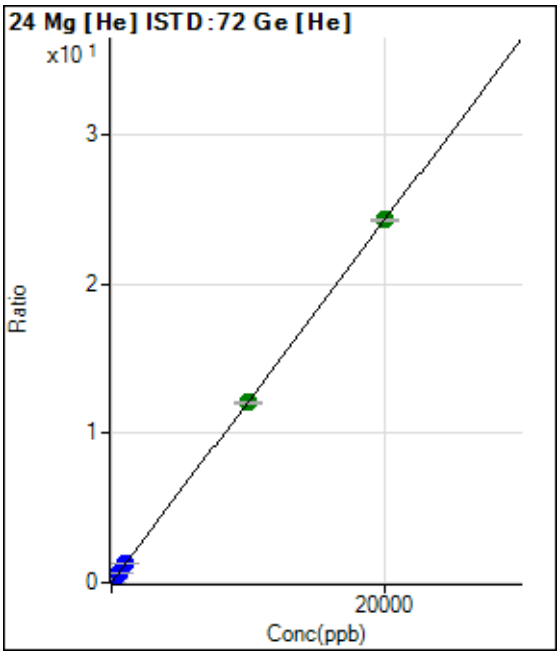


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	62727.55	0.1405	P	2.0
2	☐	200.000	219.806	250779.20	0.5694	P	1.0
3	☐	500.000	564.213	534350.93	1.2413	P	0.1
4	☐	1000.000	1018.930	925515.01	2.1284	A	1.5
5	☐	10000.000	10006.337	8457448.62	19.6622	A	0.8
6	☐	20000.000	19994.082	16232418.51	39.1476	A	0.7

y = 0.0020 * x + 0.1405
R = 1.0000
DL = 4.407
BEC = 72.03

Weight: <None>
Min Conc: <None>

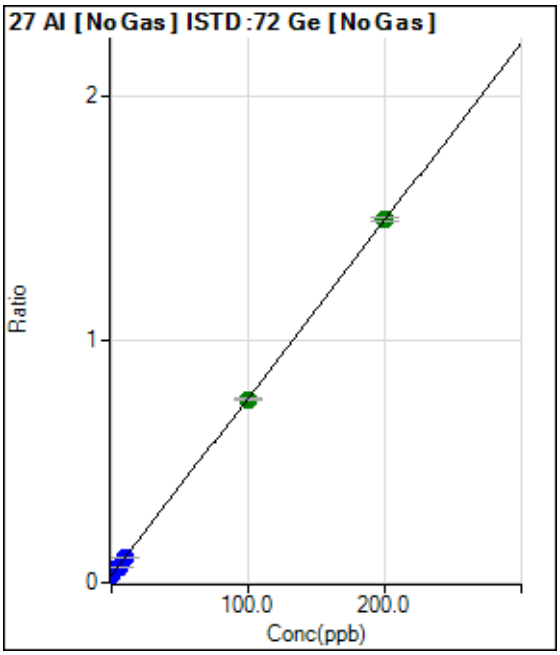
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1570.12	0.0035	P	8.6
2	☐	200.000	221.949	120097.16	0.2727	P	2.7
3	☐	500.000	565.225	296619.90	0.6890	P	0.6
4	☐	1000.000	1082.689	572471.93	1.3166	P	0.9
5	☐	10000.000	9936.143	5184956.38	12.0540	A	1.2
6	☐	20000.000	20025.944	10072482.98	24.2909	A	0.7

y = 0.0012 * x + 0.0035
R = 1.0000
DL = 0.7515
BEC = 2.899

Weight: <None>
Min Conc: <None>

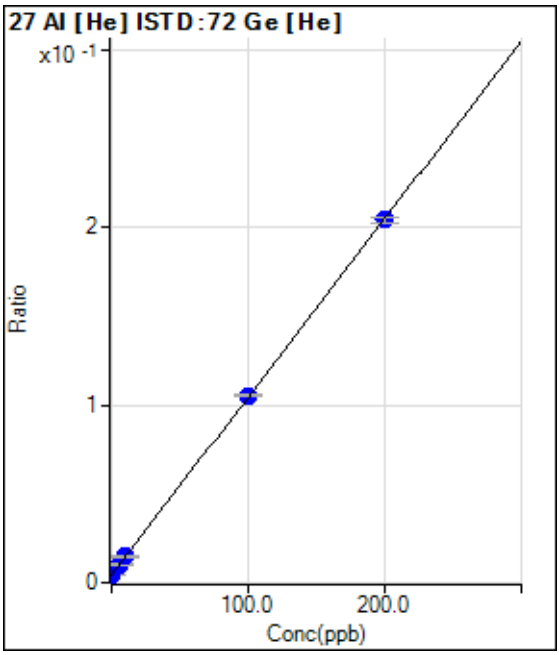


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	53867.61	0.0299	P	2.9
2	☐	2.000	3.158	96110.45	0.0529	P	1.3
3	☐	5.000	4.970	118575.23	0.0662	P	1.5
4	☐	10.000	10.020	185759.85	0.1030	P	2.5
5	☐	100.000	99.266	1348268.52	0.7545	A	1.3
6	☐	200.000	200.355	2525165.22	1.4923	A	1.0

y = 0.0073 * x + 0.0299
R = 1.0000
DL = 0.3569
BEC = 4.095

Weight: <None>
Min Conc: <None>

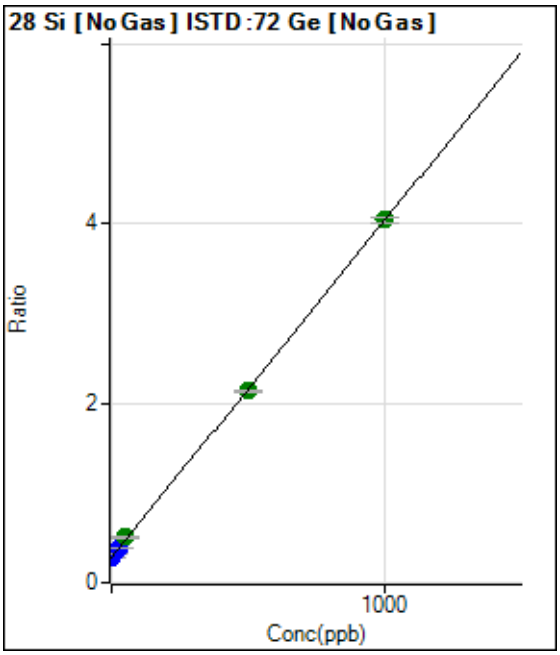
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1936.84	0.0043	P	2.7
2	☐	2.000	3.757	3567.32	0.0081	P	9.1
3	☐	5.000	5.809	4374.10	0.0102	P	6.9
4	☐	10.000	10.455	6441.60	0.0148	P	5.8
5	☐	100.000	100.819	45310.74	0.1053	P	0.9
6	☐	200.000	199.530	84679.89	0.2042	P	1.3

y = 0.0010 * x + 0.0043
R = 1.0000
DL = 0.3455
BEC = 4.332

Weight: <None>
Min Conc: <None>

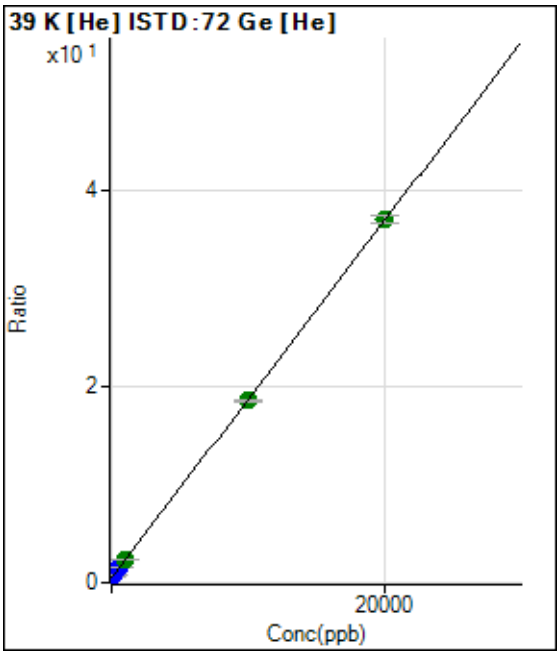


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	510427.12	0.2833	P	3.3
2	☐	10.000	8.247	570471.15	0.3142	P	2.0
3	☐	25.000	27.603	693338.24	0.3869	P	0.5
4	☐	50.000	58.861	909395.07	0.5043	A	1.7
5	☐	500.000	495.074	3828324.00	2.1423	A	1.0
6	☐	1000.000	1001.972	6845275.11	4.0458	A	1.4

y = 0.0038 * x + 0.2833
R = 0.9999
DL = 7.417
BEC = 75.43

Weight: <None>
Min Conc: <None>

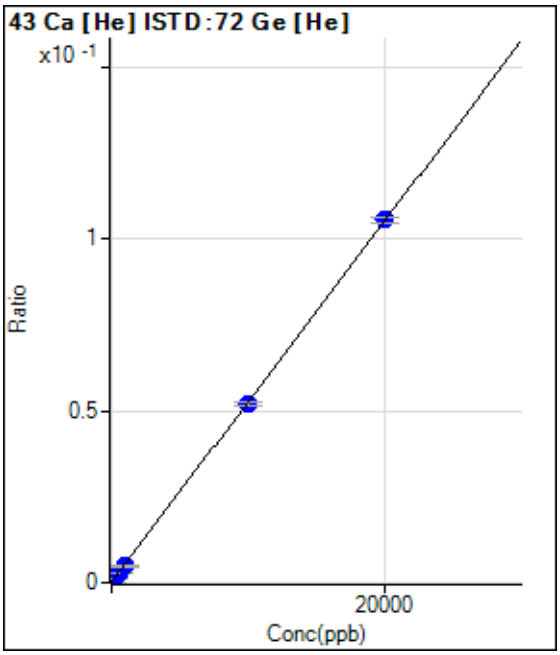
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	219683.66	0.4922	P	1.0
2	☐	200.000	206.936	382503.83	0.8684	P	1.3
3	☐	500.000	543.484	637288.02	1.4803	P	0.8
4	☐	1000.000	1006.096	1009423.76	2.3215	A	1.2
5	☐	10000.000	9910.914	7962783.84	18.5123	A	1.0
6	☐	20000.000	20043.082	15313329.35	36.9346	A	2.2

y = 0.0018 * x + 0.4922
R = 1.0000
DL = 8.43
BEC = 270.7

Weight: <None>
Min Conc: <None>

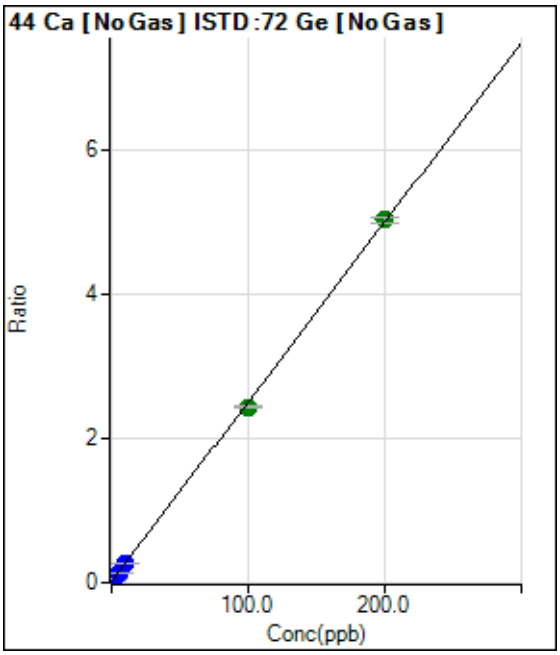


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	93.33	0.0002	P	5.8
2	☐	200.000	173.664	493.35	0.0011	P	10.1
3	☐	500.000	484.207	1183.41	0.0027	P	6.9
4	☐	1000.000	883.623	2106.87	0.0048	P	12.3
5	☐	10000.000	9875.666	22375.14	0.0520	P	2.2
6	☐	20000.000	20068.644	43729.71	0.1055	P	1.7

y = 5.2450E-006 * x + 2.0908E-004
R = 1.0000
DL = 6.917
BEC = 39.86

Weight: <None>
Min Conc: <None>

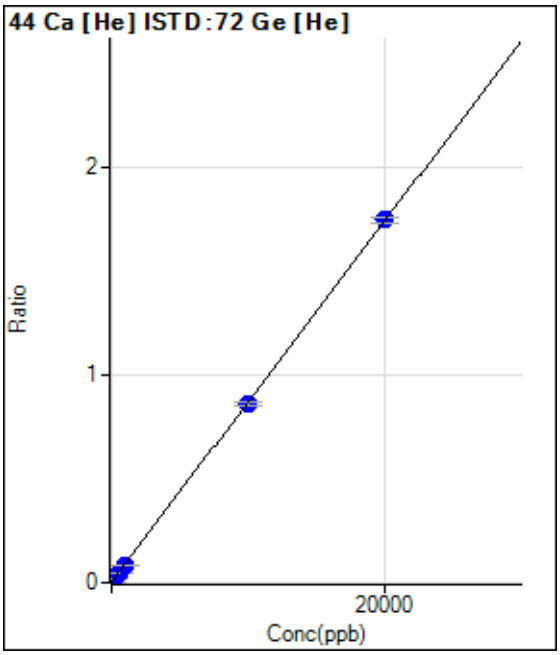
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	28079.12	0.0156	P	2.7
2	☐	2.000	2.002	118624.18	0.0653	P	0.8
3	☐	5.000	5.186	258881.99	0.1445	P	0.7
4	☐	10.000	10.146	482769.86	0.2678	P	2.5
5	☐	100.000	97.218	4345767.64	2.4318	A	1.2
6	☐	200.000	201.379	8494708.62	5.0206	A	1.3

y = 0.0249 * x + 0.0156
R = 0.9999
DL = 0.05106
BEC = 0.6269

Weight: <None>
Min Conc: <None>

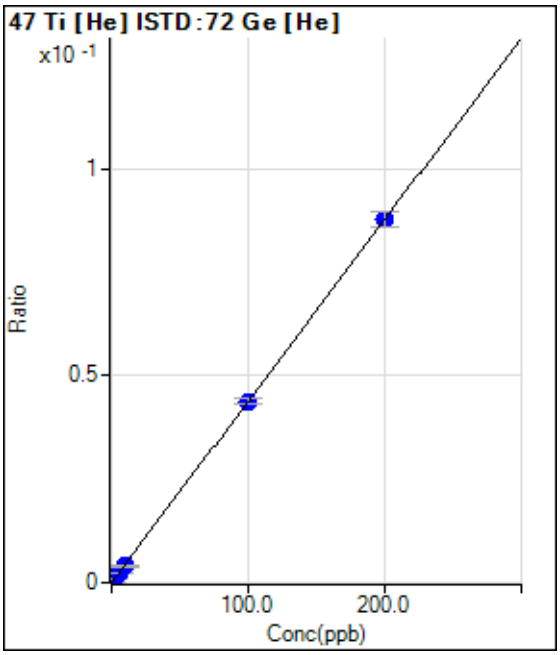


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1196.74	0.0027	P	7.2
2	☐	200.000	185.093	8259.30	0.0188	P	6.0
3	☐	500.000	520.511	20615.82	0.0479	P	1.5
4	☐	1000.000	962.207	37504.70	0.0862	P	1.8
5	☐	10000.000	9846.435	368971.37	0.8579	P	2.1
6	☐	20000.000	20078.309	724179.02	1.7465	P	1.3

y = 8.6851E-005 * x + 0.0027
R = 1.0000
DL = 6.634
BEC = 30.87

Weight: <None>
Min Conc: <None>

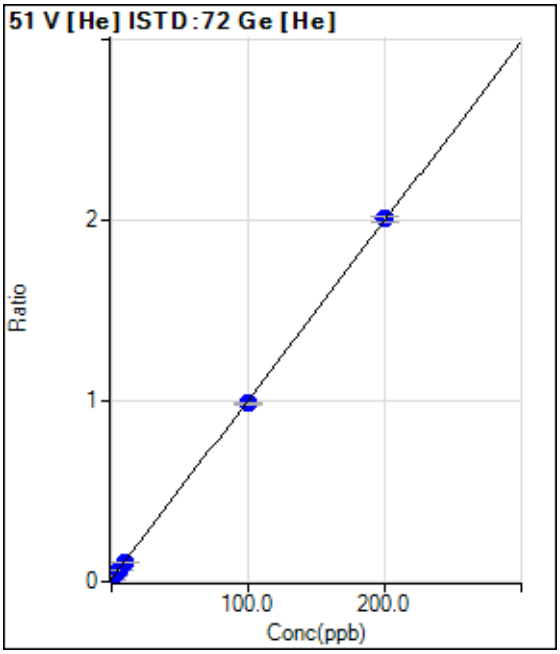
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	13.33	0.0000	P	42.8
2	☐	2.000	1.954	390.01	0.0009	P	29.7
3	☐	5.000	4.937	943.38	0.0022	P	5.2
4	☐	10.000	9.285	1780.15	0.0041	P	11.6
5	☐	100.000	100.091	18856.53	0.0438	P	2.5
6	☐	200.000	199.992	36308.34	0.0876	P	4.1

y = 4.3780E-004 * x + 2.9837E-005
R = 1.0000
DL = 0.08757
BEC = 0.06815

Weight: <None>
Min Conc: <None>

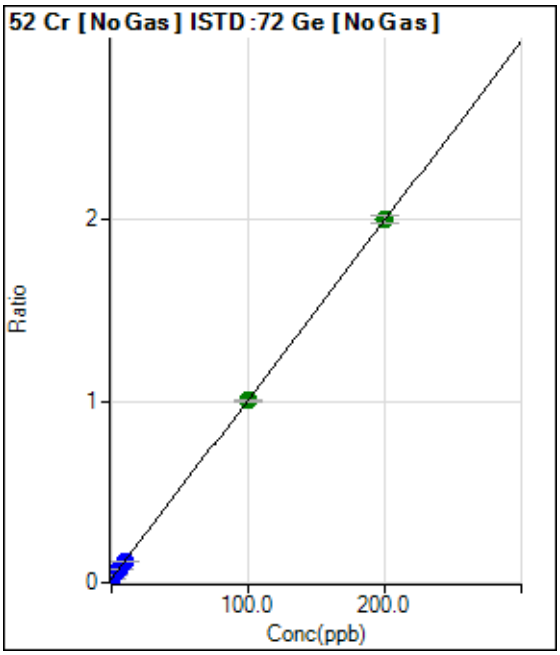


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	6109.18	0.0137	P	2.7
2	☐	2.000	1.901	14330.84	0.0325	P	1.2
3	☐	5.000	4.979	27143.53	0.0631	P	0.9
4	☐	10.000	9.604	47355.85	0.1089	P	1.8
5	☐	100.000	97.905	423422.32	0.9845	P	1.5
6	☐	200.000	201.069	832354.78	2.0074	P	1.4

y = 0.0099 * x + 0.0137
R = 0.9999
DL = 0.1109
BEC = 1.38

Weight: <None>
Min Conc: <None>

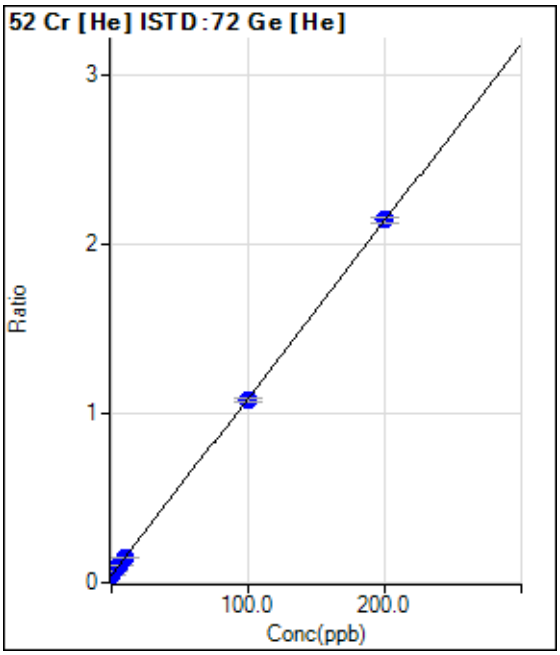
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	37839.25	0.0210	P	3.6
2	☐	2.000	2.435	81786.52	0.0450	P	0.5
3	☐	5.000	4.956	125350.05	0.0700	P	0.8
4	☐	10.000	9.542	207780.27	0.1152	P	2.3
5	☐	100.000	99.345	1790831.59	1.0021	A	0.9
6	☐	200.000	200.347	3383395.68	1.9996	A	2.1

y = 0.0099 * x + 0.0210
R = 1.0000
DL = 0.2324
BEC = 2.126

Weight: <None>
Min Conc: <None>

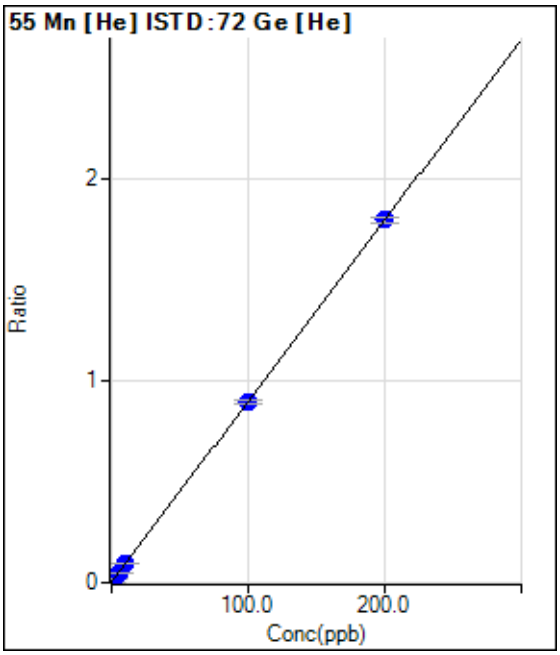


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	19707.85	0.0442	P	2.7
2	☐	2.000	2.494	30965.37	0.0703	P	3.2
3	☐	5.000	5.280	42833.88	0.0995	P	0.9
4	☐	10.000	9.833	64016.06	0.1472	P	1.0
5	☐	100.000	98.750	464187.12	1.0793	P	2.3
6	☐	200.000	200.621	890247.77	2.1471	P	1.5

y = 0.0105 * x + 0.0442
R = 1.0000
DL = 0.3474
BEC = 4.212

Weight: <None>
Min Conc: <None>

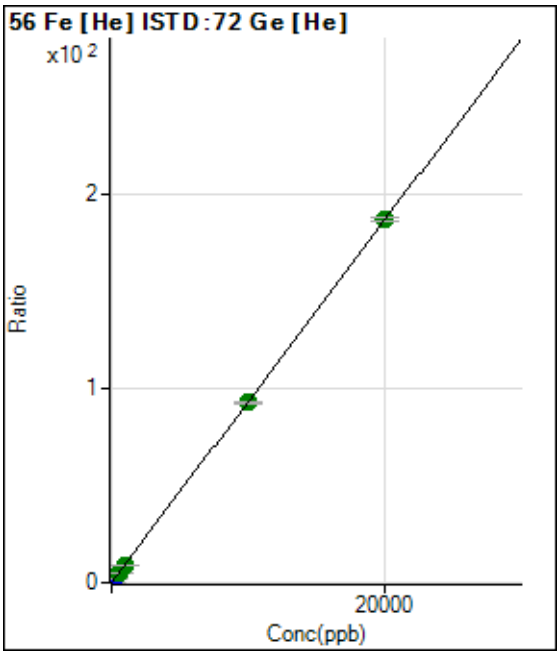
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1256.75	0.0028	P	8.9
2	☐	2.000	1.861	8586.16	0.0195	P	0.3
3	☐	5.000	5.078	20806.19	0.0483	P	3.4
4	☐	10.000	9.957	40032.29	0.0921	P	0.8
5	☐	100.000	99.340	384130.22	0.8932	P	2.4
6	☐	200.000	200.331	745683.50	1.7985	P	1.5

y = 0.0090 * x + 0.0028
R = 1.0000
DL = 0.08352
BEC = 0.3141

Weight: <None>
Min Conc: <None>

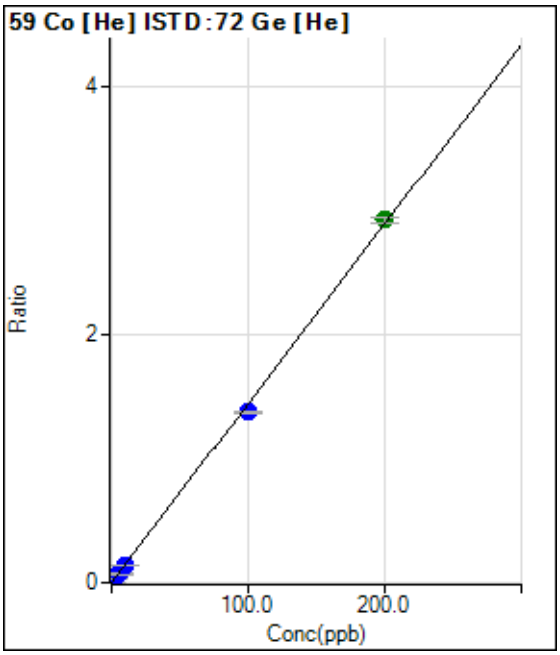


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	29559.02	0.0662	P	2.2
2	☐	200.000	207.675	879994.78	1.9978	P	0.5
3	☐	500.000	524.863	2130251.69	4.9480	A	2.9
4	☐	1000.000	994.465	4050769.11	9.3159	A	0.3
5	☐	10000.000	9943.052	39807801.07	92.5479	A	1.0
6	☐	20000.000	20028.053	77268367.18	186.3498	A	1.0

y = 0.0093 * x + 0.0662
R = 1.0000
DL = 0.4674
BEC = 7.12

Weight: <None>
Min Conc: <None>

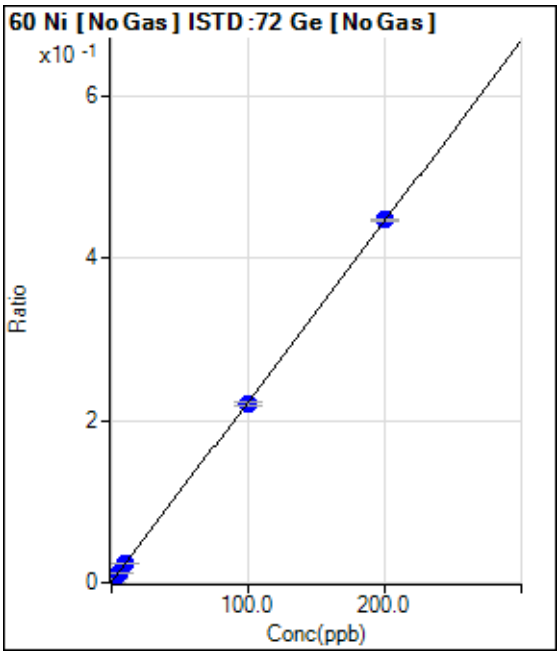
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	136.67	0.0003	P	9.2
2	☐	2.000	1.955	12569.37	0.0285	P	2.5
3	☐	5.000	4.825	30133.63	0.0700	P	2.0
4	☐	10.000	9.295	58509.13	0.1346	P	1.4
5	☐	100.000	95.195	591514.61	1.3753	P	1.3
6	☐	200.000	202.443	1212472.64	2.9243	A	1.7

y = 0.0144 * x + 3.0633E-004
R = 0.9996
DL = 0.005875
BEC = 0.02121

Weight: <None>
Min Conc: <None>

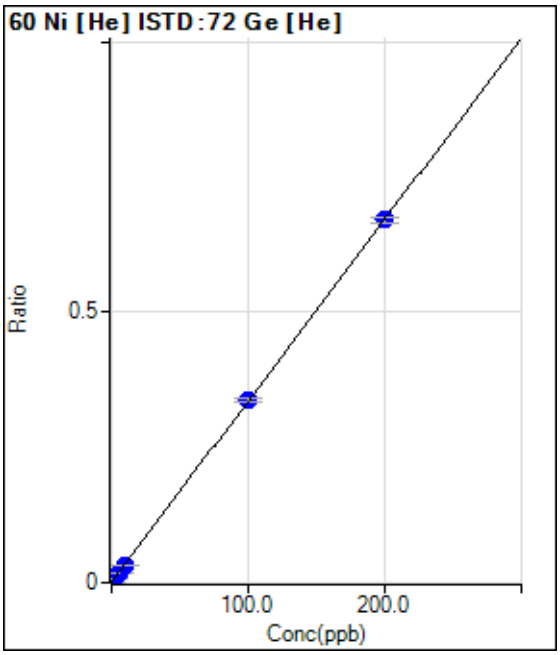


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1146.74	0.0006	P	7.6
2	☐	2.000	2.048	9423.42	0.0052	P	4.6
3	☐	5.000	4.991	21039.81	0.0117	P	1.3
4	☐	10.000	10.036	41406.62	0.0230	P	3.0
5	☐	100.000	98.590	393172.19	0.2200	P	1.6
6	☐	200.000	200.703	756719.57	0.4472	P	0.3

y = 0.0022 * x + 6.3520E-004
R = 1.0000
DL = 0.06467
BEC = 0.2855

Weight: <None>
Min Conc: <None>

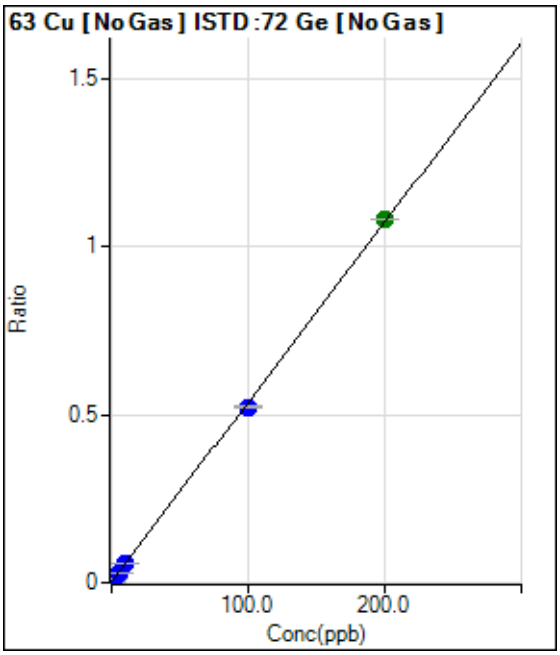
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	340.01	0.0008	P	11.4
2	☐	2.000	1.947	3210.44	0.0073	P	6.1
3	☐	5.000	5.191	7819.07	0.0182	P	3.7
4	☐	10.000	9.756	14548.00	0.0335	P	1.7
5	☐	100.000	100.182	144735.79	0.3365	P	1.9
6	☐	200.000	199.917	278120.36	0.6708	P	1.7

y = 0.0034 * x + 7.6219E-004
R = 1.0000
DL = 0.07759
BEC = 0.2274

Weight: <None>
Min Conc: <None>

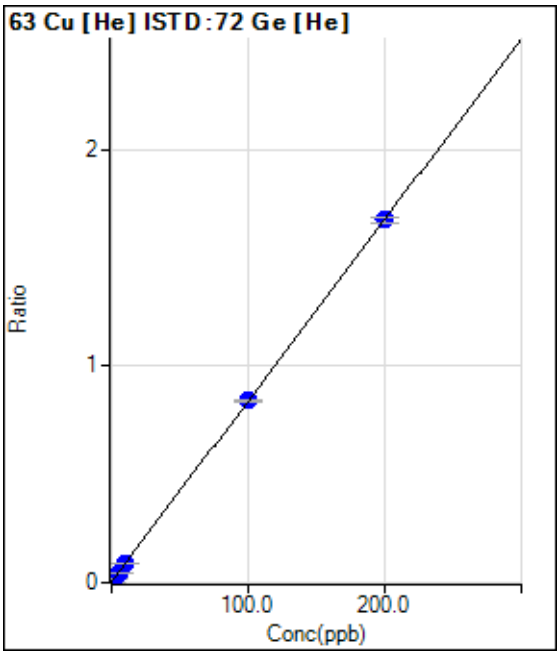


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	5227.75	0.0029	P	3.0
2	☐	2.000	2.031	25000.00	0.0138	P	0.8
3	☐	5.000	5.142	54502.85	0.0304	P	1.3
4	☐	10.000	10.254	104146.34	0.0578	P	2.9
5	☐	100.000	97.040	933050.27	0.5221	P	1.1
6	☐	200.000	201.464	1828880.34	1.0809	A	0.1

y = 0.0054 * x + 0.0029
R = 0.9998
DL = 0.04858
BEC = 0.5422

Weight: <None>
Min Conc: <None>

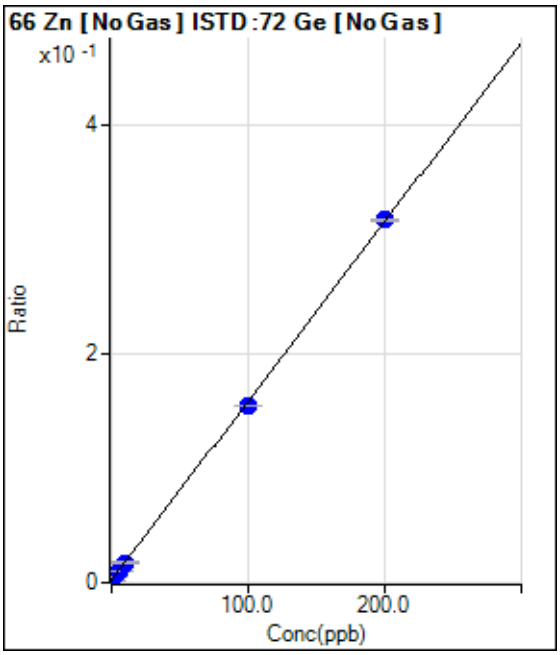
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1773.49	0.0040	P	5.8
2	☐	2.000	1.959	8953.10	0.0203	P	3.7
3	☐	5.000	5.281	20689.31	0.0481	P	2.9
4	☐	10.000	10.479	39768.45	0.0915	P	0.5
5	☐	100.000	100.005	360786.39	0.8389	P	1.6
6	☐	200.000	199.967	693832.44	1.6734	P	1.4

y = 0.0083 * x + 0.0040
R = 1.0000
DL = 0.08244
BEC = 0.476

Weight: <None>
Min Conc: <None>

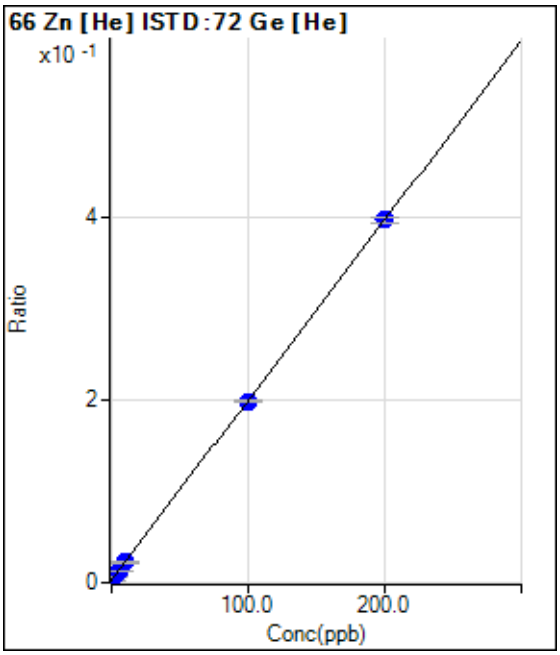


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3880.63	0.0022	P	3.5
2	☐	2.000	2.042	9707.00	0.0053	P	1.6
3	☐	5.000	4.964	17768.66	0.0099	P	1.2
4	☐	10.000	9.827	31573.64	0.0175	P	5.4
5	☐	100.000	97.699	276845.36	0.1549	P	0.4
6	☐	200.000	201.160	535850.30	0.3167	P	0.9

y = 0.0016 * x + 0.0022
R = 0.9999
DL = 0.1464
BEC = 1.377

Weight: <None>
Min Conc: <None>

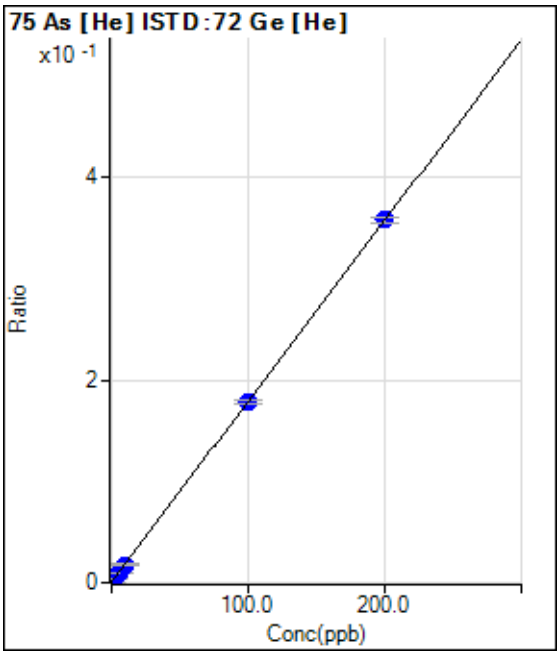
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1323.42	0.0030	P	9.7
2	☐	2.000	2.015	3053.74	0.0069	P	7.1
3	☐	5.000	5.114	5614.59	0.0130	P	2.3
4	☐	10.000	9.931	9800.39	0.0225	P	4.1
5	☐	100.000	99.510	85616.12	0.1991	P	1.9
6	☐	200.000	200.245	164871.80	0.3976	P	1.6

y = 0.0020 * x + 0.0030
R = 1.0000
DL = 0.4393
BEC = 1.504

Weight: <None>
Min Conc: <None>

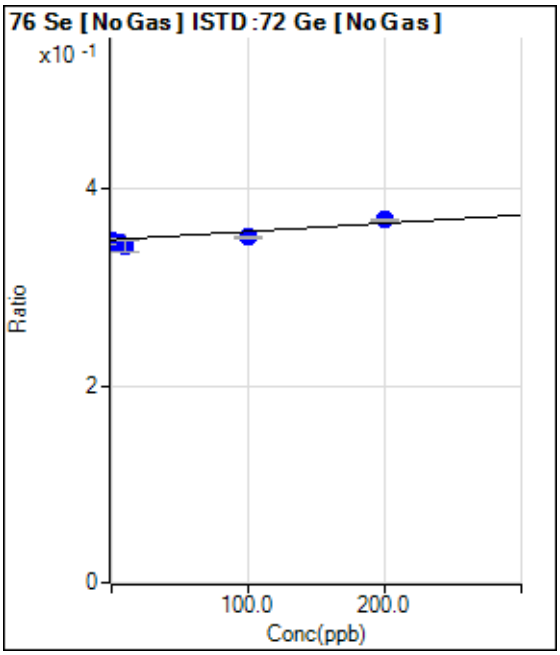


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	321.12	0.0007	P	12.1
2	☐	2.000	1.963	1859.03	0.0042	P	2.2
3	☐	5.000	5.094	4221.79	0.0098	P	2.9
4	☐	10.000	9.567	7734.48	0.0178	P	3.4
5	☐	100.000	99.193	76411.53	0.1777	P	2.3
6	☐	200.000	200.423	148541.54	0.3583	P	1.3

y = 0.0018 * x + 7.1979E-004
R = 1.0000
DL = 0.146
BEC = 0.4035

Weight: <None>
Min Conc: <None>

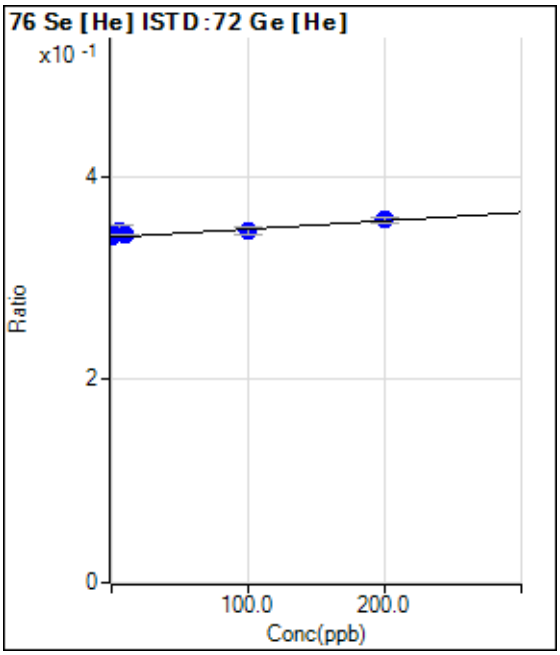
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	627758.42	0.3483	P	2.7
2	☐	2.000	-38.026	626605.83	0.3451	P	0.4
3	☐	5.000	-23.102	620707.27	0.3464	P	1.7
4	☐	10.000	-72.570	616939.63	0.3422	P	3.2
5	☐	100.000	32.161	627324.13	0.3510	P	0.8
6	☐	200.000	239.151	623487.09	0.3685	P	0.5

y = 8.4261E-005 * x + 0.3483
R = 0.9397
DL = 340.5
BEC = 4134

Weight: <None>
Min Conc: <None>

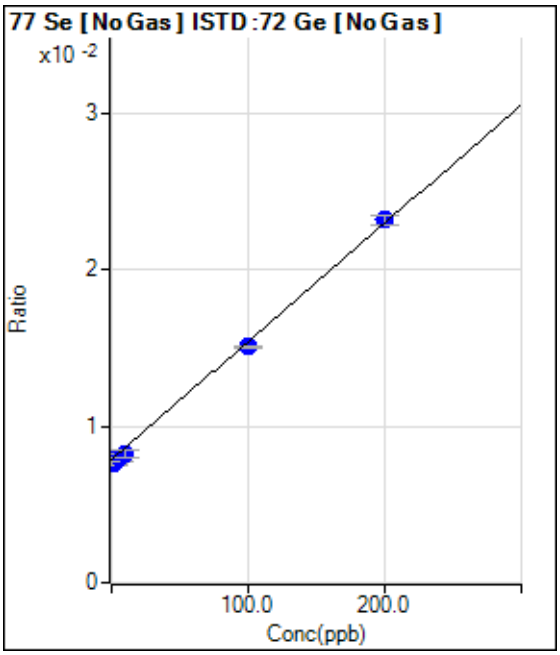


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	151800.22	0.3401	P	0.9
2	☐	2.000	31.760	150960.29	0.3427	P	0.8
3	☐	5.000	74.349	149026.86	0.3462	P	3.3
4	☐	10.000	23.496	148726.48	0.3420	P	0.2
5	☐	100.000	74.961	148911.54	0.3463	P	2.2
6	☐	200.000	209.813	148162.95	0.3573	P	1.5

y = 8.2118E-005 * x + 0.3401
R = 0.9218
DL = 112.8
BEC = 4142

Weight: <None>
Min Conc: <None>

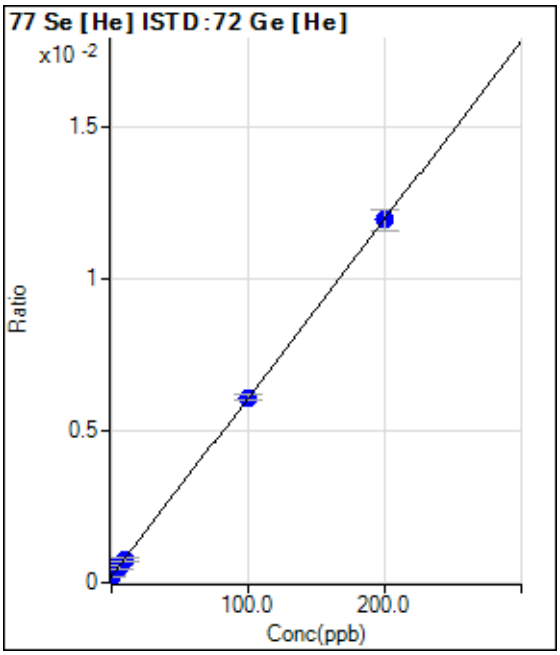
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	14164.36	0.0079	P	7.9
2	☐	2.000	-4.244	13703.82	0.0075	P	2.6
3	☐	5.000	1.727	14334.59	0.0080	P	5.2
4	☐	10.000	4.283	14758.39	0.0082	P	6.5
5	☐	100.000	95.615	26953.95	0.0151	P	0.9
6	☐	200.000	202.622	39177.04	0.0232	P	2.6

y = 7.5447E-005 * x + 0.0079
R = 0.9995
DL = 24.87
BEC = 104.3

Weight: <None>
Min Conc: <None>

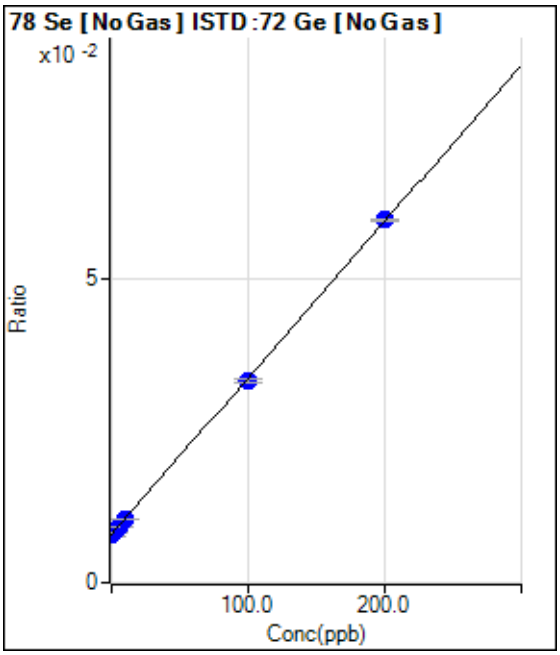


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	93.33	0.0002	P	35.3
2	☐	2.000	5.218	226.67	0.0005	P	30.1
3	☐	5.000	5.142	220.00	0.0005	P	24.1
4	☐	10.000	9.754	340.01	0.0008	P	15.1
5	☐	100.000	100.404	2623.64	0.0061	P	3.7
6	☐	200.000	199.774	4947.69	0.0119	P	5.7

y = 5.8660E-005 * x + 2.0947E-004
R = 0.9999
DL = 3.778
BEC = 3.571

Weight: <None>
Min Conc: <None>

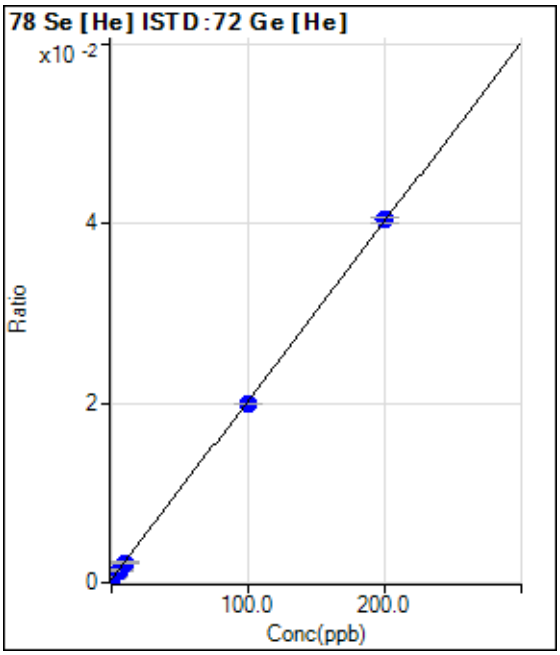
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	14381.26	0.0080	P	7.0
2	☐	2.000	1.489	15195.43	0.0084	P	5.2
3	☐	5.000	4.693	16473.61	0.0092	P	0.1
4	☐	10.000	9.145	18646.45	0.0103	P	0.4
5	☐	100.000	98.213	59387.66	0.0332	P	1.7
6	☐	200.000	200.949	100919.66	0.0596	P	0.7

y = 2.5705E-004 * x + 0.0080
R = 0.9999
DL = 6.491
BEC = 31.07

Weight: <None>
Min Conc: <None>

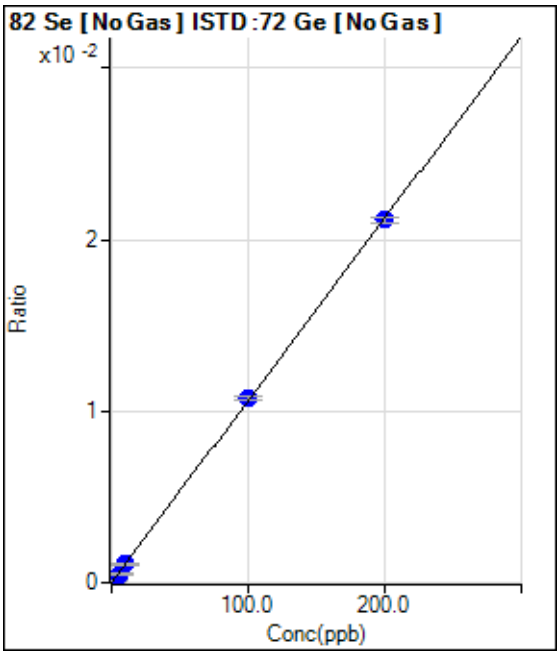


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	164.67	0.0004	P	5.7
2	☐	2.000	2.000	338.01	0.0008	P	8.8
3	☐	5.000	5.064	593.35	0.0014	P	2.7
4	☐	10.000	9.364	972.04	0.0022	P	1.5
5	☐	100.000	98.207	8580.08	0.0199	P	0.4
6	☐	200.000	200.927	16761.75	0.0404	P	1.8

y = 1.9935E-004 * x + 3.6886E-004
R = 0.9999
DL = 0.319
BEC = 1.85

Weight: <None>
Min Conc: <None>

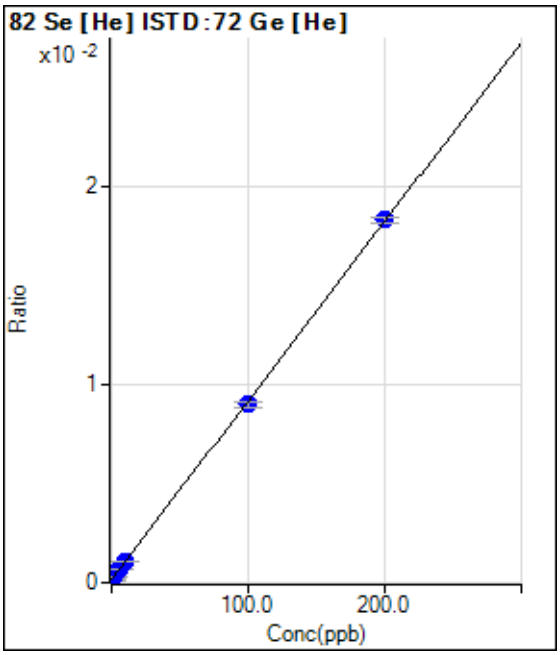
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	14.00	0.0000	P	215.9
2	☐	2.000	1.558	313.78	0.0002	P	40.5
3	☐	5.000	4.487	867.10	0.0005	P	14.8
4	☐	10.000	10.150	1953.71	0.0011	P	9.2
5	☐	100.000	101.505	19262.14	0.0108	P	2.1
6	☐	200.000	199.257	35789.39	0.0212	P	1.7

y = 1.0612E-004 * x + 7.7111E-006
R = 1.0000
DL = 0.4707
BEC = 0.07266

Weight: <None>
Min Conc: <None>

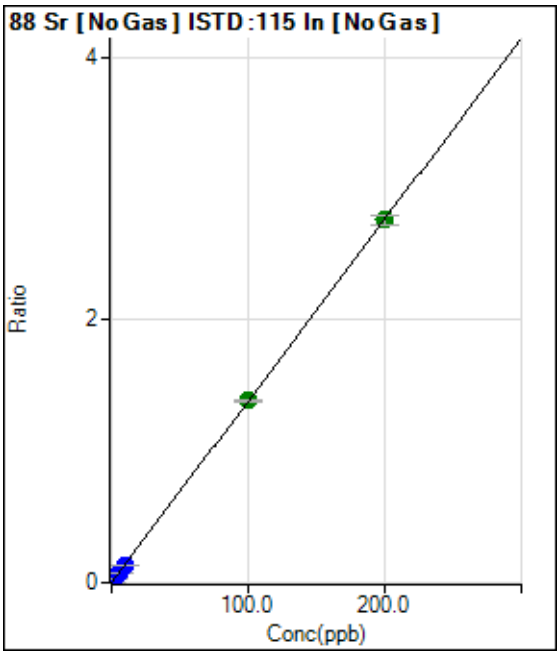


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	66.67	0.0001	P	18.1
2	☐	2.000	1.447	123.33	0.0003	P	26.4
3	☐	5.000	5.803	290.01	0.0007	P	12.1
4	☐	10.000	10.316	470.02	0.0011	P	3.5
5	☐	100.000	97.840	3863.96	0.0090	P	3.4
6	☐	200.000	201.050	7588.94	0.0183	P	1.3

y = 9.0291E-005 * x + 1.4950E-004
R = 0.9999
DL = 0.9006
BEC = 1.656

Weight: <None>
Min Conc: <None>

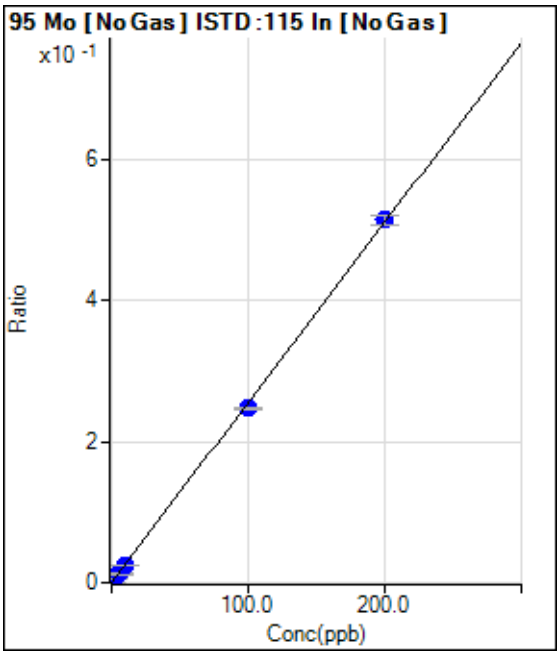
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2223.56	0.0011	P	7.7
2	☐	2.000	1.938	56254.85	0.0279	P	0.1
3	☐	5.000	4.814	134681.99	0.0675	P	0.8
4	☐	10.000	9.560	265384.35	0.1330	P	0.6
5	☐	100.000	100.202	2704315.79	1.3835	A	1.4
6	☐	200.000	199.926	5176610.86	2.7593	A	2.8

y = 0.0138 * x + 0.0011
R = 1.0000
DL = 0.01878
BEC = 0.08153

Weight: <None>
Min Conc: <None>

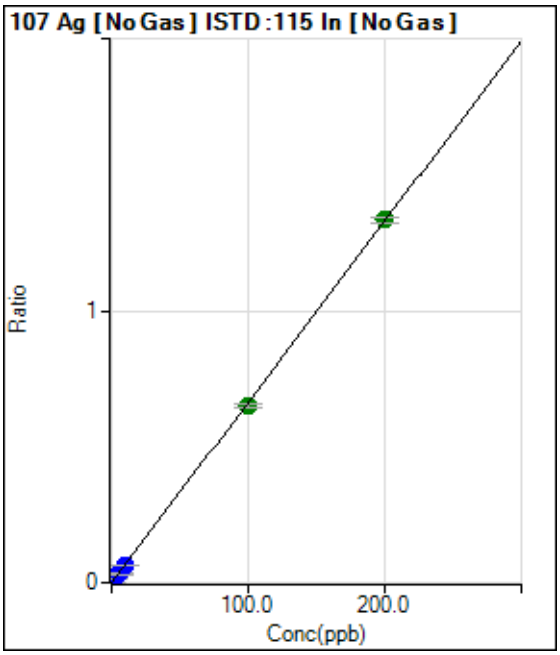


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	840.04	0.0004	P	12.3
2	☐	2.000	1.883	10551.02	0.0052	P	3.1
3	☐	5.000	4.721	24846.78	0.0125	P	3.3
4	☐	10.000	9.381	48578.59	0.0243	P	1.3
5	☐	100.000	96.985	484213.81	0.2478	P	0.9
6	☐	200.000	201.547	965057.54	0.5144	P	2.7

y = 0.0026 * x + 4.2516E-004
R = 0.9998
DL = 0.06171
BEC = 0.1667

Weight: <None>
Min Conc: <None>

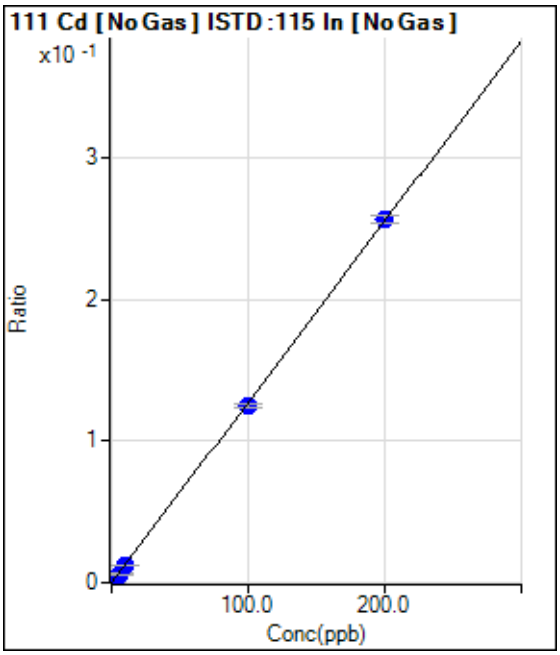
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	150.00	0.0001	P	21.8
2	☐	2.000	1.911	25785.28	0.0128	P	3.0
3	☐	5.000	4.794	63626.14	0.0319	P	2.0
4	☐	10.000	9.417	124945.84	0.0626	P	0.4
5	☐	100.000	98.258	1275499.33	0.6527	A	2.3
6	☐	200.000	200.906	2504039.08	1.3345	A	1.9

y = 0.0066 * x + 7.5708E-005
R = 0.9999
DL = 0.007448
BEC = 0.0114

Weight: <None>
Min Conc: <None>

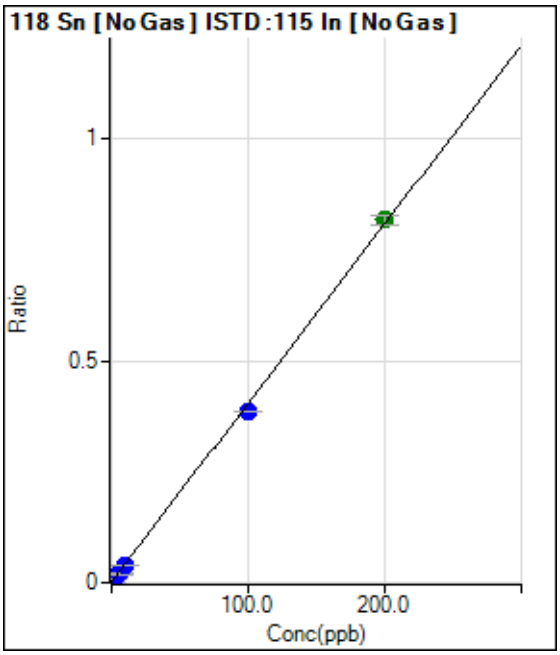


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	-4.06	0.0000	P	-144.7
2	☐	2.000	1.958	5041.34	0.0025	P	6.5
3	☐	5.000	4.758	12106.40	0.0061	P	5.4
4	☐	10.000	9.548	24319.78	0.0122	P	2.1
5	☐	100.000	98.113	244850.22	0.1253	P	1.5
6	☐	200.000	200.973	481511.53	0.2566	P	2.3

y = 0.0013 * x - 2.1026E-006
R = 0.9999
DL = 0.007145
BEC = -0.001647

Weight: <None>
Min Conc: <None>

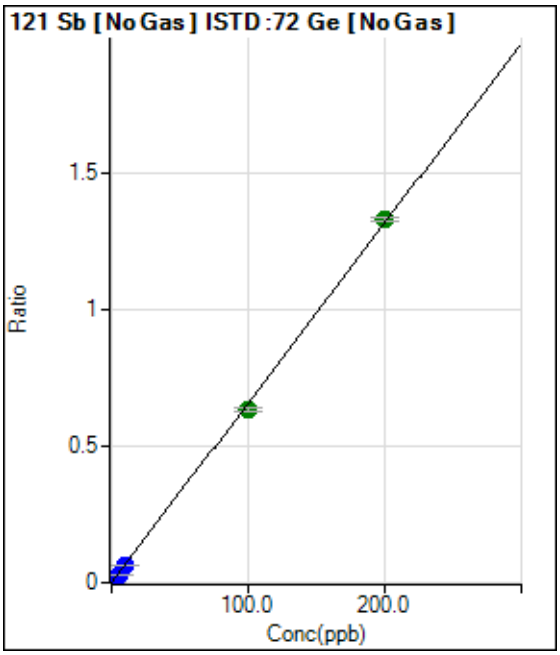
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2633.66	0.0013	P	10.1
2	☐	2.000	1.689	16457.18	0.0082	P	2.1
3	☐	5.000	4.586	39549.74	0.0198	P	3.5
4	☐	10.000	9.103	75959.38	0.0381	P	1.6
5	☐	100.000	95.271	754084.65	0.3858	P	0.6
6	☐	200.000	202.423	1535319.72	0.8183	A	2.3

y = 0.0040 * x + 0.0013
R = 0.9996
DL = 0.09988
BEC = 0.3308

Weight: <None>
Min Conc: <None>

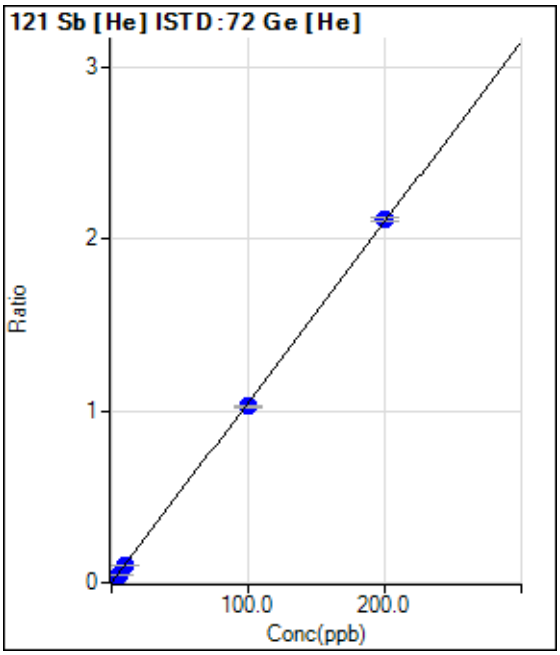


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	310.01	0.0002	P	4.0
2	☐	2.000	1.872	22689.94	0.0125	P	0.6
3	☐	5.000	4.646	55115.84	0.0308	P	1.0
4	☐	10.000	9.259	110226.78	0.0611	P	2.1
5	☐	100.000	96.367	1134111.44	0.6346	A	1.6
6	☐	200.000	201.864	2249047.36	1.3292	A	1.0

y = 0.0066 * x + 1.7183E-004
R = 0.9998
DL = 0.003144
BEC = 0.0261

Weight: <None>
Min Conc: <None>

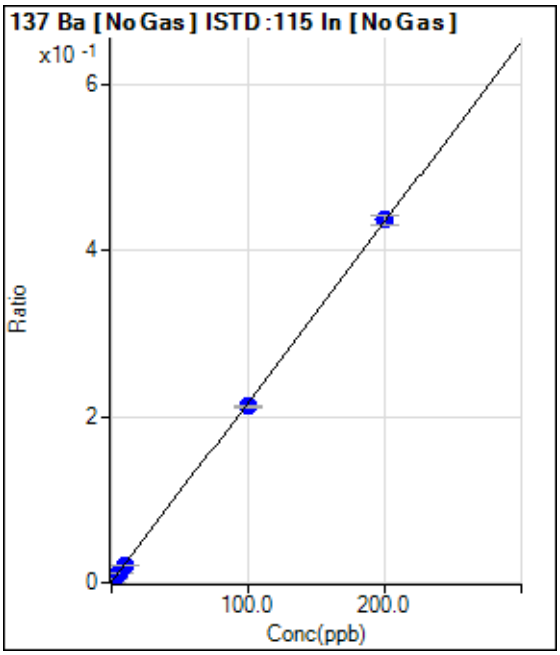
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	103.33	0.0002	P	38.6
2	☐	2.000	1.886	8813.14	0.0200	P	1.9
3	☐	5.000	4.696	21297.61	0.0495	P	0.8
4	☐	10.000	9.346	42709.97	0.0982	P	0.4
5	☐	100.000	97.687	440644.48	1.0245	P	1.2
6	☐	200.000	201.198	874784.47	2.1098	P	1.1

y = 0.0105 * x + 2.3127E-004
R = 0.9999
DL = 0.02557
BEC = 0.02206

Weight: <None>
Min Conc: <None>

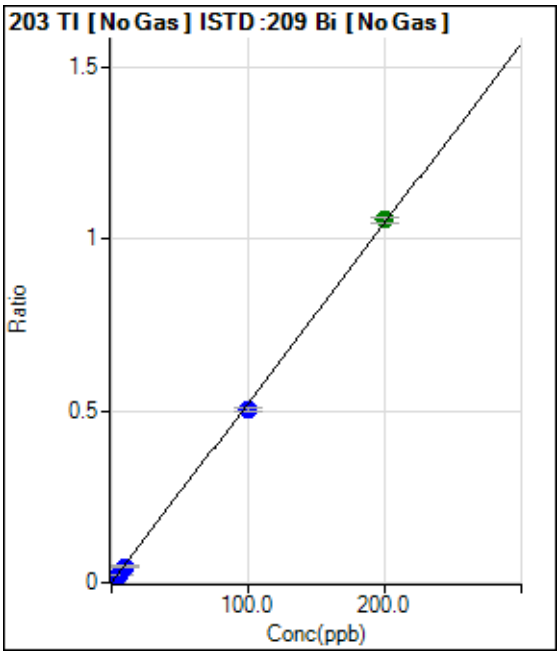


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1183.41	0.0006	P	5.9
2	☐	2.000	1.798	9089.98	0.0045	P	4.5
3	☐	5.000	4.850	22179.28	0.0111	P	2.2
4	☐	10.000	9.505	42352.55	0.0212	P	3.1
5	☐	100.000	97.638	415321.22	0.2125	P	1.5
6	☐	200.000	201.211	820440.77	0.4373	P	2.7

y = 0.0022 * x + 5.9830E-004
R = 0.9999
DL = 0.04891
BEC = 0.2757

Weight: <None>
Min Conc: <None>

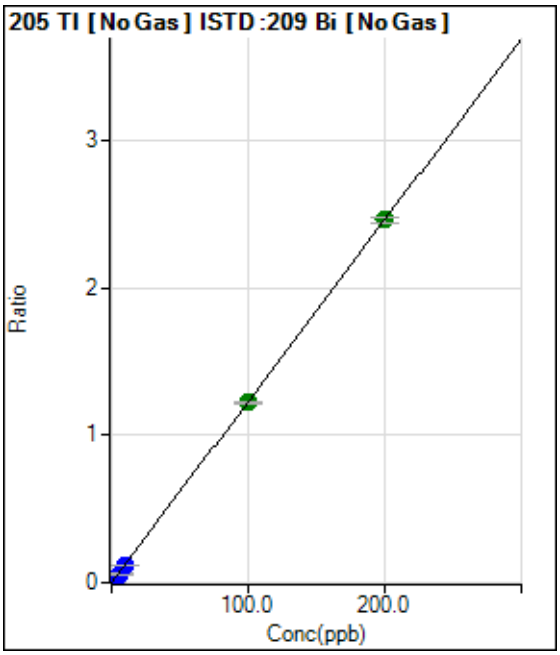
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	120.00	0.0001	P	26.3
2	☐	2.000	1.863	14939.16	0.0098	P	4.1
3	☐	5.000	4.639	36650.92	0.0243	P	2.0
4	☐	10.000	9.054	72339.36	0.0474	P	1.6
5	☐	100.000	96.322	762531.86	0.5030	P	1.4
6	☐	200.000	201.897	1556005.03	1.0542	A	1.4

y = 0.0052 * x + 8.0799E-005
R = 0.9998
DL = 0.0122
BEC = 0.01548

Weight: <None>
Min Conc: <None>

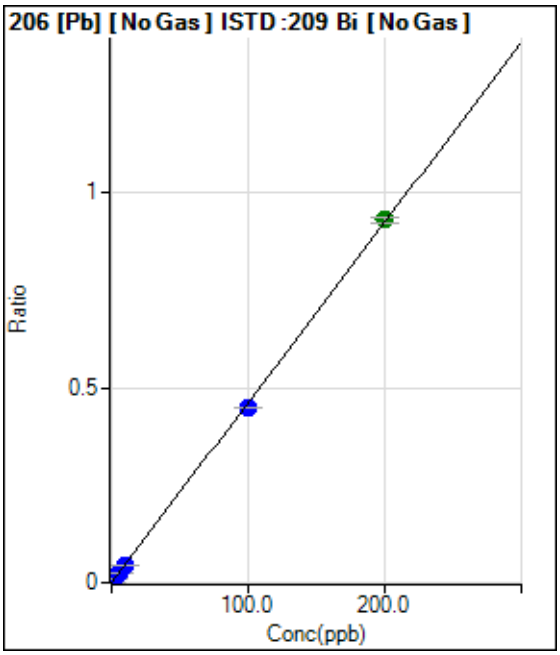


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	220.01	0.0001	P	21.6
2	☐	2.000	1.889	35557.73	0.0233	P	2.0
3	☐	5.000	4.742	88009.40	0.0584	P	2.4
4	☐	10.000	9.256	173842.59	0.1138	P	1.0
5	☐	100.000	99.634	1854452.52	1.2233	A	1.2
6	☐	200.000	200.228	3628319.22	2.4582	A	1.4

y = 0.0123 * x + 1.4801E-004
R = 1.0000
DL = 0.007826
BEC = 0.01206

Weight: <None>
Min Conc: <None>

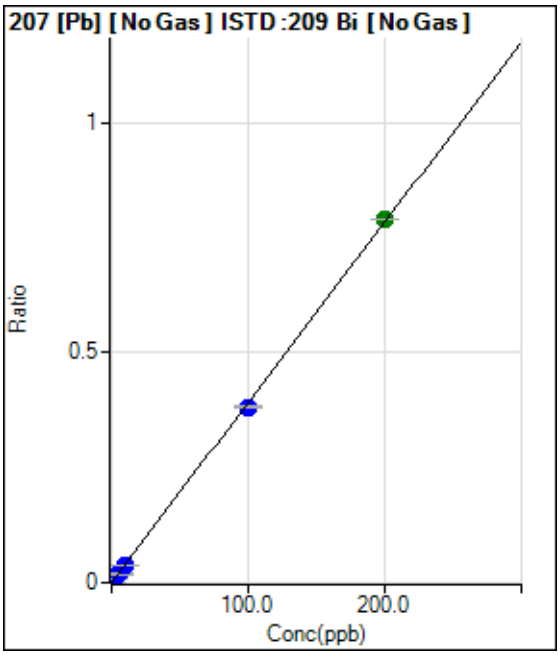
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	240.01	0.0002	P	25.5
2	☐	2.000	2.007	14368.52	0.0094	P	7.1
3	☐	5.000	4.827	33896.37	0.0225	P	2.2
4	☐	10.000	9.565	67770.90	0.0444	P	3.2
5	☐	100.000	97.041	680285.49	0.4487	P	0.7
6	☐	200.000	201.505	1375261.28	0.9316	A	1.3

y = 0.0046 * x + 1.6133E-004
R = 0.9998
DL = 0.02668
BEC = 0.0349

Weight: <None>
Min Conc: <None>

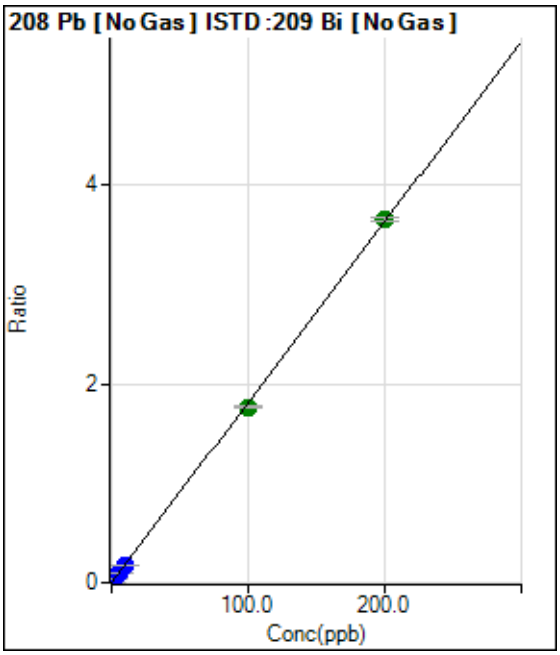


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	206.67	0.0001	P	31.3
2	☐	2.000	2.001	12136.11	0.0080	P	5.2
3	☐	5.000	4.771	28365.86	0.0188	P	1.4
4	☐	10.000	9.583	57502.73	0.0376	P	1.1
5	☐	100.000	97.280	577227.53	0.3808	P	1.2
6	☐	200.000	201.386	1163437.14	0.7881	A	0.1

y = 0.0039 * x + 1.3957E-004
R = 0.9999
DL = 0.03353
BEC = 0.03567

Weight: <None>
Min Conc: <None>

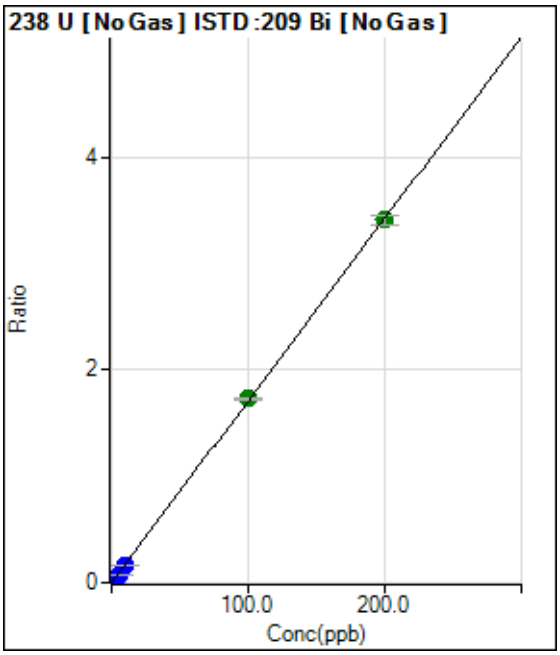
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	910.03	0.0006	P	6.2
2	☐	2.000	1.977	55578.95	0.0365	P	3.7
3	☐	5.000	4.836	133240.82	0.0884	P	2.8
4	☐	10.000	9.527	264997.96	0.1735	P	1.5
5	☐	100.000	97.502	2682787.11	1.7697	A	0.7
6	☐	200.000	201.277	5391440.67	3.6526	A	0.9

y = 0.0181 * x + 6.1218E-004
R = 0.9999
DL = 0.006285
BEC = 0.03374

Weight: <None>
Min Conc: <None>

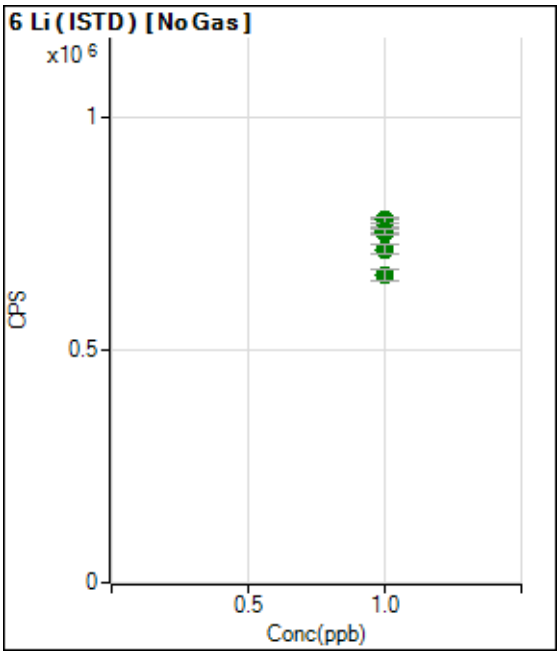


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	36.67	0.0000	P	57.2
2	☐	2.000	1.878	48924.83	0.0321	P	4.8
3	☐	5.000	4.635	119459.43	0.0792	P	2.3
4	☐	10.000	9.304	242830.49	0.1590	P	3.1
5	☐	100.000	101.122	2619003.03	1.7278	A	1.2
6	☐	200.000	199.484	5030382.11	3.4083	A	2.6

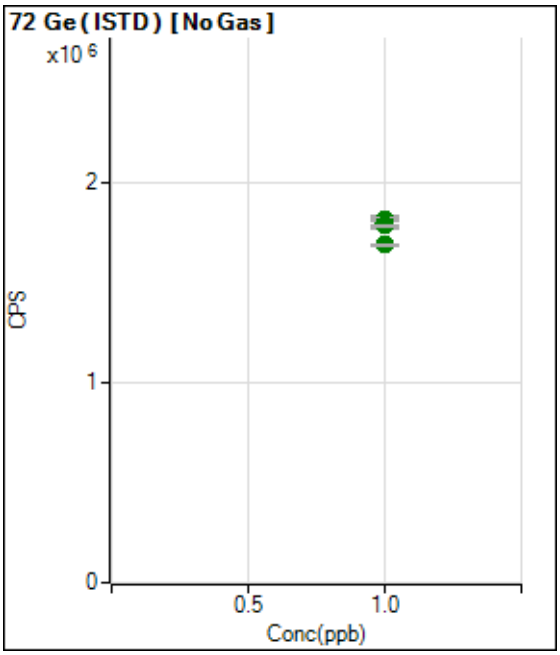
y = 0.0171 * x + 2.4731E-005
R = 1.0000
DL = 0.002483
BEC = 0.001447

Weight: <None>
Min Conc: <None>

Calibration for 017_ICV.d

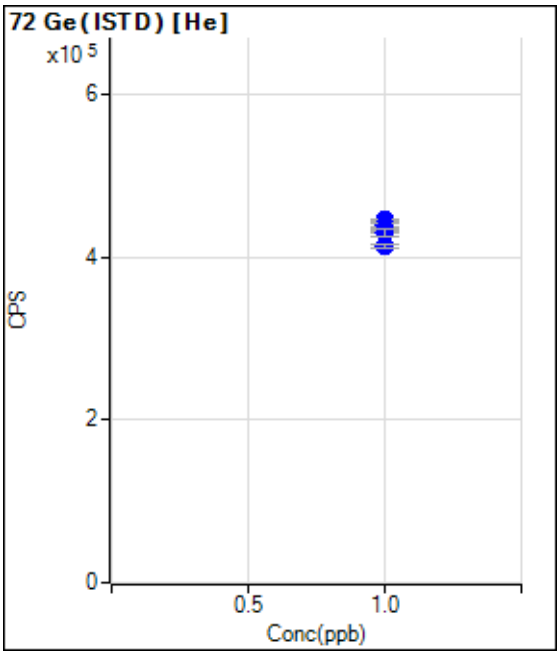


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		766868.18		A	3.6
2	☐	1.000		780090.54		A	1.2
3	☐	1.000		755990.26		A	2.2
4	☐	1.000		754422.94		A	1.5
5	☐	1.000		715928.39		A	3.0
6	☐	1.000		661739.95		A	3.2

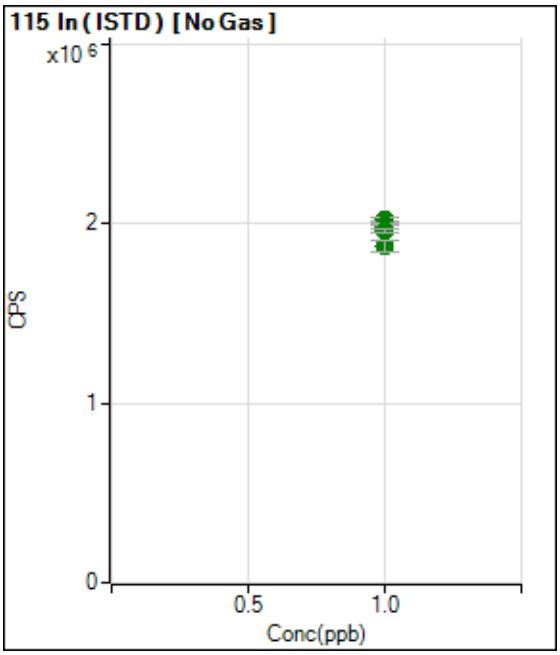


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1803283.83		A	3.4
2	☐	1.000		1815572.42		A	0.6
3	☐	1.000		1791964.14		A	0.1
4	☐	1.000		1803911.54		A	3.0
5	☐	1.000		1787040.60		A	0.4
6	☐	1.000		1692064.98		A	0.7

Calibration for 017_ICV.d

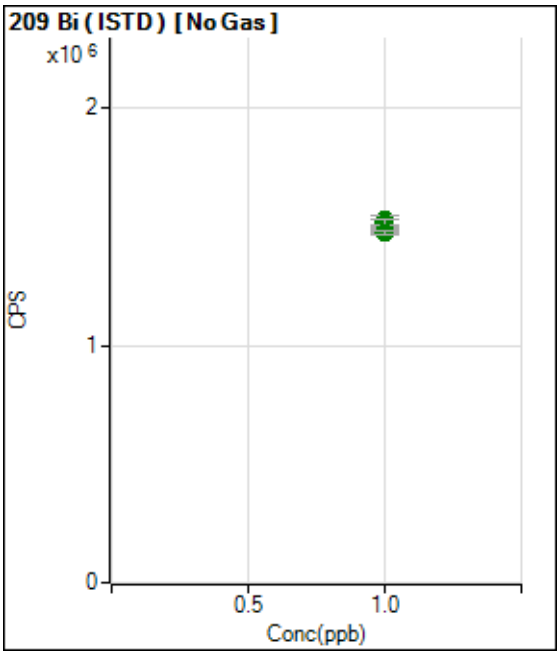


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		446345.60		P	0.8
2	☐	1.000		440475.54		P	0.9
3	☐	1.000		430488.82		P	0.4
4	☐	1.000		434823.83		P	0.4
5	☐	1.000		430188.70		P	2.2
6	☐	1.000		414669.90		P	1.1



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1975978.41		A	2.9
2	☐	1.000		2019187.75		A	1.3
3	☐	1.000		1994152.78		A	2.2
4	☐	1.000		1995148.16		A	0.8
5	☐	1.000		1954570.02		A	1.1
6	☐	1.000		1877226.12		A	3.4

Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1487949.93		A	2.4
2	☐	1.000		1524630.50		A	3.2
3	☐	1.000		1508689.82		A	2.7
4	☐	1.000		1528081.38		A	2.7
5	☐	1.000		1516057.74		A	1.7
6	☐	1.000		1476164.98		A	1.2

Sample Report

Sample Table

Sample Name	LLICV2
Data File Name	019LCV2.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\071723B.b
Acq Date Time	2023-07-17T19:54:35-05:00
Sample Type	LLCCV2
Dilution	1
Comment	
ISTD Ref FileName	009CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	1.990	1.990	0.60	72447	0.00	2	
Be	9	1	No Gas	1.858	1.858	2.11	6863	0.03	2	
V	51	2	He	1.368	1.368	1.82	12638	0.01	2	NewName Main CR1 Failed
Cr	52	2	He	2.213	2.213	10.24	31229	0.01	2	
Fe	56	2	He	204.450	204.450	1.03	912625	0.02	200	
Se	78	2	He	1.720	1.720	17.21	330	0.52	2	
As	75	2	He	1.769	1.769	5.46	1797	0.10	2	
Ca	44	2	He	185.156	185.156	3.49	8700	2.13	200	
Na	23	2	He	195.471	195.471	1.61	242015	0.08	200	
Mg	24	2	He	210.995	210.995	2.21	120289	0.18	200	
K	39	2	He	166.611	166.611	3.18	368730	0.05	200	
Mn	55	2	He	1.891	1.891	2.37	9167	0.02	2	
Co	59	2	He	1.901	1.901	4.96	12873	0.01	2	
Ni	60	2	He	1.985	1.985	5.18	3441	0.06	2	
Cu	63	2	He	2.047	2.047	4.89	9767	0.02	2	
Zn	66	2	He	1.812	1.812	7.00	3030	0.06	2	
Al	27	2	He	2.760	2.760	22.38	3297	0.08	2	NewName Main CR1 Failed
B	11	1	No Gas	13.292	13.292	2.81	42955	0.03	10	NewName Main CR1 Failed
Al	27	1	No Gas	2.841	2.841	7.56	96898	0.00	2	NewName Main CR1 Failed
Si	28	1	No Gas	-0.901	-0.901	-41.81	535772	0.00	10	NewName Main CR1 Failed
Ag	107	1	No Gas	1.948	1.948	4.61	27890	0.01	2	
Cd	111	1	No Gas	1.978	1.978	4.16	5407	0.04	2	
Sr	88	1	No Gas	1.891	1.891	1.04	58334	0.00	2	
Mo	95	1	No Gas	1.850	1.850	4.33	11021	0.02	2	
Sn	118	1	No Gas	1.737	1.737	1.68	17886	0.01	2	
Sb	121	1	No Gas	2.025	2.025	1.51	25849	0.01	2	
Ba	137	1	No Gas	1.789	1.789	0.78	9604	0.02	2	
Tl	205	1	No Gas	1.879	1.879	2.46	39011	0.00	2	
Tl	203	1	No Gas	1.882	1.882	2.98	16648	0.01	2	
Pb	208	1	No Gas	1.941	1.941	2.58	60224	0.00	2	
U	238	1	No Gas	1.876	1.876	2.71	53919	0.00	2	
Ca	43	2	He	188.978	188.978	8.56	557	33.95	200	
Sb	121	2	He	2.020	2.020	2.67	9931	0.02	2	
Ti	47	2	He	2.180	2.180	12.31	457	0.48	200	
Cu	63	1	No Gas	2.038	2.038	2.73	26426	0.01	2	
Se	82	1	No Gas	1.707	1.707	31.87	361	0.47	2	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	745644	0.73	766868	97.23	70	120	
Ge	72	2	He	463776	1.14	446346	103.91	70	120	
Ge	72	1	No Gas	1914350	1.04	1803284	106.16	70	120	
In	115	1	No Gas	2143431	0.91	1975978	108.47	70	120	
Bi	209	1	No Gas	1681256	1.61	1487950	112.99	70	120	

Sample Report

Sample Table

Sample Name	LLICV5
Data File Name	020LCV5.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\071723B.b
Acq Date Time	2023-07-17T19:56:42-05:00
Sample Type	LLCCV5
Dilution	1
Comment	
ISTD Ref FileName	009CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	4.731	4.731	3.86	106650	0.00	5	
Be	9	1	No Gas	4.582	4.582	2.63	17169	0.03	5	
V	51	2	He	4.147	4.147	1.12	25630	0.02	5	
Cr	52	2	He	4.809	4.809	4.55	44219	0.01	5	
Fe	56	2	He	500.142	500.142	2.52	2206258	0.02	500	
Se	78	2	He	4.586	4.586	5.67	600	0.76	5	
As	75	2	He	4.726	4.726	2.80	4278	0.11	5	
Ca	44	2	He	473.338	473.338	3.76	20476	2.31	500	
Na	23	2	He	513.318	513.318	0.22	534021	0.10	500	
Mg	24	2	He	523.019	523.019	0.92	298277	0.18	500	
K	39	2	He	464.606	464.606	1.07	625198	0.07	500	
Mn	55	2	He	4.795	4.795	2.37	21414	0.02	5	
Co	59	2	He	4.713	4.713	0.89	31974	0.01	5	
Ni	60	2	He	4.668	4.668	1.91	7672	0.06	5	
Cu	63	2	He	5.021	5.021	2.49	21464	0.02	5	
Zn	66	2	He	4.733	4.733	4.17	5748	0.08	5	
Al	27	2	He	4.343	4.343	9.20	4064	0.11	5	
B	11	1	No Gas	24.773	24.773	5.31	66459	0.04	25	
Al	27	1	No Gas	4.395	4.395	5.35	117281	0.00	5	
Si	28	1	No Gas	16.964	16.964	17.85	656510	0.00	25	NewName2 Main CR1 Failed
Ag	107	1	No Gas	4.749	4.749	2.45	67623	0.01	5	
Cd	111	1	No Gas	4.661	4.661	4.07	12722	0.04	5	
Sr	88	1	No Gas	4.758	4.758	2.81	142773	0.00	5	
Mo	95	1	No Gas	4.662	4.662	2.79	26333	0.02	5	
Sn	118	1	No Gas	4.621	4.621	2.19	42736	0.01	5	
Sb	121	1	No Gas	4.859	4.859	3.49	60858	0.01	5	
Ba	137	1	No Gas	4.681	4.681	1.61	23007	0.02	5	
Tl	205	1	No Gas	4.672	4.672	0.84	97110	0.00	5	
Tl	203	1	No Gas	4.584	4.584	0.81	40553	0.01	5	
Pb	208	1	No Gas	4.783	4.783	0.92	147556	0.00	5	
U	238	1	No Gas	4.657	4.657	0.71	134387	0.00	5	
Ca	43	2	He	497.032	497.032	3.04	1317	37.75	500	
Sb	121	2	He	4.832	4.832	4.69	23802	0.02	5	
Ti	47	2	He	4.802	4.802	17.91	997	0.48	5	
Cu	63	1	No Gas	4.952	4.952	2.13	55641	0.01	5	
Se	82	1	No Gas	5.477	5.477	5.22	1115	0.49	5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	757645	2.30	766868	98.80	70	120	
Ge	72	2	He	467632	0.53	446346	104.77	70	120	
Ge	72	1	No Gas	1893311	2.89	1803284	104.99	70	120	
In	115	1	No Gas	2138941	0.88	1975978	108.25	70	120	
Bi	209	1	No Gas	1688620	0.76	1487950	113.49	70	120	

Initial Calibration Blank (ICB) Report

Sample Table

Sample Name	ICB
Data File Name	021_ICB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\071723B.b
Acq Date Time	2023-07-17T19:58:52-05:00
Sample Type	ICB
Dilution	1
Comment	
ISTD Ref File Name	009CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	-0.069	-93.5	49411	1.1	0.5	
Be	9	1	No Gas	0.005	49.5	35	28.6	0.5	
V	51	2	He	-0.503	-4.4	4083	2.5	2.5	
Cr	52	2	He	0.357	43.2	22482	3.5	2.5	
Fe	56	2	He	-2.291	-4.6	21083	2.2	100	
Se	78	2	He	-0.062	-171.4	167	6.0	1	
As	75	2	He	-0.057	-56.8	290	9.2	2.5	
Ca	44	2	He	-9.360	-26.5	877	11.5	100	
Na	23	2	He	-16.556	-4.8	50803	1.2	100	
Mg	24	2	He	-1.336	-17.6	890	15.1	100	
K	39	2	He	-41.463	-3.3	195647	0.4	100	
Mn	55	2	He	-0.122	-5.5	807	3.6	2.5	
Co	59	2	He	-0.008	-40.1	87	26.6	2.5	
Ni	60	2	He	0.067	125.6	463	28.7	2.5	
Cu	63	2	He	-0.200	-3.8	1083	2.7	1	
Zn	66	2	He	-0.114	-141.1	1287	11.7	2.5	
Al	27	2	He	-2.482	-8.6	870	11.7	5	
B	11	1	No Gas	0.917	33.1	19272	3.6	0.5	ICB Main CR1 Failed
Al	27	1	No Gas	-2.252	-1.5	25985	2.7	5	
Si	28	1	No Gas	-13.119	-13.1	451677	0.3	10	
Ag	107	1	No Gas	0.001	182.5	183	22.0	2.5	
Cd	111	1	No Gas	0.000	958.2	-4	-156.9	1	
Sr	88	1	No Gas	-0.044	-5.6	1123	5.1	2.5	
Mo	95	1	No Gas	-0.065	-21.3	557	15.0	2.5	
Sn	118	1	No Gas	-0.157	-16.0	1503	13.0	5	
Sb	121	1	No Gas	0.035	18.1	783	12.8	2.5	
Ba	137	1	No Gas	-0.203	-11.6	340	33.1	2.5	
Tl	205	1	No Gas	0.029	22.2	857	17.7	1	
Tl	203	1	No Gas	0.031	37.4	413	26.8	1	
Pb	208	1	No Gas	-0.007	-40.2	837	9.7	2.5	
U	238	1	No Gas	0.001	92.8	80	45.1	2.5	
Ca	43	2	He	-23.636	-61.9	40	90.1	100	
Sb	121	2	He	0.040	15.7	307	10.0	2.5	
Ti	47	2	He	0.013	577.6	17	91.7	2.5	
Se	82	1	No Gas	0.144	103.3	44	69.4	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	767554	0.46	766868	100.09	70	120	
Ge	72	2	He	469412	0.21	446346	105.17	70	120	
Ge	72	1	No Gas	1931329	2.99	1803284	107.10	70	120	
In	115	1	No Gas	2142902	1.39	1975978	108.45	70	120	
Bi	209	1	No Gas	1698595	1.90	1487950	114.16	70	120	

Interference Check Solution A (ICS-A) Report

Sample Table

Sample Name	ICSA
Data File Name	023ICSA.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\071723B.b
Acq Date Time	2023-07-17T20:05:49-05:00
Sample Type	ICSA
Dilution	1
Comment	
ISTD Ref File Name	009CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	-0.155	-131.0	46060	0.3	0	ICSA Main CR1 Failed
Be	9	1	No Gas	0.003	11.2	25	0.0	0	ICSA Main CR1 Failed
V	51	2	He	-0.193	-18.6	5169	2.1	0	ICSA Main CR1 Failed
Cr	52	2	He	1.608	11.0	26787	1.7	0	ICSA Main CR1 Failed
Fe	56	2	He	97335.079	1.8	397539914	0.9	0	
Se	78	2	He	0.204	89.8	180	10.2	0	ICSA Main CR1 Failed
As	75	2	He	0.281	35.3	536	12.9	0	ICSA Main CR1 Failed
Ca	44	2	He	91116.220	2.0	3475718	0.4	0	
Na	23	2	He	94805.630	1.8	81277150	1.4	0	
Mg	24	2	He	94145.088	1.9	50135964	1.3	0	
K	39	2	He	96011.428	2.5	76857939	0.8	0	
Mn	55	2	He	1.280	4.7	6272	2.4	0	ICSA Main CR1 Failed
Co	59	2	He	0.667	7.6	4364	5.7	0	ICSA Main CR1 Failed
Ni	60	2	He	1.066	8.1	1904	5.8	0	ICSA Main CR1 Failed
Cu	63	2	He	0.436	10.0	3344	6.0	0	ICSA Main CR1 Failed
Zn	66	2	He	2.084	9.4	3104	3.8	0	ICSA Main CR1 Failed
Al	27	2	He	90233.087	1.9	39691999	0.3	0	
B	11	1	No Gas	0.982	47.9	18479	1.4	0	ICSA Main CR1 Failed
Al	27	1	No Gas	87249.494	2.4	1145956383	1.0	0	
Si	28	1	No Gas	14.739	8.5	609341	1.2	0	ICSA Main CR1 Failed
Ag	107	1	No Gas	0.141	5.4	1994	4.8	0	ICSA Main CR1 Failed
Cd	111	1	No Gas	0.282	23.6	708	23.7	0	ICSA Main CR1 Failed
Sr	88	1	No Gas	4.294	2.2	119232	2.3	0	ICSA Main CR1 Failed
Mo	95	1	No Gas	1931.554	1.0	9730983	1.3	0	
Sn	118	1	No Gas	-0.065	-22.1	2117	5.1	0	ICSA Main CR1 Failed
Sb	121	1	No Gas	0.252	9.2	3287	6.7	0	ICSA Main CR1 Failed
Ba	137	1	No Gas	0.513	1.3	3380	0.5	0	ICSA Main CR1 Failed
Tl	205	1	No Gas	0.012	26.8	443	15.4	0	ICSA Main CR1 Failed
Tl	203	1	No Gas	0.004	165.0	157	37.4	0	ICSA Main CR1 Failed
Pb	208	1	No Gas	0.163	3.7	5371	2.4	0	ICSA Main CR1 Failed
U	238	1	No Gas	0.007	32.2	227	25.1	0	ICSA Main CR1 Failed
Ca	43	2	He	93015.709	2.0	214318	1.8	0	
Sb	121	2	He	0.236	8.7	1187	8.5	0	ICSA Main CR1 Failed
Ti	47	2	He	2006.580	1.2	385773	1.4	0	
Se	82	1	No Gas	0.223	185.9	57	139.2	0	ICSA Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	732175	4.74	766868	95.48	70	120	
Ge	72	2	He	439162	1.74	446346	98.39	70	120	
Ge	72	1	No Gas	1799861	2.14	1803284	99.81	70	120	
In	115	1	No Gas	1975338	0.39	1975978	99.97	70	120	
Bi	209	1	No Gas	1502714	2.16	1487950	100.99	70	120	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB
Data File Name	024ICSB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\071723B.b
Acq Date Time	2023-07-17T20:07:50-05:00
Sample Type	ICSB
Dilution	1
Comment	
ISTD Ref File Name	009CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	No Gas	95.970	5.612	1064621	2.23	100	96.0	180	120	ICSB Main CR1 Failed
Be	9	1	No Gas	94.508	3.337	312223	0.63	100	94.5	80	120	
V	51	2	He	96.591	1.014	422920	0.19	100	96.6	80	120	
Cr	52	2	He	97.672	1.151	464942	0.28	100	97.7	80	120	
Fe	56	2	He	104970.801	0.752	425087714	0.15	100	104970.8	80	120	ICSB Main CR1 Failed
Se	78	2	He	99.549	0.742	8800	0.45	100	99.5	80	120	
As	75	2	He	99.248	1.682	77389	1.05	100	99.2	80	120	
Ca	44	2	He	98269.462	1.480	3716712	0.65	100	98269.5	80	120	ICSB Main CR1 Failed
Na	23	2	He	102796.790	1.595	87370205	1.24	100	102796.8	80	120	ICSB Main CR1 Failed
Mg	24	2	He	101892.668	1.146	53799439	0.34	100	101892.7	80	120	ICSB Main CR1 Failed
K	39	2	He	102740.378	0.773	81541970	0.84	100	102740.4	80	120	ICSB Main CR1 Failed
Mn	55	2	He	97.711	0.938	382515	0.34	100	97.7	80	120	
Co	59	2	He	93.224	0.911	586371	1.38	100	93.2	80	120	
Ni	60	2	He	95.038	1.239	139000	0.70	100	95.0	80	120	
Cu	63	2	He	94.513	1.196	345236	0.61	100	94.5	80	120	
Zn	66	2	He	97.994	0.150	85371	0.95	100	98.0	80	120	
Al	27	2	He	89364.512	0.814	38977797	0.48	100	89364.5	80	120	ICSB Main CR1 Failed
B	11	1	No Gas	481.440	4.070	860241	1.07	100	481.4	80	120	
Al	27	1	No Gas	86435.426	2.366	1116591583	1.10	100	86435.4	80	120	ICSB Main CR1 Failed
Si	28	1	No Gas	499.535	0.835	3821470	0.77	100	499.5	80	120	
Ag	107	1	No Gas	95.708	1.502	1257658	2.72	100	95.7	80	120	
Cd	111	1	No Gas	96.216	2.344	242967	0.88	100	96.2	80	120	
Sr	88	1	No Gas	101.618	1.338	2775187	1.77	100	101.6	80	120	
Mo	95	1	No Gas	2029.235	1.729	10235888	1.57	100	2029.2	80	120	
Sn	118	1	No Gas	94.634	2.310	757903	0.73	100	94.6	80	120	
Sb	121	1	No Gas	99.332	0.888	1157780	0.57	100	99.3	80	120	
Ba	137	1	No Gas	97.865	2.838	421182	0.17	100	97.9	80	120	
Tl	205	1	No Gas	99.543	1.767	1814822	0.77	100	99.5	80	120	
Tl	203	1	No Gas	95.141	2.709	737747	2.27	100	95.1	80	120	
Pb	208	1	No Gas	97.853	2.196	2637641	2.49	100	97.9	80	120	
U	238	1	No Gas	103.472	1.837	2625605	2.39	100	103.5	80	120	
Ca	43	2	He	100217.276	0.786	228932	0.38	100	100217.3	80	120	ICSB Main CR1 Failed
Sb	121	2	He	96.853	1.203	442194	0.42	100	96.9	80	120	
Ti	47	2	He	2086.740	0.421	397747	0.46	100	2086.7	80	120	
Cu	63	1	No Gas	95.173	0.682	906465	0.70	100	95.2	80	120	
Se	82	1	No Gas	100.709	3.996	18925	2.96	100	100.7	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	668830	3.57	766868	87.22	70	120	
Ge	72	2	He	435375	0.86	446346	97.54	70	120	
Ge	72	1	No Gas	1770071	1.38	1803284	98.16	70	120	
In	115	1	No Gas	1978460	2.93	1975978	100.13	70	120	
Bi	209	1	No Gas	1485133	1.38	1487950	99.81	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	083_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\071723B.b
Acq Date Time	2023-07-17T22:09:49-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	009CALB.d
n	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	No Gas	97.806	3.209	1184789	1.30	100	97.8	90	110	
Be	9	1	No Gas	93.704	2.660	338167	0.75	100	93.7	90	110	
V	51	2	He	96.576	0.828	441069	0.60	100	96.6	90	110	
Cr	52	2	He	97.996	1.592	486481	0.40	100	98.0	90	110	
Fe	56	2	He	9740.396	0.821	41170886	0.96	10000	97.4	90	110	
Se	78	2	He	99.858	1.027	9207	1.05	100	99.9	90	110	
As	75	2	He	98.157	1.435	79837	0.51	100	98.2	90	110	
Ca	44	2	He	9778.551	1.236	386861	0.23	10000	97.8	90	110	
Na	23	2	He	9449.811	0.555	8435834	0.96	10000	94.5	90	110	
Mg	24	2	He	9427.903	0.653	5193993	1.02	10000	94.3	90	110	
K	39	2	He	9685.231	1.199	8219958	0.74	10000	96.9	90	110	
Mn	55	2	He	99.302	1.014	405457	0.32	100	99.3	90	110	
Co	59	2	He	93.170	0.557	611262	1.26	100	93.2	90	110	
Ni	60	2	He	97.319	1.757	148455	1.52	100	97.3	90	110	
Cu	63	2	He	99.298	0.695	378251	0.67	100	99.3	90	110	
Zn	66	2	He	96.799	0.712	87974	0.76	100	96.8	90	110	
Al	27	2	He	96.699	1.515	45960	0.94	100	96.7	90	110	
B	11	1	No Gas	525.422	3.299	1024129	1.43	500	105.1	90	110	
Al	27	1	No Gas	98.569	1.966	1377004	2.04	100	98.6	90	110	
Si	28	1	No Gas	488.184	0.819	3888929	0.50	5000	9.8	90	110	CCV Main CR1-2 Failed
Ag	107	1	No Gas	96.789	1.453	1320677	1.28	100	96.8	90	110	
Cd	111	1	No Gas	97.842	0.386	256641	0.30	100	97.8	90	110	
Sr	88	1	No Gas	99.005	1.752	2807903	1.14	100	99.0	90	110	
Mo	95	1	No Gas	95.726	2.177	502290	1.56	100	95.7	90	110	
Sn	118	1	No Gas	94.608	1.012	787024	0.53	100	94.6	90	110	
Sb	121	1	No Gas	97.561	2.692	1180587	2.81	100	97.6	90	110	
Ba	137	1	No Gas	98.014	0.357	438212	0.58	100	98.0	90	110	
Tl	205	1	No Gas	102.858	0.726	1988680	1.61	100	102.9	90	110	
Tl	203	1	No Gas	100.414	0.260	825672	0.67	100	100.4	90	110	
Pb	208	1	No Gas	97.988	0.570	2800488	0.50	100	98.0	90	110	
U	238	1	No Gas	101.118	2.130	2720176	1.36	100	101.1	90	110	
Ca	43	2	He	9630.013	1.052	23033	1.69	10000	96.3	90	110	
Sb	121	2	He	98.005	0.612	466735	0.77	100	98.0	90	110	
Ti	47	2	He	97.166	1.651	19331	1.59	100	97.2	90	110	
Cu	63	1	No Gas	100.693	0.508	995345	1.01	100	100.7	90	110	
Se	82	1	No Gas	99.517	0.544	19419	0.29	100	99.5	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	730303	1.94	766868	95.23	70	120	
Ge	72	2	He	454132	1.33	446346	101.74	70	120	
Ge	72	1	No Gas	1837539	0.81	1803284	101.90	70	120	
In	115	1	No Gas	2054204	0.61	1975978	103.96	70	120	
Bi	209	1	No Gas	1574666	0.92	1487950	105.83	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	084_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\071723B.b
Acq Date Time	2023-07-17T22:12:05-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	009CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	1.234	10.6	65746	0.6	0.5	CCB Main CR1 Failed
Be	9	1	No Gas	0.008	81.2	47	53.9	0.5	
V	51	2	He	-0.201	-10.8	5478	2.3	2.5	
Cr	52	2	He	0.264	45.5	21978	2.5	2.5	
Fe	56	2	He	-0.701	-35.9	27966	3.2	100	
Se	78	2	He	0.070	81.1	179	2.6	2	
As	75	2	He	0.018	290.5	352	12.4	2.5	
Ca	44	2	He	-11.204	-28.4	800	16.4	100	
Na	23	2	He	53.949	4.5	115124	1.3	100	
Mg	24	2	He	1.736	11.3	2634	4.3	100	
K	39	2	He	-50.884	-6.8	187212	1.1	100	
Mn	55	2	He	-0.132	-14.6	763	11.0	2.5	
Co	59	2	He	-0.001	-477.0	137	23.5	2.5	
Ni	60	2	He	-0.045	-24.0	287	5.3	2.5	
Cu	63	2	He	1.333	7.2	7072	4.8	2	
Zn	66	2	He	-0.453	-10.0	970	3.6	2.5	
Al	27	2	He	-2.457	-7.3	880	10.2	5	
B	11	1	No Gas	66.369	2.0	152211	0.5	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	-2.364	-4.3	24118	3.6	5	
Si	28	1	No Gas	-5.453	-24.7	501709	0.5	10	
Ag	107	1	No Gas	-0.002	-116.4	133	22.9	2.5	
Cd	111	1	No Gas	0.008	100.6	16	128.0	1	
Sr	88	1	No Gas	0.050	19.4	3821	9.0	2.5	
Mo	95	1	No Gas	-0.061	-8.9	570	7.0	2.5	
Sn	118	1	No Gas	-0.089	-16.6	2060	6.7	5	
Sb	121	1	No Gas	0.151	25.0	2214	19.1	2.5	
Ba	137	1	No Gas	-0.153	-11.6	563	14.8	2.5	
Tl	205	1	No Gas	0.281	27.9	5888	27.6	1	
Tl	203	1	No Gas	0.274	34.0	2474	32.6	1	
Pb	208	1	No Gas	-0.008	-31.3	750	9.6	2.5	
U	238	1	No Gas	0.015	27.7	470	25.8	2.5	
Ca	43	2	He	-24.987	-49.4	37	83.3	100	
Sb	121	2	He	0.113	35.1	663	28.5	2.5	
Ti	47	2	He	-0.003	-3249.3	13	173.2	2.5	
Cu	63	1	No Gas	1.828	15.0	24182	9.4	2.5	
Se	82	1	No Gas	0.060	495.0	27	219.1	2	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	772693	2.21	766868	100.76	70	120	
Ge	72	2	He	468450	0.73	446346	104.95	70	120	
Ge	72	1	No Gas	1909740	2.17	1803284	105.90	70	120	
In	115	1	No Gas	2109066	2.51	1975978	106.74	70	120	
Bi	209	1	No Gas	1635800	1.23	1487950	109.94	70	120	

Sample Report

Sample Table

Sample Name	LCS-197656
Data File Name	086SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\071723B.b
Acq Date Time	2023-07-17T22:16:04-05:00
Sample Type	Sample
Dilution	1
Comment	TW DOD B 197656
ISTD Ref FileName	009CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	1.150	1.150	9.41	66829	0.00	2000	
Be	9	1	No Gas	43.775	43.775	1.55	172623	0.03	2000	
V	51	2	He	43.268	43.268	1.62	220073	0.02	2000	
Cr	52	2	He	43.486	43.486	1.33	248549	0.02	2000	
Fe	56	2	He	4521.425	4521.425	2.75	20936918	0.02	200000	
Se	78	2	He	45.121	45.121	3.83	4654	0.97	2000	
As	75	2	He	44.567	44.567	1.85	39879	0.11	2000	
Ca	44	2	He	4519.650	4519.650	1.23	196465	2.30	200000	
Na	23	2	He	4500.669	4500.669	1.34	4434670	0.10	200000	
Mg	24	2	He	4495.795	4495.795	2.22	2712094	0.17	200000	
K	39	2	He	4548.909	4548.909	1.94	4356030	0.10	200000	
Mn	55	2	He	44.876	44.876	1.73	201351	0.02	2000	
Co	59	2	He	42.700	42.700	1.32	306737	0.01	2000	
Ni	60	2	He	44.065	44.065	2.51	73790	0.06	2000	
Cu	63	2	He	45.923	45.923	0.86	192562	0.02	2000	
Zn	66	2	He	44.797	44.797	0.21	45363	0.10	2000	
Al	27	2	He	91.031	91.031	1.53	47491	0.19	2000	
B	11	1	No Gas	457.099	457.099	0.37	976030	0.05	2000	
Al	27	1	No Gas	92.058	92.058	0.25	1402951	0.01	2000	
Si	28	1	No Gas	499.454	499.454	1.53	4314669	0.01	2000	
Ag	107	1	No Gas	43.671	43.671	2.11	645913	0.01	2000	
Cd	111	1	No Gas	45.374	45.374	1.28	128999	0.04	2000	
Sr	88	1	No Gas	0.016	0.016	20.04	2987	0.00	2000	
Mo	95	1	No Gas	43.532	43.532	2.24	248093	0.02	2000	
Sn	118	1	No Gas	-0.225	-0.225	-6.73	953	-0.02	2000	
Sb	121	1	No Gas	44.535	44.535	1.59	586342	0.01	2000	
Ba	137	1	No Gas	44.065	44.065	0.64	214290	0.02	2000	
Tl	205	1	No Gas	37.729	37.729	1.50	791578	0.00	2000	
Tl	203	1	No Gas	37.287	37.287	1.20	332763	0.01	2000	
Pb	208	1	No Gas	43.789	43.789	1.09	1358506	0.00	2000	
U	238	1	No Gas	0.002	0.002	24.50	103	0.00	2000	
Ca	43	2	He	4395.630	4395.630	3.61	11565	38.01	200000	
Sb	121	2	He	45.181	45.181	1.43	235603	0.02	2000	
Ti	47	2	He	46.370	46.370	1.61	10107	0.46	2000	
Cu	63	1	No Gas	46.742	46.742	1.43	505673	0.01	2000	
Zn	66	1	No Gas	45.655	45.655	0.53	146996	0.03	2000	
Se	82	1	No Gas	45.870	45.870	2.12	9745	0.47	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	797803	1.61	766868	104.03	70	120	
Ge	72	2	He	497131	0.67	446346	111.38	70	120	
Ge	72	1	No Gas	1998891	1.26	1803284	110.85	70	120	
In	115	1	No Gas	2226769	1.56	1975978	112.69	70	120	

Sample Report

Bi	209	1	No Gas	1708659	1.15	1487950	114.83	70	120	

Sample Report

Sample Table

Sample Name	HS23070447-01SD
Data File Name	088SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\071723B.b
Acq Date Time	2023-07-17T22:20:11-05:00
Sample Type	Sample
Dilution	5
Comment	TW DOD B 197656
ISTD Ref FileName	009CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	21.219	106.095	0.36	326855	0.01	2000	
Be	9	1	No Gas	0.017	0.084	11.94	83	0.02	2000	
V	51	2	He	1.044	5.220	3.05	11786	0.01	2000	
Cr	52	2	He	2.324	11.620	2.30	33591	0.01	2000	
Fe	56	2	He	384.800	1924.002	2.21	1787072	0.02	200000	
Se	78	2	He	-0.022	-0.111	-538.07	179	-0.01	2000	
As	75	2	He	0.466	2.328	10.53	760	0.06	2000	
Ca	44	2	He	28899.552	144497.760	1.17	1231931	2.35	200000	
Na	23	2	He	123940.229	619701.145	0.53	118620788	0.10	200000	
Mg	24	2	He	21287.513	106437.565	0.26	12659746	0.17	200000	
K	39	2	He	344.159	1720.794	0.28	548110	0.06	200000	
Mn	55	2	He	129.407	647.033	0.94	570053	0.02	2000	
Co	59	2	He	1.039	5.193	3.66	7506	0.01	2000	
Ni	60	2	He	2.808	14.040	2.15	4988	0.06	2000	
Cu	63	2	He	1.830	9.148	2.66	9437	0.02	2000	
Zn	66	2	He	9.419	47.096	1.00	10554	0.09	2000	
Al	27	2	He	17.770	88.849	10.59	10852	0.16	2000	
B	11	1	No Gas	65.960	329.799	0.72	158794	0.04	2000	
Al	27	1	No Gas	16.023	80.115	7.78	295012	0.01	2000	
Si	28	1	No Gas	3555.159	17775.793	2.66	27368534	0.01	2000	>LDR
Ag	107	1	No Gas	0.002	0.012	157.10	197	0.00	2000	
Cd	111	1	No Gas	0.053	0.263	30.60	141	0.04	2000	
Sr	88	1	No Gas	567.801	2839.005	2.39	16921978	0.00	2000	
Mo	95	1	No Gas	0.422	2.108	3.01	3240	0.01	2000	
Sn	118	1	No Gas	-0.185	-0.923	-7.31	1273	-0.01	2000	
Sb	121	1	No Gas	0.130	0.649	4.35	2060	0.01	2000	
Ba	137	1	No Gas	57.278	286.389	2.07	269811	0.02	2000	
Tl	205	1	No Gas	0.092	0.459	15.79	2014	0.00	2000	
Tl	203	1	No Gas	0.079	0.393	12.60	777	0.01	2000	
Pb	208	1	No Gas	0.047	0.237	6.13	2323	0.00	2000	
U	238	1	No Gas	1.251	6.256	1.17	33807	0.00	2000	
Ca	43	2	He	28860.577	144302.887	1.36	74324	38.83	200000	
Sb	121	2	He	0.158	0.788	8.25	923	0.02	2000	
Ti	47	2	He	1.067	5.335	32.80	243	0.44	2000	
Cu	63	1	No Gas	3.153	15.767	5.62	39692	0.01	2000	
Zn	66	1	No Gas	9.961	49.804	2.47	35594	0.03	2000	
Se	82	1	No Gas	2.266	11.328	4.44	498	0.45	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	810327	0.59	766868	105.67	70	120	
Ge	72	2	He	490287	0.67	446346	109.84	70	120	
Ge	72	1	No Gas	2008283	2.32	1803284	111.37	70	120	
In	115	1	No Gas	2160465	1.59	1975978	109.34	70	120	
Bi	209	1	No Gas	1579577	0.61	1487950	106.16	70	120	

Sample Report

Sample Table

Sample Name	HS23070447-01MS
Data File Name	089SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\071723B.b
Acq Date Time	2023-07-17T22:22:09-05:00
Sample Type	Sample
Dilution	1
Comment	TW DOD B 197656
ISTD Ref FileName	009CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	82.440	82.440	2.94	1057867	0.01	2000	
Be	9	1	No Gas	42.757	42.757	1.38	162265	0.03	2000	
V	51	2	He	46.930	46.930	1.51	225617	0.02	2000	
Cr	52	2	He	50.808	50.808	1.10	271643	0.02	2000	
Fe	56	2	He	5917.200	5917.200	1.53	25952640	0.02	200000	
Se	78	2	He	43.311	43.311	1.24	4241	1.02	2000	
As	75	2	He	46.954	46.954	0.81	39793	0.12	2000	
Ca	44	2	He	117398.202	117398.202	1.50	4803611	2.44	200000	
Na	23	2	He	512304.552	512304.552	0.51	470822260	0.11	200000	>LDR
Mg	24	2	He	90247.907	90247.907	1.41	51554404	0.18	200000	
K	39	2	He	6027.815	6027.815	0.74	5393898	0.11	200000	
Mn	55	2	He	545.053	545.053	1.43	2302372	0.02	2000	
Co	59	2	He	44.961	44.961	0.76	306012	0.01	2000	
Ni	60	2	He	52.034	52.034	3.41	82489	0.06	2000	
Cu	63	2	He	47.610	47.610	0.93	189080	0.03	2000	
Zn	66	2	He	78.876	78.876	0.63	74611	0.11	2000	
Al	27	2	He	156.186	156.186	2.86	75744	0.21	2000	
B	11	1	No Gas	495.827	495.827	0.78	1017397	0.05	2000	
Al	27	1	No Gas	164.379	164.379	10.54	2354668	0.01	2000	
Si	28	1	No Gas	14911.848	14911.848	1.12	107806552	0.01	2000	>LDR
Ag	107	1	No Gas	41.713	41.713	1.44	559351	0.01	2000	
Cd	111	1	No Gas	43.763	43.763	1.22	112792	0.04	2000	
Sr	88	1	No Gas	2312.634	2312.634	1.48	64399786	0.00	2000	>LDR
Mo	95	1	No Gas	47.762	47.762	3.62	246667	0.02	2000	
Sn	118	1	No Gas	-0.202	-0.202	-3.78	1047	-0.02	2000	
Sb	121	1	No Gas	43.346	43.346	0.72	546979	0.01	2000	
Ba	137	1	No Gas	278.748	278.748	1.26	1222342	0.02	2000	
Tl	205	1	No Gas	38.816	38.816	1.26	681971	0.01	2000	
Tl	203	1	No Gas	38.453	38.453	1.56	287338	0.01	2000	
Pb	208	1	No Gas	44.338	44.338	1.73	1151749	0.00	2000	
U	238	1	No Gas	5.176	5.176	1.73	126556	0.00	2000	
Ca	43	2	He	122472.008	122472.008	1.56	302641	40.47	200000	
Sb	121	2	He	43.653	43.653	1.01	215686	0.02	2000	
Ti	47	2	He	49.902	49.902	2.81	10304	0.48	2000	
Cu	63	1	No Gas	52.761	52.761	1.34	546326	0.01	2000	
Zn	66	1	No Gas	78.633	78.633	1.32	239640	0.03	2000	
Se	82	1	No Gas	52.878	52.878	2.56	10766	0.49	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	767762	1.66	766868	100.12	70	120	
Ge	72	2	He	471018	0.75	446346	105.53	70	120	
Ge	72	1	No Gas	1915675	1.37	1803284	106.23	70	120	
In	115	1	No Gas	2018614	1.02	1975978	102.16	70	120	
Bi	209	1	No Gas	1430886	1.85	1487950	96.16	70	120	

Sample Report

Sample Table

Sample Name	HS23070447-01MSD
Data File Name	090SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\071723B.b
Acq Date Time	2023-07-17T22:24:20-05:00
Sample Type	Sample
Dilution	1
Comment	TW DOD B 197656
ISTD Ref FileName	009CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	85.028	85.028	1.96	1113868	0.01	2000	
Be	9	1	No Gas	42.867	42.867	0.53	166308	0.03	2000	
V	51	2	He	47.458	47.458	0.82	239985	0.02	2000	
Cr	52	2	He	50.706	50.706	0.75	285289	0.02	2000	
Fe	56	2	He	5919.301	5919.301	1.39	27314885	0.02	200000	
Se	78	2	He	44.356	44.356	2.23	4565	0.97	2000	
As	75	2	He	47.387	47.387	1.03	42247	0.11	2000	
Ca	44	2	He	118748.345	118748.345	1.84	5111800	2.32	200000	
Na	23	2	He	516605.658	516605.658	1.32	499518153	0.10	200000	>LDR
Mg	24	2	He	91622.663	91622.663	1.56	55064031	0.17	200000	
K	39	2	He	6047.153	6047.153	1.67	5692178	0.11	200000	
Mn	55	2	He	552.039	552.039	0.48	2453607	0.02	2000	
Co	59	2	He	45.336	45.336	0.93	324651	0.01	2000	
Ni	60	2	He	52.260	52.260	1.28	87171	0.06	2000	
Cu	63	2	He	47.604	47.604	1.03	198923	0.02	2000	
Zn	66	2	He	78.999	78.999	0.47	78627	0.10	2000	
Al	27	2	He	159.885	159.885	0.87	81527	0.20	2000	
B	11	1	No Gas	501.769	501.769	1.93	1052161	0.05	2000	
Al	27	1	No Gas	156.498	156.498	4.33	2308258	0.01	2000	
Si	28	1	No Gas	14916.669	14916.669	2.15	110888948	0.01	2000	>LDR
Ag	107	1	No Gas	41.242	41.242	1.29	573619	0.01	2000	
Cd	111	1	No Gas	43.684	43.684	1.81	116768	0.04	2000	
Sr	88	1	No Gas	2307.213	2307.213	0.95	66641884	0.00	2000	>LDR
Mo	95	1	No Gas	47.086	47.086	1.40	252264	0.02	2000	
Sn	118	1	No Gas	-0.210	-0.210	-6.28	1020	-0.02	2000	
Sb	121	1	No Gas	43.286	43.286	2.02	561685	0.01	2000	
Ba	137	1	No Gas	276.118	276.118	1.69	1255900	0.02	2000	
Tl	205	1	No Gas	39.894	39.894	2.08	720319	0.01	2000	
Tl	203	1	No Gas	39.613	39.613	2.08	304221	0.01	2000	
Pb	208	1	No Gas	44.864	44.864	1.62	1197854	0.00	2000	
U	238	1	No Gas	5.182	5.182	1.48	130225	0.00	2000	
Ca	43	2	He	124230.875	124230.875	1.58	322998	38.46	200000	
Sb	121	2	He	44.307	44.307	2.06	230320	0.02	2000	
Ti	47	2	He	49.359	49.359	4.09	10724	0.46	2000	
Cu	63	1	No Gas	52.617	52.617	1.62	560297	0.01	2000	
Zn	66	1	No Gas	78.203	78.203	2.05	245110	0.03	2000	
Se	82	1	No Gas	53.731	53.731	2.23	11246	0.48	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	784805	1.01	766868	102.34	70	120	
Ge	72	2	He	495612	1.75	446346	111.04	70	120	
Ge	72	1	No Gas	1970316	2.24	1803284	109.26	70	120	
In	115	1	No Gas	2093806	1.80	1975978	105.96	70	120	
Bi	209	1	No Gas	1470656	1.58	1487950	98.84	70	120	

Sample Report

Sample Table

Sample Name	HS23070447-01PDS
Data File Name	091SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\071723B.b
Acq Date Time	2023-07-17T22:26:17-05:00
Sample Type	Sample
Dilution	1
Comment	TW DOD B 197656
ISTD Ref FileName	009CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	83.875	83.875	3.65	1088086	0.01	2000	
Be	9	1	No Gas	85.362	85.362	1.31	327732	0.03	2000	
V	51	2	He	91.030	91.030	1.37	443193	0.02	2000	
Cr	52	2	He	93.408	93.408	1.68	494937	0.02	2000	
Fe	56	2	He	10371.901	10371.901	0.45	46691594	0.02	200000	
Se	78	2	He	88.701	88.701	3.16	8731	1.02	2000	
As	75	2	He	91.623	91.623	0.79	79402	0.12	2000	
Ca	44	2	He	122658.614	122658.614	1.03	5153869	2.38	200000	
Na	23	2	He	520894.987	520894.987	0.17	491582539	0.11	200000	>LDR
Mg	24	2	He	95528.849	95528.849	0.94	56038214	0.17	200000	
K	39	2	He	10632.795	10632.795	0.66	9588620	0.11	200000	
Mn	55	2	He	596.375	596.375	0.59	2586784	0.02	2000	
Co	59	2	He	85.975	85.975	1.40	600775	0.01	2000	
Ni	60	2	He	92.974	92.974	1.77	151084	0.06	2000	
Cu	63	2	He	88.980	88.980	0.77	361216	0.02	2000	
Zn	66	2	He	120.764	120.764	1.84	116544	0.10	2000	
Al	27	2	He	164.277	164.277	4.02	81701	0.20	2000	
B	11	1	No Gas	543.036	543.036	1.26	1125520	0.05	2000	
Al	27	1	No Gas	161.339	161.339	6.56	2320878	0.01	2000	
Si	28	1	No Gas	15221.115	15221.115	1.85	110305352	0.01	2000	>LDR
Ag	107	1	No Gas	90.502	90.502	3.91	1229086	0.01	2000	
Cd	111	1	No Gas	87.752	87.752	2.46	229155	0.04	2000	
Sr	88	1	No Gas	2337.635	2337.635	2.42	65952541	0.00	2000	>LDR
Mo	95	1	No Gas	93.854	93.854	3.00	490271	0.02	2000	
Sn	118	1	No Gas	-0.213	-0.213	-5.35	977	-0.02	2000	
Sb	121	1	No Gas	88.254	88.254	2.53	1116035	0.01	2000	
Ba	137	1	No Gas	324.909	324.909	1.07	1443625	0.02	2000	
Tl	205	1	No Gas	89.252	89.252	1.33	1586127	0.01	2000	
Tl	203	1	No Gas	85.217	85.217	1.42	643961	0.01	2000	
Pb	208	1	No Gas	89.644	89.644	1.75	2354950	0.00	2000	
U	238	1	No Gas	5.238	5.238	1.68	129551	0.00	2000	
Ca	43	2	He	128524.485	128524.485	1.24	326150	39.41	200000	
Sb	121	2	He	87.891	87.891	1.46	445824	0.02	2000	
Ti	47	2	He	95.539	95.539	3.96	20245	0.47	2000	
Cu	63	1	No Gas	95.515	95.515	1.27	987054	0.01	2000	
Zn	66	1	No Gas	121.301	121.301	2.73	368343	0.03	2000	
Se	82	1	No Gas	98.463	98.463	6.28	20070	0.49	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	776729	1.11	766868	101.29	70	120	
Ge	72	2	He	483665	0.18	446346	108.36	70	120	
Ge	72	1	No Gas	1920764	1.80	1803284	106.51	70	120	
In	115	1	No Gas	2045760	2.42	1975978	103.53	70	120	
Bi	209	1	No Gas	1447353	2.10	1487950	97.27	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	092_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\071723B.b
Acq Date Time	2023-07-17T22:28:13-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	009CALB.d
n	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	No Gas	94.373	2.175	1239058	1.89	100	94.4	90	110	
Be	9	1	No Gas	91.194	1.836	356139	0.51	100	91.2	90	110	
V	51	2	He	92.439	2.636	475040	0.24	100	92.4	90	110	
Cr	52	2	He	93.654	2.808	523849	0.84	100	93.7	90	110	
Fe	56	2	He	9292.760	2.940	44167298	0.36	10000	92.9	90	110	
Se	78	2	He	95.049	2.371	9865	1.42	100	95.0	90	110	
As	75	2	He	93.244	2.672	85304	0.05	100	93.2	90	110	
Ca	44	2	He	9406.690	2.241	418584	0.68	10000	94.1	90	110	
Na	23	2	He	9041.392	2.015	9080010	0.81	10000	90.4	90	110	
Mg	24	2	He	9014.513	1.814	5585406	1.21	10000	90.1	90	110	
K	39	2	He	9161.372	3.466	8756010	0.84	10000	91.6	90	110	
Mn	55	2	He	94.946	2.379	436033	0.78	100	94.9	90	110	
Co	59	2	He	89.760	3.127	662119	0.54	100	89.8	90	110	CCV Main CR1-2 Failed
Ni	60	2	He	93.767	2.926	160854	0.34	100	93.8	90	110	
Cu	63	2	He	94.860	2.639	406427	0.80	100	94.9	90	110	
Zn	66	2	He	91.608	2.845	93699	0.36	100	91.6	90	110	
Al	27	2	He	91.178	3.186	48856	0.77	100	91.2	90	110	
B	11	1	No Gas	487.659	1.250	1030177	2.26	500	97.5	90	110	
Al	27	1	No Gas	93.370	1.271	1439241	1.26	100	93.4	90	110	
Si	28	1	No Gas	468.272	4.058	4129415	2.30	5000	9.4	90	110	CCV Main CR1-2 Failed
Ag	107	1	No Gas	97.362	3.395	1426865	1.17	100	97.4	90	110	
Cd	111	1	No Gas	98.248	2.552	276822	0.63	100	98.2	90	110	
Sr	88	1	No Gas	98.218	3.374	2992066	1.42	100	98.2	90	110	
Mo	95	1	No Gas	97.207	2.202	547955	0.69	100	97.2	90	110	
Sn	118	1	No Gas	94.699	2.279	846308	1.34	100	94.7	90	110	
Sb	121	1	No Gas	96.313	2.335	1283166	2.46	100	96.3	90	110	
Ba	137	1	No Gas	98.066	1.730	471017	0.65	100	98.1	90	110	
Tl	205	1	No Gas	100.980	2.674	2113936	2.21	100	101.0	90	110	
Tl	203	1	No Gas	98.698	1.227	878806	0.70	100	98.7	90	110	
Pb	208	1	No Gas	96.318	2.319	2980601	1.25	100	96.3	90	110	
U	238	1	No Gas	99.167	2.514	2888641	1.17	100	99.2	90	110	
Ca	43	2	He	9214.502	4.235	24779	1.79	10000	92.1	90	110	
Sb	121	2	He	93.419	1.825	500362	1.11	100	93.4	90	110	
Ti	47	2	He	93.398	2.295	20896	0.46	100	93.4	90	110	
Cu	63	1	No Gas	96.250	3.234	1047393	0.93	100	96.3	90	110	
Se	82	1	No Gas	97.763	3.143	21001	2.59	100	97.8	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	790184	1.86	766868	103.04	70	120	
Ge	72	2	He	510881	2.75	446346	114.46	70	120	
Ge	72	1	No Gas	2023396	2.33	1803284	112.21	70	120	
In	115	1	No Gas	2207355	2.22	1975978	111.71	70	120	
Bi	209	1	No Gas	1705267	1.40	1487950	114.61	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	093_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\071723B.b
Acq Date Time	2023-07-17T22:30:04-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	009CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	1.068	13.3	68303	0.7	0.5	CCB Main CR1 Failed
Be	9	1	No Gas	0.026	24.5	123	23.4	0.5	
V	51	2	He	-0.470	-3.7	4693	2.8	2.5	
Cr	52	2	He	0.059	282.4	23263	3.7	2.5	
Fe	56	2	He	-0.393	-55.9	32509	2.7	100	
Se	78	2	He	-0.183	-55.6	173	5.5	2	
As	75	2	He	-0.036	-84.0	341	8.3	2.5	
Ca	44	2	He	-8.324	-26.6	1017	8.9	100	
Na	23	2	He	60.011	3.1	133860	1.5	100	
Mg	24	2	He	3.243	7.2	3871	3.0	100	
K	39	2	He	-72.483	-4.4	187258	0.7	100	
Mn	55	2	He	-0.156	-7.6	737	7.0	2.5	
Co	59	2	He	0.004	184.5	187	27.5	2.5	
Ni	60	2	He	-0.065	-75.3	283	29.4	2.5	
Cu	63	2	He	0.609	11.4	4708	7.3	2	
Zn	66	2	He	-0.555	-33.9	973	20.4	2.5	
Al	27	2	He	-2.660	-0.7	870	1.1	5	
B	11	1	No Gas	48.027	1.0	123315	1.8	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	-2.358	-1.2	26789	0.2	5	
Si	28	1	No Gas	-13.616	-7.4	490359	0.1	10	
Ag	107	1	No Gas	0.004	85.0	247	22.3	2.5	
Cd	111	1	No Gas	0.014	57.1	36	64.3	1	
Sr	88	1	No Gas	0.069	14.2	4871	4.9	2.5	
Mo	95	1	No Gas	0.003	144.7	1017	2.0	2.5	
Sn	118	1	No Gas	-0.045	-110.3	2707	15.6	5	
Sb	121	1	No Gas	0.223	16.9	3464	15.8	2.5	
Ba	137	1	No Gas	-0.172	-4.3	530	8.6	2.5	
Tl	205	1	No Gas	0.545	24.6	12176	22.1	1	
Tl	203	1	No Gas	0.539	27.5	5151	24.8	1	
Pb	208	1	No Gas	-0.001	-152.4	1053	4.3	2.5	
U	238	1	No Gas	0.028	33.9	900	30.2	2.5	
Ca	43	2	He	-26.375	-21.7	37	41.7	100	
Sb	121	2	He	0.178	15.3	1090	13.7	2.5	
Ti	47	2	He	-0.009	-549.0	13	86.6	2.5	
Cu	63	1	No Gas	1.005	28.4	17485	18.5	2.5	
Se	82	1	No Gas	0.248	178.3	71	137.4	2	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	828525	2.54	766868	108.04	70	120	
Ge	72	2	He	519644	0.92	446346	116.42	70	120	
Ge	72	1	No Gas	2112761	1.51	1803284	117.16	70	120	
In	115	1	No Gas	2346812	1.82	1975978	118.77	70	120	
Bi	209	1	No Gas	1785454	2.12	1487950	119.99	70	120	

Sample Report

Sample Table

Sample Name	HS23070445-01
Data File Name	094SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\071723B.b
Acq Date Time	2023-07-17T22:32:05-05:00
Sample Type	Sample
Dilution	1
Comment	TW DOD B 197656
ISTD Ref FileName	009CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	45.273	45.273	2.32	641539	0.01	2000	
Be	9	1	No Gas	0.011	0.011	26.83	58	0.02	2000	
V	51	2	He	-0.309	-0.309	-19.04	5587	-0.01	2000	
Cr	52	2	He	-0.858	-0.858	-16.66	18496	0.00	2000	
Fe	56	2	He	119.595	119.595	1.39	620068	0.02	200000	
Se	78	2	He	0.377	0.377	106.92	233	0.16	2000	
As	75	2	He	0.185	0.185	19.34	552	0.03	2000	
Ca	44	2	He	11030.209	11030.209	0.83	505441	2.18	200000	
Na	23	2	He	692083.754	692083.754	1.51	710418203	0.10	200000	>LDR
Mg	24	2	He	15419.040	15419.040	1.95	9839635	0.16	200000	
K	39	2	He	2546.824	2546.824	2.95	2694877	0.09	200000	
Mn	55	2	He	31.070	31.070	1.30	148002	0.02	2000	
Co	59	2	He	0.188	0.188	8.32	1590	0.01	2000	
Ni	60	2	He	0.818	0.818	7.44	1844	0.04	2000	
Cu	63	2	He	1.295	1.295	2.57	7779	0.02	2000	
Zn	66	2	He	6.382	6.382	2.96	8176	0.08	2000	
Al	27	2	He	8.528	8.528	7.24	6778	0.13	2000	
B	11	1	No Gas	81.264	81.264	2.31	192663	0.04	2000	
Al	27	1	No Gas	9.068	9.068	7.16	195838	0.00	2000	
Si	28	1	No Gas	16840.920	16840.920	1.87	129464945	0.01	2000	>LDR
Ag	107	1	No Gas	0.003	0.003	130.75	203	0.00	2000	
Cd	111	1	No Gas	0.009	0.009	85.01	19	0.05	2000	
Sr	88	1	No Gas	358.310	358.310	1.64	10648242	0.00	2000	
Mo	95	1	No Gas	0.054	0.054	175.47	1207	0.00	2000	
Sn	118	1	No Gas	-0.214	-0.214	-5.69	1017	-0.02	2000	
Sb	121	1	No Gas	0.067	0.067	20.08	1250	0.01	2000	
Ba	137	1	No Gas	293.879	293.879	2.32	1374828	0.02	2000	
Tl	205	1	No Gas	0.045	0.045	10.37	1087	0.00	2000	
Tl	203	1	No Gas	0.060	0.060	12.45	613	0.01	2000	
Pb	208	1	No Gas	0.027	0.027	16.04	1703	0.00	2000	
U	238	1	No Gas	0.017	0.017	24.43	480	0.00	2000	
Ca	43	2	He	11355.603	11355.603	2.74	31443	36.12	200000	
Sb	121	2	He	0.070	0.070	13.92	507	0.01	2000	
Ti	47	2	He	10.246	10.246	5.39	2377	0.43	2000	
Cu	63	1	No Gas	7.103	7.103	1.44	83378	0.01	2000	
Zn	66	1	No Gas	6.473	6.473	3.79	25013	0.03	2000	
Se	82	1	No Gas	5.298	5.298	13.96	1161	0.46	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	816038	2.19	766868	106.41	70	120	
Ge	72	2	He	526163	1.20	446346	117.88	70	120	
Ge	72	1	No Gas	2038418	1.43	1803284	113.04	70	120	
In	115	1	No Gas	2153978	1.57	1975978	109.01	70	120	
Bi	209	1	No Gas	1551013	3.57	1487950	104.24	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	100_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\071723B.b
Acq Date Time	2023-07-17T22:44:35-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	009CALB.d
n	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	No Gas	94.740	1.135	1135877	1.81	100	94.7	90	110	
Be	9	1	No Gas	92.162	0.998	328719	0.66	100	92.2	90	110	
V	51	2	He	97.366	0.881	442698	0.72	100	97.4	90	110	
Cr	52	2	He	98.555	0.264	487056	0.11	100	98.6	90	110	
Fe	56	2	He	9882.920	0.943	41591211	0.86	10000	98.8	90	110	
Se	78	2	He	97.519	1.512	8956	1.42	100	97.5	90	110	
As	75	2	He	97.776	0.941	79187	0.91	100	97.8	90	110	
Ca	44	2	He	9837.523	1.006	387515	0.85	10000	98.4	90	110	
Na	23	2	He	9515.506	0.489	8457054	0.54	10000	95.2	90	110	
Mg	24	2	He	9599.156	1.505	5265238	1.43	10000	96.0	90	110	
K	39	2	He	9850.502	0.693	8320363	0.53	10000	98.5	90	110	
Mn	55	2	He	99.465	1.215	404366	1.06	100	99.5	90	110	
Co	59	2	He	94.140	0.757	614920	0.70	100	94.1	90	110	
Ni	60	2	He	98.471	0.886	149561	0.75	100	98.5	90	110	
Cu	63	2	He	97.540	1.009	369972	0.86	100	97.5	90	110	
Zn	66	2	He	97.852	0.769	88531	0.91	100	97.9	90	110	
Al	27	2	He	100.006	2.199	47261	2.26	100	100.0	90	110	
B	11	1	No Gas	494.549	1.594	953707	1.25	500	98.9	90	110	
Al	27	1	No Gas	98.342	3.120	1346261	0.91	100	98.3	90	110	
Si	28	1	No Gas	484.690	3.670	3786918	1.08	5000	9.7	90	110	CCV Main CR1-2 Failed
Ag	107	1	No Gas	99.587	0.633	1323062	1.18	100	99.6	90	110	
Cd	111	1	No Gas	98.246	0.390	250911	1.06	100	98.2	90	110	
Sr	88	1	No Gas	100.060	1.116	2762968	0.22	100	100.1	90	110	
Mo	95	1	No Gas	98.141	0.922	501387	0.70	100	98.1	90	110	
Sn	118	1	No Gas	95.599	0.212	774307	1.10	100	95.6	90	110	
Sb	121	1	No Gas	99.603	1.547	1181224	0.60	100	99.6	90	110	
Ba	137	1	No Gas	98.307	1.548	427885	0.29	100	98.3	90	110	
Tl	205	1	No Gas	98.533	1.635	1822027	0.21	100	98.5	90	110	
Tl	203	1	No Gas	96.014	1.642	755119	0.23	100	96.0	90	110	
Pb	208	1	No Gas	97.566	1.758	2667053	0.60	100	97.6	90	110	
U	238	1	No Gas	100.491	1.307	2585983	0.44	100	100.5	90	110	
Ca	43	2	He	9592.398	0.972	22843	1.08	10000	95.9	90	110	
Sb	121	2	He	97.376	0.460	461727	0.31	100	97.4	90	110	
Ti	47	2	He	98.988	4.769	19608	4.76	100	99.0	90	110	
Cu	63	1	No Gas	99.138	2.826	960322	0.79	100	99.1	90	110	
Se	82	1	No Gas	100.200	0.768	19169	2.83	100	100.2	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	721578	1.30	766868	94.09	70	120	
Ge	72	2	He	452137	0.15	446346	101.30	70	120	
Ge	72	1	No Gas	1801249	2.12	1803284	99.89	70	120	
In	115	1	No Gas	2000090	1.31	1975978	101.22	70	120	
Bi	209	1	No Gas	1506366	1.75	1487950	101.24	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	101_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\071723B.b
Acq Date Time	2023-07-17T22:46:38-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	009CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	0.737	3.3	58360	2.0	0.5	CCB Main CR1 Failed
Be	9	1	No Gas	0.018	16.0	80	12.5	0.5	
V	51	2	He	-0.390	-2.6	4585	0.9	2.5	
Cr	52	2	He	0.423	59.0	22696	5.7	2.5	
Fe	56	2	He	-1.484	-14.0	24482	3.4	100	
Se	78	2	He	0.133	135.2	185	9.3	2	
As	75	2	He	-0.025	-36.5	316	2.7	2.5	
Ca	44	2	He	-14.432	-16.5	667	14.7	100	
Na	23	2	He	38.922	2.9	101091	0.8	100	
Mg	24	2	He	-0.593	-65.9	1307	17.2	100	
K	39	2	He	-39.909	-4.7	195975	1.2	100	
Mn	55	2	He	-0.109	-19.2	860	10.3	2.5	
Co	59	2	He	-0.001	-630.1	133	45.2	2.5	
Ni	60	2	He	-0.019	-179.0	327	15.7	2.5	
Cu	63	2	He	0.293	16.5	2997	6.4	2	
Zn	66	2	He	-0.353	-34.6	1060	10.9	2.5	
Al	27	2	He	-2.643	-5.1	790	8.3	5	
B	11	1	No Gas	48.244	4.7	112892	2.3	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	-2.363	-3.4	23367	5.8	5	
Si	28	1	No Gas	-8.150	-9.7	466840	0.8	10	
Ag	107	1	No Gas	-0.003	-118.0	120	36.3	2.5	
Cd	111	1	No Gas	0.001	587.4	-1	-2839.7	1	
Sr	88	1	No Gas	-0.011	-58.8	2030	9.4	2.5	
Mo	95	1	No Gas	-0.017	-75.0	793	9.1	2.5	
Sn	118	1	No Gas	-0.070	-39.8	2184	10.1	5	
Sb	121	1	No Gas	0.109	12.4	1640	8.0	2.5	
Ba	137	1	No Gas	-0.207	-6.7	310	19.4	2.5	
Tl	205	1	No Gas	0.516	30.2	10211	28.4	1	
Tl	203	1	No Gas	0.500	27.3	4241	25.3	1	
Pb	208	1	No Gas	0.000	-1567.2	960	9.1	2.5	
U	238	1	No Gas	0.021	20.9	597	18.5	2.5	
Ca	43	2	He	-28.975	-21.5	27	57.3	100	
Sb	121	2	He	0.085	7.5	523	5.8	2.5	
Ti	47	2	He	-0.052	-54.7	3	173.2	2.5	
Cu	63	1	No Gas	0.388	24.6	9187	8.3	2.5	
Se	82	1	No Gas	0.137	384.7	41	253.9	2	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	755866	1.91	766868	98.57	70	120	
Ge	72	2	He	467023	0.34	446346	104.63	70	120	
Ge	72	1	No Gas	1848022	1.98	1803284	102.48	70	120	
In	115	1	No Gas	2075002	0.75	1975978	105.01	70	120	
Bi	209	1	No Gas	1579510	1.06	1487950	106.15	70	120	

Sample Report

Sample Table

Sample Name	LLCCV2
Data File Name	102LCV2.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\071723B.b
Acq Date Time	2023-07-17T22:48:47-05:00
Sample Type	LLCCV2
Dilution	1
Comment	
ISTD Ref FileName	009CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	2.743	2.743	4.84	82019	0.00	2	NewName Main CR1 Failed
Be	9	1	No Gas	1.808	1.808	1.89	6730	0.03	2	
V	51	2	He	1.548	1.548	5.00	13641	0.01	2	
Cr	52	2	He	2.305	2.305	7.86	32101	0.01	2	
Fe	56	2	He	204.048	204.048	2.60	922800	0.02	200	
Se	78	2	He	2.163	2.163	15.86	376	0.58	2	
As	75	2	He	1.921	1.921	8.34	1949	0.10	2	
Ca	44	2	He	182.210	182.210	8.19	8693	2.10	200	
Na	23	2	He	248.934	248.934	1.60	294220	0.08	200	
Mg	24	2	He	206.405	206.405	1.60	119278	0.17	200	
K	39	2	He	166.424	166.424	0.88	373456	0.04	200	
Mn	55	2	He	1.875	1.875	1.77	9220	0.02	2	
Co	59	2	He	1.917	1.917	3.29	13153	0.01	2	
Ni	60	2	He	1.985	1.985	4.00	3484	0.06	2	
Cu	63	2	He	2.533	2.533	3.87	11805	0.02	2	
Zn	66	2	He	1.826	1.826	2.71	3084	0.06	2	
Al	27	2	He	3.792	3.792	20.22	3824	0.10	2	NewName Main CR1 Failed
B	11	1	No Gas	54.834	54.834	2.31	125283	0.04	10	NewName Main CR1 Failed
Al	27	1	No Gas	2.892	2.892	9.20	97361	0.00	2	NewName Main CR1 Failed
Si	28	1	No Gas	0.849	0.849	77.17	546960	0.00	10	NewName Main CR1 Failed
Ag	107	1	No Gas	1.946	1.946	2.36	27041	0.01	2	
Cd	111	1	No Gas	1.823	1.823	6.84	4835	0.04	2	
Sr	88	1	No Gas	1.948	1.948	1.45	58243	0.00	2	
Mo	95	1	No Gas	1.896	1.896	3.09	10941	0.02	2	
Sn	118	1	No Gas	1.725	1.725	2.38	17258	0.01	2	
Sb	121	1	No Gas	1.901	1.901	1.31	24223	0.01	2	
Ba	137	1	No Gas	1.829	1.829	5.15	9497	0.02	2	
Tl	205	1	No Gas	1.878	1.878	0.59	36551	0.01	2	
Tl	203	1	No Gas	1.918	1.918	0.53	15904	0.01	2	
Pb	208	1	No Gas	1.938	1.938	0.94	56364	0.00	2	
U	238	1	No Gas	1.872	1.872	1.63	50421	0.00	2	
Ca	43	2	He	203.563	203.563	15.32	600	33.93	200	
Sb	121	2	He	1.910	1.910	3.20	9517	0.02	2	
Ti	47	2	He	1.859	1.859	11.02	397	0.47	200	
Cu	63	1	No Gas	2.600	2.600	10.08	32088	0.01	2	NewName Main CR1 Failed
Se	82	1	No Gas	1.859	1.859	20.12	391	0.48	2	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	751425	0.70	766868	97.99	70	120	
Ge	72	2	He	469895	0.79	446346	105.28	70	120	
Ge	72	1	No Gas	1909557	1.45	1803284	105.89	70	120	
In	115	1	No Gas	2080192	2.18	1975978	105.27	70	120	
Bi	209	1	No Gas	1575250	1.15	1487950	105.87	70	120	

Sample Report

Sample Table

Sample Name	LLCCV5
Data File Name	103LCV5.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\071723B.b
Acq Date Time	2023-07-17T22:50:44-05:00
Sample Type	LLCCV5
Dilution	1
Comment	
ISTD Ref FileName	009CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	5.460	5.460	1.24	113496	0.00	5	
Be	9	1	No Gas	4.527	4.527	2.23	16678	0.03	5	
V	51	2	He	4.456	4.456	0.65	27115	0.02	5	
Cr	52	2	He	5.009	5.009	0.57	45288	0.01	5	
Fe	56	2	He	501.582	501.582	1.25	2216842	0.02	500	
Se	78	2	He	4.730	4.730	13.23	615	0.77	5	
As	75	2	He	4.622	4.622	3.89	4201	0.11	5	
Ca	44	2	He	467.156	467.156	1.48	20265	2.31	500	
Na	23	2	He	556.697	556.697	0.10	574704	0.10	500	
Mg	24	2	He	513.743	513.743	1.27	293581	0.17	500	
K	39	2	He	471.218	471.218	1.35	632036	0.07	500	
Mn	55	2	He	4.848	4.848	0.74	21681	0.02	5	
Co	59	2	He	4.662	4.662	0.45	31694	0.01	5	
Ni	60	2	He	4.899	4.899	3.63	8049	0.06	5	
Cu	63	2	He	5.521	5.521	0.92	23457	0.02	5	
Zn	66	2	He	5.100	5.100	4.13	6098	0.08	5	
Al	27	2	He	5.235	5.235	12.38	4491	0.12	5	
B	11	1	No Gas	67.978	67.978	0.41	149879	0.05	25	NewName2 Main CR1 Failed
Al	27	1	No Gas	4.852	4.852	0.51	123525	0.00	5	
Si	28	1	No Gas	18.398	18.398	5.65	666396	0.00	25	
Ag	107	1	No Gas	4.819	4.819	2.58	66621	0.01	5	
Cd	111	1	No Gas	4.798	4.798	3.14	12724	0.04	5	
Sr	88	1	No Gas	4.892	4.892	1.33	142520	0.00	5	
Mo	95	1	No Gas	5.692	5.692	1.31	31033	0.02	5	
Sn	118	1	No Gas	4.809	4.809	1.89	43085	0.01	5	
Sb	121	1	No Gas	4.692	4.692	1.99	58742	0.01	5	
Ba	137	1	No Gas	4.935	4.935	2.90	23485	0.02	5	
Tl	205	1	No Gas	4.649	4.649	1.64	90490	0.01	5	
Tl	203	1	No Gas	4.552	4.552	1.52	37707	0.01	5	
Pb	208	1	No Gas	4.818	4.818	1.94	139201	0.00	5	
U	238	1	No Gas	4.733	4.733	2.61	127900	0.00	5	
Ca	43	2	He	470.369	470.369	19.60	1253	37.53	500	
Sb	121	2	He	4.751	4.751	1.86	23448	0.02	5	
Ti	47	2	He	5.360	5.360	5.60	1113	0.48	5	
Cu	63	1	No Gas	5.622	5.622	1.22	62380	0.01	5	
Se	82	1	No Gas	5.077	5.077	18.60	1034	0.49	5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	744689	0.62	766868	97.11	70	120	
Ge	72	2	He	468532	0.31	446346	104.97	70	120	
Ge	72	1	No Gas	1891441	0.91	1803284	104.89	70	120	
In	115	1	No Gas	2077098	1.82	1975978	105.12	70	120	
Bi	209	1	No Gas	1581401	0.81	1487950	106.28	70	120	

Interference Check Solution A (ICS-A) Report

Sample Table

Sample Name	ICSA
Data File Name	104ICSA.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\071723B.b
Acq Date Time	2023-07-17T22:52:53-05:00
Sample Type	ICSA
Dilution	1
Comment	
ISTD Ref File Name	009CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	0.518	18.2	54037	2.5	0	ICSA Main CR1 Failed
Be	9	1	No Gas	0.006	47.3	35	28.6	0	ICSA Main CR1 Failed
V	51	2	He	-0.200	-21.7	5007	2.8	0	ICSA Main CR1 Failed
Cr	52	2	He	1.522	16.3	25714	3.8	0	ICSA Main CR1 Failed
Fe	56	2	He	96226.329	1.4	382958648	1.0	0	
Se	78	2	He	0.422	97.2	194	18.9	0	ICSA Main CR1 Failed
As	75	2	He	0.306	15.2	541	6.2	0	ICSA Main CR1 Failed
Ca	44	2	He	90115.095	1.2	3349752	0.7	0	
Na	23	2	He	91924.927	0.5	76793677	0.8	0	
Mg	24	2	He	92326.082	0.7	47909938	0.4	0	
K	39	2	He	94459.481	0.3	73697887	1.2	0	
Mn	55	2	He	1.310	4.7	6228	2.9	0	ICSA Main CR1 Failed
Co	59	2	He	0.627	8.0	4004	7.3	0	ICSA Main CR1 Failed
Ni	60	2	He	0.949	10.6	1687	9.1	0	ICSA Main CR1 Failed
Cu	63	2	He	0.865	0.9	4791	1.2	0	ICSA Main CR1 Failed
Zn	66	2	He	2.263	5.0	3177	3.8	0	ICSA Main CR1 Failed
Al	27	2	He	88248.241	0.7	37830763	1.6	0	
B	11	1	No Gas	42.025	2.3	97548	1.5	0	
Al	27	1	No Gas	85313.676	1.9	1079874491	0.8	0	
Si	28	1	No Gas	14.753	6.4	587326	1.6	0	ICSA Main CR1 Failed
Ag	107	1	No Gas	0.143	10.3	1944	8.3	0	ICSA Main CR1 Failed
Cd	111	1	No Gas	0.475	34.5	1152	35.8	0	ICSA Main CR1 Failed
Sr	88	1	No Gas	4.318	1.1	115290	1.0	0	ICSA Main CR1 Failed
Mo	95	1	No Gas	1944.205	2.8	9416937	1.3	0	
Sn	118	1	No Gas	-0.041	-48.9	2224	8.0	0	ICSA Main CR1 Failed
Sb	121	1	No Gas	0.245	4.9	3097	3.3	0	ICSA Main CR1 Failed
Ba	137	1	No Gas	0.535	9.0	3344	7.4	0	ICSA Main CR1 Failed
Tl	205	1	No Gas	0.045	24.7	1017	19.2	0	ICSA Main CR1 Failed
Tl	203	1	No Gas	0.043	33.0	440	23.9	0	ICSA Main CR1 Failed
Pb	208	1	No Gas	0.181	6.7	5617	5.9	0	ICSA Main CR1 Failed
U	238	1	No Gas	0.009	25.3	257	21.5	0	ICSA Main CR1 Failed
Ca	43	2	He	91700.353	0.6	205889	1.4	0	
Sb	121	2	He	0.248	8.2	1213	8.3	0	ICSA Main CR1 Failed
Ti	47	2	He	1979.086	0.5	370734	0.9	0	
Se	82	1	No Gas	0.933	51.8	184	46.8	0	ICSA Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	732991	0.52	766868	95.58	70	120	
Ge	72	2	He	427874	0.91	446346	95.86	70	120	
Ge	72	1	No Gas	1734266	1.25	1803284	96.17	70	120	
In	115	1	No Gas	1899736	1.55	1975978	96.14	70	120	
Bi	209	1	No Gas	1440654	0.33	1487950	96.82	70	120	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB
Data File Name	105ICSB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\071723B.b
Acq Date Time	2023-07-17T22:54:52-05:00
Sample Type	ICSB
Dilution	1
Comment	
ISTD Ref File Name	009CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	No Gas	98.316	5.311	1008249	1.21	100	98.3	180	120	ICSB Main CR1 Failed
Be	9	1	No Gas	94.460	4.227	288710	0.60	100	94.5	80	120	
V	51	2	He	95.092	1.123	409390	0.44	100	95.1	80	120	
Cr	52	2	He	96.081	0.750	449934	0.31	100	96.1	80	120	
Fe	56	2	He	103899.271	1.012	413613914	0.56	100	103899.3	80	120	ICSB Main CR1 Failed
Se	78	2	He	97.951	2.021	8514	1.15	100	98.0	80	120	
As	75	2	He	97.398	1.572	74665	0.85	100	97.4	80	120	
Ca	44	2	He	98414.300	1.311	3659113	0.37	100	98414.3	80	120	
Na	23	2	He	98857.137	2.448	82591785	1.43	100	98857.1	80	120	ICSB Main CR1 Failed
Mg	24	2	He	99749.215	2.085	51771833	1.16	100	99749.2	80	120	ICSB Main CR1 Failed
K	39	2	He	102630.877	1.593	80068835	0.71	100	102630.9	80	120	
Mn	55	2	He	97.499	1.278	375209	0.36	100	97.5	80	120	
Co	59	2	He	91.612	1.949	566393	1.02	100	91.6	80	120	
Ni	60	2	He	94.069	2.301	135243	1.39	100	94.1	80	120	
Cu	63	2	He	93.735	1.652	336591	0.77	100	93.7	80	120	
Zn	66	2	He	96.689	2.226	82812	1.20	100	96.7	80	120	
Al	27	2	He	87439.575	2.037	37488886	1.19	100	87439.6	80	120	ICSB Main CR1 Failed
B	11	1	No Gas	513.372	3.940	847938	1.07	100	513.4	80	120	
Al	27	1	No Gas	83528.876	2.378	1049934358	0.92	100	83528.9	80	120	ICSB Main CR1 Failed
Si	28	1	No Gas	480.142	3.600	3591859	0.37	100	480.1	80	120	
Ag	107	1	No Gas	95.911	1.198	1191559	0.68	100	95.9	80	120	
Cd	111	1	No Gas	98.395	1.438	235002	1.61	100	98.4	80	120	
Sr	88	1	No Gas	104.338	0.916	2694306	0.39	100	104.3	80	120	
Mo	95	1	No Gas	2050.300	1.578	9779672	1.18	100	2050.3	80	120	
Sn	118	1	No Gas	97.626	0.736	739382	0.20	100	97.6	80	120	
Sb	121	1	No Gas	99.663	2.240	1130205	1.30	100	99.7	80	120	
Ba	137	1	No Gas	101.142	0.808	411707	1.30	100	101.1	80	120	
Tl	205	1	No Gas	97.123	1.254	1708111	0.44	100	97.1	80	120	
Tl	203	1	No Gas	94.161	0.792	704357	0.63	100	94.2	80	120	
Pb	208	1	No Gas	98.246	1.252	2554237	0.16	100	98.2	80	120	
U	238	1	No Gas	105.052	1.096	2571139	1.16	100	105.1	80	120	
Ca	43	2	He	99429.559	2.549	223259	1.64	100	99429.6	80	120	ICSB Main CR1 Failed
Sb	121	2	He	97.880	1.245	439303	0.32	100	97.9	80	120	
Ti	47	2	He	2045.105	1.827	383169	0.82	100	2045.1	80	120	ICSB Main CR1 Failed
Cu	63	1	No Gas	93.687	3.011	868062	0.21	100	93.7	80	120	
Se	82	1	No Gas	97.195	5.482	17763	2.73	100	97.2	80	120	

QC ISTD Table

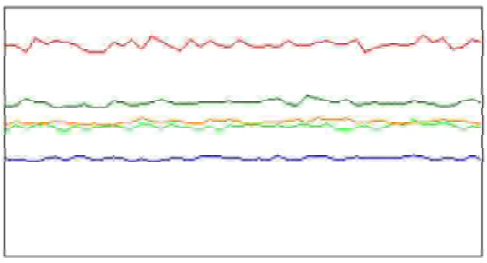
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	619095	4.64	766868	80.73	70	120	
Ge	72	2	He	427998	1.00	446346	95.89	70	120	
Ge	72	1	No Gas	1722740	2.98	1803284	95.53	70	120	
In	115	1	No Gas	1870372	0.53	1975978	94.66	70	120	
Bi	209	1	No Gas	1432560	1.34	1487950	96.28	70	120	

Tune Check Report

Operator Name	ALSHS.NoUser
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\071723A.b
Acq. Date-Time	7/17/2023 10:07:19 AM
Report Comment	---
Instrument Name	G8421A SG18523544

[No Gas]

Sensitivity



Sampling Period [sec]	0.514
Integration Time [sec]	0.1

Mass	Range	Count	Resp [cps/ug/l]	Resp (Required) [cps/ug/l]	Resp (Flag)
9	5000	4280	42801.87		
24	20000	10499	104992.88		
59	50000	19764	197635.17		
115	50000	27209	272088.83		
208	20000	12395	123948.40		

Mass	Resp Ratio	Resp Ratio (Required)	Resp Ratio (Flag)
9		-	
24		-	
59		-	
115		-	
208		-	

Mass	RSD%	RSD% (Required)	RSD% (Flag)
9	1.952	5.000	
24	1.879	5.000	
59	1.441	5.000	
115	1.376	5.000	
208	1.691	5.000	

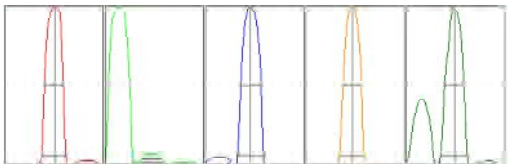
Mass	Background	Background (Required)	Background (Flag)
9	1.400		
24	1.300		
59	1.400		
115	2.600		
208	5.300		

Oxide/Doubly Charged Ratio

Oxide	156 / 140 1.231 %
Doubly Charged	70 / 140 0.904 %

Tune Check Report

Resolution/Axis



Integration Time [sec]	0.1
Acquisition Time [sec]	37.4
Y Axis	Linear

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
9	4344.30	9.05	8.90 - 9.10	
24	10605.57	23.90	23.90 - 24.10	
59	20338.53	58.90	58.90 - 59.10	
115	27861.81	114.95	114.90 - 115.10	
208	12590.49	208.00	207.90 - 208.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.59	0.735		
24	0.61	0.737		
59	0.61	0.780		
115	0.55	0.731		
208	0.59	0.812		

Tune Parameters

Plasma Parameters

Plasma Mode	---	Nebulizer Gas	0.60 L/min	Dilution Gas	0.45 L/min
RF Power	1600 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.80 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	10.2 V	Deflect	15.8 V
Extract 2	-200.0 V	Cell Entrance	-30 V	Plate Bias	-45 V
Omega Bias	-90 V	Cell Exit	-50 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	190 V		

QP Parameters

Mass Gain	133	Axis Gain	1.0007	QP Bias	-3.0 V
Mass Offset	125	Axis Offset	0.05		

Hardware Settings

Torch

Torch H	0.8 mm	Torch V	-0.8 mm

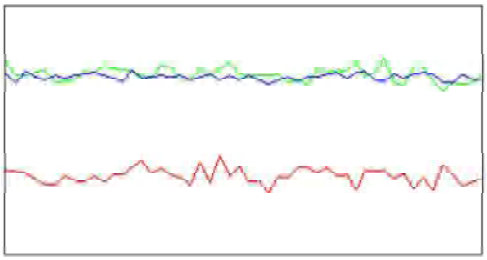
EM

Discriminator	4.5 mV	Analog HV	3004 V	Pulse HV	1633 V

[He]

Tune Check Report

Sensitivity



Sampling Period [sec] 0.306
Integration Time [sec] 0.1

Mass	Range	Count	Resp [cps/ug/l]	Resp (Required) [cps/ug/l]	Resp (Flag)
9	500	159	1586.89		
24	1000	728	7280.29		
59	10000	7172	71724.56		

Mass	Resp Ratio	Resp Ratio (Required)	Resp Ratio (Flag)
9		-	
24		-	
59		-	

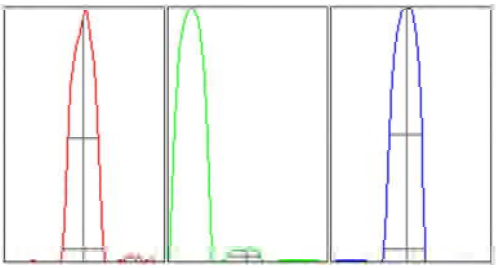
Mass	RSD%	RSD% (Required)	RSD% (Flag)
9	9.809	5.000	Fail
24	3.841	5.000	
59	1.858	5.000	

Mass	Background	Background (Required)	Background (Flag)
9	0.200		
24	0.300		
59	0.300		

Oxide/Doubly Charged Ratio

Oxide 156 / 140 2.324 %
Doubly Charged 70 / 140 0.879 %

Resolution/Axis



Integration Time [sec] 0.1
Acquisition Time [sec] 22.24
Y Axis Linear

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
9	158.77	9.00	8.90 - 9.10	
24	703.46	24.00	23.90 - 24.10	
59	7158.86	58.95	58.90 - 59.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.58	0.772		
24	0.62	0.726		

Tune Check Report

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
59	0.60	0.775		

Tune Parameters

Plasma Parameters

Plasma Mode	---	Nebulizer Gas	0.60 L/min	Dilution Gas	0.45 L/min
RF Power	1600 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.80 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	10.4 V	Deflect	0.9 V
Extract 2	-190.0 V	Cell Entrance	-40 V	Plate Bias	-60 V
Omega Bias	-90 V	Cell Exit	-60 V		

Cell Parameters

Use Gas	Yes	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	3.4 mL/min	OctP Bias	-18.0 V		
H2 Flow	0.0 mL/min	OctP RF	200 V		

QP Parameters

Mass Gain	133	Axis Gain	1.0007	QP Bias	-13.0 V
Mass Offset	125	Axis Offset	0.05		

Hardware Settings

Torch

Torch H	0.8 mm	Torch V	-0.8 mm

EM

Discriminator	4.5 mV	Analog HV	3004 V	Pulse HV	1633 V

HS23070445 Wetchem Cr6_W

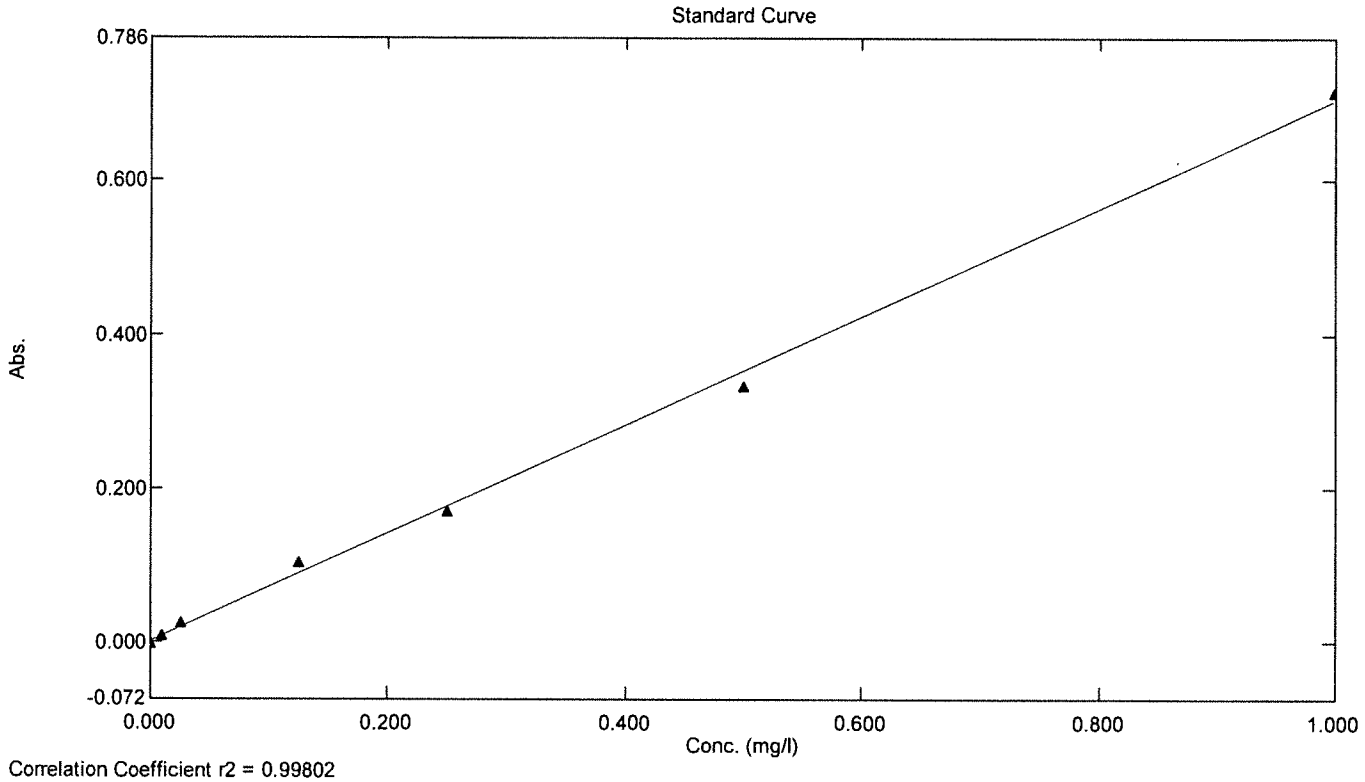
ALS WO# HS23070445

HS2307045

Standard Table Report

07/19/2023 05:50:14 PM

File Name: C:\Program Files (x86)\Shimadzu\UVProbe\Data\CR6+_UNKNOWN\2023\07112023CR6_W.pho



Correlation Coefficient r2 = 0.99802

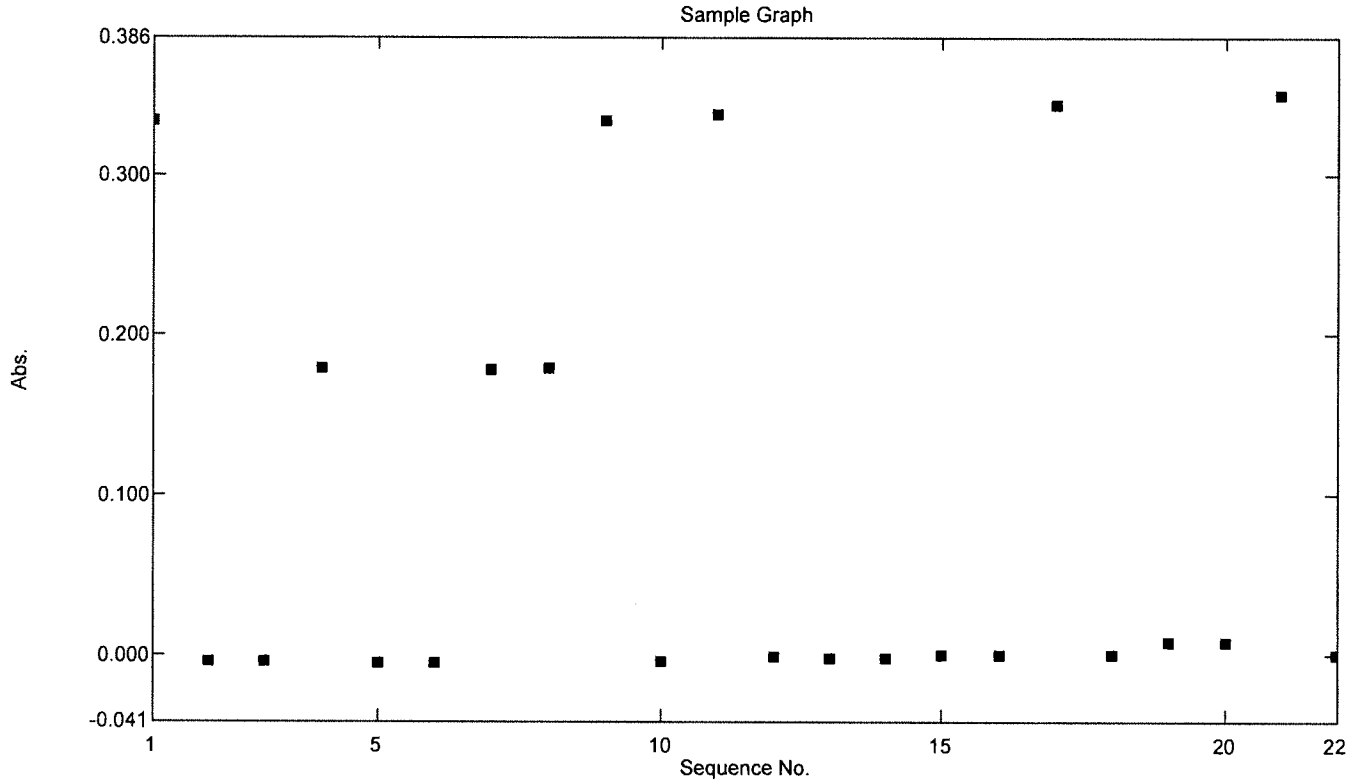
Standard Table

	Sample ID	Type	Ex	Conc	WL540.0	Wgt.Factor	Comments
1	STD1	Standard		0.000	-0.000	1.000	
2	STD2	Standard		0.010	0.009	1.000	
3	STD3	Standard		0.025	0.026	1.000	
4	STD4	Standard		0.125	0.105	1.000	
5	STD5	Standard		0.250	0.171	1.000	
6	STD6	Standard		0.500	0.334	1.000	
7	STD7	Standard		1.000	0.714	1.000	
8							

Sample Table Report

07/19/2023 05:50:15 PM

File Name: C:\Program Files (x86)\Shimadzu\UVProbe\Data\CR6+_UNKNOWN\2023\07112023CR6_W.pho



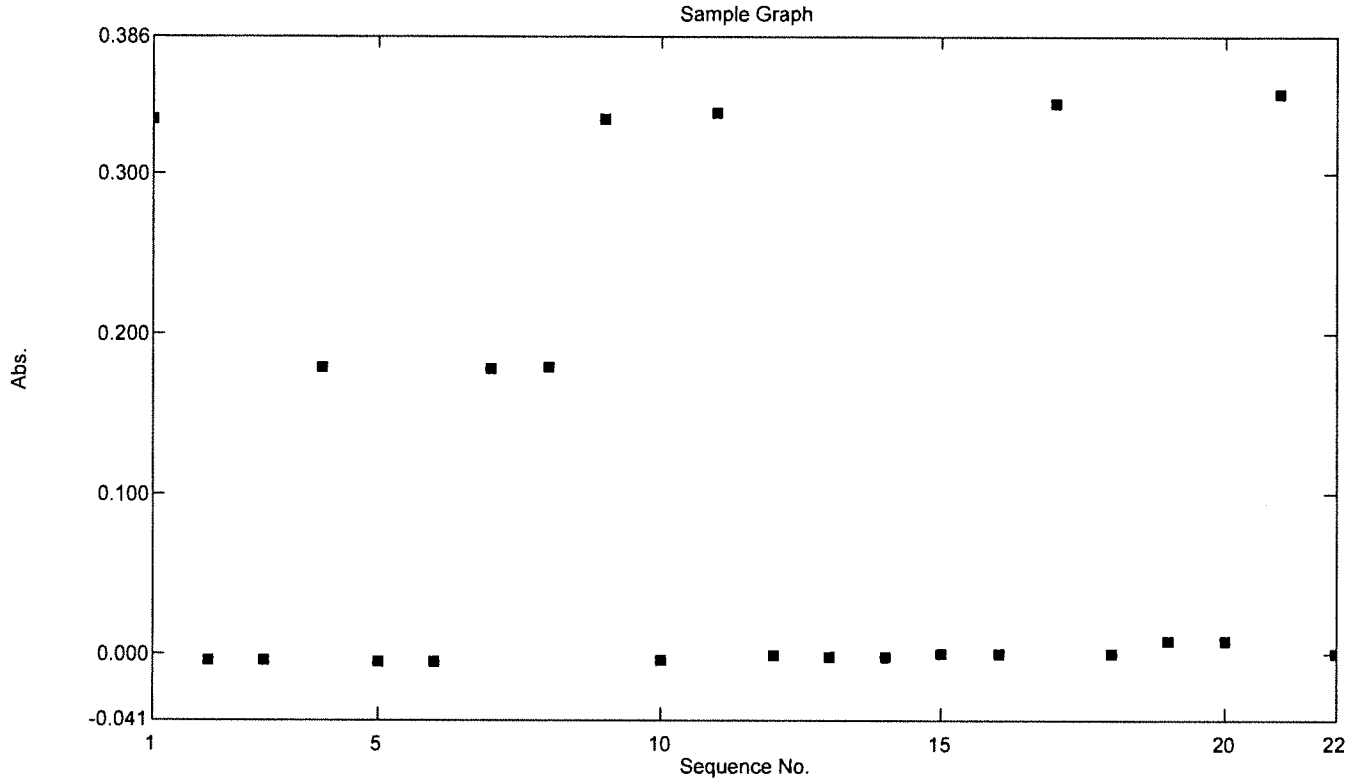
Sample Table

	Sample ID	Type	Ex	Date	Time	Conc	WL540.0	Comments
1	CCV	Unknown		07/11/2023	10:18:10 AM	0.473	0.334	32141303 IC-4
2	CCB	Unknown		07/11/2023	10:18:23 AM	-0.008	-0.003	3100606911 UV-3
3	MBLK	Unknown		07/11/2023	10:18:25 AM	-0.008	-0.003	321414304 IC-4
4	LCS	Unknown		07/11/2023	10:18:32 AM	0.251	0.179	322142602 UV-3
5	MW19	Unknown		07/11/2023	10:18:44 AM	-0.011	-0.005	0.000
6	MW19BKG	Unknown		07/11/2023	10:18:46 AM	-0.010	-0.005	PF:50X
7	MW19MS	Unknown		07/11/2023	10:19:13 AM	0.251	0.178	PF:50X
8	MW19MSD	Unknown		07/11/2023	10:19:15 AM	0.251	0.179	PF:50X
9	CCV2	Unknown		07/11/2023	10:19:27 AM	0.473	0.334	
10	CCB2	Unknown		07/11/2023	10:19:35 AM	-0.008	-0.003	
11	CCV3	Unknown		07/11/2023	12:20:03 PM	0.479	0.338	
12	CCB3	Unknown		07/11/2023	12:20:09 PM	-0.005	-0.001	
13	HS23070445.01	Unknown		07/11/2023	12:20:34 PM	-0.006	-0.002	
14	HS23070445.01BKG	Unknown		07/11/2023	12:20:36 PM	-0.006	-0.002	0.000
15	HS23070447.01	Unknown		07/11/2023	12:21:23 PM	-0.003	0.000	
16	HS23070447.01BKG	Unknown		07/11/2023	12:21:25 PM	-0.002	0.001	0.000
17	CCV4	Unknown		07/11/2023	12:21:37 PM	0.486	0.344	
18	CCB4	Unknown		07/11/2023	12:21:42 PM	-0.003	0.000	
19	HS23070486.01	Unknown		07/11/2023	05:01:11 PM	0.009	0.009	

Sample Table Report

07/19/2023 05:50:16 PM

File Name: C:\Program Files (x86)\Shimadzu\UVProbe\Data\CR6+_UNKNOWN\2023\07112023CR6_W.pho



Sample Table

	Sample ID	Type	Ex	Date	Time	Conc	WL540.0	Comments
20	HS23070486.01BKG	Unknown		07/11/2023	05:01:13 PM	0.009	0.008	0.000
21	CCV5	Unknown		07/11/2023	05:01:28 PM	0.496	0.350	
22	CCB5	Unknown		07/11/2023	05:02:21 PM	-0.003	0.000	
23								

HS23070445 Perch Sub E2300630-IV

ALS WO# HS23070445

July 21, 2023 Service Request No:E2300630

Bernadette Fini
ALS Laboratory Group
10450 Stancliff Road
Suite 210
Houston, TX 77099-4338

Laboratory Results for: HS23070445

Dear Bernadette,

Enclosed are the results of the sample(s) submitted to our laboratory July 19, 2023
For your reference, these analyses have been assigned our service request number **E2300630.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current TNI standards, where applicable, and except as noted in the laboratory case narrative provided. All results are intended to be considered in their entirety and ALS Environmental is not responsible for use of less than the complete final report. Results apply only to the items submitted to the laboratory, as received for analysis. In accordance with the current TNI Standard, a statement on the estimated uncertainty of measurement of any quantitative analysis will be supplied upon request.

Please contact me if you have any questions. My extension is 2188. You may also contact me via email at James.Guin@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental



James Guin

ADDRESS 10450 Stancliff Rd., Suite 210, Houston, TX 77099
PHONE +1 281 530 5656 | FAX +1 281 530 5887
ALS Group USA, Corp.
dba ALS Environmental

Certificate of Analysis

ALS Environmental - Houston Specialties Laboratory
10450 Stancliff Rd., Suite 210, Houston TX 77099
Phone (281)530-5656 Fax (281)530-5887
www.alsglobal.com

ALS Environmental

Client:	ALS Environmental - US	**Service Request No.:**	E2300630
Project:	HS23070445	**Date Received:**	07/19/2023
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed in adherence to the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

One sample was received for analysis at ALS Environmental in Houston on 07/19/2023.

The sample was received in good condition and is consistent with the accompanying chain of custody form. The sample was stored in a refrigerator at 4°C upon receipt at the laboratory.

Data Validation Notes and Discussion

Precision and Accuracy:

EQ2300346: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in lieu of a MS/MSD for this extraction batch.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS group USA Corp dba ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

Client: ALS Environmental - US **Service Request:**E2300630
Project: HS23070445

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2300630-001	LH18/24-SP650_071023_AIX	7/10/2023	1300

Service Request Summary

Folder #: **E2300630**
Client Name: ALS Environmental - US
Project Name: HS23070445
Project Number:

Report To: Bernadette Fini
ALS Laboratory Group
10450 Stancliff Road
Houston, TX 77099-4338
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number: 281-530-5887
E-mail: bernadette.fini@alsglobal.com

Project Chemist: James Guin
Originating Lab: HOUSTON
Logged By: KBROWN
Date Received: 07/19/23
Internal Due Date: 7/21/2023
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number:
EDD: No EDD Specified

1 120 mL-Plastic Bottle Natural WM Unpreserved
Location: SUBBED
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2300630-001	LH18/24-SP650_071023_AIX	Water	07/10/23 1300	IV

Service Request Summary

Folder #:	**E2300630**
Client Name:	ALS Environmental - US
Project Name:	HS23070445
Project Number:	

Report To:	Bernadette Fini ALS Laboratory Group 10450 Stancliff Road Houston, TX 77099-4338 USA
Phone Number:	281-530-5656
Cell Number:	
Fax Number:	281-530-5887
E-mail:	bernadette.fini@alsglobal.com

Project Chemist:	James Guin
Originating Lab:	HOUSTON
Logged By:	KBROWN
Date Received:	07/19/23
Internal Due Date:	7/21/2023
QAP:	LAB QAP
Qualifier Set:	Lab Standard
Formset:	Lab Standard
Merged?:	Y
Report to MDL?:	Y
P.O. Number:	
EDD:	No EDD Specified

1 120 mL-Plastic Bottle Natural WM Unpreserved

Location: SUBBED

Pressure Gas:

Data Qualifiers

Lab Standard

+	Possible Tedlar bag artifact.
A	TIC is a suspected aldol-condensation product
B	Analyte found in the associated method blank as well as in the sample.
BC	Reported results are not blank corrected.
BH	The back section of the tube yielded higher results than the front.
BT	Results indicated possible breakthrough; back section >=10% front section.
C	Result identification confirmed.
D	Compound identified in an analysis at a secondary dilution factor
D	Spike was diluted out
DE	Reported results are corrected for desorption efficiency.
E	Estimated value. Concentration above calibration range
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
H1	Sample analysis performed past holding time. See case narrative.
H2	Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
H3	Sample was received and analyzed past holding time.
H4	Sample was extracted past required extraction holding time, but analyzed within analysis holding time. See case narrative.
I	(Auto) The reference ion ratio was outside acceptance criteria, which may indicate a potential bias to this result.
I	Internal standard not within the specified limits. See case narrative.
I	The reference ion ratio was outside acceptance criteria, which may indicate a potential bias to this result.
J	Estimated Value. Concentration found below MRL.
K	A deflection in the QC ion may indicate interference with the quantitation of this ion. The concentration of this analyte should be considered as an estimate.
K	Analyte was detected above the method reporting limit prior to normalization.
K	The reference ion ratio was outside acceptance criteria, which may indicate a potential bias to this result.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
L1	Laboratory control sample recovery outside the specified limits; results may be biased high.
L2	Laboratory control sample recovery outside the specified limits; results may be biased low.
L3	Laboratory control sample recovery outside the specified limits.
M	Matrix interference; results may be biased high.
M	The duplicate injection precision not met.

Data Qualifiers

Lab Standard

M1	Matrix interference due to coelution with a non-target compound; results may be biased high.
N	Presumptive evidence of a compound for TICs that have been identified based on a mass spectral library search.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
P	Indicates chlorodiphenyl ether interference present at the retention time of the target compound.
P	Pesticide/Aroclor target analyte > 40% difference for detected concentrations between GC columns
Q	Indicates as estimated value because the P and P + 2 theoretical abundance ratio does not meet method criteria.
R	Duplicate Precision not met.
R1	Duplicate precision not within the specified limits; however, the results are below the MRL and considered estimated.
S	Surrogate recovery not within specified limits.
S	The reported value was determined by the Method of Standard Additions (MSA).
T	Analyte is a tentatively identified compound, result is estimated.
U	Compound was analyzed for, but was not detected (ND).
V1	The continuing calibration verification standard was outside (biased high) the specified limits for this compound.
V2	The continuing calibration verification standard was outside (biased low) the specified limits for this compound.
W	Result quantified, but the corresponding peak was detected outside the generated retention time window.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
X	See case narrative.
Y	Recovery outside limits
Y	The chromatogram resembles a petroleum product but does not match the calibration standard.
Z	The chromatogram does not resemble a petroleum product.
i	The MRL/MDL has been elevated due to a matrix interference.

ALS Laboratory Group

Acronyms

Cal	Calibration
Conc	CONCentration
Dioxin(s)	Polychlorinated dibenzo-p-dioxin(s)
EDL	Estimated Detection Limit
EMPC	Estimated Maximum Possible Concentration
Flags	Data qualifiers
Furan(s)	Polychlorinated dibenzofuran(s)
g	Grams
ICAL	Initial CALibration
ID	IDentifier
Ions	Masses monitored for the analyte during data acquisition
L	Liter (s)
LCS	Laboratory Control Sample
DLCS	Duplicate Laboratory Control Sample
MB	Method Blank
MCL	Method Calibration Limit
MDL	Method Detection Limit
mL	Milliliters
MS	Matrix Spiked sample
DMS	Duplicate Matrix Spiked sample
NO	Number of peaks meeting all identification criteria
PCDD(s)	Polychlorinated dibenzo-p-dioxin(s)
PCDF(s)	Polychlorinated dibenzofuran(s)
ppb	Parts per billion
ppm	Parts per million
ppq	Parts per quadrillion
ppt	Parts per trillion
QA	Quality Assurance
QC	Quality Control
Ratio	Ratio of areas from monitored ions for an analyte
% Rec.	Percent recovery
RPD	Relative Percent Difference
RRF	Relative Response Factor
RT	Retention Time
SDG	Sample Delivery Group
S/N	Signal-to-noise ratio
TEF	Toxicity Equivalence Factor
TEQ	Toxicity Equivalence Quotient

10450 Stancliff Rd, Houston, TX 77099 | 281-530-5656 | www.alsglobal.com

ALS Environmental

State Certifications, Accreditations, and Licenses

Agency	Number	Expire Date
Arizona Department of Health Services	AZ0793_2024	5/27/2024
Arkansas Department of Environmental Quality	88-00356	3/27/2024
California State Environmental Laboratory Accreditation Program	2919	4/30/2024
Department of Defense	L22-90	3/31/2024
Department of Defense	L23-358	5/31/2025
Florida Department of Health	E87611-38	6/30/2024
Illinois Environmental Protection Agency	2000322023-11	6/30/2024
Kansas Department of Health and Environment	E-10352 2022-2023	7/31/2023
Louisiana Department of Environmental Quality	03087-2023	6/30/2024
Louisiana Department of Health and Hospitals	LA028-2023	12/31/2023
Maine Department of Health and Human Services	2022017	6/5/2024
Maryland Department of the Environment	343	7/31/2023
Michigan Depratment of Environmental Quality	9971-2023	4/30/2024
Minnesota Department of Health	2368363	12/31/2023
Nebraska Department of Health and Human Services	NE-OS-25-13	4/30/2024
Nevada Department of Conservation and Natural Resources	TX026932023-1	7/31/2023
New Hampshire Environmental Laboratory Accreditation Program	209423	4/24/2024
New Jersey Department of Environmental Protection	TX008-2024	6/30/2024
New York Department of Health	11707	3/31/2024
Oklahoma Department of Environmental Quality	2022-141	8/31/2023
Pennsylvania Department of Environmental Protection	68-03441-017	6/30/2024
Perry Johnson Laboratory Accreditation	L22-91	3/31/2024
Tennessee Department of Environment and Concervation	TN04016-2023	4/30/2024
Texas Commision on Environmental Quality	T104704231-23-30	4/30/2024
Utah Department of Health Environmental Laboratory Certification	TX026932022-13	7/31/2023
Washington Department of Ecology	C819-22	11/14/2023

ALS

Chain of Custody

ALS Environmental - Houston Specialties Laboratory
10450 Stancliff Rd., Suite 210, Houston TX 77099
Phone (281)530-5656 Fax (281)530-5887
www.alsglobal.com

10450 Stancliff Rd, Ste 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **22314**

SUBCONTRACT TO:

ALS Environmental
10450 Stancliff RoadSuite 210
Houston, TX 77084 **Phone:** +1 281 530 5656

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	James Guin
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	James.Guin@alsglobal.com
Alternate Contact:	Jumoke M. Lawal
Email:	jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS23070445
TSR:	Houston House Acct

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS23070445-02**	**LH18/24-SP650_071023_AIX**	**Water**	**10 Jul 2023 13:00**
	Provide Level II and Level IV reports in separate pdf			18 Jul 2023

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.

QC Level: DOD IV (DoD Data Package)

Relinquished By: _____ Date/Time: _____

Received By: _____ Date/Time: 07/19/2023 1400

Cooler ID(s): _____ Temperature(s): _____

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SAMPLE ACCEPTANCE POLICY

This policy outlines the criteria samples must meet to be accepted by ALS Environmental – Houston HRMS.

Cooler Custody Seals (desirable, mandatory if specified in SAP):

- ✓ Intact on outside of cooler, signed and dated

Chain-of-Custody (COC) documentation (mandatory):

The following is required on each COC:

- ✓ Sample ID, the location, date and time of collection, collector's name, preservation type, sample type, and any other special remarks concerning the sampleThe COC must be completed in ink.
- ✓ Signature and date of relinquishing party.

In the absence of a COC at sample receipt, the COC will be requested from the client.

Sample Integrity (mandatory):

Samples are inspected upon arrival to ensure that sample integrity was not compromised during transfer to the laboratory.

- ✓ Sample containers must arrive in good condition (not broken or leaking).
- ✓ Samples must be labeled appropriately, including Sample IDs, and requested test using durable labels and indelible ink.
- ✓ The correct type of sample bottle must be used for the method requested.
- ✓ An appropriate sample volume, or weight, must be received.
- ✓ Sample IDs and number of containers must reconcile with the COC.
- ✓ Samples must be received within the method defined holding time.

Temperature Requirement (varies by sample matrix):

- ✓ Aqueous and Non-aqueous samples must be shipped and stored cold, at 0 to 6ºC.
- ✓ Tissue samples must be shipped and stored frozen, at -20 to -10ºC.
- ✓ Air samples are shipped and stored cold, at 0 to 6ºC
- ✓ The sample temperature must be recorded on the COC

All cooler inspections are documented on the Cooler Receipt Form (CRF). A separate CRF is completed for each service request. Any samples not meeting the above criteria are noted on the CRF and the Project Manager notified. The Project Manager must resolve any sample integrity issues with the client prior to proceeding with the analysis. Such resolutions are documented in writing and filed with the project folder. Data associated with samples received outside of this acceptance policy will be qualified on the case narrative of the final report

Preparation Information Benchsheets

ALS Environmental - Houston Specialties Laboratory
10450 Stancliff Rd., Suite 210, Houston TX 77099
Phone (281)530-5656 Fax (281)530-5887
www.alsglobal.com

Preparation Information Benchsheet

Prep Run#: 423378 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/XMI **Prep Method:** Method **Prep Date/Time:** 7/20/23 08:43

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2300630-001	LH18/24-SP650_071023_AIX	.01	6850/ClO4 DOD			Water	10mL	
2	E2300631-001	EA-20_0323	.01	6850/ClO4			Water	10mL	
3	E2300631-002	CTC-48_0323	.01	6850/ClO4			Water	10mL	
4	E2300631-003	EA-55-0323	.01	6850/ClO4			Water	10mL	
5	E2300631-004	CTC-29-0323	.01	6850/ClO4			Water	10mL	
6	E2300637-001	EA-5_0323	.01	6850/ClO4			Water	10mL	
7	E2300637-002	WELL-3_0323	.01	6850/ClO4			Water	10mL	
8	E2300637-003	CTC-47_0323	.01	6850/ClO4			Water	10mL	
9	E2300637-004	EA40_0323	.01	6850/ClO4			Water	10mL	
10	E2300637-005	EA-53_0323	.01	6850/ClO4			Water	10mL	
11	E2300642-001	MW-2	.01	6850/ClO4			Water	10mL	
12	E2300643-001	LH18/24-SP140_071023	.01	6850/ClO4 DOD			Water	10mL	
13	EQ2300346-01	MB		6850/ClO4			Liquid	10mL	
14	EQ2300346-02	LCS		6850/ClO4			Liquid	10mL	
15	EQ2300346-03	DLCS		6850/ClO4			Liquid	10mL	
16	K2307522-001	LGAC-INF-070323	.01	6850/ClO4			Water	10mL	
17	K2307522-002	LGAC-INT1-070323	.01	6850/ClO4			Water	10mL	
18	K2307522-003	LGAC-INT2-070323	.01	6850/ClO4			Water	10mL	
19	K2307692-001	FBR-INF-071023	.01	6850/ClO4			Water	10mL	
20	K2307692-002	LGAC-INF-071023	.01	6850/ClO4			Water	10mL	
21	K2307692-003	LGAC-INT1-071023	.01	6850/ClO4			Water	10mL	
22	K2307692-004	LGAC-INT2-071023	.01	6850/ClO4			Water	10mL	

Spiking Solutions

Name: Perchlorate Intermediate Stock1 Inventory ID 227236 Logbook Ref: Perchlorate (1st Source) Expires On: 07/31/2023

EQ2300346-02	1.00µL	EQ2300346-02	1.00µL	EQ2300346-03	1.00µL	EQ2300346-03	1.00µL

Name: Perchlorate Internal Standard 1ug/mL Inventory ID 227244 Logbook Ref: Perchlorate Internal Standard Expires On: 07/31/2023

E2300630-001	100.00µL	E2300631-001	100.00µL	E2300631-002	100.00µL	E2300631-003	100.00µL	E2300631-004	100.00µL	E2300637-001	100.00µL
E2300637-002	100.00µL	E2300637-003	100.00µL	E2300637-004	100.00µL	E2300637-005	100.00µL	E2300642-001	100.00µL	E2300643-001	100.00µL
EQ2300346-01	100.00µL	EQ2300346-01	100.00µL	EQ2300346-02	100.00µL	EQ2300346-02	100.00µL	EQ2300346-03	100.00µL	EQ2300346-03	100.00µL
K2307522-001	100.00µL	K2307522-002	100.00µL	K2307522-003	100.00µL	K2307692-001	100.00µL	K2307692-002	100.00µL	K2307692-003	100.00µL
K2307692-004	100.00µL										

Preparation Information Benchsheet

Prep Run#: 423378 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/XMI **Prep Method:** Method **Prep Date/Time:** 7/20/23 08:43

Preparation Materials

Water HPLC Grade	HPLC water 5/18/23CG (229315)	6850 Amber Glass screw vial	2mL Screw Top Vial (221894)	6850 0.45um syringe filters	6850 0.45 SYRING FILTER (229979)
6850 Luer-Lok Syringes	luer-lock syringes (228116)				

Preparation Steps

Step: Preparation
Started: 7/20/23 08:43
Finished: 7/20/23 09:55
By: XMI
Comments

Comments: _____

Reviewed By: _____ Date: _____

Chain of Custody

Relinquished By: _____ Date: _____ Extracts Examined

Received By: _____ Date: _____ Yes No

Analytical Results

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ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300630
Project:	HS23070445	**Date Collected:**	7/10/23 1300
Sample Matrix:	Water	**Date Received:**	7/19/23
Sample Name:	LH18/24-SP650_071023_AIX	**Units:**	µg/L
Lab Code:	E2300630-001	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.100	0.0500	0.0250	1	7/20/23	7/21/23 09:42	423378	811375	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300630
Project:	HS23070445	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2300346-01	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.100	0.0500	0.0250	1	7/20/23	7/20/23 15:27	423378	811363	

Accuracy & Precision

ALS Environmental - Houston Specialties Laboratory
10450 Stancliff Rd., Suite 210, Houston TX 77099
Phone (281)530-5656 Fax (281)530-5887
www.alsglobal.com

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS23070445
Sample Matrix: Water

Service Request: E2300630
Date Analyzed: 7/20/23

Lab Control Sample Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Units: µg/L
Basis: NA

Extraction Lot: 423378

	Lab Control Sample EQ2300346-02			Duplicate Lab Control Sample EQ2300346-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.111	0.100	111	0.0967	0.100	97	84 - 119	14	15

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300630
Project:	HS23070445	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2300346-02	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.111**		0.100	0.0500	0.0250	1	7/20/23	7/20/23 15:39	423378	811363	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300630
Project:	HS23070445	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2300346-03	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.0967**	J	0.100	0.0500	0.0250	1	7/20/23	7/20/23 15:55	423378	811363	

Initial Calibration

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 210, Houston, TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

20230629-809329

Injection Log

LCMS01 -Shimadzu 8050

1st Review: XM
2nd Review: GC

ICAL Date: 6/29/2023
Cal. Std. xp: 06/29/2023
ICAL ID: EC2300011

Mobile Phases : A:20mM ammonium acetate in water 32103046 **B:**Acetonitrile 226552

	Sample Name		File Name	Acquisition Method	Dilution	Comments	Date/Time
1	PERCHLORATE1		20230629-001	Perchlorate6850c.lcm	1x	227245	6/29/2023 12:59
2	PERCHLORATE2		20230629-002	Perchlorate6850c.lcm	1x	227246	6/29/2023 13:05
3	PERCHLORATE3		20230629-003	Perchlorate6850c.lcm	1x	227247	6/29/2023 13:10
4	PERCHLORATE4		20230629-004	Perchlorate6850c.lcm	1x	227248	6/29/2023 13:16
5	PERCHLORATE5		20230629-005	Perchlorate6850c.lcm	1x	227249	6/29/2023 13:21
6	PERCHLORATE6		20230629-006	Perchlorate6850c.lcm	1x	227250	6/29/2023 13:27
7	PERCHLORATE7		20230629-007	Perchlorate6850c.lcm	1x	227251	6/29/2023 13:32
8	PERCHLORATE8		20230629-008	Perchlorate6850c.lcm	1x	227252	6/29/2023 13:38
9	PERCHLORATE9		20230629-009	Perchlorate6850c.lcm	1x	227253	6/29/2023 13:43
10	PERCHLORATE10		20230629-010	Perchlorate6850c.lcm	1x	227254	6/29/2023 13:49
11	PERCHLORATEICV		20230629-011	Perchlorate6850c.lcm	1x	227256	6/29/2023 13:55
12	IB		20230629-012	Perchlorate6850c.lcm	1x		6/29/2023 14:00
13	LODV		20230629-013	Perchlorate6850c.lcm	1x	227501	6/29/2023 14:06
14	ICS		20230629-014	Perchlorate6850c.lcm	1x	32103024	6/29/2023 14:11
15	CCV		20230629-015	Perchlorate6850c.lcm	1x	227251	6/29/2023 14:17
16	EQ2300312-01		20230629-016	Perchlorate6850c.lcm	1x		6/29/2023 14:22
17	EQ2300312-02		20230629-017	Perchlorate6850c.lcm	1x	DNU-RR	6/29/2023 14:28
18	EQ2300312-03		20230629-018	Perchlorate6850c.lcm	1x		6/29/2023 14:33
19	E2300606-001		20230629-019	Perchlorate6850c.lcm	10x		6/29/2023 14:39
20	EQ2300312-04		20230629-020	Perchlorate6850c.lcm	1x		6/29/2023 14:44
21	EQ2300312-05		20230629-021	Perchlorate6850c.lcm	1x		6/29/2023 14:50
22	E2300606-002		20230629-022	Perchlorate6850c.lcm	5x		6/29/2023 14:55
23	E2300606-003		20230629-023	Perchlorate6850c.lcm	10x		6/29/2023 15:01
24	E2300606-004		20230629-024	Perchlorate6850c.lcm	10x		6/29/2023 15:06
25	E2300606-005		20230629-025	Perchlorate6850c.lcm	1x		6/29/2023 15:12
26	CCV		20230629-026	Perchlorate6850c.lcm	1x	227251	6/29/2023 15:17
27	E2300606-006		20230629-027	Perchlorate6850c.lcm	1x		6/29/2023 15:23
28	E2300606-007		20230629-028	Perchlorate6850c.lcm	500x		6/29/2023 15:28
29	E2300606-008		20230629-029	Perchlorate6850c.lcm	100x		6/29/2023 15:34
30	EQ2300312-06		20230629-030	Perchlorate6850c.lcm	100x		6/29/2023 15:40
31	EQ2300312-07		20230629-031	Perchlorate6850c.lcm	100x		6/29/2023 15:45
32	E2300606-009		20230629-032	Perchlorate6850c.lcm	1x		6/29/2023 15:53
33	E2300610-001		20230629-033	Perchlorate6850c.lcm	10000x		6/29/2023 15:58
34	E2300610-002		20230629-034	Perchlorate6850c.lcm	1x		6/29/2023 16:04
35	E2300610-003		20230629-035	Perchlorate6850c.lcm	1x		6/29/2023 16:09
36	E2300610-004		20230629-036	Perchlorate6850c.lcm	1x		6/29/2023 16:15
37	CCV		20230629-037	Perchlorate6850c.lcm	1x	227251	6/29/2023 16:21

20230629-809329

Injection Log

LCMS01 -Shimadzu 8050

1st Review: XM
2nd Review: GC

ICAL Date: 6/29/2023
Cal. Std. xp: 06/29/2023
ICAL ID: EC2300011

Mobile Phases : A:20mM ammonium acetate in water 32103046 **B:**Acetonitrile 226552

	Sample Name		File Name	Acquisition Method	Dilution	Comments	Date/Time
38	E2300610-005		20230629-038	Perchlorate6850c.lcm	1x		6/29/2023 16:26
39	E2300610-006		20230629-039	Perchlorate6850c.lcm	1x		6/29/2023 16:32
40	E2300610-007		20230629-040	Perchlorate6850c.lcm	1x		6/29/2023 16:37
41	E2300610-008		20230629-041	Perchlorate6850c.lcm	1x	DNU-D	6/29/2023 16:43
42	EQ2300312-08		20230629-042	Perchlorate6850c.lcm	1x		6/29/2023 16:48
43	EQ2300312-09		20230629-043	Perchlorate6850c.lcm	1x		6/29/2023 16:54
44	E2300611-001		20230629-044	Perchlorate6850c.lcm	1x		6/29/2023 16:59
45	E2300611-002		20230629-045	Perchlorate6850c.lcm	1x		6/29/2023 17:05
46	E2300611-003		20230629-046	Perchlorate6850c.lcm	1x		6/29/2023 17:10
47	E2300611-004		20230629-047	Perchlorate6850c.lcm	1x	DNU-D	6/29/2023 17:16
48	CCV		20230629-048	Perchlorate6850c.lcm	1x	227251	6/29/2023 17:21
49	E2300611-005		20230629-049	Perchlorate6850c.lcm	1x		6/29/2023 17:27
50	E2300611-006		20230629-050	Perchlorate6850c.lcm	1x	DNU-D	6/29/2023 17:32
51	E2300611-007		20230629-051	Perchlorate6850c.lcm	1x	DNU-D	6/29/2023 17:38
52	E2300611-008		20230629-052	Perchlorate6850c.lcm	1x		6/29/2023 17:43
53	E2300611-009		20230629-053	Perchlorate6850c.lcm	1x		6/29/2023 17:49
54	E2300611-010		20230629-054	Perchlorate6850c.lcm	1x		6/29/2023 17:55
55	CCV		20230629-055	Perchlorate6850c.lcm	1x	227251	6/29/2023 18:06

Initial Calibration - Detailed Report

Calibration ID: EC2300011 **Instrument ID:** E-LCMS-01
Column Name: 1

#	Lab Code	Sample Name	File Location	Aquisition Date
01	EC2300011-01	PERCHLORATE1	20230629-001	06/29/2023 12:59
02	EC2300011-02	PERCHLORATE2	20230629-002	06/29/2023 13:05
03	EC2300011-03	PERCHLORATE3	20230629-003	06/29/2023 13:10
04	EC2300011-04	PERCHLORATE4	20230629-004	06/29/2023 13:16
05	EC2300011-05	PERCHLORATE5	20230629-005	06/29/2023 13:21
06	EC2300011-06	PERCHLORATE6	20230629-006	06/29/2023 13:27
07	EC2300011-07	PERCHLORATE7	20230629-007	06/29/2023 13:32
08	EC2300011-08	PERCHLORATE8	20230629-008	06/29/2023 13:38
09	EC2300011-09	PERCHLORATE9	20230629-009	06/29/2023 13:43
10	EC2300011-10	PERCHLORATE10	20230629-010	06/29/2023 13:49

Analyte **Curve Fit** **Weighting**

Perchlorate **Average RF** **RSD = 2.809** **Average RF = 0.1625**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.1000	0.1678	02	0.5000	0.1574	03	0.7000	0.1599	04	1.0000	0.1567
05	2.0000	0.1596	06	5.0000	0.1641	07	10.0000	0.1704	08	20.0000	0.1667
09	30.0000	0.1608	10	50.0000	0.1619						

Analyte

Perchlorate RSE = 2.81

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.1000	0.103	3.2	02	0.5000	0.484	-3.1	03	0.7000	0.689	-1.6
04	1.0000	0.964	-3.6	05	2.0000	1.96	-1.8	06	5.0000	5.05	1.0
07	10.0000	10.5	4.8	08	20.0000	20.5	2.6	09	30.0000	29.7	-1.1
10	50.0000	49.8	-0.4								

Initial Calibration Verification Summary Report

Calibration ID:	EC2300011	**Instrument ID:**	E-LCMS-01
Datafile ID:	20230629-011	**Column Name:**	1

Analyte	Lab Code	Type	Curve Fit	True Value	Calc Conc	Units	Result	Criteria
Perchlorate	EC2300011-11	T	Average RF	10	9.913	ng/mL	-0.9	<= 15

Insight Report

Printed at 6/29/2023 2:17:05 PM

Method File: I:\LCMS01\DATA\20230628\06282023.lcm
Project File: I:\LCMS01\DATA\20230628\06282023.damlp

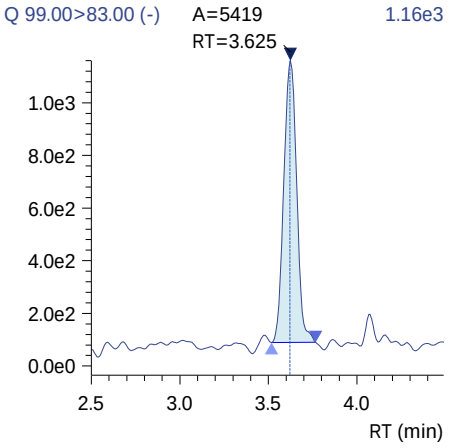
PERCHLORATE1

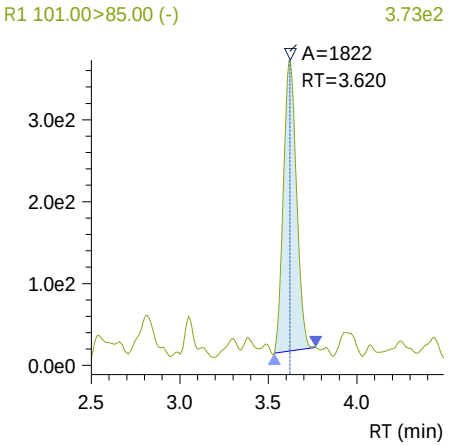
Sample ID: PERCHLORATE1
Date Acquired: 6/29/2023 12:59:40 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230629\20230629-001.lcd
Vial: 1 | Inj. Volume: 10.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.625	5419	323018	0.1032	ng/mL	101.00 >85.00	33.63	22.41-41.62
Sodium Perchlorate-18O4 _IS	Auto	3.617	323018	323018	1.0000	ng/mL	----	----	

Perchlorate

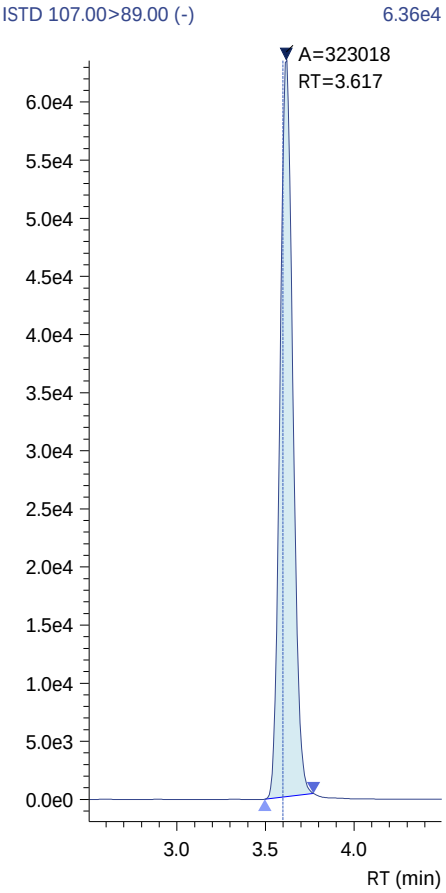
Conc 0.1032
R#1 33.63 (32.02)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 6/29/2023 2:17:05 PM

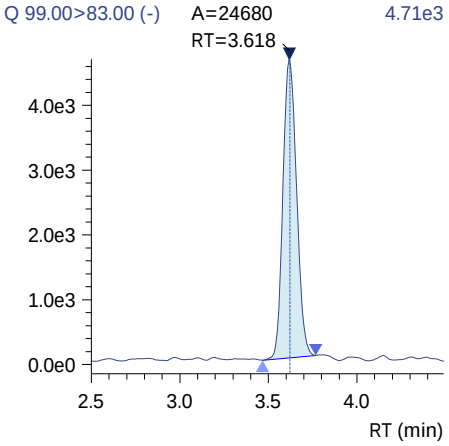
PERCHLORATE2

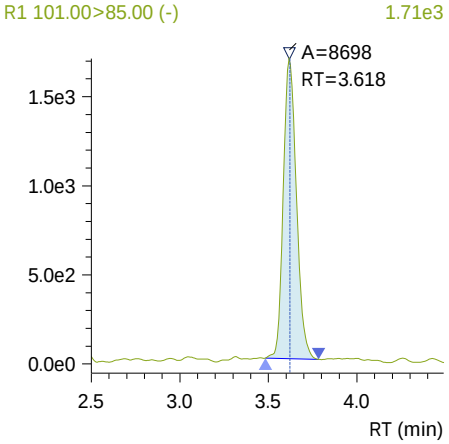
Sample ID: PERCHLORATE2
Date Acquired: 6/29/2023 1:05:11 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230629\20230629-002.lcd
Vial: 2 | Inj. Volume: 10.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.618	24680	313519	0.4844	ng/mL	101.00 >85.00	35.24	22.41-41.62
Sodium Perchlorate-18O4 _IS	Auto	3.618	313519	313519	1.0000	ng/mL	----	----	

Perchlorate

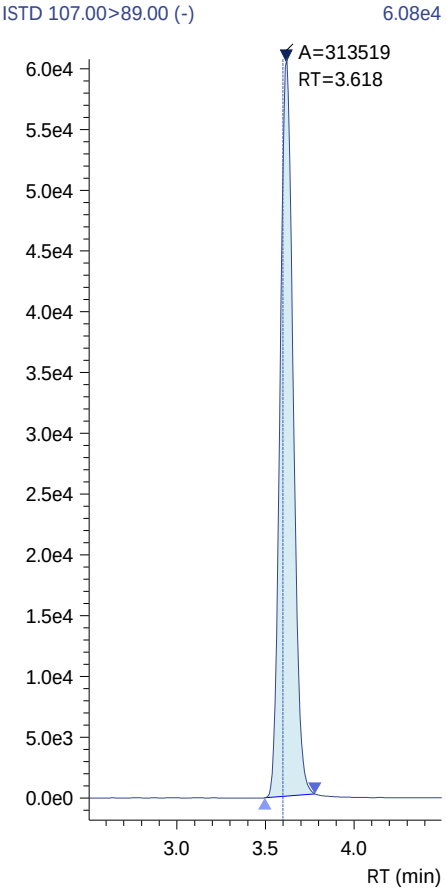
Conc 0.4844
R#1 35.24 (32.02)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 6/29/2023 2:17:05 PM

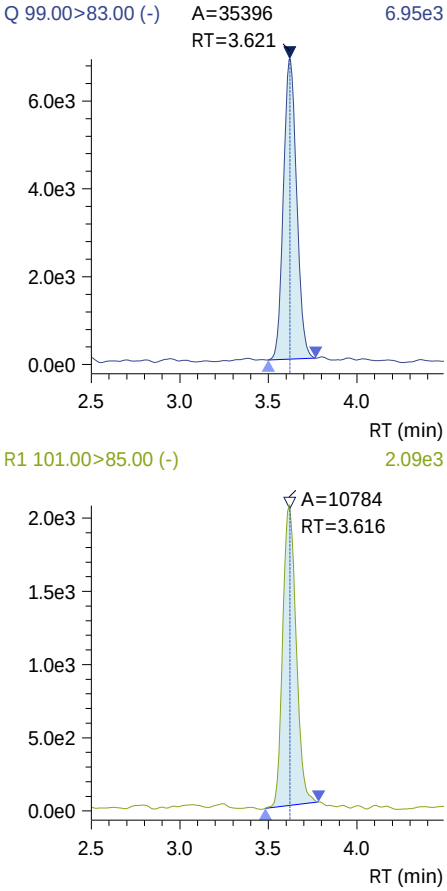
PERCHLORATE3

Sample ID: PERCHLORATE3
Date Acquired: 6/29/2023 1:10:46 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230629\20230629-003.lcd
Vial: 3 | Inj. Volume: 10.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.621	35396	316311	0.6886	ng/mL	101.00 >85.00	30.47	22.41-41.62
Sodium Perchlorate-18O4 _IS	Auto	3.618	316311	316311	1.0000	ng/mL	----	----	

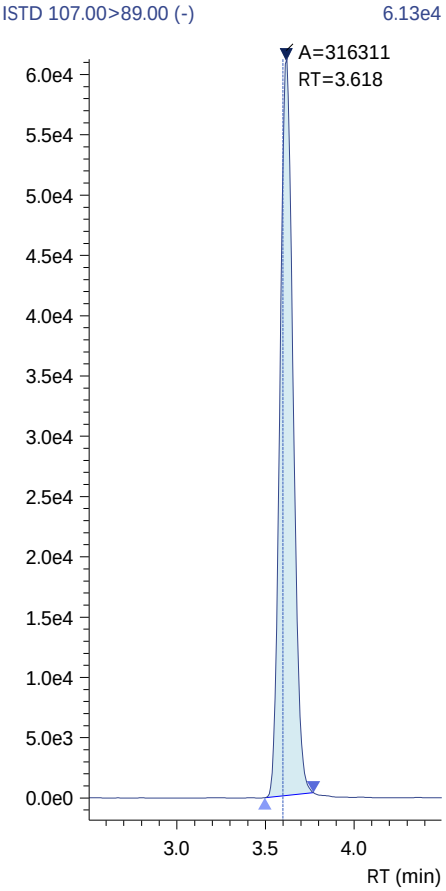
Perchlorate

Conc 0.6886
R#1 30.47 (32.02)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 6/29/2023 2:17:05 PM

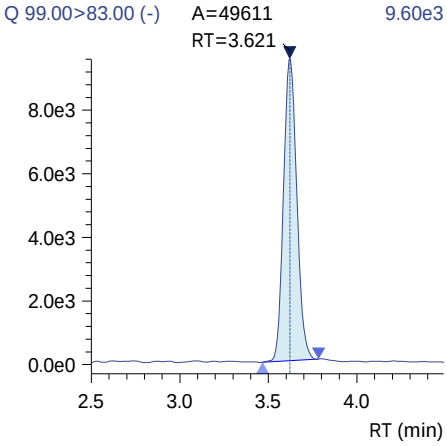
PERCHLORATE4

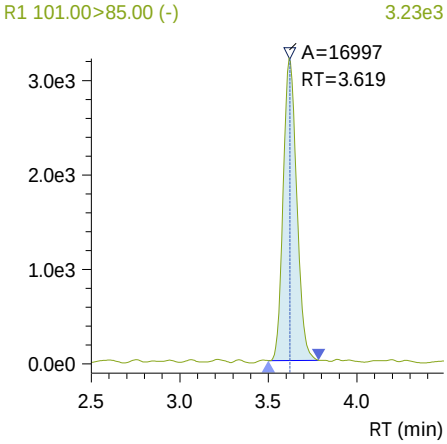
Sample ID: PERCHLORATE4
Date Acquired: 6/29/2023 1:16:19 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230629\20230629-004.lcd
Vial: 4 | Inj. Volume: 10.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.621	49611	316580	0.9643	ng/mL	101.00 >85.00	34.26	22.41-41.62
Sodium Perchlorate-18O4 _IS	Auto	3.618	316580	316580	1.0000	ng/mL	----	----	

Perchlorate

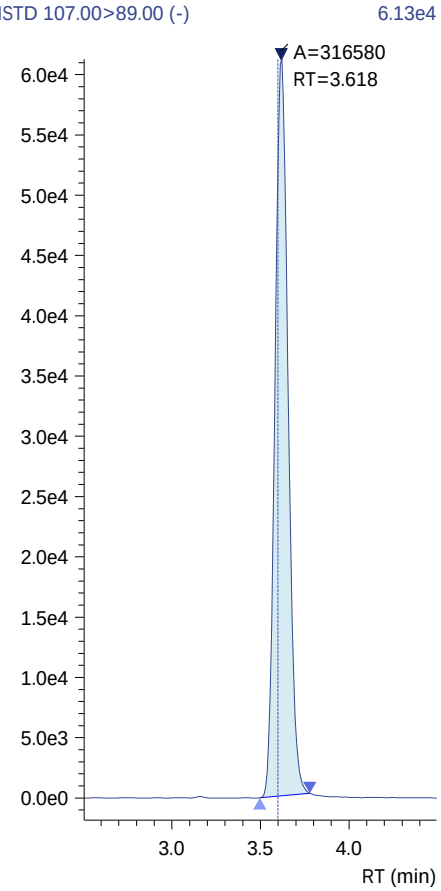
Conc 0.9643
R#1 34.26 (32.02)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 6/29/2023 2:17:05 PM

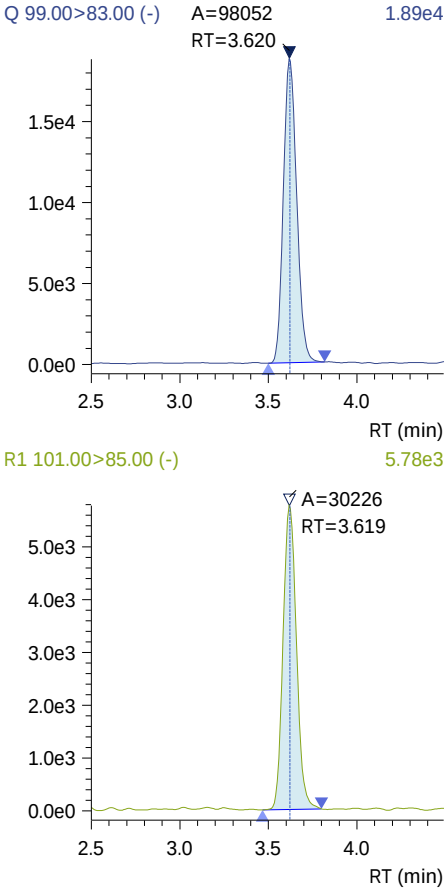
PERCHLORATE5

Sample ID: PERCHLORATE5
Date Acquired: 6/29/2023 1:21:50 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230629\20230629-005.lcd
Vial: 5 | Inj. Volume: 10.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.620	98052	307162	1.9642	ng/mL	101.00 >85.00	30.83	22.41-41.62
Sodium Perchlorate-18O4 _IS	Auto	3.617	307162	307162	1.0000	ng/mL	----	----	

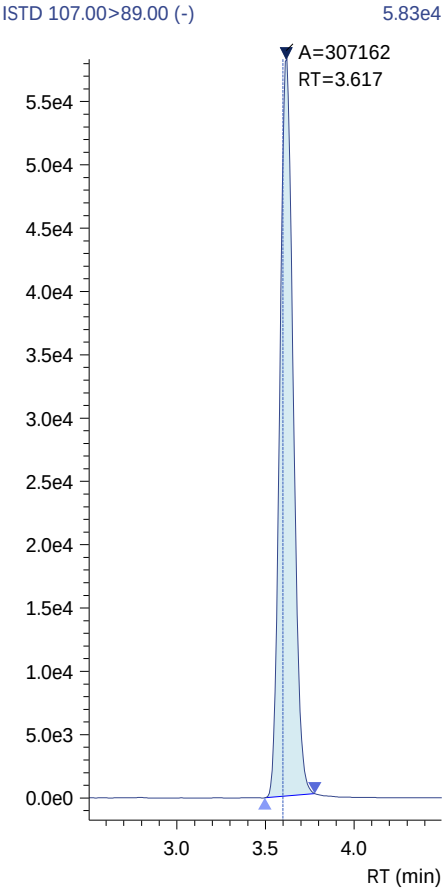
Perchlorate

Conc 1.9642
R#1 30.83 (32.02)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 6/29/2023 2:17:05 PM

PERCHLORATE6

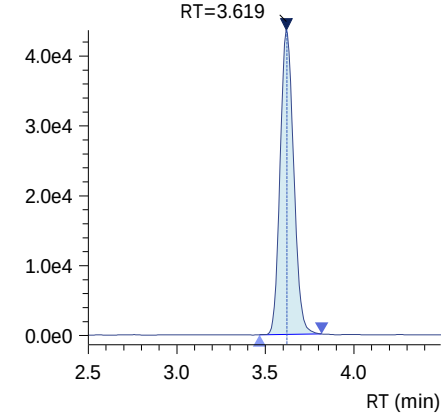
Sample ID: PERCHLORATE6
Date Acquired: 6/29/2023 1:27:22 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230629\20230629-006.lcd
Vial: 6 | Inj. Volume: 10.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.619	232011	282827	5.0477	ng/mL	101.00 >85.00	31.17	22.41-41.62
Sodium Perchlorate-18O4 _IS	Auto	3.617	282827	282827	1.0000	ng/mL	----	----	

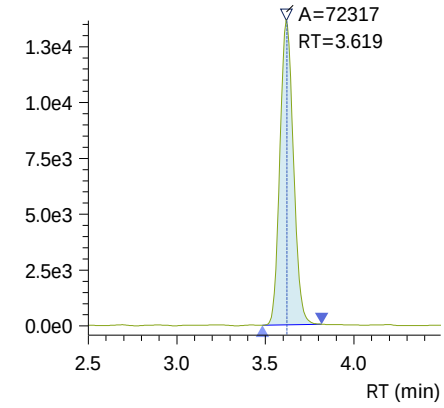
Perchlorate

Conc 5.0477
R#1 31.17 (32.02)

Q 99.00>83.00 (-) A=232011 RT=3.619 4.37e4



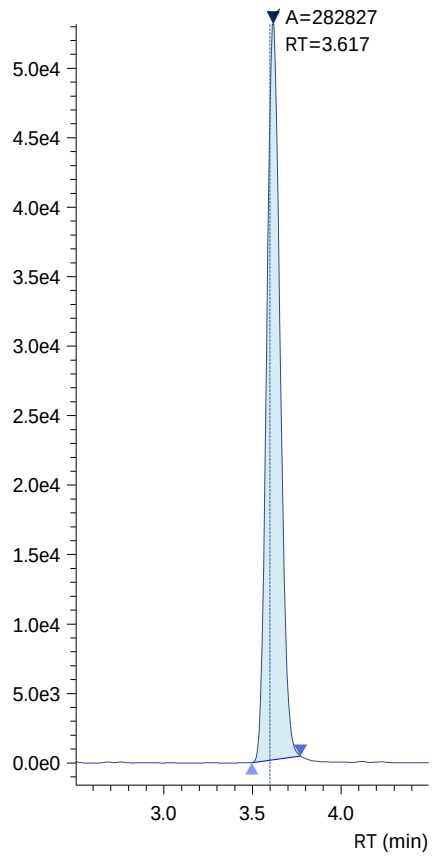
R1 101.00>85.00 (-) 1.37e4



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 5.32e4



Insight Report

Printed at 6/29/2023 2:17:05 PM

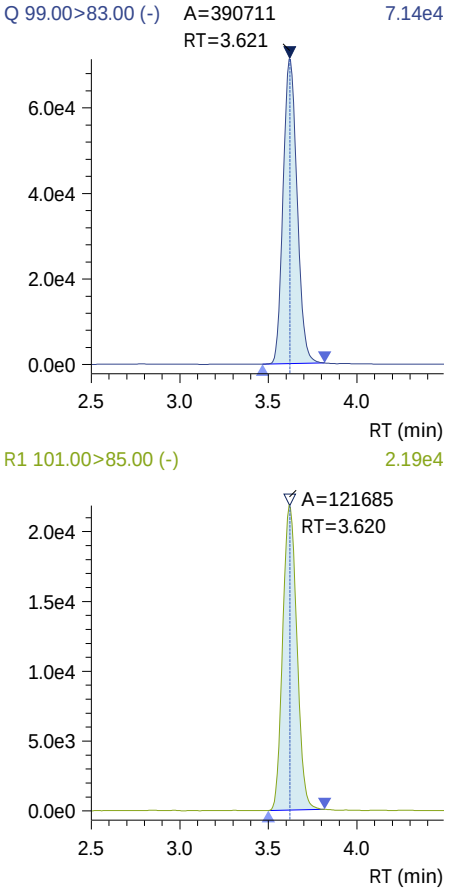
PERCHLORATE7

Sample ID: PERCHLORATE7
Date Acquired: 6/29/2023 1:32:51 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230629\20230629-007.lcd
Vial: 3 | Inj. Volume: 10.0000uL | Tray: 0

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.621	390711	229327	10.48 35	ng/mL	101.00 >85.00	31.14	22.41-41.62
Sodium Perchlorate-18O4_IS	Auto	3.616	229327	229327	1.0000	ng/mL	----	----	

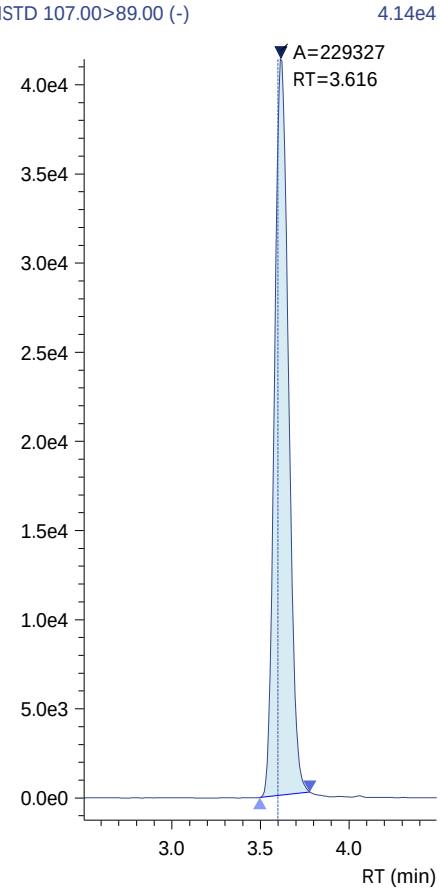
Perchlorate

Conc 10.4835
R#1 31.14 (32.02)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 6/29/2023 2:17:05 PM

PERCHLORATE8

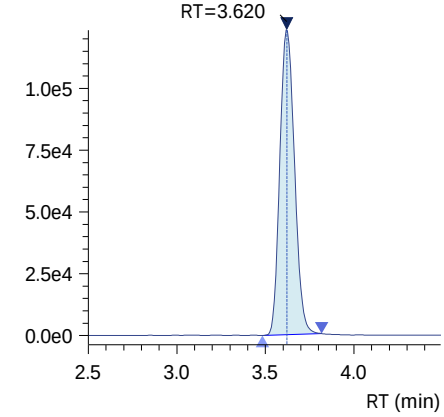
Sample ID: PERCHLORATE8
Date Acquired: 6/29/2023 1:38:22 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230629\20230629-008.lcd
Vial: 8 | Inj. Volume: 10.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.620	710430	213093	20.5144	ng/mL	101.00 >85.00	31.25	22.41-41.62
Sodium Perchlorate-18O4_IS	Auto	3.615	213093	213093	1.0000	ng/mL	----	----	

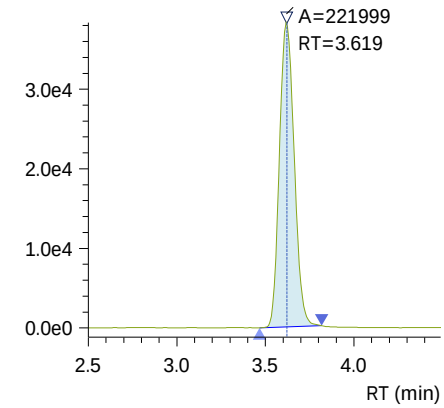
Perchlorate

Conc 20.5144
R#1 31.25 (32.02)

Q 99.00>83.00 (-) A=710430 RT=3.620 1.24e5



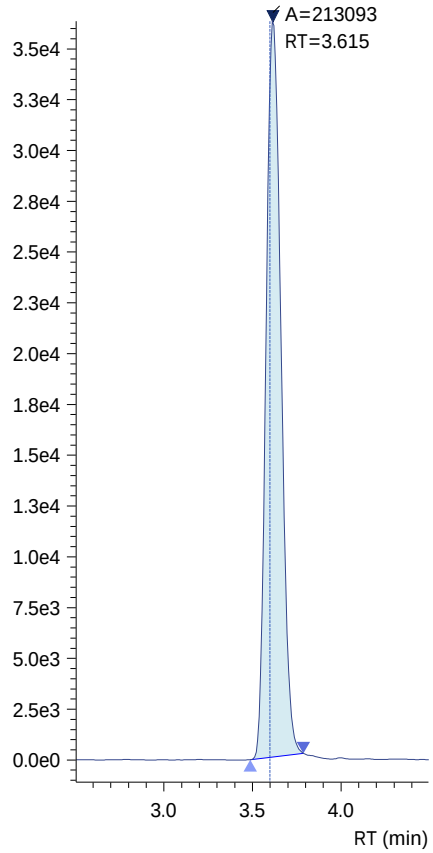
R1 101.00>85.00 (-) 3.84e4



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 3.64e4



Insight Report

Printed at 6/29/2023 2:17:05 PM

PERCHLORATE9

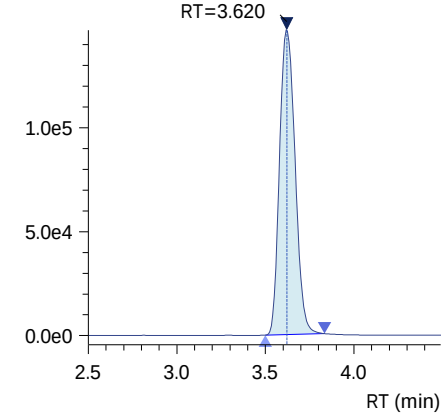
Sample ID: PERCHLORATE9
Date Acquired: 6/29/2023 1:43:53 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230629\20230629-009.lcd
Vial: 9 | Inj. Volume: 10.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.620	896468	185851	29.6808	ng/mL	101.00 >85.00	31.06	22.41-41.62
Sodium Perchlorate-18O4_IS	Auto	3.614	185851	185851	1.0000	ng/mL	----	----	

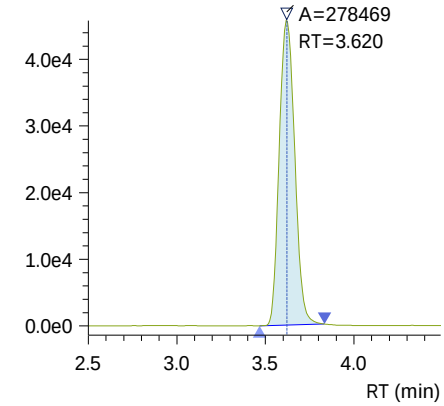
Perchlorate

Conc 29.6808
R#1 31.06 (32.02)

Q 99.00>83.00 (-) A=896468 RT=3.620 1.47e5



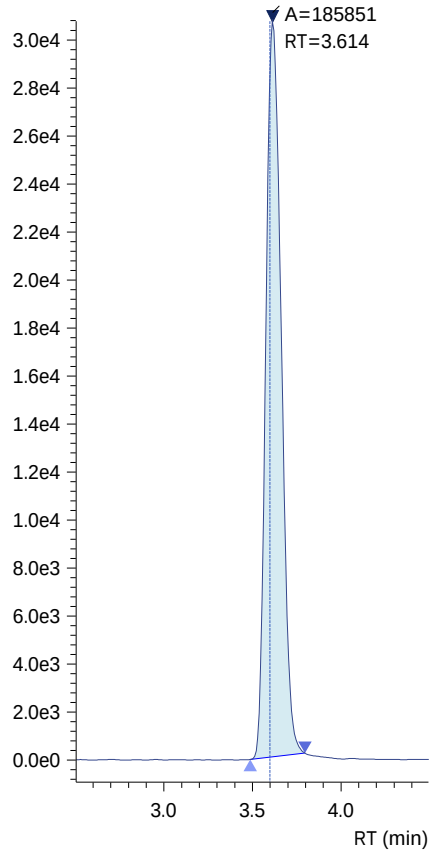
R1 101.00>85.00 (-) 4.58e4



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 3.08e4



Insight Report

Printed at 6/29/2023 2:17:05 PM

PERCHLORATE10

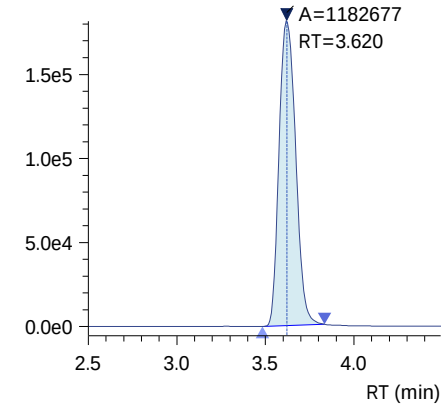
Sample ID: PERCHLORATE10
Date Acquired: 6/29/2023 1:49:27 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230629\20230629-010.lcd
Vial: 10 | Inj. Volume: 10.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.620	1182677	146135	49.79 86	ng/mL	101.00 >85.00	30.89	22.41-41.62
Sodium Perchlorate-18O4 _IS	Auto	3.614	146135	146135	1.0000	ng/mL	----	----	

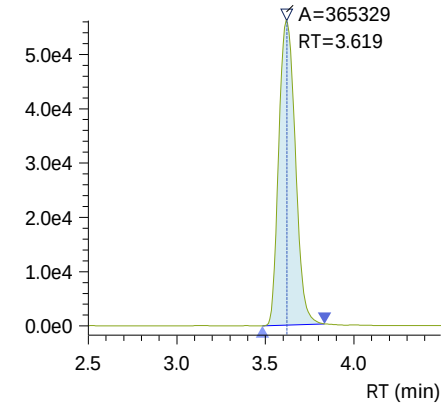
Perchlorate

Conc 49.7986
R#1 30.89 (32.02)

Q 99.00>83.00 (-) 1.82e5



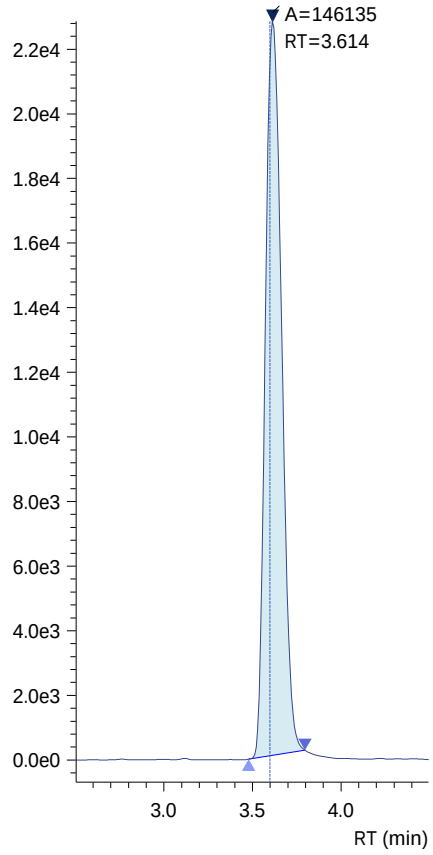
R1 101.00>85.00 (-) 5.62e4



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 2.29e4



Insight Report

Printed at 6/29/2023 2:17:05 PM

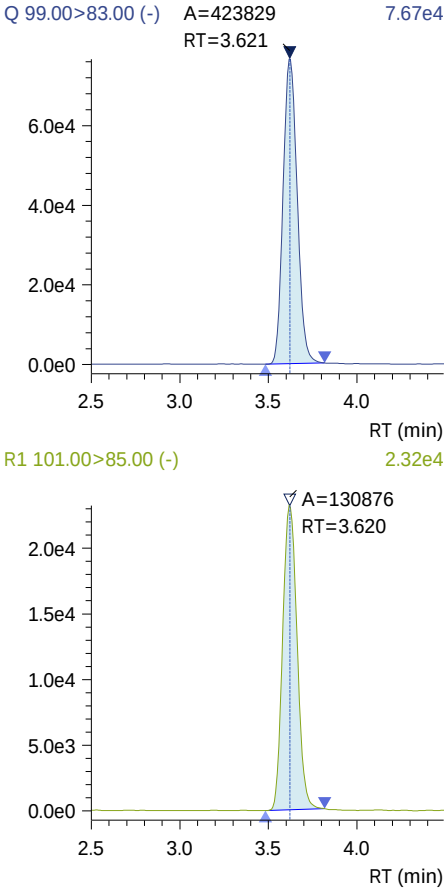
PERCHLORATEICV

Sample ID: PERCHLORATEICV
Date Acquired: 6/29/2023 1:55:00 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230629\20230629-011.lcd
Vial: 11 | Inj. Volume: 10.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.621	423829	263091	9.9127	ng/mL	101.00 >85.00	30.88	22.41-41.62
Sodium Perchlorate-18O4 _IS	Auto	3.617	263091	263091	1.0000	ng/mL	----	----	

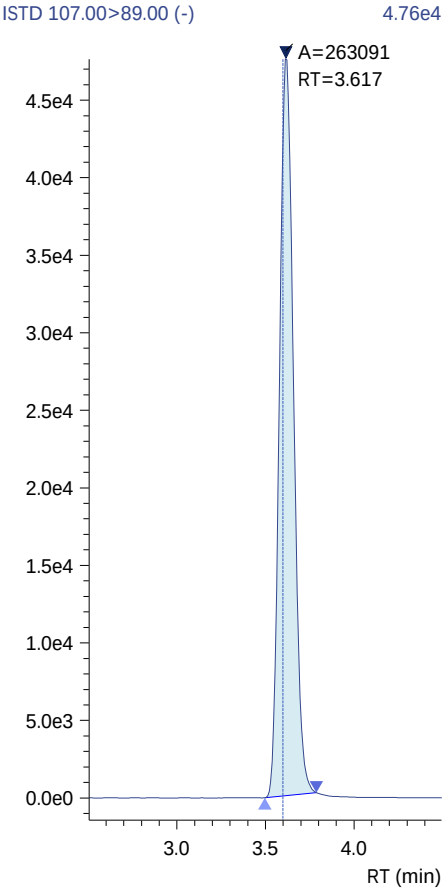
Perchlorate

Conc 9.9127
R#1 30.88 (32.02)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Chromatograms and Selected Ion Monitoring

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 320, Houston TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

20230720-811363

Injection Log

LCMS01 -Shimadzu 8050

1st Review: XM
2nd Review: GC

ICAL Date: 6/29/2023
Cal. Std. xp: 07/31/2023
ICAL ID: EC2300011

Mobile Phases : A:20mM ammonium acetate in water 230388 **B:**Acetonitrile 229152

	Sample Name		File Name	Acquisition Method	Dilution	Comments	Date/Time
1	IB		20230720-001	Perchlorate6850c.lcm	1x		7/20/2023 14:56
2	LODV		20230720-002	Perchlorate6850c.lcm	1x	230386	7/20/2023 15:01
3	ICS		20230720-003	Perchlorate6850c.lcm	1x	32103024	7/20/2023 15:07
4	CCV		20230720-004	Perchlorate6850c.lcm	1x	227251	7/20/2023 15:18
5	EQ2300346-01		20230720-005	Perchlorate6850c.lcm	1x		7/20/2023 15:27
6	EQ2300346-02		20230720-006	Perchlorate6850c.lcm	1x		7/20/2023 15:39
7	EQ2300346-03		20230720-007	Perchlorate6850c.lcm	1x		7/20/2023 15:55
8	E2300630-001		20230720-008	Perchlorate6850c.lcm	1x	DNU-RR	7/20/2023 16:05
9	E2300637-001		20230720-009	Perchlorate6850c.lcm	1x		7/20/2023 16:10
10	E2300637-002		20230720-010	Perchlorate6850c.lcm	1x	DNU-IS	7/20/2023 16:16
11	E2300637-003		20230720-011	Perchlorate6850c.lcm	1x		7/20/2023 16:21
12	E2300637-004		20230720-012	Perchlorate6850c.lcm	1x		7/20/2023 16:27
13	E2300637-005		20230720-013	Perchlorate6850c.lcm	1x	DNU-IS	7/20/2023 16:32
14	CCV		20230720-014	Perchlorate6850c.lcm	1x	227251	7/20/2023 16:38
15	E2300642-001		20230720-015	Perchlorate6850c.lcm	5x		7/20/2023 16:43
16	E2300643-001		20230720-016	Perchlorate6850c.lcm	5000x		7/20/2023 16:49
17	k2307692-001		20230720-017	Perchlorate6850c.lcm	1x		7/20/2023 16:54
18	k2307692-002		20230720-018	Perchlorate6850c.lcm	1x		7/20/2023 17:00
19	k2307692-003		20230720-019	Perchlorate6850c.lcm	1x		7/20/2023 17:05
20	k2307692-004		20230720-020	Perchlorate6850c.lcm	1x		7/20/2023 17:11
21	k2307522-001		20230720-021	Perchlorate6850c.lcm	1x		7/20/2023 17:17
22	k2307522-002		20230720-022	Perchlorate6850c.lcm	1x		7/20/2023 17:22
23	k2307522-003		20230720-023	Perchlorate6850c.lcm	1x		7/20/2023 17:28
24	CCV		20230720-024	Perchlorate6850c.lcm	1x	227251	7/20/2023 17:33
25	E2300631-001		20230720-025	Perchlorate6850c.lcm	1x	DNU-IS	7/20/2023 17:39
26	E2300631-002		20230720-026	Perchlorate6850c.lcm	1x	DNU-IS	7/20/2023 17:44
27	E2300631-003		20230720-027	Perchlorate6850c.lcm	1x		7/20/2023 17:50
28	E2300631-004		20230720-028	Perchlorate6850c.lcm	1x	DNU-RR	7/20/2023 17:55
29	CCV		20230720-029	Perchlorate6850c.lcm	1x	227251	7/20/2023 18:01

20230721-811375

Injection Log

LCMS01 -Shimadzu 8050

1st Review: XM
2nd Review: GC

ICAL Date: 6/29/2023
Cal. Std. xp: 07/31/2023
ICAL ID: EC2300011

Mobile Phases : A:20mM ammonium acetate in water 230388 **B:**Acetonitrile 229152

	Sample Name		File Name	Acquisition Method	Dilution	Comments	Date/Time
1	IB		20230721-001	Perchlorate6850c.lcm	1x		7/21/2023 9:08
2	ICS		20230721-002	Perchlorate6850c.lcm	1x	230386	7/21/2023 9:20
3	LODV		20230721-003	Perchlorate6850c.lcm	1x	32103024	7/21/2023 9:26
4	CCV		20230721-004	Perchlorate6850c.lcm	1x	227251	7/21/2023 9:36
5	E2300630-001		20230721-005	Perchlorate6850c.lcm	1x		7/21/2023 9:42
6	E2300637-002		20230721-006	Perchlorate6850c.lcm	1x	DNU-D	7/21/2023 9:47
7	E2300637-005		20230721-007	Perchlorate6850c.lcm	1x		7/21/2023 9:53
8	E2300631-001		20230721-008	Perchlorate6850c.lcm	1x		7/21/2023 9:58
9	E2300631-002		20230721-009	Perchlorate6850c.lcm	1x		7/21/2023 10:04
10	E2300631-004X10		20230721-010	Perchlorate6850c.lcm	10x		7/21/2023 10:09
11	E2300637-002x2		20230721-011	Perchlorate6850c.lcm	2x		7/21/2023 10:15
12	CCV		20230721-012	Perchlorate6850c.lcm	1x	227251	7/21/2023 10:20

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2300630
Project:	HS23070445	**Date Analyzed:**	7/20/23 15:18

Internal Standard Area and RT Summary

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20230720\20230720-004	**Lab Code:**	EQ2300347-01
Instrument ID:	E-LCMS-01	**Analysis Lot:**	811363
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	263,382	3.62
	Upper Limit ==>	395,073	5.62
	Lower Limit ==>	131,691	1.62
Associated Analyses			
Continuing Calibration Verification	EQ2300347-01	138,823	3.59
Method Blank	EQ2300346-01	185,624	3.59
Lab Control Sample	EQ2300346-02	184,847	3.59
Duplicate Lab Control Sample	EQ2300346-03	195,384	3.59

Results flagged with an asterisk (*) indicate values outside control criteria.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2300630
Project:	HS23070445	**Date Analyzed:**	7/20/23 16:38

Internal Standard Area and RT Summary

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20230720\20230720-014	**Lab Code:**	EQ2300347-02
Instrument ID:	E-LCMS-01	**Analysis Lot:**	811363
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	263,382	3.62
	Upper Limit ==>	395,073	5.62
	Lower Limit ==>	131,691	1.62
Associated Analyses			
Continuing Calibration Verification	EQ2300347-02	140,777	3.59

Results flagged with an asterisk (*) indicate values outside control criteria.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2300630
Project:	HS23070445	**Date Analyzed:**	7/20/23 17:33

Internal Standard Area and RT Summary

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20230720\20230720-024	**Lab Code:**	EQ2300347-03
Instrument ID:	E-LCMS-01	**Analysis Lot:**	811363
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	263,382	3.62
	Upper Limit ==>	395,073	5.62
	Lower Limit ==>	131,691	1.62
Associated Analyses			
Continuing Calibration Verification	EQ2300347-03	144,245	3.59

Results flagged with an asterisk (*) indicate values outside control criteria.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2300630
Project:	HS23070445	**Date Analyzed:**	7/20/23 18:01

Internal Standard Area and RT Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20230720\20230720-029	**Lab Code:**	EQ2300347-04
Instrument ID:	E-LCMS-01	**Analysis Lot:**	811363
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	263,382	3.62
	Upper Limit ==>	395,073	5.62
	Lower Limit ==>	131,691	1.62
Associated Analyses			
Continuing Calibration Verification	EQ2300347-04	146,707	3.59

Results flagged with an asterisk (*) indicate values outside control criteria.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2300630
Project:	HS23070445	**Date Analyzed:**	7/21/23 09:36

Internal Standard Area and RT Summary

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20230721\20230721-004	**Lab Code:**	EQ2300350-01
Instrument ID:	E-LCMS-01	**Analysis Lot:**	811375
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	263,382	3.62
	Upper Limit ==>	395,073	5.62
	Lower Limit ==>	131,691	1.62
Associated Analyses			
Continuing Calibration Verification	EQ2300350-01	249,907	3.59
LH18/24-SP650_071023_AIX	E2300630-001	347,048	3.59

Results flagged with an asterisk (*) indicate values outside control criteria.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS23070445

Service Request: E2300630
Date Analyzed: 7/21/23 10:20

Internal Standard Area and RT Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID: I:\LCMS01\DATA\20230721\20230721-012
Instrument ID: E-LCMS-01
Analytical Method: 6850

Lab Code: EQ2300350-02
Analysis Lot: 811375
Signal ID: 1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	263,382	3.62
	Upper Limit ==>	395,073	5.62
	Lower Limit ==>	131,691	1.62
Associated Analyses			
Continuing Calibration Verification	EQ2300350-02	252,401	3.59

Results flagged with an asterisk (*) indicate values outside control criteria.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS23070445

Service Request: E2300630
Date Analyzed: 7/20/23

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20230720\20230720-004

Calibration Date: 6/29/23
Calibration ID: EC2300011
Analysis Lot: 811363
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.77	0.1625	0.1588	-2.3	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS23070445

Service Request: E2300630
Date Analyzed: 7/20/23

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20230720\20230720-014

Calibration Date: 6/29/23
Calibration ID: EC2300011
Analysis Lot: 811363
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.84	0.1625	0.1599	-1.6	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS23070445

Service Request: E2300630
Date Analyzed: 7/20/23

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20230720\20230720-024

Calibration Date: 6/29/23
Calibration ID: EC2300011
Analysis Lot: 811363
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.1	0.1625	0.1635	0.6	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS23070445

Service Request: E2300630
Date Analyzed: 7/20/23

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20230720\20230720-029

Calibration Date: 6/29/23
Calibration ID: EC2300011
Analysis Lot: 811363
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.66	0.1625	0.1569	-3.4	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS23070445

Service Request: E2300630
Date Analyzed: 7/21/23

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20230721\20230721-004

Calibration Date: 6/29/23
Calibration ID: EC2300011
Analysis Lot: 811375
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.7	0.1625	0.1744	7.3	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS23070445

Service Request: E2300630
Date Analyzed: 7/21/23

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20230721\20230721-012

Calibration Date: 6/29/23
Calibration ID: EC2300011
Analysis Lot: 811375
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.2	0.1625	0.1653	1.7	NA	± 15 %	Average RF

Insight Report

Printed at 7/21/2023 9:47:37 AM

Method File: I:\LCMS01\DATA\20230720\20230720.lcm
Project File: I:\LCMS01\DATA\20230720\20230720.damlp

IB

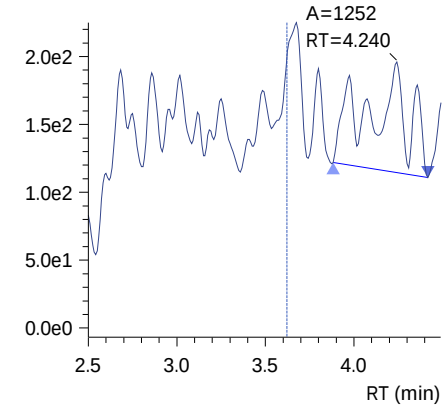
Sample ID: IB
Date Acquired: 7/20/2023 2:56:27 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230720\20230720-001.lcd
Vial: 4 | Inj. Volume: 10.0000uL | Tray: 0

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	ND(W/B)	----	----	194196	----	ng/mL	101.00 >85.00	0.00	20.22-37.55
Sodium Perchlorate-18O4_IS	Auto	3.591	194196	194196	1.0000	ng/mL	----	----	

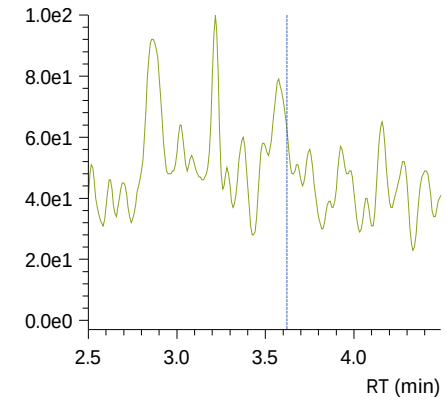
Perchlorate

Conc ----
R#1 0.00 (28.89)

Q 99.00>83.00 (-) 2.25e2



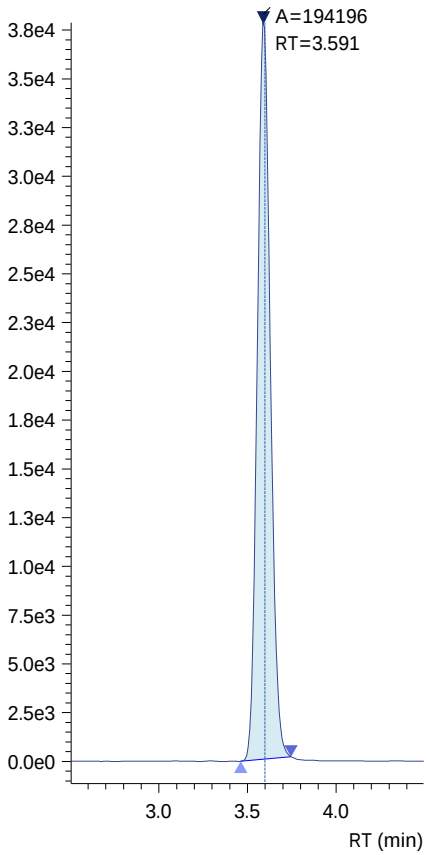
R1 101.00>85.00 (-) 1.00e2



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 3.79e4



Insight Report

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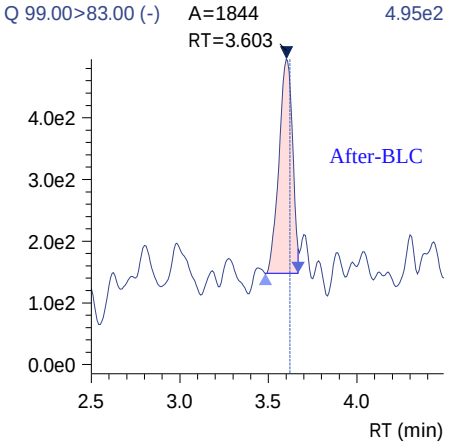
LODV

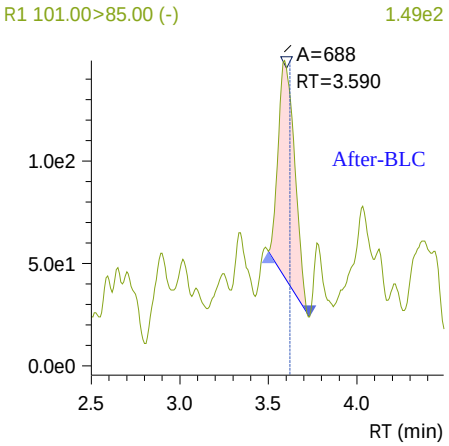
Sample ID: LODV
Date Acquired: 7/20/2023 3:01:59 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230720\20230720-002.lcd
Vial: 1 | Inj. Volume: 10.0000uL | Tray: 0

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	M	3.603	1844	205819	0.0551	ng/mL	101.00 >85.00	37.29	20.22-37.55
Sodium Perchlorate-18O4 _IS	Auto	3.589	2058 19	205819	1.0000	ng/mL	----	----	

Perchlorate

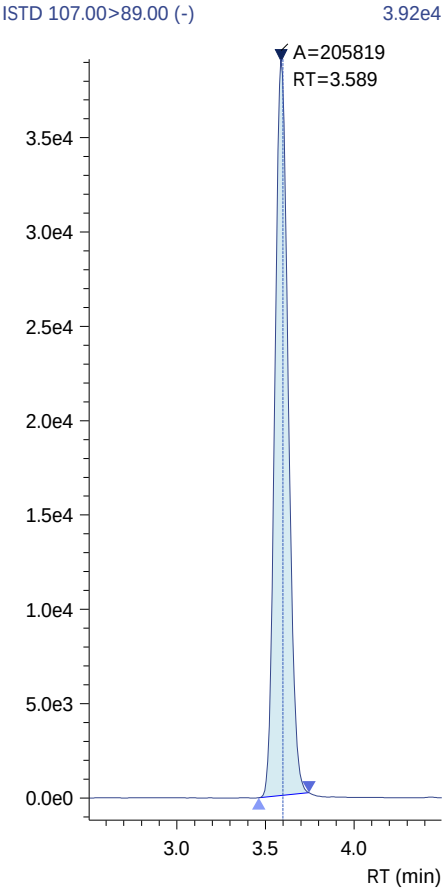
Conc 0.0551
R#1 37.29 (28.89)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 7/21/2023 9:49:20 AM

Method File: I:\LCMS01\DATA\20230720\20230720.lcm
Project File: I:\LCMS01\DATA\20230720\20230720.damlp

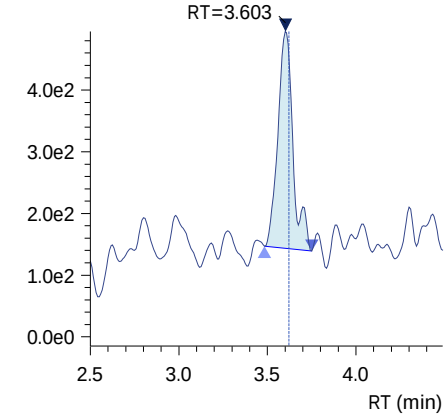
LODV

Sample ID: LODV
Date Acquired: 7/20/2023 3:01:59 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230720\20230720-002.lcd
Vial: 1 | Inj. Volume: 10.0000uL | Tray: 0

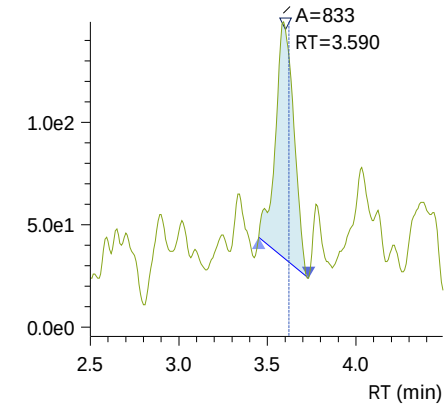
Perchlorate

Conc 0.0626
R#1 39.78 (28.89)

Q 99.00>83.00 (-) A=2094 4.95e2



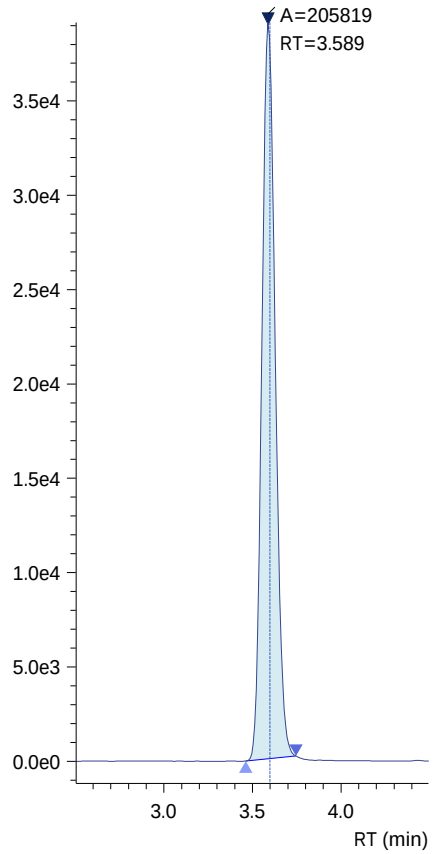
R1 101.00>85.00 (-) 1.49e2



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 3.92e4



Insight Report

Printed at 7/21/2023 9:47:37 AM

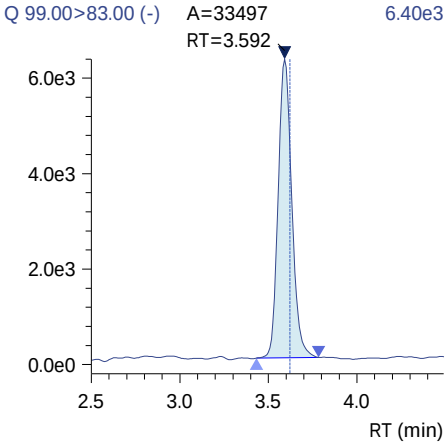
ICS

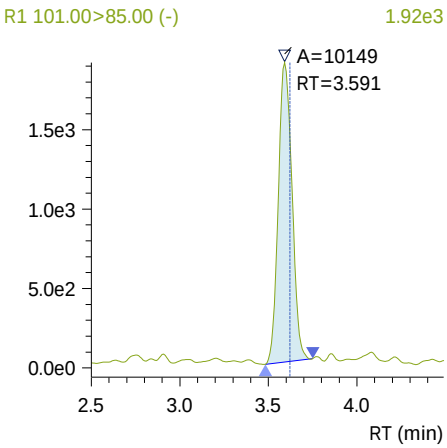
Sample ID: ICS
Date Acquired: 7/20/2023 3:07:30 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230720\20230720-003.lcd
Vial: 2 | Inj. Volume: 10.0000uL | Tray: 0

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.592	33497	204720	1.0068	ng/mL	101.00 >85.00	30.30	20.22-37.55
Sodium Perchlorate-18O4 _IS	Auto	3.590	2047 20	204720	1.0000	ng/mL	----	----	

Perchlorate

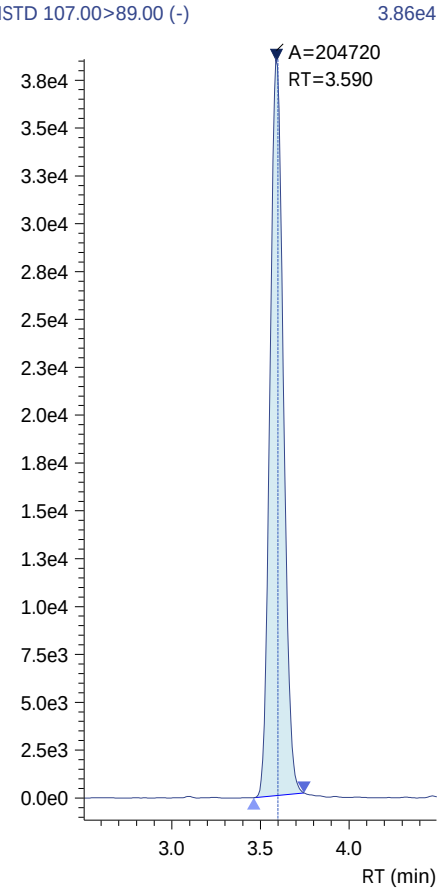
Conc 1.0068
R#1 30.30 (28.89)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 7/21/2023 9:47:37 AM

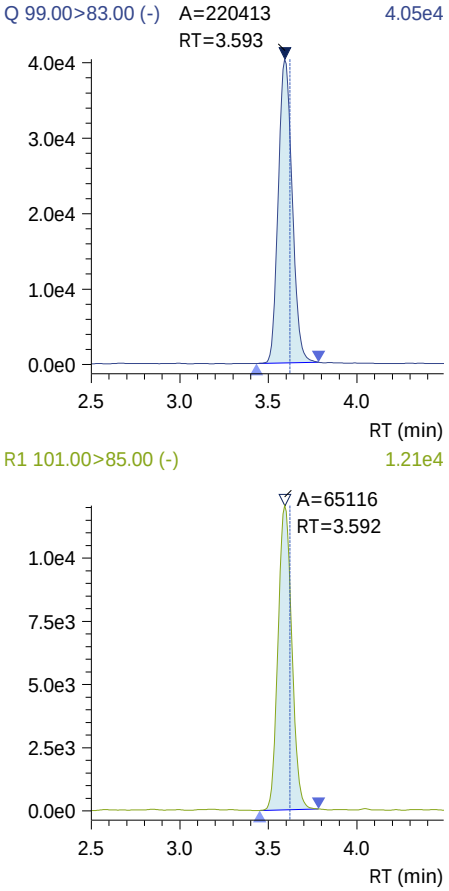
CCV

Sample ID: CCV
Date Acquired: 7/20/2023 3:18:29 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230720\20230720-004.lcd
Vial: 3 | Inj. Volume: 10.0000uL | Tray: 0

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.593	2204 13	138823	9.7697	ng/mL	101.00 >85.00	29.54	20.22-37.55
Sodium Perchlorate-18O4 _IS	Auto	3.589	1388 23	138823	1.0000	ng/mL	----	----	

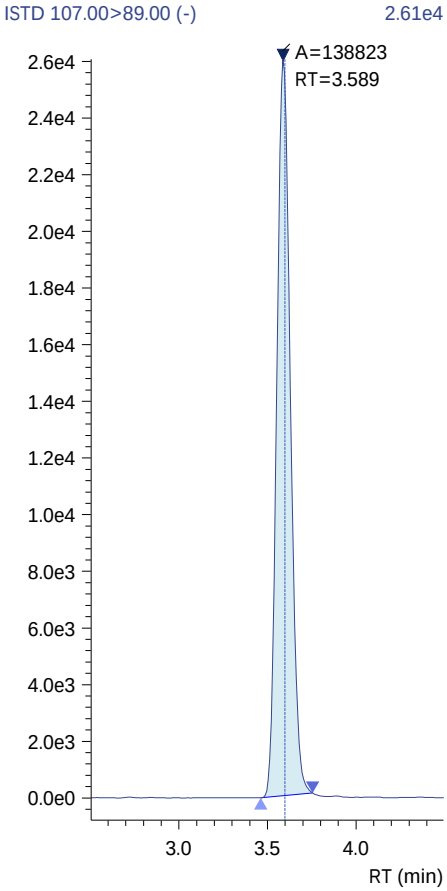
Perchlorate

Conc 9.7697
R#1 29.54 (28.89)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 7/21/2023 9:47:37 AM

EQ2300346-01

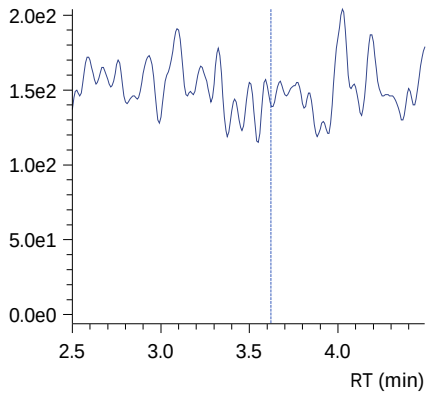
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Date Acquired: 7/20/2023 3:27:57 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230720\20230720-005.lcd
Vial: 52 | Inj. Volume: 10.0000uL | Tray: 3

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	ND(W/B)	----	----	185624	----	ng/mL	101.00 >85.00	0.00	20.22-37.55
Sodium Perchlorate-18O4_IS	Auto	3.592	185624	185624	1.0000	ng/mL	----	----	

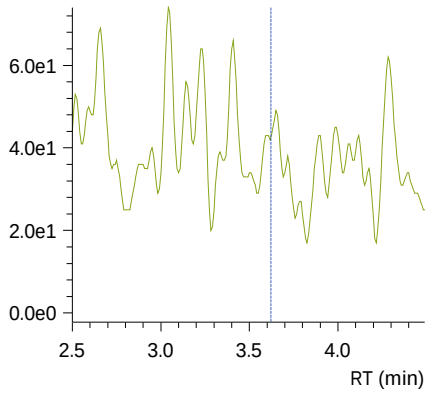
Perchlorate

Conc ----
R#1 0.00 (28.89)

Q 99.00>83.00 (-) 2.04e2



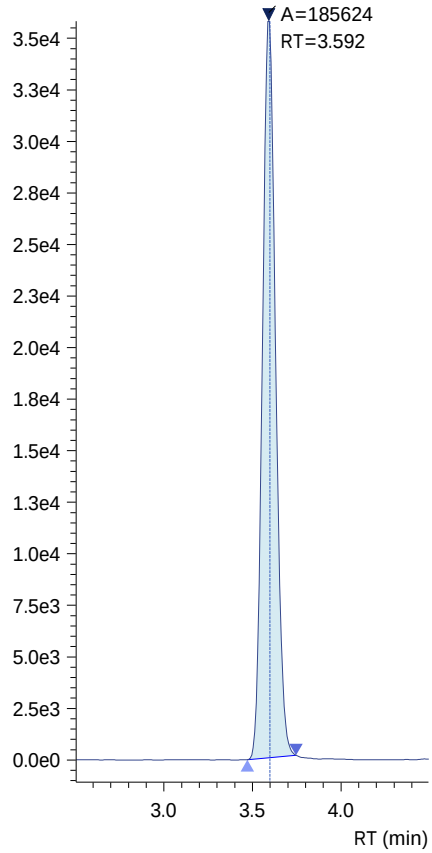
R1 101.00>85.00 (-) 7.40e1



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 3.58e4



Insight Report

Printed at 7/21/2023 9:47:37 AM

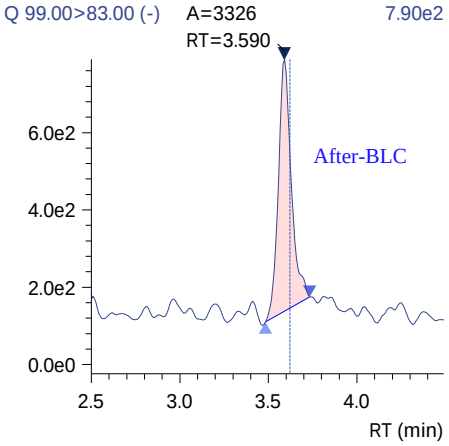
EQ2300346-02

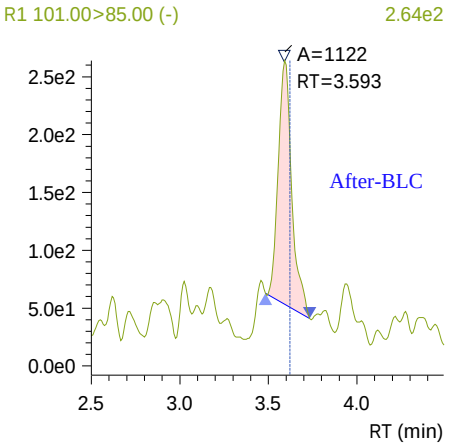
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Date Acquired: 7/20/2023 3:39:01 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230720\20230720-006.lcd
Vial: 54 | Inj. Volume: 10.0000uL | Tray: 3

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	M	3.590	3326	184847	0.1107	ng/mL	101.00 >85.00	33.72	20.22-37.55
Sodium Perchlorate-18O4 _IS	Auto	3.590	1848 47	184847	1.0000	ng/mL	----	----	

Perchlorate

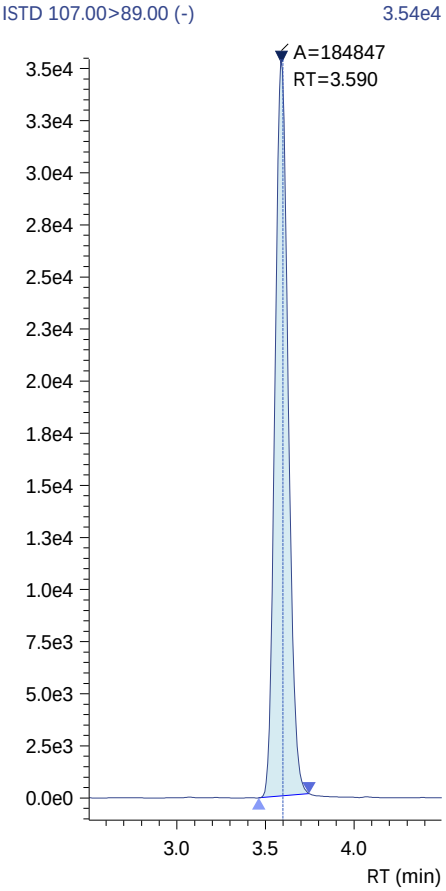
Conc 0.1107
R#1 33.72 (28.89)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 7/21/2023 9:49:20 AM

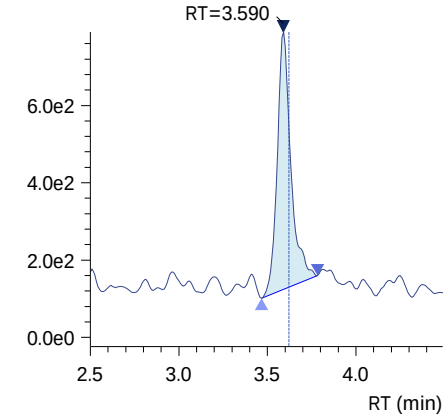
EQ2300346-02

Sample ID: EQ2300346-02
Date Acquired: 7/20/2023 3:39:01 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230720\20230720-006.lcd
Vial: 54 | Inj. Volume: 10.0000uL | Tray: 3

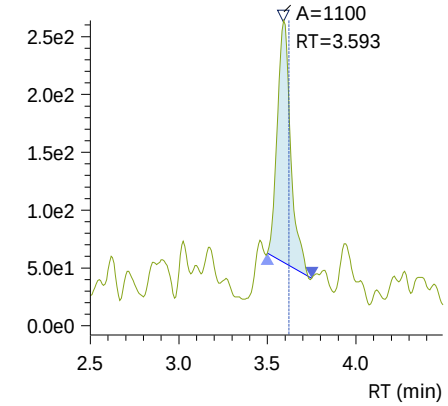
Perchlorate

Conc 0.1196
R#1 30.61 (28.89)

Q 99.00>83.00 (-) A=3594 7.90e2



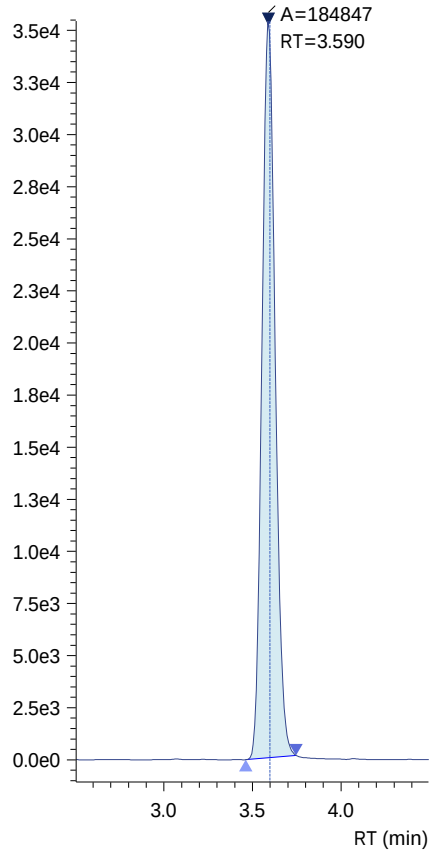
R1 101.00>85.00 (-) 2.64e2



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 3.54e4



Insight Report

Printed at 7/21/2023 9:47:37 AM

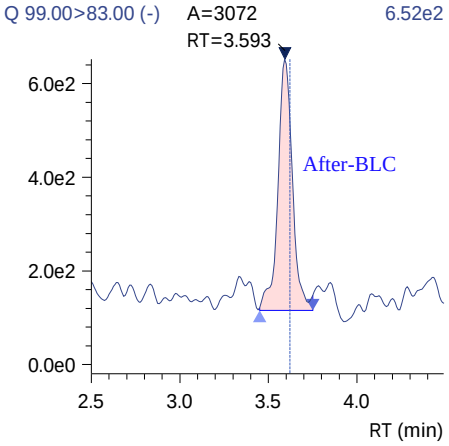
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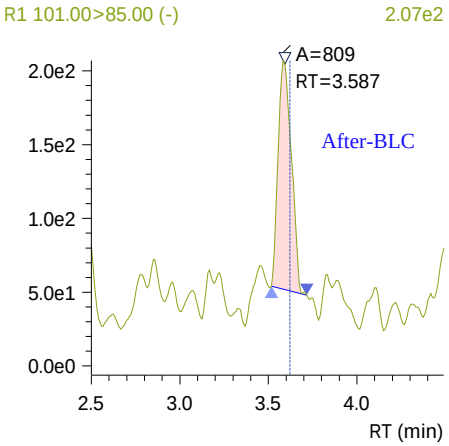
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Date Acquired: 7/20/2023 3:55:59 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230720\20230720-007.lcd
Vial: 53 | Inj. Volume: 10.0000uL | Tray: 3

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	M	3.593	3072	195384	0.0967	ng/mL	101.00 >85.00	26.34	20.22-37.55
Sodium Perchlorate-18O4 _IS	Auto	3.593	1953 84	195384	1.0000	ng/mL	----	----	

Perchlorate

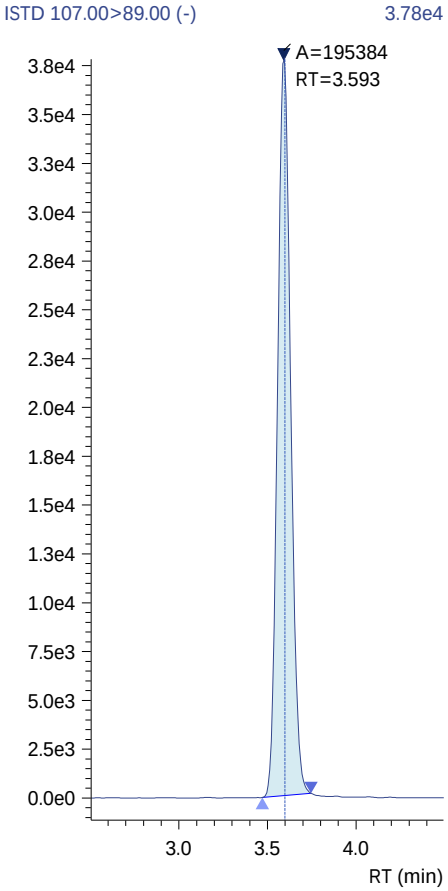
Conc 0.0967
R#1 26.34 (28.89)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 7/21/2023 9:49:20 AM

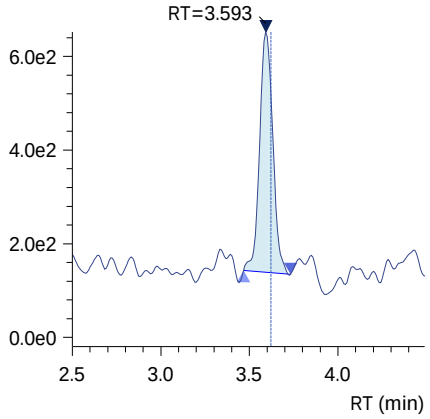
EQ2300346-03

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Date Acquired: 7/20/2023 3:55:59 PM
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Vial: 53 | Inj. Volume: 10.0000uL | Tray: 3

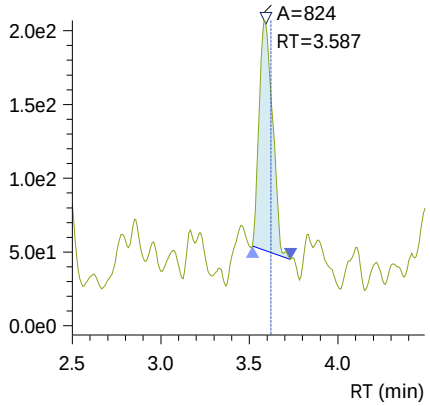
Perchlorate

Conc 0.0839
R#1 30.93 (28.89)

Q 99.00>83.00 (-) A=2663 6.52e2



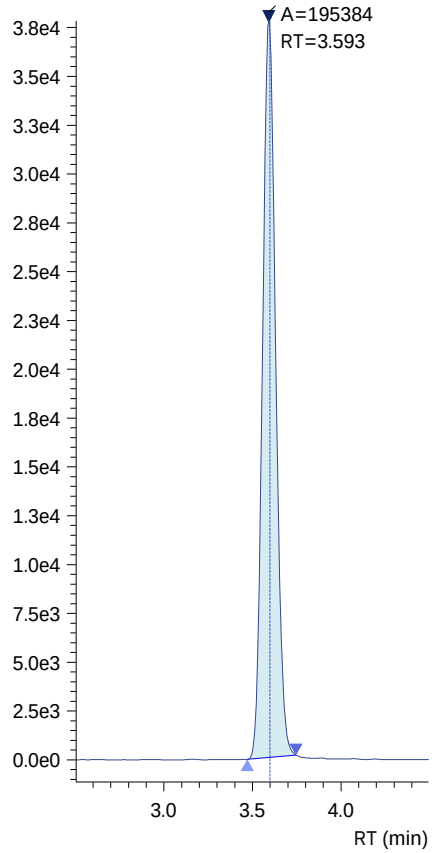
R1 101.00>85.00 (-) 2.07e2



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 3.78e4



Insight Report

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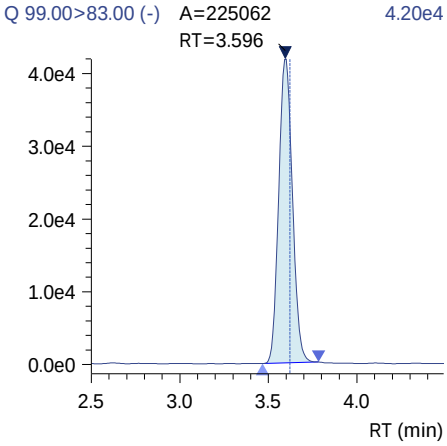
CCV

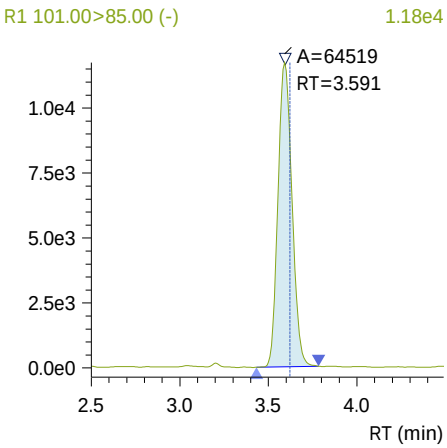
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Date Acquired: 7/20/2023 4:38:17 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230720\20230720-014.lcd
Vial: 3 | Inj. Volume: 10.0000uL | Tray: 0

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.596	225062	140777	9.8373	ng/mL	101.00 >85.00	28.67	20.22-37.55
Sodium Perchlorate-18O4_IS	Auto	3.590	140777	140777	1.0000	ng/mL	----	----	

Perchlorate

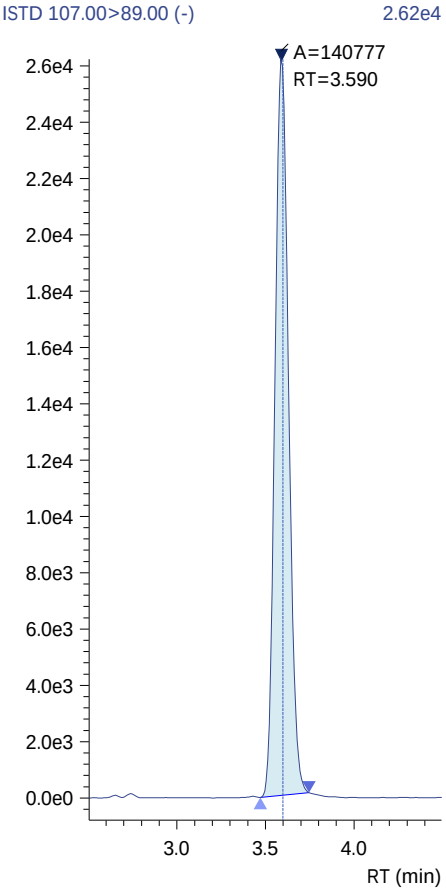
Conc 9.8373
R#1 28.67 (28.89)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 7/21/2023 11:12:13 AM

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Project File: I:\LCMS01\DATA\20230721\20230721.damlp

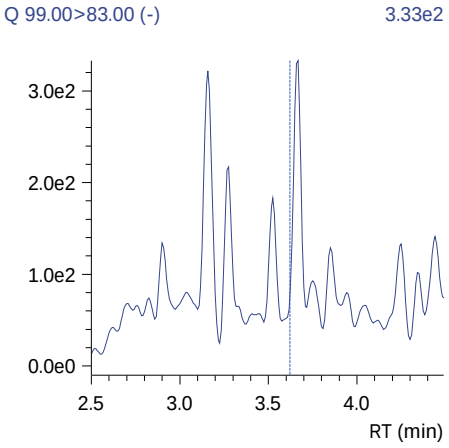
IB

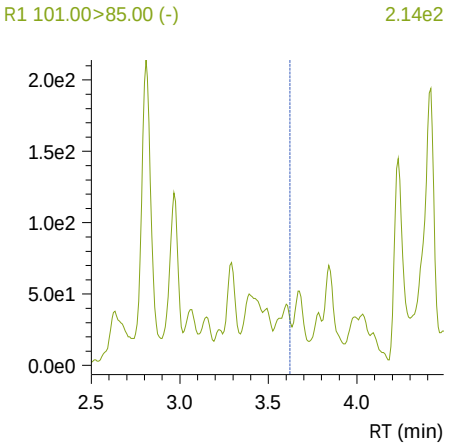
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Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230721\20230721-001.lcd
Vial: 4 | Inj. Volume: 10.0000uL | Tray: 0

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	ND(W/B)	----	----	339329	----	ng/mL	101.00 >85.00	0.00	20.38-37.84
Sodium Perchlorate-18O4_IS	Auto	3.592	339329	339329	1.0000	ng/mL	----	----	

Perchlorate

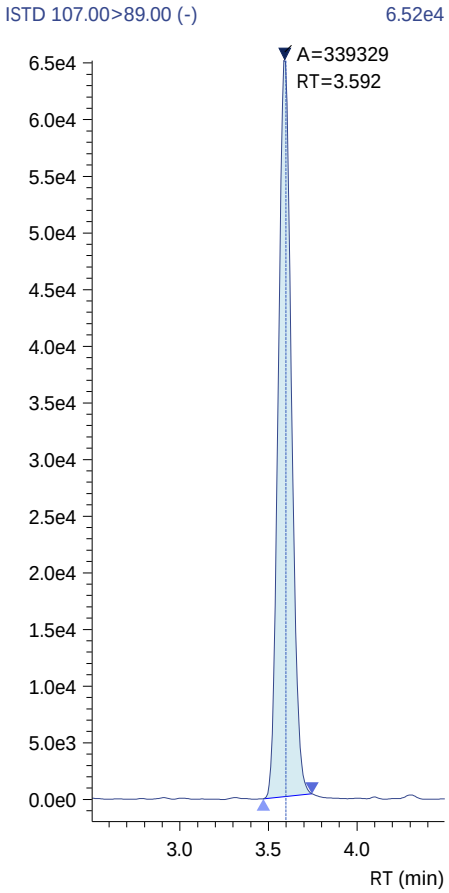
Conc ----
R#1 0.00 (29.11)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 7/21/2023 11:12:13 AM

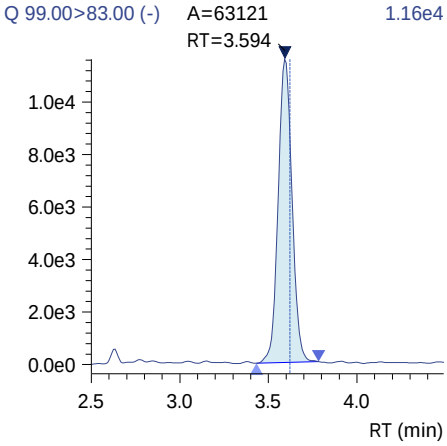
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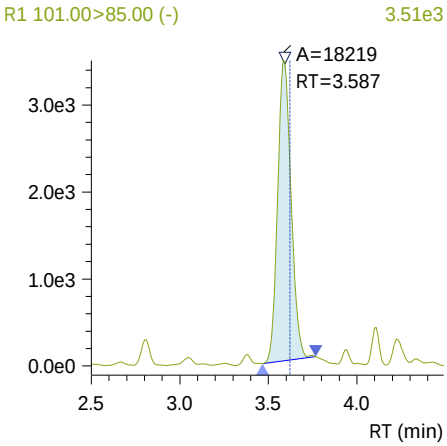
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Acquired by: System Administrator
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Vial: 2 | Inj. Volume: 10.0000uL | Tray: 0

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.594	63121	366360	1.0602	ng/mL	101.00 >85.00	28.86	20.38-37.84
Sodium Perchlorate-18O4 _IS	Auto	3.588	366360	366360	1.0000	ng/mL	----	----	

Perchlorate

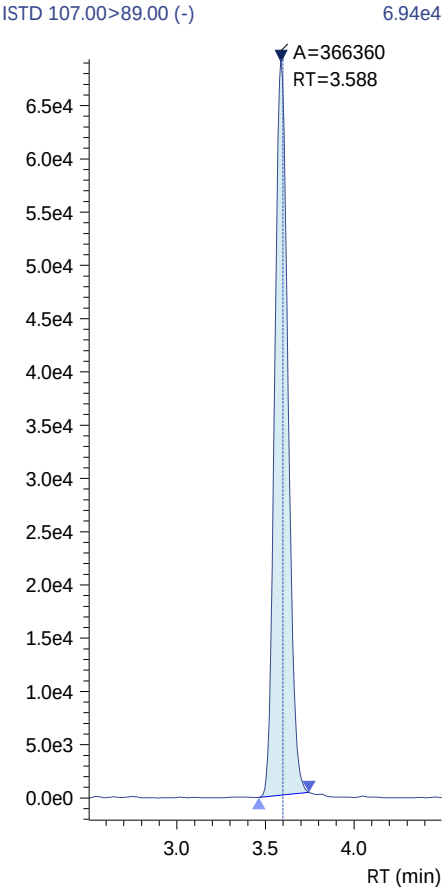
Conc 1.0602
R#1 28.86 (29.11)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 7/21/2023 11:12:13 AM

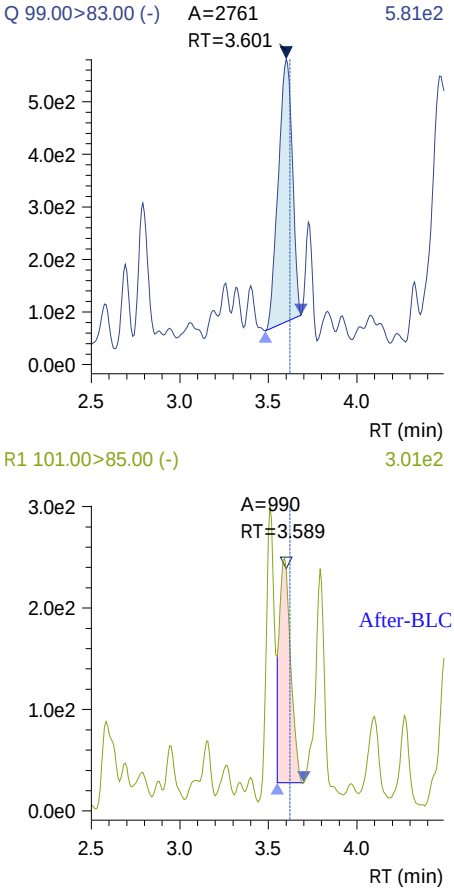
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Sample ID: LODV
Date Acquired: 7/21/2023 9:26:16 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230721\20230721-003.lcd
Vial: 1 | Inj. Volume: 10.0000uL | Tray: 0

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	MI R1	3.601	2761	353901	0.0480	ng/mL	101.00 >85.00	35.86	20.38-37.84
Sodium Perchlorate-18O4 _IS	Auto	3.588	353901	353901	1.0000	ng/mL	----	----	

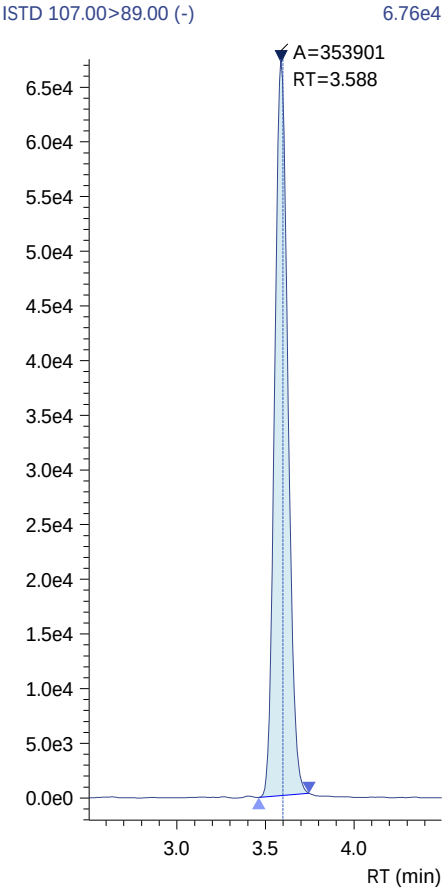
Perchlorate

Conc 0.0480
R#1 35.86 (29.11)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 7/21/2023 11:12:52 AM

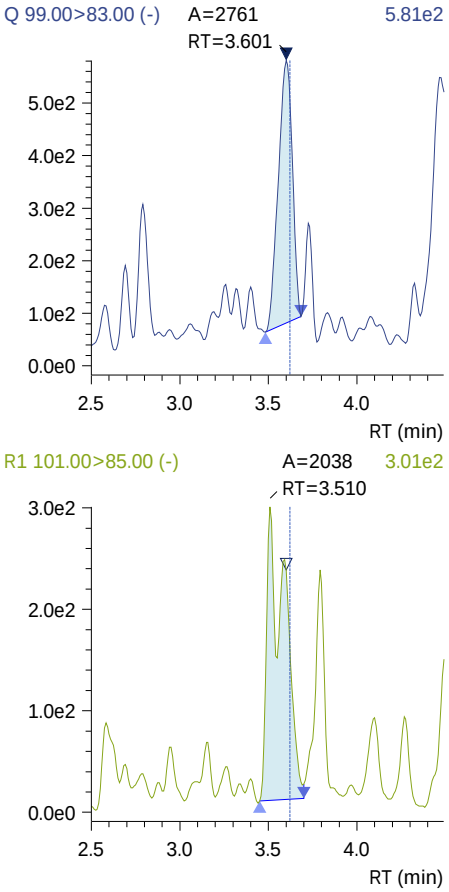
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Project File: I:\LCMS01\DATA\20230721\20230721.damlp

LODV

Sample ID: LODV
Date Acquired: 7/21/2023 9:26:16 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230721\20230721-003.lcd
Vial: 1 | Inj. Volume: 10.0000uL | Tray: 0

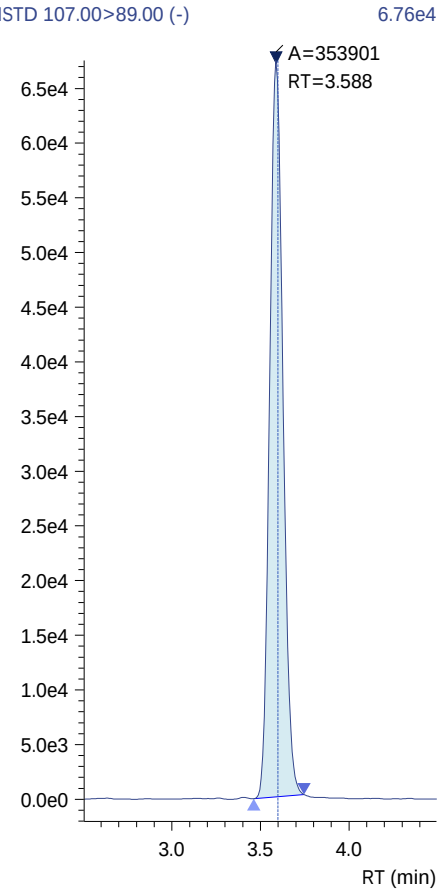
Perchlorate

Conc 0.0480
R#1 73.82 (29.11)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 7/21/2023 11:12:13 AM

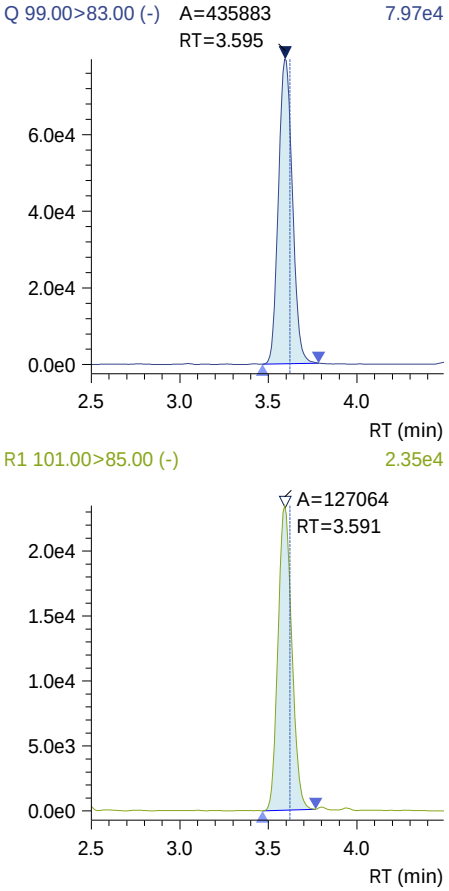
CCV

Sample ID: CCV
Date Acquired: 7/21/2023 9:36:43 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230721\20230721-004.lcd
Vial: 3 | Inj. Volume: 10.0000uL | Tray: 0

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.595	435883	249907	10.7324	ng/mL	101.00 >85.00	29.15	20.38-37.84
Sodium Perchlorate-18O4_IS	Auto	3.590	249907	249907	1.0000	ng/mL	----	----	

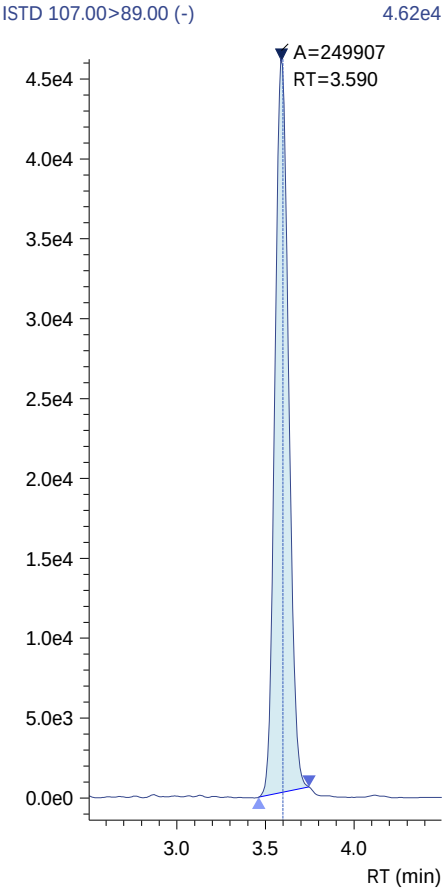
Perchlorate

Conc 10.7324
R#1 29.15 (29.11)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 7/21/2023 11:12:13 AM

E2300630-001

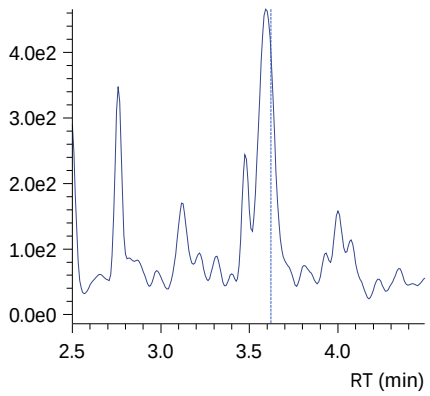
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Date Acquired: 7/21/2023 9:42:13 AM
Acquired by: System Administrator
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Vial: 1 | Inj. Volume: 10.0000uL | Tray: 3

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	ND(W/B)	----	----	347048	----	ng/mL	101.00 >85.00	0.00	20.38-37.84
Sodium Perchlorate-18O4_IS	Auto	3.588	347048	347048	1.0000	ng/mL	----	----	

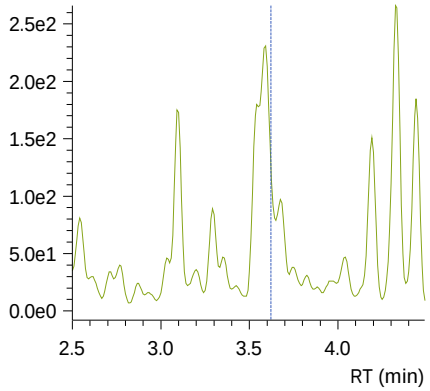
Perchlorate

Conc ----
R#1 0.00 (29.11)

Q 99.00>83.00 (-) 4.66e2



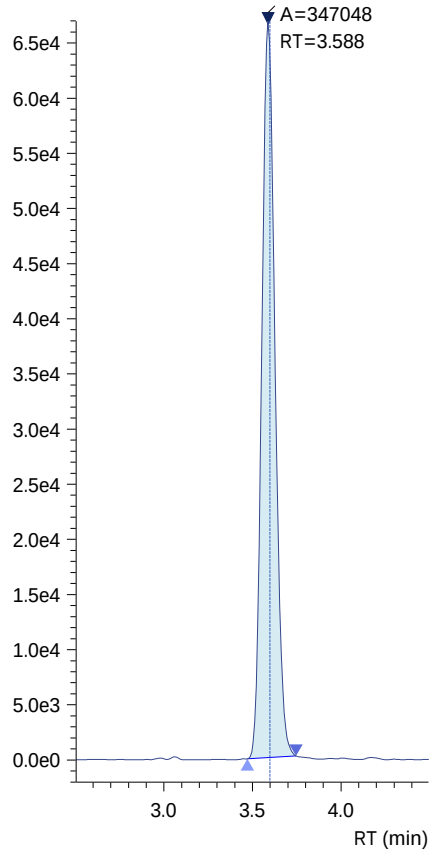
R1 101.00>85.00 (-) 2.66e2



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 6.70e4



Insight Report

Printed at 7/21/2023 11:12:13 AM

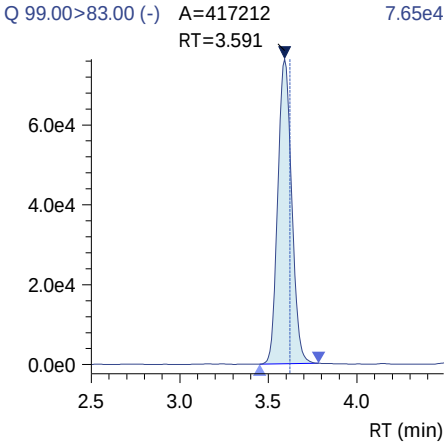
CCV

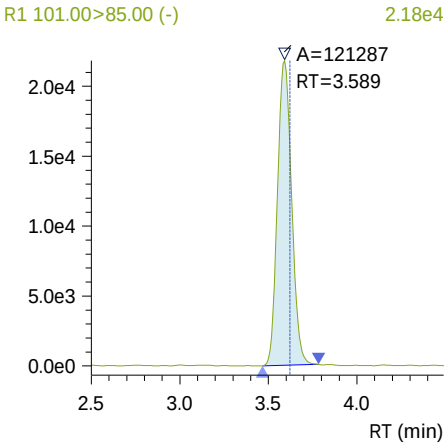
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Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230721\20230721-012.lcd
Vial: 3 | Inj. Volume: 10.0000uL | Tray: 0

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.591	417212	252401	10.17 12	ng/mL	101.00 >85.00	29.07	20.38-37.84
Sodium Perchlorate-18O4_IS	Auto	3.587	252401	252401	1.0000	ng/mL	----	----	

Perchlorate

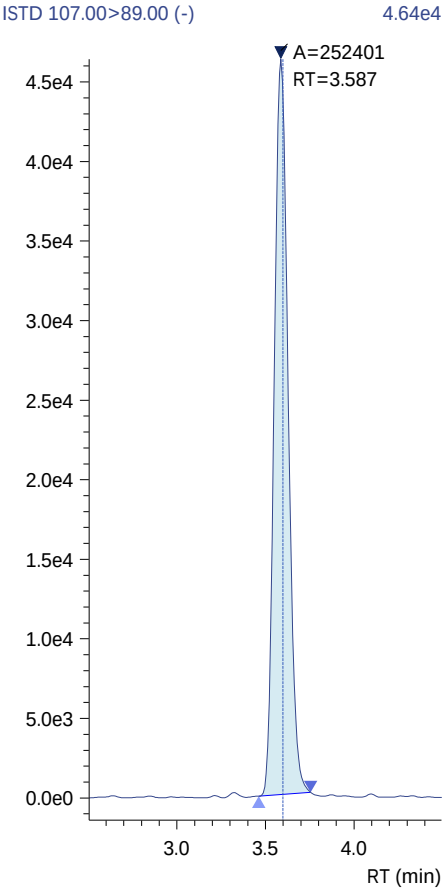
Conc 10.1712
R#1 29.07 (29.11)





Sodium Perchlorate-18O4_IS

Conc 1.0000



HS23070447 Longhorn GW Treatment Plant
Monthly Influent Samples Cover Page

ALS WO# HS23070447

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  - Sample Summary
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  - Weight/Volume Log
  - Dates Report
  - QC
  - Acronyms
  - Certifications
  - SampleReceiptCheckList
  - COC
  - HS23070447 Sub Perch E2300643-II
- HS23070447 - ME - ICP_W_DOD
  - Form 11 - ICPMS06 Internal Standard Association
  - Form 13 - ICPMS06_441593 Run Log
  - Form 13 - ICPMS06_441630 Run Log
  - Form 2 - ICPMS06_441593 CCV
  - Form 2 - ICPMS06_441630 CCV
  - Form 3 - ICPMS06_441593 CCB

Table of Contents (continued)

- Form 3 - ICPMS06_441630 CCB
- Form 4 - ICPMS06_441593 ICSA
- Form 4 - ICPMS06_441630 ICSA
- Form 5A - ICPMS06_441593 MS
- Form 5B - ICPMS06_441593 PDS
- Form 7 - ICPMS06_441593 LCS
- Form 8 - ICPMS06_441593 SD

HS23070447 Wetchem Cr6_W

HS23070447 Perch Sub Data E2300643-IV

- CoverLetter
- Certificate of Analysis
- Chain of Custody
- Preparation Sheets
- Analytical Results
- Accuracy and Precision
- Initial Calibration
- Chromatograms and Selected Ion Monitoring

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
alsglobal.com

WorkOrder: HS23070447

Longhorn GW Treatment Plant Monthly Influent Samples

Bhate Environmental Associates, Inc.

Marcia Olive
445 Union Blvd Ste 129
Lakewood CO 80228

20-Jul-2023

HS23070447 Longhorn GW Treatment Plant
Monthly Influent Samples Final

ALS WO# HS23070447

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

July 27, 2023

Marcia Olive
Bhate Environmental Associates, Inc.
445 Union Blvd Ste 129
Lakewood, CO 80228

Work Order: **HS23070447**

Laboratory Results for: **Longhorn GW Treatment Plant Monthly Influent Samples**

Dear Marcia Olive,

ALS Environmental received 1 sample(s) on Jul 11, 2023 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: JUMOKE.LAWAL
James Guin

ALS Houston, US Date: 27-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
Work Order: HS23070447

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS23070447-01	LH18/24-SP140_071023	Water		10-Jul-2023 13:00	11-Jul-2023 09:20	☐

ALS Houston, US Date: 27-Jul-23

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: Longhorn GW Treatment Plant Monthly Influent Samples
Work Order: HS23070447

Work Order Comments

- The analysis for Perchlorate was subcontracted to ALS Houston High-Res Lab. Final report attached

Metals by Method SW6020A

Batch ID: 197656

Sample ID: LH18/24-SP140_071023 (HS23070447-01MS)

- The recovery of the Matrix Spike (MS) associated to this analyte was outside of the established control limits. However, the LCS was within control limits. The recovery of the MS may be due to sample matrix interference. Silver

Sample ID: LH18/24-SP140_071023 (HS23070447-01MSD)

- The recovery of the Matrix Spike Duplicate (MSD) associated to this analyte was outside of the established control limits. However, the LCS was within control limits. The failed recovery of the MSD may be due to sample matrix interference. Silver

WetChemistry by Method SW7196

Batch ID: R441079

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

ALS Houston, US Date: 27-Jul-23

Client: Bhate Environmental Associates, Inc.
ANALYTICAL REPORT
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder:HS23070447
Sample ID: LH18/24-SP140_071023
Lab ID:HS23070447-01
Collection Date: 10-Jul-2023 13:00
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
METALS BY ICPMS BY SW6020A		**Method:SW6020A**				Prep:SW3010A / 17-Jul-2023		Analyst: JC
Selenium	0.00250	U	0.00110	0.00250	0.00500	mg/L	1	17-Jul-2023 22:18
Silver	0.000500	U	0.000200	0.000500	0.00500	mg/L	1	17-Jul-2023 22:18
HEXAVALENT CHROMIUM BY SW7196A		**Method:SW7196**						Analyst: MZD
Chromium, Hexavalent	0.00600	U	0.00600	0.00600	0.0100	mg/L	1	11-Jul-2023 10:18
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	25-Jul-2023 15:03

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Weight / Prep Log

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS23070447

Batch ID: 197656 **Start Date:** 17 Jul 2023 08:30 **End Date:** 17 Jul 2023 08:30
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS23070447-01		10 (mL)	10 (mL)	1	120 plastic HNO3

ALS Houston, US Date: 27-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS23070447

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 197656 (0)	**Test Name :** METALS BY ICPMS BY SW6020A				**Matrix:** Water	
HS23070447-01	LH18/24-SP140_071023	10 Jul 2023 13:00		17 Jul 2023 08:30	17 Jul 2023 22:18	1
Batch ID: R441079 (0)	**Test Name :** HEXAVALENT CHROMIUM BY SW7196A				**Matrix:** Water	
HS23070447-01	LH18/24-SP140_071023	10 Jul 2023 13:00			11 Jul 2023 10:18	1
Batch ID: R442239 (0)	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)				**Matrix:** Water	
HS23070447-01	LH18/24-SP140_071023	10 Jul 2023 13:00			25 Jul 2023 15:03	1

ALS Houston, US Date: 27-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS23070447

QC BATCH REPORT

Batch ID: 197656 (0) **Instrument: ICPMS06** **Method: METALS BY ICPMS BY SW6020A**

MBLK Sample ID: **MBLK-197656** Units: **mg/L** Analysis Date: **18-Jul-2023 13:47**
Client ID: Run ID: **ICPMS06_441630** SeqNo: **7435593** PrepDate: **17-Jul-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Selenium	0.00250	0.00500								U
Silver	0.000500	0.00500								U

LCS Sample ID: **LCS-197656** Units: **mg/L** Analysis Date: **17-Jul-2023 22:16**
Client ID: Run ID: **ICPMS06_441593** SeqNo: **7434190** PrepDate: **17-Jul-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Selenium	0.04512	0.00500	0.05	0	90.2	80 - 120				
Silver	0.04367	0.00500	0.05	0	87.3	85 - 116				

MS Sample ID: **HS23070447-01MS** Units: **mg/L** Analysis Date: **17-Jul-2023 22:22**
Client ID: **LH18/24-SP140_071023** Run ID: **ICPMS06_441593** SeqNo: **7434193** PrepDate: **17-Jul-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Selenium	0.04331	0.00500	0.05	0.000407	85.8	80 - 120				
Silver	0.04171	0.00500	0.05	0.000007	83.4	85 - 116				S

MSD Sample ID: **HS23070447-01MSD** Units: **mg/L** Analysis Date: **17-Jul-2023 22:24**
Client ID: **LH18/24-SP140_071023** Run ID: **ICPMS06_441593** SeqNo: **7434194** PrepDate: **17-Jul-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Selenium	0.04436	0.00500	0.05	0.000407	87.9	80 - 120	0.04331	2.38	20	
Silver	0.04124	0.00500	0.05	0.000007	82.5	85 - 116	0.04171	1.14	20	S

PDS Sample ID: **HS23070447-01PDS** Units: **mg/L** Analysis Date: **17-Jul-2023 22:26**
Client ID: **LH18/24-SP140_071023** Run ID: **ICPMS06_441593** SeqNo: **7434195** PrepDate: **17-Jul-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Selenium	0.0887	0.00500	0.1	0.000407	88.3	80 - 120				
Silver	0.0905	0.00500	0.1	0.000007	90.5	80 - 120				

ALS Houston, US Date: 27-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS23070447

QC BATCH REPORT

Batch ID: 197656 (0) **Instrument:** ICPMS06 **Method:** METALS BY ICPMS BY SW6020A

SD Sample ID: **HS23070447-01SD** Units: **mg/L** Analysis Date: **17-Jul-2023 22:20**
Client ID: **LH18/24-SP140_071023** Run ID: **ICPMS06_441593** SeqNo: **7434192** PrepDate: **17-Jul-2023** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Selenium	0.0125	0.0250					0.000407	0	10	U
Silver	0.00250	0.0250					0.000007	0	10	U

The following samples were analyzed in this batch: HS23070447-01

ALS Houston, US Date: 27-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS23070447

QC BATCH REPORT

Batch ID: R441079 (0) **Instrument: UV-2450** **Method: HEXAVALENT CHROMIUM BY SW7196A**

MBLK Sample ID: **MBLK-R441079** Units: **mg/L** Analysis Date: **11-Jul-2023 10:18**
Client ID: Run ID: **UV-2450_441079** SeqNo: **7421070** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0	0.0100								U

LCS Sample ID: **LCS-R441079** Units: **mg/L** Analysis Date: **11-Jul-2023 10:18**
Client ID: Run ID: **UV-2450_441079** SeqNo: **7421069** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.251	0.0100	0.25	0	100	80 - 120				

MS Sample ID: **HS23070378-01MS** Units: **mg/L** Analysis Date: **11-Jul-2023 10:18**
Client ID: Run ID: **UV-2450_441079** SeqNo: **7421072** PrepDate: DF: **50**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	12.55	0.500	12.5	0	100	86 - 117				

MSD Sample ID: **HS23070378-01MSD** Units: **mg/L** Analysis Date: **11-Jul-2023 10:18**
Client ID: Run ID: **UV-2450_441079** SeqNo: **7421071** PrepDate: DF: **50**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	12.55	0.500	12.5	0	100	86 - 117	12.55	0	15	

The following samples were analyzed in this batch: HS23070447-01

ALS Houston, US Date: 27-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: **HS23070447**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	88-00356	27-Mar-2024
California	2919; 2024	30-Apr-2024
Dept of Defense	L23-358	31-May-2025
Florida	E87611-38	30-Jun-2024
Illinois	2000322023-11	30-Jun-2024
Kansas	E-10352; 2022-2023	31-Jul-2023
Louisiana	03087-2023	30-Jun-2024
Maryland	343; 2023-2024	30-Jun-2024
North Carolina	624-2023	31-Dec-2023
North Dakota	R-193 2023-2024	30-Apr-2024
Oklahoma	2022-141	31-Aug-2023
Texas	T104704231-23-31	30-Apr-2024
Utah	TX026932023-14	31-Jul-2024

ALS Houston, US Date: 27-Jul-23

Sample Receipt Checklist

Work Order ID: HS23070447 **Date/Time Received:** 11-Jul-2023 09:20

Client Name: Bhate Environmental **Received by:** Paresh M. Giga

Completed By: /S/ Nilesh D. Ranchod (eSignature) 11-Jul-2023 11:41 (Date/Time) **Reviewed by:** (eSignature) (Date/Time)

Matrices: **Water** Carrier name: **FedEx Priority Overnight**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:none
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	2.5C/2.4C U/C	IR31
Cooler(s)/Kit(s):	46293	
Date/Time sample(s) sent to storage:	07/11/2023 11:45	

Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

CHAIN OF CUSTODY

Name Of Lab Shipping To: ALS 10450 Stancliff Rd., Suite 210 Houston, TX. 77099 (281) 530-5656 ATTN: Ragen Gigi

Page 1 of 1

Project: BHATE LONGHORN ARMY AMMN. PLANT (LHAAP) GROUNDWATER TREATMENT PLANT (GWTP) KARNACK, TEXAS	Project No. NWO1312.0150.0 16.0001
Job: **GROUNDWATER TREATMENT PLANT MONTHLY INFLUENT SAMPLES**	
Prepared By: Scott Beesinger	P.O. Number

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: SILVER & SELENIUM	HEXAVALENT CHROMIUM	PERCHLORATE	Remarks (Preservatives, etc.)
LH18/24-SP140_071023	Water	07/10/23 / 13:00		1	X			HNO3
LH18/24-SP140_071023	Water	07/10/23 / 13:00		2		X	X	NONE

Bhate Environmental Associates, Inc.
Longhorn GW Treatment Plant Monthly Influent Sam

HS23070447

Additional Remarks: **STANDARD TURN AROUND TIME**

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	07/10/23	13:30		7/11/23	09:20						

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition
VK									

Remarks: 46293 2.5°C #31

Cl- = 1

(Word) S:\1-ces\Forms\Chain of Custody - BiWeekly

ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

46293

CUSTODY SEAL

Date: 7/10/23 Time: 1330
Name: Scott Beesinger
Company: BHATE

Seal Broken By:
Date: 07/11/23

46293 JUL 1 1 2023

46293

ORIGIN ID:SGRA (903) 930-6793
ATT: SCOTT BEESINGER
APTIM ENVIRONMENTAL & INFRAST. INC
1203 E EAST GRAND AVE PMB202

MARSHALL, TX 75672
UNITED STATES US

SHIP DATE: 31JAN23
ACTWGT: 1.00 LB MAN
CAD: 0221247/CAFE3616
DIMS: 19x16x13 IN

TO SHIPPING DEPT
ALS LABORATORY GROUP
10450 STANCLIFF RD
SUITE 210
HOUSTON TX 77099
(281) 530-5656
REF: LHAAP-46-90619-DW
RMA:

FedEx Express

FedEx
TRK# 6230 2994 7786
0221

TUE - 11 JUL AA
PRIORITY OVERNIGHT

XA SGRA

77099
TX US
IAH

July 21, 2023 Service Request No:E2300643

Bernadette Fini
ALS Laboratory Group
10450 Stancliff Road
Suite 210
Houston, TX 77099-4338

Laboratory Results for: HS23070447

Dear Bernadette,

Enclosed are the results of the sample(s) submitted to our laboratory July 19, 2023
For your reference, these analyses have been assigned our service request number **E2300643.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current TNI standards, where applicable, and except as noted in the laboratory case narrative provided. All results are intended to be considered in their entirety and ALS Environmental is not responsible for use of less than the complete final report. Results apply only to the items submitted to the laboratory, as received for analysis. In accordance with the current TNI Standard, a statement on the estimated uncertainty of measurement of any quantitative analysis will be supplied upon request.

Please contact me if you have any questions. My extension is 2188. You may also contact me via email at James.Guin@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental



James Guin

ADDRESS 10450 Stancliff Rd., Suite 210, Houston, TX 77099
PHONE +1 281 530 5656 | FAX +1 281 530 5887
ALS Group USA, Corp.
dba ALS Environmental

Certificate of Analysis

ALS Environmental - Houston Specialties Laboratory
10450 Stancliff Rd., Suite 210, Houston TX 77099
Phone (281)530-5656 Fax (281)530-5887
www.alsglobal.com

ALS Environmental

Client:	ALS Environmental - US	**Service Request No.:**	E2300643
Project:	HS23070447	**Date Received:**	07/19/2023
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed in adherence to the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

One sample was received for analysis at ALS Environmental in Houston on 07/19/2023.

The sample was received in good condition and is consistent with the accompanying chain of custody form. The sample was stored in a refrigerator at 4°C upon receipt at the laboratory.

Data Validation Notes and Discussion

Precision and Accuracy:

EQ2300346: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in lieu of a MS/MSD for this extraction batch.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS group USA Corp dba ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

Client: ALS Environmental - US **Service Request:**E2300643
Project: HS23070447

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2300643-001	LH18/24-SP140_071023	7/10/2023	1300

Service Request Summary

Folder #: **E2300643**
Client Name: ALS Environmental - US
Project Name: HS23070447
Project Number:

Report To: Bernadette Fini
ALS Laboratory Group
10450 Stancliff Road
Houston, TX 77099-4338
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number: 281-530-5887
E-mail: bernadette.fini@alsglobal.com

Project Chemist: James Guin
Originating Lab: HOUSTON
Logged By: XMI
Date Received: 07/19/23
Internal Due Date: 7/19/2023
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS23070447
EDD: No EDD Specified

1 120 mL-Plastic Bottle Natural WM Unpreserved
Location: SUBBED
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2300643-001	LH18/24-SP140_071023	Water	07/10/23 1300	IV

Service Request Summary

Folder #:	**E2300643**
Client Name:	ALS Environmental - US
Project Name:	HS23070447
Project Number:	

Report To:	Bernadette Fini ALS Laboratory Group 10450 Stancliff Road Houston, TX 77099-4338 USA
Phone Number:	281-530-5656
Cell Number:	
Fax Number:	281-530-5887
E-mail:	bernadette.fini@alsglobal.com

Project Chemist:	James Guin
Originating Lab:	HOUSTON
Logged By:	XMI
Date Received:	07/19/23
Internal Due Date:	7/19/2023
QAP:	LAB QAP
Qualifier Set:	Lab Standard
Formset:	Lab Standard
Merged?:	Y
Report to MDL?:	Y
P.O. Number:	HS23070447
EDD:	No EDD Specified

1 120 mL-Plastic Bottle Natural WM Unpreserved

Location: SUBBED

Pressure Gas:

Data Qualifiers

Lab Standard

+	Possible Tedlar bag artifact.
A	TIC is a suspected aldol-condensation product
B	Analyte found in the associated method blank as well as in the sample.
BC	Reported results are not blank corrected.
BH	The back section of the tube yielded higher results than the front.
BT	Results indicated possible breakthrough; back section >=10% front section.
C	Result identification confirmed.
D	Compound identified in an analysis at a secondary dilution factor
D	Spike was diluted out
DE	Reported results are corrected for desorption efficiency.
E	Estimated value. Concentration above calibration range
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
H1	Sample analysis performed past holding time. See case narrative.
H2	Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
H3	Sample was received and analyzed past holding time.
H4	Sample was extracted past required extraction holding time, but analyzed within analysis holding time. See case narrative.
I	(Auto) The reference ion ratio was outside acceptance criteria, which may indicate a potential bias to this result.
I	Internal standard not within the specified limits. See case narrative.
I	The reference ion ratio was outside acceptance criteria, which may indicate a potential bias to this result.
J	Estimated Value. Concentration found below MRL.
K	A deflection in the QC ion may indicate interference with the quantitation of this ion. The concentration of this analyte should be considered as an estimate.
K	Analyte was detected above the method reporting limit prior to normalization.
K	The reference ion ratio was outside acceptance criteria, which may indicate a potential bias to this result.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
L1	Laboratory control sample recovery outside the specified limits; results may be biased high.
L2	Laboratory control sample recovery outside the specified limits; results may be biased low.
L3	Laboratory control sample recovery outside the specified limits.
M	Matrix interference; results may be biased high.
M	The duplicate injection precision not met.

Data Qualifiers

Lab Standard

M1	Matrix interference due to coelution with a non-target compound; results may be biased high.
N	Presumptive evidence of a compound for TICs that have been identified based on a mass spectral library search.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
P	Indicates chlorodiphenyl ether interference present at the retention time of the target compound.
P	Pesticide/Aroclor target analyte > 40% difference for detected concentrations between GC columns
Q	Indicates as estimated value because the P and P + 2 theoretical abundance ratio does not meet method criteria.
R	Duplicate Precision not met.
R1	Duplicate precision not within the specified limits; however, the results are below the MRL and considered estimated.
S	Surrogate recovery not within specified limits.
S	The reported value was determined by the Method of Standard Additions (MSA).
T	Analyte is a tentatively identified compound, result is estimated.
U	Compound was analyzed for, but was not detected (ND).
V1	The continuing calibration verification standard was outside (biased high) the specified limits for this compound.
V2	The continuing calibration verification standard was outside (biased low) the specified limits for this compound.
W	Result quantified, but the corresponding peak was detected outside the generated retention time window.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
X	See case narrative.
Y	Recovery outside limits
Y	The chromatogram resembles a petroleum product but does not match the calibration standard.
Z	The chromatogram does not resemble a petroleum product.
i	The MRL/MDL has been elevated due to a matrix interference.

ALS Laboratory Group

Acronyms

Cal	Calibration
Conc	CONCentration
Dioxin(s)	Polychlorinated dibenzo-p-dioxin(s)
EDL	Estimated Detection Limit
EMPC	Estimated Maximum Possible Concentration
Flags	Data qualifiers
Furan(s)	Polychlorinated dibenzofuran(s)
g	Grams
ICAL	Initial CALibration
ID	IDentifier
Ions	Masses monitored for the analyte during data acquisition
L	Liter (s)
LCS	Laboratory Control Sample
DLCS	Duplicate Laboratory Control Sample
MB	Method Blank
MCL	Method Calibration Limit
MDL	Method Detection Limit
mL	Milliliters
MS	Matrix Spiked sample
DMS	Duplicate Matrix Spiked sample
NO	Number of peaks meeting all identification criteria
PCDD(s)	Polychlorinated dibenzo-p-dioxin(s)
PCDF(s)	Polychlorinated dibenzofuran(s)
ppb	Parts per billion
ppm	Parts per million
ppq	Parts per quadrillion
ppt	Parts per trillion
QA	Quality Assurance
QC	Quality Control
Ratio	Ratio of areas from monitored ions for an analyte
% Rec.	Percent recovery
RPD	Relative Percent Difference
RRF	Relative Response Factor
RT	Retention Time
SDG	Sample Delivery Group
S/N	Signal-to-noise ratio
TEF	Toxicity Equivalence Factor
TEQ	Toxicity Equivalence Quotient

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ALS Environmental

State Certifications, Accreditations, and Licenses

Agency	Number	Expire Date
Arizona Department of Health Services	AZ0793_2024	5/27/2024
Arkansas Department of Environmental Quality	88-00356	3/27/2024
California State Environmental Laboratory Accreditation Program	2919	4/30/2024
Department of Defense	L22-90	3/31/2024
Department of Defense	L23-358	5/31/2025
Florida Department of Health	E87611-38	6/30/2024
Illinois Environmental Protection Agency	2000322023-11	6/30/2024
Kansas Department of Health and Environment	E-10352 2022-2023	7/31/2023
Louisiana Department of Environmental Quality	03087-2023	6/30/2024
Louisiana Department of Health and Hospitals	LA028-2023	12/31/2023
Maine Department of Health and Human Services	2022017	6/5/2024
Maryland Department of the Environment	343	7/31/2023
Michigan Depratment of Environmental Quality	9971-2023	4/30/2024
Minnesota Department of Health	2368363	12/31/2023
Nebraska Department of Health and Human Services	NE-OS-25-13	4/30/2024
Nevada Department of Conservation and Natural Resources	TX026932023-1	7/31/2023
New Hampshire Environmental Laboratory Accreditation Program	209423	4/24/2024
New Jersey Department of Environmental Protection	TX008-2024	6/30/2024
New York Department of Health	11707	3/31/2024
Oklahoma Department of Environmental Quality	2022-141	8/31/2023
Pennsylvania Department of Environmental Protection	68-03441-017	6/30/2024
Perry Johnson Laboratory Accreditation	L22-91	3/31/2024
Tennessee Department of Environment and Concervation	TN04016-2023	4/30/2024
Texas Commision on Environmental Quality	T104704231-23-30	4/30/2024
Utah Department of Health Environmental Laboratory Certification	TX026932022-13	7/31/2023
Washington Department of Ecology	C819-22	11/14/2023

ALS

Chain of Custody

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Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense**

COC ID: **22315**

E2300643 5
ALS Laboratory Group
HS23070447

SUBCONTRACT TO:

ALS Environmental
10450 Stancliff RoadSuite 210
Houston, TX 77084

Phone: +1 281 530 5656

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	James Guin
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	James.Guin@alsglobal.com
Alternate Contact:	Jumoke M. Lawal
Email:	jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS23070447
TSR:	Houston House Acct

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS23070447-01**	**LH18/24-SP140_071023**	**Water**	**10 Jul 2023 13:00**
	6850-Perch. DOD Level II & Level IV in separate pdf			18 Jul 2023

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.

QC Level: DOD IV (DoD Data Package)

Relinquished By: _____ Date/Time: _____

Received By: _____ Date/Time: 7-19-23 1400

Cooler ID(s): _____ Temperature(s): _____

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Client: ALS Date: 7-19-23 WO#:

Time Received: 1400 Received by: CG BO#:

Matrices: Solid/Sludge Water Oil Wipes Hydrocarbon Liquid Other

Kit ID/Cooler ID	Trip Blank ID	Cooler Temp (C) Observed/Corrected	IR #	Temp BLK Present?
—		4.1 / 4.0	3	Y N
		/		Y N
		/		Y N
		/		Y N
		/		Y N

Delivery Method: FedEx UPS Greyhound ALS Client Other

Date/Time of Unpacking: 7-19-23 Unpacked by: CG

Shipping container/cooler in good condition?	~~Yes~~	No	Not Present
Custody seals intact on shipping container/cooler?	Yes	No	~~Not Present~~
Custody seals intact on sample bottles?	Yes	No	~~Not Present~~
Chain of Custody present?	~~Yes~~	No	
Chain of Custody signed when relinquished and received?	~~Yes~~	No	
Chain of Custody - Sampler's name present?	Yes	~~No~~	
Chain of Custody agrees with sample labels?	~~Yes~~	No	
Samples in proper container/bottle?	~~Yes~~	No	
VOA/TX1005/1006 Solids in hermetically Sealed Vials:	Yes	No	No VOA/TX1005/1006 Solid
Sample containers intact?	~~Yes~~	No	
Sufficient sample volume for indicated test?	~~Yes~~	No	
All samples received within holding time?	~~Yes~~	No	
Container/Temp Blank temperature in compliance?	~~Yes~~	No	
Water - VOA vials have zero headspace?	Yes	No	N/A ~~No VOA submitted~~
Non-VOA waters preserved with HCl, H2SO4, HNO3 are pH <2?			Yes No N/A
Waters preserved with NaOH/Ascorbic acid are pH>12?	Yes	No	~~N/A~~
pH adjusted?	Yes*	No	~~N/A~~ *See Preservation Logbook
pH adjusted by: _____	**pH Paper Lot:** _____		

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SAMPLE ACCEPTANCE POLICY

This policy outlines the criteria samples must meet to be accepted by ALS Environmental – Houston HRMS.

Cooler Custody Seals (desirable, mandatory if specified in SAP):

- ✓ Intact on outside of cooler, signed and dated

Chain-of-Custody (COC) documentation (mandatory):

The following is required on each COC:

- ✓ Sample ID, the location, date and time of collection, collector's name, preservation type, sample type, and any other special remarks concerning the sampleThe COC must be completed in ink.
- ✓ Signature and date of relinquishing party.

In the absence of a COC at sample receipt, the COC will be requested from the client.

Sample Integrity (mandatory):

Samples are inspected upon arrival to ensure that sample integrity was not compromised during transfer to the laboratory.

- ✓ Sample containers must arrive in good condition (not broken or leaking).
- ✓ Samples must be labeled appropriately, including Sample IDs, and requested test using durable labels and indelible ink.
- ✓ The correct type of sample bottle must be used for the method requested.
- ✓ An appropriate sample volume, or weight, must be received.
- ✓ Sample IDs and number of containers must reconcile with the COC.
- ✓ Samples must be received within the method defined holding time.

Temperature Requirement (varies by sample matrix):

- ✓ Aqueous and Non-aqueous samples must be shipped and stored cold, at 0 to 6ºC.
- ✓ Tissue samples must be shipped and stored frozen, at -20 to -10ºC.
- ✓ Air samples are shipped and stored cold, at 0 to 6ºC
- ✓ The sample temperature must be recorded on the COC

All cooler inspections are documented on the Cooler Receipt Form (CRF). A separate CRF is completed for each service request. Any samples not meeting the above criteria are noted on the CRF and the Project Manager notified. The Project Manager must resolve any sample integrity issues with the client prior to proceeding with the analysis. Such resolutions are documented in writing and filed with the project folder. Data associated with samples received outside of this acceptance policy will be qualified on the case narrative of the final report

Preparation Information Benchsheets

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Preparation Information Benchsheet

Prep Run#: 423378 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/XMI **Prep Method:** Method **Prep Date/Time:** 7/20/23 08:43

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2300630-001	LH18/24-SP650_071023_AIX	.01	6850/ClO4 DOD			Water	10mL	
2	E2300631-001	EA-20_0323	.01	6850/ClO4			Water	10mL	
3	E2300631-002	CTC-48_0323	.01	6850/ClO4			Water	10mL	
4	E2300631-003	EA-55-0323	.01	6850/ClO4			Water	10mL	
5	E2300631-004	CTC-29-0323	.01	6850/ClO4			Water	10mL	
6	E2300637-001	EA-5_0323	.01	6850/ClO4			Water	10mL	
7	E2300637-002	WELL-3_0323	.01	6850/ClO4			Water	10mL	
8	E2300637-003	CTC-47_0323	.01	6850/ClO4			Water	10mL	
9	E2300637-004	EA40_0323	.01	6850/ClO4			Water	10mL	
10	E2300637-005	EA-53_0323	.01	6850/ClO4			Water	10mL	
11	E2300642-001	MW-2	.01	6850/ClO4			Water	10mL	
12	E2300643-001	LH18/24-SP140_071023	.01	6850/ClO4 DOD			Water	10mL	
13	EQ2300346-01	MB		6850/ClO4			Liquid	10mL	
14	EQ2300346-02	LCS		6850/ClO4			Liquid	10mL	
15	EQ2300346-03	DLCS		6850/ClO4			Liquid	10mL	
16	K2307522-001	LGAC-INF-070323	.01	6850/ClO4			Water	10mL	
17	K2307522-002	LGAC-INT1-070323	.01	6850/ClO4			Water	10mL	
18	K2307522-003	LGAC-INT2-070323	.01	6850/ClO4			Water	10mL	
19	K2307692-001	FBR-INF-071023	.01	6850/ClO4			Water	10mL	
20	K2307692-002	LGAC-INF-071023	.01	6850/ClO4			Water	10mL	
21	K2307692-003	LGAC-INT1-071023	.01	6850/ClO4			Water	10mL	
22	K2307692-004	LGAC-INT2-071023	.01	6850/ClO4			Water	10mL	

Spiking Solutions

Name: Perchlorate Intermediate Stock1 Inventory ID 227236 Logbook Ref: Perchlorate (1st Source) Expires On: 07/31/2023

EQ2300346-02	1.00µL	EQ2300346-02	1.00µL	EQ2300346-03	1.00µL	EQ2300346-03	1.00µL

Name: Perchlorate Internal Standard 1ug/mL Inventory ID 227244 Logbook Ref: Perchlorate Internal Standard Expires On: 07/31/2023

E2300630-001	100.00µL	E2300631-001	100.00µL	E2300631-002	100.00µL	E2300631-003	100.00µL	E2300631-004	100.00µL	E2300637-001	100.00µL
E2300637-002	100.00µL	E2300637-003	100.00µL	E2300637-004	100.00µL	E2300637-005	100.00µL	E2300642-001	100.00µL	E2300643-001	100.00µL
EQ2300346-01	100.00µL	EQ2300346-01	100.00µL	EQ2300346-02	100.00µL	EQ2300346-02	100.00µL	EQ2300346-03	100.00µL	EQ2300346-03	100.00µL
K2307522-001	100.00µL	K2307522-002	100.00µL	K2307522-003	100.00µL	K2307692-001	100.00µL	K2307692-002	100.00µL	K2307692-003	100.00µL
K2307692-004	100.00µL										

Preparation Information Benchsheet

Prep Run#: 423378 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/XMI **Prep Method:** Method **Prep Date/Time:** 7/20/23 08:43

Preparation Materials

Water HPLC Grade	HPLC water 5/18/23CG (229315)	6850 Amber Glass screw vial	2mL Screw Top Vial (221894)	6850 0.45um syringe filters	6850 0.45 SYRING FILTER (229979)
6850 Luer-Lok Syringes	luer-lock syringes (228116)				

Preparation Steps

Step: Preparation
Started: 7/20/23 08:43
Finished: 7/20/23 09:55
By: XMI
Comments

Comments: _____

Reviewed By: _____ Date: _____

Chain of Custody

Relinquished By: _____ Date: _____ Extracts Examined

Received By: _____ Date: _____ Yes No

Analytical Results

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ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300643
Project:	HS23070447	**Date Collected:**	7/10/23 1300
Sample Matrix:	Water	**Date Received:**	7/19/23
Sample Name:	LH18/24-SP140_071023	**Units:**	µg/L
Lab Code:	E2300643-001	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**57500**		500	250	125	5000	7/20/23	7/20/23 16:49	423378	811363	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300643
Project:	HS23070447	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2300346-01	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.100	0.0500	0.0250	1	7/20/23	7/20/23 15:27	423378	811363	

Accuracy & Precision

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ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS23070447
Sample Matrix: Water

Service Request: E2300643
Date Analyzed: 7/20/23

Lab Control Sample Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Units: µg/L
Basis: NA

Extraction Lot: 423378

	Lab Control Sample EQ2300346-02			Duplicate Lab Control Sample EQ2300346-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.111	0.100	111	0.0967	0.100	97	84 - 119	14	15

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300643
Project:	HS23070447	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2300346-02	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.111**		0.100	0.0500	0.0250	1	7/20/23	7/20/23 15:39	423378	811363	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300643
Project:	HS23070447	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2300346-03	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.0967**	J	0.100	0.0500	0.0250	1	7/20/23	7/20/23 15:55	423378	811363	

HS23070447 - ME - ICP_W_DOD

ALS WO# HS23070447

ALS Houston, US Date: 20-Jul-23

Form 11 - INTERNAL STANDARD ASSOCIATION

Client: Bhate Environmental Associates, Inc. Instrument:ICPMS06
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS23070447

Mass	Analyte	Assoc Int Standard 1	Assoc Int Standard 2	Mode
9	Beryllium	Lithium		Ar
11	Boron	Lithium		Ar
23	Sodium	Germanium		ArHe
24	Magnesium	Germanium		ArHe
27	Aluminum	Germanium		ArHe
39	Potassium	Germanium		ArHe
44	Calcium	Germanium		Ar
47	Titanium	Germanium		Ar
51	Vanadium	Germanium		ArHe
52	Chromium	Germanium		ArHe
55	Manganese	Germanium		ArHe
56	Iron	Germanium		ArHe
59	Cobalt	Germanium		ArHe
60	Nickel	Germanium		ArHe
63	Copper	Germanium		ArHe
66	Zinc	Germanium		ArHe
75	Arsenic	Germanium		ArHe
82	Selenium	Germanium		Ar
88	Strontium	Indium		Ar
95	Molybdenum	Indium		Ar
105	Palladium	Germanium		Ar
107	Silver	Indium		Ar
114	Cadmium	Indium		Ar
118	Tin	Indium		Ar
121	Antimony	Germanium		ArHe
137	Barium	Indium		Ar
205	Thallium	Bismuth		Ar
208	Lead	Bismuth		Ar

ALS Houston, US

Date: 20-Jul-23

FORM 13 - ANALYSIS RUN LOG

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS23070447
Start Date: 17-Jul-2023 End Date: 17-Jul-2023

Run ID:ICPMS06_441593
Instrument:ICPMS06
Method:

Sample No.	D/F	Time	FileID	Analytes
ICPMS06_441593_Tune	1	17-Jul-2023 00:00	ICPMS06_441593_Tune_1	
CAL BLK	1	17-Jul-2023 19:34	009CALB.d_7434150	AG SE
2/10/200	1	17-Jul-2023 19:36	010CALS.d_7434151	AG SE
5/25/500	1	17-Jul-2023 19:38	011CALS.d_7434152	AG SE
10/50/100	1	17-Jul-2023 19:40	012CALS.d_7434153	AG SE
100/500/10K	1	17-Jul-2023 19:42	013CALS.d_7434154	AG SE
200/1000/20K	1	17-Jul-2023 19:44	014CALS.d_7434155	AG SE
ICV	1	17-Jul-2023 19:50	017_ICV.d_7434156	AG SE
LLICV2	1	17-Jul-2023 19:54	019LCV2.d_7434157	AG SE
LLICV5	1	17-Jul-2023 19:56	020LCV5.d_7434158	AG SE
ICB	1	17-Jul-2023 19:58	021_ICB.d_7434159	AG SE
ICSA	1	17-Jul-2023 20:05	023ICSA.d_7434160	AG SE
ICSAB	1	17-Jul-2023 20:07	024ICSB.d_7434161	AG SE
CCV 1	1	17-Jul-2023 22:09	083_CCV.d_7434187	AG SE
CCB 1	1	17-Jul-2023 22:12	084_CCB.d_7434188	AG SE
LCS-197656	1	17-Jul-2023 22:16	086SMPL.d_7434190	AG SE
LH18/24-SP140_071023	1	17-Jul-2023 22:18	087SMPL.d_7434191	AG SE
LH18/24-SP140_071023SD	5	17-Jul-2023 22:20	088SMPL.d_7434192	AG SE
LH18/24-SP140_071023MS	1	17-Jul-2023 22:22	089SMPL.d_7434193	AG SE
LH18/24-SP140_071023MSD	1	17-Jul-2023 22:24	090SMPL.d_7434194	AG SE
LH18/24-SP140_071023PDS	1	17-Jul-2023 22:26	091SMPL.d_7434195	AG SE
CCV 2	1	17-Jul-2023 22:28	092_CCV.d_7434196	AG SE
CCB 2	1	17-Jul-2023 22:30	093_CCB.d_7434197	AG SE
CCV 3	1	17-Jul-2023 22:44	100_CCV.d_7434204	AG SE
CCB 3	1	17-Jul-2023 22:46	101_CCB.d_7434205	AG SE
LLCCV2	1	17-Jul-2023 22:48	102LCV2.d_7434206	AG SE
LLCCV5	1	17-Jul-2023 22:50	103LCV5.d_7434207	AG SE
ICSA	1	17-Jul-2023 22:52	104ICSA.d_7434208	AG SE
ICSAB	1	17-Jul-2023 22:54	105ICSB.d_7434209	AG SE

ALS Houston, US

Date: 20-Jul-23

FORM 13 - ANALYSIS RUN LOG

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS23070447
Start Date: 18-Jul-2023 End Date: 18-Jul-2023

Run ID:ICPMS06_441630
Instrument:ICPMS06
Method:SW6020A

Sample No.	D/F	Time	FileID	Analytes
CAL BLK	1	18-Jul-2023 12:59	009CALB.d_7434915	AG SE
2/10/200	1	18-Jul-2023 13:01	010CALS.d_7434902	AG SE
5/25/500	1	18-Jul-2023 13:03	011CALS.d_7434903	AG SE
10/50/100	1	18-Jul-2023 13:05	012CALS.d_7434904	AG SE
100/500/10K	1	18-Jul-2023 13:07	013CALS.d_7434905	AG SE
200/1000/20K	1	18-Jul-2023 13:09	014CALS.d_7434906	AG SE
ICV	1	18-Jul-2023 13:21	016_ICV.d_7434908	AG SE
LLICV2	1	18-Jul-2023 13:25	018LCV2.d_7434910	AG SE
LLICV5	1	18-Jul-2023 13:27	019LCV5.d_7434911	AG SE
ICB	1	18-Jul-2023 13:29	020_ICB.d_7434912	AG SE
ICSA	1	18-Jul-2023 13:31	021ICSA.d_7434913	AG SE
ICSAB	1	18-Jul-2023 13:33	022ICSB.d_7434914	AG SE
CCV 1	1	18-Jul-2023 13:42	024_CCV.d_7435591	AG SE
CCB 1	1	18-Jul-2023 13:44	025_CCB.d_7435592	AG SE
MBLK-197656	1	18-Jul-2023 13:47	026SMPL.d_7435593	AG SE
LCS-197656	1	18-Jul-2023 13:50	027SMPL.d_7435594	
CCV 2	1	18-Jul-2023 14:09	036_CCV.d_7435595	AG SE
CCB 2	1	18-Jul-2023 14:11	037_CCB.d_7435596	AG SE

ALS Houston, US Date: 20-Jul-23

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS23070447

Run ID: ICPMS06_441593
Instrument: ICPMS06
Method: SW6020A

ICV Date: 17-Jul-2023 19:50 Seq: 7434156 ICV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Selenium	100	97.725	98	90-110	
Silver	100	95.855	96	90-110	

CCV1 Date: 17-Jul-2023 22:09 Seq: 7434187 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Selenium	100	99.858	100	90-110	
Silver	100	96.789	97	90-110	

CCV2 Date: 17-Jul-2023 22:28 Seq: 7434196 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Selenium	100	95.049	95	90-110	
Silver	100	97.362	97	90-110	

CCV3 Date: 17-Jul-2023 22:44 Seq: 7434204 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Selenium	100	97.519	98	90-110	
Silver	100	99.587	100	90-110	

ALS Houston, US Date: 20-Jul-23

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS23070447

Run ID: ICPMS06_441630
Instrument: ICPMS06
Method: SW6020A

ICV Date: 18-Jul-2023 13:21 Seq: 7434908 ICV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Selenium	100	99.616	100	90-110	
Silver	100	96.797	97	90-110	

CCV1 Date: 18-Jul-2023 13:42 Seq: 7435591 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Selenium	100	100.58	101	90-110	
Silver	100	95.878	96	90-110	

CCV2 Date: 18-Jul-2023 14:09 Seq: 7435595 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Selenium	100	100.33	100	90-110	
Silver	100	97.103	97	90-110	

ALS Houston, US

Date: 20-Jul-23

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS23070447

Run ID: ICPMS06_441593
Instrument: ICPMS06
Method: SW6020A

ICB	Date: 17-Jul-2023 19:58		Seq: 7434159	ICB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	5	1.1	5	U	
Silver	5	0.2	5	U	

CCB1	Date: 17-Jul-2023 22:12		Seq: 7434188	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB2	Date: 17-Jul-2023 22:30		Seq: 7434197	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB3	Date: 17-Jul-2023 22:46		Seq: 7434205	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

ALS Houston, US Date: 20-Jul-23

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS23070447

Run ID: ICPMS06_441630
Instrument: ICPMS06
Method: SW6020A

ICB	Date: 18-Jul-2023 13:29		Seq: 7434912	ICB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	5	1.1	5	U	
Silver	5	0.2	5	U	

CCB1	Date: 18-Jul-2023 13:44		Seq: 7435592	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

MBLK-197656	Date: 18-Jul-2023 13:47		Seq: 7435593	MBLK	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	5	1.1	5	U	
Silver	5	0.2	5	U	

CCB2	Date: 18-Jul-2023 14:11		Seq: 7435596	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

ALS Houston, US

Date: 20-Jul-23

Form 4 - ICP Interference Check Sample

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS23070447

Run ID: ICPMS06_441593
Instrument: ICPMS06
Method: SW6020A

ICSA	Date: 17-Jul-2023 20:05	Seq: 7434160	ICSA	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Selenium		0.204	0	
Silver		0.141	0	
ICSAB	Date: 17-Jul-2023 20:07	Seq: 7434161	ICSAB	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Selenium	100	99.55	99.5	
Silver	100	95.71	95.7	
ICSA	Date: 17-Jul-2023 22:52	Seq: 7434208	ICSA	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Selenium		0.422	0	
Silver		0.143	0	
ICSAB	Date: 17-Jul-2023 22:54	Seq: 7434209	ICSAB	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Selenium	100	97.95	98.0	
Silver	100	95.91	95.9	

ALS Houston, US

Date: 20-Jul-23

Form 4 - ICP Interference Check Sample

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS23070447

Run ID: ICPMS06_441630
Instrument: ICPMS06
Method: SW6020A

ICSA	Date: 18-Jul-2023 13:31	Seq: 7434913	ICSA	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Selenium		-0.131	0	
Silver		0.14	0	

ICSAB	Date: 18-Jul-2023 13:33	Seq: 7434914	ICSAB	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Selenium	100	109.5	110	
Silver	100	101.6	102	

ALS Houston, US Date: 20-Jul-23

Form 5A - Matrix Spike/Matrix Spike Duplicate Recovery

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS23070447

Date Analyzed: 17-Jul-2023 22:24
Date Extracted: 17-Jul-2023 08:30
Units: ug/L

Matrix Spike: HS23070447-01MS
Client Sample ID: LH18/24-SP140_071023

Analysis Method: SW6020A

Analyte	Sample Result	MS Result	Spike Amount	% Rec	MSD Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Selenium	5.000	43.31	50.00	85.8	44.36	50.00	87.9	80-120	2.38	20
Silver	5.000	41.71	50.00	83.4	41.24	50.00	82.5	85-116	1.14	20

ALS Houston, US

Date: 20-Jul-23

Form 5B - Post Digest Sample Recovery

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS23070447

Date Analyzed: 17-Jul-2023 22:26
Date Extracted: 17-Jul-2023 08:30
Units: ug/L

Lab Sample ID: HS23070447-01PDS
Client Sample ID: LH18/24-SP140_071023

Analysis Method: SW6020A

Analyte	Sample Result	PDS Result	Spike Amount	% Rec	% Rec Limits
Selenium	0	88.7	100	88	80-120
Silver	0	90.5	100	91	80-120

ALS Houston, US

Date: 20-Jul-23

Form 7 - Laboratory Control Sample

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS23070447

Date Analyzed: 17-Jul-2023 22:16
Date Extracted: 17-Jul-2023 08:30
Units: ug/L

Lab Sample ID: LCS-197656
Analysis Method: SW6020A

Analyte	Spike Amount	LCS Result	% Rec	% Rec Limits
Selenium	50	45.12	90	80-120
Silver	50	43.67	87	85-116

ALS Houston, US

Date: 20-Jul-23

Form 8 - ICP Serial Dilutions

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS23070447

Date Analyzed: 17-Jul-2023 22:20
Date Extracted: 17-Jul-2023 08:30
Units: ug/L

Lab Sample ID: HS23070447-01SD
Client Sample ID:LH18/24-SP140_071023

Analysis Method: SW6020A

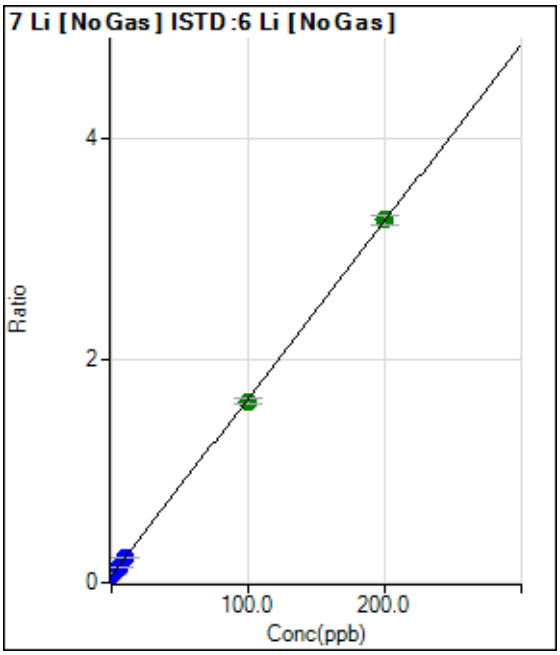
Analyte	Sample Result	C	SD Result	C	RPD	Q
Selenium	0	U	0	U	0	
Silver	0	U	0	U	0	

Calibration for 017_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\071723B.b\
Analysis File: 071723B.batch.bin
DA Date-Time: 7/17/2023 7:51:16 PM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	009CALB.d	CAL BLK	7/17/2023 7:34:24 PM
2	010CALS.d	2/10/200	7/17/2023 7:36:20 PM
3	011CALS.d	5/25/500	7/17/2023 7:38:41 PM
4	012CALS.d	10/50/100	7/17/2023 7:40:36 PM
5	013CALS.d	100/500/10K	7/17/2023 7:42:34 PM
6	014CALS.d	200/1000/20K	7/17/2023 7:44:25 PM

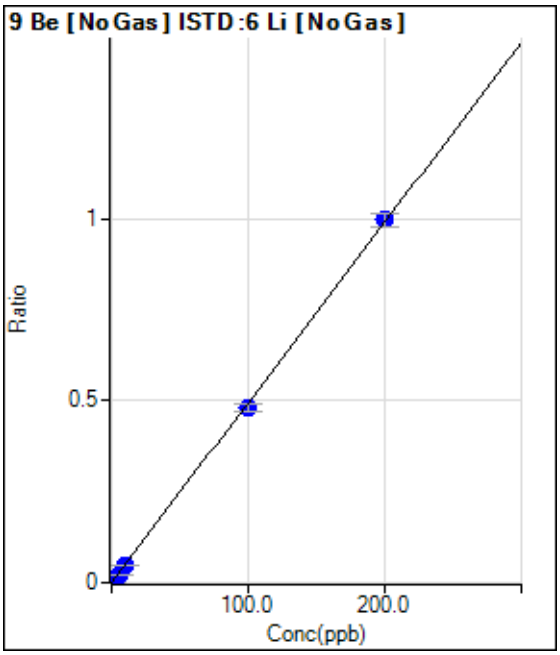
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	50192.38	0.0655	P	1.3
2	☐	2.000	1.825	73738.23	0.0945	P	0.5
3	☐	5.000	4.893	108373.19	0.1434	P	2.1
4	☐	10.000	9.522	163774.15	0.2171	P	0.5
5	☐	100.000	98.340	1167395.79	1.6314	A	2.9
6	☐	200.000	200.859	2158527.26	3.2640	A	3.0

y = 0.0159 * x + 0.0655
R = 1.0000
DL = 0.1601
BEC = 4.111

Weight: <None>
Min Conc: <None>

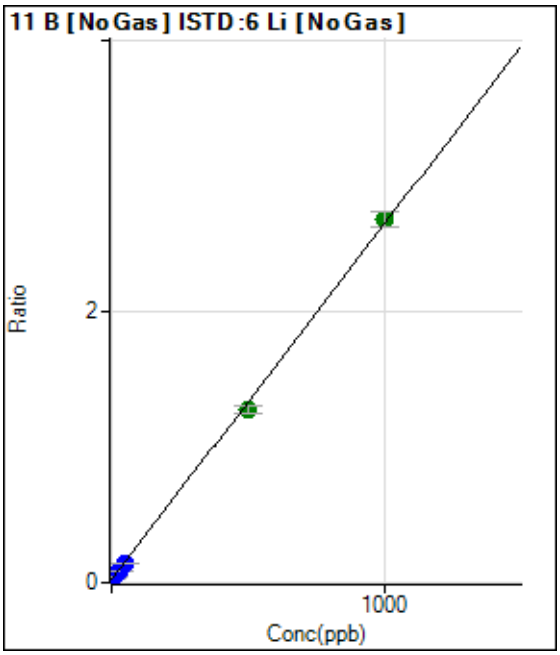


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	15.00	0.0000	P	54.8
2	☐	2.000	1.850	7148.53	0.0092	P	2.0
3	☐	5.000	4.737	17716.21	0.0234	P	1.1
4	☐	10.000	9.170	34211.60	0.0453	P	0.7
5	☐	100.000	96.999	343024.35	0.4795	P	3.7
6	☐	200.000	201.550	658784.24	0.9963	P	3.6

y = 0.0049 * x + 1.9378E-005
R = 0.9998
DL = 0.006444
BEC = 0.00392

Weight: <None>
Min Conc: <None>

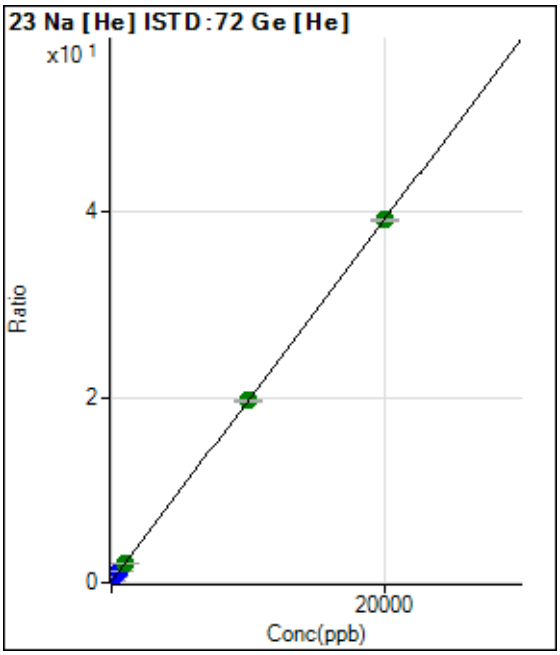
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	17392.50	0.0227	P	4.2
2	☐	10.000	7.715	33508.15	0.0430	P	2.8
3	☐	25.000	22.287	61390.01	0.0812	P	3.0
4	☐	50.000	43.905	104122.28	0.1380	P	1.1
5	☐	500.000	478.616	915560.14	1.2800	A	4.3
6	☐	1000.000	1011.087	1770925.23	2.6787	A	4.4

y = 0.0026 * x + 0.0227
R = 0.9997
DL = 1.091
BEC = 8.64

Weight: <None>
Min Conc: <None>

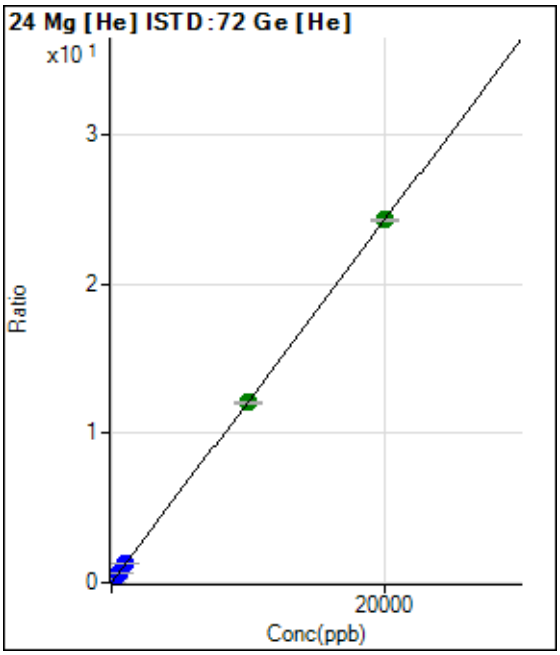


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	62727.55	0.1405	P	2.0
2	☐	200.000	219.806	250779.20	0.5694	P	1.0
3	☐	500.000	564.213	534350.93	1.2413	P	0.1
4	☐	1000.000	1018.930	925515.01	2.1284	A	1.5
5	☐	10000.000	10006.337	8457448.62	19.6622	A	0.8
6	☐	20000.000	19994.082	16232418.51	39.1476	A	0.7

y = 0.0020 * x + 0.1405
R = 1.0000
DL = 4.407
BEC = 72.03

Weight: <None>
Min Conc: <None>

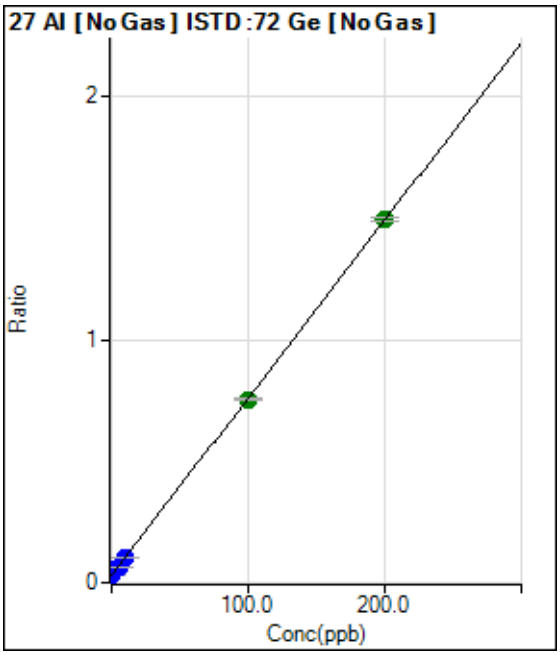
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1570.12	0.0035	P	8.6
2	☐	200.000	221.949	120097.16	0.2727	P	2.7
3	☐	500.000	565.225	296619.90	0.6890	P	0.6
4	☐	1000.000	1082.689	572471.93	1.3166	P	0.9
5	☐	10000.000	9936.143	5184956.38	12.0540	A	1.2
6	☐	20000.000	20025.944	10072482.98	24.2909	A	0.7

y = 0.0012 * x + 0.0035
R = 1.0000
DL = 0.7515
BEC = 2.899

Weight: <None>
Min Conc: <None>

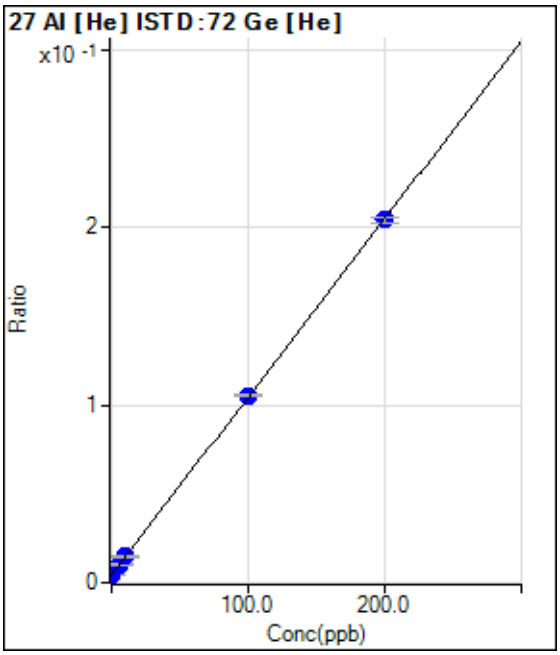


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	53867.61	0.0299	P	2.9
2	☐	2.000	3.158	96110.45	0.0529	P	1.3
3	☐	5.000	4.970	118575.23	0.0662	P	1.5
4	☐	10.000	10.020	185759.85	0.1030	P	2.5
5	☐	100.000	99.266	1348268.52	0.7545	A	1.3
6	☐	200.000	200.355	2525165.22	1.4923	A	1.0

y = 0.0073 * x + 0.0299
R = 1.0000
DL = 0.3569
BEC = 4.095

Weight: <None>
Min Conc: <None>

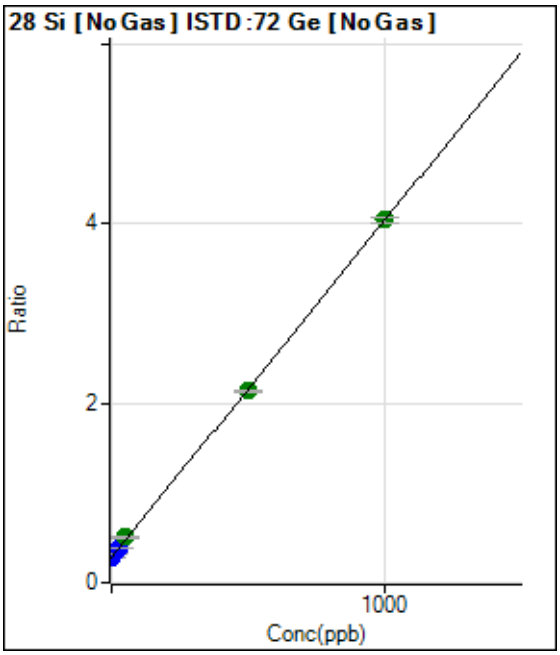
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1936.84	0.0043	P	2.7
2	☐	2.000	3.757	3567.32	0.0081	P	9.1
3	☐	5.000	5.809	4374.10	0.0102	P	6.9
4	☐	10.000	10.455	6441.60	0.0148	P	5.8
5	☐	100.000	100.819	45310.74	0.1053	P	0.9
6	☐	200.000	199.530	84679.89	0.2042	P	1.3

y = 0.0010 * x + 0.0043
R = 1.0000
DL = 0.3455
BEC = 4.332

Weight: <None>
Min Conc: <None>

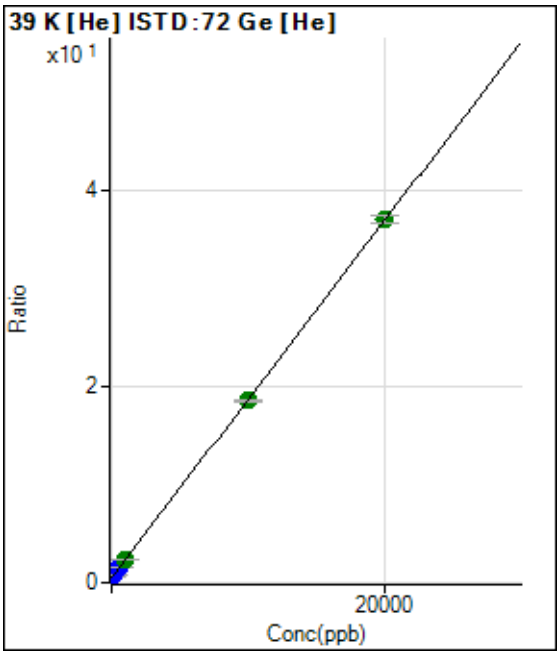


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	510427.12	0.2833	P	3.3
2	☐	10.000	8.247	570471.15	0.3142	P	2.0
3	☐	25.000	27.603	693338.24	0.3869	P	0.5
4	☐	50.000	58.861	909395.07	0.5043	A	1.7
5	☐	500.000	495.074	3828324.00	2.1423	A	1.0
6	☐	1000.000	1001.972	6845275.11	4.0458	A	1.4

y = 0.0038 * x + 0.2833
R = 0.9999
DL = 7.417
BEC = 75.43

Weight: <None>
Min Conc: <None>

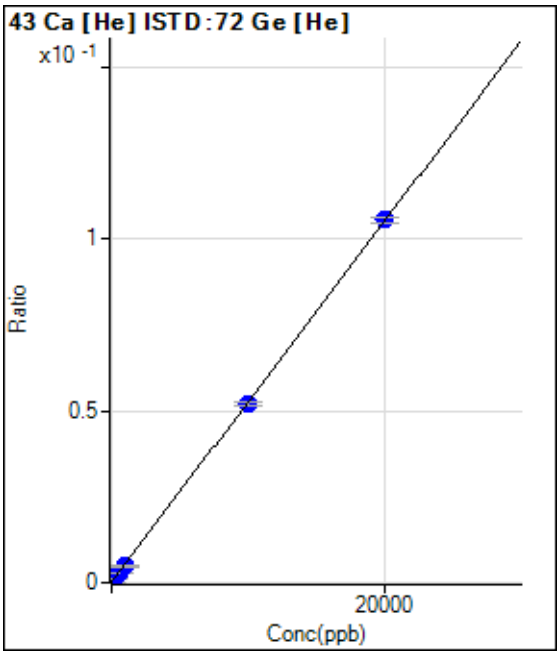
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	219683.66	0.4922	P	1.0
2	☐	200.000	206.936	382503.83	0.8684	P	1.3
3	☐	500.000	543.484	637288.02	1.4803	P	0.8
4	☐	1000.000	1006.096	1009423.76	2.3215	A	1.2
5	☐	10000.000	9910.914	7962783.84	18.5123	A	1.0
6	☐	20000.000	20043.082	15313329.35	36.9346	A	2.2

y = 0.0018 * x + 0.4922
R = 1.0000
DL = 8.43
BEC = 270.7

Weight: <None>
Min Conc: <None>

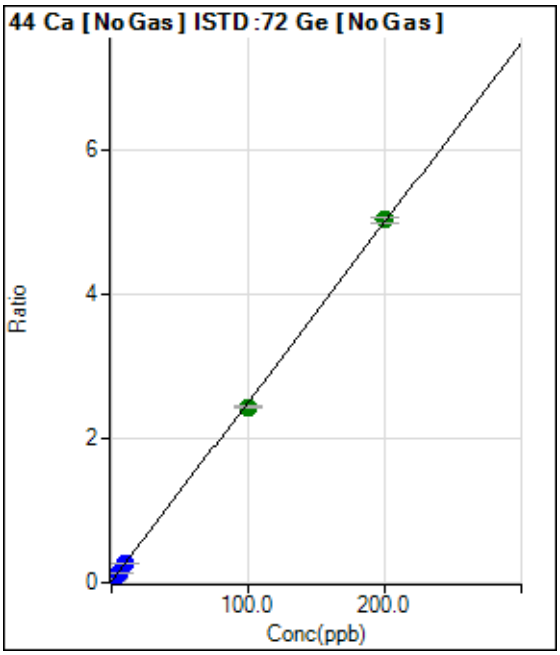


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	93.33	0.0002	P	5.8
2	☐	200.000	173.664	493.35	0.0011	P	10.1
3	☐	500.000	484.207	1183.41	0.0027	P	6.9
4	☐	1000.000	883.623	2106.87	0.0048	P	12.3
5	☐	10000.000	9875.666	22375.14	0.0520	P	2.2
6	☐	20000.000	20068.644	43729.71	0.1055	P	1.7

y = 5.2450E-006 * x + 2.0908E-004
R = 1.0000
DL = 6.917
BEC = 39.86

Weight: <None>
Min Conc: <None>

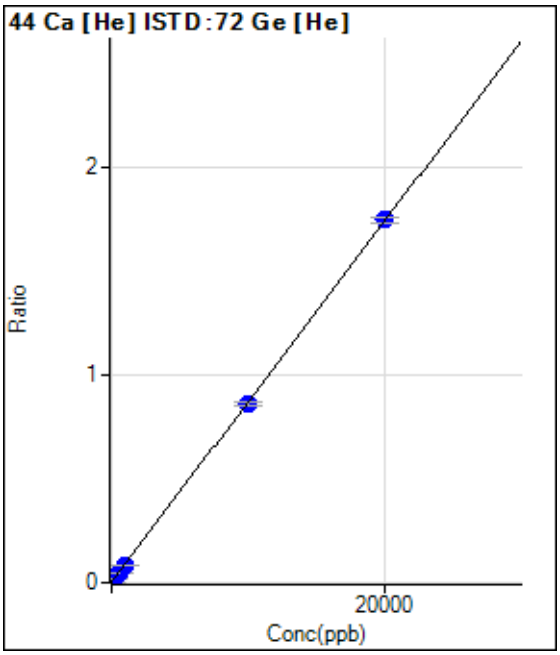
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	28079.12	0.0156	P	2.7
2	☐	2.000	2.002	118624.18	0.0653	P	0.8
3	☐	5.000	5.186	258881.99	0.1445	P	0.7
4	☐	10.000	10.146	482769.86	0.2678	P	2.5
5	☐	100.000	97.218	4345767.64	2.4318	A	1.2
6	☐	200.000	201.379	8494708.62	5.0206	A	1.3

y = 0.0249 * x + 0.0156
R = 0.9999
DL = 0.05106
BEC = 0.6269

Weight: <None>
Min Conc: <None>

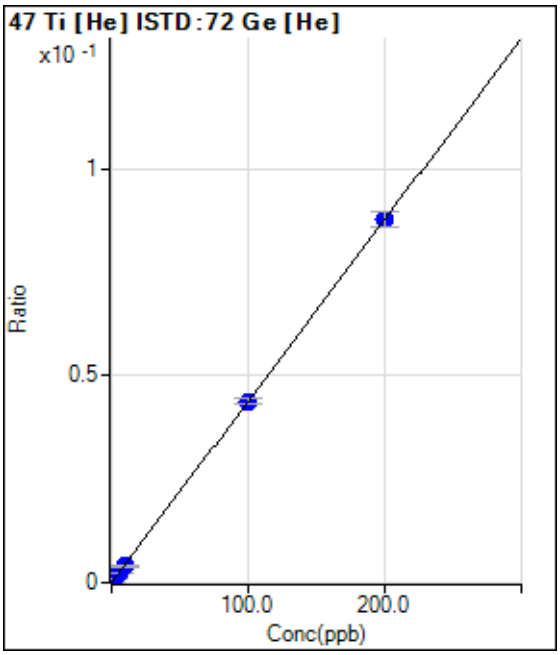


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1196.74	0.0027	P	7.2
2	☐	200.000	185.093	8259.30	0.0188	P	6.0
3	☐	500.000	520.511	20615.82	0.0479	P	1.5
4	☐	1000.000	962.207	37504.70	0.0862	P	1.8
5	☐	10000.000	9846.435	368971.37	0.8579	P	2.1
6	☐	20000.000	20078.309	724179.02	1.7465	P	1.3

y = 8.6851E-005 * x + 0.0027
R = 1.0000
DL = 6.634
BEC = 30.87

Weight: <None>
Min Conc: <None>

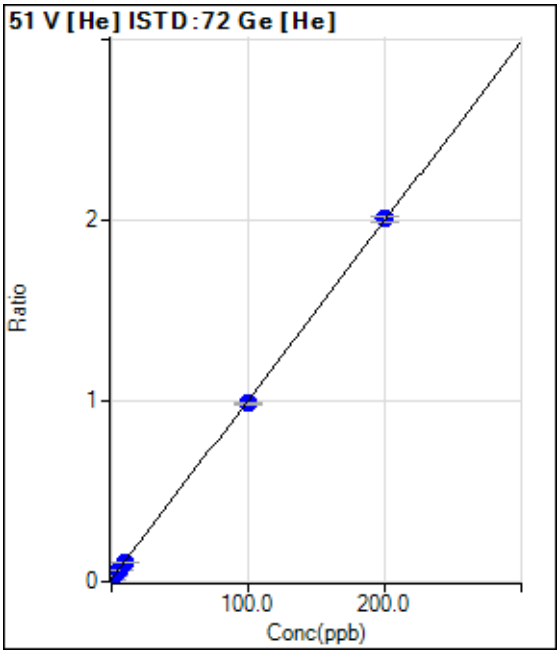
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	13.33	0.0000	P	42.8
2	☐	2.000	1.954	390.01	0.0009	P	29.7
3	☐	5.000	4.937	943.38	0.0022	P	5.2
4	☐	10.000	9.285	1780.15	0.0041	P	11.6
5	☐	100.000	100.091	18856.53	0.0438	P	2.5
6	☐	200.000	199.992	36308.34	0.0876	P	4.1

y = 4.3780E-004 * x + 2.9837E-005
R = 1.0000
DL = 0.08757
BEC = 0.06815

Weight: <None>
Min Conc: <None>

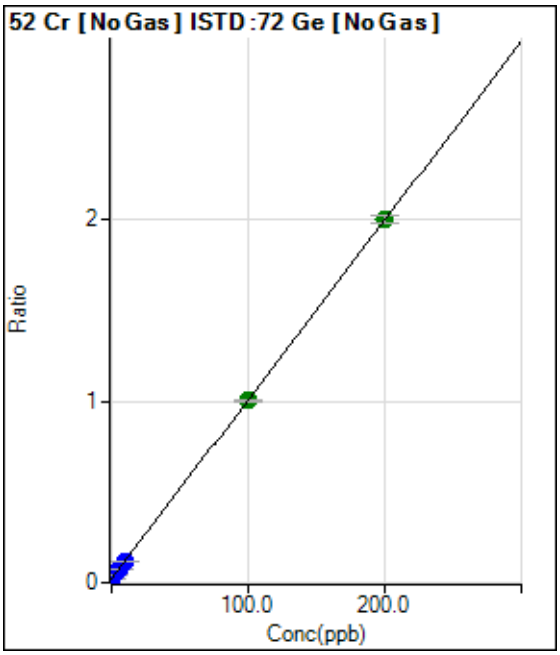


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	6109.18	0.0137	P	2.7
2	☐	2.000	1.901	14330.84	0.0325	P	1.2
3	☐	5.000	4.979	27143.53	0.0631	P	0.9
4	☐	10.000	9.604	47355.85	0.1089	P	1.8
5	☐	100.000	97.905	423422.32	0.9845	P	1.5
6	☐	200.000	201.069	832354.78	2.0074	P	1.4

y = 0.0099 * x + 0.0137
R = 0.9999
DL = 0.1109
BEC = 1.38

Weight: <None>
Min Conc: <None>

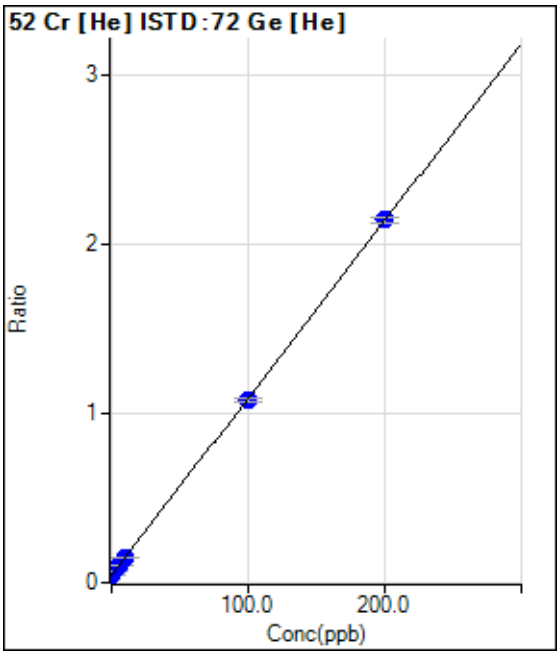
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	37839.25	0.0210	P	3.6
2	☐	2.000	2.435	81786.52	0.0450	P	0.5
3	☐	5.000	4.956	125350.05	0.0700	P	0.8
4	☐	10.000	9.542	207780.27	0.1152	P	2.3
5	☐	100.000	99.345	1790831.59	1.0021	A	0.9
6	☐	200.000	200.347	3383395.68	1.9996	A	2.1

y = 0.0099 * x + 0.0210
R = 1.0000
DL = 0.2324
BEC = 2.126

Weight: <None>
Min Conc: <None>

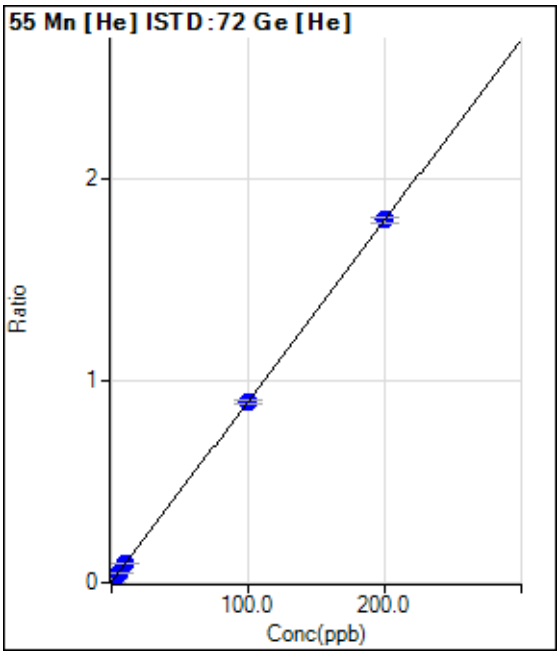


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	19707.85	0.0442	P	2.7
2	☐	2.000	2.494	30965.37	0.0703	P	3.2
3	☐	5.000	5.280	42833.88	0.0995	P	0.9
4	☐	10.000	9.833	64016.06	0.1472	P	1.0
5	☐	100.000	98.750	464187.12	1.0793	P	2.3
6	☐	200.000	200.621	890247.77	2.1471	P	1.5

y = 0.0105 * x + 0.0442
R = 1.0000
DL = 0.3474
BEC = 4.212

Weight: <None>
Min Conc: <None>

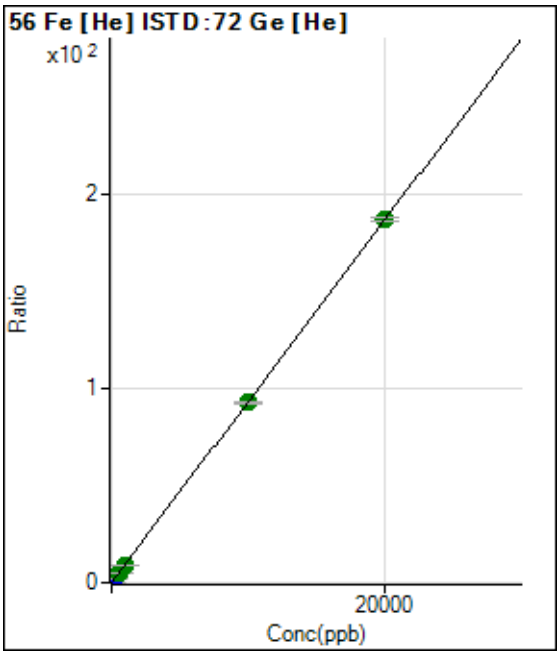
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1256.75	0.0028	P	8.9
2	☐	2.000	1.861	8586.16	0.0195	P	0.3
3	☐	5.000	5.078	20806.19	0.0483	P	3.4
4	☐	10.000	9.957	40032.29	0.0921	P	0.8
5	☐	100.000	99.340	384130.22	0.8932	P	2.4
6	☐	200.000	200.331	745683.50	1.7985	P	1.5

y = 0.0090 * x + 0.0028
R = 1.0000
DL = 0.08352
BEC = 0.3141

Weight: <None>
Min Conc: <None>

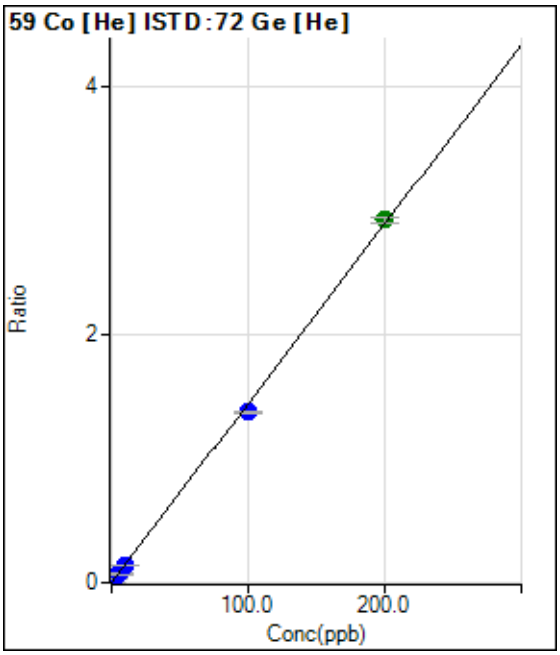


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	29559.02	0.0662	P	2.2
2	☐	200.000	207.675	879994.78	1.9978	P	0.5
3	☐	500.000	524.863	2130251.69	4.9480	A	2.9
4	☐	1000.000	994.465	4050769.11	9.3159	A	0.3
5	☐	10000.000	9943.052	39807801.07	92.5479	A	1.0
6	☐	20000.000	20028.053	77268367.18	186.3498	A	1.0

y = 0.0093 * x + 0.0662
R = 1.0000
DL = 0.4674
BEC = 7.12

Weight: <None>
Min Conc: <None>

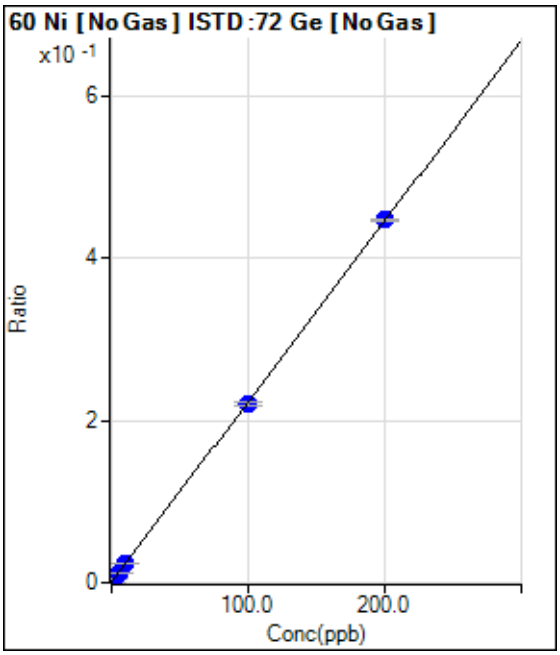
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	136.67	0.0003	P	9.2
2	☐	2.000	1.955	12569.37	0.0285	P	2.5
3	☐	5.000	4.825	30133.63	0.0700	P	2.0
4	☐	10.000	9.295	58509.13	0.1346	P	1.4
5	☐	100.000	95.195	591514.61	1.3753	P	1.3
6	☐	200.000	202.443	1212472.64	2.9243	A	1.7

y = 0.0144 * x + 3.0633E-004
R = 0.9996
DL = 0.005875
BEC = 0.02121

Weight: <None>
Min Conc: <None>

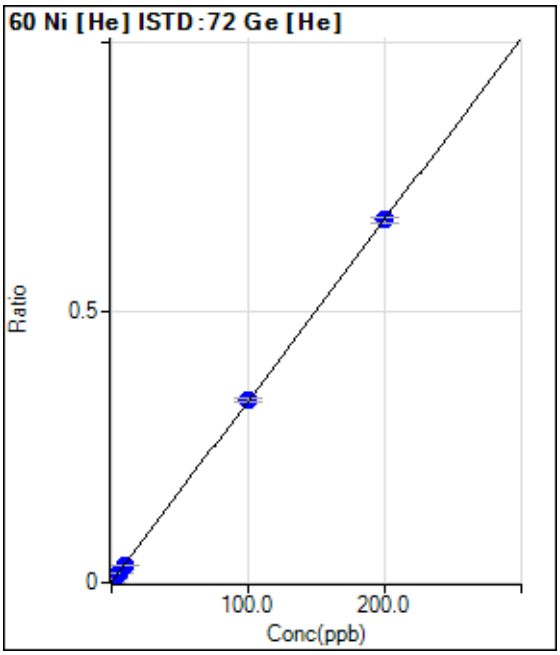


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1146.74	0.0006	P	7.6
2	☐	2.000	2.048	9423.42	0.0052	P	4.6
3	☐	5.000	4.991	21039.81	0.0117	P	1.3
4	☐	10.000	10.036	41406.62	0.0230	P	3.0
5	☐	100.000	98.590	393172.19	0.2200	P	1.6
6	☐	200.000	200.703	756719.57	0.4472	P	0.3

y = 0.0022 * x + 6.3520E-004
R = 1.0000
DL = 0.06467
BEC = 0.2855

Weight: <None>
Min Conc: <None>

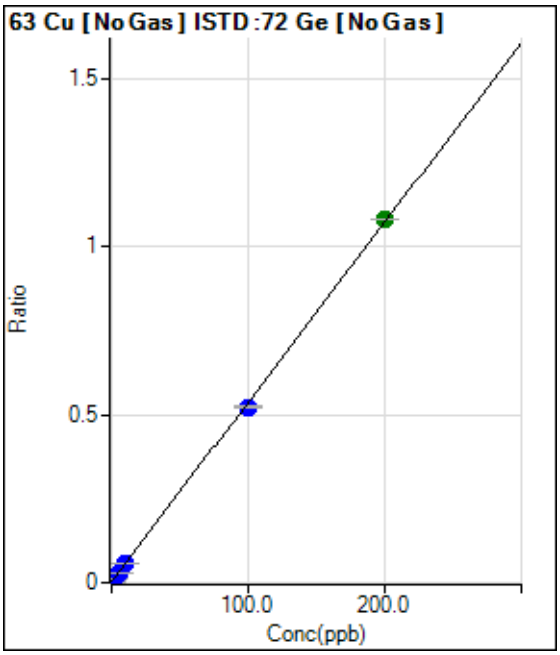
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	340.01	0.0008	P	11.4
2	☐	2.000	1.947	3210.44	0.0073	P	6.1
3	☐	5.000	5.191	7819.07	0.0182	P	3.7
4	☐	10.000	9.756	14548.00	0.0335	P	1.7
5	☐	100.000	100.182	144735.79	0.3365	P	1.9
6	☐	200.000	199.917	278120.36	0.6708	P	1.7

y = 0.0034 * x + 7.6219E-004
R = 1.0000
DL = 0.07759
BEC = 0.2274

Weight: <None>
Min Conc: <None>

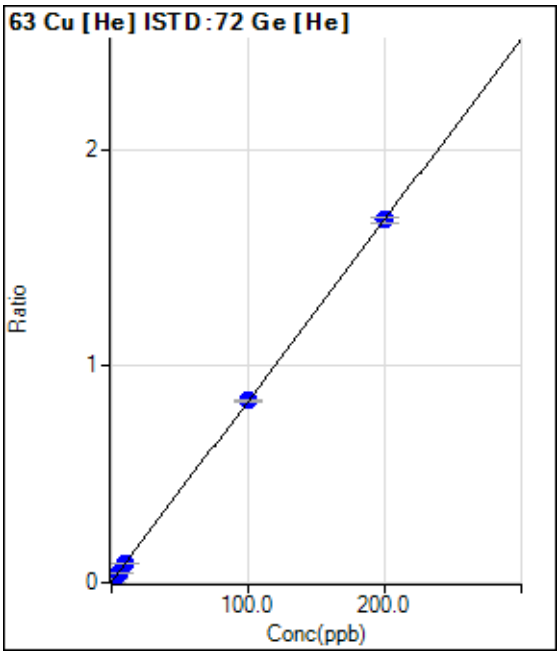


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	5227.75	0.0029	P	3.0
2	☐	2.000	2.031	25000.00	0.0138	P	0.8
3	☐	5.000	5.142	54502.85	0.0304	P	1.3
4	☐	10.000	10.254	104146.34	0.0578	P	2.9
5	☐	100.000	97.040	933050.27	0.5221	P	1.1
6	☐	200.000	201.464	1828880.34	1.0809	A	0.1

y = 0.0054 * x + 0.0029
R = 0.9998
DL = 0.04858
BEC = 0.5422

Weight: <None>
Min Conc: <None>

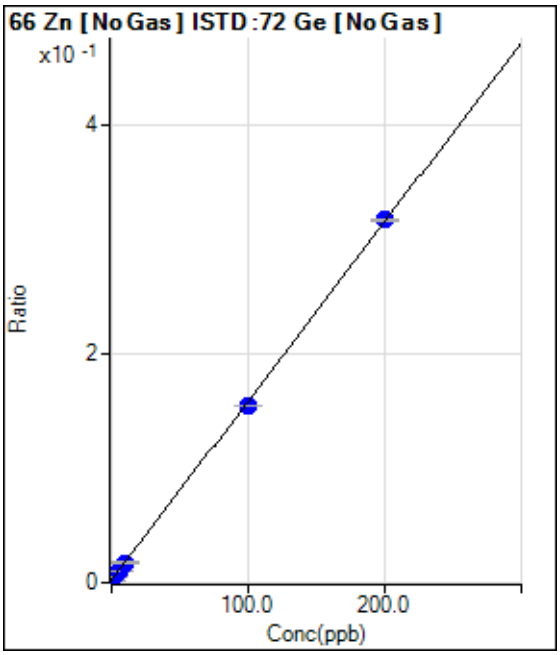
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1773.49	0.0040	P	5.8
2	☐	2.000	1.959	8953.10	0.0203	P	3.7
3	☐	5.000	5.281	20689.31	0.0481	P	2.9
4	☐	10.000	10.479	39768.45	0.0915	P	0.5
5	☐	100.000	100.005	360786.39	0.8389	P	1.6
6	☐	200.000	199.967	693832.44	1.6734	P	1.4

y = 0.0083 * x + 0.0040
R = 1.0000
DL = 0.08244
BEC = 0.476

Weight: <None>
Min Conc: <None>

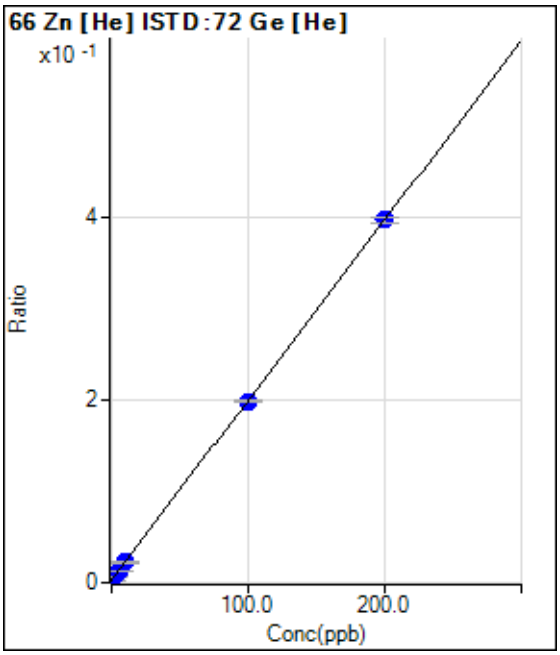


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3880.63	0.0022	P	3.5
2	☐	2.000	2.042	9707.00	0.0053	P	1.6
3	☐	5.000	4.964	17768.66	0.0099	P	1.2
4	☐	10.000	9.827	31573.64	0.0175	P	5.4
5	☐	100.000	97.699	276845.36	0.1549	P	0.4
6	☐	200.000	201.160	535850.30	0.3167	P	0.9

y = 0.0016 * x + 0.0022
R = 0.9999
DL = 0.1464
BEC = 1.377

Weight: <None>
Min Conc: <None>

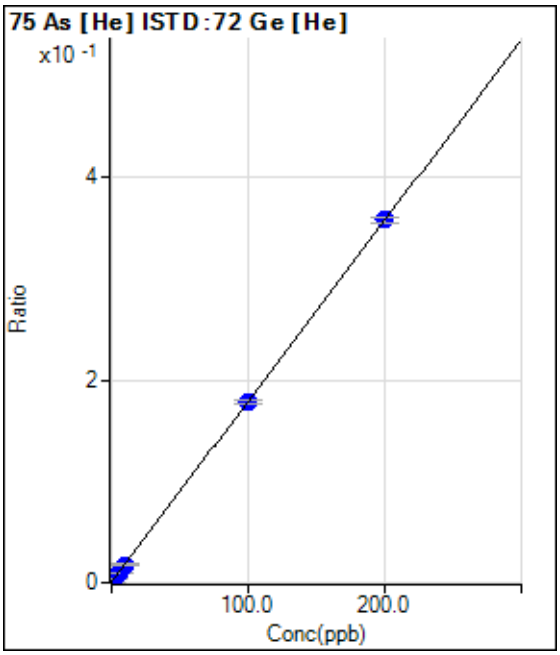
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1323.42	0.0030	P	9.7
2	☐	2.000	2.015	3053.74	0.0069	P	7.1
3	☐	5.000	5.114	5614.59	0.0130	P	2.3
4	☐	10.000	9.931	9800.39	0.0225	P	4.1
5	☐	100.000	99.510	85616.12	0.1991	P	1.9
6	☐	200.000	200.245	164871.80	0.3976	P	1.6

y = 0.0020 * x + 0.0030
R = 1.0000
DL = 0.4393
BEC = 1.504

Weight: <None>
Min Conc: <None>

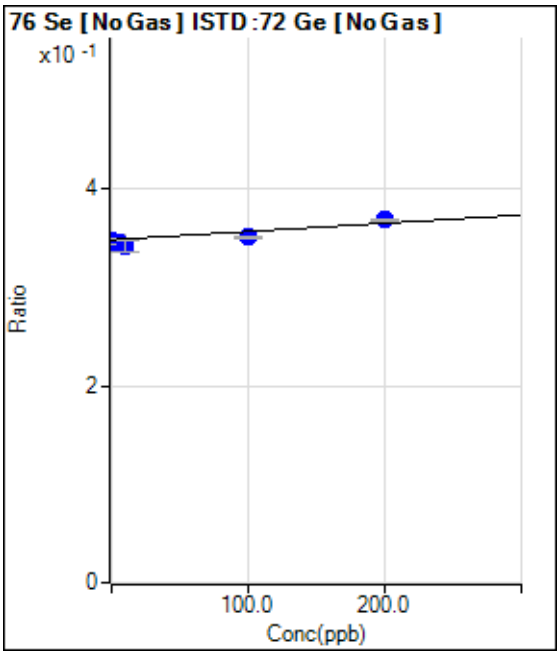


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	321.12	0.0007	P	12.1
2	☐	2.000	1.963	1859.03	0.0042	P	2.2
3	☐	5.000	5.094	4221.79	0.0098	P	2.9
4	☐	10.000	9.567	7734.48	0.0178	P	3.4
5	☐	100.000	99.193	76411.53	0.1777	P	2.3
6	☐	200.000	200.423	148541.54	0.3583	P	1.3

y = 0.0018 * x + 7.1979E-004
R = 1.0000
DL = 0.146
BEC = 0.4035

Weight: <None>
Min Conc: <None>

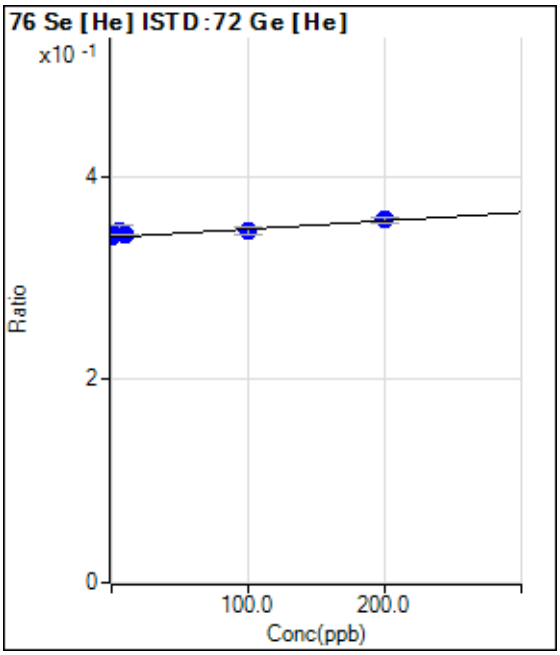
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	627758.42	0.3483	P	2.7
2	☐	2.000	-38.026	626605.83	0.3451	P	0.4
3	☐	5.000	-23.102	620707.27	0.3464	P	1.7
4	☐	10.000	-72.570	616939.63	0.3422	P	3.2
5	☐	100.000	32.161	627324.13	0.3510	P	0.8
6	☐	200.000	239.151	623487.09	0.3685	P	0.5

y = 8.4261E-005 * x + 0.3483
R = 0.9397
DL = 340.5
BEC = 4134

Weight: <None>
Min Conc: <None>

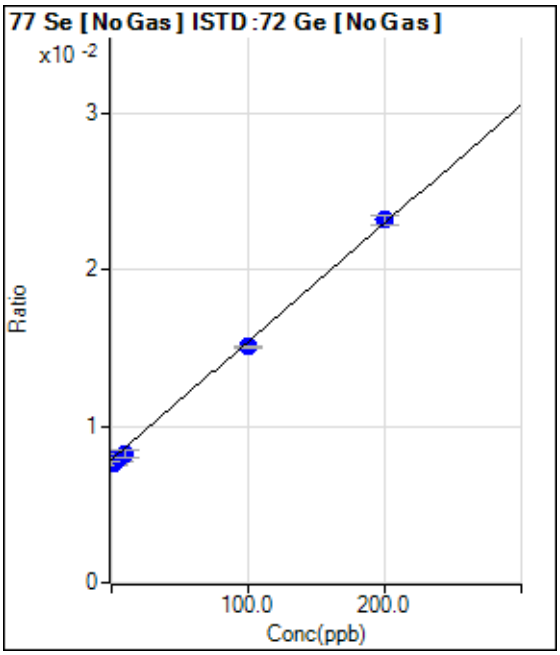


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	151800.22	0.3401	P	0.9
2	☐	2.000	31.760	150960.29	0.3427	P	0.8
3	☐	5.000	74.349	149026.86	0.3462	P	3.3
4	☐	10.000	23.496	148726.48	0.3420	P	0.2
5	☐	100.000	74.961	148911.54	0.3463	P	2.2
6	☐	200.000	209.813	148162.95	0.3573	P	1.5

y = 8.2118E-005 * x + 0.3401
R = 0.9218
DL = 112.8
BEC = 4142

Weight: <None>
Min Conc: <None>

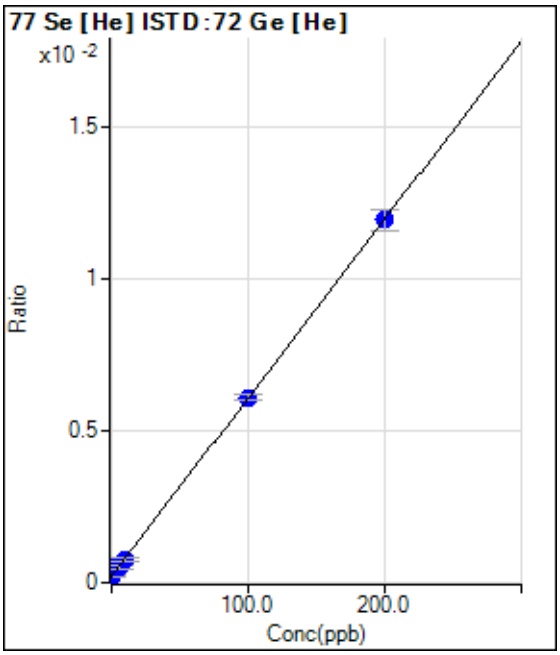
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	14164.36	0.0079	P	7.9
2	☐	2.000	-4.244	13703.82	0.0075	P	2.6
3	☐	5.000	1.727	14334.59	0.0080	P	5.2
4	☐	10.000	4.283	14758.39	0.0082	P	6.5
5	☐	100.000	95.615	26953.95	0.0151	P	0.9
6	☐	200.000	202.622	39177.04	0.0232	P	2.6

y = 7.5447E-005 * x + 0.0079
R = 0.9995
DL = 24.87
BEC = 104.3

Weight: <None>
Min Conc: <None>

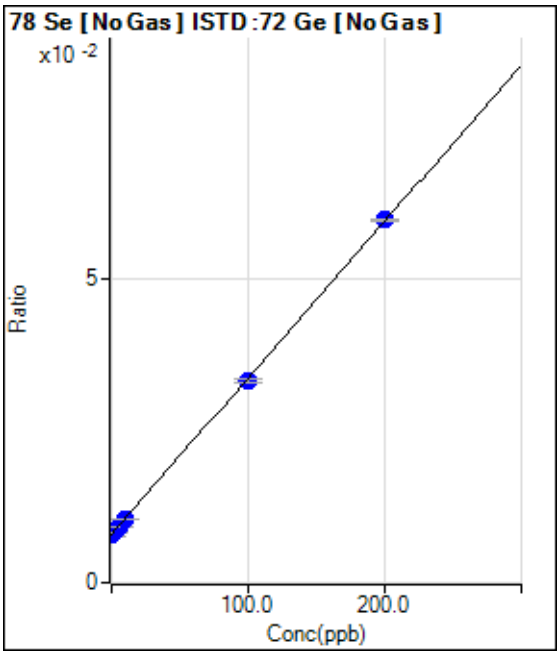


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	93.33	0.0002	P	35.3
2	☐	2.000	5.218	226.67	0.0005	P	30.1
3	☐	5.000	5.142	220.00	0.0005	P	24.1
4	☐	10.000	9.754	340.01	0.0008	P	15.1
5	☐	100.000	100.404	2623.64	0.0061	P	3.7
6	☐	200.000	199.774	4947.69	0.0119	P	5.7

y = 5.8660E-005 * x + 2.0947E-004
R = 0.9999
DL = 3.778
BEC = 3.571

Weight: <None>
Min Conc: <None>

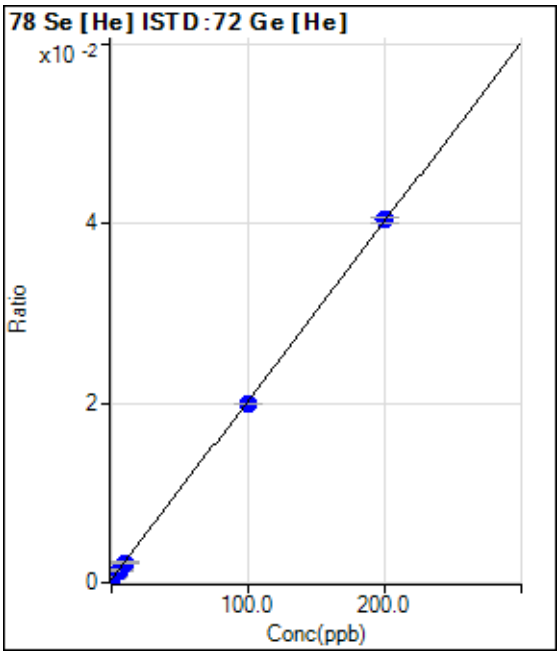
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	14381.26	0.0080	P	7.0
2	☐	2.000	1.489	15195.43	0.0084	P	5.2
3	☐	5.000	4.693	16473.61	0.0092	P	0.1
4	☐	10.000	9.145	18646.45	0.0103	P	0.4
5	☐	100.000	98.213	59387.66	0.0332	P	1.7
6	☐	200.000	200.949	100919.66	0.0596	P	0.7

y = 2.5705E-004 * x + 0.0080
R = 0.9999
DL = 6.491
BEC = 31.07

Weight: <None>
Min Conc: <None>

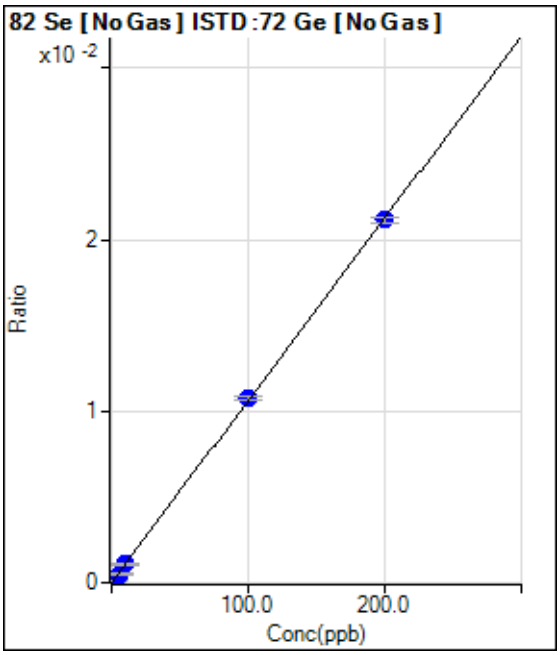


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	164.67	0.0004	P	5.7
2	☐	2.000	2.000	338.01	0.0008	P	8.8
3	☐	5.000	5.064	593.35	0.0014	P	2.7
4	☐	10.000	9.364	972.04	0.0022	P	1.5
5	☐	100.000	98.207	8580.08	0.0199	P	0.4
6	☐	200.000	200.927	16761.75	0.0404	P	1.8

y = 1.9935E-004 * x + 3.6886E-004
R = 0.9999
DL = 0.319
BEC = 1.85

Weight: <None>
Min Conc: <None>

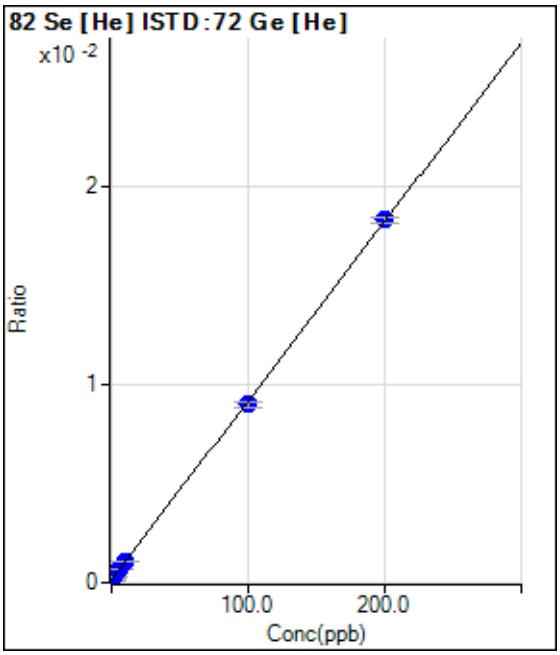
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	14.00	0.0000	P	215.9
2	☐	2.000	1.558	313.78	0.0002	P	40.5
3	☐	5.000	4.487	867.10	0.0005	P	14.8
4	☐	10.000	10.150	1953.71	0.0011	P	9.2
5	☐	100.000	101.505	19262.14	0.0108	P	2.1
6	☐	200.000	199.257	35789.39	0.0212	P	1.7

y = 1.0612E-004 * x + 7.7111E-006
R = 1.0000
DL = 0.4707
BEC = 0.07266

Weight: <None>
Min Conc: <None>

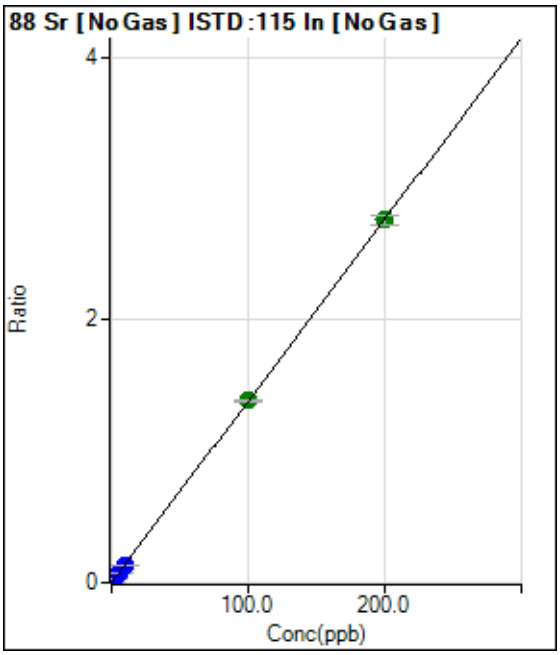


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	66.67	0.0001	P	18.1
2	☐	2.000	1.447	123.33	0.0003	P	26.4
3	☐	5.000	5.803	290.01	0.0007	P	12.1
4	☐	10.000	10.316	470.02	0.0011	P	3.5
5	☐	100.000	97.840	3863.96	0.0090	P	3.4
6	☐	200.000	201.050	7588.94	0.0183	P	1.3

y = 9.0291E-005 * x + 1.4950E-004
R = 0.9999
DL = 0.9006
BEC = 1.656

Weight: <None>
Min Conc: <None>

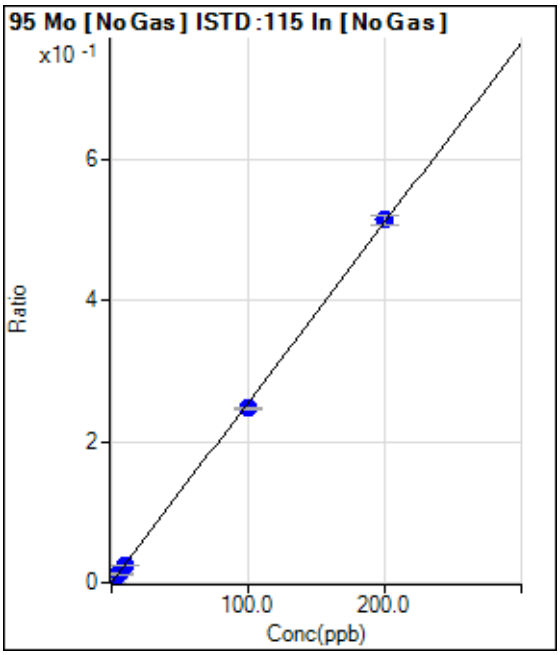
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2223.56	0.0011	P	7.7
2	☐	2.000	1.938	56254.85	0.0279	P	0.1
3	☐	5.000	4.814	134681.99	0.0675	P	0.8
4	☐	10.000	9.560	265384.35	0.1330	P	0.6
5	☐	100.000	100.202	2704315.79	1.3835	A	1.4
6	☐	200.000	199.926	5176610.86	2.7593	A	2.8

y = 0.0138 * x + 0.0011
R = 1.0000
DL = 0.01878
BEC = 0.08153

Weight: <None>
Min Conc: <None>

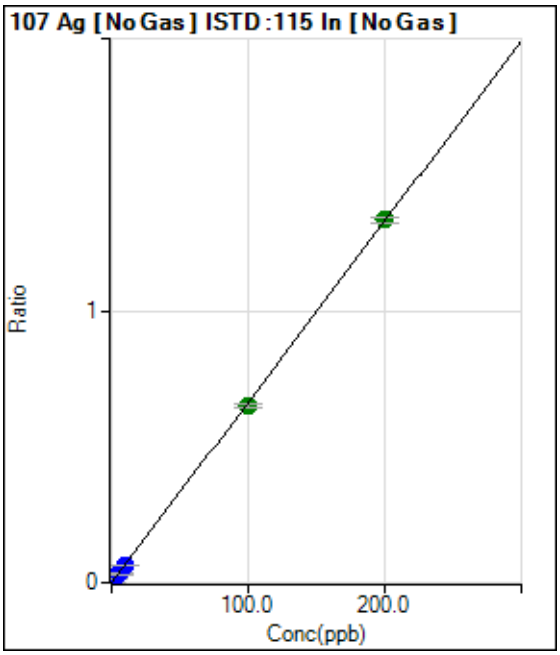


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	840.04	0.0004	P	12.3
2	☐	2.000	1.883	10551.02	0.0052	P	3.1
3	☐	5.000	4.721	24846.78	0.0125	P	3.3
4	☐	10.000	9.381	48578.59	0.0243	P	1.3
5	☐	100.000	96.985	484213.81	0.2478	P	0.9
6	☐	200.000	201.547	965057.54	0.5144	P	2.7

y = 0.0026 * x + 4.2516E-004
R = 0.9998
DL = 0.06171
BEC = 0.1667

Weight: <None>
Min Conc: <None>

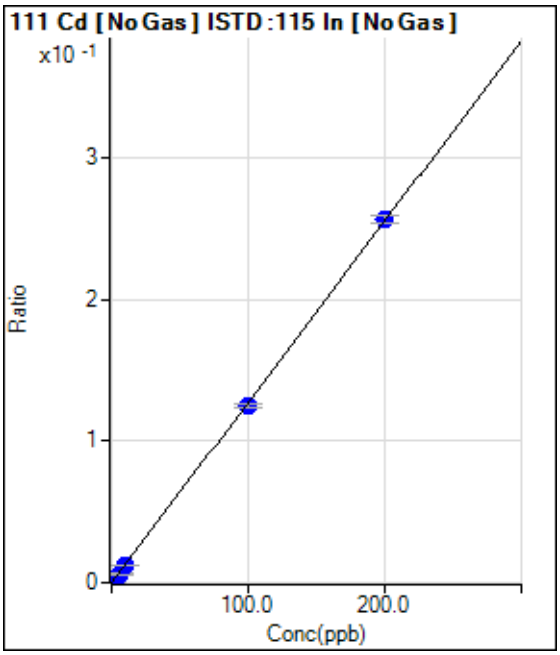
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	150.00	0.0001	P	21.8
2	☐	2.000	1.911	25785.28	0.0128	P	3.0
3	☐	5.000	4.794	63626.14	0.0319	P	2.0
4	☐	10.000	9.417	124945.84	0.0626	P	0.4
5	☐	100.000	98.258	1275499.33	0.6527	A	2.3
6	☐	200.000	200.906	2504039.08	1.3345	A	1.9

y = 0.0066 * x + 7.5708E-005
R = 0.9999
DL = 0.007448
BEC = 0.0114

Weight: <None>
Min Conc: <None>

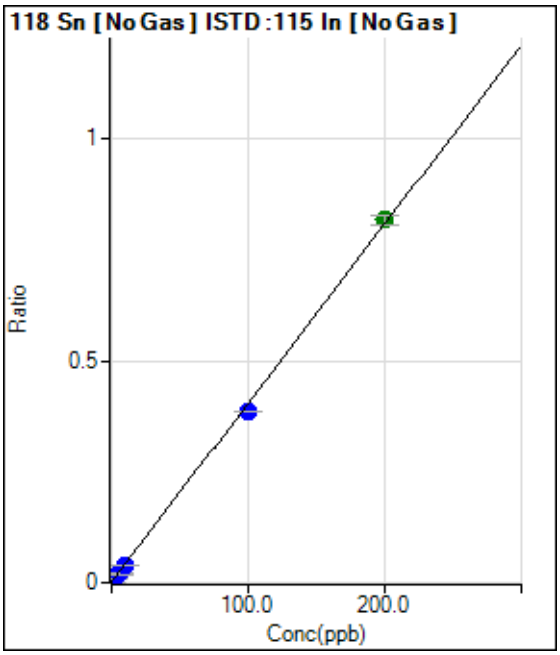


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	-4.06	0.0000	P	-144.7
2	☐	2.000	1.958	5041.34	0.0025	P	6.5
3	☐	5.000	4.758	12106.40	0.0061	P	5.4
4	☐	10.000	9.548	24319.78	0.0122	P	2.1
5	☐	100.000	98.113	244850.22	0.1253	P	1.5
6	☐	200.000	200.973	481511.53	0.2566	P	2.3

y = 0.0013 * x - 2.1026E-006
R = 0.9999
DL = 0.007145
BEC = -0.001647

Weight: <None>
Min Conc: <None>

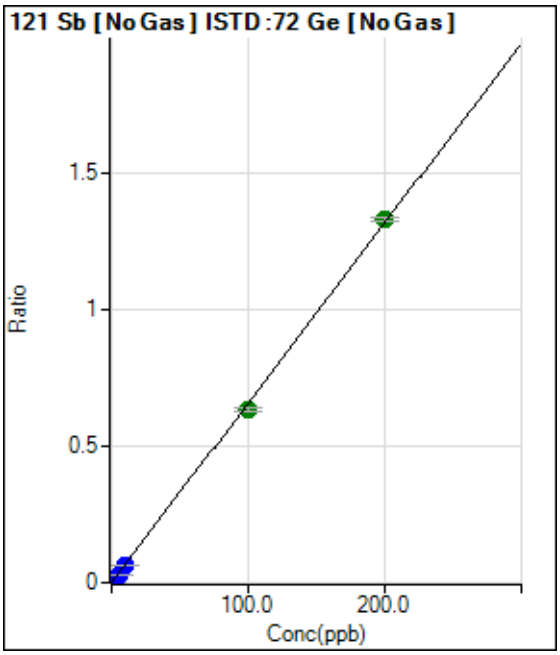
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2633.66	0.0013	P	10.1
2	☐	2.000	1.689	16457.18	0.0082	P	2.1
3	☐	5.000	4.586	39549.74	0.0198	P	3.5
4	☐	10.000	9.103	75959.38	0.0381	P	1.6
5	☐	100.000	95.271	754084.65	0.3858	P	0.6
6	☐	200.000	202.423	1535319.72	0.8183	A	2.3

y = 0.0040 * x + 0.0013
R = 0.9996
DL = 0.09988
BEC = 0.3308

Weight: <None>
Min Conc: <None>

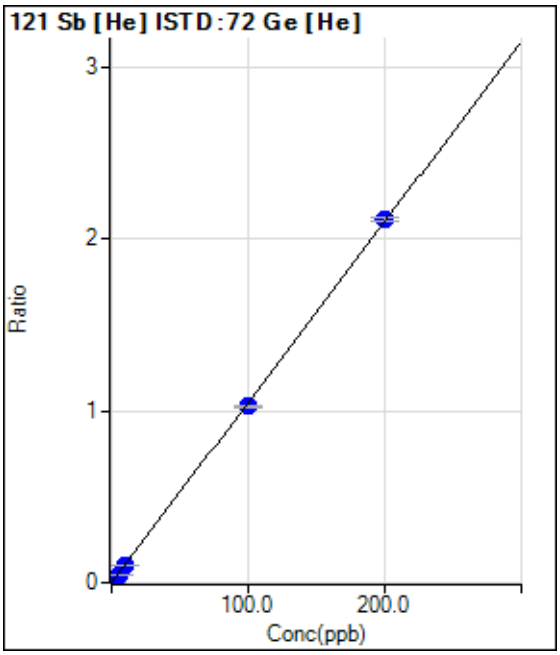


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	310.01	0.0002	P	4.0
2	☐	2.000	1.872	22689.94	0.0125	P	0.6
3	☐	5.000	4.646	55115.84	0.0308	P	1.0
4	☐	10.000	9.259	110226.78	0.0611	P	2.1
5	☐	100.000	96.367	1134111.44	0.6346	A	1.6
6	☐	200.000	201.864	2249047.36	1.3292	A	1.0

y = 0.0066 * x + 1.7183E-004
R = 0.9998
DL = 0.003144
BEC = 0.0261

Weight: <None>
Min Conc: <None>

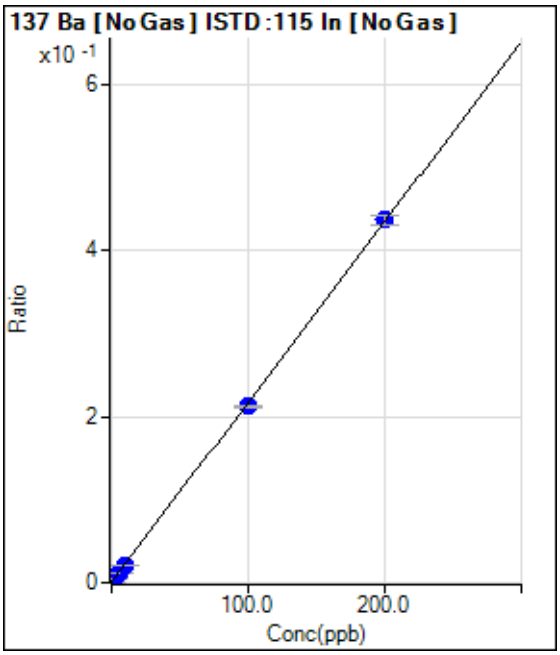
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	103.33	0.0002	P	38.6
2	☐	2.000	1.886	8813.14	0.0200	P	1.9
3	☐	5.000	4.696	21297.61	0.0495	P	0.8
4	☐	10.000	9.346	42709.97	0.0982	P	0.4
5	☐	100.000	97.687	440644.48	1.0245	P	1.2
6	☐	200.000	201.198	874784.47	2.1098	P	1.1

y = 0.0105 * x + 2.3127E-004
R = 0.9999
DL = 0.02557
BEC = 0.02206

Weight: <None>
Min Conc: <None>

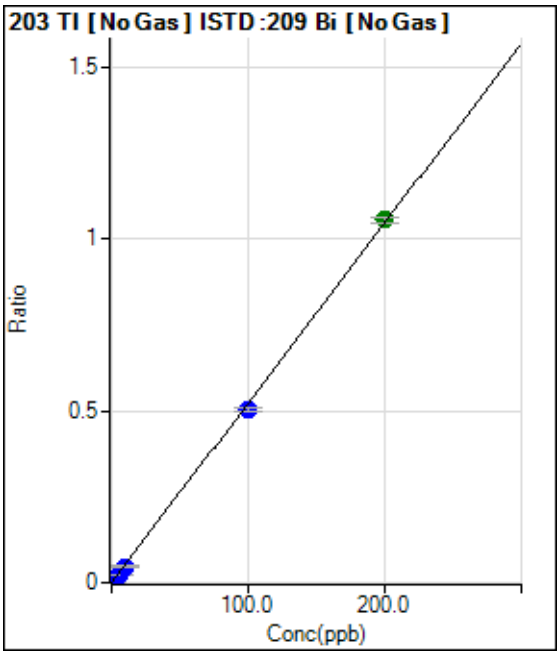


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1183.41	0.0006	P	5.9
2	☐	2.000	1.798	9089.98	0.0045	P	4.5
3	☐	5.000	4.850	22179.28	0.0111	P	2.2
4	☐	10.000	9.505	42352.55	0.0212	P	3.1
5	☐	100.000	97.638	415321.22	0.2125	P	1.5
6	☐	200.000	201.211	820440.77	0.4373	P	2.7

y = 0.0022 * x + 5.9830E-004
R = 0.9999
DL = 0.04891
BEC = 0.2757

Weight: <None>
Min Conc: <None>

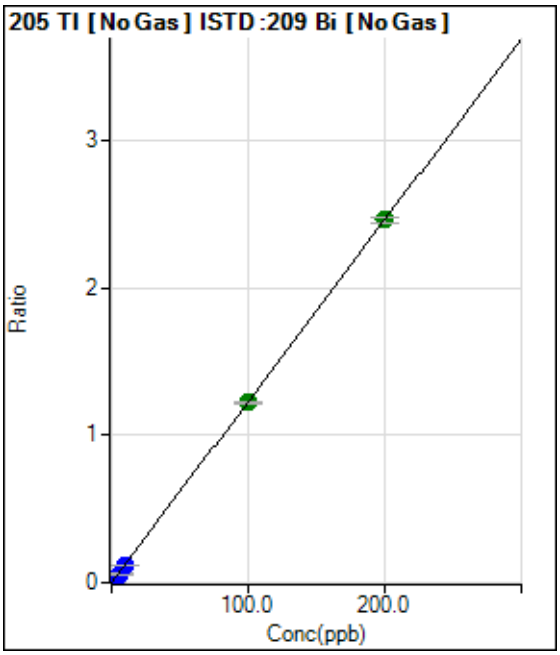
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	120.00	0.0001	P	26.3
2	☐	2.000	1.863	14939.16	0.0098	P	4.1
3	☐	5.000	4.639	36650.92	0.0243	P	2.0
4	☐	10.000	9.054	72339.36	0.0474	P	1.6
5	☐	100.000	96.322	762531.86	0.5030	P	1.4
6	☐	200.000	201.897	1556005.03	1.0542	A	1.4

y = 0.0052 * x + 8.0799E-005
R = 0.9998
DL = 0.0122
BEC = 0.01548

Weight: <None>
Min Conc: <None>

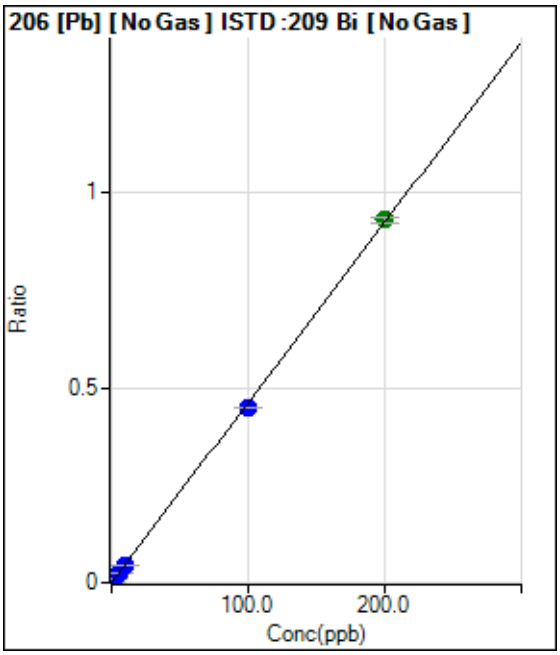


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	220.01	0.0001	P	21.6
2	☐	2.000	1.889	35557.73	0.0233	P	2.0
3	☐	5.000	4.742	88009.40	0.0584	P	2.4
4	☐	10.000	9.256	173842.59	0.1138	P	1.0
5	☐	100.000	99.634	1854452.52	1.2233	A	1.2
6	☐	200.000	200.228	3628319.22	2.4582	A	1.4

y = 0.0123 * x + 1.4801E-004
R = 1.0000
DL = 0.007826
BEC = 0.01206

Weight: <None>
Min Conc: <None>

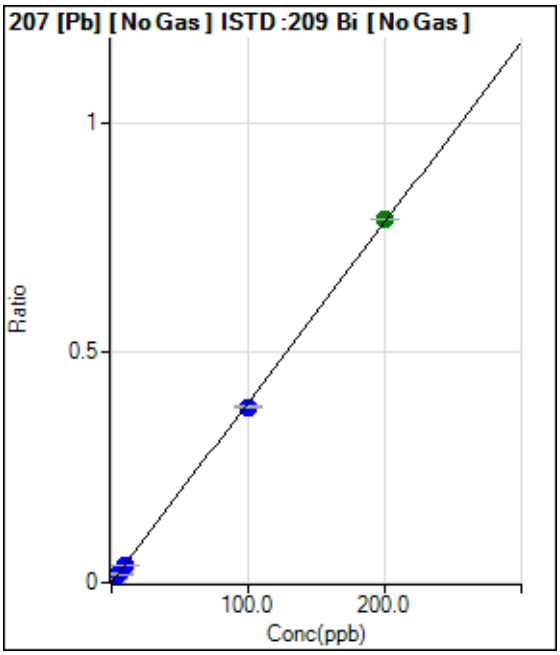
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	240.01	0.0002	P	25.5
2	☐	2.000	2.007	14368.52	0.0094	P	7.1
3	☐	5.000	4.827	33896.37	0.0225	P	2.2
4	☐	10.000	9.565	67770.90	0.0444	P	3.2
5	☐	100.000	97.041	680285.49	0.4487	P	0.7
6	☐	200.000	201.505	1375261.28	0.9316	A	1.3

y = 0.0046 * x + 1.6133E-004
R = 0.9998
DL = 0.02668
BEC = 0.0349

Weight: <None>
Min Conc: <None>

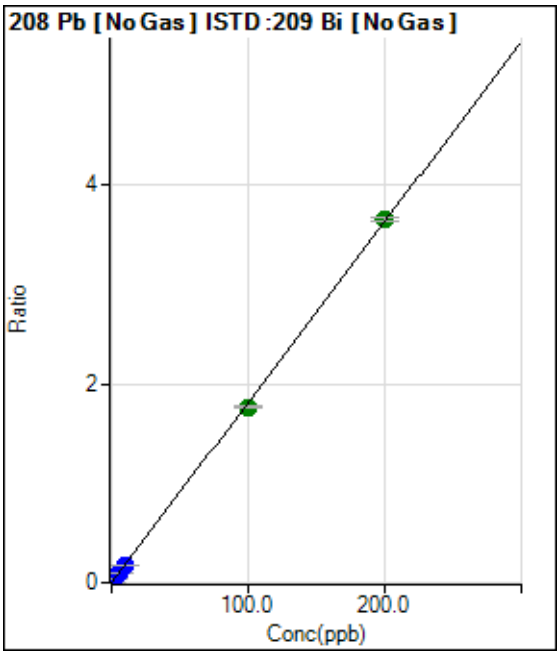


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	206.67	0.0001	P	31.3
2	☐	2.000	2.001	12136.11	0.0080	P	5.2
3	☐	5.000	4.771	28365.86	0.0188	P	1.4
4	☐	10.000	9.583	57502.73	0.0376	P	1.1
5	☐	100.000	97.280	577227.53	0.3808	P	1.2
6	☐	200.000	201.386	1163437.14	0.7881	A	0.1

y = 0.0039 * x + 1.3957E-004
R = 0.9999
DL = 0.03353
BEC = 0.03567

Weight: <None>
Min Conc: <None>

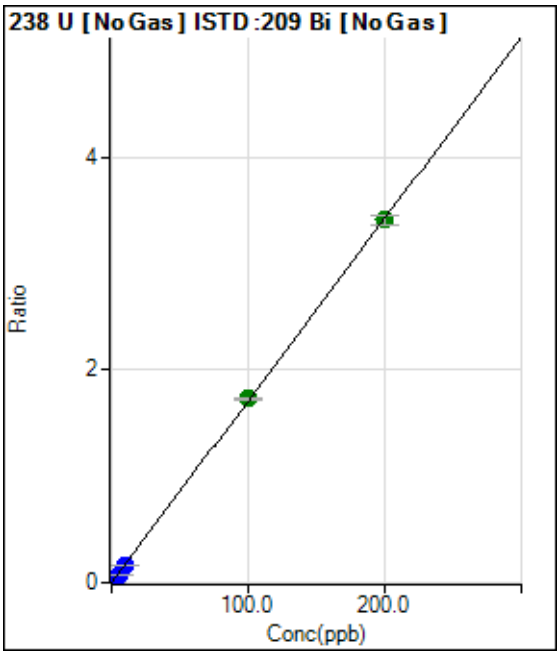
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	910.03	0.0006	P	6.2
2	☐	2.000	1.977	55578.95	0.0365	P	3.7
3	☐	5.000	4.836	133240.82	0.0884	P	2.8
4	☐	10.000	9.527	264997.96	0.1735	P	1.5
5	☐	100.000	97.502	2682787.11	1.7697	A	0.7
6	☐	200.000	201.277	5391440.67	3.6526	A	0.9

y = 0.0181 * x + 6.1218E-004
R = 0.9999
DL = 0.006285
BEC = 0.03374

Weight: <None>
Min Conc: <None>

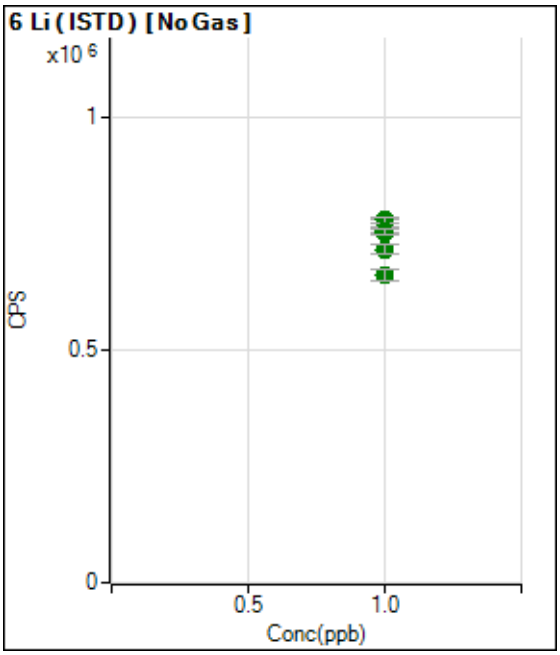


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	36.67	0.0000	P	57.2
2	☐	2.000	1.878	48924.83	0.0321	P	4.8
3	☐	5.000	4.635	119459.43	0.0792	P	2.3
4	☐	10.000	9.304	242830.49	0.1590	P	3.1
5	☐	100.000	101.122	2619003.03	1.7278	A	1.2
6	☐	200.000	199.484	5030382.11	3.4083	A	2.6

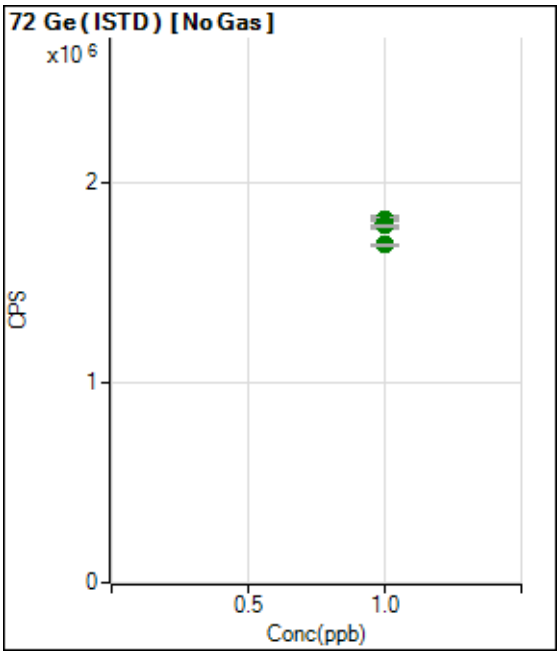
y = 0.0171 * x + 2.4731E-005
R = 1.0000
DL = 0.002483
BEC = 0.001447

Weight: <None>
Min Conc: <None>

Calibration for 017_ICV.d

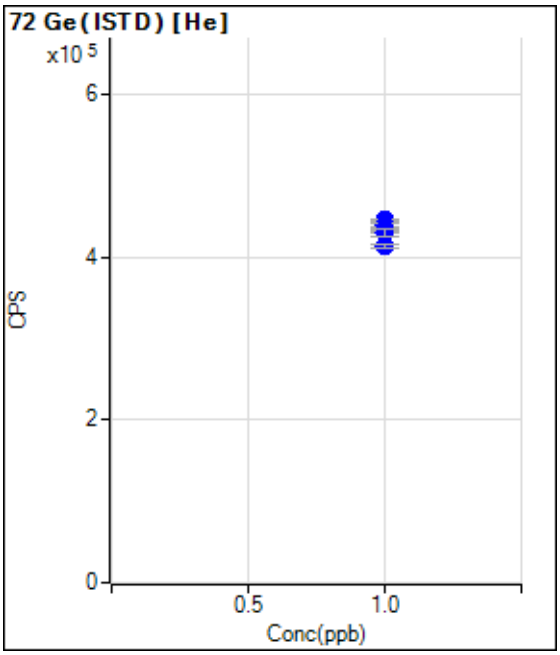


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		766868.18		A	3.6
2	☐	1.000		780090.54		A	1.2
3	☐	1.000		755990.26		A	2.2
4	☐	1.000		754422.94		A	1.5
5	☐	1.000		715928.39		A	3.0
6	☐	1.000		661739.95		A	3.2

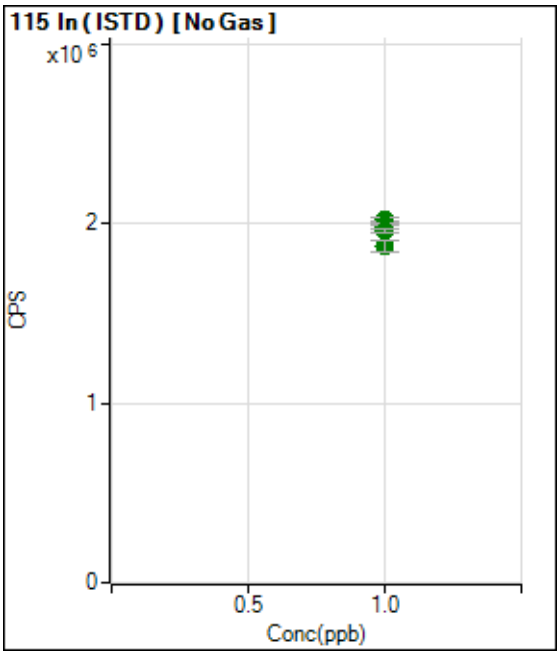


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1803283.83		A	3.4
2	☐	1.000		1815572.42		A	0.6
3	☐	1.000		1791964.14		A	0.1
4	☐	1.000		1803911.54		A	3.0
5	☐	1.000		1787040.60		A	0.4
6	☐	1.000		1692064.98		A	0.7

Calibration for 017_ICV.d

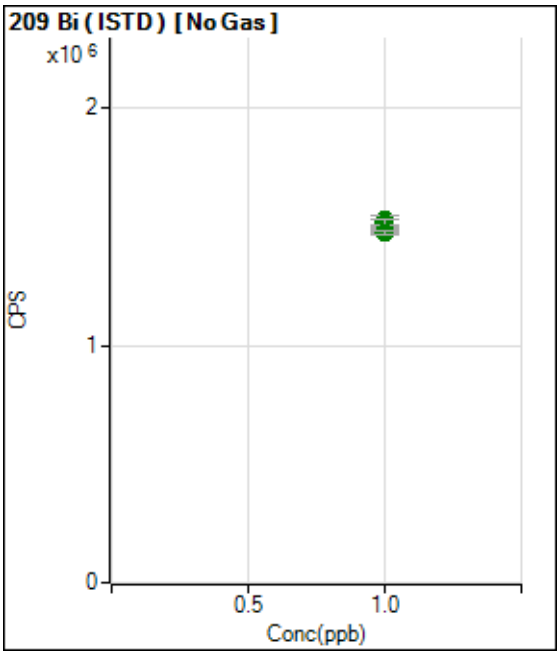


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		446345.60		P	0.8
2	☐	1.000		440475.54		P	0.9
3	☐	1.000		430488.82		P	0.4
4	☐	1.000		434823.83		P	0.4
5	☐	1.000		430188.70		P	2.2
6	☐	1.000		414669.90		P	1.1



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1975978.41		A	2.9
2	☐	1.000		2019187.75		A	1.3
3	☐	1.000		1994152.78		A	2.2
4	☐	1.000		1995148.16		A	0.8
5	☐	1.000		1954570.02		A	1.1
6	☐	1.000		1877226.12		A	3.4

Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1487949.93		A	2.4
2	☐	1.000		1524630.50		A	3.2
3	☐	1.000		1508689.82		A	2.7
4	☐	1.000		1528081.38		A	2.7
5	☐	1.000		1516057.74		A	1.7
6	☐	1.000		1476164.98		A	1.2

Calibration Blank Report

Sample Table

Sample Name	CAL BLK
Data File Name	009CALB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\071723B.b
Acq Date Time	2023-07-17T19:34:24-05:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li	7	1	No Gas	50192	0.00
Be	9	1	No Gas	15	384.90
V	51	2	He	6109	0.04
Cr	52	2	He	19708	0.01
Fe	56	2	He	29559	0.01
Se	78	2	He	165	3.79
As	75	2	He	321	3.56
Ca	44	2	He	1197	0.63
Na	23	2	He	62728	0.00
Mg	24	2	He	1570	0.59
K	39	2	He	219684	0.00
Mn	55	2	He	1257	0.73
Co	59	2	He	137	6.18
Ni	60	2	He	340	3.12
Cu	63	2	He	1773	0.30
Zn	66	2	He	1323	0.75
Al	27	2	He	1937	0.13
B	11	1	No Gas	17392	0.02
Al	27	1	No Gas	53868	0.00
Si	28	1	No Gas	510427	0.00
Ag	107	1	No Gas	150	16.02
Sr	88	1	No Gas	2224	0.41
Mo	95	1	No Gas	840	1.50
Sn	118	1	No Gas	2634	0.29
Sb	121	1	No Gas	310	2.08
Ba	137	1	No Gas	1183	0.73
Tl	205	1	No Gas	220	9.47
Tl	203	1	No Gas	120	20.83
Pb	208	1	No Gas	910	0.44
U	238	1	No Gas	37	154.83
Ca	43	2	He	93	6.63
Sb	121	2	He	103	37.85
Ti	47	2	He	13	324.76
Cu	63	1	No Gas	5228	0.01

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li	6	1	No Gas	766868	3.63

Calibration Blank Report

Ge	72	2	He	446346	0.75
Ge	72	1	No Gas	1803284	3.37
In	115	1	No Gas	1975978	2.90
Bi	209	1	No Gas	1487950	2.35

Calibration Standard Report

Sample Table

Sample Name	2/10/200
Data File Name	010CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\071723B.b
Acq Date Time	2023-07-17T19:36:20-05:00
Sample Type	CalStd
Level	2
Dilution	1
Comment	
ISTD Ref File Name	009CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	No Gas	7149	0.01
V	51	2	He	14331	0.00
Cr	52	2	He	30965	0.01
Fe	56	2	He	879995	0.00
Se	78	2	He	338	2.43
As	75	2	He	1859	0.07
Ca	44	2	He	8259	0.06
Na	23	2	He	250779	0.00
Mg	24	2	He	120097	0.00
K	39	2	He	382504	0.00
Mn	55	2	He	8586	0.01
Co	59	2	He	12569	0.02
Ni	60	2	He	3210	0.19
Cu	63	2	He	8953	0.04
Zn	66	2	He	3054	0.21
Al	27	2	He	3567	0.23
B	11	1	No Gas	33508	0.01
Al	27	1	No Gas	96110	0.00
Si	28	1	No Gas	570471	0.00
Ag	107	1	No Gas	25785	0.01
Cd	111	1	No Gas	5041	0.12
Sr	88	1	No Gas	56255	0.00
Mo	95	1	No Gas	10551	0.02
Sn	118	1	No Gas	16457	0.01
Sb	121	1	No Gas	22690	0.00
Ba	137	1	No Gas	9090	0.06
Tl	205	1	No Gas	35558	0.00
Tl	203	1	No Gas	14939	0.01
Pb	208	1	No Gas	55579	0.00
U	238	1	No Gas	48925	0.01
Ca	43	2	He	493	2.07
Sb	121	2	He	8813	0.03
Cu	63	1	No Gas	25000	0.00

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	780091	1.24	766868	101.72	70	120	
Ge	72	2	He	440476	0.94	446346	98.68	70	120	
Ge	72	1	No Gas	1815572	0.58	1803284	100.68	70	120	

Calibration Standard Report

In	115	1	No Gas	2019188	1.29	1975978	102.19	70	120	
Bi	209	1	No Gas	1524630	3.20	1487950	102.47	70	120	

Calibration Standard Report

Sample Table

Sample Name	5/25/500
Data File Name	011CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\071723B.b
Acq Date Time	2023-07-17T19:38:41-05:00
Sample Type	CalStd
Level	3
Dilution	1
Comment	
ISTD Ref File Name	009CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	No Gas	17716	0.01
V	51	2	He	27144	0.00
Cr	52	2	He	42834	0.00
Fe	56	2	He	2130252	0.00
Se	78	2	He	593	0.43
As	75	2	He	4222	0.07
Ca	44	2	He	20616	0.01
Na	23	2	He	534351	0.00
Mg	24	2	He	296620	0.00
K	39	2	He	637288	0.00
Mn	55	2	He	20806	0.02
Co	59	2	He	30134	0.01
Ni	60	2	He	7819	0.05
Cu	63	2	He	20689	0.01
Zn	66	2	He	5615	0.03
Al	27	2	He	4374	0.17
B	11	1	No Gas	61390	0.00
Al	27	1	No Gas	118575	0.00
Si	28	1	No Gas	693338	0.00
Ag	107	1	No Gas	63626	0.00
Cd	111	1	No Gas	12106	0.04
Sr	88	1	No Gas	134682	0.00
Mo	95	1	No Gas	24847	0.01
Sn	118	1	No Gas	39550	0.00
Sb	121	1	No Gas	55116	0.00
Ba	137	1	No Gas	22179	0.01
Tl	205	1	No Gas	88009	0.00
Tl	203	1	No Gas	36651	0.00
Pb	208	1	No Gas	133241	0.00
U	238	1	No Gas	119459	0.00
Ca	43	2	He	1183	0.59
Sb	121	2	He	21298	0.01
Cu	63	1	No Gas	54503	0.00

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	755990	2.22	766868	98.58	70	120	
Ge	72	2	He	430489	0.45	446346	96.45	70	120	
Ge	72	1	No Gas	1791964	0.13	1803284	99.37	70	120	

Calibration Standard Report

In	115	1	No Gas	1994153	2.15	1975978	100.92	70	120	
Bi	209	1	No Gas	1508690	2.71	1487950	101.39	70	120	

Calibration Standard Report

Sample Table

Sample Name	10/50/100
Data File Name	012CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\071723B.b
Acq Date Time	2023-07-17T19:40:36-05:00
Sample Type	CalStd
Level	4
Dilution	1
Comment	
ISTD Ref File Name	009CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	No Gas	34212	0.01
V	51	2	He	47356	0.00
Cr	52	2	He	64016	0.00
Fe	56	2	He	4050769	0.00
Se	78	2	He	972	0.15
As	75	2	He	7734	0.05
Ca	44	2	He	37505	0.01
Na	23	2	He	925515	0.00
Mg	24	2	He	572472	0.00
K	39	2	He	1009424	0.00
Mn	55	2	He	40032	0.00
Co	59	2	He	58509	0.00
Ni	60	2	He	14548	0.01
Cu	63	2	He	39768	0.00
Zn	66	2	He	9800	0.05
Al	27	2	He	6442	0.09
B	11	1	No Gas	104122	0.00
Al	27	1	No Gas	185760	0.00
Si	28	1	No Gas	909395	0.00
Ag	107	1	No Gas	124946	0.00
Cd	111	1	No Gas	24320	0.01
Sr	88	1	No Gas	265384	0.00
Mo	95	1	No Gas	48579	0.00
Sn	118	1	No Gas	75959	0.00
Sb	121	1	No Gas	110227	0.00
Ba	137	1	No Gas	42353	0.01
Tl	205	1	No Gas	173843	0.00
Tl	203	1	No Gas	72339	0.00
Pb	208	1	No Gas	264998	0.00
U	238	1	No Gas	242830	0.00
Ca	43	2	He	2107	0.60
Sb	121	2	He	42710	0.00
Cu	63	1	No Gas	104146	0.00

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	754423	1.49	766868	98.38	70	120	
Ge	72	2	He	434824	0.44	446346	97.42	70	120	
Ge	72	1	No Gas	1803912	3.03	1803284	100.03	70	120	

Calibration Standard Report

In	115	1	No Gas	1995148	0.78	1975978	100.97	70	120	
Bi	209	1	No Gas	1528081	2.72	1487950	102.70	70	120	

Calibration Standard Report

Sample Table

Sample Name	100/500/10K
Data File Name	013CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\071723B.b
Acq Date Time	2023-07-17T19:42:34-05:00
Sample Type	CalStd
Level	5
Dilution	1
Comment	
ISTD Ref File Name	009CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	No Gas	343024	0.00
V	51	2	He	423422	0.00
Cr	52	2	He	464187	0.00
Fe	56	2	He	39807801	0.00
Se	78	2	He	8580	0.02
As	75	2	He	76412	0.00
Ca	44	2	He	368971	0.00
Na	23	2	He	8457449	0.00
Mg	24	2	He	5184956	0.00
K	39	2	He	7962784	0.00
Mn	55	2	He	384130	0.00
Co	59	2	He	591515	0.00
Ni	60	2	He	144736	0.00
Cu	63	2	He	360786	0.00
Zn	66	2	He	85616	0.00
Al	27	2	He	45311	0.00
B	11	1	No Gas	915560	0.00
Al	27	1	No Gas	1348269	0.00
Si	28	1	No Gas	3828324	0.00
Ag	107	1	No Gas	1275499	0.00
Cd	111	1	No Gas	244850	0.00
Sr	88	1	No Gas	2704316	0.00
Mo	95	1	No Gas	484214	0.00
Sn	118	1	No Gas	754085	0.00
Sb	121	1	No Gas	1134111	0.00
Ba	137	1	No Gas	415321	0.00
Tl	205	1	No Gas	1854453	0.00
Tl	203	1	No Gas	762532	0.00
Pb	208	1	No Gas	2682787	0.00
U	238	1	No Gas	2619003	0.00
Ca	43	2	He	22375	0.02
Sb	121	2	He	440644	0.00
Cu	63	1	No Gas	933050	0.00

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	715928	3.04	766868	93.36	70	120	
Ge	72	2	He	430189	2.16	446346	96.38	70	120	
Ge	72	1	No Gas	1787041	0.39	1803284	99.10	70	120	

Calibration Standard Report

In	115	1	No Gas	1954570	1.12	1975978	98.92	70	120	
Bi	209	1	No Gas	1516058	1.71	1487950	101.89	70	120	

Calibration Standard Report

Sample Table

Sample Name	200/1000/20K
Data File Name	014CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\071723B.b
Acq Date Time	2023-07-17T19:44:25-05:00
Sample Type	CalStd
Level	6
Dilution	1
Comment	
ISTD Ref File Name	009CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	No Gas	658784	0.00
V	51	2	He	832355	0.00
Cr	52	2	He	890248	0.00
Fe	56	2	He	77268367	0.00
Se	78	2	He	16762	0.01
As	75	2	He	148542	0.00
Ca	44	2	He	724179	0.00
Na	23	2	He	16232419	0.00
Mg	24	2	He	10072483	0.00
K	39	2	He	15313329	0.00
Mn	55	2	He	745684	0.00
Co	59	2	He	1212473	0.00
Ni	60	2	He	278120	0.00
Cu	63	2	He	693832	0.00
Zn	66	2	He	164872	0.00
Al	27	2	He	84680	0.00
B	11	1	No Gas	1770925	0.00
Al	27	1	No Gas	2525165	0.00
Si	28	1	No Gas	6845275	0.00
Ag	107	1	No Gas	2504039	0.00
Cd	111	1	No Gas	481512	0.00
Sr	88	1	No Gas	5176611	0.00
Mo	95	1	No Gas	965058	0.00
Sn	118	1	No Gas	1535320	0.00
Sb	121	1	No Gas	2249047	0.00
Ba	137	1	No Gas	820441	0.00
Tl	205	1	No Gas	3628319	0.00
Tl	203	1	No Gas	1556005	0.00
Pb	208	1	No Gas	5391441	0.00
U	238	1	No Gas	5030382	0.00
Ca	43	2	He	43730	0.00
Sb	121	2	He	874784	0.00
Cu	63	1	No Gas	1828880	0.00

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	661740	3.21	766868	86.29	70	120	
Ge	72	2	He	414670	1.14	446346	92.90	70	120	
Ge	72	1	No Gas	1692065	0.68	1803284	93.83	70	120	

Calibration Standard Report

In	115	1	No Gas	1877226	3.38	1975978	95.00	70	120	
Bi	209	1	No Gas	1476165	1.23	1487950	99.21	70	120	

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICV
Data File Name	017_ICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\071723B.b
Acq Date Time	2023-07-17T19:50:34-05:00
Sample Type	ICV
Dilution	1
Comment	
ISTD Ref File Name	009CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	No Gas	95.363	1.512	1131784	1.02	100	95.4	90	110	
Be	9	1	No Gas	94.730	0.930	334585	0.23	100	94.7	90	110	
V	51	2	He	96.032	1.357	431050	0.43	100	96.0	90	110	
Cr	52	2	He	98.062	1.712	478411	0.42	100	98.1	90	110	
Fe	56	2	He	9660.698	0.391	40132911	1.29	10000	96.6	90	110	
Se	78	2	He	97.725	1.086	8860	1.95	100	97.7	90	110	
As	75	2	He	98.100	2.478	78409	1.24	100	98.1	90	110	
Ca	44	2	He	9683.409	2.058	376488	0.85	10000	96.8	90	110	
Na	23	2	He	9515.443	2.185	8346636	1.14	10000	95.2	90	110	
Mg	24	2	He	9639.146	1.447	5218478	0.48	10000	96.4	90	110	
K	39	2	He	9530.684	2.230	7952488	1.34	10000	95.3	90	110	
Mn	55	2	He	98.306	1.859	394464	0.79	100	98.3	90	110	
Co	59	2	He	93.710	0.957	604183	0.41	100	93.7	90	110	
Ni	60	2	He	98.748	0.988	148041	1.02	100	98.7	90	110	
Cu	63	2	He	98.105	0.641	367294	0.59	100	98.1	90	110	
Zn	66	2	He	98.428	0.969	87890	0.53	100	98.4	90	110	
Al	27	2	He	96.876	3.314	45240	2.04	100	96.9	90	110	
B	11	1	No Gas	476.043	0.668	909768	1.48	500	95.2	90	110	
Al	27	1	No Gas	96.973	3.011	1329855	2.32	100	97.0	90	110	
Si	28	1	No Gas	473.926	2.430	3718783	1.58	500	94.8	90	110	
Ag	107	1	No Gas	95.855	3.540	1304222	3.96	100	95.9	90	110	
Cd	111	1	No Gas	96.607	1.960	252619	0.19	100	96.6	90	110	
Sr	88	1	No Gas	96.089	2.437	2716881	0.99	100	96.1	90	110	
Mo	95	1	No Gas	94.078	2.652	492131	1.02	100	94.1	90	110	
Sn	118	1	No Gas	91.968	1.916	762808	0.49	100	92.0	90	110	
Sb	121	1	No Gas	96.285	0.283	1143126	0.57	100	96.3	90	110	
Ba	137	1	No Gas	96.385	1.096	429668	1.01	100	96.4	90	110	
Tl	205	1	No Gas	103.950	1.366	2065108	1.89	100	104.0	90	110	
Tl	203	1	No Gas	100.048	1.547	845241	0.64	100	100.0	90	110	
Pb	208	1	No Gas	95.134	1.972	2793722	1.73	100	95.1	90	110	
U	238	1	No Gas	97.290	2.842	2688943	1.30	100	97.3	90	110	
Ca	43	2	He	9515.429	1.797	22365	0.90	10000	95.2	90	110	
Sb	121	2	He	94.043	1.333	440133	0.28	100	94.0	90	110	
Ti	47	2	He	96.961	1.367	18960	2.34	100	97.0	90	110	
Cu	63	1	No Gas	96.680	0.169	937830	0.49	100	96.7	90	110	
Se	82	1	No Gas	101.193	1.876	19375	2.53	100	101.2	90	110	

QC ISTD Table

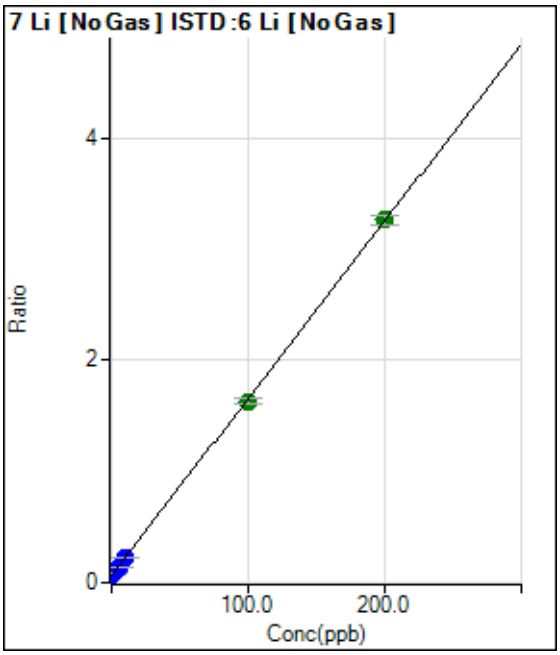
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	714544	1.15	766868	93.18	70	120	
Ge	72	2	He	446310	1.22	446346	99.99	70	120	
Ge	72	1	No Gas	1802835	0.66	1803284	99.98	70	120	
In	115	1	No Gas	2048384	2.09	1975978	103.66	70	120	
Bi	209	1	No Gas	1618099	1.54	1487950	108.75	70	120	

Calibration for 017_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\071723B.b\
Analysis File: 071723B.batch.bin
DA Date-Time: 7/17/2023 7:51:16 PM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	009CALB.d	CAL BLK	7/17/2023 7:34:24 PM
2	010CALS.d	2/10/200	7/17/2023 7:36:20 PM
3	011CALS.d	5/25/500	7/17/2023 7:38:41 PM
4	012CALS.d	10/50/100	7/17/2023 7:40:36 PM
5	013CALS.d	100/500/10K	7/17/2023 7:42:34 PM
6	014CALS.d	200/1000/20K	7/17/2023 7:44:25 PM

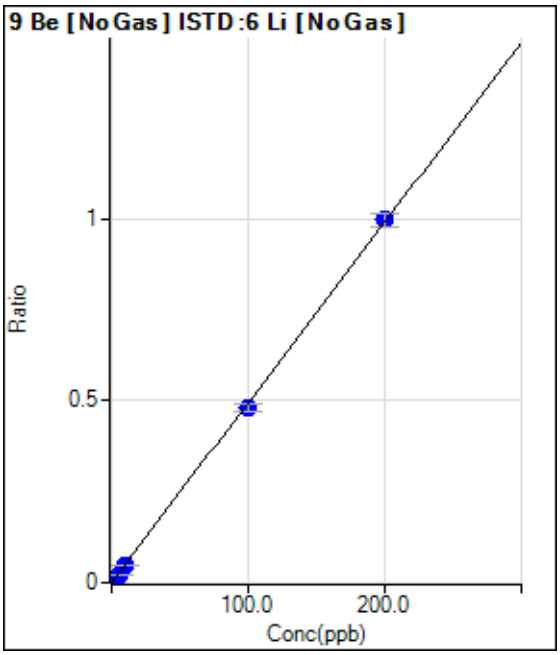
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	50192.38	0.0655	P	1.3
2	☐	2.000	1.825	73738.23	0.0945	P	0.5
3	☐	5.000	4.893	108373.19	0.1434	P	2.1
4	☐	10.000	9.522	163774.15	0.2171	P	0.5
5	☐	100.000	98.340	1167395.79	1.6314	A	2.9
6	☐	200.000	200.859	2158527.26	3.2640	A	3.0

y = 0.0159 * x + 0.0655
R = 1.0000
DL = 0.1601
BEC = 4.111

Weight: <None>
Min Conc: <None>

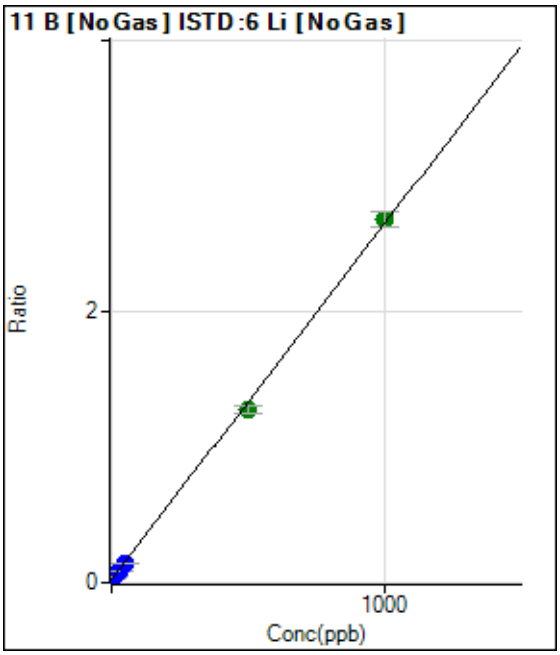


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	15.00	0.0000	P	54.8
2	☐	2.000	1.850	7148.53	0.0092	P	2.0
3	☐	5.000	4.737	17716.21	0.0234	P	1.1
4	☐	10.000	9.170	34211.60	0.0453	P	0.7
5	☐	100.000	96.999	343024.35	0.4795	P	3.7
6	☐	200.000	201.550	658784.24	0.9963	P	3.6

y = 0.0049 * x + 1.9378E-005
R = 0.9998
DL = 0.006444
BEC = 0.00392

Weight: <None>
Min Conc: <None>

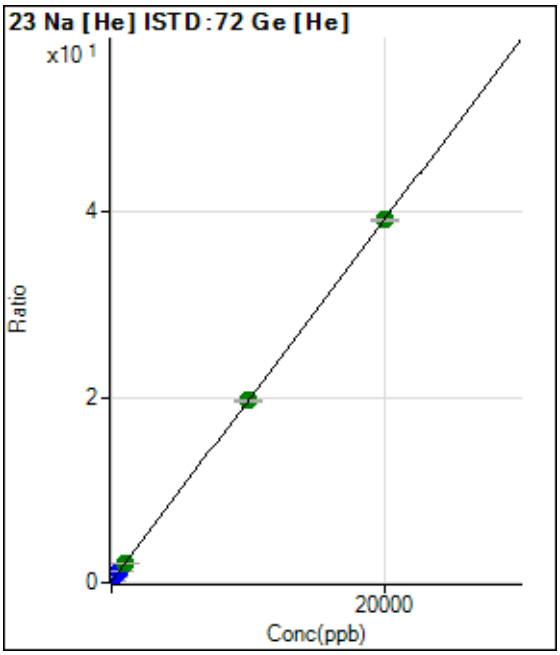
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	17392.50	0.0227	P	4.2
2	☐	10.000	7.715	33508.15	0.0430	P	2.8
3	☐	25.000	22.287	61390.01	0.0812	P	3.0
4	☐	50.000	43.905	104122.28	0.1380	P	1.1
5	☐	500.000	478.616	915560.14	1.2800	A	4.3
6	☐	1000.000	1011.087	1770925.23	2.6787	A	4.4

y = 0.0026 * x + 0.0227
R = 0.9997
DL = 1.091
BEC = 8.64

Weight: <None>
Min Conc: <None>

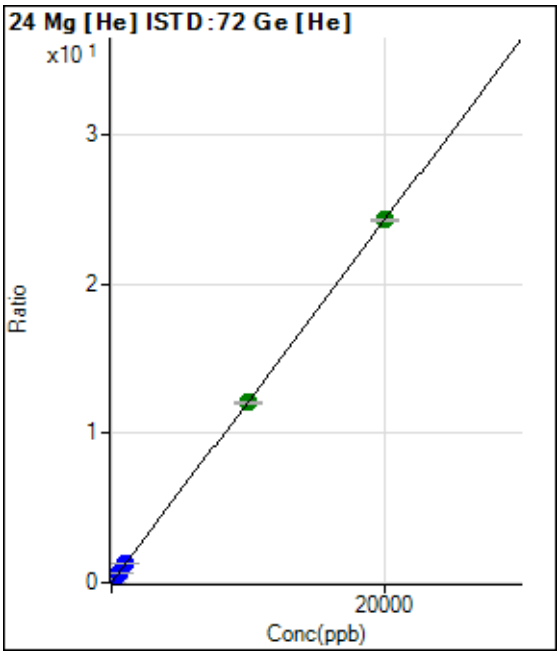


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	62727.55	0.1405	P	2.0
2	☐	200.000	219.806	250779.20	0.5694	P	1.0
3	☐	500.000	564.213	534350.93	1.2413	P	0.1
4	☐	1000.000	1018.930	925515.01	2.1284	A	1.5
5	☐	10000.000	10006.337	8457448.62	19.6622	A	0.8
6	☐	20000.000	19994.082	16232418.51	39.1476	A	0.7

y = 0.0020 * x + 0.1405
R = 1.0000
DL = 4.407
BEC = 72.03

Weight: <None>
Min Conc: <None>

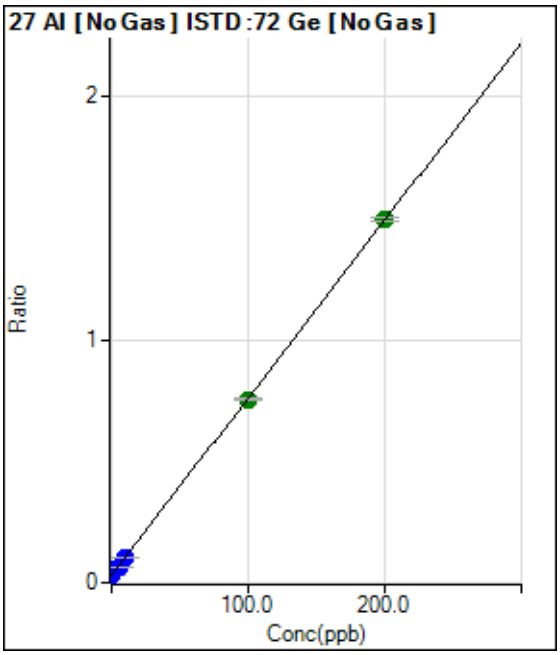
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1570.12	0.0035	P	8.6
2	☐	200.000	221.949	120097.16	0.2727	P	2.7
3	☐	500.000	565.225	296619.90	0.6890	P	0.6
4	☐	1000.000	1082.689	572471.93	1.3166	P	0.9
5	☐	10000.000	9936.143	5184956.38	12.0540	A	1.2
6	☐	20000.000	20025.944	10072482.98	24.2909	A	0.7

y = 0.0012 * x + 0.0035
R = 1.0000
DL = 0.7515
BEC = 2.899

Weight: <None>
Min Conc: <None>

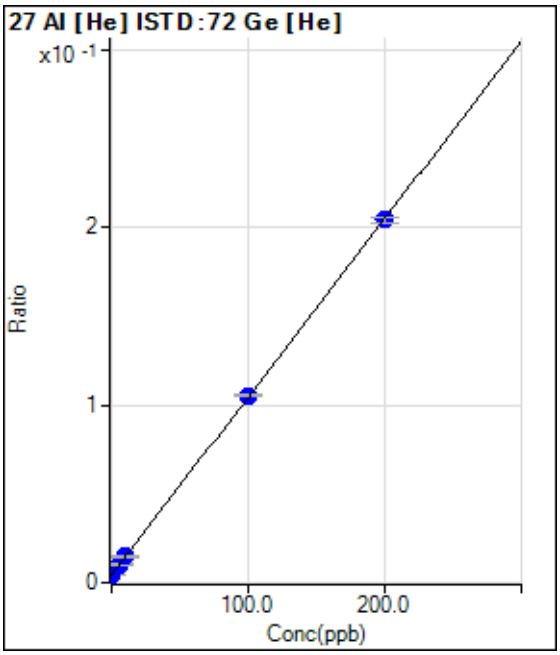


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	53867.61	0.0299	P	2.9
2	☐	2.000	3.158	96110.45	0.0529	P	1.3
3	☐	5.000	4.970	118575.23	0.0662	P	1.5
4	☐	10.000	10.020	185759.85	0.1030	P	2.5
5	☐	100.000	99.266	1348268.52	0.7545	A	1.3
6	☐	200.000	200.355	2525165.22	1.4923	A	1.0

y = 0.0073 * x + 0.0299
R = 1.0000
DL = 0.3569
BEC = 4.095

Weight: <None>
Min Conc: <None>

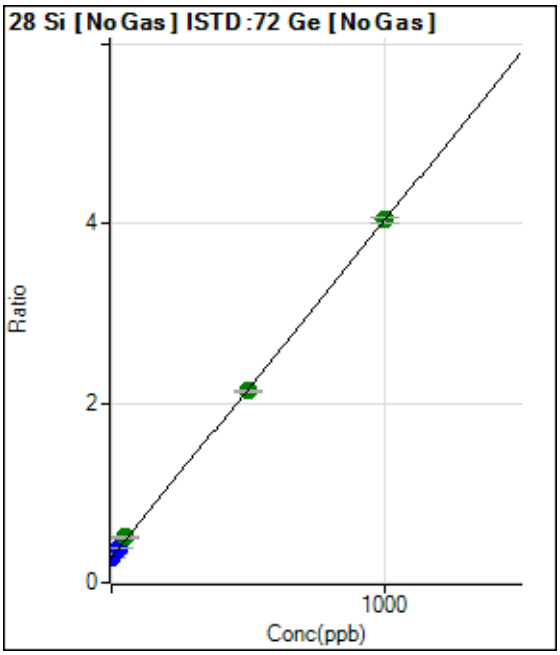
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1936.84	0.0043	P	2.7
2	☐	2.000	3.757	3567.32	0.0081	P	9.1
3	☐	5.000	5.809	4374.10	0.0102	P	6.9
4	☐	10.000	10.455	6441.60	0.0148	P	5.8
5	☐	100.000	100.819	45310.74	0.1053	P	0.9
6	☐	200.000	199.530	84679.89	0.2042	P	1.3

y = 0.0010 * x + 0.0043
R = 1.0000
DL = 0.3455
BEC = 4.332

Weight: <None>
Min Conc: <None>

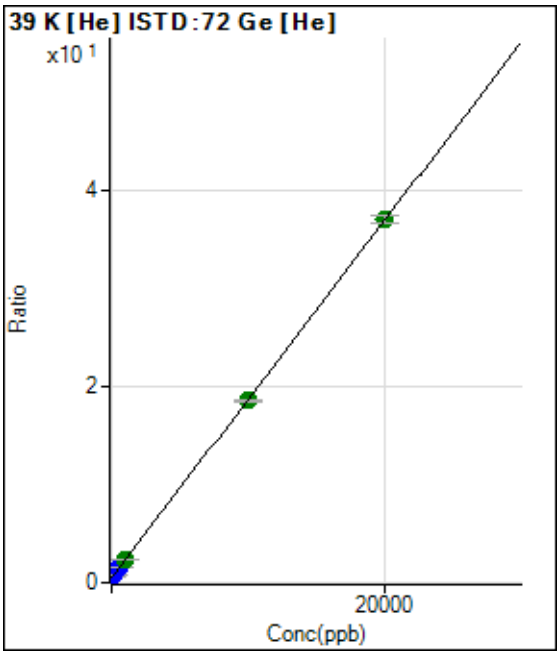


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	510427.12	0.2833	P	3.3
2	☐	10.000	8.247	570471.15	0.3142	P	2.0
3	☐	25.000	27.603	693338.24	0.3869	P	0.5
4	☐	50.000	58.861	909395.07	0.5043	A	1.7
5	☐	500.000	495.074	3828324.00	2.1423	A	1.0
6	☐	1000.000	1001.972	6845275.11	4.0458	A	1.4

y = 0.0038 * x + 0.2833
R = 0.9999
DL = 7.417
BEC = 75.43

Weight: <None>
Min Conc: <None>

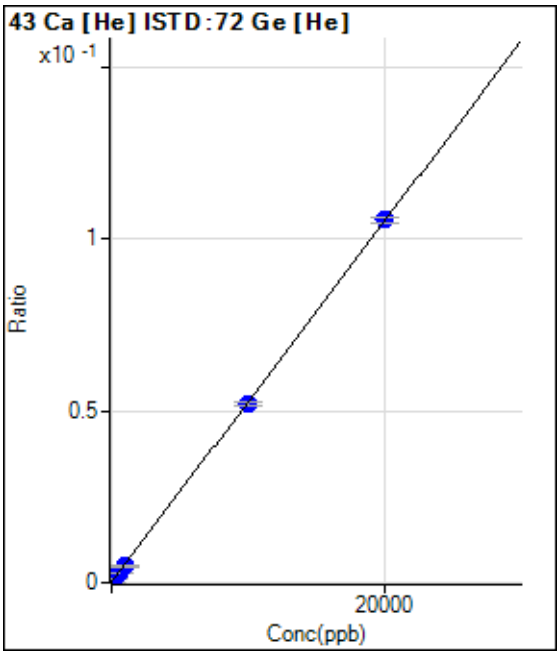
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	219683.66	0.4922	P	1.0
2	☐	200.000	206.936	382503.83	0.8684	P	1.3
3	☐	500.000	543.484	637288.02	1.4803	P	0.8
4	☐	1000.000	1006.096	1009423.76	2.3215	A	1.2
5	☐	10000.000	9910.914	7962783.84	18.5123	A	1.0
6	☐	20000.000	20043.082	15313329.35	36.9346	A	2.2

y = 0.0018 * x + 0.4922
R = 1.0000
DL = 8.43
BEC = 270.7

Weight: <None>
Min Conc: <None>

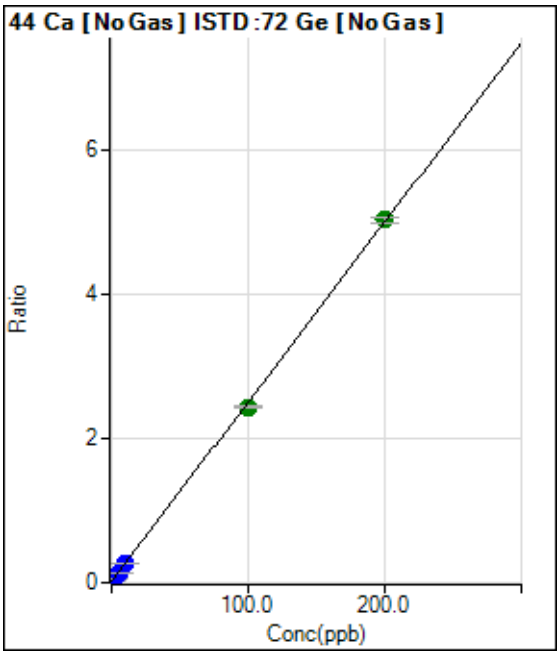


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	93.33	0.0002	P	5.8
2	☐	200.000	173.664	493.35	0.0011	P	10.1
3	☐	500.000	484.207	1183.41	0.0027	P	6.9
4	☐	1000.000	883.623	2106.87	0.0048	P	12.3
5	☐	10000.000	9875.666	22375.14	0.0520	P	2.2
6	☐	20000.000	20068.644	43729.71	0.1055	P	1.7

y = 5.2450E-006 * x + 2.0908E-004
R = 1.0000
DL = 6.917
BEC = 39.86

Weight: <None>
Min Conc: <None>

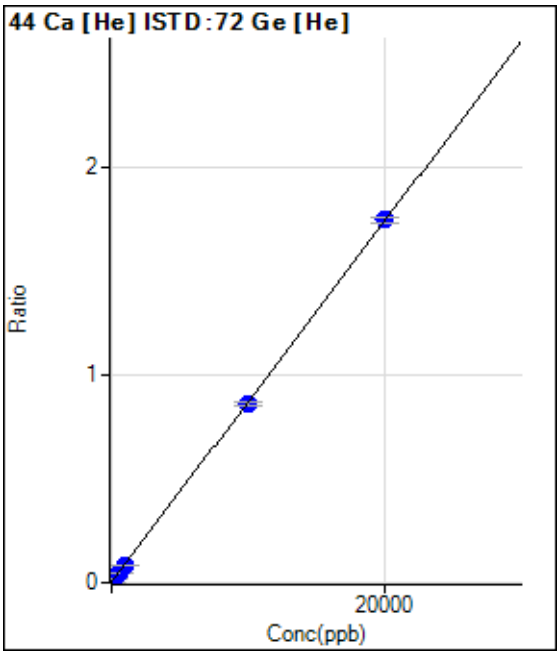
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	28079.12	0.0156	P	2.7
2	☐	2.000	2.002	118624.18	0.0653	P	0.8
3	☐	5.000	5.186	258881.99	0.1445	P	0.7
4	☐	10.000	10.146	482769.86	0.2678	P	2.5
5	☐	100.000	97.218	4345767.64	2.4318	A	1.2
6	☐	200.000	201.379	8494708.62	5.0206	A	1.3

y = 0.0249 * x + 0.0156
R = 0.9999
DL = 0.05106
BEC = 0.6269

Weight: <None>
Min Conc: <None>

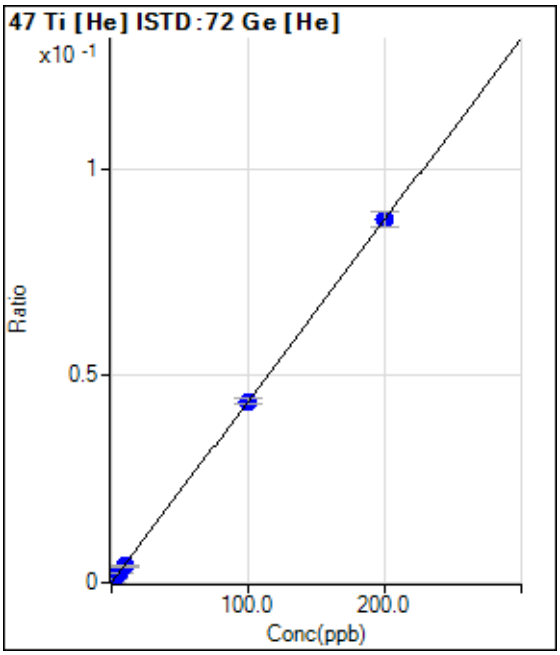


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1196.74	0.0027	P	7.2
2	☐	200.000	185.093	8259.30	0.0188	P	6.0
3	☐	500.000	520.511	20615.82	0.0479	P	1.5
4	☐	1000.000	962.207	37504.70	0.0862	P	1.8
5	☐	10000.000	9846.435	368971.37	0.8579	P	2.1
6	☐	20000.000	20078.309	724179.02	1.7465	P	1.3

y = 8.6851E-005 * x + 0.0027
R = 1.0000
DL = 6.634
BEC = 30.87

Weight: <None>
Min Conc: <None>

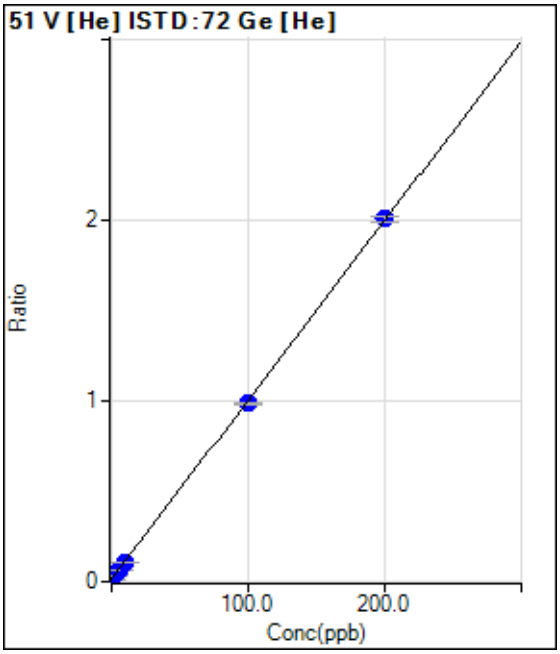
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	13.33	0.0000	P	42.8
2	☐	2.000	1.954	390.01	0.0009	P	29.7
3	☐	5.000	4.937	943.38	0.0022	P	5.2
4	☐	10.000	9.285	1780.15	0.0041	P	11.6
5	☐	100.000	100.091	18856.53	0.0438	P	2.5
6	☐	200.000	199.992	36308.34	0.0876	P	4.1

y = 4.3780E-004 * x + 2.9837E-005
R = 1.0000
DL = 0.08757
BEC = 0.06815

Weight: <None>
Min Conc: <None>

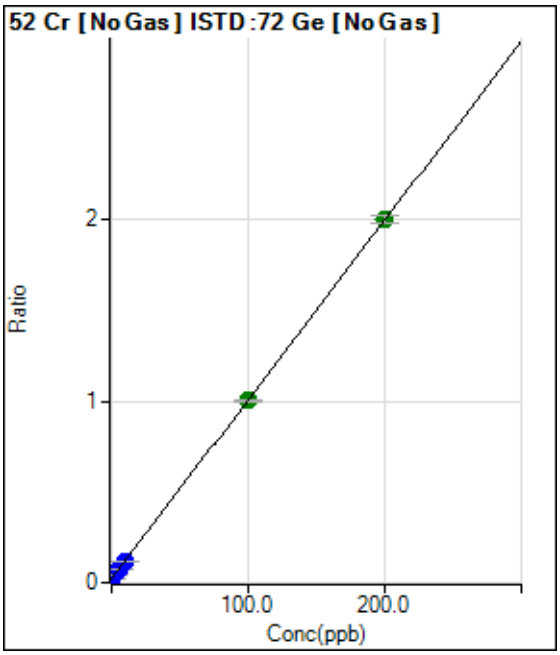


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	6109.18	0.0137	P	2.7
2	☐	2.000	1.901	14330.84	0.0325	P	1.2
3	☐	5.000	4.979	27143.53	0.0631	P	0.9
4	☐	10.000	9.604	47355.85	0.1089	P	1.8
5	☐	100.000	97.905	423422.32	0.9845	P	1.5
6	☐	200.000	201.069	832354.78	2.0074	P	1.4

y = 0.0099 * x + 0.0137
R = 0.9999
DL = 0.1109
BEC = 1.38

Weight: <None>
Min Conc: <None>

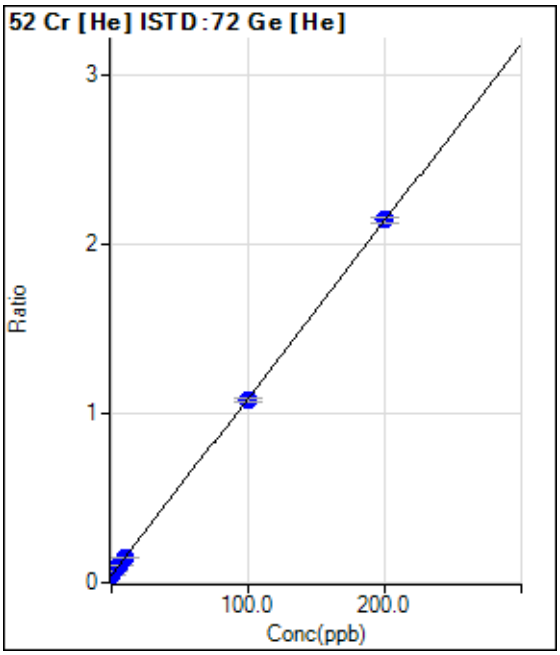
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	37839.25	0.0210	P	3.6
2	☐	2.000	2.435	81786.52	0.0450	P	0.5
3	☐	5.000	4.956	125350.05	0.0700	P	0.8
4	☐	10.000	9.542	207780.27	0.1152	P	2.3
5	☐	100.000	99.345	1790831.59	1.0021	A	0.9
6	☐	200.000	200.347	3383395.68	1.9996	A	2.1

y = 0.0099 * x + 0.0210
R = 1.0000
DL = 0.2324
BEC = 2.126

Weight: <None>
Min Conc: <None>

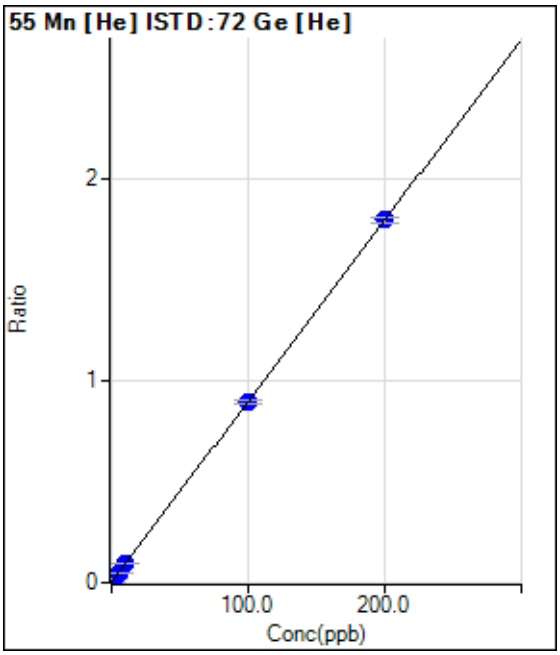


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	19707.85	0.0442	P	2.7
2	☐	2.000	2.494	30965.37	0.0703	P	3.2
3	☐	5.000	5.280	42833.88	0.0995	P	0.9
4	☐	10.000	9.833	64016.06	0.1472	P	1.0
5	☐	100.000	98.750	464187.12	1.0793	P	2.3
6	☐	200.000	200.621	890247.77	2.1471	P	1.5

y = 0.0105 * x + 0.0442
R = 1.0000
DL = 0.3474
BEC = 4.212

Weight: <None>
Min Conc: <None>

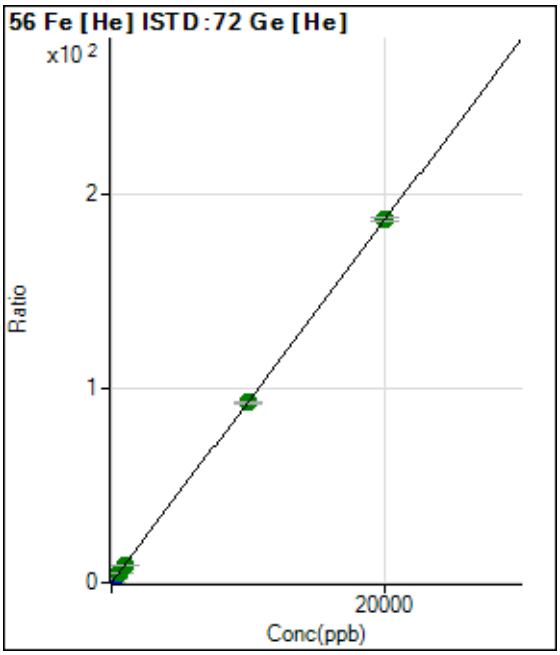
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1256.75	0.0028	P	8.9
2	☐	2.000	1.861	8586.16	0.0195	P	0.3
3	☐	5.000	5.078	20806.19	0.0483	P	3.4
4	☐	10.000	9.957	40032.29	0.0921	P	0.8
5	☐	100.000	99.340	384130.22	0.8932	P	2.4
6	☐	200.000	200.331	745683.50	1.7985	P	1.5

y = 0.0090 * x + 0.0028
R = 1.0000
DL = 0.08352
BEC = 0.3141

Weight: <None>
Min Conc: <None>

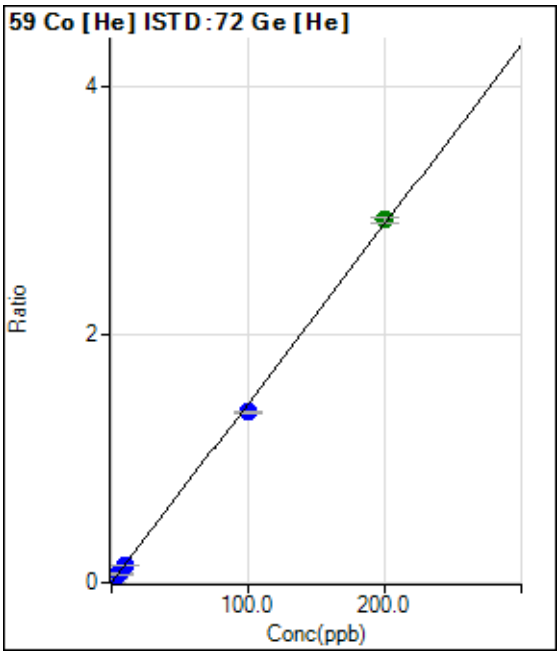


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	29559.02	0.0662	P	2.2
2	☐	200.000	207.675	879994.78	1.9978	P	0.5
3	☐	500.000	524.863	2130251.69	4.9480	A	2.9
4	☐	1000.000	994.465	4050769.11	9.3159	A	0.3
5	☐	10000.000	9943.052	39807801.07	92.5479	A	1.0
6	☐	20000.000	20028.053	77268367.18	186.3498	A	1.0

y = 0.0093 * x + 0.0662
R = 1.0000
DL = 0.4674
BEC = 7.12

Weight: <None>
Min Conc: <None>

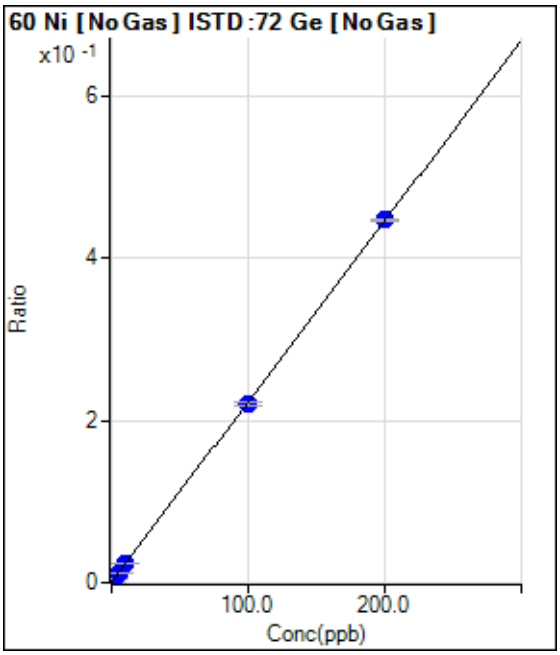
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	136.67	0.0003	P	9.2
2	☐	2.000	1.955	12569.37	0.0285	P	2.5
3	☐	5.000	4.825	30133.63	0.0700	P	2.0
4	☐	10.000	9.295	58509.13	0.1346	P	1.4
5	☐	100.000	95.195	591514.61	1.3753	P	1.3
6	☐	200.000	202.443	1212472.64	2.9243	A	1.7

y = 0.0144 * x + 3.0633E-004
R = 0.9996
DL = 0.005875
BEC = 0.02121

Weight: <None>
Min Conc: <None>

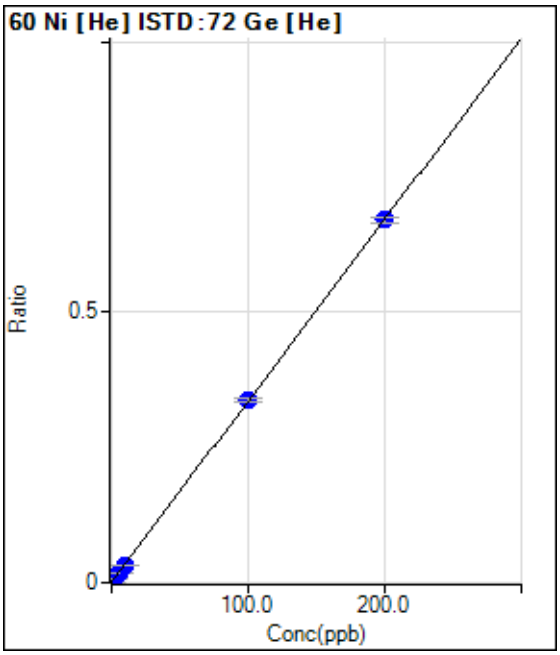


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1146.74	0.0006	P	7.6
2	☐	2.000	2.048	9423.42	0.0052	P	4.6
3	☐	5.000	4.991	21039.81	0.0117	P	1.3
4	☐	10.000	10.036	41406.62	0.0230	P	3.0
5	☐	100.000	98.590	393172.19	0.2200	P	1.6
6	☐	200.000	200.703	756719.57	0.4472	P	0.3

y = 0.0022 * x + 6.3520E-004
R = 1.0000
DL = 0.06467
BEC = 0.2855

Weight: <None>
Min Conc: <None>

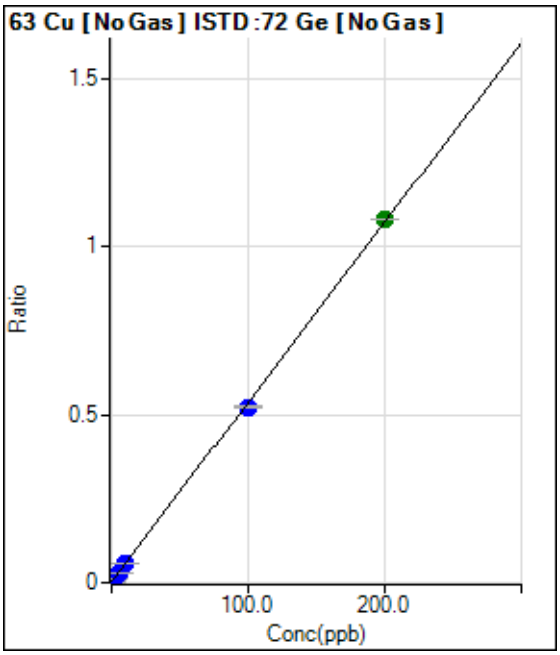
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	340.01	0.0008	P	11.4
2	☐	2.000	1.947	3210.44	0.0073	P	6.1
3	☐	5.000	5.191	7819.07	0.0182	P	3.7
4	☐	10.000	9.756	14548.00	0.0335	P	1.7
5	☐	100.000	100.182	144735.79	0.3365	P	1.9
6	☐	200.000	199.917	278120.36	0.6708	P	1.7

y = 0.0034 * x + 7.6219E-004
R = 1.0000
DL = 0.07759
BEC = 0.2274

Weight: <None>
Min Conc: <None>

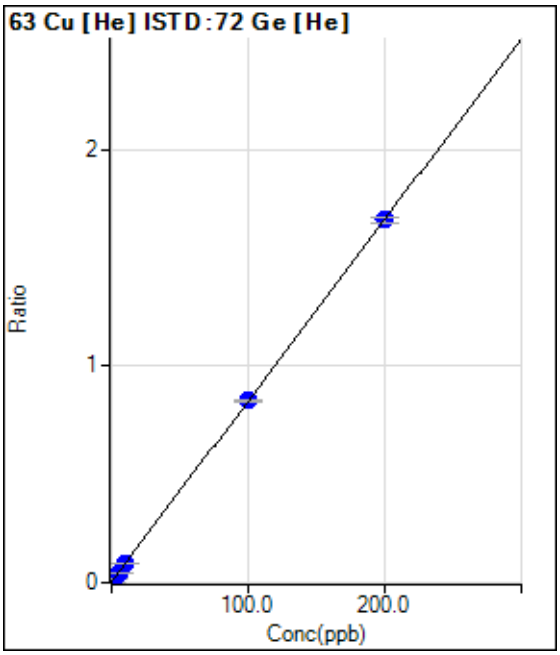


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	5227.75	0.0029	P	3.0
2	☐	2.000	2.031	25000.00	0.0138	P	0.8
3	☐	5.000	5.142	54502.85	0.0304	P	1.3
4	☐	10.000	10.254	104146.34	0.0578	P	2.9
5	☐	100.000	97.040	933050.27	0.5221	P	1.1
6	☐	200.000	201.464	1828880.34	1.0809	A	0.1

y = 0.0054 * x + 0.0029
R = 0.9998
DL = 0.04858
BEC = 0.5422

Weight: <None>
Min Conc: <None>

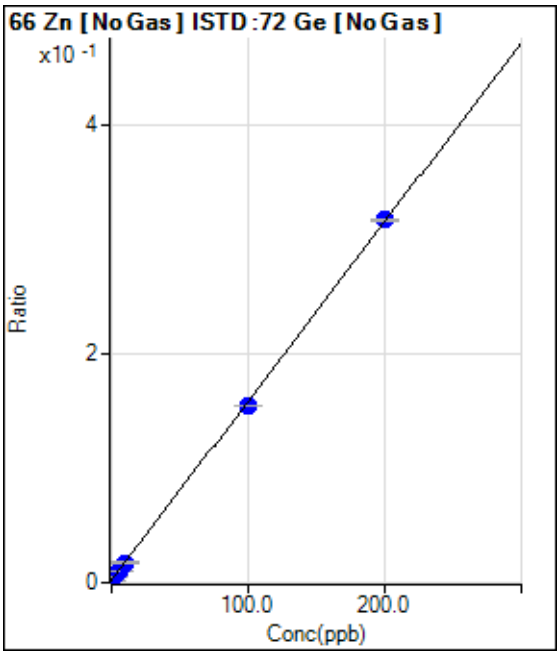
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1773.49	0.0040	P	5.8
2	☐	2.000	1.959	8953.10	0.0203	P	3.7
3	☐	5.000	5.281	20689.31	0.0481	P	2.9
4	☐	10.000	10.479	39768.45	0.0915	P	0.5
5	☐	100.000	100.005	360786.39	0.8389	P	1.6
6	☐	200.000	199.967	693832.44	1.6734	P	1.4

y = 0.0083 * x + 0.0040
R = 1.0000
DL = 0.08244
BEC = 0.476

Weight: <None>
Min Conc: <None>

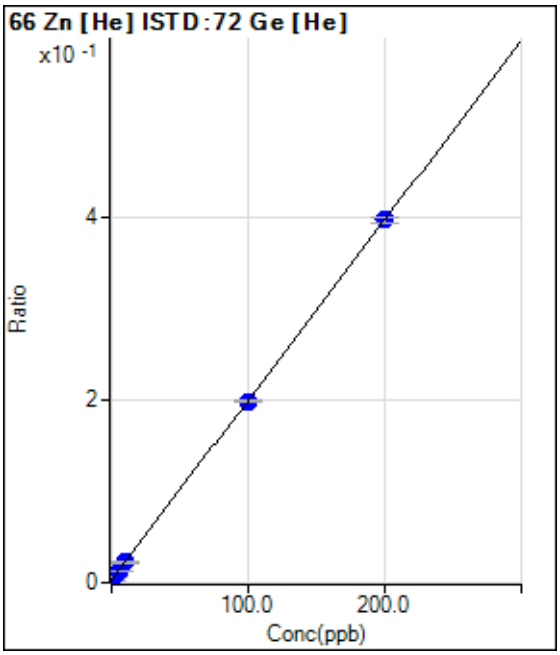


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3880.63	0.0022	P	3.5
2	☐	2.000	2.042	9707.00	0.0053	P	1.6
3	☐	5.000	4.964	17768.66	0.0099	P	1.2
4	☐	10.000	9.827	31573.64	0.0175	P	5.4
5	☐	100.000	97.699	276845.36	0.1549	P	0.4
6	☐	200.000	201.160	535850.30	0.3167	P	0.9

y = 0.0016 * x + 0.0022
R = 0.9999
DL = 0.1464
BEC = 1.377

Weight: <None>
Min Conc: <None>

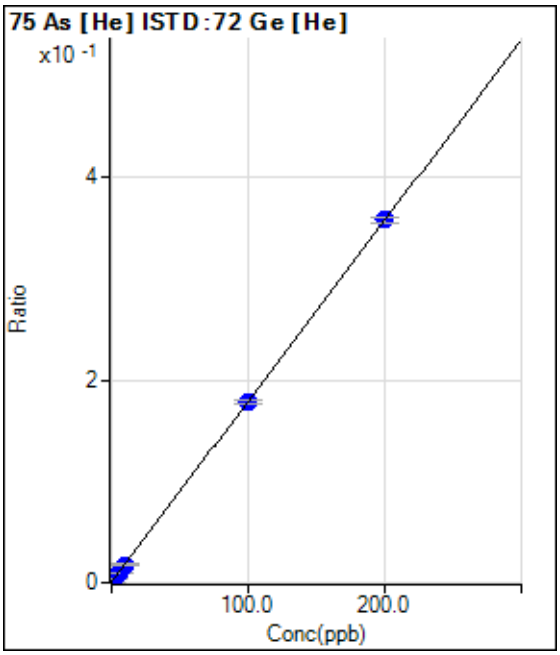
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1323.42	0.0030	P	9.7
2	☐	2.000	2.015	3053.74	0.0069	P	7.1
3	☐	5.000	5.114	5614.59	0.0130	P	2.3
4	☐	10.000	9.931	9800.39	0.0225	P	4.1
5	☐	100.000	99.510	85616.12	0.1991	P	1.9
6	☐	200.000	200.245	164871.80	0.3976	P	1.6

y = 0.0020 * x + 0.0030
R = 1.0000
DL = 0.4393
BEC = 1.504

Weight: <None>
Min Conc: <None>

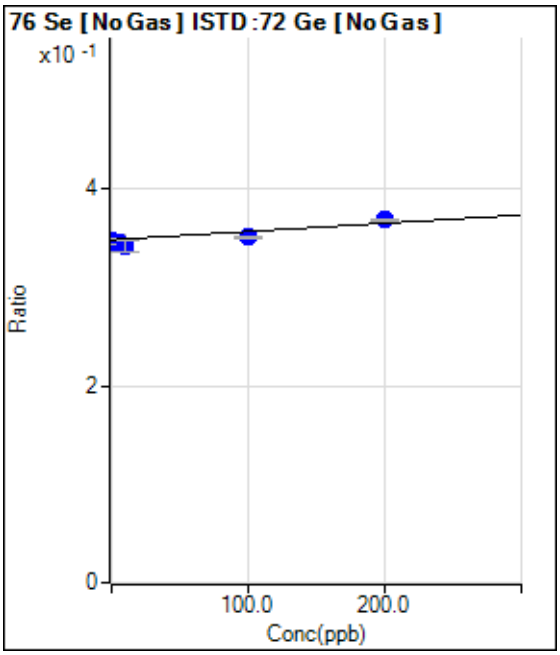


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	321.12	0.0007	P	12.1
2	☐	2.000	1.963	1859.03	0.0042	P	2.2
3	☐	5.000	5.094	4221.79	0.0098	P	2.9
4	☐	10.000	9.567	7734.48	0.0178	P	3.4
5	☐	100.000	99.193	76411.53	0.1777	P	2.3
6	☐	200.000	200.423	148541.54	0.3583	P	1.3

y = 0.0018 * x + 7.1979E-004
R = 1.0000
DL = 0.146
BEC = 0.4035

Weight: <None>
Min Conc: <None>

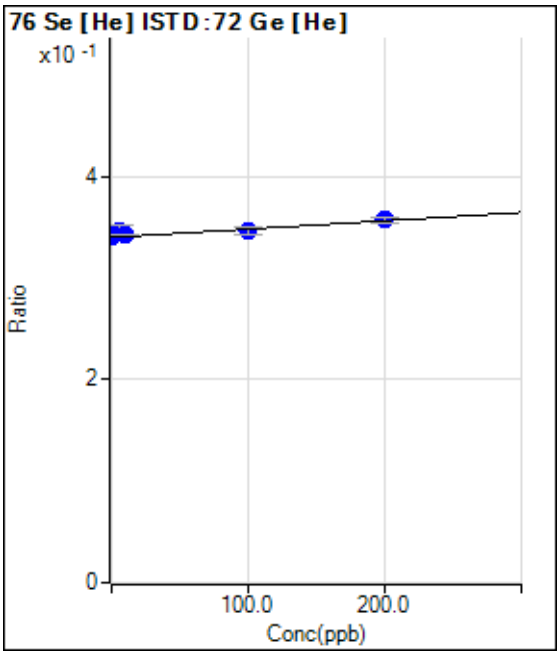
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	627758.42	0.3483	P	2.7
2	☐	2.000	-38.026	626605.83	0.3451	P	0.4
3	☐	5.000	-23.102	620707.27	0.3464	P	1.7
4	☐	10.000	-72.570	616939.63	0.3422	P	3.2
5	☐	100.000	32.161	627324.13	0.3510	P	0.8
6	☐	200.000	239.151	623487.09	0.3685	P	0.5

y = 8.4261E-005 * x + 0.3483
R = 0.9397
DL = 340.5
BEC = 4134

Weight: <None>
Min Conc: <None>

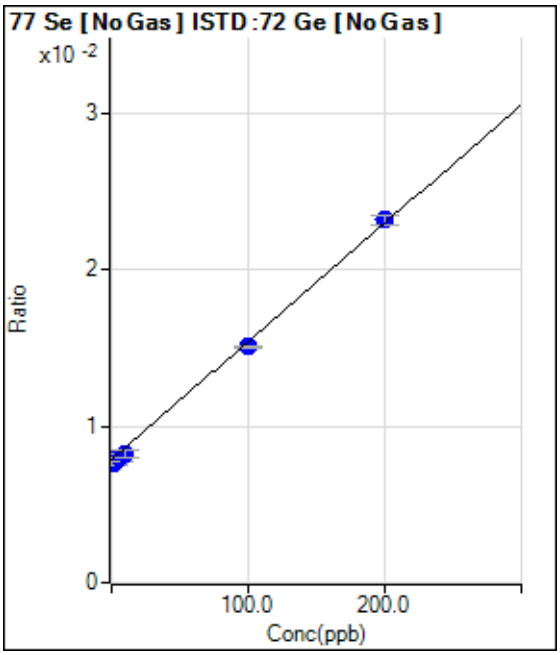


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	151800.22	0.3401	P	0.9
2	☐	2.000	31.760	150960.29	0.3427	P	0.8
3	☐	5.000	74.349	149026.86	0.3462	P	3.3
4	☐	10.000	23.496	148726.48	0.3420	P	0.2
5	☐	100.000	74.961	148911.54	0.3463	P	2.2
6	☐	200.000	209.813	148162.95	0.3573	P	1.5

y = 8.2118E-005 * x + 0.3401
R = 0.9218
DL = 112.8
BEC = 4142

Weight: <None>
Min Conc: <None>

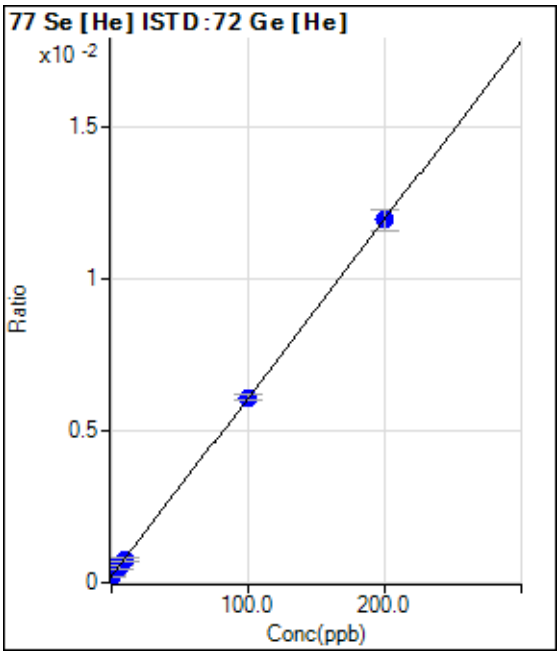
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	14164.36	0.0079	P	7.9
2	☐	2.000	-4.244	13703.82	0.0075	P	2.6
3	☐	5.000	1.727	14334.59	0.0080	P	5.2
4	☐	10.000	4.283	14758.39	0.0082	P	6.5
5	☐	100.000	95.615	26953.95	0.0151	P	0.9
6	☐	200.000	202.622	39177.04	0.0232	P	2.6

y = 7.5447E-005 * x + 0.0079
R = 0.9995
DL = 24.87
BEC = 104.3

Weight: <None>
Min Conc: <None>

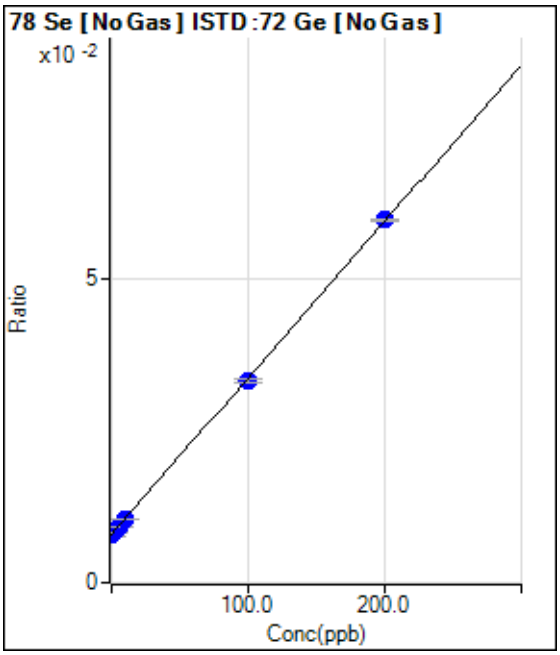


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	93.33	0.0002	P	35.3
2	☐	2.000	5.218	226.67	0.0005	P	30.1
3	☐	5.000	5.142	220.00	0.0005	P	24.1
4	☐	10.000	9.754	340.01	0.0008	P	15.1
5	☐	100.000	100.404	2623.64	0.0061	P	3.7
6	☐	200.000	199.774	4947.69	0.0119	P	5.7

y = 5.8660E-005 * x + 2.0947E-004
R = 0.9999
DL = 3.778
BEC = 3.571

Weight: <None>
Min Conc: <None>

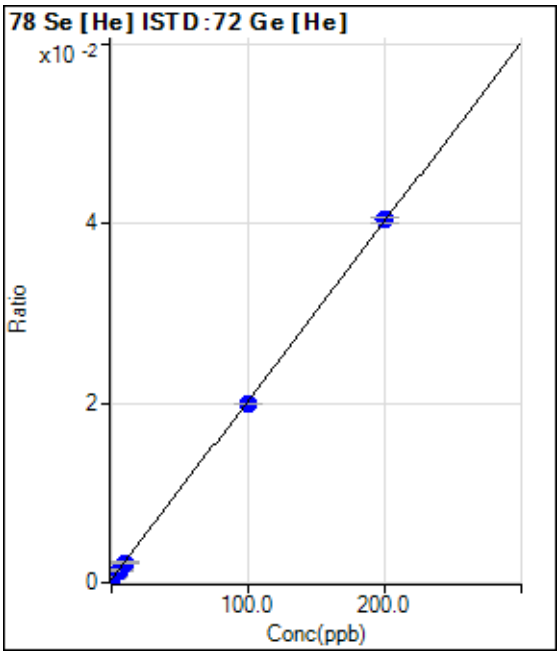
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	14381.26	0.0080	P	7.0
2	☐	2.000	1.489	15195.43	0.0084	P	5.2
3	☐	5.000	4.693	16473.61	0.0092	P	0.1
4	☐	10.000	9.145	18646.45	0.0103	P	0.4
5	☐	100.000	98.213	59387.66	0.0332	P	1.7
6	☐	200.000	200.949	100919.66	0.0596	P	0.7

y = 2.5705E-004 * x + 0.0080
R = 0.9999
DL = 6.491
BEC = 31.07

Weight: <None>
Min Conc: <None>

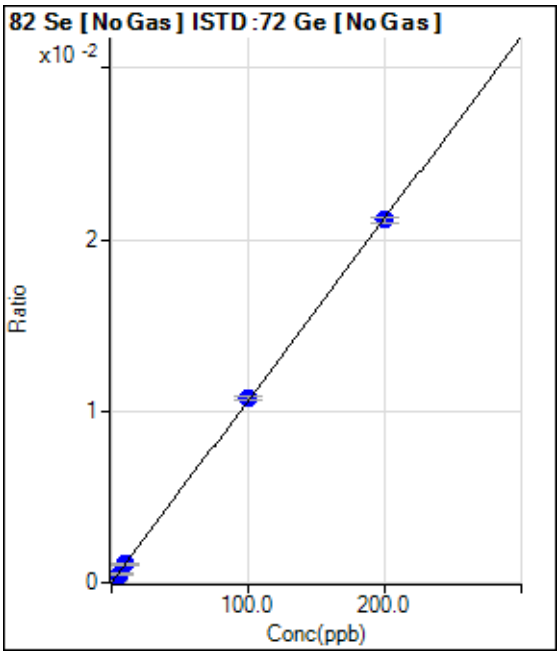


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	164.67	0.0004	P	5.7
2	☐	2.000	2.000	338.01	0.0008	P	8.8
3	☐	5.000	5.064	593.35	0.0014	P	2.7
4	☐	10.000	9.364	972.04	0.0022	P	1.5
5	☐	100.000	98.207	8580.08	0.0199	P	0.4
6	☐	200.000	200.927	16761.75	0.0404	P	1.8

y = 1.9935E-004 * x + 3.6886E-004
R = 0.9999
DL = 0.319
BEC = 1.85

Weight: <None>
Min Conc: <None>

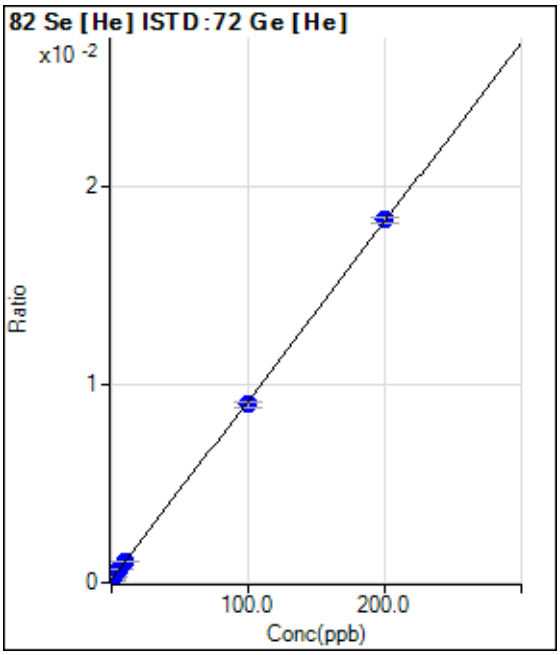
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	14.00	0.0000	P	215.9
2	☐	2.000	1.558	313.78	0.0002	P	40.5
3	☐	5.000	4.487	867.10	0.0005	P	14.8
4	☐	10.000	10.150	1953.71	0.0011	P	9.2
5	☐	100.000	101.505	19262.14	0.0108	P	2.1
6	☐	200.000	199.257	35789.39	0.0212	P	1.7

y = 1.0612E-004 * x + 7.7111E-006
R = 1.0000
DL = 0.4707
BEC = 0.07266

Weight: <None>
Min Conc: <None>

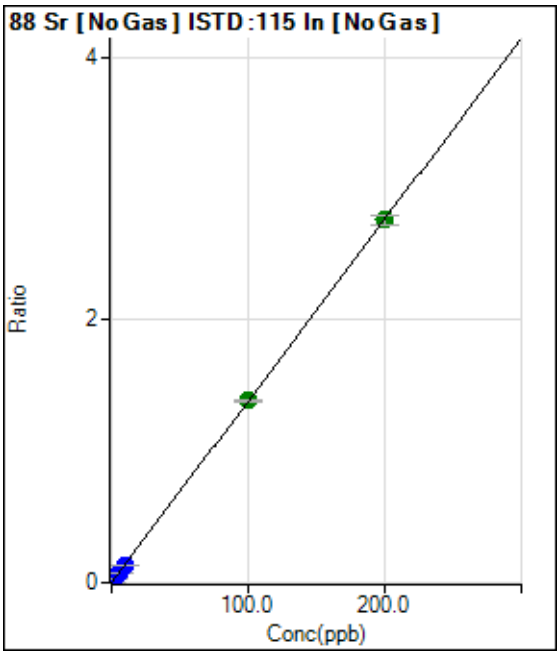


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	66.67	0.0001	P	18.1
2	☐	2.000	1.447	123.33	0.0003	P	26.4
3	☐	5.000	5.803	290.01	0.0007	P	12.1
4	☐	10.000	10.316	470.02	0.0011	P	3.5
5	☐	100.000	97.840	3863.96	0.0090	P	3.4
6	☐	200.000	201.050	7588.94	0.0183	P	1.3

y = 9.0291E-005 * x + 1.4950E-004
R = 0.9999
DL = 0.9006
BEC = 1.656

Weight: <None>
Min Conc: <None>

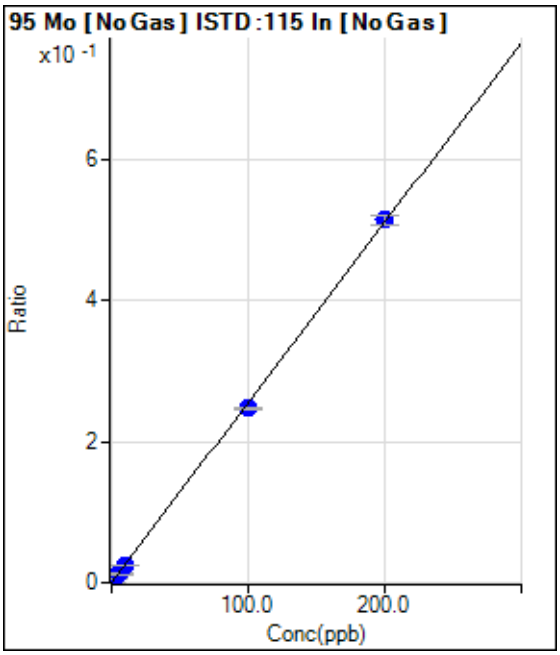
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2223.56	0.0011	P	7.7
2	☐	2.000	1.938	56254.85	0.0279	P	0.1
3	☐	5.000	4.814	134681.99	0.0675	P	0.8
4	☐	10.000	9.560	265384.35	0.1330	P	0.6
5	☐	100.000	100.202	2704315.79	1.3835	A	1.4
6	☐	200.000	199.926	5176610.86	2.7593	A	2.8

y = 0.0138 * x + 0.0011
R = 1.0000
DL = 0.01878
BEC = 0.08153

Weight: <None>
Min Conc: <None>

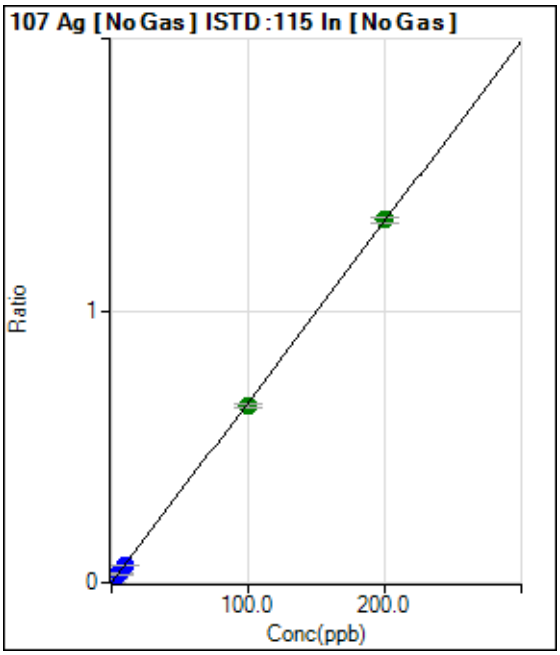


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	840.04	0.0004	P	12.3
2	☐	2.000	1.883	10551.02	0.0052	P	3.1
3	☐	5.000	4.721	24846.78	0.0125	P	3.3
4	☐	10.000	9.381	48578.59	0.0243	P	1.3
5	☐	100.000	96.985	484213.81	0.2478	P	0.9
6	☐	200.000	201.547	965057.54	0.5144	P	2.7

y = 0.0026 * x + 4.2516E-004
R = 0.9998
DL = 0.06171
BEC = 0.1667

Weight: <None>
Min Conc: <None>

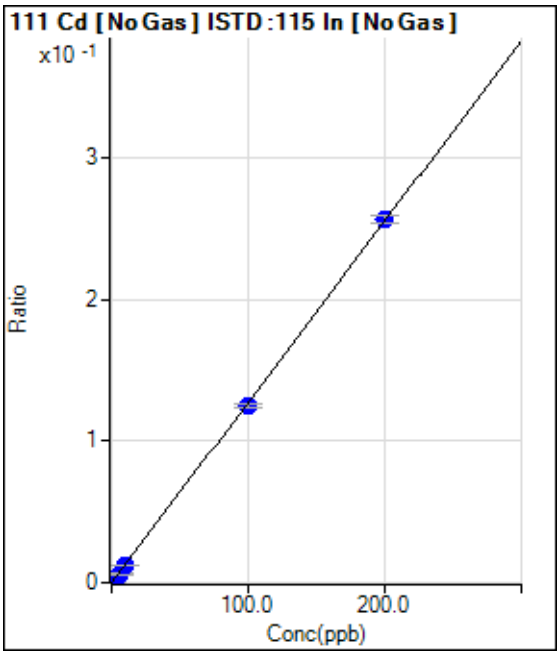
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	150.00	0.0001	P	21.8
2	☐	2.000	1.911	25785.28	0.0128	P	3.0
3	☐	5.000	4.794	63626.14	0.0319	P	2.0
4	☐	10.000	9.417	124945.84	0.0626	P	0.4
5	☐	100.000	98.258	1275499.33	0.6527	A	2.3
6	☐	200.000	200.906	2504039.08	1.3345	A	1.9

y = 0.0066 * x + 7.5708E-005
R = 0.9999
DL = 0.007448
BEC = 0.0114

Weight: <None>
Min Conc: <None>

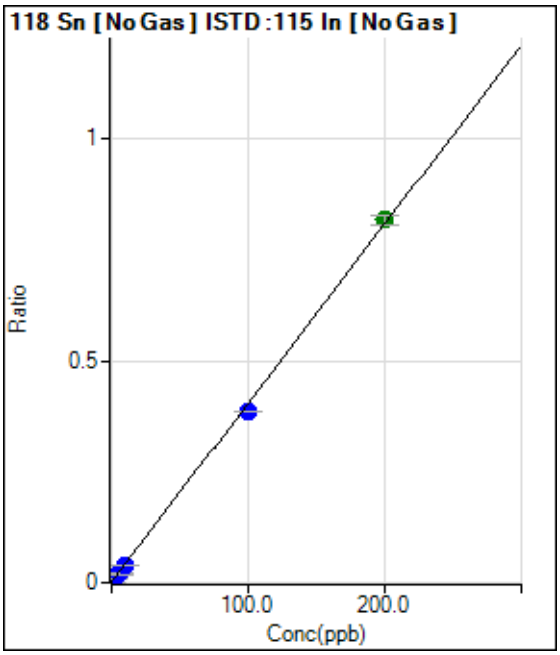


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	-4.06	0.0000	P	-144.7
2	☐	2.000	1.958	5041.34	0.0025	P	6.5
3	☐	5.000	4.758	12106.40	0.0061	P	5.4
4	☐	10.000	9.548	24319.78	0.0122	P	2.1
5	☐	100.000	98.113	244850.22	0.1253	P	1.5
6	☐	200.000	200.973	481511.53	0.2566	P	2.3

y = 0.0013 * x - 2.1026E-006
R = 0.9999
DL = 0.007145
BEC = -0.001647

Weight: <None>
Min Conc: <None>

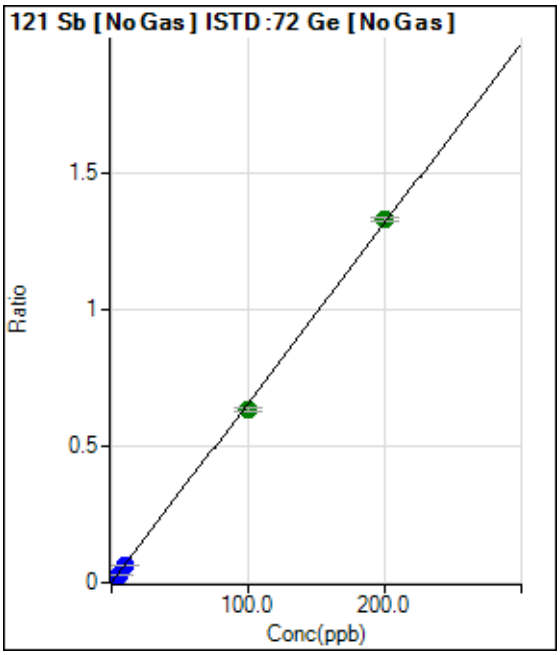
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2633.66	0.0013	P	10.1
2	☐	2.000	1.689	16457.18	0.0082	P	2.1
3	☐	5.000	4.586	39549.74	0.0198	P	3.5
4	☐	10.000	9.103	75959.38	0.0381	P	1.6
5	☐	100.000	95.271	754084.65	0.3858	P	0.6
6	☐	200.000	202.423	1535319.72	0.8183	A	2.3

y = 0.0040 * x + 0.0013
R = 0.9996
DL = 0.09988
BEC = 0.3308

Weight: <None>
Min Conc: <None>

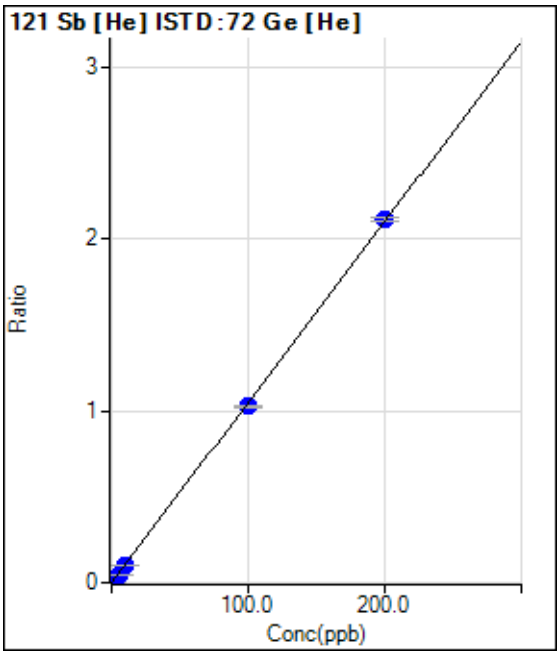


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	310.01	0.0002	P	4.0
2	☐	2.000	1.872	22689.94	0.0125	P	0.6
3	☐	5.000	4.646	55115.84	0.0308	P	1.0
4	☐	10.000	9.259	110226.78	0.0611	P	2.1
5	☐	100.000	96.367	1134111.44	0.6346	A	1.6
6	☐	200.000	201.864	2249047.36	1.3292	A	1.0

y = 0.0066 * x + 1.7183E-004
R = 0.9998
DL = 0.003144
BEC = 0.0261

Weight: <None>
Min Conc: <None>

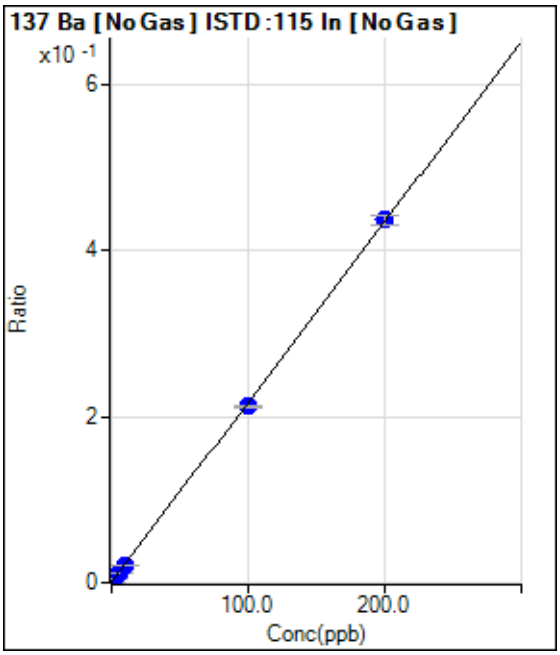
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	103.33	0.0002	P	38.6
2	☐	2.000	1.886	8813.14	0.0200	P	1.9
3	☐	5.000	4.696	21297.61	0.0495	P	0.8
4	☐	10.000	9.346	42709.97	0.0982	P	0.4
5	☐	100.000	97.687	440644.48	1.0245	P	1.2
6	☐	200.000	201.198	874784.47	2.1098	P	1.1

y = 0.0105 * x + 2.3127E-004
R = 0.9999
DL = 0.02557
BEC = 0.02206

Weight: <None>
Min Conc: <None>

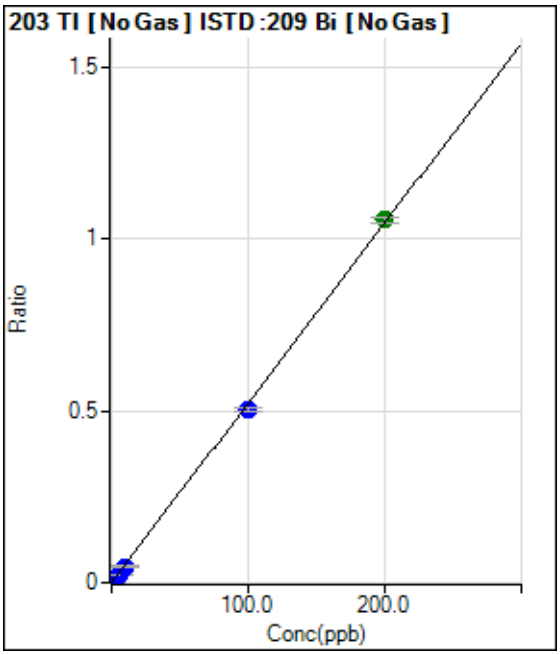


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1183.41	0.0006	P	5.9
2	☐	2.000	1.798	9089.98	0.0045	P	4.5
3	☐	5.000	4.850	22179.28	0.0111	P	2.2
4	☐	10.000	9.505	42352.55	0.0212	P	3.1
5	☐	100.000	97.638	415321.22	0.2125	P	1.5
6	☐	200.000	201.211	820440.77	0.4373	P	2.7

y = 0.0022 * x + 5.9830E-004
R = 0.9999
DL = 0.04891
BEC = 0.2757

Weight: <None>
Min Conc: <None>

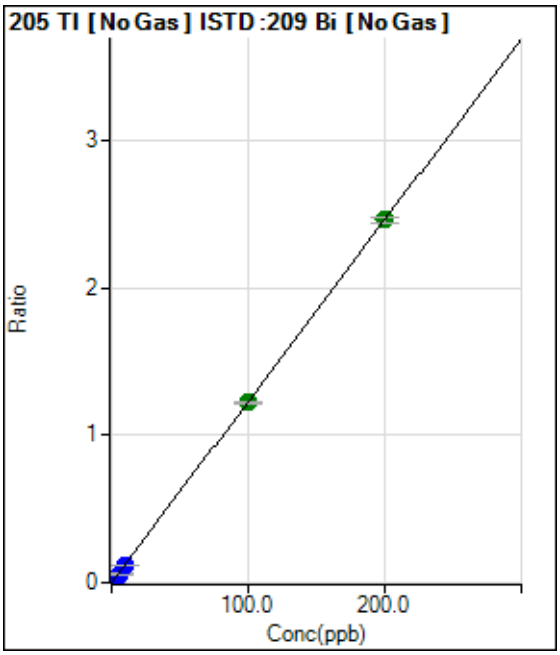
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	120.00	0.0001	P	26.3
2	☐	2.000	1.863	14939.16	0.0098	P	4.1
3	☐	5.000	4.639	36650.92	0.0243	P	2.0
4	☐	10.000	9.054	72339.36	0.0474	P	1.6
5	☐	100.000	96.322	762531.86	0.5030	P	1.4
6	☐	200.000	201.897	1556005.03	1.0542	A	1.4

y = 0.0052 * x + 8.0799E-005
R = 0.9998
DL = 0.0122
BEC = 0.01548

Weight: <None>
Min Conc: <None>

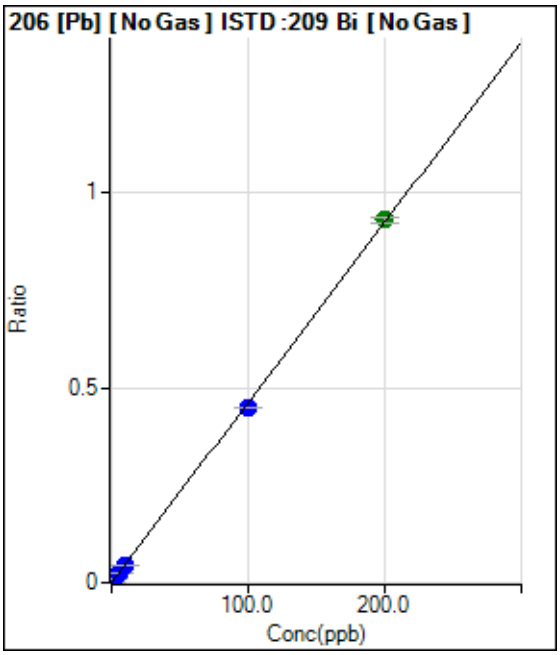


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	220.01	0.0001	P	21.6
2	☐	2.000	1.889	35557.73	0.0233	P	2.0
3	☐	5.000	4.742	88009.40	0.0584	P	2.4
4	☐	10.000	9.256	173842.59	0.1138	P	1.0
5	☐	100.000	99.634	1854452.52	1.2233	A	1.2
6	☐	200.000	200.228	3628319.22	2.4582	A	1.4

y = 0.0123 * x + 1.4801E-004
R = 1.0000
DL = 0.007826
BEC = 0.01206

Weight: <None>
Min Conc: <None>

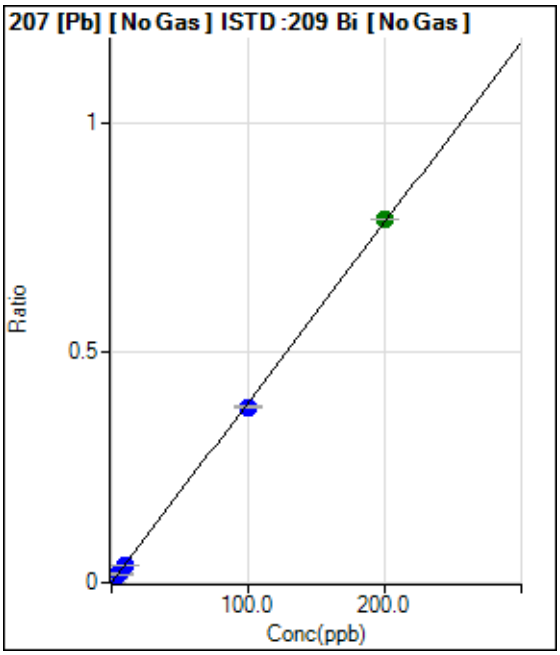
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	240.01	0.0002	P	25.5
2	☐	2.000	2.007	14368.52	0.0094	P	7.1
3	☐	5.000	4.827	33896.37	0.0225	P	2.2
4	☐	10.000	9.565	67770.90	0.0444	P	3.2
5	☐	100.000	97.041	680285.49	0.4487	P	0.7
6	☐	200.000	201.505	1375261.28	0.9316	A	1.3

y = 0.0046 * x + 1.6133E-004
R = 0.9998
DL = 0.02668
BEC = 0.0349

Weight: <None>
Min Conc: <None>

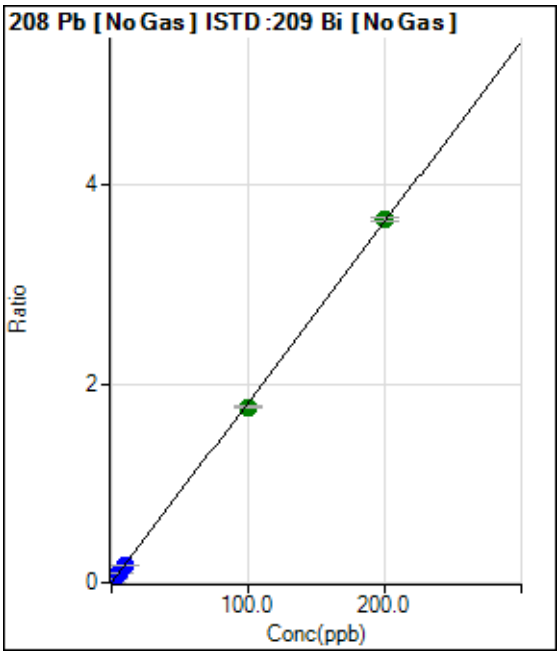


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	206.67	0.0001	P	31.3
2	☐	2.000	2.001	12136.11	0.0080	P	5.2
3	☐	5.000	4.771	28365.86	0.0188	P	1.4
4	☐	10.000	9.583	57502.73	0.0376	P	1.1
5	☐	100.000	97.280	577227.53	0.3808	P	1.2
6	☐	200.000	201.386	1163437.14	0.7881	A	0.1

y = 0.0039 * x + 1.3957E-004
R = 0.9999
DL = 0.03353
BEC = 0.03567

Weight: <None>
Min Conc: <None>

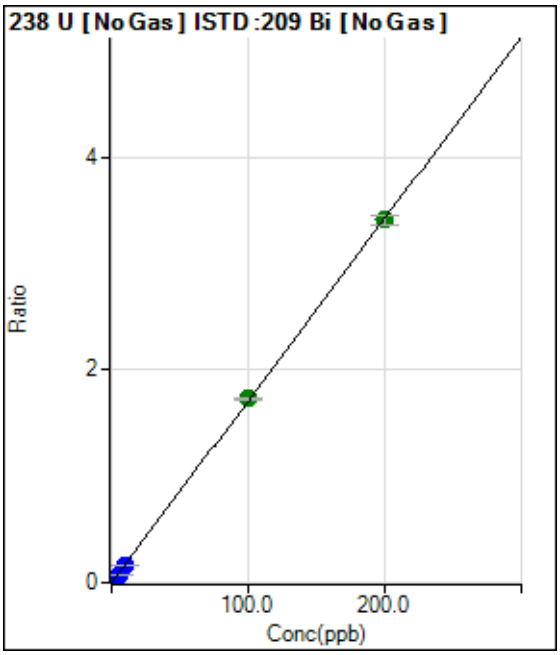
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	910.03	0.0006	P	6.2
2	☐	2.000	1.977	55578.95	0.0365	P	3.7
3	☐	5.000	4.836	133240.82	0.0884	P	2.8
4	☐	10.000	9.527	264997.96	0.1735	P	1.5
5	☐	100.000	97.502	2682787.11	1.7697	A	0.7
6	☐	200.000	201.277	5391440.67	3.6526	A	0.9

y = 0.0181 * x + 6.1218E-004
R = 0.9999
DL = 0.006285
BEC = 0.03374

Weight: <None>
Min Conc: <None>

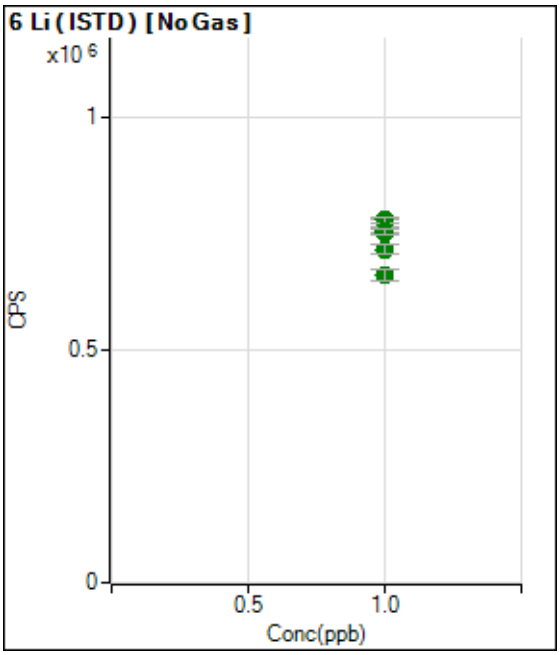


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	36.67	0.0000	P	57.2
2	☐	2.000	1.878	48924.83	0.0321	P	4.8
3	☐	5.000	4.635	119459.43	0.0792	P	2.3
4	☐	10.000	9.304	242830.49	0.1590	P	3.1
5	☐	100.000	101.122	2619003.03	1.7278	A	1.2
6	☐	200.000	199.484	5030382.11	3.4083	A	2.6

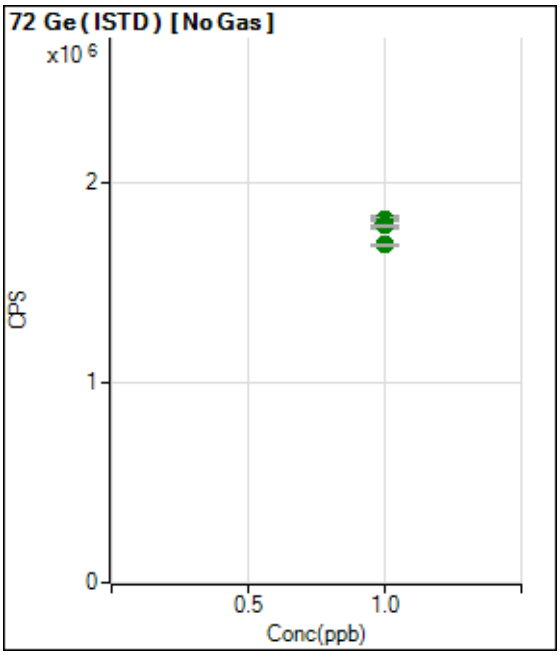
y = 0.0171 * x + 2.4731E-005
R = 1.0000
DL = 0.002483
BEC = 0.001447

Weight: <None>
Min Conc: <None>

Calibration for 017_ICV.d

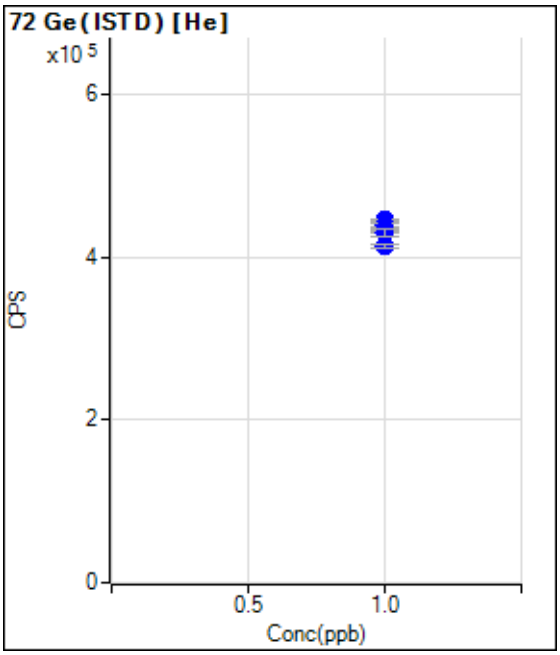


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		766868.18		A	3.6
2	☐	1.000		780090.54		A	1.2
3	☐	1.000		755990.26		A	2.2
4	☐	1.000		754422.94		A	1.5
5	☐	1.000		715928.39		A	3.0
6	☐	1.000		661739.95		A	3.2

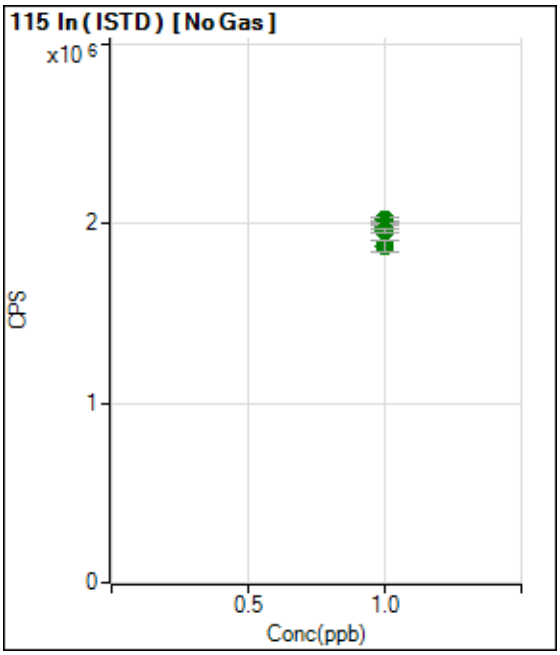


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1803283.83		A	3.4
2	☐	1.000		1815572.42		A	0.6
3	☐	1.000		1791964.14		A	0.1
4	☐	1.000		1803911.54		A	3.0
5	☐	1.000		1787040.60		A	0.4
6	☐	1.000		1692064.98		A	0.7

Calibration for 017_ICV.d

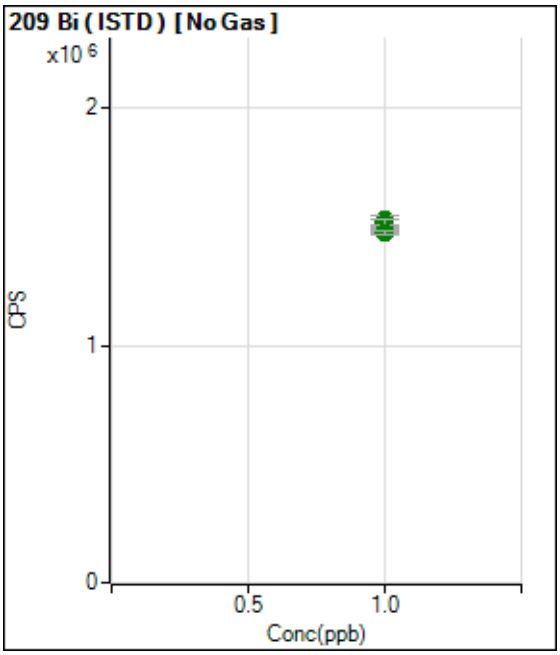


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		446345.60		P	0.8
2	☐	1.000		440475.54		P	0.9
3	☐	1.000		430488.82		P	0.4
4	☐	1.000		434823.83		P	0.4
5	☐	1.000		430188.70		P	2.2
6	☐	1.000		414669.90		P	1.1



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1975978.41		A	2.9
2	☐	1.000		2019187.75		A	1.3
3	☐	1.000		1994152.78		A	2.2
4	☐	1.000		1995148.16		A	0.8
5	☐	1.000		1954570.02		A	1.1
6	☐	1.000		1877226.12		A	3.4

Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1487949.93		A	2.4
2	☐	1.000		1524630.50		A	3.2
3	☐	1.000		1508689.82		A	2.7
4	☐	1.000		1528081.38		A	2.7
5	☐	1.000		1516057.74		A	1.7
6	☐	1.000		1476164.98		A	1.2

Sample Report

Sample Table

Sample Name	LLICV2
Data File Name	019LCV2.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\071723B.b
Acq Date Time	2023-07-17T19:54:35-05:00
Sample Type	LLCCV2
Dilution	1
Comment	
ISTD Ref FileName	009CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	1.990	1.990	0.60	72447	0.00	2	
Be	9	1	No Gas	1.858	1.858	2.11	6863	0.03	2	
V	51	2	He	1.368	1.368	1.82	12638	0.01	2	NewName Main CR1 Failed
Cr	52	2	He	2.213	2.213	10.24	31229	0.01	2	
Fe	56	2	He	204.450	204.450	1.03	912625	0.02	200	
Se	78	2	He	1.720	1.720	17.21	330	0.52	2	
As	75	2	He	1.769	1.769	5.46	1797	0.10	2	
Ca	44	2	He	185.156	185.156	3.49	8700	2.13	200	
Na	23	2	He	195.471	195.471	1.61	242015	0.08	200	
Mg	24	2	He	210.995	210.995	2.21	120289	0.18	200	
K	39	2	He	166.611	166.611	3.18	368730	0.05	200	
Mn	55	2	He	1.891	1.891	2.37	9167	0.02	2	
Co	59	2	He	1.901	1.901	4.96	12873	0.01	2	
Ni	60	2	He	1.985	1.985	5.18	3441	0.06	2	
Cu	63	2	He	2.047	2.047	4.89	9767	0.02	2	
Zn	66	2	He	1.812	1.812	7.00	3030	0.06	2	
Al	27	2	He	2.760	2.760	22.38	3297	0.08	2	NewName Main CR1 Failed
B	11	1	No Gas	13.292	13.292	2.81	42955	0.03	10	NewName Main CR1 Failed
Al	27	1	No Gas	2.841	2.841	7.56	96898	0.00	2	NewName Main CR1 Failed
Si	28	1	No Gas	-0.901	-0.901	-41.81	535772	0.00	10	NewName Main CR1 Failed
Ag	107	1	No Gas	1.948	1.948	4.61	27890	0.01	2	
Cd	111	1	No Gas	1.978	1.978	4.16	5407	0.04	2	
Sr	88	1	No Gas	1.891	1.891	1.04	58334	0.00	2	
Mo	95	1	No Gas	1.850	1.850	4.33	11021	0.02	2	
Sn	118	1	No Gas	1.737	1.737	1.68	17886	0.01	2	
Sb	121	1	No Gas	2.025	2.025	1.51	25849	0.01	2	
Ba	137	1	No Gas	1.789	1.789	0.78	9604	0.02	2	
Tl	205	1	No Gas	1.879	1.879	2.46	39011	0.00	2	
Tl	203	1	No Gas	1.882	1.882	2.98	16648	0.01	2	
Pb	208	1	No Gas	1.941	1.941	2.58	60224	0.00	2	
U	238	1	No Gas	1.876	1.876	2.71	53919	0.00	2	
Ca	43	2	He	188.978	188.978	8.56	557	33.95	200	
Sb	121	2	He	2.020	2.020	2.67	9931	0.02	2	
Ti	47	2	He	2.180	2.180	12.31	457	0.48	200	
Cu	63	1	No Gas	2.038	2.038	2.73	26426	0.01	2	
Se	82	1	No Gas	1.707	1.707	31.87	361	0.47	2	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	745644	0.73	766868	97.23	70	120	
Ge	72	2	He	463776	1.14	446346	103.91	70	120	
Ge	72	1	No Gas	1914350	1.04	1803284	106.16	70	120	
In	115	1	No Gas	2143431	0.91	1975978	108.47	70	120	
Bi	209	1	No Gas	1681256	1.61	1487950	112.99	70	120	

Sample Report

Sample Table

Sample Name	LLICV5
Data File Name	020LCV5.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\071723B.b
Acq Date Time	2023-07-17T19:56:42-05:00
Sample Type	LLCCV5
Dilution	1
Comment	
ISTD Ref FileName	009CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	4.731	4.731	3.86	106650	0.00	5	
Be	9	1	No Gas	4.582	4.582	2.63	17169	0.03	5	
V	51	2	He	4.147	4.147	1.12	25630	0.02	5	
Cr	52	2	He	4.809	4.809	4.55	44219	0.01	5	
Fe	56	2	He	500.142	500.142	2.52	2206258	0.02	500	
Se	78	2	He	4.586	4.586	5.67	600	0.76	5	
As	75	2	He	4.726	4.726	2.80	4278	0.11	5	
Ca	44	2	He	473.338	473.338	3.76	20476	2.31	500	
Na	23	2	He	513.318	513.318	0.22	534021	0.10	500	
Mg	24	2	He	523.019	523.019	0.92	298277	0.18	500	
K	39	2	He	464.606	464.606	1.07	625198	0.07	500	
Mn	55	2	He	4.795	4.795	2.37	21414	0.02	5	
Co	59	2	He	4.713	4.713	0.89	31974	0.01	5	
Ni	60	2	He	4.668	4.668	1.91	7672	0.06	5	
Cu	63	2	He	5.021	5.021	2.49	21464	0.02	5	
Zn	66	2	He	4.733	4.733	4.17	5748	0.08	5	
Al	27	2	He	4.343	4.343	9.20	4064	0.11	5	
B	11	1	No Gas	24.773	24.773	5.31	66459	0.04	25	
Al	27	1	No Gas	4.395	4.395	5.35	117281	0.00	5	
Si	28	1	No Gas	16.964	16.964	17.85	656510	0.00	25	NewName2 Main CR1 Failed
Ag	107	1	No Gas	4.749	4.749	2.45	67623	0.01	5	
Cd	111	1	No Gas	4.661	4.661	4.07	12722	0.04	5	
Sr	88	1	No Gas	4.758	4.758	2.81	142773	0.00	5	
Mo	95	1	No Gas	4.662	4.662	2.79	26333	0.02	5	
Sn	118	1	No Gas	4.621	4.621	2.19	42736	0.01	5	
Sb	121	1	No Gas	4.859	4.859	3.49	60858	0.01	5	
Ba	137	1	No Gas	4.681	4.681	1.61	23007	0.02	5	
Tl	205	1	No Gas	4.672	4.672	0.84	97110	0.00	5	
Tl	203	1	No Gas	4.584	4.584	0.81	40553	0.01	5	
Pb	208	1	No Gas	4.783	4.783	0.92	147556	0.00	5	
U	238	1	No Gas	4.657	4.657	0.71	134387	0.00	5	
Ca	43	2	He	497.032	497.032	3.04	1317	37.75	500	
Sb	121	2	He	4.832	4.832	4.69	23802	0.02	5	
Ti	47	2	He	4.802	4.802	17.91	997	0.48	5	
Cu	63	1	No Gas	4.952	4.952	2.13	55641	0.01	5	
Se	82	1	No Gas	5.477	5.477	5.22	1115	0.49	5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	757645	2.30	766868	98.80	70	120	
Ge	72	2	He	467632	0.53	446346	104.77	70	120	
Ge	72	1	No Gas	1893311	2.89	1803284	104.99	70	120	
In	115	1	No Gas	2138941	0.88	1975978	108.25	70	120	
Bi	209	1	No Gas	1688620	0.76	1487950	113.49	70	120	

Initial Calibration Blank (ICB) Report

Sample Table

Sample Name	ICB
Data File Name	021_ICB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\071723B.b
Acq Date Time	2023-07-17T19:58:52-05:00
Sample Type	ICB
Dilution	1
Comment	
ISTD Ref File Name	009CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	-0.069	-93.5	49411	1.1	0.5	
Be	9	1	No Gas	0.005	49.5	35	28.6	0.5	
V	51	2	He	-0.503	-4.4	4083	2.5	2.5	
Cr	52	2	He	0.357	43.2	22482	3.5	2.5	
Fe	56	2	He	-2.291	-4.6	21083	2.2	100	
Se	78	2	He	-0.062	-171.4	167	6.0	1	
As	75	2	He	-0.057	-56.8	290	9.2	2.5	
Ca	44	2	He	-9.360	-26.5	877	11.5	100	
Na	23	2	He	-16.556	-4.8	50803	1.2	100	
Mg	24	2	He	-1.336	-17.6	890	15.1	100	
K	39	2	He	-41.463	-3.3	195647	0.4	100	
Mn	55	2	He	-0.122	-5.5	807	3.6	2.5	
Co	59	2	He	-0.008	-40.1	87	26.6	2.5	
Ni	60	2	He	0.067	125.6	463	28.7	2.5	
Cu	63	2	He	-0.200	-3.8	1083	2.7	1	
Zn	66	2	He	-0.114	-141.1	1287	11.7	2.5	
Al	27	2	He	-2.482	-8.6	870	11.7	5	
B	11	1	No Gas	0.917	33.1	19272	3.6	0.5	ICB Main CR1 Failed
Al	27	1	No Gas	-2.252	-1.5	25985	2.7	5	
Si	28	1	No Gas	-13.119	-13.1	451677	0.3	10	
Ag	107	1	No Gas	0.001	182.5	183	22.0	2.5	
Cd	111	1	No Gas	0.000	958.2	-4	-156.9	1	
Sr	88	1	No Gas	-0.044	-5.6	1123	5.1	2.5	
Mo	95	1	No Gas	-0.065	-21.3	557	15.0	2.5	
Sn	118	1	No Gas	-0.157	-16.0	1503	13.0	5	
Sb	121	1	No Gas	0.035	18.1	783	12.8	2.5	
Ba	137	1	No Gas	-0.203	-11.6	340	33.1	2.5	
Tl	205	1	No Gas	0.029	22.2	857	17.7	1	
Tl	203	1	No Gas	0.031	37.4	413	26.8	1	
Pb	208	1	No Gas	-0.007	-40.2	837	9.7	2.5	
U	238	1	No Gas	0.001	92.8	80	45.1	2.5	
Ca	43	2	He	-23.636	-61.9	40	90.1	100	
Sb	121	2	He	0.040	15.7	307	10.0	2.5	
Ti	47	2	He	0.013	577.6	17	91.7	2.5	
Se	82	1	No Gas	0.144	103.3	44	69.4	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	767554	0.46	766868	100.09	70	120	
Ge	72	2	He	469412	0.21	446346	105.17	70	120	
Ge	72	1	No Gas	1931329	2.99	1803284	107.10	70	120	
In	115	1	No Gas	2142902	1.39	1975978	108.45	70	120	
Bi	209	1	No Gas	1698595	1.90	1487950	114.16	70	120	

Interference Check Solution A (ICS-A) Report

Sample Table

Sample Name	ICSA
Data File Name	023ICSA.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\071723B.b
Acq Date Time	2023-07-17T20:05:49-05:00
Sample Type	ICSA
Dilution	1
Comment	
ISTD Ref File Name	009CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	-0.155	-131.0	46060	0.3	0	ICSA Main CR1 Failed
Be	9	1	No Gas	0.003	11.2	25	0.0	0	ICSA Main CR1 Failed
V	51	2	He	-0.193	-18.6	5169	2.1	0	ICSA Main CR1 Failed
Cr	52	2	He	1.608	11.0	26787	1.7	0	ICSA Main CR1 Failed
Fe	56	2	He	97335.079	1.8	397539914	0.9	0	
Se	78	2	He	0.204	89.8	180	10.2	0	ICSA Main CR1 Failed
As	75	2	He	0.281	35.3	536	12.9	0	ICSA Main CR1 Failed
Ca	44	2	He	91116.220	2.0	3475718	0.4	0	
Na	23	2	He	94805.630	1.8	81277150	1.4	0	
Mg	24	2	He	94145.088	1.9	50135964	1.3	0	
K	39	2	He	96011.428	2.5	76857939	0.8	0	
Mn	55	2	He	1.280	4.7	6272	2.4	0	ICSA Main CR1 Failed
Co	59	2	He	0.667	7.6	4364	5.7	0	ICSA Main CR1 Failed
Ni	60	2	He	1.066	8.1	1904	5.8	0	ICSA Main CR1 Failed
Cu	63	2	He	0.436	10.0	3344	6.0	0	ICSA Main CR1 Failed
Zn	66	2	He	2.084	9.4	3104	3.8	0	ICSA Main CR1 Failed
Al	27	2	He	90233.087	1.9	39691999	0.3	0	
B	11	1	No Gas	0.982	47.9	18479	1.4	0	ICSA Main CR1 Failed
Al	27	1	No Gas	87249.494	2.4	1145956383	1.0	0	
Si	28	1	No Gas	14.739	8.5	609341	1.2	0	ICSA Main CR1 Failed
Ag	107	1	No Gas	0.141	5.4	1994	4.8	0	ICSA Main CR1 Failed
Cd	111	1	No Gas	0.282	23.6	708	23.7	0	ICSA Main CR1 Failed
Sr	88	1	No Gas	4.294	2.2	119232	2.3	0	ICSA Main CR1 Failed
Mo	95	1	No Gas	1931.554	1.0	9730983	1.3	0	
Sn	118	1	No Gas	-0.065	-22.1	2117	5.1	0	ICSA Main CR1 Failed
Sb	121	1	No Gas	0.252	9.2	3287	6.7	0	ICSA Main CR1 Failed
Ba	137	1	No Gas	0.513	1.3	3380	0.5	0	ICSA Main CR1 Failed
Tl	205	1	No Gas	0.012	26.8	443	15.4	0	ICSA Main CR1 Failed
Tl	203	1	No Gas	0.004	165.0	157	37.4	0	ICSA Main CR1 Failed
Pb	208	1	No Gas	0.163	3.7	5371	2.4	0	ICSA Main CR1 Failed
U	238	1	No Gas	0.007	32.2	227	25.1	0	ICSA Main CR1 Failed
Ca	43	2	He	93015.709	2.0	214318	1.8	0	
Sb	121	2	He	0.236	8.7	1187	8.5	0	ICSA Main CR1 Failed
Ti	47	2	He	2006.580	1.2	385773	1.4	0	
Se	82	1	No Gas	0.223	185.9	57	139.2	0	ICSA Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	732175	4.74	766868	95.48	70	120	
Ge	72	2	He	439162	1.74	446346	98.39	70	120	
Ge	72	1	No Gas	1799861	2.14	1803284	99.81	70	120	
In	115	1	No Gas	1975338	0.39	1975978	99.97	70	120	
Bi	209	1	No Gas	1502714	2.16	1487950	100.99	70	120	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB
Data File Name	024ICSB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\071723B.b
Acq Date Time	2023-07-17T20:07:50-05:00
Sample Type	ICSB
Dilution	1
Comment	
ISTD Ref File Name	009CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	No Gas	95.970	5.612	1064621	2.23	100	96.0	180	120	ICSB Main CR1 Failed
Be	9	1	No Gas	94.508	3.337	312223	0.63	100	94.5	80	120	
V	51	2	He	96.591	1.014	422920	0.19	100	96.6	80	120	
Cr	52	2	He	97.672	1.151	464942	0.28	100	97.7	80	120	
Fe	56	2	He	104970.801	0.752	425087714	0.15	100	104970.8	80	120	ICSB Main CR1 Failed
Se	78	2	He	99.549	0.742	8800	0.45	100	99.5	80	120	
As	75	2	He	99.248	1.682	77389	1.05	100	99.2	80	120	
Ca	44	2	He	98269.462	1.480	3716712	0.65	100	98269.5	80	120	ICSB Main CR1 Failed
Na	23	2	He	102796.790	1.595	87370205	1.24	100	102796.8	80	120	ICSB Main CR1 Failed
Mg	24	2	He	101892.668	1.146	53799439	0.34	100	101892.7	80	120	ICSB Main CR1 Failed
K	39	2	He	102740.378	0.773	81541970	0.84	100	102740.4	80	120	ICSB Main CR1 Failed
Mn	55	2	He	97.711	0.938	382515	0.34	100	97.7	80	120	
Co	59	2	He	93.224	0.911	586371	1.38	100	93.2	80	120	
Ni	60	2	He	95.038	1.239	139000	0.70	100	95.0	80	120	
Cu	63	2	He	94.513	1.196	345236	0.61	100	94.5	80	120	
Zn	66	2	He	97.994	0.150	85371	0.95	100	98.0	80	120	
Al	27	2	He	89364.512	0.814	38977797	0.48	100	89364.5	80	120	ICSB Main CR1 Failed
B	11	1	No Gas	481.440	4.070	860241	1.07	100	481.4	80	120	
Al	27	1	No Gas	86435.426	2.366	1116591583	1.10	100	86435.4	80	120	ICSB Main CR1 Failed
Si	28	1	No Gas	499.535	0.835	3821470	0.77	100	499.5	80	120	
Ag	107	1	No Gas	95.708	1.502	1257658	2.72	100	95.7	80	120	
Cd	111	1	No Gas	96.216	2.344	242967	0.88	100	96.2	80	120	
Sr	88	1	No Gas	101.618	1.338	2775187	1.77	100	101.6	80	120	
Mo	95	1	No Gas	2029.235	1.729	10235888	1.57	100	2029.2	80	120	
Sn	118	1	No Gas	94.634	2.310	757903	0.73	100	94.6	80	120	
Sb	121	1	No Gas	99.332	0.888	1157780	0.57	100	99.3	80	120	
Ba	137	1	No Gas	97.865	2.838	421182	0.17	100	97.9	80	120	
Tl	205	1	No Gas	99.543	1.767	1814822	0.77	100	99.5	80	120	
Tl	203	1	No Gas	95.141	2.709	737747	2.27	100	95.1	80	120	
Pb	208	1	No Gas	97.853	2.196	2637641	2.49	100	97.9	80	120	
U	238	1	No Gas	103.472	1.837	2625605	2.39	100	103.5	80	120	
Ca	43	2	He	100217.276	0.786	228932	0.38	100	100217.3	80	120	ICSB Main CR1 Failed
Sb	121	2	He	96.853	1.203	442194	0.42	100	96.9	80	120	
Ti	47	2	He	2086.740	0.421	397747	0.46	100	2086.7	80	120	
Cu	63	1	No Gas	95.173	0.682	906465	0.70	100	95.2	80	120	
Se	82	1	No Gas	100.709	3.996	18925	2.96	100	100.7	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	668830	3.57	766868	87.22	70	120	
Ge	72	2	He	435375	0.86	446346	97.54	70	120	
Ge	72	1	No Gas	1770071	1.38	1803284	98.16	70	120	
In	115	1	No Gas	1978460	2.93	1975978	100.13	70	120	
Bi	209	1	No Gas	1485133	1.38	1487950	99.81	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	083_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\071723B.b
Acq Date Time	2023-07-17T22:09:49-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	009CALB.d
n	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	No Gas	97.806	3.209	1184789	1.30	100	97.8	90	110	
Be	9	1	No Gas	93.704	2.660	338167	0.75	100	93.7	90	110	
V	51	2	He	96.576	0.828	441069	0.60	100	96.6	90	110	
Cr	52	2	He	97.996	1.592	486481	0.40	100	98.0	90	110	
Fe	56	2	He	9740.396	0.821	41170886	0.96	10000	97.4	90	110	
Se	78	2	He	99.858	1.027	9207	1.05	100	99.9	90	110	
As	75	2	He	98.157	1.435	79837	0.51	100	98.2	90	110	
Ca	44	2	He	9778.551	1.236	386861	0.23	10000	97.8	90	110	
Na	23	2	He	9449.811	0.555	8435834	0.96	10000	94.5	90	110	
Mg	24	2	He	9427.903	0.653	5193993	1.02	10000	94.3	90	110	
K	39	2	He	9685.231	1.199	8219958	0.74	10000	96.9	90	110	
Mn	55	2	He	99.302	1.014	405457	0.32	100	99.3	90	110	
Co	59	2	He	93.170	0.557	611262	1.26	100	93.2	90	110	
Ni	60	2	He	97.319	1.757	148455	1.52	100	97.3	90	110	
Cu	63	2	He	99.298	0.695	378251	0.67	100	99.3	90	110	
Zn	66	2	He	96.799	0.712	87974	0.76	100	96.8	90	110	
Al	27	2	He	96.699	1.515	45960	0.94	100	96.7	90	110	
B	11	1	No Gas	525.422	3.299	1024129	1.43	500	105.1	90	110	
Al	27	1	No Gas	98.569	1.966	1377004	2.04	100	98.6	90	110	
Si	28	1	No Gas	488.184	0.819	3888929	0.50	5000	9.8	90	110	CCV Main CR1-2 Failed
Ag	107	1	No Gas	96.789	1.453	1320677	1.28	100	96.8	90	110	
Cd	111	1	No Gas	97.842	0.386	256641	0.30	100	97.8	90	110	
Sr	88	1	No Gas	99.005	1.752	2807903	1.14	100	99.0	90	110	
Mo	95	1	No Gas	95.726	2.177	502290	1.56	100	95.7	90	110	
Sn	118	1	No Gas	94.608	1.012	787024	0.53	100	94.6	90	110	
Sb	121	1	No Gas	97.561	2.692	1180587	2.81	100	97.6	90	110	
Ba	137	1	No Gas	98.014	0.357	438212	0.58	100	98.0	90	110	
Tl	205	1	No Gas	102.858	0.726	1988680	1.61	100	102.9	90	110	
Tl	203	1	No Gas	100.414	0.260	825672	0.67	100	100.4	90	110	
Pb	208	1	No Gas	97.988	0.570	2800488	0.50	100	98.0	90	110	
U	238	1	No Gas	101.118	2.130	2720176	1.36	100	101.1	90	110	
Ca	43	2	He	9630.013	1.052	23033	1.69	10000	96.3	90	110	
Sb	121	2	He	98.005	0.612	466735	0.77	100	98.0	90	110	
Ti	47	2	He	97.166	1.651	19331	1.59	100	97.2	90	110	
Cu	63	1	No Gas	100.693	0.508	995345	1.01	100	100.7	90	110	
Se	82	1	No Gas	99.517	0.544	19419	0.29	100	99.5	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	730303	1.94	766868	95.23	70	120	
Ge	72	2	He	454132	1.33	446346	101.74	70	120	
Ge	72	1	No Gas	1837539	0.81	1803284	101.90	70	120	
In	115	1	No Gas	2054204	0.61	1975978	103.96	70	120	
Bi	209	1	No Gas	1574666	0.92	1487950	105.83	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	084_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\071723B.b
Acq Date Time	2023-07-17T22:12:05-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	009CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	1.234	10.6	65746	0.6	0.5	CCB Main CR1 Failed
Be	9	1	No Gas	0.008	81.2	47	53.9	0.5	
V	51	2	He	-0.201	-10.8	5478	2.3	2.5	
Cr	52	2	He	0.264	45.5	21978	2.5	2.5	
Fe	56	2	He	-0.701	-35.9	27966	3.2	100	
Se	78	2	He	0.070	81.1	179	2.6	2	
As	75	2	He	0.018	290.5	352	12.4	2.5	
Ca	44	2	He	-11.204	-28.4	800	16.4	100	
Na	23	2	He	53.949	4.5	115124	1.3	100	
Mg	24	2	He	1.736	11.3	2634	4.3	100	
K	39	2	He	-50.884	-6.8	187212	1.1	100	
Mn	55	2	He	-0.132	-14.6	763	11.0	2.5	
Co	59	2	He	-0.001	-477.0	137	23.5	2.5	
Ni	60	2	He	-0.045	-24.0	287	5.3	2.5	
Cu	63	2	He	1.333	7.2	7072	4.8	2	
Zn	66	2	He	-0.453	-10.0	970	3.6	2.5	
Al	27	2	He	-2.457	-7.3	880	10.2	5	
B	11	1	No Gas	66.369	2.0	152211	0.5	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	-2.364	-4.3	24118	3.6	5	
Si	28	1	No Gas	-5.453	-24.7	501709	0.5	10	
Ag	107	1	No Gas	-0.002	-116.4	133	22.9	2.5	
Cd	111	1	No Gas	0.008	100.6	16	128.0	1	
Sr	88	1	No Gas	0.050	19.4	3821	9.0	2.5	
Mo	95	1	No Gas	-0.061	-8.9	570	7.0	2.5	
Sn	118	1	No Gas	-0.089	-16.6	2060	6.7	5	
Sb	121	1	No Gas	0.151	25.0	2214	19.1	2.5	
Ba	137	1	No Gas	-0.153	-11.6	563	14.8	2.5	
Tl	205	1	No Gas	0.281	27.9	5888	27.6	1	
Tl	203	1	No Gas	0.274	34.0	2474	32.6	1	
Pb	208	1	No Gas	-0.008	-31.3	750	9.6	2.5	
U	238	1	No Gas	0.015	27.7	470	25.8	2.5	
Ca	43	2	He	-24.987	-49.4	37	83.3	100	
Sb	121	2	He	0.113	35.1	663	28.5	2.5	
Ti	47	2	He	-0.003	-3249.3	13	173.2	2.5	
Cu	63	1	No Gas	1.828	15.0	24182	9.4	2.5	
Se	82	1	No Gas	0.060	495.0	27	219.1	2	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	772693	2.21	766868	100.76	70	120	
Ge	72	2	He	468450	0.73	446346	104.95	70	120	
Ge	72	1	No Gas	1909740	2.17	1803284	105.90	70	120	
In	115	1	No Gas	2109066	2.51	1975978	106.74	70	120	
Bi	209	1	No Gas	1635800	1.23	1487950	109.94	70	120	

Sample Report

Sample Table

Sample Name	LCS-197656
Data File Name	086SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\071723B.b
Acq Date Time	2023-07-17T22:16:04-05:00
Sample Type	Sample
Dilution	1
Comment	TW DOD B 197656
ISTD Ref FileName	009CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	1.150	1.150	9.41	66829	0.00	2000	
Be	9	1	No Gas	43.775	43.775	1.55	172623	0.03	2000	
V	51	2	He	43.268	43.268	1.62	220073	0.02	2000	
Cr	52	2	He	43.486	43.486	1.33	248549	0.02	2000	
Fe	56	2	He	4521.425	4521.425	2.75	20936918	0.02	200000	
Se	78	2	He	45.121	45.121	3.83	4654	0.97	2000	
As	75	2	He	44.567	44.567	1.85	39879	0.11	2000	
Ca	44	2	He	4519.650	4519.650	1.23	196465	2.30	200000	
Na	23	2	He	4500.669	4500.669	1.34	4434670	0.10	200000	
Mg	24	2	He	4495.795	4495.795	2.22	2712094	0.17	200000	
K	39	2	He	4548.909	4548.909	1.94	4356030	0.10	200000	
Mn	55	2	He	44.876	44.876	1.73	201351	0.02	2000	
Co	59	2	He	42.700	42.700	1.32	306737	0.01	2000	
Ni	60	2	He	44.065	44.065	2.51	73790	0.06	2000	
Cu	63	2	He	45.923	45.923	0.86	192562	0.02	2000	
Zn	66	2	He	44.797	44.797	0.21	45363	0.10	2000	
Al	27	2	He	91.031	91.031	1.53	47491	0.19	2000	
B	11	1	No Gas	457.099	457.099	0.37	976030	0.05	2000	
Al	27	1	No Gas	92.058	92.058	0.25	1402951	0.01	2000	
Si	28	1	No Gas	499.454	499.454	1.53	4314669	0.01	2000	
Ag	107	1	No Gas	43.671	43.671	2.11	645913	0.01	2000	
Cd	111	1	No Gas	45.374	45.374	1.28	128999	0.04	2000	
Sr	88	1	No Gas	0.016	0.016	20.04	2987	0.00	2000	
Mo	95	1	No Gas	43.532	43.532	2.24	248093	0.02	2000	
Sn	118	1	No Gas	-0.225	-0.225	-6.73	953	-0.02	2000	
Sb	121	1	No Gas	44.535	44.535	1.59	586342	0.01	2000	
Ba	137	1	No Gas	44.065	44.065	0.64	214290	0.02	2000	
Tl	205	1	No Gas	37.729	37.729	1.50	791578	0.00	2000	
Tl	203	1	No Gas	37.287	37.287	1.20	332763	0.01	2000	
Pb	208	1	No Gas	43.789	43.789	1.09	1358506	0.00	2000	
U	238	1	No Gas	0.002	0.002	24.50	103	0.00	2000	
Ca	43	2	He	4395.630	4395.630	3.61	11565	38.01	200000	
Sb	121	2	He	45.181	45.181	1.43	235603	0.02	2000	
Ti	47	2	He	46.370	46.370	1.61	10107	0.46	2000	
Cu	63	1	No Gas	46.742	46.742	1.43	505673	0.01	2000	
Zn	66	1	No Gas	45.655	45.655	0.53	146996	0.03	2000	
Se	82	1	No Gas	45.870	45.870	2.12	9745	0.47	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	797803	1.61	766868	104.03	70	120	
Ge	72	2	He	497131	0.67	446346	111.38	70	120	
Ge	72	1	No Gas	1998891	1.26	1803284	110.85	70	120	
In	115	1	No Gas	2226769	1.56	1975978	112.69	70	120	

Sample Report

Bi	209	1	No Gas	1708659	1.15	1487950	114.83	70	120	

Sample Report

Sample Table

Sample Name	HS23070447-01
Data File Name	087SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\071723B.b
Acq Date Time	2023-07-17T22:18:11-05:00
Sample Type	Sample
Dilution	1
Comment	TW DOD B 197656
ISTD Ref FileName	009CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	83.173	83.173	2.83	1049648	0.01	2000	
Be	9	1	No Gas	0.067	0.067	3.38	263	0.03	2000	
V	51	2	He	2.129	2.129	5.49	16648	0.01	2000	
Cr	52	2	He	6.888	6.888	4.76	55680	0.01	2000	
Fe	56	2	He	1442.775	1442.775	0.87	6453523	0.02	200000	
Se	78	2	He	0.407	0.407	14.19	215	0.19	2000	
As	75	2	He	1.248	1.248	2.83	1410	0.09	2000	
Ca	44	2	He	112997.246	112997.246	1.09	4697652	2.41	200000	
Na	23	2	He	505274.380	505274.380	0.91	471804993	0.11	200000	>LDR
Mg	24	2	He	85733.335	85733.335	0.14	49760973	0.17	200000	
K	39	2	He	1547.009	1547.009	1.26	1581707	0.10	200000	
Mn	55	2	He	506.035	506.035	0.64	2171924	0.02	2000	
Co	59	2	He	3.960	3.960	2.70	27518	0.01	2000	
Ni	60	2	He	10.167	10.167	2.60	16674	0.06	2000	
Cu	63	2	He	5.801	5.801	1.22	25077	0.02	2000	
Zn	66	2	He	37.336	37.336	0.98	36630	0.10	2000	
Al	27	2	He	67.706	67.706	4.24	34540	0.20	2000	
B	11	1	No Gas	99.752	99.752	2.22	215031	0.05	2000	
Al	27	1	No Gas	79.950	79.950	44.99	1183640	0.01	2000	
Si	28	1	No Gas	14121.212	14121.212	1.05	102849315	0.01	2000	>LDR
Ag	107	1	No Gas	0.007	0.007	49.14	247	0.00	2000	
Cd	111	1	No Gas	0.170	0.170	5.83	444	0.04	2000	
Sr	88	1	No Gas	2264.962	2264.962	1.14	64416099	0.00	2000	>LDR
Mo	95	1	No Gas	1.730	1.730	1.67	9971	0.02	2000	
Sn	118	1	No Gas	-0.173	-0.173	-3.55	1313	-0.01	2000	
Sb	121	1	No Gas	0.536	0.536	7.30	7139	0.01	2000	
Ba	137	1	No Gas	224.819	224.819	1.50	1007074	0.02	2000	
Tl	205	1	No Gas	0.577	0.577	23.87	10478	0.01	2000	
Tl	203	1	No Gas	0.565	0.565	16.12	4398	0.01	2000	
Pb	208	1	No Gas	0.238	0.238	3.22	7148	0.00	2000	
U	238	1	No Gas	5.203	5.203	1.30	129091	0.00	2000	
Ca	43	2	He	117601.074	117601.074	0.38	295282	39.83	200000	
Sb	121	2	He	0.523	0.523	11.22	2734	0.02	2000	
Ti	47	2	He	3.607	3.607	3.14	770	0.47	2000	
Cu	63	1	No Gas	10.136	10.136	1.93	110217	0.01	2000	
Zn	66	1	No Gas	36.169	36.169	0.97	113270	0.03	2000	
Se	82	1	No Gas	9.437	9.437	9.72	1948	0.48	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	755412	1.98	766868	98.51	70	120	
Ge	72	2	He	478560	0.75	446346	107.22	70	120	
Ge	72	1	No Gas	1929433	1.50	1803284	107.00	70	120	
In	115	1	No Gas	2061596	1.57	1975978	104.33	70	120	
Bi	209	1	No Gas	1451670	0.96	1487950	97.56	70	120	

Sample Report

Sample Table

Sample Name	HS23070447-01SD
Data File Name	088SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\071723B.b
Acq Date Time	2023-07-17T22:20:11-05:00
Sample Type	Sample
Dilution	5
Comment	TW DOD B 197656
ISTD Ref FileName	009CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	21.219	106.095	0.36	326855	0.01	2000	
Be	9	1	No Gas	0.017	0.084	11.94	83	0.02	2000	
V	51	2	He	1.044	5.220	3.05	11786	0.01	2000	
Cr	52	2	He	2.324	11.620	2.30	33591	0.01	2000	
Fe	56	2	He	384.800	1924.002	2.21	1787072	0.02	200000	
Se	78	2	He	-0.022	-0.111	-538.07	179	-0.01	2000	
As	75	2	He	0.466	2.328	10.53	760	0.06	2000	
Ca	44	2	He	28899.552	144497.760	1.17	1231931	2.35	200000	
Na	23	2	He	123940.229	619701.145	0.53	118620788	0.10	200000	
Mg	24	2	He	21287.513	106437.565	0.26	12659746	0.17	200000	
K	39	2	He	344.159	1720.794	0.28	548110	0.06	200000	
Mn	55	2	He	129.407	647.033	0.94	570053	0.02	2000	
Co	59	2	He	1.039	5.193	3.66	7506	0.01	2000	
Ni	60	2	He	2.808	14.040	2.15	4988	0.06	2000	
Cu	63	2	He	1.830	9.148	2.66	9437	0.02	2000	
Zn	66	2	He	9.419	47.096	1.00	10554	0.09	2000	
Al	27	2	He	17.770	88.849	10.59	10852	0.16	2000	
B	11	1	No Gas	65.960	329.799	0.72	158794	0.04	2000	
Al	27	1	No Gas	16.023	80.115	7.78	295012	0.01	2000	
Si	28	1	No Gas	3555.159	17775.793	2.66	27368534	0.01	2000	>LDR
Ag	107	1	No Gas	0.002	0.012	157.10	197	0.00	2000	
Cd	111	1	No Gas	0.053	0.263	30.60	141	0.04	2000	
Sr	88	1	No Gas	567.801	2839.005	2.39	16921978	0.00	2000	
Mo	95	1	No Gas	0.422	2.108	3.01	3240	0.01	2000	
Sn	118	1	No Gas	-0.185	-0.923	-7.31	1273	-0.01	2000	
Sb	121	1	No Gas	0.130	0.649	4.35	2060	0.01	2000	
Ba	137	1	No Gas	57.278	286.389	2.07	269811	0.02	2000	
Tl	205	1	No Gas	0.092	0.459	15.79	2014	0.00	2000	
Tl	203	1	No Gas	0.079	0.393	12.60	777	0.01	2000	
Pb	208	1	No Gas	0.047	0.237	6.13	2323	0.00	2000	
U	238	1	No Gas	1.251	6.256	1.17	33807	0.00	2000	
Ca	43	2	He	28860.577	144302.887	1.36	74324	38.83	200000	
Sb	121	2	He	0.158	0.788	8.25	923	0.02	2000	
Ti	47	2	He	1.067	5.335	32.80	243	0.44	2000	
Cu	63	1	No Gas	3.153	15.767	5.62	39692	0.01	2000	
Zn	66	1	No Gas	9.961	49.804	2.47	35594	0.03	2000	
Se	82	1	No Gas	2.266	11.328	4.44	498	0.45	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	810327	0.59	766868	105.67	70	120	
Ge	72	2	He	490287	0.67	446346	109.84	70	120	
Ge	72	1	No Gas	2008283	2.32	1803284	111.37	70	120	
In	115	1	No Gas	2160465	1.59	1975978	109.34	70	120	
Bi	209	1	No Gas	1579577	0.61	1487950	106.16	70	120	

Sample Report

Sample Table

Sample Name	HS23070447-01MS
Data File Name	089SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\071723B.b
Acq Date Time	2023-07-17T22:22:09-05:00
Sample Type	Sample
Dilution	1
Comment	TW DOD B 197656
ISTD Ref FileName	009CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	82.440	82.440	2.94	1057867	0.01	2000	
Be	9	1	No Gas	42.757	42.757	1.38	162265	0.03	2000	
V	51	2	He	46.930	46.930	1.51	225617	0.02	2000	
Cr	52	2	He	50.808	50.808	1.10	271643	0.02	2000	
Fe	56	2	He	5917.200	5917.200	1.53	25952640	0.02	200000	
Se	78	2	He	43.311	43.311	1.24	4241	1.02	2000	
As	75	2	He	46.954	46.954	0.81	39793	0.12	2000	
Ca	44	2	He	117398.202	117398.202	1.50	4803611	2.44	200000	
Na	23	2	He	512304.552	512304.552	0.51	470822260	0.11	200000	>LDR
Mg	24	2	He	90247.907	90247.907	1.41	51554404	0.18	200000	
K	39	2	He	6027.815	6027.815	0.74	5393898	0.11	200000	
Mn	55	2	He	545.053	545.053	1.43	2302372	0.02	2000	
Co	59	2	He	44.961	44.961	0.76	306012	0.01	2000	
Ni	60	2	He	52.034	52.034	3.41	82489	0.06	2000	
Cu	63	2	He	47.610	47.610	0.93	189080	0.03	2000	
Zn	66	2	He	78.876	78.876	0.63	74611	0.11	2000	
Al	27	2	He	156.186	156.186	2.86	75744	0.21	2000	
B	11	1	No Gas	495.827	495.827	0.78	1017397	0.05	2000	
Al	27	1	No Gas	164.379	164.379	10.54	2354668	0.01	2000	
Si	28	1	No Gas	14911.848	14911.848	1.12	107806552	0.01	2000	>LDR
Ag	107	1	No Gas	41.713	41.713	1.44	559351	0.01	2000	
Cd	111	1	No Gas	43.763	43.763	1.22	112792	0.04	2000	
Sr	88	1	No Gas	2312.634	2312.634	1.48	64399786	0.00	2000	>LDR
Mo	95	1	No Gas	47.762	47.762	3.62	246667	0.02	2000	
Sn	118	1	No Gas	-0.202	-0.202	-3.78	1047	-0.02	2000	
Sb	121	1	No Gas	43.346	43.346	0.72	546979	0.01	2000	
Ba	137	1	No Gas	278.748	278.748	1.26	1222342	0.02	2000	
Tl	205	1	No Gas	38.816	38.816	1.26	681971	0.01	2000	
Tl	203	1	No Gas	38.453	38.453	1.56	287338	0.01	2000	
Pb	208	1	No Gas	44.338	44.338	1.73	1151749	0.00	2000	
U	238	1	No Gas	5.176	5.176	1.73	126556	0.00	2000	
Ca	43	2	He	122472.008	122472.008	1.56	302641	40.47	200000	
Sb	121	2	He	43.653	43.653	1.01	215686	0.02	2000	
Ti	47	2	He	49.902	49.902	2.81	10304	0.48	2000	
Cu	63	1	No Gas	52.761	52.761	1.34	546326	0.01	2000	
Zn	66	1	No Gas	78.633	78.633	1.32	239640	0.03	2000	
Se	82	1	No Gas	52.878	52.878	2.56	10766	0.49	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	767762	1.66	766868	100.12	70	120	
Ge	72	2	He	471018	0.75	446346	105.53	70	120	
Ge	72	1	No Gas	1915675	1.37	1803284	106.23	70	120	
In	115	1	No Gas	2018614	1.02	1975978	102.16	70	120	
Bi	209	1	No Gas	1430886	1.85	1487950	96.16	70	120	

Sample Report

Sample Table

Sample Name	HS23070447-01MSD
Data File Name	090SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\071723B.b
Acq Date Time	2023-07-17T22:24:20-05:00
Sample Type	Sample
Dilution	1
Comment	TW DOD B 197656
ISTD Ref FileName	009CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	85.028	85.028	1.96	1113868	0.01	2000	
Be	9	1	No Gas	42.867	42.867	0.53	166308	0.03	2000	
V	51	2	He	47.458	47.458	0.82	239985	0.02	2000	
Cr	52	2	He	50.706	50.706	0.75	285289	0.02	2000	
Fe	56	2	He	5919.301	5919.301	1.39	27314885	0.02	200000	
Se	78	2	He	44.356	44.356	2.23	4565	0.97	2000	
As	75	2	He	47.387	47.387	1.03	42247	0.11	2000	
Ca	44	2	He	118748.345	118748.345	1.84	5111800	2.32	200000	
Na	23	2	He	516605.658	516605.658	1.32	499518153	0.10	200000	>LDR
Mg	24	2	He	91622.663	91622.663	1.56	55064031	0.17	200000	
K	39	2	He	6047.153	6047.153	1.67	5692178	0.11	200000	
Mn	55	2	He	552.039	552.039	0.48	2453607	0.02	2000	
Co	59	2	He	45.336	45.336	0.93	324651	0.01	2000	
Ni	60	2	He	52.260	52.260	1.28	87171	0.06	2000	
Cu	63	2	He	47.604	47.604	1.03	198923	0.02	2000	
Zn	66	2	He	78.999	78.999	0.47	78627	0.10	2000	
Al	27	2	He	159.885	159.885	0.87	81527	0.20	2000	
B	11	1	No Gas	501.769	501.769	1.93	1052161	0.05	2000	
Al	27	1	No Gas	156.498	156.498	4.33	2308258	0.01	2000	
Si	28	1	No Gas	14916.669	14916.669	2.15	110888948	0.01	2000	>LDR
Ag	107	1	No Gas	41.242	41.242	1.29	573619	0.01	2000	
Cd	111	1	No Gas	43.684	43.684	1.81	116768	0.04	2000	
Sr	88	1	No Gas	2307.213	2307.213	0.95	66641884	0.00	2000	>LDR
Mo	95	1	No Gas	47.086	47.086	1.40	252264	0.02	2000	
Sn	118	1	No Gas	-0.210	-0.210	-6.28	1020	-0.02	2000	
Sb	121	1	No Gas	43.286	43.286	2.02	561685	0.01	2000	
Ba	137	1	No Gas	276.118	276.118	1.69	1255900	0.02	2000	
Tl	205	1	No Gas	39.894	39.894	2.08	720319	0.01	2000	
Tl	203	1	No Gas	39.613	39.613	2.08	304221	0.01	2000	
Pb	208	1	No Gas	44.864	44.864	1.62	1197854	0.00	2000	
U	238	1	No Gas	5.182	5.182	1.48	130225	0.00	2000	
Ca	43	2	He	124230.875	124230.875	1.58	322998	38.46	200000	
Sb	121	2	He	44.307	44.307	2.06	230320	0.02	2000	
Ti	47	2	He	49.359	49.359	4.09	10724	0.46	2000	
Cu	63	1	No Gas	52.617	52.617	1.62	560297	0.01	2000	
Zn	66	1	No Gas	78.203	78.203	2.05	245110	0.03	2000	
Se	82	1	No Gas	53.731	53.731	2.23	11246	0.48	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	784805	1.01	766868	102.34	70	120	
Ge	72	2	He	495612	1.75	446346	111.04	70	120	
Ge	72	1	No Gas	1970316	2.24	1803284	109.26	70	120	
In	115	1	No Gas	2093806	1.80	1975978	105.96	70	120	
Bi	209	1	No Gas	1470656	1.58	1487950	98.84	70	120	

Sample Report

Sample Table

Sample Name	HS23070447-01PDS
Data File Name	091SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\071723B.b
Acq Date Time	2023-07-17T22:26:17-05:00
Sample Type	Sample
Dilution	1
Comment	TW DOD B 197656
ISTD Ref FileName	009CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	83.875	83.875	3.65	1088086	0.01	2000	
Be	9	1	No Gas	85.362	85.362	1.31	327732	0.03	2000	
V	51	2	He	91.030	91.030	1.37	443193	0.02	2000	
Cr	52	2	He	93.408	93.408	1.68	494937	0.02	2000	
Fe	56	2	He	10371.901	10371.901	0.45	46691594	0.02	200000	
Se	78	2	He	88.701	88.701	3.16	8731	1.02	2000	
As	75	2	He	91.623	91.623	0.79	79402	0.12	2000	
Ca	44	2	He	122658.614	122658.614	1.03	5153869	2.38	200000	
Na	23	2	He	520894.987	520894.987	0.17	491582539	0.11	200000	>LDR
Mg	24	2	He	95528.849	95528.849	0.94	56038214	0.17	200000	
K	39	2	He	10632.795	10632.795	0.66	9588620	0.11	200000	
Mn	55	2	He	596.375	596.375	0.59	2586784	0.02	2000	
Co	59	2	He	85.975	85.975	1.40	600775	0.01	2000	
Ni	60	2	He	92.974	92.974	1.77	151084	0.06	2000	
Cu	63	2	He	88.980	88.980	0.77	361216	0.02	2000	
Zn	66	2	He	120.764	120.764	1.84	116544	0.10	2000	
Al	27	2	He	164.277	164.277	4.02	81701	0.20	2000	
B	11	1	No Gas	543.036	543.036	1.26	1125520	0.05	2000	
Al	27	1	No Gas	161.339	161.339	6.56	2320878	0.01	2000	
Si	28	1	No Gas	15221.115	15221.115	1.85	110305352	0.01	2000	>LDR
Ag	107	1	No Gas	90.502	90.502	3.91	1229086	0.01	2000	
Cd	111	1	No Gas	87.752	87.752	2.46	229155	0.04	2000	
Sr	88	1	No Gas	2337.635	2337.635	2.42	65952541	0.00	2000	>LDR
Mo	95	1	No Gas	93.854	93.854	3.00	490271	0.02	2000	
Sn	118	1	No Gas	-0.213	-0.213	-5.35	977	-0.02	2000	
Sb	121	1	No Gas	88.254	88.254	2.53	1116035	0.01	2000	
Ba	137	1	No Gas	324.909	324.909	1.07	1443625	0.02	2000	
Tl	205	1	No Gas	89.252	89.252	1.33	1586127	0.01	2000	
Tl	203	1	No Gas	85.217	85.217	1.42	643961	0.01	2000	
Pb	208	1	No Gas	89.644	89.644	1.75	2354950	0.00	2000	
U	238	1	No Gas	5.238	5.238	1.68	129551	0.00	2000	
Ca	43	2	He	128524.485	128524.485	1.24	326150	39.41	200000	
Sb	121	2	He	87.891	87.891	1.46	445824	0.02	2000	
Ti	47	2	He	95.539	95.539	3.96	20245	0.47	2000	
Cu	63	1	No Gas	95.515	95.515	1.27	987054	0.01	2000	
Zn	66	1	No Gas	121.301	121.301	2.73	368343	0.03	2000	
Se	82	1	No Gas	98.463	98.463	6.28	20070	0.49	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	776729	1.11	766868	101.29	70	120	
Ge	72	2	He	483665	0.18	446346	108.36	70	120	
Ge	72	1	No Gas	1920764	1.80	1803284	106.51	70	120	
In	115	1	No Gas	2045760	2.42	1975978	103.53	70	120	
Bi	209	1	No Gas	1447353	2.10	1487950	97.27	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	092_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\071723B.b
Acq Date Time	2023-07-17T22:28:13-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	009CALB.d
n	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	No Gas	94.373	2.175	1239058	1.89	100	94.4	90	110	
Be	9	1	No Gas	91.194	1.836	356139	0.51	100	91.2	90	110	
V	51	2	He	92.439	2.636	475040	0.24	100	92.4	90	110	
Cr	52	2	He	93.654	2.808	523849	0.84	100	93.7	90	110	
Fe	56	2	He	9292.760	2.940	44167298	0.36	10000	92.9	90	110	
Se	78	2	He	95.049	2.371	9865	1.42	100	95.0	90	110	
As	75	2	He	93.244	2.672	85304	0.05	100	93.2	90	110	
Ca	44	2	He	9406.690	2.241	418584	0.68	10000	94.1	90	110	
Na	23	2	He	9041.392	2.015	9080010	0.81	10000	90.4	90	110	
Mg	24	2	He	9014.513	1.814	5585406	1.21	10000	90.1	90	110	
K	39	2	He	9161.372	3.466	8756010	0.84	10000	91.6	90	110	
Mn	55	2	He	94.946	2.379	436033	0.78	100	94.9	90	110	
Co	59	2	He	89.760	3.127	662119	0.54	100	89.8	90	110	CCV Main CR1-2 Failed
Ni	60	2	He	93.767	2.926	160854	0.34	100	93.8	90	110	
Cu	63	2	He	94.860	2.639	406427	0.80	100	94.9	90	110	
Zn	66	2	He	91.608	2.845	93699	0.36	100	91.6	90	110	
Al	27	2	He	91.178	3.186	48856	0.77	100	91.2	90	110	
B	11	1	No Gas	487.659	1.250	1030177	2.26	500	97.5	90	110	
Al	27	1	No Gas	93.370	1.271	1439241	1.26	100	93.4	90	110	
Si	28	1	No Gas	468.272	4.058	4129415	2.30	5000	9.4	90	110	CCV Main CR1-2 Failed
Ag	107	1	No Gas	97.362	3.395	1426865	1.17	100	97.4	90	110	
Cd	111	1	No Gas	98.248	2.552	276822	0.63	100	98.2	90	110	
Sr	88	1	No Gas	98.218	3.374	2992066	1.42	100	98.2	90	110	
Mo	95	1	No Gas	97.207	2.202	547955	0.69	100	97.2	90	110	
Sn	118	1	No Gas	94.699	2.279	846308	1.34	100	94.7	90	110	
Sb	121	1	No Gas	96.313	2.335	1283166	2.46	100	96.3	90	110	
Ba	137	1	No Gas	98.066	1.730	471017	0.65	100	98.1	90	110	
Tl	205	1	No Gas	100.980	2.674	2113936	2.21	100	101.0	90	110	
Tl	203	1	No Gas	98.698	1.227	878806	0.70	100	98.7	90	110	
Pb	208	1	No Gas	96.318	2.319	2980601	1.25	100	96.3	90	110	
U	238	1	No Gas	99.167	2.514	2888641	1.17	100	99.2	90	110	
Ca	43	2	He	9214.502	4.235	24779	1.79	10000	92.1	90	110	
Sb	121	2	He	93.419	1.825	500362	1.11	100	93.4	90	110	
Ti	47	2	He	93.398	2.295	20896	0.46	100	93.4	90	110	
Cu	63	1	No Gas	96.250	3.234	1047393	0.93	100	96.3	90	110	
Se	82	1	No Gas	97.763	3.143	21001	2.59	100	97.8	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	790184	1.86	766868	103.04	70	120	
Ge	72	2	He	510881	2.75	446346	114.46	70	120	
Ge	72	1	No Gas	2023396	2.33	1803284	112.21	70	120	
In	115	1	No Gas	2207355	2.22	1975978	111.71	70	120	
Bi	209	1	No Gas	1705267	1.40	1487950	114.61	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	093_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\071723B.b
Acq Date Time	2023-07-17T22:30:04-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	009CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	1.068	13.3	68303	0.7	0.5	CCB Main CR1 Failed
Be	9	1	No Gas	0.026	24.5	123	23.4	0.5	
V	51	2	He	-0.470	-3.7	4693	2.8	2.5	
Cr	52	2	He	0.059	282.4	23263	3.7	2.5	
Fe	56	2	He	-0.393	-55.9	32509	2.7	100	
Se	78	2	He	-0.183	-55.6	173	5.5	2	
As	75	2	He	-0.036	-84.0	341	8.3	2.5	
Ca	44	2	He	-8.324	-26.6	1017	8.9	100	
Na	23	2	He	60.011	3.1	133860	1.5	100	
Mg	24	2	He	3.243	7.2	3871	3.0	100	
K	39	2	He	-72.483	-4.4	187258	0.7	100	
Mn	55	2	He	-0.156	-7.6	737	7.0	2.5	
Co	59	2	He	0.004	184.5	187	27.5	2.5	
Ni	60	2	He	-0.065	-75.3	283	29.4	2.5	
Cu	63	2	He	0.609	11.4	4708	7.3	2	
Zn	66	2	He	-0.555	-33.9	973	20.4	2.5	
Al	27	2	He	-2.660	-0.7	870	1.1	5	
B	11	1	No Gas	48.027	1.0	123315	1.8	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	-2.358	-1.2	26789	0.2	5	
Si	28	1	No Gas	-13.616	-7.4	490359	0.1	10	
Ag	107	1	No Gas	0.004	85.0	247	22.3	2.5	
Cd	111	1	No Gas	0.014	57.1	36	64.3	1	
Sr	88	1	No Gas	0.069	14.2	4871	4.9	2.5	
Mo	95	1	No Gas	0.003	144.7	1017	2.0	2.5	
Sn	118	1	No Gas	-0.045	-110.3	2707	15.6	5	
Sb	121	1	No Gas	0.223	16.9	3464	15.8	2.5	
Ba	137	1	No Gas	-0.172	-4.3	530	8.6	2.5	
Tl	205	1	No Gas	0.545	24.6	12176	22.1	1	
Tl	203	1	No Gas	0.539	27.5	5151	24.8	1	
Pb	208	1	No Gas	-0.001	-152.4	1053	4.3	2.5	
U	238	1	No Gas	0.028	33.9	900	30.2	2.5	
Ca	43	2	He	-26.375	-21.7	37	41.7	100	
Sb	121	2	He	0.178	15.3	1090	13.7	2.5	
Ti	47	2	He	-0.009	-549.0	13	86.6	2.5	
Cu	63	1	No Gas	1.005	28.4	17485	18.5	2.5	
Se	82	1	No Gas	0.248	178.3	71	137.4	2	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	828525	2.54	766868	108.04	70	120	
Ge	72	2	He	519644	0.92	446346	116.42	70	120	
Ge	72	1	No Gas	2112761	1.51	1803284	117.16	70	120	
In	115	1	No Gas	2346812	1.82	1975978	118.77	70	120	
Bi	209	1	No Gas	1785454	2.12	1487950	119.99	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	100_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\071723B.b
Acq Date Time	2023-07-17T22:44:35-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	009CALB.d
n	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	No Gas	94.740	1.135	1135877	1.81	100	94.7	90	110	
Be	9	1	No Gas	92.162	0.998	328719	0.66	100	92.2	90	110	
V	51	2	He	97.366	0.881	442698	0.72	100	97.4	90	110	
Cr	52	2	He	98.555	0.264	487056	0.11	100	98.6	90	110	
Fe	56	2	He	9882.920	0.943	41591211	0.86	10000	98.8	90	110	
Se	78	2	He	97.519	1.512	8956	1.42	100	97.5	90	110	
As	75	2	He	97.776	0.941	79187	0.91	100	97.8	90	110	
Ca	44	2	He	9837.523	1.006	387515	0.85	10000	98.4	90	110	
Na	23	2	He	9515.506	0.489	8457054	0.54	10000	95.2	90	110	
Mg	24	2	He	9599.156	1.505	5265238	1.43	10000	96.0	90	110	
K	39	2	He	9850.502	0.693	8320363	0.53	10000	98.5	90	110	
Mn	55	2	He	99.465	1.215	404366	1.06	100	99.5	90	110	
Co	59	2	He	94.140	0.757	614920	0.70	100	94.1	90	110	
Ni	60	2	He	98.471	0.886	149561	0.75	100	98.5	90	110	
Cu	63	2	He	97.540	1.009	369972	0.86	100	97.5	90	110	
Zn	66	2	He	97.852	0.769	88531	0.91	100	97.9	90	110	
Al	27	2	He	100.006	2.199	47261	2.26	100	100.0	90	110	
B	11	1	No Gas	494.549	1.594	953707	1.25	500	98.9	90	110	
Al	27	1	No Gas	98.342	3.120	1346261	0.91	100	98.3	90	110	
Si	28	1	No Gas	484.690	3.670	3786918	1.08	5000	9.7	90	110	CCV Main CR1-2 Failed
Ag	107	1	No Gas	99.587	0.633	1323062	1.18	100	99.6	90	110	
Cd	111	1	No Gas	98.246	0.390	250911	1.06	100	98.2	90	110	
Sr	88	1	No Gas	100.060	1.116	2762968	0.22	100	100.1	90	110	
Mo	95	1	No Gas	98.141	0.922	501387	0.70	100	98.1	90	110	
Sn	118	1	No Gas	95.599	0.212	774307	1.10	100	95.6	90	110	
Sb	121	1	No Gas	99.603	1.547	1181224	0.60	100	99.6	90	110	
Ba	137	1	No Gas	98.307	1.548	427885	0.29	100	98.3	90	110	
Tl	205	1	No Gas	98.533	1.635	1822027	0.21	100	98.5	90	110	
Tl	203	1	No Gas	96.014	1.642	755119	0.23	100	96.0	90	110	
Pb	208	1	No Gas	97.566	1.758	2667053	0.60	100	97.6	90	110	
U	238	1	No Gas	100.491	1.307	2585983	0.44	100	100.5	90	110	
Ca	43	2	He	9592.398	0.972	22843	1.08	10000	95.9	90	110	
Sb	121	2	He	97.376	0.460	461727	0.31	100	97.4	90	110	
Ti	47	2	He	98.988	4.769	19608	4.76	100	99.0	90	110	
Cu	63	1	No Gas	99.138	2.826	960322	0.79	100	99.1	90	110	
Se	82	1	No Gas	100.200	0.768	19169	2.83	100	100.2	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	721578	1.30	766868	94.09	70	120	
Ge	72	2	He	452137	0.15	446346	101.30	70	120	
Ge	72	1	No Gas	1801249	2.12	1803284	99.89	70	120	
In	115	1	No Gas	2000090	1.31	1975978	101.22	70	120	
Bi	209	1	No Gas	1506366	1.75	1487950	101.24	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	101_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\071723B.b
Acq Date Time	2023-07-17T22:46:38-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	009CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	0.737	3.3	58360	2.0	0.5	CCB Main CR1 Failed
Be	9	1	No Gas	0.018	16.0	80	12.5	0.5	
V	51	2	He	-0.390	-2.6	4585	0.9	2.5	
Cr	52	2	He	0.423	59.0	22696	5.7	2.5	
Fe	56	2	He	-1.484	-14.0	24482	3.4	100	
Se	78	2	He	0.133	135.2	185	9.3	2	
As	75	2	He	-0.025	-36.5	316	2.7	2.5	
Ca	44	2	He	-14.432	-16.5	667	14.7	100	
Na	23	2	He	38.922	2.9	101091	0.8	100	
Mg	24	2	He	-0.593	-65.9	1307	17.2	100	
K	39	2	He	-39.909	-4.7	195975	1.2	100	
Mn	55	2	He	-0.109	-19.2	860	10.3	2.5	
Co	59	2	He	-0.001	-630.1	133	45.2	2.5	
Ni	60	2	He	-0.019	-179.0	327	15.7	2.5	
Cu	63	2	He	0.293	16.5	2997	6.4	2	
Zn	66	2	He	-0.353	-34.6	1060	10.9	2.5	
Al	27	2	He	-2.643	-5.1	790	8.3	5	
B	11	1	No Gas	48.244	4.7	112892	2.3	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	-2.363	-3.4	23367	5.8	5	
Si	28	1	No Gas	-8.150	-9.7	466840	0.8	10	
Ag	107	1	No Gas	-0.003	-118.0	120	36.3	2.5	
Cd	111	1	No Gas	0.001	587.4	-1	-2839.7	1	
Sr	88	1	No Gas	-0.011	-58.8	2030	9.4	2.5	
Mo	95	1	No Gas	-0.017	-75.0	793	9.1	2.5	
Sn	118	1	No Gas	-0.070	-39.8	2184	10.1	5	
Sb	121	1	No Gas	0.109	12.4	1640	8.0	2.5	
Ba	137	1	No Gas	-0.207	-6.7	310	19.4	2.5	
Tl	205	1	No Gas	0.516	30.2	10211	28.4	1	
Tl	203	1	No Gas	0.500	27.3	4241	25.3	1	
Pb	208	1	No Gas	0.000	-1567.2	960	9.1	2.5	
U	238	1	No Gas	0.021	20.9	597	18.5	2.5	
Ca	43	2	He	-28.975	-21.5	27	57.3	100	
Sb	121	2	He	0.085	7.5	523	5.8	2.5	
Ti	47	2	He	-0.052	-54.7	3	173.2	2.5	
Cu	63	1	No Gas	0.388	24.6	9187	8.3	2.5	
Se	82	1	No Gas	0.137	384.7	41	253.9	2	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	755866	1.91	766868	98.57	70	120	
Ge	72	2	He	467023	0.34	446346	104.63	70	120	
Ge	72	1	No Gas	1848022	1.98	1803284	102.48	70	120	
In	115	1	No Gas	2075002	0.75	1975978	105.01	70	120	
Bi	209	1	No Gas	1579510	1.06	1487950	106.15	70	120	

Sample Report

Sample Table

Sample Name	LLCCV2
Data File Name	102LCV2.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\071723B.b
Acq Date Time	2023-07-17T22:48:47-05:00
Sample Type	LLCCV2
Dilution	1
Comment	
ISTD Ref FileName	009CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	2.743	2.743	4.84	82019	0.00	2	NewName Main CR1 Failed
Be	9	1	No Gas	1.808	1.808	1.89	6730	0.03	2	
V	51	2	He	1.548	1.548	5.00	13641	0.01	2	
Cr	52	2	He	2.305	2.305	7.86	32101	0.01	2	
Fe	56	2	He	204.048	204.048	2.60	922800	0.02	200	
Se	78	2	He	2.163	2.163	15.86	376	0.58	2	
As	75	2	He	1.921	1.921	8.34	1949	0.10	2	
Ca	44	2	He	182.210	182.210	8.19	8693	2.10	200	
Na	23	2	He	248.934	248.934	1.60	294220	0.08	200	
Mg	24	2	He	206.405	206.405	1.60	119278	0.17	200	
K	39	2	He	166.424	166.424	0.88	373456	0.04	200	
Mn	55	2	He	1.875	1.875	1.77	9220	0.02	2	
Co	59	2	He	1.917	1.917	3.29	13153	0.01	2	
Ni	60	2	He	1.985	1.985	4.00	3484	0.06	2	
Cu	63	2	He	2.533	2.533	3.87	11805	0.02	2	
Zn	66	2	He	1.826	1.826	2.71	3084	0.06	2	
Al	27	2	He	3.792	3.792	20.22	3824	0.10	2	NewName Main CR1 Failed
B	11	1	No Gas	54.834	54.834	2.31	125283	0.04	10	NewName Main CR1 Failed
Al	27	1	No Gas	2.892	2.892	9.20	97361	0.00	2	NewName Main CR1 Failed
Si	28	1	No Gas	0.849	0.849	77.17	546960	0.00	10	NewName Main CR1 Failed
Ag	107	1	No Gas	1.946	1.946	2.36	27041	0.01	2	
Cd	111	1	No Gas	1.823	1.823	6.84	4835	0.04	2	
Sr	88	1	No Gas	1.948	1.948	1.45	58243	0.00	2	
Mo	95	1	No Gas	1.896	1.896	3.09	10941	0.02	2	
Sn	118	1	No Gas	1.725	1.725	2.38	17258	0.01	2	
Sb	121	1	No Gas	1.901	1.901	1.31	24223	0.01	2	
Ba	137	1	No Gas	1.829	1.829	5.15	9497	0.02	2	
Tl	205	1	No Gas	1.878	1.878	0.59	36551	0.01	2	
Tl	203	1	No Gas	1.918	1.918	0.53	15904	0.01	2	
Pb	208	1	No Gas	1.938	1.938	0.94	56364	0.00	2	
U	238	1	No Gas	1.872	1.872	1.63	50421	0.00	2	
Ca	43	2	He	203.563	203.563	15.32	600	33.93	200	
Sb	121	2	He	1.910	1.910	3.20	9517	0.02	2	
Ti	47	2	He	1.859	1.859	11.02	397	0.47	200	
Cu	63	1	No Gas	2.600	2.600	10.08	32088	0.01	2	NewName Main CR1 Failed
Se	82	1	No Gas	1.859	1.859	20.12	391	0.48	2	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	751425	0.70	766868	97.99	70	120	
Ge	72	2	He	469895	0.79	446346	105.28	70	120	
Ge	72	1	No Gas	1909557	1.45	1803284	105.89	70	120	
In	115	1	No Gas	2080192	2.18	1975978	105.27	70	120	
Bi	209	1	No Gas	1575250	1.15	1487950	105.87	70	120	

Sample Report

Sample Table

Sample Name	LLCCV5
Data File Name	103LCV5.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\071723B.b
Acq Date Time	2023-07-17T22:50:44-05:00
Sample Type	LLCCV5
Dilution	1
Comment	
ISTD Ref FileName	009CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	5.460	5.460	1.24	113496	0.00	5	
Be	9	1	No Gas	4.527	4.527	2.23	16678	0.03	5	
V	51	2	He	4.456	4.456	0.65	27115	0.02	5	
Cr	52	2	He	5.009	5.009	0.57	45288	0.01	5	
Fe	56	2	He	501.582	501.582	1.25	2216842	0.02	500	
Se	78	2	He	4.730	4.730	13.23	615	0.77	5	
As	75	2	He	4.622	4.622	3.89	4201	0.11	5	
Ca	44	2	He	467.156	467.156	1.48	20265	2.31	500	
Na	23	2	He	556.697	556.697	0.10	574704	0.10	500	
Mg	24	2	He	513.743	513.743	1.27	293581	0.17	500	
K	39	2	He	471.218	471.218	1.35	632036	0.07	500	
Mn	55	2	He	4.848	4.848	0.74	21681	0.02	5	
Co	59	2	He	4.662	4.662	0.45	31694	0.01	5	
Ni	60	2	He	4.899	4.899	3.63	8049	0.06	5	
Cu	63	2	He	5.521	5.521	0.92	23457	0.02	5	
Zn	66	2	He	5.100	5.100	4.13	6098	0.08	5	
Al	27	2	He	5.235	5.235	12.38	4491	0.12	5	
B	11	1	No Gas	67.978	67.978	0.41	149879	0.05	25	NewName2 Main CR1 Failed
Al	27	1	No Gas	4.852	4.852	0.51	123525	0.00	5	
Si	28	1	No Gas	18.398	18.398	5.65	666396	0.00	25	
Ag	107	1	No Gas	4.819	4.819	2.58	66621	0.01	5	
Cd	111	1	No Gas	4.798	4.798	3.14	12724	0.04	5	
Sr	88	1	No Gas	4.892	4.892	1.33	142520	0.00	5	
Mo	95	1	No Gas	5.692	5.692	1.31	31033	0.02	5	
Sn	118	1	No Gas	4.809	4.809	1.89	43085	0.01	5	
Sb	121	1	No Gas	4.692	4.692	1.99	58742	0.01	5	
Ba	137	1	No Gas	4.935	4.935	2.90	23485	0.02	5	
Tl	205	1	No Gas	4.649	4.649	1.64	90490	0.01	5	
Tl	203	1	No Gas	4.552	4.552	1.52	37707	0.01	5	
Pb	208	1	No Gas	4.818	4.818	1.94	139201	0.00	5	
U	238	1	No Gas	4.733	4.733	2.61	127900	0.00	5	
Ca	43	2	He	470.369	470.369	19.60	1253	37.53	500	
Sb	121	2	He	4.751	4.751	1.86	23448	0.02	5	
Ti	47	2	He	5.360	5.360	5.60	1113	0.48	5	
Cu	63	1	No Gas	5.622	5.622	1.22	62380	0.01	5	
Se	82	1	No Gas	5.077	5.077	18.60	1034	0.49	5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	744689	0.62	766868	97.11	70	120	
Ge	72	2	He	468532	0.31	446346	104.97	70	120	
Ge	72	1	No Gas	1891441	0.91	1803284	104.89	70	120	
In	115	1	No Gas	2077098	1.82	1975978	105.12	70	120	
Bi	209	1	No Gas	1581401	0.81	1487950	106.28	70	120	

Interference Check Solution A (ICS-A) Report

Sample Table

Sample Name	ICSA
Data File Name	104ICSA.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\071723B.b
Acq Date Time	2023-07-17T22:52:53-05:00
Sample Type	ICSA
Dilution	1
Comment	
ISTD Ref File Name	009CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	0.518	18.2	54037	2.5	0	ICSA Main CR1 Failed
Be	9	1	No Gas	0.006	47.3	35	28.6	0	ICSA Main CR1 Failed
V	51	2	He	-0.200	-21.7	5007	2.8	0	ICSA Main CR1 Failed
Cr	52	2	He	1.522	16.3	25714	3.8	0	ICSA Main CR1 Failed
Fe	56	2	He	96226.329	1.4	382958648	1.0	0	
Se	78	2	He	0.422	97.2	194	18.9	0	ICSA Main CR1 Failed
As	75	2	He	0.306	15.2	541	6.2	0	ICSA Main CR1 Failed
Ca	44	2	He	90115.095	1.2	3349752	0.7	0	
Na	23	2	He	91924.927	0.5	76793677	0.8	0	
Mg	24	2	He	92326.082	0.7	47909938	0.4	0	
K	39	2	He	94459.481	0.3	73697887	1.2	0	
Mn	55	2	He	1.310	4.7	6228	2.9	0	ICSA Main CR1 Failed
Co	59	2	He	0.627	8.0	4004	7.3	0	ICSA Main CR1 Failed
Ni	60	2	He	0.949	10.6	1687	9.1	0	ICSA Main CR1 Failed
Cu	63	2	He	0.865	0.9	4791	1.2	0	ICSA Main CR1 Failed
Zn	66	2	He	2.263	5.0	3177	3.8	0	ICSA Main CR1 Failed
Al	27	2	He	88248.241	0.7	37830763	1.6	0	
B	11	1	No Gas	42.025	2.3	97548	1.5	0	
Al	27	1	No Gas	85313.676	1.9	1079874491	0.8	0	
Si	28	1	No Gas	14.753	6.4	587326	1.6	0	ICSA Main CR1 Failed
Ag	107	1	No Gas	0.143	10.3	1944	8.3	0	ICSA Main CR1 Failed
Cd	111	1	No Gas	0.475	34.5	1152	35.8	0	ICSA Main CR1 Failed
Sr	88	1	No Gas	4.318	1.1	115290	1.0	0	ICSA Main CR1 Failed
Mo	95	1	No Gas	1944.205	2.8	9416937	1.3	0	
Sn	118	1	No Gas	-0.041	-48.9	2224	8.0	0	ICSA Main CR1 Failed
Sb	121	1	No Gas	0.245	4.9	3097	3.3	0	ICSA Main CR1 Failed
Ba	137	1	No Gas	0.535	9.0	3344	7.4	0	ICSA Main CR1 Failed
Tl	205	1	No Gas	0.045	24.7	1017	19.2	0	ICSA Main CR1 Failed
Tl	203	1	No Gas	0.043	33.0	440	23.9	0	ICSA Main CR1 Failed
Pb	208	1	No Gas	0.181	6.7	5617	5.9	0	ICSA Main CR1 Failed
U	238	1	No Gas	0.009	25.3	257	21.5	0	ICSA Main CR1 Failed
Ca	43	2	He	91700.353	0.6	205889	1.4	0	
Sb	121	2	He	0.248	8.2	1213	8.3	0	ICSA Main CR1 Failed
Ti	47	2	He	1979.086	0.5	370734	0.9	0	
Se	82	1	No Gas	0.933	51.8	184	46.8	0	ICSA Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	732991	0.52	766868	95.58	70	120	
Ge	72	2	He	427874	0.91	446346	95.86	70	120	
Ge	72	1	No Gas	1734266	1.25	1803284	96.17	70	120	
In	115	1	No Gas	1899736	1.55	1975978	96.14	70	120	
Bi	209	1	No Gas	1440654	0.33	1487950	96.82	70	120	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB
Data File Name	105ICSB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\071723B.b
Acq Date Time	2023-07-17T22:54:52-05:00
Sample Type	ICSB
Dilution	1
Comment	
ISTD Ref File Name	009CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	No Gas	98.316	5.311	1008249	1.21	100	98.3	180	120	ICSB Main CR1 Failed
Be	9	1	No Gas	94.460	4.227	288710	0.60	100	94.5	80	120	
V	51	2	He	95.092	1.123	409390	0.44	100	95.1	80	120	
Cr	52	2	He	96.081	0.750	449934	0.31	100	96.1	80	120	
Fe	56	2	He	103899.271	1.012	413613914	0.56	100	103899.3	80	120	ICSB Main CR1 Failed
Se	78	2	He	97.951	2.021	8514	1.15	100	98.0	80	120	
As	75	2	He	97.398	1.572	74665	0.85	100	97.4	80	120	
Ca	44	2	He	98414.300	1.311	3659113	0.37	100	98414.3	80	120	
Na	23	2	He	98857.137	2.448	82591785	1.43	100	98857.1	80	120	ICSB Main CR1 Failed
Mg	24	2	He	99749.215	2.085	51771833	1.16	100	99749.2	80	120	ICSB Main CR1 Failed
K	39	2	He	102630.877	1.593	80068835	0.71	100	102630.9	80	120	
Mn	55	2	He	97.499	1.278	375209	0.36	100	97.5	80	120	
Co	59	2	He	91.612	1.949	566393	1.02	100	91.6	80	120	
Ni	60	2	He	94.069	2.301	135243	1.39	100	94.1	80	120	
Cu	63	2	He	93.735	1.652	336591	0.77	100	93.7	80	120	
Zn	66	2	He	96.689	2.226	82812	1.20	100	96.7	80	120	
Al	27	2	He	87439.575	2.037	37488886	1.19	100	87439.6	80	120	ICSB Main CR1 Failed
B	11	1	No Gas	513.372	3.940	847938	1.07	100	513.4	80	120	
Al	27	1	No Gas	83528.876	2.378	1049934358	0.92	100	83528.9	80	120	ICSB Main CR1 Failed
Si	28	1	No Gas	480.142	3.600	3591859	0.37	100	480.1	80	120	
Ag	107	1	No Gas	95.911	1.198	1191559	0.68	100	95.9	80	120	
Cd	111	1	No Gas	98.395	1.438	235002	1.61	100	98.4	80	120	
Sr	88	1	No Gas	104.338	0.916	2694306	0.39	100	104.3	80	120	
Mo	95	1	No Gas	2050.300	1.578	9779672	1.18	100	2050.3	80	120	
Sn	118	1	No Gas	97.626	0.736	739382	0.20	100	97.6	80	120	
Sb	121	1	No Gas	99.663	2.240	1130205	1.30	100	99.7	80	120	
Ba	137	1	No Gas	101.142	0.808	411707	1.30	100	101.1	80	120	
Tl	205	1	No Gas	97.123	1.254	1708111	0.44	100	97.1	80	120	
Tl	203	1	No Gas	94.161	0.792	704357	0.63	100	94.2	80	120	
Pb	208	1	No Gas	98.246	1.252	2554237	0.16	100	98.2	80	120	
U	238	1	No Gas	105.052	1.096	2571139	1.16	100	105.1	80	120	
Ca	43	2	He	99429.559	2.549	223259	1.64	100	99429.6	80	120	ICSB Main CR1 Failed
Sb	121	2	He	97.880	1.245	439303	0.32	100	97.9	80	120	
Ti	47	2	He	2045.105	1.827	383169	0.82	100	2045.1	80	120	ICSB Main CR1 Failed
Cu	63	1	No Gas	93.687	3.011	868062	0.21	100	93.7	80	120	
Se	82	1	No Gas	97.195	5.482	17763	2.73	100	97.2	80	120	

QC ISTD Table

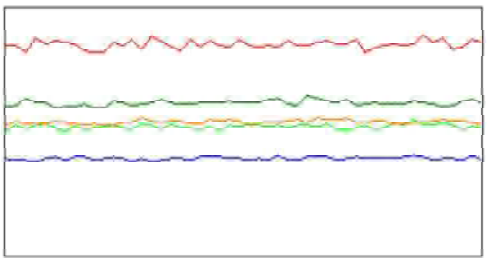
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	619095	4.64	766868	80.73	70	120	
Ge	72	2	He	427998	1.00	446346	95.89	70	120	
Ge	72	1	No Gas	1722740	2.98	1803284	95.53	70	120	
In	115	1	No Gas	1870372	0.53	1975978	94.66	70	120	
Bi	209	1	No Gas	1432560	1.34	1487950	96.28	70	120	

Tune Check Report

Operator Name	ALSHS.NoUser
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\071723A.b
Acq. Date-Time	7/17/2023 10:07:19 AM
Report Comment	---
Instrument Name	G8421A SG18523544

[No Gas]

Sensitivity



Sampling Period [sec]	0.514
Integration Time [sec]	0.1

Mass	Range	Count	Resp [cps/ug/l]	Resp (Required) [cps/ug/l]	Resp (Flag)
9	5000	4280	42801.87		
24	20000	10499	104992.88		
59	50000	19764	197635.17		
115	50000	27209	272088.83		
208	20000	12395	123948.40		

Mass	Resp Ratio	Resp Ratio (Required)	Resp Ratio (Flag)
9		-	
24		-	
59		-	
115		-	
208		-	

Mass	RSD%	RSD% (Required)	RSD% (Flag)
9	1.952	5.000	
24	1.879	5.000	
59	1.441	5.000	
115	1.376	5.000	
208	1.691	5.000	

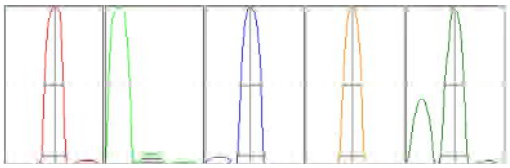
Mass	Background	Background (Required)	Background (Flag)
9	1.400		
24	1.300		
59	1.400		
115	2.600		
208	5.300		

Oxide/Doubly Charged Ratio

Oxide	156 / 140 1.231 %
Doubly Charged	70 / 140 0.904 %

Tune Check Report

Resolution/Axis



Integration Time [sec]	0.1
Acquisition Time [sec]	37.4
Y Axis	Linear

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
9	4344.30	9.05	8.90 - 9.10	
24	10605.57	23.90	23.90 - 24.10	
59	20338.53	58.90	58.90 - 59.10	
115	27861.81	114.95	114.90 - 115.10	
208	12590.49	208.00	207.90 - 208.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.59	0.735		
24	0.61	0.737		
59	0.61	0.780		
115	0.55	0.731		
208	0.59	0.812		

Tune Parameters

Plasma Parameters

Plasma Mode	---	Nebulizer Gas	0.60 L/min	Dilution Gas	0.45 L/min
RF Power	1600 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.80 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	10.2 V	Deflect	15.8 V
Extract 2	-200.0 V	Cell Entrance	-30 V	Plate Bias	-45 V
Omega Bias	-90 V	Cell Exit	-50 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	190 V		

QP Parameters

Mass Gain	133	Axis Gain	1.0007	QP Bias	-3.0 V
Mass Offset	125	Axis Offset	0.05		

Hardware Settings

Torch

Torch H	0.8 mm	Torch V	-0.8 mm

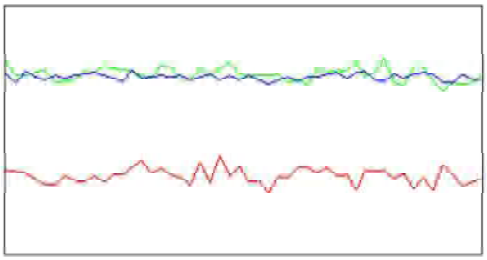
EM

Discriminator	4.5 mV	Analog HV	3004 V	Pulse HV	1633 V

[He]

Tune Check Report

Sensitivity



Sampling Period [sec]	0.306
Integration Time [sec]	0.1

Mass	Range	Count	Resp [cps/ug/l]	Resp (Required) [cps/ug/l]	Resp (Flag)
9	500	159	1586.89		
24	1000	728	7280.29		
59	10000	7172	71724.56		

Mass	Resp Ratio	Resp Ratio (Required)	Resp Ratio (Flag)
9		-	
24		-	
59		-	

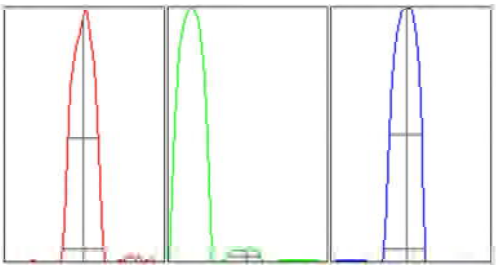
Mass	RSD%	RSD% (Required)	RSD% (Flag)
9	9.809	5.000	Fail
24	3.841	5.000	
59	1.858	5.000	

Mass	Background	Background (Required)	Background (Flag)
9	0.200		
24	0.300		
59	0.300		

Oxide/Doubly Charged Ratio

Oxide	156 / 140 2.324 %
Doubly Charged	70 / 140 0.879 %

Resolution/Axis



Integration Time [sec]	0.1
Acquisition Time [sec]	22.24
Y Axis	Linear

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
9	158.77	9.00	8.90 - 9.10	
24	703.46	24.00	23.90 - 24.10	
59	7158.86	58.95	58.90 - 59.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.58	0.772		
24	0.62	0.726		

Tune Check Report

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
59	0.60	0.775		

Tune Parameters

Plasma Parameters

Plasma Mode	---	Nebulizer Gas	0.60 L/min	Dilution Gas	0.45 L/min
RF Power	1600 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.80 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	10.4 V	Deflect	0.9 V
Extract 2	-190.0 V	Cell Entrance	-40 V	Plate Bias	-60 V
Omega Bias	-90 V	Cell Exit	-60 V		

Cell Parameters

Use Gas	Yes	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	3.4 mL/min	OctP Bias	-18.0 V		
H2 Flow	0.0 mL/min	OctP RF	200 V		

QP Parameters

Mass Gain	133	Axis Gain	1.0007	QP Bias	-13.0 V
Mass Offset	125	Axis Offset	0.05		

Hardware Settings

Torch

Torch H	0.8 mm	Torch V	-0.8 mm

EM

Discriminator	4.5 mV	Analog HV	3004 V	Pulse HV	1633 V

HS23070447 Wetchem Cr6_W

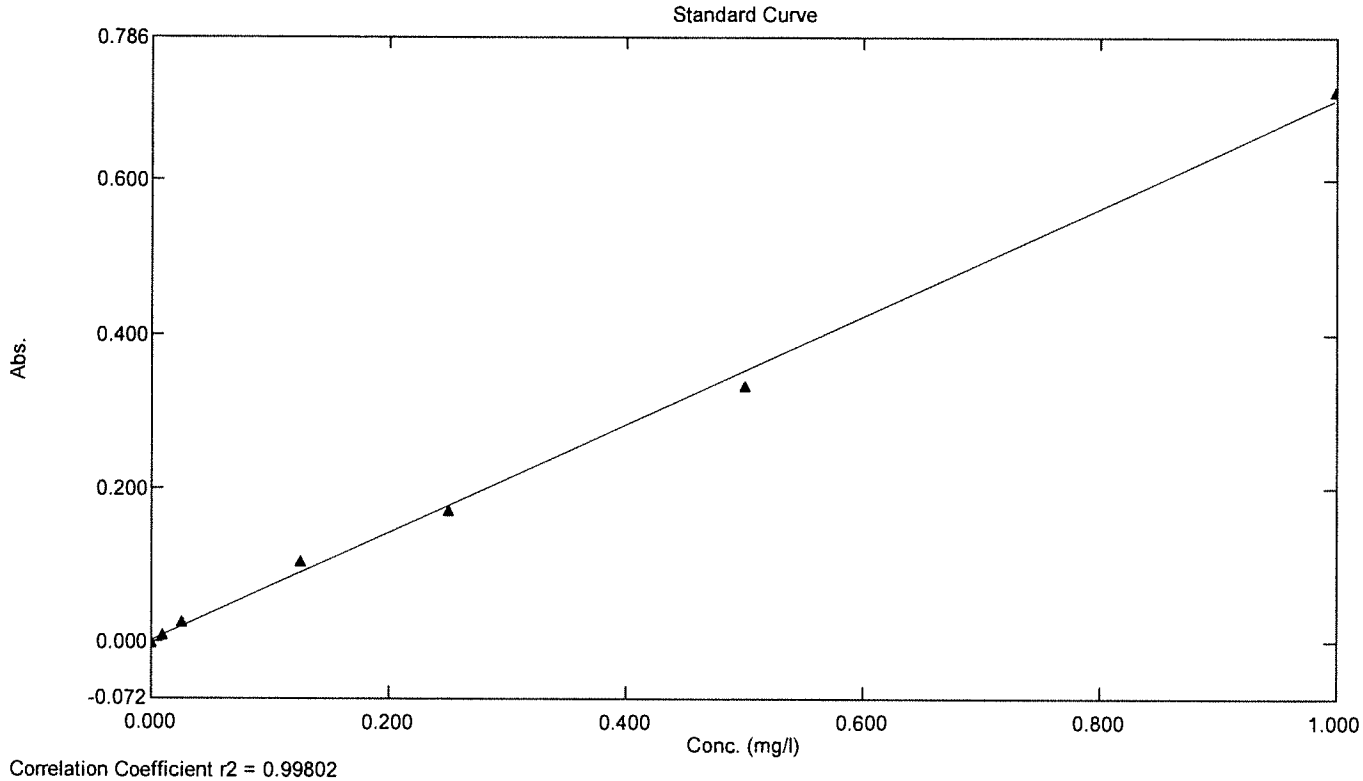
ALS WO# HS23070447

HS2307047

Standard Table Report

07/19/2023 05:50:19 PM

File Name: C:\Program Files (x86)\Shimadzu\UVProbe\Data\CR6+_UNKNOWN\2023\07112023CR6_W.pho



Correlation Coefficient r2 = 0.99802

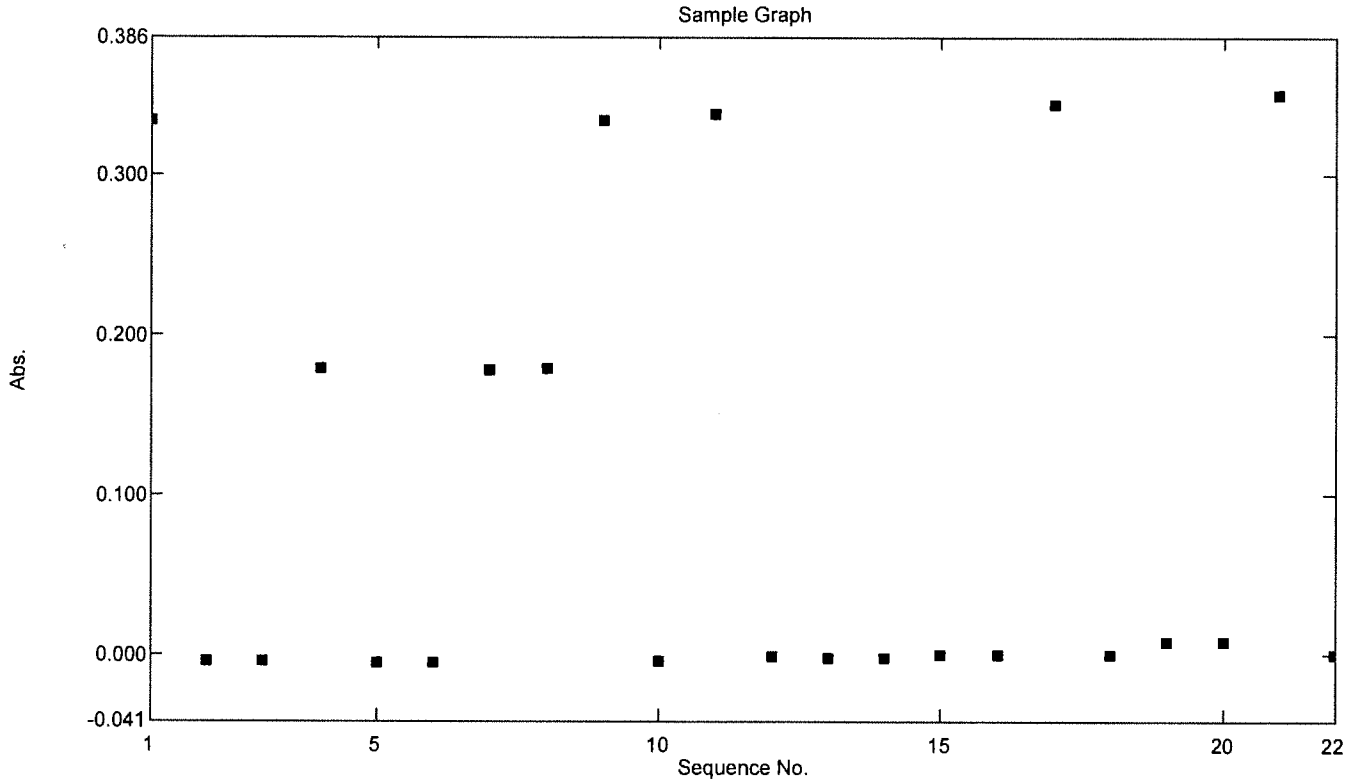
Standard Table

	Sample ID	Type	Ex	Conc	WL540.0	Wgt.Factor	Comments
1	STD1	Standard		0.000	-0.000	1.000	
2	STD2	Standard		0.010	0.009	1.000	
3	STD3	Standard		0.025	0.026	1.000	
4	STD4	Standard		0.125	0.105	1.000	
5	STD5	Standard		0.250	0.171	1.000	
6	STD6	Standard		0.500	0.334	1.000	
7	STD7	Standard		1.000	0.714	1.000	
8							

Sample Table Report

07/19/2023 05:50:22 PM

File Name: C:\Program Files (x86)\Shimadzu\UVProbe\Data\CR6+_UNKNOWN\2023\07112023CR6_W.pho



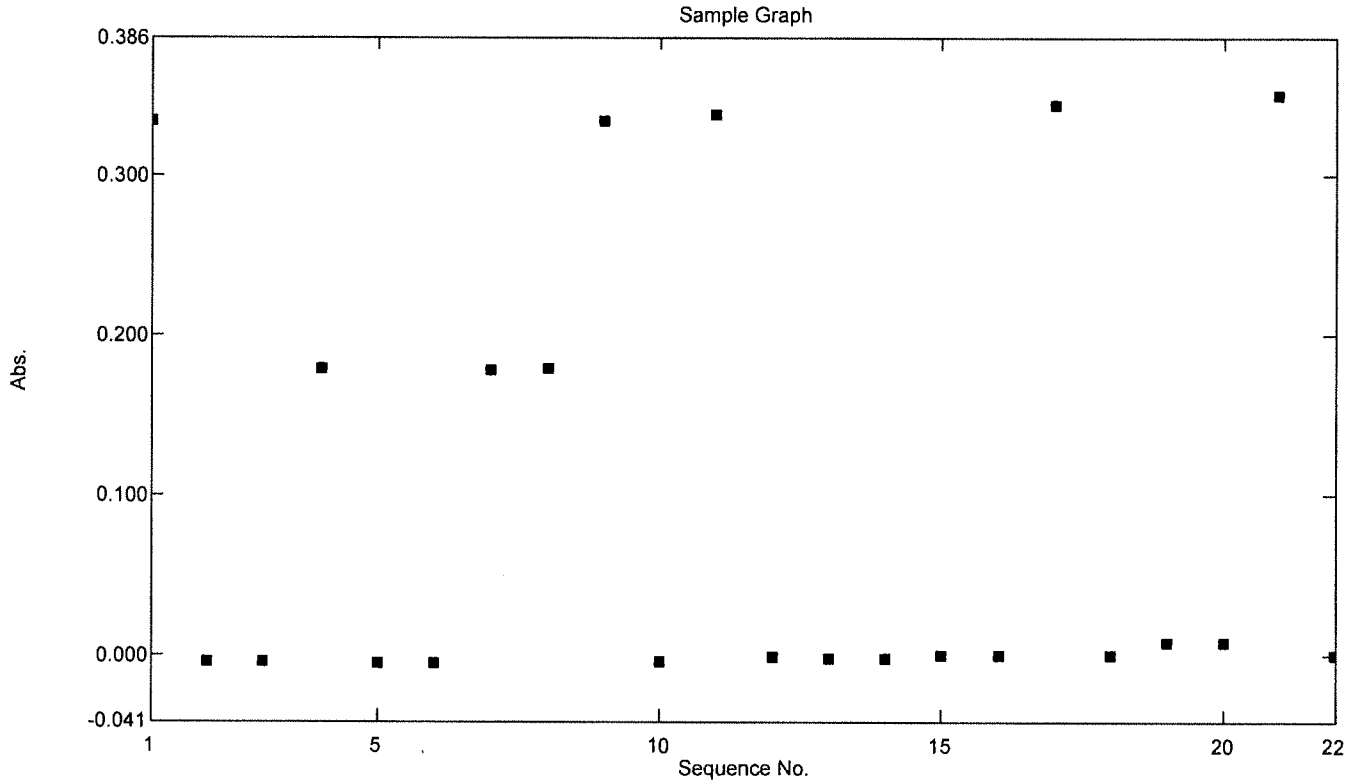
Sample Table

	Sample ID	Type	Ex	Date	Time	Conc	WL540.0	Comments
1	CCV	Unknown		07/11/2023	10:18:10 AM	0.473	0.334	32141303 IC-4
2	CCB	Unknown		07/11/2023	10:18:23 AM	-0.008	-0.003	3100606911 UV-3
3	MBLK	Unknown		07/11/2023	10:18:25 AM	-0.008	-0.003	321414304 IC-4
4	LCS	Unknown		07/11/2023	10:18:32 AM	0.251	0.179	322142602 UV-3
5	MW19	Unknown		07/11/2023	10:18:44 AM	-0.011	-0.005	0.000
6	MW19BKG	Unknown		07/11/2023	10:18:46 AM	-0.010	-0.005	PF:50X
7	MW19MS	Unknown		07/11/2023	10:19:13 AM	0.251	0.178	PF:50X
8	MW19MSD	Unknown		07/11/2023	10:19:15 AM	0.251	0.179	PF:50X
9	CCV2	Unknown		07/11/2023	10:19:27 AM	0.473	0.334	
10	CCB2	Unknown		07/11/2023	10:19:35 AM	-0.008	-0.003	
11	CCV3	Unknown		07/11/2023	12:20:03 PM	0.479	0.338	
12	CCB3	Unknown		07/11/2023	12:20:09 PM	-0.005	-0.001	
13	HS23070445.01	Unknown		07/11/2023	12:20:34 PM	-0.006	-0.002	
14	HS23070445.01BKG	Unknown		07/11/2023	12:20:36 PM	-0.006	-0.002	0.000
15	HS23070447.01	Unknown		07/11/2023	12:21:23 PM	-0.003	0.000	
16	HS23070447.01BKG	Unknown		07/11/2023	12:21:25 PM	-0.002	0.001	0.000
17	CCV4	Unknown		07/11/2023	12:21:37 PM	0.486	0.344	
18	CCB4	Unknown		07/11/2023	12:21:42 PM	-0.003	0.000	
19	HS23070486.01	Unknown		07/11/2023	05:01:11 PM	0.009	0.009	

Sample Table Report

07/19/2023 05:50:22 PM

File Name: C:\Program Files (x86)\Shimadzu\UVProbe\Data\CR6+_UNKNOWN\2023\07112023CR6_W.pho



Sample Table

	Sample ID	Type	Ex	Date	Time	Conc	WL540.0	Comments
20	HS23070486.01BKG	Unknown		07/11/2023	05:01:13 PM	0.009	0.008	0.000
21	CCV5	Unknown		07/11/2023	05:01:28 PM	0.496	0.350	
22	CCB5	Unknown		07/11/2023	05:02:21 PM	-0.003	0.000	
23								

HS23070447 Perch Sub Data E2300643-IV

ALS WO# HS23070447

July 21, 2023 Service Request No:E2300643

Bernadette Fini
ALS Laboratory Group
10450 Stancliff Road
Suite 210
Houston, TX 77099-4338

Laboratory Results for: HS23070447

Dear Bernadette,

Enclosed are the results of the sample(s) submitted to our laboratory July 19, 2023
For your reference, these analyses have been assigned our service request number **E2300643.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current TNI standards, where applicable, and except as noted in the laboratory case narrative provided. All results are intended to be considered in their entirety and ALS Environmental is not responsible for use of less than the complete final report. Results apply only to the items submitted to the laboratory, as received for analysis. In accordance with the current TNI Standard, a statement on the estimated uncertainty of measurement of any quantitative analysis will be supplied upon request.

Please contact me if you have any questions. My extension is 2188. You may also contact me via email at James.Guin@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

James Guin

ADDRESS 10450 Stancliff Rd., Suite 210, Houston, TX 77099
PHONE +1 281 530 5656 | FAX +1 281 530 5887
ALS Group USA, Corp.
dba ALS Environmental

Certificate of Analysis

ALS Environmental - Houston Specialties Laboratory
10450 Stancliff Rd., Suite 210, Houston TX 77099
Phone (281)530-5656 Fax (281)530-5887
www.alsglobal.com

ALS Environmental

Client:	ALS Environmental - US	**Service Request No.:**	E2300643
Project:	HS23070447	**Date Received:**	07/19/2023
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed in adherence to the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

One sample was received for analysis at ALS Environmental in Houston on 07/19/2023.

The sample was received in good condition and is consistent with the accompanying chain of custody form. The sample was stored in a refrigerator at 4°C upon receipt at the laboratory.

Data Validation Notes and Discussion

Precision and Accuracy:

EQ2300346: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in lieu of a MS/MSD for this extraction batch.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS group USA Corp dba ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

Client: ALS Environmental - US **Service Request:**E2300643
Project: HS23070447

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2300643-001	LH18/24-SP140_071023	7/10/2023	1300

Service Request Summary

Folder #: **E2300643**
Client Name: ALS Environmental - US
Project Name: HS23070447
Project Number:

Report To: Bernadette Fini
ALS Laboratory Group
10450 Stancliff Road
Houston, TX 77099-4338
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number: 281-530-5887
E-mail: bernadette.fini@alsglobal.com

Project Chemist: James Guin
Originating Lab: HOUSTON
Logged By: XMI
Date Received: 07/19/23
Internal Due Date: 7/19/2023
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS23070447
EDD: No EDD Specified

1 120 mL-Plastic Bottle Natural WM Unpreserved
Location: SUBBED
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2300643-001	LH18/24-SP140_071023	Water	07/10/23 1300	**IV**

Service Request Summary

Folder #: **E2300643**
Client Name: ALS Environmental - US
Project Name: HS23070447
Project Number:

Report To: Bernadette Fini
ALS Laboratory Group
10450 Stancliff Road
Houston, TX 77099-4338
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number: 281-530-5887
E-mail: bernadette.fini@alsglobal.com

Project Chemist: James Guin
Originating Lab: HOUSTON
Logged By: XMI
Date Received: 07/19/23
Internal Due Date: 7/19/2023
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS23070447
EDD: No EDD Specified

1 120 mL-Plastic Bottle Natural WM Unpreserved
Location: SUBBED
Pressure Gas:

Data Qualifiers

Lab Standard

+	Possible Tedlar bag artifact.
A	TIC is a suspected aldol-condensation product
B	Analyte found in the associated method blank as well as in the sample.
BC	Reported results are not blank corrected.
BH	The back section of the tube yielded higher results than the front.
BT	Results indicated possible breakthrough; back section >=10% front section.
C	Result identification confirmed.
D	Compound identified in an analysis at a secondary dilution factor
D	Spike was diluted out
DE	Reported results are corrected for desorption efficiency.
E	Estimated value. Concentration above calibration range
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
H1	Sample analysis performed past holding time. See case narrative.
H2	Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
H3	Sample was received and analyzed past holding time.
H4	Sample was extracted past required extraction holding time, but analyzed within analysis holding time. See case narrative.
I	(Auto) The reference ion ratio was outside acceptance criteria, which may indicate a potential bias to this result.
I	Internal standard not within the specified limits. See case narrative.
I	The reference ion ratio was outside acceptance criteria, which may indicate a potential bias to this result.
J	Estimated Value. Concentration found below MRL.
K	A deflection in the QC ion may indicate interference with the quantitation of this ion. The concentration of this analyte should be considered as an estimate.
K	Analyte was detected above the method reporting limit prior to normalization.
K	The reference ion ratio was outside acceptance criteria, which may indicate a potential bias to this result.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
L1	Laboratory control sample recovery outside the specified limits; results may be biased high.
L2	Laboratory control sample recovery outside the specified limits; results may be biased low.
L3	Laboratory control sample recovery outside the specified limits.
M	Matrix interference; results may be biased high.
M	The duplicate injection precision not met.

Data Qualifiers

Lab Standard

M1	Matrix interference due to coelution with a non-target compound; results may be biased high.
N	Presumptive evidence of a compound for TICs that have been identified based on a mass spectral library search.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
P	Indicates chlorodiphenyl ether interference present at the retention time of the target compound.
P	Pesticide/Aroclor target analyte > 40% difference for detected concentrations between GC columns
Q	Indicates as estimated value because the P and P + 2 theoretical abundance ratio does not meet method criteria.
R	Duplicate Precision not met.
R1	Duplicate precision not within the specified limits; however, the results are below the MRL and considered estimated.
S	Surrogate recovery not within specified limits.
S	The reported value was determined by the Method of Standard Additions (MSA).
T	Analyte is a tentatively identified compound, result is estimated.
U	Compound was analyzed for, but was not detected (ND).
V1	The continuing calibration verification standard was outside (biased high) the specified limits for this compound.
V2	The continuing calibration verification standard was outside (biased low) the specified limits for this compound.
W	Result quantified, but the corresponding peak was detected outside the generated retention time window.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
X	See case narrative.
Y	Recovery outside limits
Y	The chromatogram resembles a petroleum product but does not match the calibration standard.
Z	The chromatogram does not resemble a petroleum product.
i	The MRL/MDL has been elevated due to a matrix interference.

ALS Laboratory Group

Acronyms

Cal	Calibration
Conc	CONCentration
Dioxin(s)	Polychlorinated dibenzo-p-dioxin(s)
EDL	Estimated Detection Limit
EMPC	Estimated Maximum Possible Concentration
Flags	Data qualifiers
Furan(s)	Polychlorinated dibenzofuran(s)
g	Grams
ICAL	Initial CALibration
ID	IDentifier
Ions	Masses monitored for the analyte during data acquisition
L	Liter (s)
LCS	Laboratory Control Sample
DLCS	Duplicate Laboratory Control Sample
MB	Method Blank
MCL	Method Calibration Limit
MDL	Method Detection Limit
mL	Milliliters
MS	Matrix Spiked sample
DMS	Duplicate Matrix Spiked sample
NO	Number of peaks meeting all identification criteria
PCDD(s)	Polychlorinated dibenzo-p-dioxin(s)
PCDF(s)	Polychlorinated dibenzofuran(s)
ppb	Parts per billion
ppm	Parts per million
ppq	Parts per quadrillion
ppt	Parts per trillion
QA	Quality Assurance
QC	Quality Control
Ratio	Ratio of areas from monitored ions for an analyte
% Rec.	Percent recovery
RPD	Relative Percent Difference
RRF	Relative Response Factor
RT	Retention Time
SDG	Sample Delivery Group
S/N	Signal-to-noise ratio
TEF	Toxicity Equivalence Factor
TEQ	Toxicity Equivalence Quotient

10450 Stancliff Rd, Houston, TX 77099 | 281-530-5656 | www.alsglobal.com

ALS Environmental

State Certifications, Accreditations, and Licenses

Agency	Number	Expire Date
Arizona Department of Health Services	AZ0793_2024	5/27/2024
Arkansas Department of Environmental Quality	88-00356	3/27/2024
California State Environmental Laboratory Accreditation Program	2919	4/30/2024
Department of Defense	L22-90	3/31/2024
Department of Defense	L23-358	5/31/2025
Florida Department of Health	E87611-38	6/30/2024
Illinois Environmental Protection Agency	2000322023-11	6/30/2024
Kansas Department of Health and Environment	E-10352 2022-2023	7/31/2023
Louisiana Department of Environmental Quality	03087-2023	6/30/2024
Louisiana Department of Health and Hospitals	LA028-2023	12/31/2023
Maine Department of Health and Human Services	2022017	6/5/2024
Maryland Department of the Environment	343	7/31/2023
Michigan Depratment of Environmental Quality	9971-2023	4/30/2024
Minnesota Department of Health	2368363	12/31/2023
Nebraska Department of Health and Human Services	NE-OS-25-13	4/30/2024
Nevada Department of Conservation and Natural Resources	TX026932023-1	7/31/2023
New Hampshire Environmental Laboratory Accreditation Program	209423	4/24/2024
New Jersey Department of Environmental Protection	TX008-2024	6/30/2024
New York Department of Health	11707	3/31/2024
Oklahoma Department of Environmental Quality	2022-141	8/31/2023
Pennsylvania Department of Environmental Protection	68-03441-017	6/30/2024
Perry Johnson Laboratory Accreditation	L22-91	3/31/2024
Tennessee Department of Environment and Concervation	TN04016-2023	4/30/2024
Texas Commision on Environmental Quality	T104704231-23-30	4/30/2024
Utah Department of Health Environmental Laboratory Certification	TX026932022-13	7/31/2023
Washington Department of Ecology	C819-22	11/14/2023

ALS

Chain of Custody

ALS Environmental - Houston Specialties Laboratory
10450 Stancliff Rd., Suite 210, Houston TX 77099
Phone (281)530-5656 Fax (281)530-5887
www.alsglobal.com

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Houston, TX 77099
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F: +1 281 530 5887
www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense**

COC ID: **22315**

E2300643 5
ALS Laboratory Group
HS23070447

SUBCONTRACT TO:

ALS Environmental
10450 Stancliff RoadSuite 210
Houston, TX 77084

Phone: +1 281 530 5656

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	James Guin
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	James.Guin@alsglobal.com
Alternate Contact:	Jumoke M. Lawal
Email:	jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS23070447
TSR:	Houston House Acct

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS23070447-01**	**LH18/24-SP140_071023**	**Water**	**10 Jul 2023 13:00**
	6850-Perch. DOD Level II & Level IV in separate pdf			18 Jul 2023

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.

QC Level: DOD IV (DoD Data Package)

Relinquished By: _____ Date/Time: _____

Received By: _____ Date/Time: 7-19-23 1400

Cooler ID(s): _____ Temperature(s): _____

10450 Stancliff Road, Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

Client: ALS Date: 7-19-23 WO#:

Time Received: 1400 Received by: CG BO#:

Matrices: Solid/Sludge Water Oil Wipes Hydrocarbon Liquid Other

Kit ID/Cooler ID	Trip Blank ID	Cooler Temp (C) Observed/Corrected	IR #	Temp BLK Present?
—		4.1 / 4.0	31	Y N
		/		Y N
		/		Y N
		/		Y N
		/		Y N

Delivery Method: FedEx UPS Greyhound ALS Client Other

Date/Time of Unpacking: 7-19-23 Unpacked by: CG

Shipping container/cooler in good condition?	~~Yes~~	No	Not Present
Custody seals intact on shipping container/cooler?	Yes	No	~~Not Present~~
Custody seals intact on sample bottles?	Yes	No	~~Not Present~~
Chain of Custody present?	~~Yes~~	No	
Chain of Custody signed when relinquished and received?	~~Yes~~	No	
Chain of Custody - Sampler's name present?	Yes	~~No~~	
Chain of Custody agrees with sample labels?	~~Yes~~	No	
Samples in proper container/bottle?	~~Yes~~	No	
VOA/TX1005/1006 Solids in hermetically Sealed Vials:	Yes	No	No VOA/TX1005/1006 Solid
Sample containers intact?	~~Yes~~	No	
Sufficient sample volume for indicated test?	~~Yes~~	No	
All samples received within holding time?	~~Yes~~	No	
Container/Temp Blank temperature in compliance?	~~Yes~~	No	
Water - VOA vials have zero headspace?	Yes	No	N/A ~~No VOA submitted~~
Non-VOA waters preserved with HCl, H2SO4, HNO3 are pH <2?			Yes No N/A
Waters preserved with NaOH/Ascorbic acid are pH>12?	Yes	No	~~N/A~~
pH adjusted?	Yes*	No	~~N/A~~ *See Preservation Logbook

pH adjusted by: _____ **pH Paper Lot:** _____

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SAMPLE ACCEPTANCE POLICY

This policy outlines the criteria samples must meet to be accepted by ALS Environmental – Houston HRMS.

Cooler Custody Seals (desirable, mandatory if specified in SAP):

- ✓ Intact on outside of cooler, signed and dated

Chain-of-Custody (COC) documentation (mandatory):

The following is required on each COC:

- ✓ Sample ID, the location, date and time of collection, collector's name, preservation type, sample type, and any other special remarks concerning the sampleThe COC must be completed in ink.
- ✓ Signature and date of relinquishing party.

In the absence of a COC at sample receipt, the COC will be requested from the client.

Sample Integrity (mandatory):

Samples are inspected upon arrival to ensure that sample integrity was not compromised during transfer to the laboratory.

- ✓ Sample containers must arrive in good condition (not broken or leaking).
- ✓ Samples must be labeled appropriately, including Sample IDs, and requested test using durable labels and indelible ink.
- ✓ The correct type of sample bottle must be used for the method requested.
- ✓ An appropriate sample volume, or weight, must be received.
- ✓ Sample IDs and number of containers must reconcile with the COC.
- ✓ Samples must be received within the method defined holding time.

Temperature Requirement (varies by sample matrix):

- ✓ Aqueous and Non-aqueous samples must be shipped and stored cold, at 0 to 6ºC.
- ✓ Tissue samples must be shipped and stored frozen, at -20 to -10ºC.
- ✓ Air samples are shipped and stored cold, at 0 to 6ºC
- ✓ The sample temperature must be recorded on the COC

All cooler inspections are documented on the Cooler Receipt Form (CRF). A separate CRF is completed for each service request. Any samples not meeting the above criteria are noted on the CRF and the Project Manager notified. The Project Manager must resolve any sample integrity issues with the client prior to proceeding with the analysis. Such resolutions are documented in writing and filed with the project folder. Data associated with samples received outside of this acceptance policy will be qualified on the case narrative of the final report

Preparation Information Benchsheets

ALS Environmental - Houston Specialties Laboratory
10450 Stancliff Rd., Suite 210, Houston TX 77099
Phone (281)530-5656 Fax (281)530-5887
www.alsglobal.com

Preparation Information Benchsheet

Prep Run#: 423378 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/XMI **Prep Method:** Method **Prep Date/Time:** 7/20/23 08:43

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2300630-001	LH18/24-SP650_071023_AIX	.01	6850/ClO4 DOD			Water	10mL	
2	E2300631-001	EA-20_0323	.01	6850/ClO4			Water	10mL	
3	E2300631-002	CTC-48_0323	.01	6850/ClO4			Water	10mL	
4	E2300631-003	EA-55-0323	.01	6850/ClO4			Water	10mL	
5	E2300631-004	CTC-29-0323	.01	6850/ClO4			Water	10mL	
6	E2300637-001	EA-5_0323	.01	6850/ClO4			Water	10mL	
7	E2300637-002	WELL-3_0323	.01	6850/ClO4			Water	10mL	
8	E2300637-003	CTC-47_0323	.01	6850/ClO4			Water	10mL	
9	E2300637-004	EA40_0323	.01	6850/ClO4			Water	10mL	
10	E2300637-005	EA-53_0323	.01	6850/ClO4			Water	10mL	
11	E2300642-001	MW-2	.01	6850/ClO4			Water	10mL	
12	E2300643-001	LH18/24-SP140_071023	.01	6850/ClO4 DOD			Water	10mL	
13	EQ2300346-01	MB		6850/ClO4			Liquid	10mL	
14	EQ2300346-02	LCS		6850/ClO4			Liquid	10mL	
15	EQ2300346-03	DLCS		6850/ClO4			Liquid	10mL	
16	K2307522-001	LGAC-INF-070323	.01	6850/ClO4			Water	10mL	
17	K2307522-002	LGAC-INT1-070323	.01	6850/ClO4			Water	10mL	
18	K2307522-003	LGAC-INT2-070323	.01	6850/ClO4			Water	10mL	
19	K2307692-001	FBR-INF-071023	.01	6850/ClO4			Water	10mL	
20	K2307692-002	LGAC-INF-071023	.01	6850/ClO4			Water	10mL	
21	K2307692-003	LGAC-INT1-071023	.01	6850/ClO4			Water	10mL	
22	K2307692-004	LGAC-INT2-071023	.01	6850/ClO4			Water	10mL	

Spiking Solutions

Name: Perchlorate Intermediate Stock1 Inventory ID 227236 Logbook Ref: Perchlorate (1st Source) Expires On: 07/31/2023

EQ2300346-02	1.00µL	EQ2300346-02	1.00µL	EQ2300346-03	1.00µL	EQ2300346-03	1.00µL

Name: Perchlorate Internal Standard 1ug/mL Inventory ID 227244 Logbook Ref: Perchlorate Internal Standard Expires On: 07/31/2023

E2300630-001	100.00µL	E2300631-001	100.00µL	E2300631-002	100.00µL	E2300631-003	100.00µL	E2300631-004	100.00µL	E2300637-001	100.00µL
E2300637-002	100.00µL	E2300637-003	100.00µL	E2300637-004	100.00µL	E2300637-005	100.00µL	E2300642-001	100.00µL	E2300643-001	100.00µL
EQ2300346-01	100.00µL	EQ2300346-01	100.00µL	EQ2300346-02	100.00µL	EQ2300346-02	100.00µL	EQ2300346-03	100.00µL	EQ2300346-03	100.00µL
K2307522-001	100.00µL	K2307522-002	100.00µL	K2307522-003	100.00µL	K2307692-001	100.00µL	K2307692-002	100.00µL	K2307692-003	100.00µL
K2307692-004	100.00µL										

Preparation Information Benchsheet

Prep Run#: 423378 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/XMI **Prep Method:** Method **Prep Date/Time:** 7/20/23 08:43

Preparation Materials

Water HPLC Grade	HPLC water 5/18/23CG (229315)	6850 Amber Glass screw vial	2mL Screw Top Vial (221894)	6850 0.45um syringe filters	6850 0.45 SYRING FILTER (229979)
6850 Luer-Lok Syringes	luer-lock syringes (228116)				

Preparation Steps

Step: Preparation
Started: 7/20/23 08:43
Finished: 7/20/23 09:55
By: XMI
Comments

Comments: _____

Reviewed By: _____ Date: _____

Chain of Custody

Relinquished By: _____ Date: _____ Extracts Examined

Received By: _____ Date: _____ Yes No

Analytical Results

ALS Environmental - Houston Specialties Laboratory
10450 Stancliff Rd., Suite 210, Houston TX 77099
Phone (281)530-5656 Fax (281)530-5887
www.alsglobal.com

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300643
Project:	HS23070447	**Date Collected:**	7/10/23 1300
Sample Matrix:	Water	**Date Received:**	7/19/23
Sample Name:	LH18/24-SP140_071023	**Units:**	µg/L
Lab Code:	E2300643-001	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**57500**		500	250	125	5000	7/20/23	7/20/23 16:49	423378	811363	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300643
Project:	HS23070447	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2300346-01	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.100	0.0500	0.0250	1	7/20/23	7/20/23 15:27	423378	811363	

Accuracy & Precision

ALS Environmental - Houston Specialties Laboratory
10450 Stancliff Rd., Suite 210, Houston TX 77099
Phone (281)530-5656 Fax (281)530-5887
www.alsglobal.com

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS23070447
Sample Matrix: Water

Service Request: E2300643
Date Analyzed: 7/20/23

Lab Control Sample Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Units: µg/L
Basis: NA

Extraction Lot: 423378

	Lab Control Sample EQ2300346-02			Duplicate Lab Control Sample EQ2300346-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.111	0.100	111	0.0967	0.100	97	84 - 119	14	15

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300643
Project:	HS23070447	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2300346-02	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.111**		0.100	0.0500	0.0250	1	7/20/23	7/20/23 15:39	423378	811363	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300643
Project:	HS23070447	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2300346-03	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.0967**	J	0.100	0.0500	0.0250	1	7/20/23	7/20/23 15:55	423378	811363	

Initial Calibration

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 210, Houston, TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

20230629-809329

Injection Log

LCMS01 -Shimadzu 8050

1st Review: XM
2nd Review: GC

ICAL Date: 6/29/2023
Cal. Std. xp: 06/29/2023
ICAL ID: EC2300011

Mobile Phases : A:20mM ammonium acetate in water 32103046 **B:**Acetonitrile 226552

	Sample Name		File Name	Acquisition Method	Dilution	Comments	Date/Time
1	PERCHLORATE1		20230629-001	Perchlorate6850c.lcm	1x	227245	6/29/2023 12:59
2	PERCHLORATE2		20230629-002	Perchlorate6850c.lcm	1x	227246	6/29/2023 13:05
3	PERCHLORATE3		20230629-003	Perchlorate6850c.lcm	1x	227247	6/29/2023 13:10
4	PERCHLORATE4		20230629-004	Perchlorate6850c.lcm	1x	227248	6/29/2023 13:16
5	PERCHLORATE5		20230629-005	Perchlorate6850c.lcm	1x	227249	6/29/2023 13:21
6	PERCHLORATE6		20230629-006	Perchlorate6850c.lcm	1x	227250	6/29/2023 13:27
7	PERCHLORATE7		20230629-007	Perchlorate6850c.lcm	1x	227251	6/29/2023 13:32
8	PERCHLORATE8		20230629-008	Perchlorate6850c.lcm	1x	227252	6/29/2023 13:38
9	PERCHLORATE9		20230629-009	Perchlorate6850c.lcm	1x	227253	6/29/2023 13:43
10	PERCHLORATE10		20230629-010	Perchlorate6850c.lcm	1x	227254	6/29/2023 13:49
11	PERCHLORATEICV		20230629-011	Perchlorate6850c.lcm	1x	227256	6/29/2023 13:55
12	IB		20230629-012	Perchlorate6850c.lcm	1x		6/29/2023 14:00
13	LODV		20230629-013	Perchlorate6850c.lcm	1x	227501	6/29/2023 14:06
14	ICS		20230629-014	Perchlorate6850c.lcm	1x	32103024	6/29/2023 14:11
15	CCV		20230629-015	Perchlorate6850c.lcm	1x	227251	6/29/2023 14:17
16	EQ2300312-01		20230629-016	Perchlorate6850c.lcm	1x		6/29/2023 14:22
17	EQ2300312-02		20230629-017	Perchlorate6850c.lcm	1x	DNU-RR	6/29/2023 14:28
18	EQ2300312-03		20230629-018	Perchlorate6850c.lcm	1x		6/29/2023 14:33
19	E2300606-001		20230629-019	Perchlorate6850c.lcm	10x		6/29/2023 14:39
20	EQ2300312-04		20230629-020	Perchlorate6850c.lcm	1x		6/29/2023 14:44
21	EQ2300312-05		20230629-021	Perchlorate6850c.lcm	1x		6/29/2023 14:50
22	E2300606-002		20230629-022	Perchlorate6850c.lcm	5x		6/29/2023 14:55
23	E2300606-003		20230629-023	Perchlorate6850c.lcm	10x		6/29/2023 15:01
24	E2300606-004		20230629-024	Perchlorate6850c.lcm	10x		6/29/2023 15:06
25	E2300606-005		20230629-025	Perchlorate6850c.lcm	1x		6/29/2023 15:12
26	CCV		20230629-026	Perchlorate6850c.lcm	1x	227251	6/29/2023 15:17
27	E2300606-006		20230629-027	Perchlorate6850c.lcm	1x		6/29/2023 15:23
28	E2300606-007		20230629-028	Perchlorate6850c.lcm	500x		6/29/2023 15:28
29	E2300606-008		20230629-029	Perchlorate6850c.lcm	100x		6/29/2023 15:34
30	EQ2300312-06		20230629-030	Perchlorate6850c.lcm	100x		6/29/2023 15:40
31	EQ2300312-07		20230629-031	Perchlorate6850c.lcm	100x		6/29/2023 15:45
32	E2300606-009		20230629-032	Perchlorate6850c.lcm	1x		6/29/2023 15:53
33	E2300610-001		20230629-033	Perchlorate6850c.lcm	10000x		6/29/2023 15:58
34	E2300610-002		20230629-034	Perchlorate6850c.lcm	1x		6/29/2023 16:04
35	E2300610-003		20230629-035	Perchlorate6850c.lcm	1x		6/29/2023 16:09
36	E2300610-004		20230629-036	Perchlorate6850c.lcm	1x		6/29/2023 16:15
37	CCV		20230629-037	Perchlorate6850c.lcm	1x	227251	6/29/2023 16:21

20230629-809329

Injection Log

LCMS01 -Shimadzu 8050

1st Review: XM
2nd Review: GC

ICAL Date: 6/29/2023
Cal. Std. xp: 06/29/2023
ICAL ID: EC2300011

Mobile Phases : A:20mM ammonium acetate in water 32103046 **B:**Acetonitrile 226552

	Sample Name		File Name	Acquisition Method	Dilution	Comments	Date/Time
38	E2300610-005		20230629-038	Perchlorate6850c.lcm	1x		6/29/2023 16:26
39	E2300610-006		20230629-039	Perchlorate6850c.lcm	1x		6/29/2023 16:32
40	E2300610-007		20230629-040	Perchlorate6850c.lcm	1x		6/29/2023 16:37
41	E2300610-008		20230629-041	Perchlorate6850c.lcm	1x	DNU-D	6/29/2023 16:43
42	EQ2300312-08		20230629-042	Perchlorate6850c.lcm	1x		6/29/2023 16:48
43	EQ2300312-09		20230629-043	Perchlorate6850c.lcm	1x		6/29/2023 16:54
44	E2300611-001		20230629-044	Perchlorate6850c.lcm	1x		6/29/2023 16:59
45	E2300611-002		20230629-045	Perchlorate6850c.lcm	1x		6/29/2023 17:05
46	E2300611-003		20230629-046	Perchlorate6850c.lcm	1x		6/29/2023 17:10
47	E2300611-004		20230629-047	Perchlorate6850c.lcm	1x	DNU-D	6/29/2023 17:16
48	CCV		20230629-048	Perchlorate6850c.lcm	1x	227251	6/29/2023 17:21
49	E2300611-005		20230629-049	Perchlorate6850c.lcm	1x		6/29/2023 17:27
50	E2300611-006		20230629-050	Perchlorate6850c.lcm	1x	DNU-D	6/29/2023 17:32
51	E2300611-007		20230629-051	Perchlorate6850c.lcm	1x	DNU-D	6/29/2023 17:38
52	E2300611-008		20230629-052	Perchlorate6850c.lcm	1x		6/29/2023 17:43
53	E2300611-009		20230629-053	Perchlorate6850c.lcm	1x		6/29/2023 17:49
54	E2300611-010		20230629-054	Perchlorate6850c.lcm	1x		6/29/2023 17:55
55	CCV		20230629-055	Perchlorate6850c.lcm	1x	227251	6/29/2023 18:06

Initial Calibration - Detailed Report

Calibration ID: EC2300011 **Instrument ID:** E-LCMS-01
Column Name: 1

#	Lab Code	Sample Name	File Location	Aquisition Date
01	EC2300011-01	PERCHLORATE1	20230629-001	06/29/2023 12:59
02	EC2300011-02	PERCHLORATE2	20230629-002	06/29/2023 13:05
03	EC2300011-03	PERCHLORATE3	20230629-003	06/29/2023 13:10
04	EC2300011-04	PERCHLORATE4	20230629-004	06/29/2023 13:16
05	EC2300011-05	PERCHLORATE5	20230629-005	06/29/2023 13:21
06	EC2300011-06	PERCHLORATE6	20230629-006	06/29/2023 13:27
07	EC2300011-07	PERCHLORATE7	20230629-007	06/29/2023 13:32
08	EC2300011-08	PERCHLORATE8	20230629-008	06/29/2023 13:38
09	EC2300011-09	PERCHLORATE9	20230629-009	06/29/2023 13:43
10	EC2300011-10	PERCHLORATE10	20230629-010	06/29/2023 13:49

Analyte **Curve Fit** **Weighting**

Perchlorate **Average RF** **RSD = 2.809** **Average RF = 0.1625**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.1000	0.1678	02	0.5000	0.1574	03	0.7000	0.1599	04	1.0000	0.1567
05	2.0000	0.1596	06	5.0000	0.1641	07	10.0000	0.1704	08	20.0000	0.1667
09	30.0000	0.1608	10	50.0000	0.1619						

Analyte

Perchlorate RSE = 2.81

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.1000	0.103	3.2	02	0.5000	0.484	-3.1	03	0.7000	0.689	-1.6
04	1.0000	0.964	-3.6	05	2.0000	1.96	-1.8	06	5.0000	5.05	1.0
07	10.0000	10.5	4.8	08	20.0000	20.5	2.6	09	30.0000	29.7	-1.1
10	50.0000	49.8	-0.4								

Initial Calibration Verification Summary Report

Calibration ID:	EC2300011	**Instrument ID:**	E-LCMS-01
Datafile ID:	20230629-011	**Column Name:**	1

Analyte	Lab Code	Type	Curve Fit	True Value	Calc Conc	Units	Result	Criteria
Perchlorate	EC2300011-11	T	Average RF	10	9.913	ng/mL	-0.9	<= 15

Insight Report

Printed at 6/29/2023 2:17:05 PM

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Project File: I:\LCMS01\DATA\20230628\06282023.damlp

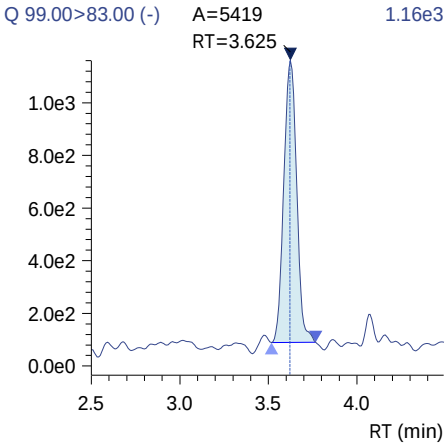
PERCHLORATE1

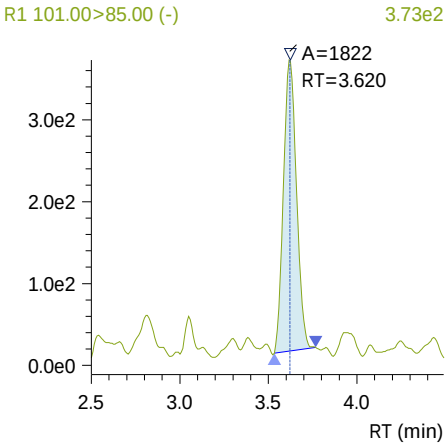
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Date Acquired: 6/29/2023 12:59:40 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230629\20230629-001.lcd
Vial: 1 | Inj. Volume: 10.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.625	5419	323018	0.1032	ng/mL	101.00 >85.00	33.63	22.41-41.62
Sodium Perchlorate-18O4 _IS	Auto	3.617	323018	323018	1.0000	ng/mL	----	----	

Perchlorate

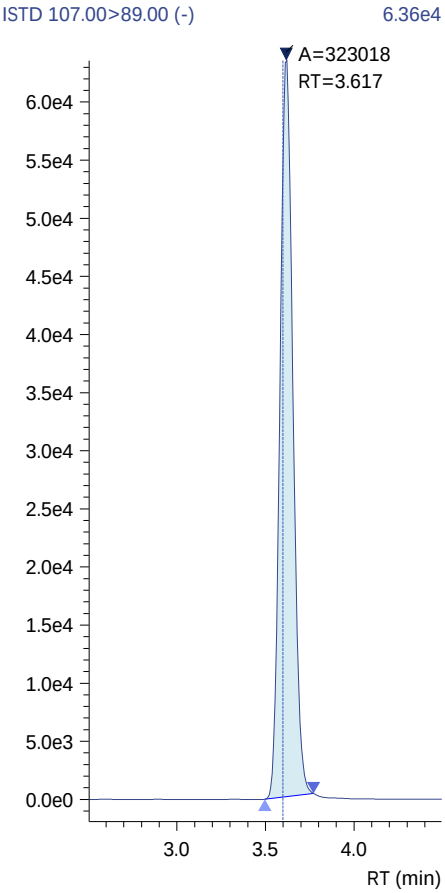
Conc 0.1032
R#1 33.63 (32.02)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 6/29/2023 2:17:05 PM

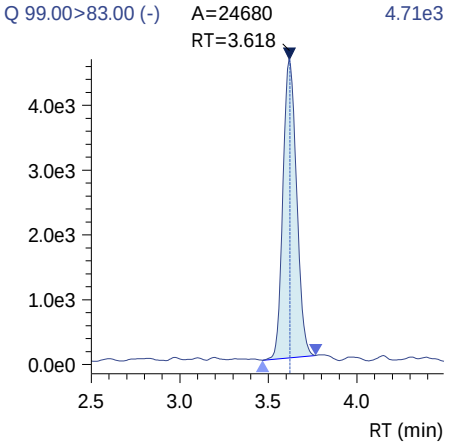
PERCHLORATE2

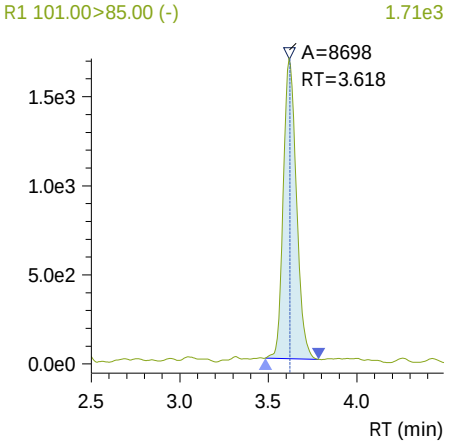
Sample ID: PERCHLORATE2
Date Acquired: 6/29/2023 1:05:11 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230629\20230629-002.lcd
Vial: 2 | Inj. Volume: 10.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.618	24680	313519	0.4844	ng/mL	101.00 >85.00	35.24	22.41-41.62
Sodium Perchlorate-18O4 _IS	Auto	3.618	313519	313519	1.0000	ng/mL	----	----	

Perchlorate

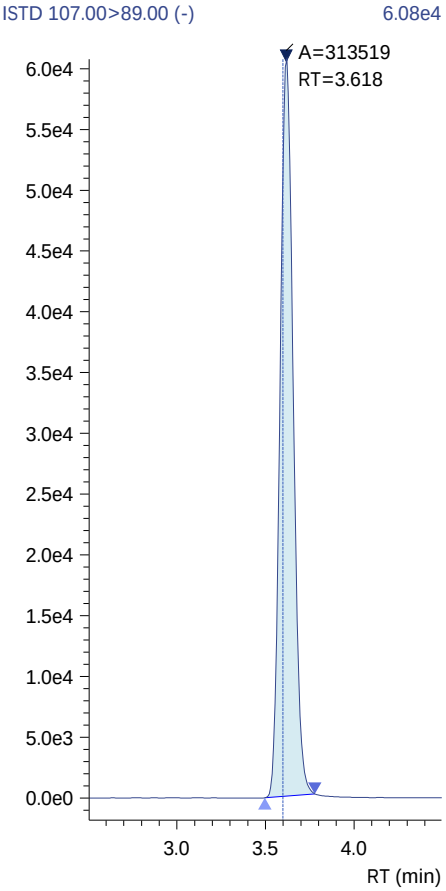
Conc 0.4844
R#1 35.24 (32.02)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 6/29/2023 2:17:05 PM

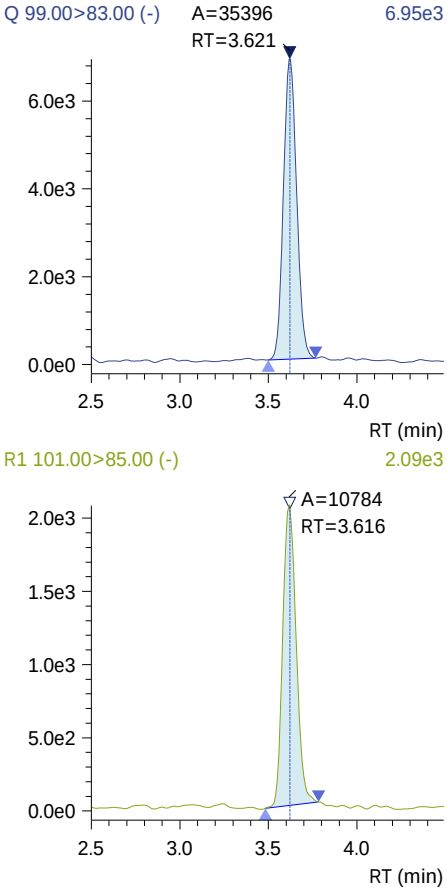
PERCHLORATE3

Sample ID: PERCHLORATE3
Date Acquired: 6/29/2023 1:10:46 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230629\20230629-003.lcd
Vial: 3 | Inj. Volume: 10.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.621	35396	316311	0.6886	ng/mL	101.00 >85.00	30.47	22.41-41.62
Sodium Perchlorate-18O4 _IS	Auto	3.618	316311	316311	1.0000	ng/mL	----	----	

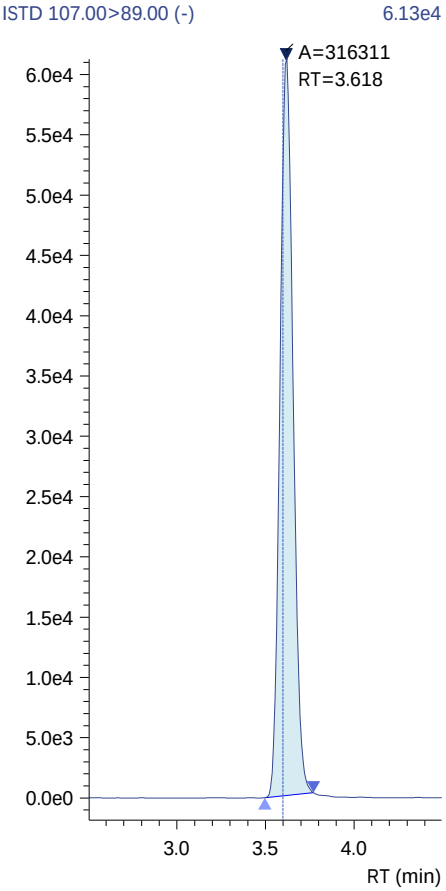
Perchlorate

Conc 0.6886
R#1 30.47 (32.02)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

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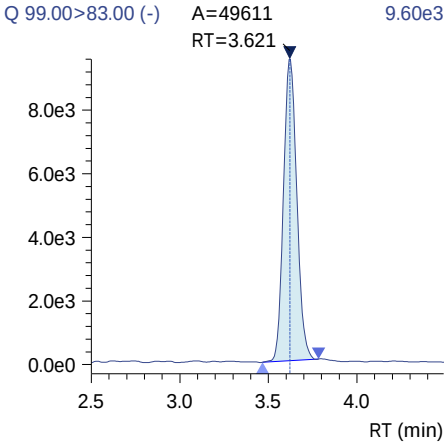
PERCHLORATE4

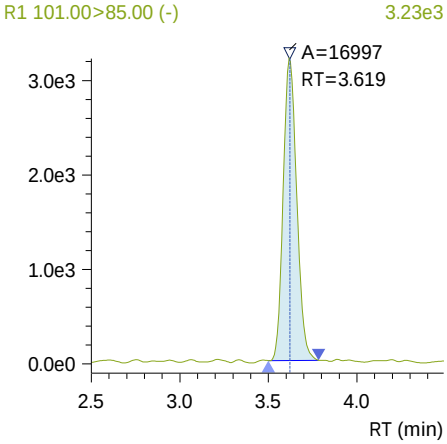
Sample ID: PERCHLORATE4
Date Acquired: 6/29/2023 1:16:19 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230629\20230629-004.lcd
Vial: 4 | Inj. Volume: 10.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.621	49611	316580	0.9643	ng/mL	101.00 >85.00	34.26	22.41-41.62
Sodium Perchlorate-18O4 _IS	Auto	3.618	316580	316580	1.0000	ng/mL	----	----	

Perchlorate

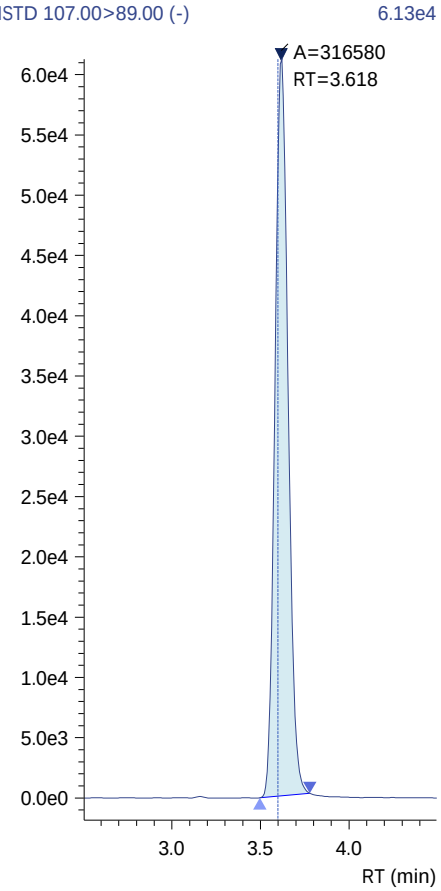
Conc 0.9643
R#1 34.26 (32.02)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 6/29/2023 2:17:05 PM

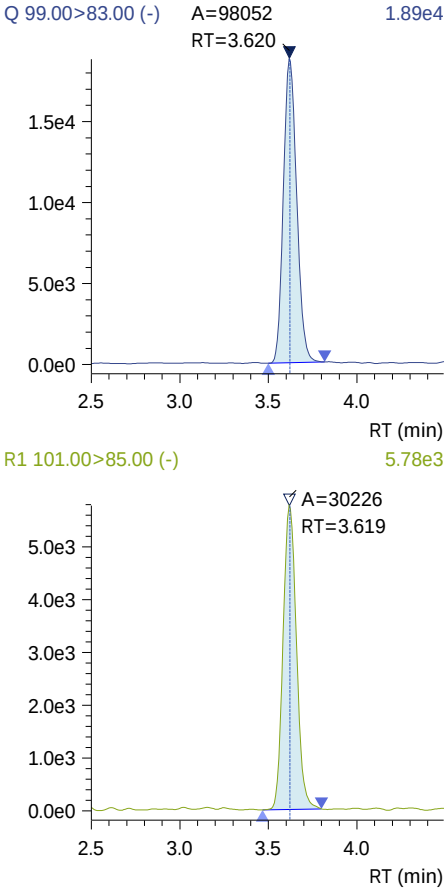
PERCHLORATE5

Sample ID: PERCHLORATE5
Date Acquired: 6/29/2023 1:21:50 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230629\20230629-005.lcd
Vial: 5 | Inj. Volume: 10.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.620	98052	307162	1.9642	ng/mL	101.00 >85.00	30.83	22.41-41.62
Sodium Perchlorate-18O4 _IS	Auto	3.617	307162	307162	1.0000	ng/mL	----	----	

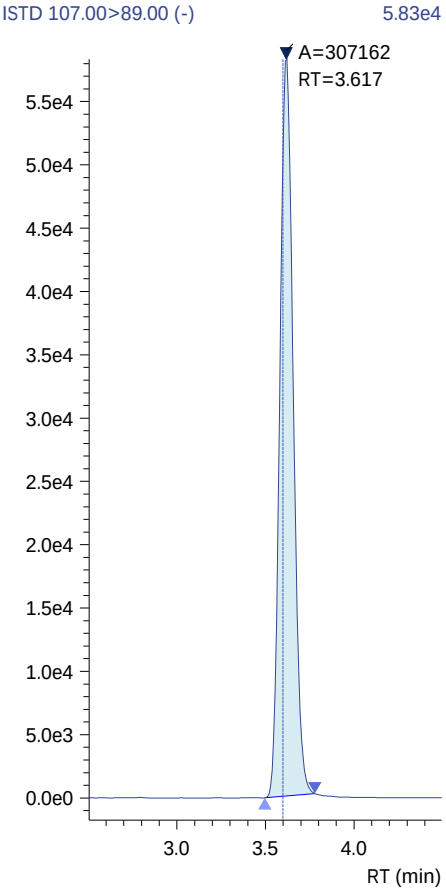
Perchlorate

Conc 1.9642
R#1 30.83 (32.02)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 6/29/2023 2:17:05 PM

PERCHLORATE6

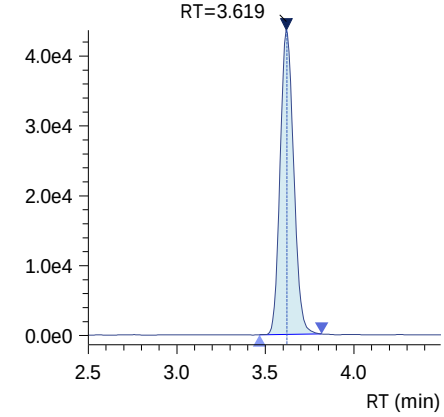
Sample ID: PERCHLORATE6
Date Acquired: 6/29/2023 1:27:22 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230629\20230629-006.lcd
Vial: 6 | Inj. Volume: 10.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.619	232011	282827	5.0477	ng/mL	101.00 >85.00	31.17	22.41-41.62
Sodium Perchlorate-18O4 _IS	Auto	3.617	282827	282827	1.0000	ng/mL	----	----	

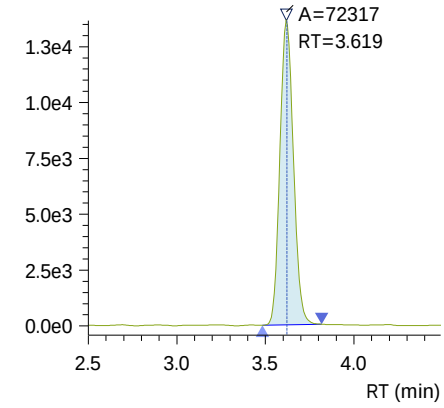
Perchlorate

Conc 5.0477
R#1 31.17 (32.02)

Q 99.00>83.00 (-) A=232011 RT=3.619 4.37e4



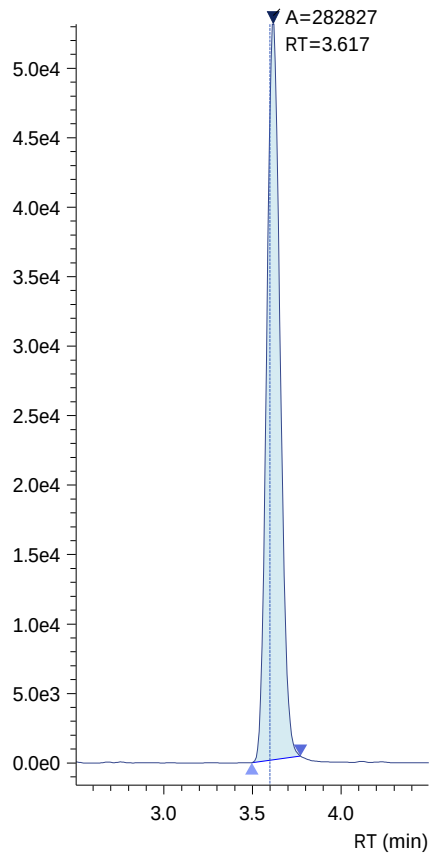
R1 101.00>85.00 (-) 1.37e4



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 5.32e4



Insight Report

Printed at 6/29/2023 2:17:05 PM

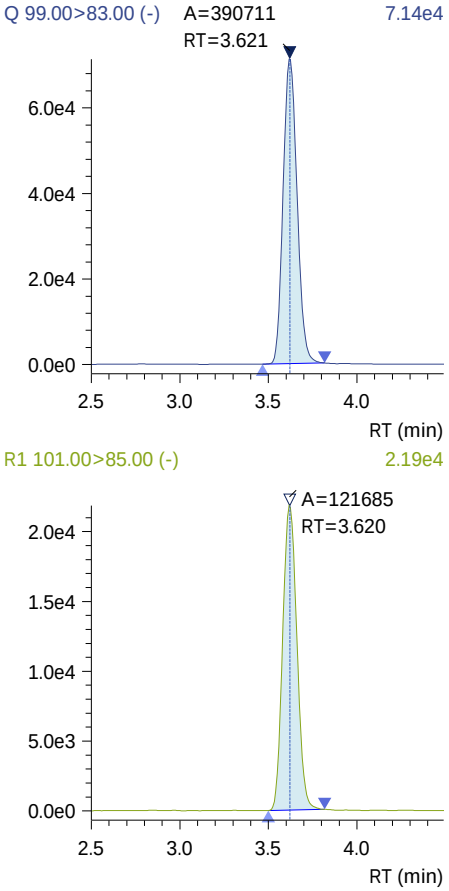
PERCHLORATE7

Sample ID: PERCHLORATE7
Date Acquired: 6/29/2023 1:32:51 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230629\20230629-007.lcd
Vial: 3 | Inj. Volume: 10.0000uL | Tray: 0

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.621	390711	229327	10.48 35	ng/mL	101.00 >85.00	31.14	22.41-41.62
Sodium Perchlorate-18O4 _IS	Auto	3.616	229327	229327	1.0000	ng/mL	----	----	

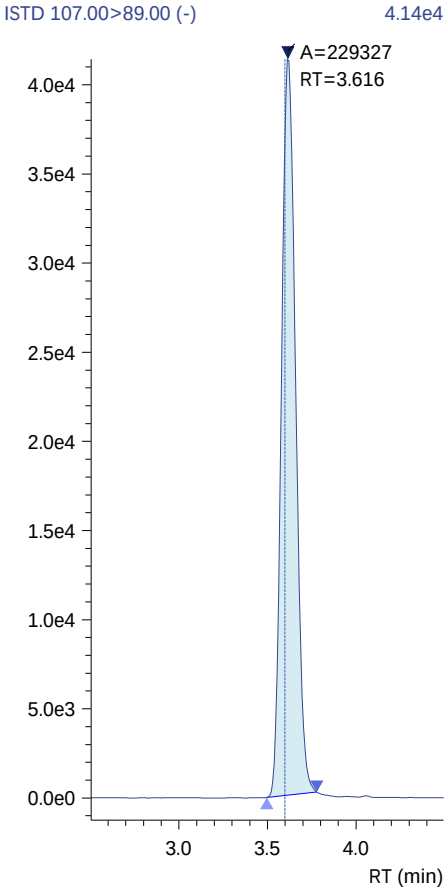
Perchlorate

Conc 10.4835
R#1 31.14 (32.02)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 6/29/2023 2:17:05 PM

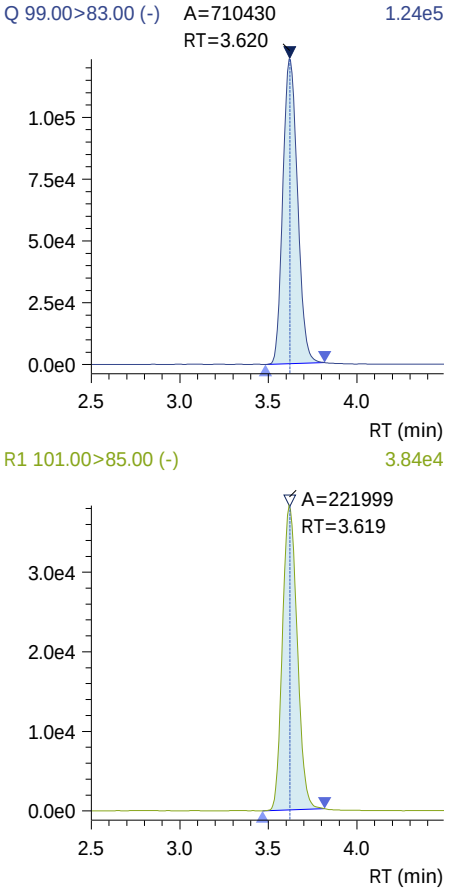
PERCHLORATE8

Sample ID: PERCHLORATE8
Date Acquired: 6/29/2023 1:38:22 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230629\20230629-008.lcd
Vial: 8 | Inj. Volume: 10.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.620	710430	213093	20.5144	ng/mL	101.00 >85.00	31.25	22.41-41.62
Sodium Perchlorate-18O4_IS	Auto	3.615	213093	213093	1.0000	ng/mL	----	----	

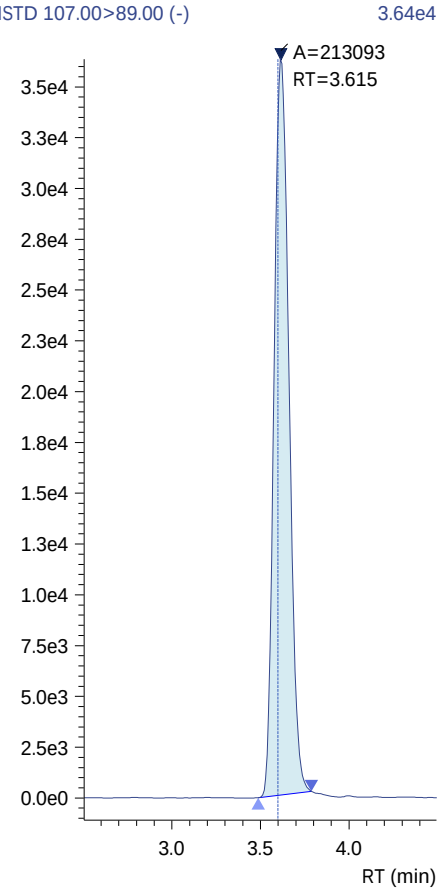
Perchlorate

Conc 20.5144
R#1 31.25 (32.02)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 6/29/2023 2:17:05 PM

PERCHLORATE9

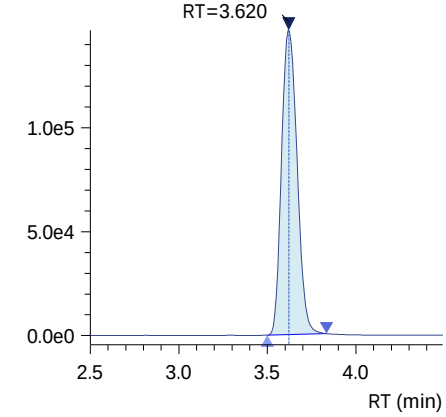
Sample ID: PERCHLORATE9
Date Acquired: 6/29/2023 1:43:53 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230629\20230629-009.lcd
Vial: 9 | Inj. Volume: 10.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.620	896468	185851	29.6808	ng/mL	101.00 >85.00	31.06	22.41-41.62
Sodium Perchlorate-18O4_IS	Auto	3.614	185851	185851	1.0000	ng/mL	----	----	

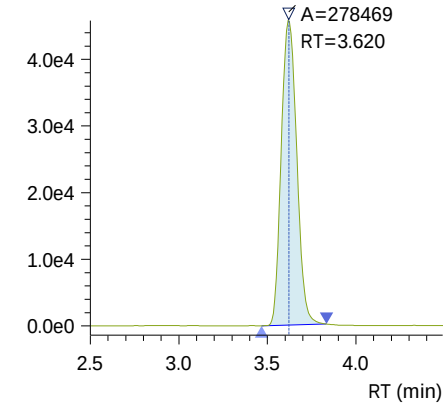
Perchlorate

Conc 29.6808
R#1 31.06 (32.02)

Q 99.00>83.00 (-) A=896468 1.47e5



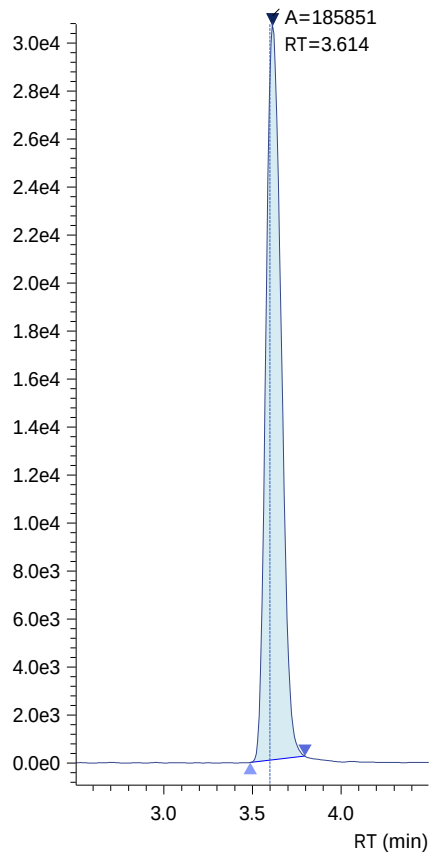
R1 101.00>85.00 (-) 4.58e4



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 3.08e4



Insight Report

Printed at 6/29/2023 2:17:05 PM

PERCHLORATE10

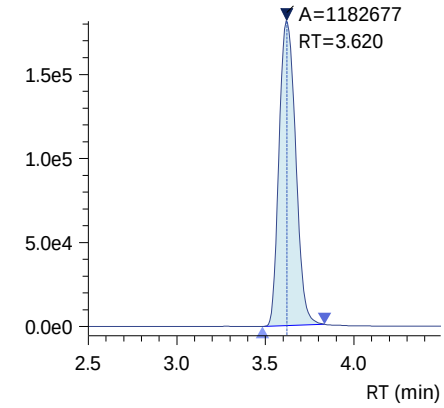
Sample ID: PERCHLORATE10
Date Acquired: 6/29/2023 1:49:27 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230629\20230629-010.lcd
Vial: 10 | Inj. Volume: 10.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.620	1182677	146135	49.79 86	ng/mL	101.00 >85.00	30.89	22.41-41.62
Sodium Perchlorate-18O4 _IS	Auto	3.614	146135	146135	1.0000	ng/mL	----	----	

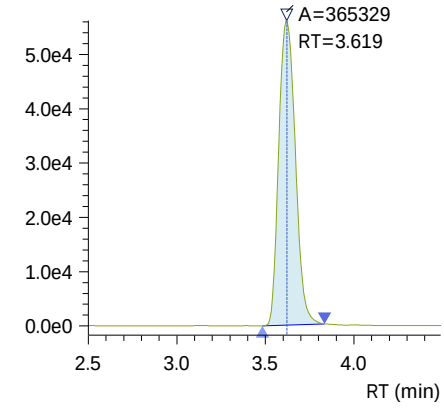
Perchlorate

Conc 49.7986
R#1 30.89 (32.02)

Q 99.00>83.00 (-) 1.82e5



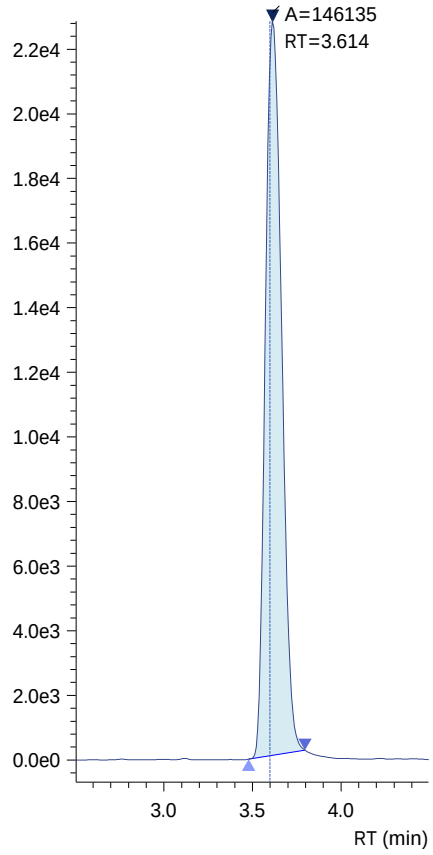
R1 101.00>85.00 (-) 5.62e4



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 2.29e4



Insight Report

Printed at 6/29/2023 2:17:05 PM

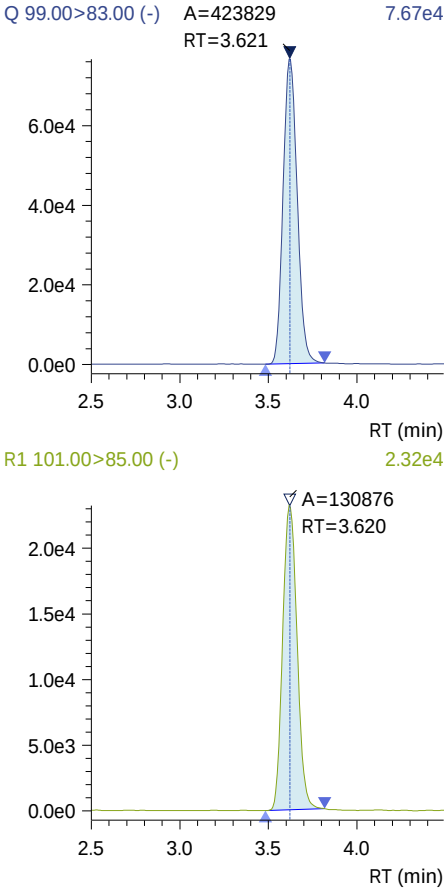
PERCHLORATEICV

Sample ID: PERCHLORATEICV
Date Acquired: 6/29/2023 1:55:00 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230629\20230629-011.lcd
Vial: 11 | Inj. Volume: 10.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.621	423829	263091	9.9127	ng/mL	101.00 >85.00	30.88	22.41-41.62
Sodium Perchlorate-18O4 _IS	Auto	3.617	263091	263091	1.0000	ng/mL	----	----	

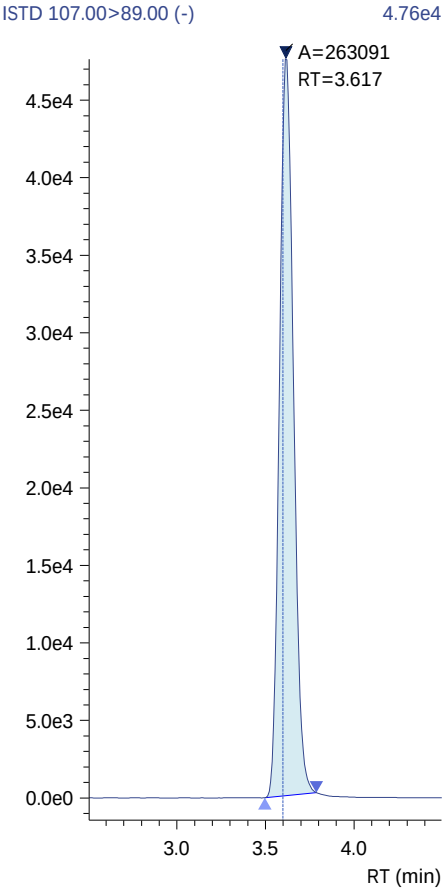
Perchlorate

Conc 9.9127
R#1 30.88 (32.02)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Chromatograms and Selected Ion Monitoring

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 320, Houston TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

20230720-811363

Injection Log

LCMS01 -Shimadzu 8050

1st Review: XM
2nd Review: GC

ICAL Date: 6/29/2023
Cal. Std. xp: 07/31/2023
ICAL ID: EC2300011

Mobile Phases : A:20mM ammonium acetate in water 230388 **B:**Acetonitrile 229152

	Sample Name		File Name	Acquisition Method	Dilution	Comments	Date/Time
1	IB		20230720-001	Perchlorate6850c.lcm	1x		7/20/2023 14:56
2	LODV		20230720-002	Perchlorate6850c.lcm	1x	230386	7/20/2023 15:01
3	ICS		20230720-003	Perchlorate6850c.lcm	1x	32103024	7/20/2023 15:07
4	CCV		20230720-004	Perchlorate6850c.lcm	1x	227251	7/20/2023 15:18
5	EQ2300346-01		20230720-005	Perchlorate6850c.lcm	1x		7/20/2023 15:27
6	EQ2300346-02		20230720-006	Perchlorate6850c.lcm	1x		7/20/2023 15:39
7	EQ2300346-03		20230720-007	Perchlorate6850c.lcm	1x		7/20/2023 15:55
8	E2300630-001		20230720-008	Perchlorate6850c.lcm	1x	DNU-RR	7/20/2023 16:05
9	E2300637-001		20230720-009	Perchlorate6850c.lcm	1x		7/20/2023 16:10
10	E2300637-002		20230720-010	Perchlorate6850c.lcm	1x	DNU-IS	7/20/2023 16:16
11	E2300637-003		20230720-011	Perchlorate6850c.lcm	1x		7/20/2023 16:21
12	E2300637-004		20230720-012	Perchlorate6850c.lcm	1x		7/20/2023 16:27
13	E2300637-005		20230720-013	Perchlorate6850c.lcm	1x	DNU-IS	7/20/2023 16:32
14	CCV		20230720-014	Perchlorate6850c.lcm	1x	227251	7/20/2023 16:38
15	E2300642-001		20230720-015	Perchlorate6850c.lcm	5x		7/20/2023 16:43
16	E2300643-001		20230720-016	Perchlorate6850c.lcm	5000x		7/20/2023 16:49
17	k2307692-001		20230720-017	Perchlorate6850c.lcm	1x		7/20/2023 16:54
18	k2307692-002		20230720-018	Perchlorate6850c.lcm	1x		7/20/2023 17:00
19	k2307692-003		20230720-019	Perchlorate6850c.lcm	1x		7/20/2023 17:05
20	k2307692-004		20230720-020	Perchlorate6850c.lcm	1x		7/20/2023 17:11
21	k2307522-001		20230720-021	Perchlorate6850c.lcm	1x		7/20/2023 17:17
22	k2307522-002		20230720-022	Perchlorate6850c.lcm	1x		7/20/2023 17:22
23	k2307522-003		20230720-023	Perchlorate6850c.lcm	1x		7/20/2023 17:28
24	CCV		20230720-024	Perchlorate6850c.lcm	1x	227251	7/20/2023 17:33
25	E2300631-001		20230720-025	Perchlorate6850c.lcm	1x	DNU-IS	7/20/2023 17:39
26	E2300631-002		20230720-026	Perchlorate6850c.lcm	1x	DNU-IS	7/20/2023 17:44
27	E2300631-003		20230720-027	Perchlorate6850c.lcm	1x		7/20/2023 17:50
28	E2300631-004		20230720-028	Perchlorate6850c.lcm	1x	DNU-RR	7/20/2023 17:55
29	CCV		20230720-029	Perchlorate6850c.lcm	1x	227251	7/20/2023 18:01

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS23070447

Service Request: E2300643
Date Analyzed: 7/20/23 15:18

Internal Standard Area and RT Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID: I:\LCMS01\DATA\20230720\20230720-004
Instrument ID: E-LCMS-01
Analytical Method: 6850

Lab Code: EQ2300347-01
Analysis Lot: 811363
Signal ID: 1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	263,382	3.62
	Upper Limit ==>	395,073	5.62
	Lower Limit ==>	131,691	1.62
Associated Analyses			
Continuing Calibration Verification	EQ2300347-01	138,823	3.59
Method Blank	EQ2300346-01	185,624	3.59
Lab Control Sample	EQ2300346-02	184,847	3.59
Duplicate Lab Control Sample	EQ2300346-03	195,384	3.59

Results flagged with an asterisk (*) indicate values outside control criteria.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2300643
Project:	HS23070447	**Date Analyzed:**	7/20/23 16:38

Internal Standard Area and RT Summary

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20230720\20230720-014	**Lab Code:**	EQ2300347-02
Instrument ID:	E-LCMS-01	**Analysis Lot:**	811363
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	263,382	3.62
	Upper Limit ==>	395,073	5.62
	Lower Limit ==>	131,691	1.62
Associated Analyses			
Continuing Calibration Verification	EQ2300347-02	140,777	3.59
LH18/24-SP140_071023	E2300643-001	153,762	3.59

Results flagged with an asterisk (*) indicate values outside control criteria.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2300643
Project:	HS23070447	**Date Analyzed:**	7/20/23 17:33

Internal Standard Area and RT Summary

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20230720\20230720-024	**Lab Code:**	EQ2300347-03
Instrument ID:	E-LCMS-01	**Analysis Lot:**	811363
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	263,382	3.62
	Upper Limit ==>	395,073	5.62
	Lower Limit ==>	131,691	1.62
Associated Analyses			
Continuing Calibration Verification	EQ2300347-03	144,245	3.59

Results flagged with an asterisk (*) indicate values outside control criteria.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2300643
Project:	HS23070447	**Date Analyzed:**	7/20/23 18:01

Internal Standard Area and RT Summary

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20230720\20230720-029	**Lab Code:**	EQ2300347-04
Instrument ID:	E-LCMS-01	**Analysis Lot:**	811363
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	263,382	3.62
	Upper Limit ==>	395,073	5.62
	Lower Limit ==>	131,691	1.62
Associated Analyses			
Continuing Calibration Verification	EQ2300347-04	146,707	3.59

Results flagged with an asterisk (*) indicate values outside control criteria.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS23070447

Service Request: E2300643
Date Analyzed: 7/20/23

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20230720\20230720-004

Calibration Date: 6/29/23
Calibration ID: EC2300011
Analysis Lot: 811363
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.77	0.1625	0.1588	-2.3	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS23070447

Service Request: E2300643
Date Analyzed: 7/20/23

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20230720\20230720-014

Calibration Date: 6/29/23
Calibration ID: EC2300011
Analysis Lot: 811363
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.84	0.1625	0.1599	-1.6	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS23070447

Service Request: E2300643
Date Analyzed: 7/20/23

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20230720\20230720-024

Calibration Date: 6/29/23
Calibration ID: EC2300011
Analysis Lot: 811363
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.1	0.1625	0.1635	0.6	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS23070447

Service Request: E2300643
Date Analyzed: 7/20/23

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20230720\20230720-029

Calibration Date: 6/29/23
Calibration ID: EC2300011
Analysis Lot: 811363
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.66	0.1625	0.1569	-3.4	NA	± 15 %	Average RF

Insight Report

Printed at 7/21/2023 9:47:37 AM

Method File: I:\LCMS01\DATA\20230720\20230720.lcm
Project File: I:\LCMS01\DATA\20230720\20230720.damlp

IB

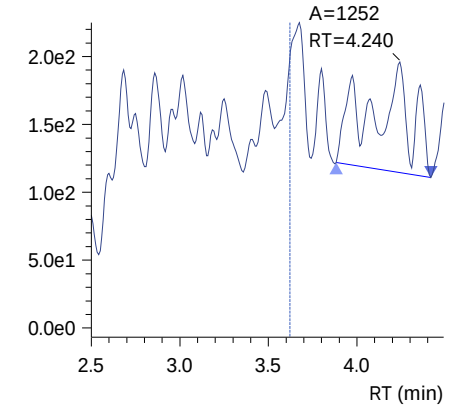
Sample ID: IB
Date Acquired: 7/20/2023 2:56:27 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230720\20230720-001.lcd
Vial: 4 | Inj. Volume: 10.0000uL | Tray: 0

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	ND(W/B)	----	----	194196	----	ng/mL	101.00 >85.00	0.00	20.22-37.55
Sodium Perchlorate-18O4_IS	Auto	3.591	194196	194196	1.0000	ng/mL	----	----	

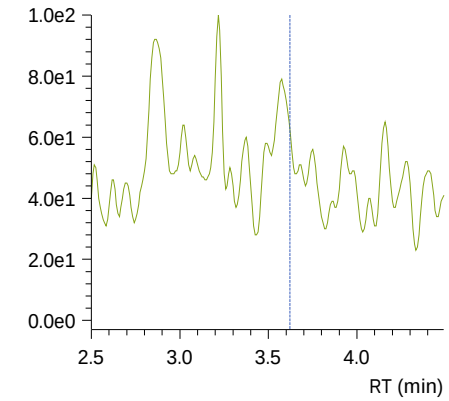
Perchlorate

Conc ----
R#1 0.00 (28.89)

Q 99.00>83.00 (-) 2.25e2



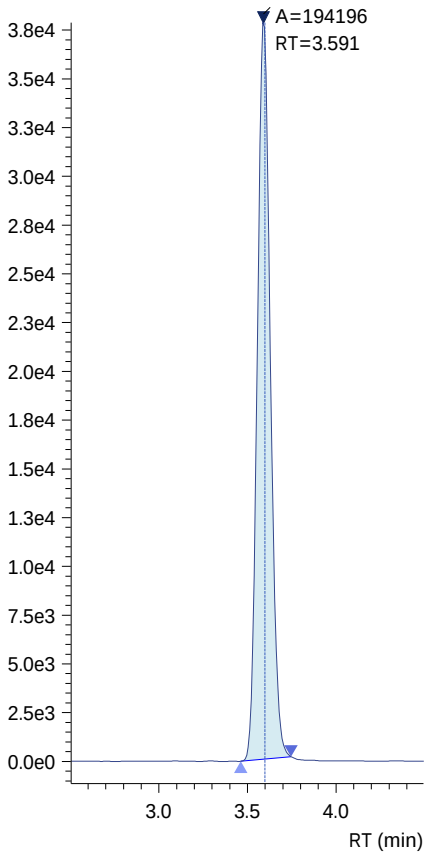
R1 101.00>85.00 (-) 1.00e2



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 3.79e4



Insight Report

Printed at 7/21/2023 9:47:37 AM

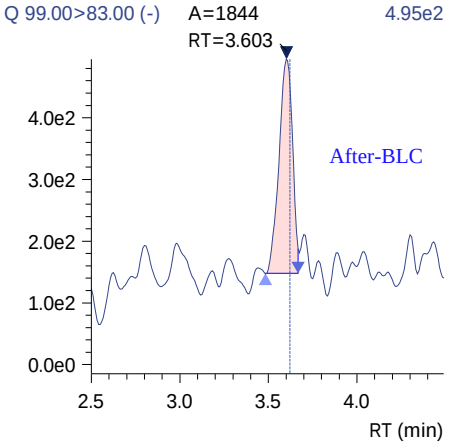
LODV

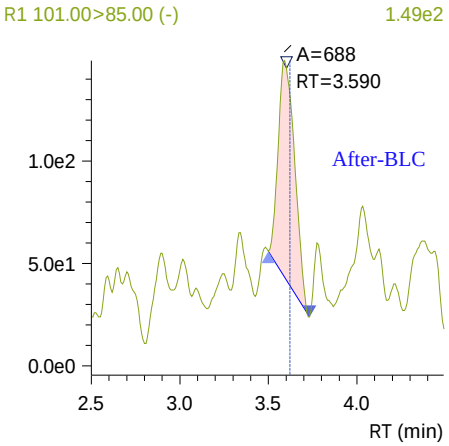
Sample ID: LODV
Date Acquired: 7/20/2023 3:01:59 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230720\20230720-002.lcd
Vial: 1 | Inj. Volume: 10.0000uL | Tray: 0

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	M	3.603	1844	205819	0.0551	ng/mL	101.00 >85.00	37.29	20.22-37.55
Sodium Perchlorate-18O4 _IS	Auto	3.589	2058 19	205819	1.0000	ng/mL	----	----	

Perchlorate

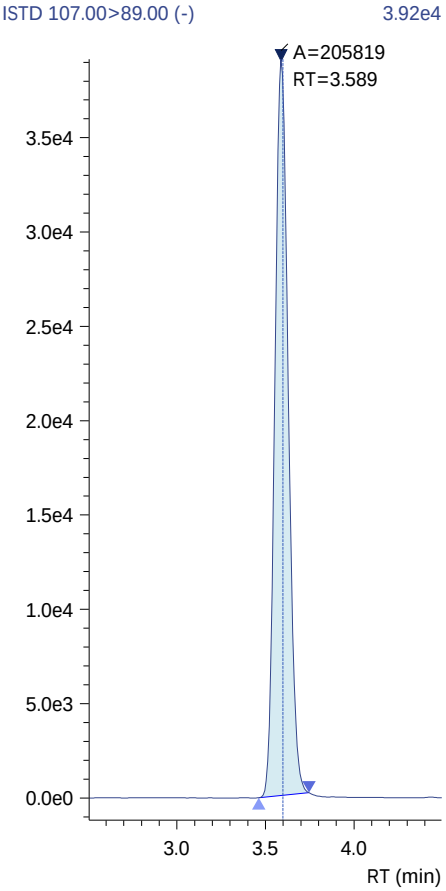
Conc 0.0551
R#1 37.29 (28.89)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 7/21/2023 9:49:20 AM

Method File: I:\LCMS01\DATA\20230720\20230720.lcm
Project File: I:\LCMS01\DATA\20230720\20230720.damlp

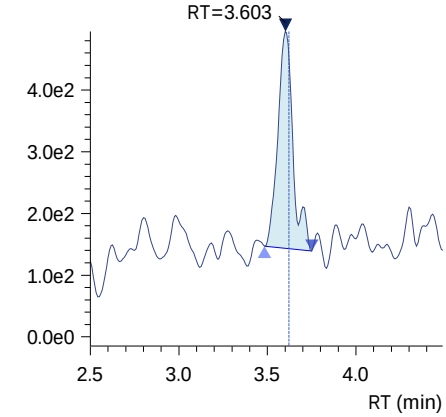
LODV

Sample ID: LODV
Date Acquired: 7/20/2023 3:01:59 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230720\20230720-002.lcd
Vial: 1 | Inj. Volume: 10.0000uL | Tray: 0

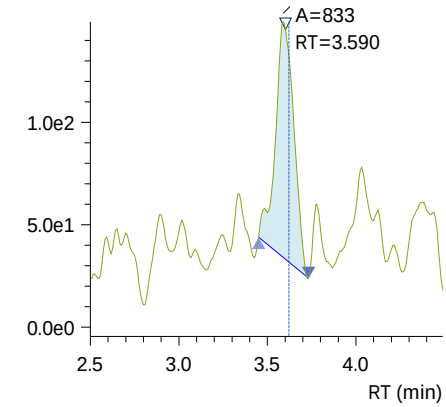
Perchlorate

Conc 0.0626
R#1 39.78 (28.89)

Q 99.00>83.00 (-) A=2094 4.95e2



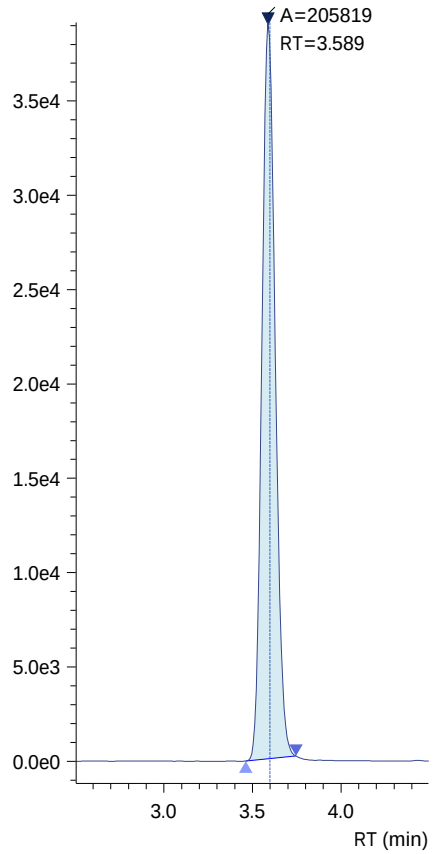
R1 101.00>85.00 (-) 1.49e2



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 3.92e4



Insight Report

Printed at 7/21/2023 9:47:37 AM

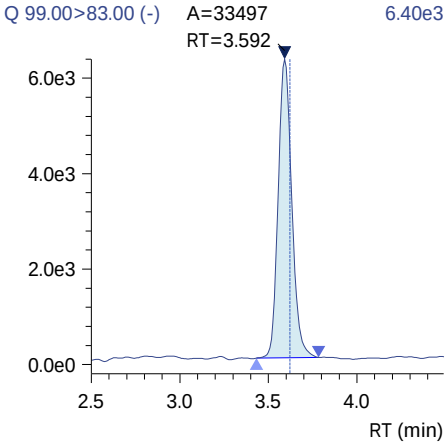
ICS

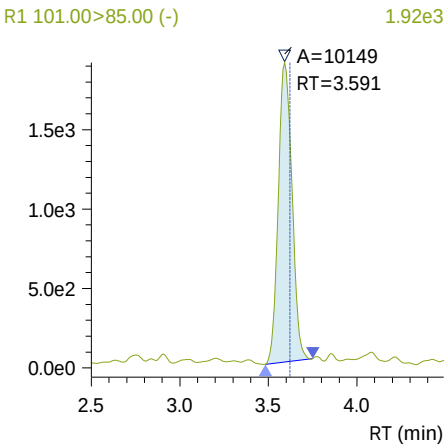
Sample ID: ICS
Date Acquired: 7/20/2023 3:07:30 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230720\20230720-003.lcd
Vial: 2 | Inj. Volume: 10.0000uL | Tray: 0

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.592	33497	204720	1.0068	ng/mL	101.00 >85.00	30.30	20.22-37.55
Sodium Perchlorate-18O4 _IS	Auto	3.590	2047 20	204720	1.0000	ng/mL	----	----	

Perchlorate

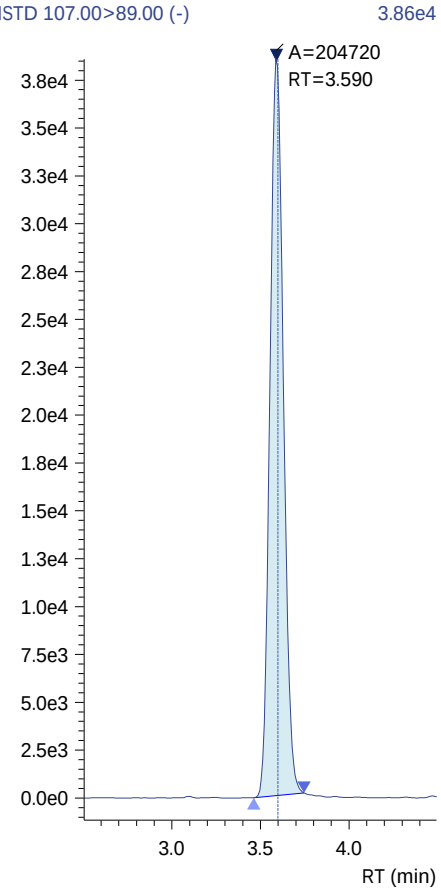
Conc 1.0068
R#1 30.30 (28.89)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

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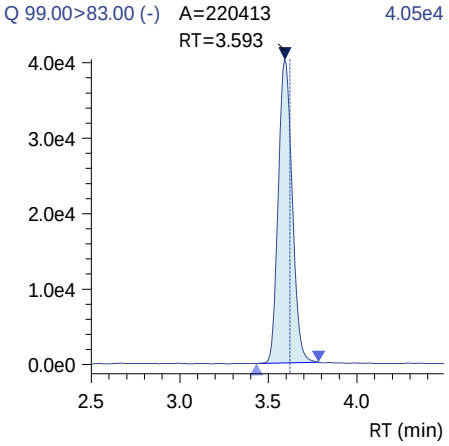
CCV

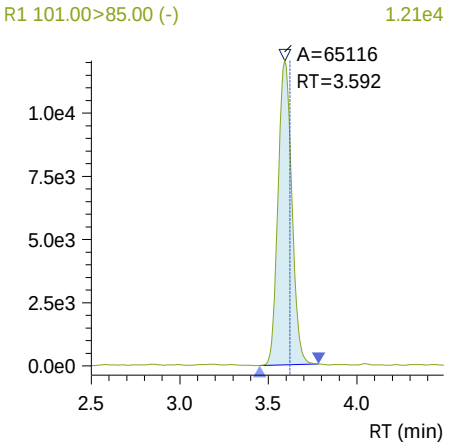
Sample ID: CCV
Date Acquired: 7/20/2023 3:18:29 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230720\20230720-004.lcd
Vial: 3 | Inj. Volume: 10.0000uL | Tray: 0

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.593	220413	138823	9.7697	ng/mL	101.00 >85.00	29.54	20.22-37.55
Sodium Perchlorate-18O4_IS	Auto	3.589	138823	138823	1.0000	ng/mL	----	----	

Perchlorate

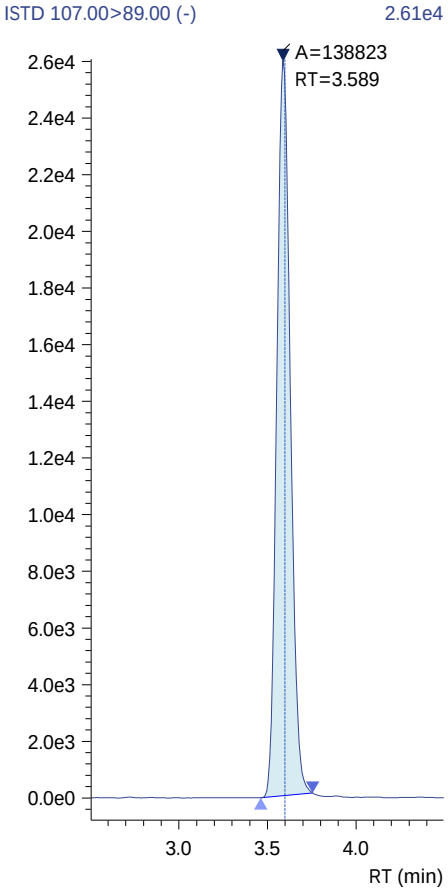
Conc 9.7697
R#1 29.54 (28.89)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 7/21/2023 9:47:37 AM

EQ2300346-01

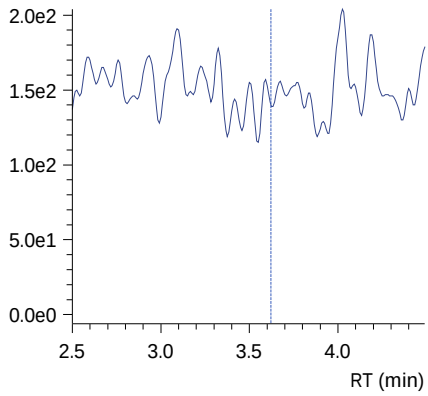
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Date Acquired: 7/20/2023 3:27:57 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230720\20230720-005.lcd
Vial: 52 | Inj. Volume: 10.0000uL | Tray: 3

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	ND(W/B)	----	----	185624	----	ng/mL	101.00 >85.00	0.00	20.22-37.55
Sodium Perchlorate-18O4_IS	Auto	3.592	185624	185624	1.0000	ng/mL	----	----	

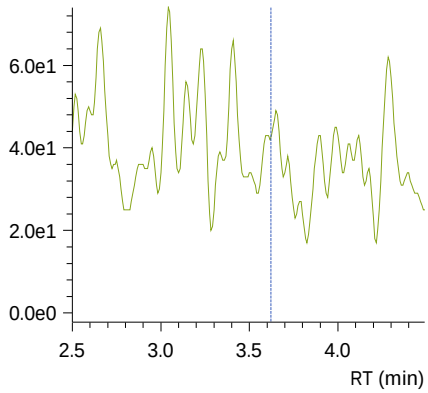
Perchlorate

Conc ----
R#1 0.00 (28.89)

Q 99.00>83.00 (-) 2.04e2



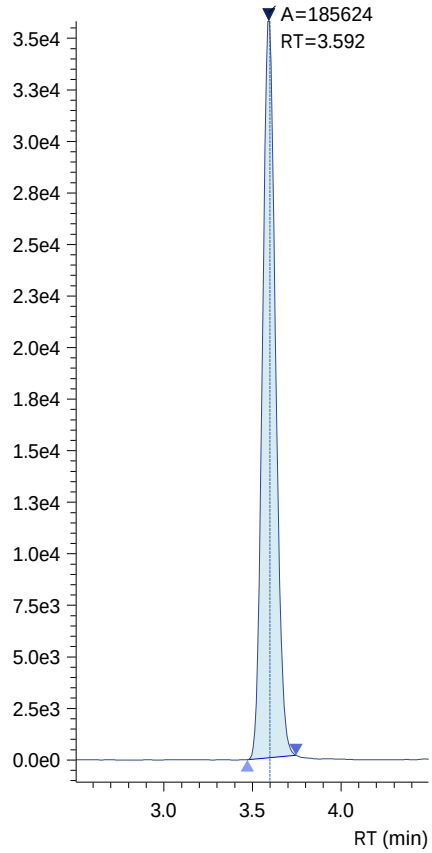
R1 101.00>85.00 (-) 7.40e1



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 3.58e4



Insight Report

Printed at 7/21/2023 9:47:37 AM

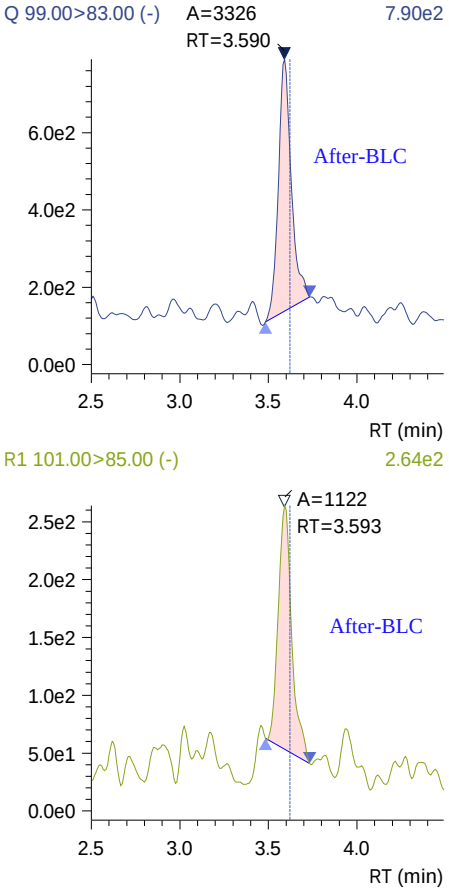
EQ2300346-02

Sample ID: EQ2300346-02
Date Acquired: 7/20/2023 3:39:01 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230720\20230720-006.lcd
Vial: 54 | Inj. Volume: 10.0000uL | Tray: 3

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	M	3.590	3326	184847	0.1107	ng/mL	101.00 >85.00	33.72	20.22-37.55
Sodium Perchlorate-18O4 _IS	Auto	3.590	1848 47	184847	1.0000	ng/mL	----	----	

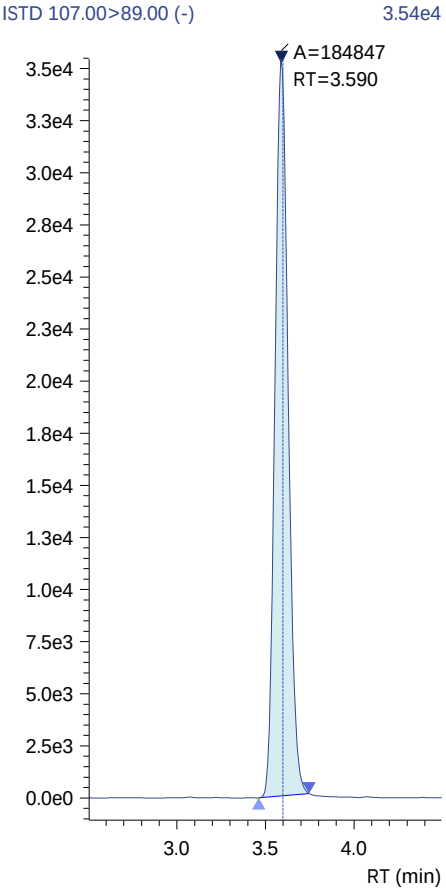
Perchlorate

Conc 0.1107
R#1 33.72 (28.89)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 7/21/2023 9:49:20 AM

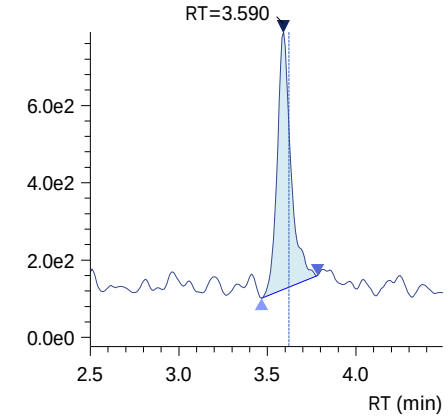
EQ2300346-02

Sample ID: EQ2300346-02
Date Acquired: 7/20/2023 3:39:01 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230720\20230720-006.lcd
Vial: 54 | Inj. Volume: 10.0000uL | Tray: 3

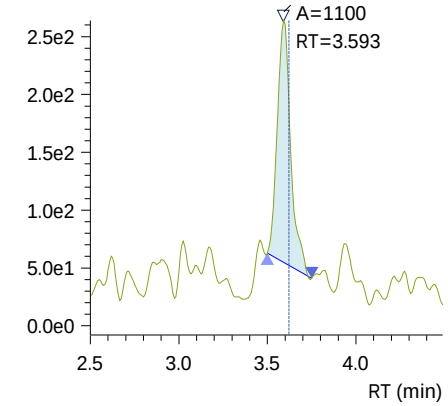
Perchlorate

Conc 0.1196
R#1 30.61 (28.89)

Q 99.00>83.00 (-) A=3594 7.90e2



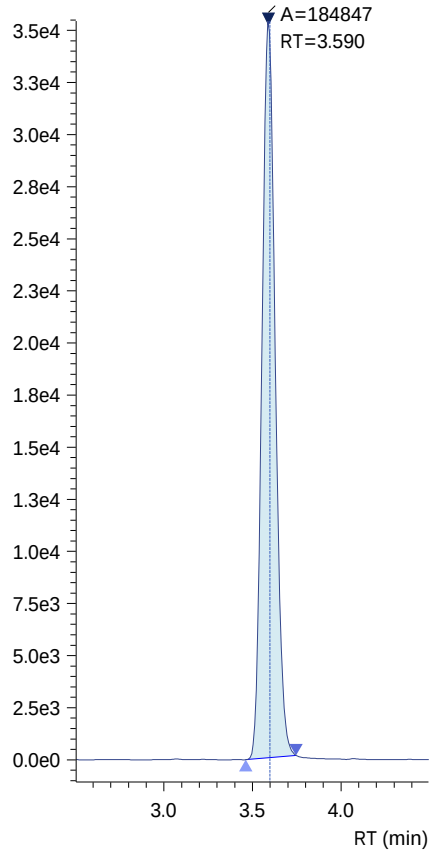
R1 101.00>85.00 (-) 2.64e2



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 3.54e4



Insight Report

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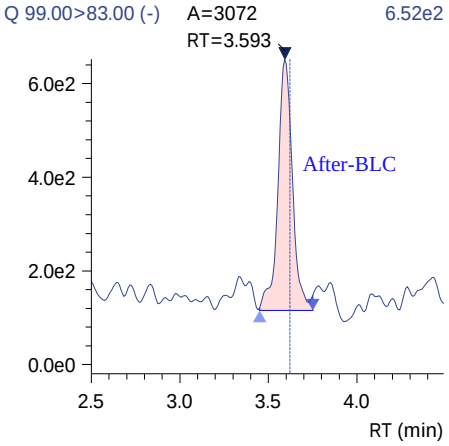
EQ2300346-03

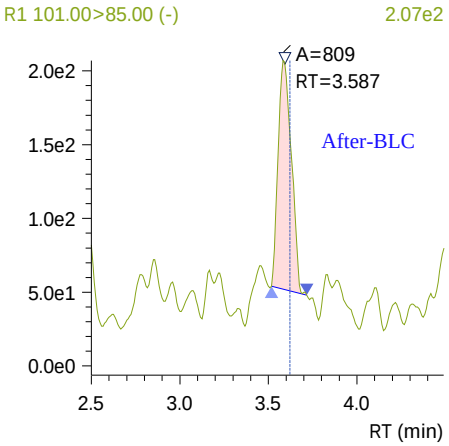
Sample ID: EQ2300346-03
Date Acquired: 7/20/2023 3:55:59 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230720\20230720-007.lcd
Vial: 53 | Inj. Volume: 10.0000uL | Tray: 3

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	M	3.593	3072	195384	0.0967	ng/mL	101.00 >85.00	26.34	20.22-37.55
Sodium Perchlorate-18O4 _IS	Auto	3.593	1953 84	195384	1.0000	ng/mL	----	----	

Perchlorate

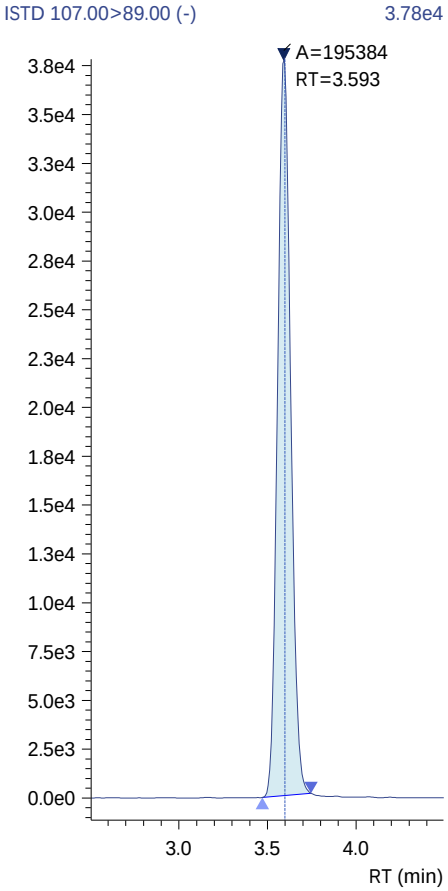
Conc 0.0967
R#1 26.34 (28.89)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

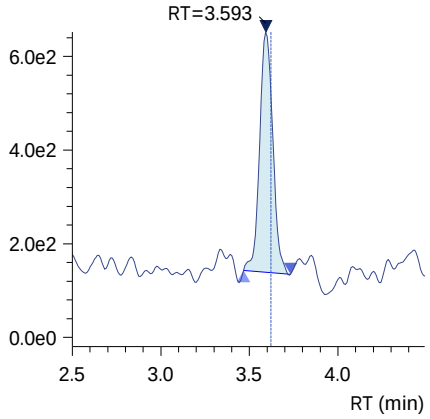
EQ2300346-03

Sample ID: EQ2300346-03
Date Acquired: 7/20/2023 3:55:59 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230720\20230720-007.lcd
Vial: 53 | Inj. Volume: 10.0000uL | Tray: 3

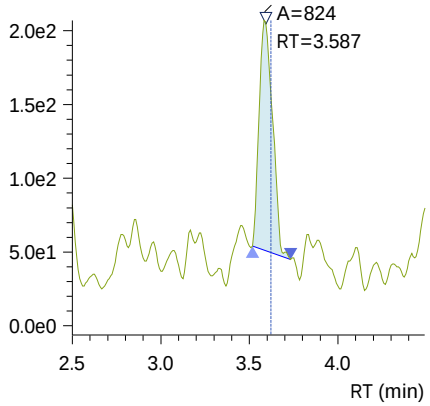
Perchlorate

Conc 0.0839
R#1 30.93 (28.89)

Q 99.00>83.00 (-) A=2663 6.52e2



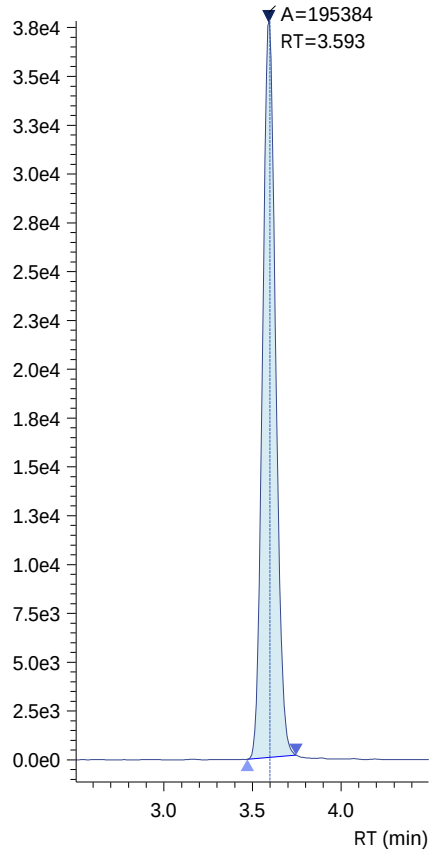
R1 101.00>85.00 (-) 2.07e2



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 3.78e4



Insight Report

Printed at 7/21/2023 9:47:37 AM

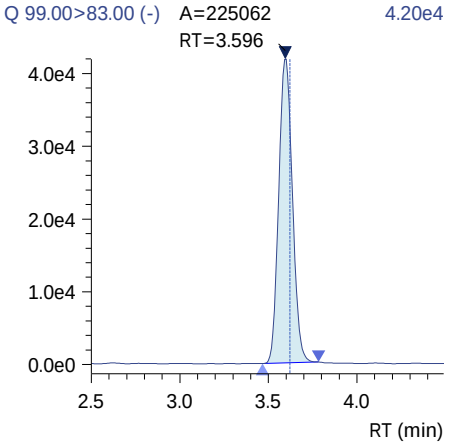
CCV

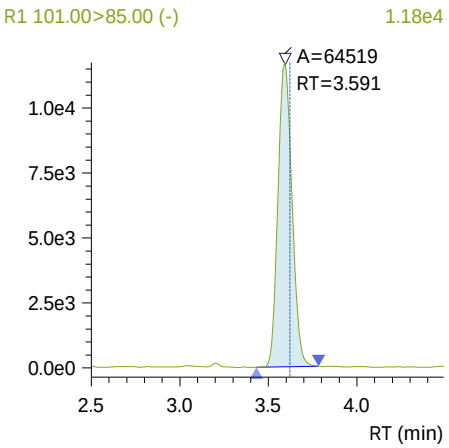
Sample ID: CCV
Date Acquired: 7/20/2023 4:38:17 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230720\20230720-014.lcd
Vial: 3 | Inj. Volume: 10.0000uL | Tray: 0

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.596	225062	140777	9.8373	ng/mL	101.00 >85.00	28.67	20.22-37.55
Sodium Perchlorate-18O4_IS	Auto	3.590	140777	140777	1.0000	ng/mL	----	----	

Perchlorate

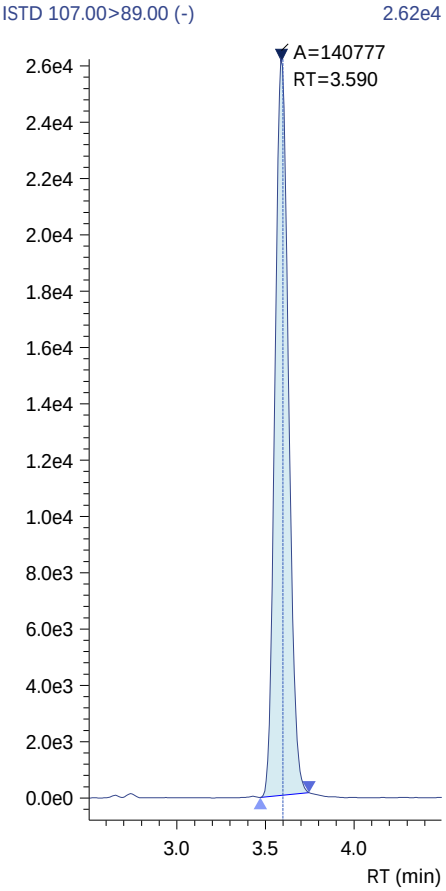
Conc 9.8373
R#1 28.67 (28.89)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 7/21/2023 9:47:37 AM

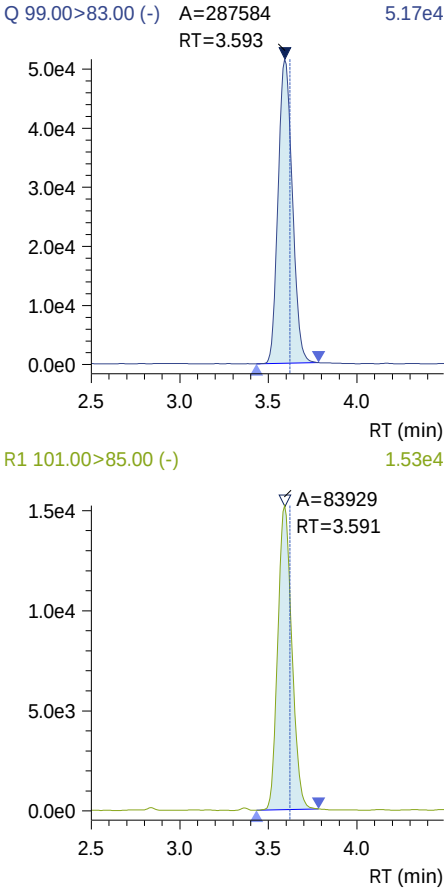
E2300643-001X5K

Sample ID: E2300643-001
Date Acquired: 7/20/2023 4:49:22 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230720\20230720-016.lcd
Vial: 47 | Inj. Volume: 10.0000uL | Tray: 3

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.593	2875 84	153762	11.50 86	ng/mL	101.00 >85.00	29.18	20.22-37.55
Sodium Perchlorate-18O4 _IS	Auto	3.590	1537 62	153762	1.0000	ng/mL	----	----	

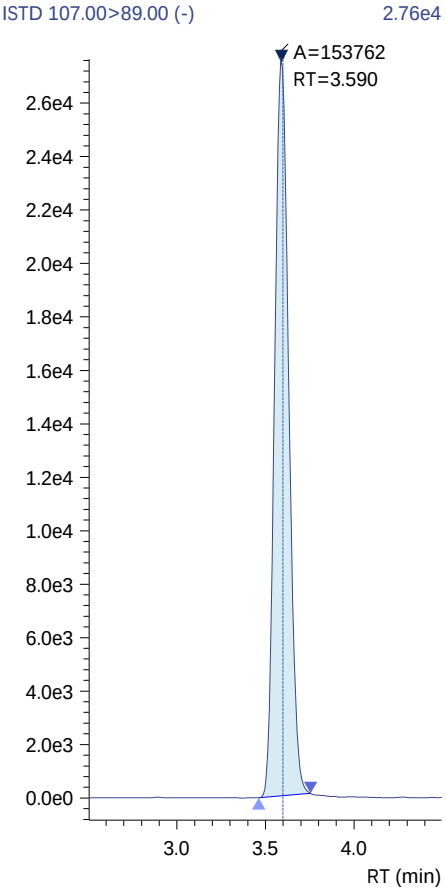
Perchlorate

Conc 11.5086
R#1 29.18 (28.89)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 7/21/2023 9:47:37 AM

CCV

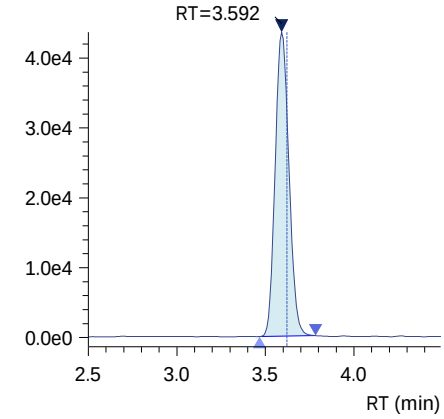
Sample ID: CCV
Date Acquired: 7/20/2023 5:33:33 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230720\20230720-024.lcd
Vial: 3 | Inj. Volume: 10.0000uL | Tray: 0

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.592	235803	144245	10.0590	ng/mL	101.00 >85.00	27.58	20.22-37.55
Sodium Perchlorate-18O4_IS	Auto	3.589	144245	144245	1.0000	ng/mL	----	----	

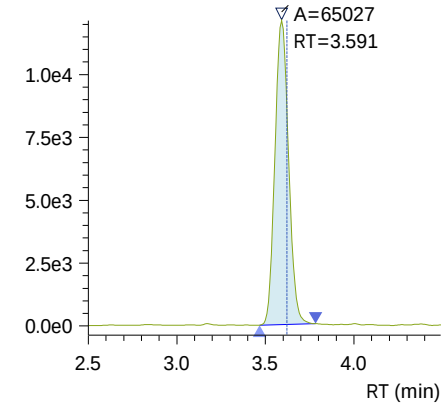
Perchlorate

Conc 10.0590
R#1 27.58 (28.89)

Q 99.00>83.00 (-) A=235803 RT=3.592 4.37e4



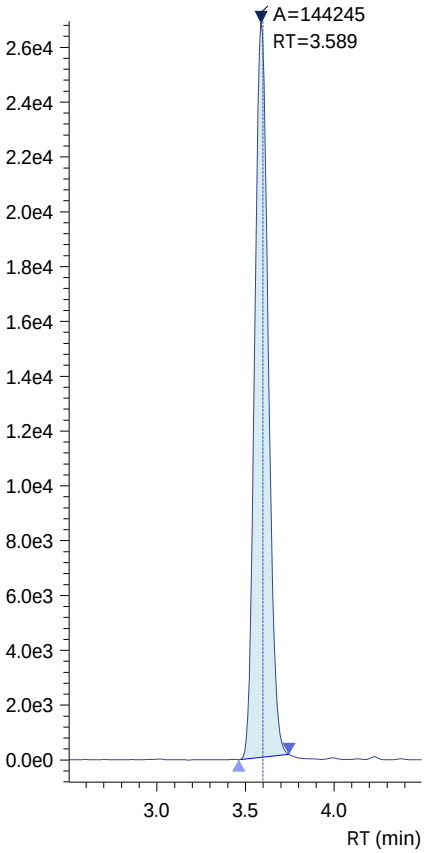
R1 101.00>85.00 (-) 1.21e4



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 2.70e4



HS23070449 Longhorn GW Treatment Plant
Weekly Samples Cover Page

ALS WO# HS23070449

ALS Environmental
ALS Group USA, Corp
10450 Stancliff Road, Suite 210
Houston, TX 77099
T : +1 281 530 5656
F : +1 281 530 5887
www.alsglobal.com

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Initial Calibration
Chromatograms and Selected Ion Monitoring

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

July 20, 2023

Marcia Olive
Bhate Environmental Associates, Inc.
445 Union Blvd Ste 129
Lakewood, CO 80228

Work Order: **HS23070449**

Laboratory Results for: **Longhorn GW Treatment Plant Weekly Samples**

Dear Marcia Olive,

ALS Environmental received 3 sample(s) on Jul 11, 2023 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: LINH.PHAM
James Guin

HS23070449 Longhorn GW Treatment Plant Weekly Samples Final

ALS WO# HS23070449

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

July 17, 2023

Marcia Olive
Bhate Environmental Associates, Inc.
445 Union Blvd Ste 129
Lakewood, CO 80228

Work Order: **HS23070449**

Laboratory Results for: **Longhorn GW Treatment Plant Weekly Samples**

Dear Marcia Olive,

ALS Environmental received 3 sample(s) on Jul 11, 2023 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: JUMOKE.LAWAL
James Guin

ALS Houston, US Date: 17-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS23070449

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS23070449-01	LH18/24-SP650_071023	Water		10-Jul-2023 13:00	11-Jul-2023 09:20	☐
HS23070449-02	LH18/24-SP650_071023_AIX	Water		10-Jul-2023 13:00	11-Jul-2023 09:20	☐
HS23070449-03	LH18/24-SP650_071023_BIX	Water		10-Jul-2023 13:00	11-Jul-2023 09:20	☐

ALS Houston, US Date: 17-Jul-23

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS23070449

Work Order Comments

- The analysis for Perchlorate was subcontracted to ALS Houston High-Res Lab. Final report attached

WetChemistry by Method E415.1

Batch ID: R441386

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method E350.3

Batch ID: R441095

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method E365.3

Batch ID: R440995

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

ALS Houston, US Date: 17-Jul-23

Client: Bhate Environmental Associates, Inc.
ANALYTICAL REPORT
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder:HS23070449
Sample ID: LH18/24-SP650_071023
Lab ID:HS23070449-01
Collection Date: 10-Jul-2023 13:00
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
AMMONIA AS N BY E350.3(ISE)		**Method:E350.3**						Analyst: AB
Nitrogen, Ammonia (As N)	**480**	a	**1.0**	**2.0**	**2.0**	**mg/L**	10	12-Jul-2023 11:51
ORTHO PHOSPHATE (PO4) AS P BY E365.3-1978		**Method:E365.3**						Analyst: AB
Phosphorus, Total Orthophosphate (As P)	**4.88**	a	**0.100**	**0.250**	**0.250**	**mg/L**	10	11-Jul-2023 13:56
TOTAL ORGANIC CARBON BY E415.1		**Method:E415.1**						Analyst: MZD
Organic Carbon, Total	**74.3**	a	**5.00**	**10.0**	**10.0**	**mg/L**	10	14-Jul-2023 13:28

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 17-Jul-23

Client: Bhate Environmental Associates, Inc.
ANALYTICAL REPORT
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder:HS23070449
Sample ID: LH18/24-SP650_071023_AIX
Lab ID:HS23070449-02
Collection Date: 10-Jul-2023 13:00
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	14-Jul-2023 12:51

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 17-Jul-23

Client: Bhate Environmental Associates, Inc.
ANALYTICAL REPORT
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder:HS23070449
Sample ID: LH18/24-SP650_071023_BIX
Lab ID:HS23070449-03
Collection Date: 10-Jul-2023 13:00
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	14-Jul-2023 12:51

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 17-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS23070449

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R440995 (0)	**Test Name :** ORTHO PHOSPHATE (PO4) AS P BY E365.3-1978				**Matrix:** Water	
HS23070449-01	LH18/24-SP650_071023	10 Jul 2023 13:00			11 Jul 2023 13:56	10
Batch ID: R441095 (0)	**Test Name :** AMMONIA AS N BY E350.3(ISE)				**Matrix:** Water	
HS23070449-01	LH18/24-SP650_071023	10 Jul 2023 13:00			12 Jul 2023 11:51	10
Batch ID: R441356 (0)	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)				**Matrix:** Water	
HS23070449-02	LH18/24-SP650_071023_AIX	10 Jul 2023 13:00			14 Jul 2023 12:51	1
HS23070449-03	LH18/24-SP650_071023_BIX	10 Jul 2023 13:00			14 Jul 2023 12:51	1
Batch ID: R441386 (0)	**Test Name :** TOTAL ORGANIC CARBON BY E415.1				**Matrix:** Water	
HS23070449-01	LH18/24-SP650_071023	10 Jul 2023 13:00			14 Jul 2023 13:28	10

ALS Houston, US Date: 17-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS23070449

QC BATCH REPORT

Batch ID: R440995 (0) **Instrument:** UV-2450 **Method:** ORTHO PHOSPHATE (PO4) AS P BY E365.3-1978

MBLK Sample ID: **MBLK-R440995** Units: **mg/L** Analysis Date: **11-Jul-2023 13:56**
Client ID: Run ID: **UV-2450_440995** SeqNo: **7418701** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	0.0250	0.0250								U

LCS Sample ID: **LCS-R440995** Units: **mg/L** Analysis Date: **11-Jul-2023 13:56**
Client ID: Run ID: **UV-2450_440995** SeqNo: **7418700** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	0.269	0.0250	0.25	0	108	85 - 115				

MS Sample ID: **HS23070385-03MS** Units: **mg/L** Analysis Date: **11-Jul-2023 13:56**
Client ID: Run ID: **UV-2450_440995** SeqNo: **7418876** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	0.482	0.0250	0.25	0.232	100	80 - 120				

MS Sample ID: **HS23070385-02MS** Units: **mg/L** Analysis Date: **11-Jul-2023 13:56**
Client ID: Run ID: **UV-2450_440995** SeqNo: **7418703** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	0.586	0.0250	0.25	0.325	104	80 - 120				

MS Sample ID: **HS23070385-01MS** Units: **mg/L** Analysis Date: **11-Jul-2023 13:56**
Client ID: Run ID: **UV-2450_440995** SeqNo: **7418874** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	0.571	0.0250	0.25	0.306	106	80 - 120				

MSD Sample ID: **HS23070385-03MSD** Units: **mg/L** Analysis Date: **11-Jul-2023 13:56**
Client ID: Run ID: **UV-2450_440995** SeqNo: **7418875** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	0.484	0.0250	0.25	0.232	101	80 - 120	0.482	0.414	20	

ALS Houston, US Date: 17-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS23070449

QC BATCH REPORT

Batch ID: R440995 (0) **Instrument:** UV-2450 **Method:** ORTHO PHOSPHATE (PO4) AS P BY E365.3-1978

MSD Sample ID: **HS23070385-02MSD** Units: **mg/L** Analysis Date: **11-Jul-2023 13:56**
Client ID: Run ID: **UV-2450_440995** SeqNo: **7418702** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	0.589	0.0250	0.25	0.325	106	80 - 120	0.586	0.511	20	

MSD Sample ID: **HS23070385-01MSD** Units: **mg/L** Analysis Date: **11-Jul-2023 13:56**
Client ID: Run ID: **UV-2450_440995** SeqNo: **7418873** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	0.532	0.0250	0.25	0.306	90.4	80 - 120	0.571	7.07	20	

The following samples were analyzed in this batch: HS23070449-01

ALS Houston, US Date: 17-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS23070449

QC BATCH REPORT

Batch ID: R441095 (0) **Instrument: WetChem_HS** **Method: AMMONIA AS N BY E350.3(ISE)**

MBLK Sample ID: **MBLK-R441095** Units: **mg/L** Analysis Date: **12-Jul-2023 11:51**
Client ID: Run ID: **WetChem_HS_441095** SeqNo: **7421379** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Ammonia (As N)	0.20	0.20								U

LCS Sample ID: **LCS-R441095** Units: **mg/L** Analysis Date: **12-Jul-2023 11:51**
Client ID: Run ID: **WetChem_HS_441095** SeqNo: **7421378** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Ammonia (As N)	8.53	0.20	10	0	85.3	80 - 120				

MS Sample ID: **HS23070378-01MS** Units: **mg/L** Analysis Date: **12-Jul-2023 11:51**
Client ID: Run ID: **WetChem_HS_441095** SeqNo: **7421381** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Ammonia (As N)	16.9	0.20	10	7.937	89.6	80 - 120				

MSD Sample ID: **HS23070378-01MSD** Units: **mg/L** Analysis Date: **12-Jul-2023 11:51**
Client ID: Run ID: **WetChem_HS_441095** SeqNo: **7421380** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Ammonia (As N)	16.66	0.20	10	7.937	87.3	80 - 120	16.9	1.39	20	

The following samples were analyzed in this batch: HS23070449-01

ALS Houston, US Date: 17-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS23070449

QC BATCH REPORT

Batch ID: R441386 (0) **Instrument: TOC_04** **Method: TOTAL ORGANIC CARBON BY E415.1**

MBLK Sample ID: **MBLK-07142023** Units: **mg/L** Analysis Date: **14-Jul-2023 11:44**
Client ID: Run ID: **TOC_04_441386** SeqNo: **7429031** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	1.00	1.00								U

LCS Sample ID: **LCS-07142023** Units: **mg/L** Analysis Date: **14-Jul-2023 11:58**
Client ID: Run ID: **TOC_04_441386** SeqNo: **7429032** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	8.993	1.00	10	0	89.9	85 - 115				

LCSD Sample ID: **LCSD-07142023** Units: **mg/L** Analysis Date: **14-Jul-2023 12:12**
Client ID: Run ID: **TOC_04_441386** SeqNo: **7429033** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	8.885	1.00	10	0	88.8	85 - 115	8.993	1.21	20	

MS Sample ID: **HS23070267-03MS** Units: **mg/L** Analysis Date: **14-Jul-2023 12:40**
Client ID: Run ID: **TOC_04_441386** SeqNo: **7429035** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	21.68	1.00	10	11.88	98.0	80 - 120				

The following samples were analyzed in this batch: HS23070449-01

ALS Houston, US Date: 17-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: **HS23070449**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	88-00356	27-Mar-2024
California	2919; 2024	30-Apr-2024
Dept of Defense	L23-358	31-May-2025
Florida	E87611-38	30-Jun-2024
Illinois	2000322023-11	30-Jun-2024
Kansas	E-10352; 2022-2023	31-Jul-2023
Louisiana	03087-2023	30-Jun-2024
North Carolina	624-2023	31-Dec-2023
North Dakota	R-193 2023-2024	30-Apr-2024
Oklahoma	2022-141	31-Aug-2023
Texas	T104704231-23-31	30-Apr-2024
Utah	TX026932022-13	31-Jul-2023

ALS Houston, US Date: 17-Jul-23

Sample Receipt Checklist

Work Order ID: HS23070449 **Date/Time Received:** 11-Jul-2023 09:20

Client Name: Bhate Environmental **Received by:** Paresh M. Giga

Completed By: /S/ Nilesh D. Ranchod (eSignature) 11-Jul-2023 11:49 (Date/Time) **Reviewed by:** (eSignature) (Date/Time)

Matrices: W Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	2.5UC/2.4C	IR31
Cooler(s)/Kit(s):	46293	
Date/Time sample(s) sent to storage:	07/11/2023 11:55	

Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

CHAIN OF CUSTODY

Name Of Lab Shipping To: ALS 10450 Stancliff Rd. Suite 210 Houston, TX. 77099 (281) 530-5656 ATTN: Dane Wacasey

Project: BHATE
LONGHORN ARMY AMMN. PLANT (LHAAP)
GROUNDWATER TREATMENT PLANT (GWTP)
KARNACK, TEXAS

Project No. JVPCIBH.000

Job: GROUNDWATER TREATMENT PLANT WEEKLY SAMPLES

Prepared By: Scott Beesinger

P.O. Number

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: AMMONIA-N	TOTAL ORGANIC CARBON	ORTHO-PHOSPHATE	PERCHLORATE	Remarks (Preservatives, etc.)
LH18/24-SP650_071023	Water	07/10/23 / 13:00		3	X	X			H2SO4
LH18/24-SP650_071023	Water	07/10/23 / 13:00		1			X		NONE
LH18/24-SP650_071023_AIX	Water	07/10/23 / 13:00		1				X	NONE
LH18/24-SP650_071023_BIX	Water	07/10/23 / 13:00		1				X	NONE

Bhate Environmental Associates, Inc.
Longhorn GW Treatment Plant Weekly Samples

HS23070449

Additional Remarks: **24 HR. TAT on Perchlorate Samples. Standard TAT on all other parameters**

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	07/10/23	13:30		7/11/23	09:20						

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition

Remarks: 46293 WC 2.5°C #31 CF-0.1°C

(Word) S:\Forms\Chain of Custody - BiWeekly

ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

46293

CUSTODY SEAL

Date: 7/10/23 Time: 13:30
Name: Scott Beesinger
Company: Battelle

Seal Broken By:
Date: 07/11/23

46293 JUL

46293

ORIGIN ID:SGRA (903) 930-6783
ATT: SCOTT BEESINGER
APTIM ENVIRONMENTAL & INFRAST. INC
1203-B EAST GRAND AVE PMB202

MARSHALL, TX 75672
UNITED STATES US

SHIP DATE: 31JAN23
ACTWGT: 1.00 LB MAN
CAD: 0221242/CAFE3616
DIMS: 18x16x13 IN

TO SHIPPING DEPT
ALS LABORATORY GROUP
10450 STANCLIFF RD
SUITE 210
HOUSTON TX 77099
(281) 530-5656
REF: LHAAP-46-90619-QW
RMA:

FedEx Express

FedEx.
TRK# 0221 6230 2994 7786

TUE - 11 JUL AA
PRIORITY OVERNIGHT

XA SGRA

77099
TX-US
IAH

July 11, 2023 Service Request No:E2300629

James Guin
ALS Environmental - US
10450 Stancliff Rd #210
Houston, TX 77099

Laboratory Results for: HS23070449

Dear James,

Enclosed are the results of the sample(s) submitted to our laboratory July 11, 2023
For your reference, these analyses have been assigned our service request number **E2300629.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current TNI standards, where applicable, and except as noted in the laboratory case narrative provided. All results are intended to be considered in their entirety and ALS Environmental is not responsible for use of less than the complete final report. Results apply only to the items submitted to the laboratory, as received for analysis. In accordance with the current TNI Standard, a statement on the estimated uncertainty of measurement of any quantitative analysis will be supplied upon request.

Please contact me if you have any questions. My extension is 2188. You may also contact me via email at James.Guin@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

James Guin

Certificate of Analysis

ALS Environmental - Houston Specialties Laboratory
10450 Stancliff Rd., Suite 210, Houston TX 77099
Phone (281)530-5656 Fax (281)530-5887
www.alsglobal.com

ALS Environmental

Client:	ALS Environmental - US	**Service Request No.:**	E2300629
Project:	HS23070449	**Date Received:**	07/11/23
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed in adherence to the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Two samples were received for analysis at ALS Environmental in Houston on 07/11/23.

The samples were received in good condition and are consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Data Validation Notes and Discussion

Precision and Accuracy:

EQ2300336: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in lieu of a MS/MSD for this extraction batch.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS group USA Corp dba ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

Client: ALS Environmental - US **Service Request:**E2300629
Project: HS23070449

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2300629-001	LH18/24-SP650_071023_AIX	7/10/2023	1300
E2300629-002	LH18/24-SP650_071023_BIX	7/10/2023	1300

Service Request Summary

Folder #: **E2300629**
Client Name: ALS Environmental - US
Project Name: HS23070449
Project Number:

Report To: James Guin
ALS Environmental - US
10450 Stancliff Rd #210
Houston, TX 77099
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number:
E-mail: james.guin@alsglobal.com

Project Chemist: James Guin
Originating Lab: HOUSTON
Logged By: JGUIN
Date Received: 07/11/23
Internal Due Date: 7/12/2023
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS23070449
EDD: No EDD Specified

2 120 mL-Plastic Bottle Natural WM Unpreserved
Location: EHRMS-AirArch 1
Pressure Gas:
Rush

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2300629-001	LH18/24-SP650_071023_AIX	Water	07/10/23 1300	**IV**
E2300629-002	LH18/24-SP650_071023_BIX	Water	07/10/23 1300	**IV**

Service Request Summary

Folder #: **E2300629**
Client Name: ALS Environmental - US
Project Name: HS23070449
Project Number:

Report To: James Guin
ALS Environmental - US
10450 Stancliff Rd #210
Houston, TX 77099
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number:
E-mail: james.guin@alsglobal.com

Project Chemist: James Guin
Originating Lab: HOUSTON
Logged By: JGUIN
Date Received: 07/11/23
Internal Due Date: 7/12/2023
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS23070449
EDD: No EDD Specified

2 120 mL-Plastic Bottle Natural WM Unpreserved
Location: EHRMS-AirArch 1
Pressure Gas:
Rush

Data Qualifiers

Lab Standard

+	Possible Tedlar bag artifact.
A	TIC is a suspected aldol-condensation product
B	Analyte found in the associated method blank as well as in the sample.
BC	Reported results are not blank corrected.
BH	The back section of the tube yielded higher results than the front.
BT	Results indicated possible breakthrough; back section >=10% front section.
C	Result identification confirmed.
D	Compound identified in an analysis at a secondary dilution factor
D	Spike was diluted out
DE	Reported results are corrected for desorption efficiency.
E	Estimated value. Concentration above calibration range
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
H1	Sample analysis performed past holding time. See case narrative.
H2	Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
H3	Sample was received and analyzed past holding time.
H4	Sample was extracted past required extraction holding time, but analyzed within analysis holding time. See case narrative.
I	(Auto) The reference ion ratio was outside acceptance criteria, which may indicate a potential bias to this result.
I	Internal standard not within the specified limits. See case narrative.
I	The reference ion ratio was outside acceptance criteria, which may indicate a potential bias to this result.
J	Estimated Value. Concentration found below MRL.
K	A deflection in the QC ion may indicate interference with the quantitation of this ion. The concentration of this analyte should be considered as an estimate.
K	Analyte was detected above the method reporting limit prior to normalization.
K	The reference ion ratio was outside acceptance criteria, which may indicate a potential bias to this result.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
L1	Laboratory control sample recovery outside the specified limits; results may be biased high.
L2	Laboratory control sample recovery outside the specified limits; results may be biased low.
L3	Laboratory control sample recovery outside the specified limits.
M	Matrix interference; results may be biased high.
M	The duplicate injection precision not met.

Data Qualifiers

Lab Standard

M1	Matrix interference due to coelution with a non-target compound; results may be biased high.
N	Presumptive evidence of a compound for TICs that have been identified based on a mass spectral library search.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
P	Indicates chlorodiphenyl ether interference present at the retention time of the target compound.
P	Pesticide/Aroclor target analyte > 40% difference for detected concentrations between GC columns
Q	Indicates as estimated value because the P and P + 2 theoretical abundance ratio does not meet method criteria.
R	Duplicate Precision not met.
R1	Duplicate precision not within the specified limits; however, the results are below the MRL and considered estimated.
S	Surrogate recovery not within specified limits.
S	The reported value was determined by the Method of Standard Additions (MSA).
T	Analyte is a tentatively identified compound, result is estimated.
U	Compound was analyzed for, but was not detected (ND).
V1	The continuing calibration verification standard was outside (biased high) the specified limits for this compound.
V2	The continuing calibration verification standard was outside (biased low) the specified limits for this compound.
W	Result quantified, but the corresponding peak was detected outside the generated retention time window.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
X	See case narrative.
Y	Recovery outside limits
Y	The chromatogram resembles a petroleum product but does not match the calibration standard.
Z	The chromatogram does not resemble a petroleum product.
i	The MRL/MDL has been elevated due to a matrix interference.

ALS Laboratory Group

Acronyms

Cal	Calibration
Conc	CONCentration
Dioxin(s)	Polychlorinated dibenzo-p-dioxin(s)
EDL	Estimated Detection Limit
EMPC	Estimated Maximum Possible Concentration
Flags	Data qualifiers
Furan(s)	Polychlorinated dibenzofuran(s)
g	Grams
ICAL	Initial CALibration
ID	IDentifier
Ions	Masses monitored for the analyte during data acquisition
L	Liter (s)
LCS	Laboratory Control Sample
DLCS	Duplicate Laboratory Control Sample
MB	Method Blank
MCL	Method Calibration Limit
MDL	Method Detection Limit
mL	Milliliters
MS	Matrix Spiked sample
DMS	Duplicate Matrix Spiked sample
NO	Number of peaks meeting all identification criteria
PCDD(s)	Polychlorinated dibenzo-p-dioxin(s)
PCDF(s)	Polychlorinated dibenzofuran(s)
ppb	Parts per billion
ppm	Parts per million
ppq	Parts per quadrillion
ppt	Parts per trillion
QA	Quality Assurance
QC	Quality Control
Ratio	Ratio of areas from monitored ions for an analyte
% Rec.	Percent recovery
RPD	Relative Percent Difference
RRF	Relative Response Factor
RT	Retention Time
SDG	Sample Delivery Group
S/N	Signal-to-noise ratio
TEF	Toxicity Equivalence Factor
TEQ	Toxicity Equivalence Quotient

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ALS Environmental

State Certifications, Accreditations, and Licenses

Agency	Number	Expire Date
Arizona Department of Health Services	AZ0793_2024	5/27/2024
Arkansas Department of Environmental Quality	88-00356	3/27/2024
California State Environmental Laboratory Accreditation Program	2919	4/30/2024
Department of Defense	L22-90	3/31/2024
Department of Defense	L23-358	5/31/2025
Florida Department of Health	E87611-38	6/30/2024
Illinois Environmental Protection Agency	2000322023-11	6/30/2024
Kansas Department of Health and Environment	E-10352 2022-2023	7/31/2023
Louisiana Department of Environmental Quality	03087-2023	6/30/2024
Louisiana Department of Health and Hospitals	LA028-2023	12/31/2023
Maine Department of Health and Human Services	2022017	6/5/2024
Maryland Department of the Environment	343	7/31/2023
Michigan Depratment of Environmental Quality	9971-2023	4/30/2024
Minnesota Department of Health	2368363	12/31/2023
Nebraska Department of Health and Human Services	NE-OS-25-13	4/30/2024
Nevada Department of Conservation and Natural Resources	TX026932023-1	7/31/2023
New Hampshire Environmental Laboratory Accreditation Program	209423	4/24/2024
New Jersey Department of Environmental Protection	TX008-2024	6/30/2024
New York Department of Health	11707	3/31/2024
Oklahoma Department of Environmental Quality	2022-141	8/31/2023
Pennsylvania Department of Environmental Protection	68-03441-017	6/30/2024
Perry Johnson Laboratory Accreditation	L22-91	3/31/2024
Tennessee Department of Environment and Concervation	TN04016-2023	4/30/2024
Texas Commision on Environmental Quality	T104704231-23-30	4/30/2024
Utah Department of Health Environmental Laboratory Certification	TX026932022-13	7/31/2023
Washington Department of Ecology	C819-22	11/14/2023

ALS

Chain of Custody

ALS Environmental - Houston Specialties Laboratory
10450 Stancliff Rd., Suite 210, Houston TX 77099
Phone (281)530-5656 Fax (281)530-5887
www.alsglobal.com

RUSH

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Houston, TX 77099
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F: +1 281 530 5887
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Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **22316**

SUBCONTRACT TO:

ALS Environmental
10450 Stancliff RoadSuite 210
Houston, TX 77084

Phone: +1 281 530 5656

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	James Guin
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	James.Guin@alsglobal.com
Alternate Contact:	Jumoke M. Lawal
Email:	jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS23070449
TSR:	Houston House Acct

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS23070449-02**	**LH18/24-SP650_071023_AIX**	**Water**	**10 Jul 2023 13:00**
	6850-Perch. DOD Level II & Level IV in separate pdf			12 Jul 2023
2.	**HS23070449-03**	**LH18/24-SP650_071023_BIX**	**Water**	**10 Jul 2023 13:00**
	6850-Perch. DOD Level II & Level IV in separate pdf			12 Jul 2023

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.

QC Level: DOD IV (DoD Data Package)

Relinquished By: NK Date/Time: 7.19.23 1000

Received By: _____ Date/Time: _____

Cooler ID(s): _____ Temperature(s): _____

ALS Environmental

Cooler Receipt Form

Project Chemist KR

Client/Project H/S

Thermometer ID IR31

Date/Time Received: 7/11/23 1250 Initials: JG

Date/Time Logged in: 7/11/23 1250 Initials JG

1. Method of delivery: ○ US Mail ○ Fed Ex ○ UPS ○ DHL ○ Courier ✓ Client

2. Samples received in: ✓ Cooler ○ Box ○ Envelope ○ Other

3. Were custody seals on coolers? ○ Yes ✓ No

If yes, how many and where?

Were they intact? ○ Yes ○ No ✓ N/A

Were they signed and dated? ○ Yes ○ No ✓ N/A

4. Packing Material: ○ Inserts ✓ Baggies ○ Bubble Wrap ○ Gel Packs ✓ Wet Ice ○ Sleeves ○ Other

5. Foreign or Regulated Soil? ○ Yes ✓ No Location of Sampling:

Cooler Tracking Number	COC ID	Date Opened	Time Opened	Opened By	Temp. °C	Temp Blank?
		7/11/23	1250	JG	3.4	☑
						☐
						☐
						☐

6. Were custody papers properly filled out (ink, signed, dated, etc)? ✓ Yes ○ No

7. Did all bottles arrive in good condition (not broken, no signs of leakage)? ✓ Yes ○ No

8. Were all sample labels complete (i.e., sample ID, analysis, preservation, etc)? ✓ Yes ○ No

9. Were appropriate bottles/containers and volumes received for the requested tests? ✓ Yes ○ No

10. Did sample labels and tags agree with custody documents? ✓ Yes ○ No

Notes, Discrepancies, & Resolutions:

Service request Label:

HS-HRMSCoolerReceipt R1.0

ALS Environmental - Houston HRMS

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Houston, TX 77099
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www.alsglobal.com

SAMPLE ACCEPTANCE POLICY

This policy outlines the criteria samples must meet to be accepted by ALS Environmental – Houston HRMS.

Cooler Custody Seals (desirable, mandatory if specified in SAP):

- ✓ Intact on outside of cooler, signed and dated

Chain-of-Custody (COC) documentation (mandatory):

The following is required on each COC:

- ✓ Sample ID, the location, date and time of collection, collector's name, preservation type, sample type, and any other special remarks concerning the sampleThe COC must be completed in ink.
- ✓ Signature and date of relinquishing party.

In the absence of a COC at sample receipt, the COC will be requested from the client.

Sample Integrity (mandatory):

Samples are inspected upon arrival to ensure that sample integrity was not compromised during transfer to the laboratory.

- ✓ Sample containers must arrive in good condition (not broken or leaking).
- ✓ Samples must be labeled appropriately, including Sample IDs, and requested test using durable labels and indelible ink.
- ✓ The correct type of sample bottle must be used for the method requested.
- ✓ An appropriate sample volume, or weight, must be received.
- ✓ Sample IDs and number of containers must reconcile with the COC.
- ✓ Samples must be received within the method defined holding time.

Temperature Requirement (varies by sample matrix):

- ✓ Aqueous and Non-aqueous samples must be shipped and stored cold, at 0 to 6ºC.
- ✓ Tissue samples must be shipped and stored frozen, at -20 to -10ºC.
- ✓ Air samples are shipped and stored cold, at 0 to 6ºC
- ✓ The sample temperature must be recorded on the COC

All cooler inspections are documented on the Cooler Receipt Form (CRF). A separate CRF is completed for each service request. Any samples not meeting the above criteria are noted on the CRF and the Project Manager notified. The Project Manager must resolve any sample integrity issues with the client prior to proceeding with the analysis. Such resolutions are documented in writing and filed with the project folder. Data associated with samples received outside of this acceptance policy will be qualified on the case narrative of the final report

Preparation Information Benchsheets

ALS Environmental - Houston Specialties Laboratory
10450 Stancliff Rd., Suite 210, Houston TX 77099
Phone (281)530-5656 Fax (281)530-5887
www.alsglobal.com

Preparation Information Benchsheet

Prep Run#: 422877 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/XMI **Prep Method:** **Prep Date/Time:** 7/11/23 12:10

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2300629-001	LH18/24-SP650_071023_AIX	.01	6850/ClO4 DOD			Water	10mL	
2	E2300629-002	LH18/24-SP650_071023_BIX	.01	6850/ClO4 DOD			Water	10mL	
3	EQ2300336-01	MB		6850/ClO4			Liquid	10mL	
4	EQ2300336-02	LCS		6850/ClO4			Liquid	10mL	
5	EQ2300336-03	DLCS		6850/ClO4			Liquid	10mL	
6	R2305858-015	2306270801 PFE-2	.01	6850/ClO4			Water	10mL	

Spiking Solutions

Name: Perchlorate Intermediate Stock1 Inventory ID 227236 Logbook Ref: Perchlorate (1st Source) Expires On: 07/31/2023

EQ2300336-02 1.00µL EQ2300336-02 1.00µL EQ2300336-03 1.00µL EQ2300336-03 1.00µL

Name: Perchlorate Internal Standard 1ug/mL Inventory ID 227244 Logbook Ref: Perchlorate Internal Standard Expires On: 07/31/2023

E2300629-001 100.00µL E2300629-002 100.00µL EQ2300336-01 100.00µL EQ2300336-01 100.00µL EQ2300336-02 100.00µL EQ2300336-02 100.00µL
EQ2300336-03 100.00µL EQ2300336-03 100.00µL R2305858-015 100.00µL

Preparation Steps

Step: Preparation
Started: 7/11/23 12:10
Finished: 7/11/23 13:22
By: XMI
Comments

Comments: _____

Reviewed By: _____ Date: _____

Chain of Custody

Relinquished By: _____ Date: _____ Extracts Examined

Received By: _____ Date: _____ Yes No

Analytical Results

ALS Environmental - Houston Specialties Laboratory
10450 Stancliff Rd., Suite 210, Houston TX 77099
Phone (281)530-5656 Fax (281)530-5887
www.alsglobal.com

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300629
Project:	HS23070449	**Date Collected:**	7/10/23 1300
Sample Matrix:	Water	**Date Received:**	7/11/23
Sample Name:	LH18/24-SP650_071023_AIX	**Units:**	µg/L
Lab Code:	E2300629-001	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.0593**	J	0.100	0.0500	0.0250	1	7/11/23	7/11/23 14:34	422877	810244	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300629
Project:	HS23070449	**Date Collected:**	7/10/23 1300
Sample Matrix:	Water	**Date Received:**	7/11/23
Sample Name:	LH18/24-SP650_071023_BIX	**Units:**	µg/L
Lab Code:	E2300629-002	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**36.2**		0.100	0.0500	0.0250	1	7/11/23	7/11/23 14:39	422877	810244	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300629
Project:	HS23070449	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2300336-01	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.100	0.0500	0.0250	1	7/11/23	7/11/23 14:51	422877	810244	

Accuracy & Precision

ALS Environmental - Houston Specialties Laboratory
10450 Stancliff Rd., Suite 210, Houston TX 77099
Phone (281)530-5656 Fax (281)530-5887
www.alsglobal.com

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS23070449
Sample Matrix: Water

Service Request: E2300629
Date Analyzed: 7/11/23

Lab Control Sample Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method:

Units: µg/L
Basis: NA

Extraction Lot: 422877

	Lab Control Sample EQ2300336-02			Duplicate Lab Control Sample EQ2300336-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.114	0.100	114	0.105	0.100	105	84 - 119	9	15

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300629
Project:	HS23070449	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2300336-02	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.114**		0.100	0.0500	0.0250	1	7/11/23	7/11/23 14:23	422877	810244	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300629
Project:	HS23070449	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2300336-03	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.105**		0.100	0.0500	0.0250	1	7/11/23	7/11/23 14:28	422877	810244	

HS23070449 Wetchem NIT_AMM_W

ALS WO# HS23070449

NIT_AMM_N_E3503 ISE HS2307044A

Logbook 3230

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Ion Selective Electrode Logbook

Analyst: NB			Date: 07/12/23
Method: SM4500NH3-D/EPA 350.3 or SM4500 NH3 B-F			
Probe Calibration Date: 07/12/23	Cal Std ID: 322142503-08		Probe ID: NH3-8

Std Level		mV	Conc., mg/L:
STD 1 (mg/L):	.2	138.2	0.220
STD 2 (mg/L):	1	99.9	1.004
STD 3 (mg/L):	5	66.8	5.006

Sodium Thiosulfate ID:

Std Level	mV	Conc., mg/L:
STD 4 (mg/L):	49.6	10.003
STD 5 (mg/L):	3.2	50.001

LSC / MS Spike ID: 310D607B3A
ICV Cal STD ID: 322142503
DPD Reagent ID: 310D607B13
ICAL Date & Slope: 98.79/-58.5

WO # / SX #	Bottle #	Initial g or ml	Final Vol. ml	Dilution Factor	Initial Conc. mg/L	Final Conc. mg/L	Chlorine Check (+/–)	Comments
ICV		50mL	50mL		9.742			
ICB					0.007			
mBLK					0.008			
LCS					8.530			
HS2307044A-01				10x	48.153			
378-01					7.937			
378-01MS					16.899			
378-01MSD					16.665			
CCV					9.593			
CCB					0.009			

AB 07/12/23

Batch ID: 441095	Reported By: AB	Reviewed By:

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HS23070449 Wetchem P-ORTHO

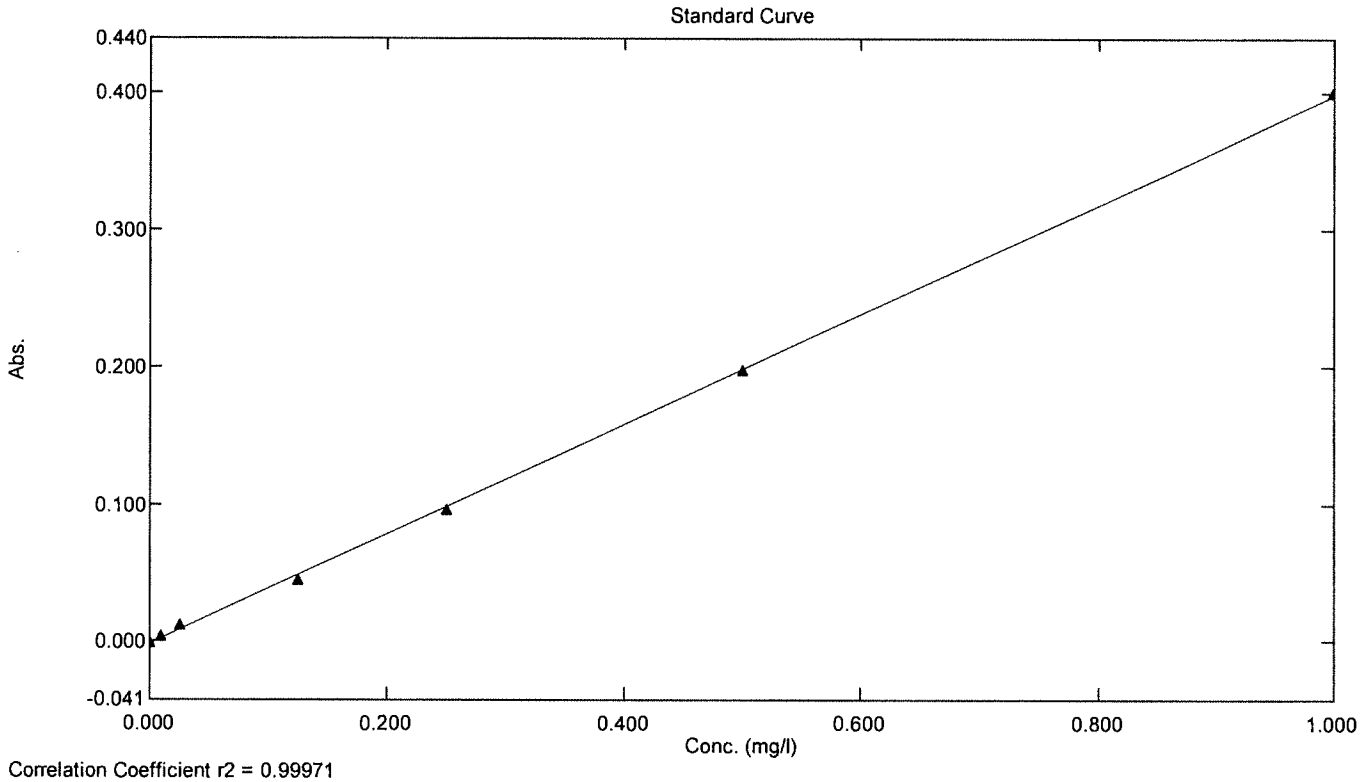
ALS WO# HS23070449

HS230704U9

Standard Table Report

07/19/2023 05:51:01 PM

File Name: C:\Program Files (x86)\Shimadzu\UVProbe\Data\P_ORTHO (365.3 METHOD)\2023\07112023_P_ORTHO_W.pho



Correlation Coefficient r2 = 0.99971

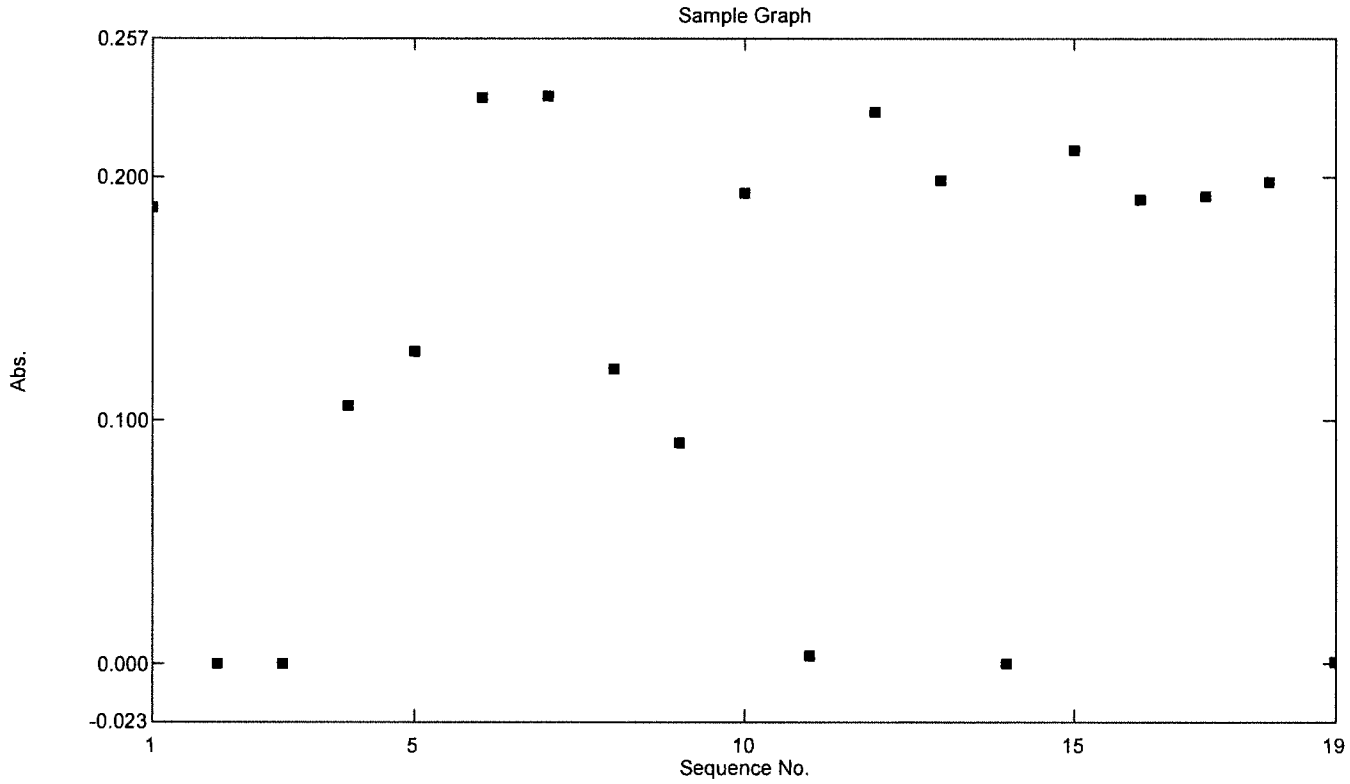
Standard Table

	Sample ID	Type	Ex	Conc	WL650.0	Wgt.Factor	Comments
1	STD1	Standard		0.000	-0.000	1.000	
2	STD2	Standard		0.010	0.005	1.000	
3	STD3	Standard		0.025	0.012	1.000	
4	STD4	Standard		0.125	0.045	1.000	
5	STD5	Standard		0.250	0.096	1.000	
6	STD6	Standard		0.500	0.197	1.000	
7	STD7	Standard		1.000	0.400	1.000	
8							

Sample Table Report

07/19/2023 05:51:02 PM

File Name: C:\Program Files (x86)\Shimadzu\UVProbe\Data\P_ORTHO (365.3 METHOD)\2023\07112023_P_ORTHO_W.pho



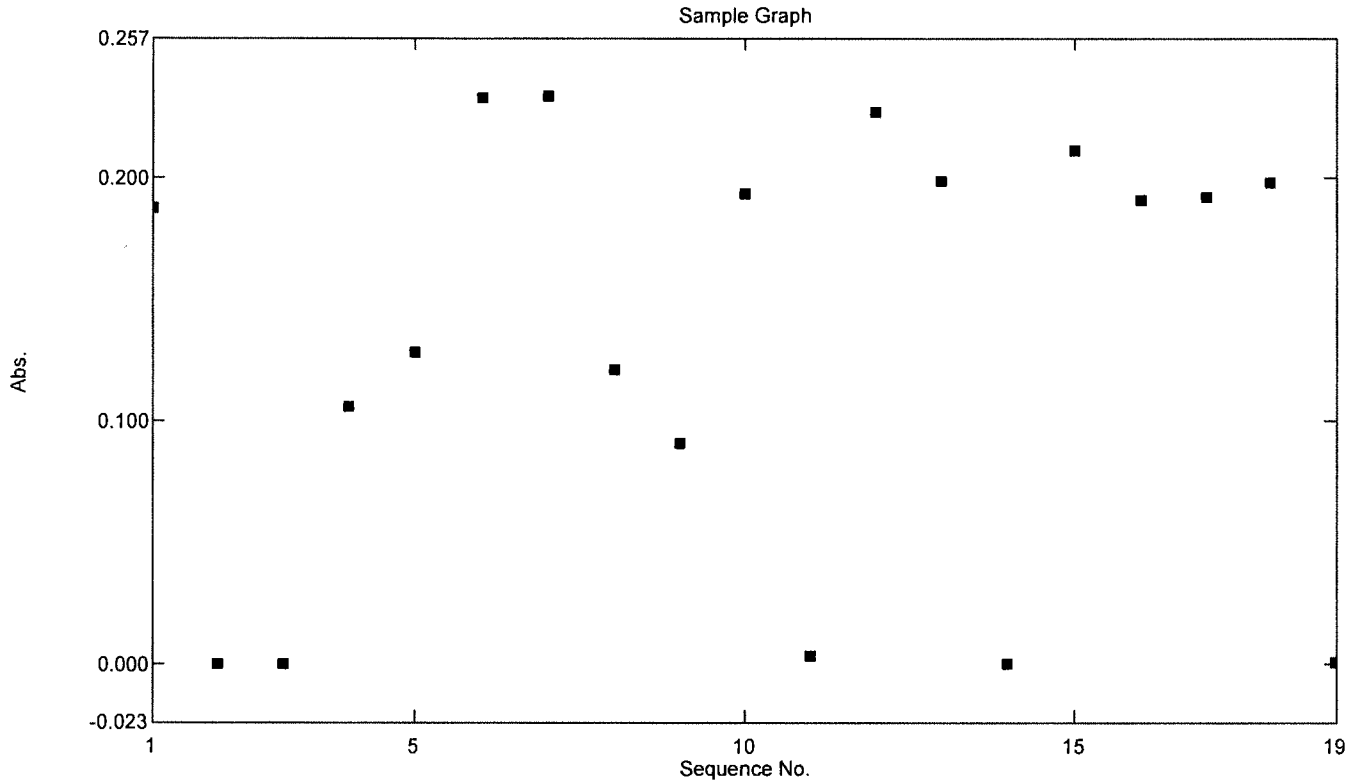
Sample Table

	Sample ID	Date	Time	Conc	WL650.	Comments
1	CCV	07/11/2023	01:42:20 PM	0.472	0.187	322141909 WC-24
2	CCB	07/11/2023	01:42:32 PM	0.004	0.000	
3	MBLK	07/11/2023	01:42:38 PM	0.004	0.000	
4	LCS	07/11/2023	01:43:01 PM	0.269	0.106	322141908 WC-23
5	HS23070385.02	07/11/2023	01:43:42 PM	0.325	0.129	
6	HS23070385.02MS	07/11/2023	01:45:07 PM	0.586	0.233	A.MOLYBDATE 322141407
7	HS23070385.02MSD	07/11/2023	01:45:31 PM	0.589	0.234	A.ACID 322142102
8	HS23070385.01	07/11/2023	01:45:55 PM	0.306	0.121	11N 3100606911
9	HS23070385.03	07/11/2023	01:46:18 PM	0.232	0.091	
10	HS23070449.01	07/11/2023	01:47:11 PM	0.488	0.194	DF=10X
11	HS23070443.01	07/11/2023	01:53:52 PM	0.013	0.004	
12	HS23070385.01MS	07/11/2023	02:06:44 PM	0.571	0.227	
13	CCV2	07/11/2023	02:07:17 PM	0.501	0.199	
14	CCB2	07/11/2023	02:07:33 PM	0.003	0.000	
15	HS23070385.01MSD	07/11/2023	02:10:32 PM	0.532	0.211	
16	HS23070385.03MS	07/11/2023	02:11:52 PM	0.482	0.191	
17	HS23070385.03MSD	07/11/2023	02:12:11 PM	0.484	0.192	
18	CCV3	07/11/2023	02:12:26 PM	0.500	0.198	
19	CCB3	07/11/2023	02:12:39 PM	0.005	0.001	

Sample Table Report

07/19/2023 05:51:02 PM

File Name: C:\Program Files (x86)\Shimadzu\UVProbe\Data\P_ORTHO (365.3 METHOD)\2023\07112023_P_ORTHO_W.pho



Sample Table

	Sample ID	Date	Time	Conc	WL650.	Comments
20						

HS23070449 Wetchem TOC_W

ALS WO# HS23070449

C:\TOC-L\Data\2023_06_21_002.tlx

	Type	Analysis	Sample Nam	Sample ID	Origin	Manual Diluti	Result	Notes	Status	Date / Time
1	Standard	NPOC	CALIBRATI		06.21.2023.	1.000			Completed	6/21/2023 6:
2	Unknown	NPOC	ICV		06.21.2023.	1.000	NPOC:7.77		Completed	6/21/2023 6:
3	Unknown	NPOC	ICB		06.21.2023.	1.000	NPOC:0.01		Completed	6/21/2023 7:

C:\TOC-L\Data\2023_06_21_002.tlx

	Vial
1	60, 61, 62, 6
2	67
3	68

TOC-Control L Report

2023_06_21_002.tlx

Instr.Information

Instrument Options: TOC/ASI/IC Unit/
Catalyst: Regular Sensitivity

Cal. Curve

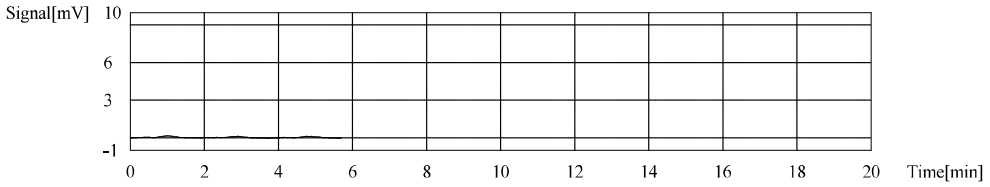
Sample Name: CALIBRATION
Sample ID:
Cal. Curve: 06.21.2023.2023_06_21_17_09_26.cal
Status: Completed

Type	Anal.
Standard	NPOC

Conc: 0.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	0.3327	50uL	1.000	*******		6/21/2023 5:17:20 PM
2	0.000	50uL	1.000	*******		6/21/2023 5:19:28 PM
3	0.4000	50uL	1.000	*******		6/21/2023 5:21:36 PM

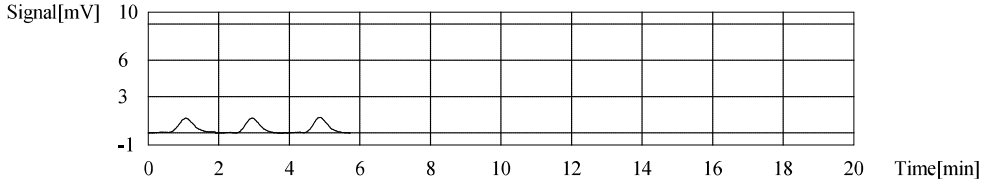
Acid Add. 0.000%
Sparge Gas Flow 80mL/min
Sp. Time 120.0sec
Mean Area 0.2442



Conc: 1.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	3.239	50uL	1.000	*******		6/21/2023 5:29:24 PM
2	3.486	50uL	1.000	*******		6/21/2023 5:31:35 PM
3	3.544	50uL	1.000	*******		6/21/2023 5:33:43 PM

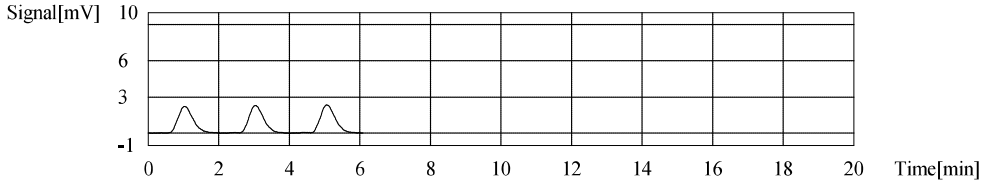
Acid Add. 0.000%
Sparge Gas Flow 80mL/min
Sp. Time 120.0sec
Mean Area 3.423



Conc: 2.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	6.496	50uL	1.000	*******		6/21/2023 5:41:39 PM
2	6.578	50uL	1.000	*******		6/21/2023 5:43:54 PM
3	6.676	50uL	1.000	*******		6/21/2023 5:46:11 PM

Acid Add. 0.000%
Sparge Gas Flow 80mL/min
Sp. Time 120.0sec
Mean Area 6.583



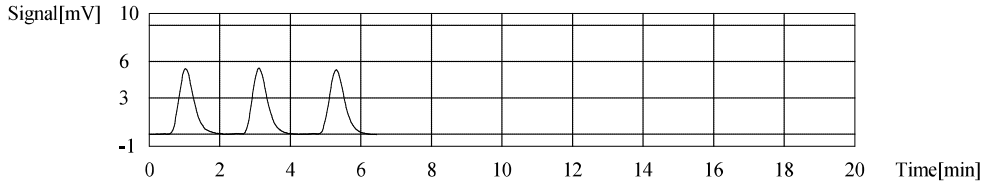
TOC-Control L Report

2023_06_21_002.tlx

Conc: 5.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	15.80	50uL	1.000	*******		6/21/2023 5:54:11 PM
2	15.85	50uL	1.000	*******		6/21/2023 5:56:36 PM
3	16.15	50uL	1.000	*******		6/21/2023 5:59:02 PM

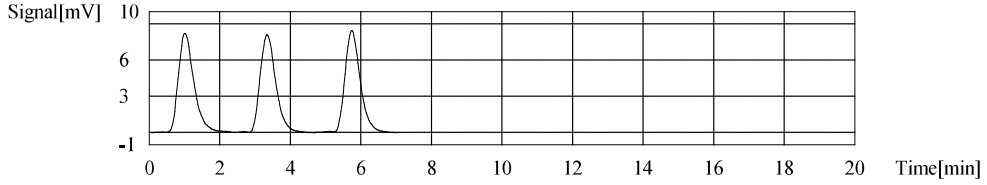
Acid Add. 0.000%
Sparge Gas Flow 80mL/min
Sp. Time 120.0sec
Mean Area 15.93



Conc: 10.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	24.91	50uL	1.000	*******		6/21/2023 6:07:14 PM
2	24.77	50uL	1.000	*******		6/21/2023 6:09:54 PM
3	25.05	50uL	1.000	*******		6/21/2023 6:12:28 PM

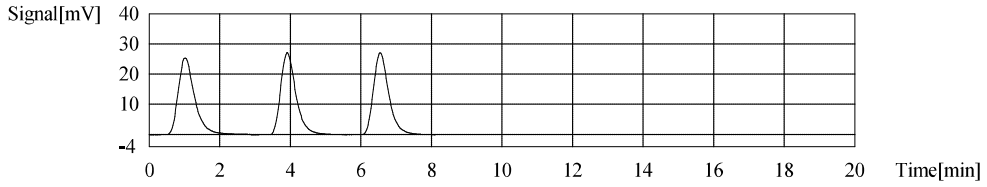
Acid Add. 0.000%
Sparge Gas Flow 80mL/min
Sp. Time 120.0sec
Mean Area 24.91



Conc: 25.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	80.93	50uL	1.000	*******		6/21/2023 6:21:15 PM
2	81.18	50uL	1.000	*******		6/21/2023 6:24:07 PM
3	81.22	50uL	1.000	*******		6/21/2023 6:26:57 PM

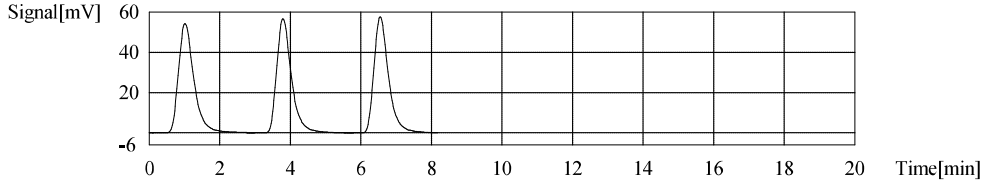
Acid Add. 0.000%
Sparge Gas Flow 80mL/min
Sp. Time 120.0sec
Mean Area 81.11



Conc: 50.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	163.2	50uL	1.000	*******		6/21/2023 6:35:37 PM
2	164.6	50uL	1.000	*******		6/21/2023 6:38:38 PM
3	165.0	50uL	1.000	*******		6/21/2023 6:41:31 PM

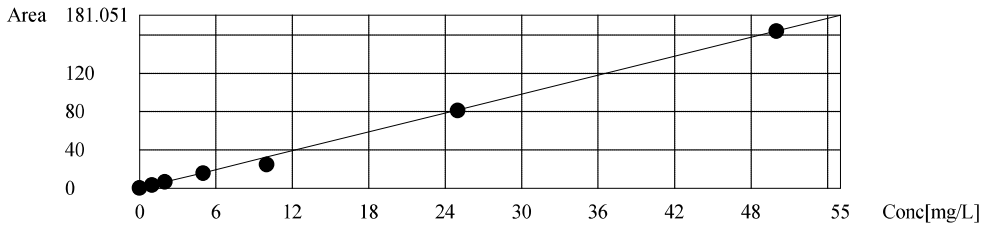
Acid Add. 0.000%
Sparge Gas Flow 80mL/min
Sp. Time 120.0sec
Mean Area 164.3



TOC-Control L Report

2023_06_21_002.tlx

Slope:	3.292
Intercept	0.000
r^2	0.9976
r	0.9988
RSE(%)	N/A
Zero Shift	Yes



Sample

Sample Name: ICV
Sample ID:
Origin: 06.21.2023.cal
Status Completed
Chk. Result

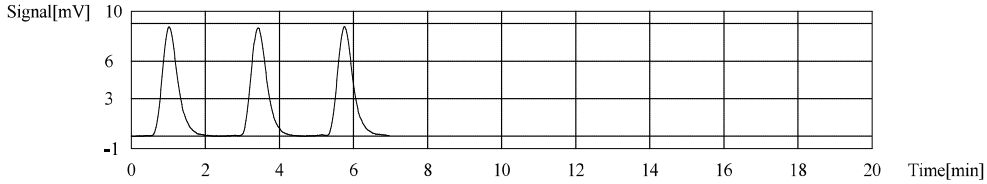
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:7.778mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	25.58	7.771mg/L	50uL	1.000		06.21.2023.2023_06_21_17_09_26.cal	6/21/2023 6:49:49 PM
2	25.53	7.756mg/L	50uL	1.000		06.21.2023.2023_06_21_17_09_26.cal	6/21/2023 6:52:22 PM
3	25.70	7.807mg/L	50uL	1.000		06.21.2023.2023_06_21_17_09_26.cal	6/21/2023 6:54:51 PM

Mean Area	25.60
Mean Conc.	7.778mg/L



Sample

Sample Name: ICB
Sample ID:
Origin: 06.21.2023.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.01449mg/L

1. Det

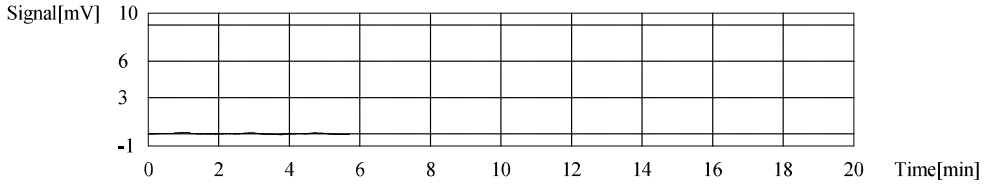
Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.000	0.000mg/L	50uL	1.000		06.21.2023.2023_06_21_17_09_26.cal	6/21/2023 7:02:39 PM
2	0.000	0.000mg/L	50uL	1.000		06.21.2023.2023_06_21_17_09_26.cal	6/21/2023 7:04:47 PM
3	0.1431	0.04347mg/L	50uL	1.000		06.21.2023.2023_06_21_17_09_26.cal	6/21/2023 7:06:55 PM

TOC-Control L Report

2023_06_21_002.tlx

Mean Area	0.04770
Mean Conc.	0.01449mg/L



C:\TOC-L\Data\2023_07_14_001.tlx

	Analysis	Sample Name	Sample ID	Origin	Manual Diluti	Result	Notes	Status	Date / Time
1	NPOC	CCV		06.21.2023.	1.000	NPOC:25.7		Completed	7/14/2023 1
2	NPOC	CCB		06.21.2023.	1.000	NPOC:0.11		Completed	7/14/2023 1
3	NPOC	MBLK-07142023		06.21.2023.	1.000	NPOC:0.03		Completed	7/14/2023 1
4	NPOC	LCS-07142023		06.21.2023.	1.000	NPOC:8.99		Completed	7/14/2023 1
5	NPOC	LCSD-07142023		06.21.2023.	1.000	NPOC:8.88		Completed	7/14/2023 1
6	NPOC	HS23070267-03		06.21.2023.	1.000	NPOC:11.8		Completed	7/14/2023 1
7	NPOC	HS23070267-03MS		06.21.2023.	1.000	NPOC:21.6		Completed	7/14/2023 1
8	NPOC	HS23070639-07		06.21.2023.	1.000	NPOC:1.08		Completed	7/14/2023 1:
9	NPOC	HS23070639-09		06.21.2023.	1.000	NPOC:25.7		Completed	7/14/2023 1:
10	NPOC	HS23070449-01DF10		06.21.2023.	1.000	NPOC:7.43		Completed	7/14/2023 1:
11	NPOC	CCV		06.21.2023.	1.000	NPOC:24.9		Completed	7/14/2023 1:
12	NPOC	CCB		06.21.2023.	1.000	NPOC:0.14		Completed	7/14/2023 1:

C:\TOC-L\Data\2023_07_14_001.tlx

	Vial
1	1
2	2
3	3
4	4
5	5
6	32
7	33
8	34
9	35
10	36
11	1
12	2

TOC-Control L Report

2023_07_14_001.tlx

Instr.Information

Instrument Options TOC/ASI/IC Unit/
Catalyst Regular Sensitivity

Sample

Sample Name: CCV
Sample ID:
Origin: 06.21.2023.cal
Status Completed
Chk. Result

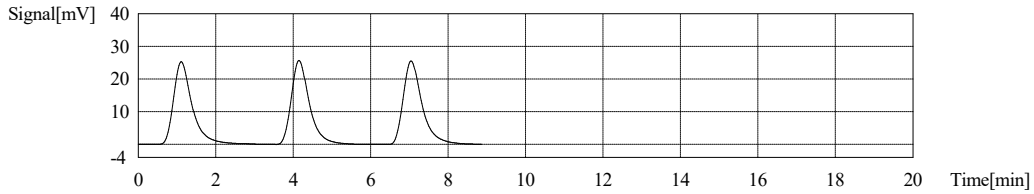
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:25.70mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	83.40	25.46mg/L	50uL	1.000		06.21.2023.2023_06_22_09_52_59.cal	7/14/2023 11:14:25 AM
2	83.41	25.46mg/L	50uL	1.000		06.21.2023.2023_06_22_09_52_59.cal	7/14/2023 11:17:35 AM
3	85.78	26.18mg/L	50uL	1.000		06.21.2023.2023_06_22_09_52_59.cal	7/14/2023 11:20:45 AM

Mean Area 84.20
Mean Conc. 25.70mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: 06.21.2023.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.1154mg/L

1. Det

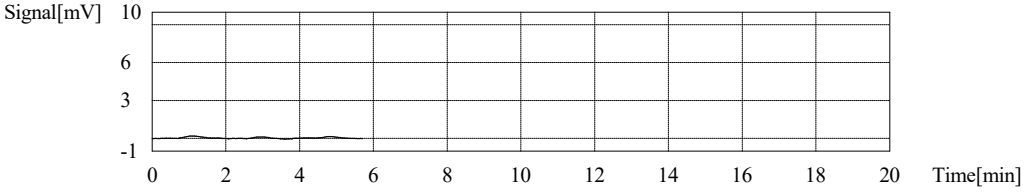
Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.5099	0.1556mg/L	50uL	1.000		06.21.2023.2023_06_22_09_52_59.cal	7/14/2023 11:28:30 AM
2	0.3459	0.1056mg/L	50uL	1.000		06.21.2023.2023_06_22_09_52_59.cal	7/14/2023 11:30:38 AM
3	0.2783	0.08495mg/L	50uL	1.000		06.21.2023.2023_06_22_09_52_59.cal	7/14/2023 11:32:46 AM

TOC-Control L Report

2023_07_14_001.tlx

Mean Area 0.3780
Mean Conc. 0.1154mg/L



Sample

Sample Name: MBLK-07142023
Sample ID:
Origin: 06.21.2023.cal
Status Completed
Chk. Result

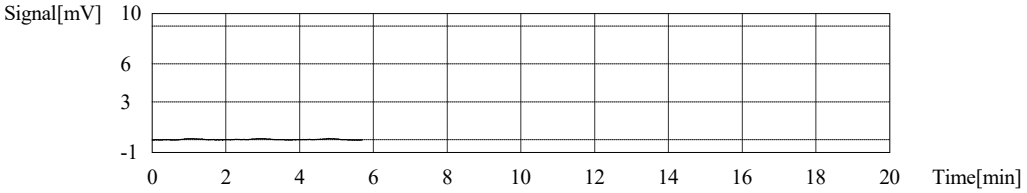
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.03373mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.2050	0.06257mg/L	50uL	1.000		06.21.2023.2023_06_22_09_52_59.cal	7/14/2023 11:40:31 AM
2	0.1265	0.03861mg/L	50uL	1.000		06.21.2023.2023_06_22_09_52_59.cal	7/14/2023 11:42:39 AM
3	0.000	0.000mg/L	50uL	1.000		06.21.2023.2023_06_22_09_52_59.cal	7/14/2023 11:44:47 AM

Mean Area 0.1105
Mean Conc. 0.03373mg/L



Sample

Sample Name: LCS-07142023
Sample ID:
Origin: 06.21.2023.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:8.993mg/L

1. Det

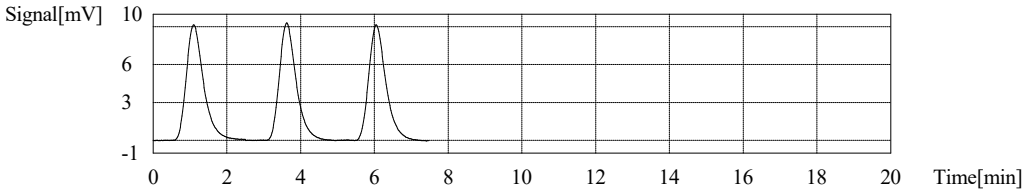
Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	29.35	8.959mg/L	50uL	1.000		06.21.2023.2023_06_22_09_52_59.cal	7/14/2023 11:53:08 AM
2	29.38	8.968mg/L	50uL	1.000		06.21.2023.2023_06_22_09_52_59.cal	7/14/2023 11:55:48 AM
3	29.66	9.053mg/L	50uL	1.000		06.21.2023.2023_06_22_09_52_59.cal	7/14/2023 11:58:35 AM

TOC-Control L Report

2023_07_14_001.tlx

Mean Area 29.46
Mean Conc. 8.993mg/L



Sample

Sample Name: LCSD-07142023
Sample ID:
Origin: 06.21.2023.cal
Status Completed
Chk. Result

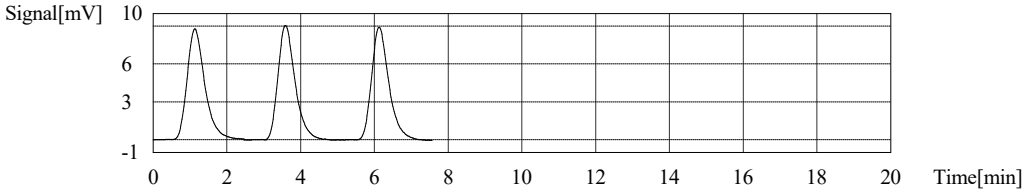
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:8.885mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	28.96	8.839mg/L	50uL	1.000		06.21.2023.2023_06_22_09_52_59.cal	7/14/2023 12:06:54 PM
2	29.16	8.901mg/L	50uL	1.000		06.21.2023.2023_06_22_09_52_59.cal	7/14/2023 12:09:40 PM
3	29.21	8.916mg/L	50uL	1.000		06.21.2023.2023_06_22_09_52_59.cal	7/14/2023 12:12:29 PM

Mean Area 29.11
Mean Conc. 8.885mg/L



Sample

Sample Name: HS23070267-03
Sample ID:
Origin: 06.21.2023.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:11.88mg/L

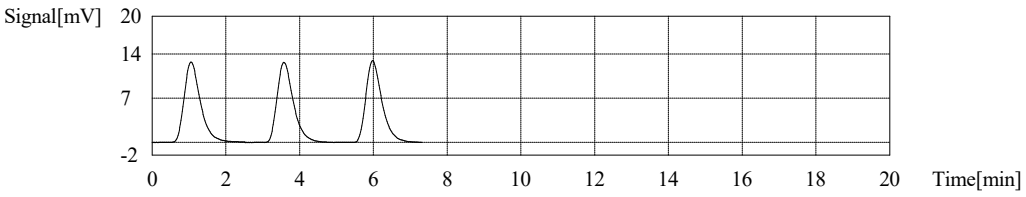
1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	38.70	11.81mg/L	50uL	1.000		06.21.2023.2023_06_22_09_52_59.cal	7/14/2023 12:20:52 PM
2	38.86	11.86mg/L	50uL	1.000		06.21.2023.2023_06_22_09_52_59.cal	7/14/2023 12:23:31 PM
3	39.24	11.98mg/L	50uL	1.000		06.21.2023.2023_06_22_09_52_59.cal	7/14/2023 12:26:09 PM

TOC-Control L Report

Mean Area 38.93
Mean Conc. 11.88mg/L



Sample

Sample Name: HS23070267-03MS
Sample ID:
Origin: 06.21.2023.cal
Status Completed
Chk. Result

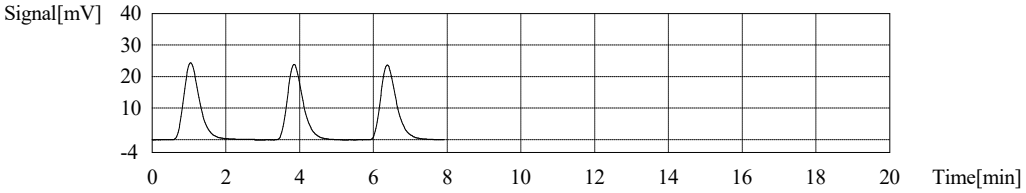
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:21.68mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	71.93	21.96mg/L	50uL	1.000		06.21.2023.2023_06_22_09_52_59.cal	7/14/2023 12:34:48 PM
2	70.29	21.45mg/L	50uL	1.000		06.21.2023.2023_06_22_09_52_59.cal	7/14/2023 12:37:35 PM
3	70.82	21.62mg/L	50uL	1.000		06.21.2023.2023_06_22_09_52_59.cal	7/14/2023 12:40:25 PM

Mean Area 71.01
Mean Conc. 21.68mg/L



Sample

Sample Name: HS23070449-01DF10
Sample ID:
Origin: 06.21.2023.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:7.434mg/L

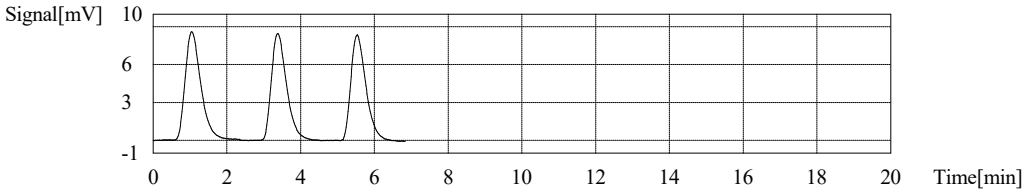
1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	25.18	7.686mg/L	50uL	1.000		06.21.2023.2023_06_22_09_52_59.cal	7/14/2023 1:23:14 PM
2	24.09	7.353mg/L	50uL	1.000		06.21.2023.2023_06_22_09_52_59.cal	7/14/2023 1:25:39 PM
3	23.80	7.265mg/L	50uL	1.000		06.21.2023.2023_06_22_09_52_59.cal	7/14/2023 1:28:12 PM

TOC-Control L Report

Mean Area 24.36
Mean Conc. 7.434mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: 06.21.2023.cal
Status Completed
Chk. Result

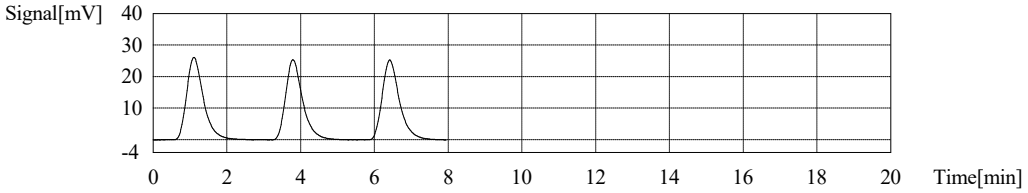
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:24.93mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	82.31	25.12mg/L	50uL	1.000		06.21.2023.2023_06_22_09_52_59.cal	7/14/2023 1:36:54 PM
2	80.87	24.68mg/L	50uL	1.000		06.21.2023.2023_06_22_09_52_59.cal	7/14/2023 1:39:46 PM
3	81.87	24.99mg/L	50uL	1.000		06.21.2023.2023_06_22_09_52_59.cal	7/14/2023 1:42:39 PM

Mean Area 81.68
Mean Conc. 24.93mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: 06.21.2023.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.1446mg/L

1. Det

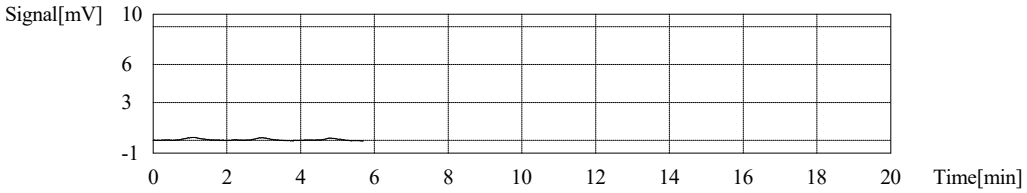
Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.5520	0.1685mg/L	50uL	1.000		06.21.2023.2023_06_22_09_52_59.cal	7/14/2023 1:50:24 PM
2	0.5129	0.1566mg/L	50uL	1.000		06.21.2023.2023_06_22_09_52_59.cal	7/14/2023 1:52:32 PM
3	0.3563	0.1088mg/L	50uL	1.000		06.21.2023.2023_06_22_09_52_59.cal	7/14/2023 1:54:40 PM

TOC-Control L Report

2023_07_14_001.tlx

Mean Area	0.4737
Mean Conc.	0.1446mg/L



HS23070449-E2300629 Perchlorate Report IV

ALS WO# HS23070449

July 11, 2023 Service Request No:E2300629

James Guin
ALS Environmental - US
10450 Stancliff Rd #210
Houston, TX 77099

Laboratory Results for: HS23070449

Dear James,

Enclosed are the results of the sample(s) submitted to our laboratory July 11, 2023
For your reference, these analyses have been assigned our service request number **E2300629.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current TNI standards, where applicable, and except as noted in the laboratory case narrative provided. All results are intended to be considered in their entirety and ALS Environmental is not responsible for use of less than the complete final report. Results apply only to the items submitted to the laboratory, as received for analysis. In accordance with the current TNI Standard, a statement on the estimated uncertainty of measurement of any quantitative analysis will be supplied upon request.

Please contact me if you have any questions. My extension is 2188. You may also contact me via email at James.Guin@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

James Guin

Certificate of Analysis

ALS Environmental - Houston Specialties Laboratory
10450 Stancliff Rd., Suite 210, Houston TX 77099
Phone (281)530-5656 Fax (281)530-5887
www.alsglobal.com

ALS Environmental

Client:	ALS Environmental - US	**Service Request No.:**	E2300629
Project:	HS23070449	**Date Received:**	07/11/23
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed in adherence to the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Two samples were received for analysis at ALS Environmental in Houston on 07/11/23.

The samples were received in good condition and are consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Data Validation Notes and Discussion

Precision and Accuracy:

EQ2300336: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in lieu of a MS/MSD for this extraction batch.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS group USA Corp dba ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

Client: ALS Environmental - US **Service Request:**E2300629
Project: HS23070449

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2300629-001	LH18/24-SP650_071023_AIX	7/10/2023	1300
E2300629-002	LH18/24-SP650_071023_BIX	7/10/2023	1300

Service Request Summary

Folder #: **E2300629**
Client Name: ALS Environmental - US
Project Name: HS23070449
Project Number:

Report To: James Guin
ALS Environmental - US
10450 Stancliff Rd #210
Houston, TX 77099
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number:
E-mail: james.guin@alsglobal.com

Project Chemist: James Guin
Originating Lab: HOUSTON
Logged By: JGUIN
Date Received: 07/11/23
Internal Due Date: 7/12/2023
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS23070449
EDD: No EDD Specified

2 120 mL-Plastic Bottle Natural WM Unpreserved
Location: EHRMS-AirArch 1
Pressure Gas:
Rush

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2300629-001	LH18/24-SP650_071023_AIX	Water	07/10/23 1300	**IV**
E2300629-002	LH18/24-SP650_071023_BIX	Water	07/10/23 1300	**IV**

Service Request Summary

Folder #: **E2300629**
Client Name: ALS Environmental - US
Project Name: HS23070449
Project Number:

Report To: James Guin
ALS Environmental - US
10450 Stancliff Rd #210
Houston, TX 77099
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number:
E-mail: james.guin@alsglobal.com

Project Chemist: James Guin
Originating Lab: HOUSTON
Logged By: JGUIN
Date Received: 07/11/23
Internal Due Date: 7/12/2023
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS23070449
EDD: No EDD Specified

2 120 mL-Plastic Bottle Natural WM Unpreserved
Location: EHRMS-AirArch 1
Pressure Gas:
Rush

Data Qualifiers

Lab Standard

+	Possible Tedlar bag artifact.
A	TIC is a suspected aldol-condensation product
B	Analyte found in the associated method blank as well as in the sample.
BC	Reported results are not blank corrected.
BH	The back section of the tube yielded higher results than the front.
BT	Results indicated possible breakthrough; back section >=10% front section.
C	Result identification confirmed.
D	Compound identified in an analysis at a secondary dilution factor
D	Spike was diluted out
DE	Reported results are corrected for desorption efficiency.
E	Estimated value. Concentration above calibration range
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
H1	Sample analysis performed past holding time. See case narrative.
H2	Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
H3	Sample was received and analyzed past holding time.
H4	Sample was extracted past required extraction holding time, but analyzed within analysis holding time. See case narrative.
I	(Auto) The reference ion ratio was outside acceptance criteria, which may indicate a potential bias to this result.
I	Internal standard not within the specified limits. See case narrative.
I	The reference ion ratio was outside acceptance criteria, which may indicate a potential bias to this result.
J	Estimated Value. Concentration found below MRL.
K	A deflection in the QC ion may indicate interference with the quantitation of this ion. The concentration of this analyte should be considered as an estimate.
K	Analyte was detected above the method reporting limit prior to normalization.
K	The reference ion ratio was outside acceptance criteria, which may indicate a potential bias to this result.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
L1	Laboratory control sample recovery outside the specified limits; results may be biased high.
L2	Laboratory control sample recovery outside the specified limits; results may be biased low.
L3	Laboratory control sample recovery outside the specified limits.
M	Matrix interference; results may be biased high.
M	The duplicate injection precision not met.

Data Qualifiers

Lab Standard

M1	Matrix interference due to coelution with a non-target compound; results may be biased high.
N	Presumptive evidence of a compound for TICs that have been identified based on a mass spectral library search.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
P	Indicates chlorodiphenyl ether interference present at the retention time of the target compound.
P	Pesticide/Aroclor target analyte > 40% difference for detected concentrations between GC columns
Q	Indicates as estimated value because the P and P + 2 theoretical abundance ratio does not meet method criteria.
R	Duplicate Precision not met.
R1	Duplicate precision not within the specified limits; however, the results are below the MRL and considered estimated.
S	Surrogate recovery not within specified limits.
S	The reported value was determined by the Method of Standard Additions (MSA).
T	Analyte is a tentatively identified compound, result is estimated.
U	Compound was analyzed for, but was not detected (ND).
V1	The continuing calibration verification standard was outside (biased high) the specified limits for this compound.
V2	The continuing calibration verification standard was outside (biased low) the specified limits for this compound.
W	Result quantified, but the corresponding peak was detected outside the generated retention time window.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
X	See case narrative.
Y	Recovery outside limits
Y	The chromatogram resembles a petroleum product but does not match the calibration standard.
Z	The chromatogram does not resemble a petroleum product.
i	The MRL/MDL has been elevated due to a matrix interference.

ALS Laboratory Group

Acronyms

Cal	Calibration
Conc	CONCentration
Dioxin(s)	Polychlorinated dibenzo-p-dioxin(s)
EDL	Estimated Detection Limit
EMPC	Estimated Maximum Possible Concentration
Flags	Data qualifiers
Furan(s)	Polychlorinated dibenzofuran(s)
g	Grams
ICAL	Initial CALibration
ID	IDentifier
Ions	Masses monitored for the analyte during data acquisition
L	Liter (s)
LCS	Laboratory Control Sample
DLCS	Duplicate Laboratory Control Sample
MB	Method Blank
MCL	Method Calibration Limit
MDL	Method Detection Limit
mL	Milliliters
MS	Matrix Spiked sample
DMS	Duplicate Matrix Spiked sample
NO	Number of peaks meeting all identification criteria
PCDD(s)	Polychlorinated dibenzo-p-dioxin(s)
PCDF(s)	Polychlorinated dibenzofuran(s)
ppb	Parts per billion
ppm	Parts per million
ppq	Parts per quadrillion
ppt	Parts per trillion
QA	Quality Assurance
QC	Quality Control
Ratio	Ratio of areas from monitored ions for an analyte
% Rec.	Percent recovery
RPD	Relative Percent Difference
RRF	Relative Response Factor
RT	Retention Time
SDG	Sample Delivery Group
S/N	Signal-to-noise ratio
TEF	Toxicity Equivalence Factor
TEQ	Toxicity Equivalence Quotient

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ALS Environmental

State Certifications, Accreditations, and Licenses

Agency	Number	Expire Date
Arizona Department of Health Services	AZ0793_2024	5/27/2024
Arkansas Department of Environmental Quality	88-00356	3/27/2024
California State Environmental Laboratory Accreditation Program	2919	4/30/2024
Department of Defense	L22-90	3/31/2024
Department of Defense	L23-358	5/31/2025
Florida Department of Health	E87611-38	6/30/2024
Illinois Environmental Protection Agency	2000322023-11	6/30/2024
Kansas Department of Health and Environment	E-10352 2022-2023	7/31/2023
Louisiana Department of Environmental Quality	03087-2023	6/30/2024
Louisiana Department of Health and Hospitals	LA028-2023	12/31/2023
Maine Department of Health and Human Services	2022017	6/5/2024
Maryland Department of the Environment	343	7/31/2023
Michigan Depratment of Environmental Quality	9971-2023	4/30/2024
Minnesota Department of Health	2368363	12/31/2023
Nebraska Department of Health and Human Services	NE-OS-25-13	4/30/2024
Nevada Department of Conservation and Natural Resources	TX026932023-1	7/31/2023
New Hampshire Environmental Laboratory Accreditation Program	209423	4/24/2024
New Jersey Department of Environmental Protection	TX008-2024	6/30/2024
New York Department of Health	11707	3/31/2024
Oklahoma Department of Environmental Quality	2022-141	8/31/2023
Pennsylvania Department of Environmental Protection	68-03441-017	6/30/2024
Perry Johnson Laboratory Accreditation	L22-91	3/31/2024
Tennessee Department of Environment and Concervation	TN04016-2023	4/30/2024
Texas Commision on Environmental Quality	T104704231-23-30	4/30/2024
Utah Department of Health Environmental Laboratory Certification	TX026932022-13	7/31/2023
Washington Department of Ecology	C819-22	11/14/2023

Chain of Custody

ALS Environmental - Houston Specialties Laboratory
10450 Stancliff Rd., Suite 210, Houston TX 77099
Phone (281)530-5656 Fax (281)530-5887
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RUSH

10450 Stancliff Rd, Ste 210
Houston, TX 77099
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F: +1 281 530 5887
www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID: 22316**

SUBCONTRACT TO:

ALS Environmental
10450 Stancliff RoadSuite 210
Houston, TX 77084

Phone: +1 281 530 5656

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	James Guin
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	James.Guin@alsglobal.com
Alternate Contact:	Jumoke M. Lawal
Email:	jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS23070449
TSR:	Houston House Acct

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS23070449-02**	**LH18/24-SP650_071023_AIX**	**Water**	**10 Jul 2023 13:00**
	6850-Perch. DOD Level II & Level IV in separate pdf			12 Jul 2023
2.	**HS23070449-03**	**LH18/24-SP650_071023_BIX**	**Water**	**10 Jul 2023 13:00**
	6850-Perch. DOD Level II & Level IV in separate pdf			12 Jul 2023

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.

QC Level: DOD IV (DoD Data Package)

Relinquished By: NM Date/Time: 7.19.23 1000

Received By: _____ Date/Time: _____

Cooler ID(s): _____ Temperature(s): _____

ALS Environmental

Cooler Receipt Form

Project Chemist KR

Client/Project A/S

Thermometer ID IR31

Date/Time Received: 7/11/23 1250 Initials: JG

Date/Time Logged in: 7/11/23 1250 Initials JG

1. Method of delivery: ○ US Mail ○ Fed Ex ○ UPS ○ DHL ○ Courier ✓ Client

2. Samples received in: ✓ Cooler ○ Box ○ Envelope ○ Other

3. Were custody seals on coolers? ○ Yes ✓ No If yes, how many and where?

Were they intact? ○ Yes ○ No ○ N/A

Were they signed and dated? ○ Yes ○ No ✓ N/A

4. Packing Material: ○ Inserts ✓ Baggies ○ Bubble Wrap ○ Gel Packs ✓ Wet Ice ○ Sleeves ○ Other

5. Foreign or Regulated Soil? ○ Yes ✓ No Location of Sampling:

Cooler Tracking Number	COC ID	Date Opened	Time Opened	Opened By	Temp. °C	Temp Blank?
		7/11/23	1250	JG	3.4	☑
						☐
						☐
						☐

6. Were custody papers properly filled out (ink, signed, dated, etc)? ✓ Yes ○ No

7. Did all bottles arrive in good condition (not broken, no signs of leakage)? ✓ Yes ○ No

8. Were all sample labels complete (i.e., sample ID, analysis, preservation, etc)? ✓ Yes ○ No

9. Were appropriate bottles/containers and volumes received for the requested tests? ✓ Yes ○ No

10. Did sample labels and tags agree with custody documents? ✓ Yes ○ No

Notes, Discrepancies, & Resolutions:

Service request Label:

HS-HRMSCoolerReceipt R1.0

ALS Environmental - Houston HRMS

10450 Stancliff Rd., Suite 210
Houston, TX 77099
T: +1 281 530 5656
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www.alsglobal.com

SAMPLE ACCEPTANCE POLICY

This policy outlines the criteria samples must meet to be accepted by ALS Environmental – Houston HRMS.

Cooler Custody Seals (desirable, mandatory if specified in SAP):

- ✓ Intact on outside of cooler, signed and dated

Chain-of-Custody (COC) documentation (mandatory):

The following is required on each COC:

- ✓ Sample ID, the location, date and time of collection, collector's name, preservation type, sample type, and any other special remarks concerning the sampleThe COC must be completed in ink.
- ✓ Signature and date of relinquishing party.

In the absence of a COC at sample receipt, the COC will be requested from the client.

Sample Integrity (mandatory):

Samples are inspected upon arrival to ensure that sample integrity was not compromised during transfer to the laboratory.

- ✓ Sample containers must arrive in good condition (not broken or leaking).
- ✓ Samples must be labeled appropriately, including Sample IDs, and requested test using durable labels and indelible ink.
- ✓ The correct type of sample bottle must be used for the method requested.
- ✓ An appropriate sample volume, or weight, must be received.
- ✓ Sample IDs and number of containers must reconcile with the COC.
- ✓ Samples must be received within the method defined holding time.

Temperature Requirement (varies by sample matrix):

- ✓ Aqueous and Non-aqueous samples must be shipped and stored cold, at 0 to 6ºC.
- ✓ Tissue samples must be shipped and stored frozen, at -20 to -10ºC.
- ✓ Air samples are shipped and stored cold, at 0 to 6ºC
- ✓ The sample temperature must be recorded on the COC

All cooler inspections are documented on the Cooler Receipt Form (CRF). A separate CRF is completed for each service request. Any samples not meeting the above criteria are noted on the CRF and the Project Manager notified. The Project Manager must resolve any sample integrity issues with the client prior to proceeding with the analysis. Such resolutions are documented in writing and filed with the project folder. Data associated with samples received outside of this acceptance policy will be qualified on the case narrative of the final report

Preparation Information Benchsheets

ALS Environmental - Houston Specialties Laboratory
10450 Stancliff Rd., Suite 210, Houston TX 77099
Phone (281)530-5656 Fax (281)530-5887
www.alsglobal.com

Preparation Information Benchsheet

Prep Run#: 422877 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/XMI **Prep Method:** **Prep Date/Time:** 7/11/23 12:10

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2300629-001	LH18/24-SP650_071023_AIX	.01	6850/ClO4 DOD			Water	10mL	
2	E2300629-002	LH18/24-SP650_071023_BIX	.01	6850/ClO4 DOD			Water	10mL	
3	EQ2300336-01	MB		6850/ClO4			Liquid	10mL	
4	EQ2300336-02	LCS		6850/ClO4			Liquid	10mL	
5	EQ2300336-03	DLCS		6850/ClO4			Liquid	10mL	
6	R2305858-015	2306270801 PFE-2	.01	6850/ClO4			Water	10mL	

Spiking Solutions

Name: Perchlorate Intermediate Stock1 Inventory ID 227236 Logbook Ref: Perchlorate (1st Source) Expires On: 07/31/2023

EQ2300336-02 1.00µL EQ2300336-02 1.00µL EQ2300336-03 1.00µL EQ2300336-03 1.00µL

Name: Perchlorate Internal Standard 1ug/mL Inventory ID 227244 Logbook Ref: Perchlorate Internal Standard Expires On: 07/31/2023

E2300629-001 100.00µL E2300629-002 100.00µL EQ2300336-01 100.00µL EQ2300336-01 100.00µL EQ2300336-02 100.00µL EQ2300336-02 100.00µL
EQ2300336-03 100.00µL EQ2300336-03 100.00µL R2305858-015 100.00µL

Preparation Steps

Step: Preparation
Started: 7/11/23 12:10
Finished: 7/11/23 13:22
By: XMI
Comments

Comments: _____

Reviewed By: _____ Date: _____

Chain of Custody

Relinquished By: _____ Date: _____ Extracts Examined

Received By: _____ Date: _____ Yes No

Analytical Results

ALS Environmental - Houston Specialties Laboratory
10450 Stancliff Rd., Suite 210, Houston TX 77099
Phone (281)530-5656 Fax (281)530-5887
www.alsglobal.com

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300629
Project:	HS23070449	**Date Collected:**	7/10/23 1300
Sample Matrix:	Water	**Date Received:**	7/11/23
Sample Name:	LH18/24-SP650_071023_AIX	**Units:**	µg/L
Lab Code:	E2300629-001	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.0593**	J	0.100	0.0500	0.0250	1	7/11/23	7/11/23 14:34	422877	810244	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300629
Project:	HS23070449	**Date Collected:**	7/10/23 1300
Sample Matrix:	Water	**Date Received:**	7/11/23
Sample Name:	LH18/24-SP650_071023_BIX	**Units:**	µg/L
Lab Code:	E2300629-002	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**36.2**		0.100	0.0500	0.0250	1	7/11/23	7/11/23 14:39	422877	810244	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300629
Project:	HS23070449	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2300336-01	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.100	0.0500	0.0250	1	7/11/23	7/11/23 14:51	422877	810244	

Accuracy & Precision

ALS Environmental - Houston Specialties Laboratory
10450 Stancliff Rd., Suite 210, Houston TX 77099
Phone (281)530-5656 Fax (281)530-5887
www.alsglobal.com

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS23070449
Sample Matrix: Water

Service Request: E2300629
Date Analyzed: 7/11/23

Lab Control Sample Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method:

Units: µg/L
Basis: NA

Extraction Lot: 422877

	Lab Control Sample EQ2300336-02			Duplicate Lab Control Sample EQ2300336-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.114	0.100	114	0.105	0.100	105	84 - 119	9	15

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300629
Project:	HS23070449	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2300336-02	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.114**		0.100	0.0500	0.0250	1	7/11/23	7/11/23 14:23	422877	810244	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300629
Project:	HS23070449	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2300336-03	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.105**		0.100	0.0500	0.0250	1	7/11/23	7/11/23 14:28	422877	810244	

Initial Calibration

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 210, Houston, TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

20230629-809329

Injection Log

LCMS01 -Shimadzu 8050

1st Review: XM
2nd Review: GC

ICAL Date: 6/29/2023
Cal. Std. xp: 06/29/2023
ICAL ID: EC2300011

Mobile Phases : A:20mM ammonium acetate in water 32103046 **B:**Acetonitrile 226552

	Sample Name		File Name	Acquisition Method	Dilution	Comments	Date/Time
1	PERCHLORATE1		20230629-001	Perchlorate6850c.lcm	1x	227245	6/29/2023 12:59
2	PERCHLORATE2		20230629-002	Perchlorate6850c.lcm	1x	227246	6/29/2023 13:05
3	PERCHLORATE3		20230629-003	Perchlorate6850c.lcm	1x	227247	6/29/2023 13:10
4	PERCHLORATE4		20230629-004	Perchlorate6850c.lcm	1x	227248	6/29/2023 13:16
5	PERCHLORATE5		20230629-005	Perchlorate6850c.lcm	1x	227249	6/29/2023 13:21
6	PERCHLORATE6		20230629-006	Perchlorate6850c.lcm	1x	227250	6/29/2023 13:27
7	PERCHLORATE7		20230629-007	Perchlorate6850c.lcm	1x	227251	6/29/2023 13:32
8	PERCHLORATE8		20230629-008	Perchlorate6850c.lcm	1x	227252	6/29/2023 13:38
9	PERCHLORATE9		20230629-009	Perchlorate6850c.lcm	1x	227253	6/29/2023 13:43
10	PERCHLORATE10		20230629-010	Perchlorate6850c.lcm	1x	227254	6/29/2023 13:49
11	PERCHLORATEICV		20230629-011	Perchlorate6850c.lcm	1x	227256	6/29/2023 13:55
12	IB		20230629-012	Perchlorate6850c.lcm	1x		6/29/2023 14:00
13	LODV		20230629-013	Perchlorate6850c.lcm	1x	227501	6/29/2023 14:06
14	ICS		20230629-014	Perchlorate6850c.lcm	1x	32103024	6/29/2023 14:11
15	CCV		20230629-015	Perchlorate6850c.lcm	1x	227251	6/29/2023 14:17
16	EQ2300312-01		20230629-016	Perchlorate6850c.lcm	1x		6/29/2023 14:22
17	EQ2300312-02		20230629-017	Perchlorate6850c.lcm	1x	DNU-RR	6/29/2023 14:28
18	EQ2300312-03		20230629-018	Perchlorate6850c.lcm	1x		6/29/2023 14:33
19	E2300606-001		20230629-019	Perchlorate6850c.lcm	10x		6/29/2023 14:39
20	EQ2300312-04		20230629-020	Perchlorate6850c.lcm	1x		6/29/2023 14:44
21	EQ2300312-05		20230629-021	Perchlorate6850c.lcm	1x		6/29/2023 14:50
22	E2300606-002		20230629-022	Perchlorate6850c.lcm	5x		6/29/2023 14:55
23	E2300606-003		20230629-023	Perchlorate6850c.lcm	10x		6/29/2023 15:01
24	E2300606-004		20230629-024	Perchlorate6850c.lcm	10x		6/29/2023 15:06
25	E2300606-005		20230629-025	Perchlorate6850c.lcm	1x		6/29/2023 15:12
26	CCV		20230629-026	Perchlorate6850c.lcm	1x	227251	6/29/2023 15:17
27	E2300606-006		20230629-027	Perchlorate6850c.lcm	1x		6/29/2023 15:23
28	E2300606-007		20230629-028	Perchlorate6850c.lcm	500x		6/29/2023 15:28
29	E2300606-008		20230629-029	Perchlorate6850c.lcm	100x		6/29/2023 15:34
30	EQ2300312-06		20230629-030	Perchlorate6850c.lcm	100x		6/29/2023 15:40
31	EQ2300312-07		20230629-031	Perchlorate6850c.lcm	100x		6/29/2023 15:45
32	E2300606-009		20230629-032	Perchlorate6850c.lcm	1x		6/29/2023 15:53
33	E2300610-001		20230629-033	Perchlorate6850c.lcm	10000x		6/29/2023 15:58
34	E2300610-002		20230629-034	Perchlorate6850c.lcm	1x		6/29/2023 16:04
35	E2300610-003		20230629-035	Perchlorate6850c.lcm	1x		6/29/2023 16:09
36	E2300610-004		20230629-036	Perchlorate6850c.lcm	1x		6/29/2023 16:15
37	CCV		20230629-037	Perchlorate6850c.lcm	1x	227251	6/29/2023 16:21

20230629-809329

Injection Log

LCMS01 -Shimadzu 8050

1st Review: XM
2nd Review: GC

ICAL Date: 6/29/2023
Cal. Std. xp: 06/29/2023
ICAL ID: EC2300011

Mobile Phases : A:20mM ammonium acetate in water 32103046 **B:**Acetonitrile 226552

	Sample Name		File Name	Acquisition Method	Dilution	Comments	Date/Time
38	E2300610-005		20230629-038	Perchlorate6850c.lcm	1x		6/29/2023 16:26
39	E2300610-006		20230629-039	Perchlorate6850c.lcm	1x		6/29/2023 16:32
40	E2300610-007		20230629-040	Perchlorate6850c.lcm	1x		6/29/2023 16:37
41	E2300610-008		20230629-041	Perchlorate6850c.lcm	1x	DNU-D	6/29/2023 16:43
42	EQ2300312-08		20230629-042	Perchlorate6850c.lcm	1x		6/29/2023 16:48
43	EQ2300312-09		20230629-043	Perchlorate6850c.lcm	1x		6/29/2023 16:54
44	E2300611-001		20230629-044	Perchlorate6850c.lcm	1x		6/29/2023 16:59
45	E2300611-002		20230629-045	Perchlorate6850c.lcm	1x		6/29/2023 17:05
46	E2300611-003		20230629-046	Perchlorate6850c.lcm	1x		6/29/2023 17:10
47	E2300611-004		20230629-047	Perchlorate6850c.lcm	1x	DNU-D	6/29/2023 17:16
48	CCV		20230629-048	Perchlorate6850c.lcm	1x	227251	6/29/2023 17:21
49	E2300611-005		20230629-049	Perchlorate6850c.lcm	1x		6/29/2023 17:27
50	E2300611-006		20230629-050	Perchlorate6850c.lcm	1x	DNU-D	6/29/2023 17:32
51	E2300611-007		20230629-051	Perchlorate6850c.lcm	1x	DNU-D	6/29/2023 17:38
52	E2300611-008		20230629-052	Perchlorate6850c.lcm	1x		6/29/2023 17:43
53	E2300611-009		20230629-053	Perchlorate6850c.lcm	1x		6/29/2023 17:49
54	E2300611-010		20230629-054	Perchlorate6850c.lcm	1x		6/29/2023 17:55
55	CCV		20230629-055	Perchlorate6850c.lcm	1x	227251	6/29/2023 18:06

Initial Calibration - Detailed Report

Calibration ID: EC2300011 **Instrument ID:** E-LCMS-01
Column Name: 1

#	Lab Code	Sample Name	File Location	Aquisition Date
01	EC2300011-01	PERCHLORATE1	20230629-001	06/29/2023 12:59
02	EC2300011-02	PERCHLORATE2	20230629-002	06/29/2023 13:05
03	EC2300011-03	PERCHLORATE3	20230629-003	06/29/2023 13:10
04	EC2300011-04	PERCHLORATE4	20230629-004	06/29/2023 13:16
05	EC2300011-05	PERCHLORATE5	20230629-005	06/29/2023 13:21
06	EC2300011-06	PERCHLORATE6	20230629-006	06/29/2023 13:27
07	EC2300011-07	PERCHLORATE7	20230629-007	06/29/2023 13:32
08	EC2300011-08	PERCHLORATE8	20230629-008	06/29/2023 13:38
09	EC2300011-09	PERCHLORATE9	20230629-009	06/29/2023 13:43
10	EC2300011-10	PERCHLORATE10	20230629-010	06/29/2023 13:49

Analyte **Curve Fit** **Weighting**

Perchlorate **Average RF** **RSD = 2.809** **Average RF = 0.1625**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.1000	0.1678	02	0.5000	0.1574	03	0.7000	0.1599	04	1.0000	0.1567
05	2.0000	0.1596	06	5.0000	0.1641	07	10.0000	0.1704	08	20.0000	0.1667
09	30.0000	0.1608	10	50.0000	0.1619						

Analyte

Perchlorate RSE = 2.81

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.1000	0.103	3.2	02	0.5000	0.484	-3.1	03	0.7000	0.689	-1.6
04	1.0000	0.964	-3.6	05	2.0000	1.96	-1.8	06	5.0000	5.05	1.0
07	10.0000	10.5	4.8	08	20.0000	20.5	2.6	09	30.0000	29.7	-1.1
10	50.0000	49.8	-0.4								

Initial Calibration Verification Summary Report

Calibration ID:	EC2300011	**Instrument ID:**	E-LCMS-01
Datafile ID:	20230629-011	**Column Name:**	1

Analyte	Lab Code	Type	Curve Fit	True Value	Calc Conc	Units	Result	Criteria
Perchlorate	EC2300011-11	T	Average RF	10	9.913	ng/mL	-0.9	<= 15

Insight Report

Printed at 6/29/2023 2:17:05 PM

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Project File: I:\LCMS01\DATA\20230628\06282023.damlp

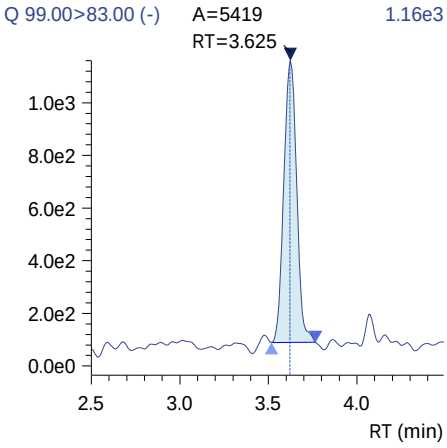
PERCHLORATE1

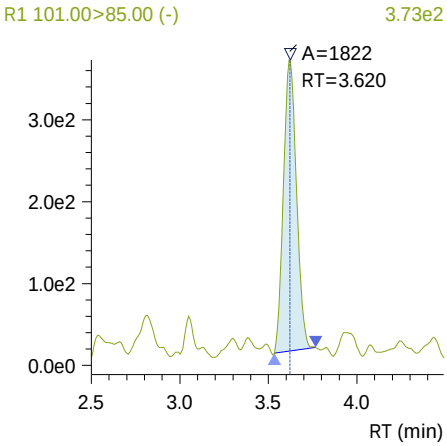
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Date Acquired: 6/29/2023 12:59:40 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230629\20230629-001.lcd
Vial: 1 | Inj. Volume: 10.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.625	5419	323018	0.1032	ng/mL	101.00 >85.00	33.63	22.41-41.62
Sodium Perchlorate-18O4 _IS	Auto	3.617	323018	323018	1.0000	ng/mL	----	----	

Perchlorate

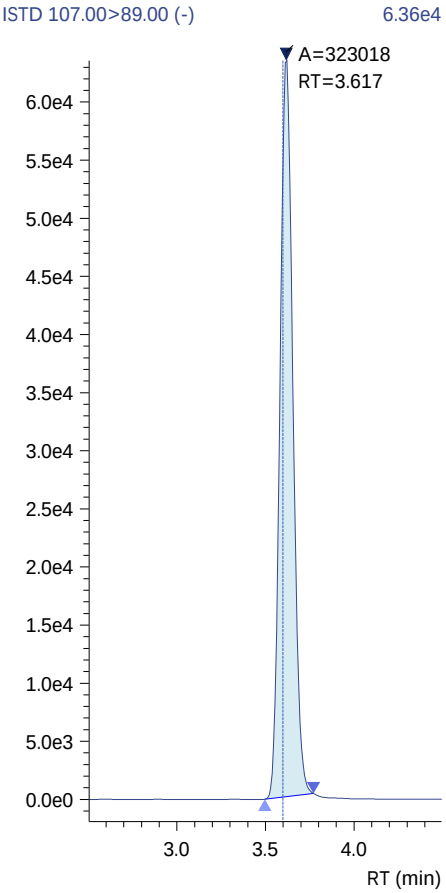
Conc 0.1032
R#1 33.63 (32.02)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 6/29/2023 2:17:05 PM

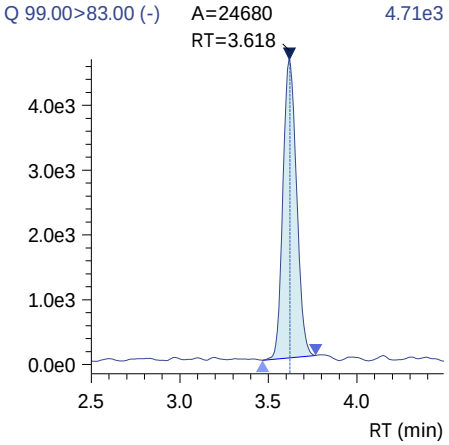
PERCHLORATE2

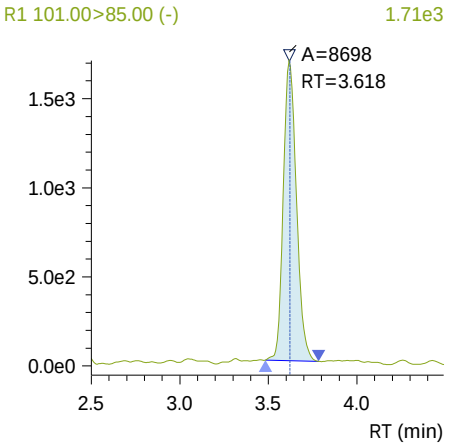
Sample ID: PERCHLORATE2
Date Acquired: 6/29/2023 1:05:11 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230629\20230629-002.lcd
Vial: 2 | Inj. Volume: 10.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.618	24680	313519	0.4844	ng/mL	101.00 >85.00	35.24	22.41-41.62
Sodium Perchlorate-18O4 _IS	Auto	3.618	313519	313519	1.0000	ng/mL	----	----	

Perchlorate

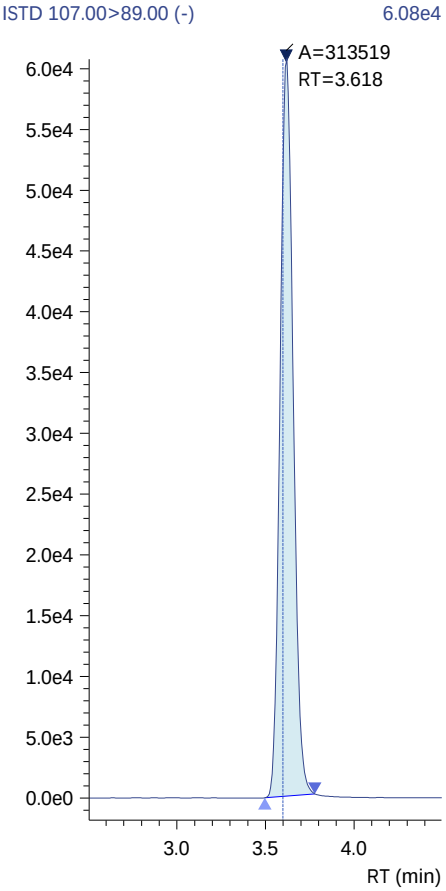
Conc 0.4844
R#1 35.24 (32.02)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 6/29/2023 2:17:05 PM

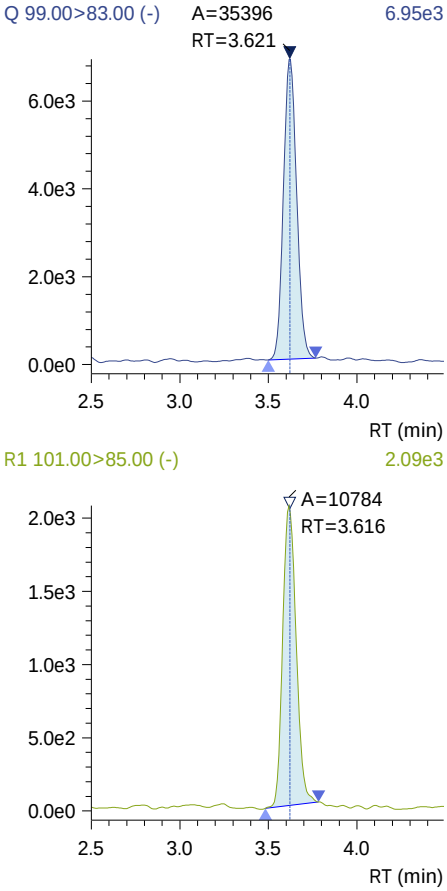
PERCHLORATE3

Sample ID: PERCHLORATE3
Date Acquired: 6/29/2023 1:10:46 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230629\20230629-003.lcd
Vial: 3 | Inj. Volume: 10.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.621	35396	316311	0.6886	ng/mL	101.00 >85.00	30.47	22.41-41.62
Sodium Perchlorate-18O4 _IS	Auto	3.618	316311	316311	1.0000	ng/mL	----	----	

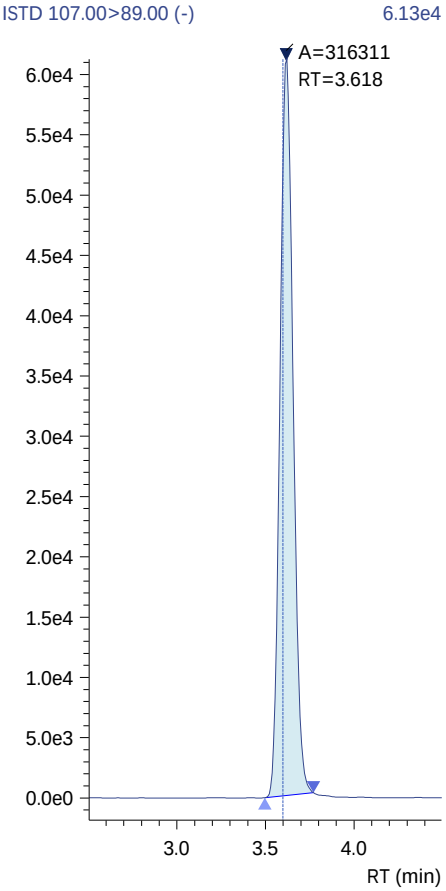
Perchlorate

Conc 0.6886
R#1 30.47 (32.02)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 6/29/2023 2:17:05 PM

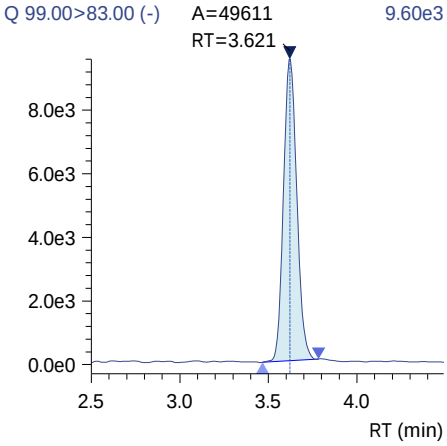
PERCHLORATE4

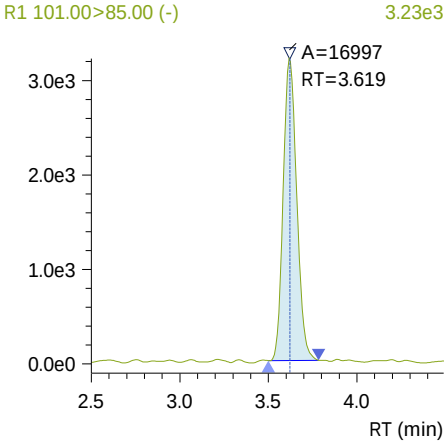
Sample ID: PERCHLORATE4
Date Acquired: 6/29/2023 1:16:19 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230629\20230629-004.lcd
Vial: 4 | Inj. Volume: 10.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.621	49611	316580	0.9643	ng/mL	101.00 >85.00	34.26	22.41-41.62
Sodium Perchlorate-18O4 _IS	Auto	3.618	316580	316580	1.0000	ng/mL	----	----	

Perchlorate

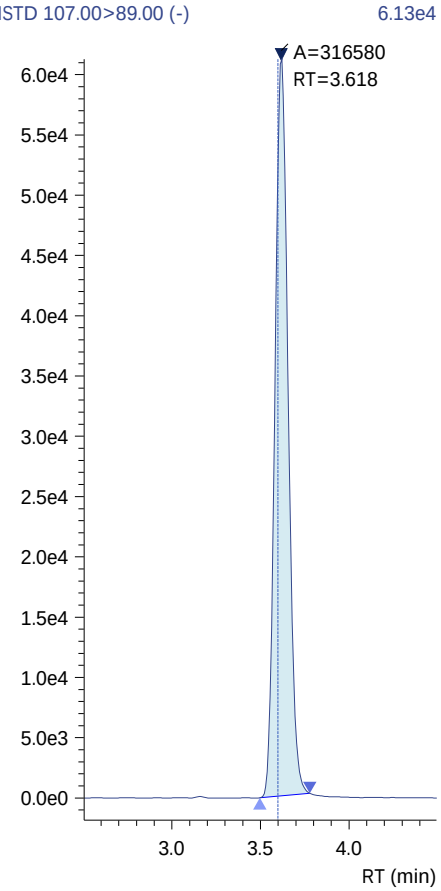
Conc 0.9643
R#1 34.26 (32.02)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 6/29/2023 2:17:05 PM

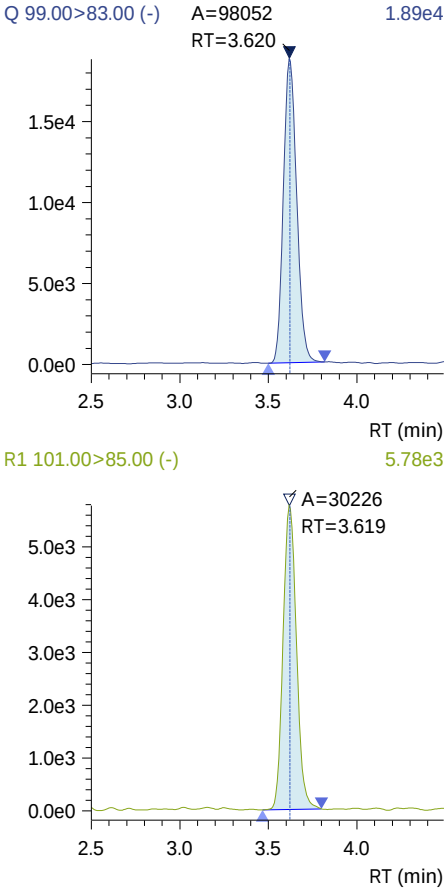
PERCHLORATE5

Sample ID: PERCHLORATE5
Date Acquired: 6/29/2023 1:21:50 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230629\20230629-005.lcd
Vial: 5 | Inj. Volume: 10.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.620	98052	307162	1.9642	ng/mL	101.00 >85.00	30.83	22.41-41.62
Sodium Perchlorate-18O4 _IS	Auto	3.617	307162	307162	1.0000	ng/mL	----	----	

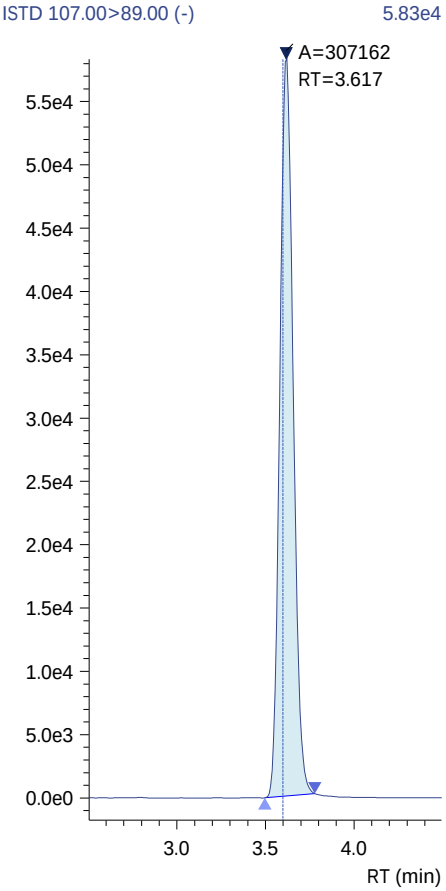
Perchlorate

Conc 1.9642
R#1 30.83 (32.02)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 6/29/2023 2:17:05 PM

PERCHLORATE6

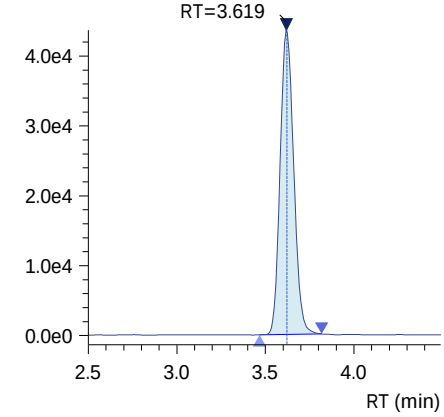
Sample ID: PERCHLORATE6
Date Acquired: 6/29/2023 1:27:22 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230629\20230629-006.lcd
Vial: 6 | Inj. Volume: 10.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.619	232011	282827	5.0477	ng/mL	101.00 >85.00	31.17	22.41-41.62
Sodium Perchlorate-18O4 _IS	Auto	3.617	282827	282827	1.0000	ng/mL	----	----	

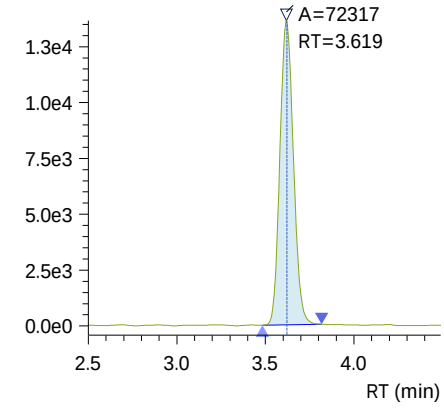
Perchlorate

Conc 5.0477
R#1 31.17 (32.02)

Q 99.00>83.00 (-) A=232011 RT=3.619 4.37e4



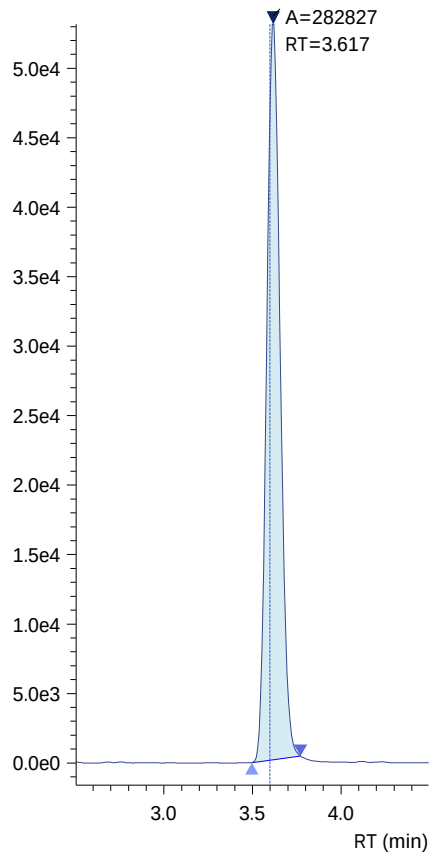
R1 101.00>85.00 (-) 1.37e4



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 5.32e4



Insight Report

Printed at 6/29/2023 2:17:05 PM

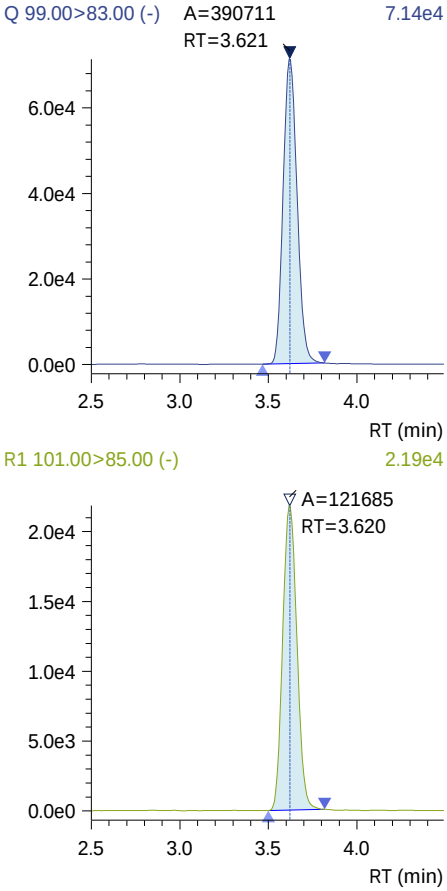
PERCHLORATE7

Sample ID: PERCHLORATE7
Date Acquired: 6/29/2023 1:32:51 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230629\20230629-007.lcd
Vial: 3 | Inj. Volume: 10.0000uL | Tray: 0

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.621	390711	229327	10.48 35	ng/mL	101.00 >85.00	31.14	22.41-41.62
Sodium Perchlorate-18O4 _IS	Auto	3.616	229327	229327	1.0000	ng/mL	----	----	

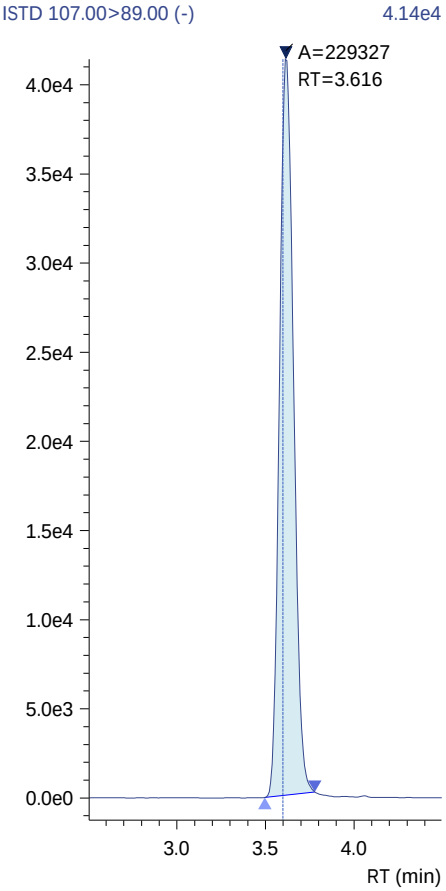
Perchlorate

Conc 10.4835
R#1 31.14 (32.02)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 6/29/2023 2:17:05 PM

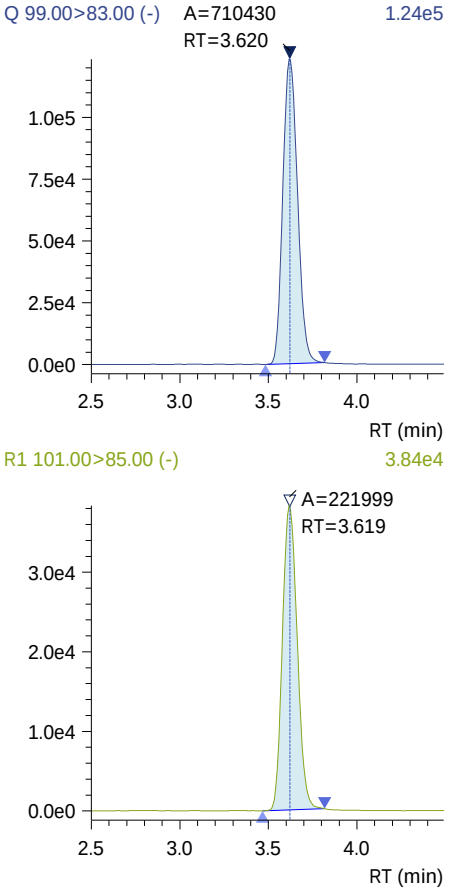
PERCHLORATE8

Sample ID: PERCHLORATE8
Date Acquired: 6/29/2023 1:38:22 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230629\20230629-008.lcd
Vial: 8 | Inj. Volume: 10.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.620	710430	213093	20.5144	ng/mL	101.00 >85.00	31.25	22.41-41.62
Sodium Perchlorate-18O4_IS	Auto	3.615	213093	213093	1.0000	ng/mL	----	----	

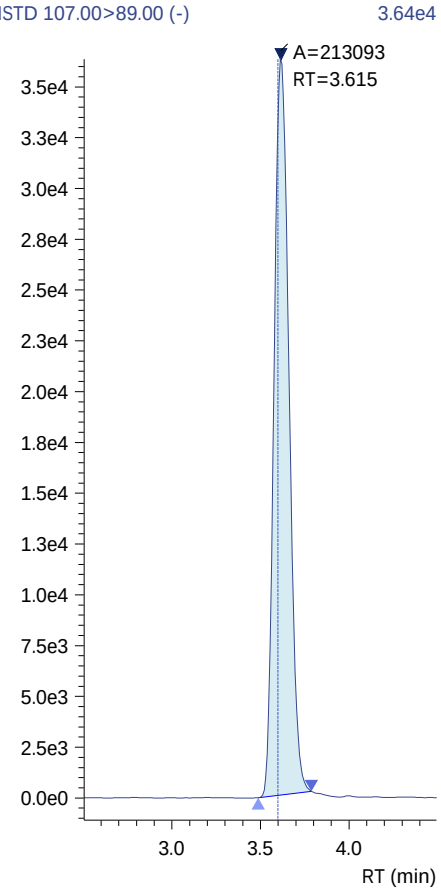
Perchlorate

Conc 20.5144
R#1 31.25 (32.02)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 6/29/2023 2:17:05 PM

PERCHLORATE9

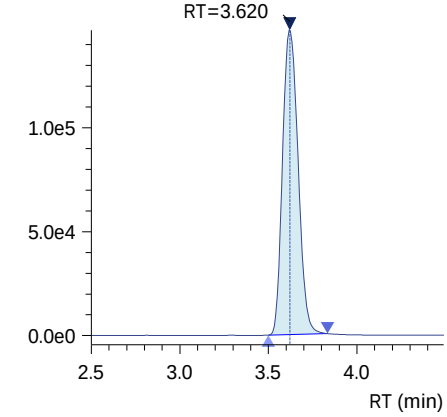
Sample ID: PERCHLORATE9
Date Acquired: 6/29/2023 1:43:53 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230629\20230629-009.lcd
Vial: 9 | Inj. Volume: 10.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.620	896468	185851	29.6808	ng/mL	101.00 >85.00	31.06	22.41-41.62
Sodium Perchlorate-18O4_IS	Auto	3.614	185851	185851	1.0000	ng/mL	----	----	

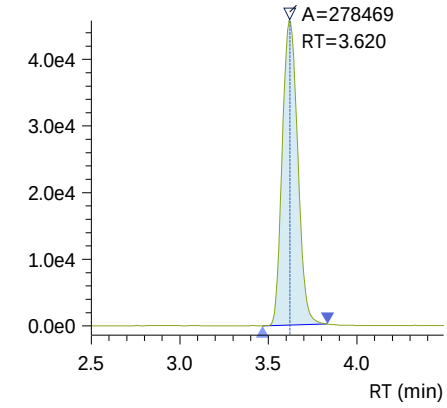
Perchlorate

Conc 29.6808
R#1 31.06 (32.02)

Q 99.00>83.00 (-) A=896468 1.47e5



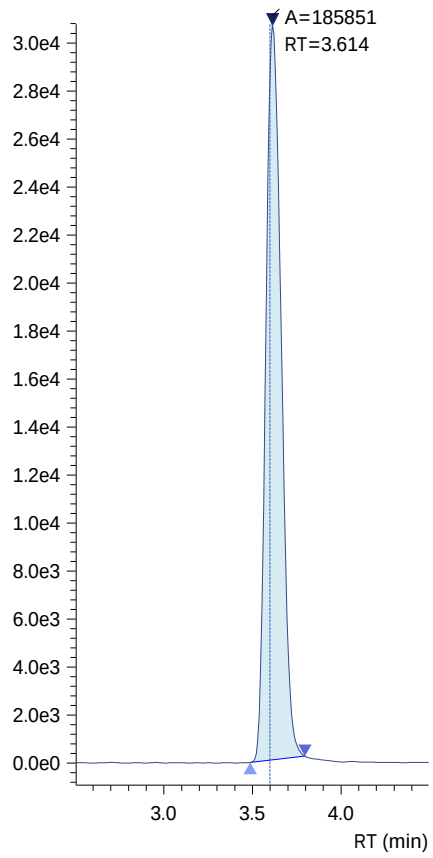
R1 101.00>85.00 (-) 4.58e4



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 3.08e4



Insight Report

Printed at 6/29/2023 2:17:05 PM

PERCHLORATE10

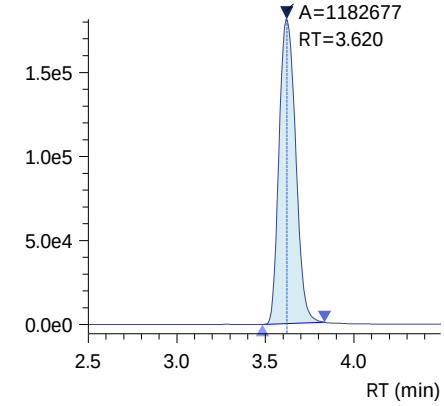
Sample ID: PERCHLORATE10
Date Acquired: 6/29/2023 1:49:27 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230629\20230629-010.lcd
Vial: 10 | Inj. Volume: 10.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.620	1182677	146135	49.7986	ng/mL	101.00 >85.00	30.89	22.41-41.62
Sodium Perchlorate-18O4_IS	Auto	3.614	146135	146135	1.0000	ng/mL	----	----	

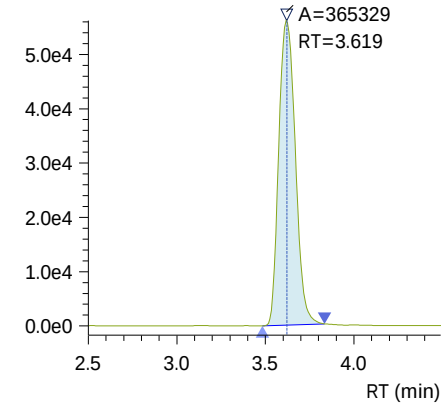
Perchlorate

Conc 49.7986
R#1 30.89 (32.02)

Q 99.00>83.00 (-) 1.82e5



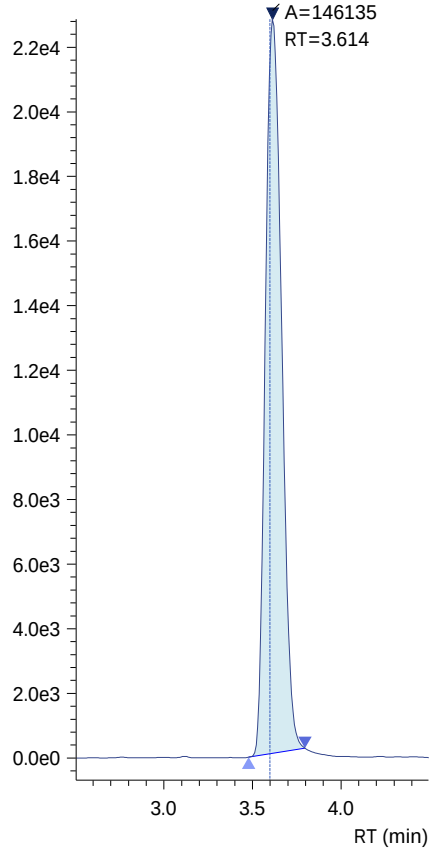
R1 101.00>85.00 (-) 5.62e4



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 2.29e4



Insight Report

Printed at 6/29/2023 2:17:05 PM

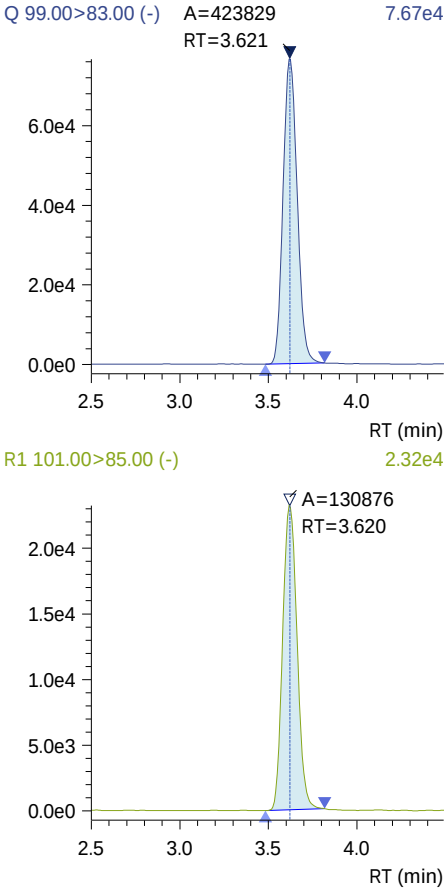
PERCHLORATEICV

Sample ID: PERCHLORATEICV
Date Acquired: 6/29/2023 1:55:00 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230629\20230629-011.lcd
Vial: 11 | Inj. Volume: 10.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.621	423829	263091	9.9127	ng/mL	101.00 >85.00	30.88	22.41-41.62
Sodium Perchlorate-18O4 _IS	Auto	3.617	263091	263091	1.0000	ng/mL	----	----	

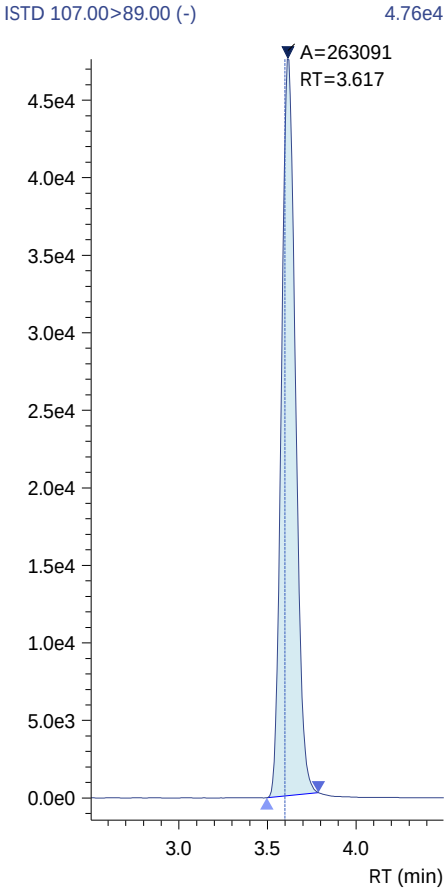
Perchlorate

Conc 9.9127
R#1 30.88 (32.02)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Chromatograms and Selected Ion Monitoring

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 320, Houston TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

20230711

Injection Log

LCMS01 -Shimadzu 8050

1st Review: XM
2nd Review: GC

ICAL Date: 6/29/2023
Cal. Std. xp: 07/31/2023
ICAL ID: EC2300011

Mobile Phases : **A:**20mM ammonium acetate in water 32103047 **B:**Acetonitrile 226552

	Sample Name		File Name	Acquisition Method	Dilution	Comments	Date/Time
1	IB		20230711-001	Perchlorate6850c.lcm	1x		7/11/2023 13:49
2	LODV		20230711-002	Perchlorate6850c.lcm	1x	DNU-IR	7/11/2023 13:54
3	ICS		20230711-003	Perchlorate6850c.lcm	1x	32103024	7/11/2023 14:00
4	LODV		20230711-004	Perchlorate6850c.lcm	1x	227501	7/11/2023 14:06
5	CCV		20230711-005	Perchlorate6850c.lcm	1x	227251	7/11/2023 14:12
6	EQ2300336-01		20230711-006	Perchlorate6850c.lcm	1x	DNU-RR	7/11/2023 14:17
7	EQ2300336-02		20230711-007	Perchlorate6850c.lcm	1x		7/11/2023 14:23
8	EQ2300336-03		20230711-008	Perchlorate6850c.lcm	1x		7/11/2023 14:28
9	E2300629-001		20230711-009	Perchlorate6850c.lcm	1x		7/11/2023 14:34
10	E2300629-002		20230711-010	Perchlorate6850c.lcm	1x		7/11/2023 14:39
11	R2305858-015		20230711-011	Perchlorate6850c.lcm	1x		7/11/2023 14:46
12	EQ2300336-01		20230711-012	Perchlorate6850c.lcm	1x		7/11/2023 14:51
13	CCV		20230711-013	Perchlorate6850c.lcm	1x	227251	7/11/2023 15:04

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2300629
Project:	HS23070449	**Date Analyzed:**	7/11/23 14:12

Internal Standard Area and RT Summary

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20230711\20230711-005	**Lab Code:**	EQ2300337-01
Instrument ID:	E-LCMS-01	**Analysis Lot:**	810244
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	263,382	3.62
	Upper Limit ==>	395,073	5.62
	Lower Limit ==>	131,691	1.62
Associated Analyses			
Continuing Calibration Verification	EQ2300337-01	255,594	3.61
Lab Control Sample	EQ2300336-02	328,592	3.61
Duplicate Lab Control Sample	EQ2300336-03	338,822	3.61
LH18/24-SP650_071023_AIX	E2300629-001	381,512	3.61
LH18/24-SP650_071023_BIX	E2300629-002	199,590	3.63
Method Blank	EQ2300336-01	335,931	3.61

Results flagged with an asterisk (*) indicate values outside control criteria.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2300629
Project:	HS23070449	**Date Analyzed:**	7/11/23 15:04

Internal Standard Area and RT Summary

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20230711\20230711-013	**Lab Code:**	EQ2300337-02
Instrument ID:	E-LCMS-01	**Analysis Lot:**	810244
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	263,382	3.62
	Upper Limit ==>	395,073	5.62
	Lower Limit ==>	131,691	1.62
Associated Analyses			
Continuing Calibration Verification	EQ2300337-02	255,513	3.61

Results flagged with an asterisk (*) indicate values outside control criteria.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS23070449

Service Request: E2300629
Date Analyzed: 7/11/23

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20230711\20230711-005

Calibration Date: 6/29/23
Calibration ID: EC2300011
Analysis Lot: 810244
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.1	0.1625	0.1639	0.9	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS23070449

Service Request: E2300629
Date Analyzed: 7/11/23

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20230711\20230711-013

Calibration Date: 6/29/23
Calibration ID: EC2300011
Analysis Lot: 810244
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.4	0.1625	0.1698	4.5	NA	± 15 %	Average RF

Insight Report

Printed at 7/11/2023 3:36:07 PM

Method File: I:\LCMS01\DATA\20230711\20230711.lcm
Project File: I:\LCMS01\DATA\20230711\20230711.damlp

IB

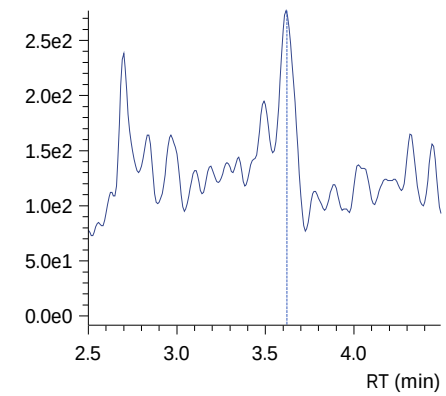
Sample ID: IB
Date Acquired: 7/11/2023 1:49:27 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230711\20230711-001.lcd
Vial: 4 | Inj. Volume: 10.0000uL | Tray: 0

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	ND(W/B)	----	----	335266	----	ng/mL	101.00 >85.00	0.00	21.81-40.51
Sodium Perchlorate-18O4_IS	Auto	3.609	335266	335266	1.0000	ng/mL	----	----	

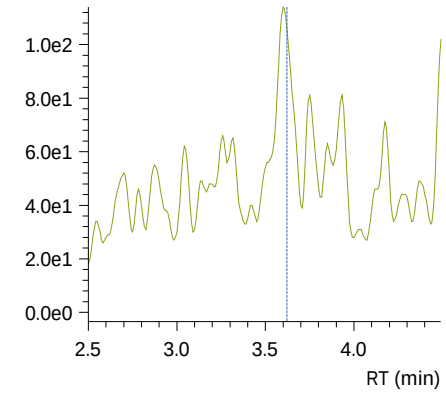
Perchlorate

Conc ----
R#1 0.00 (31.16)

Q 99.00>83.00 (-) 2.77e2



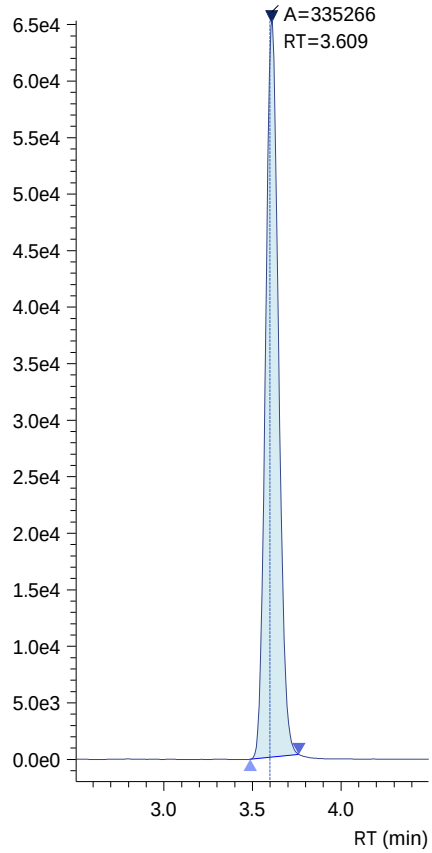
R1 101.00>85.00 (-) 1.14e2



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 6.53e4



Insight Report

Printed at 7/11/2023 3:36:07 PM

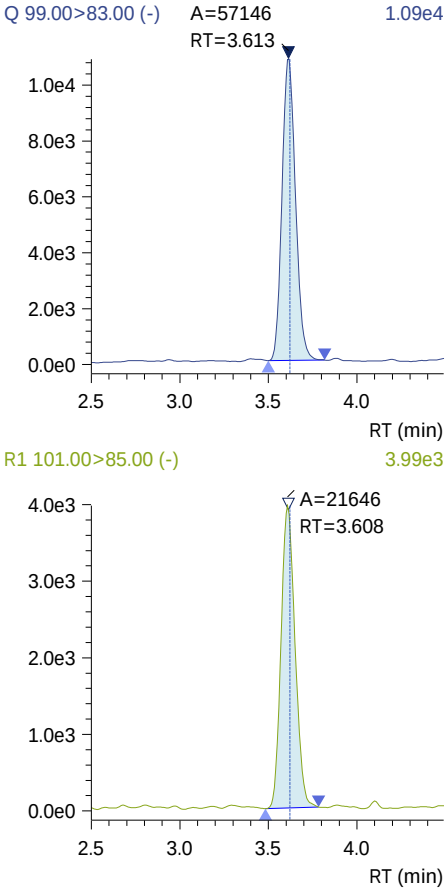
ICS

Sample ID: ICS
Date Acquired: 7/11/2023 2:00:28 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230711\20230711-003.lcd
Vial: 2 | Inj. Volume: 10.0000uL | Tray: 0

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.613	57146	357417	0.9838	ng/mL	101.00 >85.00	37.88	21.81-40.51
Sodium Perchlorate-18O4 _IS	Auto	3.610	357417	357417	1.0000	ng/mL	----	----	

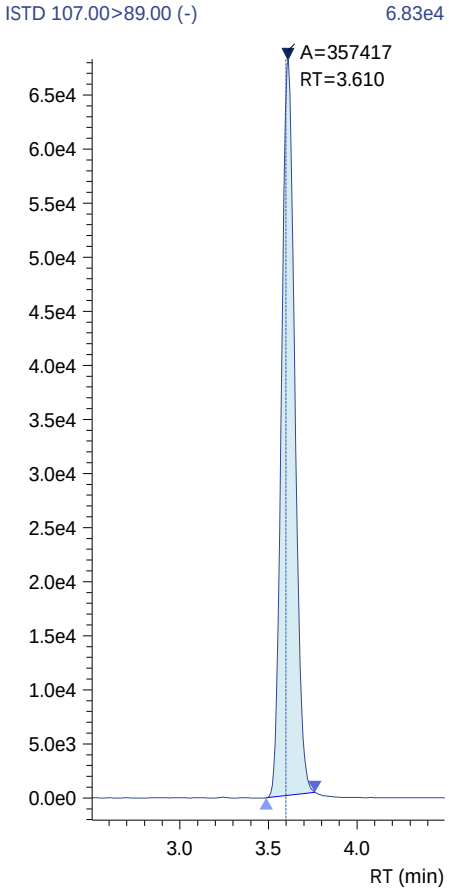
Perchlorate

Conc 0.9838
R#1 37.88 (31.16)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 7/11/2023 3:36:07 PM

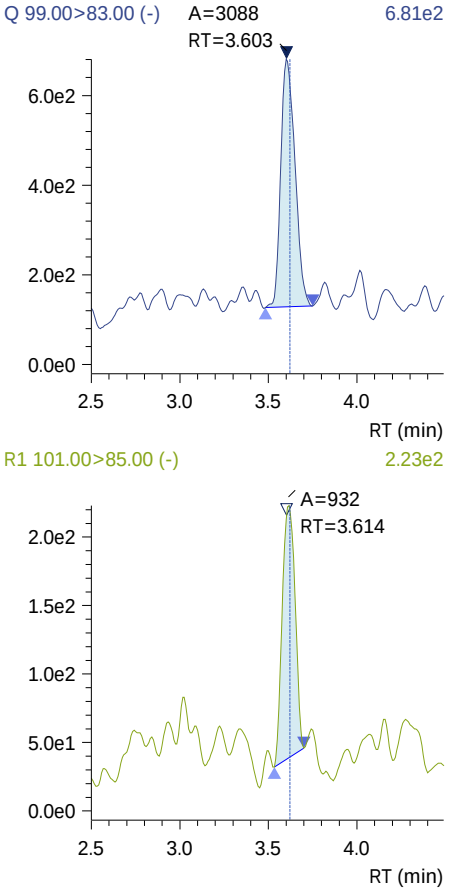
LODV

Sample ID: LODV
Date Acquired: 7/11/2023 2:06:02 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230711\20230711-004.lcd
Vial: 1 | Inj. Volume: 10.0000uL | Tray: 0

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.603	3088	340902	0.0557	ng/mL	101.00 >85.00	30.17	21.81-40.51
Sodium Perchlorate-18O4 _IS	Auto	3.612	340902	340902	1.0000	ng/mL	----	----	

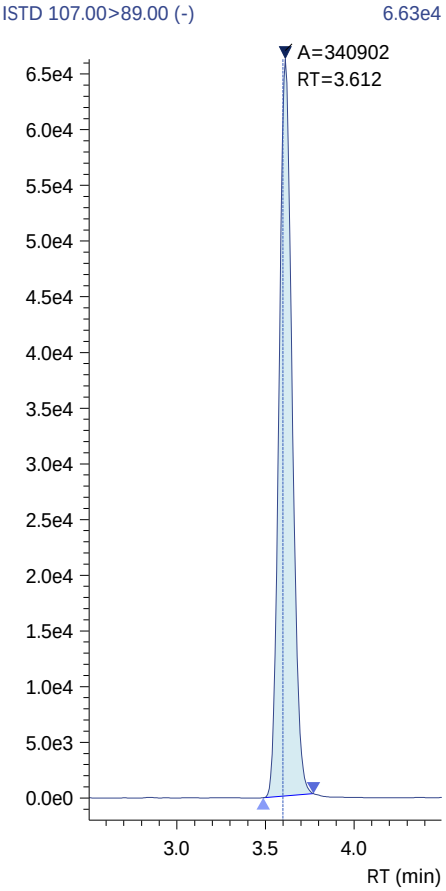
Perchlorate

Conc 0.0557
R#1 30.17 (31.16)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 7/11/2023 3:36:07 PM

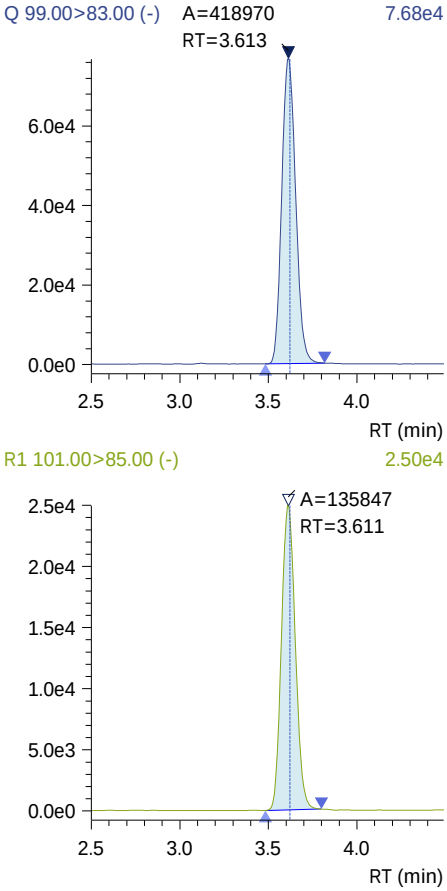
CCV

Sample ID: CCV
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Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230711\20230711-005.lcd
Vial: 3 | Inj. Volume: 10.0000uL | Tray: 0

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.613	418970	255594	10.0864	ng/mL	101.00 >85.00	32.42	21.81-40.51
Sodium Perchlorate-18O4_IS	Auto	3.609	255594	255594	1.0000	ng/mL	----	----	

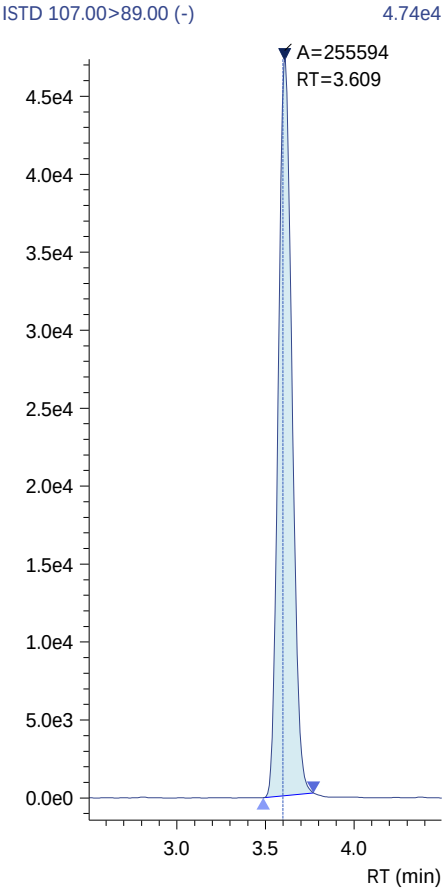
Perchlorate

Conc 10.0864
R#1 32.42 (31.16)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 7/11/2023 3:36:07 PM

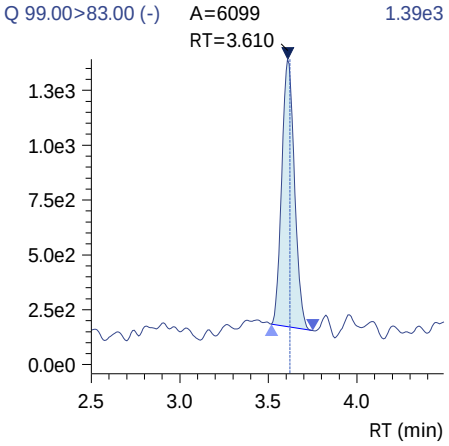
EQ2300336-02

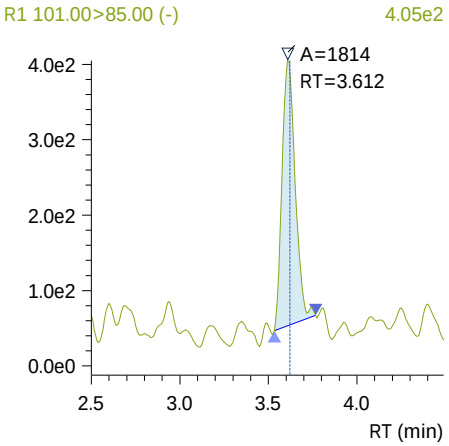
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Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230711\20230711-007.lcd
Vial: 38 | Inj. Volume: 10.0000uL | Tray: 6

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.610	6099	328592	0.1142	ng/mL	101.00 >85.00	29.74	21.81-40.51
Sodium Perchlorate-18O4 _IS	Auto	3.607	328592	328592	1.0000	ng/mL	----	----	

Perchlorate

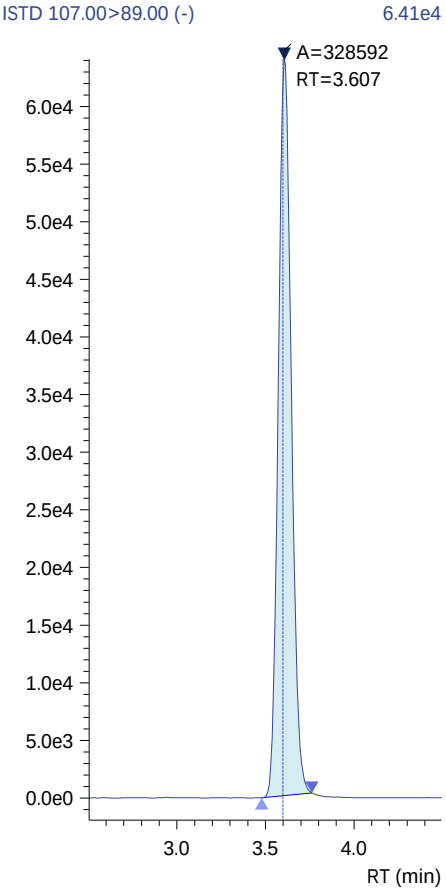
Conc 0.1142
R#1 29.74 (31.16)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 7/11/2023 3:36:07 PM

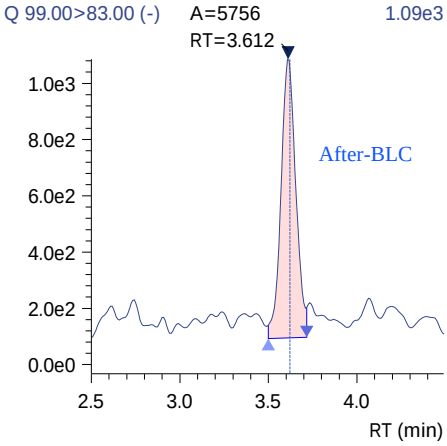
EQ2300336-03

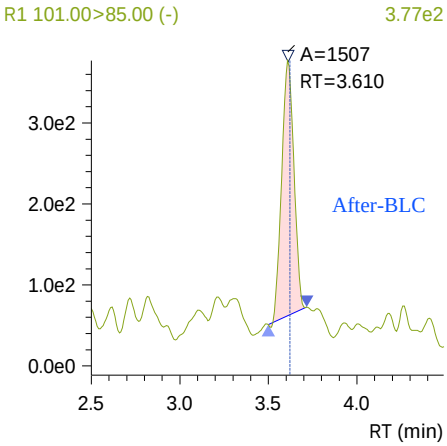
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Date Acquired: 7/11/2023 2:28:54 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230711\20230711-008.lcd
Vial: 39 | Inj. Volume: 10.0000uL | Tray: 6

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	M	3.612	5756	338822	0.1045	ng/mL	101.00 >85.00	26.17	21.81-40.51
Sodium Perchlorate-18O4 _IS	Auto	3.608	338822	338822	1.0000	ng/mL	----	----	

Perchlorate

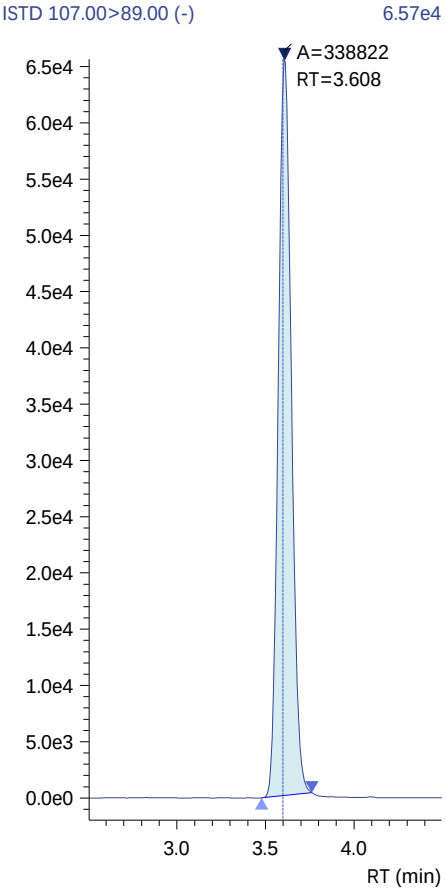
Conc 0.1045
R#1 26.17 (31.16)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

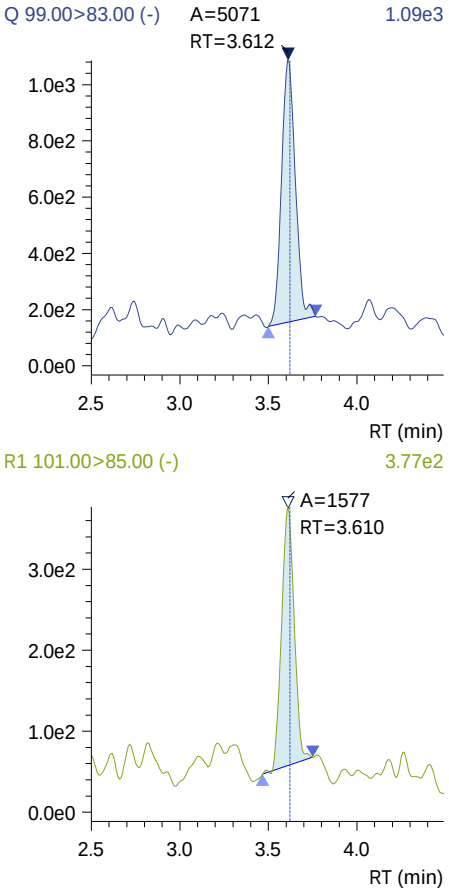
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Project File: I:\LCMS01\DATA\20230711\20230711.damlp

EQ2300336-03

Sample ID: EQ2300336-03
Date Acquired: 7/11/2023 2:28:54 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230711\20230711-008.lcd
Vial: 39 | Inj. Volume: 10.0000uL | Tray: 6

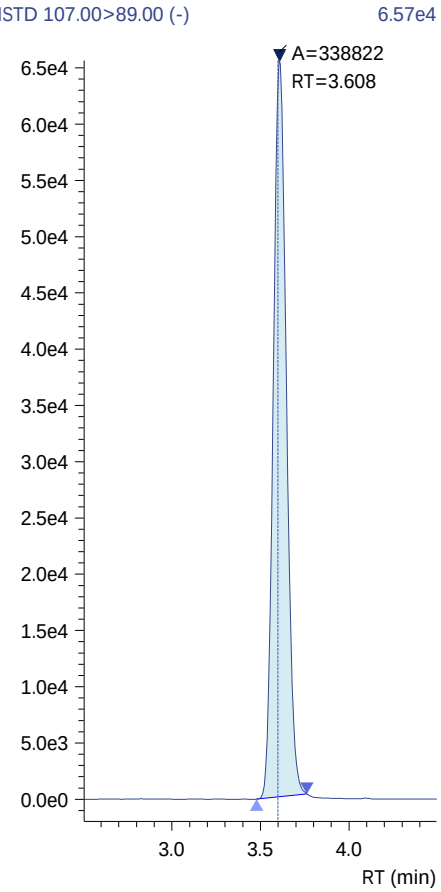
Perchlorate

Conc 0.0921
R#1 31.11 (31.16)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 7/11/2023 3:36:07 PM

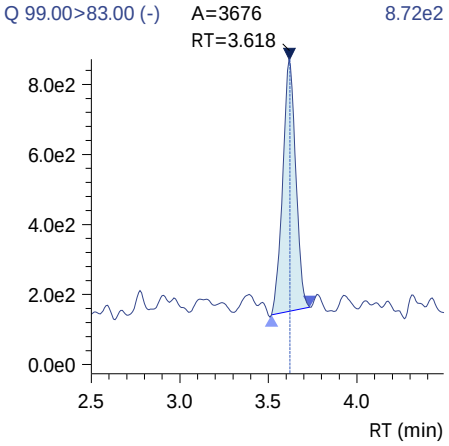
E2300629-001

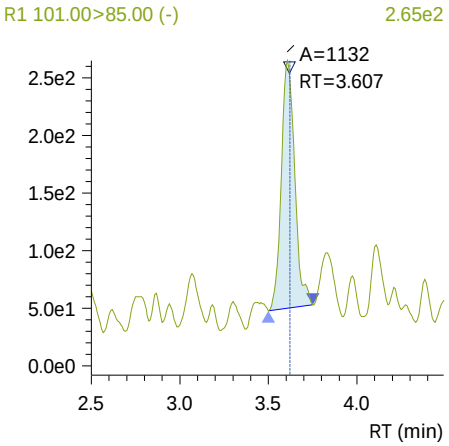
Sample ID: E2300629-001
Date Acquired: 7/11/2023 2:34:23 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230711\20230711-009.lcd
Vial: 40 | Inj. Volume: 10.0000uL | Tray: 6

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.618	3676	381512	0.0593	ng/mL	101.00 >85.00	30.80	21.81-40.51
Sodium Perchlorate-18O4 _IS	Auto	3.608	381512	381512	1.0000	ng/mL	----	----	

Perchlorate

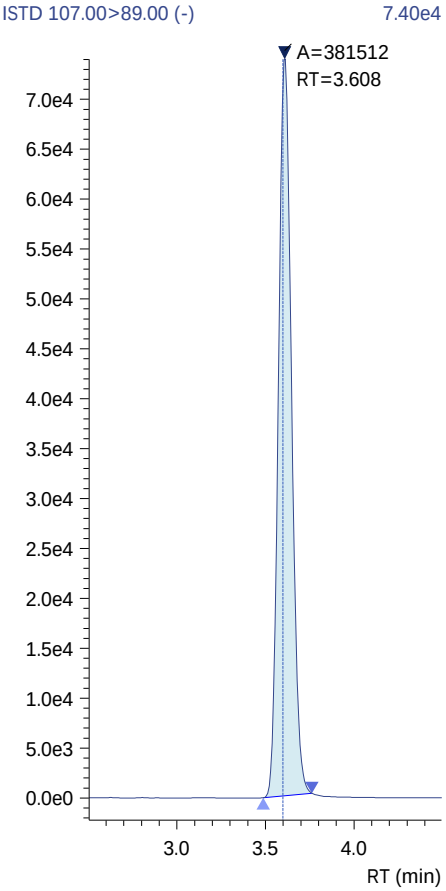
Conc 0.0593
R#1 30.80 (31.16)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

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E2300629-002

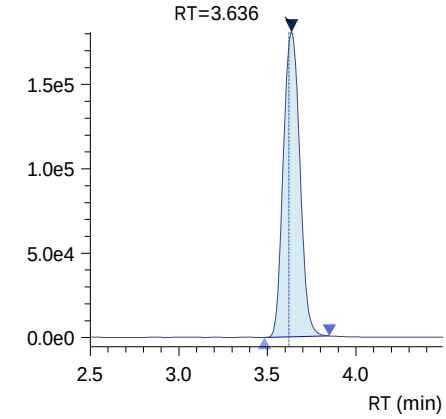
Sample ID: E2300629-002
Date Acquired: 7/11/2023 2:39:55 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230711\20230711-010.lcd
Vial: 41 | Inj. Volume: 10.0000uL | Tray: 6

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.636	1175633	199590	36.24 42	ng/mL	101.00 >85.00	30.88	21.81-40.51
Sodium Perchlorate-18O4 _IS	Auto	3.627	199590	199590	1.0000	ng/mL	----	----	

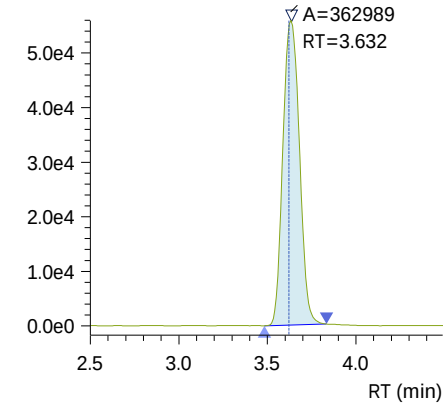
Perchlorate

Conc 36.2442
R#1 30.88 (31.16)

Q 99.00>83.00 (-) A=1175633 1.81e5



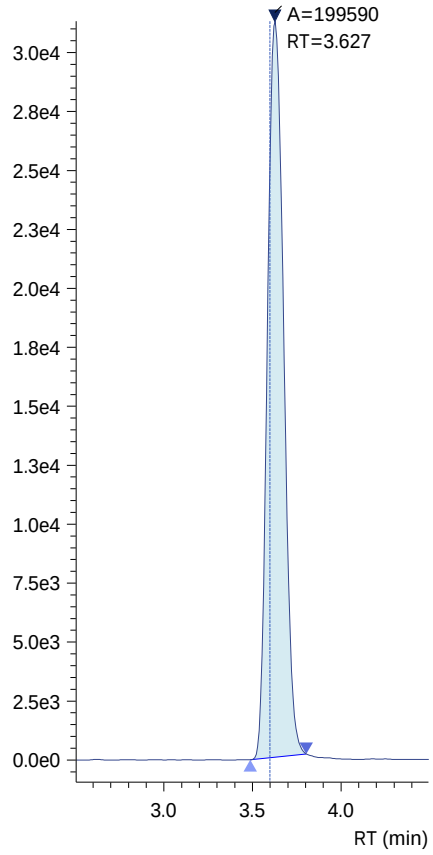
R1 101.00>85.00 (-) 5.59e4



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 3.13e4



Insight Report

Printed at 7/11/2023 3:36:07 PM

EQ2300336-01

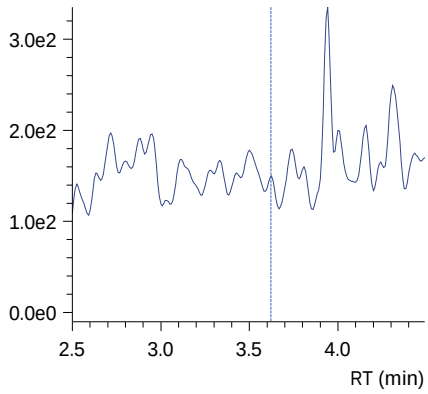
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Date Acquired: 7/11/2023 2:51:53 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230711\20230711-012.lcd
Vial: 37 | Inj. Volume: 10.0000uL | Tray: 6

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	ND(W/B)	----	----	335931	----	ng/mL	101.00 >85.00	0.00	21.81-40.51
Sodium Perchlorate-18O4_IS	Auto	3.610	335931	335931	1.0000	ng/mL	----	----	

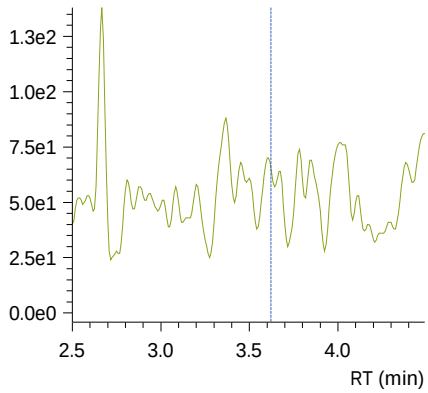
Perchlorate

Conc ----
R#1 0.00 (31.16)

Q 99.00>83.00 (-) 3.35e2



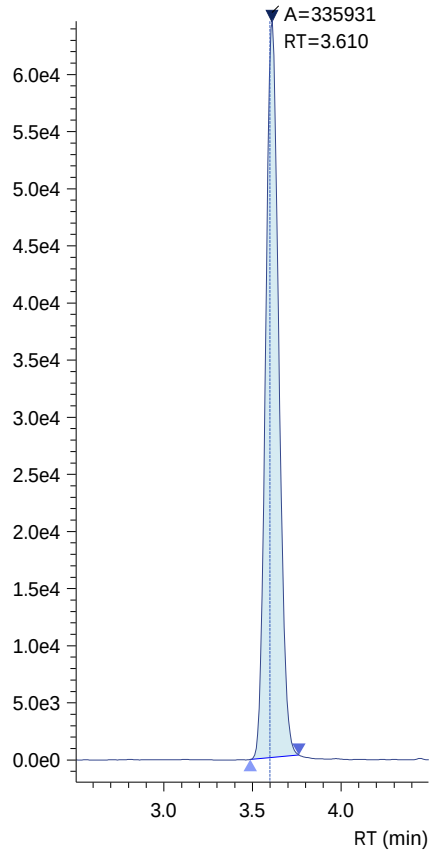
R1 101.00>85.00 (-) 1.38e2



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 6.47e4



Insight Report

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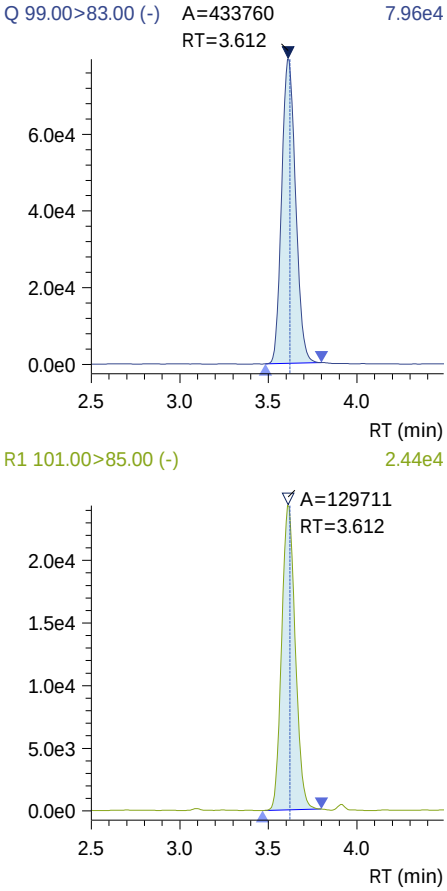
CCV

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Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230711\20230711-013.lcd
Vial: 3 | Inj. Volume: 10.0000uL | Tray: 0

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.612	433760	255513	10.4458	ng/mL	101.00 >85.00	29.90	21.81-40.51
Sodium Perchlorate-18O4_IS	Auto	3.609	255513	255513	1.0000	ng/mL	----	----	

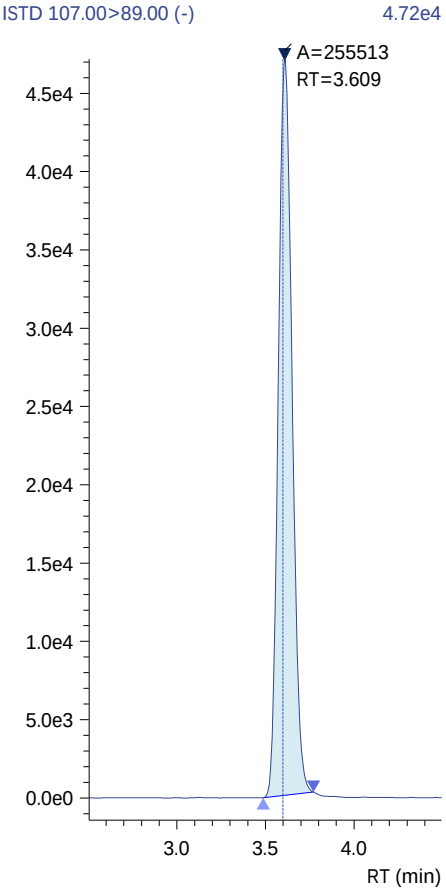
Perchlorate

Conc 10.4458
R#1 29.90 (31.16)



Sodium Perchlorate-18O4_IS

Conc 1.0000



HS23071455 Longhorn GW Treatment Plant
Weekly Samples Cover Page

ALS WO# HS23071455

ALS Environmental
ALS Group USA, Corp
10450 Stancliff Road, Suite 210
Houston, TX 77099
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F : +1 281 530 5887
www.alsglobal.com

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  - CaseNarrative
  - LH18/24-SP650_072423
  - LH18/24-SP650_072423_AIX
  - LH18/24-SP650_072423_BIX
  - Dates Report
  - QC
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  - SampleReceiptCheckList
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- HS23071455 Wetchem P-ORTHO
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Chromatograms and Selected Ion Monitoring

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F: +1 281 530 5887
alsglobal.com

WorkOrder: HS23071455

Longhorn GW Treatment Plant Weekly Samples

Bhate Environmental Associates, Inc.

Marcia Olive
445 Union Blvd Ste 129
Lakewood CO 80228

02-Aug-2023

HS23071455 Longhorn GW Treatment Plant Weekly Samples Final

ALS WO# HS23071455

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

August 01, 2023

Marcia Olive
Bhate Environmental Associates, Inc.
445 Union Blvd Ste 129
Lakewood, CO 80228

Work Order: **HS23071455**

Laboratory Results for: **Longhorn GW Treatment Plant Weekly Samples**

Dear Marcia Olive,

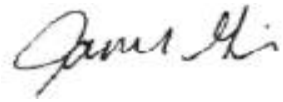
ALS Environmental received 3 sample(s) on Jul 25, 2023 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,



Generated By: JUMOKE.LAWAL
James Guin

ALS Houston, US Date: 01-Aug-23

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS23071455

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS23071455-01	LH18/24-SP650_072423	Water		24-Jul-2023 13:00	25-Jul-2023 09:25	☐
HS23071455-02	LH18/24-SP650_072423_AIX	Water		24-Jul-2023 13:00	25-Jul-2023 09:25	☐
HS23071455-03	LH18/24-SP650_072423_BIX	Water		24-Jul-2023 13:00	25-Jul-2023 09:25	☐

ALS Houston, US Date: 01-Aug-23

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS23071455

Work Order Comments

- The analysis for Perchlorate was subcontracted to ALS Houston High-Res Lab. Final report attached

WetChemistry by Method E415.1

Batch ID: R442834

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method E350.3

Batch ID: R442469

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method E365.3

Batch ID: R442288

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

ALS Houston, US

Date: 01-Aug-23

Client: Bhate Environmental Associates, Inc.

ANALYTICAL REPORT

Project: Longhorn GW Treatment Plant Weekly Samples

WorkOrder:HS23071455

Sample ID: LH18/24-SP650_072423

Lab ID:HS23071455-01

Collection Date: 24-Jul-2023 13:00

Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
AMMONIA AS N BY E350.3(ISE)		**Method:E350.3**						Analyst: AB
Nitrogen, Ammonia (As N)	**430**	a	**1.0**	**2.0**	**2.0**	**mg/L**	10	27-Jul-2023 11:25
ORTHO PHOSPHATE (PO4) AS P BY E365.3-1978		**Method:E365.3**						Analyst: AB
Phosphorus, Total Orthophosphate (As P)	**8.69**	a	**0.100**	**0.250**	**0.250**	**mg/L**	10	25-Jul-2023 19:44
TOTAL ORGANIC CARBON BY E415.1		**Method:E415.1**						Analyst: DW
Organic Carbon, Total	**99.5**	a	**10.0**	**20.0**	**20.0**	**mg/L**	20	31-Jul-2023 15:38

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 01-Aug-23

Client: Bhate Environmental Associates, Inc.

ANALYTICAL REPORT

Project: Longhorn GW Treatment Plant Weekly Samples

WorkOrder:HS23071455

Sample ID: LH18/24-SP650_072423_AIX

Lab ID:HS23071455-02

Collection Date: 24-Jul-2023 13:00

Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	26-Jul-2023 12:05

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 01-Aug-23

Client: Bhate Environmental Associates, Inc.

ANALYTICAL REPORT

Project: Longhorn GW Treatment Plant Weekly Samples

WorkOrder:HS23071455

Sample ID: LH18/24-SP650_072423_BIX

Lab ID:HS23071455-03

Collection Date: 24-Jul-2023 13:00

Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	26-Jul-2023 12:05

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS23071455

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R442288 (0)	**Test Name :** ORTHO PHOSPHATE (PO4) AS P BY E365.3-1978				**Matrix:** Water	
HS23071455-01	LH18/24-SP650_072423	24 Jul 2023 13:00			25 Jul 2023 19:44	10
Batch ID: R442357 (0)	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)				**Matrix:** Water	
HS23071455-02	LH18/24-SP650_072423_AIX	24 Jul 2023 13:00			26 Jul 2023 12:05	1
HS23071455-03	LH18/24-SP650_072423_BIX	24 Jul 2023 13:00			26 Jul 2023 12:05	1
Batch ID: R442469 (0)	**Test Name :** AMMONIA AS N BY E350.3(ISE)				**Matrix:** Water	
HS23071455-01	LH18/24-SP650_072423	24 Jul 2023 13:00			27 Jul 2023 11:25	10
Batch ID: R442834 (0)	**Test Name :** TOTAL ORGANIC CARBON BY E415.1				**Matrix:** Water	
HS23071455-01	LH18/24-SP650_072423	24 Jul 2023 13:00			31 Jul 2023 15:38	20

ALS Houston, US Date: 01-Aug-23

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS23071455

QC BATCH REPORT

Batch ID: R442288 (0) **Instrument:** UV-2450 **Method:** ORTHO PHOSPHATE (PO4) AS P BY E365.3-1978

MBLK Sample ID: **MBLK-R442288** Units: **mg/L** Analysis Date: **25-Jul-2023 19:44**
Client ID: Run ID: **UV-2450_442288** SeqNo: **7450157** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	0.0250	0.0250								U

LCS Sample ID: **LCS-R442288** Units: **mg/L** Analysis Date: **25-Jul-2023 19:44**
Client ID: Run ID: **UV-2450_442288** SeqNo: **7450156** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	0.222	0.0250	0.25	0	88.8	85 - 115				

MS Sample ID: **HS23071466-01MS** Units: **mg/L** Analysis Date: **25-Jul-2023 19:44**
Client ID: Run ID: **UV-2450_442288** SeqNo: **7450159** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	0.944	0.0250	0.25	0.681	105	80 - 120				

MSD Sample ID: **HS23071466-01MSD** Units: **mg/L** Analysis Date: **25-Jul-2023 19:44**
Client ID: Run ID: **UV-2450_442288** SeqNo: **7450158** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	0.944	0.0250	0.25	0.681	105	80 - 120	0.944	0	20	

The following samples were analyzed in this batch: HS23071455-01

ALS Houston, US Date: 01-Aug-23

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS23071455

QC BATCH REPORT

Batch ID: R442469 (0) **Instrument: WetChem_HS** **Method: AMMONIA AS N BY E350.3(ISE)**

MBLK Sample ID: **MBLK-R442469** Units: **mg/L** Analysis Date: **27-Jul-2023 11:25**
Client ID: Run ID: **WetChem_HS_442469** SeqNo: **7454701** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Ammonia (As N)	0.20	0.20								U

LCS Sample ID: **LCS-R442469** Units: **mg/L** Analysis Date: **27-Jul-2023 11:25**
Client ID: Run ID: **WetChem_HS_442469** SeqNo: **7454700** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Ammonia (As N)	8.773	0.20	10	0	87.7	80 - 120				

MS Sample ID: **HS23071493-01MS** Units: **mg/L** Analysis Date: **27-Jul-2023 11:25**
Client ID: Run ID: **WetChem_HS_442469** SeqNo: **7454703** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Ammonia (As N)	11.81	0.20	10	2.949	88.6	80 - 120				

MSD Sample ID: **HS23071493-01MSD** Units: **mg/L** Analysis Date: **27-Jul-2023 11:25**
Client ID: Run ID: **WetChem_HS_442469** SeqNo: **7454702** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Ammonia (As N)	11.87	0.20	10	2.949	89.2	80 - 120	11.81	0.574	20	

The following samples were analyzed in this batch: HS23071455-01

ALS Houston, US Date: 01-Aug-23

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS23071455

QC BATCH REPORT

Batch ID: R442834 (0) **Instrument:** TOC_05 **Method:** TOTAL ORGANIC CARBON BY E415.1

MBLK Sample ID: **MBLK-07312023** Units: **mg/L** Analysis Date: **31-Jul-2023 11:24**
Client ID: Run ID: **TOC_05_442834** SeqNo: **7463429** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	1.00	1.00								U

LCS Sample ID: **LCS-07312023** Units: **mg/L** Analysis Date: **31-Jul-2023 12:03**
Client ID: Run ID: **TOC_05_442834** SeqNo: **7463431** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	9.31	1.00	10	0	93.1	85 - 115				

LCSD Sample ID: **LCSD-07312023** Units: **mg/L** Analysis Date: **31-Jul-2023 12:19**
Client ID: Run ID: **TOC_05_442834** SeqNo: **7463432** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	9.451	1.00	10	0	94.5	85 - 115	9.31	1.5	20	

MS Sample ID: **HS23071825-02MS** Units: **mg/L** Analysis Date: **31-Jul-2023 13:08**
Client ID: Run ID: **TOC_05_442834** SeqNo: **7463435** PrepDate: DF: **20**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	272.4	20.0	200	79.6	96.4	80 - 120				

The following samples were analyzed in this batch: HS23071455-01

ALS Houston, US Date: 01-Aug-23

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: **HS23071455**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	88-00356	27-Mar-2024
California	2919; 2024	30-Apr-2024
Dept of Defense	L23-358	31-May-2025
Florida	E87611-38	30-Jun-2024
Illinois	2000322023-11	30-Jun-2024
Kansas	E-10352 2023-2024	31-Jul-2024
Louisiana	03087-2023	30-Jun-2024
Maryland	343; 2023-2024	30-Jun-2024
North Carolina	624-2023	31-Dec-2023
North Dakota	R-193 2023-2024	30-Apr-2024
Oklahoma	2022-141	31-Aug-2023
Texas	T104704231-23-31	30-Apr-2024
Utah	TX026932023-14	31-Jul-2024

ALS Houston, US Date: 01-Aug-23

Sample Receipt Checklist

Work Order ID: HS23071455 **Date/Time Received:** 25-Jul-2023 09:25

Client Name: Bhate Environmental **Received by:** Corey Grandits

Completed By: /S/ Paresh M. Giga (eSignature) 25-Jul-2023 10:39 (Date/Time) **Reviewed by:** (eSignature) (Date/Time)

Matrices: **Water** Carrier name: **FedEx Priority Overnight**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:none
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	2.4C/2.3C U/C	IR31
Cooler(s)/Kit(s):	51117	
Date/Time sample(s) sent to storage:	7/25/23 10:50	

Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

CHAIN OF CUSTODY

Name Of Lab Shipping To: ALS 10450 Stancliff Rd. Suite 210 Houston, TX. 77099 (281) 530-5656 ATTN: Dane Wacasey

Project: BHATE
LONGHORN ARMY AMMN. PLANT (LHAAP)
GROUNDWATER TREATMENT PLANT (GWTP)
KARNACK, TEXAS

Project No. JVPCIBH.000

Job: GROUNDWATER TREATMENT PLANT WEEKLY SAMPLES

Prepared By: Scott Beesinger

P.O. Number

HS23071455
Bhate Environmental Associates, Inc.
Longhorn GW Treatment Plant Weekly Samples

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	AMMONIA-N	TOTAL ORGANIC CARBON	ORTHO-PHOSPHATE	PERCHLORATE	Remarks (Preservatives, etc.)	Lab I.D.#
LH18/24-SP650_072423	Water	07/24/23 / 13:00		3	X	X			H2SO4	
LH18/24-SP650_072423	Water	07/24/23 / 13:00		1			X		NONE	
LH18/24–SP650_072423_AIX	Water	07/24/23 / 13:00		1				X	NONE	
LH18/24-SP650_072423_BIX	Water	07/24/23 / 13:00		1				X	NONE	

Additional Remarks: **24 HR. TAT on Perchlorate Samples. Standard TAT on all other parameters**

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	07/24/23	13:30		7.25.23	0825						

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition

Remarks:

5117
1231 2.4°

(Word) S:\l-ces\Forms\Chain of Custody - BiWeekly

ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5687

SW7

CUST

Date: 7/24/23

Name:

Company:

ODY SEAL

Time: 1330

Broken By:

Date:



July 26, 2023 Service Request No:E2300687

James Guin
ALS Environmental - US
10450 Stancliff Rd #210
Houston, TX 77099

Laboratory Results for: HS23071455

Dear James,

Enclosed are the results of the sample(s) submitted to our laboratory July 25, 2023
For your reference, these analyses have been assigned our service request number **E2300687.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current TNI standards, where applicable, and except as noted in the laboratory case narrative provided. All results are intended to be considered in their entirety and ALS Environmental is not responsible for use of less than the complete final report. Results apply only to the items submitted to the laboratory, as received for analysis. In accordance with the current TNI Standard, a statement on the estimated uncertainty of measurement of any quantitative analysis will be supplied upon request.

Please contact me if you have any questions. My extension is 2188. You may also contact me via email at James.Guin@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

James Guin

Certificate of Analysis

ALS Environmental - Houston Specialties Laboratory
10450 Stancliff Rd., Suite 210, Houston TX 77099
Phone (281)530-5656 Fax (281)530-5887
www.alsglobal.com

ALS Environmental

Client:	ALS Environmental – US	**Service Request No.:**	E2300687
Project:	HS23071455	**Date Received:**	07/25/2023
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed in adherence to the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier II. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Two samples were received for analysis at ALS Environmental in Houston on 07/25/2023.

The sample were received in good condition and is consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Data Validation Notes and Discussion

Precision and Accuracy:

EQ2300354: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in lieu of MS/MSD for this extraction batch.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS group USA Corp dba ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

Client: ALS Environmental - US **Service Request:**E2300687
Project: HS23071455

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2300687-001	LH18/24-SP650_072423_AIX	7/24/2023	1300
E2300687-002	LH18/24-SP650_072423_BIX	7/24/2023	1300

Service Request Summary

Folder #: **E2300687**
Client Name: ALS Environmental - US
Project Name: HS23071455
Project Number:

Report To: James Guin
ALS Environmental - US
10450 Stancliff Rd #210
Houston, TX 77099
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number:
E-mail: james.guin@alsglobal.com

Project Chemist: James Guin
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 07/25/23
Internal Due Date: 7/26/2023
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS23071455
EDD: No EDD Specified

2 120 mL-Plastic Bottle Natural WM Unpreserved
Location: EHRMS-AirArch 1
Pressure Gas:
Rush

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2300687-001	LH18/24-SP650_072423_AIX	Water	07/24/23 1300	**IV**
E2300687-002	LH18/24-SP650_072423_BIX	Water	07/24/23 1300	**IV**

Service Request Summary

Folder #: **E2300687**
Client Name: ALS Environmental - US
Project Name: HS23071455
Project Number:

Report To: James Guin
ALS Environmental - US
10450 Stancliff Rd #210
Houston, TX 77099
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number:
E-mail: james.guin@alsglobal.com

Project Chemist: James Guin
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 07/25/23
Internal Due Date: 7/26/2023
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS23071455
EDD: No EDD Specified

2 120 mL-Plastic Bottle Natural WM Unpreserved
Location: EHRMS-AirArch 1
Pressure Gas:
Rush

Data Qualifiers

Lab Standard

+	Possible Tedlar bag artifact.
A	TIC is a suspected aldol-condensation product
B	Analyte found in the associated method blank as well as in the sample.
BC	Reported results are not blank corrected.
BH	The back section of the tube yielded higher results than the front.
BT	Results indicated possible breakthrough; back section >=10% front section.
C	Result identification confirmed.
D	Compound identified in an analysis at a secondary dilution factor
D	Spike was diluted out
DE	Reported results are corrected for desorption efficiency.
E	Estimated value. Concentration above calibration range
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
H1	Sample analysis performed past holding time. See case narrative.
H2	Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
H3	Sample was received and analyzed past holding time.
H4	Sample was extracted past required extraction holding time, but analyzed within analysis holding time. See case narrative.
I	(Auto) The reference ion ratio was outside acceptance criteria, which may indicate a potential bias to this result.
I	Internal standard not within the specified limits. See case narrative.
I	The reference ion ratio was outside acceptance criteria, which may indicate a potential bias to this result.
J	Estimated Value. Concentration found below MRL.
K	A deflection in the QC ion may indicate interference with the quantitation of this ion. The concentration of this analyte should be considered as an estimate.
K	Analyte was detected above the method reporting limit prior to normalization.
K	The reference ion ratio was outside acceptance criteria, which may indicate a potential bias to this result.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
L1	Laboratory control sample recovery outside the specified limits; results may be biased high.
L2	Laboratory control sample recovery outside the specified limits; results may be biased low.
L3	Laboratory control sample recovery outside the specified limits.
M	Matrix interference; results may be biased high.
M	The duplicate injection precision not met.

Data Qualifiers

Lab Standard

M1	Matrix interference due to coelution with a non-target compound; results may be biased high.
N	Presumptive evidence of a compound for TICs that have been identified based on a mass spectral library search.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
P	Indicates chlorodiphenyl ether interference present at the retention time of the target compound.
P	Pesticide/Aroclor target analyte > 40% difference for detected concentrations between GC columns
Q	Indicates as estimated value because the P and P + 2 theoretical abundance ratio does not meet method criteria.
R	Duplicate Precision not met.
R1	Duplicate precision not within the specified limits; however, the results are below the MRL and considered estimated.
S	Surrogate recovery not within specified limits.
S	The reported value was determined by the Method of Standard Additions (MSA).
T	Analyte is a tentatively identified compound, result is estimated.
U	Compound was analyzed for, but was not detected (ND).
V1	The continuing calibration verification standard was outside (biased high) the specified limits for this compound.
V2	The continuing calibration verification standard was outside (biased low) the specified limits for this compound.
W	Result quantified, but the corresponding peak was detected outside the generated retention time window.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
X	See case narrative.
Y	Recovery outside limits
Y	The chromatogram resembles a petroleum product but does not match the calibration standard.
Z	The chromatogram does not resemble a petroleum product.
i	The MRL/MDL has been elevated due to a matrix interference.

ALS Laboratory Group

Acronyms

Cal	Calibration
Conc	CONCentration
Dioxin(s)	Polychlorinated dibenzo-p-dioxin(s)
EDL	Estimated Detection Limit
EMPC	Estimated Maximum Possible Concentration
Flags	Data qualifiers
Furan(s)	Polychlorinated dibenzofuran(s)
g	Grams
ICAL	Initial CALibration
ID	IDentifier
Ions	Masses monitored for the analyte during data acquisition
L	Liter (s)
LCS	Laboratory Control Sample
DLCS	Duplicate Laboratory Control Sample
MB	Method Blank
MCL	Method Calibration Limit
MDL	Method Detection Limit
mL	Milliliters
MS	Matrix Spiked sample
DMS	Duplicate Matrix Spiked sample
NO	Number of peaks meeting all identification criteria
PCDD(s)	Polychlorinated dibenzo-p-dioxin(s)
PCDF(s)	Polychlorinated dibenzofuran(s)
ppb	Parts per billion
ppm	Parts per million
ppq	Parts per quadrillion
ppt	Parts per trillion
QA	Quality Assurance
QC	Quality Control
Ratio	Ratio of areas from monitored ions for an analyte
% Rec.	Percent recovery
RPD	Relative Percent Difference
RRF	Relative Response Factor
RT	Retention Time
SDG	Sample Delivery Group
S/N	Signal-to-noise ratio
TEF	Toxicity Equivalence Factor
TEQ	Toxicity Equivalence Quotient

10450 Stancliff Rd, Houston, TX 77099 | 281-530-5656 | www.alsglobal.com

ALS Environmental

State Certifications, Accreditations, and Licenses

Agency	Number	Expire Date
Arizona Department of Health Services	AZ0793_2024	5/27/2024
Arkansas Department of Environmental Quality	88-00356	3/27/2024
California State Environmental Laboratory Accreditation Program	2919	4/30/2024
Department of Defense	L22-90	3/31/2024
Department of Defense	L23-358	5/31/2025
Florida Department of Health	E87611-38	6/30/2024
Illinois Environmental Protection Agency	2000322023-11	6/30/2024
Kansas Department of Health and Environment	E-10352 2022-2023	7/31/2023
Louisiana Department of Environmental Quality	03087-2023	6/30/2024
Louisiana Department of Health and Hospitals	LA028-2023	12/31/2023
Maine Department of Health and Human Services	2022017	6/5/2024
Maryland Department of the Environment	343	7/31/2023
Maryland Department of the Environment	343-2023	6/30/2024
Michigan Depratment of Environmental Quality	9971-2023	4/30/2024
Minnesota Department of Health	2368363	12/31/2023
Nebraska Department of Health and Human Services	NE-OS-25-13	4/30/2024
Nevada Department of Conservation and Natural Resources	TX026932023-1	7/31/2023
New Hampshire Environmental Laboratory Accreditation Program	209423	4/24/2024
New Jersey Department of Environmental Protection	TX008-2024	6/30/2024
New York Department of Health	11707	3/31/2024
Oklahoma Department of Environmental Quality	2022-141	8/31/2023
Pennsylvania Department of Environmental Protection	68-03441-017	6/30/2024
Perry Johnson Laboratory Accreditation	L22-91	3/31/2024
Tennessee Department of Environment and Concervation	TN04016-2023	4/30/2024
Texas Commision on Environmental Quality	T104704231-23-30	4/30/2024
Utah Department of Health Environmental Laboratory Certification	TX026932023-14	7/31/2024
Utah Department of Health Environmental Laboratory Certification	TX026932022-13	7/31/2023
Washington Department of Ecology	C819-22	11/14/2023

Chain of Custody

ALS Environmental - Houston Specialties Laboratory
10450 Stancliff Rd., Suite 210, Houston TX 77099
Phone (281)530-5656 Fax (281)530-5887
www.alsglobal.com

RUSH

10450 Stancliff Rd, Ste 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **22487**

SUBCONTRACT TO:

ALS Environmental
10450 Stancliff RoadSuite 210
Houston, TX 77084

Phone: +1 281 530 5656

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	James Guin
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	James.Guin@alsglobal.com
Alternate Contact:	Jumoke M. Lawal
Email:	jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS23071455
TSR:	Houston House Acct

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS23071455-02**	**LH18/24-SP650_072423_AIX**	**Water**	**24 Jul 2023 13:00**
	6850-Perch. DOD Level II & Level IV in separate pdf			26 Jul 2023
2.	**HS23071455-03**	**LH18/24-SP650_072423_BIX**	**Water**	**24 Jul 2023 13:00**
	6850-Perch. DOD Level II & Level IV in separate pdf			26 Jul 2023

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.

QC Level: DOD IV (DoD Data Package)

Relinquished By: _____ Date/Time: 7/25/23

Received By: _____ Date/Time: 7-24-23 1048

Cooler ID(s): _____ Temperature(s): _____

10450 Stancliff Rd., Suite 210
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SAMPLE ACCEPTANCE POLICY

This policy outlines the criteria samples must meet to be accepted by ALS Environmental – Houston HRMS.

Cooler Custody Seals (desirable, mandatory if specified in SAP):

- ✓ Intact on outside of cooler, signed and dated

Chain-of-Custody (COC) documentation (mandatory):

The following is required on each COC:

- ✓ Sample ID, the location, date and time of collection, collector's name, preservation type, sample type, and any other special remarks concerning the sampleThe COC must be completed in ink.
- ✓ Signature and date of relinquishing party.

In the absence of a COC at sample receipt, the COC will be requested from the client.

Sample Integrity (mandatory):

Samples are inspected upon arrival to ensure that sample integrity was not compromised during transfer to the laboratory.

- ✓ Sample containers must arrive in good condition (not broken or leaking).
- ✓ Samples must be labeled appropriately, including Sample IDs, and requested test using durable labels and indelible ink.
- ✓ The correct type of sample bottle must be used for the method requested.
- ✓ An appropriate sample volume, or weight, must be received.
- ✓ Sample IDs and number of containers must reconcile with the COC.
- ✓ Samples must be received within the method defined holding time.

Temperature Requirement (varies by sample matrix):

- ✓ Aqueous and Non-aqueous samples must be shipped and stored cold, at 0 to 6ºC.
- ✓ Tissue samples must be shipped and stored frozen, at -20 to -10ºC.
- ✓ Air samples are shipped and stored cold, at 0 to 6ºC
- ✓ The sample temperature must be recorded on the COC

All cooler inspections are documented on the Cooler Receipt Form (CRF). A separate CRF is completed for each service request. Any samples not meeting the above criteria are noted on the CRF and the Project Manager notified. The Project Manager must resolve any sample integrity issues with the client prior to proceeding with the analysis. Such resolutions are documented in writing and filed with the project folder. Data associated with samples received outside of this acceptance policy will be qualified on the case narrative of the final report

Preparation Information Benchsheets

ALS Environmental - Houston Specialties Laboratory
10450 Stancliff Rd., Suite 210, Houston TX 77099
Phone (281)530-5656 Fax (281)530-5887
www.alsglobal.com

Preparation Information Benchsheet

Prep Run#: 423531 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/XMI **Prep Method:** Method **Prep Date/Time:** 7/24/23 10:30

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2300657-001	16WW37-230713	.01	6850/ClO4 DOD			Water	10mL	
2	E2300657-002	16WW37-230713-FD	.01	6850/ClO4 DOD			Water	10mL	
3	E2300657-003	16WW38-230713	.01	6850/ClO4 DOD			Water	10mL	
4	E2300657-004	16WW44-230713	.01	6850/ClO4 DOD			Water	10mL	
5	E2300657-005	16RW07-230713	.01	6850/ClO4 DOD			Water	10mL	
6	E2300657-006	16RW06-230713	.01	6850/ClO4 DOD			Water	10mL	
7	E2300657-007	16WW46-230713	.01	6850/ClO4 DOD			Water	10mL	
8	E2300657-008	16PM09-230713	.01	6850/ClO4 DOD			Water	10mL	
9	E2300657-009	16PM06-230713	.01	6850/ClO4 DOD			Water	10mL	
10	E2300657-010	16PM14-230713	.01	6850/ClO4 DOD			Water	10mL	
11	E2300671-001	EA-15-0323	.01	6850/ClO4			Water	10mL	
12	E2300671-002	CTC 51 0323	.01	6850/ClO4			Water	10mL	
13	E2300671-003	CTC 46 0323	.01	6850/ClO4			Water	10mL	
14	E2300671-004	CTC 3 0323	.01	6850/ClO4			Water	10mL	
15	E2300671-005	EA 50 0323	.01	6850/ClO4			Water	10mL	
16	E2300671-006	CTC 2 0323	.01	6850/ClO4			Water	10mL	
17	E2300671-007	CTC 10 0323	.01	6850/ClO4			Water	10mL	
18	E2300671-008	CTC 23 0323	.01	6850/ClO4			Water	10mL	
19	E2300687-001	LH18/24-SP650_072423_AIX	.01	6850/ClO4 DOD			Water	10mL	
20	E2300687-002	LH18/24-SP650_072423_BIX	.01	6850/ClO4 DOD			Water	10mL	
21	EQ2300354-01	MB		6850/ClO4			Liquid	10mL	
22	EQ2300354-02	LCS		6850/ClO4			Liquid	10mL	
23	EQ2300354-03	DLCS		6850/ClO4			Liquid	10mL	

Spiking Solutions

Name: Perchlorate Intermediate Stock1 Inventory ID 227236 Logbook Ref: Perchlorate (1st Source) Expires On: 07/31/2023

EQ2300354-02	1.00µL	EQ2300354-02	1.00µL	EQ2300354-03	1.00µL	EQ2300354-03	1.00µL

Name: Perchlorate Internal Standard 1ug/mL Inventory ID 227244 Logbook Ref: Perchlorate Internal Standard Expires On: 07/31/2023

E2300657-001	100.00µL	E2300657-002	100.00µL	E2300657-003	100.00µL	E2300657-004	100.00µL	E2300657-005	100.00µL	E2300657-006	100.00µL
E2300657-007	100.00µL	E2300657-008	100.00µL	E2300657-009	100.00µL	E2300657-010	100.00µL	E2300671-001	100.00µL	E2300671-002	100.00µL
E2300671-003	100.00µL	E2300671-004	100.00µL	E2300671-005	100.00µL	E2300671-006	100.00µL	E2300671-007	100.00µL	E2300671-008	100.00µL
E2300687-001	100.00µL	E2300687-002	100.00µL	EQ2300354-01	100.00µL	EQ2300354-01	100.00µL	EQ2300354-02	100.00µL	EQ2300354-02	100.00µL
EQ2300354-03	100.00µL	EQ2300354-03	100.00µL								

Preparation Information Benchsheet

Prep Run#: 423531 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/XMI **Prep Method:** Method **Prep Date/Time:** 7/24/23 10:30

Preparation Materials

Water HPLC Grade	HPLC water 5/18/23CG (229315)	6850 Amber Glass screw vial	2mL Screw Top Vial (221894)	6850 0.45um syringe filters	6850 0.45 SYRING FILTER (229979)
6850 Luer-Lok Syringes	luer-lock syringes (228116)				

Preparation Steps

Step: Preparation
Started: 7/24/23 10:30
Finished: 7/25/23 09:20
By: XMI
Comments

Comments: _____

Reviewed By: _____ Date: _____

Chain of Custody

Relinquished By: _____ Date: _____ Extracts Examined

Received By: _____ Date: _____ Yes No

Analytical Results

ALS Environmental - Houston Specialties Laboratory
10450 Stancliff Rd., Suite 210, Houston TX 77099
Phone (281)530-5656 Fax (281)530-5887
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ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300687
Project:	HS23071455	**Date Collected:**	7/24/23 1300
Sample Matrix:	Water	**Date Received:**	7/25/23
Sample Name:	LH18/24-SP650_072423_AIX	**Units:**	µg/L
Lab Code:	E2300687-001	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.0583**	J	0.100	0.0500	0.0250	1	7/24/23	7/25/23 12:53	423531	811716	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300687
Project:	HS23071455	**Date Collected:**	7/24/23 1300
Sample Matrix:	Water	**Date Received:**	7/25/23
Sample Name:	LH18/24-SP650_072423_BIX	**Units:**	µg/L
Lab Code:	E2300687-002	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**13.4**		0.100	0.0500	0.0250	1	7/24/23	7/25/23 12:58	423531	811716	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300687
Project:	HS23071455	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2300354-01	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.100	0.0500	0.0250	1	7/24/23	7/25/23 10:33	423531	811716	

Accuracy & Precision

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www.alsglobal.com

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS23071455
Sample Matrix: Water

Service Request: E2300687
Date Analyzed: 7/25/23

Lab Control Sample Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Units: µg/L
Basis: NA

Extraction Lot: 423531

	Lab Control Sample EQ2300354-02			Duplicate Lab Control Sample EQ2300354-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.0948	0.100	95	0.0899	0.100	90	84 - 119	5	15

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300687
Project:	HS23071455	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2300354-02	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.0948**	J	0.100	0.0500	0.0250	1	7/24/23	7/25/23 10:39	423531	811716	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300687
Project:	HS23071455	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2300354-03	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.0899**	J	0.100	0.0500	0.0250	1	7/24/23	7/25/23 10:44	423531	811716	

HS23071455 Wetchem NIT-AMM_W- E350.3 - ISE

ALS WO# HS23071455

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

NIT_AMM_W_E350.3 ISE
NIT_AMM_W_ISE
HS2307145S

Logbook **32303**

Ion Selective Electrode Logbook

Analyst: AB					Date: 07/27/23		
Method: SM4500NH3-D/EPA 350.3 or SM4500 NH3 B-F							
Probe Calibration Date: 07/27/23		Cal Std ID: 322144OI-06			Probe ID: NH3-8		
Std Level		mV	Conc., mg/L:		Sodium Thiosulfate ID: 3100636219		
STD 1 (mg/L):	.2	122.8	0.203		Std Level	mV	Conc., mg/L:
STD 2 (mg/L):	1	90.1	1.003		STD 4 (mg/L):	34.8	10.00
STD 3 (mg/L):	5	49.7	5.005		STD 5 (mg/L):	-8.9	50.002
LSC / MS Spike ID: 3100607504					ICAL Date & Slope: 100.9 %/-59.3		
ICV Cal STD ID: 322144OI							
DPD Reagent ID: 3100607513							

WO # / SX #	Bottle #	Initial g or ml	Final Vol. ml	Dilution Factor	Initial Conc. mg/L	Final Conc. mg/L	Chlorine Check (+/–)	Comments
ICV		50mL	50mL		9.895			
ICB					0.005			
mBLK					0.007			
LCS					8.773			
HS2307076Z-01					9.201		+	
0844-01					9.500			
0939-01					10.914			
1455-01				10x	42.987			
1008-01					6.906			
1083-01					8.799			
1194-01					10.096			
1413-01					10.843			
CCV					9.935			
CCB					0.007			
1489-01					11.104			
~~1513-01~~								AB 07/27/23
1154-01					5.977			
1463-01				5x	12.391		+	
1554-01					26.615			
1493-1554-01MS					11.806			AB 07/27/23
1493-1554-01MSD					11.874			"
1493-01					2.949			
CCV					9.774			
CCB		+	+		0.008			

Batch ID: 442469, 442474 | Reported By: AB | Reviewed By: JL

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HS23071455 Wetchem P-ORTHO

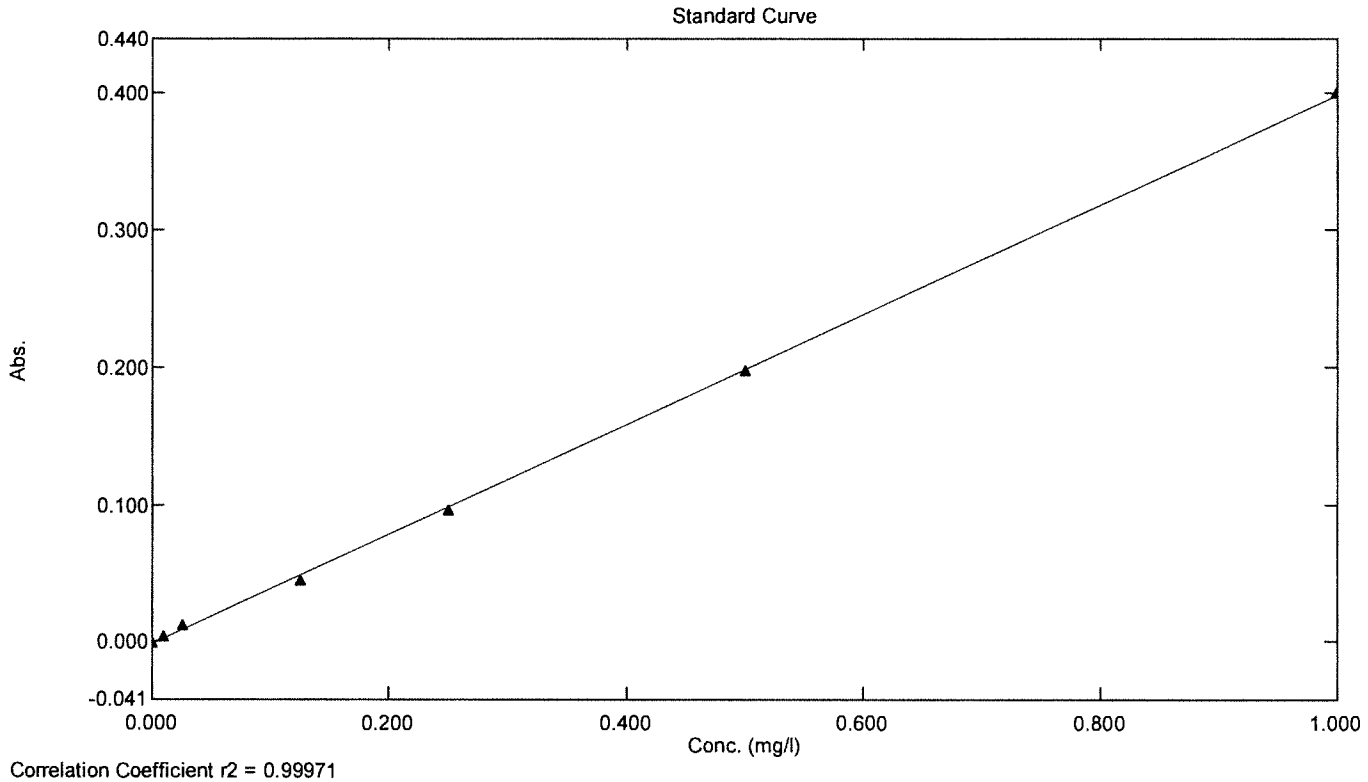
ALS WO# HS23071455

HS230714SS

Standard Table Report

07/27/2023 05:35:33 PM

File Name: C:\Program Files (x86)\Shimadzu\UVProbe\Data\P_ORTHO (365.3 METHOD)\2023\07252023_P_ORTHO_W.pho



Correlation Coefficient r2 = 0.99971

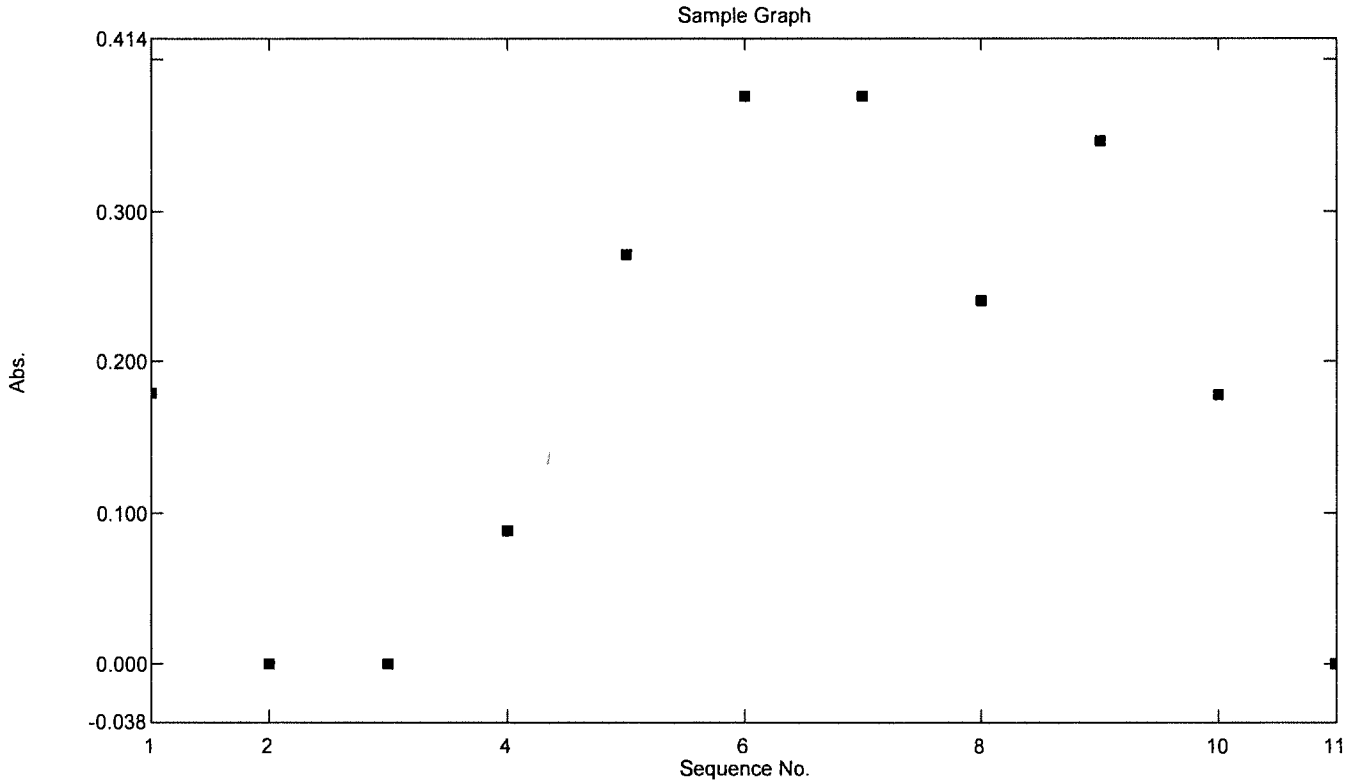
Standard Table

	Sample ID	Type	Ex	Conc	WL650.0	Wgt.Factor	Comments
1	STD1	Standard		0.000	-0.000	1.000	
2	STD2	Standard		0.010	0.005	1.000	
3	STD3	Standard		0.025	0.012	1.000	
4	STD4	Standard		0.125	0.045	1.000	
5	STD5	Standard		0.250	0.096	1.000	
6	STD6	Standard		0.500	0.197	1.000	
7	STD7	Standard		1.000	0.400	1.000	
8							

Sample Table Report

07/27/2023 05:35:35 PM

File Name: C:\Program Files (x86)\Shimadzu\UVProbe\Data\P_ORTHO (365.3 METHOD)\2023\07252023_P_ORTHO_W.pho



Sample Table

	Sample ID	Date	Time	Conc	WL650.	Comments
1	CCV	07/25/2023	06:24:39 PM	0.452	0.179	322143009 WC-24
2	CCB	07/25/2023	06:24:50 PM	0.003	0.000	
3	MBLK	07/25/2023	06:24:56 PM	0.003	-0.000	
4	LCS	07/25/2023	06:25:06 PM	0.222	0.088	322143008 WC-23
5	HS23071466.01	07/25/2023	06:25:37 PM	0.681	0.271	11N 3100606911
6	HS23071466.01MS	07/25/2023	06:26:42 PM	0.944	0.376	A.MOLYBDATE 322143903
7	HS23071466.01MSD	07/25/2023	06:26:59 PM	0.944	0.376	A.ACID 322143902
8	HS23071466.04	07/25/2023	06:27:31 PM	0.606	0.241	
9	HS23071455.01	07/25/2023	06:28:20 PM	0.869	0.346	DF=10X
10	CCV2	07/25/2023	06:28:38 PM	0.450	0.178	
11	CCB2	07/25/2023	06:28:48 PM	0.003	0.000	
12						

HS23071455 Wetchem TOC_W

ALS WO# HS23071455

C:\TOC-L\Data\2023_06_21_002.tlx

	Type	Analysis	Sample Name	Sample ID	Origin	Manual Diluti	Result	Notes
1	Standard	NPOC	CALIBRATION		06_21_2023	1.000		
2	Unknown	NPOC	ICV		06_21_2023	1.000	NPOC:7.789mg/L	
3	Unknown	NPOC	ICB		06_21_2023	1.000	NPOC:0.1521mg/L	

C:\TOC-L\Data\2023_06_21_002.tlx

	Status	Date / Time	Vial
1	Completed	6/21/2023 6:	50, 51, 52, 5
2	Completed	6/21/2023 7:	57
3	Completed	6/21/2023 7:	58

TOC-Control L Report

2023_06_21_002.tlx

Instr.Information

Instrument Options: TOC/ASI/IC Unit/
Catalyst: Regular Sensitivity

Cal. Curve

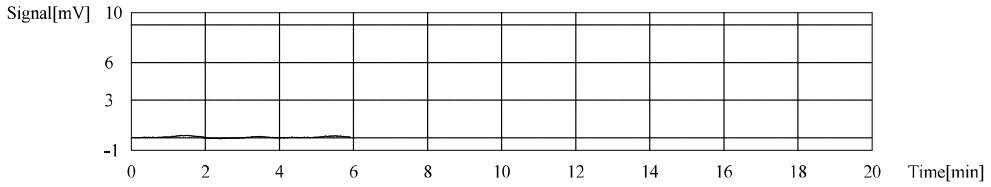
Sample Name: CALIBRATION
Sample ID:
Cal. Curve: 06_21_2023B.2023_06_21_17_09_19.cal
Status: Completed

Type	Anal.
Standard	NPOC

Conc: 0.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	0.3456	50uL	1.000	*******		6/21/2023 5:18:00 PM
2	0.2872	50uL	1.000	*******		6/21/2023 5:20:19 PM
3	0.1081	50uL	1.000	*******		6/21/2023 5:22:27 PM

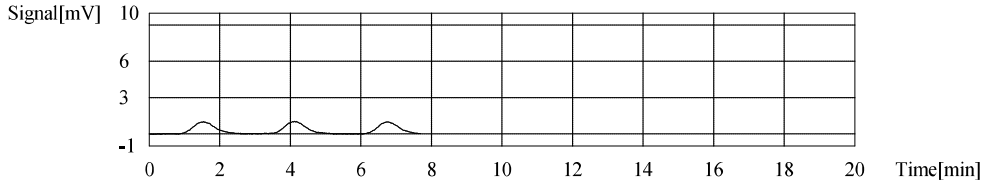
Acid Add. 1.500%
Sparge Gas Flow 80mL/min
Sp. Time 120.0sec
Mean Area 0.2470



Conc: 1.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	4.170	50uL	1.000	*******		6/21/2023 5:31:50 PM
2	4.088	50uL	1.000	*******		6/21/2023 5:34:43 PM
3	3.977	50uL	1.000	*******		6/21/2023 5:37:25 PM

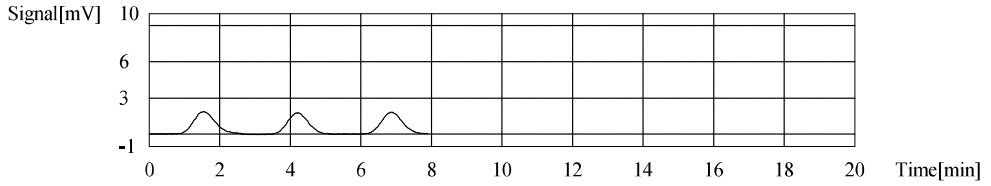
Acid Add. 1.500%
Sparge Gas Flow 80mL/min
Sp. Time 120.0sec
Mean Area 4.078



Conc: 2.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	7.677	50uL	1.000	*******		6/21/2023 5:46:50 PM
2	7.596	50uL	1.000	*******		6/21/2023 5:49:44 PM
3	7.710	50uL	1.000	*******		6/21/2023 5:52:35 PM

Acid Add. 1.500%
Sparge Gas Flow 80mL/min
Sp. Time 120.0sec
Mean Area 7.661



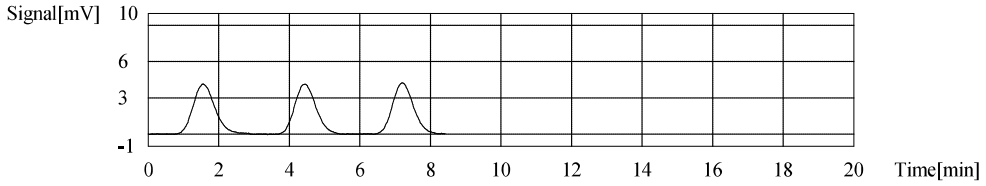
TOC-Control L Report

2023_06_21_002.tlx

Conc: 5.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	17.78	50uL	1.000	*******		6/21/2023 6:02:16 PM
2	17.59	50uL	1.000	*******		6/21/2023 6:05:16 PM
3	17.72	50uL	1.000	*******		6/21/2023 6:08:17 PM

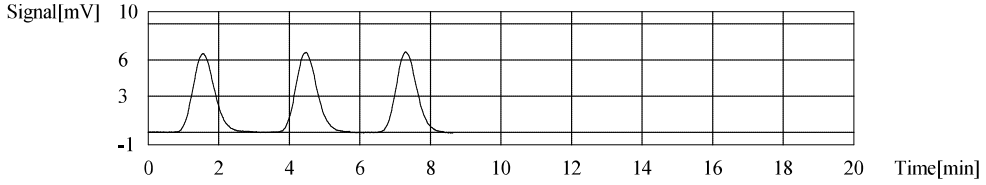
Acid Add. 1.500%
Sparge Gas Flow 80mL/min
Sp. Time 120.0sec
Mean Area 17.70



Conc: 10.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	27.66	50uL	1.000	*******		6/21/2023 6:18:00 PM
2	27.76	50uL	1.000	*******		6/21/2023 6:21:02 PM
3	27.86	50uL	1.000	*******		6/21/2023 6:24:11 PM

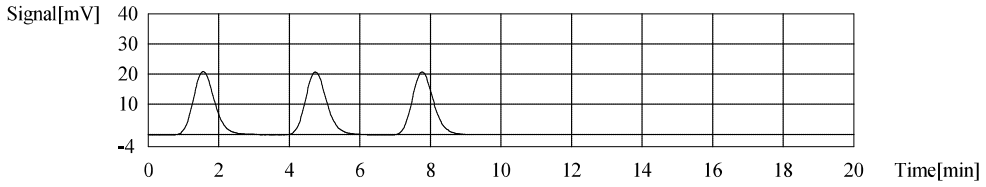
Acid Add. 1.500%
Sparge Gas Flow 80mL/min
Sp. Time 120.0sec
Mean Area 27.76



Conc: 25.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	87.98	50uL	1.000	*******		6/21/2023 6:34:09 PM
2	87.22	50uL	1.000	*******		6/21/2023 6:37:26 PM
3	87.78	50uL	1.000	*******		6/21/2023 6:40:41 PM

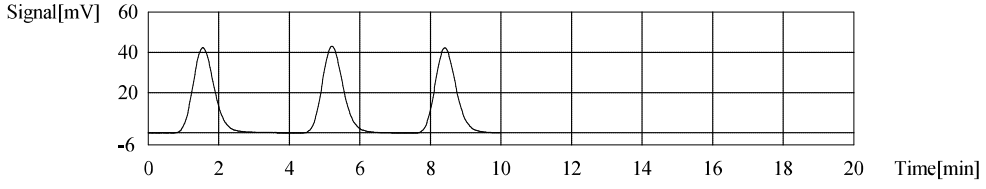
Acid Add. 1.500%
Sparge Gas Flow 80mL/min
Sp. Time 120.0sec
Mean Area 87.66



Conc: 50.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	179.6	50uL	1.000	*******		6/21/2023 6:51:07 PM
2	180.8	50uL	1.000	*******		6/21/2023 6:54:35 PM
3	177.8	50uL	1.000	*******		6/21/2023 6:57:57 PM

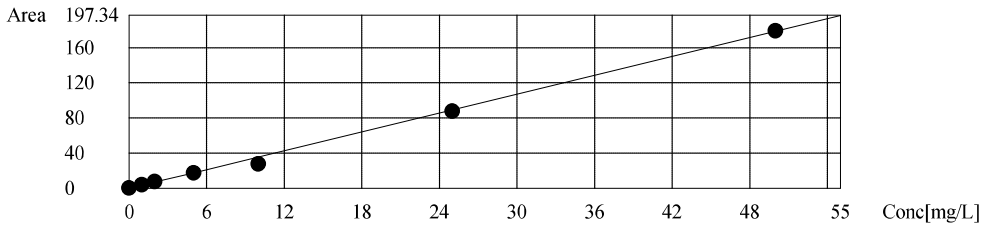
Acid Add. 1.500%
Sparge Gas Flow 80mL/min
Sp. Time 120.0sec
Mean Area 179.4



TOC-Control L Report

2023_06_21_002.tlx

Slope:	3.583
Intercept	0.000
r^2	0.9977
r	0.9989
RSE(%)	N/A
Zero Shift	Yes



Sample

Sample Name: ICV
Sample ID:
Origin: 06_21_2023B.cal
Status Completed
Chk. Result

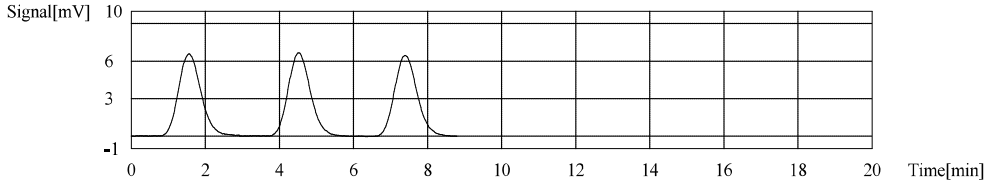
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:7.789mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	27.72	7.736mg/L	50uL	1.000		06_21_2023B.2023_06_21_17_09_19.cal	6/21/2023 7:07:41 PM
2	28.05	7.829mg/L	50uL	1.000		06_21_2023B.2023_06_21_17_09_19.cal	6/21/2023 7:10:48 PM
3	27.95	7.801mg/L	50uL	1.000		06_21_2023B.2023_06_21_17_09_19.cal	6/21/2023 7:14:01 PM

Mean Area 27.91
Mean Conc. 7.789mg/L



Sample

Sample Name: ICB
Sample ID:
Origin: 06_21_2023B.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.1521mg/L

1. Det

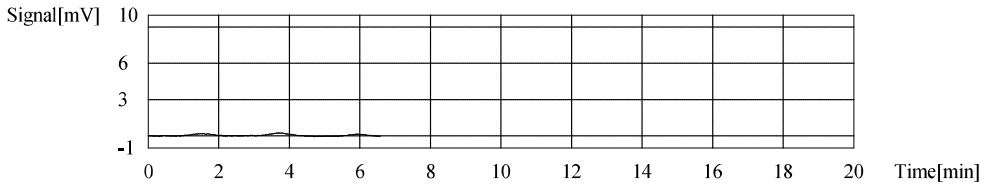
Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.4802	0.1340mg/L	50uL	1.000		06_21_2023B.2023_06_21_17_09_19.cal	6/21/2023 7:23:00 PM
2	0.6284	0.1754mg/L	50uL	1.000		06_21_2023B.2023_06_21_17_09_19.cal	6/21/2023 7:25:29 PM
3	0.5263	0.1469mg/L	50uL	1.000		06_21_2023B.2023_06_21_17_09_19.cal	6/21/2023 7:27:52 PM

TOC-Control L Report

2023_06_21_002.tlx

Mean Area	0.5450
Mean Conc.	0.1521mg/L



C:\TOC-L\Data\2023_07_31_001.tlx

	Sample Name	Sample ID	Result	Notes	Status	Date / Time	Vial
1	CCV		NPOC:25.74mg/L		Completed	7/31/2023 10:57:	1
2	CCB		NPOC:0.02297mg/L		Completed	7/31/2023 11:47:	21
3	MBLK-07312023		NPOC:0.09244mg/L		Completed	7/31/2023 11:24:	3
4	LCS-07312023		NPOC:9.310mg/L		Completed	7/31/2023 12:03:	4
5	LCSD-07312023		NPOC:9.451mg/L		Completed	7/31/2023 12:19:	5
6	HS23071825-01DF20	TOC_W	NPOC:10.68mg/L		Completed	7/31/2023 12:35:	6
7	HS23071825-02DF20		NPOC:3.980mg/L		Completed	7/31/2023 12:51:	7
8	HS23071825-02MS		NPOC:13.62mg/L		Completed	7/31/2023 1:08:0	8
9	HS23071825-03DF20		NPOC:13.48mg/L		Completed	7/31/2023 1:24:1	9
10	HS23070912-01DF10		NPOC:1.154mg/L		Completed	7/31/2023 1:39:0	10
11	HS23070912-02DF20		NPOC:0.6389mg/L		Completed	7/31/2023 1:53:3	11
12	HS23070912-03DF20		NPOC:0.5101mg/L		Completed	7/31/2023 2:07:5	12
13	CCV		NPOC:24.64mg/L		Completed	7/31/2023 2:24:2	1
14	CCB		NPOC:0.3721mg/L		Completed	7/31/2023 2:38:4	2
15	HS23070912-04DF20		NPOC:0.9146mg/L		Completed	7/31/2023 2:53:2	13
16	HS23070912-05DF20		NPOC:2.345mg/L		Completed	7/31/2023 3:08:2	14
17	HS23070912-06DF20		NPOC:1.167mg/L		Completed	7/31/2023 3:23:0	15
18	HS23071455-01DF20		NPOC:4.973mg/L		Completed	7/31/2023 3:38:2	16
19	CCV		NPOC:25.32mg/L		Completed	7/31/2023 3:55:0	1
20	CCB		NPOC:0.04988mg/L		Completed	7/31/2023 4:08:0	2
21	MBLK-07312023		NPOC:0.03595mg/L		Completed	7/31/2023 4:20:5	3
22	LCS-07312023		NPOC:9.442mg/L		Completed	7/31/2023 4:36:4	4
23	LCSD-07312023		NPOC:11.96mg/L		Completed	7/31/2023 4:56:2	5
24	HS23071579-01	TOC_W	NPOC:8.950mg/L		Completed	7/31/2023 5:12:2	17
25	HS23071082-01DF20		NPOC:0.4697mg/L		Completed	7/31/2023 5:26:2	18
26	HS23071082-01MS		NPOC:10.20mg/L		Completed	7/31/2023 5:42:2	19
27	HS23071688-01DF20		NPOC:24.95mg/L		Completed	7/31/2023 5:59:1	20
28	HS23071688-01DF50		NPOC:0.7638mg/L		Completed	7/31/2023 6:13:3	21
29	CCV		NPOC:1.840mg/L		Completed	7/31/2023 6:30:1	22
30	CCB		NPOC:0.7410mg/L		Completed	7/31/2023 6:44:4	23

TOC-Control L Report

Instr.Information

Instrument Options: TOC/ASI/IC Unit/
Catalyst: Regular Sensitivity

Sample

Sample Name: CCV
Sample ID:
Origin: 06_21_2023B.cal
Status: Completed
Chk. Result:

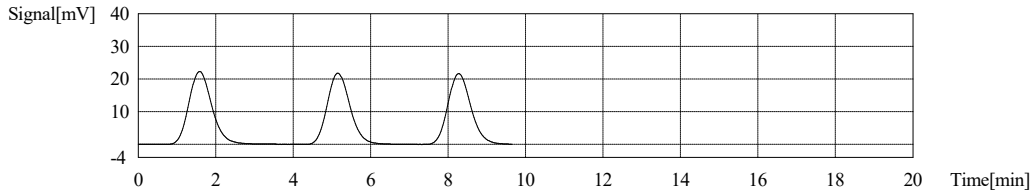
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:25.74mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	93.00	26.32mg/L	50uL	1.000		06_21_2023B.2023_06_22_09_52_42.cal	7/31/2023 10:50:28 AM
2	89.74	25.40mg/L	50uL	1.000		06_21_2023B.2023_06_22_09_52_42.cal	7/31/2023 10:53:50 AM
3	90.12	25.51mg/L	50uL	1.000		06_21_2023B.2023_06_22_09_52_42.cal	7/31/2023 10:57:06 AM

Mean Area 90.95
Mean Conc. 25.74mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: 06_21_2023B.cal
Status: Completed
Chk. Result:

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.02297mg/L

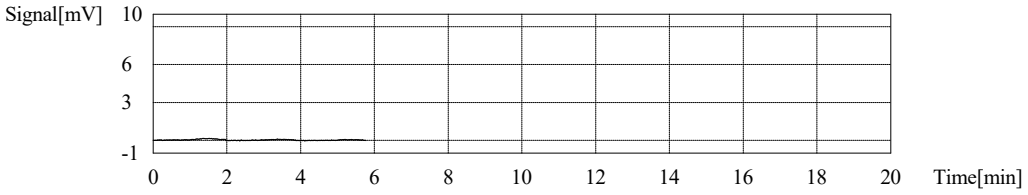
1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.2435	0.06891mg/L	50uL	1.000		06_21_2023B.2023_06_22_09_52_42.cal	7/31/2023 11:43:12 AM
2	0.000	0.000mg/L	50uL	1.000		06_21_2023B.2023_06_22_09_52_42.cal	7/31/2023 11:45:21 AM
3	0.000	0.000mg/L	50uL	1.000		06_21_2023B.2023_06_22_09_52_42.cal	7/31/2023 11:47:28 AM

TOC-Control L Report

Mean Area 0.08117
Mean Conc. 0.02297mg/L



Sample

Sample Name: MBLK-07312023
Sample ID:
Origin: 06_21_2023B.cal
Status Completed
Chk. Result

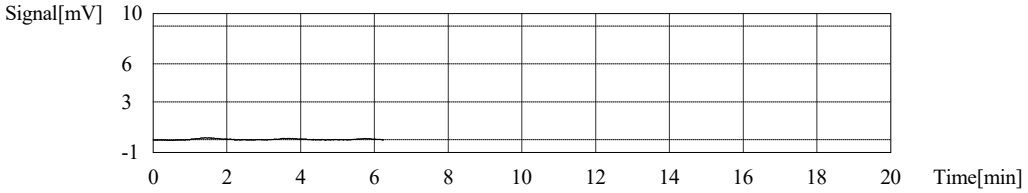
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.09244mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.6468	0.1831mg/L	50uL	1.000		06_21_2023B.2023_06_22_09_52_42.cal	7/31/2023 11:20:00 AM
2	0.3331	0.09427mg/L	50uL	1.000		06_21_2023B.2023_06_22_09_52_42.cal	7/31/2023 11:22:22 AM
3	0.000	0.000mg/L	50uL	1.000		06_21_2023B.2023_06_22_09_52_42.cal	7/31/2023 11:24:29 AM

Mean Area 0.3266
Mean Conc. 0.09244mg/L



Sample

Sample Name: LCS-07312023
Sample ID:
Origin: 06_21_2023B.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:9.310mg/L

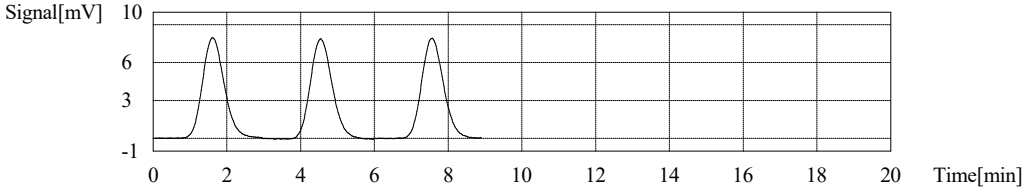
1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	32.75	9.269mg/L	50uL	1.000		06_21_2023B.2023_06_22_09_52_42.cal	7/31/2023 11:57:16 AM
2	33.13	9.376mg/L	50uL	1.000		06_21_2023B.2023_06_22_09_52_42.cal	7/31/2023 12:00:32 PM
3	32.81	9.286mg/L	50uL	1.000		06_21_2023B.2023_06_22_09_52_42.cal	7/31/2023 12:03:44 PM

TOC-Control L Report

Mean Area 32.90
Mean Conc. 9.310mg/L



Sample

Sample Name: LCSD-07312023
Sample ID:
Origin: 06_21_2023B.cal
Status Completed
Chk. Result

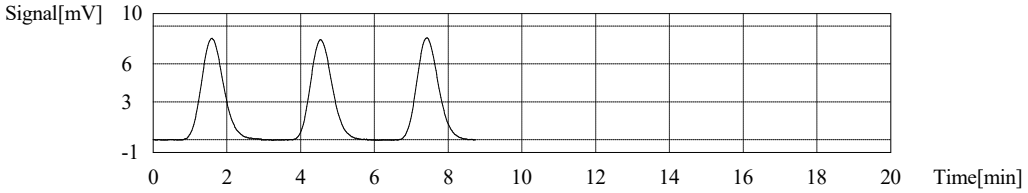
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:9.451mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	33.81	9.569mg/L	50uL	1.000		06_21_2023B.2023_06_22_09_52_42.cal	7/31/2023 12:13:26 PM
2	32.78	9.277mg/L	50uL	1.000		06_21_2023B.2023_06_22_09_52_42.cal	7/31/2023 12:16:34 PM
3	33.59	9.506mg/L	50uL	1.000		06_21_2023B.2023_06_22_09_52_42.cal	7/31/2023 12:19:43 PM

Mean Area 33.39
Mean Conc. 9.451mg/L



Sample

Sample Name: HS23071825-02DF20
Sample ID:
Origin: 06_21_2023B.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:3.980mg/L

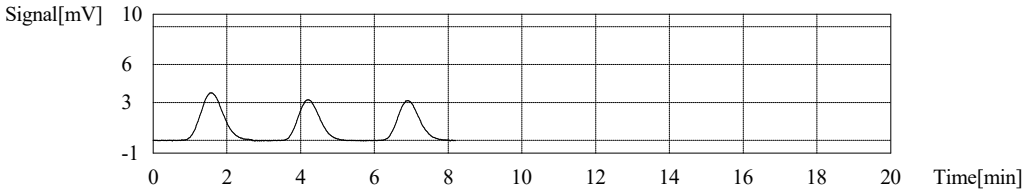
1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	15.94	4.511mg/L	50uL	1.000		06_21_2023B.2023_06_22_09_52_42.cal	7/31/2023 12:45:11 PM
2	13.21	3.739mg/L	50uL	1.000		06_21_2023B.2023_06_22_09_52_42.cal	7/31/2023 12:48:09 PM
3	13.04	3.691mg/L	50uL	1.000		06_21_2023B.2023_06_22_09_52_42.cal	7/31/2023 12:51:12 PM

TOC-Control L Report

Mean Area 14.06
Mean Conc. 3.980mg/L



Sample

Sample Name: HS23071825-02MS
Sample ID:
Origin: 06_21_2023B.cal
Status Completed
Chk. Result

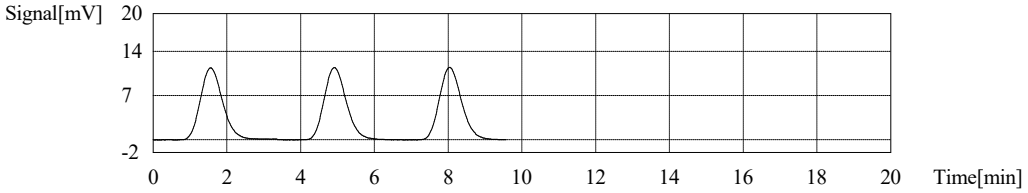
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:13.62mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	47.87	13.55mg/L	50uL	1.000		06_21_2023B.2023_06_22_09_52_42.cal	7/31/2023 1:01:20 PM
2	47.89	13.55mg/L	50uL	1.000		06_21_2023B.2023_06_22_09_52_42.cal	7/31/2023 1:04:41 PM
3	48.62	13.76mg/L	50uL	1.000		06_21_2023B.2023_06_22_09_52_42.cal	7/31/2023 1:08:01 PM

Mean Area 48.13
Mean Conc. 13.62mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: 06_21_2023B.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:24.64mg/L

1. Det

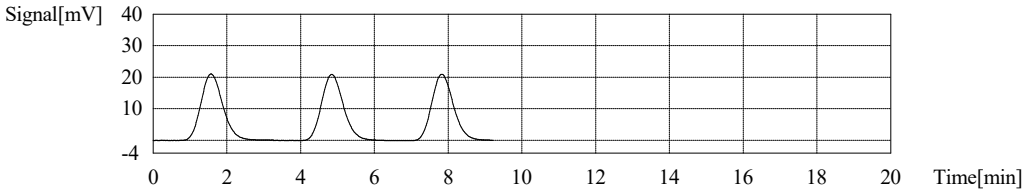
Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	87.52	24.77mg/L	50uL	1.000		06_21_2023B.2023_06_22_09_52_42.cal	7/31/2023 2:18:02 PM
2	86.85	24.58mg/L	50uL	1.000		06_21_2023B.2023_06_22_09_52_42.cal	7/31/2023 2:21:17 PM
3	86.77	24.56mg/L	50uL	1.000		06_21_2023B.2023_06_22_09_52_42.cal	7/31/2023 2:24:28 PM

TOC-Control L Report

2023_07_31_001.tlx

Mean Area 87.05
Mean Conc. 24.64mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: 06_21_2023B.cal
Status Completed
Chk. Result

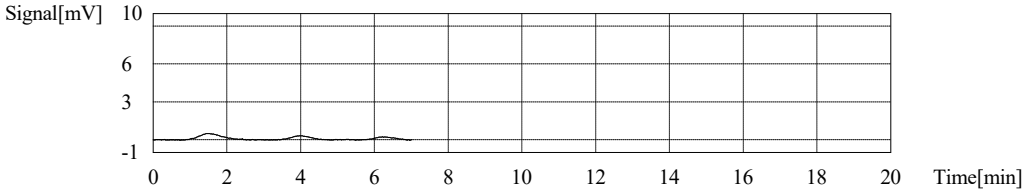
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.3721mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2.045	0.5788mg/L	50uL	1.000		06_21_2023B.2023_06_22_09_52_42.cal	7/31/2023 2:33:41 PM
2	1.051	0.2974mg/L	50uL	1.000		06_21_2023B.2023_06_22_09_52_42.cal	7/31/2023 2:36:12 PM
3	0.8481	0.2400mg/L	50uL	1.000		06_21_2023B.2023_06_22_09_52_42.cal	7/31/2023 2:38:43 PM

Mean Area 1.315
Mean Conc. 0.3721mg/L



Sample

Sample Name: HS23071455-01DF20
Sample ID:
Origin: 06_21_2023B.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:4.973mg/L

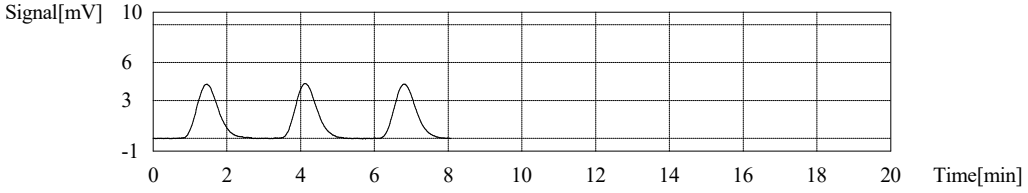
1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	17.32	4.902mg/L	50uL	1.000		06_21_2023B.2023_06_22_09_52_42.cal	7/31/2023 3:32:32 PM
2	17.70	5.009mg/L	50uL	1.000		06_21_2023B.2023_06_22_09_52_42.cal	7/31/2023 3:35:28 PM
3	17.69	5.007mg/L	50uL	1.000		06_21_2023B.2023_06_22_09_52_42.cal	7/31/2023 3:38:25 PM

TOC-Control L Report

Mean Area 17.57
Mean Conc. 4.973mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: 06_21_2023B.cal
Status Completed
Chk. Result

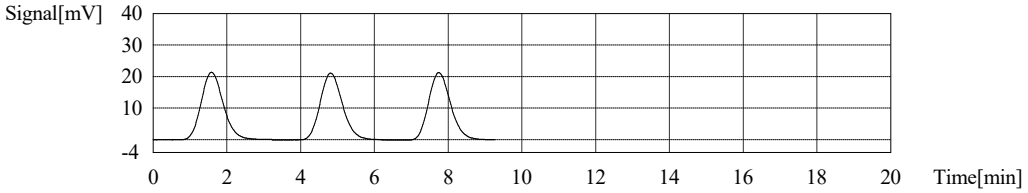
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:25.32mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	89.75	25.40mg/L	50uL	1.000		06_21_2023B.2023_06_22_09_52_42.cal	7/31/2023 3:48:31 PM
2	89.26	25.26mg/L	50uL	1.000		06_21_2023B.2023_06_22_09_52_42.cal	7/31/2023 3:51:45 PM
3	89.34	25.28mg/L	50uL	1.000		06_21_2023B.2023_06_22_09_52_42.cal	7/31/2023 3:55:03 PM

Mean Area 89.45
Mean Conc. 25.32mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: 06_21_2023B.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.04988mg/L

1. Det

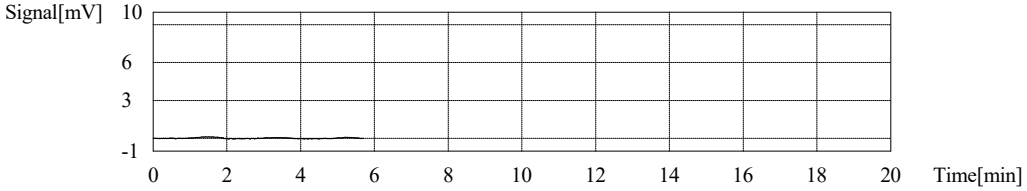
Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.2408	0.06815mg/L	50uL	1.000		06_21_2023B.2023_06_22_09_52_42.cal	7/31/2023 4:03:43 PM
2	0.000	0.000mg/L	50uL	1.000		06_21_2023B.2023_06_22_09_52_42.cal	7/31/2023 4:05:52 PM
3	0.2879	0.08148mg/L	50uL	1.000		06_21_2023B.2023_06_22_09_52_42.cal	7/31/2023 4:08:00 PM

TOC-Control L Report

2023_07_31_001.tlx

Mean Area	0.1762
Mean Conc.	0.04988mg/L



HS23071455 E2300687-IV

ALS WO# HS23071455

July 26, 2023 Service Request No:E2300687

James Guin
ALS Environmental - US
10450 Stancliff Rd #210
Houston, TX 77099

Laboratory Results for: HS23071455

Dear James,

Enclosed are the results of the sample(s) submitted to our laboratory July 25, 2023
For your reference, these analyses have been assigned our service request number **E2300687.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current TNI standards, where applicable, and except as noted in the laboratory case narrative provided. All results are intended to be considered in their entirety and ALS Environmental is not responsible for use of less than the complete final report. Results apply only to the items submitted to the laboratory, as received for analysis. In accordance with the current TNI Standard, a statement on the estimated uncertainty of measurement of any quantitative analysis will be supplied upon request.

Please contact me if you have any questions. My extension is 2188. You may also contact me via email at James.Guin@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

James Guin

Certificate of Analysis

ALS Environmental - Houston Specialties Laboratory
10450 Stancliff Rd., Suite 210, Houston TX 77099
Phone (281)530-5656 Fax (281)530-5887
www.alsglobal.com

ALS Environmental

Client:	ALS Environmental – US	**Service Request No.:**	E2300687
Project:	HS23071455	**Date Received:**	07/25/2023
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed in adherence to the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier II. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Two samples were received for analysis at ALS Environmental in Houston on 07/25/2023.

The sample were received in good condition and is consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Data Validation Notes and Discussion

Precision and Accuracy:

EQ2300354: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in lieu of MS/MSD for this extraction batch.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS group USA Corp dba ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

Client: ALS Environmental - US **Service Request:**E2300687
Project: HS23071455

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2300687-001	LH18/24-SP650_072423_AIX	7/24/2023	1300
E2300687-002	LH18/24-SP650_072423_BIX	7/24/2023	1300

Service Request Summary

Folder #: **E2300687**
Client Name: ALS Environmental - US
Project Name: HS23071455
Project Number:

Report To: James Guin
ALS Environmental - US
10450 Stancliff Rd #210
Houston, TX 77099
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number:
E-mail: james.guin@alsglobal.com

Project Chemist: James Guin
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 07/25/23
Internal Due Date: 7/26/2023
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS23071455
EDD: No EDD Specified

2 120 mL-Plastic Bottle Natural WM Unpreserved
Location: EHRMS-AirArch 1
Pressure Gas:
Rush

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2300687-001	LH18/24-SP650_072423_AIX	Water	07/24/23 1300	**IV**
E2300687-002	LH18/24-SP650_072423_BIX	Water	07/24/23 1300	**IV**

Service Request Summary

Folder #: **E2300687**
Client Name: ALS Environmental - US
Project Name: HS23071455
Project Number:

Report To: James Guin
ALS Environmental - US
10450 Stancliff Rd #210
Houston, TX 77099
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number:
E-mail: james.guin@alsglobal.com

Project Chemist: James Guin
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 07/25/23
Internal Due Date: 7/26/2023
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS23071455
EDD: No EDD Specified

2 120 mL-Plastic Bottle Natural WM Unpreserved
Location: EHRMS-AirArch 1
Pressure Gas:
Rush

Data Qualifiers

Lab Standard

+	Possible Tedlar bag artifact.
A	TIC is a suspected aldol-condensation product
B	Analyte found in the associated method blank as well as in the sample.
BC	Reported results are not blank corrected.
BH	The back section of the tube yielded higher results than the front.
BT	Results indicated possible breakthrough; back section >=10% front section.
C	Result identification confirmed.
D	Compound identified in an analysis at a secondary dilution factor
D	Spike was diluted out
DE	Reported results are corrected for desorption efficiency.
E	Estimated value. Concentration above calibration range
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
H1	Sample analysis performed past holding time. See case narrative.
H2	Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
H3	Sample was received and analyzed past holding time.
H4	Sample was extracted past required extraction holding time, but analyzed within analysis holding time. See case narrative.
I	(Auto) The reference ion ratio was outside acceptance criteria, which may indicate a potential bias to this result.
I	Internal standard not within the specified limits. See case narrative.
I	The reference ion ratio was outside acceptance criteria, which may indicate a potential bias to this result.
J	Estimated Value. Concentration found below MRL.
K	A deflection in the QC ion may indicate interference with the quantitation of this ion. The concentration of this analyte should be considered as an estimate.
K	Analyte was detected above the method reporting limit prior to normalization.
K	The reference ion ratio was outside acceptance criteria, which may indicate a potential bias to this result.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
L1	Laboratory control sample recovery outside the specified limits; results may be biased high.
L2	Laboratory control sample recovery outside the specified limits; results may be biased low.
L3	Laboratory control sample recovery outside the specified limits.
M	Matrix interference; results may be biased high.
M	The duplicate injection precision not met.

Data Qualifiers

Lab Standard

M1	Matrix interference due to coelution with a non-target compound; results may be biased high.
N	Presumptive evidence of a compound for TICs that have been identified based on a mass spectral library search.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
P	Indicates chlorodiphenyl ether interference present at the retention time of the target compound.
P	Pesticide/Aroclor target analyte > 40% difference for detected concentrations between GC columns
Q	Indicates as estimated value because the P and P + 2 theoretical abundance ratio does not meet method criteria.
R	Duplicate Precision not met.
R1	Duplicate precision not within the specified limits; however, the results are below the MRL and considered estimated.
S	Surrogate recovery not within specified limits.
S	The reported value was determined by the Method of Standard Additions (MSA).
T	Analyte is a tentatively identified compound, result is estimated.
U	Compound was analyzed for, but was not detected (ND).
V1	The continuing calibration verification standard was outside (biased high) the specified limits for this compound.
V2	The continuing calibration verification standard was outside (biased low) the specified limits for this compound.
W	Result quantified, but the corresponding peak was detected outside the generated retention time window.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
X	See case narrative.
Y	Recovery outside limits
Y	The chromatogram resembles a petroleum product but does not match the calibration standard.
Z	The chromatogram does not resemble a petroleum product.
i	The MRL/MDL has been elevated due to a matrix interference.

ALS Laboratory Group

Acronyms

Cal	Calibration
Conc	CONCentration
Dioxin(s)	Polychlorinated dibenzo-p-dioxin(s)
EDL	Estimated Detection Limit
EMPC	Estimated Maximum Possible Concentration
Flags	Data qualifiers
Furan(s)	Polychlorinated dibenzofuran(s)
g	Grams
ICAL	Initial CALibration
ID	IDentifier
Ions	Masses monitored for the analyte during data acquisition
L	Liter (s)
LCS	Laboratory Control Sample
DLCS	Duplicate Laboratory Control Sample
MB	Method Blank
MCL	Method Calibration Limit
MDL	Method Detection Limit
mL	Milliliters
MS	Matrix Spiked sample
DMS	Duplicate Matrix Spiked sample
NO	Number of peaks meeting all identification criteria
PCDD(s)	Polychlorinated dibenzo-p-dioxin(s)
PCDF(s)	Polychlorinated dibenzofuran(s)
ppb	Parts per billion
ppm	Parts per million
ppq	Parts per quadrillion
ppt	Parts per trillion
QA	Quality Assurance
QC	Quality Control
Ratio	Ratio of areas from monitored ions for an analyte
% Rec.	Percent recovery
RPD	Relative Percent Difference
RRF	Relative Response Factor
RT	Retention Time
SDG	Sample Delivery Group
S/N	Signal-to-noise ratio
TEF	Toxicity Equivalence Factor
TEQ	Toxicity Equivalence Quotient

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ALS Environmental

State Certifications, Accreditations, and Licenses

Agency	Number	Expire Date
Arizona Department of Health Services	AZ0793_2024	5/27/2024
Arkansas Department of Environmental Quality	88-00356	3/27/2024
California State Environmental Laboratory Accreditation Program	2919	4/30/2024
Department of Defense	L22-90	3/31/2024
Department of Defense	L23-358	5/31/2025
Florida Department of Health	E87611-38	6/30/2024
Illinois Environmental Protection Agency	2000322023-11	6/30/2024
Kansas Department of Health and Environment	E-10352 2022-2023	7/31/2023
Louisiana Department of Environmental Quality	03087-2023	6/30/2024
Louisiana Department of Health and Hospitals	LA028-2023	12/31/2023
Maine Department of Health and Human Services	2022017	6/5/2024
Maryland Department of the Environment	343	7/31/2023
Maryland Department of the Environment	343-2023	6/30/2024
Michigan Depratment of Environmental Quality	9971-2023	4/30/2024
Minnesota Department of Health	2368363	12/31/2023
Nebraska Department of Health and Human Services	NE-OS-25-13	4/30/2024
Nevada Department of Conservation and Natural Resources	TX026932023-1	7/31/2023
New Hampshire Environmental Laboratory Accreditation Program	209423	4/24/2024
New Jersey Department of Environmental Protection	TX008-2024	6/30/2024
New York Department of Health	11707	3/31/2024
Oklahoma Department of Environmental Quality	2022-141	8/31/2023
Pennsylvania Department of Environmental Protection	68-03441-017	6/30/2024
Perry Johnson Laboratory Accreditation	L22-91	3/31/2024
Tennessee Department of Environment and Concervation	TN04016-2023	4/30/2024
Texas Commision on Environmental Quality	T104704231-23-30	4/30/2024
Utah Department of Health Environmental Laboratory Certification	TX026932023-14	7/31/2024
Utah Department of Health Environmental Laboratory Certification	TX026932022-13	7/31/2023
Washington Department of Ecology	C819-22	11/14/2023

ALS

Chain of Custody

ALS Environmental - Houston Specialties Laboratory
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RUSH

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F: +1 281 530 5887
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Subcontract Chain of Custody

SAMPLING STATE: Dept of Defense **COC ID:** 22487

SUBCONTRACT TO:

ALS Environmental
10450 Stancliff RoadSuite 210
Houston, TX 77084

Phone: +1 281 530 5656

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	James Guin
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	James.Guin@alsglobal.com
Alternate Contact:	Jumoke M. Lawal
Email:	jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS23071455
TSR:	Houston House Acct

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS23071455-02**	**LH18/24-SP650_072423_AIX**	**Water**	**24 Jul 2023 13:00**
	6850-Perch. DOD Level II & Level IV in separate pdf			26 Jul 2023
2.	**HS23071455-03**	**LH18/24-SP650_072423_BIX**	**Water**	**24 Jul 2023 13:00**
	6850-Perch. DOD Level II & Level IV in separate pdf			26 Jul 2023

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.

QC Level: DOD IV (DoD Data Package)

Relinquished By: _____ Date/Time: 7/25/23

Received By: _____ Date/Time: 7-24-23 1048

Cooler ID(s): _____ Temperature(s): _____

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SAMPLE ACCEPTANCE POLICY

This policy outlines the criteria samples must meet to be accepted by ALS Environmental – Houston HRMS.

Cooler Custody Seals (desirable, mandatory if specified in SAP):

- ✓ Intact on outside of cooler, signed and dated

Chain-of-Custody (COC) documentation (mandatory):

The following is required on each COC:

- ✓ Sample ID, the location, date and time of collection, collector's name, preservation type, sample type, and any other special remarks concerning the sampleThe COC must be completed in ink.
- ✓ Signature and date of relinquishing party.

In the absence of a COC at sample receipt, the COC will be requested from the client.

Sample Integrity (mandatory):

Samples are inspected upon arrival to ensure that sample integrity was not compromised during transfer to the laboratory.

- ✓ Sample containers must arrive in good condition (not broken or leaking).
- ✓ Samples must be labeled appropriately, including Sample IDs, and requested test using durable labels and indelible ink.
- ✓ The correct type of sample bottle must be used for the method requested.
- ✓ An appropriate sample volume, or weight, must be received.
- ✓ Sample IDs and number of containers must reconcile with the COC.
- ✓ Samples must be received within the method defined holding time.

Temperature Requirement (varies by sample matrix):

- ✓ Aqueous and Non-aqueous samples must be shipped and stored cold, at 0 to 6ºC.
- ✓ Tissue samples must be shipped and stored frozen, at -20 to -10ºC.
- ✓ Air samples are shipped and stored cold, at 0 to 6ºC
- ✓ The sample temperature must be recorded on the COC

All cooler inspections are documented on the Cooler Receipt Form (CRF). A separate CRF is completed for each service request. Any samples not meeting the above criteria are noted on the CRF and the Project Manager notified. The Project Manager must resolve any sample integrity issues with the client prior to proceeding with the analysis. Such resolutions are documented in writing and filed with the project folder. Data associated with samples received outside of this acceptance policy will be qualified on the case narrative of the final report

Preparation Information Benchsheets

ALS Environmental - Houston Specialties Laboratory
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Phone (281)530-5656 Fax (281)530-5887
www.alsglobal.com

Preparation Information Benchsheet

Prep Run#: 423531 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/XMI **Prep Method:** Method **Prep Date/Time:** 7/24/23 10:30

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2300657-001	16WW37-230713	.01	6850/ClO4 DOD			Water	10mL	
2	E2300657-002	16WW37-230713-FD	.01	6850/ClO4 DOD			Water	10mL	
3	E2300657-003	16WW38-230713	.01	6850/ClO4 DOD			Water	10mL	
4	E2300657-004	16WW44-230713	.01	6850/ClO4 DOD			Water	10mL	
5	E2300657-005	16RW07-230713	.01	6850/ClO4 DOD			Water	10mL	
6	E2300657-006	16RW06-230713	.01	6850/ClO4 DOD			Water	10mL	
7	E2300657-007	16WW46-230713	.01	6850/ClO4 DOD			Water	10mL	
8	E2300657-008	16PM09-230713	.01	6850/ClO4 DOD			Water	10mL	
9	E2300657-009	16PM06-230713	.01	6850/ClO4 DOD			Water	10mL	
10	E2300657-010	16PM14-230713	.01	6850/ClO4 DOD			Water	10mL	
11	E2300671-001	EA-15-0323	.01	6850/ClO4			Water	10mL	
12	E2300671-002	CTC 51 0323	.01	6850/ClO4			Water	10mL	
13	E2300671-003	CTC 46 0323	.01	6850/ClO4			Water	10mL	
14	E2300671-004	CTC 3 0323	.01	6850/ClO4			Water	10mL	
15	E2300671-005	EA 50 0323	.01	6850/ClO4			Water	10mL	
16	E2300671-006	CTC 2 0323	.01	6850/ClO4			Water	10mL	
17	E2300671-007	CTC 10 0323	.01	6850/ClO4			Water	10mL	
18	E2300671-008	CTC 23 0323	.01	6850/ClO4			Water	10mL	
19	E2300687-001	LH18/24-SP650_072423_AIX	.01	6850/ClO4 DOD			Water	10mL	
20	E2300687-002	LH18/24-SP650_072423_BIX	.01	6850/ClO4 DOD			Water	10mL	
21	EQ2300354-01	MB		6850/ClO4			Liquid	10mL	
22	EQ2300354-02	LCS		6850/ClO4			Liquid	10mL	
23	EQ2300354-03	DLCS		6850/ClO4			Liquid	10mL	

Spiking Solutions

Name: Perchlorate Intermediate Stock1 Inventory ID 227236 Logbook Ref: Perchlorate (1st Source) Expires On: 07/31/2023

EQ2300354-02	1.00µL	EQ2300354-02	1.00µL	EQ2300354-03	1.00µL	EQ2300354-03	1.00µL

Name: Perchlorate Internal Standard 1ug/mL Inventory ID 227244 Logbook Ref: Perchlorate Internal Standard Expires On: 07/31/2023

E2300657-001	100.00µL	E2300657-002	100.00µL	E2300657-003	100.00µL	E2300657-004	100.00µL	E2300657-005	100.00µL	E2300657-006	100.00µL
E2300657-007	100.00µL	E2300657-008	100.00µL	E2300657-009	100.00µL	E2300657-010	100.00µL	E2300671-001	100.00µL	E2300671-002	100.00µL
E2300671-003	100.00µL	E2300671-004	100.00µL	E2300671-005	100.00µL	E2300671-006	100.00µL	E2300671-007	100.00µL	E2300671-008	100.00µL
E2300687-001	100.00µL	E2300687-002	100.00µL	EQ2300354-01	100.00µL	EQ2300354-01	100.00µL	EQ2300354-02	100.00µL	EQ2300354-02	100.00µL
EQ2300354-03	100.00µL	EQ2300354-03	100.00µL								

Preparation Information Benchsheet

Prep Run#: 423531 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/XMI **Prep Method:** Method **Prep Date/Time:** 7/24/23 10:30

Preparation Materials

Water HPLC Grade	HPLC water 5/18/23CG (229315)	6850 Amber Glass screw vial	2mL Screw Top Vial (221894)	6850 0.45um syringe filters	6850 0.45 SYRING FILTER (229979)
6850 Luer-Lok Syringes	luer-lock syringes (228116)				

Preparation Steps

Step: Preparation
Started: 7/24/23 10:30
Finished: 7/25/23 09:20
By: XMI
Comments

Comments: _____

Reviewed By: _____ Date: _____

Chain of Custody

Relinquished By: _____ Date: _____ Extracts Examined

Received By: _____ Date: _____ Yes No

Analytical Results

ALS Environmental - Houston Specialties Laboratory
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ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300687
Project:	HS23071455	**Date Collected:**	7/24/23 1300
Sample Matrix:	Water	**Date Received:**	7/25/23
Sample Name:	LH18/24-SP650_072423_AIX	**Units:**	µg/L
Lab Code:	E2300687-001	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.0583**	J	0.100	0.0500	0.0250	1	7/24/23	7/25/23 12:53	423531	811716	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300687
Project:	HS23071455	**Date Collected:**	7/24/23 1300
Sample Matrix:	Water	**Date Received:**	7/25/23
Sample Name:	LH18/24-SP650_072423_BIX	**Units:**	µg/L
Lab Code:	E2300687-002	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**13.4**		0.100	0.0500	0.0250	1	7/24/23	7/25/23 12:58	423531	811716	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300687
Project:	HS23071455	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2300354-01	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.100	0.0500	0.0250	1	7/24/23	7/25/23 10:33	423531	811716	

Accuracy & Precision

ALS Environmental - Houston Specialties Laboratory
10450 Stancliff Rd., Suite 210, Houston TX 77099
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ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS23071455
Sample Matrix: Water

Service Request: E2300687
Date Analyzed: 7/25/23

Lab Control Sample Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Units: µg/L
Basis: NA

Extraction Lot: 423531

	Lab Control Sample EQ2300354-02			Duplicate Lab Control Sample EQ2300354-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.0948	0.100	95	0.0899	0.100	90	84 - 119	5	15

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300687
Project:	HS23071455	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2300354-02	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.0948**	J	0.100	0.0500	0.0250	1	7/24/23	7/25/23 10:39	423531	811716	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300687
Project:	HS23071455	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2300354-03	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.0899**	J	0.100	0.0500	0.0250	1	7/24/23	7/25/23 10:44	423531	811716	

Initial Calibration

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 210, Houston, TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

20230629-809329

Injection Log

LCMS01 -Shimadzu 8050

1st Review: XM
2nd Review: GC

ICAL Date: 6/29/2023
Cal. Std. xp: 06/29/2023
ICAL ID: EC2300011

Mobile Phases : A:20mM ammonium acetate in water 32103046 **B:**Acetonitrile 226552

	Sample Name		File Name	Acquisition Method	Dilution	Comments	Date/Time
1	PERCHLORATE1		20230629-001	Perchlorate6850c.lcm	1x	227245	6/29/2023 12:59
2	PERCHLORATE2		20230629-002	Perchlorate6850c.lcm	1x	227246	6/29/2023 13:05
3	PERCHLORATE3		20230629-003	Perchlorate6850c.lcm	1x	227247	6/29/2023 13:10
4	PERCHLORATE4		20230629-004	Perchlorate6850c.lcm	1x	227248	6/29/2023 13:16
5	PERCHLORATE5		20230629-005	Perchlorate6850c.lcm	1x	227249	6/29/2023 13:21
6	PERCHLORATE6		20230629-006	Perchlorate6850c.lcm	1x	227250	6/29/2023 13:27
7	PERCHLORATE7		20230629-007	Perchlorate6850c.lcm	1x	227251	6/29/2023 13:32
8	PERCHLORATE8		20230629-008	Perchlorate6850c.lcm	1x	227252	6/29/2023 13:38
9	PERCHLORATE9		20230629-009	Perchlorate6850c.lcm	1x	227253	6/29/2023 13:43
10	PERCHLORATE10		20230629-010	Perchlorate6850c.lcm	1x	227254	6/29/2023 13:49
11	PERCHLORATEICV		20230629-011	Perchlorate6850c.lcm	1x	227256	6/29/2023 13:55
12	IB		20230629-012	Perchlorate6850c.lcm	1x		6/29/2023 14:00
13	LODV		20230629-013	Perchlorate6850c.lcm	1x	227501	6/29/2023 14:06
14	ICS		20230629-014	Perchlorate6850c.lcm	1x	32103024	6/29/2023 14:11
15	CCV		20230629-015	Perchlorate6850c.lcm	1x	227251	6/29/2023 14:17
16	EQ2300312-01		20230629-016	Perchlorate6850c.lcm	1x		6/29/2023 14:22
17	EQ2300312-02		20230629-017	Perchlorate6850c.lcm	1x	DNU-RR	6/29/2023 14:28
18	EQ2300312-03		20230629-018	Perchlorate6850c.lcm	1x		6/29/2023 14:33
19	E2300606-001		20230629-019	Perchlorate6850c.lcm	10x		6/29/2023 14:39
20	EQ2300312-04		20230629-020	Perchlorate6850c.lcm	1x		6/29/2023 14:44
21	EQ2300312-05		20230629-021	Perchlorate6850c.lcm	1x		6/29/2023 14:50
22	E2300606-002		20230629-022	Perchlorate6850c.lcm	5x		6/29/2023 14:55
23	E2300606-003		20230629-023	Perchlorate6850c.lcm	10x		6/29/2023 15:01
24	E2300606-004		20230629-024	Perchlorate6850c.lcm	10x		6/29/2023 15:06
25	E2300606-005		20230629-025	Perchlorate6850c.lcm	1x		6/29/2023 15:12
26	CCV		20230629-026	Perchlorate6850c.lcm	1x	227251	6/29/2023 15:17
27	E2300606-006		20230629-027	Perchlorate6850c.lcm	1x		6/29/2023 15:23
28	E2300606-007		20230629-028	Perchlorate6850c.lcm	500x		6/29/2023 15:28
29	E2300606-008		20230629-029	Perchlorate6850c.lcm	100x		6/29/2023 15:34
30	EQ2300312-06		20230629-030	Perchlorate6850c.lcm	100x		6/29/2023 15:40
31	EQ2300312-07		20230629-031	Perchlorate6850c.lcm	100x		6/29/2023 15:45
32	E2300606-009		20230629-032	Perchlorate6850c.lcm	1x		6/29/2023 15:53
33	E2300610-001		20230629-033	Perchlorate6850c.lcm	10000x		6/29/2023 15:58
34	E2300610-002		20230629-034	Perchlorate6850c.lcm	1x		6/29/2023 16:04
35	E2300610-003		20230629-035	Perchlorate6850c.lcm	1x		6/29/2023 16:09
36	E2300610-004		20230629-036	Perchlorate6850c.lcm	1x		6/29/2023 16:15
37	CCV		20230629-037	Perchlorate6850c.lcm	1x	227251	6/29/2023 16:21

20230629-809329

Injection Log

LCMS01 -Shimadzu 8050

1st Review: XM
2nd Review: GC

ICAL Date: 6/29/2023
Cal. Std. xp: 06/29/2023
ICAL ID: EC2300011

Mobile Phases : **A:**20mM ammonium acetate in water 32103046 **B:**Acetonitrile 226552

	Sample Name		File Name	Acquisition Method	Dilution	Comments	Date/Time
38	E2300610-005		20230629-038	Perchlorate6850c.lcm	1x		6/29/2023 16:26
39	E2300610-006		20230629-039	Perchlorate6850c.lcm	1x		6/29/2023 16:32
40	E2300610-007		20230629-040	Perchlorate6850c.lcm	1x		6/29/2023 16:37
41	E2300610-008		20230629-041	Perchlorate6850c.lcm	1x	DNU-D	6/29/2023 16:43
42	EQ2300312-08		20230629-042	Perchlorate6850c.lcm	1x		6/29/2023 16:48
43	EQ2300312-09		20230629-043	Perchlorate6850c.lcm	1x		6/29/2023 16:54
44	E2300611-001		20230629-044	Perchlorate6850c.lcm	1x		6/29/2023 16:59
45	E2300611-002		20230629-045	Perchlorate6850c.lcm	1x		6/29/2023 17:05
46	E2300611-003		20230629-046	Perchlorate6850c.lcm	1x		6/29/2023 17:10
47	E2300611-004		20230629-047	Perchlorate6850c.lcm	1x	DNU-D	6/29/2023 17:16
48	CCV		20230629-048	Perchlorate6850c.lcm	1x	227251	6/29/2023 17:21
49	E2300611-005		20230629-049	Perchlorate6850c.lcm	1x		6/29/2023 17:27
50	E2300611-006		20230629-050	Perchlorate6850c.lcm	1x	DNU-D	6/29/2023 17:32
51	E2300611-007		20230629-051	Perchlorate6850c.lcm	1x	DNU-D	6/29/2023 17:38
52	E2300611-008		20230629-052	Perchlorate6850c.lcm	1x		6/29/2023 17:43
53	E2300611-009		20230629-053	Perchlorate6850c.lcm	1x		6/29/2023 17:49
54	E2300611-010		20230629-054	Perchlorate6850c.lcm	1x		6/29/2023 17:55
55	CCV		20230629-055	Perchlorate6850c.lcm	1x	227251	6/29/2023 18:06

Initial Calibration - Detailed Report

Calibration ID: EC2300011 **Instrument ID:** E-LCMS-01
Column Name: 1

#	Lab Code	Sample Name	File Location	Aquisition Date
01	EC2300011-01	PERCHLORATE1	20230629-001	06/29/2023 12:59
02	EC2300011-02	PERCHLORATE2	20230629-002	06/29/2023 13:05
03	EC2300011-03	PERCHLORATE3	20230629-003	06/29/2023 13:10
04	EC2300011-04	PERCHLORATE4	20230629-004	06/29/2023 13:16
05	EC2300011-05	PERCHLORATE5	20230629-005	06/29/2023 13:21
06	EC2300011-06	PERCHLORATE6	20230629-006	06/29/2023 13:27
07	EC2300011-07	PERCHLORATE7	20230629-007	06/29/2023 13:32
08	EC2300011-08	PERCHLORATE8	20230629-008	06/29/2023 13:38
09	EC2300011-09	PERCHLORATE9	20230629-009	06/29/2023 13:43
10	EC2300011-10	PERCHLORATE10	20230629-010	06/29/2023 13:49

Analyte **Curve Fit** **Weighting**

Perchlorate **Average RF** **RSD = 2.809** **Average RF = 0.1625**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.1000	0.1678	02	0.5000	0.1574	03	0.7000	0.1599	04	1.0000	0.1567
05	2.0000	0.1596	06	5.0000	0.1641	07	10.0000	0.1704	08	20.0000	0.1667
09	30.0000	0.1608	10	50.0000	0.1619						

Analyte

Perchlorate RSE = 2.81

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.1000	0.103	3.2	02	0.5000	0.484	-3.1	03	0.7000	0.689	-1.6
04	1.0000	0.964	-3.6	05	2.0000	1.96	-1.8	06	5.0000	5.05	1.0
07	10.0000	10.5	4.8	08	20.0000	20.5	2.6	09	30.0000	29.7	-1.1
10	50.0000	49.8	-0.4								

Initial Calibration Verification Summary Report

Calibration ID:	EC2300011	**Instrument ID:**	E-LCMS-01
Datafile ID:	20230629-011	**Column Name:**	1

Analyte	Lab Code	Type	Curve Fit	True Value	Calc Conc	Units	Result	Criteria
Perchlorate	EC2300011-11	T	Average RF	10	9.913	ng/mL	-0.9	<= 15

Insight Report

Printed at 6/29/2023 2:17:05 PM

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Project File: I:\LCMS01\DATA\20230628\06282023.damlp

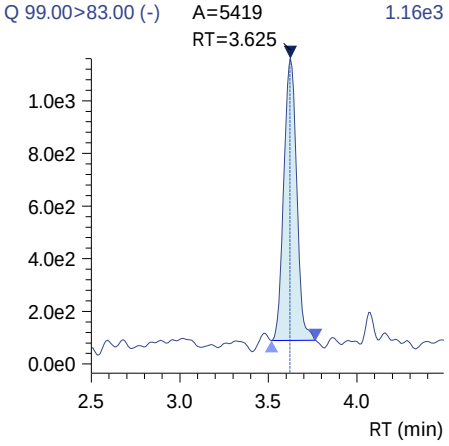
PERCHLORATE1

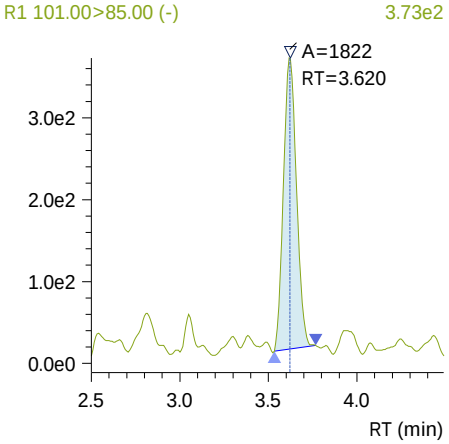
Sample ID: PERCHLORATE1
Date Acquired: 6/29/2023 12:59:40 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230629\20230629-001.lcd
Vial: 1 | Inj. Volume: 10.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.625	5419	323018	0.1032	ng/mL	101.00 >85.00	33.63	22.41-41.62
Sodium Perchlorate-18O4 _IS	Auto	3.617	323018	323018	1.0000	ng/mL	----	----	

Perchlorate

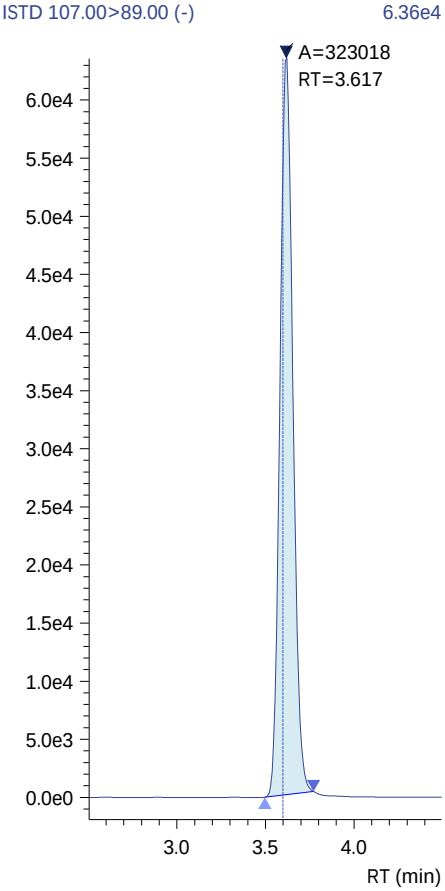
Conc 0.1032
R#1 33.63 (32.02)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

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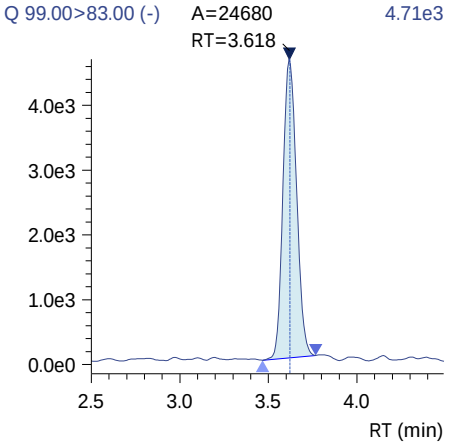
PERCHLORATE2

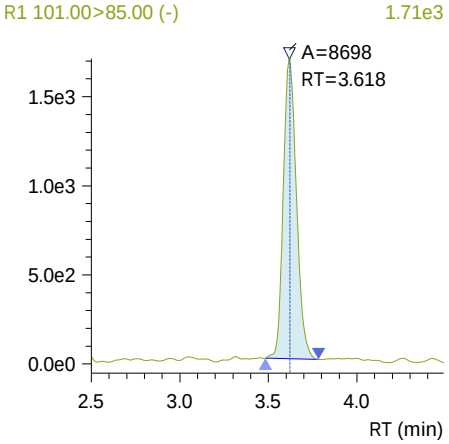
Sample ID: PERCHLORATE2
Date Acquired: 6/29/2023 1:05:11 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230629\20230629-002.lcd
Vial: 2 | Inj. Volume: 10.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.618	24680	313519	0.4844	ng/mL	101.00 >85.00	35.24	22.41-41.62
Sodium Perchlorate-18O4 _IS	Auto	3.618	313519	313519	1.0000	ng/mL	----	----	

Perchlorate

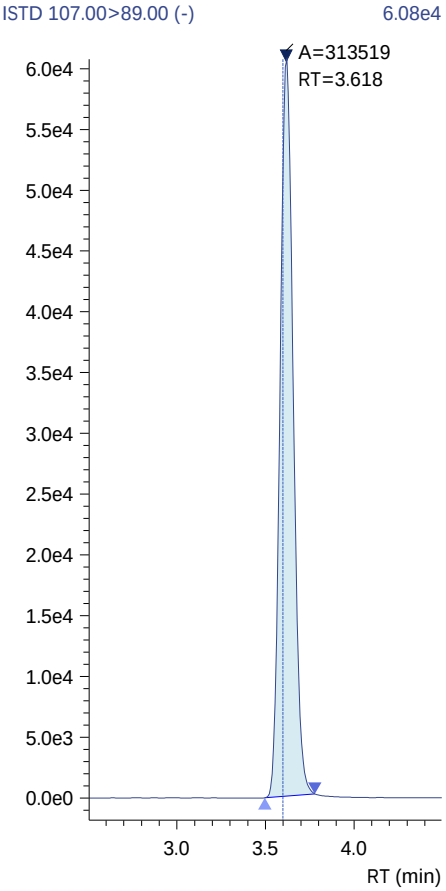
Conc 0.4844
R#1 35.24 (32.02)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

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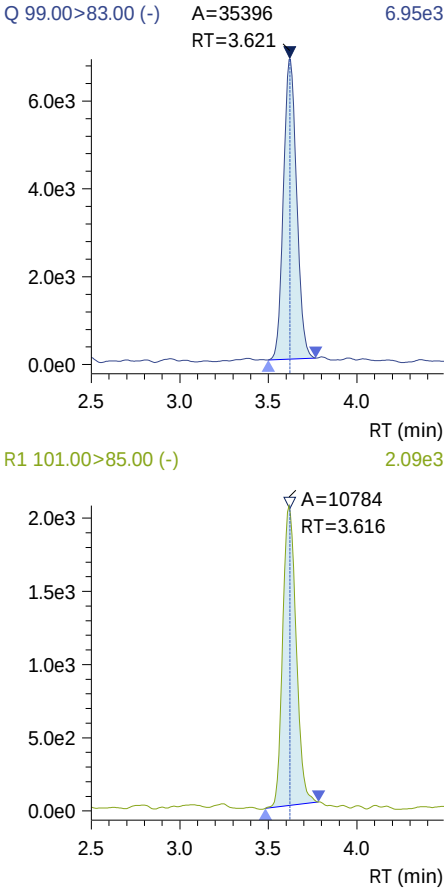
PERCHLORATE3

Sample ID: PERCHLORATE3
Date Acquired: 6/29/2023 1:10:46 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230629\20230629-003.lcd
Vial: 3 | Inj. Volume: 10.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.621	35396	316311	0.6886	ng/mL	101.00 >85.00	30.47	22.41-41.62
Sodium Perchlorate-18O4 _IS	Auto	3.618	316311	316311	1.0000	ng/mL	----	----	

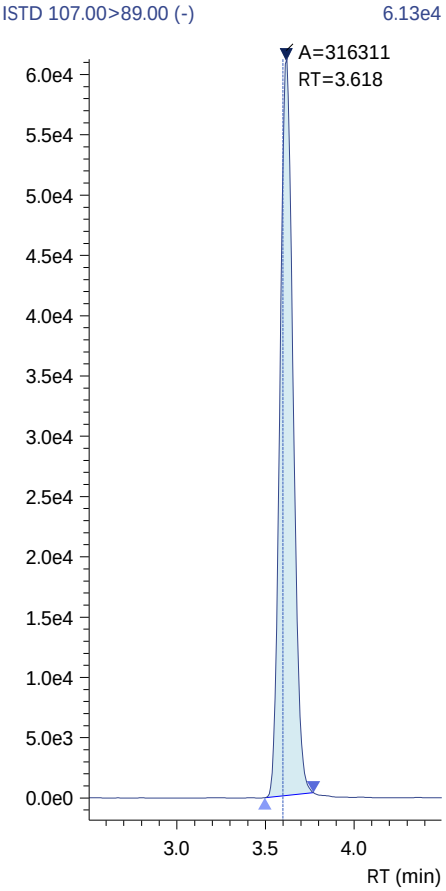
Perchlorate

Conc 0.6886
R#1 30.47 (32.02)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

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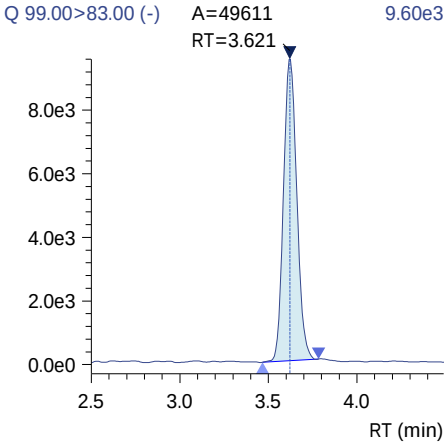
PERCHLORATE4

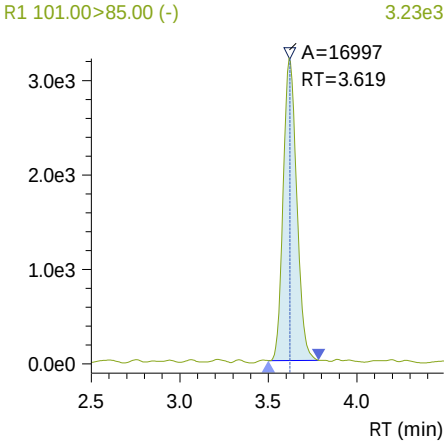
Sample ID: PERCHLORATE4
Date Acquired: 6/29/2023 1:16:19 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230629\20230629-004.lcd
Vial: 4 | Inj. Volume: 10.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.621	49611	316580	0.9643	ng/mL	101.00 >85.00	34.26	22.41-41.62
Sodium Perchlorate-18O4 _IS	Auto	3.618	316580	316580	1.0000	ng/mL	----	----	

Perchlorate

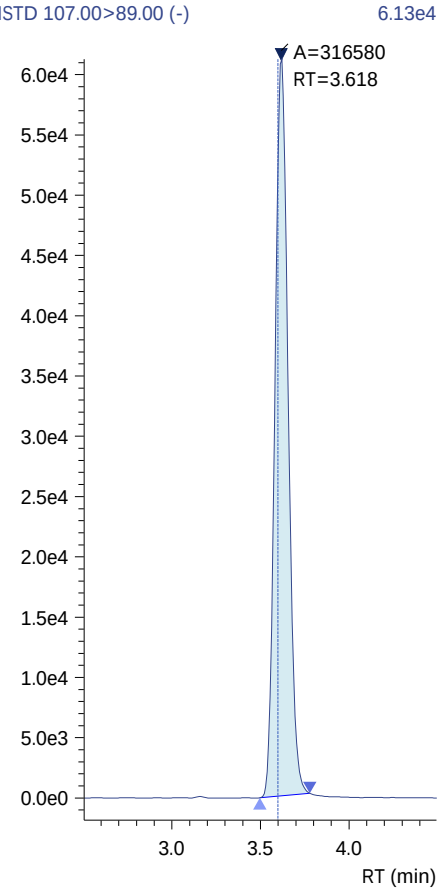
Conc 0.9643
R#1 34.26 (32.02)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 6/29/2023 2:17:05 PM

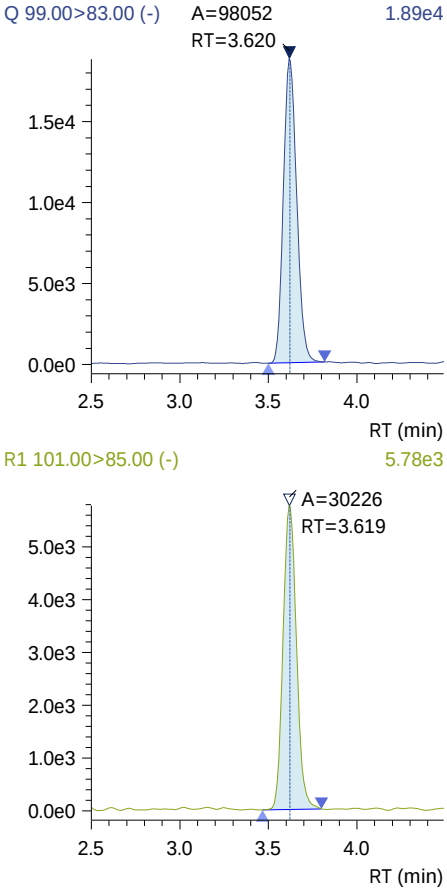
PERCHLORATE5

Sample ID: PERCHLORATE5
Date Acquired: 6/29/2023 1:21:50 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230629\20230629-005.lcd
Vial: 5 | Inj. Volume: 10.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.620	98052	307162	1.9642	ng/mL	101.00 >85.00	30.83	22.41-41.62
Sodium Perchlorate-18O4 _IS	Auto	3.617	307162	307162	1.0000	ng/mL	----	----	

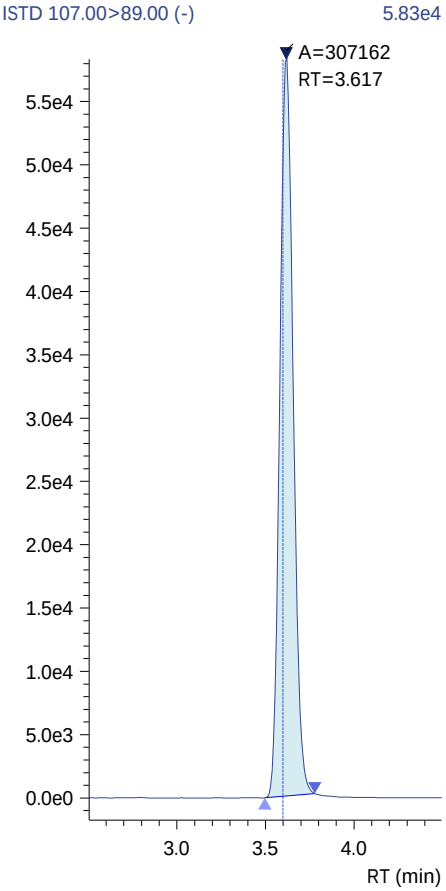
Perchlorate

Conc 1.9642
R#1 30.83 (32.02)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 6/29/2023 2:17:05 PM

PERCHLORATE6

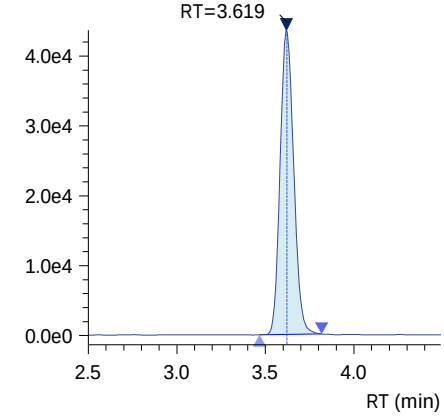
Sample ID: PERCHLORATE6
Date Acquired: 6/29/2023 1:27:22 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230629\20230629-006.lcd
Vial: 6 | Inj. Volume: 10.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.619	232011	282827	5.0477	ng/mL	101.00 >85.00	31.17	22.41-41.62
Sodium Perchlorate-18O4 _IS	Auto	3.617	282827	282827	1.0000	ng/mL	----	----	

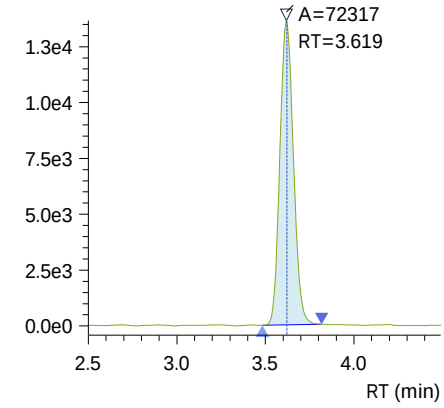
Perchlorate

Conc 5.0477
R#1 31.17 (32.02)

Q 99.00>83.00 (-) A=232011 RT=3.619 4.37e4



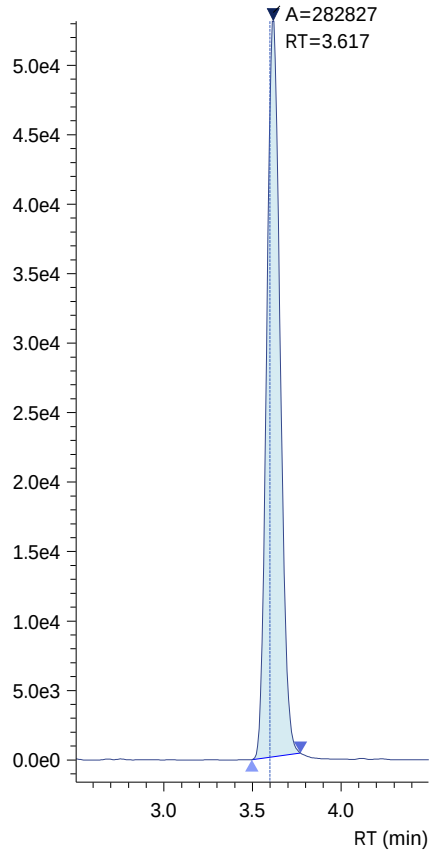
R1 101.00>85.00 (-) 1.37e4



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 5.32e4



Insight Report

Printed at 6/29/2023 2:17:05 PM

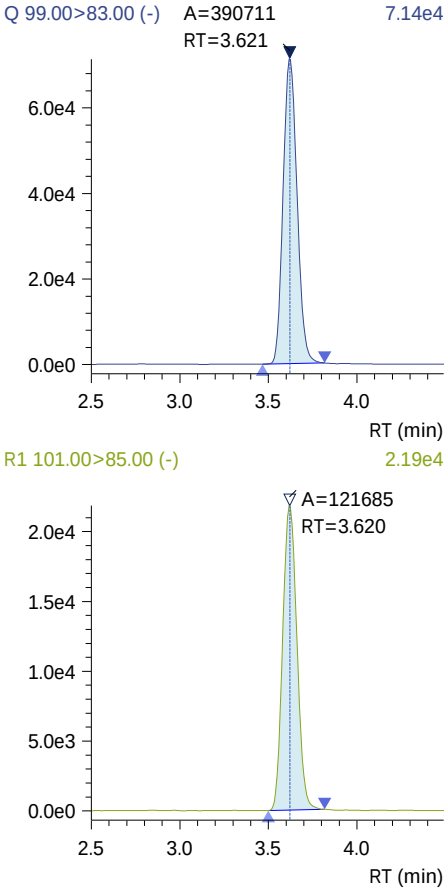
PERCHLORATE7

Sample ID: PERCHLORATE7
Date Acquired: 6/29/2023 1:32:51 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230629\20230629-007.lcd
Vial: 3 | Inj. Volume: 10.0000uL | Tray: 0

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.621	390711	229327	10.48 35	ng/mL	101.00 >85.00	31.14	22.41-41.62
Sodium Perchlorate-18O4 _IS	Auto	3.616	229327	229327	1.0000	ng/mL	----	----	

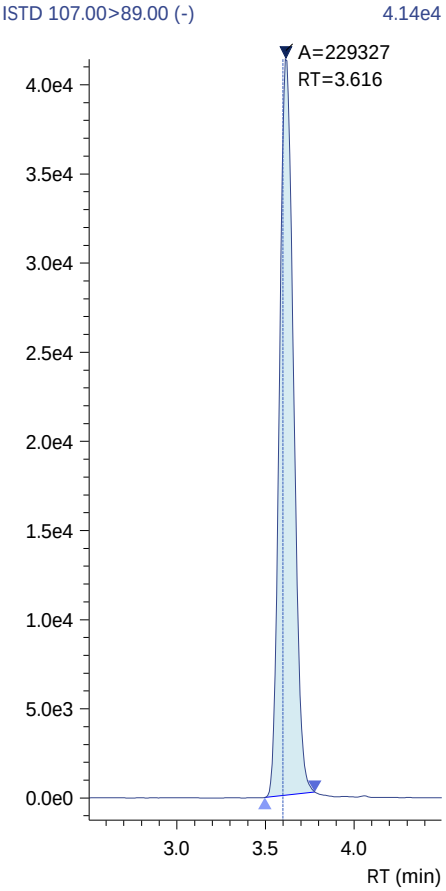
Perchlorate

Conc 10.4835
R#1 31.14 (32.02)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 6/29/2023 2:17:05 PM

PERCHLORATE8

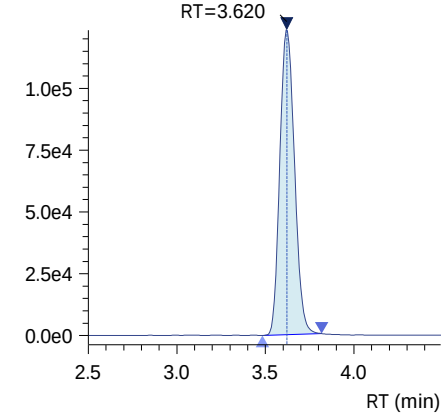
Sample ID: PERCHLORATE8
Date Acquired: 6/29/2023 1:38:22 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230629\20230629-008.lcd
Vial: 8 | Inj. Volume: 10.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.620	710430	213093	20.5144	ng/mL	101.00 >85.00	31.25	22.41-41.62
Sodium Perchlorate-18O4_IS	Auto	3.615	213093	213093	1.0000	ng/mL	----	----	

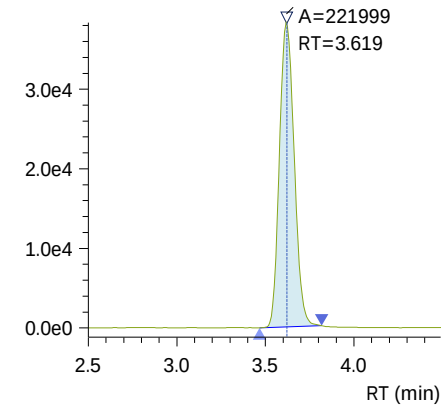
Perchlorate

Conc 20.5144
R#1 31.25 (32.02)

Q 99.00>83.00 (-) A=710430 RT=3.620 1.24e5



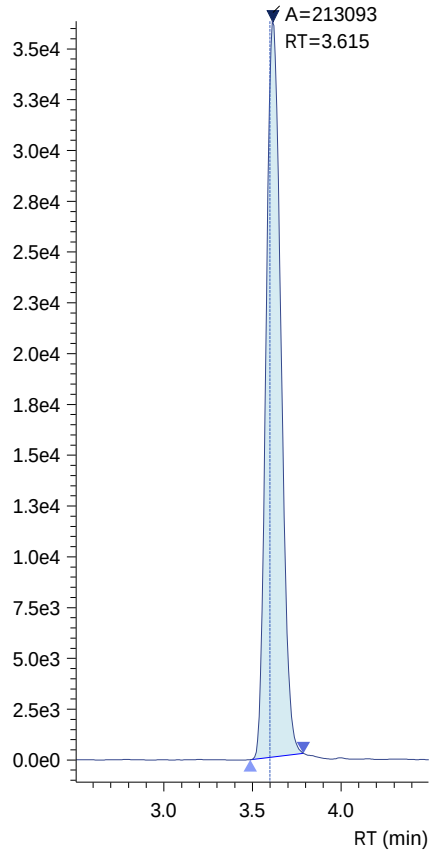
R1 101.00>85.00 (-) 3.84e4



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 3.64e4



Insight Report

Printed at 6/29/2023 2:17:05 PM

PERCHLORATE9

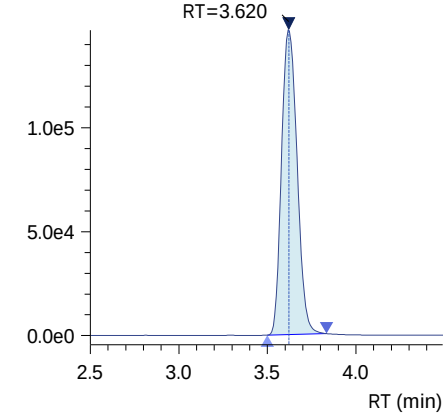
Sample ID: PERCHLORATE9
Date Acquired: 6/29/2023 1:43:53 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230629\20230629-009.lcd
Vial: 9 | Inj. Volume: 10.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.620	896468	185851	29.6808	ng/mL	101.00 >85.00	31.06	22.41-41.62
Sodium Perchlorate-18O4_IS	Auto	3.614	185851	185851	1.0000	ng/mL	----	----	

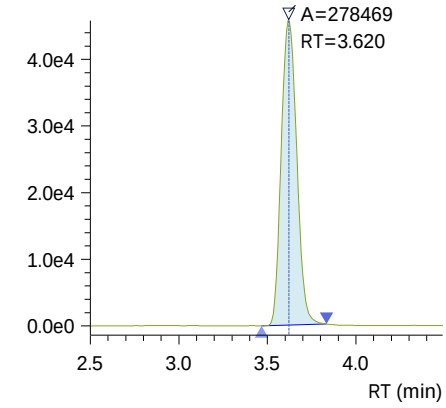
Perchlorate

Conc 29.6808
R#1 31.06 (32.02)

Q 99.00>83.00 (-) A=896468 1.47e5



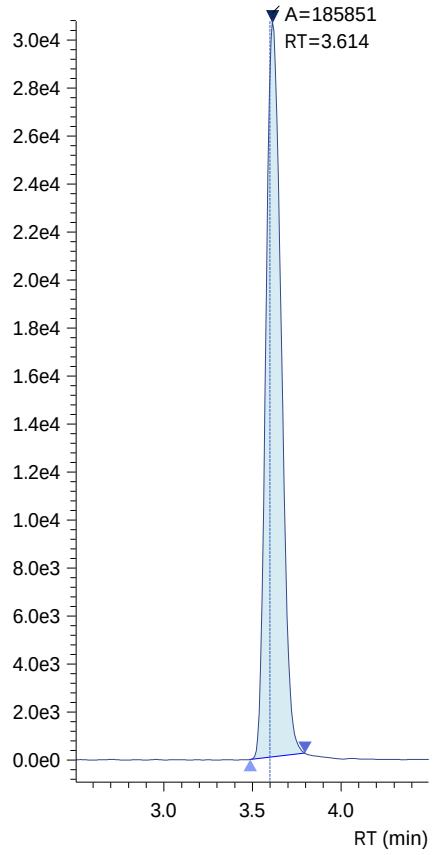
R1 101.00>85.00 (-) 4.58e4



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 3.08e4



Insight Report

Printed at 6/29/2023 2:17:05 PM

PERCHLORATE10

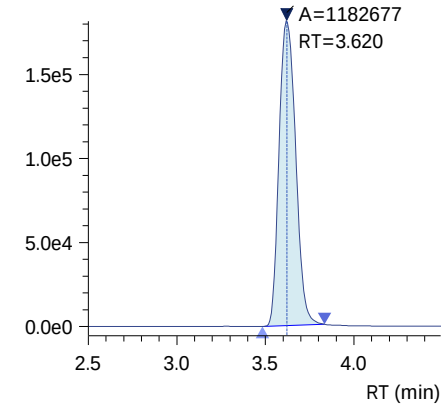
Sample ID: PERCHLORATE10
Date Acquired: 6/29/2023 1:49:27 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230629\20230629-010.lcd
Vial: 10 | Inj. Volume: 10.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.620	1182677	146135	49.79 86	ng/mL	101.00 >85.00	30.89	22.41-41.62
Sodium Perchlorate-18O4 _IS	Auto	3.614	146135	146135	1.0000	ng/mL	----	----	

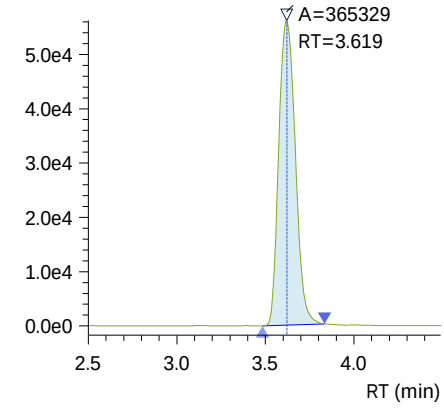
Perchlorate

Conc 49.7986
R#1 30.89 (32.02)

Q 99.00>83.00 (-) 1.82e5



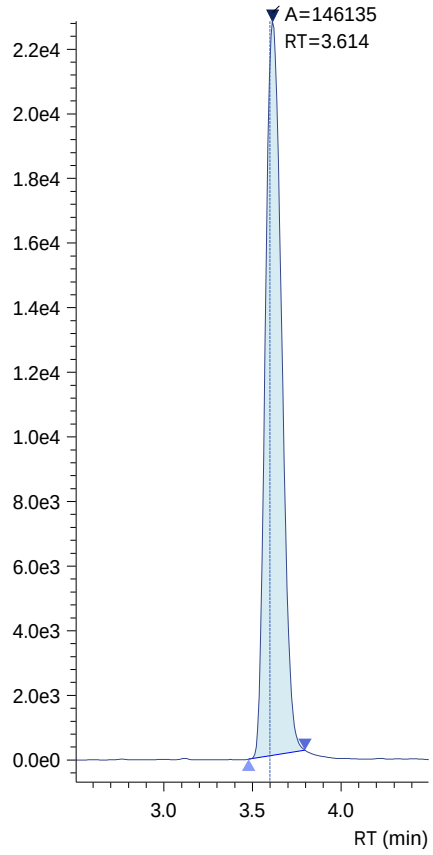
R1 101.00>85.00 (-) 5.62e4



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 2.29e4



Insight Report

Printed at 6/29/2023 2:17:05 PM

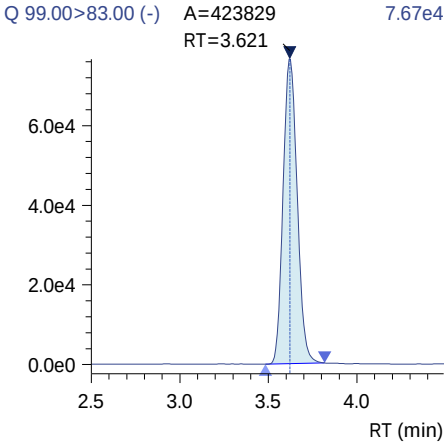
PERCHLORATEICV

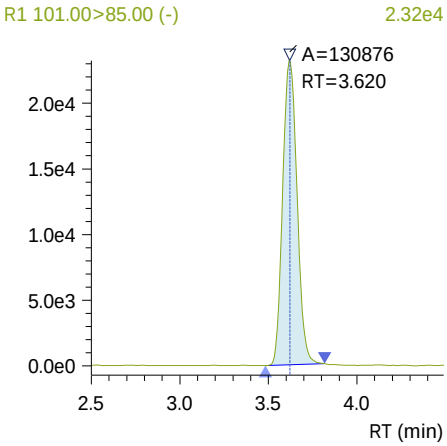
Sample ID: PERCHLORATEICV
Date Acquired: 6/29/2023 1:55:00 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230629\20230629-011.lcd
Vial: 11 | Inj. Volume: 10.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.621	423829	263091	9.9127	ng/mL	101.00 >85.00	30.88	22.41-41.62
Sodium Perchlorate-18O4 _IS	Auto	3.617	263091	263091	1.0000	ng/mL	----	----	

Perchlorate

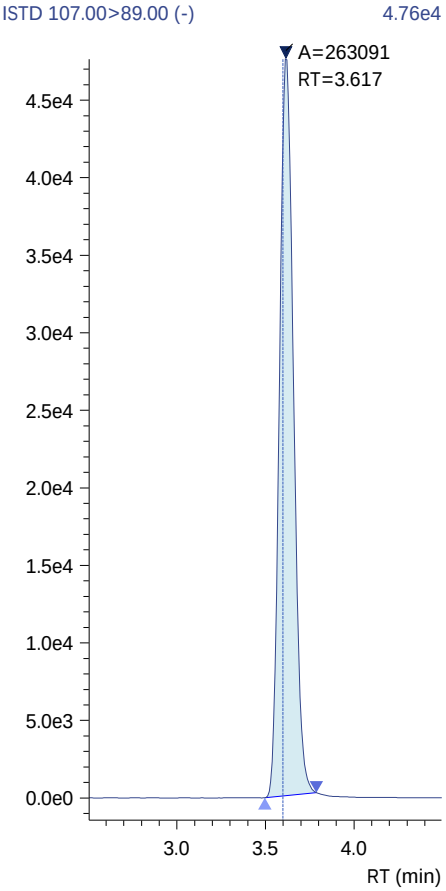
Conc 9.9127
R#1 30.88 (32.02)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Chromatograms and Selected Ion Monitoring

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 320, Houston TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

20230725-811716

Injection Log

LCMS01 -Shimadzu 8050

1st Review: XM
2nd Review: GC

ICAL Date: 6/29/2023
Cal. Std. xp: 07/31/2023
ICAL ID: EC2300011

Mobile Phases : A:20mM ammonium acetate in water 230388 **B:**Acetonitrile 229152

	Sample Name		File Name	Acquisition Method	Dilution	Comments	Date/Time
1	IB		20230725-001	Perchlorate6850c.lcm	1x		7/25/2023 9:25
2	LODV		20230725-002~1	Perchlorate6850c.lcm	1x	230386	7/25/2023 10:16
3	ICS		20230725-003	Perchlorate6850c.lcm	1x	32103024	7/25/2023 10:22
4	CCV		20230725-004	Perchlorate6850c.lcm	1x	227251	7/25/2023 10:28
5	EQ2300354-01		20230725-005	Perchlorate6850c.lcm	1x		7/25/2023 10:33
6	EQ2300354-02		20230725-006	Perchlorate6850c.lcm	1x		7/25/2023 10:39
7	EQ2300354-03		20230725-007	Perchlorate6850c.lcm	1x		7/25/2023 10:44
8	E2300657-001		20230725-008	Perchlorate6850c.lcm	10x		7/25/2023 10:50
9	E2300657-002		20230725-009	Perchlorate6850c.lcm	10x		7/25/2023 10:55
10	E2300657-003		20230725-010	Perchlorate6850c.lcm	1x		7/25/2023 11:01
11	E2300657-004		20230725-011	Perchlorate6850c.lcm	1x		7/25/2023 11:06
12	E2300657-005		20230725-012	Perchlorate6850c.lcm	1x		7/25/2023 11:12
13	E2300657-006		20230725-013	Perchlorate6850c.lcm	1x		7/25/2023 11:17
14	E2300657-007		20230725-014	Perchlorate6850c.lcm	1x		7/25/2023 11:23
15	CCV		20230725-015	Perchlorate6850c.lcm	1x	227251	7/25/2023 11:28
16	E2300657-008		20230725-016	Perchlorate6850c.lcm	1x		7/25/2023 11:34
17	E2300657-009		20230725-017	Perchlorate6850c.lcm	1x		7/25/2023 11:40
18	E2300657-010		20230725-018	Perchlorate6850c.lcm	1x		7/25/2023 11:45
19	E2300671-001		20230725-019	Perchlorate6850c.lcm	5x		7/25/2023 11:51
20	E2300671-002		20230725-020	Perchlorate6850c.lcm	1x		7/25/2023 11:56
21	E2300671-003		20230725-021	Perchlorate6850c.lcm	1x		7/25/2023 12:02
22	E2300671-004		20230725-022	Perchlorate6850c.lcm	5x		7/25/2023 12:07
23	E2300671-005		20230725-023	Perchlorate6850c.lcm	1x		7/25/2023 12:13
24	E2300671-006		20230725-024	Perchlorate6850c.lcm	5x		7/25/2023 12:18
25	E2300671-007		20230725-025	Perchlorate6850c.lcm	1x	DNU-RR	7/25/2023 12:24
26	CCV		20230725-026	Perchlorate6850c.lcm	1x	227251	7/25/2023 12:29
27	E2300671-008		20230725-027	Perchlorate6850c.lcm	5x		7/25/2023 12:35
28	E2300687-001		20230725-028	Perchlorate6850c.lcm	1x		7/25/2023 12:53
29	E2300687-002		20230725-029	Perchlorate6850c.lcm	1x		7/25/2023 12:58
30	EQ2300355-01		20230725-030	Perchlorate6850c.lcm	1x		7/25/2023 13:04
31	EQ2300355-02		20230725-031	Perchlorate6850c.lcm	1x		7/25/2023 13:10
32	EQ2300355-03		20230725-032	Perchlorate6850c.lcm	1x	DNU-IR	7/25/2023 13:15
33	E2300672-001		20230725-033	Perchlorate6850c.lcm	1x		7/25/2023 13:21
34	E2300672-002		20230725-034	Perchlorate6850c.lcm	1x		7/25/2023 13:26
35	E2300672-003		20230725-035	Perchlorate6850c.lcm	1x		7/25/2023 13:32
36	E2300673-001		20230725-036	Perchlorate6850c.lcm	1x		7/25/2023 13:37
37	CCV		20230725-037	Perchlorate6850c.lcm	1x	227251	7/25/2023 13:43

20230725-811716

Injection Log

LCMS01 -Shimadzu 8050

1st Review: XM
2nd Review: GC

ICAL Date: 6/29/2023
Cal. Std. xp: 07/31/2023
ICAL ID: EC2300011

Mobile Phases : A:20mM ammonium acetate in water 230388 **B:**Acetonitrile 229152

	Sample Name		File Name	Acquisition Method	Dilution	Comments	Date/Time
38	E2300673-002		20230725-038	Perchlorate6850c.lcm	1x		7/25/2023 13:48
39	E2300673-003		20230725-039	Perchlorate6850c.lcm	1x		7/25/2023 13:54
40	E2300673-004		20230725-040	Perchlorate6850c.lcm	1x		7/25/2023 13:59
41	E2300673-005		20230725-041	Perchlorate6850c.lcm	5x		7/25/2023 14:05
42	E2300673-006		20230725-042	Perchlorate6850c.lcm	1x		7/25/2023 14:11
43	E2300673-007		20230725-043	Perchlorate6850c.lcm	2000x		7/25/2023 14:16
44	E2300673-008		20230725-044	Perchlorate6850c.lcm	2000x		7/25/2023 14:22
45	E2300674-001		20230725-045	Perchlorate6850c.lcm	1x		7/25/2023 14:27
46	E2300674-002		20230725-046	Perchlorate6850c.lcm	1x		7/25/2023 14:33
47	E2300674-003		20230725-047	Perchlorate6850c.lcm	1x		7/25/2023 14:38
48	CCV		20230725-048	Perchlorate6850c.lcm	1x	227251	7/25/2023 14:44
49	E2300674-004		20230725-049	Perchlorate6850c.lcm	1x		7/25/2023 14:49
50	E2300674-005		20230725-050	Perchlorate6850c.lcm	1x		7/25/2023 14:55
51	E2300674-006		20230725-051	Perchlorate6850c.lcm	1x		7/25/2023 15:00
52	E2300674-007		20230725-052	Perchlorate6850c.lcm	1x		7/25/2023 15:06
53	E2300674-008		20230725-053	Perchlorate6850c.lcm	1x		7/25/2023 15:12
54	E2300674-009		20230725-054	Perchlorate6850c.lcm	1x		7/25/2023 15:17
55	EQ2300355-03		20230725-055	Perchlorate6850c.lcm	1x		7/25/2023 15:23
56	E2300671-007		20230725-056	Perchlorate6850c.lcm	1x		7/25/2023 15:38
57	CCV		20230725-057	Perchlorate6850c.lcm	1x	227251	7/25/2023 15:43

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2300687
Project:	HS23071455	**Date Analyzed:**	7/25/23 10:28

Internal Standard Area and RT Summary

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20230725\20230725-004	**Lab Code:**	EQ2300360-01
Instrument ID:	E-LCMS-01	**Analysis Lot:**	811716
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	263,382	3.62
	Upper Limit ==>	395,073	5.62
	Lower Limit ==>	131,691	1.62
Associated Analyses			
Continuing Calibration Verification	EQ2300360-01	239,575	3.57
Method Blank	EQ2300354-01	328,600	3.57
Lab Control Sample	EQ2300354-02	326,269	3.57
Duplicate Lab Control Sample	EQ2300354-03	323,362	3.57

Results flagged with an asterisk (*) indicate values outside control criteria.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS23071455

Service Request: E2300687
Date Analyzed: 7/25/23 11:28

Internal Standard Area and RT Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID: I:\LCMS01\DATA\20230725\20230725-015
Instrument ID: E-LCMS-01
Analytical Method: 6850

Lab Code: EQ2300360-02
Analysis Lot: 811716
Signal ID: 1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	263,382	3.62
	Upper Limit ==>	395,073	5.62
	Lower Limit ==>	131,691	1.62
Associated Analyses			
Continuing Calibration Verification	EQ2300360-02	243,256	3.57

Results flagged with an asterisk (*) indicate values outside control criteria.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2300687
Project:	HS23071455	**Date Analyzed:**	7/25/23 12:29

Internal Standard Area and RT Summary

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20230725\20230725-026	**Lab Code:**	EQ2300360-03
Instrument ID:	E-LCMS-01	**Analysis Lot:**	811716
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	263,382	3.62
	Upper Limit ==>	395,073	5.62
	Lower Limit ==>	131,691	1.62
Associated Analyses			
Continuing Calibration Verification	EQ2300360-03	238,049	3.57
LH18/24-SP650_072423_AIX	E2300687-001	356,857	3.57
LH18/24-SP650_072423_BIX	E2300687-002	262,321	3.57

Results flagged with an asterisk (*) indicate values outside control criteria.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS23071455

Service Request: E2300687
Date Analyzed: 7/25/23 13:43

Internal Standard Area and RT Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID: I:\LCMS01\DATA\20230725\20230725-037
Instrument ID: E-LCMS-01
Analytical Method: 6850

Lab Code: EQ2300360-04
Analysis Lot: 811716
Signal ID: 1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	263,382	3.62
	Upper Limit ==>	395,073	5.62
	Lower Limit ==>	131,691	1.62
Associated Analyses			
Continuing Calibration Verification	EQ2300360-04	234,296	3.57

Results flagged with an asterisk (*) indicate values outside control criteria.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2300687
Project:	HS23071455	**Date Analyzed:**	7/25/23 14:44

Internal Standard Area and RT Summary

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20230725\20230725-048	**Lab Code:**	EQ2300360-05
Instrument ID:	E-LCMS-01	**Analysis Lot:**	811716
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	263,382	3.62
	Upper Limit ==>	395,073	5.62
	Lower Limit ==>	131,691	1.62
Associated Analyses			
Continuing Calibration Verification	EQ2300360-05	236,851	3.57

Results flagged with an asterisk (*) indicate values outside control criteria.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2300687
Project:	HS23071455	**Date Analyzed:**	7/25/23 15:43

Internal Standard Area and RT Summary

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20230725\20230725-057	**Lab Code:**	EQ2300360-06
Instrument ID:	E-LCMS-01	**Analysis Lot:**	811716
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	263,382	3.62
	Upper Limit ==>	395,073	5.62
	Lower Limit ==>	131,691	1.62
Associated Analyses			
Continuing Calibration Verification	EQ2300360-06	225,280	3.57

Results flagged with an asterisk (*) indicate values outside control criteria.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS23071455

Service Request: E2300687
Date Analyzed: 7/25/23

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20230725\20230725-004

Calibration Date: 6/29/23
Calibration ID: EC2300011
Analysis Lot: 811716
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.0	0.1625	0.1627	0.1	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS23071455

Service Request: E2300687
Date Analyzed: 7/25/23

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20230725\20230725-015

Calibration Date: 6/29/23
Calibration ID: EC2300011
Analysis Lot: 811716
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.1	0.1625	0.1646	1.3	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS23071455

Service Request: E2300687
Date Analyzed: 7/25/23

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20230725\20230725-026

Calibration Date: 6/29/23
Calibration ID: EC2300011
Analysis Lot: 811716
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.1	0.1625	0.1634	0.5	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS23071455

Service Request: E2300687
Date Analyzed: 7/25/23

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20230725\20230725-037

Calibration Date: 6/29/23
Calibration ID: EC2300011
Analysis Lot: 811716
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.1	0.1625	0.1642	1.1	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS23071455

Service Request: E2300687
Date Analyzed: 7/25/23

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20230725\20230725-048

Calibration Date: 6/29/23
Calibration ID: EC2300011
Analysis Lot: 811716
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.93	0.1625	0.1613	-0.7	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS23071455

Service Request: E2300687
Date Analyzed: 7/25/23

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20230725\20230725-057

Calibration Date: 6/29/23
Calibration ID: EC2300011
Analysis Lot: 811716
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.1	0.1625	0.1639	0.9	NA	± 15 %	Average RF

Insight Report

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Method File: I:\LCMS01\DATA\20230725\20230725.lcm
Project File: I:\LCMS01\DATA\20230725\20230725.damlp

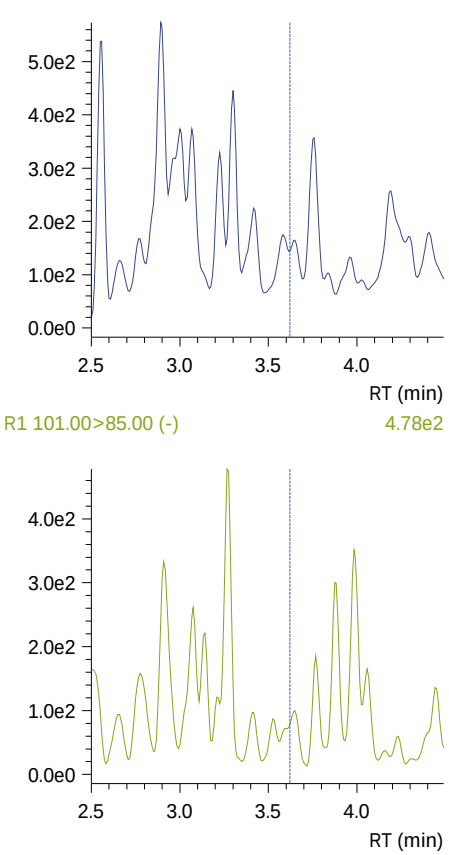
IB

Sample ID: IB
Date Acquired: 7/25/2023 9:25:10 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230725\20230725-001.lcd
Vial: 4 | Inj. Volume: 10.0000uL | Tray: 0

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	ND(W/B)	----	----	382468	----	ng/mL	101.00 >85.00	0.00	19.68-36.55
Sodium Perchlorate-18O4_IS	Auto	3.580	382468	382468	1.0000	ng/mL	----	----	

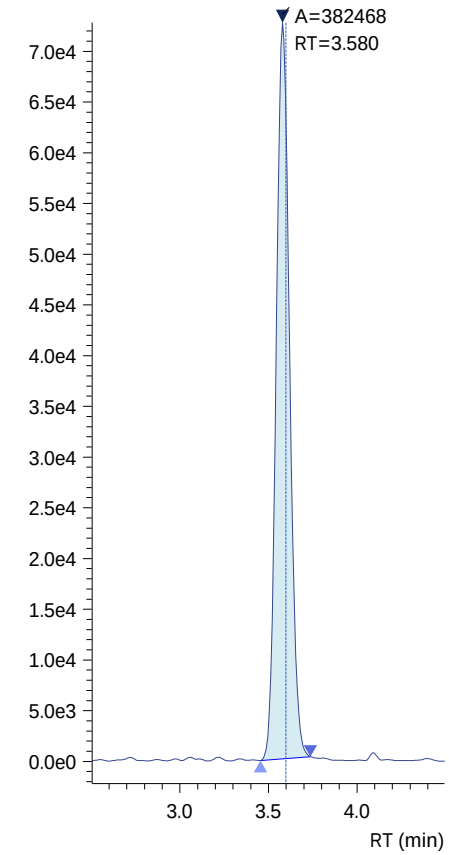
Perchlorate

Conc ----
R#1 0.00 (28.11)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

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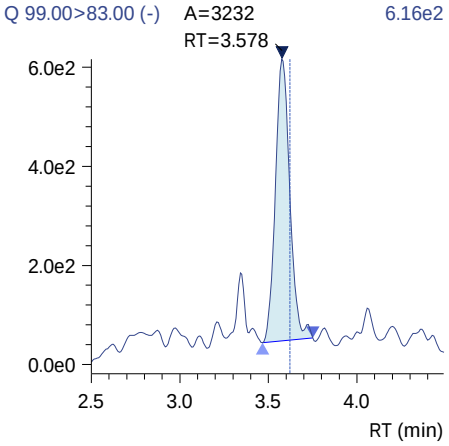
LODV

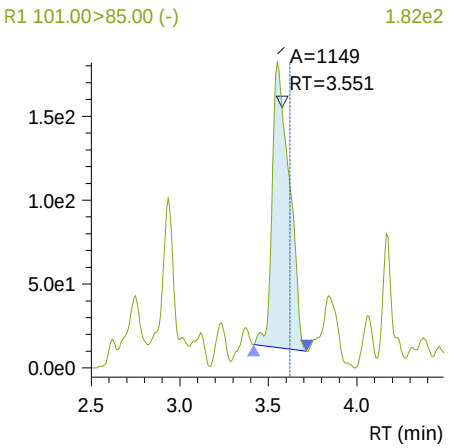
Sample ID: LODV
Date Acquired: 7/25/2023 10:16:49 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230725\20230725-002~1.lcd
Vial: 1 | Inj. Volume: 10.0000uL | Tray: 0

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.578	3232	357182	0.0557	ng/mL	101.00 >85.00	35.56	19.68-36.55
Sodium Perchlorate-18O4 _IS	Auto	3.571	357182	357182	1.0000	ng/mL	----	----	

Perchlorate

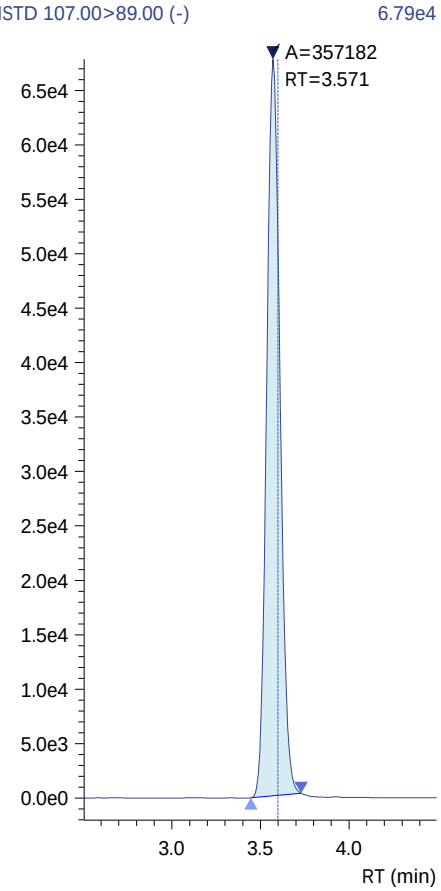
Conc 0.0557
R#1 35.56 (28.11)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

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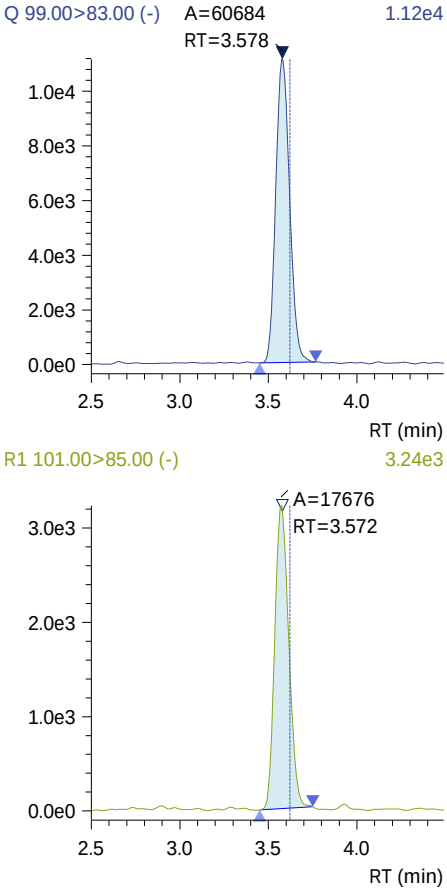
ICS

Sample ID: ICS
Date Acquired: 7/25/2023 10:22:35 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230725\20230725-003.lcd
Vial: 2 | Inj. Volume: 10.0000uL | Tray: 0

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.578	60684	373050	1.0010	ng/mL	101.00 >85.00	29.13	19.68-36.55
Sodium Perchlorate-18O4 _IS	Auto	3.574	373050	373050	1.0000	ng/mL	----	----	

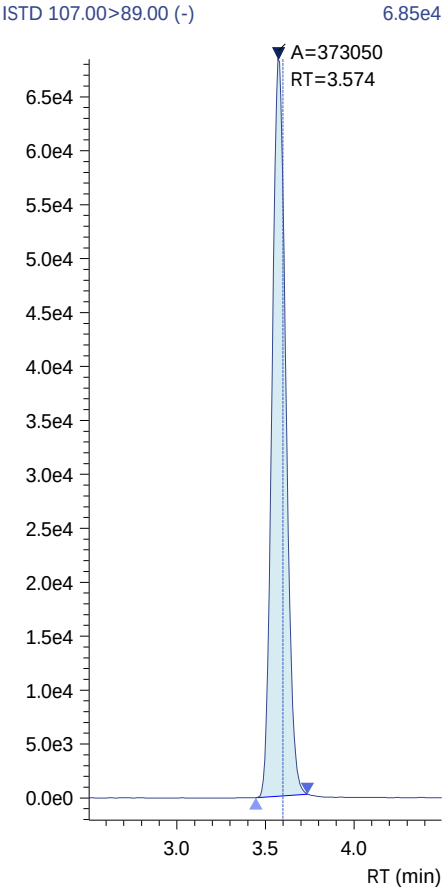
Perchlorate

Conc 1.0010
R#1 29.13 (28.11)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

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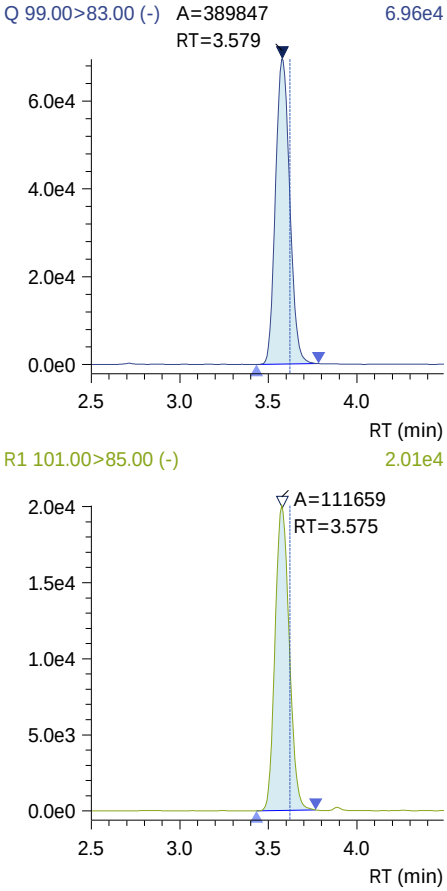
CCV

Sample ID: CCV
Date Acquired: 7/25/2023 10:28:08 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230725\20230725-004.lcd
Vial: 3 | Inj. Volume: 10.0000uL | Tray: 0

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.579	389847	239575	10.0129	ng/mL	101.00 >85.00	28.64	19.68-36.55
Sodium Perchlorate-18O4_IS	Auto	3.573	239575	239575	1.0000	ng/mL	----	----	

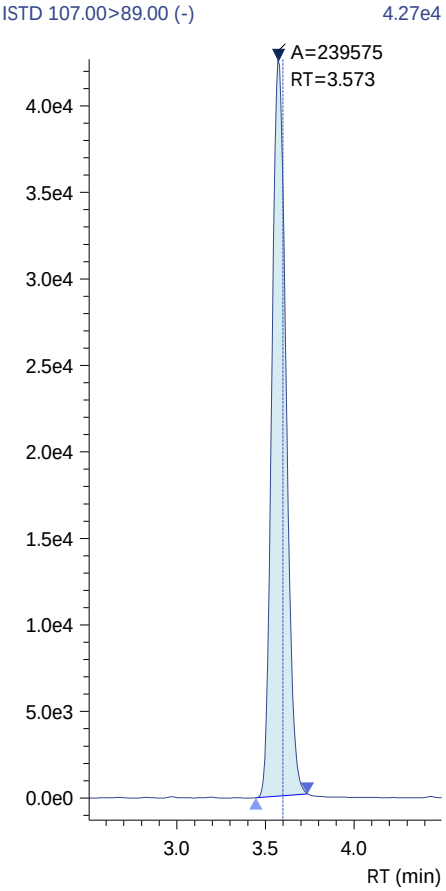
Perchlorate

Conc 10.0129
R#1 28.64 (28.11)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

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EQ2300354-01

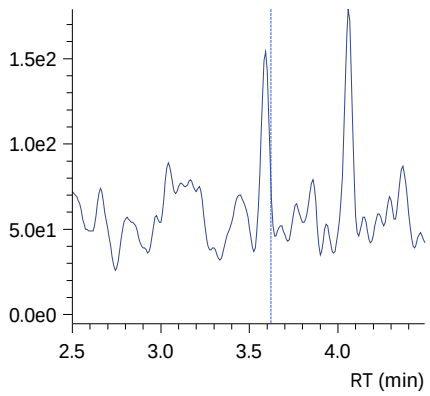
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Date Acquired: 7/25/2023 10:33:40 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230725\20230725-005.lcd
Vial: 11 | Inj. Volume: 10.0000uL | Tray: 4

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	ND(W/B)	----	----	328600	----	ng/mL	101.00 >85.00	0.00	19.68-36.55
Sodium Perchlorate-18O4_IS	Auto	3.573	328600	328600	1.0000	ng/mL	----	----	

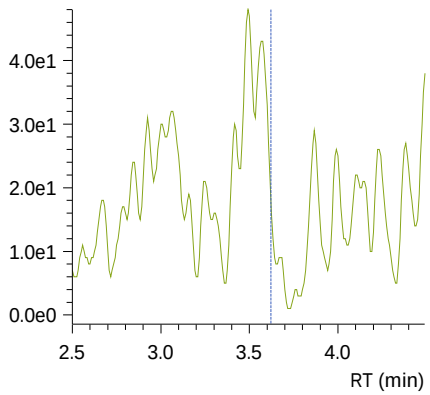
Perchlorate

Conc ----
R#1 0.00 (28.11)

Q 99.00>83.00 (-) 1.79e2



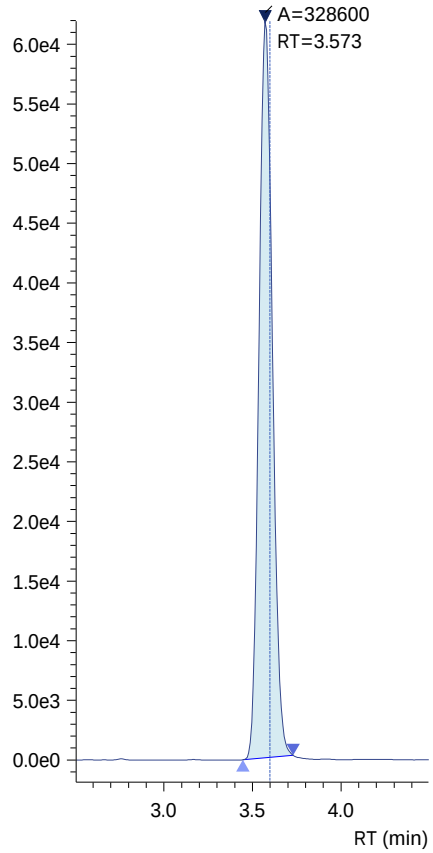
R1 101.00>85.00 (-) 4.80e1



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 6.19e4



Insight Report

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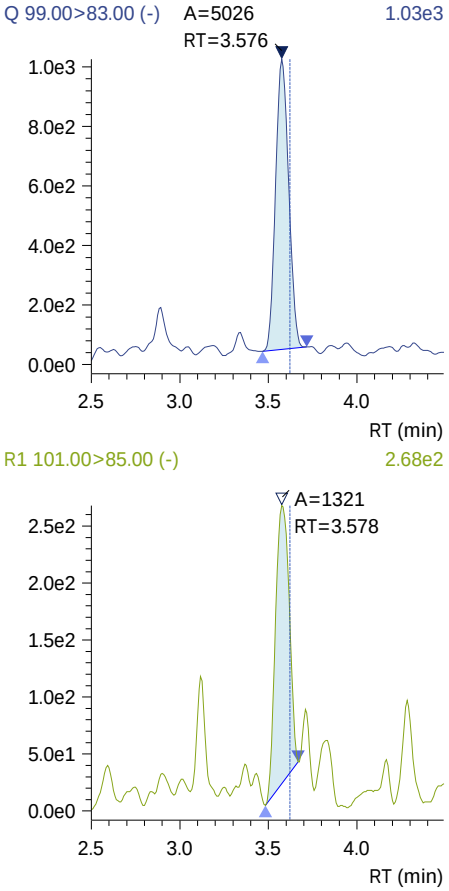
EQ2300354-02

Sample ID: EQ2300354-02
Date Acquired: 7/25/2023 10:39:12 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230725\20230725-006.lcd
Vial: 12 | Inj. Volume: 10.0000uL | Tray: 4

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.576	5026	326269	0.0948	ng/mL	101.00 >85.00	26.28	19.68-36.55
Sodium Perchlorate-18O4 _IS	Auto	3.574	326269	326269	1.0000	ng/mL	----	----	

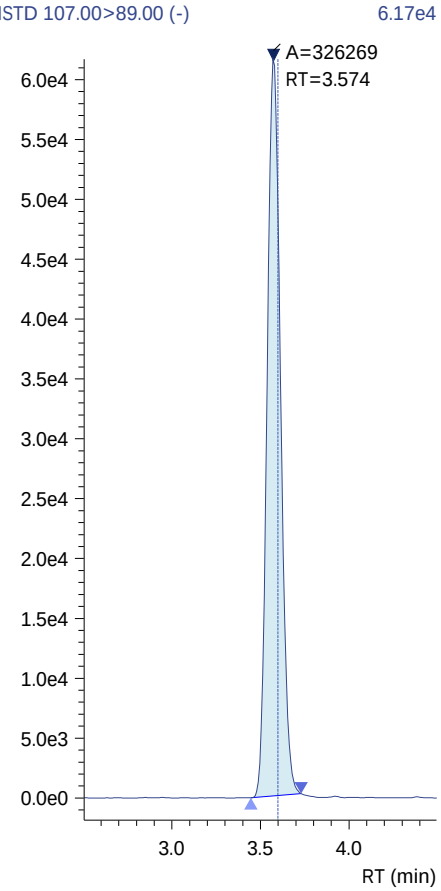
Perchlorate

Conc 0.0948
R#1 26.28 (28.11)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

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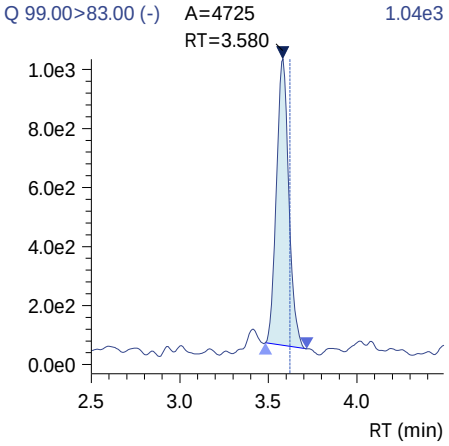
EQ2300354-03

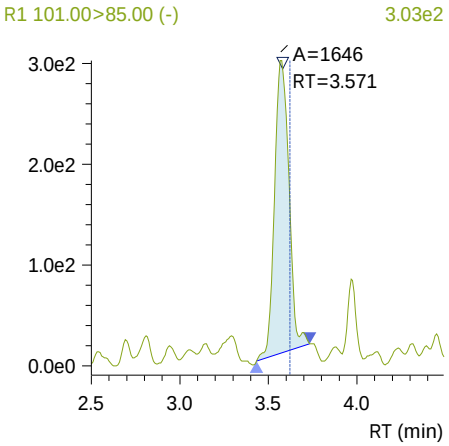
Sample ID: EQ2300354-03
Date Acquired: 7/25/2023 10:44:44 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230725\20230725-007.lcd
Vial: 13 | Inj. Volume: 10.0000uL | Tray: 4

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.580	4725	323362	0.0899	ng/mL	101.00 >85.00	34.84	19.68-36.55
Sodium Perchlorate-18O4 _IS	Auto	3.573	323362	323362	1.0000	ng/mL	----	----	

Perchlorate

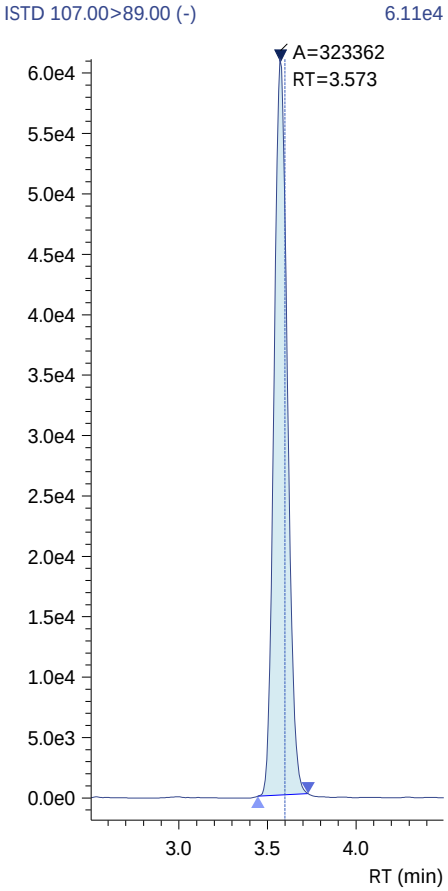
Conc 0.0899
R#1 34.84 (28.11)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

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CCV

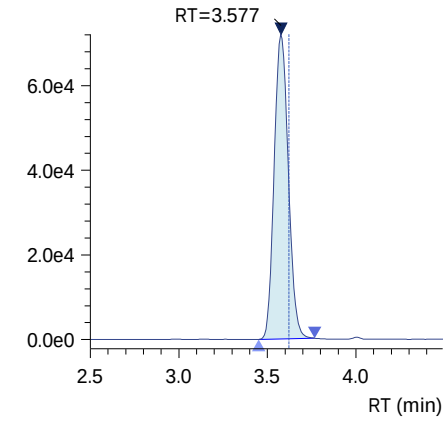
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Date Acquired: 7/25/2023 11:28:58 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230725\20230725-015.lcd
Vial: 3 | Inj. Volume: 10.0000uL | Tray: 0

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.577	400372	243256	10.12 76	ng/mL	101.00 >85.00	27.97	19.68-36.55
Sodium Perchlorate-18O4_IS	Auto	3.572	243256	243256	1.0000	ng/mL	----	----	

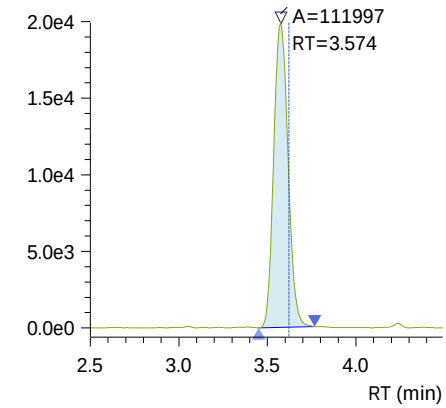
Perchlorate

Conc 10.1276
R#1 27.97 (28.11)

Q 99.00>83.00 (-) A=400372 7.22e4



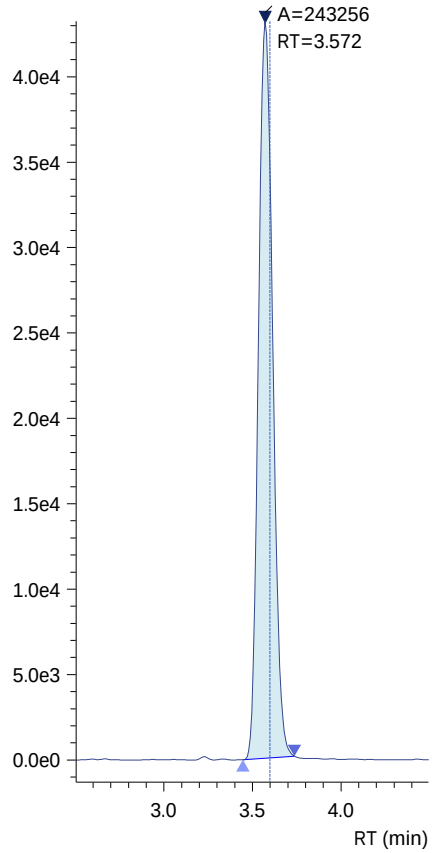
R1 101.00>85.00 (-) 1.99e4



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 4.33e4



Insight Report

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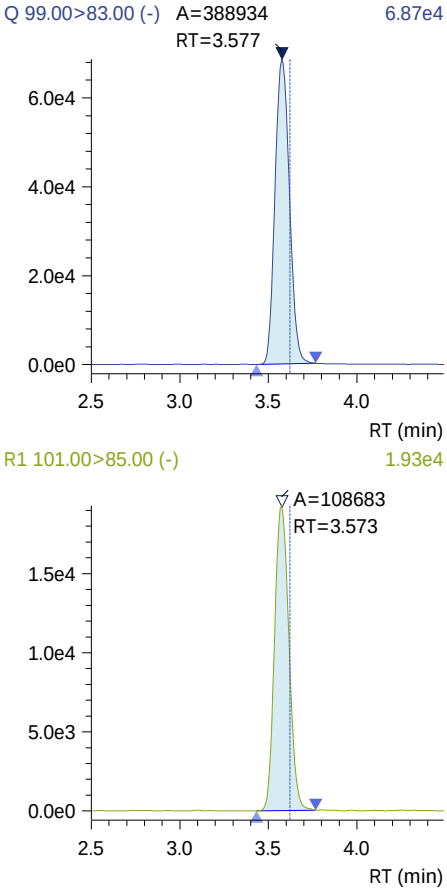
CCV

Sample ID: CCV
Date Acquired: 7/25/2023 12:29:50 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230725\20230725-026.lcd
Vial: 3 | Inj. Volume: 10.0000uL | Tray: 0

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.577	388934	238049	10.05 34	ng/mL	101.00 >85.00	27.94	19.68-36.55
Sodium Perchlorate-18O4_IS	Auto	3.571	238049	238049	1.0000	ng/mL	----	----	

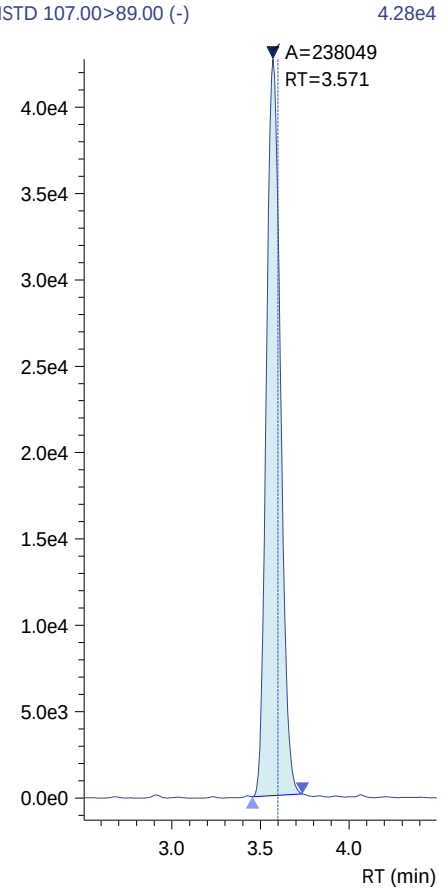
Perchlorate

Conc 10.0534
R#1 27.94 (28.11)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

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E2300687-001

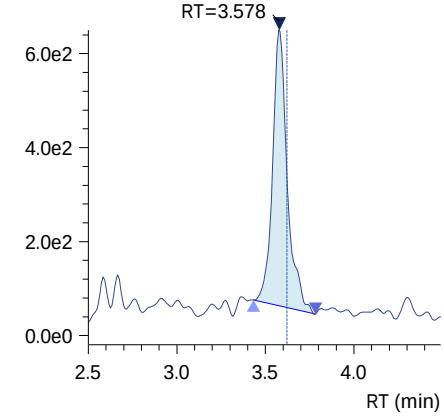
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Date Acquired: 7/25/2023 12:53:25 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230725\20230725-028.lcd
Vial: 52 | Inj. Volume: 10.0000uL | Tray: 3

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.578	3383	356857	0.0583	ng/mL	101.00 >85.00	36.40	19.68-36.55
Sodium Perchlorate-18O4 _IS	Auto	3.574	356857	356857	1.0000	ng/mL	----	----	

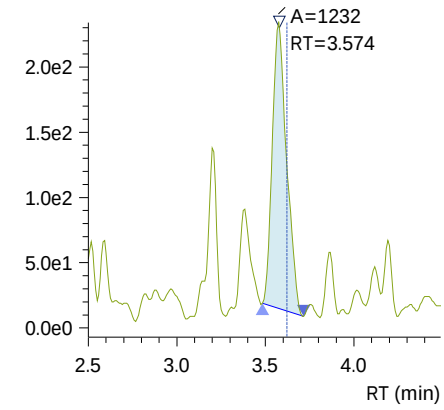
Perchlorate

Conc 0.0583
R#1 36.40 (28.11)

Q 99.00>83.00 (-) A=3383 6.50e2



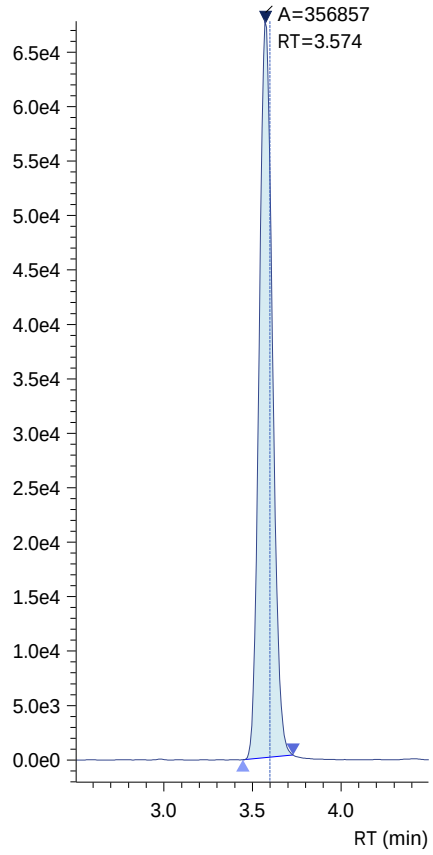
R1 101.00>85.00 (-) 2.34e2



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 6.78e4



Insight Report

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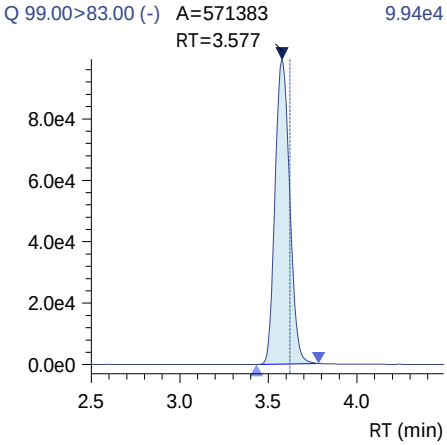
E2300687-002

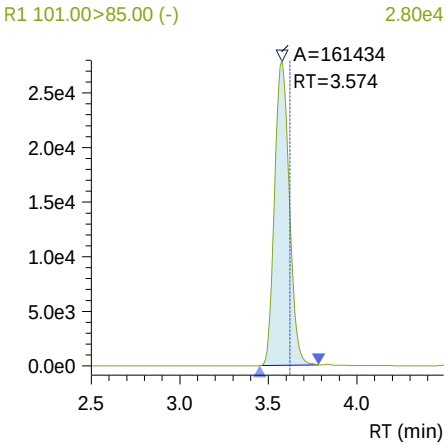
Sample ID: E2300687-002
Date Acquired: 7/25/2023 12:58:58 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230725\20230725-029.lcd
Vial: 53 | Inj. Volume: 10.0000uL | Tray: 3

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.577	571383	262321	13.40 29	ng/mL	101.00 >85.00	28.25	19.68-36.55
Sodium Perchlorate-18O4 _IS	Auto	3.572	262321	262321	1.0000	ng/mL	----	----	

Perchlorate

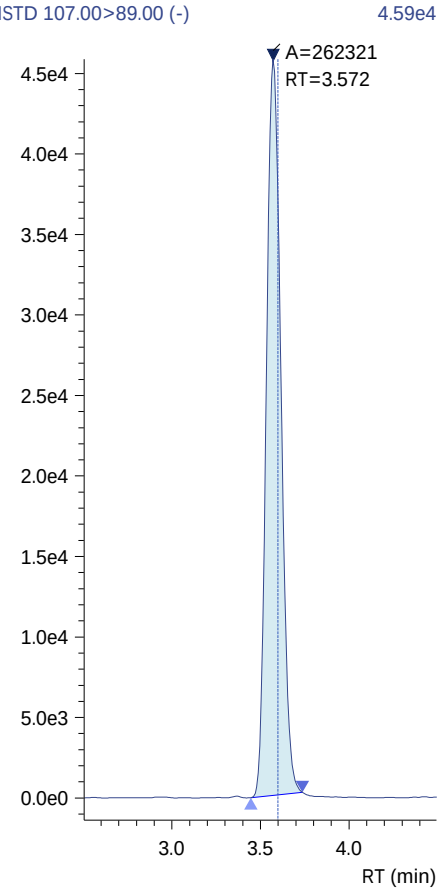
Conc 13.4029
R#1 28.25 (28.11)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

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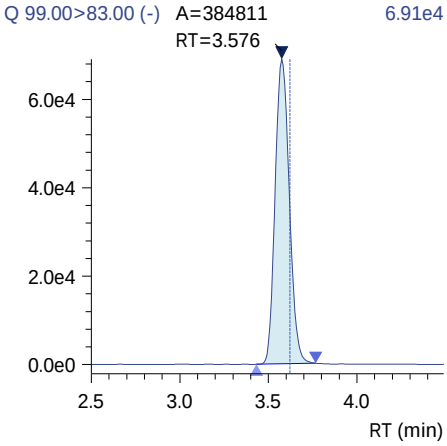
CCV

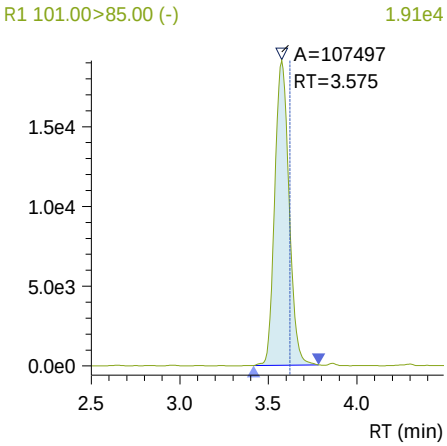
Sample ID: CCV
Date Acquired: 7/25/2023 1:43:19 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230725\20230725-037.lcd
Vial: 3 | Inj. Volume: 10.0000uL | Tray: 0

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.576	384811	234296	10.10 62	ng/mL	101.00 >85.00	27.94	19.68-36.55
Sodium Perchlorate-18O4 _IS	Auto	3.572	234296	234296	1.0000	ng/mL	----	----	

Perchlorate

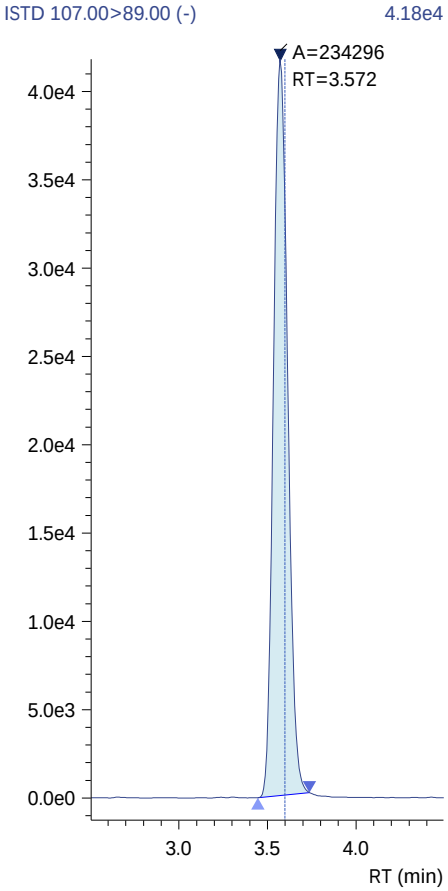
Conc 10.1062
R#1 27.94 (28.11)





Sodium Perchlorate-18O4_IS

Conc 1.0000



HS23071456 Longhorn GW Treatment Plant
BiWeekly Samples Cover Page

ALS WO# HS23071456

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HS23071235-01MS
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CCV
CCB
HS23071456-01DF2
HS23071456-01DF40
CCV1
CCB
CCV
CCB

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WorkOrder: HS23071456

Longhorn GW Treatment Plant Bi-Weekly Samples

Bhate Environmental Associates, Inc.

Marcia Olive
445 Union Blvd Ste 129
Lakewood CO 80228

08-Aug-2023

HS23071456 Longhorn GW Treatment Plant BiWeekly Samples Final

ALS WO# HS23071456

10450 Stancliff Rd. Suite 210
Houston, TX 77099
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August 04, 2023

Marcia Olive
Bhate Environmental Associates, Inc.
445 Union Blvd Ste 129
Lakewood, CO 80228

Work Order: **HS23071456**

Laboratory Results for: **Longhorn GW Treatment Plant Bi-Weekly Samples**

Dear Marcia Olive,

ALS Environmental received 2 sample(s) on Jul 25, 2023 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: JUMOKE.LAWAL
James Guin

ALS Houston, US Date: 04-Aug-23

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
Work Order: HS23071456

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS23071456-01	LH18/24-SP650_072423	Water		24-Jul-2023 13:00	25-Jul-2023 09:25	☐
HS23071456-02	Trip Blank	Water	CG-041923-828	24-Jul-2023 00:00	25-Jul-2023 09:25	☐

ALS Houston, US Date: 04-Aug-23

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
Work Order: HS23071456

GCMS Volatiles by Method SW8260

Batch ID: R443065

Sample ID: CCV

• Acetone exceeded %D recovery limits for CCV .Samples are ND for this compound.

Sample ID: HS23071846-06MS

• MS and MSD are for an unrelated sample

Sample ID: VLCSW-230802

• 4-Isopropyltoluene, Hexachlorobutadiene and sec-Butylbenzene exceeded QC limits for LCS. Samples are ND for these compounds.

WetChemistry by Method SW9056

Batch ID: R442490

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

ALS Houston, US Date: 04-Aug-23

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
Sample ID: LH18/24-SP650_072423
Collection Date: 24-Jul-2023 13:00

ANALYTICAL REPORT
WorkOrder:HS23071456
Lab ID:HS23071456-01
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	03-Aug-2023 01:04
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	03-Aug-2023 01:04
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	03-Aug-2023 01:04
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	03-Aug-2023 01:04
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	03-Aug-2023 01:04
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	03-Aug-2023 01:04
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	03-Aug-2023 01:04
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	03-Aug-2023 01:04
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	03-Aug-2023 01:04
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	03-Aug-2023 01:04
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	03-Aug-2023 01:04
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	03-Aug-2023 01:04
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	03-Aug-2023 01:04
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	03-Aug-2023 01:04
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	03-Aug-2023 01:04
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	03-Aug-2023 01:04
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	03-Aug-2023 01:04
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	03-Aug-2023 01:04
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	03-Aug-2023 01:04
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	03-Aug-2023 01:04
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	03-Aug-2023 01:04
2-Butanone	0.50	U	0.50	0.50	2.0	ug/L	1	03-Aug-2023 01:04
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	03-Aug-2023 01:04
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	03-Aug-2023 01:04
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	ug/L	1	03-Aug-2023 01:04
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	03-Aug-2023 01:04
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	03-Aug-2023 01:04
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	03-Aug-2023 01:04
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	03-Aug-2023 01:04
Bromobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	03-Aug-2023 01:04
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	03-Aug-2023 01:04
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	03-Aug-2023 01:04
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	03-Aug-2023 01:04
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	03-Aug-2023 01:04
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	03-Aug-2023 01:04
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	03-Aug-2023 01:04
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	03-Aug-2023 01:04
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	03-Aug-2023 01:04
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	03-Aug-2023 01:04

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 04-Aug-23

Client: Bhate Environmental Associates, Inc.
ANALYTICAL REPORT
Project: Longhorn GW Treatment Plant Bi-Weekly Samples WorkOrder:HS23071456
Sample ID: LH18/24-SP650_072423 Lab ID:HS23071456-01
Collection Date: 24-Jul-2023 13:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	03-Aug-2023 01:04
cis-1,2-Dichloroethene	**3.0**		**0.20**	**0.50**	**1.0**	**ug/L**	1	03-Aug-2023 01:04
cis-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	03-Aug-2023 01:04
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	03-Aug-2023 01:04
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	03-Aug-2023 01:04
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	03-Aug-2023 01:04
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	03-Aug-2023 01:04
Hexachlorobutadiene	0.50	U	1.0	0.50	1.0	ug/L	1	03-Aug-2023 01:04
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	03-Aug-2023 01:04
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	03-Aug-2023 01:04
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	03-Aug-2023 01:04
n-Butylbenzene	0.50	U	0.40	0.50	1.0	ug/L	1	03-Aug-2023 01:04
n-Propylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	03-Aug-2023 01:04
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	03-Aug-2023 01:04
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	03-Aug-2023 01:04
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	03-Aug-2023 01:04
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	03-Aug-2023 01:04
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	03-Aug-2023 01:04
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	03-Aug-2023 01:04
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	03-Aug-2023 01:04
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	03-Aug-2023 01:04
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	03-Aug-2023 01:04
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	03-Aug-2023 01:04
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	03-Aug-2023 01:04
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	03-Aug-2023 01:04
Surr: 1,2-Dichloroethane-d4	*109*			**0**	*81-118*	*%REC*	*1*	*03-Aug-2023 01:04*
Surr: 4-Bromofluorobenzene	*92.9*			**0**	*85-114*	*%REC*	*1*	*03-Aug-2023 01:04*
Surr: Dibromofluoromethane	*105*			**0**	*80-119*	*%REC*	*1*	*03-Aug-2023 01:04*
Surr: Toluene-d8	*104*			**0**	*89-112*	*%REC*	*1*	*03-Aug-2023 01:04*
ANIONS BY SW9056A		**Method:SW9056**						Analyst: TH
Chloride	**1,270**		**8.00**	**10.0**	**20.0**	**mg/L**	40	27-Jul-2023 03:45
Sulfate	**59.2**		**0.400**	**0.500**	**1.00**	**mg/L**	2	27-Jul-2023 03:40

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 04-Aug-23

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Longhorn GW Treatment Plant Bi-Weekly Samples WorkOrder:HS23071456
Sample ID: Trip Blank Lab ID:HS23071456-02
Collection Date: 24-Jul-2023 00:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	03-Aug-2023 00:41
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	03-Aug-2023 00:41
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	03-Aug-2023 00:41
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	03-Aug-2023 00:41
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	03-Aug-2023 00:41
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	03-Aug-2023 00:41
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	03-Aug-2023 00:41
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	03-Aug-2023 00:41
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	03-Aug-2023 00:41
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	03-Aug-2023 00:41
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	03-Aug-2023 00:41
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	03-Aug-2023 00:41
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	03-Aug-2023 00:41
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	03-Aug-2023 00:41
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	03-Aug-2023 00:41
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	03-Aug-2023 00:41
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	03-Aug-2023 00:41
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	03-Aug-2023 00:41
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	03-Aug-2023 00:41
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	03-Aug-2023 00:41
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	03-Aug-2023 00:41
2-Butanone	0.50	U	0.50	0.50	2.0	ug/L	1	03-Aug-2023 00:41
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	03-Aug-2023 00:41
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	03-Aug-2023 00:41
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	ug/L	1	03-Aug-2023 00:41
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	03-Aug-2023 00:41
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	03-Aug-2023 00:41
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	03-Aug-2023 00:41
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	03-Aug-2023 00:41
Bromobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	03-Aug-2023 00:41
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	03-Aug-2023 00:41
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	03-Aug-2023 00:41
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	03-Aug-2023 00:41
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	03-Aug-2023 00:41
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	03-Aug-2023 00:41
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	03-Aug-2023 00:41
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	03-Aug-2023 00:41
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	03-Aug-2023 00:41
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	03-Aug-2023 00:41

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 04-Aug-23

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Longhorn GW Treatment Plant Bi-Weekly Samples WorkOrder:HS23071456
Sample ID: Trip Blank Lab ID:HS23071456-02
Collection Date: 24-Jul-2023 00:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	03-Aug-2023 00:41
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	03-Aug-2023 00:41
cis-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	03-Aug-2023 00:41
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	03-Aug-2023 00:41
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	03-Aug-2023 00:41
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	03-Aug-2023 00:41
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	03-Aug-2023 00:41
Hexachlorobutadiene	0.50	U	1.0	0.50	1.0	ug/L	1	03-Aug-2023 00:41
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	03-Aug-2023 00:41
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	03-Aug-2023 00:41
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	03-Aug-2023 00:41
n-Butylbenzene	0.50	U	0.40	0.50	1.0	ug/L	1	03-Aug-2023 00:41
n-Propylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	03-Aug-2023 00:41
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	03-Aug-2023 00:41
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	03-Aug-2023 00:41
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	03-Aug-2023 00:41
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	03-Aug-2023 00:41
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	03-Aug-2023 00:41
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	03-Aug-2023 00:41
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	03-Aug-2023 00:41
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	03-Aug-2023 00:41
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	03-Aug-2023 00:41
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	03-Aug-2023 00:41
Trichlorofluoromethane	**0.95**	J	**0.30**	**0.50**	**1.0**	**ug/L**	1	03-Aug-2023 00:41
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	03-Aug-2023 00:41
Surr: 1,2-Dichloroethane-d4	*112*			**0**	*81-118*	*%REC*	*1*	*03-Aug-2023 00:41*
Surr: 4-Bromofluorobenzene	*101*			**0**	*85-114*	*%REC*	*1*	*03-Aug-2023 00:41*
Surr: Dibromofluoromethane	*102*			**0**	*80-119*	*%REC*	*1*	*03-Aug-2023 00:41*
Surr: Toluene-d8	*103*			**0**	*89-112*	*%REC*	*1*	*03-Aug-2023 00:41*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 04-Aug-23

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder: HS23071456

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R442490 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Water	
HS23071456-01	LH18/24-SP650_072423	24 Jul 2023 13:00			27 Jul 2023 03:45	40
HS23071456-01	LH18/24-SP650_072423	24 Jul 2023 13:00			27 Jul 2023 03:40	2
Batch ID: R443065 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS23071456-01	LH18/24-SP650_072423	24 Jul 2023 13:00			03 Aug 2023 01:04	1
HS23071456-02	Trip Blank	24 Jul 2023 00:00			03 Aug 2023 00:41	1

ALS Houston, US Date: 04-Aug-23

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder: HS23071456

QC BATCH REPORT

Batch ID: R443065 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-230802** Units: **ug/L** Analysis Date: **02-Aug-2023 23:56**
Client ID: Run ID: **VOA9_443065** SeqNo: **7469228** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	0.50	1.0								U
1,1,1-Trichloroethane	0.50	1.0								U
1,1,2,2-Tetrachloroethane	0.50	1.0								U
1,1,2-Trichloroethane	0.50	1.0								U
1,1-Dichloroethane	0.50	1.0								U
1,1-Dichloroethene	0.50	1.0								U
1,1-Dichloropropene	0.50	1.0								U
1,2,3-Trichlorobenzene	0.50	1.0								U
1,2,3-Trichloropropane	0.50	1.0								U
1,2,4-Trichlorobenzene	0.50	1.0								U
1,2,4-Trimethylbenzene	0.50	1.0								U
1,2-Dibromo-3-chloropropane	0.50	1.0								U
1,2-Dibromoethane	0.50	1.0								U
1,2-Dichlorobenzene	0.50	1.0								U
1,2-Dichloroethane	0.50	1.0								U
1,2-Dichloropropane	0.50	1.0								U
1,3,5-Trimethylbenzene	0.50	1.0								U
1,3-Dichlorobenzene	0.50	1.0								U
1,3-Dichloropropane	0.50	1.0								U
1,4-Dichlorobenzene	0.50	1.0								U
2,2-Dichloropropane	0.50	1.0								U
2-Butanone	0.50	2.0								U
2-Chlorotoluene	0.50	1.0								U
2-Hexanone	2.0	2.0								U
4-Chlorotoluene	0.50	1.0								U
4-Isopropyltoluene	0.50	1.0								U
4-Methyl-2-pentanone	2.0	2.0								U
Acetone	2.0	2.0								U
Benzene	0.50	1.0								U
Bromobenzene	0.50	1.0								U
Bromochloromethane	0.50	1.0								U
Bromodichloromethane	0.50	1.0								U
Bromoform	0.50	1.0								U
Bromomethane	0.50	1.0								U

ALS Houston, US Date: 04-Aug-23

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder: HS23071456

QC BATCH REPORT

Batch ID: R443065 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-230802** Units: **ug/L** Analysis Date: **02-Aug-2023 23:56**
Client ID: Run ID: **VOA9_443065** SeqNo: **7469228** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	2.0	2.0								U
Carbon tetrachloride	0.50	1.0								U
Chlorobenzene	0.50	1.0								U
Chloroethane	0.50	1.0								U
Chloroform	0.50	1.0								U
Chloromethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
cis-1,3-Dichloropropene	0.50	1.0								U
Dibromochloromethane	0.50	1.0								U
Dibromomethane	0.50	1.0								U
Dichlorodifluoromethane	0.50	1.0								U
Ethylbenzene	0.50	1.0								U
Hexachlorobutadiene	0.50	1.0								U
Isopropylbenzene	0.50	1.0								U
m,p-Xylene	1.0	2.0								U
Methylene chloride	2.0	2.0								U
Naphthalene	0.50	1.0								U
n-Butylbenzene	0.50	1.0								U
n-Propylbenzene	0.50	1.0								U
o-Xylene	0.50	1.0								U
sec-Butylbenzene	0.50	1.0								U
Styrene	0.50	1.0								U
tert-Butylbenzene	0.50	1.0								U
Tetrachloroethene	0.50	1.0								U
Toluene	0.50	1.0								U
trans-1,2-Dichloroethene	0.50	1.0								U
trans-1,3-Dichloropropene	0.50	1.0								U
Trichloroethene	0.50	1.0								U
Trichlorofluoromethane	0.50	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*56.03*	*1.0*	*50*	*0*	*112*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*47.51*	*1.0*	*50*	*0*	*95.0*	*85 - 114*				
Surr: Dibromofluoromethane	*50.33*	*1.0*	*50*	*0*	*101*	*80 - 119*				
Surr: Toluene-d8	*52.82*	*1.0*	*50*	*0*	*106*	*89 - 112*				

ALS Houston, US Date: 04-Aug-23

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder: HS23071456

QC BATCH REPORT

Batch ID: R443065 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-230802** Units: **ug/L** Analysis Date: **02-Aug-2023 23:12**
Client ID: Run ID: **VOA9_443065** SeqNo: **7469227** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	18.98	1.0	20	0	94.9	78 - 124				
1,1,1-Trichloroethane	21.76	1.0	20	0	109	74 - 131				
1,1,2,2-Tetrachloroethane	16.64	1.0	20	0	83.2	71 - 121				
1,1,2-Trichloroethane	18.79	1.0	20	0	94.0	80 - 119				
1,1-Dichloroethane	20.58	1.0	20	0	103	77 - 125				
1,1-Dichloroethene	20.88	1.0	20	0	104	71 - 131				
1,1-Dichloropropene	21.58	1.0	20	0	108	78 - 125				
1,2,3-Trichlorobenzene	19.4	1.0	20	0	97.0	69 - 129				
1,2,3-Trichloropropane	18.23	1.0	20	0	91.2	73 - 122				
1,2,4-Trichlorobenzene	19.93	1.0	20	0	99.6	69 - 130				
1,2,4-Trimethylbenzene	22.24	1.0	20	0	111	76 - 124				
1,2-Dibromo-3-chloropropane	16.44	1.0	20	0	82.2	62 - 128				
1,2-Dibromoethane	19.39	1.0	20	0	97.0	77 - 121				
1,2-Dichlorobenzene	19.74	1.0	20	0	98.7	80 - 119				
1,2-Dichloroethane	21.16	1.0	20	0	106	73 - 128				
1,2-Dichloropropane	19.54	1.0	20	0	97.7	78 - 122				
1,3,5-Trimethylbenzene	21.43	1.0	20	0	107	75 - 124				
1,3-Dichlorobenzene	19.87	1.0	20	0	99.4	80 - 119				
1,3-Dichloropropane	19.58	1.0	20	0	97.9	80 - 119				
1,4-Dichlorobenzene	18.68	1.0	20	0	93.4	79 - 118				
2,2-Dichloropropane	18.96	1.0	20	0	94.8	60 - 139				
2-Butanone	42.05	2.0	40	0	105	56 - 143				
2-Chlorotoluene	20.55	1.0	20	0	103	79 - 122				
2-Hexanone	41.43	2.0	40	0	104	57 - 139				
4-Chlorotoluene	21.1	1.0	20	0	105	78 - 122				
4-Isopropyltoluene	25.94	1.0	20	0	130	77 - 127				S
4-Methyl-2-pentanone	38.8	2.0	40	0	97.0	67 - 130				
Acetone	57.1	2.0	40	0	143	39 - 160				
Benzene	19.93	1.0	20	0	99.6	79 - 120				
Bromobenzene	19.39	1.0	20	0	96.9	80 - 120				
Bromochloromethane	19.04	1.0	20	0	95.2	78 - 123				
Bromodichloromethane	18.94	1.0	20	0	94.7	79 - 125				
Bromoform	18.18	1.0	20	0	90.9	66 - 130				
Bromomethane	20.19	1.0	20	0	101	53 - 141				

ALS Houston, US Date: 04-Aug-23

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder: HS23071456

QC BATCH REPORT

Batch ID: R443065 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-230802** Units: **ug/L** Analysis Date: **02-Aug-2023 23:12**
Client ID: Run ID: **VOA9_443065** SeqNo: **7469227** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	40.44	2.0	40	0	101	64 - 133				
Carbon tetrachloride	21.07	1.0	20	0	105	72 - 136				
Chlorobenzene	20.14	1.0	20	0	101	82 - 118				
Chloroethane	19.4	1.0	20	0	97.0	60 - 138				
Chloroform	20.68	1.0	20	0	103	79 - 124				
Chloromethane	21.58	1.0	20	0	108	50 - 139				
cis-1,2-Dichloroethene	22.02	1.0	20	0	110	78 - 123				
cis-1,3-Dichloropropene	17.85	1.0	20	0	89.3	75 - 124				
Dibromochloromethane	18.6	1.0	20	0	93.0	74 - 126				
Dibromomethane	20.32	1.0	20	0	102	79 - 123				
Dichlorodifluoromethane	21.06	1.0	20	0	105	32 - 152				
Ethylbenzene	20.55	1.0	20	0	103	79 - 121				
Hexachlorobutadiene	27.43	1.0	20	0	137	66 - 134				S
Isopropylbenzene	23.35	1.0	20	0	117	72 - 131				
m,p-Xylene	45.09	2.0	40	0	113	80 - 121				
Methylene chloride	21.07	2.0	20	0	105	74 - 124				
Naphthalene	17.82	1.0	20	0	89.1	61 - 128				
n-Butylbenzene	20.4	1.0	20	0	102	75 - 128				
n-Propylbenzene	19.98	1.0	20	0	99.9	76 - 126				
o-Xylene	22.29	1.0	20	0	111	78 - 122				
sec-Butylbenzene	25.87	1.0	20	0	129	77 - 126				S
Styrene	21.97	1.0	20	0	110	78 - 123				
tert-Butylbenzene	22.17	1.0	20	0	111	78 - 124				
Tetrachloroethene	20.22	1.0	20	0	101	74 - 129				
Toluene	20.47	1.0	20	0	102	80 - 121				
trans-1,2-Dichloroethene	20.39	1.0	20	0	102	75 - 124				
trans-1,3-Dichloropropene	18.07	1.0	20	0	90.4	73 - 127				
Trichloroethene	20.96	1.0	20	0	105	79 - 123				
Trichlorofluoromethane	22.42	1.0	20	0	112	65 - 141				
Vinyl chloride	19.08	1.0	20	0	95.4	58 - 137				
Surr: 1,2-Dichloroethane-d4	*58.03*	*1.0*	*50*	*0*	*116*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*54.53*	*1.0*	*50*	*0*	*109*	*85 - 114*				
Surr: Dibromofluoromethane	*54.35*	*1.0*	*50*	*0*	*109*	*80 - 119*				
Surr: Toluene-d8	*49.6*	*1.0*	*50*	*0*	*99.2*	*89 - 112*				

ALS Houston, US Date: 04-Aug-23

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder: HS23071456

QC BATCH REPORT

Batch ID: R443065 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS23071846-06MS** Units: **ug/L** Analysis Date: **03-Aug-2023 02:33**
Client ID: Run ID: **VOA9_443065** SeqNo: **7469233** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	8.445	1.0	20	0	42.2	78 - 124				S
1,1,1-Trichloroethane	9.567	1.0	20	0	47.8	74 - 131				S
1,1,2,2-Tetrachloroethane	8.117	1.0	20	0	40.6	71 - 121				S
1,1,2-Trichloroethane	8.601	1.0	20	0	43.0	80 - 119				S
1,1-Dichloroethane	8.776	1.0	20	0	43.9	77 - 125				S
1,1-Dichloroethene	8.793	1.0	20	0	44.0	71 - 131				S
1,1-Dichloropropene	10.08	1.0	20	0	50.4	78 - 125				S
1,2,3-Trichlorobenzene	8.108	1.0	20	0	40.5	69 - 129				S
1,2,3-Trichloropropane	7.594	1.0	20	0	38.0	73 - 122				S
1,2,4-Trichlorobenzene	7.979	1.0	20	0	39.9	69 - 130				S
1,2,4-Trimethylbenzene	10.22	1.0	20	0	51.1	76 - 124				S
1,2-Dibromo-3-chloropropane	6.858	1.0	20	0	34.3	62 - 128				S
1,2-Dibromoethane	8.632	1.0	20	0	43.2	77 - 121				S
1,2-Dichlorobenzene	8.729	1.0	20	0	43.6	80 - 119				S
1,2-Dichloroethane	9.846	1.0	20	0	49.2	73 - 128				S
1,2-Dichloropropane	8.825	1.0	20	0	44.1	78 - 122				S
1,3,5-Trimethylbenzene	9.353	1.0	20	0	46.8	75 - 124				S
1,3-Dichlorobenzene	8.806	1.0	20	0	44.0	80 - 119				S
1,3-Dichloropropane	8.764	1.0	20	0	43.8	80 - 119				S
1,4-Dichlorobenzene	8.496	1.0	20	0	42.5	79 - 118				S
2,2-Dichloropropane	7.052	1.0	20	0	35.3	60 - 139				S
2-Butanone	14.59	2.0	40	0	36.5	56 - 143				S
2-Chlorotoluene	9.305	1.0	20	0	46.5	79 - 122				S
2-Hexanone	15.99	2.0	40	0	40.0	57 - 139				S
4-Chlorotoluene	9.092	1.0	20	0	45.5	78 - 122				S
4-Isopropyltoluene	11.38	1.0	20	0	56.9	77 - 127				S
4-Methyl-2-pentanone	16.16	2.0	40	0	40.4	67 - 130				S
Acetone	14.01	2.0	40	0	35.0	39 - 160				S
Benzene	8.86	1.0	20	0	44.3	79 - 120				S
Bromobenzene	8.645	1.0	20	0	43.2	80 - 120				S
Bromochloromethane	8.047	1.0	20	0	40.2	78 - 123				S
Bromodichloromethane	8.64	1.0	20	0	43.2	79 - 125				S
Bromoform	8.065	1.0	20	0	40.3	66 - 130				S
Bromomethane	7.786	1.0	20	0	38.9	53 - 141				S

ALS Houston, US Date: 04-Aug-23

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder: HS23071456

QC BATCH REPORT

Batch ID: R443065 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS23071846-06MS** Units: **ug/L** Analysis Date: **03-Aug-2023 02:33**
Client ID: Run ID: **VOA9_443065** SeqNo: **7469233** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	16.37	2.0	40	0	40.9	64 - 133				S
Carbon tetrachloride	8.789	1.0	20	0	43.9	72 - 136				S
Chlorobenzene	9.27	1.0	20	0	46.4	82 - 118				S
Chloroethane	8.178	1.0	20	0	40.9	60 - 138				S
Chloroform	9.28	1.0	20	0	46.4	79 - 124				S
Chloromethane	8.928	1.0	20	0	44.6	50 - 139				S
cis-1,2-Dichloroethene	9.233	1.0	20	0	46.2	78 - 123				S
cis-1,3-Dichloropropene	8.618	1.0	20	0	43.1	75 - 124				S
Dibromochloromethane	7.892	1.0	20	0	39.5	74 - 126				S
Dibromomethane	8.854	1.0	20	0	44.3	79 - 123				S
Dichlorodifluoromethane	8.43	1.0	20	0	42.2	32 - 152				
Ethylbenzene	9.418	1.0	20	0	47.1	79 - 121				S
Hexachlorobutadiene	12.31	1.0	20	0	61.5	66 - 134				S
Isopropylbenzene	10.41	1.0	20	0	52.0	72 - 131				S
m,p-Xylene	19.75	2.0	40	0	49.4	80 - 121				S
Methylene chloride	8.388	2.0	20	0	41.9	74 - 124				S
Naphthalene	7.977	1.0	20	0	39.9	61 - 128				S
n-Butylbenzene	10.33	1.0	20	0	51.6	75 - 128				S
n-Propylbenzene	9.642	1.0	20	0	48.2	76 - 126				S
o-Xylene	10.2	1.0	20	0	51.0	78 - 122				S
sec-Butylbenzene	11.45	1.0	20	0	57.2	77 - 126				S
Styrene	10.83	1.0	20	0	54.1	78 - 123				S
tert-Butylbenzene	9.615	1.0	20	0	48.1	78 - 124				S
Tetrachloroethene	11	1.0	20	0	55.0	74 - 129				S
Toluene	9.504	1.0	20	0	47.5	80 - 121				S
trans-1,2-Dichloroethene	8.53	1.0	20	0	42.6	75 - 124				S
trans-1,3-Dichloropropene	7.471	1.0	20	0	37.4	73 - 127				S
Trichloroethene	13.3	1.0	20	4.322	44.9	79 - 123				S
Trichlorofluoromethane	10.57	1.0	20	0	52.9	65 - 141				S
Vinyl chloride	7.809	1.0	20	0	39.0	58 - 137				S
Surr: 1,2-Dichloroethane-d4	*58.7*	*1.0*	*50*	*0*	*117*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*52*	*1.0*	*50*	*0*	*104*	*85 - 114*				
Surr: Dibromofluoromethane	*52.57*	*1.0*	*50*	*0*	*105*	*80 - 119*				
Surr: Toluene-d8	*52.69*	*1.0*	*50*	*0*	*105*	*89 - 112*				

ALS Houston, US Date: 04-Aug-23

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder: HS23071456

QC BATCH REPORT

Batch ID: R443065 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS23071846-06MSD** Units: **ug/L** Analysis Date: **03-Aug-2023 02:56**
Client ID: Run ID: **VOA9_443065** SeqNo: **7469234** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	8.553	1.0	20	0	42.8	78 - 124	8.445	1.27	20	S
1,1,1-Trichloroethane	9.214	1.0	20	0	46.1	74 - 131	9.567	3.76	20	S
1,1,2,2-Tetrachloroethane	7.764	1.0	20	0	38.8	71 - 121	8.117	4.45	20	S
1,1,2-Trichloroethane	8.311	1.0	20	0	41.6	80 - 119	8.601	3.43	20	S
1,1-Dichloroethane	8.183	1.0	20	0	40.9	77 - 125	8.776	7	20	S
1,1-Dichloroethene	8.509	1.0	20	0	42.5	71 - 131	8.793	3.27	20	S
1,1-Dichloropropene	9.57	1.0	20	0	47.9	78 - 125	10.08	5.16	20	S
1,2,3-Trichlorobenzene	8.14	1.0	20	0	40.7	69 - 129	8.108	0.399	20	S
1,2,3-Trichloropropane	7.936	1.0	20	0	39.7	73 - 122	7.594	4.4	20	S
1,2,4-Trichlorobenzene	7.825	1.0	20	0	39.1	69 - 130	7.979	1.94	20	S
1,2,4-Trimethylbenzene	10.12	1.0	20	0	50.6	76 - 124	10.22	0.938	20	S
1,2-Dibromo-3-chloropropane	6.746	1.0	20	0	33.7	62 - 128	6.858	1.65	20	S
1,2-Dibromoethane	8.828	1.0	20	0	44.1	77 - 121	8.632	2.24	20	S
1,2-Dichlorobenzene	8.477	1.0	20	0	42.4	80 - 119	8.729	2.94	20	S
1,2-Dichloroethane	9.917	1.0	20	0	49.6	73 - 128	9.846	0.716	20	S
1,2-Dichloropropane	8.21	1.0	20	0	41.1	78 - 122	8.825	7.21	20	S
1,3,5-Trimethylbenzene	9.38	1.0	20	0	46.9	75 - 124	9.353	0.292	20	S
1,3-Dichlorobenzene	8.833	1.0	20	0	44.2	80 - 119	8.806	0.313	20	S
1,3-Dichloropropane	8.612	1.0	20	0	43.1	80 - 119	8.764	1.75	20	S
1,4-Dichlorobenzene	8.47	1.0	20	0	42.3	79 - 118	8.496	0.308	20	S
2,2-Dichloropropane	6.381	1.0	20	0	31.9	60 - 139	7.052	9.99	20	S
2-Butanone	15.21	2.0	40	0	38.0	56 - 143	14.59	4.14	20	S
2-Chlorotoluene	9.327	1.0	20	0	46.6	79 - 122	9.305	0.234	20	S
2-Hexanone	16.63	2.0	40	0	41.6	57 - 139	15.99	3.91	20	S
4-Chlorotoluene	9.368	1.0	20	0	46.8	78 - 122	9.092	2.99	20	S
4-Isopropyltoluene	11.24	1.0	20	0	56.2	77 - 127	11.38	1.28	20	S
4-Methyl-2-pentanone	16.65	2.0	40	0	41.6	67 - 130	16.16	2.99	20	S
Acetone	12.91	2.0	40	0	32.3	39 - 160	14.01	8.18	20	S
Benzene	8.9	1.0	20	0	44.5	79 - 120	8.86	0.456	20	S
Bromobenzene	8.511	1.0	20	0	42.6	80 - 120	8.645	1.55	20	S
Bromochloromethane	8.43	1.0	20	0	42.1	78 - 123	8.047	4.65	20	S
Bromodichloromethane	8.405	1.0	20	0	42.0	79 - 125	8.64	2.75	20	S
Bromoform	7.705	1.0	20	0	38.5	66 - 130	8.065	4.57	20	S
Bromomethane	7.107	1.0	20	0	35.5	53 - 141	7.786	9.12	20	S

ALS Houston, US Date: 04-Aug-23

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder: HS23071456

QC BATCH REPORT

Batch ID: R443065 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS23071846-06MSD** Units: **ug/L** Analysis Date: **03-Aug-2023 02:56**
Client ID: Run ID: **VOA9_443065** SeqNo: **7469234** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	15.34	2.0	40	0	38.4	64 - 133	16.37	6.5	20	S
Carbon tetrachloride	8.69	1.0	20	0	43.5	72 - 136	8.789	1.13	20	S
Chlorobenzene	9.249	1.0	20	0	46.2	82 - 118	9.27	0.227	20	S
Chloroethane	7.756	1.0	20	0	38.8	60 - 138	8.178	5.3	20	S
Chloroform	8.867	1.0	20	0	44.3	79 - 124	9.28	4.55	20	S
Chloromethane	8.227	1.0	20	0	41.1	50 - 139	8.928	8.18	20	S
cis-1,2-Dichloroethene	8.597	1.0	20	0	43.0	78 - 123	9.233	7.13	20	S
cis-1,3-Dichloropropene	8.344	1.0	20	0	41.7	75 - 124	8.618	3.23	20	S
Dibromochloromethane	8.025	1.0	20	0	40.1	74 - 126	7.892	1.68	20	S
Dibromomethane	8.647	1.0	20	0	43.2	79 - 123	8.854	2.37	20	S
Dichlorodifluoromethane	7.682	1.0	20	0	38.4	32 - 152	8.43	9.28	20	
Ethylbenzene	9.112	1.0	20	0	45.6	79 - 121	9.418	3.3	20	S
Hexachlorobutadiene	11.12	1.0	20	0	55.6	66 - 134	12.31	10.2	20	S
Isopropylbenzene	10.07	1.0	20	0	50.3	72 - 131	10.41	3.33	20	S
m,p-Xylene	18.92	2.0	40	0	47.3	80 - 121	19.75	4.31	20	S
Methylene chloride	8.258	2.0	20	0	41.3	74 - 124	8.388	1.57	20	S
Naphthalene	8.307	1.0	20	0	41.5	61 - 128	7.977	4.05	20	S
n-Butylbenzene	9.768	1.0	20	0	48.8	75 - 128	10.33	5.56	20	S
n-Propylbenzene	9.711	1.0	20	0	48.6	76 - 126	9.642	0.712	20	S
o-Xylene	9.511	1.0	20	0	47.6	78 - 122	10.2	6.98	20	S
sec-Butylbenzene	11.33	1.0	20	0	56.6	77 - 126	11.45	1.06	20	S
Styrene	8.996	1.0	20	0	45.0	78 - 123	10.83	18.5	20	S
tert-Butylbenzene	9.504	1.0	20	0	47.5	78 - 124	9.615	1.16	20	S
Tetrachloroethene	10.91	1.0	20	0	54.6	74 - 129	11	0.827	20	S
Toluene	9.472	1.0	20	0	47.4	80 - 121	9.504	0.336	20	S
trans-1,2-Dichloroethene	7.908	1.0	20	0	39.5	75 - 124	8.53	7.57	20	S
trans-1,3-Dichloropropene	6.904	1.0	20	0	34.5	73 - 127	7.471	7.89	20	S
Trichloroethene	12.63	1.0	20	4.322	41.5	79 - 123	13.3	5.16	20	S
Trichlorofluoromethane	9.718	1.0	20	0	48.6	65 - 141	10.57	8.41	20	S
Vinyl chloride	7.621	1.0	20	0	38.1	58 - 137	7.809	2.43	20	S
Surr: 1,2-Dichloroethane-d4	*57.81*	*1.0*	*50*	*0*	*116*	*81 - 118*	*58.7*	*1.53*	*20*	
Surr: 4-Bromofluorobenzene	*51.67*	*1.0*	*50*	*0*	*103*	*85 - 114*	*52*	*0.647*	*20*	
Surr: Dibromofluoromethane	*51.84*	*1.0*	*50*	*0*	*104*	*80 - 119*	*52.57*	*1.4*	*20*	
Surr: Toluene-d8	*53.54*	*1.0*	*50*	*0*	*107*	*89 - 112*	*52.69*	*1.59*	*20*	

ALS Houston, US Date: 04-Aug-23

Client:	Bhate Environmental Associates, Inc.
Project:	Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder:	HS23071456

QC BATCH REPORT

Batch ID:	**R443065 (0)**	**Instrument:**	**VOA9**	**Method:**	**VOLATILES ORGANICS BY METHOD 8260C**

The following samples were analyzed in this batch: HS23071456-01 HS23071456-02

ALS Houston, US Date: 04-Aug-23

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder: HS23071456

QC BATCH REPORT

Batch ID: R442490 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MBLK Sample ID: **MBLK** Units: **mg/L** Analysis Date: **27-Jul-2023 01:26**
Client ID: Run ID: **ICS-Integrion_442490** SeqNo: **7455143** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	0.250	0.500								U
Sulfate	0.250	0.500								U

LCS Sample ID: **LCS** Units: **mg/L** Analysis Date: **27-Jul-2023 01:44**
Client ID: Run ID: **ICS-Integrion_442490** SeqNo: **7455144** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	20.22	0.500	20	0	101	80 - 120				
Sulfate	19.48	0.500	20	0	97.4	80 - 120				

MS Sample ID: **HS23071235-01MS** Units: **mg/L** Analysis Date: **27-Jul-2023 01:55**
Client ID: Run ID: **ICS-Integrion_442490** SeqNo: **7455146** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	44.66	0.500	10	35.87	87.9	80 - 120				
Sulfate	24.15	0.500	10	16.07	80.8	80 - 120				

MSD Sample ID: **HS23071235-01MSD** Units: **mg/L** Analysis Date: **27-Jul-2023 02:01**
Client ID: Run ID: **ICS-Integrion_442490** SeqNo: **7455147** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	44.77	0.500	10	35.87	89.0	80 - 120	44.66	0.239	20	
Sulfate	24.27	0.500	10	16.07	82.0	80 - 120	24.15	0.509	20	

The following samples were analyzed in this batch: HS23071456-01

ALS Houston, US Date: 04-Aug-23

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder: **HS23071456**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	88-00356	27-Mar-2024
California	2919; 2024	30-Apr-2024
Dept of Defense	L23-358	31-May-2025
Florida	E87611-38	30-Jun-2024
Illinois	2000322023-11	30-Jun-2024
Kansas	E-10352 2023-2024	31-Jul-2024
Louisiana	03087-2023	30-Jun-2024
Maryland	343; 2023-2024	30-Jun-2024
North Carolina	624-2023	31-Dec-2023
North Dakota	R-193 2023-2024	30-Apr-2024
Oklahoma	2022-141	31-Aug-2023
Texas	T104704231-23-31	30-Apr-2024
Utah	TX026932023-14	31-Jul-2024

ALS Houston, US Date: 04-Aug-23

Sample Receipt Checklist

Work Order ID: HS23071456 **Date/Time Received:** 25-Jul-2023 09:25

Client Name: Bhate Environmental **Received by:** Corey Grandits

Completed By: /S/ Paresh M. Giga (eSignature) 25-Jul-2023 10:54 (Date/Time) **Reviewed by:** (eSignature) (Date/Time)

Matrices: **Water** Carrier name: **FedEx Priority Overnight**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:none
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	2.4C/2.3C U/C	IR31
Cooler(s)/Kit(s):	51117	
Date/Time sample(s) sent to storage:	7/25/23 11:00	

Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

CHAIN OF CUSTODY

Name Of Lab Shipping To: ALS 10450 Stancliff Rd. Suite 210, Houston, Tx. 77099 ATTN: Dane Wacasey

Project: BHATE
LONGHORN ARMY AMMN. PLANT (LHAAP)
GROUNDWATER TREATMENT PLANT (GWTP)
KARNACK, TEXAS

Project No. JVPCIBH.0001

Job: GROUNDWATER TREATMENT PLANT BI-WEEKLY SAMPLES

Prepared By: Scott Beesinger

P.O Number

HS23071456

Bhate Environmental Associates, Inc.
Longhorn GW Treatment Plant Bi-Weekly Samples

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: VOC	Analyses: CHLORIDE, SULFATE	Remarks (Preservatives, etc.)	Lab I.D.#
LH18/24-SP650_072423	Water	07/24/23 / 13:00		3	3		HCL	
LH18/24-SP650_072423	Water	07/24/23 / 13:00		1		1	NONE	
Trip Blank	Water	07/24/23		2	2		HCL	

Additional Remarks: **Standard TAT on all parameters**

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	07/24/23	13:30	CA	7-25-23	0725						

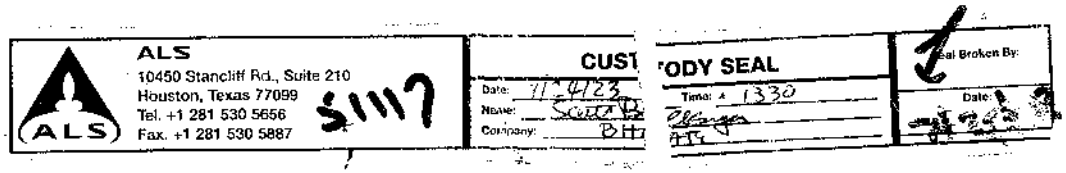
For Lab Use Only

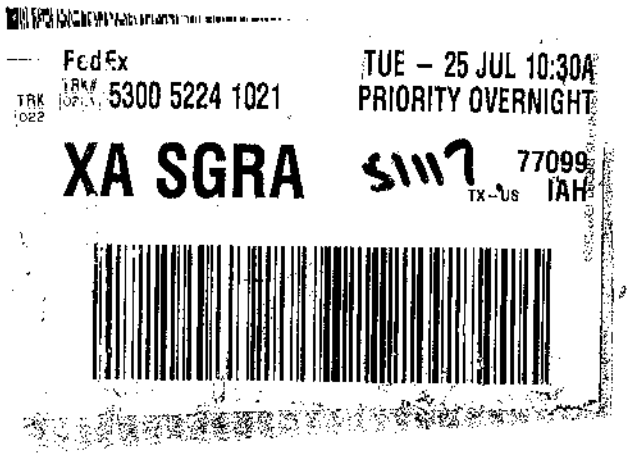
Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition

Remarks

9110 2.4°

(Word) S:\Forms\Chain of Custody - BiWeekly


ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887
SW7
CUST
Date: 11-4-23
Name:
Company:
ODY SEAL
Time: 1330
Seal Broken By:
Date:


FedEx
TRK 5300 5224 1021
TUE – 25 JUL 10:30A
PRIORITY OVERNIGHT
XA SGRA
SW7
77099
TX-US
IAH

HS23071456-MSVOA-SW8260

ALS WO# HS23071456

01247659

right solutions.
right partner.

Form 1

Organic Analysis Data Sheet

Volatiles by EPA 8260

Workorder

HS23071456

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Bi-Weekly Samples

08/07/2023

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder **HS23071456**

Volatiles by EPA 8260

HS23071456-01	Collected	Received	Matrix	Basis
LH18/24-SP650_072423	07/24/23 13:00	07/25/23 09:25	Water	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
1,1,1,2-Tetrachloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	08/03/23 01:04	VOA9_443065	V080210.D
1,1,1-Trichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	08/03/23 01:04	VOA9_443065	V080210.D
1,1,2,2-Tetrachloroethane	ug/L	1.0	U	0.50	1.0	1.0	1	08/03/23 01:04	VOA9_443065	V080210.D
1,1,2-Trichloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	08/03/23 01:04	VOA9_443065	V080210.D
1,1-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	08/03/23 01:04	VOA9_443065	V080210.D
1,1-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	08/03/23 01:04	VOA9_443065	V080210.D
1,1-Dichloropropene	ug/L	1.0	U	0.30	1.0	1.0	1	08/03/23 01:04	VOA9_443065	V080210.D
1,2,3-Trichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	08/03/23 01:04	VOA9_443065	V080210.D
1,2,3-Trichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	08/03/23 01:04	VOA9_443065	V080210.D
1,2,4-Trichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	08/03/23 01:04	VOA9_443065	V080210.D
1,2,4-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	08/03/23 01:04	VOA9_443065	V080210.D
1,2-Dibromo-3-chloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	08/03/23 01:04	VOA9_443065	V080210.D
1,2-Dibromoethane	ug/L	1.0	U	0.20	1.0	1.0	1	08/03/23 01:04	VOA9_443065	V080210.D
1,2-Dichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	08/03/23 01:04	VOA9_443065	V080210.D
1,2-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	08/03/23 01:04	VOA9_443065	V080210.D
1,2-Dichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	08/03/23 01:04	VOA9_443065	V080210.D
1,3,5-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	08/03/23 01:04	VOA9_443065	V080210.D
1,3-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	08/03/23 01:04	VOA9_443065	V080210.D
1,3-Dichloropropane	ug/L	1.0	U	0.30	1.0	1.0	1	08/03/23 01:04	VOA9_443065	V080210.D
1,4-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	08/03/23 01:04	VOA9_443065	V080210.D
2,2-Dichloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	08/03/23 01:04	VOA9_443065	V080210.D
2-Butanone	ug/L	2.0	U	0.50	2.0	2.0	1	08/03/23 01:04	VOA9_443065	V080210.D
2-Chlorotoluene	ug/L	1.0	U	0.30	1.0	1.0	1	08/03/23 01:04	VOA9_443065	V080210.D
2-Hexanone	ug/L	2.0	U	1.0	2.0	2.0	1	08/03/23 01:04	VOA9_443065	V080210.D
4-Chlorotoluene	ug/L	1.0	U	0.40	1.0	1.0	1	08/03/23 01:04	VOA9_443065	V080210.D
4-Isopropyltoluene	ug/L	1.0	U	0.30	1.0	1.0	1	08/03/23 01:04	VOA9_443065	V080210.D
4-Methyl-2-pentanone	ug/L	2.0	U	0.70	2.0	2.0	1	08/03/23 01:04	VOA9_443065	V080210.D
Acetone	ug/L	2.0	U	0.40	2.0	2.0	1	08/03/23 01:04	VOA9_443065	V080210.D
Benzene	ug/L	1.0	U	0.20	1.0	1.0	1	08/03/23 01:04	VOA9_443065	V080210.D
Bromobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	08/03/23 01:04	VOA9_443065	V080210.D
Bromochloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	08/03/23 01:04	VOA9_443065	V080210.D
Bromodichloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	08/03/23 01:04	VOA9_443065	V080210.D
Bromoform	ug/L	1.0	U	0.40	1.0	1.0	1	08/03/23 01:04	VOA9_443065	V080210.D

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder **HS23071456**

Volatiles by EPA 8260

HS23071456-01	Collected	Received	Matrix	Basis
LH18/24-SP650_072423	07/24/23 13:00	07/25/23 09:25	Water	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Bromomethane	ug/L	1.0	U	0.40	1.0	1.0	1	08/03/23 01:04	VOA9_443065	V080210.D
Carbon disulfide	ug/L	2.0	U	0.60	2.0	2.0	1	08/03/23 01:04	VOA9_443065	V080210.D
Carbon tetrachloride	ug/L	1.0	U	0.50	1.0	1.0	1	08/03/23 01:04	VOA9_443065	V080210.D
Chlorobenzene	ug/L	1.0	U	0.30	1.0	1.0	1	08/03/23 01:04	VOA9_443065	V080210.D
Chloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	08/03/23 01:04	VOA9_443065	V080210.D
Chloroform	ug/L	1.0	U	0.20	1.0	1.0	1	08/03/23 01:04	VOA9_443065	V080210.D
Chloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	08/03/23 01:04	VOA9_443065	V080210.D
cis-1,2-Dichloroethene	ug/L	3.0		0.20	1.0	1.0	1	08/03/23 01:04	VOA9_443065	V080210.D
cis-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	08/03/23 01:04	VOA9_443065	V080210.D
Dibromochloromethane	ug/L	1.0	U	0.30	1.0	1.0	1	08/03/23 01:04	VOA9_443065	V080210.D
Dibromomethane	ug/L	1.0	U	0.20	1.0	1.0	1	08/03/23 01:04	VOA9_443065	V080210.D
Dichlorodifluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	08/03/23 01:04	VOA9_443065	V080210.D
Ethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	08/03/23 01:04	VOA9_443065	V080210.D
Hexachlorobutadiene	ug/L	1.0	U	1.0	1.0	1.0	1	08/03/23 01:04	VOA9_443065	V080210.D
Isopropylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	08/03/23 01:04	VOA9_443065	V080210.D
m,p-Xylene	ug/L	2.0	U	0.50	2.0	2.0	1	08/03/23 01:04	VOA9_443065	V080210.D
Methylene chloride	ug/L	2.0	U	0.40	2.0	2.0	1	08/03/23 01:04	VOA9_443065	V080210.D
Naphthalene	ug/L	1.0	U	0.30	1.0	1.0	1	08/03/23 01:04	VOA9_443065	V080210.D
n-Butylbenzene	ug/L	1.0	U	0.40	1.0	1.0	1	08/03/23 01:04	VOA9_443065	V080210.D
n-Propylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	08/03/23 01:04	VOA9_443065	V080210.D
o-Xylene	ug/L	1.0	U	0.30	1.0	1.0	1	08/03/23 01:04	VOA9_443065	V080210.D
sec-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	08/03/23 01:04	VOA9_443065	V080210.D
Styrene	ug/L	1.0	U	0.30	1.0	1.0	1	08/03/23 01:04	VOA9_443065	V080210.D
tert-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	08/03/23 01:04	VOA9_443065	V080210.D
Tetrachloroethene	ug/L	1.0	U	0.30	1.0	1.0	1	08/03/23 01:04	VOA9_443065	V080210.D
Toluene	ug/L	1.0	U	0.20	1.0	1.0	1	08/03/23 01:04	VOA9_443065	V080210.D
trans-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	08/03/23 01:04	VOA9_443065	V080210.D
trans-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	08/03/23 01:04	VOA9_443065	V080210.D
Trichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	08/03/23 01:04	VOA9_443065	V080210.D
Trichlorofluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	08/03/23 01:04	VOA9_443065	V080210.D
Vinyl chloride	ug/L	1.0	U	0.20	1.0	1.0	1	08/03/23 01:04	VOA9_443065	V080210.D

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder **HS23071456**

Volatiles by EPA 8260

HS23071456-02

Trip Blank

Collected	Received	Matrix	Basis
07/24/23 00:00	07/25/23 09:25	Water	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
1,1,1,2-Tetrachloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	08/03/23 00:41	VOA9_443065	V080209.D
1,1,1-Trichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	08/03/23 00:41	VOA9_443065	V080209.D
1,1,2,2-Tetrachloroethane	ug/L	1.0	U	0.50	1.0	1.0	1	08/03/23 00:41	VOA9_443065	V080209.D
1,1,2-Trichloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	08/03/23 00:41	VOA9_443065	V080209.D
1,1-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	08/03/23 00:41	VOA9_443065	V080209.D
1,1-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	08/03/23 00:41	VOA9_443065	V080209.D
1,1-Dichloropropene	ug/L	1.0	U	0.30	1.0	1.0	1	08/03/23 00:41	VOA9_443065	V080209.D
1,2,3-Trichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	08/03/23 00:41	VOA9_443065	V080209.D
1,2,3-Trichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	08/03/23 00:41	VOA9_443065	V080209.D
1,2,4-Trichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	08/03/23 00:41	VOA9_443065	V080209.D
1,2,4-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	08/03/23 00:41	VOA9_443065	V080209.D
1,2-Dibromo-3-chloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	08/03/23 00:41	VOA9_443065	V080209.D
1,2-Dibromoethane	ug/L	1.0	U	0.20	1.0	1.0	1	08/03/23 00:41	VOA9_443065	V080209.D
1,2-Dichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	08/03/23 00:41	VOA9_443065	V080209.D
1,2-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	08/03/23 00:41	VOA9_443065	V080209.D
1,2-Dichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	08/03/23 00:41	VOA9_443065	V080209.D
1,3,5-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	08/03/23 00:41	VOA9_443065	V080209.D
1,3-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	08/03/23 00:41	VOA9_443065	V080209.D
1,3-Dichloropropane	ug/L	1.0	U	0.30	1.0	1.0	1	08/03/23 00:41	VOA9_443065	V080209.D
1,4-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	08/03/23 00:41	VOA9_443065	V080209.D
2,2-Dichloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	08/03/23 00:41	VOA9_443065	V080209.D
2-Butanone	ug/L	2.0	U	0.50	2.0	2.0	1	08/03/23 00:41	VOA9_443065	V080209.D
2-Chlorotoluene	ug/L	1.0	U	0.30	1.0	1.0	1	08/03/23 00:41	VOA9_443065	V080209.D
2-Hexanone	ug/L	2.0	U	1.0	2.0	2.0	1	08/03/23 00:41	VOA9_443065	V080209.D
4-Chlorotoluene	ug/L	1.0	U	0.40	1.0	1.0	1	08/03/23 00:41	VOA9_443065	V080209.D
4-Isopropyltoluene	ug/L	1.0	U	0.30	1.0	1.0	1	08/03/23 00:41	VOA9_443065	V080209.D
4-Methyl-2-pentanone	ug/L	2.0	U	0.70	2.0	2.0	1	08/03/23 00:41	VOA9_443065	V080209.D
Acetone	ug/L	2.0	U	0.40	2.0	2.0	1	08/03/23 00:41	VOA9_443065	V080209.D
Benzene	ug/L	1.0	U	0.20	1.0	1.0	1	08/03/23 00:41	VOA9_443065	V080209.D
Bromobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	08/03/23 00:41	VOA9_443065	V080209.D
Bromochloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	08/03/23 00:41	VOA9_443065	V080209.D
Bromodichloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	08/03/23 00:41	VOA9_443065	V080209.D
Bromoform	ug/L	1.0	U	0.40	1.0	1.0	1	08/03/23 00:41	VOA9_443065	V080209.D

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder **HS23071456**

Volatiles by EPA 8260

HS23071456-02

Trip Blank

Collected	Received	Matrix	Basis
07/24/23 00:00	07/25/23 09:25	Water	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Bromomethane	ug/L	1.0	U	0.40	1.0	1.0	1	08/03/23 00:41	VOA9_443065	V080209.D
Carbon disulfide	ug/L	2.0	U	0.60	2.0	2.0	1	08/03/23 00:41	VOA9_443065	V080209.D
Carbon tetrachloride	ug/L	1.0	U	0.50	1.0	1.0	1	08/03/23 00:41	VOA9_443065	V080209.D
Chlorobenzene	ug/L	1.0	U	0.30	1.0	1.0	1	08/03/23 00:41	VOA9_443065	V080209.D
Chloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	08/03/23 00:41	VOA9_443065	V080209.D
Chloroform	ug/L	1.0	U	0.20	1.0	1.0	1	08/03/23 00:41	VOA9_443065	V080209.D
Chloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	08/03/23 00:41	VOA9_443065	V080209.D
cis-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	08/03/23 00:41	VOA9_443065	V080209.D
cis-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	08/03/23 00:41	VOA9_443065	V080209.D
Dibromochloromethane	ug/L	1.0	U	0.30	1.0	1.0	1	08/03/23 00:41	VOA9_443065	V080209.D
Dibromomethane	ug/L	1.0	U	0.20	1.0	1.0	1	08/03/23 00:41	VOA9_443065	V080209.D
Dichlorodifluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	08/03/23 00:41	VOA9_443065	V080209.D
Ethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	08/03/23 00:41	VOA9_443065	V080209.D
Hexachlorobutadiene	ug/L	1.0	U	1.0	1.0	1.0	1	08/03/23 00:41	VOA9_443065	V080209.D
Isopropylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	08/03/23 00:41	VOA9_443065	V080209.D
m,p-Xylene	ug/L	2.0	U	0.50	2.0	2.0	1	08/03/23 00:41	VOA9_443065	V080209.D
Methylene chloride	ug/L	2.0	U	0.40	2.0	2.0	1	08/03/23 00:41	VOA9_443065	V080209.D
Naphthalene	ug/L	1.0	U	0.30	1.0	1.0	1	08/03/23 00:41	VOA9_443065	V080209.D
n-Butylbenzene	ug/L	1.0	U	0.40	1.0	1.0	1	08/03/23 00:41	VOA9_443065	V080209.D
n-Propylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	08/03/23 00:41	VOA9_443065	V080209.D
o-Xylene	ug/L	1.0	U	0.30	1.0	1.0	1	08/03/23 00:41	VOA9_443065	V080209.D
sec-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	08/03/23 00:41	VOA9_443065	V080209.D
Styrene	ug/L	1.0	U	0.30	1.0	1.0	1	08/03/23 00:41	VOA9_443065	V080209.D
tert-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	08/03/23 00:41	VOA9_443065	V080209.D
Tetrachloroethene	ug/L	1.0	U	0.30	1.0	1.0	1	08/03/23 00:41	VOA9_443065	V080209.D
Toluene	ug/L	1.0	U	0.20	1.0	1.0	1	08/03/23 00:41	VOA9_443065	V080209.D
trans-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	08/03/23 00:41	VOA9_443065	V080209.D
trans-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	08/03/23 00:41	VOA9_443065	V080209.D
Trichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	08/03/23 00:41	VOA9_443065	V080209.D
Trichlorofluoromethane	ug/L	0.95	J	0.30	1.0	1.0	1	08/03/23 00:41	VOA9_443065	V080209.D
Vinyl chloride	ug/L	1.0	U	0.20	1.0	1.0	1	08/03/23 00:41	VOA9_443065	V080209.D

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder **HS23071456**

Volatiles by EPA 8260

VBLKW-230802	Collected	Received	Matrix	Basis
VBLKW-230802	NA	NA	Aqueous	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
1,1,1,2-Tetrachloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	08/02/23 23:56	VOA9_443065	V080207.D
1,1,1-Trichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	08/02/23 23:56	VOA9_443065	V080207.D
1,1,2,2-Tetrachloroethane	ug/L	1.0	U	0.50	1.0	1.0	1	08/02/23 23:56	VOA9_443065	V080207.D
1,1,2-Trichloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	08/02/23 23:56	VOA9_443065	V080207.D
1,1-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	08/02/23 23:56	VOA9_443065	V080207.D
1,1-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	08/02/23 23:56	VOA9_443065	V080207.D
1,1-Dichloropropene	ug/L	1.0	U	0.30	1.0	1.0	1	08/02/23 23:56	VOA9_443065	V080207.D
1,2,3-Trichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	08/02/23 23:56	VOA9_443065	V080207.D
1,2,3-Trichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	08/02/23 23:56	VOA9_443065	V080207.D
1,2,4-Trichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	08/02/23 23:56	VOA9_443065	V080207.D
1,2,4-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	08/02/23 23:56	VOA9_443065	V080207.D
1,2-Dibromo-3-chloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	08/02/23 23:56	VOA9_443065	V080207.D
1,2-Dibromoethane	ug/L	1.0	U	0.20	1.0	1.0	1	08/02/23 23:56	VOA9_443065	V080207.D
1,2-Dichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	08/02/23 23:56	VOA9_443065	V080207.D
1,2-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	08/02/23 23:56	VOA9_443065	V080207.D
1,2-Dichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	08/02/23 23:56	VOA9_443065	V080207.D
1,3,5-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	08/02/23 23:56	VOA9_443065	V080207.D
1,3-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	08/02/23 23:56	VOA9_443065	V080207.D
1,3-Dichloropropane	ug/L	1.0	U	0.30	1.0	1.0	1	08/02/23 23:56	VOA9_443065	V080207.D
1,4-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	08/02/23 23:56	VOA9_443065	V080207.D
2,2-Dichloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	08/02/23 23:56	VOA9_443065	V080207.D
2-Butanone	ug/L	2.0	U	0.50	2.0	2.0	1	08/02/23 23:56	VOA9_443065	V080207.D
2-Chlorotoluene	ug/L	1.0	U	0.30	1.0	1.0	1	08/02/23 23:56	VOA9_443065	V080207.D
2-Hexanone	ug/L	2.0	U	1.0	2.0	2.0	1	08/02/23 23:56	VOA9_443065	V080207.D
4-Chlorotoluene	ug/L	1.0	U	0.40	1.0	1.0	1	08/02/23 23:56	VOA9_443065	V080207.D
4-Isopropyltoluene	ug/L	1.0	U	0.30	1.0	1.0	1	08/02/23 23:56	VOA9_443065	V080207.D
4-Methyl-2-pentanone	ug/L	2.0	U	0.70	2.0	2.0	1	08/02/23 23:56	VOA9_443065	V080207.D
Acetone	ug/L	2.0	U	0.40	2.0	2.0	1	08/02/23 23:56	VOA9_443065	V080207.D
Benzene	ug/L	1.0	U	0.20	1.0	1.0	1	08/02/23 23:56	VOA9_443065	V080207.D
Bromobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	08/02/23 23:56	VOA9_443065	V080207.D
Bromochloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	08/02/23 23:56	VOA9_443065	V080207.D
Bromodichloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	08/02/23 23:56	VOA9_443065	V080207.D
Bromoform	ug/L	1.0	U	0.40	1.0	1.0	1	08/02/23 23:56	VOA9_443065	V080207.D

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder **HS23071456**

Volatiles by EPA 8260

VBLKW-230802	Collected	Received	Matrix	Basis
VBLKW-230802	NA	NA	Aqueous	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Bromomethane	ug/L	1.0	U	0.40	1.0	1.0	1	08/02/23 23:56	VOA9_443065	V080207.D
Carbon disulfide	ug/L	2.0	U	0.60	2.0	2.0	1	08/02/23 23:56	VOA9_443065	V080207.D
Carbon tetrachloride	ug/L	1.0	U	0.50	1.0	1.0	1	08/02/23 23:56	VOA9_443065	V080207.D
Chlorobenzene	ug/L	1.0	U	0.30	1.0	1.0	1	08/02/23 23:56	VOA9_443065	V080207.D
Chloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	08/02/23 23:56	VOA9_443065	V080207.D
Chloroform	ug/L	1.0	U	0.20	1.0	1.0	1	08/02/23 23:56	VOA9_443065	V080207.D
Chloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	08/02/23 23:56	VOA9_443065	V080207.D
cis-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	08/02/23 23:56	VOA9_443065	V080207.D
cis-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	08/02/23 23:56	VOA9_443065	V080207.D
Dibromochloromethane	ug/L	1.0	U	0.30	1.0	1.0	1	08/02/23 23:56	VOA9_443065	V080207.D
Dibromomethane	ug/L	1.0	U	0.20	1.0	1.0	1	08/02/23 23:56	VOA9_443065	V080207.D
Dichlorodifluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	08/02/23 23:56	VOA9_443065	V080207.D
Ethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	08/02/23 23:56	VOA9_443065	V080207.D
Hexachlorobutadiene	ug/L	1.0	U	1.0	1.0	1.0	1	08/02/23 23:56	VOA9_443065	V080207.D
Isopropylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	08/02/23 23:56	VOA9_443065	V080207.D
m,p-Xylene	ug/L	2.0	U	0.50	2.0	2.0	1	08/02/23 23:56	VOA9_443065	V080207.D
Methylene chloride	ug/L	2.0	U	0.40	2.0	2.0	1	08/02/23 23:56	VOA9_443065	V080207.D
Naphthalene	ug/L	1.0	U	0.30	1.0	1.0	1	08/02/23 23:56	VOA9_443065	V080207.D
n-Butylbenzene	ug/L	1.0	U	0.40	1.0	1.0	1	08/02/23 23:56	VOA9_443065	V080207.D
n-Propylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	08/02/23 23:56	VOA9_443065	V080207.D
o-Xylene	ug/L	1.0	U	0.30	1.0	1.0	1	08/02/23 23:56	VOA9_443065	V080207.D
sec-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	08/02/23 23:56	VOA9_443065	V080207.D
Styrene	ug/L	1.0	U	0.30	1.0	1.0	1	08/02/23 23:56	VOA9_443065	V080207.D
tert-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	08/02/23 23:56	VOA9_443065	V080207.D
Tetrachloroethene	ug/L	1.0	U	0.30	1.0	1.0	1	08/02/23 23:56	VOA9_443065	V080207.D
Toluene	ug/L	1.0	U	0.20	1.0	1.0	1	08/02/23 23:56	VOA9_443065	V080207.D
trans-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	08/02/23 23:56	VOA9_443065	V080207.D
trans-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	08/02/23 23:56	VOA9_443065	V080207.D
Trichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	08/02/23 23:56	VOA9_443065	V080207.D
Trichlorofluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	08/02/23 23:56	VOA9_443065	V080207.D
Vinyl chloride	ug/L	1.0	U	0.20	1.0	1.0	1	08/02/23 23:56	VOA9_443065	V080207.D

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Form 2

System Monitoring Compound Recovery

Volatiles by EPA 8260

Workorder

HS23071456

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Bi-Weekly Samples

08/07/2023

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Form 2 - System Monitoring Compound Recovery

Client	Bhate Environmental Associates, Inc.	Workorder	
Project	Longhorn GW Treatment Plant Bi-Weekly Samples	HS23071456	

RunID

Volatiles by EPA 8260

VOA9-443065

CCB-CCB	Analyzed	Conc Units	Dilution
CCB	08/02/23	%REC	1

Surrogate	Result Conc	Spike Conc	%Recovery	Q	%Recovery Limits
1,2-Dichloroethane-d4	55.9	50	112		80-120
4-Bromofluorobenzene	48.68	50	97.4		80-120
Dibromofluoromethane	50.8	50	102		80-120
Toluene-d8	52.86	50	106		80-120

CCV-CCV	Analyzed	Conc Units	Dilution
CCV	08/02/23	%REC	1

Surrogate	Result Conc	Spike Conc	%Recovery	Q	%Recovery Limits
1,2-Dichloroethane-d4	58.25	50	116		80-120
4-Bromofluorobenzene	53.74	50	107		80-120
Dibromofluoromethane	54	50	108		80-120
Toluene-d8	49.26	50	98.5		80-120

HS23071456-01	Analyzed	Conc Units	Dilution
LH18/24-SP650_072423	08/03/23	%REC	1

Surrogate	Result Conc	Spike Conc	%Recovery	Q	%Recovery Limits
1,2-Dichloroethane-d4	55	50	109		81-118
4-Bromofluorobenzene	46	50	92.9		85-114
Dibromofluoromethane	52	50	105		80-119
Toluene-d8	52	50	104		89-112

Form 2 - System Monitoring Compound Recovery

Client: Bhate Environmental Associates, Inc.

Project: Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder: HS23071456

RunID: VOA9-443065

Volatiles by EPA 8260

HS23071456-02	Analyzed	Conc Units	Dilution
Trip Blank	08/03/23	%REC	1

Surrogate	Result Conc	Spike Conc	%Recovery	Q	%Recovery Limits
1,2-Dichloroethane-d4	56	50	112		81-118
4-Bromofluorobenzene	50	50	101		85-114
Dibromofluoromethane	51	50	102		80-119
Toluene-d8	51	50	103		89-112

HS23071846-06MS	Analyzed	Conc Units	Dilution
BatchQC	08/03/23	%REC	1

Surrogate	Result Conc	Spike Conc	%Recovery	Q	%Recovery Limits
1,2-Dichloroethane-d4	58.7	50	117		81-118
4-Bromofluorobenzene	52	50	104		85-114
Dibromofluoromethane	52.57	50	105		80-119
Toluene-d8	52.69	50	105		89-112

HS23071846-06MSD	Analyzed	Conc Units	Dilution
BatchQC	08/03/23	%REC	1

Surrogate	Result Conc	Spike Conc	%Recovery	Q	%Recovery Limits
1,2-Dichloroethane-d4	57.81	50	116		81-118
4-Bromofluorobenzene	51.67	50	103		85-114
Dibromofluoromethane	51.84	50	104		80-119
Toluene-d8	53.54	50	107		89-112

Form 2 - System Monitoring Compound Recovery

Client	Bhate Environmental Associates, Inc.	Workorder	
Project	Longhorn GW Treatment Plant Bi-Weekly Samples	**HS23071456**	

RunID

Volatiles by EPA 8260

VOA9-443065

VBLKW-230802	Analyzed	Conc Units	Dilution
VBLKW-230802	08/02/23	%REC	1

Surrogate	Result Conc	Spike Conc	%Recovery	Q	%Recovery Limits
1,2-Dichloroethane-d4	56.03	50	112		81-118
4-Bromofluorobenzene	47.51	50	95.0		85-114
Dibromofluoromethane	50.33	50	101		80-119
Toluene-d8	52.82	50	106		89-112

VLCSW-230802	Analyzed	Conc Units	Dilution
VLCSW-230802	08/02/23	%REC	1

Surrogate	Result Conc	Spike Conc	%Recovery	Q	%Recovery Limits
1,2-Dichloroethane-d4	58.03	50	116		81-118
4-Bromofluorobenzene	54.53	50	109		85-114
Dibromofluoromethane	54.35	50	109		80-119
Toluene-d8	49.6	50	99.2		89-112

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Form 3A

Matrix Spike/Spike Duplicate Recovery

Volatiles by EPA 8260

Workorder

HS23071456

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Bi-Weekly Samples

08/07/2023

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Form 3A - Matrix Spike/Spike Duplicate Recovery

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder **HS23071456**

RunID VOA9-443065

Volatiles by EPA 8260

BatchQC (HS23071846-06)				HS23071846-06MS				HS23071846-06MSD						
Sample Matrix: Aqueous			Run Date	08/03/23				08/03/23						
Result Units: ug/L			Run Time	02:33				02:56						
			Data File	V080214.D				V080215.D						
Analyte	%R Limits	DF	Sample Result	MS Result	Spike Added	%R	Q	MSD Result	Spike Added	%R	Q	RPD Limit	RPD	Q
1,1,1,2-Tetrachloroethane	78-124	1	0	8.445	20	42		8.553	20	43		20	1.27	
1,1,1-Trichloroethane	74-131	1	0	9.567	20	48		9.214	20	46		20	3.76	
1,1,2,2-Tetrachloroethane	71-121	1	0	8.117	20	41		7.764	20	39		20	4.45	
1,1,2-Trichloroethane	80-119	1	0	8.601	20	43		8.311	20	42		20	3.43	
1,1-Dichloroethane	77-125	1	0	8.776	20	44		8.183	20	41		20	7	
1,1-Dichloroethene	71-131	1	0	8.793	20	44		8.509	20	42		20	3.27	
1,1-Dichloropropene	78-125	1	0	10.08	20	50		9.57	20	48		20	5.16	
1,2,3-Trichlorobenzene	69-129	1	0	8.108	20	40		8.14	20	41		20	0.399	
1,2,3-Trichloropropane	73-122	1	0	7.594	20	38		7.936	20	40		20	4.4	
1,2,4-Trichlorobenzene	69-130	1	0	7.979	20	40		7.825	20	39		20	1.94	
1,2,4-Trimethylbenzene	76-124	1	0	10.22	20	51		10.12	20	51		20	0.938	
1,2-Dibromo-3-chloropropane	62-128	1	0	6.858	20	34		6.746	20	34		20	1.65	
1,2-Dibromoethane	77-121	1	0	8.632	20	43		8.828	20	44		20	2.24	
1,2-Dichlorobenzene	80-119	1	0	8.729	20	44		8.477	20	42		20	2.94	
1,2-Dichloroethane	73-128	1	0	9.846	20	49		9.917	20	50		20	0.716	
1,2-Dichloropropane	78-122	1	0	8.825	20	44		8.21	20	41		20	7.21	
1,3,5-Trimethylbenzene	75-124	1	0	9.353	20	47		9.38	20	47		20	0.292	
1,3-Dichlorobenzene	80-119	1	0	8.806	20	44		8.833	20	44		20	0.313	
1,3-Dichloropropane	80-119	1	0	8.764	20	44		8.612	20	43		20	1.75	
1,4-Dichlorobenzene	79-118	1	0	8.496	20	42		8.47	20	42		20	0.308	
2,2-Dichloropropane	60-139	1	0	7.052	20	35		6.381	20	32		20	9.99	
2-Butanone	56-143	1	0	14.59	40	36		15.21	40	38		20	4.14	
2-Chlorotoluene	79-122	1	0	9.305	20	46		9.327	20	47		20	0.234	
2-Hexanone	57-139	1	0	15.99	40	40		16.63	40	42		20	3.91	
4-Chlorotoluene	78-122	1	0	9.092	20	46		9.368	20	47		20	2.99	
4-Isopropyltoluene	77-127	1	0	11.38	20	57		11.24	20	56		20	1.28	
4-Methyl-2-pentanone	67-130	1	0	16.16	40	40		16.65	40	42		20	2.99	
Acetone	39-160	1	0	14.01	40	35		12.91	40	32		20	8.18	
Benzene	79-120	1	0	8.86	20	44		8.9	20	44		20	0.456	
Bromobenzene	80-120	1	0	8.645	20	43		8.511	20	43		20	1.55	
Bromochloromethane	78-123	1	0	8.047	20	40		8.43	20	42		20	4.65	
Bromodichloromethane	79-125	1	0	8.64	20	43		8.405	20	42		20	2.75	
Bromoform	66-130	1	0	8.065	20	40		7.705	20	38		20	4.57	
Bromomethane	53-141	1	0	7.786	20	39		7.107	20	36		20	9.12	

Q - %Recovery / RPD Flag * - %Recovery / RPD Outside Limits OL - Outside Limits %R - %Recovery DF - Dilution Factor Amt - Amount (weight or volume)

Form 3A - Matrix Spike/Spike Duplicate Recovery

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder **HS23071456**

RunID VOA9-443065

Volatiles by EPA 8260

BatchQC (HS23071846-06)				HS23071846-06MS				HS23071846-06MSD						
Sample Matrix: Aqueous			Run Date	08/03/23				08/03/23						
Result Units: ug/L			Run Time	02:33				02:56						
			Data File	V080214.D				V080215.D						
Analyte	%R Limits	DF	Sample Result	MS Result	Spike Added	%R	Q	MSD Result	Spike Added	%R	Q	RPD Limit	RPD	Q
Carbon disulfide	64-133	1	0	16.37	40	41		15.34	40	38		20	6.5	
Carbon tetrachloride	72-136	1	0	8.789	20	44		8.69	20	44		20	1.13	
Chlorobenzene	82-118	1	0	9.27	20	46		9.249	20	46		20	0.227	
Chloroethane	60-138	1	0	8.178	20	41		7.756	20	39		20	5.3	
Chloroform	79-124	1	0	9.28	20	46		8.867	20	44		20	4.55	
Chloromethane	50-139	1	0	8.928	20	45		8.227	20	41		20	8.18	
cis-1,2-Dichloroethene	78-123	1	0	9.233	20	46		8.597	20	43		20	7.13	
cis-1,3-Dichloropropene	75-124	1	0	8.618	20	43		8.344	20	42		20	3.23	
Dibromochloromethane	74-126	1	0	7.892	20	40		8.025	20	40		20	1.68	
Dibromomethane	79-123	1	0	8.854	20	44		8.647	20	43		20	2.37	
Dichlorodifluoromethane	32-152	1	0	8.43	20	42		7.682	20	38		20	9.28	
Ethylbenzene	79-121	1	0	9.418	20	47		9.112	20	46		20	3.3	
Hexachlorobutadiene	66-134	1	0	12.31	20	62		11.12	20	56		20	10.2	
Isopropylbenzene	72-131	1	0	10.41	20	52		10.07	20	50		20	3.33	
m,p-Xylene	80-121	1	0	19.75	40	49		18.92	40	47		20	4.31	
Methylene chloride	74-124	1	0	8.388	20	42		8.258	20	41		20	1.57	
Naphthalene	61-128	1	0	7.977	20	40		8.307	20	42		20	4.05	
n-Butylbenzene	75-128	1	0	10.33	20	52		9.768	20	49		20	5.56	
n-Propylbenzene	76-126	1	0	9.642	20	48		9.711	20	49		20	0.712	
o-Xylene	78-122	1	0	10.2	20	51		9.511	20	48		20	6.98	
sec-Butylbenzene	77-126	1	0	11.45	20	57		11.33	20	57		20	1.06	
Styrene	78-123	1	0	10.83	20	54		8.996	20	45		20	18.5	
tert-Butylbenzene	78-124	1	0	9.615	20	48		9.504	20	48		20	1.16	
Tetrachloroethene	74-129	1	0	11	20	55		10.91	20	55		20	0.827	
Toluene	80-121	1	0	9.504	20	48		9.472	20	47		20	0.336	
trans-1,2-Dichloroethene	75-124	1	0	8.53	20	43		7.908	20	40		20	7.57	
trans-1,3-Dichloropropene	73-127	1	0	7.471	20	37		6.904	20	34		20	7.89	
Trichloroethene	79-123	1	4.322	13.3	20	45		12.63	20	42		20	5.16	
Trichlorofluoromethane	65-141	1	0	10.57	20	53		9.718	20	49		20	8.41	
Vinyl chloride	58-137	1	0	7.809	20	39		7.621	20	38		20	2.43	

Q - %Recovery / RPD Flag * - %Recovery / RPD Outside Limits OL - Outside Limits %R - %Recovery DF - Dilution Factor Amt - Amount (weight or volume)

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Form 3B

Laboratory Control Sample Recovery

Volatiles by EPA 8260

Workorder

HS23071456

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Bi-Weekly Samples

08/07/2023

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Form 3B - Laboratory Control Sample Recovery

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder **HS23071456**

SAMPLENUM VLCSW-230802

Volatiles by EPA 8260

VOA9_443065			VLCSW-230802			
Spike Matrix	Aqueous	**Run Date**	08/02/23			
Result Units	ug/L	**Run Time**	23:12			
		Data File	V080205.D			
Analyte	%Recovery Limits	Spike Added	LCS Result	%R	Q	
1,1,1,2-Tetrachloroethane	78-124	20	18.98	95		
1,1,1-Trichloroethane	74-131	20	21.76	109		
1,1,2,2-Tetrachloroethane	71-121	20	16.64	83		
1,1,2-Trichloroethane	80-119	20	18.79	94		
1,1-Dichloroethane	77-125	20	20.58	103		
1,1-Dichloroethene	71-131	20	20.88	104		
1,1-Dichloropropene	78-125	20	21.58	108		
1,2,3-Trichlorobenzene	69-129	20	19.4	97		
1,2,3-Trichloropropane	73-122	20	18.23	91		
1,2,4-Trichlorobenzene	69-130	20	19.93	100		
1,2,4-Trimethylbenzene	76-124	20	22.24	111		
1,2-Dibromo-3-chloropropane	62-128	20	16.44	82		
1,2-Dibromoethane	77-121	20	19.39	97		
1,2-Dichlorobenzene	80-119	20	19.74	99		
1,2-Dichloroethane	73-128	20	21.16	106		
1,2-Dichloropropane	78-122	20	19.54	98		
1,3,5-Trimethylbenzene	75-124	20	21.43	107		
1,3-Dichlorobenzene	80-119	20	19.87	99		
1,3-Dichloropropane	80-119	20	19.58	98		
1,4-Dichlorobenzene	79-118	20	18.68	93		
2,2-Dichloropropane	60-139	20	18.96	95		
2-Butanone	56-143	40	42.05	105		
2-Chlorotoluene	79-122	20	20.55	103		
2-Hexanone	57-139	40	41.43	104		
4-Chlorotoluene	78-122	20	21.1	105		
4-Isopropyltoluene	77-127	20	25.94	130		
4-Methyl-2-pentanone	67-130	40	38.8	97		
Acetone	39-160	40	57.1	143		
Benzene	79-120	20	19.93	100		
Bromobenzene	80-120	20	19.39	97		
Bromochloromethane	78-123	20	19.04	95		
Bromodichloromethane	79-125	20	18.94	95		
Bromoform	66-130	20	18.18	91		
Bromomethane	53-141	20	20.19	101		

Q - %Recovery / RPD Flag * - %Recovery / RPD Outside Limits %R - %Recovery DF - Dilution Factor Amt - Amount (weight or volume)

Form 3B - Laboratory Control Sample Recovery

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder **HS23071456**

SAMPLENUM VLCSW-230802

Volatiles by EPA 8260

VOA9_443065			VLCSW-230802			
Spike Matrix	Aqueous	**Run Date**	08/02/23			
Result Units	ug/L	**Run Time**	23:12			
		Data File	V080205.D			
Analyte	%Recovery Limits	Spike Added	LCS Result	%R	Q	
Carbon disulfide	64-133	40	40.44	101		
Carbon tetrachloride	72-136	20	21.07	105		
Chlorobenzene	82-118	20	20.14	101		
Chloroethane	60-138	20	19.4	97		
Chloroform	79-124	20	20.68	103		
Chloromethane	50-139	20	21.58	108		
cis-1,2-Dichloroethene	78-123	20	22.02	110		
cis-1,3-Dichloropropene	75-124	20	17.85	89		
Dibromochloromethane	74-126	20	18.6	93		
Dibromomethane	79-123	20	20.32	102		
Dichlorodifluoromethane	32-152	20	21.06	105		
Ethylbenzene	79-121	20	20.55	103		
Hexachlorobutadiene	66-134	20	27.43	137		
Isopropylbenzene	72-131	20	23.35	117		
m,p-Xylene	80-121	40	45.09	113		
Methylene chloride	74-124	20	21.07	105		
Naphthalene	61-128	20	17.82	89		
n-Butylbenzene	75-128	20	20.4	102		
n-Propylbenzene	76-126	20	19.98	100		
o-Xylene	78-122	20	22.29	111		
sec-Butylbenzene	77-126	20	25.87	129		
Styrene	78-123	20	21.97	110		
tert-Butylbenzene	78-124	20	22.17	111		
Tetrachloroethene	74-129	20	20.22	101		
Toluene	80-121	20	20.47	102		
trans-1,2-Dichloroethene	75-124	20	20.39	102		
trans-1,3-Dichloropropene	73-127	20	18.07	90		
Trichloroethene	79-123	20	20.96	105		
Trichlorofluoromethane	65-141	20	22.42	112		
Vinyl chloride	58-137	20	19.08	95		

Q - %Recovery / RPD Flag * - %Recovery / RPD Outside Limits %R - %Recovery DF - Dilution Factor Amt - Amount (weight or volume)

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Form 4

Method Blank Summary

Volatiles by EPA 8260

Workorder

HS23071456

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Bi-Weekly Samples

08/07/2023

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Form 4 - Method Blank Summary

Client	Bhate Environmental Associates, Inc.	Workorder	
Project	Longhorn GW Treatment Plant Bi-Weekly Samples	**HS23071456**	

Volatiles by EPA 8260

Client Sample ID	Type	Lab Sample ID	File ID	Date Analyzed	Run ID
METHOD BLANK	MBLK	VBLKW-230802	V080207.D	08/02/23 23:56	VOA9_443065
VLCSW-230802	LCS	VLCSW-230802	V080205.D	08/02/23 23:12	VOA9_443065
Trip Blank	SAMP	HS23071456-02	V080209.D	08/03/23 00:41	VOA9_443065
LH18/24-SP650_072423	SAMP	HS23071456-01	V080210.D	08/03/23 01:04	VOA9_443065
BatchQC	MS	HS23071846-06MS	V080214.D	08/03/23 02:33	VOA9_443065
BatchQC	MSD	HS23071846-06MSD	V080215.D	08/03/23 02:56	VOA9_443065

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Form 5

Instrument Performance Check

Volatiles by EPA 8260

Workorder

HS23071456

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Bi-Weekly Samples

08/07/2023

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
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www.alsglobal.com

Form 5 - Instrument Performance Check

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder **HS23071456**

RunID VOA9-442900

Volatiles by EPA 8260

Tune File U073101.D 07/31/23 7/31/2023

m / e	Ion Abundance Criterion	%RA
50	15.0 - 40.0% of mass 95	17.8 (17.8)
75	30.0 - 60.0% of mass 95	46.1 (46.1)
95	Base peak, 100% RA	100 (92.7)
96	5.0 - 9.0% of mass 95	7.1 (7.06)
173	Less than 2.0% of mass 174	0 (0) 1
174	50.0 - 120.0% of mass 95	107.9 (108)
175	4.0 - 9.0% of mass 174	9.6 (8.88) 1
176	93.0 - 101.0% of mass 174	102.5 (95) 1
177	5.0 - 9.0% of mass 176	6.4 (6.2) 2

%RA - Percent Relative Abundance

This check applies to the following analyses

	Lab Samp ID	Type	Date Analyzed	Lab File ID	Sample ID
1	VSTD000.25	ICAL1	7/31/2023	U073102	VSTD000.25
2	VSTD000.5	ICAL2	7/31/2023	U073103	VSTD000.5
3	VSTD001	ICAL3	7/31/2023	U073104	VSTD001
4	VSTD002	ICAL4	7/31/2023	U073105	VSTD002
5	VSTD005	ICAL5	7/31/2023	U073106	VSTD005
6	VSTD020	ICAL6	7/31/2023	U073107	VSTD020
7	VSTD050	ICAL7	7/31/2023	U073108	VSTD050
8	VSTD100	ICAL8	7/31/2023	U073109	VSTD100
9	VSTD150	ICAL9	7/31/2023	U073110	VSTD150
10	VSTD200	ICAL	7/31/2023	U073111	VSTD200
11	CCV	ICV	7/31/2023	U073113	CCV

Form 5 - Instrument Performance Check

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder **HS23071456**

RunID VOA9-443065

Volatiles by EPA 8260

Tune File V080201.D 08/02/23 8/2/2023

m / e	Ion Abundance Criterion	%RA
50	15.0 - 40.0% of mass 95	19.4 (19.4)
75	30.0 - 60.0% of mass 95	49.6 (49.6)
95	Base peak, 100% RA	100 (100)
96	5.0 - 9.0% of mass 95	7.4 (7.38)
173	Less than 2.0% of mass 174	0 (0) 1
174	50.0 - 120.0% of mass 95	93.2 (93.2)
175	4.0 - 9.0% of mass 174	7.7 (8.3) 1
176	93.0 - 101.0% of mass 174	91.2 (97.8) 1
177	5.0 - 9.0% of mass 176	6.2 (6.76) 2

%RA - Percent Relative Abundance

This check applies to the following analyses

	Lab Samp ID	Type	Date Analyzed	Lab File ID	Sample ID
1	CCV	CCV	8/2/2023	V080202	CCV
2	CCB	CCB	8/2/2023	V080204	CCB
3	VLCSW-	LCS	8/2/2023	V080205	VLCSW-230802
4	VBLKW-	MBLK	8/2/2023	V080207	VBLKW-230802
5	HS23071456-	SAMP	8/3/2023	V080209	Trip Blank
6	HS23071456-	SAMP	8/3/2023	V080210	LH18/24-SP650_072423
7	HS23071846-	MS	8/3/2023	V080214	ZZZZZZMS
8	HS23071846-	MSD	8/3/2023	V080215	ZZZZZZMSD
9	CCV-END	CCV_EN	8/3/2023	V080231	CCV-END

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Form 6

Initial Calibration Data

Volatiles by EPA 8260

Workorder

HS23071456

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Bi-Weekly Samples

08/07/2023

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Initial Calibration Data

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder HS23071456

RunID VOA9_442900

Volatiles by EPA 8260

Compound	50.00 Level 7 0.250 Level 1	100.00 Level 8 0.500 Level 2	150.00 Level 9 1.00 Level 3	200.00 Level 10 2.00 Level 4	5.00 Level 5	20.00 Level 6	Curve	b	m1	m2	%RSD or R2	Q
Dichlorodifluoromethane	NE 210687	2205 539886	5086 807250	8215 NE	23279	89461	LINR	0.02514	0.49095		0.99596	
Chloromethane	NE 290271	3690 647562	7212 961975	13283 NE	32235	122049	LINR	-0.00694	0.58276		0.99863	
Propionitrile	NE 0.05920	0.06307 0.05653	0.06268 0.05813	0.06102 0.05750	0.06035	0.05576	AVRG		0.05936		4.39631	
Vinyl Chloride	NE 0.44199	0.52506 0.52401	0.47388 0.51500	0.47851 0.49411	0.51863	0.45941	AVRG		0.49229		6.19206	
Bromomethane	NE 140100	1966 279477	3816 430983	6564 NE	17093	63845	LINR	-0.03282	0.25698		0.99936	
Chloroethane	NE 0.27035	0.37431 0.30775	0.33985 0.30347	0.28297 0.29201	0.32412	0.29522	AVRG		0.31000		10.27664	
Trichlorofluoromethane	NE 0.53470	0.64643 0.66656	0.63114 0.63600	0.56594 0.57349	0.64725	0.56680	AVRG		0.60759		7.76235	
Acrolein	NE 0.02882	0.03215 0.03427	0.03340 0.03565	0.03302 0.03384	0.02661	0.03089	AVRG		0.03207		8.90555	
Acetone	NE 169500	6516 334973	8968 501220	11936 658218	23014	78782	LINR	-0.16350	0.14465		0.99841	
1,1-Dichloroethene	NE 0.29942	0.34451 0.35322	0.33466 0.35352	0.30265 0.33279	0.33516	0.30888	AVRG		0.32942		6.33610	

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Initial Calibration Data

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder HS23071456

RunID VOA9_442900

Volatiles by EPA 8260

Compound	50.00 Level 7 0.250 Level 1	100.00 Level 8 0.500 Level 2	150.00 Level 9 1.00 Level 3	200.00 Level 10 2.00 Level 4	5.00 Level 5	20.00 Level 6	Curve	b	m1	m2	%RSD or R2	Q
Isobutyl Alcohol	NE 0.07075	0.07585 0.07282	0.06530 0.07358	0.06847 0.07319	0.06729	0.07010	AVRG		0.07082		4.77779	
Acetonitrile	NE 0.04699	0.04927 0.04814	0.04499 0.04825	0.04391 0.04486	0.04308	0.04618	AVRG		0.04619		4.60862	
Allyl Chloride	NE 1.02535	1.24878 1.02699	1.06135 1.04778	1.07336 1.00871	1.00380	0.99845	AVRG		1.05495		7.31219	
Iodomethane	NE 293634	3031 790175	4529 1298909	7768 NE	21659	100586	QUAD	0.06825	3.23212	-0.30725	0.99692	
Acrylonitrile	NE 0.15779	0.15607 0.15385	0.17195 0.15846	0.14876 0.15505	0.16007	0.15249	AVRG		0.15717		4.13652	
Methylene Chloride	NE 200746	2838 426614	5208 668149	8023 909993	23329	81979	LINR	-0.00390	0.39861		0.99989	
Methyl tert-butyl ether	NE 1.00589	1.11528 0.99922	1.00979 1.03321	1.00823 1.02447	0.99548	0.97212	AVRG		1.01819		3.96067	
Carbon Disulfide	NE 0.87704	1.07525 1.02249	0.97784 1.01480	0.87475 0.96521	0.93088	0.89282	AVRG		0.95901		7.37684	
trans-1,2-Dichloroethene	NE 0.33331	0.43393 0.36477	0.41018 0.36922	0.34724 0.35733	0.36355	0.34287	AVRG		0.36916		8.84309	
Vinyl Acetate	NE 1.05109	1.15318 1.09251	1.06270 1.11198	0.94926 1.09070	1.01178	0.98515	AVRG		1.05648		6.12959	
1,1-Dichloroethane	NE 0.58774	0.79526 0.64636	0.74609 0.65230	0.69459 0.62928	0.70116	0.61997	AVRG		0.67475		9.75374	
Chloroprene	NE 0.12012	0.13733 0.15273	0.11339 0.15161	0.10844 0.13850	0.13528	0.12231	AVRG		0.13108		12.13689	

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Initial Calibration Data

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder HS23071456

RunID VOA9_442900

Volatiles by EPA 8260

Compound	50.00 Level 7 0.250 Level 1	100.00 Level 8 0.500 Level 2	150.00 Level 9 1.00 Level 3	200.00 Level 10 2.00 Level 4	5.00 Level 5	20.00 Level 6	Curve	b	m1	m2	%RSD or R2	Q
2-Butanone	NE 0.17711	0.22782 0.17835	0.21562 0.17956	0.23512 0.17282	0.19756	0.18390	AVRG		0.19643		12.14292	
Methacrylonitrile	NE 0.27383	0.30192 0.27396	0.32895 0.29187	0.27086 0.26364	0.26267	0.25948	AVRG		0.28080		8.12023	
2,2-Dichloropropane	NE 0.43156	0.45075 0.49526	0.50770 0.49454	0.41978 0.46743	0.46872	0.45135	AVRG		0.46523		6.44052	
cis-1,2-Dichloroethene	NE 0.38456	0.44351 0.41841	0.38487 0.41562	0.42571 0.41037	0.41943	0.40614	AVRG		0.41207		4.55319	
Chloroform	NE 0.71008	0.92961 0.76241	0.81061 0.75821	0.81039 0.73078	0.79494	0.76000	AVRG		0.78523		8.14411	
Bromochloromethane	NE 0.22001	0.25444 0.23714	0.26287 0.24180	0.27742 0.21850	0.24920	0.23313	AVRG		0.24383		7.94854	
1,1,1-Trichloroethane	NE 0.55252	0.65643 0.65158	0.62316 0.63910	0.60775 0.60135	0.59613	0.57008	AVRG		0.61090		5.80673	
1,1-Dichloropropene	NE 0.32875	0.40730 0.40402	0.38489 0.39284	0.32532 0.36621	0.37601	0.35612	AVRG		0.37127		8.09057	
1,2-Dichloroethane	NE 0.41193	0.47818 0.42517	0.42119 0.41679	0.42915 0.40499	0.45883	0.42895	AVRG		0.43057		5.43320	
Carbon Tetrachloride	NE 0.29491	0.38160 0.38417	0.29089 0.37634	0.31260 0.34365	0.31185	0.29742	AVRG		0.33260		11.80148	
Benzene	NE 1.12474	1.37619 1.22368	1.26965 1.20168	1.18628 1.15723	1.27860	1.17437	AVRG		1.22138		6.26624	
Trichloroethene	NE 0.31077	0.39657 0.35516	0.32583 0.35154	0.35876 0.33530	0.34686	0.32606	AVRG		0.34521		7.23446	

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Initial Calibration Data

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder HS23071456

RunID VOA9_442900

Volatiles by EPA 8260

Compound	50.00 Level 7 0.250 Level 1	100.00 Level 8 0.500 Level 2	150.00 Level 9 1.00 Level 3	200.00 Level 10 2.00 Level 4	5.00 Level 5	20.00 Level 6	Curve	b	m1	m2	%RSD or R2	Q
Bromodichloromethane	NE 0.37102	0.39112 0.40737	0.39012 0.41081	0.38895 0.40081	0.38300	0.37250	AVRG		0.39063		3.58195	
Methyl Methacrylate	NE 0.45169	0.50632 0.44421	0.38518 0.46667	0.38394 0.45770	0.39298	0.39950	AVRG		0.43202		10.02406	
2-Chloroethylvinyl ether	NE 8568	114 17476	186 27126	335 NE	737	3649	LINR	-0.02191	0.00561		0.99979	
1,2-Dichloropropane	NE 0.30980	0.39218 0.32731	0.31924 0.32414	0.31675 0.31525	0.32114	0.32029	AVRG		0.32734		7.58708	
2-Nitropropane	NE 0.11734	0.14074 0.11953	0.09637 0.13174	0.10711 0.13173	0.11448	0.10120	AVRG		0.11780		12.65451	
Dibromomethane	NE 0.20056	0.21460 0.20633	0.21392 0.20346	0.22590 0.20217	0.21911	0.20622	AVRG		0.21025		4.09444	
4-Methyl-2-Pentanone	NE 0.38089	0.39006 0.38106	0.37301 0.38720	0.35059 0.37830	0.33890	0.36829	AVRG		0.37203		4.58417	
cis-1,3-Dichloropropene	NE 332624	3082 774336	4923 1255756	9984 1704761	24292	121394	LINR	0.04404	0.52092		0.99891	
Ethyl Methacrylate	NE 0.47025	0.47999 0.48104	0.41360 0.50051	0.40215 0.50137	0.44072	0.43657	AVRG		0.45847		7.97646	
Toluene	NE 1.31532	1.55344 1.43991	1.22059 1.39615	1.17375 1.32407	1.42771	1.38367	AVRG		1.35940		8.53378	
trans-1,3-Dichloropropene	NE 0.37683	0.39687 0.42779	0.32196 0.43704	0.32873 0.44041	0.32012	0.33895	AVRG		0.37652		13.49040	
2-Hexanone	NE 0.24862	0.24712 0.25518	0.22352 0.25670	0.25080 0.25265	0.23481	0.24777	AVRG		0.24635		4.32128	

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Initial Calibration Data

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder HS23071456

RunID VOA9_442900

Volatiles by EPA 8260

ICAL Summary Page 5 / 12

Compound	50.00 Level 7 0.250 Level 1	100.00 Level 8 0.500 Level 2	150.00 Level 9 1.00 Level 3	200.00 Level 10 2.00 Level 4	5.00 Level 5	20.00 Level 6	Curve	b	m1	m2	%RSD or R2	Q
1,1,2-Trichloroethane	NE 0.27285	0.32793 0.27354	0.35553 0.27154	0.29200 0.26266	0.28919	0.27515	AVRG		0.29115		10.58600	
1,3-Dichloropropane	NE 0.57089	0.71298 0.58339	0.59195 0.58210	0.57169 0.55891	0.61249	0.59083	AVRG		0.59725		7.70338	
Dibromochloromethane	NE 0.35792	0.40009 0.38513	0.33426 0.39499	0.30395 0.38437	0.31836	0.33671	AVRG		0.35731		9.93273	
Tetrachloroethene	NE 0.28509	0.36304 0.34834	0.35268 0.33578	0.31548 0.30976	0.34950	0.31486	AVRG		0.33050		7.72972	
1,2-Dibromoethane	NE 0.35081	0.39475 0.34983	0.35909 0.34883	0.32573 0.33700	0.34508	0.34115	AVRG		0.35025		5.47989	
1-Chlorohexane	NE 0.20855	0.27808 0.29712	0.27020 0.28117	0.26046 0.26499	0.24548	0.24381	AVRG		0.26109		9.94291	
Chlorobenzene	NE 0.88349	1.10870 0.95885	0.99066 0.93838	0.96470 0.89377	0.98950	0.94498	AVRG		0.96367		6.83984	
1,1,1,2-Tetrachloroethane	NE 0.33092	0.42840 0.35916	0.33600 0.35862	0.31830 0.34985	0.34072	0.33909	AVRG		0.35123		9.03803	
Ethylbenzene	NE 0.40552	0.50007 0.48460	0.39089 0.46935	0.38651 0.44718	0.42155	0.42069	AVRG		0.43626		9.43737	
m,p-Xylenes	NE 0.49522	0.52094 0.59843	0.45610 0.58141	0.41819 0.54890	0.47853	0.51172	AVRG		0.51216		11.35507	
o-Xylene	NE 0.49595	0.52304 0.57678	0.41034 0.56670	0.40767 0.54132	0.47466	0.51293	AVRG		0.50104		12.21428	
Styrene	NE 0.80748	0.76847 0.92446	0.62770 0.91819	0.64721 0.89516	0.68025	0.76772	AVRG		0.78185		14.65400	

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Initial Calibration Data

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder HS23071456

RunID VOA9_442900

Volatiles by EPA 8260

Compound	50.00 Level 7 0.250 Level 1	100.00 Level 8 0.500 Level 2	150.00 Level 9 1.00 Level 3	200.00 Level 10 2.00 Level 4	5.00 Level 5	20.00 Level 6	Curve	b	m1	m2	%RSD or R2	Q
Bromoform	NE 0.24851	0.25384 0.27219	0.21751 0.27520	0.24681 0.27372	0.23077	0.22808	AVRG		0.24962		8.52328	
Isopropylbenzene	NE 1.12488	1.13297 1.47687	1.03567 1.41043	1.04427 1.31835	1.16356	1.20468	AVRG		1.21241		12.92024	
1,1,2,2-Tetrachloroethane	NE 0.89152	1.15683 0.88591	1.06739 0.86691	1.06810 0.84501	0.98697	0.89907	AVRG		0.96308		11.51466	
1,2,3-Trichloropropane	NE 0.80375	0.85788 0.84920	0.85020 0.85611	0.82513 0.85558	0.83704	0.81178	AVRG		0.83852		2.43363	
trans-1,4-Dichloro-2-butene	NE 0.06178	0.06827 0.07281	0.06336 0.07901	0.06062 0.08039	0.06370	0.05857	AVRG		0.06761		11.91040	
n-Propylbenzene	NE 850858	7058 2371517	13048 3432693	26996 4612232	77798	353551	LINR	0.03281	2.90904		0.99629	
Bromobenzene	NE 0.76463	0.89034 0.83642	0.88535 0.82181	0.81725 0.80162	0.83590	0.79125	AVRG		0.82718		4.96971	
1,3,5-Trimethylbenzene	NE 1.58473	1.75472 2.06489	1.52111 2.01814	1.52279 1.94220	1.65270	1.66530	AVRG		1.74740		12.07099	
2-Chlorotoluene	NE 1.61585	1.88455 1.91617	1.67945 1.83780	1.66186 1.76745	1.74020	1.76147	AVRG		1.76276		5.78656	
4-Chlorotoluene	NE 1.86068	2.03419 2.16711	1.75120 2.09349	1.78532 2.00836	2.01103	2.00945	AVRG		1.96898		7.11166	
tert-Butylbenzene	NE 1.49099	1.68266 2.00142	1.31876 1.91707	1.41555 1.79993	1.64950	1.62304	AVRG		1.65544		13.65515	
1,2,4-Trimethylbenzene	NE 1.63450	1.63072 2.00886	1.50499 1.98701	1.59285 1.93814	1.83131	1.79716	AVRG		1.76950		10.50228	

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Initial Calibration Data

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder HS23071456

RunID VOA9_442900

Volatiles by EPA 8260

Compound	50.00 Level 7 0.250 Level 1	100.00 Level 8 0.500 Level 2	150.00 Level 9 1.00 Level 3	200.00 Level 10 2.00 Level 4	5.00 Level 5	20.00 Level 6	Curve	b	m1	m2	%RSD or R2	Q
sec-Butylbenzene	NE 678780	5696 2006353	11030 NE	23804 NE	69225	286254	QUAD	-0.01399	0.61960	-0.04483	0.99890	
p-Isopropyltoluene	NE 559357	5403 1676245	9596 NE	21012 NE	56898	235209	QUAD	-0.01563	0.75564	-0.06734	0.99896	
1,3-Dichlorobenzene	NE 1.23032	1.60508 1.42825	1.34617 1.39492	1.32958 1.34305	1.41910	1.32879	AVRG		1.38058		7.45823	
1,4-Dichlorobenzene	NE 1.31394	1.81022 1.47667	1.73862 1.43193	1.61360 1.38005	1.58817	1.41593	AVRG		1.52990		11.01191	
Benzyl Chloride	NE 205616	1941 491153	3936 859193	6493 1221448	15238	70588	LINR	0.08214	0.38559		0.99516	
n-Butylbenzene	NE 474213	4114 1404287	8159 2119417	17310 2783598	44805	200492	LINR	0.04782	1.76975		0.99509	
1,2-Dichlorobenzene	NE 1.27628	1.57230 1.41885	1.53433 1.37677	1.44760 1.32071	1.44536	1.35616	AVRG		1.41649		6.79067	
1,2-Dibromo-3-Chloropropane	NE 0.12632	0.14509 0.14514	0.15108 0.15032	0.13773 0.15387	0.12446	0.11566	AVRG		0.13885		9.82242	
1,2,4-Trichlorobenzene	NE 0.82790	0.87931 1.01876	0.78168 1.01424	0.72674 0.99081	0.77401	0.82891	AVRG		0.87137		12.74046	
Hexachlorobutadiene	NE 112500	1126 351435	2531 NE	5519 NE	13619	49415	QUAD	-0.02795	3.78481	-1.71367	0.99821	
Naphthalene	NE 769637	6182 1846543	11725 2827642	22645 3794466	51655	276874	LINR	0.03183	2.37702		0.99886	
1,2,3-Trichlorobenzene	NE 0.82676	1.04484 0.99128	0.76072 0.98013	0.83361 0.94656	0.78788	0.83457	AVRG		0.88960		11.44647	

NE - Not Evaluated, AVRG - Averaged, LINR - Linear Regression, WLIN - Weighted Linear, QUAD - Quadratic, * - Curve Fit Outside Limits

Initial Calibration Data

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder HS23071456

RunID VOA9_442900

Volatiles by EPA 8260

Compound	50.00 Level 7 0.250 Level 1	100.00 Level 8 0.500 Level 2	150.00 Level 9 1.00 Level 3	200.00 Level 10 2.00 Level 4	5.00 Level 5	20.00 Level 6	Curve	b	m1	m2	%RSD or R2	Q
Ethyl Acetate	NE 0.43204	0.52740 0.43062	0.50199 0.43054	0.42517 0.42108	0.46491	0.43529	AVRG		0.45212		8.43066	
Methyl Acrylate	NE 0.46735	0.52634 0.45725	0.51288 0.47346	0.47227 0.46921	0.47069	0.45552	AVRG		0.47833		5.11332	
n-Butanol	NE 0.01264	0.01550 0.01315	0.01487 0.01382	0.01381 0.01385	0.01108	0.01128	AVRG		0.01333		11.12185	
Ethyl Acrylate	NE 1.08269	0.93898 1.15967	0.99143 1.17300	0.87739 1.13262	0.88314	1.03560	AVRG		1.03050		11.12950	
Cyclohexanone	NE 0.03037	0.03773 0.02918	0.03169 0.02981	0.03259 0.02942	0.02743	0.03001	AVRG		0.03091		9.54305	
1,4-Dioxane	0.00807 0.00665	0.00860 0.00627	0.00802 0.00620	0.00780 0.00611	0.00716	0.00680	AVRG		0.00717		12.54606	
n-Hexane	NE 0.27118	0.38411 0.43277	0.34794 0.41787	0.35855 0.37300	0.36686	0.31429	AVRG		0.36295		13.59891	
Freon TF	NE 133548	1250 376621	3343 NE	5602 NE	16029	59963	QUAD	-0.02403	4.39261	-2.16232	0.99789	
Methyl Acetate	NE 0.33112	0.42414 0.32801	0.40074 0.34056	0.38319 0.32784	0.35406	0.33930	AVRG		0.35877		9.86973	
Methylcyclohexane	NE 0.74949	0.75489 0.80127	0.68423 0.80994	0.63981 0.78324	0.61500	0.71662	AVRG		0.72828		9.57636	
Isopropyl alcohol	NE 0.02599	0.03169 0.02556	0.03143 0.02686	0.03125 0.02613	0.02516	0.02463	AVRG		0.02763		10.62773	
Amyl alcohol	NE 0.00992	0.00933 0.01068	0.01077 0.01120	0.01025 0.01126	0.00871	0.00967	AVRG		0.01020		8.50391	

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Initial Calibration Data

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder HS23071456

RunID VOA9_442900

Volatiles by EPA 8260

Compound	50.00 Level 7 0.250 Level 1	100.00 Level 8 0.500 Level 2	150.00 Level 9 1.00 Level 3	200.00 Level 10 2.00 Level 4	5.00 Level 5	20.00 Level 6	Curve	b	m1	m2	%RSD or R2	Q
Allyl alcohol	NE 141423	1755 459706	3354 NE	6722 NE	18282	63877	QUAD	-0.61034	84.68604	-43.56216	0.99752	
4-Methyl-2-pentanol	NE 0.06586	0.06162 0.06887	0.05487 0.07404	0.06416 0.07493	0.05455	0.06625	AVRG		0.06502		11.16525	
Tert-butyl alcohol	NE 427118	5912 876760	11049 1418139	21792 1911477	44536	172724	LINR	-0.06239	0.04191		0.99982	
Diethyl ether	NE 0.28335	0.29000 0.28634	0.27179 0.29471	0.27465 0.29201	0.28119	0.27386	AVRG		0.28310		2.95718	
1,3-Butadiene	NE 0.36549	0.42137 0.44407	0.36142 0.43695	0.38543 0.40437	0.39948	0.36451	AVRG		0.39812		7.89458	
Cyclohexane	NE 0.46619	0.50739 0.68232	0.53228 0.64576	0.54556 0.58534	0.55073	0.54220	AVRG		0.56197		11.91538	
Tetrahydrofuran	NE 0.08361	0.09581 0.07797	0.09077 0.08203	0.08518 0.07963	0.08274	0.07526	AVRG		0.08367		7.59865	
alpha-Methylstyrene	NE 245723	1830 679309	3510 1101168	7992 1515973	21160	95125	LINR	0.07437	0.94175		0.99609	
Diisopropyl ether	NE 1.13698	1.25197 1.14127	1.30077 1.16955	1.23908 1.15292	1.13582	1.10431	AVRG		1.18141		5.60782	
Dichlorofluoromethane	NE 0.64037	0.70051 0.66674	0.69650 0.67591	0.63117 0.65212	0.62816	0.64669	AVRG		0.65980		4.06002	
Butyl acrylate	NE 412223	3138 902217	4545 1506361	11622 2123462	29316	146625	LINR	0.04999	0.67060		0.99846	
Butyl methacrylate	NE 0.70843	0.69624 0.69530	0.47517 0.68569	0.57049 0.67752	0.51352	0.64302	AVRG		0.62949		13.91869	

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Initial Calibration Data

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder HS23071456

RunID VOA9_442900

Volatiles by EPA 8260

Compound	50.00 Level 7 0.250 Level 1	100.00 Level 8 0.500 Level 2	150.00 Level 9 1.00 Level 3	200.00 Level 10 2.00 Level 4	5.00 Level 5	20.00 Level 6	Curve	b	m1	m2	%RSD or R2	Q
Dicyclopentadiene	NE 2.21106	1.96570 2.39558	1.89454 2.43513	1.80220 2.32394	1.88899	2.15831	AVRG		2.11950		11.25950	
1,2,3-Trimethylbenzene	NE 1.79804	1.82320 1.84170	1.68412 1.85455	1.68975 1.83115	1.70207	1.83779	AVRG		1.78471		3.99767	
Ethanol	NE 55961	749 111476	1210 177398	2145 232260	5504	20900	LINR	-0.27612	0.00516		0.99938	
tert-Butyl formate	NE 0.33829	0.39965 0.35637	0.40370 0.37833	0.37378 0.38362	0.34312	0.32624	AVRG		0.36701		7.48195	
3,3-Dimethyl-1-butanol	NE 0.03471	0.04702 0.03429	0.03157 0.03667	0.04138 0.03639	0.03458	0.03693	AVRG		0.03706		12.36612	
tert-Amyl methyl ether	NE 577923	5246 1310498	8905 2015550	17751 2719668	43846	202905	LINR	0.02283	1.20807		0.99932	
tert-Butyl ethyl ether	NE 0.97228	0.98646 0.99590	0.97296 1.05407	0.88592 1.04592	0.90108	0.90693	AVRG		0.96906		6.27455	
tert-Amyl alcohol	NE 0.03383	0.04273 0.03564	0.04045 0.03783	0.03994 0.03836	0.03431	0.03262	AVRG		0.03730		9.16293	
Epichlorohydrin	NE 8907	99. 25123	166 NE	503 NE	991	2557	QUAD	-0.03680	406	-4920	0.99782	
Isoprene	NE 0.08820	0.10454 0.10957	0.08600 0.10889	0.09537 0.09888	0.09078	0.09354	AVRG		0.09731		8.97873	
n-Amyl acetate	NE 0.56962	0.58193 0.58520	0.53350 0.60073	0.54094 0.59273	0.55207	0.58144	AVRG		0.57091		4.13415	
Isopropyl acetate	NE 0.98035	1.06592 1.00633	0.85168 1.01698	0.95203 1.01279	0.94821	0.97012	AVRG		0.97827		6.13832	

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Initial Calibration Data

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder HS23071456

RunID VOA9_442900

Volatiles by EPA 8260

Compound	50.00 Level 7 0.250 Level 1	100.00 Level 8 0.500 Level 2	150.00 Level 9 1.00 Level 3	200.00 Level 10 2.00 Level 4	5.00 Level 5	20.00 Level 6	Curve	b	m1	m2	%RSD or R2	Q
n-Butyl acetate	NE 0.57836	0.49473 0.60636	0.53057 0.62611	0.48794 0.61794	0.48642	0.53903	AVRG		0.55194		10.28930	
Acetaldehyde	NE 0.07083	NE 0.06492	NE 0.06299	0.07510 0.06020	0.06817	0.05728	AVRG		0.06564		9.42908	
Methyl Amyl Ketone	NE 0.70597	0.69259 0.69656	0.54433 0.73897	0.65695 0.74098	0.59904	0.70207	AVRG		0.67527		9.66555	
Dimethyl Disulfide	NE 220128	453 615910	917 1180966	2883 1720035	9195	58623	QUAD	0.08388	2.51252	-0.34354	0.99519	
Isobutylene	NE 0.05708	NE 0.06038	0.07220 0.05950	0.06182 0.05728	0.06042	0.06033	AVRG		0.06113		7.78993	
2-Ethylhexyl Acrylate	NE 180110	1311 428559	2603 725138	4677 1027307	11853	61419	QUAD	0.03314	1.91291	-0.14110	0.99915	
94 1,2-Dichloroethylene (total)	NE 0.35894	0.43872 0.39159	0.39753 0.39242	0.38647 0.38385	0.39149	0.37450	AVRG		0.39061		5.50045	
95 Xylenes (total)	NE 0.46183	0.48729 0.56181	0.39904 0.54139	0.39749 0.52358	0.44946	0.47866	AVRG		0.47784		12.15772	
30 Dibromofluoromethane	NE 213944	2118 432647	4835 673185	7770 879652	19210	85217	LINR	-0.01990	0.39210		0.99908	
35 1,2-Dichloroethane-d4	NE 242144	2440 469501	4638 729852	8650 950577	21416	92644	LINR	-0.02675	0.42417		0.99870	
48 Toluene-d8	NE 1.15709	1.39328 1.16538	1.27319 1.13419	1.04667 1.07750	1.05916	1.16021	AVRG		1.16296		9.50122	
69 4-Bromofluorobenzene	NE 329909	5057 681158	8707 1028731	12870 1374126	29702	131600	LINR	-0.02776	0.44164		0.99886	

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Initial Calibration Data

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder HS23071456

RunID VOA9_442900

Volatiles by EPA 8260

Compound	50.00 Level 1	100.00 Level 2	150.00 Level 3	200.00 Level 4	5.00 Level 5	20.00 Level 6	Curve	b	m1	m2	%RSD or R2	Q
	0.250 Level 7	0.500 Level 8	1.00 Level 9	2.00 Level 10								

NE - Not Evaluated, AVRG - Averaged, LINR - Linear Regression, WLIN - Weighted Linear, QUAD - Quadratic, * - Curve Fit Outside Limits

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Form 6I

Initial Calibration Verification (ICV)

Volatiles by EPA 8260

Workorder

HS23071456

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Bi-Weekly Samples

08/07/2023

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Initial Calibration Verification (ICV)

Client Bhate Environmental Associates, Inc.
Project Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder HS23071456

RunID VOA9_442900

Volatiles by EPA 8260

Sample Matrix LIQUID
Lab Smp Id CCV
Level LOW
Fraction VOA
Client Smp ID CCV
Operator PC

Compound	Conc Added	Conc Recovered	% Recovered	Limits	Q
1,1,1,2-Tetrachloroethane	50.00	45.17	90.34	80-120	
1,1,1-Trichloroethane	50.00	42.24	84.50	80-120	
1,1,2,2-Tetrachloroethane	50.00	43.44	86.89	80-120	
Freon TF	50.00	49.80	99.61	80-120	
Methyl Acetate	50.00	42.65	85.31	80-120	
Cyclohexane	50.00	42.99	86.00	80-120	
Methylcyclohexane	50.00	45.62	91.25	80-120	
Carbon Disulfide	100.00	91.76	91.77	80-120	
2-Hexanone	100.00	100.88	100.88	80-120	
1,1,2-Trichloroethane	50.00	44.48	88.97	80-120	
1,1-Dichloroethane	50.00	42.37	84.75	80-120	
1,1-Dichloroethene	50.00	44.44	88.88	80-120	
1,1-Dichloropropene	50.00	44.90	89.82	80-120	
1,2,3-Trichlorobenzene	50.00	46.01	92.02	80-120	
1,2,3-Trichloropropane	50.00	47.51	95.03	80-120	
1,2,4-Trichlorobenzene	50.00	48.56	97.14	80-120	
1,2,4-Trimethylbenzene	50.00	49.50	99.00	80-120	
1,2-Dibromo-3-Chloropropane	50.00	44.93	89.87	80-120	
1,2-Dibromoethane	50.00	46.64	93.29	80-120	
Acrolein	100.00	81.57	81.57	80-120	
Acrylonitrile	100.00	93.98	93.99	80-120	
1,2-Dichlorobenzene	50.00	43.41	86.82	80-120	
1,2-Dichloroethane	50.00	45.00	90.01	80-120	
1,2-Dichloropropane	50.00	45.48	90.96	80-120	
1,3,5-Trimethylbenzene	50.00	47.94	95.89	80-120	
1,3-Dichlorobenzene	50.00	44.62	89.24	80-120	
1,3-Dichloropropane	50.00	45.54	91.09	80-120	
1,4-Dichlorobenzene	50.00	42.01	84.03	80-120	
1-Chlorohexane	50.00	40.54	81.09	80-120	
2,2-Dichloropropane	50.00	46.62	93.25	80-120	
2-Butanone	100.00	89.06	89.06	80-120	
2-Chloroethylvinyl ether	100.00	84.06	84.07	80-120	
2-Chlorotoluene	50.00	45.59	91.19	80-120	
4-Chlorotoluene	50.00	46.97	93.95	80-120	

Initial Calibration Verification (ICV)

Client Bhate Environmental Associates, Inc.
Project Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder HS23071456

RunID VOA9_442900

Volatiles by EPA 8260

Sample Matrix LIQUID
Lab Smp Id CCV
Level LOW
Fraction VOA
Client Smp ID CCV
Operator PC

Compound	Conc Added	Conc Recovered	% Recovered	Limits	Q
p-Isopropyltoluene	50.00	53.01	106.02	80-120	
4-Methyl-2-Pentanone	100.00	98.85	98.85	80-120	
Acetone	100.00	103.24	103.25	80-120	
Acetonitrile	500.00	470.91	94.18	80-120	
Allyl Chloride	50.00	46.42	92.85	80-120	
Benzene	50.00	45.01	90.03	80-120	
Bromobenzene	50.00	45.44	90.89	80-120	
Bromochloromethane	50.00	42.35	84.70	80-120	
Bromodichloromethane	50.00	45.28	90.58	80-120	
Bromoform	50.00	48.92	97.85	80-120	
Bromomethane	50.00	53.47	106.94	80-120	
Carbon Tetrachloride	50.00	41.33	82.68	80-120	
Chlorobenzene	50.00	45.65	91.30	80-120	
Chloroethane	50.00	43.56	87.13	80-120	
Chloroform	50.00	42.70	85.41	80-120	
Chloromethane	50.00	44.76	89.52	80-120	
Chloroprene	50.00	44.88	89.77	80-120	
cis-1,2-Dichloroethene	50.00	45.41	90.82	80-120	
cis-1,3-Dichloropropene	50.00	45.07	90.15	80-120	
Dibromochloromethane	50.00	48.92	97.84	80-120	
Dibromomethane	50.00	45.39	90.79	80-120	
Dichlorodifluoromethane	50.00	41.50	83.00	80-120	
Ethylbenzene	50.00	46.95	93.92	80-120	
Ethyl Methacrylate	50.00	49.83	99.67	80-120	
Iodomethane	100.00	89.77	89.77	80-120	
Isobutyl Alcohol	1000.00	936.97	93.70	70-130	
Propionitrile	500.00	466.26	93.25	70-130	
Hexachlorobutadiene	50.00	55.99	112.00	80-120	
Isopropylbenzene	50.00	48.03	96.06	80-120	
m,p-Xylenes	100.00	100.35	100.36	80-120	
Methyl tert-butyl ether	50.00	47.22	94.46	80-120	
Methylene Chloride	50.00	46.60	93.22	80-120	
Methacrylonitrile	50.00	42.40	84.80	80-120	
Methyl Methacrylate	50.00	48.84	97.70	80-120	

Initial Calibration Verification (ICV)

Client Bhate Environmental Associates, Inc.
Project Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder HS23071456

RunID VOA9_442900

Volatiles by EPA 8260

Sample Matrix LIQUID
Lab Smp Id CCV
Level LOW
Fraction VOA
Client Smp ID CCV
Operator PC

Compound	Conc Added	Conc Recovered	% Recovered	Limits	Q
n-Butylbenzene	50.00	42.16	84.32	80-120	
n-Propylbenzene	50.00	42.94	85.89	80-120	
Naphthalene	50.00	44.85	89.71	80-120	
o-Xylene	50.00	50.38	100.78	80-120	
sec-Butylbenzene	50.00	51.05	102.11	80-120	
Styrene	50.00	53.12	106.24	80-120	
tert-Butylbenzene	50.00	45.24	90.50	80-120	
Tetrachloroethene	50.00	43.34	86.69	80-120	
Toluene	50.00	47.16	94.32	80-120	
trans-1,2-Dichloroethene	50.00	43.87	87.75	80-120	
trans-1,3-Dichloropropene	50.00	49.98	99.96	80-120	
trans-1,4-Dichloro-2-butene	50.00	51.75	103.50	80-120	
Trichloroethene	50.00	44.46	88.93	80-120	
Trichlorofluoromethane	50.00	41.79	83.60	80-120	
Vinyl Acetate	100.00	96.93	96.94	80-120	
Vinyl Chloride	50.00	44.04	88.08	80-120	
1,2-Dichloroethylene (total)	100.00	89.28	89.29	80-120	
Xylenes (total)	150.00	150.74	100.50	80-120	
1,4-Dioxane	1000.00	803.55	80.36	80-120	
Dibromofluoromethane	50.00	48.57	97.14	71-125	
1,2-Dichloroethane-d4	50.00	47.76	95.53	70-125	
Toluene-d8	50.00	50.60	101.21	75-125	

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Form 7

Continuing Calibration Verification (CCV)

Volatiles by EPA 8260

Workorder

HS23071456

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Bi-Weekly Samples

08/07/2023

ALS Environmental–Houston Laboratory

10450 Stancliff Road, Suite 210, Houston, TX 77099

Phone (281) 530-5656 Fax (281) 530-5887

www.alsglobal.com

Continuing Calibration Verification (CCV)

Client Bhate Environmental Associates, Inc.
Project Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder HS23071456

RunID VOA9_443065

Volatiles by EPA 8260

Instrument ID VOA9.I
Lab File ID V080202.D
Analysis Type WATER
Lab Sample ID CCV

Injection Date :05
ICAL Date(s) 31-JUL-2023 31-JUL-2023
ICAL Times :30 15:13
Quant Type ISTD

Compound	$\overline{RRF}$ / Conc	RF50 / Conc	CCV RRF50	Min RRF	%D / %Drift	Max %D / %Drift	Curve Type	Q
Dichlorodifluoromethane	50.0	42.94871	0.40937	0.100	14.10258	20.0	Linear	
Chloromethane	50.0	50.52681	0.59294	0.100	-1.05362	20.0	Linear	
Vinyl Chloride	0.49229	0.44653	0.44653	0.100	9.29578	20.0	Averaged	
Bromomethane	50.0	46.77769	0.24886	0.100	6.44462	20.0	Linear	
Chloroethane	0.31000	0.28284	0.28284	0.100	8.76267	20.0	Averaged	
Trichlorofluoromethane	0.60759	0.59167	0.59167	0.100	2.62090	20.0	Averaged	
Acrolein	0.03207	0.03019	0.03019	0.010	5.85601	20.0	Averaged	
Acetone	100	132	0.20226	0.100	-31.64997	20.0	Linear	*
1,1-Dichloroethene	0.32942	0.30931	0.30931	0.100	6.10595	20.0	Averaged	
Iodomethane	100	91.29350	0.28763	0.100	8.70650	20.0	Quadratic	
Acrylonitrile	0.15717	0.16274	0.16274	0.050	-3.54565	20.0	Averaged	
Methylene Chloride	50.0	47.83252	0.38289	0.100	4.33497	20.0	Linear	
Methyl tert-butyl ether	1.01819	1.11342	1.11342	0.100	-9.35363	20.0	Averaged	
Carbon Disulfide	0.95901	0.82330	0.82330	0.100	14.15089	20.0	Averaged	
trans-1,2-Dichloroethene	0.36916	0.34020	0.34020	0.100	7.84477	20.0	Averaged	
Vinyl Acetate	1.05648	1.01812	1.01812	0.010	3.63146	20.0	Averaged	
1,1-Dichloroethane	0.67475	0.62740	0.62740	0.200	7.01719	20.0	Averaged	
2-Butanone	0.19643	0.19233	0.19233	0.100	2.08901	20.0	Averaged	
2,2-Dichloropropane	0.46523	0.41805	0.41805	0.100	10.14216	20.0	Averaged	
cis-1,2-Dichloroethene	0.41207	0.40511	0.40511	0.100	1.68970	20.0	Averaged	
Chloroform	0.78523	0.75191	0.75191	0.200	4.24255	20.0	Averaged	
Bromochloromethane	0.24383	0.21865	0.21865	0.100	10.33021	20.0	Averaged	
30 Dibromofluoromethane	50.0	53.99534	0.43123	0.100	-7.99068	20.0	Linear	
1,1,1-Trichloroethane	0.61090	0.59126	0.59126	0.100	3.21554	20.0	Averaged	
1,1-Dichloropropene	0.37127	0.33633	0.33633	0.100	9.41230	20.0	Averaged	
1,2-Dichloroethane	0.43057	0.43310	0.43310	0.100	-0.58565	20.0	Averaged	
Carbon Tetrachloride	0.33260	0.31257	0.31257	0.100	6.02308	20.0	Averaged	
35 1,2-Dichloroethane-d4	50.0	58.24791	0.50549	0.100	-16.49581	20.0	Linear	
Benzene	1.22138	1.10182	1.10182	0.500	9.78916	20.0	Averaged	
Trichloroethene	0.34521	0.31453	0.31453	0.200	8.88710	20.0	Averaged	
Bromodichloromethane	0.39063	0.37280	0.37280	0.200	4.56434	20.0	Averaged	
2-Chloroethylvinyl ether	++++	++++	1.808e+59	0.001	++++	20.0	Linear	*
1,2-Dichloropropane	0.32734	0.29738	0.29738	0.100	9.15465	20.0	Averaged	
Dibromomethane	0.21025	0.19386	0.19386	0.100	7.79805	20.0	Averaged	

Continuing Calibration Verification (CCV)

Client Bhate Environmental Associates, Inc.
Project Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder HS23071456

RunID VOA9_443065

Volatiles by EPA 8260

Instrument ID VOA9.I
Lab File ID V080202.D
Analysis Type WATER
Lab Sample ID CCV

Injection Date :05
ICAL Date(s) 31-JUL-2023 31-JUL-2023
ICAL Times :30 15:13
Quant Type ISTD

Compound	$\overline{RRF}$ / Conc	RF50 / Conc	CCV RRF50	Min RRF	%D / %Drift	Max %D / %Drift	Curve Type	Q
4-Methyl-2-Pentanone	0.37203	0.34712	0.34712	0.100	6.69669	20.0	Averaged	
cis-1,3-Dichloropropene	50.0	42.30883	0.41785	0.200	15.38235	20.0	Linear	
48 Toluene-d8	1.16296	1.14574	1.14574	0.100	1.48043	20.0	Averaged	
Toluene	1.35940	1.23590	1.23590	0.400	9.08501	20.0	Averaged	
trans-1,3-Dichloropropene	0.37652	0.36081	0.36081	0.100	4.17339	20.0	Averaged	
2-Hexanone	0.24635	0.23869	0.23869	0.100	3.11003	20.0	Averaged	
1,1,2-Trichloroethane	0.29115	0.25051	0.25051	0.100	13.95951	20.0	Averaged	
1,3-Dichloropropane	0.59725	0.53419	0.53419	0.100	10.55822	20.0	Averaged	
Dibromochloromethane	0.35731	0.33707	0.33707	0.100	5.66548	20.0	Averaged	
Tetrachloroethene	0.33050	0.27441	0.27441	0.200	16.97273	20.0	Averaged	
1,2-Dibromoethane	0.35025	0.31981	0.31981	0.100	8.69309	20.0	Averaged	
1-Chlorohexane	0.26109	0.21772	0.21772	0.100	16.61178	20.0	Averaged	
Chlorobenzene	0.96367	0.86982	0.86982	0.500	9.73882	20.0	Averaged	
1,1,1,2-Tetrachloroethane	0.35123	0.31566	0.31566	0.100	10.12738	20.0	Averaged	
Ethylbenzene	0.43626	0.40208	0.40208	0.100	7.83599	20.0	Averaged	
m,p-Xylenes	0.51216	0.50421	0.50421	0.100	1.55245	20.0	Averaged	
o-Xylene	0.50104	0.50405	0.50405	0.300	-0.60082	20.0	Averaged	
Styrene	0.78185	0.80823	0.80823	0.300	-3.37447	20.0	Averaged	
Bromoform	0.24962	0.23354	0.23354	0.100	6.44538	20.0	Averaged	
Isopropylbenzene	1.21241	1.19497	1.19497	0.100	1.43865	20.0	Averaged	
1,1,2,2-Tetrachloroethane	0.96308	0.81839	0.81839	0.300	15.02371	20.0	Averaged	
1,2,3-Trichloropropane	0.83852	0.77384	0.77384	0.100	7.71406	20.0	Averaged	
n-Propylbenzene	50.0	42.55101	2.38020	0.100	14.89799	20.0	Linear	
Bromobenzene	0.82718	0.74217	0.74217	0.100	10.27666	20.0	Averaged	
1,3,5-Trimethylbenzene	1.74740	1.66727	1.66727	0.100	4.58535	20.0	Averaged	
2-Chlorotoluene	1.76276	1.67737	1.67737	0.100	4.84369	20.0	Averaged	
4-Chlorotoluene	1.96898	1.86907	1.86907	0.100	5.07438	20.0	Averaged	
tert-Butylbenzene	1.65544	1.58264	1.58264	0.100	4.39761	20.0	Averaged	
1,2,4-Trimethylbenzene	1.76950	1.69639	1.69639	0.100	4.13218	20.0	Averaged	
sec-Butylbenzene	50.0	51.38003	1.95860	0.100	-2.76006	20.0	Quadratic	
p-Isopropyltoluene	50.0	51.73637	1.62549	0.100	-3.47273	20.0	Quadratic	
1,3-Dichlorobenzene	1.38058	1.24056	1.24056	0.600	10.14238	20.0	Averaged	
1,4-Dichlorobenzene	1.52990	1.31294	1.31294	0.400	14.18133	20.0	Averaged	
n-Butylbenzene	50.0	40.80397	1.35962	0.500	18.39205	20.0	Linear	

Continuing Calibration Verification (CCV)

Client Bhate Environmental Associates, Inc.
Project Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder HS23071456

RunID VOA9_443065

Volatiles by EPA 8260

Instrument ID VOA9.I
Lab File ID V080202.D
Analysis Type WATER
Lab Sample ID CCV

Injection Date :05
ICAL Date(s) 31-JUL-2023 31-JUL-2023
ICAL Times :30 15:13
Quant Type ISTD

Compound	$\overline{RRF}$ / Conc	RF50 / Conc	CCV RRF50	Min RRF	%D / %Drift	Max %D / %Drift	Curve Type	Q
1,2-Dichlorobenzene	1.41649	1.25770	1.25770	0.400	11.20989	20.0	Averaged	
1,2-Dibromo-3-Chloropropane	0.13885	0.12375	0.12375	0.050	10.87728	20.0	Averaged	
1,2,4-Trichlorobenzene	0.87137	0.83230	0.83230	0.200	4.48418	20.0	Averaged	
Hexachlorobutadiene	50.0	53.83959	0.34613	0.100	-7.67919	20.0	Quadratic	
Naphthalene	50.0	45.03798	2.06548	0.200	9.92405	20.0	Linear	
1,2,3-Trichlorobenzene	0.88960	0.84890	0.84890	0.100	4.57454	20.0	Averaged	
94 1,2-Dichloroethylene (total	0.39061	0.37265	0.37265	0.200	4.59819	20.0	Averaged	
95 Xylenes (total)	0.47784	0.49120	0.49120	0.100	-2.79539	20.0	Averaged	
1,4-Dioxane	0.00717	0.00616	0.00616	0.001	14.08340	20.0	Averaged	
Cyclohexane	0.56197	0.49482	0.49482	0.100	11.94986	20.0	Averaged	
Freon TF	50.0	51.28755	0.27667	0.100	-2.57511	20.0	Quadratic	
1,3-Butadiene	0.39812	0.36605	0.36605	0.100	8.05662	20.0	Averaged	
Methylcyclohexane	0.72828	0.73322	0.73322	0.100	-0.67843	20.0	Averaged	
Methyl Acetate	0.35877	0.32645	0.32645	0.100	9.01091	20.0	Averaged	
Tert-butyl alcohol	1000	1010	0.04246	0.005	-1.00553	20.0	Linear	
Isopropyl alcohol	0.02763	0.02473	0.02473	0.005	10.50008	20.0	Averaged	
trans-1,4-Dichloro-2-butene	0.06761	0.07038	0.07038	0.050	-4.09360	20.0	Averaged	
Isobutyl Alcohol	0.07082	0.07187	0.07187	0.005	-1.48161	20.0	Averaged	
Acetonitrile	0.04619	0.05135	0.05135	0.005	-11.17299	20.0	Averaged	
Allyl Chloride	1.05495	1.04002	1.04002	0.100	1.41559	20.0	Averaged	
Methacrylonitrile	0.28080	0.27201	0.27201	0.100	3.12952	20.0	Averaged	
Methyl Methacrylate	0.43202	0.45175	0.45175	0.100	-4.56756	20.0	Averaged	
Propionitrile	0.05936	0.06172	0.06172	0.010	-3.98068	20.0	Averaged	
Methyl Acrylate	0.47833	0.49217	0.49217	0.100	-2.89352	20.0	Averaged	
Chloroprene	0.13108	0.12745	0.12745	0.100	2.77056	20.0	Averaged	
Ethyl Methacrylate	0.45847	0.47476	0.47476	0.100	-3.55311	20.0	Averaged	

Continuing Calibration Verification (CCV)

Client Bhate Environmental Associates, Inc.
Project Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder HS23071456

RunID VOA9_443065

Volatiles by EPA 8260

Instrument ID VOA9.I
Lab File ID V080231.D
Analysis Type WATER
Lab Sample ID CCV-END

Injection Date :54
ICAL Date(s) 31-JUL-2023 31-JUL-2023
ICAL Times :30 15:13
Quant Type ISTD

Compound	$\overline{RRF}$ / Conc	RF50 / Conc	CCV RRF50	Min RRF	%D / %Drift	Max %D / %Drift	Curve Type	Q
Dichlorodifluoromethane	50.0	31.33073	0.29529	0.100	37.33854	50.0	Linear	
Chloromethane	50.0	45.34879	0.53259	0.100	9.30242	50.0	Linear	
Vinyl Chloride	0.49229	0.37725	0.37725	0.100	23.36718	50.0	Averaged	
Bromomethane	50.0	47.01463	0.25007	0.100	5.97073	50.0	Linear	
Chloroethane	0.31000	0.25102	0.25102	0.100	19.02555	50.0	Averaged	
Trichlorofluoromethane	0.60759	0.53251	0.53251	0.100	12.35636	50.0	Averaged	
Acrolein	0.03207	0.02559	0.02559	0.010	20.21448	50.0	Averaged	
Acetone	100	110	0.17123	0.100	-10.19852	50.0	Linear	
1,1-Dichloroethene	0.32942	0.26728	0.26728	0.100	18.86404	50.0	Averaged	
Iodomethane	100	83.70878	0.26143	0.100	16.29122	50.0	Quadratic	
Acrylonitrile	0.15717	0.16241	0.16241	0.050	-3.33821	50.0	Averaged	
Methylene Chloride	50.0	47.03604	0.37654	0.100	5.92793	50.0	Linear	
Methyl tert-butyl ether	1.01819	1.14723	1.14723	0.100	-12.67397	50.0	Averaged	
Carbon Disulfide	0.95901	0.76946	0.76946	0.100	19.76516	50.0	Averaged	
trans-1,2-Dichloroethene	0.36916	0.31891	0.31891	0.100	13.60984	50.0	Averaged	
Vinyl Acetate	1.05648	0.72553	0.72553	0.010	31.32619	50.0	Averaged	
1,1-Dichloroethane	0.67475	0.60563	0.60563	0.200	10.24302	50.0	Averaged	
2-Butanone	0.19643	0.17605	0.17605	0.100	10.37545	50.0	Averaged	
2,2-Dichloropropane	0.46523	0.28586	0.28586	0.100	38.55627	50.0	Averaged	
cis-1,2-Dichloroethene	0.41207	0.38196	0.38196	0.100	7.30688	50.0	Averaged	
Chloroform	0.78523	0.77550	0.77550	0.200	1.23878	50.0	Averaged	
Bromochloromethane	0.24383	0.22043	0.22043	0.100	9.59668	50.0	Averaged	
30 Dibromofluoromethane	50.0	55.62639	0.44402	0.100	-11.25278	50.0	Linear	
1,1,1-Trichloroethane	0.61090	0.58520	0.58520	0.100	4.20768	50.0	Averaged	
1,1-Dichloropropene	0.37127	0.30842	0.30842	0.100	16.92841	50.0	Averaged	
1,2-Dichloroethane	0.43057	0.46066	0.46066	0.100	-6.98840	50.0	Averaged	
Carbon Tetrachloride	0.33260	0.29349	0.29349	0.100	11.75912	50.0	Averaged	
35 1,2-Dichloroethane-d4	50.0	63.95010	0.55387	0.100	-27.90020	50.0	Linear	
Benzene	1.22138	1.05253	1.05253	0.500	13.82426	50.0	Averaged	
Trichloroethene	0.34521	0.32475	0.32475	0.200	5.92711	50.0	Averaged	
Bromodichloromethane	0.39063	0.37682	0.37682	0.200	3.53558	50.0	Averaged	
2-Chloroethylvinyl ether	++++	++++	1.808e+59	0.001	++++	50.0	Linear	*
1,2-Dichloropropane	0.32734	0.28439	0.28439	0.100	13.12096	50.0	Averaged	
Dibromomethane	0.21025	0.20073	0.20073	0.100	4.52988	50.0	Averaged	

Continuing Calibration Verification (CCV)

Client Bhate Environmental Associates, Inc.
Project Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder HS23071456

RunID VOA9_443065

Volatiles by EPA 8260

Instrument ID VOA9.I
Lab File ID V080231.D
Analysis Type WATER
Lab Sample ID CCV-END

Injection Date :54
ICAL Date(s) 31-JUL-2023 31-JUL-2023
ICAL Times :30 15:13
Quant Type ISTD

Compound	$\overline{RRF}$ / Conc	RF50 / Conc	CCV RRF50	Min RRF	%D / %Drift	Max %D / %Drift	Curve Type	Q
4-Methyl-2-Pentanone	0.37203	0.33948	0.33948	0.100	8.75022	50.0	Averaged	
cis-1,3-Dichloropropene	50.0	40.19209	0.39580	0.200	19.61582	50.0	Linear	
48 Toluene-d8	1.16296	1.15443	1.15443	0.100	0.73395	50.0	Averaged	
Toluene	1.35940	1.18671	1.18671	0.400	12.70324	50.0	Averaged	
trans-1,3-Dichloropropene	0.37652	0.34988	0.34988	0.100	7.07633	50.0	Averaged	
2-Hexanone	0.24635	0.22464	0.22464	0.100	8.81533	50.0	Averaged	
1,1,2-Trichloroethane	0.29115	0.24861	0.24861	0.100	14.61296	50.0	Averaged	
1,3-Dichloropropane	0.59725	0.53934	0.53934	0.100	9.69652	50.0	Averaged	
Dibromochloromethane	0.35731	0.34272	0.34272	0.100	4.08204	50.0	Averaged	
Tetrachloroethene	0.33050	0.25840	0.25840	0.200	21.81646	50.0	Averaged	
1,2-Dibromoethane	0.35025	0.32914	0.32914	0.100	6.02743	50.0	Averaged	
1-Chlorohexane	0.26109	0.19311	0.19311	0.100	26.03777	50.0	Averaged	
Chlorobenzene	0.96367	0.85732	0.85732	0.500	11.03643	50.0	Averaged	
1,1,1,2-Tetrachloroethane	0.35123	0.31593	0.31593	0.100	10.05025	50.0	Averaged	
Ethylbenzene	0.43626	0.38826	0.38826	0.100	11.00252	50.0	Averaged	
m,p-Xylenes	0.51216	0.49586	0.49586	0.100	3.18299	50.0	Averaged	
o-Xylene	0.50104	0.50315	0.50315	0.300	-0.41981	50.0	Averaged	
Styrene	0.78185	0.78774	0.78774	0.300	-0.75352	50.0	Averaged	
Bromoform	0.24962	0.24759	0.24759	0.100	0.81553	50.0	Averaged	
Isopropylbenzene	1.21241	1.16007	1.16007	0.100	4.31676	50.0	Averaged	
1,1,2,2-Tetrachloroethane	0.96308	0.72185	0.72185	0.300	25.04763	50.0	Averaged	
1,2,3-Trichloropropane	0.83852	0.72267	0.72267	0.100	13.81586	50.0	Averaged	
n-Propylbenzene	50.0	38.67291	2.15457	0.100	22.65418	50.0	Linear	
Bromobenzene	0.82718	0.72709	0.72709	0.100	12.09941	50.0	Averaged	
1,3,5-Trimethylbenzene	1.74740	1.54746	1.54746	0.100	11.44188	50.0	Averaged	
2-Chlorotoluene	1.76276	1.59701	1.59701	0.100	9.40241	50.0	Averaged	
4-Chlorotoluene	1.96898	1.82454	1.82454	0.100	7.33601	50.0	Averaged	
tert-Butylbenzene	1.65544	1.49555	1.49555	0.100	9.65804	50.0	Averaged	
1,2,4-Trimethylbenzene	1.76950	1.61031	1.61031	0.100	8.99669	50.0	Averaged	
sec-Butylbenzene	50.0	46.68116	1.75128	0.100	6.63767	50.0	Quadratic	
p-Isopropyltoluene	50.0	46.47277	1.43395	0.100	7.05446	50.0	Quadratic	
1,3-Dichlorobenzene	1.38058	1.22270	1.22270	0.600	11.43597	50.0	Averaged	
1,4-Dichlorobenzene	1.52990	1.30105	1.30105	0.400	14.95873	50.0	Averaged	
n-Butylbenzene	50.0	35.24091	1.16272	0.500	29.51818	50.0	Linear	

Continuing Calibration Verification (CCV)

Client Bhate Environmental Associates, Inc.
Project Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder HS23071456

RunID VOA9_443065

Volatiles by EPA 8260

Instrument ID VOA9.I
Lab File ID V080231.D
Analysis Type WATER
Lab Sample ID CCV-END

Injection Date :54
ICAL Date(s) 31-JUL-2023 31-JUL-2023
ICAL Times :30 15:13
Quant Type ISTD

Compound	$\overline{RRF}$ / Conc	RF50 / Conc	CCV RRF50	Min RRF	%D / %Drift	Max %D / %Drift	Curve Type	Q
1,2-Dichlorobenzene	1.41649	1.26904	1.26904	0.400	10.40957	50.0	Averaged	
1,2-Dibromo-3-Chloropropane	0.13885	0.11932	0.11932	0.050	14.06693	50.0	Averaged	
1,2,4-Trichlorobenzene	0.87137	0.81390	0.81390	0.200	6.59532	50.0	Averaged	
Hexachlorobutadiene	50.0	45.23353	0.28256	0.100	9.53294	50.0	Quadratic	
Naphthalene	50.0	43.31099	1.98338	0.200	13.37802	50.0	Linear	
1,2,3-Trichlorobenzene	0.88960	0.83059	0.83059	0.100	6.63337	50.0	Averaged	
94 1,2-Dichloroethylene (total	0.39061	0.35044	0.35044	0.200	10.28525	50.0	Averaged	
95 Xylenes (total)	0.47784	0.49798	0.49798	0.100	-4.21462	50.0	Averaged	
1,4-Dioxane	0.00717	0.00628	0.00628	0.001	12.43202	50.0	Averaged	
Cyclohexane	0.56197	0.37434	0.37434	0.100	33.38867	50.0	Averaged	
Freon TF	50.0	41.55527	0.21809	0.100	16.88946	50.0	Quadratic	
1,3-Butadiene	0.39812	0.32761	0.32761	0.100	17.71069	50.0	Averaged	
Methylcyclohexane	0.72828	0.70291	0.70291	0.100	3.48256	50.0	Averaged	
Methyl Acetate	0.35877	0.35161	0.35161	0.100	1.99582	50.0	Averaged	
Tert-butyl alcohol	1000	1013	0.04257	0.005	-1.26448	50.0	Linear	
Isopropyl alcohol	0.02763	0.02581	0.02581	0.005	6.57755	50.0	Averaged	
trans-1,4-Dichloro-2-butene	0.06761	0.06571	0.06571	0.050	2.81308	50.0	Averaged	
Isobutyl Alcohol	0.07082	0.07304	0.07304	0.005	-3.13550	50.0	Averaged	
Acetonitrile	0.04619	0.05355	0.05355	0.005	-15.94396	50.0	Averaged	
Allyl Chloride	1.05495	1.06875	1.06875	0.100	-1.30778	50.0	Averaged	
Methacrylonitrile	0.28080	0.28884	0.28884	0.100	-2.86561	50.0	Averaged	
Methyl Methacrylate	0.43202	0.46080	0.46080	0.100	-6.66054	50.0	Averaged	
Propionitrile	0.05936	0.06262	0.06262	0.010	-5.49498	50.0	Averaged	
Methyl Acrylate	0.47833	0.48027	0.48027	0.100	-0.40589	50.0	Averaged	
Chloroprene	0.13108	0.11232	0.11232	0.100	14.31146	50.0	Averaged	
Ethyl Methacrylate	0.45847	0.47105	0.47105	0.100	-2.74580	50.0	Averaged	

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Form 8

Internal Standard Area and RT Summary

Volatiles by EPA 8260

Workorder

HS23071456

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Bi-Weekly Samples

08/07/2023

ALS Environmental–Houston Laboratory

10450 Stancliff Road, Suite 210, Houston, TX 77099

Phone (281) 530-5656 Fax (281) 530-5887

www.alsglobal.com

Form 8 - Internal Standard Area and RT Summary

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder **HS23071456**

Volatiles by EPA 8260

VOA9_443065		Pentafluorobenzene				1,4-Difluorobenzene				Chlorobenzene				1,4-Dichlorobenze			
Sample ID	File ID	Area	#	RT	#	Area	#	RT	#	Area	#	RT	#	Area	#	RT	#
12-HOUR STD (CCV)	V080202.D	412838	#	4.81	#	607037	#	5.55	#	591431	#	8.19	#	319896	#	10.17	#
HS23071456-01	V080210.D	496015		4.82		669385		5.55		623270		8.19		318994		10.17	
HS23071456-02	V080209.D	464136		4.82		616497		5.55		579516		8.19		320709		10.17	
VBLKW-230802	V080207.D	489133		4.81		653450		5.55		597012		8.19		301707		10.17	
VLCSW-230802	V080205.D	405396		4.81		598224		5.55		569764		8.19		323007		10.17	
MS-ZZZZZZMS	V080214.D	414712		4.82		564959		5.55		547437		8.19		310847		10.17	
ZZZZZZMSD	V080215.D	448895		4.81		611525		5.55		566596		8.19		312550		10.17	

AREA UPPER LIMIT = +100% of 12H STD IS Area
AREA LOWER LIMIT = - 50% of 12H STD IS Area
RT - Retention IS - Internal StandardTime

RT UPPER LIMIT = + 0.50 of 12H STD IS RT
RT LOWER LIMIT = - 0.50 of 12H STD IS RT
CCV - Continuing Calibration Verification

- Area or RT Limit Flag
* - Value Outside Area or RT limits
H - Hour STD - Standard

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Analysis Run Log

Volatiles by EPA 8260

Workorder

HS23071456

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Form 13 - Analysis Run Log

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder
HS23071456

RunID
VOA9-442900

Volatiles by EPA 8260

Run ID VOA9_442900 **Start Date** 07/31/23 **EndDate** 07/31/23

Inj. Time	Client Sample ID	Type	Lab Sample ID	File ID	Analysis Date	DF
11:08	BFB	TUNE	BFB	U073101.D	07/31/23	1
11:30	VSTD000.25	ICAL1	VSTD000.25	U073102.D	07/31/23	1
11:53	VSTD000.5	ICAL2	VSTD000.5	U073103.D	07/31/23	1
12:37	VSTD001	ICAL3	VSTD001	U073104.D	07/31/23	1
12:59	VSTD002	ICAL4	VSTD002	U073105.D	07/31/23	1
13:22	VSTD005	ICAL5	VSTD005	U073106.D	07/31/23	1
13:44	VSTD020	ICAL6	VSTD020	U073107.D	07/31/23	1
14:06	VSTD050	ICAL7	VSTD050	U073108.D	07/31/23	1
14:28	VSTD100	ICAL8	VSTD100	U073109.D	07/31/23	1
14:51	VSTD150	ICAL9	VSTD150	U073110.D	07/31/23	1
15:13	VSTD200	ICAL	VSTD200	U073111.D	07/31/23	1
15:57	CCV	ICV	CCV	U073113.D	07/31/23	1

Form 13 - Analysis Run Log

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder
HS23071456

RunID
VOA9-443065

Volatiles by EPA 8260

Run ID VOA9_443065 **Start Date** 08/02/23 **EndDate** 08/03/23

Inj. Time	Client Sample ID	Type	Lab Sample ID	File ID	Analysis Date	DF
21:43	BFB	TUNE	BFB	V080201.D	08/02/23	1
22:05	CCV	CCV	CCV	V080202.D	08/02/23	1
22:49	CCB	CCB	CCB	V080204.D	08/02/23	1
23:12	VLCSW-230802	LCS	VLCSW-230802	V080205.D	08/02/23	1
23:56	VBLKW-230802	MBLK	VBLKW-230802	V080207.D	08/02/23	1
00:41	HS23071456-02	SAMP	Trip Blank	V080209.D	08/03/23	1
01:04	HS23071456-01	SAMP	LH18/24-	V080210.D	08/03/23	1
01:26	HS23071846-01	SAMP	ZZZZZZZZZZ	V080211.D	08/03/23	1
01:48	HS23071846-06	SAMP	ZZZZZZZZZZ	V080212.D	08/03/23	1
02:33	HS23071846-06MS	MS	ZZZZZZMS	V080214.D	08/03/23	1
02:56	HS23071846-06MSD	MSD	ZZZZZZMSD	V080215.D	08/03/23	1
03:40	HS23071846-03	SAMP	ZZZZZZZZZZ	V080217.D	08/03/23	1
04:03	HS23071846-04	SAMP	ZZZZZZZZZZ	V080218.D	08/03/23	1
04:25	HS23071846-02	SAMP	ZZZZZZZZZZ	V080219.D	08/03/23	1
04:48	HS23071846-05	SAMP	ZZZZZZZZZZ	V080220.D	08/03/23	1
05:33	HS23071846-08	SAMP	ZZZZZZZZZZ	V080222.D	08/03/23	1
05:55	HS23071846-09	SAMP	ZZZZZZZZZZ	V080223.D	08/03/23	1
06:40	HS23071846-11	SAMP	ZZZZZZZZZZ	V080225.D	08/03/23	1
08:32	HS23071846-16	SAMP	ZZZZZZZZZZ	V080230.D	08/03/23	1
08:54	CCV-END	CCV_END	CCV-END	V080231.D	08/03/23	1

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Raw Data VOA9 442900

Volatiles by EPA 8260

Workorder

HS23071456

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Bi-Weekly Samples

08/07/2023

ALS Environmental–Houston Laboratory

10450 Stancliff Road, Suite 210, Houston, TX 77099

Phone (281) 530-5656 Fax (281) 530-5887

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Data File: \\NAHSTWS005\Target\chem\voa9.i\U230731.b\U073101.D Page 1
Report Date: 31-Jul-2023 11:44

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U230731.b\U073101.D
Lab Smp Id: BFB Client Smp ID: BFB
Inj Date : 31-JUL-2023 11:08
Operator : PC Inst ID: VOA9.i
Smp Info : BFB;BFB;3;;BFB
Misc Info : V9;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa9.i\U230731.b\bfb.m
Meth Date : 27-Jan-2023 08:08 apoluri Quant Type: ISTD
Cal Date : 30-MAR-2018 18:09 Cal File: U033003.d
Als bottle: 1 QC Sample: BFB
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.14 Sample Matrix: WATER
Processing Host: NAHSTW7051

Concentration Formula: Amt * DF * Uf * Vf * Vi * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vf	1.000	Volumetric correction factor
Vi	2.000	Injection Volume
Cpnd Variable		Local Compound Variable

					CONCENTRATIONS ON-COL (ug/L)	CONCENTRATIONS FINAL (ug/l)		
RT	EXP RT	REL RT	MASS	RESPONSE			TARGET RANGE	RATIO
1 bfb							CAS #: 460-00-4	
9.194	9.180	(0.000)	95	18893			0.00- 100.00	92.72
9.194	9.180	(0.000)	50	3365			15.00- 40.00	17.81
9.194	9.180	(0.000)	75	8705			30.00- 60.00	46.08
9.194	9.180	(0.000)	96	1333			5.00- 9.00	7.06
9.194	9.180	(0.000)	173	0	0.0	0.0	0.00- 2.00	0.00
9.194	9.180	(0.000)	174	20377			50.00- 0.00	107.85
9.194	9.180	(0.000)	175	1810			5.00- 9.00	8.88
9.194	9.180	(0.000)	176	19363			95.00- 101.00	95.02
9.194	9.180	(0.000)	177	1200			5.00- 9.00	6.20

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	17.81
75	30.00 - 60.00% of mass 95	46.08
96	5.00 - 9.00% of mass 95	7.06
173	Less than 2.00% of mass 174	0.00 (0.00)
174	Greater than 50.00% of mass 95	107.85
175	5.00 - 9.00% of mass 174	9.58 (8.88)
176	95.00 - 101.00% of mass 174	102.49 (95.02)
177	5.00 - 9.00% of mass 176	6.35 (6.20)

Data File: U073101.D
Spectrum: Average Spectrum: 9.209 to 9.224 min.
Location of Maximum: 174.00
Number of points: 167

m/z	Y	m/z	Y	m/z	Y	m/z	Y
35.00	27	77.00	277	125.00	23	175.00	1810
36.00	407	78.00	96	126.00	59	176.00	19360
37.00	1048	79.00	726	127.00	109	177.00	1200
38.00	948	80.00	297	128.00	104	178.00	109
39.00	593	81.00	653	129.00	49	180.00	10
40.00	558	82.00	297	130.00	66	181.00	34
41.00	374	83.00	139	131.00	111	184.00	11
42.00	203	84.00	153	132.00	11	185.00	15
43.00	221	86.00	121	133.00	10	187.00	48
44.00	655	87.00	968	134.00	37	188.00	22
45.00	249	88.00	1129	135.00	106	192.00	25
46.00	218	89.00	25	136.00	49	197.00	14
47.00	365	90.00	76	137.00	51	201.00	33
48.00	194	91.00	135	138.00	51	203.00	11
49.00	831	92.00	647	139.00	42	205.00	73
50.00	3365	93.00	911	140.00	14	206.00	10
51.00	1304	94.00	2311	141.00	329	207.00	29
52.00	166	95.00	18888	142.00	94	208.00	38
53.00	213	96.00	1333	143.00	328	209.00	25
54.00	153	97.00	111	144.00	29	214.00	22
55.00	238	98.00	90	145.00	105	215.00	15
56.00	339	99.00	115	146.00	56	216.00	35
57.00	551	100.00	24	147.00	104	219.00	78
58.00	126	102.00	159	148.00	48	227.00	10
59.00	113	103.00	14	149.00	75	229.00	49
60.00	282	104.00	160	150.00	106	230.00	43
61.00	885	105.00	61	152.00	22	232.00	10
62.00	951	106.00	137	153.00	48	236.00	26
63.00	815	107.00	71	155.00	138	237.00	10
64.00	206	108.00	110	156.00	33	238.00	64
65.00	371	109.00	48	157.00	71	239.00	26
66.00	134	110.00	134	158.00	23	240.00	38
67.00	96	111.00	58	159.00	100	243.00	22
68.00	1753	112.00	203	160.00	10	258.00	23
69.00	1825	114.00	119	161.00	48	263.00	41
70.00	227	116.00	200	162.00	29	267.00	12
71.00	82	117.00	256	163.00	28	298.00	21
72.00	151	118.00	96	167.00	11	308.00	11
73.00	783	119.00	230	170.00	58	316.00	11
74.00	3014	121.00	59	171.00	98	327.00	21
75.00	8705	123.00	85	172.00	638	345.00	43
76.00	822	124.00	25	174.00	20376		

Data File: \\nahstws005\target\chem\voa9.i\u230731.b\u073101.d Page 1

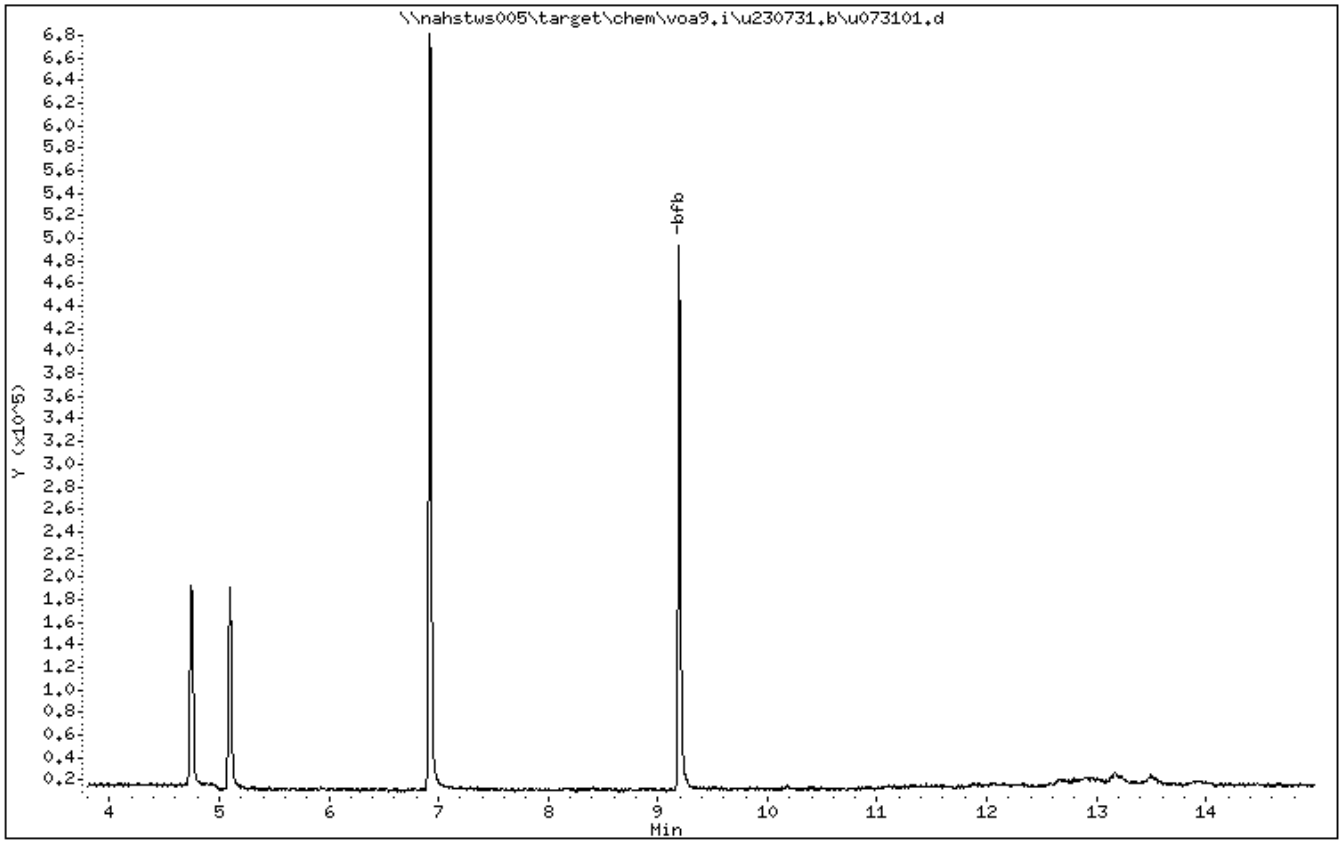
Date : 31-JUL-2023 11:08

Client ID: BFB Instrument: VOA9.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0 Operator: PC

Column phase: DB624 Column diameter: 0.25



Data File : \\nahstws005\target\chem\voa9.i\u230731.b\u073101.d
Inj Date : 31-JUL-2023 11:08
InstruID : VOA9.i
LabSampID : BFB

NO MANUAL INTEGRATIONS

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U230731.b\U073102.D
Lab Smp Id: VSTD000.25 Client Smp ID: VSTD000.25
Inj Date : 31-JUL-2023 11:30
Operator : PC Inst ID: VOA9.i
Smp Info : VSTD000.25;VSTD000.25;1;1;
Misc Info : V9;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa9.i\U230731.b\8260C.m
Meth Date : 07-Aug-2023 11:14 VOA9.i Quant Type: ISTD
Cal Date : 31-JUL-2023 14:06 Cal File: U073108.D
Als bottle: 2 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260V9.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

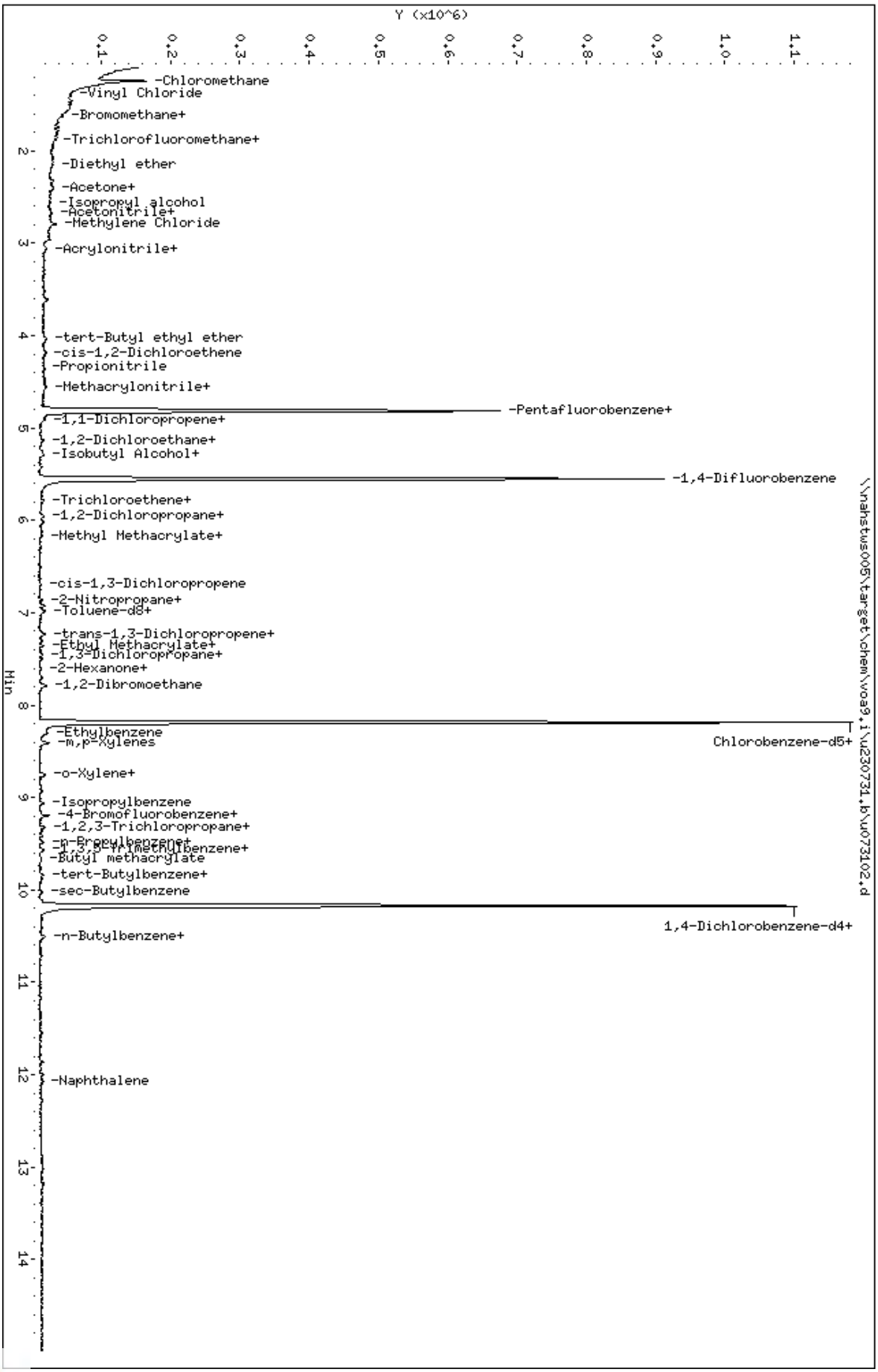
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.811	4.811	(1.000)	496916	50.0000	
	2 Dichlorodifluoromethane	85	1.160	1.160	(0.241)	978	0.25000	1.45
	3 Chloromethane	50	1.291	1.291	(0.268)	2678	0.25000	0.11
	5 Vinyl Chloride	62	1.374	1.374	(0.286)	1552	0.25000	0.31
	6 Bromomethane	94	1.621	1.621	(0.337)	1788	0.25000	
	7 Chloroethane	64	1.693	1.693	(0.352)	1133	0.25000	0.36
	8 Trichlorofluoromethane	101	1.888	1.888	(0.392)	1401	0.25000	0.23
	9 Acrolein	56	1.816	1.816	(0.378)	882	0.50000	2.76
	10 Acetone	43	2.405	2.405	(0.500)	5678	0.50000	
	11 1,1-Dichloroethene	96	2.330	2.330	(0.484)	756	0.25000	0.23
	15 Iodomethane	142	2.457	2.457	(0.511)	1651	0.50000	3.94(T)
	16 Acrylonitrile	53	3.065	3.065	(0.637)	1221	0.50000	0.78
	17 Methylene Chloride	84	2.791	2.791	(0.580)	4067	0.25000	0.83
	18 Methyl tert-butyl ether	73	3.080	3.080	(0.640)	2887	0.25000	0.28
	20 trans-1,2-Dichloroethene	96	3.057	3.057	(0.635)	1110	0.25000	0.30(T)
	27 cis-1,2-Dichloroethene	96	4.185	4.185	(0.870)	1135	0.25000	0.27
	28 Chloroform	83	4.568	4.568	(0.949)	2583	0.25000	0.33
	29 Bromochloromethane	128	4.459	4.459	(0.927)	932	0.25000	0.38
$	30 Dibromofluoromethane	113	4.744	4.744	(0.986)	1672	0.25000	
	31 1,1,1-Trichloroethane	97	4.740	4.740	(0.985)	1600	0.25000	0.26

32 1,1-Dichloropropene	75	4.913	4.913 (0.885)	1314	0.25000	0.24
33 1,2-Dichloroethane	62	5.175	5.175 (0.932)	2443	0.25000	0.40

			QUANT SIG					AMOUNTS	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/l)	ON-COL (ug/l)
	34	Carbon Tetrachloride	117	4.901	4.901	(0.883)	1067	0.25000	0.22
$	35	1,2-Dichloroethane-d4	65	5.100	5.100	(1.060)	1633	0.25000	(T)
*	36	1,4-Difluorobenzene	114	5.550	5.550	(1.000)	707855	50.0000	
	37	Benzene	78	5.134	5.134	(0.925)	5117	0.25000	0.29
	38	Trichloroethene	130	5.786	5.786	(1.043)	1555	0.25000	0.31
	42	1,2-Dichloropropane	63	6.011	6.011	(1.083)	1647	0.25000	0.35
	44	Dibromomethane	93	6.120	6.120	(1.103)	983	0.25000	0.33
	45	4-Methyl-2-Pentanone	43	6.862	6.862	(0.838)	2668	0.50000	0.55
	46	cis-1,3-Dichloropropene	75	6.693	6.693	(1.206)	1425	0.25000	2.39
*	47	Chlorobenzene-d5	117	8.185	8.185	(1.000)	641569	50.0000	
$	48	Toluene-d8	98	6.922	6.922	(0.846)	5646	0.25000	0.37
	50	Toluene	91	6.978	6.978	(0.853)	4604	0.25000	0.26
	51	trans-1,3-Dichloropropene	75	7.203	7.203	(1.298)	1070	0.25000	0.20
	52	2-Hexanone	43	7.604	7.604	(0.929)	1668	0.50000	0.52
	53	1,1,2-Trichloroethane	83	7.357	7.357	(0.899)	1284	0.25000	0.34
	54	1,3-Dichloropropane	76	7.499	7.499	(0.916)	2426	0.25000	0.31
	55	Dibromochloromethane	129	7.690	7.690	(0.940)	1272	0.25000	0.27
	56	Tetrachloroethene	164	7.454	7.454	(0.911)	1159	0.25000	0.27
	57	1,2-Dibromoethane	107	7.788	7.788	(0.951)	1274	0.25000	0.28
	58	1-Chlorohexane	55	8.185	8.185	(1.475)	6173	0.25000	1.67
	59	Chlorobenzene	112	8.212	8.212	(1.003)	3729	0.25000	0.30
	60	1,1,1,2-Tetrachloroethane	131	8.283	8.283	(1.012)	1356	0.25000	0.30
	61	Ethylbenzene	106	8.305	8.305	(1.015)	1736	0.25000	0.31
	62	m,p-Xylenes	106	8.406	8.406	(1.027)	3937	0.50000	0.59
	63	o-Xylene	106	8.748	8.748	(1.069)	1597	0.25000	0.24
	64	Styrene	104	8.766	8.766	(1.071)	2398	0.25000	0.23
	67	Isopropylbenzene	105	9.062	9.062	(1.107)	3195	0.25000	0.20
$	69	4-Bromofluorobenzene	95	9.197	9.197	(1.124)	4338	0.25000	
*	70	1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	303700	50.0000	
	71	1,2,3-Trichloropropane	75	9.366	9.366	(0.921)	1619	0.25000	0.31
	73	n-Propylbenzene	91	9.411	9.411	(0.925)	3466	0.25000	1.83
	74	Bromobenzene	156	9.325	9.325	(0.917)	1662	0.25000	0.33
	75	1,3,5-Trimethylbenzene	105	9.561	9.561	(0.940)	2570	0.25000	0.24
	76	2-Chlorotoluene	91	9.482	9.482	(0.932)	2465	0.25000	0.23
	77	4-Chlorotoluene	91	9.580	9.580	(0.942)	2129	0.25000	0.17
	78	tert-Butylbenzene	119	9.838	9.838	(0.967)	2549	0.25000	0.25
	79	1,2,4-Trimethylbenzene	105	9.880	9.880	(0.971)	2409	0.25000	0.22
	81	sec-Butylbenzene	105	10.022	10.022	(0.985)	2455	0.25000	
	82	p-Isopropyltoluene	119	10.150	10.150	(0.998)	2272	0.25000	
	83	1,3-Dichlorobenzene	146	10.120	10.120	(0.995)	2413	0.25000	0.28
	84	1,4-Dichlorobenzene	146	10.187	10.187	(1.001)	3376	0.25000	0.36
	87	n-Butylbenzene	91	10.494	10.494	(1.032)	1965	0.25000	2.57
	88	1,2-Dichlorobenzene	146	10.506	10.506	(1.033)	2767	0.25000	0.32
	92	Naphthalene	128	12.073	12.073	(1.187)	3872	0.25000	1.85
M	94	1,2-Dichloroethylene (total)	96				2245	0.50000	
M	95	Xylenes (total)	106				5534	0.75000	
	135	1,4-Dioxane	88	6.176	6.176	(1.284)	401	5.00000	5.62(M)
	141	Cyclohexane	56	4.811	4.811	(1.000)	8671	0.25000	1.55
	138	Freon TF	101	2.322	2.322	(0.483)	707	0.25000	
	147	Methylcyclohexane	55	5.951	5.951	(1.072)	2978	0.25000	0.28

QC Flag Legend

T - Target compound detected outside RT window.
M - Compound response manually integrated.



Data File: \\nahstws005\target\chem\voa9.i\u230731.b\u073102.d
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Client ID: VSTD000.25
Sample Info: VSTD000.25;VSTD000.25;1;1;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA9.i
Operator: PC
Column diameter: 0.18

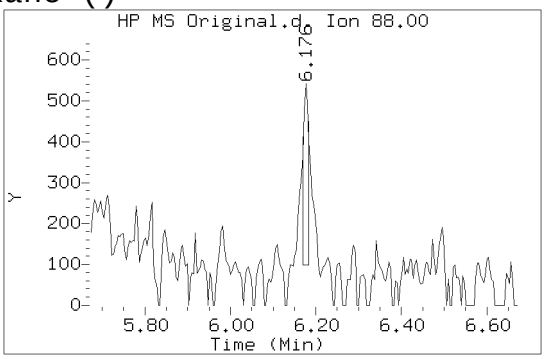
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Inj Date : 31-JUL-2023 11:30
InstruID : VOA9.i
LabSampID : VSTD000.25

1,4-Dioxane ()

Reason Code:

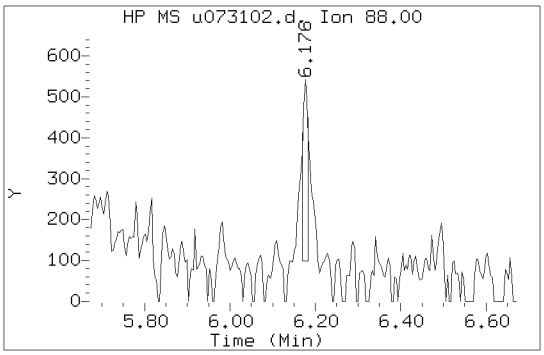
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HEIGHT
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01-Aug-2023
20:56



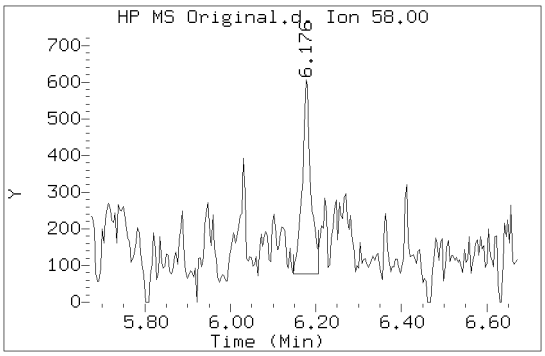
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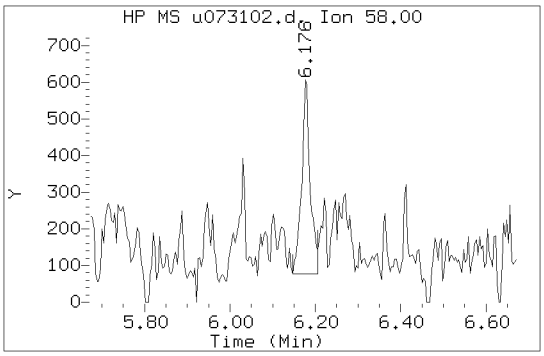
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529
01-Aug-2023
20:56



AFTER

MASS
58
AREA
763
HEIGHT
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01-Aug-2023
20:56



Data File: \\NAHSTWS005\Target\chem\voa9.i\U230731.b\U073103.D Page 1
Report Date: 07-Aug-2023 11:14

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U230731.b\U073103.D
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Inj Date : 31-JUL-2023 11:53
Operator : PC Inst ID: VOA9.i
Smp Info : VSTD000.5;VSTD000.5;1;2;
Misc Info : V9;WATER;0;1;
Comment   :
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Meth Date : 07-Aug-2023 11:14 VOA9.i Quant Type: ISTD
Cal Date : 31-JUL-2023 11:30 Cal File: U073102.D
Als bottle: 3 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260V9.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1	Pentafluorobenzene	168	4.815	4.815	(1.000)	469659	50.0000	
2	Dichlorodifluoromethane	85	1.164	1.164	(0.242)	2205	0.50000	1.73(M)
3	Chloromethane	50	1.295	1.295	(0.269)	3690	0.50000	0.32(M)
5	Vinyl Chloride	62	1.374	1.374	(0.285)	2466	0.50000	0.53(M)
6	Bromomethane	94	1.618	1.618	(0.336)	1966	0.50000	(M)
7	Chloroethane	64	1.696	1.696	(0.352)	1758	0.50000	0.60(M)
8	Trichlorofluoromethane	101	1.891	1.891	(0.393)	3036	0.50000	0.53
9	Acrolein	56	1.741	1.741	(0.362)	302	1.00000	1.00(M)
10	Acetone	43	2.412	2.412	(0.501)	6516	1.00000	
11	1,1-Dichloroethene	96	2.334	2.334	(0.485)	1618	0.50000	0.52(M)
15	Iodomethane	142	2.465	2.465	(0.512)	3031	1.00000	4.45
16	Acrylonitrile	53	3.068	3.068	(0.637)	1466	1.00000	0.99
17	Methylene Chloride	84	2.795	2.795	(0.580)	2838	0.50000	0.56(M)
18	Methyl tert-butyl ether	73	3.080	3.080	(0.640)	5238	0.50000	0.54
19	Carbon Disulfide	76	2.517	2.517	(0.523)	10100	1.00000	1.12
20	trans-1,2-Dichloroethene	96	3.053	3.053	(0.634)	2038	0.50000	0.58(M)
21	Vinyl Acetate	43	3.612	3.612	(0.750)	10832	1.00000	1.09(M)
22	1,1-Dichloroethane	63	3.511	3.511	(0.729)	3735	0.50000	0.58(M)
24	2-Butanone	43	4.272	4.272	(0.887)	2140	1.00000	1.15(M)
26	2,2-Dichloropropane	77	4.182	4.182	(0.868)	2117	0.50000	0.48

27 cis-1,2-Dichloroethene	96	4.200	4.200 (0.872)	2083	0.50000	0.53
28 Chloroform	83	4.572	4.572 (0.949)	4366	0.50000	0.59

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	29 Bromochloromethane	128	4.459	4.459	(0.926)	1195	0.50000	0.52(M)
$	30 Dibromofluoromethane	113	4.748	4.748	(0.986)	2118	0.50000	
	31 1,1,1-Trichloroethane	97	4.740	4.740	(0.984)	3083	0.50000	0.53
	32 1,1-Dichloropropene	75	4.916	4.916	(0.885)	2695	0.50000	0.54(M)
	33 1,2-Dichloroethane	62	5.179	5.179	(0.933)	3164	0.50000	0.55
	34 Carbon Tetrachloride	117	4.909	4.909	(0.884)	2525	0.50000	0.57(M)
$	35 1,2-Dichloroethane-d4	65	5.100	5.100	(1.059)	2440	0.50000	(M)
*	36 1,4-Difluorobenzene	114	5.554	5.554	(1.000)	661682	50.0000	
	37 Benzene	78	5.138	5.138	(0.925)	9106	0.50000	0.56
	38 Trichloroethene	130	5.786	5.786	(1.042)	2624	0.50000	0.57
	39 Bromodichloromethane	83	6.281	6.281	(1.131)	2588	0.50000	0.50(M)
	41 2-Chloroethylvinyl ether	63	6.585	6.585	(1.186)	114	1.00000	0.44(M)
	42 1,2-Dichloropropane	63	6.007	6.007	(1.082)	2595	0.50000	0.59
	44 Dibromomethane	93	6.120	6.120	(1.102)	1420	0.50000	0.51(M)
	45 4-Methyl-2-Pentanone	43	6.858	6.858	(0.838)	4822	1.00000	1.04
	46 cis-1,3-Dichloropropene	75	6.693	6.693	(1.205)	3082	0.50000	2.64
*	47 Chlorobenzene-d5	117	8.185	8.185	(1.000)	618112	50.0000	
$	48 Toluene-d8	98	6.922	6.922	(0.846)	8612	0.50000	0.59(M)
	50 Toluene	91	6.982	6.982	(0.853)	9602	0.50000	0.57
	51 trans-1,3-Dichloropropene	75	7.203	7.203	(1.297)	2626	0.50000	0.52(M)
	52 2-Hexanone	43	7.600	7.600	(0.929)	3055	1.00000	1.00
	53 1,1,2-Trichloroethane	83	7.357	7.357	(0.899)	2027	0.50000	0.56(M)
	54 1,3-Dichloropropane	76	7.499	7.499	(0.916)	4407	0.50000	0.59(M)
	55 Dibromochloromethane	129	7.690	7.690	(0.940)	2473	0.50000	0.55(M)
	56 Tetrachloroethene	164	7.458	7.458	(0.911)	2244	0.50000	0.54
	57 1,2-Dibromoethane	107	7.788	7.788	(0.951)	2440	0.50000	0.56(M)
	58 1-Chlorohexane	55	8.197	8.197	(1.476)	1840	0.50000	0.53(M)
	59 Chlorobenzene	112	8.212	8.212	(1.003)	6853	0.50000	0.57(M)
	60 1,1,1,2-Tetrachloroethane	131	8.283	8.283	(1.012)	2648	0.50000	0.60
	61 Ethylbenzene	106	8.309	8.309	(1.015)	3091	0.50000	0.57
	62 m,p-Xylenes	106	8.410	8.410	(1.027)	6440	1.00000	1.01
	63 o-Xylene	106	8.744	8.744	(1.068)	3233	0.50000	0.52
	64 Styrene	104	8.763	8.763	(1.071)	4750	0.50000	0.49(M)
	66 Bromoform	173	8.920	8.920	(1.090)	1569	0.50000	0.50(M)
	67 Isopropylbenzene	105	9.062	9.062	(1.107)	7003	0.50000	0.46(M)
	68 1,1,2,2-Tetrachloroethane	83	9.329	9.329	(0.917)	3564	0.50000	0.60(M)
$	69 4-Bromofluorobenzene	95	9.197	9.197	(1.124)	5057	0.50000	(M)
*	70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	308084	50.0000	
	71 1,2,3-Trichloropropane	75	9.362	9.362	(0.920)	2643	0.50000	0.51
	73 n-Propylbenzene	91	9.415	9.415	(0.926)	7058	0.50000	2.03
	74 Bromobenzene	156	9.321	9.321	(0.916)	2743	0.50000	0.53
	75 1,3,5-Trimethylbenzene	105	9.565	9.565	(0.940)	5406	0.50000	0.50(M)
	76 2-Chlorotoluene	91	9.482	9.482	(0.932)	5806	0.50000	0.53(M)
	77 4-Chlorotoluene	91	9.580	9.580	(0.942)	6267	0.50000	0.51(M)
	78 tert-Butylbenzene	119	9.835	9.835	(0.967)	5184	0.50000	0.50(M)
	79 1,2,4-Trimethylbenzene	105	9.880	9.880	(0.971)	5024	0.50000	0.46
	81 sec-Butylbenzene	105	10.022	10.022	(0.985)	5696	0.50000	(M)
	82 p-Isopropyltoluene	119	10.150	10.150	(0.998)	5403	0.50000	(M)
	83 1,3-Dichlorobenzene	146	10.116	10.116	(0.994)	4945	0.50000	0.58
	84 1,4-Dichlorobenzene	146	10.191	10.191	(1.002)	5577	0.50000	0.59(M)
	87 n-Butylbenzene	91	10.494	10.494	(1.032)	4114	0.50000	2.76(M)
	88 1,2-Dichlorobenzene	146	10.509	10.509	(1.033)	4844	0.50000	0.55

89	1,2-Dibromo-3-Chloropropane	155	11.169	11.169 (1.098)	447	0.50000	0.52(M)
90	1,2,4-Trichlorobenzene	180	11.863	11.863 (1.166)	2709	0.50000	0.50

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	91 Hexachlorobutadiene	225	11.998	11.998	(1.179)	1126	0.50000	(M)
	92 Naphthalene	128	12.073	12.073	(1.187)	6182	0.50000	2.01
	93 1,2,3-Trichlorobenzene	180	12.275	12.275	(1.207)	3219	0.50000	0.58(M)
M	94 1,2-Dichloroethylene (total)	96				4121	1.00000	
M	95 Xylenes (total)	106				9673	1.50000	
	135 1,4-Dioxane	88	6.176	6.176	(1.283)	808	10.0000	11.99(M)
	141 Cyclohexane	56	4.793	4.793	(0.995)	2383	0.50000	0.45(M)
	138 Freon TF	101	2.334	2.334	(0.485)	1250	0.50000	(M)
	140 1,3-Butadiene	54	1.400	1.400	(0.291)	1979	0.50000	0.52(M)
	147 Methylcyclohexane	55	5.955	5.955	(1.072)	4995	0.50000	0.51(M)
	146 Methyl Acetate	43	2.716	2.716	(0.564)	1992	0.50000	0.59(M)

QC Flag Legend

M - Compound response manually integrated.

01247727

Data File: \\nahstws005\target\chem\voa9.i\u230731.b\u073103.d

Page 1

Date : 31-JUL-2023 11:53

Client ID: VSTD000.5

Instrument: VOA9.i

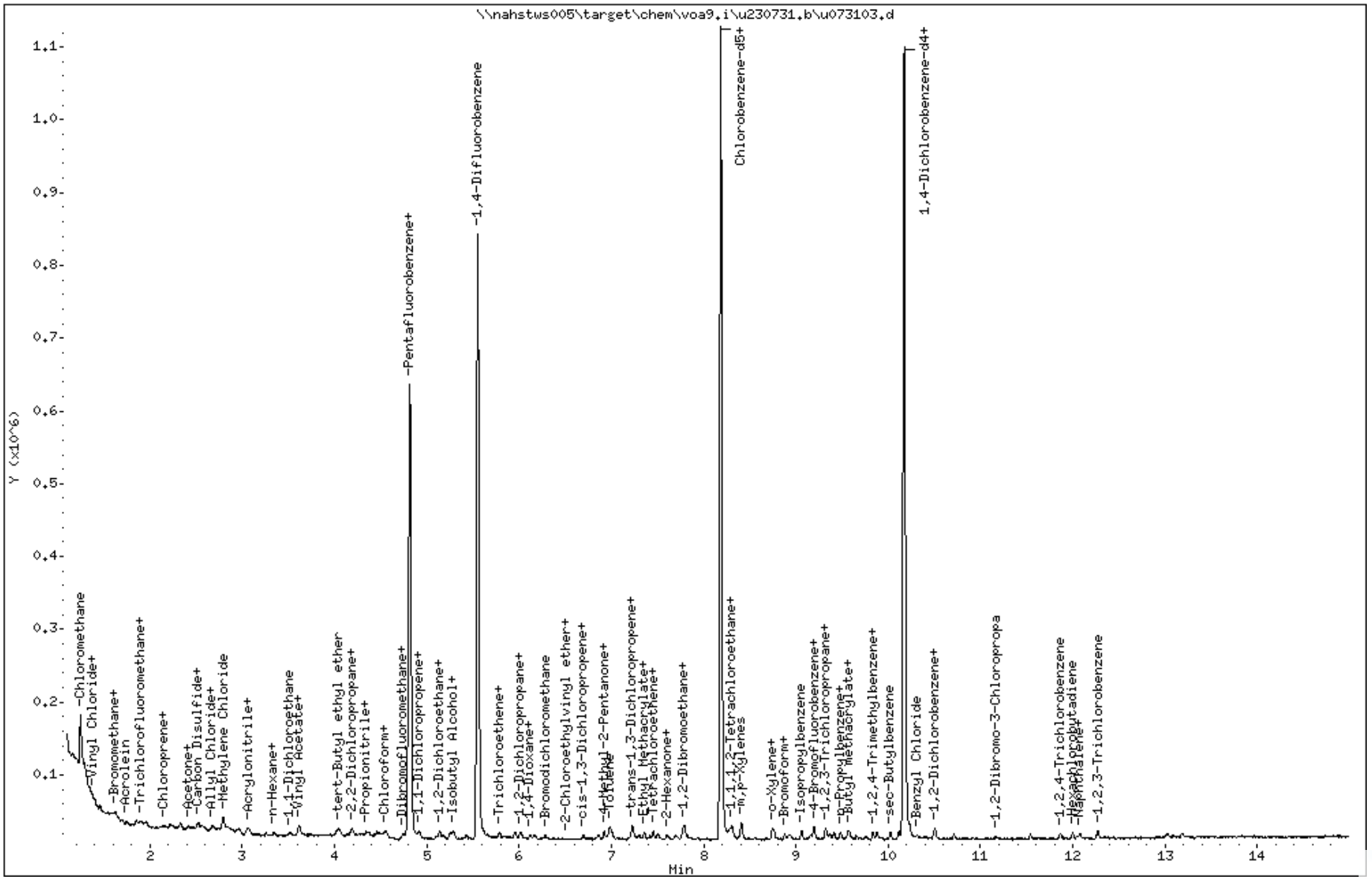
Sample Info: VSTD000.5;VSTD000.5;1;2;

Purge Volume: 5.0

Operator: PC

Column phase: DB624

Column diameter: 0.18



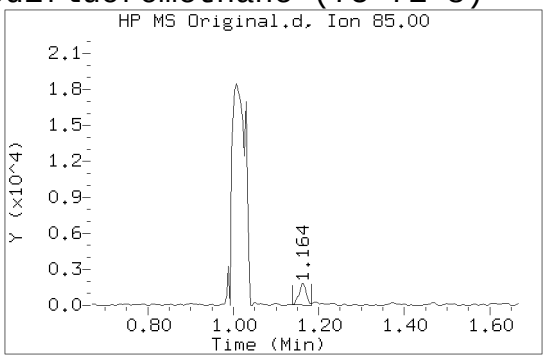
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Inj Date : 31-JUL-2023 11:53
InstruID : VOA9.i
LabSampID : VSTD000.5

Dichlorodifluoromethane (75-71-8)

Reason Code:

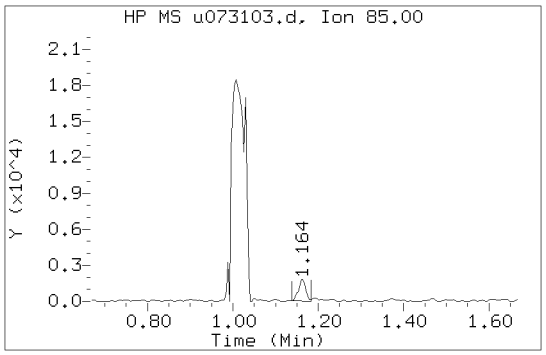
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2205
HEIGHT
1801
01-Aug-2023
21:03



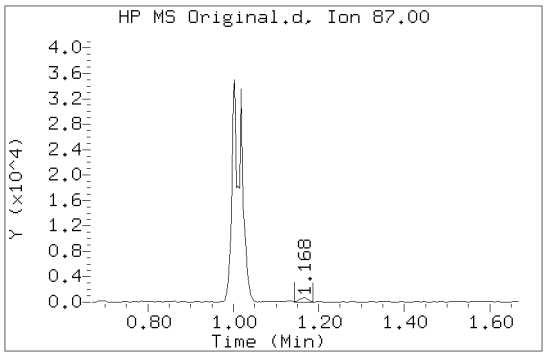
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21:03



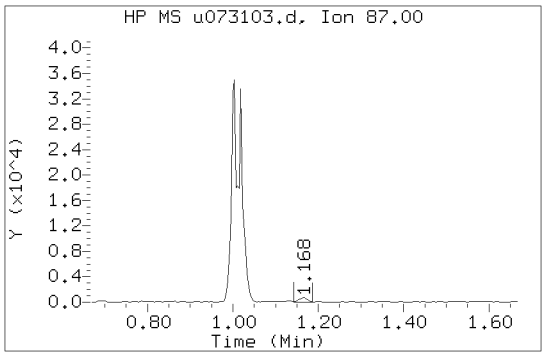
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AREA
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HEIGHT
677
01-Aug-2023
21:03



AFTER

MASS
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AREA
1017
HEIGHT
677
01-Aug-2023
21:03

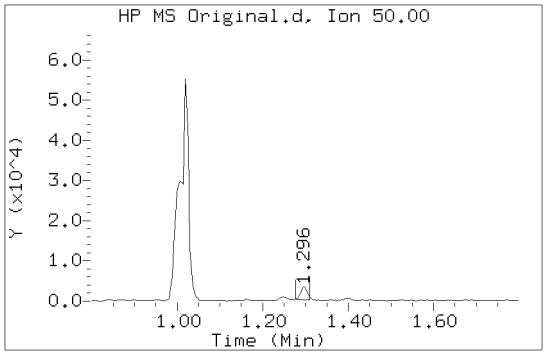


Chloromethane (74-87-3)

Reason Code:

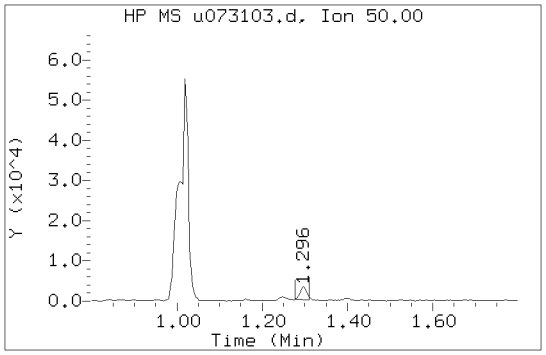
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HEIGHT
3256
01-Aug-2023
21:03



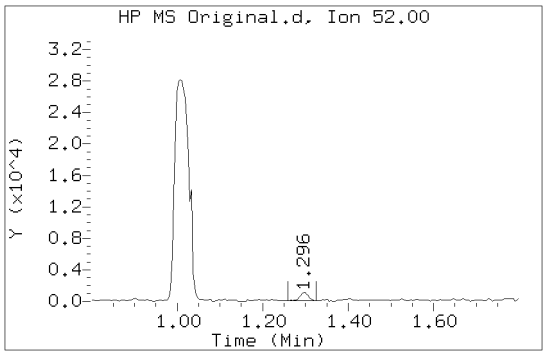
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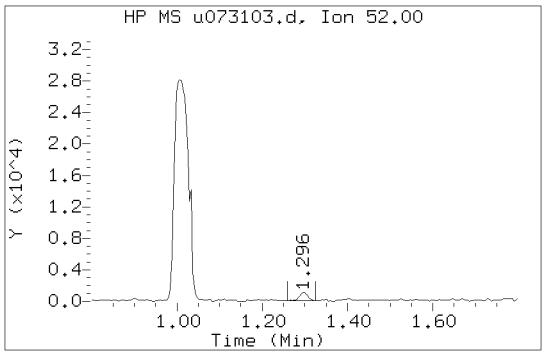
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01-Aug-2023
21:03



AFTER

MASS
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AREA
1545
HEIGHT
1076
01-Aug-2023
21:03



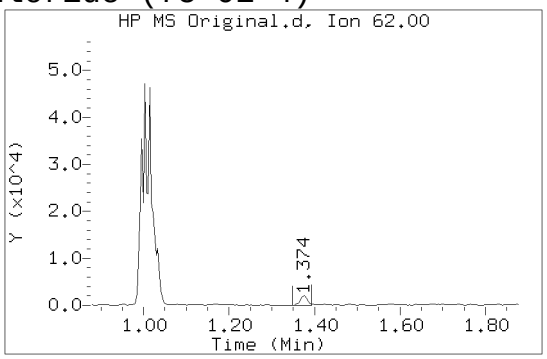
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Inj Date : 31-JUL-2023 11:53
InstruID : VOA9.i
LabSampID : VSTD000.5

Vinyl Chloride (75-01-4)

Reason Code:

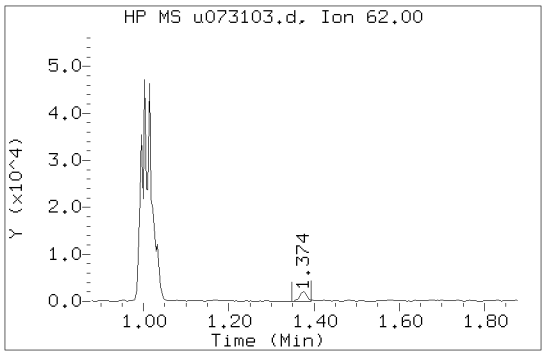
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01-Aug-2023
21:03



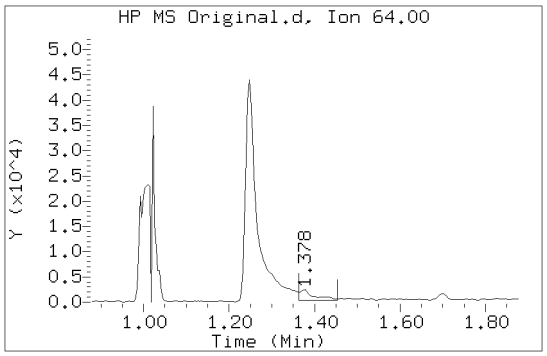
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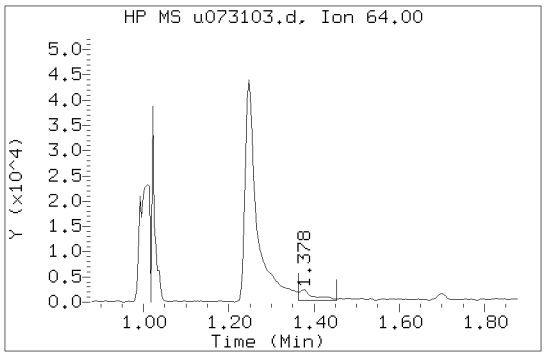
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01-Aug-2023
21:03



AFTER

MASS
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AREA
5060
HEIGHT
2161
01-Aug-2023
21:03

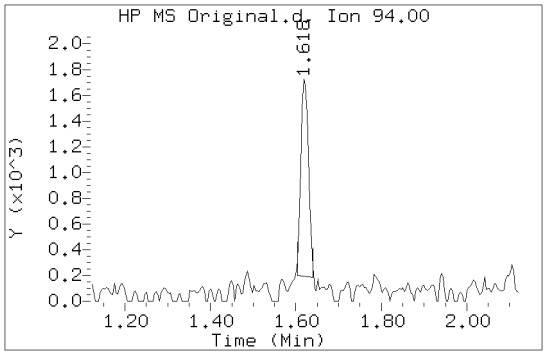


Bromomethane (74-83-9)

Reason Code:

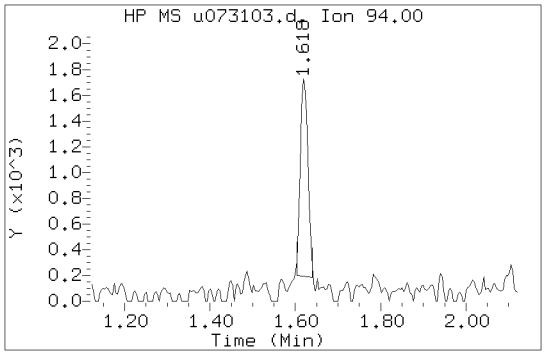
BEFORE

MASS
94
AREA
1966
HEIGHT
1531
01-Aug-2023
21:03



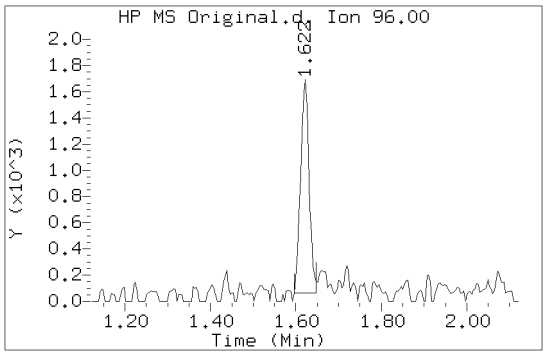
AFTER

MASS
94
AREA
1966
HEIGHT
1531
01-Aug-2023
21:03



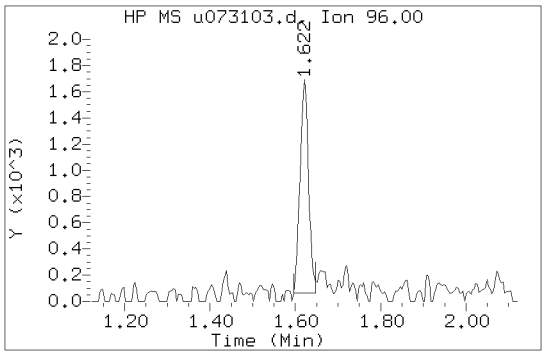
BEFORE

MASS
96
AREA
2314
HEIGHT
1629
01-Aug-2023
21:03



AFTER

MASS
96
AREA
2314
HEIGHT
1629
01-Aug-2023
21:03

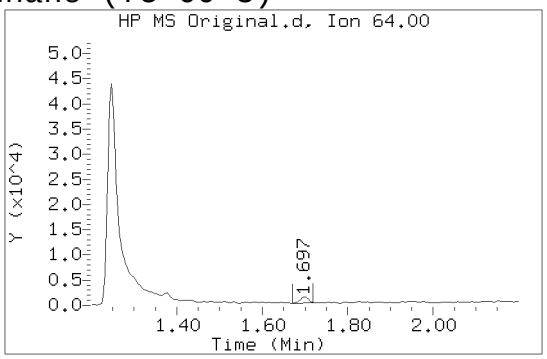


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InstruID : VOA9.i
LabSampID : VSTD000.5

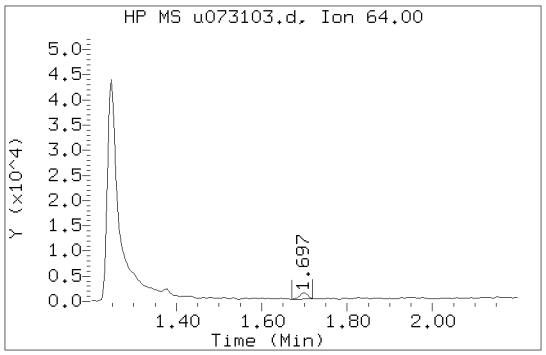
Chloroethane (75-00-3)

Reason Code:

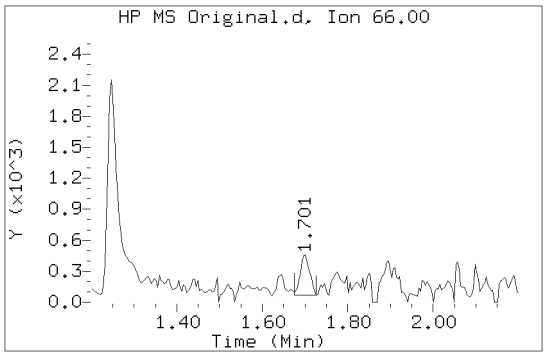
BEFORE
MASS
64
AREA
1758
HEIGHT
1241
01-Aug-2023
21:03



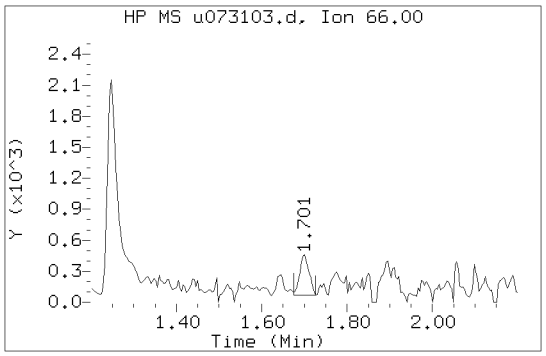
AFTER
MASS
64
AREA
1758
HEIGHT
1241
01-Aug-2023
21:03



BEFORE
MASS
66
AREA
610
HEIGHT
392
01-Aug-2023
21:03



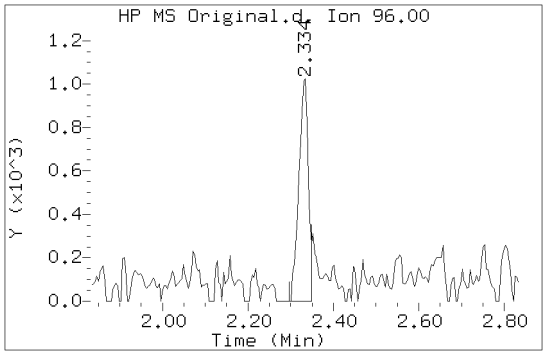
AFTER
MASS
66
AREA
610
HEIGHT
392
01-Aug-2023
21:03



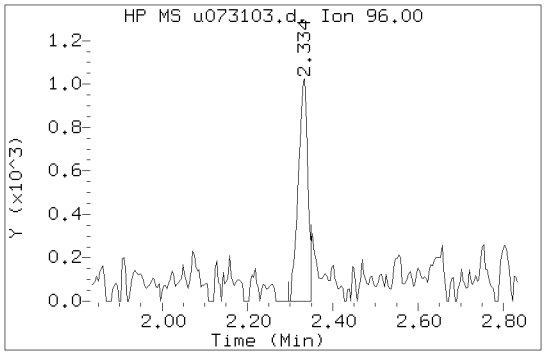
1,1-Dichloroethene (75-35-4)

Reason Code:

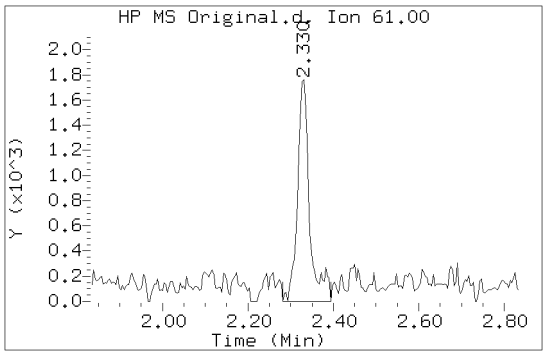
BEFORE
MASS
96
AREA
1618
HEIGHT
1024
01-Aug-2023
21:03



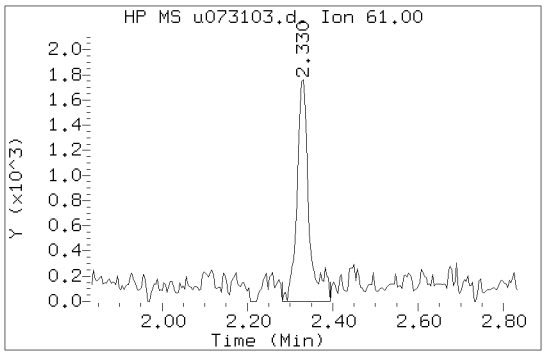
AFTER
MASS
96
AREA
1618
HEIGHT
1024
01-Aug-2023
21:03



BEFORE
MASS
61
AREA
3475
HEIGHT
1761
01-Aug-2023
21:03



AFTER
MASS
61
AREA
3475
HEIGHT
1761
01-Aug-2023
21:03



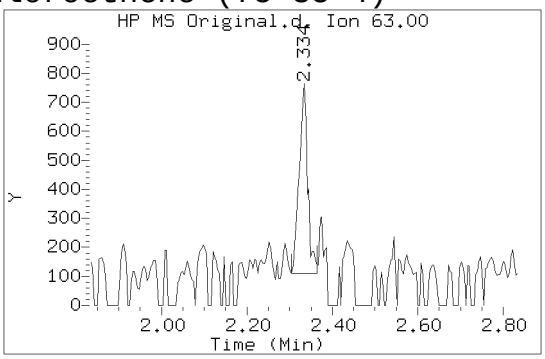
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Inj Date : 31-JUL-2023 11:53
InstruID : VOA9.i
LabSampID : VSTD000.5

1,1-Dichloroethene (75-35-4)

Reason Code:

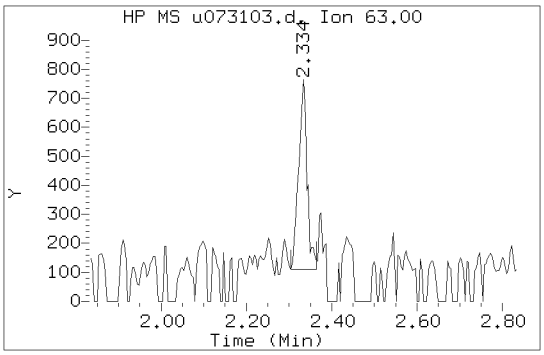
BEFORE

MASS
63
AREA
911
HEIGHT
654
01-Aug-2023
21:03



AFTER

MASS
63
AREA
911
HEIGHT
654
01-Aug-2023
21:03

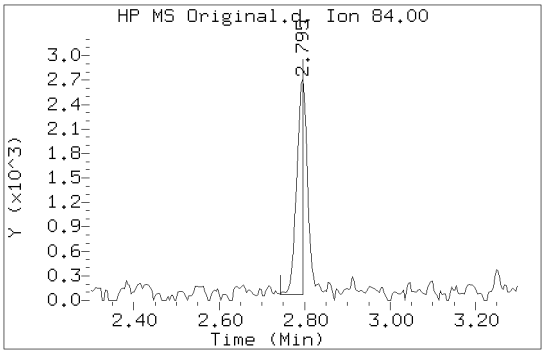


Methylene Chloride (75-09-2)

Reason Code:

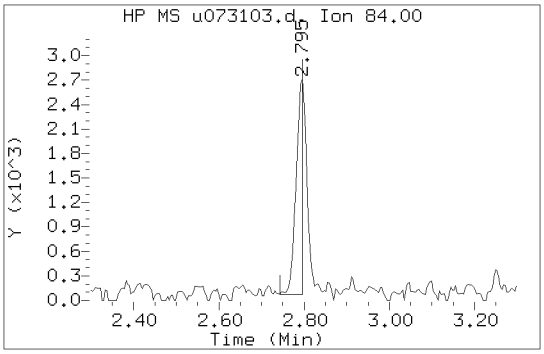
BEFORE

MASS
84
AREA
2838
HEIGHT
2649
01-Aug-2023
21:03



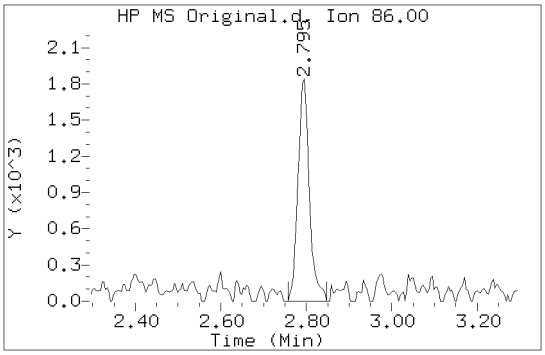
AFTER

MASS
84
AREA
2838
HEIGHT
2649
01-Aug-2023
21:03



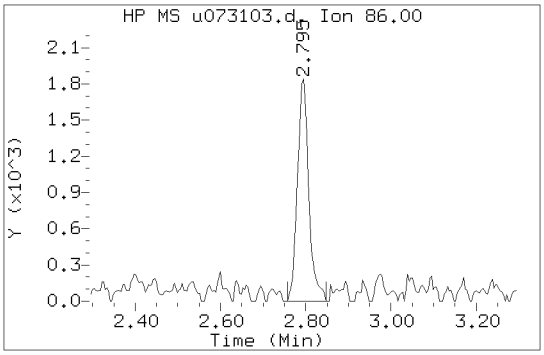
BEFORE

MASS
86
AREA
3474
HEIGHT
1841
01-Aug-2023
21:03



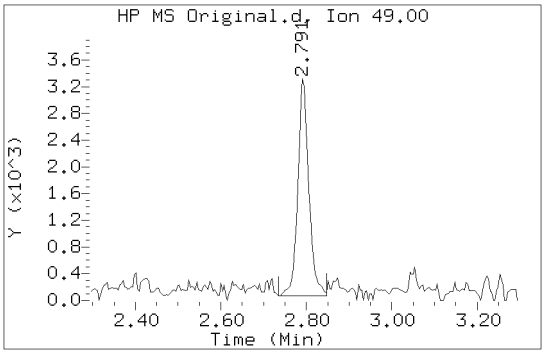
AFTER

MASS
86
AREA
3474
HEIGHT
1841
01-Aug-2023
21:03



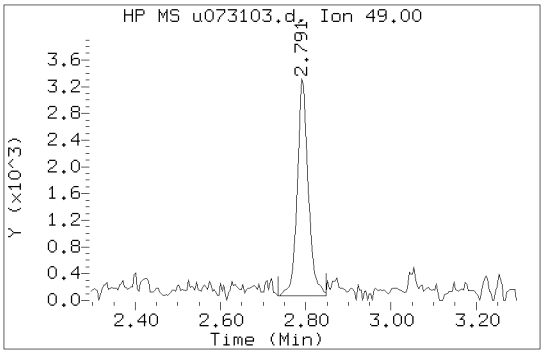
BEFORE

MASS
49
AREA
5941
HEIGHT
3251
01-Aug-2023
21:03



AFTER

MASS
49
AREA
5941
HEIGHT
3251
01-Aug-2023
21:03

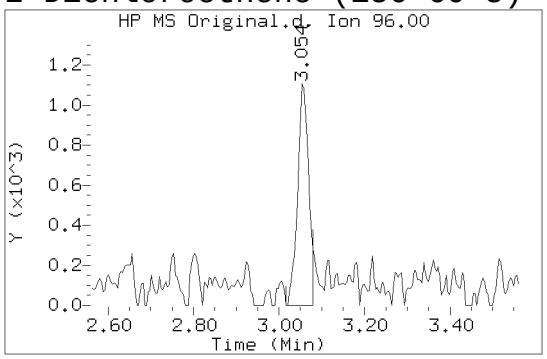


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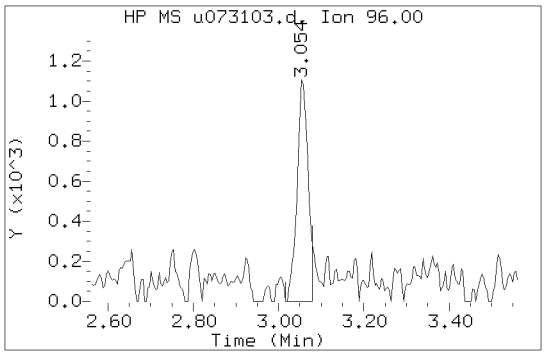
trans-1,2-Dichloroethene (156-60-5)

Reason Code:

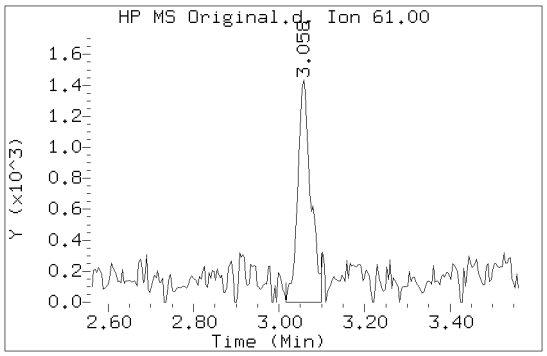
BEFORE
MASS
96
AREA
2038
HEIGHT
1107
01-Aug-2023
21:03



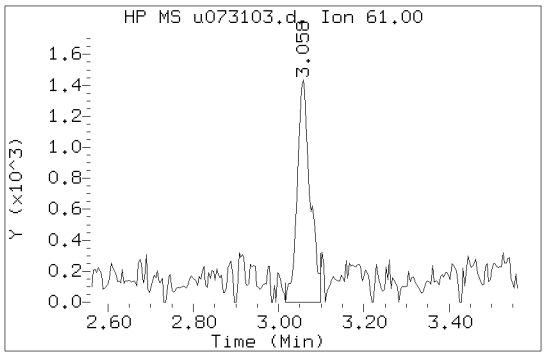
AFTER
MASS
96
AREA
2038
HEIGHT
1107
01-Aug-2023
21:03



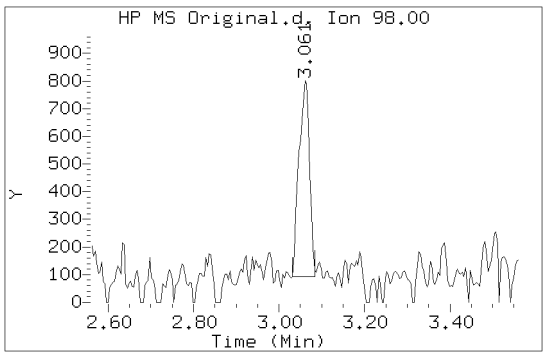
BEFORE
MASS
61
AREA
3084
HEIGHT
1435
01-Aug-2023
21:03



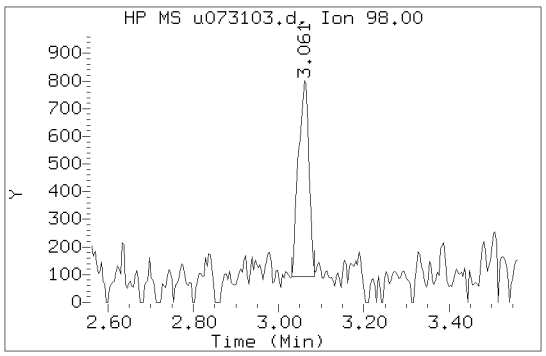
AFTER
MASS
61
AREA
3084
HEIGHT
1435
01-Aug-2023
21:03



BEFORE
MASS
98
AREA
1242
HEIGHT
708
01-Aug-2023
21:03



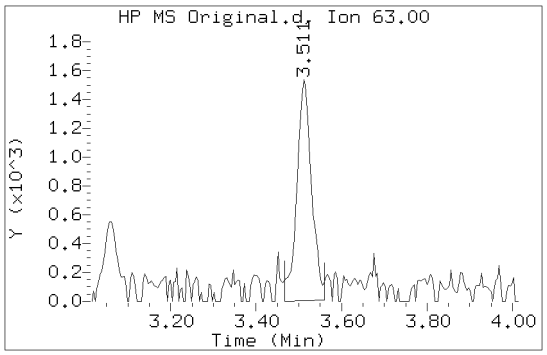
AFTER
MASS
98
AREA
1242
HEIGHT
708
01-Aug-2023
21:03



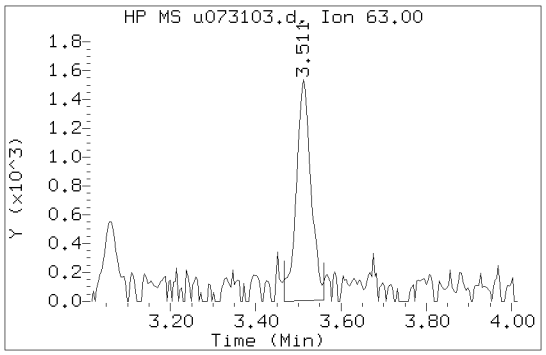
1,1-Dichloroethane (75-34-3)

Reason Code:

BEFORE
MASS
63
AREA
3735
HEIGHT
1534
01-Aug-2023
21:03



AFTER
MASS
63
AREA
3735
HEIGHT
1534
01-Aug-2023
21:03

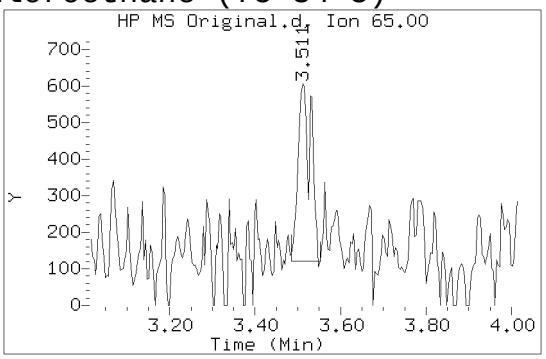


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LabSampID : VSTD000.5

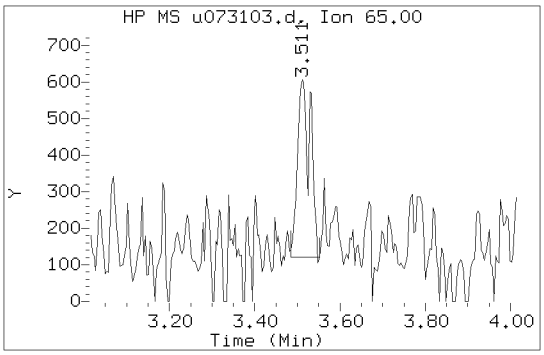
1,1-Dichloroethane (75-34-3)

Reason Code:

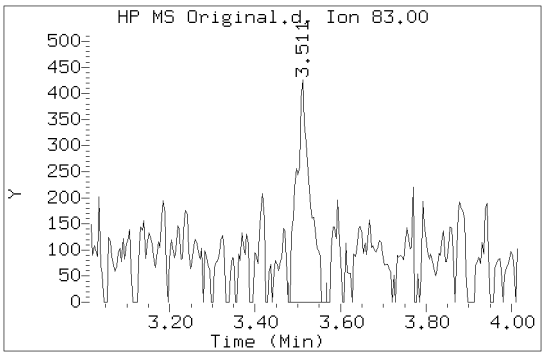
BEFORE
MASS
65
AREA
1020
HEIGHT
485
01-Aug-2023
21:03



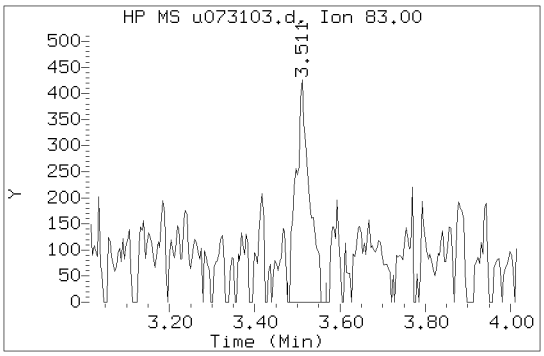
AFTER
MASS
65
AREA
1020
HEIGHT
485
01-Aug-2023
21:03



BEFORE
MASS
83
AREA
939
HEIGHT
426
01-Aug-2023
21:03



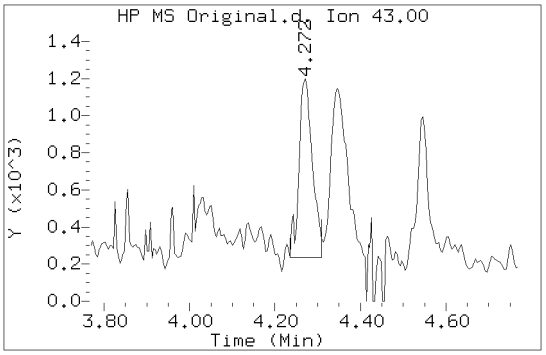
AFTER
MASS
83
AREA
939
HEIGHT
426
01-Aug-2023
21:03



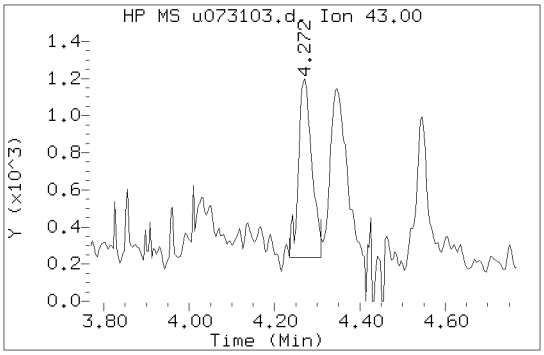
2-Butanone (78-93-3)

Reason Code:

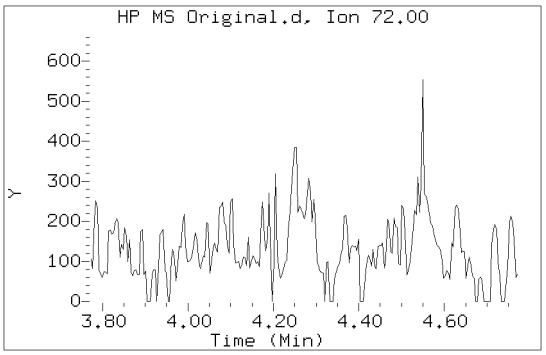
BEFORE
MASS
43
AREA
2140
HEIGHT
962
01-Aug-2023
21:03



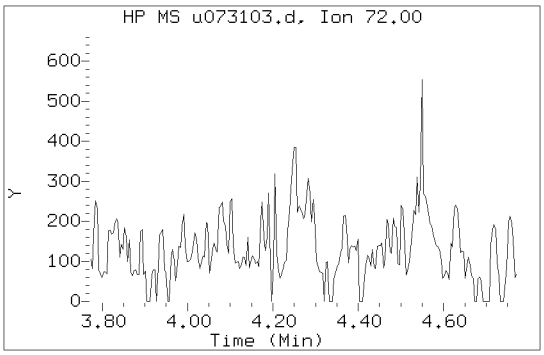
AFTER
MASS
43
AREA
2140
HEIGHT
962
01-Aug-2023
21:03



BEFORE
MASS
72
AREA
0
HEIGHT
0
01-Aug-2023
21:03



AFTER
MASS
72
AREA
0
HEIGHT
0
01-Aug-2023
21:03

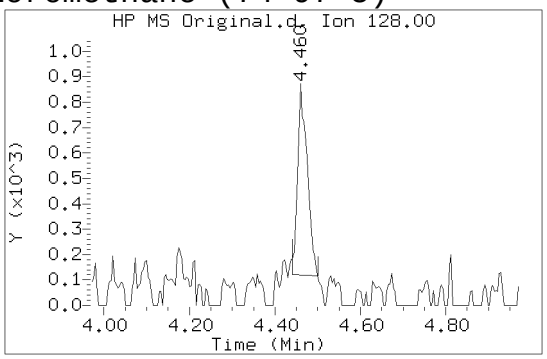


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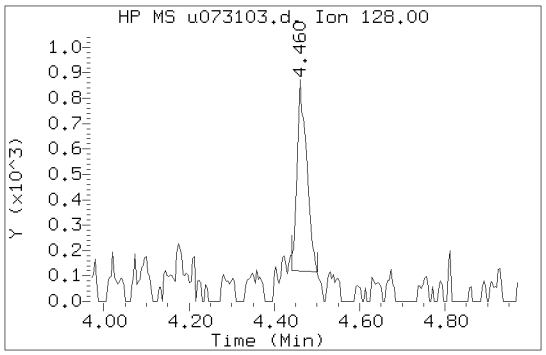
Bromochloromethane (74-97-5)

Reason Code:

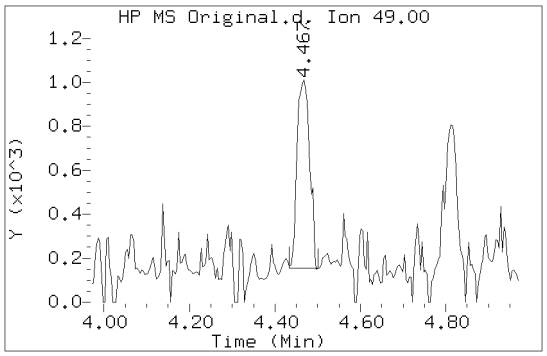
BEFORE
MASS
128
AREA
1195
HEIGHT
754
01-Aug-2023
21:03



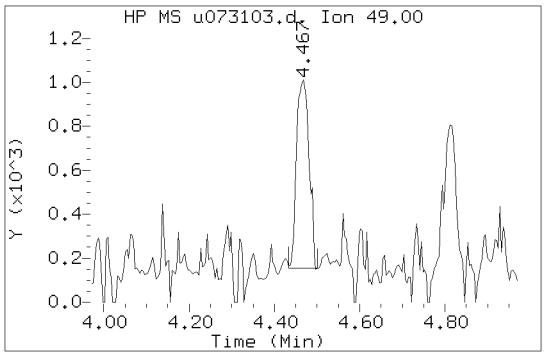
AFTER
MASS
128
AREA
1195
HEIGHT
754
01-Aug-2023
21:03



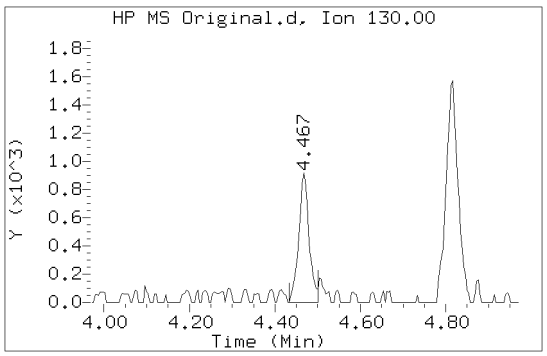
BEFORE
MASS
49
AREA
1771
HEIGHT
856
01-Aug-2023
21:03



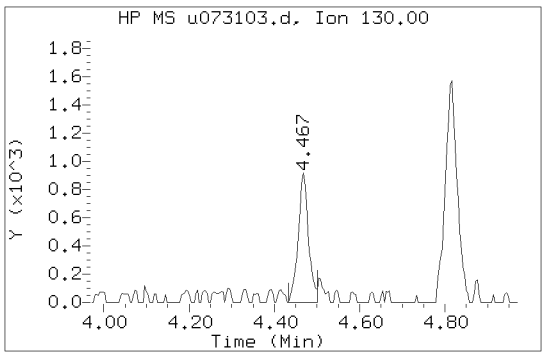
AFTER
MASS
49
AREA
1771
HEIGHT
856
01-Aug-2023
21:03



BEFORE
MASS
130
AREA
1571
HEIGHT
921
01-Aug-2023
21:03



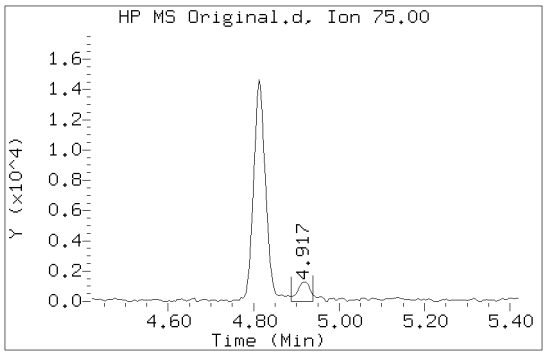
AFTER
MASS
130
AREA
1571
HEIGHT
921
01-Aug-2023
21:03



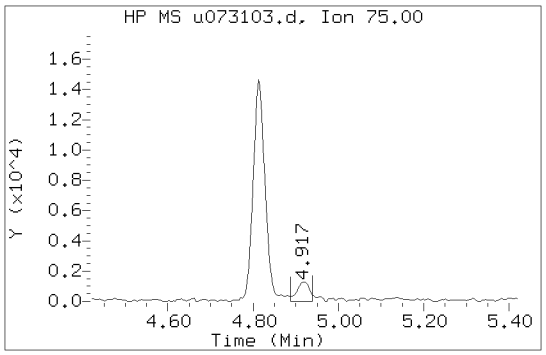
1,1-Dichloropropene (563-58-6)

Reason Code:

BEFORE
MASS
75
AREA
2695
HEIGHT
1263
01-Aug-2023
21:03



AFTER
MASS
75
AREA
2695
HEIGHT
1263
01-Aug-2023
21:03

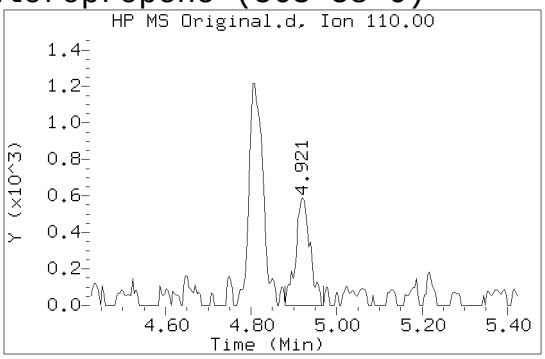


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Inj Date : 31-JUL-2023 11:53
InstruID : VOA9.i
LabSampID : VSTD000.5

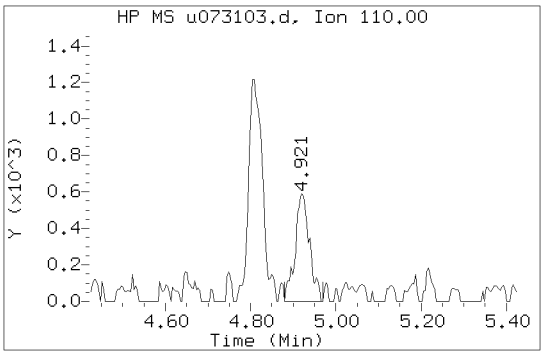
1,1-Dichloropropene (563-58-6)

Reason Code:

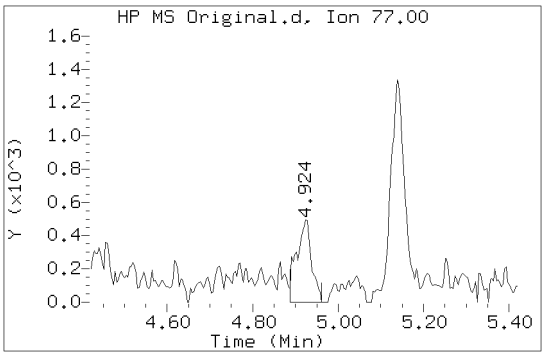
BEFORE
MASS
110
AREA
1403
HEIGHT
591
01-Aug-2023
21:03



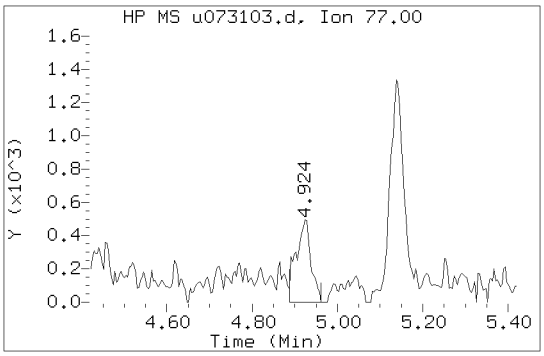
AFTER
MASS
110
AREA
1403
HEIGHT
591
01-Aug-2023
21:03



BEFORE
MASS
77
AREA
1226
HEIGHT
495
01-Aug-2023
21:03



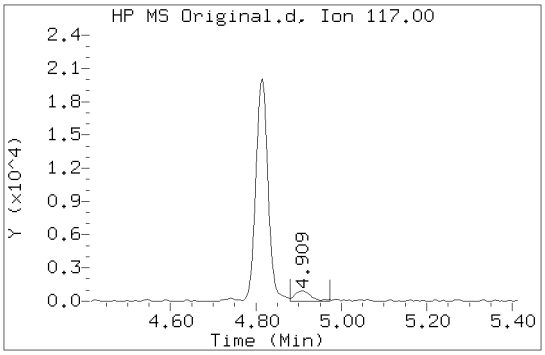
AFTER
MASS
77
AREA
1226
HEIGHT
495
01-Aug-2023
21:03



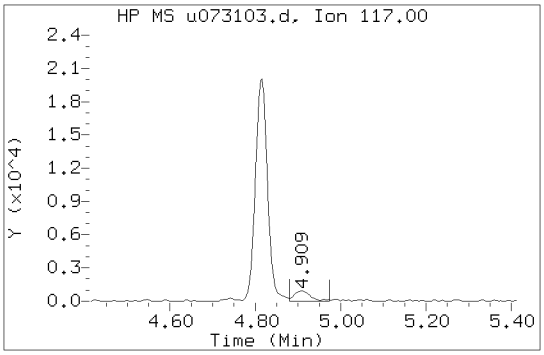
Carbon Tetrachloride (56-23-5)

Reason Code:

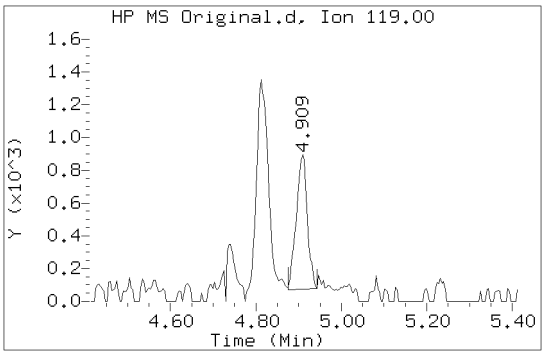
BEFORE
MASS
117
AREA
2525
HEIGHT
944
01-Aug-2023
21:03



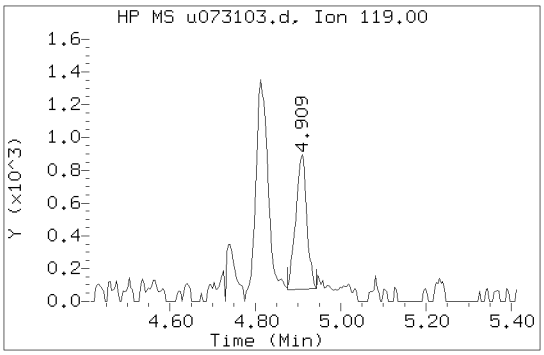
AFTER
MASS
117
AREA
2525
HEIGHT
944
01-Aug-2023
21:03



BEFORE
MASS
119
AREA
1515
HEIGHT
821
01-Aug-2023
21:03



AFTER
MASS
119
AREA
1515
HEIGHT
821
01-Aug-2023
21:03

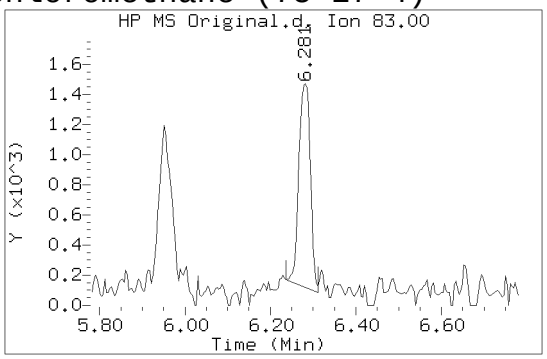


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InstruID : VOA9.i
LabSampID : VSTD000.5

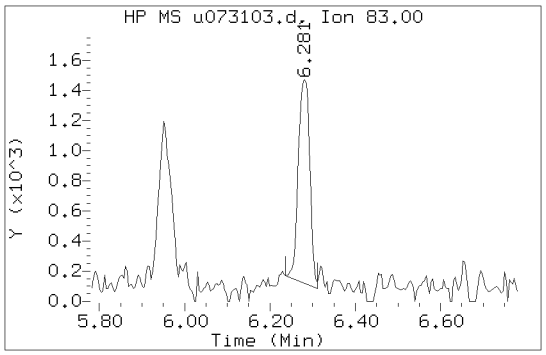
Bromodichloromethane (75-27-4)

Reason Code:

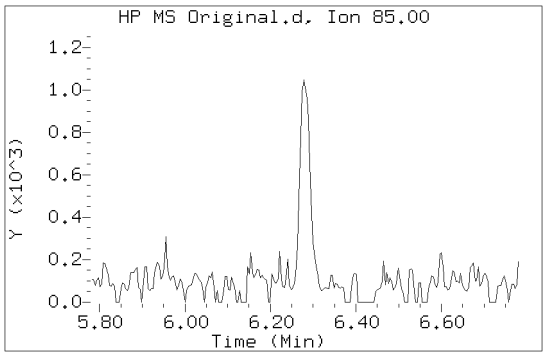
BEFORE
MASS
83
AREA
2588
HEIGHT
1353
01-Aug-2023
21:03



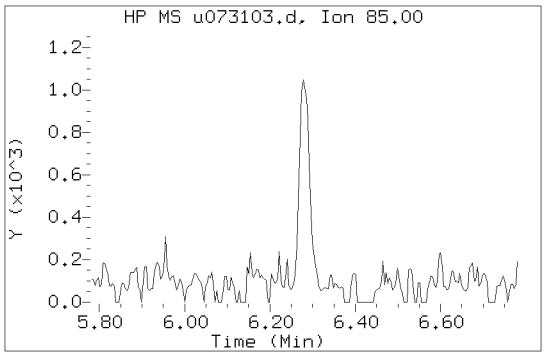
AFTER
MASS
83
AREA
2588
HEIGHT
1353
01-Aug-2023
21:03



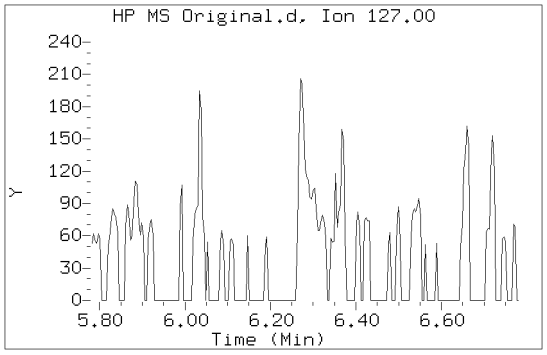
BEFORE
MASS
85
AREA
0
HEIGHT
0
01-Aug-2023
21:03



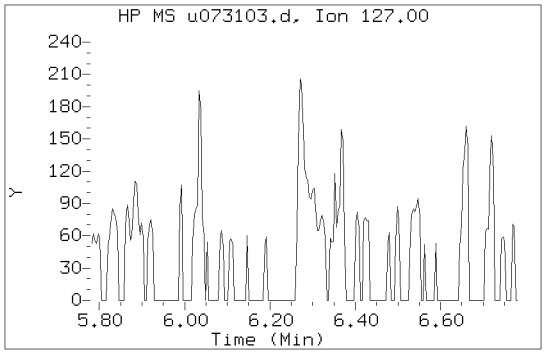
AFTER
MASS
85
AREA
0
HEIGHT
0
01-Aug-2023
21:03



BEFORE
MASS
127
AREA
0
HEIGHT
0
01-Aug-2023
21:03



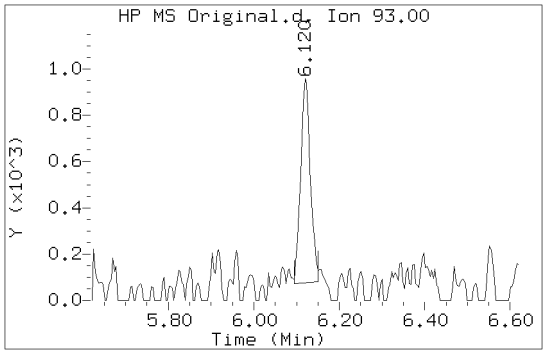
AFTER
MASS
127
AREA
0
HEIGHT
0
01-Aug-2023
21:03



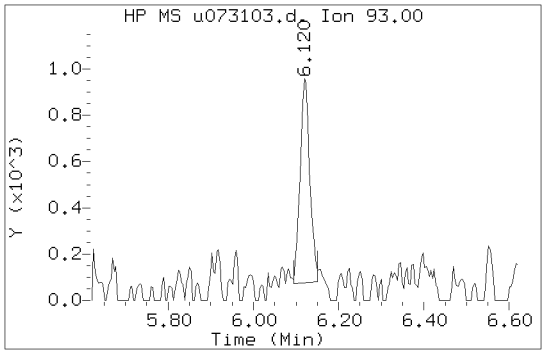
Dibromomethane (74-95-3)

Reason Code:

BEFORE
MASS
93
AREA
1420
HEIGHT
881
01-Aug-2023
21:03



AFTER
MASS
93
AREA
1420
HEIGHT
881
01-Aug-2023
21:03

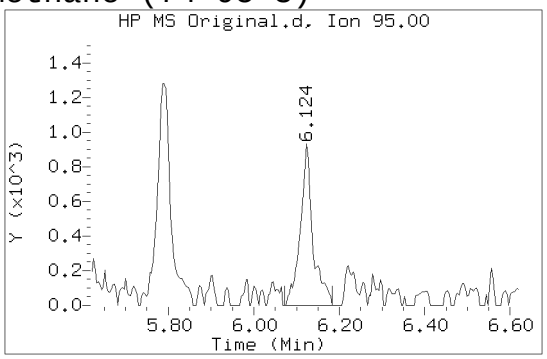


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InstruID : VOA9.i
LabSampID : VSTD000.5

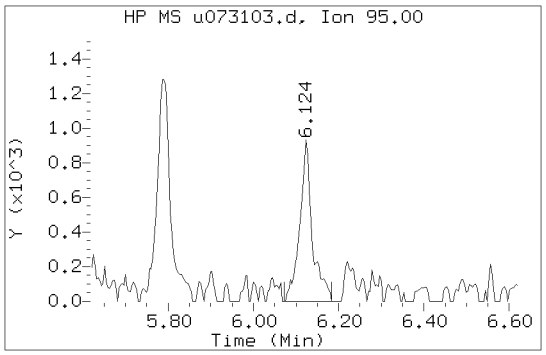
Dibromomethane (74-95-3)

Reason Code:

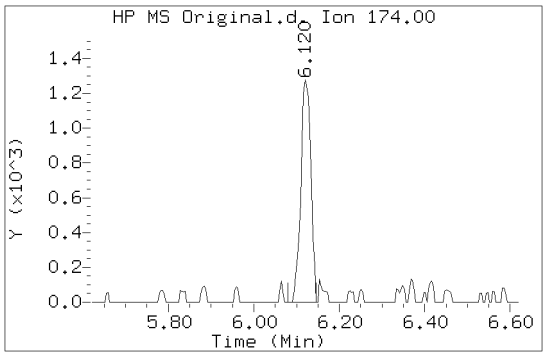
BEFORE
MASS
95
AREA
1928
HEIGHT
933
01-Aug-2023
21:03



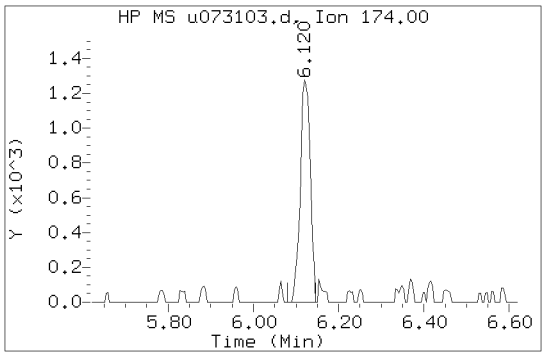
AFTER
MASS
95
AREA
1928
HEIGHT
933
01-Aug-2023
21:03



BEFORE
MASS
174
AREA
2128
HEIGHT
1277
01-Aug-2023
21:03



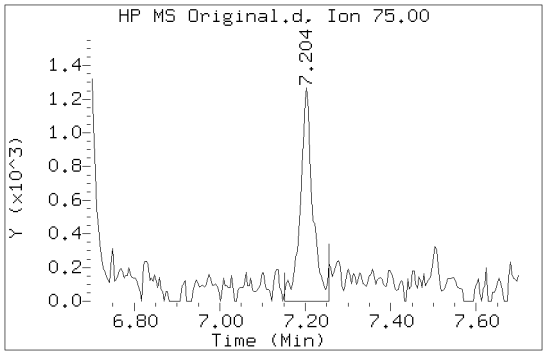
AFTER
MASS
174
AREA
2128
HEIGHT
1277
01-Aug-2023
21:03



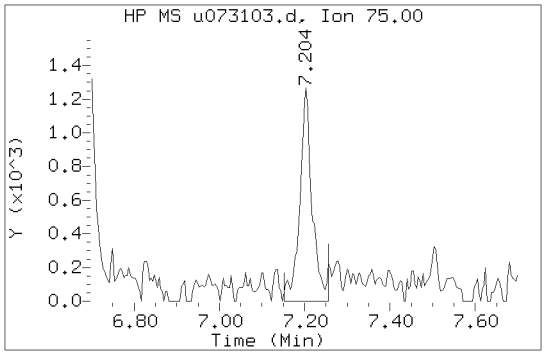
trans-1,3-Dichloropropene (10061-02-6)

Reason Code:

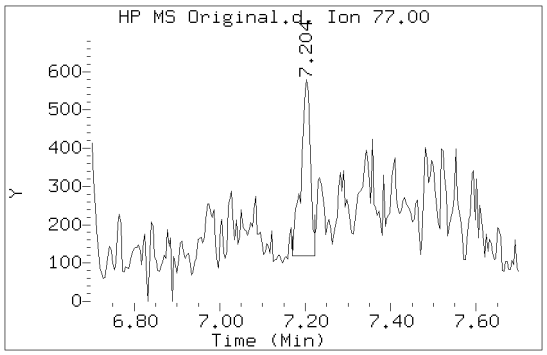
BEFORE
MASS
75
AREA
2626
HEIGHT
1265
01-Aug-2023
21:03



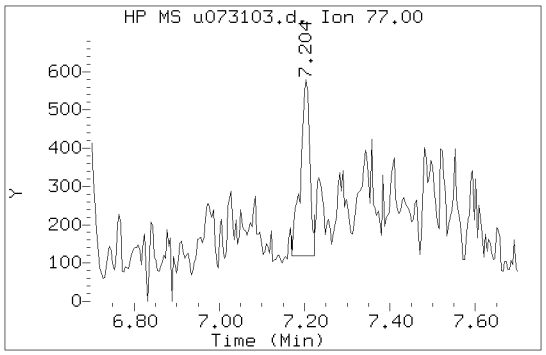
AFTER
MASS
75
AREA
2626
HEIGHT
1265
01-Aug-2023
21:03



BEFORE
MASS
77
AREA
719
HEIGHT
460
01-Aug-2023
21:03



AFTER
MASS
77
AREA
719
HEIGHT
460
01-Aug-2023
21:03

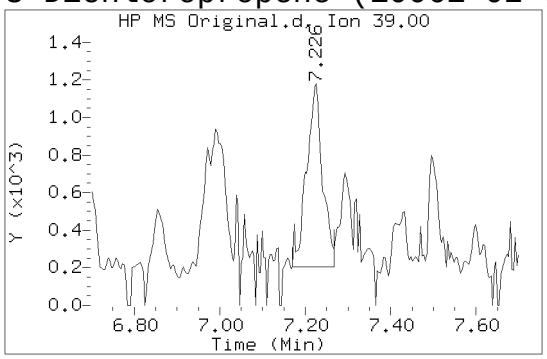


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Inj Date : 31-JUL-2023 11:53
InstruID : VOA9.i
LabSampID : VSTD000.5

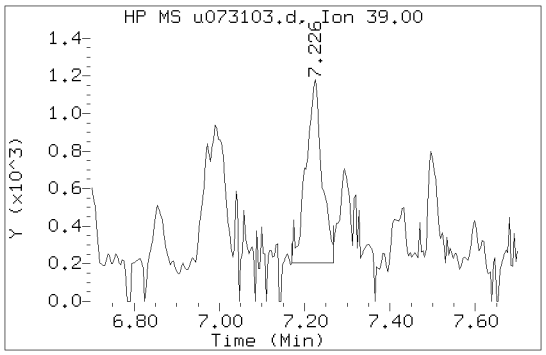
trans-1,3-Dichloropropene (10061-02-6)

Reason Code:

BEFORE
MASS
39
AREA
2560
HEIGHT
976
01-Aug-2023
21:03



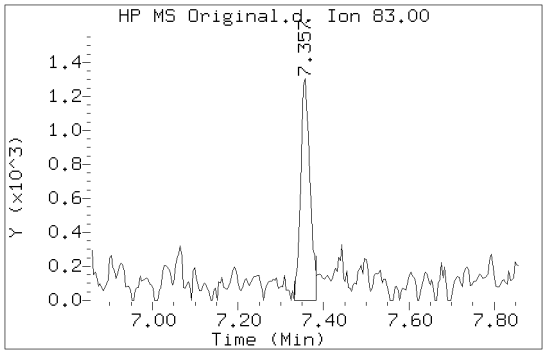
AFTER
MASS
39
AREA
2560
HEIGHT
976
01-Aug-2023
21:03



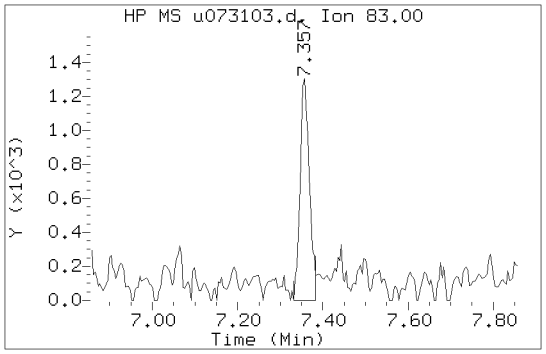
1,1,2-Trichloroethane (79-00-5)

Reason Code:

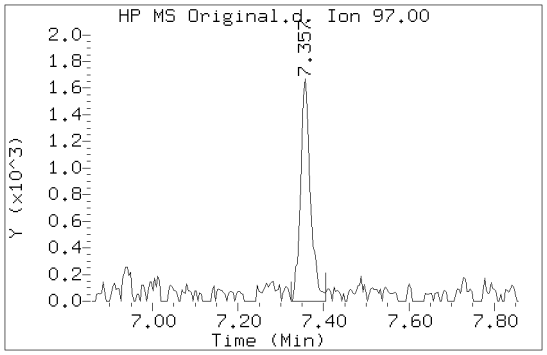
BEFORE
MASS
83
AREA
2027
HEIGHT
1305
01-Aug-2023
21:03



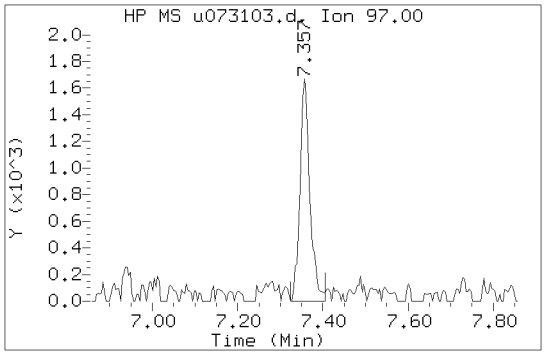
AFTER
MASS
83
AREA
2027
HEIGHT
1305
01-Aug-2023
21:03



BEFORE
MASS
97
AREA
2747
HEIGHT
1669
01-Aug-2023
21:03



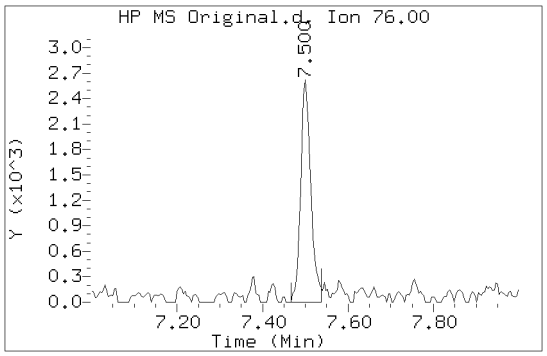
AFTER
MASS
97
AREA
2747
HEIGHT
1669
01-Aug-2023
21:03



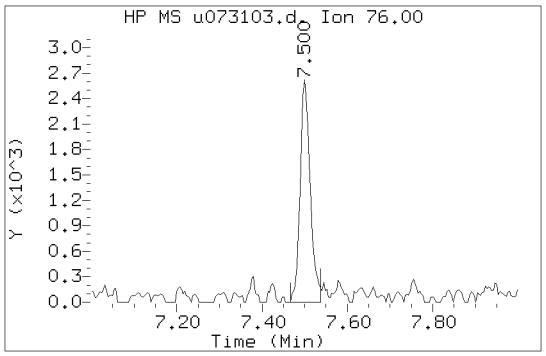
1,3-Dichloropropane (142-28-9)

Reason Code:

BEFORE
MASS
76
AREA
4407
HEIGHT
2620
01-Aug-2023
21:03



AFTER
MASS
76
AREA
4407
HEIGHT
2620
01-Aug-2023
21:03

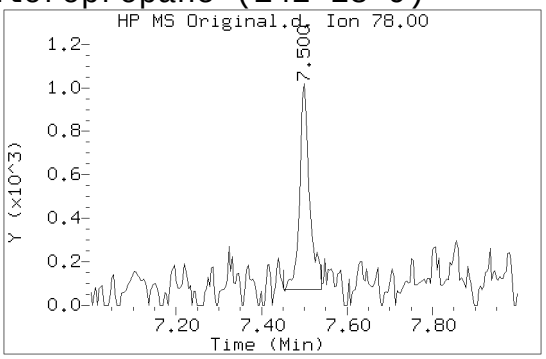


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InstruID : VOA9.i
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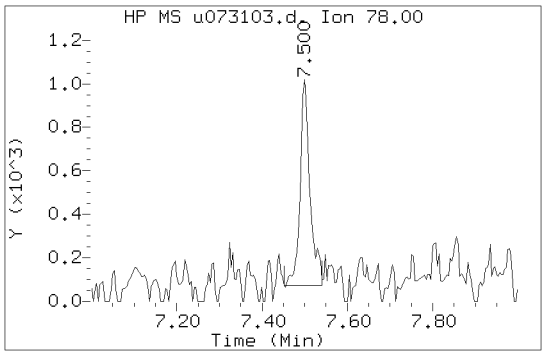
1,3-Dichloropropane (142-28-9)

Reason Code:

BEFORE
MASS
78
AREA
1553
HEIGHT
946
01-Aug-2023
21:03



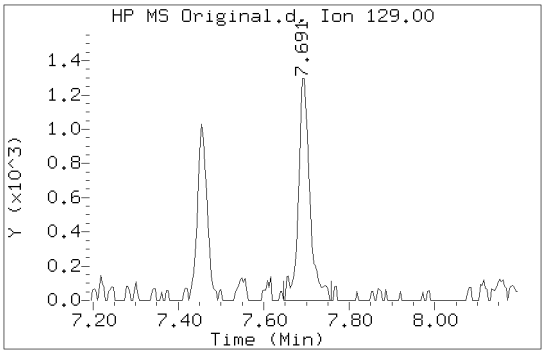
AFTER
MASS
78
AREA
1553
HEIGHT
946
01-Aug-2023
21:03



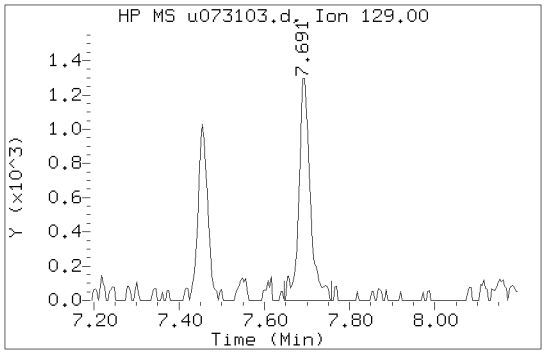
Dibromochloromethane (124-48-1)

Reason Code:

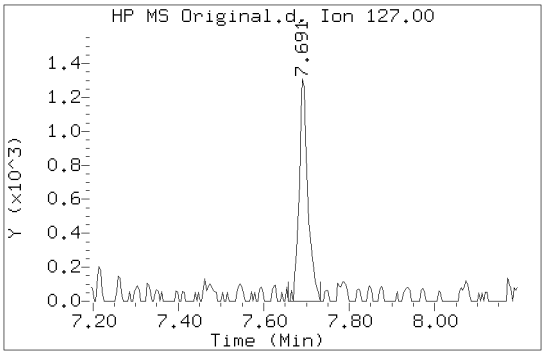
BEFORE
MASS
129
AREA
2473
HEIGHT
1295
01-Aug-2023
21:03



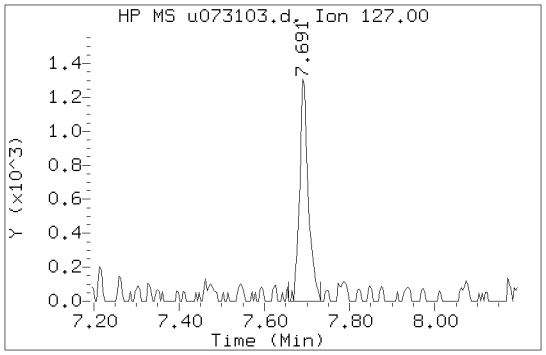
AFTER
MASS
129
AREA
2473
HEIGHT
1295
01-Aug-2023
21:03



BEFORE
MASS
127
AREA
1912
HEIGHT
1309
01-Aug-2023
21:03



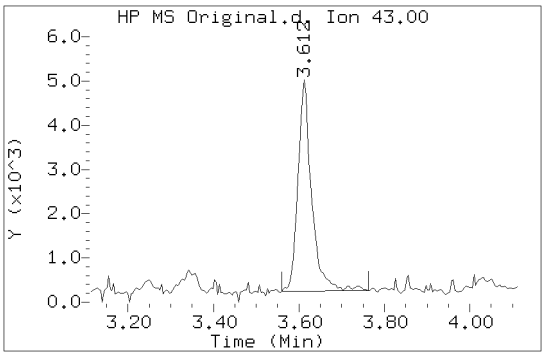
AFTER
MASS
127
AREA
1912
HEIGHT
1309
01-Aug-2023
21:03



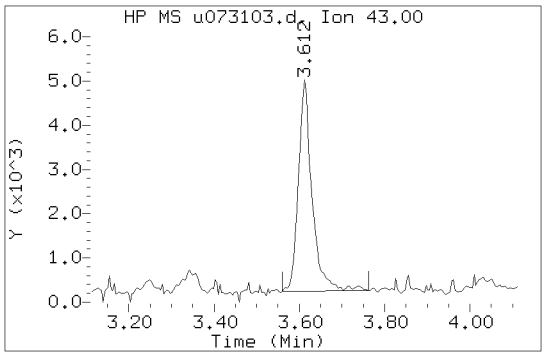
Vinyl Acetate (108-05-4)

Reason Code:

BEFORE
MASS
43
AREA
10832
HEIGHT
4782
01-Aug-2023
21:03



AFTER
MASS
43
AREA
10832
HEIGHT
4782
01-Aug-2023
21:03



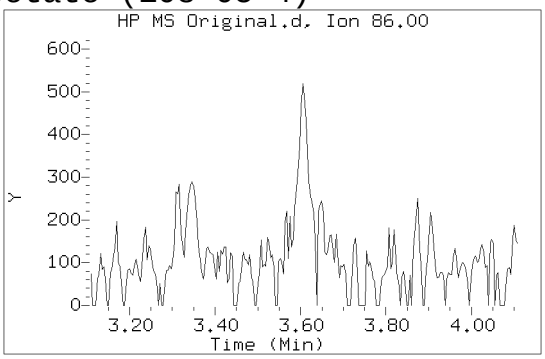
Data File : \\nahstws005\target\chem\voa9.i\u230731.b\u073103.d
Inj Date : 31-JUL-2023 11:53
InstruID : VOA9.i
LabSampID : VSTD000.5

Vinyl Acetate (108-05-4)

Reason Code:

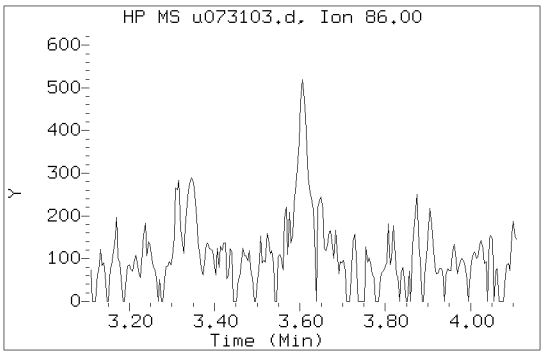
BEFORE

MASS
86
AREA
0
HEIGHT
0
01-Aug-2023
21:03



AFTER

MASS
86
AREA
0
HEIGHT
0
01-Aug-2023
21:03

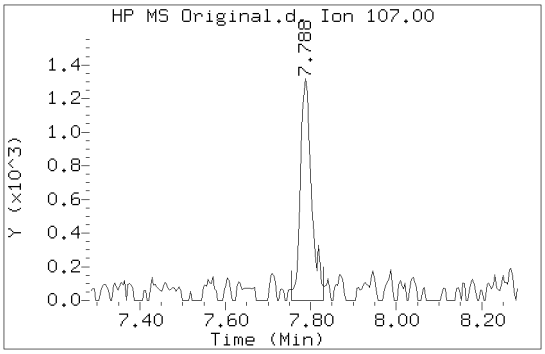


1,2-Dibromoethane (106-93-4)

Reason Code:

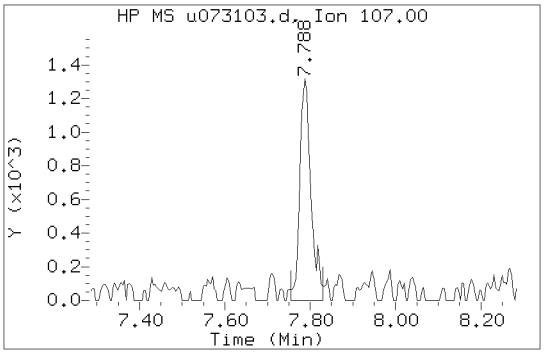
BEFORE

MASS
107
AREA
2440
HEIGHT
1318
01-Aug-2023
21:03



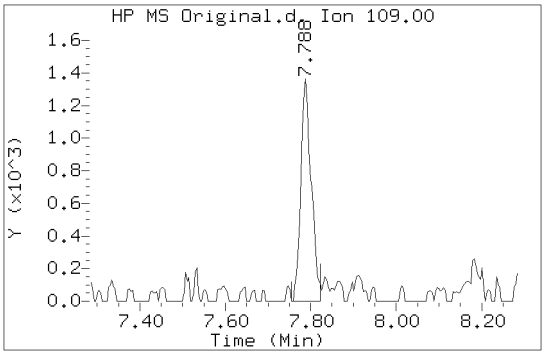
AFTER

MASS
107
AREA
2440
HEIGHT
1318
01-Aug-2023
21:03



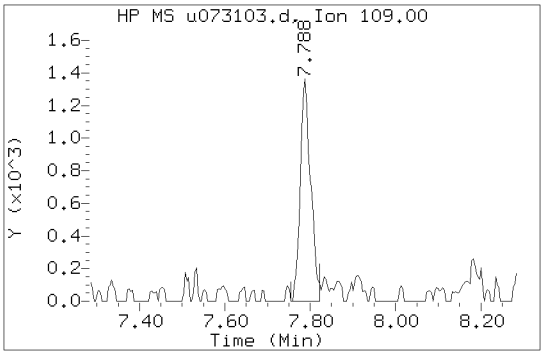
BEFORE

MASS
109
AREA
2340
HEIGHT
1363
01-Aug-2023
21:03



AFTER

MASS
109
AREA
2340
HEIGHT
1363
01-Aug-2023
21:03

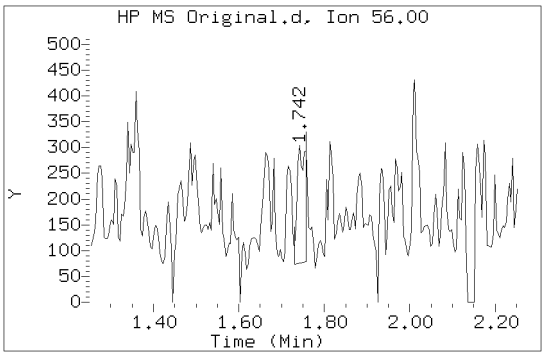


Acrolein (107-02-8)

Reason Code:

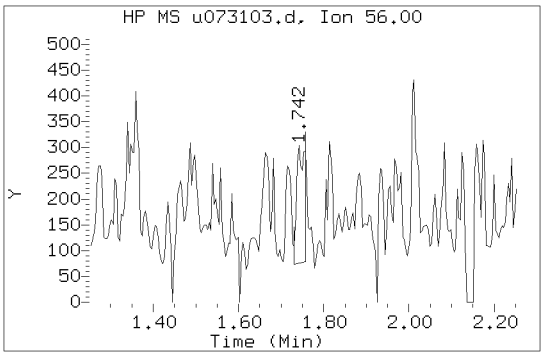
BEFORE

MASS
56
AREA
302
HEIGHT
227
01-Aug-2023
21:03



AFTER

MASS
56
AREA
302
HEIGHT
227
01-Aug-2023
21:03

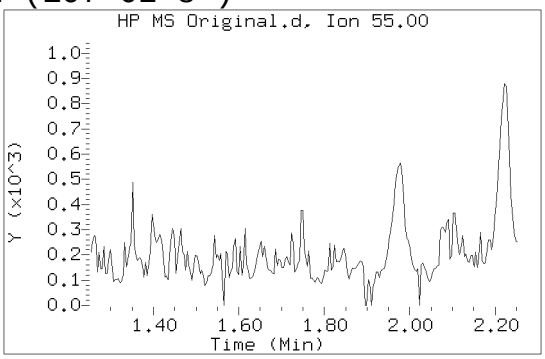


Data File : \\nahstws005\target\chem\voa9.i\u230731.b\u073103.d
Inj Date : 31-JUL-2023 11:53
InstruID : VOA9.i
LabSampID : VSTD000.5

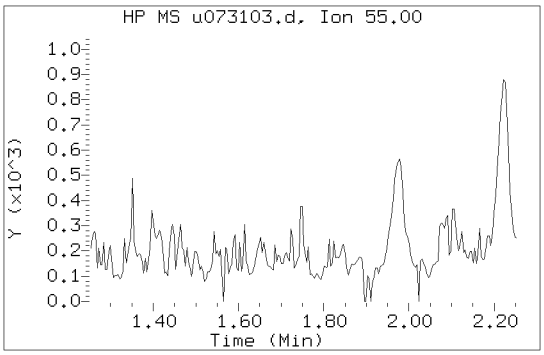
Acrolein (107-02-8)

Reason Code:

BEFORE
MASS
55
AREA
0
HEIGHT
0
01-Aug-2023
21:03



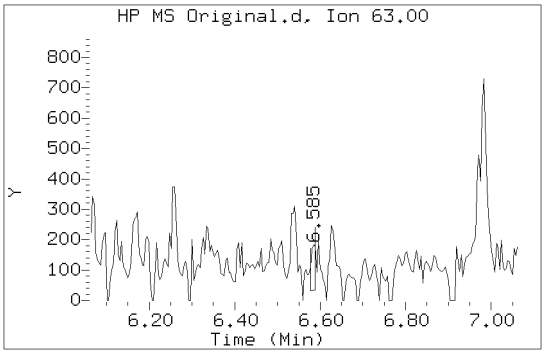
AFTER
MASS
55
AREA
0
HEIGHT
0
01-Aug-2023
21:03



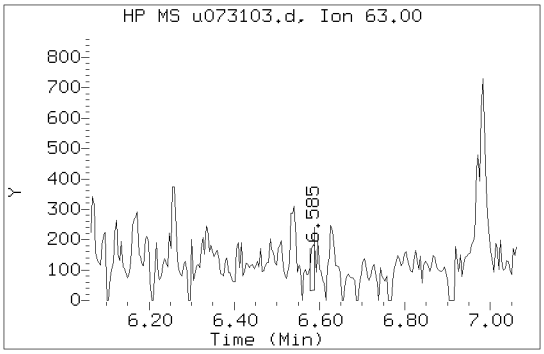
2-Chloroethylvinyl ether (110-75-8)

Reason Code:

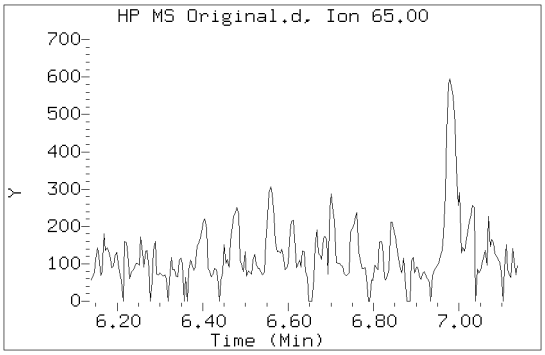
BEFORE
MASS
63
AREA
114
HEIGHT
151
01-Aug-2023
21:03



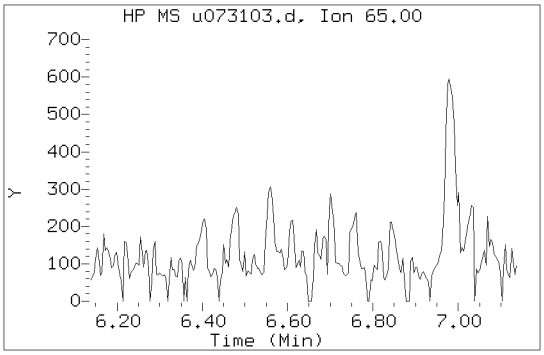
AFTER
MASS
63
AREA
114
HEIGHT
151
01-Aug-2023
21:03



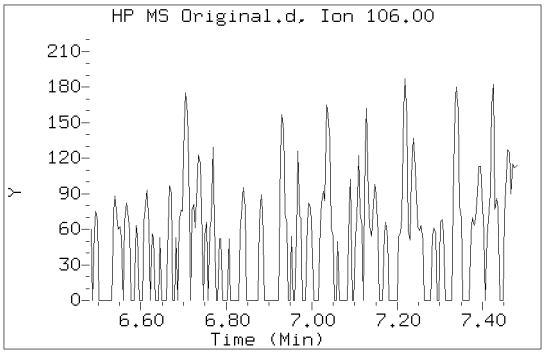
BEFORE
MASS
65
AREA
0
HEIGHT
0
01-Aug-2023
21:03



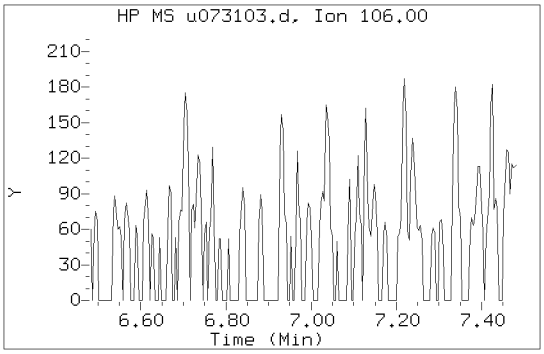
AFTER
MASS
65
AREA
0
HEIGHT
0
01-Aug-2023
21:03



BEFORE
MASS
106
AREA
0
HEIGHT
0
01-Aug-2023
21:03



AFTER
MASS
106
AREA
0
HEIGHT
0
01-Aug-2023
21:03



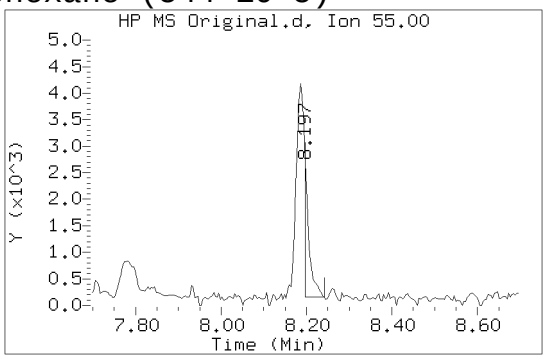
Data File : \\nahstws005\target\chem\voa9.i\u230731.b\u073103.d
Inj Date : 31-JUL-2023 11:53
InstruID : VOA9.i
LabSampID : VSTD000.5

1-Chlorohexane (544-10-5)

Reason Code:

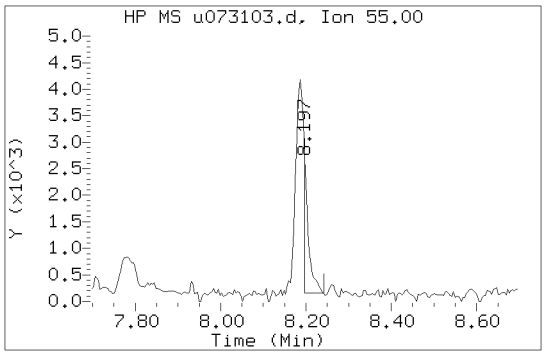
BEFORE

MASS
55
AREA
1840
HEIGHT
2555
01-Aug-2023
21:03



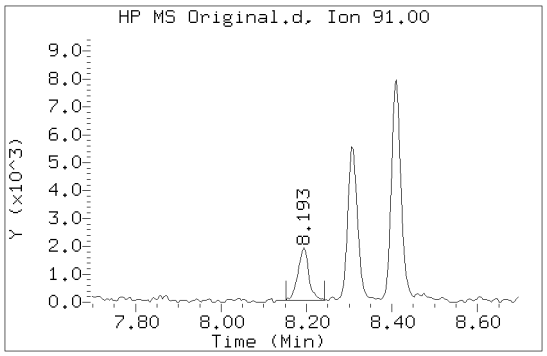
AFTER

MASS
55
AREA
1840
HEIGHT
2555
01-Aug-2023
21:03



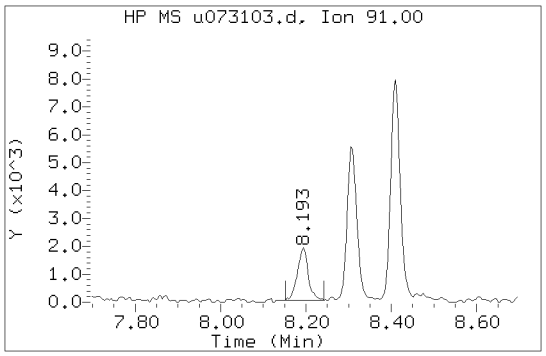
BEFORE

MASS
91
AREA
3423
HEIGHT
1898
01-Aug-2023
21:03



AFTER

MASS
91
AREA
3423
HEIGHT
1898
01-Aug-2023
21:03

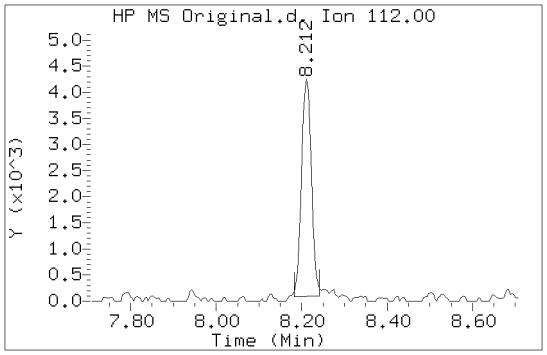


Chlorobenzene (108-90-7)

Reason Code:

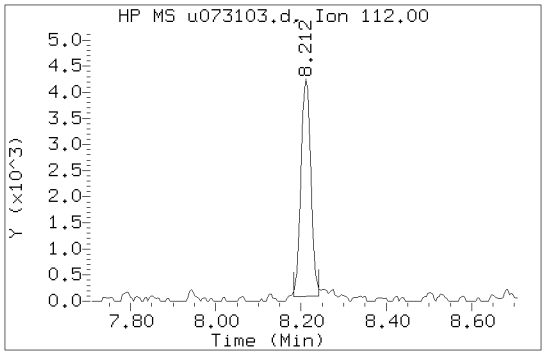
BEFORE

MASS
112
AREA
6853
HEIGHT
4160
01-Aug-2023
21:03



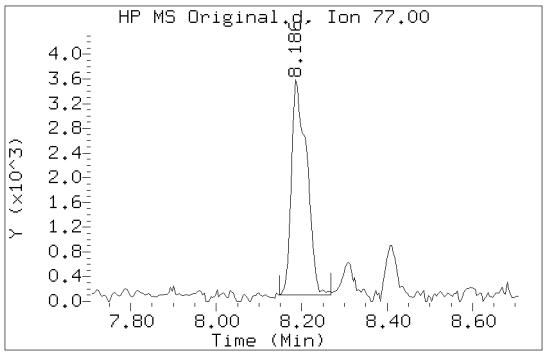
AFTER

MASS
112
AREA
6853
HEIGHT
4160
01-Aug-2023
21:03



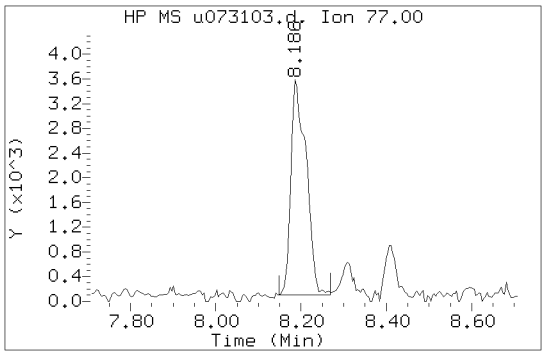
BEFORE

MASS
77
AREA
8764
HEIGHT
3480
01-Aug-2023
21:03



AFTER

MASS
77
AREA
8764
HEIGHT
3480
01-Aug-2023
21:03



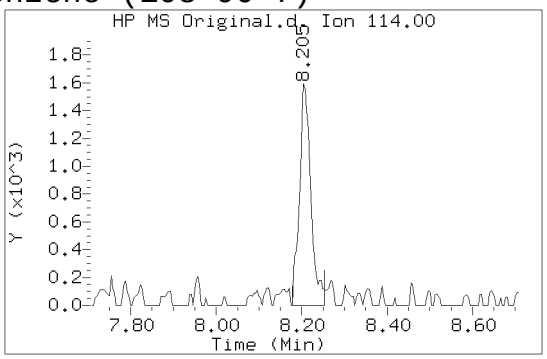
Data File : \\nahstws005\target\chem\voa9.i\u230731.b\u073103.d
Inj Date : 31-JUL-2023 11:53
InstruID : VOA9.i
LabSampID : VSTD000.5

Chlorobenzene (108-90-7)

Reason Code:

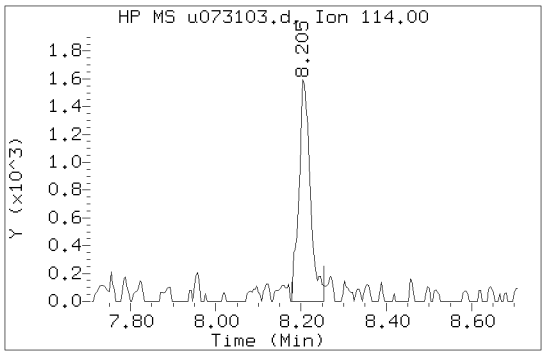
BEFORE

MASS
114
AREA
3009
HEIGHT
1594
01-Aug-2023
21:03



AFTER

MASS
114
AREA
3009
HEIGHT
1594
01-Aug-2023
21:03

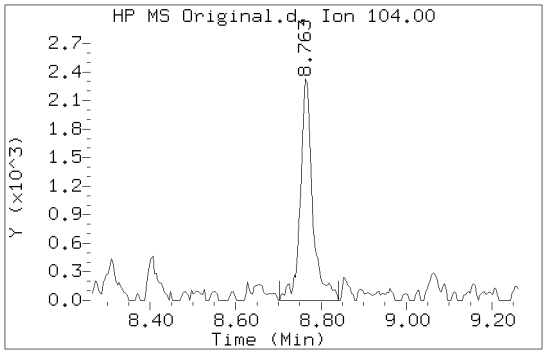


Styrene (100-42-5)

Reason Code:

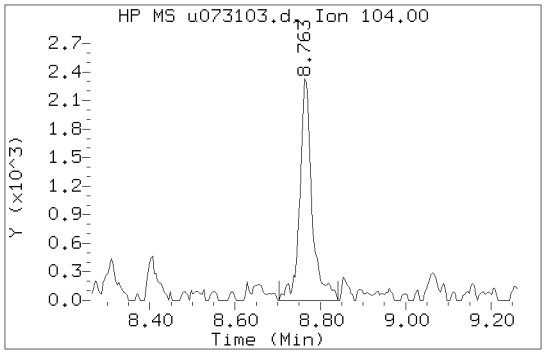
BEFORE

MASS
104
AREA
4750
HEIGHT
2329
01-Aug-2023
21:03



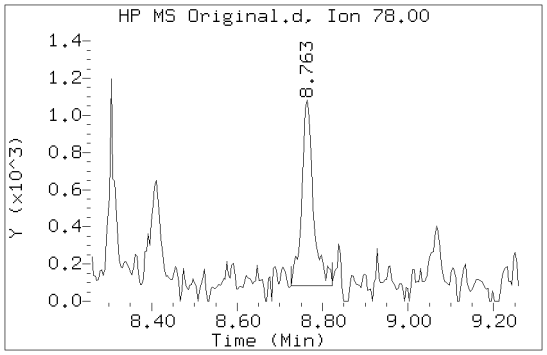
AFTER

MASS
104
AREA
4750
HEIGHT
2329
01-Aug-2023
21:03



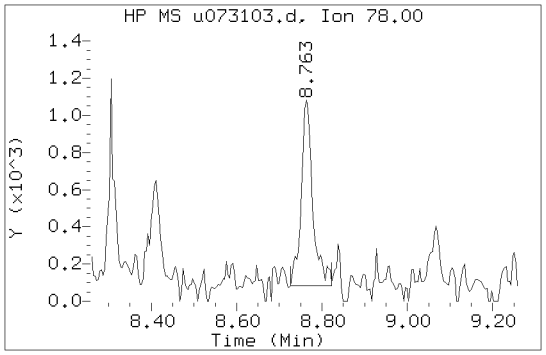
BEFORE

MASS
78
AREA
1928
HEIGHT
997
01-Aug-2023
21:03



AFTER

MASS
78
AREA
1928
HEIGHT
997
01-Aug-2023
21:03

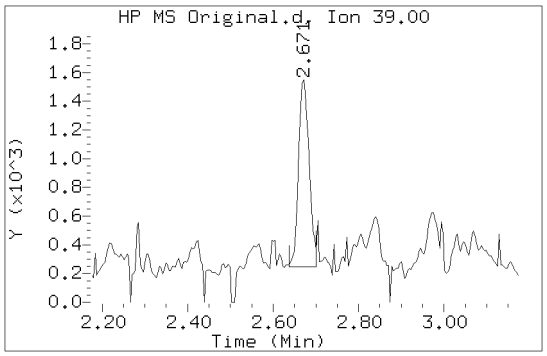


Acetonitrile (75-05-8)

Reason Code:

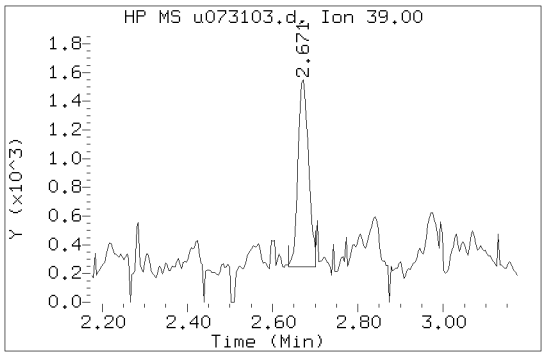
BEFORE

MASS
39
AREA
2314
HEIGHT
1304
01-Aug-2023
21:03



AFTER

MASS
39
AREA
2314
HEIGHT
1304
01-Aug-2023
21:03

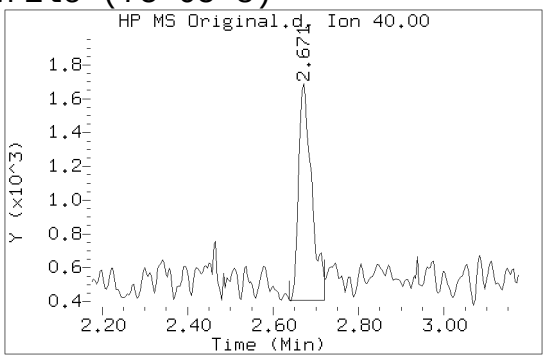


Data File : \\nahstws005\target\chem\voa9.i\u230731.b\u073103.d
Inj Date : 31-JUL-2023 11:53
InstruID : VOA9.i
LabSampID : VSTD000.5

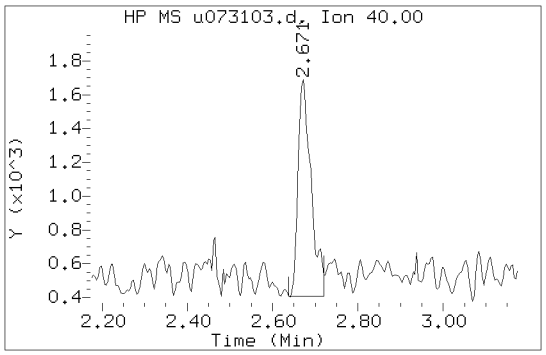
Acetonitrile (75-05-8)

Reason Code:

BEFORE
MASS
40
AREA
2767
HEIGHT
1280
01-Aug-2023
21:03



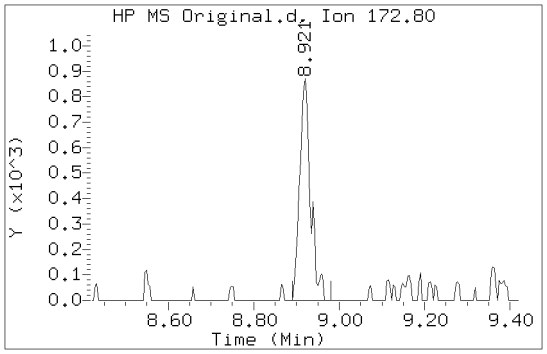
AFTER
MASS
40
AREA
2767
HEIGHT
1280
01-Aug-2023
21:03



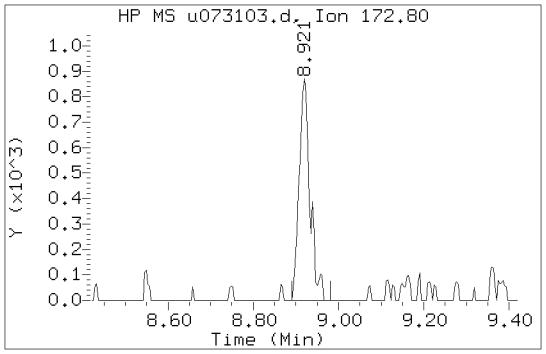
Bromoform (75-25-2)

Reason Code:

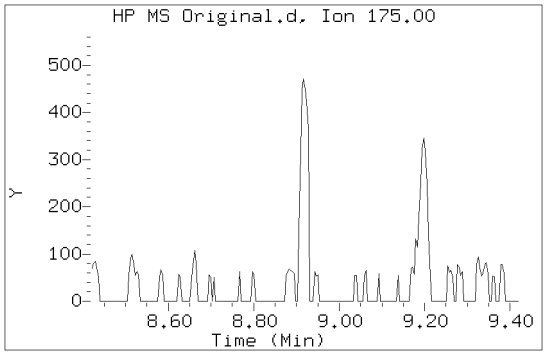
BEFORE
MASS
172.8
AREA
1569
HEIGHT
871
01-Aug-2023
21:03



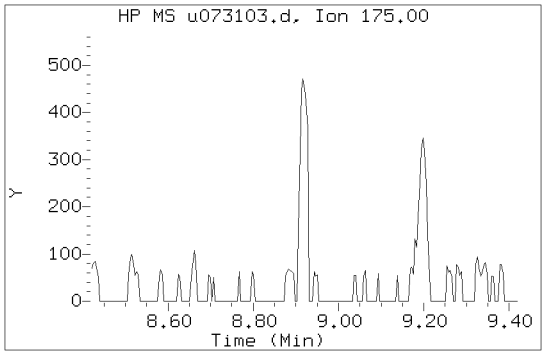
AFTER
MASS
172.8
AREA
1569
HEIGHT
871
01-Aug-2023
21:03



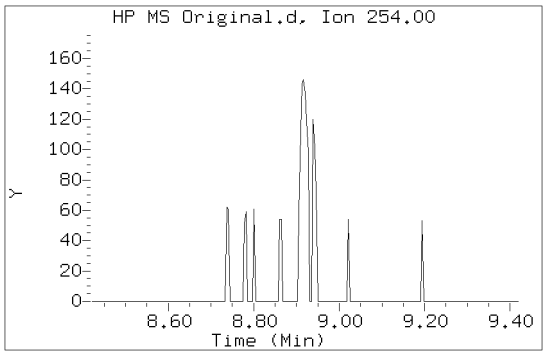
BEFORE
MASS
175
AREA
0
HEIGHT
0
01-Aug-2023
21:03



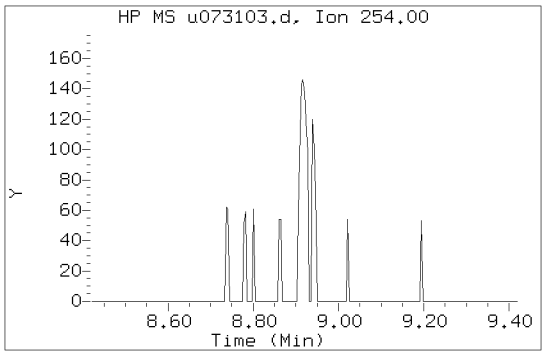
AFTER
MASS
175
AREA
0
HEIGHT
0
01-Aug-2023
21:03



BEFORE
MASS
254
AREA
0
HEIGHT
0
01-Aug-2023
21:03



AFTER
MASS
254
AREA
0
HEIGHT
0
01-Aug-2023
21:03

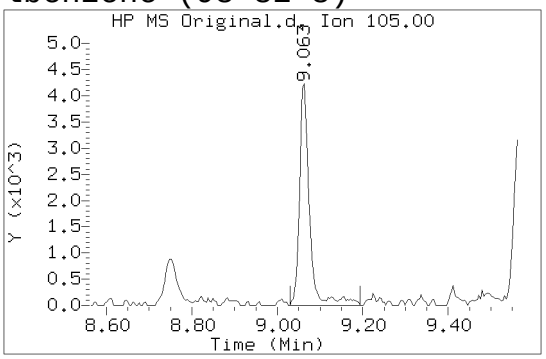


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Inj Date : 31-JUL-2023 11:53
InstruID : VOA9.i
LabSampID : VSTD000.5

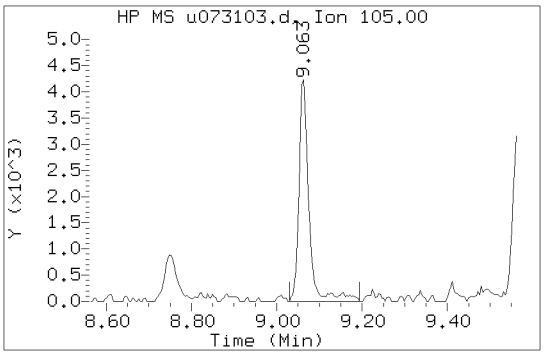
Isopropylbenzene (98-82-8)

Reason Code:

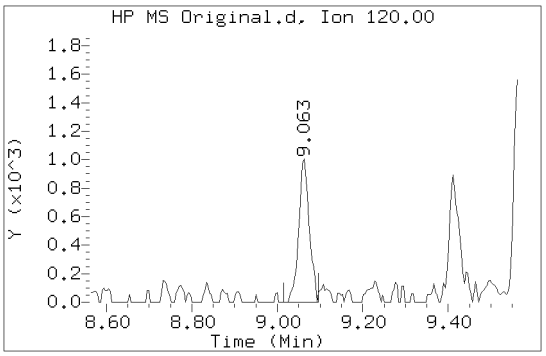
BEFORE
MASS
105
AREA
7003
HEIGHT
4232
01-Aug-2023
21:03



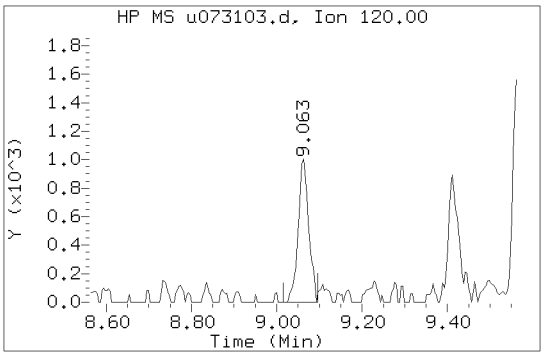
AFTER
MASS
105
AREA
7003
HEIGHT
4232
01-Aug-2023
21:03



BEFORE
MASS
120
AREA
1773
HEIGHT
1004
01-Aug-2023
21:03



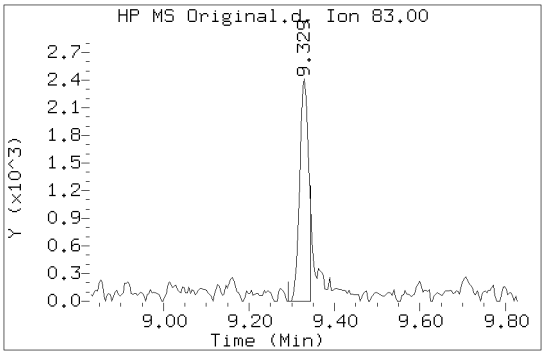
AFTER
MASS
120
AREA
1773
HEIGHT
1004
01-Aug-2023
21:03



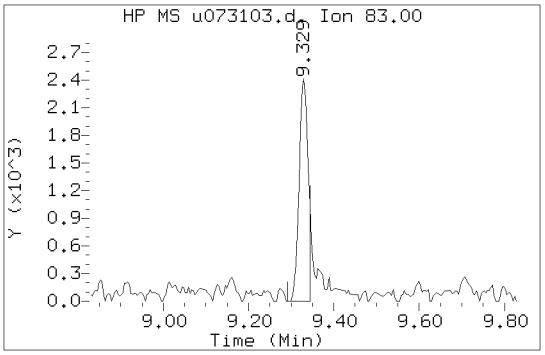
1,1,2,2-Tetrachloroethane (79-34-5)

Reason Code:

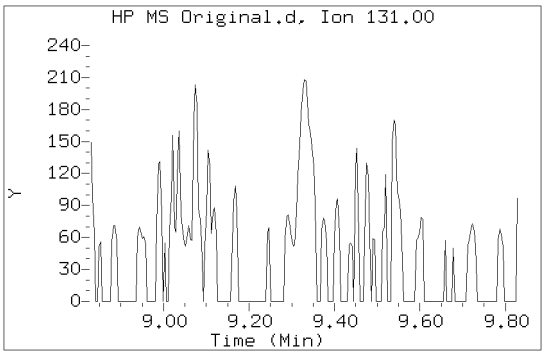
BEFORE
MASS
83
AREA
3564
HEIGHT
2413
01-Aug-2023
21:03



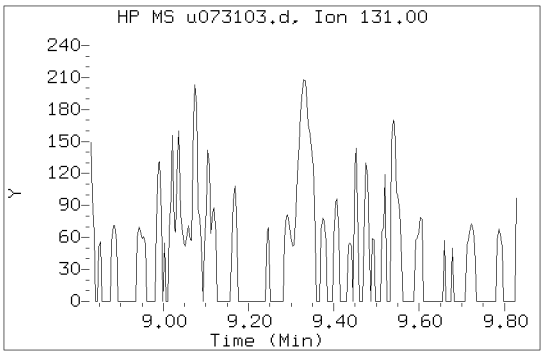
AFTER
MASS
83
AREA
3564
HEIGHT
2413
01-Aug-2023
21:03



BEFORE
MASS
131
AREA
0
HEIGHT
0
01-Aug-2023
21:03



AFTER
MASS
131
AREA
0
HEIGHT
0
01-Aug-2023
21:03



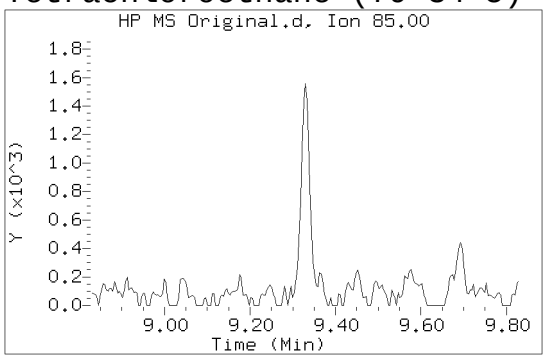
Data File : \\nahstws005\target\chem\voa9.i\u230731.b\u073103.d
Inj Date : 31-JUL-2023 11:53
InstruID : VOA9.i
LabSampID : VSTD000.5

1,1,2,2-Tetrachloroethane (79-34-5)

Reason Code:

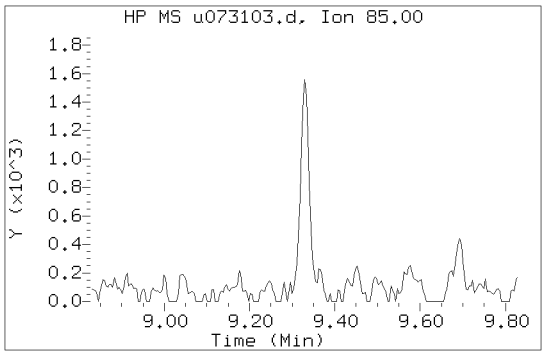
BEFORE

MASS
85
AREA
0
HEIGHT
0
01-Aug-2023
21:03



AFTER

MASS
85
AREA
0
HEIGHT
0
01-Aug-2023
21:03

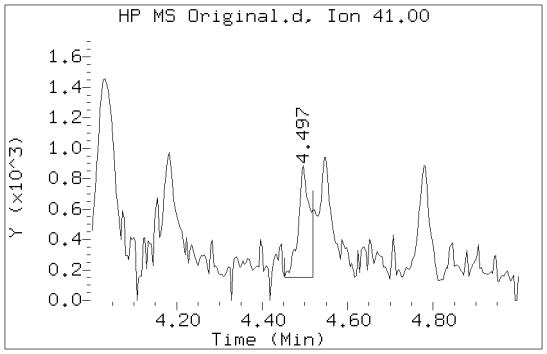


Methacrylonitrile (126-98-7)

Reason Code:

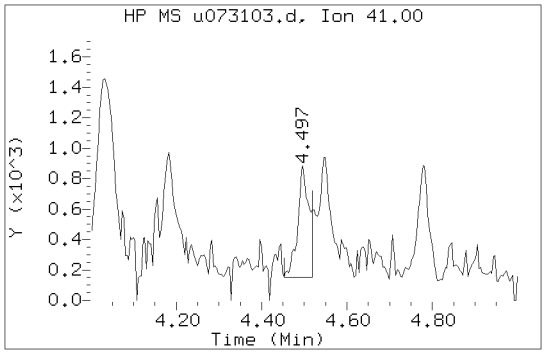
BEFORE

MASS
41
AREA
1418
HEIGHT
733
01-Aug-2023
21:03



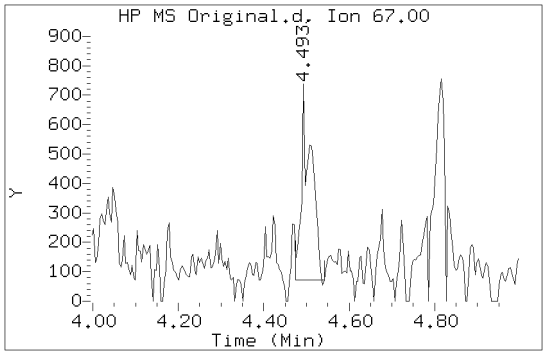
AFTER

MASS
41
AREA
1418
HEIGHT
733
01-Aug-2023
21:03



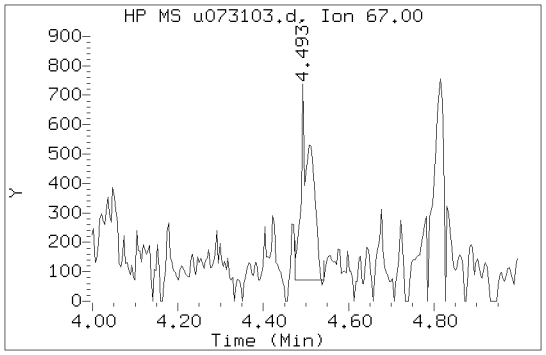
BEFORE

MASS
67
AREA
1064
HEIGHT
666
01-Aug-2023
21:03



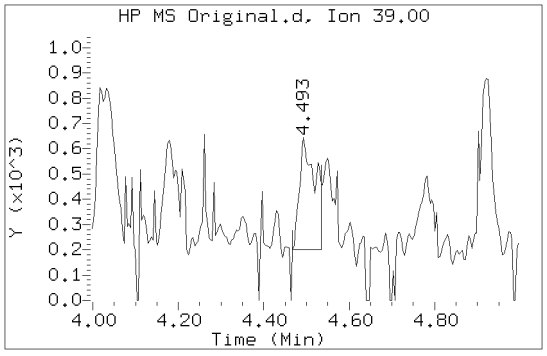
AFTER

MASS
67
AREA
1064
HEIGHT
666
01-Aug-2023
21:03



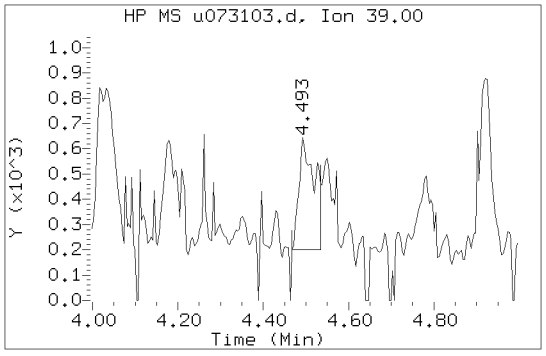
BEFORE

MASS
39
AREA
1145
HEIGHT
445
01-Aug-2023
21:03



AFTER

MASS
39
AREA
1145
HEIGHT
445
01-Aug-2023
21:03



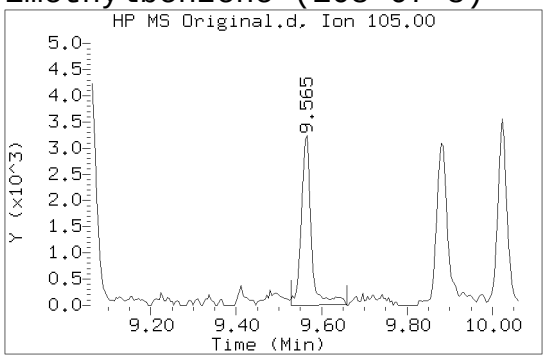
Data File : \\nahstws005\target\chem\voa9.i\u230731.b\u073103.d
Inj Date : 31-JUL-2023 11:53
InstruID : VOA9.i
LabSampID : VSTD000.5

1,3,5-Trimethylbenzene (108-67-8)

Reason Code:

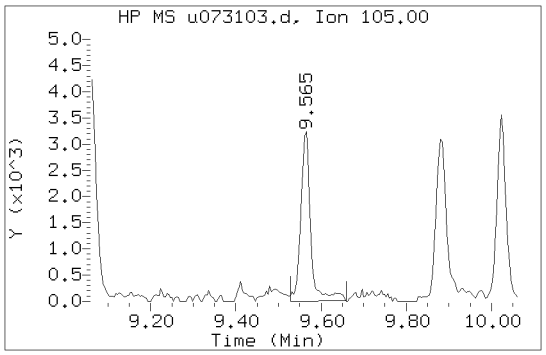
BEFORE

MASS
105
AREA
5406
HEIGHT
3241
01-Aug-2023
21:03



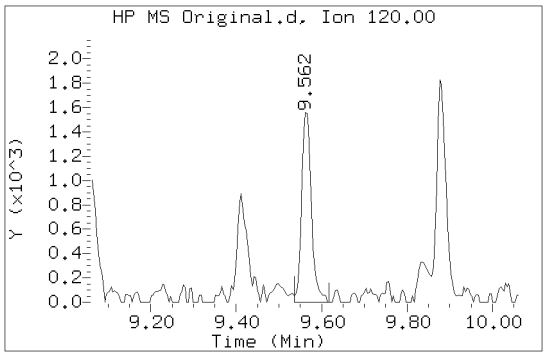
AFTER

MASS
105
AREA
5406
HEIGHT
3241
01-Aug-2023
21:03



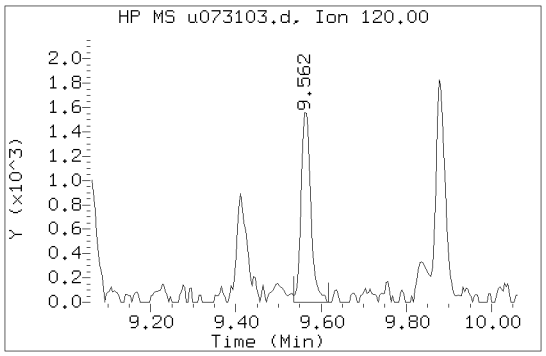
BEFORE

MASS
120
AREA
2560
HEIGHT
1560
01-Aug-2023
21:03



AFTER

MASS
120
AREA
2560
HEIGHT
1560
01-Aug-2023
21:03

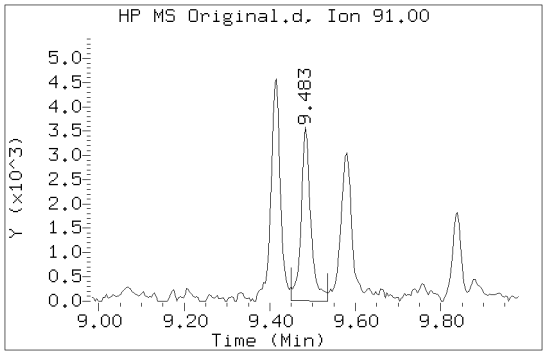


2-Chlorotoluene (95-49-8)

Reason Code:

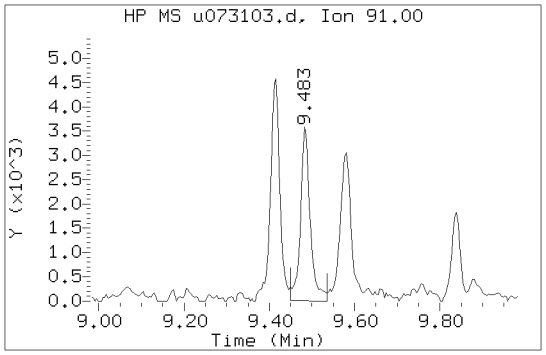
BEFORE

MASS
91
AREA
5806
HEIGHT
3580
01-Aug-2023
21:03



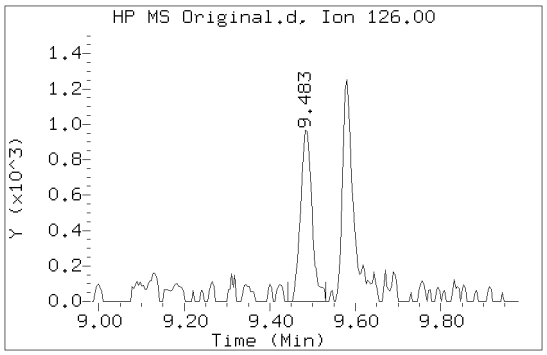
AFTER

MASS
91
AREA
5806
HEIGHT
3580
01-Aug-2023
21:03



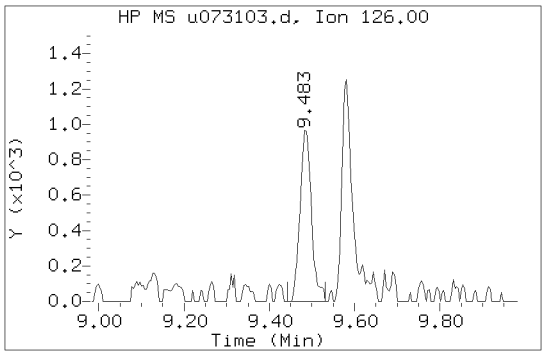
BEFORE

MASS
126
AREA
1848
HEIGHT
967
01-Aug-2023
21:03



AFTER

MASS
126
AREA
1848
HEIGHT
967
01-Aug-2023
21:03



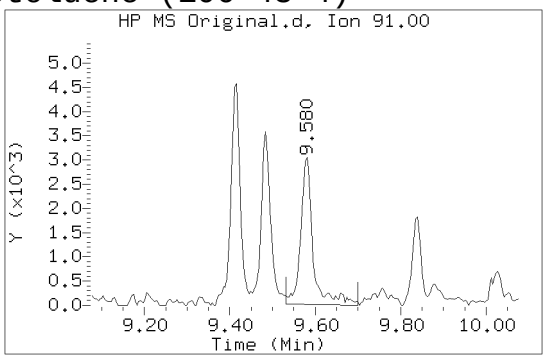
Data File : \\nahstws005\target\chem\voa9.i\u230731.b\u073103.d
Inj Date : 31-JUL-2023 11:53
InstruID : VOA9.i
LabSampID : VSTD000.5

4-Chlorotoluene (106-43-4)

Reason Code:

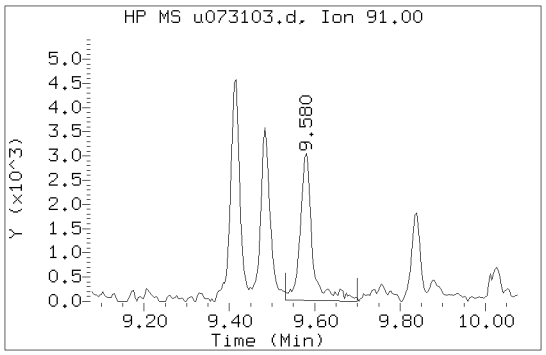
BEFORE

MASS
91
AREA
6267
HEIGHT
3039
01-Aug-2023
21:03



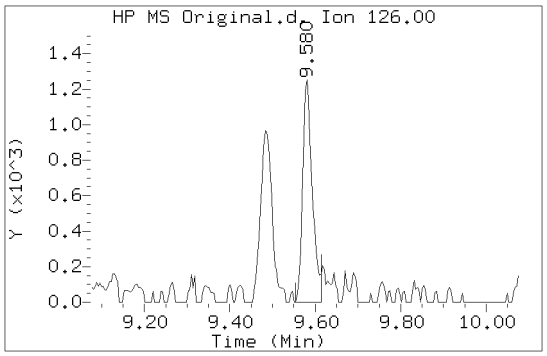
AFTER

MASS
91
AREA
6267
HEIGHT
3039
01-Aug-2023
21:03



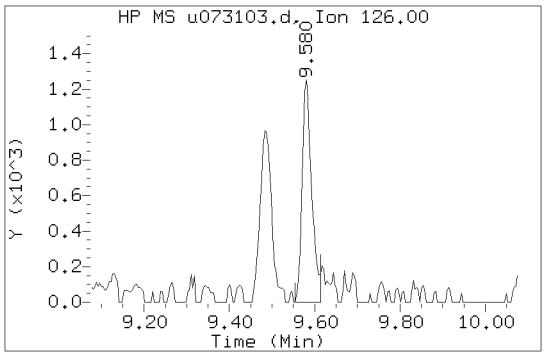
BEFORE

MASS
126
AREA
2005
HEIGHT
1252
01-Aug-2023
21:03



AFTER

MASS
126
AREA
2005
HEIGHT
1252
01-Aug-2023
21:03

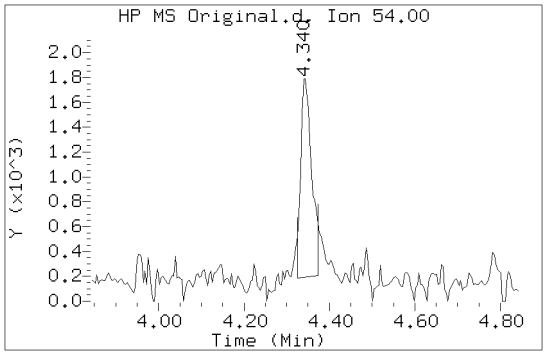


Propionitrile (107-12-0)

Reason Code:

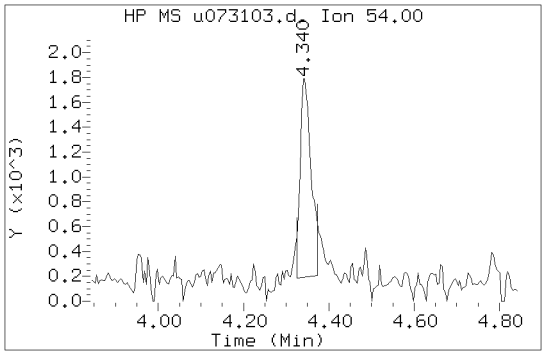
BEFORE

MASS
54
AREA
2962
HEIGHT
1596
01-Aug-2023
21:03



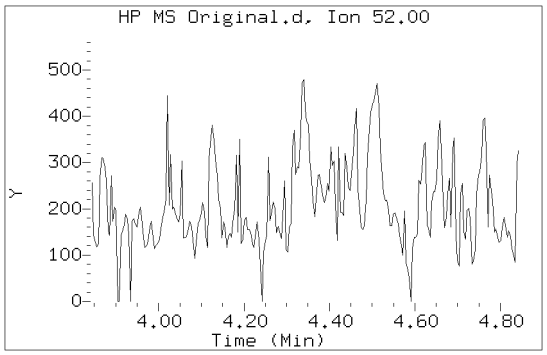
AFTER

MASS
54
AREA
2962
HEIGHT
1596
01-Aug-2023
21:03



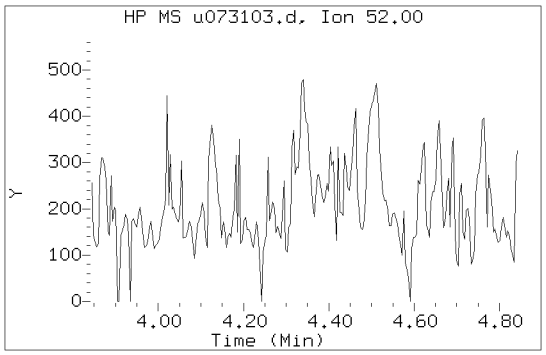
BEFORE

MASS
52
AREA
0
HEIGHT
0
01-Aug-2023
21:03



AFTER

MASS
52
AREA
0
HEIGHT
0
01-Aug-2023
21:03

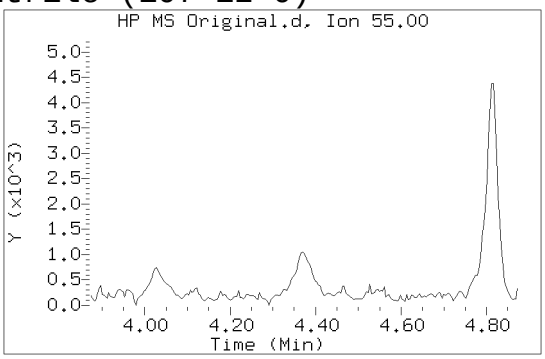


Data File : \\nahstws005\target\chem\voa9.i\u230731.b\u073103.d
Inj Date : 31-JUL-2023 11:53
InstruID : VOA9.i
LabSampID : VSTD000.5

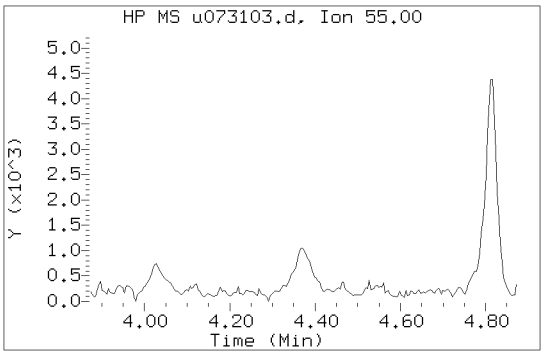
Propionitrile (107-12-0)

Reason Code:

BEFORE
MASS
55
AREA
0
HEIGHT
0
01-Aug-2023
21:03



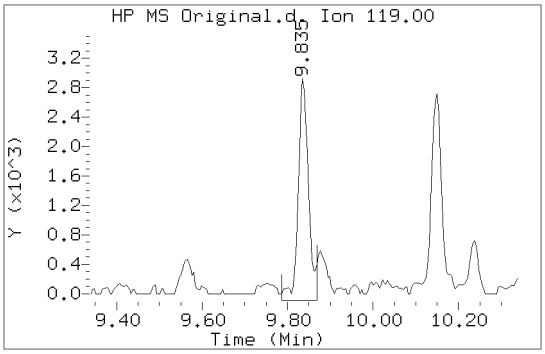
AFTER
MASS
55
AREA
0
HEIGHT
0
01-Aug-2023
21:03



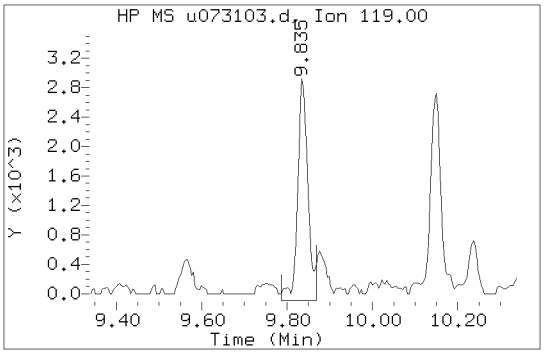
tert-Butylbenzene (98-06-6)

Reason Code:

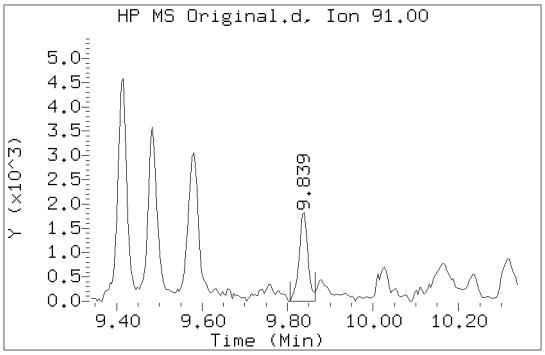
BEFORE
MASS
119
AREA
5184
HEIGHT
3013
01-Aug-2023
21:03



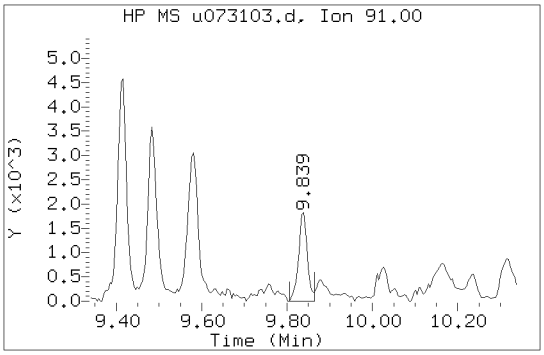
AFTER
MASS
119
AREA
5184
HEIGHT
3013
01-Aug-2023
21:03



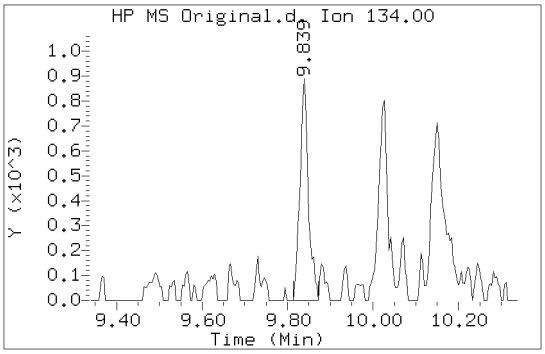
BEFORE
MASS
91
AREA
2701
HEIGHT
1823
01-Aug-2023
21:03



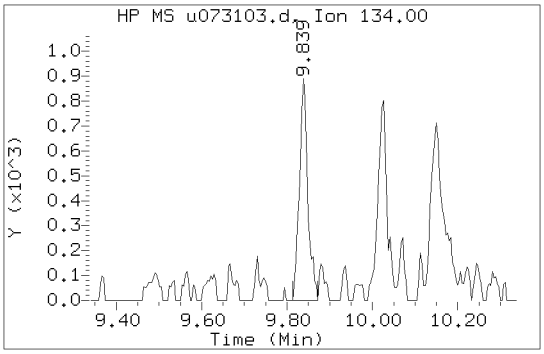
AFTER
MASS
91
AREA
2701
HEIGHT
1823
01-Aug-2023
21:03



BEFORE
MASS
134
AREA
1244
HEIGHT
890
01-Aug-2023
21:03



AFTER
MASS
134
AREA
1244
HEIGHT
890
01-Aug-2023
21:03

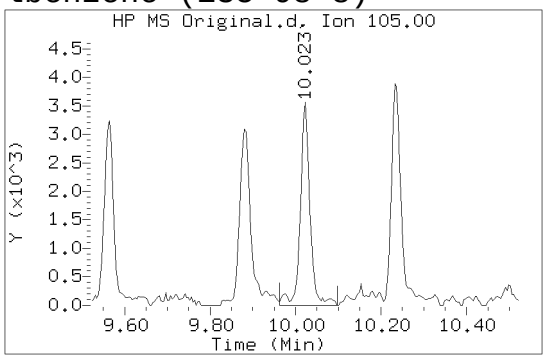


Data File : \\nahstws005\target\chem\voa9.i\u230731.b\u073103.d
Inj Date : 31-JUL-2023 11:53
InstruID : VOA9.i
LabSampID : VSTD000.5

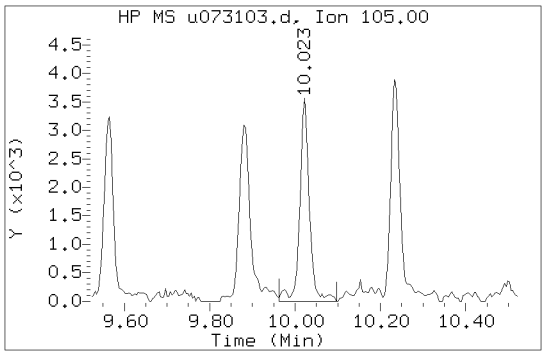
sec-Butylbenzene (135-98-8)

Reason Code:

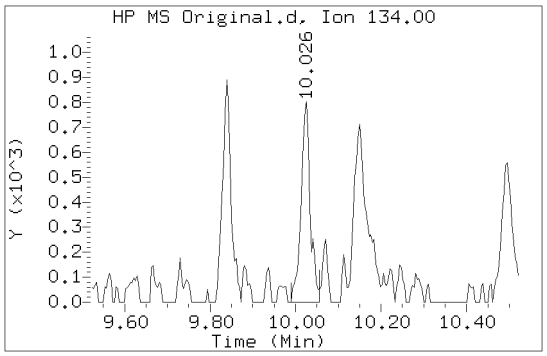
BEFORE
MASS
105
AREA
5696
HEIGHT
3563
01-Aug-2023
21:03



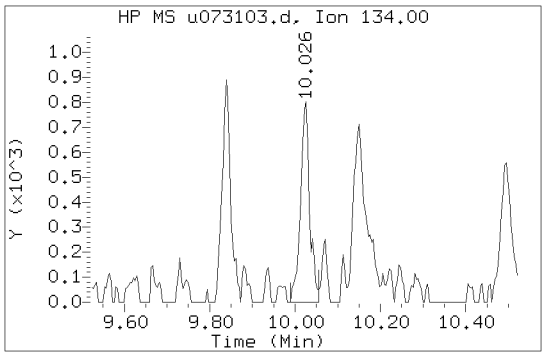
AFTER
MASS
105
AREA
5696
HEIGHT
3563
01-Aug-2023
21:03



BEFORE
MASS
134
AREA
1229
HEIGHT
803
01-Aug-2023
21:03



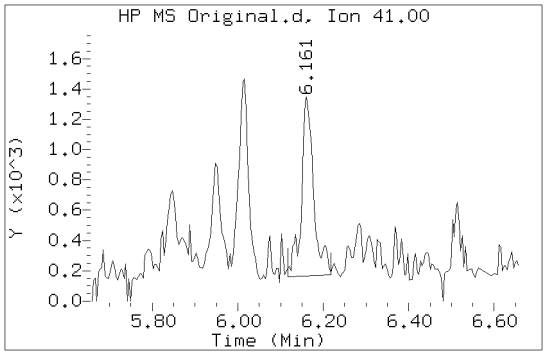
AFTER
MASS
134
AREA
1229
HEIGHT
803
01-Aug-2023
21:03



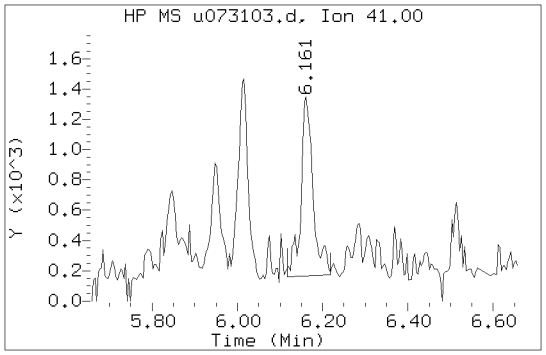
Methyl Methacrylate (80-62-6)

Reason Code:

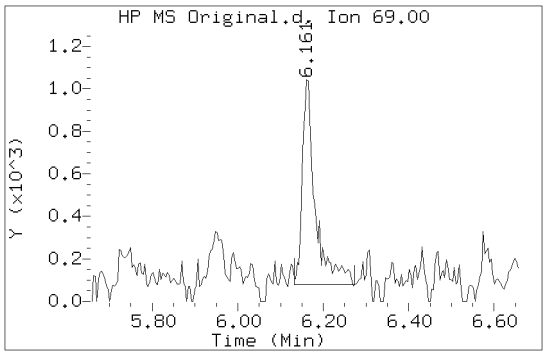
BEFORE
MASS
41
AREA
2378
HEIGHT
1183
01-Aug-2023
21:03



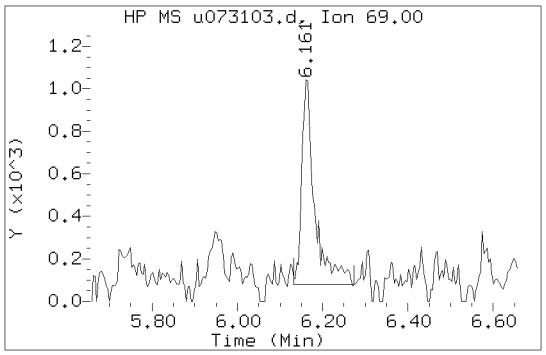
AFTER
MASS
41
AREA
2378
HEIGHT
1183
01-Aug-2023
21:03



BEFORE
MASS
69
AREA
2078
HEIGHT
966
01-Aug-2023
21:03



AFTER
MASS
69
AREA
2078
HEIGHT
966
01-Aug-2023
21:03

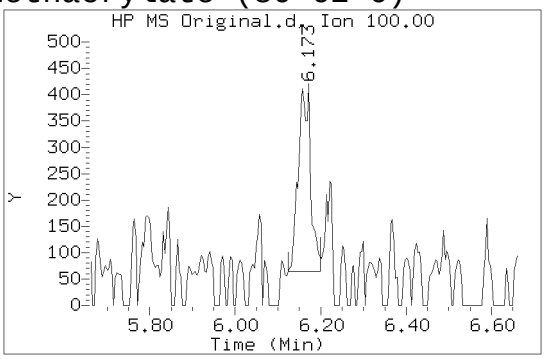


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Inj Date : 31-JUL-2023 11:53
InstruID : VOA9.i
LabSampID : VSTD000.5

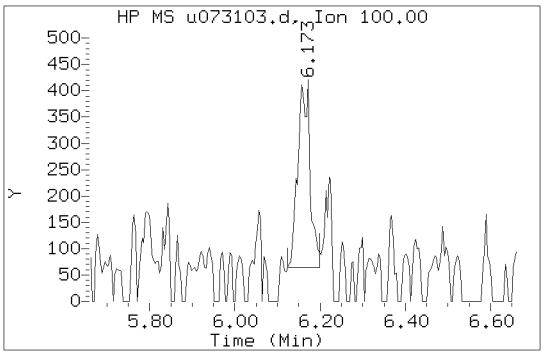
Methyl Methacrylate (80-62-6)

Reason Code:

BEFORE
MASS
100
AREA
711
HEIGHT
357
01-Aug-2023
21:03



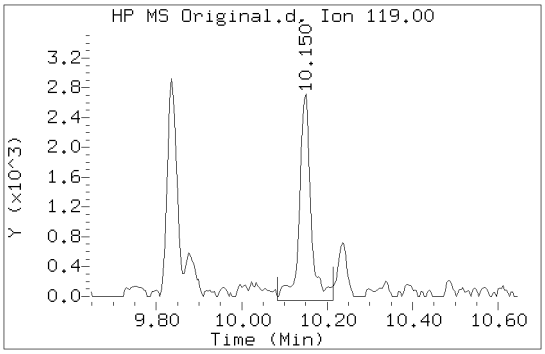
AFTER
MASS
100
AREA
711
HEIGHT
357
01-Aug-2023
21:03



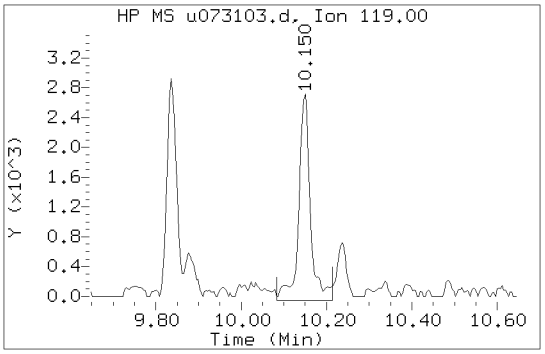
p-Isopropyltoluene (99-87-6)

Reason Code:

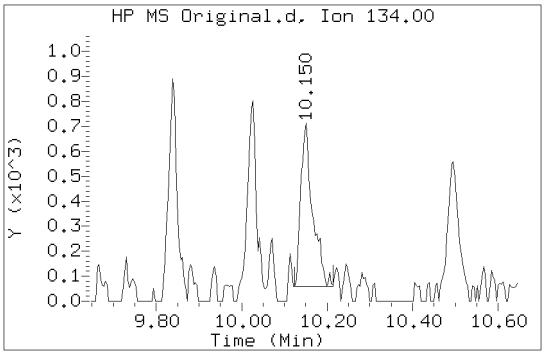
BEFORE
MASS
119
AREA
5403
HEIGHT
2774
01-Aug-2023
21:03



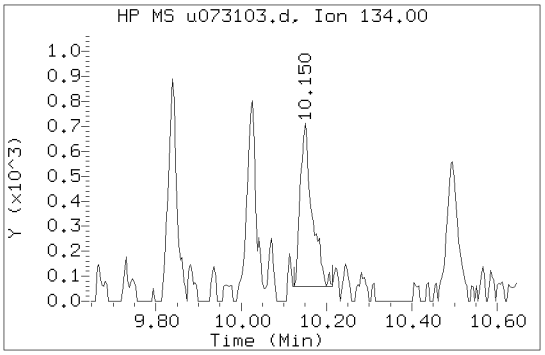
AFTER
MASS
119
AREA
5403
HEIGHT
2774
01-Aug-2023
21:03



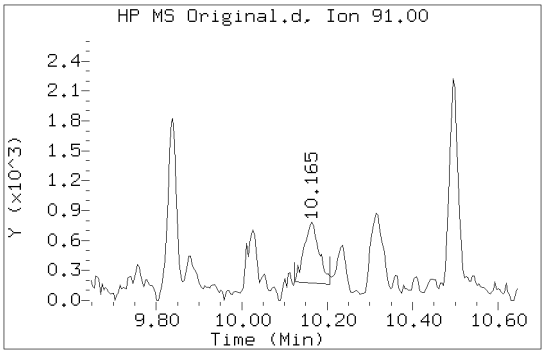
BEFORE
MASS
134
AREA
1271
HEIGHT
652
01-Aug-2023
21:03



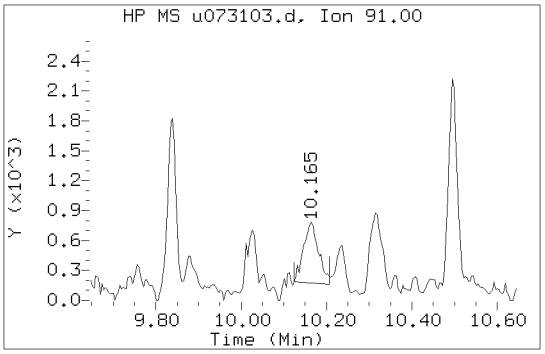
AFTER
MASS
134
AREA
1271
HEIGHT
652
01-Aug-2023
21:03



BEFORE
MASS
91
AREA
1511
HEIGHT
612
01-Aug-2023
21:03



AFTER
MASS
91
AREA
1511
HEIGHT
612
01-Aug-2023
21:03

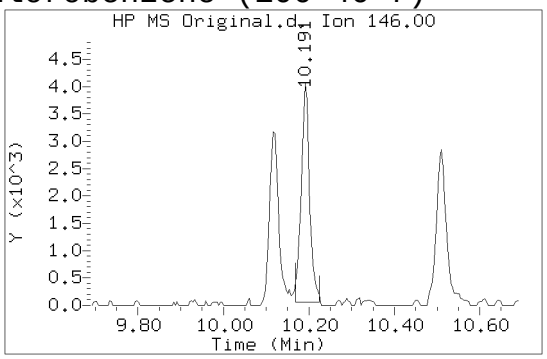


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InstruID : VOA9.i
LabSampID : VSTD000.5

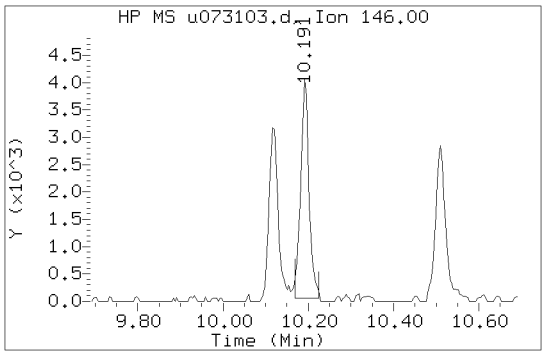
1,4-Dichlorobenzene (106-46-7)

Reason Code:

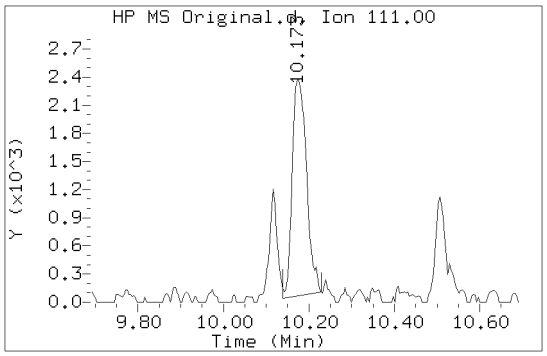
BEFORE
MASS
146
AREA
5577
HEIGHT
3993
01-Aug-2023
21:03



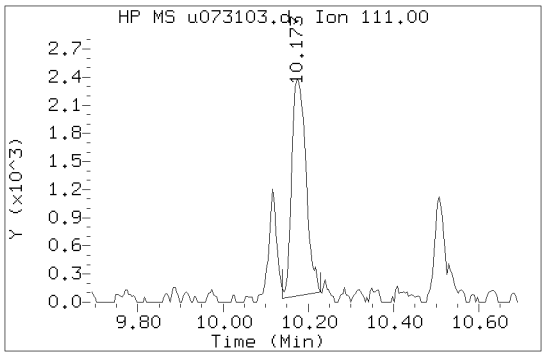
AFTER
MASS
146
AREA
5577
HEIGHT
3993
01-Aug-2023
21:03



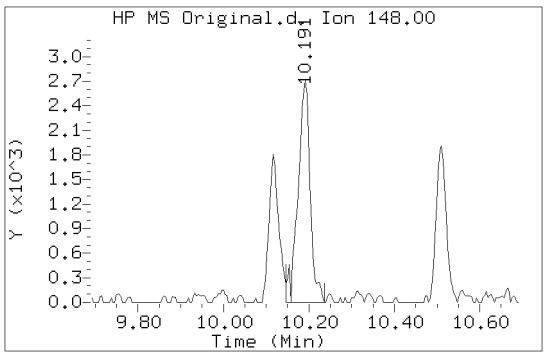
BEFORE
MASS
111
AREA
5405
HEIGHT
2302
01-Aug-2023
21:03



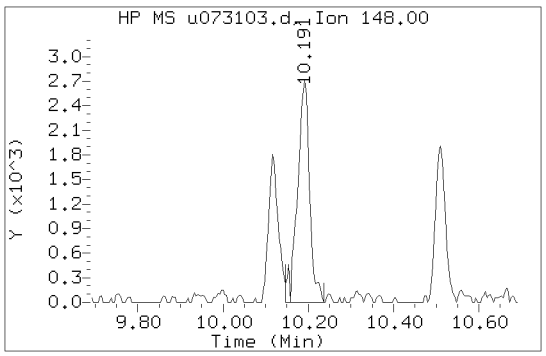
AFTER
MASS
111
AREA
5405
HEIGHT
2302
01-Aug-2023
21:03



BEFORE
MASS
148
AREA
5464
HEIGHT
2706
01-Aug-2023
21:03



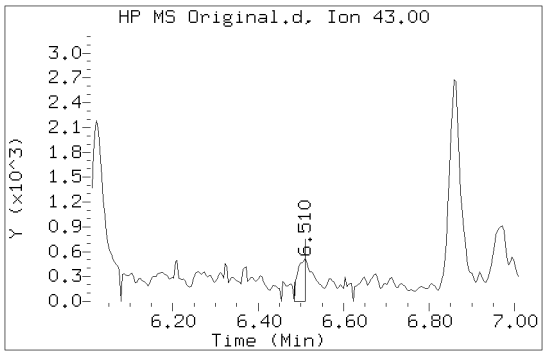
AFTER
MASS
148
AREA
5464
HEIGHT
2706
01-Aug-2023
21:03



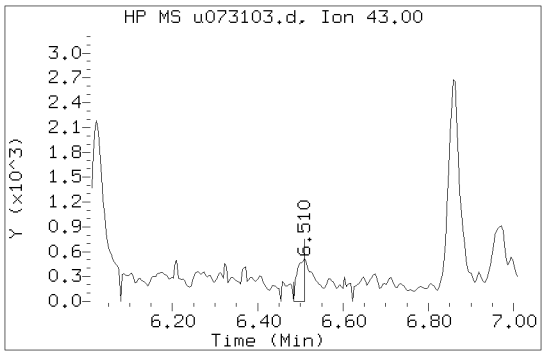
2-Nitropropane (79-46-9)

Reason Code:

BEFORE
MASS
43
AREA
661
HEIGHT
517
01-Aug-2023
21:03



AFTER
MASS
43
AREA
661
HEIGHT
517
01-Aug-2023
21:03



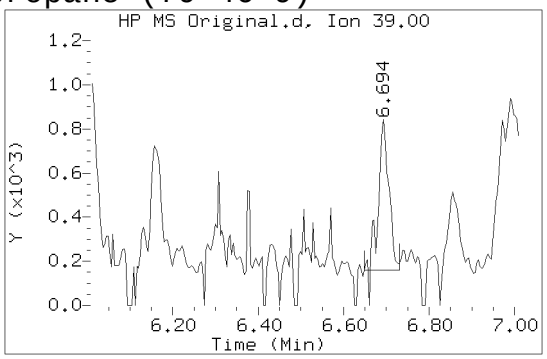
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Inj Date : 31-JUL-2023 11:53
InstruID : VOA9.i
LabSampID : VSTD000.5

2-Nitropropane (79-46-9)

Reason Code:

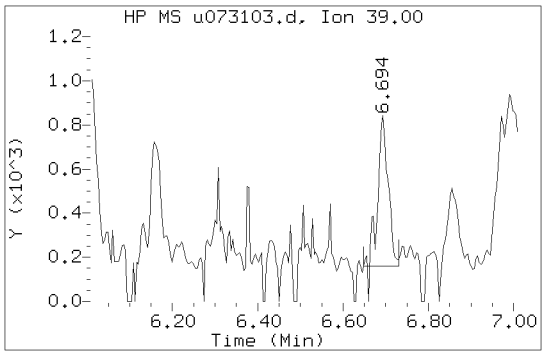
BEFORE

MASS
39
AREA
1143
HEIGHT
683
01-Aug-2023
21:03



AFTER

MASS
39
AREA
1143
HEIGHT
683
01-Aug-2023
21:03

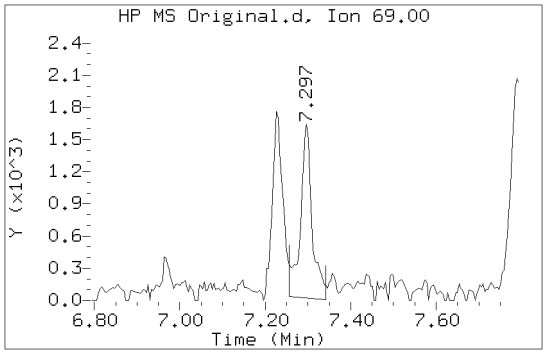


Ethyl Methacrylate (97-63-2)

Reason Code:

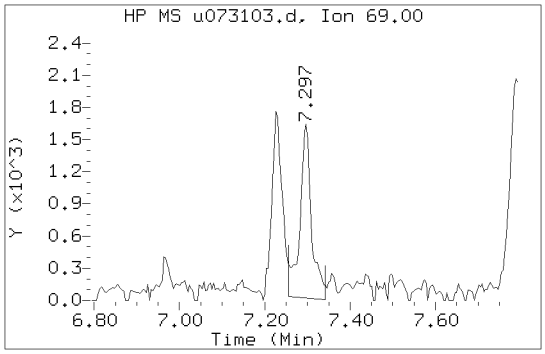
BEFORE

MASS
69
AREA
3176
HEIGHT
1621
01-Aug-2023
21:03



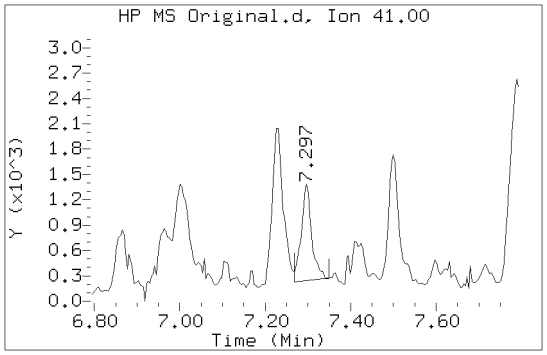
AFTER

MASS
69
AREA
3176
HEIGHT
1621
01-Aug-2023
21:03



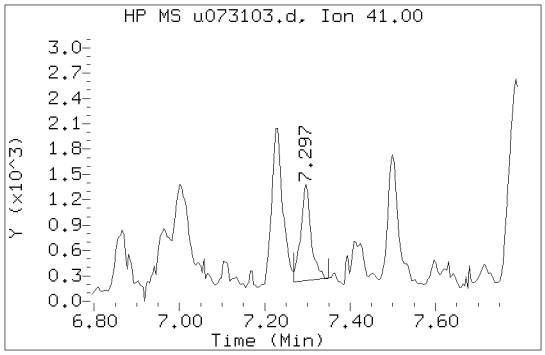
BEFORE

MASS
41
AREA
1981
HEIGHT
1135
01-Aug-2023
21:03



AFTER

MASS
41
AREA
1981
HEIGHT
1135
01-Aug-2023
21:03

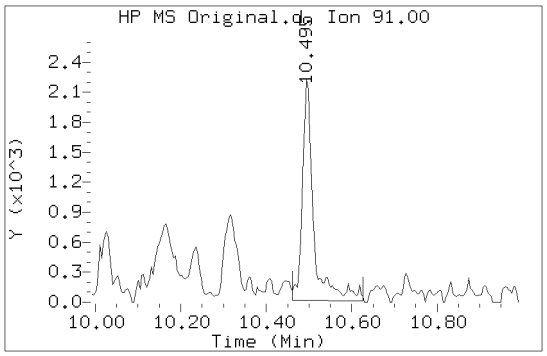


n-Butylbenzene (104-51-8)

Reason Code:

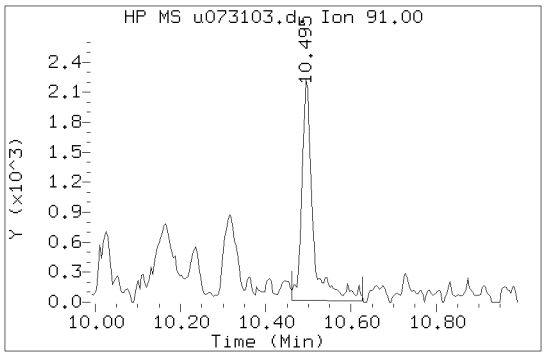
BEFORE

MASS
91
AREA
4114
HEIGHT
2205
01-Aug-2023
21:03



AFTER

MASS
91
AREA
4114
HEIGHT
2205
01-Aug-2023
21:03



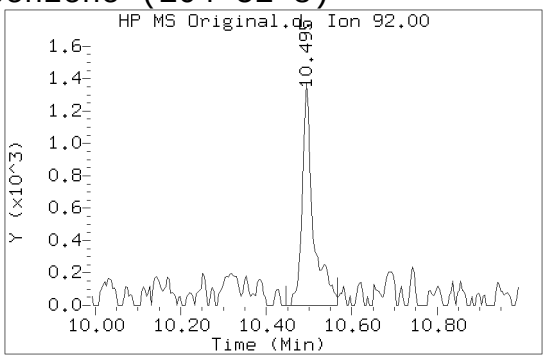
Data File : \\nahstws005\target\chem\voa9.i\u230731.b\u073103.d
Inj Date : 31-JUL-2023 11:53
InstruID : VOA9.i
LabSampID : VSTD000.5

n-Butylbenzene (104-51-8)

Reason Code:

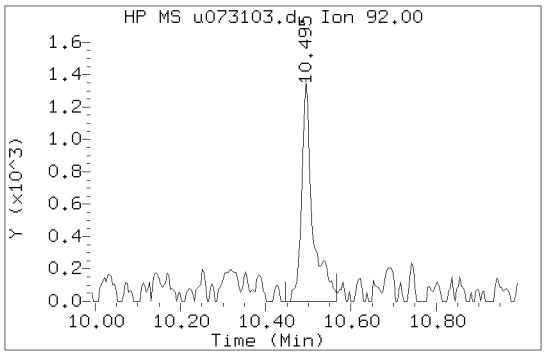
BEFORE

MASS
92
AREA
2489
HEIGHT
1369
01-Aug-2023
21:03



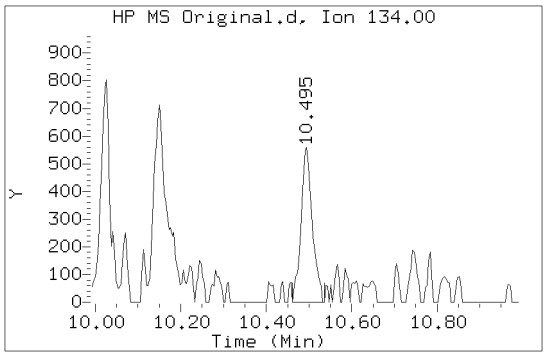
AFTER

MASS
92
AREA
2489
HEIGHT
1369
01-Aug-2023
21:03



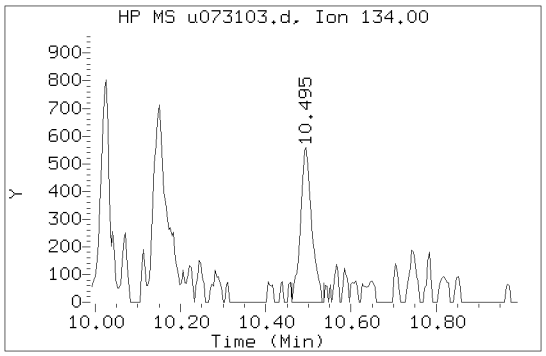
BEFORE

MASS
134
AREA
1039
HEIGHT
559
01-Aug-2023
21:03



AFTER

MASS
134
AREA
1039
HEIGHT
559
01-Aug-2023
21:03

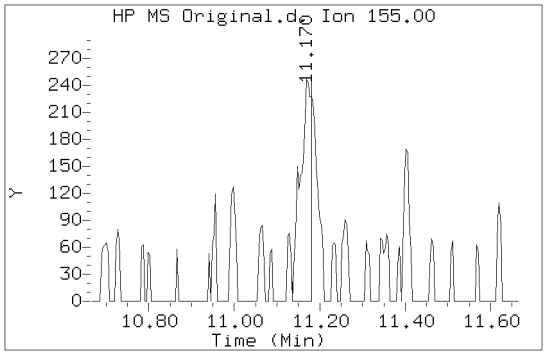


1,2-Dibromo-3-Chloropropane (96-12-8)

Reason Code:

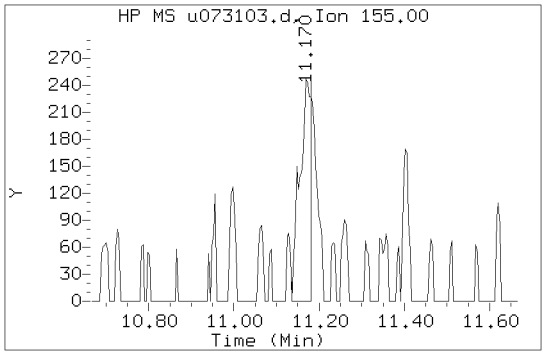
BEFORE

MASS
155
AREA
447
HEIGHT
247
01-Aug-2023
21:03



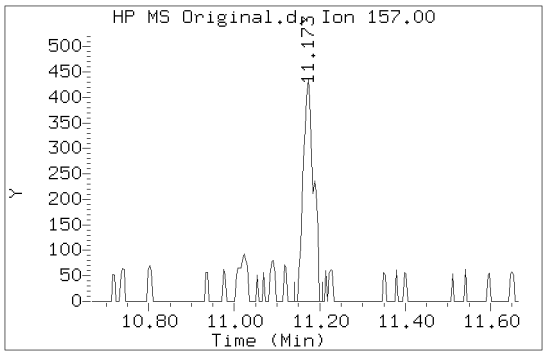
AFTER

MASS
155
AREA
447
HEIGHT
247
01-Aug-2023
21:03



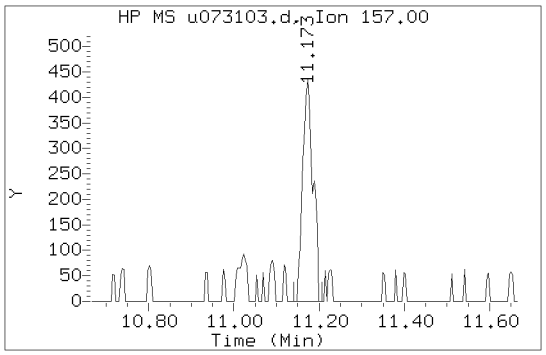
BEFORE

MASS
157
AREA
739
HEIGHT
435
01-Aug-2023
21:03



AFTER

MASS
157
AREA
739
HEIGHT
435
01-Aug-2023
21:03

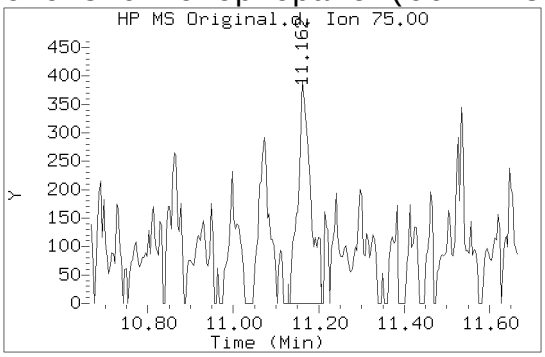


Data File : \\nahstws005\target\chem\voa9.i\u230731.b\u073103.d
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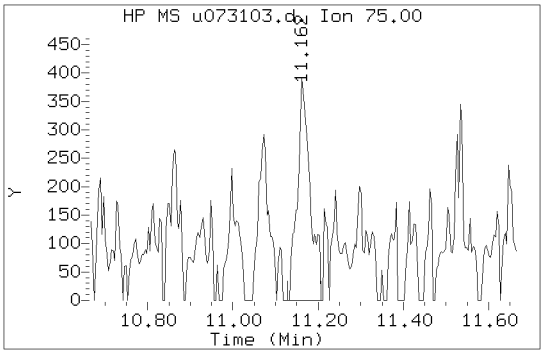
1,2-Dibromo-3-Chloropropane (96-12-8)

Reason Code:

BEFORE
MASS
75
AREA
826
HEIGHT
390
01-Aug-2023
21:03



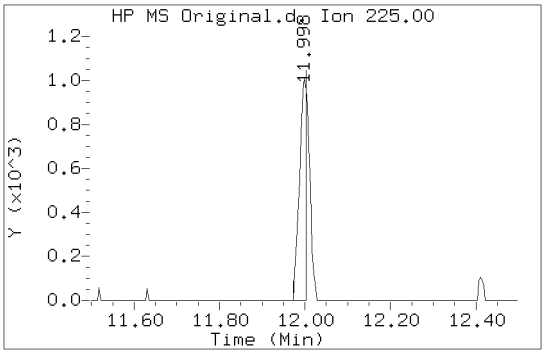
AFTER
MASS
75
AREA
826
HEIGHT
390
01-Aug-2023
21:03



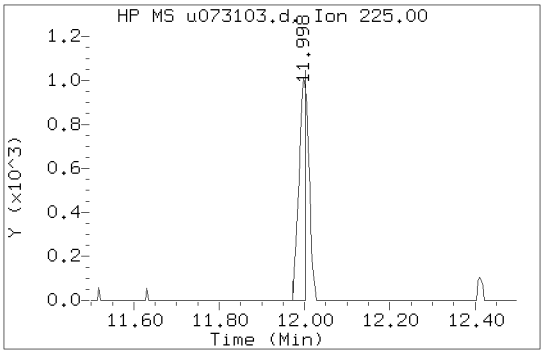
Hexachlorobutadiene (87-68-3)

Reason Code:

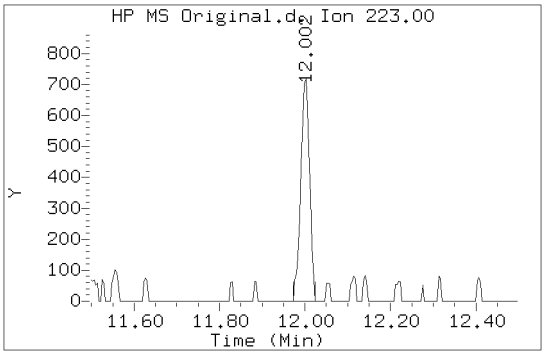
BEFORE
MASS
225
AREA
1126
HEIGHT
1008
01-Aug-2023
21:03



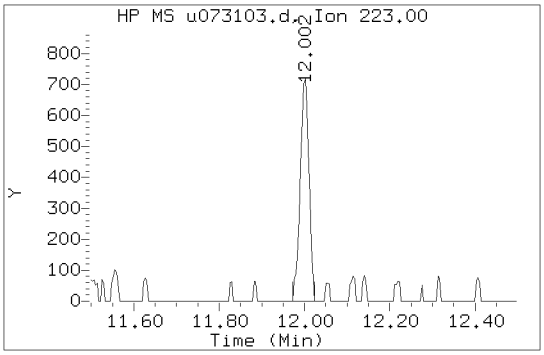
AFTER
MASS
225
AREA
1126
HEIGHT
1008
01-Aug-2023
21:03



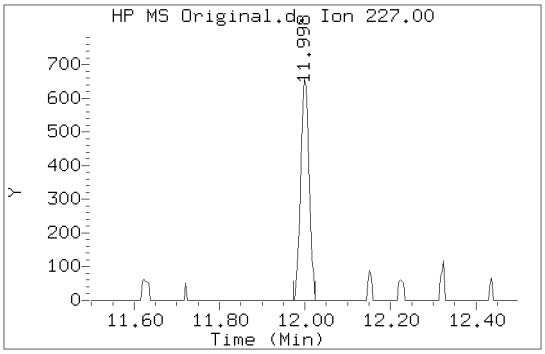
BEFORE
MASS
223
AREA
1061
HEIGHT
718
01-Aug-2023
21:03



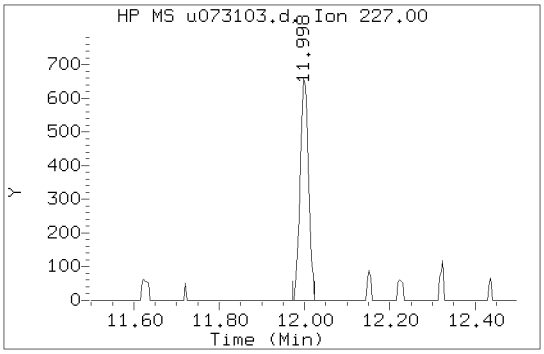
AFTER
MASS
223
AREA
1061
HEIGHT
718
01-Aug-2023
21:03



BEFORE
MASS
227
AREA
926
HEIGHT
658
01-Aug-2023
21:03



AFTER
MASS
227
AREA
926
HEIGHT
658
01-Aug-2023
21:03

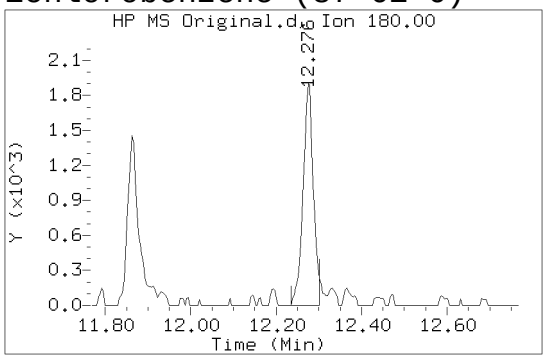


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Inj Date : 31-JUL-2023 11:53
InstruID : VOA9.i
LabSampID : VSTD000.5

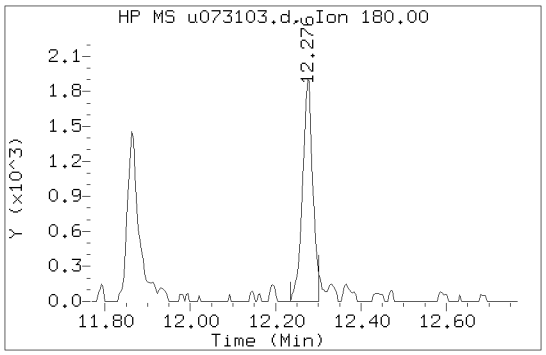
1,2,3-Trichlorobenzene (87-61-6)

Reason Code:

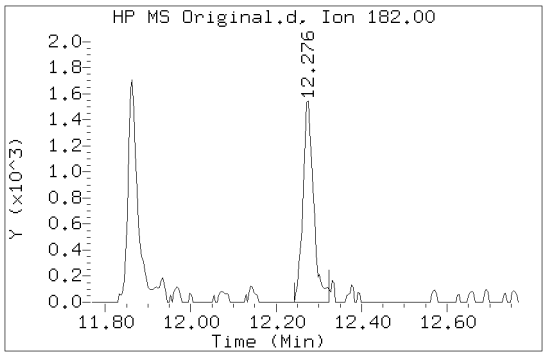
BEFORE
MASS
180
AREA
3219
HEIGHT
1900
01-Aug-2023
21:03



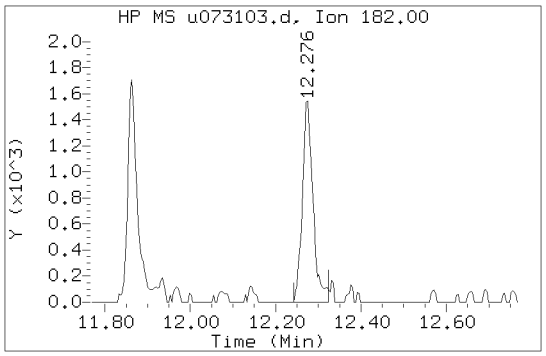
AFTER
MASS
180
AREA
3219
HEIGHT
1900
01-Aug-2023
21:03



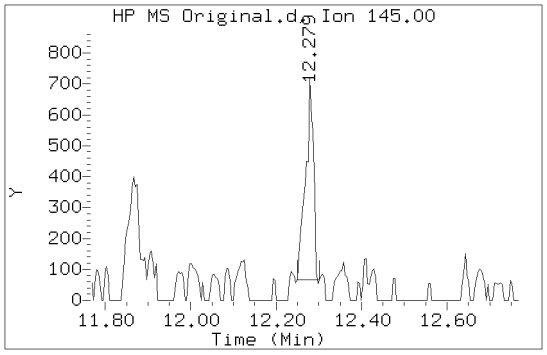
BEFORE
MASS
182
AREA
2714
HEIGHT
1545
01-Aug-2023
21:03



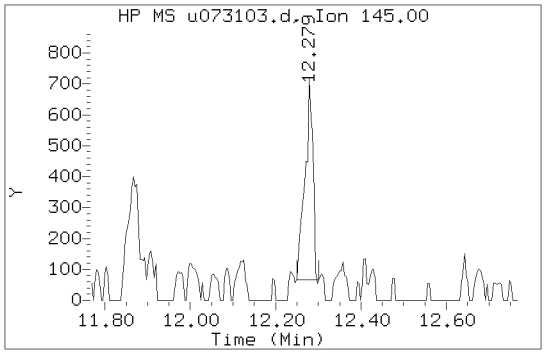
AFTER
MASS
182
AREA
2714
HEIGHT
1545
01-Aug-2023
21:03



BEFORE
MASS
145
AREA
836
HEIGHT
650
01-Aug-2023
21:03



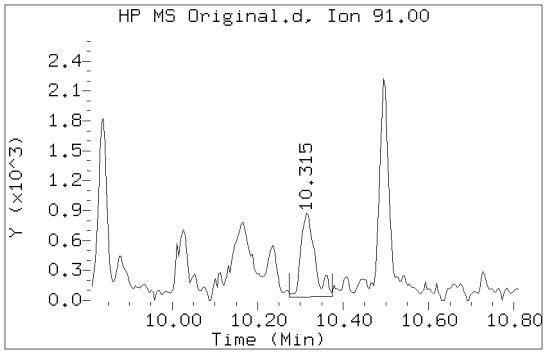
AFTER
MASS
145
AREA
836
HEIGHT
650
01-Aug-2023
21:03



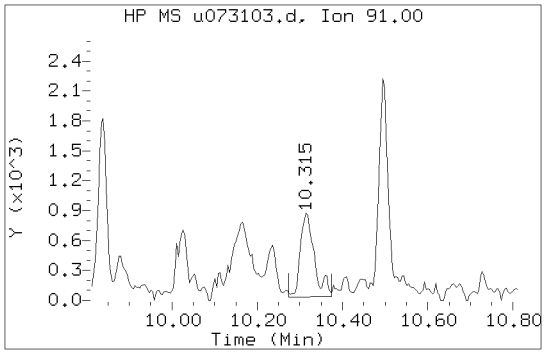
Benzyl Chloride (100-44-7)

Reason Code:

BEFORE
MASS
91
AREA
1941
HEIGHT
838
01-Aug-2023
21:03



AFTER
MASS
91
AREA
1941
HEIGHT
838
01-Aug-2023
21:03

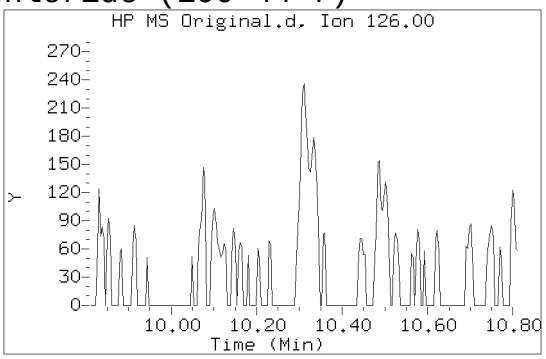


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InstruID : VOA9.i
LabSampID : VSTD000.5

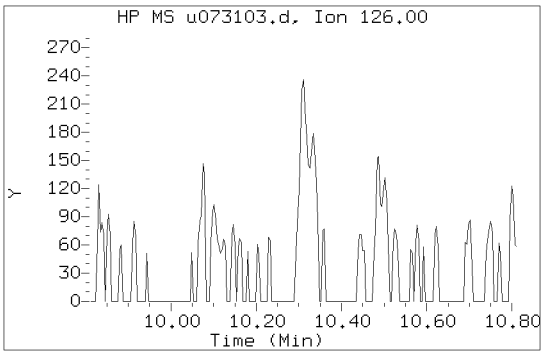
Benzyl Chloride (100-44-7)

Reason Code:

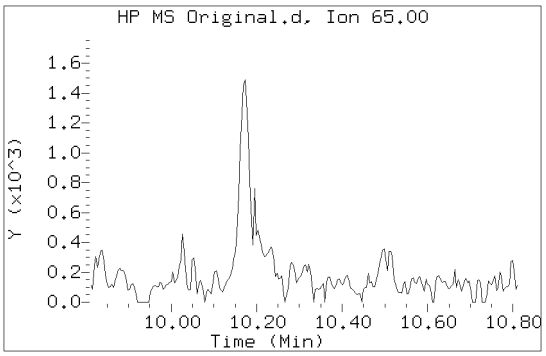
BEFORE
MASS
126
AREA
0
HEIGHT
0
01-Aug-2023
21:03



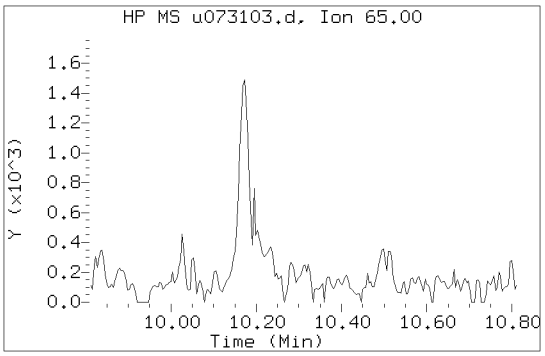
AFTER
MASS
126
AREA
0
HEIGHT
0
01-Aug-2023
21:03



BEFORE
MASS
65
AREA
0
HEIGHT
0
01-Aug-2023
21:03



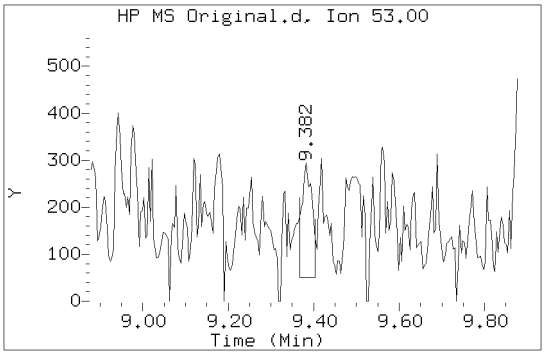
AFTER
MASS
65
AREA
0
HEIGHT
0
01-Aug-2023
21:03



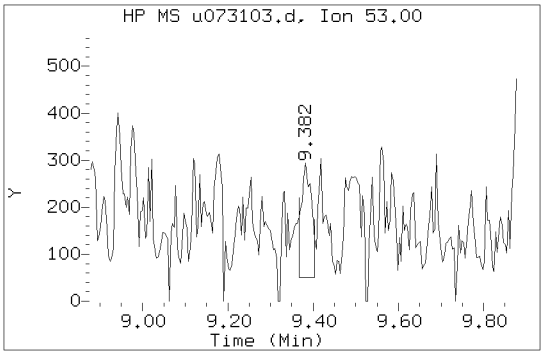
trans-1,4-Dichloro-2-butene (110-57-6)

Reason Code:

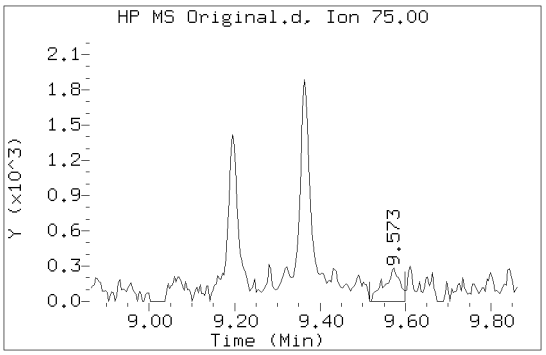
BEFORE
MASS
53
AREA
422
HEIGHT
243
01-Aug-2023
21:03



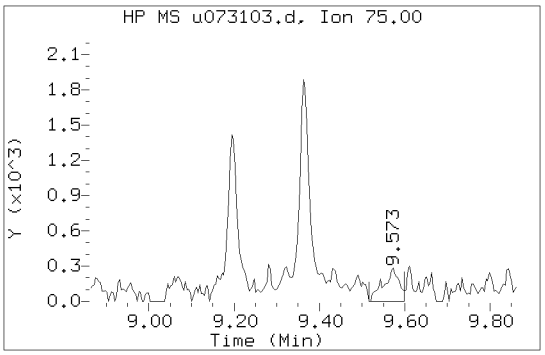
AFTER
MASS
53
AREA
422
HEIGHT
243
01-Aug-2023
21:03



BEFORE
MASS
75
AREA
722
HEIGHT
284
01-Aug-2023
21:03



AFTER
MASS
75
AREA
722
HEIGHT
284
01-Aug-2023
21:03

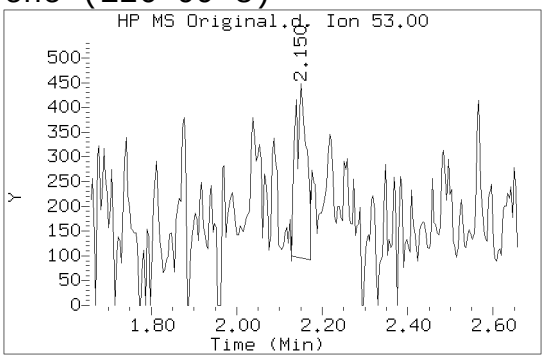


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InstruID : VOA9.i
LabSampID : VSTD000.5

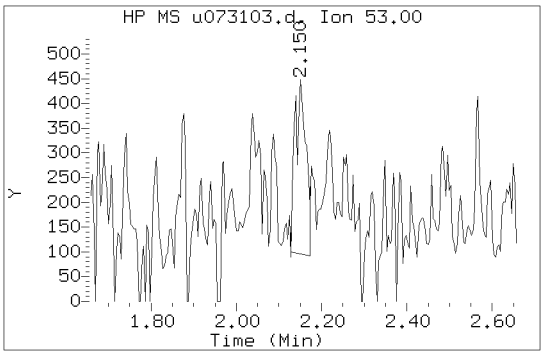
Chloroprene (126-99-8)

Reason Code:

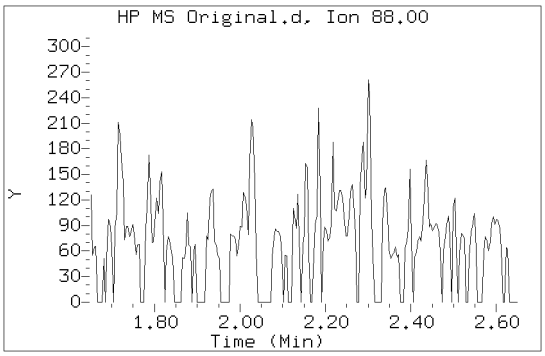
BEFORE
MASS
53
AREA
645
HEIGHT
352
01-Aug-2023
21:03



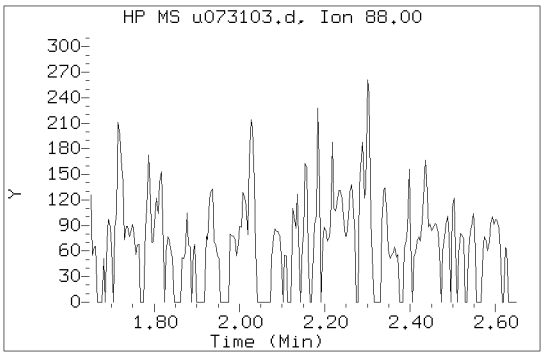
AFTER
MASS
53
AREA
645
HEIGHT
352
01-Aug-2023
21:03



BEFORE
MASS
88
AREA
0
HEIGHT
0
01-Aug-2023
21:03



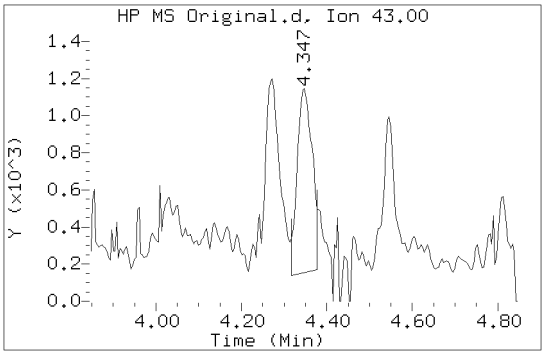
AFTER
MASS
88
AREA
0
HEIGHT
0
01-Aug-2023
21:03



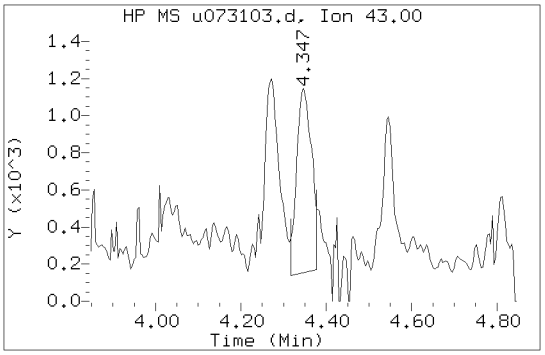
Ethyl Acetate (141-78-6)

Reason Code:

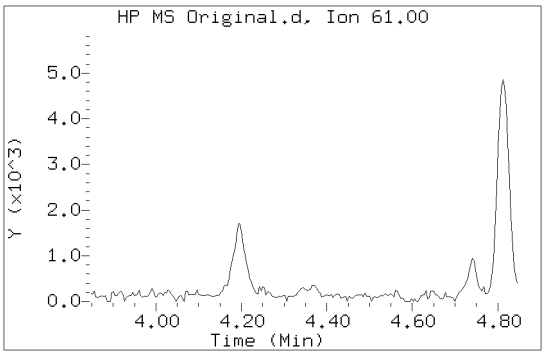
BEFORE
MASS
43
AREA
2477
HEIGHT
989
01-Aug-2023
21:03



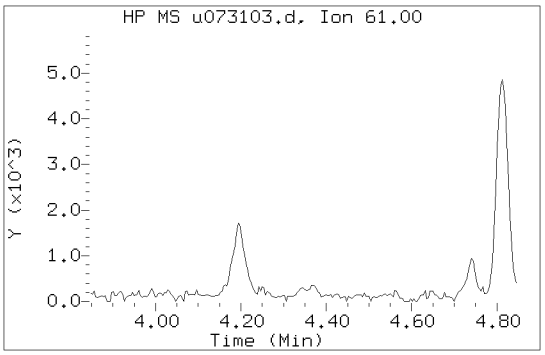
AFTER
MASS
43
AREA
2477
HEIGHT
989
01-Aug-2023
21:03



BEFORE
MASS
61
AREA
0
HEIGHT
0
01-Aug-2023
21:03



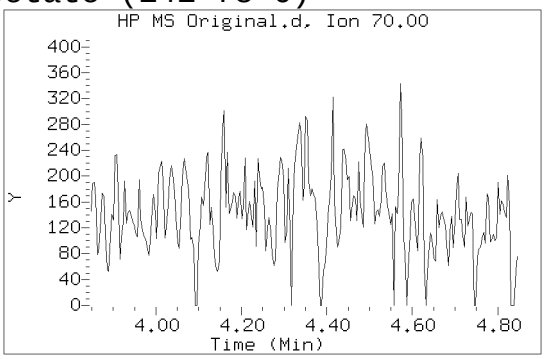
AFTER
MASS
61
AREA
0
HEIGHT
0
01-Aug-2023
21:03



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InstruID : VOA9.i
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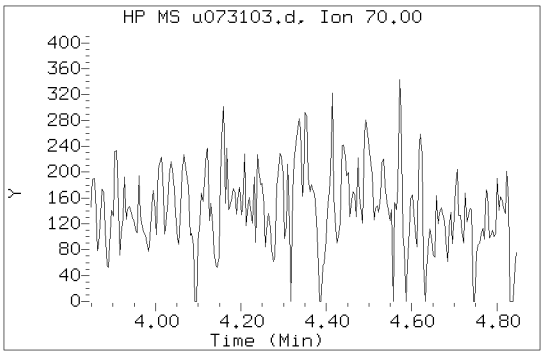
Ethyl Acetate (141-78-6)

BEFORE
MASS
70
AREA
0
HEIGHT
0
01-Aug-2023
21:03



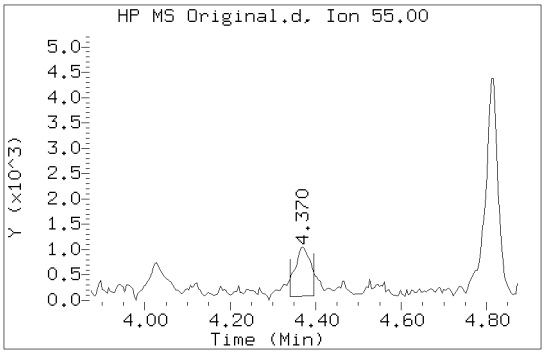
Reason Code:

AFTER
MASS
70
AREA
0
HEIGHT
0
01-Aug-2023
21:03



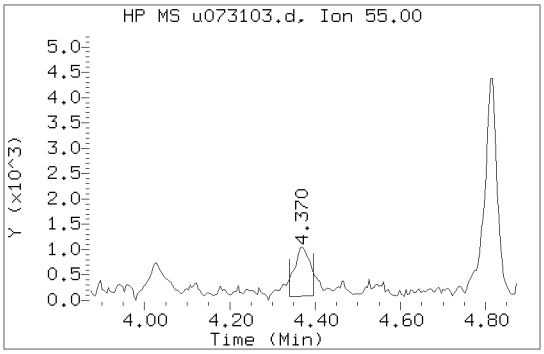
Methyl Acrylate (96-33-3)

BEFORE
MASS
55
AREA
2472
HEIGHT
970
01-Aug-2023
21:03

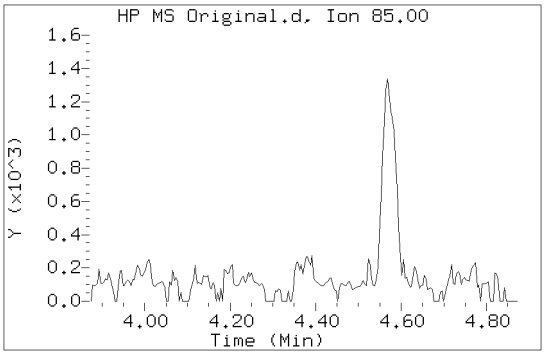


Reason Code:

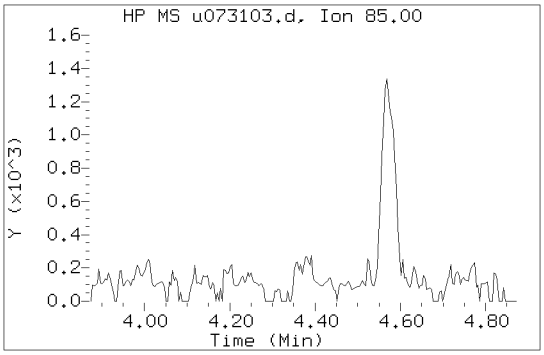
AFTER
MASS
55
AREA
2472
HEIGHT
970
01-Aug-2023
21:03



BEFORE
MASS
85
AREA
0
HEIGHT
0
01-Aug-2023
21:03

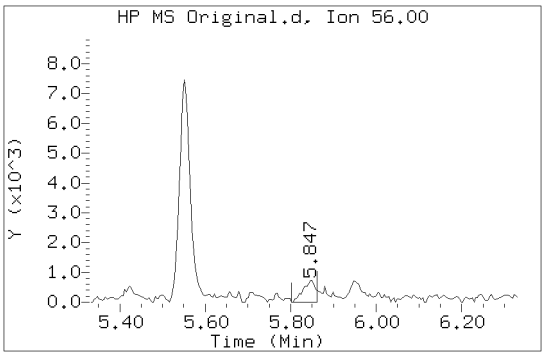


AFTER
MASS
85
AREA
0
HEIGHT
0
01-Aug-2023
21:03



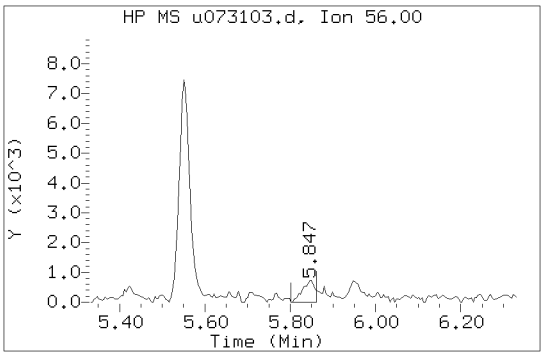
n-Butanol (71-36-3)

BEFORE
MASS
56
AREA
1456
HEIGHT
725
01-Aug-2023
21:03



Reason Code:

AFTER
MASS
56
AREA
1456
HEIGHT
725
01-Aug-2023
21:03



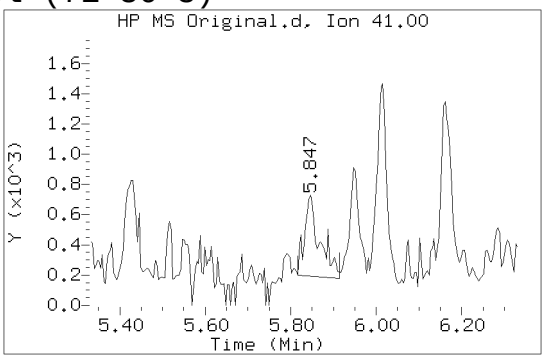
Data File : \\nahstws005\target\chem\voa9.i\u230731.b\u073103.d
Inj Date : 31-JUL-2023 11:53
InstruID : VOA9.i
LabSampID : VSTD000.5

n-Butanol (71-36-3)

Reason Code:

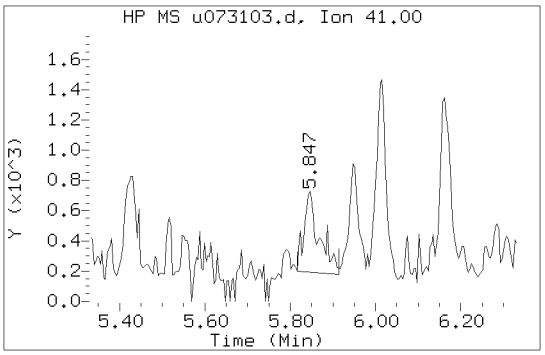
BEFORE

MASS
41
AREA
1328
HEIGHT
535
01-Aug-2023
21:03



AFTER

MASS
41
AREA
1328
HEIGHT
535
01-Aug-2023
21:03

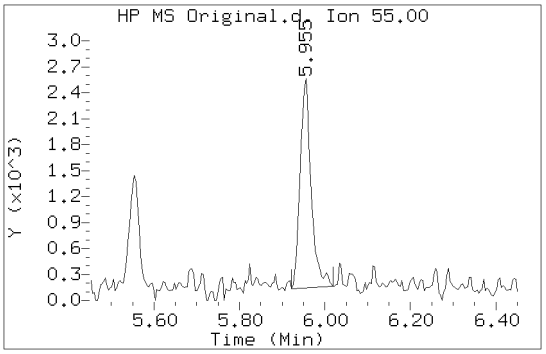


Ethyl Acrylate (140-88-5)

Reason Code:

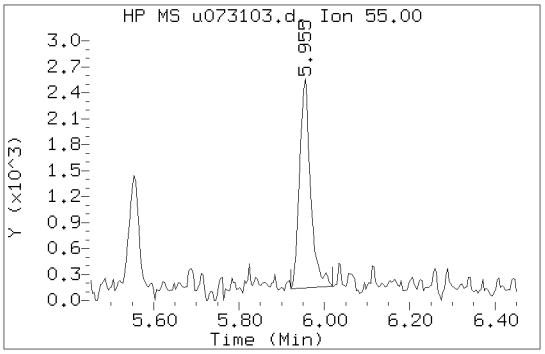
BEFORE

MASS
55
AREA
4410
HEIGHT
2418
01-Aug-2023
21:03



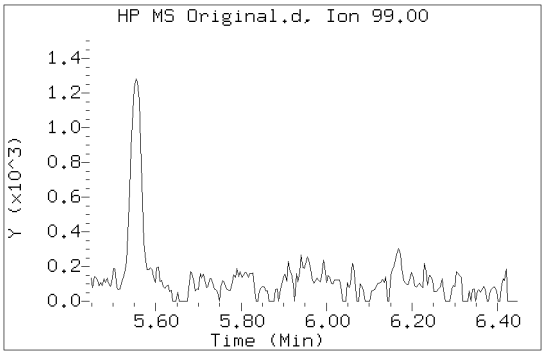
AFTER

MASS
55
AREA
4410
HEIGHT
2418
01-Aug-2023
21:03



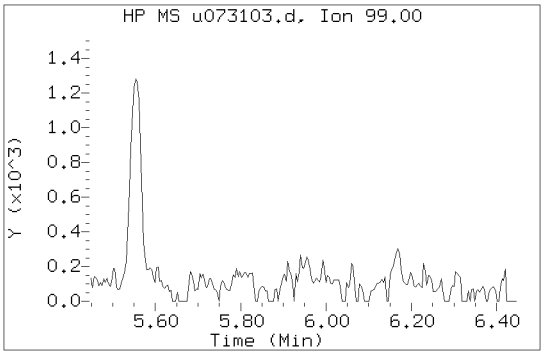
BEFORE

MASS
99
AREA
0
HEIGHT
0
01-Aug-2023
21:03



AFTER

MASS
99
AREA
0
HEIGHT
0
01-Aug-2023
21:03

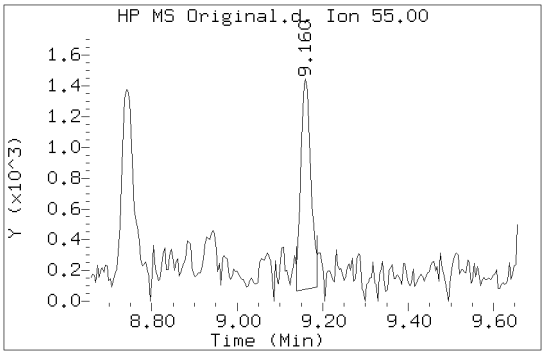


Cyclohexanone (108-94-1)

Reason Code:

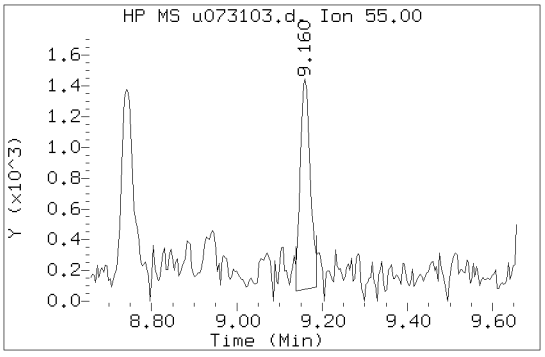
BEFORE

MASS
55
AREA
2325
HEIGHT
1368
01-Aug-2023
21:03



AFTER

MASS
55
AREA
2325
HEIGHT
1368
01-Aug-2023
21:03

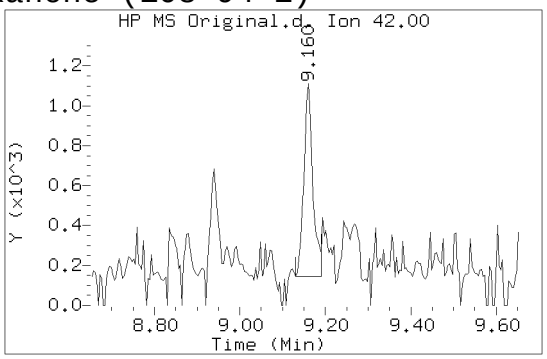


Data File : \\nahstws005\target\chem\voa9.i\u230731.b\u073103.d
Inj Date : 31-JUL-2023 11:53
InstruID : VOA9.i
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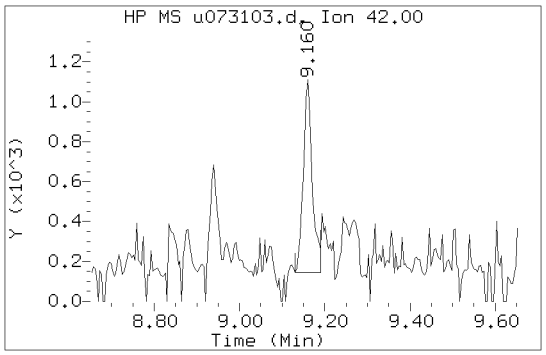
Cyclohexanone (108-94-1)

Reason Code:

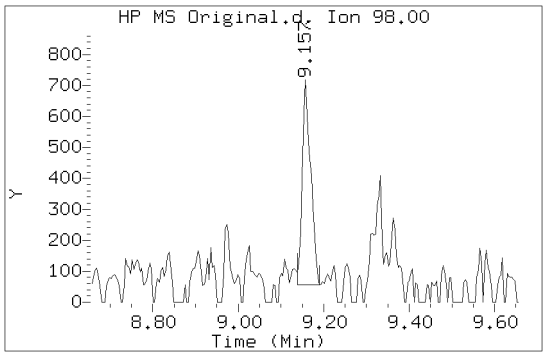
BEFORE
MASS
42
AREA
1432
HEIGHT
965
01-Aug-2023
21:03



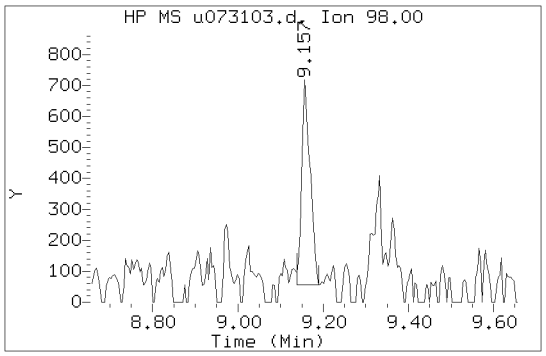
AFTER
MASS
42
AREA
1432
HEIGHT
965
01-Aug-2023
21:03



BEFORE
MASS
98
AREA
938
HEIGHT
662
01-Aug-2023
21:03



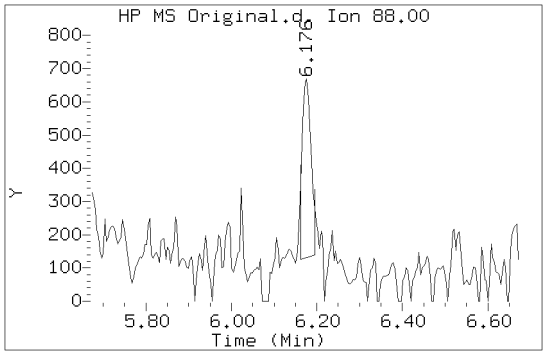
AFTER
MASS
98
AREA
938
HEIGHT
662
01-Aug-2023
21:03



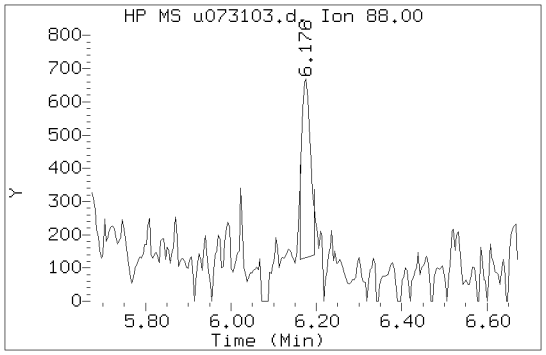
1,4-Dioxane ()

Reason Code:

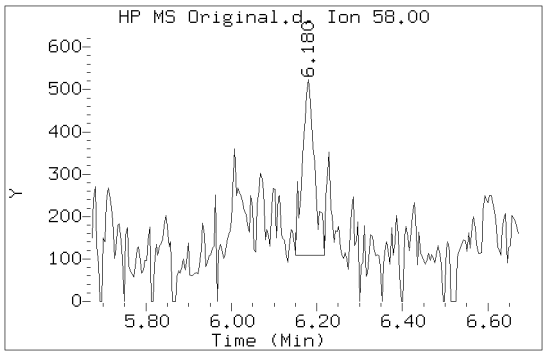
BEFORE
MASS
88
AREA
808
HEIGHT
537
01-Aug-2023
21:03



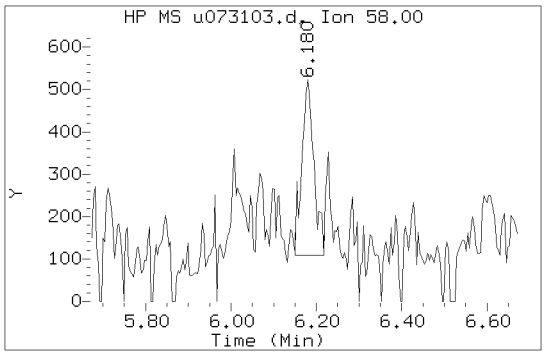
AFTER
MASS
88
AREA
808
HEIGHT
537
01-Aug-2023
21:03



BEFORE
MASS
58
AREA
823
HEIGHT
414
01-Aug-2023
21:03



AFTER
MASS
58
AREA
823
HEIGHT
414
01-Aug-2023
21:03

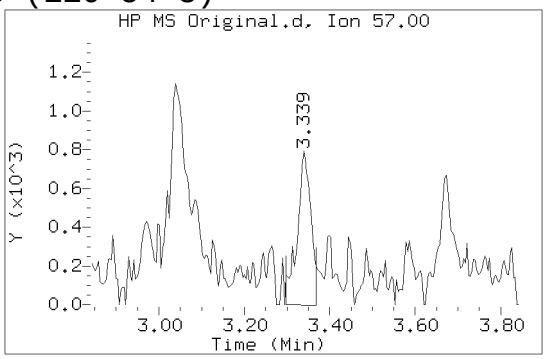


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InstruID : VOA9.i
LabSampID : VSTD000.5

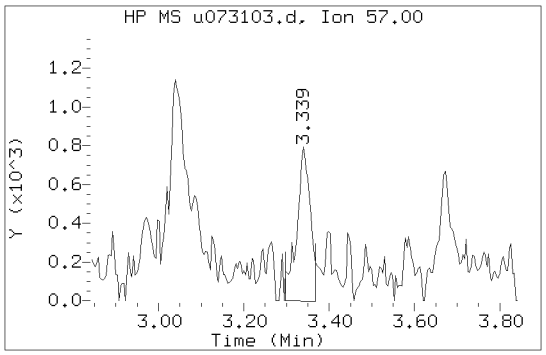
n-Hexane (110-54-3)

Reason Code:

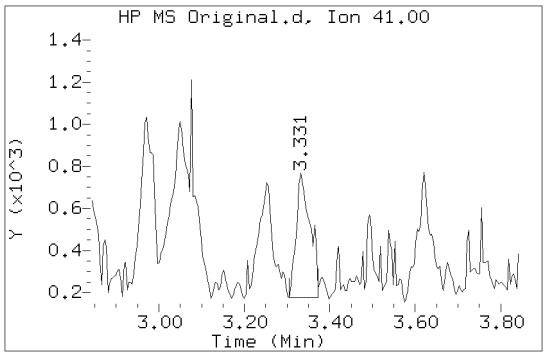
BEFORE
MASS
57
AREA
1804
HEIGHT
794
01-Aug-2023
21:03



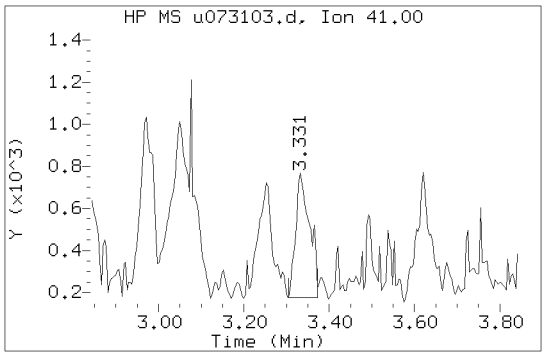
AFTER
MASS
57
AREA
1804
HEIGHT
794
01-Aug-2023
21:03



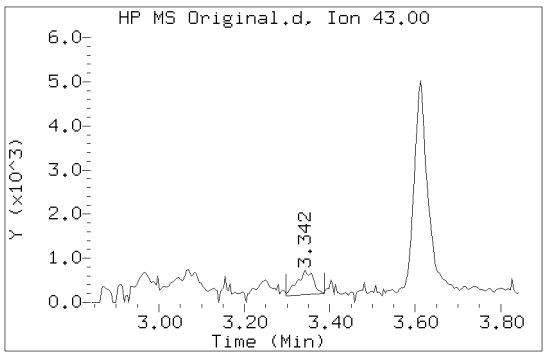
BEFORE
MASS
41
AREA
1365
HEIGHT
592
01-Aug-2023
21:03



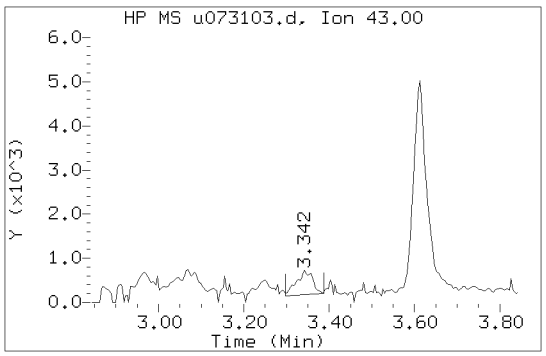
AFTER
MASS
41
AREA
1365
HEIGHT
592
01-Aug-2023
21:03



BEFORE
MASS
43
AREA
1425
HEIGHT
550
01-Aug-2023
21:03



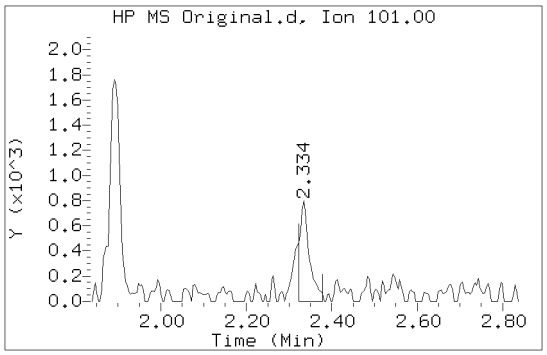
AFTER
MASS
43
AREA
1425
HEIGHT
550
01-Aug-2023
21:03



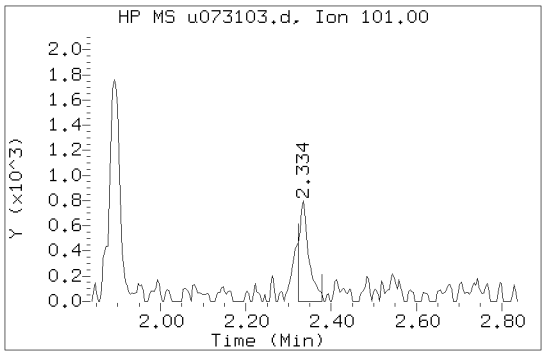
Freon TF (76-13-1)

Reason Code:

BEFORE
MASS
101
AREA
1250
HEIGHT
802
01-Aug-2023
21:03



AFTER
MASS
101
AREA
1250
HEIGHT
802
01-Aug-2023
21:03



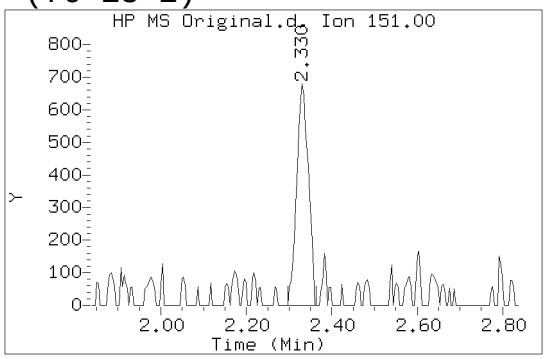
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InstruID : VOA9.i
LabSampID : VSTD000.5

Freon TF (76-13-1)

Reason Code:

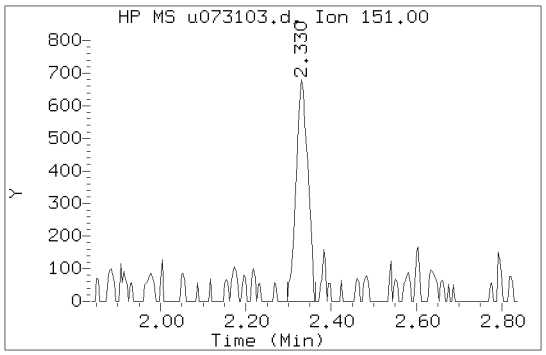
BEFORE

MASS
151
AREA
1313
HEIGHT
680
01-Aug-2023
21:03



AFTER

MASS
151
AREA
1313
HEIGHT
680
01-Aug-2023
21:03

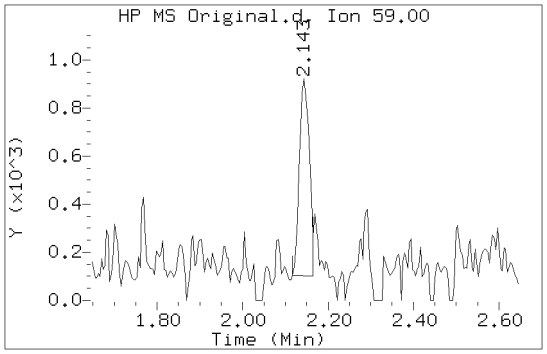


Diethyl ether (60-29-7)

Reason Code:

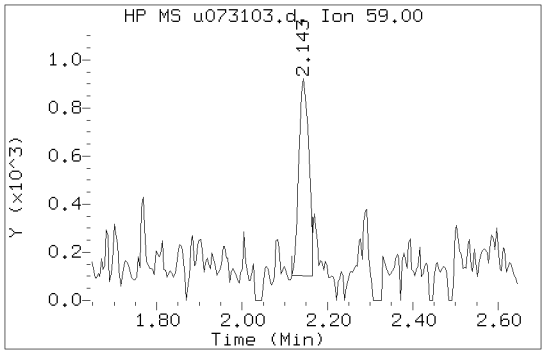
BEFORE

MASS
59
AREA
1362
HEIGHT
820
01-Aug-2023
21:03



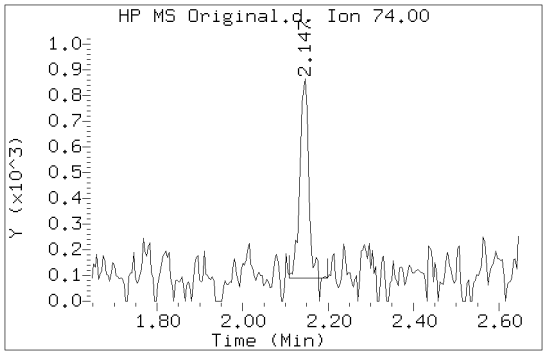
AFTER

MASS
59
AREA
1362
HEIGHT
820
01-Aug-2023
21:03



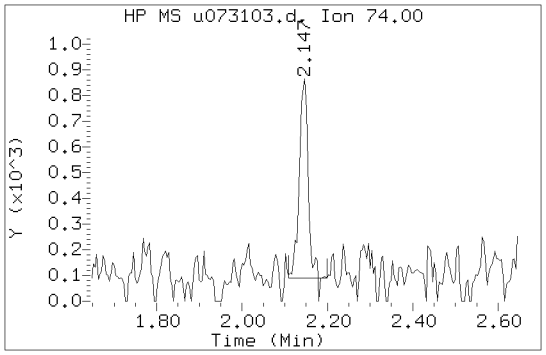
BEFORE

MASS
74
AREA
1129
HEIGHT
775
01-Aug-2023
21:03



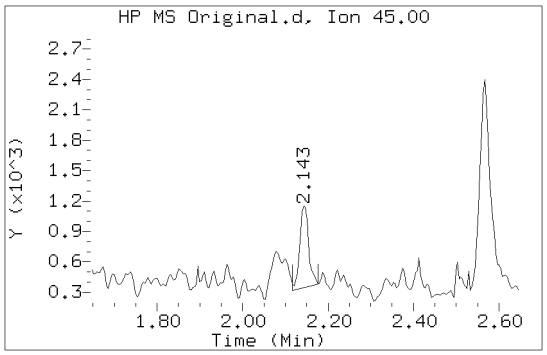
AFTER

MASS
74
AREA
1129
HEIGHT
775
01-Aug-2023
21:03



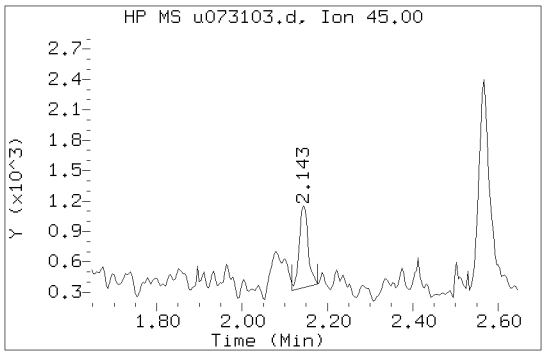
BEFORE

MASS
45
AREA
1192
HEIGHT
809
01-Aug-2023
21:03



AFTER

MASS
45
AREA
1192
HEIGHT
809
01-Aug-2023
21:03

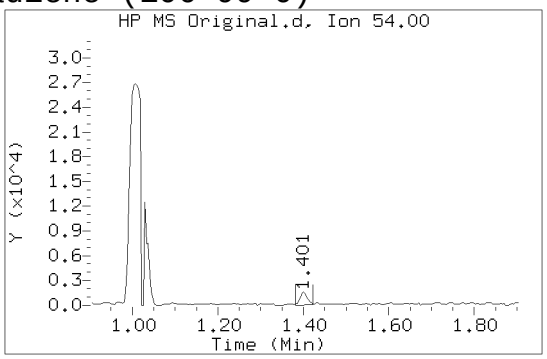


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InstruID : VOA9.i
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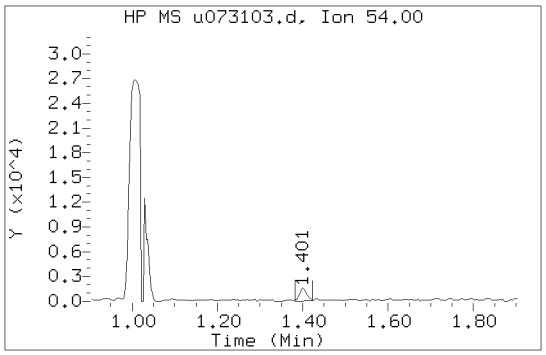
1,3-Butadiene (106-99-0)

Reason Code:

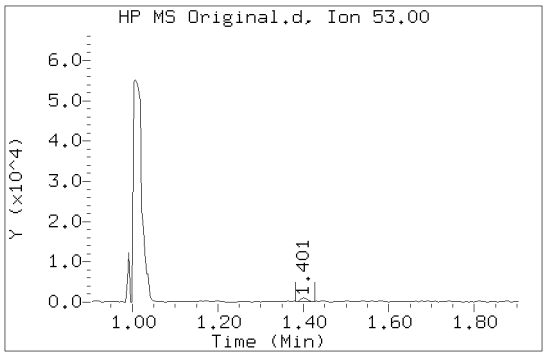
BEFORE
MASS
54
AREA
1979
HEIGHT
1609
01-Aug-2023
21:03



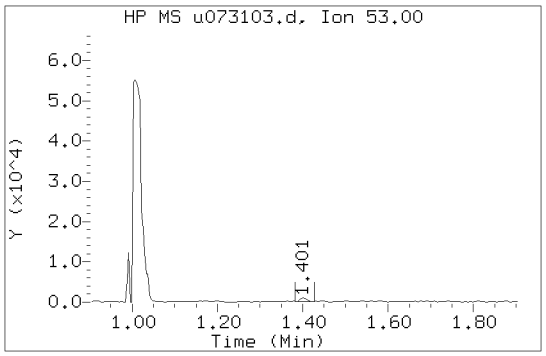
AFTER
MASS
54
AREA
1979
HEIGHT
1609
01-Aug-2023
21:03



BEFORE
MASS
53
AREA
1102
HEIGHT
938
01-Aug-2023
21:03



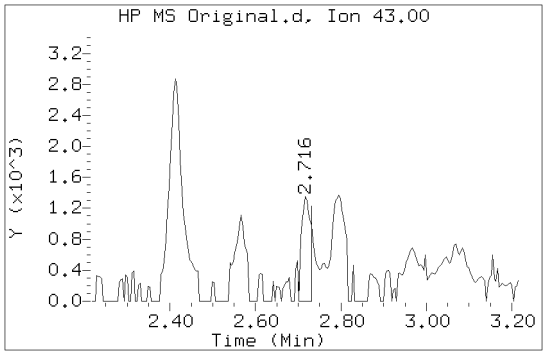
AFTER
MASS
53
AREA
1102
HEIGHT
938
01-Aug-2023
21:03



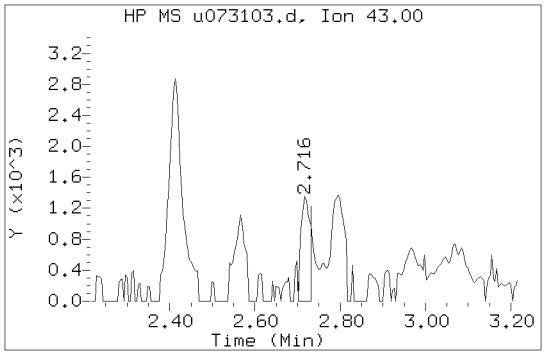
Methyl acetate (79-20-9)

Reason Code:

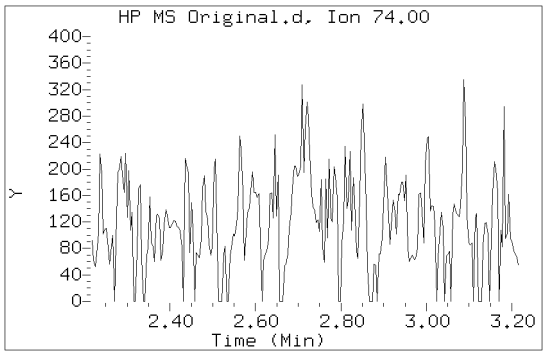
BEFORE
MASS
43
AREA
1992
HEIGHT
1351
01-Aug-2023
21:03



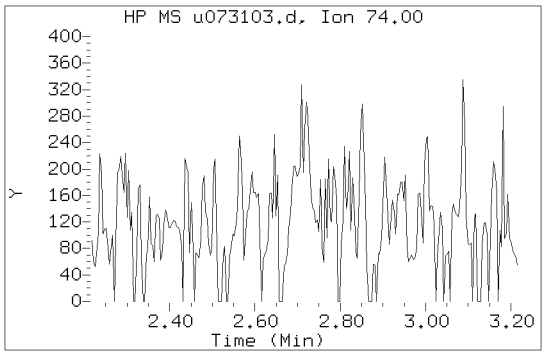
AFTER
MASS
43
AREA
1992
HEIGHT
1351
01-Aug-2023
21:03



BEFORE
MASS
74
AREA
0
HEIGHT
0
01-Aug-2023
21:03



AFTER
MASS
74
AREA
0
HEIGHT
0
01-Aug-2023
21:03

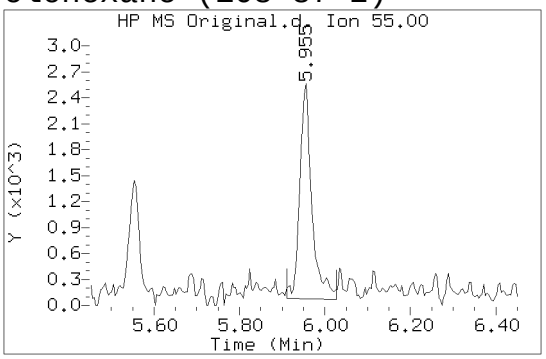


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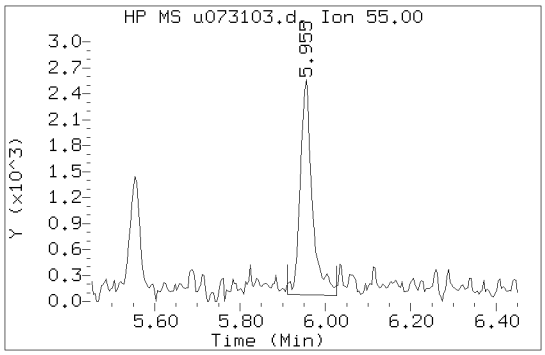
Methylcyclohexane (108-87-2)

Reason Code:

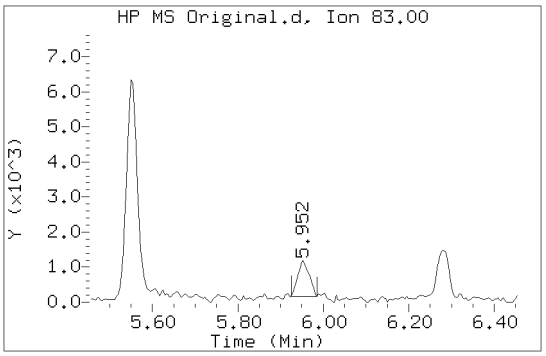
BEFORE
MASS
55
AREA
4995
HEIGHT
2486
01-Aug-2023
21:03



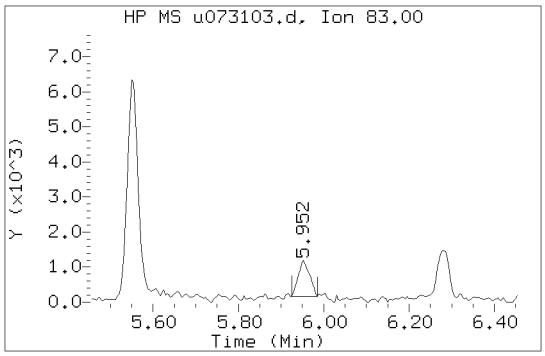
AFTER
MASS
55
AREA
4995
HEIGHT
2486
01-Aug-2023
21:03



BEFORE
MASS
83
AREA
1938
HEIGHT
1034
01-Aug-2023
21:03



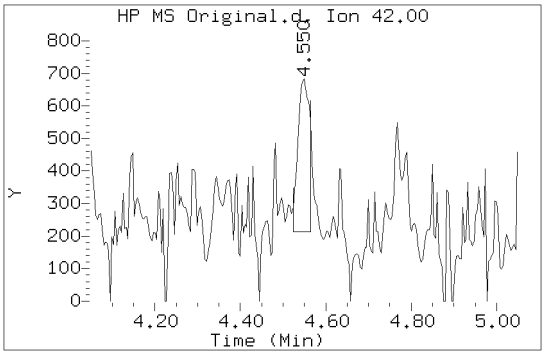
AFTER
MASS
83
AREA
1938
HEIGHT
1034
01-Aug-2023
21:03



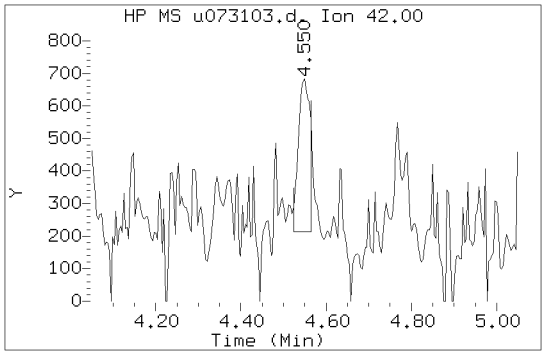
Tetrahydrofuran (109-99-9)

Reason Code:

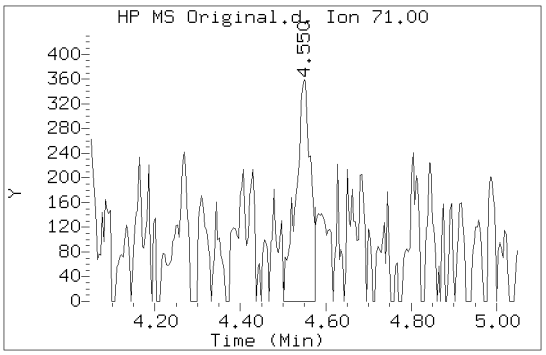
BEFORE
MASS
42
AREA
900
HEIGHT
469
01-Aug-2023
21:03



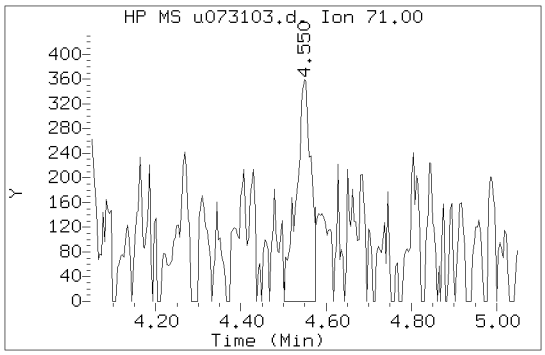
AFTER
MASS
42
AREA
900
HEIGHT
469
01-Aug-2023
21:03



BEFORE
MASS
71
AREA
884
HEIGHT
359
01-Aug-2023
21:03



AFTER
MASS
71
AREA
884
HEIGHT
359
01-Aug-2023
21:03

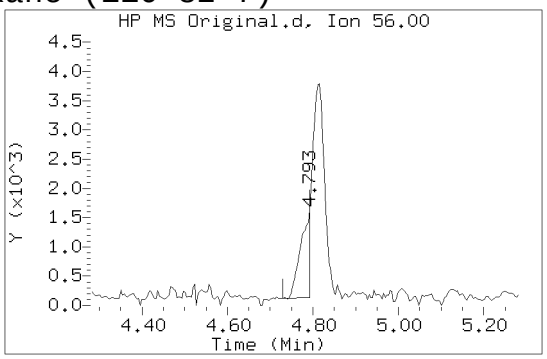


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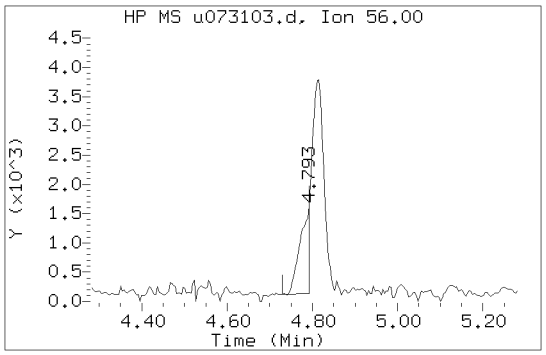
Cyclohexane (110-82-7)

Reason Code:

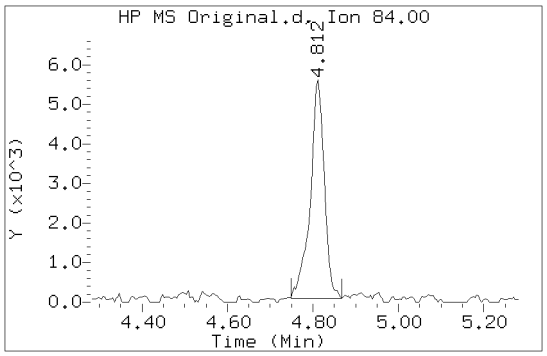
BEFORE
MASS
56
AREA
2383
HEIGHT
1517
01-Aug-2023
21:03



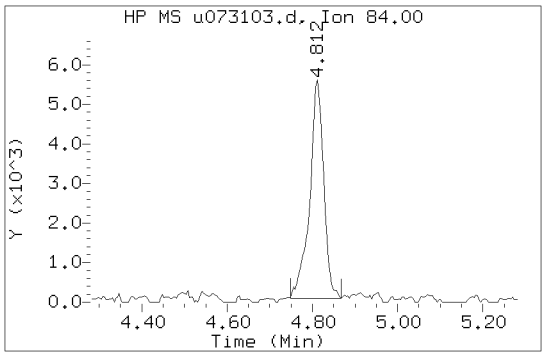
AFTER
MASS
56
AREA
2383
HEIGHT
1517
01-Aug-2023
21:03



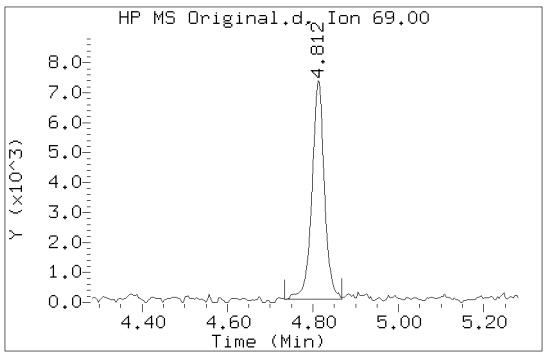
BEFORE
MASS
84
AREA
12651
HEIGHT
5518
01-Aug-2023
21:03



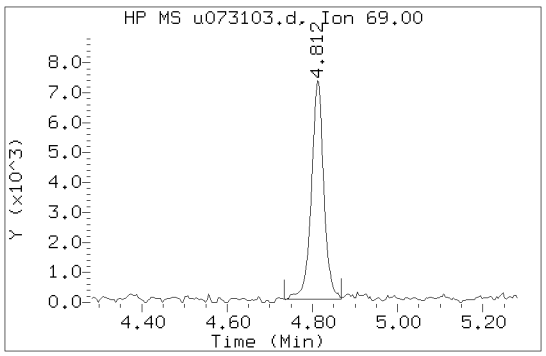
AFTER
MASS
84
AREA
12651
HEIGHT
5518
01-Aug-2023
21:03



BEFORE
MASS
69
AREA
14776
HEIGHT
7294
01-Aug-2023
21:03



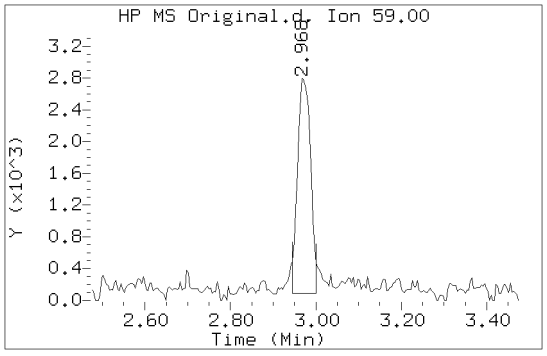
AFTER
MASS
69
AREA
14776
HEIGHT
7294
01-Aug-2023
21:03



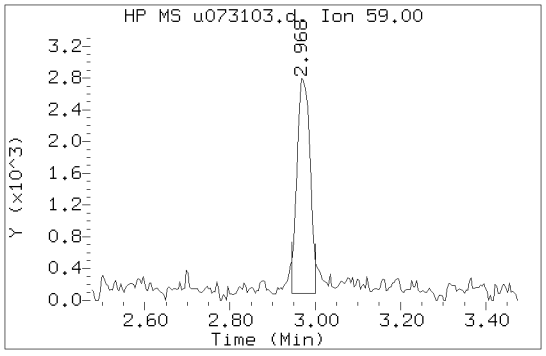
Tert-butyl alcohol (75-65-0)

Reason Code:

BEFORE
MASS
59
AREA
5912
HEIGHT
2703
01-Aug-2023
21:03



AFTER
MASS
59
AREA
5912
HEIGHT
2703
01-Aug-2023
21:03



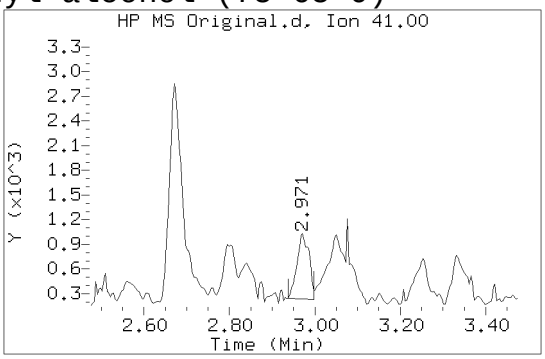
Data File : \\nahstws005\target\chem\voa9.i\u230731.b\u073103.d
Inj Date : 31-JUL-2023 11:53
InstruID : VOA9.i
LabSampID : VSTD000.5

Tert-butyl alcohol (75-65-0)

Reason Code:

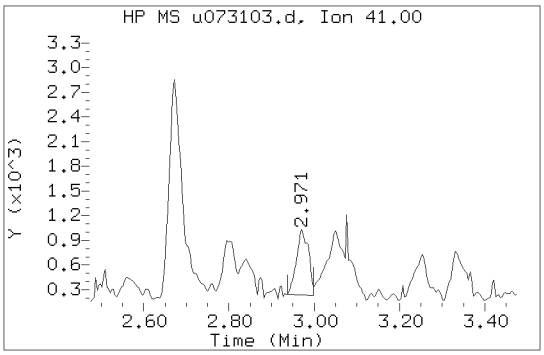
BEFORE

MASS
41
AREA
1590
HEIGHT
798
01-Aug-2023
21:03



AFTER

MASS
41
AREA
1590
HEIGHT
798
01-Aug-2023
21:03

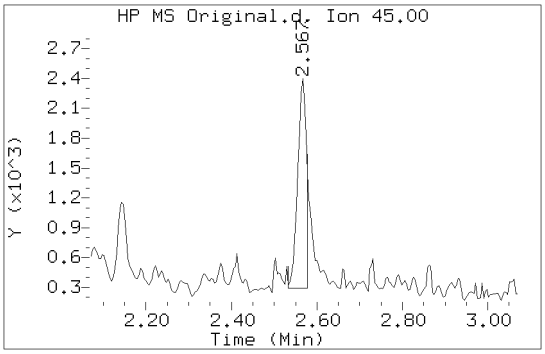


Isopropyl alcohol (67-63-0)

Reason Code:

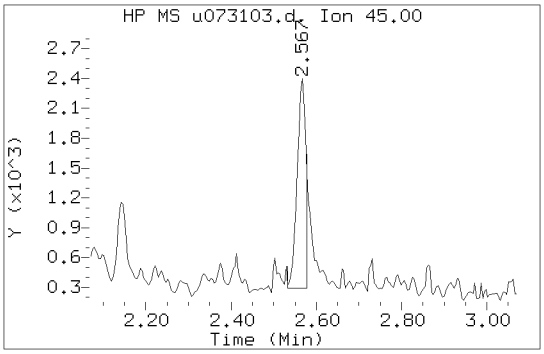
BEFORE

MASS
45
AREA
2977
HEIGHT
2103
01-Aug-2023
21:03



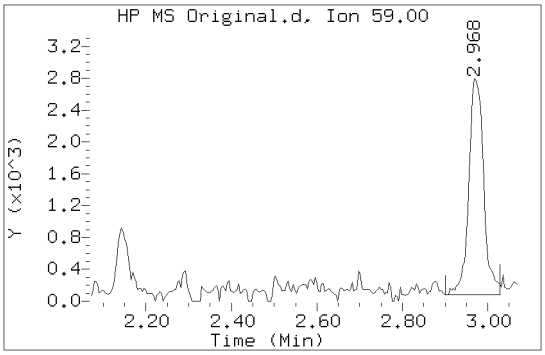
AFTER

MASS
45
AREA
2977
HEIGHT
2103
01-Aug-2023
21:03



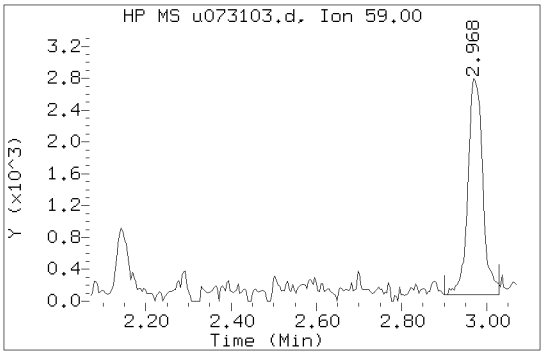
BEFORE

MASS
59
AREA
6564
HEIGHT
2710
01-Aug-2023
21:03



AFTER

MASS
59
AREA
6564
HEIGHT
2710
01-Aug-2023
21:03

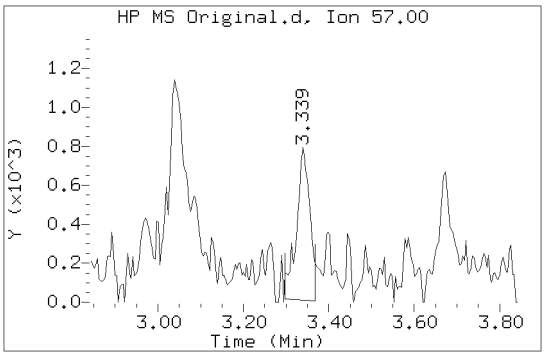


Allyl alcohol (107-18-6)

Reason Code:

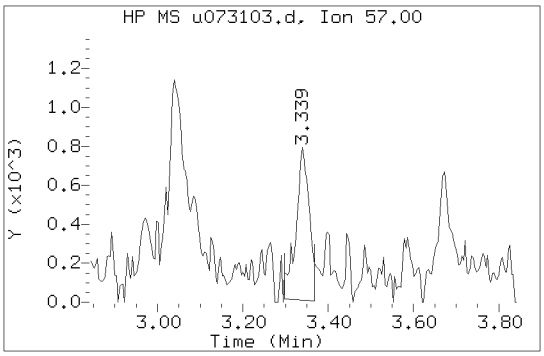
BEFORE

MASS
57
AREA
1755
HEIGHT
784
01-Aug-2023
21:03



AFTER

MASS
57
AREA
1755
HEIGHT
784
01-Aug-2023
21:03

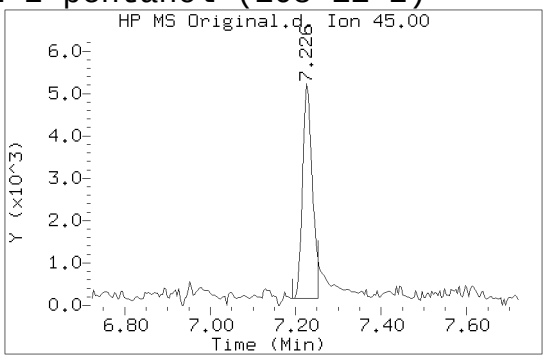


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Inj Date : 31-JUL-2023 11:53
InstruID : VOA9.i
LabSampID : VSTD000.5

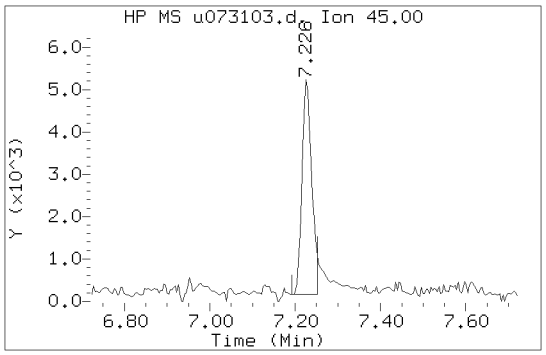
4-Methyl-2-pentanol (108-11-2)

Reason Code:

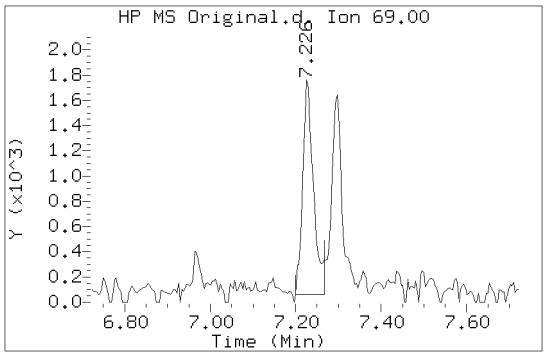
BEFORE
MASS
45
AREA
8154
HEIGHT
5075
01-Aug-2023
21:03



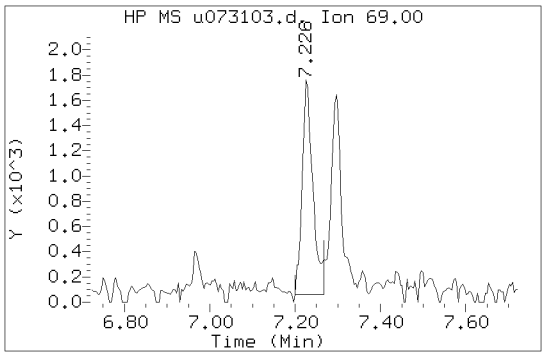
AFTER
MASS
45
AREA
8154
HEIGHT
5075
01-Aug-2023
21:03



BEFORE
MASS
69
AREA
3007
HEIGHT
1702
01-Aug-2023
21:03



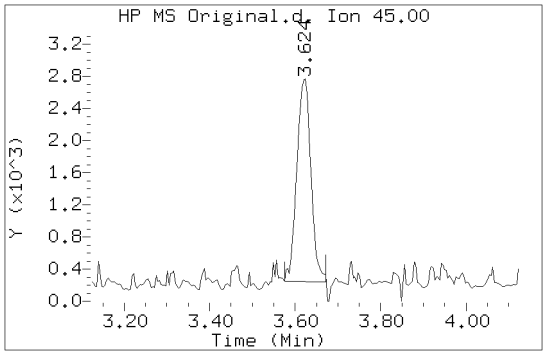
AFTER
MASS
69
AREA
3007
HEIGHT
1702
01-Aug-2023
21:03



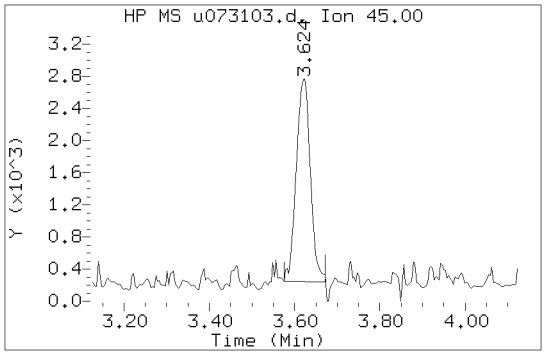
Diisopropyl ether (108-20-3)

Reason Code:

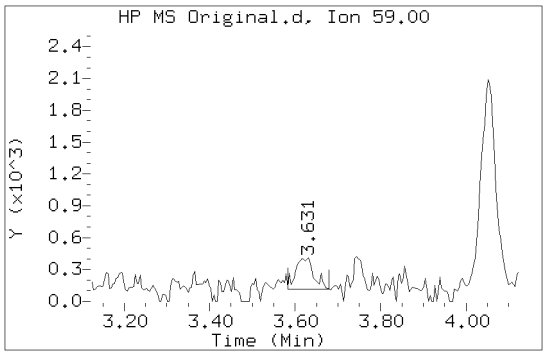
BEFORE
MASS
45
AREA
5880
HEIGHT
2523
01-Aug-2023
21:03



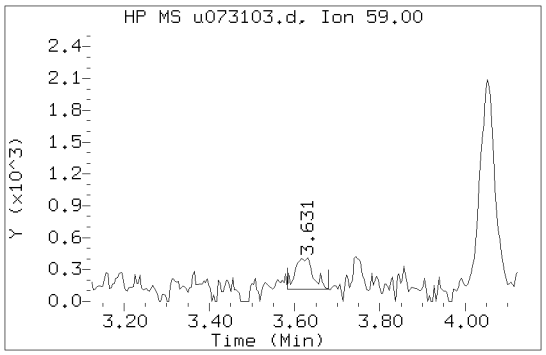
AFTER
MASS
45
AREA
5880
HEIGHT
2523
01-Aug-2023
21:03



BEFORE
MASS
59
AREA
862
HEIGHT
292
01-Aug-2023
21:03



AFTER
MASS
59
AREA
862
HEIGHT
292
01-Aug-2023
21:03

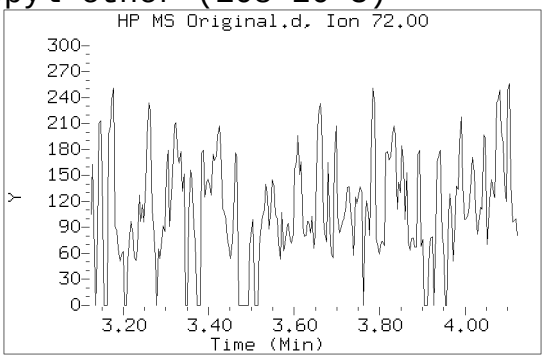


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Inj Date : 31-JUL-2023 11:53
InstruID : VOA9.i
LabSampID : VSTD000.5

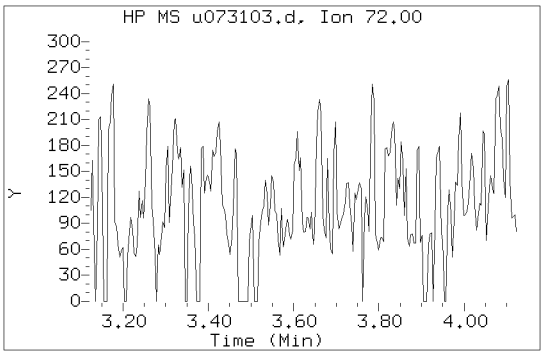
Diisopropyl ether (108-20-3)

Reason Code:

BEFORE
MASS
72
AREA
0
HEIGHT
0
01-Aug-2023
21:03



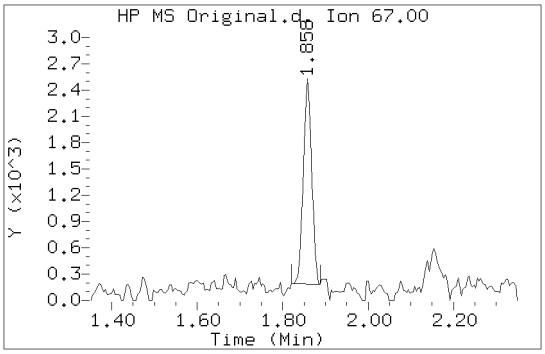
AFTER
MASS
72
AREA
0
HEIGHT
0
01-Aug-2023
21:03



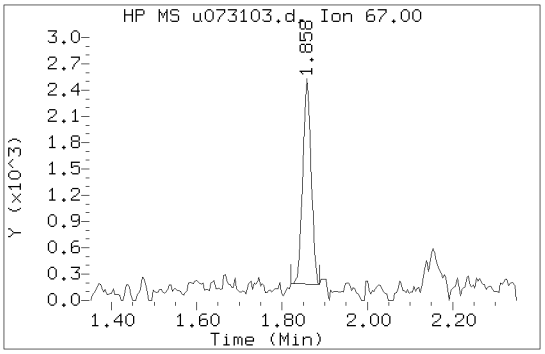
Dichlorofluoromethane (75-43-4)

Reason Code:

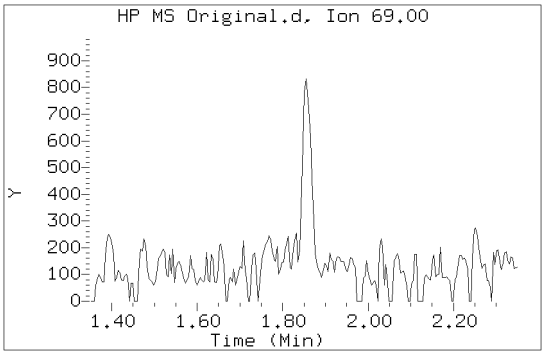
BEFORE
MASS
67
AREA
3290
HEIGHT
2346
01-Aug-2023
21:03



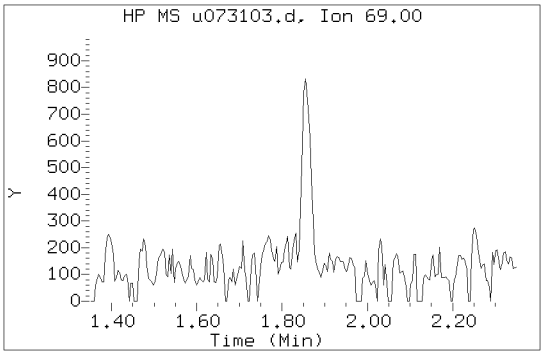
AFTER
MASS
67
AREA
3290
HEIGHT
2346
01-Aug-2023
21:03



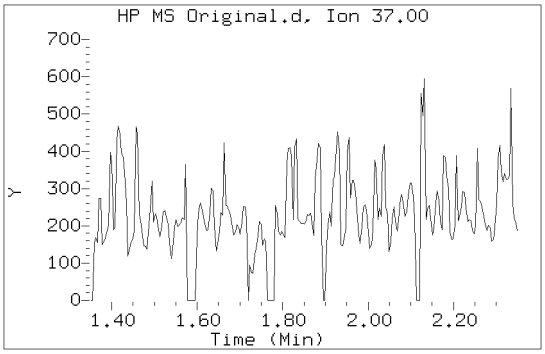
BEFORE
MASS
69
AREA
0
HEIGHT
0
01-Aug-2023
21:03



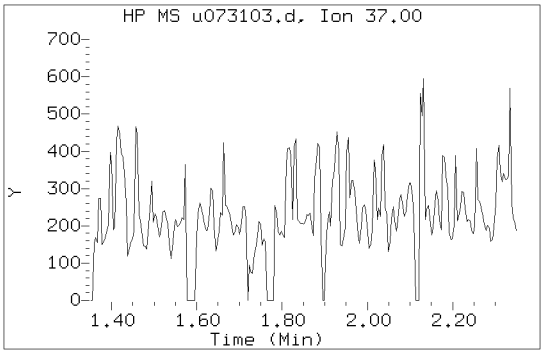
AFTER
MASS
69
AREA
0
HEIGHT
0
01-Aug-2023
21:03



BEFORE
MASS
37
AREA
0
HEIGHT
0
01-Aug-2023
21:03



AFTER
MASS
37
AREA
0
HEIGHT
0
01-Aug-2023
21:03

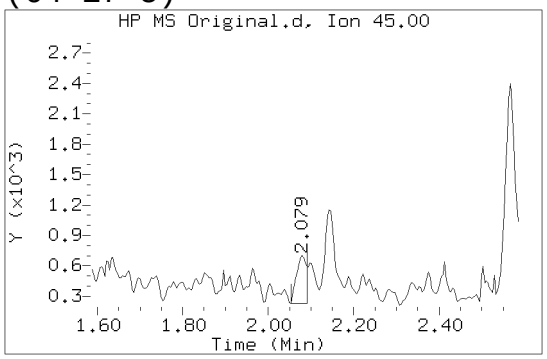


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Inj Date : 31-JUL-2023 11:53
InstruID : VOA9.i
LabSampID : VSTD000.5

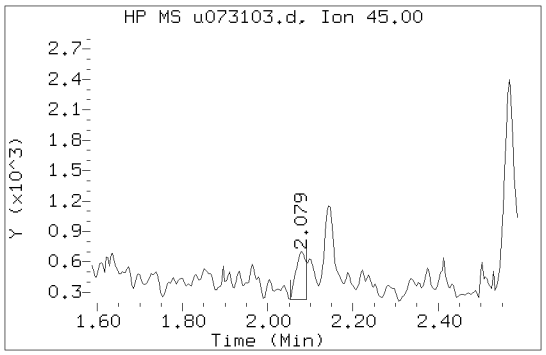
Ethanol (64-17-5)

Reason Code:

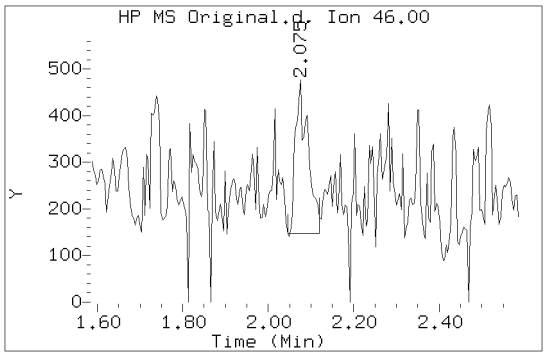
BEFORE
MASS
45
AREA
749
HEIGHT
471
01-Aug-2023
21:03



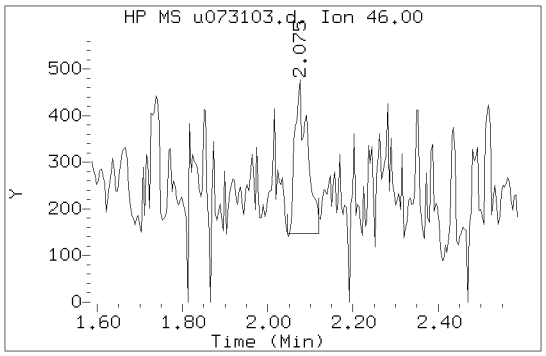
AFTER
MASS
45
AREA
749
HEIGHT
471
01-Aug-2023
21:03



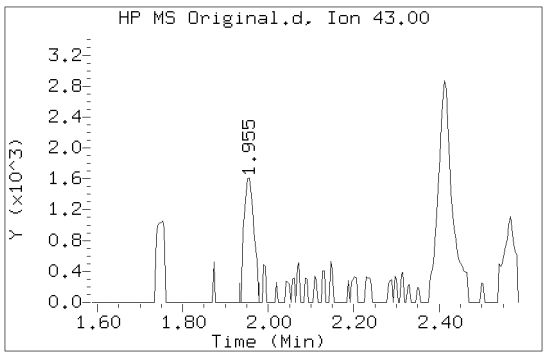
BEFORE
MASS
46
AREA
678
HEIGHT
330
01-Aug-2023
21:03



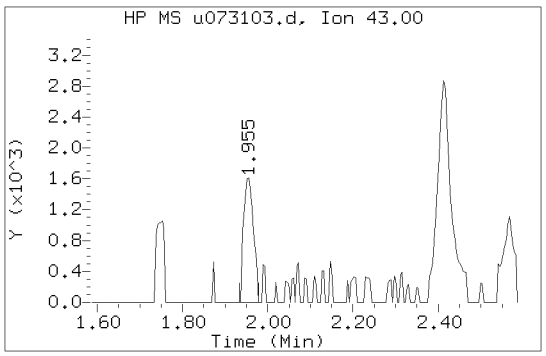
AFTER
MASS
46
AREA
678
HEIGHT
330
01-Aug-2023
21:03



BEFORE
MASS
43
AREA
2584
HEIGHT
1611
01-Aug-2023
21:03



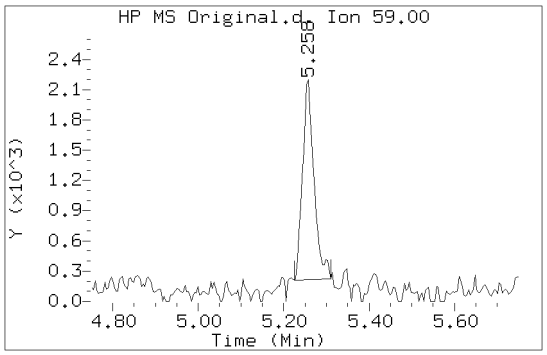
AFTER
MASS
43
AREA
2584
HEIGHT
1611
01-Aug-2023
21:03



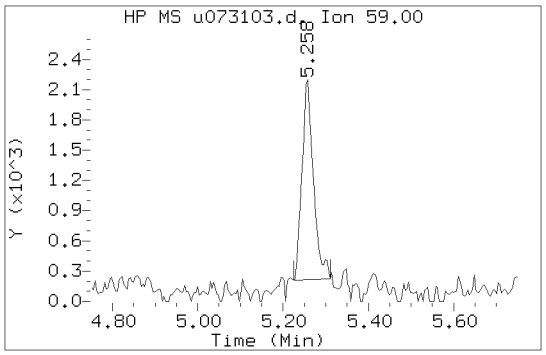
tert-Butyl formate (762-75-4)

Reason Code:

BEFORE
MASS
59
AREA
3754
HEIGHT
1982
01-Aug-2023
21:03



AFTER
MASS
59
AREA
3754
HEIGHT
1982
01-Aug-2023
21:03

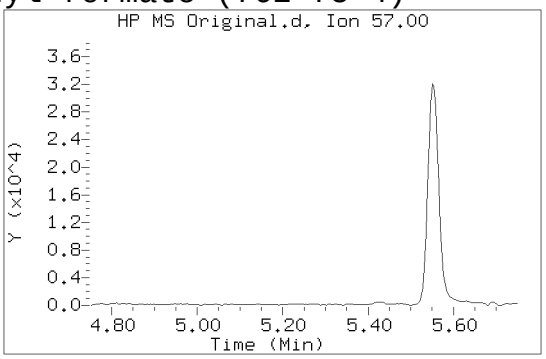


Data File : \\nahstws005\target\chem\voa9.i\u230731.b\u073103.d
Inj Date : 31-JUL-2023 11:53
InstruID : VOA9.i
LabSampID : VSTD000.5

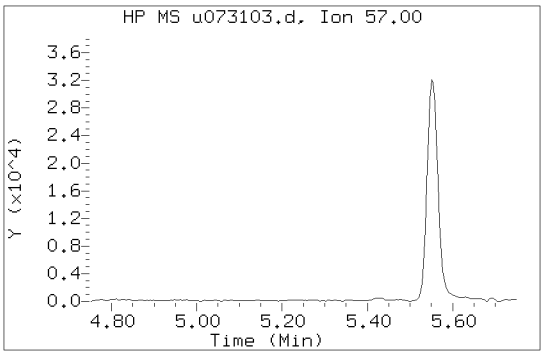
tert-Butyl formate (762-75-4)

Reason Code:

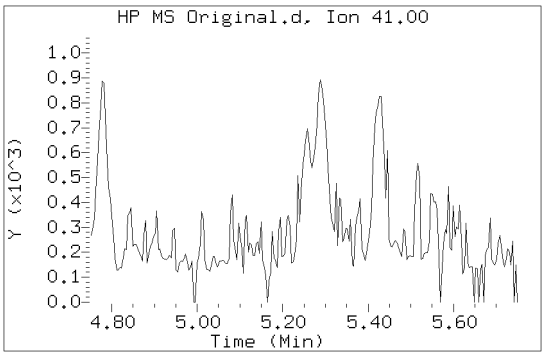
BEFORE
MASS
57
AREA
0
HEIGHT
0
01-Aug-2023
21:03



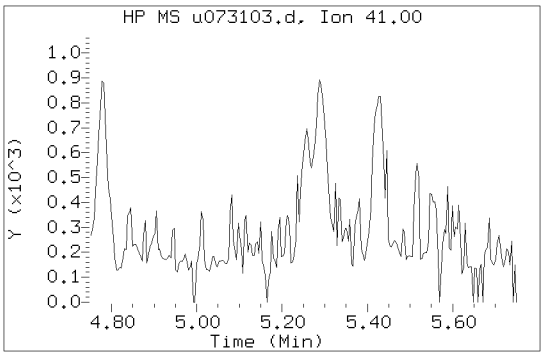
AFTER
MASS
57
AREA
0
HEIGHT
0
01-Aug-2023
21:03



BEFORE
MASS
41
AREA
0
HEIGHT
0
01-Aug-2023
21:03



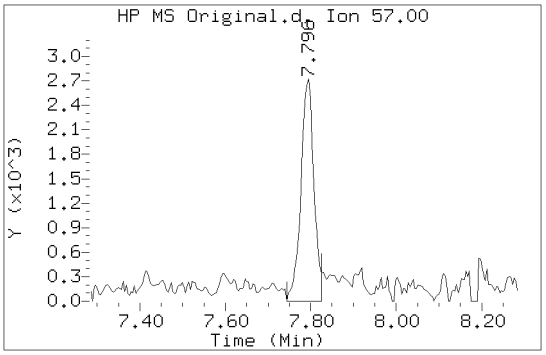
AFTER
MASS
41
AREA
0
HEIGHT
0
01-Aug-2023
21:03



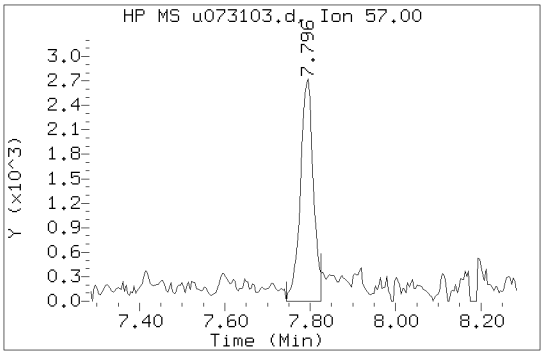
3,3-Dimethyl-1-butanol (624-95-3)

Reason Code:

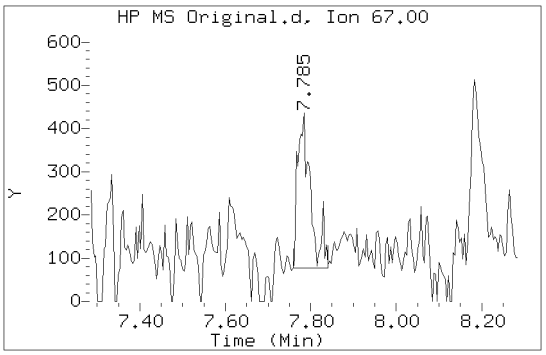
BEFORE
MASS
57
AREA
5813
HEIGHT
2724
01-Aug-2023
21:03



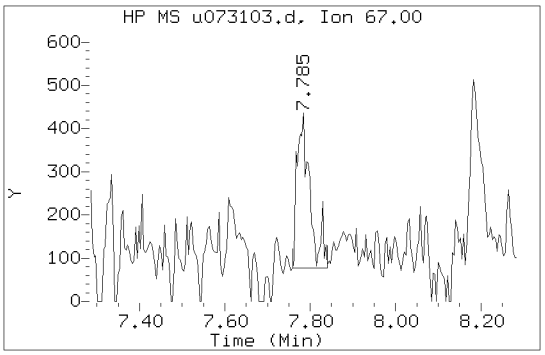
AFTER
MASS
57
AREA
5813
HEIGHT
2724
01-Aug-2023
21:03



BEFORE
MASS
67
AREA
752
HEIGHT
359
01-Aug-2023
21:03



AFTER
MASS
67
AREA
752
HEIGHT
359
01-Aug-2023
21:03



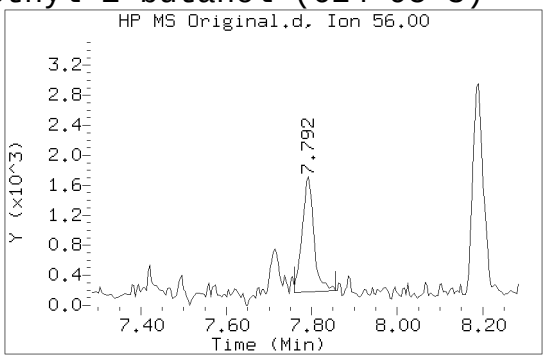
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Inj Date : 31-JUL-2023 11:53
InstruID : VOA9.i
LabSampID : VSTD000.5

3,3-Dimethyl-1-butanol (624-95-3)

Reason Code:

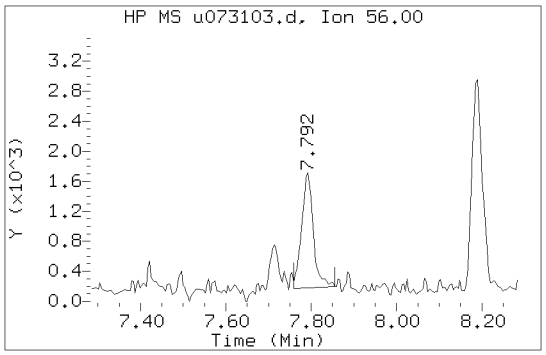
BEFORE

MASS
56
AREA
2954
HEIGHT
1533
01-Aug-2023
21:03



AFTER

MASS
56
AREA
2954
HEIGHT
1533
01-Aug-2023
21:03

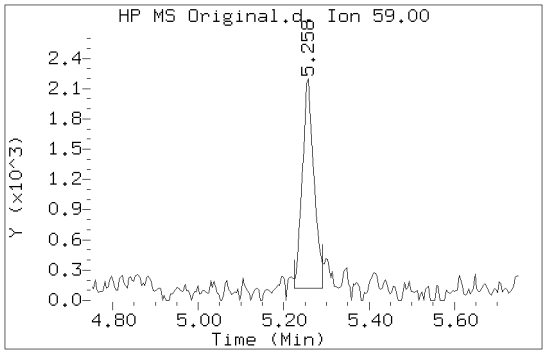


tert-Amyl alcohol (75-85-4)

Reason Code:

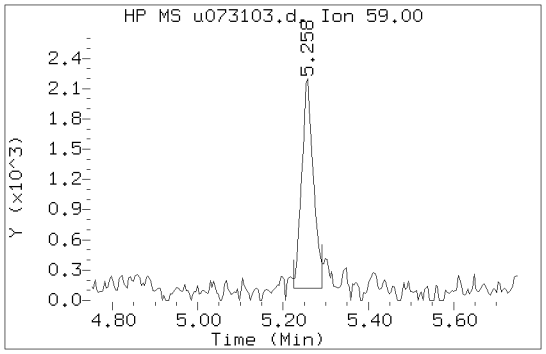
BEFORE

MASS
59
AREA
4014
HEIGHT
2076
01-Aug-2023
21:03



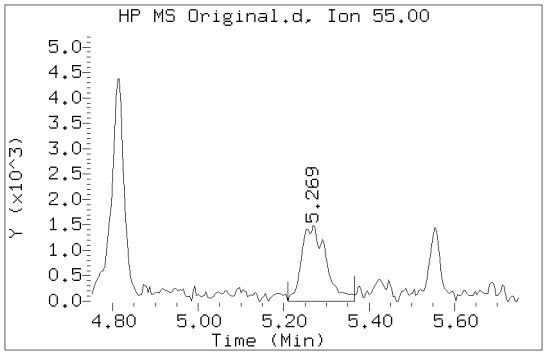
AFTER

MASS
59
AREA
4014
HEIGHT
2076
01-Aug-2023
21:03



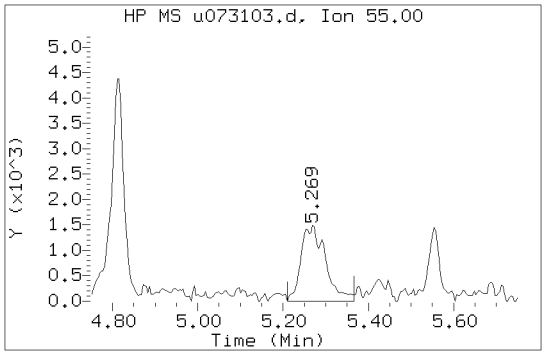
BEFORE

MASS
55
AREA
5997
HEIGHT
1494
01-Aug-2023
21:03



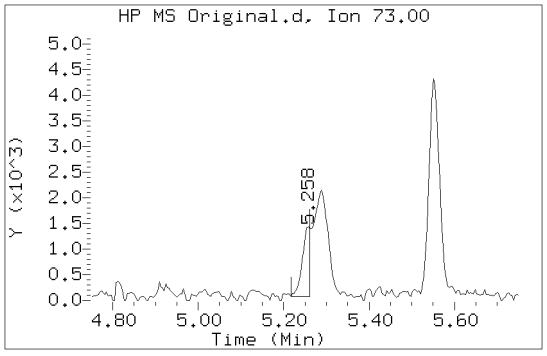
AFTER

MASS
55
AREA
5997
HEIGHT
1494
01-Aug-2023
21:03



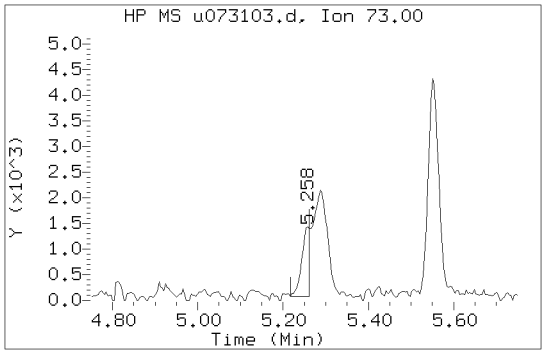
BEFORE

MASS
73
AREA
1798
HEIGHT
1371
01-Aug-2023
21:03



AFTER

MASS
73
AREA
1798
HEIGHT
1371
01-Aug-2023
21:03

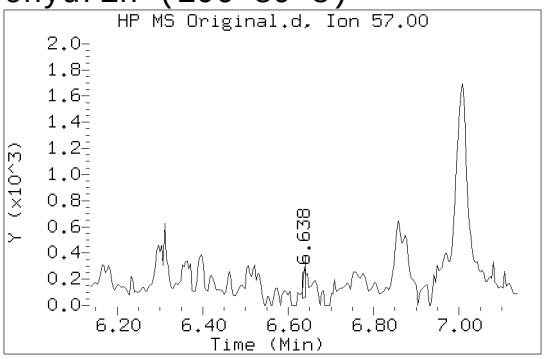


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InstruID : VOA9.i
LabSampID : VSTD000.5

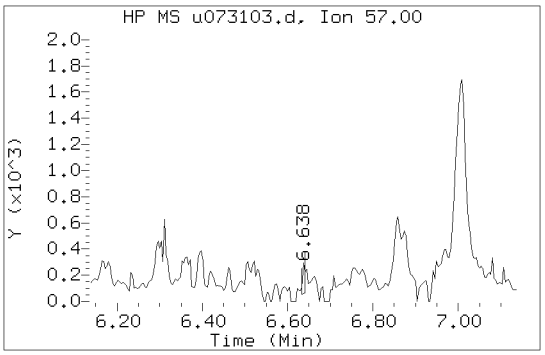
Epichlorohydrin (106-89-8)

Reason Code:

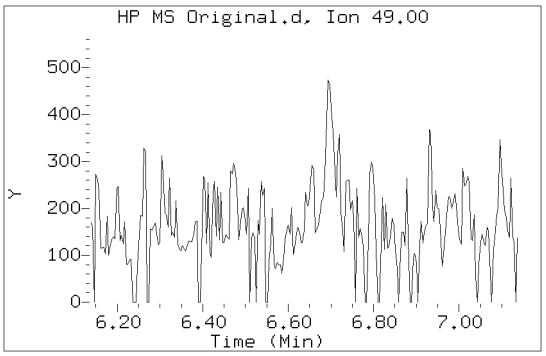
BEFORE
MASS
57
AREA
99
HEIGHT
233
01-Aug-2023
21:03



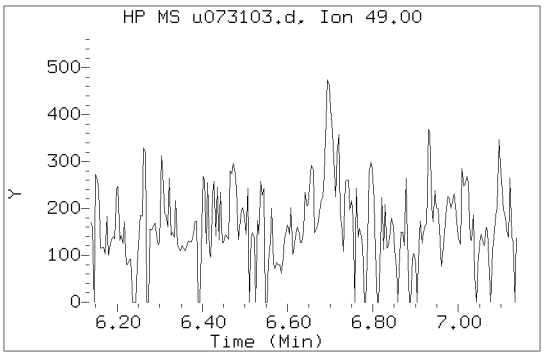
AFTER
MASS
57
AREA
99
HEIGHT
233
01-Aug-2023
21:03



BEFORE
MASS
49
AREA
0
HEIGHT
0
01-Aug-2023
21:03



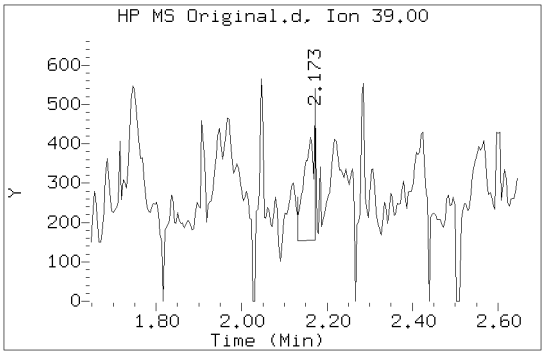
AFTER
MASS
49
AREA
0
HEIGHT
0
01-Aug-2023
21:03



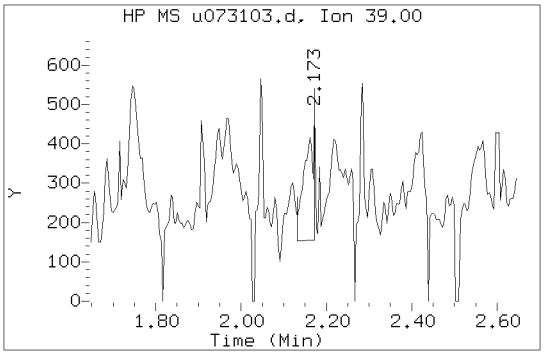
Isoprene (78-79-5)

Reason Code:

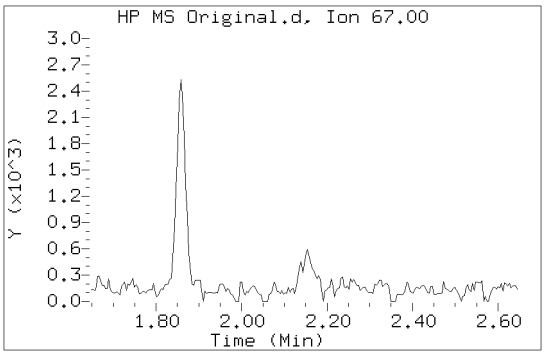
BEFORE
MASS
39
AREA
491
HEIGHT
336
01-Aug-2023
21:03



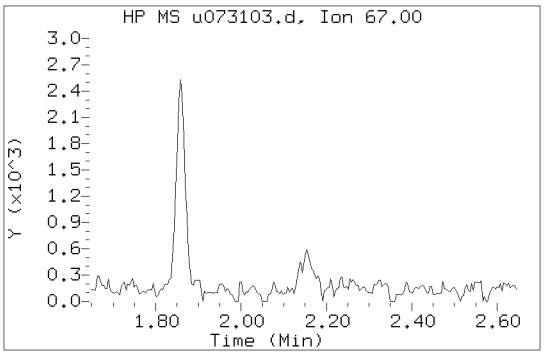
AFTER
MASS
39
AREA
491
HEIGHT
336
01-Aug-2023
21:03



BEFORE
MASS
67
AREA
0
HEIGHT
0
01-Aug-2023
21:03



AFTER
MASS
67
AREA
0
HEIGHT
0
01-Aug-2023
21:03

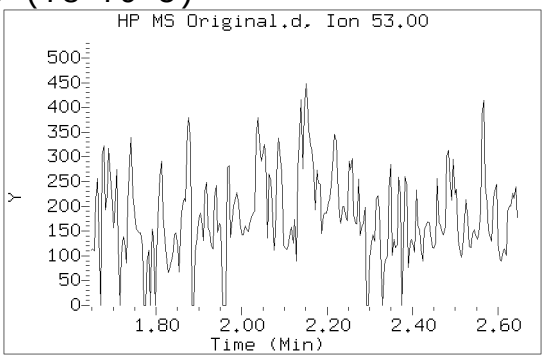


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Inj Date : 31-JUL-2023 11:53
InstruID : VOA9.i
LabSampID : VSTD000.5

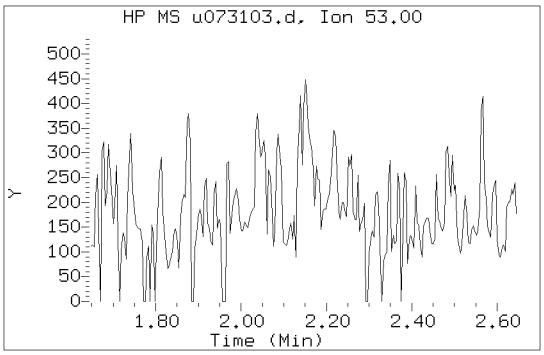
Isoprene (78-79-5)

Reason Code:

BEFORE
MASS
53
AREA
0
HEIGHT
0
01-Aug-2023
21:03



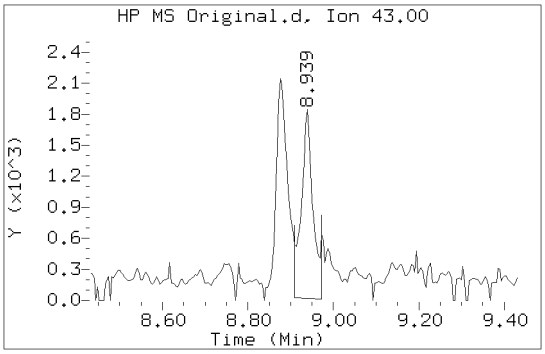
AFTER
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53
AREA
0
HEIGHT
0
01-Aug-2023
21:03



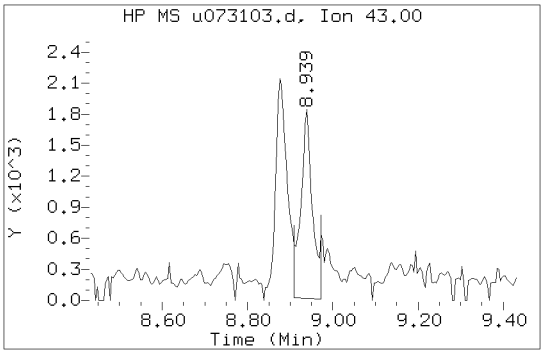
n-Amyl acetate (628-63-7)

Reason Code:

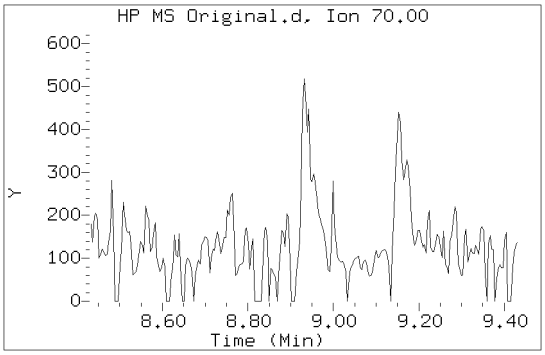
BEFORE
MASS
43
AREA
3597
HEIGHT
1824
01-Aug-2023
21:03



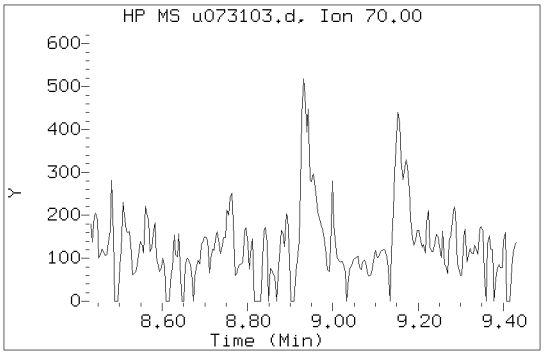
AFTER
MASS
43
AREA
3597
HEIGHT
1824
01-Aug-2023
21:03



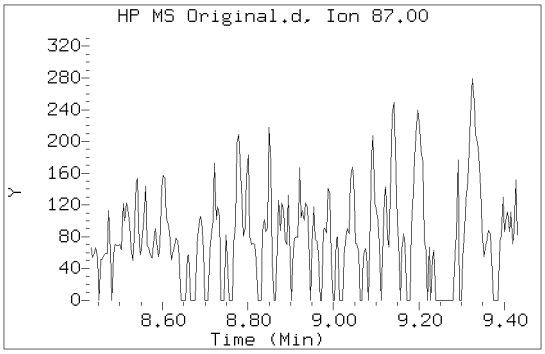
BEFORE
MASS
70
AREA
0
HEIGHT
0
01-Aug-2023
21:03



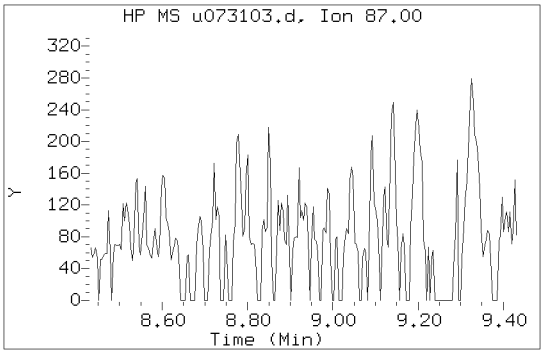
AFTER
MASS
70
AREA
0
HEIGHT
0
01-Aug-2023
21:03



BEFORE
MASS
87
AREA
0
HEIGHT
0
01-Aug-2023
21:03



AFTER
MASS
87
AREA
0
HEIGHT
0
01-Aug-2023
21:03

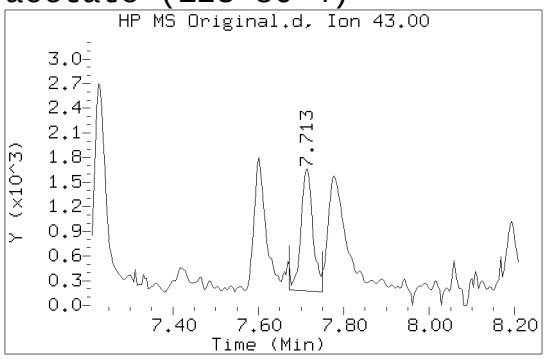


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Inj Date : 31-JUL-2023 11:53
InstruID : VOA9.i
LabSampID : VSTD000.5

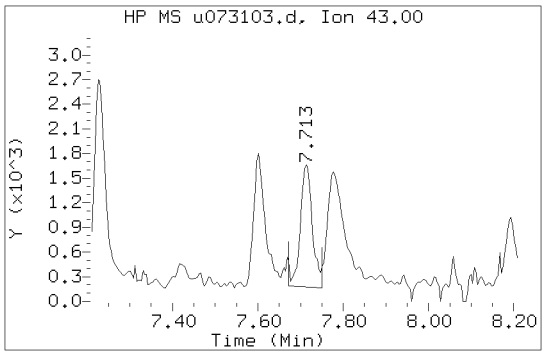
n-Butyl acetate (123-86-4)

Reason Code:

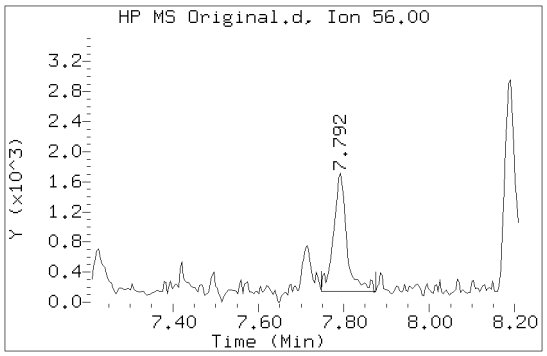
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3058
HEIGHT
1489
01-Aug-2023
21:03



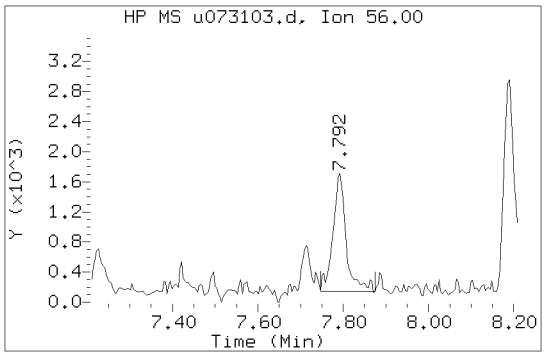
AFTER
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43
AREA
3058
HEIGHT
1489
01-Aug-2023
21:03



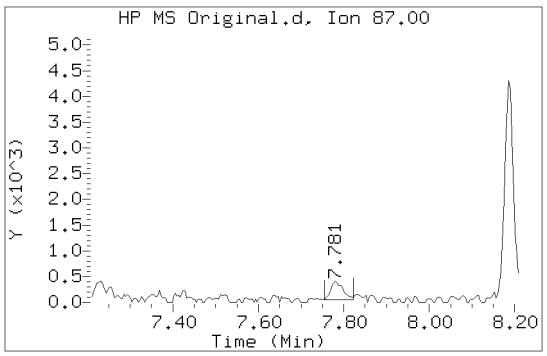
BEFORE
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3400
HEIGHT
1573
01-Aug-2023
21:03



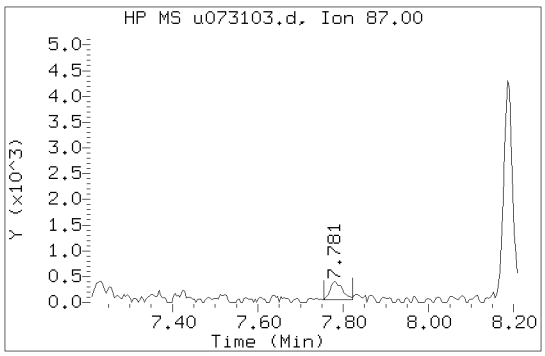
AFTER
MASS
56
AREA
3400
HEIGHT
1573
01-Aug-2023
21:03



BEFORE
MASS
87
AREA
687
HEIGHT
357
01-Aug-2023
21:03



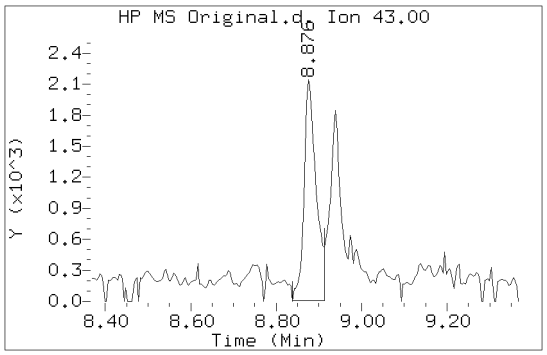
AFTER
MASS
87
AREA
687
HEIGHT
357
01-Aug-2023
21:03



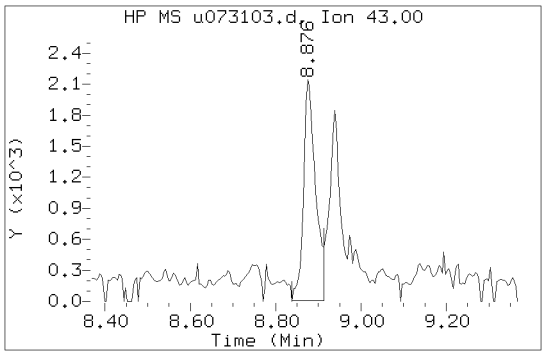
Methyl Amyl Ketone (110-43-0)

Reason Code:

BEFORE
MASS
43
AREA
4281
HEIGHT
2137
01-Aug-2023
21:03



AFTER
MASS
43
AREA
4281
HEIGHT
2137
01-Aug-2023
21:03

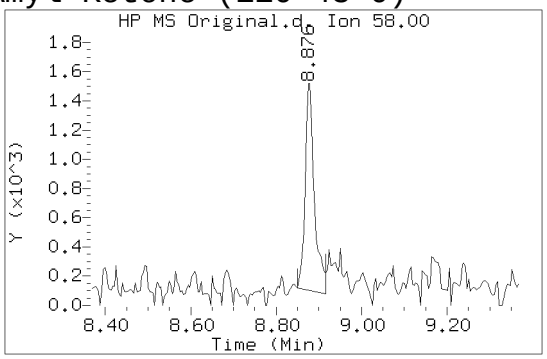


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LabSampID : VSTD000.5

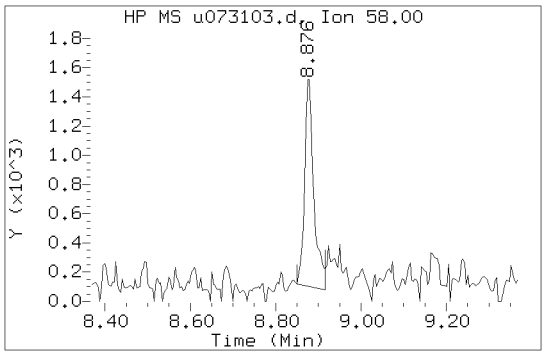
Methyl Amyl Ketone (110-43-0)

Reason Code:

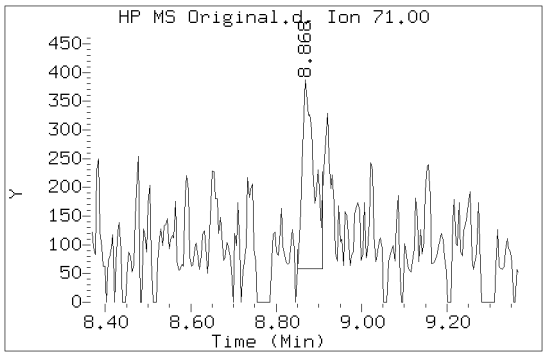
BEFORE
MASS
58
AREA
2159
HEIGHT
1413
01-Aug-2023
21:03



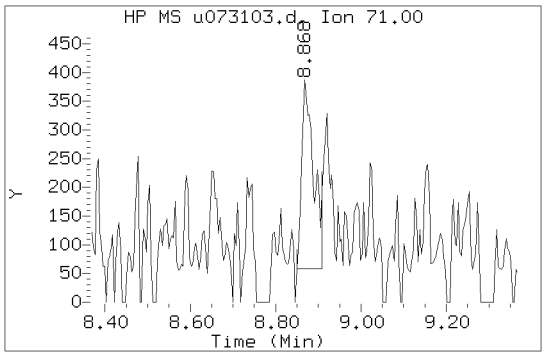
AFTER
MASS
58
AREA
2159
HEIGHT
1413
01-Aug-2023
21:03



BEFORE
MASS
71
AREA
660
HEIGHT
329
01-Aug-2023
21:03



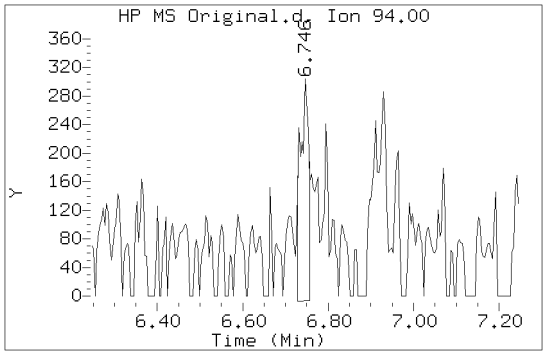
AFTER
MASS
71
AREA
660
HEIGHT
329
01-Aug-2023
21:03



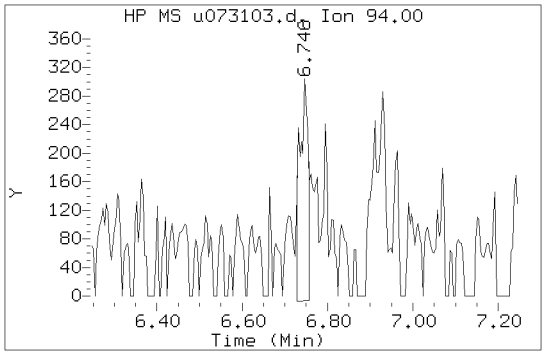
Dimethyl Disulfide (624-92-0)

Reason Code:

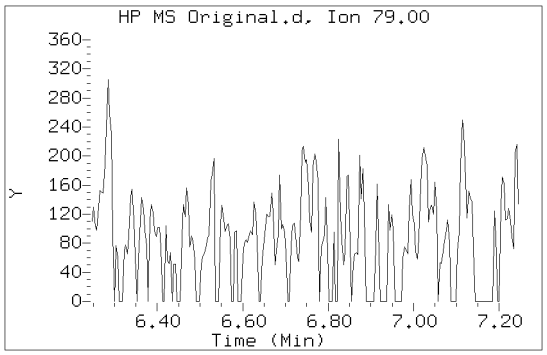
BEFORE
MASS
94
AREA
453
HEIGHT
310
01-Aug-2023
21:03



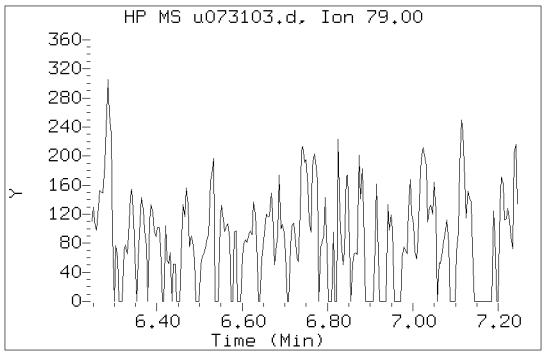
AFTER
MASS
94
AREA
453
HEIGHT
310
01-Aug-2023
21:03



BEFORE
MASS
79
AREA
0
HEIGHT
0
01-Aug-2023
21:03



AFTER
MASS
79
AREA
0
HEIGHT
0
01-Aug-2023
21:03

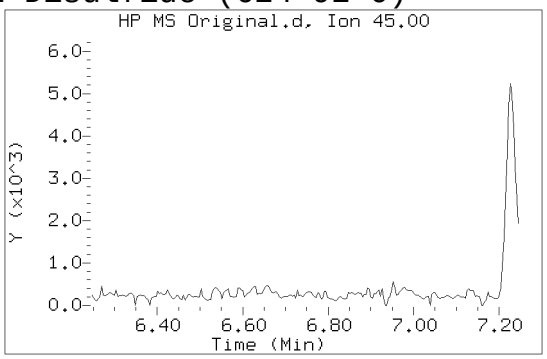


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Inj Date : 31-JUL-2023 11:53
InstruID : VOA9.i
LabSampID : VSTD000.5

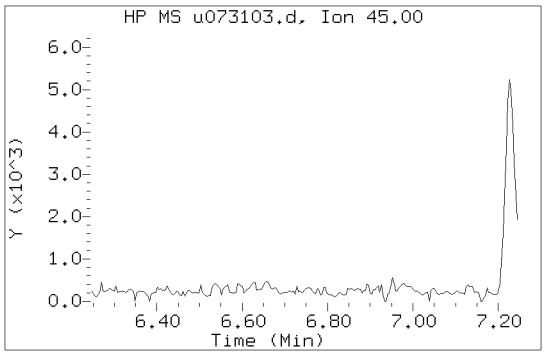
Dimethyl Disulfide (624-92-0)

Reason Code:

BEFORE
MASS
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AREA
0
HEIGHT
0
01-Aug-2023
21:03



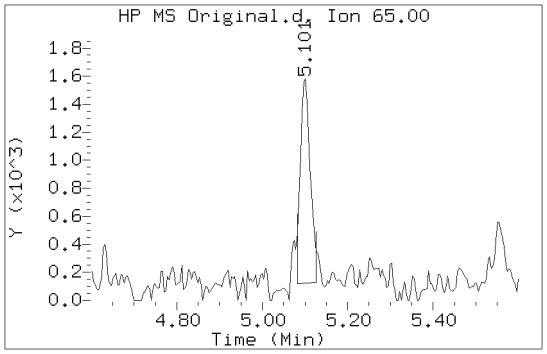
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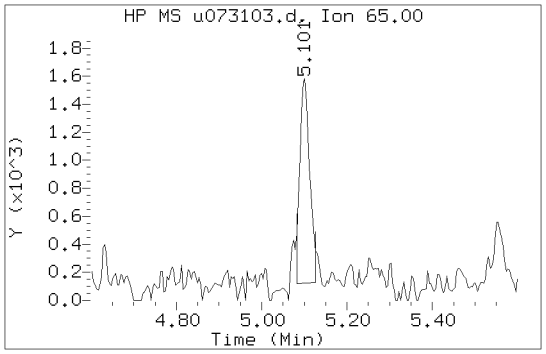
1,2-Dichloroethane-d4 (17060-07-0)

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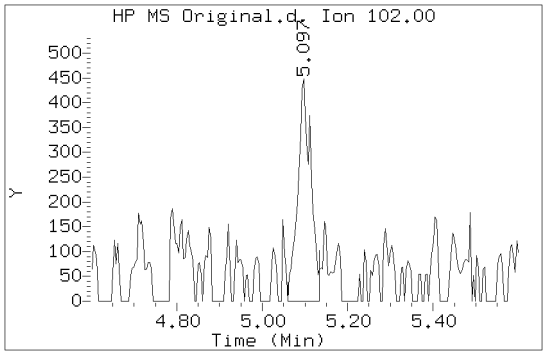
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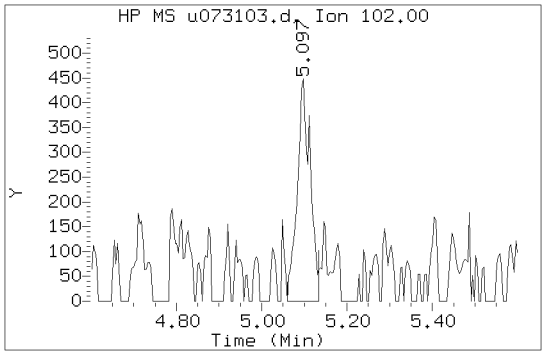
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01-Aug-2023
21:03



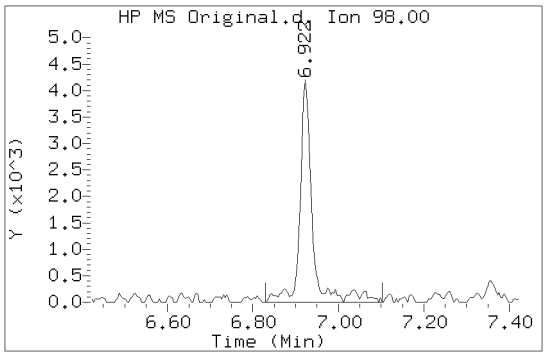
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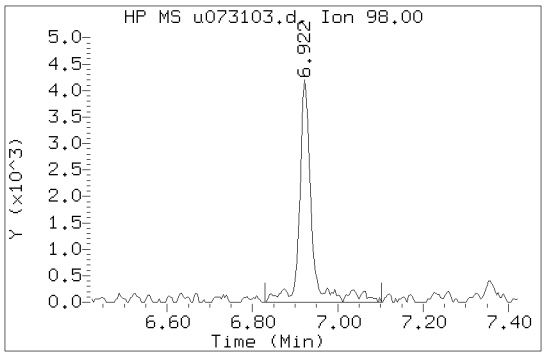
Toluene-d8 (2037-26-5)

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AFTER
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01-Aug-2023
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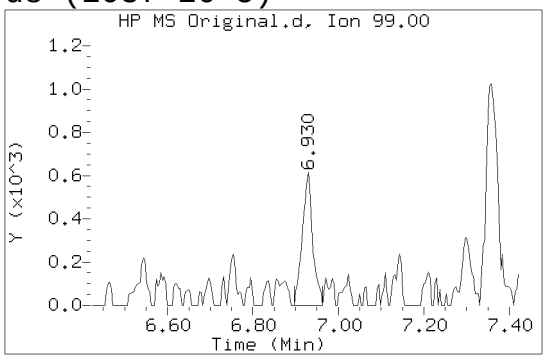
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InstruID : VOA9.i
LabSampID : VSTD000.5

Toluene-d8 (2037-26-5)

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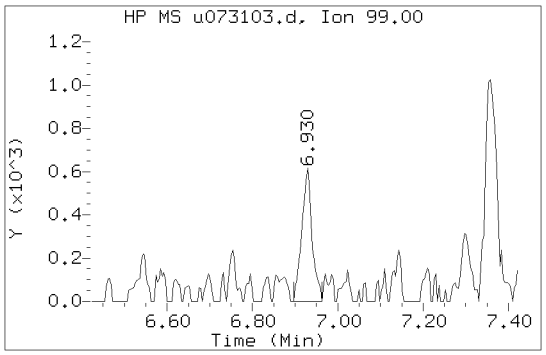
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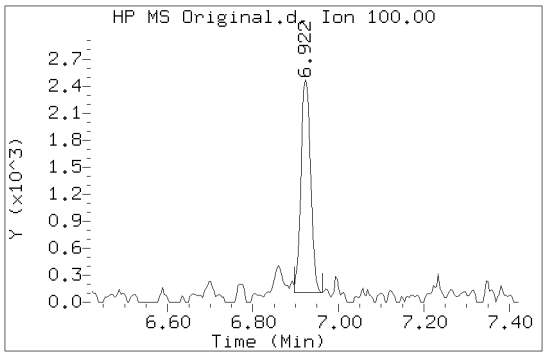
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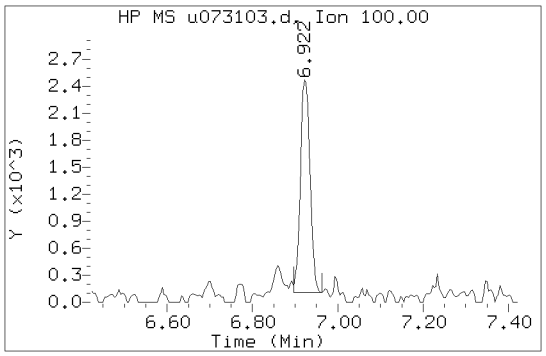
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AFTER

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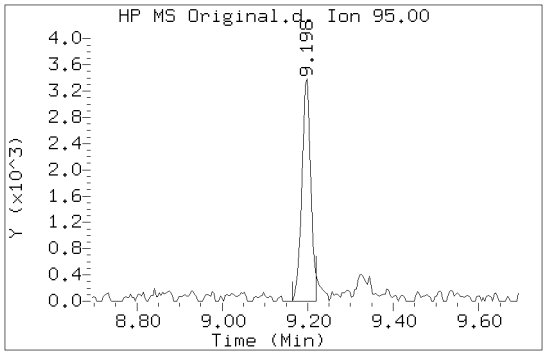


4-Bromofluorobenzene (460-00-4)

Reason Code:

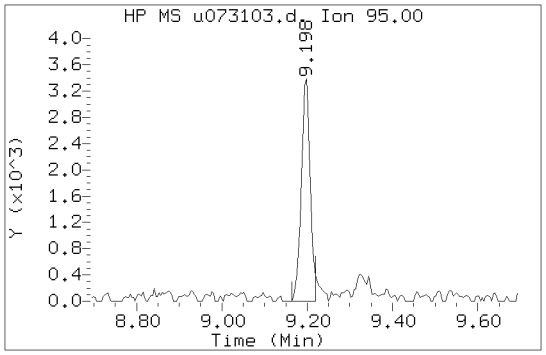
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01-Aug-2023
21:03



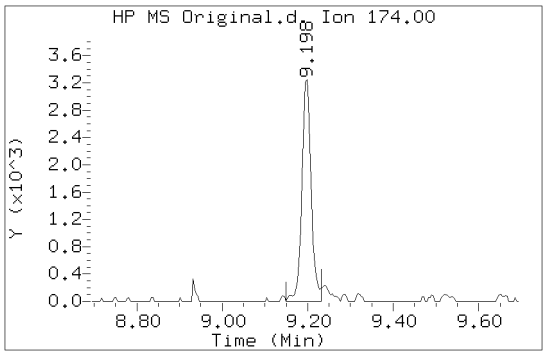
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01-Aug-2023
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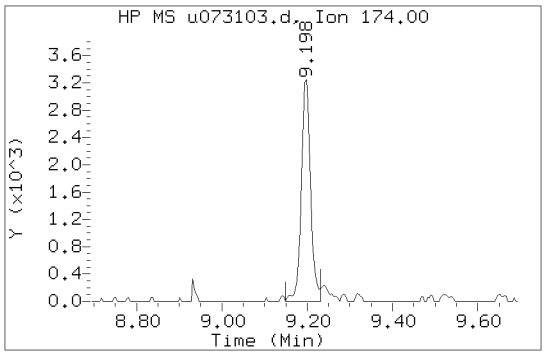
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AFTER

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01-Aug-2023
21:03



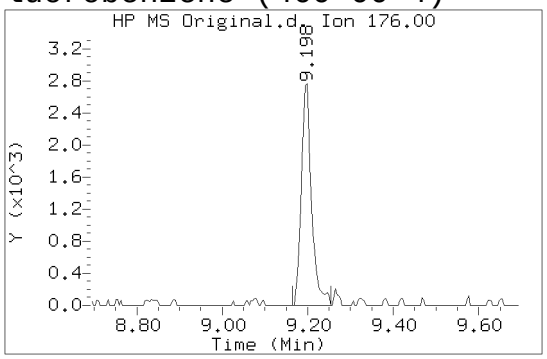
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InstruID : VOA9.i
LabSampID : VSTD000.5

4-Bromofluorobenzene (460-00-4)

Reason Code:

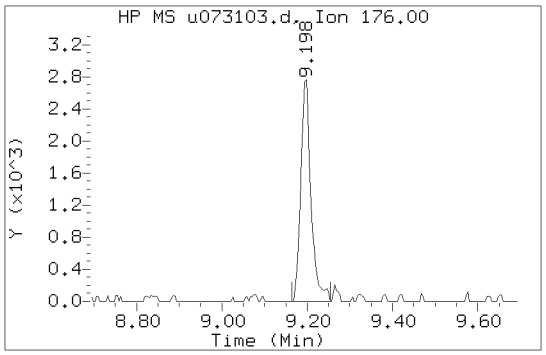
BEFORE

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01-Aug-2023
21:03



AFTER

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AREA
4704
HEIGHT
2764
01-Aug-2023
21:03



Data File: \\NAHSTWS005\Target\chem\voa9.i\U230731.b\U073104.D Page 1
Report Date: 07-Aug-2023 11:14

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U230731.b\U073104.D
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Inj Date : 31-JUL-2023 12:37
Operator : PC Inst ID: VOA9.i
Smp Info : VSTD001;VSTD001;1;3;
Misc Info : V9;WATER;0;1;
Comment   :
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Meth Date : 07-Aug-2023 11:14 VOA9.i Quant Type: ISTD
Cal Date : 31-JUL-2023 11:53 Cal File: U073103.D
Als bottle: 5 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260V9.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1	Pentafluorobenzene	168	4.815	4.815	(1.000)	481982	50.0000	
2	Dichlorodifluoromethane	85	1.160	1.160	(0.241)	5086	1.00000	2.33
3	Chloromethane	50	1.295	1.295	(0.269)	7212	1.00000	0.93(M)
5	Vinyl Chloride	62	1.374	1.374	(0.285)	4568	1.00000	0.96(M)
6	Bromomethane	94	1.621	1.621	(0.337)	3816	1.00000	(M)
7	Chloroethane	64	1.696	1.696	(0.352)	3276	1.00000	1.09(M)
8	Trichlorofluoromethane	101	1.891	1.891	(0.393)	6084	1.00000	1.03
9	Acrolein	56	1.745	1.745	(0.362)	644	2.00000	2.08(M)
10	Acetone	43	2.412	2.412	(0.501)	8968	2.00000	
11	1,1-Dichloroethene	96	2.326	2.326	(0.483)	3226	1.00000	1.01
15	Iodomethane	142	2.465	2.465	(0.512)	4529	2.00000	4.92
16	Acrylonitrile	53	3.068	3.068	(0.637)	3315	2.00000	2.18
17	Methylene Chloride	84	2.795	2.795	(0.580)	5208	1.00000	1.16(M)
18	Methyl tert-butyl ether	73	3.080	3.080	(0.640)	9734	1.00000	0.99
19	Carbon Disulfide	76	2.517	2.517	(0.523)	18852	2.00000	2.03
20	trans-1,2-Dichloroethene	96	3.053	3.053	(0.634)	3954	1.00000	1.11(M)
21	Vinyl Acetate	43	3.608	3.608	(0.749)	20488	2.00000	2.01
22	1,1-Dichloroethane	63	3.511	3.511	(0.729)	7192	1.00000	1.10
24	2-Butanone	43	4.272	4.272	(0.887)	4157	2.00000	2.19(M)
26	2,2-Dichloropropane	77	4.178	4.178	(0.868)	4894	1.00000	1.09

27 cis-1,2-Dichloroethene	96	4.197	4.197 (0.872)	3710	1.00000	0.93
28 Chloroform	83	4.568	4.568 (0.949)	7814	1.00000	1.03

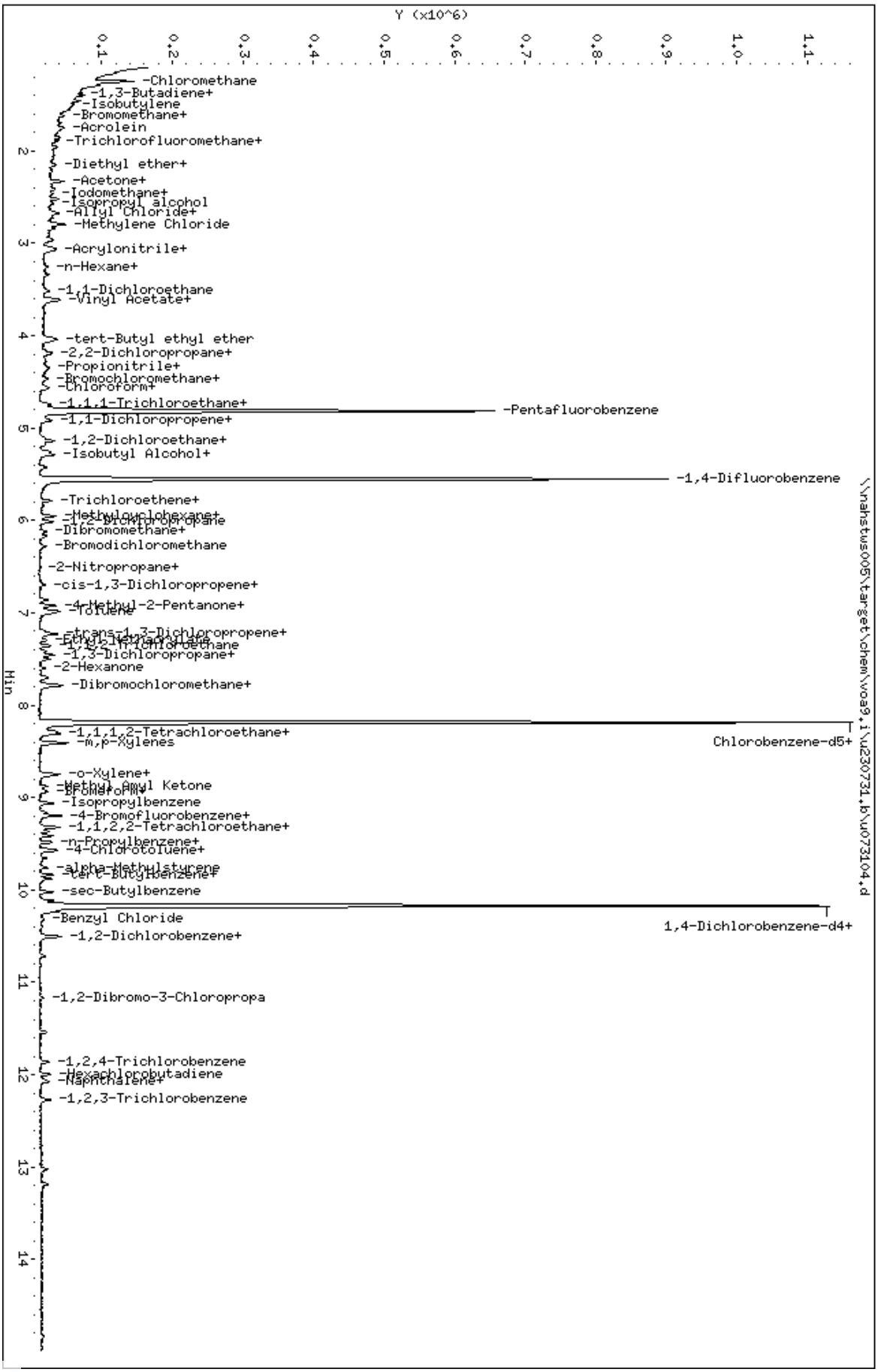
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	29 Bromochloromethane	128	4.470	4.470	(0.928)	2534	1.00000	1.07
$	30 Dibromofluoromethane	113	4.748	4.748	(0.986)	4835	1.00000	0.28(M)
	31 1,1,1-Trichloroethane	97	4.740	4.740	(0.984)	6007	1.00000	1.02
	32 1,1-Dichloropropene	75	4.920	4.920	(0.886)	5376	1.00000	1.03
	33 1,2-Dichloroethane	62	5.179	5.179	(0.933)	5883	1.00000	0.97
	34 Carbon Tetrachloride	117	4.905	4.905	(0.883)	4063	1.00000	0.87(M)
$	35 1,2-Dichloroethane-d4	65	5.100	5.100	(1.059)	4638	1.00000	(M)
*	36 1,4-Difluorobenzene	114	5.554	5.554	(1.000)	698381	50.0000	
	37 Benzene	78	5.138	5.138	(0.925)	17734	1.00000	1.03
	38 Trichloroethene	130	5.786	5.786	(1.042)	4551	1.00000	0.94
	39 Bromodichloromethane	83	6.277	6.277	(1.130)	5449	1.00000	0.99(M)
	41 2-Chloroethylvinyl ether	63	6.570	6.570	(1.183)	186	2.00000	1.27(M)
	42 1,2-Dichloropropane	63	6.011	6.011	(1.082)	4459	1.00000	0.97
	44 Dibromomethane	93	6.120	6.120	(1.102)	2988	1.00000	1.01
	45 4-Methyl-2-Pentanone	43	6.862	6.862	(0.838)	9432	2.00000	2.00
	46 cis-1,3-Dichloropropene	75	6.693	6.693	(1.205)	4923	1.00000	2.87
*	47 Chlorobenzene-d5	117	8.185	8.185	(1.000)	632152	50.0000	
$	48 Toluene-d8	98	6.922	6.922	(0.846)	16097	1.00000	1.09(M)
	50 Toluene	91	6.982	6.982	(0.853)	15432	1.00000	0.89
	51 trans-1,3-Dichloropropene	75	7.199	7.199	(1.296)	4497	1.00000	0.85(M)
	52 2-Hexanone	43	7.597	7.597	(0.928)	5652	2.00000	1.81
	53 1,1,2-Trichloroethane	83	7.357	7.357	(0.899)	4495	1.00000	1.22
	54 1,3-Dichloropropane	76	7.499	7.499	(0.916)	7484	1.00000	0.99
	55 Dibromochloromethane	129	7.694	7.694	(0.940)	4226	1.00000	0.93
	56 Tetrachloroethene	164	7.458	7.458	(0.911)	4459	1.00000	1.06
	57 1,2-Dibromoethane	107	7.784	7.784	(0.951)	4540	1.00000	1.02
	58 1-Chlorohexane	55	8.193	8.193	(1.475)	3774	1.00000	1.03(M)
	59 Chlorobenzene	112	8.212	8.212	(1.003)	12525	1.00000	1.02
	60 1,1,1,2-Tetrachloroethane	131	8.287	8.287	(1.012)	4248	1.00000	0.95
	61 Ethylbenzene	106	8.309	8.309	(1.015)	4942	1.00000	0.89
	62 m,p-Xylenes	106	8.410	8.410	(1.027)	11533	2.00000	1.78
	63 o-Xylene	106	8.748	8.748	(1.069)	5188	1.00000	0.81
	64 Styrene	104	8.763	8.763	(1.071)	7936	1.00000	0.80
	66 Bromoform	173	8.920	8.920	(1.090)	2750	1.00000	0.87(T)
	67 Isopropylbenzene	105	9.062	9.062	(1.107)	13094	1.00000	0.85(M)
	68 1,1,2,2-Tetrachloroethane	83	9.329	9.329	(0.917)	6620	1.00000	1.10
$	69 4-Bromofluorobenzene	95	9.194	9.194	(1.123)	8707	1.00000	0.17
*	70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	310102	50.0000	
	71 1,2,3-Trichloropropane	75	9.362	9.362	(0.920)	5273	1.00000	1.01
	73 n-Propylbenzene	91	9.411	9.411	(0.925)	13048	1.00000	2.36
	74 Bromobenzene	156	9.317	9.317	(0.916)	5491	1.00000	1.07
	75 1,3,5-Trimethylbenzene	105	9.561	9.561	(0.940)	9434	1.00000	0.87(M)
	76 2-Chlorotoluene	91	9.482	9.482	(0.932)	10416	1.00000	0.95
	77 4-Chlorotoluene	91	9.580	9.580	(0.942)	10861	1.00000	0.88
	78 tert-Butylbenzene	119	9.835	9.835	(0.967)	8179	1.00000	0.79
	79 1,2,4-Trimethylbenzene	105	9.880	9.880	(0.971)	9334	1.00000	0.85
	81 sec-Butylbenzene	105	10.022	10.022	(0.985)	11030	1.00000	0.39(M)
	82 p-Isopropyltoluene	119	10.146	10.146	(0.997)	9596	1.00000	0.38(M)
	83 1,3-Dichlorobenzene	146	10.116	10.116	(0.994)	8349	1.00000	0.97
	84 1,4-Dichlorobenzene	146	10.191	10.191	(1.002)	10783	1.00000	1.13
	87 n-Butylbenzene	91	10.498	10.498	(1.032)	8159	1.00000	3.13(M)
	88 1,2-Dichlorobenzene	146	10.506	10.506	(1.033)	9516	1.00000	1.08

89	1,2-Dibromo-3-Chloropropane	155	11.169	11.169 (1.098)	937	1.00000	1.08(M)
90	1,2,4-Trichlorobenzene	180	11.863	11.863 (1.166)	4848	1.00000	0.89

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	91 Hexachlorobutadiene	225	11.998	11.998	(1.179)	2531	1.00000	0.14(M)
	92 Naphthalene	128	12.073	12.073	(1.187)	11725	1.00000	2.38
	93 1,2,3-Trichlorobenzene	180	12.275	12.275	(1.207)	4718	1.00000	0.85
M	94 1,2-Dichloroethylene (total)	96				7664	2.00000	
M	95 Xylenes (total)	106				16721	3.00000	
	135 1,4-Dioxane	88	6.180	6.180	(1.283)	1547	20.0000	22.38(M)
	141 Cyclohexane	56	4.778	4.778	(0.992)	5131	1.00000	0.94(MH)
	138 Freon TF	101	2.334	2.334	(0.485)	3343	1.00000	0.31
	140 1,3-Butadiene	54	1.400	1.400	(0.291)	3484	1.00000	0.90
	147 Methylcyclohexane	55	5.951	5.951	(1.072)	9557	1.00000	0.93
	146 Methyl Acetate	43	2.712	2.712	(0.563)	3863	1.00000	1.11(M)
	148 Tert-Butyl alcohol	59	2.971	2.971	(0.617)	11049	20.0000	24.23(aM)
	149 Isopropyl Alcohol	45	2.566	2.566	(0.533)	6059	20.0000	22.74(M)

QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.



Data File: \\nahstws005\target\chem\voa9,i\u230731,b\u073104.d
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Sample Info: VSTD001;VSTD001;1;3;
Purge Volume: 5.0
Column phase: DB624

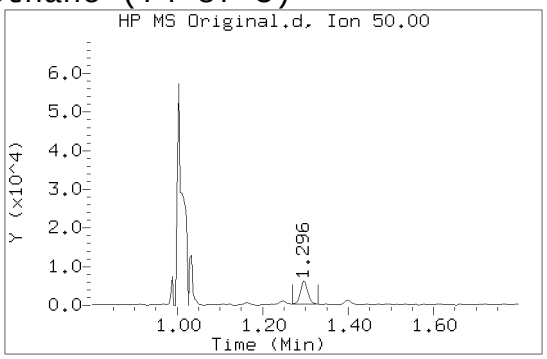
Instrument: VOA9,i
Operator: PC
Column diameter: 0.18

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Inj Date : 31-JUL-2023 12:37
InstruID : VOA9.i
LabSampID : VSTD001

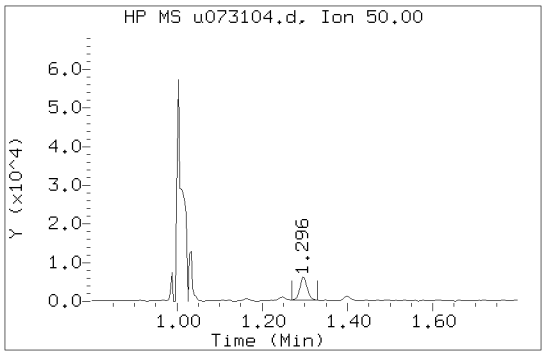
Chloromethane (74-87-3)

Reason Code:

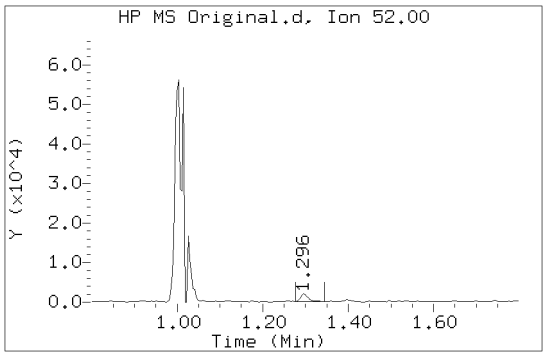
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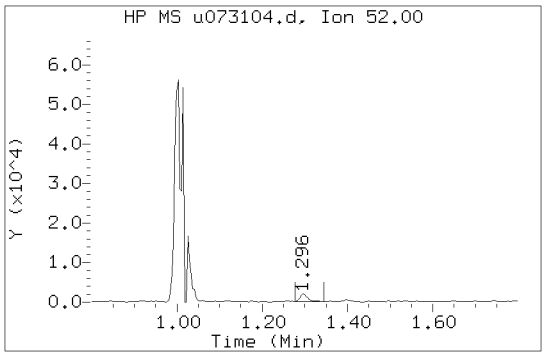
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01-Aug-2023
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HEIGHT
1932
01-Aug-2023
21:03



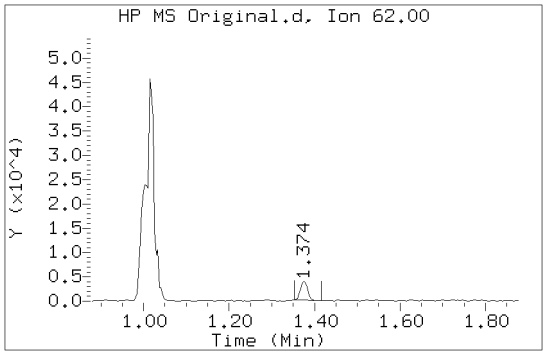
AFTER
MASS
52
AREA
2568
HEIGHT
1932
01-Aug-2023
21:03



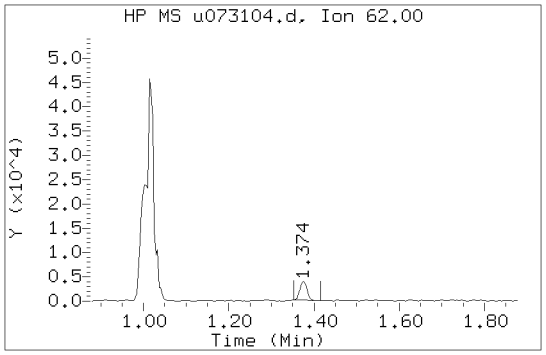
Vinyl Chloride (75-01-4)

Reason Code:

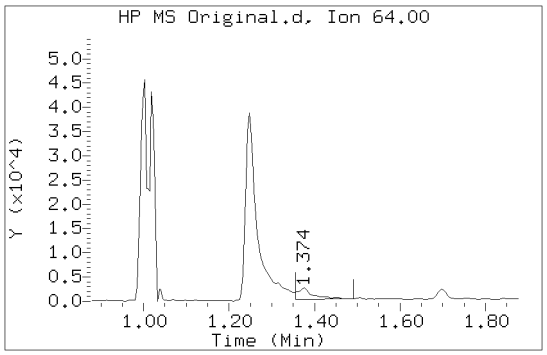
BEFORE
MASS
62
AREA
4568
HEIGHT
3920
01-Aug-2023
21:03



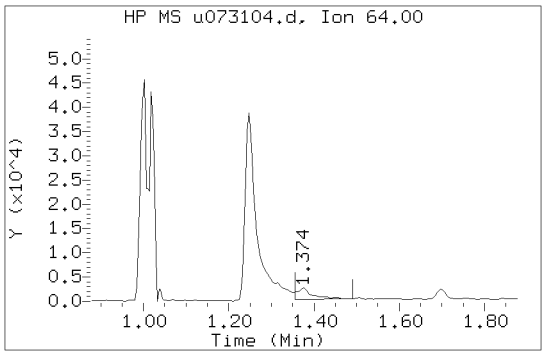
AFTER
MASS
62
AREA
4568
HEIGHT
3920
01-Aug-2023
21:03



BEFORE
MASS
64
AREA
5839
HEIGHT
2307
01-Aug-2023
21:03



AFTER
MASS
64
AREA
5839
HEIGHT
2307
01-Aug-2023
21:03

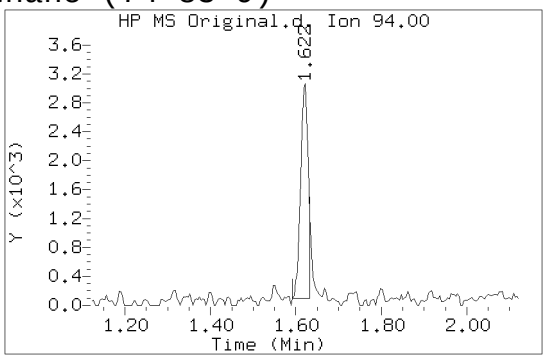


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Inj Date : 31-JUL-2023 12:37
InstruID : VOA9.i
LabSampID : VSTD001

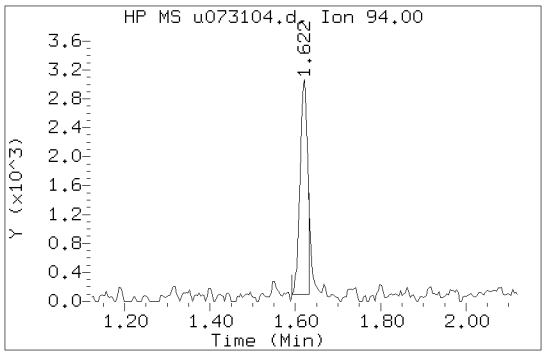
Bromomethane (74-83-9)

Reason Code:

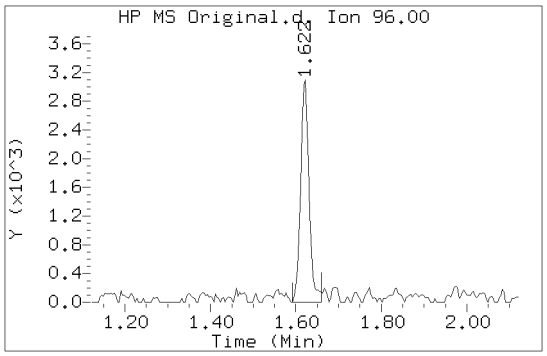
BEFORE
MASS
94
AREA
3816
HEIGHT
2971
01-Aug-2023
21:03



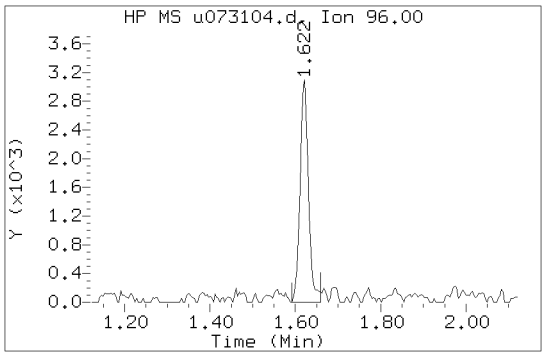
AFTER
MASS
94
AREA
3816
HEIGHT
2971
01-Aug-2023
21:03



BEFORE
MASS
96
AREA
4382
HEIGHT
3098
01-Aug-2023
21:03



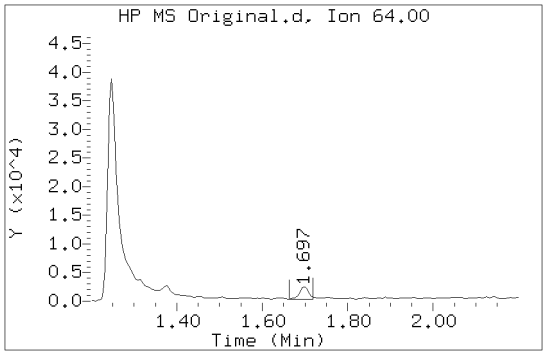
AFTER
MASS
96
AREA
4382
HEIGHT
3098
01-Aug-2023
21:03



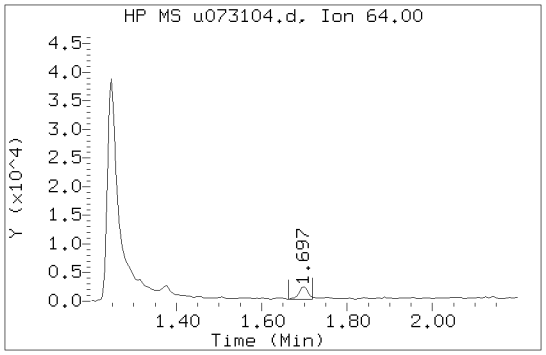
Chloroethane (75-00-3)

Reason Code:

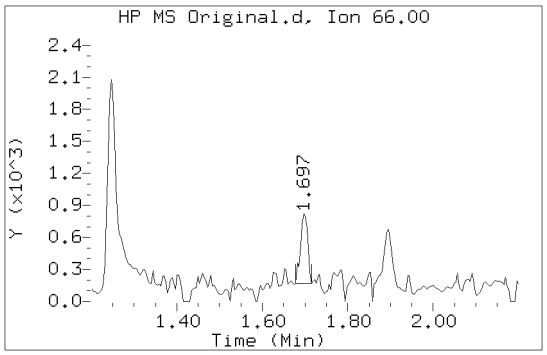
BEFORE
MASS
64
AREA
3276
HEIGHT
2153
01-Aug-2023
21:03



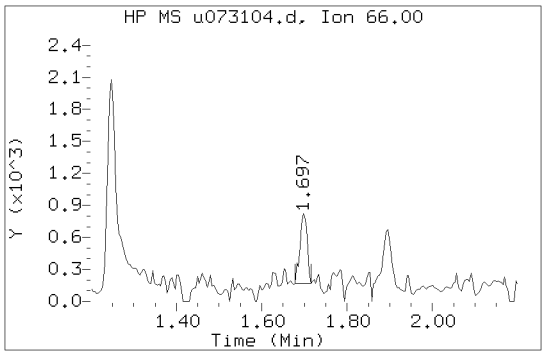
AFTER
MASS
64
AREA
3276
HEIGHT
2153
01-Aug-2023
21:03



BEFORE
MASS
66
AREA
785
HEIGHT
658
01-Aug-2023
21:03



AFTER
MASS
66
AREA
785
HEIGHT
658
01-Aug-2023
21:03

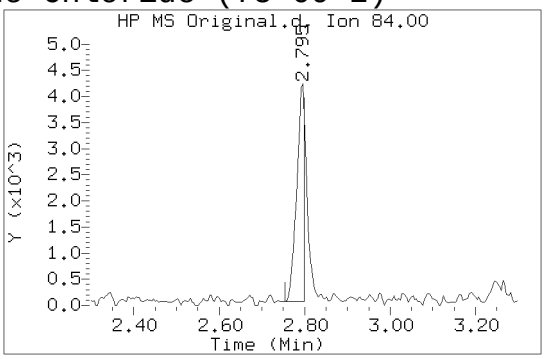


Data File : \\nahstws005\target\chem\voa9.i\u230731.b\u073104.d
Inj Date : 31-JUL-2023 12:37
InstruID : VOA9.i
LabSampID : VSTD001

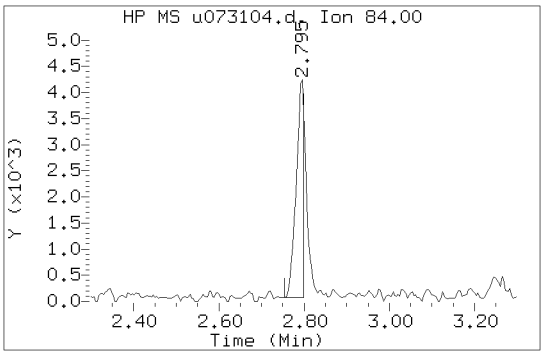
Methylene Chloride (75-09-2)

Reason Code:

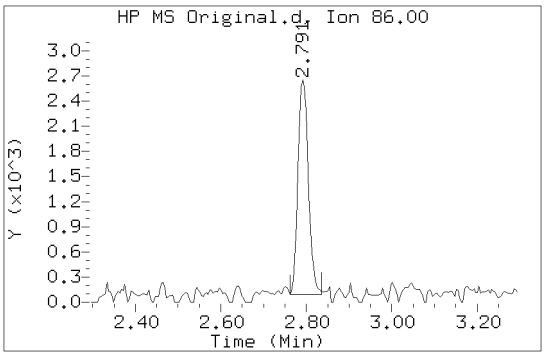
BEFORE
MASS
84
AREA
5208
HEIGHT
4165
01-Aug-2023
21:03



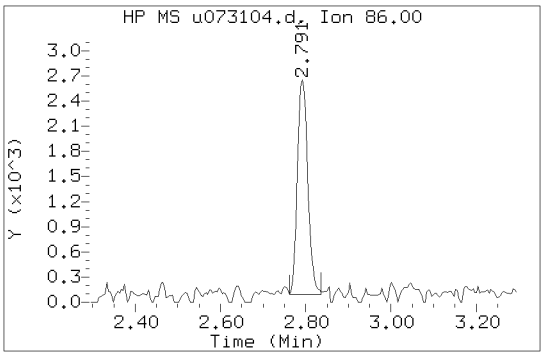
AFTER
MASS
84
AREA
5208
HEIGHT
4165
01-Aug-2023
21:03



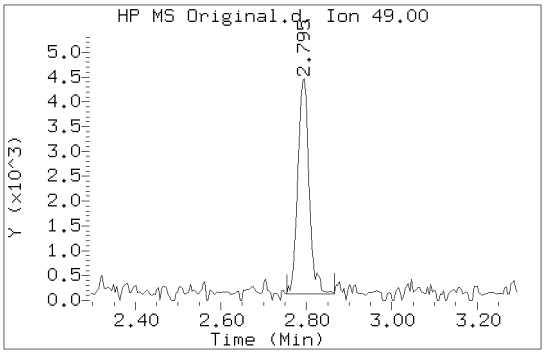
BEFORE
MASS
86
AREA
4420
HEIGHT
2560
01-Aug-2023
21:03



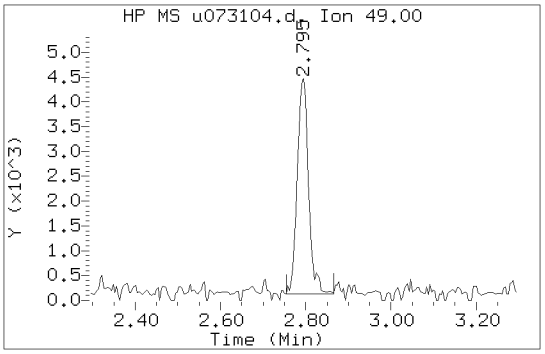
AFTER
MASS
86
AREA
4420
HEIGHT
2560
01-Aug-2023
21:03



BEFORE
MASS
49
AREA
8151
HEIGHT
4339
01-Aug-2023
21:03



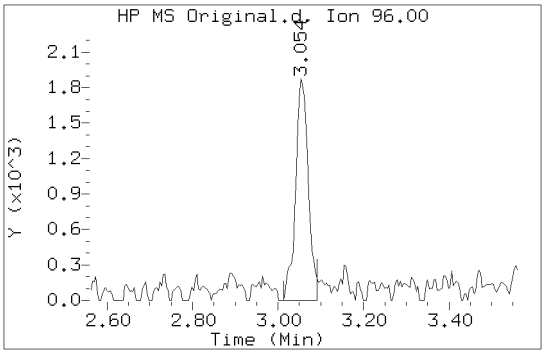
AFTER
MASS
49
AREA
8151
HEIGHT
4339
01-Aug-2023
21:03



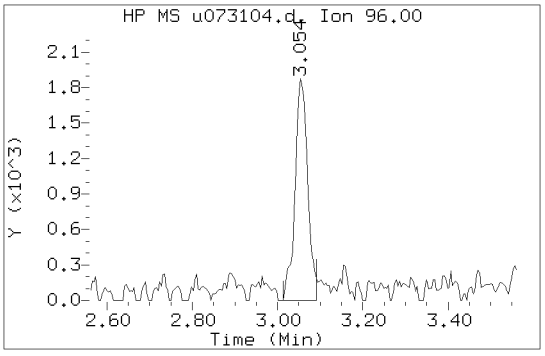
trans-1,2-Dichloroethene (156-60-5)

Reason Code:

BEFORE
MASS
96
AREA
3954
HEIGHT
1876
01-Aug-2023
21:03



AFTER
MASS
96
AREA
3954
HEIGHT
1876
01-Aug-2023
21:03

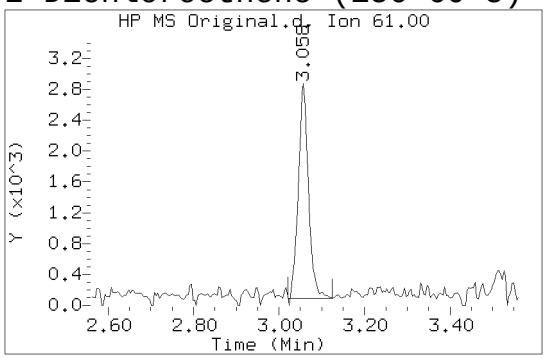


Data File : \\nahstws005\target\chem\voa9.i\u230731.b\u073104.d
Inj Date : 31-JUL-2023 12:37
InstruID : VOA9.i
LabSampID : VSTD001

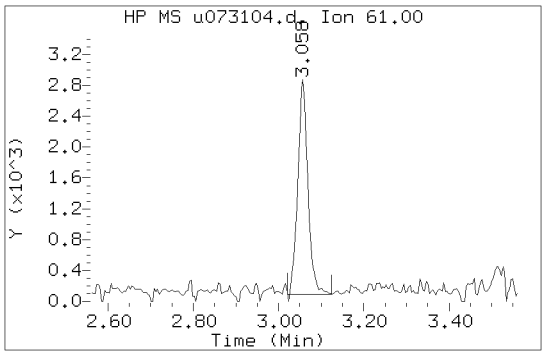
trans-1,2-Dichloroethene (156-60-5)

Reason Code:

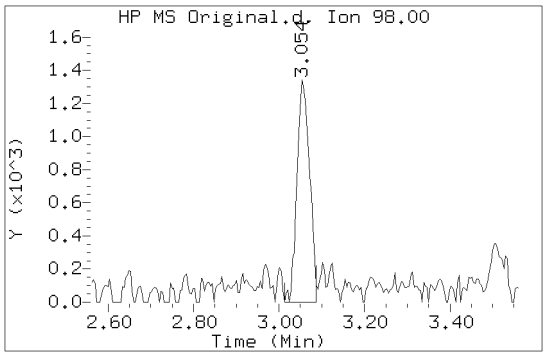
BEFORE
MASS
61
AREA
4661
HEIGHT
2779
01-Aug-2023
21:03



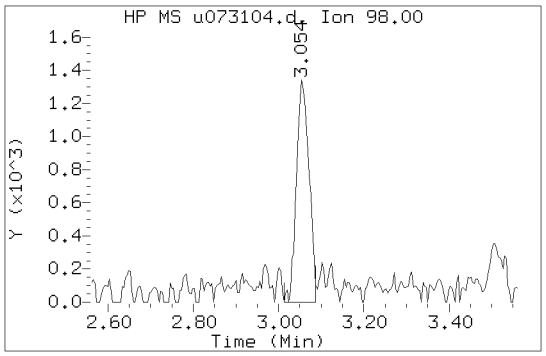
AFTER
MASS
61
AREA
4661
HEIGHT
2779
01-Aug-2023
21:03



BEFORE
MASS
98
AREA
2813
HEIGHT
1342
01-Aug-2023
21:03



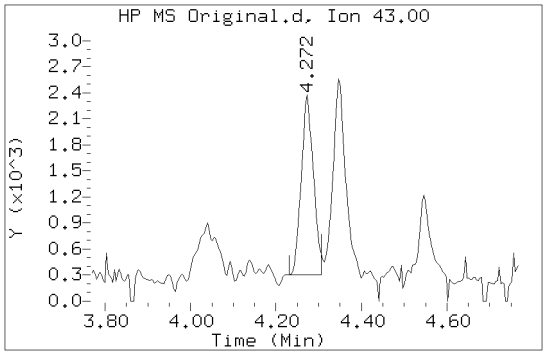
AFTER
MASS
98
AREA
2813
HEIGHT
1342
01-Aug-2023
21:03



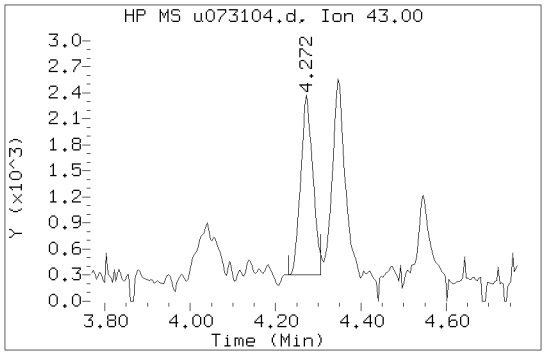
2-Butanone (78-93-3)

Reason Code:

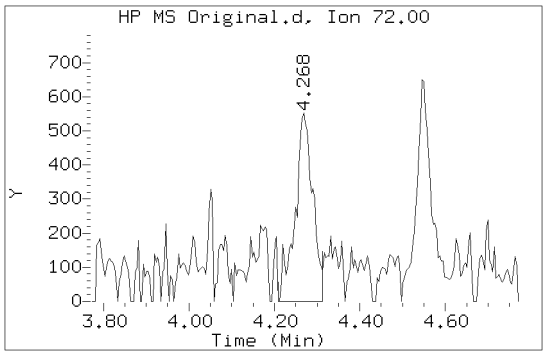
BEFORE
MASS
43
AREA
4157
HEIGHT
2066
01-Aug-2023
21:03



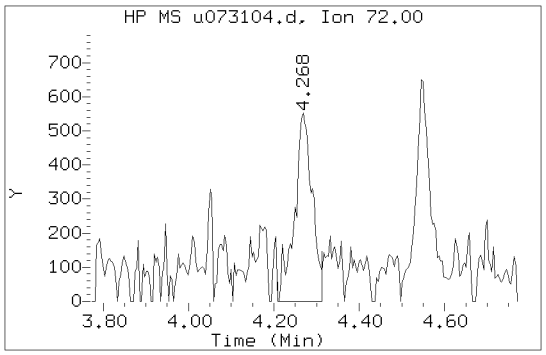
AFTER
MASS
43
AREA
4157
HEIGHT
2066
01-Aug-2023
21:03



BEFORE
MASS
72
AREA
1609
HEIGHT
552
01-Aug-2023
21:03



AFTER
MASS
72
AREA
1609
HEIGHT
552
01-Aug-2023
21:03



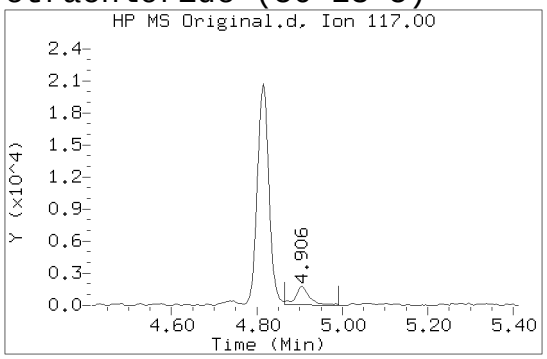
Data File : \\nahstws005\target\chem\voa9.i\u230731.b\u073104.d
Inj Date : 31-JUL-2023 12:37
InstruID : VOA9.i
LabSampID : VSTD001

Carbon Tetrachloride (56-23-5)

Reason Code:

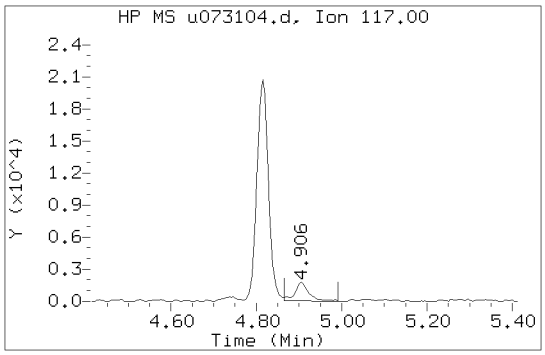
BEFORE

MASS
117
AREA
4063
HEIGHT
1728
01-Aug-2023
21:03



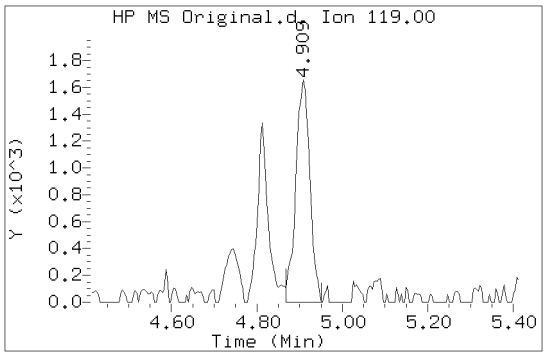
AFTER

MASS
117
AREA
4063
HEIGHT
1728
01-Aug-2023
21:03



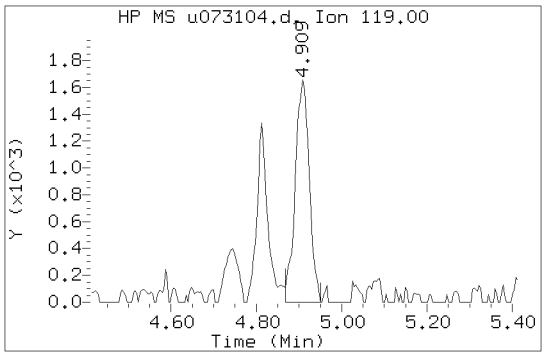
BEFORE

MASS
119
AREA
3865
HEIGHT
1656
01-Aug-2023
21:03



AFTER

MASS
119
AREA
3865
HEIGHT
1656
01-Aug-2023
21:03

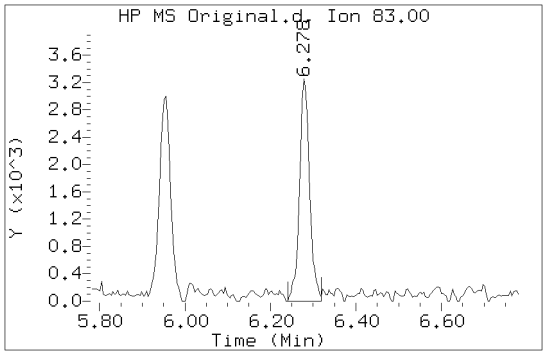


Bromodichloromethane (75-27-4)

Reason Code:

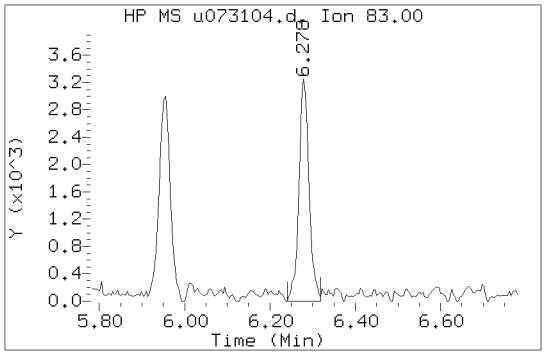
BEFORE

MASS
83
AREA
5449
HEIGHT
3254
01-Aug-2023
21:03



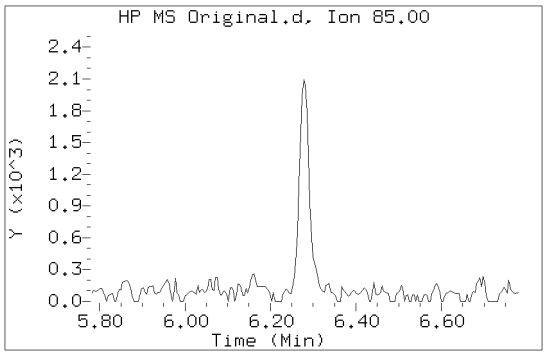
AFTER

MASS
83
AREA
5449
HEIGHT
3254
01-Aug-2023
21:03



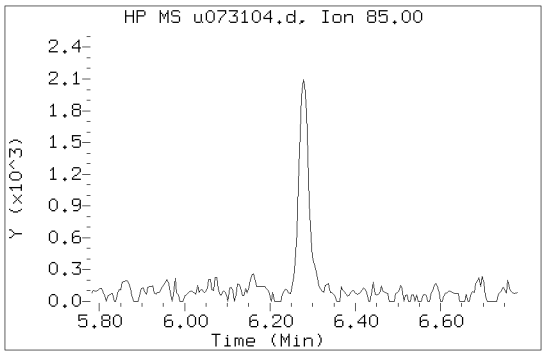
BEFORE

MASS
85
AREA
0
HEIGHT
0
01-Aug-2023
21:03



AFTER

MASS
85
AREA
0
HEIGHT
0
01-Aug-2023
21:03

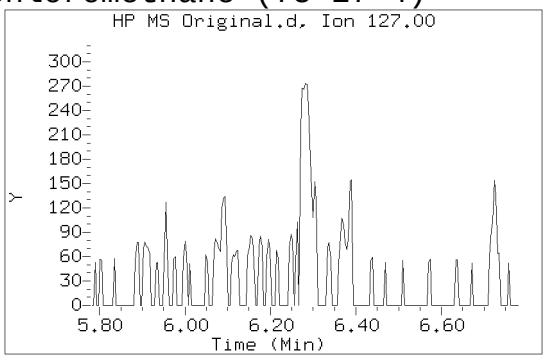


Data File : \\nahstws005\target\chem\voa9.i\u230731.b\u073104.d
Inj Date : 31-JUL-2023 12:37
InstruID : VOA9.i
LabSampID : VSTD001

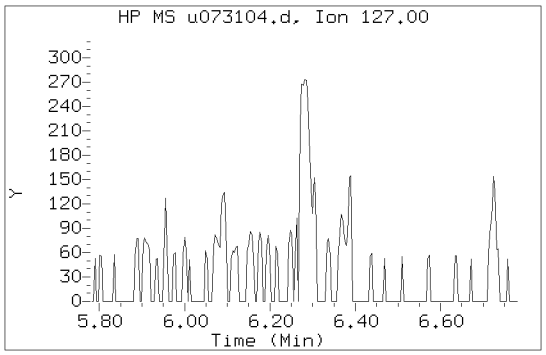
Bromodichloromethane (75-27-4)

Reason Code:

BEFORE
MASS
127
AREA
0
HEIGHT
0
01-Aug-2023
21:03



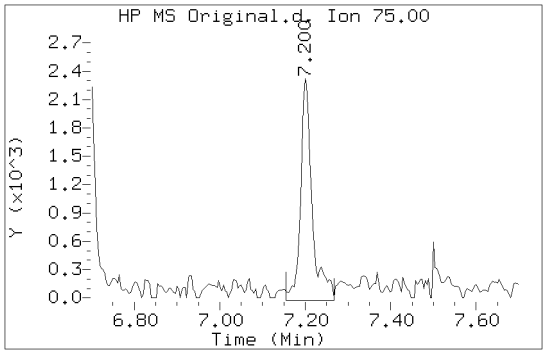
AFTER
MASS
127
AREA
0
HEIGHT
0
01-Aug-2023
21:03



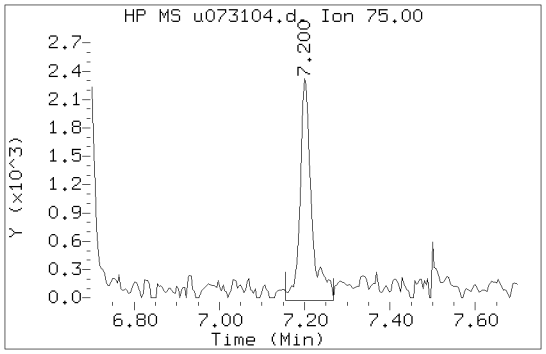
trans-1,3-Dichloropropene (10061-02-6)

Reason Code:

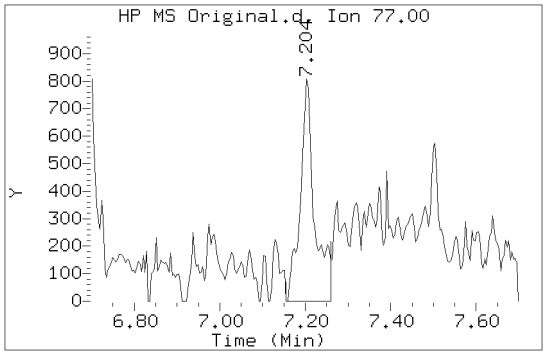
BEFORE
MASS
75
AREA
4497
HEIGHT
2346
01-Aug-2023
21:03



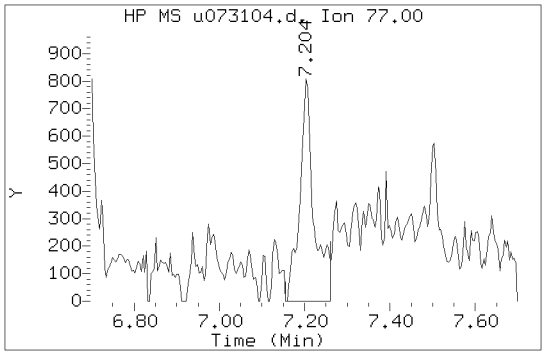
AFTER
MASS
75
AREA
4497
HEIGHT
2346
01-Aug-2023
21:03



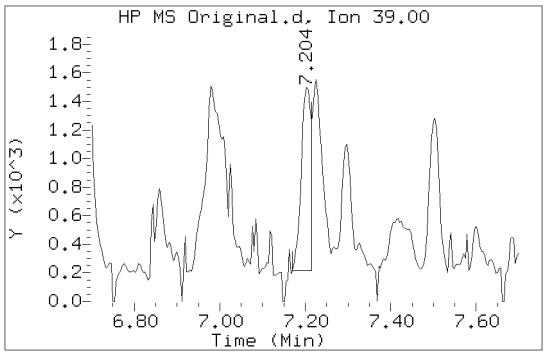
BEFORE
MASS
77
AREA
1896
HEIGHT
808
01-Aug-2023
21:03



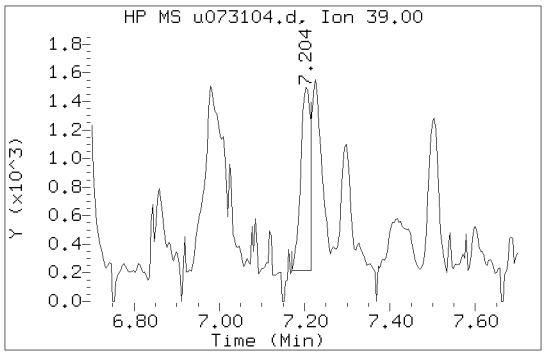
AFTER
MASS
77
AREA
1896
HEIGHT
808
01-Aug-2023
21:03



BEFORE
MASS
39
AREA
2085
HEIGHT
1283
01-Aug-2023
21:03



AFTER
MASS
39
AREA
2085
HEIGHT
1283
01-Aug-2023
21:03

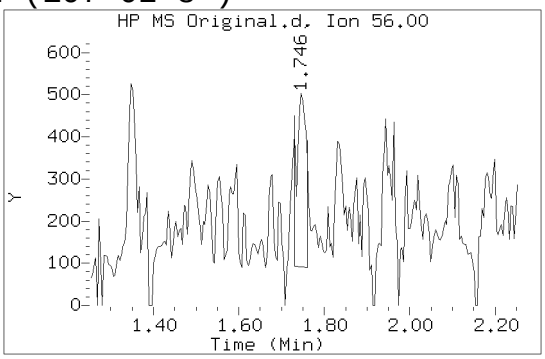


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Inj Date : 31-JUL-2023 12:37
InstruID : VOA9.i
LabSampID : VSTD001

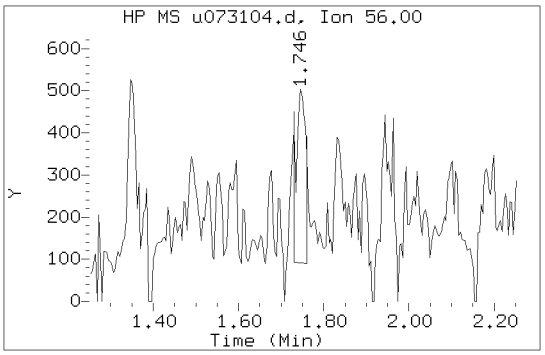
Acrolein (107-02-8)

Reason Code:

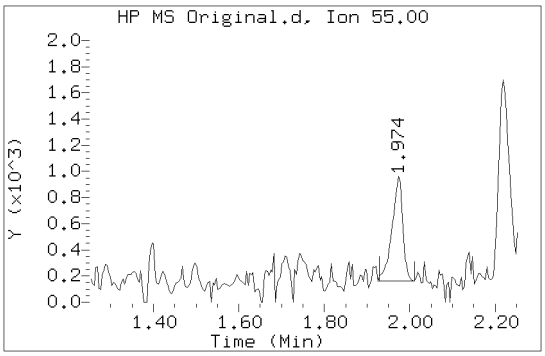
BEFORE
MASS
56
AREA
644
HEIGHT
412
01-Aug-2023
21:03



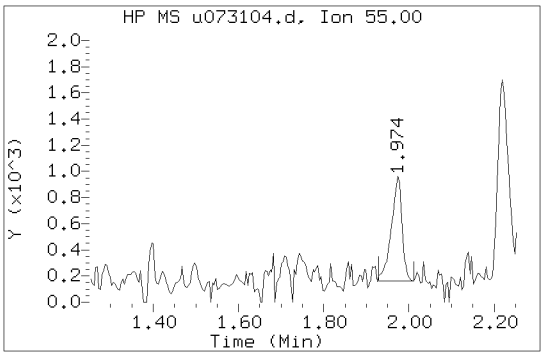
AFTER
MASS
56
AREA
644
HEIGHT
412
01-Aug-2023
21:03



BEFORE
MASS
55
AREA
1395
HEIGHT
799
01-Aug-2023
21:03



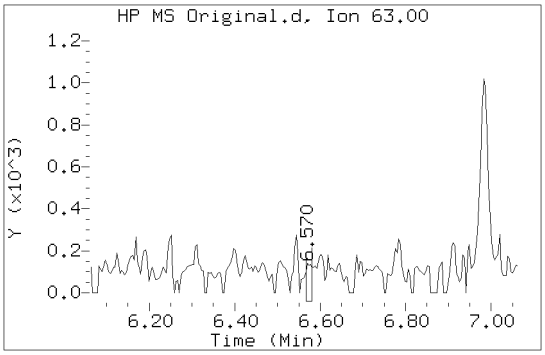
AFTER
MASS
55
AREA
1395
HEIGHT
799
01-Aug-2023
21:03



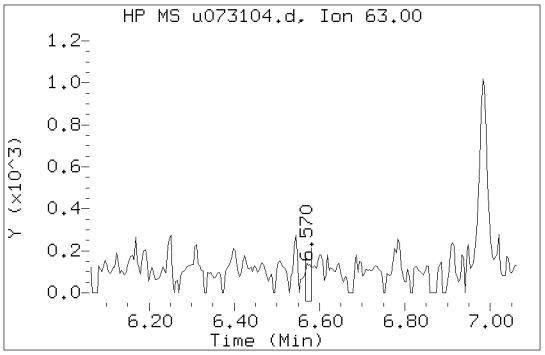
2-Chloroethylvinyl ether (110-75-8)

Reason Code:

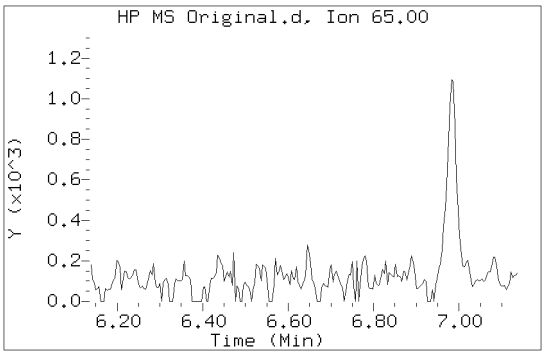
BEFORE
MASS
63
AREA
186
HEIGHT
180
01-Aug-2023
21:03



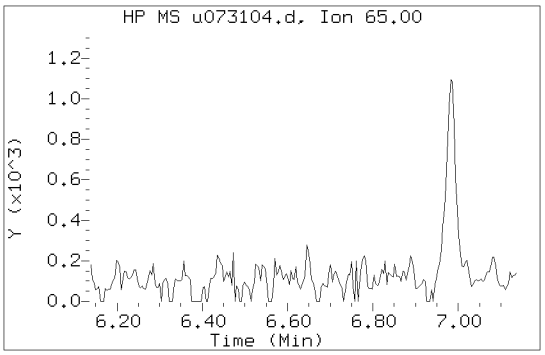
AFTER
MASS
63
AREA
186
HEIGHT
180
01-Aug-2023
21:03



BEFORE
MASS
65
AREA
0
HEIGHT
0
01-Aug-2023
21:03



AFTER
MASS
65
AREA
0
HEIGHT
0
01-Aug-2023
21:03



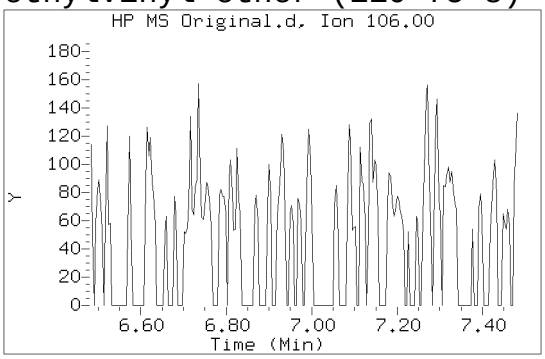
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Inj Date : 31-JUL-2023 12:37
InstruID : VOA9.i
LabSampID : VSTD001

2-Chloroethylvinyl ether (110-75-8)

Reason Code:

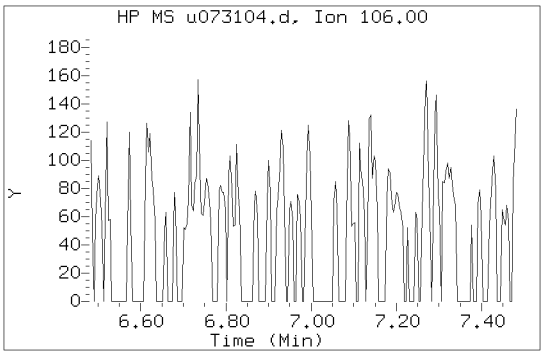
BEFORE

MASS
106
AREA
0
HEIGHT
0
01-Aug-2023
21:03



AFTER

MASS
106
AREA
0
HEIGHT
0
01-Aug-2023
21:03

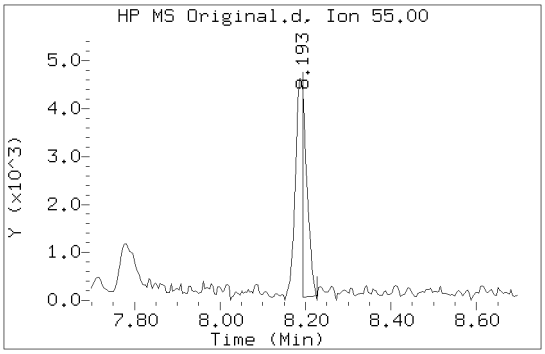


1-Chlorohexane (544-10-5)

Reason Code:

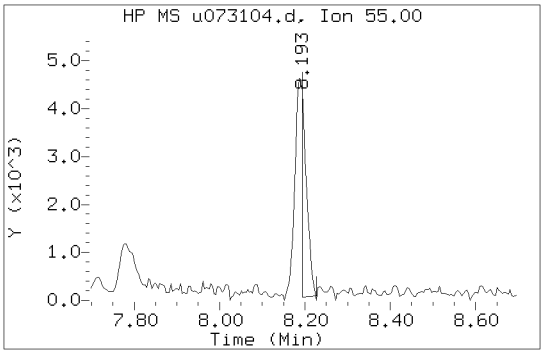
BEFORE

MASS
55
AREA
3774
HEIGHT
4298
01-Aug-2023
21:03



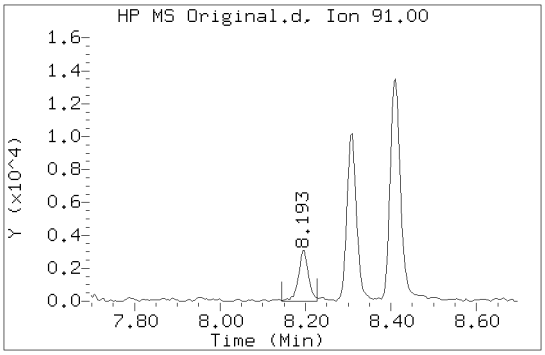
AFTER

MASS
55
AREA
3774
HEIGHT
4298
01-Aug-2023
21:03



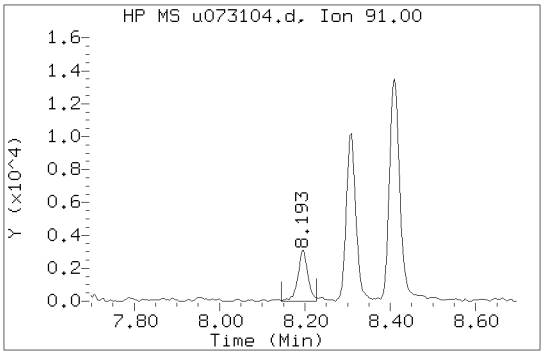
BEFORE

MASS
91
AREA
5195
HEIGHT
3103
01-Aug-2023
21:03



AFTER

MASS
91
AREA
5195
HEIGHT
3103
01-Aug-2023
21:03

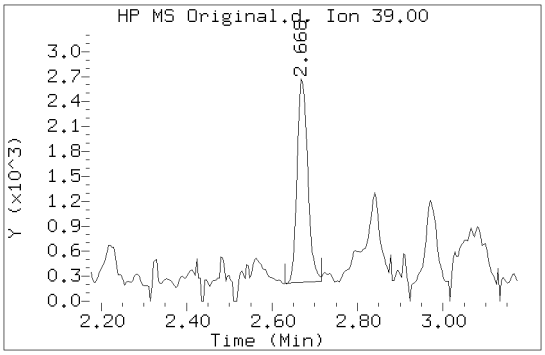


Acetonitrile (75-05-8)

Reason Code:

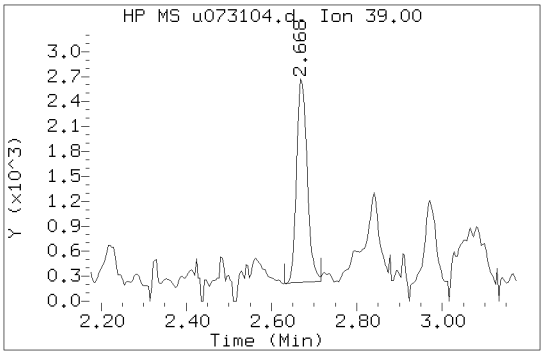
BEFORE

MASS
39
AREA
4337
HEIGHT
2446
01-Aug-2023
21:03



AFTER

MASS
39
AREA
4337
HEIGHT
2446
01-Aug-2023
21:03

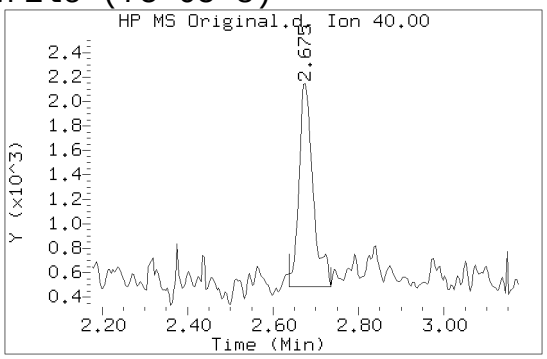


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Inj Date : 31-JUL-2023 12:37
InstruID : VOA9.i
LabSampID : VSTD001

Acetonitrile (75-05-8)

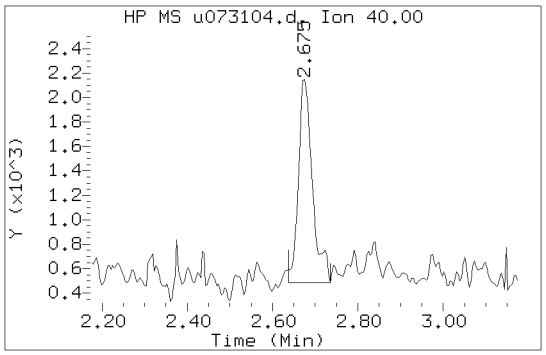
BEFORE

MASS
40
AREA
3852
HEIGHT
1660
01-Aug-2023
21:03



AFTER

MASS
40
AREA
3852
HEIGHT
1660
01-Aug-2023
21:03

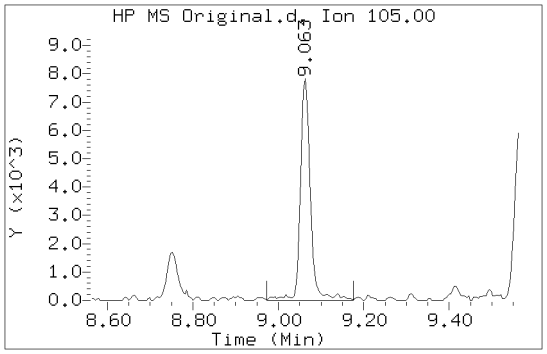


Reason Code:

Isopropylbenzene (98-82-8)

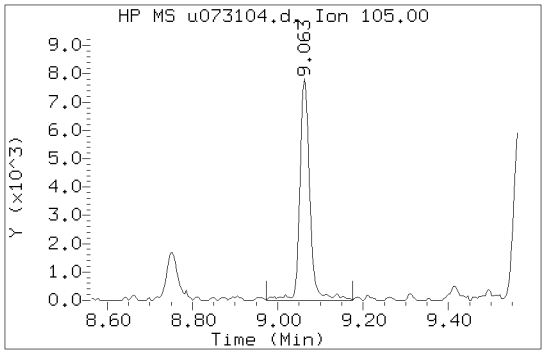
BEFORE

MASS
105
AREA
13094
HEIGHT
7826
01-Aug-2023
21:03



AFTER

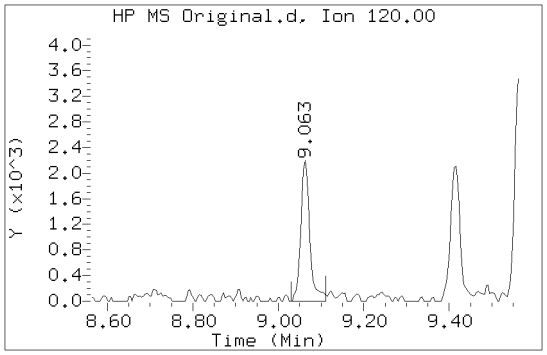
MASS
105
AREA
13094
HEIGHT
7826
01-Aug-2023
21:03



Reason Code:

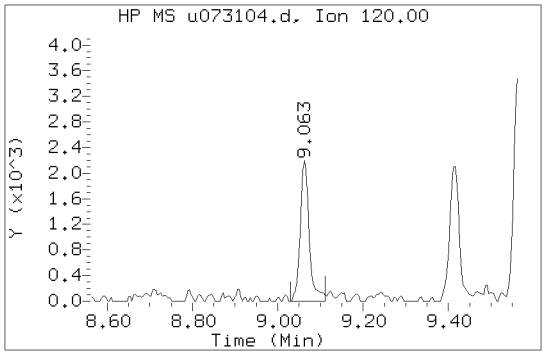
BEFORE

MASS
120
AREA
3316
HEIGHT
2197
01-Aug-2023
21:03



AFTER

MASS
120
AREA
3316
HEIGHT
2197
01-Aug-2023
21:03

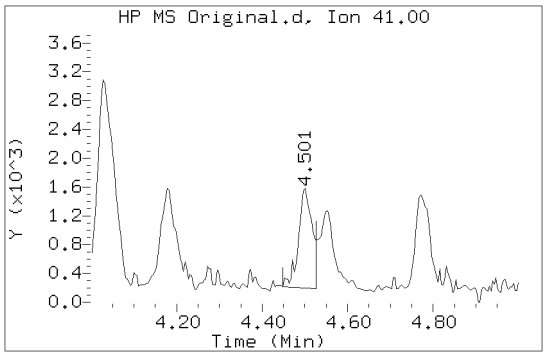


Reason Code:

Methacrylonitrile (126-98-7)

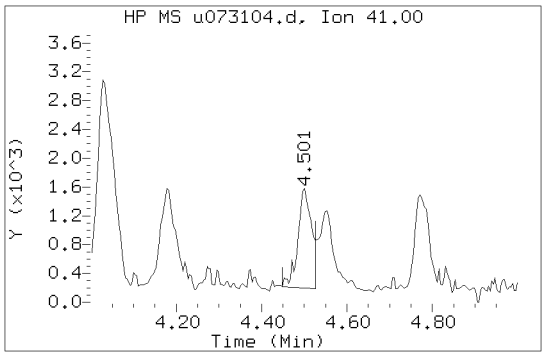
BEFORE

MASS
41
AREA
3171
HEIGHT
1385
01-Aug-2023
21:03



AFTER

MASS
41
AREA
3171
HEIGHT
1385
01-Aug-2023
21:03



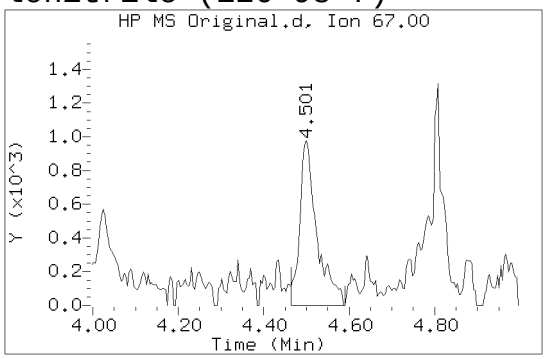
Reason Code:

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Inj Date : 31-JUL-2023 12:37
InstruID : VOA9.i
LabSampID : VSTD001

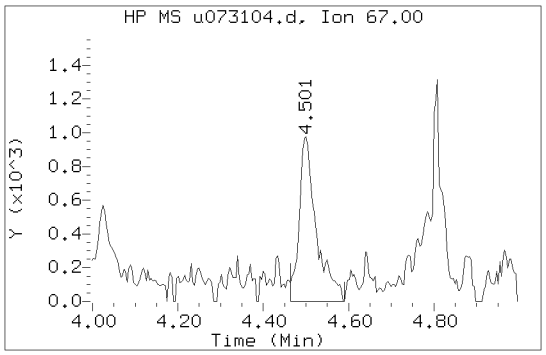
Methacrylonitrile (126-98-7)

Reason Code:

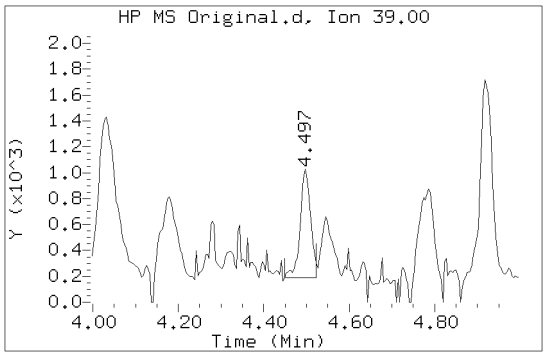
BEFORE
MASS
67
AREA
2773
HEIGHT
976
01-Aug-2023
21:03



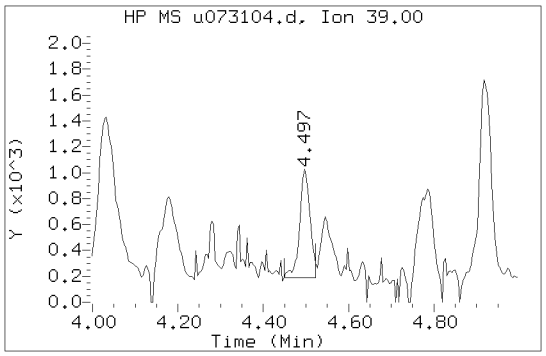
AFTER
MASS
67
AREA
2773
HEIGHT
976
01-Aug-2023
21:03



BEFORE
MASS
39
AREA
1452
HEIGHT
837
01-Aug-2023
21:03



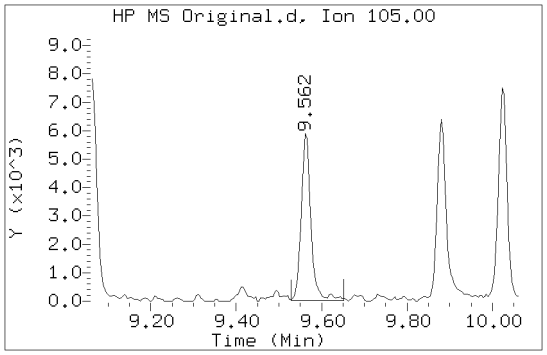
AFTER
MASS
39
AREA
1452
HEIGHT
837
01-Aug-2023
21:03



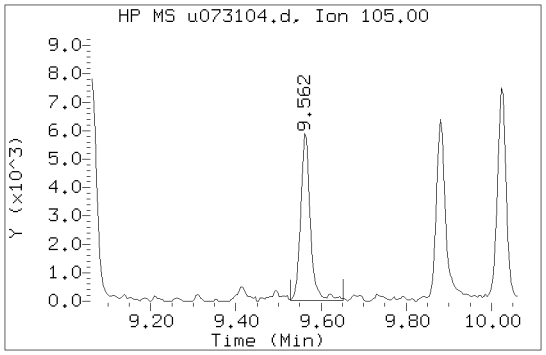
1,3,5-Trimethylbenzene (108-67-8)

Reason Code:

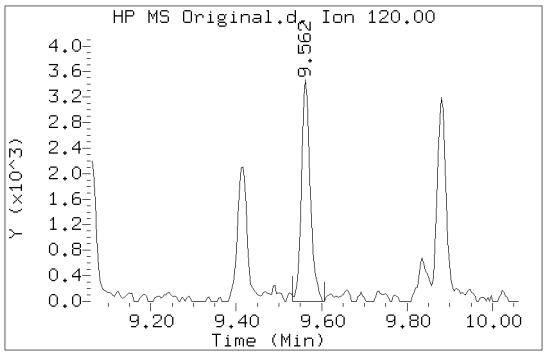
BEFORE
MASS
105
AREA
9434
HEIGHT
5884
01-Aug-2023
21:03



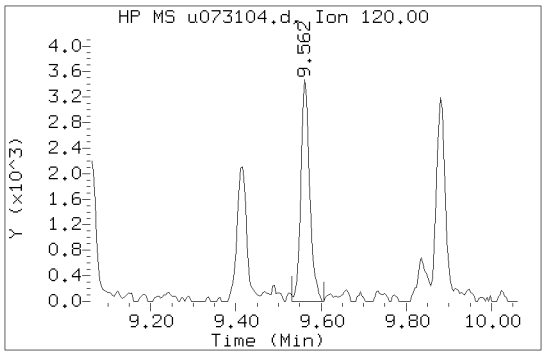
AFTER
MASS
105
AREA
9434
HEIGHT
5884
01-Aug-2023
21:03



BEFORE
MASS
120
AREA
5096
HEIGHT
3472
01-Aug-2023
21:03



AFTER
MASS
120
AREA
5096
HEIGHT
3472
01-Aug-2023
21:03

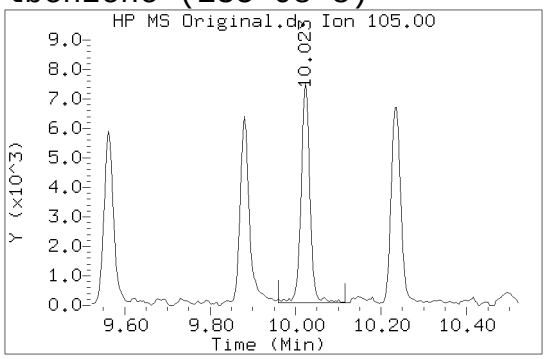


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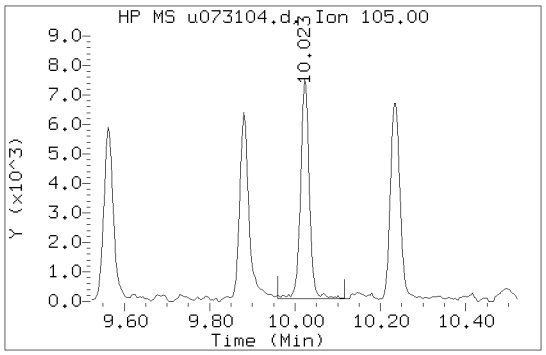
sec-Butylbenzene (135-98-8)

Reason Code:

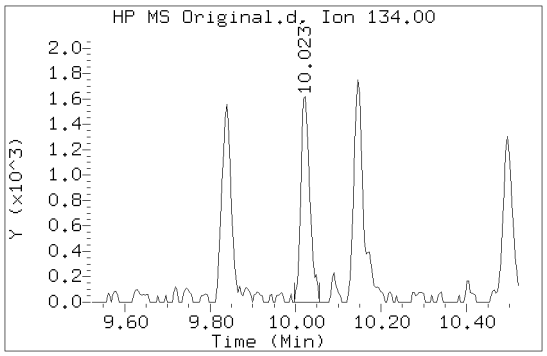
BEFORE
MASS
105
AREA
11030
HEIGHT
7439
01-Aug-2023
21:03



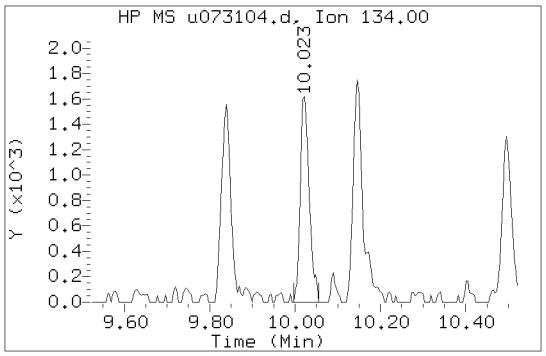
AFTER
MASS
105
AREA
11030
HEIGHT
7439
01-Aug-2023
21:03



BEFORE
MASS
134
AREA
2435
HEIGHT
1619
01-Aug-2023
21:03



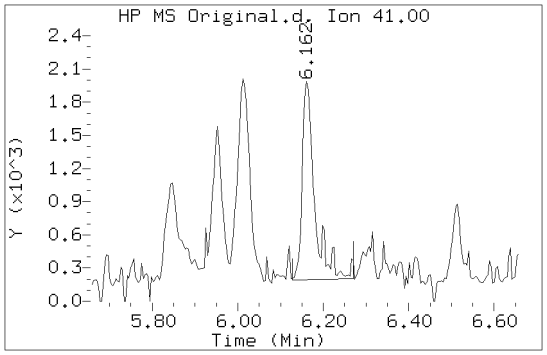
AFTER
MASS
134
AREA
2435
HEIGHT
1619
01-Aug-2023
21:03



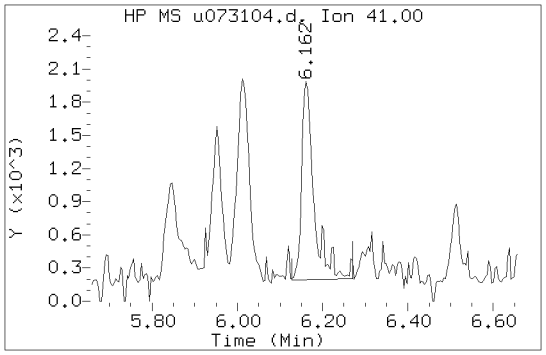
Methyl Methacrylate (80-62-6)

Reason Code:

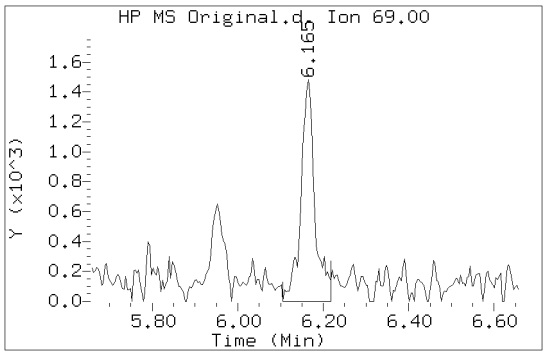
BEFORE
MASS
41
AREA
3713
HEIGHT
1791
01-Aug-2023
21:03



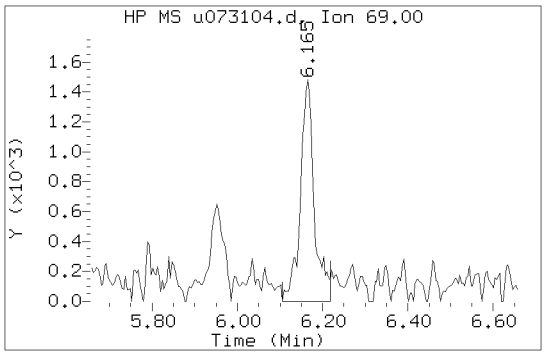
AFTER
MASS
41
AREA
3713
HEIGHT
1791
01-Aug-2023
21:03



BEFORE
MASS
69
AREA
3388
HEIGHT
1482
01-Aug-2023
21:03



AFTER
MASS
69
AREA
3388
HEIGHT
1482
01-Aug-2023
21:03

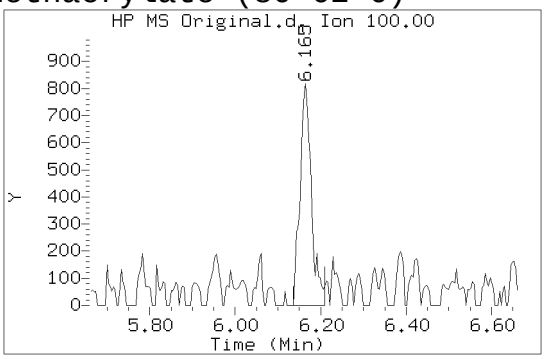


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LabSampID : VSTD001

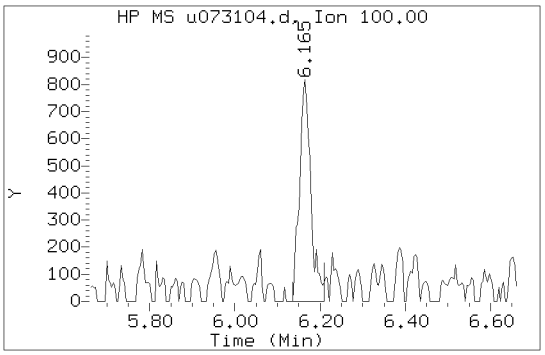
Methyl Methacrylate (80-62-6)

Reason Code:

BEFORE
MASS
100
AREA
1540
HEIGHT
818
01-Aug-2023
21:03



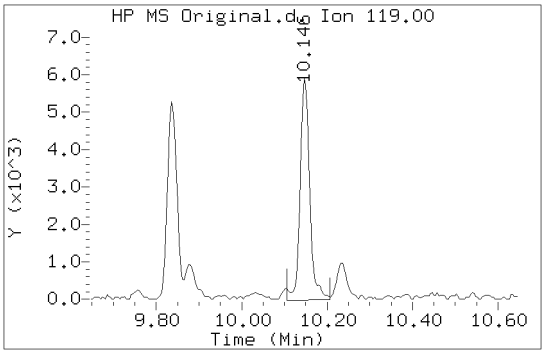
AFTER
MASS
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AREA
1540
HEIGHT
818
01-Aug-2023
21:03



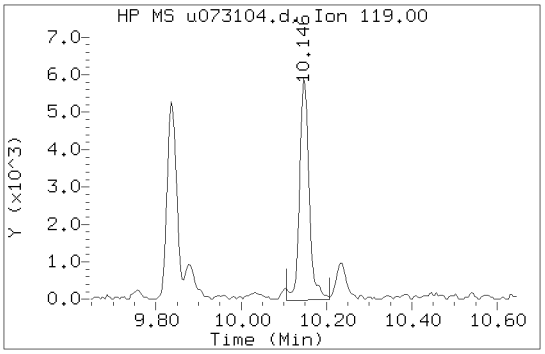
p-Isopropyltoluene (99-87-6)

Reason Code:

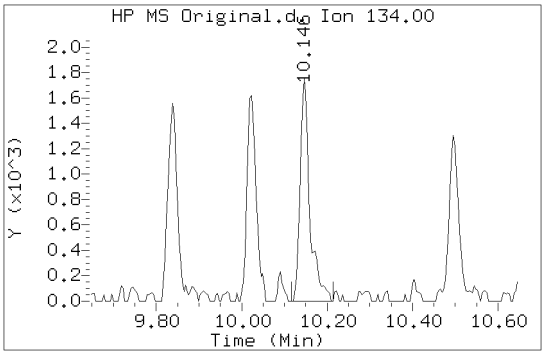
BEFORE
MASS
119
AREA
9596
HEIGHT
5914
01-Aug-2023
21:03



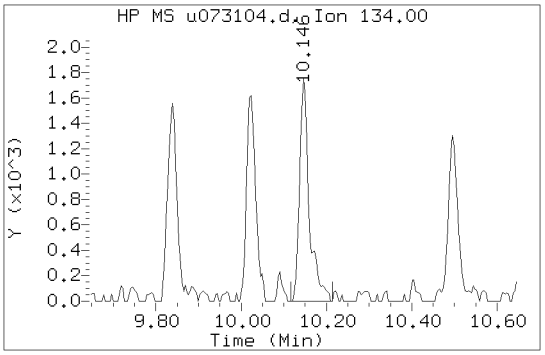
AFTER
MASS
119
AREA
9596
HEIGHT
5914
01-Aug-2023
21:03



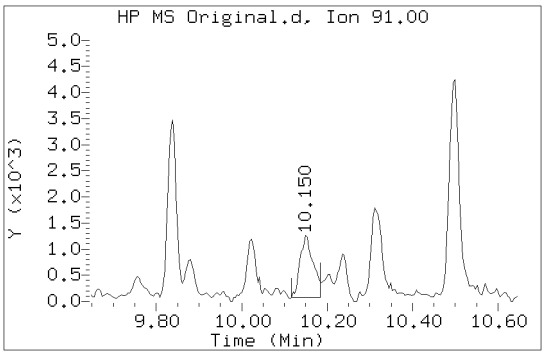
BEFORE
MASS
134
AREA
2851
HEIGHT
1749
01-Aug-2023
21:03



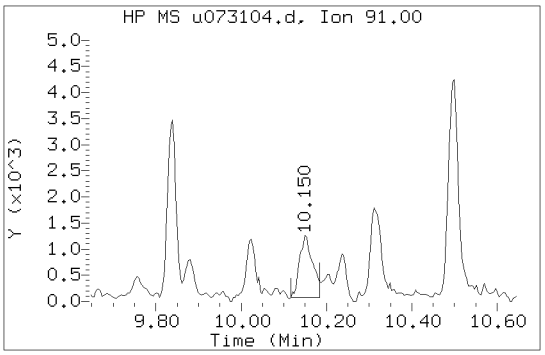
AFTER
MASS
134
AREA
2851
HEIGHT
1749
01-Aug-2023
21:03



BEFORE
MASS
91
AREA
2606
HEIGHT
1197
01-Aug-2023
21:03



AFTER
MASS
91
AREA
2606
HEIGHT
1197
01-Aug-2023
21:03

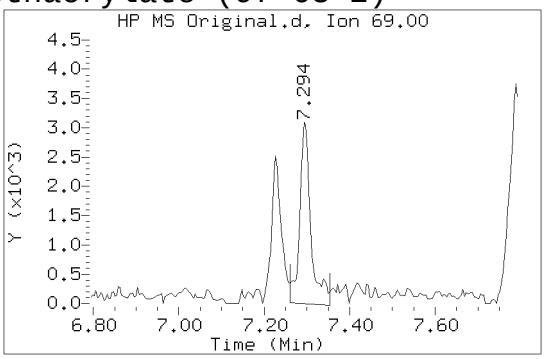


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InstruID : VOA9.i
LabSampID : VSTD001

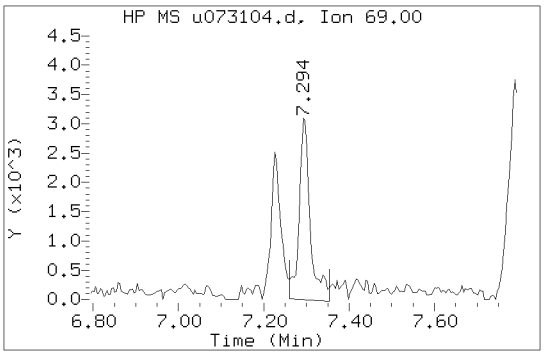
Ethyl Methacrylate (97-63-2)

Reason Code:

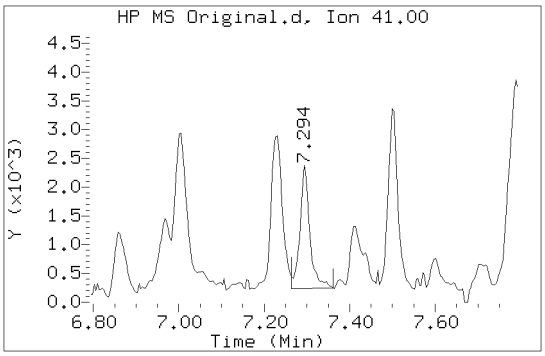
BEFORE
MASS
69
AREA
5777
HEIGHT
3094
01-Aug-2023
21:03



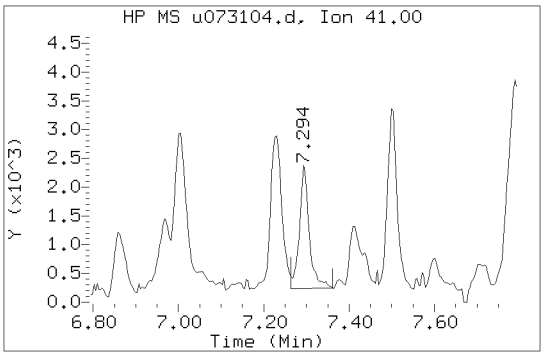
AFTER
MASS
69
AREA
5777
HEIGHT
3094
01-Aug-2023
21:03



BEFORE
MASS
41
AREA
3534
HEIGHT
2144
01-Aug-2023
21:03



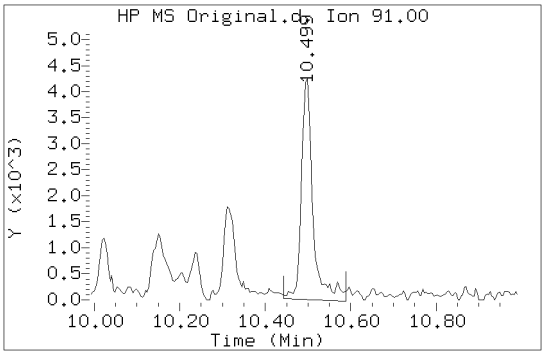
AFTER
MASS
41
AREA
3534
HEIGHT
2144
01-Aug-2023
21:03



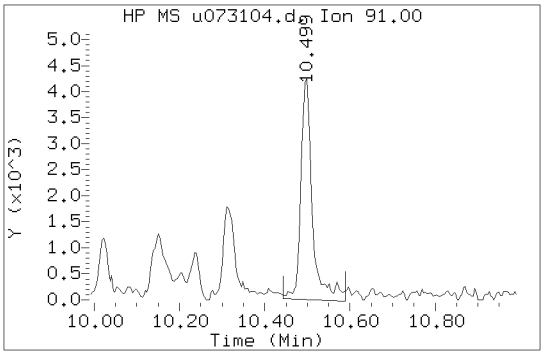
n-Butylbenzene (104-51-8)

Reason Code:

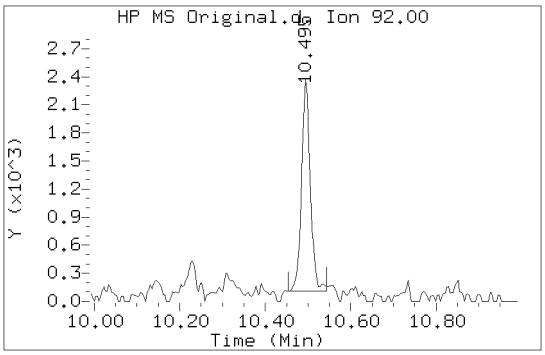
BEFORE
MASS
91
AREA
8159
HEIGHT
4243
01-Aug-2023
21:03



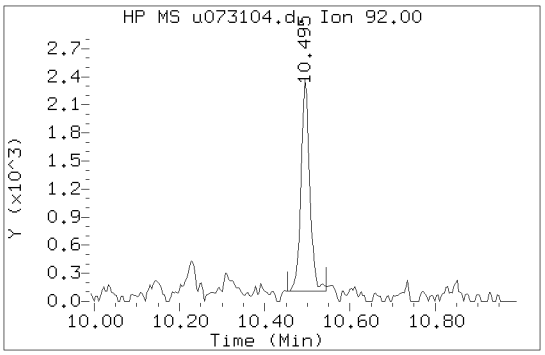
AFTER
MASS
91
AREA
8159
HEIGHT
4243
01-Aug-2023
21:03



BEFORE
MASS
92
AREA
3235
HEIGHT
2256
01-Aug-2023
21:03



AFTER
MASS
92
AREA
3235
HEIGHT
2256
01-Aug-2023
21:03

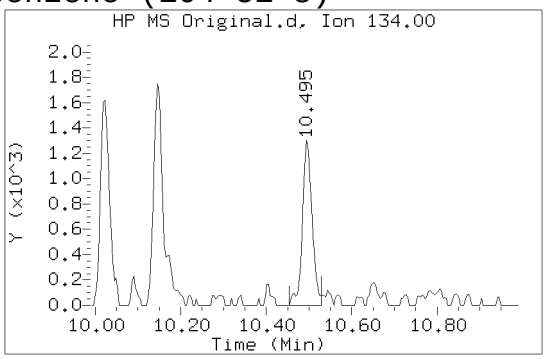


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InstruID : VOA9.i
LabSampID : VSTD001

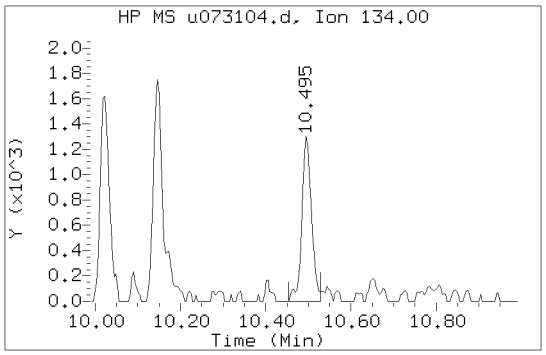
n-Butylbenzene (104-51-8)

Reason Code:

BEFORE
MASS
134
AREA
2081
HEIGHT
1306
01-Aug-2023
21:03



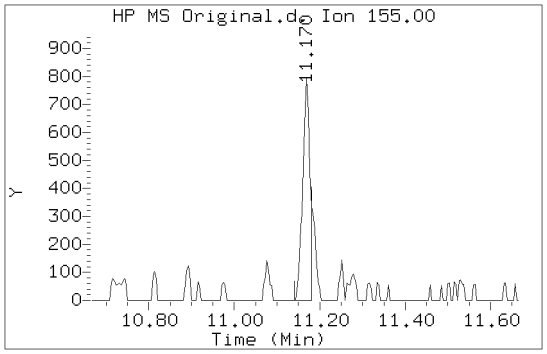
AFTER
MASS
134
AREA
2081
HEIGHT
1306
01-Aug-2023
21:03



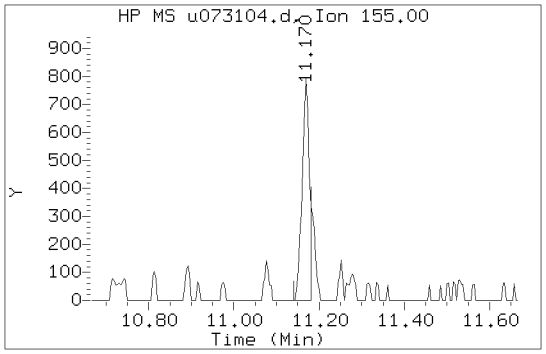
1,2-Dibromo-3-Chloropropane (96-12-8)

Reason Code:

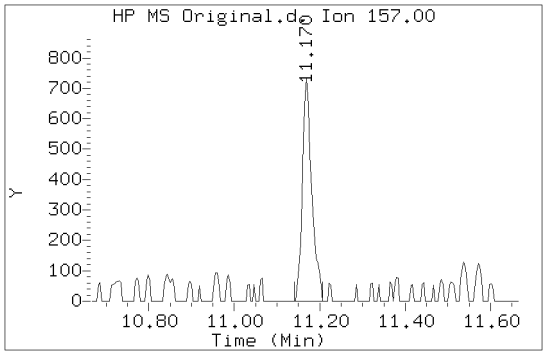
BEFORE
MASS
155
AREA
937
HEIGHT
792
01-Aug-2023
21:03



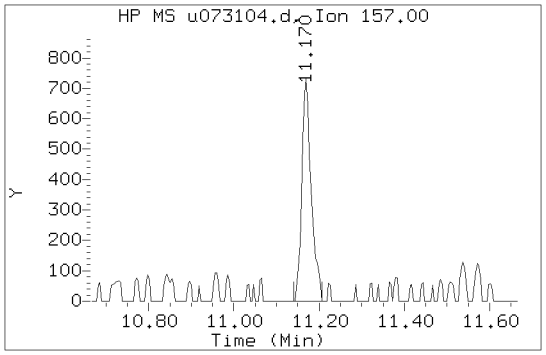
AFTER
MASS
155
AREA
937
HEIGHT
792
01-Aug-2023
21:03



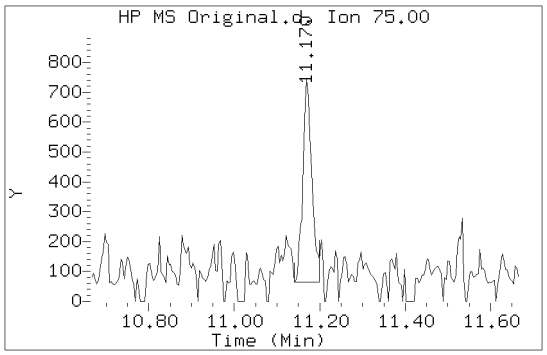
BEFORE
MASS
157
AREA
1135
HEIGHT
731
01-Aug-2023
21:03



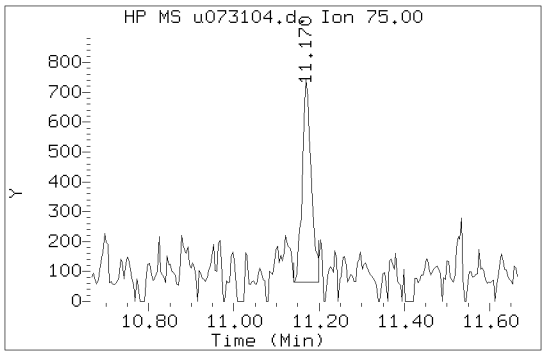
AFTER
MASS
157
AREA
1135
HEIGHT
731
01-Aug-2023
21:03



BEFORE
MASS
75
AREA
1000
HEIGHT
678
01-Aug-2023
21:03



AFTER
MASS
75
AREA
1000
HEIGHT
678
01-Aug-2023
21:03

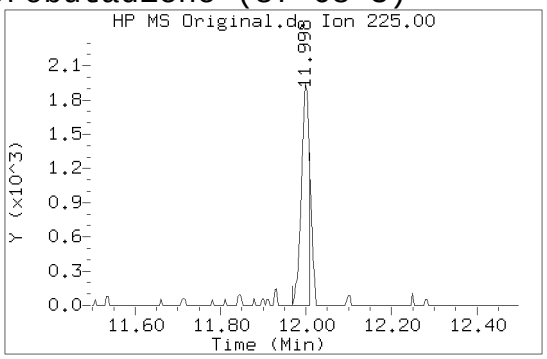


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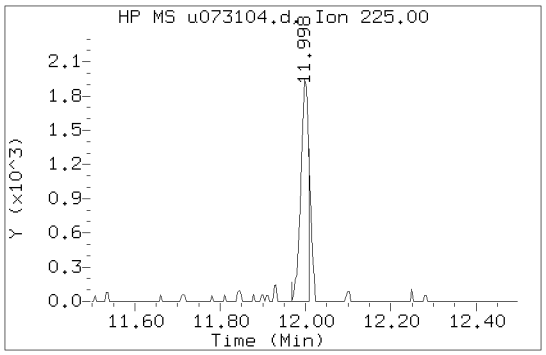
Hexachlorobutadiene (87-68-3)

Reason Code:

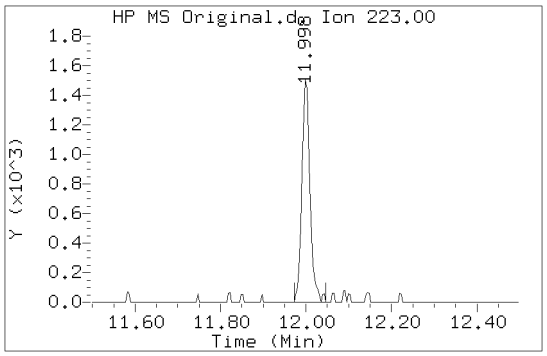
BEFORE
MASS
225
AREA
2531
HEIGHT
1943
01-Aug-2023
21:03



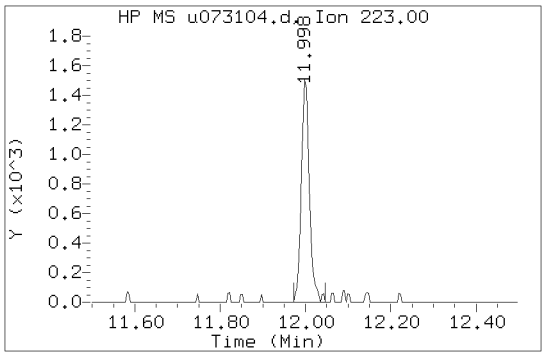
AFTER
MASS
225
AREA
2531
HEIGHT
1943
01-Aug-2023
21:03



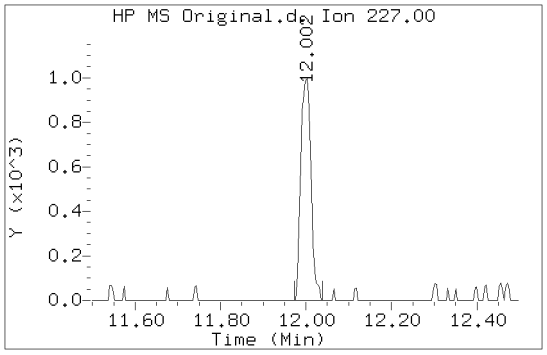
BEFORE
MASS
223
AREA
2053
HEIGHT
1504
01-Aug-2023
21:03



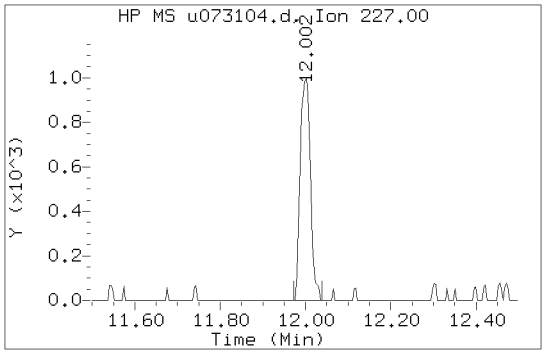
AFTER
MASS
223
AREA
2053
HEIGHT
1504
01-Aug-2023
21:03



BEFORE
MASS
227
AREA
1706
HEIGHT
996
01-Aug-2023
21:03



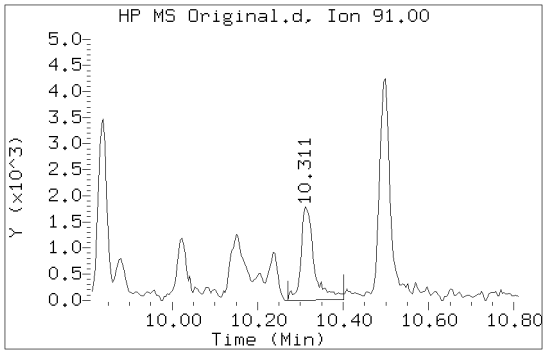
AFTER
MASS
227
AREA
1706
HEIGHT
996
01-Aug-2023
21:03



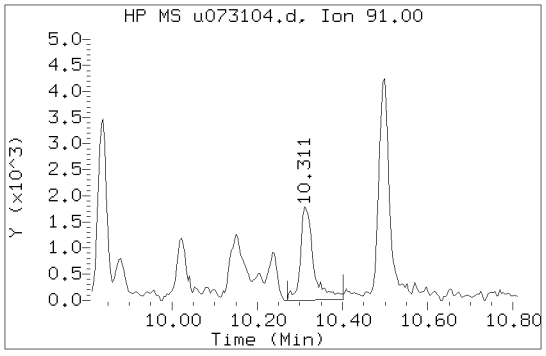
Benzyl Chloride (100-44-7)

Reason Code:

BEFORE
MASS
91
AREA
3936
HEIGHT
1789
01-Aug-2023
21:03



AFTER
MASS
91
AREA
3936
HEIGHT
1789
01-Aug-2023
21:03

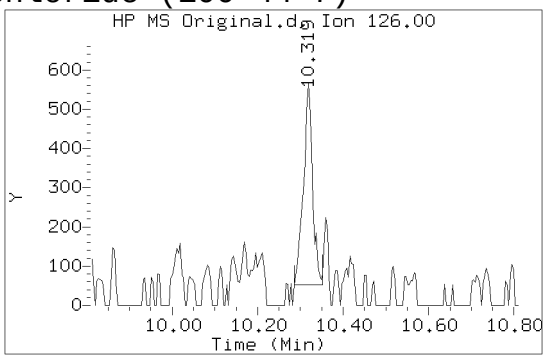


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InstruID : VOA9.i
LabSampID : VSTD001

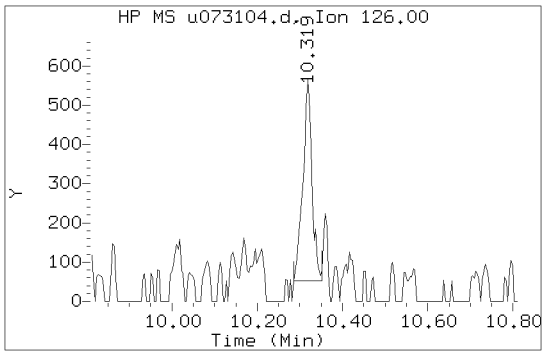
Benzyl Chloride (100-44-7)

Reason Code:

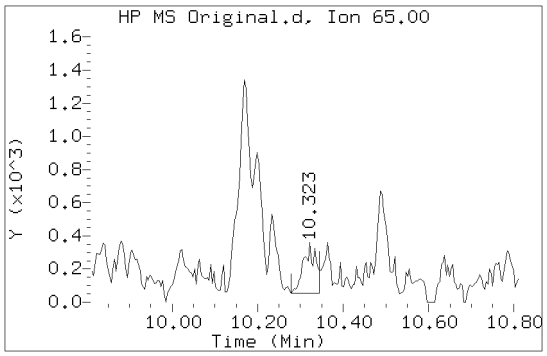
BEFORE
MASS
126
AREA
770
HEIGHT
513
01-Aug-2023
21:03



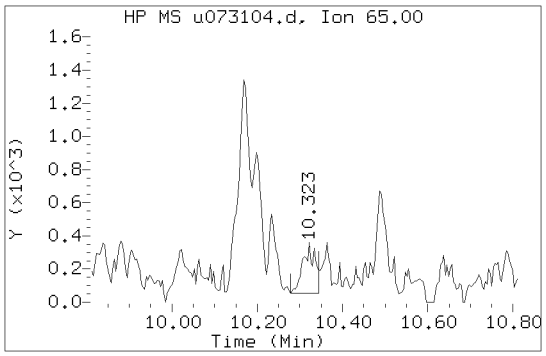
AFTER
MASS
126
AREA
770
HEIGHT
513
01-Aug-2023
21:03



BEFORE
MASS
65
AREA
603
HEIGHT
305
01-Aug-2023
21:03



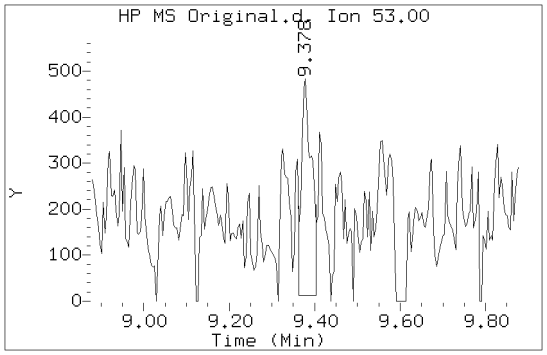
AFTER
MASS
65
AREA
603
HEIGHT
305
01-Aug-2023
21:03



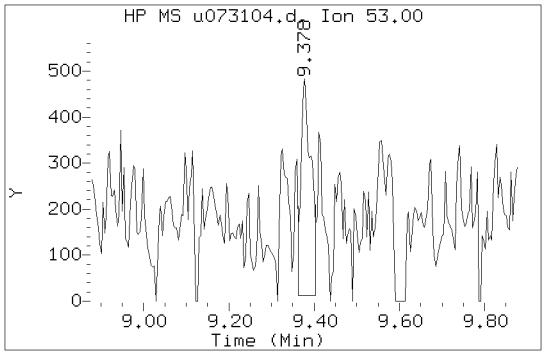
trans-1,4-Dichloro-2-butene (110-57-6)

Reason Code:

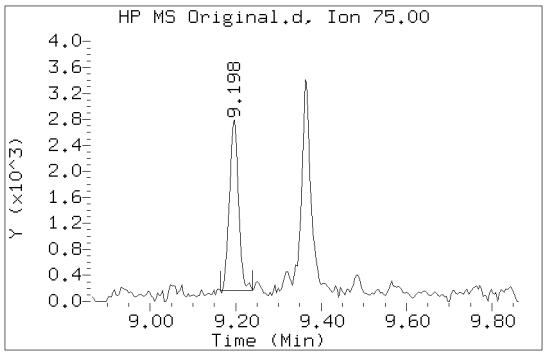
BEFORE
MASS
53
AREA
801
HEIGHT
471
01-Aug-2023
21:03



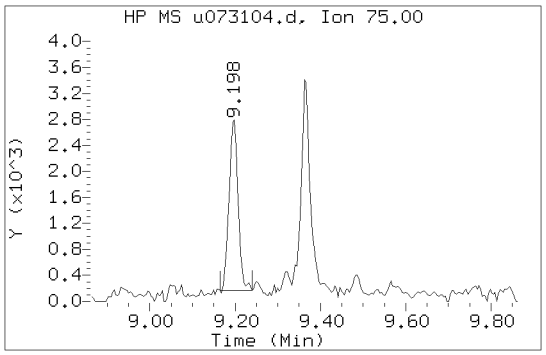
AFTER
MASS
53
AREA
801
HEIGHT
471
01-Aug-2023
21:03



BEFORE
MASS
75
AREA
3893
HEIGHT
2625
01-Aug-2023
21:03



AFTER
MASS
75
AREA
3893
HEIGHT
2625
01-Aug-2023
21:03

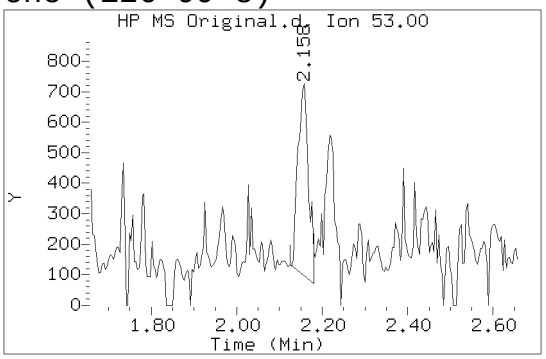


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LabSampID : VSTD001

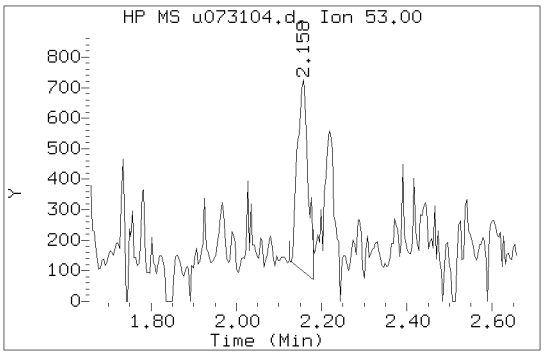
Chloroprene (126-99-8)

Reason Code:

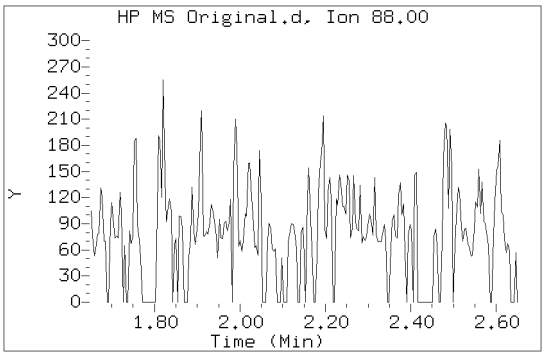
BEFORE
MASS
53
AREA
1093
HEIGHT
628
01-Aug-2023
21:03



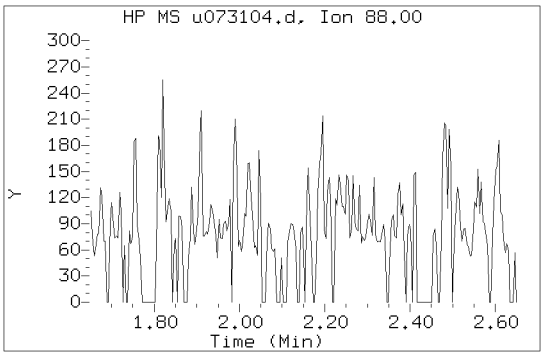
AFTER
MASS
53
AREA
1093
HEIGHT
628
01-Aug-2023
21:03



BEFORE
MASS
88
AREA
0
HEIGHT
0
01-Aug-2023
21:03



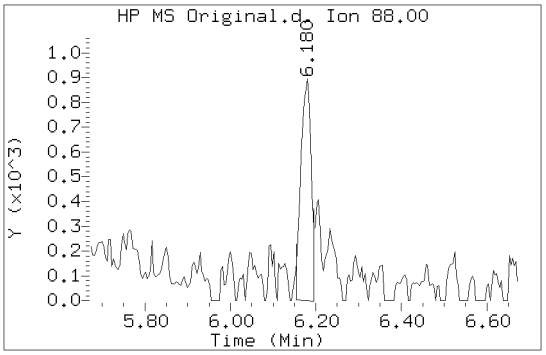
AFTER
MASS
88
AREA
0
HEIGHT
0
01-Aug-2023
21:03



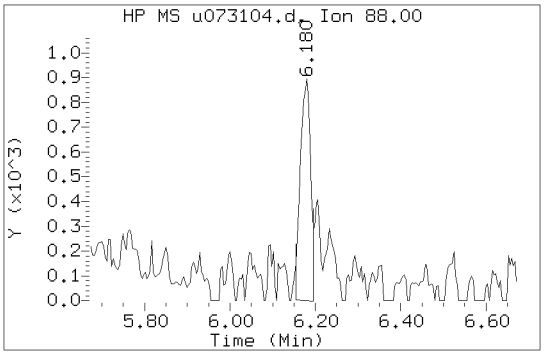
1,4-Dioxane ()

Reason Code:

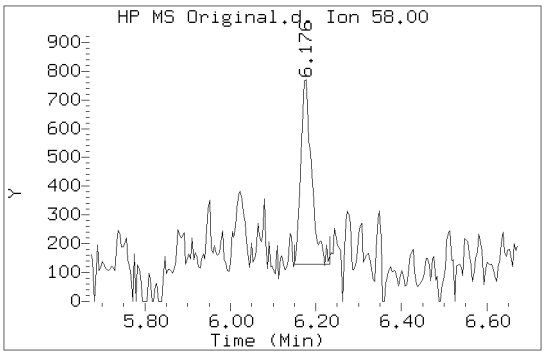
BEFORE
MASS
88
AREA
1547
HEIGHT
895
01-Aug-2023
21:03



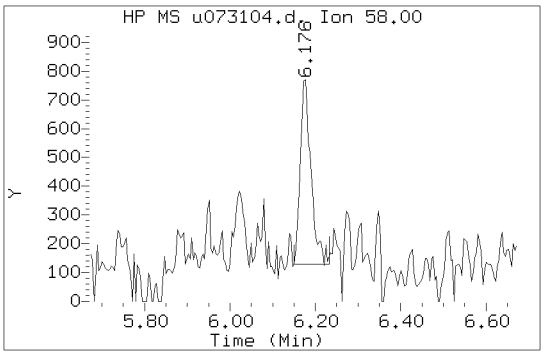
AFTER
MASS
88
AREA
1547
HEIGHT
895
01-Aug-2023
21:03



BEFORE
MASS
58
AREA
1142
HEIGHT
640
01-Aug-2023
21:03



AFTER
MASS
58
AREA
1142
HEIGHT
640
01-Aug-2023
21:03

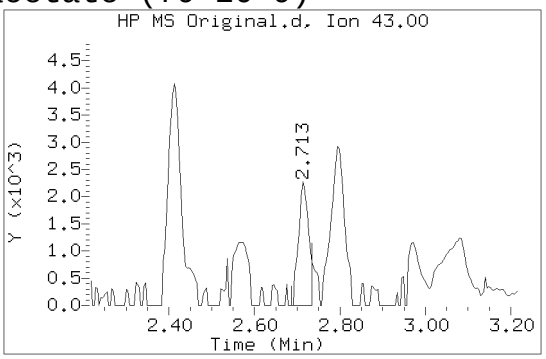


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Inj Date : 31-JUL-2023 12:37
InstruID : VOA9.i
LabSampID : VSTD001

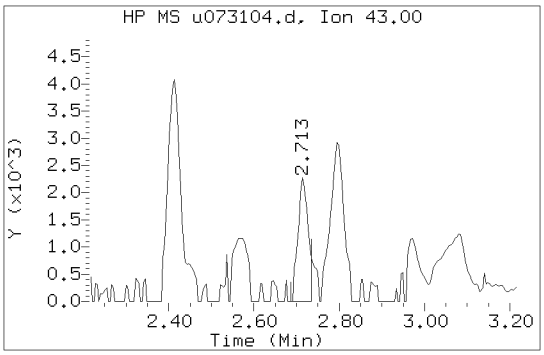
Methyl acetate (79-20-9)

Reason Code:

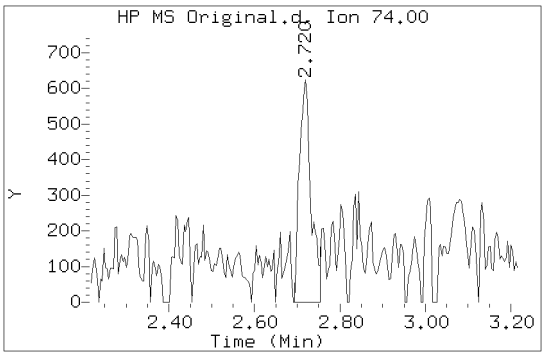
BEFORE
MASS
43
AREA
3863
HEIGHT
2276
01-Aug-2023
21:03



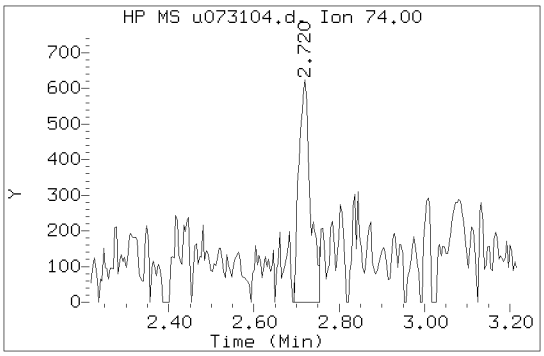
AFTER
MASS
43
AREA
3863
HEIGHT
2276
01-Aug-2023
21:03



BEFORE
MASS
74
AREA
1206
HEIGHT
624
01-Aug-2023
21:03



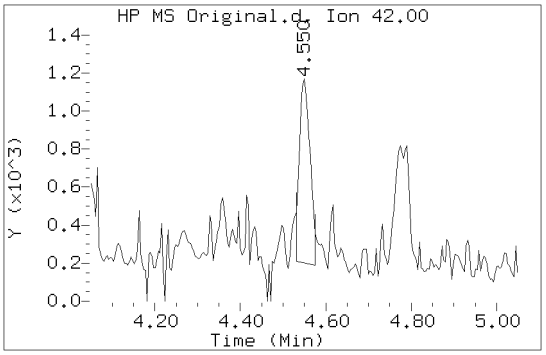
AFTER
MASS
74
AREA
1206
HEIGHT
624
01-Aug-2023
21:03



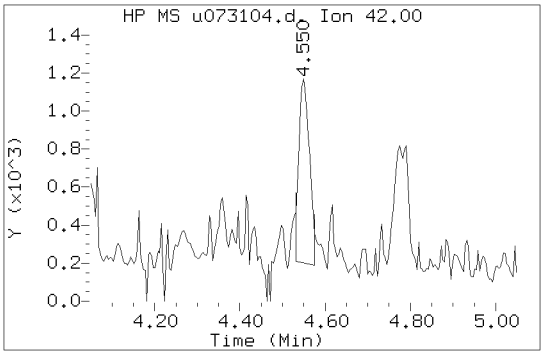
Tetrahydrofuran (109-99-9)

Reason Code:

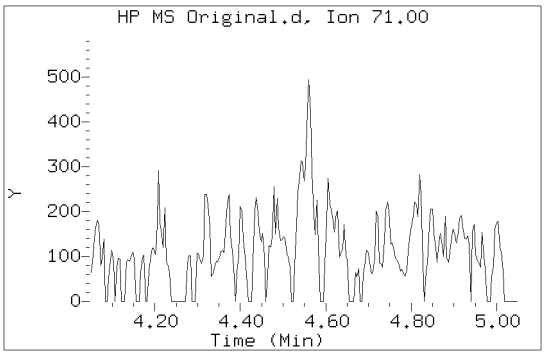
BEFORE
MASS
42
AREA
1750
HEIGHT
968
01-Aug-2023
21:03



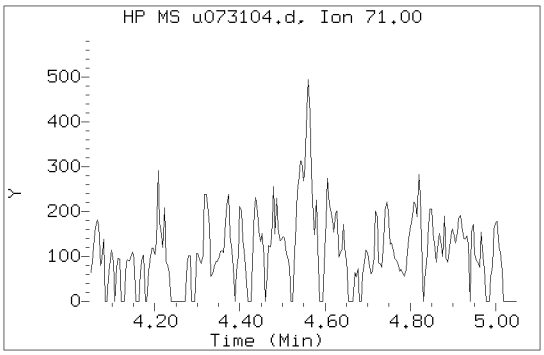
AFTER
MASS
42
AREA
1750
HEIGHT
968
01-Aug-2023
21:03



BEFORE
MASS
71
AREA
0
HEIGHT
0
01-Aug-2023
21:03



AFTER
MASS
71
AREA
0
HEIGHT
0
01-Aug-2023
21:03

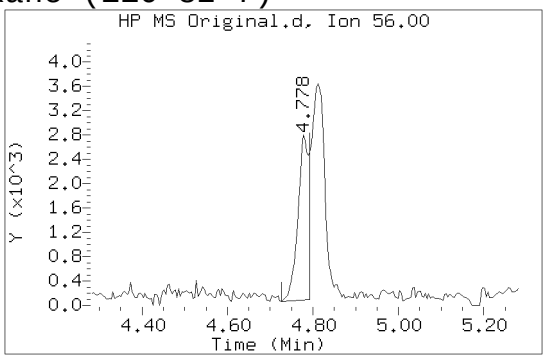


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Inj Date : 31-JUL-2023 12:37
InstruID : VOA9.i
LabSampID : VSTD001

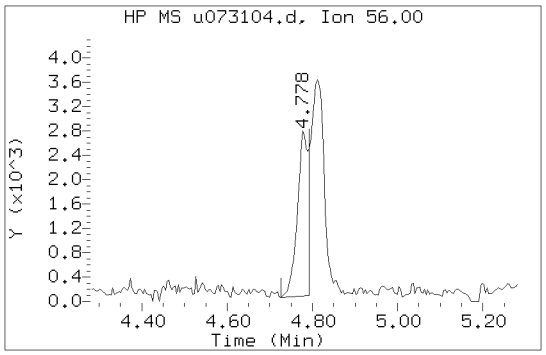
Cyclohexane (110-82-7)

Reason Code:

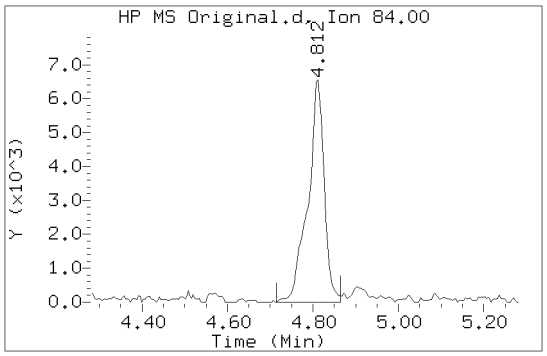
BEFORE
MASS
56
AREA
5131
HEIGHT
2714
01-Aug-2023
21:03



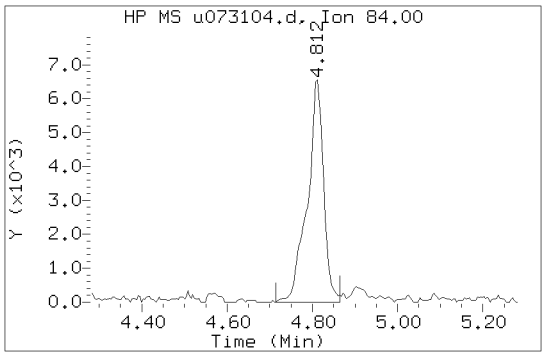
AFTER
MASS
56
AREA
5131
HEIGHT
2714
01-Aug-2023
21:03



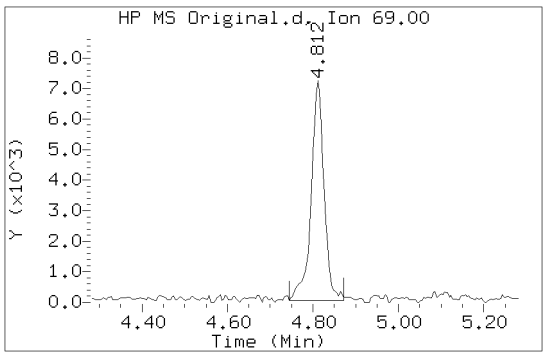
BEFORE
MASS
84
AREA
17428
HEIGHT
6555
01-Aug-2023
21:03



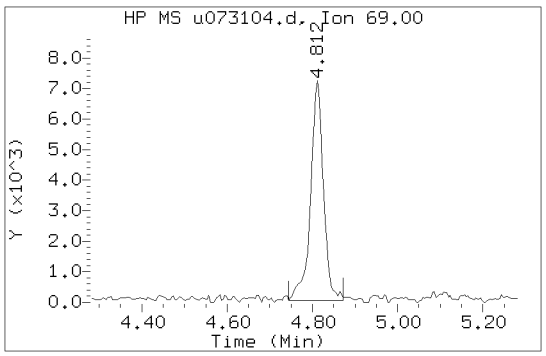
AFTER
MASS
84
AREA
17428
HEIGHT
6555
01-Aug-2023
21:03



BEFORE
MASS
69
AREA
15053
HEIGHT
7181
01-Aug-2023
21:03



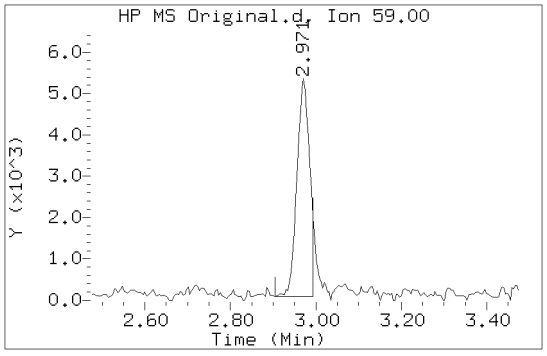
AFTER
MASS
69
AREA
15053
HEIGHT
7181
01-Aug-2023
21:03



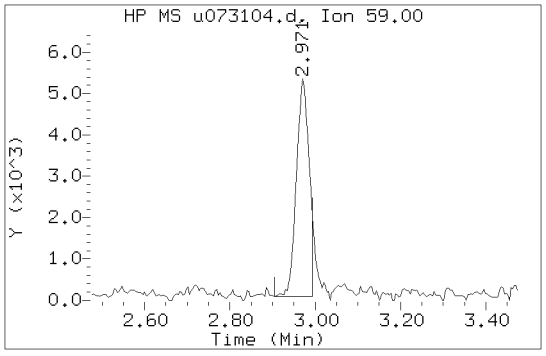
Tert-butyl alcohol (75-65-0)

Reason Code:

BEFORE
MASS
59
AREA
11049
HEIGHT
5265
01-Aug-2023
21:03



AFTER
MASS
59
AREA
11049
HEIGHT
5265
01-Aug-2023
21:03

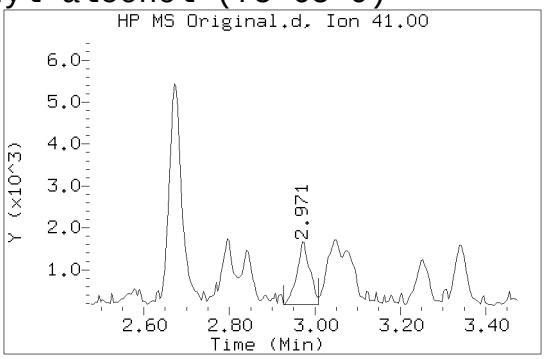


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Inj Date : 31-JUL-2023 12:37
InstruID : VOA9.i
LabSampID : VSTD001

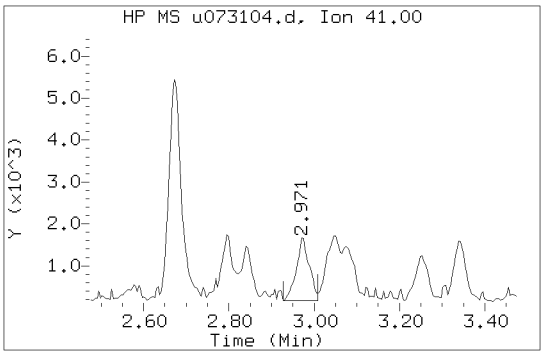
Tert-butyl alcohol (75-65-0)

Reason Code:

BEFORE
MASS
41
AREA
3230
HEIGHT
1503
01-Aug-2023
21:03



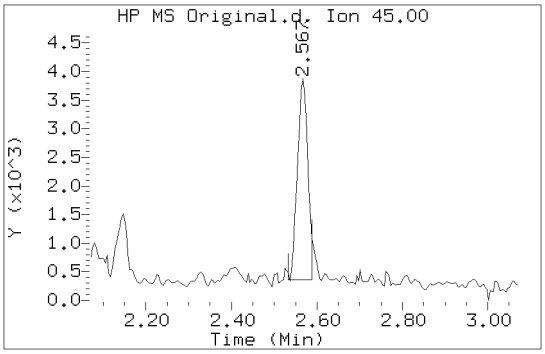
AFTER
MASS
41
AREA
3230
HEIGHT
1503
01-Aug-2023
21:03



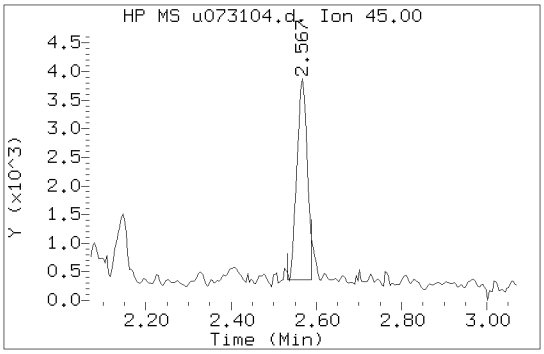
Isopropyl alcohol (67-63-0)

Reason Code:

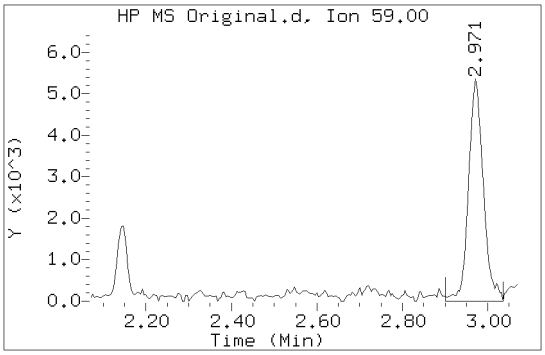
BEFORE
MASS
45
AREA
6059
HEIGHT
3513
01-Aug-2023
21:03



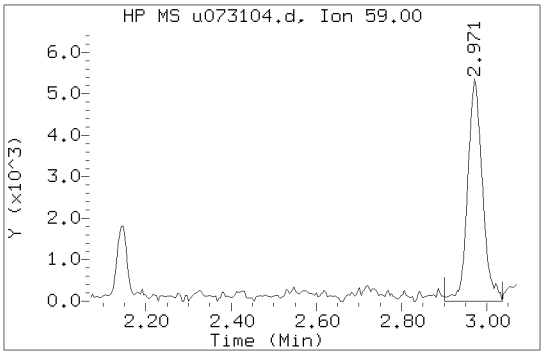
AFTER
MASS
45
AREA
6059
HEIGHT
3513
01-Aug-2023
21:03



BEFORE
MASS
59
AREA
12887
HEIGHT
5360
01-Aug-2023
21:03



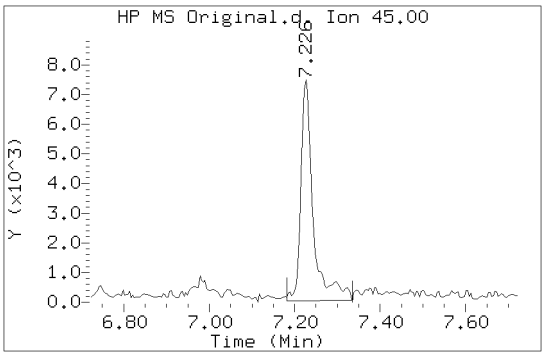
AFTER
MASS
59
AREA
12887
HEIGHT
5360
01-Aug-2023
21:03



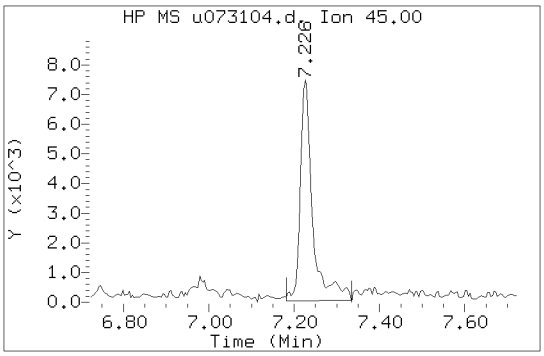
4-Methyl-2-pentanol (108-11-2)

Reason Code:

BEFORE
MASS
45
AREA
15329
HEIGHT
7450
01-Aug-2023
21:03



AFTER
MASS
45
AREA
15329
HEIGHT
7450
01-Aug-2023
21:03



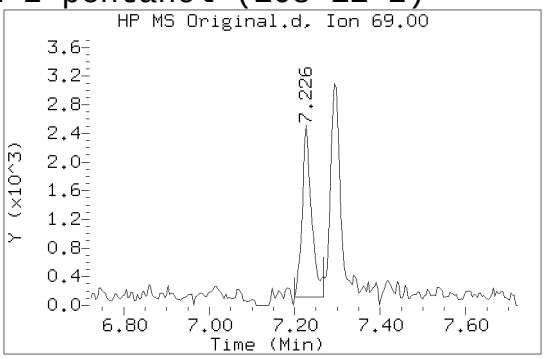
Data File : \\nahstws005\target\chem\voa9.i\u230731.b\u073104.d
Inj Date : 31-JUL-2023 12:37
InstruID : VOA9.i
LabSampID : VSTD001

4-Methyl-2-pentanol (108-11-2)

Reason Code:

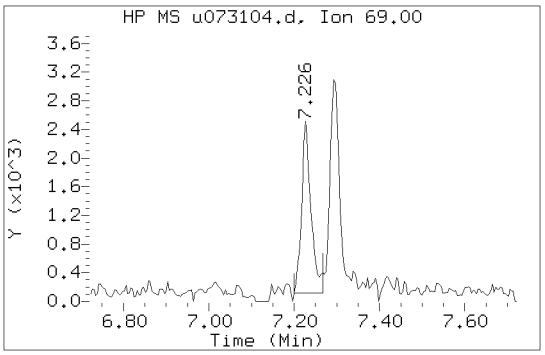
BEFORE

MASS
69
AREA
3745
HEIGHT
2396
01-Aug-2023
21:03



AFTER

MASS
69
AREA
3745
HEIGHT
2396
01-Aug-2023
21:03

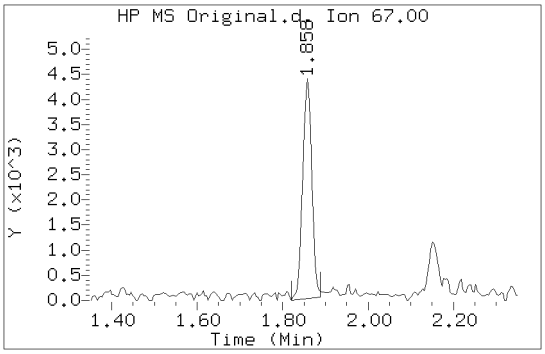


Dichlorofluoromethane (75-43-4)

Reason Code:

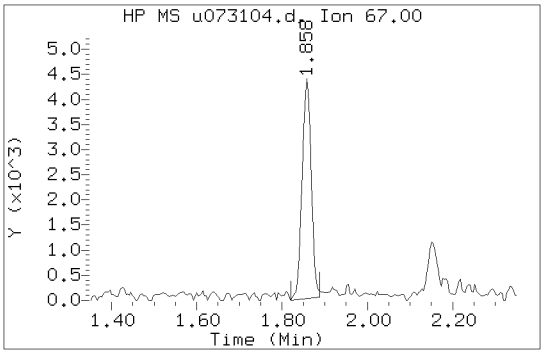
BEFORE

MASS
67
AREA
6714
HEIGHT
4377
01-Aug-2023
21:03



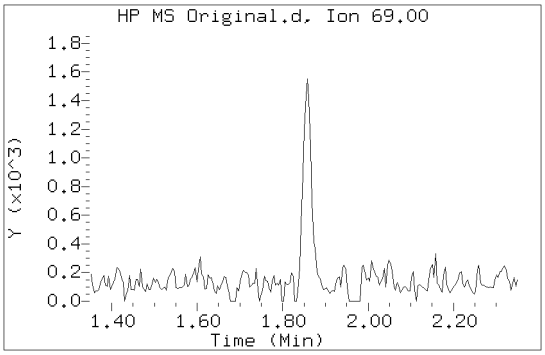
AFTER

MASS
67
AREA
6714
HEIGHT
4377
01-Aug-2023
21:03



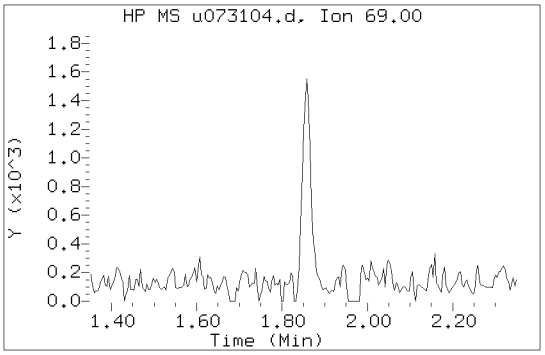
BEFORE

MASS
69
AREA
0
HEIGHT
0
01-Aug-2023
21:03



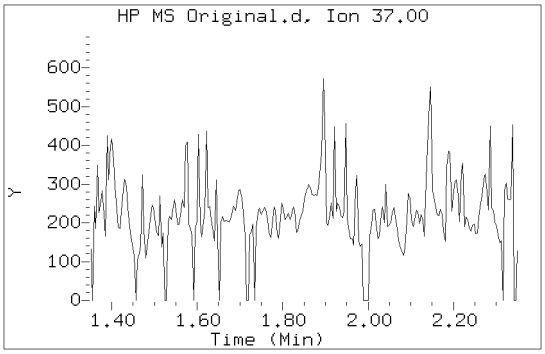
AFTER

MASS
69
AREA
0
HEIGHT
0
01-Aug-2023
21:03



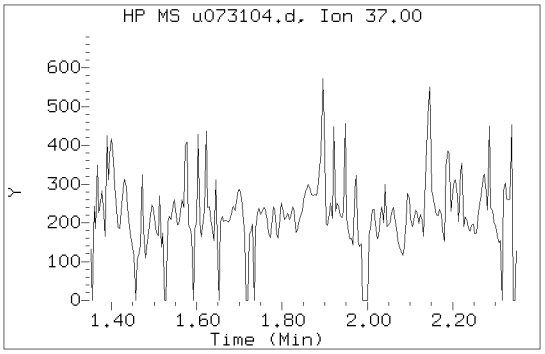
BEFORE

MASS
37
AREA
0
HEIGHT
0
01-Aug-2023
21:03



AFTER

MASS
37
AREA
0
HEIGHT
0
01-Aug-2023
21:03

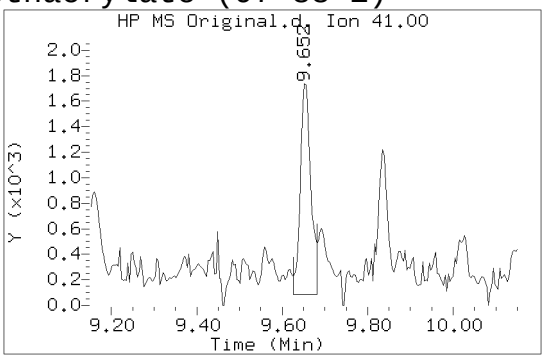


Data File : \\nahstws005\target\chem\voa9.i\u230731.b\u073104.d
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InstruID : VOA9.i
LabSampID : VSTD001

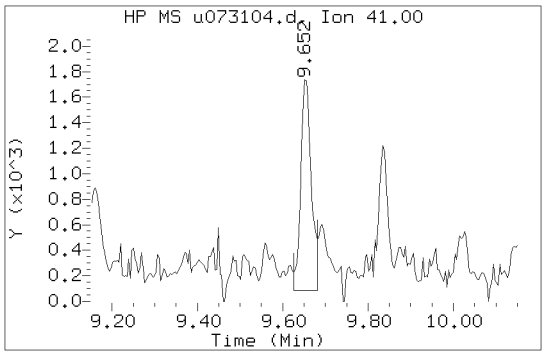
Butyl methacrylate (97-88-1)

Reason Code:

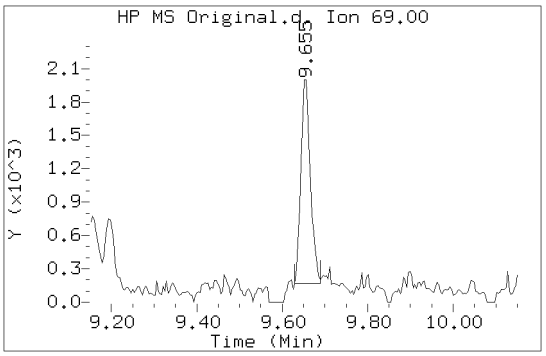
BEFORE
MASS
41
AREA
2947
HEIGHT
1653
01-Aug-2023
21:03



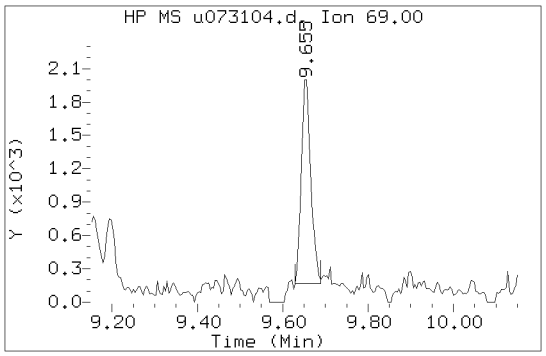
AFTER
MASS
41
AREA
2947
HEIGHT
1653
01-Aug-2023
21:03



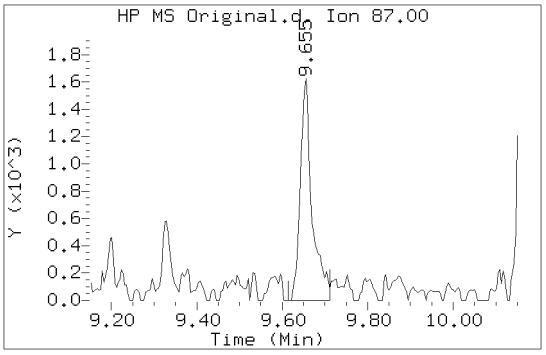
BEFORE
MASS
69
AREA
2894
HEIGHT
1829
01-Aug-2023
21:03



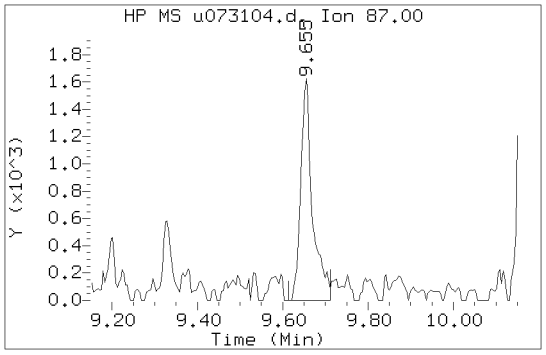
AFTER
MASS
69
AREA
2894
HEIGHT
1829
01-Aug-2023
21:03



BEFORE
MASS
87
AREA
3159
HEIGHT
1624
01-Aug-2023
21:03



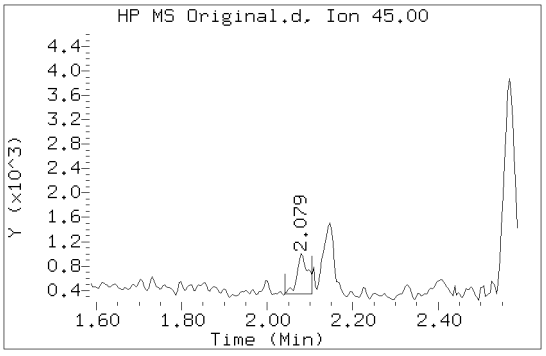
AFTER
MASS
87
AREA
3159
HEIGHT
1624
01-Aug-2023
21:03



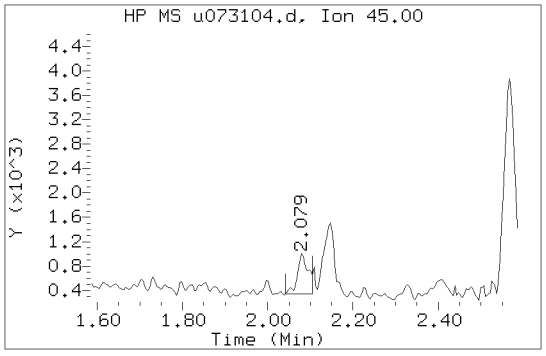
Ethanol (64-17-5)

Reason Code:

BEFORE
MASS
45
AREA
1210
HEIGHT
667
01-Aug-2023
21:03



AFTER
MASS
45
AREA
1210
HEIGHT
667
01-Aug-2023
21:03

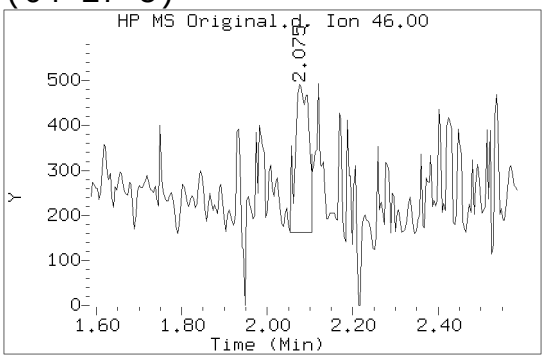


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Inj Date : 31-JUL-2023 12:37
InstruID : VOA9.i
LabSampID : VSTD001

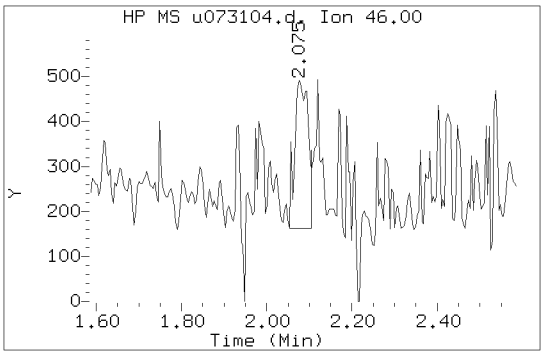
Ethanol (64-17-5)

Reason Code:

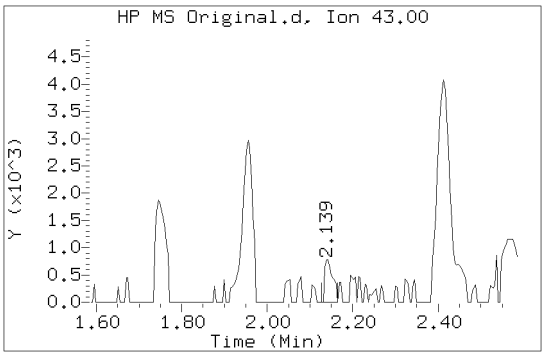
BEFORE
MASS
46
AREA
740
HEIGHT
329
01-Aug-2023
21:03



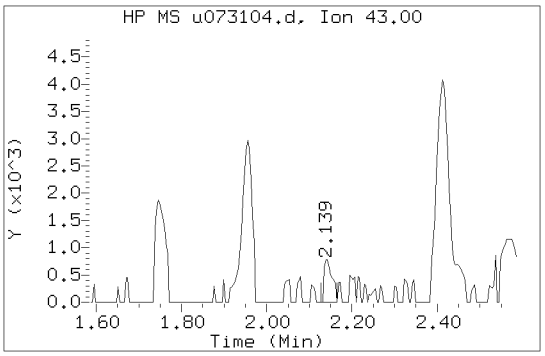
AFTER
MASS
46
AREA
740
HEIGHT
329
01-Aug-2023
21:03



BEFORE
MASS
43
AREA
1006
HEIGHT
778
01-Aug-2023
21:03



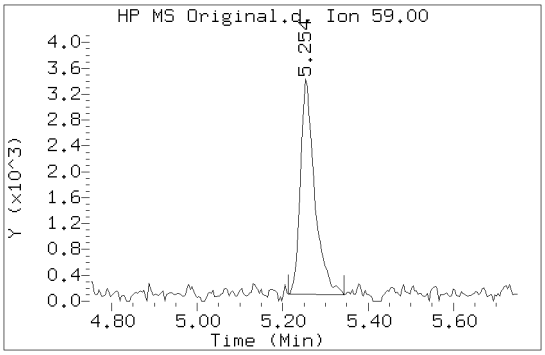
AFTER
MASS
43
AREA
1006
HEIGHT
778
01-Aug-2023
21:03



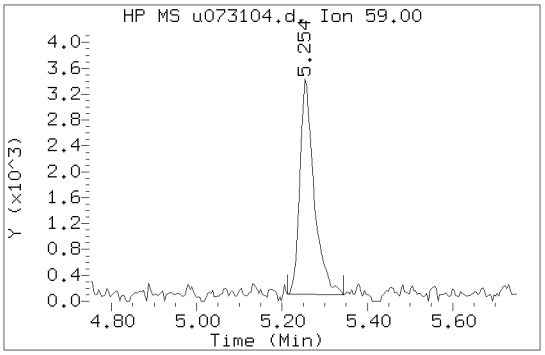
tert-Butyl formate (762-75-4)

Reason Code:

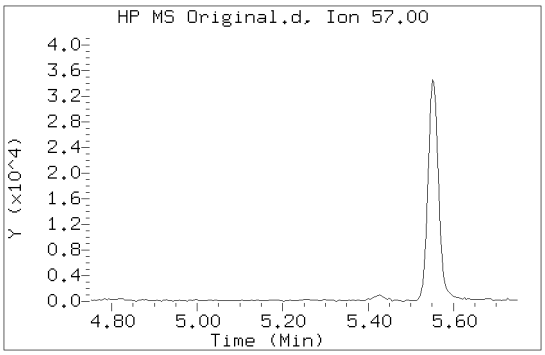
BEFORE
MASS
59
AREA
7783
HEIGHT
3329
01-Aug-2023
21:03



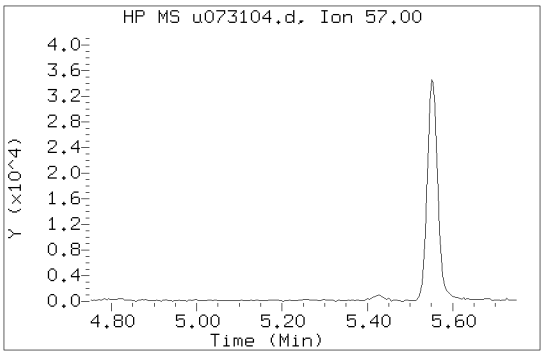
AFTER
MASS
59
AREA
7783
HEIGHT
3329
01-Aug-2023
21:03



BEFORE
MASS
57
AREA
0
HEIGHT
0
01-Aug-2023
21:03



AFTER
MASS
57
AREA
0
HEIGHT
0
01-Aug-2023
21:03



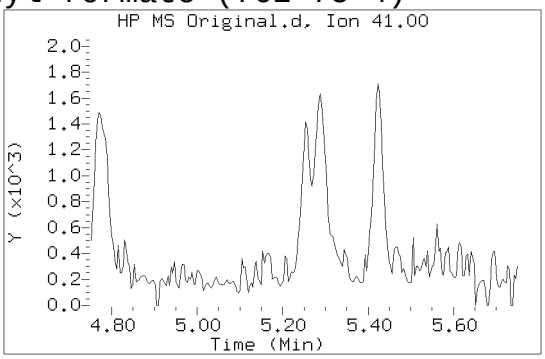
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Inj Date : 31-JUL-2023 12:37
InstruID : VOA9.i
LabSampID : VSTD001

tert-Butyl formate (762-75-4)

Reason Code:

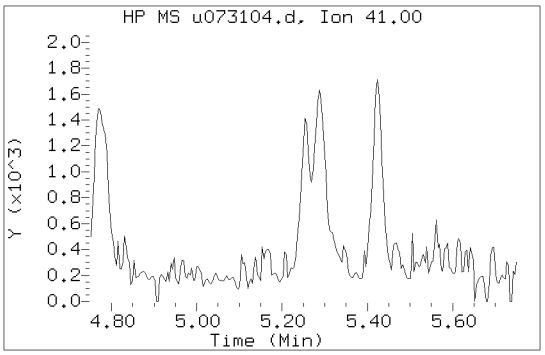
BEFORE

MASS
41
AREA
0
HEIGHT
0
01-Aug-2023
21:03



AFTER

MASS
41
AREA
0
HEIGHT
0
01-Aug-2023
21:03

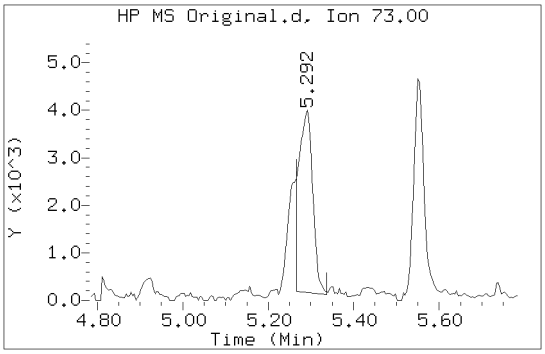


tert-Amyl methyl ether (974-05-08)

Reason Code:

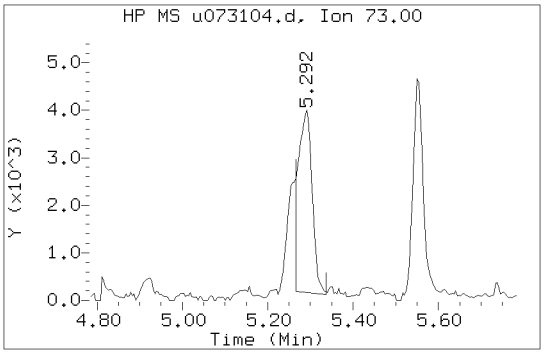
BEFORE

MASS
73
AREA
8905
HEIGHT
3846
01-Aug-2023
21:03



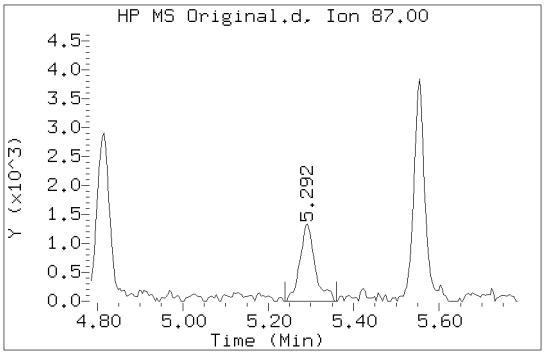
AFTER

MASS
73
AREA
8905
HEIGHT
3846
01-Aug-2023
21:03



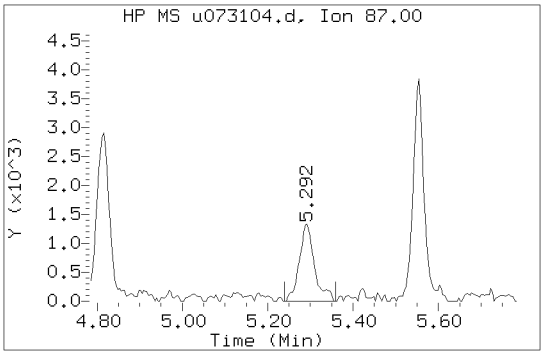
BEFORE

MASS
87
AREA
3350
HEIGHT
1337
01-Aug-2023
21:03



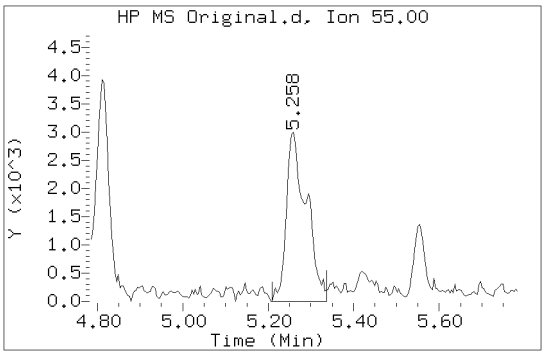
AFTER

MASS
87
AREA
3350
HEIGHT
1337
01-Aug-2023
21:03



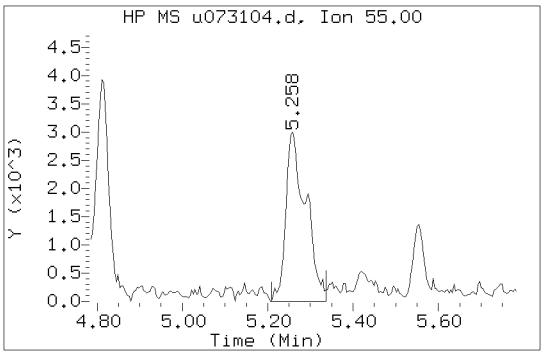
BEFORE

MASS
55
AREA
9835
HEIGHT
2995
01-Aug-2023
21:03



AFTER

MASS
55
AREA
9835
HEIGHT
2995
01-Aug-2023
21:03

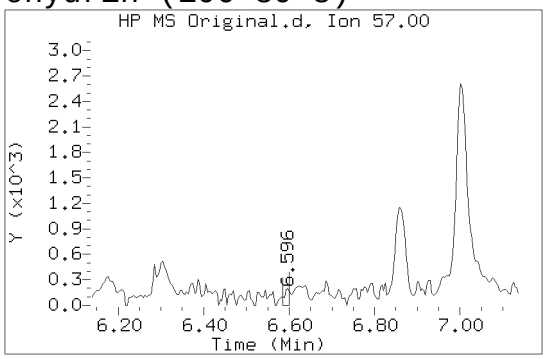


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InstruID : VOA9.i
LabSampID : VSTD001

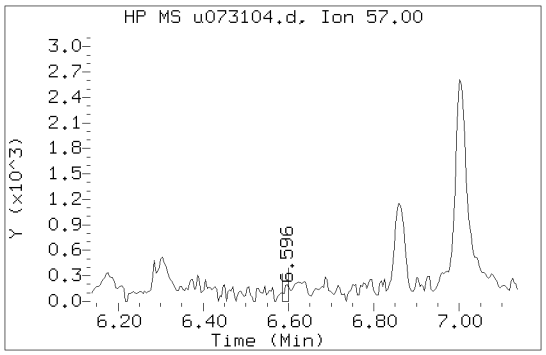
Epichlorohydrin (106-89-8)

Reason Code:

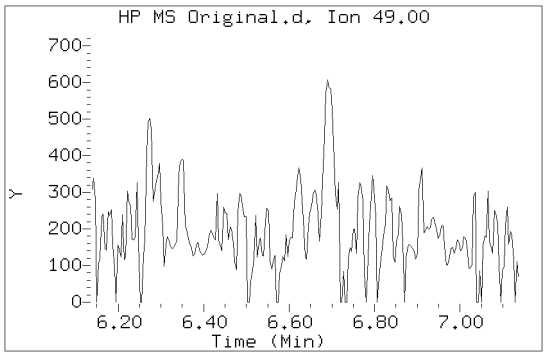
BEFORE
MASS
57
AREA
166
HEIGHT
196
01-Aug-2023
21:03



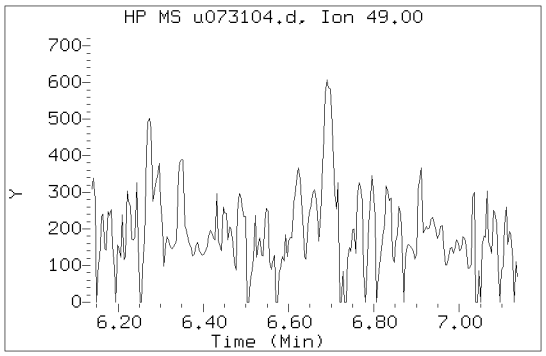
AFTER
MASS
57
AREA
166
HEIGHT
196
01-Aug-2023
21:03



BEFORE
MASS
49
AREA
0
HEIGHT
0
01-Aug-2023
21:03



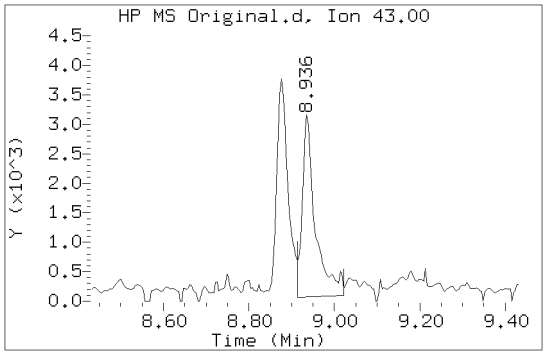
AFTER
MASS
49
AREA
0
HEIGHT
0
01-Aug-2023
21:03



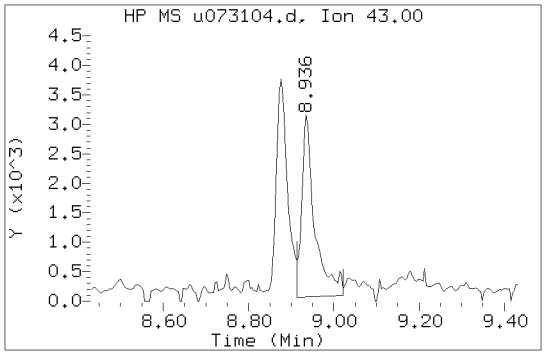
n-Amyl acetate (628-63-7)

Reason Code:

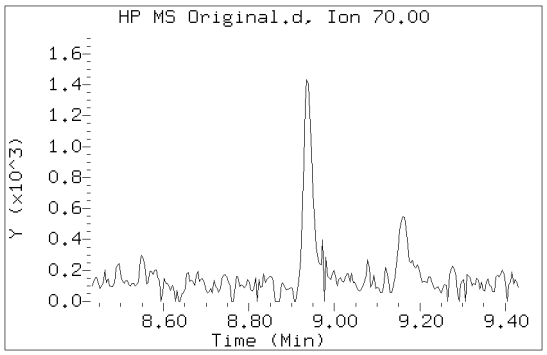
BEFORE
MASS
43
AREA
6745
HEIGHT
3088
01-Aug-2023
21:03



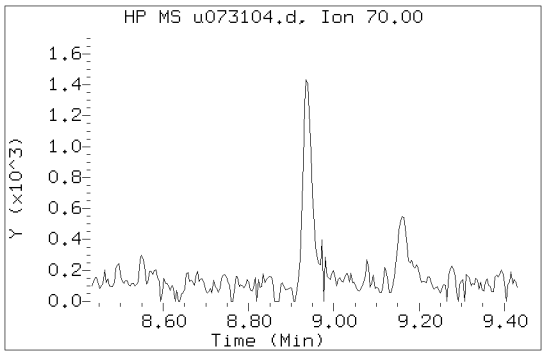
AFTER
MASS
43
AREA
6745
HEIGHT
3088
01-Aug-2023
21:03



BEFORE
MASS
70
AREA
0
HEIGHT
0
01-Aug-2023
21:03



AFTER
MASS
70
AREA
0
HEIGHT
0
01-Aug-2023
21:03



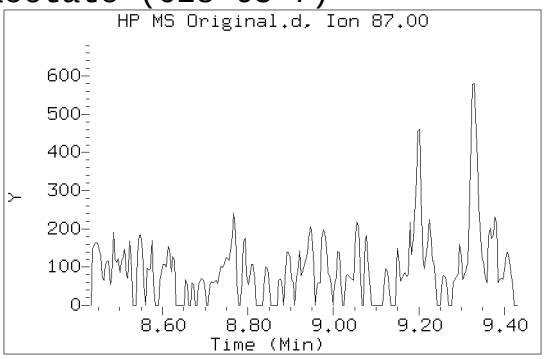
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Inj Date : 31-JUL-2023 12:37
InstruID : VOA9.i
LabSampID : VSTD001

n-Amyl acetate (628-63-7)

Reason Code:

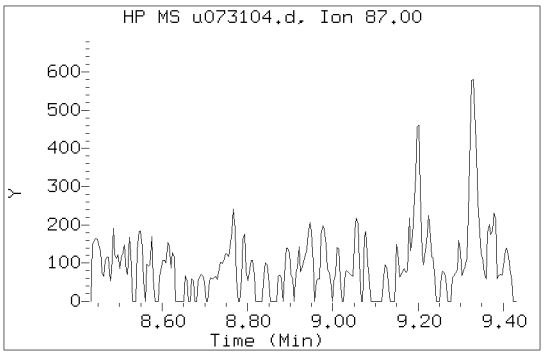
BEFORE

MASS
87
AREA
0
HEIGHT
0
01-Aug-2023
21:03



AFTER

MASS
87
AREA
0
HEIGHT
0
01-Aug-2023
21:03

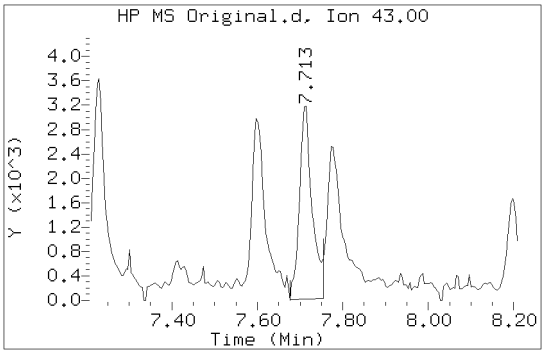


n-Butyl acetate (123-86-4)

Reason Code:

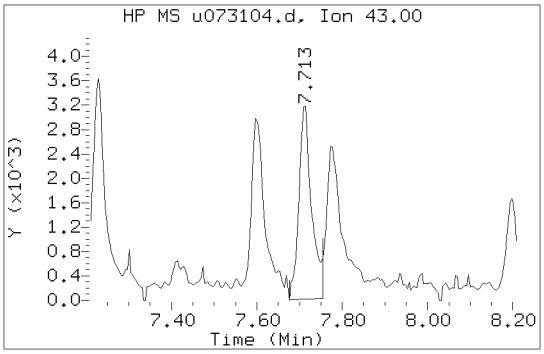
BEFORE

MASS
43
AREA
6708
HEIGHT
3156
01-Aug-2023
21:03



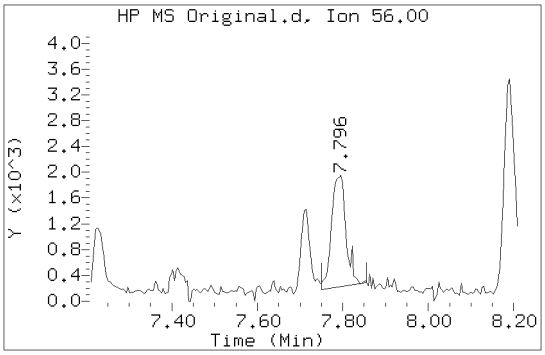
AFTER

MASS
43
AREA
6708
HEIGHT
3156
01-Aug-2023
21:03



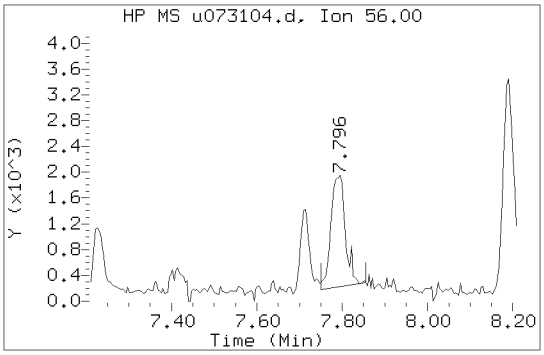
BEFORE

MASS
56
AREA
4039
HEIGHT
1726
01-Aug-2023
21:03



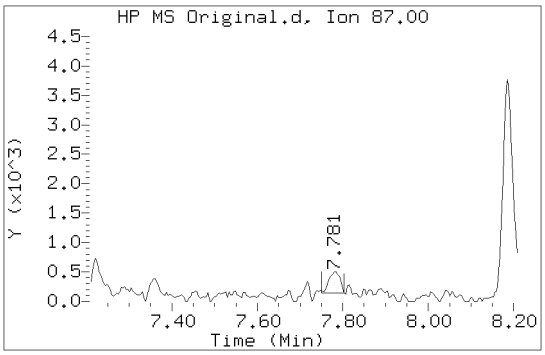
AFTER

MASS
56
AREA
4039
HEIGHT
1726
01-Aug-2023
21:03



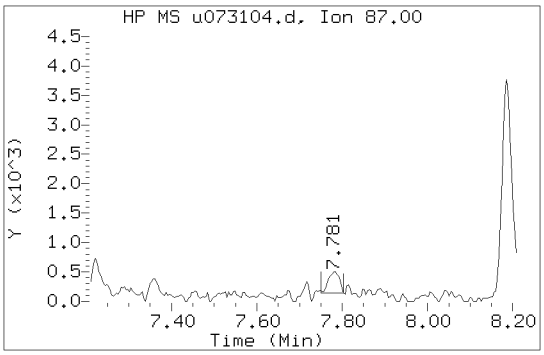
BEFORE

MASS
87
AREA
660
HEIGHT
367
01-Aug-2023
21:03



AFTER

MASS
87
AREA
660
HEIGHT
367
01-Aug-2023
21:03

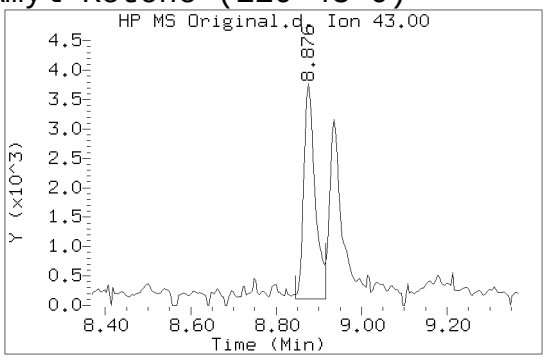


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LabSampID : VSTD001

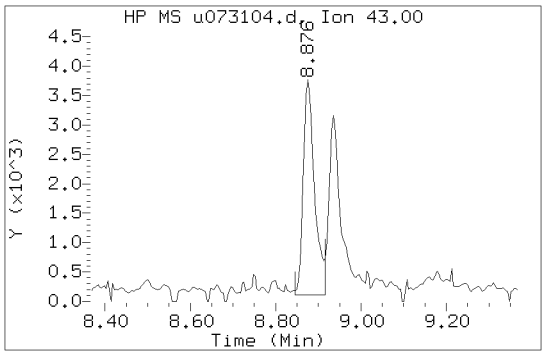
Methyl Amyl Ketone (110-43-0)

Reason Code:

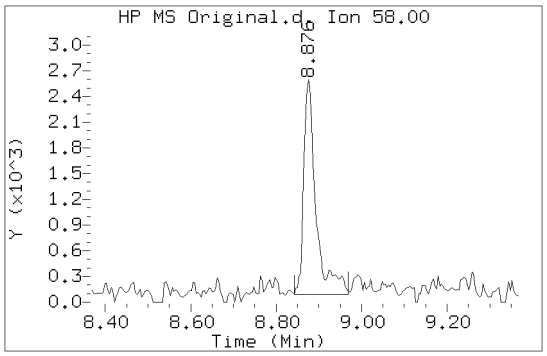
BEFORE
MASS
43
AREA
6882
HEIGHT
3661
01-Aug-2023
21:03



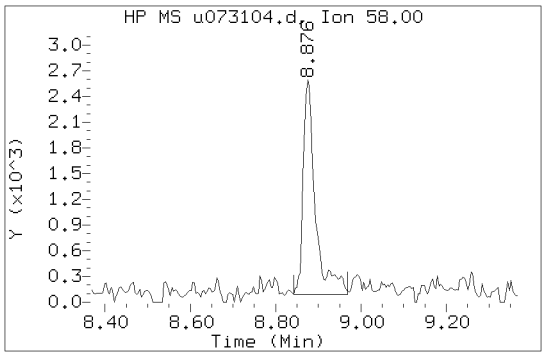
AFTER
MASS
43
AREA
6882
HEIGHT
3661
01-Aug-2023
21:03



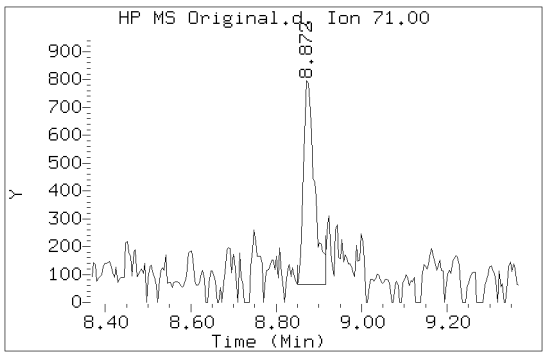
BEFORE
MASS
58
AREA
5031
HEIGHT
2504
01-Aug-2023
21:03



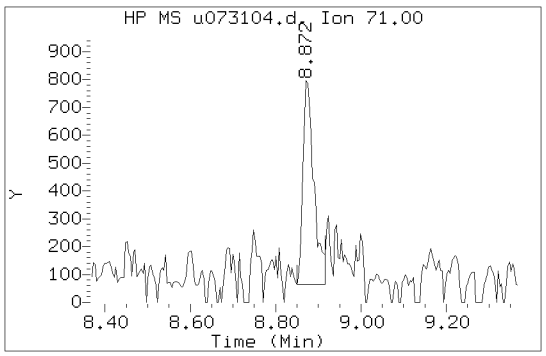
AFTER
MASS
58
AREA
5031
HEIGHT
2504
01-Aug-2023
21:03



BEFORE
MASS
71
AREA
1320
HEIGHT
732
01-Aug-2023
21:03



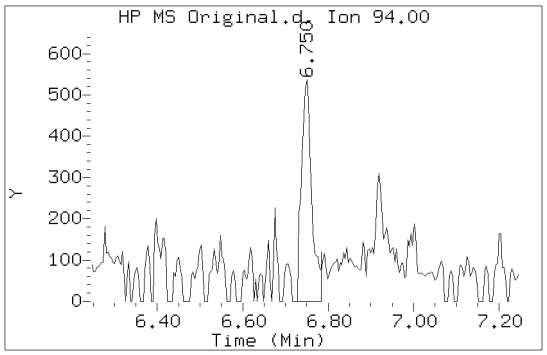
AFTER
MASS
71
AREA
1320
HEIGHT
732
01-Aug-2023
21:03



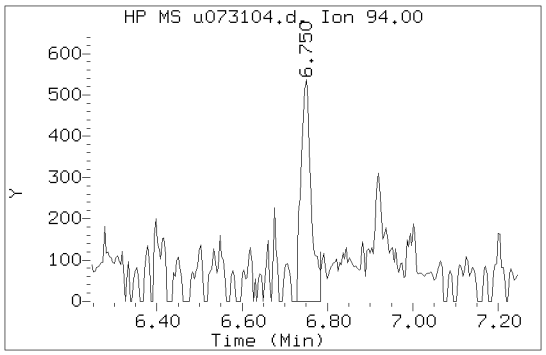
Dimethyl Disulfide (624-92-0)

Reason Code:

BEFORE
MASS
94
AREA
917
HEIGHT
537
01-Aug-2023
21:03



AFTER
MASS
94
AREA
917
HEIGHT
537
01-Aug-2023
21:03

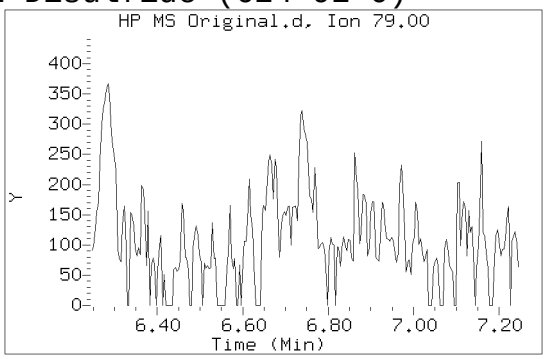


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InstruID : VOA9.i
LabSampID : VSTD001

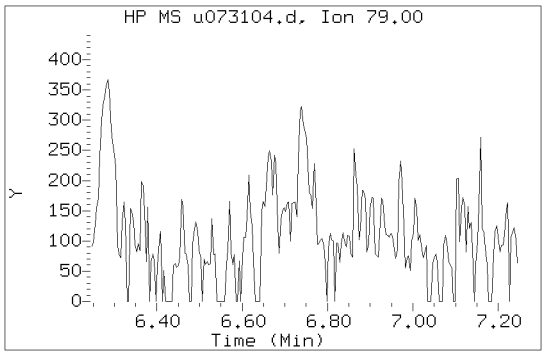
Dimethyl Disulfide (624-92-0)

Reason Code:

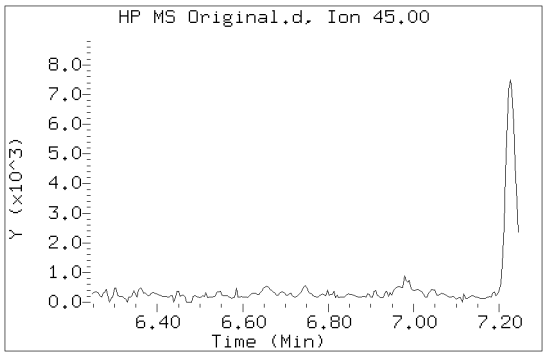
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HEIGHT
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01-Aug-2023
21:03



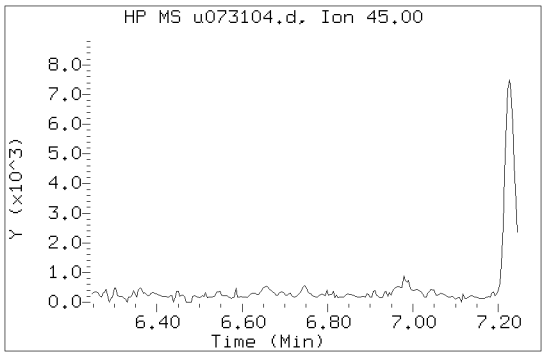
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21:03



BEFORE
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HEIGHT
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01-Aug-2023
21:03



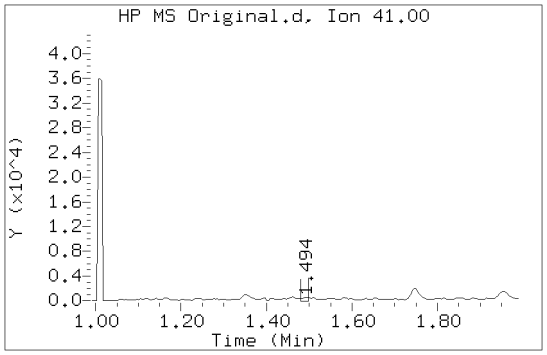
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01-Aug-2023
21:03



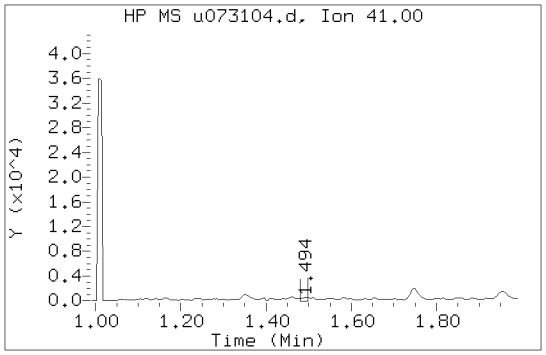
Isobutylene (115-11-7)

Reason Code:

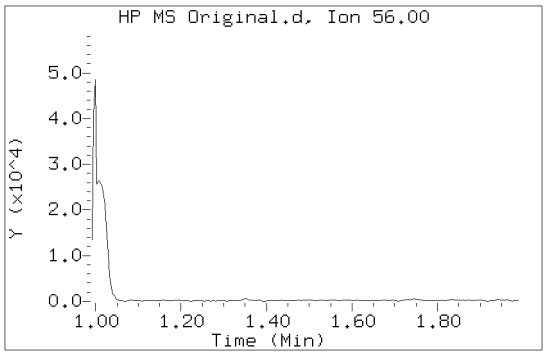
BEFORE
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HEIGHT
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01-Aug-2023
21:03



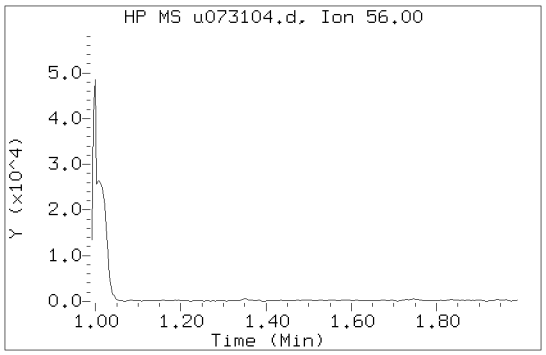
AFTER
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AREA
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01-Aug-2023
21:03



BEFORE
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AREA
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01-Aug-2023
21:03



AFTER
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HEIGHT
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01-Aug-2023
21:03

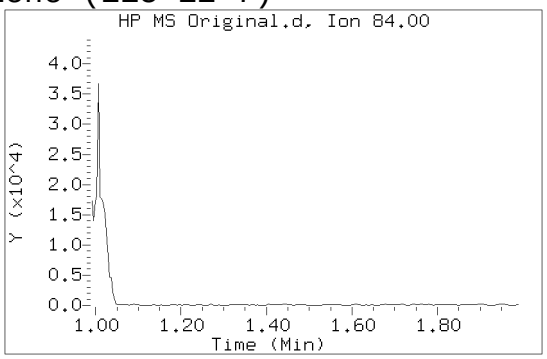


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Inj Date : 31-JUL-2023 12:37
InstruID : VOA9.i
LabSampID : VSTD001

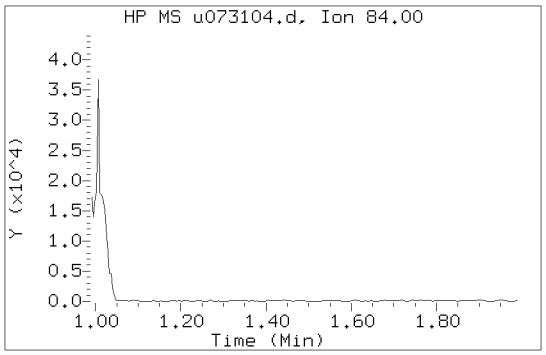
Isobutylene (115-11-7)

Reason Code:

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01-Aug-2023
21:03



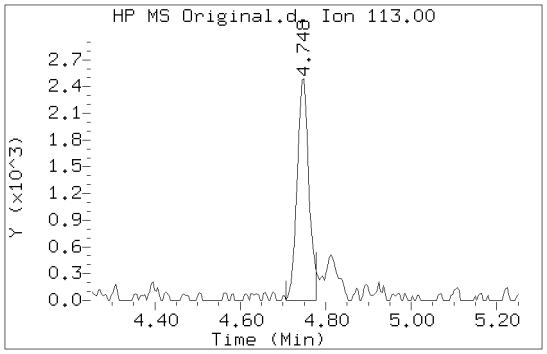
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01-Aug-2023
21:03



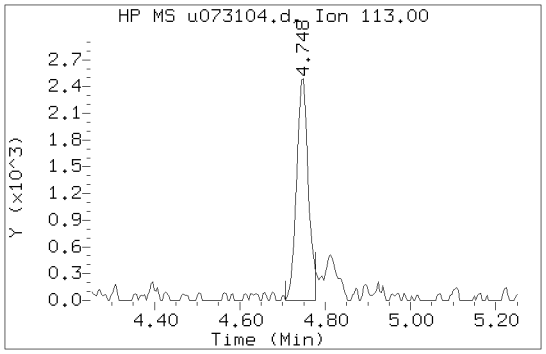
Dibromofluoromethane (1868-53-7)

Reason Code:

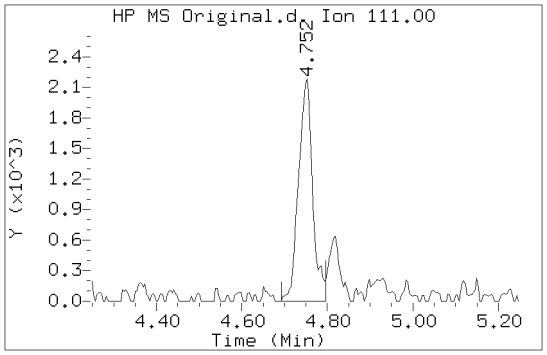
BEFORE
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AREA
4835
HEIGHT
2488
01-Aug-2023
21:03



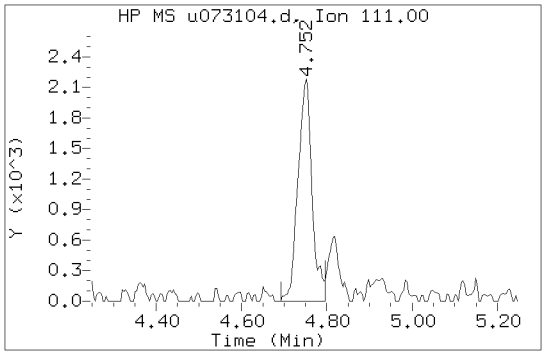
AFTER
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113
AREA
4835
HEIGHT
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01-Aug-2023
21:03



BEFORE
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AREA
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01-Aug-2023
21:03



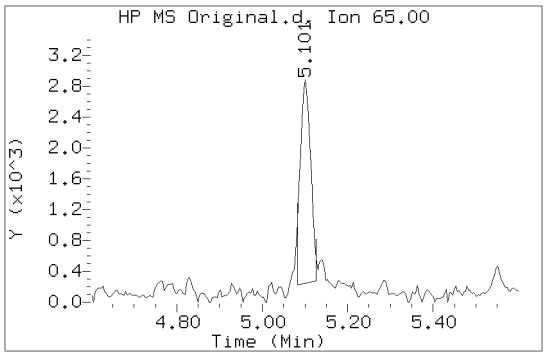
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01-Aug-2023
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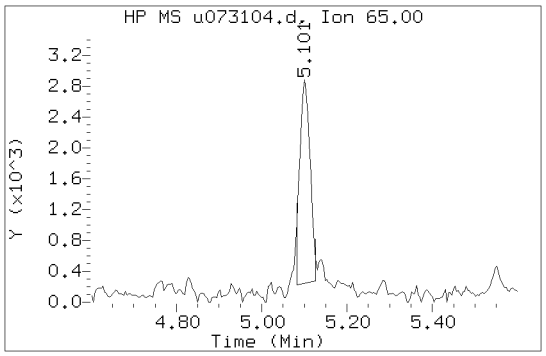
1,2-Dichloroethane-d4 (17060-07-0)

Reason Code:

BEFORE
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01-Aug-2023
21:03



AFTER
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AREA
4638
HEIGHT
2638
01-Aug-2023
21:03

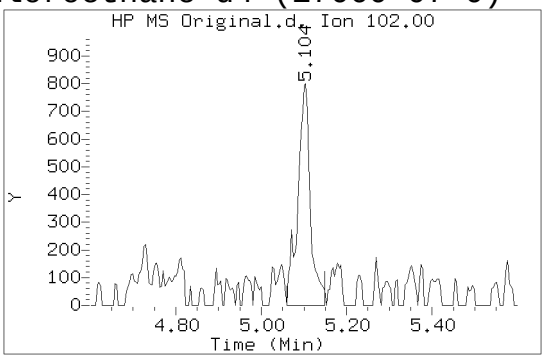


Data File : \\nahstws005\target\chem\voa9.i\u230731.b\u073104.d
Inj Date : 31-JUL-2023 12:37
InstruID : VOA9.i
LabSampID : VSTD001

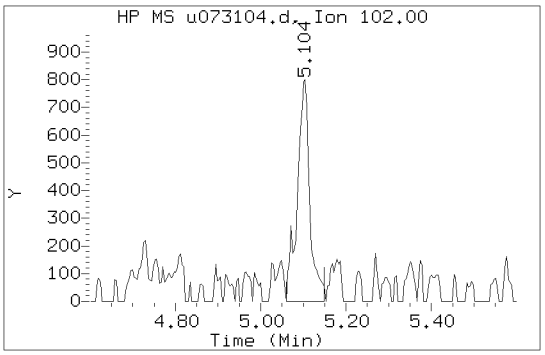
1,2-Dichloroethane-d4 (17060-07-0)

Reason Code:

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HEIGHT
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01-Aug-2023
21:03



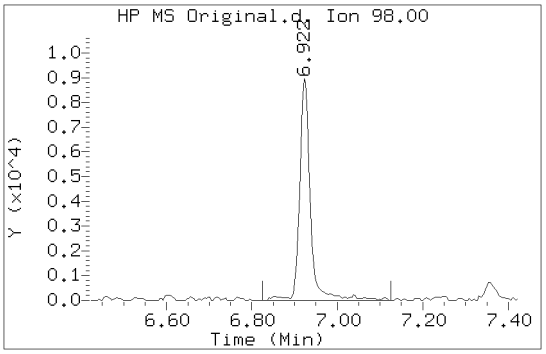
AFTER
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01-Aug-2023
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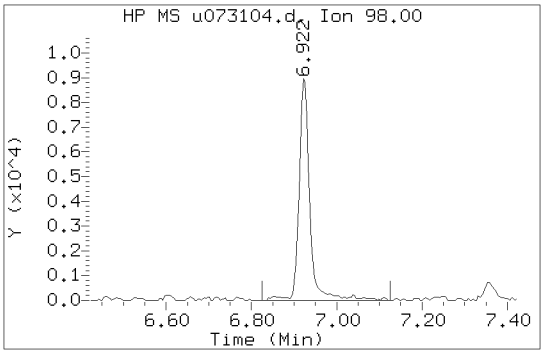
Toluene-d8 (2037-26-5)

Reason Code:

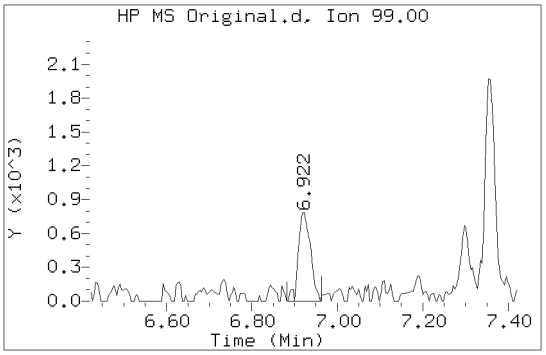
BEFORE
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01-Aug-2023
21:03



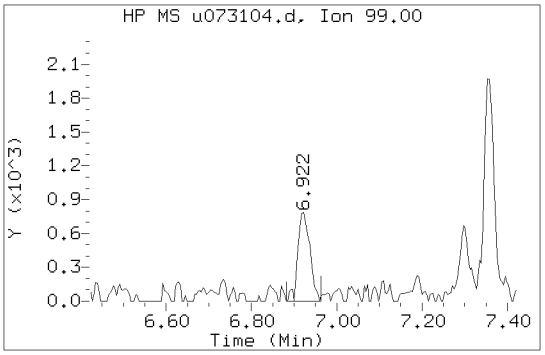
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01-Aug-2023
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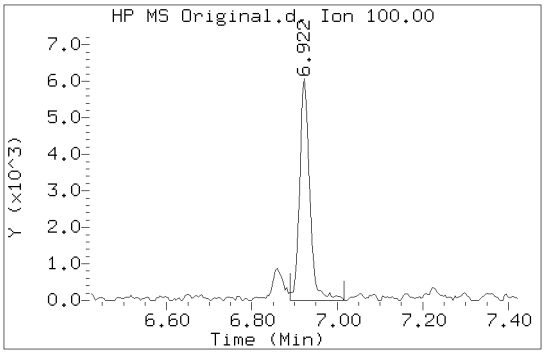
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01-Aug-2023
21:03



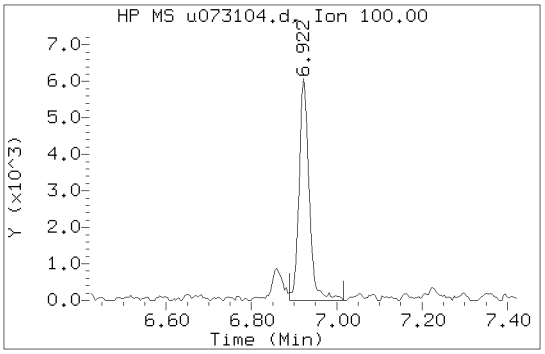
AFTER
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01-Aug-2023
21:03



BEFORE
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100
AREA
10219
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6074
01-Aug-2023
21:03



AFTER
MASS
100
AREA
10219
HEIGHT
6074
01-Aug-2023
21:03



Data File: \\NAHSTWS005\Target\chem\voa9.i\U230731.b\U073105.D Page 1
Report Date: 07-Aug-2023 11:14

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U230731.b\U073105.D
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Inj Date : 31-JUL-2023 12:59
Operator : PC Inst ID: VOA9.i
Smp Info : VSTD002;VSTD002;1;4;
Misc Info : V9;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa9.i\U230731.b\8260C.m
Meth Date : 07-Aug-2023 11:14 VOA9.i Quant Type: ISTD
Cal Date : 31-JUL-2023 12:37 Cal File: U073104.D
Als bottle: 6 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260V9.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.811	4.811	(1.000)	468693	50.0000	
2 Dichlorodifluoromethane	85	1.156	1.156	(0.240)	8215	2.00000	3.04
3 Chloromethane	50	1.291	1.291	(0.268)	13283	2.00000	2.08
5 Vinyl Chloride	62	1.370	1.370	(0.285)	8971	2.00000	1.94
6 Bromomethane	94	1.614	1.614	(0.335)	6564	2.00000	1.08(M)
7 Chloroethane	64	1.692	1.692	(0.352)	5305	2.00000	1.82(M)
8 Trichlorofluoromethane	101	1.884	1.884	(0.392)	10610	2.00000	1.86
9 Acrolein	56	1.741	1.741	(0.362)	1238	4.00000	4.11(M)
10 Acetone	43	2.405	2.405	(0.500)	11936	4.00000	0.62
11 1,1-Dichloroethene	96	2.322	2.322	(0.483)	5674	2.00000	1.83
15 Iodomethane	142	2.457	2.457	(0.511)	7768	4.00000	6.08
16 Acrylonitrile	53	3.061	3.061	(0.636)	5578	4.00000	3.78
17 Methylene Chloride	84	2.783	2.783	(0.579)	8023	2.00000	1.95(M)
18 Methyl tert-butyl ether	73	3.076	3.076	(0.639)	18902	2.00000	1.98
19 Carbon Disulfide	76	2.510	2.510	(0.522)	32799	4.00000	3.64
20 trans-1,2-Dichloroethene	96	3.050	3.050	(0.634)	6510	2.00000	1.88
21 Vinyl Acetate	43	3.604	3.604	(0.749)	35593	4.00000	3.59
22 1,1-Dichloroethane	63	3.507	3.507	(0.729)	13022	2.00000	2.05
24 2-Butanone	43	4.264	4.264	(0.886)	8816	4.00000	4.78
26 2,2-Dichloropropane	77	4.174	4.174	(0.868)	7870	2.00000	1.80

27	cis-1,2-Dichloroethene	96	4.189	4.189 (0.871)	7981	2.00000	2.06
28	Chloroform	83	4.564	4.564 (0.949)	15193	2.00000	2.06

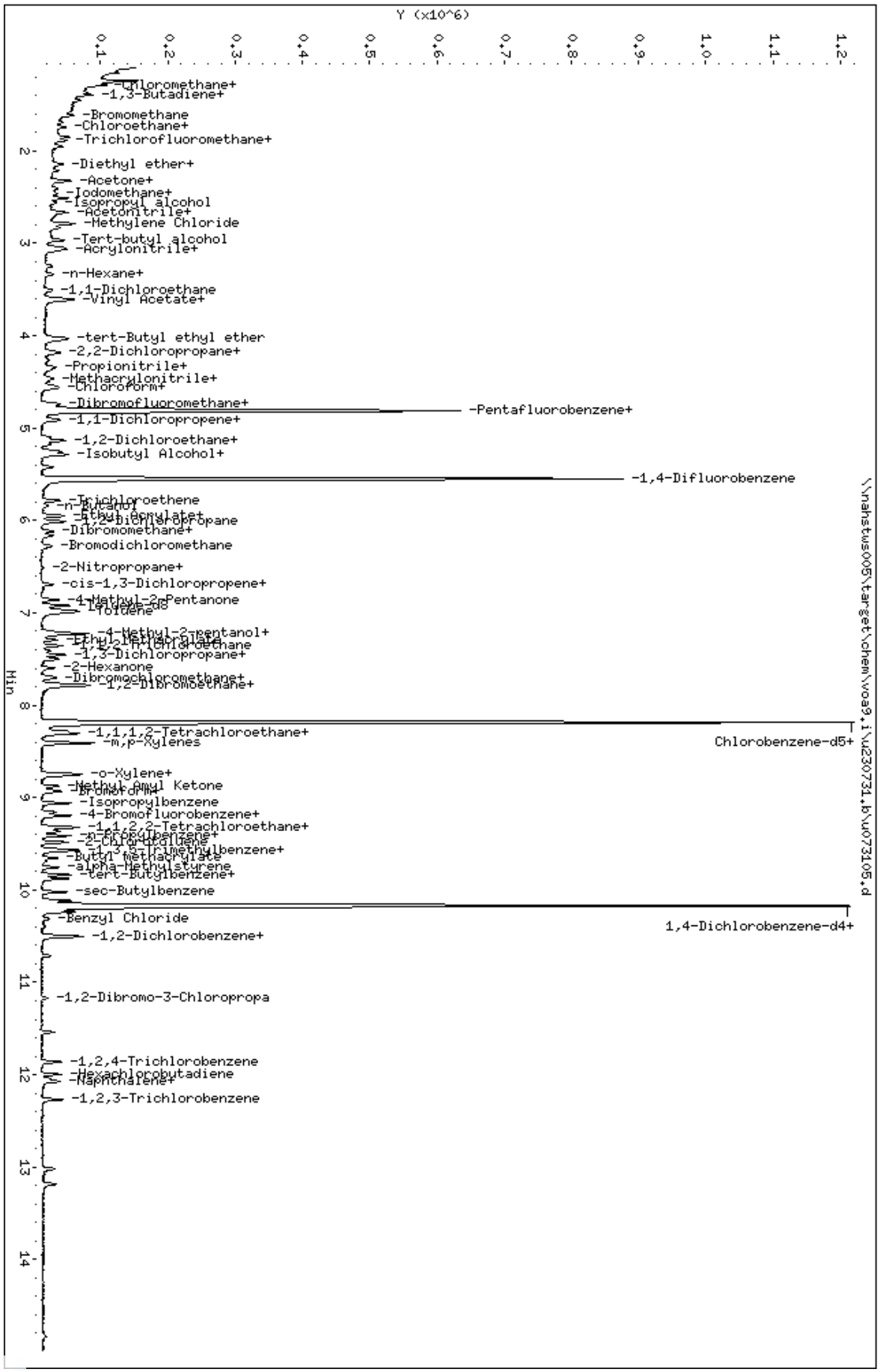
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	29 Bromochloromethane	128	4.463	4.463	(0.928)	5201	2.00000	2.27
$	30 Dibromofluoromethane	113	4.744	4.744	(0.986)	7770	2.00000	1.11
	31 1,1,1-Trichloroethane	97	4.736	4.736	(0.984)	11394	2.00000	1.98
	32 1,1-Dichloropropene	75	4.916	4.916	(0.886)	8773	2.00000	1.75
	33 1,2-Dichloroethane	62	5.175	5.175	(0.932)	11573	2.00000	1.99
	34 Carbon Tetrachloride	117	4.905	4.905	(0.884)	8430	2.00000	1.87(M)
$	35 1,2-Dichloroethane-d4	65	5.096	5.096	(1.059)	8650	2.00000	0.83(M)
*	36 1,4-Difluorobenzene	114	5.550	5.550	(1.000)	674189	50.0000	
	37 Benzene	78	5.134	5.134	(0.925)	31991	2.00000	1.94
	38 Trichloroethene	130	5.786	5.786	(1.043)	9675	2.00000	2.07
	39 Bromodichloromethane	83	6.277	6.277	(1.131)	10489	2.00000	1.99
	41 2-Chloroethylvinyl ether	63	6.558	6.558	(1.182)	335	4.00000	3.33(M)
	42 1,2-Dichloropropane	63	6.007	6.007	(1.082)	8542	2.00000	1.93
	44 Dibromomethane	93	6.120	6.120	(1.103)	6092	2.00000	2.14
	45 4-Methyl-2-Pentanone	43	6.858	6.858	(0.838)	18125	4.00000	3.76
	46 cis-1,3-Dichloropropene	75	6.689	6.689	(1.205)	9984	2.00000	3.62
*	47 Chlorobenzene-d5	117	8.185	8.185	(1.000)	646240	50.0000	
$	48 Toluene-d8	98	6.922	6.922	(0.846)	27056	2.00000	1.80(M)
	50 Toluene	91	6.982	6.982	(0.853)	30341	2.00000	1.72
	51 trans-1,3-Dichloropropene	75	7.199	7.199	(1.297)	8865	2.00000	1.74(M)
	52 2-Hexanone	43	7.597	7.597	(0.928)	12966	4.00000	4.07
	53 1,1,2-Trichloroethane	83	7.357	7.357	(0.899)	7548	2.00000	2.00
	54 1,3-Dichloropropane	76	7.499	7.499	(0.916)	14778	2.00000	1.91
	55 Dibromochloromethane	129	7.690	7.690	(0.940)	7857	2.00000	1.70
	56 Tetrachloroethene	164	7.454	7.454	(0.911)	8155	2.00000	1.90
	57 1,2-Dibromoethane	107	7.784	7.784	(0.951)	8420	2.00000	1.85
	58 1-Chlorohexane	55	8.193	8.193	(1.476)	7024	2.00000	1.99(M)
	59 Chlorobenzene	112	8.208	8.208	(1.003)	24937	2.00000	2.00
	60 1,1,1,2-Tetrachloroethane	131	8.283	8.283	(1.012)	8228	2.00000	1.81
	61 Ethylbenzene	106	8.305	8.305	(1.015)	9991	2.00000	1.77
	62 m,p-Xylenes	106	8.410	8.410	(1.027)	21620	4.00000	3.26
	63 o-Xylene	106	8.748	8.748	(1.069)	10538	2.00000	1.62
	64 Styrene	104	8.763	8.763	(1.071)	16730	2.00000	1.65(M)
	66 Bromoform	173	8.920	8.920	(1.090)	6380	2.00000	1.97
	67 Isopropylbenzene	105	9.062	9.062	(1.107)	26994	2.00000	1.72
	68 1,1,2,2-Tetrachloroethane	83	9.329	9.329	(0.917)	14362	2.00000	2.21
$	69 4-Bromofluorobenzene	95	9.194	9.194	(1.123)	12870	2.00000	0.86
*	70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	336159	50.0000	
	71 1,2,3-Trichloropropane	75	9.362	9.362	(0.920)	11095	2.00000	1.96
	73 n-Propylbenzene	91	9.411	9.411	(0.925)	26996	2.00000	3.02
	74 Bromobenzene	156	9.317	9.317	(0.916)	10989	2.00000	1.97
	75 1,3,5-Trimethylbenzene	105	9.561	9.561	(0.940)	20476	2.00000	1.74
	76 2-Chlorotoluene	91	9.482	9.482	(0.932)	22346	2.00000	1.88
	77 4-Chlorotoluene	91	9.576	9.576	(0.941)	24006	2.00000	1.81
	78 tert-Butylbenzene	119	9.835	9.835	(0.967)	19034	2.00000	1.71
	79 1,2,4-Trimethylbenzene	105	9.880	9.880	(0.971)	21418	2.00000	1.80
	81 sec-Butylbenzene	105	10.022	10.022	(0.985)	23804	2.00000	1.48(M)
	82 p-Isopropyltoluene	119	10.146	10.146	(0.997)	21012	2.00000	1.56(M)
	83 1,3-Dichlorobenzene	146	10.116	10.116	(0.994)	17878	2.00000	1.92
	84 1,4-Dichlorobenzene	146	10.191	10.191	(1.002)	21697	2.00000	2.10
	87 n-Butylbenzene	91	10.494	10.494	(1.032)	17310	2.00000	3.84(M)
	88 1,2-Dichlorobenzene	146	10.506	10.506	(1.033)	19465	2.00000	2.04

89	1,2-Dibromo-3-Chloropropane	155	11.169	11.169 (1.098)	1852	2.00000	1.98
90	1,2,4-Trichlorobenzene	180	11.863	11.863 (1.166)	9772	2.00000	1.66

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	91 Hexachlorobutadiene	225	11.998	11.998	(1.179)	5519	2.00000	1.68(M)
	92 Naphthalene	128	12.073	12.073	(1.187)	22645	2.00000	3.00
	93 1,2,3-Trichlorobenzene	180	12.271	12.271	(1.206)	11209	2.00000	1.87
M	94 1,2-Dichloroethylene (total)	96				14491	4.00000	
M	95 Xylenes (total)	106				32158	6.00000	
	135 1,4-Dioxane	88	6.172	6.172	(1.283)	2926	40.0000	43.54(M)
	141 Cyclohexane	56	4.778	4.778	(0.993)	10228	2.00000	1.94(M)
	138 Freon TF	101	2.326	2.326	(0.483)	5602	2.00000	1.40
	140 1,3-Butadiene	54	1.393	1.393	(0.290)	7226	2.00000	1.93
	147 Methylcyclohexane	55	5.947	5.947	(1.072)	17254	2.00000	1.75(M)
	146 Methyl Acetate	43	2.708	2.708	(0.563)	7184	2.00000	2.13(M)
	148 Tert-Butyl alcohol	59	2.967	2.967	(0.617)	21792	40.0000	52.35
	149 Isopropyl Alcohol	45	2.558	2.558	(0.532)	11717	40.0000	45.23(TM)

QC Flag Legend

T - Target compound detected outside RT window.
M - Compound response manually integrated.



Data File: \\nahstws005\target\chem\voa9,i\u230731,b\u073105,d
Date : 31-JUL-2023 12:59
Client ID: VSTD002
Sample Info: VSTD002;VSTD00211;4;
Purge Volume: 5.0
Column phase: DB624

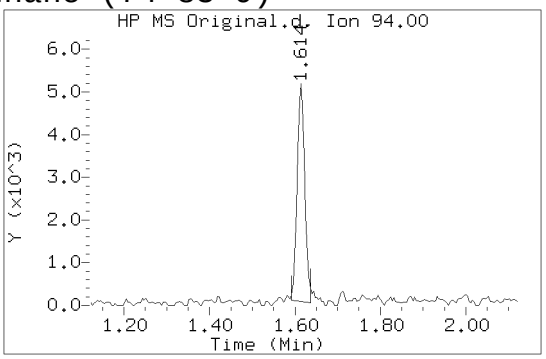
Instrument: VOA9,i
Operator: PC
Column diameter: 0.18

Data File : \\nahstws005\target\chem\voa9.i\u230731.b\u073105.d
Inj Date : 31-JUL-2023 12:59
InstruID : VOA9.i
LabSampID : VSTD002

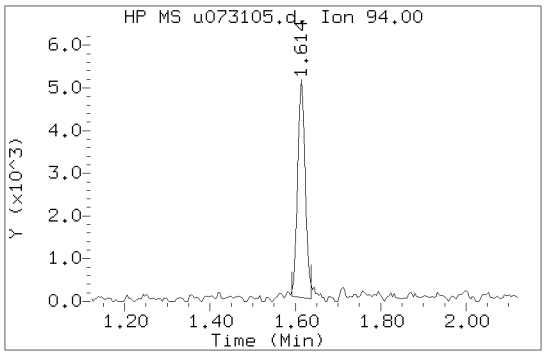
Bromomethane (74-83-9)

Reason Code:

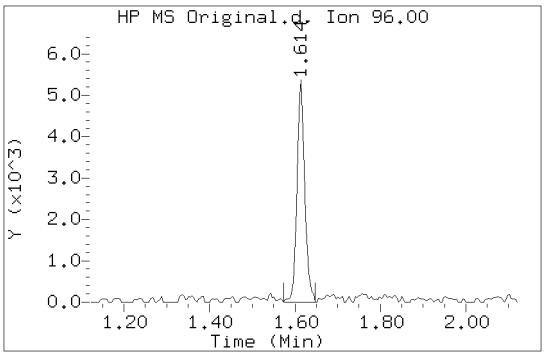
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MASS
94
AREA
6564
HEIGHT
5102
01-Aug-2023
21:03



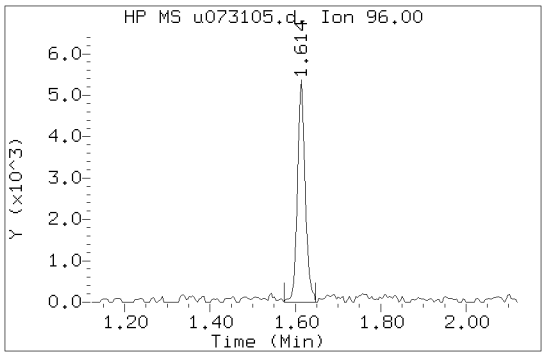
AFTER
MASS
94
AREA
6564
HEIGHT
5102
01-Aug-2023
21:03



BEFORE
MASS
96
AREA
7003
HEIGHT
5370
01-Aug-2023
21:03



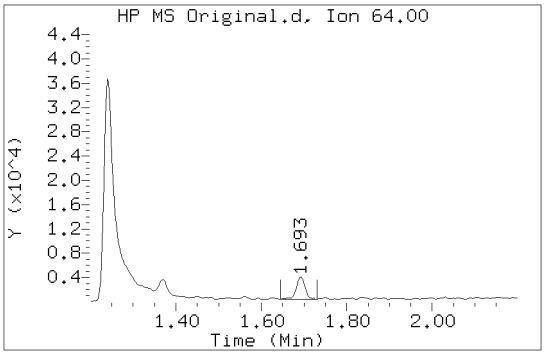
AFTER
MASS
96
AREA
7003
HEIGHT
5370
01-Aug-2023
21:03



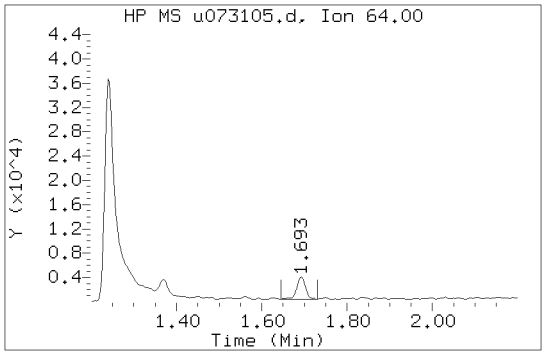
Chloroethane (75-00-3)

Reason Code:

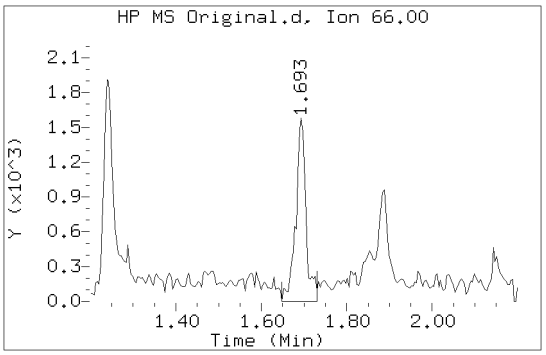
BEFORE
MASS
64
AREA
5305
HEIGHT
3723
01-Aug-2023
21:03



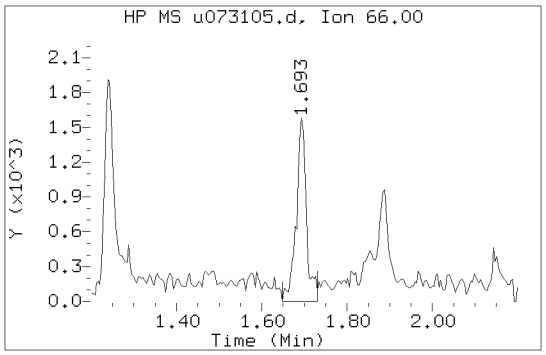
AFTER
MASS
64
AREA
5305
HEIGHT
3723
01-Aug-2023
21:03



BEFORE
MASS
66
AREA
2621
HEIGHT
1580
01-Aug-2023
21:03



AFTER
MASS
66
AREA
2621
HEIGHT
1580
01-Aug-2023
21:03

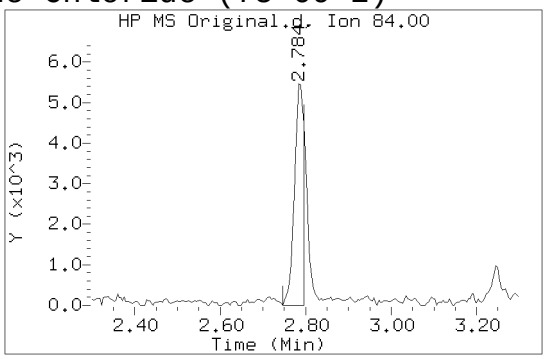


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InstruID : VOA9.i
LabSampID : VSTD002

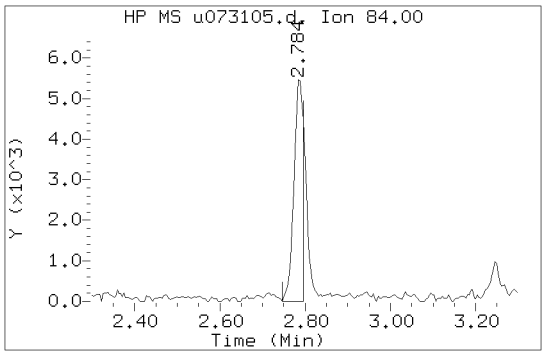
Methylene Chloride (75-09-2)

Reason Code:

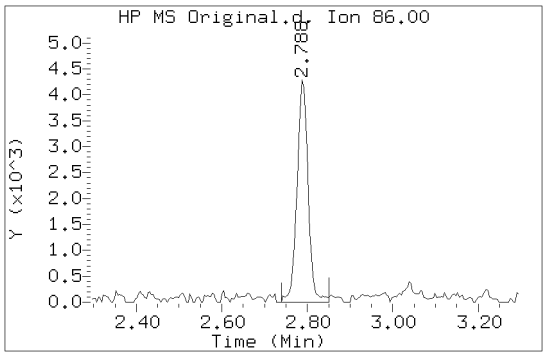
BEFORE
MASS
84
AREA
8023
HEIGHT
5467
01-Aug-2023
21:03



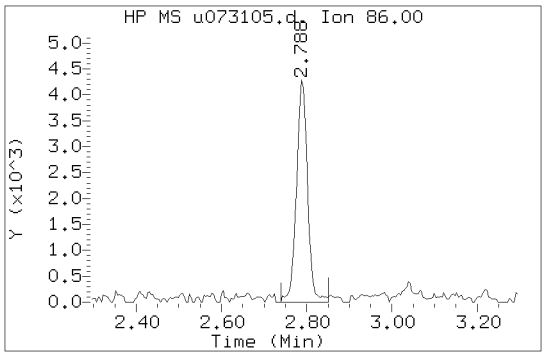
AFTER
MASS
84
AREA
8023
HEIGHT
5467
01-Aug-2023
21:03



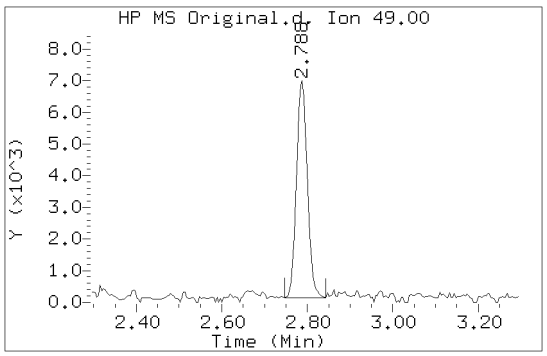
BEFORE
MASS
86
AREA
7835
HEIGHT
4288
01-Aug-2023
21:03



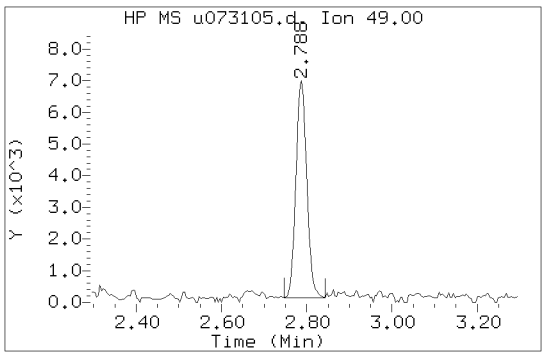
AFTER
MASS
86
AREA
7835
HEIGHT
4288
01-Aug-2023
21:03



BEFORE
MASS
49
AREA
12243
HEIGHT
6849
01-Aug-2023
21:03



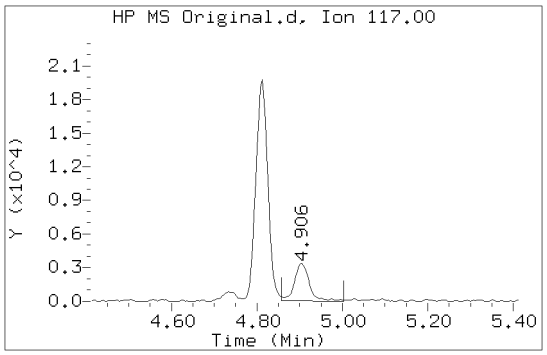
AFTER
MASS
49
AREA
12243
HEIGHT
6849
01-Aug-2023
21:03



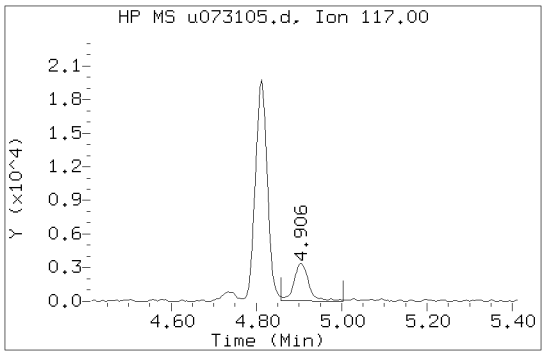
Carbon Tetrachloride (56-23-5)

Reason Code:

BEFORE
MASS
117
AREA
8430
HEIGHT
3364
01-Aug-2023
21:03



AFTER
MASS
117
AREA
8430
HEIGHT
3364
01-Aug-2023
21:03

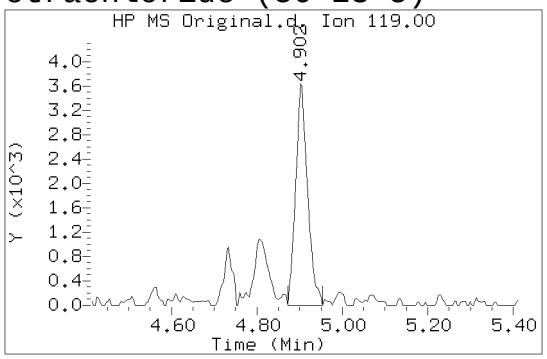


Data File : \\nahstws005\target\chem\voa9.i\u230731.b\u073105.d
Inj Date : 31-JUL-2023 12:59
InstruID : VOA9.i
LabSampID : VSTD002

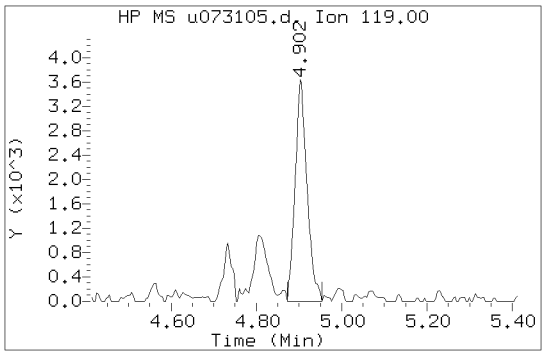
Carbon Tetrachloride (56-23-5)

Reason Code:

BEFORE
MASS
119
AREA
7191
HEIGHT
3637
01-Aug-2023
21:03



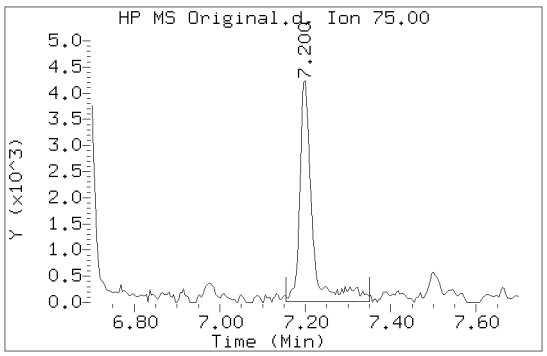
AFTER
MASS
119
AREA
7191
HEIGHT
3637
01-Aug-2023
21:03



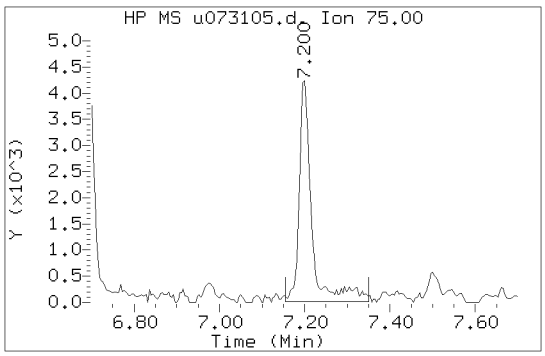
trans-1,3-Dichloropropene (10061-02-6)

Reason Code:

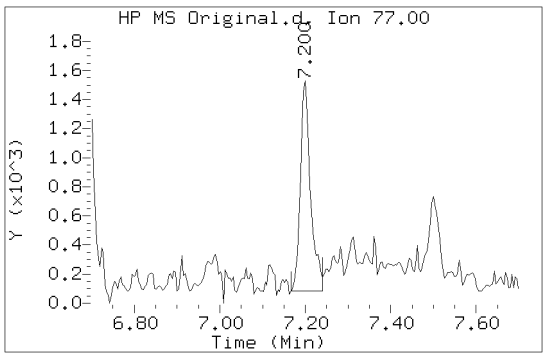
BEFORE
MASS
75
AREA
8865
HEIGHT
4230
01-Aug-2023
21:03



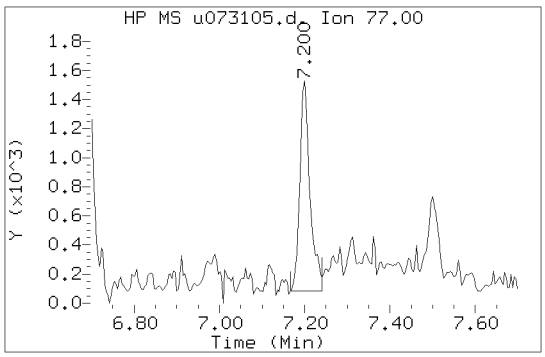
AFTER
MASS
75
AREA
8865
HEIGHT
4230
01-Aug-2023
21:03



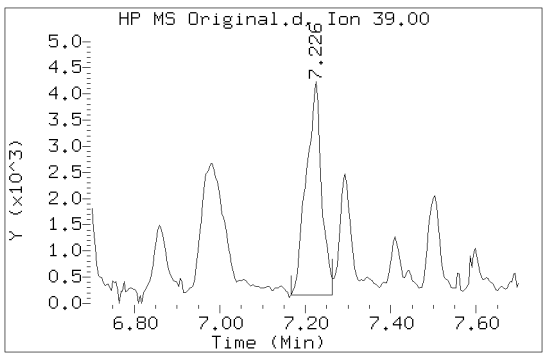
BEFORE
MASS
77
AREA
2451
HEIGHT
1445
01-Aug-2023
21:03



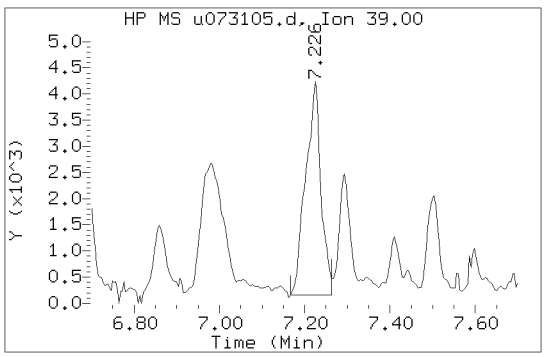
AFTER
MASS
77
AREA
2451
HEIGHT
1445
01-Aug-2023
21:03



BEFORE
MASS
39
AREA
10265
HEIGHT
4080
01-Aug-2023
21:03



AFTER
MASS
39
AREA
10265
HEIGHT
4080
01-Aug-2023
21:03

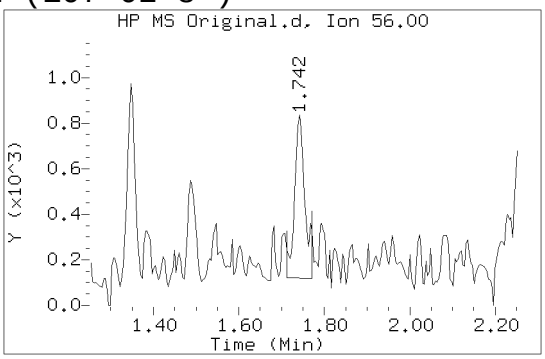


Data File : \\nahstws005\target\chem\voa9.i\u230731.b\u073105.d
Inj Date : 31-JUL-2023 12:59
InstruID : VOA9.i
LabSampID : VSTD002

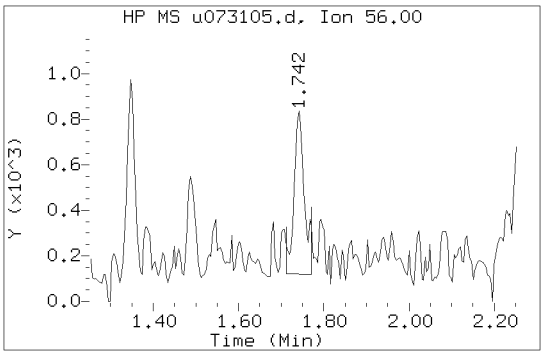
Acrolein (107-02-8)

Reason Code:

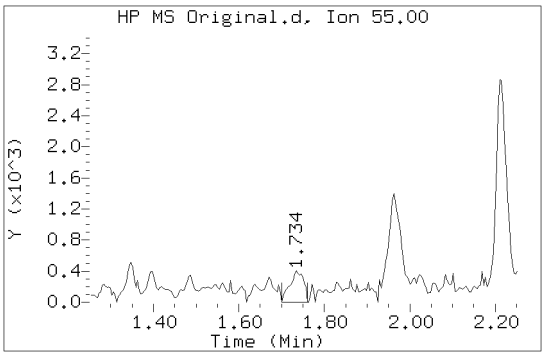
BEFORE
MASS
56
AREA
1238
HEIGHT
717
01-Aug-2023
21:03



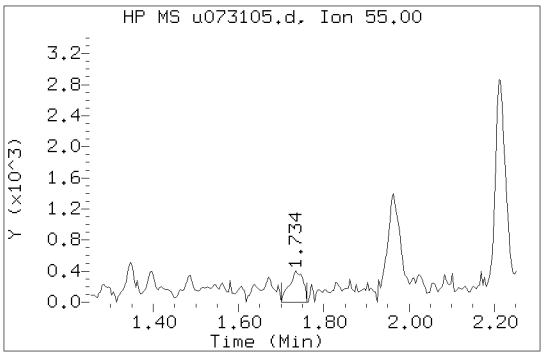
AFTER
MASS
56
AREA
1238
HEIGHT
717
01-Aug-2023
21:03



BEFORE
MASS
55
AREA
889
HEIGHT
407
01-Aug-2023
21:03



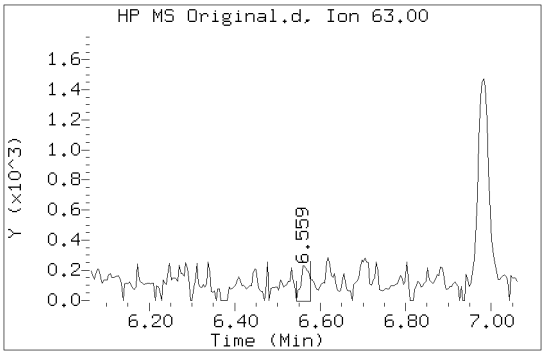
AFTER
MASS
55
AREA
889
HEIGHT
407
01-Aug-2023
21:03



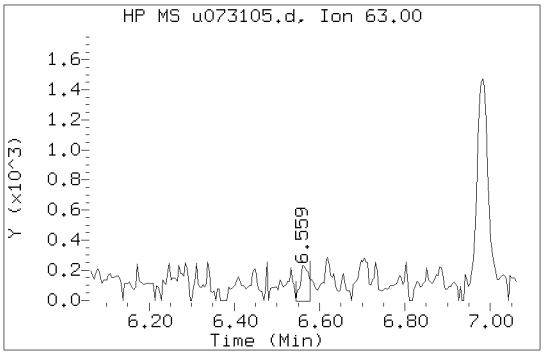
2-Chloroethylvinyl ether (110-75-8)

Reason Code:

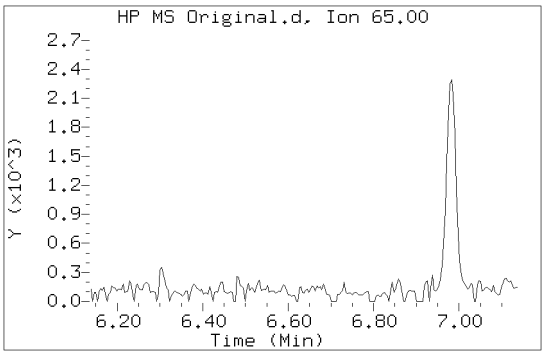
BEFORE
MASS
63
AREA
335
HEIGHT
235
01-Aug-2023
21:03



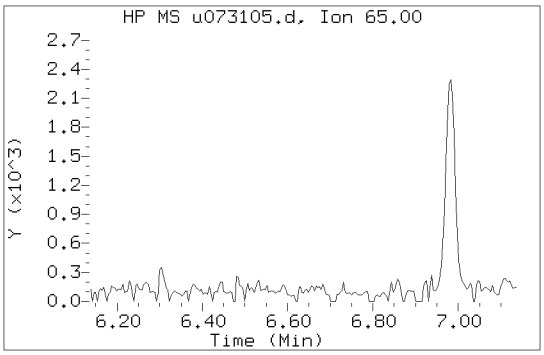
AFTER
MASS
63
AREA
335
HEIGHT
235
01-Aug-2023
21:03



BEFORE
MASS
65
AREA
0
HEIGHT
0
01-Aug-2023
21:03



AFTER
MASS
65
AREA
0
HEIGHT
0
01-Aug-2023
21:03



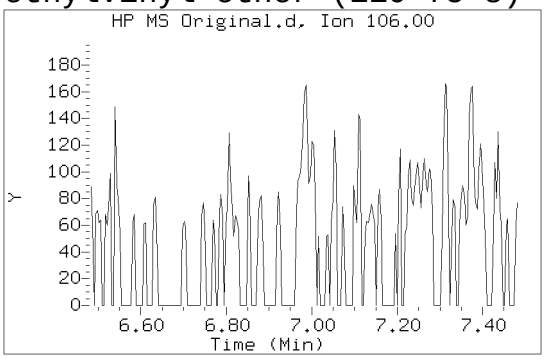
Data File : \\nahstws005\target\chem\voa9.i\u230731.b\u073105.d
Inj Date : 31-JUL-2023 12:59
InstruID : VOA9.i
LabSampID : VSTD002

2-Chloroethylvinyl ether (110-75-8)

Reason Code:

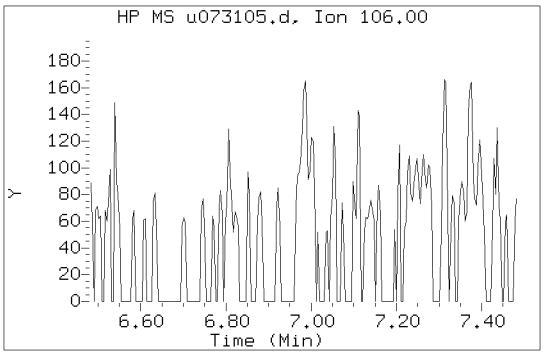
BEFORE

MASS
106
AREA
0
HEIGHT
0
01-Aug-2023
21:03



AFTER

MASS
106
AREA
0
HEIGHT
0
01-Aug-2023
21:03

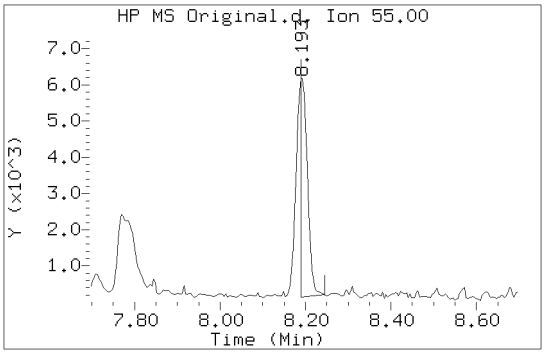


1-Chlorohexane (544-10-5)

Reason Code:

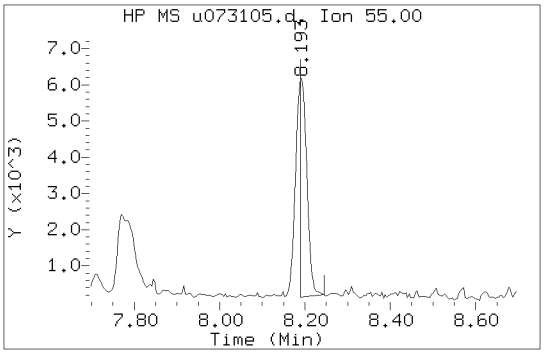
BEFORE

MASS
55
AREA
7024
HEIGHT
6030
01-Aug-2023
21:03



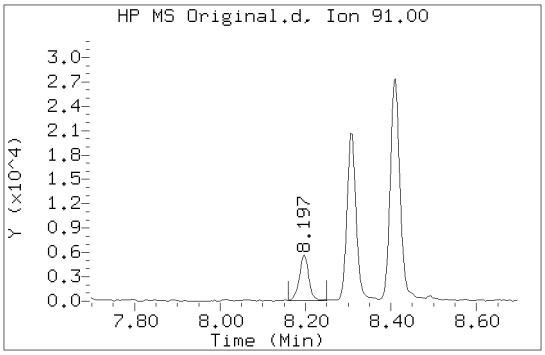
AFTER

MASS
55
AREA
7024
HEIGHT
6030
01-Aug-2023
21:03



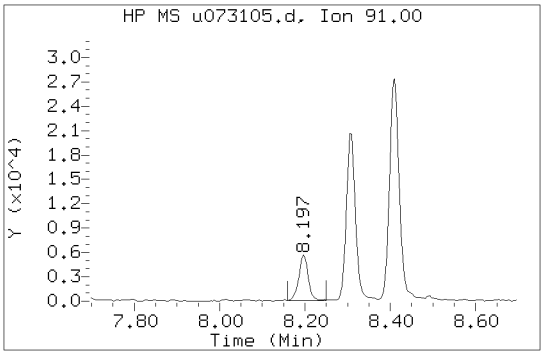
BEFORE

MASS
91
AREA
8656
HEIGHT
5589
01-Aug-2023
21:03



AFTER

MASS
91
AREA
8656
HEIGHT
5589
01-Aug-2023
21:03

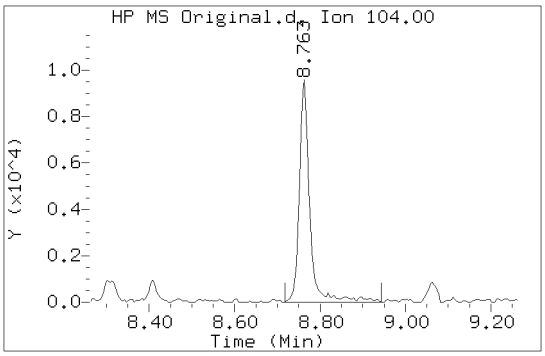


Styrene (100-42-5)

Reason Code:

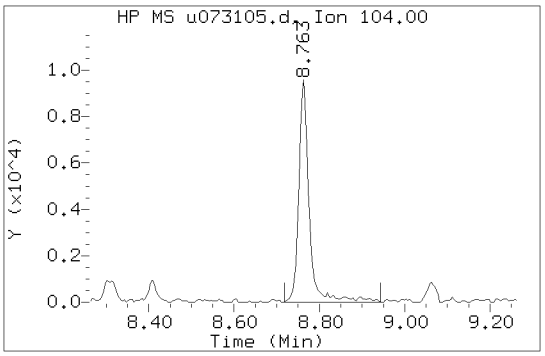
BEFORE

MASS
104
AREA
16730
HEIGHT
9582
01-Aug-2023
21:03



AFTER

MASS
104
AREA
16730
HEIGHT
9582
01-Aug-2023
21:03



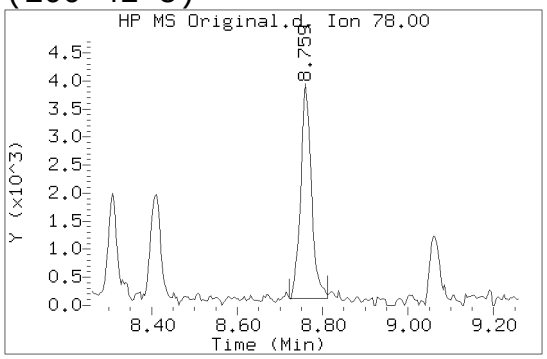
Data File : \\nahstws005\target\chem\voa9.i\u230731.b\u073105.d
Inj Date : 31-JUL-2023 12:59
InstruID : VOA9.i
LabSampID : VSTD002

Styrene (100-42-5)

Reason Code:

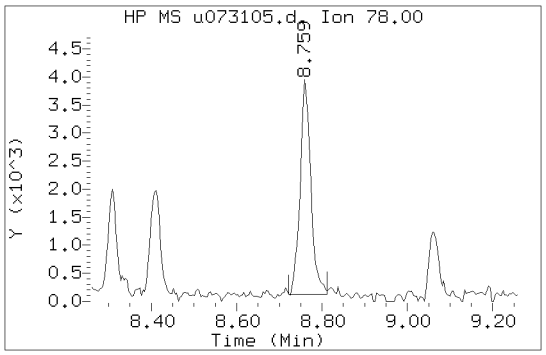
BEFORE

MASS
78
AREA
6853
HEIGHT
3826
01-Aug-2023
21:03



AFTER

MASS
78
AREA
6853
HEIGHT
3826
01-Aug-2023
21:03

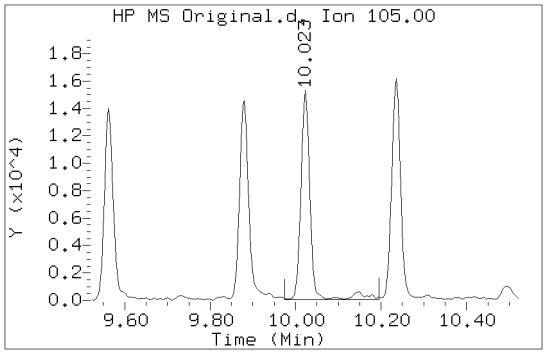


sec-Butylbenzene (135-98-8)

Reason Code:

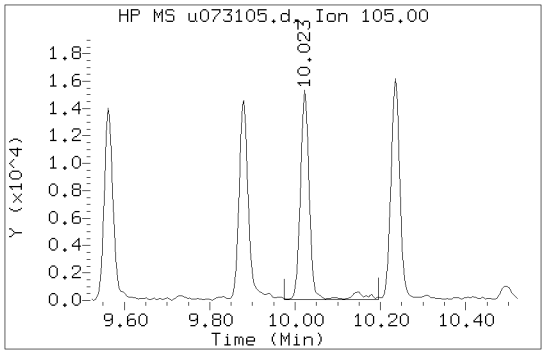
BEFORE

MASS
105
AREA
23804
HEIGHT
15302
01-Aug-2023
21:03



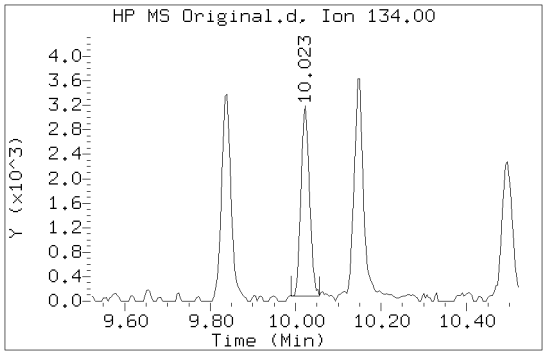
AFTER

MASS
105
AREA
23804
HEIGHT
15302
01-Aug-2023
21:03



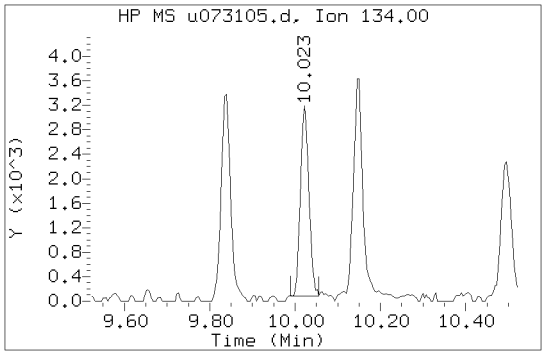
BEFORE

MASS
134
AREA
4423
HEIGHT
3109
01-Aug-2023
21:03



AFTER

MASS
134
AREA
4423
HEIGHT
3109
01-Aug-2023
21:03

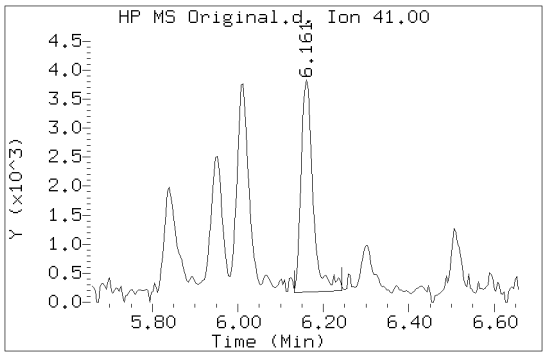


Methyl Methacrylate (80-62-6)

Reason Code:

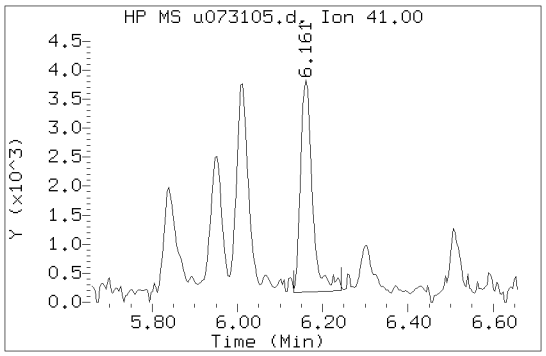
BEFORE

MASS
41
AREA
7198
HEIGHT
3653
01-Aug-2023
21:03



AFTER

MASS
41
AREA
7198
HEIGHT
3653
01-Aug-2023
21:03

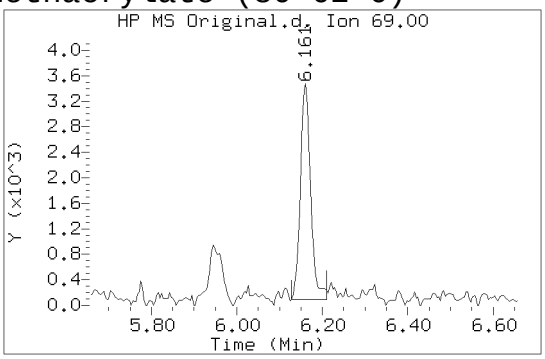


Data File : \\nahstws005\target\chem\voa9.i\u230731.b\u073105.d
Inj Date : 31-JUL-2023 12:59
InstruID : VOA9.i
LabSampID : VSTD002

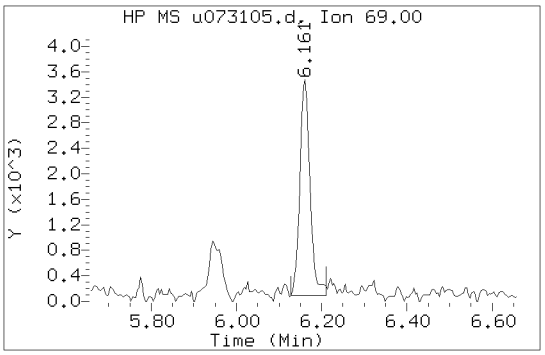
Methyl Methacrylate (80-62-6)

Reason Code:

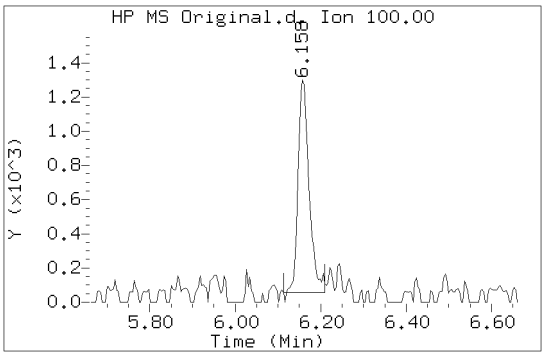
BEFORE
MASS
69
AREA
5750
HEIGHT
3389
01-Aug-2023
21:03



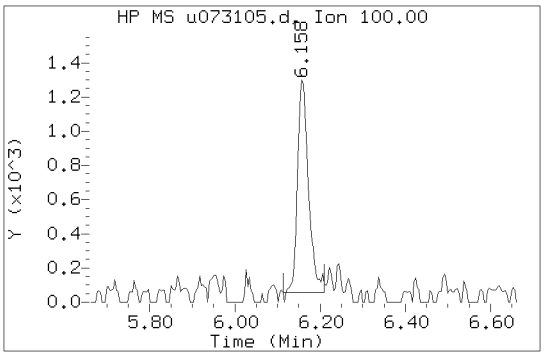
AFTER
MASS
69
AREA
5750
HEIGHT
3389
01-Aug-2023
21:03



BEFORE
MASS
100
AREA
2274
HEIGHT
1243
01-Aug-2023
21:03



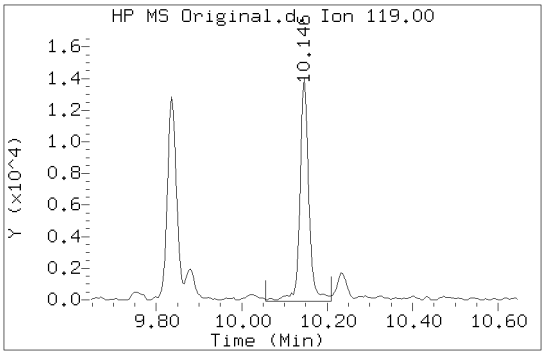
AFTER
MASS
100
AREA
2274
HEIGHT
1243
01-Aug-2023
21:03



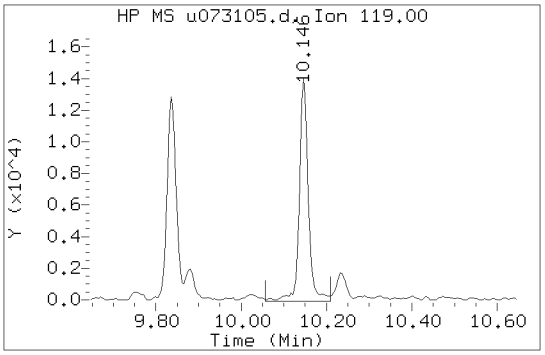
p-Isopropyltoluene (99-87-6)

Reason Code:

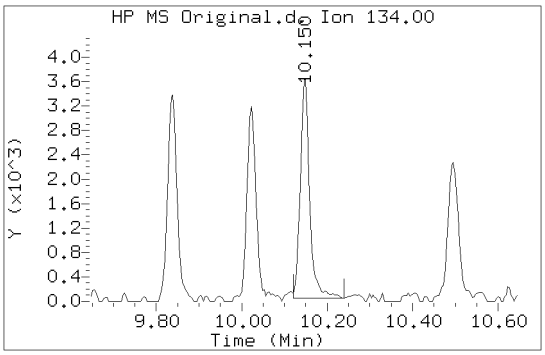
BEFORE
MASS
119
AREA
21012
HEIGHT
14059
01-Aug-2023
21:03



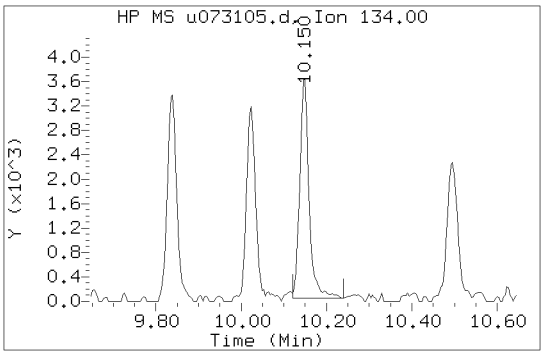
AFTER
MASS
119
AREA
21012
HEIGHT
14059
01-Aug-2023
21:03



BEFORE
MASS
134
AREA
5521
HEIGHT
3574
01-Aug-2023
21:03



AFTER
MASS
134
AREA
5521
HEIGHT
3574
01-Aug-2023
21:03



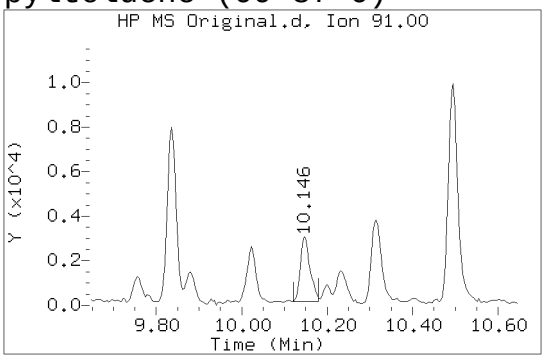
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Inj Date : 31-JUL-2023 12:59
InstruID : VOA9.i
LabSampID : VSTD002

p-Isopropyltoluene (99-87-6)

Reason Code:

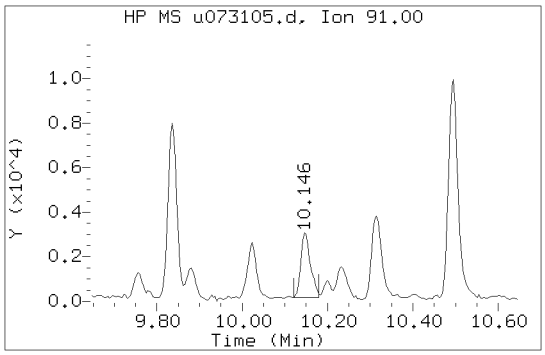
BEFORE

MASS
91
AREA
4681
HEIGHT
2906
01-Aug-2023
21:03



AFTER

MASS
91
AREA
4681
HEIGHT
2906
01-Aug-2023
21:03

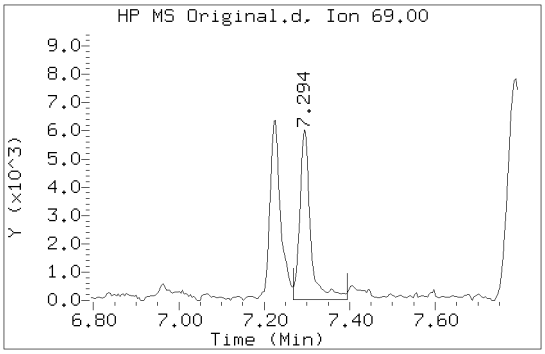


Ethyl Methacrylate (97-63-2)

Reason Code:

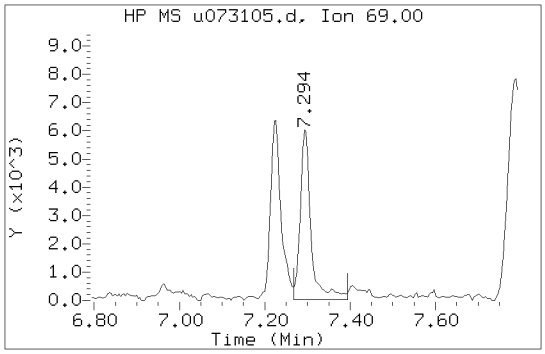
BEFORE

MASS
69
AREA
10845
HEIGHT
6021
01-Aug-2023
21:03



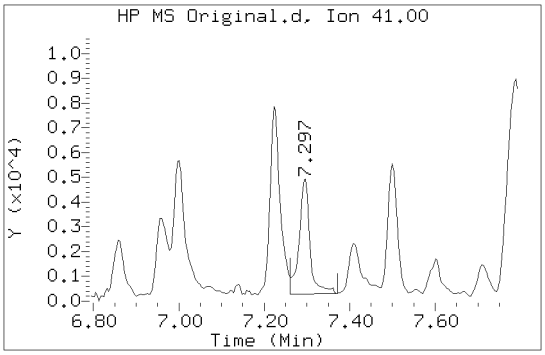
AFTER

MASS
69
AREA
10845
HEIGHT
6021
01-Aug-2023
21:03



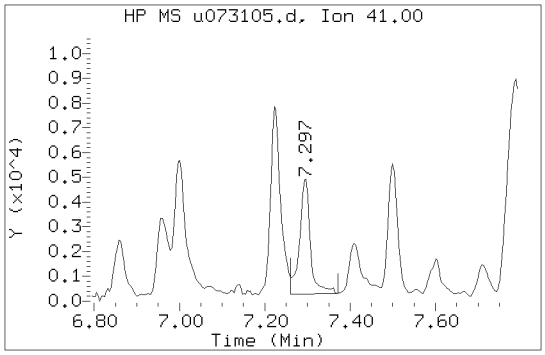
BEFORE

MASS
41
AREA
8474
HEIGHT
4635
01-Aug-2023
21:03



AFTER

MASS
41
AREA
8474
HEIGHT
4635
01-Aug-2023
21:03

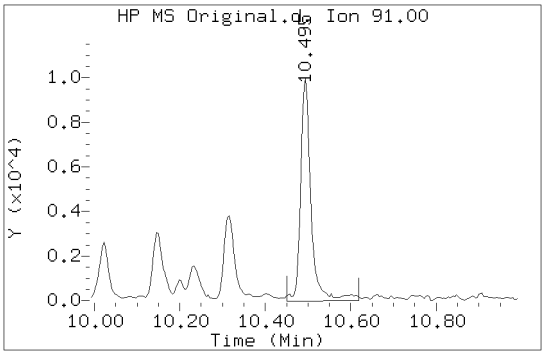


n-Butylbenzene (104-51-8)

Reason Code:

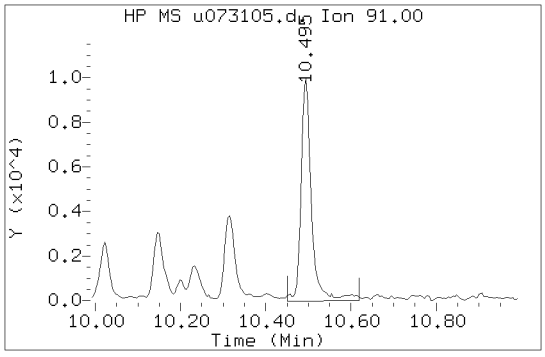
BEFORE

MASS
91
AREA
17310
HEIGHT
9967
01-Aug-2023
21:03



AFTER

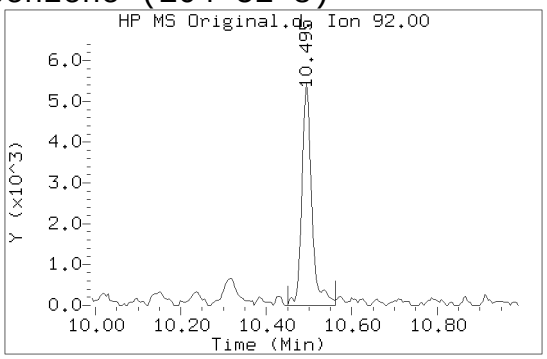
MASS
91
AREA
17310
HEIGHT
9967
01-Aug-2023
21:03



Data File : \\nahstws005\target\chem\voa9.i\u230731.b\u073105.d
Inj Date : 31-JUL-2023 12:59
InstruID : VOA9.i
LabSampID : VSTD002

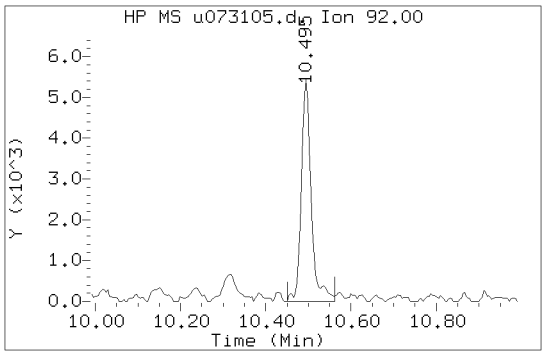
n-Butylbenzene (104-51-8)

BEFORE
MASS
92
AREA
8944
HEIGHT
5435
01-Aug-2023
21:03

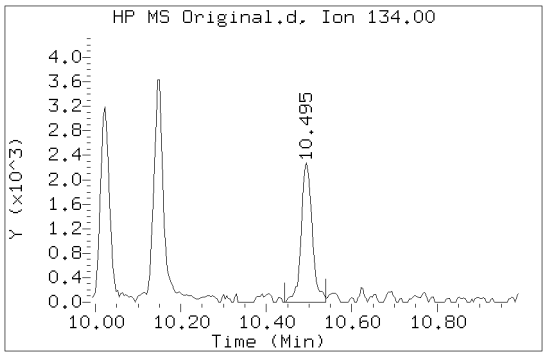


AFTER
MASS
92
AREA
8944
HEIGHT
5435
01-Aug-2023
21:03

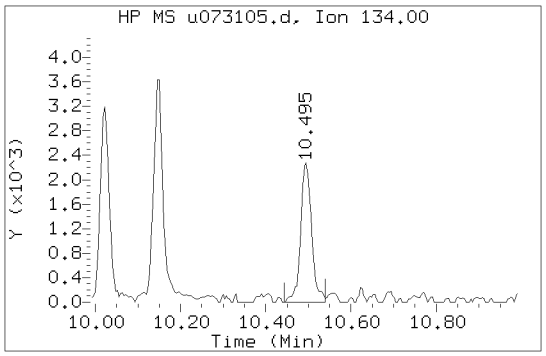
Reason Code:



BEFORE
MASS
134
AREA
4164
HEIGHT
2274
01-Aug-2023
21:03

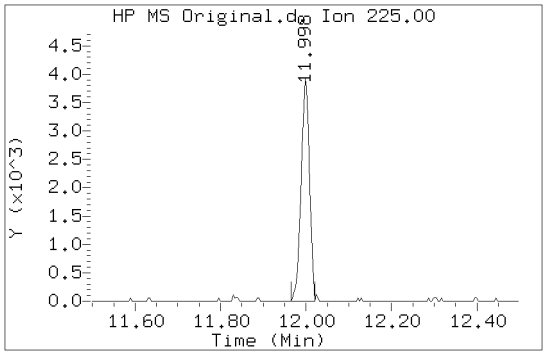


AFTER
MASS
134
AREA
4164
HEIGHT
2274
01-Aug-2023
21:03



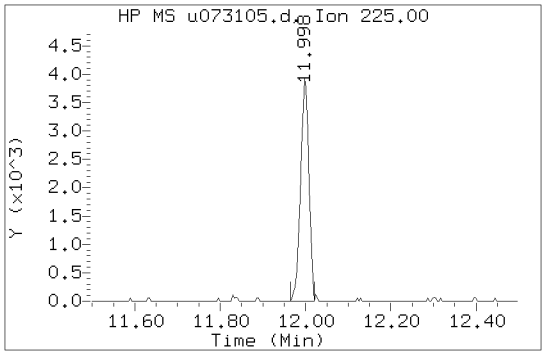
Hexachlorobutadiene (87-68-3)

BEFORE
MASS
225
AREA
5519
HEIGHT
3917
01-Aug-2023
21:03

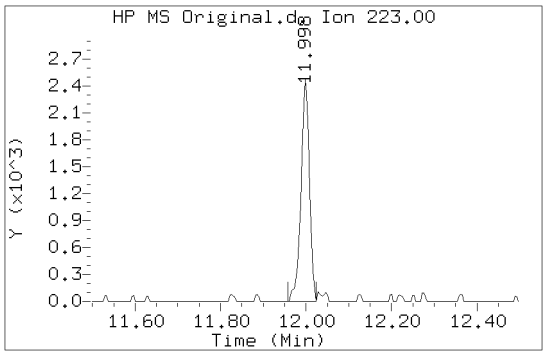


AFTER
MASS
225
AREA
5519
HEIGHT
3917
01-Aug-2023
21:03

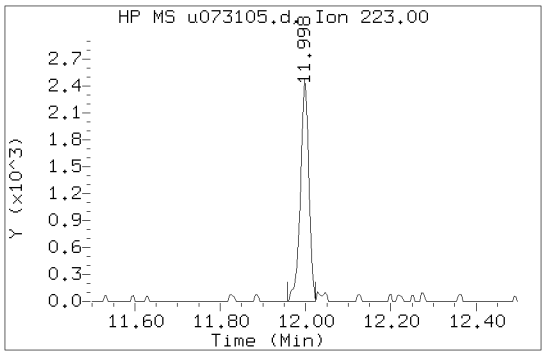
Reason Code:



BEFORE
MASS
223
AREA
3509
HEIGHT
2471
01-Aug-2023
21:03



AFTER
MASS
223
AREA
3509
HEIGHT
2471
01-Aug-2023
21:03

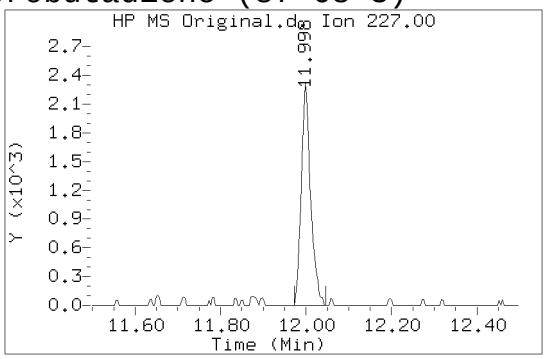


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Inj Date : 31-JUL-2023 12:59
InstruID : VOA9.i
LabSampID : VSTD002

Hexachlorobutadiene (87-68-3)

BEFORE

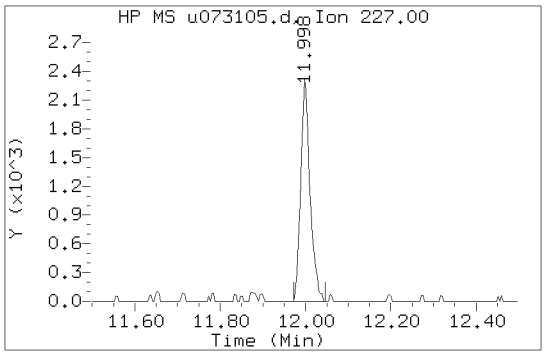
MASS
227
AREA
3623
HEIGHT
2314
01-Aug-2023
21:03



Reason Code:

AFTER

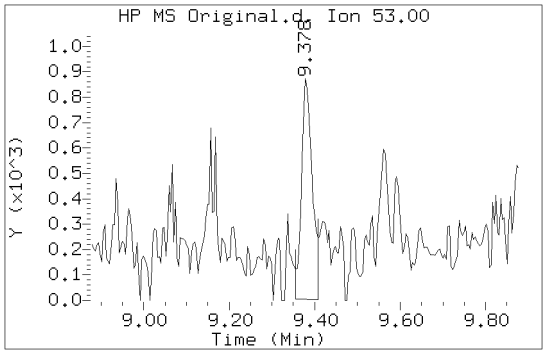
MASS
227
AREA
3623
HEIGHT
2314
01-Aug-2023
21:03



trans-1,4-Dichloro-2-butene (110-57-6)

BEFORE

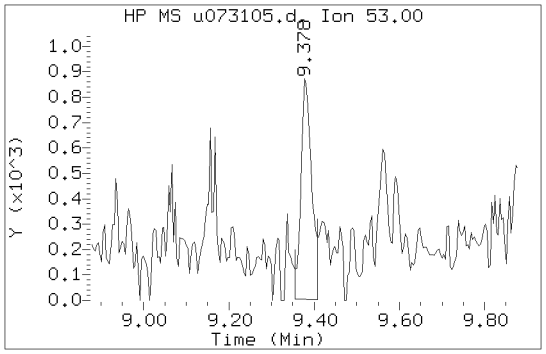
MASS
53
AREA
1567
HEIGHT
868
01-Aug-2023
21:03



Reason Code:

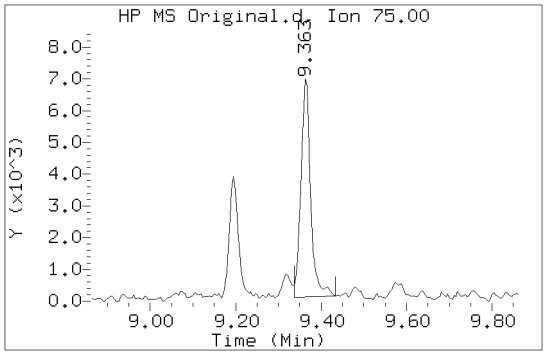
AFTER

MASS
53
AREA
1567
HEIGHT
868
01-Aug-2023
21:03



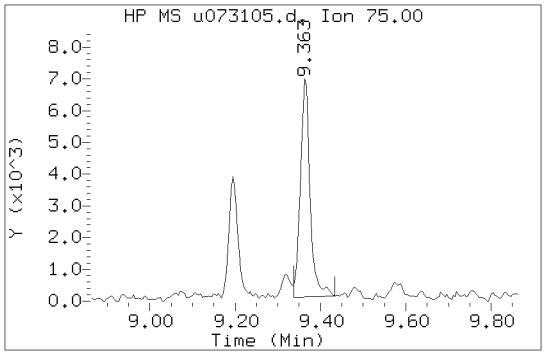
BEFORE

MASS
75
AREA
11095
HEIGHT
6863
01-Aug-2023
21:03



AFTER

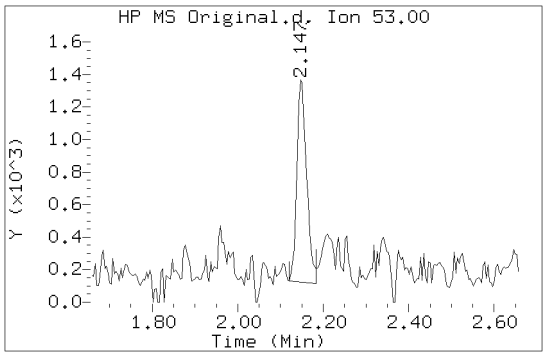
MASS
75
AREA
11095
HEIGHT
6863
01-Aug-2023
21:03



Chloroprene (126-99-8)

BEFORE

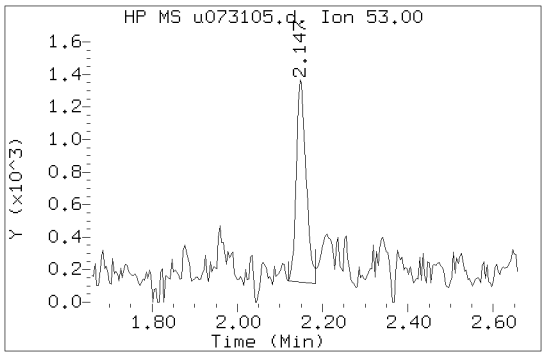
MASS
53
AREA
2033
HEIGHT
1244
01-Aug-2023
21:03



Reason Code:

AFTER

MASS
53
AREA
2033
HEIGHT
1244
01-Aug-2023
21:03

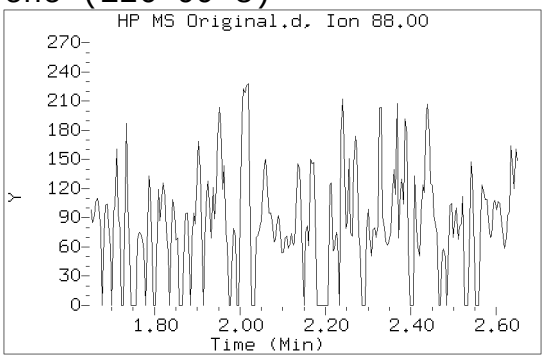


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Inj Date : 31-JUL-2023 12:59
InstruID : VOA9.i
LabSampID : VSTD002

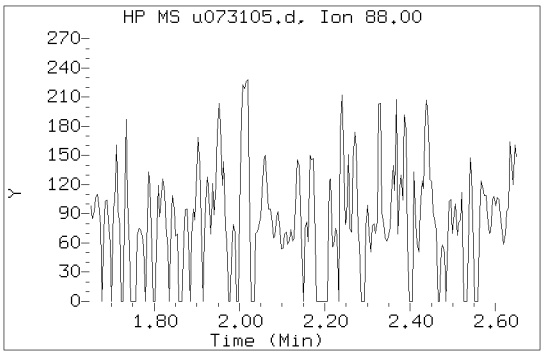
Chloroprene (126-99-8)

Reason Code:

BEFORE
MASS
88
AREA
0
HEIGHT
0
01-Aug-2023
21:03



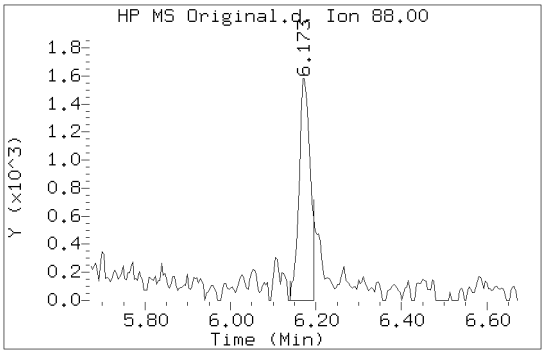
AFTER
MASS
88
AREA
0
HEIGHT
0
01-Aug-2023
21:03



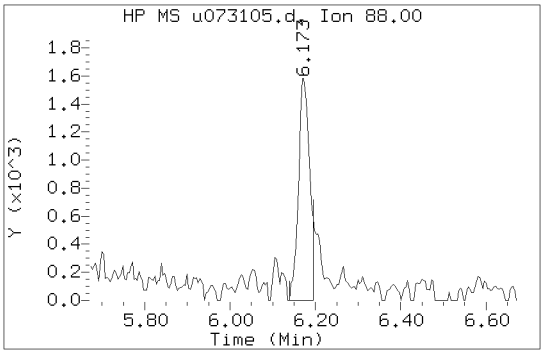
1,4-Dioxane ()

Reason Code:

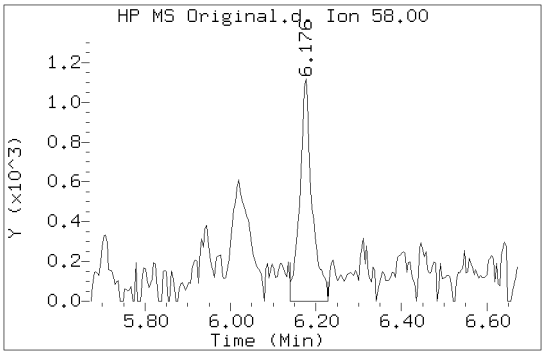
BEFORE
MASS
88
AREA
2926
HEIGHT
1580
01-Aug-2023
21:03



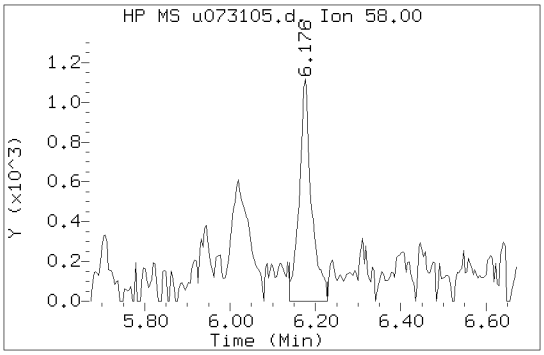
AFTER
MASS
88
AREA
2926
HEIGHT
1580
01-Aug-2023
21:03



BEFORE
MASS
58
AREA
2267
HEIGHT
1118
01-Aug-2023
21:03



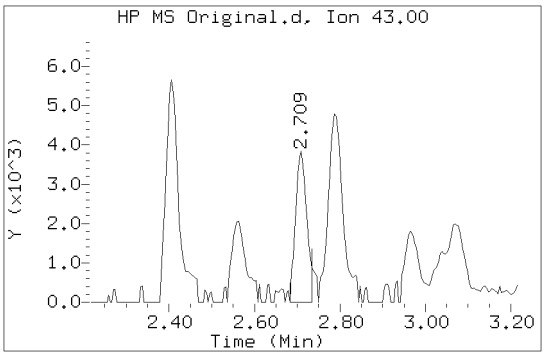
AFTER
MASS
58
AREA
2267
HEIGHT
1118
01-Aug-2023
21:03



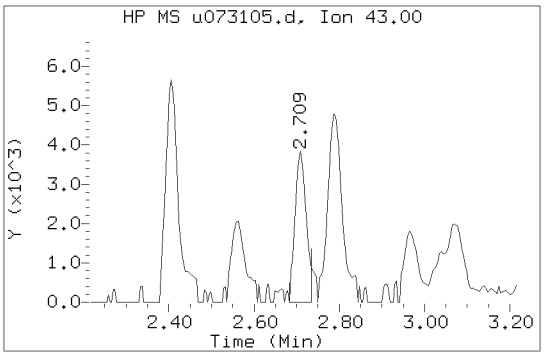
Methyl acetate (79-20-9)

Reason Code:

BEFORE
MASS
43
AREA
7184
HEIGHT
3842
01-Aug-2023
21:03



AFTER
MASS
43
AREA
7184
HEIGHT
3842
01-Aug-2023
21:03

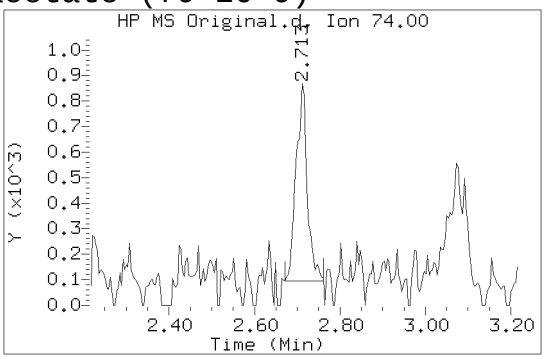


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Inj Date : 31-JUL-2023 12:59
InstruID : VOA9.i
LabSampID : VSTD002

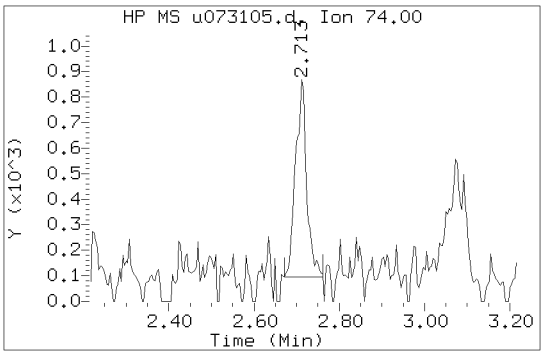
Methyl acetate (79-20-9)

Reason Code:

BEFORE
MASS
74
AREA
1420
HEIGHT
772
01-Aug-2023
21:03



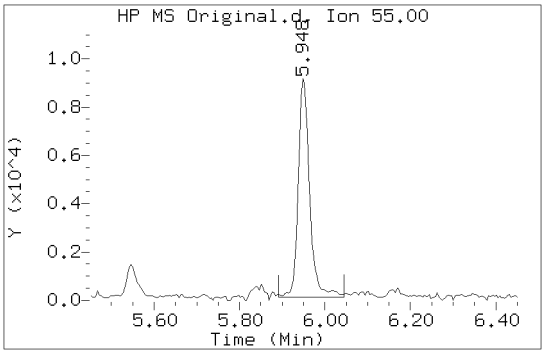
AFTER
MASS
74
AREA
1420
HEIGHT
772
01-Aug-2023
21:03



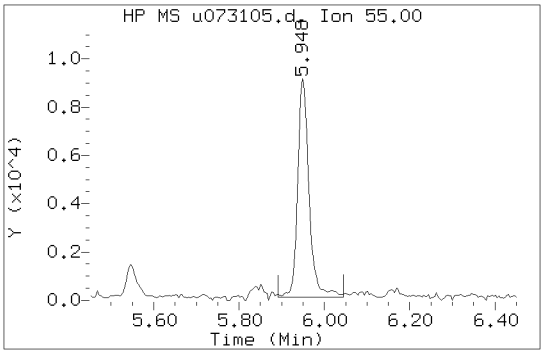
Methylcyclohexane (108-87-2)

Reason Code:

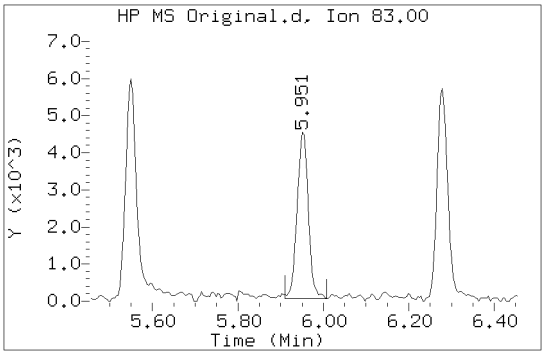
BEFORE
MASS
55
AREA
17254
HEIGHT
9046
01-Aug-2023
21:03



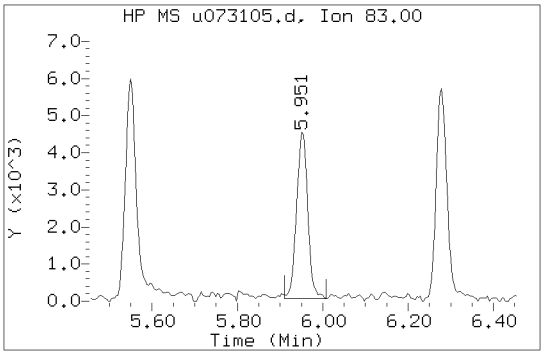
AFTER
MASS
55
AREA
17254
HEIGHT
9046
01-Aug-2023
21:03



BEFORE
MASS
83
AREA
8345
HEIGHT
4478
01-Aug-2023
21:03



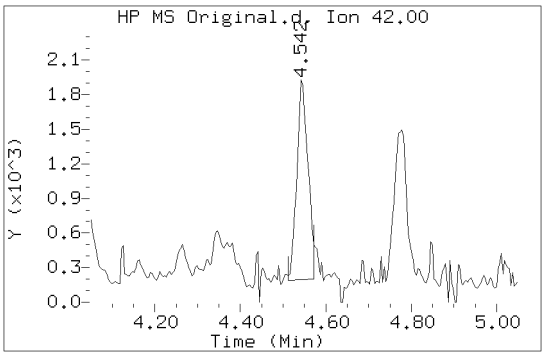
AFTER
MASS
83
AREA
8345
HEIGHT
4478
01-Aug-2023
21:03



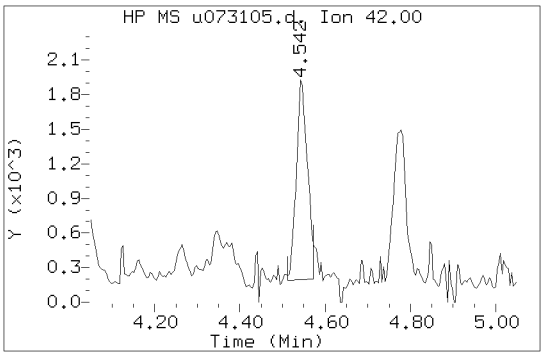
Tetrahydrofuran (109-99-9)

Reason Code:

BEFORE
MASS
42
AREA
3194
HEIGHT
1734
01-Aug-2023
21:03



AFTER
MASS
42
AREA
3194
HEIGHT
1734
01-Aug-2023
21:03

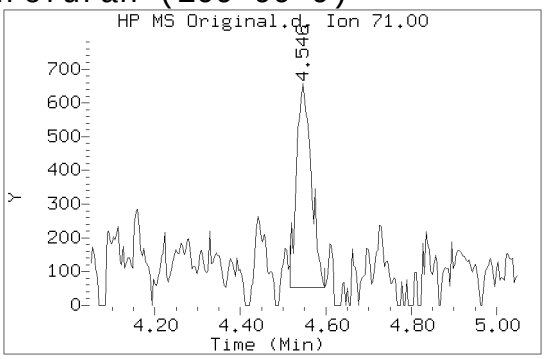


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Inj Date : 31-JUL-2023 12:59
InstruID : VOA9.i
LabSampID : VSTD002

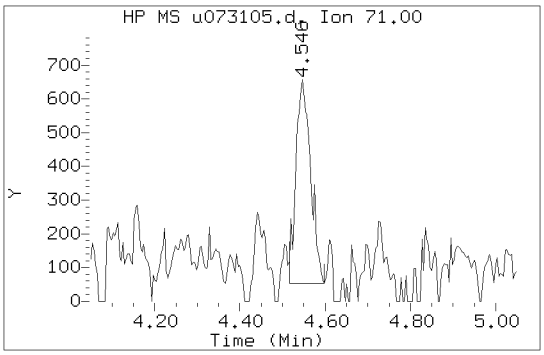
Tetrahydrofuran (109-99-9)

Reason Code:

BEFORE
MASS
71
AREA
1465
HEIGHT
603
01-Aug-2023
21:03



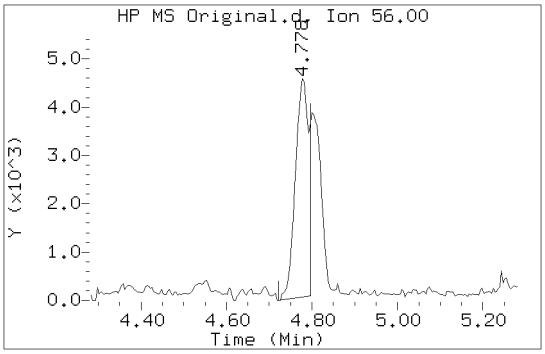
AFTER
MASS
71
AREA
1465
HEIGHT
603
01-Aug-2023
21:03



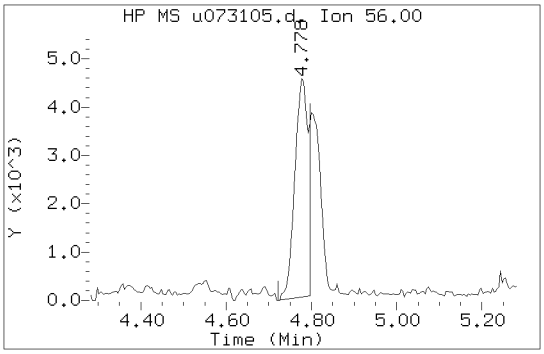
Cyclohexane (110-82-7)

Reason Code:

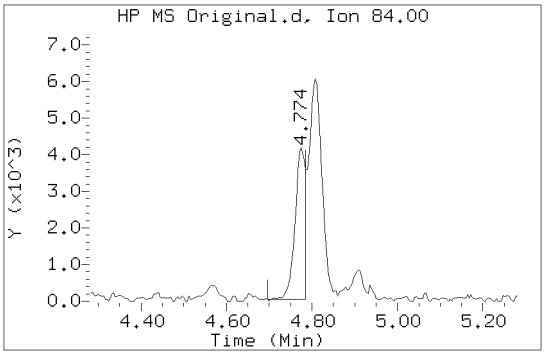
BEFORE
MASS
56
AREA
10228
HEIGHT
4523
01-Aug-2023
21:03



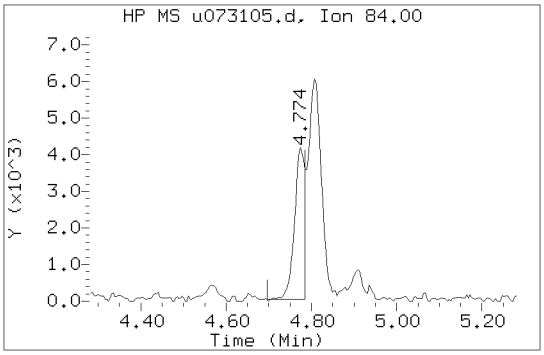
AFTER
MASS
56
AREA
10228
HEIGHT
4523
01-Aug-2023
21:03



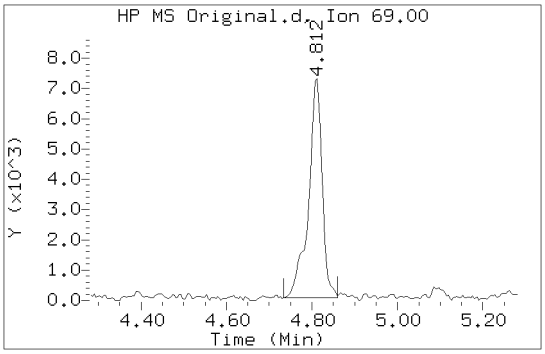
BEFORE
MASS
84
AREA
7125
HEIGHT
4139
01-Aug-2023
21:03



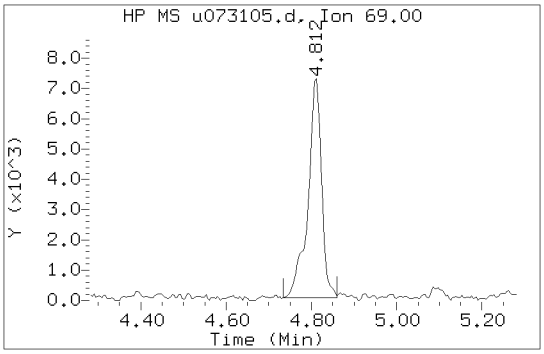
AFTER
MASS
84
AREA
7125
HEIGHT
4139
01-Aug-2023
21:03



BEFORE
MASS
69
AREA
16107
HEIGHT
7234
01-Aug-2023
21:03



AFTER
MASS
69
AREA
16107
HEIGHT
7234
01-Aug-2023
21:03

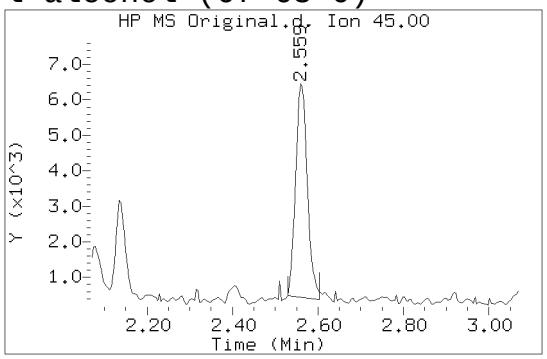


Data File : \\nahstws005\target\chem\voa9.i\u230731.b\u073105.d
Inj Date : 31-JUL-2023 12:59
InstruID : VOA9.i
LabSampID : VSTD002

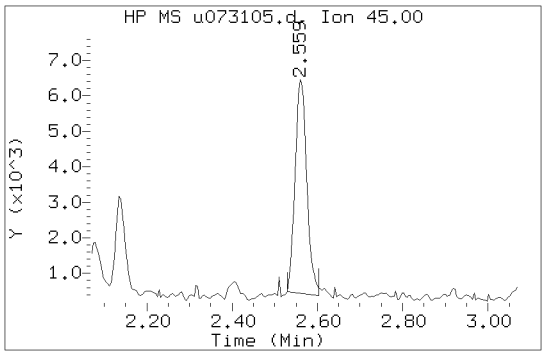
Isopropyl alcohol (67-63-0)

Reason Code:

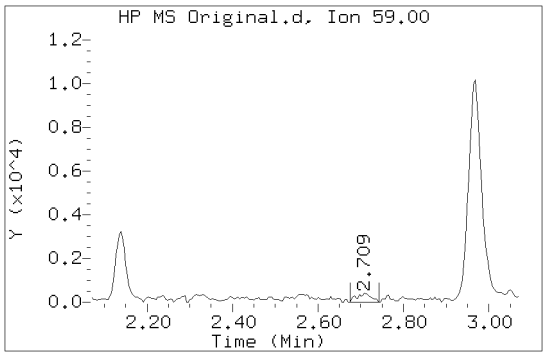
BEFORE
MASS
45
AREA
11717
HEIGHT
6022
01-Aug-2023
21:03



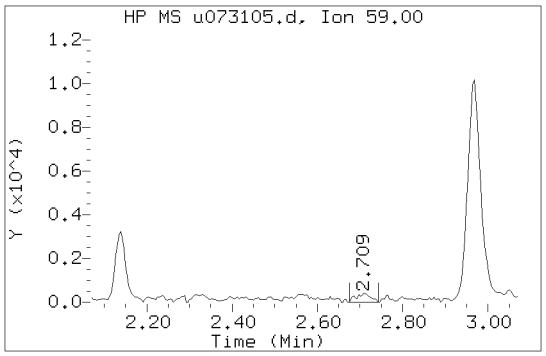
AFTER
MASS
45
AREA
11717
HEIGHT
6022
01-Aug-2023
21:03



BEFORE
MASS
59
AREA
965
HEIGHT
397
01-Aug-2023
21:03



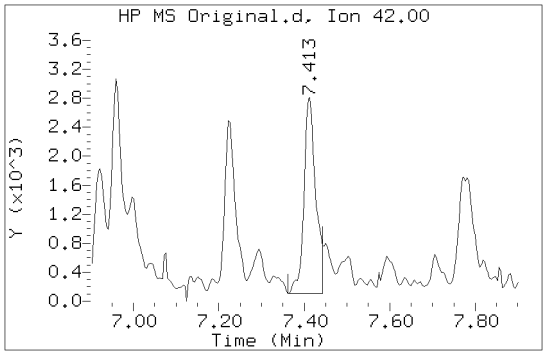
AFTER
MASS
59
AREA
965
HEIGHT
397
01-Aug-2023
21:03



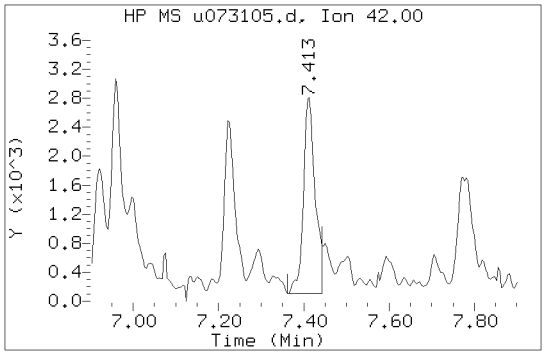
Amyl alcohol (71-41-0)

Reason Code:

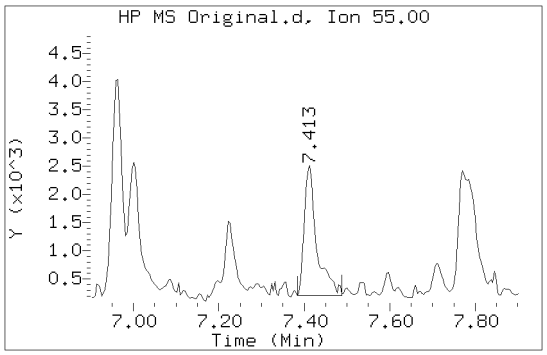
BEFORE
MASS
42
AREA
5299
HEIGHT
2702
01-Aug-2023
21:03



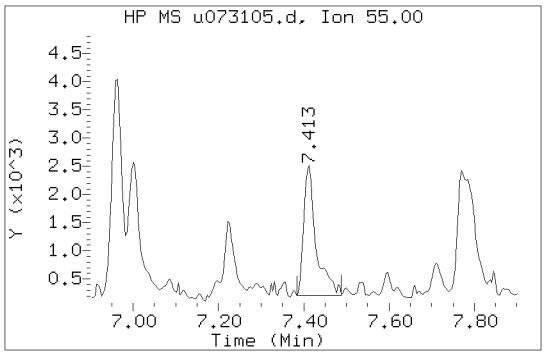
AFTER
MASS
42
AREA
5299
HEIGHT
2702
01-Aug-2023
21:03



BEFORE
MASS
55
AREA
4770
HEIGHT
2303
01-Aug-2023
21:03



AFTER
MASS
55
AREA
4770
HEIGHT
2303
01-Aug-2023
21:03

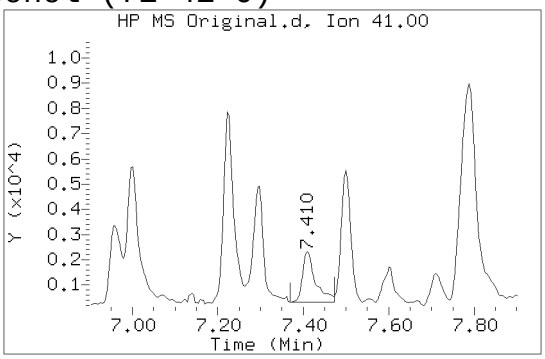


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Inj Date : 31-JUL-2023 12:59
InstruID : VOA9.i
LabSampID : VSTD002

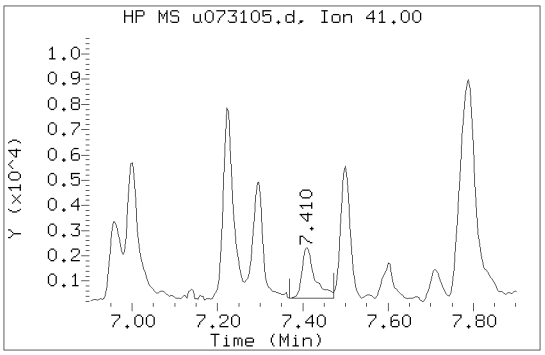
Amyl alcohol (71-41-0)

Reason Code:

BEFORE
MASS
41
AREA
4366
HEIGHT
2016
01-Aug-2023
21:03



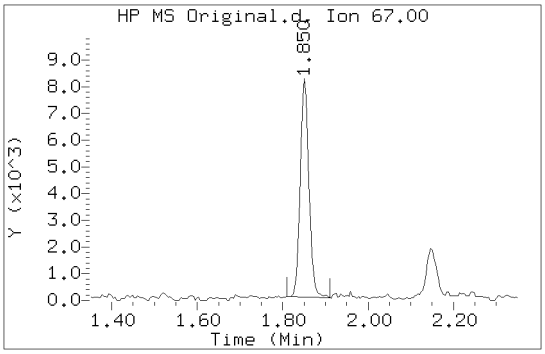
AFTER
MASS
41
AREA
4366
HEIGHT
2016
01-Aug-2023
21:03



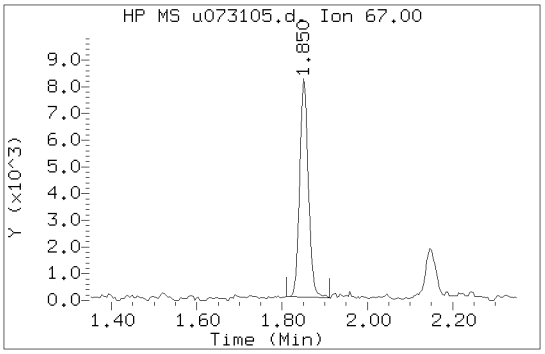
Dichlorofluoromethane (75-43-4)

Reason Code:

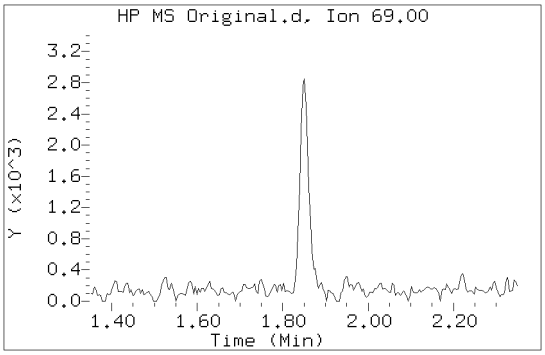
BEFORE
MASS
67
AREA
11833
HEIGHT
8182
01-Aug-2023
21:03



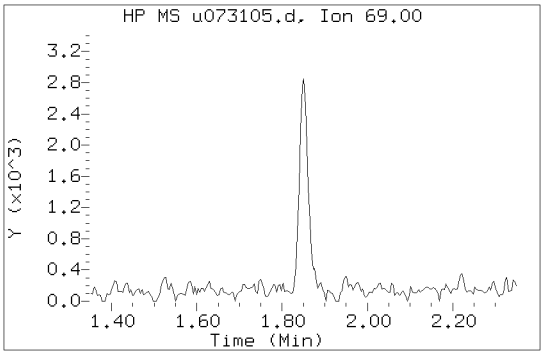
AFTER
MASS
67
AREA
11833
HEIGHT
8182
01-Aug-2023
21:03



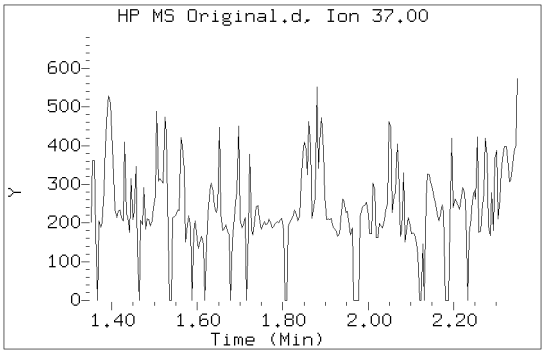
BEFORE
MASS
69
AREA
0
HEIGHT
0
01-Aug-2023
21:03



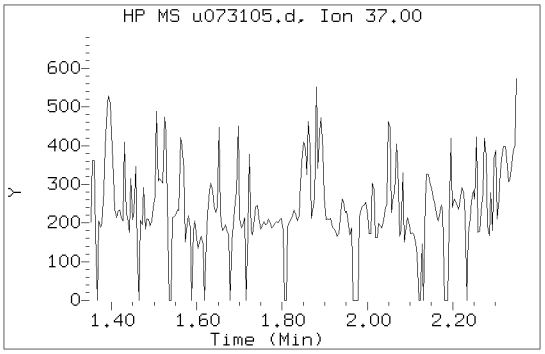
AFTER
MASS
69
AREA
0
HEIGHT
0
01-Aug-2023
21:03



BEFORE
MASS
37
AREA
0
HEIGHT
0
01-Aug-2023
21:03



AFTER
MASS
37
AREA
0
HEIGHT
0
01-Aug-2023
21:03

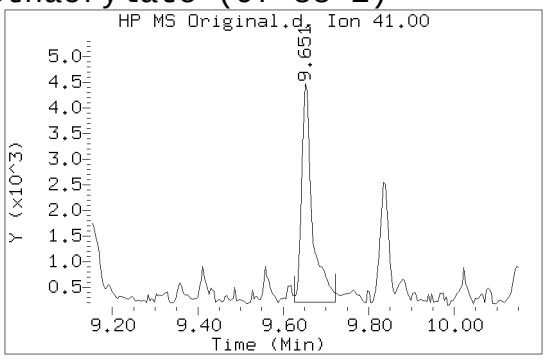


Data File : \\nahstws005\target\chem\voa9.i\u230731.b\u073105.d
Inj Date : 31-JUL-2023 12:59
InstruID : VOA9.i
LabSampID : VSTD002

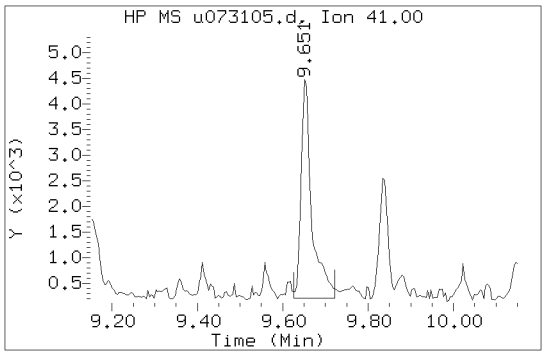
Butyl methacrylate (97-88-1)

Reason Code:

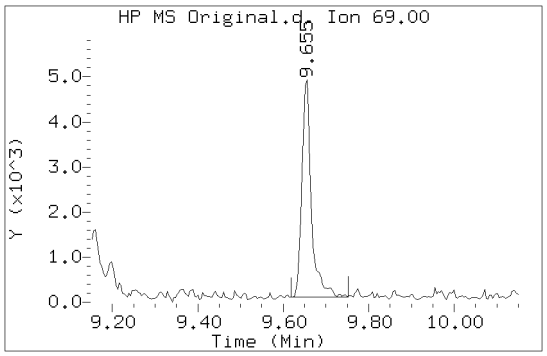
BEFORE
MASS
41
AREA
7671
HEIGHT
4267
01-Aug-2023
21:03



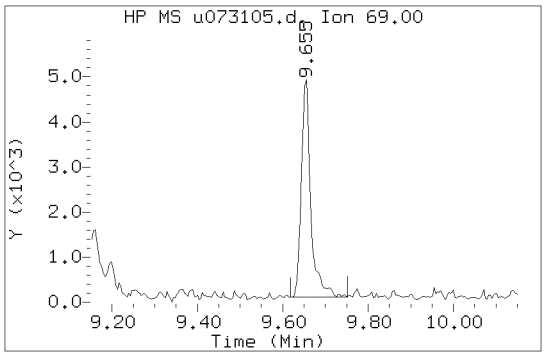
AFTER
MASS
41
AREA
7671
HEIGHT
4267
01-Aug-2023
21:03



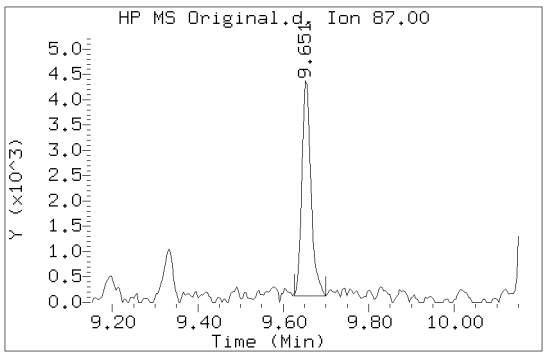
BEFORE
MASS
69
AREA
7636
HEIGHT
4818
01-Aug-2023
21:03



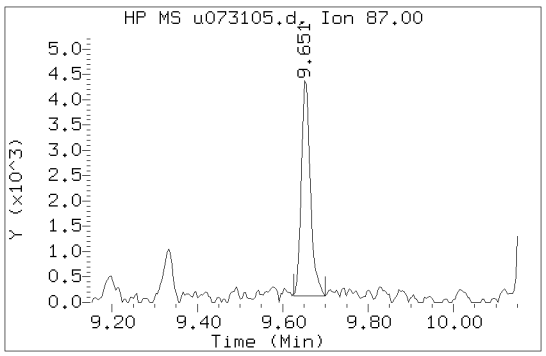
AFTER
MASS
69
AREA
7636
HEIGHT
4818
01-Aug-2023
21:03



BEFORE
MASS
87
AREA
6464
HEIGHT
4246
01-Aug-2023
21:03



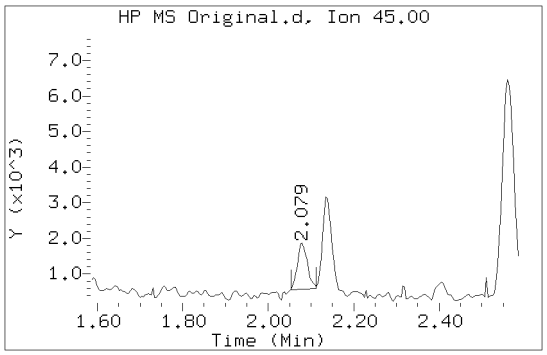
AFTER
MASS
87
AREA
6464
HEIGHT
4246
01-Aug-2023
21:03



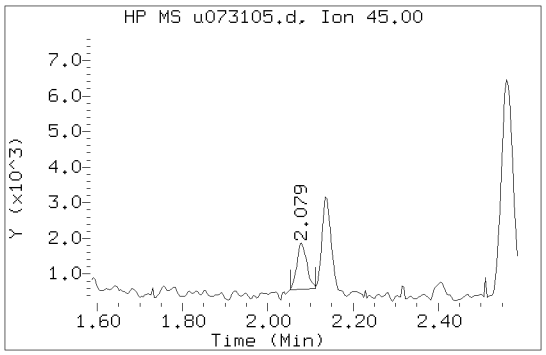
Ethanol (64-17-5)

Reason Code:

BEFORE
MASS
45
AREA
2145
HEIGHT
1308
01-Aug-2023
21:03



AFTER
MASS
45
AREA
2145
HEIGHT
1308
01-Aug-2023
21:03

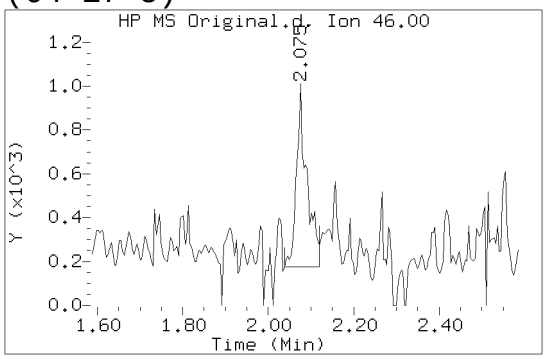


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Inj Date : 31-JUL-2023 12:59
InstruID : VOA9.i
LabSampID : VSTD002

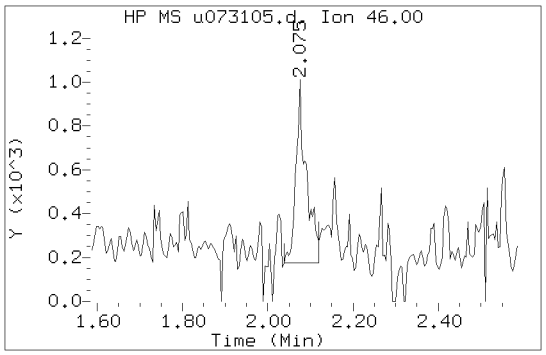
Ethanol (64-17-5)

Reason Code:

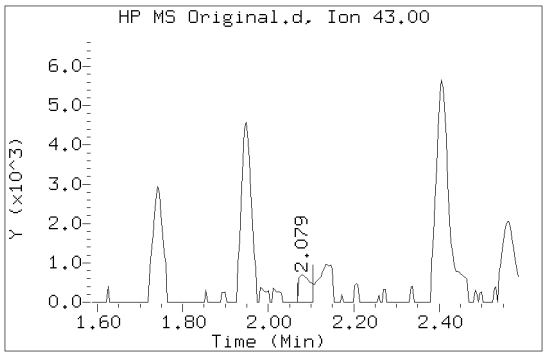
BEFORE
MASS
46
AREA
1416
HEIGHT
835
01-Aug-2023
21:03



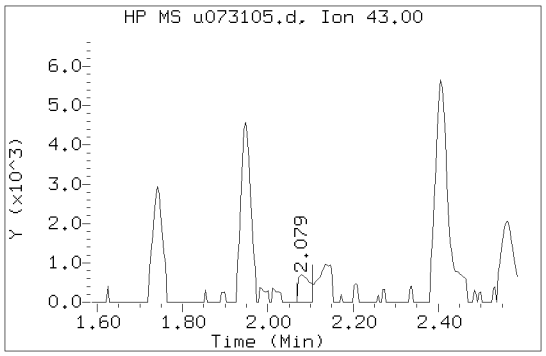
AFTER
MASS
46
AREA
1416
HEIGHT
835
01-Aug-2023
21:03



BEFORE
MASS
43
AREA
1335
HEIGHT
696
01-Aug-2023
21:03



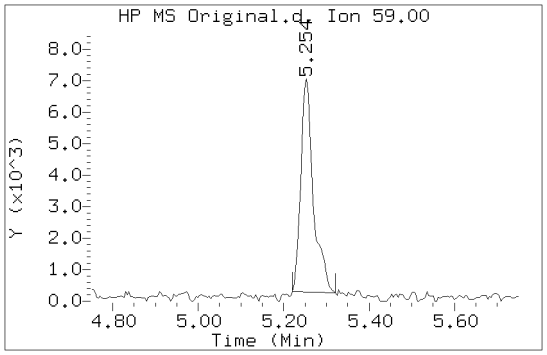
AFTER
MASS
43
AREA
1335
HEIGHT
696
01-Aug-2023
21:03



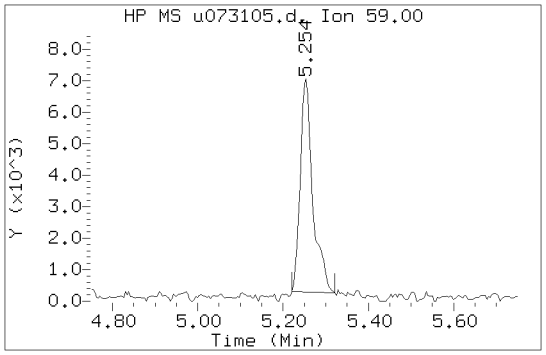
tert-Butyl formate (762-75-4)

Reason Code:

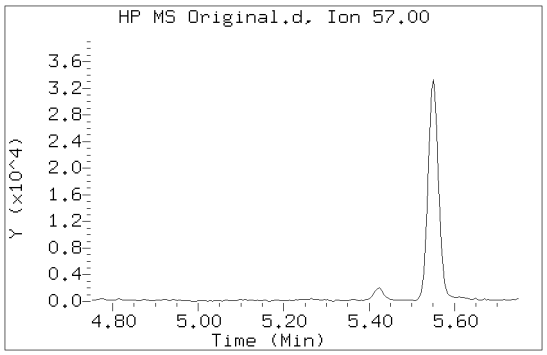
BEFORE
MASS
59
AREA
14015
HEIGHT
6762
01-Aug-2023
21:03



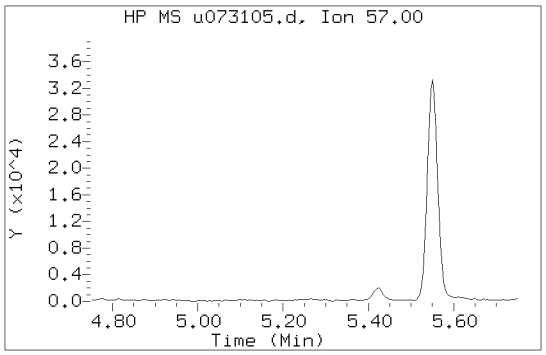
AFTER
MASS
59
AREA
14015
HEIGHT
6762
01-Aug-2023
21:03



BEFORE
MASS
57
AREA
0
HEIGHT
0
01-Aug-2023
21:03



AFTER
MASS
57
AREA
0
HEIGHT
0
01-Aug-2023
21:03

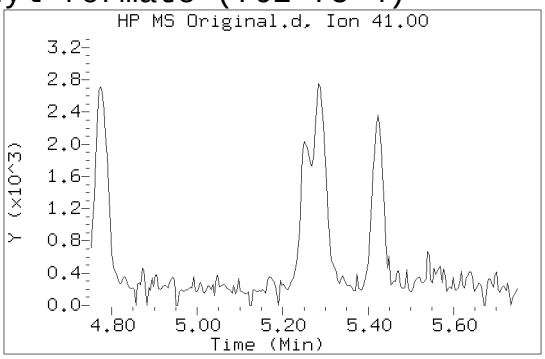


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Inj Date : 31-JUL-2023 12:59
InstruID : VOA9.i
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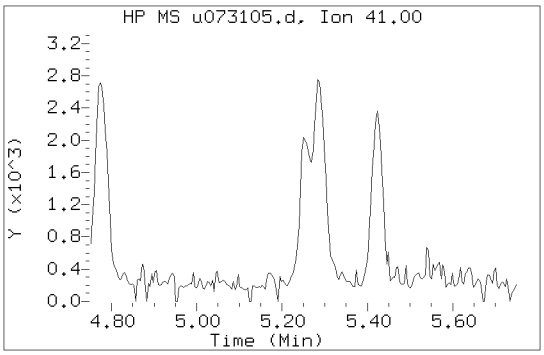
tert-Butyl formate (762-75-4)

Reason Code:

BEFORE
MASS
41
AREA
0
HEIGHT
0
01-Aug-2023
21:03



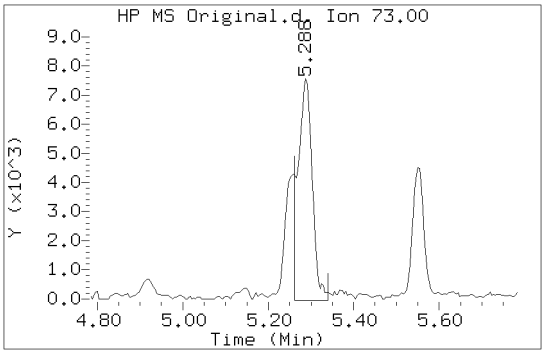
AFTER
MASS
41
AREA
0
HEIGHT
0
01-Aug-2023
21:03



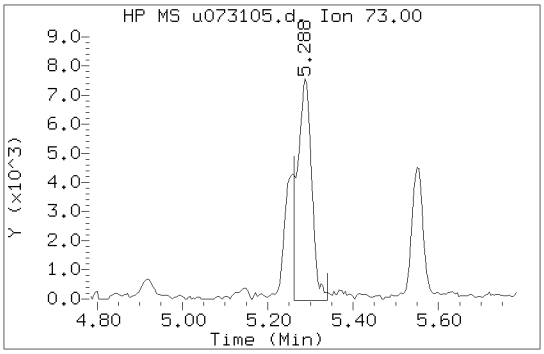
tert-Amyl methyl ether (974-05-08)

Reason Code:

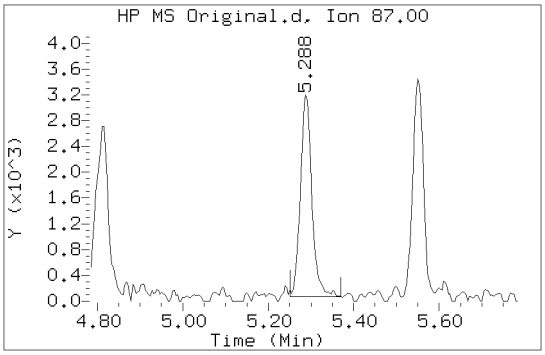
BEFORE
MASS
73
AREA
17751
HEIGHT
7610
01-Aug-2023
21:03



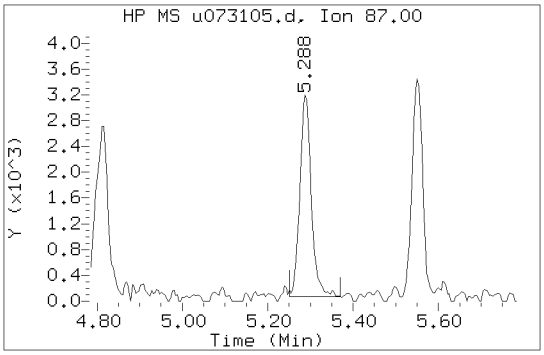
AFTER
MASS
73
AREA
17751
HEIGHT
7610
01-Aug-2023
21:03



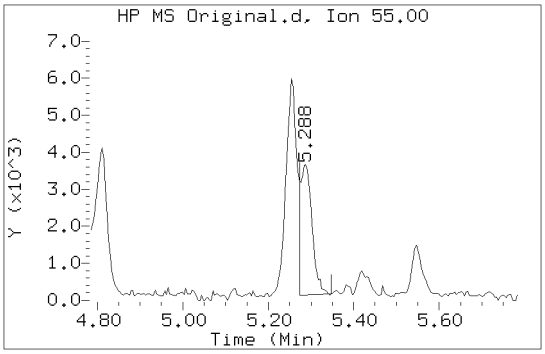
BEFORE
MASS
87
AREA
5991
HEIGHT
3129
01-Aug-2023
21:03



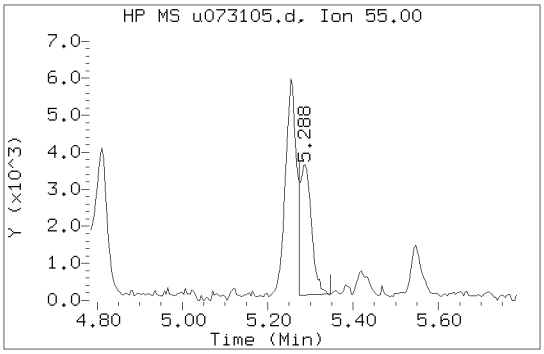
AFTER
MASS
87
AREA
5991
HEIGHT
3129
01-Aug-2023
21:03



BEFORE
MASS
55
AREA
7022
HEIGHT
3527
01-Aug-2023
21:03



AFTER
MASS
55
AREA
7022
HEIGHT
3527
01-Aug-2023
21:03

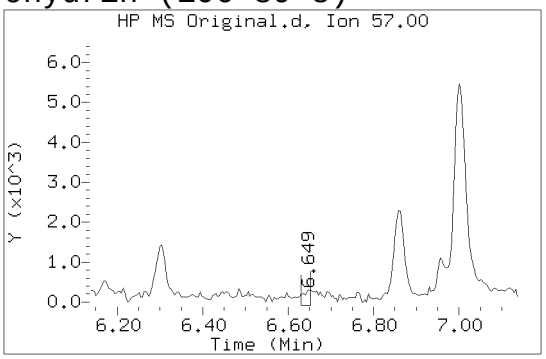


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Inj Date : 31-JUL-2023 12:59
InstruID : VOA9.i
LabSampID : VSTD002

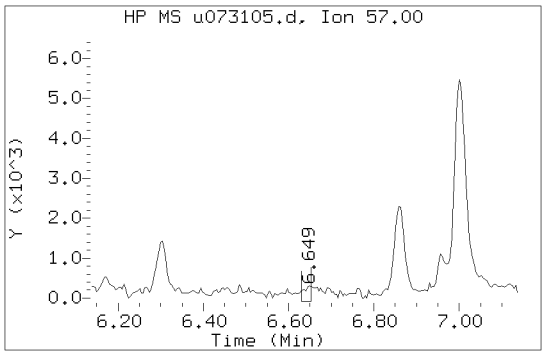
Epichlorohydrin (106-89-8)

Reason Code:

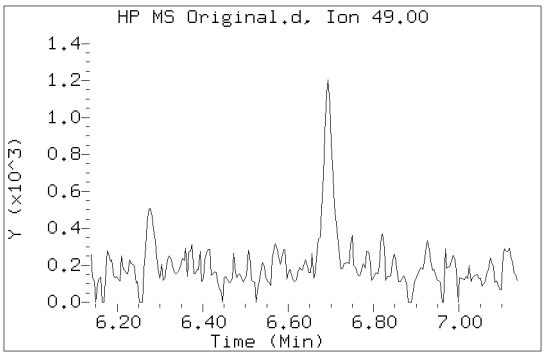
BEFORE
MASS
57
AREA
503
HEIGHT
381
01-Aug-2023
21:03



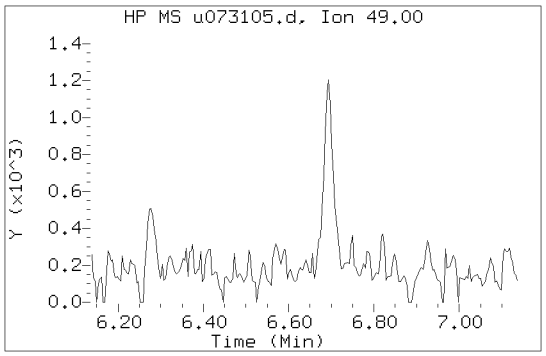
AFTER
MASS
57
AREA
503
HEIGHT
381
01-Aug-2023
21:03



BEFORE
MASS
49
AREA
0
HEIGHT
0
01-Aug-2023
21:03



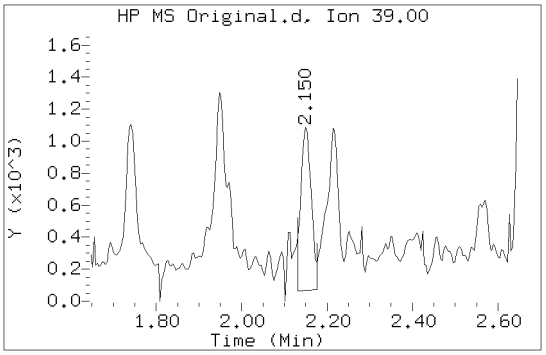
AFTER
MASS
49
AREA
0
HEIGHT
0
01-Aug-2023
21:03



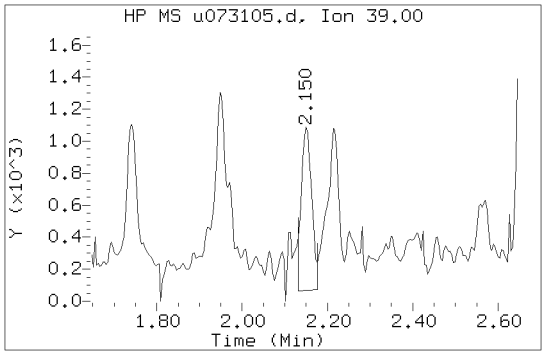
Isoprene (78-79-5)

Reason Code:

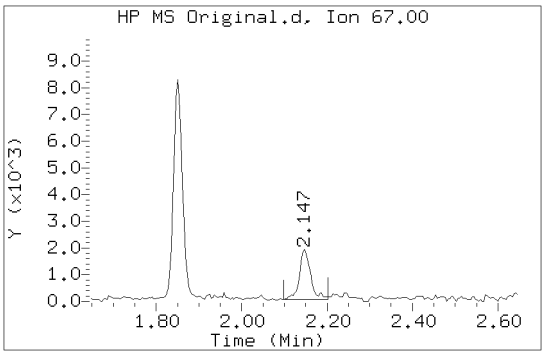
BEFORE
MASS
39
AREA
1788
HEIGHT
1023
01-Aug-2023
21:03



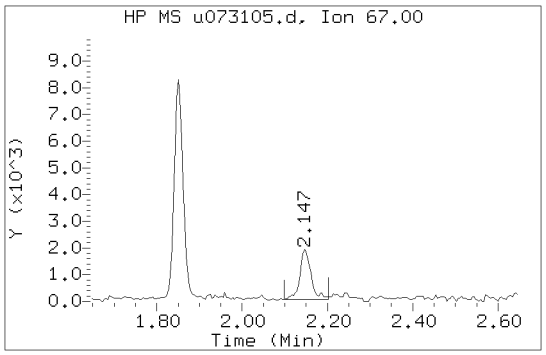
AFTER
MASS
39
AREA
1788
HEIGHT
1023
01-Aug-2023
21:03



BEFORE
MASS
67
AREA
3419
HEIGHT
1866
01-Aug-2023
21:03



AFTER
MASS
67
AREA
3419
HEIGHT
1866
01-Aug-2023
21:03

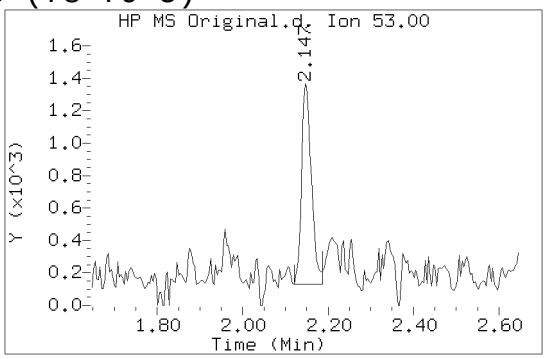


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LabSampID : VSTD002

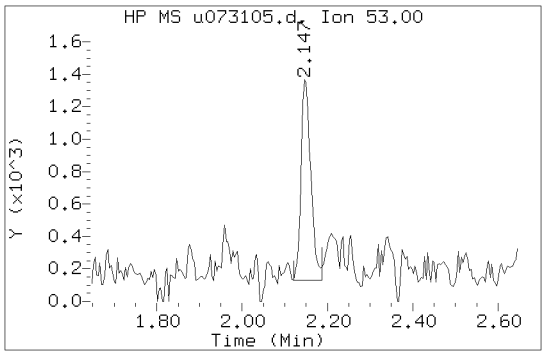
Isoprene (78-79-5)

Reason Code:

BEFORE
MASS
53
AREA
2020
HEIGHT
1238
01-Aug-2023
21:03



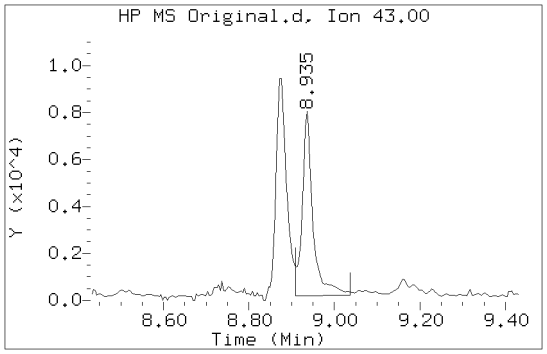
AFTER
MASS
53
AREA
2020
HEIGHT
1238
01-Aug-2023
21:03



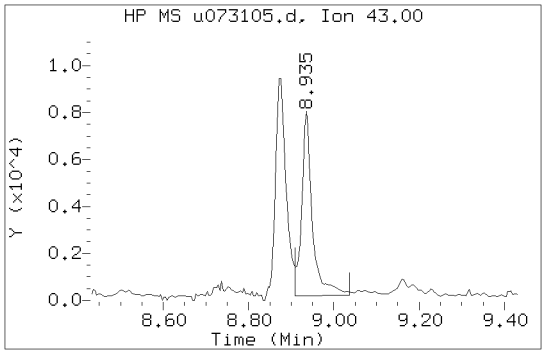
n-Amyl acetate (628-63-7)

Reason Code:

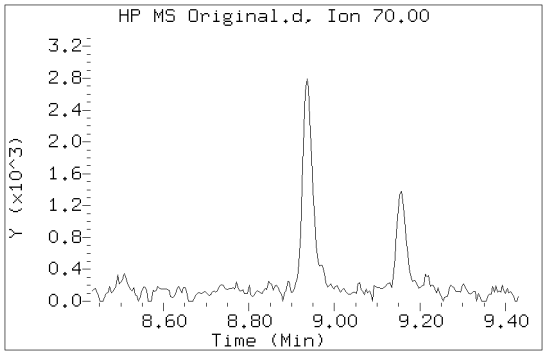
BEFORE
MASS
43
AREA
13983
HEIGHT
7855
01-Aug-2023
21:03



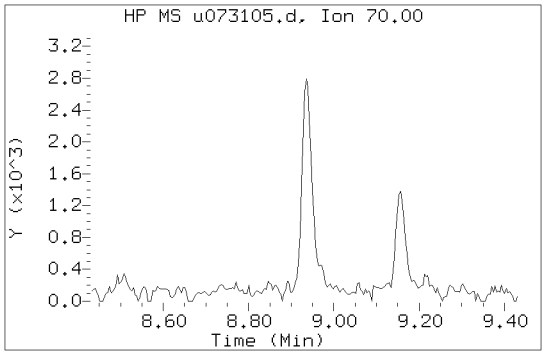
AFTER
MASS
43
AREA
13983
HEIGHT
7855
01-Aug-2023
21:03



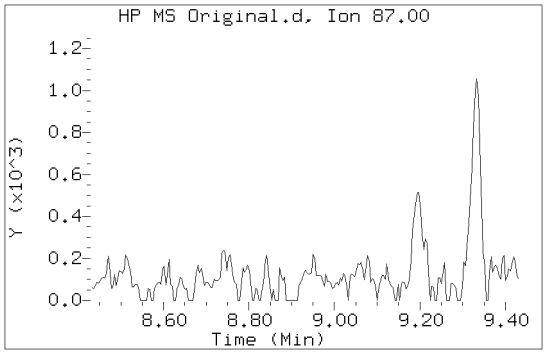
BEFORE
MASS
70
AREA
0
HEIGHT
0
01-Aug-2023
21:03



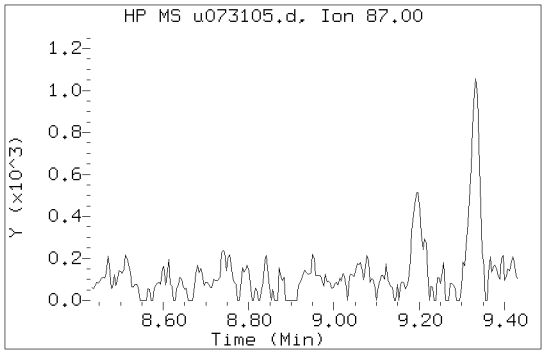
AFTER
MASS
70
AREA
0
HEIGHT
0
01-Aug-2023
21:03



BEFORE
MASS
87
AREA
0
HEIGHT
0
01-Aug-2023
21:03



AFTER
MASS
87
AREA
0
HEIGHT
0
01-Aug-2023
21:03

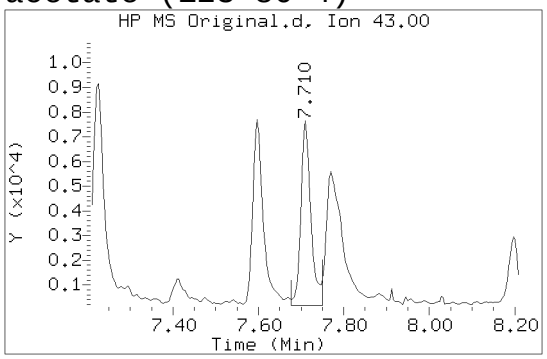


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Inj Date : 31-JUL-2023 12:59
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LabSampID : VSTD002

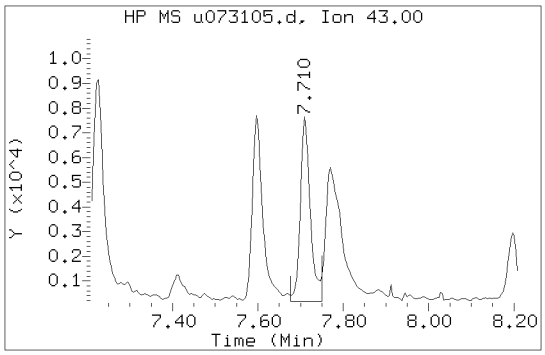
n-Butyl acetate (123-86-4)

Reason Code:

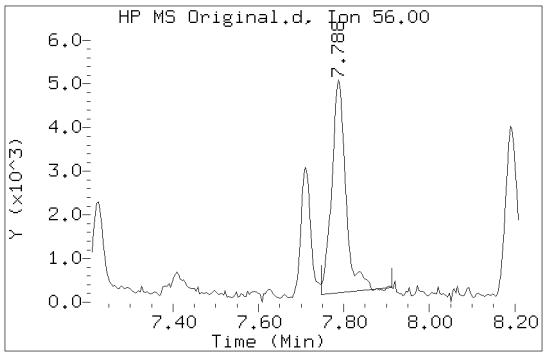
BEFORE
MASS
43
AREA
12613
HEIGHT
7463
01-Aug-2023
21:03



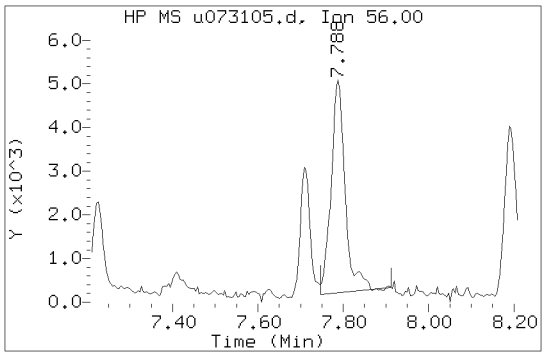
AFTER
MASS
43
AREA
12613
HEIGHT
7463
01-Aug-2023
21:03



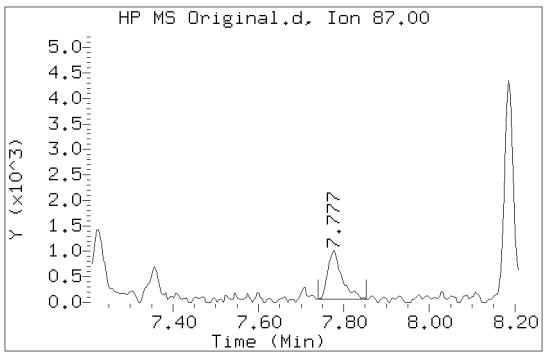
BEFORE
MASS
56
AREA
11094
HEIGHT
4877
01-Aug-2023
21:03



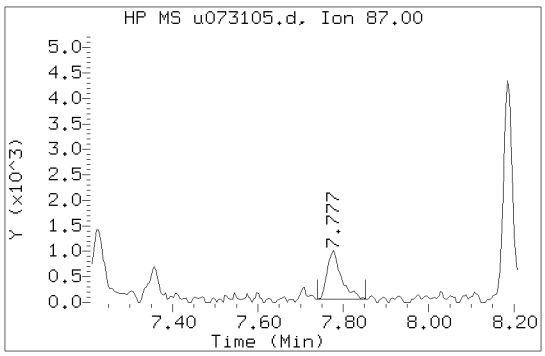
AFTER
MASS
56
AREA
11094
HEIGHT
4877
01-Aug-2023
21:03



BEFORE
MASS
87
AREA
2164
HEIGHT
955
01-Aug-2023
21:03



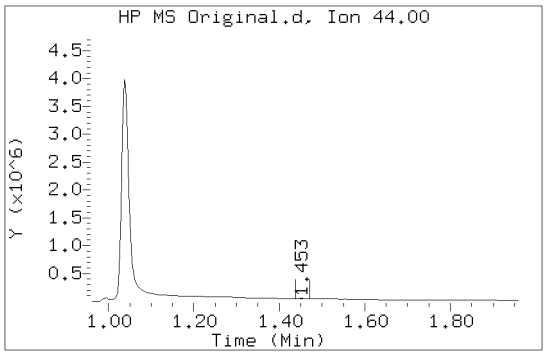
AFTER
MASS
87
AREA
2164
HEIGHT
955
01-Aug-2023
21:03



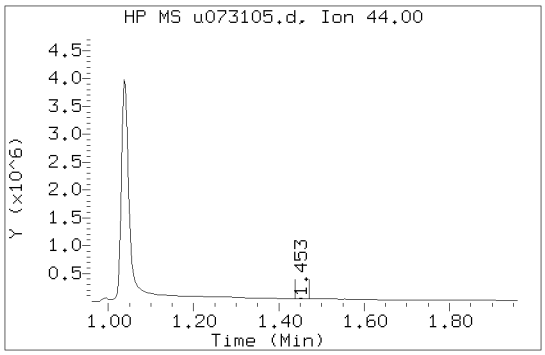
Acetaldehyde (75-07-0)

Reason Code:

BEFORE
MASS
44
AREA
5632
HEIGHT
5441
01-Aug-2023
21:03



AFTER
MASS
44
AREA
5632
HEIGHT
5441
01-Aug-2023
21:03

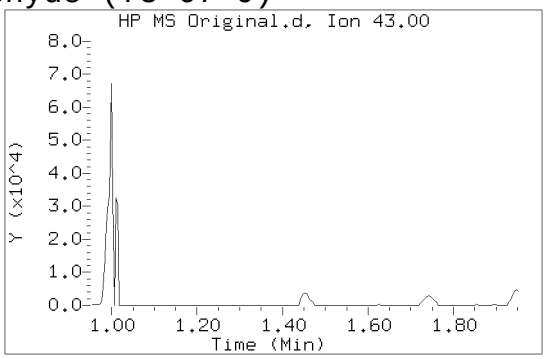


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Inj Date : 31-JUL-2023 12:59
InstruID : VOA9.i
LabSampID : VSTD002

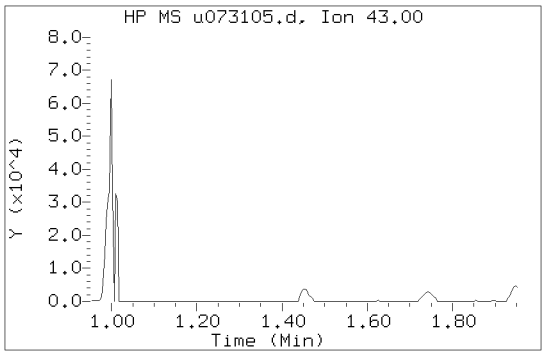
Acetaldehyde (75-07-0)

Reason Code:

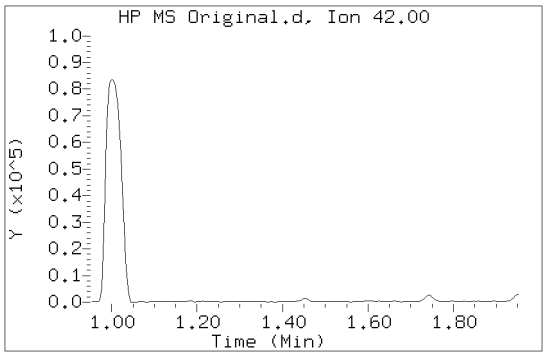
BEFORE
MASS
43
AREA
0
HEIGHT
0
01-Aug-2023
21:03



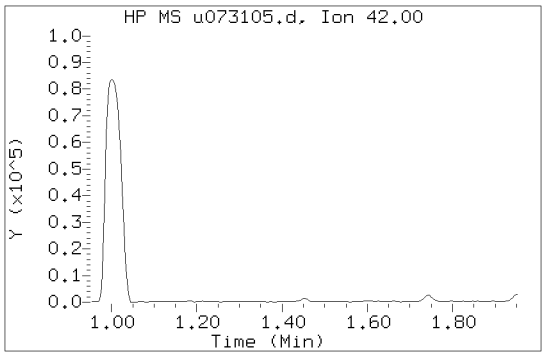
AFTER
MASS
43
AREA
0
HEIGHT
0
01-Aug-2023
21:03



BEFORE
MASS
42
AREA
0
HEIGHT
0
01-Aug-2023
21:03



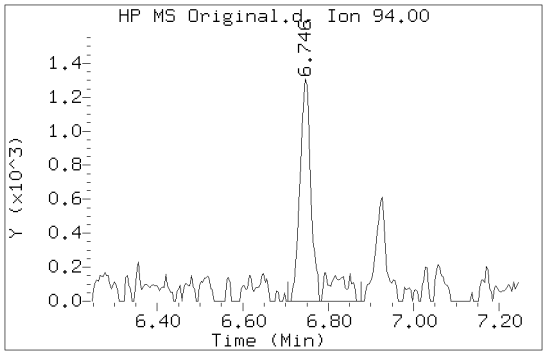
AFTER
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42
AREA
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HEIGHT
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01-Aug-2023
21:03



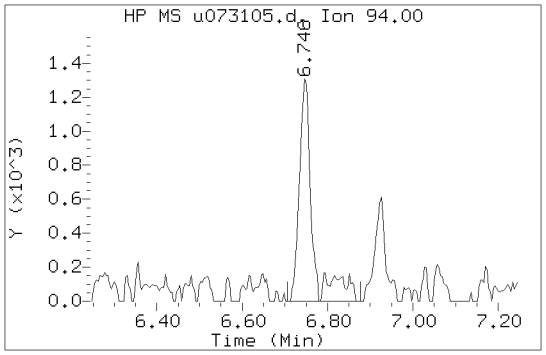
Dimethyl Disulfide (624-92-0)

Reason Code:

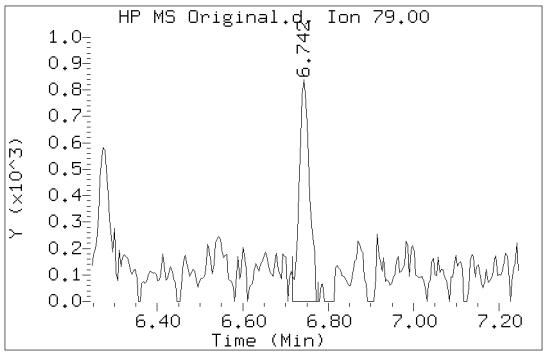
BEFORE
MASS
94
AREA
2883
HEIGHT
1308
01-Aug-2023
21:03



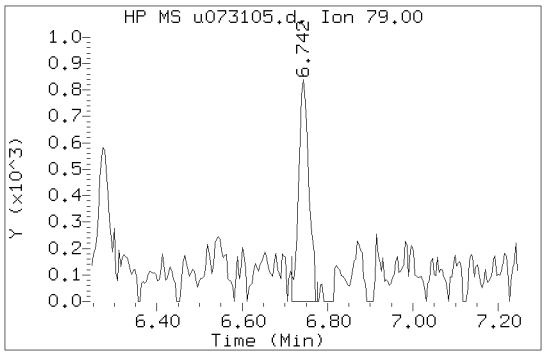
AFTER
MASS
94
AREA
2883
HEIGHT
1308
01-Aug-2023
21:03



BEFORE
MASS
79
AREA
1422
HEIGHT
839
01-Aug-2023
21:03



AFTER
MASS
79
AREA
1422
HEIGHT
839
01-Aug-2023
21:03

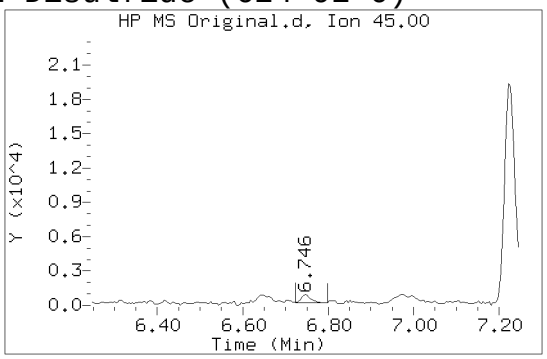


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Inj Date : 31-JUL-2023 12:59
InstruID : VOA9.i
LabSampID : VSTD002

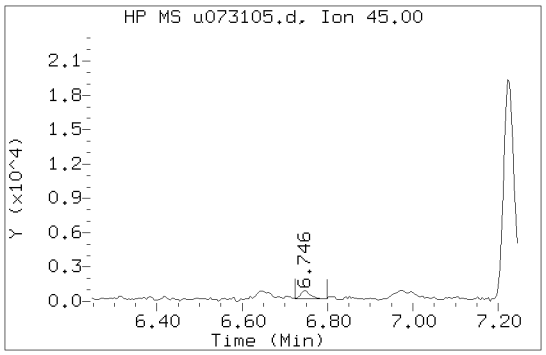
Dimethyl Disulfide (624-92-0)

Reason Code:

BEFORE
MASS
45
AREA
1145
HEIGHT
759
01-Aug-2023
21:03



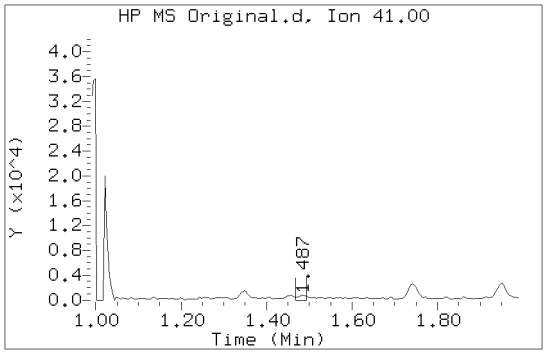
AFTER
MASS
45
AREA
1145
HEIGHT
759
01-Aug-2023
21:03



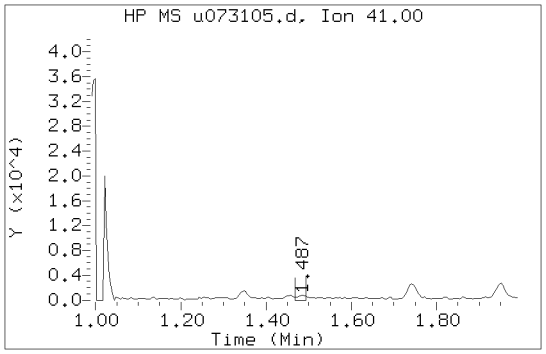
Isobutylene (115-11-7)

Reason Code:

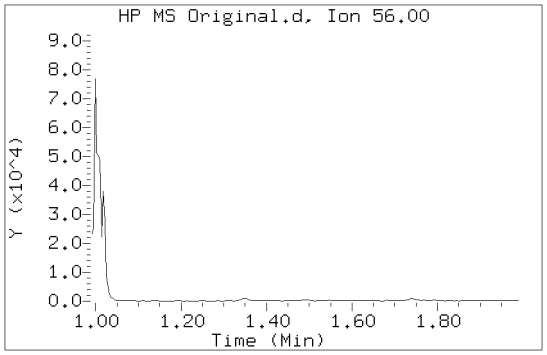
BEFORE
MASS
41
AREA
1159
HEIGHT
816
01-Aug-2023
21:03



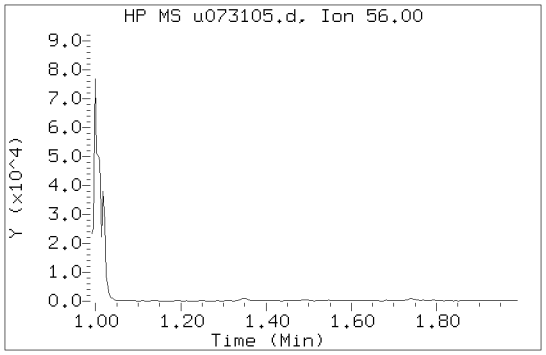
AFTER
MASS
41
AREA
1159
HEIGHT
816
01-Aug-2023
21:03



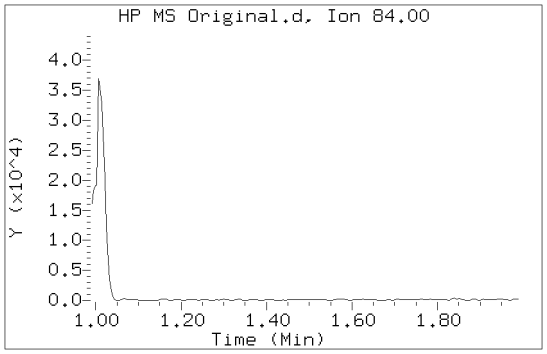
BEFORE
MASS
56
AREA
0
HEIGHT
0
01-Aug-2023
21:03



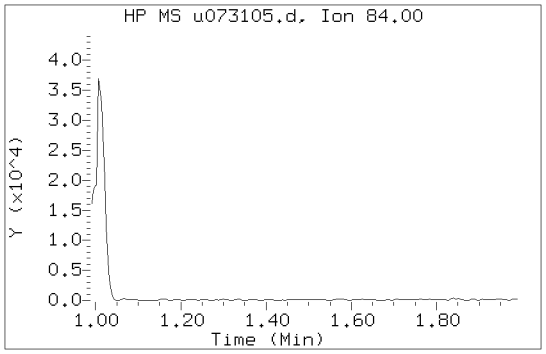
AFTER
MASS
56
AREA
0
HEIGHT
0
01-Aug-2023
21:03



BEFORE
MASS
84
AREA
0
HEIGHT
0
01-Aug-2023
21:03



AFTER
MASS
84
AREA
0
HEIGHT
0
01-Aug-2023
21:03

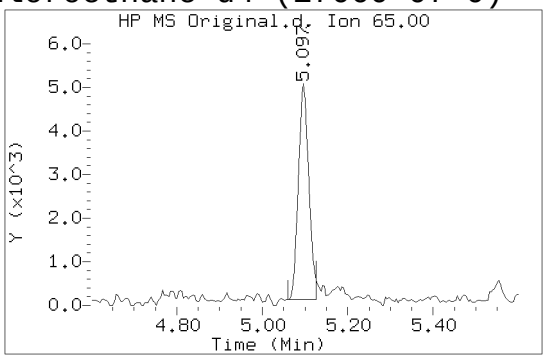


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Inj Date : 31-JUL-2023 12:59
InstruID : VOA9.i
LabSampID : VSTD002

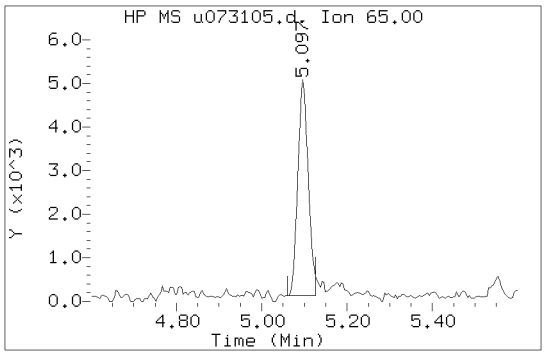
1,2-Dichloroethane-d4 (17060-07-0)

Reason Code:

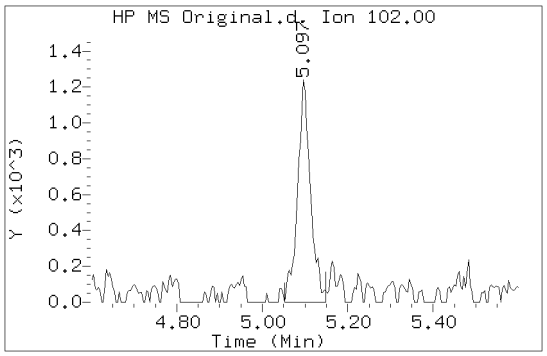
BEFORE
MASS
65
AREA
8650
HEIGHT
4958
01-Aug-2023
21:03



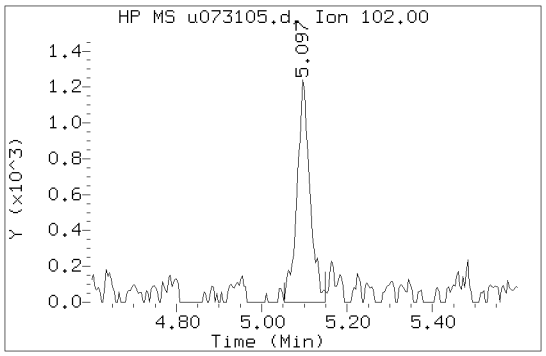
AFTER
MASS
65
AREA
8650
HEIGHT
4958
01-Aug-2023
21:03



BEFORE
MASS
102
AREA
2654
HEIGHT
1240
01-Aug-2023
21:03



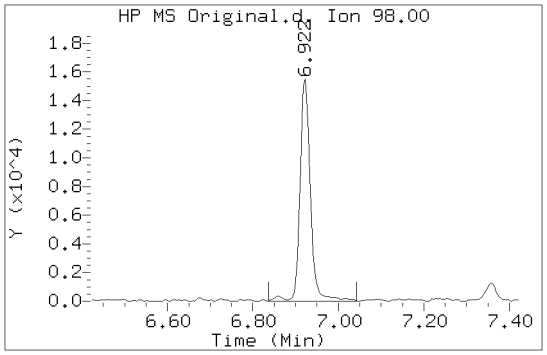
AFTER
MASS
102
AREA
2654
HEIGHT
1240
01-Aug-2023
21:03



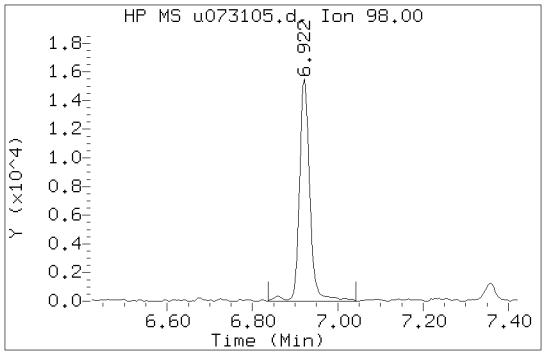
Toluene-d8 (2037-26-5)

Reason Code:

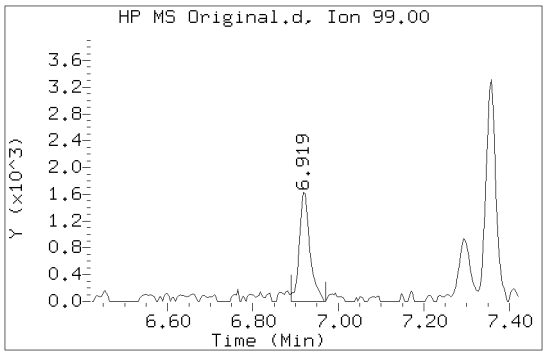
BEFORE
MASS
98
AREA
27056
HEIGHT
15514
01-Aug-2023
21:03



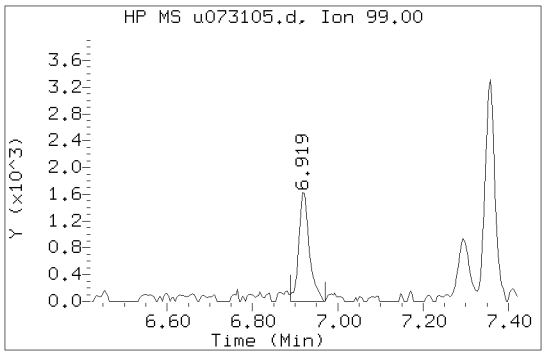
AFTER
MASS
98
AREA
27056
HEIGHT
15514
01-Aug-2023
21:03



BEFORE
MASS
99
AREA
2902
HEIGHT
1630
01-Aug-2023
21:03



AFTER
MASS
99
AREA
2902
HEIGHT
1630
01-Aug-2023
21:03



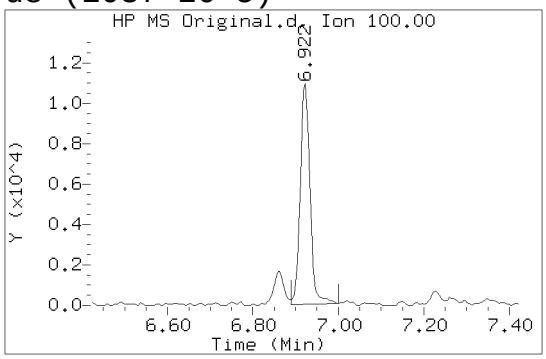
Data File : \\nahstws005\target\chem\voa9.i\u230731.b\u073105.d
Inj Date : 31-JUL-2023 12:59
InstruID : VOA9.i
LabSampID : VSTD002

Toluene-d8 (2037-26-5)

Reason Code:

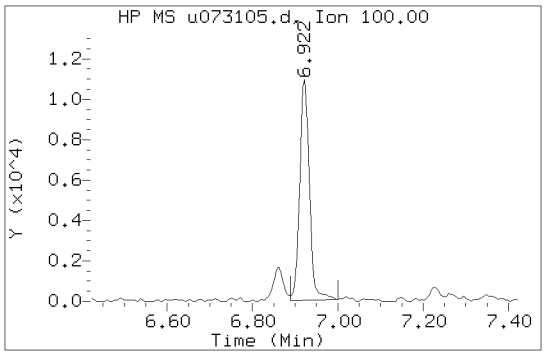
BEFORE

MASS
100
AREA
17639
HEIGHT
10907
01-Aug-2023
21:03



AFTER

MASS
100
AREA
17639
HEIGHT
10907
01-Aug-2023
21:03



Data File: \\NAHSTWS005\Target\chem\voa9.i\U230731.b\U073106.D Page 1
Report Date: 07-Aug-2023 11:14

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U230731.b\U073106.D
Lab Smp Id: VSTD005 Client Smp ID: VSTD005
Inj Date : 31-JUL-2023 13:22
Operator : PC Inst ID: VOA9.i
Smp Info : VSTD005;VSTD005;1;5;
Misc Info : V9;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa9.i\U230731.b\8260C.m
Meth Date : 07-Aug-2023 11:14 VOA9.i Quant Type: ISTD
Cal Date : 31-JUL-2023 12:59 Cal File: U073105.D
Als bottle: 7 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260V9.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1	Pentafluorobenzene	168	4.811	4.811	(1.000)	477296	50.0000	
2	Dichlorodifluoromethane	85	1.160	1.160	(0.241)	23279	5.00000	6.22(M)
3	Chloromethane	50	1.295	1.295	(0.269)	32235	5.00000	5.44
5	Vinyl Chloride	62	1.374	1.374	(0.286)	24754	5.00000	5.26
6	Bromomethane	94	1.617	1.617	(0.336)	17093	5.00000	5.32
7	Chloroethane	64	1.696	1.696	(0.353)	15470	5.00000	5.22
8	Trichlorofluoromethane	101	1.891	1.891	(0.393)	30893	5.00000	5.32
9	Acrolein	56	1.745	1.745	(0.363)	2540	10.0000	8.29(M)
10	Acetone	43	2.408	2.408	(0.501)	23014	10.0000	8.49
11	1,1-Dichloroethene	96	2.326	2.326	(0.483)	15997	5.00000	5.08
15	Iodomethane	142	2.461	2.461	(0.512)	21659	10.0000	10.71
16	Acrylonitrile	53	3.064	3.064	(0.637)	15280	10.0000	10.18
17	Methylene Chloride	84	2.791	2.791	(0.580)	23329	5.00000	5.93
18	Methyl tert-butyl ether	73	3.076	3.076	(0.639)	47514	5.00000	4.88
19	Carbon Disulfide	76	2.513	2.513	(0.522)	88861	10.0000	9.70
20	trans-1,2-Dichloroethene	96	3.053	3.053	(0.635)	17352	5.00000	4.92
21	Vinyl Acetate	43	3.608	3.608	(0.750)	96584	10.0000	9.57
22	1,1-Dichloroethane	63	3.511	3.511	(0.730)	33466	5.00000	5.19
24	2-Butanone	43	4.268	4.268	(0.887)	18859	10.0000	10.05
26	2,2-Dichloropropane	77	4.182	4.182	(0.869)	22372	5.00000	5.03

27 cis-1,2-Dichloroethene	96	4.193	4.193 (0.871)	20019	5.00000	5.08
28 Chloroform	83	4.568	4.568 (0.949)	37942	5.00000	5.06

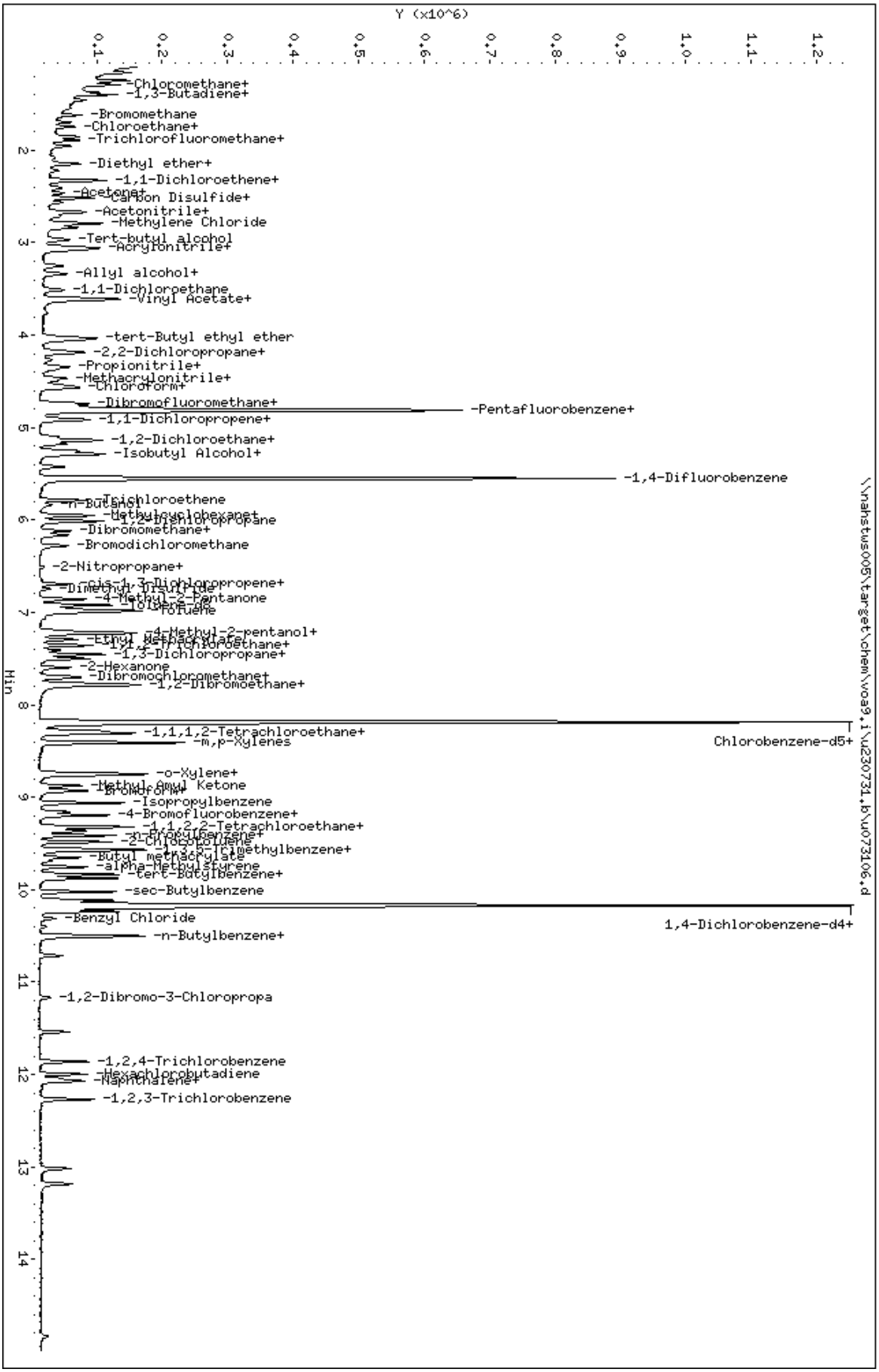
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	29 Bromochloromethane	128	4.463	4.463	(0.928)	11894	5.00000	5.10
$	30 Dibromofluoromethane	113	4.744	4.744	(0.986)	19210	5.00000	4.13
	31 1,1,1-Trichloroethane	97	4.736	4.736	(0.984)	28453	5.00000	4.87
	32 1,1-Dichloropropene	75	4.920	4.920	(0.887)	25772	5.00000	5.06
	33 1,2-Dichloroethane	62	5.175	5.175	(0.932)	31448	5.00000	5.32
	34 Carbon Tetrachloride	117	4.905	4.905	(0.884)	21374	5.00000	4.68
$	35 1,2-Dichloroethane-d4	65	5.096	5.096	(1.059)	21416	5.00000	3.95(M)
*	36 1,4-Difluorobenzene	114	5.550	5.550	(1.000)	685400	50.0000	
	37 Benzene	78	5.137	5.137	(0.926)	87635	5.00000	5.23
	38 Trichloroethene	130	5.786	5.786	(1.043)	23774	5.00000	5.02
	39 Bromodichloromethane	83	6.277	6.277	(1.131)	26251	5.00000	4.90
	41 2-Chloroethylvinyl ether	63	6.569	6.569	(1.184)	737	10.0000	8.48(M)
	42 1,2-Dichloropropane	63	6.011	6.011	(1.083)	22011	5.00000	4.90
	44 Dibromomethane	93	6.120	6.120	(1.103)	15018	5.00000	5.21
	45 4-Methyl-2-Pentanone	43	6.858	6.858	(0.838)	43752	10.0000	9.10
	46 cis-1,3-Dichloropropene	75	6.689	6.689	(1.205)	24292	5.00000	5.60
*	47 Chlorobenzene-d5	117	8.185	8.185	(1.000)	645495	50.0000	
$	48 Toluene-d8	98	6.922	6.922	(0.846)	68368	5.00000	4.55(M)
	50 Toluene	91	6.982	6.982	(0.853)	92158	5.00000	5.25
	51 trans-1,3-Dichloropropene	75	7.199	7.199	(1.297)	21941	5.00000	4.25(M)
	52 2-Hexanone	43	7.597	7.597	(0.928)	30314	10.0000	9.53
	53 1,1,2-Trichloroethane	83	7.357	7.357	(0.899)	18667	5.00000	4.96
	54 1,3-Dichloropropane	76	7.499	7.499	(0.916)	39536	5.00000	5.12
	55 Dibromochloromethane	129	7.690	7.690	(0.940)	20550	5.00000	4.45
	56 Tetrachloroethene	164	7.454	7.454	(0.911)	22560	5.00000	5.28
	57 1,2-Dibromoethane	107	7.788	7.788	(0.951)	22275	5.00000	4.92
	58 1-Chlorohexane	55	8.196	8.196	(1.477)	16825	5.00000	4.70(M)
	59 Chlorobenzene	112	8.208	8.208	(1.003)	63872	5.00000	5.13
	60 1,1,1,2-Tetrachloroethane	131	8.283	8.283	(1.012)	21993	5.00000	4.85
	61 Ethylbenzene	106	8.305	8.305	(1.015)	27211	5.00000	4.83
	62 m,p-Xylenes	106	8.410	8.410	(1.027)	61778	10.0000	9.34
	63 o-Xylene	106	8.747	8.747	(1.069)	30639	5.00000	4.73
	64 Styrene	104	8.762	8.762	(1.071)	43910	5.00000	4.35(M)
	66 Bromoform	173	8.920	8.920	(1.090)	14896	5.00000	4.62
	67 Isopropylbenzene	105	9.062	9.062	(1.107)	75107	5.00000	4.79
	68 1,1,2,2-Tetrachloroethane	83	9.329	9.329	(0.917)	33006	5.00000	5.12
$	69 4-Bromofluorobenzene	95	9.194	9.194	(1.123)	29702	5.00000	3.82
*	70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	334416	50.0000	
	71 1,2,3-Trichloropropane	75	9.362	9.362	(0.920)	27992	5.00000	4.99
	73 n-Propylbenzene	91	9.411	9.411	(0.925)	77798	5.00000	5.63
	74 Bromobenzene	156	9.317	9.317	(0.916)	27954	5.00000	5.05
	75 1,3,5-Trimethylbenzene	105	9.561	9.561	(0.940)	55269	5.00000	4.72
	76 2-Chlorotoluene	91	9.482	9.482	(0.932)	58195	5.00000	4.93
	77 4-Chlorotoluene	91	9.576	9.576	(0.941)	67252	5.00000	5.10
	78 tert-Butylbenzene	119	9.835	9.835	(0.967)	55162	5.00000	4.98
	79 1,2,4-Trimethylbenzene	105	9.880	9.880	(0.971)	61242	5.00000	5.17
	81 sec-Butylbenzene	105	10.022	10.022	(0.985)	69225	5.00000	5.61(M)
	82 p-Isopropyltoluene	119	10.146	10.146	(0.997)	56898	5.00000	5.54
	83 1,3-Dichlorobenzene	146	10.116	10.116	(0.994)	47457	5.00000	5.13
	84 1,4-Dichlorobenzene	146	10.191	10.191	(1.002)	53111	5.00000	5.19
	87 n-Butylbenzene	91	10.491	10.491	(1.031)	44805	5.00000	6.17
	88 1,2-Dichlorobenzene	146	10.506	10.506	(1.033)	48335	5.00000	5.10

89	1,2-Dibromo-3-Chloropropane	155	11.169	11.169 (1.098)	4162	5.00000	4.48
90	1,2,4-Trichlorobenzene	180	11.859	11.859 (1.166)	25884	5.00000	4.44

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	91 Hexachlorobutadiene	225	11.998	11.998	(1.179)	13619	5.00000	6.16(M)
	92 Naphthalene	128	12.069	12.069	(1.186)	51655	5.00000	4.84
	93 1,2,3-Trichlorobenzene	180	12.271	12.271	(1.206)	26348	5.00000	4.42
M	94 1,2-Dichloroethylene (total)	96				37371	10.0000	
M	95 Xylenes (total)	106				92417	15.0000	
	135 1,4-Dioxane	88	6.176	6.176	(1.284)	6838	100.000	99.92(M)
	141 Cyclohexane	56	4.778	4.778	(0.993)	26286	5.00000	4.89(M)
	138 Freon TF	101	2.330	2.330	(0.484)	16029	5.00000	6.05(M)
	140 1,3-Butadiene	54	1.396	1.396	(0.290)	19067	5.00000	5.01
	147 Methylcyclohexane	55	5.947	5.947	(1.072)	42152	5.00000	4.22
	146 Methyl Acetate	43	2.712	2.712	(0.564)	16899	5.00000	4.93
	148 Tert-Butyl alcohol	59	2.967	2.967	(0.617)	44536	100.000	108.21
	149 Isopropyl Alcohol	45	2.562	2.562	(0.533)	24018	100.000	91.05(T)

QC Flag Legend

T - Target compound detected outside RT window.
M - Compound response manually integrated.



Data File: \\nahstws005\target\chem\voa9.i\u230731.b\u073106.d
Date : 31-JUL-2023 13:22
Client ID: VSTD005
Sample Info: VSTD005;VSTD005;1;5;
Purge Volume: 5.0
Column phase: DB624

\\nahstws005\target\chem\voa9.i\u230731.b\u073106.d

Instrument: VOA9.i
Operator: PC
Column diameter: 0.18

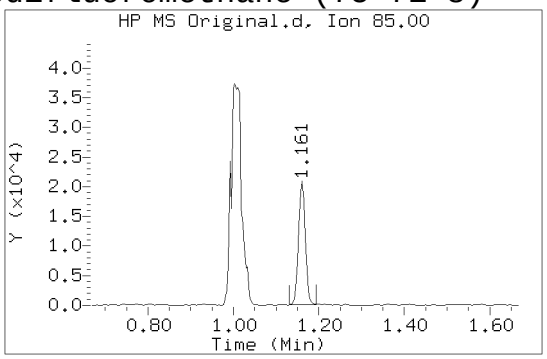
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Inj Date : 31-JUL-2023 13:22
InstruID : VOA9.i
LabSampID : VSTD005

Dichlorodifluoromethane (75-71-8)

Reason Code:

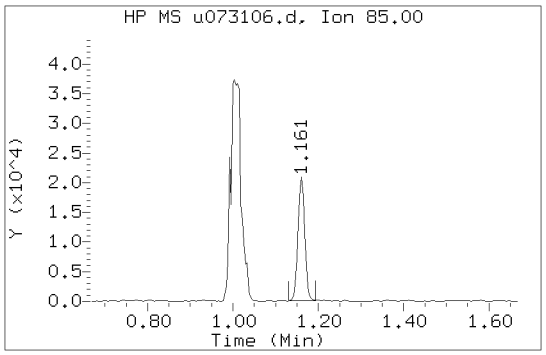
BEFORE

MASS
85
AREA
23279
HEIGHT
20847
01-Aug-2023
21:03



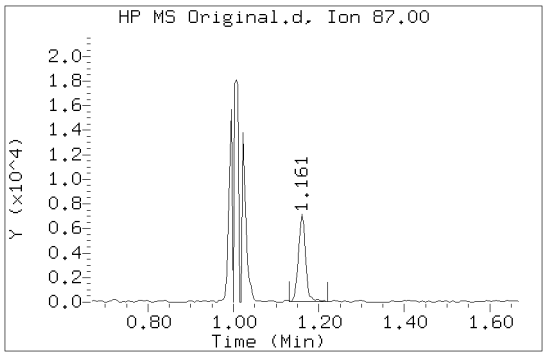
AFTER

MASS
85
AREA
23279
HEIGHT
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01-Aug-2023
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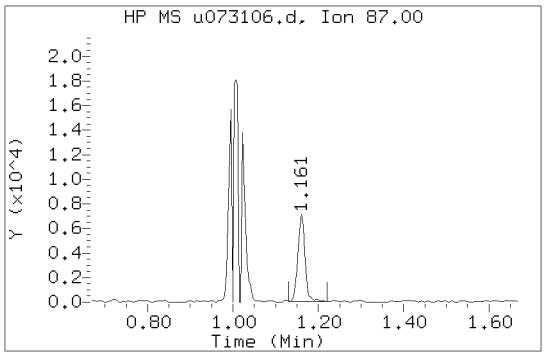
BEFORE

MASS
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AREA
8255
HEIGHT
7106
01-Aug-2023
21:03



AFTER

MASS
87
AREA
8255
HEIGHT
7106
01-Aug-2023
21:03

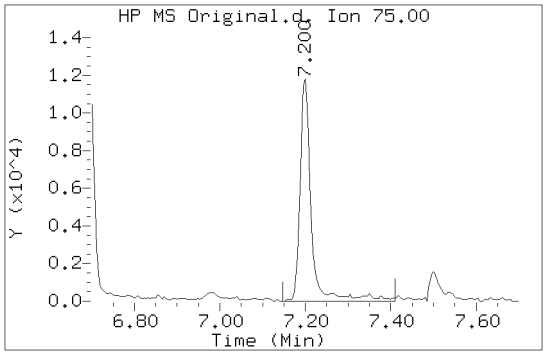


trans-1,3-Dichloropropene (10061-02-6)

Reason Code:

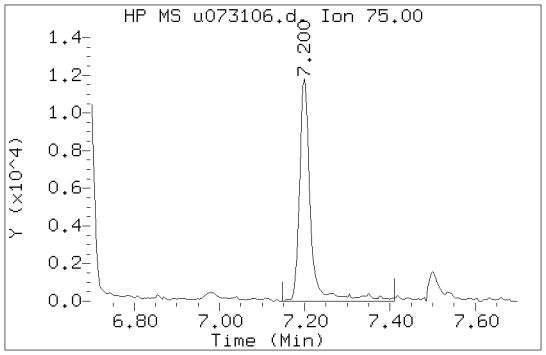
BEFORE

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75
AREA
21941
HEIGHT
11807
01-Aug-2023
21:03



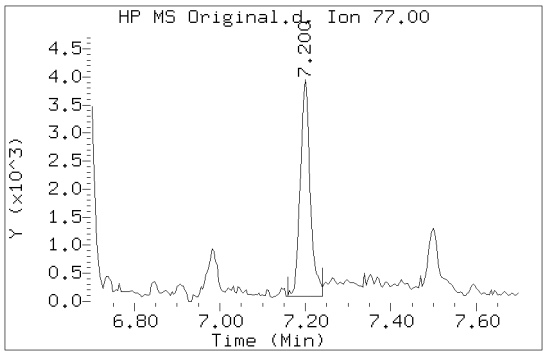
AFTER

MASS
75
AREA
21941
HEIGHT
11807
01-Aug-2023
21:03



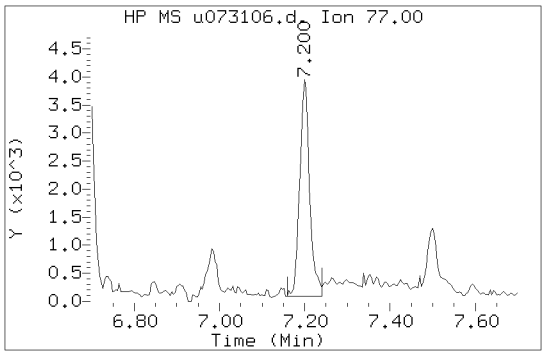
BEFORE

MASS
77
AREA
6350
HEIGHT
3860
01-Aug-2023
21:03



AFTER

MASS
77
AREA
6350
HEIGHT
3860
01-Aug-2023
21:03



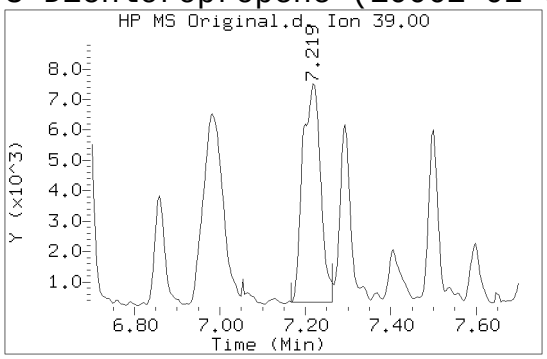
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Inj Date : 31-JUL-2023 13:22
InstruID : VOA9.i
LabSampID : VSTD005

trans-1,3-Dichloropropene (10061-02-6)

Reason Code:

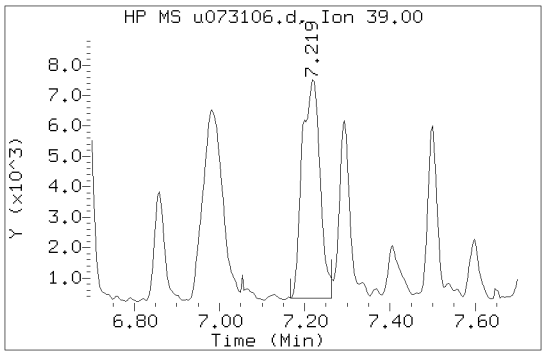
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AREA
21085
HEIGHT
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01-Aug-2023
21:03



AFTER

MASS
39
AREA
21085
HEIGHT
7177
01-Aug-2023
21:03

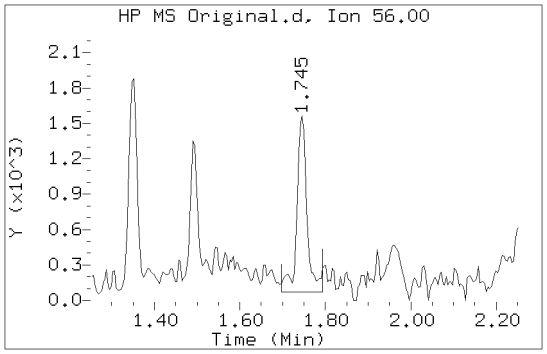


Acrolein (107-02-8)

Reason Code:

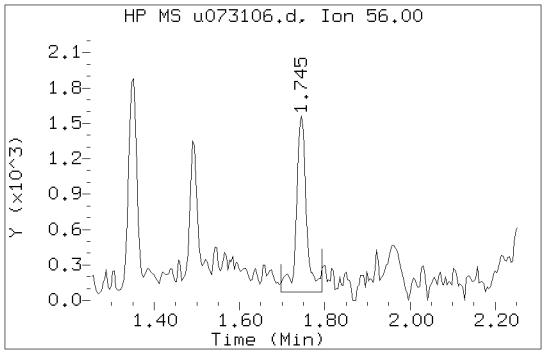
BEFORE

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56
AREA
2540
HEIGHT
1493
01-Aug-2023
21:03



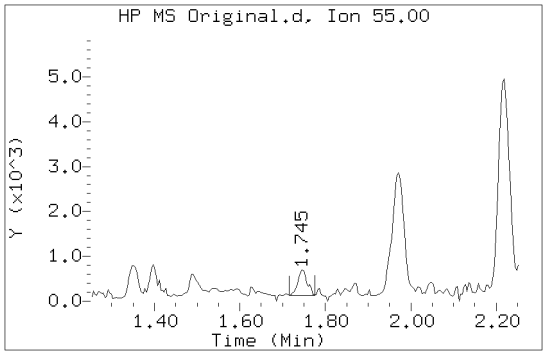
AFTER

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01-Aug-2023
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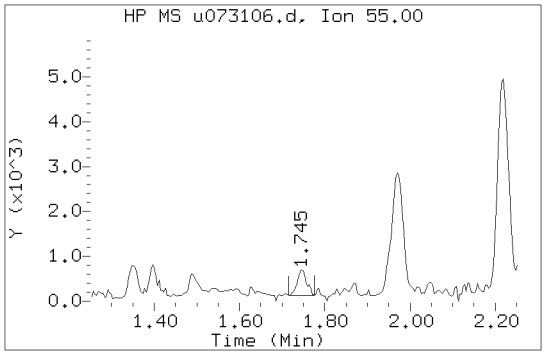
BEFORE

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AREA
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01-Aug-2023
21:03



AFTER

MASS
55
AREA
897
HEIGHT
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01-Aug-2023
21:03

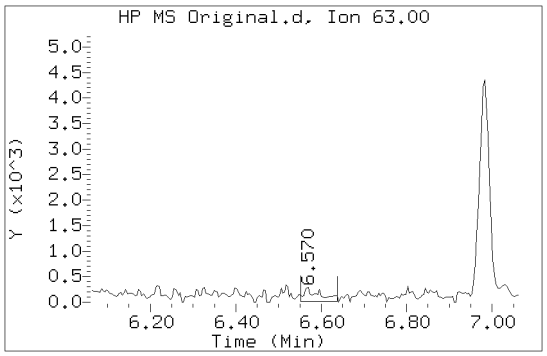


2-Chloroethylvinyl ether (110-75-8)

Reason Code:

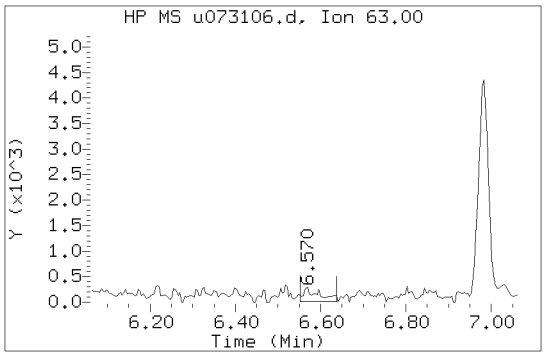
BEFORE

MASS
63
AREA
737
HEIGHT
275
01-Aug-2023
21:03



AFTER

MASS
63
AREA
737
HEIGHT
275
01-Aug-2023
21:03

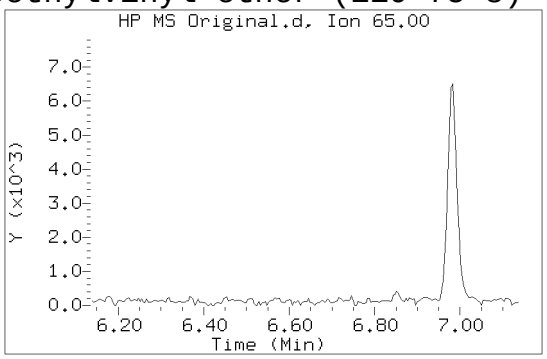


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Inj Date : 31-JUL-2023 13:22
InstruID : VOA9.i
LabSampID : VSTD005

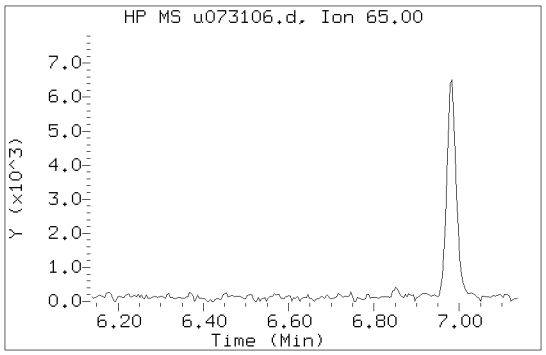
2-Chloroethylvinyl ether (110-75-8)

Reason Code:

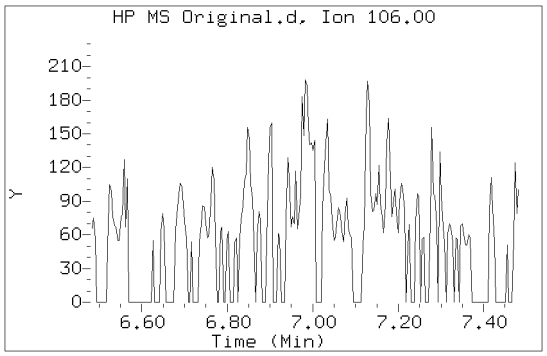
BEFORE
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HEIGHT
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01-Aug-2023
21:03



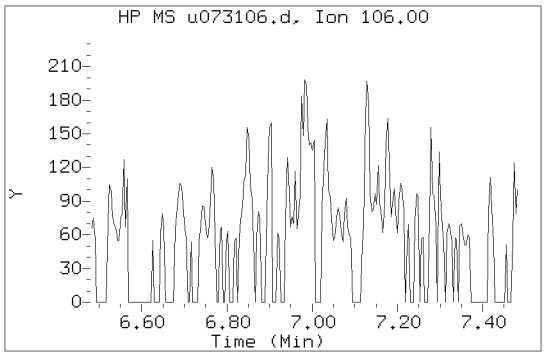
AFTER
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AREA
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HEIGHT
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01-Aug-2023
21:03



BEFORE
MASS
106
AREA
0
HEIGHT
0
01-Aug-2023
21:03



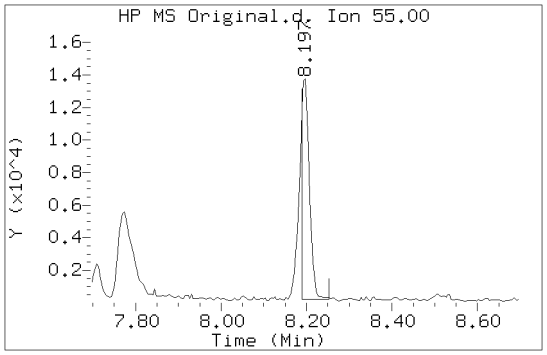
AFTER
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01-Aug-2023
21:03



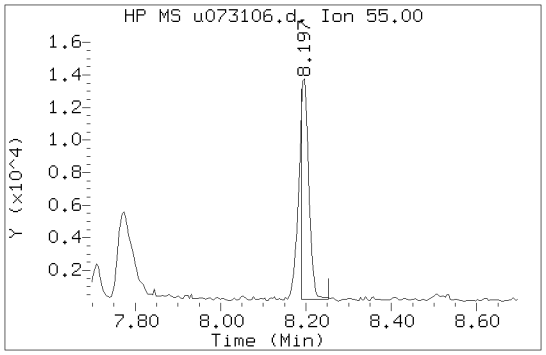
1-Chlorohexane (544-10-5)

Reason Code:

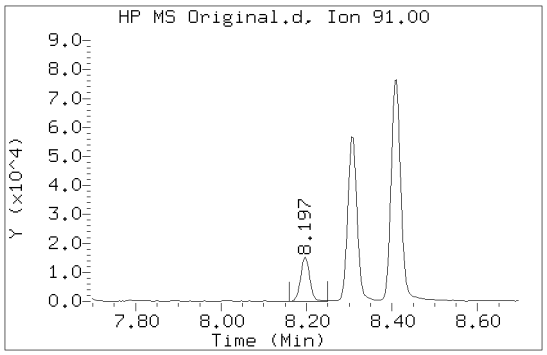
BEFORE
MASS
55
AREA
16825
HEIGHT
13526
01-Aug-2023
21:03



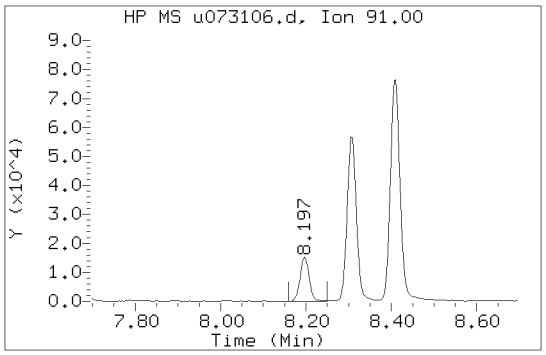
AFTER
MASS
55
AREA
16825
HEIGHT
13526
01-Aug-2023
21:03



BEFORE
MASS
91
AREA
22814
HEIGHT
15106
01-Aug-2023
21:03



AFTER
MASS
91
AREA
22814
HEIGHT
15106
01-Aug-2023
21:03

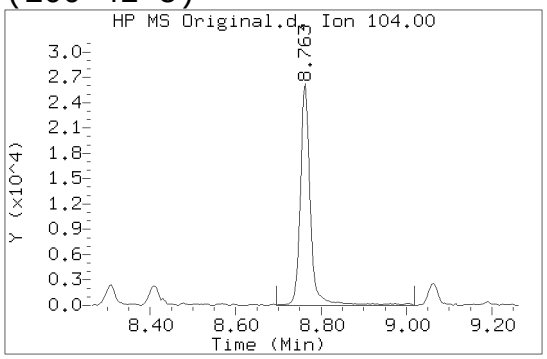


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Inj Date : 31-JUL-2023 13:22
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LabSampID : VSTD005

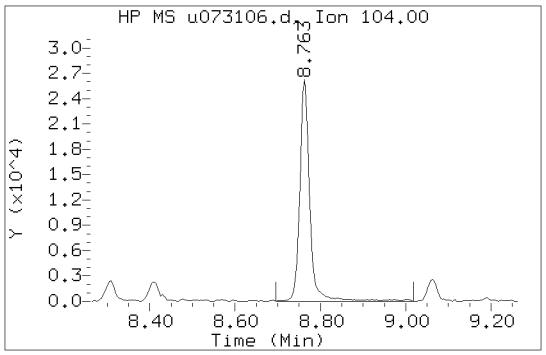
Styrene (100-42-5)

Reason Code:

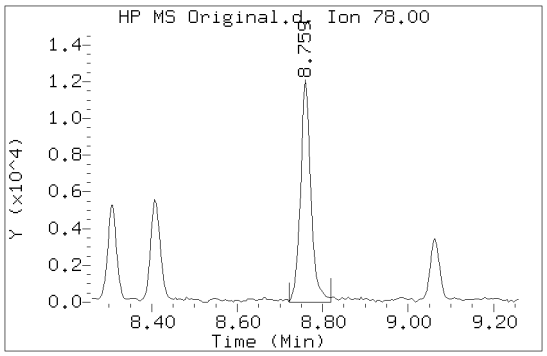
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104
AREA
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HEIGHT
26240
01-Aug-2023
21:03



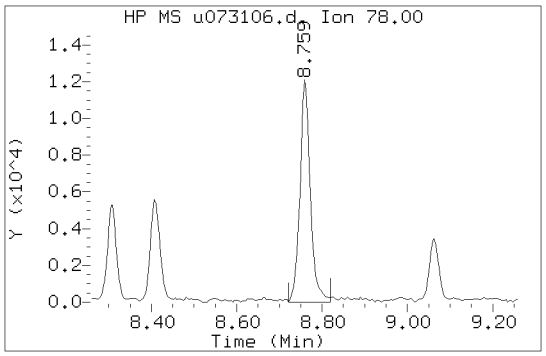
AFTER
MASS
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AREA
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HEIGHT
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01-Aug-2023
21:03



BEFORE
MASS
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HEIGHT
12099
01-Aug-2023
21:03



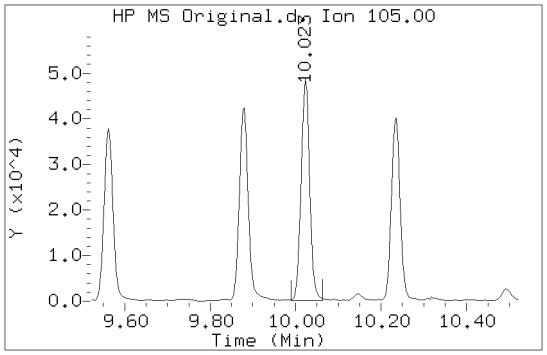
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01-Aug-2023
21:03



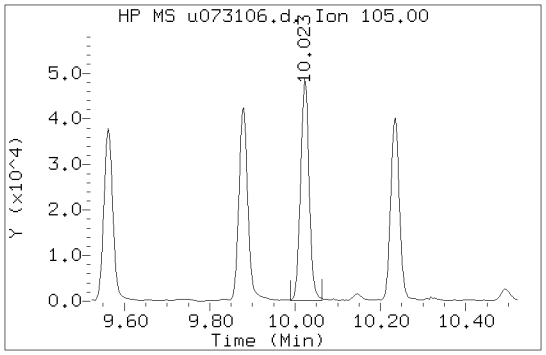
sec-Butylbenzene (135-98-8)

Reason Code:

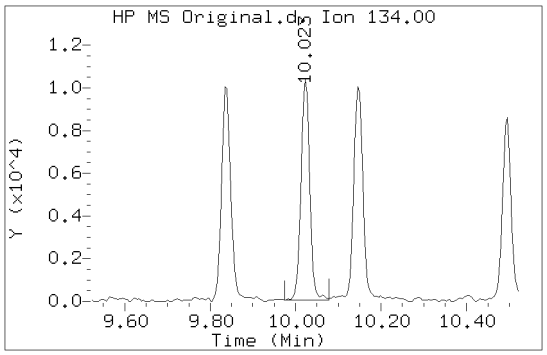
BEFORE
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AREA
69225
HEIGHT
48599
01-Aug-2023
21:03



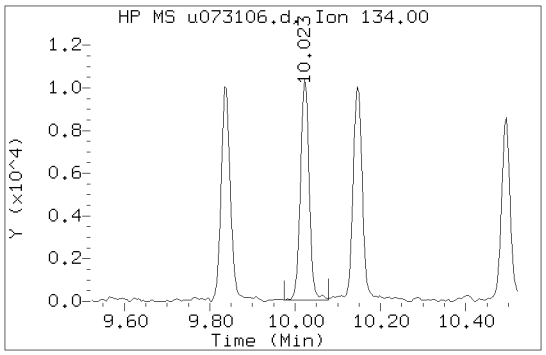
AFTER
MASS
105
AREA
69225
HEIGHT
48599
01-Aug-2023
21:03



BEFORE
MASS
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01-Aug-2023
21:03



AFTER
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01-Aug-2023
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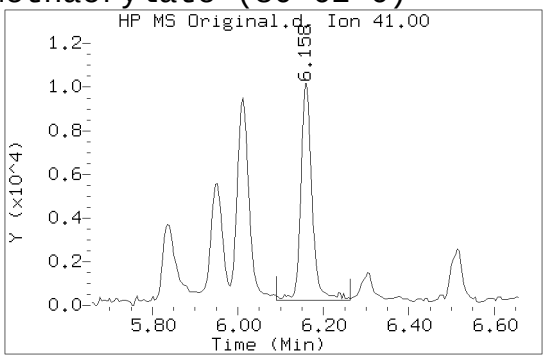


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InstruID : VOA9.i
LabSampID : VSTD005

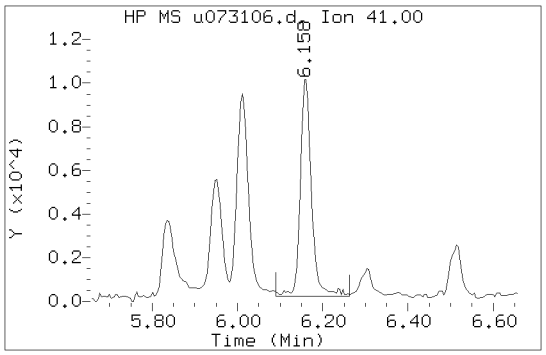
Methyl Methacrylate (80-62-6)

Reason Code:

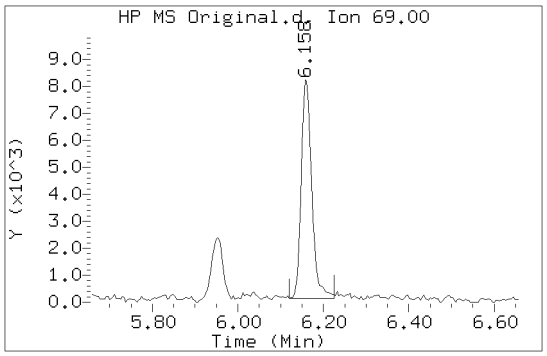
BEFORE
MASS
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AREA
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HEIGHT
9935
01-Aug-2023
21:03



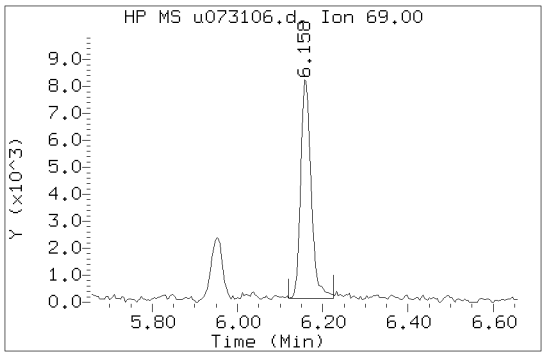
AFTER
MASS
41
AREA
18757
HEIGHT
9935
01-Aug-2023
21:03



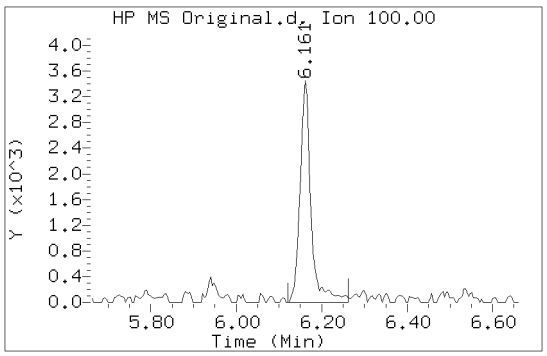
BEFORE
MASS
69
AREA
14157
HEIGHT
8087
01-Aug-2023
21:03



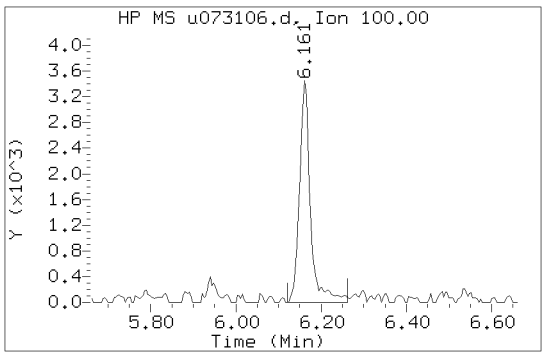
AFTER
MASS
69
AREA
14157
HEIGHT
8087
01-Aug-2023
21:03



BEFORE
MASS
100
AREA
6271
HEIGHT
3450
01-Aug-2023
21:03



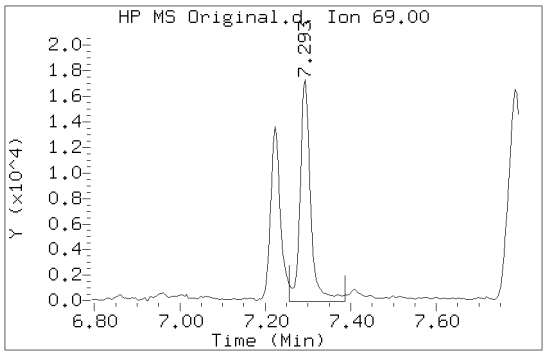
AFTER
MASS
100
AREA
6271
HEIGHT
3450
01-Aug-2023
21:03



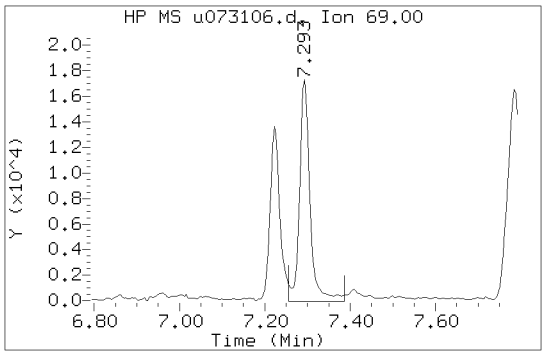
Ethyl Methacrylate (97-63-2)

Reason Code:

BEFORE
MASS
69
AREA
30207
HEIGHT
17342
01-Aug-2023
21:03



AFTER
MASS
69
AREA
30207
HEIGHT
17342
01-Aug-2023
21:03

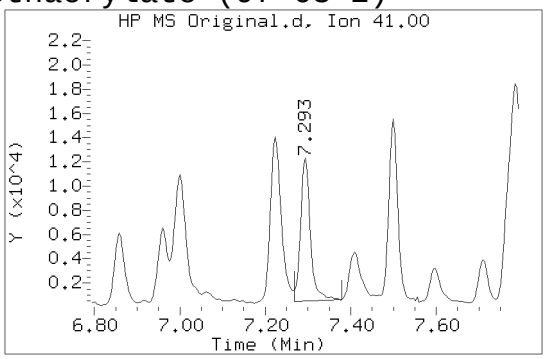


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Inj Date : 31-JUL-2023 13:22
InstruID : VOA9.i
LabSampID : VSTD005

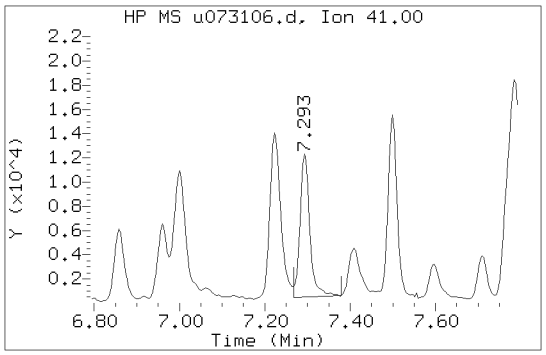
Ethyl Methacrylate (97-63-2)

Reason Code:

BEFORE
MASS
41
AREA
19359
HEIGHT
11841
01-Aug-2023
21:03



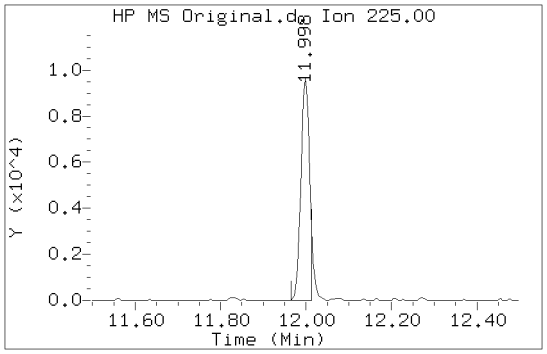
AFTER
MASS
41
AREA
19359
HEIGHT
11841
01-Aug-2023
21:03



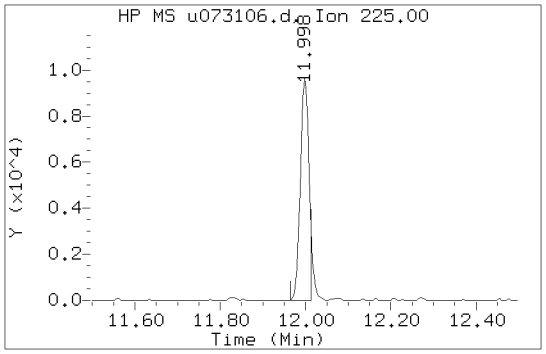
Hexachlorobutadiene (87-68-3)

Reason Code:

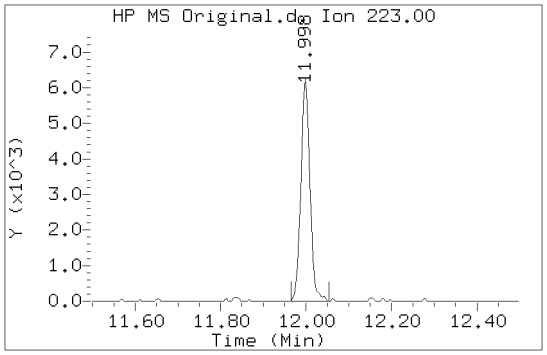
BEFORE
MASS
225
AREA
13619
HEIGHT
9624
01-Aug-2023
21:03



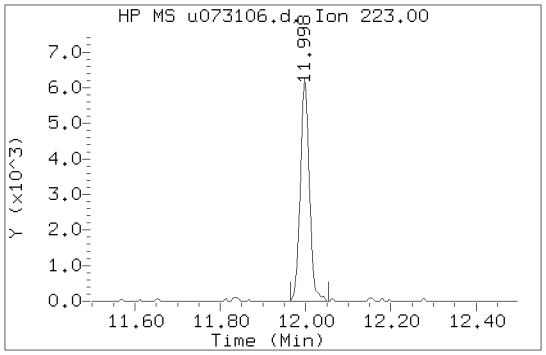
AFTER
MASS
225
AREA
13619
HEIGHT
9624
01-Aug-2023
21:03



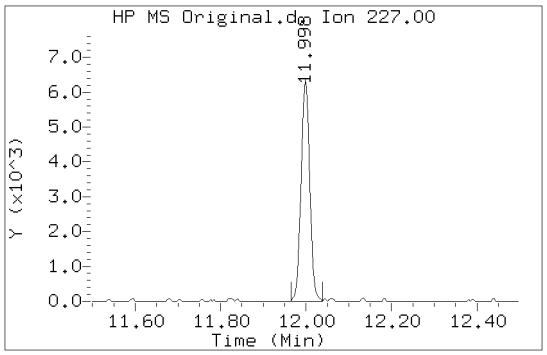
BEFORE
MASS
223
AREA
9370
HEIGHT
6248
01-Aug-2023
21:03



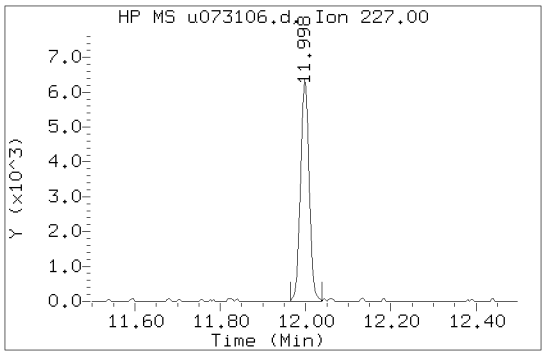
AFTER
MASS
223
AREA
9370
HEIGHT
6248
01-Aug-2023
21:03



BEFORE
MASS
227
AREA
9177
HEIGHT
6360
01-Aug-2023
21:03



AFTER
MASS
227
AREA
9177
HEIGHT
6360
01-Aug-2023
21:03

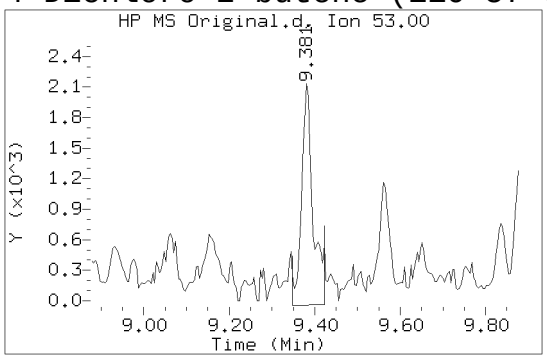


Data File : \\nahstws005\target\chem\voa9.i\u230731.b\u073106.d
Inj Date : 31-JUL-2023 13:22
InstruID : VOA9.i
LabSampID : VSTD005

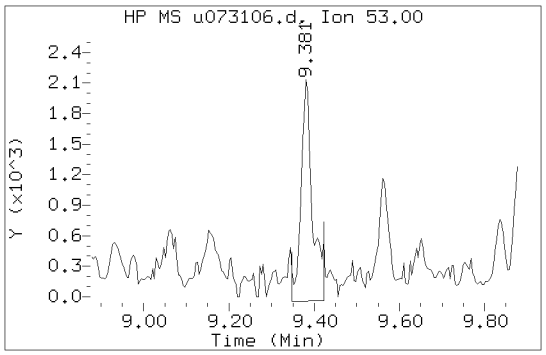
trans-1,4-Dichloro-2-butene (110-57-6)

Reason Code:

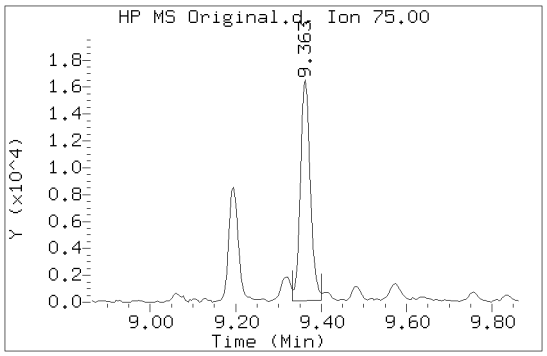
BEFORE
MASS
53
AREA
4112
HEIGHT
2172
01-Aug-2023
21:03



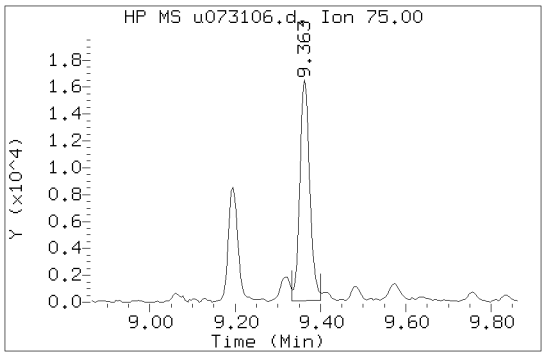
AFTER
MASS
53
AREA
4112
HEIGHT
2172
01-Aug-2023
21:03



BEFORE
MASS
75
AREA
27211
HEIGHT
16421
01-Aug-2023
21:03



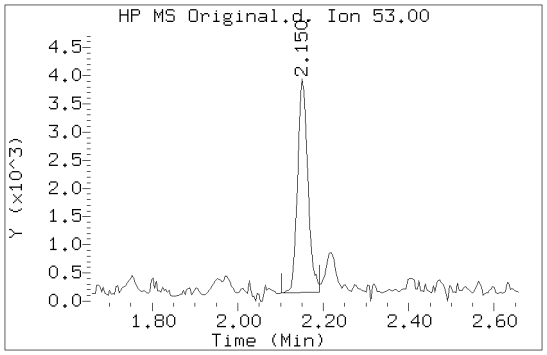
AFTER
MASS
75
AREA
27211
HEIGHT
16421
01-Aug-2023
21:03



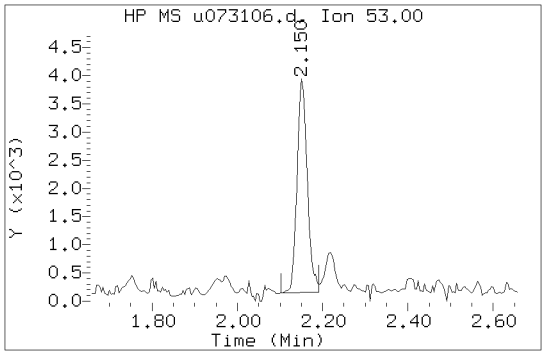
Chloroprene (126-99-8)

Reason Code:

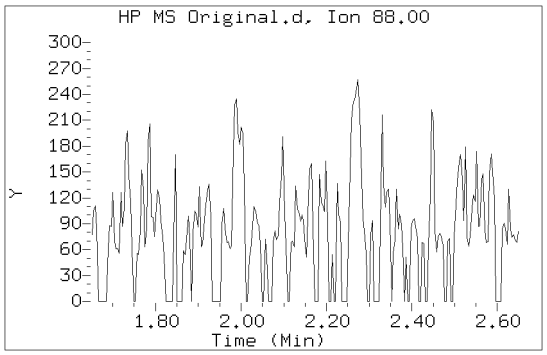
BEFORE
MASS
53
AREA
6457
HEIGHT
3787
01-Aug-2023
21:03



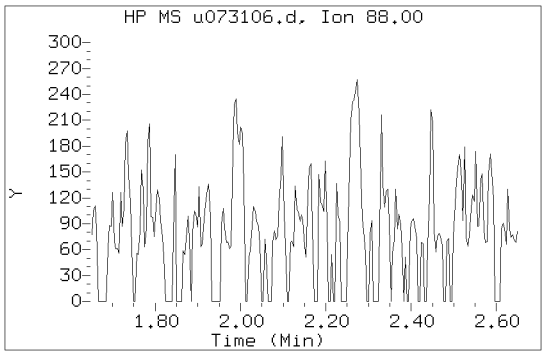
AFTER
MASS
53
AREA
6457
HEIGHT
3787
01-Aug-2023
21:03



BEFORE
MASS
88
AREA
0
HEIGHT
0
01-Aug-2023
21:03



AFTER
MASS
88
AREA
0
HEIGHT
0
01-Aug-2023
21:03



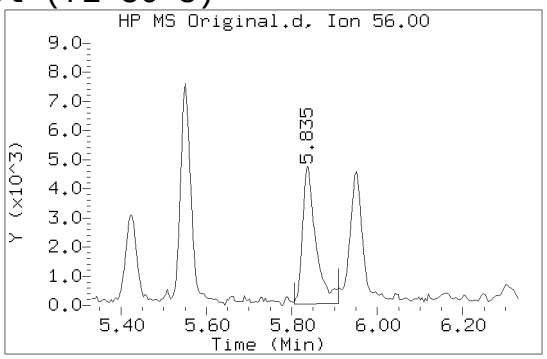
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Inj Date : 31-JUL-2023 13:22
InstruID : VOA9.i
LabSampID : VSTD005

n-Butanol (71-36-3)

Reason Code:

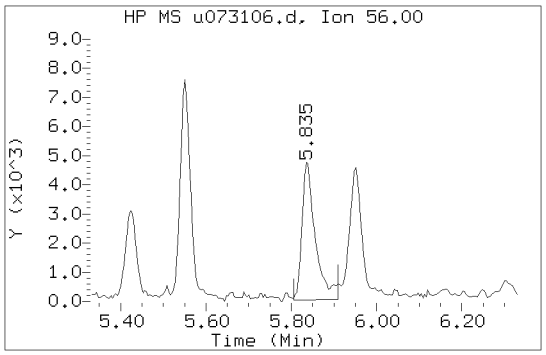
BEFORE

MASS
56
AREA
10577
HEIGHT
4724
01-Aug-2023
21:03



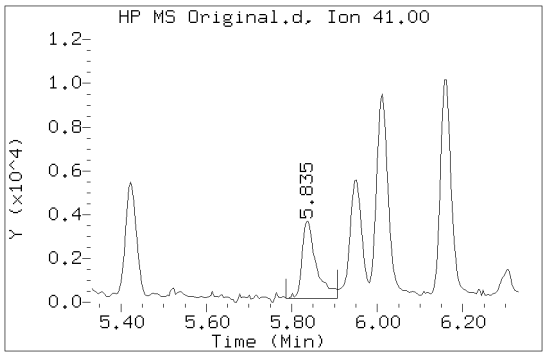
AFTER

MASS
56
AREA
10577
HEIGHT
4724
01-Aug-2023
21:03



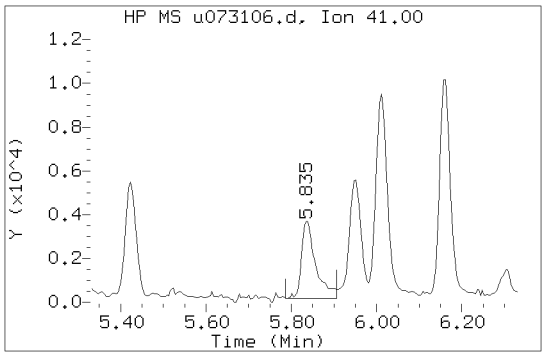
BEFORE

MASS
41
AREA
8306
HEIGHT
3501
01-Aug-2023
21:03



AFTER

MASS
41
AREA
8306
HEIGHT
3501
01-Aug-2023
21:03

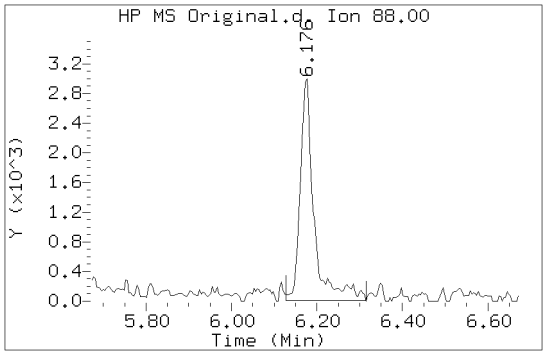


1,4-Dioxane ()

Reason Code:

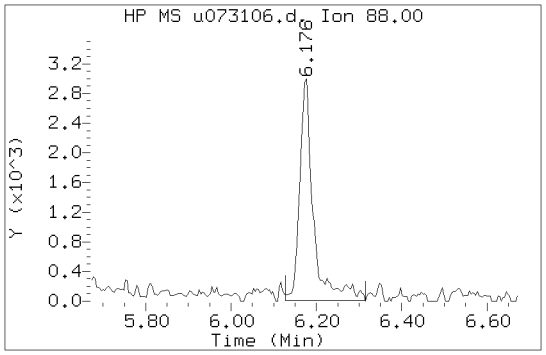
BEFORE

MASS
88
AREA
6838
HEIGHT
2989
01-Aug-2023
21:03



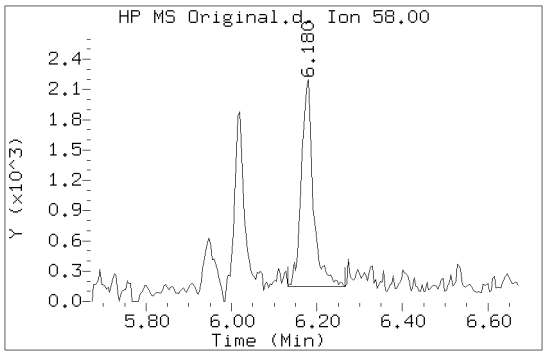
AFTER

MASS
88
AREA
6838
HEIGHT
2989
01-Aug-2023
21:03



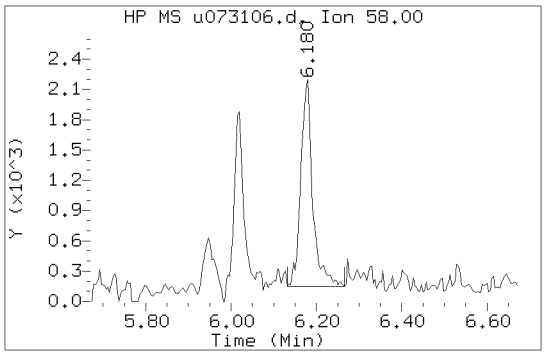
BEFORE

MASS
58
AREA
4048
HEIGHT
2050
01-Aug-2023
21:03



AFTER

MASS
58
AREA
4048
HEIGHT
2050
01-Aug-2023
21:03

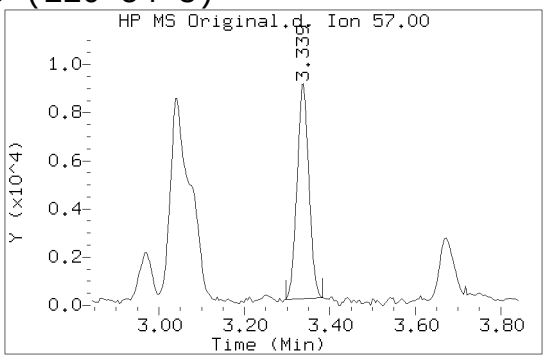


Data File : \\nahstws005\target\chem\voa9.i\u230731.b\u073106.d
Inj Date : 31-JUL-2023 13:22
InstruID : VOA9.i
LabSampID : VSTD005

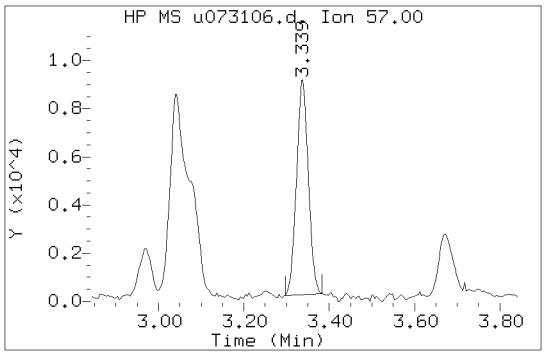
n-Hexane (110-54-3)

Reason Code:

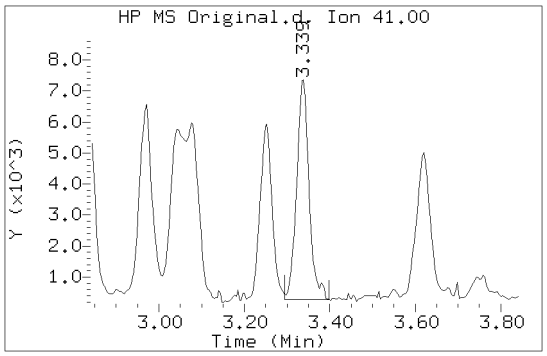
BEFORE
MASS
57
AREA
17510
HEIGHT
8919
01-Aug-2023
21:03



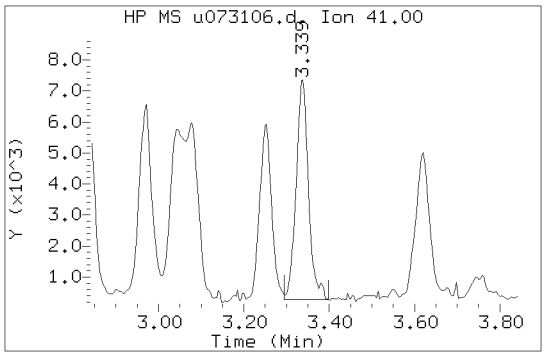
AFTER
MASS
57
AREA
17510
HEIGHT
8919
01-Aug-2023
21:03



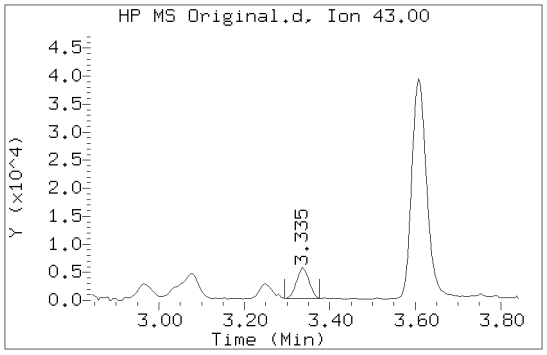
BEFORE
MASS
41
AREA
14632
HEIGHT
7081
01-Aug-2023
21:03



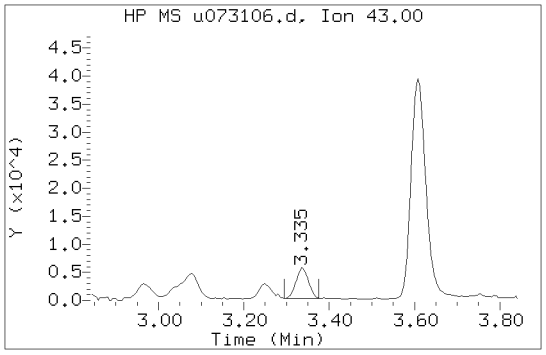
AFTER
MASS
41
AREA
14632
HEIGHT
7081
01-Aug-2023
21:03



BEFORE
MASS
43
AREA
11064
HEIGHT
5461
01-Aug-2023
21:03



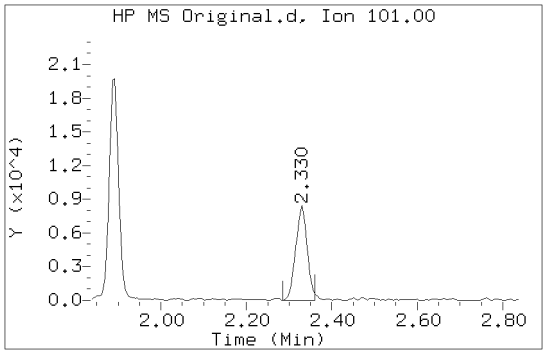
AFTER
MASS
43
AREA
11064
HEIGHT
5461
01-Aug-2023
21:03



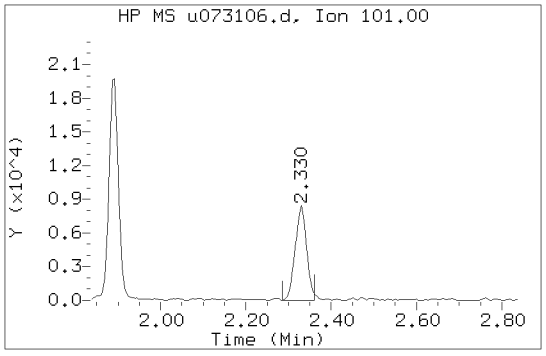
Freon TF (76-13-1)

Reason Code:

BEFORE
MASS
101
AREA
16029
HEIGHT
8452
01-Aug-2023
21:03



AFTER
MASS
101
AREA
16029
HEIGHT
8452
01-Aug-2023
21:03



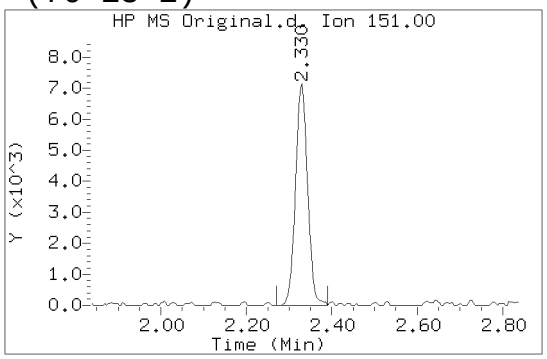
Data File : \\nahstws005\target\chem\voa9.i\u230731.b\u073106.d
Inj Date : 31-JUL-2023 13:22
InstruID : VOA9.i
LabSampID : VSTD005

Freon TF (76-13-1)

Reason Code:

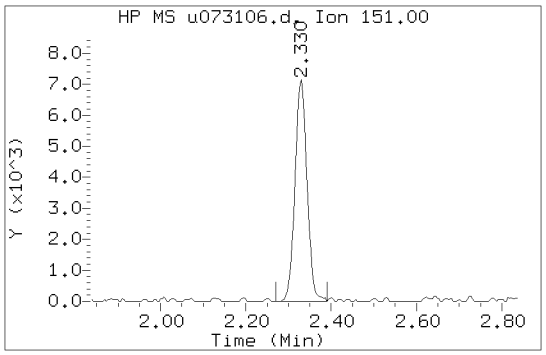
BEFORE

MASS
151
AREA
14333
HEIGHT
7146
01-Aug-2023
21:03



AFTER

MASS
151
AREA
14333
HEIGHT
7146
01-Aug-2023
21:03

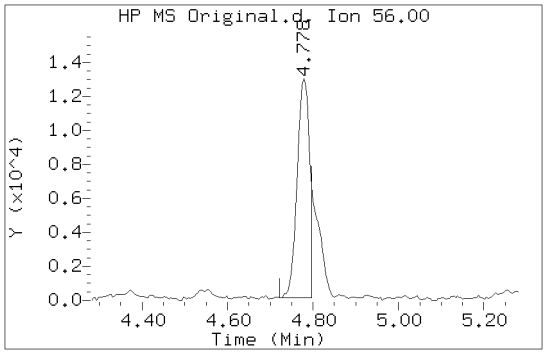


Cyclohexane (110-82-7)

Reason Code:

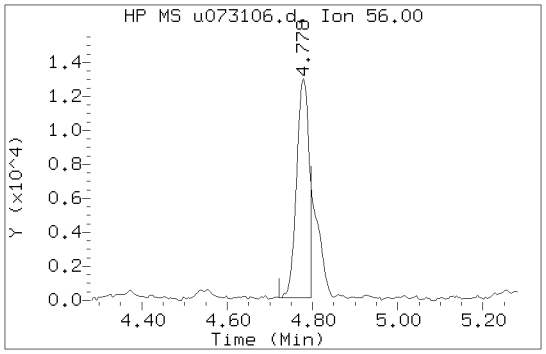
BEFORE

MASS
56
AREA
26286
HEIGHT
12886
01-Aug-2023
21:03



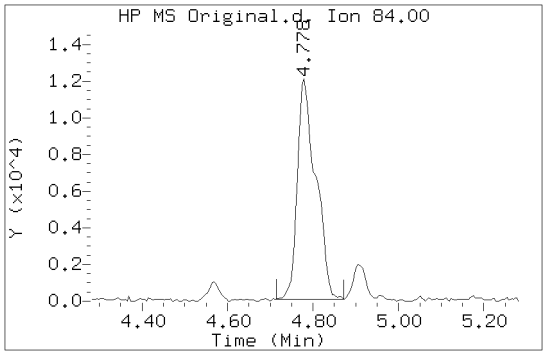
AFTER

MASS
56
AREA
26286
HEIGHT
12886
01-Aug-2023
21:03



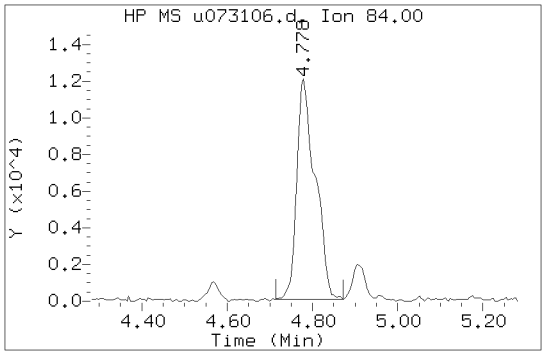
BEFORE

MASS
84
AREA
36483
HEIGHT
12015
01-Aug-2023
21:03



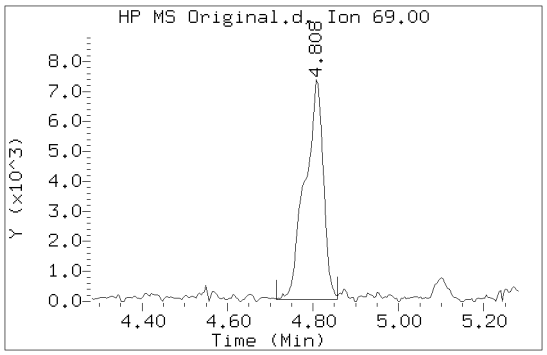
AFTER

MASS
84
AREA
36483
HEIGHT
12015
01-Aug-2023
21:03



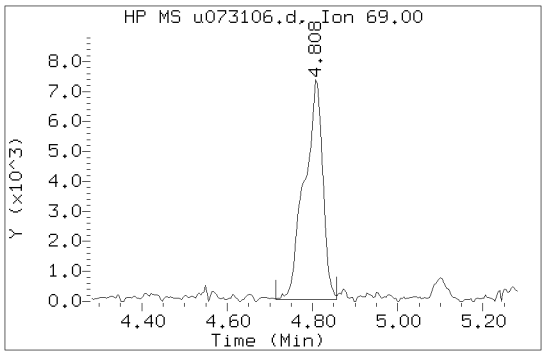
BEFORE

MASS
69
AREA
21975
HEIGHT
7326
01-Aug-2023
21:03



AFTER

MASS
69
AREA
21975
HEIGHT
7326
01-Aug-2023
21:03

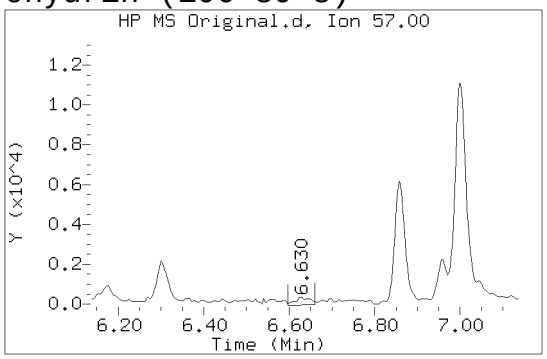


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Inj Date : 31-JUL-2023 13:22
InstruID : VOA9.i
LabSampID : VSTD005

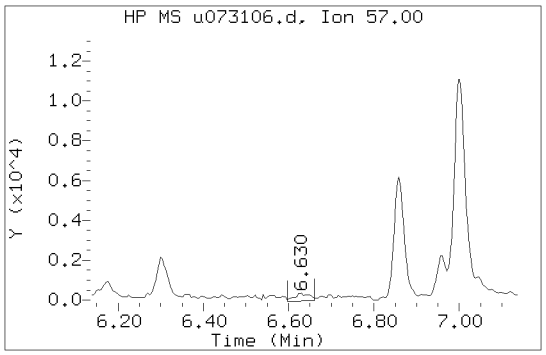
Epichlorohydrin (106-89-8)

Reason Code:

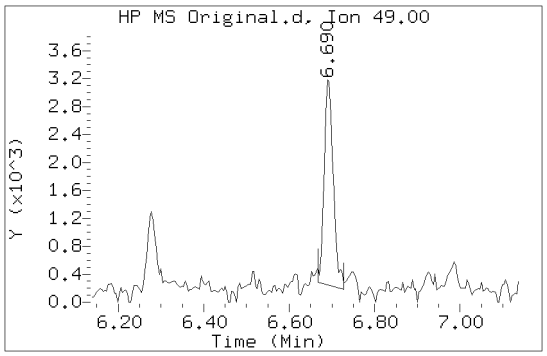
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MASS
57
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991
HEIGHT
399
01-Aug-2023
21:03



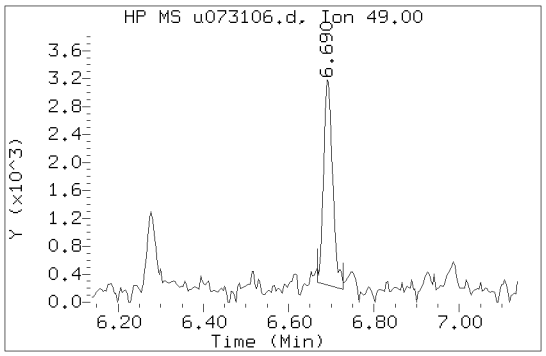
AFTER
MASS
57
AREA
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HEIGHT
399
01-Aug-2023
21:03



BEFORE
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49
AREA
4381
HEIGHT
2935
01-Aug-2023
21:03



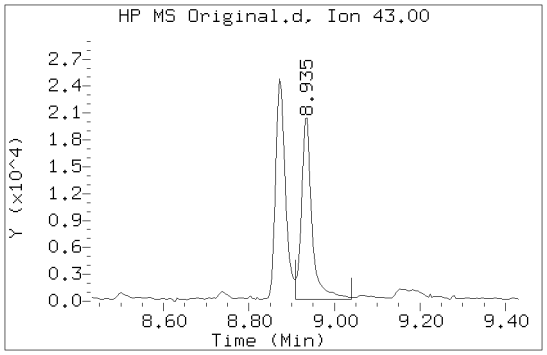
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49
AREA
4381
HEIGHT
2935
01-Aug-2023
21:03



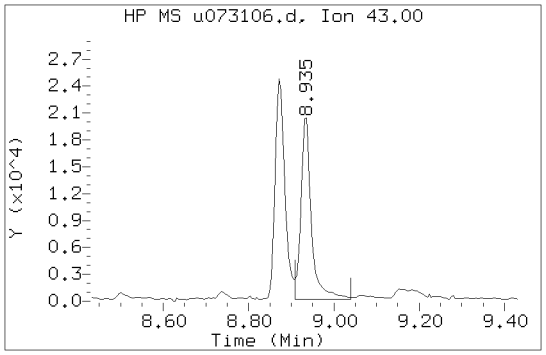
n-Amyl acetate (628-63-7)

Reason Code:

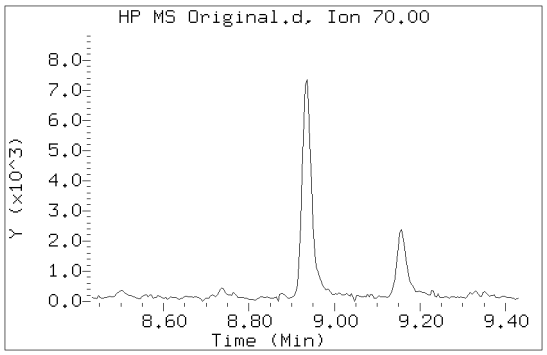
BEFORE
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43
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35636
HEIGHT
20249
01-Aug-2023
21:03



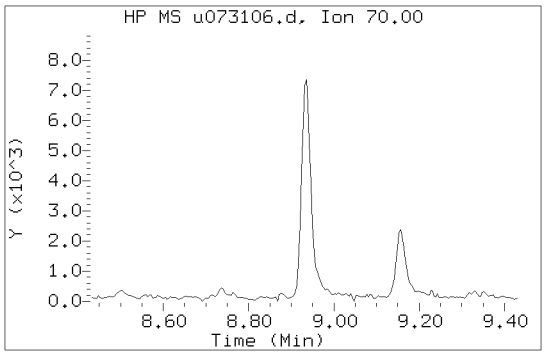
AFTER
MASS
43
AREA
35636
HEIGHT
20249
01-Aug-2023
21:03



BEFORE
MASS
70
AREA
0
HEIGHT
0
01-Aug-2023
21:03



AFTER
MASS
70
AREA
0
HEIGHT
0
01-Aug-2023
21:03

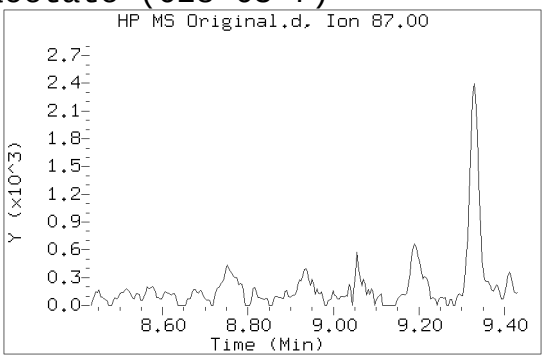


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Inj Date : 31-JUL-2023 13:22
InstruID : VOA9.i
LabSampID : VSTD005

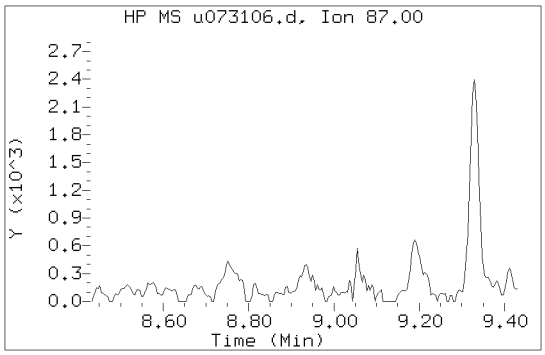
n-Amyl acetate (628-63-7)

Reason Code:

BEFORE
MASS
87
AREA
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HEIGHT
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01-Aug-2023
21:03



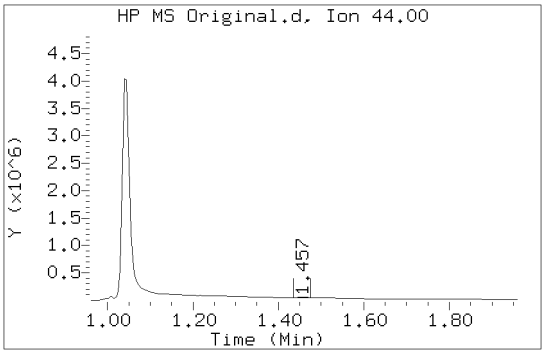
AFTER
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01-Aug-2023
21:03



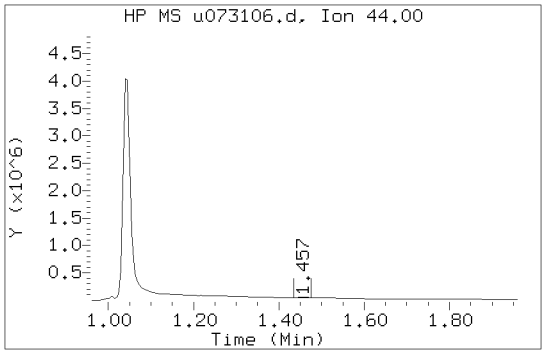
Acetaldehyde (75-07-0)

Reason Code:

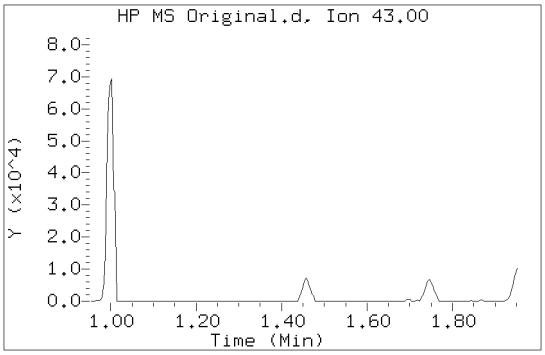
BEFORE
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AREA
13015
HEIGHT
10024
01-Aug-2023
21:03



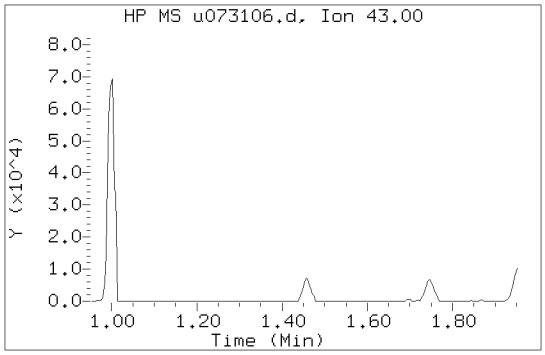
AFTER
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HEIGHT
10024
01-Aug-2023
21:03



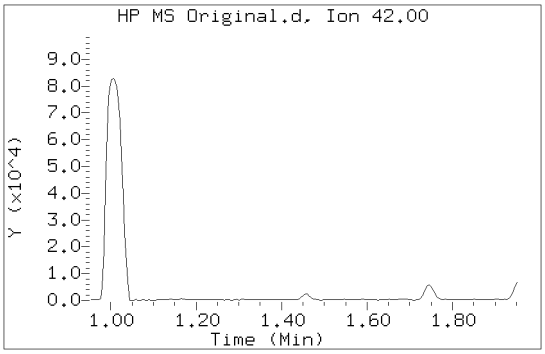
BEFORE
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43
AREA
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HEIGHT
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01-Aug-2023
21:03



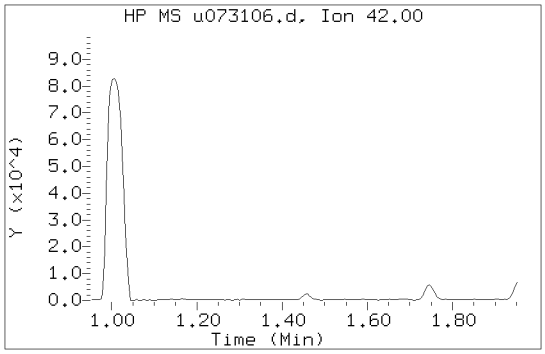
AFTER
MASS
43
AREA
0
HEIGHT
0
01-Aug-2023
21:03



BEFORE
MASS
42
AREA
0
HEIGHT
0
01-Aug-2023
21:03



AFTER
MASS
42
AREA
0
HEIGHT
0
01-Aug-2023
21:03

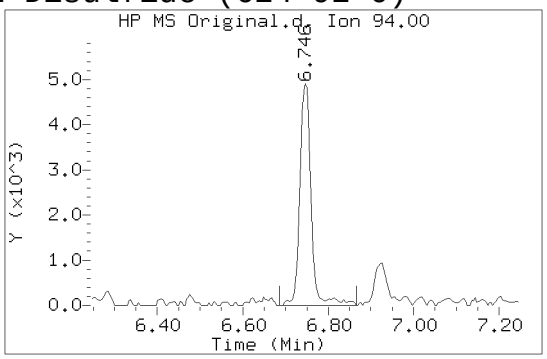


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Inj Date : 31-JUL-2023 13:22
InstruID : VOA9.i
LabSampID : VSTD005

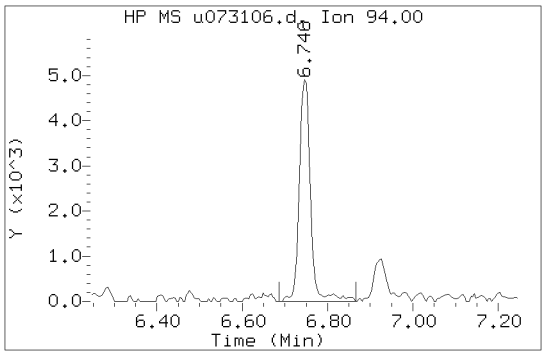
Dimethyl Disulfide (624-92-0)

Reason Code:

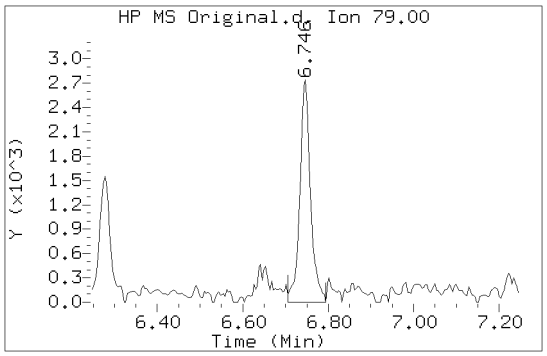
BEFORE
MASS
94
AREA
9195
HEIGHT
4909
01-Aug-2023
21:03



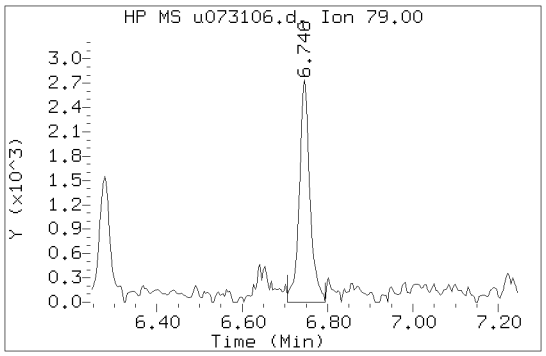
AFTER
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AREA
9195
HEIGHT
4909
01-Aug-2023
21:03



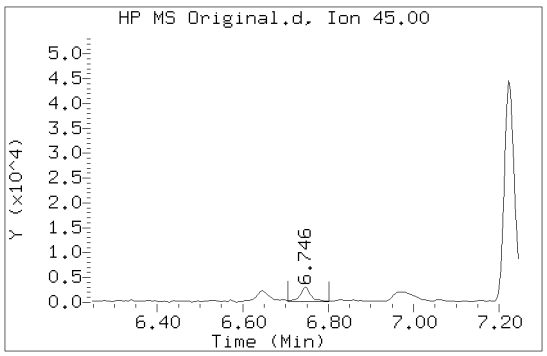
BEFORE
MASS
79
AREA
4843
HEIGHT
2740
01-Aug-2023
21:03



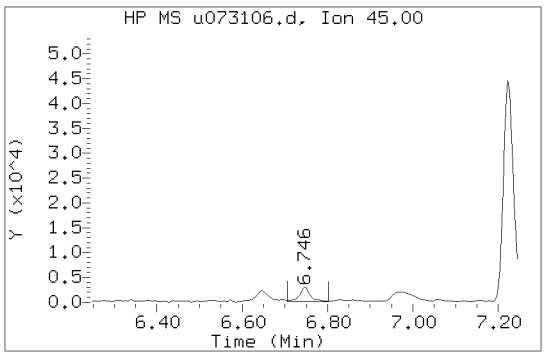
AFTER
MASS
79
AREA
4843
HEIGHT
2740
01-Aug-2023
21:03



BEFORE
MASS
45
AREA
5444
HEIGHT
2977
01-Aug-2023
21:03



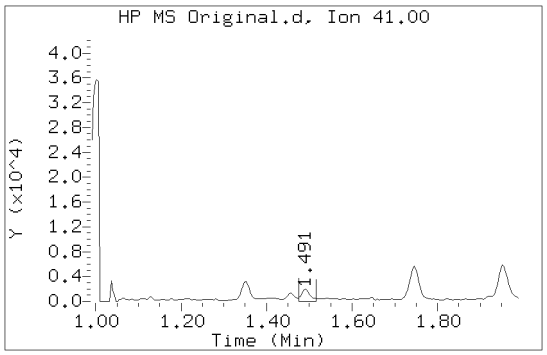
AFTER
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45
AREA
5444
HEIGHT
2977
01-Aug-2023
21:03



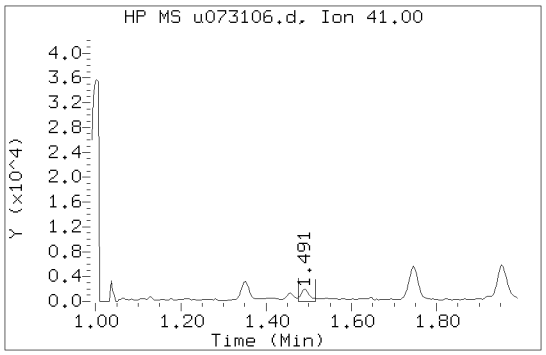
Isobutylene (115-11-7)

Reason Code:

BEFORE
MASS
41
AREA
2884
HEIGHT
1980
01-Aug-2023
21:03



AFTER
MASS
41
AREA
2884
HEIGHT
1980
01-Aug-2023
21:03

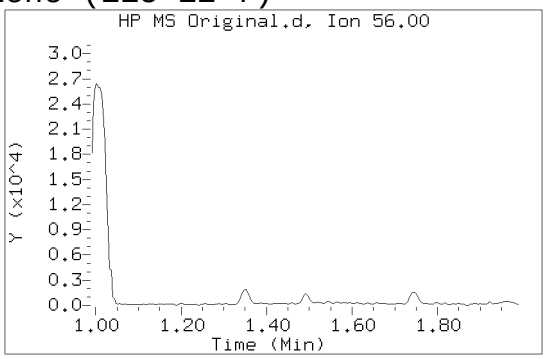


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Inj Date : 31-JUL-2023 13:22
InstruID : VOA9.i
LabSampID : VSTD005

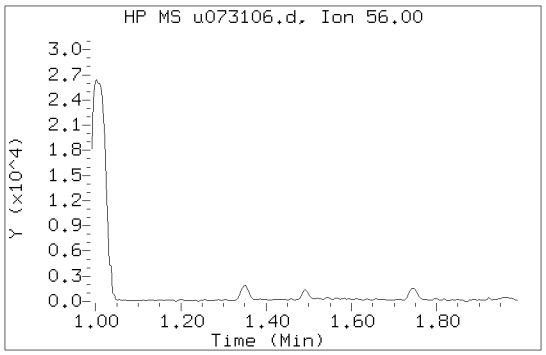
Isobutylene (115-11-7)

Reason Code:

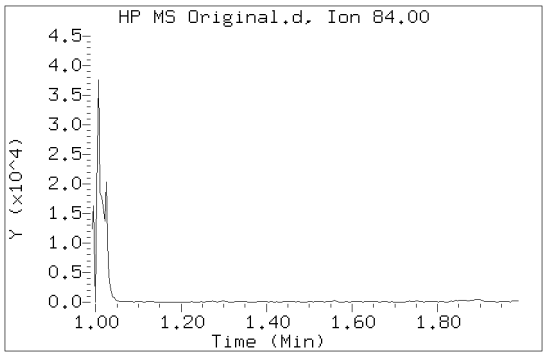
BEFORE
MASS
56
AREA
0
HEIGHT
0
01-Aug-2023
21:03



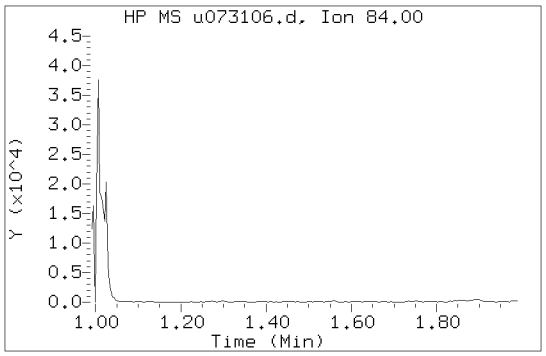
AFTER
MASS
56
AREA
0
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01-Aug-2023
21:03



BEFORE
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84
AREA
0
HEIGHT
0
01-Aug-2023
21:03



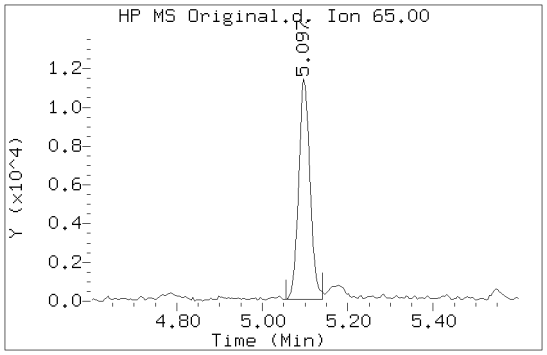
AFTER
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0
01-Aug-2023
21:03



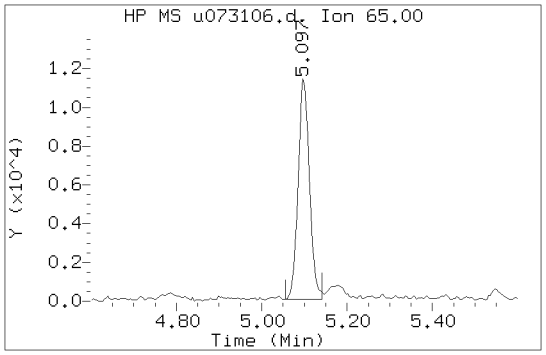
1,2-Dichloroethane-d4 (17060-07-0)

Reason Code:

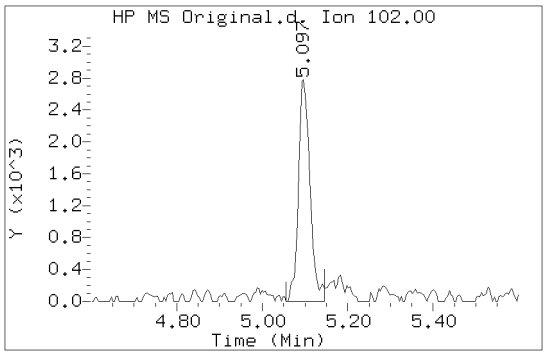
BEFORE
MASS
65
AREA
21416
HEIGHT
11374
01-Aug-2023
21:03



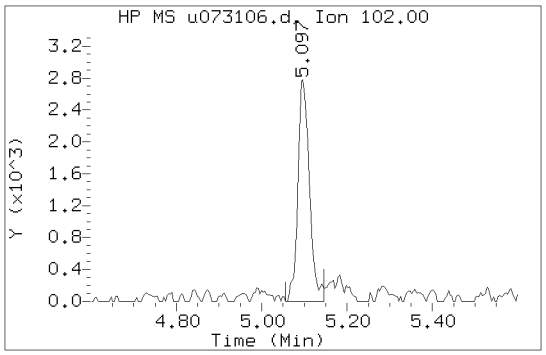
AFTER
MASS
65
AREA
21416
HEIGHT
11374
01-Aug-2023
21:03



BEFORE
MASS
102
AREA
5359
HEIGHT
2780
01-Aug-2023
21:03



AFTER
MASS
102
AREA
5359
HEIGHT
2780
01-Aug-2023
21:03

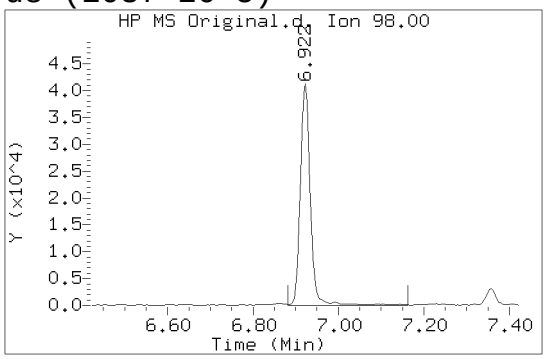


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Inj Date : 31-JUL-2023 13:22
InstruID : VOA9.i
LabSampID : VSTD005

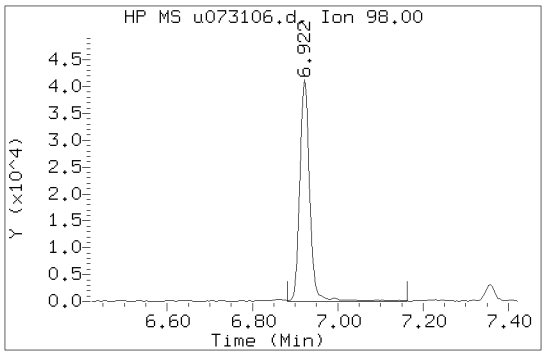
Toluene-d8 (2037-26-5)

Reason Code:

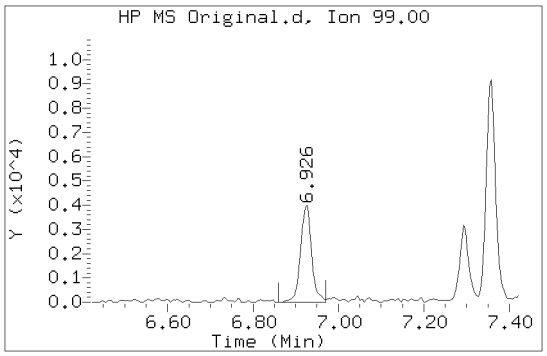
BEFORE
MASS
98
AREA
68368
HEIGHT
41285
01-Aug-2023
21:03



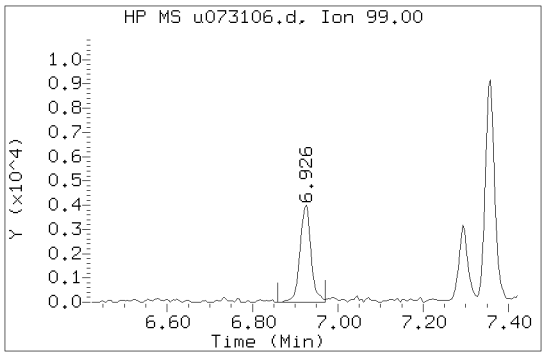
AFTER
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AREA
68368
HEIGHT
41285
01-Aug-2023
21:03



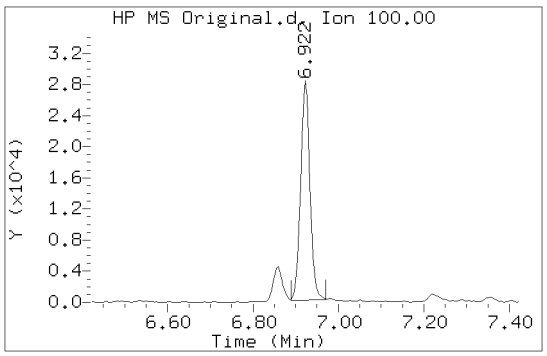
BEFORE
MASS
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AREA
7396
HEIGHT
4006
01-Aug-2023
21:03



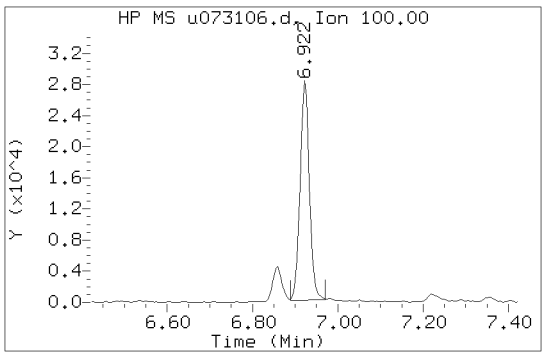
AFTER
MASS
99
AREA
7396
HEIGHT
4006
01-Aug-2023
21:03



BEFORE
MASS
100
AREA
43400
HEIGHT
28206
01-Aug-2023
21:03



AFTER
MASS
100
AREA
43400
HEIGHT
28206
01-Aug-2023
21:03



Data File: \\NAHSTWS005\Target\chem\voa9.i\U230731.b\U073107.D Page 1
Report Date: 07-Aug-2023 11:14

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U230731.b\U073107.D
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Inj Date : 31-JUL-2023 13:44
Operator : PC Inst ID: VOA9.i
Smp Info : VSTD020;VSTD020;1;6;
Misc Info : V9;WATER;0;1;
Comment :
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Meth Date : 07-Aug-2023 11:14 VOA9.i Quant Type: ISTD
Cal Date : 31-JUL-2023 13:22 Cal File: U073106.D
Als bottle: 8 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260V9.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.811	4.811	(1.000)	508113	50.0000	
2 Dichlorodifluoromethane	85	1.153	1.153	(0.240)	89461	20.0000	19.18
3 Chloromethane	50	1.288	1.288	(0.268)	122049	20.0000	20.26
5 Vinyl Chloride	62	1.366	1.366	(0.284)	93372	20.0000	18.66
6 Bromomethane	94	1.610	1.610	(0.335)	63845	20.0000	22.80
7 Chloroethane	64	1.689	1.689	(0.351)	60002	20.0000	19.04
8 Trichlorofluoromethane	101	1.884	1.884	(0.392)	115200	20.0000	18.65
9 Acrolein	56	1.741	1.741	(0.362)	12556	40.0000	38.52
10 Acetone	43	2.401	2.401	(0.499)	78782	40.0000	45.41
11 1,1-Dichloroethene	96	2.322	2.322	(0.483)	62778	20.0000	18.75
15 Iodomethane	142	2.457	2.457	(0.511)	100586	40.0000	34.80
16 Acrylonitrile	53	3.061	3.061	(0.636)	61984	40.0000	38.80
17 Methylene Chloride	84	2.783	2.783	(0.579)	81979	20.0000	20.04
18 Methyl tert-butyl ether	73	3.072	3.072	(0.639)	197578	20.0000	19.09
19 Carbon Disulfide	76	2.510	2.510	(0.522)	362924	40.0000	37.23
20 trans-1,2-Dichloroethene	96	3.049	3.049	(0.634)	69686	20.0000	18.57
21 Vinyl Acetate	43	3.600	3.600	(0.748)	400455	40.0000	37.29
22 1,1-Dichloroethane	63	3.503	3.503	(0.728)	126006	20.0000	18.37
24 2-Butanone	43	4.264	4.264	(0.886)	74752	40.0000	37.44
26 2,2-Dichloropropane	77	4.174	4.174	(0.868)	91735	20.0000	19.40

27	cis-1,2-Dichloroethene	96	4.189	4.189 (0.871)	82546	20.0000	19.71
28	Chloroform	83	4.564	4.564 (0.949)	154466	20.0000	19.35

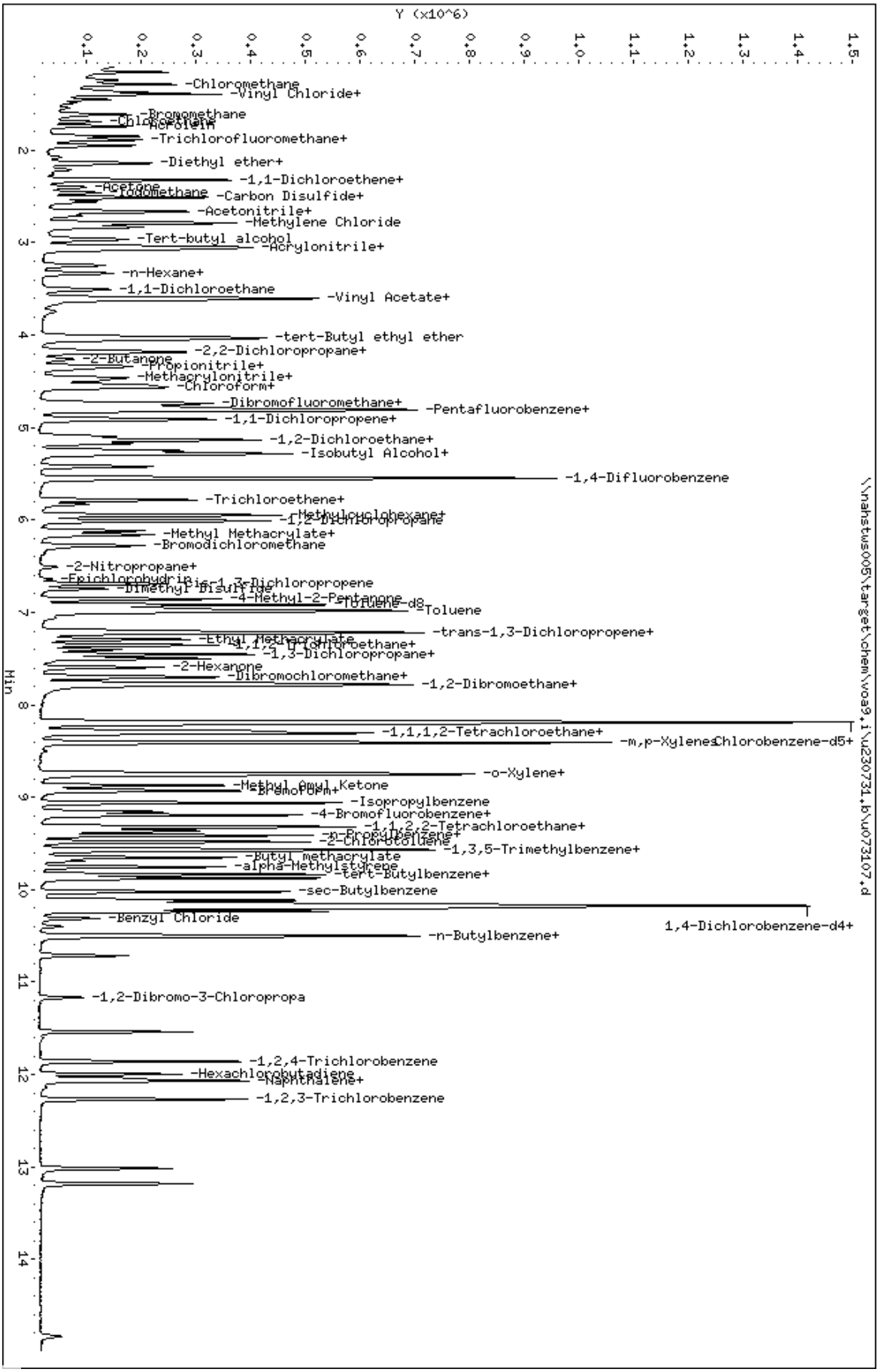
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	29 Bromochloromethane	128	4.463	4.463	(0.928)	47382	20.0000	19.12
$	30 Dibromofluoromethane	113	4.744	4.744	(0.986)	85217	20.0000	20.39
	31 1,1,1-Trichloroethane	97	4.736	4.736	(0.984)	115867	20.0000	18.66
	32 1,1-Dichloropropene	75	4.912	4.912	(0.885)	104598	20.0000	19.18
	33 1,2-Dichloroethane	62	5.171	5.171	(0.932)	125987	20.0000	19.92
	34 Carbon Tetrachloride	117	4.905	4.905	(0.884)	87355	20.0000	17.88
$	35 1,2-Dichloroethane-d4	65	5.092	5.092	(1.058)	92644	20.0000	20.15
*	36 1,4-Difluorobenzene	114	5.550	5.550	(1.000)	734279	50.0000	
	37 Benzene	78	5.134	5.134	(0.925)	344926	20.0000	19.23
	38 Trichloroethene	130	5.786	5.786	(1.043)	95768	20.0000	18.89
	39 Bromodichloromethane	83	6.277	6.277	(1.131)	109407	20.0000	19.07
	41 2-Chloroethylvinyl ether	63	6.562	6.562	(1.182)	3649	40.0000	43.19(M)
	42 1,2-Dichloropropane	63	6.007	6.007	(1.082)	94074	20.0000	19.56
	44 Dibromomethane	93	6.116	6.116	(1.102)	60570	20.0000	19.61
	45 4-Methyl-2-Pentanone	43	6.854	6.854	(0.837)	202206	40.0000	39.59
	46 cis-1,3-Dichloropropene	75	6.689	6.689	(1.205)	121394	20.0000	18.07
*	47 Chlorobenzene-d5	117	8.185	8.185	(1.000)	686300	50.0000	
$	48 Toluene-d8	98	6.918	6.918	(0.845)	318501	20.0000	19.95
	50 Toluene	91	6.978	6.978	(0.853)	379846	20.0000	20.35
	51 trans-1,3-Dichloropropene	75	7.195	7.195	(1.297)	99553	20.0000	18.00
	52 2-Hexanone	43	7.593	7.593	(0.928)	136038	40.0000	40.23
	53 1,1,2-Trichloroethane	83	7.353	7.353	(0.898)	75535	20.0000	18.90
	54 1,3-Dichloropropane	76	7.499	7.499	(0.916)	162196	20.0000	19.78
	55 Dibromochloromethane	129	7.690	7.690	(0.940)	92434	20.0000	18.84
	56 Tetrachloroethene	164	7.454	7.454	(0.911)	86434	20.0000	19.05
	57 1,2-Dibromoethane	107	7.784	7.784	(0.951)	93653	20.0000	19.48
	58 1-Chlorohexane	55	8.196	8.196	(1.477)	71609	20.0000	18.67
	59 Chlorobenzene	112	8.208	8.208	(1.003)	259416	20.0000	19.61
	60 1,1,1,2-Tetrachloroethane	131	8.283	8.283	(1.012)	93087	20.0000	19.30
	61 Ethylbenzene	106	8.305	8.305	(1.015)	115489	20.0000	19.28
	62 m,p-Xylenes	106	8.406	8.406	(1.027)	280953	40.0000	39.96
	63 o-Xylene	106	8.747	8.747	(1.069)	140809	20.0000	20.47
	64 Styrene	104	8.759	8.759	(1.070)	210754	20.0000	19.63
	66 Bromoform	173	8.916	8.916	(1.089)	62613	20.0000	18.27
	67 Isopropylbenzene	105	9.062	9.062	(1.107)	330709	20.0000	19.87
	68 1,1,2,2-Tetrachloroethane	83	9.328	9.328	(0.917)	130051	20.0000	18.67
$	69 4-Bromofluorobenzene	95	9.193	9.193	(1.123)	131600	20.0000	20.32
*	70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	361627	50.0000	
	71 1,2,3-Trichloropropane	75	9.362	9.362	(0.920)	117425	20.0000	19.36
	73 n-Propylbenzene	91	9.411	9.411	(0.925)	353551	20.0000	18.44
	74 Bromobenzene	156	9.317	9.317	(0.916)	114455	20.0000	19.13
	75 1,3,5-Trimethylbenzene	105	9.561	9.561	(0.940)	240887	20.0000	19.06
	76 2-Chlorotoluene	91	9.482	9.482	(0.932)	254798	20.0000	19.98
	77 4-Chlorotoluene	91	9.576	9.576	(0.941)	290669	20.0000	20.41
	78 tert-Butylbenzene	119	9.835	9.835	(0.967)	234774	20.0000	19.60
	79 1,2,4-Trimethylbenzene	105	9.876	9.876	(0.971)	259961	20.0000	20.31
	81 sec-Butylbenzene	105	10.022	10.022	(0.985)	286254	20.0000	22.41
	82 p-Isopropyltoluene	119	10.146	10.146	(0.997)	235209	20.0000	22.36
	83 1,3-Dichlorobenzene	146	10.116	10.116	(0.994)	192210	20.0000	19.24
	84 1,4-Dichlorobenzene	146	10.191	10.191	(1.002)	204815	20.0000	18.51
	87 n-Butylbenzene	91	10.491	10.491	(1.031)	200492	20.0000	18.05
	88 1,2-Dichlorobenzene	146	10.506	10.506	(1.033)	196170	20.0000	19.14

89	1,2-Dibromo-3-Chloropropane	155	11.165	11.165 (1.098)	16731	20.0000	16.66
90	1,2,4-Trichlorobenzene	180	11.859	11.859 (1.166)	119903	20.0000	19.02

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	91 Hexachlorobutadiene	225	11.998	11.998	(1.179)	49415	20.0000	22.86
	92 Naphthalene	128	12.069	12.069	(1.186)	276874	20.0000	17.69
	93 1,2,3-Trichlorobenzene	180	12.267	12.267	(1.206)	120721	20.0000	18.76
M	94 1,2-Dichloroethylene (total)	96				152232	40.0000	
M	95 Xylenes (total)	106				421762	60.0000	
	135 1,4-Dioxane	88	6.168	6.168	(1.282)	27650	400.000	379.53(M)
	141 Cyclohexane	56	4.774	4.774	(0.992)	110200	20.0000	19.29
	138 Freon TF	101	2.322	2.322	(0.483)	59963	20.0000	23.21
	140 1,3-Butadiene	54	1.392	1.392	(0.289)	74085	20.0000	18.31
	147 Methylcyclohexane	55	5.947	5.947	(1.072)	210480	20.0000	19.67
	146 Methyl Acetate	43	2.705	2.705	(0.562)	68962	20.0000	18.91
	148 Tert-Butyl alcohol	59	2.963	2.963	(0.616)	172724	400.000	402.47
	149 Isopropyl Alcohol	45	2.555	2.555	(0.531)	100114	400.000	356.52

QC Flag Legend

M - Compound response manually integrated.



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Column phase: DB624

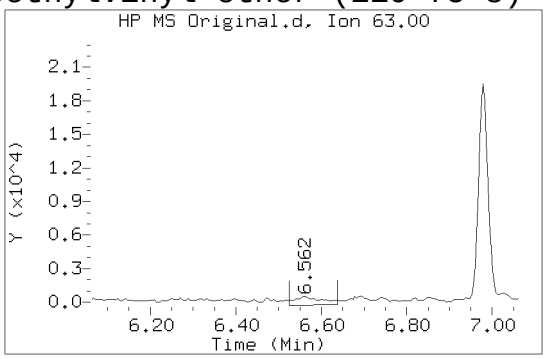
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Operator: PC
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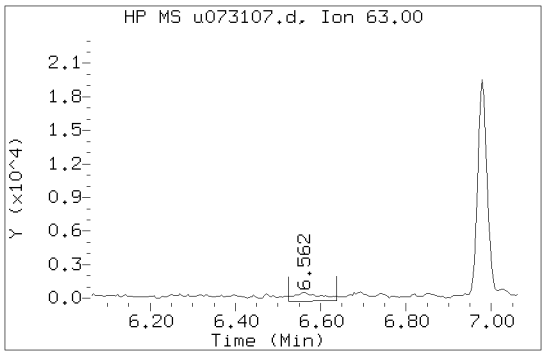
2-Chloroethylvinyl ether (110-75-8)

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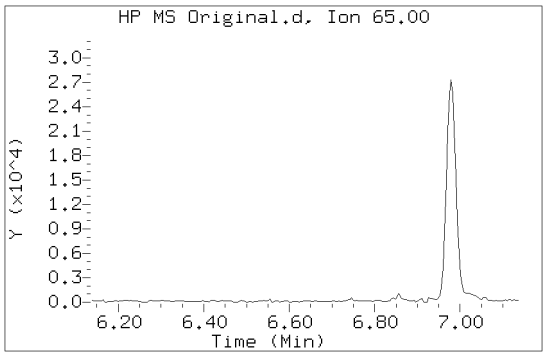
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01-Aug-2023
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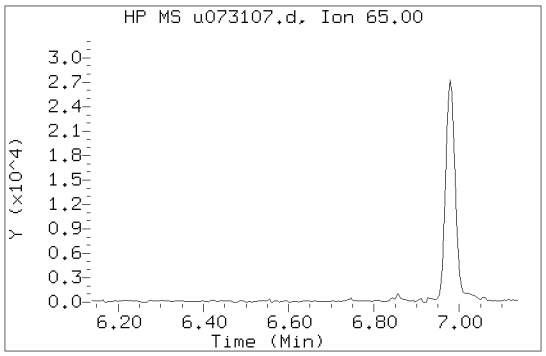
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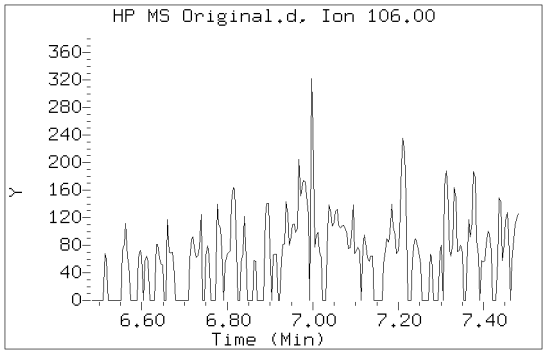
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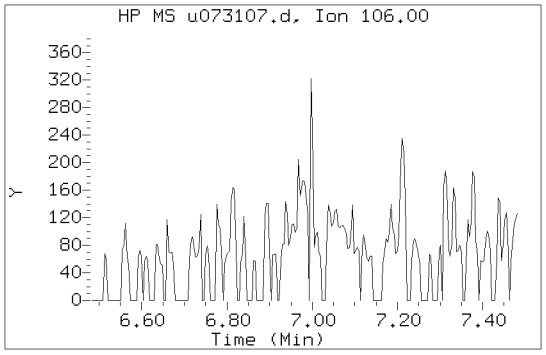
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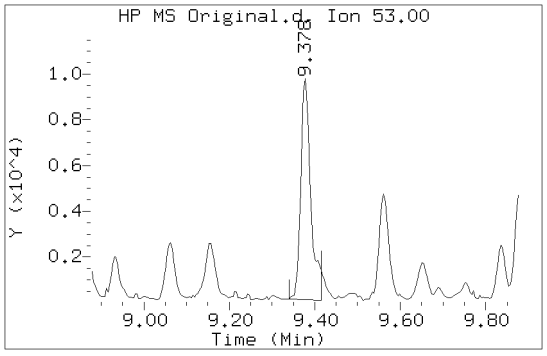
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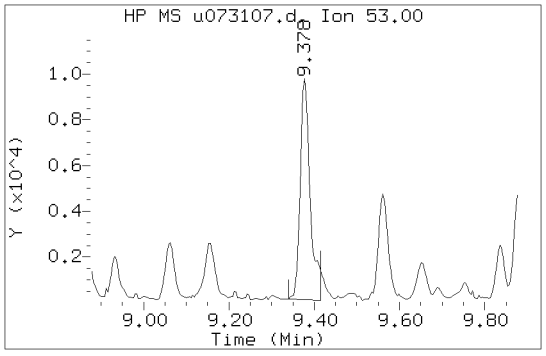
trans-1,4-Dichloro-2-butene (110-57-6)

Reason Code:

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AFTER
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01-Aug-2023
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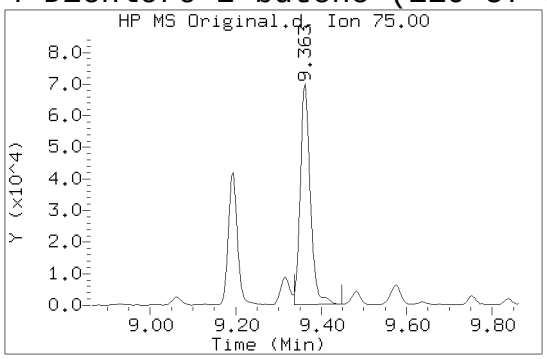
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Inj Date : 31-JUL-2023 13:44
InstruID : VOA9.i
LabSampID : VSTD020

trans-1,4-Dichloro-2-butene (110-57-6)

Reason Code:

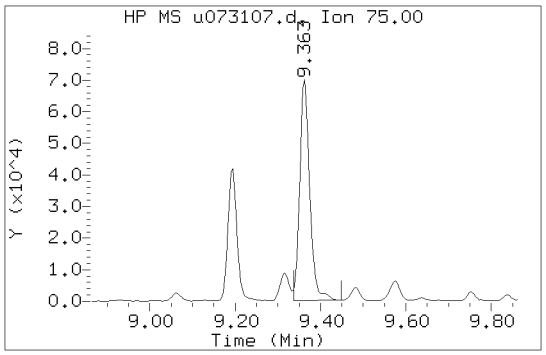
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AFTER

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01-Aug-2023
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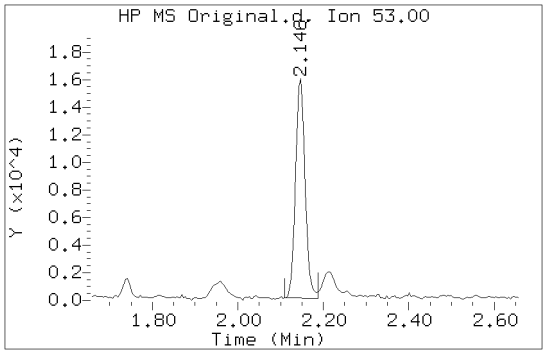


Chloroprene (126-99-8)

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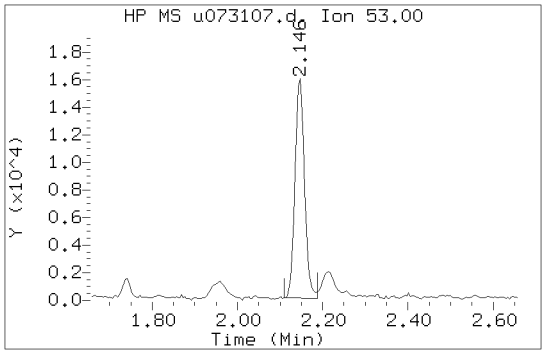
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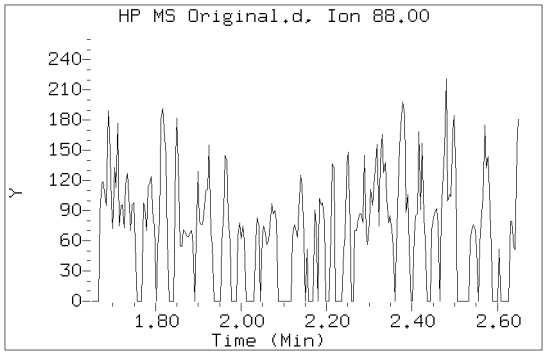
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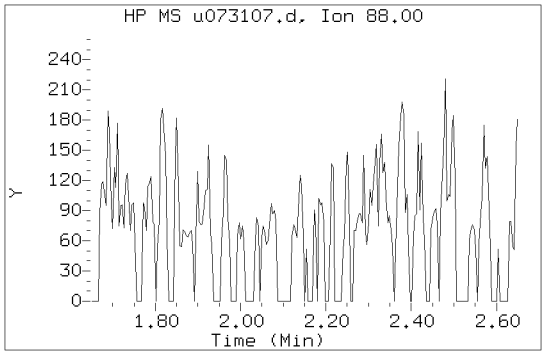
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AFTER

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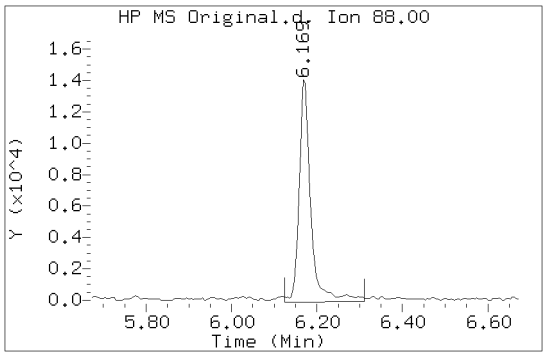


1,4-Dioxane ()

Reason Code:

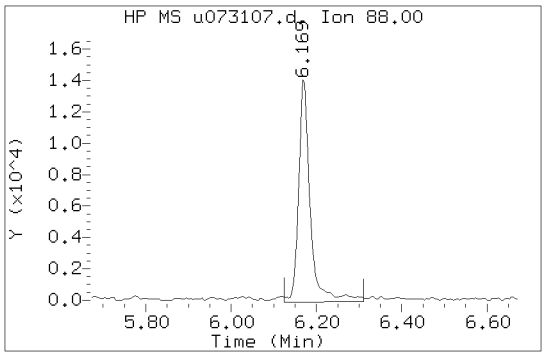
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AFTER

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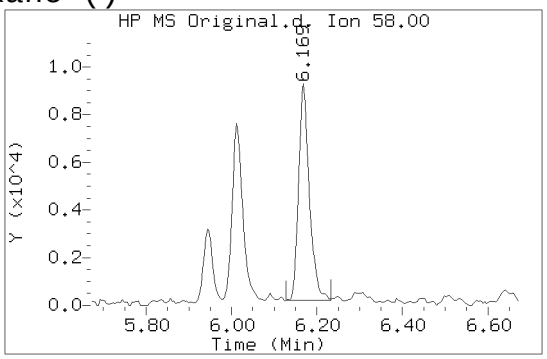


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InstruID : VOA9.i
LabSampID : VSTD020

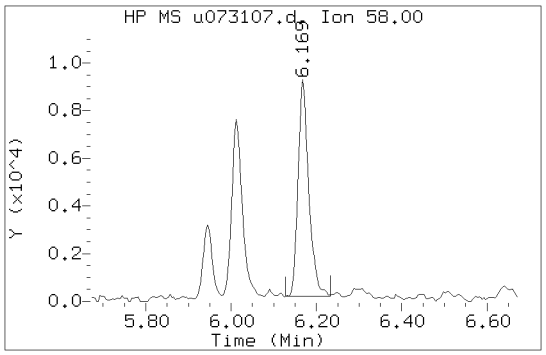
1,4-Dioxane ()

Reason Code:

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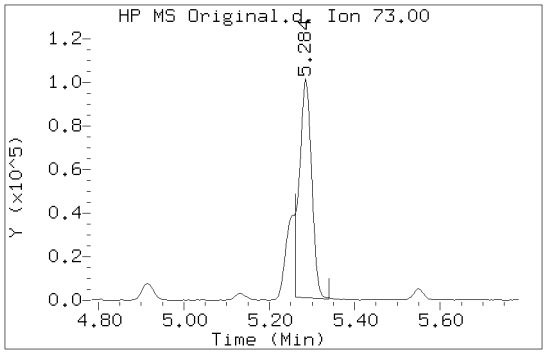
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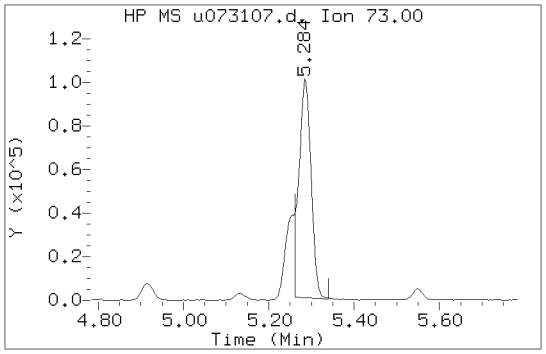
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Reason Code:

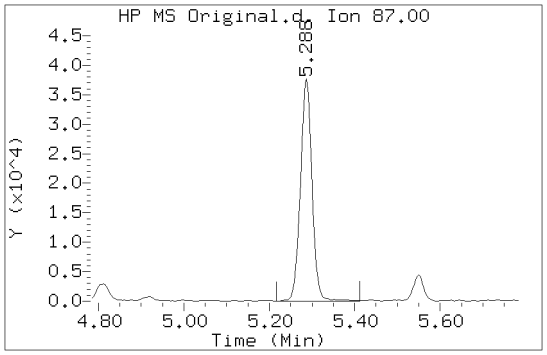
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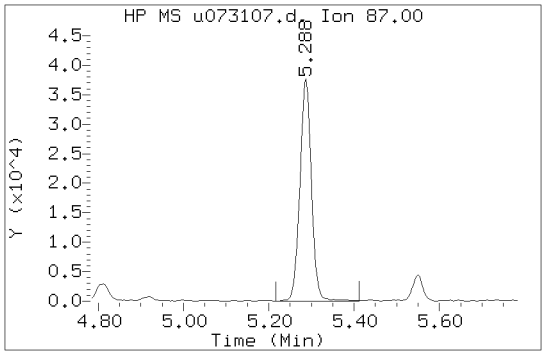
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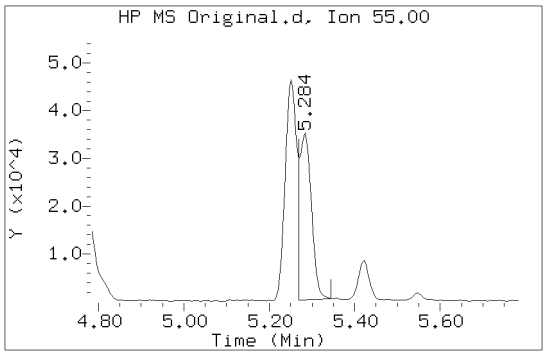
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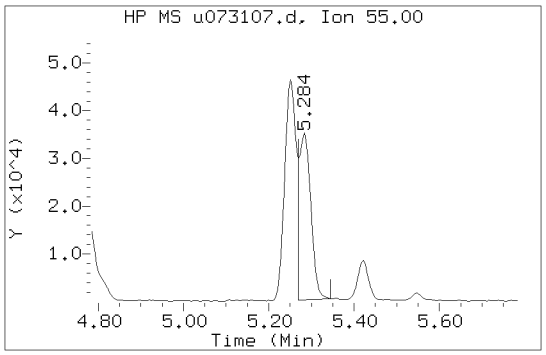
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AFTER
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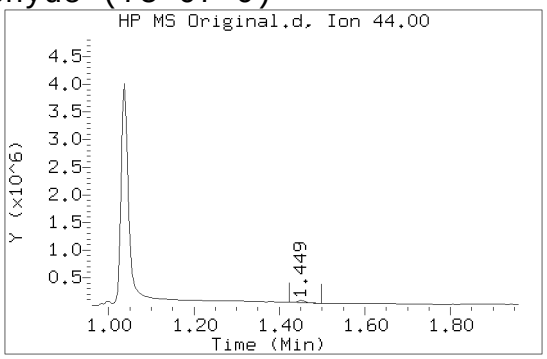


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LabSampID : VSTD020

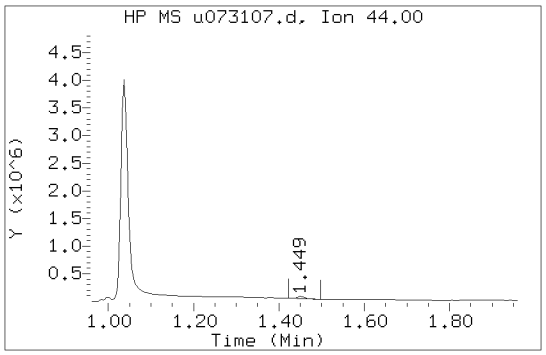
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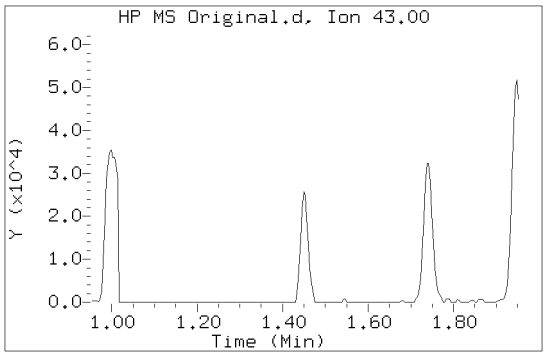
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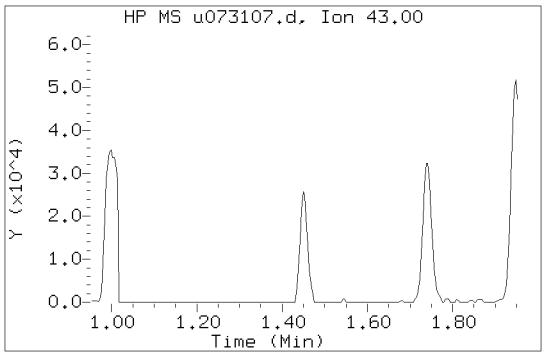
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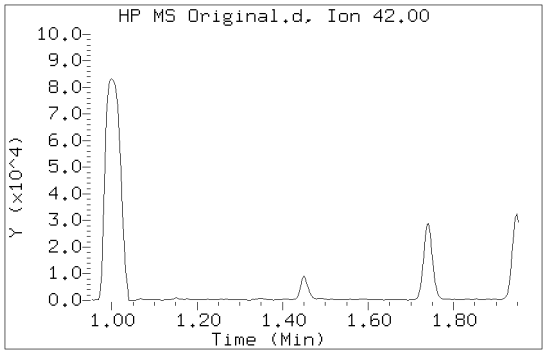
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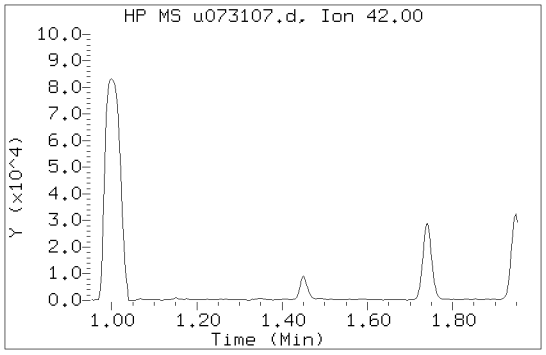
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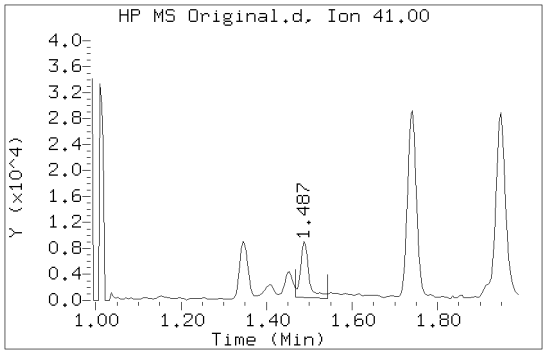
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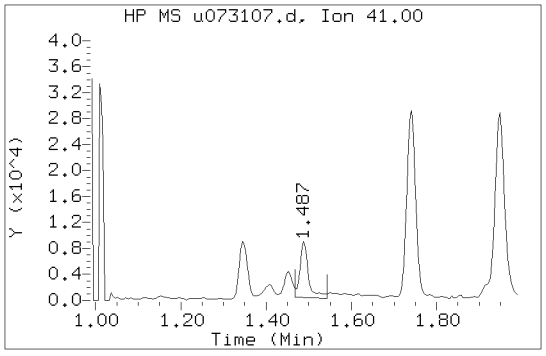
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Reason Code:

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AFTER
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01-Aug-2023
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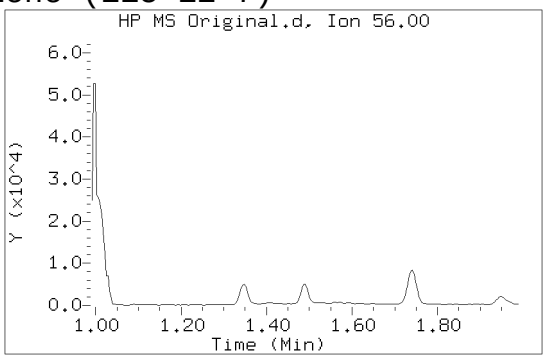


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Inj Date : 31-JUL-2023 13:44
InstruID : VOA9.i
LabSampID : VSTD020

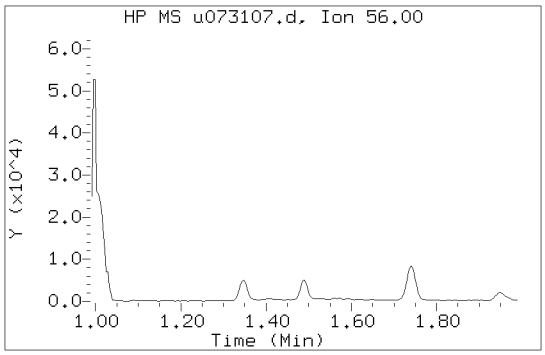
Isobutylene (115-11-7)

Reason Code:

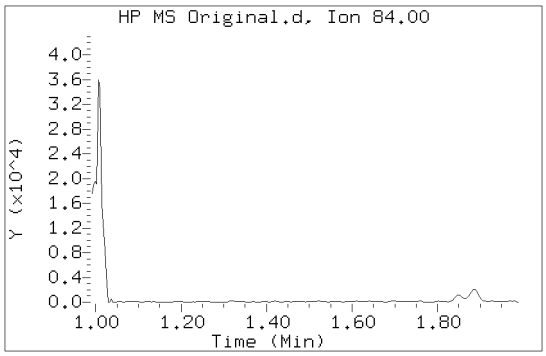
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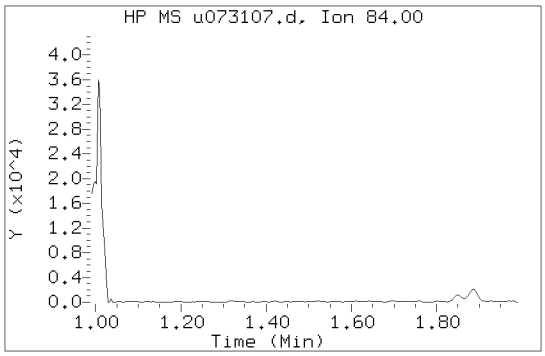
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01-Aug-2023
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BEFORE
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01-Aug-2023
21:03



AFTER
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AREA
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01-Aug-2023
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Data File: \\NAHSTWS005\Target\chem\voa9.i\U230731.b\U073108.D Page 1
Report Date: 07-Aug-2023 11:14

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U230731.b\U073108.D
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Inj Date : 31-JUL-2023 14:06
Operator : PC Inst ID: VOA9.i
Smp Info : VSTD050;VSTD050;1;7;
Misc Info : V9;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa9.i\U230731.b\8260C.m
Meth Date : 07-Aug-2023 11:14 VOA9.i Quant Type: ISTD
Cal Date : 31-JUL-2023 13:44 Cal File: U073107.D
Als bottle: 9 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260V9.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.811	4.811	(1.000)	521501	50.0000	
2 Dichlorodifluoromethane	85	1.156	1.156	(0.240)	210687	50.0000	42.40
3 Chloromethane	50	1.291	1.291	(0.268)	290271	50.0000	47.40
5 Vinyl Chloride	62	1.370	1.370	(0.285)	230497	50.0000	44.89
6 Bromomethane	94	1.610	1.610	(0.335)	140100	50.0000	50.62
7 Chloroethane	64	1.693	1.693	(0.352)	140986	50.0000	43.60
8 Trichlorofluoromethane	101	1.887	1.887	(0.392)	278846	50.0000	44.00
9 Acrolein	56	1.741	1.741	(0.362)	30057	100.000	89.85
10 Acetone	43	2.401	2.401	(0.499)	169500	100.000	104.17
11 1,1-Dichloroethene	96	2.326	2.326	(0.483)	156147	50.0000	45.44
15 Iodomethane	142	2.461	2.461	(0.512)	293634	100.000	89.53
16 Acrylonitrile	53	3.061	3.061	(0.636)	164576	100.000	100.39
17 Methylene Chloride	84	2.787	2.787	(0.579)	200746	50.0000	48.08
18 Methyl tert-butyl ether	73	3.072	3.072	(0.639)	524571	50.0000	49.39
19 Carbon Disulfide	76	2.514	2.514	(0.522)	914751	100.000	91.45
20 trans-1,2-Dichloroethene	96	3.050	3.050	(0.634)	173824	50.0000	45.14
21 Vinyl Acetate	43	3.601	3.601	(0.748)	1096284	100.000	99.48
22 1,1-Dichloroethane	63	3.507	3.507	(0.729)	306506	50.0000	43.55
24 2-Butanone	43	4.264	4.264	(0.886)	184731	100.000	90.16
26 2,2-Dichloropropane	77	4.178	4.178	(0.868)	225058	50.0000	46.38

27 cis-1,2-Dichloroethene	96	4.189	4.189 (0.871)	200549	50.0000	46.66
28 Chloroform	83	4.568	4.568 (0.949)	370309	50.0000	45.21

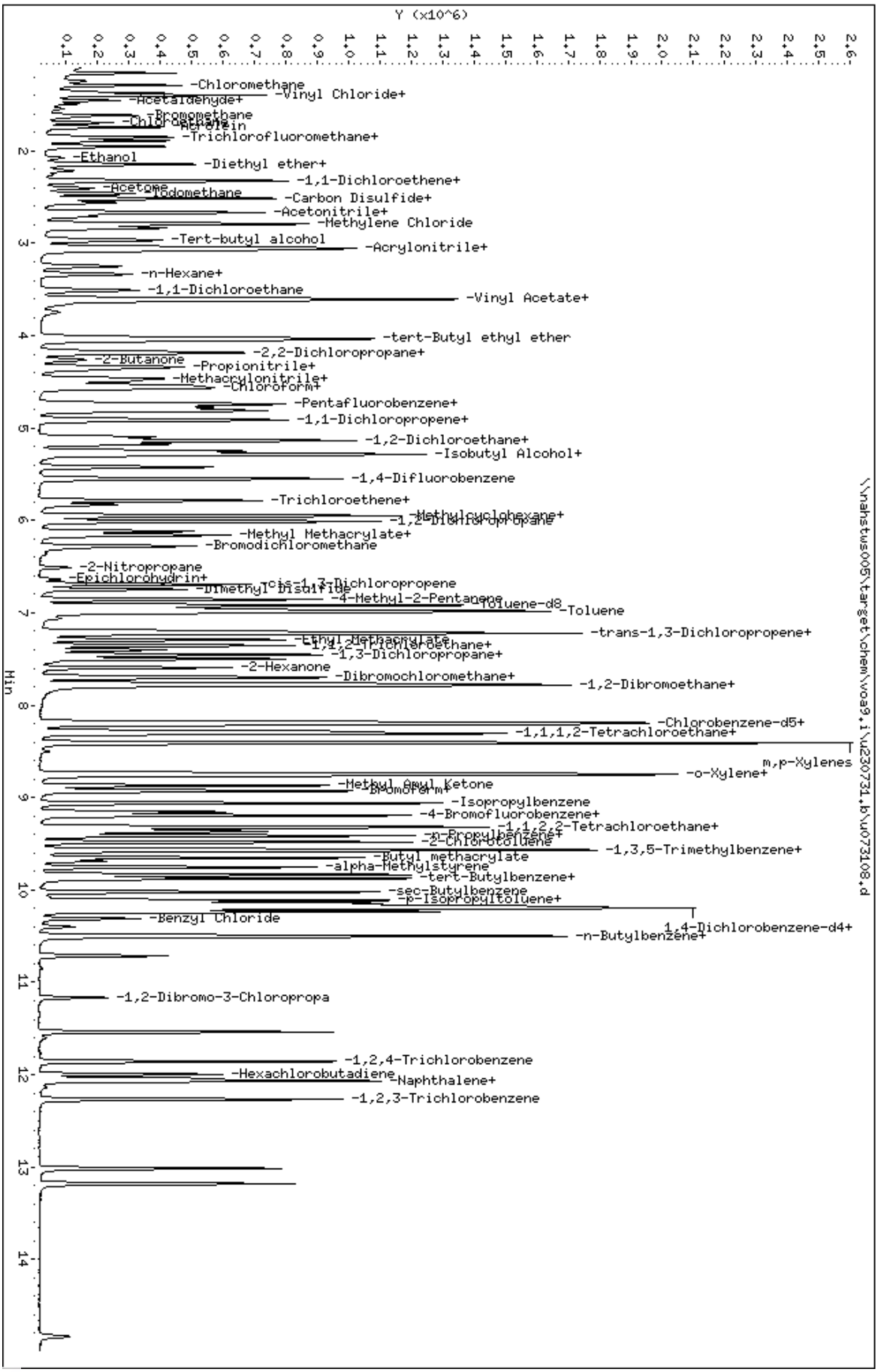
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	29 Bromochloromethane	128	4.463	4.463	(0.928)	114734	50.0000	45.11
$	30 Dibromofluoromethane	113	4.744	4.744	(0.986)	213944	50.0000	51.31
	31 1,1,1-Trichloroethane	97	4.736	4.736	(0.984)	288139	50.0000	45.22
	32 1,1-Dichloropropene	75	4.916	4.916	(0.886)	247660	50.0000	44.27
	33 1,2-Dichloroethane	62	5.171	5.171	(0.932)	310322	50.0000	47.83
	34 Carbon Tetrachloride	117	4.905	4.905	(0.884)	222170	50.0000	44.33
$	35 1,2-Dichloroethane-d4	65	5.093	5.093	(1.058)	242144	50.0000	53.39
*	36 1,4-Difluorobenzene	114	5.550	5.550	(1.000)	753344	50.0000	
	37 Benzene	78	5.134	5.134	(0.925)	847314	50.0000	46.04
	38 Trichloroethene	130	5.786	5.786	(1.043)	234118	50.0000	45.01
	39 Bromodichloromethane	83	6.277	6.277	(1.131)	279504	50.0000	47.48
	41 2-Chloroethylvinyl ether	63	6.573	6.573	(1.184)	8568	100.000	100.26(M)
	42 1,2-Dichloropropane	63	6.007	6.007	(1.082)	233383	50.0000	47.31
	44 Dibromomethane	93	6.116	6.116	(1.102)	151090	50.0000	47.69
	45 4-Methyl-2-Pentanone	43	6.854	6.854	(0.837)	534926	100.000	102.38
	46 cis-1,3-Dichloropropene	75	6.690	6.690	(1.205)	332624	50.0000	44.58
*	47 Chlorobenzene-d5	117	8.185	8.185	(1.000)	702205	50.0000	
$	48 Toluene-d8	98	6.922	6.922	(0.846)	812511	50.0000	49.74
	50 Toluene	91	6.978	6.978	(0.853)	923622	50.0000	48.37
	51 trans-1,3-Dichloropropene	75	7.196	7.196	(1.296)	283880	50.0000	50.04
	52 2-Hexanone	43	7.593	7.593	(0.928)	349171	100.000	100.92
	53 1,1,2-Trichloroethane	83	7.353	7.353	(0.898)	191597	50.0000	46.85
	54 1,3-Dichloropropane	76	7.499	7.499	(0.916)	400885	50.0000	47.79
	55 Dibromochloromethane	129	7.690	7.690	(0.940)	251335	50.0000	50.08
	56 Tetrachloroethene	164	7.454	7.454	(0.911)	200189	50.0000	43.12
	57 1,2-Dibromoethane	107	7.784	7.784	(0.951)	246343	50.0000	50.07
	58 1-Chlorohexane	55	8.197	8.197	(1.477)	157109	50.0000	39.93
	59 Chlorobenzene	112	8.208	8.208	(1.003)	620392	50.0000	45.83
	60 1,1,1,2-Tetrachloroethane	131	8.283	8.283	(1.012)	232375	50.0000	47.10
	61 Ethylbenzene	106	8.305	8.305	(1.015)	284758	50.0000	46.47
	62 m,p-Xylenes	106	8.406	8.406	(1.027)	695488	100.000	96.69
	63 o-Xylene	106	8.744	8.744	(1.068)	348256	50.0000	49.49
	64 Styrene	104	8.759	8.759	(1.070)	567019	50.0000	51.63
	66 Bromoform	173	8.920	8.920	(1.090)	174502	50.0000	49.77
	67 Isopropylbenzene	105	9.062	9.062	(1.107)	789895	50.0000	46.39
	68 1,1,2,2-Tetrachloroethane	83	9.329	9.329	(0.917)	329861	50.0000	46.28
$	69 4-Bromofluorobenzene	95	9.194	9.194	(1.123)	329909	50.0000	51.80
*	70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	369999	50.0000	
	71 1,2,3-Trichloropropane	75	9.362	9.362	(0.920)	297386	50.0000	47.92
	73 n-Propylbenzene	91	9.411	9.411	(0.925)	850858	50.0000	41.16
	74 Bromobenzene	156	9.317	9.317	(0.916)	282913	50.0000	46.21
	75 1,3,5-Trimethylbenzene	105	9.561	9.561	(0.940)	586347	50.0000	45.34
	76 2-Chlorotoluene	91	9.482	9.482	(0.932)	597862	50.0000	45.83
	77 4-Chlorotoluene	91	9.576	9.576	(0.941)	688448	50.0000	47.24
	78 tert-Butylbenzene	119	9.835	9.835	(0.967)	551666	50.0000	45.03
	79 1,2,4-Trimethylbenzene	105	9.876	9.876	(0.971)	604762	50.0000	46.18
	81 sec-Butylbenzene	105	10.022	10.022	(0.985)	678780	50.0000	48.59
	82 p-Isopropyltoluene	119	10.146	10.146	(0.997)	559357	50.0000	48.64
	83 1,3-Dichlorobenzene	146	10.116	10.116	(0.994)	455217	50.0000	44.55
	84 1,4-Dichlorobenzene	146	10.191	10.191	(1.002)	486155	50.0000	42.94
	87 n-Butylbenzene	91	10.491	10.491	(1.031)	474213	50.0000	38.60
	88 1,2-Dichlorobenzene	146	10.506	10.506	(1.033)	472224	50.0000	45.05

89	1,2-Dibromo-3-Chloropropane	155	11.165	11.165 (1.098)	46740	50.0000	45.48
90	1,2,4-Trichlorobenzene	180	11.855	11.855 (1.165)	306323	50.0000	47.50

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	91 Hexachlorobutadiene	225	11.998	11.998	(1.179)	112500	50.0000	48.22
	92 Naphthalene	128	12.065	12.065	(1.186)	769637	50.0000	45.34
	93 1,2,3-Trichlorobenzene	180	12.268	12.268	(1.206)	305902	50.0000	46.46
M	94 1,2-Dichloroethylene (total)	96				374373	100.000	
M	95 Xylenes (total)	106				1043744	150.000	
	135 1,4-Dioxane	88	6.168	6.168	(1.282)	69347	1000.00	927.44(M)
	141 Cyclohexane	56	4.778	4.778	(0.993)	243118	50.0000	41.47
	138 Freon TF	101	2.326	2.326	(0.483)	133548	50.0000	47.95
	140 1,3-Butadiene	54	1.396	1.396	(0.290)	190601	50.0000	45.90
	147 Methylcyclohexane	55	5.947	5.947	(1.072)	564625	50.0000	51.45
	146 Methyl Acetate	43	2.708	2.708	(0.563)	172678	50.0000	46.14
	148 Tert-Butyl alcohol	59	2.963	2.963	(0.616)	427118	1000.00	974.10
	149 Isopropyl Alcohol	45	2.558	2.558	(0.532)	271031	1000.00	940.42

QC Flag Legend

M - Compound response manually integrated.



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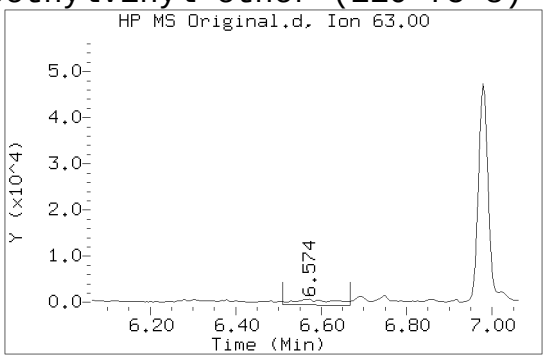
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Operator: PC
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LabSampID : VSTD050

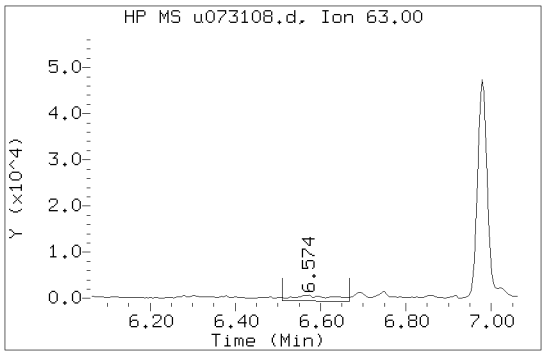
2-Chloroethylvinyl ether (110-75-8)

Reason Code:

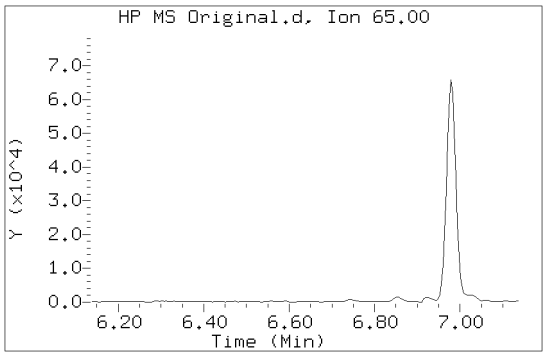
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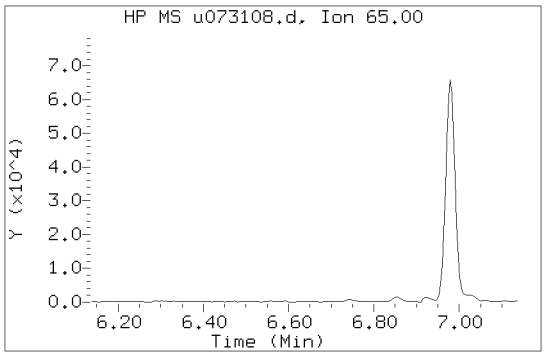
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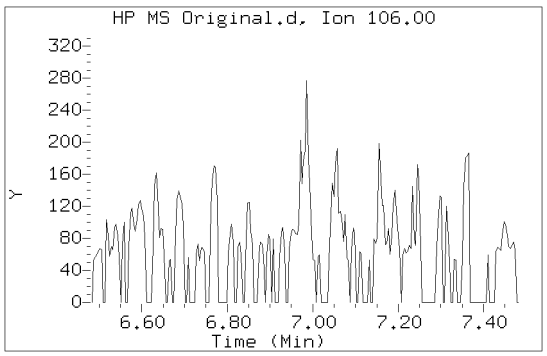
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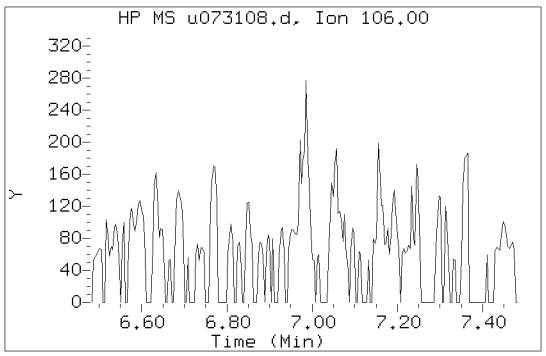
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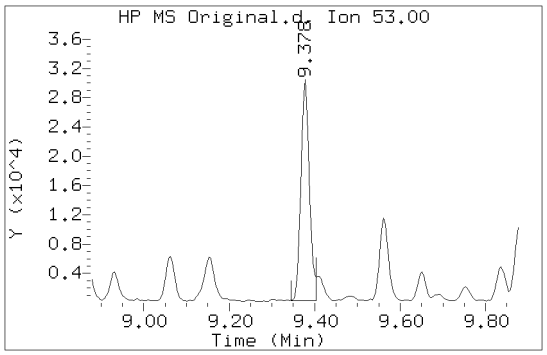
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01-Aug-2023
21:07



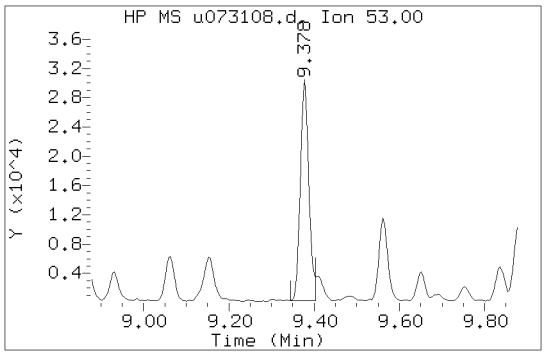
trans-1,4-Dichloro-2-butene (110-57-6)

Reason Code:

BEFORE
MASS
53
AREA
43380
HEIGHT
30186
01-Aug-2023
21:07



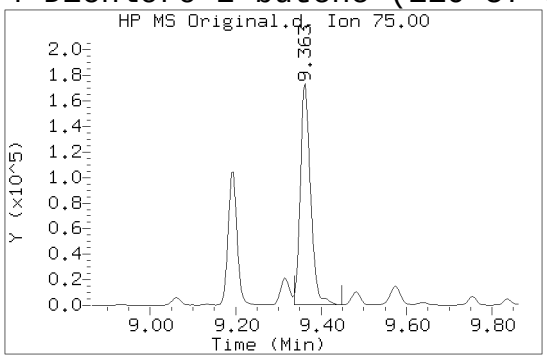
AFTER
MASS
53
AREA
43380
HEIGHT
30186
01-Aug-2023
21:07



Data File : \\nahstws005\target\chem\voa9.i\u230731.b\u073108.d
Inj Date : 31-JUL-2023 14:06
InstruID : VOA9.i
LabSampID : VSTD050

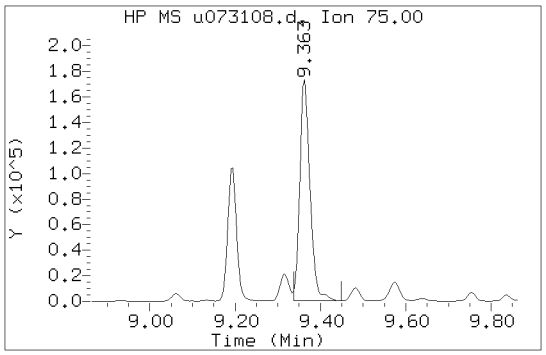
trans-1,4-Dichloro-2-butene (110-57-6)

BEFORE
MASS
75
AREA
295054
HEIGHT
173128
01-Aug-2023
21:07



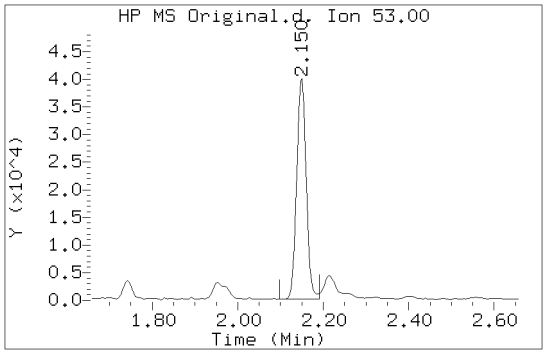
AFTER
MASS
75
AREA
295054
HEIGHT
173128
01-Aug-2023
21:07

Reason Code:



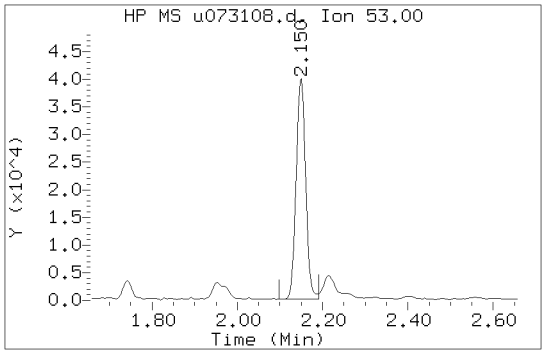
Chloroprene (126-99-8)

BEFORE
MASS
53
AREA
62644
HEIGHT
39895
01-Aug-2023
21:07

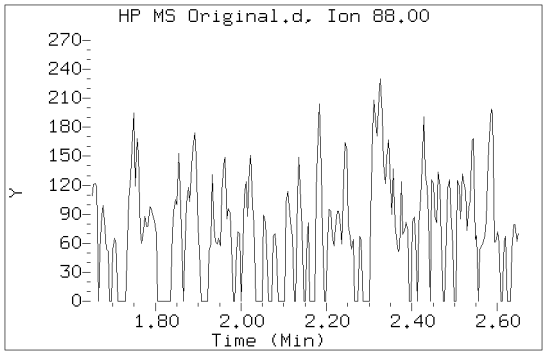


AFTER
MASS
53
AREA
62644
HEIGHT
39895
01-Aug-2023
21:07

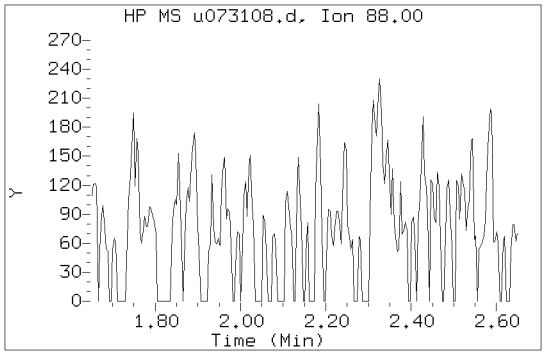
Reason Code:



BEFORE
MASS
88
AREA
0
HEIGHT
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01-Aug-2023
21:07



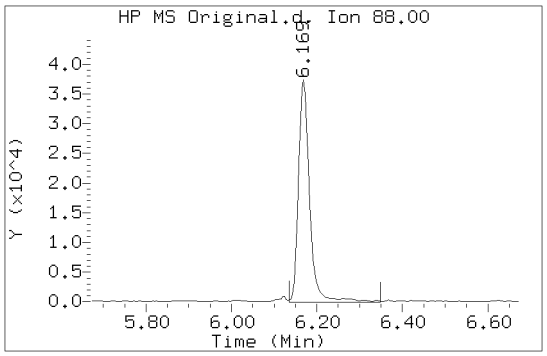
AFTER
MASS
88
AREA
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HEIGHT
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01-Aug-2023
21:07



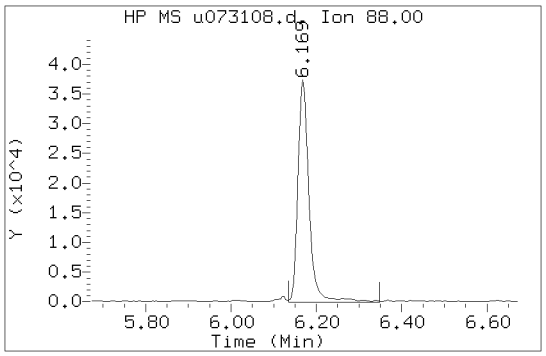
1,4-Dioxane ()

Reason Code:

BEFORE
MASS
88
AREA
69347
HEIGHT
37380
01-Aug-2023
21:07



AFTER
MASS
88
AREA
69347
HEIGHT
37380
01-Aug-2023
21:07



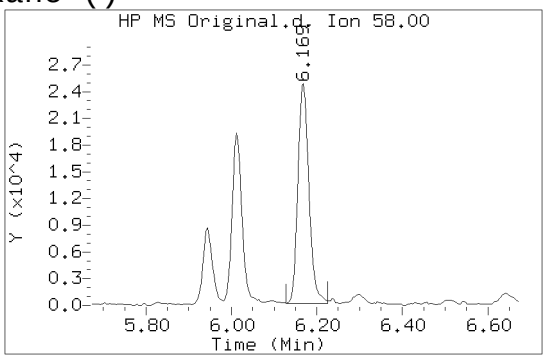
Data File : \\nahstws005\target\chem\voa9.i\u230731.b\u073108.d
Inj Date : 31-JUL-2023 14:06
InstruID : VOA9.i
LabSampID : VSTD050

1,4-Dioxane ()

Reason Code:

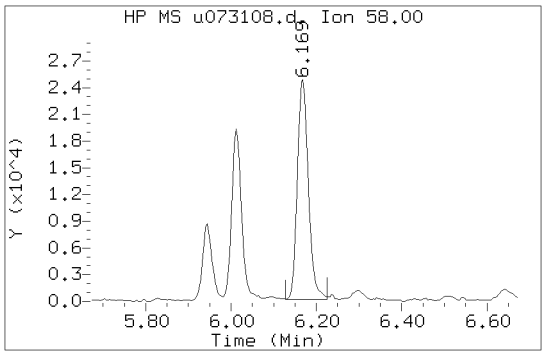
BEFORE

MASS
58
AREA
45410
HEIGHT
24666
01-Aug-2023
21:07



AFTER

MASS
58
AREA
45410
HEIGHT
24666
01-Aug-2023
21:07

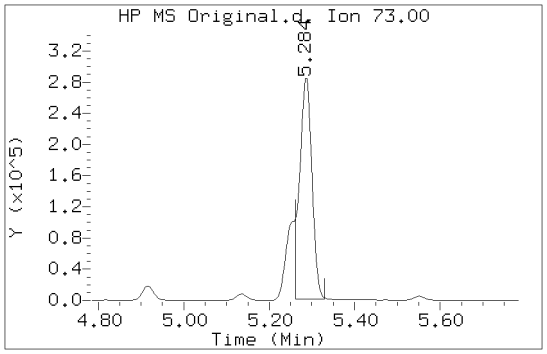


tert-Amyl methyl ether (974-05-08)

Reason Code:

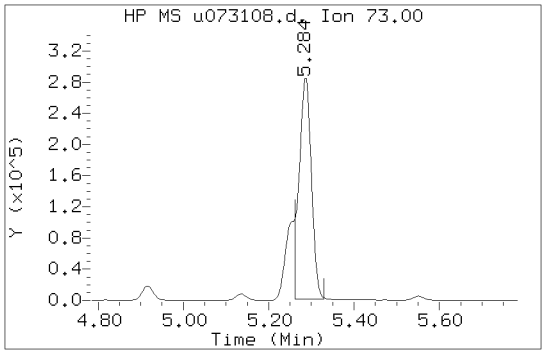
BEFORE

MASS
73
AREA
577923
HEIGHT
282594
01-Aug-2023
21:07



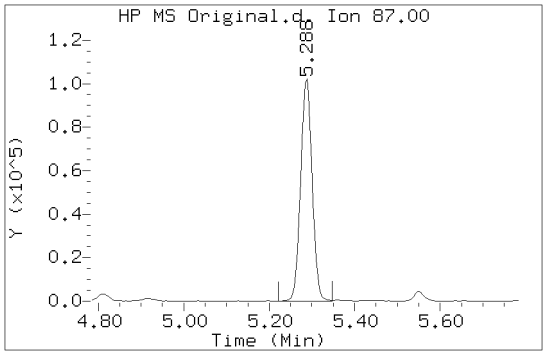
AFTER

MASS
73
AREA
577923
HEIGHT
282594
01-Aug-2023
21:07



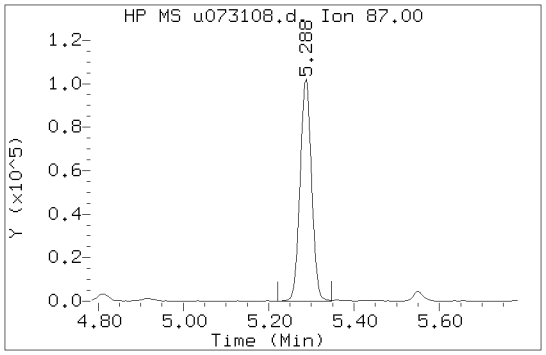
BEFORE

MASS
87
AREA
195353
HEIGHT
102111
01-Aug-2023
21:07



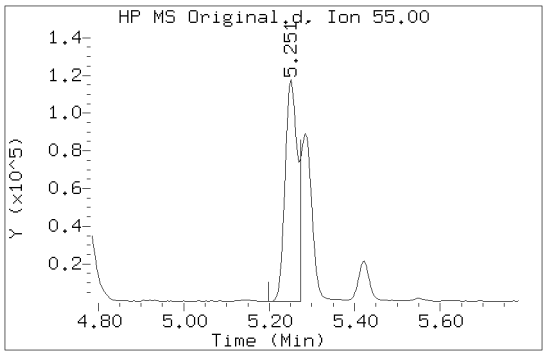
AFTER

MASS
87
AREA
195353
HEIGHT
102111
01-Aug-2023
21:07



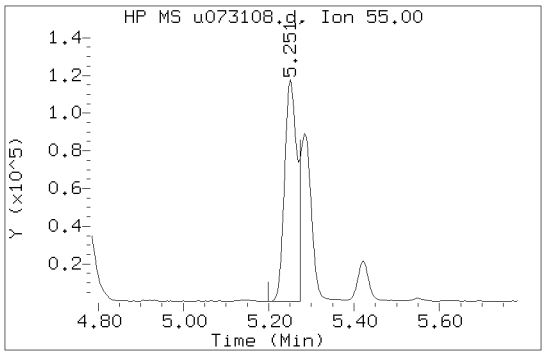
BEFORE

MASS
55
AREA
243538
HEIGHT
117540
01-Aug-2023
21:07



AFTER

MASS
55
AREA
243538
HEIGHT
117540
01-Aug-2023
21:07



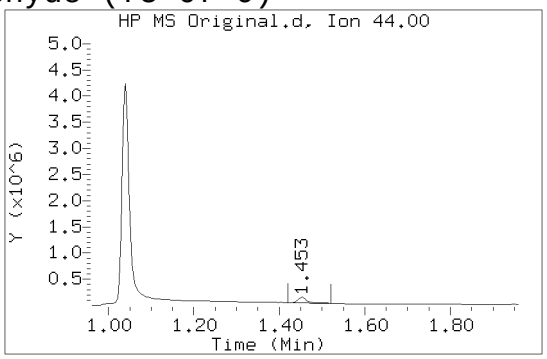
Data File : \\nahstws005\target\chem\voa9.i\u230731.b\u073108.d
Inj Date : 31-JUL-2023 14:06
InstruID : VOA9.i
LabSampID : VSTD050

Acetaldehyde (75-07-0)

Reason Code:

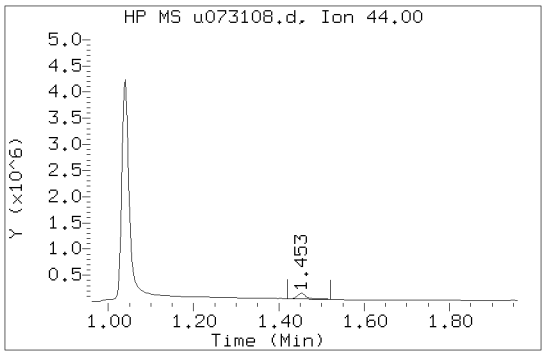
BEFORE

MASS
44
AREA
147751
HEIGHT
105308
01-Aug-2023
21:07



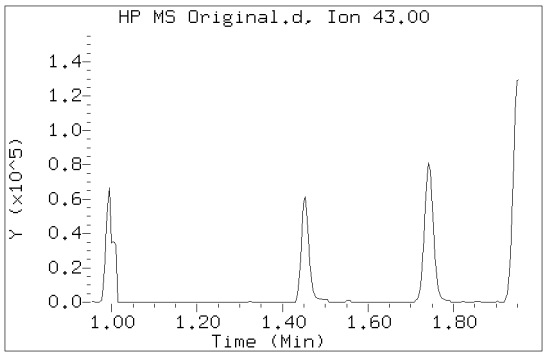
AFTER

MASS
44
AREA
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HEIGHT
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01-Aug-2023
21:07



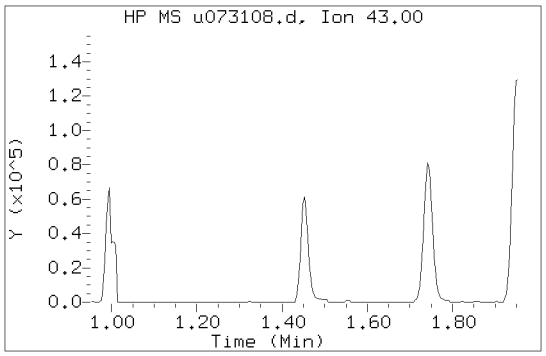
BEFORE

MASS
43
AREA
0
HEIGHT
0
01-Aug-2023
21:07



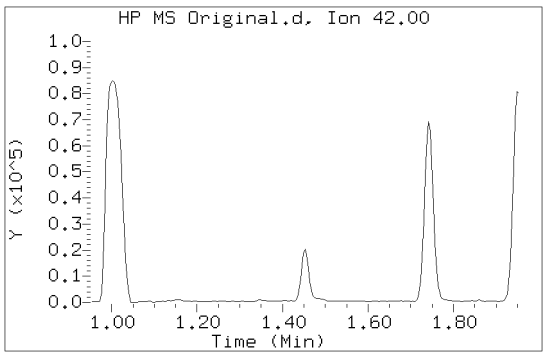
AFTER

MASS
43
AREA
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HEIGHT
0
01-Aug-2023
21:07



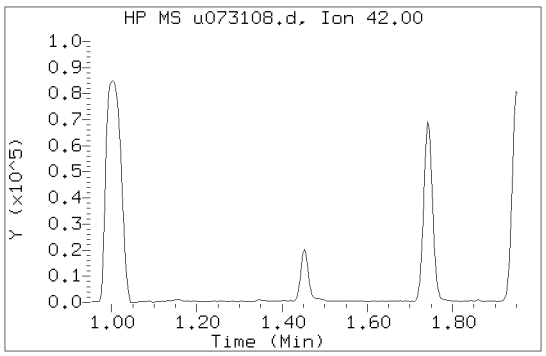
BEFORE

MASS
42
AREA
0
HEIGHT
0
01-Aug-2023
21:07



AFTER

MASS
42
AREA
0
HEIGHT
0
01-Aug-2023
21:07

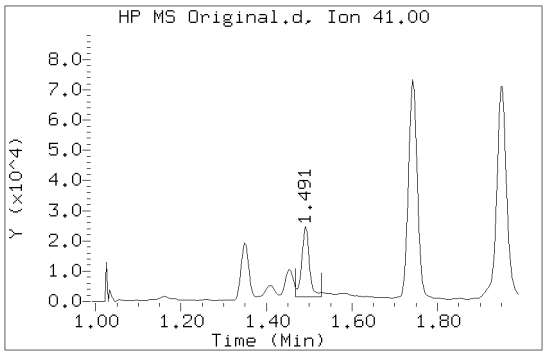


Isobutylene (115-11-7)

Reason Code:

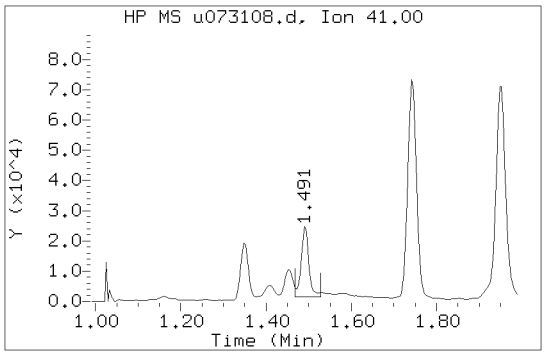
BEFORE

MASS
41
AREA
29766
HEIGHT
23313
01-Aug-2023
21:07



AFTER

MASS
41
AREA
29766
HEIGHT
23313
01-Aug-2023
21:07

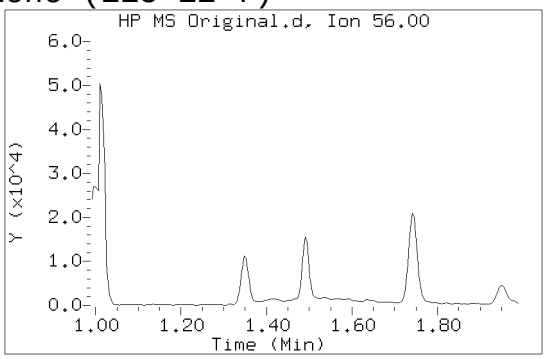


Data File : \\nahstws005\target\chem\voa9.i\u230731.b\u073108.d
Inj Date : 31-JUL-2023 14:06
InstruID : VOA9.i
LabSampID : VSTD050

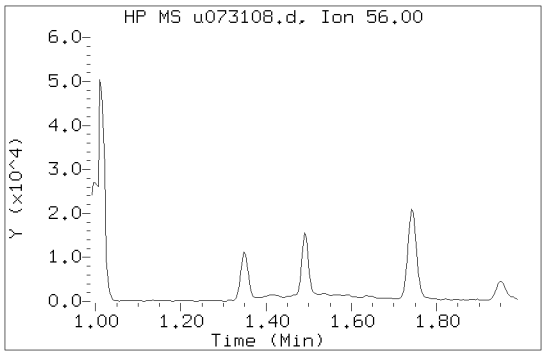
Isobutylene (115-11-7)

Reason Code:

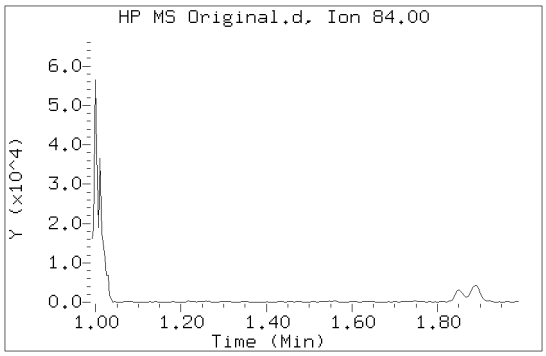
BEFORE
MASS
56
AREA
0
HEIGHT
0
01-Aug-2023
21:07



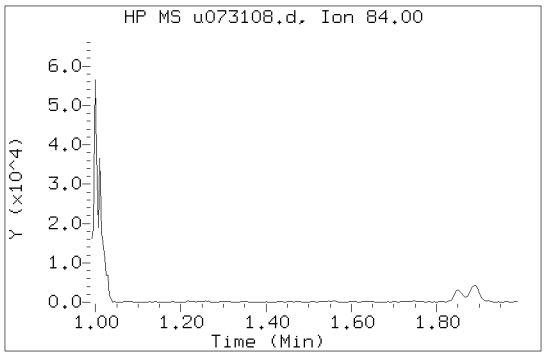
AFTER
MASS
56
AREA
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HEIGHT
0
01-Aug-2023
21:07



BEFORE
MASS
84
AREA
0
HEIGHT
0
01-Aug-2023
21:07



AFTER
MASS
84
AREA
0
HEIGHT
0
01-Aug-2023
21:07



Data File: \\NAHSTWS005\Target\chem\voa9.i\U230731.b\U073109.D Page 1
Report Date: 07-Aug-2023 11:14

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U230731.b\U073109.D
Lab Smp Id: VSTD100 Client Smp ID: VSTD100
Inj Date : 31-JUL-2023 14:28
Operator : PC Inst ID: VOA9.i
Smp Info : VSTD100;VSTD100;1;8;
Misc Info : V9;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa9.i\U230731.b\8260C.m
Meth Date : 07-Aug-2023 11:14 VOA9.i Quant Type: ISTD
Cal Date : 31-JUL-2023 14:06 Cal File: U073108.D
Als bottle: 10 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260V9.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.811	4.811	(1.000)	531119	50.0000	
2 Dichlorodifluoromethane	85	1.160	1.160	(0.241)	539886	100.000	104.78
3 Chloromethane	50	1.291	1.291	(0.268)	647562	100.000	104.26
5 Vinyl Chloride	62	1.374	1.374	(0.286)	556620	100.000	106.44
6 Bromomethane	94	1.610	1.610	(0.335)	279477	100.000	100.74
7 Chloroethane	64	1.693	1.693	(0.352)	326908	100.000	99.27
8 Trichlorofluoromethane	101	1.891	1.891	(0.393)	708047	100.000	109.70
9 Acrolein	56	1.745	1.745	(0.363)	72803	200.000	213.70
10 Acetone	43	2.405	2.405	(0.500)	334973	200.000	209.83(A)
11 1,1-Dichloroethene	96	2.330	2.330	(0.484)	375202	100.000	107.22
15 Iodomethane	142	2.465	2.465	(0.512)	790175	200.000	209.83
16 Acrylonitrile	53	3.061	3.061	(0.636)	326846	200.000	195.77
17 Methylene Chloride	84	2.791	2.791	(0.580)	426614	100.000	100.55
18 Methyl tert-butyl ether	73	3.076	3.076	(0.639)	1061414	100.000	98.13
19 Carbon Disulfide	76	2.517	2.517	(0.523)	2172250	200.000	213.23
20 trans-1,2-Dichloroethene	96	3.053	3.053	(0.635)	387474	100.000	98.81
21 Vinyl Acetate	43	3.604	3.604	(0.749)	2321009	200.000	206.81
22 1,1-Dichloroethane	63	3.511	3.511	(0.730)	686592	100.000	95.79
24 2-Butanone	43	4.264	4.264	(0.886)	378901	200.000	181.59
26 2,2-Dichloropropane	77	4.178	4.178	(0.868)	526083	100.000	106.45

27	cis-1,2-Dichloroethene	96	4.193	4.193 (0.871)	444452	100.000	101.53
28	Chloroform	83	4.572	4.572 (0.950)	809862	100.000	97.09

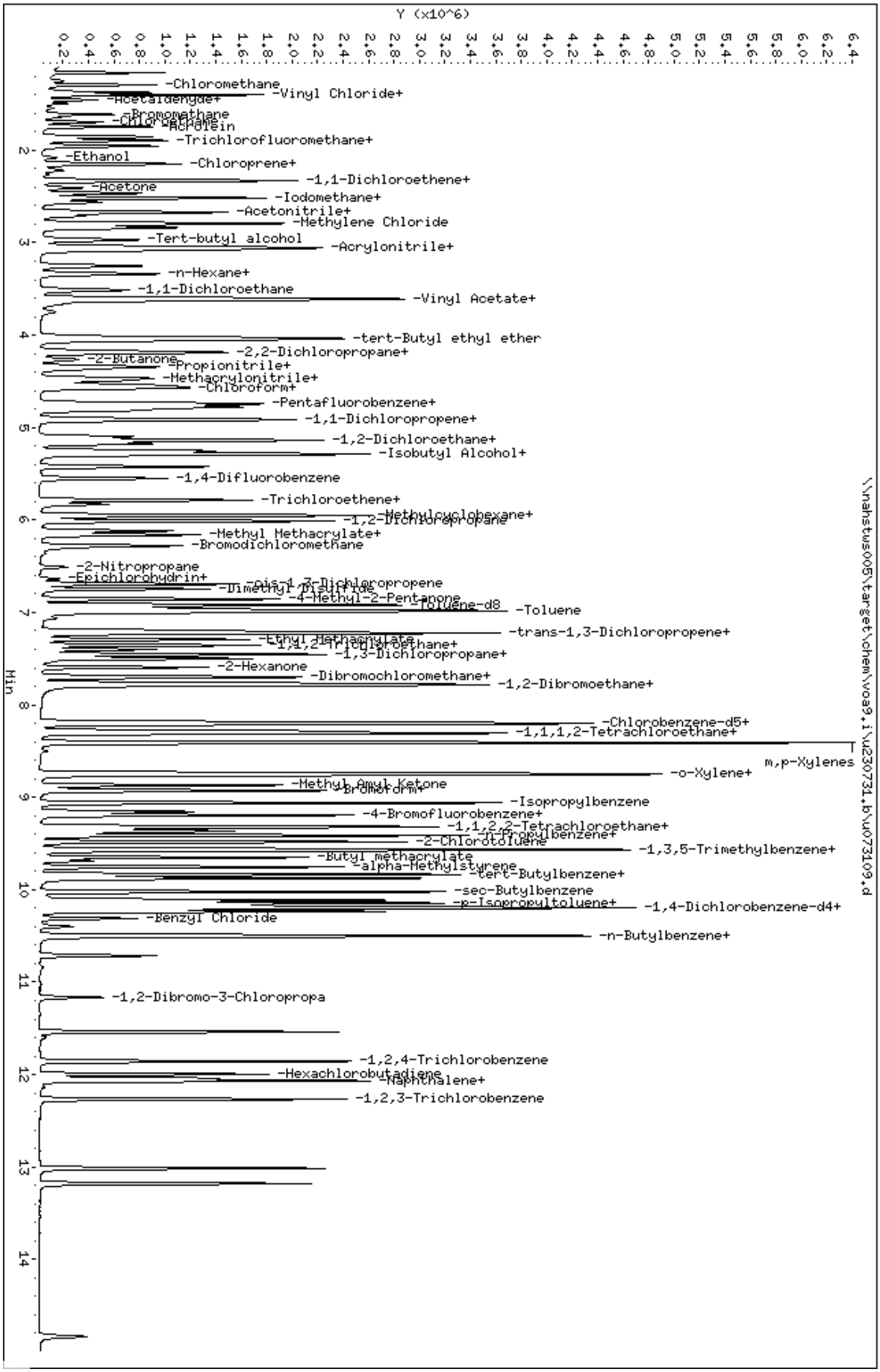
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	29 Bromochloromethane	128	4.467	4.467	(0.928)	251900	100.000	97.25
$	30 Dibromofluoromethane	113	4.748	4.748	(0.987)	432647	100.000	102.88
	31 1,1,1-Trichloroethane	97	4.740	4.740	(0.985)	692131	100.000	106.65
	32 1,1-Dichloropropene	75	4.916	4.916	(0.886)	621122	100.000	108.81
	33 1,2-Dichloroethane	62	5.175	5.175	(0.932)	653640	100.000	98.74
	34 Carbon Tetrachloride	117	4.909	4.909	(0.885)	590616	100.000	115.50
$	35 1,2-Dichloroethane-d4	65	5.096	5.096	(1.059)	469501	100.000	102.86
*	36 1,4-Difluorobenzene	114	5.550	5.550	(1.000)	768682	50.0000	
	37 Benzene	78	5.138	5.138	(0.926)	1881235	100.000	100.18
	38 Trichloroethene	130	5.786	5.786	(1.043)	546012	100.000	102.88
	39 Bromodichloromethane	83	6.277	6.277	(1.131)	626277	100.000	104.28
	41 2-Chloroethylvinyl ether	63	6.573	6.573	(1.184)	17476	200.000	201.52(M)
	42 1,2-Dichloropropane	63	6.007	6.007	(1.082)	503188	100.000	99.98
	44 Dibromomethane	93	6.120	6.120	(1.103)	317210	100.000	98.13
	45 4-Methyl-2-Pentanone	43	6.854	6.854	(0.837)	1113382	200.000	204.85
	46 cis-1,3-Dichloropropene	75	6.690	6.690	(1.205)	774336	100.000	98.89
*	47 Chlorobenzene-d5	117	8.185	8.185	(1.000)	730455	50.0000	
$	48 Toluene-d8	98	6.922	6.922	(0.846)	1702517	100.000	100.20
	50 Toluene	91	6.978	6.978	(0.853)	2103575	100.000	105.92
	51 trans-1,3-Dichloropropene	75	7.196	7.196	(1.296)	657662	100.000	113.61
	52 2-Hexanone	43	7.593	7.593	(0.928)	745592	200.000	207.16
	53 1,1,2-Trichloroethane	83	7.357	7.357	(0.899)	399622	100.000	93.95
	54 1,3-Dichloropropane	76	7.499	7.499	(0.916)	852281	100.000	97.67
	55 Dibromochloromethane	129	7.690	7.690	(0.940)	562633	100.000	107.78
	56 Tetrachloroethene	164	7.458	7.458	(0.911)	508894	100.000	105.39
	57 1,2-Dibromoethane	107	7.784	7.784	(0.951)	511063	100.000	99.87
	58 1-Chlorohexane	55	8.196	8.196	(1.477)	456782	100.000	113.79
	59 Chlorobenzene	112	8.208	8.208	(1.003)	1400796	100.000	99.49
	60 1,1,1,2-Tetrachloroethane	131	8.283	8.283	(1.012)	524704	100.000	102.25
	61 Ethylbenzene	106	8.305	8.305	(1.015)	707960	100.000	111.08
	62 m,p-Xylenes	106	8.410	8.410	(1.027)	1748509	200.000	233.68
	63 o-Xylene	106	8.748	8.748	(1.069)	842626	100.000	115.11
	64 Styrene	104	8.759	8.759	(1.070)	1350547	100.000	118.23
	66 Bromoform	173	8.916	8.916	(1.089)	397643	100.000	109.03
	67 Isopropylbenzene	105	9.062	9.062	(1.107)	2157581	100.000	121.81
	68 1,1,2,2-Tetrachloroethane	83	9.329	9.329	(0.917)	678033	100.000	91.98
$	69 4-Bromofluorobenzene	95	9.194	9.194	(1.123)	681158	100.000	104.18
*	70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	382676	50.0000	
	71 1,2,3-Trichloropropane	75	9.362	9.362	(0.920)	649935	100.000	101.27
	73 n-Propylbenzene	91	9.411	9.411	(0.925)	2371517	100.000	108.15
	74 Bromobenzene	156	9.317	9.317	(0.916)	640155	100.000	101.11
	75 1,3,5-Trimethylbenzene	105	9.561	9.561	(0.940)	1580368	100.000	118.16
	76 2-Chlorotoluene	91	9.482	9.482	(0.932)	1466545	100.000	108.70
	77 4-Chlorotoluene	91	9.576	9.576	(0.941)	1658605	100.000	110.06
	78 tert-Butylbenzene	119	9.838	9.838	(0.967)	1531790	100.000	120.89
	79 1,2,4-Trimethylbenzene	105	9.880	9.880	(0.971)	1537488	100.000	113.52
	81 sec-Butylbenzene	105	10.022	10.022	(0.985)	2006353	100.000	100.11(M)
	82 p-Isopropyltoluene	119	10.146	10.146	(0.997)	1676245	100.000	100.10
	83 1,3-Dichlorobenzene	146	10.116	10.116	(0.994)	1093115	100.000	103.45
	84 1,4-Dichlorobenzene	146	10.191	10.191	(1.002)	1130176	100.000	96.52
	87 n-Butylbenzene	91	10.491	10.491	(1.031)	1404287	100.000	106.06
	88 1,2-Dichlorobenzene	146	10.506	10.506	(1.033)	1085919	100.000	100.16

89	1,2-Dibromo-3-Chloropropane	155	11.165	11.165 (1.098)	111083	100.000	104.52
90	1,2,4-Trichlorobenzene	180	11.855	11.855 (1.165)	779707	100.000	116.91

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	91 Hexachlorobutadiene	225	11.998	11.998	(1.179)	351435	100.000	100.12
	92 Naphthalene	128	12.065	12.065	(1.186)	1846543	100.000	103.09
	93 1,2,3-Trichlorobenzene	180	12.268	12.268	(1.206)	758679	100.000	111.43
M	94 1,2-Dichloroethylene (total)	96				831926	200.000	
M	95 Xylenes (total)	106				2591135	300.000	
	135 1,4-Dioxane	88	6.168	6.168	(1.282)	133163	2000.00	1748.66
	141 Cyclohexane	56	4.778	4.778	(0.993)	724781	100.000	121.41
	138 Freon TF	101	2.330	2.330	(0.484)	376621	100.000	100.17
	140 1,3-Butadiene	54	1.400	1.400	(0.291)	471706	100.000	111.54
	147 Methylcyclohexane	55	5.947	5.947	(1.072)	1231847	100.000	110.02(A)
	146 Methyl Acetate	43	2.708	2.708	(0.563)	348427	100.000	91.42
	148 Tert-Butyl alcohol	59	2.967	2.967	(0.617)	876760	2000.00	1966.54
	149 Isopropyl Alcohol	45	2.562	2.562	(0.533)	542945	2000.00	1849.80

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.



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Column phase: DB624

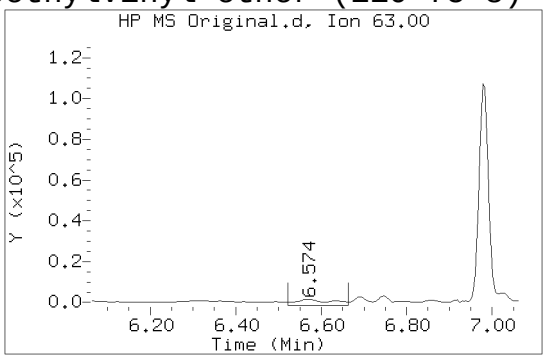
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InstruID : VOA9.i
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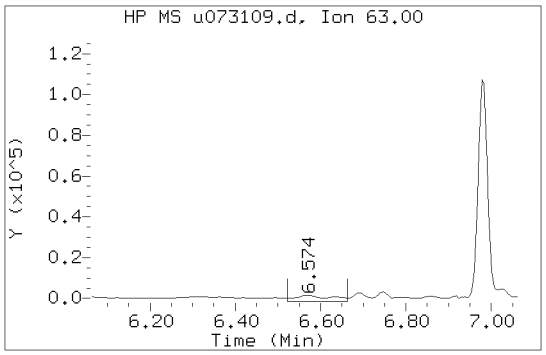
2-Chloroethylvinyl ether (110-75-8)

Reason Code:

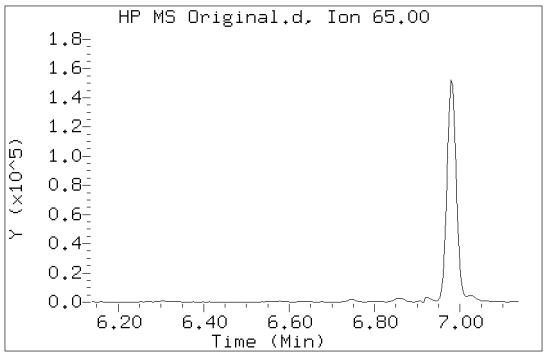
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01-Aug-2023
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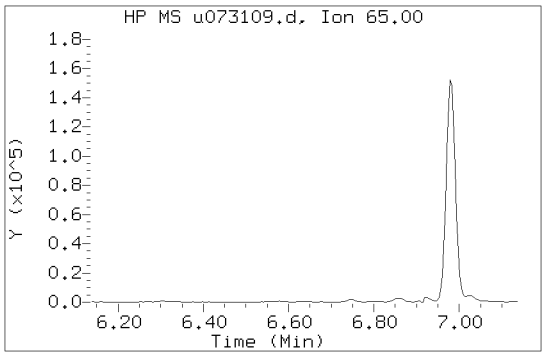
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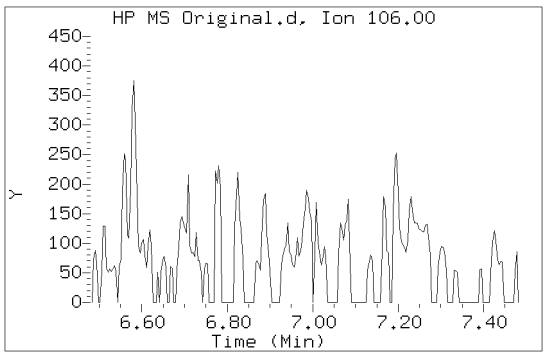
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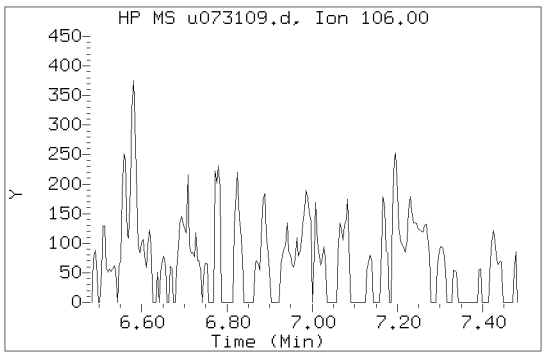
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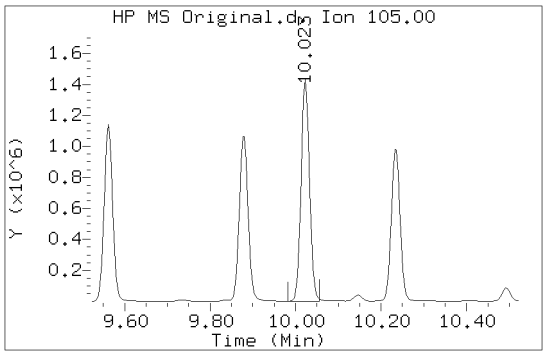
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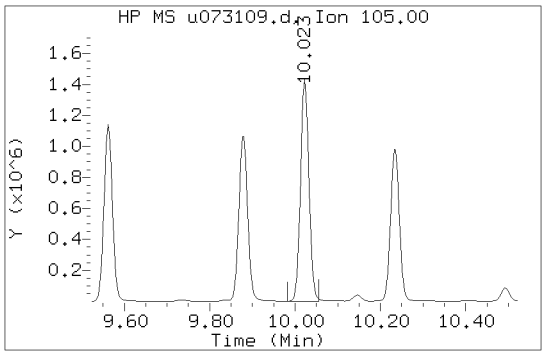
sec-Butylbenzene (135-98-8)

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AFTER
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01-Aug-2023
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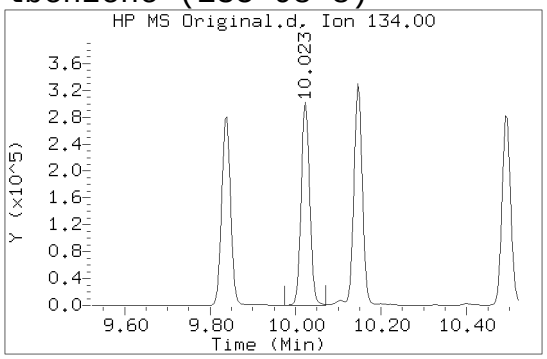
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InstruID : VOA9.i
LabSampID : VSTD100

sec-Butylbenzene (135-98-8)

Reason Code:

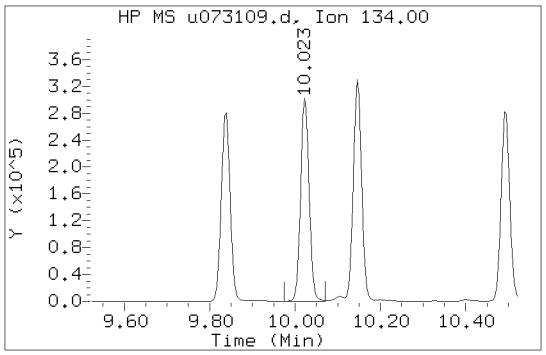
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AFTER

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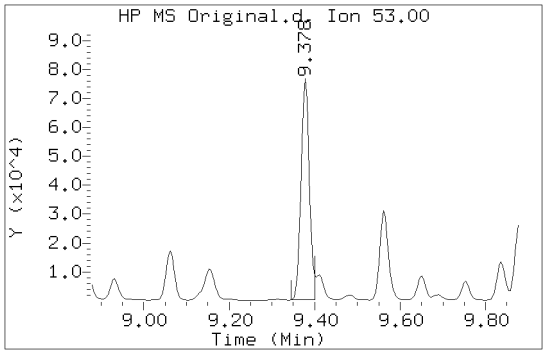


trans-1,4-Dichloro-2-butene (110-57-6)

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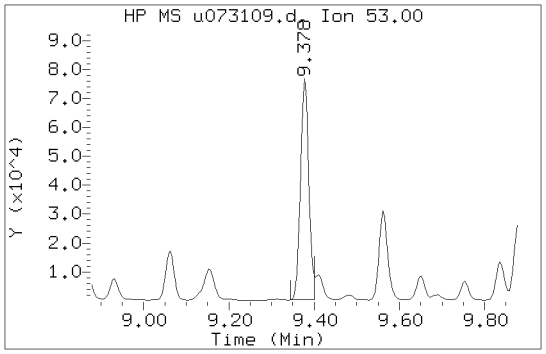
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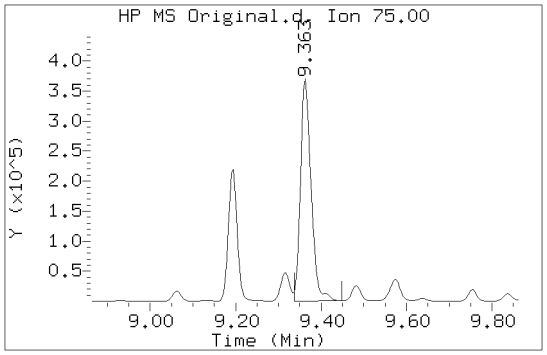
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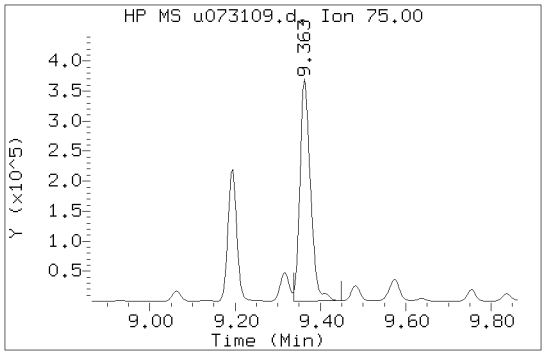
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AFTER

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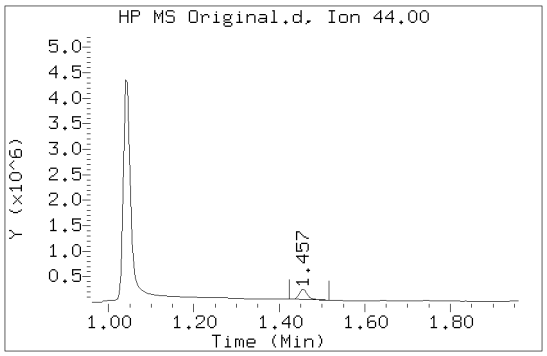


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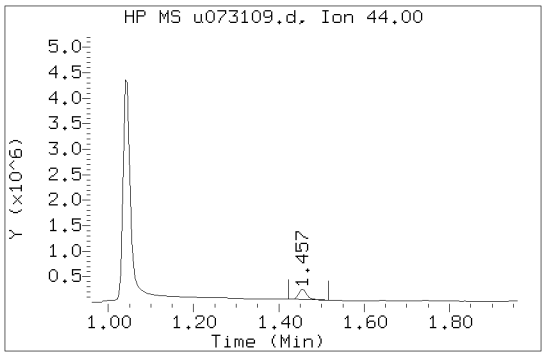
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AFTER

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01-Aug-2023
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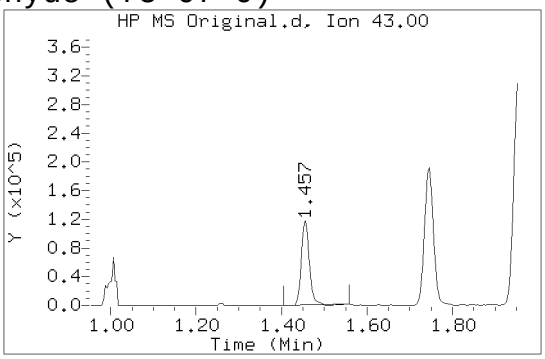


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Inj Date : 31-JUL-2023 14:28
InstruID : VOA9.i
LabSampID : VSTD100

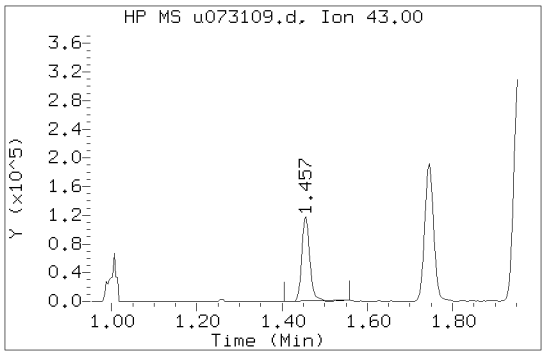
Acetaldehyde (75-07-0)

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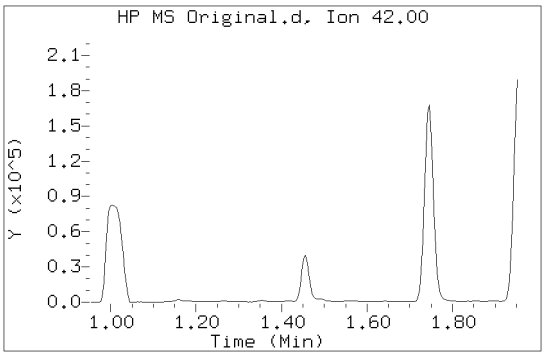
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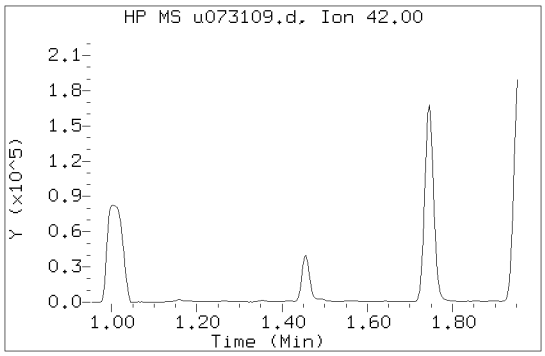
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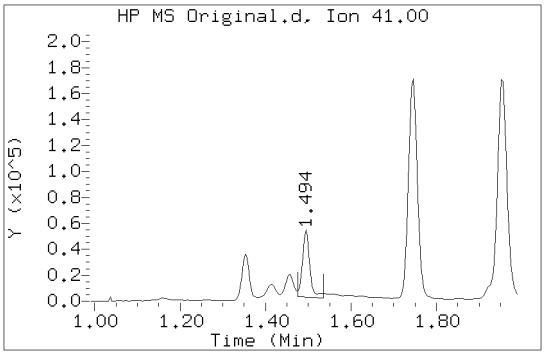
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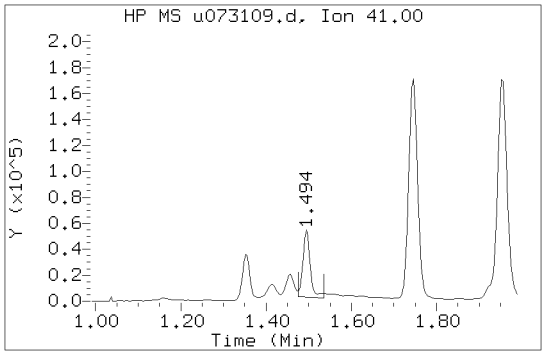
Isobutylene (115-11-7)

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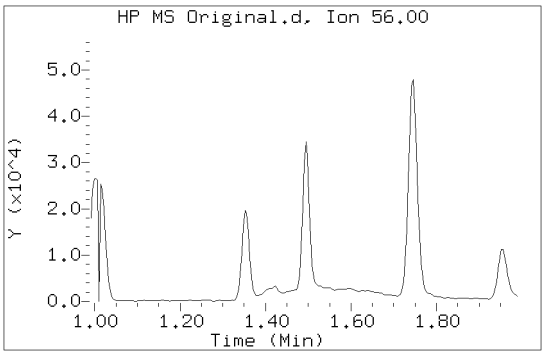
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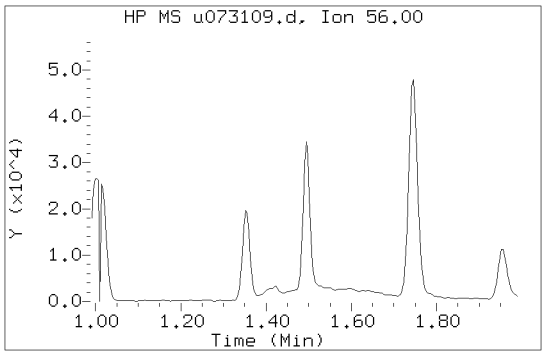
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BEFORE
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AFTER
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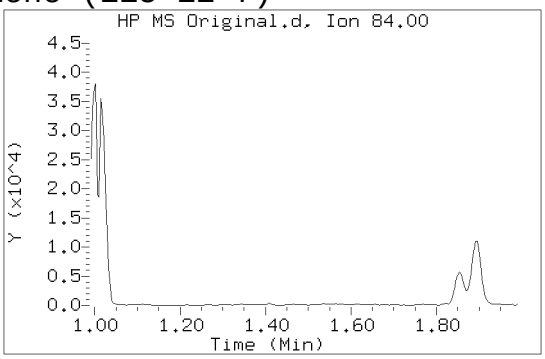
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Inj Date : 31-JUL-2023 14:28
InstruID : VOA9.i
LabSampID : VSTD100

Isobutylene (115-11-7)

Reason Code:

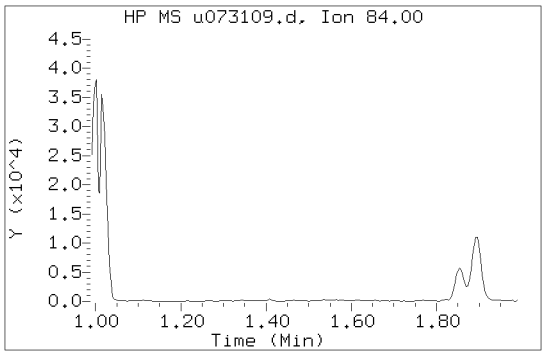
BEFORE

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AFTER

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01-Aug-2023
21:04



Data File: \\NAHSTWS005\Target\chem\voa9.i\U230731.b\U073110.D Page 1
Report Date: 07-Aug-2023 11:14

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U230731.b\U073110.D
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Inj Date : 31-JUL-2023 14:51
Operator : PC Inst ID: VOA9.i
Smp Info : VSTD150;VSTD150;1;9;
Misc Info : V9;WATER;0;1;
Comment   :
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Cal Date : 31-JUL-2023 14:28 Cal File: U073109.D
Als bottle: 11 Calibration Sample, Level: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260V9.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1	Pentafluorobenzene	168	4.811	4.811	(1.000)	557237	50.0000	
2	Dichlorodifluoromethane	85	1.157	1.157	(0.240)	807250	150.000	148.79
3	Chloromethane	50	1.288	1.288	(0.268)	961975	150.000	147.77
5	Vinyl Chloride	62	1.366	1.366	(0.284)	860938	150.000	156.92
6	Bromomethane	94	1.599	1.599	(0.332)	430983	150.000	148.84
7	Chloroethane	64	1.685	1.685	(0.350)	507306	150.000	146.83
8	Trichlorofluoromethane	101	1.887	1.887	(0.392)	1063202	150.000	157.01
9	Acrolein	56	1.738	1.738	(0.361)	119190	300.000	333.46
10	Acetone	43	2.401	2.401	(0.499)	501220	300.000	302.73(A)
11	1,1-Dichloroethene	96	2.322	2.322	(0.483)	590988	150.000	160.97
15	Iodomethane	142	2.457	2.457	(0.511)	1298909	300.000	296.63
16	Acrylonitrile	53	3.057	3.057	(0.635)	529815	300.000	302.48
17	Methylene Chloride	84	2.787	2.787	(0.579)	668149	150.000	150.20
18	Methyl tert-butyl ether	73	3.072	3.072	(0.639)	1727226	150.000	152.21
19	Carbon Disulfide	76	2.510	2.510	(0.522)	3392907	300.000	317.45
20	trans-1,2-Dichloroethene	96	3.050	3.050	(0.634)	617223	150.000	150.02
21	Vinyl Acetate	43	3.601	3.601	(0.748)	3717826	300.000	315.75
22	1,1-Dichloroethane	63	3.507	3.507	(0.729)	1090457	150.000	145.00
24	2-Butanone	43	4.260	4.260	(0.885)	600335	300.000	274.23
26	2,2-Dichloropropane	77	4.174	4.174	(0.868)	826727	150.000	159.44

27	cis-1,2-Dichloroethene	96	4.189	4.189 (0.871)	694795	150.000	151.29
28	Chloroform	83	4.568	4.568 (0.949)	1267508	150.000	144.83

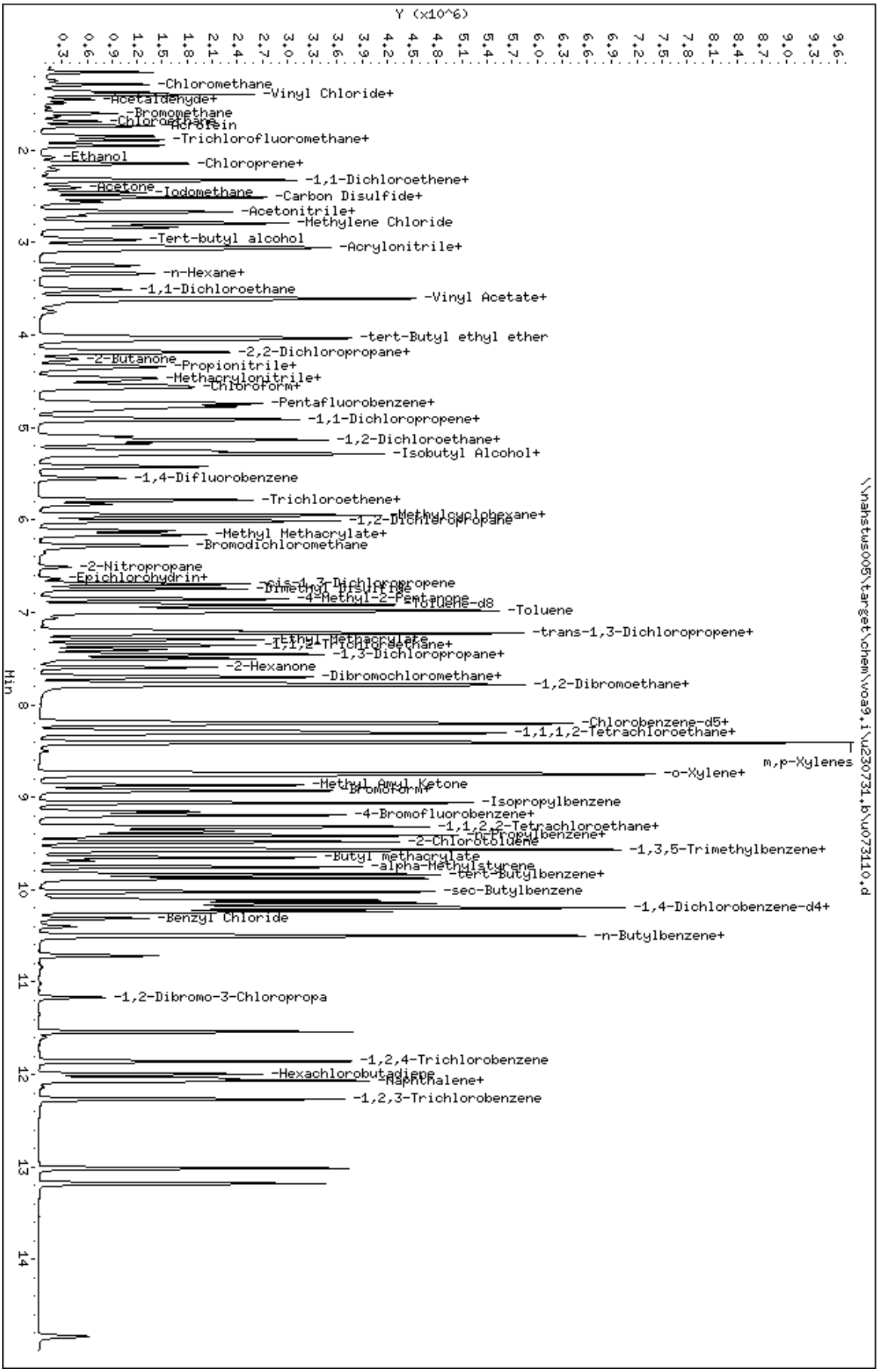
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	29 Bromochloromethane	128	4.463	4.463	(0.928)	404224	150.000	148.75
$	30 Dibromofluoromethane	113	4.744	4.744	(0.986)	673185	150.000	153.05
	31 1,1,1-Trichloroethane	97	4.737	4.737	(0.984)	1068384	150.000	156.92
	32 1,1-Dichloropropene	75	4.916	4.916	(0.886)	951085	150.000	158.71
	33 1,2-Dichloroethane	62	5.171	5.171	(0.932)	1009084	150.000	145.19
	34 Carbon Tetrachloride	117	4.905	4.905	(0.884)	911153	150.000	169.72
$	35 1,2-Dichloroethane-d4	65	5.093	5.093	(1.058)	729852	150.000	153.05
*	36 1,4-Difluorobenzene	114	5.550	5.550	(1.000)	807021	50.0000	
	37 Benzene	78	5.134	5.134	(0.925)	2909338	150.000	147.58
	38 Trichloroethene	130	5.786	5.786	(1.043)	851111	150.000	152.75
	39 Bromodichloromethane	83	6.277	6.277	(1.131)	994606	150.000	157.74
	41 2-Chloroethylvinyl ether	63	6.573	6.573	(1.184)	27126	300.000	298.47(M)
	42 1,2-Dichloropropane	63	6.007	6.007	(1.082)	784770	150.000	148.53
	44 Dibromomethane	93	6.116	6.116	(1.102)	492584	150.000	145.15
	45 4-Methyl-2-Pentanone	43	6.855	6.855	(0.837)	1760675	300.000	312.23
	46 cis-1,3-Dichloropropene	75	6.690	6.690	(1.205)	1255756	150.000	151.55
*	47 Chlorobenzene-d5	117	8.185	8.185	(1.000)	757857	50.0000	
$	48 Toluene-d8	98	6.922	6.922	(0.846)	2578663	150.000	146.28
	50 Toluene	91	6.978	6.978	(0.853)	3174237	150.000	154.05
	51 trans-1,3-Dichloropropene	75	7.196	7.196	(1.296)	1058091	150.000	174.10
	52 2-Hexanone	43	7.593	7.593	(0.928)	1167264	300.000	312.60
	53 1,1,2-Trichloroethane	83	7.357	7.357	(0.899)	617355	150.000	139.89
	54 1,3-Dichloropropane	76	7.499	7.499	(0.916)	1323436	150.000	146.19
	55 Dibromochloromethane	129	7.690	7.690	(0.940)	898045	150.000	165.82
	56 Tetrachloroethene	164	7.454	7.454	(0.911)	763419	150.000	152.39
	57 1,2-Dibromoethane	107	7.784	7.784	(0.951)	793097	150.000	149.39
	58 1-Chlorohexane	55	8.197	8.197	(1.477)	680728	150.000	161.53
	59 Chlorobenzene	112	8.208	8.208	(1.003)	2133475	150.000	146.06
	60 1,1,1,2-Tetrachloroethane	131	8.283	8.283	(1.012)	815348	150.000	153.15
	61 Ethylbenzene	106	8.305	8.305	(1.015)	1067099	150.000	161.37
	62 m,p-Xylenes	106	8.410	8.410	(1.027)	2643756	300.000	340.56
	63 o-Xylene	106	8.748	8.748	(1.069)	1288431	150.000	169.65
	64 Styrene	104	8.759	8.759	(1.070)	2087563	150.000	176.15
	66 Bromoform	173	8.920	8.920	(1.090)	625679	150.000	165.36
	67 Isopropylbenzene	105	9.062	9.062	(1.107)	3206712	150.000	174.49
	68 1,1,2,2-Tetrachloroethane	83	9.329	9.329	(0.917)	1027356	150.000	135.02
$	69 4-Bromofluorobenzene	95	9.194	9.194	(1.123)	1028731	150.000	152.29
*	70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	395026	50.0000	
	71 1,2,3-Trichloropropane	75	9.362	9.362	(0.920)	1014556	150.000	153.14
	73 n-Propylbenzene	91	9.411	9.411	(0.925)	3432693	150.000	150.99
	74 Bromobenzene	156	9.317	9.317	(0.916)	973908	150.000	149.02
	75 1,3,5-Trimethylbenzene	105	9.561	9.561	(0.940)	2391650	150.000	173.24
	76 2-Chlorotoluene	91	9.482	9.482	(0.932)	2177941	150.000	156.38
	77 4-Chlorotoluene	91	9.576	9.576	(0.941)	2480954	150.000	159.48
	78 tert-Butylbenzene	119	9.838	9.838	(0.967)	2271872	150.000	173.70
	79 1,2,4-Trimethylbenzene	105	9.880	9.880	(0.971)	2354756	150.000	168.43
	81 sec-Butylbenzene	105	10.022	10.022	(0.985)	3013427	150.000	105.19
	82 p-Isopropyltoluene	119	10.146	10.146	(0.997)	2567946	150.000	102.53
	83 1,3-Dichlorobenzene	146	10.116	10.116	(0.994)	1653085	150.000	151.55
	84 1,4-Dichlorobenzene	146	10.191	10.191	(1.002)	1696943	150.000	140.39
	87 n-Butylbenzene	91	10.491	10.491	(1.031)	2119417	150.000	153.97
	88 1,2-Dichlorobenzene	146	10.506	10.506	(1.033)	1631585	150.000	145.79

89	1,2-Dibromo-3-Chloropropane	155	11.166	11.166 (1.098)	178139	150.000	162.38
90	1,2,4-Trichlorobenzene	180	11.859	11.859 (1.166)	1201951	150.000	174.59

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	91 Hexachlorobutadiene	225	11.998	11.998	(1.179)	527704	150.000	98.49
	92 Naphthalene	128	12.065	12.065	(1.186)	2827642	150.000	152.16
	93 1,2,3-Trichlorobenzene	180	12.268	12.268	(1.206)	1161534	150.000	165.26
M	94 1,2-Dichloroethylene (total)	96				1312018	300.000	
M	95 Xylenes (total)	106				3932187	450.000	
	135 1,4-Dioxane	88	6.169	6.169	(1.282)	207196	3000.00	2593.31
	141 Cyclohexane	56	4.778	4.778	(0.993)	1079520	150.000	172.36(A)
	138 Freon TF	101	2.322	2.322	(0.483)	573884	150.000	110.31
	140 1,3-Butadiene	54	1.396	1.396	(0.290)	730457	150.000	164.62
	147 Methylcyclohexane	55	5.947	5.947	(1.072)	1960914	150.000	166.81(A)
	146 Methyl Acetate	43	2.705	2.705	(0.562)	569325	150.000	142.38
	148 Tert-Butyl alcohol	59	2.967	2.967	(0.617)	1418139	3000.00	3033.44
	149 Isopropyl Alcohol	45	2.559	2.559	(0.532)	897894	3000.00	2915.72

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.



Data File: \\nahstws005\target\chem\voa9,i\u230731,b\u073110,d
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Column phase: DB624

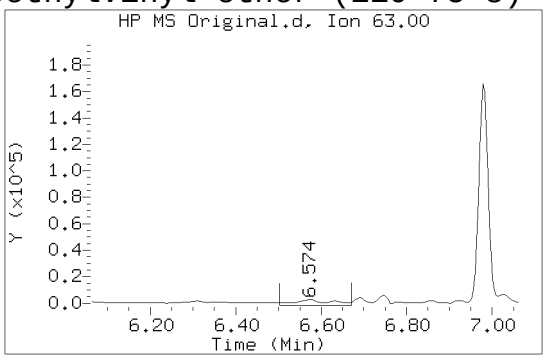
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Operator: PC
Column diameter: 0.18

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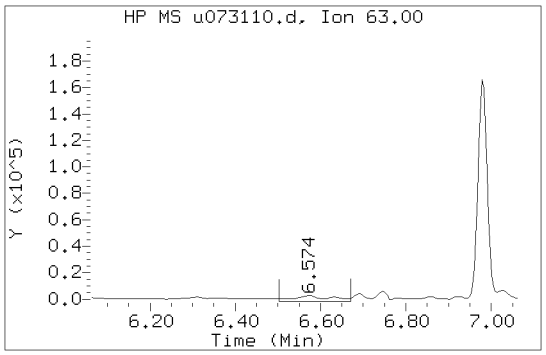
2-Chloroethylvinyl ether (110-75-8)

Reason Code:

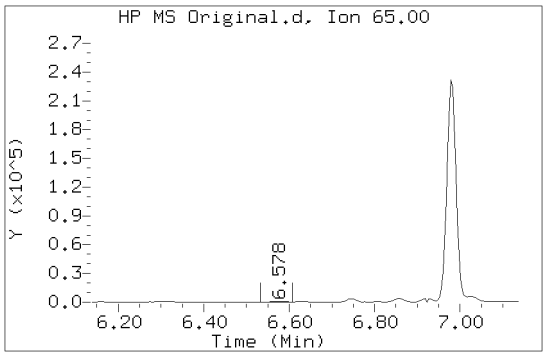
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HEIGHT
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01-Aug-2023
21:04



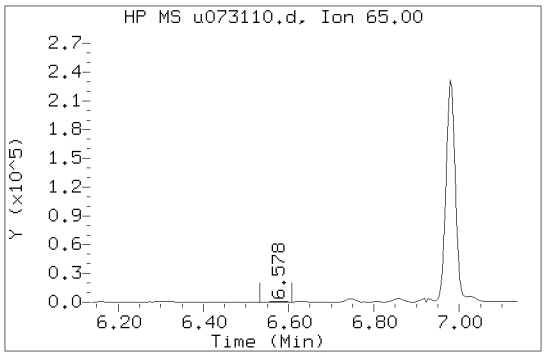
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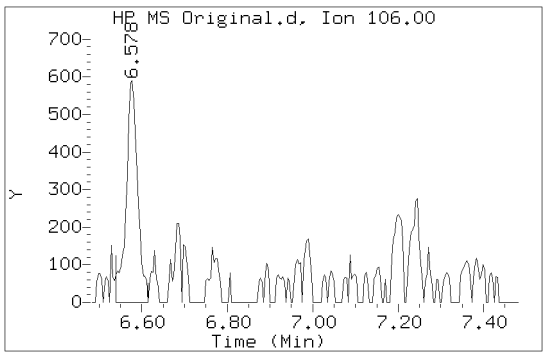
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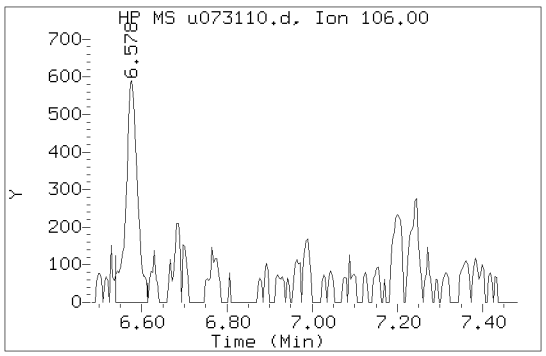
AFTER
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21:04



BEFORE
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01-Aug-2023
21:04



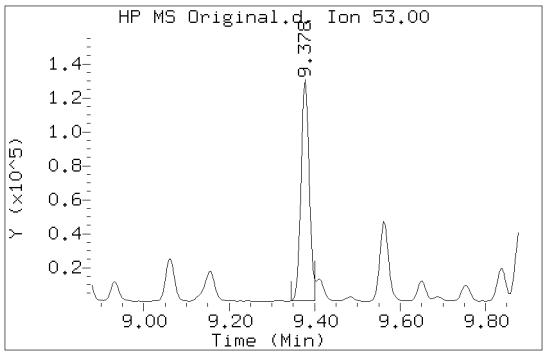
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01-Aug-2023
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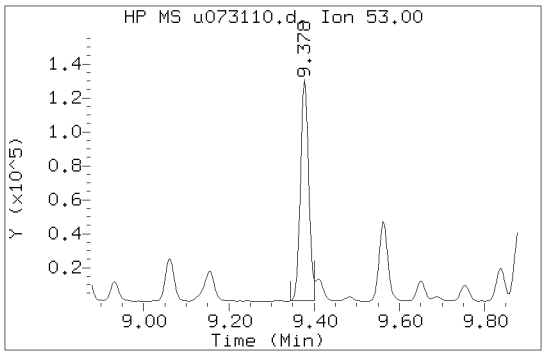
trans-1,4-Dichloro-2-butene (110-57-6)

Reason Code:

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01-Aug-2023
21:04



AFTER
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AREA
179641
HEIGHT
130308
01-Aug-2023
21:04



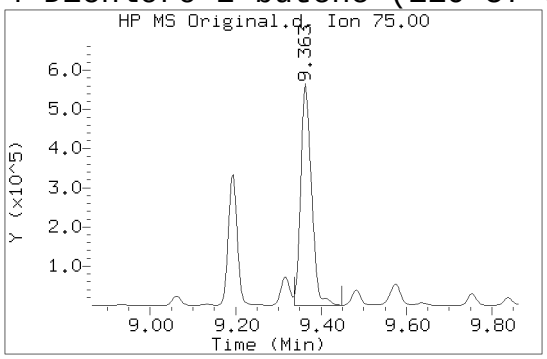
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Inj Date : 31-JUL-2023 14:51
InstruID : VOA9.i
LabSampID : VSTD150

trans-1,4-Dichloro-2-butene (110-57-6)

Reason Code:

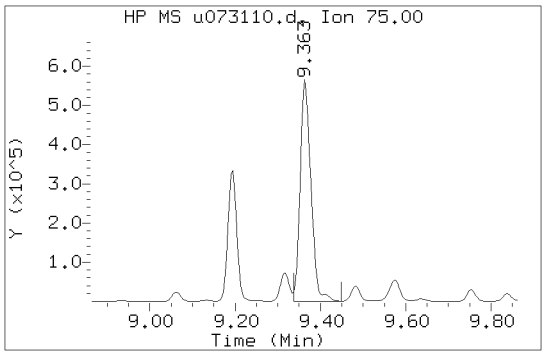
BEFORE

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HEIGHT
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01-Aug-2023
21:04



AFTER

MASS
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AREA
1012425
HEIGHT
565022
01-Aug-2023
21:04

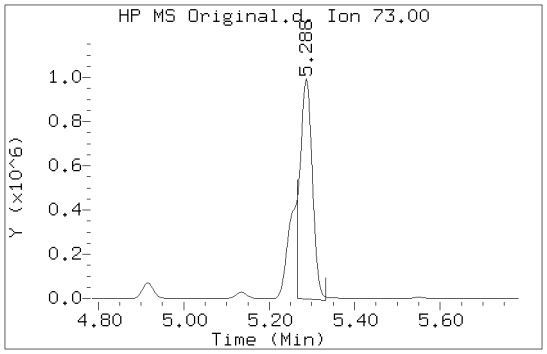


tert-Amyl methyl ether (974-05-08)

Reason Code:

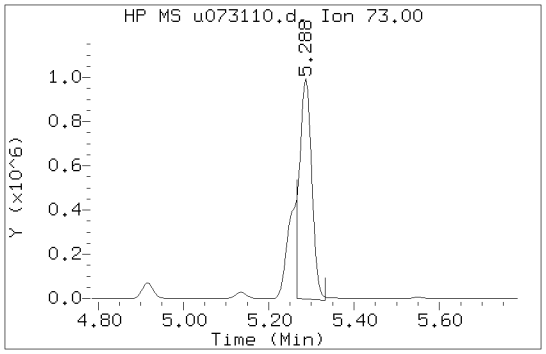
BEFORE

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01-Aug-2023
21:04



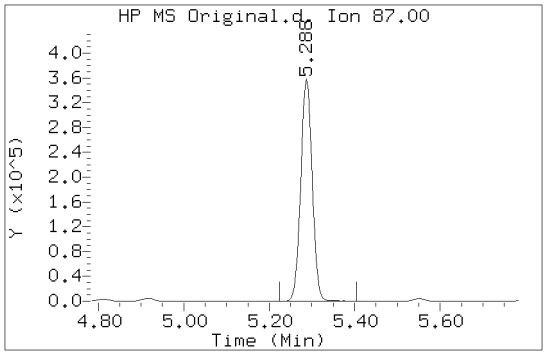
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01-Aug-2023
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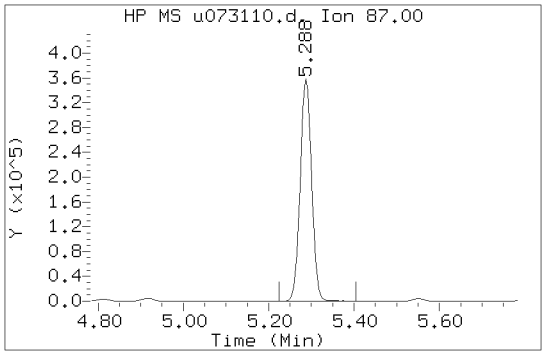
BEFORE

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01-Aug-2023
21:04



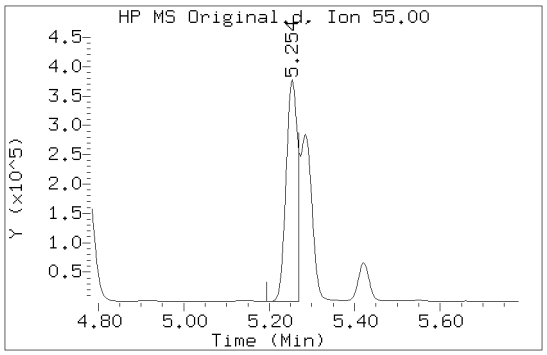
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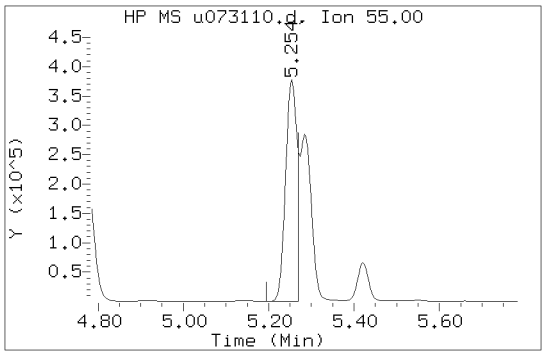
BEFORE

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HEIGHT
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01-Aug-2023
21:04



AFTER

MASS
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AREA
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HEIGHT
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01-Aug-2023
21:04



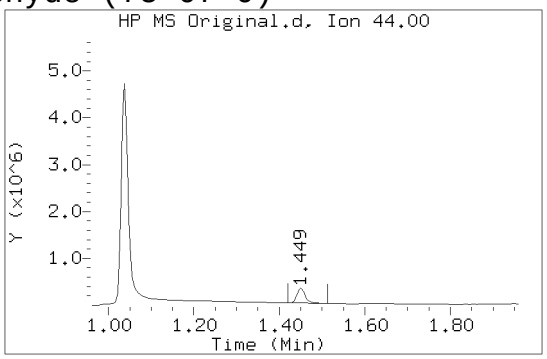
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Inj Date : 31-JUL-2023 14:51
InstruID : VOA9.i
LabSampID : VSTD150

Acetaldehyde (75-07-0)

Reason Code:

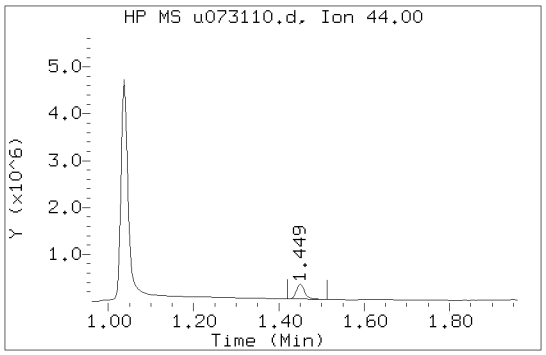
BEFORE

MASS
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HEIGHT
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01-Aug-2023
21:04



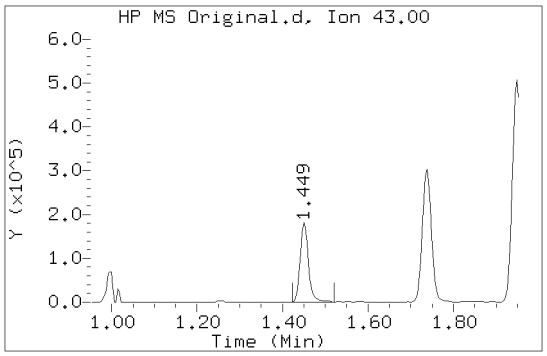
AFTER

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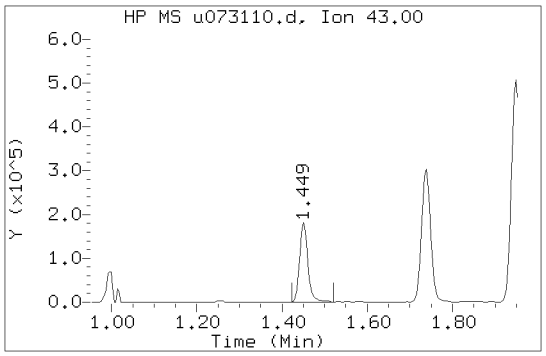
BEFORE

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01-Aug-2023
21:04



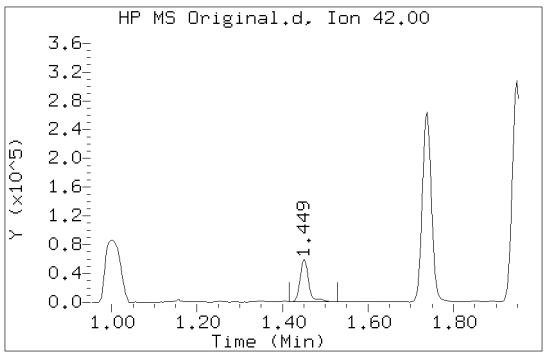
AFTER

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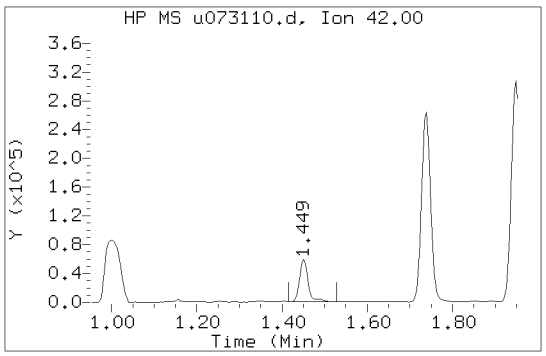
BEFORE

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01-Aug-2023
21:04



AFTER

MASS
42
AREA
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01-Aug-2023
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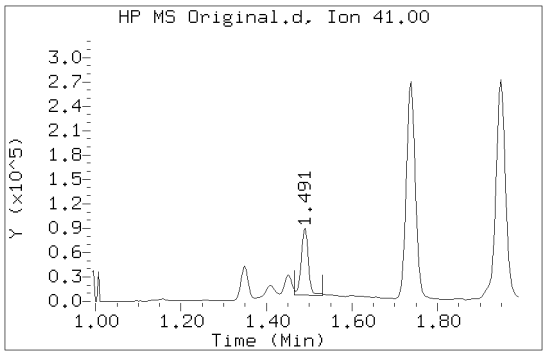


Isobutylene (115-11-7)

Reason Code:

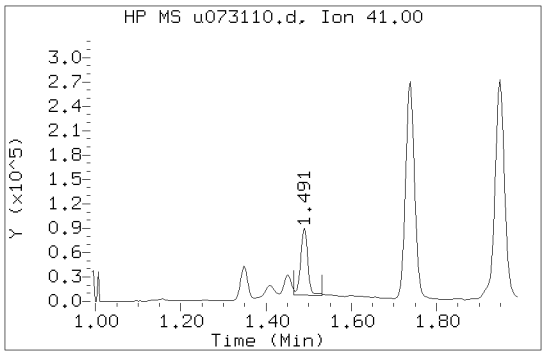
BEFORE

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AFTER

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01-Aug-2023
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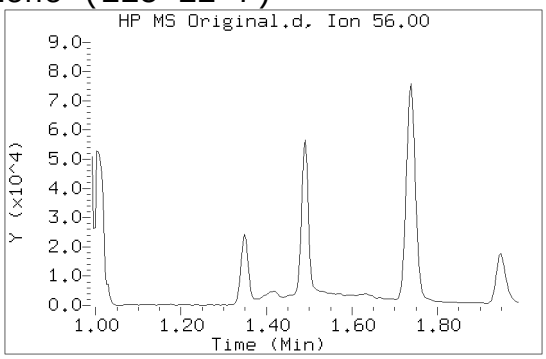


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LabSampID : VSTD150

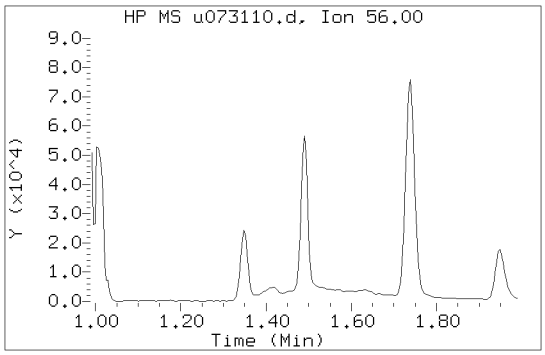
Isobutylene (115-11-7)

Reason Code:

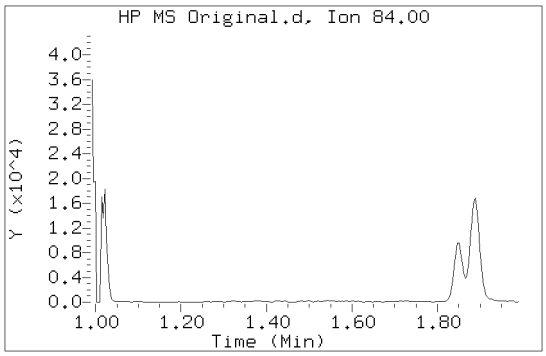
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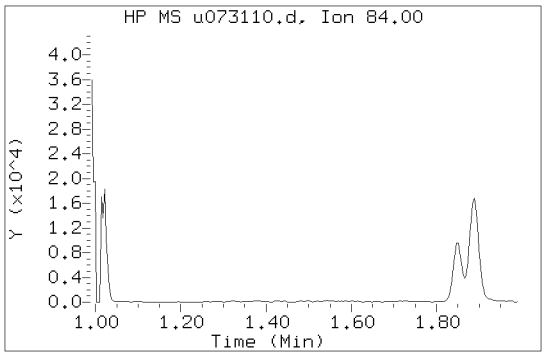
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Data File: \\NAHSTWS005\Target\chem\voa9.i\U230731.b\U073111.D Page 1
Report Date: 07-Aug-2023 11:14

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U230731.b\U073111.D
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Inj Date : 31-JUL-2023 15:13
Operator : PC Inst ID: VOA9.i
Smp Info : VSTD200;VSTD200;1;10;
Misc Info : V9;WATER;0;1;
Comment   :
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Meth Date : 07-Aug-2023 11:14 VOA9.i Quant Type: ISTD
Cal Date : 31-JUL-2023 14:51 Cal File: U073110.D
Als bottle: 12 Calibration Sample, Level: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260V9.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1	Pentafluorobenzene	168	4.811	4.811	(1.000)	570202	50.0000	
2	Dichlorodifluoromethane	85	1.156	1.156	(0.240)	1019713	200.000	183.38
3	Chloromethane	50	1.291	1.291	(0.268)	1264921	200.000	189.98
5	Vinyl Chloride	62	1.370	1.370	(0.285)	1126971	200.000	200.74(A)
6	Bromomethane	94	1.599	1.599	(0.332)	507880	200.000	171.65
7	Chloroethane	64	1.685	1.685	(0.350)	666015	200.000	188.38
8	Trichlorofluoromethane	101	1.891	1.891	(0.393)	1308026	200.000	188.77
9	Acrolein	56	1.738	1.738	(0.361)	154362	400.000	422.04(A)
10	Acetone	43	2.405	2.405	(0.500)	658218	400.000	390.84(A)
11	1,1-Dichloroethene	96	2.326	2.326	(0.484)	759024	200.000	202.04(A)
15	Iodomethane	142	2.461	2.461	(0.512)	1727558	400.000	352.01
16	Acrylonitrile	53	3.061	3.061	(0.636)	707285	400.000	394.61
17	Methylene Chloride	84	2.787	2.787	(0.579)	909993	200.000	199.98
18	Methyl tert-butyl ether	73	3.076	3.076	(0.639)	2336621	200.000	201.23(A)
19	Carbon Disulfide	76	2.514	2.514	(0.522)	4402937	400.000	402.58(A)
20	trans-1,2-Dichloroethene	96	3.053	3.053	(0.635)	815001	200.000	193.59
21	Vinyl Acetate	43	3.604	3.604	(0.749)	4975358	400.000	412.95(A)
22	1,1-Dichloroethane	63	3.511	3.511	(0.730)	1435268	200.000	186.52
24	2-Butanone	43	4.264	4.264	(0.886)	788336	400.000	351.92
26	2,2-Dichloropropane	77	4.178	4.178	(0.868)	1066112	200.000	200.94(A)

27 cis-1,2-Dichloroethene	96	4.193	4.193 (0.871)	935978	200.000	199.17
28 Chloroform	83	4.572	4.572 (0.950)	1666771	200.000	186.13

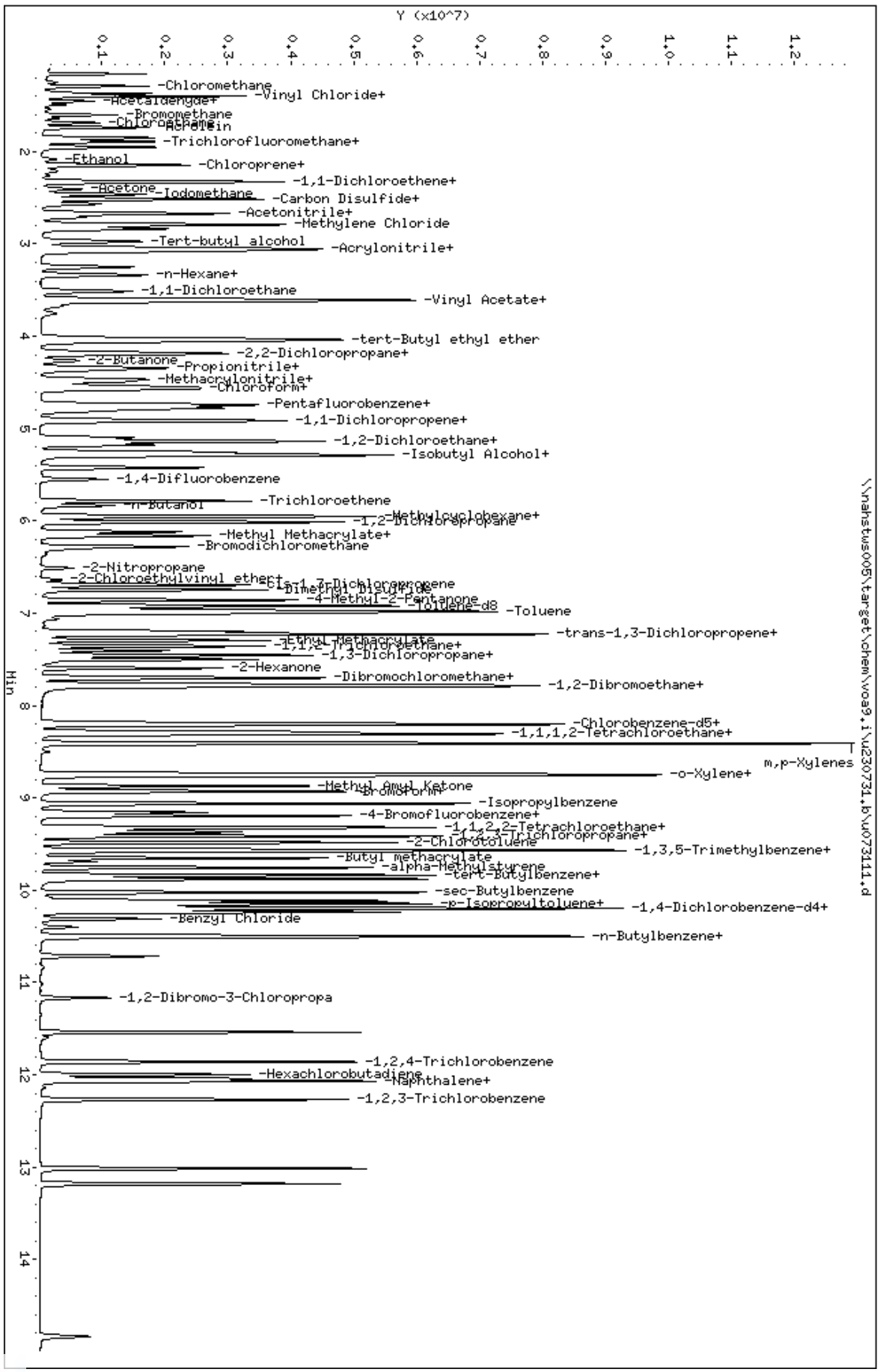
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	29 Bromochloromethane	128	4.467	4.467	(0.928)	498347	200.000	179.21
$	30 Dibromofluoromethane	113	4.748	4.748	(0.987)	879652	200.000	195.72
	31 1,1,1-Trichloroethane	97	4.740	4.740	(0.985)	1371560	200.000	196.87
	32 1,1-Dichloropropene	75	4.916	4.916	(0.886)	1207825	200.000	197.27
	33 1,2-Dichloroethane	62	5.175	5.175	(0.932)	1335743	200.000	188.11
	34 Carbon Tetrachloride	117	4.909	4.909	(0.885)	1133427	200.000	206.64(A)
$	35 1,2-Dichloroethane-d4	65	5.096	5.096	(1.059)	950577	200.000	195.17
*	36 1,4-Difluorobenzene	114	5.550	5.550	(1.000)	824550	50.0000	
	37 Benzene	78	5.138	5.138	(0.926)	3816784	200.000	189.49
	38 Trichloroethene	130	5.786	5.786	(1.043)	1105898	200.000	194.26
	39 Bromodichloromethane	83	6.277	6.277	(1.131)	1321967	200.000	205.21(A)
	41 2-Chloroethylvinyl ether	63	6.577	6.577	(1.185)	9808	400.000	104.91
	42 1,2-Dichloropropane	63	6.011	6.011	(1.083)	1039756	200.000	192.61
	44 Dibromomethane	93	6.120	6.120	(1.103)	666792	200.000	192.30
	45 4-Methyl-2-Pentanone	43	6.858	6.858	(0.838)	2391345	400.000	406.74(A)
	46 cis-1,3-Dichloropropene	75	6.693	6.693	(1.206)	1704761	200.000	200.64(A)
*	47 Chlorobenzene-d5	117	8.185	8.185	(1.000)	790154	50.0000	
$	48 Toluene-d8	98	6.922	6.922	(0.846)	3405550	200.000	185.30
	50 Toluene	91	6.982	6.982	(0.853)	4184874	200.000	194.80
	51 trans-1,3-Dichloropropene	75	7.196	7.196	(1.296)	1452570	200.000	233.93(A)
	52 2-Hexanone	43	7.593	7.593	(0.928)	1597049	400.000	410.22(A)
	53 1,1,2-Trichloroethane	83	7.357	7.357	(0.899)	830168	200.000	180.42
	54 1,3-Dichloropropane	76	7.499	7.499	(0.916)	1766495	200.000	187.16
	55 Dibromochloromethane	129	7.694	7.694	(0.940)	1214851	200.000	215.14(A)
	56 Tetrachloroethene	164	7.458	7.458	(0.911)	979030	200.000	187.44
	57 1,2-Dibromoethane	107	7.784	7.784	(0.951)	1065136	200.000	192.43
	58 1-Chlorohexane	55	8.197	8.197	(1.477)	873975	200.000	202.98(A)
	59 Chlorobenzene	112	8.212	8.212	(1.003)	2824872	200.000	185.49
	60 1,1,1,2-Tetrachloroethane	131	8.286	8.286	(1.012)	1105730	200.000	199.21
	61 Ethylbenzene	106	8.309	8.309	(1.015)	1413378	200.000	205.00(A)
	62 m,p-Xylenes	106	8.410	8.410	(1.027)	3469755	400.000	428.69(A)
	63 o-Xylene	106	8.748	8.748	(1.069)	1710909	200.000	216.07(A)
	64 Styrene	104	8.763	8.763	(1.071)	2829265	200.000	228.98(A)
	66 Bromoform	173	8.920	8.920	(1.090)	865119	200.000	219.30(A)
	67 Isopropylbenzene	105	9.062	9.062	(1.107)	4166795	200.000	217.47(A)
	68 1,1,2,2-Tetrachloroethane	83	9.329	9.329	(0.917)	1373844	200.000	175.48
$	69 4-Bromofluorobenzene	95	9.194	9.194	(1.123)	1374126	200.000	195.49
*	70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	406460	50.0000	
	71 1,2,3-Trichloropropane	75	9.366	9.366	(0.921)	1391040	200.000	204.06(A)
	73 n-Propylbenzene	91	9.411	9.411	(0.925)	4612232	200.000	196.67
	74 Bromobenzene	156	9.317	9.317	(0.916)	1303306	200.000	193.82
	75 1,3,5-Trimethylbenzene	105	9.561	9.561	(0.940)	3157707	200.000	222.29(A)
	76 2-Chlorotoluene	91	9.482	9.482	(0.932)	2873591	200.000	200.53(A)
	77 4-Chlorotoluene	91	9.576	9.576	(0.941)	3265271	200.000	203.99(A)
	78 tert-Butylbenzene	119	9.838	9.838	(0.967)	2926405	200.000	217.45(A)
	79 1,2,4-Trimethylbenzene	105	9.880	9.880	(0.971)	3151112	200.000	219.06(A)
	81 sec-Butylbenzene	105	10.022	10.022	(0.985)	3876784	200.000	90.88
	82 p-Isopropyltoluene	119	10.146	10.146	(0.997)	3372466	200.000	80.89
	83 1,3-Dichlorobenzene	146	10.116	10.116	(0.994)	2183578	200.000	194.56
	84 1,4-Dichlorobenzene	146	10.191	10.191	(1.002)	2243745	200.000	180.41
	87 n-Butylbenzene	91	10.491	10.491	(1.031)	2783598	200.000	195.87
	88 1,2-Dichlorobenzene	146	10.506	10.506	(1.033)	2147264	200.000	186.47

89	1,2-Dibromo-3-Chloropropane	155	11.165	11.165 (1.098)	250171	200.000	221.63(A)
90	1,2,4-Trichlorobenzene	180	11.859	11.859 (1.166)	1610904	200.000	227.41(A)

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	91 Hexachlorobutadiene	225	11.998	11.998	(1.179)	659381	200.000	80.10
	92 Naphthalene	128	12.065	12.065	(1.186)	3794466	200.000	197.95
	93 1,2,3-Trichlorobenzene	180	12.268	12.268	(1.206)	1538961	200.000	212.80(A)
M	94 1,2-Dichloroethylene (total)	96				1750979	400.000	
M	95 Xylenes (total)	106				5180664	600.000	
	135 1,4-Dioxane	88	6.168	6.168	(1.282)	278742	4000.00	3409.48
	141 Cyclohexane	56	4.778	4.778	(0.993)	1335056	200.000	208.31(A)
	138 Freon TF	101	2.326	2.326	(0.484)	699712	200.000	105.50
	140 1,3-Butadiene	54	1.396	1.396	(0.290)	922301	200.000	203.14(A)
	147 Methylcyclohexane	55	5.947	5.947	(1.072)	2583280	200.000	215.09(A)
	146 Methyl Acetate	43	2.708	2.708	(0.563)	747739	200.000	182.75
	148 Tert-Butyl alcohol	59	2.971	2.971	(0.617)	1911477	4000.00	3996.72
	149 Isopropyl Alcohol	45	2.566	2.566	(0.533)	1191893	4000.00	3782.42

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.



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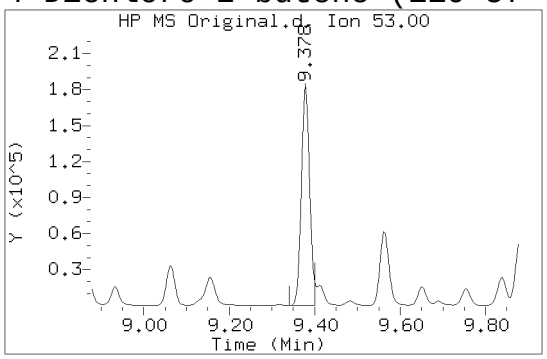
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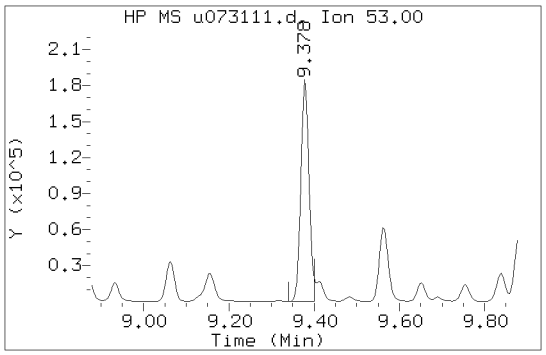
trans-1,4-Dichloro-2-butene (110-57-6)

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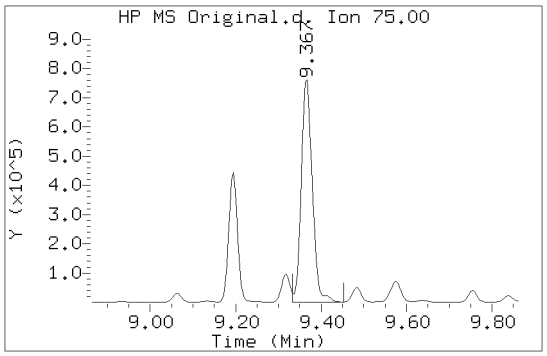
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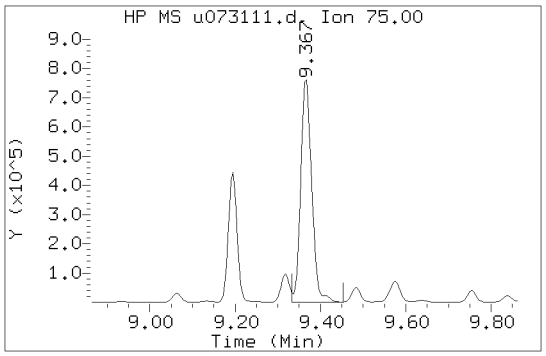
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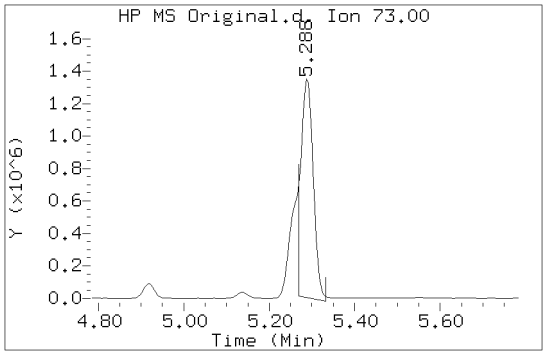
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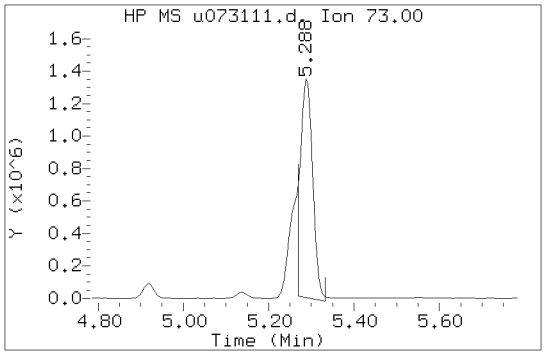
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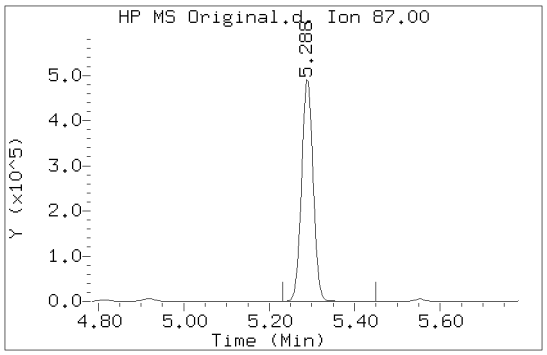
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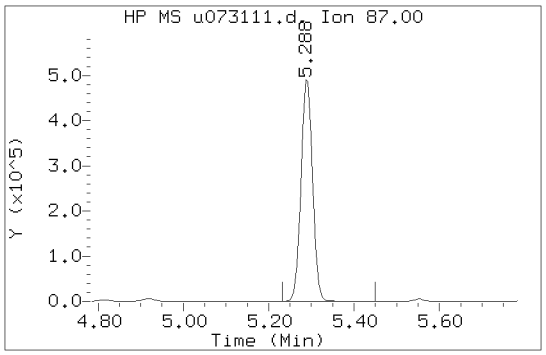
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BEFORE
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AFTER
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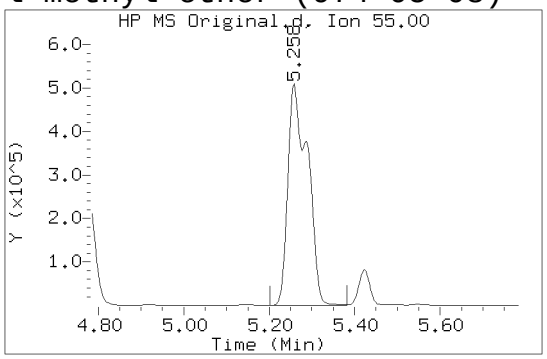
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LabSampID : VSTD200

tert-Amyl methyl ether (974-05-08)

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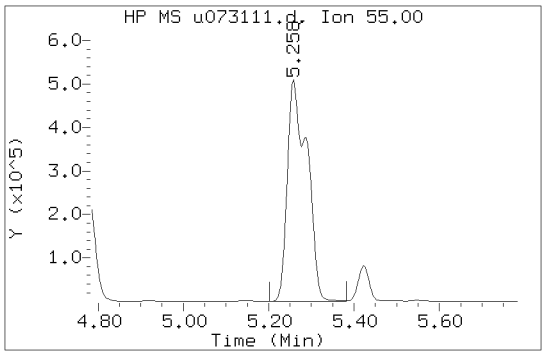
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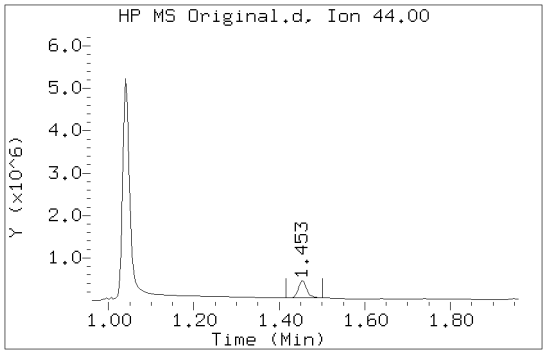


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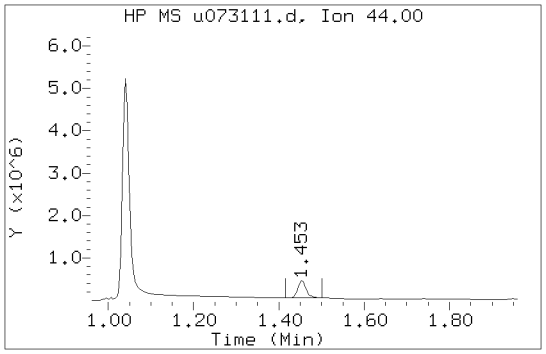
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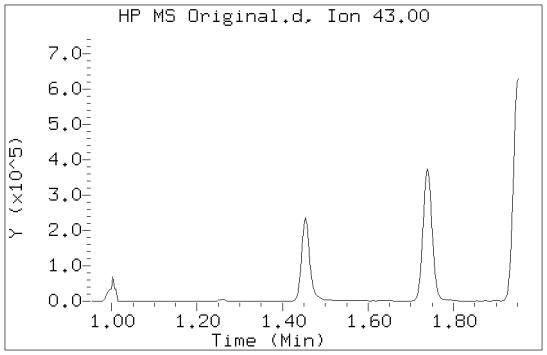
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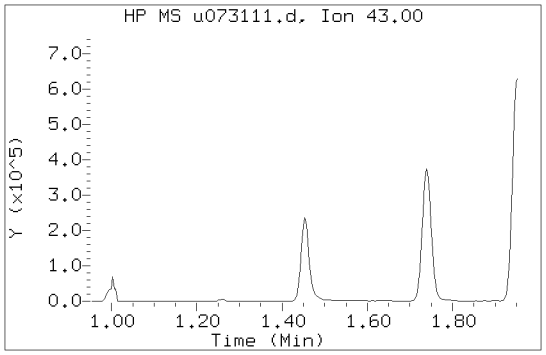
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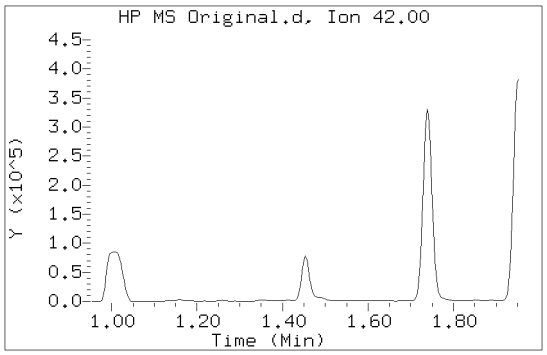
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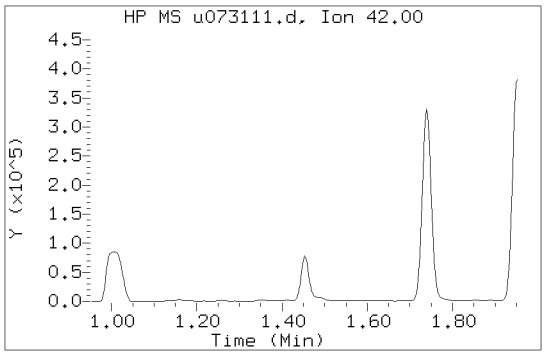
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AFTER

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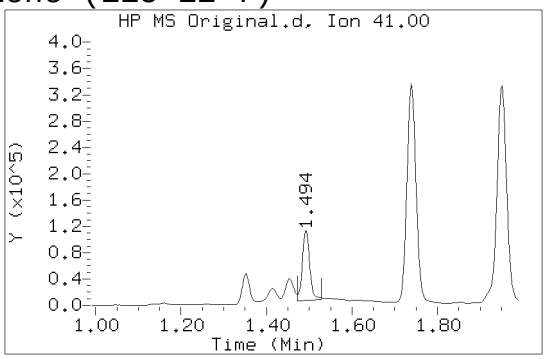


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LabSampID : VSTD200

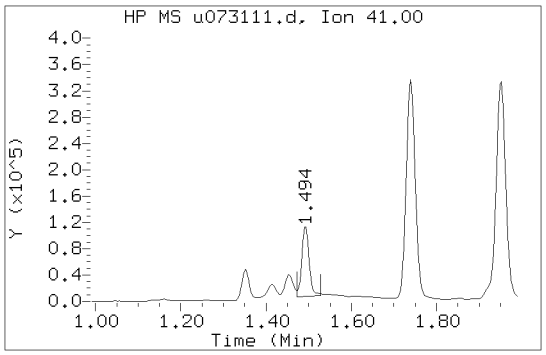
Isobutylene (115-11-7)

Reason Code:

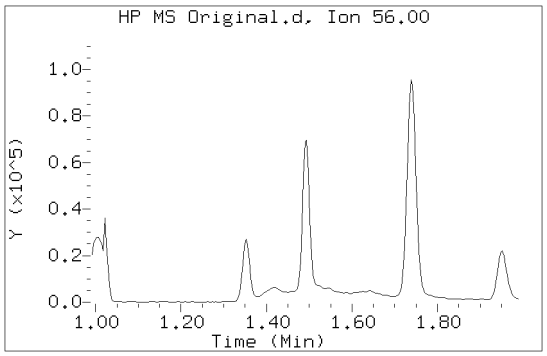
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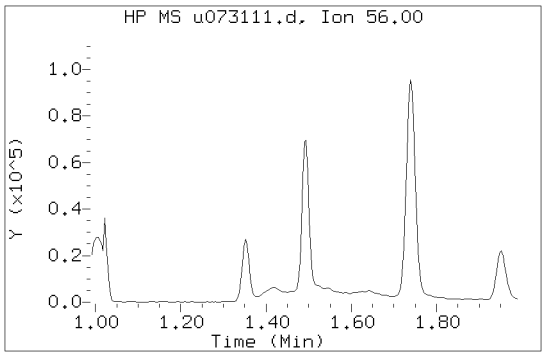
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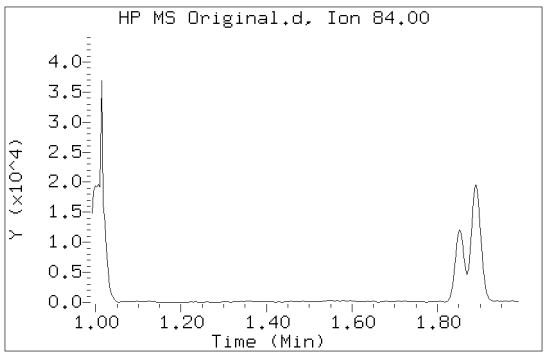
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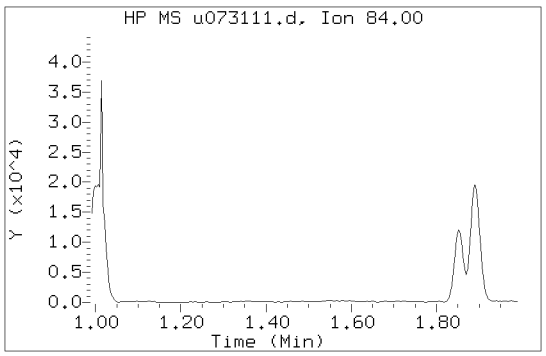
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AFTER
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01-Aug-2023
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Data File: \\NAHSTWS005\Target\chem\voa9.i\U230731.b\U073113.D Page 1
Report Date: 07-Aug-2023 11:14

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U230731.b\U073113.D
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Inj Date : 31-JUL-2023 15:57
Operator : PC Inst ID: VOA9.i
Smp Info : CCV;CCV;2;;;ICV
Misc Info : V9;WATER;0;1;
Comment :
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Meth Date : 07-Aug-2023 11:14 VOA9.i Quant Type: ISTD
Cal Date : 31-JUL-2023 15:13 Cal File: U073111.D
Als bottle: 14 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260V9.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1	Pentafluorobenzene	168	4.811	4.811	(1.000)	586872	50.0000	
2	Dichlorodifluoromethane	85	1.156	1.156	(0.240)	231901	41.5004	41.50
3	Chloromethane	50	1.291	1.291	(0.268)	308539	44.7605	44.76
5	Vinyl Chloride	62	1.370	1.370	(0.285)	254476	44.0407	44.04
6	Bromomethane	94	1.614	1.599	(0.335)	166237	53.4715	53.47
7	Chloroethane	64	1.693	1.685	(0.352)	158516	43.5644	43.56
8	Trichlorofluoromethane	101	1.887	1.891	(0.392)	298086	41.7982	41.79
9	Acrolein	56	1.741	1.738	(0.362)	30707	81.5725	81.57
10	Acetone	43	2.405	2.405	(0.500)	189178	103.249	103.24
11	1,1-Dichloroethene	96	2.326	2.326	(0.483)	171838	44.4419	44.44
15	Iodomethane	142	2.461	2.461	(0.512)	331402	89.7712	89.77
16	Acrylonitrile	53	3.061	3.061	(0.636)	173385	93.9898	93.98
17	Methylene Chloride	84	2.787	2.787	(0.579)	218974	46.6075	46.60
18	Methyl tert-butyl ether	73	3.076	3.076	(0.639)	564440	47.2299	47.22
19	Carbon Disulfide	76	2.514	2.514	(0.522)	1032983	91.7693	91.76
20	trans-1,2-Dichloroethene	96	3.050	3.053	(0.634)	190107	43.8748	43.87
21	Vinyl Acetate	43	3.601	3.604	(0.748)	1202045	96.9359	96.93
22	1,1-Dichloroethane	63	3.507	3.511	(0.729)	335609	42.3758	42.37
24	2-Butanone	43	4.264	4.264	(0.886)	205343	89.0635	89.06
26	2,2-Dichloropropane	77	4.174	4.178	(0.868)	254593	46.6233	46.62

27 cis-1,2-Dichloroethene	96	4.189	4.193 (0.871)	219638	45.4114	45.41
28 Chloroform	83	4.568	4.572 (0.949)	393581	42.7038	42.70

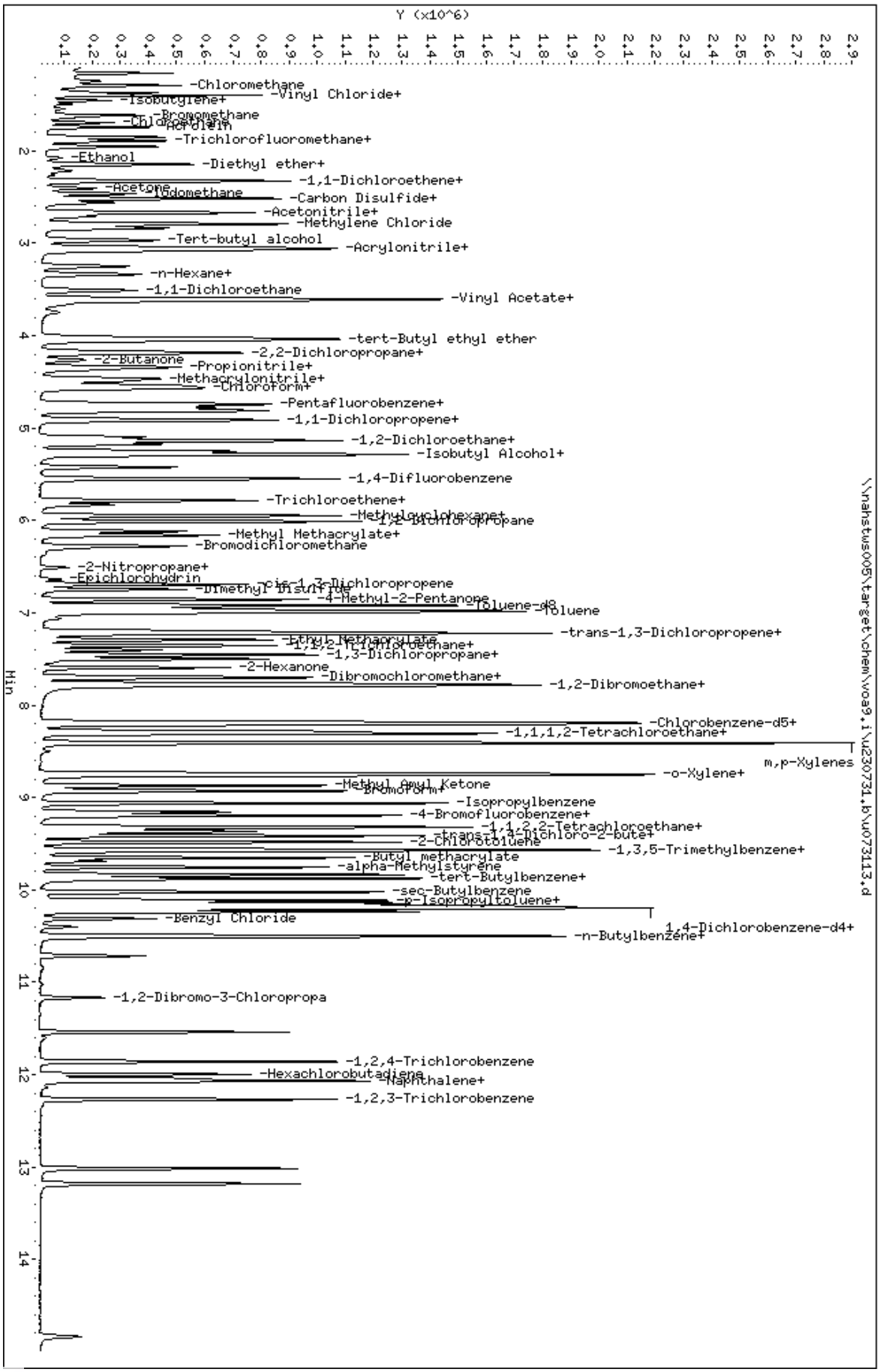
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	29 Bromochloromethane	128	4.463	4.467	(0.928)	121210	42.3518	42.35
$	30 Dibromofluoromethane	113	4.744	4.748	(0.986)	228111	48.5703	48.57
	31 1,1,1-Trichloroethane	97	4.736	4.740	(0.984)	302944	42.2492	42.24
	32 1,1-Dichloropropene	75	4.916	4.916	(0.886)	276559	44.9086	44.90
	33 1,2-Dichloroethane	62	5.175	5.175	(0.932)	321433	45.0067	45.00
	34 Carbon Tetrachloride	117	4.905	4.909	(0.884)	228059	41.3385	41.33
$	35 1,2-Dichloroethane-d4	65	5.093	5.096	(1.058)	244458	47.7631	47.76
*	36 1,4-Difluorobenzene	114	5.550	5.550	(1.000)	829346	50.0000	
	37 Benzene	78	5.134	5.138	(0.925)	911920	45.0133	45.01
	38 Trichloroethene	130	5.786	5.786	(1.043)	254593	44.4633	44.46
	39 Bromodichloromethane	83	6.277	6.277	(1.131)	293437	45.2876	45.28
	41 2-Chloroethylvinyl ether	63	6.562	6.577	(1.182)	7925	84.0686	84.06(M)
	42 1,2-Dichloropropane	63	6.007	6.011	(1.082)	246953	45.4824	45.48
	44 Dibromomethane	93	6.116	6.120	(1.102)	158311	45.3943	45.39
	45 4-Methyl-2-Pentanone	43	6.855	6.858	(0.837)	567410	98.8517	98.85
	46 cis-1,3-Dichloropropene	75	6.690	6.693	(1.205)	370428	45.0728	45.07
*	47 Chlorobenzene-d5	117	8.185	8.185	(1.000)	771437	50.0000	
$	48 Toluene-d8	98	6.922	6.922	(0.846)	907991	50.6041	50.60
	50 Toluene	91	6.978	6.982	(0.853)	989176	47.1624	47.16
	51 trans-1,3-Dichloropropene	75	7.196	7.196	(1.296)	312150	49.9815	49.98
	52 2-Hexanone	43	7.593	7.593	(0.928)	383453	100.884	100.88
	53 1,1,2-Trichloroethane	83	7.353	7.357	(0.898)	199841	44.4867	44.48
	54 1,3-Dichloropropane	76	7.499	7.499	(0.916)	419694	45.5457	45.54
	55 Dibromochloromethane	129	7.690	7.694	(0.940)	269696	48.9216	48.92
	56 Tetrachloroethene	164	7.454	7.458	(0.911)	221025	43.3447	43.34
	57 1,2-Dibromoethane	107	7.784	7.784	(0.951)	252062	46.6438	46.64
	58 1-Chlorohexane	55	8.197	8.197	(1.477)	175594	40.5459	40.54
	59 Chlorobenzene	112	8.208	8.212	(1.003)	678750	45.6510	45.65
	60 1,1,1,2-Tetrachloroethane	131	8.283	8.286	(1.012)	244784	45.1713	45.17
	61 Ethylbenzene	106	8.305	8.309	(1.015)	316080	46.9589	46.95
	62 m,p-Xylenes	106	8.406	8.410	(1.027)	793036	100.359	100.35
	63 o-Xylene	106	8.748	8.748	(1.069)	389527	50.3885	50.38
	64 Styrene	104	8.763	8.763	(1.071)	640797	53.1212	53.12
	66 Bromoform	173	8.920	8.920	(1.090)	188437	48.9270	48.92
	67 Isopropylbenzene	105	9.062	9.062	(1.107)	898452	48.0303	48.03
	68 1,1,2,2-Tetrachloroethane	83	9.329	9.329	(0.917)	342233	43.4452	43.44
$	69 4-Bromofluorobenzene	95	9.194	9.194	(1.123)	354282	50.6059	50.60
*	70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	408967	50.0000	
	71 1,2,3-Trichloropropane	75	9.362	9.366	(0.920)	325886	47.5154	47.51
	73 n-Propylbenzene	91	9.411	9.411	(0.925)	982839	42.9466	42.94
	74 Bromobenzene	156	9.317	9.317	(0.916)	307453	45.4426	45.44
	75 1,3,5-Trimethylbenzene	105	9.561	9.561	(0.940)	685273	47.9461	47.94
	76 2-Chlorotoluene	91	9.482	9.482	(0.932)	657409	45.5958	45.59
	77 4-Chlorotoluene	91	9.576	9.576	(0.941)	756542	46.9757	46.97
	78 tert-Butylbenzene	119	9.838	9.838	(0.967)	612686	45.2488	45.24
	79 1,2,4-Trimethylbenzene	105	9.876	9.880	(0.971)	716435	49.5002	49.50
	81 sec-Butylbenzene	105	10.022	10.022	(0.985)	795064	51.0573	51.05
	82 p-Isopropyltoluene	119	10.146	10.146	(0.997)	684325	53.0116	53.01
	83 1,3-Dichlorobenzene	146	10.116	10.116	(0.994)	503873	44.6211	44.62
	84 1,4-Dichlorobenzene	146	10.191	10.191	(1.002)	525749	42.0142	42.01
	87 n-Butylbenzene	91	10.491	10.491	(1.031)	575686	42.1612	42.16
	88 1,2-Dichlorobenzene	146	10.506	10.506	(1.033)	502953	43.4107	43.41

89	1,2-Dibromo-3-Chloropropane	155	11.169	11.165 (1.098)	51032	44.9334	44.93
90	1,2,4-Trichlorobenzene	180	11.859	11.859 (1.166)	346158	48.5682	48.56

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	91 Hexachlorobutadiene	225	11.998	11.998	(1.179)	148428	55.9981	55.99
	92 Naphthalene	128	12.065	12.065	(1.186)	841153	44.8549	44.85
	93 1,2,3-Trichlorobenzene	180	12.268	12.268	(1.206)	334790	46.0110	46.01
M	94 1,2-Dichloroethylene (total)	96				409745	89.2862	89.28
M	95 Xylenes (total)	106				1182563	150.748	150.74
	135 1,4-Dioxane	88	6.168	6.168	(1.282)	67615	803.552	803.55
	141 Cyclohexane	56	4.778	4.778	(0.993)	283626	42.9988	42.99
	138 Freon TF	101	2.326	2.326	(0.483)	156960	49.8056	49.80
	140 1,3-Butadiene	54	1.396	1.396	(0.290)	209079	44.7426	44.74
	147 Methylcyclohexane	55	5.947	5.947	(1.072)	551131	45.6239	45.62
	146 Methyl Acetate	43	2.708	2.708	(0.563)	179622	42.6545	42.65
	148 Tert-Butyl alcohol	59	2.963	2.971	(0.616)	469230	950.874	950.87
	149 Isopropyl Alcohol	45	2.559	2.566	(0.532)	287541	886.580	886.57

QC Flag Legend

M - Compound response manually integrated.



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Column phase: DB624

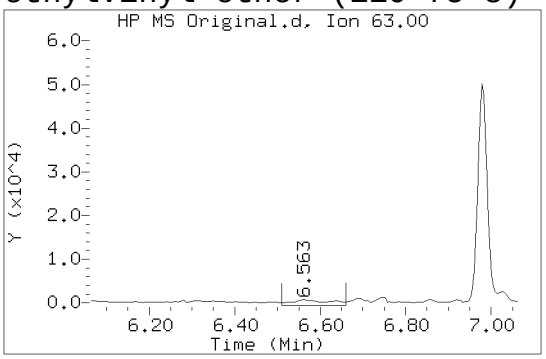
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Operator: PC
Column diameter: 0.18

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LabSampID : CCV

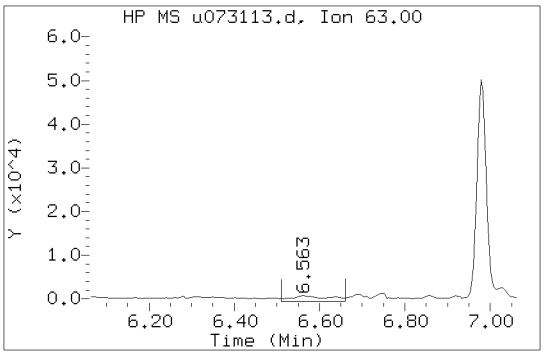
2-Chloroethylvinyl ether (110-75-8)

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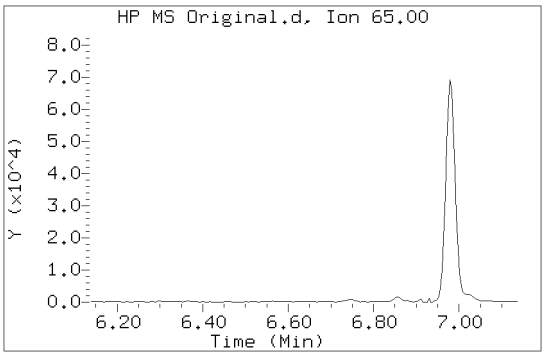
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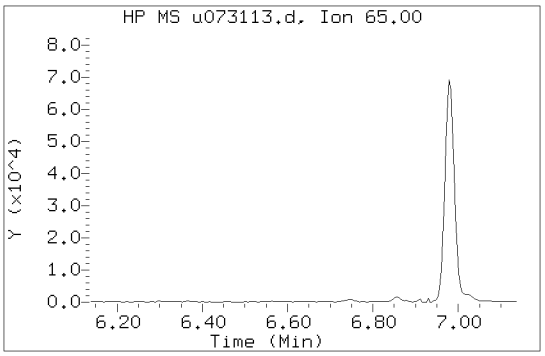
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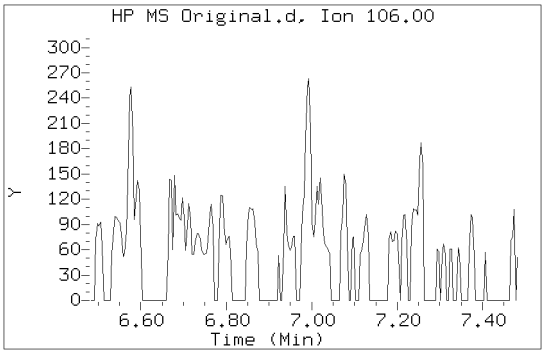
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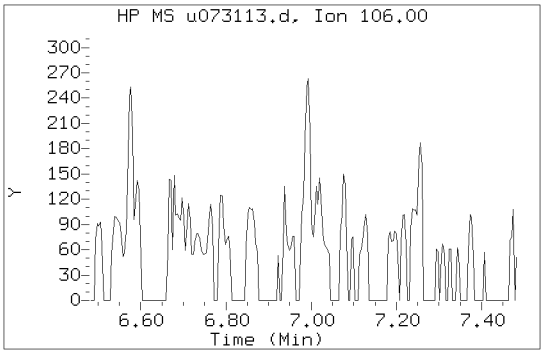
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01-Aug-2023
21:06



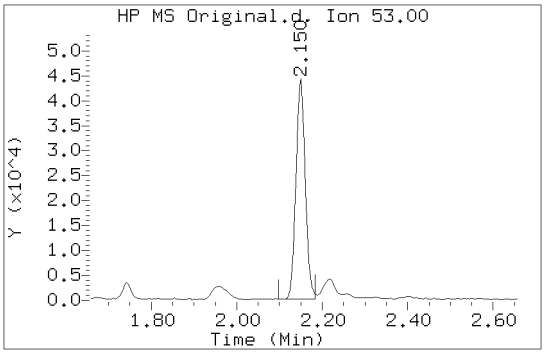
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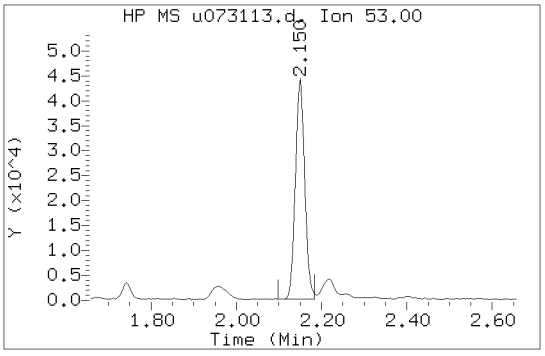
Chloroprene (126-99-8)

Reason Code:

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21:06



AFTER
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01-Aug-2023
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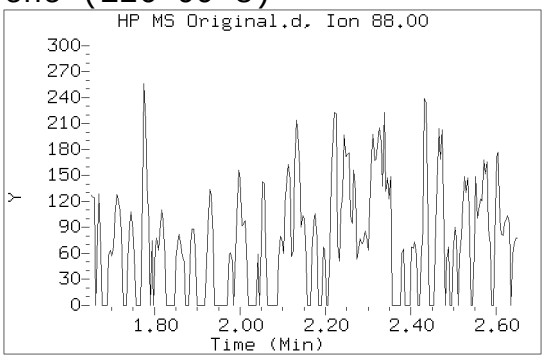
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LabSampID : CCV

Chloroprene (126-99-8)

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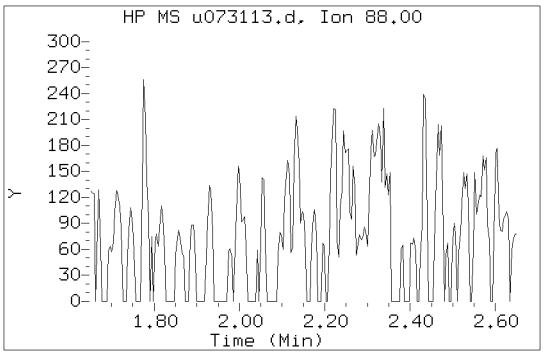
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AFTER

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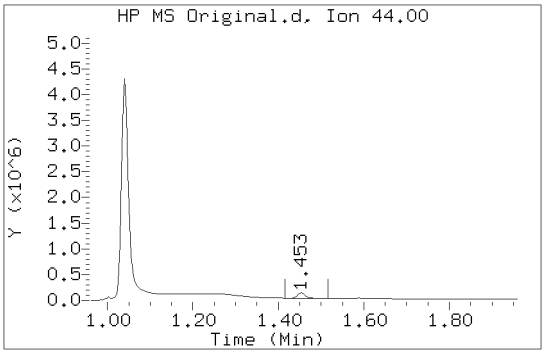


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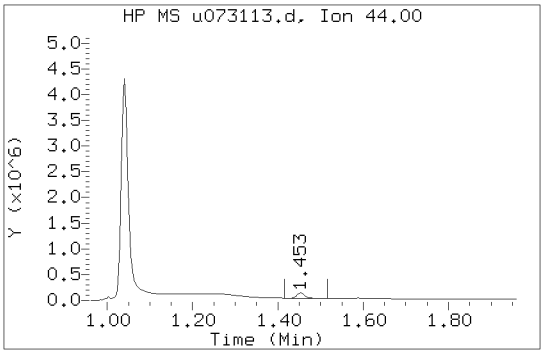
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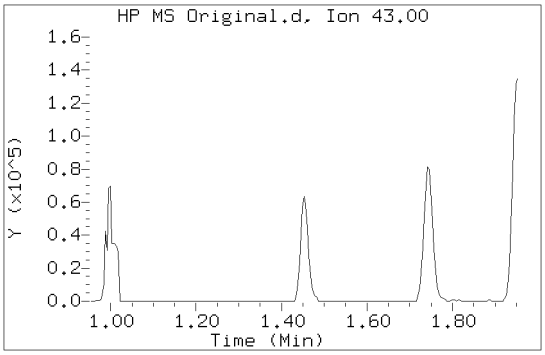
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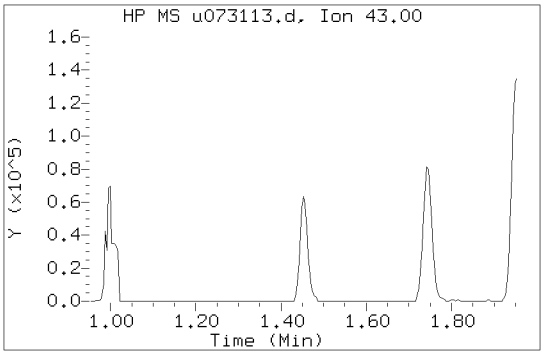
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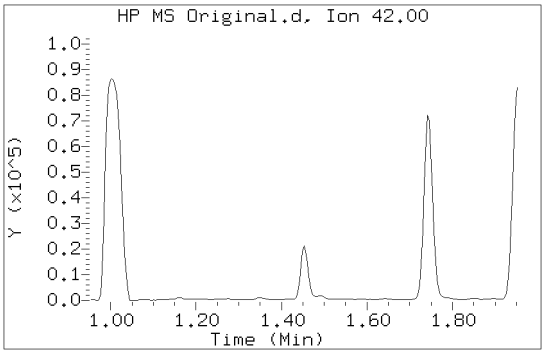
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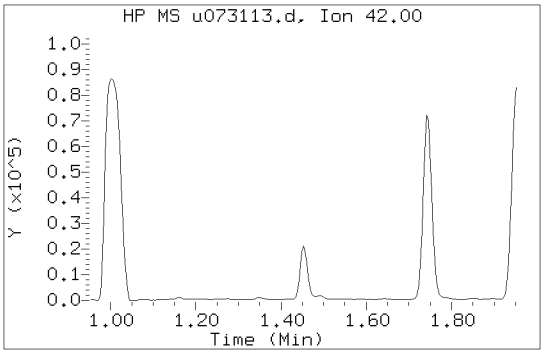
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01-Aug-2023
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AFTER

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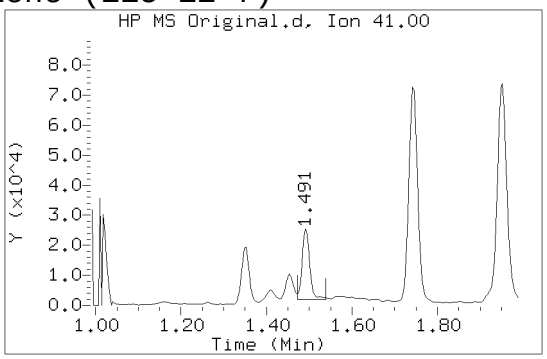


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Inj Date : 31-JUL-2023 15:57
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LabSampID : CCV

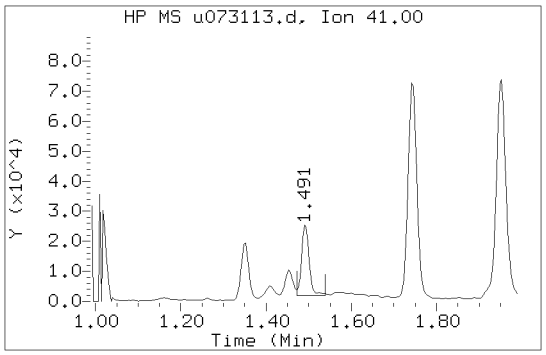
Isobutylene (115-11-7)

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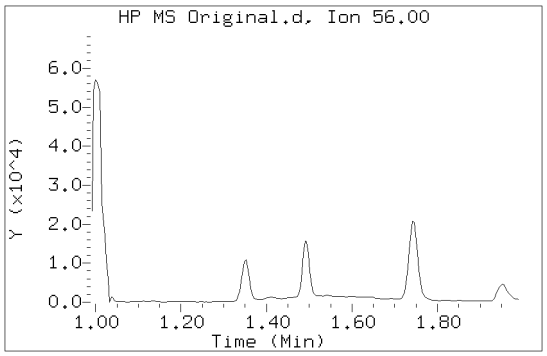
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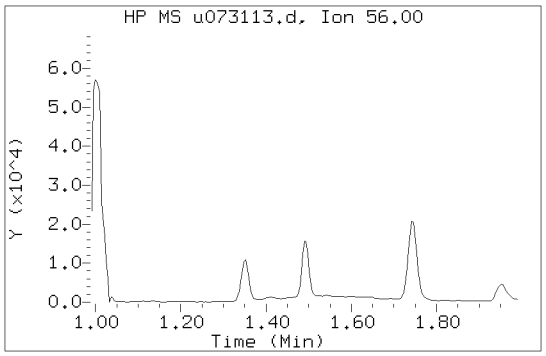
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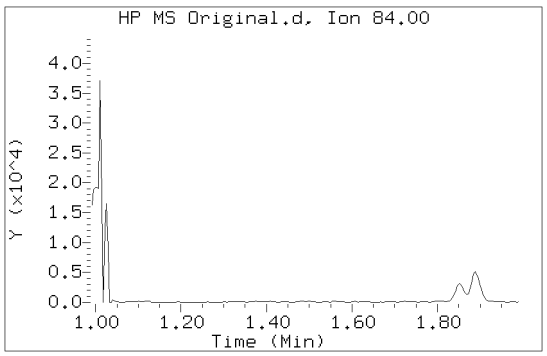
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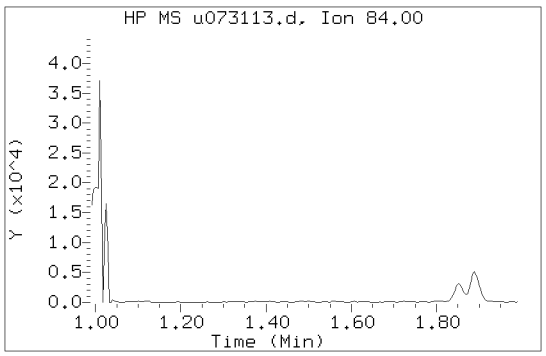
AFTER
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01-Aug-2023
21:06



BEFORE
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AREA
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01-Aug-2023
21:06



AFTER
MASS
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AREA
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HEIGHT
0
01-Aug-2023
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01247928

right solutions.
right partner.

Raw Data VOA9 443065

Volatiles by EPA 8260

Workorder

HS23071456

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Bi-Weekly Samples

08/07/2023

ALS Environmental–Houston Laboratory

10450 Stancliff Road, Suite 210, Houston, TX 77099

Phone (281) 530-5656 Fax (281) 530-5887

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Data File: \\NAHSTWS005\Target\chem\voa9.i\U230802.b\V080201.D Page 1
Report Date: 02-Aug-2023 22:12

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U230802.b\V080201.D
Lab Smp Id: BFB Client Smp ID: BFB
Inj Date : 02-AUG-2023 21:43
Operator : PC Inst ID: VOA9.i
Smp Info : BFB;BFB;3;;BFB
Misc Info : V9;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa9.i\U230802.b\bfb.m
Meth Date : 27-Jan-2023 08:08 apoluri Quant Type: ISTD
Cal Date : 30-MAR-2018 18:09 Cal File: U033003.d
Als bottle: 29 QC Sample: BFB
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.14 Sample Matrix: WATER
Processing Host: NAHSTW7051

Concentration Formula: Amt * DF * Uf * Vf * Vi * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vf	1.000	Volumetric correction factor
Vi	2.000	Injection Volume
Cpnd Variable		Local Compound Variable

					CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/l)		
RT	EXP RT	REL RT	MASS	RESPONSE			TARGET RANGE	RATIO
1 bfb							CAS #: 460-00-4	
9.194	9.180	(0.000)	95	104264			0.00- 100.00	100.00
9.194	9.180	(0.000)	50	20272			15.00- 40.00	19.44
9.194	9.180	(0.000)	75	51720			30.00- 60.00	49.60
9.194	9.180	(0.000)	96	7692			5.00- 9.00	7.38
9.194	9.180	(0.000)	173	0	0.0	0.0	0.00- 2.00	0.00
9.194	9.180	(0.000)	174	97152			50.00- 0.00	93.18
9.194	9.180	(0.000)	175	8068			5.00- 9.00	8.30
9.194	9.180	(0.000)	176	95048			95.00- 101.00	97.83
9.194	9.180	(0.000)	177	6424			5.00- 9.00	6.76

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	19.44
75	30.00 - 60.00% of mass 95	49.60
96	5.00 - 9.00% of mass 95	7.38
173	Less than 2.00% of mass 174	0.00 (0.00)
174	Greater than 50.00% of mass 95	93.18
175	5.00 - 9.00% of mass 174	7.74 (8.30)
176	95.00 - 101.00% of mass 174	91.16 (97.83)
177	5.00 - 9.00% of mass 176	6.16 (6.76)

Data File: V080201.D
Spectrum: Scan 2293 (9.19)
Location of Maximum: 95.00
Number of points: 147

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	1354	73.00	4622	109.80	176	145.90	144
37.00	5415	74.00	17496	110.60	144	146.90	133
38.00	4950	75.00	51720	111.50	108	147.80	373
39.00	3762	76.00	4385	111.90	78	148.90	117
40.00	828	77.00	692	112.80	176	149.80	133
41.10	2609	78.00	515	113.70	86	153.00	189
42.00	3128	78.90	3086	114.90	157	153.80	184
43.00	3010	80.00	1120	115.90	386	154.80	397
44.00	1715	80.90	2626	116.70	525	155.90	104
45.00	2495	81.80	698	117.90	560	157.00	174
46.10	263	82.90	443	118.80	691	157.70	75
46.90	1179	84.10	161	120.00	88	158.80	190
48.00	818	84.70	123	121.00	70	160.10	93
49.00	4463	85.70	168	121.80	94	160.90	184
50.00	20272	86.10	211	123.10	56	162.80	67
51.00	6971	87.00	4572	124.00	74	168.00	70
52.00	494	87.90	4584	124.90	60	168.60	65
53.00	380	89.10	93	125.90	131	169.90	188
54.00	470	89.80	70	126.80	1054	170.80	680
55.00	3318	90.90	481	127.90	529	171.90	547
56.00	2110	91.90	3292	128.90	284	173.90	97152
57.00	3027	93.00	4894	130.00	272	175.00	8068
58.00	1308	94.00	13459	130.70	204	175.90	95048
59.00	3783	95.00	104264	131.00	214	176.90	6424
60.00	1187	96.00	7692	132.20	51	177.90	140
61.00	4704	96.90	294	133.40	63	184.90	97
62.00	5388	98.00	1514	134.80	194	185.90	914
63.00	4037	99.00	143	135.70	123	186.90	72
63.90	647	99.80	84	136.80	238	231.20	56
65.00	469	100.50	78	138.60	115	251.80	59
66.00	227	101.00	78	140.00	192	256.80	56
67.20	661	103.00	146	140.90	1385	265.30	57
68.00	11197	103.80	471	141.80	941	272.70	51
69.00	12267	104.70	247	142.80	1340	273.30	67
70.00	1617	105.80	556	143.70	122	287.90	54
70.90	249	106.70	203	144.30	78	342.30	61
72.10	742	109.10	154	144.90	158		

Data File: \\nahstws005\target\chem\voa9.i\u230802.b\v080201.d Page 1

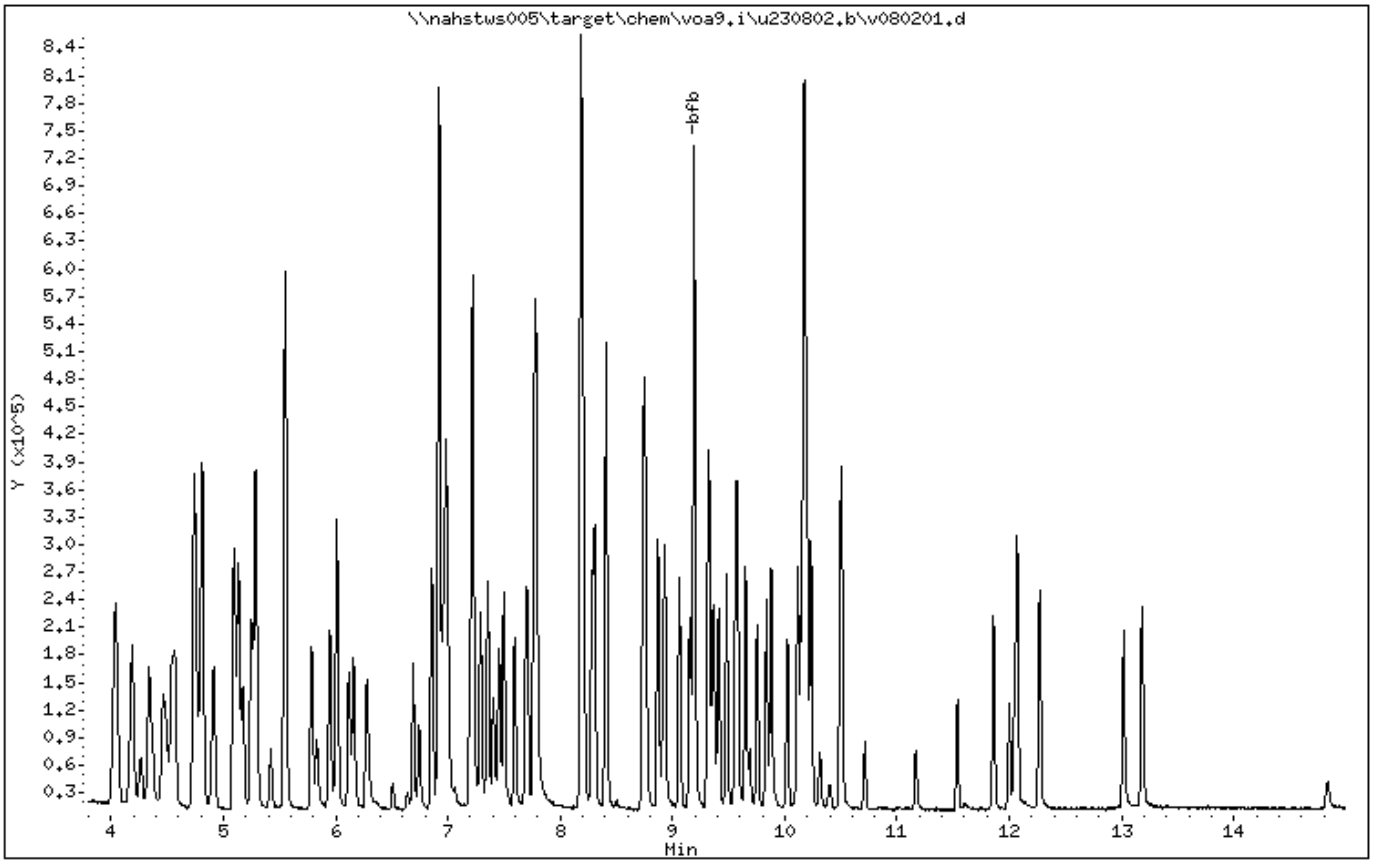
Date : 02-AUG-2023 21:43

Client ID: BFB Instrument: VOA9.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0 Operator: PC

Column phase: DB624 Column diameter: 0.25



Data File : \\nahstws005\target\chem\voa9.i\u230802.b\v080201.d
Inj Date : 02-AUG-2023 21:43
InstruID : VOA9.i
LabSampID : BFB

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa9.i\U230802.b\V080202.D Page 1
Report Date: 03-Aug-2023 10:44

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U230802.b\V080202.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 02-AUG-2023 22:05
Operator : PC Inst ID: VOA9.i
Smp Info : CCV;CCV;2;;;
Misc Info : V9;WATER;0;1;
Comment   :
Method   : \\nahstws005\Target\chem\voa9.i\U230802.b\8260C.m
Meth Date : 03-Aug-2023 10:40 pcabasca Quant Type: ISTD
Cal Date : 31-JUL-2023 14:06 Cal File: U073108.D
Als bottle: 30 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTWS005

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1	Pentafluorobenzene	168	4.808	4.808	(1.000)	412838	50.0000	
2	Dichlorodifluoromethane	85	1.153	1.153	(0.240)	169003	50.0000	42.94
3	Chloromethane	50	1.288	1.288	(0.268)	244789	50.0000	50.52
5	Vinyl Chloride	62	1.366	1.366	(0.284)	184343	50.0000	45.35
6	Bromomethane	94	1.610	1.610	(0.335)	102737	50.0000	46.77
7	Chloroethane	64	1.689	1.689	(0.351)	116767	50.0000	45.61
8	Trichlorofluoromethane	101	1.884	1.884	(0.392)	244262	50.0000	48.68
9	Acrolein	56	1.737	1.737	(0.361)	24930	100.000	94.14
10	Acetone	43	2.397	2.397	(0.499)	166999	100.000	131.64
11	1,1-Dichloroethene	96	2.322	2.322	(0.483)	127694	50.0000	46.94
15	Iodomethane	142	2.457	2.457	(0.511)	237488	100.000	91.29
16	Acrylonitrile	53	3.057	3.057	(0.636)	134369	100.000	103.54
17	Methylene Chloride	84	2.783	2.783	(0.579)	158070	50.0000	47.83
18	Methyl tert-butyl ether	73	3.072	3.072	(0.639)	459664	50.0000	54.67
19	Carbon Disulfide	76	2.510	2.510	(0.522)	679779	100.000	85.84
20	trans-1,2-Dichloroethene	96	3.046	3.046	(0.634)	140446	50.0000	46.07
21	Vinyl Acetate	43	3.597	3.597	(0.748)	840635	100.000	96.36
22	1,1-Dichloroethane	63	3.503	3.503	(0.729)	259015	50.0000	46.49
24	2-Butanone	43	4.260	4.260	(0.886)	158799	100.000	97.91
26	2,2-Dichloropropane	77	4.174	4.174	(0.868)	172586	50.0000	44.92

27 cis-1,2-Dichloroethene	96	4.189	4.189 (0.871)	167243	50.0000	49.15
28 Chloroform	83	4.568	4.568 (0.950)	310418	50.0000	47.87

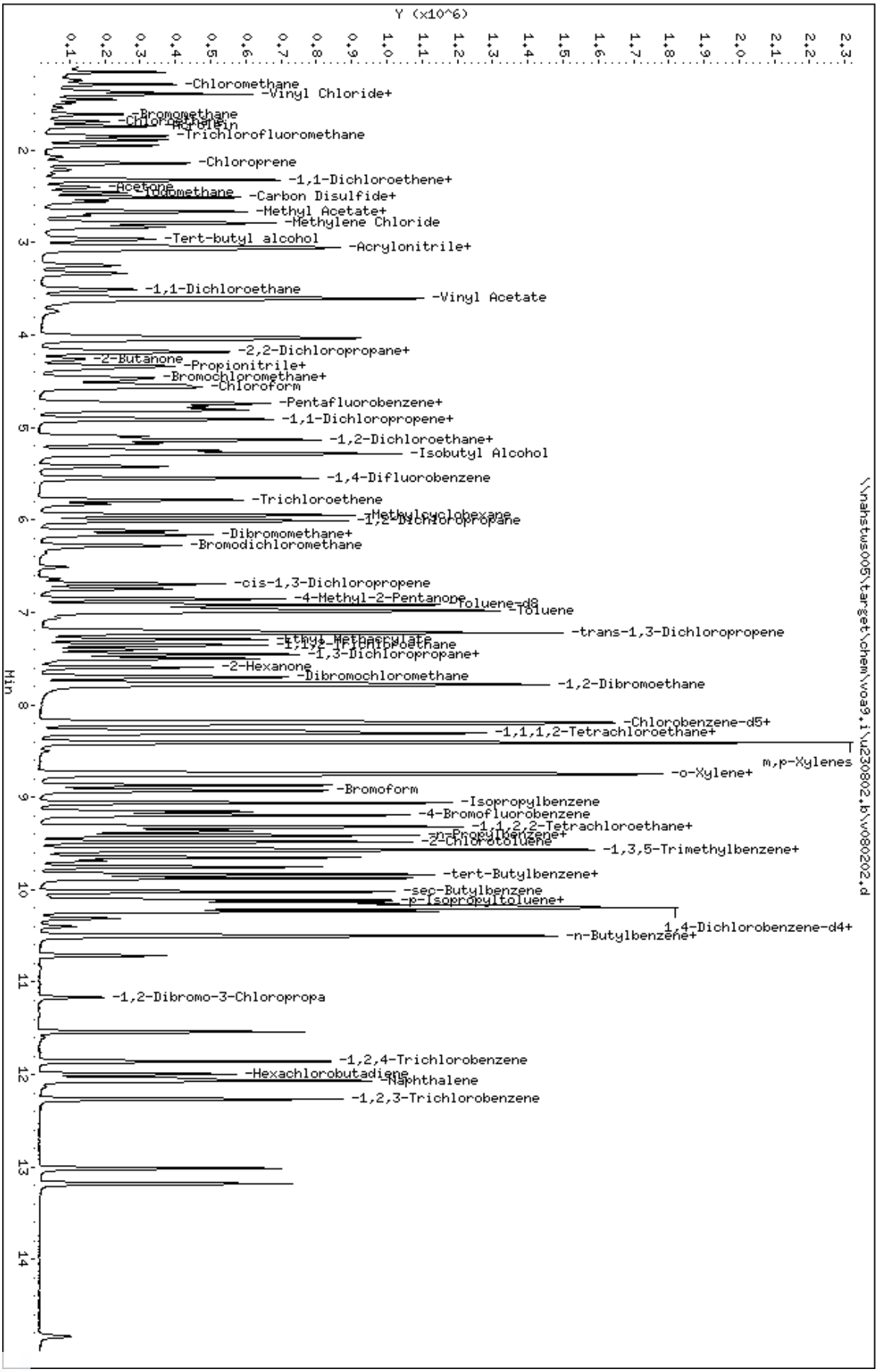
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
29	Bromochloromethane	128	4.463	4.463	(0.928)	90265	50.0000	44.83
$ 30	Dibromofluoromethane	113	4.740	4.740	(0.986)	178029	50.0000	53.99
31	1,1,1-Trichloroethane	97	4.736	4.736	(0.985)	244093	50.0000	48.39
32	1,1-Dichloropropene	75	4.916	4.916	(0.886)	204163	50.0000	45.29
33	1,2-Dichloroethane	62	5.171	5.171	(0.932)	262905	50.0000	50.29
34	Carbon Tetrachloride	117	4.905	4.905	(0.884)	189742	50.0000	46.98
$ 35	1,2-Dichloroethane-d4	65	5.093	5.093	(1.059)	208686	50.0000	58.24
* 36	1,4-Difluorobenzene	114	5.550	5.550	(1.000)	607037	50.0000	
37	Benzene	78	5.134	5.134	(0.925)	668843	50.0000	45.10
38	Trichloroethene	130	5.782	5.782	(1.042)	190930	50.0000	45.55
39	Bromodichloromethane	83	6.277	6.277	(1.131)	226306	50.0000	47.71
42	1,2-Dichloropropane	63	6.007	6.007	(1.082)	180519	50.0000	45.42
44	Dibromomethane	93	6.116	6.116	(1.102)	117679	50.0000	46.10
45	4-Methyl-2-Pentanone	43	6.854	6.854	(0.837)	410595	100.000	93.30
46	cis-1,3-Dichloropropene	75	6.690	6.690	(1.205)	253653	50.0000	42.30
* 47	Chlorobenzene-d5	117	8.185	8.185	(1.000)	591431	50.0000	
$ 48	Toluene-d8	98	6.918	6.918	(0.845)	677629	50.0000	49.25
50	Toluene	91	6.978	6.978	(0.853)	730949	50.0000	45.45
51	trans-1,3-Dichloropropene	75	7.196	7.196	(1.296)	219023	50.0000	47.91
52	2-Hexanone	43	7.593	7.593	(0.928)	282340	100.000	96.88
53	1,1,2-Trichloroethane	83	7.353	7.353	(0.898)	148160	50.0000	43.02
54	1,3-Dichloropropane	76	7.499	7.499	(0.916)	315936	50.0000	44.72
55	Dibromochloromethane	129	7.690	7.690	(0.940)	199351	50.0000	47.16
56	Tetrachloroethene	164	7.454	7.454	(0.911)	162293	50.0000	41.51
57	1,2-Dibromoethane	107	7.784	7.784	(0.951)	189143	50.0000	45.65
58	1-Chlorohexane	55	8.196	8.196	(1.477)	132165	50.0000	41.69
59	Chlorobenzene	112	8.208	8.208	(1.003)	514439	50.0000	45.13
60	1,1,1,2-Tetrachloroethane	131	8.283	8.283	(1.012)	186690	50.0000	44.93
61	Ethylbenzene	106	8.305	8.305	(1.015)	237801	50.0000	46.08
62	m,p-Xylenes	106	8.406	8.406	(1.027)	596410	100.000	98.44
63	o-Xylene	106	8.748	8.748	(1.069)	298113	50.0000	50.30
64	Styrene	104	8.759	8.759	(1.070)	478013	50.0000	51.68
66	Bromoform	173	8.916	8.916	(1.089)	138120	50.0000	46.77
67	Isopropylbenzene	105	9.062	9.062	(1.107)	706740	50.0000	49.28
68	1,1,2,2-Tetrachloroethane	83	9.329	9.329	(0.917)	261799	50.0000	42.48
$ 69	4-Bromofluorobenzene	95	9.194	9.194	(1.123)	287979	50.0000	53.73
* 70	1,4-Dichlorobenzene-d4	152	10.168	10.168	(1.000)	319896	50.0000	
71	1,2,3-Trichloropropane	75	9.362	9.362	(0.921)	247547	50.0000	46.14
73	n-Propylbenzene	91	9.411	9.411	(0.926)	761418	50.0000	42.55
74	Bromobenzene	156	9.317	9.317	(0.916)	237417	50.0000	44.86
75	1,3,5-Trimethylbenzene	105	9.561	9.561	(0.940)	533354	50.0000	47.70
76	2-Chlorotoluene	91	9.482	9.482	(0.933)	536585	50.0000	47.57
77	4-Chlorotoluene	91	9.576	9.576	(0.942)	597907	50.0000	47.46
78	tert-Butylbenzene	119	9.835	9.835	(0.967)	506279	50.0000	47.80
79	1,2,4-Trimethylbenzene	105	9.876	9.876	(0.971)	542667	50.0000	47.93
81	sec-Butylbenzene	105	10.022	10.022	(0.986)	626547	50.0000	51.38
82	p-Isopropyltoluene	119	10.146	10.146	(0.998)	519989	50.0000	51.73
83	1,3-Dichlorobenzene	146	10.116	10.116	(0.995)	396850	50.0000	44.92
84	1,4-Dichlorobenzene	146	10.191	10.191	(1.002)	420005	50.0000	42.90
87	n-Butylbenzene	91	10.491	10.491	(1.032)	434937	50.0000	40.80
88	1,2-Dichlorobenzene	146	10.506	10.506	(1.033)	402333	50.0000	44.39
89	1,2-Dibromo-3-Chloropropane	155	11.165	11.165	(1.098)	39587	50.0000	44.56

90 1,2,4-Trichlorobenzene	180	11.859	11.859 (1.166)	266249	50.0000	47.75
91 Hexachlorobutadiene	225	11.998	11.998 (1.180)	110727	50.0000	53.83

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	92 Naphthalene	128	12.065	12.065	(1.187)	660738	50.0000	45.03
	93 1,2,3-Trichlorobenzene	180	12.268	12.268	(1.206)	271560	50.0000	47.71
M	94 1,2-Dichloroethylene (total)	96				307689	100.000	95.23
M	95 Xylenes (total)	106				894523	150.000	148.74
	135 1,4-Dioxane	88	6.168	6.168	(1.283)	50856	1000.00	859.16
	141 Cyclohexane	56	4.774	4.774	(0.993)	204280	50.0000	44.02
	138 Freon TF	101	2.326	2.326	(0.484)	114219	50.0000	51.28
	140 1,3-Butadiene	54	1.393	1.393	(0.290)	151118	50.0000	45.97
	147 Methylcyclohexane	55	5.944	5.944	(1.071)	445090	50.0000	50.33
	146 Methyl Acetate	43	2.705	2.705	(0.563)	134769	50.0000	45.49
	148 Tert-Butyl alcohol	59	2.960	2.960	(0.616)	350559	1000.00	1010.05
	149 Isopropyl Alcohol	45	2.555	2.555	(0.531)	204193	1000.00	894.99
	72 trans-1,4-Dichloro-2-butene	53	9.377	9.377	(1.146)	41625	50.0000	52.04
	12 Isobutyl Alcohol	43	5.284	5.284	(1.099)	593384	1000.00	1014.81
	13 Acetonitrile	39	2.660	2.660	(0.553)	211982	500.000	555.86
	14 Allyl Chloride	41	2.663	2.663	(0.554)	429359	50.0000	49.29
	25 Methacrylonitrile	41	4.489	4.489	(0.934)	112296	50.0000	48.43
	40 Methyl Methacrylate	41	6.157	6.157	(1.281)	186501	50.0000	52.28
	4 Propionitrile	54	4.332	4.332	(0.901)	254812	500.000	519.90
	131 Methyl Acrylate	55	4.365	4.365	(0.908)	203187	50.0000	51.44
	23 Chloroprene	53	2.146	2.146	(0.446)	52615	50.0000	48.61(M)
	49 Ethyl Methacrylate	69	7.293	7.293	(1.314)	288194	50.0000	51.77

QC Flag Legend

M - Compound response manually integrated.



Data File: \\nahstws005\target\chem\voa9,i\u230802,b\v080202,d
Date : 02-AUG-2023 22:05
Client ID: CCV
Sample Info: CCV;CCV;2;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA9,i
Operator: PC
Column diameter: 0.18

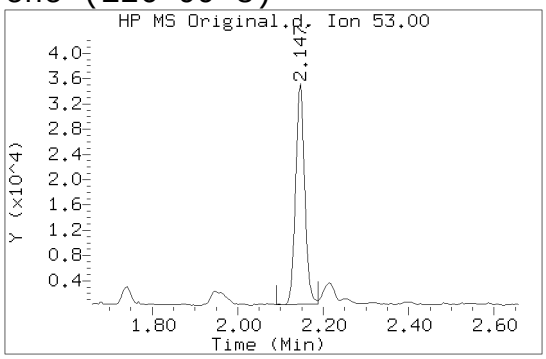
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Inj Date : 02-AUG-2023 22:05
InstruID : VOA9.i
LabSampID : CCV

Chloroprene (126-99-8)

Reason Code:

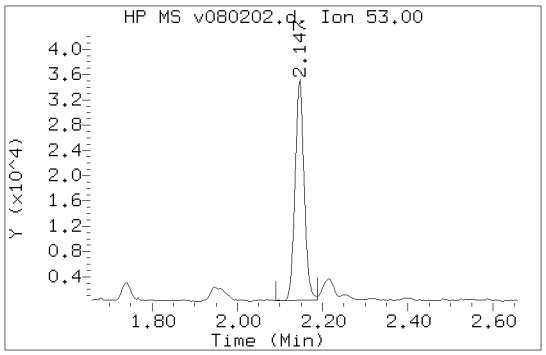
BEFORE

MASS
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AREA
52615
HEIGHT
34876
03-Aug-2023
10:44



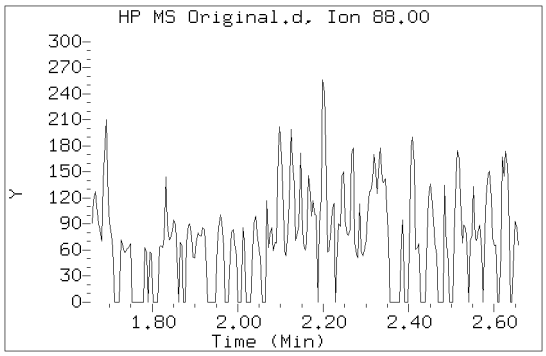
AFTER

MASS
53
AREA
52615
HEIGHT
34876
03-Aug-2023
10:44



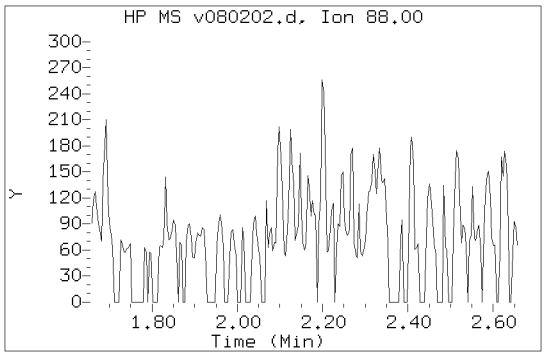
BEFORE

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88
AREA
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HEIGHT
0
03-Aug-2023
10:44



AFTER

MASS
88
AREA
0
HEIGHT
0
03-Aug-2023
10:44



Data File: \\NAHSTWS005\Target\chem\voa9.i\U230802.b\V080204.D Page 1
Report Date: 03-Aug-2023 10:45

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U230802.b\V080204.D
Lab Smp Id: CCB Client Smp ID: CCB
Inj Date : 02-AUG-2023 22:49
Operator : PC Inst ID: VOA9.i
Smp Info : CCB;CCB;;;
Misc Info : V9;WATER;0;1;
Comment   :
Method   : \\nahstws005\Target\chem\voa9.i\U230802.b\8260C.m
Meth Date : 03-Aug-2023 10:40 pcabasca Quant Type: ISTD
Cal Date : 31-JUL-2023 14:06 Cal File: U073108.D
Als bottle: 31
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTWS005

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.815	4.808	(1.000)	468161	50.0000	
$ 30 Dibromofluoromethane	113	4.752	4.740	(0.987)	190139	50.7956	50.79
$ 35 1,2-Dichloroethane-d4	65	5.100	5.093	(1.059)	227313	55.8967	55.89
* 36 1,4-Difluorobenzene	114	5.554	5.550	(1.000)	627151	50.0000	
* 47 Chlorobenzene-d5	117	8.185	8.185	(1.000)	561035	50.0000	
$ 48 Toluene-d8	98	6.922	6.918	(0.846)	689824	52.8631	52.86
$ 69 4-Bromofluorobenzene	95	9.194	9.194	(1.123)	248091	48.6760	48.67
* 70 1,4-Dichlorobenzene-d4	152	10.172	10.168	(1.000)	298308	50.0000	

01247942

Data File: \\nahstws005\target\chem\voa9.i\u230802.b\v080204.d

Date : 02-AUG-2023 22:49

Client ID: CCB

Instrument: VOA9.i

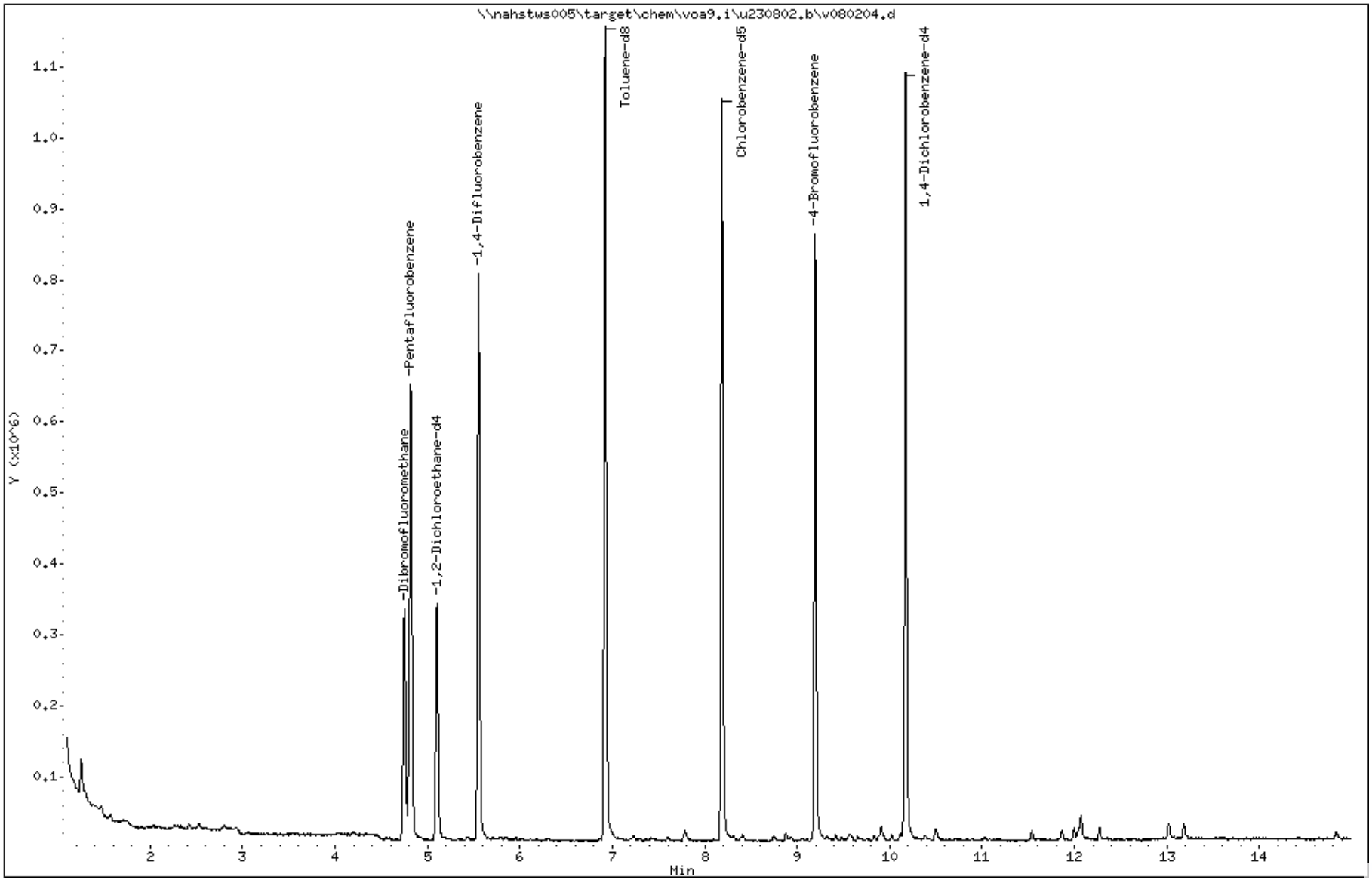
Sample Info: CCB;CCB;;;

Purge Volume: 5.0

Operator: PC

Column phase: DB624

Column diameter: 0.18



Data File : \\nahstws005\target\chem\voa9.i\u230802.b\v080204.d
Inj Date : 02-AUG-2023 22:49
InstruID : VOA9.i
LabSampID : CCB

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa9.i\U230802.b\V080205.D Page 1
Report Date: 03-Aug-2023 10:45

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U230802.b\V080205.D
Lab Smp Id: VLCSW-230802 Client Smp ID: VLCSW-230802
Inj Date : 02-AUG-2023 23:12
Operator : PC Inst ID: VOA9.i
Smp Info : VLCSW-230802;VLCSW-230802;3;;LCS
Misc Info : V9;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa9.i\U230802.b\8260C.m
Meth Date : 03-Aug-2023 10:40 pcabasca Quant Type: ISTD
Cal Date : 31-JUL-2023 14:06 Cal File: U073108.D
Als bottle: 32 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTWS005

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1	Pentafluorobenzene	168	4.811	4.808	(1.000)	405396	50.0000	
2	Dichlorodifluoromethane	85	1.157	1.153	(0.240)	78811	21.0560	21.05
3	Chloromethane	50	1.288	1.288	(0.268)	103603	21.5797	21.57
5	Vinyl Chloride	62	1.366	1.366	(0.284)	76158	19.0804	19.08
6	Bromomethane	94	1.610	1.610	(0.335)	45497	20.1947	20.19
7	Chloroethane	64	1.693	1.689	(0.352)	48769	19.4029	19.40
8	Trichlorofluoromethane	101	1.888	1.884	(0.392)	110430	22.4165	22.41
9	Acrolein	56	1.741	1.737	(0.362)	8808	33.8725	33.87
10	Acetone	43	2.401	2.397	(0.499)	76561	57.1047	57.10
11	1,1-Dichloroethene	96	2.322	2.322	(0.483)	55773	20.8815	20.88
15	Iodomethane	142	2.461	2.457	(0.512)	98992	41.9582	41.95
16	Acrylonitrile	53	3.061	3.057	(0.636)	51613	40.5035	40.50
17	Methylene Chloride	84	2.787	2.783	(0.579)	68722	21.0685	21.06
18	Methyl tert-butyl ether	73	3.072	3.072	(0.639)	175416	21.2487	21.24
19	Carbon Disulfide	76	2.514	2.510	(0.522)	314407	40.4353	40.43
20	trans-1,2-Dichloroethene	96	3.050	3.046	(0.634)	61032	20.3910	20.39
21	Vinyl Acetate	43	3.601	3.597	(0.748)	298629	34.8626	34.86
22	1,1-Dichloroethane	63	3.507	3.503	(0.729)	112584	20.5790	20.57
24	2-Butanone	43	4.264	4.260	(0.886)	66977	42.0542	42.05
26	2,2-Dichloropropane	77	4.174	4.174	(0.868)	71502	18.9557	18.95

27	cis-1,2-Dichloroethene	96	4.189	4.189 (0.871)	73577	22.0223	22.02
28	Chloroform	83	4.568	4.568 (0.949)	131687	20.6842	20.68

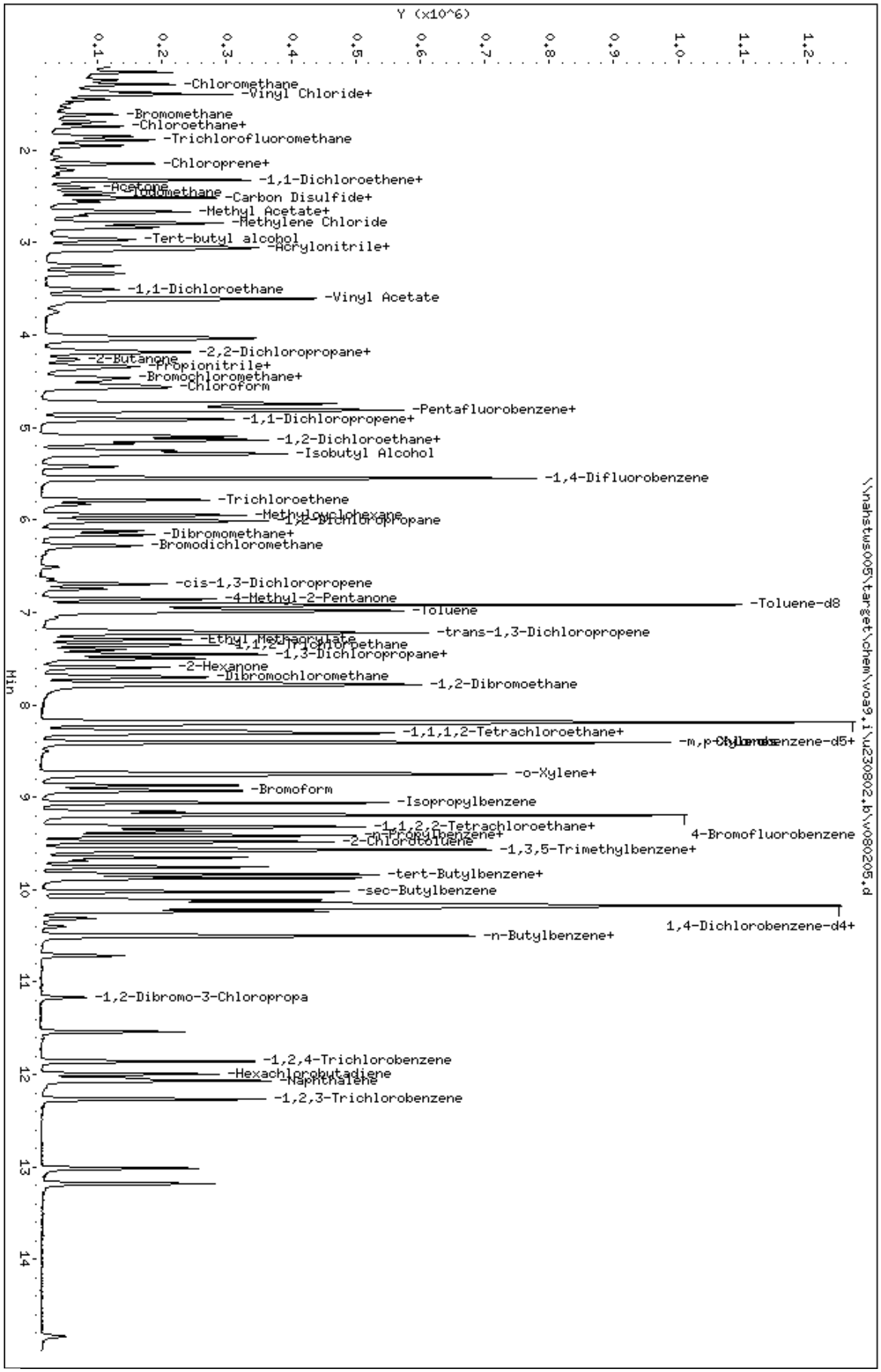
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
	29 Bromochloromethane	128	4.463	4.463	(0.928)	37639	19.0386	19.03
$	30 Dibromofluoromethane	113	4.744	4.740	(0.986)	175949	54.3505	54.35
	31 1,1,1-Trichloroethane	97	4.737	4.736	(0.984)	107801	21.7642	21.76
	32 1,1-Dichloropropene	75	4.916	4.916	(0.886)	95873	21.5829	21.58
	33 1,2-Dichloroethane	62	5.171	5.171	(0.932)	109014	21.1612	21.16
	34 Carbon Tetrachloride	117	4.905	4.905	(0.884)	83848	21.0704	21.07
$	35 1,2-Dichloroethane-d4	65	5.093	5.093	(1.058)	204184	58.0327	58.03
*	36 1,4-Difluorobenzene	114	5.550	5.550	(1.000)	598224	50.0000	
	37 Benzene	78	5.134	5.134	(0.925)	291224	19.9289	19.92
	38 Trichloroethene	130	5.786	5.782	(1.043)	86578	20.9621	20.96
	39 Bromodichloromethane	83	6.277	6.277	(1.131)	88533	18.9427	18.94
	42 1,2-Dichloropropane	63	6.007	6.007	(1.082)	76518	19.5373	19.53
	44 Dibromomethane	93	6.116	6.116	(1.102)	51106	20.3158	20.31
	45 4-Methyl-2-Pentanone	43	6.855	6.854	(0.837)	164494	38.8010	38.80
	46 cis-1,3-Dichloropropene	75	6.690	6.690	(1.205)	97537	17.8513	17.85
*	47 Chlorobenzene-d5	117	8.185	8.185	(1.000)	569764	50.0000	
$	48 Toluene-d8	98	6.918	6.918	(0.845)	657326	49.6010	49.60
	50 Toluene	91	6.978	6.978	(0.853)	317135	20.4725	20.47
	51 trans-1,3-Dichloropropene	75	7.196	7.196	(1.296)	81425	18.0749	18.07
	52 2-Hexanone	43	7.593	7.593	(0.928)	116292	41.4253	41.42
	53 1,1,2-Trichloroethane	83	7.353	7.353	(0.898)	62355	18.7941	18.79
	54 1,3-Dichloropropane	76	7.499	7.499	(0.916)	133225	19.5752	19.57
	55 Dibromochloromethane	129	7.690	7.690	(0.940)	75720	18.5970	18.59
	56 Tetrachloroethene	164	7.454	7.454	(0.911)	76145	20.2182	20.21
	57 1,2-Dibromoethane	107	7.784	7.784	(0.951)	77396	19.3915	19.39
	58 1-Chlorohexane	55	8.197	8.196	(1.477)	66612	21.3237	21.32
	59 Chlorobenzene	112	8.208	8.208	(1.003)	221120	20.1360	20.13
	60 1,1,1,2-Tetrachloroethane	131	8.283	8.283	(1.012)	75972	18.9819	18.98
	61 Ethylbenzene	106	8.305	8.305	(1.015)	102162	20.5502	20.55
	62 m,p-Xylenes	106	8.406	8.406	(1.027)	263166	45.0919	45.09
	63 o-Xylene	106	8.748	8.748	(1.069)	127251	22.2875	22.28
	64 Styrene	104	8.759	8.759	(1.070)	195768	21.9733	21.97
	66 Bromoform	173	8.916	8.916	(1.089)	51725	18.1840	18.18
	67 Isopropylbenzene	105	9.063	9.062	(1.107)	322536	23.3456	23.34
	68 1,1,2,2-Tetrachloroethane	83	9.329	9.329	(0.917)	103506	16.6365	16.63
$	69 4-Bromofluorobenzene	95	9.194	9.194	(1.123)	281406	54.5288	54.52
*	70 1,4-Dichlorobenzene-d4	152	10.168	10.168	(1.000)	323007	50.0000	
	71 1,2,3-Trichloropropane	75	9.362	9.362	(0.921)	98757	18.2311	18.23
	73 n-Propylbenzene	91	9.411	9.411	(0.926)	344642	19.9795	19.97
	74 Bromobenzene	156	9.317	9.317	(0.916)	103594	19.3863	19.38
	75 1,3,5-Trimethylbenzene	105	9.561	9.561	(0.940)	241967	21.4350	21.43
	76 2-Chlorotoluene	91	9.482	9.482	(0.933)	234001	20.5487	20.54
	77 4-Chlorotoluene	91	9.576	9.576	(0.942)	268341	21.0962	21.09
	78 tert-Butylbenzene	119	9.835	9.835	(0.967)	237088	22.1695	22.16
	79 1,2,4-Trimethylbenzene	105	9.876	9.876	(0.971)	254178	22.2354	22.23
	81 sec-Butylbenzene	105	10.022	10.022	(0.986)	296710	25.8672	25.86
	82 p-Isopropyltoluene	119	10.146	10.146	(0.998)	245035	25.9427	25.94
	83 1,3-Dichlorobenzene	146	10.116	10.116	(0.995)	177237	19.8724	19.87
	84 1,4-Dichlorobenzene	146	10.191	10.191	(1.002)	184657	18.6836	18.68
	87 n-Butylbenzene	91	10.491	10.491	(1.032)	205854	20.3967	20.39
	88 1,2-Dichlorobenzene	146	10.506	10.506	(1.033)	180643	19.7409	19.74
	89 1,2-Dibromo-3-Chloropropane	155	11.166	11.165	(1.098)	14746	16.4391	16.43

90 1,2,4-Trichlorobenzene	180	11.859	11.859 (1.166)	112182	19.9286	19.92
91 Hexachlorobutadiene	225	11.998	11.998 (1.180)	53167	27.4301	27.43

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	92 Naphthalene	128	12.065	12.065	(1.187)	249227	17.8213	17.82
	93 1,2,3-Trichlorobenzene	180	12.268	12.268	(1.206)	111480	19.3982	19.39
M	94 1,2-Dichloroethylene (total)	96				134609	42.4133	42.41
M	95 Xylenes (total)	106				390417	67.3794	67.37
	135 1,4-Dioxane	88	6.169	6.168	(1.282)	20587	354.183	354.18
	141 Cyclohexane	56	4.778	4.774	(0.993)	109813	24.1006	24.10
	138 Freon TF	101	2.326	2.326	(0.484)	55751	26.9580	26.95
	140 1,3-Butadiene	54	1.393	1.393	(0.290)	65143	20.1810	20.18
	147 Methylcyclohexane	55	5.947	5.944	(1.072)	158941	18.2409	18.24
	146 Methyl Acetate	43	2.708	2.705	(0.563)	58339	20.0553	20.05
	148 Tert-Butyl alcohol	59	2.963	2.960	(0.616)	145825	426.076	426.07
	149 Isopropyl Alcohol	45	2.559	2.555	(0.532)	87891	392.307	392.30
	72 trans-1,4-Dichloro-2-butene	53	9.377	9.377	(1.146)	16366	21.2418	21.24
	12 Isobutyl Alcohol	43	5.288	5.284	(1.099)	233282	406.287	406.28
	13 Acetonitrile	39	2.663	2.660	(0.554)	78871	210.614	210.61
	14 Allyl Chloride	41	2.663	2.663	(0.554)	169382	19.8027	19.80
	25 Methacrylonitrile	41	4.489	4.489	(0.933)	42418	18.6315	18.63
	40 Methyl Methacrylate	41	6.157	6.157	(1.280)	68418	19.5324	19.53
	4 Propionitrile	54	4.335	4.332	(0.901)	101203	210.279	210.27(a)
	131 Methyl Acrylate	55	4.365	4.365	(0.907)	78001	20.1123	20.11
	23 Chloroprene	53	2.146	2.146	(0.446)	24797	23.3323	23.33(M)
	49 Ethyl Methacrylate	69	7.289	7.293	(1.313)	104834	19.1118	19.11

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.



Data File: \\nahstws005\target\chem\woa9_i\u230802_b\w080205_d
Date : 02-AUG-2023 23:12
Client ID: VLCSW-230802
Sample Info: VLCSW-230802;VLCSW-230802;3;;LCS
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA9_i
Operator: PC
Column diameter: 0.18

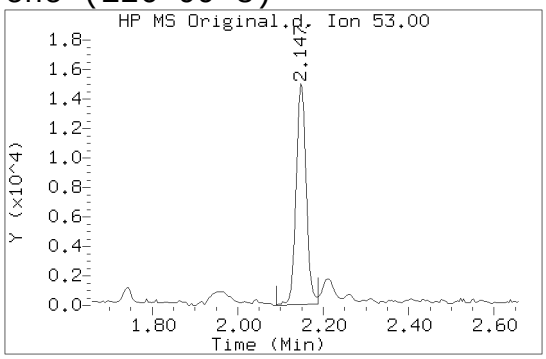
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Inj Date : 02-AUG-2023 23:12
InstruID : VOA9.i
LabSampID : VLCSW-230802

Chloroprene (126-99-8)

Reason Code:

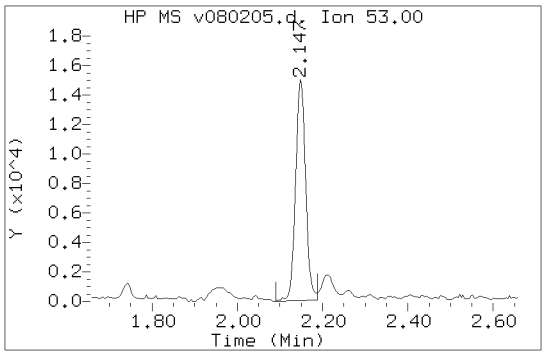
BEFORE

MASS
53
AREA
24797
HEIGHT
15004
03-Aug-2023
10:45



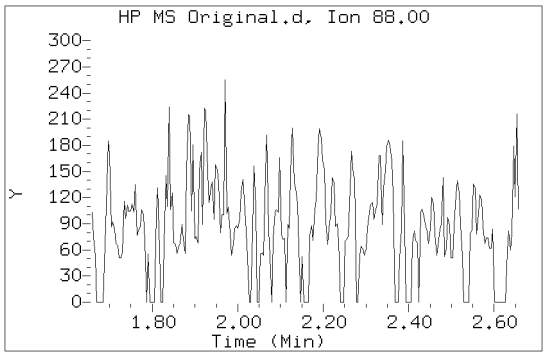
AFTER

MASS
53
AREA
24797
HEIGHT
15004
03-Aug-2023
10:45



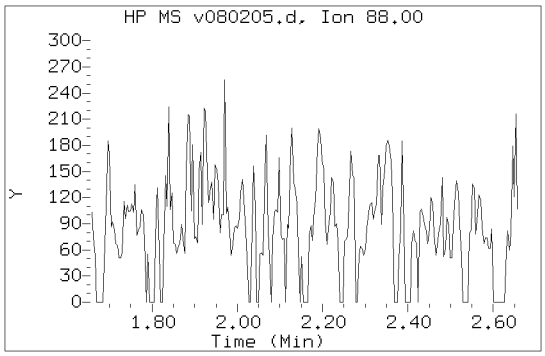
BEFORE

MASS
88
AREA
0
HEIGHT
0
03-Aug-2023
10:45



AFTER

MASS
88
AREA
0
HEIGHT
0
03-Aug-2023
10:45



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U230802.b\V080207.D
Lab Smp Id: VBLKW-230802 Client Smp ID: VBLKW-230802
Inj Date : 02-AUG-2023 23:56
Operator : PC Inst ID: VOA9.i
Smp Info : VBLKW-230802;VBLKW-230802;3;;BLANK
Misc Info : V9;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa9.i\U230802.b\8260C.m
Meth Date : 03-Aug-2023 10:40 pcabasca Quant Type: ISTD
Cal Date : 31-JUL-2023 14:06 Cal File: U073108.D
Als bottle: 34 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.811	4.808	(1.000)	489133	50.0000	
$ 30 Dibromofluoromethane	113	4.740	4.740	(0.985)	196862	50.3278	50.32
$ 35 1,2-Dichloroethane-d4	65	5.093	5.093	(1.058)	238029	56.0251	56.02
* 36 1,4-Difluorobenzene	114	5.550	5.550	(1.000)	653450	50.0000	
* 47 Chlorobenzene-d5	117	8.185	8.185	(1.000)	597012	50.0000	
$ 48 Toluene-d8	98	6.922	6.918	(0.846)	733431	52.8179	52.81
$ 69 4-Bromofluorobenzene	95	9.194	9.194	(1.123)	257872	47.5139	47.51
* 70 1,4-Dichlorobenzene-d4	152	10.172	10.168	(1.000)	301707	50.0000	

01247952

Data File: \\nahstws005\target\chem\voa9.i\u230802.b\v080207.d

Date : 02-AUG-2023 23:56

Client ID: VBLKW-230802

Instrument: VOA9.i

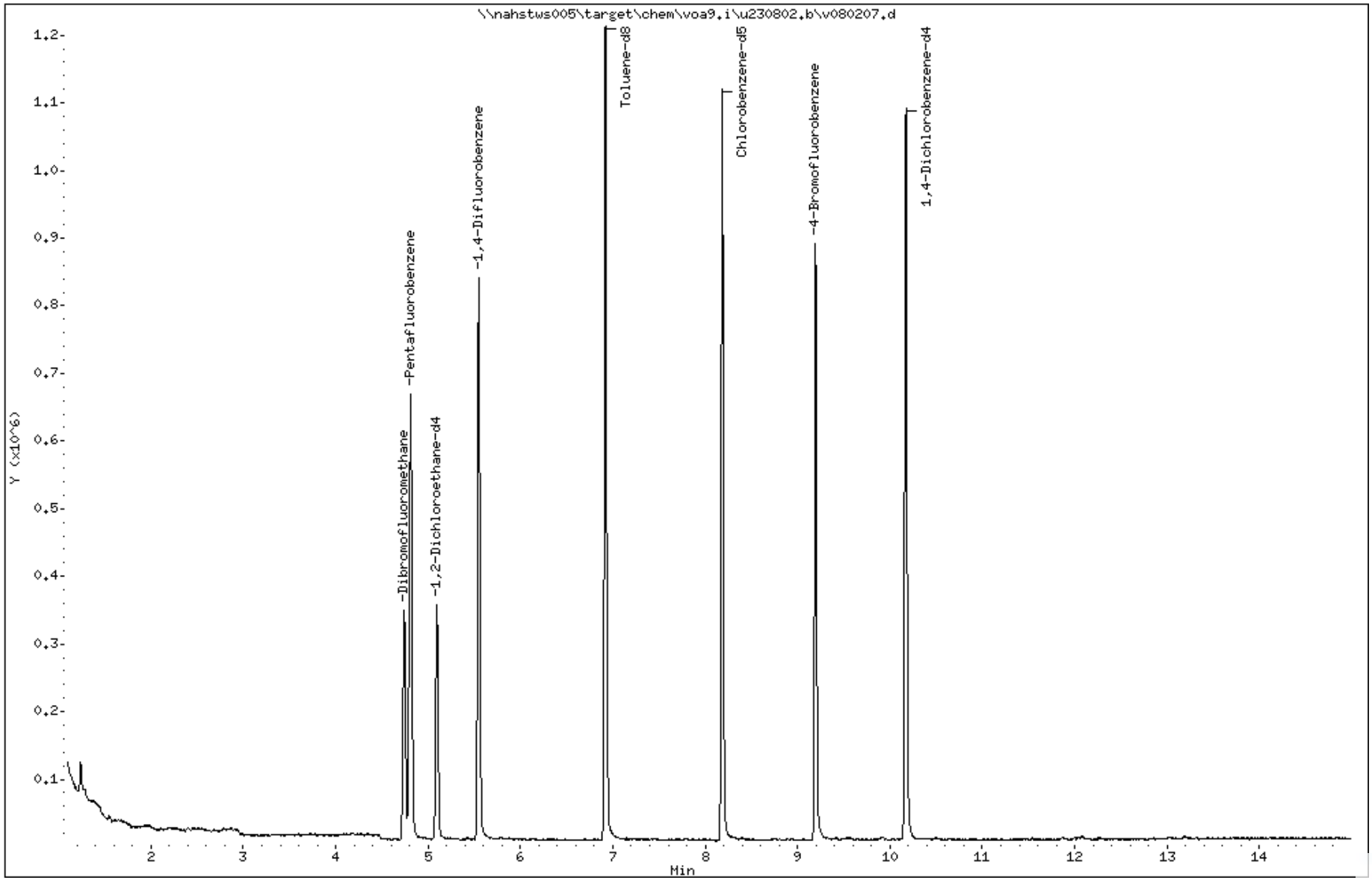
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Purge Volume: 5.0

Operator: PC

Column phase: DB624

Column diameter: 0.18



Data File : \\nahstws005\target\chem\voa9.i\u230802.b\v080207.d
Inj Date : 02-AUG-2023 23:56
InstruID : VOA9.i
LabSampID : VBLKW-230802

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa9.i\U230802.b\V080209.D Page 1
Report Date: 03-Aug-2023 10:47

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U230802.b\V080209.D
Lab Smp Id: HS23071456-02 Client Smp ID: HS23071456-02
Inj Date : 03-AUG-2023 00:41
Operator : PC Inst ID: VOA9.i
Smp Info : HS23071456-02;HS23071456-02;;;
Misc Info : V9;WATER;0;1;
Comment   :
Method   : \\nahstws005\Target\chem\voa9.i\U230802.b\8260C.m
Meth Date : 03-Aug-2023 10:40 pcabasca Quant Type: ISTD
Cal Date : 31-JUL-2023 14:06 Cal File: U073108.D
Als bottle: 36
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
*	1 Pentafluorobenzene	168	4.815	4.808	(1.000)	464136	50.0000	
	8 Trichlorofluoromethane	101	1.899	1.884	(0.394)	5368	0.95176	0.95(a)
$	30 Dibromofluoromethane	113	4.751	4.740	(0.987)	189567	51.0876	51.08
$	35 1,2-Dichloroethane-d4	65	5.100	5.093	(1.059)	226715	56.2411	56.24
*	36 1,4-Difluorobenzene	114	5.553	5.550	(1.000)	616497	50.0000	
*	47 Chlorobenzene-d5	117	8.185	8.185	(1.000)	579516	50.0000	
$	48 Toluene-d8	98	6.922	6.918	(0.846)	692301	51.3611	51.36
$	69 4-Bromofluorobenzene	95	9.193	9.194	(1.123)	265111	50.4044	50.40
*	70 1,4-Dichlorobenzene-d4	152	10.172	10.168	(1.000)	320709	50.0000	

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).

01247955

Data File: \\nahstws005\target\chem\voa9.i\u230802.b\v080209.d

Page 1

Date : 03-AUG-2023 00:41

Client ID: HS23071456-02

Instrument: VOA9.i

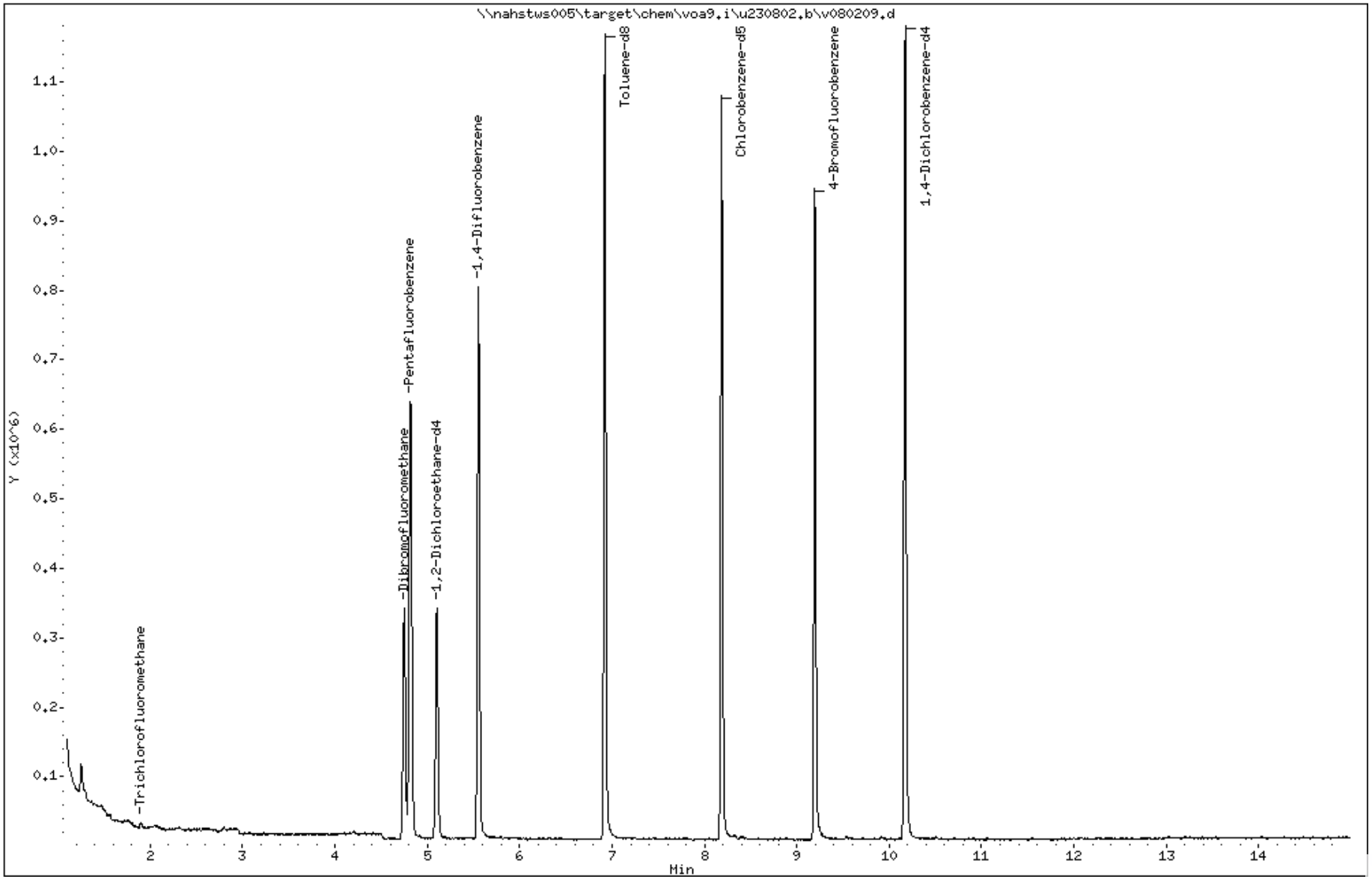
Sample Info: HS23071456-02;HS23071456-02;;;

Purge Volume: 5.0

Operator: PC

Column phase: DB624

Column diameter: 0.18



Data File: \\nahstws005\target\chem\voa9.i\u230802.b\v080209.d

Date : 03-AUG-2023 00:41

Client ID: HS23071456-02

Instrument: VOA9.i

Sample Info: HS23071456-02;HS23071456-02;;;

Purge Volume: 5.0

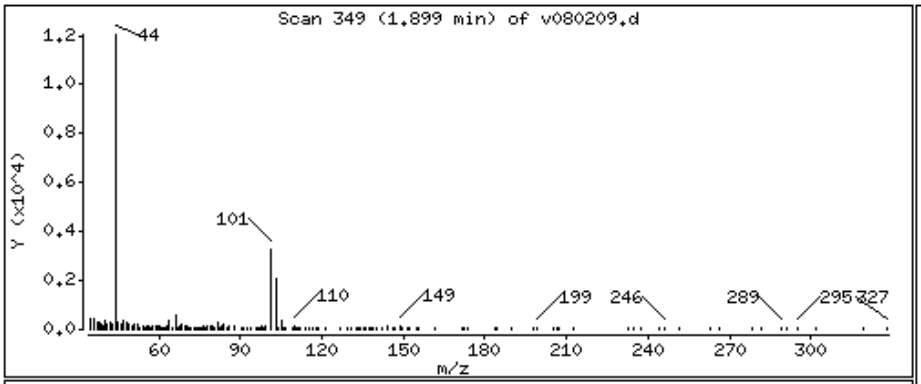
Operator: PC

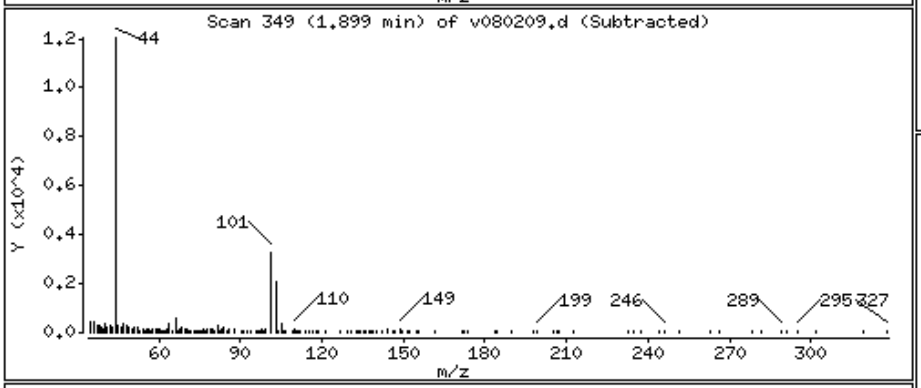
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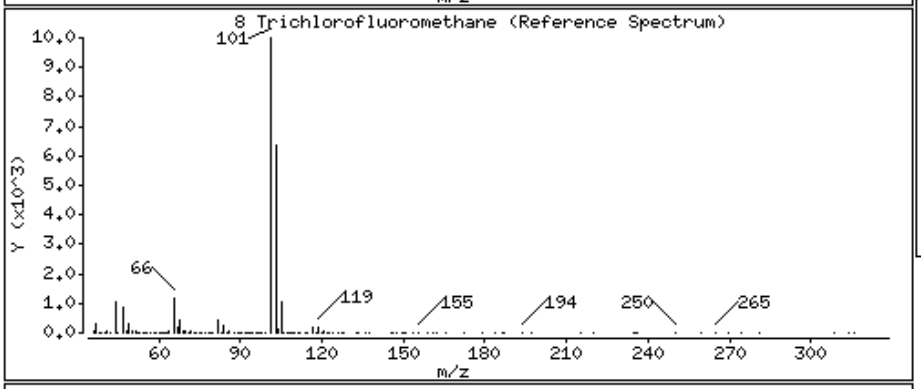
Column diameter: 0.18

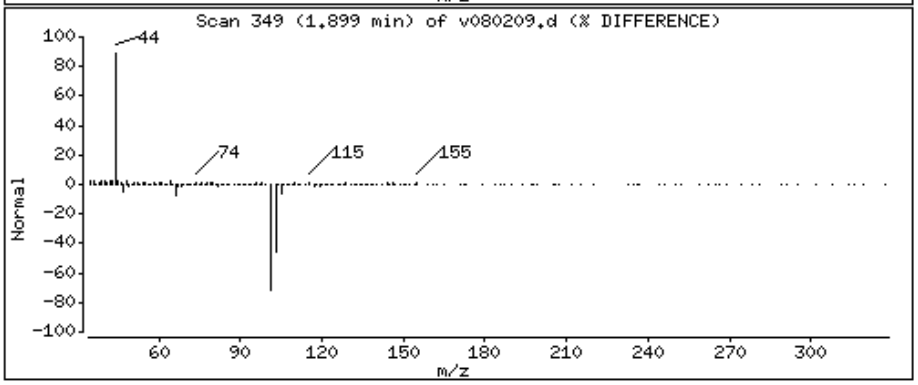
8 Trichlorofluoromethane

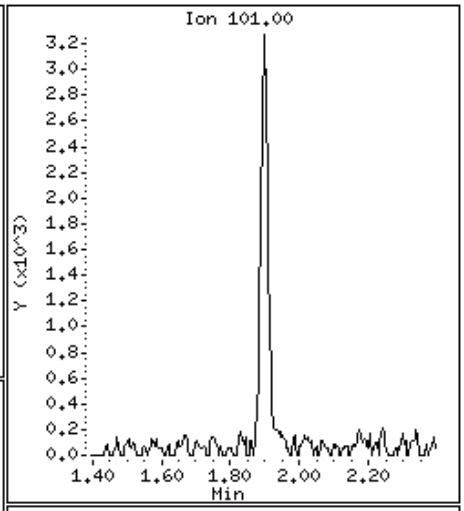
Concentration: 0.95 ug/l

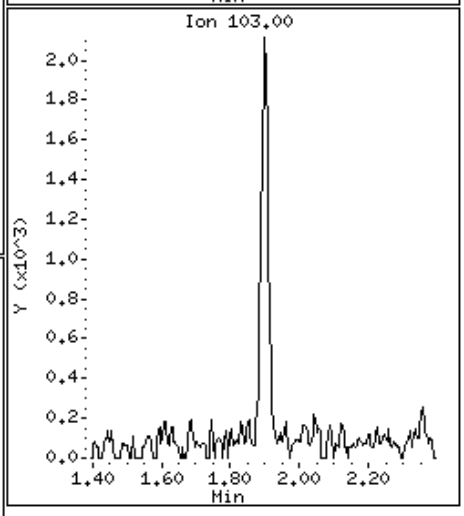












Data File : \\nahstws005\target\chem\voa9.i\u230802.b\v080209.d
Inj Date : 03-AUG-2023 00:41
InstruID : VOA9.i
LabSampID : HS23071456-02

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa9.i\U230802.b\V080210.D Page 1
Report Date: 03-Aug-2023 10:49

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U230802.b\V080210.D
Lab Smp Id: HS23071456-01 Client Smp ID: HS23071456-01
Inj Date : 03-AUG-2023 01:04
Operator : PC Inst ID: VOA9.i
Smp Info : HS23071456-01;HS23071456-01;;;
Misc Info : V9;WATER;0;1;
Comment   :
Method   : \\nahstws005\Target\chem\voa9.i\U230802.b\8260C.m
Meth Date : 03-Aug-2023 10:40 pcabasca Quant Type: ISTD
Cal Date : 31-JUL-2023 14:06 Cal File: U073108.D
Als bottle: 37
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
*	1 Pentafluorobenzene	168	4.815	4.808	(1.000)	496015	50.0000	
	27 cis-1,2-Dichloroethene	96	4.193	4.189	(0.871)	12421	3.03852	3.03(a)
$	30 Dibromofluoromethane	113	4.748	4.740	(0.986)	207268	52.2909	52.29
$	35 1,2-Dichloroethane-d4	65	5.096	5.093	(1.058)	235011	54.5120	54.51
*	36 1,4-Difluorobenzene	114	5.554	5.550	(1.000)	669385	50.0000	
*	47 Chlorobenzene-d5	117	8.185	8.185	(1.000)	623270	50.0000	
$	48 Toluene-d8	98	6.922	6.918	(0.846)	753660	51.9881	51.98
$	69 4-Bromofluorobenzene	95	9.194	9.194	(1.123)	263463	46.4692	46.46
*	70 1,4-Dichlorobenzene-d4	152	10.172	10.168	(1.000)	318994	50.0000	
M	94 1,2-Dichloroethylene (total)	96				12421	3.03852	3.03(a)

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).

01247959

Data File: \\nahstws005\target\chem\voa9.i\u230802.b\v080210.d

Page 1

Date : 03-AUG-2023 01:04

Client ID: HS23071456-01

Instrument: VOA9.i

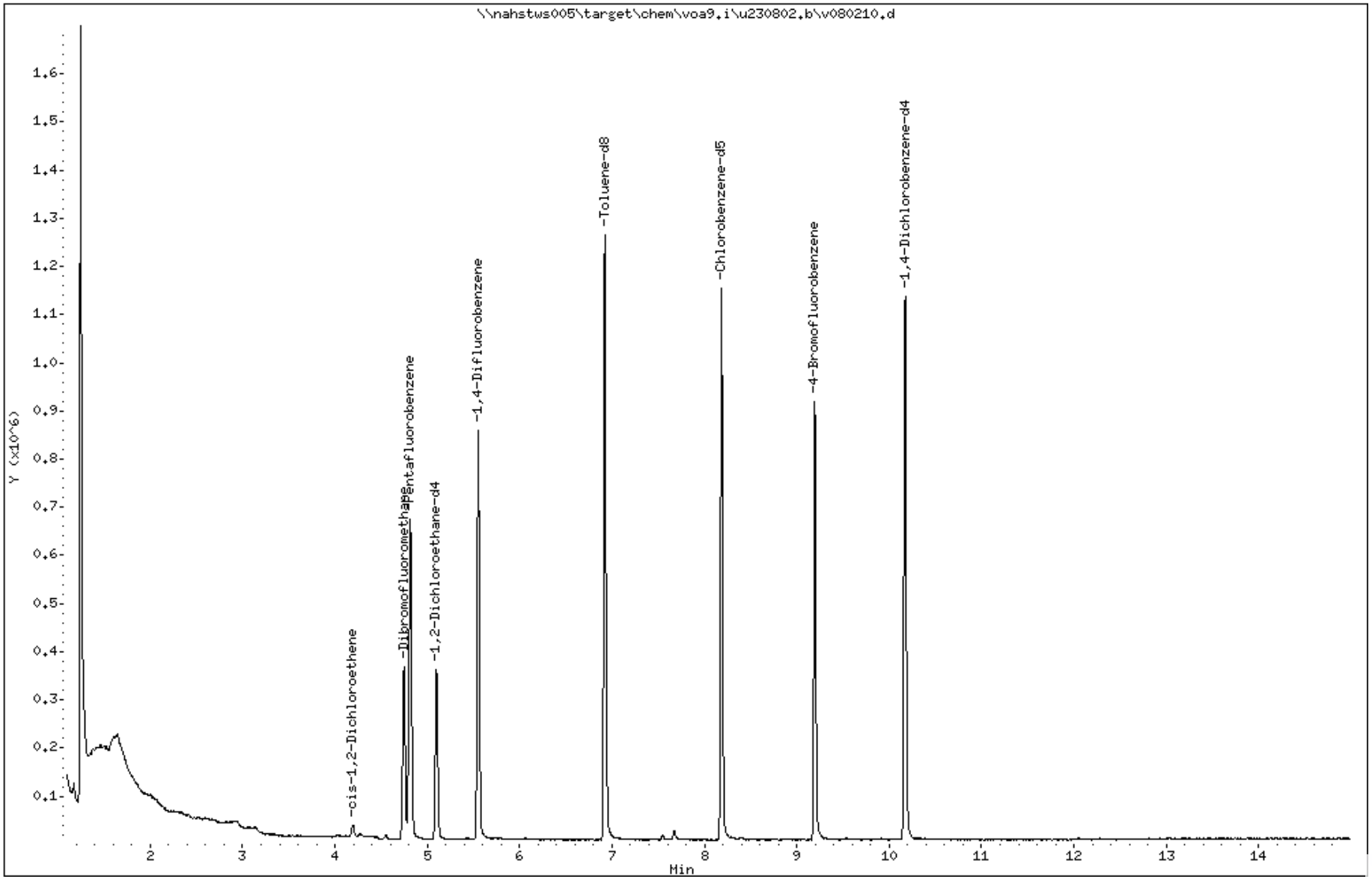
Sample Info: HS23071456-01;HS23071456-01;;;

Purge Volume: 5.0

Operator: PC

Column phase: DB624

Column diameter: 0.18



Data File: \\nahstws005\target\chem\voa9.i\u230802.b\v080210.d Page 2

Date : 03-AUG-2023 01:04

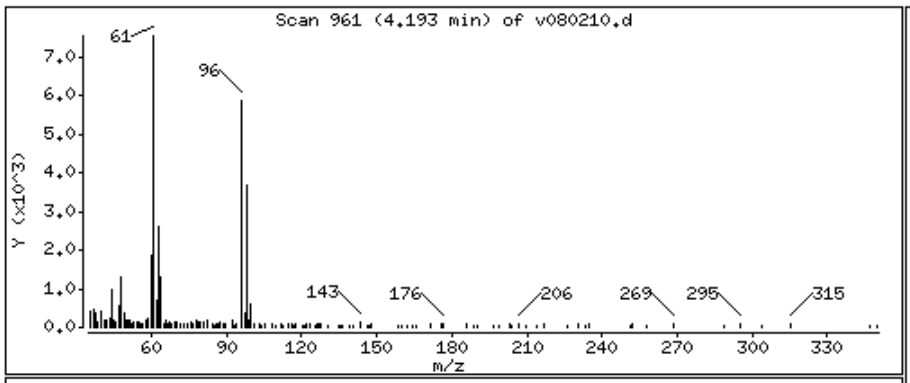
Client ID: HS23071456-01 Instrument: VOA9.i

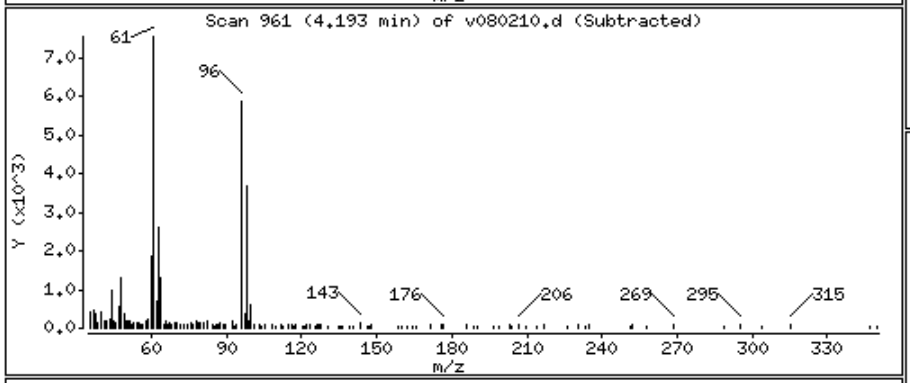
Sample Info: HS23071456-01;HS23071456-01;;;

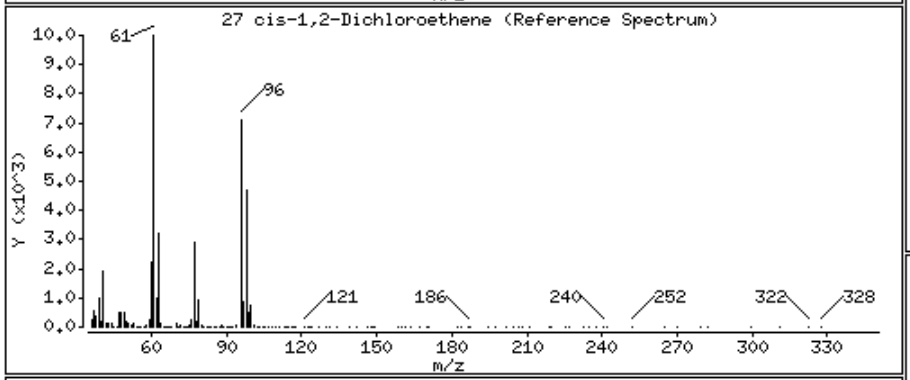
Purge Volume: 5.0 Operator: PC

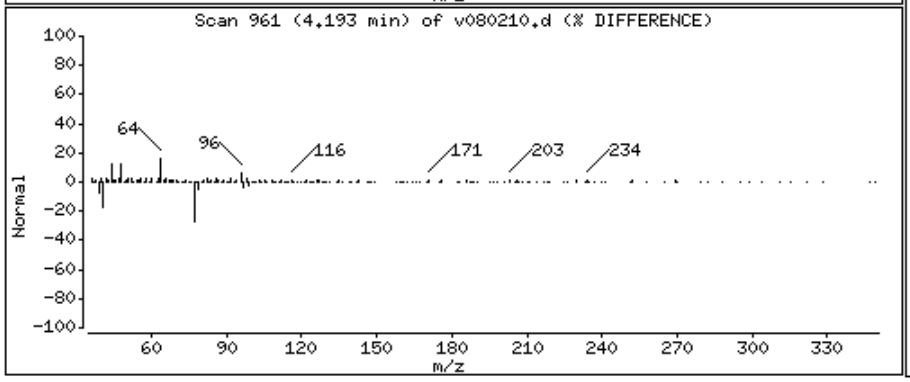
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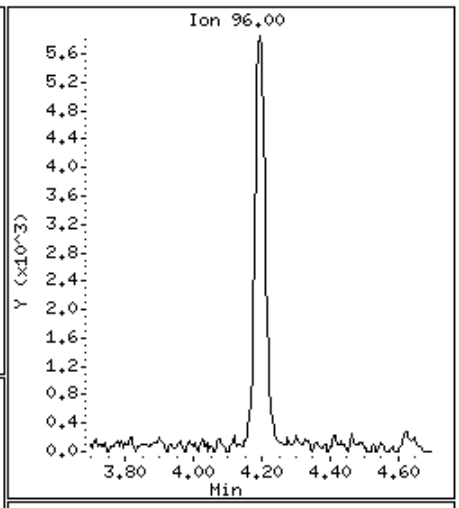
27 cis-1,2-Dichloroethene Concentration: 3.03 ug/l

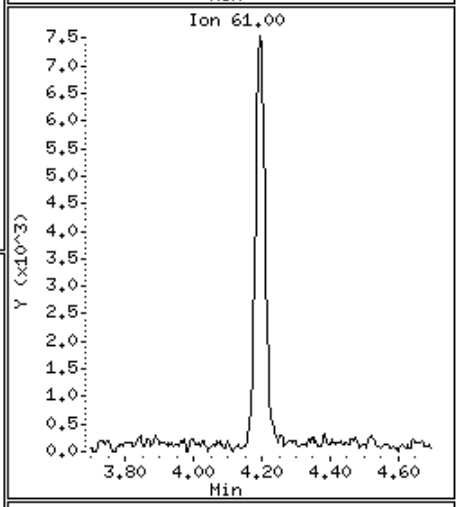


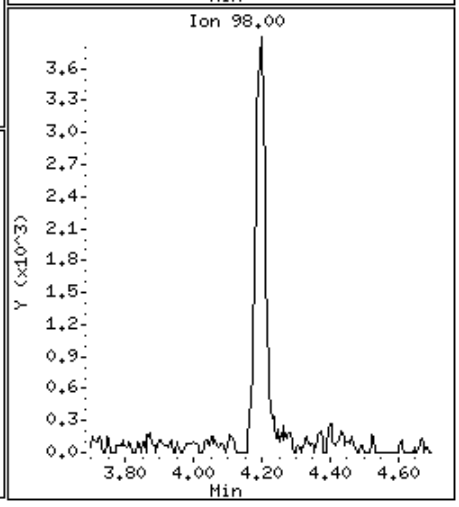












Data File : \\nahstws005\target\chem\voa9.i\u230802.b\v080210.d
Inj Date : 03-AUG-2023 01:04
InstruID : VOA9.i
LabSampID : HS23071456-01

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa9.i\U230802.b\V080214.D Page 1
Report Date: 03-Aug-2023 10:51

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U230802.b\V080214.D
Lab Smp Id: HS23071846-06MS Client Smp ID: HS23071846-06MS
Inj Date : 03-AUG-2023 02:33
Operator : PC Inst ID: VOA9.i
Smp Info : HS23071846-06MS;HS23071846-06MS;3;;MS
Misc Info : V9;WATER;0;1;
Comment   :
Method   : \\nahstws005\Target\chem\voa9.i\U230802.b\8260C.m
Meth Date : 03-Aug-2023 10:40 pcabasca Quant Type: ISTD
Cal Date : 31-JUL-2023 14:06 Cal File: U073108.D
Als bottle: 41 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1	Pentafluorobenzene	168	4.815	4.808	(1.000)	414712	50.0000	
2	Dichlorodifluoromethane	85	1.167	1.153	(0.243)	29209	8.43010	8.43
3	Chloromethane	50	1.299	1.288	(0.270)	44831	8.92785	8.92
5	Vinyl Chloride	62	1.381	1.366	(0.287)	31885	7.80891	7.80
6	Bromomethane	94	1.621	1.610	(0.337)	20094	7.78610	7.78
7	Chloroethane	64	1.700	1.689	(0.353)	21028	8.17812	8.17
8	Trichlorofluoromethane	101	1.898	1.884	(0.394)	53273	10.5711	10.57
9	Acrolein	56	1.752	1.737	(0.364)	10073	37.8671	37.86
10	Acetone	43	2.416	2.397	(0.502)	26617	14.0100	14.00
11	1,1-Dichloroethene	96	2.333	2.322	(0.485)	24024	8.79257	8.79
15	Iodomethane	142	2.468	2.457	(0.513)	39542	18.6815	18.68
16	Acrylonitrile	53	3.068	3.057	(0.637)	46755	35.8669	35.86
17	Methylene Chloride	84	2.794	2.783	(0.580)	28378	8.38821	8.38
18	Methyl tert-butyl ether	73	3.083	3.072	(0.640)	168285	19.9270	19.92
19	Carbon Disulfide	76	2.524	2.510	(0.524)	130237	16.3733	16.37
20	trans-1,2-Dichloroethene	96	3.061	3.046	(0.636)	26117	8.52976	8.52
21	Vinyl Acetate	43	3.615	3.597	(0.751)	172269	19.6593	19.65
22	1,1-Dichloroethane	63	3.518	3.503	(0.731)	49116	8.77615	8.77
24	2-Butanone	43	4.271	4.260	(0.887)	23775	14.5928	14.59
26	2,2-Dichloropropane	77	4.181	4.174	(0.868)	27211	7.05177	7.05
27	cis-1,2-Dichloroethene	96	4.196	4.189	(0.872)	31555	9.23256	9.23

28	Chloroform	83	4.575	4.568 (0.950)	60439	9.27996	9.27
29	Bromochloromethane	128	4.470	4.463 (0.928)	16274	8.04682	8.04

Data File: \\NAHSTWS005\Target\chem\voa9.i\U230802.b\V080214.D Page 2
Report Date: 03-Aug-2023 10:51

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
$	30 Dibromofluoromethane	113	4.751	4.740	(0.987)	174209	52.5722	52.57
	31 1,1,1-Trichloroethane	97	4.744	4.736	(0.985)	48476	9.56710	9.56
	32 1,1-Dichloropropene	75	4.924	4.916	(0.887)	42274	10.0771	10.07
	33 1,2-Dichloroethane	62	5.179	5.171	(0.933)	47901	9.84578	9.84
	34 Carbon Tetrachloride	117	4.909	4.905	(0.884)	33031	8.78917	8.78
$	35 1,2-Dichloroethane-d4	65	5.100	5.093	(1.059)	211219	58.6986	58.69
*	36 1,4-Difluorobenzene	114	5.553	5.550	(1.000)	564959	50.0000	
	37 Benzene	78	5.141	5.134	(0.926)	122272	8.85992	8.85
	38 Trichloroethene	130	5.790	5.782	(1.043)	51859	13.2953	13.29
	39 Bromodichloromethane	83	6.281	6.277	(1.131)	38136	8.64008	8.64
	42 1,2-Dichloropropane	63	6.011	6.007	(1.082)	32641	8.82493	8.82
	44 Dibromomethane	93	6.119	6.116	(1.102)	21035	8.85425	8.85
	45 4-Methyl-2-Pentanone	43	6.858	6.854	(0.838)	65822	16.1594	16.15
	46 cis-1,3-Dichloropropene	75	6.693	6.690	(1.205)	37764	8.61766	8.61
*	47 Chlorobenzene-d5	117	8.185	8.185	(1.000)	547437	50.0000	
$	48 Toluene-d8	98	6.922	6.918	(0.846)	670921	52.6917	52.69
	50 Toluene	91	6.982	6.978	(0.853)	141455	9.50400	9.50
	51 trans-1,3-Dichloropropene	75	7.199	7.196	(1.296)	31783	7.47067	7.47
	52 2-Hexanone	43	7.596	7.593	(0.928)	43128	15.9895	15.98
	53 1,1,2-Trichloroethane	83	7.357	7.353	(0.899)	27418	8.60097	8.60
	54 1,3-Dichloropropane	76	7.499	7.499	(0.916)	57308	8.76388	8.76
	55 Dibromochloromethane	129	7.694	7.690	(0.940)	30874	7.89196	7.89
	56 Tetrachloroethene	164	7.458	7.454	(0.911)	39815	11.0029	11.00
	57 1,2-Dibromoethane	107	7.784	7.784	(0.951)	33102	8.63192	8.63
	58 1-Chlorohexane	55	8.196	8.196	(1.476)	32196	10.9134	10.91
	59 Chlorobenzene	112	8.211	8.208	(1.003)	97811	9.27032	9.27
	60 1,1,1,2-Tetrachloroethane	131	8.282	8.283	(1.012)	32476	8.44518	8.44
	61 Ethylbenzene	106	8.305	8.305	(1.015)	44984	9.41772	9.41
	62 m,p-Xylenes	106	8.410	8.406	(1.027)	110748	19.7499	19.74
	63 o-Xylene	106	8.747	8.748	(1.069)	55951	10.1993	10.19
	64 Styrene	104	8.762	8.759	(1.071)	92697	10.8288	10.82
	66 Bromoform	173	8.920	8.916	(1.090)	22041	8.06455	8.06
	67 Isopropylbenzene	105	9.062	9.062	(1.107)	138142	10.4067	10.40
	68 1,1,2,2-Tetrachloroethane	83	9.328	9.329	(0.917)	48602	8.11738	8.11
$	69 4-Bromofluorobenzene	95	9.193	9.194	(1.123)	258175	52.0050	52.00
*	70 1,4-Dichlorobenzene-d4	152	10.172	10.168	(1.000)	310847	50.0000	
	71 1,2,3-Trichloropropane	75	9.362	9.362	(0.920)	39588	7.59405	7.59
	73 n-Propylbenzene	91	9.411	9.411	(0.925)	144716	9.64234	9.64
	74 Bromobenzene	156	9.317	9.317	(0.916)	44455	8.64463	8.64
	75 1,3,5-Trimethylbenzene	105	9.561	9.561	(0.940)	101602	9.35263	9.35
	76 2-Chlorotoluene	91	9.482	9.482	(0.932)	101977	9.30537	9.30
	77 4-Chlorotoluene	91	9.576	9.576	(0.941)	111292	9.09172	9.09
	78 tert-Butylbenzene	119	9.838	9.835	(0.967)	98952	9.61470	9.61
	79 1,2,4-Trimethylbenzene	105	9.879	9.876	(0.971)	112393	10.2167	10.21
	81 sec-Butylbenzene	105	10.022	10.022	(0.985)	125547	11.4474	11.44
	82 p-Isopropyltoluene	119	10.146	10.146	(0.997)	103117	11.3816	11.38
	83 1,3-Dichlorobenzene	146	10.116	10.116	(0.994)	75579	8.80566	8.80
	84 1,4-Dichlorobenzene	146	10.191	10.191	(1.002)	80805	8.49567	8.49
	87 n-Butylbenzene	91	10.490	10.491	(1.031)	87313	10.3269	10.32
	88 1,2-Dichlorobenzene	146	10.505	10.506	(1.033)	76872	8.72930	8.72
	89 1,2-Dibromo-3-Chloropropane	155	11.169	11.165	(1.098)	5920	6.85788	6.85
	90 1,2,4-Trichlorobenzene	180	11.859	11.859	(1.166)	43223	7.97874	7.97

91 Hexachlorobutadiene	225	11.997	11.998 (1.179)	23307	12.3099	12.30
92 Naphthalene	128	12.069	12.065 (1.186)	94372	7.97734	7.97

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
93	1,2,3-Trichlorobenzene	180	12.267	12.268	(1.206)	44841	8.10785	8.10
M 94	1,2-Dichloroethylene (total)	96				57672	17.7623	17.76
M 95	Xylenes (total)	106				166699	29.9492	29.94
135	1,4-Dioxane	88	6.172	6.168	(1.282)	7883	132.574	132.57
141	Cyclohexane	56	4.781	4.774	(0.993)	48689	10.4457	10.44
138	Freon TF	101	2.337	2.326	(0.485)	26835	12.5577	12.55
140	1,3-Butadiene	54	1.404	1.393	(0.292)	30055	9.10173	9.10
147	Methylcyclohexane	55	5.951	5.944	(1.072)	169229	20.5651	20.56
146	Methyl Acetate	43	2.719	2.705	(0.565)	22542	7.57521	7.57
148	Tert-Butyl alcohol	59	2.974	2.960	(0.618)	58155	164.199	164.19
149	Isopropyl Alcohol	45	2.569	2.555	(0.534)	31976	139.521	139.52
72	trans-1,4-Dichloro-2-butene	53	9.381	9.377	(1.146)	5651	7.63370	7.63
12	Isobutyl Alcohol	43	5.291	5.284	(1.099)	116873	198.975	198.97
13	Acetonitrile	39	2.674	2.660	(0.555)	82810	216.165	216.16
14	Allyl Chloride	41	2.674	2.663	(0.555)	159911	18.2755	18.27
25	Methacrylonitrile	41	4.500	4.489	(0.935)	36319	15.5942	15.59
40	Methyl Methacrylate	41	6.161	6.157	(1.279)	62196	17.3573	17.35
4	Propionitrile	54	4.343	4.332	(0.902)	88309	179.366	179.36(a)
131	Methyl Acrylate	55	4.373	4.365	(0.908)	67065	16.9041	16.90
23	Chloroprene	53	2.161	2.146	(0.449)	5673	5.21800	5.21(M)
49	Ethyl Methacrylate	69	7.293	7.293	(1.313)	97858	18.8905	18.89

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

01247967

Data File: \\nahstws005\target\chem\voa9.i\u230802.b\v080214.d

Page 1

Date : 03-AUG-2023 02:33

Client ID: HS23071846-06MS

Instrument: VOA9.i

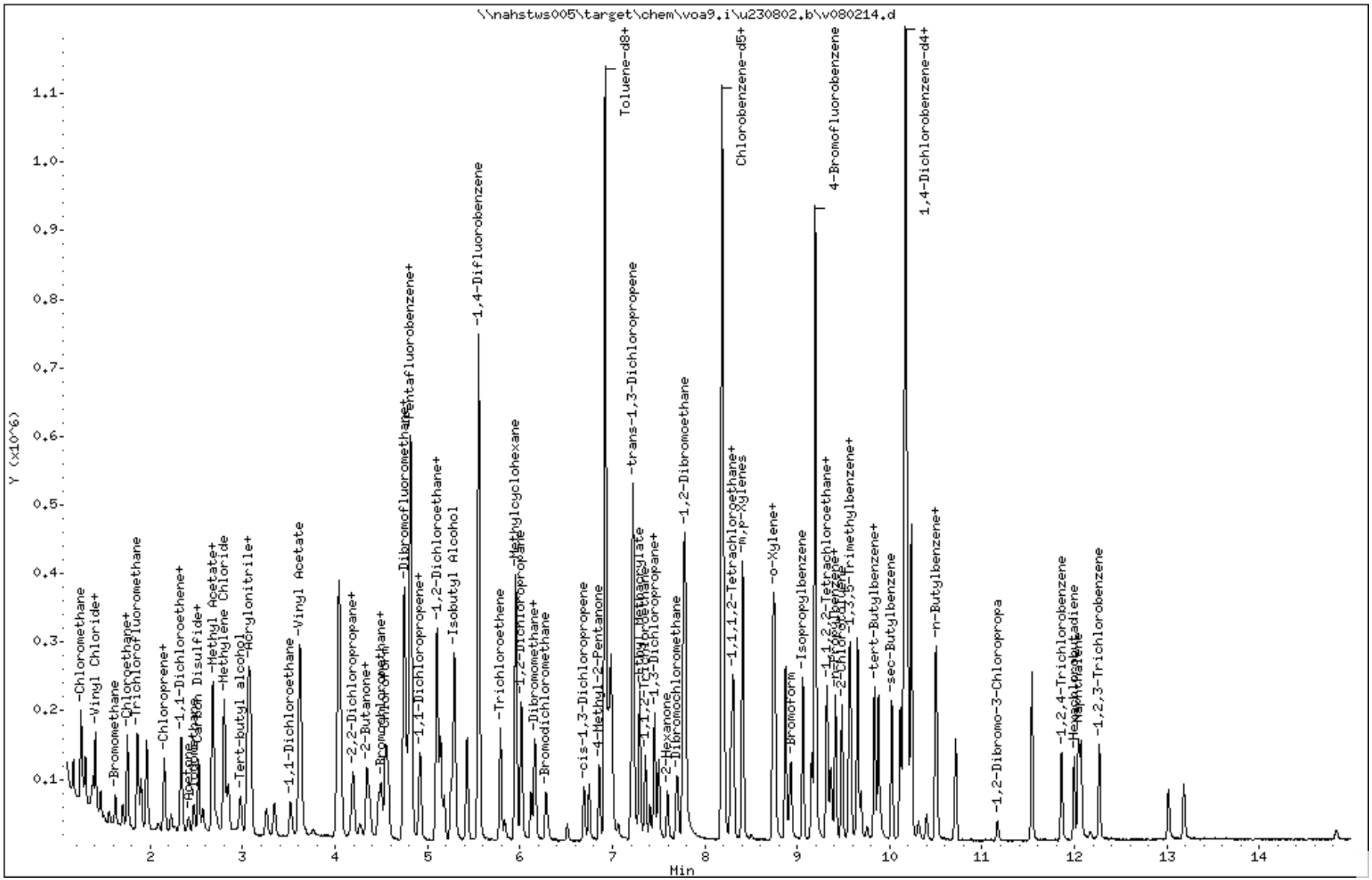
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Operator: PC

Column phase: DB624

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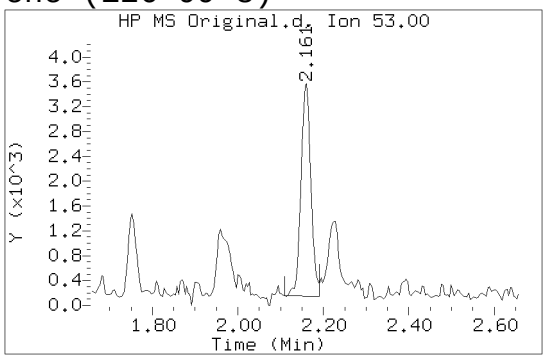
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LabSampID : HS23071846-06MS

Chloroprene (126-99-8)

Reason Code:

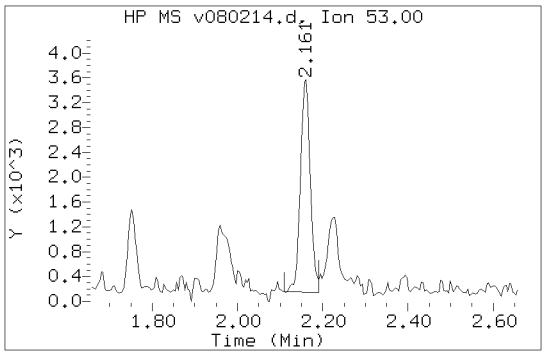
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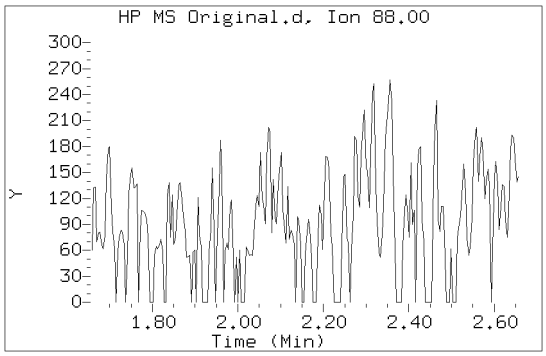
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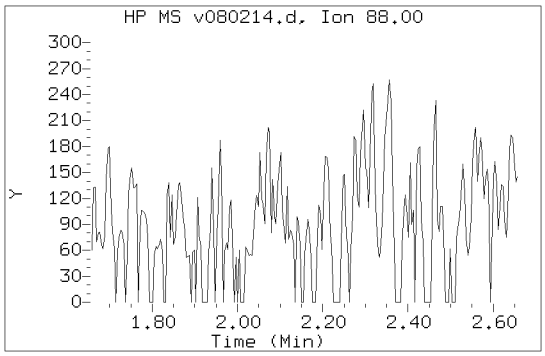
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AFTER

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03-Aug-2023
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Data File: \\NAHSTWS005\Target\chem\voa9.i\U230802.b\V080215.D Page 1
Report Date: 03-Aug-2023 10:43

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U230802.b\V080215.D
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Inj Date : 03-AUG-2023 02:56
Operator : PC Inst ID: VOA9.i
Smp Info : HS23071846-06MSD;HS23071846-06MSD;3;;MSD
Misc Info : V9;WATER;0;1;
Comment   :
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Meth Date : 03-Aug-2023 10:40 pcabasca Quant Type: ISTD
Cal Date : 31-JUL-2023 14:06 Cal File: U073108.D
Als bottle: 41 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7051

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.811	4.815	(1.000)	448895	50.0000	
2 Dichlorodifluoromethane	85	1.152	1.164	(0.240)	28320	7.68218	7.68
3 Chloromethane	50	1.287	1.299	(0.268)	44857	8.22653	8.22
5 Vinyl Chloride	62	1.366	1.378	(0.284)	33683	7.62108	7.62
6 Bromomethane	94	1.606	1.617	(0.334)	20184	7.10723	7.10
7 Chloroethane	64	1.689	1.700	(0.351)	21587	7.75621	7.75
8 Trichlorofluoromethane	101	1.883	1.895	(0.392)	53008	9.71754	9.71
9 Acrolein	56	1.737	1.749	(0.361)	10208	35.4524	35.45
10 Acetone	43	2.401	2.408	(0.499)	27381	12.9089	12.90
11 1,1-Dichloroethene	96	2.322	2.333	(0.483)	25167	8.50950	8.50
15 Iodomethane	142	2.457	2.468	(0.511)	41189	18.1114	18.11
16 Acrylonitrile	53	3.057	3.068	(0.635)	48984	34.7154	34.71
17 Methylene Chloride	84	2.783	2.795	(0.579)	30250	8.25769	8.25
18 Methyl tert-butyl ether	73	3.072	3.079	(0.639)	174219	19.0587	19.05
19 Carbon Disulfide	76	2.509	2.521	(0.522)	132099	15.3427	15.34
20 trans-1,2-Dichloroethene	96	3.049	3.057	(0.634)	26208	7.90769	7.90
21 Vinyl Acetate	43	3.604	3.608	(0.749)	182439	19.2345	19.23
22 1,1-Dichloroethane	63	3.503	3.514	(0.728)	49569	8.18263	8.18
24 2-Butanone	43	4.264	4.268	(0.886)	26822	15.2093	15.20
26 2,2-Dichloropropane	77	4.174	4.182	(0.868)	26652	6.38095	6.38

27 cis-1,2-Dichloroethene	96	4.189	4.197 (0.871)	31803	8.59655	8.59
28 Chloroform	83	4.567	4.571 (0.949)	62512	8.86735	8.86

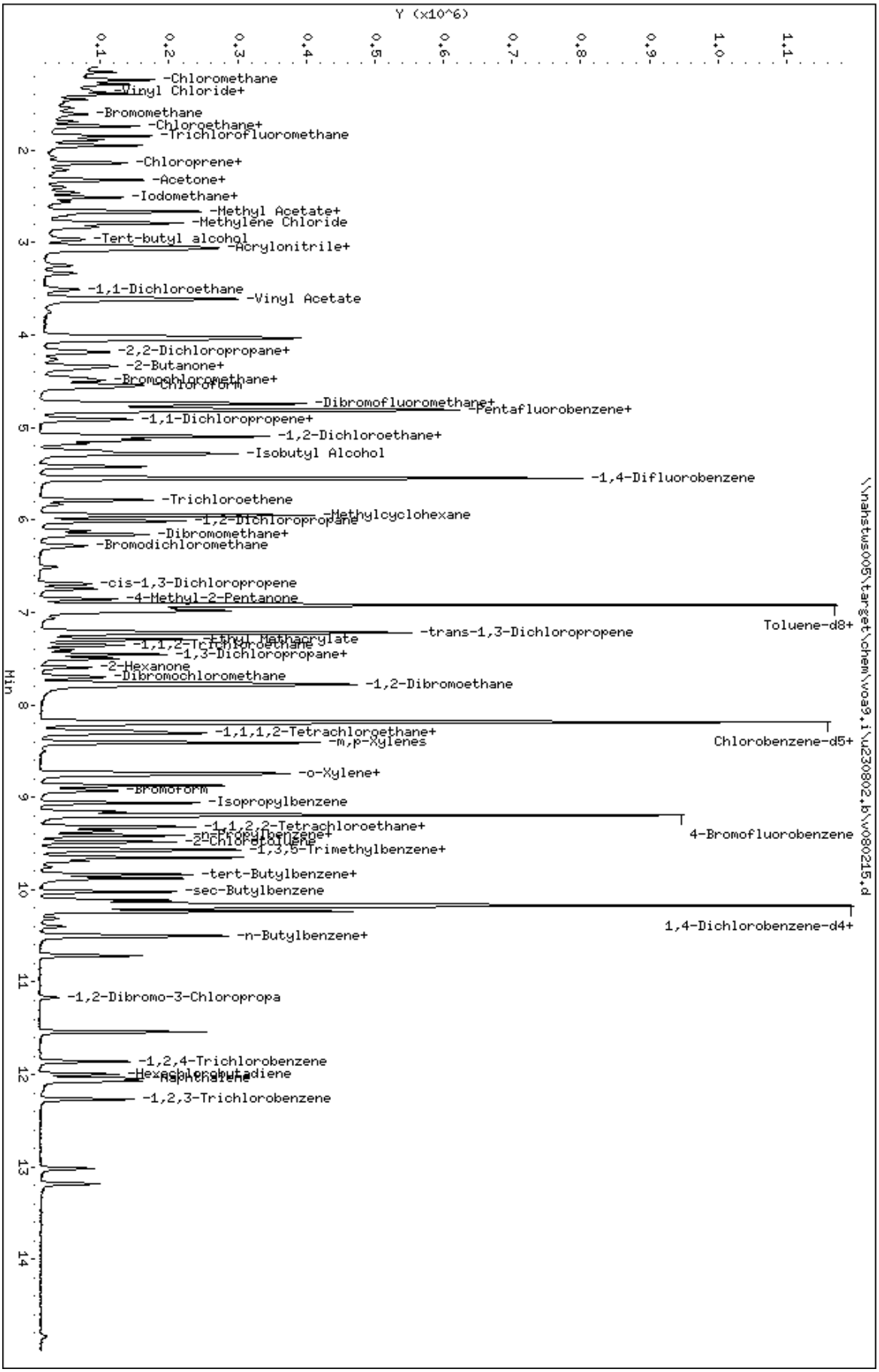
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
	29 Bromochloromethane	128	4.463	4.470	(0.928)	18454	8.42990	8.42
$	30 Dibromofluoromethane	113	4.744	4.748	(0.986)	185994	51.8409	51.84
	31 1,1,1-Trichloroethane	97	4.736	4.740	(0.984)	50536	9.21417	9.21
	32 1,1-Dichloropropene	75	4.916	4.920	(0.886)	43458	9.57046	9.57
	33 1,2-Dichloroethane	62	5.171	5.175	(0.932)	52222	9.91657	9.91
	34 Carbon Tetrachloride	117	4.905	4.909	(0.884)	35352	8.69046	8.69
$	35 1,2-Dichloroethane-d4	65	5.092	5.096	(1.058)	225238	57.8082	57.80
*	36 1,4-Difluorobenzene	114	5.550	5.554	(1.000)	611525	50.0000	
	37 Benzene	78	5.134	5.137	(0.925)	132955	8.90041	8.90
	38 Trichloroethene	130	5.786	5.790	(1.043)	53308	12.6261	12.62
	39 Bromodichloromethane	83	6.277	6.281	(1.131)	40158	8.40539	8.40
	42 1,2-Dichloropropane	63	6.007	6.011	(1.082)	32871	8.21039	8.21
	44 Dibromomethane	93	6.116	6.120	(1.102)	22236	8.64707	8.64
	45 4-Methyl-2-Pentanone	43	6.854	6.858	(0.837)	70196	16.6505	16.65
	46 cis-1,3-Dichloropropene	75	6.689	6.693	(1.205)	39133	8.34399	8.34
*	47 Chlorobenzene-d5	117	8.185	8.185	(1.000)	566596	50.0000	
$	48 Toluene-d8	98	6.922	6.922	(0.846)	705537	53.5366	53.53
	50 Toluene	91	6.978	6.982	(0.853)	145915	9.47216	9.47
	51 trans-1,3-Dichloropropene	75	7.195	7.195	(1.297)	31791	6.90354	6.90
	52 2-Hexanone	43	7.596	7.593	(0.928)	46419	16.6277	16.62
	53 1,1,2-Trichloroethane	83	7.353	7.357	(0.898)	27420	8.31074	8.31
	54 1,3-Dichloropropane	76	7.499	7.499	(0.916)	58287	8.61219	8.61
	55 Dibromochloromethane	129	7.690	7.694	(0.940)	32495	8.02545	8.02
	56 Tetrachloroethene	164	7.458	7.458	(0.911)	40869	10.9123	10.91
	57 1,2-Dibromoethane	107	7.784	7.784	(0.951)	35037	8.82756	8.82
	58 1-Chlorohexane	55	8.196	8.196	(1.477)	32347	10.1296	10.12
	59 Chlorobenzene	112	8.207	8.208	(1.003)	101005	9.24934	9.24
	60 1,1,1,2-Tetrachloroethane	131	8.282	8.283	(1.012)	34043	8.55332	8.55
	61 Ethylbenzene	106	8.309	8.305	(1.015)	45047	9.11201	9.11
	62 m,p-Xylenes	106	8.410	8.410	(1.027)	109789	18.9169	18.91
	63 o-Xylene	106	8.747	8.747	(1.069)	54003	9.51128	9.51
	64 Styrene	104	8.762	8.762	(1.071)	79706	8.99633	8.99
	66 Bromoform	173	8.916	8.920	(1.089)	21794	7.70453	7.70
	67 Isopropylbenzene	105	9.062	9.062	(1.107)	138290	10.0656	10.06
	68 1,1,2,2-Tetrachloroethane	83	9.328	9.328	(0.917)	46741	7.76403	7.76
$	69 4-Bromofluorobenzene	95	9.193	9.194	(1.123)	265531	51.6694	51.66
*	70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	312550	50.0000	
	71 1,2,3-Trichloropropane	75	9.362	9.362	(0.920)	41596	7.93576	7.93
	73 n-Propylbenzene	91	9.411	9.411	(0.925)	146761	9.71120	9.71
	74 Bromobenzene	156	9.317	9.317	(0.916)	44009	8.51127	8.51
	75 1,3,5-Trimethylbenzene	105	9.561	9.561	(0.940)	102457	9.37995	9.37
	76 2-Chlorotoluene	91	9.482	9.482	(0.932)	102776	9.32717	9.32
	77 4-Chlorotoluene	91	9.576	9.576	(0.941)	115298	9.36765	9.36
	78 tert-Butylbenzene	119	9.838	9.838	(0.967)	98351	9.50423	9.50
	79 1,2,4-Trimethylbenzene	105	9.879	9.880	(0.971)	111954	10.1213	10.12
	81 sec-Butylbenzene	105	10.022	10.022	(0.985)	124940	11.3265	11.32
	82 p-Isopropyltoluene	119	10.146	10.146	(0.997)	102406	11.2364	11.23
	83 1,3-Dichlorobenzene	146	10.116	10.116	(0.994)	76231	8.83323	8.83
	84 1,4-Dichlorobenzene	146	10.191	10.191	(1.002)	80998	8.46956	8.46
	87 n-Butylbenzene	91	10.490	10.491	(1.031)	81609	9.76809	9.76
	88 1,2-Dichlorobenzene	146	10.505	10.506	(1.033)	75055	8.47653	8.47
	89 1,2-Dibromo-3-Chloropropane	155	11.165	11.169	(1.098)	5855	6.74562	6.74

90 1,2,4-Trichlorobenzene	180	11.859	11.859 (1.166)	42623	7.82511	7.82
91 Hexachlorobutadiene	225	11.997	11.998 (1.179)	21327	11.1165	11.11

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
	92 Naphthalene	128	12.069	12.065	(1.186)	99787	8.30697	8.30
	93 1,2,3-Trichlorobenzene	180	12.271	12.267	(1.206)	45267	8.14028	8.14
M	94 1,2-Dichloroethylene (total)	96				58011	16.5042	16.50
M	95 Xylenes (total)	106				163792	28.4282	28.42
	135 1,4-Dioxane	88	6.168	6.168	(1.282)	8480	131.755	131.75
	141 Cyclohexane	56	4.774	4.781	(0.992)	51189	10.1458	10.14
	138 Freon TF	101	2.322	2.333	(0.483)	26995	11.6154	11.61
	140 1,3-Butadiene	54	1.392	1.404	(0.289)	29588	8.27799	8.27
	147 Methylcyclohexane	55	5.947	5.947	(1.072)	175149	19.6638	19.66
	146 Methyl Acetate	43	2.704	2.716	(0.562)	24294	7.54229	7.54
	148 Tert-Butyl alcohol	59	2.963	2.971	(0.616)	62429	162.818	162.81
	149 Isopropyl Alcohol	45	2.558	2.566	(0.532)	35576	143.408	143.40
	72 trans-1,4-Dichloro-2-butene	53	9.377	9.377	(1.146)	5392	7.03753	7.03
	12 Isobutyl Alcohol	43	5.283	5.287	(1.098)	123915	194.899	194.89
	13 Acetonitrile	39	2.659	2.671	(0.553)	82884	199.883	199.88
	14 Allyl Chloride	41	2.663	2.671	(0.554)	167803	17.7171	17.71
	25 Methacrylonitrile	41	4.493	4.496	(0.934)	44295	17.5706	17.57
	40 Methyl Methacrylate	41	6.157	6.157	(1.280)	66846	17.2344	17.23
	4 Propionitrile	54	4.335	4.343	(0.901)	93337	175.142	175.14(a)
	131 Methyl Acrylate	55	4.365	4.369	(0.907)	73548	17.1265	17.12
	49 Ethyl Methacrylate	69	7.293	7.293	(1.314)	102152	18.2178	18.21

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).



Data File: \\nahstws005\target\chem\voa9.i\u230802.b\v080215.d
Date : 03-AUG-2023 02:56
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Purge Volume: 5.0
Column phase: DB624

Instrument: VOA9.i
Operator: PC
Column diameter: 0.18