LONGHORN ARMY AMMUNITION PLANT KARNACK, TEXAS

ADMINISTRATIVE RECORD

Volume 14

2023

Bate Stamp Numbers
01158115 – 01160140

Prepared for

Department of the Army
Longhorn Army Ammunition Plant

1976–2023

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

VOLUME 14

2023

A.	Title:	(Cont'd) Report—Quarterly Evaluation Report, 4th Quarter (October–December) 2022, Groundwater Treatment Plant, Longhorn Army Ammunition Plant, Karnack, Texas, March 2023
	Author(s):	Department of the Army
	Recipient:	Environmental Protection Agency and Texas Commission on Environmental Quality
	Date:	March 29, 2023
	Bate Stamp:	01158115 – 01160140

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2200958
Project:	HS22100180	**Date Collected:**	10/ 4/22 1400
Sample Matrix:	Water	**Date Received:**	10/ 5/22
Sample Name:	LH18/24-SP140_100422	**Units:**	µg/L
Lab Code:	E2200958-001	**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	**56800**		200	100	50.0	2000	10/ 6/22	10/7/22 11:41	407746	780609	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2200958
Project:	HS22100180	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2200452-01	**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	10/ 6/22	10/6/22 15:58	407746	780623	

Accuracy & Precision

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS22100180
Sample Matrix: Water

Service Request: E2200958
Date Analyzed: 10/ 6/22

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: 407746

	Lab Control Sample EQ2200452-02			Duplicate Lab Control Sample EQ2200452-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.0923	0.100	92	0.0988	0.100	99	84 - 119	7	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:**	E2200958
Project:	HS22100180	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2200452-02	**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	**0.0923**	J	0.100	0.0500	0.0250	1	10/ 6/22	10/6/22 16:07	407746	780623	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2200958
Project:	HS22100180	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2200452-03	**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	**0.0988**	J	0.100	0.0500	0.0250	1	10/ 6/22	10/6/22 16:15	407746	780623	

10450 Stancliff Rd. Suite 210
Houston, TX 77099
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October 14, 2022

Marcia Olive
Bhate Environmental Associates, Inc.
445 Union Blvd Ste 129
Lakewood, CO 80228

Work Order: **HS22100181**

Laboratory Results for: **Longhorn GW Treatment Plant Monthly Effluent Samples**

Dear Marcia Olive,

ALS Environmental received 3 sample(s) on Oct 05, 2022 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
Dane J. Wacasey

ALS Houston, US Date: 14-Oct-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
Work Order: HS22100181

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS22100181-01	LH18/24-SP650_100422	Water		04-Oct-2022 14:00	05-Oct-2022 10:10	☐
HS22100181-02	LH18/24-SP650_100422_AIX	Water		04-Oct-2022 14:00	05-Oct-2022 10:10	☐
HS22100181-03	Trip Blank	Water	CG-061422-296	04-Oct-2022 00:00	05-Oct-2022 10:10	☐

ALS Houston, US Date: 14-Oct-22

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
Work Order: HS22100181

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: 184506

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

GCMS Volatiles by Method SW8260

Batch ID: R418731

Sample ID: HS22100193-03MS

• MS and MSD are for an unrelated sample

Metals by Method SW6020A

Batch ID: 184476

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method SW7196

Batch ID: R418760

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

ALS Houston, US Date: 14-Oct-22

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Longhorn GW Treatment Plant Monthly Effluent Samples WorkOrder:HS22100181
Sample ID: LH18/24-SP650_100422 Lab ID:HS22100181-01
Collection Date: 04-Oct-2022 14:00 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	05-Oct-2022 20:01
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	05-Oct-2022 20:01
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	05-Oct-2022 20:01
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	05-Oct-2022 20:01
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	05-Oct-2022 20:01
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	05-Oct-2022 20:01
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Oct-2022 20:01
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	05-Oct-2022 20:01
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	05-Oct-2022 20:01
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	05-Oct-2022 20:01
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Oct-2022 20:01
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	05-Oct-2022 20:01
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	05-Oct-2022 20:01
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	05-Oct-2022 20:01
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	05-Oct-2022 20:01
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	05-Oct-2022 20:01
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Oct-2022 20:01
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	05-Oct-2022 20:01
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	05-Oct-2022 20:01
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	05-Oct-2022 20:01
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	05-Oct-2022 20:01
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	05-Oct-2022 20:01
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Oct-2022 20:01
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	05-Oct-2022 20:01
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	05-Oct-2022 20:01
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Oct-2022 20:01
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	05-Oct-2022 20:01
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	05-Oct-2022 20:01
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	05-Oct-2022 20:01
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	05-Oct-2022 20:01
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	05-Oct-2022 20:01
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	05-Oct-2022 20:01
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	05-Oct-2022 20:01
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	05-Oct-2022 20:01
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	05-Oct-2022 20:01
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	05-Oct-2022 20:01
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Oct-2022 20:01
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	05-Oct-2022 20:01
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	05-Oct-2022 20:01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 14-Oct-22

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Longhorn GW Treatment Plant Monthly Effluent Samples WorkOrder:HS22100181
Sample ID: LH18/24-SP650_100422 Lab ID:HS22100181-01
Collection Date: 04-Oct-2022 14:00 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	05-Oct-2022 20:01
cis-1,2-Dichloroethene	**2.3**		**0.20**	**1.0**	**1.0**	**ug/L**	1	05-Oct-2022 20:01
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	05-Oct-2022 20:01
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	05-Oct-2022 20:01
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	05-Oct-2022 20:01
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	05-Oct-2022 20:01
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Oct-2022 20:01
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	05-Oct-2022 20:01
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Oct-2022 20:01
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	05-Oct-2022 20:01
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	05-Oct-2022 20:01
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	05-Oct-2022 20:01
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Oct-2022 20:01
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Oct-2022 20:01
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Oct-2022 20:01
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Oct-2022 20:01
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Oct-2022 20:01
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Oct-2022 20:01
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Oct-2022 20:01
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	05-Oct-2022 20:01
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	05-Oct-2022 20:01
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	05-Oct-2022 20:01
Trichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	05-Oct-2022 20:01
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	05-Oct-2022 20:01
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	05-Oct-2022 20:01
Surr: 1,2-Dichloroethane-d4	*93.7*			**0**	*81-118*	*%REC*	*1*	*05-Oct-2022 20:01*
Surr: 4-Bromofluorobenzene	*99.3*			**0**	*85-114*	*%REC*	*1*	*05-Oct-2022 20:01*
Surr: Dibromofluoromethane	*95.7*			**0**	*80-119*	*%REC*	*1*	*05-Oct-2022 20:01*
Surr: Toluene-d8	*110*			**0**	*89-112*	*%REC*	*1*	*05-Oct-2022 20:01*
SEMIVOLATILES SIM		**Method:SW8270SIM**				Prep:SW3510 / 06-Oct-2022		Analyst: MBG
1,4-Dioxane	**0.10**	a	**0.010**	**0.0050**	**0.010**	**ug/L**	1	12-Oct-2022 14:26
Surr: 2-Fluorobiphenyl	*99.7*			**0**	*40-140*	*%REC*	*1*	*12-Oct-2022 14:26*
Surr: 4-Terphenyl-d14	*93.4*			**0**	*40-140*	*%REC*	*1*	*12-Oct-2022 14:26*
Surr: Nitrobenzene-d5	*96.1*			**0**	*40-140*	*%REC*	*1*	*12-Oct-2022 14:26*
METALS BY ICPMS BY SW6020A		**Method:SW6020A**				Prep:SW3010A / 06-Oct-2022		Analyst: JHD
Barium	**0.228**		**0.00190**	**0.00250**	**0.00500**	**mg/L**	1	07-Oct-2022 14:18
Lead	0.00125	U	0.000600	0.00125	0.00500	mg/L	1	07-Oct-2022 14:18
Selenium	0.00250	U	0.00110	0.00250	0.00500	mg/L	1	07-Oct-2022 14:18
Silver	0.000500	U	0.000200	0.000500	0.00500	mg/L	1	07-Oct-2022 14:18

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 14-Oct-22

Client: Bhate Environmental Associates, Inc.
ANALYTICAL REPORT
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder:HS22100181
Sample ID: LH18/24-SP650_100422
Lab ID:HS22100181-01
Collection Date: 04-Oct-2022 14:00
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	05-Oct-2022 12:10

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 14-Oct-22

Client: Bhate Environmental Associates, Inc.
ANALYTICAL REPORT
Project: Longhorn GW Treatment Plant Monthly Effluent Samples WorkOrder:HS22100181
Sample ID: LH18/24-SP650_100422_AIX Lab ID:HS22100181-02
Collection Date: 04-Oct-2022 14:00 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	10-Oct-2022 14:39

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 14-Oct-22

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Longhorn GW Treatment Plant Monthly Effluent Samples WorkOrder:HS22100181
Sample ID: Trip Blank Lab ID:HS22100181-03
Collection Date: 04-Oct-2022 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	05-Oct-2022 18:37
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	05-Oct-2022 18:37
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	05-Oct-2022 18:37
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	05-Oct-2022 18:37
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	05-Oct-2022 18:37
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	05-Oct-2022 18:37
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Oct-2022 18:37
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	05-Oct-2022 18:37
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	05-Oct-2022 18:37
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	05-Oct-2022 18:37
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Oct-2022 18:37
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	05-Oct-2022 18:37
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	05-Oct-2022 18:37
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	05-Oct-2022 18:37
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	05-Oct-2022 18:37
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	05-Oct-2022 18:37
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Oct-2022 18:37
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	05-Oct-2022 18:37
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	05-Oct-2022 18:37
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	05-Oct-2022 18:37
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	05-Oct-2022 18:37
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	05-Oct-2022 18:37
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Oct-2022 18:37
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	05-Oct-2022 18:37
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	05-Oct-2022 18:37
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Oct-2022 18:37
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	05-Oct-2022 18:37
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	05-Oct-2022 18:37
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	05-Oct-2022 18:37
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	05-Oct-2022 18:37
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	05-Oct-2022 18:37
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	05-Oct-2022 18:37
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	05-Oct-2022 18:37
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	05-Oct-2022 18:37
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	05-Oct-2022 18:37
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	05-Oct-2022 18:37
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Oct-2022 18:37
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	05-Oct-2022 18:37
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	05-Oct-2022 18:37

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 14-Oct-22

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

Project: Longhorn GW Treatment Plant Monthly Effluent Samples WorkOrder:HS22100181

Sample ID: Trip Blank Lab ID:HS22100181-03

Collection Date: 04-Oct-2022 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	05-Oct-2022 18:37
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	05-Oct-2022 18:37
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	05-Oct-2022 18:37
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	05-Oct-2022 18:37
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	05-Oct-2022 18:37
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	05-Oct-2022 18:37
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Oct-2022 18:37
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	05-Oct-2022 18:37
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Oct-2022 18:37
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	05-Oct-2022 18:37
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	05-Oct-2022 18:37
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	05-Oct-2022 18:37
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Oct-2022 18:37
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Oct-2022 18:37
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Oct-2022 18:37
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Oct-2022 18:37
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Oct-2022 18:37
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Oct-2022 18:37
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Oct-2022 18:37
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	05-Oct-2022 18:37
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	05-Oct-2022 18:37
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	05-Oct-2022 18:37
Trichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	05-Oct-2022 18:37
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	05-Oct-2022 18:37
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	05-Oct-2022 18:37
Surr: 1,2-Dichloroethane-d4	*93.2*			**0**	*81-118*	*%REC*	*1*	*05-Oct-2022 18:37*
Surr: 4-Bromofluorobenzene	*101*			**0**	*85-114*	*%REC*	*1*	*05-Oct-2022 18:37*
Surr: Dibromofluoromethane	*95.9*			**0**	*80-119*	*%REC*	*1*	*05-Oct-2022 18:37*
Surr: Toluene-d8	*112*			**0**	*89-112*	*%REC*	*1*	*05-Oct-2022 18:37*

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: HS22100181

Batch ID: 184476 **Start Date:** 06 Oct 2022 09:00 **End Date:** 06 Oct 2022 13:00
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS22100181-01		10 (mL)	10 (mL)	1	120 plastic HNO3

Batch ID: 184506 **Start Date:** 06 Oct 2022 12:00 **End Date:** 06 Oct 2022 15:00
Method: SV AQ SEP FUN EXTRACT-LOWLEV - 3510C **Prep Code:** 3510_B_SIM

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS22100181-01	1	1000 (mL)	1 (mL)	0.001	1-liter amber glass, Neat

ALS Houston, US Date: 14-Oct-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS22100181

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 184476 (0)	**Test Name :** METALS BY ICPMS BY SW6020A				**Matrix:** Water	
HS22100181-01	LH18/24-SP650_100422	04 Oct 2022 14:00		06 Oct 2022 09:00	07 Oct 2022 14:18	1
Batch ID: 184506 (0)	**Test Name :** SEMIVOLATILES SIM				**Matrix:** Water	
HS22100181-01	LH18/24-SP650_100422	04 Oct 2022 14:00		06 Oct 2022 17:08	12 Oct 2022 14:26	1
Batch ID: R418731 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS22100181-01	LH18/24-SP650_100422	04 Oct 2022 14:00			05 Oct 2022 20:01	1
HS22100181-03	Trip Blank	04 Oct 2022 00:00			05 Oct 2022 18:37	1
Batch ID: R418760 (0)	**Test Name :** HEXAVALENT CHROMIUM BY SW7196A				**Matrix:** Water	
HS22100181-01	LH18/24-SP650_100422	04 Oct 2022 14:00			05 Oct 2022 12:10	1
Batch ID: R418996 (0)	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)				**Matrix:** Water	
HS22100181-02	LH18/24-SP650_100422_AIX	04 Oct 2022 14:00			10 Oct 2022 14:39	1

ALS Houston, US Date: 14-Oct-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS22100181

QC BATCH REPORT

Batch ID: 184476 (0) **Instrument: ICPMS07** **Method: METALS BY ICPMS BY SW6020A**

MBLK Sample ID: **MBLK-184476** Units: **mg/L** Analysis Date: **07-Oct-2022 14:14**
Client ID: Run ID: **ICPMS07_418856** SeqNo: **6907106** PrepDate: **06-Oct-2022** 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-184476** Units: **mg/L** Analysis Date: **07-Oct-2022 14:16**
Client ID: Run ID: **ICPMS07_418856** SeqNo: **6907107** PrepDate: **06-Oct-2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	0.05215	0.00500	0.05	0	104	86 - 114				
Lead	0.04908	0.00500	0.05	0	98.2	88 - 115				
Selenium	0.05456	0.00500	0.05	0	109	80 - 120				
Silver	0.04911	0.00500	0.05	0	98.2	85 - 116				

MS Sample ID: **HS22100193-03MS** Units: **mg/L** Analysis Date: **07-Oct-2022 14:47**
Client ID: Run ID: **ICPMS07_418856** SeqNo: **6907150** PrepDate: **06-Oct-2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	0.06455	0.00500	0.05	0.01094	107	86 - 114				
Lead	0.05382	0.00500	0.05	0.001962	104	88 - 115				
Selenium	0.1165	0.00500	0.05	0.06142	110	80 - 120				
Silver	0.04597	0.00500	0.05	0.000009	91.9	85 - 116				

MSD Sample ID: **HS22100193-03MSD** Units: **mg/L** Analysis Date: **07-Oct-2022 14:51**
Client ID: Run ID: **ICPMS07_418856** SeqNo: **6907152** PrepDate: **06-Oct-2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	0.06527	0.00500	0.05	0.01094	109	86 - 114	0.06455	1.12	20	
Lead	0.0543	0.00500	0.05	0.001962	105	88 - 115	0.05382	0.88	20	
Selenium	0.1159	0.00500	0.05	0.06142	109	80 - 120	0.1165	0.5	20	
Silver	0.04614	0.00500	0.05	0.000009	92.3	85 - 116	0.04597	0.384	20	

ALS Houston, US Date: 14-Oct-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS22100181

QC BATCH REPORT

Batch ID: 184476 (0) **Instrument: ICPMS07** **Method: METALS BY ICPMS BY SW6020A**

PDS Sample ID: **HS22100193-03PDS** Units: **mg/L** Analysis Date: **07-Oct-2022 14:53**
Client ID: Run ID: **ICPMS07_418856** SeqNo: **6907153** PrepDate: **06-Oct-2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	0.1291	0.00500	0.1	0.01094	118	80 - 120				
Selenium	0.1756	0.00500	0.1	0.06142	114	80 - 120				
Silver	0.101	0.00500	0.1	0.000009	101	80 - 120				

SD Sample ID: **HS22100193-03SD** Units: **mg/L** Analysis Date: **07-Oct-2022 14:45**
Client ID: Run ID: **ICPMS07_418856** SeqNo: **6907149** PrepDate: **06-Oct-2022** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Barium	0.01073	0.0250					0.01094	0	10	J
Lead	0.00625	0.0250					0.001962	0	10	U
Selenium	0.05919	0.0250					0.06142	3.64	10	
Silver	0.00250	0.0250					0.000009	0	10	U

The following samples were analyzed in this batch: HS22100181-01

ALS Houston, US Date: 14-Oct-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS22100181

QC BATCH REPORT

Batch ID: 184506 (0) **Instrument: SV-6** **Method: SEMIVOLATILES SIM**

MBLK Sample ID: **MBLK-184506** Units: **ug/L** Analysis Date: **12-Oct-2022 13:30**
Client ID: Run ID: **SV-6_419215** SeqNo: **6915613** PrepDate: **06-Oct-2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dioxane	0.0050	0.010								U
Surr: 2-Fluorobiphenyl	*0.09654*	*0*	*0.08*	*0*	*121*	*40 - 140*				
Surr: 4-Terphenyl-d14	*0.0674*	*0*	*0.08*	*0*	*84.2*	*40 - 140*				
Surr: Nitrobenzene-d5	*0.0844*	*0*	*0.08*	*0*	*106*	*40 - 140*				

LCS Sample ID: **LCS-184506** Units: **ug/L** Analysis Date: **12-Oct-2022 13:49**
Client ID: Run ID: **SV-6_419215** SeqNo: **6915614** PrepDate: **06-Oct-2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dioxane	0.089	0.010	0.08	0	111	40 - 140				
Surr: 2-Fluorobiphenyl	*0.08878*	*0*	*0.08*	*0*	*111*	*40 - 140*				
Surr: 4-Terphenyl-d14	*0.07175*	*0*	*0.08*	*0*	*89.7*	*40 - 140*				
Surr: Nitrobenzene-d5	*0.07598*	*0*	*0.08*	*0*	*95.0*	*40 - 140*				

LCSD Sample ID: **LCSD-184506** Units: **ug/L** Analysis Date: **12-Oct-2022 14:08**
Client ID: Run ID: **SV-6_419215** SeqNo: **6915615** PrepDate: **06-Oct-2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dioxane	0.08772	0.010	0.08	0	110	40 - 140	0.089	1.45	20	
Surr: 2-Fluorobiphenyl	*0.07373*	*0*	*0.08*	*0*	*92.2*	*40 - 140*	*0.08878*	*18.5*	*20*	
Surr: 4-Terphenyl-d14	*0.07837*	*0*	*0.08*	*0*	*98.0*	*40 - 140*	*0.07175*	*8.82*	*20*	
Surr: Nitrobenzene-d5	*0.07076*	*0*	*0.08*	*0*	*88.4*	*40 - 140*	*0.07598*	*7.12*	*20*	

The following samples were analyzed in this batch: HS22100181-01

ALS Houston, US Date: 14-Oct-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS22100181

QC BATCH REPORT

Batch ID: R418731 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-221005** Units: **ug/L** Analysis Date: **05-Oct-2022 17:34**
Client ID: Run ID: **VOA6_418731** SeqNo: **6903897** 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: 14-Oct-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS22100181

QC BATCH REPORT

Batch ID: R418731 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-221005** Units: **ug/L** Analysis Date: **05-Oct-2022 17:34**
Client ID: Run ID: **VOA6_418731** SeqNo: **6903897** 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	1.0	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	*46.49*	*1.0*	*50*	*0*	*93.0*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.67*	*1.0*	*50*	*0*	*101*	*85 - 114*				
Surr: Dibromofluoromethane	*47.75*	*1.0*	*50*	*0*	*95.5*	*80 - 119*				
Surr: Toluene-d8	*55.14*	*1.0*	*50*	*0*	*110*	*89 - 112*				

ALS Houston, US Date: 14-Oct-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS22100181

QC BATCH REPORT

Batch ID: R418731 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

LCS Sample ID: **VLCSW-221005** Units: **ug/L** Analysis Date: **05-Oct-2022 16:31**
Client ID: Run ID: **VOA6_418731** SeqNo: **6903896** 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	19.94	1.0	20	0	99.7	78 - 124				
1,1,1-Trichloroethane	20.19	1.0	20	0	101	74 - 131				
1,1,2,2-Tetrachloroethane	19.28	1.0	20	0	96.4	71 - 121				
1,1,2-Trichloroethane	19.76	1.0	20	0	98.8	80 - 119				
1,1-Dichloroethane	20.16	1.0	20	0	101	77 - 125				
1,1-Dichloroethene	19.77	1.0	20	0	98.9	71 - 131				
1,1-Dichloropropene	20.07	1.0	20	0	100	78 - 125				
1,2,3-Trichlorobenzene	23.05	1.0	20	0	115	69 - 129				
1,2,3-Trichloropropane	19.82	1.0	20	0	99.1	73 - 122				
1,2,4-Trichlorobenzene	21.57	1.0	20	0	108	69 - 130				
1,2,4-Trimethylbenzene	21.08	1.0	20	0	105	76 - 124				
1,2-Dibromo-3-chloropropane	17.64	1.0	20	0	88.2	62 - 128				
1,2-Dibromoethane	20.04	1.0	20	0	100	77 - 121				
1,2-Dichlorobenzene	20.17	1.0	20	0	101	80 - 119				
1,2-Dichloroethane	19.77	1.0	20	0	98.9	73 - 128				
1,2-Dichloropropane	20.06	1.0	20	0	100	78 - 122				
1,3,5-Trimethylbenzene	21.15	1.0	20	0	106	75 - 124				
1,3-Dichlorobenzene	20.49	1.0	20	0	102	80 - 119				
1,3-Dichloropropane	19.47	1.0	20	0	97.3	80 - 119				
1,4-Dichlorobenzene	20.08	1.0	20	0	100	79 - 118				
2,2-Dichloropropane	20.05	1.0	20	0	100	60 - 139				
2-Butanone	33.79	2.0	40	0	84.5	56 - 143				
2-Chlorotoluene	20.12	1.0	20	0	101	79 - 122				
2-Hexanone	37.92	2.0	40	0	94.8	57 - 139				
4-Chlorotoluene	20.84	1.0	20	0	104	78 - 122				
4-Isopropyltoluene	21.39	1.0	20	0	107	77 - 127				
4-Methyl-2-pentanone	37.7	2.0	40	0	94.3	67 - 130				
Acetone	38.6	2.0	40	0	96.5	39 - 160				
Benzene	20.26	1.0	20	0	101	79 - 120				
Bromobenzene	20.22	1.0	20	0	101	80 - 120				
Bromochloromethane	20.12	1.0	20	0	101	78 - 123				
Bromodichloromethane	20.23	1.0	20	0	101	79 - 125				
Bromoform	19.36	1.0	20	0	96.8	66 - 130				
Bromomethane	22.9	1.0	20	0	114	53 - 141				

ALS Houston, US Date: 14-Oct-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS22100181

QC BATCH REPORT

Batch ID: R418731 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

LCS Sample ID: **VLCSW-221005** Units: **ug/L** Analysis Date: **05-Oct-2022 16:31**
Client ID: Run ID: **VOA6_418731** SeqNo: **6903896** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	40.19	2.0	40	0	100	64 - 133				
Carbon tetrachloride	19.73	1.0	20	0	98.7	72 - 136				
Chlorobenzene	20.14	1.0	20	0	101	82 - 118				
Chloroethane	19.64	1.0	20	0	98.2	60 - 138				
Chloroform	20.25	1.0	20	0	101	79 - 124				
Chloromethane	19.3	1.0	20	0	96.5	50 - 139				
cis-1,2-Dichloroethene	20.43	1.0	20	0	102	78 - 123				
cis-1,3-Dichloropropene	20.34	1.0	20	0	102	75 - 124				
Dibromochloromethane	19.58	1.0	20	0	97.9	74 - 126				
Dibromomethane	19.74	1.0	20	0	98.7	79 - 123				
Dichlorodifluoromethane	19.75	1.0	20	0	98.7	32 - 152				
Ethylbenzene	20.61	1.0	20	0	103	79 - 121				
Hexachlorobutadiene	21.05	1.0	20	0	105	66 - 134				
Isopropylbenzene	20.77	1.0	20	0	104	72 - 131				
m,p-Xylene	41.84	2.0	40	0	105	80 - 121				
Methylene chloride	23.42	2.0	20	0	117	74 - 124				
Naphthalene	21.73	1.0	20	0	109	61 - 128				
n-Butylbenzene	22.11	1.0	20	0	111	75 - 128				
n-Propylbenzene	21.2	1.0	20	0	106	76 - 126				
o-Xylene	20.71	1.0	20	0	104	78 - 122				
sec-Butylbenzene	20.88	1.0	20	0	104	77 - 126				
Styrene	20.94	1.0	20	0	105	78 - 123				
tert-Butylbenzene	20.83	1.0	20	0	104	78 - 124				
Tetrachloroethene	20.71	1.0	20	0	104	74 - 129				
Toluene	20.03	1.0	20	0	100	80 - 121				
trans-1,2-Dichloroethene	20.29	1.0	20	0	101	75 - 124				
trans-1,3-Dichloropropene	19.85	1.0	20	0	99.3	73 - 127				
Trichloroethene	20.36	1.0	20	0	102	79 - 123				
Trichlorofluoromethane	20.36	1.0	20	0	102	65 - 141				
Vinyl chloride	19.59	1.0	20	0	97.9	58 - 137				
Surr: 1,2-Dichloroethane-d4	*53.44*	*1.0*	*50*	*0*	*107*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*52.83*	*1.0*	*50*	*0*	*106*	*85 - 114*				
Surr: Dibromofluoromethane	*53.66*	*1.0*	*50*	*0*	*107*	*80 - 119*				
Surr: Toluene-d8	*52.43*	*1.0*	*50*	*0*	*105*	*89 - 112*				

ALS Houston, US Date: 14-Oct-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS22100181

QC BATCH REPORT

Batch ID: R418731 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MS Sample ID: **HS22100193-03MS** Units: **ug/L** Analysis Date: **05-Oct-2022 21:05**
Client ID: Run ID: **VOA6_418731** SeqNo: **6903907** 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	17.84	1.0	20	0	89.2	78 - 124				
1,1,1-Trichloroethane	17.56	1.0	20	0	87.8	74 - 131				
1,1,2,2-Tetrachloroethane	18.02	1.0	20	0	90.1	71 - 121				
1,1,2-Trichloroethane	18.4	1.0	20	0	92.0	80 - 119				
1,1-Dichloroethane	16.95	1.0	20	0	84.8	77 - 125				
1,1-Dichloroethene	17.35	1.0	20	0	86.8	71 - 131				
1,1-Dichloropropene	18.32	1.0	20	0	91.6	78 - 125				
1,2,3-Trichlorobenzene	14.8	1.0	20	0	74.0	69 - 129				
1,2,3-Trichloropropane	19.86	1.0	20	0	99.3	73 - 122				
1,2,4-Trichlorobenzene	15.99	1.0	20	0	80.0	69 - 130				
1,2,4-Trimethylbenzene	19.16	1.0	20	0	95.8	76 - 124				
1,2-Dibromo-3-chloropropane	15.78	1.0	20	0	78.9	62 - 128				
1,2-Dibromoethane	18.16	1.0	20	0	90.8	77 - 121				
1,2-Dichlorobenzene	18.3	1.0	20	0	91.5	80 - 119				
1,2-Dichloroethane	17.19	1.0	20	0	86.0	73 - 128				
1,2-Dichloropropane	18.05	1.0	20	0	90.3	78 - 122				
1,3,5-Trimethylbenzene	19.56	1.0	20	0	97.8	75 - 124				
1,3-Dichlorobenzene	18.47	1.0	20	0	92.3	80 - 119				
1,3-Dichloropropane	18.09	1.0	20	0	90.5	80 - 119				
1,4-Dichlorobenzene	18.38	1.0	20	0	91.9	79 - 118				
2,2-Dichloropropane	16.04	1.0	20	0	80.2	60 - 139				
2-Butanone	28.97	2.0	40	0	72.4	56 - 143				
2-Chlorotoluene	18.74	1.0	20	0	93.7	79 - 122				
2-Hexanone	38.07	2.0	40	0	95.2	57 - 139				
4-Chlorotoluene	19.23	1.0	20	0	96.1	78 - 122				
4-Isopropyltoluene	19.64	1.0	20	0	98.2	77 - 127				
4-Methyl-2-pentanone	39.43	2.0	40	0	98.6	67 - 130				
Acetone	570.3	2.0	40	0	1430	39 - 160				SE
Benzene	18.1	1.0	20	0	90.5	79 - 120				
Bromobenzene	18.66	1.0	20	0	93.3	80 - 120				
Bromochloromethane	16.5	1.0	20	0	82.5	78 - 123				
Bromodichloromethane	18.38	1.0	20	1.246	85.7	79 - 125				
Bromoform	17.14	1.0	20	0	85.7	66 - 130				
Bromomethane	16.69	1.0	20	0	83.5	53 - 141				

ALS Houston, US Date: 14-Oct-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS22100181

QC BATCH REPORT

Batch ID: R418731 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MS Sample ID: **HS22100193-03MS** Units: **ug/L** Analysis Date: **05-Oct-2022 21:05**
Client ID: Run ID: **VOA6_418731** SeqNo: **6903907** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	41.31	2.0	40	7.361	84.9	64 - 133				
Carbon tetrachloride	18.26	1.0	20	0	91.3	72 - 136				
Chlorobenzene	18.71	1.0	20	0	93.6	82 - 118				
Chloroethane	16.88	1.0	20	0	84.4	60 - 138				
Chloroform	62.65	1.0	20	44.9	88.8	79 - 124				
Chloromethane	15.19	1.0	20	0	76.0	50 - 139				
cis-1,2-Dichloroethene	16.47	1.0	20	0	82.3	78 - 123				
cis-1,3-Dichloropropene	17.11	1.0	20	0	85.5	75 - 124				
Dibromochloromethane	18.29	1.0	20	0	91.4	74 - 126				
Dibromomethane	17.6	1.0	20	0	88.0	79 - 123				
Dichlorodifluoromethane	14.19	1.0	20	0	71.0	32 - 152				
Ethylbenzene	19.37	1.0	20	0	96.8	79 - 121				
Hexachlorobutadiene	17.67	1.0	20	0	88.4	66 - 134				
Isopropylbenzene	18.98	1.0	20	0	94.9	72 - 131				
m,p-Xylene	38.21	2.0	40	0	95.5	80 - 121				
Methylene chloride	16.75	2.0	20	0	83.8	74 - 124				
Naphthalene	14.37	1.0	20	0	71.9	61 - 128				
n-Butylbenzene	19.9	1.0	20	0	99.5	75 - 128				
n-Propylbenzene	19.83	1.0	20	0	99.1	76 - 126				
o-Xylene	19.26	1.0	20	0	96.3	78 - 122				
sec-Butylbenzene	19.71	1.0	20	0	98.5	77 - 126				
Styrene	18.65	1.0	20	0	93.2	78 - 123				
tert-Butylbenzene	19.63	1.0	20	0	98.2	78 - 124				
Tetrachloroethene	19.55	1.0	20	0	97.8	74 - 129				
Toluene	18.75	1.0	20	0	93.8	80 - 121				
trans-1,2-Dichloroethene	17.28	1.0	20	0	86.4	75 - 124				
trans-1,3-Dichloropropene	17.02	1.0	20	0	85.1	73 - 127				
Trichloroethene	85.63	1.0	20	69.97	78.3	79 - 123				S
Trichlorofluoromethane	17.85	1.0	20	0	89.3	65 - 141				
Vinyl chloride	18.21	1.0	20	0	91.1	58 - 137				
Surr: 1,2-Dichloroethane-d4	*47.51*	*1.0*	*50*	*0*	*95.0*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*51.56*	*1.0*	*50*	*0*	*103*	*85 - 114*				
Surr: Dibromofluoromethane	*48.01*	*1.0*	*50*	*0*	*96.0*	*80 - 119*				
Surr: Toluene-d8	*55.12*	*1.0*	*50*	*0*	*110*	*89 - 112*				

ALS Houston, US Date: 14-Oct-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS22100181

QC BATCH REPORT

Batch ID: R418731 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MSD Sample ID: **HS22100193-03MSD** Units: **ug/L** Analysis Date: **05-Oct-2022 21:26**
Client ID: Run ID: **VOA6_418731** SeqNo: **6903908** 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	17.48	1.0	20	0	87.4	78 - 124	17.84	2.01	20	
1,1,1-Trichloroethane	16.3	1.0	20	0	81.5	74 - 131	17.56	7.46	20	
1,1,2,2-Tetrachloroethane	18.19	1.0	20	0	90.9	71 - 121	18.02	0.904	20	
1,1,2-Trichloroethane	18.15	1.0	20	0	90.7	80 - 119	18.4	1.39	20	
1,1-Dichloroethane	15.93	1.0	20	0	79.7	77 - 125	16.95	6.2	20	
1,1-Dichloroethene	16.3	1.0	20	0	81.5	71 - 131	17.35	6.25	20	
1,1-Dichloropropene	17.07	1.0	20	0	85.3	78 - 125	18.32	7.06	20	
1,2,3-Trichlorobenzene	16.77	1.0	20	0	83.9	69 - 129	14.8	12.5	20	
1,2,3-Trichloropropane	18.15	1.0	20	0	90.7	73 - 122	19.86	9	20	
1,2,4-Trichlorobenzene	16.88	1.0	20	0	84.4	69 - 130	15.99	5.37	20	
1,2,4-Trimethylbenzene	18.4	1.0	20	0	92.0	76 - 124	19.16	4.08	20	
1,2-Dibromo-3-chloropropane	16.56	1.0	20	0	82.8	62 - 128	15.78	4.79	20	
1,2-Dibromoethane	17.85	1.0	20	0	89.3	77 - 121	18.16	1.69	20	
1,2-Dichlorobenzene	17.37	1.0	20	0	86.9	80 - 119	18.3	5.22	20	
1,2-Dichloroethane	16.75	1.0	20	0	83.8	73 - 128	17.19	2.6	20	
1,2-Dichloropropane	16.82	1.0	20	0	84.1	78 - 122	18.05	7.1	20	
1,3,5-Trimethylbenzene	18.32	1.0	20	0	91.6	75 - 124	19.56	6.52	20	
1,3-Dichlorobenzene	18.2	1.0	20	0	91.0	80 - 119	18.47	1.48	20	
1,3-Dichloropropane	17.69	1.0	20	0	88.4	80 - 119	18.09	2.26	20	
1,4-Dichlorobenzene	17.68	1.0	20	0	88.4	79 - 118	18.38	3.89	20	
2,2-Dichloropropane	14.88	1.0	20	0	74.4	60 - 139	16.04	7.54	20	
2-Butanone	27.79	2.0	40	0	69.5	56 - 143	28.97	4.14	20	
2-Chlorotoluene	17.66	1.0	20	0	88.3	79 - 122	18.74	5.94	20	
2-Hexanone	36.66	2.0	40	0	91.7	57 - 139	38.07	3.77	20	
4-Chlorotoluene	18.22	1.0	20	0	91.1	78 - 122	19.23	5.35	20	
4-Isopropyltoluene	18.49	1.0	20	0	92.5	77 - 127	19.64	6.04	20	
4-Methyl-2-pentanone	38.29	2.0	40	0	95.7	67 - 130	39.43	2.92	20	
Acetone	144.5	2.0	40	0	361	39 - 160	570.3	119	20	SR
Benzene	17.2	1.0	20	0	86.0	79 - 120	18.1	5.1	20	
Bromobenzene	17.87	1.0	20	0	89.4	80 - 120	18.66	4.29	20	
Bromochloromethane	16.03	1.0	20	0	80.1	78 - 123	16.5	2.89	20	
Bromodichloromethane	17.74	1.0	20	1.246	82.5	79 - 125	18.38	3.57	20	
Bromoform	17.33	1.0	20	0	86.6	66 - 130	17.14	1.08	20	
Bromomethane	14.57	1.0	20	0	72.8	53 - 141	16.69	13.6	20	

ALS Houston, US Date: 14-Oct-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS22100181

QC BATCH REPORT

Batch ID: R418731 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MSD Sample ID: **HS22100193-03MSD** Units: **ug/L** Analysis Date: **05-Oct-2022 21:26**
Client ID: Run ID: **VOA6_418731** SeqNo: **6903908** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	38.38	2.0	40	7.361	77.5	64 - 133	41.31	7.37	20	
Carbon tetrachloride	17.25	1.0	20	0	86.2	72 - 136	18.26	5.69	20	
Chlorobenzene	17.88	1.0	20	0	89.4	82 - 118	18.71	4.55	20	
Chloroethane	16.85	1.0	20	0	84.2	60 - 138	16.88	0.186	20	
Chloroform	59.89	1.0	20	44.9	75.0	79 - 124	62.65	4.5	20	S
Chloromethane	13.99	1.0	20	0	69.9	50 - 139	15.19	8.26	20	
cis-1,2-Dichloroethene	15.9	1.0	20	0	79.5	78 - 123	16.47	3.51	20	
cis-1,3-Dichloropropene	16.54	1.0	20	0	82.7	75 - 124	17.11	3.37	20	
Dibromochloromethane	17.64	1.0	20	0	88.2	74 - 126	18.29	3.58	20	
Dibromomethane	17.01	1.0	20	0	85.0	79 - 123	17.6	3.45	20	
Dichlorodifluoromethane	13.4	1.0	20	0	67.0	32 - 152	14.19	5.73	20	
Ethylbenzene	18.4	1.0	20	0	92.0	79 - 121	19.37	5.09	20	
Hexachlorobutadiene	17.18	1.0	20	0	85.9	66 - 134	17.67	2.84	20	
Isopropylbenzene	18.42	1.0	20	0	92.1	72 - 131	18.98	2.99	20	
m,p-Xylene	36.87	2.0	40	0	92.2	80 - 121	38.21	3.58	20	
Methylene chloride	16.15	2.0	20	0	80.8	74 - 124	16.75	3.66	20	
Naphthalene	16.57	1.0	20	0	82.8	61 - 128	14.37	14.2	20	
n-Butylbenzene	18.78	1.0	20	0	93.9	75 - 128	19.9	5.77	20	
n-Propylbenzene	18.69	1.0	20	0	93.4	76 - 126	19.83	5.94	20	
o-Xylene	18.33	1.0	20	0	91.6	78 - 122	19.26	4.95	20	
sec-Butylbenzene	18.52	1.0	20	0	92.6	77 - 126	19.71	6.21	20	
Styrene	18.19	1.0	20	0	91.0	78 - 123	18.65	2.45	20	
tert-Butylbenzene	18.4	1.0	20	0	92.0	78 - 124	19.63	6.47	20	
Tetrachloroethene	18.61	1.0	20	0	93.0	74 - 129	19.55	4.95	20	
Toluene	17.83	1.0	20	0	89.2	80 - 121	18.75	5.04	20	
trans-1,2-Dichloroethene	16.25	1.0	20	0	81.3	75 - 124	17.28	6.16	20	
trans-1,3-Dichloropropene	16.42	1.0	20	0	82.1	73 - 127	17.02	3.56	20	
Trichloroethene	80.11	1.0	20	69.97	50.7	79 - 123	85.63	6.66	20	S
Trichlorofluoromethane	17.01	1.0	20	0	85.0	65 - 141	17.85	4.85	20	
Vinyl chloride	15.74	1.0	20	0	78.7	58 - 137	18.21	14.5	20	
Surr: 1,2-Dichloroethane-d4	*47.19*	*1.0*	*50*	*0*	*94.4*	*81 - 118*	*47.51*	*0.67*	*20*	
Surr: 4-Bromofluorobenzene	*51.61*	*1.0*	*50*	*0*	*103*	*85 - 114*	*51.56*	*0.105*	*20*	
Surr: Dibromofluoromethane	*47.88*	*1.0*	*50*	*0*	*95.8*	*80 - 119*	*48.01*	*0.272*	*20*	
Surr: Toluene-d8	*54.6*	*1.0*	*50*	*0*	*109*	*89 - 112*	*55.12*	*0.956*	*20*	

ALS Houston, US Date: 14-Oct-22

Client:	Bhate Environmental Associates, Inc.
Project:	Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder:	HS22100181

QC BATCH REPORT

Batch ID:	**R418731 (0)**	**Instrument:**	**VOA6**	**Method:**	**VOLATILES ORGANICS BY METHOD 8260C**

The following samples were analyzed in this batch:	HS22100181-01	HS22100181-03

ALS Houston, US Date: 14-Oct-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS22100181

QC BATCH REPORT

Batch ID: R418760 (0) **Instrument: UV-2450** **Method: HEXAVALENT CHROMIUM BY SW7196A**

MBLK Sample ID: **MBLK-R418760** Units: **mg/L** Analysis Date: **05-Oct-2022 12:10**
Client ID: Run ID: **UV-2450_418760** SeqNo: **6904751** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.00600	0.0100								U

LCS Sample ID: **LCS-R418760** Units: **mg/L** Analysis Date: **05-Oct-2022 12:10**
Client ID: Run ID: **UV-2450_418760** SeqNo: **6904750** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.23	0.0100	0.25	0	92.0	90 - 111				

MS Sample ID: **HS22100181-01MS** Units: **mg/L** Analysis Date: **05-Oct-2022 12:10**
Client ID: **LH18/24-SP650_100422** Run ID: **UV-2450_418760** SeqNo: **6904753** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.236	0.0100	0.25	-0.003	95.6	90 - 111				

MSD Sample ID: **HS22100181-01MSD** Units: **mg/L** Analysis Date: **05-Oct-2022 12:10**
Client ID: **LH18/24-SP650_100422** Run ID: **UV-2450_418760** SeqNo: **6904752** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.235	0.0100	0.25	-0.003	95.2	90 - 111	0.236	0.425	20	

The following samples were analyzed in this batch: HS22100181-01

ALS Houston, US Date: 14-Oct-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: **HS22100181**

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	22-041-0	27-Mar-2023
California	2919 2022-2023	30-Apr-2023
Dept of Defense	L21-682	31-Dec-2023
Florida	E87611-36	30-Jun-2023
Illinois	2000322022-9	09-May-2023
Kansas	E-10352; 2022-2023	31-Jul-2023
Kentucky	123043, 2022-2023	30-Apr-2023
Louisiana	03087, 2022-2023	30-Jun-2023
Maryland	343, 2022-2023	30-Jun-2023
North Carolina	624-2022	31-Dec-2022
North Dakota	R-193 2022-2023	30-Apr-2023
Oklahoma	2022-141	31-Aug-2023
Texas	T104704231-22-29	30-Apr-2023
Utah	TX026932022-13	31-Jul-2023

ALS Houston, US Date: 14-Oct-22

Sample Receipt Checklist

Work Order ID: HS22100181 **Date/Time Received:** **05-Oct-2022 10:10**

Client Name: Bhate Environmental **Received by:** **Malcolm Burleson**

Completed By:	*/S/ Paresh M. Giga*	05-Oct-2022 11:25	**Reviewed by:**	*/S/ Ragen Giga*	10-Oct-2022 08:15
	eSignature	Date/Time		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:Client
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):	3.1C/2.9C U/C	IR31
Cooler(s)/Kit(s):	48161	
Date/Time sample(s) sent to storage:	10/5/22 11:35	

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

HS22100181
Bhate Environmental Associates, Inc.
Longhorn GW Treatment Plant Monthly Effluent Sample

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: VOLATILES	SILVER, SELENIUM, LEAD, BARIUM	HEXAVALENT CHROMIUM	1, 4 - DIOXANE	PERCHLORATE	Remarks (Preservatives, etc.)	Lab I.D.#
LH18/24-SP650_100422	Water	10/04/22 / 14:00		3	X					HCL	
LH18/24-SP650_100422	Water	10/04/22 / 14:00		2			X	X		NONE	
LH18/24-SP650_100422_AIX	Water	10/04/22 / 14:00		1					X	NONE	
LH18/24-SP650_100422	Water	10/04/22 / 14:00		1		X				HNO3	
Trip Blank	Water	10/04/22		2	X					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	10/04/22	14:30		10/05/2022	1010						

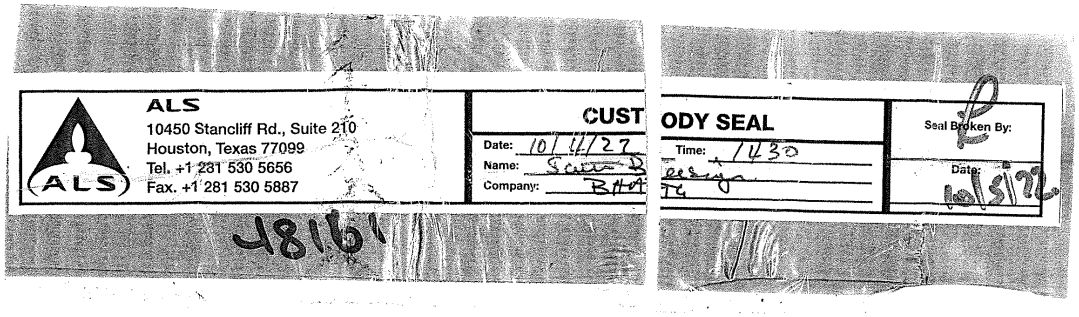
For Lab Use Only

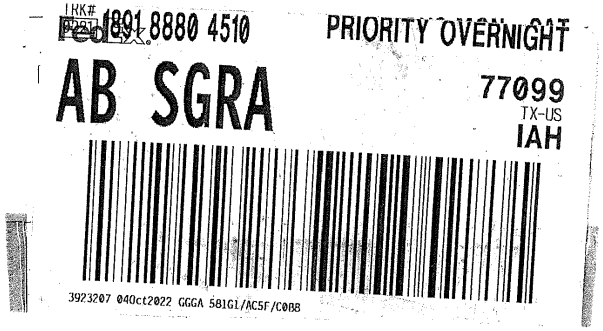
Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition

Remarks:

48161 1R31 3.1oz ~0.2c

(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
CUST
Date: 10/4/22
Name:
Company:
48161
ODY SEAL
Time: 1430
Seal Broken By:
Date: 10/5/22


1HK#
1891 8880 4510
PRIORITY OVERNIGHT
AB SGRA
77099
TX-US
IAH
3923207 04Oct2022 GGGA 581G1/AC5F/C0B8

October 10, 2022 Service Request No:E2200960

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

Laboratory Results for: HS22100181

Dear Dane,

Enclosed are the results of the sample(s) submitted to our laboratory October 05, 2022
For your reference, these analyses have been assigned our service request number **E2200960.**

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 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.:**	E2200960
Project:	HS22100181	**Date Received:**	10/05/22
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

One sample was received for analysis at ALS Environmental in Houston on 10/05/22.

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:

EQ2200452-02/03: 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:**E2200960
Project: HS22100181

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2200960-001	LH18/24-SP650_100422_AIX	10/4/2022	1400

Service Request Summary

Folder #: **E2200960**
Client Name: ALS Environmental - US
Project Name: HS22100181
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: JGUIN
Date Received: 10/05/22
Internal Due Date: 10/12/2022
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS22100181
EDD: BASIC_WQC_CASNo_LOD

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

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2200960-001	LH18/24-SP650_100422_AIX	Water	10/04/22 1400	**IV**

Service Request Summary

Folder #: **E2200960**
Client Name: ALS Environmental - US
Project Name: HS22100181
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: JGUIN
Date Received: 10/05/22
Internal Due Date: 10/12/2022
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS22100181
EDD: BASIC_WQC_CASNo_LOD

1 120 mL-Plastic Bottle Natural WM Unpreserved
Location: EHRMS-AirArch 1
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	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	12/31/2022
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	2228443	12/31/2022
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 Health	C819-2022	11/14/2022

Chain of Custody

ALS Environmental - Houston HRMS
10450 Stancliff Rd, Suite 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:** **20023**

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:	HS22100181
TSR:	Houston House Acct

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS22100181-02**	**LH18/24-SP650_100422_AIX**	**Water**	**04 Oct 2022 14:00**
	Provide Level II and Level IV reports in separate pdf SUB_Perch-6850			12 Oct 2022

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: _____

Cooler ID(s): _____ Temperature(s): _____

10450 Stancliff Rd, Ste 210
Houston, TX 77099
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www.alsglobal.com

Sample Receipt Checklist

Work Order ID: HS22100181 **Date/Time received:** 05 Oct 2022 10:10

Client name: Bhate Environmental Associates, Inc. **Received by:** Malcolm Burleson

Completed/By: 05 Oct 2022 11:25 (Date/Time) Paresh M. Giga (eSignature) **Reviewed/By:** (Date/Time) (eSignature)

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 ID(s): 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):	3.1C/2.9C U/C		IR31	
Cooler Information:	1 Cooler(s), 48161			
Date/Time sample(s) sent to storage:	10/5/22 11:35			
Water - VOA vials have zero headspace?	☑ Yes	☐ No	☐ No VOA vials submitted	
Water - pH acceptable upon receipt?	☑ Yes	☐ No	☐ Not Applicable	
pH adjusted?	☐ Yes	☑ No	☐ Not Applicable	

pH adjusted by:

Login notes:

Client contacted: **Date contacted:** **Person contacted:**

Contacted by: **Regarding:**

Comments:

Corrective action:

10450 Stancliff Rd., Suite 210
Houston, TX 77099
T: +1 713 266 1599
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
10450 Stancliff Rd., Suite 210, Houston, TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

Preparation Information Benchsheet

Prep Run#: 407746 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 10/6/22 12:40

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2200958-001	LH18/24-SP140_100422	.01	6850/ClO4 DOD			Water	10mL	
2	E2200959-001	LH18/24-SP650_100422_AIX	.01	6850/ClO4 DOD			Water	10mL	
3	E2200959-002	LH18/24/SP650_1004_BIX	.01	6850/ClO4 DOD			Water	10mL	
4	E2200960-001	LH18/24-SP650_100422_AIX	.01	6850/ClO4 DOD			Water	10mL	
5	EQ2200452-01	MB		6850/ClO4 DOD			Liquid	10mL	
6	EQ2200452-02	LCS		6850/ClO4 DOD			Liquid	10mL	
7	EQ2200452-03	DLCS		6850/ClO4 DOD			Liquid	10mL	
8	K2211205-001	MTW34-220926	.01	6850/ClO4 DOD			Ground Water	10mL	
9	K2211205-002	MTW32-220926	.01	6850/ClO4 DOD			Ground Water	10mL	
10	K2211205-003	MTW35-220926	.01	6850/ClO4 DOD			Ground Water	10mL	
11	K2211205-004	MTW29-220926	.01	6850/ClO4 DOD			Ground Water	10mL	
12	K2211205-005	MTW25-220926	.01	6850/ClO4 DOD			Ground Water	10mL	
13	K2211397-001	LGAC-INF-100322	.01	6850/ClO4			Water	10mL	

Spiking Solutions

Name: Perchlorate Intermediate Stock1 Inventory ID 222798 Logbook Ref: Perchlorate (1st Source) Expires On: 10/29/2022

EQ2200452-02	1.00µL	EQ2200452-02	1.00µL	EQ2200452-03	1.00µL	EQ2200452-03	1.00µL

Name: Perchlorate Internal Standard 1ug/mL Inventory ID 225266 Logbook Ref: Perchlorate Internal Standard Expires On: 01/31/2023

E2200958-001	100.00µL	E2200959-001	100.00µL	E2200959-002	100.00µL	E2200960-001	100.00µL	EQ2200452-01	100.00µL	EQ2200452-01	100.00µL
EQ2200452-02	100.00µL	EQ2200452-02	100.00µL	EQ2200452-03	100.00µL	EQ2200452-03	100.00µL	K2211205-001	100.00µL	K2211205-002	100.00µL
K2211205-003	100.00µL	K2211205-004	100.00µL	K2211205-005	100.00µL	K2211397-001	100.00µL				

Preparation Materials

Water HPLC Grade	09/22/22 Water (225106)	6850 Amber Glass screw vial	2mL Screw Top Vial (221894)	6850 0.45um syringe filters	6850 Syringe Filters (224414)
6850 Luer-Lok Syringes	Luer-Lok Syringes (221305)	6850 Pipette Tips 50-1000 uL	6850 Pipette Tips (221929)		

Preparation Steps

Step: Preparation
Started: 10/6/22 12:40
Finished: 10/6/22 13:30
By: GRIVERA
Comments

Preparation Information Benchsheet

Prep Run#: 407746
Team: Semivoa GCMS/GRIVERA

Prep WorkFlow: GenExt28Day
Prep Method: Method

Status: Prepped
Prep Date/Time: 10/6/22 12:40

Comments:

Reviewed By: GR Date: 10/06/22

Chain of Custody

Relinquished By:		Date:		Extracts Examined
Received By:		Date:		Yes No

Analytical Results

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

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2200960
Project:	HS22100181	**Date Collected:**	10/ 4/22 1400
Sample Matrix:	Water	**Date Received:**	10/ 5/22
Sample Name:	LH18/24-SP650_100422_AIX	**Units:**	µg/L
Lab Code:	E2200960-001	**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	**0.0703**	J	0.100	0.0500	0.0250	1	10/ 6/22	10/7/22 11:25	407746	780609	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2200960
Project:	HS22100181	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2200452-01	**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	10/ 6/22	10/6/22 15:58	407746	780623	

Accuracy & Precision

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2200960
Project:	HS22100181	**Date Analyzed:**	10/ 6/22
Sample Matrix:	Water		

Lab Control Sample Summary

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

Analytical Method:	6850	**Units:**	µg/L
Prep Method:	Method	**Basis:**	NA
		Extraction Lot:	407746

	Lab Control Sample EQ2200452-02			Duplicate Lab Control Sample EQ2200452-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.0923	0.100	92	0.0988	0.100	99	84 - 119	7	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:**	E2200960
Project:	HS22100181	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2200452-02	**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	**0.0923**	J	0.100	0.0500	0.0250	1	10/ 6/22	10/6/22 16:07	407746	780623	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2200960
Project:	HS22100181	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2200452-03	**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	**0.0988**	J	0.100	0.0500	0.0250	1	10/ 6/22	10/6/22 16:15	407746	780623	

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

October 14, 2022

Marcia Olive
Bhate Environmental Associates, Inc.
445 Union Blvd Ste 129
Lakewood, CO 80228

Work Order: **HS22100184**

Laboratory Results for: **Longhorn GW Treatment Plant Weekly Samples**

Dear Marcia Olive,

ALS Environmental received 3 sample(s) on Oct 05, 2022 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
Dane J. Wacasey

ALS Houston, US Date: 14-Oct-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS22100184

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS22100184-01	LH18/24-SP650_100422	Water		04-Oct-2022 14:00	05-Oct-2022 10:10	☐
HS22100184-02	LH18/24-SP650_100422_AIX	Water		04-Oct-2022 14:00	05-Oct-2022 10:10	☐
HS22100184-03	LH18/24-SP650_1004_BIX	Water		04-Oct-2022 14:00	05-Oct-2022 10:10	☐

ALS Houston, US Date: 14-Oct-22

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS22100184

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: R419346

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method E350.3

Batch ID: R419239

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method E365.3

Batch ID: R418826

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

ALS Houston, US Date: 14-Oct-22

Client: Bhate Environmental Associates, Inc.
ANALYTICAL REPORT
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder:HS22100184
Sample ID: LH18/24-SP650_100422
Lab ID:HS22100184-01
Collection Date: 04-Oct-2022 14:00
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
AMMONIA AS N BY E350.3(ISE)		**Method:E350.3**						Analyst: MZD
Nitrogen, Ammonia (As N)	**11**	a	**0.10**	**0.10**	**0.20**	**mg/L**	1	12-Oct-2022 16:20
ORTHO PHOSPHATE (PO4) AS P BY E365.3-1978		**Method:E365.3**						Analyst: MZD
Phosphorus, Total Orthophosphate (As P)	**3.57**	a	**0.100**	**0.125**	**0.250**	**mg/L**	10	06-Oct-2022 12:44
TOTAL ORGANIC CARBON BY E415.1		**Method:E415.1**						Analyst: JAC
Organic Carbon, Total	**7.73**	a	**0.500**	**1.00**	**1.00**	**mg/L**	1	13-Oct-2022 11:22

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 14-Oct-22

Client:	Bhate Environmental Associates, Inc.	**ANALYTICAL REPORT**
Project:	Longhorn GW Treatment Plant Weekly Samples	WorkOrder:HS22100184
Sample ID:	LH18/24-SP650_100422_AIX	Lab ID:HS22100184-02
Collection Date:	04-Oct-2022 14:00	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	10-Oct-2022 14:39

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 14-Oct-22

Client: Bhate Environmental Associates, Inc.

ANALYTICAL REPORT

Project: Longhorn GW Treatment Plant Weekly Samples

WorkOrder:HS22100184

Sample ID: LH18/24-SP650_1004_BIX

Lab ID:HS22100184-03

Collection Date: 04-Oct-2022 14:00

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	10-Oct-2022 14:39

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 14-Oct-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS22100184

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R418826 (0)	**Test Name :** ORTHO PHOSPHATE (PO4) AS P BY E365.3-1978				**Matrix:** Water	
HS22100184-01	LH18/24-SP650_100422	04 Oct 2022 14:00			06 Oct 2022 12:44	10
Batch ID: R418996 (0)	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)				**Matrix:** Water	
HS22100184-02	LH18/24-SP650_100422_AIX	04 Oct 2022 14:00			10 Oct 2022 14:39	1
HS22100184-03	LH18/24-SP650_1004_BIX	04 Oct 2022 14:00			10 Oct 2022 14:39	1
Batch ID: R419239 (0)	**Test Name :** AMMONIA AS N BY E350.3(ISE)				**Matrix:** Water	
HS22100184-01	LH18/24-SP650_100422	04 Oct 2022 14:00			12 Oct 2022 16:20	1
Batch ID: R419346 (0)	**Test Name :** TOTAL ORGANIC CARBON BY E415.1				**Matrix:** Water	
HS22100184-01	LH18/24-SP650_100422	04 Oct 2022 14:00			13 Oct 2022 11:22	1

ALS Houston, US Date: 14-Oct-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS22100184

QC BATCH REPORT

Batch ID: R418826 (0) **Instrument: UV-2450** **Method: ORTHO PHOSPHATE (PO4) AS P BY E365.3-1978**

MBLK Sample ID: **MBLK-R418826** Units: **mg/L** Analysis Date: **06-Oct-2022 12:44**
Client ID: Run ID: **UV-2450_418826** SeqNo: **6906236** 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)	0.0125	0.0250								U

LCS Sample ID: **LCS-R418826** Units: **mg/L** Analysis Date: **06-Oct-2022 12:44**
Client ID: Run ID: **UV-2450_418826** SeqNo: **6906235** 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)	0.273	0.0250	0.25	0	109	85 - 115				

LCSD Sample ID: **LCSD-R418826** Units: **mg/L** Analysis Date: **06-Oct-2022 12:44**
Client ID: Run ID: **UV-2450_418826** SeqNo: **6906241** 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)	0.275	0.0250	0.25	0	110	85 - 115	0.273	0.73	20	

MS Sample ID: **HS22100264-03MS** Units: **mg/L** Analysis Date: **06-Oct-2022 12:44**
Client ID: Run ID: **UV-2450_418826** SeqNo: **6906238** 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)	0.284	0.0250	0.25	0.025	104	80 - 120				

MSD Sample ID: **HS22100264-03MSD** Units: **mg/L** Analysis Date: **06-Oct-2022 12:44**
Client ID: Run ID: **UV-2450_418826** SeqNo: **6906237** 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)	0.287	0.0250	0.25	0.025	105	80 - 120	0.284	1.05	20	

The following samples were analyzed in this batch: HS22100184-01

ALS Houston, US Date: 14-Oct-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS22100184

QC BATCH REPORT

Batch ID: R419239 (0) **Instrument: WetChem_HS** **Method: AMMONIA AS N BY E350.3(ISE)**

MBLK Sample ID: **MBLK-R419239** Units: **mg/L** Analysis Date: **12-Oct-2022 16:20**
Client ID: Run ID: **WetChem_HS_419239** SeqNo: **6916078** 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)	0.10	0.20								U

LCS Sample ID: **LCS-R419239** Units: **mg/L** Analysis Date: **12-Oct-2022 16:20**
Client ID: Run ID: **WetChem_HS_419239** SeqNo: **6916077** 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)	9.937	0.20	10	0	99.4	80 - 120				

MS Sample ID: **HS22100130-01MS** Units: **mg/L** Analysis Date: **12-Oct-2022 16:20**
Client ID: Run ID: **WetChem_HS_419239** SeqNo: **6916084** 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)	9.988	0.20	10	0.159	98.3	80 - 120				

MSD Sample ID: **HS22100130-01MSD** Units: **mg/L** Analysis Date: **12-Oct-2022 16:20**
Client ID: Run ID: **WetChem_HS_419239** SeqNo: **6916083** 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)	9.989	0.20	10	0.159	98.3	80 - 120	9.988	0.01	20	

The following samples were analyzed in this batch: HS22100184-01

ALS Houston, US Date: 14-Oct-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS22100184

QC BATCH REPORT

Batch ID: R419346 (0) **Instrument: TOC_04** **Method: TOTAL ORGANIC CARBON BY E415.1**

MBLK Sample ID: **MBLK-10132022** Units: **mg/L** Analysis Date: **13-Oct-2022 10:42**
Client ID: Run ID: **TOC_04_419346** SeqNo: **6918507** 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-10132022** Units: **mg/L** Analysis Date: **13-Oct-2022 10:55**
Client ID: Run ID: **TOC_04_419346** SeqNo: **6918508** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	10.76	1.00	10	0	108	85 - 115				

LCSD Sample ID: **LCSD-10132022** Units: **mg/L** Analysis Date: **13-Oct-2022 11:08**
Client ID: Run ID: **TOC_04_419346** SeqNo: **6918509** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	10.73	1.00	10	0	107	85 - 115	10.76	0.279	20	

MS Sample ID: **HS22100184-01MS** Units: **mg/L** Analysis Date: **13-Oct-2022 11:36**
Client ID: **LH18/24-SP650_100422** Run ID: **TOC_04_419346** SeqNo: **6918511** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	19.07	1.00	10	7.731	113	80 - 120				

The following samples were analyzed in this batch: HS22100184-01

ALS Houston, US Date: 14-Oct-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: **HS22100184**

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	22-041-0	27-Mar-2023
California	2919 2022-2023	30-Apr-2023
Dept of Defense	L21-682	31-Dec-2023
Florida	E87611-36	30-Jun-2023
Illinois	2000322022-9	09-May-2023
Kansas	E-10352; 2022-2023	31-Jul-2023
Kentucky	123043, 2022-2023	30-Apr-2023
Louisiana	03087, 2022-2023	30-Jun-2023
Maryland	343, 2022-2023	30-Jun-2023
North Carolina	624-2022	31-Dec-2022
North Dakota	R-193 2022-2023	30-Apr-2023
Oklahoma	2022-141	31-Aug-2023
Texas	T104704231-22-29	30-Apr-2023
Utah	TX026932022-13	31-Jul-2023

ALS Houston, US Date: 14-Oct-22

Sample Receipt Checklist

Work Order ID: HS22100184 **Date/Time Received:** **05-Oct-2022 10:10**

Client Name: Bhate Environmental **Received by:** **Malcolm Burleson**

Completed By: */S/ Paresh M. Giga* (eSignature) 05-Oct-2022 11:40 (Date/Time) **Reviewed by:** */S/ Ragen Giga* (eSignature) 10-Oct-2022 08:21 (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:Client
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):	3.1C/2.9C U/c	IR31
Cooler(s)/Kit(s):	48161	
Date/Time sample(s) sent to storage:	10/5/22 11:50	

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. NWO1312.0150.0 16.0001

Job: GROUNDWATER TREATMENT PLANT WEEKLY SAMPLES

Prepared By: Scott Beesinger

P.O. Number

HS22100184
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.#
					Analyses											
LH18/24-SP650_100422	Water	10/04/22 / 14:00		3	X	X									H2SO4	
LH18/24-SP650_100422	Water	10/04/22 / 14:00		1			X								NONE	
LH18/24–SP650_100422_AIX	Water	10/04/22 / 14:00		1				X							NONE	
LH18/24-SP650_1004_BIX	Water	10/04/22 / 14:00		1				X							NONE	

Additional Remarks: **Standard TAT**

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	10/04/22	14:30		10/05/2022	1015						

For Lab Use Only

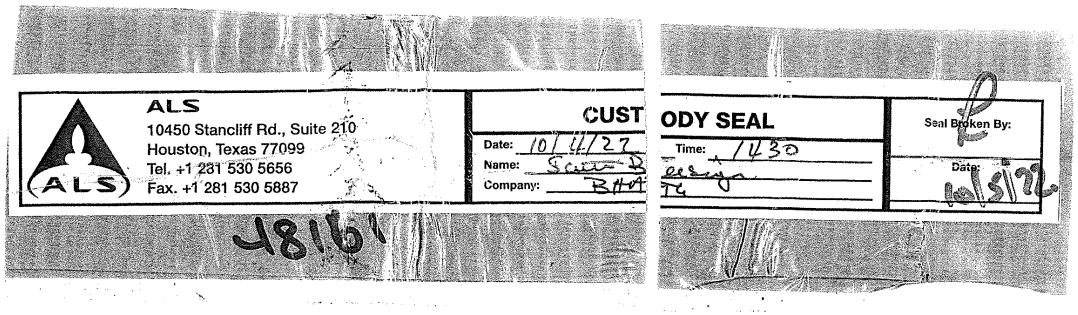
Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition

Remarks:

48161

1R31
3.1 lbs
-0.2

(Word) S:\1-ces\Forms\Chain of Custody - BiWeekly

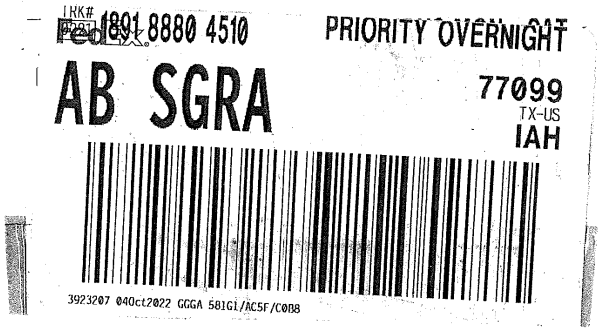


ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

CUST
Date: 10/14/22
Name: Scott B
Company: BH

J8161

ODY SEAL
Time: 1430
Seal Broken By:
Date: 10/5/22



LHK# 1891 8880 4510
PRIORITY OVERNIGHT
AB SGRA
77099
TX-US
IAH
3923207 040ct2022 GGGA 581GI/AC5F/C0B8

October 10, 2022 Service Request No:E2200959

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

Laboratory Results for: HS22100184

Dear Dane,

Enclosed are the results of the sample(s) submitted to our laboratory October 05, 2022
For your reference, these analyses have been assigned our service request number **E2200959.**

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

ALS Environmental

Client:	ALS Environmental - US	**Service Request No.:**	E2200959
Project:	HS22100184	**Date Received:**	10/05/22
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 10/05/22.

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:

EQ2200452-02/03: 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:**E2200959
Project: HS22100184

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2200959-001	LH18/24-SP650_100422_AIX	10/4/2022	1400
E2200959-002	LH18/24/SP650_1004_BIX	10/4/2022	1400

Service Request Summary

Folder #: **E2200959**
Client Name: ALS Environmental - US
Project Name: HS22100184
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: JGUIN
Date Received: 10/05/22
Internal Due Date: 10/10/2022
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS22100184
EDD: BASIC_WQC_CASNo_LOD

2 120 mL-Plastic Bottle Natural WM Unpreserved
Location: EHRMS-AirArch 1
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2200959-001	LH18/24-SP650_100422_AIX	Water	10/04/22 1400	**IV**
E2200959-002	LH18/24/SP650_1004_BIX	Water	10/04/22 1400	**IV**

Service Request Summary

Folder #:	**E2200959**
Client Name:	ALS Environmental - US
Project Name:	HS22100184
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:	JGUIN
Date Received:	10/05/22
Internal Due Date:	10/10/2022
QAP:	LAB QAP
Qualifier Set:	Lab Standard
Formset:	Lab Standard
Merged?:	Y
Report to MDL?:	Y
P.O. Number:	HS22100184
EDD:	BASIC_WQC_CASNo_LOD

2 120 mL-Plastic Bottle Natural WM Unpreserved

Location: EHRMS-AirArch 1

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	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	12/31/2022
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	2228443	12/31/2022
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 Health	C819-2022	11/14/2022

Chain of Custody

ALS Environmental - Houston HRMS
10450 Stancliff Rd, Suite 210, Houston TX 77099
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www.alsglobal.com

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Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **20026**

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:	HS22100184
TSR:	Houston House Acct

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS22100184-02**	**LH18/24-SP650_100422_AIX**	**Water**	**04 Oct 2022 14:00**
	6850-Perch. DOD Level II & Level IV in separate pdf			12 Oct 2022
2.	**HS22100184-03**	**LH18/24-SP650_1004_BIX**	**Water**	**04 Oct 2022 14:00**
	6850-Perch. DOD Level II & Level IV in separate pdf			12 Oct 2022

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: 10/5/22 1300

Cooler ID(s): _____ Temperature(s): _____

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Houston, TX 77099
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Sample Receipt Checklist

Work Order ID: HS22100184 **Date/Time received:** 05 Oct 2022 10:10

Client name: Bhate Environmental Associates, Inc. **Received by:** Malcolm Burleson

Completed/By: 05 Oct 2022 11:40 (Date/Time) Paresh M. Giga (eSignature) **Reviewed/By:** (Date/Time) (eSignature)

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 ID(s): 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): 3.1C/2.9C U/c IR31

Cooler Information: 1 Cooler(s), 48161

Date/Time sample(s) sent to storage: 10/5/22 11:50

Water - VOA vials have zero headspace?	☐ Yes	☐ No	☑ No VOA vials submitted
Water - pH acceptable upon receipt?	☑ Yes	☐ No	☐ Not Applicable
pH adjusted?	☐ Yes	☑ No	☐ Not Applicable

pH adjusted by:

Login notes:

Client contacted: **Date contacted:** **Person contacted:**

Contacted by: **Regarding:**

Comments:

Corrective action:

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Houston, TX 77099
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F: +1 713 266 1599
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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 HRMS
10450 Stancliff Rd., Suite 210, Houston, TX 77099
Phone (713)266-1599 Fax (713)266-0130
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Preparation Information Benchsheet

Prep Run#: 407746 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 10/6/22 12:40

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2200958-001	LH18/24-SP140_100422	.01	6850/ClO4 DOD			Water	10mL	
2	E2200959-001	LH18/24-SP650_100422_AIX	.01	6850/ClO4 DOD			Water	10mL	
3	E2200959-002	LH18/24/SP650_1004_BIX	.01	6850/ClO4 DOD			Water	10mL	
4	E2200960-001	LH18/24-SP650_100422_AIX	.01	6850/ClO4 DOD			Water	10mL	
5	EQ2200452-01	MB		6850/ClO4 DOD			Liquid	10mL	
6	EQ2200452-02	LCS		6850/ClO4 DOD			Liquid	10mL	
7	EQ2200452-03	DLCS		6850/ClO4 DOD			Liquid	10mL	
8	K2211205-001	MTW34-220926	.01	6850/ClO4 DOD			Ground Water	10mL	
9	K2211205-002	MTW32-220926	.01	6850/ClO4 DOD			Ground Water	10mL	
10	K2211205-003	MTW35-220926	.01	6850/ClO4 DOD			Ground Water	10mL	
11	K2211205-004	MTW29-220926	.01	6850/ClO4 DOD			Ground Water	10mL	
12	K2211205-005	MTW25-220926	.01	6850/ClO4 DOD			Ground Water	10mL	
13	K2211397-001	LGAC-INF-100322	.01	6850/ClO4			Water	10mL	

Spiking Solutions

Name: Perchlorate Intermediate Stock1 Inventory ID 222798 Logbook Ref: Perchlorate (1st Source) Expires On: 10/29/2022

EQ2200452-02	1.00µL	EQ2200452-02	1.00µL	EQ2200452-03	1.00µL	EQ2200452-03	1.00µL

Name: Perchlorate Internal Standard 1ug/mL Inventory ID 225266 Logbook Ref: Perchlorate Internal Standard Expires On: 01/31/2023

E2200958-001	100.00µL	E2200959-001	100.00µL	E2200959-002	100.00µL	E2200960-001	100.00µL	EQ2200452-01	100.00µL	EQ2200452-01	100.00µL
EQ2200452-02	100.00µL	EQ2200452-02	100.00µL	EQ2200452-03	100.00µL	EQ2200452-03	100.00µL	K2211205-001	100.00µL	K2211205-002	100.00µL
K2211205-003	100.00µL	K2211205-004	100.00µL	K2211205-005	100.00µL	K2211397-001	100.00µL				

Preparation Materials

Water HPLC Grade	09/22/22 Water (225106)	6850 Amber Glass screw vial	2mL Screw Top Vial (221894)	6850 0.45um syringe filters	6850 Syringe Filters (224414)
6850 Luer-Lok Syringes	Luer-Lok Syringes (221305)	6850 Pipette Tips 50-1000 uL	6850 Pipette Tips (221929)		

Preparation Steps

Step: Preparation
Started: 10/6/22 12:40
Finished: 10/6/22 13:30
By: GRIVERA
Comments

Preparation Information Benchsheet

Prep Run#: 407746
Team: Semivoa GCMS/GRIVERA

Prep WorkFlow: GenExt28Day
Prep Method: Method

Status: Prepped
Prep Date/Time: 10/6/22 12:40

Comments:

Reviewed By: GR Date: 10/06/22

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:**	E2200959
Project:	HS22100184	**Date Collected:**	10/ 4/22 1400
Sample Matrix:	Water	**Date Received:**	10/ 5/22
Sample Name:	LH18/24-SP650_100422_AIX	**Units:**	µg/L
Lab Code:	E2200959-001	**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	**0.0813**	J	0.100	0.0500	0.0250	1	10/ 6/22	10/7/22 11:08	407746	780609	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2200959
Project:	HS22100184	**Date Collected:**	10/ 4/22 1400
Sample Matrix:	Water	**Date Received:**	10/ 5/22
Sample Name:	LH18/24/SP650_1004_BIX	**Units:**	µg/L
Lab Code:	E2200959-002	**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	**14.4**		0.100	0.0500	0.0250	1	10/ 6/22	10/7/22 11:16	407746	780609	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2200959
Project:	HS22100184	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2200452-01	**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	10/ 6/22	10/6/22 15:58	407746	780623	

Accuracy & Precision

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2200959
Project:	HS22100184	**Date Analyzed:**	10/ 6/22
Sample Matrix:	Water		

Lab Control Sample Summary

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

Analytical Method:	6850	**Units:**	µg/L
Prep Method:	Method	**Basis:**	NA
		Extraction Lot:	407746

	Lab Control Sample EQ2200452-02			Duplicate Lab Control Sample EQ2200452-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.0923	0.100	92	0.0988	0.100	99	84 - 119	7	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:**	E2200959
Project:	HS22100184	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2200452-02	**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	**0.0923**	J	0.100	0.0500	0.0250	1	10/ 6/22	10/6/22 16:07	407746	780623	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2200959
Project:	HS22100184	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2200452-03	**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	**0.0988**	J	0.100	0.0500	0.0250	1	10/ 6/22	10/6/22 16:15	407746	780623	

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

October 20, 2022

Marcia Olive
Bhate Environmental Associates, Inc.
445 Union Blvd Ste 129
Lakewood, CO 80228

Work Order: **HS22100562**

Laboratory Results for: **Longhorn GW Treatment Plant Weekly Samples**

Dear Marcia Olive,

ALS Environmental received 3 sample(s) on Oct 12, 2022 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
Dane J. Wacasey

ALS Houston, US Date: 20-Oct-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS22100562

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS22100562-01	LH18/24-SP650_101122	Water		11-Oct-2022 14:00	12-Oct-2022 09:00	☐
HS22100562-02	LH18/24-SP650_101122_AIX	Water		11-Oct-2022 14:00	12-Oct-2022 09:00	☐
HS22100562-03	LH18/24-SP650_101122_BIX	Water		11-Oct-2022 14:00	12-Oct-2022 09:00	☐

ALS Houston, US Date: 20-Oct-22

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS22100562

Work Order Comments

- The analysis for Perchlorate was subcontracted to ALS Houston High-Res Lab. Final report attached

WetChemistry by Method E350.3

Batch ID: R419797

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method E415.1

Batch ID: R419424

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method E365.3

Batch ID: R419310

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

ALS Houston, US Date: 20-Oct-22

Client: Bhate Environmental Associates, Inc.
ANALYTICAL REPORT
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder:HS22100562
Sample ID: LH18/24-SP650_101122
Lab ID:HS22100562-01
Collection Date: 11-Oct-2022 14:00
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
AMMONIA AS N BY E350.3(ISE)		**Method:E350.3**						Analyst: MZD
Nitrogen, Ammonia (As N)	**16**	a	**0.10**	**0.10**	**0.20**	**mg/L**	1	19-Oct-2022 16:00
ORTHO PHOSPHATE (PO4) AS P BY E365.3-1978		**Method:E365.3**						Analyst: MZD
Phosphorus, Total Orthophosphate (As P)	**3.59**	a	**0.100**	**0.125**	**0.250**	**mg/L**	10	13-Oct-2022 11:38
TOTAL ORGANIC CARBON BY E415.1		**Method:E415.1**						Analyst: JAC
Organic Carbon, Total	**7.21**	a	**0.500**	**1.00**	**1.00**	**mg/L**	1	14-Oct-2022 04:25

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 20-Oct-22

Client: Bhate Environmental Associates, Inc.
ANALYTICAL REPORT
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder:HS22100562
Sample ID: LH18/24-SP650_101122_AIX
Lab ID:HS22100562-02
Collection Date: 11-Oct-2022 14:00
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	19-Oct-2022 18:08

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 20-Oct-22

Client: Bhate Environmental Associates, Inc.
ANALYTICAL REPORT
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder:HS22100562
Sample ID: LH18/24-SP650_101122_BIX
Lab ID:HS22100562-03
Collection Date: 11-Oct-2022 14:00
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	19-Oct-2022 18:08

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 20-Oct-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS22100562

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R419310 (0)	**Test Name :** ORTHO PHOSPHATE (PO4) AS P BY E365.3-1978				**Matrix:** Water	
HS22100562-01	LH18/24-SP650_101122	11 Oct 2022 14:00			13 Oct 2022 11:38	10
Batch ID: R419424 (0)	**Test Name :** TOTAL ORGANIC CARBON BY E415.1				**Matrix:** Water	
HS22100562-01	LH18/24-SP650_101122	11 Oct 2022 14:00			14 Oct 2022 04:25	1
Batch ID: R419797 (0)	**Test Name :** AMMONIA AS N BY E350.3(ISE)				**Matrix:** Water	
HS22100562-01	LH18/24-SP650_101122	11 Oct 2022 14:00			19 Oct 2022 16:00	1
Batch ID: R419807 (0)	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)				**Matrix:** Water	
HS22100562-02	LH18/24-SP650_101122_AIX	11 Oct 2022 14:00			19 Oct 2022 18:08	1
HS22100562-03	LH18/24-SP650_101122_BIX	11 Oct 2022 14:00			19 Oct 2022 18:08	1

ALS Houston, US Date: 20-Oct-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS22100562

QC BATCH REPORT

Batch ID: R419310 (0) **Instrument:** UV-2450 **Method:** ORTHO PHOSPHATE (PO4) AS P BY E365.3-1978

MBLK Sample ID: **MBLK-R419310** Units: **mg/L** Analysis Date: **13-Oct-2022 11:38**
Client ID: Run ID: **UV-2450_419310** SeqNo: **6917764** 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)	0.0125	0.0250								U

LCS Sample ID: **LCS-R419310** Units: **mg/L** Analysis Date: **13-Oct-2022 11:38**
Client ID: Run ID: **UV-2450_419310** SeqNo: **6917763** 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)	0.276	0.0250	0.25	0	110	85 - 115				

MS Sample ID: **HS22100562-01MS** Units: **mg/L** Analysis Date: **13-Oct-2022 11:38**
Client ID: **LH18/24-SP650_101122** Run ID: **UV-2450_419310** SeqNo: **6917766** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	6.49	0.250	2.5	3.59	116	80 - 120				

MSD Sample ID: **HS22100562-01MSD** Units: **mg/L** Analysis Date: **13-Oct-2022 11:38**
Client ID: **LH18/24-SP650_101122** Run ID: **UV-2450_419310** SeqNo: **6917765** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	6.49	0.250	2.5	3.59	116	80 - 120	6.49	0	20	

The following samples were analyzed in this batch: HS22100562-01

ALS Houston, US Date: 20-Oct-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS22100562

QC BATCH REPORT

Batch ID: R419424 (0) **Instrument: TOC_04** **Method: TOTAL ORGANIC CARBON BY E415.1**

MBLK Sample ID: **MBLK-10132022** Units: **mg/L** Analysis Date: **14-Oct-2022 03:45**
Client ID: Run ID: **TOC_04_419424** SeqNo: **6920327** 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-10132022** Units: **mg/L** Analysis Date: **14-Oct-2022 03:59**
Client ID: Run ID: **TOC_04_419424** SeqNo: **6920328** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	10.41	1.00	10	0	104	85 - 115				

LCSD Sample ID: **LCSD-10132022** Units: **mg/L** Analysis Date: **14-Oct-2022 04:12**
Client ID: Run ID: **TOC_04_419424** SeqNo: **6920329** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	10.49	1.00	10	0	105	85 - 115	10.41	0.766	20	

MS Sample ID: **HS22100562-01MS** Units: **mg/L** Analysis Date: **14-Oct-2022 04:39**
Client ID: **LH18/24-SP650_101122** Run ID: **TOC_04_419424** SeqNo: **6920331** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	17.57	1.00	10	7.208	104	80 - 120				

The following samples were analyzed in this batch: HS22100562-01

ALS Houston, US Date: 20-Oct-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS22100562

QC BATCH REPORT

Batch ID: R419797 (0) **Instrument: WetChem_HS** **Method: AMMONIA AS N BY E350.3(ISE)**

MBLK Sample ID: **MBLK-R419797** Units: **mg/L** Analysis Date: **19-Oct-2022 16:00**										
Client ID: Run ID: **WetChem_HS_419797** SeqNo: **6929363** 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)	0.10	0.20								U
LCS Sample ID: **LCS-R419797** Units: **mg/L** Analysis Date: **19-Oct-2022 16:00**										
Client ID: Run ID: **WetChem_HS_419797** SeqNo: **6929362** 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)	10.19	0.20	10	0	102	80 - 120				
MS Sample ID: **HS22100527-01MS** Units: **mg/L** Analysis Date: **19-Oct-2022 16:00**										
Client ID: Run ID: **WetChem_HS_419797** SeqNo: **6929378** 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)	10.42	0.20	10	0.923	95.0	80 - 120				
MSD Sample ID: **HS22100527-01MSD** Units: **mg/L** Analysis Date: **19-Oct-2022 16:00**										
Client ID: Run ID: **WetChem_HS_419797** SeqNo: **6929377** 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)	10.43	0.20	10	0.923	95.1	80 - 120	10.42	0.0767	20	

The following samples were analyzed in this batch: HS22100562-01

ALS Houston, US Date: 20-Oct-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: **HS22100562**

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	22-041-0	27-Mar-2023
California	2919 2022-2023	30-Apr-2023
Dept of Defense	L21-682	31-Dec-2023
Florida	E87611-36	30-Jun-2023
Illinois	2000322022-9	09-May-2023
Kansas	E-10352; 2022-2023	31-Jul-2023
Kentucky	123043, 2022-2023	30-Apr-2023
Louisiana	03087, 2022-2023	30-Jun-2023
Maryland	343, 2022-2023	30-Jun-2023
North Carolina	624-2022	31-Dec-2022
North Dakota	R-193 2022-2023	30-Apr-2023
Oklahoma	2022-141	31-Aug-2023
Texas	T104704231-22-29	30-Apr-2023
Utah	TX026932022-13	31-Jul-2023

ALS Houston, US Date: 20-Oct-22

Sample Receipt Checklist

Work Order ID: HS22100562 **Date/Time Received:** **12-Oct-2022 09:00**

Client Name: Bhate Environmental **Received by:** **Corey Grandits**

Completed By: */S/ Paresh M. Giga* (eSignature) 12-Oct-2022 10:49 (Date/Time) **Reviewed by:** */S/ Ragen Giga* (eSignature) 13-Oct-2022 17:02 (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:client
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/2.3C U/c	IR31	
Cooler(s)/Kit(s):	46796		
Date/Time sample(s) sent to storage:	10/12/22 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 (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 WEEKLY SAMPLES

Prepared By: Scott Beesinger

P.O. Number

HS22100562

Bhate Environmental Associates, Inc.
Longhorn GW Treatment Plant Weekly Samples

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.)	Lab I.D.#
LH18/24-SP650_101122	Water	10/11/22 / 14:00		3	X	X			H2SO4	
LH18/24-SP650_101122	Water	10/11/22 / 14:00		1			X		NONE	
LH18/24–SP650_101122_AIX	Water	10/11/22 / 14:00		1				X	NONE	
LH18/24-SP650_101122_BIX	Water	10/11/22 / 14:00		1				X	NONE	

Additional Remarks: Standard TAT

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	10/11/22	14:30	[illegible]	10-12-22	0900						

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition

Remarks:

46796 2.5

IR71 CF:-0.2

(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

9678

CUSTODY SEAL

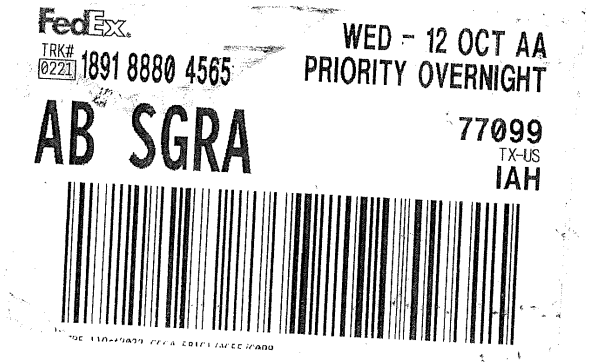
Date: 10/11/22 Time: 1430

Name: Scott Beers

Company: Bluff

Seal Broken By:

Date: 10/12/22



October 19, 2022 Service Request No:E2200988

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

Laboratory Results for: HS22100562

Dear Dane,

Enclosed are the results of the sample(s) submitted to our laboratory October 12, 2022
For your reference, these analyses have been assigned our service request number **E2200988.**

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 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.:**	E2200988
Project:	HS22100562	**Date Received:**	10/12/22
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 10/12/22.

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:

EQ2200467-02/03: 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 LCS/DLCS passed quality control criteria.

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:**E2200988
Project: HS22100562

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2200988-001	LH18/24-SP650_101122_AIX	10/11/2022	1400
E2200988-002	LH18/24-SP650_101122_BIX	10/11/2022	1400

Service Request Summary

Folder #: **E2200988**
Client Name: ALS Environmental - US
Project Name: HS22100562
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: 10/12/22
Internal Due Date: 10/19/2022
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS22100562
EDD: BASIC_WQC_CASNo_LOD

2 120 mL-Plastic Bottle Natural WM Unpreserved
Location: EHRMS-AirArch 1
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2200988-001	LH18/24-SP650_101122_AIX	Water	10/11/22 1400	**IV**
E2200988-002	LH18/24-SP650_101122_BIX	Water	10/11/22 1400	**IV**

Service Request Summary

Folder #: **E2200988**
Client Name: ALS Environmental - US
Project Name: HS22100562
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: 10/12/22
Internal Due Date: 10/19/2022
QAP: LAB QAP
Qualifier Set: Lab Standard
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Merged?: Y
Report to MDL?: Y
P.O. Number: HS22100562
EDD: BASIC_WQC_CASNo_LOD

2 120 mL-Plastic Bottle Natural WM Unpreserved
Location: EHRMS-AirArch 1
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	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	12/31/2022
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	2228443	12/31/2022
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 Health	C819-2022	11/14/2022

Chain of Custody

ALS Environmental - Houston HRMS
10450 Stancliff Rd, Suite 210, Houston TX 77099
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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:** **20088**

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:	HS22100562
TSR:	Houston House Acct

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS22100562-02**	**LH18/24-SP650_101122_AIX**	**Water**	**11 Oct 2022 14:00**
	6850-Perch. DOD Level II & Level IV in separate pdf			19 Oct 2022
2.	**HS22100562-03**	**LH18/24-SP650_101122_BIX**	**Water**	**11 Oct 2022 14:00**
	6850-Perch. DOD Level II & Level IV in separate pdf			19 Oct 2022

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

QC Level: DOD IV (DoD Data Package)

Relinquished By: NR Date/Time:

Received By: Date/Time: 10/12/22 11:48

Cooler ID(s): Temperature(s):

ALS Environmental

Cooler Receipt Form

Project Chemist JG

Client/Project ALS-HOU

Thermometer ID 1231

Date/Time Received: 10/12/22 Initials: CG Date/Time Logged in: 10/12/22 Initials CG

1. Method of delivery: ○ US Mail ○ Fed Ex ○ UPS ○ DHL ⊗ Courier (ALS) ○ 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		10/12/22	1158	CG	4.1	☒
						☐
						☐
						☐

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
T: +1 713 266 1599
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
10450 Stancliff Rd., Suite 210, Houston, TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

Preparation Information Benchsheet

Prep Run#: 408147 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/XMI **Prep Method:** Method **Prep Date/Time:** 10/14/22 08:47

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2200974-001	130_100722	.01	6850/ClO4 DOD			Water	10mL	
2	E2200974-002	17WW03_100722	.01	6850/ClO4 DOD			Water	10mL	
3	E2200974-003	17WW01_100722	.01	6850/ClO4 DOD			Water	10mL	
4	E2200974-004	17WW01_100722_a	.01	6850/ClO4 DOD			Water	10mL	
5	E2200974-005	17WW02_100722	.01	6850/ClO4 DOD			Water	10mL	
6	E2200974-006	17WW06_100722	.01	6850/ClO4 DOD			Water	10mL	
7	E2200988-001	LH18/24-SP650_101122_AIX	.01	6850/ClO4 DOD			Water	10mL	
8	E2200988-002	LH18/24-SP650_101122_BIX	.01	6850/ClO4 DOD			Water	10mL	
9	EQ2200467-01	MB		6850/ClO4 DOD			Liquid	10mL	
10	EQ2200467-02	LCS		6850/ClO4			Liquid	10mL	
11	EQ2200467-03	DLCS		6850/ClO4			Liquid	10mL	
12	EQ2200467-04	17WW03_100722 MS	.01	6850/ClO4 DOD			Liquid	10mL	
13	EQ2200467-05	17WW03_100722 DMS	.01	6850/ClO4 DOD			Liquid	10mL	
14	R2209422-006	2210031613B ST-7-544	.01	6850/ClO4			Water	10mL	
15	R2209422-013	2210031623B ST-7-453	.01	6850/ClO4			Water	10mL	
16	R2209491-019	2210041600B ST-7-779	.01	6850/ClO4			Water	10mL	
17	R2209491-023	2210041609B ST-7-970	.01	6850/ClO4			Water	10mL	
18	R2209637-008	2210051558B JER-1-563	.01	6850/ClO4			Water	10mL	
19	R2209637-016	2210051623B JER-1-483	.01	6850/ClO4			Water	10mL	

Spiking Solutions

Name: Perchlorate Intermediate Stock1 Inventory ID 222798 Logbook Ref: Perchlorate (1st Source) Expires On: 10/29/2022

EQ2200467-02	1.00µL	EQ2200467-02	1.00µL	EQ2200467-03	1.00µL	EQ2200467-03	1.00µL	EQ2200467-04	1.00µL	EQ2200467-05	1.00µL

Name: Perchlorate Internal Standard 1ug/mL Inventory ID 225266 Logbook Ref: Perchlorate Internal Standard Expires On: 01/31/2023

E2200974-001	100.00µL	E2200974-002	100.00µL	E2200974-003	100.00µL	E2200974-004	100.00µL	E2200974-005	100.00µL	E2200974-006	100.00µL
E2200988-001	100.00µL	E2200988-002	100.00µL	EQ2200467-01	100.00µL	EQ2200467-01	100.00µL	EQ2200467-02	100.00µL	EQ2200467-02	100.00µL
EQ2200467-03	100.00µL	EQ2200467-03	100.00µL	EQ2200467-04	100.00µL	EQ2200467-05	100.00µL	R2209422-006	100.00µL	R2209422-013	100.00µL
R2209491-019	100.00µL	R2209491-023	100.00µL	R2209637-008	100.00µL	R2209637-016	100.00µL				

Preparation Information Benchsheet

Prep Run#: 408147
Team: Semivoa GCMS/XMI

Prep WorkFlow: GenExt28Day
Prep Method: Method

Status: Prepped
Prep Date/Time: 10/14/22 08:47

Preparation Steps

Step: Preparation
Started: 10/14/22 08:47
Finished: 10/14/22 09:05
By: XMI
Comments

Comments: _____

Reviewed By: GR Date: 10/14/22

Chain of Custody

Relinquished By:		Date:	
Received By:		Date:	

Extracts Examined
Yes No

Analytical Results

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

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2200988
Project:	HS22100562	**Date Collected:**	10/11/22 1400
Sample Matrix:	Water	**Date Received:**	10/12/22
Sample Name:	LH18/24-SP650_101122_AIX	**Units:**	µg/L
Lab Code:	E2200988-001	**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	10/14/22	10/17/22 15:00	408147	781288	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2200988
Project:	HS22100562	**Date Collected:**	10/11/22 1400
Sample Matrix:	Water	**Date Received:**	10/12/22
Sample Name:	LH18/24-SP650_101122_BIX	**Units:**	µg/L
Lab Code:	E2200988-002	**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	**1.43**		0.100	0.0500	0.0250	1	10/14/22	10/17/22 15:09	408147	781288	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2200988
Project:	HS22100562	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2200467-01	**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	10/14/22	10/17/22 14:18	408147	781288	

Accuracy & Precision

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2200988
Project:	HS22100562	**Date Analyzed:**	10/17/22
Sample Matrix:	Water		

Lab Control Sample Summary

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

Analytical Method:	6850	**Units:**	µg/L
Prep Method:	Method	**Basis:**	NA
		Extraction Lot:	408147

	Lab Control Sample EQ2200467-02			Duplicate Lab Control Sample EQ2200467-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.106	0.100	106	0.119	0.100	119	84 - 119	12	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:**	E2200988
Project:	HS22100562	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2200467-02	**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	**0.106**		0.100	0.0500	0.0250	1	10/14/22	10/17/22 14:27	408147	781288	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2200988
Project:	HS22100562	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2200467-03	**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	**0.119**		0.100	0.0500	0.0250	1	10/14/22	10/17/22 14:35	408147	781288	

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Houston, TX 77099
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F: +1 281 530 5887

October 19, 2022

Marcia Olive
Bhate Environmental Associates, Inc.
445 Union Blvd Ste 129
Lakewood, CO 80228

Work Order: **HS22100565**

Laboratory Results for: **Longhorn GW Treatment Plant Bi-Weekly Samples**

Dear Marcia Olive,

ALS Environmental received 2 sample(s) on Oct 12, 2022 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
Dane J. Wacasey

ALS Houston, US Date: 19-Oct-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
Work Order: HS22100565

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS22100565-01	LH18/24-SP650_101122	Water		11-Oct-2022 14:00	12-Oct-2022 09:00	☐
HS22100565-02	Trip Blank	Water	CG-090622-199	11-Oct-2022 00:00	12-Oct-2022 09:00	☐

ALS Houston, US Date: 19-Oct-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
Work Order: HS22100565

CASE NARRATIVE

GCMS Volatiles by Method SW8260

Batch ID: R419659

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method SW9056

Batch ID: R419389

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

ALS Houston, US Date: 19-Oct-22

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Longhorn GW Treatment Plant Bi-Weekly Samples WorkOrder:HS22100565
Sample ID: LH18/24-SP650_101122 Lab ID:HS22100565-01
Collection Date: 11-Oct-2022 14:00 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	17-Oct-2022 23:12
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Oct-2022 23:12
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	17-Oct-2022 23:12
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	17-Oct-2022 23:12
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Oct-2022 23:12
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Oct-2022 23:12
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Oct-2022 23:12
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Oct-2022 23:12
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	17-Oct-2022 23:12
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	17-Oct-2022 23:12
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Oct-2022 23:12
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	17-Oct-2022 23:12
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Oct-2022 23:12
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	17-Oct-2022 23:12
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Oct-2022 23:12
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	17-Oct-2022 23:12
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Oct-2022 23:12
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Oct-2022 23:12
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	17-Oct-2022 23:12
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Oct-2022 23:12
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Oct-2022 23:12
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	17-Oct-2022 23:12
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Oct-2022 23:12
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	17-Oct-2022 23:12
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Oct-2022 23:12
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Oct-2022 23:12
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	17-Oct-2022 23:12
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	17-Oct-2022 23:12
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Oct-2022 23:12
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Oct-2022 23:12
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Oct-2022 23:12
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Oct-2022 23:12
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	17-Oct-2022 23:12
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	17-Oct-2022 23:12
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	17-Oct-2022 23:12
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	17-Oct-2022 23:12
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Oct-2022 23:12
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	17-Oct-2022 23:12
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	17-Oct-2022 23:12

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 19-Oct-22

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Longhorn GW Treatment Plant Bi-Weekly Samples WorkOrder:HS22100565
Sample ID: LH18/24-SP650_101122 Lab ID:HS22100565-01
Collection Date: 11-Oct-2022 14:00 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	17-Oct-2022 23:12
cis-1,2-Dichloroethene	**2.3**		**0.20**	**0.50**	**1.0**	**ug/L**	1	17-Oct-2022 23:12
cis-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Oct-2022 23:12
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	17-Oct-2022 23:12
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Oct-2022 23:12
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	17-Oct-2022 23:12
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Oct-2022 23:12
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	17-Oct-2022 23:12
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Oct-2022 23:12
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	17-Oct-2022 23:12
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	17-Oct-2022 23:12
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Oct-2022 23:12
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Oct-2022 23:12
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Oct-2022 23:12
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Oct-2022 23:12
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Oct-2022 23:12
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Oct-2022 23:12
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Oct-2022 23:12
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Oct-2022 23:12
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Oct-2022 23:12
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Oct-2022 23:12
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Oct-2022 23:12
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Oct-2022 23:12
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	17-Oct-2022 23:12
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	17-Oct-2022 23:12
Surr: 1,2-Dichloroethane-d4	*96.0*			**0**	*81-118*	*%REC*	*1*	*17-Oct-2022 23:12*
Surr: 4-Bromofluorobenzene	*102*			**0**	*85-114*	*%REC*	*1*	*17-Oct-2022 23:12*
Surr: Dibromofluoromethane	*92.7*			**0**	*80-119*	*%REC*	*1*	*17-Oct-2022 23:12*
Surr: Toluene-d8	*112*			**0**	*89-112*	*%REC*	*1*	*17-Oct-2022 23:12*
ANIONS BY SW9056A		**Method:SW9056**						Analyst: TH
Chloride	**1,260**		**8.00**	**20.0**	**20.0**	**mg/L**	40	13-Oct-2022 17:24
Sulfate	**49.8**		**0.400**	**1.00**	**1.00**	**mg/L**	2	13-Oct-2022 17:19

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 19-Oct-22

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

Project: Longhorn GW Treatment Plant Bi-Weekly Samples WorkOrder:HS22100565

Sample ID: Trip Blank Lab ID:HS22100565-02

Collection Date: 11-Oct-2022 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	17-Oct-2022 20:58
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Oct-2022 20:58
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	17-Oct-2022 20:58
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	17-Oct-2022 20:58
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Oct-2022 20:58
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Oct-2022 20:58
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Oct-2022 20:58
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Oct-2022 20:58
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	17-Oct-2022 20:58
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	17-Oct-2022 20:58
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Oct-2022 20:58
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	17-Oct-2022 20:58
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Oct-2022 20:58
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	17-Oct-2022 20:58
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Oct-2022 20:58
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	17-Oct-2022 20:58
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Oct-2022 20:58
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Oct-2022 20:58
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	17-Oct-2022 20:58
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Oct-2022 20:58
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Oct-2022 20:58
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	17-Oct-2022 20:58
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Oct-2022 20:58
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	17-Oct-2022 20:58
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Oct-2022 20:58
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Oct-2022 20:58
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	17-Oct-2022 20:58
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	17-Oct-2022 20:58
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Oct-2022 20:58
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Oct-2022 20:58
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Oct-2022 20:58
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Oct-2022 20:58
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	17-Oct-2022 20:58
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	17-Oct-2022 20:58
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	17-Oct-2022 20:58
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	17-Oct-2022 20:58
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Oct-2022 20:58
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	17-Oct-2022 20:58
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	17-Oct-2022 20:58

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 19-Oct-22

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

Project: Longhorn GW Treatment Plant Bi-Weekly Samples WorkOrder:HS22100565

Sample ID: Trip Blank Lab ID:HS22100565-02

Collection Date: 11-Oct-2022 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	17-Oct-2022 20:58
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Oct-2022 20:58
cis-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Oct-2022 20:58
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	17-Oct-2022 20:58
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Oct-2022 20:58
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	17-Oct-2022 20:58
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Oct-2022 20:58
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	17-Oct-2022 20:58
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Oct-2022 20:58
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	17-Oct-2022 20:58
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	17-Oct-2022 20:58
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	17-Oct-2022 20:58
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Oct-2022 20:58
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Oct-2022 20:58
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Oct-2022 20:58
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Oct-2022 20:58
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Oct-2022 20:58
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Oct-2022 20:58
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	17-Oct-2022 20:58
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Oct-2022 20:58
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Oct-2022 20:58
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Oct-2022 20:58
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Oct-2022 20:58
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	17-Oct-2022 20:58
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	17-Oct-2022 20:58
Surr: 1,2-Dichloroethane-d4	*93.4*			**0**	*81-118*	*%REC*	*1*	*17-Oct-2022 20:58*
Surr: 4-Bromofluorobenzene	*95.9*			**0**	*85-114*	*%REC*	*1*	*17-Oct-2022 20:58*
Surr: Dibromofluoromethane	*93.8*			**0**	*80-119*	*%REC*	*1*	*17-Oct-2022 20:58*
Surr: Toluene-d8	*109*			**0**	*89-112*	*%REC*	*1*	*17-Oct-2022 20:58*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 19-Oct-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder: HS22100565

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R419389 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Water	
HS22100565-01	LH18/24-SP650_101122	11 Oct 2022 14:00			13 Oct 2022 17:24	40
HS22100565-01	LH18/24-SP650_101122	11 Oct 2022 14:00			13 Oct 2022 17:19	2
Batch ID: R419659 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS22100565-01	LH18/24-SP650_101122	11 Oct 2022 14:00			17 Oct 2022 23:12	1
HS22100565-02	Trip Blank	11 Oct 2022 00:00			17 Oct 2022 20:58	1

ALS Houston, US Date: 19-Oct-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder: HS22100565

QC BATCH REPORT

Batch ID: R419659 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-221017** Units: **ug/L** Analysis Date: **17-Oct-2022 20:36**
Client ID: Run ID: **VOA9_419659** SeqNo: **6926311** 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	0.50	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	0.50	1.0								U
1,1-Dichloroethene	0.50	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	0.50	1.0								U
1,2-Dichlorobenzene	1.0	1.0								U
1,2-Dichloroethane	0.50	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	0.50	1.0								U
2-Butanone	1.0	2.0								U
2-Chlorotoluene	1.0	1.0								U
2-Hexanone	2.0	2.0								U
4-Chlorotoluene	1.0	1.0								U
4-Isopropyltoluene	1.0	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	1.0	1.0								U
Bromochloromethane	0.50	1.0								U
Bromodichloromethane	0.50	1.0								U
Bromoform	1.0	1.0								U
Bromomethane	1.0	1.0								U

ALS Houston, US Date: 19-Oct-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder: HS22100565

QC BATCH REPORT

Batch ID: R419659 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-221017** Units: **ug/L** Analysis Date: **17-Oct-2022 20:36**
Client ID: Run ID: **VOA9_419659** SeqNo: **6926311** 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	1.0	1.0								U
Chlorobenzene	1.0	1.0								U
Chloroethane	1.0	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	1.0	1.0								U
Dibromomethane	0.50	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	1.0	2.0								U
Methylene chloride	2.0	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	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	1.0	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*47.39*	*1.0*	*50*	*0*	*94.8*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*48.46*	*1.0*	*50*	*0*	*96.9*	*85 - 114*				
Surr: Dibromofluoromethane	*46.23*	*1.0*	*50*	*0*	*92.5*	*80 - 119*				
Surr: Toluene-d8	*54.76*	*1.0*	*50*	*0*	*110*	*89 - 112*				

ALS Houston, US Date: 19-Oct-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder: HS22100565

QC BATCH REPORT

Batch ID: R419659 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

LCS Sample ID: **VLCSW-221017** Units: **ug/L** Analysis Date: **17-Oct-2022 19:29**
Client ID: Run ID: **VOA9_419659** SeqNo: **6926310** 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	19.47	1.0	20	0	97.3	78 - 124				
1,1,1-Trichloroethane	20.25	1.0	20	0	101	74 - 131				
1,1,2,2-Tetrachloroethane	21.31	1.0	20	0	107	71 - 121				
1,1,2-Trichloroethane	19.95	1.0	20	0	99.7	80 - 119				
1,1-Dichloroethane	20.21	1.0	20	0	101	77 - 125				
1,1-Dichloroethene	20.17	1.0	20	0	101	71 - 131				
1,1-Dichloropropene	20.03	1.0	20	0	100	78 - 125				
1,2,3-Trichlorobenzene	20.37	1.0	20	0	102	69 - 129				
1,2,3-Trichloropropane	19.91	1.0	20	0	99.6	73 - 122				
1,2,4-Trichlorobenzene	19.41	1.0	20	0	97.1	69 - 130				
1,2,4-Trimethylbenzene	20.98	1.0	20	0	105	76 - 124				
1,2-Dibromo-3-chloropropane	18.97	1.0	20	0	94.8	62 - 128				
1,2-Dibromoethane	20.37	1.0	20	0	102	77 - 121				
1,2-Dichlorobenzene	19.35	1.0	20	0	96.8	80 - 119				
1,2-Dichloroethane	19.8	1.0	20	0	99.0	73 - 128				
1,2-Dichloropropane	20.34	1.0	20	0	102	78 - 122				
1,3,5-Trimethylbenzene	20.74	1.0	20	0	104	75 - 124				
1,3-Dichlorobenzene	19.23	1.0	20	0	96.1	80 - 119				
1,3-Dichloropropane	19.11	1.0	20	0	95.5	80 - 119				
1,4-Dichlorobenzene	20.31	1.0	20	0	102	79 - 118				
2,2-Dichloropropane	18.98	1.0	20	0	94.9	60 - 139				
2-Butanone	37.23	2.0	40	0	93.1	56 - 143				
2-Chlorotoluene	19.83	1.0	20	0	99.2	79 - 122				
2-Hexanone	37.49	2.0	40	0	93.7	57 - 139				
4-Chlorotoluene	20.19	1.0	20	0	101	78 - 122				
4-Isopropyltoluene	19.06	1.0	20	0	95.3	77 - 127				
4-Methyl-2-pentanone	37.03	2.0	40	0	92.6	67 - 130				
Acetone	44.34	2.0	40	0	111	39 - 160				
Benzene	19.59	1.0	20	0	97.9	79 - 120				
Bromobenzene	19.62	1.0	20	0	98.1	80 - 120				
Bromochloromethane	19.72	1.0	20	0	98.6	78 - 123				
Bromodichloromethane	19.9	1.0	20	0	99.5	79 - 125				
Bromoform	17.5	1.0	20	0	87.5	66 - 130				
Bromomethane	23.18	1.0	20	0	116	53 - 141				

ALS Houston, US Date: 19-Oct-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder: HS22100565

QC BATCH REPORT

Batch ID: R419659 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

LCS Sample ID: **VLCSW-221017** Units: **ug/L** Analysis Date: **17-Oct-2022 19:29**
Client ID: Run ID: **VOA9_419659** SeqNo: **6926310** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	41.05	2.0	40	0	103	64 - 133				
Carbon tetrachloride	18	1.0	20	0	90.0	72 - 136				
Chlorobenzene	20.15	1.0	20	0	101	82 - 118				
Chloroethane	20.7	1.0	20	0	104	60 - 138				
Chloroform	20.04	1.0	20	0	100	79 - 124				
Chloromethane	21.48	1.0	20	0	107	50 - 139				
cis-1,2-Dichloroethene	20.46	1.0	20	0	102	78 - 123				
cis-1,3-Dichloropropene	19.89	1.0	20	0	99.4	75 - 124				
Dibromochloromethane	19.88	1.0	20	0	99.4	74 - 126				
Dibromomethane	19.22	1.0	20	0	96.1	79 - 123				
Dichlorodifluoromethane	19.2	1.0	20	0	96.0	32 - 152				
Ethylbenzene	19.81	1.0	20	0	99.1	79 - 121				
Hexachlorobutadiene	19.16	1.0	20	0	95.8	66 - 134				
Isopropylbenzene	20.18	1.0	20	0	101	72 - 131				
m,p-Xylene	40.29	2.0	40	0	101	80 - 121				
Methylene chloride	21.55	2.0	20	0	108	74 - 124				
Naphthalene	22.88	1.0	20	0	114	61 - 128				
n-Butylbenzene	21.05	1.0	20	0	105	75 - 128				
n-Propylbenzene	19.7	1.0	20	0	98.5	76 - 126				
o-Xylene	20.06	1.0	20	0	100	78 - 122				
sec-Butylbenzene	18.59	1.0	20	0	93.0	77 - 126				
Styrene	20.36	1.0	20	0	102	78 - 123				
tert-Butylbenzene	19.47	1.0	20	0	97.3	78 - 124				
Tetrachloroethene	19.23	1.0	20	0	96.1	74 - 129				
Toluene	19.96	1.0	20	0	99.8	80 - 121				
trans-1,2-Dichloroethene	19.41	1.0	20	0	97.1	75 - 124				
trans-1,3-Dichloropropene	18.67	1.0	20	0	93.4	73 - 127				
Trichloroethene	20.56	1.0	20	0	103	79 - 123				
Trichlorofluoromethane	21.19	1.0	20	0	106	65 - 141				
Vinyl chloride	20.16	1.0	20	0	101	58 - 137				
Surr: 1,2-Dichloroethane-d4	*52.34*	*1.0*	*50*	*0*	*105*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.96*	*1.0*	*50*	*0*	*99.9*	*85 - 114*				
Surr: Dibromofluoromethane	*52.96*	*1.0*	*50*	*0*	*106*	*80 - 119*				
Surr: Toluene-d8	*51.77*	*1.0*	*50*	*0*	*104*	*89 - 112*				

ALS Houston, US Date: 19-Oct-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder: HS22100565

QC BATCH REPORT

Batch ID: R419659 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MS Sample ID: **HS22100694-01MS** Units: **ug/L** Analysis Date: **18-Oct-2022 04:24**
Client ID: Run ID: **VOA9_419659** SeqNo: **6926332** 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	18.61	1.0	20	0	93.0	78 - 124				
1,1,1-Trichloroethane	18.98	1.0	20	0	94.9	74 - 131				
1,1,2,2-Tetrachloroethane	20.31	1.0	20	0	102	71 - 121				
1,1,2-Trichloroethane	19.56	1.0	20	0	97.8	80 - 119				
1,1-Dichloroethane	19.62	1.0	20	0	98.1	77 - 125				
1,1-Dichloroethene	20.2	1.0	20	0	101	71 - 131				
1,1-Dichloropropene	20.85	1.0	20	0	104	78 - 125				
1,2,3-Trichlorobenzene	16.71	1.0	20	0	83.5	69 - 129				
1,2,3-Trichloropropane	18.23	1.0	20	0	91.1	73 - 122				
1,2,4-Trichlorobenzene	16.27	1.0	20	0	81.3	69 - 130				
1,2,4-Trimethylbenzene	20.07	1.0	20	0	100	76 - 124				
1,2-Dibromo-3-chloropropane	15.28	1.0	20	0	76.4	62 - 128				
1,2-Dibromoethane	19.59	1.0	20	0	97.9	77 - 121				
1,2-Dichlorobenzene	18.13	1.0	20	0	90.6	80 - 119				
1,2-Dichloroethane	19.9	1.0	20	0	99.5	73 - 128				
1,2-Dichloropropane	18.9	1.0	20	0	94.5	78 - 122				
1,3,5-Trimethylbenzene	20.64	1.0	20	0	103	75 - 124				
1,3-Dichlorobenzene	18.26	1.0	20	0	91.3	80 - 119				
1,3-Dichloropropane	18.79	1.0	20	0	93.9	80 - 119				
1,4-Dichlorobenzene	18.87	1.0	20	0	94.4	79 - 118				
2,2-Dichloropropane	12.78	1.0	20	0	63.9	60 - 139				
2-Butanone	31.11	2.0	40	0	77.8	56 - 143				
2-Chlorotoluene	20.39	1.0	20	0	102	79 - 122				
2-Hexanone	35.13	2.0	40	0	87.8	57 - 139				
4-Chlorotoluene	19.68	1.0	20	0	98.4	78 - 122				
4-Isopropyltoluene	18.53	1.0	20	0	92.7	77 - 127				
4-Methyl-2-pentanone	34.5	2.0	40	0	86.3	67 - 130				
Acetone	29.14	2.0	40	0	72.9	39 - 160				
Benzene	18.68	1.0	20	0	93.4	79 - 120				
Bromobenzene	18.57	1.0	20	0	92.8	80 - 120				
Bromochloromethane	17.3	1.0	20	0	86.5	78 - 123				
Bromodichloromethane	17.87	1.0	20	0	89.4	79 - 125				
Bromoform	15.08	1.0	20	0	75.4	66 - 130				
Bromomethane	23.33	1.0	20	0	117	53 - 141				

ALS Houston, US Date: 19-Oct-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder: HS22100565

QC BATCH REPORT

Batch ID: R419659 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MS Sample ID: **HS22100694-01MS** Units: **ug/L** Analysis Date: **18-Oct-2022 04:24**
Client ID: Run ID: **VOA9_419659** SeqNo: **6926332** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	38.57	2.0	40	0	96.4	64 - 133				
Carbon tetrachloride	17.74	1.0	20	0	88.7	72 - 136				
Chlorobenzene	19.92	1.0	20	0	99.6	82 - 118				
Chloroethane	19.71	1.0	20	0	98.6	60 - 138				
Chloroform	18.88	1.0	20	0	94.4	79 - 124				
Chloromethane	17.83	1.0	20	0	89.1	50 - 139				
cis-1,2-Dichloroethene	18.45	1.0	20	0	92.2	78 - 123				
cis-1,3-Dichloropropene	16.74	1.0	20	0	83.7	75 - 124				
Dibromochloromethane	18.24	1.0	20	0	91.2	74 - 126				
Dibromomethane	17.52	1.0	20	0	87.6	79 - 123				
Dichlorodifluoromethane	15.41	1.0	20	0	77.1	32 - 152				
Ethylbenzene	19.99	1.0	20	0	100.0	79 - 121				
Hexachlorobutadiene	17.14	1.0	20	0	85.7	66 - 134				
Isopropylbenzene	20.3	1.0	20	0	102	72 - 131				
m,p-Xylene	39.98	2.0	40	0	100.0	80 - 121				
Methylene chloride	20.36	2.0	20	0	102	74 - 124				
Naphthalene	17.16	1.0	20	0	85.8	61 - 128				
n-Butylbenzene	20.44	1.0	20	0	102	75 - 128				
n-Propylbenzene	20.46	1.0	20	0	102	76 - 126				
o-Xylene	19.99	1.0	20	0	99.9	78 - 122				
sec-Butylbenzene	18.85	1.0	20	0	94.3	77 - 126				
Styrene	18.94	1.0	20	0	94.7	78 - 123				
tert-Butylbenzene	19.43	1.0	20	0	97.2	78 - 124				
Tetrachloroethene	19.61	1.0	20	0	98.0	74 - 129				
Toluene	20.47	1.0	20	0	102	80 - 121				
trans-1,2-Dichloroethene	19.9	1.0	20	0	99.5	75 - 124				
trans-1,3-Dichloropropene	15.04	1.0	20	0	75.2	73 - 127				
Trichloroethene	20.13	1.0	20	0	101	79 - 123				
Trichlorofluoromethane	21.4	1.0	20	0	107	65 - 141				
Vinyl chloride	18.54	1.0	20	0	92.7	58 - 137				
Surr: 1,2-Dichloroethane-d4	*49.24*	*1.0*	*50*	*0*	*98.5*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*51.3*	*1.0*	*50*	*0*	*103*	*85 - 114*				
Surr: Dibromofluoromethane	*48.15*	*1.0*	*50*	*0*	*96.3*	*80 - 119*				
Surr: Toluene-d8	*55.55*	*1.0*	*50*	*0*	*111*	*89 - 112*				

ALS Houston, US Date: 19-Oct-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder: HS22100565

QC BATCH REPORT

Batch ID: R419659 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MSD Sample ID: **HS22100694-01MSD** Units: **ug/L** Analysis Date: **18-Oct-2022 04:46**
Client ID: Run ID: **VOA9_419659** SeqNo: **6926333** 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	18.29	1.0	20	0	91.4	78 - 124	18.61	1.74	20	
1,1,1-Trichloroethane	18.04	1.0	20	0	90.2	74 - 131	18.98	5.07	20	
1,1,2,2-Tetrachloroethane	20.32	1.0	20	0	102	71 - 121	20.31	0.0366	20	
1,1,2-Trichloroethane	19.89	1.0	20	0	99.4	80 - 119	19.56	1.64	20	
1,1-Dichloroethane	19.63	1.0	20	0	98.2	77 - 125	19.62	0.0857	20	
1,1-Dichloroethene	19.7	1.0	20	0	98.5	71 - 131	20.2	2.51	20	
1,1-Dichloropropene	20.11	1.0	20	0	101	78 - 125	20.85	3.59	20	
1,2,3-Trichlorobenzene	17.78	1.0	20	0	88.9	69 - 129	16.71	6.24	20	
1,2,3-Trichloropropane	16.48	1.0	20	0	82.4	73 - 122	18.23	10.1	20	
1,2,4-Trichlorobenzene	17.8	1.0	20	0	89.0	69 - 130	16.27	9	20	
1,2,4-Trimethylbenzene	20.05	1.0	20	0	100	76 - 124	20.07	0.0866	20	
1,2-Dibromo-3-chloropropane	17.61	1.0	20	0	88.1	62 - 128	15.28	14.2	20	
1,2-Dibromoethane	19.01	1.0	20	0	95.1	77 - 121	19.59	2.99	20	
1,2-Dichlorobenzene	18.46	1.0	20	0	92.3	80 - 119	18.13	1.8	20	
1,2-Dichloroethane	19.84	1.0	20	0	99.2	73 - 128	19.9	0.326	20	
1,2-Dichloropropane	19.55	1.0	20	0	97.7	78 - 122	18.9	3.36	20	
1,3,5-Trimethylbenzene	20.2	1.0	20	0	101	75 - 124	20.64	2.12	20	
1,3-Dichlorobenzene	18.06	1.0	20	0	90.3	80 - 119	18.26	1.13	20	
1,3-Dichloropropane	18.43	1.0	20	0	92.1	80 - 119	18.79	1.93	20	
1,4-Dichlorobenzene	18.79	1.0	20	0	94.0	79 - 118	18.87	0.427	20	
2,2-Dichloropropane	12.13	1.0	20	0	60.6	60 - 139	12.78	5.27	20	
2-Butanone	31.28	2.0	40	0	78.2	56 - 143	31.11	0.568	20	
2-Chlorotoluene	20.2	1.0	20	0	101	79 - 122	20.39	0.926	20	
2-Hexanone	33.68	2.0	40	0	84.2	57 - 139	35.13	4.21	20	
4-Chlorotoluene	19.79	1.0	20	0	99.0	78 - 122	19.68	0.582	20	
4-Isopropyltoluene	18.6	1.0	20	0	93.0	77 - 127	18.53	0.359	20	
4-Methyl-2-pentanone	35.32	2.0	40	0	88.3	67 - 130	34.5	2.34	20	
Acetone	30.27	2.0	40	0	75.7	39 - 160	29.14	3.8	20	
Benzene	18.88	1.0	20	0	94.4	79 - 120	18.68	1.06	20	
Bromobenzene	18.22	1.0	20	0	91.1	80 - 120	18.57	1.87	20	
Bromochloromethane	16.83	1.0	20	0	84.2	78 - 123	17.3	2.75	20	
Bromodichloromethane	17.6	1.0	20	0	88.0	79 - 125	17.87	1.53	20	
Bromoform	15.53	1.0	20	0	77.6	66 - 130	15.08	2.96	20	
Bromomethane	20.97	1.0	20	0	105	53 - 141	23.33	10.6	20	

ALS Houston, US Date: 19-Oct-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder: HS22100565

QC BATCH REPORT

Batch ID: R419659 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MSD Sample ID: **HS22100694-01MSD** Units: **ug/L** Analysis Date: **18-Oct-2022 04:46**
Client ID: Run ID: **VOA9_419659** SeqNo: **6926333** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	38.6	2.0	40	0	96.5	64 - 133	38.57	0.0695	20	
Carbon tetrachloride	16.98	1.0	20	0	84.9	72 - 136	17.74	4.38	20	
Chlorobenzene	19.41	1.0	20	0	97.1	82 - 118	19.92	2.6	20	
Chloroethane	18.69	1.0	20	0	93.4	60 - 138	19.71	5.35	20	
Chloroform	18.12	1.0	20	0	90.6	79 - 124	18.88	4.11	20	
Chloromethane	17.85	1.0	20	0	89.2	50 - 139	17.83	0.128	20	
cis-1,2-Dichloroethene	18.44	1.0	20	0	92.2	78 - 123	18.45	0.0351	20	
cis-1,3-Dichloropropene	17.34	1.0	20	0	86.7	75 - 124	16.74	3.5	20	
Dibromochloromethane	18.79	1.0	20	0	93.9	74 - 126	18.24	2.95	20	
Dibromomethane	18.19	1.0	20	0	91.0	79 - 123	17.52	3.74	20	
Dichlorodifluoromethane	14.94	1.0	20	0	74.7	32 - 152	15.41	3.07	20	
Ethylbenzene	19.28	1.0	20	0	96.4	79 - 121	19.99	3.62	20	
Hexachlorobutadiene	17.52	1.0	20	0	87.6	66 - 134	17.14	2.2	20	
Isopropylbenzene	20.16	1.0	20	0	101	72 - 131	20.3	0.706	20	
m,p-Xylene	40.3	2.0	40	0	101	80 - 121	39.98	0.801	20	
Methylene chloride	19.37	2.0	20	0	96.9	74 - 124	20.36	4.98	20	
Naphthalene	19.4	1.0	20	0	97.0	61 - 128	17.16	12.3	20	
n-Butylbenzene	21.15	1.0	20	0	106	75 - 128	20.44	3.42	20	
n-Propylbenzene	19.77	1.0	20	0	98.8	76 - 126	20.46	3.46	20	
o-Xylene	19.83	1.0	20	0	99.2	78 - 122	19.99	0.759	20	
sec-Butylbenzene	19.03	1.0	20	0	95.2	77 - 126	18.85	0.942	20	
Styrene	18.81	1.0	20	0	94.1	78 - 123	18.94	0.662	20	
tert-Butylbenzene	19.49	1.0	20	0	97.5	78 - 124	19.43	0.302	20	
Tetrachloroethene	18.56	1.0	20	0	92.8	74 - 129	19.61	5.52	20	
Toluene	20.05	1.0	20	0	100	80 - 121	20.47	2.08	20	
trans-1,2-Dichloroethene	18.66	1.0	20	0	93.3	75 - 124	19.9	6.43	20	
trans-1,3-Dichloropropene	15.25	1.0	20	0	76.3	73 - 127	15.04	1.39	20	
Trichloroethene	18.75	1.0	20	0	93.7	79 - 123	20.13	7.08	20	
Trichlorofluoromethane	20.5	1.0	20	0	102	65 - 141	21.4	4.33	20	
Vinyl chloride	18.04	1.0	20	0	90.2	58 - 137	18.54	2.75	20	
Surr: 1,2-Dichloroethane-d4	*47.78*	*1.0*	*50*	*0*	*95.6*	*81 - 118*	*49.24*	*3.02*	*20*	
Surr: 4-Bromofluorobenzene	*50.67*	*1.0*	*50*	*0*	*101*	*85 - 114*	*51.3*	*1.24*	*20*	
Surr: Dibromofluoromethane	*47.84*	*1.0*	*50*	*0*	*95.7*	*80 - 119*	*48.15*	*0.631*	*20*	
Surr: Toluene-d8	*54.42*	*1.0*	*50*	*0*	*109*	*89 - 112*	*55.55*	*2.06*	*20*	

ALS Houston, US Date: 19-Oct-22

Client:	Bhate Environmental Associates, Inc.
Project:	Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder:	HS22100565

QC BATCH REPORT

Batch ID:	**R419659 (0)**	**Instrument:**	**VOA9**	**Method:**	**VOLATILES ORGANICS BY METHOD 8260C**

The following samples were analyzed in this batch:	HS22100565-01	HS22100565-02

ALS Houston, US Date: 19-Oct-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder: HS22100565

QC BATCH REPORT

Batch ID: R419389 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MBLK Sample ID: **MBLK** Units: **mg/L** Analysis Date: **13-Oct-2022 14:51**
Client ID: Run ID: **ICS-Integrion_419389** SeqNo: **6919676** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	0.500	0.500								U
Sulfate	0.500	0.500								U

LCS Sample ID: **LCS** Units: **mg/L** Analysis Date: **13-Oct-2022 14:56**
Client ID: Run ID: **ICS-Integrion_419389** SeqNo: **6919677** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	20.65	0.500	20	0	103	80 - 120				
Sulfate	20.82	0.500	20	0	104	80 - 120				

MS Sample ID: **HS22100628-01MS** Units: **mg/L** Analysis Date: **13-Oct-2022 15:06**
Client ID: Run ID: **ICS-Integrion_419389** SeqNo: **6919679** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	24.15	0.500	10	14.28	98.7	80 - 120				
Sulfate	68.4	0.500	10	60.04	83.6	80 - 120				O

MSD Sample ID: **HS22100628-01MSD** Units: **mg/L** Analysis Date: **13-Oct-2022 15:12**
Client ID: Run ID: **ICS-Integrion_419389** SeqNo: **6919680** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	24.3	0.500	10	14.28	100	80 - 120	24.15	0.603	20	
Sulfate	68.9	0.500	10	60.04	88.5	80 - 120	68.4	0.722	20	O

The following samples were analyzed in this batch: HS22100565-01

ALS Houston, US Date: 19-Oct-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder: **HS22100565**

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	22-041-0	27-Mar-2023
California	2919 2022-2023	30-Apr-2023
Dept of Defense	L21-682	31-Dec-2023
Florida	E87611-36	30-Jun-2023
Illinois	2000322022-9	09-May-2023
Kansas	E-10352; 2022-2023	31-Jul-2023
Kentucky	123043, 2022-2023	30-Apr-2023
Louisiana	03087, 2022-2023	30-Jun-2023
Maryland	343, 2022-2023	30-Jun-2023
North Carolina	624-2022	31-Dec-2022
North Dakota	R-193 2022-2023	30-Apr-2023
Oklahoma	2022-141	31-Aug-2023
Texas	T104704231-22-29	30-Apr-2023
Utah	TX026932022-13	31-Jul-2023

ALS Houston, US Date: 19-Oct-22

Sample Receipt Checklist

Work Order ID: HS22100565 **Date/Time Received:** **12-Oct-2022 09:00**

Client Name: Bhate Environmental **Received by:** **Corey Grandits**

Completed By: */S/ Paresh M. Giga* (eSignature) 12-Oct-2022 10:59 (Date/Time) **Reviewed by:** */S/ Ragen Giga* (eSignature) 13-Oct-2022 17:09 (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:client
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):	2.5Cc/2.3C U/c	IR31
Cooler(s)/Kit(s):	46796	
Date/Time sample(s) sent to storage:	10/12/22 11:10	

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. NWO1312.0150.0 16.0001

Job: GROUNDWATER TREATMENT PLANT BI-WEEKLY SAMPLES

Prepared By: Scott Beesinger

P.O Number

HS22100565
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_101122	Water	10/11/22 / 14:00		3	3		HCL	
LH18/24-SP650_101122	Water	10/11/22 / 14:00		1		1	NONE	
Trip Blank	Water	10/11/22		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	10/11/22	14:30	ORETA	10-12-22	0800						

9For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition

Remarks

(Word) S:\1-ces\Forms\Chain of Custody - BiWeekly

46796 2,5°
1241 CF=0.2

ALS
10450 Stanch.. Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

4696

CUSTODY SEAL

Date: 10/11/22 Time: 1430

Name: Scott Beers

Company: BHGE

Seal Broken By:

Date: 10/11/22



10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

October 26, 2022

Marcia Olive
Bhate Environmental Associates, Inc.
445 Union Blvd Ste 129
Lakewood, CO 80228

Work Order: **HS22100969**

Laboratory Results for: **Longhorn GW Treatment Plant Weekly Samples**

Dear Marcia Olive,

ALS Environmental received 3 sample(s) on Oct 19, 2022 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: DAYNA.FISHER
Dane J. Wacasey

ALS Houston, US Date: 26-Oct-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS22100969

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS22100969-01	LH18/24-SP650_101822	Water		18-Oct-2022 14:00	19-Oct-2022 09:35	☐
HS22100969-02	LH18/24-SP650_101822_AIX	Water		18-Oct-2022 14:00	19-Oct-2022 09:35	☐
HS22100969-03	LH18/24-SP650_101822_BIX	Water		18-Oct-2022 14:00	19-Oct-2022 09:35	☐

ALS Houston, US Date: 26-Oct-22

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS22100969

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: R420323

Sample ID: HS22100960-01MS

- MS is for an unrelated sample

WetChemistry by Method E350.3

Batch ID: R420118

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method E365.3

Batch ID: R419863

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

ALS Houston, US

Date: 26-Oct-22

Client: Bhate Environmental Associates, Inc.

ANALYTICAL REPORT

Project: Longhorn GW Treatment Plant Weekly Samples

WorkOrder:HS22100969

Sample ID: LH18/24-SP650_101822

Lab ID:HS22100969-01

Collection Date: 18-Oct-2022 14:00

Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
AMMONIA AS N BY E350.3(ISE)		**Method:E350.3**						Analyst: AJ
Nitrogen, Ammonia (As N)	**12**	a	**0.10**	**0.10**	**0.20**	**mg/L**	1	24-Oct-2022 10:57
ORTHO PHOSPHATE (PO4) AS P BY E365.3-1978		**Method:E365.3**						Analyst: MZD
Phosphorus, Total Orthophosphate (As P)	**3.91**	a	**0.100**	**0.125**	**0.250**	**mg/L**	10	20-Oct-2022 12:45
TOTAL ORGANIC CARBON BY E415.1		**Method:E415.1**						Analyst: JAC
Organic Carbon, Total	**6.97**	a	**0.500**	**1.00**	**1.00**	**mg/L**	1	26-Oct-2022 12:35

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 26-Oct-22

Client: Bhate Environmental Associates, Inc.

ANALYTICAL REPORT

Project: Longhorn GW Treatment Plant Weekly Samples

WorkOrder:HS22100969

Sample ID: LH18/24-SP650_101822_AIX

Lab ID:HS22100969-02

Collection Date: 18-Oct-2022 14:00

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	21-Oct-2022 16:46

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 26-Oct-22

Client: Bhate Environmental Associates, Inc.

ANALYTICAL REPORT

Project: Longhorn GW Treatment Plant Weekly Samples

WorkOrder:HS22100969

Sample ID: LH18/24-SP650_101822_BIX

Lab ID:HS22100969-03

Collection Date: 18-Oct-2022 14:00

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	21-Oct-2022 16:46

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 26-Oct-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS22100969

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R419863 (0)	**Test Name :** ORTHO PHOSPHATE (PO4) AS P BY E365.3-1978				**Matrix:** Water	
HS22100969-01	LH18/24-SP650_101822	18 Oct 2022 14:00			20 Oct 2022 12:45	10
Batch ID: R420024 (0)	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)				**Matrix:** Water	
HS22100969-02	LH18/24-SP650_101822_AIX	18 Oct 2022 14:00			21 Oct 2022 16:46	1
HS22100969-03	LH18/24-SP650_101822_BIX	18 Oct 2022 14:00			21 Oct 2022 16:46	1
Batch ID: R420118 (0)	**Test Name :** AMMONIA AS N BY E350.3(ISE)				**Matrix:** Water	
HS22100969-01	LH18/24-SP650_101822	18 Oct 2022 14:00			24 Oct 2022 10:57	1
Batch ID: R420323 (0)	**Test Name :** TOTAL ORGANIC CARBON BY E415.1				**Matrix:** Water	
HS22100969-01	LH18/24-SP650_101822	18 Oct 2022 14:00			26 Oct 2022 12:35	1

ALS Houston, US Date: 26-Oct-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS22100969

QC BATCH REPORT

Batch ID: R419863 (0) **Instrument:** UV-2450 **Method:** ORTHO PHOSPHATE (PO4) AS P BY E365.3-1978

MBLK Sample ID: **MBLK-R419863** Units: **mg/L** Analysis Date: **20-Oct-2022 12:45**
Client ID: Run ID: **UV-2450_419863** SeqNo: **6933141** 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)	0.0125	0.0250								U

LCS Sample ID: **LCS-R419863** Units: **mg/L** Analysis Date: **20-Oct-2022 12:45**
Client ID: Run ID: **UV-2450_419863** SeqNo: **6933140** 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)	0.246	0.0250	0.25	0	98.4	85 - 115				

MS Sample ID: **HS22100969-01MS** Units: **mg/L** Analysis Date: **20-Oct-2022 12:45**
Client ID: **LH18/24-SP650_101822** Run ID: **UV-2450_419863** SeqNo: **6933143** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	6.73	0.250	2.5	3.91	113	80 - 120				

MSD Sample ID: **HS22100969-01MSD** Units: **mg/L** Analysis Date: **20-Oct-2022 12:45**
Client ID: **LH18/24-SP650_101822** Run ID: **UV-2450_419863** SeqNo: **6933142** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	6.73	0.250	2.5	3.91	113	80 - 120	6.73	0	20	

The following samples were analyzed in this batch: HS22100969-01

ALS Houston, US Date: 26-Oct-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS22100969

QC BATCH REPORT

Batch ID: R420118 (0) **Instrument: WetChem_HS** **Method: AMMONIA AS N BY E350.3(ISE)**

MBLK Sample ID: **MBLK-R420118** Units: **mg/L** Analysis Date: **24-Oct-2022 10:57**
Client ID: Run ID: **WetChem_HS_420118** SeqNo: **6939450** 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)	0.10	0.20								U

LCS Sample ID: **LCS-R420118** Units: **mg/L** Analysis Date: **24-Oct-2022 10:57**
Client ID: Run ID: **WetChem_HS_420118** SeqNo: **6939449** 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)	9.605	0.20	10	0	96.0	80 - 120				

MS Sample ID: **HS22100924-01MS** Units: **mg/L** Analysis Date: **24-Oct-2022 10:57**
Client ID: Run ID: **WetChem_HS_420118** SeqNo: **6939455** 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)	9.753	0.20	10	0.227	95.3	80 - 120				

MSD Sample ID: **HS22100924-01MSD** Units: **mg/L** Analysis Date: **24-Oct-2022 10:57**
Client ID: Run ID: **WetChem_HS_420118** SeqNo: **6939454** 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)	9.753	0.20	10	0.227	95.3	80 - 120	9.753	0	20	

The following samples were analyzed in this batch: HS22100969-01

ALS Houston, US Date: 26-Oct-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS22100969

QC BATCH REPORT

Batch ID: R420323 (0) **Instrument: TOC_04** **Method: TOTAL ORGANIC CARBON BY E415.1**

MBLK Sample ID: **MBLK-10262022** Units: **mg/L** Analysis Date: **26-Oct-2022 10:32**
Client ID: Run ID: **TOC_04_420323** SeqNo: **6944053** 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-10262022** Units: **mg/L** Analysis Date: **26-Oct-2022 10:45**
Client ID: Run ID: **TOC_04_420323** SeqNo: **6944054** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	10.56	1.00	10	0	106	85 - 115				

LCSD Sample ID: **LCSD-10262022** Units: **mg/L** Analysis Date: **26-Oct-2022 10:59**
Client ID: Run ID: **TOC_04_420323** SeqNo: **6944055** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	10.53	1.00	10	0	105	85 - 115	10.56	0.284	20	

MS Sample ID: **HS22100960-01MS** Units: **mg/L** Analysis Date: **26-Oct-2022 11:28**
Client ID: Run ID: **TOC_04_420323** SeqNo: **6944057** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	33.94	1.00	10	21.65	123	80 - 120				S

The following samples were analyzed in this batch: HS22100969-01

ALS Houston, US Date: 26-Oct-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: **HS22100969**

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

ALS Houston, US Date: 26-Oct-22

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	22-041-0	27-Mar-2023
California	2919 2022-2023	30-Apr-2023
Dept of Defense	L21-682	31-Dec-2023
Florida	E87611-36	30-Jun-2023
Illinois	2000322022-9	09-May-2023
Kansas	E-10352; 2022-2023	31-Jul-2023
Kentucky	123043, 2022-2023	30-Apr-2023
Louisiana	03087, 2022-2023	30-Jun-2023
Maryland	343, 2022-2023	30-Jun-2023
North Carolina	624-2022	31-Dec-2022
North Dakota	R-193 2022-2023	30-Apr-2023
Oklahoma	2022-141	31-Aug-2023
Texas	T104704231-22-29	30-Apr-2023
Utah	TX026932022-13	31-Jul-2023

ALS Houston, US Date: 26-Oct-22

Sample Receipt Checklist

Work Order ID: HS22100969 **Date/Time Received:** **19-Oct-2022 09:35**

Client Name: Bhate Environmental **Received by:** **Paresh M. Giga**

Completed By:	/S/ Paresh M. Giga	19-Oct-2022 11:32	**Reviewed by:**	/S/ Ragen Giga	20-Oct-2022 14:13
	eSignature	Date/Time		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:Client
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):	1.5C/1.3C U/C	IR31
Cooler(s)/Kit(s):	49294	
Date/Time sample(s) sent to storage:	10/19/22 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 WEEKLY SAMPLES

Prepared By: Scott Beesinger

P.O. Number

HS22100969

Bhate Environmental Associates, Inc.
Longhorn GW Treatment Plant Weekly Samples

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.)	Lab I.D.#
LH18/24-SP650_101822	Water	10/18/22 / 14:00		3	X	X									H2SO4	
LH18/24-SP650_101822	Water	10/18/22 / 14:00		1			X								NONE	
LH18/24–SP650_101822_AIX	Water	10/18/22 / 14:00		1				X							NONE	
LH18/24-SP650_101822_BIX	Water	10/18/22 / 14:00		1				X							NONE	

Additional Remarks: Standard TAT

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	10/18/22	14:30		10/19/22	09:35						

For Lab Use Only

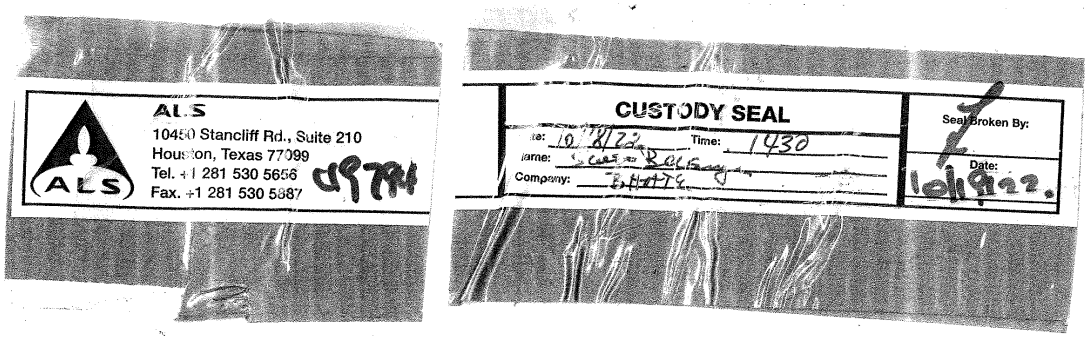
Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition

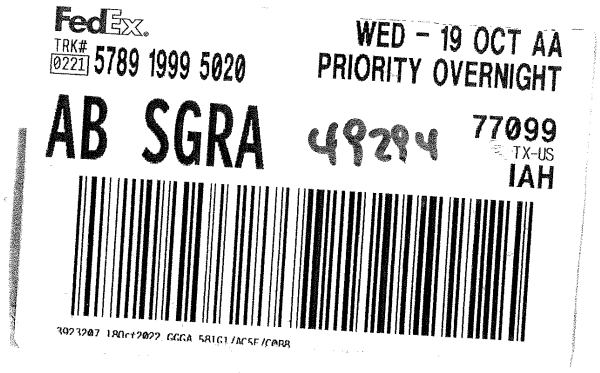
Remarks: 49294 1.5 431

C11-0.2

(Word) S:\1-ces\Forms\Chain of Custody - BiWeekly

01158291


ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887
49794
CUSTODY SEAL
Time: 1430
Company:
Seal Broken By:
Date:
10/19/22.


FedEx.
TRK# 0221 5789 1999 5020
WED - 19 OCT AA
PRIORITY OVERNIGHT
AB SGRA
49294
77099
TX-US
IAH

October 21, 2022 Service Request No:E2201010

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

Laboratory Results for: HS22100969

Dear Dane,

Enclosed are the results of the sample(s) submitted to our laboratory October 19, 2022
For your reference, these analyses have been assigned our service request number **E2201010.**

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 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.:**	E2201010
Project:	HS22100969	**Date Received:**	10/19/22
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 10/19/22.

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:

EQ2200481: 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:**E2201010
Project: HS22100969

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2201010-001	LH18/24-SP650_101822_AIX	10/18/2022	1400
E2201010-002	LH18/24-SP650_101822_BIX	10/18/2022	1400

Service Request Summary

Folder #: **E2201010**
Client Name: ALS Environmental - US
Project Name: HS22100969
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: 10/19/22
Internal Due Date: 10/26/2022
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS22100969
EDD: BASIC_WQC_CASNo_LOD

2 120 mL-Plastic Bottle Natural WM Unpreserved
Location: EHRMS-AirArch 1
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2201010-001	LH18/24-SP650_101822_AIX	Water	10/18/22 1400	**IV**
E2201010-002	LH18/24-SP650_101822_BIX	Water	10/18/22 1400	**IV**

Service Request Summary

Folder #:	**E2201010**
Client Name:	ALS Environmental - US
Project Name:	HS22100969
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:	10/19/22
Internal Due Date:	10/26/2022
QAP:	LAB QAP
Qualifier Set:	Lab Standard
Formset:	Lab Standard
Merged?:	Y
Report to MDL?:	Y
P.O. Number:	HS22100969
EDD:	BASIC_WQC_CASNo_LOD

2 120 mL-Plastic Bottle Natural WM Unpreserved

Location: EHRMS-AirArch 1

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	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	12/31/2022
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	2228443	12/31/2022
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 Health	C819-2022	11/14/2022

Chain of Custody

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

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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:** **20137**

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:	HS22100969
TSR:	Houston House Acct

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS22100969-02**	**LH18/24-SP650_101822_AIX**	**Water**	**18 Oct 2022 14:00**
	6850-Perch. DOD Level II & Level IV in separate pdf			26 Oct 2022
2.	**HS22100969-03**	**LH18/24-SP650_101822_BIX**	**Water**	**18 Oct 2022 14:00**
	6850-Perch. DOD Level II & Level IV in separate pdf			26 Oct 2022

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: 10/19/22 1435

Cooler ID(s): _____ Temperature(s): _____

ALS Environmental

Cooler Receipt Form

Project Chemist JG

Client/Project ALS-H

Thermometer ID IR41

Date/Time Received: 10/19/22 Initials: CG

Date/Time Logged in: 10/19/22 Initials CG

1. Method of delivery: ○ US Mail ○ Fed Ex ○ UPS ○ DHL ☒ Courier (ALS) ○ 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			1435	CG	1.0	☒
						☐
						☐
						☐

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
T: +1 713 266 1599
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
10450 Stancliff Rd., Suite 210, Houston, TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

Preparation Information Benchsheet

Prep Run#: 408479 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/XMI **Prep Method:** Method **Prep Date/Time:** 10/20/22 09:40

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2201006-001	Borehole10@250_0422	.01	6850/ClO4			Water	10mL	
2	E2201006-002	EA-32_0422	.01	6850/ClO4			Water	10mL	
3	E2201006-003	VentShaft5@500_0422	.01	6850/ClO4			Water	10mL	
4	E2201006-004	VentShaft1@950_0422	.01	6850/ClO4			Water	10mL	
5	E2201006-005	VentShaft1@500_0422	.01	6850/ClO4			Water	10mL	
6	E2201006-006	OxideShaft@900_0422	.01	6850/ClO4			Water	10mL	
7	E2201006-007	OxideShaft@1100_0422	.01	6850/ClO4			Water	10mL	
8	E2201007-001	VAT Tanks Composite	.01	6850/ClO4			Water	10mL	
9	E2201010-001	LH18/24-SP650_101822_AIX	.01	6850/ClO4 DOD			Water	10mL	
10	E2201010-002	LH18/24-SP650_101822_BIX	.01	6850/ClO4 DOD			Water	10mL	
11	EQ2200481-01	MB		6850/ClO4			Liquid	10mL	
12	EQ2200481-02	LCS		6850/ClO4			Liquid	10mL	
13	EQ2200481-03	DLCS		6850/ClO4			Liquid	10mL	
14	R2209723-007	2210061421B JER-1-683	.01	6850/ClO4			Water	10mL	
15	R2209866-007	2210121611B WW-5-579	.01	6850/ClO4			Water	10mL	
16	R2209866-014	2210121553B WW-5-459	.01	6850/ClO4			Water	10mL	

Spiking Solutions

Name: Perchlorate Internal Standard 1ug/mL Inventory ID 225266 Logbook Ref: Perchlorate Internal Standard Expires On: 01/31/2023

E2201006-001	100.00µL	E2201006-002	100.00µL	E2201006-003	100.00µL	E2201006-004	100.00µL	E2201006-005	100.00µL	E2201006-006	100.00µL
E2201006-007	100.00µL	E2201007-001	100.00µL	E2201010-001	100.00µL	E2201010-002	100.00µL	EQ2200481-01	100.00µL	EQ2200481-01	100.00µL
EQ2200481-02	100.00µL	EQ2200481-02	100.00µL	EQ2200481-03	100.00µL	EQ2200481-03	100.00µL	R2209723-007	100.00µL	R2209866-007	100.00µL
R2209866-014	100.00µL										

Name: Perchlorate Intermediate Stock1 Inventory ID 225386 Logbook Ref: Perchlorate (1st Source) Expires On: 01/31/2023

EQ2200481-02	1.00µL	EQ2200481-02	1.00µL	EQ2200481-03	1.00µL	EQ2200481-03	1.00µL

Preparation Materials

Water HPLC Grade	09/22/22 Water (225106)	6850 Amber Glass screw vial	2mL Screw Top Vial (221894)	6850 0.45um syringe filters	6850 Syringe Filters (224414)
6850 Luer-Lok Syringes	Luer-Lok Syringes (221305)	6850 Pipette Tips 50-1000 uL	6850 Pipette Tips (221929)		

Preparation Information Benchsheet

Prep Run#: 408479
Team: Semivoa GCMS/XMI

Prep WorkFlow: GenExt28Day
Prep Method: Method

Status: Prepped
Prep Date/Time: 10/20/22 09:40

Preparation Steps

Step: Preparation
Started: 10/20/22 09:40
Finished: 10/20/22 09:51
By: XMI
Comments

Comments: _____

Reviewed By: GR Date: 10/20/22

Chain of Custody

Relinquished By:		Date:	
Received By:		Date:	

Extracts Examined
Yes No

Analytical Results

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

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2201010
Project:	HS22100969	**Date Collected:**	10/18/22 1400
Sample Matrix:	Water	**Date Received:**	10/19/22
Sample Name:	LH18/24-SP650_101822_AIX	**Units:**	µg/L
Lab Code:	E2201010-001	**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	10/20/22	10/21/22 09:51	408479	782214	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2201010
Project:	HS22100969	**Date Collected:**	10/18/22 1400
Sample Matrix:	Water	**Date Received:**	10/19/22
Sample Name:	LH18/24-SP650_101822_BIX	**Units:**	µg/L
Lab Code:	E2201010-002	**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	**0.732**		0.100	0.0500	0.0250	1	10/20/22	10/21/22 09:59	408479	782214	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2201010
Project:	HS22100969	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2200481-01	**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	10/20/22	10/20/22 12:59	408479	781822	

Accuracy & Precision

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2201010
Project:	HS22100969	**Date Analyzed:**	10/20/22
Sample Matrix:	Water		

Lab Control Sample Summary

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

Analytical Method:	6850	**Units:**	µg/L
Prep Method:	Method	**Basis:**	NA
		Extraction Lot:	408479

	Lab Control Sample EQ2200481-02			Duplicate Lab Control Sample EQ2200481-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.112	0.100	112	0.112	0.100	112	84 - 119	<1	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:**	E2201010
Project:	HS22100969	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2200481-02	**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	**0.112**		0.100	0.0500	0.0250	1	10/20/22	10/20/22 13:07	408479	781822	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2201010
Project:	HS22100969	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2200481-03	**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	**0.112**		0.100	0.0500	0.0250	1	10/20/22	10/20/22 13:16	408479	781822	

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

November 04, 2022

Marcia Olive
Bhate Environmental Associates, Inc.
445 Union Blvd Ste 129
Lakewood, CO 80228

Work Order: **HS22101488**

Laboratory Results for: **Longhorn GW Treatment Plant Weekly Samples**

Dear Marcia Olive,

ALS Environmental received 3 sample(s) on Oct 27, 2022 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: DAYNA.FISHER
Dane J. Wacasey

ALS Houston, US Date: 04-Nov-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS22101488

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS22101488-01	LH18/24-SP650_102622	Water		26-Oct-2022 14:00	27-Oct-2022 09:20	☐
HS22101488-02	LH18/24-SP650_102622_AIX	Water		26-Oct-2022 14:00	27-Oct-2022 09:20	☐
HS22101488-03	LH18/24-SP650_102622_BIX	Water		26-Oct-2022 14:00	27-Oct-2022 09:20	☐

ALS Houston, US Date: 04-Nov-22

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS22101488

Work Order Comments

- The analysis for Perchlorate was subcontracted to ALS Houston High-Res Lab. Final report attached

WetChemistry by Method E350.3

Batch ID: R420628

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method E365.3

Batch ID: R420526

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method E415.1

Batch ID: R420478

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

ALS Houston, US

Date: 04-Nov-22

Client: Bhate Environmental Associates, Inc.

ANALYTICAL REPORT

Project: Longhorn GW Treatment Plant Weekly Samples

WorkOrder:HS22101488

Sample ID: LH18/24-SP650_102622

Lab ID:HS22101488-01

Collection Date: 26-Oct-2022 14:00

Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
AMMONIA AS N BY E350.3(ISE)		**Method:E350.3**						Analyst: AJ
Nitrogen, Ammonia (As N)	**7.0**	a	**0.10**	**0.10**	**0.20**	**mg/L**	1	31-Oct-2022 11:00
ORTHO PHOSPHATE (PO4) AS P BY E365.3-1978		**Method:E365.3**						Analyst: MZD
Phosphorus, Total Orthophosphate (As P)	**3.22**	a	**0.100**	**0.125**	**0.250**	**mg/L**	10	28-Oct-2022 10:37
TOTAL ORGANIC CARBON BY E415.1		**Method:E415.1**						Analyst: JAC
Organic Carbon, Total	**3.10**	a	**0.500**	**1.00**	**1.00**	**mg/L**	1	28-Oct-2022 00:18

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 04-Nov-22

Client: Bhate Environmental Associates, Inc.

ANALYTICAL REPORT

Project: Longhorn GW Treatment Plant Weekly Samples

WorkOrder:HS22101488

Sample ID: LH18/24-SP650_102622_AIX

Lab ID:HS22101488-02

Collection Date: 26-Oct-2022 14:00

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	03-Nov-2022 13:39

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 04-Nov-22

Client: Bhate Environmental Associates, Inc.

ANALYTICAL REPORT

Project: Longhorn GW Treatment Plant Weekly Samples

WorkOrder:HS22101488

Sample ID: LH18/24-SP650_102622_BIX

Lab ID:HS22101488-03

Collection Date: 26-Oct-2022 14:00

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	03-Nov-2022 13:39

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 04-Nov-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS22101488

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R420478 (0)	**Test Name :** TOTAL ORGANIC CARBON BY E415.1				**Matrix:** Water	
HS22101488-01	LH18/24-SP650_102622	26 Oct 2022 14:00			28 Oct 2022 00:18	1
Batch ID: R420526 (0)	**Test Name :** ORTHO PHOSPHATE (PO4) AS P BY E365.3-1978				**Matrix:** Water	
HS22101488-01	LH18/24-SP650_102622	26 Oct 2022 14:00			28 Oct 2022 10:37	10
Batch ID: R420628 (0)	**Test Name :** AMMONIA AS N BY E350.3(ISE)				**Matrix:** Water	
HS22101488-01	LH18/24-SP650_102622	26 Oct 2022 14:00			31 Oct 2022 11:00	1
Batch ID: R420929 (0)	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)				**Matrix:** Water	
HS22101488-02	LH18/24-SP650_102622_AIX	26 Oct 2022 14:00			03 Nov 2022 13:39	1
HS22101488-03	LH18/24-SP650_102622_BIX	26 Oct 2022 14:00			03 Nov 2022 13:39	1

ALS Houston, US Date: 04-Nov-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS22101488

QC BATCH REPORT

Batch ID: R420478 (0) **Instrument: TOC_04** **Method: TOTAL ORGANIC CARBON BY E415.1**

MBLK Sample ID: **MBLK-10272022** Units: **mg/L** Analysis Date: **27-Oct-2022 21:06**
Client ID: Run ID: **TOC_04_420478** SeqNo: **6947619** 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-10272022** Units: **mg/L** Analysis Date: **27-Oct-2022 21:19**
Client ID: Run ID: **TOC_04_420478** SeqNo: **6947620** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	10.69	1.00	10	0	107	85 - 115				

LCSD Sample ID: **LCSD-10272022** Units: **mg/L** Analysis Date: **27-Oct-2022 21:33**
Client ID: Run ID: **TOC_04_420478** SeqNo: **6947621** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	10.95	1.00	10	0	110	85 - 115	10.69	2.4	20	

MS Sample ID: **HS22101157-01MS** Units: **mg/L** Analysis Date: **27-Oct-2022 22:02**
Client ID: Run ID: **TOC_04_420478** SeqNo: **6947623** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	41.08	1.00	10	29.21	119	80 - 120				

The following samples were analyzed in this batch: HS22101488-01

ALS Houston, US Date: 04-Nov-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS22101488

QC BATCH REPORT

Batch ID: R420526 (0) **Instrument:** UV-2450 **Method:** ORTHO PHOSPHATE (PO4) AS P BY E365.3-1978

MBLK Sample ID: **MBLK-R420526** Units: **mg/L** Analysis Date: **28-Oct-2022 10:37**
Client ID: Run ID: **UV-2450_420526** SeqNo: **6950660** 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)	0.0125	0.0250								U

LCS Sample ID: **LCS-R420526** Units: **mg/L** Analysis Date: **28-Oct-2022 10:37**
Client ID: Run ID: **UV-2450_420526** SeqNo: **6950659** 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)	0.248	0.0250	0.25	0	99.2	85 - 115				

MS Sample ID: **HS22101488-01MS** Units: **mg/L** Analysis Date: **28-Oct-2022 10:37**
Client ID: **LH18/24-SP650_102622** Run ID: **UV-2450_420526** SeqNo: **6950662** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	5.94	0.250	2.5	3.22	109	80 - 120				

MSD Sample ID: **HS22101488-01MSD** Units: **mg/L** Analysis Date: **28-Oct-2022 10:37**
Client ID: **LH18/24-SP650_102622** Run ID: **UV-2450_420526** SeqNo: **6950661** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	5.94	0.250	2.5	3.22	109	80 - 120	5.94	0	20	

The following samples were analyzed in this batch: HS22101488-01

ALS Houston, US Date: 04-Nov-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS22101488

QC BATCH REPORT

Batch ID: R420628 (0) **Instrument: WetChem_HS** **Method: AMMONIA AS N BY E350.3(ISE)**

MBLK Sample ID: **MBLK-R420628** Units: **mg/L** Analysis Date: **31-Oct-2022 11:00**
Client ID: Run ID: **WetChem_HS_420628** SeqNo: **6951315** 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)	0.10	0.20								U

LCS Sample ID: **LCS-R420628** Units: **mg/L** Analysis Date: **31-Oct-2022 11:00**
Client ID: Run ID: **WetChem_HS_420628** SeqNo: **6951314** 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)	9.336	0.20	10	0	93.4	80 - 120				

MS Sample ID: **HS22101574-01MS** Units: **mg/L** Analysis Date: **31-Oct-2022 11:00**
Client ID: Run ID: **WetChem_HS_420628** SeqNo: **6951715** 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)	9.07	0.20	10	0.364	87.1	80 - 120				

MSD Sample ID: **HS22101574-01MSD** Units: **mg/L** Analysis Date: **31-Oct-2022 11:00**
Client ID: Run ID: **WetChem_HS_420628** SeqNo: **6951714** 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)	9.07	0.20	10	0.364	87.1	80 - 120	9.07	0	20	

The following samples were analyzed in this batch: HS22101488-01

ALS Houston, US Date: 04-Nov-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: **HS22101488**

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

ALS Houston, US Date: 04-Nov-22

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	22-041-0	27-Mar-2023
California	2919 2022-2023	30-Apr-2023
Dept of Defense	L21-682	31-Dec-2023
Florida	E87611-36	30-Jun-2023
Illinois	2000322022-9	09-May-2023
Kansas	E-10352; 2022-2023	31-Jul-2023
Kentucky	123043, 2022-2023	30-Apr-2023
Louisiana	03087, 2022-2023	30-Jun-2023
Maryland	343, 2022-2023	30-Jun-2023
North Carolina	624-2022	31-Dec-2022
North Dakota	R-193 2022-2023	30-Apr-2023
Oklahoma	2022-141	31-Aug-2023
Texas	T104704231-22-29	30-Apr-2023
Utah	TX026932022-13	31-Jul-2023

ALS Houston, US Date: 04-Nov-22

Sample Receipt Checklist

Work Order ID: HS22101488 **Date/Time Received:** **27-Oct-2022 09:20**

Client Name: Bhate Environmental **Received by:** **Corey Grandits**

Completed By: */S/ Corey Grandits* (eSignature) 27-Oct-2022 11:04 (Date/Time) **Reviewed by:** */S/ Dane J. Wacasey* (eSignature) 04-Nov-2022 10:49 (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):	2.2uc/2.0c	ir31
Cooler(s)/Kit(s):	49835	
Date/Time sample(s) sent to storage:	10/27/2022	

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

HS22101488

Bhate Environmental Associates, Inc.

Longhorn GW Treatment Plant Weekly Samples

Project: BHATE LONGHORN ARMY AMMN. PLANT (LHAAP) GROUNDWATER TREATMENT PLANT (GWTP) KARNACK, TEXAS	Project No. NWO1312.0150.0 16.0001
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	AMMONIA-N	TOTAL ORGANIC CARBON	ORTHO-PHOSPHATE	PERCHLORATE						Remarks (Preservatives, etc.)	Lab I.D.#
LH18/24-SP650_102622	Water	10/26/22 / 14:00		3	X	X								H2SO4	
LH18/24-SP650_102622	Water	10/26/22 / 14:00		1			X							NONE	
LH18/24–SP650_102622_AIX	Water	10/26/22 / 14:00		1				X						NONE	
LH18/24-SP650_102622_BIX	Water	10/26/22 / 14:00		1				X						NONE	

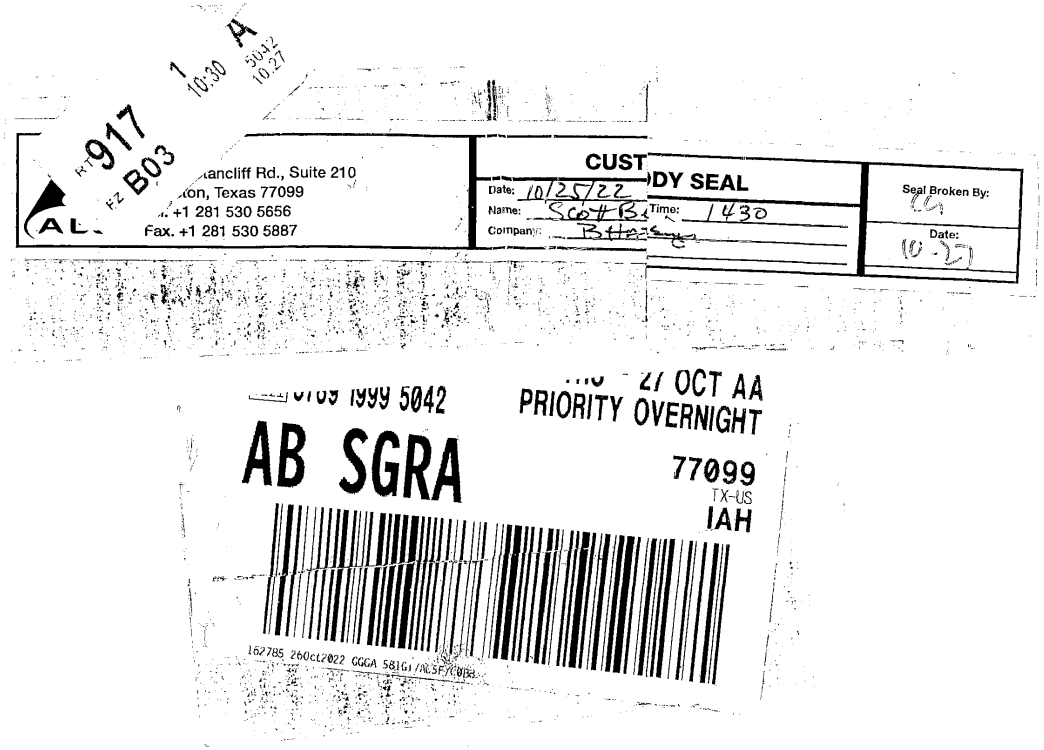
Additional Remarks: **Standard TAT**

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
	10/26/22	14:30									

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition

Remarks:


1
10:30
A
5042
10.27
917
B03
ancliff Rd., Suite 210
on, Texas 77099
+1 281 530 5656
Fax. +1 281 530 5887
CUST
DY SEAL
Date: 10/25/22
Time: 1430
Name: Scott B
Company:
Seal Broken By:
Date:
10-27
0709 1999 5042
27 OCT AA
PRIORITY OVERNIGHT
AB SGRA
77099
TX-US
IAH

November 02, 2022 Service Request No:E2201041

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

Laboratory Results for: HS22101488

Dear Dane,

Enclosed are the results of the sample(s) submitted to our laboratory October 27, 2022
For your reference, these analyses have been assigned our service request number **E2201041.**

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 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.:**	E2201041
Project:	HS22101488	**Date Received:**	10/27/22
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 10/27/22.

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:

EQ2200498: 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:**E2201041
Project: HS22101488

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2201041-001	LH18/24-SP650_102622_AIX	10/26/2022	1400
E2201041-002	LH18/24-SP650_102622_BIX	10/26/2022	1400

Service Request Summary

Folder #: **E2201041**
Client Name: ALS Environmental - US
Project Name: HS22101488
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: JGUIN
Date Received: 10/27/22
Internal Due Date: 11/3/2022
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS22101488
EDD: BASIC_WQC_CASNo_LOD

2 120 mL-Plastic Bottle Natural WM Unpreserved
Location: EHRMS-AirArch 1
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2201041-001	LH18/24-SP650_102622_AIX	Water	10/26/22 1400	**IV**
E2201041-002	LH18/24-SP650_102622_BIX	Water	10/26/22 1400	**IV**

Service Request Summary

Folder #:	**E2201041**
Client Name:	ALS Environmental - US
Project Name:	HS22101488
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:	JGUIN
Date Received:	10/27/22
Internal Due Date:	11/3/2022
QAP:	LAB QAP
Qualifier Set:	Lab Standard
Formset:	Lab Standard
Merged?:	Y
Report to MDL?:	Y
P.O. Number:	HS22101488
EDD:	BASIC_WQC_CASNo_LOD

2 120 mL-Plastic Bottle Natural WM Unpreserved

Location: EHRMS-AirArch 1

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	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	12/31/2022
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	2228443	12/31/2022
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 Health	C819-2022	11/14/2022

Chain of Custody

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

As Coly.

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F: +1 281 530 5887
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Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **20185**

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:	HS22101488
TSR:	Houston House Acct

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS22101488-02**	**LH18/24-SP650_102622_AIX**	**Water**	**26 Oct 2022 14:00**
	6850-Perch. DOD Level II & Level IV in separate pdf			03 Nov 2022
2.	**HS22101488-03**	**LH18/24-SP650_102622_BIX**	**Water**	**26 Oct 2022 14:00**
	6850-Perch. DOD Level II & Level IV in separate pdf			03 Nov 2022

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: _____

Cooler ID(s): _____ Temperature(s): _____

10450 Stancliff Rd, Ste 210
Houston, TX 77099
T: +1 281 530 5656
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Sample Receipt Checklist

Work Order ID: HS22101488 **Date/Time received:** 27 Oct 2022 09:20

Client name: Bhate Environmental Associates, Inc. **Received by:** Corey Grandits

Completed/By:	27 Oct 2022 11:04	Corey Grandits	**Reviewed/By:**		
	Date/Time	eSignature		Date/Time	eSignature

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	COC ID(s):	
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):	2.2uc/2.0c		ir31	
Cooler Information:	1 Cooler(s), 49835			
Date/Time sample(s) sent to storage:	10/27/2022			
Water - VOA vials have zero headspace?	☑ Yes	☐ No	☐ No VOA vials submitted	
Water - pH acceptable upon receipt?	☑ Yes	☐ No	☐ Not Applicable	
pH adjusted?	☐ Yes	☑ No	☐ Not Applicable	

pH adjusted by:

Login notes:

Client contacted: **Date contacted:** **Person contacted:**

Contacted by: **Regarding:**

Comments:

Corrective action:

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

Preparation Information Benchsheet

Prep Run#: 409221 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 11/1/22 09:27

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2201041-001	LH18/24-SP650_102622_AIX	.01	6850/ClO4 DOD			Water	10mL	
2	E2201041-002	LH18/24-SP650_102622_BIX	.01	6850/ClO4 DOD			Water	10mL	
3	E2201042-001	2210362-01 (W-29)	.01	6850/ClO4			Water	10mL	
4	E2201042-002	2210362-02 (MW-2)	.01	6850/ClO4			Water	10mL	
5	E2201042-003	2210362-03 (MW-17)	.01	6850/ClO4			Water	10mL	
6	E2201047-001	W-15	.01	6850/ClO4			Water	10mL	
7	E2201047-002	W-11	.01	6850/ClO4			Water	10mL	
8	E2201047-003	W-12	.01	6850/ClO4			Water	10mL	
9	E2201047-004	W-4	.01	6850/ClO4			Water	10mL	
10	E2201047-005	MW-1	.01	6850/ClO4			Water	10mL	
11	E2201047-006	MW-16	.01	6850/ClO4			Water	10mL	
12	E2201047-007	W-16	.01	6850/ClO4			Water	10mL	
13	E2201047-008	MW-11	.01	6850/ClO4			Water	10mL	
14	E2201047-009	MW-4	.01	6850/ClO4			Water	10mL	
15	E2201047-010	W-1	.01	6850/ClO4			Water	10mL	
16	E2201047-011	MW-12	.01	6850/ClO4			Water	10mL	
17	E2201047-012	W-3	.01	6850/ClO4			Water	10mL	
18	E2201047-013	MW-5	.01	6850/ClO4			Water	10mL	
19	E2201047-014	MW-13	.01	6850/ClO4			Water	10mL	
20	EQ2200498-01	MB		6850/ClO4 DOD			Liquid	10mL	
21	EQ2200498-02	LCS		6850/ClO4 DOD			Liquid	10mL	
22	EQ2200498-03	DLCS		6850/ClO4 DOD			Liquid	10mL	

Spiking Solutions

Name: Perchlorate Internal Standard 1ug/mL Inventory ID 225266 Logbook Ref: Perchlorate Internal Standard Expires On: 01/31/2023

E2201041-001	100.00µL	E2201041-002	100.00µL	E2201042-001	100.00µL	E2201042-002	100.00µL	E2201042-003	100.00µL	E2201047-001	100.00µL
E2201047-002	100.00µL	E2201047-003	100.00µL	E2201047-004	100.00µL	E2201047-005	100.00µL	E2201047-006	100.00µL	E2201047-007	100.00µL
E2201047-008	100.00µL	E2201047-009	100.00µL	E2201047-010	100.00µL	E2201047-011	100.00µL	E2201047-012	100.00µL	E2201047-013	100.00µL
E2201047-014	100.00µL	EQ2200498-01	100.00µL	EQ2200498-01	100.00µL	EQ2200498-02	100.00µL	EQ2200498-02	100.00µL	EQ2200498-03	100.00µL
EQ2200498-03	100.00µL										

Name: Perchlorate Intermediate Stock1 Inventory ID 225386 Logbook Ref: Perchlorate (1st Source) Expires On: 01/31/2023

EQ2200498-02	1.00µL	EQ2200498-02	1.00µL	EQ2200498-03	1.00µL	EQ2200498-03	1.00µL

Preparation Information Benchsheet

Prep Run#: 409221 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 11/1/22 09:27

Preparation Materials

Water HPLC Grade	09/22/22 Water (225106)	6850 Amber Glass screw vial	2mL Screw Top Vial (221894)	6850 0.45um syringe filters	6850 Syringe Filters (224414)
6850 Luer-Lok Syringes	Luer-Lok Syringes (221305)	6850 Pipette Tips 50-1000 uL	6850 Pipette Tips (221929)		

Preparation Steps

Step: Preparation
Started: 11/1/22 09:27
Finished: 11/1/22 10:15
By: GRIVERA
Comments

Comments: _____

Reviewed By: GR Date: 11/01/22

Chain of Custody

Relinquished By: _____ Date: _____ Extracts Examined

Received By: _____ Date: _____ Yes No

Analytical Results

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

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2201041
Project:	HS22101488	**Date Collected:**	10/26/22 1400
Sample Matrix:	Water	**Date Received:**	10/27/22
Sample Name:	LH18/24-SP650_102622_AIX	**Units:**	µg/L
Lab Code:	E2201041-001	**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	**0.123**		0.100	0.0500	0.0250	1	11/ 1/22	11/1/22 15:51	409221	783617	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2201041
Project:	HS22101488	**Date Collected:**	10/26/22 1400
Sample Matrix:	Water	**Date Received:**	10/27/22
Sample Name:	LH18/24-SP650_102622_BIX	**Units:**	µg/L
Lab Code:	E2201041-002	**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	**1.38**		0.100	0.0500	0.0250	1	11/ 1/22	11/1/22 12:07	409221	783617	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2201041
Project:	HS22101488	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2200498-01	**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	11/ 1/22	11/1/22 11:34	409221	783617	

Accuracy & Precision

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2201041
Project:	HS22101488	**Date Analyzed:**	11/ 1/22
Sample Matrix:	Water		

Lab Control Sample Summary

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

Analytical Method:	6850	**Units:**	µg/L
Prep Method:	Method	**Basis:**	NA
		Extraction Lot:	409221

	Lab Control Sample EQ2200498-02			Duplicate Lab Control Sample EQ2200498-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.0912	0.100	91	0.105	0.100	105	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:**	E2201041
Project:	HS22101488	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2200498-02	**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	**0.0912**	J	0.100	0.0500	0.0250	1	11/ 1/22	11/1/22 11:42	409221	783617	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2201041
Project:	HS22101488	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2200498-03	**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	**0.105**		0.100	0.0500	0.0250	1	11/ 1/22	11/1/22 15:42	409221	783617	

10450 Stancliff Rd. Suite 210
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November 07, 2022

Marcia Olive
Bhate Environmental Associates, Inc.
445 Union Blvd Ste 129
Lakewood, CO 80228

Work Order: **HS22101489**

Laboratory Results for: **Longhorn GW Treatment Plant Bi-Weekly Samples**

Dear Marcia Olive,

ALS Environmental received 2 sample(s) on Oct 27, 2022 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: DAYNA.FISHER
Dane J. Wacasey

ALS Houston, US Date: 07-Nov-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
Work Order: HS22101489

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS22101489-01	LH18/24-SP650_102622	Water		26-Oct-2022 14:00	27-Oct-2022 09:20	☐
HS22101489-02	Trip Blank	Water	CG-061422-300	26-Oct-2022 14:00	27-Oct-2022 09:20	☐

ALS Houston, US Date: 07-Nov-22

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
Work Order: HS22101489

GCMS Volatiles by Method SW8260

Batch ID: R421111

Sample ID: LH18/24-SP650_102622 (HS22101489-01MS)

- MS/MSD recovered outside control limits for Chloroethane

WetChemistry by Method SW9056

Batch ID: R421073

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

ALS Houston, US Date: 07-Nov-22

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Longhorn GW Treatment Plant Bi-Weekly Samples WorkOrder:HS22101489
Sample ID: LH18/24-SP650_102622 Lab ID:HS22101489-01
Collection Date: 26-Oct-2022 14:00 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	05-Nov-2022 14:40
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	05-Nov-2022 14:40
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	05-Nov-2022 14:40
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	05-Nov-2022 14:40
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	05-Nov-2022 14:40
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	05-Nov-2022 14:40
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Nov-2022 14:40
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	05-Nov-2022 14:40
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	05-Nov-2022 14:40
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	05-Nov-2022 14:40
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Nov-2022 14:40
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	05-Nov-2022 14:40
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	05-Nov-2022 14:40
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	05-Nov-2022 14:40
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	05-Nov-2022 14:40
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	05-Nov-2022 14:40
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Nov-2022 14:40
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	05-Nov-2022 14:40
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	05-Nov-2022 14:40
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	05-Nov-2022 14:40
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	05-Nov-2022 14:40
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	05-Nov-2022 14:40
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Nov-2022 14:40
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	05-Nov-2022 14:40
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	05-Nov-2022 14:40
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Nov-2022 14:40
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	05-Nov-2022 14:40
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	05-Nov-2022 14:40
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	05-Nov-2022 14:40
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	05-Nov-2022 14:40
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	05-Nov-2022 14:40
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	05-Nov-2022 14:40
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	05-Nov-2022 14:40
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	05-Nov-2022 14:40
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	05-Nov-2022 14:40
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	05-Nov-2022 14:40
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Nov-2022 14:40
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	05-Nov-2022 14:40
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	05-Nov-2022 14:40

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 07-Nov-22

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Longhorn GW Treatment Plant Bi-Weekly Samples WorkOrder:HS22101489
Sample ID: LH18/24-SP650_102622 Lab ID:HS22101489-01
Collection Date: 26-Oct-2022 14:00 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	05-Nov-2022 14:40
cis-1,2-Dichloroethene	**2.1**		**0.20**	**1.0**	**1.0**	**ug/L**	1	05-Nov-2022 14:40
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	05-Nov-2022 14:40
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	05-Nov-2022 14:40
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	05-Nov-2022 14:40
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	05-Nov-2022 14:40
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Nov-2022 14:40
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	05-Nov-2022 14:40
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Nov-2022 14:40
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	05-Nov-2022 14:40
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	05-Nov-2022 14:40
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	05-Nov-2022 14:40
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Nov-2022 14:40
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Nov-2022 14:40
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Nov-2022 14:40
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Nov-2022 14:40
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Nov-2022 14:40
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Nov-2022 14:40
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Nov-2022 14:40
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	05-Nov-2022 14:40
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	05-Nov-2022 14:40
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	05-Nov-2022 14:40
Trichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	05-Nov-2022 14:40
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	05-Nov-2022 14:40
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	05-Nov-2022 14:40
Surr: 1,2-Dichloroethane-d4	*92.1*			**0**	*81-118*	*%REC*	*1*	*05-Nov-2022 14:40*
Surr: 4-Bromofluorobenzene	*93.7*			**0**	*85-114*	*%REC*	*1*	*05-Nov-2022 14:40*
Surr: Dibromofluoromethane	*92.4*			**0**	*80-119*	*%REC*	*1*	*05-Nov-2022 14:40*
Surr: Toluene-d8	*107*			**0**	*89-112*	*%REC*	*1*	*05-Nov-2022 14:40*
ANIONS BY SW9056A		**Method:SW9056**						Analyst: TH
Chloride	**1,130**		**4.00**	**10.0**	**10.0**	**mg/L**	20	04-Nov-2022 20:41
Sulfate	**50.0**		**0.200**	**0.500**	**0.500**	**mg/L**	1	04-Nov-2022 20:35

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 07-Nov-22

Client: Bhate Environmental Associates, Inc.
ANALYTICAL REPORT
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder:HS22101489
Sample ID: Trip Blank
Lab ID:HS22101489-02
Collection Date: 26-Oct-2022 14:00
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	05-Nov-2022 14:18
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	05-Nov-2022 14:18
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	05-Nov-2022 14:18
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	05-Nov-2022 14:18
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	05-Nov-2022 14:18
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	05-Nov-2022 14:18
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Nov-2022 14:18
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	05-Nov-2022 14:18
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	05-Nov-2022 14:18
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	05-Nov-2022 14:18
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Nov-2022 14:18
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	05-Nov-2022 14:18
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	05-Nov-2022 14:18
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	05-Nov-2022 14:18
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	05-Nov-2022 14:18
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	05-Nov-2022 14:18
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Nov-2022 14:18
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	05-Nov-2022 14:18
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	05-Nov-2022 14:18
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	05-Nov-2022 14:18
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	05-Nov-2022 14:18
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	05-Nov-2022 14:18
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Nov-2022 14:18
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	05-Nov-2022 14:18
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	05-Nov-2022 14:18
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Nov-2022 14:18
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	05-Nov-2022 14:18
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	05-Nov-2022 14:18
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	05-Nov-2022 14:18
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	05-Nov-2022 14:18
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	05-Nov-2022 14:18
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	05-Nov-2022 14:18
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	05-Nov-2022 14:18
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	05-Nov-2022 14:18
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	05-Nov-2022 14:18
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	05-Nov-2022 14:18
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Nov-2022 14:18
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	05-Nov-2022 14:18
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	05-Nov-2022 14:18

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 07-Nov-22

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Longhorn GW Treatment Plant Bi-Weekly Samples WorkOrder:HS22101489
Sample ID: Trip Blank Lab ID:HS22101489-02
Collection Date: 26-Oct-2022 14:00 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	05-Nov-2022 14:18
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	05-Nov-2022 14:18
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	05-Nov-2022 14:18
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	05-Nov-2022 14:18
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	05-Nov-2022 14:18
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	05-Nov-2022 14:18
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Nov-2022 14:18
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	05-Nov-2022 14:18
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Nov-2022 14:18
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	05-Nov-2022 14:18
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	05-Nov-2022 14:18
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	05-Nov-2022 14:18
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Nov-2022 14:18
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Nov-2022 14:18
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Nov-2022 14:18
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Nov-2022 14:18
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Nov-2022 14:18
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Nov-2022 14:18
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	05-Nov-2022 14:18
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	05-Nov-2022 14:18
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	05-Nov-2022 14:18
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	05-Nov-2022 14:18
Trichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	05-Nov-2022 14:18
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	05-Nov-2022 14:18
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	05-Nov-2022 14:18
Surr: 1,2-Dichloroethane-d4	*92.4*			**0**	*81-118*	*%REC*	*1*	*05-Nov-2022 14:18*
Surr: 4-Bromofluorobenzene	*95.9*			**0**	*85-114*	*%REC*	*1*	*05-Nov-2022 14:18*
Surr: Dibromofluoromethane	*93.0*			**0**	*80-119*	*%REC*	*1*	*05-Nov-2022 14:18*
Surr: Toluene-d8	*110*			**0**	*89-112*	*%REC*	*1*	*05-Nov-2022 14:18*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 07-Nov-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder: HS22101489

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R421073 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Water	
HS22101489-01	LH18/24-SP650_102622	26 Oct 2022 14:00			04 Nov 2022 20:41	20
HS22101489-01	LH18/24-SP650_102622	26 Oct 2022 14:00			04 Nov 2022 20:35	1
Batch ID: R421111 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS22101489-01	LH18/24-SP650_102622	26 Oct 2022 14:00			05 Nov 2022 14:40	1
HS22101489-02	Trip Blank	26 Oct 2022 14:00			05 Nov 2022 14:18	1

ALS Houston, US Date: 07-Nov-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder: HS22101489

QC BATCH REPORT

Batch ID: R421111 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-221105** Units: **ug/L** Analysis Date: **05-Nov-2022 13:33**
Client ID: Run ID: **VOA9_421111** SeqNo: **6963592** 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: 07-Nov-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder: HS22101489

QC BATCH REPORT

Batch ID: R421111 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-221105** Units: **ug/L** Analysis Date: **05-Nov-2022 13:33**
Client ID: Run ID: **VOA9_421111** SeqNo: **6963592** 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	1.0	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	*45.88*	*1.0*	*50*	*0*	*91.8*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*48.06*	*1.0*	*50*	*0*	*96.1*	*85 - 114*				
Surr: Dibromofluoromethane	*45.22*	*1.0*	*50*	*0*	*90.4*	*80 - 119*				
Surr: Toluene-d8	*55.21*	*1.0*	*50*	*0*	*110*	*89 - 112*				

ALS Houston, US Date: 07-Nov-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder: HS22101489

QC BATCH REPORT

Batch ID: R421111 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

LCS Sample ID: **VLCSW-221105** Units: **ug/L** Analysis Date: **05-Nov-2022 12:48**
Client ID: Run ID: **VOA9_421111** SeqNo: **6963591** 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	22.28	1.0	20	0	111	78 - 124				
1,1,1-Trichloroethane	21.03	1.0	20	0	105	74 - 131				
1,1,2,2-Tetrachloroethane	21.53	1.0	20	0	108	71 - 121				
1,1,2-Trichloroethane	22.36	1.0	20	0	112	80 - 119				
1,1-Dichloroethane	19.87	1.0	20	0	99.4	77 - 125				
1,1-Dichloroethene	19.36	1.0	20	0	96.8	71 - 131				
1,1-Dichloropropene	20.09	1.0	20	0	100	78 - 125				
1,2,3-Trichlorobenzene	20.67	1.0	20	0	103	69 - 129				
1,2,3-Trichloropropane	21.5	1.0	20	0	108	73 - 122				
1,2,4-Trichlorobenzene	20.44	1.0	20	0	102	69 - 130				
1,2,4-Trimethylbenzene	20.65	1.0	20	0	103	76 - 124				
1,2-Dibromo-3-chloropropane	18.45	1.0	20	0	92.3	62 - 128				
1,2-Dibromoethane	22.23	1.0	20	0	111	77 - 121				
1,2-Dichlorobenzene	21.59	1.0	20	0	108	80 - 119				
1,2-Dichloroethane	21.42	1.0	20	0	107	73 - 128				
1,2-Dichloropropane	20.97	1.0	20	0	105	78 - 122				
1,3,5-Trimethylbenzene	19.94	1.0	20	0	99.7	75 - 124				
1,3-Dichlorobenzene	20.26	1.0	20	0	101	80 - 119				
1,3-Dichloropropane	21.81	1.0	20	0	109	80 - 119				
1,4-Dichlorobenzene	21.37	1.0	20	0	107	79 - 118				
2,2-Dichloropropane	19.84	1.0	20	0	99.2	60 - 139				
2-Butanone	43.27	2.0	40	0	108	56 - 143				
2-Chlorotoluene	21.03	1.0	20	0	105	79 - 122				
2-Hexanone	45.93	2.0	40	0	115	57 - 139				
4-Chlorotoluene	20.34	1.0	20	0	102	78 - 122				
4-Isopropyltoluene	19.92	1.0	20	0	99.6	77 - 127				
4-Methyl-2-pentanone	46.57	2.0	40	0	116	67 - 130				
Acetone	39.03	2.0	40	0	97.6	39 - 160				
Benzene	20.91	1.0	20	0	105	79 - 120				
Bromobenzene	21.82	1.0	20	0	109	80 - 120				
Bromochloromethane	20.92	1.0	20	0	105	78 - 123				
Bromodichloromethane	20.2	1.0	20	0	101	79 - 125				
Bromoform	19.23	1.0	20	0	96.1	66 - 130				
Bromomethane	22.63	1.0	20	0	113	53 - 141				

ALS Houston, US Date: 07-Nov-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder: HS22101489

QC BATCH REPORT

Batch ID: R421111 (0) **Instrument: VOA9** **Method: VOLATILES ORGANICS BY METHOD 8260C**

LCS Sample ID: **VLCSW-221105** Units: **ug/L** Analysis Date: **05-Nov-2022 12:48**
Client ID: Run ID: **VOA9_421111** SeqNo: **6963591** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	41.45	2.0	40	0	104	64 - 133				
Carbon tetrachloride	18.46	1.0	20	0	92.3	72 - 136				
Chlorobenzene	21.02	1.0	20	0	105	82 - 118				
Chloroethane	19.35	1.0	20	0	96.8	60 - 138				
Chloroform	20.54	1.0	20	0	103	79 - 124				
Chloromethane	21.42	1.0	20	0	107	50 - 139				
cis-1,2-Dichloroethene	20.86	1.0	20	0	104	78 - 123				
cis-1,3-Dichloropropene	19.78	1.0	20	0	98.9	75 - 124				
Dibromochloromethane	20.45	1.0	20	0	102	74 - 126				
Dibromomethane	20.56	1.0	20	0	103	79 - 123				
Dichlorodifluoromethane	23.11	1.0	20	0	116	32 - 152				
Ethylbenzene	20.95	1.0	20	0	105	79 - 121				
Hexachlorobutadiene	24.55	1.0	20	0	123	66 - 134				
Isopropylbenzene	19.57	1.0	20	0	97.9	72 - 131				
m,p-Xylene	40.82	2.0	40	0	102	80 - 121				
Methylene chloride	22.5	2.0	20	0	112	74 - 124				
Naphthalene	20	1.0	20	0	100	61 - 128				
n-Butylbenzene	20.72	1.0	20	0	104	75 - 128				
n-Propylbenzene	20.08	1.0	20	0	100	76 - 126				
o-Xylene	21.05	1.0	20	0	105	78 - 122				
sec-Butylbenzene	21.07	1.0	20	0	105	77 - 126				
Styrene	21.04	1.0	20	0	105	78 - 123				
tert-Butylbenzene	19.69	1.0	20	0	98.4	78 - 124				
Tetrachloroethene	20.96	1.0	20	0	105	74 - 129				
Toluene	21.12	1.0	20	0	106	80 - 121				
trans-1,2-Dichloroethene	20	1.0	20	0	100.0	75 - 124				
trans-1,3-Dichloropropene	18.01	1.0	20	0	90.1	73 - 127				
Trichloroethene	21.12	1.0	20	0	106	79 - 123				
Trichlorofluoromethane	19.55	1.0	20	0	97.7	65 - 141				
Vinyl chloride	20.51	1.0	20	0	103	58 - 137				
Surr: 1,2-Dichloroethane-d4	*50.09*	*1.0*	*50*	*0*	*100*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*51.34*	*1.0*	*50*	*0*	*103*	*85 - 114*				
Surr: Dibromofluoromethane	*52.07*	*1.0*	*50*	*0*	*104*	*80 - 119*				
Surr: Toluene-d8	*51.37*	*1.0*	*50*	*0*	*103*	*89 - 112*				

ALS Houston, US Date: 07-Nov-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder: HS22101489

QC BATCH REPORT

Batch ID: R421111 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS22101489-01MS** Units: **ug/L** Analysis Date: **05-Nov-2022 15:25**
Client ID: **LH18/24-SP650_102622** Run ID: **VOA9_421111** SeqNo: **6963596** 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	22.07	1.0	20	0	110	78 - 124				
1,1,1-Trichloroethane	22.18	1.0	20	0	111	74 - 131				
1,1,2,2-Tetrachloroethane	19.77	1.0	20	0	98.9	71 - 121				
1,1,2-Trichloroethane	21.05	1.0	20	0	105	80 - 119				
1,1-Dichloroethane	19.65	1.0	20	0	98.2	77 - 125				
1,1-Dichloroethene	20.94	1.0	20	0	105	71 - 131				
1,1-Dichloropropene	24.33	1.0	20	0	122	78 - 125				
1,2,3-Trichlorobenzene	17.86	1.0	20	0	89.3	69 - 129				
1,2,3-Trichloropropane	19.83	1.0	20	0	99.2	73 - 122				
1,2,4-Trichlorobenzene	18.57	1.0	20	0	92.8	69 - 130				
1,2,4-Trimethylbenzene	22.06	1.0	20	0	110	76 - 124				
1,2-Dibromo-3-chloropropane	16.59	1.0	20	0	82.9	62 - 128				
1,2-Dibromoethane	20.77	1.0	20	0	104	77 - 121				
1,2-Dichlorobenzene	21.41	1.0	20	0	107	80 - 119				
1,2-Dichloroethane	19.94	1.0	20	0	99.7	73 - 128				
1,2-Dichloropropane	21.41	1.0	20	0	107	78 - 122				
1,3,5-Trimethylbenzene	21.96	1.0	20	0	110	75 - 124				
1,3-Dichlorobenzene	20.95	1.0	20	0	105	80 - 119				
1,3-Dichloropropane	20.38	1.0	20	0	102	80 - 119				
1,4-Dichlorobenzene	21.66	1.0	20	0	108	79 - 118				
2,2-Dichloropropane	20.49	1.0	20	0	102	60 - 139				
2-Butanone	33.16	2.0	40	0	82.9	56 - 143				
2-Chlorotoluene	22.2	1.0	20	0	111	79 - 122				
2-Hexanone	38.64	2.0	40	0	96.6	57 - 139				
4-Chlorotoluene	21.49	1.0	20	0	107	78 - 122				
4-Isopropyltoluene	22.22	1.0	20	0	111	77 - 127				
4-Methyl-2-pentanone	40.16	2.0	40	0	100	67 - 130				
Acetone	24.39	2.0	40	0	61.0	39 - 160				
Benzene	22.39	1.0	20	0	112	79 - 120				
Bromobenzene	21.13	1.0	20	0	106	80 - 120				
Bromochloromethane	19.55	1.0	20	0	97.7	78 - 123				
Bromodichloromethane	20.4	1.0	20	0	102	79 - 125				
Bromoform	18.37	1.0	20	0	91.8	66 - 130				
Bromomethane	21.58	1.0	20	0	108	53 - 141				

ALS Houston, US Date: 07-Nov-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder: HS22101489

QC BATCH REPORT

Batch ID: R421111 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS22101489-01MS** Units: **ug/L** Analysis Date: **05-Nov-2022 15:25**
Client ID: **LH18/24-SP650_102622** Run ID: **VOA9_421111** SeqNo: **6963596** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	45.44	2.0	40	0	114	64 - 133				
Carbon tetrachloride	24.17	1.0	20	0	121	72 - 136				
Chlorobenzene	21.46	1.0	20	0	107	82 - 118				
Chloroethane	32.65	1.0	20	0	163	60 - 138				S
Chloroform	19.69	1.0	20	0	98.5	79 - 124				
Chloromethane	21.27	1.0	20	0	106	50 - 139				
cis-1,2-Dichloroethene	22.12	1.0	20	2.062	100	78 - 123				
cis-1,3-Dichloropropene	18.75	1.0	20	0	93.8	75 - 124				
Dibromochloromethane	19.04	1.0	20	0	95.2	74 - 126				
Dibromomethane	20.17	1.0	20	0	101	79 - 123				
Dichlorodifluoromethane	23.45	1.0	20	0	117	32 - 152				
Ethylbenzene	23.25	1.0	20	0	116	79 - 121				
Hexachlorobutadiene	23.96	1.0	20	0	120	66 - 134				
Isopropylbenzene	23.17	1.0	20	0	116	72 - 131				
m,p-Xylene	44.98	2.0	40	0	112	80 - 121				
Methylene chloride	19.86	2.0	20	0	99.3	74 - 124				
Naphthalene	16.26	1.0	20	0	81.3	61 - 128				
n-Butylbenzene	22.05	1.0	20	0	110	75 - 128				
n-Propylbenzene	22.72	1.0	20	0	114	76 - 126				
o-Xylene	21.55	1.0	20	0	108	78 - 122				
sec-Butylbenzene	24.68	1.0	20	0	123	77 - 126				
Styrene	20.4	1.0	20	0	102	78 - 123				
tert-Butylbenzene	22.73	1.0	20	0	114	78 - 124				
Tetrachloroethene	23.96	1.0	20	0	120	74 - 129				
Toluene	22.8	1.0	20	0	114	80 - 121				
trans-1,2-Dichloroethene	20.58	1.0	20	0	103	75 - 124				
trans-1,3-Dichloropropene	16.53	1.0	20	0	82.7	73 - 127				
Trichloroethene	24.24	1.0	20	0	121	79 - 123				
Trichlorofluoromethane	22.42	1.0	20	0	112	65 - 141				
Vinyl chloride	21.76	1.0	20	0	109	58 - 137				
Surr: 1,2-Dichloroethane-d4	*45.19*	*1.0*	*50*	*0*	*90.4*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*51.05*	*1.0*	*50*	*0*	*102*	*85 - 114*				
Surr: Dibromofluoromethane	*47.35*	*1.0*	*50*	*0*	*94.7*	*80 - 119*				
Surr: Toluene-d8	*53.41*	*1.0*	*50*	*0*	*107*	*89 - 112*				

ALS Houston, US Date: 07-Nov-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder: HS22101489

QC BATCH REPORT

Batch ID: R421111 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS22101489-01MSD** Units: **ug/L** Analysis Date: **05-Nov-2022 15:47**
Client ID: **LH18/24-SP650_102622** Run ID: **VOA9_421111** SeqNo: **6963597** 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	21.31	1.0	20	0	107	78 - 124	22.07	3.48	20	
1,1,1-Trichloroethane	21.66	1.0	20	0	108	74 - 131	22.18	2.37	20	
1,1,2,2-Tetrachloroethane	19.36	1.0	20	0	96.8	71 - 121	19.77	2.08	20	
1,1,2-Trichloroethane	20.67	1.0	20	0	103	80 - 119	21.05	1.84	20	
1,1-Dichloroethane	18.29	1.0	20	0	91.5	77 - 125	19.65	7.13	20	
1,1-Dichloroethene	19.13	1.0	20	0	95.7	71 - 131	20.94	9.03	20	
1,1-Dichloropropene	23.71	1.0	20	0	119	78 - 125	24.33	2.6	20	
1,2,3-Trichlorobenzene	20.34	1.0	20	0	102	69 - 129	17.86	13	20	
1,2,3-Trichloropropane	19.83	1.0	20	0	99.1	73 - 122	19.83	0.0316	20	
1,2,4-Trichlorobenzene	19.81	1.0	20	0	99.0	69 - 130	18.57	6.47	20	
1,2,4-Trimethylbenzene	21.83	1.0	20	0	109	76 - 124	22.06	1.06	20	
1,2-Dibromo-3-chloropropane	17.6	1.0	20	0	88.0	62 - 128	16.59	5.93	20	
1,2-Dibromoethane	20.62	1.0	20	0	103	77 - 121	20.77	0.716	20	
1,2-Dichlorobenzene	21.47	1.0	20	0	107	80 - 119	21.41	0.251	20	
1,2-Dichloroethane	19.88	1.0	20	0	99.4	73 - 128	19.94	0.302	20	
1,2-Dichloropropane	20.76	1.0	20	0	104	78 - 122	21.41	3.09	20	
1,3,5-Trimethylbenzene	21.47	1.0	20	0	107	75 - 124	21.96	2.25	20	
1,3-Dichlorobenzene	20.26	1.0	20	0	101	80 - 119	20.95	3.36	20	
1,3-Dichloropropane	20.1	1.0	20	0	101	80 - 119	20.38	1.37	20	
1,4-Dichlorobenzene	21.41	1.0	20	0	107	79 - 118	21.66	1.15	20	
2,2-Dichloropropane	19.19	1.0	20	0	95.9	60 - 139	20.49	6.57	20	
2-Butanone	33.03	2.0	40	0	82.6	56 - 143	33.16	0.374	20	
2-Chlorotoluene	21.27	1.0	20	0	106	79 - 122	22.2	4.27	20	
2-Hexanone	41.33	2.0	40	0	103	57 - 139	38.64	6.72	20	
4-Chlorotoluene	21.24	1.0	20	0	106	78 - 122	21.49	1.16	20	
4-Isopropyltoluene	22.88	1.0	20	0	114	77 - 127	22.22	2.92	20	
4-Methyl-2-pentanone	40.67	2.0	40	0	102	67 - 130	40.16	1.27	20	
Acetone	26.04	2.0	40	0	65.1	39 - 160	24.39	6.56	20	
Benzene	21.14	1.0	20	0	106	79 - 120	22.39	5.72	20	
Bromobenzene	20.22	1.0	20	0	101	80 - 120	21.13	4.4	20	
Bromochloromethane	19.49	1.0	20	0	97.5	78 - 123	19.55	0.282	20	
Bromodichloromethane	20.29	1.0	20	0	101	79 - 125	20.4	0.535	20	
Bromoform	18.08	1.0	20	0	90.4	66 - 130	18.37	1.56	20	
Bromomethane	19.76	1.0	20	0	98.8	53 - 141	21.58	8.85	20	

ALS Houston, US Date: 07-Nov-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder: HS22101489

QC BATCH REPORT

Batch ID: R421111 (0) **Instrument:** VOA9 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS22101489-01MSD** Units: **ug/L** Analysis Date: **05-Nov-2022 15:47**
Client ID: **LH18/24-SP650_102622** Run ID: **VOA9_421111** SeqNo: **6963597** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	43.55	2.0	40	0	109	64 - 133	45.44	4.25	20	
Carbon tetrachloride	22.52	1.0	20	0	113	72 - 136	24.17	7.06	20	
Chlorobenzene	20.93	1.0	20	0	105	82 - 118	21.46	2.51	20	
Chloroethane	30.62	1.0	20	0	153	60 - 138	32.65	6.42	20	S
Chloroform	17.97	1.0	20	0	89.9	79 - 124	19.69	9.11	20	
Chloromethane	19.51	1.0	20	0	97.6	50 - 139	21.27	8.62	20	
cis-1,2-Dichloroethene	21.44	1.0	20	2.062	96.9	78 - 123	22.12	3.12	20	
cis-1,3-Dichloropropene	18.49	1.0	20	0	92.5	75 - 124	18.75	1.39	20	
Dibromochloromethane	18.49	1.0	20	0	92.4	74 - 126	19.04	2.94	20	
Dibromomethane	20.18	1.0	20	0	101	79 - 123	20.17	0.0724	20	
Dichlorodifluoromethane	21.47	1.0	20	0	107	32 - 152	23.45	8.8	20	
Ethylbenzene	21.78	1.0	20	0	109	79 - 121	23.25	6.52	20	
Hexachlorobutadiene	24.88	1.0	20	0	124	66 - 134	23.96	3.79	20	
Isopropylbenzene	22.29	1.0	20	0	111	72 - 131	23.17	3.85	20	
m,p-Xylene	44.72	2.0	40	0	112	80 - 121	44.98	0.582	20	
Methylene chloride	18.8	2.0	20	0	94.0	74 - 124	19.86	5.46	20	
Naphthalene	18.42	1.0	20	0	92.1	61 - 128	16.26	12.5	20	
n-Butylbenzene	22.46	1.0	20	0	112	75 - 128	22.05	1.84	20	
n-Propylbenzene	22.09	1.0	20	0	110	76 - 126	22.72	2.8	20	
o-Xylene	20.74	1.0	20	0	104	78 - 122	21.55	3.87	20	
sec-Butylbenzene	25.15	1.0	20	0	126	77 - 126	24.68	1.89	20	
Styrene	20.13	1.0	20	0	101	78 - 123	20.4	1.33	20	
tert-Butylbenzene	22.9	1.0	20	0	115	78 - 124	22.73	0.735	20	
Tetrachloroethene	23.65	1.0	20	0	118	74 - 129	23.96	1.3	20	
Toluene	21.95	1.0	20	0	110	80 - 121	22.8	3.79	20	
trans-1,2-Dichloroethene	18.57	1.0	20	0	92.8	75 - 124	20.58	10.3	20	
trans-1,3-Dichloropropene	16.59	1.0	20	0	83.0	73 - 127	16.53	0.367	20	
Trichloroethene	22.81	1.0	20	0	114	79 - 123	24.24	6.09	20	
Trichlorofluoromethane	21.62	1.0	20	0	108	65 - 141	22.42	3.61	20	
Vinyl chloride	20.27	1.0	20	0	101	58 - 137	21.76	7.09	20	
Surr: 1,2-Dichloroethane-d4	*44.91*	*1.0*	*50*	*0*	*89.8*	*81 - 118*	*45.19*	*0.618*	*20*	
Surr: 4-Bromofluorobenzene	*52.55*	*1.0*	*50*	*0*	*105*	*85 - 114*	*51.05*	*2.9*	*20*	
Surr: Dibromofluoromethane	*47.64*	*1.0*	*50*	*0*	*95.3*	*80 - 119*	*47.35*	*0.606*	*20*	
Surr: Toluene-d8	*53.21*	*1.0*	*50*	*0*	*106*	*89 - 112*	*53.41*	*0.368*	*20*	

ALS Houston, US Date: 07-Nov-22

Client:	Bhate Environmental Associates, Inc.
Project:	Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder:	HS22101489

QC BATCH REPORT

Batch ID:	**R421111 (0)**	**Instrument:**	**VOA9**	**Method:**	**VOLATILES ORGANICS BY METHOD 8260C**

The following samples were analyzed in this batch:	HS22101489-01	HS22101489-02

ALS Houston, US Date: 07-Nov-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder: HS22101489

QC BATCH REPORT

Batch ID: R421073 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MBLK Sample ID: **MBLK** Units: **mg/L** Analysis Date: **04-Nov-2022 18:39**
Client ID: Run ID: **ICS-Integrion_421073** SeqNo: **6962890** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	0.500	0.500								U
Sulfate	0.500	0.500								U

LCS Sample ID: **LCS** Units: **mg/L** Analysis Date: **04-Nov-2022 18:44**
Client ID: Run ID: **ICS-Integrion_421073** SeqNo: **6962891** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	20.59	0.500	20	0	103	80 - 120				
Sulfate	20.98	0.500	20	0	105	80 - 120				

MS Sample ID: **HS22101380-01MS** Units: **mg/L** Analysis Date: **04-Nov-2022 21:18**
Client ID: Run ID: **ICS-Integrion_421073** SeqNo: **6962914** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	30.54	0.500	10	20.97	95.7	80 - 120				
Sulfate	13.52	0.500	10	3.514	100	80 - 120				

MSD Sample ID: **HS22101380-01MSD** Units: **mg/L** Analysis Date: **04-Nov-2022 21:23**
Client ID: Run ID: **ICS-Integrion_421073** SeqNo: **6962915** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	30.54	0.500	10	20.97	95.7	80 - 120	30.54	0	20	
Sulfate	13.54	0.500	10	3.514	100	80 - 120	13.52	0.115	20	

The following samples were analyzed in this batch: HS22101489-01

ALS Houston, US Date: 07-Nov-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder: **HS22101489**

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

ALS Houston, US Date: 07-Nov-22

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	22-041-0	27-Mar-2023
California	2919 2022-2023	30-Apr-2023
Dept of Defense	L21-682	31-Dec-2023
Florida	E87611-36	30-Jun-2023
Illinois	2000322022-9	09-May-2023
Kansas	E-10352; 2022-2023	31-Jul-2023
Kentucky	123043, 2022-2023	30-Apr-2023
Louisiana	03087, 2022-2023	30-Jun-2023
Maryland	343, 2022-2023	30-Jun-2023
North Carolina	624-2022	31-Dec-2022
North Dakota	R-193 2022-2023	30-Apr-2023
Oklahoma	2022-141	31-Aug-2023
Texas	T104704231-22-29	30-Apr-2023
Utah	TX026932022-13	31-Jul-2023

ALS Houston, US Date: 07-Nov-22

Sample Receipt Checklist

Work Order ID: HS22101489 **Date/Time Received:** **27-Oct-2022 09:20**

Client Name: Bhate Environmental **Received by:** **Corey Grandits**

Completed By: */S/ Corey Grandits* (eSignature) 27-Oct-2022 11:08 (Date/Time) **Reviewed by:** */S/ Dane J. Wacasey* (eSignature) 04-Nov-2022 22:10 (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):	2.2UC/2.0C	IR31
Cooler(s)/Kit(s):	49835	
Date/Time sample(s) sent to storage:	10/27/2022	

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:

01158378

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. NWO1312.0150.0 16.0001
Job: **GROUNDWATER TREATMENT PLANT BI-WEEKLY SAMPLES**	
Prepared By: Scott Beesinger	P.O Number

HS22101489

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_102622	Water	10/26/22 / 14:00		3	3		HCL	
LH18/24-SP650_102622	Water	10/26/22 / 14:00		1		1	NONE	
Trip Blank	Water	10/26/22		2	2		HCL	

Additional Remarks: **Standard TAT on all parameters**

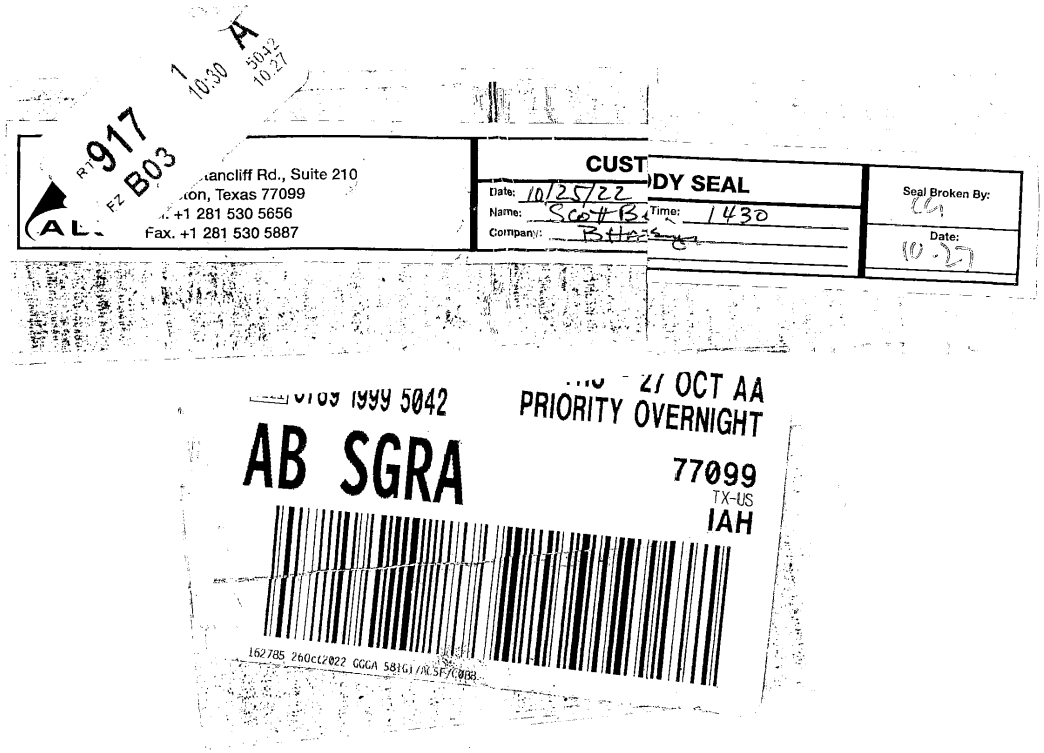
Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	10/26/22	14:30									

9For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition

Remarks

(Word) S:\1-ces\Forms\Chain of Custody - BiWeekly


1
10:30
A
5042
10.27
917
B03
ancliff Rd., Suite 210
on, Texas 77099
+1 281 530 5656
Fax. +1 281 530 5887
CUST
Date: 10/25/22
Name: Scott B
Company:
DY SEAL
Time: 1430
Seal Broken By:
Date:
10.27
0709 1999 5042
27 OCT AA
PRIORITY OVERNIGHT
AB SGRA
77099
TX-US
IAH

November 21, 2022 Service Request No:E2201127

Marcia Olive
Bhate Environmental Associates, Inc.
445 Union Blvd
Suite 129
Lakewood, CO 80228

Laboratory Results for: GW Treatment Plant Special Samples

Dear Marcia,

Enclosed are the results of the sample(s) submitted to our laboratory November 19, 2022
For your reference, these analyses have been assigned our service request number **E2201127.**

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

ALS Environmental

Client:	Bhate Environmental Associates, Inc.	**Service Request No.:**	E2201127
Project:	GW Treatment Plant Special Samples	**Date Received:**	11/19/22
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 11/19/22.

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:

EQ2200535: 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: Bhate Environmental Associates, Inc. **Service Request:**E2201127

Project: GW Treatment Plant Special Samples/NWO1312.0150.016.0001

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2201127-001	LH18/24-SP650_111822_AIX	11/18/2022	1300
E2201127-002	LH18/24-SP650_111822_BIX	11/18/2022	1300

Service Request Summary

Folder #: **E2201127**
Client Name: Bhate Environmental Associates, Inc.
Project Name: GW Treatment Plant Special Samples
Project Number: NWO1312.0150.016.0001

Report To: Marcia Olive
Bhate Environmental Associates, Inc.
445 Union Blvd
Lakewood, CO 80228
USA
Phone Number: 303-597-2450
Cell Number:
Fax Number:
E-mail: molive@bhate.com

Project Chemist: James Guin
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 11/19/22
Internal Due Date: 11/22/2022
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: 2878
EDD: BASIC_WQC_CASNo_LOD

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
E2201127-001	LH18/24-SP650_111822_AIX	Water	11/18/22 1300	**IV**
E2201127-002	LH18/24-SP650_111822_BIX	Water	11/18/22 1300	**IV**

Service Request Summary

Folder #: **E2201127**
Client Name: Bhate Environmental Associates, Inc.
Project Name: GW Treatment Plant Special Samples
Project Number: NWO1312.0150.016.0001

Report To: Marcia Olive
Bhate Environmental Associates, Inc.
445 Union Blvd
Lakewood, CO 80228
USA
Phone Number: 303-597-2450
Cell Number:
Fax Number:
E-mail: molive@bhate.com

Project Chemist: James Guin
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 11/19/22
Internal Due Date: 11/22/2022
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: 2878
EDD: BASIC_WQC_CASNo_LOD

2 120 mL-Plastic Bottle Natural WM Unpreserved
Location: EHRMS-AirArch 1
Pressure Gas:
Rush

Test Comments:

Group	Test/Method	Samples	Comments
Semivoa GCMS	ClO4 DOD/6850	2	IV DUE 12/7

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	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	12/31/2022
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

Chain of Custody

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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 SPECIAL SAMPLES**	
Prepared By: Scott Beesinger	P.O. Number

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: PERCHLORATE										Remarks (Preservatives, etc.)	Lab I.D.#
LH18/24-SP650_111822_AIX	Water	11/18/22 / 13:00		1	X										NONE	
LH18/24-SP650_111822_BIX	Water	11/18/22 / 13:00		1	X										NONE	

Additional Remarks: **RUSH (24 HR) TAT**

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	11/18/22	13:30		11/19/22	09:10						

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition
2.0 #31 (1.0)									

Remarks:

ALS Environmental

Cooler Receipt Form

Project Chemist JG

Client/Project ATTN BLAIR

Thermometer ID 1021

Date/Time Received: 11-19-22 Initials: PG

Date/Time Logged in: 11-19-22 Initials PG

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? 1-F

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?
1891 8886 8700		11-19-22	0915	PG	1.5	☒
						☐
						☐
						☐

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:

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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

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Preparation Information Benchsheet

Prep Run#: 410335 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/XMI **Prep Method:** **Prep Date/Time:** 11/21/22 08:38

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2201116-001	GW-MW-15-20221115-01	.01	6850/ClO4			Ground Water	10mL	
2	E2201116-002	GW-MW-29D-20221115-01	.01	6850/ClO4			Ground Water	10mL	
3	E2201116-003	GW-MW-66D2-20221115-01	.01	6850/ClO4			Ground Water	10mL	
4	E2201116-004	GW-MW-89D-20221115-01	.01	6850/ClO4			Ground Water	10mL	
5	E2201116-005	BROP-02-20221115-01	.01	6850/ClO4			Ground Water	10mL	
6	E2201119-001	MOSA-23-263044	.01	6850/ClO4			Water	10mL	
7	E2201119-002	MOSA-23-263045	.01	6850/ClO4			Water	10mL	
8	E2201119-003	MOSA-23-261781	.01	6850/ClO4			Water	10mL	
9	E2201119-004	MOSA-23-261782	.01	6850/ClO4			Water	10mL	
10	E2201119-005	MOSA-23-261783	.01	6850/ClO4			Water	10mL	
11	E2201120-001	BROP-01-20221116-01	.01	6850/ClO4			Ground Water	10mL	
12	E2201120-002	GW-MW-39D-20221116-01	.01	6850/ClO4			Ground Water	10mL	
13	E2201120-003	SW-EW IRM-20221116-01	.01	6850/ClO4			Surface Water	10mL	
14	E2201121-001	Lysimeter 01-20221117-01	.01	6850/ClO4			Ground Water	10mL	
15	E2201121-002	Lysimeter 02-20221117-02	.01	6850/ClO4			Ground Water	10mL	
16	E2201121-003	Lysimeter 03-20221117-03	.01	6850/ClO4			Ground Water	10mL	
17	E2201121-004	GW-MW-97-20221117-01	.01	6850/ClO4			Ground Water	10mL	
18	E2201121-005	GW-MW-98D-20221117-01	.01	6850/ClO4			Ground Water	10mL	
19	E2201127-001	LH18/24-SP650_111822_AIX	.01	6850/ClO4 DOD			Water	10mL	
20	E2201127-002	LH18/24-SP650_111822_BIX	.01	6850/ClO4 DOD			Water	10mL	
21	EQ2200535-01	MB		6850/ClO4			Liquid	10mL	
22	EQ2200535-02	LCS		6850/ClO4			Liquid	10mL	
23	EQ2200535-03	DLCS		6850/ClO4			Liquid	10mL	

Spiking Solutions

Name: Perchlorate Intermediate Stock1 Inventory ID 225386 Logbook Ref: Perchlorate (1st Source) Expires On: 01/31/2023

EQ2200535-02 1.00µL EQ2200535-02 1.00µL EQ2200535-03 1.00µL EQ2200535-03 1.00µL

Name: Perchlorate Internal Standard 1ug/mL Inventory ID 225719 Logbook Ref: Perchlorate Internal Standard Expires On: 01/31/2023

E2201116-001	100.00µL	E2201116-002	100.00µL	E2201116-003	100.00µL	E2201116-004	100.00µL	E2201116-005	100.00µL	E2201119-001	100.00µL
E2201119-002	100.00µL	E2201119-003	100.00µL	E2201119-004	100.00µL	E2201119-005	100.00µL	E2201120-001	100.00µL	E2201120-002	100.00µL
E2201120-003	100.00µL	E2201121-001	100.00µL	E2201121-002	100.00µL	E2201121-003	100.00µL	E2201121-004	100.00µL	E2201121-005	100.00µL
E2201127-001	100.00µL	E2201127-002	100.00µL	EQ2200535-01	100.00µL	EQ2200535-01	100.00µL	EQ2200535-02	100.00µL	EQ2200535-02	100.00µL
EQ2200535-03	100.00µL	EQ2200535-03	100.00µL								

Preparation Information Benchsheet

Prep Run#: 410335 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/XMI **Prep Method:** **Prep Date/Time:** 11/21/22 08:38

Preparation Materials

Water HPLC Grade	10/24/2022 Water (225656)	6850 Amber Glass screw vial	2mL Screw Top Vial (221308)	6850 0.45um syringe filters	6850 Syringe Filters (224414)
6850 Luer-Lok Syringes	Luer-Lok Syringes (221305)	6850 Pipette Tips 50-1000 uL	6850 Pipette Tips (221307)		

Preparation Steps

Step: Preparation
Started: 11/21/22 08:38
Finished: 11/21/22 13:04
By: XMI
Comments

Comments: _____

Reviewed By: GR Date: 11/21/22

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:	Bhate Environmental Associates, Inc.	**Service Request:**	E2201127
Project:	GW Treatment Plant Special Samples/NWO1312.0150.016.0001	**Date Collected:**	11/18/22 1300
Sample Matrix:	Water	**Date Received:**	11/19/22
Sample Name:	LH18/24-SP650_111822_AIX	**Units:**	µg/L
Lab Code:	E2201127-001	**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	**0.620**		0.100	0.0500	0.0250	1	11/21/22	11/21/22 12:00	410335	785977	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Bhate Environmental Associates, Inc.	**Service Request:**	E2201127
Project:	GW Treatment Plant Special Samples/NWO1312.0150.016.0001	**Date Collected:**	11/18/22 1300
Sample Matrix:	Water	**Date Received:**	11/19/22
Sample Name:	LH18/24-SP650_111822_BIX	**Units:**	µg/L
Lab Code:	E2201127-002	**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	**12400**		100	50.0	25.0	1000	11/21/22	11/21/22 11:55	410335	785977	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Bhate Environmental Associates, Inc.	**Service Request:**	E2201127
Project:	GW Treatment Plant Special Samples/NWO1312.0150.016.0001	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2200535-01	**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	11/21/22	11/21/22 11:05	410335	785977	

Accuracy & Precision

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ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	Bhate Environmental Associates, Inc.	**Service Request:**	E2201127
Project:	GW Treatment Plant Special Samples/NWO1312.0150.016.0001	**Date Analyzed:**	11/21/22
Sample Matrix:	Water		

Lab Control Sample Summary

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

Analytical Method:	6850	**Units:**	µg/L
Prep Method:		**Basis:**	NA
		Extraction Lot:	410335

	Lab Control Sample EQ2200535-02			Duplicate Lab Control Sample EQ2200535-03					
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:	Bhate Environmental Associates, Inc.	**Service Request:**	E2201127
Project:	GW Treatment Plant Special Samples/NWO1312.0150.016.0001	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2200535-02	**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	11/21/22	11/21/22 11:11	410335	785977	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Bhate Environmental Associates, Inc.	**Service Request:**	E2201127
Project:	GW Treatment Plant Special Samples/NWO1312.0150.016.0001	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2200535-03	**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	11/21/22	11/21/22 11:16	410335	785977	

Initial Calibration

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20221013

1st Review: XMI
2nd Review: Kneir

ALS Environmental

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 10/13/2022
Cal. Std. xp: 1/31/2023
ICAL ID: EC2200014

Mobile Phases A:0.10% Formic Acid/Water 3210301-02 B:MeOH 224417

	Sample Name	File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	PERCHLORATE1	20221013_016	Perchlorate6850c.lcm	1x	☒	225390	10/13/2022 10:53
2	PERCHLORATE2	20221013_017	Perchlorate6850c.lcm	1x	☒	225392	10/13/2022 11:02
3	PERCHLORATE3	20221013_018	Perchlorate6850c.lcm	1x	☒	225393	10/13/2022 11:10
4	PERCHLORATE4	20221013_019	Perchlorate6850c.lcm	1x	☒	225394	10/13/2022 11:19
5	PERCHLORATE5	20221013_020	Perchlorate6850c.lcm	1x	☒	225395	10/13/2022 11:27
6	PERCHLORATE6	20221013_021	Perchlorate6850c.lcm	1x	☒	225396	10/13/2022 11:35
7	PERCHLORATE7	20221013_022	Perchlorate6850c.lcm	1x	☒	225398	10/13/2022 11:44
8	PERCHLORATE8	20221013_023	Perchlorate6850c.lcm	1x	☒	225400	10/13/2022 11:52
9	PERCHLORATE9	20221013_024	Perchlorate6850c.lcm	1x	☒	225401	10/13/2022 12:01
10	PERCHLORATE10	20221013_025	Perchlorate6850c.lcm	1x	☒	225402	10/13/2022 12:09
11	PERCHLORATEICV	20221013_026	Perchlorate6850c.lcm	1x	☒	225404	10/13/2022 12:17
12	LODV	20221013_027	Perchlorate6850c.lcm	1x	☒	DNU-IR	10/13/2022 12:26
13	MB	20221013_028	Perchlorate6850c.lcm	1x	☒	IDOC	10/13/2022 12:34
14	LCS	20221013_029	Perchlorate6850c.lcm	1x	☒	IDOC-DNU-IR	10/13/2022 12:42
15	DLCS	20221013_030	Perchlorate6850c.lcm	1x	☒	IDOC-DNU-IR	10/13/2022 12:51
16	IB	20221013_031	Perchlorate6850c.lcm	1x	☒		10/13/2022 12:59
17	IB	20221013_032	Perchlorate6850c.lcm	1x	☒		10/13/2022 13:08
18	IB	20221013_033	Perchlorate6850c.lcm	1x	☒		10/13/2022 13:16
19	null	20221013_034	Perchlorate6850c.lcm	1x	☒		10/13/2022 13:21
20	null	20221013_035	Perchlorate6850c.lcm	1x	☒		10/13/2022 13:27
21	IB	20221013_036	Perchlorate6850c.lcm	1x	☒		10/13/2022 14:02
22	IB	20221013_037	Perchlorate6850c.lcm	1x	☒		10/13/2022 14:10
23	LODV	20221013_038	Perchlorate6850c.lcm	1x	☒	225199	10/13/2022 14:19
24	PERCHLORATE7	20221013_039	Perchlorate6850c.lcm	1x	☒	225398	10/13/2022 14:27
25	MB	20221013_040	Perchlorate6850c.lcm	1x	☒	IDOC	10/13/2022 14:44
26	LCS	20221013_041	Perchlorate6850c.lcm	1x	☒	IDOC	10/13/2022 14:52
27	DLCS	20221013_042	Perchlorate6850c.lcm	1x	☒	IDOC-DNU-IR	10/13/2022 15:01
28	LCS	20221013_043	Perchlorate6850c.lcm	1x	☒	IDOC	10/13/2022 15:09
29	DLCS	20221013_044	Perchlorate6850c.lcm	1x	☒	IDOC	10/13/2022 15:17
30	MB WIPE-1013PREP	20221013_045	Perchlorate6850c.lcm	1x	☒	DNU-IR	10/13/2022 15:26
31	MB WIPE-1013PREP	20221013_046	Perchlorate6850c.lcm	1x	☒	DNU-IR	10/13/2022 14:35
32	PERCHLORATE7	20221013_047	Perchlorate6850c.lcm	1x	☒	225398	10/13/2022 15:34
33	IB	20221013_048	Perchlorate6850c.lcm	1x	☒		10/13/2022 15:43
34	IB	20221013_049	Perchlorate6850c.lcm	1x	☒		10/13/2022 15:51
35	null	20221013_050	Perchlorate6850c.lcm	1x	☒		10/13/2022 15:56
36	null	20221013_051	Perchlorate6850c.lcm	1x	☒		10/13/2022 16:02

Initial Calibration - Detailed Report

Calibration ID: EC2200014 **Instrument ID:** E-LCMS-01
Column Name: 1

#	Lab Code	Sample Name	File Location	Aquisition Date
01	EC2200014-01	PERCHLORATE1	20221013_016	10/13/2022 10:53
02	EC2200014-02	PERCHLORATE2	20221013_017	10/13/2022 11:02
03	EC2200014-03	PERCHLORATE3	20221013_018	10/13/2022 11:10
04	EC2200014-04	PERCHLORATE4	20221013_019	10/13/2022 11:19
05	EC2200014-05	PERCHLORATE5	20221013_020	10/13/2022 11:27
06	EC2200014-06	PERCHLORATE6	20221013_021	10/13/2022 11:35
07	EC2200014-07	PERCHLORATE7	20221013_022	10/13/2022 11:44
08	EC2200014-08	PERCHLORATE8	20221013_023	10/13/2022 11:52
09	EC2200014-09	PERCHLORATE9	20221013_024	10/13/2022 12:01
10	EC2200014-10	PERCHLORATE10	20221013_025	10/13/2022 12:09

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

Perchlorate **Average RF** **RSD = 5.871** **Average RF = 0.1347**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.1000	0.1373	02	0.5000	0.1357	03	0.7000	0.1336	04	1.0000	0.1416
05	2.0000	0.1235	06	5.0000	0.1283	07	10.0000	0.1522	08	20.0000	0.1315
09	30.0000	0.1332	10	50.0000	0.1302						

Analyte

Perchlorate

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.1000	0.102	1.9	02	0.5000	0.504	0.7	03	0.7000	0.694	-0.8
04	1.0000	1.05	5.1	05	2.0000	1.83	-8.3	06	5.0000	4.76	-4.8
07	10.0000	11.3	13.0	08	20.0000	19.5	-2.4	09	30.0000	29.7	-1.1
10	50.0000	48.3	-3.3								

Initial Calibration Verification Summary Report

Calibration ID:	EC2200014	**Instrument ID:**	E-LCMS-01
Datafile ID:	20221013_026	**Column Name:**	1

Analyte	Lab Code	Type	Curve Fit	True Value	Calc Conc	Units	Result	Criteria
Perchlorate	EC2200014-11	T	Average RF	10	10.918	ng/mL	9.2	<= 15

Insight Report

Printed at 10/24/2022 11:16:28 AM

Method File: I:\LCMS01\DATA\20221013ICAL\20221013ICAL.lcm
Project File: I:\LCMS01\DATA\20221013ICAL\10132022_ICAL.damlp

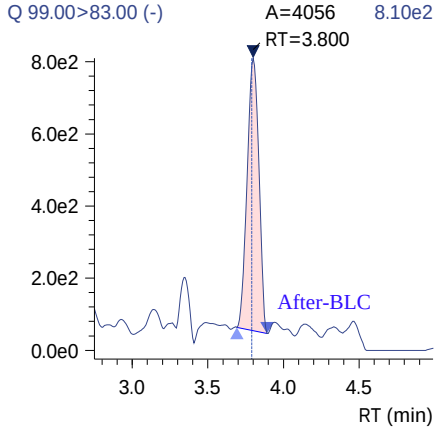
PERCHLORATE1

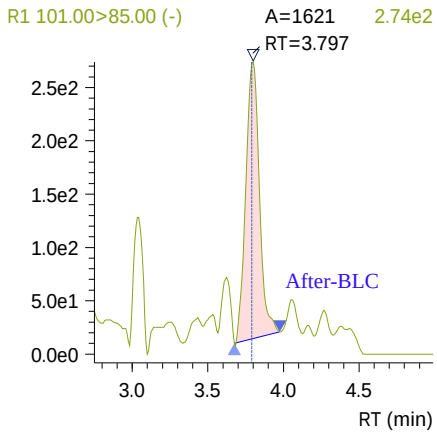
Sample ID: PERCHLORATE1
Date Acquired: 10/13/2022 10:53:53 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221013ICAL\20221013_016.lcd
Vial: 38 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	M	3.800	4056	295377	0.1019	ng/mL	101.00 >85.00	39.97	23.94 -44.46
Sodium Perchlorate -18O4_IS	Auto	3.796	295377	295377	1.0000	ng/mL	----	----	

Perchlorate

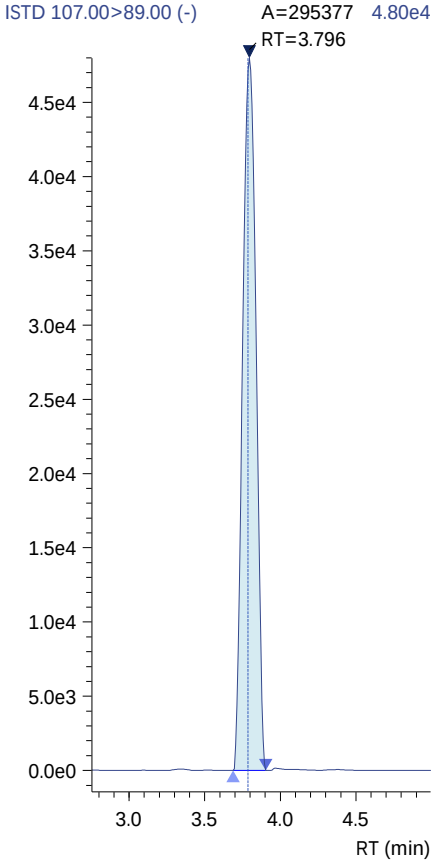
Conc 0.1019
R#1 39.97 (34.20)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 10/24/2022 9:43:49 AM

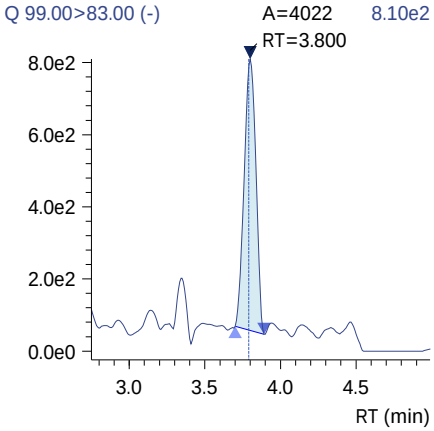
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Project File: I:\LCMS01\DATA\20221013ICAL\20221013ICAL.damlp

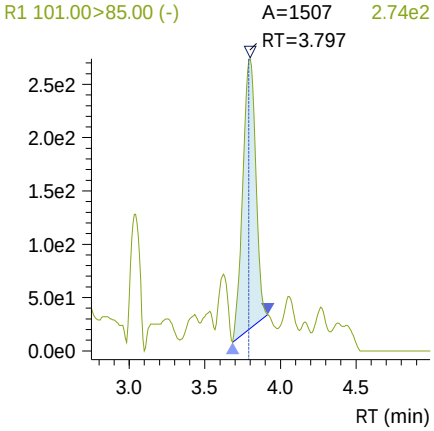
PERCHLORATE1

Sample ID: PERCHLORATE1
Date Acquired: 10/13/2022 10:53:53 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221013ICAL\20221013_016.lcd
Vial: 38 | Inj. Volume: 25.0000uL | Tray: 1

Perchlorate

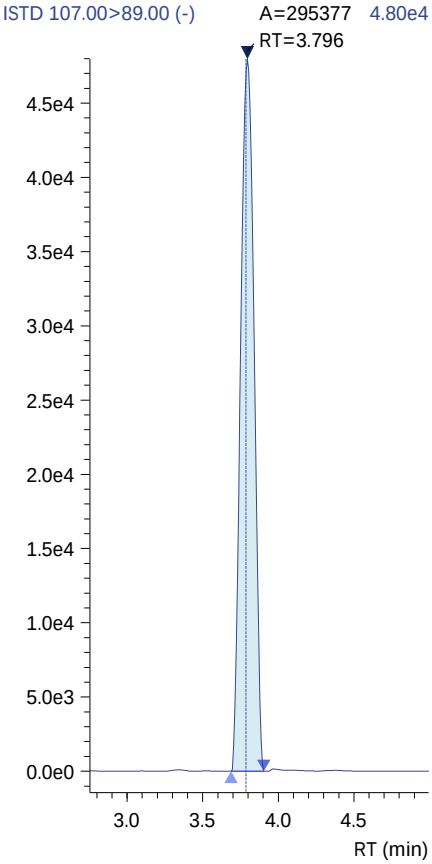
Conc 0.1012
R#1 37.47 (33.91)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 10/24/2022 11:16:28 AM

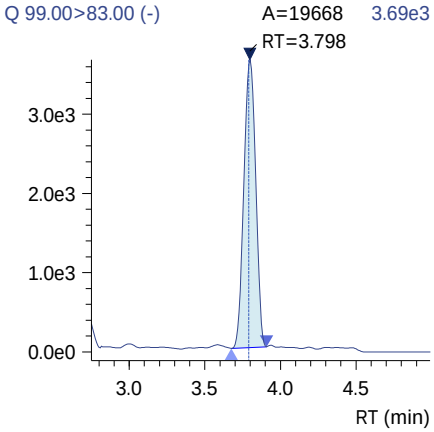
PERCHLORATE2

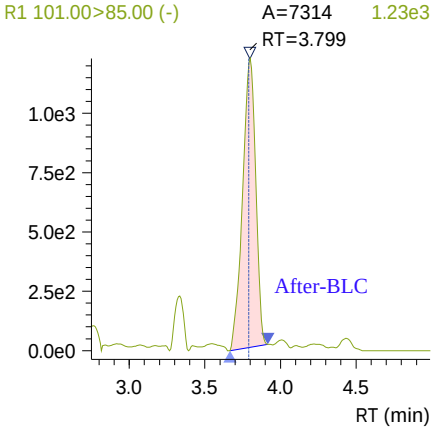
Sample ID: PERCHLORATE2
Date Acquired: 10/13/2022 11:02:18 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221013ICAL\20221013_017.lcd
Vial: 39 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	MI R1	3.798	19668	289981	0.5035	ng/mL	101.00 >85.00	37.19	23.94 -44.46
Sodium Perchlorate -18O4_IS	Auto	3.796	289981	289981	1.0000	ng/mL	----	----	

Perchlorate

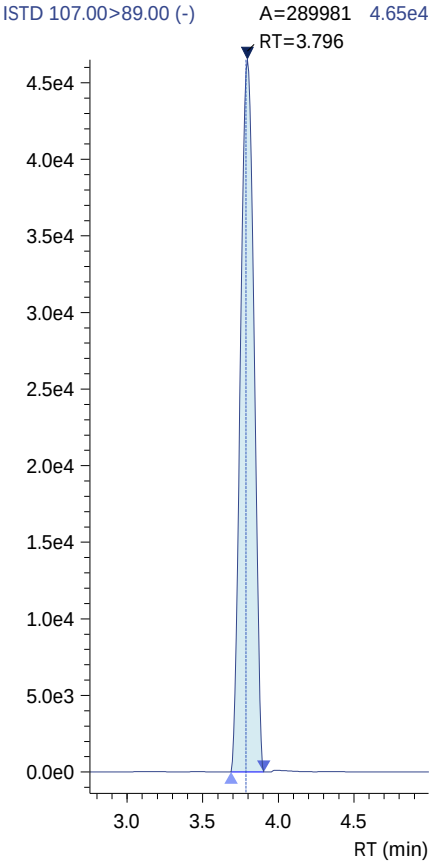
Conc 0.5035
R#1 37.19 (34.20)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 10/24/2022 9:43:49 AM

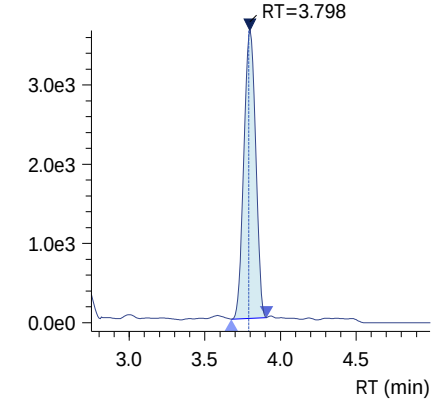
PERCHLORATE2

Sample ID: PERCHLORATE2
Date Acquired: 10/13/2022 11:02:18 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221013ICAL\20221013_017.lcd
Vial: 39 | Inj. Volume: 25.0000uL | Tray: 1

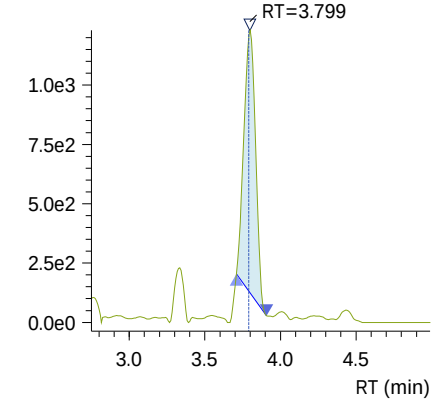
Perchlorate

Conc 0.5040
R#1 29.91 (33.91)

Q 99.00>83.00 (-) A=19668 3.69e3



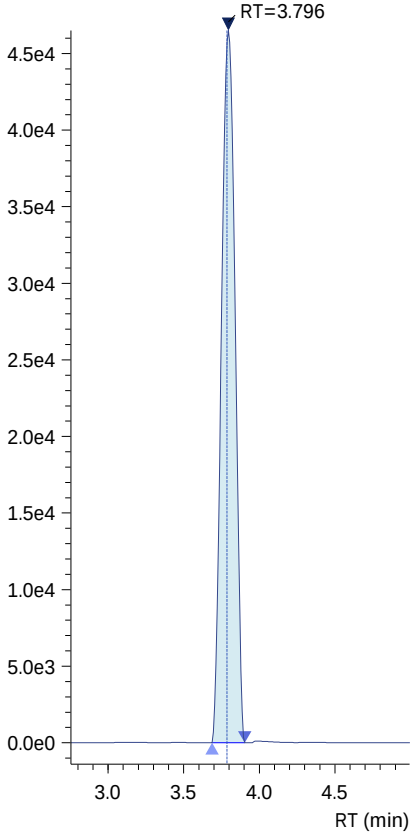
R1 101.00>85.00 (-) A=5882 1.23e3



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) A=289981 4.65e4



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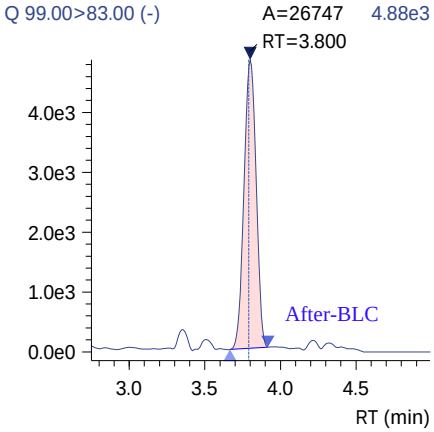
PERCHLORATE3

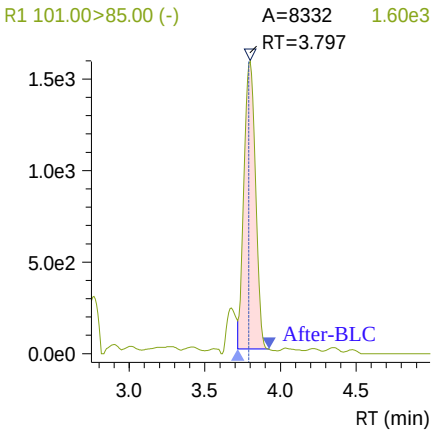
Sample ID: PERCHLORATE3
Date Acquired: 10/13/2022 11:10:43 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221013ICAL\20221013_018.lcd
Vial: 40 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	M	3.800	26747	286041	0.6942	ng/mL	101.00 >85.00	31.15	23.94 -44.46
Sodium Perchlorate -18O4_IS	Auto	3.796	286041	286041	1.0000	ng/mL	----	----	

Perchlorate

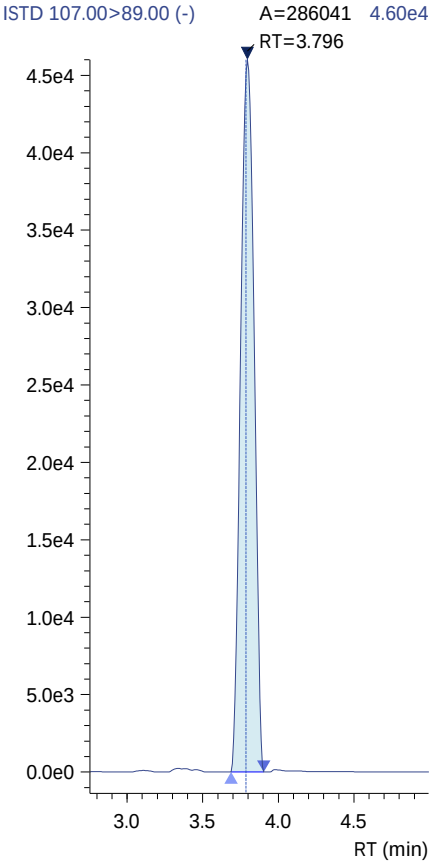
Conc 0.6942
R#1 31.15 (34.20)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 10/24/2022 9:43:49 AM

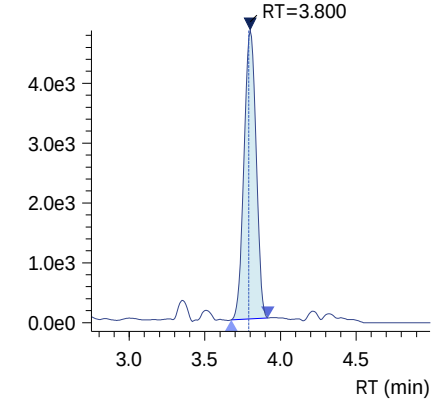
PERCHLORATE3

Sample ID: PERCHLORATE3
Date Acquired: 10/13/2022 11:10:43 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221013ICAL\20221013_018.lcd
Vial: 40 | Inj. Volume: 25.0000uL | Tray: 1

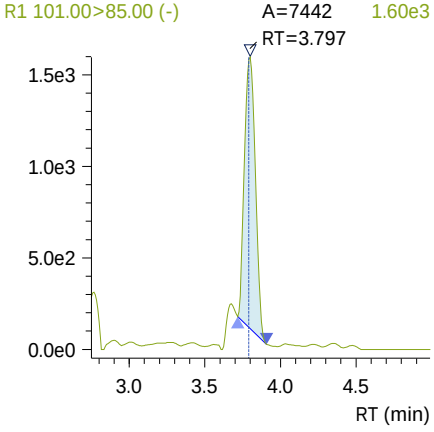
Perchlorate

Conc 0.6936
R#1 27.88 (33.91)

Q 99.00>83.00 (-) A=26697 4.88e3



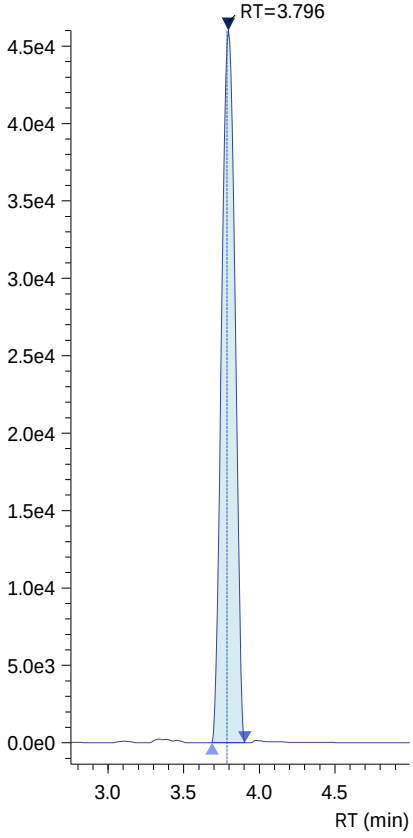
R1 101.00>85.00 (-) A=7442 1.60e3



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) A=286041 4.60e4



Insight Report

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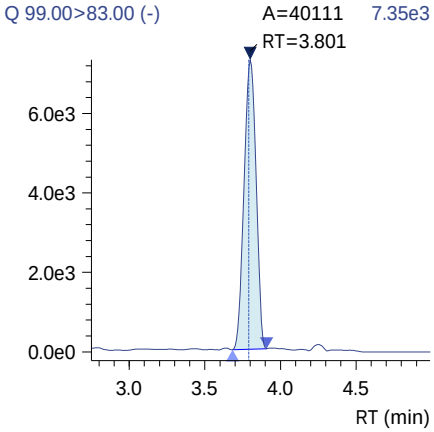
PERCHLORATE4

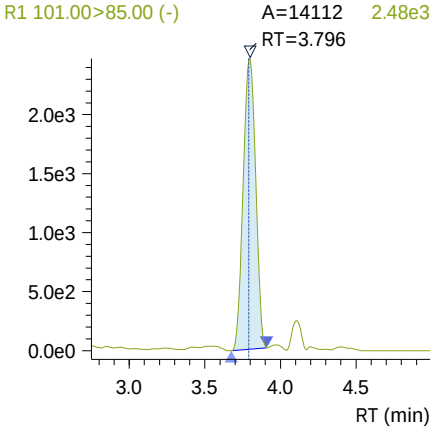
Sample ID: PERCHLORATE4
Date Acquired: 10/13/2022 11:19:07 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221013ICAL\20221013_019.lcd
Vial: 41 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.801	40111	283200	1.0514	ng/mL	101.00 >85.00	35.18	23.94 -44.46
Sodium Perchlorate -18O4_IS	Auto	3.797	283200	283200	1.0000	ng/mL	----	----	

Perchlorate

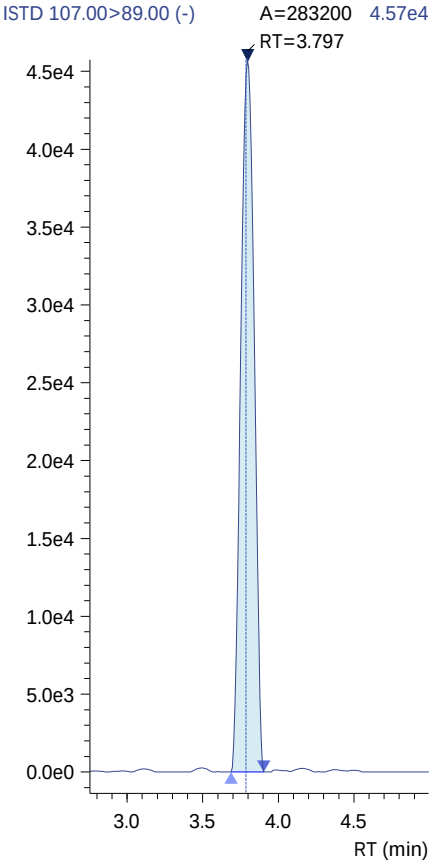
Conc 1.0514
R#1 35.18 (34.20)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 10/24/2022 11:16:28 AM

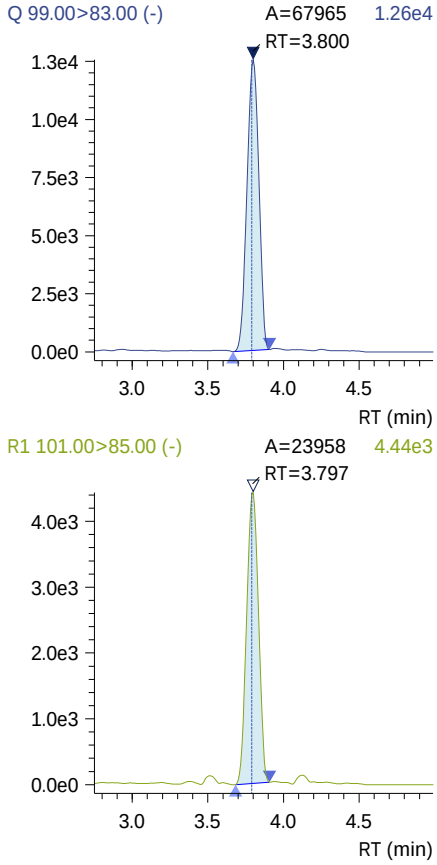
PERCHLORATE5

Sample ID: PERCHLORATE5
Date Acquired: 10/13/2022 11:27:29 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221013ICAL\20221013_020.lcd
Vial: 42 | 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	3.800	67965	275186	1.8335	ng/mL	101.00 >85.00	35.25	23.94 -44.46
Sodium Perchlorate -18O4_IS	Auto	3.796	275186	275186	1.0000	ng/mL	----	----	

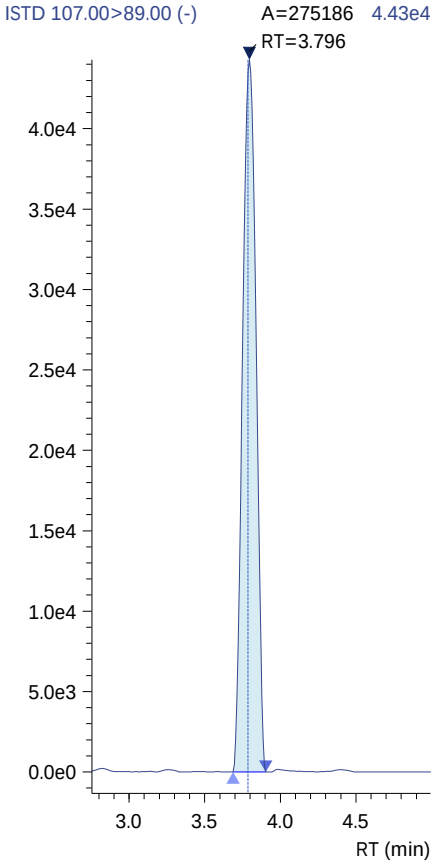
Perchlorate

Conc 1.8335
R#1 35.25 (34.20)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

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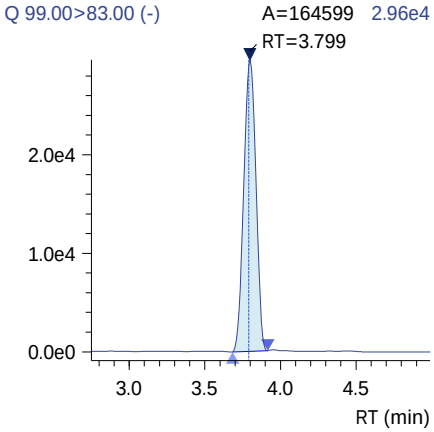
PERCHLORATE6

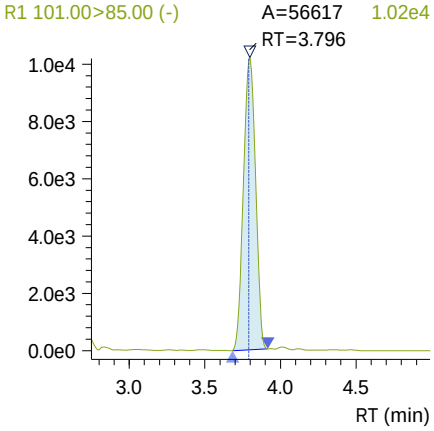
Sample ID: PERCHLORATE6
Date Acquired: 10/13/2022 11:35:51 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221013ICAL\20221013_021.lcd
Vial: 43 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.799	164599	256637	4.7613	ng/mL	101.00 >85.00	34.40	23.94 -44.46
Sodium Perchlorate -18O4_IS	Auto	3.796	256637	256637	1.0000	ng/mL	----	----	

Perchlorate

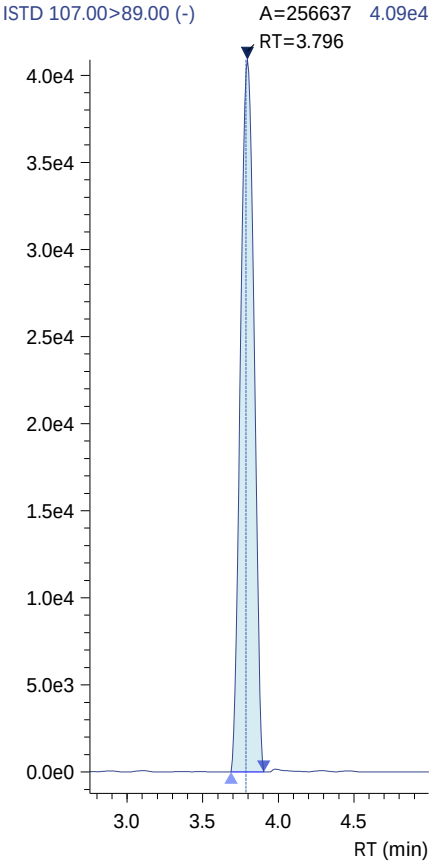
Conc 4.7613
R#1 34.40 (34.20)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 10/24/2022 11:16:28 AM

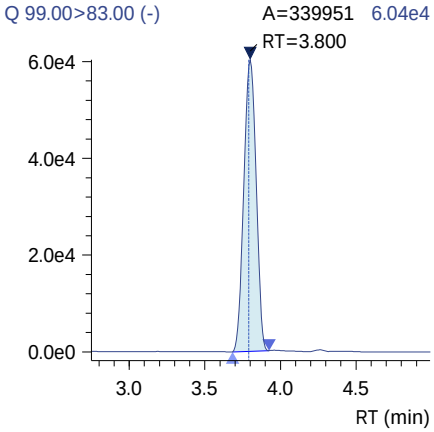
PERCHLORATE7

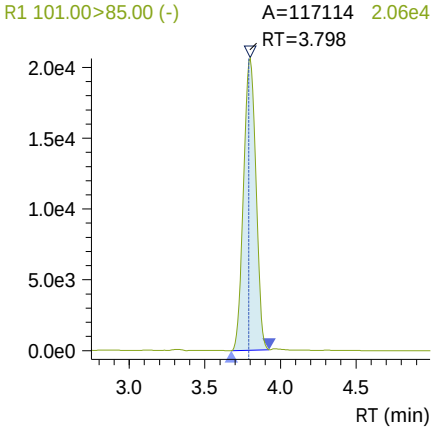
Sample ID: PERCHLORATE7
Date Acquired: 10/13/2022 11:44:14 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221013ICAL\20221013_022.lcd
Vial: 44 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.800	339951	223356	11.2988	ng/mL	101.00 >85.00	34.45	23.94 -44.46
Sodium Perchlorate -18O4_IS	Auto	3.796	223356	223356	1.0000	ng/mL	----	----	

Perchlorate

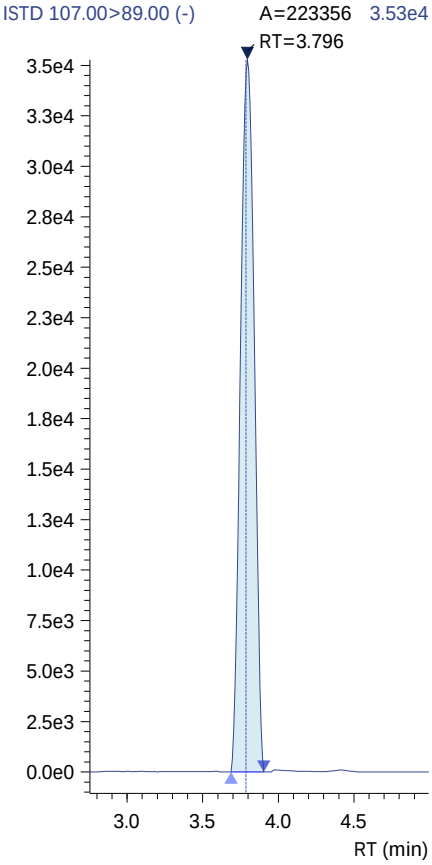
Conc 11.2988
R#1 34.45 (34.20)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 10/24/2022 11:16:28 AM

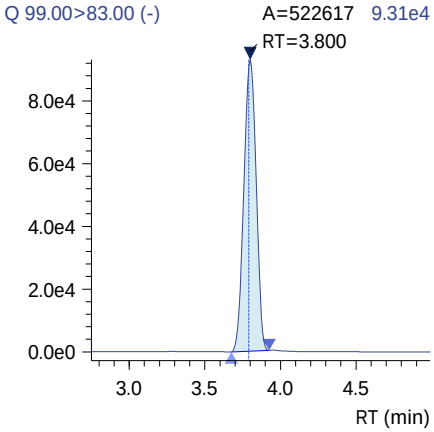
PERCHLORATE8

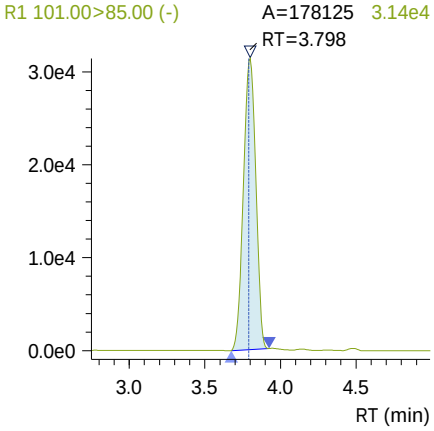
Sample ID: PERCHLORATE8
Date Acquired: 10/13/2022 11:52:37 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221013ICAL\20221013_023.lcd
Vial: 45 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.800	522617	198677	19.5 276	ng/mL	101.00 >85.00	34.08	23.94 -44.46
Sodium Perchlorate -18O4_IS	Auto	3.797	198677	198677	1.0000	ng/mL	----	----	

Perchlorate

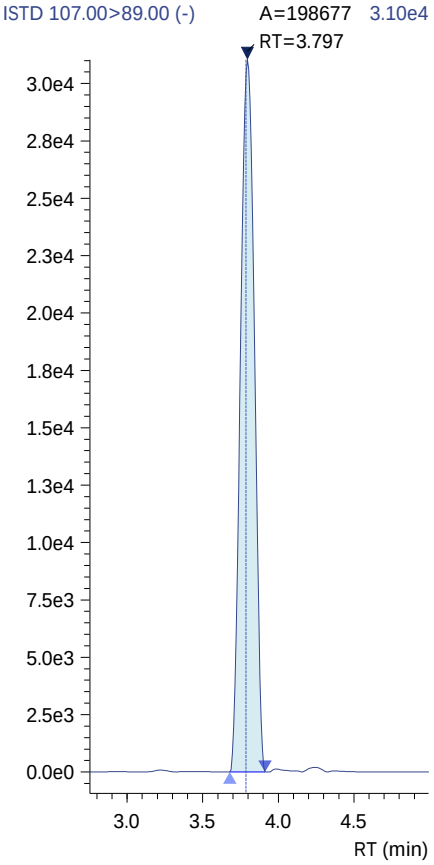
Conc 19.5276
R#1 34.08 (34.20)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 10/24/2022 11:16:28 AM

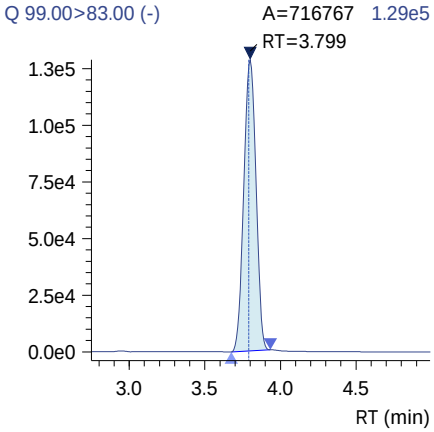
PERCHLORATE9

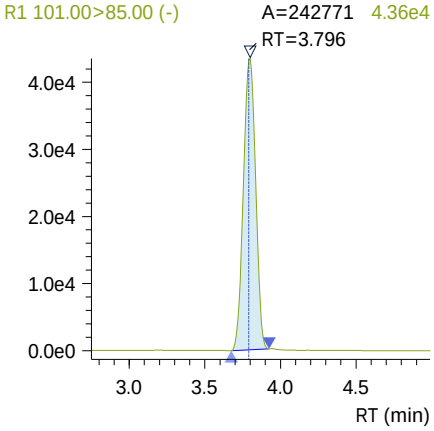
Sample ID: PERCHLORATE9
Date Acquired: 10/13/2022 12:01:03 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221013ICAL\20221013_024.lcd
Vial: 46 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.799	716767	179402	29.6596	ng/mL	101.00 >85.00	33.87	23.94 -44.46
Sodium Perchlorate-18O4_IS	Auto	3.796	179402	179402	1.0000	ng/mL	----	----	

Perchlorate

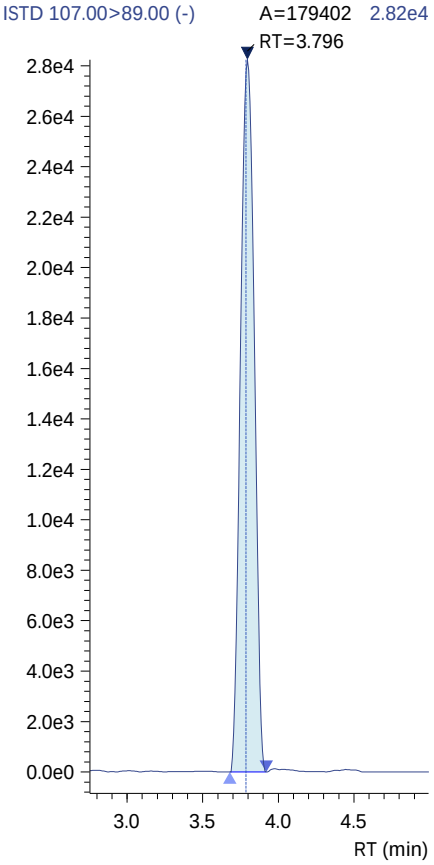
Conc 29.6596
R#1 33.87 (34.20)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 10/24/2022 11:16:28 AM

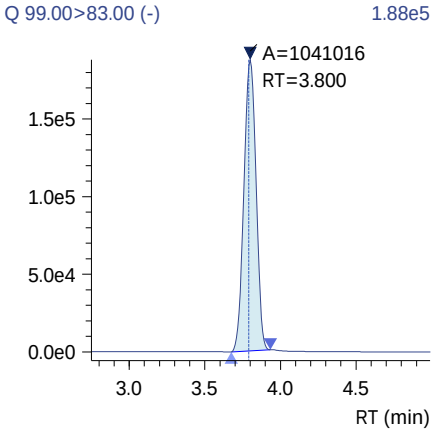
PERCHLORATE10

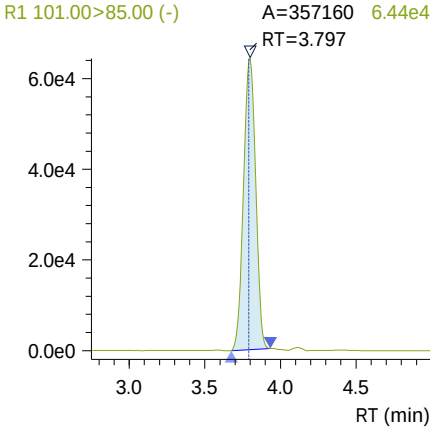
Sample ID: PERCHLORATE10
Date Acquired: 10/13/2022 12:09:25 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221013ICAL\20221013_025.lcd
Vial: 47 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.800	10410	159903	48.3	ng/mL	101.00	34.31	23.94
			16		299		>85.00		-44.46
Sodium Perchlorate -18O4_IS	Auto	3.796	159903	159903	1.0000	ng/mL	----	----	

Perchlorate

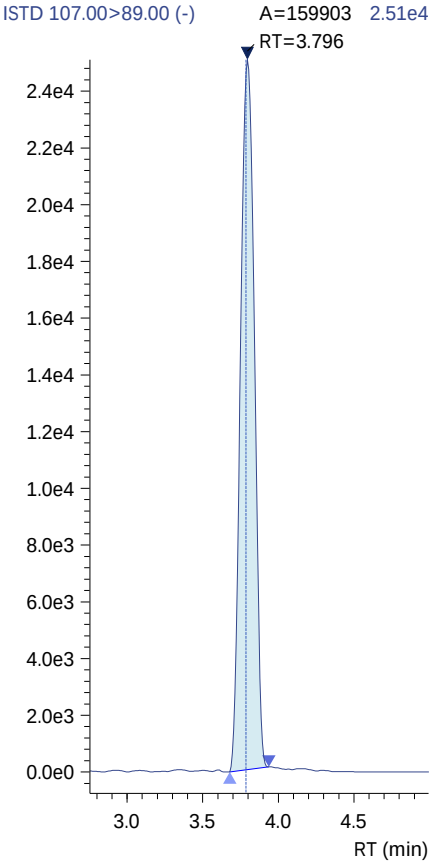
Conc 48.3299
R#1 34.31 (34.20)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 10/24/2022 11:16:28 AM

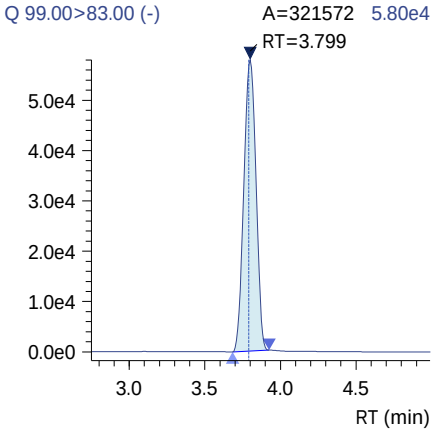
PERCHLORATEICV

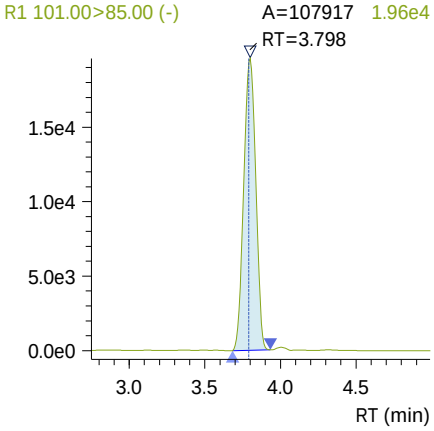
Sample ID: PERCHLORATEICV
Date Acquired: 10/13/2022 12:17:49 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221013ICAL\20221013_026.lcd
Vial: 48 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.799	321572	218649	10.9 180	ng/mL	101.00 >85.00	33.56	23.94 -44.46
Sodium Perchlorate -18O4_IS	Auto	3.797	218649	218649	1.0000	ng/mL	----	----	

Perchlorate

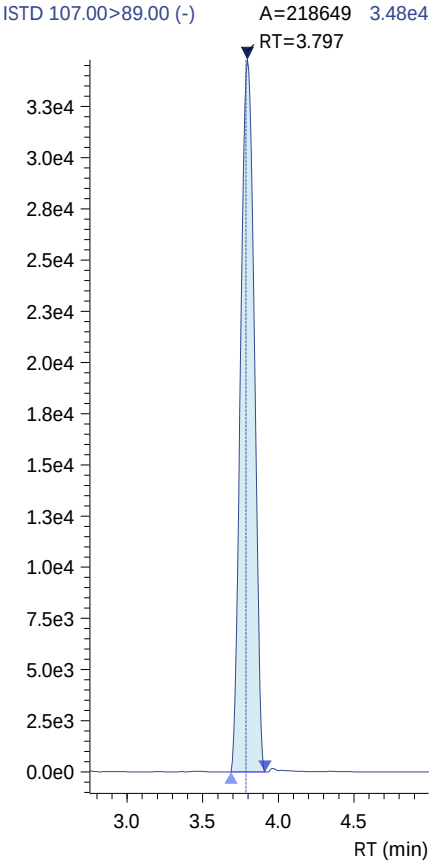
Conc 10.9180
R#1 33.56 (34.20)





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

20221121

Injection Log

LCMS01 -Shimadzu 8050

1st Review: XMI
2nd Review: Kneir

ICAL Date: 10/13/2022
Cal. Std. xp: 01/31/2023
ICAL ID: EC2200014

Mobile Phases : A:0.10% Formic Acid/Water 3210301-05 **B:**MeOH 224417

	Sample Name		File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	LODV		20221121_010	Perchlorate6850c.lcm	1x	☒	225199	11/21/2022 10:35
2	ICS		20221121_011	Perchlorate6850c.lcm	1x	☒		11/21/2022 10:40
3	CCV		20221121_012	Perchlorate6850c.lcm	1x	☒	225398	11/21/2022 11:00
4	EQ2200535-01		20221121_013	Perchlorate6850c.lcm	1x	☒		11/21/2022 11:05
5	EQ2200535-02		20221121_014	Perchlorate6850c.lcm	1x	☒		11/21/2022 11:11
6	EQ2200535-03		20221121_015	Perchlorate6850c.lcm	1x	☒		11/21/2022 11:16
7	E2201127-001		20221121_016	Perchlorate6850c.lcm	1x	☒	DNU-IS	11/21/2022 11:22
8	E2201127-002		20221121_017	Perchlorate6850c.lcm	1x	☒	DNU-out of ICAl range	11/21/2022 11:27
9	E2201127-001		20221121_021	Perchlorate6850c.lcm	1x	☒	DNU-IS	11/21/2022 11:49
10	E2201127-002		20221121_022	Perchlorate6850c.lcm	1000x	☒		11/21/2022 11:55
11	E2201127-001		20221121_023	Perchlorate6850c.lcm	1x	☒		11/21/2022 12:00
12	CCV		20221121_024	Perchlorate6850c.lcm	1x	☒	225398	11/21/2022 12:06
13	E2201116-001		20221121_025	Perchlorate6850c.lcm	1x	☒	DNU-out of ICAl range	11/21/2022 12:11
14	E2201116-002		20221121_026	Perchlorate6850c.lcm	1x	☒	DNU-out of ICAl range	11/21/2022 12:17
15	IB		20221121_027	Perchlorate6850c.lcm	1x	☒		11/21/2022 12:22
16	IB		20221121_028	Perchlorate6850c.lcm	1x	☒		11/21/2022 12:28
17	E2201116-003		20221121_029	Perchlorate6850c.lcm	1x	☒		11/21/2022 12:33
18	E2201116-004		20221121_030	Perchlorate6850c.lcm	1x	☒	DNU-out of ICAl range	11/21/2022 12:39
19	E2201116-005		20221121_031	Perchlorate6850c.lcm	1x	☒		11/21/2022 12:45
20	E2201119-001		20221121_032	Perchlorate6850c.lcm	1x	☒		11/21/2022 12:50
21	E2201119-002		20221121_033	Perchlorate6850c.lcm	1x	☒		11/21/2022 12:56
22	E2201119-003		20221121_034	Perchlorate6850c.lcm	1x	☒		11/21/2022 13:01
23	CCV		20221121_035	Perchlorate6850c.lcm	1x	☒	225398	11/21/2022 13:07
24	E2201119-004		20221121_036	Perchlorate6850c.lcm	1x	☒		11/21/2022 13:12
25	E2201119-005		20221121_037	Perchlorate6850c.lcm	1x	☒		11/21/2022 13:18
26	E2201120-001		20221121_039	Perchlorate6850c.lcm	1x	☒	DNU-out of ICAl range	11/21/2022 13:23
27	E2201120-002		20221121_040	Perchlorate6850c.lcm	1x	☒	DNU-out of ICAl range	11/21/2022 13:29
28	E2201120-003		20221121_041	Perchlorate6850c.lcm	1x	☒	DNU-out of ICAl range	11/21/2022 13:34
29	E2201121-001		20221121_042	Perchlorate6850c.lcm	1x	☒	DNU-out of ICAl range	11/21/2022 13:40
30	E2201121-002		20221121_043	Perchlorate6850c.lcm	1x	☒	DNU-out of ICAl range	11/21/2022 13:46
31	E2201121-003		20221121_044	Perchlorate6850c.lcm	1x	☒	DNU-out of ICAl range	11/21/2022 13:51
32	E2201121-004		20221121_045	Perchlorate6850c.lcm	1x	☒	DNU-out of ICAl range	11/21/2022 13:57
33	E2201121-005		20221121_046	Perchlorate6850c.lcm	1x	☒	DNU-out of ICAl range	11/21/2022 14:02
34	CCV		20221121_047	Perchlorate6850c.lcm	1x	☒	225398	11/21/2022 15:29
35	E2201116-001		20221121_048	Perchlorate6850c.lcm	10000x	☒		11/21/2022 16:08
36	E2201116-002		20221121_049	Perchlorate6850c.lcm	1000x	☒		11/21/2022 16:13
37	E2201116-004		20221121_050	Perchlorate6850c.lcm	500x	☒		11/21/2022 16:19
38	E2201120-001		20221121_051	Perchlorate6850c.lcm	100x	☒		11/21/2022 16:24
39	CCV		20221121_052	Perchlorate6850c.lcm	1x	☒	225398	11/21/2022 16:30

20221121

Injection Log

LCMS01 -Shimadzu 8050

1st Review: XMI
2nd Review: Kneir

ICAL Date: 10/13/2022
Cal. Std. xp: 01/31/2023
ICAL ID: EC2200014

Mobile Phases : **A:**0.10% Formic Acid/Water 3210301-05 **B:**MeOH 224417

	Sample Name		File Name	Acquisition Method	Dilution	R	Comments	Date/Time
40	E2201120-002		20221121_053	Perchlorate6850c.lcm	10000x	☒		11/21/2022 16:35
41	E2201120-003		20221121_054	Perchlorate6850c.lcm	20x	☒	DNU-out of ICAl range	11/21/2022 16:41
42	E2201121-001		20221121_055	Perchlorate6850c.lcm	500x	☒		11/21/2022 16:46
43	E2201121-002		20221121_056	Perchlorate6850c.lcm	100x	☒		11/21/2022 16:52
44	E2201121-003		20221121_057	Perchlorate6850c.lcm	2000x	☒		11/21/2022 16:57
45	E2201121-004		20221121_058	Perchlorate6850c.lcm	500x	☒		11/21/2022 17:03
46	E2201121-005		20221121_059	Perchlorate6850c.lcm	1000x	☒		11/21/2022 17:08
47	CCV		20221121_060	Perchlorate6850c.lcm	1x	☒	225398	11/21/2022 17:14

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	Bhate Environmental Associates, Inc.	**Service Request:**	E2201127
Project:	GW Treatment Plant Special Samples/NWO1312.0150.016.0001	**Date Analyzed:**	11/21/22 11:00

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20221121\20221121_012	**Lab Code:**	EQ2200536-01
Instrument ID:	E-LCMS-01	**Analysis Lot:**	785977
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	244,776	3.80
	Upper Limit ==>	367,164	5.80
	Lower Limit ==>	122,388	1.80
Associated Analyses			
Continuing Calibration Verification	EQ2200536-01	201,965	3.69
Method Blank	EQ2200535-01	323,288	3.69
Lab Control Sample	EQ2200535-02	309,196	3.69
Duplicate Lab Control Sample	EQ2200535-03	316,820	3.68
LH18/24-SP650_111822_BIX	E2201127-002	193,021	3.68
LH18/24-SP650_111822_AIX	E2201127-001	318,094	3.63

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	Bhate Environmental Associates, Inc.	**Service Request:**	E2201127
Project:	GW Treatment Plant Special Samples/NWO1312.0150.016.0001	**Date Analyzed:**	11/21/22 12:06

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20221121\20221121_024	**Lab Code:**	EQ2200536-02
Instrument ID:	E-LCMS-01	**Analysis Lot:**	785977
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	244,776	3.80
	Upper Limit ==>	367,164	5.80
	Lower Limit ==>	122,388	1.80
Associated Analyses			
Continuing Calibration Verification	EQ2200536-02	204,973	3.67

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	Bhate Environmental Associates, Inc.	**Service Request:**	E2201127
Project:	GW Treatment Plant Special Samples/NWO1312.0150.016.0001	**Date Analyzed:**	11/21/22

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

Analytical Method:	6850	**Calibration Date:**	10/13/22
File ID:	I:\LCMS01\DATA\20221121\20221121_012	**Calibration ID:**	EC2200014
		Analysis Lot:	785977
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	11.1	0.1347	0.1497	11.2	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	Bhate Environmental Associates, Inc.	**Service Request:**	E2201127
Project:	GW Treatment Plant Special Samples/NWO1312.0150.016.0001	**Date Analyzed:**	11/21/22

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

Analytical Method:	6850	**Calibration Date:**	10/13/22
File ID:	I:\LCMS01\DATA\20221121\20221121_024	**Calibration ID:**	EC2200014
		Analysis Lot:	785977
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	11.3	0.1347	0.1528	13.4	NA	± 15 %	Average RF

Insight Report

Printed at 11/22/2022 9:08:26 AM

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Project File: I:\LCMS01\DATA\20221121\11212022.damlp

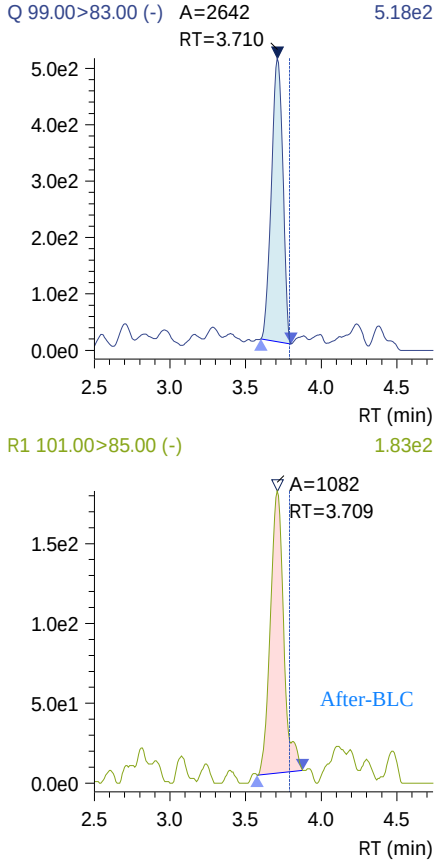
LODV

Sample ID: LODV
Date Acquired: 11/21/2022 10:35:09 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221121\20221121_010.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	MI R1	3.710	2642	320219	0.0612	ng/mL	101.00 >85.00	40.95	23.94 -44.46
Sodium Perchlorate-18O4 _IS	Auto	3.706	320219	320219	1.0000	ng/mL	----	----	

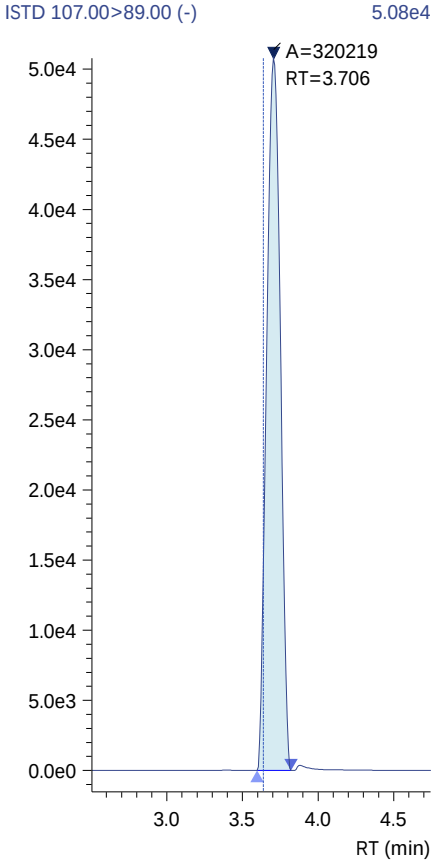
Perchlorate

Conc 0.0612
R#1 40.95 (34.20)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 11/22/2022 9:28:15 AM

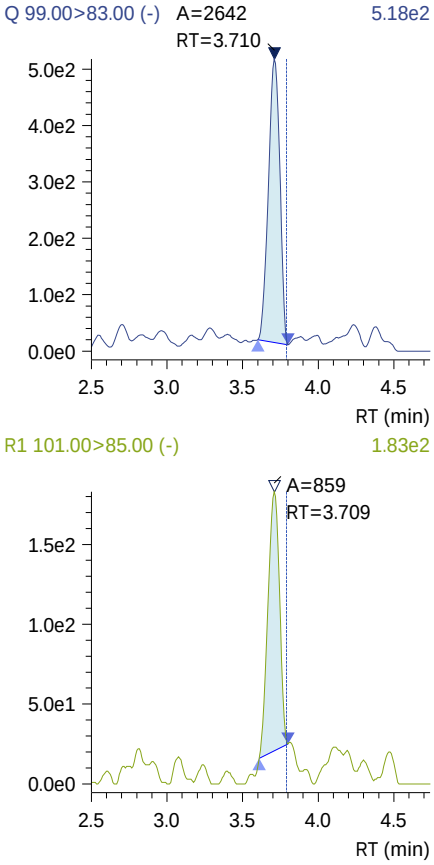
Method File: I:\LCMS01\DATA\20221121\20221013ICAL.lcm
Project File: I:\LCMS01\DATA\20221121\11212022.damlp

LODV

Sample ID: LODV
Date Acquired: 11/21/2022 10:35:09 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221121\20221121_010.lcd
Vial: 1 | Inj. Volume: 25.0000uL | Tray: 0

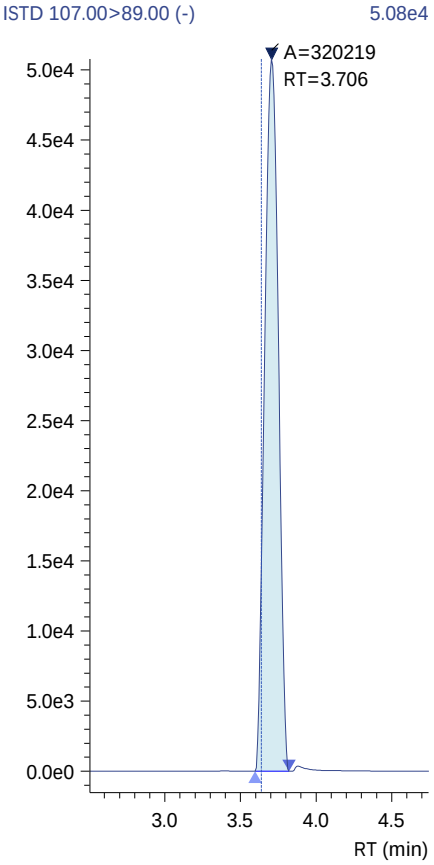
Perchlorate

Conc 0.0612
R#1 32.52 (34.20)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 11/22/2022 9:08:26 AM

ICS

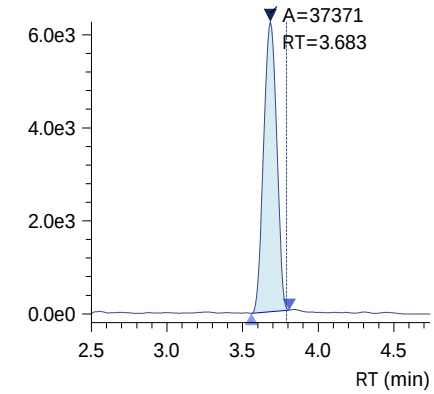
Sample ID: ICS
Date Acquired: 11/21/2022 10:40:37 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221121\20221121_011.lcd
Vial: 2 | Inj. Volume: 25.0000uL | Tray: 0

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.683	37371	257749	1.0763	ng/mL	101.00 >85.00	33.55	23.94 -44.46
Sodium Perchlorate-18O4 _IS	Auto	3.680	2577 49	257749	1.0000	ng/mL	----	----	

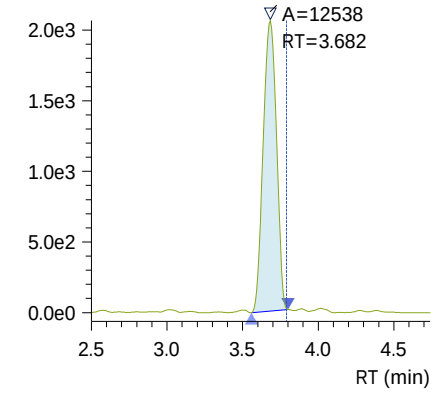
Perchlorate

Conc 1.0763
R#1 33.55 (34.20)

Q 99.00>83.00 (-) 6.28e3



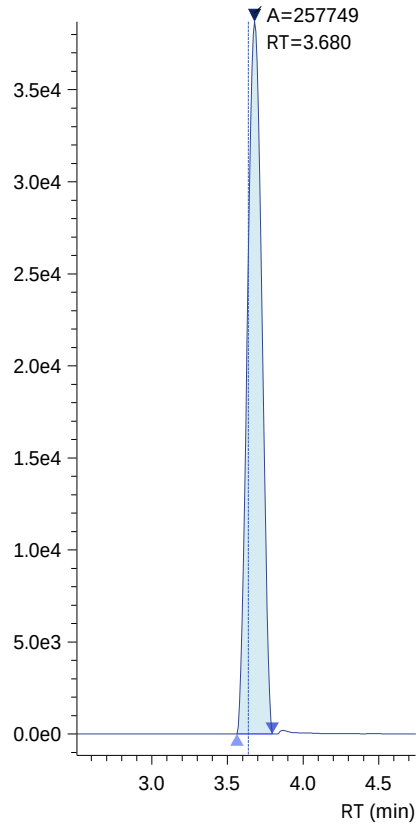
R1 101.00>85.00 (-) 2.07e3



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 3.87e4



Insight Report

Printed at 11/22/2022 9:08:26 AM

CCV

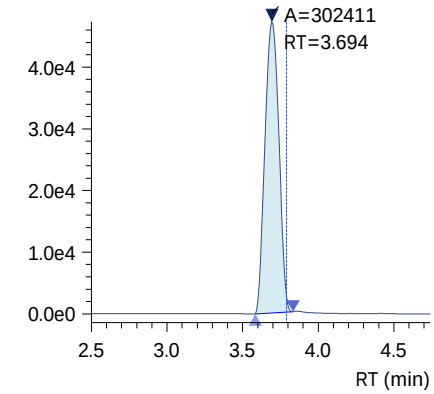
Sample ID: CCV
Date Acquired: 11/21/2022 11:00:07 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221121\20221121_012.lcd
Vial: 3 | Inj. Volume: 25.0000uL | Tray: 0

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.694	3024 11	201965	11.1 157	ng/mL	101.00 >85.00	33.73	23.94 -44.46
Sodium Perchlorate-18O4_IS	Auto	3.690	2019 65	201965	1.0000	ng/mL	----	----	

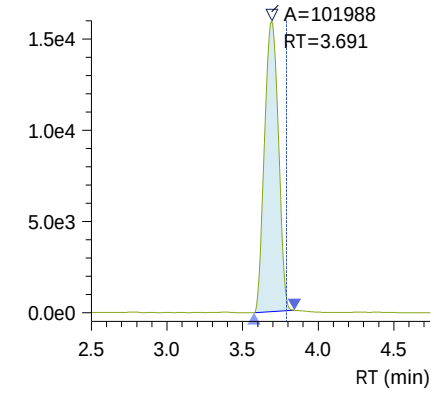
Perchlorate

Conc 11.1157
R#1 33.73 (34.20)

Q 99.00>83.00 (-) 4.74e4



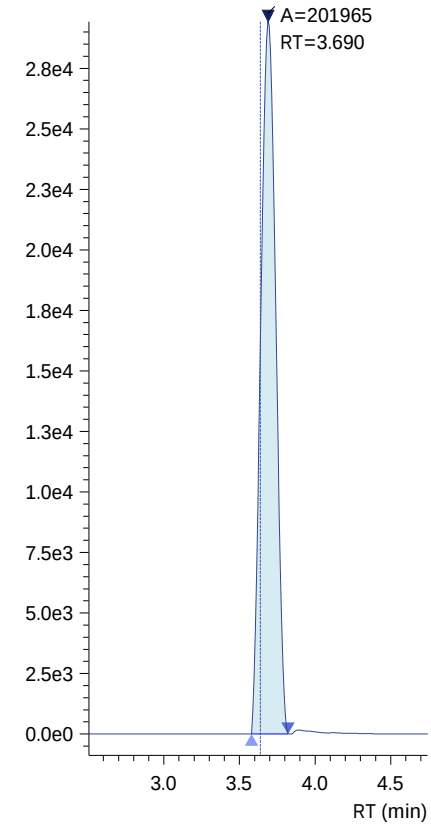
R1 101.00>85.00 (-) 1.60e4



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 2.94e4



Insight Report

Printed at 11/22/2022 9:08:26 AM

EQ2200535-01

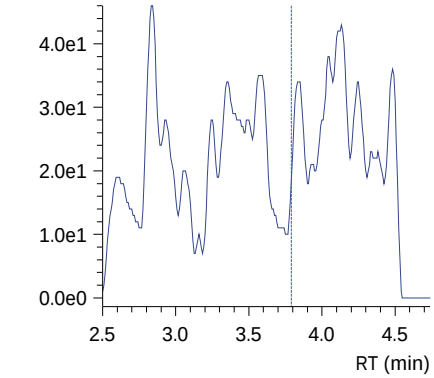
Sample ID: EQ2200535-01
Date Acquired: 11/21/2022 11:05:39 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221121\20221121_013.lcd
Vial: 14 | Inj. Volume: 25.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	ND(W/B)	----	----	323288	----	ng/mL	101.00 >85.00	0.00	23.94 -44.46
Sodium Perchlorate-18O4_IS	Auto	3.688	323288	323288	1.0000	ng/mL	----	----	

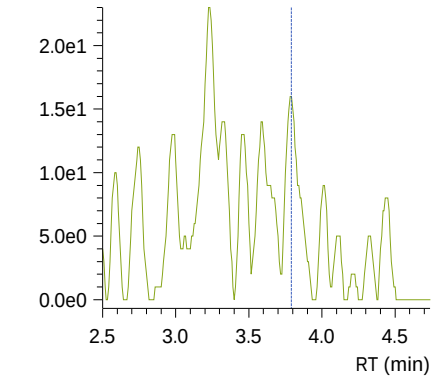
Perchlorate

Conc ----
R#1 0.00 (34.20)

Q 99.00>83.00 (-) 4.60e1



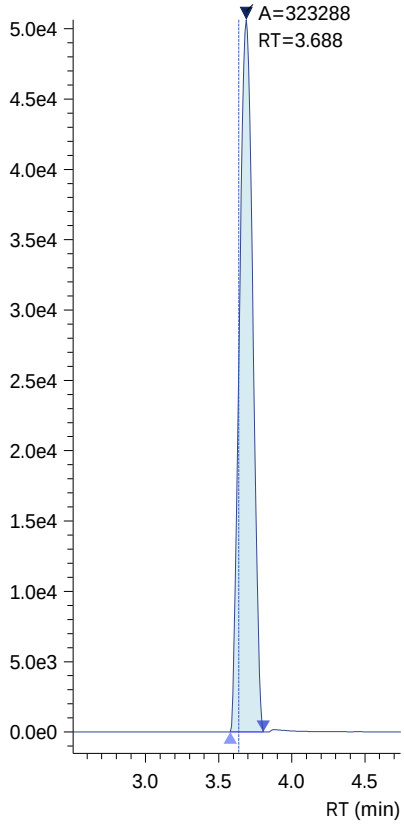
R1 101.00>85.00 (-) 2.30e1



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 5.06e4



Insight Report

Printed at 11/22/2022 9:08:26 AM

EQ2200535-02

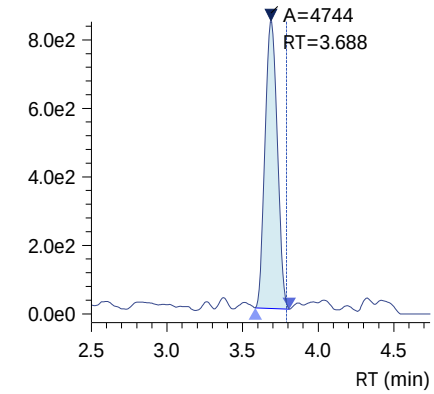
Sample ID: EQ2200535-02
Date Acquired: 11/21/2022 11:11:11 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221121\20221121_014.lcd
Vial: 15 | Inj. Volume: 25.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.688	4744	309196	0.1139	ng/mL	101.00 >85.00	33.99	23.94 -44.46
Sodium Perchlorate-18O4_IS	Auto	3.686	309196	309196	1.0000	ng/mL	----	----	

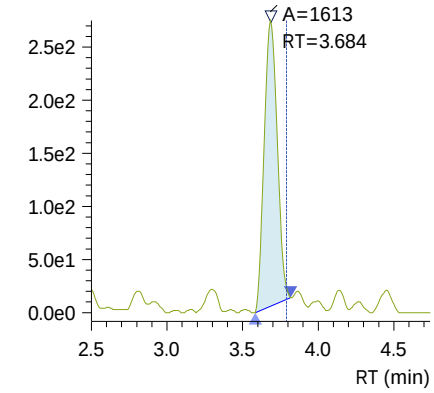
Perchlorate

Conc 0.1139
R#1 33.99 (34.20)

Q 99.00>83.00 (-) 8.53e2



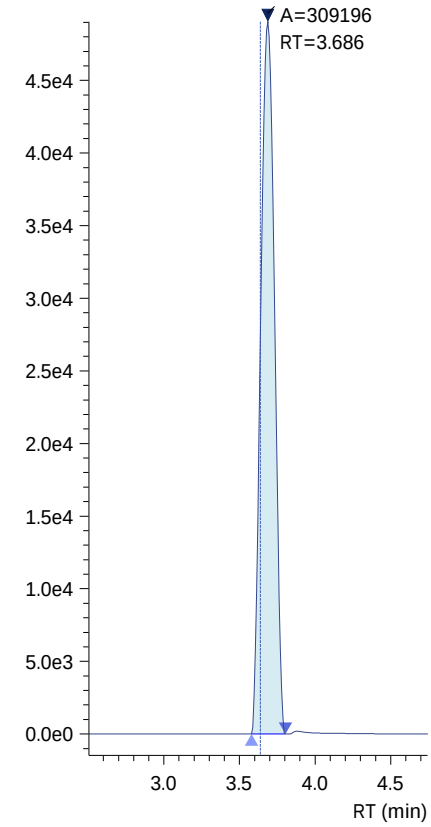
R1 101.00>85.00 (-) 2.75e2



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 4.90e4



Insight Report

Printed at 11/22/2022 9:08:26 AM

EQ2200535-03

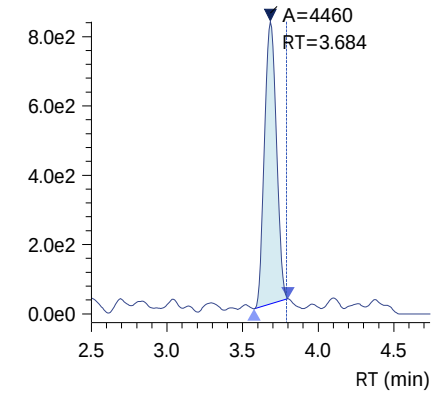
Sample ID: EQ2200535-03
Date Acquired: 11/21/2022 11:16:42 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221121\20221121_015.lcd
Vial: 16 | Inj. Volume: 25.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.684	4460	316820	0.1045	ng/mL	101.00 >85.00	28.81	23.94 -44.46
Sodium Perchlorate-18O4_IS	Auto	3.684	316820	316820	1.0000	ng/mL	----	----	

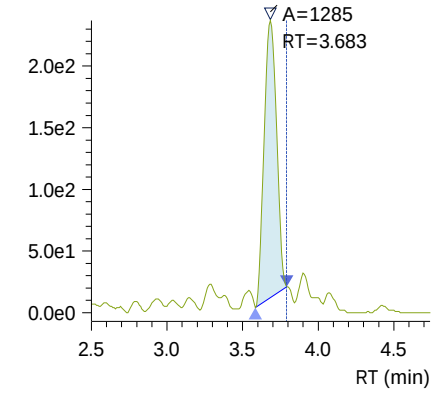
Perchlorate

Conc 0.1045
R#1 28.81 (34.20)

Q 99.00>83.00 (-) 8.43e2



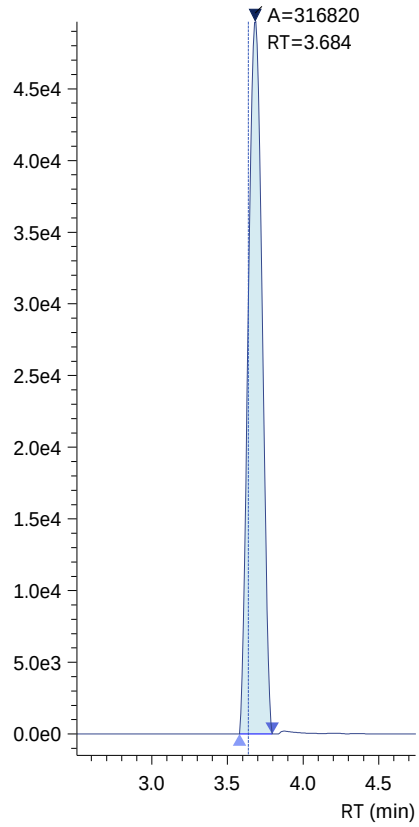
R1 101.00>85.00 (-) 2.37e2



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 4.97e4



Insight Report

Printed at 11/22/2022 9:08:26 AM

E2201127-001

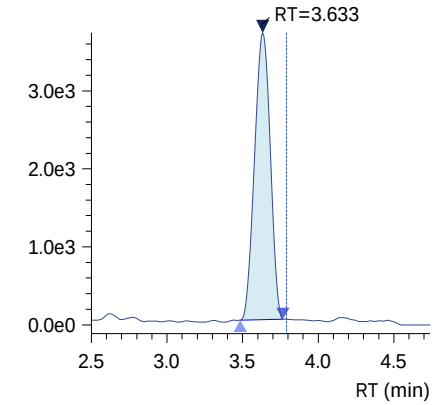
Sample ID: E2201127-001
Date Acquired: 11/21/2022 12:00:48 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221121\20221121_023.lcd
Vial: 35 | Inj. Volume: 20.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	MI R1	3.633	26568	318094	0.6200	ng/mL	101.00 >85.00	34.85	23.94 -44.46
Sodium Perchlorate-18O4_IS	Auto	3.626	318094	318094	1.0000	ng/mL	----	----	

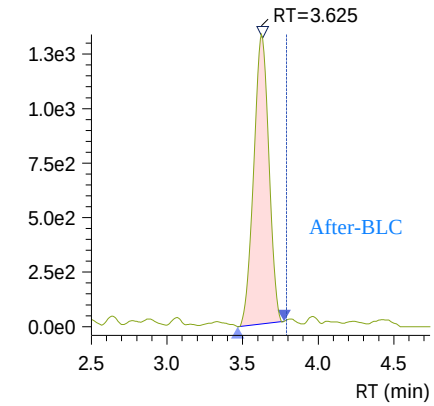
Perchlorate

Conc 0.6200
R#1 34.85 (34.20)

Q 99.00>83.00 (-) A=26568 3.75e3 RT=3.633



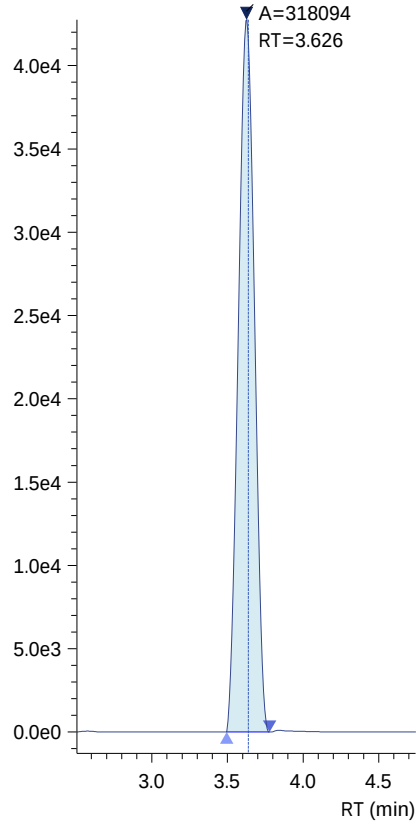
R1 101.00>85.00 (-) A=9259 1.34e3 RT=3.625



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 4.28e4 A=318094 RT=3.626



Insight Report

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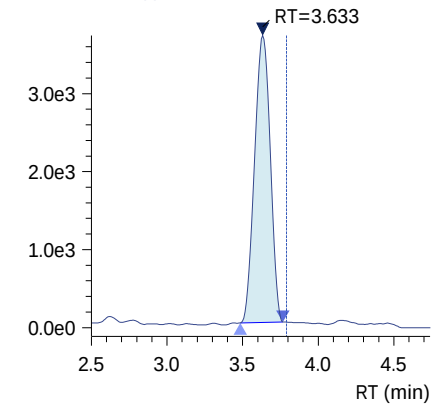
E2201127-001

Sample ID: E2201127-001
Date Acquired: 11/21/2022 12:00:48 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221121\20221121_023.lcd
Vial: 35 | Inj. Volume: 20.0000uL | Tray: 2

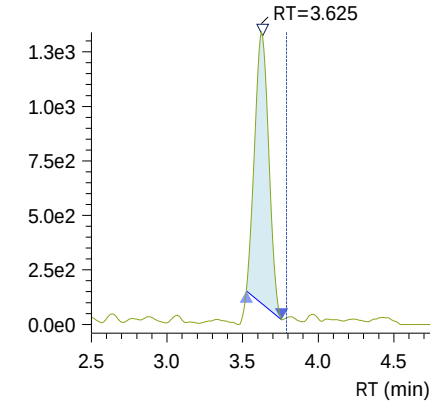
Perchlorate

Conc 0.6200
R#1 30.40 (34.20)

Q 99.00>83.00 (-) A=26568 3.75e3



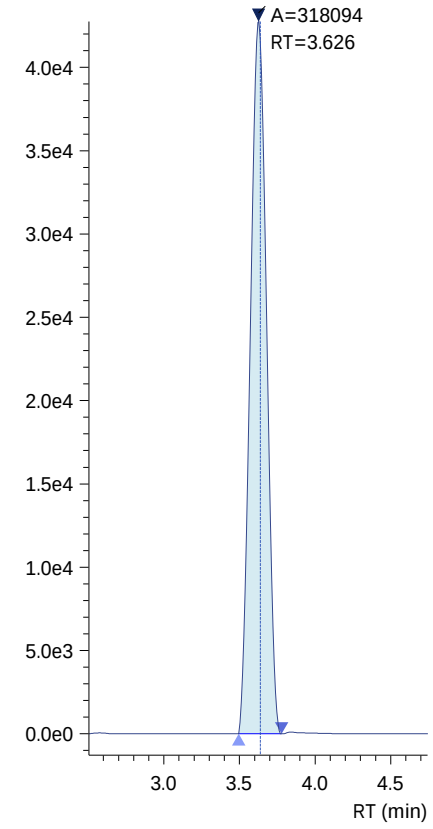
R1 101.00>85.00 (-) A=8077 1.34e3



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 4.28e4



Insight Report

Printed at 11/22/2022 9:08:26 AM

E2201127-002x1K

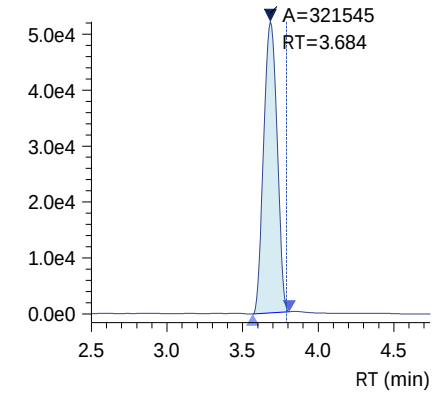
Sample ID: E2201127-002
Date Acquired: 11/21/2022 11:55:18 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221121\20221121_022.lcd
Vial: 36 | Inj. Volume: 25.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.684	321545	193021	12.3666	ng/mL	101.00 >85.00	33.82	23.94 -44.46
Sodium Perchlorate-18O4_IS	Auto	3.680	193021	193021	1.0000	ng/mL	----	----	

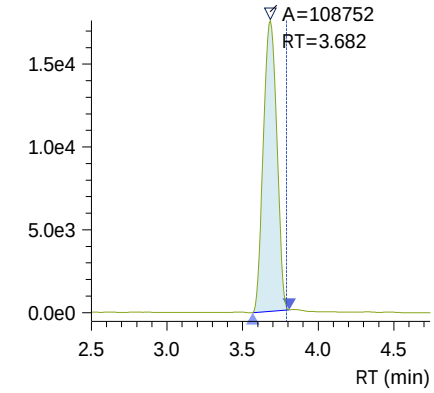
Perchlorate

Conc 12.3666
R#1 33.82 (34.20)

Q 99.00>83.00 (-) 5.22e4



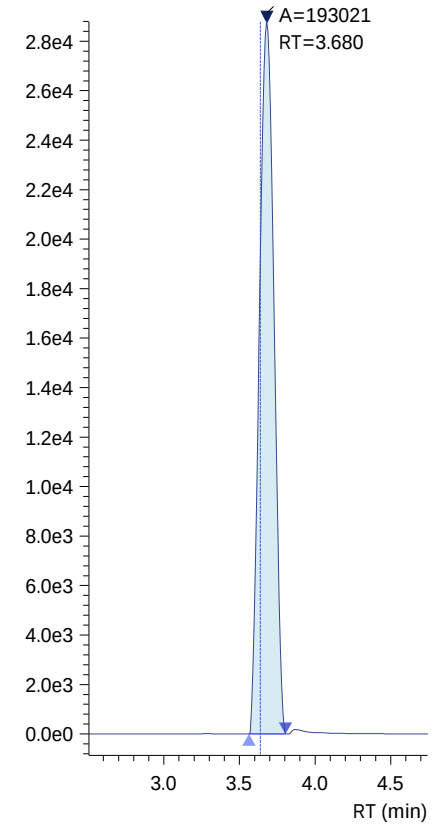
R1 101.00>85.00 (-) 1.76e4



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 2.88e4



Insight Report

Printed at 11/22/2022 9:08:26 AM

CCV

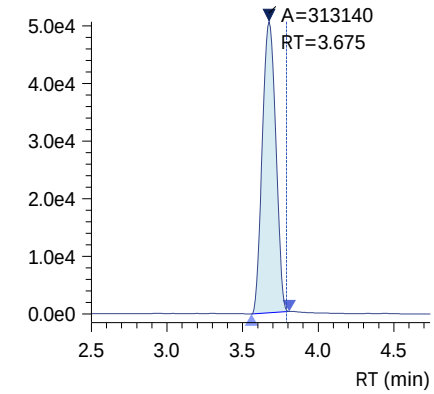
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Date Acquired: 11/21/2022 12:06:17 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221121\20221121_024.lcd
Vial: 3 | Inj. Volume: 25.0000uL | Tray: 0

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.675	313140	204973	11.3411	ng/mL	101.00	33.89	23.94
							>85.00		-44.46
Sodium Perchlorate-18O4_IS	Auto	3.672	204973	204973	1.0000	ng/mL	----	----	

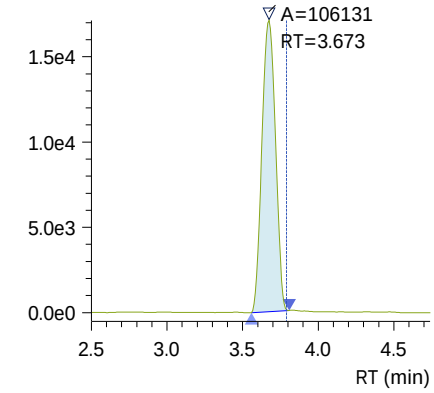
Perchlorate

Conc 11.3411
R#1 33.89 (34.20)

Q 99.00>83.00 (-) 5.07e4



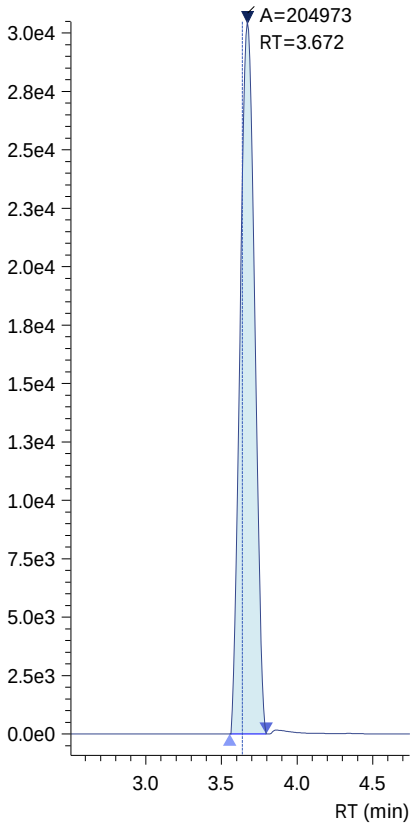
R1 101.00>85.00 (-) 1.71e4



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 3.05e4



HS22110108 Longhorn GW Treatment Plant
Monthly Influent Samples Cover Page

ALS WO# HS22110108

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ALS Group USA, Corp
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Houston, TX 77099
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  - Weight/Volume Log
  - Dates Report
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  - Acronyms
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  - SampleReceiptCheckList
  - COC
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HS22110108 Wet Chemistry

HS22110108-E2201058 Perchlorate Level IV Report

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Chain of Custody

Preparation Sheets

Analytical Results

Accuracy and Precision

Initial Calibration

Chromatograms and Selected Ion Monitoring

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right solutions.
right partner.

WorkOrder: HS22110108

Longhorn GW Treatment Plant Monthly Influent Samples

Bhate Environmental Associates, Inc.

Marcia Olive
445 Union Blvd Ste 129
Lakewood CO 80228

16-Nov-2022

HS22110108 Longhorn GW Treatment Plant
Monthly Influent Samples Final

ALS WO# HS22110108

10450 Stancliff Rd. Suite 210
Houston, TX 77099
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F: +1 281 530 5887

November 10, 2022

Marcia Olive
Bhate Environmental Associates, Inc.
445 Union Blvd Ste 129
Lakewood, CO 80228

Work Order: **HS22110108**

Laboratory Results for: **Longhorn GW Treatment Plant Monthly Influent Samples**

Dear Marcia Olive,

ALS Environmental received 1 sample(s) on Nov 02, 2022 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
Dane J. Wacasey

ALS Houston, US Date: 10-Nov-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
Work Order: HS22110108

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS22110108-01	LH18/24-SP140_110122	Water		01-Nov-2022 14:00	02-Nov-2022 09:35	☐

ALS Houston, US Date: 10-Nov-22

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: Longhorn GW Treatment Plant Monthly Influent Samples
Work Order: HS22110108

Work Order Comments

- The analysis for Perchlorate was subcontracted to ALS Houston High-Res Lab. Final report attached

Metals by Method SW6020A

Batch ID: 185976

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method SW7196

Batch ID: R421093

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

ALS Houston, US Date: 10-Nov-22

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

Project: Longhorn GW Treatment Plant Monthly Influent Samples WorkOrder:HS22110108

Sample ID: LH18/24-SP140_110122 Lab ID:HS22110108-01

Collection Date: 01-Nov-2022 14:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
METALS BY ICPMS BY SW6020A		**Method:SW6020A**				Prep:SW3010A / 09-Nov-2022		Analyst: JHD
Selenium	0.00250	U	0.00110	0.00250	0.00500	mg/L	1	10-Nov-2022 12:32
Silver	0.000500	U	0.000200	0.000500	0.00500	mg/L	1	10-Nov-2022 12:32
HEXAVALENT CHROMIUM BY SW7196A		**Method:SW7196**						Analyst: MZD
Chromium, Hexavalent	0.00600	U	0.00600	0.00600	0.0100	mg/L	1	02-Nov-2022 09:19
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	09-Nov-2022 09:22

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: HS22110108

Batch ID: 185976 **Start Date:** 09 Nov 2022 08:30 **End Date:** 09 Nov 2022 12:30

Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS22110108-01		10 (mL)	10 (mL)	1	120 plastic HNO3

ALS Houston, US Date: 10-Nov-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS22110108

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 185976 (0)	**Test Name :** METALS BY ICPMS BY SW6020A				**Matrix:** Water	
HS22110108-01	LH18/24-SP140_110122	01 Nov 2022 14:00		09 Nov 2022 12:30	10 Nov 2022 12:32	1
Batch ID: R421093 (0)	**Test Name :** HEXAVALENT CHROMIUM BY SW7196A				**Matrix:** Water	
HS22110108-01	LH18/24-SP140_110122	01 Nov 2022 14:00			02 Nov 2022 09:19	1
Batch ID: R421393 (0)	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)				**Matrix:** Water	
HS22110108-01	LH18/24-SP140_110122	01 Nov 2022 14:00			09 Nov 2022 09:22	1

ALS Houston, US Date: 10-Nov-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS22110108

QC BATCH REPORT

Batch ID: 185976 (0) **Instrument: ICPMS07** **Method: METALS BY ICPMS BY SW6020A**

MBLK Sample ID: **MBLK-185976** Units: **mg/L** Analysis Date: **10-Nov-2022 12:28**
Client ID: Run ID: **ICPMS07_421548** SeqNo: **6974278** PrepDate: **09-Nov-2022** 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-185976** Units: **mg/L** Analysis Date: **10-Nov-2022 12:30**
Client ID: Run ID: **ICPMS07_421548** SeqNo: **6974279** PrepDate: **09-Nov-2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Selenium	0.05316	0.00500	0.05	0	106	80 - 120				
Silver	0.05015	0.00500	0.05	0	100	85 - 116				

MS Sample ID: **HS22110108-01MS** Units: **mg/L** Analysis Date: **10-Nov-2022 12:36**
Client ID: **LH18/24-SP140_110122** Run ID: **ICPMS07_421548** SeqNo: **6974282** PrepDate: **09-Nov-2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Selenium	0.05087	0.00500	0.05	-0.000269	102	80 - 120				
Silver	0.04964	0.00500	0.05	-0.000032	99.4	85 - 116				

MSD Sample ID: **HS22110108-01MSD** Units: **mg/L** Analysis Date: **10-Nov-2022 12:38**
Client ID: **LH18/24-SP140_110122** Run ID: **ICPMS07_421548** SeqNo: **6974283** PrepDate: **09-Nov-2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Selenium	0.05117	0.00500	0.05	-0.000269	103	80 - 120	0.05087	0.606	20	
Silver	0.04751	0.00500	0.05	-0.000032	95.1	85 - 116	0.04964	4.4	20	

PDS Sample ID: **HS22110108-01PDS** Units: **mg/L** Analysis Date: **10-Nov-2022 12:40**
Client ID: **LH18/24-SP140_110122** Run ID: **ICPMS07_421548** SeqNo: **6974284** PrepDate: **09-Nov-2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Selenium	0.1167	0.00500	0.1	-0.000269	117	80 - 120				

ALS Houston, US Date: 10-Nov-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS22110108

QC BATCH REPORT

Batch ID: 185976 (0) **Instrument:** ICPMS07 **Method:** METALS BY ICPMS BY SW6020A

SD Sample ID: **HS22110108-01SD** Units: **mg/L** Analysis Date: **10-Nov-2022 12:34**
Client ID: **LH18/24-SP140_110122** Run ID: **ICPMS07_421548** SeqNo: **6974281** PrepDate: **09-Nov-2022** 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					-0.000269	0	10	U
Silver	0.00250	0.0250					-0.000032	0	10	U

The following samples were analyzed in this batch: HS22110108-01

ALS Houston, US Date: 10-Nov-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS22110108

QC BATCH REPORT

Batch ID: R421093 (0) **Instrument: UV-2450** **Method: HEXAVALENT CHROMIUM BY SW7196A**

MBLK Sample ID: **MBLK-R421093** Units: **mg/L** Analysis Date: **02-Nov-2022 09:19**
Client ID: Run ID: **UV-2450_421093** SeqNo: **6964947** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.00600	0.0100								U

LCS Sample ID: **LCS-R421093** Units: **mg/L** Analysis Date: **02-Nov-2022 09:19**
Client ID: Run ID: **UV-2450_421093** SeqNo: **6964946** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.243	0.0100	0.25	0	97.2	90 - 111				

MS Sample ID: **HS22110094-01MS** Units: **mg/L** Analysis Date: **02-Nov-2022 09:19**
Client ID: Run ID: **UV-2450_421093** SeqNo: **6964952** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.237	0.0100	0.25	0	94.8	90 - 111				

MSD Sample ID: **HS22110094-01MSD** Units: **mg/L** Analysis Date: **02-Nov-2022 09:19**
Client ID: Run ID: **UV-2450_421093** SeqNo: **6964951** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.237	0.0100	0.25	0	94.8	90 - 111	0.237	0	20	

The following samples were analyzed in this batch: HS22110108-01

ALS Houston, US Date: 10-Nov-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: **HS22110108**

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	22-041-0	27-Mar-2023
California	2919 2022-2023	30-Apr-2023
Dept of Defense	L21-682	31-Dec-2023
Florida	E87611-36	30-Jun-2023
Illinois	2000322022-9	09-May-2023
Kansas	E-10352; 2022-2023	31-Jul-2023
Kentucky	123043, 2022-2023	30-Apr-2023
Louisiana	03087, 2022-2023	30-Jun-2023
Maryland	343, 2022-2023	30-Jun-2023
North Carolina	624-2022	31-Dec-2022
North Dakota	R-193 2022-2023	30-Apr-2023
Oklahoma	2022-141	31-Aug-2023
Texas	T104704231-22-29	30-Apr-2023
Utah	TX026932022-13	31-Jul-2023

ALS Houston, US Date: 10-Nov-22

Sample Receipt Checklist

Work Order ID: HS22110108 **Date/Time Received:** 02-Nov-2022 09:35

Client Name: Bhate Environmental **Received by:** Corey Grandits

Completed By: /S/ Corey Grandits (eSignature) 02-Nov-2022 10:59 (Date/Time) **Reviewed by:** /S/ Ragen Giga (eSignature) 08-Nov-2022 13:00 (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 ☐	COC IDs:Client
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):	1.8UC/1.3C	IR31
Cooler(s)/Kit(s):	48897	
Date/Time sample(s) sent to storage:	11/2/2022 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 (281) 530-5656 ATTN: Ragen Gigi

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

HS22110108

Bhate Environmental Associates, Inc.
ughorn GW Treatment Plant Monthly Influent Sample

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	SILVER & SELENIUM	HEXAVALENT CHROMIUM	PERCHLORATE	Remarks (Preservatives, etc.)	Lab I.D.#
LH18/24-SP140_110122	Water	11/01/22 / 14:00		1	X			HNO3	
LH18/24-SP140_110122	Water	11/01/22 / 14:00		2		X	X	NONE	

Additional Remarks: **STANDARD TURN AROUND TIME**

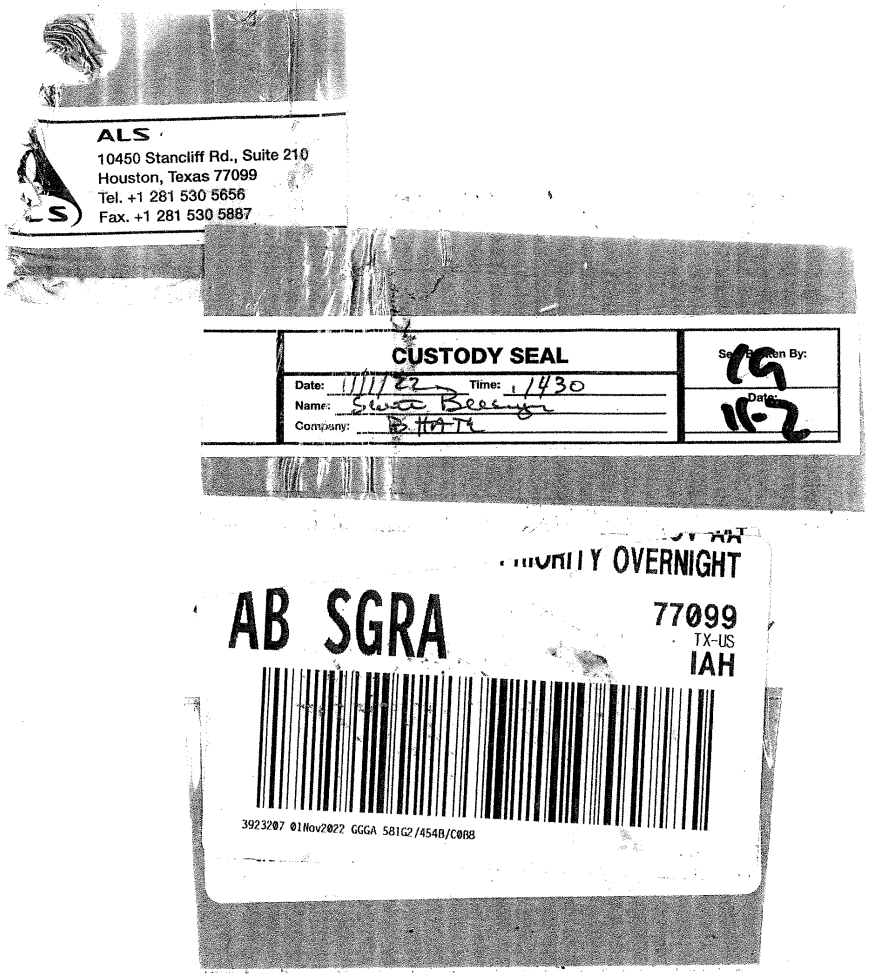
Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	11/01/22	14:30	[illegible]	11-2-22	0936						

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition

Remarks: 48847 1R1 CF=0.5 1.80

(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
CUSTODY SEAL
Date:
Time: 1430
Name:
Company:
Received By:
Date:
PRIORITY OVERNIGHT
AB SGRA
77099
TX-US
IAH
3923207 01Nov2022 GGGA 581G2/454B/C0B8

November 08, 2022 Service Request No:E2201058

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

Laboratory Results for: HS22110108

Dear Dane,

Enclosed are the results of the sample(s) submitted to our laboratory November 02, 2022
For your reference, these analyses have been assigned our service request number **E2201058.**

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 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.:**	E2201058
Project:	HS22110108	**Date Received:**	11/02/22
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 11/02/22.

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:

EQ2200510: 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:**E2201058
Project: HS22110108

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2201058-001	LH18/24-SP140_110122	11/1/2022	1400

Service Request Summary

Folder #: **E2201058**
Client Name: ALS Environmental - US
Project Name: HS22110108
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: JGUIN
Date Received: 11/02/22
Internal Due Date: 11/9/2022
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS22110108
EDD: BASIC_WQC_CASNo_LOD

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

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2201058-001	LH18/24-SP140_110122	Water	11/01/22 1400	IV

Service Request Summary

Folder #:	**E2201058**
Client Name:	ALS Environmental - US
Project Name:	HS22110108
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:	JGUIN
Date Received:	11/02/22
Internal Due Date:	11/9/2022
QAP:	LAB QAP
Qualifier Set:	Lab Standard
Formset:	Lab Standard
Merged?:	Y
Report to MDL?:	Y
P.O. Number:	HS22110108
EDD:	BASIC_WQC_CASNo_LOD

1 120 mL-Plastic Bottle Natural WM Unpreserved

Location: EHRMS-AirArch 1

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	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	12/31/2022
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	2228443	12/31/2022
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 Health	C819-2022	11/14/2022

ALS

Chain of Custody

ALS Environmental - Houston HRMS
10450 Stancliff Rd, Suite 210, Houston TX 77099
Phone (713)266-1599 Fax (713)266-0130
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:** **20237**

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:	HS22110108
TSR:	Houston House Acct

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS22110108-01**	**LH18/24-SP140_110122**	**Water**	**01 Nov 2022 14:00**
	6850-Perch. DOD Level II & Level IV in separate pdf			09 Nov 2022

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

QC Level: DOD IV (DoD Data Package)

Relinquished By: CG Date/Time: 11/2/22 1900

Received By: Date/Time: 11/2/22 2000

Cooler ID(s): Temperature(s):

10450 Stancliff Rd, Ste 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

Sample Receipt Checklist

Work Order ID: HS22110108 **Date/Time received:** 02 Nov 2022 09:35

Client name: Bhate Environmental Associates, Inc. **Received by:** Corey Grandits

Completed/By: 02 Nov 2022 10:59 (Date/Time) Corey Grandits (eSignature) **Reviewed/By:** (Date/Time) (eSignature)

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	COC ID(s):
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): 1.8UC/1.3C IR31

Cooler Information: 1 Cooler(s), 48897

Date/Time sample(s) sent to storage: 11/2/2022

Water - VOA vials have zero headspace?	☐ Yes	☐ No	☑ No VOA vials submitted
Water - pH acceptable upon receipt?	☑ Yes	☐ No	☐ Not Applicable
pH adjusted?	☐ Yes	☑ No	☐ Not Applicable

pH adjusted by:

Login notes:

Client contacted: **Date contacted:** **Person contacted:**

Contacted by: **Regarding:**

Comments:

Corrective action:

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

Preparation Information Benchsheet

Prep Run#: 409515 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/XMI **Prep Method:** Method **Prep Date/Time:** 11/7/22 08:27

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2201058-001	LH18/24-SP140_110122	.01	6850/ClO4 DOD			Water	10mL	
2	E2201059-001	LH18/24-SP650_110122_AIX	.01	6850/ClO4 DOD			Water	10mL	
3	E2201060-001	LH18/24-SP650_110122_AIX	.01	6850/ClO4 DOD			Water	10mL	
4	E2201060-002	LH18/24-SP650_110122_BIX	.01	6850/ClO4 DOD			Water	10mL	
5	E2201088-001	43MW05	.01	6850/ClO4 DOD			Water	10mL	
6	E2201088-002	43MW03	.01	6850/ClO4 DOD			Water	10mL	
7	E2201088-003	43MW03-Dup	.01	6850/ClO4 DOD			Water	10mL	
8	E2201088-004	43MW04	.01	6850/ClO4 DOD			Water	10mL	
9	E2201088-005	43MW06	.01	6850/ClO4 DOD			Water	10mL	
10	E2201088-006	43MW01	.01	6850/ClO4 DOD			Water	10mL	
11	E2201088-007	EB102722	.01	6850/ClO4 DOD			Water	10mL	
12	EQ2200510-01	MB		6850/ClO4 DOD			Liquid	10mL	
13	EQ2200510-02	LCS		6850/ClO4 DOD			Liquid	10mL	
14	EQ2200510-03	DLCS		6850/ClO4 DOD			Liquid	10mL	
15	EQ2200510-04	43MW01 MS	.01	6850/ClO4 DOD			Liquid	10mL	
16	EQ2200510-05	43MW01 DMS	.01	6850/ClO4 DOD			Liquid	10mL	

Spiking Solutions

Name: Perchlorate Intermediate Stock1 Inventory ID 225386 Logbook Ref: Perchlorate (1st Source) Expires On: 01/31/2023

EQ2200510-02 1.00µL EQ2200510-03 1.00µL EQ2200510-04 1.00µL EQ2200510-05 1.00µL

Name: Perchlorate Internal Standard 1ug/mL Inventory ID 225719 Logbook Ref: Perchlorate Internal Standard Expires On: 01/31/2023

E2201058-001 100.00µL E2201059-001 100.00µL E2201060-001 100.00µL E2201060-002 100.00µL E2201088-001 100.00µL E2201088-002 100.00µL
E2201088-003 100.00µL E2201088-004 100.00µL E2201088-005 100.00µL E2201088-006 100.00µL E2201088-007 100.00µL EQ2200510-01 100.00µL
EQ2200510-02 100.00µL EQ2200510-03 100.00µL EQ2200510-04 100.00µL EQ2200510-05 100.00µL

Preparation Materials

Water HPLC Grade 10/24/2022 Water (225656) 6850 Amber Glass screw vial 2mL Screw Top Vial (221308) 6850 0.45um syringe filters 6850 Syringe Filters (224414)
6850 Luer-Lok Syringes Luer-Lok Syringes (221305) 6850 Pipette Tips 50-1000 uL 6850 Pipette Tips (221307)

Preparation Information Benchsheet

Prep Run#: 409515
Team: Semivoa GCMS/XMI

Prep WorkFlow: GenExt28Day
Prep Method: Method

Status: Prepped
Prep Date/Time: 11/7/22 08:27

Preparation Steps

Step: Preparation
Started: 11/7/22 08:27
Finished: 11/7/22 11:40
By: XMI
Comments

Comments: _____

Reviewed By: GR Date: 11/07/22

Chain of Custody

Relinquished By: _____ Date: _____

Received By: _____ Date: _____

Extracts Examined
Yes No

Analytical Results

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Phone (713)266-1599 Fax (713)266-0130
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ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2201058
Project:	HS22110108	**Date Collected:**	11/ 1/22 1400
Sample Matrix:	Water	**Date Received:**	11/ 2/22
Sample Name:	LH18/24-SP140_110122	**Units:**	µg/L
Lab Code:	E2201058-001	**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	**29600**		100	50.0	25.0	1000	11/ 7/22	11/8/22 10:19	409515	784376	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2201058
Project:	HS22110108	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2200510-01	**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	11/ 7/22	11/7/22 17:31	409515	784373	

Accuracy & Precision

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ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS22110108
Sample Matrix: Water

Service Request: E2201058
Date Analyzed: 11/ 7/22

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: 409515

	Lab Control Sample EQ2200510-02			Duplicate Lab Control Sample EQ2200510-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.113	0.100	113	0.105	0.100	105	84 - 119	8	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:**	E2201058
Project:	HS22110108	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2200510-02	**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	**0.113**		0.100	0.0500	0.0250	1	11/ 7/22	11/7/22 17:39	409515	784373	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2201058
Project:	HS22110108	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2200510-03	**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	**0.105**		0.100	0.0500	0.0250	1	11/ 7/22	11/7/22 17:47	409515	784373	

HS22110108 - ME - ICP_W_DOD

ALS WO# HS22110108

ALS Houston, US

Date: 16-Nov-22

FORM 13 - ANALYSIS RUN LOG

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS22110108
Start Date: 10-Nov-2022 End Date: 10-Nov-2022

Run ID:ICPMS07_421548
Instrument:ICPMS07
Method:

Sample No.	D/F	Time	FileID	Analytes
ICPMS07_421548_Tune	1	10-Nov-2022 00:00	ICPMS07_421548_Tune_1	
CAL BLK	1	10-Nov-2022 11:39	009CALB.d_6974159	AG SE
2/10/200	1	10-Nov-2022 11:41	010CALS.d_6974160	AG SE
5/25/500	1	10-Nov-2022 11:43	011CALS.d_6974161	AG SE
10/50/100	1	10-Nov-2022 11:45	012CALS.d_6974162	AG SE
100/500/10K	1	10-Nov-2022 11:47	013CALS.d_6974163	AG SE
200/1000/20K	1	10-Nov-2022 11:48	014CALS.d_6974164	AG SE
ICV	1	10-Nov-2022 12:01	016_ICV.d_6974166	AG SE
LLICV2	1	10-Nov-2022 12:03	017LCV2.d_6974167	AG SE
LLICV5	1	10-Nov-2022 12:05	018LCV5.d_6974168	AG SE
ICB	1	10-Nov-2022 12:07	019_ICB.d_6974169	AG SE
ICSA	1	10-Nov-2022 12:13	020ICSA.d_6974170	AG SE
ICSAB	1	10-Nov-2022 12:15	021ICSB.d_6974171	AG SE
CCV 1	1	10-Nov-2022 12:21	023_CCV.d_6974276	AG SE
CCB 1	1	10-Nov-2022 12:23	024_CCB.d_6974277	AG SE
MBLK-185976	1	10-Nov-2022 12:28	025SMPL.d_6974278	AG SE
LCS-185976	1	10-Nov-2022 12:30	026SMPL.d_6974279	AG SE
LH18/24-SP140_110122	1	10-Nov-2022 12:32	027SMPL.d_6974280	AG SE
LH18/24-SP140_110122SD	5	10-Nov-2022 12:34	028SMPL.d_6974281	AG SE
LH18/24-SP140_110122MS	1	10-Nov-2022 12:36	029SMPL.d_6974282	AG SE
LH18/24-SP140_110122MSD	1	10-Nov-2022 12:38	030SMPL.d_6974283	AG SE
LH18/24-SP140_110122PDS	1	10-Nov-2022 12:40	031SMPL.d_6974284	SE
CCV 2	1	10-Nov-2022 12:47	035_CCV.d_6974286	AG SE
CCB 2	1	10-Nov-2022 12:49	036_CCB.d_6974287	AG SE
CCV 3	1	10-Nov-2022 15:48	095_CCV.d_6975202	AG SE
CCB 3	1	10-Nov-2022 15:49	096_CCB.d_6975203	AG SE
CCV 4	1	10-Nov-2022 16:32	107_CCV.d_6975214	AG SE
CCB 4	1	10-Nov-2022 16:34	108_CCB.d_6975215	AG SE
CCV 5	1	10-Nov-2022 17:04	121_CCV.d_6975410	AG SE
CCB 5	1	10-Nov-2022 17:06	122_CCB.d_6975411	AG SE

ALS Houston, US

Date: 16-Nov-22

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS22110108

Run ID: ICPMS07_421548
Instrument: ICPMS07
Method: SW6020A

ICV	Date: 10-Nov-2022 12:01		Seq: 6974166	ICV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	97.343	97	90-110	
Silver	100	99.464	100	90-110	

CCV1	Date: 10-Nov-2022 12:21		Seq: 6974276	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	99.089	99	90-110	
Silver	100	97.693	98	90-110	

CCV2	Date: 10-Nov-2022 12:47		Seq: 6974286	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	99.383	99	90-110	
Silver	100	98.741	99	90-110	

CCV3	Date: 10-Nov-2022 15:48		Seq: 6975202	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	98.295	98	90-110	
Silver	100	98.183	98	90-110	

CCV4	Date: 10-Nov-2022 16:32		Seq: 6975214	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	101.621	102	90-110	
Silver	100	98.671	99	90-110	

CCV5	Date: 10-Nov-2022 17:04		Seq: 6975410	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	99.658	100	90-110	
Silver	100	99.11	99	90-110	

ALS Houston, US

Date: 16-Nov-22

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS22110108

Run ID: ICPMS07_421548
Instrument: ICPMS07
Method: SW6020A

ICB	Date: 10-Nov-2022 12:07		Seq: 6974169	ICB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	5	1.1	5	U	
Silver	5	0.2	5	U	

CCB1	Date: 10-Nov-2022 12:23		Seq: 6974277	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

MBLK-185976	Date: 10-Nov-2022 12:28		Seq: 6974278	MBLK	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	5	1.1	5	U	
Silver	5	0.2	5	U	

CCB2	Date: 10-Nov-2022 12:49		Seq: 6974287	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB3	Date: 10-Nov-2022 15:49		Seq: 6975203	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB4	Date: 10-Nov-2022 16:34		Seq: 6975215	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB5	Date: 10-Nov-2022 17:06		Seq: 6975411	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: 16-Nov-22

Form 4 - ICP Interference Check Sample

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS22110108

Run ID: ICPMS07_421548
Instrument: ICPMS07
Method: SW6020A

ICSA	Date: 10-Nov-2022 12:13	Seq: 6974170	ICSA	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Selenium		-0.039	0	
Silver		0.133	0	

ICSAB	Date: 10-Nov-2022 12:15	Seq: 6974171	ICSAB	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Selenium	100	102.2	102	
Silver	100	100.2	100	

ALS Houston, US

Date: 16-Nov-22

Form 5A - Matrix Spike/Matrix Spike Duplicate Recovery

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS22110108

Date Analyzed: 10-Nov-2022 12:38
Date Extracted: 09-Nov-2022 12:30
Units: ug/L

Matrix Spike: HS22110108-01MS
Client Sample ID: LH18/24-SP140_110122

Analysis Method: SW6020A

Analyte	Sample Result	MS Result	Spike Amount	% Rec	MSD Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Selenium	5.000	50.87	50.00	102	51.17	50.00	103	80-120	0.606	20
Silver	5.000	49.64	50.00	99.4	47.51	50.00	95.1	85-116	4.40	20

ALS Houston, US

Date: 16-Nov-22

Form 5B - Post Digest Sample Recovery

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS22110108

Date Analyzed: 10-Nov-2022 12:40
Date Extracted: 09-Nov-2022 12:30
Units: ug/L

Lab Sample ID: HS22110108-01PDS
Client Sample ID: LH18/24-SP140_110122

Analysis Method: SW6020A

Analyte	Sample Result	PDS Result	Spike Amount	% Rec	% Rec Limits
Selenium	0	116.7	100	117	80-120

ALS Houston, US

Date: 16-Nov-22

Form 7 - Laboratory Control Sample

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS22110108

Date Analyzed: 10-Nov-2022 12:30
Date Extracted: 09-Nov-2022 12:30
Units: ug/L

Lab Sample ID: LCS-185976
Analysis Method: SW6020A

Analyte	Spike Amount	LCS Result	% Rec	% Rec Limits
Selenium	50	53.16	106	80-120
Silver	50	50.15	100	85-116

ALS Houston, US Date: 16-Nov-22

Form 8 - ICP Serial Dilutions

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS22110108

Date Analyzed: 10-Nov-2022 12:34
Date Extracted: 09-Nov-2022 12:30
Units: ug/L

Lab Sample ID: HS22110108-01SD
Client Sample ID:LH18/24-SP140_110122

Analysis Method: SW6020A

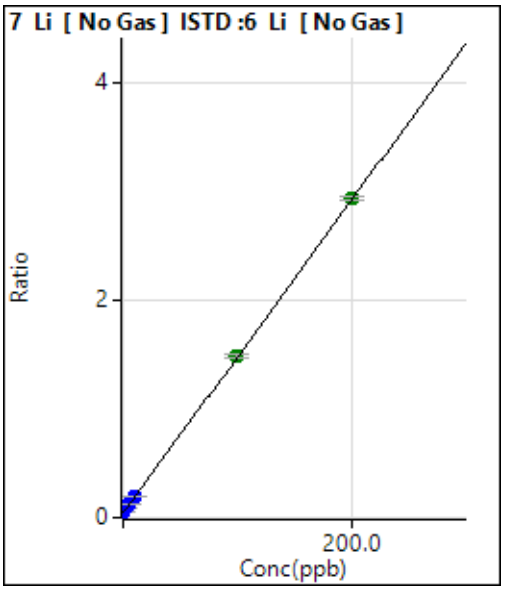
Analyte	Sample Result	C	SD Result	C	RPD	Q
Selenium	0	U	0	U	0	
Silver	0	U	0	U	0	

Calibration for 172_ICV.d

Batch Folder: D:\Agilent\ICPMH\1\DATA\111022A.b\
Analysis File: 111022A.batch.bin
DA Date-Time: 11/10/2022 22:40:38
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	163CALB.d	CAL BLK	11/10/2022 19:44:10
2	164CALS.d	2/10/200	11/10/2022 19:46:04
3	165CALS.d	5/25/500	11/10/2022 19:47:58
4	166CALS.d	10/50/100	11/10/2022 19:49:51
5	167CALS.d	100/500/10K	11/10/2022 19:51:44
6	168CALS.d	200/1000/20K	11/10/2022 19:53:33

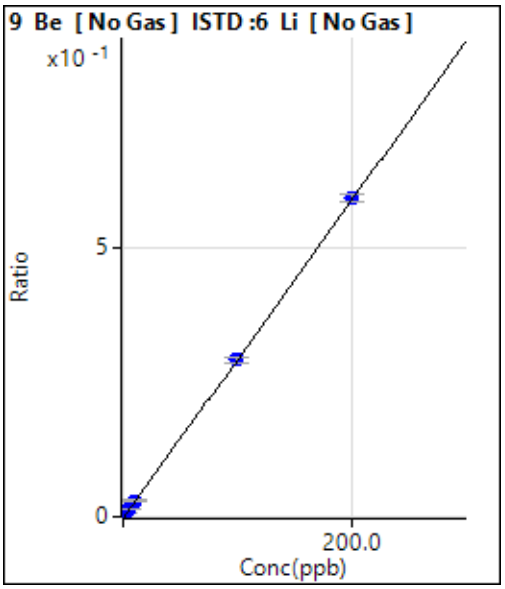
Calibration for 172_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	37952.69	0.0564	P	0.3	
2	☐	2.000	2.002	57441.58	0.0852	P	2.2	0.1
3	☐	5.000	4.723	85816.11	0.1245	P	4.3	-5.5
4	☐	10.000	9.567	133847.65	0.1944	P	2.4	-4.3
5	☐	100.000	99.890	1030211.24	1.4981	A	2.4	-0.1
6	☐	200.000	200.083	1907822.58	2.9441	A	1.2	0.0

y = 0.0144 * x + 0.0564
R = 1.0000
DL = 0.03314 ppb
BEC = 3.904 ppb

Weight: <None>
Min Conc: <None>

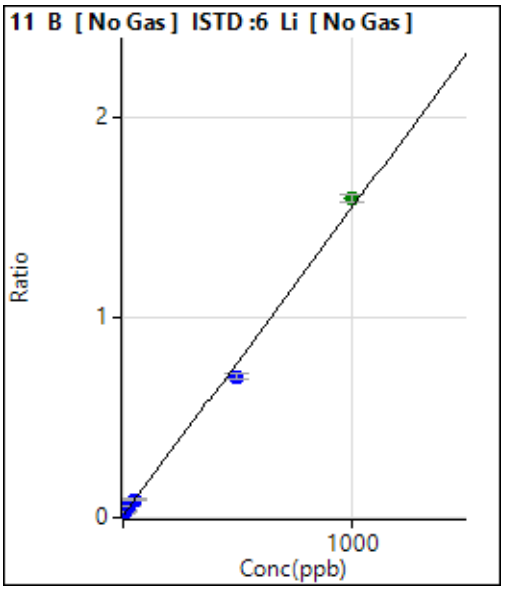


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	0.00	0.0000	P		
2	☐	2.000	2.080	4145.64	0.0062	P	6.8	4.0
3	☐	5.000	5.116	10435.60	0.0151	P	3.2	2.3
4	☐	10.000	10.083	20528.39	0.0298	P	5.0	0.8
5	☐	100.000	99.016	201410.68	0.2930	P	3.7	-1.0
6	☐	200.000	200.484	384337.06	0.5932	P	2.0	0.2

y = 0.0030 * x + 0.0000E+000
R = 1.0000
DL = 0 ppb
BEC = 0 ppb

Weight: <None>
Min Conc: <None>

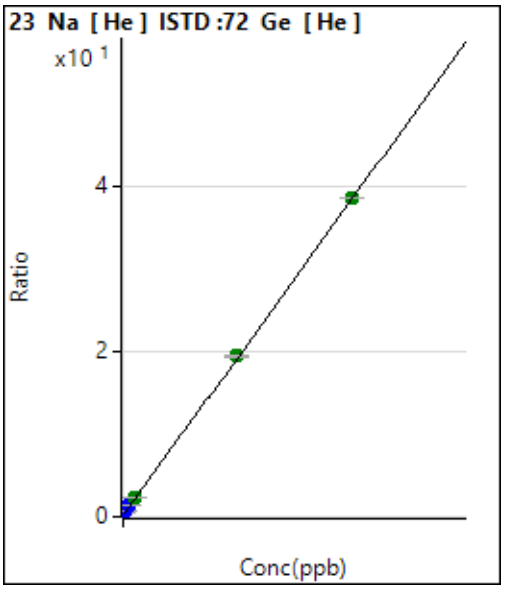
Calibration for 172_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	12847.61	0.0191	P	2.4	
2	☐	10.000	9.199	22356.17	0.0332	P	2.6	-8.0
3	☐	25.000	23.015	37484.92	0.0544	P	2.9	-7.9
4	☐	50.000	46.822	62533.41	0.0909	P	4.2	-6.4
5	☐	500.000	446.830	484288.48	0.7042	P	3.5	-10.6
6	☐	1000.000	1026.801	1032846.91	1.5934	A	2.3	2.7

y = 0.0015 * x + 0.0191
R = 0.9981
DL = 0.9024 ppb
BEC = 12.44 ppb

Weight: <None>
Min Conc: <None>

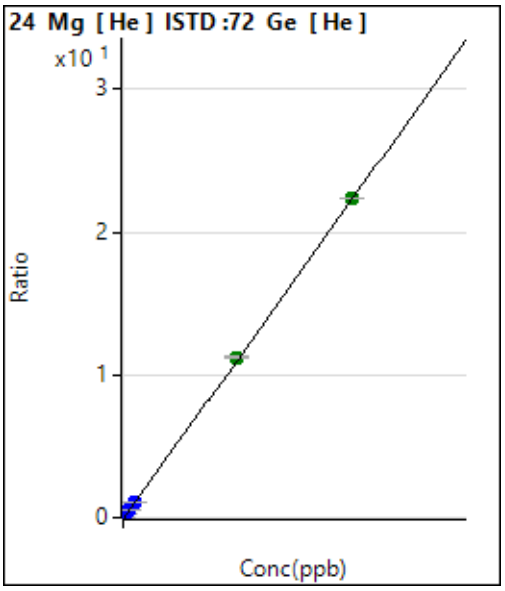


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	150208.34	0.3703	P	0.9	
2	☐	200.000	204.851	307636.71	0.7613	P	1.1	2.4
3	☐	500.000	501.942	536416.58	1.3283	P	1.7	0.4
4	☐	1000.000	1054.769	956869.26	2.3833	A	1.1	5.5
5	☐	10000.00	9991.859	7603121.97	19.4394	A	0.9	-0.1
6	☐	20000.00	20001.23	14448603.1	38.5420	A	0.4	0.0

y = 0.0019 * x + 0.3703
R = 1.0000
DL = 5.302 ppb
BEC = 194.1 ppb

Weight: <None>
Min Conc: <None>

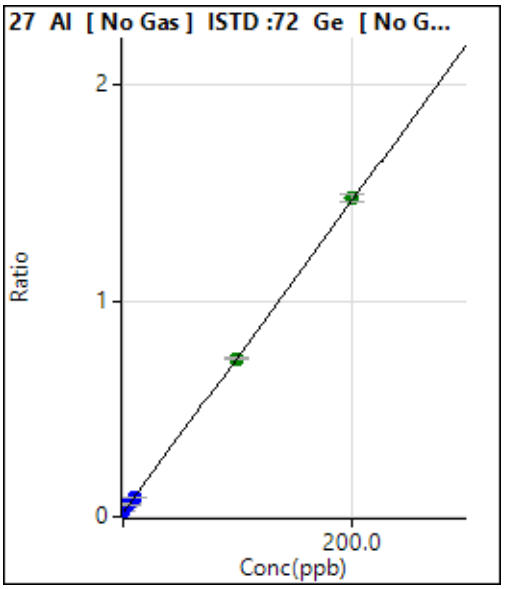
Calibration for 172_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	920.05	0.0023	P	7.4	
2	☐	200.000	195.872	89432.28	0.2213	P	1.9	-2.1
3	☐	500.000	491.432	222869.29	0.5519	P	1.0	-1.7
4	☐	1000.000	972.825	437706.96	1.0902	P	0.6	-2.7
5	☐	10000.00	10005.65	4377384.73	11.1919	A	1.2	0.1
6	☐	20000.00	19998.78	8385264.67	22.3675	A	0.4	0.0

y = 0.0011 * x + 0.0023
R = 1.0000
DL = 0.448 ppb
BEC = 2.029 ppb

Weight: <None>
Min Conc: <None>

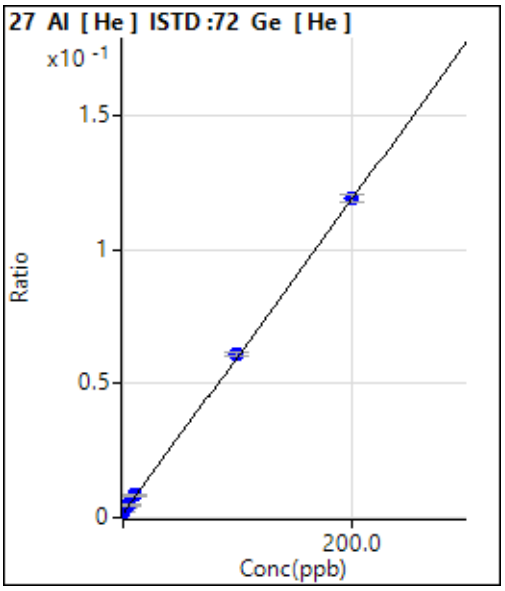


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	34623.52	0.0264	P	3.0	
2	☐	2.000	2.113	54593.93	0.0416	P	3.6	5.6
3	☐	5.000	4.437	75919.88	0.0584	P	2.2	-11.3
4	☐	10.000	8.980	118867.64	0.0912	P	0.9	-10.2
5	☐	100.000	97.959	922663.92	0.7335	A	2.0	-2.0
6	☐	200.000	201.084	1740496.64	1.4779	A	2.2	0.5

y = 0.0072 * x + 0.0264
R = 0.9999
DL = 0.3235 ppb
BEC = 3.654 ppb

Weight: <None>
Min Conc: <None>

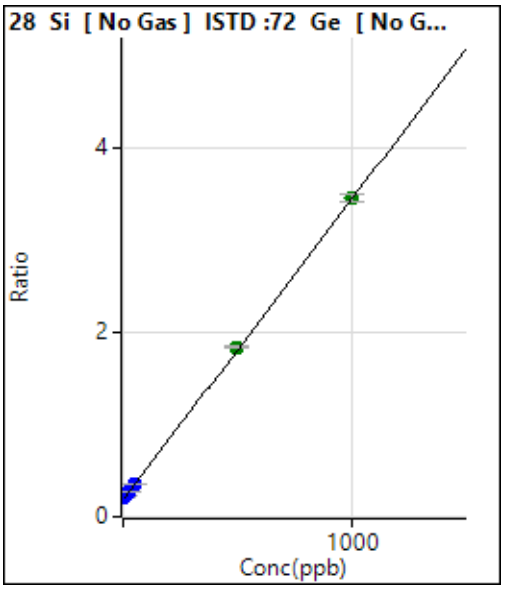
Calibration for 172_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	900.04	0.0022	P	5.7	
2	☐	2.000	2.420	1470.10	0.0036	P	3.3	21.0
3	☐	5.000	4.420	1943.50	0.0048	P	12.7	-11.6
4	☐	10.000	10.476	3357.13	0.0084	P	6.8	4.8
5	☐	100.000	100.346	23870.79	0.0610	P	2.5	0.3
6	☐	200.000	199.813	44735.54	0.1193	P	2.0	-0.1

y = 5.8614E-004 * x + 0.0022
R = 1.0000
DL = 0.6432 ppb
BEC = 3.787 ppb

Weight: <None>
Min Conc: <None>

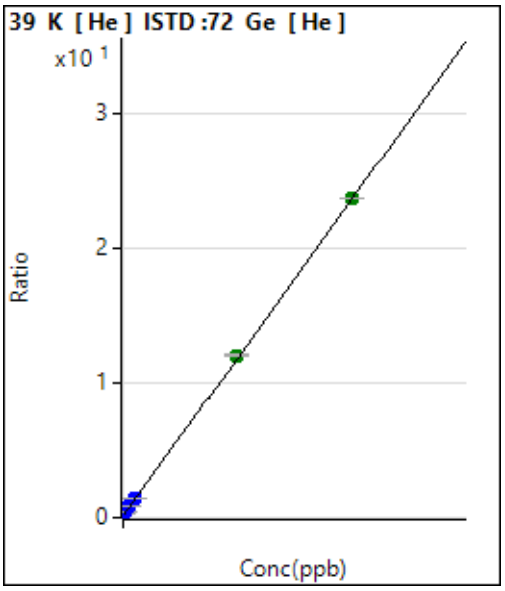


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	260545.58	0.1985	P	0.5	
2	☐	10.000	8.826	298114.72	0.2273	P	1.5	-11.7
3	☐	25.000	24.156	360524.07	0.2773	P	1.2	-3.4
4	☐	50.000	47.007	458637.52	0.3519	P	0.6	-6.0
5	☐	500.000	502.575	2313244.13	1.8388	A	0.8	0.5
6	☐	1000.000	998.895	4072954.52	3.4587	A	2.3	-0.1

y = 0.0033 * x + 0.1985
R = 1.0000
DL = 0.9569 ppb
BEC = 60.81 ppb

Weight: <None>
Min Conc: <None>

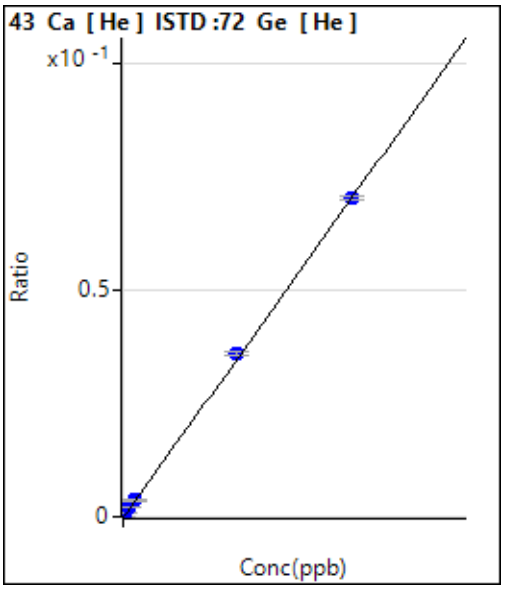
Calibration for 172_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	100309.26	0.2473	P	1.9	
2	☐	200.000	201.446	195738.69	0.4844	P	0.8	0.7
3	☐	500.000	503.109	338986.26	0.8394	P	0.8	0.6
4	☐	1000.000	991.495	567723.14	1.4141	P	1.1	-0.9
5	☐	10000.00	10042.03	4718401.81	12.0642	A	1.5	0.4
6	☐	20000.00	19979.31	8906252.16	23.7577	A	0.2	-0.1

y = 0.0012 * x + 0.2473
R = 1.0000
DL = 12.11 ppb
BEC = 210.2 ppb

Weight: <None>
Min Conc: <None>

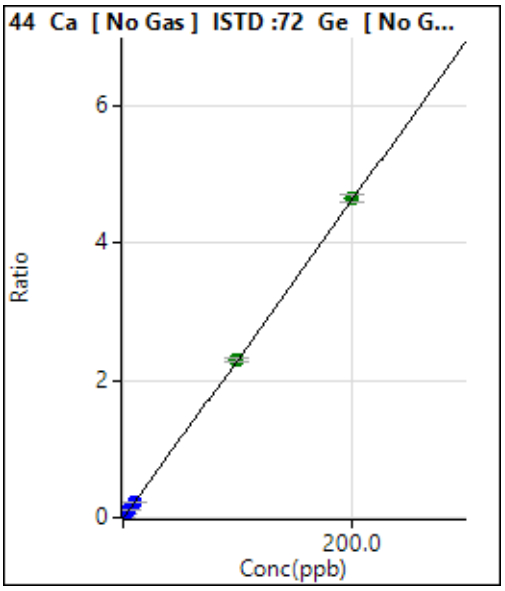


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	30.00	0.0001	P	32.9	
2	☐	200.000	210.551	330.01	0.0008	P	17.1	5.3
3	☐	500.000	547.434	810.04	0.0020	P	3.2	9.5
4	☐	1000.000	1023.691	1480.11	0.0037	P	8.2	2.4
5	☐	10000.00	10175.64	14070.78	0.0360	P	2.6	1.8
6	☐	20000.00	19909.70	26362.10	0.0703	P	1.4	-0.5

y = 3.5285E-006 * x + 7.3867E-005
R = 0.9999
DL = 20.64 ppb
BEC = 20.93 ppb

Weight: <None>
Min Conc: <None>

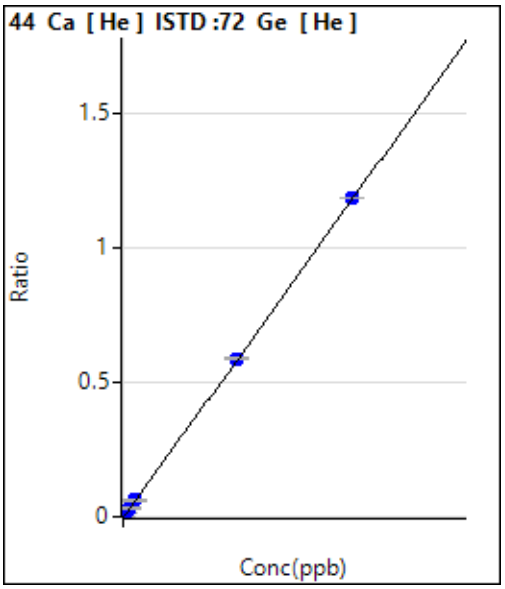
Calibration for 172_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	10514.19	0.0080	P	1.8	
2	☐	2.000	1.926	68959.02	0.0526	P	1.1	-3.7
3	☐	5.000	4.829	155658.55	0.1197	P	1.5	-3.4
4	☐	10.000	9.625	300668.23	0.2307	P	0.9	-3.8
5	☐	100.000	99.183	2896564.75	2.3028	A	2.4	-0.8
6	☐	200.000	200.432	5470594.09	4.6454	A	2.1	0.2

y = 0.0231 * x + 0.0080
R = 1.0000
DL = 0.01838 ppb
BEC = 0.3462 ppb

Weight: <None>
Min Conc: <None>

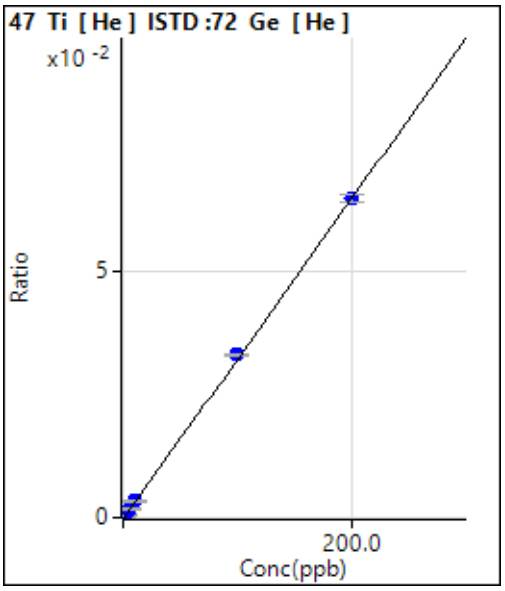


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	500.02	0.0012	P	22.5	
2	☐	200.000	203.419	5361.11	0.0133	P	1.3	1.7
3	☐	500.000	517.244	12852.84	0.0318	P	3.8	3.4
4	☐	1000.000	1007.913	24432.02	0.0609	P	1.7	0.8
5	☐	10000.00	9934.547	230313.29	0.5889	P	1.9	-0.7
6	☐	20000.00	20031.86	444673.40	1.1862	P	0.5	0.2

y = 5.9152E-005 * x + 0.0012
R = 1.0000
DL = 14.12 ppb
BEC = 20.87 ppb

Weight: <None>
Min Conc: <None>

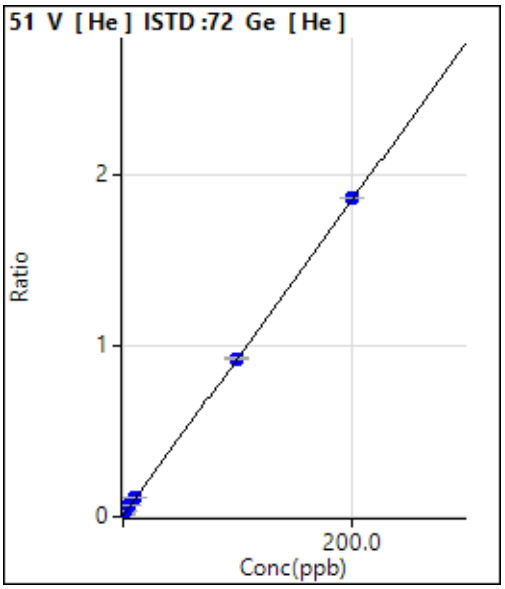
Calibration for 172_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	10.00	0.0000	P	0.9	
2	☐	2.000	1.976	270.01	0.0007	P	26.0	-1.2
3	☐	5.000	4.970	663.37	0.0016	P	15.0	-0.6
4	☐	10.000	10.223	1346.75	0.0034	P	12.0	2.2
5	☐	100.000	101.677	12962.99	0.0331	P	1.4	1.7
6	☐	200.000	199.151	24328.57	0.0649	P	2.6	-0.4

y = 3.2571E-004 * x + 2.4657E-005
R = 0.9999
DL = 0.001964 ppb
BEC = 0.0757 ppb

Weight: <None>
Min Conc: <None>

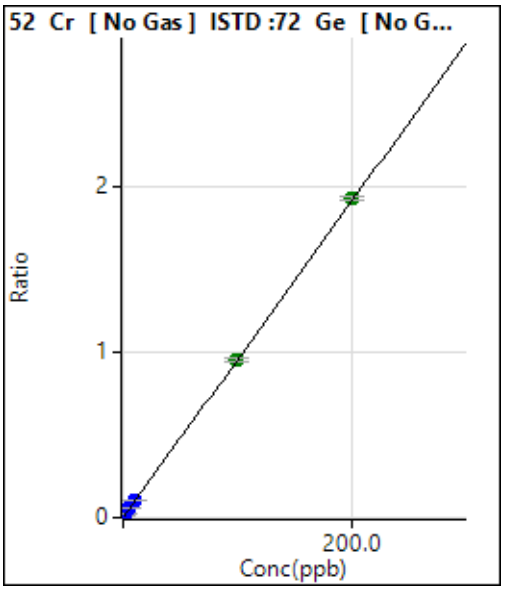


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	6833.96	0.0169	P	4.1	
2	☐	2.000	2.116	14709.05	0.0364	P	1.1	5.8
3	☐	5.000	5.099	25830.96	0.0640	P	0.7	2.0
4	☐	10.000	10.216	44660.21	0.1112	P	0.6	2.2
5	☐	100.000	98.730	363329.05	0.9289	P	0.8	-1.3
6	☐	200.000	200.620	701113.60	1.8702	P	0.2	0.3

y = 0.0092 * x + 0.0169
R = 1.0000
DL = 0.2257 ppb
BEC = 1.824 ppb

Weight: <None>
Min Conc: <None>

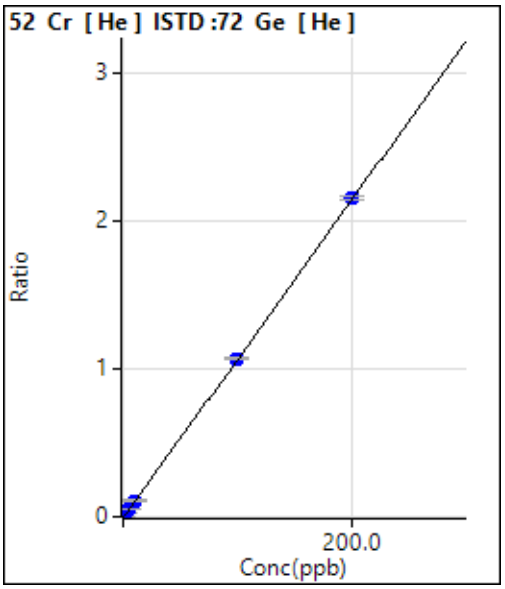
Calibration for 172_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	13717.08	0.0104	P	3.0	
2	☐	2.000	1.853	36983.65	0.0282	P	2.4	-7.4
3	☐	5.000	4.640	71355.39	0.0549	P	2.0	-7.2
4	☐	10.000	9.287	129565.00	0.0994	P	0.5	-7.1
5	☐	100.000	98.298	1197501.18	0.9520	A	2.6	-1.7
6	☐	200.000	200.897	2278624.76	1.9349	A	1.7	0.4

y = 0.0096 * x + 0.0104
R = 1.0000
DL = 0.09899 ppb
BEC = 1.091 ppb

Weight: <None>
Min Conc: <None>

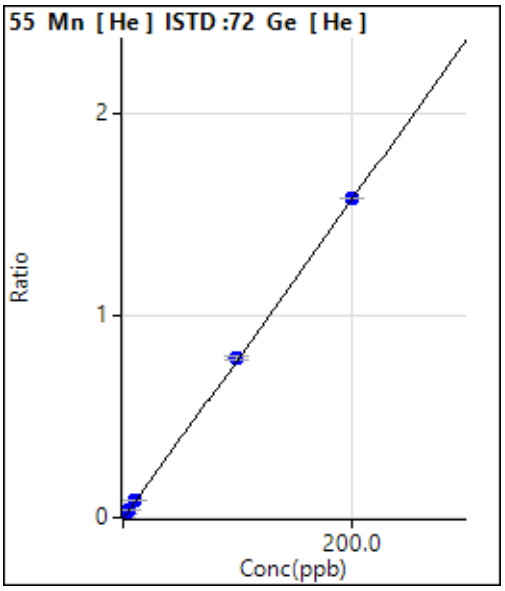


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	773.37	0.0019	P	6.1	
2	☐	2.000	1.972	9340.01	0.0231	P	4.5	-1.4
3	☐	5.000	5.082	22839.31	0.0566	P	1.1	1.6
4	☐	10.000	10.090	44325.42	0.1104	P	0.5	0.9
5	☐	100.000	99.292	418329.71	1.0696	P	1.2	-0.7
6	☐	200.000	200.348	808295.40	2.1562	P	0.9	0.2

y = 0.0108 * x + 0.0019
R = 1.0000
DL = 0.03235 ppb
BEC = 0.1773 ppb

Weight: <None>
Min Conc: <None>

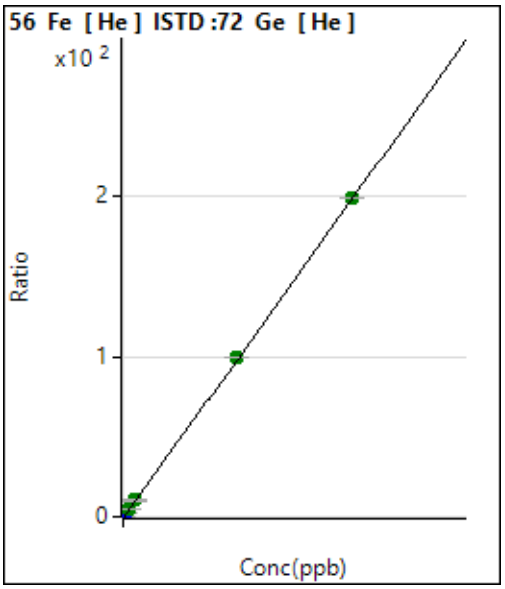
Calibration for 172_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	580.02	0.0014	P	5.4	
2	☐	2.000	2.109	7292.08	0.0180	P	0.8	5.5
3	☐	5.000	5.051	16643.64	0.0412	P	2.9	1.0
4	☐	10.000	10.142	32646.04	0.0813	P	1.0	1.4
5	☐	100.000	99.789	307964.44	0.7874	P	1.8	-0.2
6	☐	200.000	200.096	591368.65	1.5775	P	0.4	0.0

y = 0.0079 * x + 0.0014
R = 1.0000
DL = 0.02941 ppb
BEC = 0.1816 ppb

Weight: <None>
Min Conc: <None>

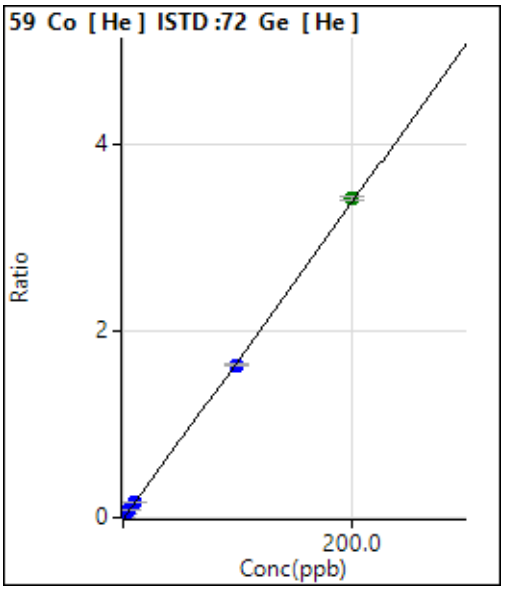


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	13199.92	0.0326	P	3.7	
2	☐	200.000	204.082	834806.86	2.0658	P	0.2	2.0
3	☐	500.000	532.991	2157750.59	5.3428	A	0.8	6.6
4	☐	1000.000	1024.707	4111879.94	10.2417	A	1.3	2.5
5	☐	10000.00	9985.138	38922363.5	99.5149	A	0.7	-0.1
6	☐	20000.00	20005.33	74730572.2	199.346	A	0.3	0.0

y = 0.0100 * x + 0.0326
R = 1.0000
DL = 0.3606 ppb
BEC = 3.267 ppb

Weight: <None>
Min Conc: <None>

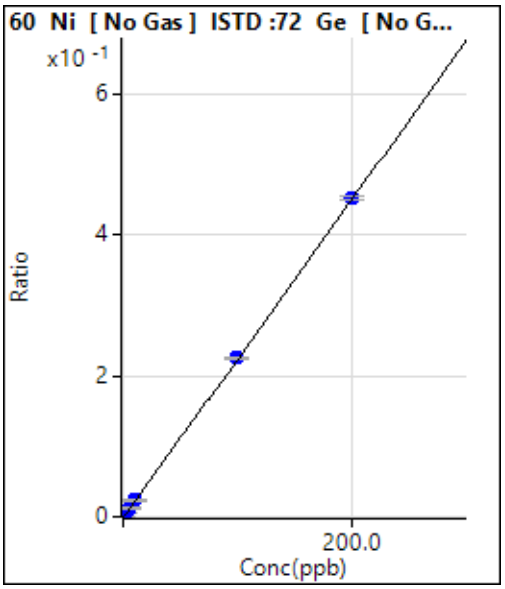
Calibration for 172_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	33.33	0.0001	P	75.3	
2	☐	2.000	2.002	13740.51	0.0340	P	6.4	0.1
3	☐	5.000	4.847	33204.15	0.0822	P	2.0	-3.1
4	☐	10.000	9.786	66602.52	0.1659	P	1.9	-2.1
5	☐	100.000	96.449	639243.25	1.6344	P	1.1	-3.6
6	☐	200.000	201.790	1281910.50	3.4193	A	1.3	0.9

y = 0.0169 * x + 8.1956E-005
R = 0.9998
DL = 0.01093 ppb
BEC = 0.004837 ppb

Weight: <None>
Min Conc: <None>

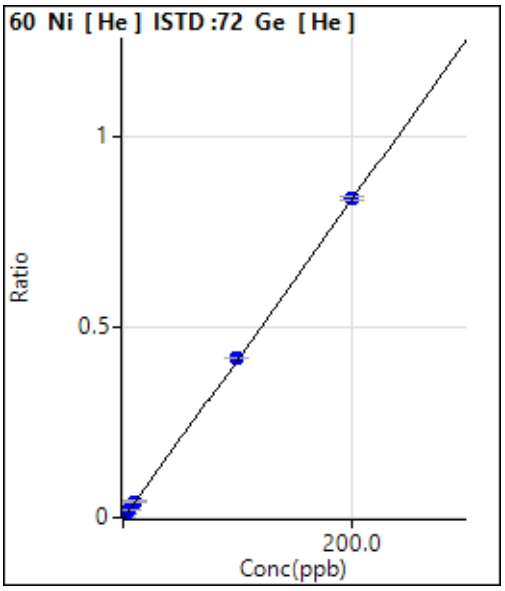


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	683.36	0.0005	P	13.8	
2	☐	2.000	2.009	6631.73	0.0051	P	2.3	0.4
3	☐	5.000	5.187	15899.47	0.0122	P	0.9	3.7
4	☐	10.000	10.053	30253.89	0.0232	P	0.4	0.5
5	☐	100.000	99.576	283403.34	0.2253	P	1.5	-0.4
6	☐	200.000	200.205	532834.04	0.4524	P	1.8	0.1

y = 0.0023 * x + 5.2058E-004
R = 1.0000
DL = 0.09582 ppb
BEC = 0.2306 ppb

Weight: <None>
Min Conc: <None>

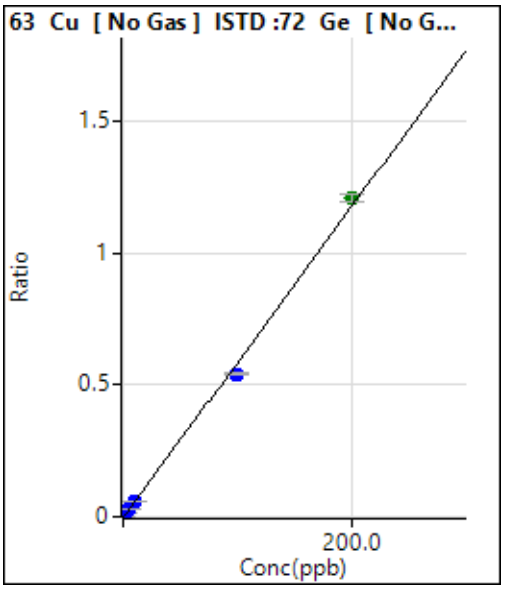
Calibration for 172_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	183.34	0.0005	P	28.2	
2	☐	2.000	2.085	3720.59	0.0092	P	5.6	4.3
3	☐	5.000	5.030	8709.59	0.0216	P	2.8	0.6
4	☐	10.000	10.081	17171.09	0.0428	P	2.6	0.8
5	☐	100.000	99.912	164210.08	0.4198	P	0.9	-0.1
6	☐	200.000	200.038	314943.29	0.8401	P	0.6	0.0

y = 0.0042 * x + 4.5271E-004
R = 1.0000
DL = 0.0913 ppb
BEC = 0.1078 ppb

Weight: <None>
Min Conc: <None>

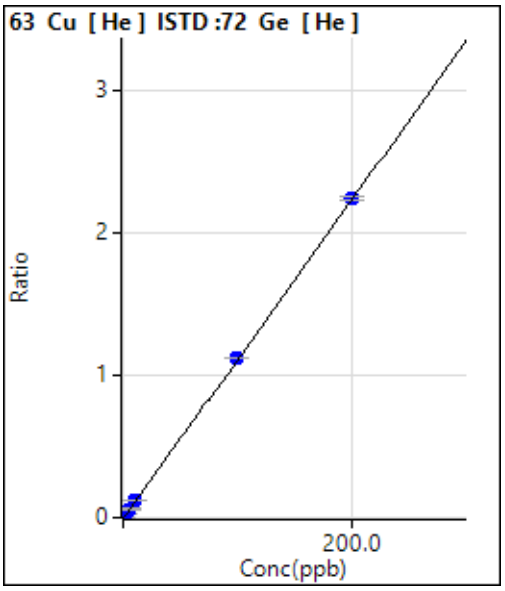


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	2890.36	0.0022	P	8.4	
2	☐	2.000	1.834	17117.70	0.0131	P	2.5	-8.3
3	☐	5.000	4.643	38564.95	0.0297	P	2.1	-7.1
4	☐	10.000	9.148	73384.55	0.0563	P	1.4	-8.5
5	☐	100.000	91.158	680989.63	0.5414	P	1.3	-8.8
6	☐	200.000	204.474	1426794.56	1.2116	A	1.9	2.2

y = 0.0059 * x + 0.0022
R = 0.9987
DL = 0.09429 ppb
BEC = 0.3722 ppb

Weight: <None>
Min Conc: <None>

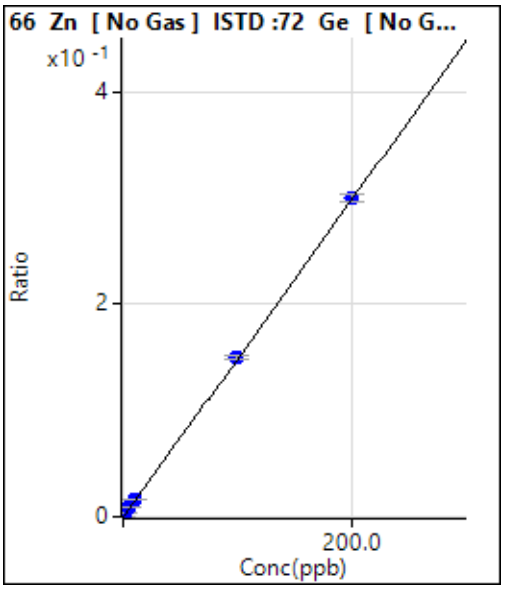
Calibration for 172_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1356.76	0.0033	P	4.5	
2	☐	2.000	2.127	10954.65	0.0271	P	3.0	6.4
3	☐	5.000	5.084	24288.69	0.0601	P	3.3	1.7
4	☐	10.000	10.161	46917.97	0.1169	P	2.7	1.6
5	☐	100.000	99.676	436876.88	1.1170	P	0.3	-0.3
6	☐	200.000	200.151	839531.50	2.2395	P	0.8	0.1

y = 0.0112 * x + 0.0033
R = 1.0000
DL = 0.04084 ppb
BEC = 0.2994 ppb

Weight: <None>
Min Conc: <None>

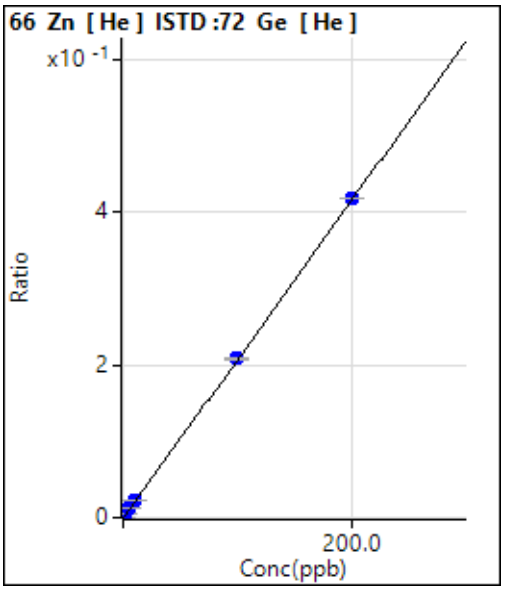


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1090.06	0.0008	P	6.8	
2	☐	2.000	2.061	5131.03	0.0039	P	2.6	3.0
3	☐	5.000	5.063	10917.90	0.0084	P	5.2	1.3
4	☐	10.000	10.005	20579.19	0.0158	P	1.1	0.0
5	☐	100.000	99.599	188370.34	0.1498	P	2.0	-0.4
6	☐	200.000	200.198	353488.15	0.3002	P	2.2	0.1

y = 0.0015 * x + 8.3022E-004
R = 1.0000
DL = 0.1132 ppb
BEC = 0.5552 ppb

Weight: <None>
Min Conc: <None>

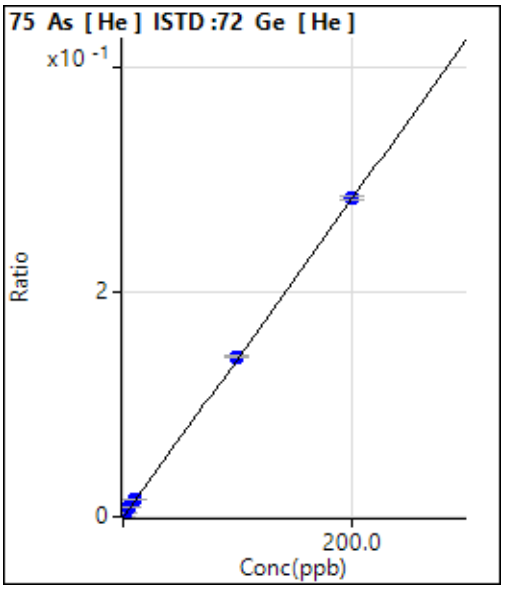
Calibration for 172_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	440.01	0.0011	P	17.3	
2	☐	2.000	1.935	2066.86	0.0051	P	4.8	-3.3
3	☐	5.000	5.106	4730.92	0.0117	P	5.0	2.1
4	☐	10.000	10.304	9049.85	0.0225	P	1.9	3.0
5	☐	100.000	99.433	81403.26	0.2081	P	0.6	-0.6
6	☐	200.000	200.266	156723.07	0.4181	P	0.4	0.1

y = 0.0021 * x + 0.0011
R = 1.0000
DL = 0.2706 ppb
BEC = 0.5216 ppb

Weight: <None>
Min Conc: <None>

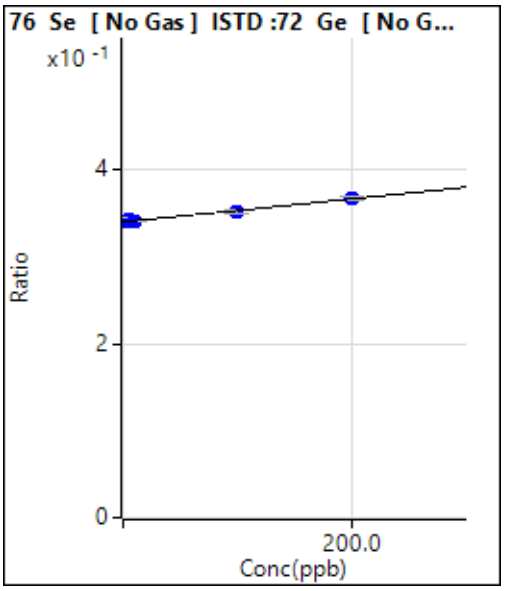


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	275.56	0.0007	P	8.8	
2	☐	2.000	2.044	1443.42	0.0036	P	8.4	2.2
3	☐	5.000	5.124	3203.72	0.0079	P	4.7	2.5
4	☐	10.000	10.060	5991.36	0.0149	P	1.1	0.6
5	☐	100.000	100.240	55774.54	0.1426	P	0.7	0.2
6	☐	200.000	199.873	106338.60	0.2837	P	0.6	-0.1

y = 0.0014 * x + 6.7924E-004
R = 1.0000
DL = 0.1262 ppb
BEC = 0.4797 ppb

Weight: <None>
Min Conc: <None>

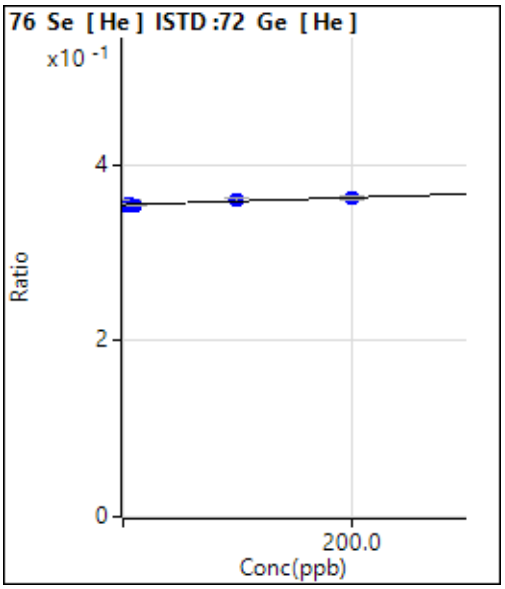
Calibration for 172_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	446084.46	0.3398	P	1.1	
2	☐	2.000	10.399	447574.68	0.3412	P	0.9	420.0
3	☐	5.000	19.727	445198.21	0.3425	P	1.3	294.5
4	☐	10.000	4.819	443734.35	0.3405	P	0.3	-51.8
5	☐	100.000	92.437	443026.11	0.3522	P	1.4	-7.6
6	☐	200.000	203.588	432259.80	0.3670	P	1.7	1.8

y = 1.3372E-004 * x + 0.3398
R = 0.9948
DL = 87.1 ppb
BEC = 2541 ppb

Weight: <None>
Min Conc: <None>

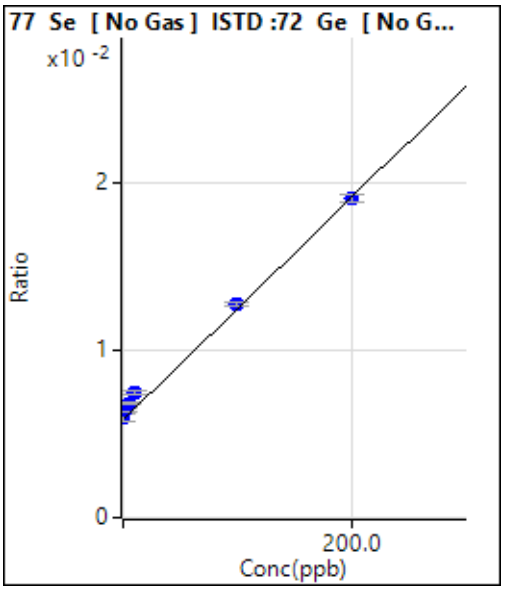


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	143713.00	0.3544	P	0.9	
2	☐	2.000	-40.427	142517.45	0.3527	P	0.9	-2121.
3	☐	5.000	37.267	143722.65	0.3559	P	1.9	645.3
4	☐	10.000	-11.849	142075.24	0.3539	P	0.8	-218.5
5	☐	100.000	125.714	140634.16	0.3596	P	1.2	25.7
6	☐	200.000	187.853	135747.49	0.3621	P	1.4	-6.1

y = 4.1346E-005 * x + 0.3544
R = 0.9473
DL = 220.4 ppb
BEC = 8570 ppb

Weight: <None>
Min Conc: <None>

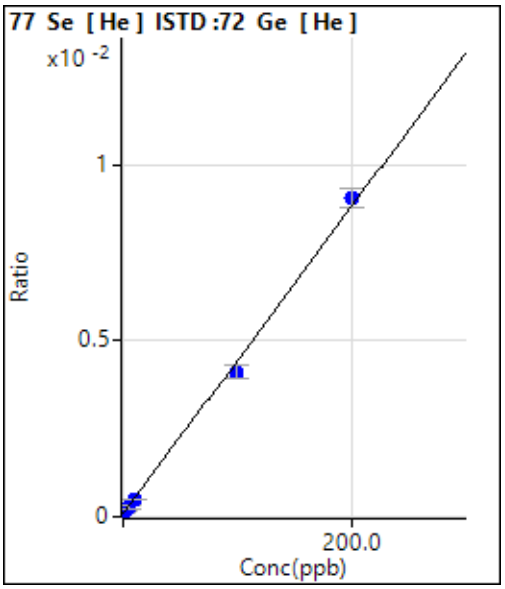
Calibration for 172_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	7809.04	0.0059	P	7.4	
2	☐	2.000	7.121	8422.83	0.0064	P	3.0	256.1
3	☐	5.000	13.083	8863.03	0.0068	P	1.0	161.7
4	☐	10.000	22.853	9730.32	0.0075	P	3.8	128.5
5	☐	100.000	102.582	16056.42	0.0128	P	2.6	2.6
6	☐	200.000	197.813	22485.66	0.0191	P	2.1	-1.1

y = 6.6459E-005 * x + 0.0059
R = 0.9985
DL = 19.84 ppb
BEC = 89.49 ppb

Weight: <None>
Min Conc: <None>

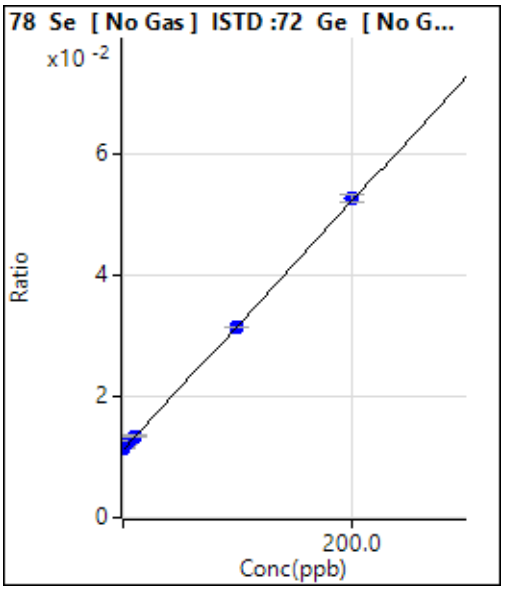


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	53.33	0.0001	P	29.5	
2	☐	2.000	1.335	76.67	0.0002	P	52.9	-33.3
3	☐	5.000	3.217	110.00	0.0003	P	32.1	-35.7
4	☐	10.000	8.209	196.67	0.0005	P	10.5	-17.9
5	☐	100.000	91.341	1610.12	0.0041	P	9.5	-8.7
6	☐	200.000	204.470	3393.81	0.0091	P	5.5	2.2

y = 4.3620E-005 * x + 1.3172E-004
R = 0.9988
DL = 2.676 ppb
BEC = 3.02 ppb

Weight: <None>
Min Conc: <None>

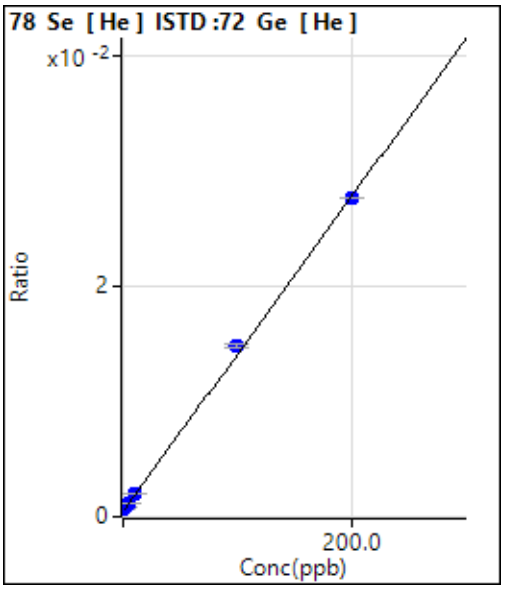
Calibration for 172_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	15058.64	0.0115	P	2.4	
2	☐	2.000	2.888	15819.53	0.0121	P	2.7	44.4
3	☐	5.000	6.278	16583.76	0.0128	P	0.4	25.6
4	☐	10.000	9.704	17538.29	0.0135	P	2.3	-3.0
5	☐	100.000	97.372	39491.55	0.0314	P	0.5	-2.6
6	☐	200.000	201.288	62005.83	0.0527	P	2.6	0.6

y = 2.0458E-004 * x + 0.0115
R = 0.9998
DL = 4.015 ppb
BEC = 56.07 ppb

Weight: <None>
Min Conc: <None>

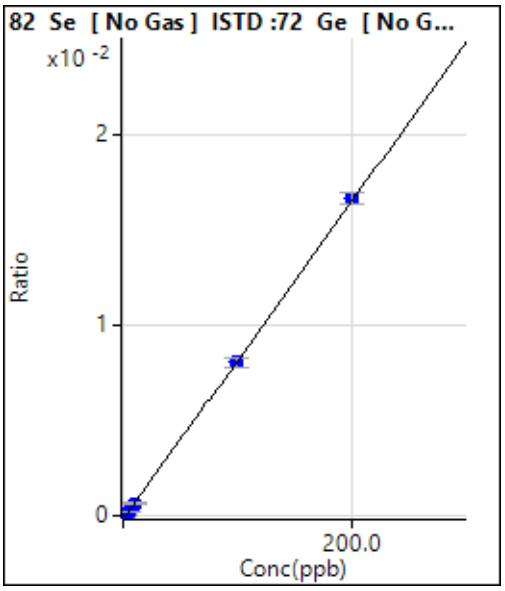


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	243.33	0.0006	P	4.8	
2	☐	2.000	1.921	348.67	0.0009	P	7.8	-3.9
3	☐	5.000	4.341	482.01	0.0012	P	6.4	-13.2
4	☐	10.000	10.482	816.03	0.0020	P	3.4	4.8
5	☐	100.000	104.213	5805.94	0.0148	P	2.5	4.2
6	☐	200.000	197.887	10364.01	0.0276	P	0.3	-1.1

y = 1.3667E-004 * x + 6.0007E-004
R = 0.9997
DL = 0.6283 ppb
BEC = 4.391 ppb

Weight: <None>
Min Conc: <None>

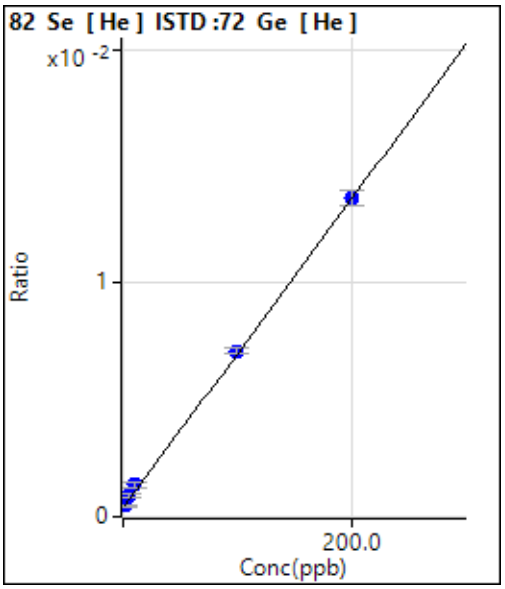
Calibration for 172_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	-106.97	-0.0001	P	-112.	
2	☐	2.000	2.130	125.96	0.0001	P	76.1	6.5
3	☐	5.000	3.692	292.68	0.0002	P	31.7	-26.2
4	☐	10.000	8.502	816.58	0.0006	P	16.3	-15.0
5	☐	100.000	97.513	10113.67	0.0080	P	5.2	-2.5
6	☐	200.000	201.350	19642.67	0.0167	P	3.8	0.7

y = 8.3260E-005 * x - 8.1639E-005
R = 0.9999
DL = 3.321 ppb
BEC = -0.9805 ppb

Weight: <None>
Min Conc: <None>

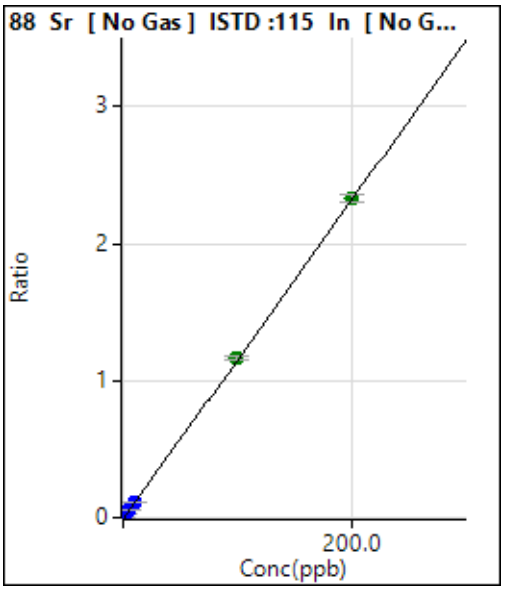


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	183.34	0.0005	P	28.9	
2	☐	2.000	0.137	186.67	0.0005	P	13.3	-93.1
3	☐	5.000	6.394	353.34	0.0009	P	16.2	27.9
4	☐	10.000	13.754	546.69	0.0014	P	14.6	37.5
5	☐	100.000	100.648	2780.34	0.0071	P	2.5	0.6
6	☐	200.000	199.472	5114.40	0.0136	P	4.5	-0.3

y = 6.6121E-005 * x + 4.5278E-004
R = 0.9997
DL = 5.938 ppb
BEC = 6.848 ppb

Weight: <None>
Min Conc: <None>

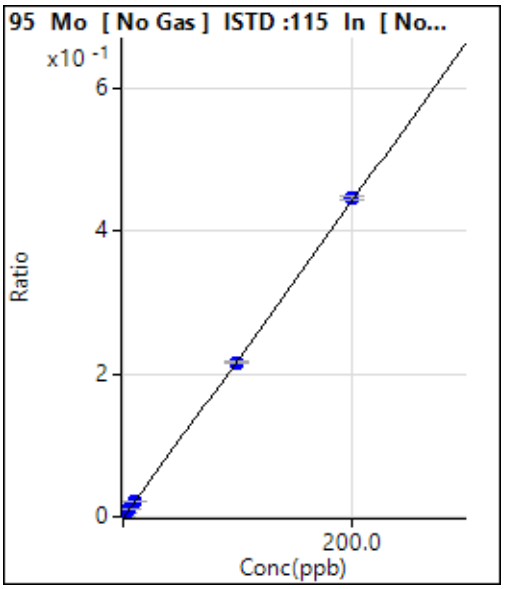
Calibration for 172_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1193.41	0.0008	P	0.6	
2	☐	2.000	1.850	35497.28	0.0223	P	0.5	-7.5
3	☐	5.000	4.590	85981.56	0.0542	P	2.8	-8.2
4	☐	10.000	9.184	171845.75	0.1077	P	3.4	-8.2
5	☐	100.000	99.934	1793869.04	1.1643	A	1.7	-0.1
6	☐	200.000	200.086	3401007.45	2.3303	A	2.3	0.0

y = 0.0116 * x + 7.5021E-004
R = 1.0000
DL = 0.00115 ppb
BEC = 0.06443 ppb

Weight: <None>
Min Conc: <None>

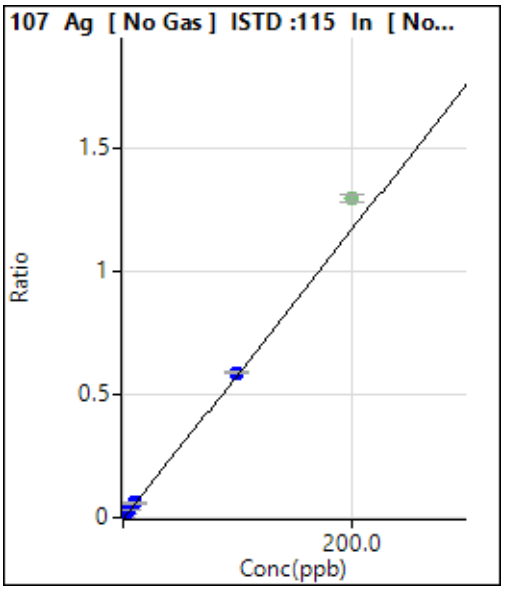


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	46.67	0.0000	P	60.5	
2	☐	2.000	2.037	7235.45	0.0045	P	5.6	1.9
3	☐	5.000	4.942	17428.29	0.0110	P	1.9	-1.2
4	☐	10.000	9.885	34989.64	0.0219	P	4.1	-1.1
5	☐	100.000	97.478	332779.79	0.2160	P	1.4	-2.5
6	☐	200.000	201.268	650818.68	0.4459	P	1.5	0.6

y = 0.0022 * x + 2.9196E-005
R = 0.9999
DL = 0.02393 ppb
BEC = 0.01318 ppb

Weight: <None>
Min Conc: <None>

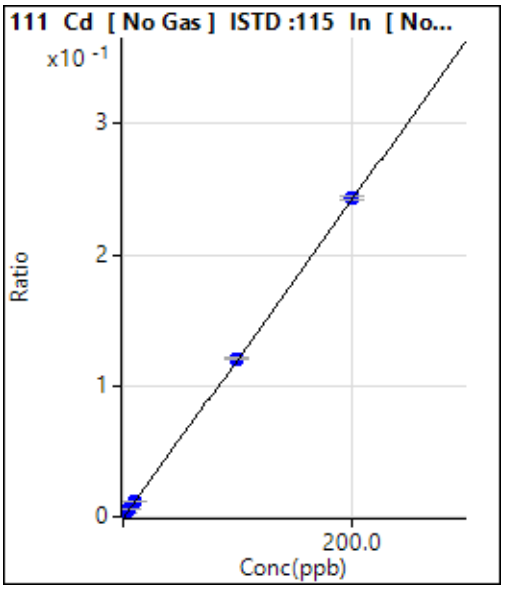
Calibration for 172_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	700.03	0.0004	P	2.8	
2	☐	2.000	1.986	19270.97	0.0121	P	2.6	-0.7
3	☐	5.000	4.979	47103.98	0.0297	P	1.8	-0.4
4	☐	10.000	9.934	93824.65	0.0588	P	1.7	-0.7
5	☐	100.000	100.008	905643.92	0.5878	P	1.4	0.0
6	☑	200.000		1892891.95	1.2969	A	2.1	

y = 0.0059 * x + 4.4018E-004
R = 1.0000
DL = 0.006298 ppb
BEC = 0.07495 ppb

Weight: <None>
Min Conc: <None>

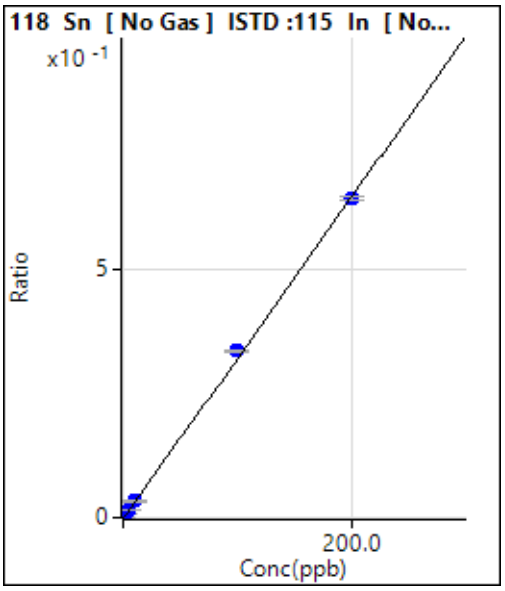


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	0.00	0.0000	P		
2	☐	2.000	1.953	3777.25	0.0024	P	1.6	-2.4
3	☐	5.000	4.777	9206.70	0.0058	P	3.3	-4.5
4	☐	10.000	9.807	19007.30	0.0119	P	3.7	-1.9
5	☐	100.000	99.164	185584.24	0.1204	P	1.5	-0.8
6	☐	200.000	200.434	355336.28	0.2435	P	1.5	0.2

y = 0.0012 * x + 0.0000E+000
R = 1.0000
DL = 0 ppb
BEC = 0 ppb

Weight: <None>
Min Conc: <None>

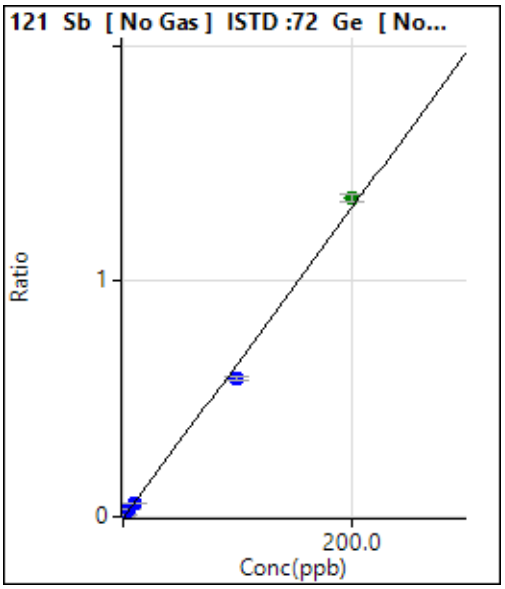
Calibration for 172_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	836.71	0.0005	P	5.0	
2	☐	2.000	1.863	10454.33	0.0066	P	3.3	-6.8
3	☐	5.000	4.853	25819.10	0.0163	P	2.2	-2.9
4	☐	10.000	10.327	54288.43	0.0340	P	14.5	3.3
5	☐	100.000	103.648	518596.08	0.3366	P	1.4	3.6
6	☐	200.000	198.165	938557.98	0.6430	P	1.1	-0.9

y = 0.0032 * x + 5.2615E-004
R = 0.9998
DL = 0.02416 ppb
BEC = 0.1623 ppb

Weight: <None>
Min Conc: <None>

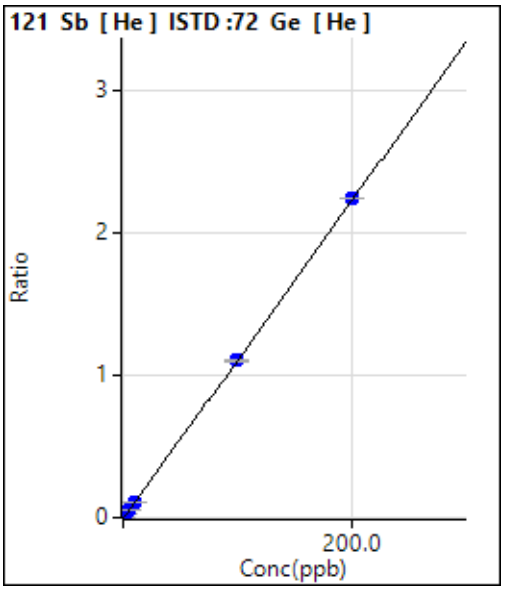


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1073.40	0.0008	P	7.0	
2	☐	2.000	1.708	15836.47	0.0121	P	1.6	-14.6
3	☐	5.000	4.433	39031.69	0.0300	P	2.1	-11.3
4	☐	10.000	8.794	76576.39	0.0588	P	2.3	-12.1
5	☐	100.000	89.094	739426.71	0.5878	P	1.5	-10.9
6	☐	200.000	205.530	1595596.95	1.3550	A	2.3	2.8

y = 0.0066 * x + 8.1783E-004
R = 0.9980
DL = 0.02616 ppb
BEC = 0.1241 ppb

Weight: <None>
Min Conc: <None>

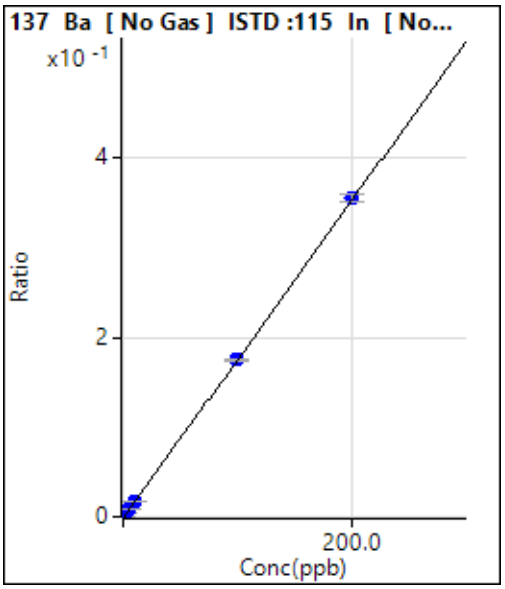
Calibration for 172_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	620.03	0.0015	P	12.2	
2	☐	2.000	1.928	9306.81	0.0230	P	4.1	-3.6
3	☐	5.000	4.917	22760.04	0.0564	P	1.8	-1.7
4	☐	10.000	9.632	43743.04	0.1090	P	0.8	-3.7
5	☐	100.000	98.651	430893.34	1.1017	P	1.2	-1.3
6	☐	200.000	200.696	839627.75	2.2397	P	0.3	0.3

y = 0.0112 * x + 0.0015
R = 1.0000
DL = 0.05034 ppb
BEC = 0.1371 ppb

Weight: <None>
Min Conc: <None>

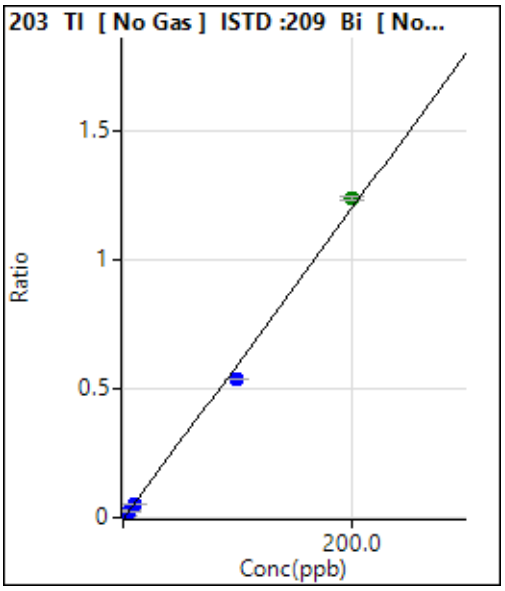


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	236.67	0.0001	P	24.6	
2	☐	2.000	1.944	5724.70	0.0036	P	1.3	-2.8
3	☐	5.000	4.900	14014.43	0.0088	P	5.7	-2.0
4	☐	10.000	9.577	27332.47	0.0171	P	2.8	-4.2
5	☐	100.000	98.536	269343.61	0.1748	P	1.5	-1.5
6	☐	200.000	200.756	519590.06	0.3560	P	1.9	0.4

y = 0.0018 * x + 1.4912E-004
R = 1.0000
DL = 0.06201 ppb
BEC = 0.08413 ppb

Weight: <None>
Min Conc: <None>

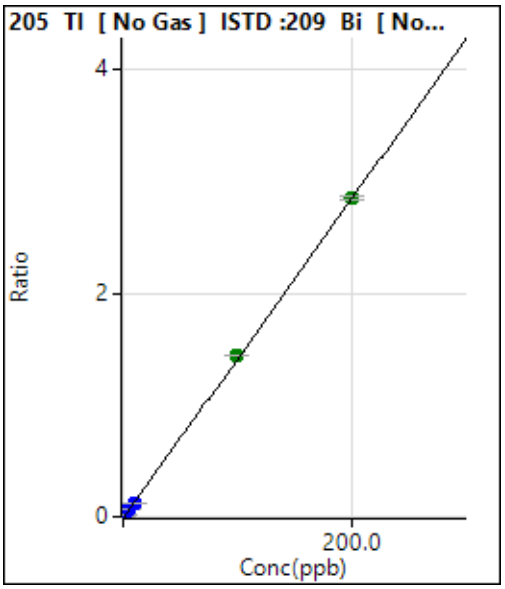
Calibration for 172_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	16.67	0.0000	P	173.2	
2	☐	2.000	1.668	15166.13	0.0101	P	2.6	-16.6
3	☐	5.000	4.299	38506.34	0.0259	P	3.3	-14.0
4	☐	10.000	8.470	76923.10	0.0510	P	2.5	-15.3
5	☐	100.000	88.758	766858.11	0.5344	P	0.2	-11.2
6	☐	200.000	205.718	1692846.95	1.2385	A	1.1	2.9

y = 0.0060 * x + 1.1214E-005
R = 0.9979
DL = 0.009678 ppb
BEC = 0.001863 ppb

Weight: <None>
Min Conc: <None>

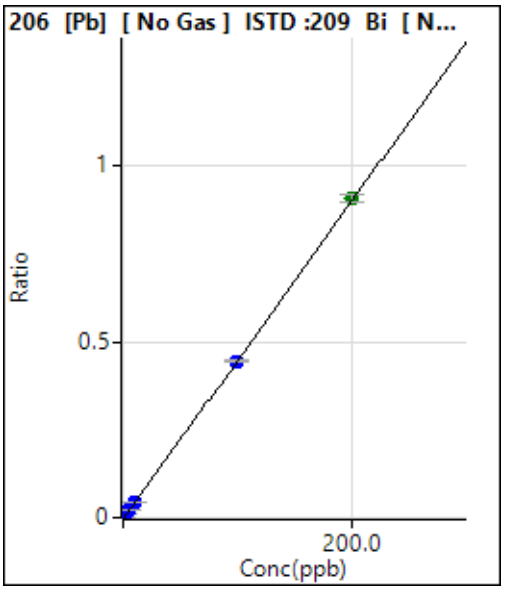


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	76.67	0.0001	P	18.0	
2	☐	2.000	1.733	37443.26	0.0248	P	1.4	-13.3
3	☐	5.000	4.318	91842.87	0.0617	P	1.9	-13.6
4	☐	10.000	8.606	185541.02	0.1230	P	1.7	-13.9
5	☐	100.000	101.067	2072602.52	1.4442	A	0.7	1.1
6	☐	200.000	199.556	3897538.38	2.8516	A	1.0	-0.2

y = 0.0143 * x + 5.1900E-005
R = 1.0000
DL = 0.001958 ppb
BEC = 0.003632 ppb

Weight: <None>
Min Conc: <None>

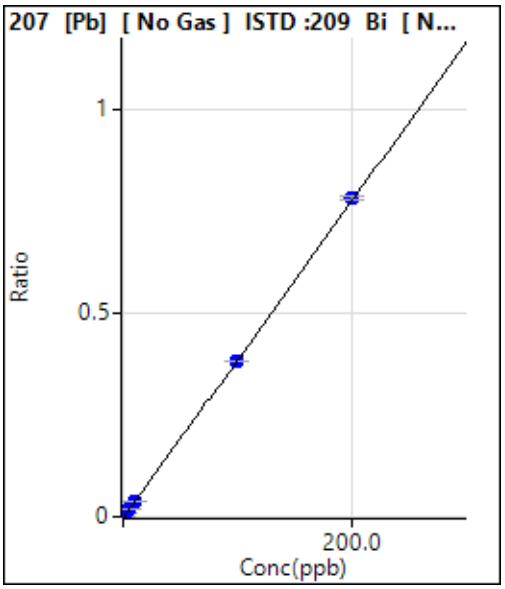
Calibration for 172_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	180.00	0.0001	P	19.8	
2	☐	2.000	1.837	12720.00	0.0084	P	4.9	-8.1
3	☐	5.000	4.829	32656.34	0.0220	P	1.6	-3.4
4	☐	10.000	9.433	64510.02	0.0428	P	2.2	-5.7
5	☐	100.000	98.277	637850.29	0.4445	P	0.7	-1.7
6	☐	200.000	200.896	1241800.53	0.9085	A	1.8	0.4

y = 0.0045 * x + 1.2218E-004
R = 0.9999
DL = 0.01603 ppb
BEC = 0.02702 ppb

Weight: <None>
Min Conc: <None>

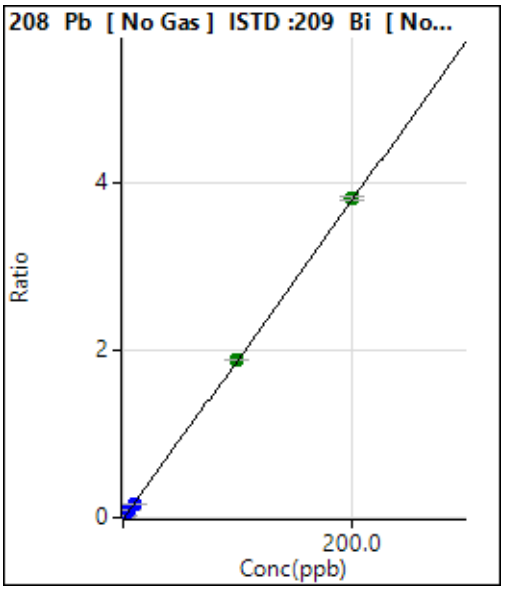


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	146.67	0.0001	P	57.8	
2	☐	2.000	1.911	11375.39	0.0075	P	0.1	-4.5
3	☐	5.000	4.725	27520.70	0.0185	P	2.2	-5.5
4	☐	10.000	9.559	56283.94	0.0373	P	1.4	-4.4
5	☐	100.000	97.920	547267.09	0.3814	P	0.8	-2.1
6	☐	200.000	201.070	1070245.74	0.7830	P	0.7	0.5

y = 0.0039 * x + 9.9921E-005
R = 0.9999
DL = 0.04448 ppb
BEC = 0.02566 ppb

Weight: <None>
Min Conc: <None>

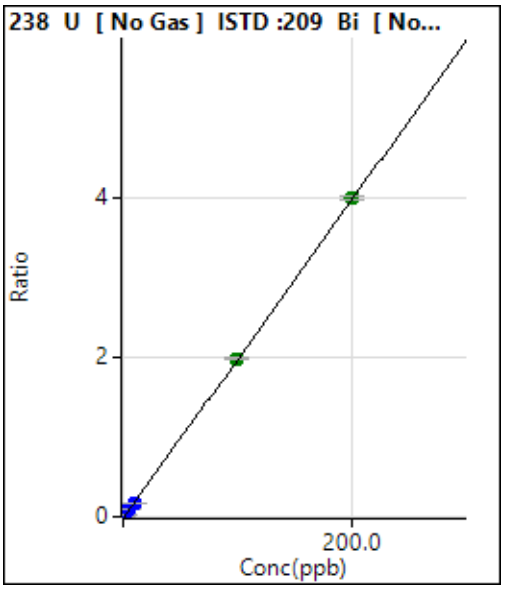
Calibration for 172_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	756.69	0.0005	P	9.4	
2	☐	2.000	1.775	51696.37	0.0343	P	1.0	-11.2
3	☐	5.000	4.531	128892.87	0.0867	P	1.1	-9.4
4	☐	10.000	8.884	255497.08	0.1694	P	1.5	-11.2
5	☐	100.000	98.924	2699543.45	1.8811	A	0.1	-1.1
6	☐	200.000	200.608	5213701.85	3.8142	A	0.9	0.3

y = 0.0190 * x + 5.1347E-004
R = 1.0000
DL = 0.00764 ppb
BEC = 0.02701 ppb

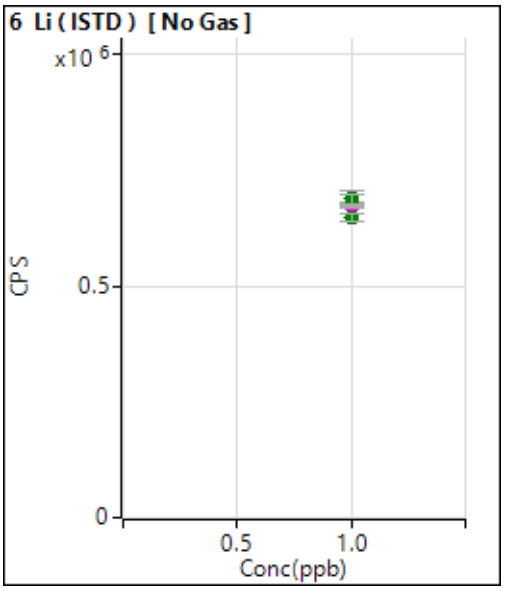
Weight: <None>
Min Conc: <None>



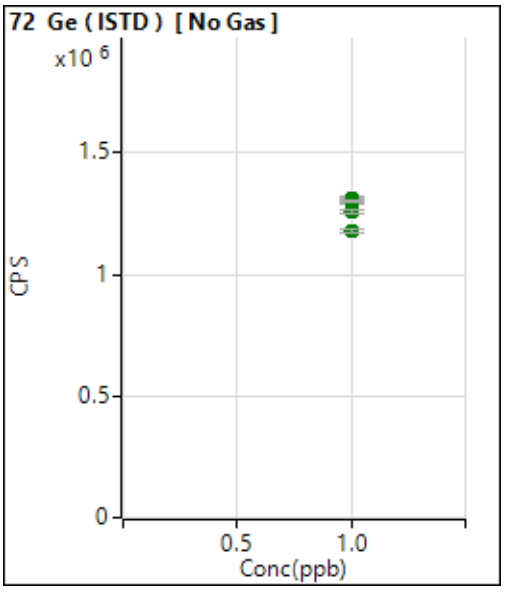
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	3.33	0.0000	P	173.2	
2	☐	2.000	1.766	53162.59	0.0352	P	0.5	-11.7
3	☐	5.000	4.427	131376.23	0.0883	P	1.7	-11.5
4	☐	10.000	8.768	263815.63	0.1749	P	2.4	-12.3
5	☐	100.000	99.447	2847205.69	1.9841	A	1.3	-0.6
6	☐	200.000	200.355	5463943.04	3.9973	A	1.0	0.2

y = 0.0200 * x + 2.3202E-006
R = 1.0000
DL = 0.0006043 ppb
BEC = 0.0001163 ppb

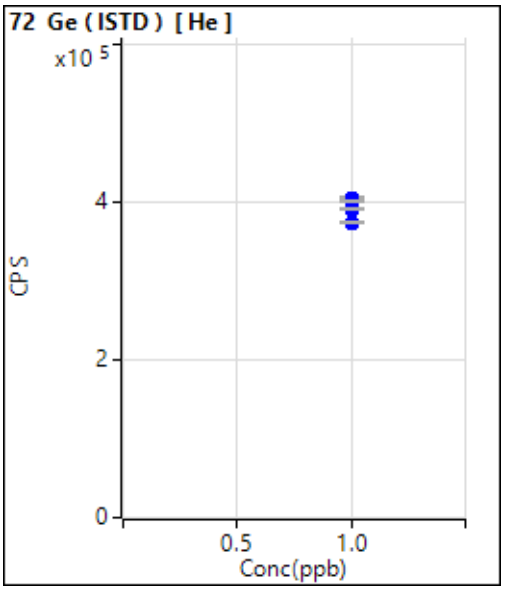
Weight: <None>
Min Conc: <None>



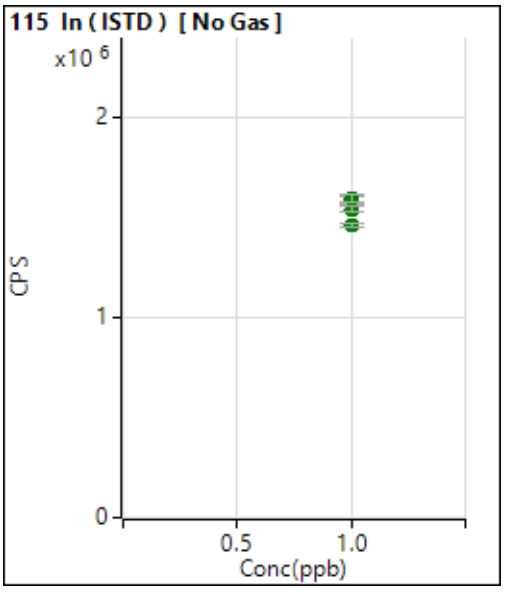
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		673514.83		M	0.4	
2	☐	1.000		673988.79		M	1.8	
3	☐	1.000		690057.04		M	4.4	
4	☐	1.000		688658.62		M	2.5	
5	☐	1.000		688030.40		A	3.3	
6	☐	1.000		648102.08		A	2.2	



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		1312746.60		A	0.4	
2	☐	1.000		1311815.68		A	1.3	
3	☐	1.000		1300158.16		A	1.3	
4	☐	1.000		1303316.52		A	0.4	
5	☐	1.000		1258073.63		A	1.3	
6	☐	1.000		1177888.63		A	1.6	

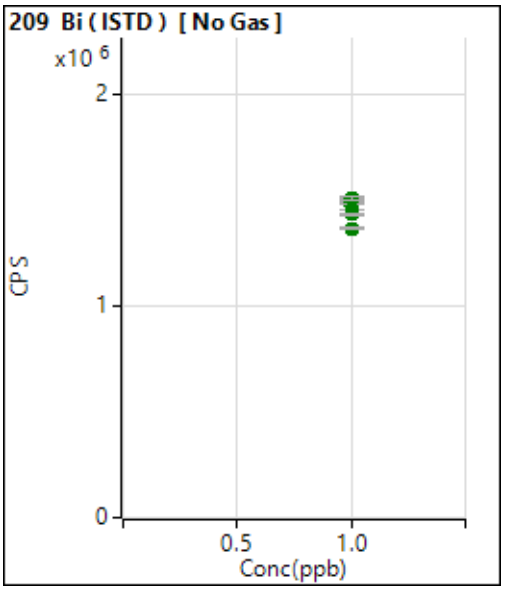


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		405581.79		P	0.9	
2	☐	1.000		404105.15		P	0.4	
3	☐	1.000		403881.83		P	0.9	
4	☐	1.000		401496.66		P	0.5	
5	☐	1.000		391130.65		P	0.6	
6	☐	1.000		374882.42		P	0.8	



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		1590716.70		A	1.4	
2	☐	1.000		1592364.08		A	1.8	
3	☐	1.000		1587313.25		A	2.2	
4	☐	1.000		1596379.57		A	1.8	
5	☐	1.000		1541036.61		A	1.8	
6	☐	1.000		1459738.40		A	1.3	

Calibration for 172_ICV.d



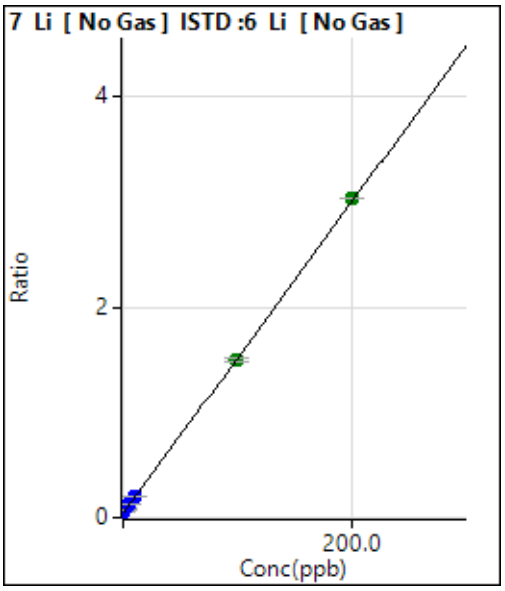
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		1473383.00		A	2.2	
2	☐	1.000		1508805.50		A	0.5	
3	☐	1.000		1487599.87		A	1.4	
4	☐	1.000		1508375.13		A	1.0	
5	☐	1.000		1435062.22		A	0.5	
6	☐	1.000		1366866.18		A	0.6	

Calibration for 016_ICV.d

Batch Folder: D:\Agilent\ICPMH\1\DATA\111022A.b\
Analysis File: 111022A.batch.bin
DA Date-Time: 11/10/2022 22:40:38
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	009CALB.d	CAL BLK	11/10/2022 11:39:33
2	010CALS.d	2/10/200	11/10/2022 11:41:27
3	011CALS.d	5/25/500	11/10/2022 11:43:20
4	012CALS.d	10/50/100	11/10/2022 11:45:13
5	013CALS.d	100/500/10K	11/10/2022 11:47:05
6	014CALS.d	200/1000/20K	11/10/2022 11:48:54

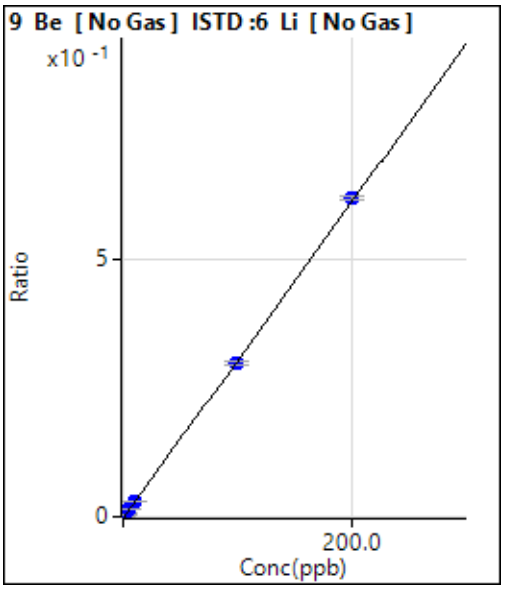
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	45222.33	0.0549	P	3.0	
2	☐	2.000	1.870	67401.89	0.0826	P	0.9	-6.5
3	☐	5.000	4.664	100141.21	0.1241	P	1.4	-6.7
4	☐	10.000	9.536	155117.74	0.1962	P	0.8	-4.6
5	☐	100.000	97.332	1174254.33	1.4970	A	2.8	-2.7
6	☐	200.000	201.367	2239390.90	3.0384	A	0.1	0.7

y = 0.0148 * x + 0.0549
R = 0.9999
DL = 0.3364 ppb
BEC = 3.708 ppb

Weight: <None>
Min Conc: <None>

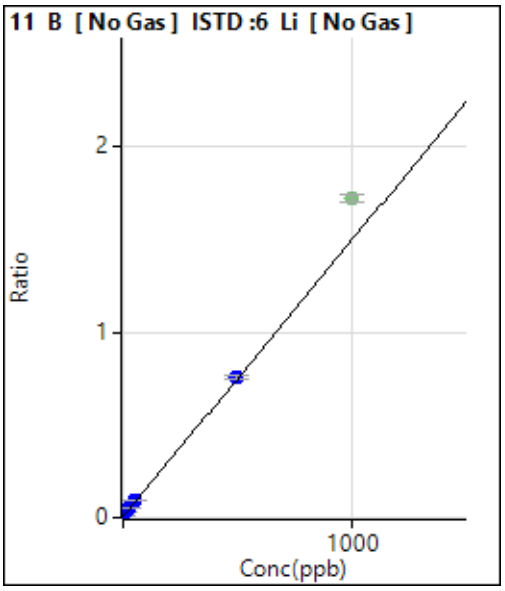


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	28.33	0.0000	P	45.4	
2	☐	2.000	1.842	4634.14	0.0057	P	3.6	-7.9
3	☐	5.000	4.834	11993.52	0.0149	P	2.1	-3.3
4	☐	10.000	9.707	23556.46	0.0298	P	0.5	-2.9
5	☐	100.000	96.889	233065.80	0.2971	P	1.8	-3.1
6	☐	200.000	201.576	455553.98	0.6181	P	0.9	0.8

y = 0.0031 * x + 3.4483E-005
R = 0.9998
DL = 0.01533 ppb
BEC = 0.01125 ppb

Weight: <None>
Min Conc: <None>

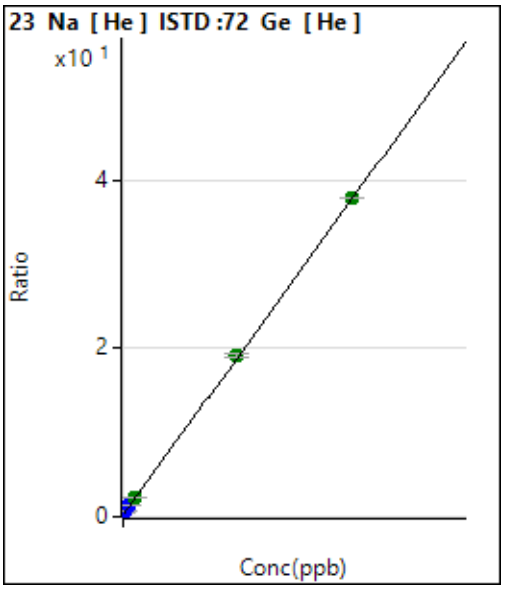
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	12545.69	0.0152	P	2.3	
2	☐	10.000	9.404	23840.26	0.0292	P	1.4	-6.0
3	☐	25.000	24.012	41140.15	0.0510	P	1.3	-4.0
4	☐	50.000	50.218	71100.50	0.0899	P	0.3	0.4
5	☐	500.000	500.040	595453.44	0.7590	P	2.2	0.0
6	☑	1000.000		1268088.08	1.7204	A	2.4	

y = 0.0015 * x + 0.0152
R = 1.0000
DL = 0.7125 ppb
BEC = 10.25 ppb

Weight: <None>
Min Conc: <None>

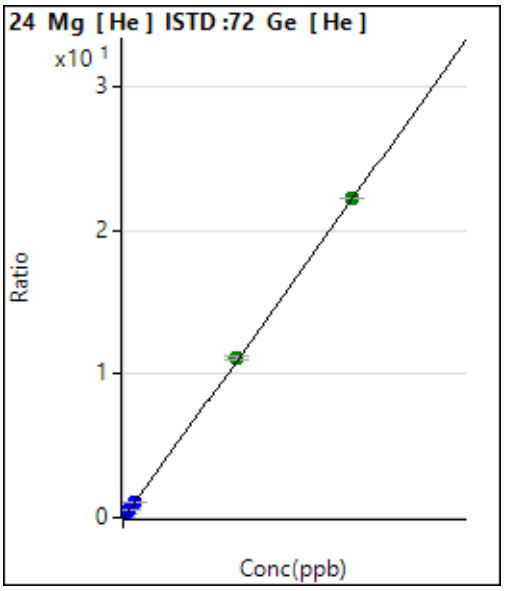


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	165151.28	0.3991	P	1.6	
2	☐	200.000	193.981	316820.98	0.7632	P	0.6	-3.0
3	☐	500.000	490.208	548670.51	1.3191	P	1.0	-2.0
4	☐	1000.000	1051.498	986702.09	2.3725	A	1.5	5.1
5	☐	10000.00	10023.03	7963974.05	19.2100	A	2.4	0.2
6	☐	20000.00	19986.21	15213700.1	37.9086	A	0.4	-0.1

y = 0.0019 * x + 0.3991
R = 1.0000
DL = 10.18 ppb
BEC = 212.7 ppb

Weight: <None>
Min Conc: <None>

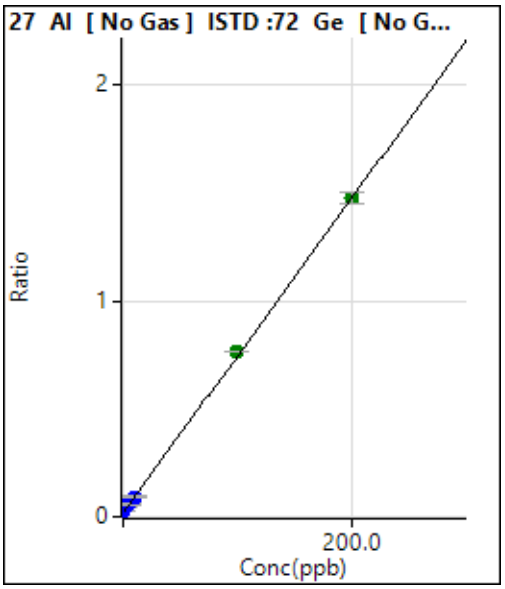
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	350.01	0.0008	P	32.0	
2	☐	200.000	193.584	89744.11	0.2162	P	0.7	-3.2
3	☐	500.000	484.903	224704.68	0.5402	P	1.5	-3.0
4	☐	1000.000	963.848	446264.71	1.0730	P	0.8	-3.6
5	☐	10000.00	10010.72	4617217.22	11.1366	A	1.6	0.1
6	☐	20000.00	19996.88	8927450.08	22.2450	A	0.6	0.0

y = 0.0011 * x + 8.4565E-004
R = 1.0000
DL = 0.7309 ppb
BEC = 0.7602 ppb

Weight: <None>
Min Conc: <None>

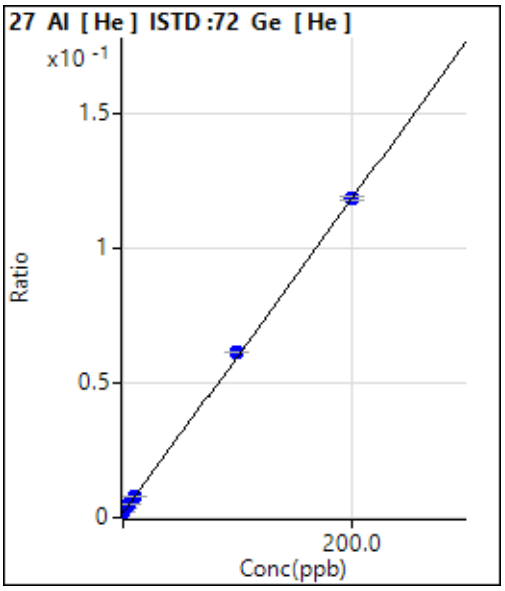


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	35652.65	0.0258	P	2.2	
2	☐	2.000	2.092	56585.16	0.0411	P	2.0	4.6
3	☐	5.000	4.397	79566.66	0.0579	P	2.2	-12.1
4	☐	10.000	9.188	127271.35	0.0928	P	1.4	-8.1
5	☐	100.000	101.859	1036605.11	0.7685	A	0.4	1.9
6	☐	200.000	199.125	1929874.50	1.4777	A	3.3	-0.4

y = 0.0073 * x + 0.0258
R = 0.9999
DL = 0.2356 ppb
BEC = 3.545 ppb

Weight: <None>
Min Conc: <None>

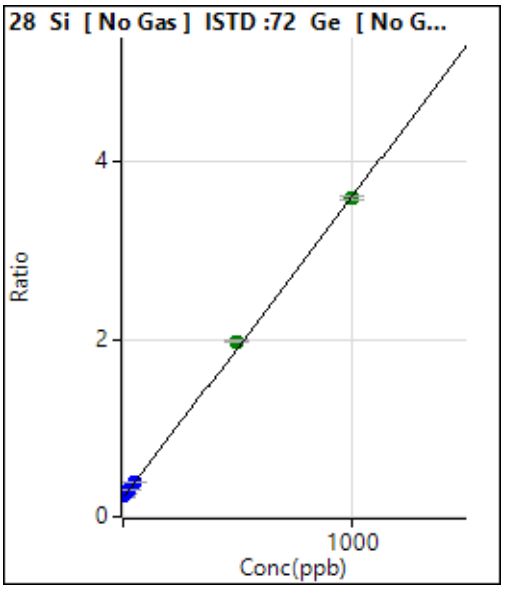
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	963.38	0.0023	P	1.1	
2	☐	2.000	1.822	1406.76	0.0034	P	8.4	-8.9
3	☐	5.000	4.743	2116.87	0.0051	P	8.0	-5.1
4	☐	10.000	9.690	3313.78	0.0080	P	5.5	-3.1
5	☐	100.000	101.243	25390.11	0.0612	P	0.8	1.2
6	☐	200.000	199.402	47494.52	0.1183	P	0.7	-0.3

y = 5.8180E-004 * x + 0.0023
R = 1.0000
DL = 0.1327 ppb
BEC = 4.002 ppb

Weight: <None>
Min Conc: <None>

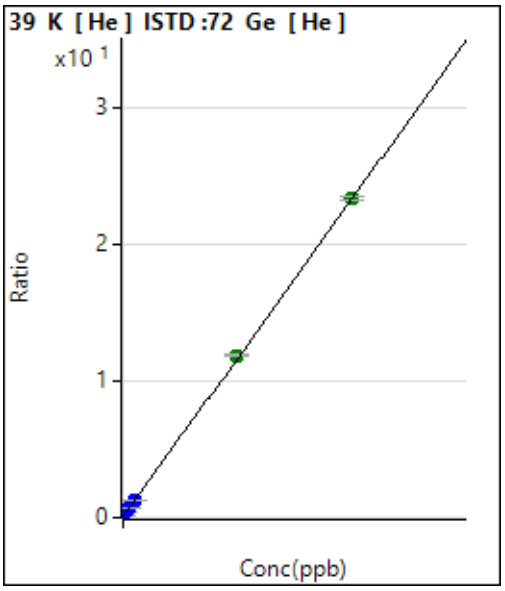


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	314970.72	0.2284	P	1.8	
2	☐	10.000	9.410	358375.87	0.2603	P	1.5	-5.9
3	☐	25.000	24.396	427558.42	0.3112	P	0.7	-2.4
4	☐	50.000	47.912	535851.94	0.3910	P	3.5	-4.2
5	☐	500.000	516.324	2671487.67	1.9808	A	1.5	3.3
6	☐	1000.000	991.963	4696237.12	3.5952	A	1.8	-0.8

y = 0.0034 * x + 0.2284
R = 0.9998
DL = 3.669 ppb
BEC = 67.28 ppb

Weight: <None>
Min Conc: <None>

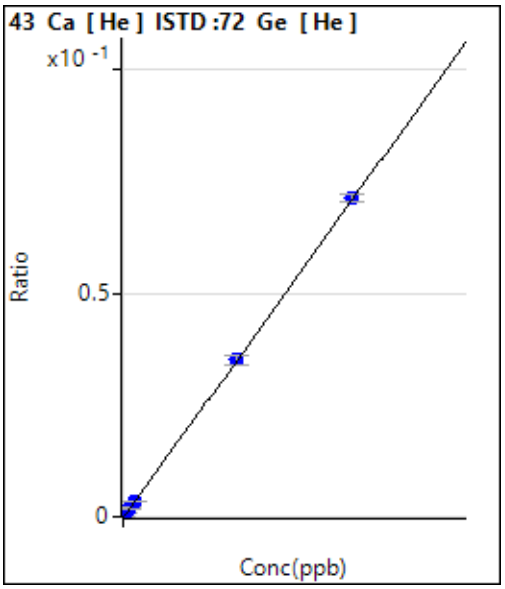
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	77557.33	0.1874	P	2.2	
2	☐	200.000	194.618	171683.20	0.4136	P	0.4	-2.7
3	☐	500.000	492.208	315836.96	0.7593	P	0.5	-1.6
4	☐	1000.000	982.409	552702.80	1.3289	P	0.3	-1.8
5	☐	10000.00	10072.64	4929851.49	11.8908	A	1.7	0.7
6	☐	20000.00	19964.80	9384421.73	23.3844	A	1.6	-0.2

y = 0.0012 * x + 0.1874
R = 1.0000
DL = 10.59 ppb
BEC = 161.3 ppb

Weight: <None>
Min Conc: <None>

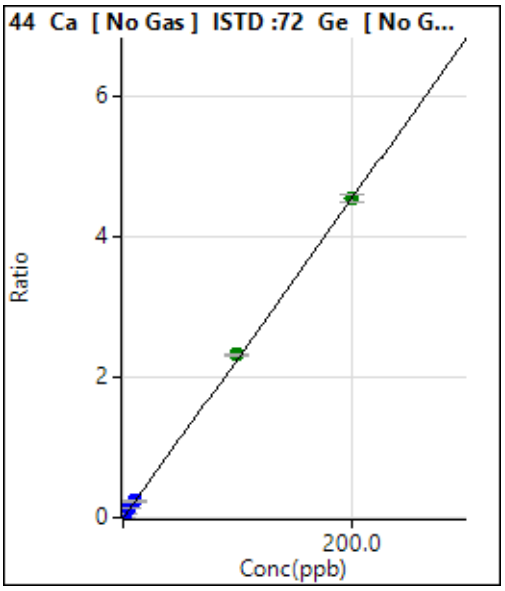


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	23.33	0.0001	P	24.6	
2	☐	200.000	216.787	343.34	0.0008	P	4.3	8.4
3	☐	500.000	509.198	776.70	0.0019	P	9.9	1.8
4	☐	1000.000	962.267	1446.77	0.0035	P	6.5	-3.8
5	☐	10000.00	9872.399	14571.20	0.0352	P	5.7	-1.3
6	☐	20000.00	20065.28	28650.13	0.0714	P	2.4	0.3

y = 3.5550E-006 * x + 5.6378E-005
R = 1.0000
DL = 11.7 ppb
BEC = 15.86 ppb

Weight: <None>
Min Conc: <None>

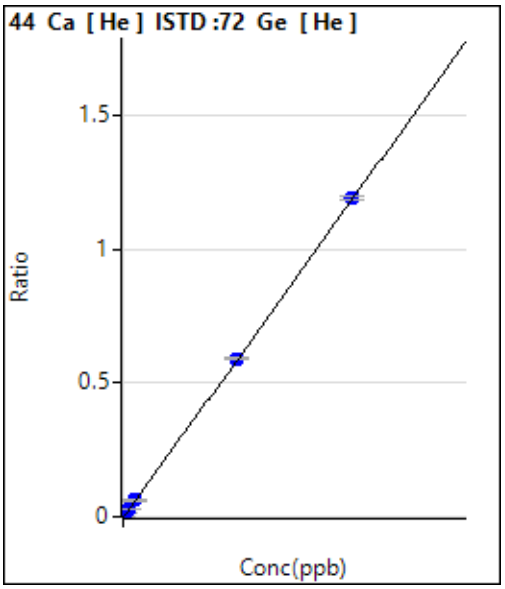
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	18028.77	0.0131	P	6.2	
2	☐	2.000	1.955	79136.90	0.0575	P	0.6	-2.3
3	☐	5.000	4.889	170589.74	0.1242	P	1.5	-2.2
4	☐	10.000	9.719	320637.95	0.2339	P	2.0	-2.8
5	☐	100.000	101.487	3127684.12	2.3190	A	1.2	1.5
6	☐	200.000	199.274	5931498.25	4.5409	A	2.0	-0.4

y = 0.0227 * x + 0.0131
R = 1.0000
DL = 0.1063 ppb
BEC = 0.5753 ppb

Weight: <None>
Min Conc: <None>

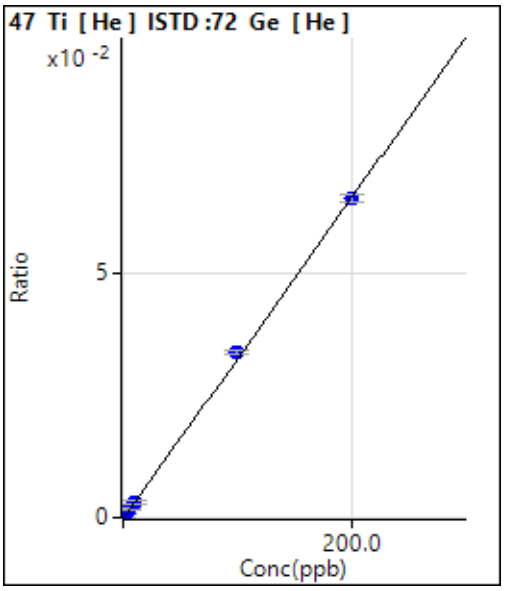


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	640.03	0.0015	P	11.9	
2	☐	200.000	202.053	5621.23	0.0135	P	6.1	1.0
3	☐	500.000	498.707	12956.31	0.0312	P	4.6	-0.3
4	☐	1000.000	1007.751	25524.02	0.0614	P	1.3	0.8
5	☐	10000.00	9922.150	244861.77	0.5906	P	1.3	-0.8
6	☐	20000.00	20038.54	478030.41	1.1911	P	0.9	0.2

y = 5.9366E-005 * x + 0.0015
R = 1.0000
DL = 9.301 ppb
BEC = 26.06 ppb

Weight: <None>
Min Conc: <None>

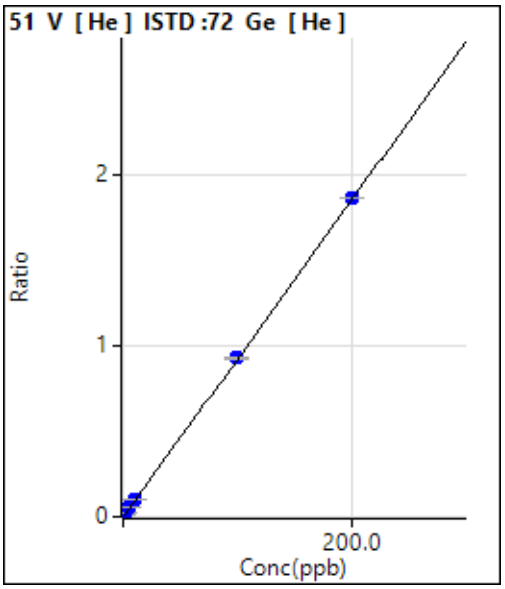
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	13.33	0.0000	P	114.6	
2	☐	2.000	1.956	280.01	0.0007	P	6.1	-2.2
3	☐	5.000	5.079	706.70	0.0017	P	13.7	1.6
4	☐	10.000	9.583	1323.43	0.0032	P	19.0	-4.2
5	☐	100.000	102.776	14007.33	0.0338	P	2.4	2.8
6	☐	200.000	198.631	26185.15	0.0652	P	2.7	-0.7

y = 3.2833E-004 * x + 3.2221E-005
R = 0.9999
DL = 0.3375 ppb
BEC = 0.09813 ppb

Weight: <None>
Min Conc: <None>

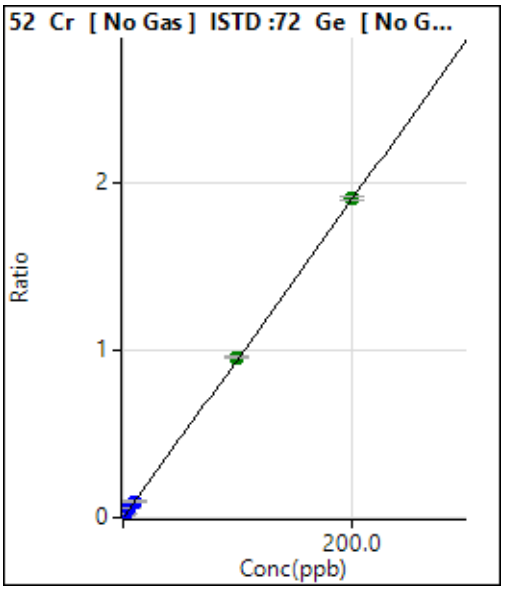


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	2706.95	0.0065	P	5.1	
2	☐	2.000	2.050	10624.16	0.0256	P	0.3	2.5
3	☐	5.000	4.966	21917.52	0.0527	P	0.9	-0.7
4	☐	10.000	9.871	40877.37	0.0983	P	0.3	-1.3
5	☐	100.000	99.364	385579.55	0.9300	P	1.4	-0.6
6	☐	200.000	200.325	749784.50	1.8683	P	0.5	0.2

y = 0.0093 * x + 0.0065
R = 1.0000
DL = 0.1087 ppb
BEC = 0.7039 ppb

Weight: <None>
Min Conc: <None>

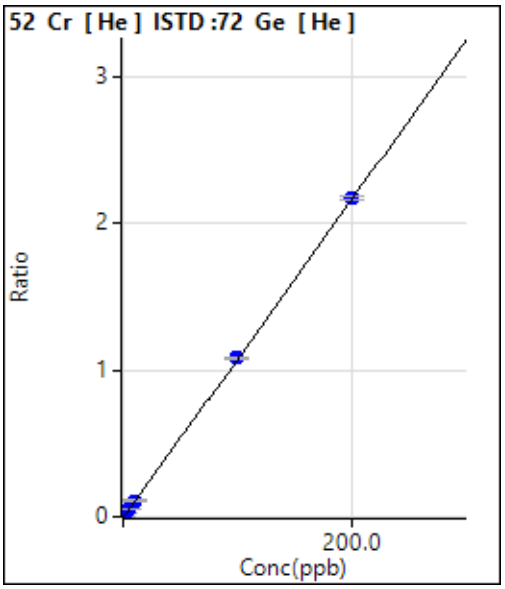
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	10480.84	0.0076	P	3.1	
2	☐	2.000	1.892	35272.36	0.0256	P	1.9	-5.4
3	☐	5.000	4.727	72303.98	0.0526	P	1.2	-5.5
4	☐	10.000	9.417	133350.64	0.0973	P	2.6	-5.8
5	☐	100.000	100.076	1295815.53	0.9607	A	1.1	0.1
6	☐	200.000	199.999	2498032.15	1.9123	A	1.7	0.0

y = 0.0095 * x + 0.0076
R = 1.0000
DL = 0.07391 ppb
BEC = 0.7979 ppb

Weight: <None>
Min Conc: <None>

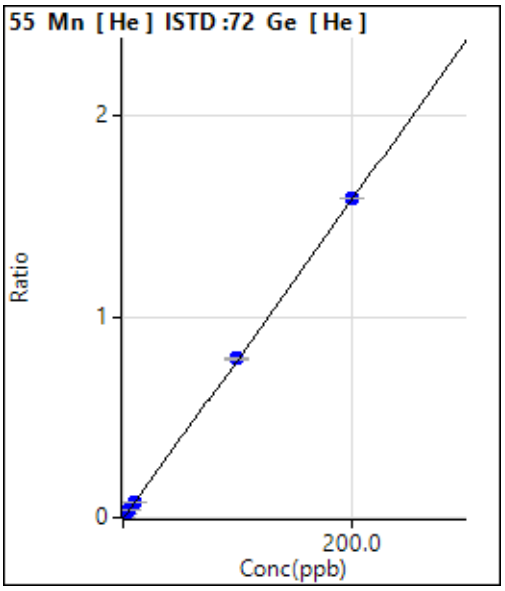


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	746.70	0.0018	P	5.5	
2	☐	2.000	2.065	10050.54	0.0242	P	3.5	3.3
3	☐	5.000	4.937	23033.02	0.0554	P	1.2	-1.3
4	☐	10.000	10.003	45883.70	0.1103	P	1.8	0.0
5	☐	100.000	99.871	450002.69	1.0853	P	1.2	-0.1
6	☐	200.000	200.065	871821.47	2.1724	P	0.8	0.0

y = 0.0108 * x + 0.0018
R = 1.0000
DL = 0.02742 ppb
BEC = 0.1663 ppb

Weight: <None>
Min Conc: <None>

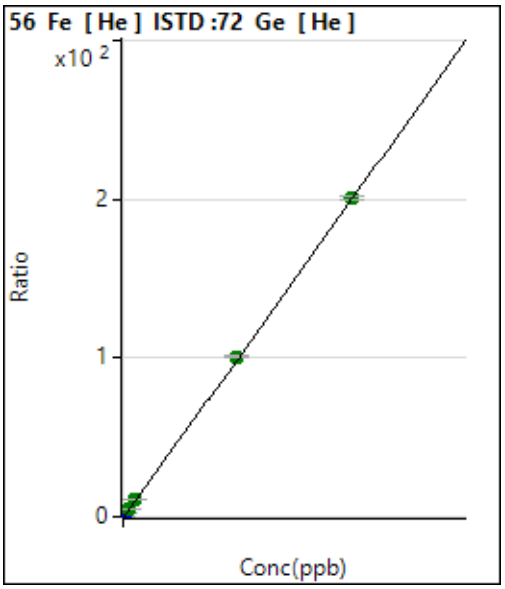
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	686.70	0.0017	P	2.1	
2	☐	2.000	2.056	7468.84	0.0180	P	5.9	2.8
3	☐	5.000	4.900	16880.65	0.0406	P	3.1	-2.0
4	☐	10.000	9.915	33441.12	0.0804	P	2.0	-0.9
5	☐	100.000	99.701	329024.00	0.7936	P	1.5	-0.3
6	☐	200.000	200.156	638729.33	1.5915	P	0.5	0.1

y = 0.0079 * x + 0.0017
R = 1.0000
DL = 0.01316 ppb
BEC = 0.2089 ppb

Weight: <None>
Min Conc: <None>

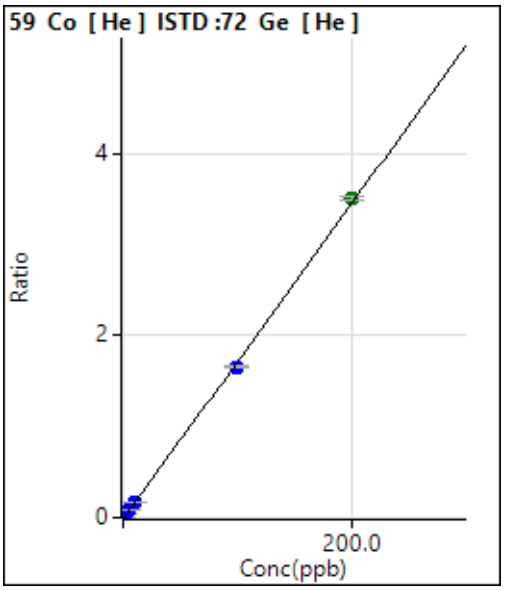


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	10537.60	0.0255	P	5.1	
2	☐	200.000	202.007	853517.96	2.0560	P	0.5	1.0
3	☐	500.000	536.339	2253022.16	5.4167	A	0.7	7.3
4	☐	1000.000	1030.163	4317413.89	10.3806	A	0.3	3.0
5	☐	10000.00	10001.34	41693247.7	100.558	A	1.2	0.0
6	☐	20000.00	19996.88	80679123.8	201.033	A	0.7	0.0

y = 0.0101 * x + 0.0255
R = 1.0000
DL = 0.388 ppb
BEC = 2.533 ppb

Weight: <None>
Min Conc: <None>

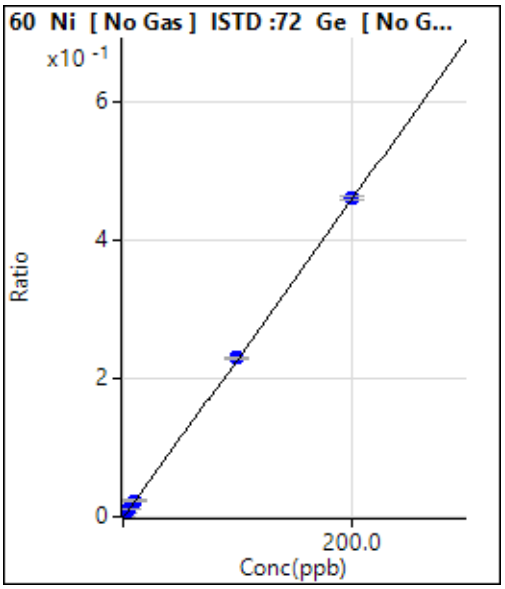
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	96.68	0.0002	P	84.1	
2	☐	2.000	1.882	13647.02	0.0329	P	2.0	-5.9
3	☐	5.000	4.725	34189.95	0.0822	P	2.2	-5.5
4	☐	10.000	9.552	69017.60	0.1659	P	0.4	-4.5
5	☐	100.000	95.459	686653.55	1.6562	P	1.8	-4.5
6	☐	200.000	202.301	1408599.72	3.5097	A	0.9	1.2

y = 0.0173 * x + 2.3347E-004
R = 0.9996
DL = 0.03397 ppb
BEC = 0.01346 ppb

Weight: <None>
Min Conc: <None>

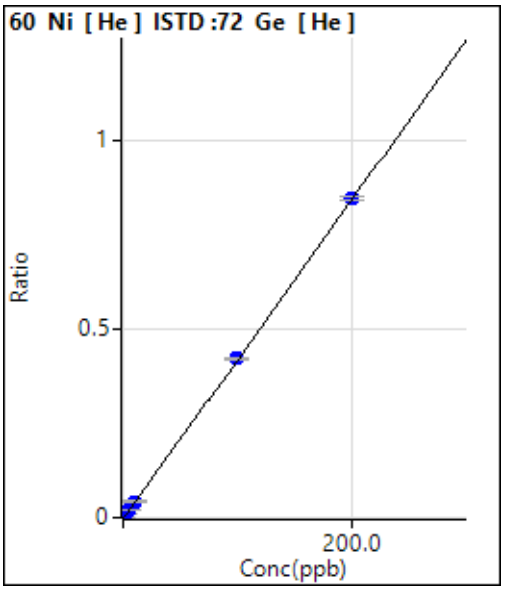


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	556.69	0.0004	P	15.8	
2	☐	2.000	2.051	7065.28	0.0051	P	2.2	2.6
3	☐	5.000	4.993	16366.77	0.0119	P	4.4	-0.1
4	☐	10.000	9.996	32144.84	0.0234	P	2.0	0.0
5	☐	100.000	99.773	310750.25	0.2304	P	0.9	-0.2
6	☐	200.000	200.113	603174.86	0.4617	P	0.8	0.1

y = 0.0023 * x + 4.0311E-004
R = 1.0000
DL = 0.0827 ppb
BEC = 0.1749 ppb

Weight: <None>
Min Conc: <None>

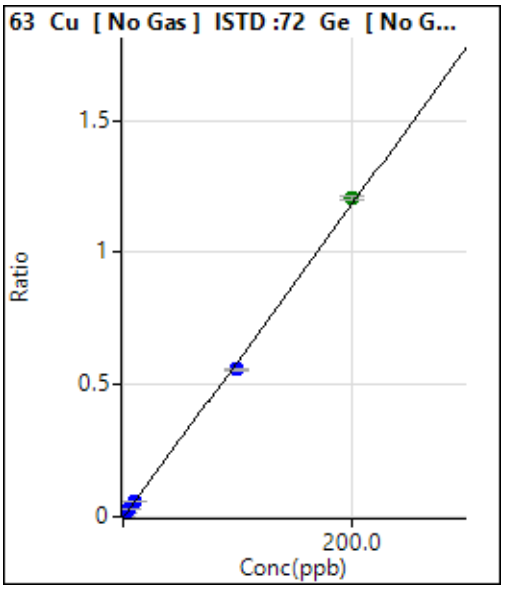
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	206.67	0.0005	P	19.5	
2	☐	2.000	2.067	3830.61	0.0092	P	2.3	3.4
3	☐	5.000	5.167	9283.32	0.0223	P	2.7	3.3
4	☐	10.000	10.060	17875.35	0.0430	P	2.7	0.6
5	☐	100.000	99.775	174877.75	0.4218	P	1.5	-0.2
6	☐	200.000	200.104	339285.06	0.8454	P	0.8	0.1

y = 0.0042 * x + 4.9945E-004
R = 1.0000
DL = 0.06929 ppb
BEC = 0.1183 ppb

Weight: <None>
Min Conc: <None>

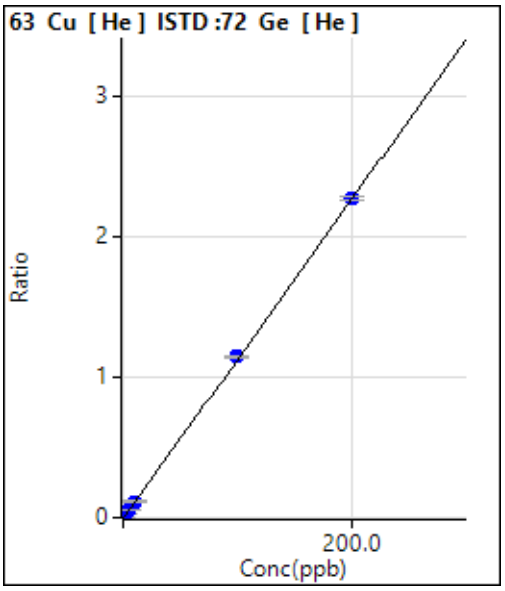


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	3210.44	0.0023	P	9.6	
2	☐	2.000	1.845	18245.83	0.0133	P	4.7	-7.7
3	☐	5.000	4.742	41781.22	0.0304	P	2.1	-5.2
4	☐	10.000	9.410	79568.76	0.0580	P	1.6	-5.9
5	☐	100.000	93.554	750259.36	0.5563	P	0.6	-6.4
6	☐	200.000	203.260	1575245.55	1.2058	A	1.1	1.6

y = 0.0059 * x + 0.0023
R = 0.9993
DL = 0.1131 ppb
BEC = 0.3929 ppb

Weight: <None>
Min Conc: <None>

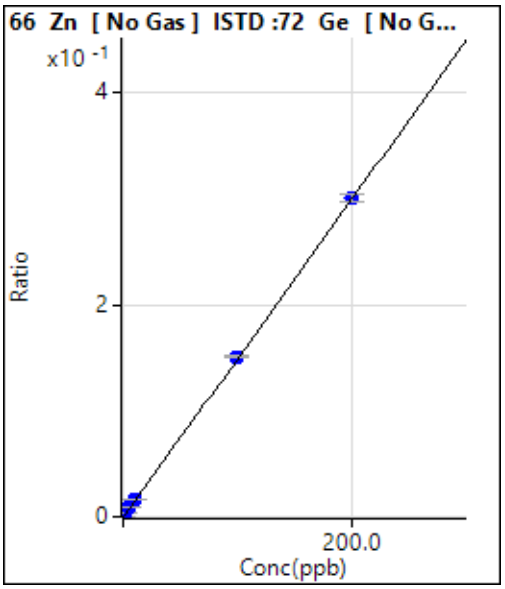
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1513.44	0.0037	P	3.1	
2	☐	2.000	1.986	10881.20	0.0262	P	5.6	-0.7
3	☐	5.000	5.022	25240.29	0.0607	P	2.1	0.4
4	☐	10.000	9.856	48068.45	0.1156	P	1.3	-1.4
5	☐	100.000	100.639	475365.17	1.1465	P	0.8	0.6
6	☐	200.000	199.687	911499.91	2.2712	P	0.7	-0.2

y = 0.0114 * x + 0.0037
R = 1.0000
DL = 0.03015 ppb
BEC = 0.3221 ppb

Weight: <None>
Min Conc: <None>

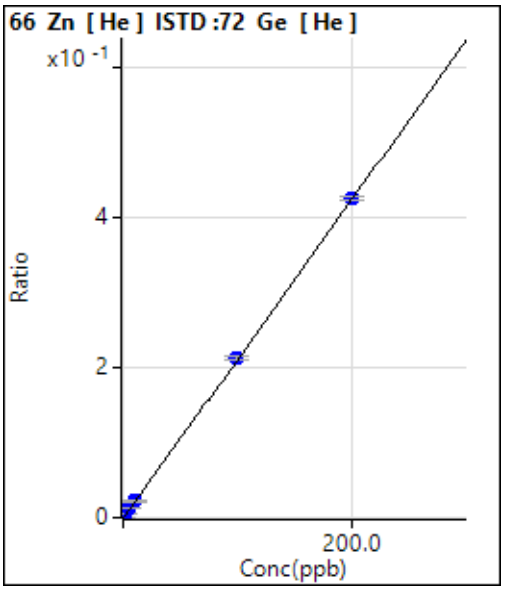


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1056.73	0.0008	P	12.5	
2	☐	2.000	1.985	5154.38	0.0037	P	1.3	-0.7
3	☐	5.000	5.137	11638.54	0.0085	P	2.8	2.7
4	☐	10.000	10.118	21847.82	0.0159	P	4.5	1.2
5	☐	100.000	100.113	203569.05	0.1509	P	0.5	0.1
6	☐	200.000	199.934	392724.45	0.3007	P	2.0	0.0

y = 0.0015 * x + 7.6562E-004
R = 1.0000
DL = 0.1907 ppb
BEC = 0.5104 ppb

Weight: <None>
Min Conc: <None>

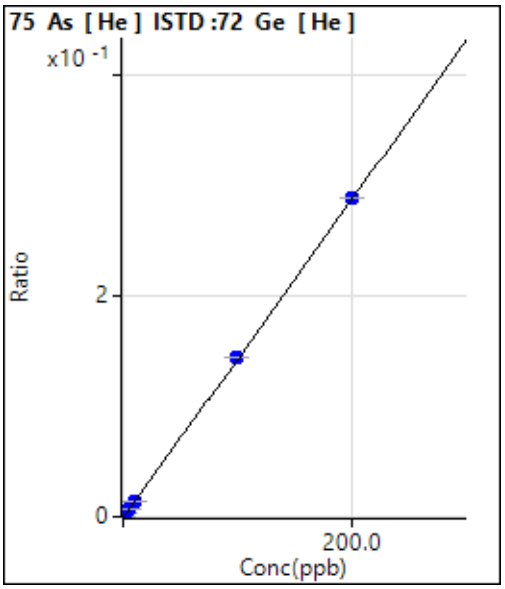
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	366.68	0.0009	P	15.9	
2	☐	2.000	2.104	2226.89	0.0054	P	2.0	5.2
3	☐	5.000	5.389	5137.74	0.0124	P	4.5	7.8
4	☐	10.000	9.881	9113.23	0.0219	P	1.4	-1.2
5	☐	100.000	100.100	88678.49	0.2139	P	2.6	0.1
6	☐	200.000	199.945	171118.12	0.4264	P	1.0	0.0

y = 0.0021 * x + 8.8606E-004
R = 1.0000
DL = 0.1983 ppb
BEC = 0.4164 ppb

Weight: <None>
Min Conc: <None>

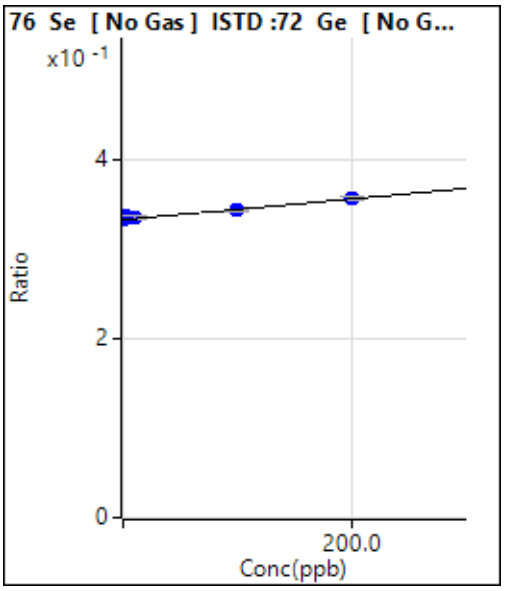


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	100.00	0.0002	P	23.4	
2	☐	2.000	1.952	1267.85	0.0031	P	7.3	-2.4
3	☐	5.000	5.060	3133.72	0.0075	P	2.5	1.2
4	☐	10.000	9.858	6009.13	0.0144	P	1.9	-1.4
5	☐	100.000	99.752	59712.38	0.1440	P	0.6	-0.2
6	☐	200.000	200.130	115854.60	0.2887	P	0.5	0.1

y = 0.0014 * x + 2.4172E-004
R = 1.0000
DL = 0.1179 ppb
BEC = 0.1677 ppb

Weight: <None>
Min Conc: <None>

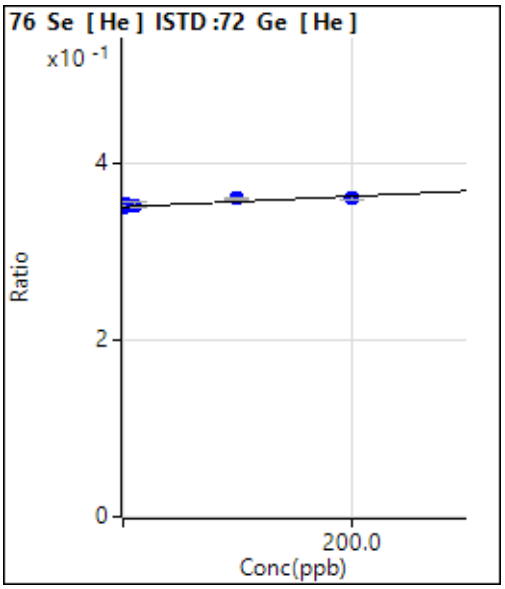
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	459505.46	0.3331	P	0.4	
2	☐	2.000	31.213	463647.95	0.3368	P	1.0	1460.6
3	☐	5.000	21.825	461245.24	0.3357	P	0.7	336.5
4	☐	10.000	19.955	459910.01	0.3355	P	1.0	99.6
5	☐	100.000	88.509	463315.71	0.3435	P	1.0	-11.5
6	☐	200.000	204.535	466550.29	0.3571	P	1.3	2.3

y = 1.1751E-004 * x + 0.3331
R = 0.9864
DL = 31.41 ppb
BEC = 2835 ppb

Weight: <None>
Min Conc: <None>

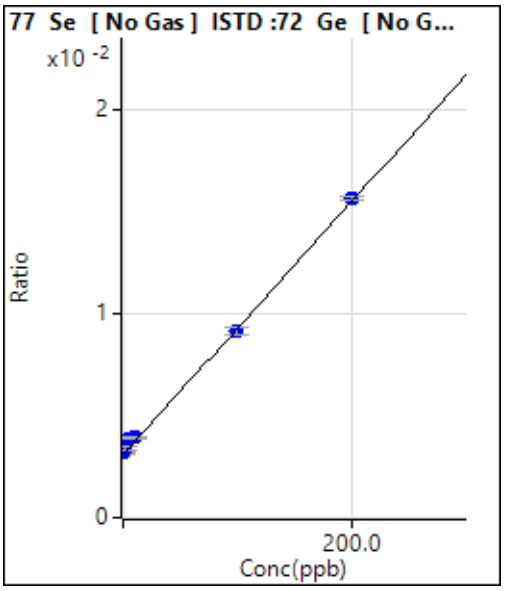


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	145485.00	0.3516	P	0.3	
2	☐	2.000	74.512	147829.36	0.3561	P	0.4	3625.6
3	☐	5.000	18.062	146700.41	0.3527	P	0.7	261.2
4	☐	10.000	37.451	147172.78	0.3539	P	1.4	274.5
5	☐	100.000	159.658	149804.63	0.3613	P	0.6	59.7
6	☐	200.000	167.747	145171.39	0.3617	P	1.2	-16.1

y = 6.0446E-005 * x + 0.3516
R = 0.8806
DL = 51.5 ppb
BEC = 5817 ppb

Weight: <None>
Min Conc: <None>

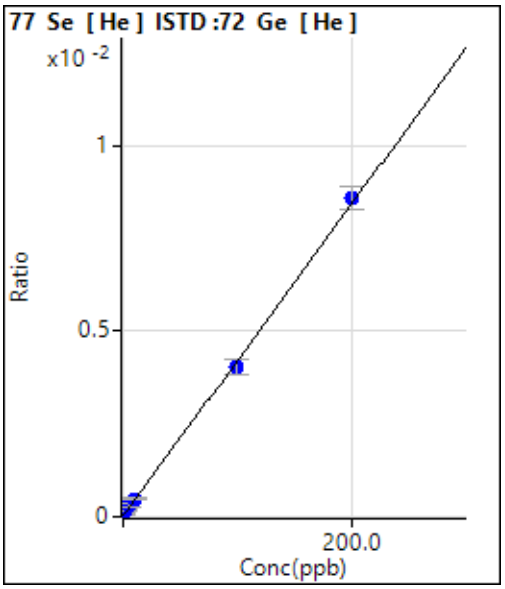
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	4380.78	0.0032	P	2.6	
2	☐	2.000	3.431	4664.23	0.0034	P	5.7	71.6
3	☐	5.000	11.875	5374.52	0.0039	P	2.0	137.5
4	☐	10.000	12.370	5404.53	0.0039	P	3.0	23.7
5	☐	100.000	96.735	12365.83	0.0092	P	4.2	-3.3
6	☐	200.000	201.328	20442.42	0.0156	P	1.5	0.7

y = 6.1952E-005 * x + 0.0032
R = 0.9993
DL = 4.043 ppb
BEC = 51.26 ppb

Weight: <None>
Min Conc: <None>

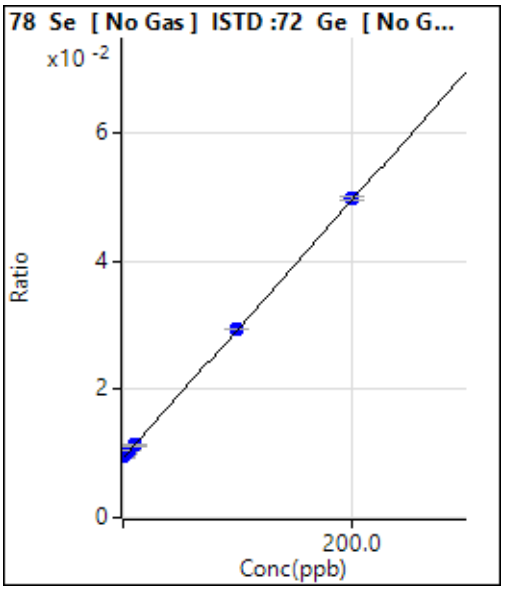


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	26.67	0.0001	P	43.3	
2	☐	2.000	2.282	66.67	0.0002	P	37.6	14.1
3	☐	5.000	5.704	126.67	0.0003	P	27.8	14.1
4	☐	10.000	10.093	203.34	0.0005	P	11.0	0.9
5	☐	100.000	94.274	1673.47	0.0040	P	10.3	-5.7
6	☐	200.000	202.838	3450.51	0.0086	P	7.3	1.4

y = 4.2084E-005 * x + 6.4454E-005
R = 0.9994
DL = 1.991 ppb
BEC = 1.532 ppb

Weight: <None>
Min Conc: <None>

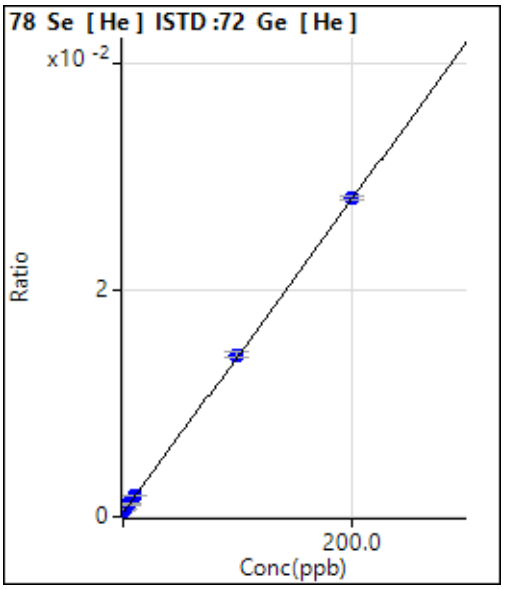
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	13196.67	0.0096	P	3.9	
2	☐	2.000	2.271	13793.98	0.0100	P	2.4	13.6
3	☐	5.000	4.851	14481.36	0.0105	P	1.0	-3.0
4	☐	10.000	8.548	15462.47	0.0113	P	4.4	-14.5
5	☐	100.000	98.977	39708.76	0.0294	P	0.8	-1.0
6	☐	200.000	200.585	65107.00	0.0498	P	1.4	0.3

y = 2.0079E-004 * x + 0.0096
R = 1.0000
DL = 5.641 ppb
BEC = 47.63 ppb

Weight: <None>
Min Conc: <None>

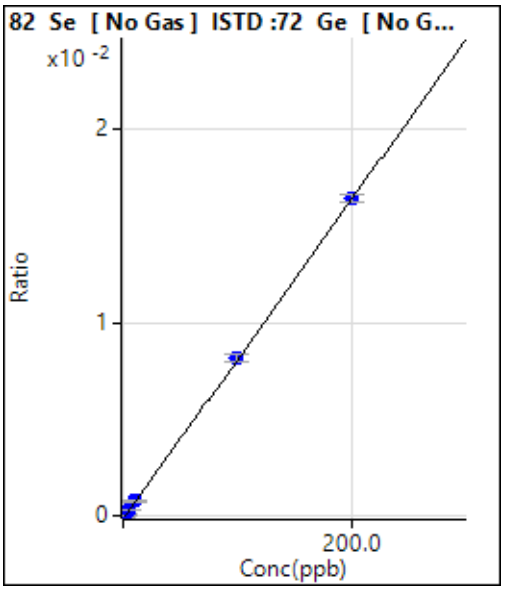


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	200.67	0.0005	P	15.6	
2	☐	2.000	1.857	308.00	0.0007	P	5.7	-7.1
3	☐	5.000	4.512	461.34	0.0011	P	6.4	-9.8
4	☐	10.000	9.796	765.36	0.0018	P	4.6	-2.0
5	☐	100.000	100.061	5939.33	0.0143	P	4.5	0.1
6	☐	200.000	199.993	11299.41	0.0282	P	0.8	0.0

y = 1.3836E-004 * x + 4.8502E-004
R = 1.0000
DL = 1.637 ppb
BEC = 3.506 ppb

Weight: <None>
Min Conc: <None>

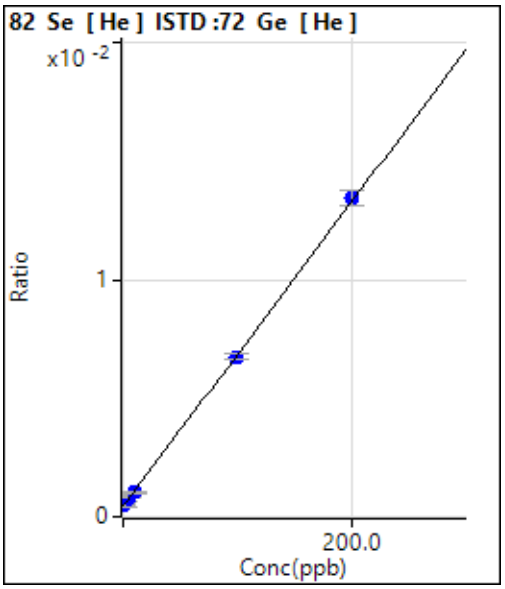
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	-97.66	-0.0001	P	-29.4	
2	☐	2.000	1.705	96.86	0.0001	P	52.8	-14.7
3	☐	5.000	4.396	402.94	0.0003	P	4.6	-12.1
4	☐	10.000	10.242	1066.77	0.0008	P	24.2	2.4
5	☐	100.000	100.060	11075.74	0.0082	P	4.1	0.1
6	☐	200.000	199.976	21535.44	0.0165	P	2.3	0.0

y = 8.2789E-005 * x - 7.0664E-005
R = 1.0000
DL = 0.7519 ppb
BEC = -0.8535 ppb

Weight: <None>
Min Conc: <None>

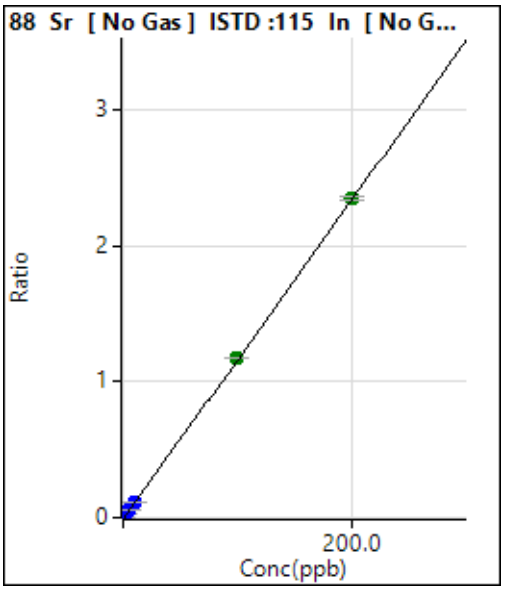


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	213.34	0.0005	P	11.8	
2	☐	2.000	0.222	220.00	0.0005	P	34.2	-88.9
3	☐	5.000	5.211	353.34	0.0008	P	14.7	4.2
4	☐	10.000	8.203	433.35	0.0010	P	5.7	-18.0
5	☐	100.000	97.236	2800.34	0.0068	P	4.1	-2.8
6	☐	200.000	201.484	5394.52	0.0134	P	4.7	0.7

y = 6.4165E-005 * x + 5.1558E-004
R = 0.9998
DL = 2.841 ppb
BEC = 8.035 ppb

Weight: <None>
Min Conc: <None>

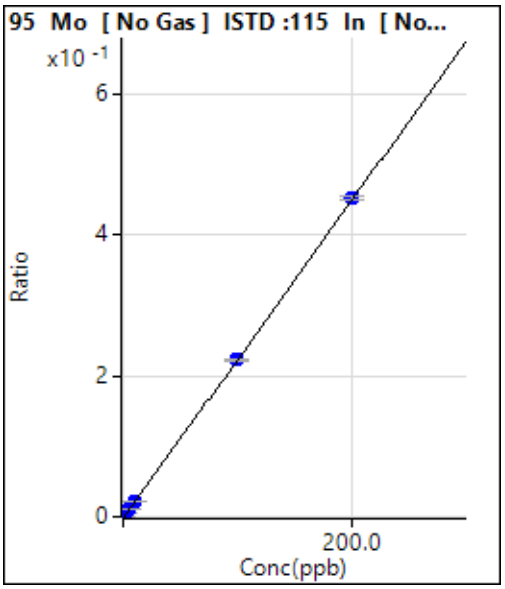
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1246.75	0.0007	P	1.6	
2	☐	2.000	1.850	37773.59	0.0225	P	2.5	-7.5
3	☐	5.000	4.529	90702.96	0.0539	P	0.9	-9.4
4	☐	10.000	9.319	182899.30	0.1101	P	1.3	-6.8
5	☐	100.000	99.839	1932366.64	1.1722	A	0.8	-0.2
6	☐	200.000	200.128	3762422.86	2.3488	A	0.7	0.1

y = 0.0117 * x + 7.4644E-004
R = 1.0000
DL = 0.003123 ppb
BEC = 0.06362 ppb

Weight: <None>
Min Conc: <None>

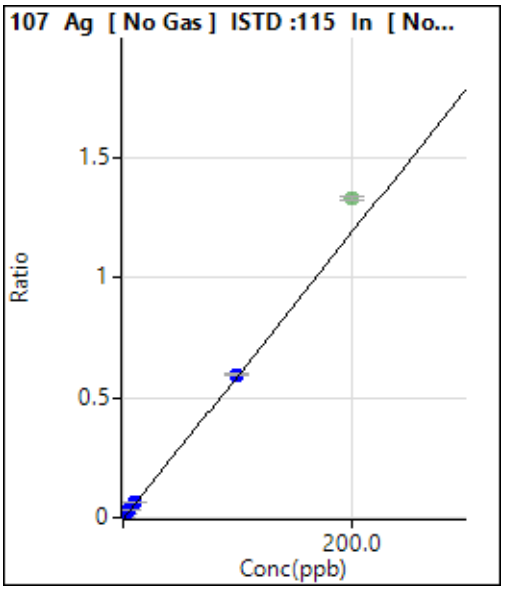


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	26.67	0.0000	P	20.9	
2	☐	2.000	1.915	7282.11	0.0043	P	10.3	-4.2
3	☐	5.000	4.877	18523.15	0.0110	P	2.7	-2.5
4	☐	10.000	9.862	36944.88	0.0222	P	0.6	-1.4
5	☐	100.000	98.811	367043.81	0.2226	P	1.0	-1.2
6	☐	200.000	200.605	723932.38	0.4520	P	1.1	0.3

y = 0.0023 * x + 1.5948E-005
R = 1.0000
DL = 0.004442 ppb
BEC = 0.007078 ppb

Weight: <None>
Min Conc: <None>

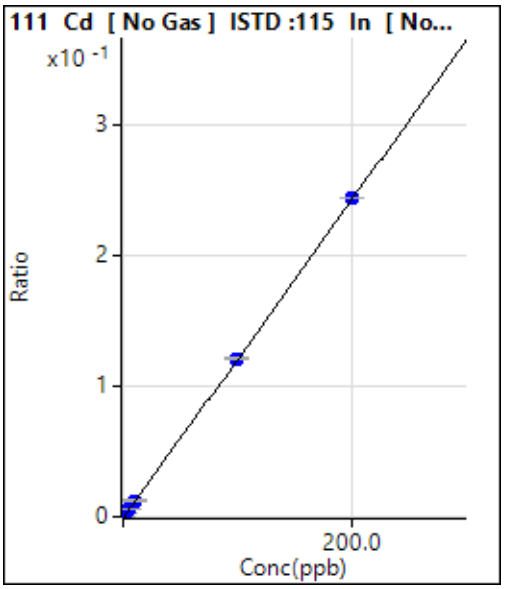
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	993.39	0.0006	P	4.5	
2	☐	2.000	1.964	20729.86	0.0123	P	1.0	-1.8
3	☐	5.000	4.930	50526.89	0.0300	P	2.5	-1.4
4	☐	10.000	10.101	101137.84	0.0609	P	1.9	1.0
5	☐	100.000	99.994	984801.63	0.5974	P	0.4	0.0
6	☑	200.000		2131968.40	1.3310	A	0.7	

y = 0.0060 * x + 5.9496E-004
R = 1.0000
DL = 0.01332 ppb
BEC = 0.09969 ppb

Weight: <None>
Min Conc: <None>

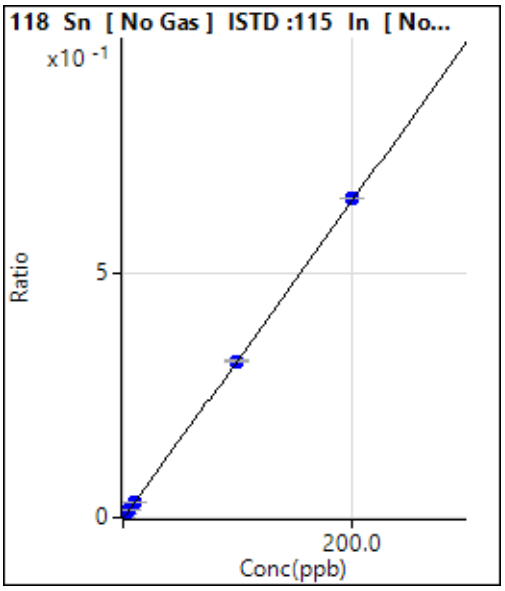


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	20.00	0.0000	P	131.9	
2	☐	2.000	2.018	4167.40	0.0025	P	2.0	0.9
3	☐	5.000	4.883	10057.33	0.0060	P	4.2	-2.3
4	☐	10.000	10.217	20753.26	0.0125	P	2.6	2.2
5	☐	100.000	99.435	200213.95	0.1215	P	1.5	-0.6
6	☐	200.000	200.274	391805.92	0.2446	P	0.5	0.1

y = 0.0012 * x + 1.1975E-005
R = 1.0000
DL = 0.0388 ppb
BEC = 0.009804 ppb

Weight: <None>
Min Conc: <None>

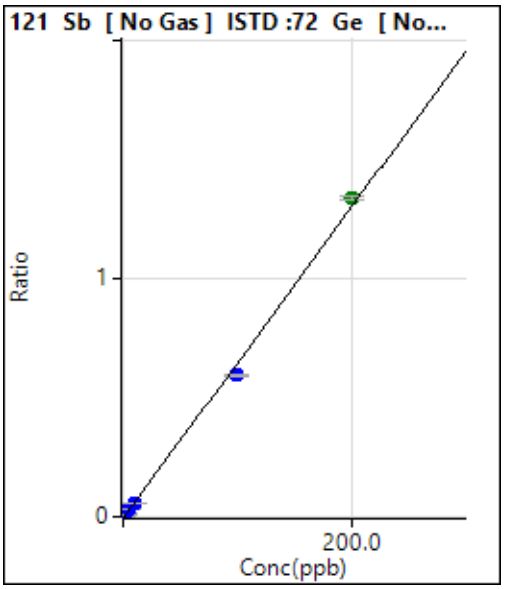
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1170.07	0.0007	P	9.7	
2	☐	2.000	1.888	11465.24	0.0068	P	1.8	-5.6
3	☐	5.000	4.821	27459.10	0.0163	P	1.8	-3.6
4	☐	10.000	9.672	53207.89	0.0320	P	1.4	-3.3
5	☐	100.000	98.062	524660.25	0.3183	P	1.1	-1.9
6	☐	200.000	200.991	1043677.36	0.6516	P	0.4	0.5

y = 0.0032 * x + 7.0034E-004
R = 0.9999
DL = 0.06302 ppb
BEC = 0.2163 ppb

Weight: <None>
Min Conc: <None>

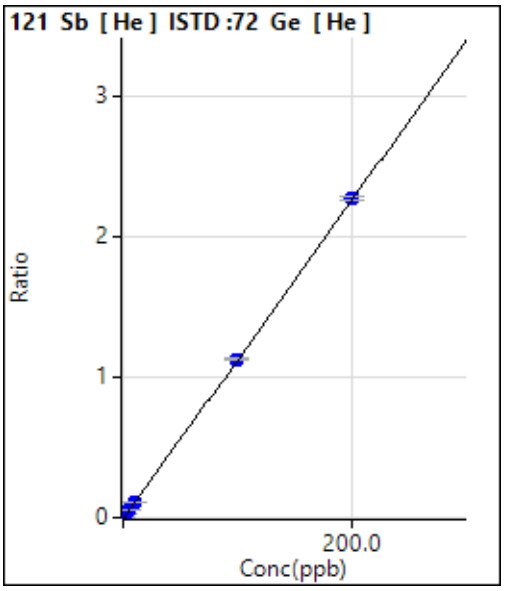


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	373.35	0.0003	P	16.3	
2	☐	2.000	1.823	16754.21	0.0122	P	2.5	-8.9
3	☐	5.000	4.503	40770.46	0.0297	P	2.5	-9.9
4	☐	10.000	9.012	81039.43	0.0591	P	1.5	-9.9
5	☐	100.000	90.646	798610.93	0.5921	P	0.4	-9.4
6	☐	200.000	204.741	1746607.37	1.3370	A	1.7	2.4

y = 0.0065 * x + 2.7034E-004
R = 0.9985
DL = 0.02025 ppb
BEC = 0.04141 ppb

Weight: <None>
Min Conc: <None>

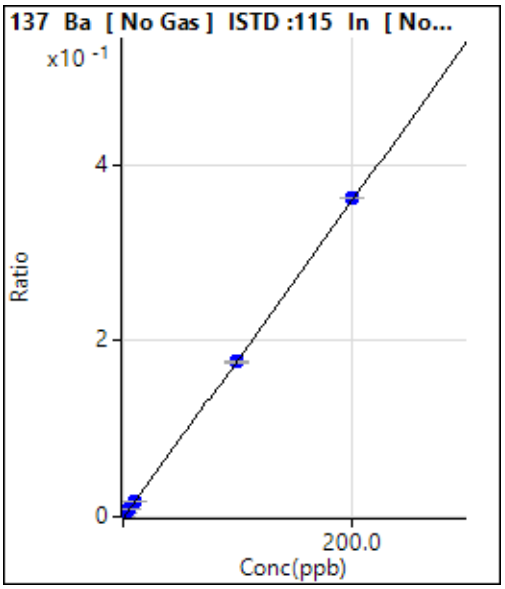
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	226.68	0.0005	P	20.0	
2	☐	2.000	1.905	9213.38	0.0222	P	4.2	-4.8
3	☐	5.000	4.997	23845.29	0.0573	P	3.6	-0.1
4	☐	10.000	9.976	47375.77	0.1139	P	1.9	-0.2
5	☐	100.000	99.278	468025.03	1.1288	P	1.4	-0.7
6	☐	200.000	200.363	914076.11	2.2777	P	0.7	0.2

y = 0.0114 * x + 5.4790E-004
R = 1.0000
DL = 0.0289 ppb
BEC = 0.04821 ppb

Weight: <None>
Min Conc: <None>

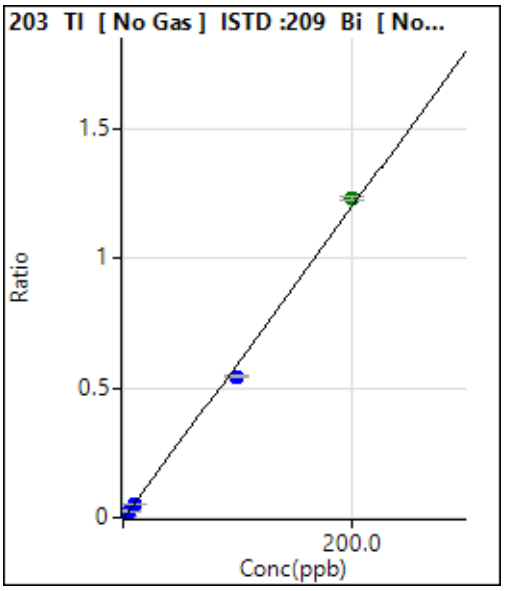


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	206.67	0.0001	P	26.2	
2	☐	2.000	1.876	5894.76	0.0035	P	2.3	-6.2
3	☐	5.000	4.965	15262.51	0.0091	P	1.0	-0.7
4	☐	10.000	9.560	28815.46	0.0173	P	0.2	-4.4
5	☐	100.000	97.828	290698.10	0.1763	P	1.4	-2.2
6	☐	200.000	201.110	580466.88	0.3624	P	0.3	0.6

y = 0.0018 * x + 1.2361E-004
R = 0.9999
DL = 0.05385 ppb
BEC = 0.06862 ppb

Weight: <None>
Min Conc: <None>

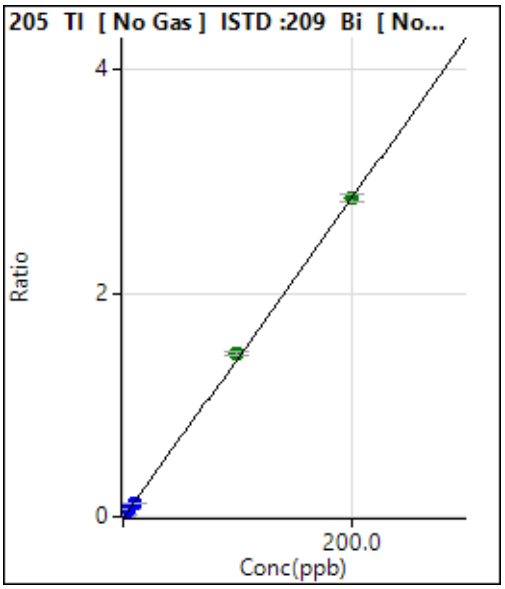
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	63.33	0.0000	P	18.0	
2	☐	2.000	1.775	16621.28	0.0107	P	3.7	-11.3
3	☐	5.000	4.304	40479.17	0.0259	P	0.6	-13.9
4	☐	10.000	8.778	81853.58	0.0528	P	1.4	-12.2
5	☐	100.000	90.640	818769.42	0.5446	P	1.9	-9.4
6	☐	200.000	204.761	1824548.05	1.2302	A	1.3	2.4

y = 0.0060 * x + 4.1307E-005
R = 0.9985
DL = 0.003712 ppb
BEC = 0.006876 ppb

Weight: <None>
Min Conc: <None>

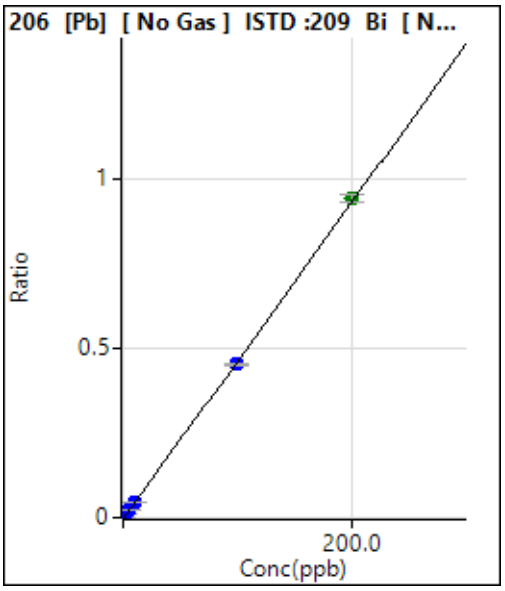


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	183.34	0.0001	P	23.1	
2	☐	2.000	1.757	39242.31	0.0253	P	1.1	-12.1
3	☐	5.000	4.350	97442.28	0.0623	P	1.2	-13.0
4	☐	10.000	8.923	198195.20	0.1278	P	1.4	-10.8
5	☐	100.000	101.635	2186408.72	1.4542	A	2.1	1.6
6	☐	200.000	199.255	4227376.19	2.8509	A	2.1	-0.4

y = 0.0143 * x + 1.1967E-004
R = 0.9999
DL = 0.005794 ppb
BEC = 0.008364 ppb

Weight: <None>
Min Conc: <None>

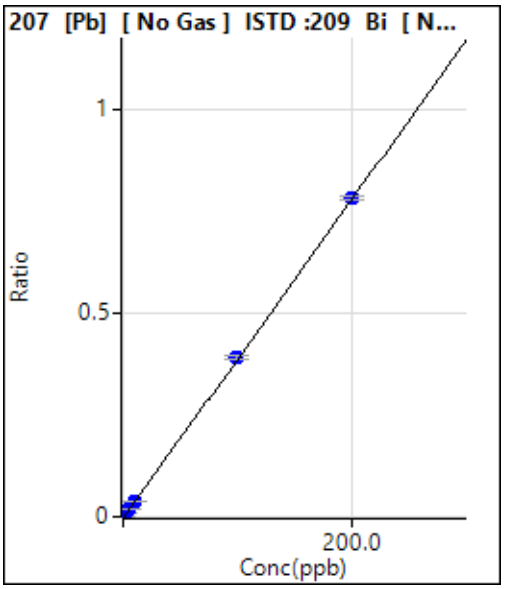
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	340.01	0.0002	P	7.5	
2	☐	2.000	1.877	13958.07	0.0090	P	3.6	-6.2
3	☐	5.000	4.617	34033.36	0.0218	P	1.2	-7.7
4	☐	10.000	9.599	69842.21	0.0450	P	0.5	-4.0
5	☐	100.000	96.776	679573.53	0.4520	P	1.6	-3.2
6	☐	200.000	201.643	1396156.96	0.9415	A	2.0	0.8

y = 0.0047 * x + 2.2180E-004
R = 0.9998
DL = 0.01071 ppb
BEC = 0.04751 ppb

Weight: <None>
Min Conc: <None>

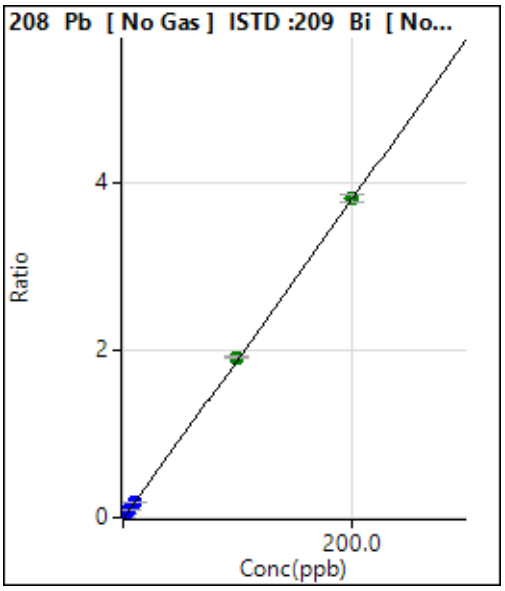


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	223.34	0.0001	P	7.1	
2	☐	2.000	1.945	12032.70	0.0077	P	4.1	-2.7
3	☐	5.000	4.842	29799.29	0.0191	P	0.8	-3.2
4	☐	10.000	9.765	59411.37	0.0383	P	0.6	-2.3
5	☐	100.000	99.830	586721.18	0.3902	P	2.1	-0.2
6	☐	200.000	200.101	1159790.95	0.7821	P	0.9	0.1

y = 0.0039 * x + 1.4573E-004
R = 1.0000
DL = 0.007977 ppb
BEC = 0.03729 ppb

Weight: <None>
Min Conc: <None>

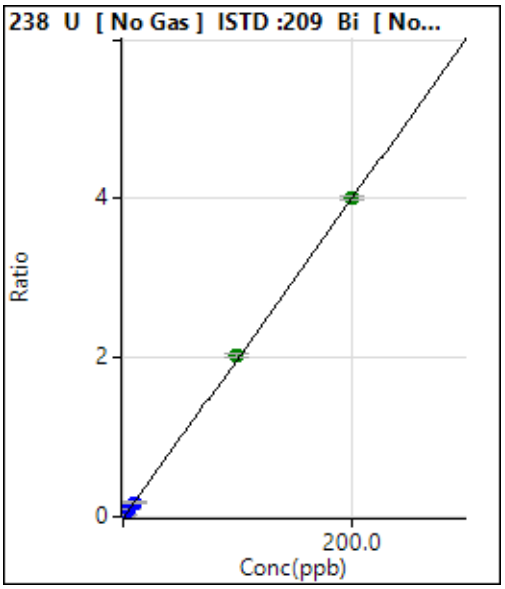
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1246.72	0.0008	P	7.1	
2	☐	2.000	1.800	54717.51	0.0352	P	1.2	-10.0
3	☐	5.000	4.504	135887.40	0.0869	P	1.7	-9.9
4	☐	10.000	9.163	273034.01	0.1760	P	0.7	-8.4
5	☐	100.000	100.181	2881443.22	1.9165	A	1.6	0.2
6	☐	200.000	199.966	5671222.34	3.8246	A	1.9	0.0

y = 0.0191 * x + 8.1357E-004
R = 1.0000
DL = 0.009114 ppb
BEC = 0.04255 ppb

Weight: <None>
Min Conc: <None>

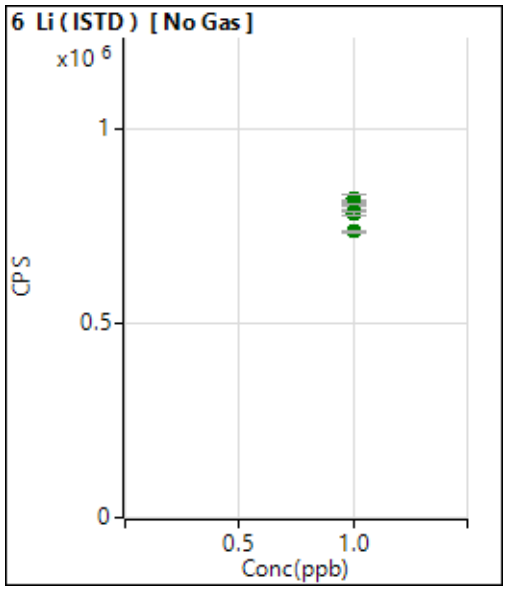


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	13.33	0.0000	P	42.5	
2	☐	2.000	1.788	55820.61	0.0359	P	1.5	-10.6
3	☐	5.000	4.445	139629.04	0.0893	P	1.4	-11.1
4	☐	10.000	9.006	280731.47	0.1810	P	1.4	-9.9
5	☐	100.000	100.992	3051584.54	2.0297	A	2.1	1.0
6	☐	200.000	199.570	5947856.58	4.0109	A	1.2	-0.2

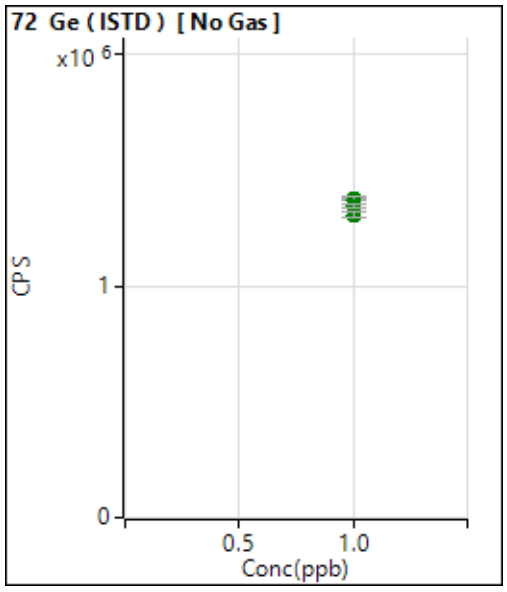
y = 0.0201 * x + 8.6808E-006
R = 1.0000
DL = 0.0005504 ppb
BEC = 0.0004319 ppb

Weight: <None>
Min Conc: <None>

Calibration for 016_ICV.d

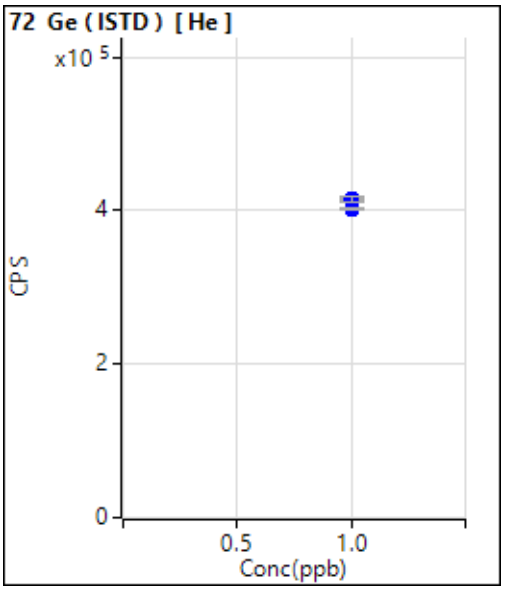


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		823334.35		A	2.2	
2	☐	1.000		815580.43		A	0.8	
3	☐	1.000		807296.14		A	0.6	
4	☐	1.000		790528.61		A	0.8	
5	☐	1.000		784511.29		A	1.2	
6	☐	1.000		737035.11		A	1.0	

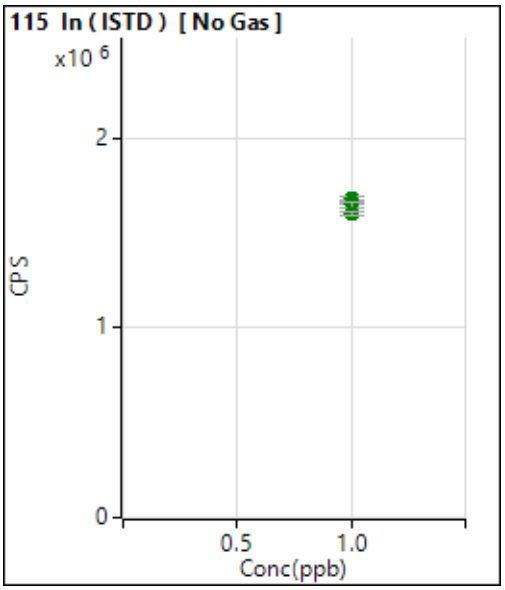


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		1379474.46		A	1.0	
2	☐	1.000		1376765.14		A	0.6	
3	☐	1.000		1374138.73		A	0.9	
4	☐	1.000		1371181.18		A	1.9	
5	☐	1.000		1348824.93		A	1.1	
6	☐	1.000		1306525.95		A	1.8	

Calibration for 016_ICV.d

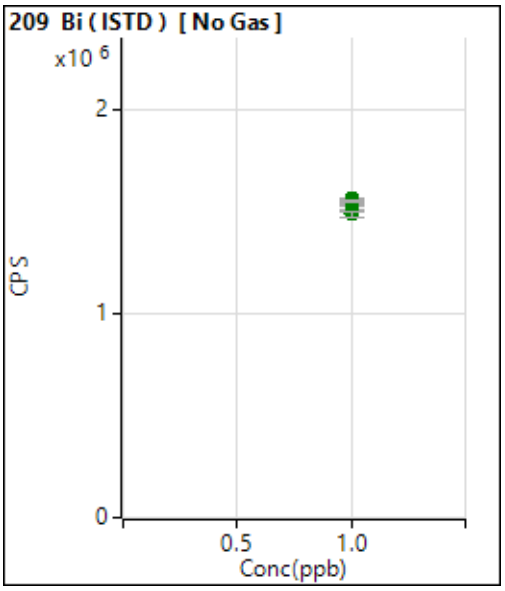


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		413777.95		P	0.1	
2	☐	1.000		415129.89		P	0.2	
3	☐	1.000		415948.35		P	0.6	
4	☐	1.000		415917.48		P	0.9	
5	☐	1.000		414662.22		P	1.4	
6	☐	1.000		401334.10		P	0.7	



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		1670122.71		A	0.9	
2	☐	1.000		1682748.05		A	1.7	
3	☐	1.000		1683236.59		A	0.7	
4	☐	1.000		1661420.79		A	0.5	
5	☐	1.000		1648646.45		A	1.5	
6	☐	1.000		1601760.42		A	1.1	

Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		1532763.26		A	0.7	
2	☐	1.000		1553372.48		A	1.7	
3	☐	1.000		1562899.51		A	0.4	
4	☐	1.000		1551021.28		A	0.4	
5	☐	1.000		1503630.08		A	0.8	
6	☐	1.000		1483099.36		A	1.4	

Calibration Blank Report

Sample Table

Sample Name	CAL BLK
Data File Name	009CALB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq Date Time	2022-11-10T11:39:33-06:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li	7	1	No Gas	45222	0.00
Be	9	1	No Gas	28	156.74
V	51	2	He	2707	0.20
Cr	52	2	He	747	0.72
Fe	56	2	He	10538	0.05
Se	78	2	He	201	7.70
As	75	2	He	100	23.34
Ca	44	2	He	640	1.84
Na	23	2	He	165151	0.00
Mg	24	2	He	350	9.20
K	39	2	He	77557	0.00
Mn	55	2	He	687	0.32
Co	59	2	He	97	87.16
Ni	60	2	He	207	9.46
Cu	63	2	He	1513	0.21
Zn	66	2	He	367	4.36
Al	27	2	He	963	0.12
B	11	1	No Gas	12546	0.00
Al	27	1	No Gas	35653	0.00
Si	28	1	No Gas	314971	0.00
Ag	107	1	No Gas	993	0.36
Cd	111	1	No Gas	20	661.44
Sr	88	1	No Gas	1247	0.20
Mo	95	1	No Gas	27	81.19
Sn	118	1	No Gas	1170	0.88
Sb	121	1	No Gas	373	4.61
Ba	137	1	No Gas	207	12.90
Tl	205	1	No Gas	183	12.39
Tl	203	1	No Gas	63	28.79
Pb	208	1	No Gas	1247	0.54
U	238	1	No Gas	13	324.76
Ca	43	2	He	23	106.04
Sb	121	2	He	227	8.78
Ti	47	2	He	13	859.23
Cu	63	1	No Gas	3210	0.32

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD

Calibration Blank Report

Li	6	1	No Gas	823334	2.16
Ge	72	2	He	413778	0.14
Ge	72	1	No Gas	1379474	1.04
In	115	1	No Gas	1670123	0.91

Calibration Blank Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Bi	209	1	No Gas	1532763	0.74

Calibration Standard Report

Sample Table

Sample Name	2/10/200
Data File Name	010CALS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq Date Time	2022-11-10T11:41:27-06:00
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	4634	0.09
V	51	2	He	10624	0.00
Cr	52	2	He	10051	0.03
Fe	56	2	He	853518	0.00
Se	78	2	He	308	1.80
As	75	2	He	1268	0.55
Ca	44	2	He	5621	0.10
Na	23	2	He	316821	0.00
Mg	24	2	He	89744	0.00
K	39	2	He	171683	0.00
Mn	55	2	He	7469	0.08
Co	59	2	He	13647	0.02
Ni	60	2	He	3831	0.05
Cu	63	2	He	10881	0.05
Zn	66	2	He	2227	0.08
Al	27	2	He	1407	0.61
B	11	1	No Gas	23840	0.01
Al	27	1	No Gas	56585	0.00
Si	28	1	No Gas	358376	0.00
Ag	107	1	No Gas	20730	0.01
Cd	111	1	No Gas	4167	0.05
Sr	88	1	No Gas	37774	0.00
Mo	95	1	No Gas	7282	0.13
Sn	118	1	No Gas	11465	0.02
Sb	121	1	No Gas	16754	0.01
Ba	137	1	No Gas	5895	0.04
Tl	205	1	No Gas	39242	0.01
Tl	203	1	No Gas	16621	0.01
Pb	208	1	No Gas	54718	0.00
U	238	1	No Gas	55821	0.00
Ca	43	2	He	343	1.30
Sb	121	2	He	9213	0.05
Cu	63	1	No Gas	18246	0.03

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	815580	0.78	823334	99.06	70	120	
Ge	72	2	He	415130	0.22	413778	100.33	70	120	
Ge	72	1	No Gas	1376765	0.60	1379474	99.80	70	120	

Calibration Standard Report

In	115	1	No Gas	1682748	1.75	1670123	100.76	70	120	
Bi	209	1	No Gas	1553372	1.71	1532763	101.34	70	120	

Calibration Standard Report

Sample Table

Sample Name	5/25/500
Data File Name	011CALS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq Date Time	2022-11-10T11:43:20-06:00
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	11994	0.02
V	51	2	He	21918	0.01
Cr	52	2	He	23033	0.01
Fe	56	2	He	2253022	0.00
Se	78	2	He	461	1.35
As	75	2	He	3134	0.07
Ca	44	2	He	12956	0.03
Na	23	2	He	548671	0.00
Mg	24	2	He	224705	0.00
K	39	2	He	315837	0.00
Mn	55	2	He	16881	0.02
Co	59	2	He	34190	0.00
Ni	60	2	He	9283	0.03
Cu	63	2	He	25240	0.01
Zn	66	2	He	5138	0.08
Al	27	2	He	2117	0.40
B	11	1	No Gas	41140	0.00
Al	27	1	No Gas	79567	0.00
Si	28	1	No Gas	427558	0.00
Ag	107	1	No Gas	50527	0.00
Cd	111	1	No Gas	10057	0.04
Sr	88	1	No Gas	90703	0.00
Mo	95	1	No Gas	18523	0.02
Sn	118	1	No Gas	27459	0.01
Sb	121	1	No Gas	40770	0.01
Ba	137	1	No Gas	15263	0.01
Tl	205	1	No Gas	97442	0.00
Tl	203	1	No Gas	40479	0.00
Pb	208	1	No Gas	135887	0.00
U	238	1	No Gas	139629	0.00
Ca	43	2	He	777	1.35
Sb	121	2	He	23845	0.01
Cu	63	1	No Gas	41781	0.01

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	807296	0.64	823334	98.05	70	120	
Ge	72	2	He	415948	0.60	413778	100.52	70	120	
Ge	72	1	No Gas	1374139	0.89	1379474	99.61	70	120	

Calibration Standard Report

In	115	1	No Gas	1683237	0.68	1670123	100.79	70	120	
Bi	209	1	No Gas	1562900	0.44	1532763	101.97	70	120	

Calibration Standard Report

Sample Table

Sample Name	10/50/100
Data File Name	012CALS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq Date Time	2022-11-10T11:45:13-06:00
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	23556	0.00
V	51	2	He	40877	0.00
Cr	52	2	He	45884	0.00
Fe	56	2	He	4317414	0.00
Se	78	2	He	765	0.58
As	75	2	He	6009	0.02
Ca	44	2	He	25524	0.00
Na	23	2	He	986702	0.00
Mg	24	2	He	446265	0.00
K	39	2	He	552703	0.00
Mn	55	2	He	33441	0.00
Co	59	2	He	69018	0.00
Ni	60	2	He	17875	0.02
Cu	63	2	He	48068	0.00
Zn	66	2	He	9113	0.01
Al	27	2	He	3314	0.18
B	11	1	No Gas	71100	0.00
Al	27	1	No Gas	127271	0.00
Si	28	1	No Gas	535852	0.00
Ag	107	1	No Gas	101138	0.00
Cd	111	1	No Gas	20753	0.01
Sr	88	1	No Gas	182899	0.00
Mo	95	1	No Gas	36945	0.00
Sn	118	1	No Gas	53208	0.00
Sb	121	1	No Gas	81039	0.00
Ba	137	1	No Gas	28815	0.00
Tl	205	1	No Gas	198195	0.00
Tl	203	1	No Gas	81854	0.00
Pb	208	1	No Gas	273034	0.00
U	238	1	No Gas	280731	0.00
Ca	43	2	He	1447	0.51
Sb	121	2	He	47376	0.00
Cu	63	1	No Gas	79569	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	790529	0.85	823334	96.02	70	120	
Ge	72	2	He	415917	0.93	413778	100.52	70	120	
Ge	72	1	No Gas	1371181	1.95	1379474	99.40	70	120	

Calibration Standard Report

In	115	1	No Gas	1661421	0.50	1670123	99.48	70	120	
Bi	209	1	No Gas	1551021	0.43	1532763	101.19	70	120	

Calibration Standard Report

Sample Table

Sample Name	100/500/10K
Data File Name	013CALS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq Date Time	2022-11-10T11:47:05-06:00
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	233066	0.00
V	51	2	He	385580	0.00
Cr	52	2	He	450003	0.00
Fe	56	2	He	41693248	0.00
Se	78	2	He	5939	0.05
As	75	2	He	59712	0.00
Ca	44	2	He	244862	0.00
Na	23	2	He	7963974	0.00
Mg	24	2	He	4617217	0.00
K	39	2	He	4929851	0.00
Mn	55	2	He	329024	0.00
Co	59	2	He	686654	0.00
Ni	60	2	He	174878	0.00
Cu	63	2	He	475365	0.00
Zn	66	2	He	88678	0.00
Al	27	2	He	25390	0.01
B	11	1	No Gas	595453	0.00
Al	27	1	No Gas	1036605	0.00
Si	28	1	No Gas	2671488	0.00
Ag	107	1	No Gas	984802	0.00
Cd	111	1	No Gas	200214	0.00
Sr	88	1	No Gas	1932367	0.00
Mo	95	1	No Gas	367044	0.00
Sn	118	1	No Gas	524660	0.00
Sb	121	1	No Gas	798611	0.00
Ba	137	1	No Gas	290698	0.00
Tl	205	1	No Gas	2186409	0.00
Tl	203	1	No Gas	818769	0.00
Pb	208	1	No Gas	2881443	0.00
U	238	1	No Gas	3051585	0.00
Ca	43	2	He	14571	0.03
Sb	121	2	He	468025	0.00
Cu	63	1	No Gas	750259	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	784511	1.18	823334	95.28	70	120	
Ge	72	2	He	414662	1.44	413778	100.21	70	120	
Ge	72	1	No Gas	1348825	1.15	1379474	97.78	70	120	

Calibration Standard Report

In	115	1	No Gas	1648646	1.48	1670123	98.71	70	120	
Bi	209	1	No Gas	1503630	0.81	1532763	98.10	70	120	

Calibration Standard Report

Sample Table

Sample Name	200/1000/20K
Data File Name	014CALS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq Date Time	2022-11-10T11:48:54-06:00
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	455554	0.00
V	51	2	He	749785	0.00
Cr	52	2	He	871821	0.00
Fe	56	2	He	80679124	0.00
Se	78	2	He	11299	0.00
As	75	2	He	115855	0.00
Ca	44	2	He	478030	0.00
Na	23	2	He	15213700	0.00
Mg	24	2	He	8927450	0.00
K	39	2	He	9384422	0.00
Mn	55	2	He	638729	0.00
Co	59	2	He	1408600	0.00
Ni	60	2	He	339285	0.00
Cu	63	2	He	911500	0.00
Zn	66	2	He	171118	0.00
Al	27	2	He	47495	0.00
B	11	1	No Gas	1268088	0.00
Al	27	1	No Gas	1929875	0.00
Si	28	1	No Gas	4696237	0.00
Ag	107	1	No Gas	2131968	0.00
Cd	111	1	No Gas	391806	0.00
Sr	88	1	No Gas	3762423	0.00
Mo	95	1	No Gas	723932	0.00
Sn	118	1	No Gas	1043677	0.00
Sb	121	1	No Gas	1746607	0.00
Ba	137	1	No Gas	580467	0.00
Tl	205	1	No Gas	4227376	0.00
Tl	203	1	No Gas	1824548	0.00
Pb	208	1	No Gas	5671222	0.00
U	238	1	No Gas	5947857	0.00
Ca	43	2	He	28650	0.01
Sb	121	2	He	914076	0.00
Cu	63	1	No Gas	1575246	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	737035	1.02	823334	89.52	70	120	
Ge	72	2	He	401334	0.73	413778	96.99	70	120	
Ge	72	1	No Gas	1306526	1.78	1379474	94.71	70	120	

Calibration Standard Report

In	115	1	No Gas	1601760	1.12	1670123	95.91	70	120	
Bi	209	1	No Gas	1483099	1.44	1532763	96.76	70	120	

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICV
Data File Name	016_ICV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq Date Time	2022-11-10T12:01:37-06:00
Sample Type	ICV
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	98.034	2.064	1176527	1.12	100	98.0	90	110	
Be	9	1	No Gas	96.540	1.178	231080	0.17	100	96.5	90	110	
V	51	2	He	100.022	0.874	380117	0.53	100	100.0	90	110	
Cr	52	2	He	100.314	0.919	442682	1.00	100	100.3	90	110	
Fe	56	2	He	10072.467	0.844	41123988	0.60	10000	100.7	90	110	
Se	78	2	He	97.343	2.164	5666	1.96	100	97.3	90	110	
As	75	2	He	100.981	0.499	59197	0.22	100	101.0	90	110	
Ca	44	2	He	10025.960	2.055	242316	1.89	10000	100.3	90	110	
Na	23	2	He	10091.229	0.141	7852640	0.28	10000	100.9	90	110	
Mg	24	2	He	10146.046	0.286	4583416	0.57	10000	101.5	90	110	
K	39	2	He	10217.838	0.996	4897026	1.00	10000	102.2	90	110	
Mn	55	2	He	100.395	1.378	324491	1.17	100	100.4	90	110	
Co	59	2	He	95.290	0.577	671346	0.26	100	95.3	90	110	
Ni	60	2	He	100.407	0.725	172360	0.39	100	100.4	90	110	
Cu	63	2	He	100.302	0.848	463994	0.53	100	100.3	90	110	
Zn	66	2	He	100.318	0.974	87048	0.64	100	100.3	90	110	
Al	27	2	He	101.420	3.881	24906	3.67	100	101.4	90	110	
B	11	1	No Gas	446.629	2.775	591021	2.63	500	89.3	90	110	ICV Main CR1 Failed
Al	27	1	No Gas	101.786	3.197	1019464	1.52	100	101.8	90	110	
Si	28	1	No Gas	515.613	4.209	2625951	1.69	500	103.1	90	110	
Ag	107	1	No Gas	91.126	2.184	969182	0.99	100	91.1	90	110	
Cd	111	1	No Gas	98.773	2.116	196787	0.51	100	98.8	90	110	
Sr	88	1	No Gas	101.303	1.619	1940119	1.43	100	101.3	90	110	
Mo	95	1	No Gas	98.470	2.513	361876	0.51	100	98.5	90	110	
Sn	118	1	No Gas	97.339	2.213	515302	0.78	100	97.3	90	110	
Sb	121	1	No Gas	90.358	1.649	783632	0.67	100	90.4	90	110	
Ba	137	1	No Gas	97.789	1.899	287529	0.18	100	97.8	90	110	
Tl	205	1	No Gas	100.824	0.916	2192670	1.45	100	100.8	90	110	
Tl	203	1	No Gas	87.594	2.084	799796	0.94	100	87.6	90	110	ICV Main CR1 Failed
Pb	208	1	No Gas	96.880	2.186	2816429	0.41	100	96.9	90	110	
U	238	1	No Gas	97.800	1.591	2987150	0.55	100	97.8	90	110	
Ca	43	2	He	9946.745	2.060	14381	1.68	10000	99.5	90	110	
Sb	121	2	He	99.347	0.733	458700	0.41	100	99.3	90	110	
Ti	47	2	He	101.912	1.843	13600	1.46	100	101.9	90	110	
Cu	63	1	No Gas	94.188	1.599	743533	0.81	100	94.2	90	110	
Se	82	1	No Gas	98.667	1.330	10752	0.93	100	98.7	90	110	

QC ISTD Table

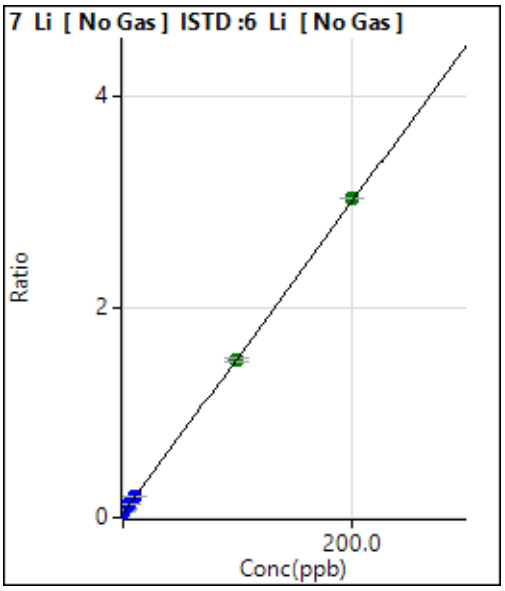
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	780593	1.10	823334	94.81	70	120	
Ge	72	2	He	406074	0.39	413778	98.14	70	120	
Ge	72	1	No Gas	1327985	2.06	1379474	96.27	70	120	
In	115	1	No Gas	1631530	2.06	1670123	97.69	70	120	
Bi	209	1	No Gas	1520072	2.00	1532763	99.17	70	120	

Calibration for 016_ICV.d

Batch Folder: D:\Agilent\ICPMH\1\DATA\111022A.b\
Analysis File: 111022A.batch.bin
DA Date-Time: 11/10/2022 22:40:38
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	009CALB.d	CAL BLK	11/10/2022 11:39:33
2	010CALS.d	2/10/200	11/10/2022 11:41:27
3	011CALS.d	5/25/500	11/10/2022 11:43:20
4	012CALS.d	10/50/100	11/10/2022 11:45:13
5	013CALS.d	100/500/10K	11/10/2022 11:47:05
6	014CALS.d	200/1000/20K	11/10/2022 11:48:54

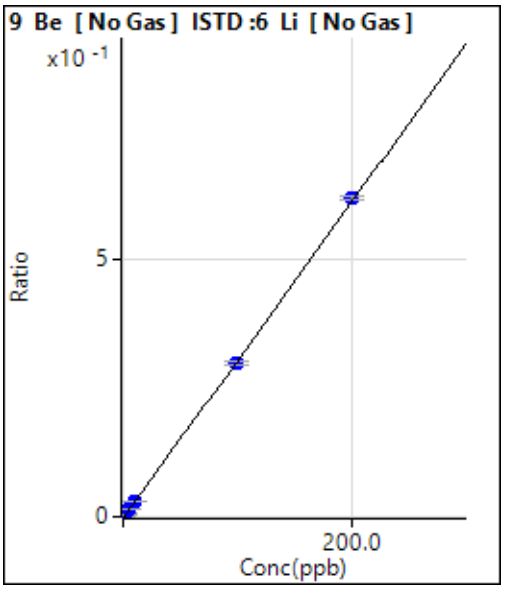
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	45222.33	0.0549	P	3.0	
2	☐	2.000	1.870	67401.89	0.0826	P	0.9	-6.5
3	☐	5.000	4.664	100141.21	0.1241	P	1.4	-6.7
4	☐	10.000	9.536	155117.74	0.1962	P	0.8	-4.6
5	☐	100.000	97.332	1174254.33	1.4970	A	2.8	-2.7
6	☐	200.000	201.367	2239390.90	3.0384	A	0.1	0.7

y = 0.0148 * x + 0.0549
R = 0.9999
DL = 0.3364 ppb
BEC = 3.708 ppb

Weight: <None>
Min Conc: <None>

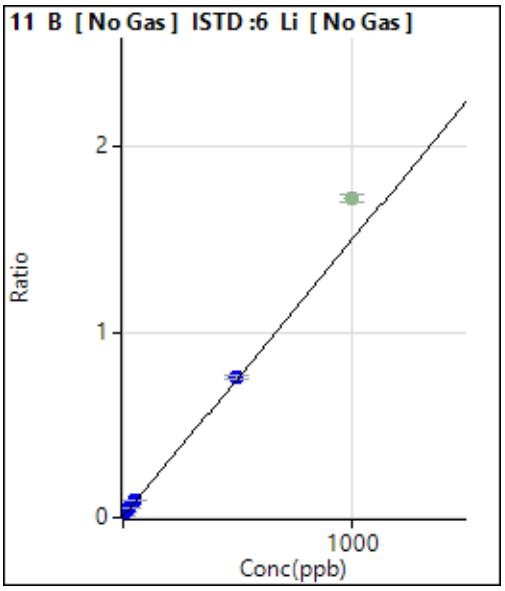


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	28.33	0.0000	P	45.4	
2	☐	2.000	1.842	4634.14	0.0057	P	3.6	-7.9
3	☐	5.000	4.834	11993.52	0.0149	P	2.1	-3.3
4	☐	10.000	9.707	23556.46	0.0298	P	0.5	-2.9
5	☐	100.000	96.889	233065.80	0.2971	P	1.8	-3.1
6	☐	200.000	201.576	455553.98	0.6181	P	0.9	0.8

y = 0.0031 * x + 3.4483E-005
R = 0.9998
DL = 0.01533 ppb
BEC = 0.01125 ppb

Weight: <None>
Min Conc: <None>

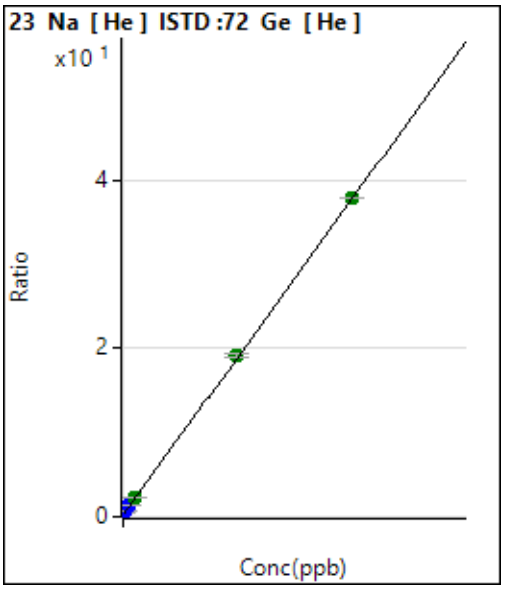
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	12545.69	0.0152	P	2.3	
2	☐	10.000	9.404	23840.26	0.0292	P	1.4	-6.0
3	☐	25.000	24.012	41140.15	0.0510	P	1.3	-4.0
4	☐	50.000	50.218	71100.50	0.0899	P	0.3	0.4
5	☐	500.000	500.040	595453.44	0.7590	P	2.2	0.0
6	☑	1000.000		1268088.08	1.7204	A	2.4	

y = 0.0015 * x + 0.0152
R = 1.0000
DL = 0.7125 ppb
BEC = 10.25 ppb

Weight: <None>
Min Conc: <None>

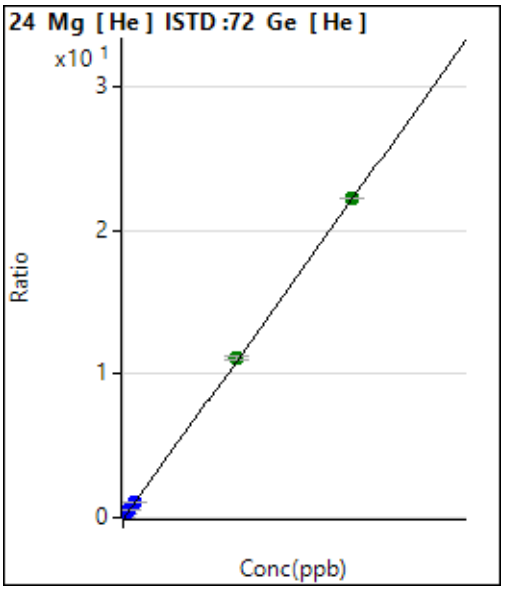


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	165151.28	0.3991	P	1.6	
2	☐	200.000	193.981	316820.98	0.7632	P	0.6	-3.0
3	☐	500.000	490.208	548670.51	1.3191	P	1.0	-2.0
4	☐	1000.000	1051.498	986702.09	2.3725	A	1.5	5.1
5	☐	10000.00	10023.03	7963974.05	19.2100	A	2.4	0.2
6	☐	20000.00	19986.21	15213700.1	37.9086	A	0.4	-0.1

y = 0.0019 * x + 0.3991
R = 1.0000
DL = 10.18 ppb
BEC = 212.7 ppb

Weight: <None>
Min Conc: <None>

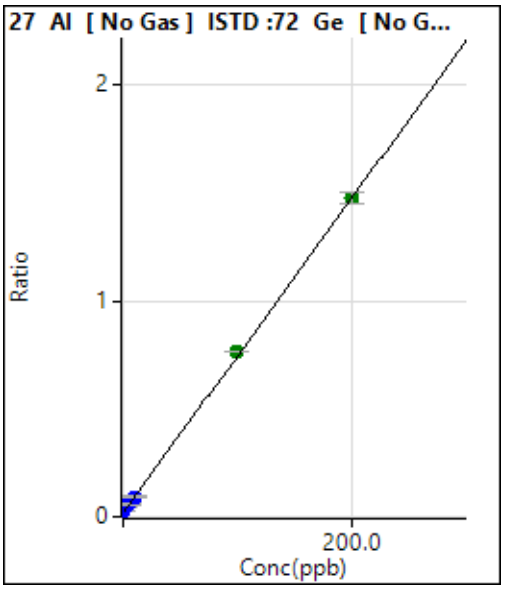
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	350.01	0.0008	P	32.0	
2	☐	200.000	193.584	89744.11	0.2162	P	0.7	-3.2
3	☐	500.000	484.903	224704.68	0.5402	P	1.5	-3.0
4	☐	1000.000	963.848	446264.71	1.0730	P	0.8	-3.6
5	☐	10000.00	10010.72	4617217.22	11.1366	A	1.6	0.1
6	☐	20000.00	19996.88	8927450.08	22.2450	A	0.6	0.0

y = 0.0011 * x + 8.4565E-004
R = 1.0000
DL = 0.7309 ppb
BEC = 0.7602 ppb

Weight: <None>
Min Conc: <None>

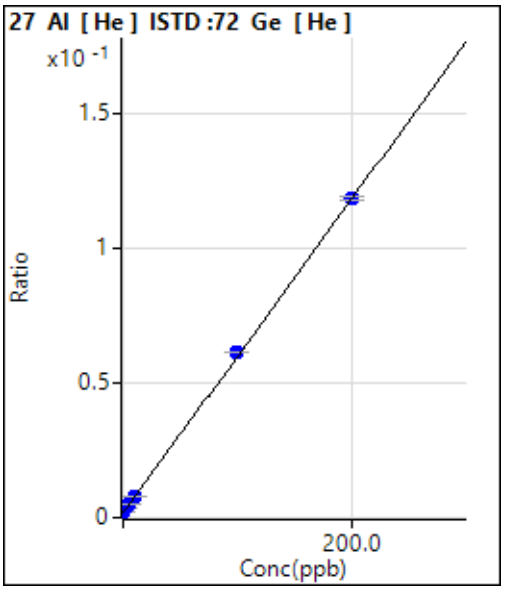


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	35652.65	0.0258	P	2.2	
2	☐	2.000	2.092	56585.16	0.0411	P	2.0	4.6
3	☐	5.000	4.397	79566.66	0.0579	P	2.2	-12.1
4	☐	10.000	9.188	127271.35	0.0928	P	1.4	-8.1
5	☐	100.000	101.859	1036605.11	0.7685	A	0.4	1.9
6	☐	200.000	199.125	1929874.50	1.4777	A	3.3	-0.4

y = 0.0073 * x + 0.0258
R = 0.9999
DL = 0.2356 ppb
BEC = 3.545 ppb

Weight: <None>
Min Conc: <None>

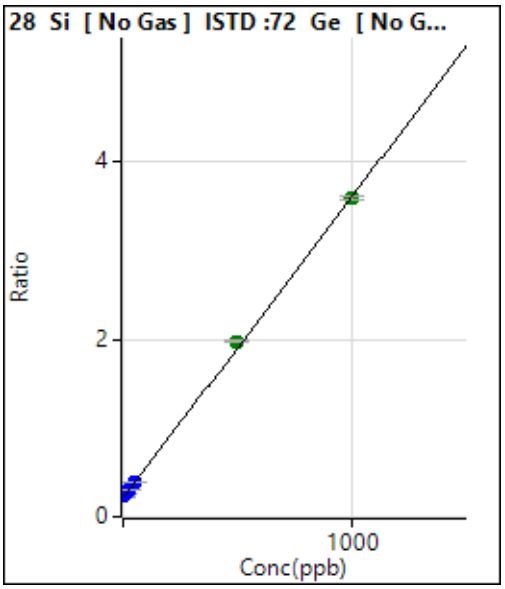
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	963.38	0.0023	P	1.1	
2	☐	2.000	1.822	1406.76	0.0034	P	8.4	-8.9
3	☐	5.000	4.743	2116.87	0.0051	P	8.0	-5.1
4	☐	10.000	9.690	3313.78	0.0080	P	5.5	-3.1
5	☐	100.000	101.243	25390.11	0.0612	P	0.8	1.2
6	☐	200.000	199.402	47494.52	0.1183	P	0.7	-0.3

y = 5.8180E-004 * x + 0.0023
R = 1.0000
DL = 0.1327 ppb
BEC = 4.002 ppb

Weight: <None>
Min Conc: <None>

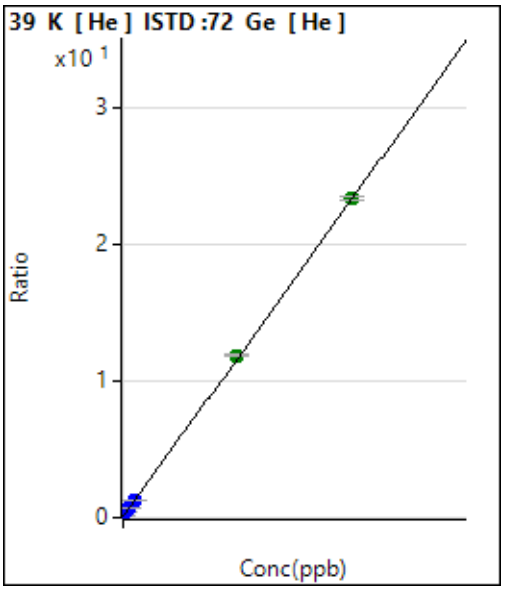


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	314970.72	0.2284	P	1.8	
2	☐	10.000	9.410	358375.87	0.2603	P	1.5	-5.9
3	☐	25.000	24.396	427558.42	0.3112	P	0.7	-2.4
4	☐	50.000	47.912	535851.94	0.3910	P	3.5	-4.2
5	☐	500.000	516.324	2671487.67	1.9808	A	1.5	3.3
6	☐	1000.000	991.963	4696237.12	3.5952	A	1.8	-0.8

y = 0.0034 * x + 0.2284
R = 0.9998
DL = 3.669 ppb
BEC = 67.28 ppb

Weight: <None>
Min Conc: <None>

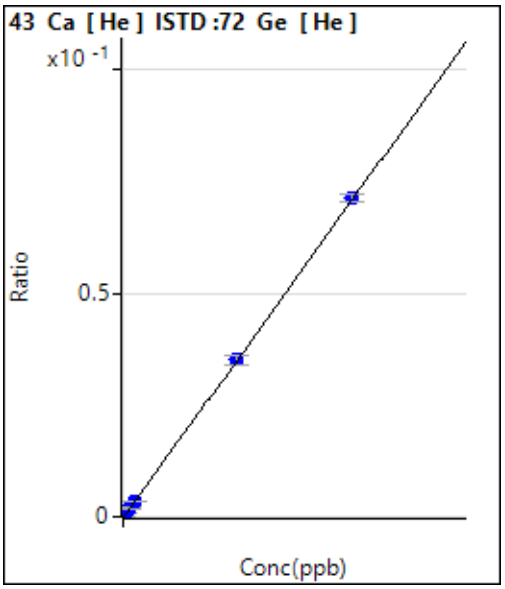
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	77557.33	0.1874	P	2.2	
2	☐	200.000	194.618	171683.20	0.4136	P	0.4	-2.7
3	☐	500.000	492.208	315836.96	0.7593	P	0.5	-1.6
4	☐	1000.000	982.409	552702.80	1.3289	P	0.3	-1.8
5	☐	10000.00	10072.64	4929851.49	11.8908	A	1.7	0.7
6	☐	20000.00	19964.80	9384421.73	23.3844	A	1.6	-0.2

y = 0.0012 * x + 0.1874
R = 1.0000
DL = 10.59 ppb
BEC = 161.3 ppb

Weight: <None>
Min Conc: <None>

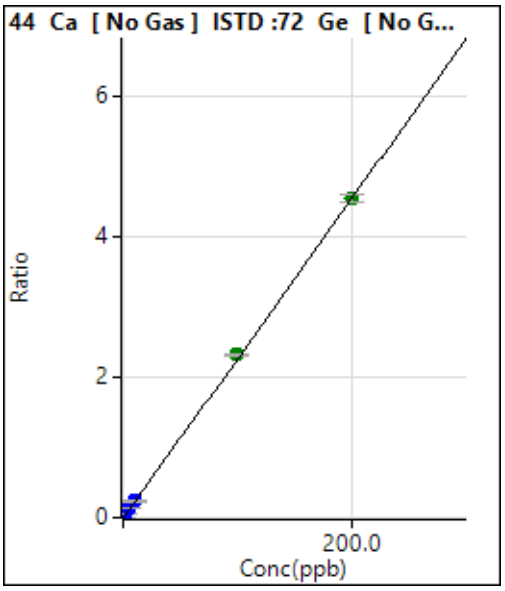


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	23.33	0.0001	P	24.6	
2	☐	200.000	216.787	343.34	0.0008	P	4.3	8.4
3	☐	500.000	509.198	776.70	0.0019	P	9.9	1.8
4	☐	1000.000	962.267	1446.77	0.0035	P	6.5	-3.8
5	☐	10000.00	9872.399	14571.20	0.0352	P	5.7	-1.3
6	☐	20000.00	20065.28	28650.13	0.0714	P	2.4	0.3

y = 3.5550E-006 * x + 5.6378E-005
R = 1.0000
DL = 11.7 ppb
BEC = 15.86 ppb

Weight: <None>
Min Conc: <None>

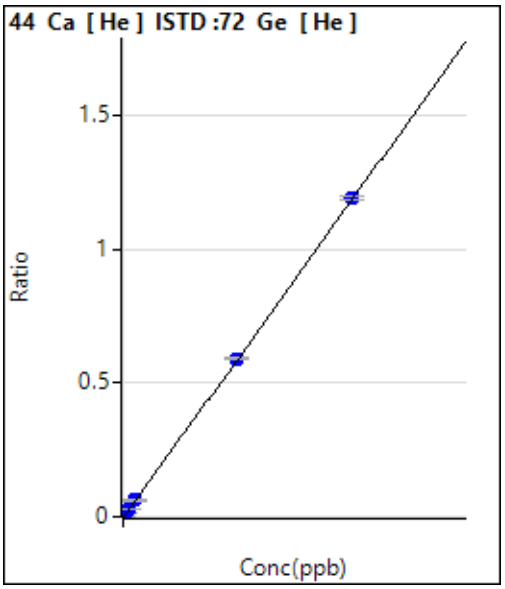
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	18028.77	0.0131	P	6.2	
2	☐	2.000	1.955	79136.90	0.0575	P	0.6	-2.3
3	☐	5.000	4.889	170589.74	0.1242	P	1.5	-2.2
4	☐	10.000	9.719	320637.95	0.2339	P	2.0	-2.8
5	☐	100.000	101.487	3127684.12	2.3190	A	1.2	1.5
6	☐	200.000	199.274	5931498.25	4.5409	A	2.0	-0.4

y = 0.0227 * x + 0.0131
R = 1.0000
DL = 0.1063 ppb
BEC = 0.5753 ppb

Weight: <None>
Min Conc: <None>

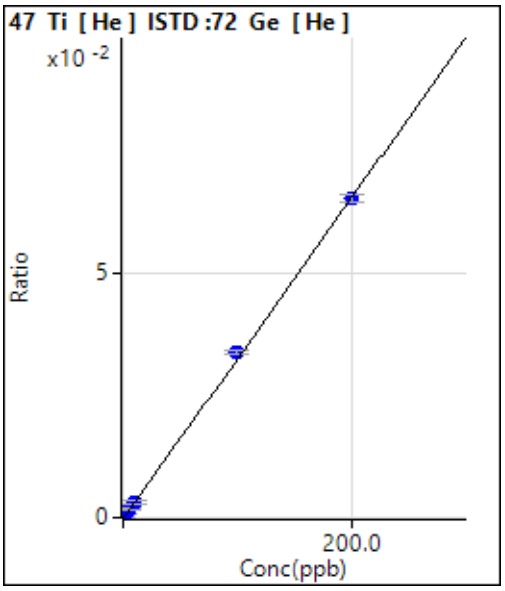


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	640.03	0.0015	P	11.9	
2	☐	200.000	202.053	5621.23	0.0135	P	6.1	1.0
3	☐	500.000	498.707	12956.31	0.0312	P	4.6	-0.3
4	☐	1000.000	1007.751	25524.02	0.0614	P	1.3	0.8
5	☐	10000.00	9922.150	244861.77	0.5906	P	1.3	-0.8
6	☐	20000.00	20038.54	478030.41	1.1911	P	0.9	0.2

y = 5.9366E-005 * x + 0.0015
R = 1.0000
DL = 9.301 ppb
BEC = 26.06 ppb

Weight: <None>
Min Conc: <None>

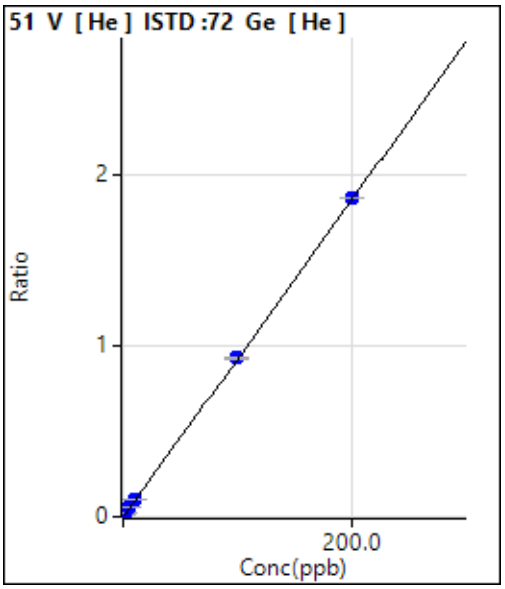
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	13.33	0.0000	P	114.6	
2	☐	2.000	1.956	280.01	0.0007	P	6.1	-2.2
3	☐	5.000	5.079	706.70	0.0017	P	13.7	1.6
4	☐	10.000	9.583	1323.43	0.0032	P	19.0	-4.2
5	☐	100.000	102.776	14007.33	0.0338	P	2.4	2.8
6	☐	200.000	198.631	26185.15	0.0652	P	2.7	-0.7

y = 3.2833E-004 * x + 3.2221E-005
R = 0.9999
DL = 0.3375 ppb
BEC = 0.09813 ppb

Weight: <None>
Min Conc: <None>

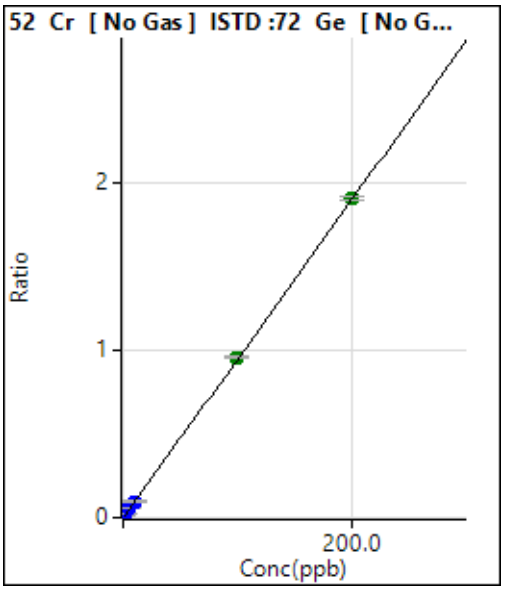


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	2706.95	0.0065	P	5.1	
2	☐	2.000	2.050	10624.16	0.0256	P	0.3	2.5
3	☐	5.000	4.966	21917.52	0.0527	P	0.9	-0.7
4	☐	10.000	9.871	40877.37	0.0983	P	0.3	-1.3
5	☐	100.000	99.364	385579.55	0.9300	P	1.4	-0.6
6	☐	200.000	200.325	749784.50	1.8683	P	0.5	0.2

y = 0.0093 * x + 0.0065
R = 1.0000
DL = 0.1087 ppb
BEC = 0.7039 ppb

Weight: <None>
Min Conc: <None>

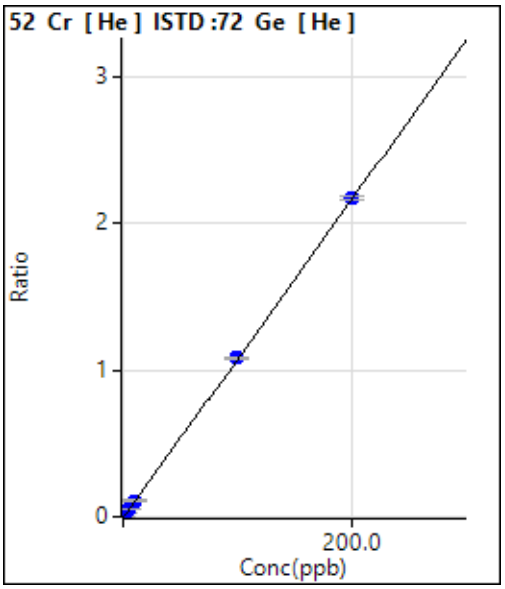
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	10480.84	0.0076	P	3.1	
2	☐	2.000	1.892	35272.36	0.0256	P	1.9	-5.4
3	☐	5.000	4.727	72303.98	0.0526	P	1.2	-5.5
4	☐	10.000	9.417	133350.64	0.0973	P	2.6	-5.8
5	☐	100.000	100.076	1295815.53	0.9607	A	1.1	0.1
6	☐	200.000	199.999	2498032.15	1.9123	A	1.7	0.0

y = 0.0095 * x + 0.0076
R = 1.0000
DL = 0.07391 ppb
BEC = 0.7979 ppb

Weight: <None>
Min Conc: <None>

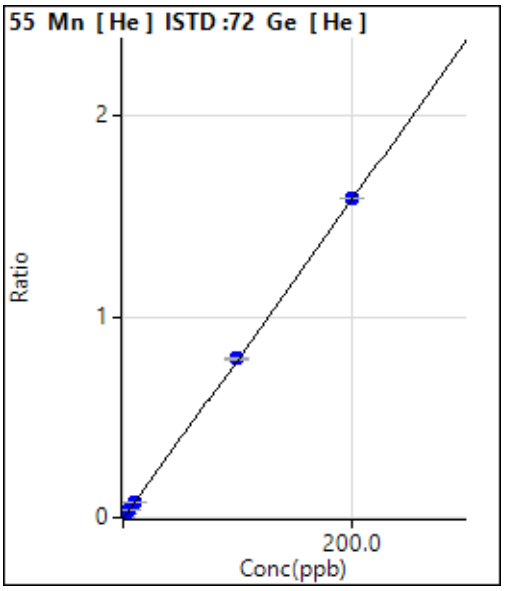


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	746.70	0.0018	P	5.5	
2	☐	2.000	2.065	10050.54	0.0242	P	3.5	3.3
3	☐	5.000	4.937	23033.02	0.0554	P	1.2	-1.3
4	☐	10.000	10.003	45883.70	0.1103	P	1.8	0.0
5	☐	100.000	99.871	450002.69	1.0853	P	1.2	-0.1
6	☐	200.000	200.065	871821.47	2.1724	P	0.8	0.0

y = 0.0108 * x + 0.0018
R = 1.0000
DL = 0.02742 ppb
BEC = 0.1663 ppb

Weight: <None>
Min Conc: <None>

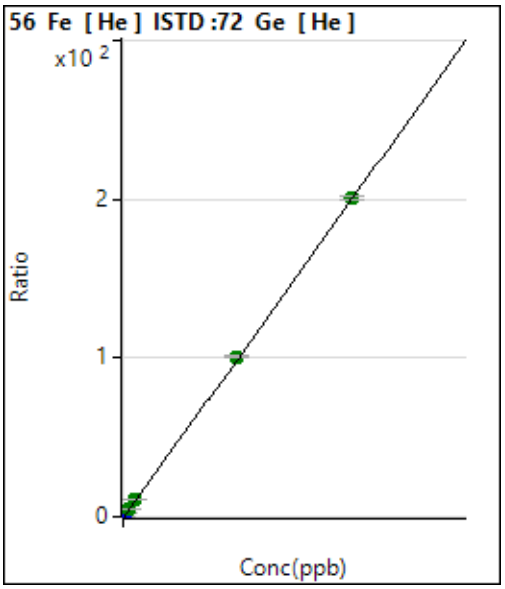
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	686.70	0.0017	P	2.1	
2	☐	2.000	2.056	7468.84	0.0180	P	5.9	2.8
3	☐	5.000	4.900	16880.65	0.0406	P	3.1	-2.0
4	☐	10.000	9.915	33441.12	0.0804	P	2.0	-0.9
5	☐	100.000	99.701	329024.00	0.7936	P	1.5	-0.3
6	☐	200.000	200.156	638729.33	1.5915	P	0.5	0.1

y = 0.0079 * x + 0.0017
R = 1.0000
DL = 0.01316 ppb
BEC = 0.2089 ppb

Weight: <None>
Min Conc: <None>

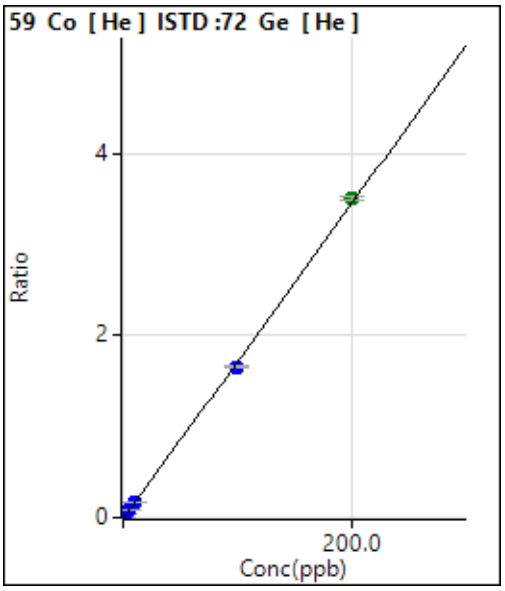


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	10537.60	0.0255	P	5.1	
2	☐	200.000	202.007	853517.96	2.0560	P	0.5	1.0
3	☐	500.000	536.339	2253022.16	5.4167	A	0.7	7.3
4	☐	1000.000	1030.163	4317413.89	10.3806	A	0.3	3.0
5	☐	10000.00	10001.34	41693247.7	100.558	A	1.2	0.0
6	☐	20000.00	19996.88	80679123.8	201.033	A	0.7	0.0

y = 0.0101 * x + 0.0255
R = 1.0000
DL = 0.388 ppb
BEC = 2.533 ppb

Weight: <None>
Min Conc: <None>

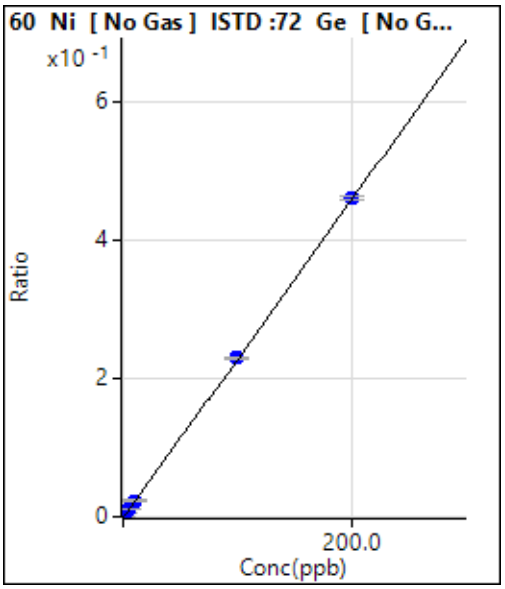
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	96.68	0.0002	P	84.1	
2	☐	2.000	1.882	13647.02	0.0329	P	2.0	-5.9
3	☐	5.000	4.725	34189.95	0.0822	P	2.2	-5.5
4	☐	10.000	9.552	69017.60	0.1659	P	0.4	-4.5
5	☐	100.000	95.459	686653.55	1.6562	P	1.8	-4.5
6	☐	200.000	202.301	1408599.72	3.5097	A	0.9	1.2

y = 0.0173 * x + 2.3347E-004
R = 0.9996
DL = 0.03397 ppb
BEC = 0.01346 ppb

Weight: <None>
Min Conc: <None>

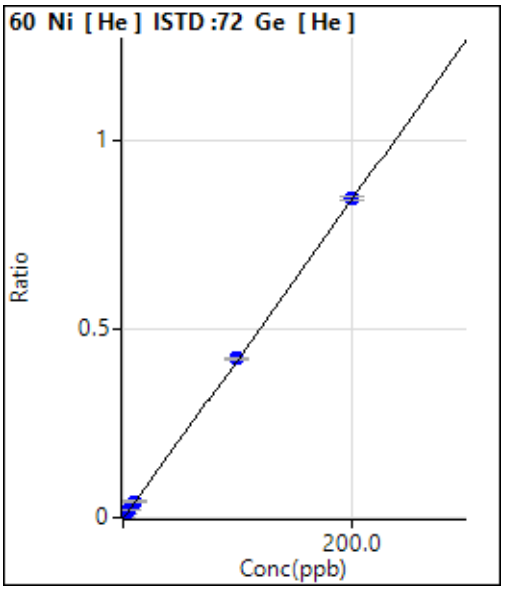


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	556.69	0.0004	P	15.8	
2	☐	2.000	2.051	7065.28	0.0051	P	2.2	2.6
3	☐	5.000	4.993	16366.77	0.0119	P	4.4	-0.1
4	☐	10.000	9.996	32144.84	0.0234	P	2.0	0.0
5	☐	100.000	99.773	310750.25	0.2304	P	0.9	-0.2
6	☐	200.000	200.113	603174.86	0.4617	P	0.8	0.1

y = 0.0023 * x + 4.0311E-004
R = 1.0000
DL = 0.0827 ppb
BEC = 0.1749 ppb

Weight: <None>
Min Conc: <None>

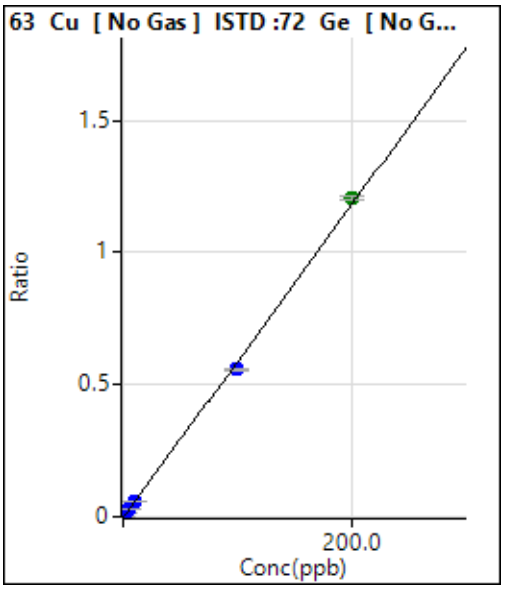
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	206.67	0.0005	P	19.5	
2	☐	2.000	2.067	3830.61	0.0092	P	2.3	3.4
3	☐	5.000	5.167	9283.32	0.0223	P	2.7	3.3
4	☐	10.000	10.060	17875.35	0.0430	P	2.7	0.6
5	☐	100.000	99.775	174877.75	0.4218	P	1.5	-0.2
6	☐	200.000	200.104	339285.06	0.8454	P	0.8	0.1

y = 0.0042 * x + 4.9945E-004
R = 1.0000
DL = 0.06929 ppb
BEC = 0.1183 ppb

Weight: <None>
Min Conc: <None>

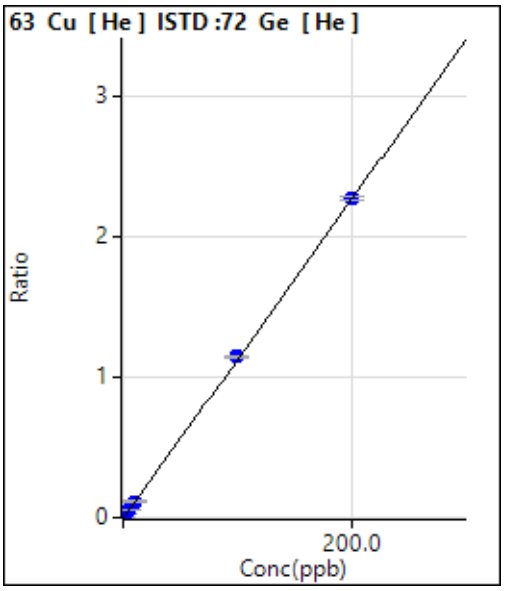


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	3210.44	0.0023	P	9.6	
2	☐	2.000	1.845	18245.83	0.0133	P	4.7	-7.7
3	☐	5.000	4.742	41781.22	0.0304	P	2.1	-5.2
4	☐	10.000	9.410	79568.76	0.0580	P	1.6	-5.9
5	☐	100.000	93.554	750259.36	0.5563	P	0.6	-6.4
6	☐	200.000	203.260	1575245.55	1.2058	A	1.1	1.6

y = 0.0059 * x + 0.0023
R = 0.9993
DL = 0.1131 ppb
BEC = 0.3929 ppb

Weight: <None>
Min Conc: <None>

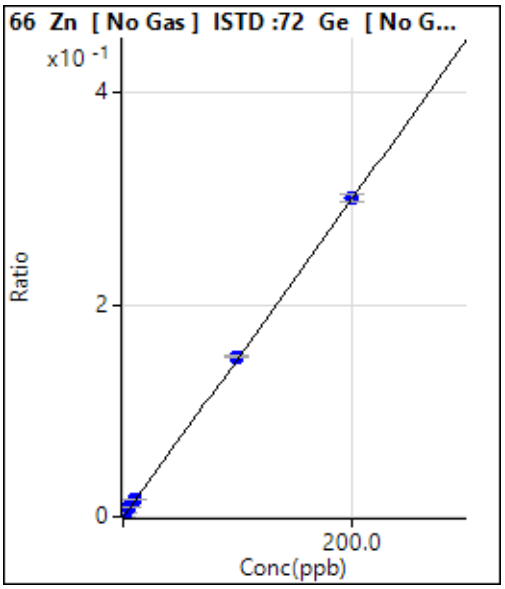
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1513.44	0.0037	P	3.1	
2	☐	2.000	1.986	10881.20	0.0262	P	5.6	-0.7
3	☐	5.000	5.022	25240.29	0.0607	P	2.1	0.4
4	☐	10.000	9.856	48068.45	0.1156	P	1.3	-1.4
5	☐	100.000	100.639	475365.17	1.1465	P	0.8	0.6
6	☐	200.000	199.687	911499.91	2.2712	P	0.7	-0.2

y = 0.0114 * x + 0.0037
R = 1.0000
DL = 0.03015 ppb
BEC = 0.3221 ppb

Weight: <None>
Min Conc: <None>

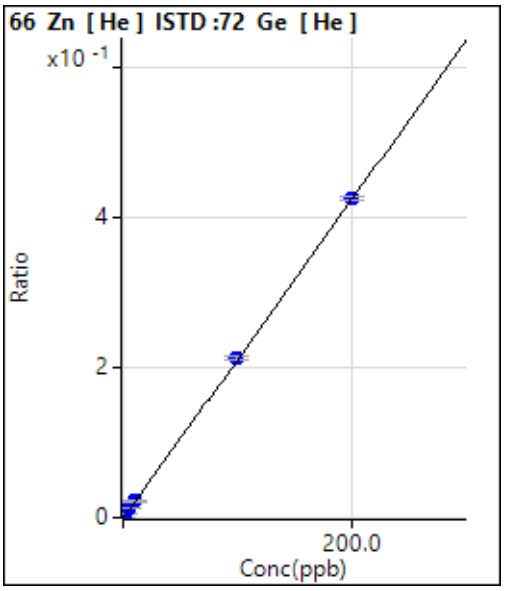


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1056.73	0.0008	P	12.5	
2	☐	2.000	1.985	5154.38	0.0037	P	1.3	-0.7
3	☐	5.000	5.137	11638.54	0.0085	P	2.8	2.7
4	☐	10.000	10.118	21847.82	0.0159	P	4.5	1.2
5	☐	100.000	100.113	203569.05	0.1509	P	0.5	0.1
6	☐	200.000	199.934	392724.45	0.3007	P	2.0	0.0

y = 0.0015 * x + 7.6562E-004
R = 1.0000
DL = 0.1907 ppb
BEC = 0.5104 ppb

Weight: <None>
Min Conc: <None>

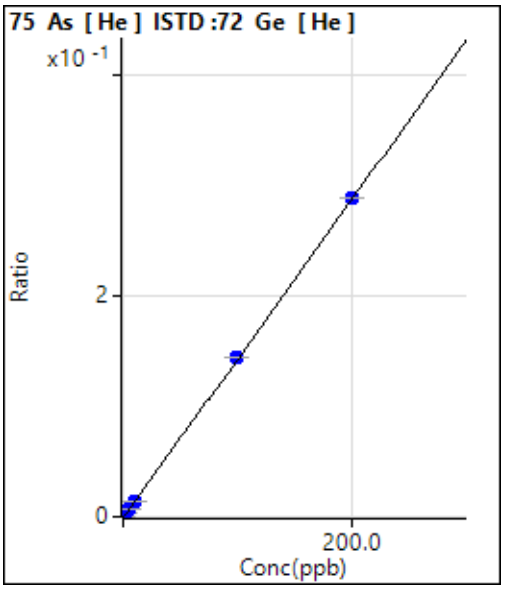
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	366.68	0.0009	P	15.9	
2	☐	2.000	2.104	2226.89	0.0054	P	2.0	5.2
3	☐	5.000	5.389	5137.74	0.0124	P	4.5	7.8
4	☐	10.000	9.881	9113.23	0.0219	P	1.4	-1.2
5	☐	100.000	100.100	88678.49	0.2139	P	2.6	0.1
6	☐	200.000	199.945	171118.12	0.4264	P	1.0	0.0

y = 0.0021 * x + 8.8606E-004
R = 1.0000
DL = 0.1983 ppb
BEC = 0.4164 ppb

Weight: <None>
Min Conc: <None>

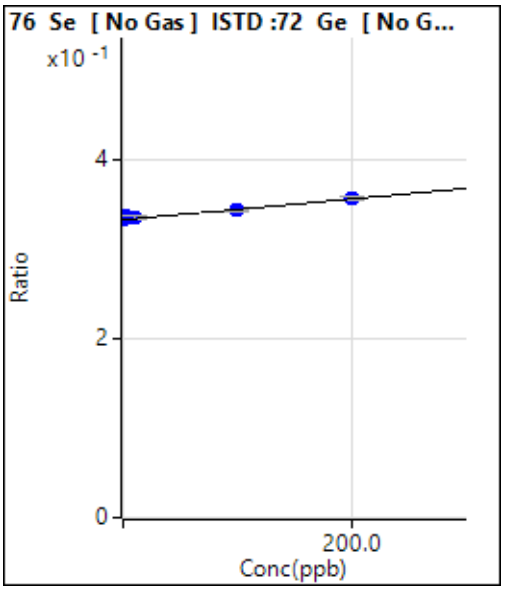


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	100.00	0.0002	P	23.4	
2	☐	2.000	1.952	1267.85	0.0031	P	7.3	-2.4
3	☐	5.000	5.060	3133.72	0.0075	P	2.5	1.2
4	☐	10.000	9.858	6009.13	0.0144	P	1.9	-1.4
5	☐	100.000	99.752	59712.38	0.1440	P	0.6	-0.2
6	☐	200.000	200.130	115854.60	0.2887	P	0.5	0.1

y = 0.0014 * x + 2.4172E-004
R = 1.0000
DL = 0.1179 ppb
BEC = 0.1677 ppb

Weight: <None>
Min Conc: <None>

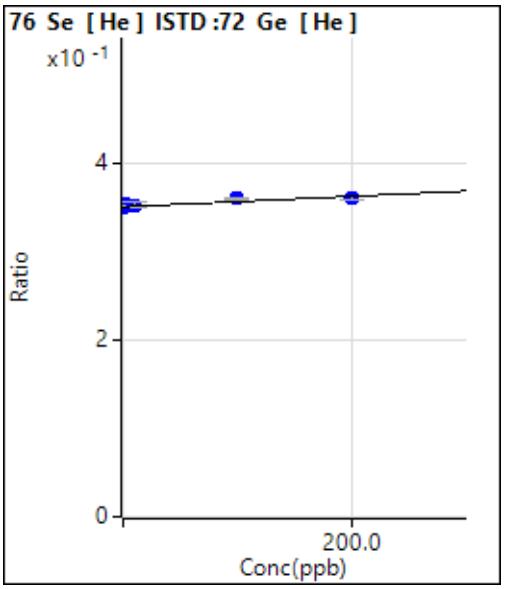
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	459505.46	0.3331	P	0.4	
2	☐	2.000	31.213	463647.95	0.3368	P	1.0	1460.6
3	☐	5.000	21.825	461245.24	0.3357	P	0.7	336.5
4	☐	10.000	19.955	459910.01	0.3355	P	1.0	99.6
5	☐	100.000	88.509	463315.71	0.3435	P	1.0	-11.5
6	☐	200.000	204.535	466550.29	0.3571	P	1.3	2.3

y = 1.1751E-004 * x + 0.3331
R = 0.9864
DL = 31.41 ppb
BEC = 2835 ppb

Weight: <None>
Min Conc: <None>

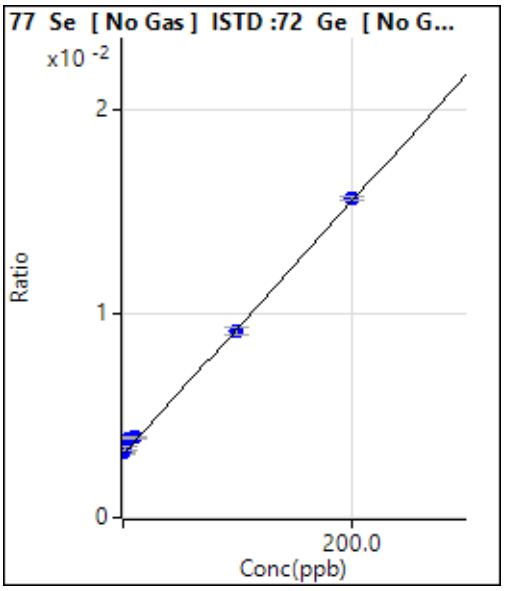


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	145485.00	0.3516	P	0.3	
2	☐	2.000	74.512	147829.36	0.3561	P	0.4	3625.6
3	☐	5.000	18.062	146700.41	0.3527	P	0.7	261.2
4	☐	10.000	37.451	147172.78	0.3539	P	1.4	274.5
5	☐	100.000	159.658	149804.63	0.3613	P	0.6	59.7
6	☐	200.000	167.747	145171.39	0.3617	P	1.2	-16.1

y = 6.0446E-005 * x + 0.3516
R = 0.8806
DL = 51.5 ppb
BEC = 5817 ppb

Weight: <None>
Min Conc: <None>

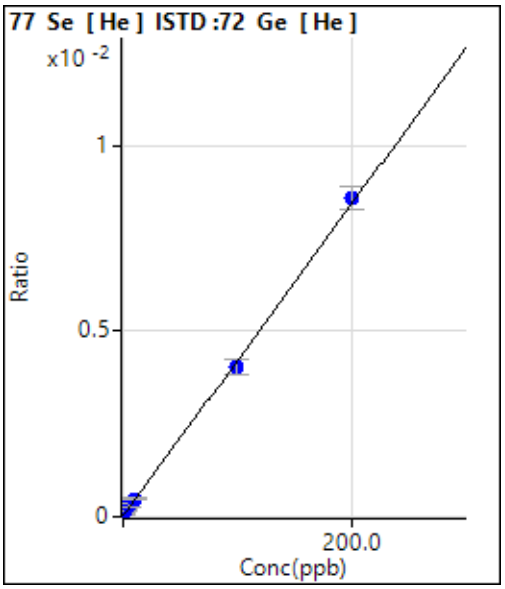
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	4380.78	0.0032	P	2.6	
2	☐	2.000	3.431	4664.23	0.0034	P	5.7	71.6
3	☐	5.000	11.875	5374.52	0.0039	P	2.0	137.5
4	☐	10.000	12.370	5404.53	0.0039	P	3.0	23.7
5	☐	100.000	96.735	12365.83	0.0092	P	4.2	-3.3
6	☐	200.000	201.328	20442.42	0.0156	P	1.5	0.7

y = 6.1952E-005 * x + 0.0032
R = 0.9993
DL = 4.043 ppb
BEC = 51.26 ppb

Weight: <None>
Min Conc: <None>

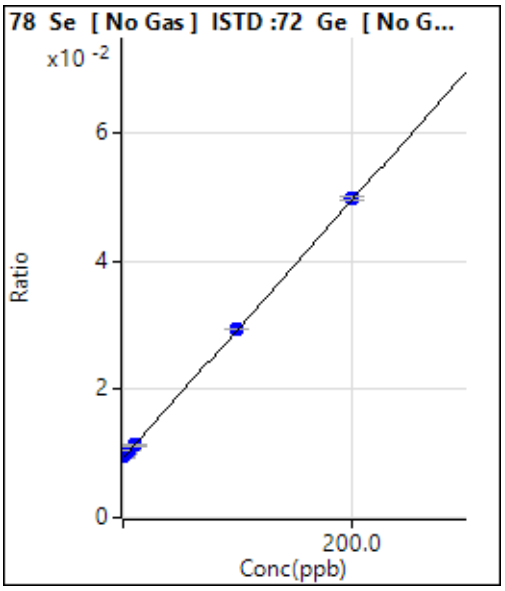


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	26.67	0.0001	P	43.3	
2	☐	2.000	2.282	66.67	0.0002	P	37.6	14.1
3	☐	5.000	5.704	126.67	0.0003	P	27.8	14.1
4	☐	10.000	10.093	203.34	0.0005	P	11.0	0.9
5	☐	100.000	94.274	1673.47	0.0040	P	10.3	-5.7
6	☐	200.000	202.838	3450.51	0.0086	P	7.3	1.4

y = 4.2084E-005 * x + 6.4454E-005
R = 0.9994
DL = 1.991 ppb
BEC = 1.532 ppb

Weight: <None>
Min Conc: <None>

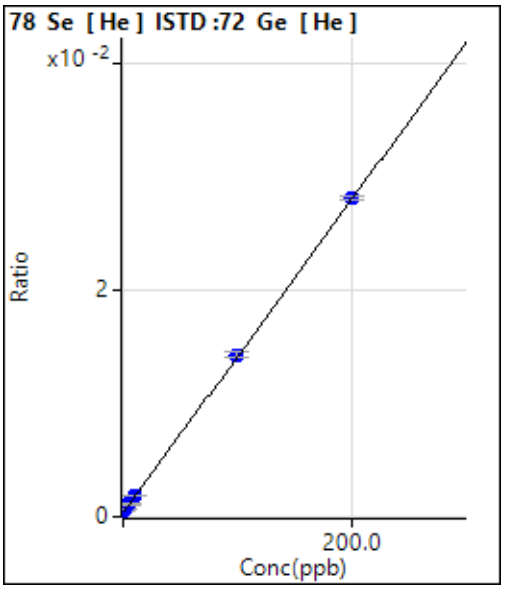
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	13196.67	0.0096	P	3.9	
2	☐	2.000	2.271	13793.98	0.0100	P	2.4	13.6
3	☐	5.000	4.851	14481.36	0.0105	P	1.0	-3.0
4	☐	10.000	8.548	15462.47	0.0113	P	4.4	-14.5
5	☐	100.000	98.977	39708.76	0.0294	P	0.8	-1.0
6	☐	200.000	200.585	65107.00	0.0498	P	1.4	0.3

y = 2.0079E-004 * x + 0.0096
R = 1.0000
DL = 5.641 ppb
BEC = 47.63 ppb

Weight: <None>
Min Conc: <None>

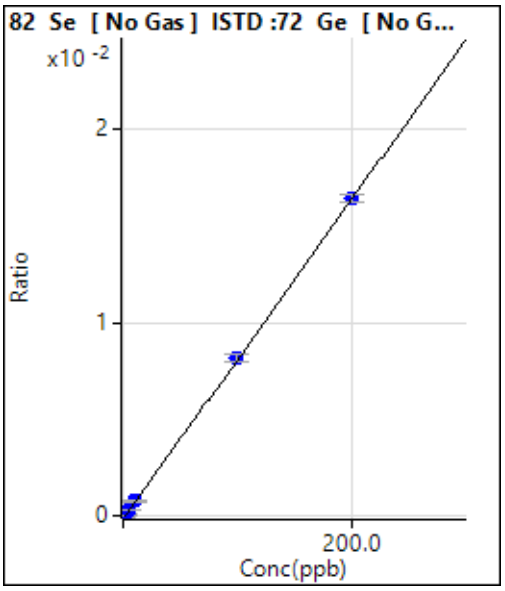


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	200.67	0.0005	P	15.6	
2	☐	2.000	1.857	308.00	0.0007	P	5.7	-7.1
3	☐	5.000	4.512	461.34	0.0011	P	6.4	-9.8
4	☐	10.000	9.796	765.36	0.0018	P	4.6	-2.0
5	☐	100.000	100.061	5939.33	0.0143	P	4.5	0.1
6	☐	200.000	199.993	11299.41	0.0282	P	0.8	0.0

y = 1.3836E-004 * x + 4.8502E-004
R = 1.0000
DL = 1.637 ppb
BEC = 3.506 ppb

Weight: <None>
Min Conc: <None>

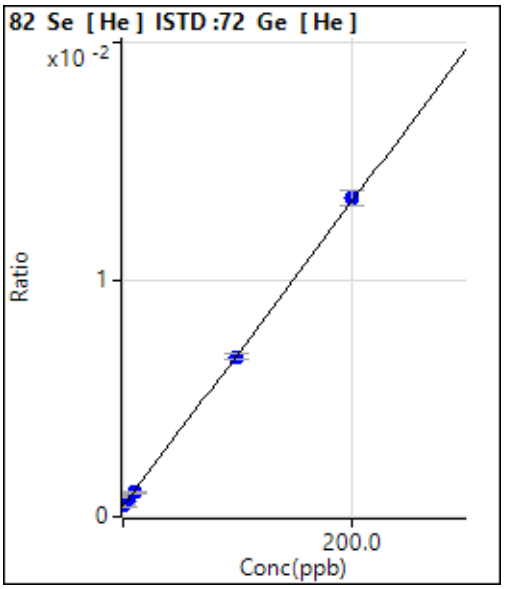
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	-97.66	-0.0001	P	-29.4	
2	☐	2.000	1.705	96.86	0.0001	P	52.8	-14.7
3	☐	5.000	4.396	402.94	0.0003	P	4.6	-12.1
4	☐	10.000	10.242	1066.77	0.0008	P	24.2	2.4
5	☐	100.000	100.060	11075.74	0.0082	P	4.1	0.1
6	☐	200.000	199.976	21535.44	0.0165	P	2.3	0.0

y = 8.2789E-005 * x - 7.0664E-005
R = 1.0000
DL = 0.7519 ppb
BEC = -0.8535 ppb

Weight: <None>
Min Conc: <None>

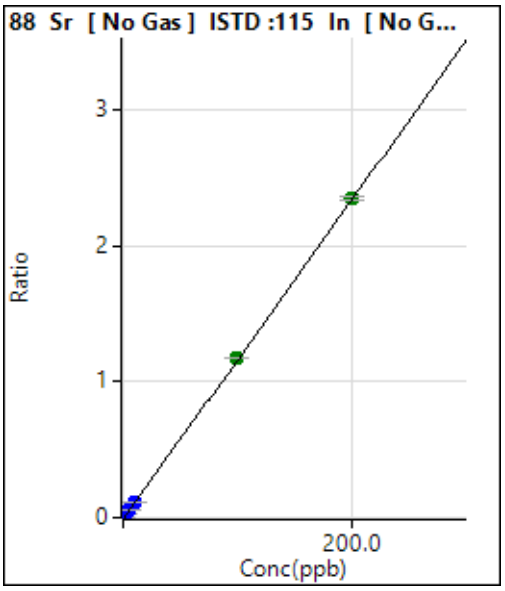


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	213.34	0.0005	P	11.8	
2	☐	2.000	0.222	220.00	0.0005	P	34.2	-88.9
3	☐	5.000	5.211	353.34	0.0008	P	14.7	4.2
4	☐	10.000	8.203	433.35	0.0010	P	5.7	-18.0
5	☐	100.000	97.236	2800.34	0.0068	P	4.1	-2.8
6	☐	200.000	201.484	5394.52	0.0134	P	4.7	0.7

y = 6.4165E-005 * x + 5.1558E-004
R = 0.9998
DL = 2.841 ppb
BEC = 8.035 ppb

Weight: <None>
Min Conc: <None>

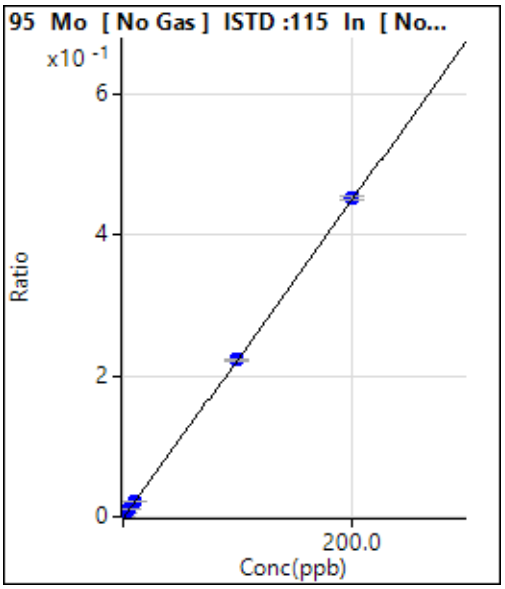
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1246.75	0.0007	P	1.6	
2	☐	2.000	1.850	37773.59	0.0225	P	2.5	-7.5
3	☐	5.000	4.529	90702.96	0.0539	P	0.9	-9.4
4	☐	10.000	9.319	182899.30	0.1101	P	1.3	-6.8
5	☐	100.000	99.839	1932366.64	1.1722	A	0.8	-0.2
6	☐	200.000	200.128	3762422.86	2.3488	A	0.7	0.1

y = 0.0117 * x + 7.4644E-004
R = 1.0000
DL = 0.003123 ppb
BEC = 0.06362 ppb

Weight: <None>
Min Conc: <None>

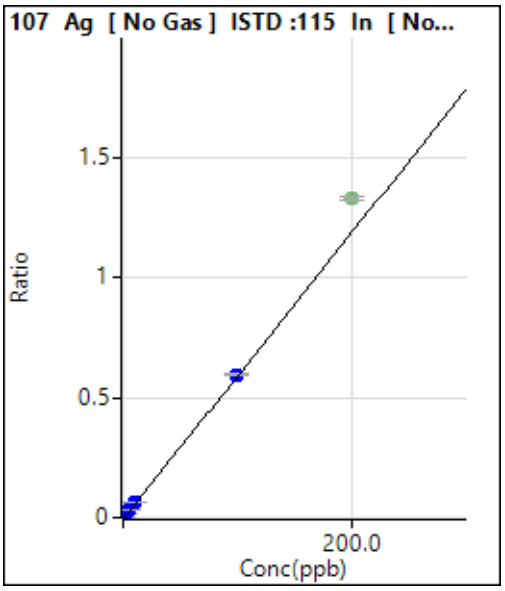


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	26.67	0.0000	P	20.9	
2	☐	2.000	1.915	7282.11	0.0043	P	10.3	-4.2
3	☐	5.000	4.877	18523.15	0.0110	P	2.7	-2.5
4	☐	10.000	9.862	36944.88	0.0222	P	0.6	-1.4
5	☐	100.000	98.811	367043.81	0.2226	P	1.0	-1.2
6	☐	200.000	200.605	723932.38	0.4520	P	1.1	0.3

y = 0.0023 * x + 1.5948E-005
R = 1.0000
DL = 0.004442 ppb
BEC = 0.007078 ppb

Weight: <None>
Min Conc: <None>

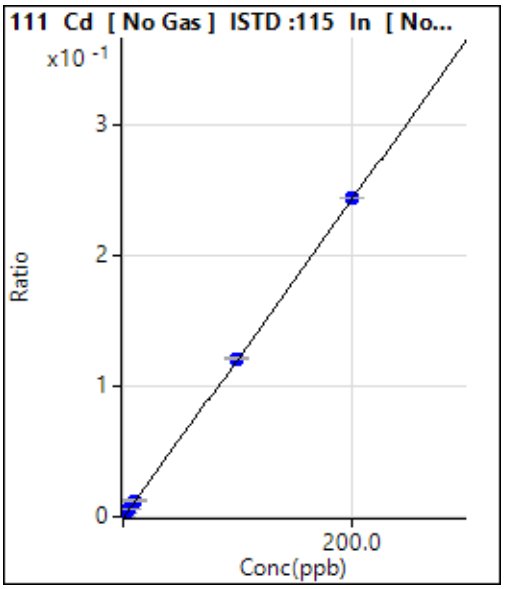
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	993.39	0.0006	P	4.5	
2	☐	2.000	1.964	20729.86	0.0123	P	1.0	-1.8
3	☐	5.000	4.930	50526.89	0.0300	P	2.5	-1.4
4	☐	10.000	10.101	101137.84	0.0609	P	1.9	1.0
5	☐	100.000	99.994	984801.63	0.5974	P	0.4	0.0
6	☑	200.000		2131968.40	1.3310	A	0.7	

y = 0.0060 * x + 5.9496E-004
R = 1.0000
DL = 0.01332 ppb
BEC = 0.09969 ppb

Weight: <None>
Min Conc: <None>

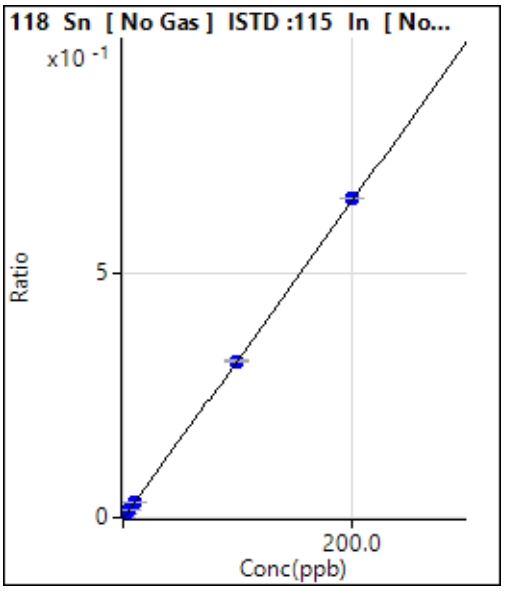


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	20.00	0.0000	P	131.9	
2	☐	2.000	2.018	4167.40	0.0025	P	2.0	0.9
3	☐	5.000	4.883	10057.33	0.0060	P	4.2	-2.3
4	☐	10.000	10.217	20753.26	0.0125	P	2.6	2.2
5	☐	100.000	99.435	200213.95	0.1215	P	1.5	-0.6
6	☐	200.000	200.274	391805.92	0.2446	P	0.5	0.1

y = 0.0012 * x + 1.1975E-005
R = 1.0000
DL = 0.0388 ppb
BEC = 0.009804 ppb

Weight: <None>
Min Conc: <None>

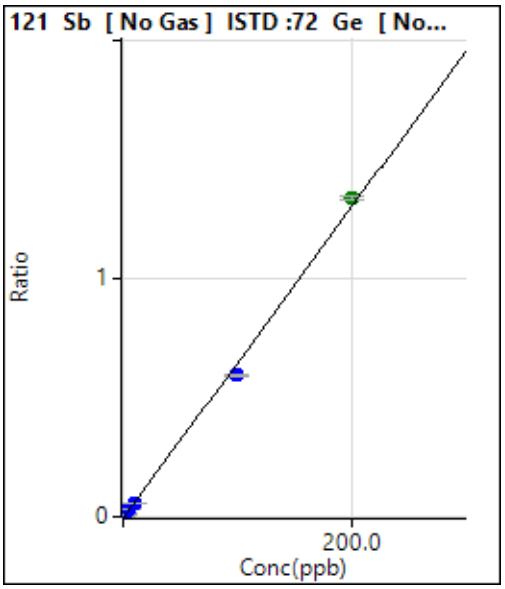
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1170.07	0.0007	P	9.7	
2	☐	2.000	1.888	11465.24	0.0068	P	1.8	-5.6
3	☐	5.000	4.821	27459.10	0.0163	P	1.8	-3.6
4	☐	10.000	9.672	53207.89	0.0320	P	1.4	-3.3
5	☐	100.000	98.062	524660.25	0.3183	P	1.1	-1.9
6	☐	200.000	200.991	1043677.36	0.6516	P	0.4	0.5

y = 0.0032 * x + 7.0034E-004
R = 0.9999
DL = 0.06302 ppb
BEC = 0.2163 ppb

Weight: <None>
Min Conc: <None>

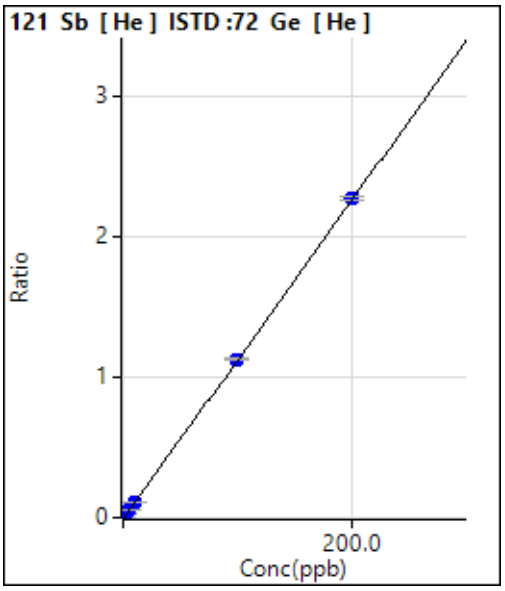


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	373.35	0.0003	P	16.3	
2	☐	2.000	1.823	16754.21	0.0122	P	2.5	-8.9
3	☐	5.000	4.503	40770.46	0.0297	P	2.5	-9.9
4	☐	10.000	9.012	81039.43	0.0591	P	1.5	-9.9
5	☐	100.000	90.646	798610.93	0.5921	P	0.4	-9.4
6	☐	200.000	204.741	1746607.37	1.3370	A	1.7	2.4

y = 0.0065 * x + 2.7034E-004
R = 0.9985
DL = 0.02025 ppb
BEC = 0.04141 ppb

Weight: <None>
Min Conc: <None>

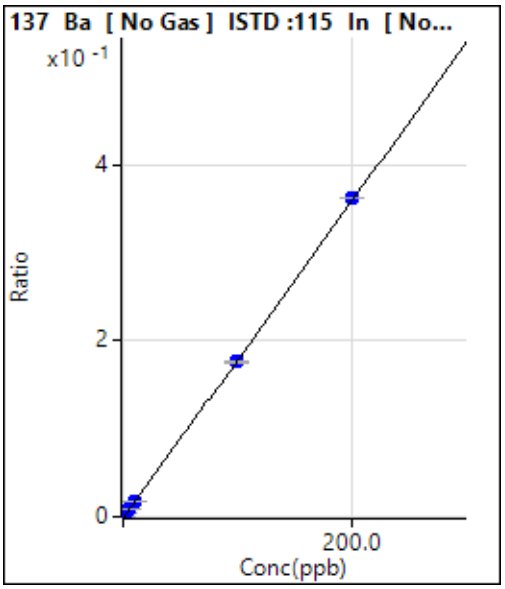
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	226.68	0.0005	P	20.0	
2	☐	2.000	1.905	9213.38	0.0222	P	4.2	-4.8
3	☐	5.000	4.997	23845.29	0.0573	P	3.6	-0.1
4	☐	10.000	9.976	47375.77	0.1139	P	1.9	-0.2
5	☐	100.000	99.278	468025.03	1.1288	P	1.4	-0.7
6	☐	200.000	200.363	914076.11	2.2777	P	0.7	0.2

y = 0.0114 * x + 5.4790E-004
R = 1.0000
DL = 0.0289 ppb
BEC = 0.04821 ppb

Weight: <None>
Min Conc: <None>

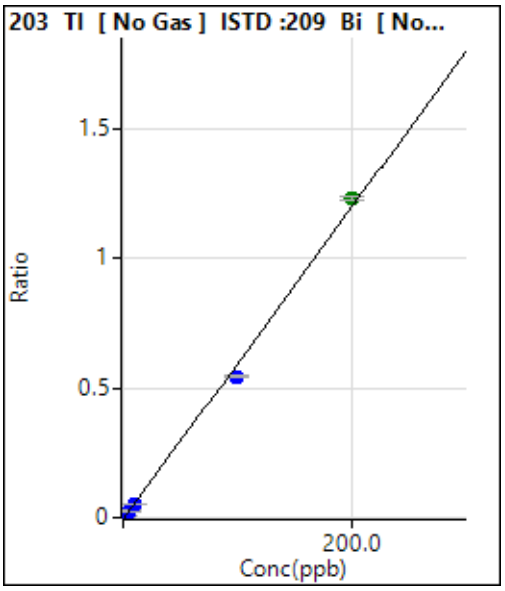


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	206.67	0.0001	P	26.2	
2	☐	2.000	1.876	5894.76	0.0035	P	2.3	-6.2
3	☐	5.000	4.965	15262.51	0.0091	P	1.0	-0.7
4	☐	10.000	9.560	28815.46	0.0173	P	0.2	-4.4
5	☐	100.000	97.828	290698.10	0.1763	P	1.4	-2.2
6	☐	200.000	201.110	580466.88	0.3624	P	0.3	0.6

y = 0.0018 * x + 1.2361E-004
R = 0.9999
DL = 0.05385 ppb
BEC = 0.06862 ppb

Weight: <None>
Min Conc: <None>

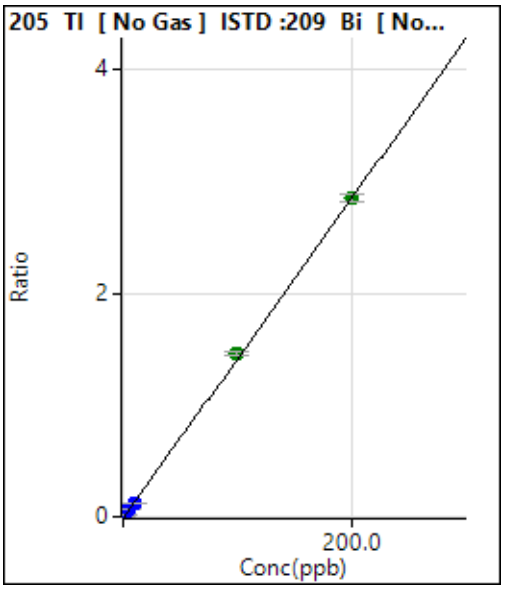
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	63.33	0.0000	P	18.0	
2	☐	2.000	1.775	16621.28	0.0107	P	3.7	-11.3
3	☐	5.000	4.304	40479.17	0.0259	P	0.6	-13.9
4	☐	10.000	8.778	81853.58	0.0528	P	1.4	-12.2
5	☐	100.000	90.640	818769.42	0.5446	P	1.9	-9.4
6	☐	200.000	204.761	1824548.05	1.2302	A	1.3	2.4

y = 0.0060 * x + 4.1307E-005
R = 0.9985
DL = 0.003712 ppb
BEC = 0.006876 ppb

Weight: <None>
Min Conc: <None>

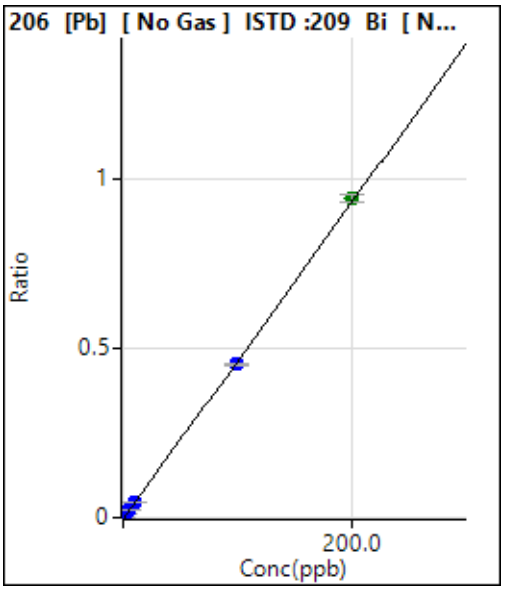


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	183.34	0.0001	P	23.1	
2	☐	2.000	1.757	39242.31	0.0253	P	1.1	-12.1
3	☐	5.000	4.350	97442.28	0.0623	P	1.2	-13.0
4	☐	10.000	8.923	198195.20	0.1278	P	1.4	-10.8
5	☐	100.000	101.635	2186408.72	1.4542	A	2.1	1.6
6	☐	200.000	199.255	4227376.19	2.8509	A	2.1	-0.4

y = 0.0143 * x + 1.1967E-004
R = 0.9999
DL = 0.005794 ppb
BEC = 0.008364 ppb

Weight: <None>
Min Conc: <None>

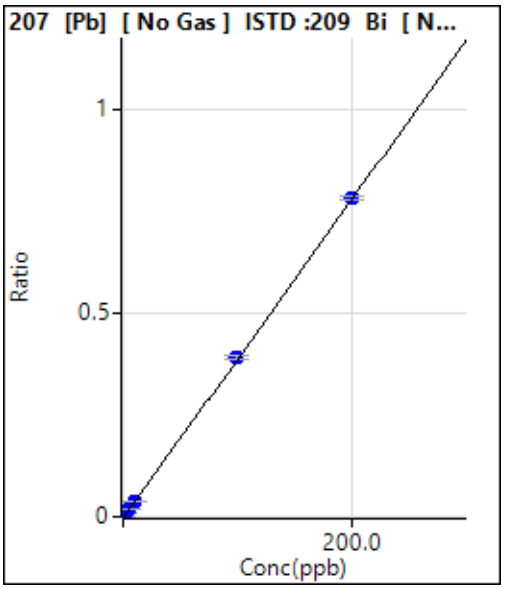
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	340.01	0.0002	P	7.5	
2	☐	2.000	1.877	13958.07	0.0090	P	3.6	-6.2
3	☐	5.000	4.617	34033.36	0.0218	P	1.2	-7.7
4	☐	10.000	9.599	69842.21	0.0450	P	0.5	-4.0
5	☐	100.000	96.776	679573.53	0.4520	P	1.6	-3.2
6	☐	200.000	201.643	1396156.96	0.9415	A	2.0	0.8

y = 0.0047 * x + 2.2180E-004
R = 0.9998
DL = 0.01071 ppb
BEC = 0.04751 ppb

Weight: <None>
Min Conc: <None>

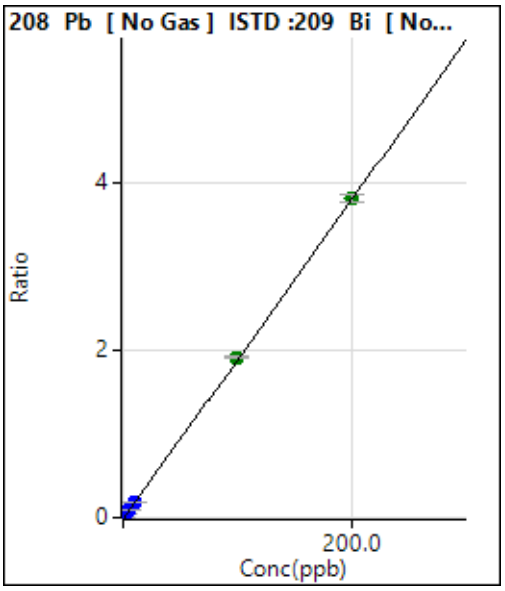


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	223.34	0.0001	P	7.1	
2	☐	2.000	1.945	12032.70	0.0077	P	4.1	-2.7
3	☐	5.000	4.842	29799.29	0.0191	P	0.8	-3.2
4	☐	10.000	9.765	59411.37	0.0383	P	0.6	-2.3
5	☐	100.000	99.830	586721.18	0.3902	P	2.1	-0.2
6	☐	200.000	200.101	1159790.95	0.7821	P	0.9	0.1

y = 0.0039 * x + 1.4573E-004
R = 1.0000
DL = 0.007977 ppb
BEC = 0.03729 ppb

Weight: <None>
Min Conc: <None>

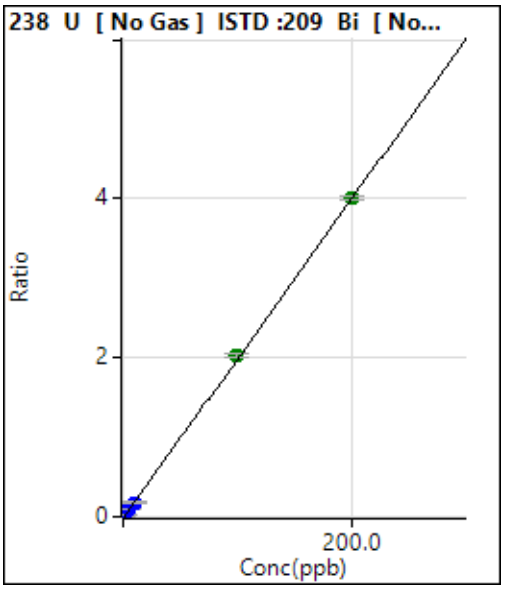
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1246.72	0.0008	P	7.1	
2	☐	2.000	1.800	54717.51	0.0352	P	1.2	-10.0
3	☐	5.000	4.504	135887.40	0.0869	P	1.7	-9.9
4	☐	10.000	9.163	273034.01	0.1760	P	0.7	-8.4
5	☐	100.000	100.181	2881443.22	1.9165	A	1.6	0.2
6	☐	200.000	199.966	5671222.34	3.8246	A	1.9	0.0

y = 0.0191 * x + 8.1357E-004
R = 1.0000
DL = 0.009114 ppb
BEC = 0.04255 ppb

Weight: <None>
Min Conc: <None>

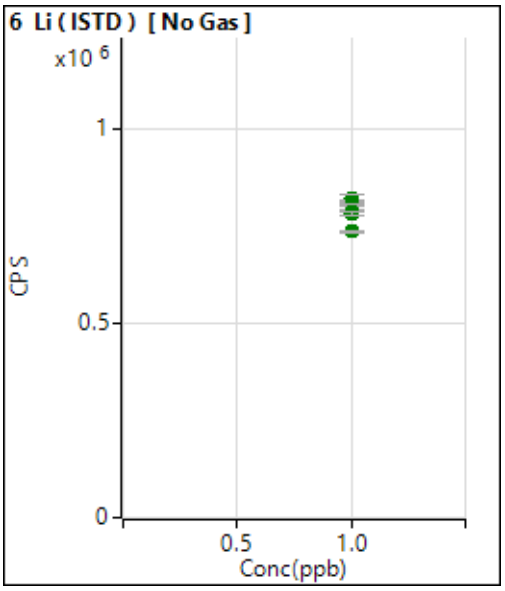


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	13.33	0.0000	P	42.5	
2	☐	2.000	1.788	55820.61	0.0359	P	1.5	-10.6
3	☐	5.000	4.445	139629.04	0.0893	P	1.4	-11.1
4	☐	10.000	9.006	280731.47	0.1810	P	1.4	-9.9
5	☐	100.000	100.992	3051584.54	2.0297	A	2.1	1.0
6	☐	200.000	199.570	5947856.58	4.0109	A	1.2	-0.2

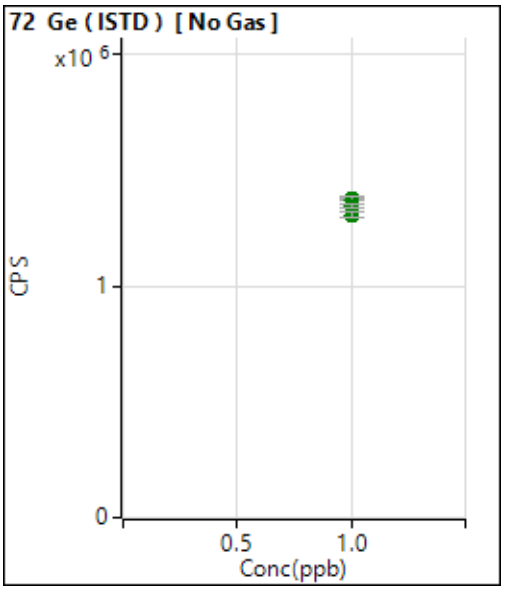
y = 0.0201 * x + 8.6808E-006
R = 1.0000
DL = 0.0005504 ppb
BEC = 0.0004319 ppb

Weight: <None>
Min Conc: <None>

Calibration for 016_ICV.d

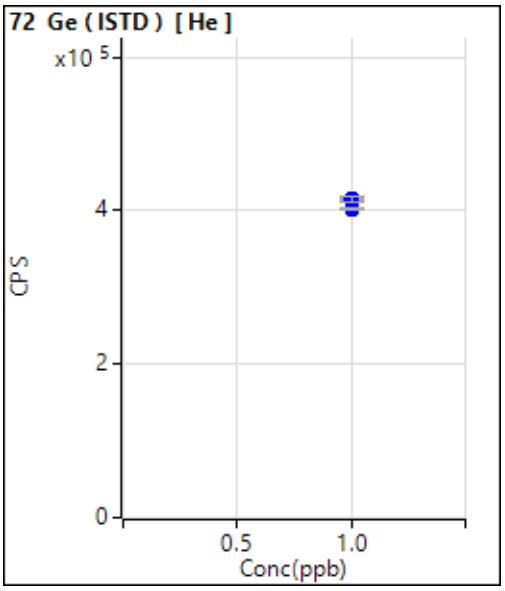


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		823334.35		A	2.2	
2	☐	1.000		815580.43		A	0.8	
3	☐	1.000		807296.14		A	0.6	
4	☐	1.000		790528.61		A	0.8	
5	☐	1.000		784511.29		A	1.2	
6	☐	1.000		737035.11		A	1.0	

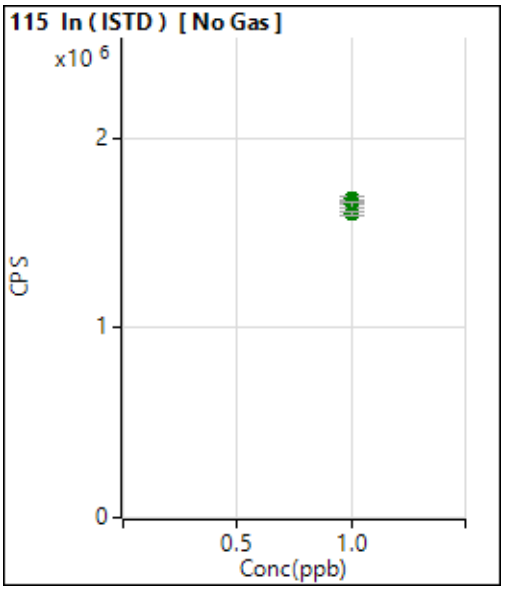


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		1379474.46		A	1.0	
2	☐	1.000		1376765.14		A	0.6	
3	☐	1.000		1374138.73		A	0.9	
4	☐	1.000		1371181.18		A	1.9	
5	☐	1.000		1348824.93		A	1.1	
6	☐	1.000		1306525.95		A	1.8	

Calibration for 016_ICV.d

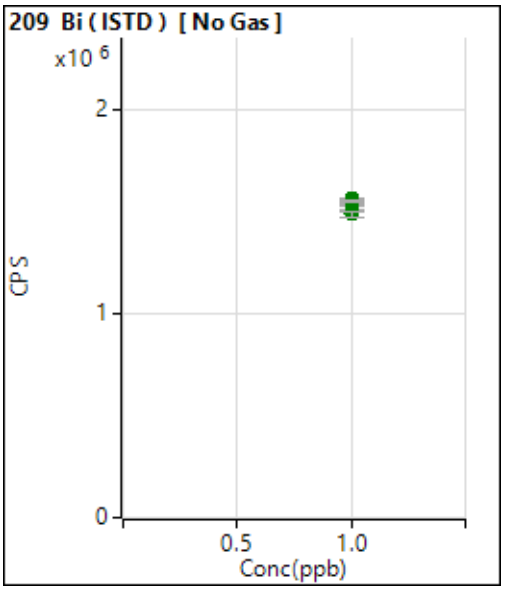


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		413777.95		P	0.1	
2	☐	1.000		415129.89		P	0.2	
3	☐	1.000		415948.35		P	0.6	
4	☐	1.000		415917.48		P	0.9	
5	☐	1.000		414662.22		P	1.4	
6	☐	1.000		401334.10		P	0.7	



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		1670122.71		A	0.9	
2	☐	1.000		1682748.05		A	1.7	
3	☐	1.000		1683236.59		A	0.7	
4	☐	1.000		1661420.79		A	0.5	
5	☐	1.000		1648646.45		A	1.5	
6	☐	1.000		1601760.42		A	1.1	

Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		1532763.26		A	0.7	
2	☐	1.000		1553372.48		A	1.7	
3	☐	1.000		1562899.51		A	0.4	
4	☐	1.000		1551021.28		A	0.4	
5	☐	1.000		1503630.08		A	0.8	
6	☐	1.000		1483099.36		A	1.4	

Sample Report

Sample Table

Sample Name	LLICV2
Data File Name	017LCV2.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq Date Time	2022-11-10T12:03:27-06:00
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	1.954	1.954	4.49	67191	0.00	2	
Be	9	1	No Gas	2.015	2.015	1.87	4976	0.04	2	
V	51	2	He	1.634	1.634	2.84	8891	0.02	2	
Cr	52	2	He	2.041	2.041	2.89	9797	0.02	2	
Fe	56	2	He	204.732	204.732	1.72	852381	0.02	200	
Se	78	2	He	1.861	1.861	19.01	304	0.61	2	
As	75	2	He	1.902	1.902	6.77	1220	0.16	2	
Ca	44	2	He	196.626	196.626	4.00	5408	3.64	200	
Na	23	2	He	193.024	193.024	2.72	311518	0.06	200	
Mg	24	2	He	196.956	196.956	1.25	89986	0.22	200	
K	39	2	He	206.857	206.857	2.93	175046	0.12	200	
Mn	55	2	He	2.064	2.064	7.63	7392	0.03	2	
Co	59	2	He	1.976	1.976	2.14	14118	0.01	2	
Ni	60	2	He	1.975	1.975	8.85	3614	0.05	2	
Cu	63	2	He	2.110	2.110	4.11	11298	0.02	2	
Zn	66	2	He	1.915	1.915	5.40	2030	0.09	2	
Al	27	2	He	2.582	2.582	11.01	1567	0.16	2	
B	11	1	No Gas	25.589	25.589	8.04	46243	0.06	10	NewName Main CR1 Failed
Al	27	1	No Gas	2.237	2.237	1.64	57030	0.00	2	
Si	28	1	No Gas	10.071	10.071	8.85	355130	0.00	10	
Ag	107	1	No Gas	1.874	1.874	0.71	21267	0.01	2	
Cd	111	1	No Gas	2.091	2.091	1.05	4264	0.05	2	
Sr	88	1	No Gas	1.848	1.848	1.30	37255	0.00	2	
Mo	95	1	No Gas	1.965	1.965	2.70	7382	0.03	2	
Sn	118	1	No Gas	2.006	2.006	1.03	11956	0.02	2	
Sb	121	1	No Gas	1.849	1.849	3.31	16701	0.01	2	
Ba	137	1	No Gas	1.994	1.994	4.89	6175	0.03	2	
Tl	205	1	No Gas	1.866	1.866	1.62	41793	0.00	2	
Tl	203	1	No Gas	1.860	1.860	2.82	17476	0.01	2	
Pb	208	1	No Gas	1.838	1.838	3.58	56006	0.00	2	
U	238	1	No Gas	1.790	1.790	2.56	56085	0.00	2	
Ca	43	2	He	192.663	192.663	3.59	303	63.51	200	
Sb	121	2	He	1.988	1.988	0.99	9470	0.02	2	
Ti	47	2	He	1.986	1.986	7.63	280	0.71	200	
Cu	63	1	No Gas	1.922	1.922	2.49	18540	0.01	2	
Se	82	1	No Gas	2.161	2.161	7.37	146	1.48	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	800877	0.51	823334	97.27	70	120	
Ge	72	2	He	409186	1.34	413778	98.89	70	120	
Ge	72	1	No Gas	1352719	1.04	1379474	98.06	70	120	
In	115	1	No Gas	1661579	1.27	1670123	99.49	70	120	
Bi	209	1	No Gas	1558334	1.40	1532763	101.67	70	120	

Sample Report

Sample Table

Sample Name	LLICV5
Data File Name	018LCV5.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq Date Time	2022-11-10T12:05:20-06:00
Sample Type	LLCCV5
Dilution	1
Comment	
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	4.713	4.713	3.67	99247	0.00	5	
Be	9	1	No Gas	4.815	4.815	2.34	11772	0.04	5	
V	51	2	He	4.630	4.630	2.65	20482	0.02	5	
Cr	52	2	He	4.889	4.889	2.90	22662	0.02	5	
Fe	56	2	He	521.833	521.833	1.08	2178095	0.02	500	
Se	78	2	He	5.148	5.148	4.79	495	1.04	5	
As	75	2	He	4.958	4.958	0.41	3053	0.16	5	
Ca	44	2	He	500.998	500.998	0.75	12930	3.87	500	
Na	23	2	He	489.122	489.122	0.82	544255	0.09	500	
Mg	24	2	He	483.217	483.217	1.35	222456	0.22	500	
K	39	2	He	495.703	495.703	1.33	315445	0.16	500	
Mn	55	2	He	5.063	5.063	0.52	17305	0.03	5	
Co	59	2	He	4.758	4.758	1.07	34203	0.01	5	
Ni	60	2	He	4.869	4.869	3.17	8703	0.06	5	
Cu	63	2	He	5.025	5.025	1.18	25090	0.02	5	
Zn	66	2	He	5.222	5.222	4.94	4958	0.11	5	
Al	27	2	He	4.332	4.332	17.05	2004	0.22	5	
B	11	1	No Gas	29.207	29.207	3.52	50713	0.06	25	
Al	27	1	No Gas	4.678	4.678	2.76	80945	0.01	5	
Si	28	1	No Gas	23.989	23.989	3.92	418205	0.01	25	
Ag	107	1	No Gas	4.512	4.512	2.48	49767	0.01	5	
Cd	111	1	No Gas	5.092	5.092	2.96	10341	0.05	5	
Sr	88	1	No Gas	4.566	4.566	0.78	90159	0.01	5	
Mo	95	1	No Gas	4.965	4.965	0.84	18593	0.03	5	
Sn	118	1	No Gas	4.811	4.811	3.50	27025	0.02	5	
Sb	121	1	No Gas	4.506	4.506	2.18	40088	0.01	5	
Ba	137	1	No Gas	4.760	4.760	3.31	14435	0.03	5	
Tl	205	1	No Gas	4.382	4.382	2.55	97193	0.00	5	
Tl	203	1	No Gas	4.308	4.308	1.83	40111	0.01	5	
Pb	208	1	No Gas	4.555	4.555	1.45	136017	0.00	5	
U	238	1	No Gas	4.460	4.460	1.97	138700	0.00	5	
Ca	43	2	He	501.381	501.381	5.48	760	65.97	500	
Sb	121	2	He	4.965	4.965	0.92	23545	0.02	5	
Ti	47	2	He	4.375	4.375	7.57	607	0.72	5	
Cu	63	1	No Gas	4.722	4.722	2.87	40882	0.01	5	
Se	82	1	No Gas	4.986	4.986	37.03	463	1.08	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	795566	1.69	823334	96.63	70	120	
Ge	72	2	He	413233	0.74	413778	99.87	70	120	
Ge	72	1	No Gas	1350131	1.13	1379474	97.87	70	120	

Sample Report

In	115	1	No Gas	1659698	0.73	1670123	99.38	70	120	
Bi	209	1	No Gas	1547443	1.05	1532763	100.96	70	120	

Initial Calibration Blank (ICB) Report

Sample Table

Sample Name	ICB
Data File Name	019_ICB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq Date Time	2022-11-10T12:07:13-06:00
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	0.095	27.7	44179	0.6	0.5	
Be	9	1	No Gas	0.007	56.6	45	22.2	0.5	
V	51	2	He	-0.255	-4.9	1700	2.2	2.5	
Cr	52	2	He	0.167	16.6	1470	7.7	2.5	
Fe	56	2	He	1.646	4.2	17108	2.2	100	
Se	78	2	He	-0.121	-93.9	191	3.2	1	
As	75	2	He	-0.058	-19.8	64	10.8	2.5	
Ca	44	2	He	-1.236	-61.4	600	2.9	100	
Na	23	2	He	0.853	286.2	163178	0.7	100	
Mg	24	2	He	0.594	31.5	613	13.7	100	
K	39	2	He	2.898	42.4	77698	0.2	100	
Mn	55	2	He	0.066	32.0	890	7.8	2.5	
Co	59	2	He	-0.005	-39.4	57	27.0	2.5	
Ni	60	2	He	0.025	27.5	247	4.7	2.5	
Cu	63	2	He	0.072	12.4	1823	2.6	1	
Zn	66	2	He	0.357	12.6	670	6.0	2.5	
Al	27	2	He	-0.864	-34.2	743	9.2	5	
B	11	1	No Gas	6.341	10.8	19342	4.0	0.5	ICB Main CR1 Failed
Al	27	1	No Gas	-0.565	-8.3	29124	2.2	5	
Si	28	1	No Gas	-8.880	-7.0	265679	0.6	10	
Ag	107	1	No Gas	-0.025	-58.1	713	23.1	2.5	
Cd	111	1	No Gas	0.000	152.1	20	0.0	1	
Sr	88	1	No Gas	-0.008	-17.6	1090	2.4	2.5	
Mo	95	1	No Gas	0.005	90.1	43	35.3	2.5	
Sn	118	1	No Gas	0.198	25.1	2227	12.2	5	
Sb	121	1	No Gas	0.011	61.4	460	13.6	2.5	
Ba	137	1	No Gas	0.060	34.9	383	15.3	2.5	
Tl	205	1	No Gas	0.016	7.3	537	2.8	1	
Tl	203	1	No Gas	0.010	41.1	160	22.5	1	
Pb	208	1	No Gas	0.009	4.7	1540	3.2	2.5	
U	238	1	No Gas	0.001	74.1	43	53.3	2.5	
Ca	43	2	He	-2.071	-329.2	20	50.0	100	
Sb	121	2	He	0.008	140.4	260	20.0	2.5	
Ti	47	2	He	-0.024	-539.6	10	173.2	2.5	
Se	82	1	No Gas	-0.117	-551.7	-107	-65.6	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	783925	0.58	823334	95.21	70	120	
Ge	72	2	He	407221	0.62	413778	98.42	70	120	
Ge	72	1	No Gas	1340392	0.64	1379474	97.17	70	120	
In	115	1	No Gas	1660271	0.91	1670123	99.41	70	120	
Bi	209	1	No Gas	1552169	2.42	1532763	101.27	70	120	

Interference Check Solution A (ICS-A) Report

Sample Table

Sample Name	ICSA
Data File Name	020ICSA.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq Date Time	2022-11-10T12:13:21-06:00
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	0.076	120.0	42206	0.6	0	ICSA Main CR1 Failed
Be	9	1	No Gas	-0.003	-173.5	20	50.0	0	ICSA Main CR1 Failed
V	51	2	He	-0.166	-31.1	1981	9.5	0	ICSA Main CR1 Failed
Cr	52	2	He	1.540	3.0	7332	3.0	0	ICSA Main CR1 Failed
Fe	56	2	He	104844.939	0.4	417499154	0.4	0	
Se	78	2	He	-0.039	-515.5	190	5.9	0	ICSA Main CR1 Failed
As	75	2	He	0.231	33.5	228	19.1	0	ICSA Main CR1 Failed
Ca	44	2	He	107743.202	1.1	2534366	0.9	0	
Na	23	2	He	106132.517	0.4	79062594	0.2	0	
Mg	24	2	He	105320.900	0.4	46411309	0.9	0	
K	39	2	He	105877.605	0.6	48806129	0.5	0	
Mn	55	2	He	0.382	11.8	1860	7.4	0	ICSA Main CR1 Failed
Co	59	2	He	0.231	3.5	1677	3.6	0	ICSA Main CR1 Failed
Ni	60	2	He	0.741	9.6	1437	8.3	0	ICSA Main CR1 Failed
Cu	63	2	He	0.465	9.1	3541	5.0	0	ICSA Main CR1 Failed
Zn	66	2	He	2.811	2.7	2720	1.9	0	ICSA Main CR1 Failed
Al	27	2	He	103387.622	0.9	23828554	0.4	0	
B	11	1	No Gas	6.999	17.3	19302	5.3	0	
Al	27	1	No Gas	98167.535	1.0	925923533	0.5	0	
Si	28	1	No Gas	12.351	11.7	349622	1.2	0	ICSA Main CR1 Failed
Ag	107	1	No Gas	0.122	4.0	2177	0.7	0	ICSA Main CR1 Failed
Cd	111	1	No Gas	1.273	6.8	2457	5.1	0	ICSA Main CR1 Failed
Sr	88	1	No Gas	4.421	1.2	82591	1.5	0	ICSA Main CR1 Failed
Mo	95	1	No Gas	2170.718	0.7	7676525	1.2	0	
Sn	118	1	No Gas	0.307	9.9	2660	5.6	0	ICSA Main CR1 Failed
Sb	121	1	No Gas	0.377	5.5	3534	4.2	0	ICSA Main CR1 Failed
Ba	137	1	No Gas	0.807	3.3	2477	4.2	0	ICSA Main CR1 Failed
Tl	205	1	No Gas	0.014	12.0	477	7.4	0	ICSA Main CR1 Failed
Tl	203	1	No Gas	0.015	39.2	193	26.0	0	ICSA Main CR1 Failed
Pb	208	1	No Gas	0.183	2.2	6337	2.1	0	ICSA Main CR1 Failed
U	238	1	No Gas	0.009	23.3	273	22.1	0	ICSA Main CR1 Failed
Ca	43	2	He	99685.216	1.2	140401	0.7	0	
Sb	121	2	He	0.342	2.5	1757	2.4	0	ICSA Main CR1 Failed
Ti	47	2	He	2269.696	0.7	295227	1.0	0	
Se	82	1	No Gas	0.485	189.0	-39	-251.1	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	753079	2.50	823334	91.47	70	120	
Ge	72	2	He	396139	0.44	413778	95.74	70	120	
Ge	72	1	No Gas	1293669	0.70	1379474	93.78	70	120	
In	115	1	No Gas	1569694	1.81	1670123	93.99	70	120	
Bi	209	1	No Gas	1469018	1.00	1532763	95.84	70	120	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB
Data File Name	021ICSB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq Date Time	2022-11-10T12:15:16-06:00
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	97.566	2.148	1101415	1.05	100	97.6	180	120	ICSB Main CR1 Failed
Be	9	1	No Gas	97.729	1.915	219994	0.69	100	97.7	80	120	
V	51	2	He	104.938	1.216	383783	0.33	100	104.9	80	120	
Cr	52	2	He	105.964	1.218	450106	0.46	100	106.0	80	120	
Fe	56	2	He	115085.733	1.203	452224700	0.39	100	115085.7	80	120	
Se	78	2	He	102.196	2.281	5717	1.52	100	102.2	80	120	
As	75	2	He	104.706	0.311	59089	0.71	100	104.7	80	120	
Ca	44	2	He	116623.024	0.136	2707171	0.81	100	116623.0	80	120	
Na	23	2	He	115706.401	0.525	85045859	0.38	100	115706.4	80	120	
Mg	24	2	He	114988.410	0.805	50002604	0.35	100	114988.4	80	120	
K	39	2	He	115065.226	0.223	52338948	1.07	100	115065.2	80	120	
Mn	55	2	He	104.586	1.766	325378	0.87	100	104.6	80	120	
Co	59	2	He	99.119	0.685	672264	0.48	100	99.1	80	120	
Ni	60	2	He	102.752	1.006	169798	0.69	100	102.8	80	120	
Cu	63	2	He	101.786	0.978	453263	0.11	100	101.8	80	120	
Zn	66	2	He	103.791	0.660	86692	0.91	100	103.8	80	120	
Al	27	2	He	102277.242	0.743	23262357	0.16	100	102277.2	80	120	ICSB Main CR1 Failed
B	11	1	No Gas	551.117	2.903	612911	1.94	100	551.1	80	120	
Al	27	1	No Gas	95753.166	1.072	888033053	0.43	100	95753.2	80	120	ICSB Main CR1 Failed
Si	28	1	No Gas	517.776	2.312	2525549	0.66	100	517.8	80	120	
Ag	107	1	No Gas	91.820	1.596	947602	0.80	100	91.8	80	120	
Cd	111	1	No Gas	102.429	0.792	198053	1.75	100	102.4	80	120	
Sr	88	1	No Gas	107.859	2.445	2003876	0.21	100	107.9	80	120	
Mo	95	1	No Gas	2226.596	1.993	7939680	0.36	100	2226.6	80	120	ICSB Main CR1 Failed
Sn	118	1	No Gas	105.729	1.375	543059	1.02	100	105.7	80	120	
Sb	121	1	No Gas	95.833	1.367	796207	1.13	100	95.8	80	120	
Ba	137	1	No Gas	104.645	2.262	298529	1.04	100	104.6	80	120	
Tl	205	1	No Gas	105.419	2.078	2173180	0.30	100	105.4	80	120	
Tl	203	1	No Gas	94.362	2.279	816837	1.09	100	94.4	80	120	
Pb	208	1	No Gas	104.921	1.825	2891978	1.08	100	104.9	80	120	
U	238	1	No Gas	109.228	3.190	3162476	1.69	100	109.2	80	120	
Ca	43	2	He	109496.625	1.034	152187	0.46	100	109496.6	80	120	
Sb	121	2	He	103.950	0.801	462057	1.18	100	104.0	80	120	
Ti	47	2	He	2361.430	0.967	303101	0.17	100	2361.4	80	120	
Cu	63	1	No Gas	94.045	1.378	711215	0.43	100	94.0	80	120	
Se	82	1	No Gas	101.723	1.459	10622	0.43	100	101.7	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	734180	1.58	823334	89.17	70	120	
Ge	72	2	He	390933	0.90	413778	94.48	70	120	
Ge	72	1	No Gas	1272088	1.45	1379474	92.22	70	120	
In	115	1	No Gas	1583137	2.37	1670123	94.79	70	120	
Bi	209	1	No Gas	1441145	1.94	1532763	94.02	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	023_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq Date Time	2022-11-10T12:21:54-06:00
Sample Type	CCV
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	%High2	QC Flag
Li	7	1	No Gas	96.652	2.510	1140191	0.81	100	96.7	90	110	
Be	9	1	No Gas	94.899	1.497	223180	0.26	100	94.9	90	110	
V	51	2	He	98.320	1.017	380661	0.50	100	98.3	90	110	
Cr	52	2	He	98.856	0.351	444392	0.37	100	98.9	90	110	
Fe	56	2	He	9878.116	1.159	41082420	0.87	10000	98.8	90	110	
Se	78	2	He	99.089	1.581	5871	1.01	100	99.1	90	110	
As	75	2	He	99.377	1.531	59343	1.10	100	99.4	90	110	
Ca	44	2	He	9825.053	0.969	241904	0.78	10000	98.3	90	110	
Na	23	2	He	9868.929	1.143	7826331	0.82	10000	98.7	90	110	
Mg	24	2	He	9844.499	0.546	4530102	0.58	10000	98.4	90	110	
K	39	2	He	10035.600	1.101	4900769	1.13	10000	100.4	90	110	
Mn	55	2	He	99.179	1.443	326538	0.96	100	99.2	90	110	
Co	59	2	He	94.530	0.916	678407	0.60	100	94.5	90	110	
Ni	60	2	He	98.968	0.487	173061	0.06	100	99.0	90	110	
Cu	63	2	He	99.177	0.973	467356	0.45	100	99.2	90	110	
Zn	66	2	He	99.443	1.014	87900	0.64	100	99.4	90	110	
Al	27	2	He	103.809	2.087	25944	1.61	100	103.8	90	110	
B	11	1	No Gas	489.331	2.436	569919	2.35	500	97.9	90	110	
Al	27	1	No Gas	101.262	3.121	1024249	1.91	100	101.3	90	110	
Si	28	1	No Gas	511.009	1.720	2631156	0.19	5000	10.2	90	110	CCV Main CR1-2 Failed
Ag	107	1	No Gas	89.504	0.987	979034	0.68	100	89.5	90	110	CCV Main CR1-2 Failed
Cd	111	1	No Gas	97.210	1.364	199189	1.22	100	97.2	90	110	
Sr	88	1	No Gas	98.128	2.255	1932406	1.08	100	98.1	90	110	
Mo	95	1	No Gas	95.602	1.919	361331	0.72	100	95.6	90	110	
Sn	118	1	No Gas	96.976	0.795	528009	0.79	100	97.0	90	110	
Sb	121	1	No Gas	90.619	0.992	793553	1.12	100	90.6	90	110	
Ba	137	1	No Gas	95.142	1.163	287705	0.43	100	95.1	90	110	
Tl	205	1	No Gas	99.347	3.763	2178465	3.02	100	99.3	90	110	
Tl	203	1	No Gas	88.256	1.548	812736	0.81	100	88.3	90	110	CCV Main CR1-2 Failed
Pb	208	1	No Gas	98.302	1.058	2882445	0.86	100	98.3	90	110	
U	238	1	No Gas	99.468	2.003	3063771	0.42	100	99.5	90	110	
Ca	43	2	He	9600.236	3.295	14141	3.44	10000	96.0	90	110	
Sb	121	2	He	98.009	0.939	460970	0.96	100	98.0	90	110	
Ti	47	2	He	96.606	1.697	13133	1.18	100	96.6	90	110	
Cu	63	1	No Gas	93.153	0.693	742547	0.76	100	93.2	90	110	
Se	82	1	No Gas	98.802	2.463	10872	2.83	100	98.8	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	767008	1.65	823334	93.16	70	120	
Ge	72	2	He	413648	0.52	413778	99.97	70	120	
Ge	72	1	No Gas	1340720	1.43	1379474	97.19	70	120	
In	115	1	No Gas	1677676	1.56	1670123	100.45	70	120	
Bi	209	1	No Gas	1532931	1.66	1532763	100.01	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	024_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq Date Time	2022-11-10T12:23:56-06:00
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	0.182	55.0	44346	1.1	0.5	
Be	9	1	No Gas	0.009	177.4	47	76.0	0.5	
V	51	2	He	0.005	1034.2	2736	2.9	2.5	
Cr	52	2	He	0.020	117.0	843	16.0	2.5	
Fe	56	2	He	0.807	26.4	13954	3.2	100	
Se	78	2	He	-0.037	-1445.9	199	13.9	2	
As	75	2	He	-0.035	-52.7	80	18.2	2.5	
Ca	44	2	He	-0.017	-12580.5	643	8.6	100	
Na	23	2	He	-4.011	-194.9	162825	0.5	100	
Mg	24	2	He	0.648	18.6	653	12.8	100	
K	39	2	He	4.111	176.8	79907	0.4	100	
Mn	55	2	He	0.005	316.3	707	6.4	2.5	
Co	59	2	He	-0.001	-287.7	90	29.4	2.5	
Ni	60	2	He	-0.025	-23.2	163	7.1	2.5	
Cu	63	2	He	-0.002	-1701.8	1517	15.8	2	
Zn	66	2	He	0.075	88.5	437	17.5	2.5	
Al	27	2	He	0.935	46.2	1193	6.3	5	
B	11	1	No Gas	16.225	15.6	30281	8.6	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	1.095	5.5	44913	0.6	5	
Si	28	1	No Gas	-12.027	-6.6	248932	0.6	10	
Ag	107	1	No Gas	-0.023	-25.7	740	8.4	2.5	
Cd	111	1	No Gas	0.003	226.2	27	57.3	1	
Sr	88	1	No Gas	0.017	27.0	1577	5.9	2.5	
Mo	95	1	No Gas	0.046	26.1	200	21.8	2.5	
Sn	118	1	No Gas	0.066	20.4	1517	4.4	5	
Sb	121	1	No Gas	0.020	49.6	533	15.9	2.5	
Ba	137	1	No Gas	0.006	231.5	223	18.1	2.5	
Tl	205	1	No Gas	0.080	42.3	1984	38.2	1	
Tl	203	1	No Gas	0.087	42.6	880	39.3	1	
Pb	208	1	No Gas	-0.002	-90.8	1210	6.8	2.5	
U	238	1	No Gas	0.008	36.8	263	33.2	2.5	
Ca	43	2	He	-0.177	-1794.7	23	24.7	100	
Sb	121	2	He	0.009	37.0	270	9.8	2.5	
Ti	47	2	He	-0.075	-53.9	3	173.2	2.5	
Cu	63	1	No Gas	-0.010	-441.7	3010	10.4	2.5	
Se	82	1	No Gas	-0.419	-49.2	-140	-17.6	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	769494	1.58	823334	93.46	70	120	
Ge	72	2	He	416220	4.13	413778	100.59	70	120	
Ge	72	1	No Gas	1327555	1.44	1379474	96.24	70	120	
In	115	1	No Gas	1662041	0.75	1670123	99.52	70	120	
Bi	209	1	No Gas	1569310	1.73	1532763	102.38	70	120	

Sample Report

Sample Table

Sample Name	MBLK-185976
Data File Name	025SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq Date Time	2022-11-10T12:28:53-06:00
Sample Type	Sample
Dilution	1
Comment	DOD TW 185976
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	0.097	0.097	41.52	47109	0.00	2000	
Be	9	1	No Gas	0.000	0.000	-1986.50	28	0.00	2000	
V	51	2	He	0.328	0.328	12.52	4146	0.01	2000	
Cr	52	2	He	0.111	0.111	17.92	1300	0.01	2000	
Fe	56	2	He	1.704	1.704	11.82	18416	0.01	200000	
Se	78	2	He	-0.085	-0.085	-286.62	205	-0.04	2000	
As	75	2	He	-0.023	-0.023	-168.83	90	-0.03	2000	
Ca	44	2	He	-2.445	-2.445	-185.71	607	-0.40	200000	
Na	23	2	He	-29.773	-29.773	-19.65	148440	-0.02	200000	
Mg	24	2	He	17.672	17.672	3.38	8866	0.20	200000	
K	39	2	He	1.265	1.265	213.43	81698	0.00	200000	
Mn	55	2	He	0.004	0.004	859.52	730	0.00	2000	
Co	59	2	He	-0.012	-0.012	-17.48	13	-0.09	2000	
Ni	60	2	He	0.002	0.002	858.19	220	0.00	2000	
Cu	63	2	He	-0.016	-0.016	-149.66	1503	0.00	2000	
Zn	66	2	He	0.275	0.275	15.60	637	0.04	2000	
Al	27	2	He	6.747	6.747	13.36	2704	0.25	2000	
B	11	1	No Gas	2.177	2.177	21.68	15442	0.01	2000	
Al	27	1	No Gas	6.347	6.347	4.81	102056	0.01	2000	
Si	28	1	No Gas	78.740	78.740	4.34	701358	0.01	2000	
Ag	107	1	No Gas	-0.046	-0.046	-2.77	560	-0.01	2000	
Cd	111	1	No Gas	-0.008	-0.008	-32.55	3	-0.25	2000	
Sr	88	1	No Gas	-0.018	-0.018	-23.94	947	0.00	2000	
Mo	95	1	No Gas	0.027	0.027	35.81	133	0.02	2000	
Sn	118	1	No Gas	0.013	0.013	74.47	1307	0.00	2000	
Sb	121	1	No Gas	0.040	0.040	22.25	747	0.01	2000	
Ba	137	1	No Gas	-0.006	-0.006	-402.01	197	0.00	2000	
Tl	205	1	No Gas	0.009	0.009	48.29	417	0.00	2000	
Tl	203	1	No Gas	0.007	0.007	46.12	140	0.01	2000	
Pb	208	1	No Gas	0.003	0.003	197.34	1437	0.00	2000	
U	238	1	No Gas	0.000	0.000	-226.79	10	0.00	2000	
Ca	43	2	He	-2.865	-2.865	-392.85	20	-14.32	200000	
Sb	121	2	He	0.039	0.039	29.62	427	0.01	2000	
Ti	47	2	He	0.043	0.043	165.29	20	0.21	2000	
Cu	63	1	No Gas	-0.014	-0.014	-215.78	3180	0.00	2000	
Zn	66	1	No Gas	0.190	0.190	27.80	1490	0.01	2000	
Se	82	1	No Gas	-0.404	-0.404	-56.39	-148	0.27	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	835494	1.21	823334	101.48	70	120	
Ge	72	2	He	432500	0.72	413778	104.52	70	120	
Ge	72	1	No Gas	1415676	2.40	1379474	102.62	70	120	
In	115	1	No Gas	1759446	0.82	1670123	105.35	70	120	

Sample Report

Bi	209	1	No Gas	1660885	1.65	1532763	108.36	70	120	

Sample Report

Sample Table

Sample Name	LCS-185976
Data File Name	026SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq Date Time	2022-11-10T12:30:46-06:00
Sample Type	Sample
Dilution	1
Comment	DOD TW 185976
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	0.129	0.129	51.92	46528	0.00	2000	
Be	9	1	No Gas	49.930	49.930	0.56	125319	0.04	2000	
V	51	2	He	51.651	51.651	1.21	212394	0.02	2000	
Cr	52	2	He	51.641	51.641	1.43	245352	0.02	2000	
Fe	56	2	He	5249.202	5249.202	1.08	23044322	0.02	200000	
Se	78	2	He	53.156	53.156	1.56	3422	1.55	2000	
As	75	2	He	53.521	53.521	1.05	33778	0.16	2000	
Ca	44	2	He	5098.890	5098.890	1.62	132803	3.84	200000	
Na	23	2	He	5230.016	5230.016	2.37	4458439	0.12	200000	
Mg	24	2	He	5343.765	5343.765	1.51	2595069	0.21	200000	
K	39	2	He	5393.006	5393.006	1.81	2816951	0.19	200000	
Mn	55	2	He	51.871	51.871	2.00	180564	0.03	2000	
Co	59	2	He	49.619	49.619	1.63	375827	0.01	2000	
Ni	60	2	He	52.655	52.655	1.13	97269	0.05	2000	
Cu	63	2	He	52.824	52.824	0.61	263477	0.02	2000	
Zn	66	2	He	54.459	54.459	1.19	50976	0.11	2000	
Al	27	2	He	58.891	58.891	1.24	15973	0.37	2000	
B	11	1	No Gas	0.916	0.916	7.33	13590	0.01	2000	
Al	27	1	No Gas	53.621	53.621	0.43	596788	0.01	2000	
Si	28	1	No Gas	82.726	82.726	1.77	728991	0.01	2000	
Ag	107	1	No Gas	50.154	50.154	0.28	537482	0.01	2000	
Cd	111	1	No Gas	51.495	51.495	1.07	112732	0.05	2000	
Sr	88	1	No Gas	0.016	0.016	14.42	1680	0.00	2000	
Mo	95	1	No Gas	49.452	49.452	0.30	199709	0.02	2000	
Sn	118	1	No Gas	-0.027	-0.027	-39.84	1097	0.00	2000	
Sb	121	1	No Gas	47.145	47.145	0.67	441112	0.01	2000	
Ba	137	1	No Gas	49.330	49.330	0.27	159473	0.03	2000	
Tl	205	1	No Gas	43.876	43.876	0.74	1049399	0.00	2000	
Tl	203	1	No Gas	43.622	43.622	0.43	438106	0.01	2000	
Pb	208	1	No Gas	46.484	46.484	0.87	1487038	0.00	2000	
U	238	1	No Gas	0.000	0.000	65.67	30	0.00	2000	
Ca	43	2	He	5154.247	5154.247	3.67	8022	64.25	200000	
Sb	121	2	He	51.398	51.398	1.86	255208	0.02	2000	
Ti	47	2	He	52.804	52.804	0.99	7582	0.70	2000	
Cu	63	1	No Gas	48.921	48.921	0.32	418067	0.01	2000	
Zn	66	1	No Gas	53.557	53.557	0.25	116117	0.05	2000	
Se	82	1	No Gas	52.213	52.213	3.84	6088	0.86	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	818384	1.47	823334	99.40	70	120	
Ge	72	2	He	436560	1.34	413778	105.51	70	120	
Ge	72	1	No Gas	1431824	0.08	1379474	103.79	70	120	
In	115	1	No Gas	1792119	0.26	1670123	107.30	70	120	

Sample Report

Bi	209	1	No Gas	1671398	0.74	1532763	109.04	70	120	

Sample Report

Sample Table

Sample Name	HS22110108-01
Data File Name	027SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq Date Time	2022-11-10T12:32:38-06:00
Sample Type	Sample
Dilution	1
Comment	DOD TW 185976
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	44.104	44.104	2.27	577270	0.01	2000	
Be	9	1	No Gas	0.079	0.079	25.12	225	0.03	2000	
V	51	2	He	0.651	0.651	5.16	5456	0.01	2000	
Cr	52	2	He	3.916	3.916	8.08	19188	0.02	2000	
Fe	56	2	He	906.400	906.400	1.00	3959464	0.02	200000	
Se	78	2	He	-0.269	-0.269	-72.49	194	-0.14	2000	
As	75	2	He	1.060	1.060	3.47	767	0.14	2000	
Ca	44	2	He	65682.308	65682.308	1.61	1690379	3.89	200000	
Na	23	2	He	409713.810	409713.810	1.24	333396262	0.12	200000	>LDR
Mg	24	2	He	49712.955	49712.955	1.07	23965334	0.21	200000	
K	39	2	He	1923.520	1923.520	4.15	1049531	0.18	200000	
Mn	55	2	He	444.685	444.685	0.88	1531445	0.03	2000	
Co	59	2	He	6.195	6.195	1.68	46677	0.01	2000	
Ni	60	2	He	13.352	13.352	2.25	24646	0.05	2000	
Cu	63	2	He	8.338	8.338	3.21	42610	0.02	2000	
Zn	66	2	He	84.520	84.520	2.53	78322	0.11	2000	
Al	27	2	He	113.205	113.205	4.80	29544	0.38	2000	
B	11	1	No Gas	40.167	40.167	3.18	61109	0.07	2000	
Al	27	1	No Gas	125.330	125.330	11.00	1328860	0.01	2000	
Si	28	1	No Gas	15218.400	15218.400	3.28	73401799	0.02	2000	>LDR
Ag	107	1	No Gas	-0.032	-0.032	-27.74	690	0.00	2000	
Cd	111	1	No Gas	0.197	0.197	6.41	430	0.05	2000	
Sr	88	1	No Gas	1174.355	1174.355	0.94	23459889	0.01	2000	
Mo	95	1	No Gas	1.020	1.020	1.78	3941	0.03	2000	
Sn	118	1	No Gas	0.206	0.206	14.80	2330	0.01	2000	
Sb	121	1	No Gas	0.746	0.746	7.24	7269	0.01	2000	
Ba	137	1	No Gas	399.051	399.051	2.29	1224007	0.03	2000	
Tl	205	1	No Gas	0.151	0.151	45.78	3557	0.00	2000	
Tl	203	1	No Gas	0.170	0.170	39.82	1657	0.01	2000	
Pb	208	1	No Gas	0.402	0.402	0.96	13196	0.00	2000	
U	238	1	No Gas	1.979	1.979	3.56	61759	0.00	2000	
Ca	43	2	He	61993.935	61993.935	1.55	95533	64.89	200000	
Sb	121	2	He	0.799	0.799	5.94	4174	0.02	2000	
Ti	47	2	He	0.888	0.888	35.66	140	0.63	2000	
Cu	63	1	No Gas	9.666	9.666	1.17	84287	0.01	2000	
Zn	66	1	No Gas	83.257	83.257	2.21	177793	0.05	2000	
Se	82	1	No Gas	1.680	1.680	36.71	97	1.74	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	815092	1.88	823334	99.00	70	120	
Ge	72	2	He	433394	1.19	413778	104.74	70	120	
Ge	72	1	No Gas	1415507	2.39	1379474	102.61	70	120	
In	115	1	No Gas	1702622	0.82	1670123	101.95	70	120	
Bi	209	1	No Gas	1553280	1.64	1532763	101.34	70	120	

Sample Report

Sample Table

Sample Name	HS22110108-01SD
Data File Name	028SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq Date Time	2022-11-10T12:34:30-06:00
Sample Type	Sample
Dilution	5
Comment	DOD TW 185976
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	9.264	46.320	1.71	151831	0.01	2000	
Be	9	1	No Gas	0.007	0.033	49.25	43	0.02	2000	
V	51	2	He	0.917	4.585	2.69	6351	0.01	2000	
Cr	52	2	He	0.812	4.059	14.72	4477	0.02	2000	
Fe	56	2	He	178.571	892.857	0.85	767634	0.02	200000	
Se	78	2	He	0.060	0.302	351.24	208	0.03	2000	
As	75	2	He	0.185	0.926	27.71	214	0.09	2000	
Ca	44	2	He	12216.341	61081.706	0.74	306461	3.99	200000	
Na	23	2	He	82638.989	413194.944	0.61	65567202	0.13	200000	
Mg	24	2	He	10148.032	50740.160	0.80	4760404	0.21	200000	
K	39	2	He	366.967	1834.834	0.71	258833	0.14	200000	
Mn	55	2	He	84.667	423.336	0.59	284285	0.03	2000	
Co	59	2	He	1.268	6.340	1.72	9373	0.01	2000	
Ni	60	2	He	2.797	13.984	3.77	5191	0.05	2000	
Cu	63	2	He	1.644	8.219	4.28	9413	0.02	2000	
Zn	66	2	He	18.183	90.913	1.13	16691	0.11	2000	
Al	27	2	He	16.387	81.935	7.25	5001	0.33	2000	
B	11	1	No Gas	10.219	51.097	2.67	24052	0.04	2000	
Al	27	1	No Gas	15.979	79.894	8.98	195059	0.01	2000	
Si	28	1	No Gas	3033.261	15166.307	1.53	14423727	0.02	2000	>LDR
Ag	107	1	No Gas	-0.041	-0.207	-16.88	597	-0.01	2000	
Cd	111	1	No Gas	0.027	0.134	29.10	77	0.04	2000	
Sr	88	1	No Gas	229.283	1146.413	1.53	4616228	0.00	2000	
Mo	95	1	No Gas	0.232	1.160	9.87	923	0.03	2000	
Sn	118	1	No Gas	0.060	0.302	46.72	1537	0.00	2000	
Sb	121	1	No Gas	0.141	0.706	2.50	1633	0.01	2000	
Ba	137	1	No Gas	73.037	365.183	2.41	225892	0.03	2000	
Tl	205	1	No Gas	0.022	0.108	17.49	663	0.00	2000	
Tl	203	1	No Gas	0.023	0.114	47.66	277	0.01	2000	
Pb	208	1	No Gas	0.065	0.325	14.02	3190	0.00	2000	
U	238	1	No Gas	0.396	1.979	2.45	12363	0.00	2000	
Ca	43	2	He	12220.421	61102.103	1.28	18342	66.62	200000	
Sb	121	2	He	0.167	0.834	7.80	1030	0.02	2000	
Ti	47	2	He	0.095	0.473	45.37	27	0.36	2000	
Cu	63	1	No Gas	1.931	9.657	4.10	18860	0.01	2000	
Zn	66	1	No Gas	17.649	88.247	1.27	37335	0.05	2000	
Se	82	1	No Gas	0.739	3.694	49.16	-13	-5.64	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	790013	0.87	823334	95.95	70	120	
Ge	72	2	He	421686	0.79	413778	101.91	70	120	
Ge	72	1	No Gas	1370778	1.26	1379474	99.37	70	120	
In	115	1	No Gas	1715820	1.88	1670123	102.74	70	120	

Sample Report

Bi	209	1	No Gas	1552528	0.66	1532763	101.29	70	120	

Sample Report

Sample Table

Sample Name	HS22110108-01MS
Data File Name	029SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq Date Time	2022-11-10T12:36:22-06:00
Sample Type	Sample
Dilution	1
Comment	DOD TW 185976
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	43.792	43.792	2.09	586689	0.01	2000	
Be	9	1	No Gas	50.343	50.343	2.17	128713	0.04	2000	
V	51	2	He	53.549	53.549	1.04	219420	0.02	2000	
Cr	52	2	He	55.553	55.553	0.46	263074	0.02	2000	
Fe	56	2	He	6010.199	6010.199	0.72	26301760	0.02	200000	
Se	78	2	He	50.866	50.866	1.53	3274	1.55	2000	
As	75	2	He	55.555	55.555	0.87	34950	0.16	2000	
Ca	44	2	He	68689.337	68689.337	2.00	1775155	3.87	200000	
Na	23	2	He	408607.180	408607.180	0.29	333893402	0.12	200000	>LDR
Mg	24	2	He	54126.559	54126.559	0.36	26201985	0.21	200000	
K	39	2	He	7224.225	7224.225	0.76	3734347	0.19	200000	
Mn	55	2	He	488.030	488.030	0.33	1687700	0.03	2000	
Co	59	2	He	54.657	54.657	0.64	412724	0.01	2000	
Ni	60	2	He	63.114	63.114	0.52	116193	0.05	2000	
Cu	63	2	He	56.907	56.907	0.70	282817	0.02	2000	
Zn	66	2	He	132.460	132.460	0.56	123057	0.11	2000	
Al	27	2	He	137.185	137.185	0.73	35746	0.38	2000	
B	11	1	No Gas	40.202	40.202	0.75	62563	0.06	2000	
Al	27	1	No Gas	141.460	141.460	3.74	1511174	0.01	2000	
Si	28	1	No Gas	15155.372	15155.372	0.54	73860119	0.02	2000	>LDR
Ag	107	1	No Gas	49.645	49.645	1.10	514862	0.01	2000	
Cd	111	1	No Gas	51.174	51.174	0.77	108419	0.05	2000	
Sr	88	1	No Gas	1151.544	1151.544	0.91	23433273	0.00	2000	
Mo	95	1	No Gas	53.156	53.156	1.39	207730	0.03	2000	
Sn	118	1	No Gas	0.045	0.045	43.41	1467	0.00	2000	
Sb	121	1	No Gas	47.993	47.993	1.12	448316	0.01	2000	
Ba	137	1	No Gas	452.946	452.946	0.32	1415286	0.03	2000	
Tl	205	1	No Gas	45.572	45.572	1.51	1028677	0.00	2000	
Tl	203	1	No Gas	44.868	44.868	1.62	425267	0.01	2000	
Pb	208	1	No Gas	48.336	48.336	1.73	1459255	0.00	2000	
U	238	1	No Gas	1.971	1.971	3.09	62489	0.00	2000	
Ca	43	2	He	65422.664	65422.664	0.39	101237	64.62	200000	
Sb	121	2	He	51.836	51.836	0.30	256612	0.02	2000	
Ti	47	2	He	56.915	56.915	2.21	8146	0.70	2000	
Cu	63	1	No Gas	55.111	55.111	1.29	469776	0.01	2000	
Zn	66	1	No Gas	132.147	132.147	1.48	284435	0.05	2000	
Se	82	1	No Gas	53.621	53.621	1.93	6245	0.86	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	833753	1.08	823334	101.27	70	120	
Ge	72	2	He	435180	0.42	413778	105.17	70	120	
Ge	72	1	No Gas	1429571	0.76	1379474	103.63	70	120	
In	115	1	No Gas	1734299	0.34	1670123	103.84	70	120	
Bi	209	1	No Gas	1577647	1.36	1532763	102.93	70	120	

Sample Report

Sample Table

Sample Name	HS22110108-01MSD
Data File Name	030SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq Date Time	2022-11-10T12:38:14-06:00
Sample Type	Sample
Dilution	1
Comment	DOD TW 185976
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	41.991	41.991	0.93	580825	0.01	2000	
Be	9	1	No Gas	48.507	48.507	0.47	127621	0.04	2000	
V	51	2	He	52.169	52.169	0.66	218869	0.02	2000	
Cr	52	2	He	53.925	53.925	0.95	261400	0.02	2000	
Fe	56	2	He	5903.606	5903.606	0.10	26445335	0.02	200000	
Se	78	2	He	51.175	51.175	1.70	3370	1.52	2000	
As	75	2	He	54.173	54.173	1.60	34884	0.16	2000	
Ca	44	2	He	67839.865	67839.865	0.67	1794636	3.78	200000	
Na	23	2	He	401195.282	401195.282	0.47	335562535	0.12	200000	>LDR
Mg	24	2	He	53435.246	53435.246	0.30	26477056	0.20	200000	
K	39	2	He	7135.014	7135.014	0.82	3776058	0.19	200000	
Mn	55	2	He	476.317	476.317	0.32	1686052	0.03	2000	
Co	59	2	He	53.306	53.306	0.53	411999	0.01	2000	
Ni	60	2	He	61.964	61.964	1.29	116757	0.05	2000	
Cu	63	2	He	55.624	55.624	0.78	282976	0.02	2000	
Zn	66	2	He	130.399	130.399	0.62	124005	0.11	2000	
Al	27	2	He	146.995	146.995	2.23	39130	0.38	2000	
B	11	1	No Gas	38.471	38.471	3.39	62163	0.06	2000	
Al	27	1	No Gas	145.931	145.931	2.40	1574148	0.01	2000	
Si	28	1	No Gas	14650.930	14650.930	0.60	72164854	0.02	2000	>LDR
Ag	107	1	No Gas	47.508	47.508	0.36	502836	0.01	2000	
Cd	111	1	No Gas	49.113	49.113	1.16	106185	0.05	2000	
Sr	88	1	No Gas	1106.134	1106.134	1.59	22969257	0.00	2000	
Mo	95	1	No Gas	51.179	51.179	0.50	204102	0.03	2000	
Sn	118	1	No Gas	0.068	0.068	9.58	1627	0.00	2000	
Sb	121	1	No Gas	46.723	46.723	0.53	441072	0.01	2000	
Ba	137	1	No Gas	413.270	413.270	0.98	1317753	0.03	2000	
Tl	205	1	No Gas	44.383	44.383	1.21	1006881	0.00	2000	
Tl	203	1	No Gas	44.180	44.180	1.55	420840	0.01	2000	
Pb	208	1	No Gas	47.367	47.367	0.69	1437352	0.00	2000	
U	238	1	No Gas	1.934	1.934	0.44	61638	0.00	2000	
Ca	43	2	He	64409.507	64409.507	1.16	102012	63.14	200000	
Sb	121	2	He	51.140	51.140	1.07	259115	0.02	2000	
Ti	47	2	He	55.300	55.300	0.88	8103	0.68	2000	
Cu	63	1	No Gas	53.668	53.668	0.65	462388	0.01	2000	
Zn	66	1	No Gas	129.605	129.605	0.66	281927	0.05	2000	
Se	82	1	No Gas	53.819	53.819	2.44	6335	0.85	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	857840	0.21	823334	104.19	70	120	
Ge	72	2	He	445442	1.00	413778	107.65	70	120	
Ge	72	1	No Gas	1444596	0.97	1379474	104.72	70	120	
In	115	1	No Gas	1769786	0.55	1670123	105.97	70	120	
Bi	209	1	No Gas	1585603	1.83	1532763	103.45	70	120	

Sample Report

Sample Table

Sample Name	HS22110108-01PDS
Data File Name	031SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq Date Time	2022-11-10T12:40:17-06:00
Sample Type	Sample
Dilution	1
Comment	DOD TW 185976
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	43.754	43.754	2.07	589300	0.01	2000	
Be	9	1	No Gas	113.884	113.884	2.27	292652	0.04	2000	
V	51	2	He	120.105	120.105	0.98	498843	0.02	2000	
Cr	52	2	He	121.352	121.352	0.88	585782	0.02	2000	
Fe	56	2	He	12471.615	12471.615	1.25	55709913	0.02	200000	
Se	78	2	He	116.717	116.717	1.72	7390	1.58	2000	
As	75	2	He	123.630	123.630	1.55	79273	0.16	2000	
Ca	44	2	He	75562.695	75562.695	1.22	1993784	3.79	200000	
Na	23	2	He	412745.326	412745.326	1.14	344344688	0.12	200000	>LDR
Mg	24	2	He	60452.850	60452.850	1.20	29877647	0.20	200000	
K	39	2	He	13645.364	13645.364	1.27	7127293	0.19	200000	
Mn	55	2	He	557.270	557.270	1.24	1967390	0.03	2000	
Co	59	2	He	116.025	116.025	1.08	894366	0.01	2000	
Ni	60	2	He	125.372	125.372	2.05	235404	0.05	2000	
Cu	63	2	He	120.305	120.305	1.21	608590	0.02	2000	
Zn	66	2	He	195.303	195.303	1.33	185072	0.11	2000	
Al	27	2	He	217.326	217.326	2.26	57209	0.38	2000	
B	11	1	No Gas	40.154	40.154	2.86	62833	0.06	2000	
Al	27	1	No Gas	205.934	205.934	2.21	2190348	0.01	2000	
Si	28	1	No Gas	14985.997	14985.997	1.65	73278347	0.02	2000	>LDR
Ag	107	1	No Gas	123.528	123.528	0.82	1278425	0.01	2000	
Cd	111	1	No Gas	115.767	115.767	0.52	245021	0.05	2000	
Sr	88	1	No Gas	1147.235	1147.235	1.19	23324303	0.00	2000	
Mo	95	1	No Gas	118.358	118.358	1.47	462094	0.03	2000	
Sn	118	1	No Gas	0.061	0.061	28.22	1557	0.00	2000	
Sb	121	1	No Gas	105.340	105.340	2.23	986794	0.01	2000	
Ba	137	1	No Gas	518.561	518.561	1.79	1618757	0.03	2000	
Tl	205	1	No Gas	118.010	118.010	1.89	2606185	0.00	2000	
Tl	203	1	No Gas	106.300	106.300	1.86	985807	0.01	2000	
Pb	208	1	No Gas	118.158	118.158	1.74	3488868	0.00	2000	
U	238	1	No Gas	1.990	1.990	1.58	61752	0.00	2000	
Ca	43	2	He	72156.850	72156.850	0.97	113996	63.30	200000	
Sb	121	2	He	115.174	115.174	0.93	581822	0.02	2000	
Ti	47	2	He	127.990	127.990	2.48	18683	0.69	2000	
Cu	63	1	No Gas	113.728	113.728	2.15	969066	0.01	2000	
Zn	66	1	No Gas	196.099	196.099	2.16	422935	0.05	2000	
Se	82	1	No Gas	116.600	116.600	2.45	13751	0.85	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	838206	1.82	823334	101.81	70	120	
Ge	72	2	He	444350	1.60	413778	107.39	70	120	
Ge	72	1	No Gas	1434571	2.20	1379474	103.99	70	120	
In	115	1	No Gas	1732821	0.96	1670123	103.75	70	120	
Bi	209	1	No Gas	1543722	1.34	1532763	100.71	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	035_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq Date Time	2022-11-10T12:47:43-06:00
Sample Type	CCV
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	%High2	QC Flag
Li	7	1	No Gas	94.790	1.369	1133239	1.26	100	94.8	90	110	
Be	9	1	No Gas	93.558	1.489	222784	0.50	100	93.6	90	110	
V	51	2	He	98.857	1.324	376298	0.51	100	98.9	90	110	
Cr	52	2	He	99.752	0.752	440889	0.52	100	99.8	90	110	
Fe	56	2	He	10048.324	1.261	41088369	0.47	10000	100.5	90	110	
Se	78	2	He	99.383	3.675	5789	2.69	100	99.4	90	110	
As	75	2	He	100.013	1.322	58720	0.69	100	100.0	90	110	
Ca	44	2	He	9958.818	0.638	241082	0.77	10000	99.6	90	110	
Na	23	2	He	10074.737	0.573	7852392	0.69	10000	100.7	90	110	
Mg	24	2	He	10047.543	1.529	4545750	0.83	10000	100.5	90	110	
K	39	2	He	10197.401	0.791	4894950	0.22	10000	102.0	90	110	
Mn	55	2	He	100.410	1.281	325037	0.42	100	100.4	90	110	
Co	59	2	He	95.246	1.094	672069	0.22	100	95.2	90	110	
Ni	60	2	He	99.880	1.373	171718	0.53	100	99.9	90	110	
Cu	63	2	He	99.370	1.435	460395	0.62	100	99.4	90	110	
Zn	66	2	He	101.384	1.251	88108	1.17	100	101.4	90	110	
Al	27	2	He	101.970	2.710	25076	2.77	100	102.0	90	110	
B	11	1	No Gas	498.475	4.482	587390	2.83	500	99.7	90	110	
Al	27	1	No Gas	102.456	0.868	1013372	0.70	100	102.5	90	110	
Si	28	1	No Gas	497.321	0.706	2512804	1.30	5000	9.9	90	110	CCV Main CR1-2 Failed
Ag	107	1	No Gas	98.741	1.650	974487	1.50	100	98.7	90	110	
Cd	111	1	No Gas	98.484	0.416	198733	0.55	100	98.5	90	110	
Sr	88	1	No Gas	98.294	1.016	1906486	1.04	100	98.3	90	110	
Mo	95	1	No Gas	96.924	1.168	360796	1.22	100	96.9	90	110	
Sn	118	1	No Gas	97.830	0.674	524546	0.28	100	97.8	90	110	
Sb	121	1	No Gas	92.493	1.203	792142	0.16	100	92.5	90	110	
Ba	137	1	No Gas	96.572	1.318	287601	1.43	100	96.6	90	110	
Tl	205	1	No Gas	99.024	0.897	2183902	0.78	100	99.0	90	110	
Tl	203	1	No Gas	88.143	0.507	816295	0.63	100	88.1	90	110	CCV Main CR1-2 Failed
Pb	208	1	No Gas	98.087	0.813	2892341	0.92	100	98.1	90	110	
U	238	1	No Gas	99.225	0.860	3073841	0.99	100	99.2	90	110	
Ca	43	2	He	9784.713	3.295	14171	3.53	10000	97.8	90	110	
Sb	121	2	He	99.591	1.210	460541	0.72	100	99.6	90	110	
Ti	47	2	He	100.042	3.441	13373	3.74	100	100.0	90	110	
Cu	63	1	No Gas	93.719	1.612	730593	0.64	100	93.7	90	110	
Se	82	1	No Gas	101.770	4.381	10956	4.87	100	101.8	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	776627	1.87	823334	94.33	70	120	
Ge	72	2	He	406720	0.89	413778	98.29	70	120	
Ge	72	1	No Gas	1311292	1.35	1379474	95.06	70	120	
In	115	1	No Gas	1652042	0.40	1670123	98.92	70	120	
Bi	209	1	No Gas	1541386	0.13	1532763	100.56	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	036_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq Date Time	2022-11-10T12:49:32-06:00
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	0.230	48.3	46242	1.3	0.5	
Be	9	1	No Gas	0.008	77.2	47	32.7	0.5	
V	51	2	He	-0.322	-6.7	1437	4.9	2.5	
Cr	52	2	He	0.041	23.8	910	3.8	2.5	
Fe	56	2	He	1.036	11.3	14525	4.0	100	
Se	78	2	He	-0.030	-907.9	195	7.8	2	
As	75	2	He	-0.040	-34.6	74	10.3	2.5	
Ca	44	2	He	-1.368	-80.9	593	4.9	100	
Na	23	2	He	26.895	14.2	181978	0.8	100	
Mg	24	2	He	1.031	11.7	807	7.3	100	
K	39	2	He	5.600	9.0	78506	0.7	100	
Mn	55	2	He	0.002	1351.3	677	9.8	2.5	
Co	59	2	He	-0.001	-399.4	90	19.2	2.5	
Ni	60	2	He	-0.031	-130.7	150	46.7	2.5	
Cu	63	2	He	-0.023	-116.3	1373	8.2	2	
Zn	66	2	He	0.113	80.8	457	18.2	2.5	
Al	27	2	He	0.500	35.0	1060	3.8	5	
B	11	1	No Gas	23.874	8.0	40269	8.0	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	0.911	10.6	43030	1.0	5	
Si	28	1	No Gas	-12.319	-10.8	247048	1.2	10	
Ag	107	1	No Gas	-0.037	-23.1	613	14.8	2.5	
Cd	111	1	No Gas	0.007	113.1	33	45.8	1	
Sr	88	1	No Gas	0.027	37.2	1747	11.5	2.5	
Mo	95	1	No Gas	0.038	25.3	167	21.1	2.5	
Sn	118	1	No Gas	0.070	14.9	1520	2.6	5	
Sb	121	1	No Gas	0.038	27.6	687	12.6	2.5	
Ba	137	1	No Gas	0.000	12183.2	203	14.2	2.5	
Tl	205	1	No Gas	0.095	36.9	2280	33.0	1	
Tl	203	1	No Gas	0.105	34.1	1033	31.8	1	
Pb	208	1	No Gas	0.004	41.9	1363	1.8	2.5	
U	238	1	No Gas	0.014	19.5	457	17.6	2.5	
Ca	43	2	He	4.918	278.6	30	66.7	100	
Sb	121	2	He	0.034	105.1	380	43.5	2.5	
Ti	47	2	He	-0.048	-90.1	7	86.6	2.5	
Cu	63	1	No Gas	0.049	62.6	3464	6.7	2.5	
Se	82	1	No Gas	0.073	1087.9	-86	-101.2	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	792705	2.38	823334	96.28	70	120	
Ge	72	2	He	404788	0.91	413778	97.83	70	120	
Ge	72	1	No Gas	1324634	1.48	1379474	96.02	70	120	
In	115	1	No Gas	1642225	1.19	1670123	98.33	70	120	
Bi	209	1	No Gas	1543357	1.60	1532763	100.69	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	095_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq Date Time	2022-11-10T15:48:00-06:00
Sample Type	CCV
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	%High2	QC Flag
Li	7	1	No Gas	96.149	2.006	964035	1.01	100	96.1	90	110	
Be	9	1	No Gas	94.956	1.582	189750	0.51	100	95.0	90	110	
V	51	2	He	98.121	0.563	323188	0.94	100	98.1	90	110	
Cr	52	2	He	97.851	0.352	374219	1.20	100	97.9	90	110	
Fe	56	2	He	9779.278	0.651	34599650	0.72	10000	97.8	90	110	
Se	78	2	He	98.295	2.904	4957	3.46	100	98.3	90	110	
As	75	2	He	96.625	0.971	49088	0.54	100	96.6	90	110	
Ca	44	2	He	9783.104	1.474	204898	0.52	10000	97.8	90	110	
Na	23	2	He	10255.664	1.355	6912954	0.41	10000	102.6	90	110	
Mg	24	2	He	10063.894	1.082	3939456	0.38	10000	100.6	90	110	
K	39	2	He	10118.364	1.087	4202836	0.97	10000	101.2	90	110	
Mn	55	2	He	98.138	1.540	274866	0.55	100	98.1	90	110	
Co	59	2	He	92.714	1.064	566020	0.45	100	92.7	90	110	
Ni	60	2	He	97.941	0.605	145702	1.21	100	97.9	90	110	
Cu	63	2	He	96.790	0.751	388047	0.74	100	96.8	90	110	
Zn	66	2	He	97.745	0.688	73512	1.62	100	97.7	90	110	
Al	27	2	He	103.848	2.107	22078	1.18	100	103.8	90	110	
B	11	1	No Gas	514.647	2.187	508877	3.03	500	102.9	90	110	
Al	27	1	No Gas	107.027	0.520	827129	0.84	100	107.0	90	110	
Si	28	1	No Gas	564.667	0.607	2200585	0.40	5000	11.3	90	110	CCV Main CR1-2 Failed
Ag	107	1	No Gas	98.183	1.678	802465	1.16	100	98.2	90	110	
Cd	111	1	No Gas	97.984	0.647	163749	0.10	100	98.0	90	110	
Sr	88	1	No Gas	98.360	2.083	1579993	2.15	100	98.4	90	110	
Mo	95	1	No Gas	96.738	1.660	298220	1.41	100	96.7	90	110	
Sn	118	1	No Gas	97.747	0.707	434047	0.18	100	97.7	90	110	
Sb	121	1	No Gas	98.417	1.128	659522	0.98	100	98.4	90	110	
Ba	137	1	No Gas	96.909	2.425	238990	1.80	100	96.9	90	110	
Tl	205	1	No Gas	97.860	0.372	1812625	0.73	100	97.9	90	110	
Tl	203	1	No Gas	86.827	2.172	675250	1.27	100	86.8	90	110	CCV Main CR1-2 Failed
Pb	208	1	No Gas	90.587	4.122	2242971	3.28	100	90.6	90	110	
U	238	1	No Gas	96.967	1.178	2522690	0.62	100	97.0	90	110	
Ca	43	2	He	9610.546	1.425	12042	1.54	10000	96.1	90	110	
Sb	121	2	He	95.544	0.694	382285	0.62	100	95.5	90	110	
Ti	47	2	He	100.303	2.806	11598	1.99	100	100.3	90	110	
Cu	63	1	No Gas	99.830	0.666	608815	0.41	100	99.8	90	110	
Se	82	1	No Gas	107.376	2.842	9047	2.11	100	107.4	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	651754	2.04	823334	79.16	70	120	
Ge	72	2	He	351899	1.14	413778	85.05	70	120	
Ge	72	1	No Gas	1025995	0.89	1379474	74.38	70	120	
In	115	1	No Gas	1368202	0.71	1670123	81.92	70	120	
Bi	209	1	No Gas	1294560	0.95	1532763	84.46	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	096_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq Date Time	2022-11-10T15:49:50-06:00
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	0.291	21.1	37319	2.4	0.5	
Be	9	1	No Gas	0.006	27.2	33	8.7	0.5	
V	51	2	He	0.697	5.1	4537	1.5	2.5	
Cr	52	2	He	0.022	196.3	710	21.3	2.5	
Fe	56	2	He	1.654	9.2	14665	2.9	100	
Se	78	2	He	1.019	50.9	218	10.4	2	
As	75	2	He	0.102	32.6	136	13.5	2.5	
Ca	44	2	He	-0.588	-365.6	527	7.7	100	
Na	23	2	He	148.572	6.6	236217	1.2	100	CCB Main CR1 Failed
Mg	24	2	He	1.680	9.7	947	7.9	100	
K	39	2	He	38.017	9.2	80712	1.6	100	
Mn	55	2	He	-0.007	-322.4	560	11.2	2.5	
Co	59	2	He	-0.001	-905.8	77	52.7	2.5	
Ni	60	2	He	-0.043	-69.7	110	39.6	2.5	
Cu	63	2	He	0.013	63.3	1327	1.9	2	
Zn	66	2	He	0.002	4309.3	310	23.3	2.5	
Al	27	2	He	0.682	56.6	950	9.2	5	
B	11	1	No Gas	56.752	8.9	62757	7.3	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	1.310	15.1	37250	2.0	5	
Si	28	1	No Gas	-4.468	-60.1	224270	0.5	10	
Ag	107	1	No Gas	-0.036	-22.5	533	14.1	2.5	
Cd	111	1	No Gas	0.000	-7725.6	17	91.7	1	
Sr	88	1	No Gas	0.036	31.1	1620	9.6	2.5	
Mo	95	1	No Gas	0.028	31.5	110	24.1	2.5	
Sn	118	1	No Gas	0.038	48.4	1147	5.9	5	
Sb	121	1	No Gas	0.037	16.8	537	6.0	2.5	
Ba	137	1	No Gas	-0.005	-156.6	160	10.8	2.5	
Tl	205	1	No Gas	0.106	35.2	2067	34.1	1	
Tl	203	1	No Gas	0.115	43.5	923	42.6	1	
Pb	208	1	No Gas	-0.003	-120.1	960	9.9	2.5	
U	238	1	No Gas	0.021	6.4	537	7.5	2.5	
Ca	43	2	He	8.353	95.6	30	33.3	100	
Sb	121	2	He	0.018	17.6	263	5.8	2.5	
Ti	47	2	He	-0.069	-72.1	3	173.2	2.5	
Cu	63	1	No Gas	0.133	24.5	3274	1.5	2.5	
Se	82	1	No Gas	-0.089	-2028.6	-84	-186.2	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	629808	0.93	823334	76.49	70	120	
Ge	72	2	He	348515	1.53	413778	84.23	70	120	
Ge	72	1	No Gas	1053378	4.73	1379474	76.36	70	120	
In	115	1	No Gas	1394208	1.82	1670123	83.48	70	120	
Bi	209	1	No Gas	1257248	2.09	1532763	82.02	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	107_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq Date Time	2022-11-10T16:32:59-06:00
Sample Type	CCV
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	%High2	QC Flag
Li	7	1	No Gas	96.460	1.276	1020312	2.37	100	96.5	90	110	
Be	9	1	No Gas	96.224	1.989	202821	0.66	100	96.2	90	110	
V	51	2	He	98.283	0.578	352951	0.15	100	98.3	90	110	
Cr	52	2	He	98.708	0.279	411577	0.41	100	98.7	90	110	
Fe	56	2	He	9951.520	0.325	38389364	0.13	10000	99.5	90	110	
Se	78	2	He	101.621	0.373	5581	0.09	100	101.6	90	110	
As	75	2	He	100.636	0.984	55741	0.94	100	100.6	90	110	
Ca	44	2	He	9898.412	1.432	226047	1.31	10000	99.0	90	110	
Na	23	2	He	10204.167	1.478	7500524	1.04	10000	102.0	90	110	
Mg	24	2	He	9998.739	0.624	4267738	0.90	10000	100.0	90	110	
K	39	2	He	10177.867	1.221	4608939	0.77	10000	101.8	90	110	
Mn	55	2	He	99.306	0.712	303277	0.79	100	99.3	90	110	
Co	59	2	He	94.786	0.928	630948	0.48	100	94.8	90	110	
Ni	60	2	He	98.757	1.295	160176	0.85	100	98.8	90	110	
Cu	63	2	He	98.174	0.612	429126	0.17	100	98.2	90	110	
Zn	66	2	He	99.221	1.008	81350	0.67	100	99.2	90	110	
Al	27	2	He	98.004	1.938	22769	1.44	100	98.0	90	110	
B	11	1	No Gas	492.099	3.455	513545	2.29	500	98.4	90	110	
Al	27	1	No Gas	89.877	0.631	850337	0.41	100	89.9	90	110	CCV Main CR1-2 Failed
Si	28	1	No Gas	465.430	1.718	2257183	1.39	5000	9.3	90	110	CCV Main CR1-2 Failed
Ag	107	1	No Gas	98.671	1.095	905275	0.79	100	98.7	90	110	
Cd	111	1	No Gas	98.497	1.594	184760	0.23	100	98.5	90	110	
Sr	88	1	No Gas	98.435	1.112	1774906	1.22	100	98.4	90	110	
Mo	95	1	No Gas	94.253	1.340	326152	0.76	100	94.3	90	110	
Sn	118	1	No Gas	106.848	0.861	532499	0.90	100	106.8	90	110	
Sb	121	1	No Gas	90.259	0.829	736017	0.65	100	90.3	90	110	
Ba	137	1	No Gas	97.172	1.293	269008	0.52	100	97.2	90	110	
Tl	205	1	No Gas	99.419	0.982	2082924	1.45	100	99.4	90	110	
Tl	203	1	No Gas	88.589	1.008	779351	1.16	100	88.6	90	110	CCV Main CR1-2 Failed
Pb	208	1	No Gas	96.534	0.563	2704063	0.88	100	96.5	90	110	
U	238	1	No Gas	96.749	1.355	2847091	1.59	100	96.7	90	110	
Ca	43	2	He	9701.069	0.524	13253	0.38	10000	97.0	90	110	
Sb	121	2	He	98.079	0.382	427875	0.47	100	98.1	90	110	
Ti	47	2	He	99.507	6.094	12549	6.43	100	99.5	90	110	
Cu	63	1	No Gas	90.256	0.197	670052	0.14	100	90.3	90	110	
Se	82	1	No Gas	96.304	5.921	9864	5.71	100	96.3	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	687448	1.37	823334	83.50	70	120	
Ge	72	2	He	383675	0.44	413778	92.72	70	120	
Ge	72	1	No Gas	1248406	0.32	1379474	90.50	70	120	
In	115	1	No Gas	1535954	1.76	1670123	91.97	70	120	
Bi	209	1	No Gas	1464214	0.47	1532763	95.53	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	108_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq Date Time	2022-11-10T16:34:48-06:00
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	0.226	16.7	38731	0.7	0.5	
Be	9	1	No Gas	0.006	124.6	35	42.9	0.5	
V	51	2	He	-0.110	-5.1	2076	1.1	2.5	
Cr	52	2	He	0.135	8.0	1230	3.3	2.5	
Fe	56	2	He	0.798	8.3	12603	2.3	100	
Se	78	2	He	0.438	24.5	205	3.0	2	
As	75	2	He	0.025	121.2	104	16.4	2.5	
Ca	44	2	He	-8.304	-10.3	397	5.2	100	
Na	23	2	He	64.525	6.4	195755	0.7	100	
Mg	24	2	He	0.830	46.5	667	24.9	100	
K	39	2	He	10.009	17.9	74909	0.1	100	
Mn	55	2	He	-0.028	-89.4	540	13.4	2.5	
Co	59	2	He	0.000	-2189.4	87	35.3	2.5	
Ni	60	2	He	-0.043	-80.8	120	46.4	2.5	
Cu	63	2	He	-0.087	-13.8	1003	5.8	2	
Zn	66	2	He	0.037	151.9	363	12.4	2.5	
Al	27	2	He	-1.047	-23.2	647	7.6	5	
B	11	1	No Gas	32.457	9.0	42203	6.7	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	-0.886	-5.8	23867	1.8	5	
Si	28	1	No Gas	-13.052	-5.5	226553	1.0	10	
Ag	107	1	No Gas	-0.045	-21.5	507	18.2	2.5	
Cd	111	1	No Gas	0.002	450.6	23	89.2	1	
Sr	88	1	No Gas	-0.010	-76.7	980	12.7	2.5	
Mo	95	1	No Gas	0.029	51.5	127	40.5	2.5	
Sn	118	1	No Gas	-0.003	-203.5	1077	3.0	5	
Sb	121	1	No Gas	0.011	105.3	420	21.4	2.5	
Ba	137	1	No Gas	-0.026	-38.0	120	22.0	2.5	
Tl	205	1	No Gas	0.065	42.0	1543	37.7	1	
Tl	203	1	No Gas	0.059	34.0	587	31.0	1	
Pb	208	1	No Gas	-0.012	-11.3	863	3.7	2.5	
U	238	1	No Gas	0.014	12.1	427	11.1	2.5	
Ca	43	2	He	6.588	226.4	30	66.7	100	
Sb	121	2	He	0.005	293.3	227	26.6	2.5	
Ti	47	2	He	0.009	1324.4	13	114.6	2.5	
Cu	63	1	No Gas	-0.045	-39.7	2537	5.7	2.5	
Se	82	1	No Gas	0.108	1474.3	-76	-212.5	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	664428	0.36	823334	80.70	70	120	
Ge	72	2	He	376322	0.96	413778	90.95	70	120	
Ge	72	1	No Gas	1230933	0.57	1379474	89.23	70	120	
In	115	1	No Gas	1556872	1.51	1670123	93.22	70	120	
Bi	209	1	No Gas	1475574	0.68	1532763	96.27	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	121_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq Date Time	2022-11-10T17:04:54-06:00
Sample Type	CCV
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	%High2	QC Flag
Li	7	1	No Gas	102.476	6.348	995319	1.92	100	102.5	90	110	
Be	9	1	No Gas	99.427	4.859	192969	0.37	100	99.4	90	110	
V	51	2	He	97.389	0.921	340383	0.12	100	97.4	90	110	
Cr	52	2	He	98.930	0.385	401447	0.70	100	98.9	90	110	
Fe	56	2	He	9866.709	0.932	37041148	0.12	10000	98.7	90	110	
Se	78	2	He	99.658	0.154	5330	1.05	100	99.7	90	110	
As	75	2	He	100.849	0.586	54363	1.11	100	100.8	90	110	
Ca	44	2	He	9728.878	0.943	216228	0.53	10000	97.3	90	110	
Na	23	2	He	9974.097	0.518	7138568	0.71	10000	99.7	90	110	
Mg	24	2	He	9871.754	1.603	4100266	0.70	10000	98.7	90	110	
K	39	2	He	9801.835	1.740	4322065	0.79	10000	98.0	90	110	
Mn	55	2	He	98.459	1.028	292631	0.69	100	98.5	90	110	
Co	59	2	He	94.484	0.778	612083	0.33	100	94.5	90	110	
Ni	60	2	He	97.743	0.972	154290	0.98	100	97.7	90	110	
Cu	63	2	He	98.700	0.939	419850	0.51	100	98.7	90	110	
Zn	66	2	He	99.398	2.749	79311	2.68	100	99.4	90	110	
Al	27	2	He	95.680	3.734	21650	2.66	100	95.7	90	110	
B	11	1	No Gas	503.078	3.253	483535	2.34	500	100.6	90	110	
Al	27	1	No Gas	87.677	1.097	810658	0.33	100	87.7	90	110	CCV Main CR1-2 Failed
Si	28	1	No Gas	450.068	1.277	2140214	0.42	5000	9.0	90	110	CCV Main CR1-2 Failed
Ag	107	1	No Gas	99.110	0.745	889692	0.73	100	99.1	90	110	
Cd	111	1	No Gas	99.086	1.197	181863	0.54	100	99.1	90	110	
Sr	88	1	No Gas	98.183	1.714	1732030	0.82	100	98.2	90	110	
Mo	95	1	No Gas	93.939	2.313	318019	0.92	100	93.9	90	110	
Sn	118	1	No Gas	110.295	1.149	537773	0.94	100	110.3	90	110	CCV Main CR1-2 Failed
Sb	121	1	No Gas	91.470	0.944	728243	0.38	100	91.5	90	110	
Ba	137	1	No Gas	97.957	0.974	265336	0.48	100	98.0	90	110	
Tl	205	1	No Gas	103.985	0.716	2103308	1.29	100	104.0	90	110	
Tl	203	1	No Gas	92.571	0.338	786242	0.76	100	92.6	90	110	
Pb	208	1	No Gas	100.778	0.712	2725315	0.88	100	100.8	90	110	
U	238	1	No Gas	99.752	0.962	2834104	1.53	100	99.8	90	110	
Ca	43	2	He	9852.026	4.046	13096	3.44	10000	98.5	90	110	
Sb	121	2	He	98.757	0.645	419283	0.55	100	98.8	90	110	
Ti	47	2	He	101.147	1.532	12413	1.74	100	101.1	90	110	
Cu	63	1	No Gas	89.251	1.040	646935	0.29	100	89.3	90	110	CCV Main CR1-2 Failed
Se	82	1	No Gas	101.427	1.876	10148	1.35	100	101.4	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	633921	5.09	823334	76.99	70	120	
Ge	72	2	He	373400	0.96	413778	90.24	70	120	
Ge	72	1	No Gas	1218948	1.22	1379474	88.36	70	120	
In	115	1	No Gas	1502766	1.44	1670123	89.98	70	120	
Bi	209	1	No Gas	1413626	0.59	1532763	92.23	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	122_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq Date Time	2022-11-10T17:06:43-06:00
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	0.156	42.3	36153	1.8	0.5	
Be	9	1	No Gas	0.006	152.7	33	52.7	0.5	
V	51	2	He	-0.167	-8.2	1837	2.7	2.5	
Cr	52	2	He	0.144	19.2	1240	8.4	2.5	
Fe	56	2	He	2.652	7.1	19204	4.2	100	
Se	78	2	He	-0.050	-1259.6	176	17.9	2	
As	75	2	He	0.002	940.0	90	9.8	2.5	
Ca	44	2	He	-0.753	-187.0	553	5.2	100	
Na	23	2	He	28.148	3.6	166504	0.9	100	
Mg	24	2	He	1.510	10.3	930	6.5	100	
K	39	2	He	4.158	35.1	70832	0.6	100	
Mn	55	2	He	0.168	16.6	1103	6.9	2.5	
Co	59	2	He	0.003	184.1	103	31.1	2.5	
Ni	60	2	He	0.006	341.0	193	16.6	2.5	
Cu	63	2	He	0.032	187.7	1480	17.1	2	
Zn	66	2	He	0.362	16.5	610	7.1	2.5	
Al	27	2	He	-0.845	-8.7	677	2.3	5	
B	11	1	No Gas	26.493	13.0	34501	8.8	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	-0.522	-13.8	26362	2.4	5	
Si	28	1	No Gas	-9.746	-14.9	233521	1.8	10	
Ag	107	1	No Gas	-0.050	-6.3	453	4.6	2.5	
Cd	111	1	No Gas	-0.006	-49.5	7	86.6	1	
Sr	88	1	No Gas	0.003	314.1	1183	12.7	2.5	
Mo	95	1	No Gas	0.056	39.6	213	33.3	2.5	
Sn	118	1	No Gas	0.176	23.4	1927	12.1	5	
Sb	121	1	No Gas	0.035	52.3	600	24.9	2.5	
Ba	137	1	No Gas	0.050	21.4	323	7.1	2.5	
Tl	205	1	No Gas	0.065	36.6	1533	30.9	1	
Tl	203	1	No Gas	0.061	52.7	593	45.9	1	
Pb	208	1	No Gas	0.024	18.9	1863	5.8	2.5	
U	238	1	No Gas	0.011	27.1	323	25.2	2.5	
Ca	43	2	He	12.037	298.5	37	128.9	100	
Sb	121	2	He	0.028	40.2	320	14.3	2.5	
Ti	47	2	He	0.039	240.4	17	69.3	2.5	
Cu	63	1	No Gas	0.047	57.9	3114	6.9	2.5	
Se	82	1	No Gas	0.461	178.2	-39	-211.0	2	

QC ISTD Table

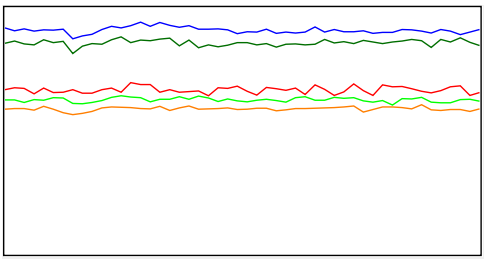
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	631504	0.54	823334	76.70	70	120	
Ge	72	2	He	368404	0.53	413778	89.03	70	120	
Ge	72	1	No Gas	1195993	0.76	1379474	86.70	70	120	
In	115	1	No Gas	1515156	1.83	1670123	90.72	70	120	
Bi	209	1	No Gas	1466511	1.44	1532763	95.68	70	120	

Tune Check Report

Operator Name	ALSHS NoUser
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq. Date-Time	11/10/2022 10:48:19
Report Comment	---
Instrument Name	G8422A SG22121190

[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	3333	33331.75		
24	20000	12525	125251.86		
59	20000	18174	181744.19		
115	50000	29478	294782.10		
208	20000	17152	171515.51		

Mass	Resp Ratio	Resp Ratio (Required)	Resp Ratio (Flag)
9		-	
24		-	
59		-	
115		-	
208		-	

Mass	RSD%	RSD% (Required)	RSD% (Flag)
9	2.059	5.000	
24	1.400	5.000	
59	1.411	5.000	
115	1.335	5.000	
208	1.428	5.000	

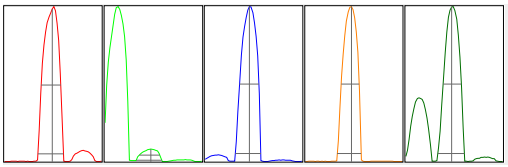
Mass	Background	Background (Required)	Background (Flag)
9	0.200		
24	0.200		
59	0.300		
115	1.200		
208	2.200		

Oxide/Doubly Charged Ratio

Oxide	156 / 140 0.491 %
Doubly Charged	70 / 140 1.368 %

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	3283.18	9.00	8.90 - 9.10	
24	12730.78	23.95	23.90 - 24.10	
59	19039.26	58.90	58.90 - 59.10	
115	30297.24	114.95	114.90 - 115.10	
208	16869.71	207.95	207.90 - 208.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.60	0.780		
24	0.62	0.784		
59	0.59	0.775		
115	0.55	0.728		
208	0.56	0.812		

Tune Parameters

Plasma Parameters

Plasma Mode	---	Nebulizer Gas	0.76 L/min	Dilution Gas	0.30 L/min
RF Power	1550 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	10.8 V	Deflect	13.2 V
Extract 2	-200.0 V	Cell Entrance	-30 V	Plate Bias	-35 V
Omega Bias	-75 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	200 V		

QP Parameters

Mass Gain	123	Axis Gain	0.9993	QP Bias	-3.0 V
Mass Offset	126	Axis Offset	0.02		

Hardware Settings

Torch

Torch H	0.2 mm	Torch V	-0.1 mm

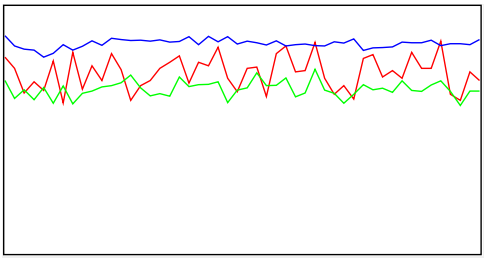
EM

Discriminator	4.5 mV	Analog HV	2138 V	Pulse HV	1150 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	200	146	1464.08		
24	1000	665	6652.98		
59	10000	8501	85012.88		

Mass	Resp Ratio	Resp Ratio (Required)	Resp Ratio (Flag)
9		-	
24		-	
59		-	

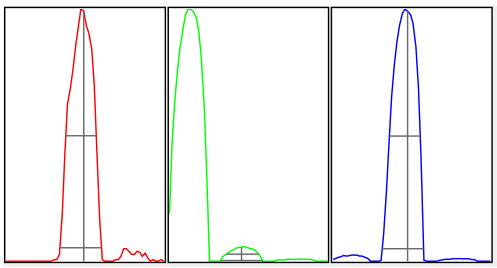
Mass	RSD%	RSD% (Required)	RSD% (Flag)
9	9.127	5.000	Fail
24	4.885	5.000	
59	2.060	5.000	

Mass	Background	Background (Required)	Background (Flag)
9	0.100		
24	0.100		
59	0.000		

Oxide/Doubly Charged Ratio

Oxide	156 / 140 0.325 %
Doubly Charged	70 / 140 1.050 %

Resolution/Axis



Integration Time [sec]	0.1
Acquisition Time [sec]	22.24
Y Axis	Linear

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
9	151.51	9.00	8.90 - 9.10	
24	669.44	23.90	23.90 - 24.10	
59	8601.71	58.95	58.90 - 59.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.57	0.777		
24	0.60	0.786		

Tune Check Report

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
59	0.58	0.771		

Tune Parameters

Plasma Parameters

Plasma Mode	---	Nebulizer Gas	0.76 L/min	Dilution Gas	0.30 L/min
RF Power	1550 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	9.9 V	Deflect	0.6 V
Extract 2	-200.0 V	Cell Entrance	-40 V	Plate Bias	-60 V
Omega Bias	-80 V	Cell Exit	-60 V		

Cell Parameters

Use Gas	Yes	3rd Gas Flow	---	Energy Discrimination	3.0 V
He Flow	3.8 mL/min	OctP Bias	-18.0 V		
H2 Flow	0.0 mL/min	OctP RF	190 V		

QP Parameters

Mass Gain	123	Axis Gain	0.9993	QP Bias	-15.0 V
Mass Offset	126	Axis Offset	0.02		

Hardware Settings

Torch

Torch H	0.2 mm	Torch V	-0.1 mm

EM

Discriminator	4.5 mV	Analog HV	2138 V	Pulse HV	1150 V

HS22110108 Wet Chemistry

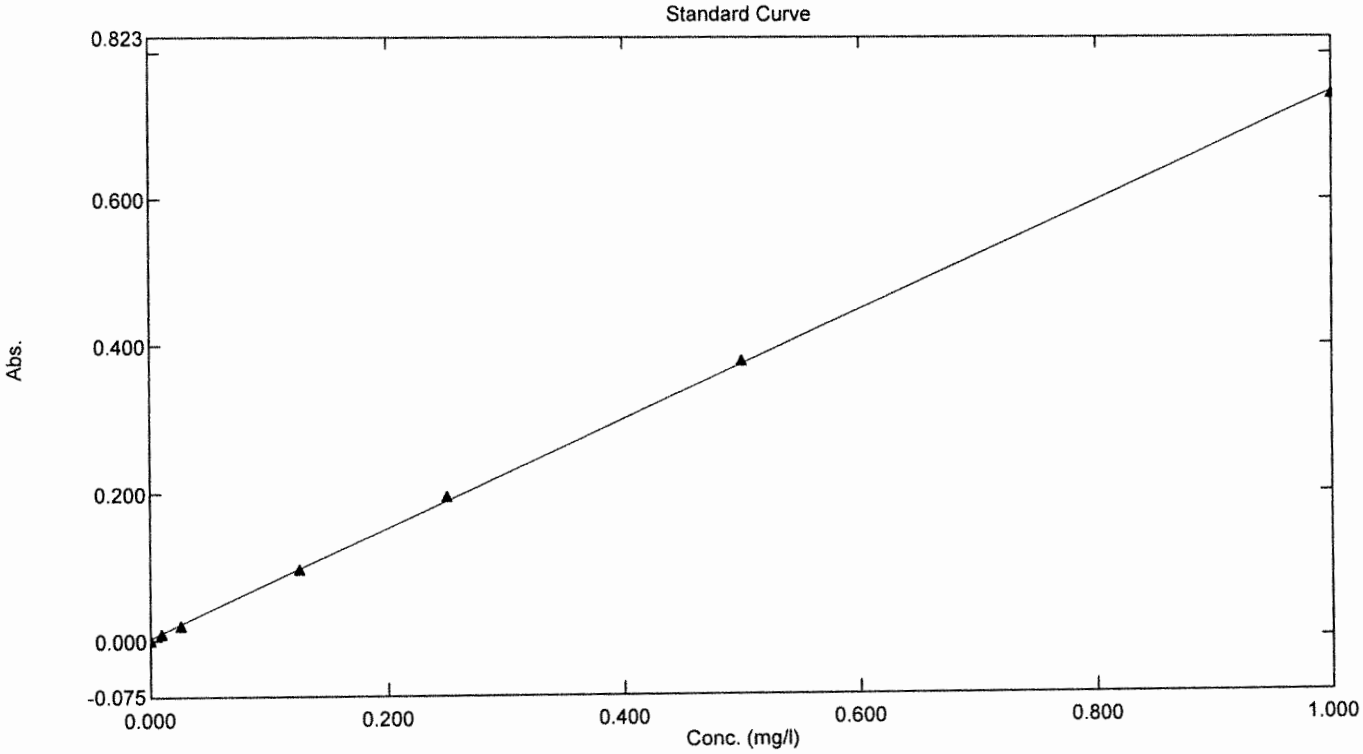
ALS WO# HS22110108

H522110108

Standard Table Report

11/09/2022 06:03:16 PM

File Name: C:\Program Files (x86)\Shimadzu\UVProbe\Data\CR6+_UNKNOWN\2022\11022022CR6_W.pho



Correlation Coefficient r2 = 0.99981

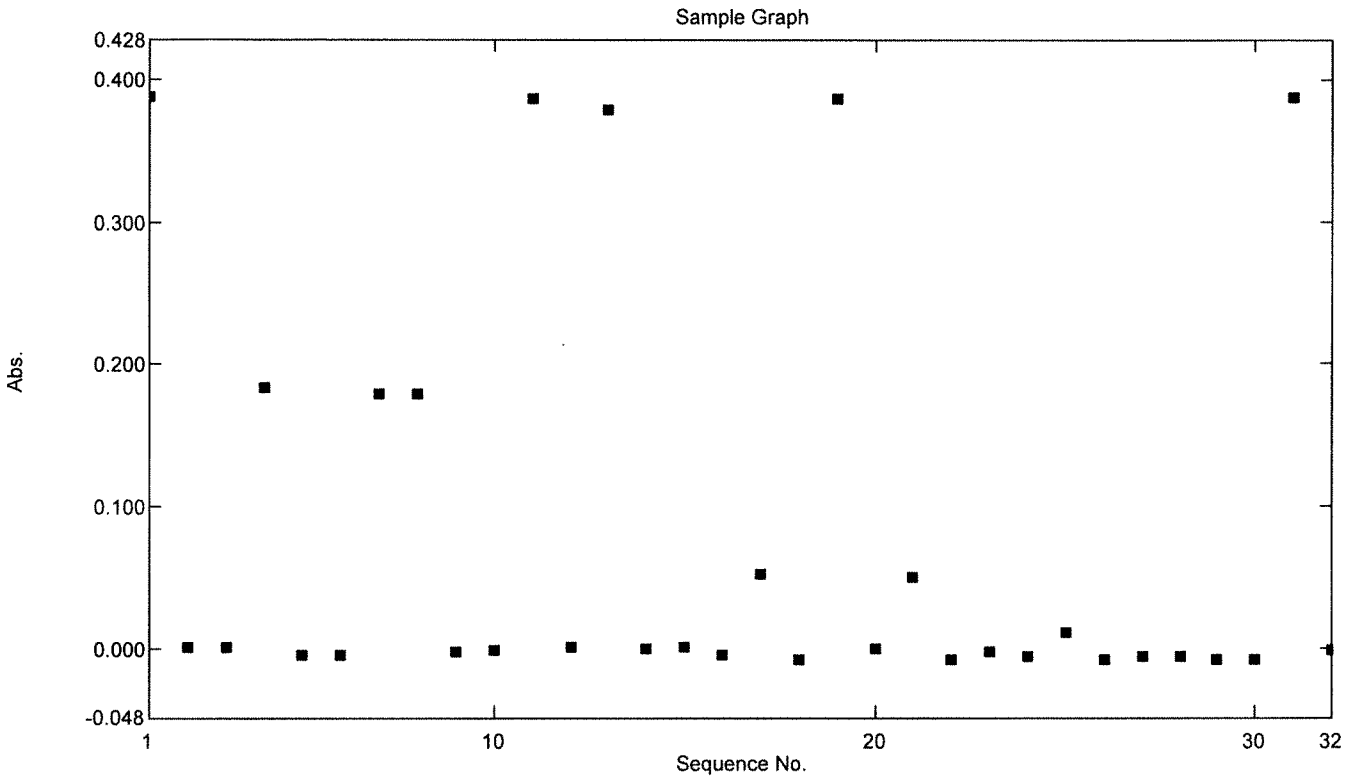
Standard Table

	Sample ID	Type	Ex	Conc	WL540.0	Wgt.Factor	Comments
1	STD1	Standard		0.000	-0.000	1.000	
2	STD2	Standard		0.010	0.007	1.000	
3	STD3	Standard		0.025	0.018	1.000	
4	STD4	Standard		0.125	0.096	1.000	
5	STD5	Standard		0.250	0.194	1.000	
6	STD6	Standard		0.500	0.380	1.000	
7	STD7	Standard		1.000	0.745	1.000	08-11-2022
8							

Sample Table Report

11/09/2022 06:03:22 PM

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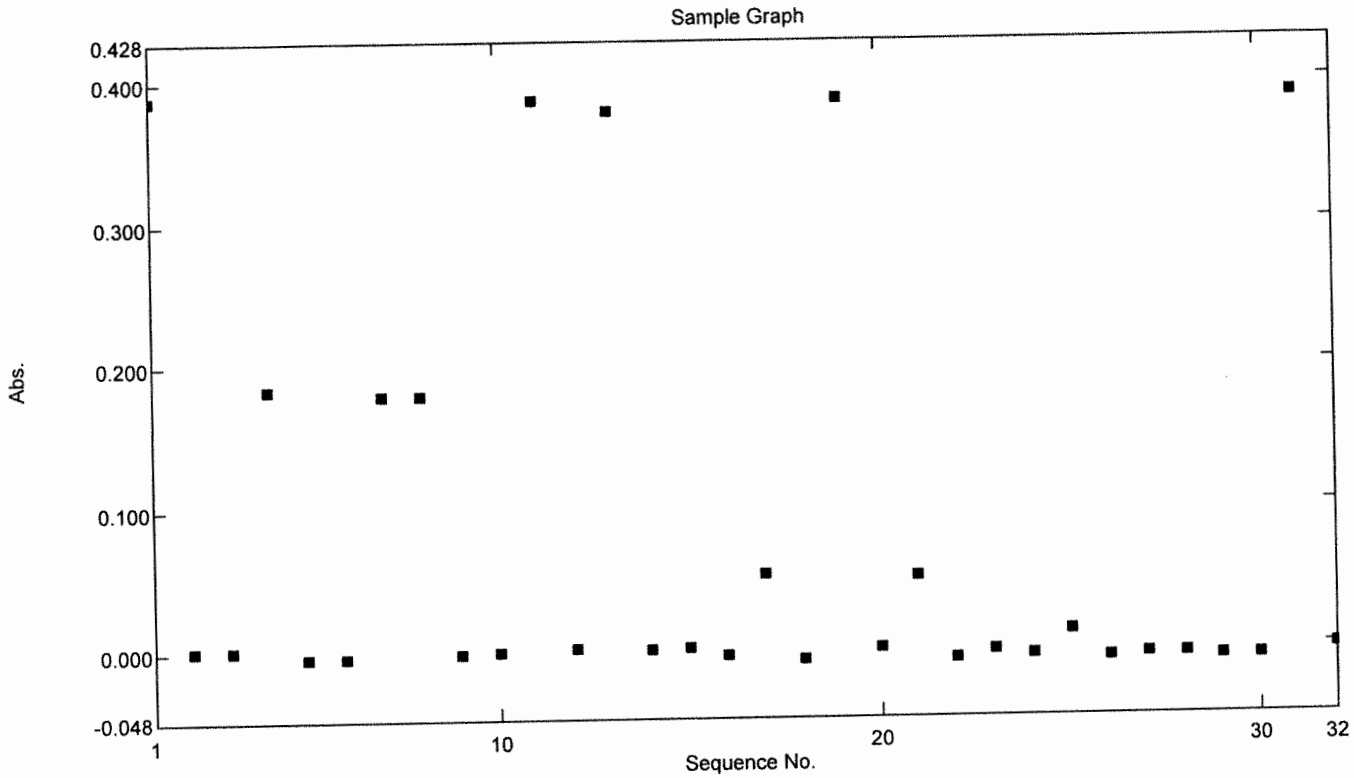
Sample Table

	Sample ID	Type	Ex	Date	Time	Conc	WL540.0	Comments
1	CCV	Unknown		11/02/2022	09:19:41 AM	0.517	0.388	320074911 WC-14
2	CCB	Unknown		11/02/2022	09:19:49 AM	-0.002	0.001	
3	MBLK	Unknown		11/02/2022	09:19:52 AM	-0.002	0.000	
4	LCS	Unknown		11/02/2022	09:20:15 AM	0.243	0.183	320074910 WC-14
5	HS22110094.01	Unknown		11/02/2022	09:20:36 AM	-0.009	-0.005	
6	HS22110094.01BKG	Unknown		11/02/2022	09:20:59 AM	-0.009	-0.005	0.000
7	HS22110094.01MS	Unknown		11/02/2022	09:21:43 AM	0.237	0.179	C-320074203
8	HS22110094.01MSD	Unknown		11/02/2022	09:21:45 AM	0.237	0.179	11 N-320073803
9	HS22110094.04	Unknown		11/02/2022	09:22:14 AM	-0.005	-0.002	
10	HS22110094.04BKG	Unknown		11/02/2022	09:22:16 AM	-0.005	-0.002	0.000
11	CCV2	Unknown		11/02/2022	09:22:33 AM	0.515	0.387	
12	CCB2	Unknown		11/02/2022	09:22:47 AM	-0.002	0.000	
13	CCV3	Unknown		11/02/2022	12:05:03 PM	0.504	0.378	
14	CCB3	Unknown		11/02/2022	12:05:12 PM	-0.004	-0.001	
15	HS22110106.01	Unknown		11/02/2022	12:06:08 PM	-0.001	0.001	
16	HS22110106.01BKG	Unknown		11/02/2022	12:06:42 PM	-0.009	-0.005	0.000
17	HS22110106.04	Unknown		11/02/2022	12:08:16 PM	0.067	0.052	
18	HS22110106.04BKG	Unknown		11/02/2022	12:08:37 PM	-0.014	-0.008	0.067
19	CCV4	Unknown		11/02/2022	12:10:39 PM	0.515	0.386	

Sample Table Report

11/09/2022 06:03:22 PM

File Name: C:\Program Files (x86)\Shimadzu\UVProbe\Data\CR6+_UNKNOWN\2022\11022022CR6_W.pho



Sample Table

	Sample ID	Type	Ex	Date	Time	Conc	WL540.0	Comments
20	CCB4	Unknown		11/02/2022	12:10:46 PM	-0.003	-0.001	
21	HS22110106.05	Unknown		11/02/2022	12:19:07 PM	0.065	0.050	
22	HS22110106.05BKG	Unknown		11/02/2022	12:19:30 PM	-0.014	-0.008	0.065
23	HS22110106.03	Unknown		11/02/2022	12:20:10 PM	-0.007	-0.003	
24	HS22110106.03BKG	Unknown		11/02/2022	12:20:22 PM	-0.010	-0.005	0.000
25	HS22110106.02	Unknown		11/02/2022	12:20:55 PM	0.012	0.011	
26	HS22110106.02BKG	Unknown		11/02/2022	12:21:07 PM	-0.013	-0.008	0.012
27	HS22110108.01	Unknown		11/02/2022	12:21:39 PM	-0.011	-0.006	
28	HS22110108.01BKG	Unknown		11/02/2022	12:21:47 PM	-0.010	-0.005	0.000
29	HS22110111.01	Unknown		11/02/2022	12:22:09 PM	-0.014	-0.008	
30	HS22110111.01BKG	Unknown		11/02/2022	12:22:11 PM	-0.014	-0.009	0.000
31	CCV5	Unknown		11/02/2022	12:22:32 PM	0.516	0.387	
32	CCB6	Unknown		11/02/2022	12:22:39 PM	-0.005	-0.002	
33								

HS22110108-E2201058 Perchlorate Level IV Report

ALS WO# HS22110108

November 08, 2022 Service Request No:E2201058

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

Laboratory Results for: HS22110108

Dear Dane,

Enclosed are the results of the sample(s) submitted to our laboratory November 02, 2022
For your reference, these analyses have been assigned our service request number **E2201058.**

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 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.:**	E2201058
Project:	HS22110108	**Date Received:**	11/02/22
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 11/02/22.

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:

EQ2200510: 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:**E2201058
Project: HS22110108

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2201058-001	LH18/24-SP140_110122	11/1/2022	1400

Service Request Summary

Folder #: **E2201058**
Client Name: ALS Environmental - US
Project Name: HS22110108
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: JGUIN
Date Received: 11/02/22
Internal Due Date: 11/9/2022
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS22110108
EDD: BASIC_WQC_CASNo_LOD

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

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2201058-001	LH18/24-SP140_110122	Water	11/01/22 1400	IV

Service Request Summary

Folder #:	**E2201058**
Client Name:	ALS Environmental - US
Project Name:	HS22110108
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:	JGUIN
Date Received:	11/02/22
Internal Due Date:	11/9/2022
QAP:	LAB QAP
Qualifier Set:	Lab Standard
Formset:	Lab Standard
Merged?:	Y
Report to MDL?:	Y
P.O. Number:	HS22110108
EDD:	BASIC_WQC_CASNo_LOD

1 120 mL-Plastic Bottle Natural WM Unpreserved

Location: EHRMS-AirArch 1

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	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	12/31/2022
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	2228443	12/31/2022
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 Health	C819-2022	11/14/2022

ALS

Chain of Custody

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www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **20237**

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:	HS22110108
TSR:	Houston House Acct

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS22110108-01**	**LH18/24-SP140_110122**	**Water**	**01 Nov 2022 14:00**
	6850-Perch. DOD Level II & Level IV in separate pdf			09 Nov 2022

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

QC Level: DOD IV (DoD Data Package)

Relinquished By: CG Date/Time: 11/2/22 1900

Received By: Date/Time: 11/2/22 2100

Cooler ID(s): Temperature(s):

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Houston, TX 77099
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F: +1 281 530 5887
www.alsglobal.com

Sample Receipt Checklist

Work Order ID: HS22110108 **Date/Time received:** 02 Nov 2022 09:35

Client name: Bhate Environmental Associates, Inc. **Received by:** Corey Grandits

Completed/By:	02 Nov 2022 10:59	Corey Grandits	**Reviewed/By:**		
	Date/Time	eSignature		Date/Time	eSignature

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	COC ID(s):
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): 1.8UC/1.3C IR31

Cooler Information: 1 Cooler(s), 48897

Date/Time sample(s) sent to storage: 11/2/2022

Water - VOA vials have zero headspace?	☐ Yes	☐ No	☑ No VOA vials submitted
Water - pH acceptable upon receipt?	☑ Yes	☐ No	☐ Not Applicable
pH adjusted?	☐ Yes	☑ No	☐ Not Applicable

pH adjusted by:

Login notes:

Client contacted: **Date contacted:** **Person contacted:**

Contacted by: **Regarding:**

Comments:

Corrective action:

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

Preparation Information Benchsheet

Prep Run#: 409515 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/XMI **Prep Method:** Method **Prep Date/Time:** 11/7/22 08:27

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2201058-001	LH18/24-SP140_110122	.01	6850/ClO4 DOD			Water	10mL	
2	E2201059-001	LH18/24-SP650_110122_AIX	.01	6850/ClO4 DOD			Water	10mL	
3	E2201060-001	LH18/24-SP650_110122_AIX	.01	6850/ClO4 DOD			Water	10mL	
4	E2201060-002	LH18/24-SP650_110122_BIX	.01	6850/ClO4 DOD			Water	10mL	
5	E2201088-001	43MW05	.01	6850/ClO4 DOD			Water	10mL	
6	E2201088-002	43MW03	.01	6850/ClO4 DOD			Water	10mL	
7	E2201088-003	43MW03-Dup	.01	6850/ClO4 DOD			Water	10mL	
8	E2201088-004	43MW04	.01	6850/ClO4 DOD			Water	10mL	
9	E2201088-005	43MW06	.01	6850/ClO4 DOD			Water	10mL	
10	E2201088-006	43MW01	.01	6850/ClO4 DOD			Water	10mL	
11	E2201088-007	EB102722	.01	6850/ClO4 DOD			Water	10mL	
12	EQ2200510-01	MB		6850/ClO4 DOD			Liquid	10mL	
13	EQ2200510-02	LCS		6850/ClO4 DOD			Liquid	10mL	
14	EQ2200510-03	DLCS		6850/ClO4 DOD			Liquid	10mL	
15	EQ2200510-04	43MW01 MS	.01	6850/ClO4 DOD			Liquid	10mL	
16	EQ2200510-05	43MW01 DMS	.01	6850/ClO4 DOD			Liquid	10mL	

Spiking Solutions

Name: Perchlorate Intermediate Stock1 Inventory ID 225386 Logbook Ref: Perchlorate (1st Source) Expires On: 01/31/2023

EQ2200510-02 1.00µL EQ2200510-03 1.00µL EQ2200510-04 1.00µL EQ2200510-05 1.00µL

Name: Perchlorate Internal Standard 1ug/mL Inventory ID 225719 Logbook Ref: Perchlorate Internal Standard Expires On: 01/31/2023

E2201058-001 100.00µL E2201059-001 100.00µL E2201060-001 100.00µL E2201060-002 100.00µL E2201088-001 100.00µL E2201088-002 100.00µL
E2201088-003 100.00µL E2201088-004 100.00µL E2201088-005 100.00µL E2201088-006 100.00µL E2201088-007 100.00µL EQ2200510-01 100.00µL
EQ2200510-02 100.00µL EQ2200510-03 100.00µL EQ2200510-04 100.00µL EQ2200510-05 100.00µL

Preparation Materials

Water HPLC Grade 10/24/2022 Water (225656) 6850 Amber Glass screw vial 2mL Screw Top Vial (221308) 6850 0.45um syringe filters 6850 Syringe Filters (224414)
6850 Luer-Lok Syringes Luer-Lok Syringes (221305) 6850 Pipette Tips 50-1000 uL 6850 Pipette Tips (221307)

Preparation Information Benchsheet

Prep Run#: 409515
Team: Semivoa GCMS/XMI

Prep WorkFlow: GenExt28Day
Prep Method: Method

Status: Prepped
Prep Date/Time: 11/7/22 08:27

Preparation Steps

Step: Preparation
Started: 11/7/22 08:27
Finished: 11/7/22 11:40
By: XMI
Comments

Comments: _____

Reviewed By: GR Date: 11/07/22

Chain of Custody

Relinquished By: _____ Date: _____

Received By: _____ Date: _____

Extracts Examined
Yes No

Analytical Results

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www.alsglobal.com

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2201058
Project:	HS22110108	**Date Collected:**	11/ 1/22 1400
Sample Matrix:	Water	**Date Received:**	11/ 2/22
Sample Name:	LH18/24-SP140_110122	**Units:**	µg/L
Lab Code:	E2201058-001	**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	**29600**		100	50.0	25.0	1000	11/ 7/22	11/8/22 10:19	409515	784376	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2201058
Project:	HS22110108	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2200510-01	**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	11/ 7/22	11/7/22 17:31	409515	784373	

Accuracy & Precision

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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: HS22110108
Sample Matrix: Water

Service Request: E2201058
Date Analyzed: 11/ 7/22

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: 409515

	Lab Control Sample EQ2200510-02			Duplicate Lab Control Sample EQ2200510-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.113	0.100	113	0.105	0.100	105	84 - 119	8	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:**	E2201058
Project:	HS22110108	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2200510-02	**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	**0.113**		0.100	0.0500	0.0250	1	11/ 7/22	11/7/22 17:39	409515	784373	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2201058
Project:	HS22110108	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2200510-03	**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	**0.105**		0.100	0.0500	0.0250	1	11/ 7/22	11/7/22 17:47	409515	784373	

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

20221013

1st Review: XMI
2nd Review: Kneir

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 10/13/2022
Cal. Std. xp: 1/31/2023
ICAL ID: EC2200014

Mobile Phases A:0.10% Formic Acid/Water 3210301-02 B:MeOH 224417

	Sample Name	File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	PERCHLORATE1	20221013_016	Perchlorate6850c.lcm	1x	☒	225390	10/13/2022 10:53
2	PERCHLORATE2	20221013_017	Perchlorate6850c.lcm	1x	☒	225392	10/13/2022 11:02
3	PERCHLORATE3	20221013_018	Perchlorate6850c.lcm	1x	☒	225393	10/13/2022 11:10
4	PERCHLORATE4	20221013_019	Perchlorate6850c.lcm	1x	☒	225394	10/13/2022 11:19
5	PERCHLORATE5	20221013_020	Perchlorate6850c.lcm	1x	☒	225395	10/13/2022 11:27
6	PERCHLORATE6	20221013_021	Perchlorate6850c.lcm	1x	☒	225396	10/13/2022 11:35
7	PERCHLORATE7	20221013_022	Perchlorate6850c.lcm	1x	☒	225398	10/13/2022 11:44
8	PERCHLORATE8	20221013_023	Perchlorate6850c.lcm	1x	☒	225400	10/13/2022 11:52
9	PERCHLORATE9	20221013_024	Perchlorate6850c.lcm	1x	☒	225401	10/13/2022 12:01
10	PERCHLORATE10	20221013_025	Perchlorate6850c.lcm	1x	☒	225402	10/13/2022 12:09
11	PERCHLORATEICV	20221013_026	Perchlorate6850c.lcm	1x	☒	225404	10/13/2022 12:17
12	LODV	20221013_027	Perchlorate6850c.lcm	1x	☒	DNU-IR	10/13/2022 12:26
13	MB	20221013_028	Perchlorate6850c.lcm	1x	☒	IDOC	10/13/2022 12:34
14	LCS	20221013_029	Perchlorate6850c.lcm	1x	☒	IDOC-DNU-IR	10/13/2022 12:42
15	DLCS	20221013_030	Perchlorate6850c.lcm	1x	☒	IDOC-DNU-IR	10/13/2022 12:51
16	IB	20221013_031	Perchlorate6850c.lcm	1x	☒		10/13/2022 12:59
17	IB	20221013_032	Perchlorate6850c.lcm	1x	☒		10/13/2022 13:08
18	IB	20221013_033	Perchlorate6850c.lcm	1x	☒		10/13/2022 13:16
19	null	20221013_034	Perchlorate6850c.lcm	1x	☒		10/13/2022 13:21
20	null	20221013_035	Perchlorate6850c.lcm	1x	☒		10/13/2022 13:27
21	IB	20221013_036	Perchlorate6850c.lcm	1x	☒		10/13/2022 14:02
22	IB	20221013_037	Perchlorate6850c.lcm	1x	☒		10/13/2022 14:10
23	LODV	20221013_038	Perchlorate6850c.lcm	1x	☒	225199	10/13/2022 14:19
24	PERCHLORATE7	20221013_039	Perchlorate6850c.lcm	1x	☒	225398	10/13/2022 14:27
25	MB	20221013_040	Perchlorate6850c.lcm	1x	☒	IDOC	10/13/2022 14:44
26	LCS	20221013_041	Perchlorate6850c.lcm	1x	☒	IDOC	10/13/2022 14:52
27	DLCS	20221013_042	Perchlorate6850c.lcm	1x	☒	IDOC-DNU-IR	10/13/2022 15:01
28	LCS	20221013_043	Perchlorate6850c.lcm	1x	☒	IDOC	10/13/2022 15:09
29	DLCS	20221013_044	Perchlorate6850c.lcm	1x	☒	IDOC	10/13/2022 15:17
30	MB WIPE-1013PREP	20221013_045	Perchlorate6850c.lcm	1x	☒	DNU-IR	10/13/2022 15:26
31	MB WIPE-1013PREP	20221013_046	Perchlorate6850c.lcm	1x	☒	DNU-IR	10/13/2022 14:35
32	PERCHLORATE7	20221013_047	Perchlorate6850c.lcm	1x	☒	225398	10/13/2022 15:34
33	IB	20221013_048	Perchlorate6850c.lcm	1x	☒		10/13/2022 15:43
34	IB	20221013_049	Perchlorate6850c.lcm	1x	☒		10/13/2022 15:51
35	null	20221013_050	Perchlorate6850c.lcm	1x	☒		10/13/2022 15:56
36	null	20221013_051	Perchlorate6850c.lcm	1x	☒		10/13/2022 16:02

Initial Calibration - Detailed Report

Calibration ID: EC2200014 **Instrument ID:** E-LCMS-01
Column Name: 1

#	Lab Code	Sample Name	File Location	Aquisition Date
01	EC2200014-01	PERCHLORATE1	20221013_016	10/13/2022 10:53
02	EC2200014-02	PERCHLORATE2	20221013_017	10/13/2022 11:02
03	EC2200014-03	PERCHLORATE3	20221013_018	10/13/2022 11:10
04	EC2200014-04	PERCHLORATE4	20221013_019	10/13/2022 11:19
05	EC2200014-05	PERCHLORATE5	20221013_020	10/13/2022 11:27
06	EC2200014-06	PERCHLORATE6	20221013_021	10/13/2022 11:35
07	EC2200014-07	PERCHLORATE7	20221013_022	10/13/2022 11:44
08	EC2200014-08	PERCHLORATE8	20221013_023	10/13/2022 11:52
09	EC2200014-09	PERCHLORATE9	20221013_024	10/13/2022 12:01
10	EC2200014-10	PERCHLORATE10	20221013_025	10/13/2022 12:09

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

Perchlorate **Average RF** **RSD = 5.871** **Average RF = 0.1347**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.1000	0.1373	02	0.5000	0.1357	03	0.7000	0.1336	04	1.0000	0.1416
05	2.0000	0.1235	06	5.0000	0.1283	07	10.0000	0.1522	08	20.0000	0.1315
09	30.0000	0.1332	10	50.0000	0.1302						

Analyte

Perchlorate

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.1000	0.102	1.9	02	0.5000	0.504	0.7	03	0.7000	0.694	-0.8
04	1.0000	1.05	5.1	05	2.0000	1.83	-8.3	06	5.0000	4.76	-4.8
07	10.0000	11.3	13.0	08	20.0000	19.5	-2.4	09	30.0000	29.7	-1.1
10	50.0000	48.3	-3.3								

Initial Calibration Verification Summary Report

Calibration ID:	EC2200014	**Instrument ID:**	E-LCMS-01
Datafile ID:	20221013_026	**Column Name:**	1

Analyte	Lab Code	Type	Curve Fit	True Value	Calc Conc	Units	Result	Criteria
Perchlorate	EC2200014-11	T	Average RF	10	10.918	ng/mL	9.2	<= 15

Insight Report

Printed at 10/24/2022 11:16:28 AM

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Project File: I:\LCMS01\DATA\20221013ICAL\10132022_ICAL.damlp

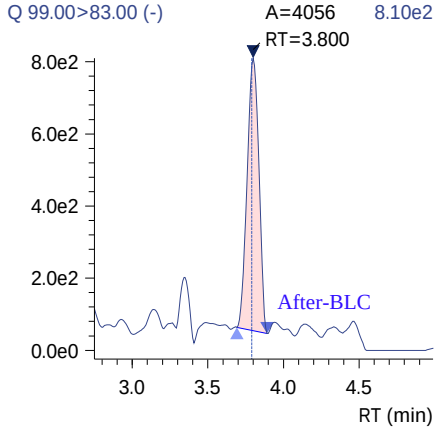
PERCHLORATE1

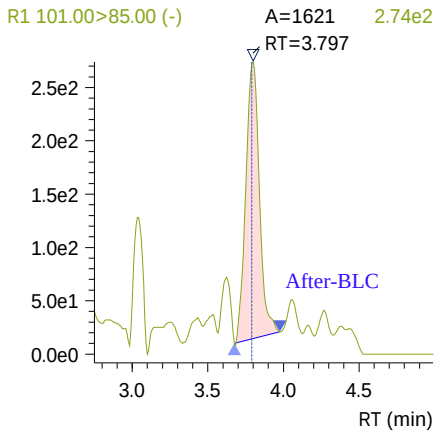
Sample ID: PERCHLORATE1
Date Acquired: 10/13/2022 10:53:53 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221013ICAL\20221013_016.lcd
Vial: 38 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	M	3.800	4056	295377	0.1019	ng/mL	101.00 >85.00	39.97	23.94 -44.46
Sodium Perchlorate -18O4_IS	Auto	3.796	295377	295377	1.0000	ng/mL	----	----	

Perchlorate

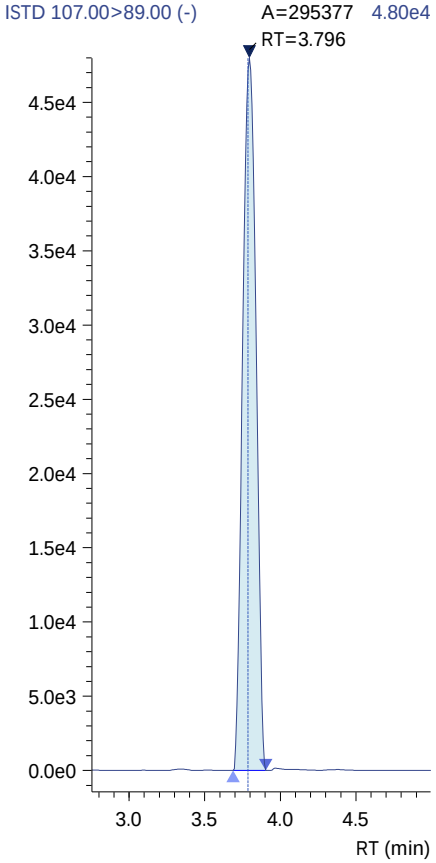
Conc 0.1019
R#1 39.97 (34.20)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

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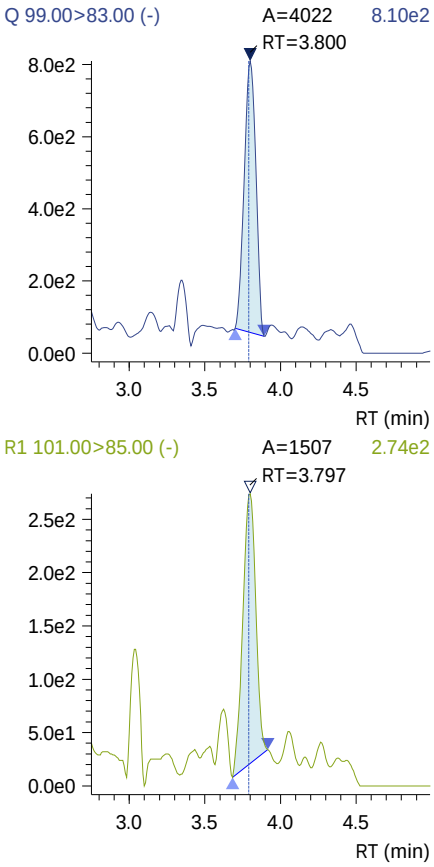
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Project File: I:\LCMS01\DATA\20221013ICAL\20221013ICAL.damlp

PERCHLORATE1

Sample ID: PERCHLORATE1
Date Acquired: 10/13/2022 10:53:53 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221013ICAL\20221013_016.lcd
Vial: 38 | Inj. Volume: 25.0000uL | Tray: 1

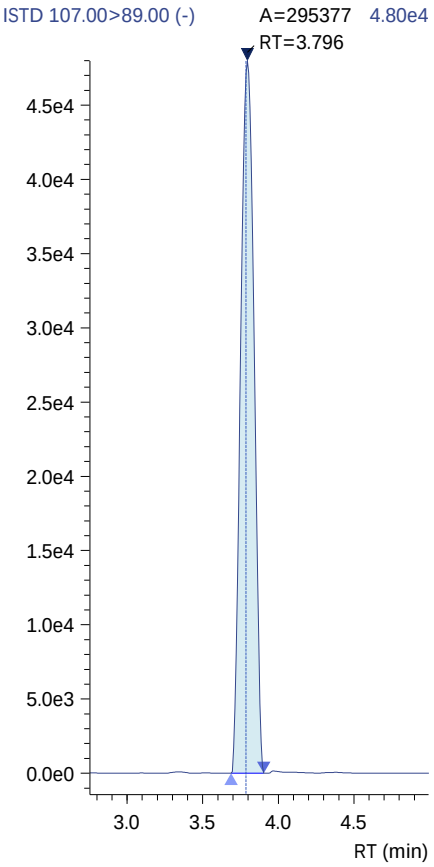
Perchlorate

Conc 0.1012
R#1 37.47 (33.91)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

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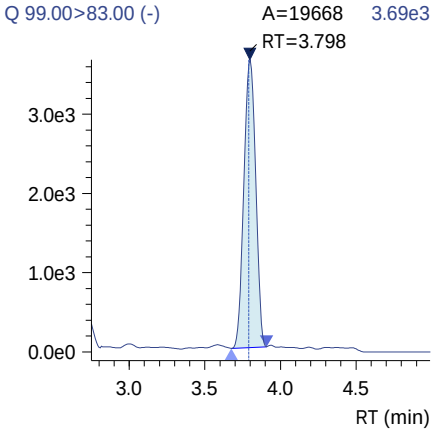
PERCHLORATE2

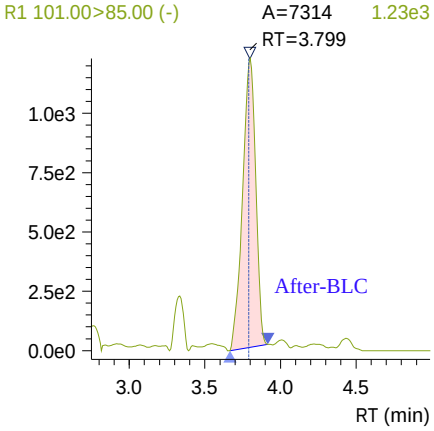
Sample ID: PERCHLORATE2
Date Acquired: 10/13/2022 11:02:18 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221013ICAL\20221013_017.lcd
Vial: 39 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	MI R1	3.798	19668	289981	0.5035	ng/mL	101.00 >85.00	37.19	23.94 -44.46
Sodium Perchlorate -18O4_IS	Auto	3.796	289981	289981	1.0000	ng/mL	----	----	

Perchlorate

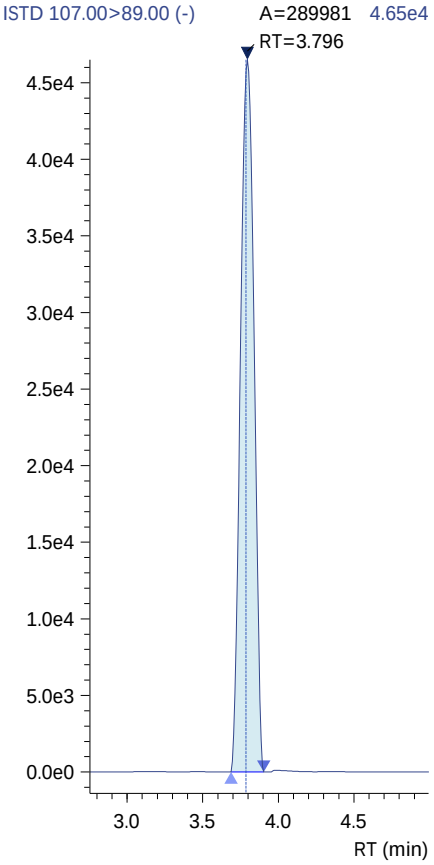
Conc 0.5035
R#1 37.19 (34.20)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

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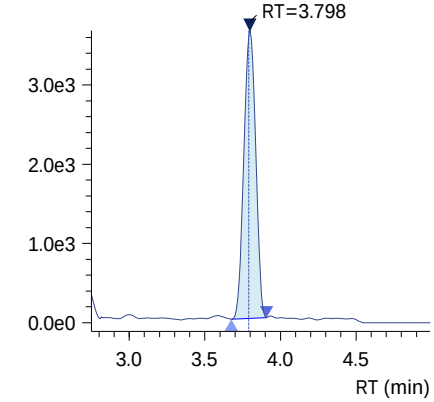
PERCHLORATE2

Sample ID: PERCHLORATE2
Date Acquired: 10/13/2022 11:02:18 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221013ICAL\20221013_017.lcd
Vial: 39 | Inj. Volume: 25.0000uL | Tray: 1

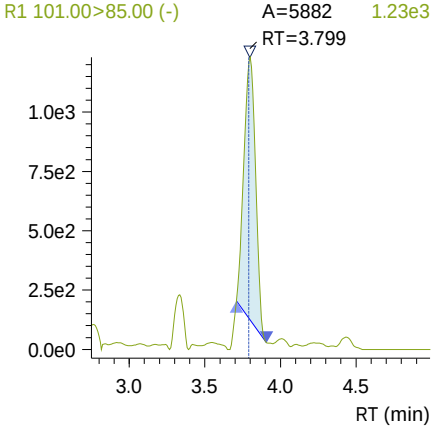
Perchlorate

Conc 0.5040
R#1 29.91 (33.91)

Q 99.00>83.00 (-) A=19668 3.69e3



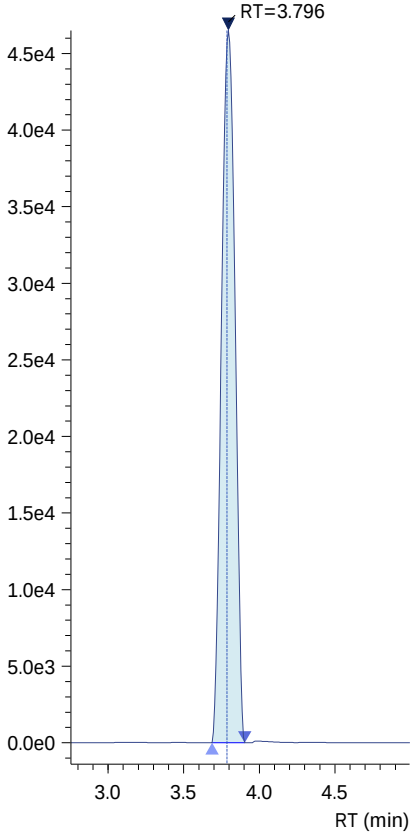
R1 101.00>85.00 (-) A=5882 1.23e3



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) A=289981 4.65e4



Insight Report

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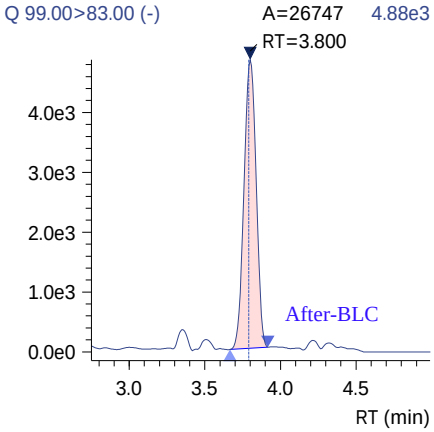
PERCHLORATE3

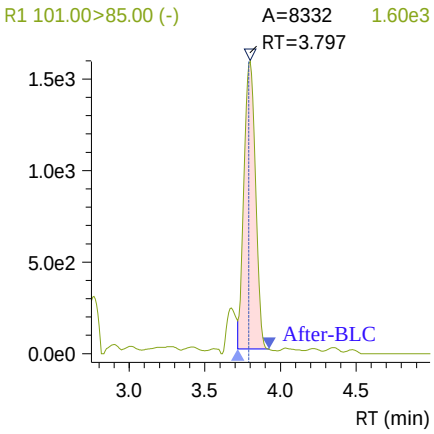
Sample ID: PERCHLORATE3
Date Acquired: 10/13/2022 11:10:43 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221013ICAL\20221013_018.lcd
Vial: 40 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	M	3.800	26747	286041	0.6942	ng/mL	101.00 >85.00	31.15	23.94 -44.46
Sodium Perchlorate -18O4_IS	Auto	3.796	286041	286041	1.0000	ng/mL	----	----	

Perchlorate

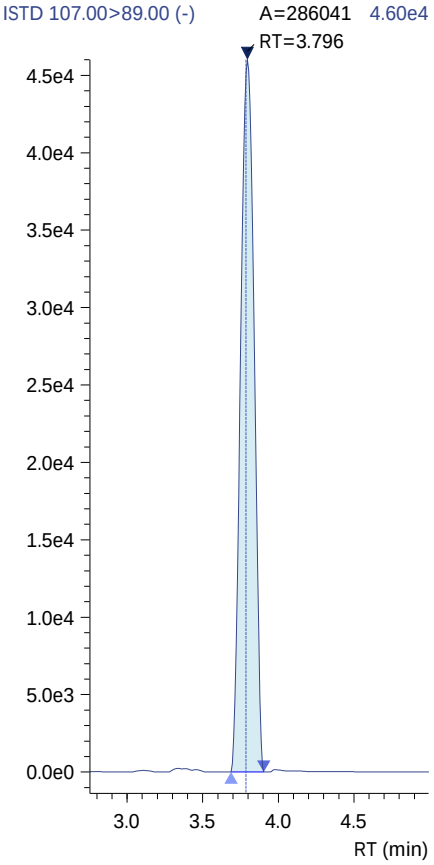
Conc 0.6942
R#1 31.15 (34.20)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 10/24/2022 9:43:49 AM

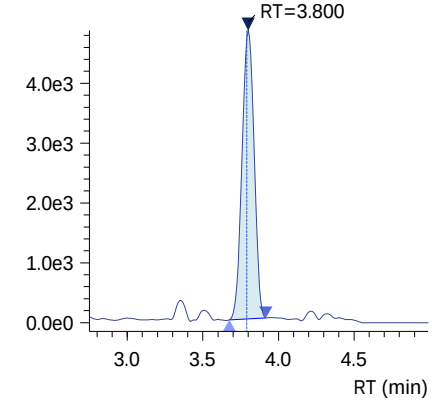
PERCHLORATE3

Sample ID: PERCHLORATE3
Date Acquired: 10/13/2022 11:10:43 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221013ICAL\20221013_018.lcd
Vial: 40 | Inj. Volume: 25.0000uL | Tray: 1

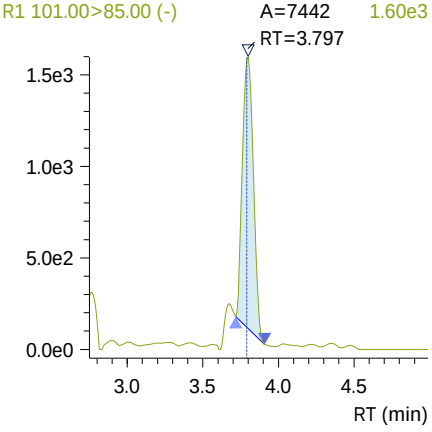
Perchlorate

Conc 0.6936
R#1 27.88 (33.91)

Q 99.00>83.00 (-) A=26697 4.88e3



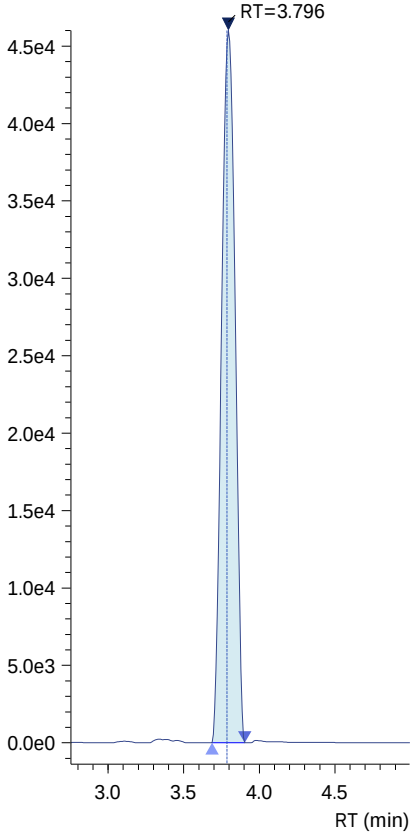
R1 101.00>85.00 (-) A=7442 1.60e3



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) A=286041 4.60e4



Insight Report

Printed at 10/24/2022 11:16:28 AM

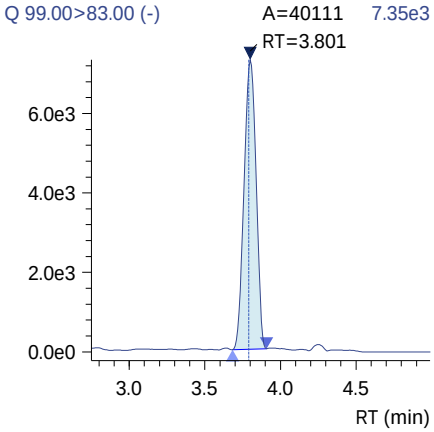
PERCHLORATE4

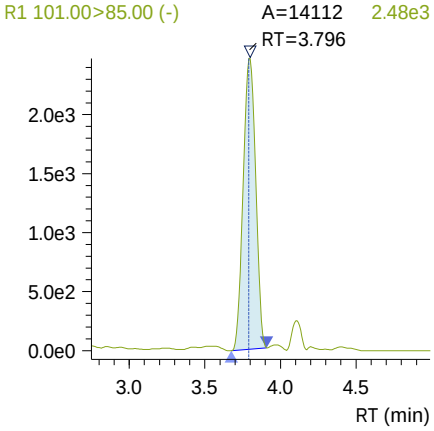
Sample ID: PERCHLORATE4
Date Acquired: 10/13/2022 11:19:07 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221013ICAL\20221013_019.lcd
Vial: 41 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.801	40111	283200	1.0514	ng/mL	101.00 >85.00	35.18	23.94 -44.46
Sodium Perchlorate -18O4_IS	Auto	3.797	283200	283200	1.0000	ng/mL	----	----	

Perchlorate

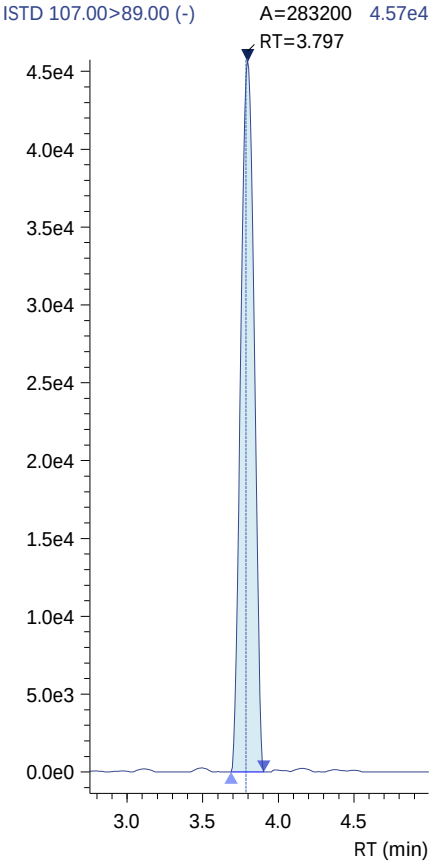
Conc 1.0514
R#1 35.18 (34.20)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 10/24/2022 11:16:28 AM

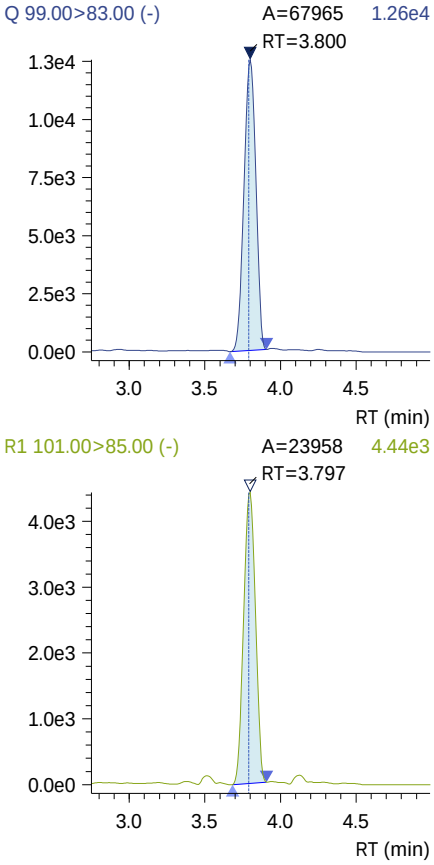
PERCHLORATE5

Sample ID: PERCHLORATE5
Date Acquired: 10/13/2022 11:27:29 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221013ICAL\20221013_020.lcd
Vial: 42 | 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	3.800	67965	275186	1.8335	ng/mL	101.00 >85.00	35.25	23.94 -44.46
Sodium Perchlorate -18O4_IS	Auto	3.796	275186	275186	1.0000	ng/mL	----	----	

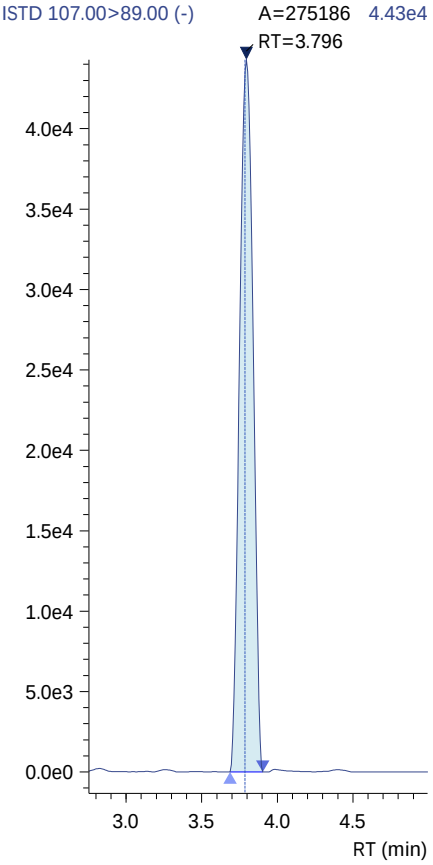
Perchlorate

Conc 1.8335
R#1 35.25 (34.20)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 10/24/2022 11:16:28 AM

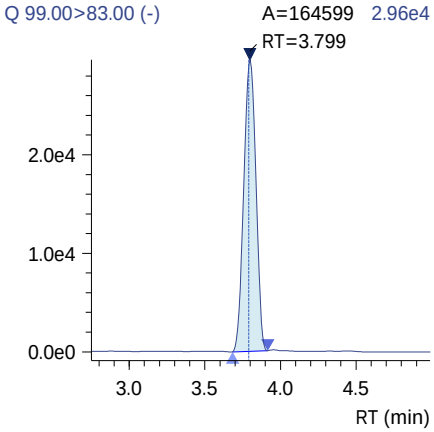
PERCHLORATE6

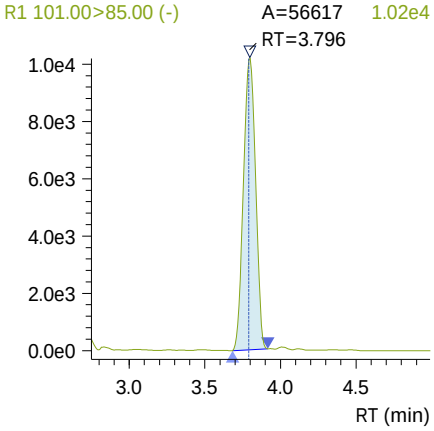
Sample ID: PERCHLORATE6
Date Acquired: 10/13/2022 11:35:51 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221013ICAL\20221013_021.lcd
Vial: 43 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.799	164599	256637	4.7613	ng/mL	101.00 >85.00	34.40	23.94 -44.46
Sodium Perchlorate -18O4_IS	Auto	3.796	256637	256637	1.0000	ng/mL	----	----	

Perchlorate

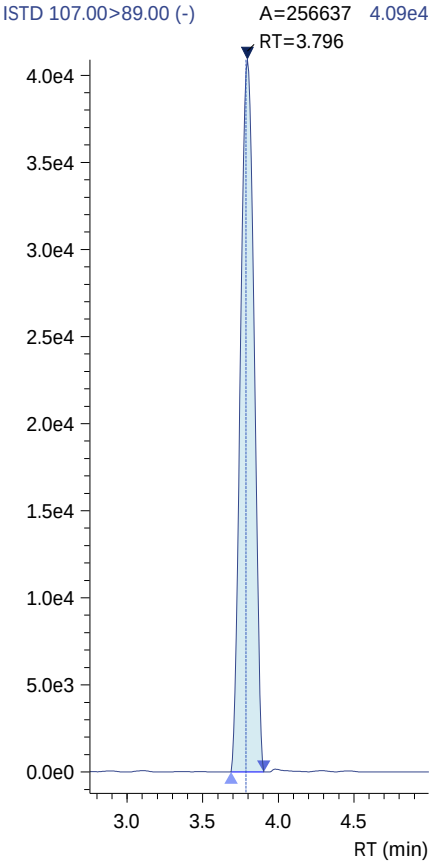
Conc 4.7613
R#1 34.40 (34.20)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 10/24/2022 11:16:28 AM

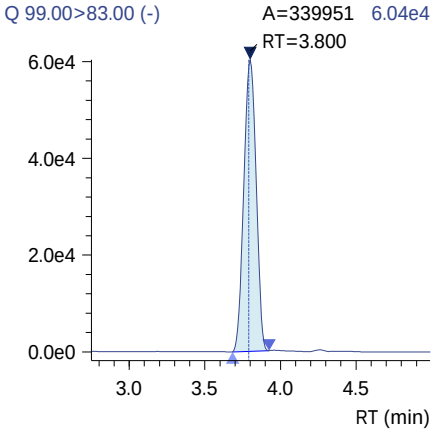
PERCHLORATE7

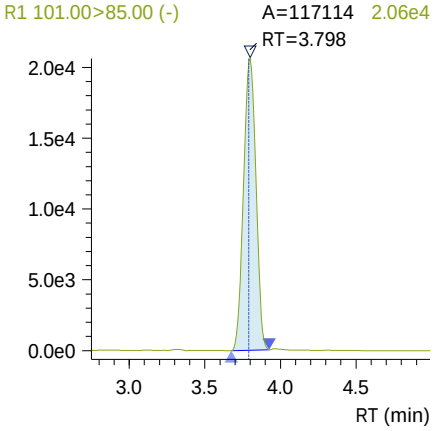
Sample ID: PERCHLORATE7
Date Acquired: 10/13/2022 11:44:14 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221013ICAL\20221013_022.lcd
Vial: 44 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.800	339951	223356	11.2988	ng/mL	101.00 >85.00	34.45	23.94 -44.46
Sodium Perchlorate-18O4_IS	Auto	3.796	223356	223356	1.0000	ng/mL	----	----	

Perchlorate

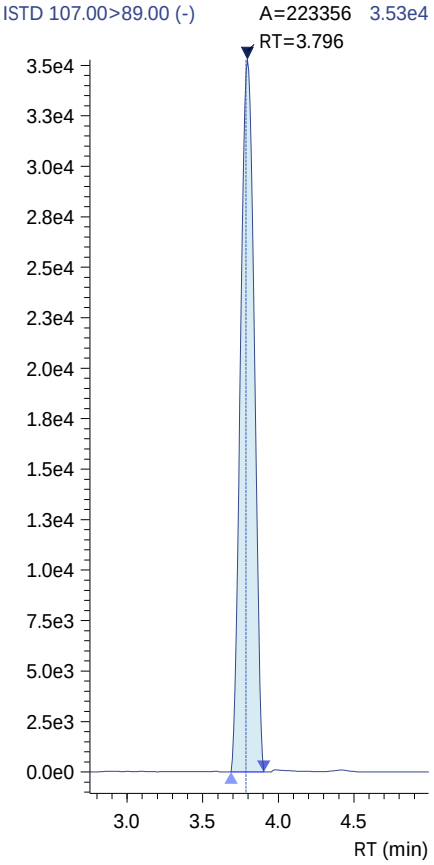
Conc 11.2988
R#1 34.45 (34.20)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 10/24/2022 11:16:28 AM

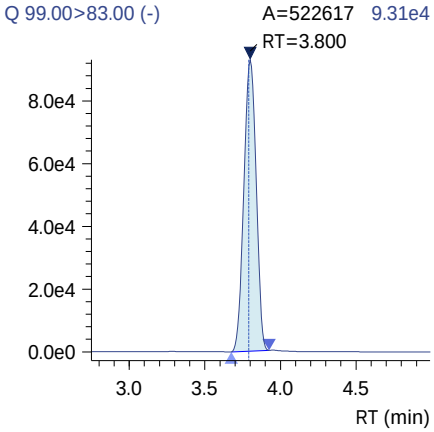
PERCHLORATE8

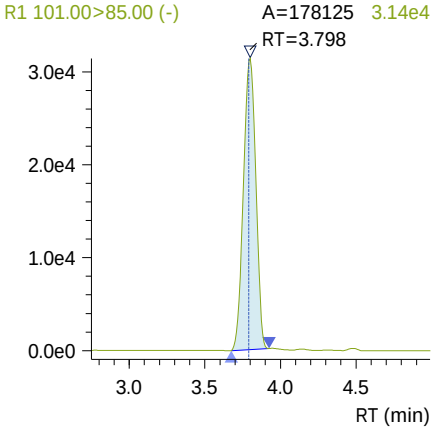
Sample ID: PERCHLORATE8
Date Acquired: 10/13/2022 11:52:37 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221013ICAL\20221013_023.lcd
Vial: 45 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.800	522617	198677	19.5 276	ng/mL	101.00 >85.00	34.08	23.94 -44.46
Sodium Perchlorate -18O4_IS	Auto	3.797	198677	198677	1.0000	ng/mL	----	----	

Perchlorate

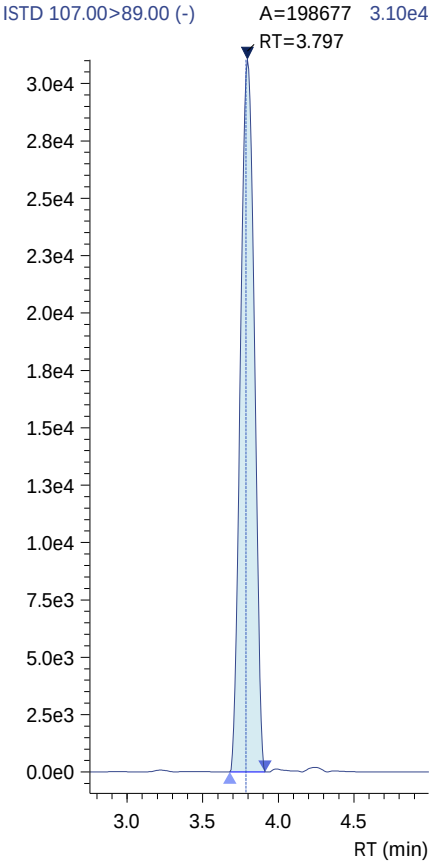
Conc 19.5276
R#1 34.08 (34.20)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 10/24/2022 11:16:28 AM

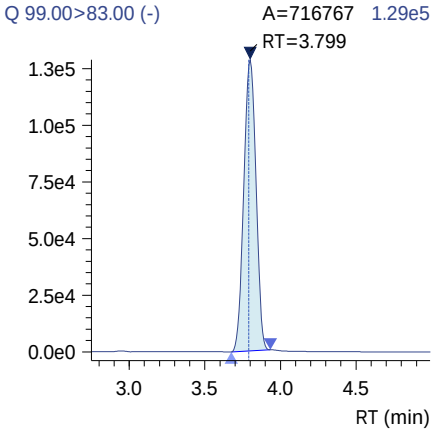
PERCHLORATE9

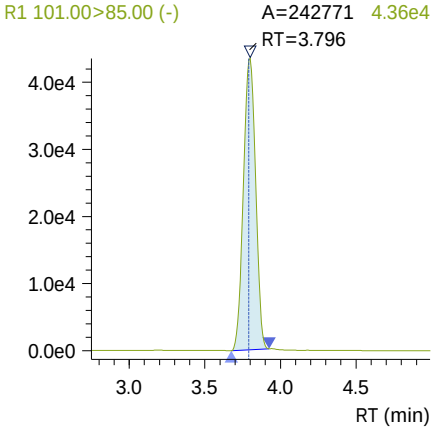
Sample ID: PERCHLORATE9
Date Acquired: 10/13/2022 12:01:03 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221013ICAL\20221013_024.lcd
Vial: 46 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.799	716767	179402	29.6596	ng/mL	101.00 >85.00	33.87	23.94 -44.46
Sodium Perchlorate-18O4_IS	Auto	3.796	179402	179402	1.0000	ng/mL	----	----	

Perchlorate

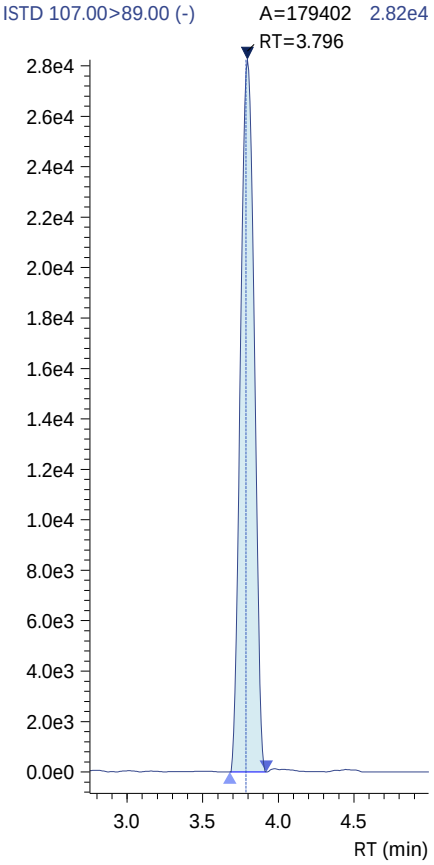
Conc 29.6596
R#1 33.87 (34.20)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 10/24/2022 11:16:28 AM

PERCHLORATE10

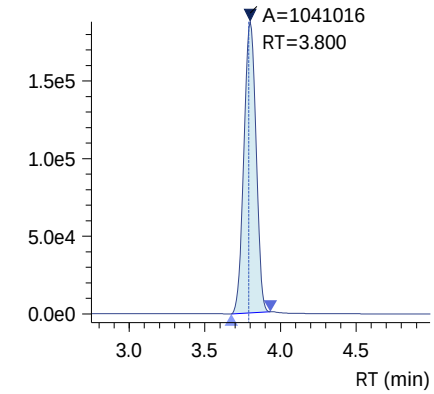
Sample ID: PERCHLORATE10
Date Acquired: 10/13/2022 12:09:25 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221013ICAL\20221013_025.lcd
Vial: 47 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.800	10410	159903	48.3	ng/mL	101.00	34.31	23.94
			16		299		>85.00		-44.46
Sodium Perchlorate -18O4_IS	Auto	3.796	159903	159903	1.0000	ng/mL	----	----	

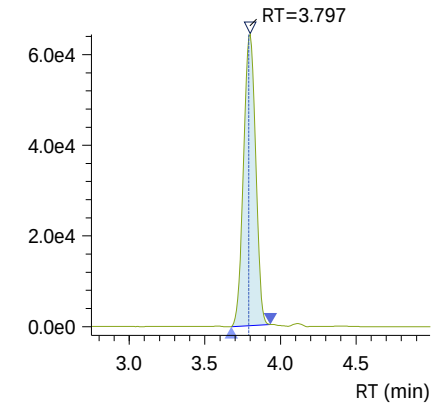
Perchlorate

Conc 48.3299
R#1 34.31 (34.20)

Q 99.00>83.00 (-) 1.88e5



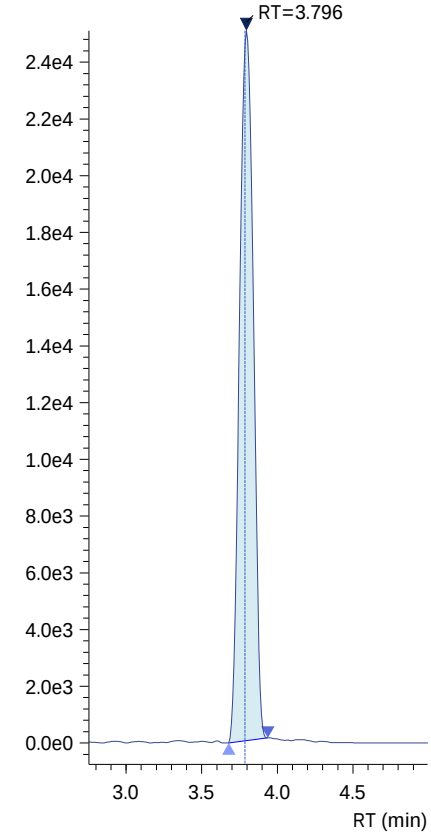
R1 101.00>85.00 (-) A=357160 6.44e4



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) A=159903 2.51e4



Insight Report

Printed at 10/24/2022 11:16:28 AM

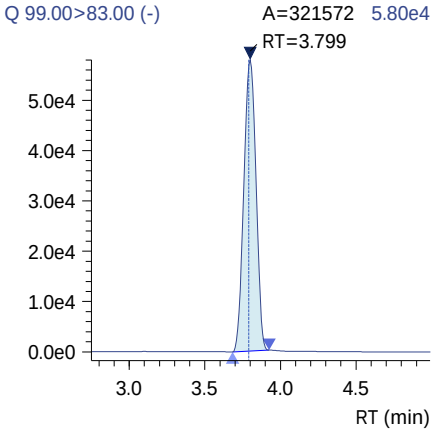
PERCHLORATEICV

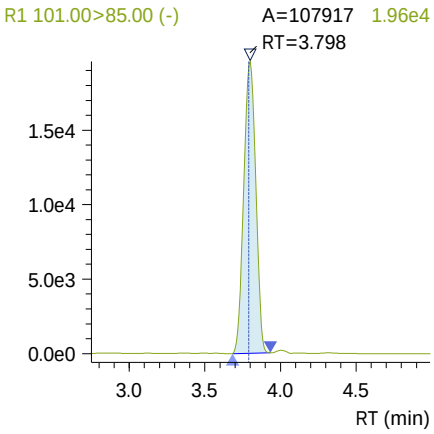
Sample ID: PERCHLORATEICV
Date Acquired: 10/13/2022 12:17:49 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221013ICAL\20221013_026.lcd
Vial: 48 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.799	321572	218649	10.9 180	ng/mL	101.00 >85.00	33.56	23.94 -44.46
Sodium Perchlorate -18O4_IS	Auto	3.797	218649	218649	1.0000	ng/mL	----	----	

Perchlorate

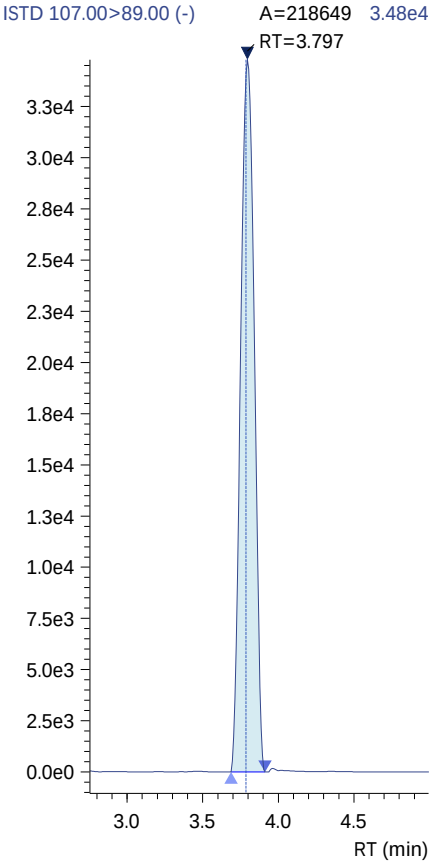
Conc 10.9180
R#1 33.56 (34.20)





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

20221107

Injection Log

LCMS01 -Shimadzu 8050

1st Review: XMI
2nd Review: Kneir

ICAL Date: 10/13/2022
Cal. Std. xp: 01/31/2023
ICAL ID: EC2200014

Mobile Phases : **A:**0.10% Formic Acid/Water 3210301-05 **B:**MeOH 224417

	Sample Name		File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	IB		20221107_057	Perchlorate6850c.lcm	1x	☒		11/7/2022 16:32
2	IB		20221107_058	Perchlorate6850c.lcm	1x	☒		11/7/2022 16:42
3	ICS		20221107_059	Perchlorate6850c.lcm	1x	☒		11/7/2022 16:51
4	LODV		20221107_060	Perchlorate6850c.lcm	1x	☒	225199	11/7/2022 16:59
5	LODV		20221107_061	Perchlorate6850c.lcm	1x	☒	DNU-NEW LOT TEST	11/7/2022 17:07
6	PERCHLORATE7		20221107_062	Perchlorate6850c.lcm	1x	☒	225398	11/7/2022 17:15
7	IB		20221107_063	Perchlorate6850c.lcm	1x	☒		11/7/2022 17:23
8	EQ2200510-01		20221107_064	Perchlorate6850c.lcm	1x	☒		11/7/2022 17:31
9	EQ2200510-02		20221107_065	Perchlorate6850c.lcm	1x	☒		11/7/2022 17:39
10	EQ2200510-03		20221107_066	Perchlorate6850c.lcm	1x	☒		11/7/2022 17:47
11	EQ2200510-04		20221107_067	Perchlorate6850c.lcm	1x	☒		11/7/2022 17:56
12	EQ2200510-05		20221107_068	Perchlorate6850c.lcm	1x	☒		11/7/2022 18:04
13	E2201058-001		20221107_069	Perchlorate6850c.lcm	1x	☒	DNU-OUT OF ICAL RA	11/7/2022 18:12
14	E2201059-001		20221107_070	Perchlorate6850c.lcm	1x	☒	DNU-CARRYOVER	11/7/2022 18:20
15	E2201060-001		20221107_071	Perchlorate6850c.lcm	1x	☒	DNU-CARRYOVER	11/7/2022 18:28
16	E2201060-002		20221107_072	Perchlorate6850c.lcm	1x	☒		11/7/2022 18:36
17	PERCHLORATE7		20221107_073	Perchlorate6850c.lcm	1x	☒	225398	11/7/2022 18:44
18	IB		20221107_074	Perchlorate6850c.lcm	1x	☒	CARRYOVER	11/7/2022 18:52
19	E2201088-001		20221107_075	Perchlorate6850c.lcm	1x	☒	DNU-CARRYOVER	11/7/2022 19:01
20	E2201088-002		20221107_076	Perchlorate6850c.lcm	1x	☒		11/7/2022 19:09
21	E2201088-003		20221107_077	Perchlorate6850c.lcm	1x	☒		11/7/2022 19:17
22	E2201088-004		20221107_078	Perchlorate6850c.lcm	1x	☒	DNU-RR	11/7/2022 19:25
23	E2201088-005		20221107_079	Perchlorate6850c.lcm	1x	☒		11/7/2022 19:33
24	E2201088-006		20221107_080	Perchlorate6850c.lcm	1x	☒	DNU-IR	11/7/2022 19:41
25	E2201088-007		20221107_081	Perchlorate6850c.lcm	1x	☒		11/7/2022 19:49
26	PERCHLORATE7		20221107_082	Perchlorate6850c.lcm	1x	☒	225398	11/7/2022 19:57
27	IB		20221107_083	Perchlorate6850c.lcm	1x	☒		11/7/2022 20:06

20221108

Injection Log

LCMS01 -Shimadzu 8050

1st Review: XMI
2nd Review: Kneir

ICAL Date: 10/13/2022
Cal. Std. xp: 01/31/2023
ICAL ID: EC2200014

Mobile Phases : **A:**0.10% Formic Acid/Water 3210301-05 **B:**MeOH 224417

	Sample Name		File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	ICS		20221108_001	Perchlorate6850c.lcm	1x	☒		11/8/2022 9:06
2	LODV		20221108_002	Perchlorate6850c.lcm	1x	☒	225199	11/8/2022 9:14
3	PERCHLORATE7		20221108_003	Perchlorate6850c.lcm	1x	☒	225398	11/8/2022 9:22
4	IB		20221108_004	Perchlorate6850c.lcm	1x	☒		11/8/2022 9:30
5	E2201060-001		20221108_005	Perchlorate6850c.lcm	1x	☒		11/8/2022 9:38
6	E2201088-001		20221108_006	Perchlorate6850c.lcm	1x	☒		11/8/2022 9:46
7	E2201088-004		20221108_007	Perchlorate6850c.lcm	1x	☒		11/8/2022 9:54
8	E2201088-006		20221108_008	Perchlorate6850c.lcm	1x	☒		11/8/2022 10:02
9	E2201059-001		20221108_009	Perchlorate6850c.lcm	1x	☒		11/8/2022 10:11
10	E2201058-001		20221108_010	Perchlorate6850c.lcm	1x	☒	X1000	11/8/2022 10:19
11	PERCHLORATE7		20221108_011	Perchlorate6850c.lcm	1x	☒	225398	11/8/2022 10:27

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS22110108

Service Request: E2201058
Date Analyzed: 11/ 7/22

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\20221107\20221107_062

Calibration Date: 10/13/22
Calibration ID: EC2200014
Analysis Lot: 784373
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	11.1	0.1347	0.1501	11.4	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS22110108

Service Request: E2201058
Date Analyzed: 11/ 7/22

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\20221107\20221107_073

Calibration Date: 10/13/22
Calibration ID: EC2200014
Analysis Lot: 784373
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	11.0	0.1347	0.1485	10.2	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS22110108

Service Request: E2201058
Date Analyzed: 11/ 7/22

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\20221107\20221107_082

Calibration Date: 10/13/22
Calibration ID: EC2200014
Analysis Lot: 784373
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.9	0.1347	0.1475	9.5	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS22110108

Service Request: E2201058
Date Analyzed: 11/ 8/22

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\20221108\20221108_003

Calibration Date: 10/13/22
Calibration ID: EC2200014
Analysis Lot: 784376
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.8	0.1347	0.1456	8.1	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS22110108

Service Request: E2201058
Date Analyzed: 11/ 8/22

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\20221108\20221108_011

Calibration Date: 10/13/22
Calibration ID: EC2200014
Analysis Lot: 784376
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.8	0.1347	0.1453	7.9	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS22110108

Service Request: E2201058
Date Analyzed: 11/7/22 17:15

Internal Standard Area and RT Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID: I:\LCMS01\DATA\20221107\20221107_062
Instrument ID: E-LCMS-01
Analytical Method: 6850

Lab Code: EQ2200514-01
Analysis Lot: 784373
Signal ID: 1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	244,776	3.80
	Upper Limit ==>	367,164	5.80
	Lower Limit ==>	122,388	1.80
Associated Analyses			
Continuing Calibration Verification	EQ2200514-01	222,490	3.78
Method Blank	EQ2200510-01	281,257	3.78
Lab Control Sample	EQ2200510-02	278,114	3.78
Duplicate Lab Control Sample	EQ2200510-03	272,909	3.78

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:**	E2201058
Project:	HS22110108	**Date Analyzed:**	11/7/22 18:44

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20221107\20221107_073	**Lab Code:**	EQ2200514-02
Instrument ID:	E-LCMS-01	**Analysis Lot:**	784373
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	244,776	3.80
	Upper Limit ==>	367,164	5.80
	Lower Limit ==>	122,388	1.80
Associated Analyses			
Continuing Calibration Verification	EQ2200514-02	220,808	3.77

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:**	E2201058
Project:	HS22110108	**Date Analyzed:**	11/7/22 19:57

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20221107\20221107_082	**Lab Code:**	EQ2200514-03
Instrument ID:	E-LCMS-01	**Analysis Lot:**	784373
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	244,776	3.80
	Upper Limit ==>	367,164	5.80
	Lower Limit ==>	122,388	1.80
Associated Analyses			
Continuing Calibration Verification	EQ2200514-03	210,018	3.77

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:**	E2201058
Project:	HS22110108	**Date Analyzed:**	11/8/22 09:22

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20221108\20221108_003	**Lab Code:**	EQ2200515-01
Instrument ID:	E-LCMS-01	**Analysis Lot:**	784376
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	244,776	3.80
	Upper Limit ==>	367,164	5.80
	Lower Limit ==>	122,388	1.80
Associated Analyses			
Continuing Calibration Verification	EQ2200515-01	235,278	3.79
LH18/24-SP140_110122	E2201058-001	203,439	3.79

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:**	E2201058
Project:	HS22110108	**Date Analyzed:**	11/8/22 10:27

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20221108\20221108_011	**Lab Code:**	EQ2200515-02
Instrument ID:	E-LCMS-01	**Analysis Lot:**	784376
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	244,776	3.80
	Upper Limit ==>	367,164	5.80
	Lower Limit ==>	122,388	1.80
Associated Analyses			
Continuing Calibration Verification	EQ2200515-02	237,035	3.79

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

Insight Report

Printed at 11/8/2022 11:18:57 AM

Method File: I:\LCMS01\DATA\20221107\20221013ICAL.lcm
Project File: I:\LCMS01\DATA\20221107\11072022 sample.damlp

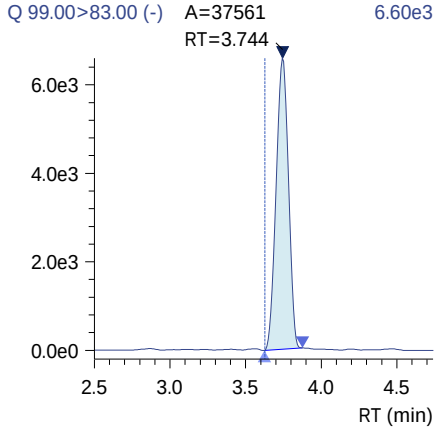
ICS

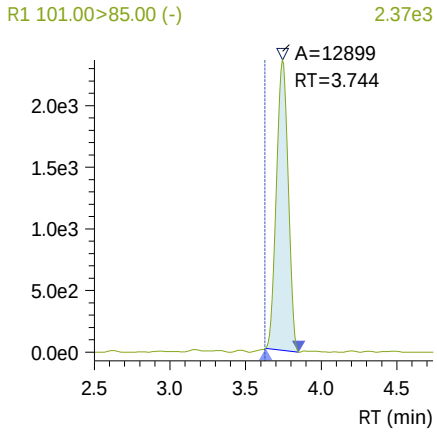
Sample ID: ICS
Date Acquired: 11/7/2022 4:51:04 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221107\20221107_059.lcd
Vial: 32 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.744	37561	260308	1.0712	ng/mL	101.00 >85.00	34.34	22.24 -41.31
Sodium Perchlorate-18O4 _IS	Auto	3.741	260308	260308	1.0000	ng/mL	----	----	

Perchlorate

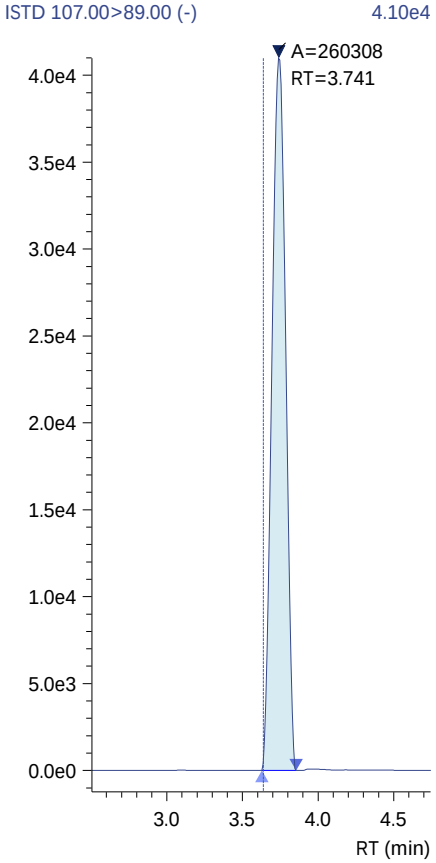
Conc 1.0712
R#1 34.34 (31.78)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 11/8/2022 11:18:57 AM

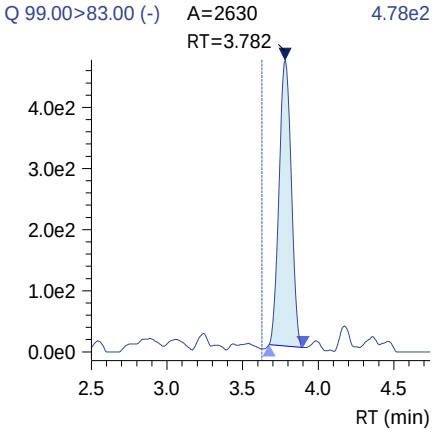
LODV

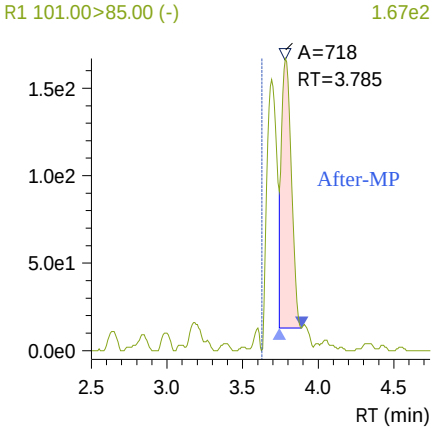
Sample ID: LODV
Date Acquired: 11/7/2022 4:59:13 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221107\20221107_060.lcd
Vial: 37 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	MI R1	3.782	2630	327389	0.0596	ng/mL	101.00 >85.00	27.31	22.24 -41.31
Sodium Perchlorate-18O4_IS	Auto	3.780	327389	327389	1.0000	ng/mL	----	----	

Perchlorate

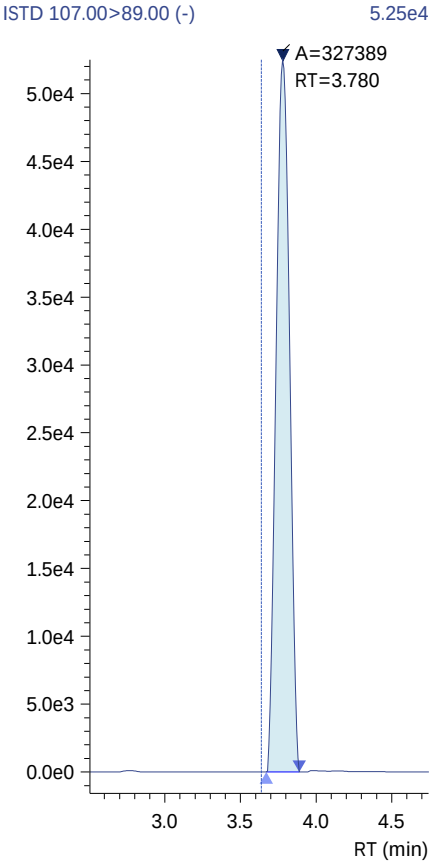
Conc 0.0596
R#1 27.31 (31.78)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Manual Integration - Before

Printed at 11/8/2022 11:21:31 AM

Method File: I:\LCMS01\DATA\20221107\20221013ICAL.lcm
Project File: I:\LCMS01\DATA\20221107\11072022 sample.damlp

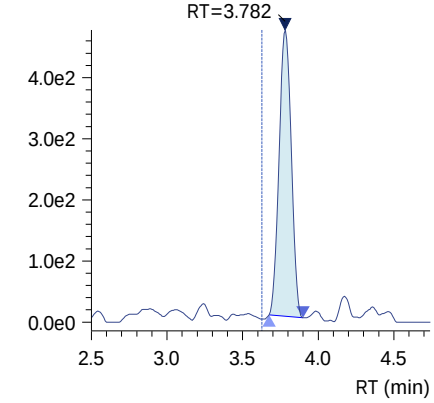
LODV

Sample ID: LODV
Date Acquired: 11/7/2022 4:59:13 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221107\20221107_060.lcd
Vial: 37 | Inj. Volume: 25.0000uL | Tray: 1

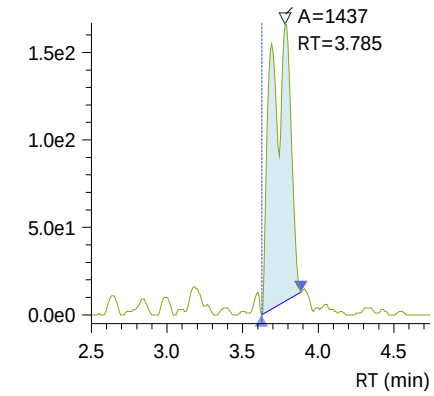
Perchlorate

Conc 0.0597
R#1 54.63 (31.78)

Q 99.00>83.00 (-) A=2630 4.78e2



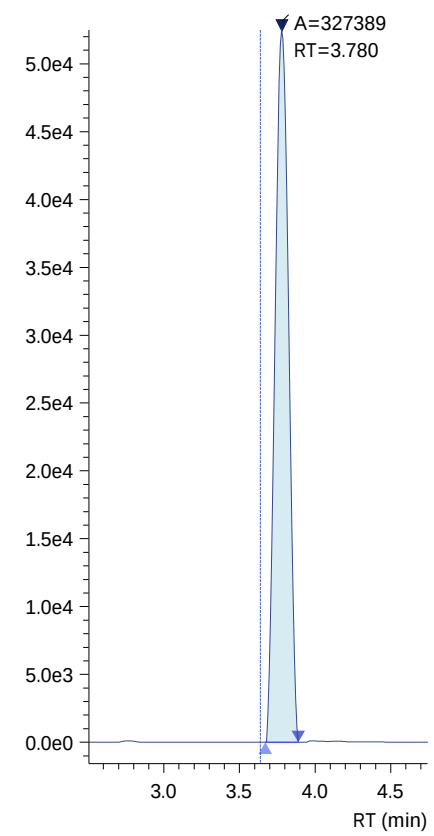
R1 101.00>85.00 (-) 1.67e2



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 5.25e4



Insight Report

Printed at 11/8/2022 11:18:57 AM

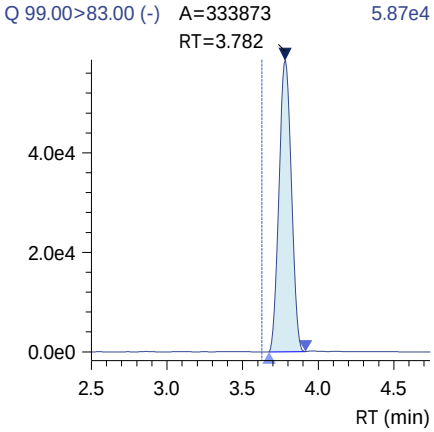
PERCHLORATE7

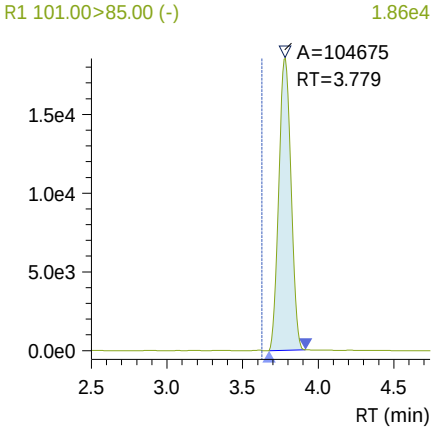
Sample ID: PERCHLORATE7
Date Acquired: 11/7/2022 5:15:29 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221107\20221107_062.lcd
Vial: 1 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.782	333873	222490	11.1400	ng/mL	101.00 >85.00	31.35	22.24 -41.31
Sodium Perchlorate-18O4_IS	Auto	3.779	222490	222490	1.0000	ng/mL	----	----	

Perchlorate

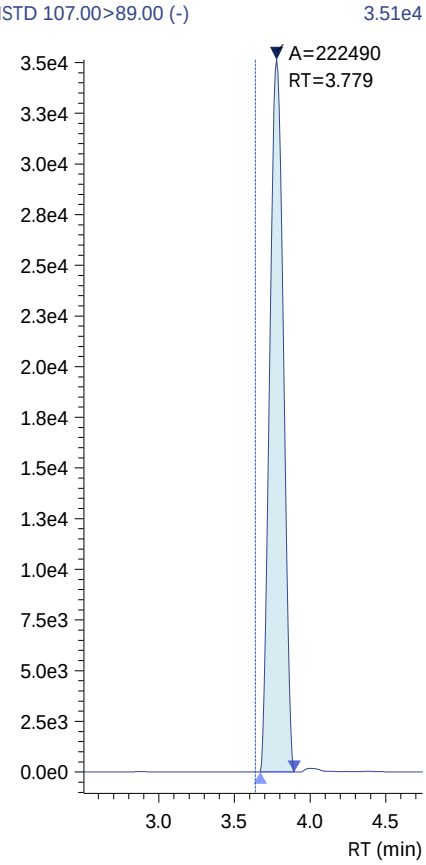
Conc 11.1400
R#1 31.35 (31.78)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 11/8/2022 11:18:57 AM

EQ2200510-01

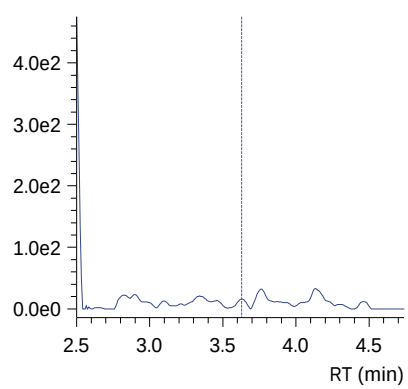
Sample ID: EQ2200510-01
Date Acquired: 11/7/2022 5:31:45 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221107\20221107_064.lcd
Vial: 42 | Inj. Volume: 25.0000uL | Tray: 5

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	ND(W/B)	----	----	281257	----	ng/mL	101.00 >85.00	0.00	22.24 -41.31
Sodium Perchlorate-18O4_IS	Auto	3.780	281257	281257	1.0000	ng/mL	----	----	

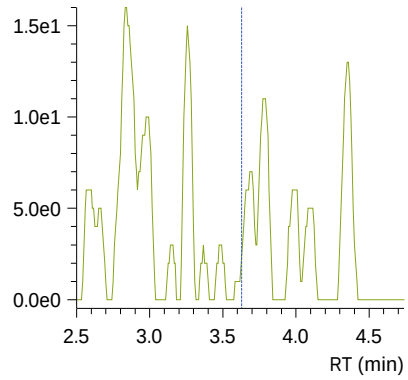
Perchlorate

Conc ----
R#1 0.00 (31.78)

Q 99.00>83.00 (-) 4.75e2



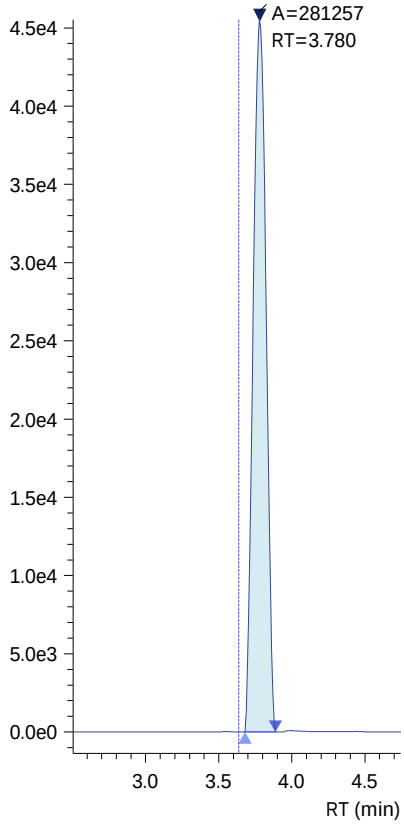
R1 101.00>85.00 (-) 1.60e1



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 4.55e4



Insight Report

Printed at 11/8/2022 11:18:57 AM

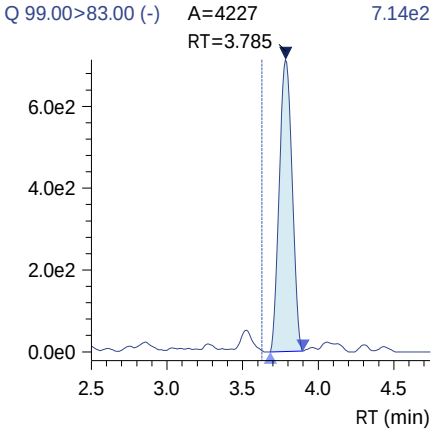
EQ2200510-02

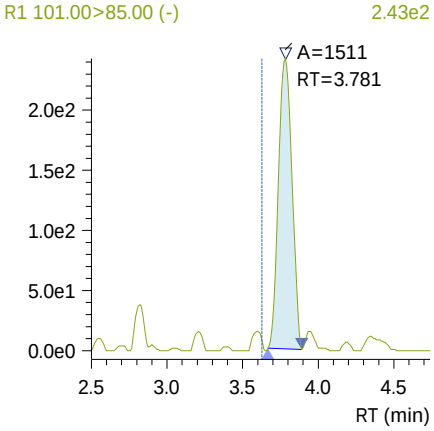
Sample ID: EQ2200510-02
Date Acquired: 11/7/2022 5:39:51 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221107\20221107_065.lcd
Vial: 43 | Inj. Volume: 25.0000uL | Tray: 5

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.785	4227	278114	0.1128	ng/mL	101.00 >85.00	35.75	22.24 -41.31
Sodium Perchlorate-18O4_IS	Auto	3.781	2781 14	278114	1.0000	ng/mL	----	----	

Perchlorate

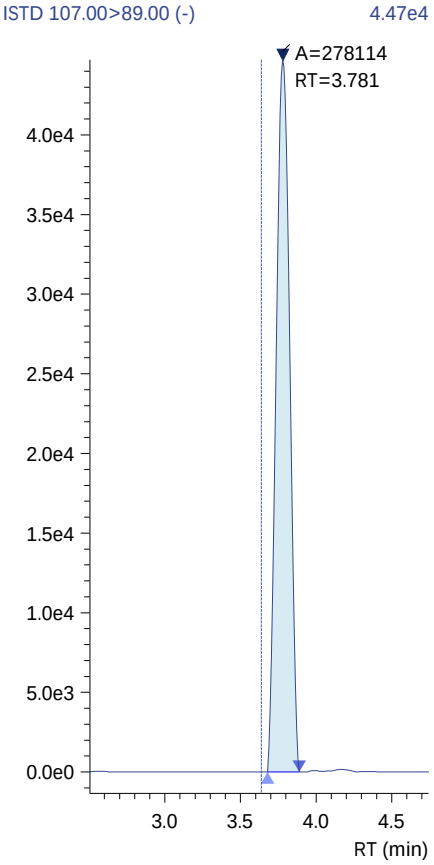
Conc 0.1128
R#1 35.75 (31.78)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 11/8/2022 11:18:57 AM

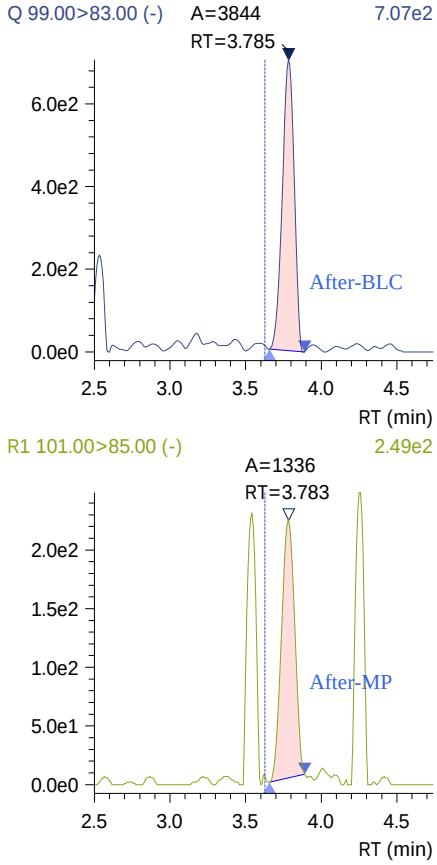
EQ2200510-03

Sample ID: EQ2200510-03
Date Acquired: 11/7/2022 5:47:57 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221107\20221107_066.lcd
Vial: 44 | Inj. Volume: 25.0000uL | Tray: 5

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	M	3.785	3844	272909	0.1046	ng/mL	101.00 >85.00	34.76	22.24 -41.31
Sodium Perchlorate-18O4_IS	Auto	3.781	272909	272909	1.0000	ng/mL	----	----	

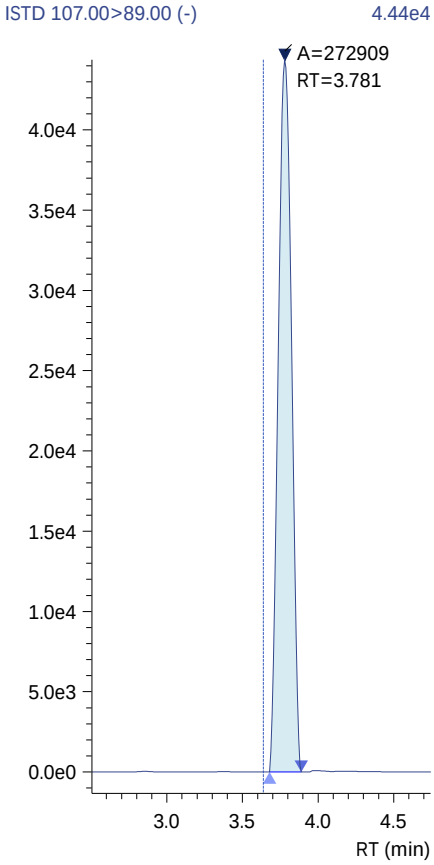
Perchlorate

Conc 0.1046
R#1 34.76 (31.78)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Manual Integration - Before

Printed at 11/8/2022 11:21:31 AM

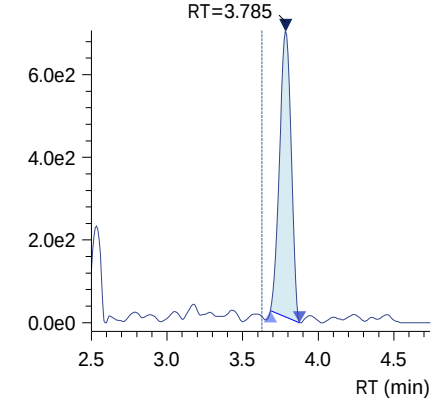
EQ2200510-03

Sample ID: EQ2200510-03
Date Acquired: 11/7/2022 5:47:57 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221107\20221107_066.lcd
Vial: 44 | Inj. Volume: 25.0000uL | Tray: 5

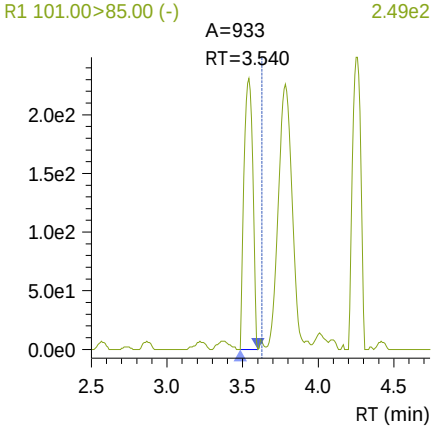
Perchlorate

Conc 0.1009
R#1 0.00 (31.78)

Q 99.00>83.00 (-) A=3705 7.07e2



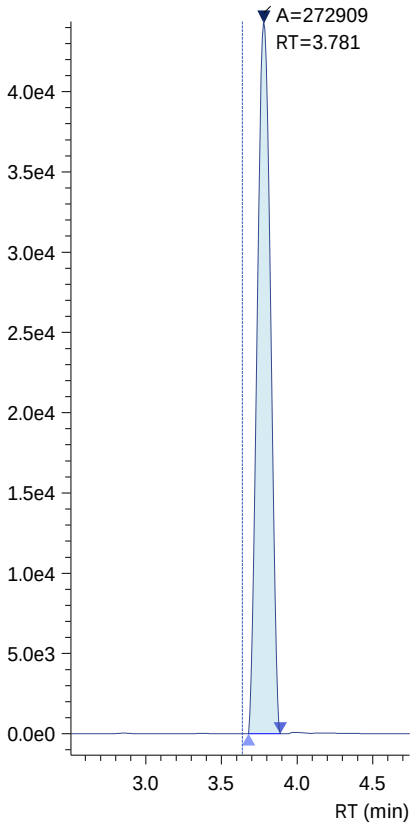
R1 101.00>85.00 (-) 2.49e2



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 4.44e4



Insight Report

Printed at 11/8/2022 11:18:57 AM

PERCHLORATE7

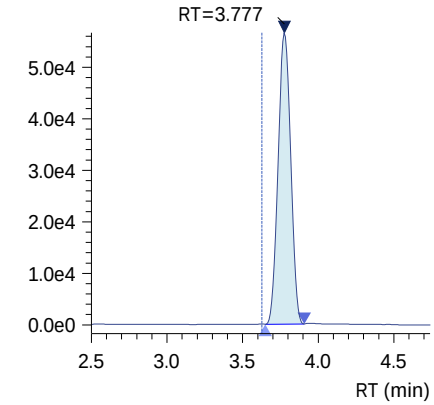
Sample ID: PERCHLORATE7
Date Acquired: 11/7/2022 6:44:49 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221107\20221107_073.lcd
Vial: 1 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.777	3279 17	220808	11.0 246	ng/mL	101.00 >85.00	32.39	22.24 -41.31
Sodium Perchlorate-18O4_IS	Auto	3.774	220808	220808	1.0000	ng/mL	----	----	

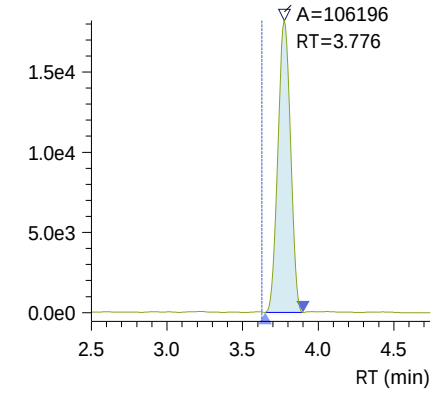
Perchlorate

Conc 11.0246
R#1 32.39 (31.78)

Q 99.00>83.00 (-) A=327917 5.67e4



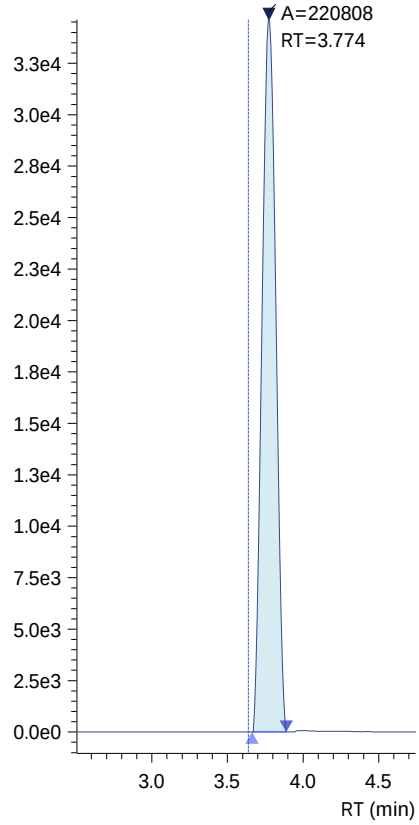
R1 101.00>85.00 (-) 1.82e4



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 3.46e4



Insight Report

Printed at 11/8/2022 11:23:00 AM

Method File: I:\LCMS01\DATA\20221108\20221013ICAL.lcm
Project File: I:\LCMS01\DATA\20221108\11082022.damlp

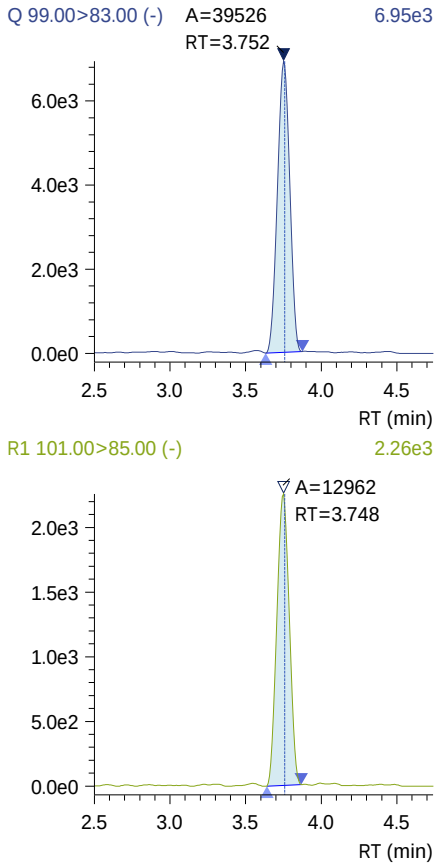
ICS

Sample ID: ICS
Date Acquired: 11/8/2022 9:06:02 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221108\20221108_001.lcd
Vial: 32 | 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	3.752	39526	269881	1.0872	ng/mL	101.00 >85.00	32.79	22.33 -41.48
Sodium Perchlorate-18O4_IS	Auto	3.749	269881	269881	1.0000	ng/mL	----	----	

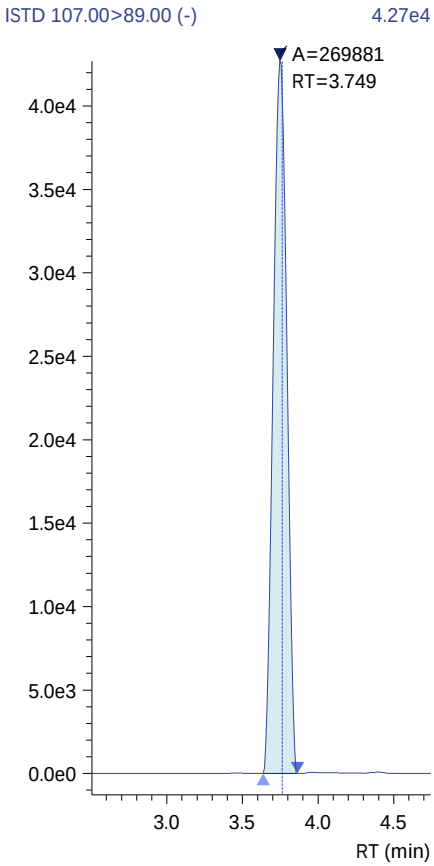
Perchlorate

Conc 1.0872
R#1 32.79 (31.91)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 11/8/2022 11:23:00 AM

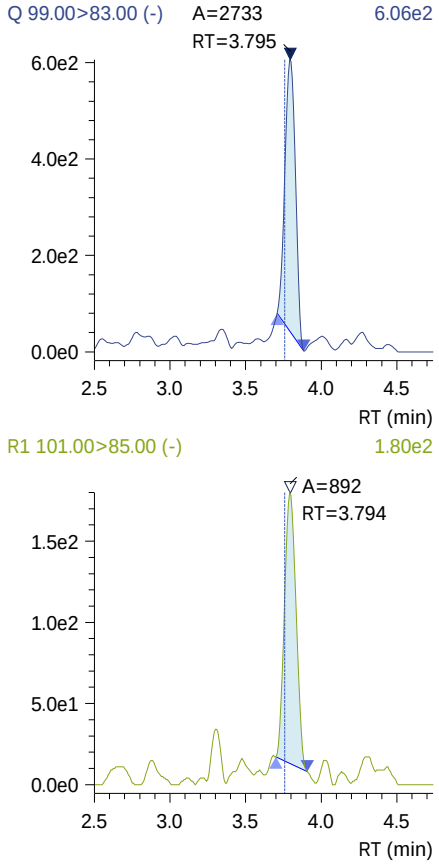
LODV

Sample ID: LODV
Date Acquired: 11/8/2022 9:14:09 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221108\20221108_002.lcd
Vial: 37 | 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	3.795	2733	338070	0.0600	ng/mL	101.00 >85.00	32.62	22.33 -41.48
Sodium Perchlorate-18O4 _IS	Auto	3.789	3380 70	338070	1.0000	ng/mL	----	----	

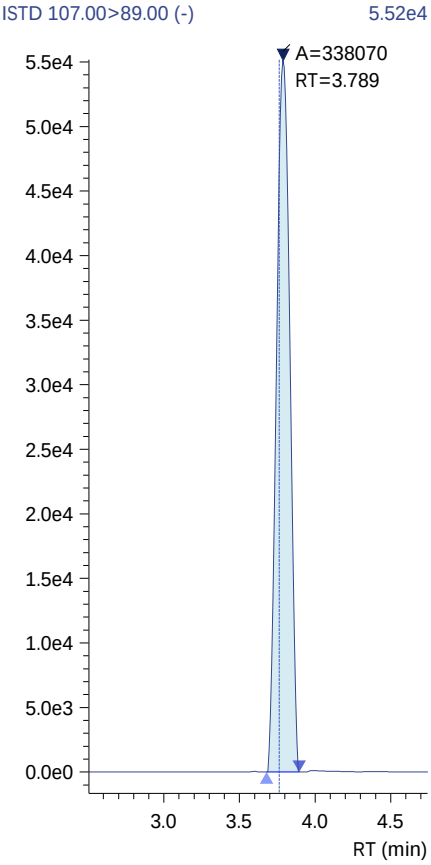
Perchlorate

Conc 0.0600
R#1 32.62 (31.91)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 11/8/2022 11:23:00 AM

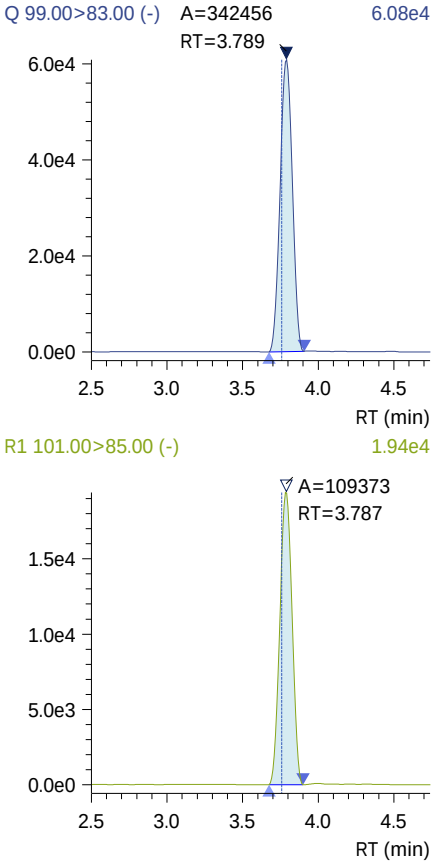
PERCHLORATE7

Sample ID: PERCHLORATE7
Date Acquired: 11/8/2022 9:22:17 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221108\20221108_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	Auto	3.789	342456	235278	10.8053	ng/mL	101.00 >85.00	31.94	22.33 -41.48
Sodium Perchlorate-18O4_IS	Auto	3.786	235278	235278	1.0000	ng/mL	----	----	

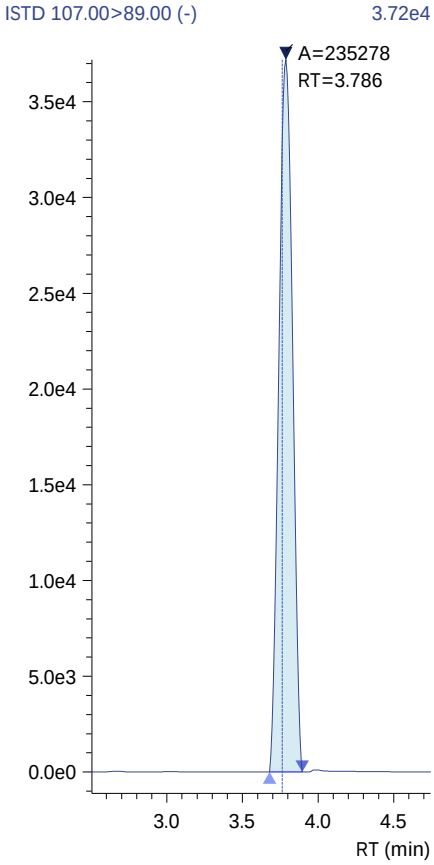
Perchlorate

Conc 10.8053
R#1 31.94 (31.91)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 11/8/2022 11:23:00 AM

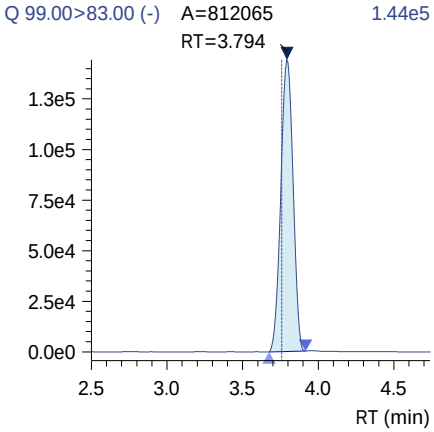
E2201058-001X**1**K

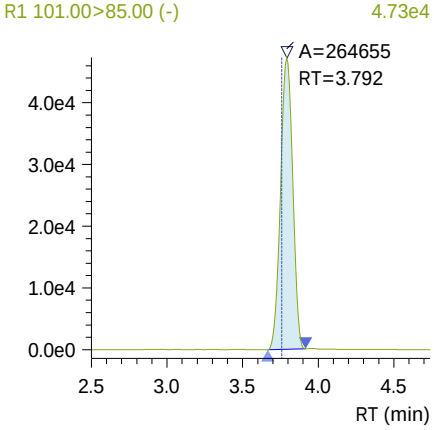
Sample ID: E2201058-001
Date Acquired: 11/8/2022 10:19:13 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221108\20221108_010.lcd
Vial: 47 | Inj. Volume: 25.0000uL | Tray: 5

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.794	8120 65	203439	29.6 326	ng/mL	101.00 >85.00	32.59	22.33 -41.48
Sodium Perchlorate-18O4 _IS	Auto	3.790	2034 39	203439	1.0000	ng/mL	----	----	

Perchlorate

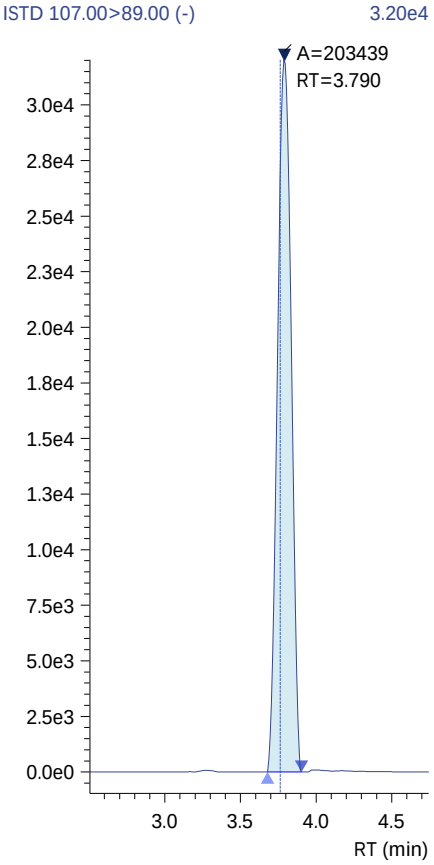
Conc 29.6326
R#1 32.59 (31.91)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 11/8/2022 11:23:00 AM

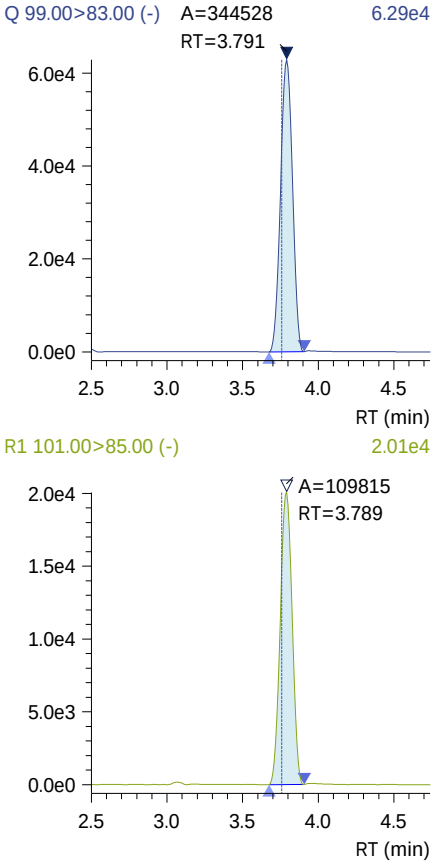
PERCHLORATE7

Sample ID: PERCHLORATE7
Date Acquired: 11/8/2022 10:27:20 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221108\20221108_011.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	Auto	3.791	344528 6.29e4	237035	10.7901	ng/mL	101.00 >85.00	31.87	22.33 -41.48
Sodium Perchlorate-18O4_IS	Auto	3.788	237035 3.81e4	237035	1.0000	ng/mL	----	----	

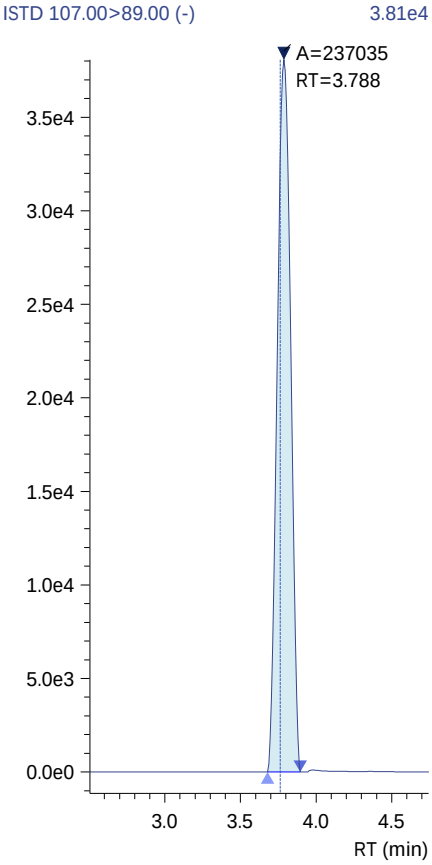
Perchlorate

Conc 10.7901
R#1 31.87 (31.91)



Sodium Perchlorate-18O4_IS

Conc 1.0000



HS22110111 Longhorn GW Treatment Plant
Monthly Effluent Samples Cover Page

ALS WO# HS22110111

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CoverLetter

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alsglobal.com

right solutions.
right partner.

WorkOrder: HS22110111

Longhorn GW Treatment Plant Monthly Effluent Samples

Bhate Environmental Associates, Inc.

Marcia Olive
445 Union Blvd Ste 129
Lakewood CO 80228

16-Nov-2022

HS22110111 Longhorn GW Treatment Plant
Monthly Effluent Samples Final

ALS WO# HS22110111

10450 Stancliff Rd. Suite 210
Houston, TX 77099
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November 11, 2022

Marcia Olive
Bhate Environmental Associates, Inc.
445 Union Blvd Ste 129
Lakewood, CO 80228

Work Order: **HS22110111**

Laboratory Results for: **Longhorn GW Treatment Plant Monthly Effluent Samples**

Dear Marcia Olive,

ALS Environmental received 3 sample(s) on Nov 02, 2022 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
Dane J. Wacasey

ALS Houston, US Date: 11-Nov-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
Work Order: HS22110111

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS22110111-01	LH18/24-SP650_110122	Water		01-Nov-2022 14:00	02-Nov-2022 09:35	☐
HS22110111-02	LH18/24-SP650_110122_AIX	Water		01-Nov-2022 14:00	02-Nov-2022 09:35	☐
HS22110111-03	Trip Blank	Water	CG-090622-776	01-Nov-2022 00:00	02-Nov-2022 09:35	☐

ALS Houston, US Date: 11-Nov-22

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
Work Order: HS22110111

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: 185720

Sample ID: LCSD-185720

• LCSD RPD was above the upper control limit. The individual recoveries were in control. Surrogate(Nitrobenzene-d5)

GCMS Volatiles by Method SW8260

Batch ID: R421126

Sample ID: HS22110180-01MS

• MS and MSD are for an unrelated sample

Metals by Method SW6020A

Batch ID: 185976

Sample ID: HS22110108-01MSD

• MSD is for an unrelated sample (Barium)

WetChemistry by Method SW7196

Batch ID: R421093

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

ALS Houston, US Date: 11-Nov-22

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Longhorn GW Treatment Plant Monthly Effluent Samples WorkOrder:HS22110111
Sample ID: LH18/24-SP650_110122 Lab ID:HS22110111-01
Collection Date: 01-Nov-2022 14:00 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	06-Nov-2022 17:36
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:36
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 17:36
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:36
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:36
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:36
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:36
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 17:36
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 17:36
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 17:36
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:36
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:36
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:36
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 17:36
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:36
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 17:36
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:36
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 17:36
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:36
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 17:36
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:36
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	06-Nov-2022 17:36
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:36
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	06-Nov-2022 17:36
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 17:36
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:36
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	06-Nov-2022 17:36
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	06-Nov-2022 17:36
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:36
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 17:36
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:36
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:36
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 17:36
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 17:36
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	06-Nov-2022 17:36
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 17:36
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:36
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:36
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:36

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 11-Nov-22

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Longhorn GW Treatment Plant Monthly Effluent Samples WorkOrder:HS22110111
Sample ID: LH18/24-SP650_110122 Lab ID:HS22110111-01
Collection Date: 01-Nov-2022 14:00 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	06-Nov-2022 17:36
cis-1,2-Dichloroethene	**1.6**		**0.20**	**1.0**	**1.0**	**ug/L**	1	06-Nov-2022 17:36
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:36
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:36
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:36
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:36
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:36
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	06-Nov-2022 17:36
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:36
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	06-Nov-2022 17:36
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	06-Nov-2022 17:36
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 17:36
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:36
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:36
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:36
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:36
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:36
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:36
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:36
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:36
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:36
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:36
Trichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:36
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:36
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:36
Surr: 1,2-Dichloroethane-d4	*86.4*			**0**	*81-118*	*%REC*	*1*	*06-Nov-2022 17:36*
Surr: 4-Bromofluorobenzene	*92.3*			**0**	*85-114*	*%REC*	*1*	*06-Nov-2022 17:36*
Surr: Dibromofluoromethane	*89.9*			**0**	*80-119*	*%REC*	*1*	*06-Nov-2022 17:36*
Surr: Toluene-d8	*109*			**0**	*89-112*	*%REC*	*1*	*06-Nov-2022 17:36*
SEMIVOLATILES SIM		**Method:SW8270SIM**				Prep:SW3510 / 04-Nov-2022		Analyst: MBG
1,4-Dioxane	**0.11**	a	**0.010**	**0.0050**	**0.010**	**ug/L**	1	11-Nov-2022 13:44
Surr: 2-Fluorobiphenyl	*112*			**0**	*40-140*	*%REC*	*1*	*11-Nov-2022 13:44*
Surr: 4-Terphenyl-d14	*90.1*			**0**	*40-140*	*%REC*	*1*	*11-Nov-2022 13:44*
Surr: Nitrobenzene-d5	*128*			**0**	*40-140*	*%REC*	*1*	*11-Nov-2022 13:44*
METALS BY ICPMS BY SW6020A		**Method:SW6020A**				Prep:SW3010A / 09-Nov-2022		Analyst: JHD
Barium	**0.0946**		**0.00190**	**0.00250**	**0.00500**	**mg/L**	1	10-Nov-2022 16:15
Lead	0.00125	U	0.000600	0.00125	0.00500	mg/L	1	10-Nov-2022 16:15
Selenium	0.00250	U	0.00110	0.00250	0.00500	mg/L	1	10-Nov-2022 16:15
Silver	0.000500	U	0.000200	0.000500	0.00500	mg/L	1	10-Nov-2022 16:15

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 11-Nov-22

Client: Bhate Environmental Associates, Inc.
ANALYTICAL REPORT
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder:HS22110111
Sample ID: LH18/24-SP650_110122
Lab ID:HS22110111-01
Collection Date: 01-Nov-2022 14:00
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	02-Nov-2022 09:19

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 11-Nov-22

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

Project: Longhorn GW Treatment Plant Monthly Effluent Samples WorkOrder:HS22110111

Sample ID: LH18/24-SP650_110122_AIX Lab ID:HS22110111-02

Collection Date: 01-Nov-2022 14:00 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	09-Nov-2022 09:22

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 11-Nov-22

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Longhorn GW Treatment Plant Monthly Effluent Samples WorkOrder:HS22110111
Sample ID: Trip Blank Lab ID:HS22110111-03
Collection Date: 01-Nov-2022 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	06-Nov-2022 17:15
1,1,1-Trichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:15
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 17:15
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:15
1,1-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:15
1,1-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:15
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:15
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 17:15
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 17:15
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 17:15
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:15
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:15
1,2-Dibromoethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:15
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 17:15
1,2-Dichloroethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:15
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 17:15
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:15
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 17:15
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:15
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 17:15
2,2-Dichloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:15
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	06-Nov-2022 17:15
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:15
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	06-Nov-2022 17:15
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 17:15
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:15
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	06-Nov-2022 17:15
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	06-Nov-2022 17:15
Benzene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:15
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 17:15
Bromochloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:15
Bromodichloromethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:15
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 17:15
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 17:15
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	06-Nov-2022 17:15
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	06-Nov-2022 17:15
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:15
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:15
Chloroform	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:15

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 11-Nov-22

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Longhorn GW Treatment Plant Monthly Effluent Samples WorkOrder:HS22110111
Sample ID: Trip Blank Lab ID:HS22110111-03
Collection Date: 01-Nov-2022 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	06-Nov-2022 17:15
cis-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:15
cis-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:15
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:15
Dibromomethane	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:15
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:15
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:15
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	06-Nov-2022 17:15
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:15
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	06-Nov-2022 17:15
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	06-Nov-2022 17:15
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	06-Nov-2022 17:15
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:15
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:15
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:15
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:15
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:15
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:15
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:15
Toluene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:15
trans-1,2-Dichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:15
trans-1,3-Dichloropropene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:15
Trichloroethene	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:15
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	06-Nov-2022 17:15
Vinyl chloride	1.0	U	0.20	1.0	1.0	ug/L	1	06-Nov-2022 17:15
Surr: 1,2-Dichloroethane-d4	*86.2*			**0**	*81-118*	*%REC*	*1*	*06-Nov-2022 17:15*
Surr: 4-Bromofluorobenzene	*92.9*			**0**	*85-114*	*%REC*	*1*	*06-Nov-2022 17:15*
Surr: Dibromofluoromethane	*90.2*			**0**	*80-119*	*%REC*	*1*	*06-Nov-2022 17:15*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*06-Nov-2022 17:15*

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: HS22110111

Batch ID: 185720 **Start Date:** 04 Nov 2022 08:31 **End Date:** 04 Nov 2022 13:00
Method: SV AQ SEP FUN EXTRACT-LOWLEV - 3510C **Prep Code:** 3510_B_SIM

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS22110111-01	1	1000 (mL)	1 (mL)	0.001	1-liter amber glass, Neat

Batch ID: 185976 **Start Date:** 09 Nov 2022 08:30 **End Date:** 09 Nov 2022 12:30
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS22110111-01		10 (mL)	10 (mL)	1	120 plastic HNO3

ALS Houston, US Date: 11-Nov-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS22110111

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 185720 (0)	**Test Name :** SEMIVOLATILES SIM				**Matrix:** Water	
HS22110111-01	LH18/24-SP650_110122	01 Nov 2022 14:00		04 Nov 2022 08:31	11 Nov 2022 13:44	1
Batch ID: 185976 (0)	**Test Name :** METALS BY ICPMS BY SW6020A				**Matrix:** Water	
HS22110111-01	LH18/24-SP650_110122	01 Nov 2022 14:00		09 Nov 2022 12:30	10 Nov 2022 16:15	1
Batch ID: R421093 (0)	**Test Name :** HEXAVALENT CHROMIUM BY SW7196A				**Matrix:** Water	
HS22110111-01	LH18/24-SP650_110122	01 Nov 2022 14:00			02 Nov 2022 09:19	1
Batch ID: R421126 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS22110111-01	LH18/24-SP650_110122	01 Nov 2022 14:00			06 Nov 2022 17:36	1
HS22110111-03	Trip Blank	01 Nov 2022 00:00			06 Nov 2022 17:15	1
Batch ID: R421393 (0)	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)				**Matrix:** Water	
HS22110111-02	LH18/24-SP650_110122_AIX	01 Nov 2022 14:00			09 Nov 2022 09:22	1

ALS Houston, US Date: 11-Nov-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS22110111

QC BATCH REPORT

Batch ID: 185976 (0) **Instrument: ICPMS07** **Method: METALS BY ICPMS BY SW6020A**

MBLK Sample ID: **MBLK-185976** Units: **mg/L** Analysis Date: **10-Nov-2022 12:28**
Client ID: Run ID: **ICPMS07_421548** SeqNo: **6974278** PrepDate: **09-Nov-2022** 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-185976** Units: **mg/L** Analysis Date: **10-Nov-2022 12:30**
Client ID: Run ID: **ICPMS07_421548** SeqNo: **6974279** PrepDate: **09-Nov-2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	0.04933	0.00500	0.05	0	98.7	86 - 114				
Lead	0.04648	0.00500	0.05	0	93.0	88 - 115				
Selenium	0.05316	0.00500	0.05	0	106	80 - 120				
Silver	0.05015	0.00500	0.05	0	100	85 - 116				

MS Sample ID: **HS22110108-01MS** Units: **mg/L** Analysis Date: **10-Nov-2022 12:36**
Client ID: Run ID: **ICPMS07_421548** SeqNo: **6974282** PrepDate: **09-Nov-2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	0.4529	0.00500	0.05	0.3991	108	86 - 114				O
Lead	0.04834	0.00500	0.05	0.000402	95.9	88 - 115				
Selenium	0.05087	0.00500	0.05	-0.000269	102	80 - 120				
Silver	0.04964	0.00500	0.05	-0.000032	99.4	85 - 116				

MSD Sample ID: **HS22110108-01MSD** Units: **mg/L** Analysis Date: **10-Nov-2022 12:38**
Client ID: Run ID: **ICPMS07_421548** SeqNo: **6974283** PrepDate: **09-Nov-2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	0.4133	0.00500	0.05	0.3991	28.4	86 - 114	0.4529	9.16	20	SO
Lead	0.04737	0.00500	0.05	0.000402	93.9	88 - 115	0.04834	2.03	20	
Selenium	0.05117	0.00500	0.05	-0.000269	103	80 - 120	0.05087	0.606	20	
Silver	0.04751	0.00500	0.05	-0.000032	95.1	85 - 116	0.04964	4.4	20	

ALS Houston, US Date: 11-Nov-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS22110111

QC BATCH REPORT

Batch ID: 185976 (0) **Instrument: ICPMS07** **Method: METALS BY ICPMS BY SW6020A**

PDS Sample ID: **HS22110108-01PDS** Units: **mg/L** Analysis Date: **10-Nov-2022 12:40**
Client ID: Run ID: **ICPMS07_421548** SeqNo: **6974284** PrepDate: **09-Nov-2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	0.5186	0.00500	0.1	0.3991	120	80 - 120				
Lead	0.1182	0.00500	0.1	0.000402	118	80 - 120				
Selenium	0.1167	0.00500	0.1	-0.000269	117	80 - 120				

SD Sample ID: **HS22110108-01SD** Units: **mg/L** Analysis Date: **10-Nov-2022 12:34**
Client ID: Run ID: **ICPMS07_421548** SeqNo: **6974281** PrepDate: **09-Nov-2022** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Barium	0.3652	0.0250					0.3991	8.49	10	
Lead	0.00625	0.0250					0.000402	0	10	U
Selenium	0.0125	0.0250					-0.000269	0	10	U
Silver	0.00250	0.0250					-0.000032	0	10	U

The following samples were analyzed in this batch: HS22110111-01

ALS Houston, US Date: 11-Nov-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS22110111

QC BATCH REPORT

Batch ID: 185720 (0) **Instrument: SV-6** **Method: SEMIVOLATILES SIM**

MBLK Sample ID: **MBLK-185720** Units: **ug/L** Analysis Date: **11-Nov-2022 12:23**
Client ID: Run ID: **SV-6_421640** SeqNo: **6977198** PrepDate: **04-Nov-2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dioxane	0.0050	0.010								U
Surr: 2-Fluorobiphenyl	*0.07418*	*0*	*0.08*	*0*	*92.7*	*40 - 140*				
Surr: 4-Terphenyl-d14	*0.07579*	*0*	*0.08*	*0*	*94.7*	*40 - 140*				
Surr: Nitrobenzene-d5	*0.06454*	*0*	*0.08*	*0*	*80.7*	*40 - 140*				

LCS Sample ID: **LCS-185720** Units: **ug/L** Analysis Date: **11-Nov-2022 12:44**
Client ID: Run ID: **SV-6_421640** SeqNo: **6977199** PrepDate: **04-Nov-2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dioxane	0.07422	0.010	0.08	0	92.8	40 - 140				
Surr: 2-Fluorobiphenyl	*0.08768*	*0*	*0.08*	*0*	*110*	*40 - 140*				
Surr: 4-Terphenyl-d14	*0.08407*	*0*	*0.08*	*0*	*105*	*40 - 140*				
Surr: Nitrobenzene-d5	*0.06918*	*0*	*0.08*	*0*	*86.5*	*40 - 140*				

LCSD Sample ID: **LCSD-185720** Units: **ug/L** Analysis Date: **11-Nov-2022 13:04**
Client ID: Run ID: **SV-6_421640** SeqNo: **6977200** PrepDate: **04-Nov-2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dioxane	0.08223	0.010	0.08	0	103	40 - 140	0.07422	10.2	20	
Surr: 2-Fluorobiphenyl	*0.08666*	*0*	*0.08*	*0*	*108*	*40 - 140*	*0.08768*	*1.17*	*20*	
Surr: 4-Terphenyl-d14	*0.07887*	*0*	*0.08*	*0*	*98.6*	*40 - 140*	*0.08407*	*6.38*	*20*	
Surr: Nitrobenzene-d5	*0.08517*	*0*	*0.08*	*0*	*106*	*40 - 140*	*0.06918*	*20.7*	*20*	R

The following samples were analyzed in this batch: HS22110111-01

ALS Houston, US Date: 11-Nov-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS22110111

QC BATCH REPORT

Batch ID: R421126 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-221106** Units: **ug/L** Analysis Date: **06-Nov-2022 14:26**
Client ID: Run ID: **VOA6_421126** SeqNo: **6963966** 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: 11-Nov-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS22110111

QC BATCH REPORT

Batch ID: R421126 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-221106** Units: **ug/L** Analysis Date: **06-Nov-2022 14:26**
Client ID: Run ID: **VOA6_421126** SeqNo: **6963966** 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	1.0	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	*44.08*	*1.0*	*50*	*0*	*88.2*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*46.28*	*1.0*	*50*	*0*	*92.6*	*85 - 114*				
Surr: Dibromofluoromethane	*45.48*	*1.0*	*50*	*0*	*91.0*	*80 - 119*				
Surr: Toluene-d8	*54*	*1.0*	*50*	*0*	*108*	*89 - 112*				

ALS Houston, US Date: 11-Nov-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS22110111

QC BATCH REPORT

Batch ID: R421126 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-221106** Units: **ug/L** Analysis Date: **06-Nov-2022 13:23**
Client ID: Run ID: **VOA6_421126** SeqNo: **6963965** 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	20.11	1.0	20	0	101	78 - 124				
1,1,1-Trichloroethane	18.22	1.0	20	0	91.1	74 - 131				
1,1,2,2-Tetrachloroethane	20.88	1.0	20	0	104	71 - 121				
1,1,2-Trichloroethane	20.28	1.0	20	0	101	80 - 119				
1,1-Dichloroethane	18.86	1.0	20	0	94.3	77 - 125				
1,1-Dichloroethene	18.88	1.0	20	0	94.4	71 - 131				
1,1-Dichloropropene	17.87	1.0	20	0	89.3	78 - 125				
1,2,3-Trichlorobenzene	20.55	1.0	20	0	103	69 - 129				
1,2,3-Trichloropropane	21.68	1.0	20	0	108	73 - 122				
1,2,4-Trichlorobenzene	19.45	1.0	20	0	97.3	69 - 130				
1,2,4-Trimethylbenzene	18.74	1.0	20	0	93.7	76 - 124				
1,2-Dibromo-3-chloropropane	22.91	1.0	20	0	115	62 - 128				
1,2-Dibromoethane	21.15	1.0	20	0	106	77 - 121				
1,2-Dichlorobenzene	20.05	1.0	20	0	100	80 - 119				
1,2-Dichloroethane	20.57	1.0	20	0	103	73 - 128				
1,2-Dichloropropane	19.98	1.0	20	0	99.9	78 - 122				
1,3,5-Trimethylbenzene	18.44	1.0	20	0	92.2	75 - 124				
1,3-Dichlorobenzene	19.59	1.0	20	0	98.0	80 - 119				
1,3-Dichloropropane	20.76	1.0	20	0	104	80 - 119				
1,4-Dichlorobenzene	20.06	1.0	20	0	100	79 - 118				
2,2-Dichloropropane	19.87	1.0	20	0	99.3	60 - 139				
2-Butanone	42.55	2.0	40	0	106	56 - 143				
2-Chlorotoluene	19.18	1.0	20	0	95.9	79 - 122				
2-Hexanone	44.99	2.0	40	0	112	57 - 139				
4-Chlorotoluene	19.64	1.0	20	0	98.2	78 - 122				
4-Isopropyltoluene	17.56	1.0	20	0	87.8	77 - 127				
4-Methyl-2-pentanone	43.09	2.0	40	0	108	67 - 130				
Acetone	47.99	2.0	40	0	120	39 - 160				
Benzene	19.73	1.0	20	0	98.7	79 - 120				
Bromobenzene	20.28	1.0	20	0	101	80 - 120				
Bromochloromethane	19.89	1.0	20	0	99.5	78 - 123				
Bromodichloromethane	20.23	1.0	20	0	101	79 - 125				
Bromoform	20.38	1.0	20	0	102	66 - 130				
Bromomethane	22.26	1.0	20	0	111	53 - 141				

ALS Houston, US Date: 11-Nov-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS22110111

QC BATCH REPORT

Batch ID: R421126 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-221106** Units: **ug/L** Analysis Date: **06-Nov-2022 13:23**
Client ID: Run ID: **VOA6_421126** SeqNo: **6963965** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	37.81	2.0	40	0	94.5	64 - 133				
Carbon tetrachloride	19.35	1.0	20	0	96.8	72 - 136				
Chlorobenzene	20.01	1.0	20	0	100	82 - 118				
Chloroethane	19.7	1.0	20	0	98.5	60 - 138				
Chloroform	19.14	1.0	20	0	95.7	79 - 124				
Chloromethane	21.74	1.0	20	0	109	50 - 139				
cis-1,2-Dichloroethene	20.17	1.0	20	0	101	78 - 123				
cis-1,3-Dichloropropene	20.89	1.0	20	0	104	75 - 124				
Dibromochloromethane	20.29	1.0	20	0	101	74 - 126				
Dibromomethane	20.55	1.0	20	0	103	79 - 123				
Dichlorodifluoromethane	19.4	1.0	20	0	97.0	32 - 152				
Ethylbenzene	18.57	1.0	20	0	92.9	79 - 121				
Hexachlorobutadiene	18.68	1.0	20	0	93.4	66 - 134				
Isopropylbenzene	17.88	1.0	20	0	89.4	72 - 131				
m,p-Xylene	38.78	2.0	40	0	97.0	80 - 121				
Methylene chloride	21.18	2.0	20	0	106	74 - 124				
Naphthalene	21.5	1.0	20	0	107	61 - 128				
n-Butylbenzene	17.98	1.0	20	0	89.9	75 - 128				
n-Propylbenzene	18.05	1.0	20	0	90.3	76 - 126				
o-Xylene	19.49	1.0	20	0	97.4	78 - 122				
sec-Butylbenzene	18.03	1.0	20	0	90.2	77 - 126				
Styrene	20.46	1.0	20	0	102	78 - 123				
tert-Butylbenzene	18.32	1.0	20	0	91.6	78 - 124				
Tetrachloroethene	19.1	1.0	20	0	95.5	74 - 129				
Toluene	19.53	1.0	20	0	97.6	80 - 121				
trans-1,2-Dichloroethene	19.03	1.0	20	0	95.1	75 - 124				
trans-1,3-Dichloropropene	20.57	1.0	20	0	103	73 - 127				
Trichloroethene	19.25	1.0	20	0	96.3	79 - 123				
Trichlorofluoromethane	19.45	1.0	20	0	97.3	65 - 141				
Vinyl chloride	19.12	1.0	20	0	95.6	58 - 137				
Surr: 1,2-Dichloroethane-d4	*49.42*	*1.0*	*50*	*0*	*98.8*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.79*	*1.0*	*50*	*0*	*99.6*	*85 - 114*				
Surr: Dibromofluoromethane	*50.48*	*1.0*	*50*	*0*	*101*	*80 - 119*				
Surr: Toluene-d8	*50.85*	*1.0*	*50*	*0*	*102*	*89 - 112*				

ALS Houston, US Date: 11-Nov-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS22110111

QC BATCH REPORT

Batch ID: R421126 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS22110180-01MS** Units: **ug/L** Analysis Date: **06-Nov-2022 15:50**
Client ID: Run ID: **VOA6_421126** SeqNo: **6963969** 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	19.65	1.0	20	0	98.3	78 - 124				
1,1,1-Trichloroethane	18.8	1.0	20	0	94.0	74 - 131				
1,1,2,2-Tetrachloroethane	18.36	1.0	20	0	91.8	71 - 121				
1,1,2-Trichloroethane	19.01	1.0	20	0	95.0	80 - 119				
1,1-Dichloroethane	18	1.0	20	0	90.0	77 - 125				
1,1-Dichloroethene	19.8	1.0	20	0	99.0	71 - 131				
1,1-Dichloropropene	21.48	1.0	20	0	107	78 - 125				
1,2,3-Trichlorobenzene	17.01	1.0	20	0	85.0	69 - 129				
1,2,3-Trichloropropane	19.17	1.0	20	0	95.8	73 - 122				
1,2,4-Trichlorobenzene	18.4	1.0	20	0	92.0	69 - 130				
1,2,4-Trimethylbenzene	20.67	1.0	20	0	103	76 - 124				
1,2-Dibromo-3-chloropropane	17.82	1.0	20	0	89.1	62 - 128				
1,2-Dibromoethane	19.79	1.0	20	0	99.0	77 - 121				
1,2-Dichlorobenzene	19.67	1.0	20	0	98.4	80 - 119				
1,2-Dichloroethane	18.91	1.0	20	0	94.5	73 - 128				
1,2-Dichloropropane	18.84	1.0	20	0	94.2	78 - 122				
1,3,5-Trimethylbenzene	21.36	1.0	20	0	107	75 - 124				
1,3-Dichlorobenzene	20.21	1.0	20	0	101	80 - 119				
1,3-Dichloropropane	19.75	1.0	20	0	98.7	80 - 119				
1,4-Dichlorobenzene	20.38	1.0	20	0	102	79 - 118				
2,2-Dichloropropane	19.87	1.0	20	0	99.3	60 - 139				
2-Butanone	29.58	2.0	40	0	74.0	56 - 143				
2-Chlorotoluene	20.6	1.0	20	0	103	79 - 122				
2-Hexanone	36.73	2.0	40	0	91.8	57 - 139				
4-Chlorotoluene	20.83	1.0	20	0	104	78 - 122				
4-Isopropyltoluene	21.66	1.0	20	0	108	77 - 127				
4-Methyl-2-pentanone	38.68	2.0	40	0	96.7	67 - 130				
Acetone	25.41	2.0	40	0	63.5	39 - 160				
Benzene	19.89	1.0	20	0	99.5	79 - 120				
Bromobenzene	20.14	1.0	20	0	101	80 - 120				
Bromochloromethane	17.62	1.0	20	0	88.1	78 - 123				
Bromodichloromethane	18.61	1.0	20	0	93.1	79 - 125				
Bromoform	18.4	1.0	20	0	92.0	66 - 130				
Bromomethane	20.02	1.0	20	0	100	53 - 141				

ALS Houston, US Date: 11-Nov-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS22110111

QC BATCH REPORT

Batch ID: R421126 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS22110180-01MS** Units: **ug/L** Analysis Date: **06-Nov-2022 15:50**
Client ID: Run ID: **VOA6_421126** SeqNo: **6963969** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	35.7	2.0	40	0	89.3	64 - 133				
Carbon tetrachloride	22.56	1.0	20	0	113	72 - 136				
Chlorobenzene	20.7	1.0	20	0	104	82 - 118				
Chloroethane	18.44	1.0	20	0	92.2	60 - 138				
Chloroform	17.21	1.0	20	0	86.1	79 - 124				
Chloromethane	17.97	1.0	20	0	89.9	50 - 139				
cis-1,2-Dichloroethene	17.83	1.0	20	0	89.2	78 - 123				
cis-1,3-Dichloropropene	18.66	1.0	20	0	93.3	75 - 124				
Dibromochloromethane	19.14	1.0	20	0	95.7	74 - 126				
Dibromomethane	18.57	1.0	20	0	92.9	79 - 123				
Dichlorodifluoromethane	15.59	1.0	20	0	77.9	32 - 152				
Ethylbenzene	21.14	1.0	20	0	106	79 - 121				
Hexachlorobutadiene	22.88	1.0	20	0	114	66 - 134				
Isopropylbenzene	22.03	1.0	20	0	110	72 - 131				
m,p-Xylene	42.85	2.0	40	0	107	80 - 121				
Methylene chloride	18.24	2.0	20	0	91.2	74 - 124				
Naphthalene	16.25	1.0	20	0	81.3	61 - 128				
n-Butylbenzene	22.23	1.0	20	0	111	75 - 128				
n-Propylbenzene	21.89	1.0	20	0	109	76 - 126				
o-Xylene	20.94	1.0	20	0	105	78 - 122				
sec-Butylbenzene	22.71	1.0	20	0	114	77 - 126				
Styrene	20.97	1.0	20	0	105	78 - 123				
tert-Butylbenzene	22.55	1.0	20	0	113	78 - 124				
Tetrachloroethene	23.46	1.0	20	0	117	74 - 129				
Toluene	20.74	1.0	20	0	104	80 - 121				
trans-1,2-Dichloroethene	18.64	1.0	20	0	93.2	75 - 124				
trans-1,3-Dichloropropene	18.19	1.0	20	0	90.9	73 - 127				
Trichloroethene	20.54	1.0	20	0	103	79 - 123				
Trichlorofluoromethane	20.85	1.0	20	0	104	65 - 141				
Vinyl chloride	17.95	1.0	20	0	89.7	58 - 137				
Surr: 1,2-Dichloroethane-d4	*43.12*	*1.0*	*50*	*0*	*86.2*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.34*	*1.0*	*50*	*0*	*98.7*	*85 - 114*				
Surr: Dibromofluoromethane	*45.09*	*1.0*	*50*	*0*	*90.2*	*80 - 119*				
Surr: Toluene-d8	*53.6*	*1.0*	*50*	*0*	*107*	*89 - 112*				

ALS Houston, US Date: 11-Nov-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS22110111

QC BATCH REPORT

Batch ID: R421126 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS22110180-01MSD** Units: **ug/L** Analysis Date: **06-Nov-2022 16:11**
Client ID: Run ID: **VOA6_421126** SeqNo: **6963970** 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	19.46	1.0	20	0	97.3	78 - 124	19.65	1	20	
1,1,1-Trichloroethane	18.21	1.0	20	0	91.0	74 - 131	18.8	3.21	20	
1,1,2,2-Tetrachloroethane	19.33	1.0	20	0	96.6	71 - 121	18.36	5.15	20	
1,1,2-Trichloroethane	19.06	1.0	20	0	95.3	80 - 119	19.01	0.294	20	
1,1-Dichloroethane	17.73	1.0	20	0	88.7	77 - 125	18	1.48	20	
1,1-Dichloroethene	18.92	1.0	20	0	94.6	71 - 131	19.8	4.57	20	
1,1-Dichloropropene	20.69	1.0	20	0	103	78 - 125	21.48	3.76	20	
1,2,3-Trichlorobenzene	20.83	1.0	20	0	104	69 - 129	17.01	20.2	20	R
1,2,3-Trichloropropane	18.6	1.0	20	0	93.0	73 - 122	19.17	3	20	
1,2,4-Trichlorobenzene	20.42	1.0	20	0	102	69 - 130	18.4	10.4	20	
1,2,4-Trimethylbenzene	20.6	1.0	20	0	103	76 - 124	20.67	0.314	20	
1,2-Dibromo-3-chloropropane	20.34	1.0	20	0	102	62 - 128	17.82	13.2	20	
1,2-Dibromoethane	19.97	1.0	20	0	99.9	77 - 121	19.79	0.908	20	
1,2-Dichlorobenzene	20.16	1.0	20	0	101	80 - 119	19.67	2.46	20	
1,2-Dichloroethane	18.51	1.0	20	0	92.5	73 - 128	18.91	2.15	20	
1,2-Dichloropropane	18.62	1.0	20	0	93.1	78 - 122	18.84	1.14	20	
1,3,5-Trimethylbenzene	21.39	1.0	20	0	107	75 - 124	21.36	0.156	20	
1,3-Dichlorobenzene	20.08	1.0	20	0	100	80 - 119	20.21	0.631	20	
1,3-Dichloropropane	19.51	1.0	20	0	97.5	80 - 119	19.75	1.22	20	
1,4-Dichlorobenzene	20.57	1.0	20	0	103	79 - 118	20.38	0.931	20	
2,2-Dichloropropane	19.34	1.0	20	0	96.7	60 - 139	19.87	2.71	20	
2-Butanone	30.19	2.0	40	0	75.5	56 - 143	29.58	2.04	20	
2-Chlorotoluene	20.48	1.0	20	0	102	79 - 122	20.6	0.578	20	
2-Hexanone	38.26	2.0	40	0	95.7	57 - 139	36.73	4.07	20	
4-Chlorotoluene	20.71	1.0	20	0	104	78 - 122	20.83	0.615	20	
4-Isopropyltoluene	21.68	1.0	20	0	108	77 - 127	21.66	0.132	20	
4-Methyl-2-pentanone	39.65	2.0	40	0	99.1	67 - 130	38.68	2.46	20	
Acetone	26.55	2.0	40	0	66.4	39 - 160	25.41	4.39	20	
Benzene	19.31	1.0	20	0	96.6	79 - 120	19.89	2.97	20	
Bromobenzene	20.01	1.0	20	0	100	80 - 120	20.14	0.659	20	
Bromochloromethane	17.37	1.0	20	0	86.9	78 - 123	17.62	1.41	20	
Bromodichloromethane	18.37	1.0	20	0	91.8	79 - 125	18.61	1.31	20	
Bromoform	19.17	1.0	20	0	95.8	66 - 130	18.4	4.07	20	
Bromomethane	19.14	1.0	20	0	95.7	53 - 141	20.02	4.5	20	

ALS Houston, US Date: 11-Nov-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS22110111

QC BATCH REPORT

Batch ID: R421126 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS22110180-01MSD** Units: **ug/L** Analysis Date: **06-Nov-2022 16:11**
Client ID: Run ID: **VOA6_421126** SeqNo: **6963970** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	34.64	2.0	40	0	86.6	64 - 133	35.7	3.02	20	
Carbon tetrachloride	22.55	1.0	20	0	113	72 - 136	22.56	0.0299	20	
Chlorobenzene	20.05	1.0	20	0	100	82 - 118	20.7	3.19	20	
Chloroethane	18.03	1.0	20	0	90.2	60 - 138	18.44	2.23	20	
Chloroform	16.97	1.0	20	0	84.9	79 - 124	17.21	1.42	20	
Chloromethane	17.23	1.0	20	0	86.1	50 - 139	17.97	4.24	20	
cis-1,2-Dichloroethene	17.78	1.0	20	0	88.9	78 - 123	17.83	0.266	20	
cis-1,3-Dichloropropene	18.83	1.0	20	0	94.1	75 - 124	18.66	0.879	20	
Dibromochloromethane	19	1.0	20	0	95.0	74 - 126	19.14	0.716	20	
Dibromomethane	18.71	1.0	20	0	93.6	79 - 123	18.57	0.762	20	
Dichlorodifluoromethane	15.18	1.0	20	0	75.9	32 - 152	15.59	2.62	20	
Ethylbenzene	20.68	1.0	20	0	103	79 - 121	21.14	2.2	20	
Hexachlorobutadiene	23	1.0	20	0	115	66 - 134	22.88	0.524	20	
Isopropylbenzene	21.58	1.0	20	0	108	72 - 131	22.03	2.03	20	
m,p-Xylene	41.41	2.0	40	0	104	80 - 121	42.85	3.43	20	
Methylene chloride	18.2	2.0	20	0	91.0	74 - 124	18.24	0.209	20	
Naphthalene	20.49	1.0	20	0	102	61 - 128	16.25	23.1	20	R
n-Butylbenzene	22.21	1.0	20	0	111	75 - 128	22.23	0.0937	20	
n-Propylbenzene	21.56	1.0	20	0	108	76 - 126	21.89	1.51	20	
o-Xylene	20.27	1.0	20	0	101	78 - 122	20.94	3.24	20	
sec-Butylbenzene	22.71	1.0	20	0	114	77 - 126	22.71	0.00884	20	
Styrene	20.76	1.0	20	0	104	78 - 123	20.97	1.01	20	
tert-Butylbenzene	22.37	1.0	20	0	112	78 - 124	22.55	0.818	20	
Tetrachloroethene	22.88	1.0	20	0	114	74 - 129	23.46	2.49	20	
Toluene	20.31	1.0	20	0	102	80 - 121	20.74	2.14	20	
trans-1,2-Dichloroethene	18.2	1.0	20	0	91.0	75 - 124	18.64	2.4	20	
trans-1,3-Dichloropropene	18.65	1.0	20	0	93.2	73 - 127	18.19	2.51	20	
Trichloroethene	19.73	1.0	20	0	98.7	79 - 123	20.54	4.02	20	
Trichlorofluoromethane	20.64	1.0	20	0	103	65 - 141	20.85	1.01	20	
Vinyl chloride	17.3	1.0	20	0	86.5	58 - 137	17.95	3.66	20	
Surr: 1,2-Dichloroethane-d4	*43.71*	*1.0*	*50*	*0*	*87.4*	*81 - 118*	*43.12*	*1.36*	*20*	
Surr: 4-Bromofluorobenzene	*48.92*	*1.0*	*50*	*0*	*97.8*	*85 - 114*	*49.34*	*0.865*	*20*	
Surr: Dibromofluoromethane	*45.16*	*1.0*	*50*	*0*	*90.3*	*80 - 119*	*45.09*	*0.137*	*20*	
Surr: Toluene-d8	*52.9*	*1.0*	*50*	*0*	*106*	*89 - 112*	*53.6*	*1.31*	*20*	

ALS Houston, US Date: 11-Nov-22

Client:	Bhate Environmental Associates, Inc.
Project:	Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder:	HS22110111

QC BATCH REPORT

Batch ID:	**R421126 (0)**	**Instrument:**	**VOA6**	**Method:**	**VOLATILES ORGANICS BY METHOD 8260C**

The following samples were analyzed in this batch: HS22110111-01 HS22110111-03

ALS Houston, US Date: 11-Nov-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS22110111

QC BATCH REPORT

Batch ID: R421093 (0) **Instrument: UV-2450** **Method: HEXAVALENT CHROMIUM BY SW7196A**

MBLK Sample ID: **MBLK-R421093** Units: **mg/L** Analysis Date: **02-Nov-2022 09:19**
Client ID: Run ID: **UV-2450_421093** SeqNo: **6964947** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.00600	0.0100								U

LCS Sample ID: **LCS-R421093** Units: **mg/L** Analysis Date: **02-Nov-2022 09:19**
Client ID: Run ID: **UV-2450_421093** SeqNo: **6964946** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.243	0.0100	0.25	0	97.2	90 - 111				

MS Sample ID: **HS22110094-01MS** Units: **mg/L** Analysis Date: **02-Nov-2022 09:19**
Client ID: Run ID: **UV-2450_421093** SeqNo: **6964952** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.237	0.0100	0.25	0	94.8	90 - 111				

MSD Sample ID: **HS22110094-01MSD** Units: **mg/L** Analysis Date: **02-Nov-2022 09:19**
Client ID: Run ID: **UV-2450_421093** SeqNo: **6964951** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.237	0.0100	0.25	0	94.8	90 - 111	0.237	0	20	

The following samples were analyzed in this batch: HS22110111-01

ALS Houston, US Date: 11-Nov-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: **HS22110111**

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	22-041-0	27-Mar-2023
California	2919 2022-2023	30-Apr-2023
Dept of Defense	L21-682	31-Dec-2023
Florida	E87611-36	30-Jun-2023
Illinois	2000322022-9	09-May-2023
Kansas	E-10352; 2022-2023	31-Jul-2023
Kentucky	123043, 2022-2023	30-Apr-2023
Louisiana	03087, 2022-2023	30-Jun-2023
Maryland	343, 2022-2023	30-Jun-2023
North Carolina	624-2022	31-Dec-2022
North Dakota	R-193 2022-2023	30-Apr-2023
Oklahoma	2022-141	31-Aug-2023
Texas	T104704231-22-29	30-Apr-2023
Utah	TX026932022-13	31-Jul-2023

ALS Houston, US Date: 11-Nov-22

Sample Receipt Checklist

Work Order ID: HS22110111 **Date/Time Received:** 02-Nov-2022 09:35

Client Name: Bhate Environmental **Received by:** Corey Grandits

Completed By: /S/ Corey Grandits (eSignature) 02-Nov-2022 11:08 (Date/Time) **Reviewed by:** /S/ Ragen Giga (eSignature) 10-Nov-2022 14:16 (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 ☐	COC IDs:client
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):	1.8UC/1.3C	IR31	
Cooler(s)/Kit(s):	48897		
Date/Time sample(s) sent to storage:	11/2/2022		
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

HS22110111

Bhate Environmental Associates, Inc.
ıghorn GW Treatment Plant Monthly Effluent Sample

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: VOLATILES	SILVER, SELENIUM, LEAD, BARIUM	HEXAVALENT CHROMIUM	1, 4 - DIOXANE	PERCHLORATE	Remarks (Preservatives, etc.)	Lab I.D.#
LH18/24-SP650_110122	Water	11/01/22 / 14:00		3	X					HCL	
LH18/24-SP650_110122	Water	11/01/22 / 14:00		2			X	X		NONE	
LH18/24-SP650_110122_AIX	Water	11/01/22 / 14:00		1					X	NONE	
LH18/24-SP650_110122	Water	11/01/22 / 14:00		1		X				HNO3	
Trip Blank	Water	11/01/22		2	X					HCL	

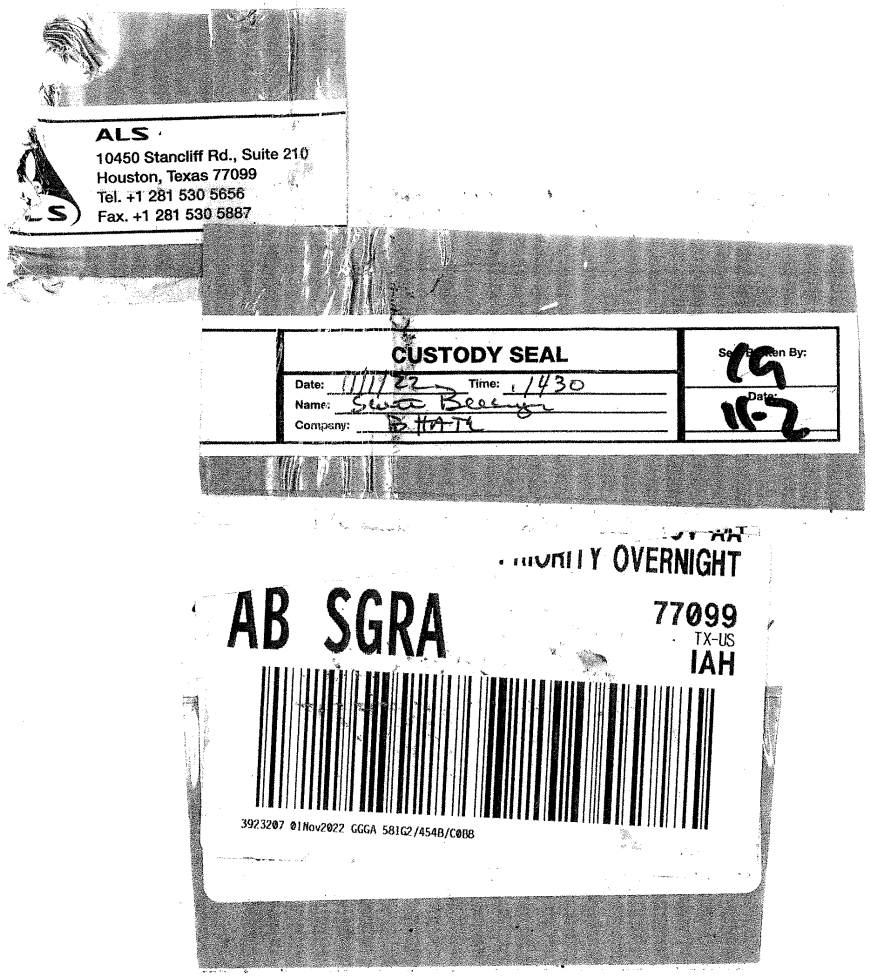
Additional Remarks: **Standard TAT on all parameters**

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	11/01/22	14:30	[illegible]	11-2-22	0935						

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition

Remarks: 48897 1231 CF=-0.5 1.80


ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887
CUSTODY SEAL
Date: 11/1/22 Time: 1430
Name: Sheila Beeman
Company: BHATT
Received By:
Date:
11-2
PRIORITY OVERNIGHT
AB SGRA
77099
TX-US
IAH
3923207 01Nov2022 GGGA 581G2/454B/C0BB

November 08, 2022 Service Request No:E2201059

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

Laboratory Results for: HS22110111

Dear Dane,

Enclosed are the results of the sample(s) submitted to our laboratory November 02, 2022
For your reference, these analyses have been assigned our service request number **E2201059.**

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.:**	E2201059
Project:	HS22110111	**Date Received:**	11/02/22
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

One sample was received for analysis at ALS Environmental in Houston on 11/02/22.

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:

EQ2200510: 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:**E2201059
Project: HS22110111

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2201059-001	LH18/24-SP650_110122_AIX	11/1/2022	1400

Service Request Summary

Folder #: **E2201059**
Client Name: ALS Environmental - US
Project Name: HS22110111
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: JGUIN
Date Received: 11/02/22
Internal Due Date: 11/11/2022
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS22110111
EDD: BASIC_WQC_CASNo_LOD

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

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2201059-001	LH18/24-SP650_110122_AIX	Water	11/01/22 1400	**IV**

Service Request Summary

Folder #: **E2201059**
Client Name: ALS Environmental - US
Project Name: HS22110111
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: JGUIN
Date Received: 11/02/22
Internal Due Date: 11/11/2022
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS22110111
EDD: BASIC_WQC_CASNo_LOD

1 120 mL-Plastic Bottle Natural WM Unpreserved
Location: EHRMS-AirArch 1
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	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	12/31/2022
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	2228443	12/31/2022
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 Health	C819-2022	11/14/2022

ALS

Chain of Custody

ALS Environmental - Houston HRMS
10450 Stancliff Rd, Suite 210, Houston TX 77099
Phone (713)266-1599 Fax (713)266-0130
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:** 20239

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:	HS22110111
TSR:	Houston House Acct

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS22110111-02**	**LH18/24-SP650_110122_AIX**	**Water**	**01 Nov 2022 14:00**
	Provide Level II and Level IV reports in separate pdf			11 Nov 2022

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

QC Level: DOD IV (DoD Data Package)

Relinquished By: CG Date/Time: 11/2/22 1100

Received By: Jum. J Date/Time: 11/2/22 1200

Cooler ID(s): Temperature(s):

10450 Stancliff Rd, Ste 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

Sample Receipt Checklist

Work Order ID: HS22110111 **Date/Time received:** 02 Nov 2022 09:35

Client name: Bhate Environmental Associates, Inc. **Received by:** Corey Grandits

Completed/By: 02 Nov 2022 11:08 (Date/Time) Corey Grandits (eSignature) **Reviewed/By:** (Date/Time) (eSignature)

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	COC ID(s):
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): 1.8UC/1.3C IR31

Cooler Information: 1 Cooler(s), 48897

Date/Time sample(s) sent to storage: 11/2/2022

Water - VOA vials have zero headspace?	☑ Yes	☐ No	☐ No VOA vials submitted
Water - pH acceptable upon receipt?	☑ Yes	☐ No	☐ Not Applicable
pH adjusted?	☐ Yes	☑ No	☐ Not Applicable

pH adjusted by:

Login notes:

Client contacted: **Date contacted:** **Person contacted:**

Contacted by: **Regarding:**

Comments:

Corrective action:

10450 Stancliff Rd., Suite 210
Houston, TX 77099
T: +1 713 266 1599
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
10450 Stancliff Rd., Suite 210, Houston, TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

Preparation Information Benchsheet

Prep Run#: 409515 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/XMI **Prep Method:** Method **Prep Date/Time:** 11/7/22 08:27

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2201058-001	LH18/24-SP140_110122	.01	6850/ClO4 DOD			Water	10mL	
2	E2201059-001	LH18/24-SP650_110122_AIX	.01	6850/ClO4 DOD			Water	10mL	
3	E2201060-001	LH18/24-SP650_110122_AIX	.01	6850/ClO4 DOD			Water	10mL	
4	E2201060-002	LH18/24-SP650_110122_BIX	.01	6850/ClO4 DOD			Water	10mL	
5	E2201088-001	43MW05	.01	6850/ClO4 DOD			Water	10mL	
6	E2201088-002	43MW03	.01	6850/ClO4 DOD			Water	10mL	
7	E2201088-003	43MW03-Dup	.01	6850/ClO4 DOD			Water	10mL	
8	E2201088-004	43MW04	.01	6850/ClO4 DOD			Water	10mL	
9	E2201088-005	43MW06	.01	6850/ClO4 DOD			Water	10mL	
10	E2201088-006	43MW01	.01	6850/ClO4 DOD			Water	10mL	
11	E2201088-007	EB102722	.01	6850/ClO4 DOD			Water	10mL	
12	EQ2200510-01	MB		6850/ClO4 DOD			Liquid	10mL	
13	EQ2200510-02	LCS		6850/ClO4 DOD			Liquid	10mL	
14	EQ2200510-03	DLCS		6850/ClO4 DOD			Liquid	10mL	
15	EQ2200510-04	43MW01 MS	.01	6850/ClO4 DOD			Liquid	10mL	
16	EQ2200510-05	43MW01 DMS	.01	6850/ClO4 DOD			Liquid	10mL	

Spiking Solutions

Name: Perchlorate Intermediate Stock1 Inventory ID 225386 Logbook Ref: Perchlorate (1st Source) Expires On: 01/31/2023

EQ2200510-02 1.00µL EQ2200510-03 1.00µL EQ2200510-04 1.00µL EQ2200510-05 1.00µL

Name: Perchlorate Internal Standard 1ug/mL Inventory ID 225719 Logbook Ref: Perchlorate Internal Standard Expires On: 01/31/2023

E2201058-001 100.00µL E2201059-001 100.00µL E2201060-001 100.00µL E2201060-002 100.00µL E2201088-001 100.00µL E2201088-002 100.00µL
E2201088-003 100.00µL E2201088-004 100.00µL E2201088-005 100.00µL E2201088-006 100.00µL E2201088-007 100.00µL EQ2200510-01 100.00µL
EQ2200510-02 100.00µL EQ2200510-03 100.00µL EQ2200510-04 100.00µL EQ2200510-05 100.00µL

Preparation Materials

Water HPLC Grade 10/24/2022 Water (225656) 6850 Amber Glass screw vial 2mL Screw Top Vial (221308) 6850 0.45um syringe filters 6850 Syringe Filters (224414)
6850 Luer-Lok Syringes Luer-Lok Syringes (221305) 6850 Pipette Tips 50-1000 uL 6850 Pipette Tips (221307)

Preparation Information Benchsheet

Prep Run#: 409515
Team: Semivoa GCMS/XMI

Prep WorkFlow: GenExt28Day
Prep Method: Method

Status: Prepped
Prep Date/Time: 11/7/22 08:27

Preparation Steps

Step: Preparation
Started: 11/7/22 08:27
Finished: 11/7/22 11:40
By: XMI
Comments

Comments: _____

Reviewed By: GR Date: 11/07/22

Chain of Custody

Relinquished By: _____ Date: _____

Received By: _____ Date: _____

Extracts Examined
Yes No

Analytical Results

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

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2201059
Project:	HS22110111	**Date Collected:**	11/ 1/22 1400
Sample Matrix:	Water	**Date Received:**	11/ 2/22
Sample Name:	LH18/24-SP650_110122_AIX	**Units:**	µg/L
Lab Code:	E2201059-001	**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	11/ 7/22	11/8/22 10:11	409515	784376	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2201059
Project:	HS22110111	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2200510-01	**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	11/ 7/22	11/7/22 17:31	409515	784373	

Accuracy & Precision

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS22110111
Sample Matrix: Water

Service Request: E2201059
Date Analyzed: 11/ 7/22

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: 409515

	Lab Control Sample EQ2200510-02			Duplicate Lab Control Sample EQ2200510-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.113	0.100	113	0.105	0.100	105	84 - 119	8	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:**	E2201059
Project:	HS22110111	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2200510-02	**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	**0.113**		0.100	0.0500	0.0250	1	11/ 7/22	11/7/22 17:39	409515	784373	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2201059
Project:	HS22110111	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2200510-03	**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	**0.105**		0.100	0.0500	0.0250	1	11/ 7/22	11/7/22 17:47	409515	784373	

HS22110111-MSVOA-SW8260

ALS WO# HS22110111

01158754

right solutions.
right partner.

Form 1

Organic Analysis Data Sheet

Volatiles by by EPA 8260

Workorder

HS22110111

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Monthly Effluent Samples

11/17/2022

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 **HS22110111**

Volatiles by by EPA 8260

HS22110111-01	Collected	Received	Matrix	Basis
LH18/24-SP650_110122	11/01/22 14:00	11/02/22 09:35	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	11/06/22 17:36	VOA6_421126	X110617
1,1,1-Trichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 17:36	VOA6_421126	X110617
1,1,2,2-Tetrachloroethane	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 17:36	VOA6_421126	X110617
1,1,2-Trichloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:36	VOA6_421126	X110617
1,1-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 17:36	VOA6_421126	X110617
1,1-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 17:36	VOA6_421126	X110617
1,1-Dichloropropene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:36	VOA6_421126	X110617
1,2,3-Trichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 17:36	VOA6_421126	X110617
1,2,3-Trichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 17:36	VOA6_421126	X110617
1,2,4-Trichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 17:36	VOA6_421126	X110617
1,2,4-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:36	VOA6_421126	X110617
1,2-Dibromo-3-	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 17:36	VOA6_421126	X110617
1,2-Dibromoethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 17:36	VOA6_421126	X110617
1,2-Dichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 17:36	VOA6_421126	X110617
1,2-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 17:36	VOA6_421126	X110617
1,2-Dichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 17:36	VOA6_421126	X110617
1,3,5-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:36	VOA6_421126	X110617
1,3-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 17:36	VOA6_421126	X110617
1,3-Dichloropropane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:36	VOA6_421126	X110617
1,4-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 17:36	VOA6_421126	X110617
2,2-Dichloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 17:36	VOA6_421126	X110617
2-Butanone	ug/L	2.0	U	0.50	2.0	2.0	1	11/06/22 17:36	VOA6_421126	X110617
2-Chlorotoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:36	VOA6_421126	X110617
2-Hexanone	ug/L	2.0	U	1.0	2.0	2.0	1	11/06/22 17:36	VOA6_421126	X110617
4-Chlorotoluene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 17:36	VOA6_421126	X110617
4-Isopropyltoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:36	VOA6_421126	X110617
4-Methyl-2-pentanone	ug/L	2.0	U	0.70	2.0	2.0	1	11/06/22 17:36	VOA6_421126	X110617
Acetone	ug/L	2.0	U	0.40	2.0	2.0	1	11/06/22 17:36	VOA6_421126	X110617
Benzene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 17:36	VOA6_421126	X110617
Bromobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 17:36	VOA6_421126	X110617
Bromochloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 17:36	VOA6_421126	X110617
Bromodichloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 17:36	VOA6_421126	X110617
Bromoform	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 17:36	VOA6_421126	X110617

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder **HS22110111**

Volatiles by by EPA 8260

HS22110111-01	Collected	Received	Matrix	Basis
LH18/24-SP650_110122	11/01/22 14:00	11/02/22 09:35	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	11/06/22 17:36	VOA6_421126	X110617
Carbon disulfide	ug/L	2.0	U	0.60	2.0	2.0	1	11/06/22 17:36	VOA6_421126	X110617
Carbon tetrachloride	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 17:36	VOA6_421126	X110617
Chlorobenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:36	VOA6_421126	X110617
Chloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:36	VOA6_421126	X110617
Chloroform	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 17:36	VOA6_421126	X110617
Chloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 17:36	VOA6_421126	X110617
cis-1,2-Dichloroethene	ug/L	1.6		0.20	1.0	1.0	1	11/06/22 17:36	VOA6_421126	X110617
cis-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 17:36	VOA6_421126	X110617
Dibromochloromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:36	VOA6_421126	X110617
Dibromomethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 17:36	VOA6_421126	X110617
Dichlorodifluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:36	VOA6_421126	X110617
Ethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:36	VOA6_421126	X110617
Hexachlorobutadiene	ug/L	1.0	U	1.0	1.0	1.0	1	11/06/22 17:36	VOA6_421126	X110617
Isopropylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:36	VOA6_421126	X110617
m,p-Xylene	ug/L	2.0	U	0.50	2.0	2.0	1	11/06/22 17:36	VOA6_421126	X110617
Methylene chloride	ug/L	2.0	U	0.40	2.0	2.0	1	11/06/22 17:36	VOA6_421126	X110617
Naphthalene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:36	VOA6_421126	X110617
n-Butylbenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 17:36	VOA6_421126	X110617
n-Propylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:36	VOA6_421126	X110617
o-Xylene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:36	VOA6_421126	X110617
sec-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:36	VOA6_421126	X110617
Styrene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:36	VOA6_421126	X110617
tert-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:36	VOA6_421126	X110617
Tetrachloroethene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:36	VOA6_421126	X110617
Toluene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 17:36	VOA6_421126	X110617
trans-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 17:36	VOA6_421126	X110617
trans-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 17:36	VOA6_421126	X110617
Trichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 17:36	VOA6_421126	X110617
Trichlorofluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:36	VOA6_421126	X110617
Vinyl chloride	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 17:36	VOA6_421126	X110617

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder **HS22110111**

Volatiles by by EPA 8260

HS22110111-03	Collected	Received	Matrix	Basis
Trip Blank	11/01/22 00:00	11/02/22 09:35	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	11/06/22 17:15	VOA6_421126	X110616
1,1,1-Trichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 17:15	VOA6_421126	X110616
1,1,2,2-Tetrachloroethane	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 17:15	VOA6_421126	X110616
1,1,2-Trichloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:15	VOA6_421126	X110616
1,1-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 17:15	VOA6_421126	X110616
1,1-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 17:15	VOA6_421126	X110616
1,1-Dichloropropene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:15	VOA6_421126	X110616
1,2,3-Trichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 17:15	VOA6_421126	X110616
1,2,3-Trichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 17:15	VOA6_421126	X110616
1,2,4-Trichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 17:15	VOA6_421126	X110616
1,2,4-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:15	VOA6_421126	X110616
1,2-Dibromo-3-	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 17:15	VOA6_421126	X110616
1,2-Dibromoethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 17:15	VOA6_421126	X110616
1,2-Dichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 17:15	VOA6_421126	X110616
1,2-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 17:15	VOA6_421126	X110616
1,2-Dichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 17:15	VOA6_421126	X110616
1,3,5-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:15	VOA6_421126	X110616
1,3-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 17:15	VOA6_421126	X110616
1,3-Dichloropropane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:15	VOA6_421126	X110616
1,4-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 17:15	VOA6_421126	X110616
2,2-Dichloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 17:15	VOA6_421126	X110616
2-Butanone	ug/L	2.0	U	0.50	2.0	2.0	1	11/06/22 17:15	VOA6_421126	X110616
2-Chlorotoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:15	VOA6_421126	X110616
2-Hexanone	ug/L	2.0	U	1.0	2.0	2.0	1	11/06/22 17:15	VOA6_421126	X110616
4-Chlorotoluene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 17:15	VOA6_421126	X110616
4-Isopropyltoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:15	VOA6_421126	X110616
4-Methyl-2-pentanone	ug/L	2.0	U	0.70	2.0	2.0	1	11/06/22 17:15	VOA6_421126	X110616
Acetone	ug/L	2.0	U	0.40	2.0	2.0	1	11/06/22 17:15	VOA6_421126	X110616
Benzene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 17:15	VOA6_421126	X110616
Bromobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 17:15	VOA6_421126	X110616
Bromochloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 17:15	VOA6_421126	X110616
Bromodichloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 17:15	VOA6_421126	X110616
Bromoform	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 17:15	VOA6_421126	X110616

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder **HS22110111**

Volatiles by by EPA 8260

HS22110111-03	Collected	Received	Matrix	Basis
Trip Blank	11/01/22 00:00	11/02/22 09:35	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	11/06/22 17:15	VOA6_421126	X110616
Carbon disulfide	ug/L	2.0	U	0.60	2.0	2.0	1	11/06/22 17:15	VOA6_421126	X110616
Carbon tetrachloride	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 17:15	VOA6_421126	X110616
Chlorobenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:15	VOA6_421126	X110616
Chloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:15	VOA6_421126	X110616
Chloroform	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 17:15	VOA6_421126	X110616
Chloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 17:15	VOA6_421126	X110616
cis-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 17:15	VOA6_421126	X110616
cis-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 17:15	VOA6_421126	X110616
Dibromochloromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:15	VOA6_421126	X110616
Dibromomethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 17:15	VOA6_421126	X110616
Dichlorodifluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:15	VOA6_421126	X110616
Ethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:15	VOA6_421126	X110616
Hexachlorobutadiene	ug/L	1.0	U	1.0	1.0	1.0	1	11/06/22 17:15	VOA6_421126	X110616
Isopropylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:15	VOA6_421126	X110616
m,p-Xylene	ug/L	2.0	U	0.50	2.0	2.0	1	11/06/22 17:15	VOA6_421126	X110616
Methylene chloride	ug/L	2.0	U	0.40	2.0	2.0	1	11/06/22 17:15	VOA6_421126	X110616
Naphthalene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:15	VOA6_421126	X110616
n-Butylbenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 17:15	VOA6_421126	X110616
n-Propylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:15	VOA6_421126	X110616
o-Xylene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:15	VOA6_421126	X110616
sec-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:15	VOA6_421126	X110616
Styrene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:15	VOA6_421126	X110616
tert-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:15	VOA6_421126	X110616
Tetrachloroethene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:15	VOA6_421126	X110616
Toluene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 17:15	VOA6_421126	X110616
trans-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 17:15	VOA6_421126	X110616
trans-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 17:15	VOA6_421126	X110616
Trichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 17:15	VOA6_421126	X110616
Trichlorofluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 17:15	VOA6_421126	X110616
Vinyl chloride	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 17:15	VOA6_421126	X110616

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder **HS22110111**

Volatiles by by EPA 8260

VBLKW-221106	Collected	Received	Matrix	Basis
VBLKW-221106	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	11/06/22 14:26	VOA6_421126	X110608
1,1,1-Trichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
1,1,2,2-Tetrachloroethane	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
1,1,2-Trichloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
1,1-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
1,1-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
1,1-Dichloropropene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
1,2,3-Trichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
1,2,3-Trichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
1,2,4-Trichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
1,2,4-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
1,2-Dibromo-3-	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
1,2-Dibromoethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
1,2-Dichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
1,2-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
1,2-Dichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
1,3,5-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
1,3-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
1,3-Dichloropropane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
1,4-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
2,2-Dichloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
2-Butanone	ug/L	2.0	U	0.50	2.0	2.0	1	11/06/22 14:26	VOA6_421126	X110608
2-Chlorotoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
2-Hexanone	ug/L	2.0	U	1.0	2.0	2.0	1	11/06/22 14:26	VOA6_421126	X110608
4-Chlorotoluene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
4-Isopropyltoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
4-Methyl-2-pentanone	ug/L	2.0	U	0.70	2.0	2.0	1	11/06/22 14:26	VOA6_421126	X110608
Acetone	ug/L	2.0	U	0.40	2.0	2.0	1	11/06/22 14:26	VOA6_421126	X110608
Benzene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
Bromobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
Bromochloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
Bromodichloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
Bromoform	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder
HS22110111

Volatiles by by EPA 8260

VBLKW-221106	Collected	Received	Matrix	Basis
VBLKW-221106	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	11/06/22 14:26	VOA6_421126	X110608
Carbon disulfide	ug/L	2.0	U	0.60	2.0	2.0	1	11/06/22 14:26	VOA6_421126	X110608
Carbon tetrachloride	ug/L	1.0	U	0.50	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
Chlorobenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
Chloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
Chloroform	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
Chloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
cis-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
cis-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
Dibromochloromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
Dibromomethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
Dichlorodifluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
Ethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
Hexachlorobutadiene	ug/L	1.0	U	1.0	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
Isopropylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
m,p-Xylene	ug/L	2.0	U	0.50	2.0	2.0	1	11/06/22 14:26	VOA6_421126	X110608
Methylene chloride	ug/L	2.0	U	0.40	2.0	2.0	1	11/06/22 14:26	VOA6_421126	X110608
Naphthalene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
n-Butylbenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
n-Propylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
o-Xylene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
sec-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
Styrene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
tert-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
Tetrachloroethene	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
Toluene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
trans-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
trans-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
Trichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
Trichlorofluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608
Vinyl chloride	ug/L	1.0	U	0.20	1.0	1.0	1	11/06/22 14:26	VOA6_421126	X110608

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Form 2

System Monitoring Compound Recovery

Volatiles by by EPA 8260

Workorder

HS22110111

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Monthly Effluent Samples

11/17/2022

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
HS22110111

RunID
VOA6_421126

Volatiles by by EPA 8260

CCV	Analyzed 11/06/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	49.17	50	98.3	80-120	
4-Bromofluorobenzene	50.6	50	101	80-120	
Dibromofluoromethane	50.47	50	101	80-120	
Toluene-d8	51.67	50	103	80-120	

CCB	Analyzed 11/06/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	44.18	50	88.4	80-120	
4-Bromofluorobenzene	47.34	50	94.7	80-120	
Dibromofluoromethane	45.69	50	91.4	80-120	
Toluene-d8	53.74	50	107	80-120	

VLCSW-221106	Analyzed 11/06/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	49.42	50	98.8	81-118	
4-Bromofluorobenzene	49.79	50	99.6	85-114	
Dibromofluoromethane	50.48	50	101	80-119	
Toluene-d8	50.85	50	102	89-112	

VBLKW-221106	Analyzed 11/06/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	44.08	50	88.2	81-118	
4-Bromofluorobenzene	46.28	50	92.6	85-114	
Dibromofluoromethane	45.48	50	91.0	80-119	
Toluene-d8	54	50	108	89-112	

Q - Surrogate %Recovery Flag * - %Recovery / RPD Outside Limits

Form 2 - System Monitoring Compound Recovery

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder
HS22110111

RunID
VOA6_421126

Volatiles by by EPA 8260

HS22110180-01MS	Analyzed 11/06/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	43.12	50	86.2	81-118	
4-Bromofluorobenzene	49.34	50	98.7	85-114	
Dibromofluoromethane	45.09	50	90.2	80-119	
Toluene-d8	53.6	50	107	89-112	

HS22110180-01MSD	Analyzed 11/06/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	43.71	50	87.4	81-118	
4-Bromofluorobenzene	48.92	50	97.8	85-114	
Dibromofluoromethane	45.16	50	90.3	80-119	
Toluene-d8	52.9	50	106	89-112	

HS22110111-03	Analyzed 11/06/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	43	50	86.2	81-118	
4-Bromofluorobenzene	46	50	92.9	85-114	
Dibromofluoromethane	45	50	90.2	80-119	
Toluene-d8	54	50	108	89-112	

HS22110111-01	Analyzed 11/06/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	43	50	86.4	81-118	
4-Bromofluorobenzene	46	50	92.3	85-114	
Dibromofluoromethane	45	50	89.9	80-119	
Toluene-d8	54	50	109	89-112	

Q - Surrogate %Recovery Flag * - %Recovery / RPD Outside Limits

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Form 3A

Matrix Spike/Spike Duplicate Recovery

Workorder

HS22110111

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Monthly Effluent Samples

11/17/2022

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 **HS22110111**

		HS22110180-01		HS22110180-01MS				HS22110180-01MSD						
Sample Matrix	Aqueous	**Run Date**	11/06/22	11/06/22				11/06/22						
Units	µg/L	**Run Time**	15:08	15:50				16:11						
		Data File	X110610.D	X110612.D				X110613.D						
Analyte	%R Limits	DF	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	19.65	20.00	98		19.46	20.00	97		20	1.00	
1,1,1-Trichloroethane	74-131	1	0	18.80	20.00	94		18.21	20.00	91		20	3.20	
1,1,2,2-Tetrachloroethane	71-121	1	0	18.36	20.00	92		19.33	20.00	97		20	5.20	
1,1,2-Trichloroethane	80-119	1	0	19.01	20.00	95		19.06	20.00	95		20	0.300	
1,1-Dichloroethane	77-125	1	0	18.00	20.00	90		17.73	20.00	89		20	1.50	
1,1-Dichloroethene	71-131	1	0	19.80	20.00	99		18.92	20.00	95		20	4.60	
1,1-Dichloropropene	78-125	1	0	21.48	20.00	107		20.69	20.00	103		20	3.80	
1,2,3-Trichlorobenzene	69-129	1	0	17.01	20.00	85		20.83	20.00	104		20	20.2	
1,2,3-Trichloropropane	73-122	1	0	19.17	20.00	96		18.6	20.00	93		20	3.00	
1,2,4-Trichlorobenzene	69-130	1	0	18.40	20.00	92		20.42	20.00	102		20	10.4	
1,2,4-Trimethylbenzene	76-124	1	0	20.67	20.00	103		20.6	20.00	103		20	0.300	
1,2-Dibromo-3-	62-128	1	0	17.82	20.00	89		20.34	20.00	102		20	13.2	
1,2-Dibromoethane	77-121	1	0	19.79	20.00	99		19.97	20.00	100		20	0.900	
1,2-Dichlorobenzene	80-119	1	0	19.67	20.00	98		20.16	20.00	101		20	2.50	
1,2-Dichloroethane	73-128	1	0	18.91	20.00	95		18.51	20.00	93		20	2.10	
1,2-Dichloropropane	78-122	1	0	18.84	20.00	94		18.62	20.00	93		20	1.10	
1,3,5-Trimethylbenzene	75-124	1	0	21.36	20.00	107		21.39	20.00	107		20	0.200	
1,3-Dichlorobenzene	80-119	1	0	20.21	20.00	101		20.08	20.00	100		20	0.600	
1,3-Dichloropropane	80-119	1	0	19.75	20.00	99		19.51	20.00	98		20	1.20	
1,4-Dichlorobenzene	79-118	1	0	20.38	20.00	102		20.57	20.00	103		20	0.900	
2,2-Dichloropropane	60-139	1	0	19.87	20.00	99		19.34	20.00	97		20	2.70	
2-Butanone	56-143	1	0	29.58	40.00	74		30.19	40.00	76		20	2.00	
2-Chlorotoluene	79-122	1	0	20.60	20.00	103		20.48	20.00	102		20	0.600	
2-Hexanone	57-139	1	0	36.73	40.00	92		38.26	40.00	96		20	4.10	
4-Chlorotoluene	78-122	1	0	20.83	20.00	104		20.71	20.00	104		20	0.600	
4-Isopropyltoluene	77-127	1	0	21.66	20.00	108		21.68	20.00	108		20	0.100	
4-Methyl-2-pentanone	67-130	1	0	38.68	40.00	97		39.65	40.00	99		20	2.50	
Acetone	39-160	1	0	25.41	40.00	64		26.55	40.00	66		20	4.40	
Benzene	79-120	1	0	19.89	20.00	100		19.31	20.00	97		20	3.00	
Bromobenzene	80-120	1	0	20.14	20.00	101		20.01	20.00	100		20	0.700	
Bromochloromethane	78-123	1	0	17.62	20.00	88		17.37	20.00	87		20	1.40	
Bromodichloromethane	79-125	1	0	18.61	20.00	93		18.37	20.00	92		20	1.30	
Bromoform	66-130	1	0	18.40	20.00	92		19.17	20.00	96		20	4.10	
Bromomethane	53-141	1	0	20.02	20.00	100		19.14	20.00	96		20	4.50	

- %Recovery / RPD Flag * - %Recovery / RPD Outside Limits OL - Outside Limits

Form 3A - Matrix Spike/Spike Duplicate Recovery

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder **HS22110111**

		HS22110180-01		HS22110180-01MS				HS22110180-01MSD						
Sample Matrix	Aqueous	**Run Date**	11/06/22	11/06/22				11/06/22						
Units	µg/L	**Run Time**	15:08	15:50				16:11						
		Data File	X110610.D	X110612.D				X110613.D						
Analyte	%R Limits	DF	Result	MS Result	Spike Added	%R	Q	MSD Result	Spike Added	%R	Q	RPD Limit	RPD	Q
Carbon disulfide	64-133	1	0	35.70	40.00	89		34.64	40.00	87		20	3.00	
Carbon tetrachloride	72-136	1	0	22.56	20.00	113		22.55	20.00	113		20	0	
Chlorobenzene	82-118	1	0	20.70	20.00	104		20.05	20.00	100		20	3.20	
Chloroethane	60-138	1	0	18.44	20.00	92		18.03	20.00	90		20	2.20	
Chloroform	79-124	1	0	17.21	20.00	86		16.97	20.00	85		20	1.40	
Chloromethane	50-139	1	0	17.97	20.00	90		17.23	20.00	86		20	4.20	
cis-1,2-Dichloroethene	78-123	1	0	17.83	20.00	89		17.78	20.00	89		20	0.300	
cis-1,3-Dichloropropene	75-124	1	0	18.66	20.00	93		18.83	20.00	94		20	0.900	
Dibromochloromethane	74-126	1	0	19.14	20.00	96		19	20.00	95		20	0.700	
Dibromomethane	79-123	1	0	18.57	20.00	93		18.71	20.00	94		20	0.800	
Dichlorodifluoromethane	32-152	1	0	15.59	20.00	78		15.18	20.00	76		20	2.60	
Ethylbenzene	79-121	1	0	21.14	20.00	106		20.68	20.00	103		20	2.20	
Hexachlorobutadiene	66-134	1	0	22.88	20.00	114		23	20.00	115		20	0.500	
Isopropylbenzene	72-131	1	0	22.03	20.00	110		21.58	20.00	108		20	2.00	
m,p-Xylene	80-121	1	0	42.85	40.00	107		41.41	40.00	104		20	3.40	
Methylene chloride	74-124	1	0	18.24	20.00	91		18.2	20.00	91		20	0.200	
n-Butylbenzene	75-128	1	0	22.23	20.00	111		22.21	20.00	111		20	0.100	
n-Propylbenzene	76-126	1	0	21.89	20.00	109		21.56	20.00	108		20	1.50	
Naphthalene	61-128	1	0	16.25	20.00	81		20.49	20.00	102		20	23.1	
o-Xylene	78-122	1	0	20.94	20.00	105		20.27	20.00	101		20	3.20	
sec-Butylbenzene	77-126	1	0	22.71	20.00	114		22.71	20.00	114		20	0	
Styrene	78-123	1	0	20.97	20.00	105		20.76	20.00	104		20	1.00	
tert-Butylbenzene	78-124	1	0	22.55	20.00	113		22.37	20.00	112		20	0.800	
Tetrachloroethene	74-129	1	0	23.46	20.00	117		22.88	20.00	114		20	2.50	
Toluene	80-121	1	0	20.74	20.00	104		20.31	20.00	102		20	2.10	
trans-1,2-Dichloroethene	75-124	1	0	18.64	20.00	93		18.2	20.00	91		20	2.40	
trans-1,3-Dichloropropene	73-127	1	0	18.19	20.00	91		18.65	20.00	93		20	2.50	
Trichloroethene	79-123	1	0	20.54	20.00	103		19.73	20.00	99		20	4.00	
Trichlorofluoromethane	65-141	1	0	20.85	20.00	104		20.64	20.00	103		20	1.00	
Vinyl chloride	58-137	1	0	17.95	20.00	90		17.3	20.00	87		20	3.70	

- %Recovery / RPD Flag * - %Recovery / RPD Outside Limits OL - Outside Limits

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Form 3B

Laboratory Control Sample Recovery

Volatiles by by EPA 8260

Workorder

HS22110111

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Monthly Effluent Samples

11/17/2022

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 Monthly Effluent Samples

Workorder
HS22110111

Volatiles by by EPA 8260

VOA6_421126		QC ID	VLCSW-221106			
QC Matrix Aqueous	Units	Run Date	11/06/22			
	ug/L	Run Time	13:23			
Analyte	%R Limits	Spike Added	LCS Result	%R	Q	
1,1,1,2-Tetrachloroethane	78-124	20	20.11	101		
1,1,1-Trichloroethane	74-131	20	18.22	91		
1,1,2,2-Tetrachloroethane	71-121	20	20.88	104		
1,1,2-Trichloroethane	80-119	20	20.28	101		
1,1-Dichloroethane	77-125	20	18.86	94		
1,1-Dichloroethene	71-131	20	18.88	94		
1,1-Dichloropropene	78-125	20	17.87	89		
1,2,3-Trichlorobenzene	69-129	20	20.55	103		
1,2,3-Trichloropropane	73-122	20	21.68	108		
1,2,4-Trichlorobenzene	69-130	20	19.45	97		
1,2,4-Trimethylbenzene	76-124	20	18.74	94		
1,2-Dibromo-3-chloropropane	62-128	20	22.91	115		
1,2-Dibromoethane	77-121	20	21.15	106		
1,2-Dichlorobenzene	80-119	20	20.05	100		
1,2-Dichloroethane	73-128	20	20.57	103		
1,2-Dichloroethane-d4	81-118	50	49.42	99		
1,2-Dichloropropane	78-122	20	19.98	100		
1,3,5-Trimethylbenzene	75-124	20	18.44	92		
1,3-Dichlorobenzene	80-119	20	19.59	98		
1,3-Dichloropropane	80-119	20	20.76	104		
1,4-Dichlorobenzene	79-118	20	20.06	100		
2,2-Dichloropropane	60-139	20	19.87	99		
2-Butanone	56-143	40	42.55	106		
2-Chlorotoluene	79-122	20	19.18	96		
2-Hexanone	57-139	40	44.99	112		
4-Bromofluorobenzene	85-114	50	49.79	100		
4-Chlorotoluene	78-122	20	19.64	98		
4-Isopropyltoluene	77-127	20	17.56	88		
4-Methyl-2-pentanone	67-130	40	43.09	108		
Acetone	39-160	40	47.99	120		
Benzene	79-120	20	19.73	99		
Bromobenzene	80-120	20	20.28	101		
Bromochloromethane	78-123	20	19.89	100		
Bromodichloromethane	79-125	20	20.23	101		
Bromoform	66-130	20	20.38	102		
Bromomethane	53-141	20	22.26	111		

- %Recovery / RPD Flag * - %Recovery / RPD Outside Limits

Form 3B - Laboratory Control Sample Recovery

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder
HS22110111

Volatiles by by EPA 8260

VOA6_421126		QC ID	VLCSW-221106			
QC Matrix Aqueous	Units ug/L	Run Date Run Time	11/06/22 13:23			
Analyte	%R Limits	Spike Added	LCS Result	%R	Q	
Carbon disulfide	64-133	40	37.81	94		
Carbon tetrachloride	72-136	20	19.35	97		
Chlorobenzene	82-118	20	20.01	100		
Chloroethane	60-138	20	19.7	98		
Chloroform	79-124	20	19.14	96		
Chloromethane	50-139	20	21.74	109		
cis-1,2-Dichloroethene	78-123	20	20.17	101		
cis-1,3-Dichloropropene	75-124	20	20.89	104		
Dibromochloromethane	74-126	20	20.29	101		
Dibromofluoromethane	80-119	50	50.48	101		
Dibromomethane	79-123	20	20.55	103		
Dichlorodifluoromethane	32-152	20	19.4	97		
Ethylbenzene	79-121	20	18.57	93		
Hexachlorobutadiene	66-134	20	18.68	93		
Isopropylbenzene	72-131	20	17.88	89		
m,p-Xylene	80-121	40	38.78	97		
Methylene chloride	74-124	20	21.18	106		
Naphthalene	61-128	20	21.5	107		
n-Butylbenzene	75-128	20	17.98	90		
n-Propylbenzene	76-126	20	18.05	90		
o-Xylene	78-122	20	19.49	97		
sec-Butylbenzene	77-126	20	18.03	90		
Styrene	78-123	20	20.46	102		
tert-Butylbenzene	78-124	20	18.32	92		
Tetrachloroethene	74-129	20	19.1	96		
Toluene	80-121	20	19.53	98		
Toluene-d8	89-112	50	50.85	102		
trans-1,2-Dichloroethene	75-124	20	19.03	95		
trans-1,3-Dichloropropene	73-127	20	20.57	103		
Trichloroethene	79-123	20	19.25	96		
Trichlorofluoromethane	65-141	20	19.45	97		
Vinyl chloride	58-137	20	19.12	96		

- %Recovery / RPD Flag * - %Recovery / RPD Outside Limits

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Form 4

Method Blank Summary

Volatiles by by EPA 8260

Workorder

HS22110111

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Monthly Effluent Samples

11/17/2022

ALS Environmental–Houston Laboratory
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Form 4 - Method Blank Summary

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder
HS22110111

Volatiles by by EPA 8260

Client Sample ID	Type	Lab Sample ID	File ID	Date Analyzed	Run ID
METHOD BLANK	MBLK	VBLKW-221106	X110608.D	11/06/22 14:26	VOA6_421126
VLCSW-221106	LCS	VLCSW-221106	X110605.D	11/06/22 13:23	VOA6_421126
BatchQC	MS	HS22110180-01MS	X110612.D	11/06/22 15:50	VOA6_421126
BatchQC	MSD	HS22110180-01MSD	X110613.D	11/06/22 16:11	VOA6_421126
Trip Blank	SAMP	HS22110111-03	X110616.D	11/06/22 17:15	VOA6_421126
LH18/24-SP650_110122	SAMP	HS22110111-01	X110617.D	11/06/22 17:36	VOA6_421126

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Form 5

Instrument Performance Check

Workorder

HS22110111

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Monthly Effluent Samples

11/17/2022

ALS Environmental–Houston Laboratory

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Phone (281) 530-5656 Fax (281) 530-5887

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Form 5 - Instrument Performance Check

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder
HS22110111

RunID
VOA6_420865

Tune File X110201.D 11/02/22 11:00

m / e	Ion Abundance Criterion	%RA
50	15.0 - 40.0% of mass 95	19.8 (19.8)
75	30.0 - 60.0% of mass 95	48.7 (48.7)
95	Base peak, 100% RA	100 (100)
96	5.0 - 9.0% of mass 95	7.9 (7.86)
173	Less than 2.0% of mass 174	0.7 (0.845) 1
174	50.0 - 120.0% of mass 95	87.7 (87.7)
175	4.0 - 9.0% of mass 174	7.4 (8.48) 1
176	93.0 - 101.0% of mass 174	85.8 (97.9) 1
177	5.0 - 9.0% of mass 176	5.9 (6.82) 2

Value is % of mass 1) 174 2) 176 RA - Relative Abundance

This check applies to the following analyses

	Type	Date Analyzed	Lab File ID	Sample ID
1	ICAL1	11/02/22 11:21	X110202	VSTD000.25
2	ICAL2	11/02/22 12:03	X110203	VSTD000.5
3	ICAL3	11/02/22 12:24	X110204	VSTD001
4	ICAL4	11/02/22 12:45	X110205	VSTD002
5	ICAL5	11/02/22 13:06	X110206	VSTD005
6	ICAL6	11/02/22 13:27	X110207	VSTD020
7	ICAL7	11/02/22 13:48	X110208	VSTD050
8	ICAL8	11/02/22 14:09	X110209	VSTD100
9	ICAL9	11/02/22 14:29	X110210	VSTD150
10	ICAL	11/02/22 14:50	X110211	VSTD200
11	ICV	11/02/22 15:53	X110214	CCV

Form 5 - Instrument Performance Check

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder
HS22110111

RunID
VOA6_421126

Tune File X110601.D 11/06/22 11:59

m / e	Ion Abundance Criterion	%RA
50	15.0 - 40.0% of mass 95	18.6 (18.6)
75	30.0 - 60.0% of mass 95	49.2 (49.2)
95	Base peak, 100% RA	100 (100)
96	5.0 - 9.0% of mass 95	6.9 (6.91)
173	Less than 2.0% of mass 174	0.7 (0.818) 1
174	50.0 - 120.0% of mass 95	87.4 (87.4)
175	4.0 - 9.0% of mass 174	6.5 (7.49) 1
176	93.0 - 101.0% of mass 174	83.4 (95.4) 1
177	5.0 - 9.0% of mass 176	5.1 (6.15) 2

Value is % of mass 1) 174 2) 176 RA - Relative Abundance

This check applies to the following analyses

	Type	Date Analyzed	Lab File ID	Sample ID
1	CCV	11/06/22 12:20	X110602	CCV
2	CCB	11/06/22 13:02	X110604	CCB
3	LCS	11/06/22 13:23	X110605	VLCSW-221106
4	MBLK	11/06/22 14:26	X110608	VBLKW-221106
5	MS	11/06/22 15:50	X110612	ZZZZZZMS
6	MSD	11/06/22 16:11	X110613	ZZZZZZMSD
7	SAMP	11/06/22 17:15	X110616	Trip Blank
8	SAMP	11/06/22 17:36	X110617	LH18/24-SP650_110122
9	CCV_EN	11/06/22 22:30	X110631	CCV-END

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Form 6

Initial Calibration Data

Workorder

HS22110111

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Monthly Effluent Samples

11/17/2022

ALS Environmental–Houston Laboratory
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Initial Calibration Data

Client Bhate Environmental Associates, Inc.
Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder HS22110111

RunID VOA6_420865

Volatiles Organics by Method 8260C

ICAL Start Date 02-NOV-2022 1121
ICAL End Date 02-NOV-2022 1450

Calibration Files

Level 1 ..voa6.i\X221102.b\X110202.D
Level 2 ..voa6.i\X221102.b\X110203.D
Level 3 ..voa6.i\X221102.b\X110204.D
Level 4 ..voa6.i\X221102.b\X110205.D
Level 5 ..voa6.i\X221102.b\X110206.D
Level 6 ..voa6.i\X221102.b\X110207.D
Level 7 ..voa6.i\X221102.b\X110208.D
Level 8 ..voa6.i\X221102.b\X110209.D
Level 9 ..voa6.i\X221102.b\X110210.D
Level 10 ..voa6.i\X221102.b\X110211.D

Compound	Level 1 0.250 Level 7 50.0	Level 2 0.500 Level 8 100.0	Level 3 1.00 Level 9 150.0	Level 4 2.00 Level 10 200.0	Level 5 5.00	Level 6 20.00	Curve	b	m1	m2	%RSD or R^2	Q
Dichlorodifluoromethane	NE 297188	3429 545177	6530 845446	12780 1230194	26672	106595	LINR	0.01212	0.46533		0.99702	
Chloromethane	NE 323298	4459 632506	7717 1037088	14962 1465350	34823	122267	LINR	0.02762	0.55867		0.99678	
Propionitrile	NE 0.06017	0.06103 0.05952	0.07418 0.06311	0.05761 0.06398	0.06503	0.06091	AVRG		0.06284		7.70028	
Vinyl Chloride	NE 0.56880	0.59793 0.51233	0.66139 0.54332	0.57481 0.55661	0.55479	0.52923	AVRG		0.56658		7.68389	
Bromomethane	NE 209754	2842 422631	4926 681885	9723 954942	22869	78782	LINR	0.02537	0.36556		0.99773	
Chloroethane	NE 0.35285	0.40329 0.32246	0.35851 0.34233	0.36278 0.34236	0.34852	0.34560	AVRG		0.35319		6.24332	
Trichlorofluoromethane	NE 0.73842	0.83246 0.67828	0.73499 0.70338	0.73445 0.72281	0.66774	0.68629	AVRG		0.72209		6.79714	
Acrolein	NE 33355	462 92414	845 142790	1752 207953	4394	13448	QUAD	0.03963	31.24923	-20.88143	0.99830	
Acetone	NE 218510	4640 425910	6765 654774	13965 911307	26617	88131	LINR	-0.02975	0.17399		0.99912	
1,1-Dichloroethene	NE 0.42450	0.49196 0.39338	0.44737 0.40708	0.43346 0.41576	0.41098	0.40413	AVRG		0.42540		6.99928	

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Initial Calibration Data

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder HS22110111

RunID VOA6_420865

Volatiles Organics by Method 8260C

ICAL Start Date 02-NOV-2022 1121 **ICAL End Date** 02-NOV-2022 1450

Compound	Level 1 0.250 Level 7 50.0	Level 2 0.500 Level 8 100.0	Level 3 1.00 Level 9 150.0	Level 4 2.00 Level 10 200.0	Level 5 5.00	Level 6 20.00	Curve	b	m1	m2	%RSD or R^2	Q
Isobutyl Alcohol	NE 0.07236	0.08118 0.06959	0.06875 0.07482	0.07900 0.07511	0.07863	0.07272	AVRG		0.07468		5.73986	
Acetonitrile	NE 0.05553	0.06985 0.05662	0.06026 0.06035	0.05598 0.06249	0.06447	0.05362	AVRG		0.05991		8.58442	
Allyl Chloride	NE 1.02397	1.27366 1.02976	1.26555 1.10910	1.08432 1.14461	1.17004	1.02900	AVRG		1.12556		8.58311	
Iodomethane	NE 699146	2633 1484901	5322 2411390	13190 3520582	42677	219182	QUAD	0.04612	1.82986	-0.06910	0.99961	
Acrylonitrile	NE 0.16167	0.17066 0.16129	0.15644 0.17360	0.14773 0.17854	0.16920	0.15195	AVRG		0.16345		6.31449	
Methylene Chloride	NE 0.52806	0.52624 0.47720	0.66334 0.51695	0.58304 0.51581	0.53685	0.54792	AVRG		0.54394		9.72605	
Methyl tert-butyl ether	NE 1.38749	1.62553 1.36292	1.71631 1.45919	1.51484 1.48239	1.55003	1.38192	AVRG		1.49785		7.92046	
Carbon Disulfide	NE 1.27996	1.43130 1.18188	1.35361 1.27516	1.31896 1.34155	1.24131	1.20524	AVRG		1.29211		6.05899	
trans-1,2-Dichloroethene	NE 0.46803	0.52146 0.43281	0.49426 0.46992	0.48342 0.47833	0.45453	0.44531	AVRG		0.47201		5.64813	
Vinyl Acetate	NE 1.32081	1.43393 1.30935	1.34623 1.38678	1.16518 1.35654	1.35174	1.30478	AVRG		1.33059		5.55947	
1,1-Dichloroethane	NE 0.82097	0.97453 0.76961	0.88991 0.83865	0.83081 0.85021	0.86123	0.81055	AVRG		0.84961		6.78490	
Chloroprene	NE 0.19292	0.23238 0.17674	0.18951 0.18349	0.20339 0.18837	0.18390	0.17255	AVRG		0.19147		9.28306	

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Initial Calibration Data

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Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder HS22110111

RunID VOA6_420865

Volatiles Organics by Method 8260C

ICAL Start Date 02-NOV-2022 1121 **ICAL End Date** 02-NOV-2022 1450

Compound	Level 1 0.250 Level 7 50.0	Level 2 0.500 Level 8 100.0	Level 3 1.00 Level 9 150.0	Level 4 2.00 Level 10 200.0	Level 5 5.00	Level 6 20.00	Curve	b	m1	m2	%RSD or R^2	Q
2-Butanone	NE 0.18256	0.15814 0.18391	0.18070 0.20125	0.17370 0.20260	0.15325	0.17284	AVRG		0.17877		9.39260	
Methacrylonitrile	NE 0.41798	0.45900 0.42801	0.49163 0.45829	0.46960 0.45798	0.42179	0.42751	AVRG		0.44798		5.63851	
2,2-Dichloropropane	NE 420710	4986 855682	8534 1354293	18203 1890675	40842	154367	LINR	0.02442	0.72608		0.99852	
cis-1,2-Dichloroethene	NE 0.54098	0.58936 0.51732	0.55345 0.55490	0.55409 0.55878	0.56050	0.53402	AVRG		0.55149		3.61194	
Chloroform	NE 0.90046	1.06748 0.85520	1.07425 0.92220	0.96249 0.92060	0.95008	0.86783	AVRG		0.94673		8.27759	
Bromochloromethane	NE 0.28579	0.31001 0.27044	0.31221 0.29551	0.31079 0.29433	0.30452	0.28216	AVRG		0.29620		4.92471	
1,1,1-Trichloroethane	NE 0.71018	0.82718 0.67713	0.75738 0.73755	0.74590 0.75544	0.68270	0.66076	AVRG		0.72825		7.09268	
1,1-Dichloropropene	NE 0.39689	0.47711 0.37727	0.40348 0.39527	0.39512 0.41179	0.38529	0.36628	AVRG		0.40094		7.89427	
1,2-Dichloroethane	NE 0.45061	0.47100 0.42627	0.47820 0.45237	0.44658 0.45724	0.46782	0.43866	AVRG		0.45430		3.60765	
Carbon Tetrachloride	NE 330146	3603 675692	6722 1088682	14550 1571835	29235	115509	QUAD	-0.00312	3.10063	-0.33339	0.99973	
Benzene	NE 1.23105	1.31960 1.16003	1.33103 1.23615	1.22790 1.23706	1.24664	1.17580	AVRG		1.24058		4.54471	
Trichloroethene	NE 0.34553	0.35222 0.32593	0.36754 0.34912	0.35244 0.35584	0.35799	0.32993	AVRG		0.34851		3.79471	

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Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder HS22110111

RunID VOA6_420865

Volatiles Organics by Method 8260C

ICAL Start Date 02-NOV-2022 1121 **ICAL End Date** 02-NOV-2022 1450

Compound	Level 1 0.250 Level 7 50.0	Level 2 0.500 Level 8 100.0	Level 3 1.00 Level 9 150.0	Level 4 2.00 Level 10 200.0	Level 5 5.00	Level 6 20.00	Curve	b	m1	m2	%RSD or R^2	Q
Bromodichloromethane	NE 0.43466	0.45920 0.42500	0.43474 0.46135	0.42786 0.46375	0.43596	0.41991	AVRG		0.44027		3.79770	
Methyl Methacrylate	NE 0.43567	0.48075 0.44618	0.53479 0.46749	0.42419 0.47841	0.47275	0.42154	AVRG		0.46242		7.67422	
2-Chloroethylvinyl ether	NE 0.15211	0.15052 0.14908	0.13252 0.16202	0.13568 0.16050	0.13710	0.14054	AVRG		0.14668		7.34043	
1,2-Dichloropropane	NE 0.33161	0.32758 0.31619	0.37232 0.33800	0.33438 0.33725	0.35210	0.31636	AVRG		0.33620		5.20975	
Dibromomethane	NE 0.22059	0.24018 0.21280	0.24555 0.22625	0.23064 0.22656	0.23174	0.21418	AVRG		0.22761		4.80760	
4-Methyl-2-Pentanone	NE 0.32047	0.27927 0.31556	0.33023 0.32934	0.31420 0.33187	0.34731	0.32285	AVRG		0.32123		5.80852	
cis-1,3-Dichloropropene	NE 0.56053	0.55134 0.55212	0.53525 0.59082	0.53024 0.59137	0.55074	0.53149	AVRG		0.55488		4.14525	
Ethyl Methacrylate	NE 0.49673	0.50669 0.50932	0.49662 0.52207	0.47258 0.52538	0.47329	0.47389	AVRG		0.49740		4.12697	
Toluene	NE 1.40184	1.60135 1.34037	1.49798 1.39440	1.47136 1.40064	1.41498	1.34679	AVRG		1.42997		5.73479	
trans-1,3-Dichloropropene	NE 0.48715	0.50175 0.48431	0.44865 0.51870	0.42091 0.51731	0.45683	0.46118	AVRG		0.47742		6.92189	
2-Hexanone	NE 0.22240	0.17690 0.22005	0.20528 0.23183	0.19306 0.23182	0.24033	0.22493	AVRG		0.21629		9.53063	
1,1,2-Trichloroethane	NE 0.27760	0.31259 0.26766	0.29921 0.27876	0.30223 0.27906	0.29464	0.26835	AVRG		0.28668		5.56326	

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Volatiles Organics by Method 8260C

ICAL Start Date 02-NOV-2022 1121 **ICAL End Date** 02-NOV-2022 1450

Compound	Level 1 0.250 Level 7 50.0	Level 2 0.500 Level 8 100.0	Level 3 1.00 Level 9 150.0	Level 4 2.00 Level 10 200.0	Level 5 5.00	Level 6 20.00	Curve	b	m1	m2	%RSD or R^2	Q
1,3-Dichloropropane	NE 0.55753	0.59716 0.54667	0.57890 0.56603	0.56778 0.56294	0.58939	0.55414	AVRG		0.56895		2.91802	
Dibromochloromethane	NE 0.36360	0.41098 0.36705	0.36601 0.39044	0.33127 0.39285	0.35543	0.33956	AVRG		0.36858		6.98690	
Tetrachloroethene	NE 265562	3113 537869	5774 820825	11325 1158518	24282	93484	LINR	0.01088	0.28885		0.99938	
1,2-Dibromoethane	NE 0.35641	0.37147 0.34557	0.37198 0.36086	0.34606 0.36086	0.36660	0.34432	AVRG		0.35824		3.04745	
1-Chlorohexane	NE 271539	2660 542443	4864 825800	10330 1185153	22049	94062	QUAD	-0.00258	3.78290	-0.28973	0.99962	
Chlorobenzene	NE 0.95693	1.05204 0.91609	1.00983 0.95596	0.97163 0.95706	0.96043	0.91338	AVRG		0.96593		4.46923	
1,1,1,2-Tetrachloroethane	NE 0.34448	0.36224 0.33868	0.34874 0.35563	0.32561 0.35867	0.33163	0.31912	AVRG		0.34276		4.41305	
Ethylbenzene	NE 0.48391	0.57093 0.46243	0.53384 0.47560	0.51361 0.48330	0.45422	0.44506	AVRG		0.49143		8.31572	
m,p-Xylenes	NE 0.61540	0.70381 0.58247	0.61638 0.60400	0.62234 0.61170	0.58078	0.56587	AVRG		0.61142		6.49174	
o-Xylene	NE 0.59652	0.67843 0.57019	0.56914 0.59283	0.61124 0.59972	0.57854	0.55783	AVRG		0.59494		5.99901	
Styrene	NE 1.04627	1.05001 1.00074	0.96018 1.04999	0.92641 1.04720	0.95812	0.96748	AVRG		1.00071		4.89232	
Bromoform	NE 213545	1417 455371	3497 743207	6935 1034542	16655	70538	LINR	0.04886	0.25986		0.99812	

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Volatiles Organics by Method 8260C

ICAL Start Date 02-NOV-2022 1121 **ICAL End Date** 02-NOV-2022 1450

Compound	Level 1 0.250 Level 7 50.0	Level 2 0.500 Level 8 100.0	Level 3 1.00 Level 9 150.0	Level 4 2.00 Level 10 200.0	Level 5 5.00	Level 6 20.00	Curve	b	m1	m2	%RSD or R^2	Q
Isopropylbenzene	NE 1.47554	1.70975 1.39897	1.43840 1.43246	1.51181 1.46037	1.34077	1.31912	AVRG		1.45413		7.84119	
1,1,2,2-Tetrachloroethane	NE 0.77217	0.93455 0.75616	0.88153 0.79987	0.87644 0.79363	0.85280	0.78783	AVRG		0.82833		7.27421	
1,2,3-Trichloropropane	NE 0.60146	0.66291 0.64425	0.63129 0.62441	0.64408 0.61801	0.65087	0.59344	AVRG		0.63008		3.65711	
trans-1,4-Dichloro-2-butene	NE 0.11550	0.11020 0.11585	0.10945 0.12372	0.10046 0.12583	0.10065	0.10624	AVRG		0.11199		8.11368	
n-Propylbenzene	NE 3.28862	3.85903 3.15617	3.09280 3.25930	3.51346 3.32121	3.21711	3.07625	AVRG		3.30933		7.40247	
Bromobenzene	NE 0.83941	0.92002 0.80798	0.92587 0.85380	0.84021 0.85111	0.88060	0.82192	AVRG		0.86010		4.76827	
1,3,5-Trimethylbenzene	NE 2.34689	2.62995 2.24465	2.22016 2.35747	2.46005 2.38498	2.34893	2.19020	AVRG		2.35370		5.72280	
2-Chlorotoluene	NE 2.01962	2.40382 1.91797	2.20694 2.01450	2.19136 2.02216	2.08160	1.94840	AVRG		2.08960		7.32452	
4-Chlorotoluene	NE 2.35947	2.67499 2.24695	2.34522 2.38123	2.39438 2.38552	2.33760	2.23282	AVRG		2.37313		5.36388	
tert-Butylbenzene	NE 943173	10031 1882621	16562 2915343	36475 4031806	85892	319359	LINR	0.01102	1.95583		0.99945	
1,2,4-Trimethylbenzene	NE 2.38470	2.89183 2.27989	2.34183 2.38489	2.50808 2.39888	2.35886	2.27599	AVRG		2.42499		7.76011	
sec-Butylbenzene	NE 1306428	14692 2635190	22328 4032110	49508 5691384	119935	434443	LINR	0.01688	2.74520		0.99914	

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ICAL Start Date 02-NOV-2022 1121 **ICAL End Date** 02-NOV-2022 1450

Compound	Level 1 0.250 Level 7 50.0	Level 2 0.500 Level 8 100.0	Level 3 1.00 Level 9 150.0	Level 4 2.00 Level 10 200.0	Level 5 5.00	Level 6 20.00	Curve	b	m1	m2	%RSD or R^2	Q
p-Isopropyltoluene	NE 2.37795	2.81034 2.29341	2.29831 2.36382	2.48342 2.42982	2.42389	2.15392	AVRG		2.40387		7.50978	
1,3-Dichlorobenzene	NE 1.41322	1.65251 1.35591	1.43116 1.43755	1.46385 1.43131	1.40600	1.35331	AVRG		1.43831		6.13650	
1,4-Dichlorobenzene	NE 1.45758	1.70374 1.40265	1.51657 1.48639	1.52174 1.47173	1.45185	1.40747	AVRG		1.49108		6.03035	
Benzyl Chloride	NE 517481	3833 1177662	6229 1988635	12986 2765200	30801	154397	LINR	0.08034	0.69815		0.99615	
n-Butylbenzene	NE 2.10134	2.03567 2.04969	1.71592 2.13287	2.05230 2.21557	2.12811	1.86741	AVRG		2.03321		7.49217	
1,2-Dichlorobenzene	NE 1.33412	1.51383 1.28869	1.38156 1.36544	1.34378 1.35428	1.30700	1.28239	AVRG		1.35234		5.13056	
1,2-Dibromo-3-Chloropropane	NE 39321	208 80027	551 131273	1348 190166	3069	13558	LINR	0.05432	0.09102		0.99577	
1,2,4-Trichlorobenzene	NE 0.60935	0.72248 0.61450	0.56098 0.65146	0.59524 0.67123	0.63985	0.58519	AVRG		0.62781		7.84674	
Hexachlorobutadiene	NE 183666	2121 389797	3613 596017	7459 862380	19835	62614	QUAD	-0.01108	2.80395	-0.24906	0.99991	
Naphthalene	NE 0.93769	1.06799 0.93964	0.96963 1.02600	0.98546 1.06424	0.92105	0.88439	AVRG		0.97734		6.57788	
1,2,3-Trichlorobenzene	NE 0.42966	0.52590 0.42241	0.46668 0.45699	0.44514 0.46862	0.44724	0.41280	AVRG		0.45283		7.38732	
Ethyl Acetate	NE 0.49352	0.53184 0.48324	0.57762 0.51507	0.54925 0.50813	0.54763	0.51946	AVRG		0.52508		5.65942	

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Compound	Level 1 0.250 Level 7 50.0	Level 2 0.500 Level 8 100.0	Level 3 1.00 Level 9 150.0	Level 4 2.00 Level 10 200.0	Level 5 5.00	Level 6 20.00	Curve	b	m1	m2	%RSD or R^2	Q
n-Butanol	NE 0.00899	0.00996 0.00918	0.00993 0.01093	0.00939 0.01098	0.00794	0.00799	AVRG		0.00948		11.62165	
1,4-Dioxane	0.00534 0.00494	0.00560 0.00483	0.00522 0.00554	0.00530 0.00549	0.00558	0.00549	AVRG		0.00533		4.98260	
n-Hexane	NE 271751	3089 537883	6218 808535	11975 1178645	23621	89079	QUAD	-0.00947	2.51571	-0.17024	0.99931	
Freon TF	NE 253752	2725 483822	5530 718526	10801 1027791	21790	86773	QUAD	-0.01253	2.70148	-0.10532	0.99907	
Methyl Acetate	NE 0.31259	0.32188 0.30211	0.27261 0.32893	0.25062 0.33525	0.30396	0.30595	AVRG		0.30377		8.88907	
Methylcyclohexane	NE 0.65976	0.68560 0.76582	0.65971 0.79008	0.63920 0.82632	0.57369	0.62799	AVRG		0.69202		12.10285	
Isopropyl alcohol	NE 0.02216	0.02248 0.02077	0.02932 0.02363	0.02274 0.02372	0.02184	0.02279	AVRG		0.02327		10.48000	
Allyl alcohol	NE 271751	3753 537883	6218 808535	11975 1178645	23621	89079	QUAD	-0.20205	50.34337	-3.41765	0.99932	
Tert-butyl alcohol	NE 0.04002	0.04131 0.03836	0.04617 0.04379	0.04557 0.04433	0.04390	0.04110	AVRG		0.04273		6.19602	
Diethyl ether	NE 0.37035	0.44334 0.35743	0.44110 0.36869	0.40265 0.37018	0.41648	0.37269	AVRG		0.39366		8.42041	
1,3-Butadiene	NE 0.44574	0.46163 0.38960	0.38115 0.41344	0.44930 0.42854	0.41318	0.38955	AVRG		0.41912		6.94096	
Cyclohexane	NE 364971	3707 712197	7388 1067181	15540 1557359	29825	129515	QUAD	-0.01364	1.88979	-0.09004	0.99917	

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Tetrahydrofuran	NE 0.07517	0.09106 0.07406	0.08352 0.07916	0.07936 0.08104	0.07330	0.07710	AVRG		0.07931		6.97035	
alpha-Methylstyrene	NE 1.21593	1.31248 1.17185	1.12382 1.24058	1.16763 1.24211	1.13845	1.13931	AVRG		1.19468		5.22604	
1,2,3-Trimethylbenzene	NE 2.08128	2.72384 2.17580	2.88970 2.23839	2.42190 2.27387	2.38176	2.03722	AVRG		2.35820		12.13600	
Epichlorohydrin	NE 0.02607	0.02954 0.02605	0.03520 0.02750	0.02468 0.02777	0.02683	0.02664	AVRG		0.02781		11.07798	
Acetaldehyde	NE 87732	NE 175492	3990 238390	7954 319029	11340	36475	LINR	-0.37958	0.03085		0.99785	
Dimethyl Disulfide	NE 0.61114	0.62046 0.66910	0.59192 0.71995	0.54613 0.75320	0.55446	0.52580	AVRG		0.62135		12.67486	
1,2-Dichloroethylene (total)	NE 0.50450	0.55541 0.47507	0.52386 0.51241	0.51875 0.51855	0.50752	0.48966	AVRG		0.51175		4.39822	
Xylenes (total)	NE 0.59307	0.65046 0.56341	0.56214 0.58932	0.57890 0.59254	0.54915	0.54021	AVRG		0.57991		5.62425	
Dibromofluoromethane	NE 268120	2793 644427	5826 955571	12360 1291187	33597	118974	LINR	0.01087	0.50369		0.99920	
1,2-Dichloroethane-d4	NE 325660	3566 728330	7575 1107394	14779 1492777	36714	136082	LINR	0.00858	0.58127		0.99951	
Toluene-d8	NE 1.01385	1.27345 1.25259	1.24561 1.20325	1.23261 1.17166	1.23581	1.23088	AVRG		1.20663		6.46014	
4-Bromofluorobenzene	NE 391515	4822 920950	9099 1366640	17955 1839541	43112	161062	LINR	0.00530	0.46798		0.99944	

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 HS22110111

RunID VOA6_420865

Volatiles Organics by Method 8260C

ICAL Start Date 02-NOV-2022 1121 **ICAL End Date** 02-NOV-2022 1450

Compound	Level 1 0.250 Level 7 50.0	Level 2 0.500 Level 8 100.0	Level 3 1.00 Level 9 150.0	Level 4 2.00 Level 10 200.0	Level 5 5.00	Level 6 20.00	Curve	b	m1	m2	%RSD or R^2	Q

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)

Workorder

HS22110111

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Monthly Effluent Samples

11/17/2022

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 HS22110111

RunID VOA6_420865

Volatiles Organics by Method 8260C

Instrument ID voa6.i ICAL Date 02-NOV-2022
Lab File ID X110214.D ICAL Time 1348
?VAL? ?VAL? Conc Units ug/L
Analysis Type VOA Level LOW

Compound	Amount Added	Amount Recovered	% Recovered	Limits	Q
1,1,1,2-Tetrachlor	50.00	48.68	97.37	80-120	
1,1,1-Trichloroeth	50.00	42.72	85.45	80-120	
1,1,2,2-Tetrachlor	50.00	45.85	91.72	80-120	
Freon TF	50.00	43.00	86.01	80-120	
Methyl Acetate	50.00	47.23	94.47	80-120	
Cyclohexane	50.00	41.77	83.55	80-120	
Methylcyclohexane	50.00	50.06	100.13	80-120	
Carbon Disulfide	100.00	86.28	86.29	80-120	
2-Hexanone	100.00	97.95	97.96	80-120	
1,1,2-Trichloroeth	50.00	47.12	94.25	80-120	
1,1-Dichloroethane	50.00	44.33	88.67	80-120	
1,1-Dichloroethene	50.00	41.65	83.32	80-120	
1,1-Dichloropropen	50.00	42.85	85.72	80-120	
1,2,3-Trichloroben	50.00	48.64	97.29	80-120	
1,2,3-Trichloropro	50.00	46.19	92.38	80-120	
1,2,4-Trichloroben	50.00	47.95	95.91	80-120	
1,2,4-Trimethylben	50.00	44.06	88.13	80-120	
1,2-Dibromo-3-Chlo	50.00	45.32	90.66	80-120	
1,2-Dibromoethane	50.00	47.72	95.45	80-120	
Acrolein	100.00	99.21	99.21	80-120	
Acrylonitrile	100.00	88.84	88.84	80-120	
1,2-Dichlorobenzen	50.00	46.37	92.75	80-120	
1,2-Dichloroethane	50.00	47.48	94.97	80-120	
1,2-Dichloropropan	50.00	46.52	93.04	80-120	
1,3,5-Trimethylben	50.00	43.95	87.90	80-120	
1,3-Dichlorobenzen	50.00	46.02	92.05	80-120	
1,3-Dichloropropan	50.00	47.58	95.17	80-120	
1,4-Dichlorobenzen	50.00	46.59	93.19	80-120	
1-Chlorohexane	50.00	42.31	84.62	80-120	
2,2-Dichloropropan	50.00	45.35	90.70	80-120	
2-Butanone	100.00	96.49	96.50	80-120	
2-Chlorotoluene	50.00	44.39	88.79	80-120	
4-Chlorotoluene	50.00	45.63	91.26	80-120	
p-Isopropyltoluene	50.00	41.61	83.24	80-120	

Initial Calibration Verification (ICV)

Client Bhate Environmental Associates, Inc.
Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder HS22110111

RunID VOA6_420865

Volatiles Organics by Method 8260C

Instrument ID voa6.i ICAL Date 02-NOV-2022
Lab File ID X110214.D ICAL Time 1348
?VAL? ?VAL? Conc Units ug/L
Analysis Type VOA Level LOW

Compound	Amount Added	Amount Recovered	% Recovered	Limits	Q
4-Methyl-2-Pentano	100.00	94.29	94.29	80-120	
Acetone	100.00	91.21	91.21	80-120	
Benzene	50.00	45.79	91.59	80-120	
Bromobenzene	50.00	46.80	93.62	80-120	
Bromochloromethane	50.00	45.52	91.04	80-120	
Bromodichlorometha	50.00	47.79	95.60	80-120	
Bromoform	50.00	46.57	93.14	80-120	
Bromomethane	50.00	46.34	92.69	80-120	
Carbon Tetrachlori	50.00	46.32	92.65	80-120	
Chlorobenzene	50.00	46.61	93.23	80-120	
Chloroethane	50.00	43.61	87.23	80-120	
Chloroform	50.00	44.02	88.06	80-120	
Chloromethane	50.00	46.10	92.20	80-120	
cis-1,2-Dichloroet	50.00	45.17	90.36	80-120	
cis-1,3-Dichloropr	50.00	48.76	97.53	80-120	
Dibromochlorometha	50.00	49.27	98.54	80-120	
Dibromomethane	50.00	46.01	92.03	80-120	
Dichlorodifluorome	50.00	44.98	89.97	80-120	
Ethylbenzene	50.00	43.66	87.33	80-120	
Hexachlorobutadien	50.00	48.93	97.87	80-120	
Isopropylbenzene	50.00	41.98	83.97	80-120	
m,p-Xylenes	100.00	88.92	88.92	80-120	
Methyl tert-butyl	50.00	45.23	90.47	80-120	
Methylene Chloride	50.00	45.13	90.28	80-120	
n-Butylbenzene	50.00	43.38	86.77	80-120	
n-Propylbenzene	50.00	42.50	85.02	80-120	
Naphthalene	50.00	49.60	99.21	80-120	
o-Xylene	50.00	45.56	91.14	80-120	
sec-Butylbenzene	50.00	41.38	82.77	80-120	
Styrene	50.00	48.52	97.06	80-120	
tert-Butylbenzene	50.00	42.13	84.27	80-120	
Tetrachloroethene	50.00	43.16	86.33	80-120	
Toluene	50.00	45.51	91.03	80-120	
trans-1,2-Dichloro	50.00	43.86	87.73	80-120	

Initial Calibration Verification (ICV)

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

Project Longhorn GW Treatment Plant Monthly Effluent Samples **HS22110111**

RunID

Volatiles Organics by Method 8260C

VOA6_420865

Instrument ID voa6.i ICAL Date 02-NOV-2022
Lab File ID X110214.D ICAL Time 1348
?VAL? ?VAL? Conc Units ug/L
Analysis Type VOA Level LOW

Compound	Amount Added	Amount Recovered	% Recovered	Limits	Q
trans-1,3-Dichloro	50.00	50.11	100.23	80-120	
Trichloroethene	50.00	44.09	88.20	80-120	
Trichlorofluoromet	50.00	42.90	85.81	80-120	
Vinyl Chloride	50.00	42.24	84.49	80-120	
1,2-Dichloroethyle	100.00	89.04	89.04	80-120	
Xylenes (total)	150.00	134.48	89.66	80-120	
1,4-Dioxane	1000.00	859.70	85.97	80-120	
Dibromofluorometha	50.00	49.81	99.62	71-125	
1,2-Dichloroethane	50.00	48.66	97.34	70-125	
Toluene-d8	50.00	50.80	101.62	75-125	
4-Bromofluorobenze	50.00	50.85	101.71	72-125	

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Form 7

Continuing Calibration Verification (CCV)

Workorder

HS22110111

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Monthly Effluent Samples

11/17/2022

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 Monthly Effluent Samples

Workorder HS22110111

RunID VOA6_421126

Volatiles Organics by Method 8260C

Instrument ID voa6.i Injection Date 06-NOV-2022 1220
Lab File ID X110602.D ICAL Date(s) 02-NOV-2022 02-NOV-2022
Analysis Type WATER ICAL Times 1121 1450
Lab Sample ID CCV Quant Type ISTD

Compound	$\overline{RRF}$ / Amount	RF50	CCV RRF50	Min RRF	%D / %Drift	Max %D / %Drift	Curve Type	Q
1,4-Dioxane	0.00533	0.00529	0.00529	0.001	0.86475	20.0	Averaged	
1,3-Butadiene	0.41912	0.38685	0.38685	0.100	7.70165	20.0	Averaged	
Methacrylonitrile	0.44798	0.45711	0.45711	0.100	-2.03825	20.0	Averaged	
Isobutyl Alcohol	0.07468	0.07250	0.07250	0.005	2.92377	20.0	Averaged	
Acetonitrile	0.05991	0.05499	0.05499	0.005	8.21442	20.0	Averaged	
Allyl Chloride	1.12556	1.05018	1.05018	0.100	6.69659	20.0	Averaged	
Propionitrile	0.06284	0.06363	0.06363	0.010	-1.26903	20.0	Averaged	
n-Hexane	50.0	47.00010	0.38758	0.100	5.99981	20.0	Quadratic	
trans-1,4-Dichloro-2-butene	0.11199	0.11631	0.11631	0.050	-3.86179	20.0	Averaged	
Chloroprene	0.19147	0.16789	0.16789	0.100	12.31780	20.0	Averaged	
Ethyl Acetate	0.52508	0.52151	0.52151	0.100	0.68160	20.0	Averaged	
Methyl Methacrylate	0.46242	0.46506	0.46506	0.100	-0.57121	20.0	Averaged	
Ethyl Methacrylate	0.49740	0.52044	0.52044	0.100	-4.63161	20.0	Averaged	
Dichlorodifluoromethane	50.0	46.10123	0.42341	0.100	7.79755	20.0	Linear	
Chloromethane	50.0	46.68344	0.50618	0.100	6.63313	20.0	Linear	
Vinyl Chloride	0.56658	0.49823	0.49823	0.100	12.06334	20.0	Averaged	
Bromomethane	50.0	47.02139	0.33451	0.100	5.95722	20.0	Linear	
Chloroethane	0.35319	0.32173	0.32173	0.100	8.90773	20.0	Averaged	
Trichlorofluoromethane	0.72209	0.66185	0.66185	0.100	8.34227	20.0	Averaged	
Acrolein	100	96.14686	0.03146	0.010	3.85314	20.0	Quadratic	
Acetone	100	108	0.19129	0.100	-8.45687	20.0	Linear	
1,1-Dichloroethene	0.42540	0.37657	0.37657	0.100	11.48015	20.0	Averaged	
Iodomethane	100	98.32854	0.54738	0.100	1.67146	20.0	Quadratic	
Acrylonitrile	0.16345	0.16430	0.16430	0.050	-0.51953	20.0	Averaged	
Methylene Chloride	0.54394	0.49542	0.49542	0.100	8.91971	20.0	Averaged	
Methyl tert-butyl ether	1.49785	1.43567	1.43567	0.100	4.15097	20.0	Averaged	
Carbon Disulfide	1.29211	1.14344	1.14344	0.100	11.50572	20.0	Averaged	
trans-1,2-Dichloroethene	0.47201	0.42716	0.42716	0.100	9.50055	20.0	Averaged	
Vinyl Acetate	1.33059	1.37919	1.37919	0.010	-3.65234	20.0	Averaged	
1,1-Dichloroethane	0.84961	0.77659	0.77659	0.200	8.59469	20.0	Averaged	
2-Butanone	0.17877	0.19821	0.19821	0.100	-10.87142	20.0	Averaged	
2,2-Dichloropropane	50.0	47.18025	0.66740	0.100	5.63949	20.0	Linear	
cis-1,2-Dichloroethene	0.55149	0.51170	0.51170	0.100	7.21515	20.0	Averaged	
Chloroform	0.94673	0.86482	0.86482	0.200	8.65236	20.0	Averaged	

Continuing Calibration Verification (CCV)

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder HS22110111

RunID VOA6_421126

Volatiles Organics by Method 8260C

Instrument ID voa6.i Injection Date 06-NOV-2022 1220
Lab File ID X110602.D ICAL Date(s) 02-NOV-2022 02-NOV-2022
Analysis Type WATER ICAL Times 1121 1450
Lab Sample ID CCV Quant Type ISTD

Compound	$\overline{RRF}$ / Amount	RF50	CCV RRF50	Min RRF	%D / %Drift	Max %D / %Drift	Curve Type	Q
Bromochloromethane	0.29620	0.27677	0.27677	0.100	6.56018	20.0	Averaged	
Dibromofluoromethane	50.0	50.47036	0.50296	0.100	-0.94072	20.0	Linear	
1,1,1-Trichloroethane	0.72825	0.64582	0.64582	0.100	11.31896	20.0	Averaged	
1,1-Dichloropropene	0.40094	0.36047	0.36047	0.100	10.09338	20.0	Averaged	
1,2-Dichloroethane	0.45430	0.44345	0.44345	0.100	2.38870	20.0	Averaged	
Carbon Tetrachloride	50.0	47.84917	0.32071	0.100	4.30166	20.0	Quadratic	
1,2-Dichloroethane-d4	50.0	49.16948	0.56663	0.100	1.66103	20.0	Linear	
Benzene	1.24058	1.17059	1.17059	0.500	5.64175	20.0	Averaged	
Trichloroethene	0.34851	0.31794	0.31794	0.200	8.77020	20.0	Averaged	
Bromodichloromethane	0.44027	0.42892	0.42892	0.200	2.57659	20.0	Averaged	
2-Chloroethylvinyl ether	0.14668	0.14752	0.14752	0.001	-0.57868	20.0	Averaged	
1,2-Dichloropropane	0.33620	0.32173	0.32173	0.100	4.30319	20.0	Averaged	
Dibromomethane	0.22761	0.21981	0.21981	0.100	3.42675	20.0	Averaged	
4-Methyl-2-Pentanone	0.32123	0.33015	0.33015	0.100	-2.77658	20.0	Averaged	
cis-1,3-Dichloropropene	0.55488	0.55591	0.55591	0.200	-0.18637	20.0	Averaged	
Toluene-d8	1.20663	1.24686	1.24686	0.100	-3.33387	20.0	Averaged	
Toluene	1.42997	1.33216	1.33216	0.400	6.83954	20.0	Averaged	
trans-1,3-Dichloropropene	0.47742	0.49026	0.49026	0.100	-2.68883	20.0	Averaged	
2-Hexanone	0.21629	0.23061	0.23061	0.100	-6.62401	20.0	Averaged	
1,1,2-Trichloroethane	0.28668	0.27438	0.27438	0.100	4.28901	20.0	Averaged	
1,3-Dichloropropane	0.56895	0.56120	0.56120	0.100	1.36128	20.0	Averaged	
Dibromochloromethane	0.36858	0.36407	0.36407	0.100	1.22383	20.0	Averaged	
Tetrachloroethene	50.0	46.23449	0.26396	0.200	7.53102	20.0	Linear	
1,2-Dibromoethane	0.35824	0.35909	0.35909	0.100	-0.23935	20.0	Averaged	
1-Chlorohexane	50.0	46.81226	0.25308	0.100	6.37548	20.0	Quadratic	
Chlorobenzene	0.96593	0.91605	0.91605	0.500	5.16334	20.0	Averaged	
1,1,1,2-Tetrachloroethane	0.34276	0.33394	0.33394	0.100	2.57129	20.0	Averaged	
Ethylbenzene	0.49143	0.44744	0.44744	0.100	8.95121	20.0	Averaged	
m,p-Xylenes	0.61142	0.56787	0.56787	0.100	7.12221	20.0	Averaged	
o-Xylene	0.59494	0.55583	0.55583	0.300	6.57400	20.0	Averaged	
Styrene	1.00071	0.98474	0.98474	0.300	1.59574	20.0	Averaged	
Bromoform	50.0	47.35572	0.23342	0.100	5.28856	20.0	Linear	
Isopropylbenzene	1.45413	1.31340	1.31340	0.100	9.67791	20.0	Averaged	
1,1,2,2-Tetrachloroethane	0.82833	0.81627	0.81627	0.300	1.45566	20.0	Averaged	

Continuing Calibration Verification (CCV)

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder HS22110111

RunID VOA6_421126

Volatiles Organics by Method 8260C

Instrument ID voa6.i Injection Date 06-NOV-2022 1220
Lab File ID X110602.D ICAL Date(s) 02-NOV-2022 02-NOV-2022
Analysis Type WATER ICAL Times 1121 1450
Lab Sample ID CCV Quant Type ISTD

Compound	$\overline{RRF}$ / Amount	RF50	CCV RRF50	Min RRF	%D / %Drift	Max %D / %Drift	Curve Type	Q
4-Bromofluorobenzene	50.0	50.60000	0.47112	0.100	-1.20000	20.0	Linear	
1,2,3-Trichloropropane	0.63008	0.64161	0.64161	0.100	-1.83056	20.0	Averaged	
n-Propylbenzene	3.30933	3.07444	3.07444	0.100	7.09779	20.0	Averaged	
Bromobenzene	0.86010	0.83990	0.83990	0.100	2.34827	20.0	Averaged	
1,3,5-Trimethylbenzene	2.35370	2.20353	2.20353	0.100	6.38025	20.0	Averaged	
2-Chlorotoluene	2.08960	1.94718	1.94718	0.100	6.81565	20.0	Averaged	
4-Chlorotoluene	2.37313	2.26997	2.26997	0.100	4.34717	20.0	Averaged	
tert-Butylbenzene	50.0	45.84364	1.77169	0.100	8.31271	20.0	Linear	
1,2,4-Trimethylbenzene	2.42499	2.27736	2.27736	0.100	6.08786	20.0	Averaged	
sec-Butylbenzene	50.0	45.77134	2.46669	0.100	8.45732	20.0	Linear	
p-Isopropyltoluene	2.40387	2.18140	2.18140	0.100	9.25490	20.0	Averaged	
1,3-Dichlorobenzene	1.43831	1.36153	1.36153	0.600	5.33843	20.0	Averaged	
1,4-Dichlorobenzene	1.49108	1.43234	1.43234	0.400	3.93955	20.0	Averaged	
n-Butylbenzene	2.03321	1.91293	1.91293	0.500	5.91583	20.0	Averaged	
1,2-Dichlorobenzene	1.35234	1.29062	1.29062	0.400	4.56403	20.0	Averaged	
1,2-Dibromo-3-Chloropropane	50.0	53.02768	0.09159	0.040	-6.05535	20.0	Linear	
1,2,4-Trichlorobenzene	0.62781	0.60046	0.60046	0.100	4.35537	20.0	Averaged	
Hexachlorobutadiene	50.0	48.30415	0.36001	0.100	3.39171	20.0	Quadratic	
Naphthalene	0.97734	1.07074	1.07074	0.200	-9.55576	20.0	Averaged	
1,2,3-Trichlorobenzene	0.45283	0.44637	0.44637	0.010	1.42521	20.0	Averaged	
1,2-Dichloroethylene (total	0.51175	0.46943	0.46943	0.200	8.26911	20.0	Averaged	
Xylenes (total)	0.57991	0.54526	0.54526	0.100	5.97525	20.0	Averaged	
Cyclohexane	50.0	46.80336	0.51519	0.100	6.39328	20.0	Quadratic	
Freon TF	50.0	47.02721	0.35779	0.100	5.94559	20.0	Quadratic	
Methylcyclohexane	0.69202	0.71167	0.71167	0.100	-2.84000	20.0	Averaged	
Methyl Acetate	0.30377	0.31477	0.31477	0.100	-3.62374	20.0	Averaged	
Tert-butyl alcohol	0.04273	0.04289	0.04289	0.005	-0.38325	20.0	Averaged	
Isopropyl alcohol	0.02327	0.02359	0.02359	0.005	-1.37016	20.0	Averaged	

Continuing Calibration Verification (CCV)

Client Bhate Environmental Associates, Inc.
Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder HS22110111

RunID VOA6_421126

Volatiles Organics by Method 8260C

Instrument ID voa6.i Injection Date 06-NOV-2022 2230
Lab File ID X110631.D ICAL Date(s) 02-NOV-2022 02-NOV-2022
Analysis Type WATER ICAL Times 1121 1450
Lab Sample ID CCV-END Quant Type ISTD

Compound	$\overline{RRF}$ / Amount	RF50	CCV RRF50	Min RRF	%D / %Drift	Max %D / %Drift	Curve Type	Q
1,4-Dioxane	0.00533	0.00566	0.00566	0.001	-6.25189	50.0	Averaged	
1,3-Butadiene	0.41912	0.45456	0.45456	0.100	-8.45528	50.0	Averaged	
Methacrylonitrile	0.44798	0.45022	0.45022	0.100	-0.50039	50.0	Averaged	
Isobutyl Alcohol	0.07468	0.07251	0.07251	0.005	2.90519	50.0	Averaged	
Acetonitrile	0.05991	0.05783	0.05783	0.005	3.46692	50.0	Averaged	
Allyl Chloride	1.12556	1.07427	1.07427	0.100	4.55655	50.0	Averaged	
Propionitrile	0.06284	0.06494	0.06494	0.010	-3.34708	50.0	Averaged	
n-Hexane	50.0	52.41973	0.43320	0.100	-4.83946	50.0	Quadratic	
trans-1,4-Dichloro-2-butene	0.11199	0.11256	0.11256	0.050	-0.50711	50.0	Averaged	
Chloroprene	0.19147	0.20294	0.20294	0.100	-5.99022	50.0	Averaged	
Ethyl Acetate	0.52508	0.52961	0.52961	0.100	-0.86176	50.0	Averaged	
Methyl Methacrylate	0.46242	0.46076	0.46076	0.100	0.35824	50.0	Averaged	
Ethyl Methacrylate	0.49740	0.51023	0.51023	0.100	-2.57901	50.0	Averaged	
Dichlorodifluoromethane	50.0	54.62657	0.50275	0.100	-9.25314	50.0	Linear	
Chloromethane	50.0	45.96256	0.49812	0.100	8.07487	50.0	Linear	
Vinyl Chloride	0.56658	0.57097	0.57097	0.100	-0.77501	50.0	Averaged	
Bromomethane	50.0	46.52811	0.33090	0.100	6.94378	50.0	Linear	
Chloroethane	0.35319	0.36703	0.36703	0.100	-3.91842	50.0	Averaged	
Trichlorofluoromethane	0.72209	0.80083	0.80083	0.100	-10.90431	50.0	Averaged	
Acrolein	100	112	0.03719	0.010	-12.40953	50.0	Quadratic	
Acetone	100	91.43882	0.16168	0.100	8.56118	50.0	Linear	
1,1-Dichloroethene	0.42540	0.43655	0.43655	0.100	-2.61926	50.0	Averaged	
Iodomethane	100	88.27719	0.48779	0.100	11.72281	50.0	Quadratic	
Acrylonitrile	0.16345	0.16796	0.16796	0.050	-2.75835	50.0	Averaged	
Methylene Chloride	0.54394	0.52823	0.52823	0.100	2.88737	50.0	Averaged	
Methyl tert-butyl ether	1.49785	1.43940	1.43940	0.100	3.90190	50.0	Averaged	
Carbon Disulfide	1.29211	1.29423	1.29423	0.100	-0.16414	50.0	Averaged	
trans-1,2-Dichloroethene	0.47201	0.47266	0.47266	0.100	-0.13741	50.0	Averaged	
Vinyl Acetate	1.33059	1.22993	1.22993	0.010	7.56502	50.0	Averaged	
1,1-Dichloroethane	0.84961	0.83218	0.83218	0.200	2.05090	50.0	Averaged	
2-Butanone	0.17877	0.18925	0.18925	0.100	-5.86044	50.0	Averaged	
2,2-Dichloropropane	50.0	45.99928	0.65025	0.100	8.00145	50.0	Linear	
cis-1,2-Dichloroethene	0.55149	0.54843	0.54843	0.100	0.55415	50.0	Averaged	
Chloroform	0.94673	0.89755	0.89755	0.200	5.19513	50.0	Averaged	

Continuing Calibration Verification (CCV)

Client Bhate Environmental Associates, Inc.
Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder HS22110111

RunID VOA6_421126

Volatiles Organics by Method 8260C

Instrument ID voa6.i Injection Date 06-NOV-2022 2230
Lab File ID X110631.D ICAL Date(s) 02-NOV-2022 02-NOV-2022
Analysis Type WATER ICAL Times 1121 1450
Lab Sample ID CCV-END Quant Type ISTD

Compound	$\overline{RRF}$ / Amount	RF50	CCV RRF50	Min RRF	%D / %Drift	Max %D / %Drift	Curve Type	Q
Bromochloromethane	0.29620	0.29504	0.29504	0.100	0.39061	50.0	Averaged	
Dibromofluoromethane	50.0	52.24784	0.52086	0.100	-4.49568	50.0	Linear	
1,1,1-Trichloroethane	0.72825	0.72714	0.72714	0.100	0.15232	50.0	Averaged	
1,1-Dichloropropene	0.40094	0.39922	0.39922	0.100	0.43085	50.0	Averaged	
1,2-Dichloroethane	0.45430	0.44796	0.44796	0.100	1.39731	50.0	Averaged	
Carbon Tetrachloride	50.0	52.97699	0.35638	0.100	-5.95398	50.0	Quadratic	
1,2-Dichloroethane-d4	50.0	50.36057	0.58048	0.100	-0.72115	50.0	Linear	
Benzene	1.24058	1.22778	1.22778	0.500	1.03204	50.0	Averaged	
Trichloroethene	0.34851	0.36221	0.36221	0.200	-3.93201	50.0	Averaged	
Bromodichloromethane	0.44027	0.42823	0.42823	0.200	2.73474	50.0	Averaged	
2-Chloroethylvinyl ether	0.14668	0.14584	0.14584	0.001	0.57315	50.0	Averaged	
1,2-Dichloropropane	0.33620	0.32128	0.32128	0.100	4.43782	50.0	Averaged	
Dibromomethane	0.22761	0.22345	0.22345	0.100	1.82665	50.0	Averaged	
4-Methyl-2-Pentanone	0.32123	0.32361	0.32361	0.100	-0.73928	50.0	Averaged	
cis-1,3-Dichloropropene	0.55488	0.54176	0.54176	0.200	2.36457	50.0	Averaged	
Toluene-d8	1.20663	1.22499	1.22499	0.100	-1.52113	50.0	Averaged	
Toluene	1.42997	1.39189	1.39189	0.400	2.66263	50.0	Averaged	
trans-1,3-Dichloropropene	0.47742	0.46583	0.46583	0.100	2.42836	50.0	Averaged	
2-Hexanone	0.21629	0.22354	0.22354	0.100	-3.35439	50.0	Averaged	
1,1,2-Trichloroethane	0.28668	0.27081	0.27081	0.100	5.53440	50.0	Averaged	
1,3-Dichloropropane	0.56895	0.55023	0.55023	0.100	3.29069	50.0	Averaged	
Dibromochloromethane	0.36858	0.35675	0.35675	0.100	3.20860	50.0	Averaged	
Tetrachloroethene	50.0	52.44679	0.29985	0.200	-4.89357	50.0	Linear	
1,2-Dibromoethane	0.35824	0.35782	0.35782	0.100	0.11733	50.0	Averaged	
1-Chlorohexane	50.0	53.09307	0.28772	0.100	-6.18613	50.0	Quadratic	
Chlorobenzene	0.96593	0.94767	0.94767	0.500	1.89041	50.0	Averaged	
1,1,1,2-Tetrachloroethane	0.34276	0.33918	0.33918	0.100	1.04404	50.0	Averaged	
Ethylbenzene	0.49143	0.48607	0.48607	0.100	1.09165	50.0	Averaged	
m,p-Xylenes	0.61142	0.61214	0.61214	0.100	-0.11822	50.0	Averaged	
o-Xylene	0.59494	0.59057	0.59057	0.300	0.73345	50.0	Averaged	
Styrene	1.00071	1.04035	1.04035	0.300	-3.96090	50.0	Averaged	
Bromoform	50.0	46.81255	0.23060	0.100	6.37489	50.0	Linear	
Isopropylbenzene	1.45413	1.49870	1.49870	0.100	-3.06453	50.0	Averaged	
1,1,2,2-Tetrachloroethane	0.82833	0.75459	0.75459	0.300	8.90279	50.0	Averaged	

Continuing Calibration Verification (CCV)

Client Bhate Environmental Associates, Inc.
Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder HS22110111

RunID VOA6_421126

Volatiles Organics by Method 8260C

Instrument ID voa6.i Injection Date 06-NOV-2022 2230
Lab File ID X110631.D ICAL Date(s) 02-NOV-2022 02-NOV-2022
Analysis Type WATER ICAL Times 1121 1450
Lab Sample ID CCV-END Quant Type ISTD

Compound	$\overline{RRF}$ / Amount	RF50	CCV RRF50	Min RRF	%D / %Drift	Max %D / %Drift	Curve Type	Q
4-Bromofluorobenzene	50.0	52.00307	0.48425	0.100	-4.00614	50.0	Linear	
1,2,3-Trichloropropane	0.63008	0.60222	0.60222	0.100	4.42147	50.0	Averaged	
n-Propylbenzene	3.30933	3.24769	3.24769	0.100	1.86253	50.0	Averaged	
Bromobenzene	0.86010	0.81255	0.81255	0.100	5.52823	50.0	Averaged	
1,3,5-Trimethylbenzene	2.35370	2.31879	2.31879	0.100	1.48311	50.0	Averaged	
2-Chlorotoluene	2.08960	1.97747	1.97747	0.100	5.36586	50.0	Averaged	
4-Chlorotoluene	2.37313	2.28315	2.28315	0.100	3.79180	50.0	Averaged	
tert-Butylbenzene	50.0	50.55688	1.95605	0.100	-1.11375	50.0	Linear	
1,2,4-Trimethylbenzene	2.42499	2.34459	2.34459	0.100	3.31555	50.0	Averaged	
sec-Butylbenzene	50.0	50.04876	2.70154	0.100	-0.09751	50.0	Linear	
p-Isopropyltoluene	2.40387	2.37034	2.37034	0.100	1.39511	50.0	Averaged	
1,3-Dichlorobenzene	1.43831	1.38592	1.38592	0.600	3.64251	50.0	Averaged	
1,4-Dichlorobenzene	1.49108	1.44220	1.44220	0.400	3.27828	50.0	Averaged	
n-Butylbenzene	2.03321	2.06947	2.06947	0.500	-1.78342	50.0	Averaged	
1,2-Dichlorobenzene	1.35234	1.31971	1.31971	0.400	2.41329	50.0	Averaged	
1,2-Dibromo-3-Chloropropane	50.0	48.89484	0.08406	0.040	2.21032	50.0	Linear	
1,2,4-Trichlorobenzene	0.62781	0.60706	0.60706	0.100	3.30389	50.0	Averaged	
Hexachlorobutadiene	50.0	51.81491	0.38683	0.100	-3.62983	50.0	Quadratic	
Naphthalene	0.97734	0.97937	0.97937	0.200	-0.20764	50.0	Averaged	
1,2,3-Trichlorobenzene	0.45283	0.44478	0.44478	0.010	1.77744	50.0	Averaged	
1,2-Dichloroethylene (total	0.51175	0.51054	0.51054	0.200	0.23523	50.0	Averaged	
Xylenes (total)	0.57991	0.59605	0.59605	0.100	-2.78319	50.0	Averaged	
Cyclohexane	50.0	57.09523	0.63040	0.100	-14.19046	50.0	Quadratic	
Freon TF	50.0	58.41242	0.44480	0.100	-16.82484	50.0	Quadratic	
Methylcyclohexane	0.69202	0.75571	0.75571	0.100	-9.20412	50.0	Averaged	
Methyl Acetate	0.30377	0.31879	0.31879	0.100	-4.94572	50.0	Averaged	
Tert-butyl alcohol	0.04273	0.04375	0.04375	0.005	-2.39477	50.0	Averaged	
Isopropyl alcohol	0.02327	0.02368	0.02368	0.005	-1.76975	50.0	Averaged	

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Form 8

Internal Standard Area and RT Summary

Workorder

HS22110111

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Monthly Effluent Samples

11/17/2022

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
HS22110111

RunID
VOA6_421126

		IS1		IS2		IS3		IS4	
Sample ID	File ID	Area	RT	Area	RT	Area	RT	Area	RT
12-HOUR STD (CCV)	X110602	625842 #	4.18 #	962835 #	4.97 #	931081 #	7.67 #	467684 #	9.66 #
CCB	X110604	710320	4.18	1028355	4.97	922625	7.67	425098	9.67
VLCSW-221106	X110605	599002	4.18	930337	4.97	890133	7.67	452740	9.66
VBLKW-221106	X110608	697823	4.18	1002160	4.97	901110	7.67	421065	9.67
ZZZZZZMS	X110612	699870	4.18	1000924	4.97	908763	7.67	468631	9.66
ZZZZZZMSD	X110613	690775	4.18	994132	4.97	911007	7.67	466016	9.66
HS22110111-03	X110616	697520	4.18	997181	4.97	882952	7.67	407668	9.67
HS22110111-01	X110617	673177	4.18	981626	4.97	871140	7.67	407350	9.66
CCV-END	X110631	557188	4.18	874939	4.97	862067	7.67	465883	9.66

IS1 - Pentafluorobenzene IS2 - 1,4-Difluorobenzene IS3 - Chlorobenzene-d5 IS4 - 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = +100% of 12H STD IS Area
AREA LOWER LIMIT = - 50% of 12H STD IS Area
RT - Retention Time IS - Internal Standard

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 by EPA 8260

Workorder

HS22110111

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Monthly Effluent Samples

11/17/2022

ALS Environmental–Houston Laboratory

10450 Stancliff Road, Suite 210, Houston, TX 77099

Phone (281) 530-5656 Fax (281) 530-5887

www.alsglobal.com

MSVOA06 -Logbook

Batch: 51901 **Analyst:** Presenta Cabascango

Date: 11-02-2022 **Reviewer:**

Method: 8260 **Laboratory:** Houston

Comments:

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	11-02-2022 11:00 am	1.00	50 mL	50 mL	X110201.D	Liquid	Y	NA
2	VSTD000.25	ICAL1	11-02-2022 11:21 am	1.00	50 mL	50 mL	X110202.D	Liquid	Y	NA
3	VSTD000.5	ICAL2	11-02-2022 12:03 pm	1.00	50 mL	50 mL	X110203.D	Liquid	Y	NA
4	VSTD001	ICAL3	11-02-2022 12:24 pm	1.00	50 mL	50 mL	X110204.D	Liquid	Y	NA
5	VSTD002	ICAL4	11-02-2022 12:45 pm	1.00	50 mL	50 mL	X110205.D	Liquid	Y	NA
6	VSTD005	ICAL5	11-02-2022 01:06 pm	1.00	50 mL	50 mL	X110206.D	Liquid	Y	NA
7	VSTD020	ICAL6	11-02-2022 01:27 pm	1.00	50 mL	50 mL	X110207.D	Liquid	Y	NA
8	VSTD050	ICAL7	11-02-2022 01:48 pm	1.00	50 mL	50 mL	X110208.D	Liquid	Y	NA
9	VSTD100	ICAL8	11-02-2022 02:09 pm	1.00	50 mL	50 mL	X110209.D	Liquid	Y	NA
10	VSTD150	ICAL9	11-02-2022 02:29 pm	1.00	50 mL	50 mL	X110210.D	Liquid	Y	NA
11	VSTD200	ICAL	11-02-2022 02:50 pm	1.00	50 mL	50 mL	X110211.D	Liquid	Y	NA
12	BLANK	SAMP	11-02-2022 03:11 pm	1.00	50 mL	50 mL	X110212.D	Liquid	Y	NA
13	BLANK	SAMP	11-02-2022 03:32 pm	1.00	50 mL	50 mL	X110213.D	Liquid	Y	NA
14	CCV	CCV	11-02-2022 03:53 pm	1.00	50 mL	50 mL	X110214.D	Liquid	Y	NA
15	BFB	TUNE	11-02-2022 04:14 pm	1.00	50 mL	50 mL	Y110201.D	Liquid	Y	NA
16	CCV	CCV	11-02-2022 04:35 pm	1.00	50 mL	50 mL	Y110202a.D	Liquid	Y	NA
17	CCV	CCV	11-02-2022 04:56 pm	1.00	50 mL	50 mL	Y110203.D	Liquid	Y	NA
18	CCB	SAMP	11-02-2022 05:17 pm	1.00	50 mL	50 mL	Y110204.D	Liquid	Y	NA
19	VLCSW-221102	LCS	11-02-2022 05:38 pm	1.00	50 mL	50 mL	Y110205.D	Liquid	Y	NA
20	BLANK	SAMP	11-02-2022 05:59 pm	1.00	50 mL	50 mL	Y110206.D	Liquid	Y	NA
21	VBLKW-221102	MBLK	11-02-2022 06:20 pm	1.00	50 mL	50 mL	Y110207.D	Liquid	Y	NA
22	HS22110018-01	SAMP	11-02-2022 06:41 pm	1.00	50 mL	50 mL	Y110208.D	Liquid	Y	NA
23	HS22110018-06	SAMP	11-02-2022 07:02 pm	1.00	50 mL	50 mL	Y110209.D	Liquid	Y	NA
24	HS22110018-10	SAMP	11-02-2022 07:23 pm	1.00	50 mL	50 mL	Y110210.D	Liquid	Y	NA
25	HS22110018-02	SAMP	11-02-2022 07:44 pm	1.00	50 mL	50 mL	Y110211.D	Liquid	Y	NA
26	HS22101382-02	SAMP	11-02-2022 08:06 pm	5.00	10 mL	50 mL	Y110212.D	Liquid	Y	NA
27	HS22110018-02MS	MS	11-02-2022 08:27 pm	1.00	50 mL	50 mL	Y110213.D	Liquid	Y	NA
28	HS22110018-02MSD	MSD	11-02-2022 08:48 pm	1.00	50 mL	50 mL	Y110214.D	Liquid	Y	NA
29	HS22101382-01	SAMP	11-02-2022 09:09 pm	5.00	10 mL	50 mL	Y110215.D	Liquid	Y	NA
30	HS22101382-08	SAMP	11-02-2022 09:30 pm	5.00	10 mL	50 mL	Y110216.D	Liquid	Y	NA
31	HS22101382-09	SAMP	11-02-2022 09:51 pm	5.00	10 mL	50 mL	Y110217.D	Liquid	Y	NA
32	HS22110018-03	SAMP	11-02-2022 10:12 pm	1.00	50 mL	50 mL	Y110218.D	Liquid	Y	NA
33	HS22110018-07	SAMP	11-02-2022 10:33 pm	1.00	50 mL	50 mL	Y110219.D	Liquid	Y	NA
34	HS22110018-08	SAMP	11-02-2022 10:54 pm	1.00	50 mL	50 mL	Y110220.D	Liquid	Y	NA
35	HS22110018-12	SAMP	11-02-2022 11:15 pm	1.00	50 mL	50 mL	Y110221.D	Liquid	Y	NA
36	HS22110018-16	SAMP	11-02-2022 11:36 pm	1.00	50 mL	50 mL	Y110222.D	Liquid	Y	NA
37	HS22110018-18	SAMP	11-02-2022 11:57 pm	1.00	50 mL	50 mL	Y110223.D	Liquid	Y	NA
38	HS22110018-19	SAMP	11-03-2022 12:18 am	1.00	50 mL	50 mL	Y110224.D	Liquid	Y	NA
39	HS22110018-17	SAMP	11-03-2022 12:39 am	1.00	50 mL	50 mL	Y110225.D	Liquid	Y	NA
40	HS22110018-04	SAMP	11-03-2022 01:00 am	1.00	50 mL	50 mL	Y110226.D	Liquid	Y	NA
41	HS22110018-05	SAMP	11-03-2022 01:21 am	5.00	10 mL	50 mL	Y110227.D	Liquid	Y	NA

MSVOA06 -Logbook

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
42	HS22110018-09	SAMP	11-03-2022 01:43 am	5.00	10 mL	50 mL	Y110228.D	Liquid	Y	NA
43	HS22110018-11	SAMP	11-03-2022 02:04 am	10.00	5 mL	50 mL	Y110229.D	Liquid	Y	NA
44	CCV-END	CCV	11-03-2022 02:25 am	1.00	50 mL	50 mL	Y110230.D	Liquid	Y	NA
45	BLANK	SAMP	11-03-2022 02:46 am	1.00	50 mL	50 mL	Y110231.D	Liquid	Y	NA

Form 13 - Analysis Run Log

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder
HS22110111

Volatiles by by EPA 8260

RUNID
VOA6_421126

Run ID VOA6_421126 **Start Date** 11/06/22 **EndDate** 11/06/22 **Matrix** Aqueous

Client Sample ID	Type	Lab Sample ID	File ID	Analysis Date	DF
CCV	CCV	CCV	X110602.D	11/06/22 12:20	1
CCB	CCB	CCB	X110604.D	11/06/22 13:02	1
VLCSW-221106	LCS	VLCSW-221106	X110605.D	11/06/22 13:23	1
VBLKW-221106	MBLK	VBLKW-221106	X110608.D	11/06/22 14:26	1
BatchQC	MS	HS22110180-01MS	X110612.D	11/06/22 15:50	1
BatchQC	MSD	HS22110180-01MSD	X110613.D	11/06/22 16:11	1
Trip Blank	SAMP	HS22110111-03	X110616.D	11/06/22 17:15	1
LH18/24-SP650_110122	SAMP	HS22110111-01	X110617.D	11/06/22 17:36	1

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Raw Data VOA6 420865

Volatiles by by EPA 8260

Workorder

HS22110111

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Monthly Effluent Samples

11/17/2022

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\X221102.b\X110201.D Page 1
Report Date: 02-Nov-2022 11:19

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110201.D
Lab Smp Id: BFB Client Smp ID: BFB
Inj Date : 02-NOV-2022 11:00
Operator : PC Inst ID: voa6.i
Smp Info : BFB;BFB;3;;BFB
Misc Info : HS22052000V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\bfb.m
Meth Date : 27-Sep-2022 15:10 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	
8.695	8.889	(0.000)	95	116096			0.00- 100.00	100.00
8.695	8.889	(0.000)	50	23040			15.00- 40.00	19.85
8.695	8.889	(0.000)	75	56496			30.00- 60.00	48.66
8.695	8.889	(0.000)	96	9130			5.00- 9.00	7.86
8.695	8.889	(0.000)	173	860			0.00- 2.00	0.84
8.695	8.889	(0.000)	174	101808			50.00- 0.00	87.69
8.695	8.889	(0.000)	175	8629			5.00- 9.00	8.48
8.695	8.889	(0.000)	176	99664			95.00- 101.00	97.89
8.695	8.889	(0.000)	177	6801			5.00- 9.00	6.82

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	19.85
75	30.00 - 60.00% of mass 95	48.66
96	5.00 - 9.00% of mass 95	7.86
173	Less than 2.00% of mass 174	0.74 (0.84)
174	Greater than 50.00% of mass 95	87.69
175	5.00 - 9.00% of mass 174	7.43 (8.48)
176	95.00 - 101.00% of mass 174	85.85 (97.89)
177	5.00 - 9.00% of mass 176	5.86 (6.82)

Data File: X110201.D
Spectrum: Scan 2161 (8.69)
Location of Maximum: 95.00
Number of points: 104

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	1118	66.90	291	105.80	714	144.90	103
37.00	6185	68.00	11752	106.90	97	145.70	178
38.00	5634	69.00	11574	109.90	146	146.80	75
38.90	1937	70.00	867	110.70	112	147.60	225
40.00	1034	71.80	632	111.80	55	148.00	190
40.90	112	73.00	5631	112.90	67	148.90	85
42.30	60	74.00	19312	114.90	274	149.80	144
43.00	177	75.00	56496	115.90	478	152.80	73
44.10	1527	76.00	5239	116.80	650	154.70	264
45.00	1022	76.90	780	117.90	381	155.00	248
46.00	271	77.70	437	118.90	564	156.70	205
47.00	1094	78.80	4236	121.70	83	156.90	206
48.00	784	79.90	1188	124.80	106	158.90	203
49.00	5636	80.90	3714	126.70	100	160.70	125
50.00	23040	81.90	903	127.80	367	170.00	67
51.00	7149	82.80	132	128.90	262	171.90	129
52.00	275	86.90	4494	129.90	382	172.90	860
52.70	56	88.00	4451	130.70	145	173.90	101808
54.90	351	90.90	832	133.80	74	174.90	8629
56.00	1768	91.90	3630	134.50	100	175.90	99664
57.00	2791	92.90	4641	135.00	87	176.90	6801
57.90	116	94.00	14141	137.00	151	177.70	275
59.90	1087	95.00	116096	138.80	118	185.90	107
61.00	5096	96.00	9130	140.90	1020		
62.00	5358	97.00	231	142.00	182		
63.00	4049	103.70	579	142.90	872		
63.90	340	104.90	207	143.90	123		

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110201.D Page 1

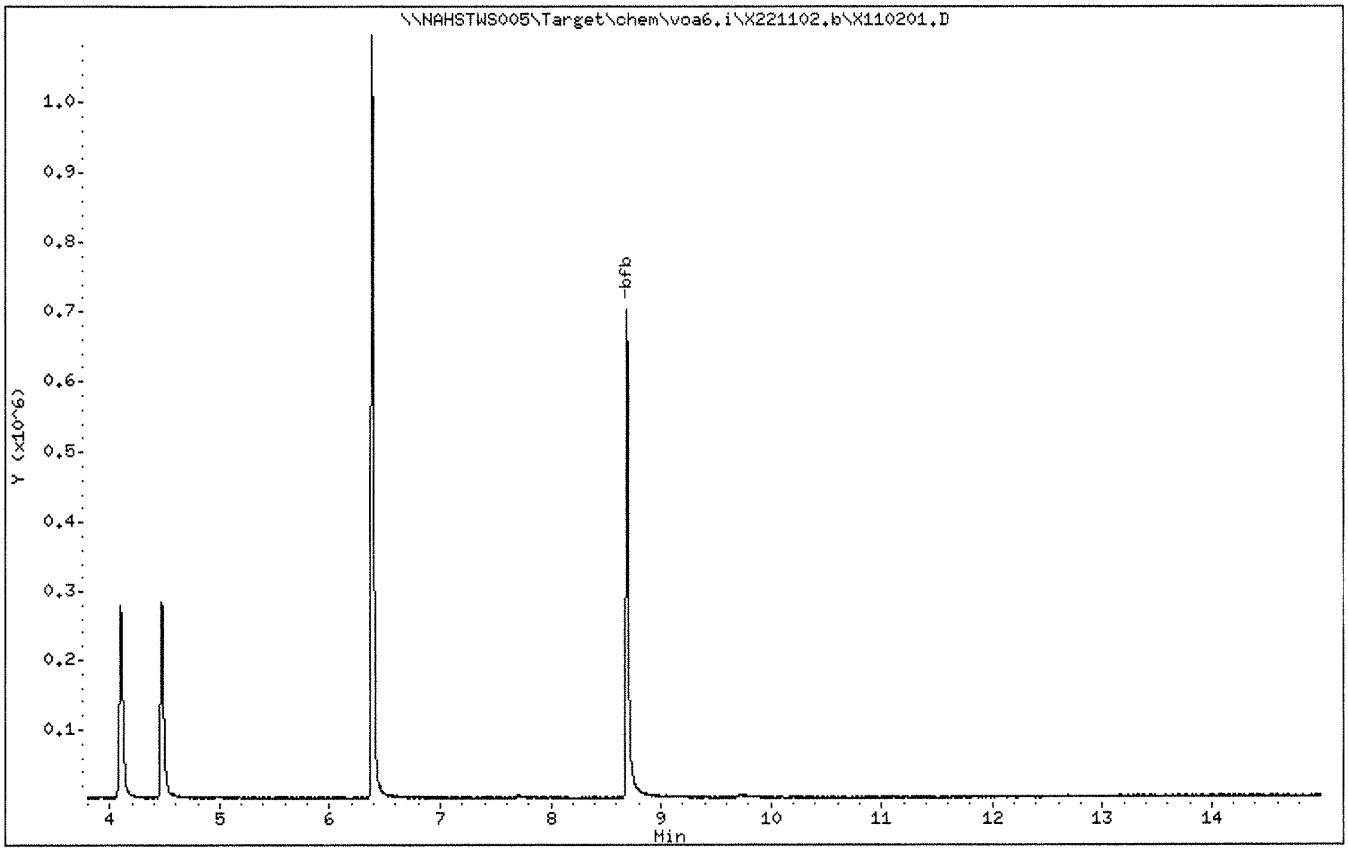
Date : 02-NOV-2022 11:00

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\X221102.b\X110201.D

Date : 02-NOV-2022 11:00

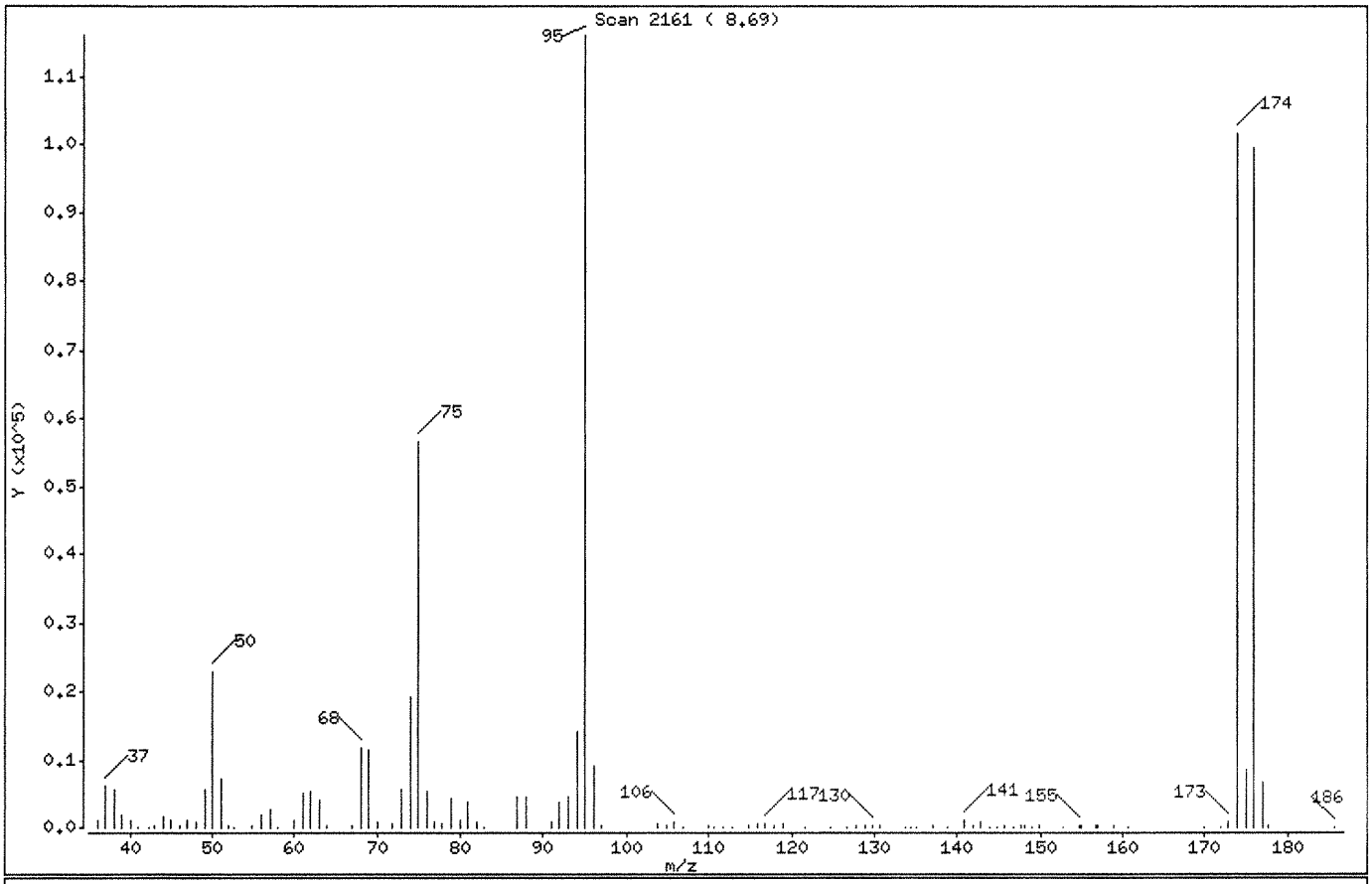
Client ID: BFB Instrument: voa6.i

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	19.85
75	30.00 - 60.00% of mass 95	48.66
96	5.00 - 9.00% of mass 95	7.86
173	Less than 2.00% of mass 174	0.74 (0.84)
174	Greater than 50.00% of mass 95	87.69
175	5.00 - 9.00% of mass 174	7.43 (8.48)
176	95.00 - 101.00% of mass 174	85.85 (97.89)
177	5.00 - 9.00% of mass 176	5.86 (6.82)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110201.D

Date : 02-NOV-2022 11:00

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: X110201.D
Spectrum: Scan 2161 (8.69)
Location of Maximum: 95.00
Number of points: 104

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	1118	66.90	291	105.80	714	144.90	103
37.00	6185	68.00	11752	106.90	97	145.70	178
38.00	5634	69.00	11574	109.90	146	146.80	75
38.90	1937	70.00	867	110.70	112	147.60	225
40.00	1034	71.80	632	111.80	55	148.00	190
40.90	112	73.00	5631	112.90	67	148.90	85
42.30	60	74.00	19312	114.90	274	149.80	144
43.00	177	75.00	56496	115.90	478	152.80	73
44.10	1527	76.00	5239	116.80	650	154.70	264
45.00	1022	76.90	780	117.90	381	155.00	248
46.00	271	77.70	437	118.90	564	156.70	205
47.00	1094	78.80	4236	121.70	83	156.90	206
48.00	784	79.90	1188	124.80	106	158.90	203
49.00	5636	80.90	3714	126.70	100	160.70	125
50.00	23040	81.90	903	127.80	367	170.00	67
51.00	7149	82.80	132	128.90	262	171.90	129
52.00	275	86.90	4494	129.90	382	172.90	860
52.70	56	88.00	4451	130.70	145	173.90	101808
54.90	351	90.90	832	133.80	74	174.90	8629
56.00	1768	91.90	3630	134.50	100	175.90	99664
57.00	2791	92.90	4641	135.00	87	176.90	6801
57.90	116	94.00	14141	137.00	151	177.70	275
59.90	1087	95.00	116096	138.80	118	185.90	107
61.00	5096	96.00	9130	140.90	1020		
62.00	5358	97.00	231	142.00	182		
63.00	4049	103.70	579	142.90	872		
63.90	340	104.90	207	143.90	123		

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110202.D Page 1
Report Date: 09-Nov-2022 12:35

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110202.D
Lab Smp Id: VSTD000.25 Client Smp ID: VSTD000.25
Inj Date : 02-NOV-2022 11:21
Operator : PC Inst ID: voa6.i
Smp Info : VSTD000.25;VSTD000.25;1;1;
Misc Info : HS22052000V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\8260W.m
Meth Date : 09-Nov-2022 12:35 voa6.i Quant Type: ISTD
Cal Date : 02-NOV-2022 14:50 Cal File: X110211.D
Als bottle: 2 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260V6.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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)	601442	50.0000	
135 1,4-Dioxane	88	5.632	5.632	(1.347)	321	5.00000	5.00(M)
140 1,3-Butadiene	54	1.160	1.160	(0.277)	1211	0.25000	0.24
25 Methacrylonitrile	41	3.878	3.878	(0.927)	1555	0.25000	0.28(M)
12 Isobutyl Alcohol	43	4.672	4.672	(1.117)	3697	5.00000	4.11(TM)
13 Acetonitrile	39	2.209	2.209	(0.528)	1755	2.50000	2.43
14 Allyl Chloride	41	2.206	2.206	(0.528)	3180	0.25000	0.23
4 Propionitrile	54	3.724	3.724	(0.891)	1543	2.50000	2.04(M)
136 n-Hexane	57	2.779	2.779	(0.665)	1679	0.25000	
145 alpha-Methylstyrene	118	9.279	9.279	(0.960)	2422	0.25000	0.24
200 Dimethyl Disulfide	94	6.209	6.209	(0.809)	2496	0.25000	0.22
139 Diethyl ether	59	1.756	1.756	(0.420)	1253	0.25000	0.26
49 Ethyl Methacrylate	69	6.809	6.809	(1.371)	3024	0.25000	0.31(M)
150 Allyl alcohol	57	2.779	2.779	(0.665)	1679	5.00000	
166 1,2,3-Trimethylbenzene	105	9.740	9.740	(1.008)	5679	0.25000	0.28
2 Dichlorodifluoromethane	85	0.972	0.972	(0.233)	1497	0.25000	0.87(M)
3 Chloromethane	50	1.077	1.077	(0.258)	2515	0.25000	1.75
5 Vinyl Chloride	62	1.141	1.141	(0.273)	2417	0.25000	0.35
6 Bromomethane	94	1.336	1.336	(0.320)	2071	0.25000	1.73
7 Chloroethane	64	1.400	1.400	(0.335)	1450	0.25000	0.34

8	Trichlorofluoromethane	101	1.557	1.557 (0.372)	2150	0.25000	0.24
10	Acetone	43	1.981	1.981 (0.474)	2884	0.50000	

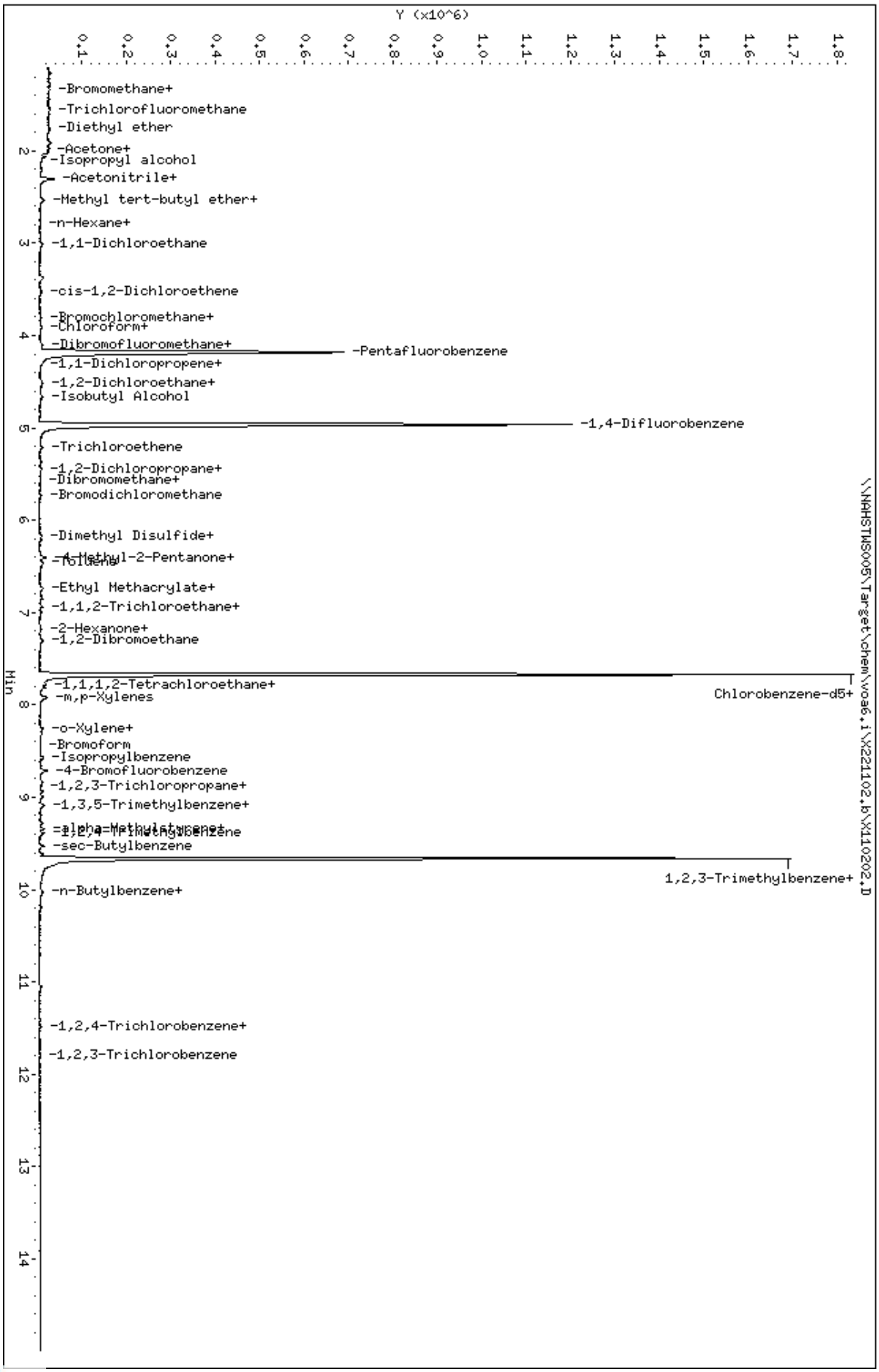
			QUANT SIG					AMOUNTS	
								CAL-AMT	ON-COL
	Compounds		MASS	RT	EXP RT	REL RT	RESPONSE	(ug/l)	(ug/l)
	11	1,1-Dichloroethene	96	1.913	1.913	(0.458)	1510	0.25000	0.29(M)
	15	Iodomethane	142	2.022	2.022	(0.484)	955	0.50000	2.45(T)
	17	Methylene Chloride	84	2.299	2.299	(0.550)	4172	0.25000	0.63(M)
	18	Methyl tert-butyl ether	73	2.532	2.532	(0.606)	4553	0.25000	0.25
	19	Carbon Disulfide	76	2.067	2.067	(0.494)	8899	0.50000	0.57
	20	trans-1,2-Dichloroethene	96	2.539	2.539	(0.607)	1400	0.25000	0.24
	22	1,1-Dichloroethane	63	2.929	2.929	(0.701)	3287	0.25000	0.32(T)
	27	cis-1,2-Dichloroethene	96	3.540	3.540	(0.847)	2053	0.25000	0.30
	28	Chloroform	83	3.911	3.911	(0.935)	3986	0.25000	0.35
	29	Bromochloromethane	128	3.806	3.806	(0.910)	1143	0.25000	0.32
$	30	Dibromofluoromethane	113	4.110	4.110	(0.983)	1420	0.25000	0.77
	31	1,1,1-Trichloroethane	97	4.087	4.087	(0.978)	2098	0.25000	0.23
	32	1,1-Dichloropropene	75	4.290	4.290	(0.864)	2381	0.25000	0.30(M)
	33	1,2-Dichloroethane	62	4.567	4.567	(0.920)	2421	0.25000	0.27
	34	Carbon Tetrachloride	117	4.256	4.256	(0.857)	2172	0.25000	0.19(M)
$	35	1,2-Dichloroethane-d4	65	4.485	4.485	(1.073)	2569	0.25000	0.79(TM)
*	36	1,4-Difluorobenzene	114	4.965	4.965	(1.000)	962427	50.0000	
	37	Benzene	78	4.515	4.515	(0.909)	7125	0.25000	0.29
	38	Trichloroethene	130	5.216	5.216	(1.051)	1945	0.25000	0.28
	39	Bromodichloromethane	83	5.737	5.737	(1.156)	2132	0.25000	0.25(M)
	42	1,2-Dichloropropane	63	5.444	5.444	(1.097)	1718	0.25000	0.26
	44	Dibromomethane	93	5.557	5.557	(1.119)	1061	0.25000	0.24
	45	4-Methyl-2-Pentanone	43	6.363	6.363	(0.829)	2011	0.50000	0.34(M)
	46	cis-1,3-Dichloropropene	75	6.172	6.172	(1.243)	2602	0.25000	0.24
*	47	Chlorobenzene-d5	117	7.671	7.671	(1.000)	894753	50.0000	
$	48	Toluene-d8	98	6.404	6.404	(0.835)	7338	0.25000	0.33(M)
	50	Toluene	91	6.460	6.460	(0.842)	6782	0.25000	0.26
	51	trans-1,3-Dichloropropene	75	6.715	6.715	(1.353)	2300	0.25000	0.25(M)
	52	2-Hexanone	43	7.154	7.154	(0.933)	1215	0.50000	0.31(T)
	53	1,1,2-Trichloroethane	83	6.854	6.854	(0.893)	1396	0.25000	0.27
	54	1,3-Dichloropropane	76	6.993	6.993	(0.912)	2976	0.25000	0.29
	55	Dibromochloromethane	129	7.188	7.188	(0.937)	1503	0.25000	0.22
	56	Tetrachloroethene	164	6.936	6.936	(0.904)	1003	0.25000	0.73
	57	1,2-Dibromoethane	107	7.281	7.281	(0.949)	1372	0.25000	0.21
	58	1-Chlorohexane	55	7.709	7.709	(1.553)	888	0.25000	0.04(M)
	59	Chlorobenzene	112	7.690	7.690	(1.002)	4923	0.25000	0.28
	60	1,1,1,2-Tetrachloroethane	131	7.780	7.780	(1.014)	1639	0.25000	0.26
	61	Ethylbenzene	106	7.810	7.810	(1.018)	2217	0.25000	0.25
	62	m,p-Xylenes	106	7.919	7.919	(1.032)	5483	0.50000	0.50
	63	o-Xylene	106	8.252	8.252	(1.076)	2539	0.25000	0.23
	64	Styrene	104	8.312	8.312	(1.084)	3792	0.25000	0.21
	66	Bromoform	173	8.432	8.432	(1.099)	672	0.25000	2.58(M)
	67	Isopropylbenzene	105	8.575	8.575	(1.118)	6452	0.25000	0.24
	68	1,1,2,2-Tetrachloroethane	83	8.852	8.852	(0.916)	1994	0.25000	0.28(M)
$	69	4-Bromofluorobenzene	95	8.713	8.713	(1.136)	6237	0.25000	1.00(M)
*	70	1,4-Dichlorobenzene-d4	152	9.665	9.665	(1.000)	415276	50.0000	
	71	1,2,3-Trichloropropane	75	8.878	8.878	(0.919)	1337	0.25000	0.25
	73	n-Propylbenzene	91	8.938	8.938	(0.925)	6455	0.25000	0.23
	74	Bromobenzene	156	8.829	8.829	(0.914)	1759	0.25000	0.24
	75	1,3,5-Trimethylbenzene	105	9.088	9.088	(0.940)	5264	0.25000	0.26
	76	2-Chlorotoluene	91	8.994	8.994	(0.931)	5660	0.25000	0.32
	77	4-Chlorotoluene	91	9.103	9.103	(0.942)	4857	0.25000	0.24

78	tert-Butylbenzene	119	9.343	9.343 (0.967)	4600	0.25000	0.83
79	1,2,4-Trimethylbenzene	105	9.392	9.392 (0.972)	5586	0.25000	0.27

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	81 sec-Butylbenzene	105	9.527	9.527	(0.986)	5770	0.25000	1.09
	82 p-Isopropyltoluene	119	9.654	9.654	(0.999)	5126	0.25000	0.25
	83 1,3-Dichlorobenzene	146	9.617	9.617	(0.995)	3178	0.25000	0.26
	84 1,4-Dichlorobenzene	146	9.684	9.684	(1.002)	3613	0.25000	0.29
	87 n-Butylbenzene	91	10.037	10.037	(1.038)	2214	0.25000	0.13
	88 1,2-Dichlorobenzene	146	10.022	10.022	(1.037)	2249	0.25000	0.20
	90 1,2,4-Trichlorobenzene	180	11.427	11.427	(1.182)	1081	0.25000	0.20(M)
	91 Hexachlorobutadiene	225	11.487	11.487	(1.188)	729	0.25000	(M)
	93 1,2,3-Trichlorobenzene	180	11.795	11.795	(1.220)	735	0.25000	0.19(M)
M	94 1,2-Dichloroethylene (total)	96				3453	0.50000	
M	95 Xylenes (total)	106				8022	0.75000	
	141 Cyclohexane	56	4.125	4.125	(0.987)	1515	0.25000	(M)
	138 Freon TF	101	1.917	1.917	(0.459)	1072	0.25000	
	147 Methylcyclohexane	55	5.452	5.452	(1.098)	2562	0.25000	0.19(M)

QC Flag Legend

T - Target compound detected outside RT window.
M - Compound response manually integrated.



Data File: \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110202.D
Date : 02-NOV-2022 11:21
Client ID: VSTD000.25
Sample Info: VSTD000.25;VSTD000.25;1;1;
Purge Volume: 5.0
Column phase: DB624

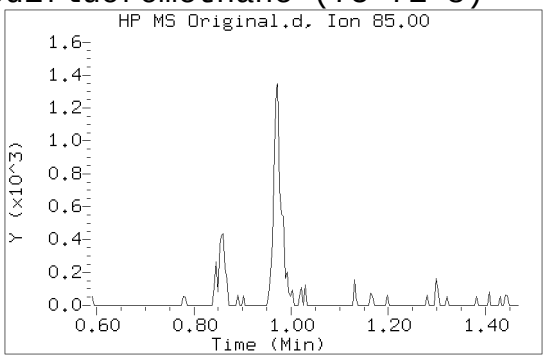
Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110202.D
Inj Date : 02-NOV-2022 11:21
InstruID : voa6.i
LabSampID : VSTD000.25

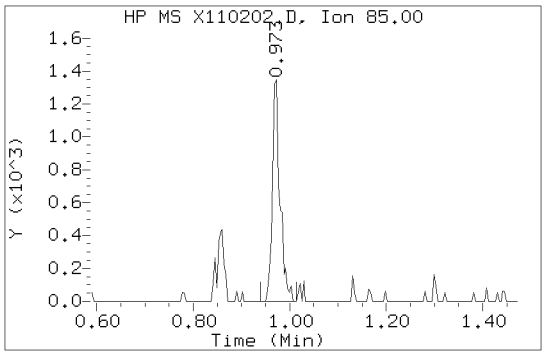
Dichlorodifluoromethane (75-71-8)

Reason Code:

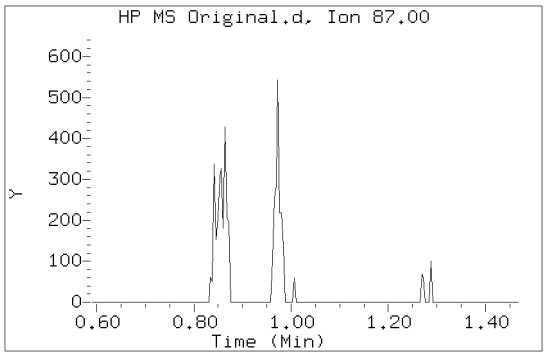
BEFORE
MASS
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AREA
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HEIGHT
0
08-Nov-2022
15:18
linh
pham



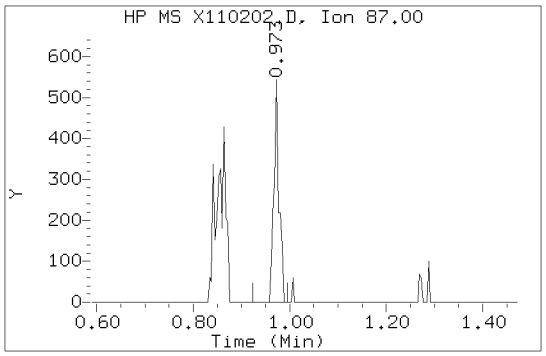
AFTER
MASS
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AREA
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HEIGHT
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09-Nov-2022
12:35



BEFORE
MASS
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AREA
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HEIGHT
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08-Nov-2022
15:18
linh
pham



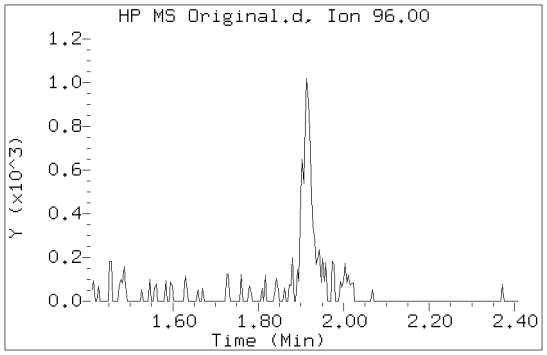
AFTER
MASS
87
AREA
396
HEIGHT
543
09-Nov-2022
12:35



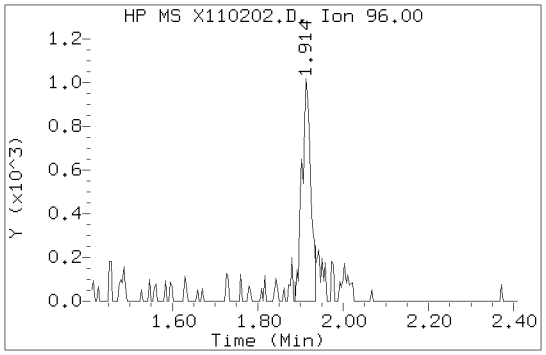
1,1-Dichloroethene (75-35-4)

Reason Code:

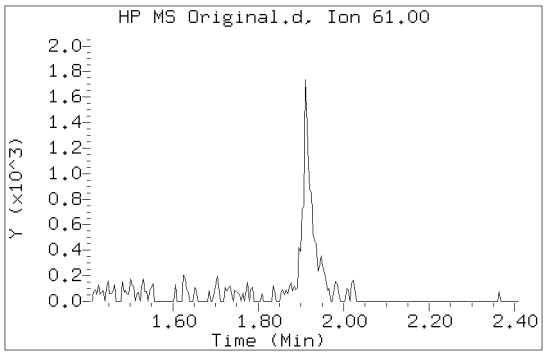
BEFORE
MASS
96
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



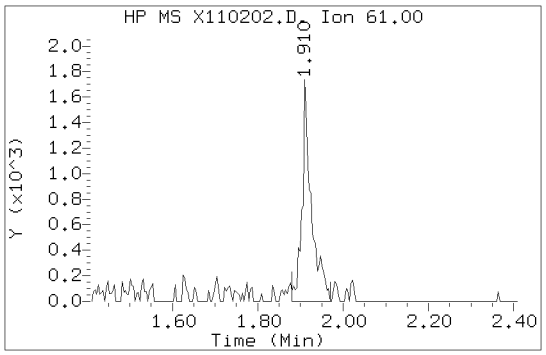
AFTER
MASS
96
AREA
1510
HEIGHT
1018
09-Nov-2022
12:35



BEFORE
MASS
61
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER
MASS
61
AREA
2670
HEIGHT
1736
09-Nov-2022
12:35

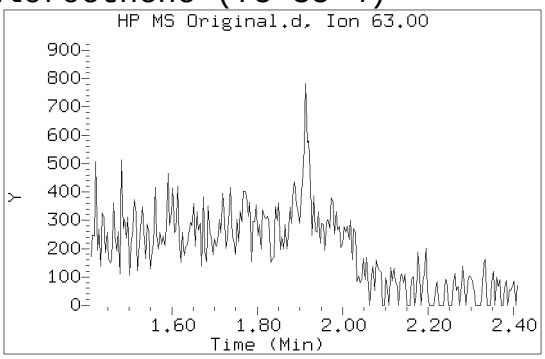


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Inj Date : 02-NOV-2022 11:21
InstruID : voa6.i
LabSampID : VSTD000.25

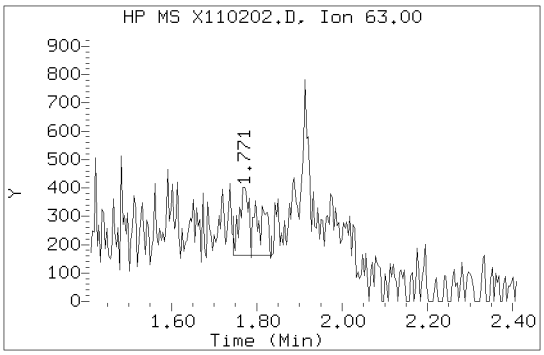
1,1-Dichloroethene (75-35-4)

Reason Code:

BEFORE
MASS
63
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



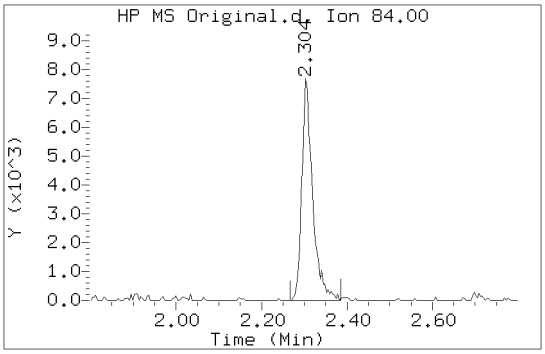
AFTER
MASS
63
AREA
696
HEIGHT
241
09-Nov-2022
12:35



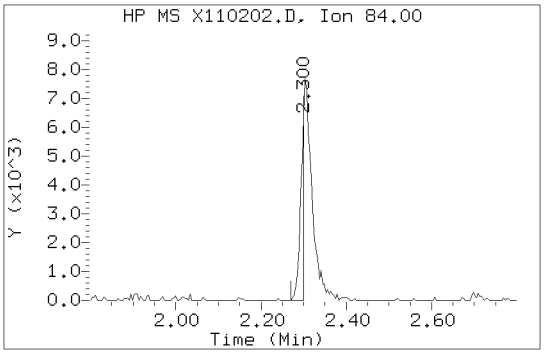
Methylene Chloride (75-09-2)

Reason Code:

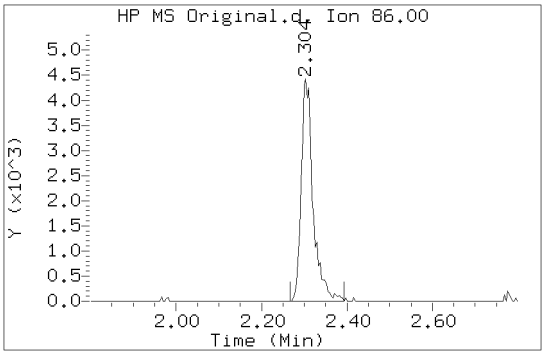
BEFORE
MASS
84
AREA
13764
HEIGHT
7678
08-Nov-2022
15:18
linh
pham



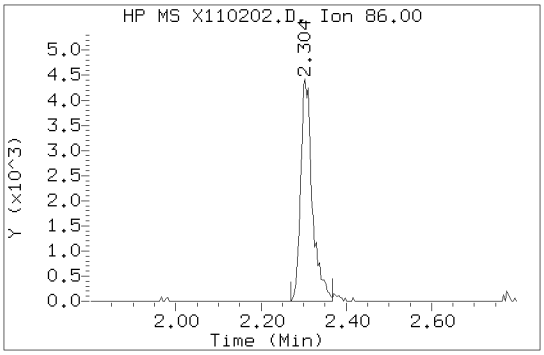
AFTER
MASS
84
AREA
4172
HEIGHT
6425
09-Nov-2022
12:35



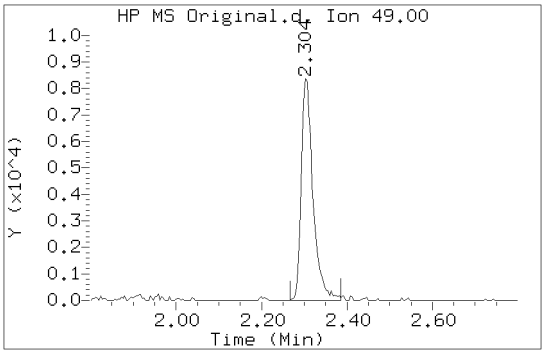
BEFORE
MASS
86
AREA
8703
HEIGHT
4427
08-Nov-2022
15:18
linh
pham



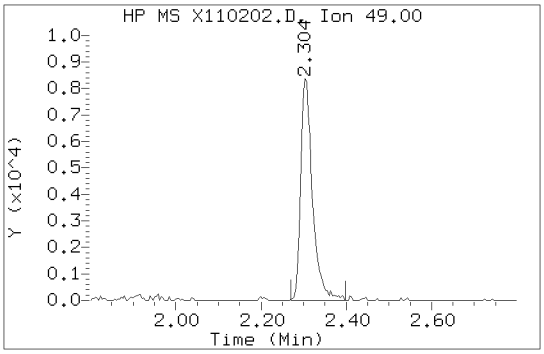
AFTER
MASS
86
AREA
8565
HEIGHT
4427
09-Nov-2022
12:35



BEFORE
MASS
49
AREA
16355
HEIGHT
8369
08-Nov-2022
15:18
linh
pham



AFTER
MASS
49
AREA
16429
HEIGHT
8369
09-Nov-2022
12:35

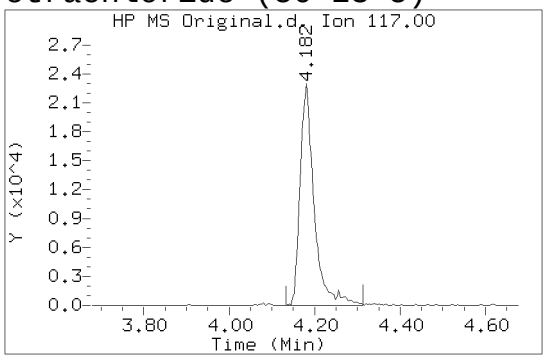


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Inj Date : 02-NOV-2022 11:21
InstruID : voa6.i
LabSampID : VSTD000.25

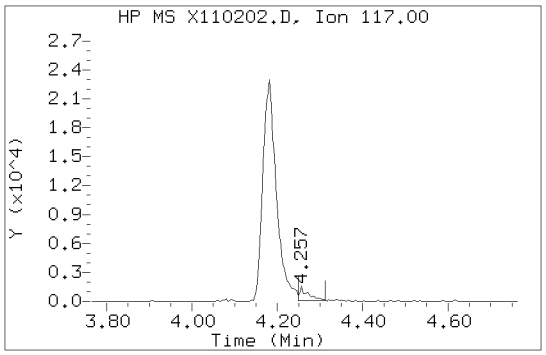
Carbon Tetrachloride (56-23-5)

Reason Code:

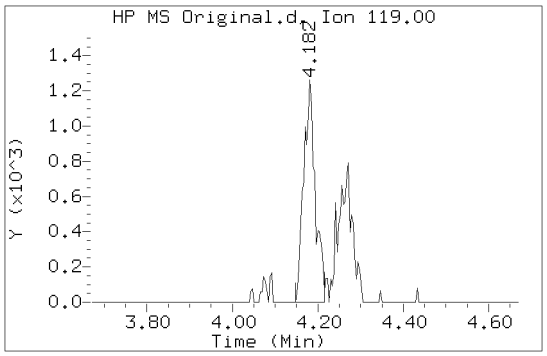
BEFORE
MASS
117
AREA
53364
HEIGHT
22976
08-Nov-2022
15:18
linh
pham



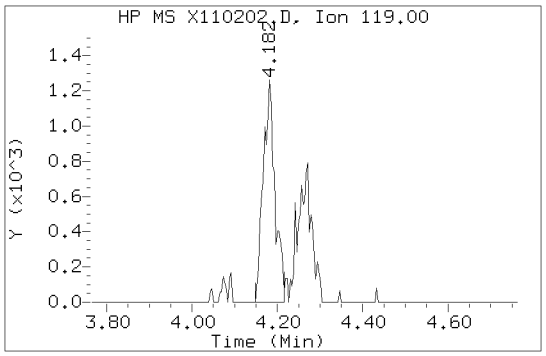
AFTER
MASS
117
AREA
2172
HEIGHT
1538
09-Nov-2022
12:35



BEFORE
MASS
119
AREA
2401
HEIGHT
1262
08-Nov-2022
15:18
linh
pham



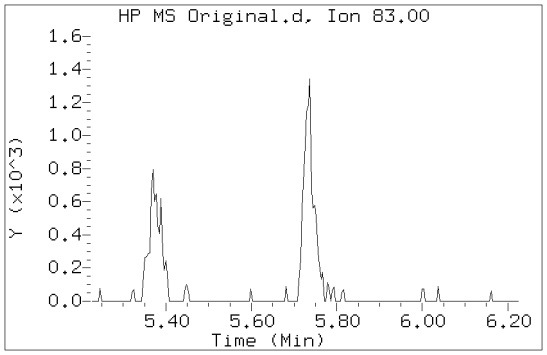
AFTER
MASS
119
AREA
2401
HEIGHT
1262
09-Nov-2022
12:35



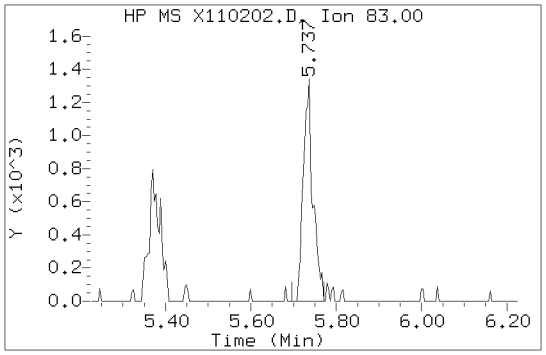
Bromodichloromethane (75-27-4)

Reason Code:

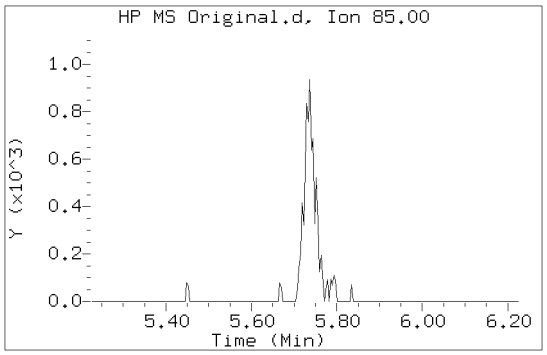
BEFORE
MASS
83
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



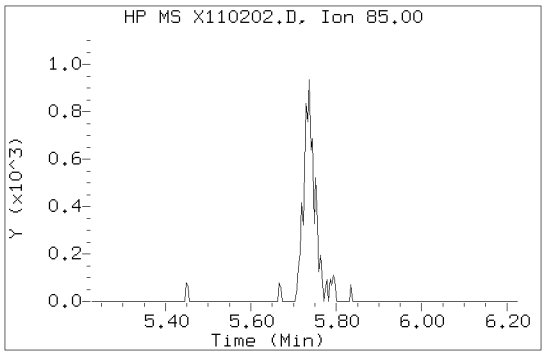
AFTER
MASS
83
AREA
2132
HEIGHT
1342
09-Nov-2022
12:35



BEFORE
MASS
85
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER
MASS
85
AREA
0
HEIGHT
0
09-Nov-2022
12:35

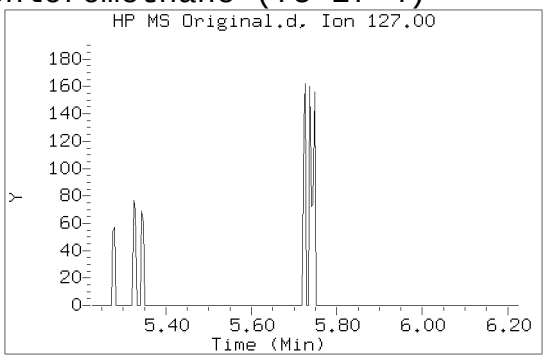


Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110202.D
Inj Date : 02-NOV-2022 11:21
InstruID : voa6.i
LabSampID : VSTD000.25

Bromodichloromethane (75-27-4)

BEFORE

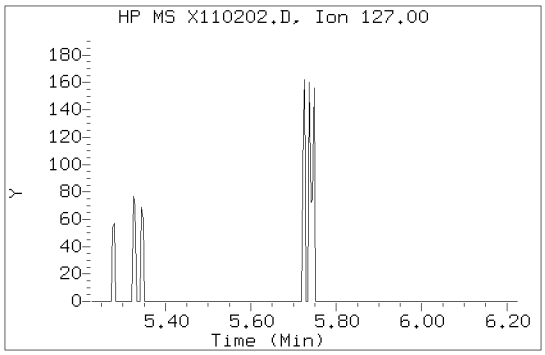
MASS
127
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



Reason Code:

AFTER

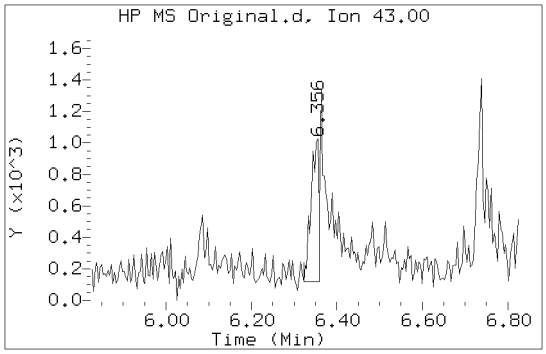
MASS
127
AREA
0
HEIGHT
0
09-Nov-2022
12:35



4-Methyl-2-Pentanone (108-10-1)

BEFORE

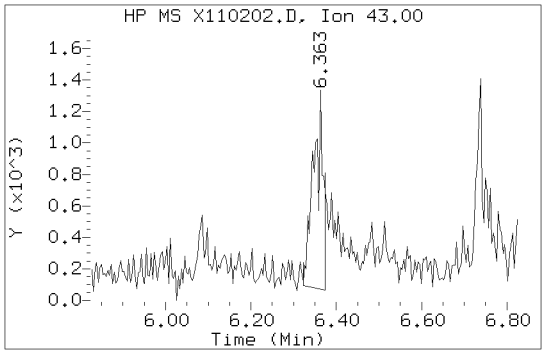
MASS
43
AREA
1181
HEIGHT
909
08-Nov-2022
15:18
linh
pham



Reason Code:

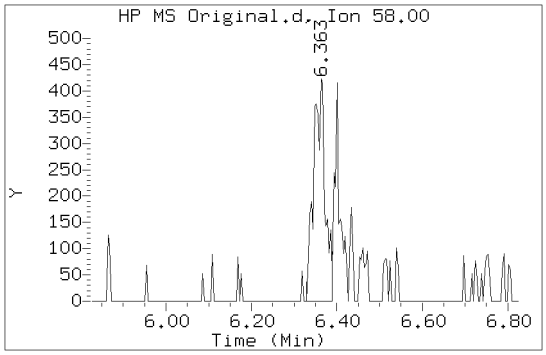
AFTER

MASS
43
AREA
2011
HEIGHT
1260
09-Nov-2022
12:35



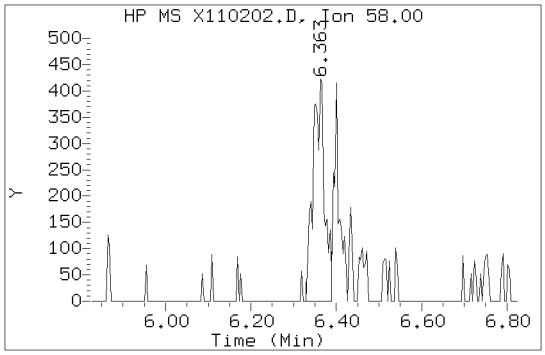
BEFORE

MASS
58
AREA
801
HEIGHT
423
08-Nov-2022
15:18
linh
pham



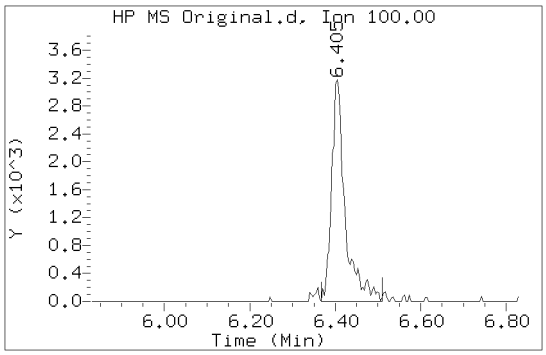
AFTER

MASS
58
AREA
801
HEIGHT
423
09-Nov-2022
12:35



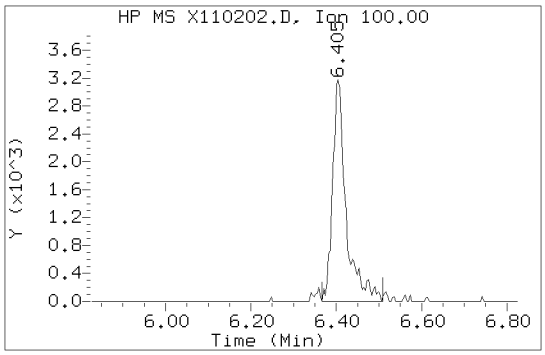
BEFORE

MASS
100
AREA
7019
HEIGHT
3177
08-Nov-2022
15:18
linh
pham



AFTER

MASS
100
AREA
7019
HEIGHT
3177
09-Nov-2022
12:35



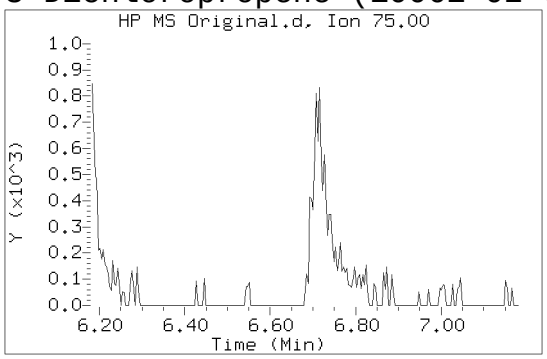
Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110202.D
Inj Date : 02-NOV-2022 11:21
InstruID : voa6.i
LabSampID : VSTD000.25

trans-1,3-Dichloropropene (10061-02-6)

Reason Code:

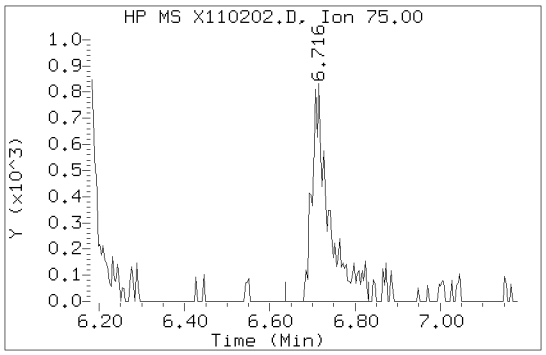
BEFORE

MASS
75
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



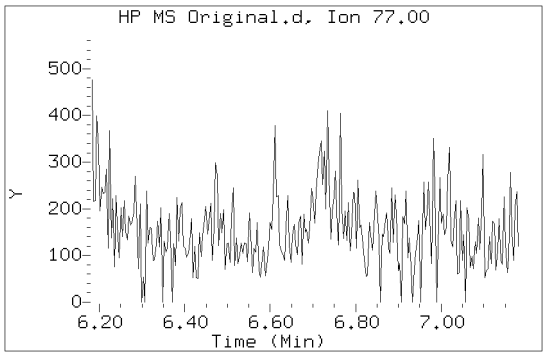
AFTER

MASS
75
AREA
2300
HEIGHT
833
09-Nov-2022
12:35



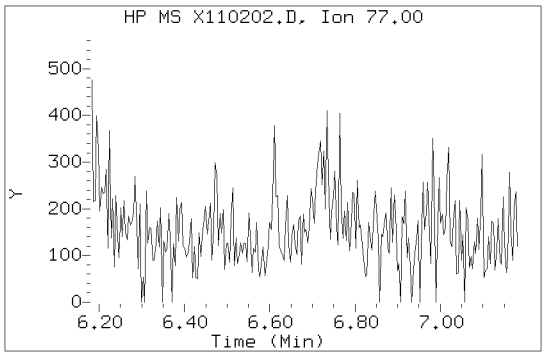
BEFORE

MASS
77
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



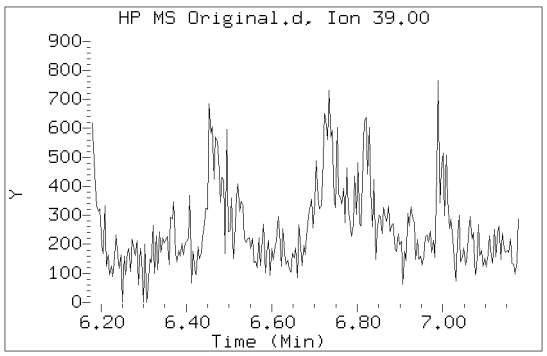
AFTER

MASS
77
AREA
0
HEIGHT
0
09-Nov-2022
12:35



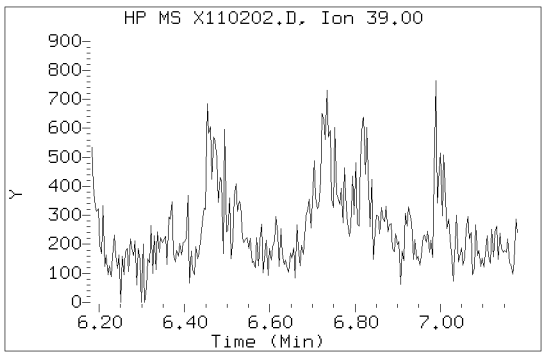
BEFORE

MASS
39
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

MASS
39
AREA
0
HEIGHT
0
09-Nov-2022
12:35

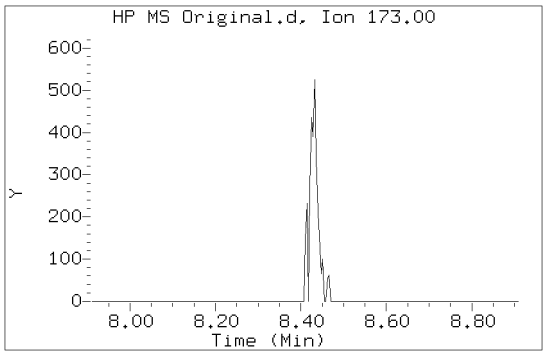


Bromoform (75-25-2)

Reason Code:

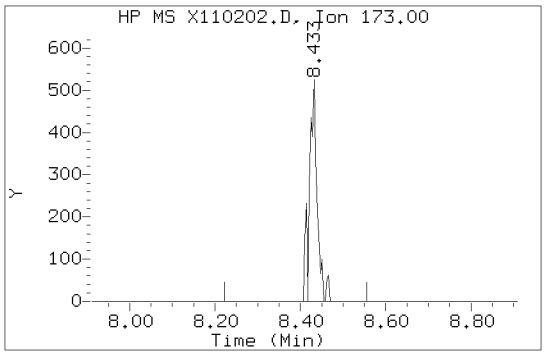
BEFORE

MASS
173
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

MASS
173
AREA
672
HEIGHT
525
09-Nov-2022
12:35

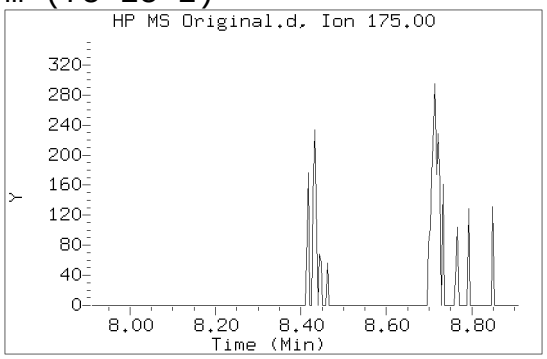


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Inj Date : 02-NOV-2022 11:21
InstruID : voa6.i
LabSampID : VSTD000.25

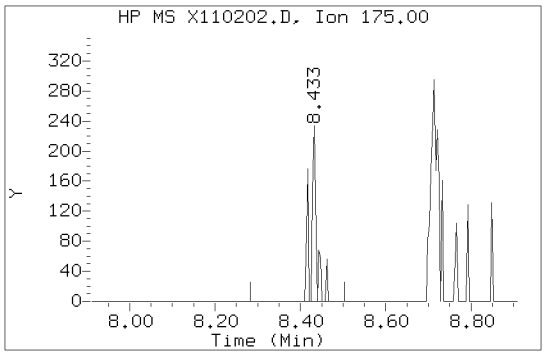
Bromoform (75-25-2)

Reason Code:

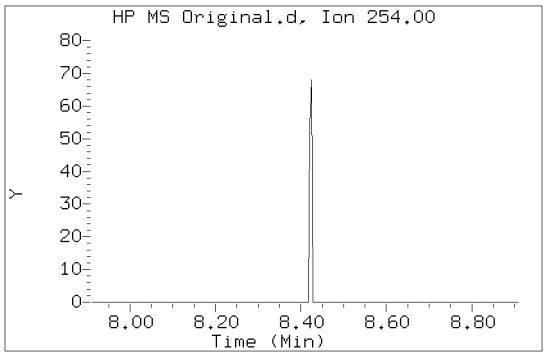
BEFORE
MASS
175
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



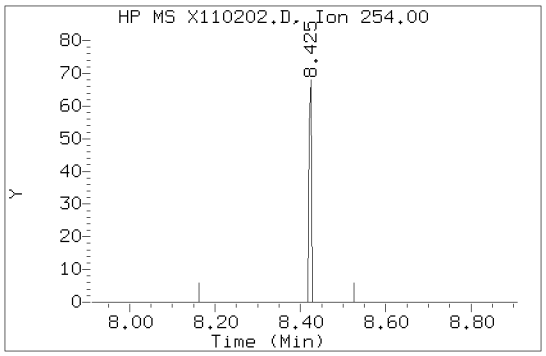
AFTER
MASS
175
AREA
217
HEIGHT
234
09-Nov-2022
12:35



BEFORE
MASS
254
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



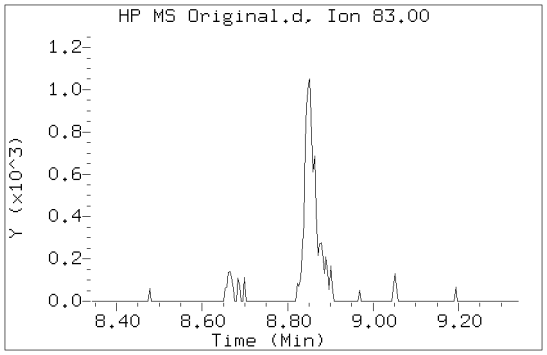
AFTER
MASS
254
AREA
27
HEIGHT
68
09-Nov-2022
12:35



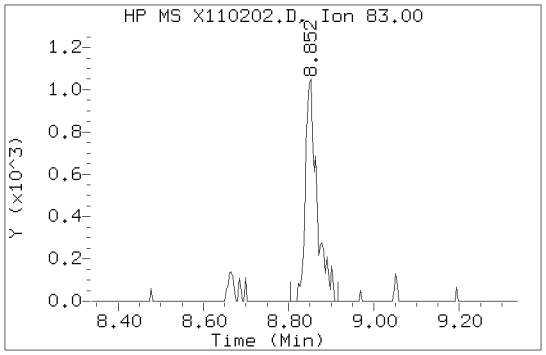
1,1,2,2-Tetrachloroethane (79-34-5)

Reason Code:

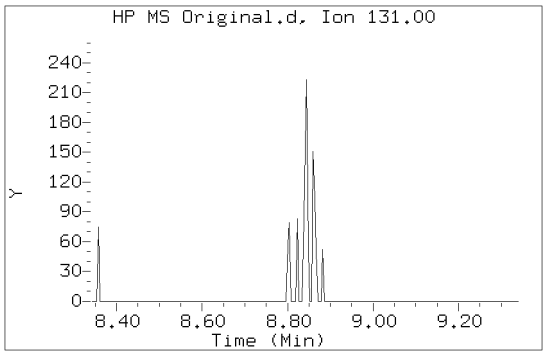
BEFORE
MASS
83
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



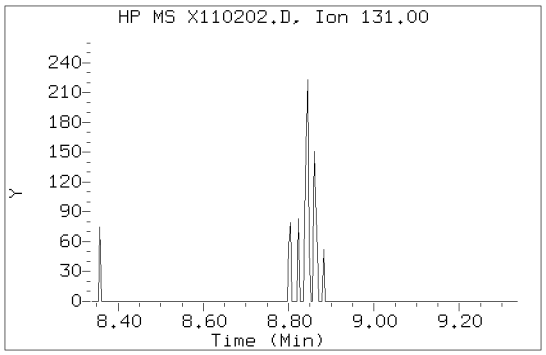
AFTER
MASS
83
AREA
1994
HEIGHT
1051
09-Nov-2022
12:35



BEFORE
MASS
131
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER
MASS
131
AREA
0
HEIGHT
0
09-Nov-2022
12:35

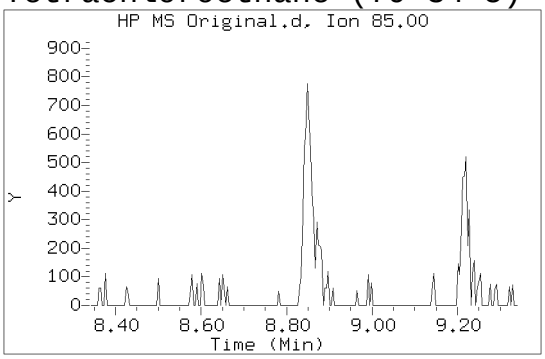


Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110202.D
Inj Date : 02-NOV-2022 11:21
InstruID : voa6.i
LabSampID : VSTD000.25

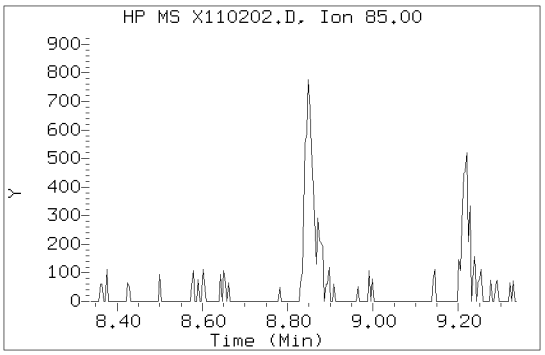
1,1,2,2-Tetrachloroethane (79-34-5)

Reason Code:

BEFORE
MASS
85
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



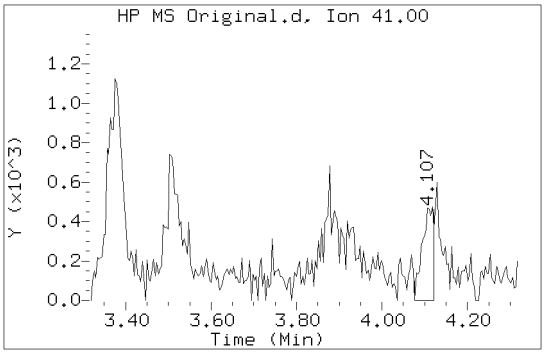
AFTER
MASS
85
AREA
0
HEIGHT
0
09-Nov-2022
12:35



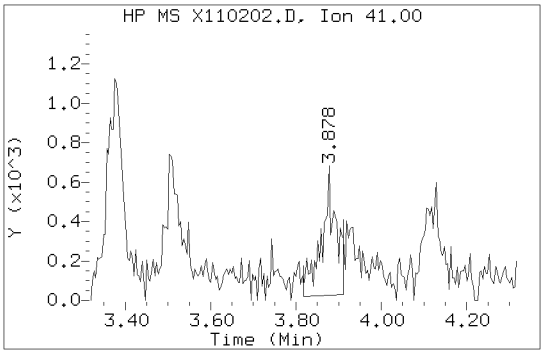
Methacrylonitrile (126-98-7)

Reason Code:

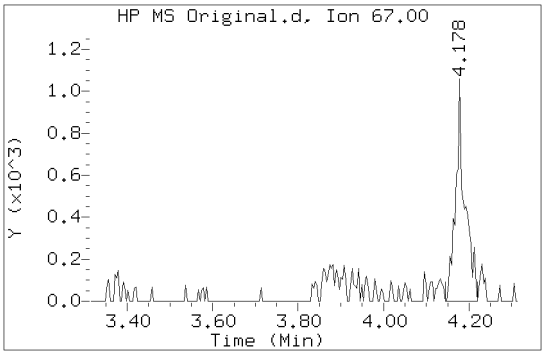
BEFORE
MASS
41
AREA
872
HEIGHT
467
08-Nov-2022
15:18
linh
pham



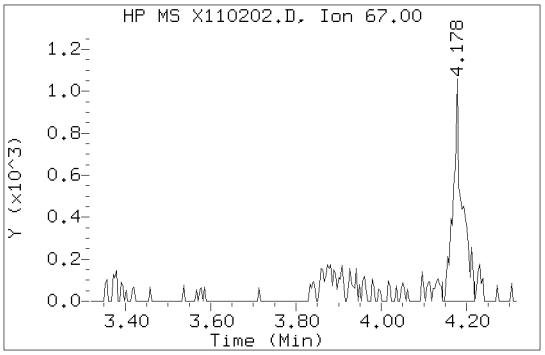
AFTER
MASS
41
AREA
1555
HEIGHT
658
09-Nov-2022
12:35



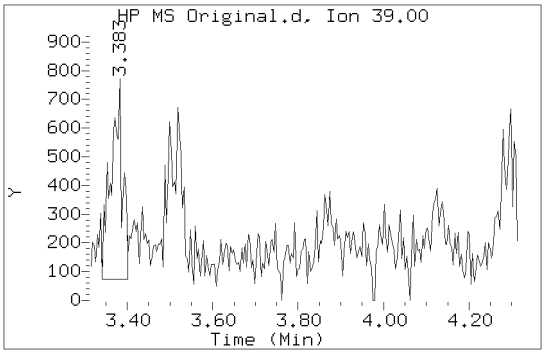
BEFORE
MASS
67
AREA
1567
HEIGHT
1059
08-Nov-2022
15:18
linh
pham



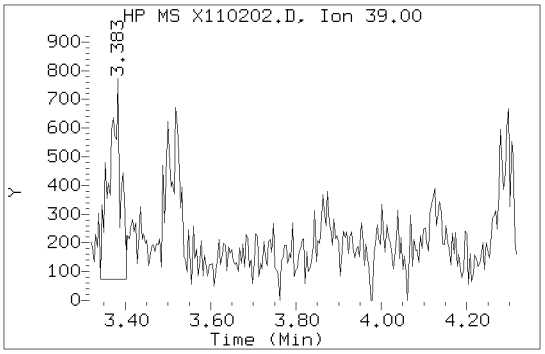
AFTER
MASS
67
AREA
1567
HEIGHT
1059
09-Nov-2022
12:35



BEFORE
MASS
39
AREA
1290
HEIGHT
699
08-Nov-2022
15:18
linh
pham



AFTER
MASS
39
AREA
1290
HEIGHT
699
09-Nov-2022
12:35



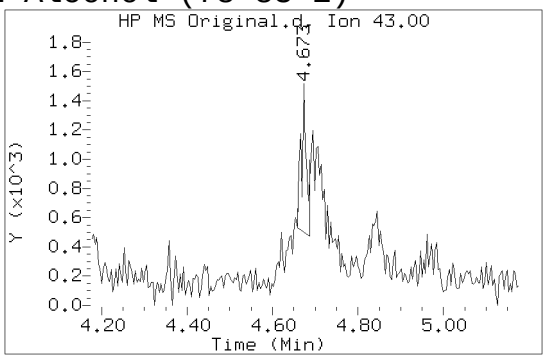
Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110202.D
Inj Date : 02-NOV-2022 11:21
InstruID : voa6.i
LabSampID : VSTD000.25

Isobutyl Alcohol (78-83-1)

Reason Code:

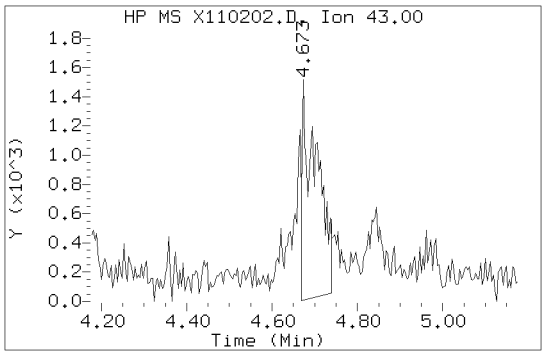
BEFORE

MASS
43
AREA
903
HEIGHT
1014
08-Nov-2022
15:18
linh
pham



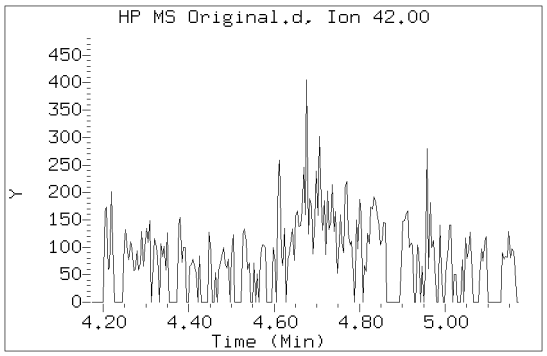
AFTER

MASS
43
AREA
3697
HEIGHT
1511
09-Nov-2022
12:35



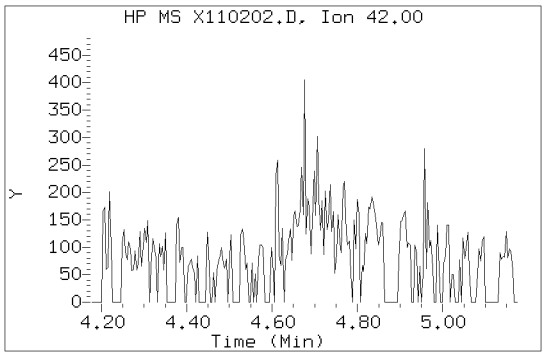
BEFORE

MASS
42
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



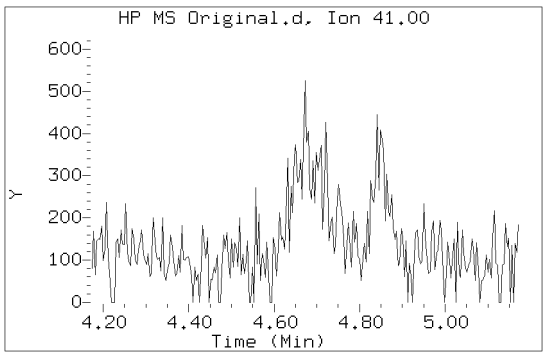
AFTER

MASS
42
AREA
0
HEIGHT
0
09-Nov-2022
12:35



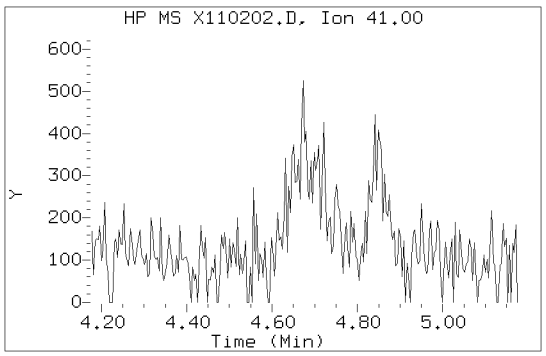
BEFORE

MASS
41
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

MASS
41
AREA
0
HEIGHT
0
09-Nov-2022
12:35

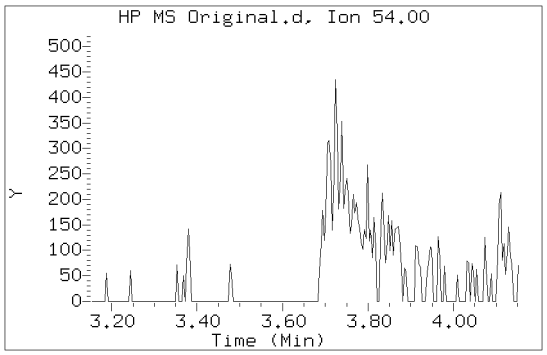


Propionitrile (107-12-0)

Reason Code:

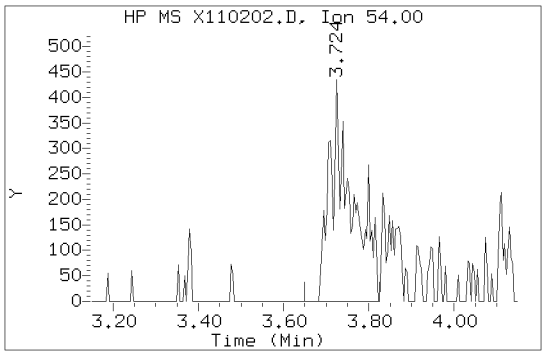
BEFORE

MASS
54
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

MASS
54
AREA
1543
HEIGHT
435
09-Nov-2022
12:35

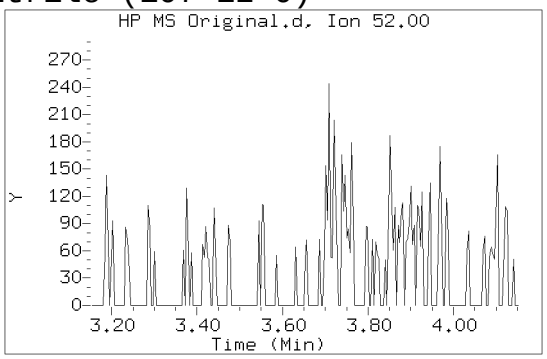


Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110202.D
Inj Date : 02-NOV-2022 11:21
InstruID : voa6.i
LabSampID : VSTD000.25

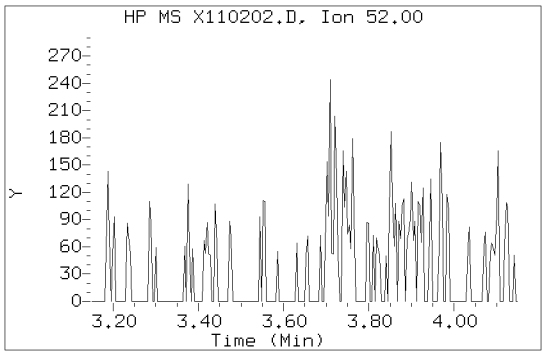
Propionitrile (107-12-0)

Reason Code:

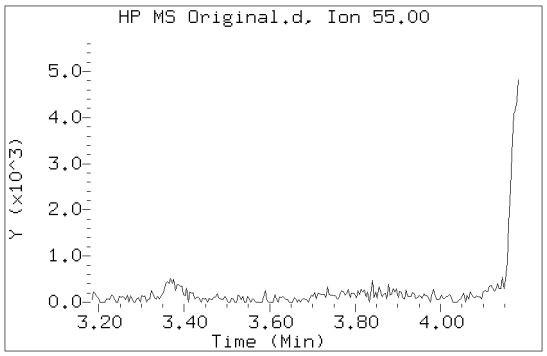
BEFORE
MASS
52
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



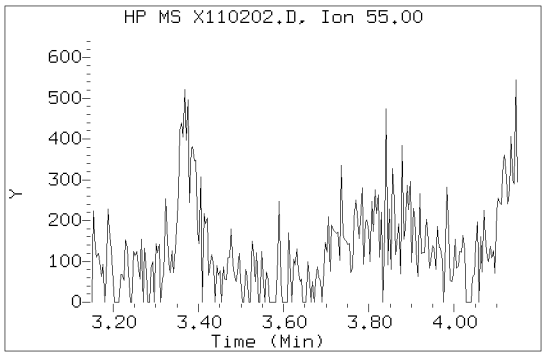
AFTER
MASS
52
AREA
0
HEIGHT
0
09-Nov-2022
12:35



BEFORE
MASS
55
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



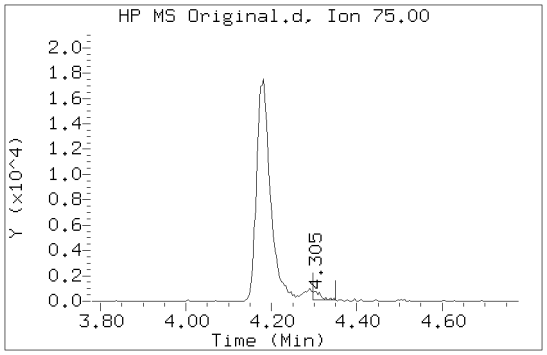
AFTER
MASS
55
AREA
0
HEIGHT
0
09-Nov-2022
12:35



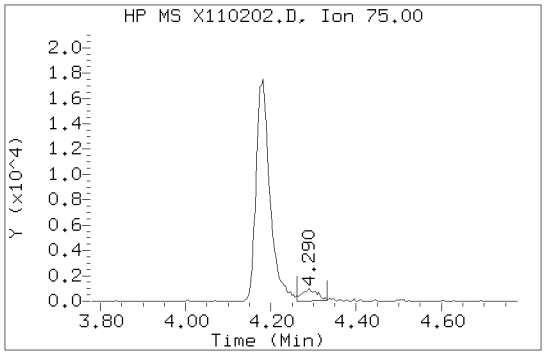
1,1-Dichloropropene (563-58-6)

Reason Code:

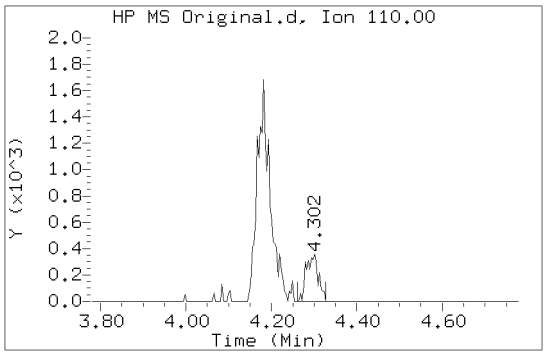
BEFORE
MASS
75
AREA
954
HEIGHT
675
08-Nov-2022
15:18
linh
pham



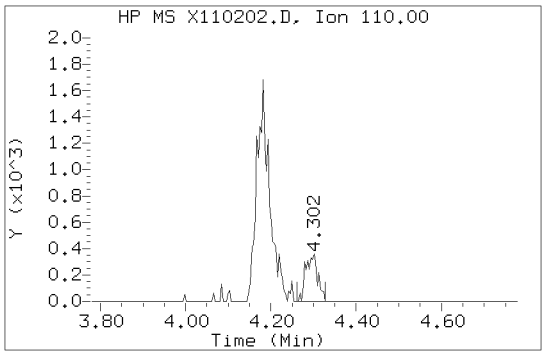
AFTER
MASS
75
AREA
2381
HEIGHT
972
09-Nov-2022
12:35



BEFORE
MASS
110
AREA
710
HEIGHT
362
08-Nov-2022
15:18
linh
pham



AFTER
MASS
110
AREA
710
HEIGHT
362
09-Nov-2022
12:35



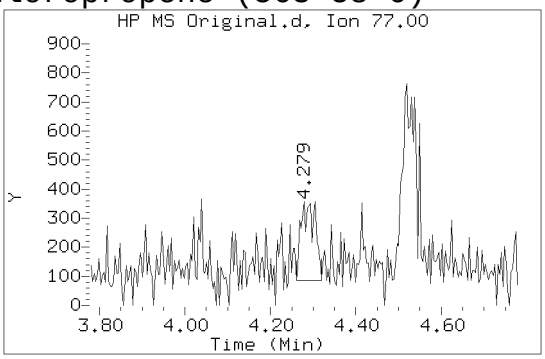
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Inj Date : 02-NOV-2022 11:21
InstruID : voa6.i
LabSampID : VSTD000.25

1,1-Dichloropropene (563-58-6)

Reason Code:

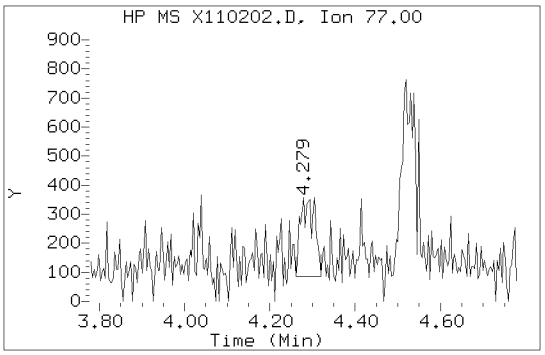
BEFORE

MASS
77
AREA
638
HEIGHT
273
08-Nov-2022
15:18
linh
pham



AFTER

MASS
77
AREA
638
HEIGHT
273
09-Nov-2022
12:35

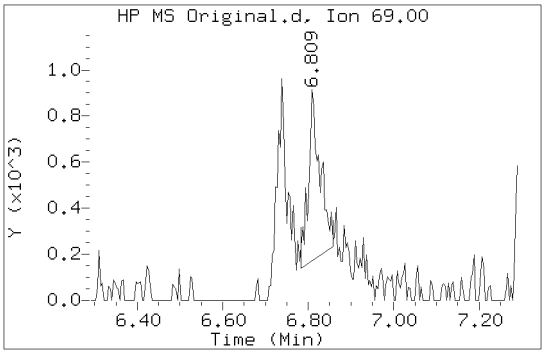


Ethyl Methacrylate (97-63-2)

Reason Code:

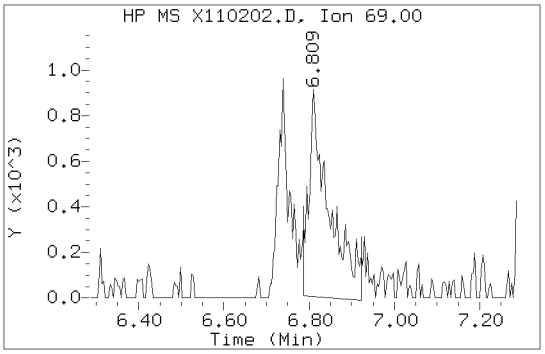
BEFORE

MASS
69
AREA
1409
HEIGHT
744
08-Nov-2022
15:18
linh
pham



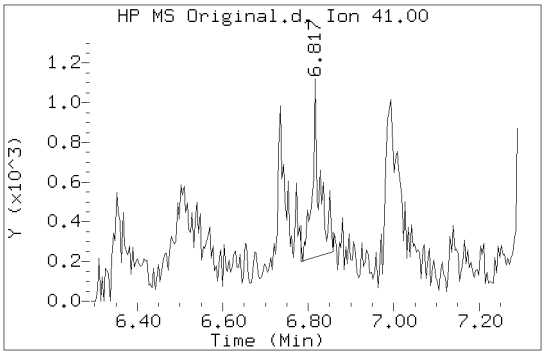
AFTER

MASS
69
AREA
3024
HEIGHT
909
09-Nov-2022
12:35



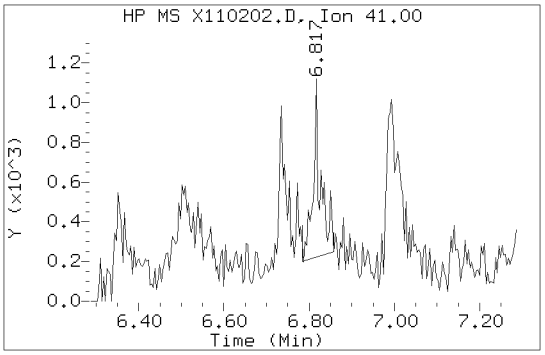
BEFORE

MASS
41
AREA
1086
HEIGHT
897
08-Nov-2022
15:18
linh
pham



AFTER

MASS
41
AREA
1086
HEIGHT
897
09-Nov-2022
12:35

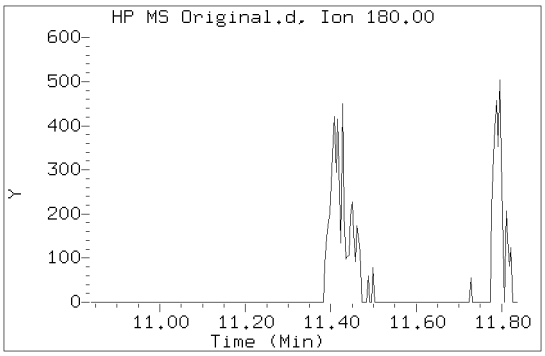


1,2,4-Trichlorobenzene (120-82-1)

Reason Code:

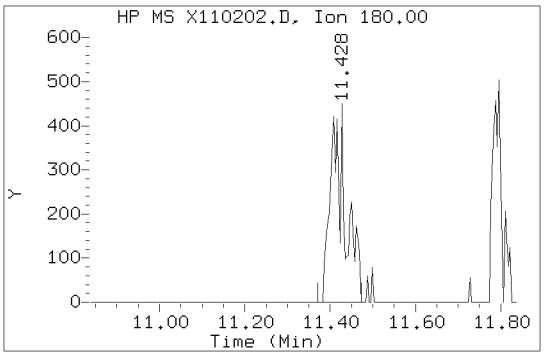
BEFORE

MASS
180
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

MASS
180
AREA
1081
HEIGHT
450
09-Nov-2022
12:35

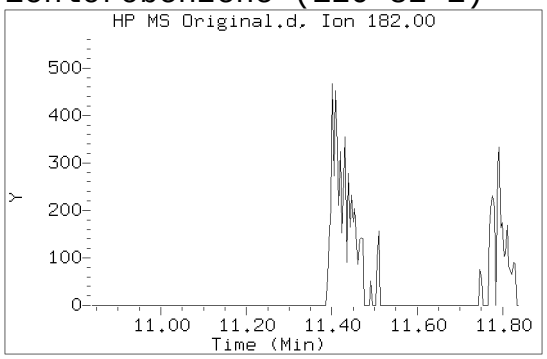


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Inj Date : 02-NOV-2022 11:21
InstruID : voa6.i
LabSampID : VSTD000.25

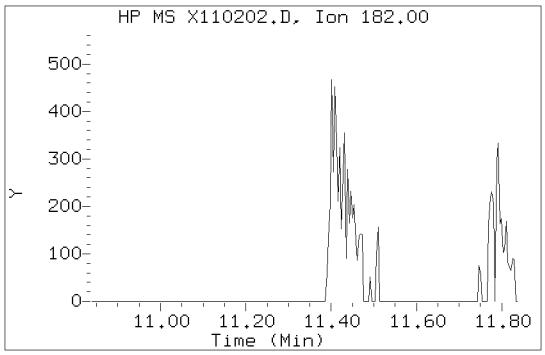
1,2,4-Trichlorobenzene (120-82-1)

Reason Code:

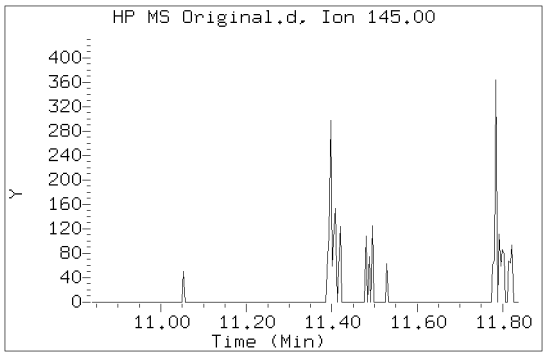
BEFORE
MASS
182
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



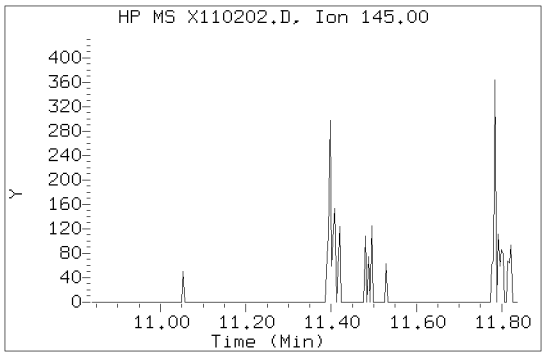
AFTER
MASS
182
AREA
0
HEIGHT
0
09-Nov-2022
12:35



BEFORE
MASS
145
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



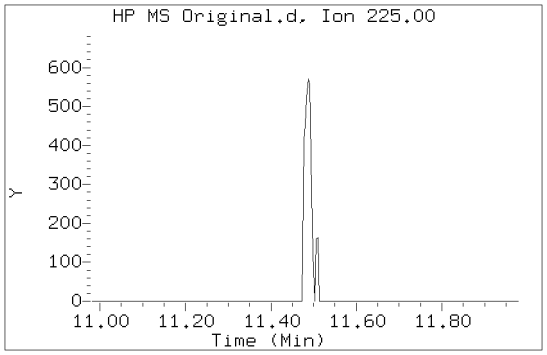
AFTER
MASS
145
AREA
0
HEIGHT
0
09-Nov-2022
12:35



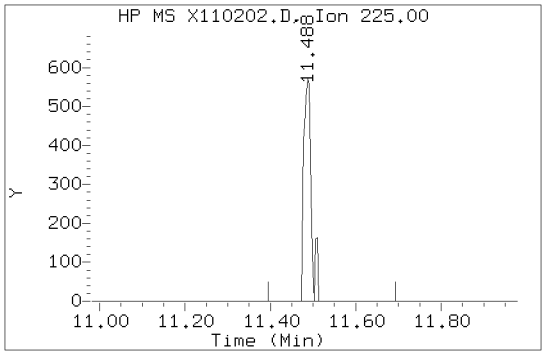
Hexachlorobutadiene (87-68-3)

Reason Code:

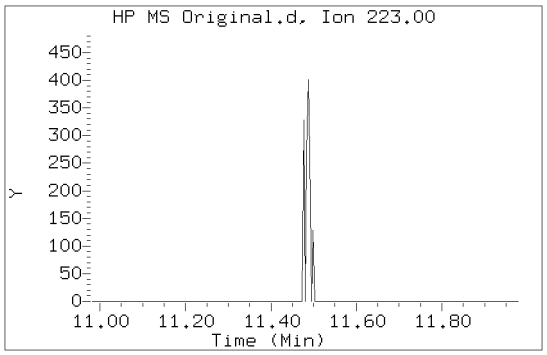
BEFORE
MASS
225
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



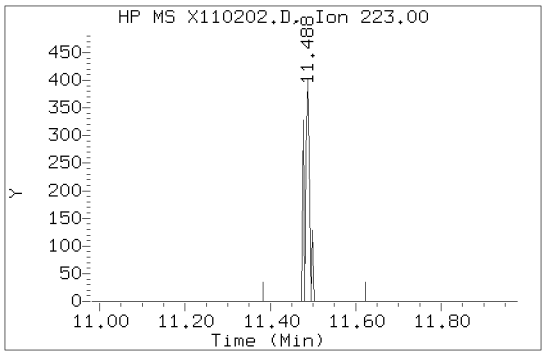
AFTER
MASS
225
AREA
729
HEIGHT
571
09-Nov-2022
12:35



BEFORE
MASS
223
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER
MASS
223
AREA
313
HEIGHT
401
09-Nov-2022
12:35



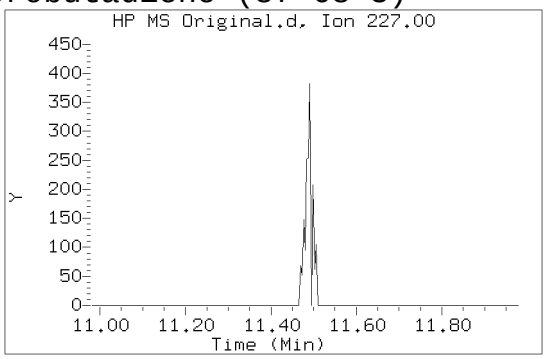
Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110202.D
Inj Date : 02-NOV-2022 11:21
InstruID : voa6.i
LabSampID : VSTD000.25

Hexachlorobutadiene (87-68-3)

Reason Code:

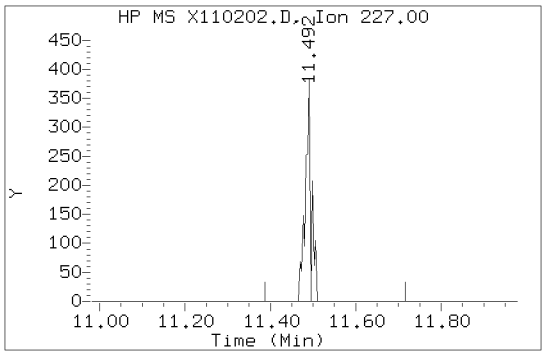
BEFORE

MASS
227
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

MASS
227
AREA
365
HEIGHT
382
09-Nov-2022
12:35

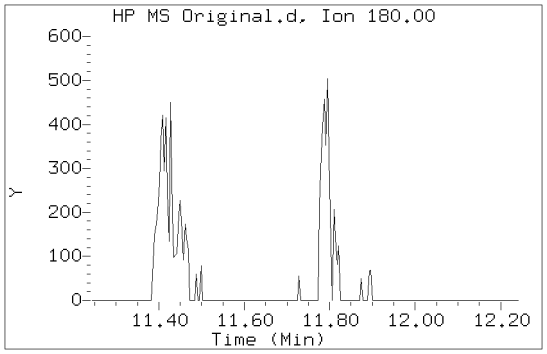


1,2,3-Trichlorobenzene (87-61-6)

Reason Code:

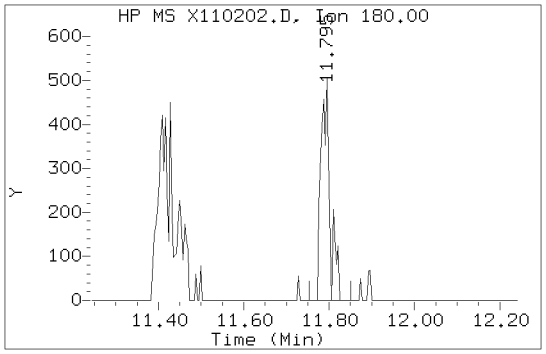
BEFORE

MASS
180
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



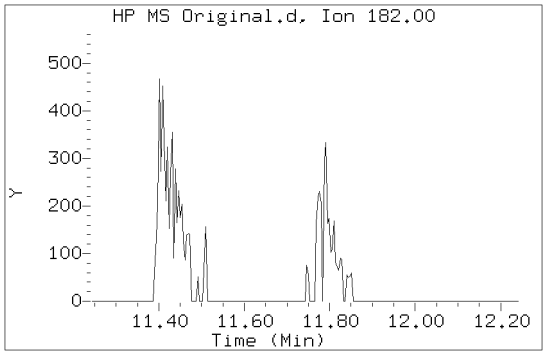
AFTER

MASS
180
AREA
735
HEIGHT
504
09-Nov-2022
12:35



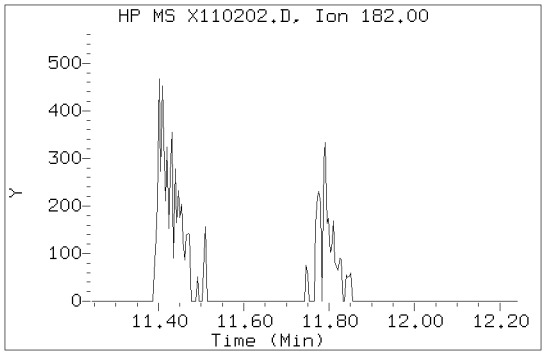
BEFORE

MASS
182
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



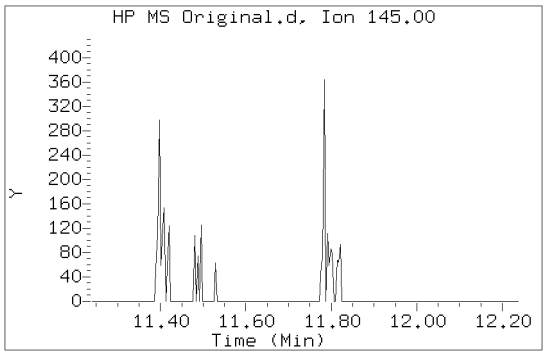
AFTER

MASS
182
AREA
0
HEIGHT
0
09-Nov-2022
12:35



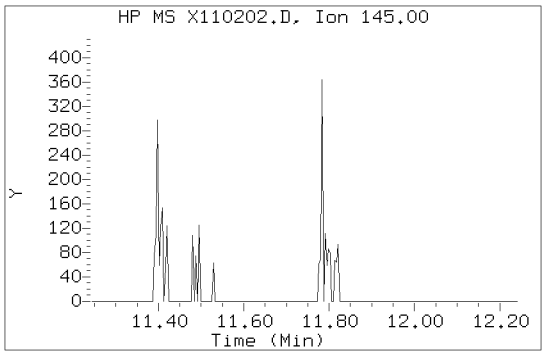
BEFORE

MASS
145
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

MASS
145
AREA
0
HEIGHT
0
09-Nov-2022
12:35



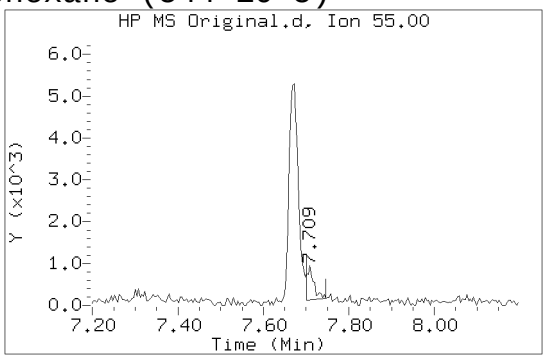
Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110202.D
Inj Date : 02-NOV-2022 11:21
InstruID : voa6.i
LabSampID : VSTD000.25

1-Chlorohexane (544-10-5)

Reason Code:

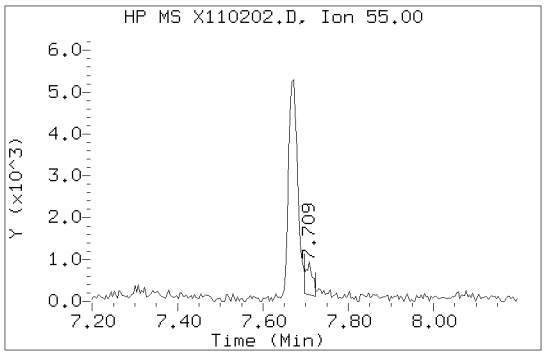
BEFORE

MASS
55
AREA
911
HEIGHT
819
08-Nov-2022
15:18
linh
pham



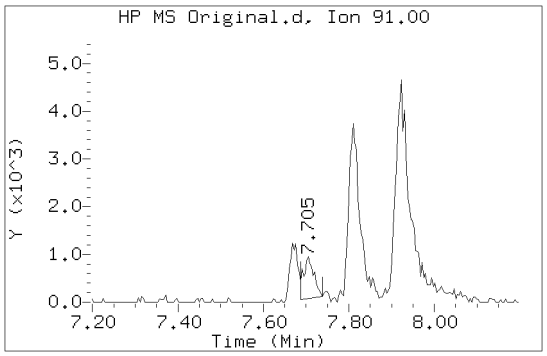
AFTER

MASS
55
AREA
888
HEIGHT
796
09-Nov-2022
12:35



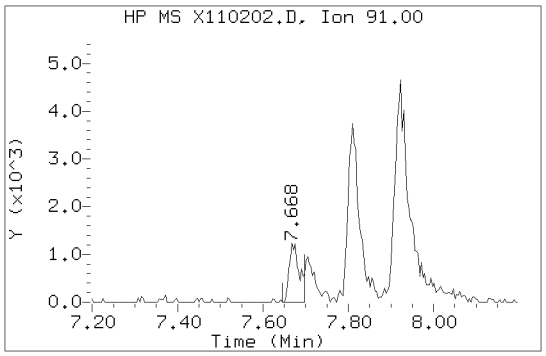
BEFORE

MASS
91
AREA
1535
HEIGHT
889
08-Nov-2022
15:18
linh
pham



AFTER

MASS
91
AREA
2094
HEIGHT
1232
09-Nov-2022
12:35

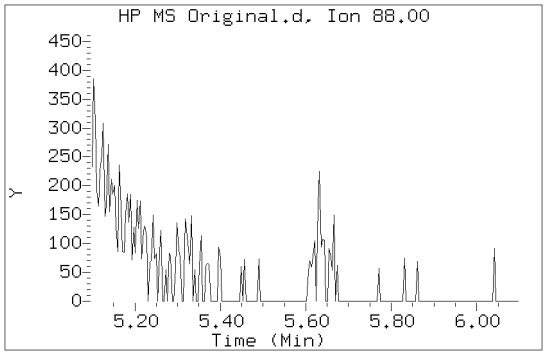


1,4-Dioxane ()

Reason Code:

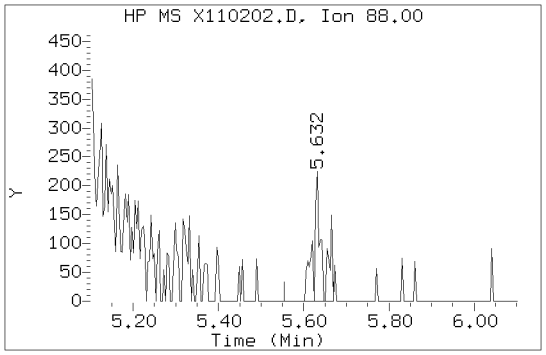
BEFORE

MASS
88
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



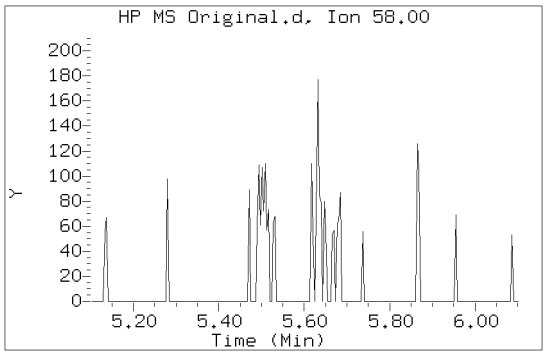
AFTER

MASS
88
AREA
321
HEIGHT
225
09-Nov-2022
12:35



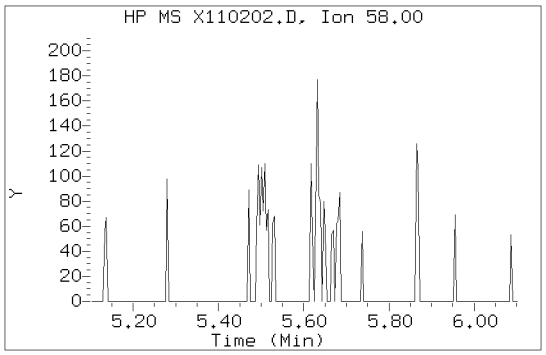
BEFORE

MASS
58
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

MASS
58
AREA
0
HEIGHT
0
09-Nov-2022
12:35



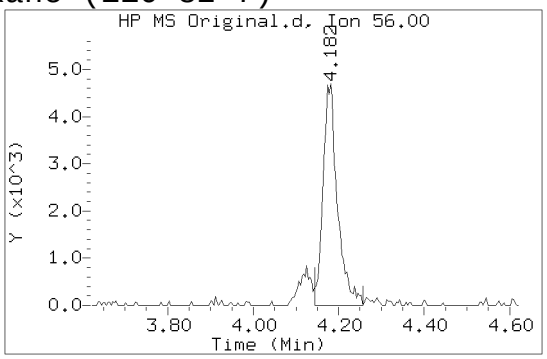
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Inj Date : 02-NOV-2022 11:21
InstruID : voa6.i
LabSampID : VSTD000.25

Cyclohexane (110-82-7)

Reason Code:

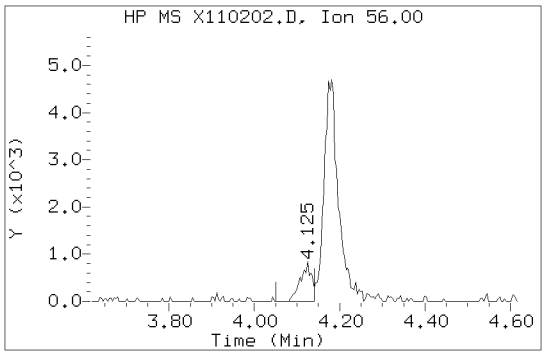
BEFORE

MASS
56
AREA
11003
HEIGHT
4698
08-Nov-2022
15:18
linh
pham



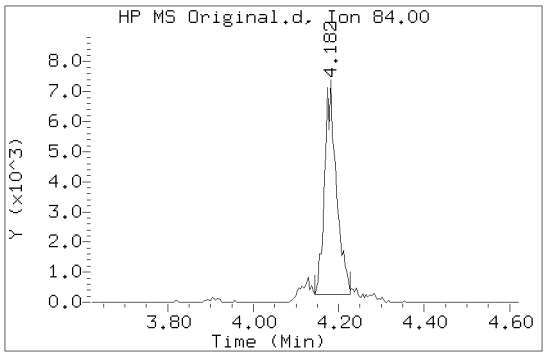
AFTER

MASS
56
AREA
1515
HEIGHT
840
09-Nov-2022
12:35



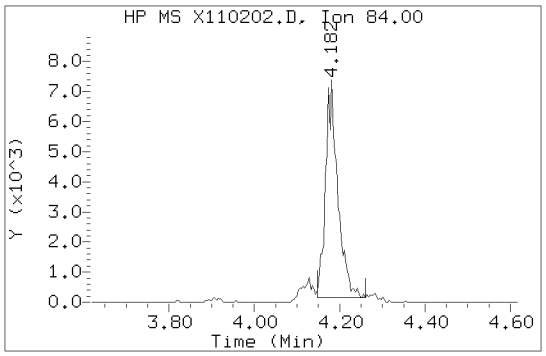
BEFORE

MASS
84
AREA
13513
HEIGHT
7137
08-Nov-2022
15:18
linh
pham



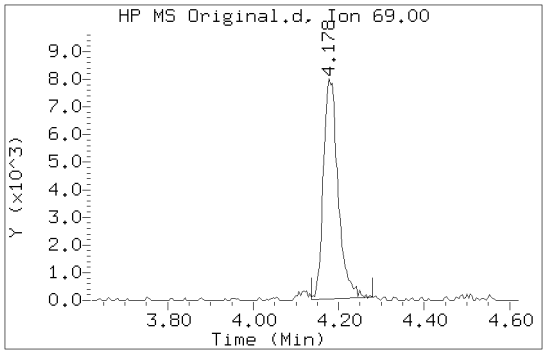
AFTER

MASS
84
AREA
14332
HEIGHT
7240
09-Nov-2022
12:35



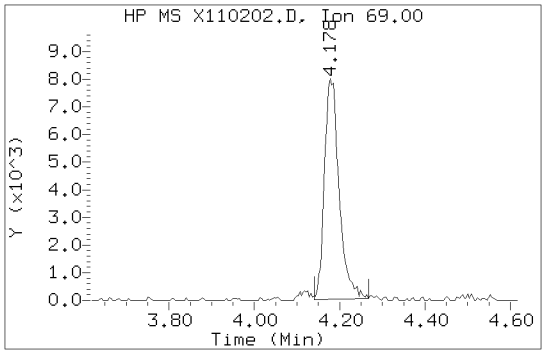
BEFORE

MASS
69
AREA
18969
HEIGHT
7965
08-Nov-2022
15:18
linh
pham



AFTER

MASS
69
AREA
19096
HEIGHT
7981
09-Nov-2022
12:35

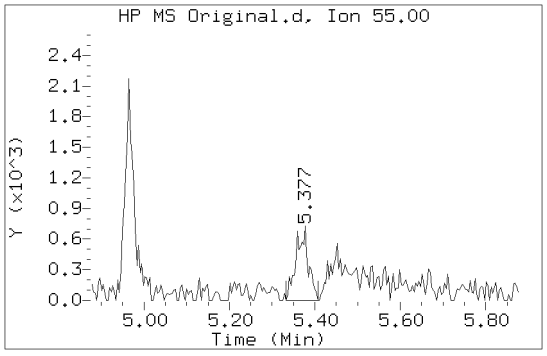


Methylcyclohexane (108-87-2)

Reason Code:

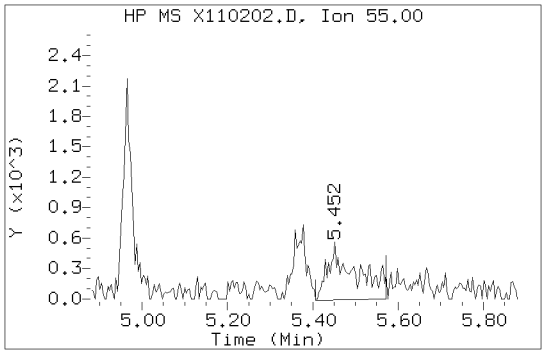
BEFORE

MASS
55
AREA
1461
HEIGHT
730
08-Nov-2022
15:18
linh
pham



AFTER

MASS
55
AREA
2562
HEIGHT
573
09-Nov-2022
12:35



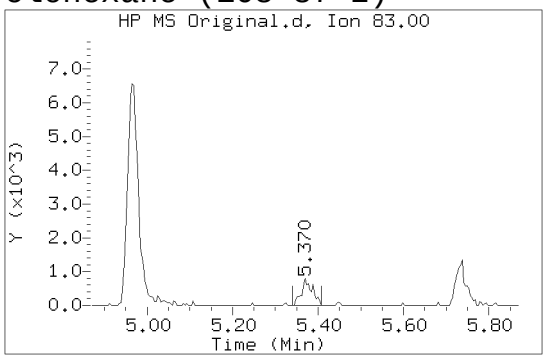
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Inj Date : 02-NOV-2022 11:21
InstruID : voa6.i
LabSampID : VSTD000.25

Methylcyclohexane (108-87-2)

Reason Code:

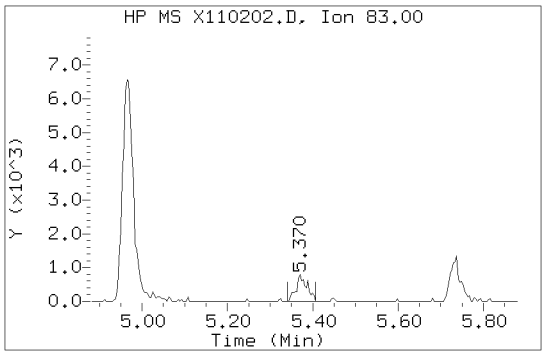
BEFORE

MASS
83
AREA
1428
HEIGHT
795
08-Nov-2022
15:18
linh
pham



AFTER

MASS
83
AREA
1428
HEIGHT
795
09-Nov-2022
12:35

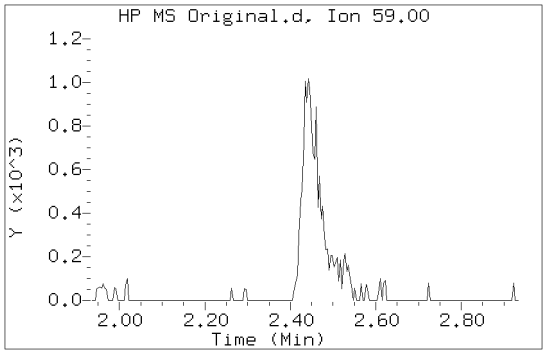


Tert-Butyl alcohol (75-65-0)

Reason Code:

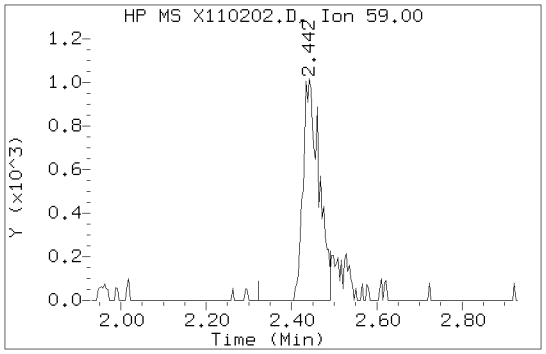
BEFORE

MASS
59
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



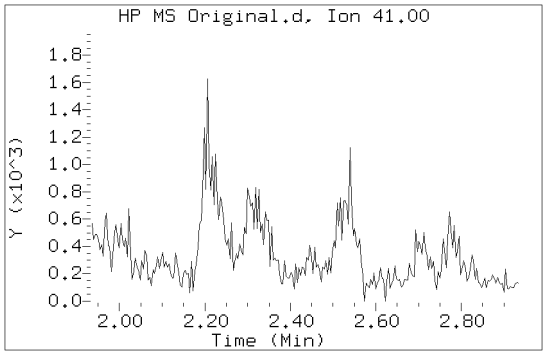
AFTER

MASS
59
AREA
2662
HEIGHT
1016
09-Nov-2022
12:35



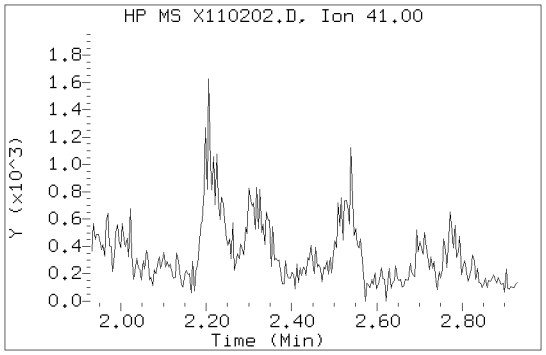
BEFORE

MASS
41
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

MASS
41
AREA
0
HEIGHT
0
09-Nov-2022
12:35

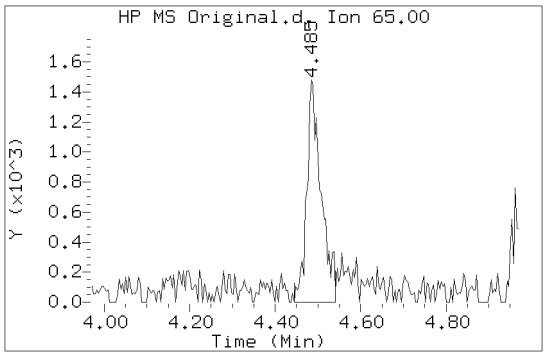


1,2-Dichloroethane-d4 (17060-07-0)

Reason Code:

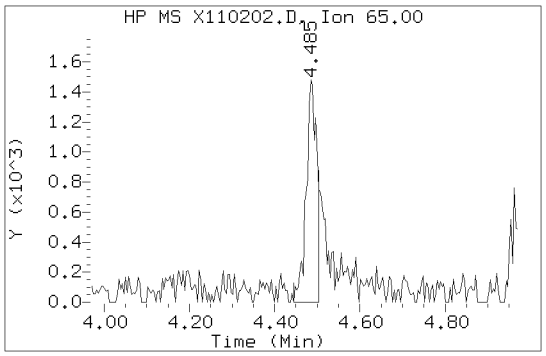
BEFORE

MASS
65
AREA
3468
HEIGHT
1480
08-Nov-2022
15:18
linh
pham



AFTER

MASS
65
AREA
2569
HEIGHT
1480
09-Nov-2022
12:35

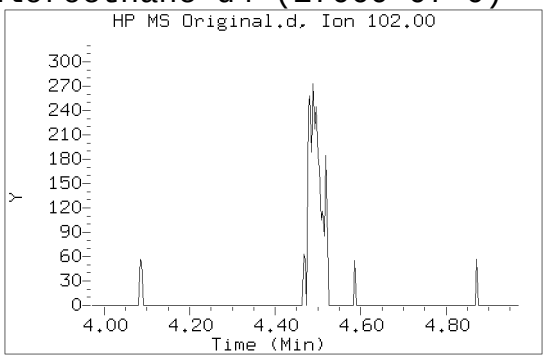


Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110202.D
Inj Date : 02-NOV-2022 11:21
InstruID : voa6.i
LabSampID : VSTD000.25

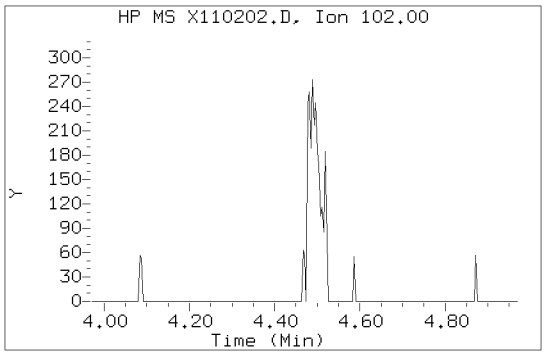
1,2-Dichloroethane-d4 (17060-07-0)

Reason Code:

BEFORE
MASS
102
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



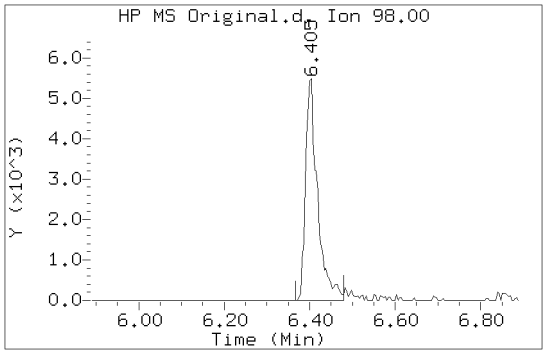
AFTER
MASS
102
AREA
0
HEIGHT
0
09-Nov-2022
12:35



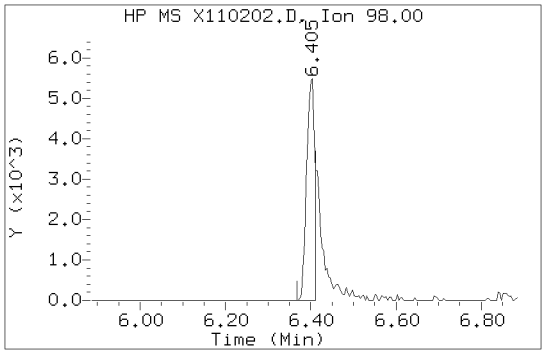
Toluene-d8 (2037-26-5)

Reason Code:

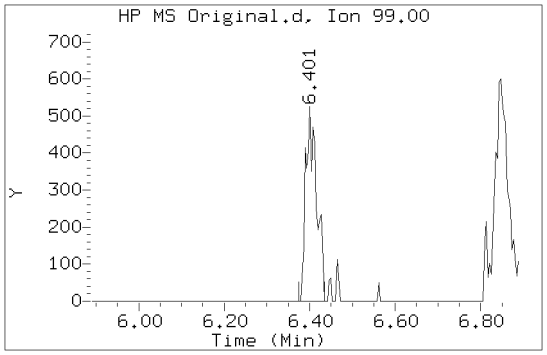
BEFORE
MASS
98
AREA
10803
HEIGHT
5486
08-Nov-2022
15:18
linh
pham



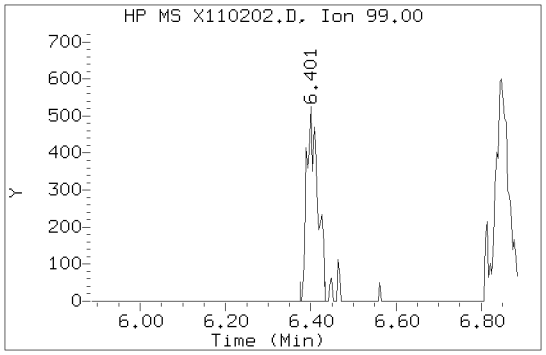
AFTER
MASS
98
AREA
7338
HEIGHT
5486
09-Nov-2022
12:35



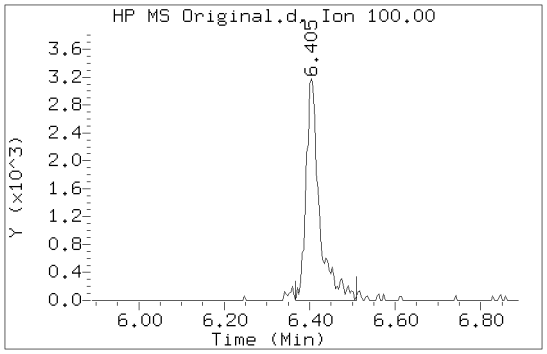
BEFORE
MASS
99
AREA
946
HEIGHT
525
08-Nov-2022
15:18
linh
pham



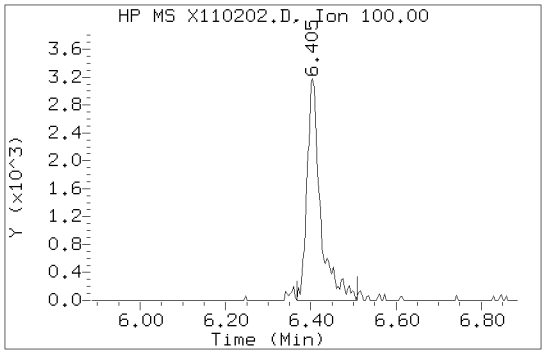
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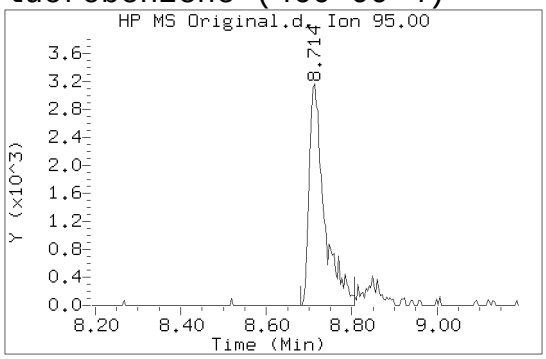
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Inj Date : 02-NOV-2022 11:21
InstruID : voa6.i
LabSampID : VSTD000.25

4-Bromofluorobenzene (460-00-4)

Reason Code:

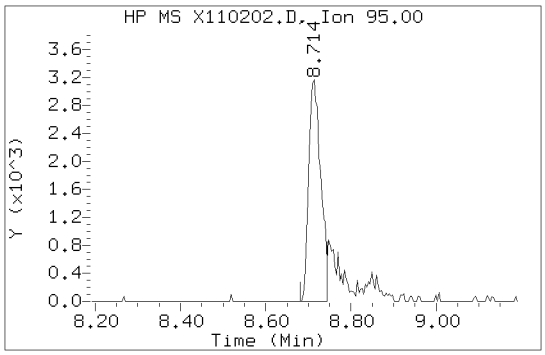
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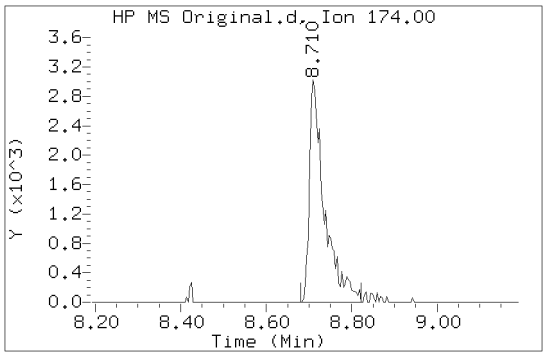
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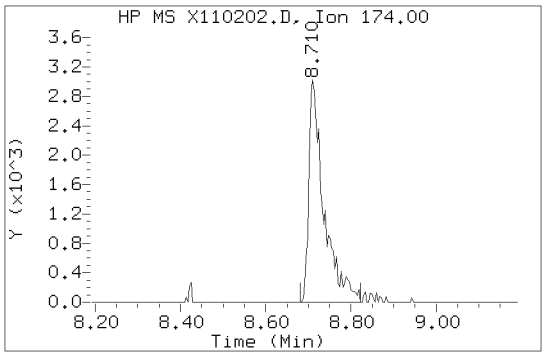
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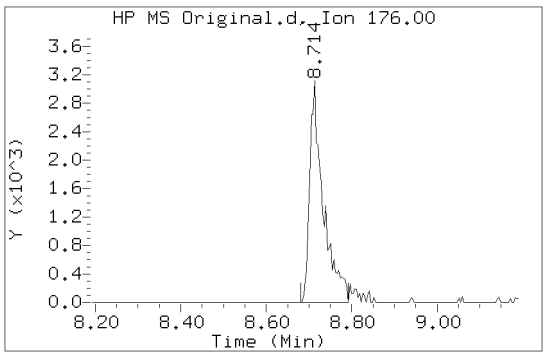
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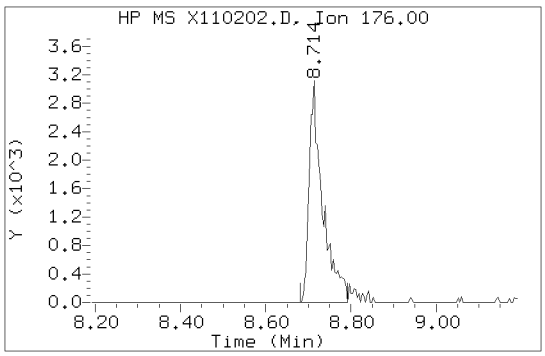
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AFTER

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09-Nov-2022
12:35



Data File: \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110203.D Page 1
Report Date: 09-Nov-2022 12:35

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110203.D
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Inj Date : 02-NOV-2022 12:03
Operator : PC Inst ID: voa6.i
Smp Info : VSTD000.5;VSTD000.5;1;2;
Misc Info : HS22052000V6;WATER;0;1;
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Meth Date : 09-Nov-2022 12:35 voa6.i Quant Type: ISTD
Cal Date : 02-NOV-2022 11:21 Cal File: X110202.D
Als bottle: 4 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260V6.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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)	606757	50.0000	
135 1,4-Dioxane	88	5.643	5.643	(1.351)	679	10.0000	10.49(M)
140 1,3-Butadiene	54	1.160	1.160	(0.278)	2801	0.50000	0.55
25 Methacrylonitrile	41	3.863	3.863	(0.925)	2785	0.50000	0.51(M)
12 Isobutyl Alcohol	43	4.687	4.687	(1.122)	9851	10.0000	10.86(M)
13 Acetonitrile	39	2.198	2.198	(0.526)	4238	5.00000	5.82(M)
14 Allyl Chloride	41	2.198	2.198	(0.526)	7728	0.50000	0.56
4 Propionitrile	54	3.717	3.717	(0.890)	3703	5.00000	4.85(M)
136 n-Hexane	57	2.772	2.772	(0.664)	3089	0.50000	0.16(M)
72 trans-1,4-Dichloro-2-butene	53	8.923	8.923	(1.163)	979	0.50000	0.49(M)
23 Chloroprene	53	1.771	1.771	(0.424)	1410	0.50000	0.60(M)
145 alpha-Methylstyrene	118	9.280	9.280	(0.960)	5508	0.50000	0.54
200 Dimethyl Disulfide	94	6.209	6.209	(0.809)	5512	0.50000	0.49
139 Diethyl ether	59	1.756	1.756	(0.420)	2690	0.50000	0.56
130 Ethyl Acetate	43	3.694	3.694	(0.884)	3227	0.50000	0.50(M)
40 Methyl Methacrylate	41	5.636	5.636	(1.349)	2917	0.50000	0.51
49 Ethyl Methacrylate	69	6.809	6.809	(1.371)	4812	0.50000	0.50(M)
132 n-Butanol	56	5.370	5.370	(1.285)	1209	10.0000	10.51(TM)
142 Tetrahydrofuran	42	3.874	3.874	(0.927)	1105	1.00000	1.14(M)
150 Allyl alcohol	57	2.772	2.772	(0.664)	3753	10.0000	5.46

166	1,2,3-Trimethylbenzene	105	9.737	9.737 (1.008)	11431	0.50000	0.57(M)
2	Dichlorodifluoromethane	85	0.969	0.969 (0.232)	3429	0.50000	1.21(M)

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	3 Chloromethane	50	1.078	1.078	(0.258)	4459	0.50000	2.03
	5 Vinyl Chloride	62	1.141	1.141	(0.273)	3628	0.50000	0.52
	6 Bromomethane	94	1.340	1.340	(0.321)	2842	0.50000	1.90(M)
	7 Chloroethane	64	1.400	1.400	(0.335)	2447	0.50000	0.57(M)
	8 Trichlorofluoromethane	101	1.557	1.557	(0.373)	5051	0.50000	0.57
	9 Acrolein	56	1.441	1.441	(0.345)	462	1.00000	3.17(M)
	10 Acetone	43	1.973	1.973	(0.472)	4640	1.00000	0.71(M)
	11 1,1-Dichloroethene	96	1.913	1.913	(0.458)	2985	0.50000	0.57(M)
	15 Iodomethane	142	2.018	2.018	(0.483)	2633	1.00000	2.70
	16 Acrylonitrile	53	2.599	2.599	(0.622)	2071	1.00000	1.04(M)
	17 Methylene Chloride	84	2.296	2.296	(0.550)	3193	0.50000	0.48(M)
	18 Methyl tert-butyl ether	73	2.536	2.536	(0.607)	9863	0.50000	0.54
	19 Carbon Disulfide	76	2.067	2.067	(0.495)	17369	1.00000	1.10
	20 trans-1,2-Dichloroethene	96	2.540	2.540	(0.608)	3164	0.50000	0.55
	21 Vinyl Acetate	43	3.038	3.038	(0.727)	17401	1.00000	1.07(M)
	22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	5913	0.50000	0.57
	24 2-Butanone	43	3.687	3.687	(0.882)	1919	1.00000	0.88(M)
	26 2,2-Dichloropropane	77	3.510	3.510	(0.840)	4986	0.50000	1.78(M)
	27 cis-1,2-Dichloroethene	96	3.540	3.540	(0.847)	3576	0.50000	0.53
	28 Chloroform	83	3.915	3.915	(0.937)	6477	0.50000	0.56(M)
	29 Bromochloromethane	128	3.799	3.799	(0.909)	1881	0.50000	0.52
$	30 Dibromofluoromethane	113	4.110	4.110	(0.984)	2793	0.50000	1.00
	31 1,1,1-Trichloroethane	97	4.076	4.076	(0.976)	5019	0.50000	0.56
	32 1,1-Dichloropropene	75	4.290	4.290	(0.864)	4531	0.50000	0.59(M)
	33 1,2-Dichloroethane	62	4.575	4.575	(0.921)	4473	0.50000	0.51(M)
	34 Carbon Tetrachloride	117	4.253	4.253	(0.857)	3603	0.50000	0.43(H)
$	35 1,2-Dichloroethane-d4	65	4.485	4.485	(1.074)	3566	0.50000	0.93
*	36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	949685	50.0000	
	37 Benzene	78	4.523	4.523	(0.911)	12532	0.50000	0.53
	38 Trichloroethene	130	5.212	5.212	(1.050)	3345	0.50000	0.50
	39 Bromodichloromethane	83	5.733	5.733	(1.155)	4361	0.50000	0.52(M)
	41 2-Chloroethylvinyl ether	63	6.071	6.071	(1.223)	2859	1.00000	1.02(M)
	42 1,2-Dichloropropane	63	5.445	5.445	(1.097)	3111	0.50000	0.48(M)
	44 Dibromomethane	93	5.561	5.561	(1.120)	2281	0.50000	0.52
	45 4-Methyl-2-Pentanone	43	6.341	6.341	(0.827)	4962	1.00000	0.86
	46 cis-1,3-Dichloropropene	75	6.168	6.168	(1.242)	5236	0.50000	0.49(M)
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	888373	50.0000	
$	48 Toluene-d8	98	6.401	6.401	(0.834)	11313	0.50000	0.52
	50 Toluene	91	6.461	6.461	(0.842)	14226	0.50000	0.55
	51 trans-1,3-Dichloropropene	75	6.700	6.700	(1.350)	4765	0.50000	0.52(M)
	52 2-Hexanone	43	7.132	7.132	(0.930)	3143	1.00000	0.81(M)
	53 1,1,2-Trichloroethane	83	6.843	6.843	(0.892)	2777	0.50000	0.54
	54 1,3-Dichloropropane	76	6.989	6.989	(0.911)	5305	0.50000	0.52
	55 Dibromochloromethane	129	7.184	7.184	(0.936)	3651	0.50000	0.55(M)
	56 Tetrachloroethene	164	6.929	6.929	(0.903)	3113	0.50000	1.15
	57 1,2-Dibromoethane	107	7.274	7.274	(0.948)	3300	0.50000	0.51
	58 1-Chlorohexane	55	7.701	7.701	(1.551)	2660	0.50000	0.40(H)
	59 Chlorobenzene	112	7.694	7.694	(1.003)	9346	0.50000	0.54
	60 1,1,1,2-Tetrachloroethane	131	7.776	7.776	(1.014)	3218	0.50000	0.52
	61 Ethylbenzene	106	7.810	7.810	(1.018)	5072	0.50000	0.58
	62 m,p-Xylenes	106	7.923	7.923	(1.033)	12505	1.00000	1.15
	63 o-Xylene	106	8.256	8.256	(1.076)	6027	0.50000	0.57

64 Styrene	104	8.286	8.286 (1.080)	9328	0.50000	0.52(M)
66 Bromoform	173	8.417	8.417 (1.097)	1417	0.50000	2.74(T)

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)	
	67 Isopropylbenzene	105	8.567	8.567	(1.117)	15189	0.50000	0.58	
	68 1,1,2,2-Tetrachloroethane	83	8.848	8.848	(0.916)	3922	0.50000	0.56(M)	
$	69 4-Bromofluorobenzene	95	8.706	8.706	(1.135)	4822	0.50000	0.84(M)	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	419665	50.0000		
	71 1,2,3-Trichloropropane	75	8.871	8.871	(0.918)	2782	0.50000	0.52(M)	
	73 n-Propylbenzene	91	8.923	8.923	(0.924)	16195	0.50000	0.58	
	74 Bromobenzene	156	8.822	8.822	(0.913)	3861	0.50000	0.53	
	75 1,3,5-Trimethylbenzene	105	9.077	9.077	(0.939)	11037	0.50000	0.55(M)	
	76 2-Chlorotoluene	91	8.991	8.991	(0.931)	10088	0.50000	0.57(M)	
	77 4-Chlorotoluene	91	9.096	9.096	(0.941)	11226	0.50000	0.56	
	78 tert-Butylbenzene	119	9.340	9.340	(0.967)	10031	0.50000	1.16(M)	
	79 1,2,4-Trimethylbenzene	105	9.392	9.392	(0.972)	12136	0.50000	0.59	
	81 sec-Butylbenzene	105	9.523	9.523	(0.986)	14692	0.50000	1.48(M)	
	82 p-Isopropyltoluene	119	9.654	9.654	(0.999)	11794	0.50000	0.58(M)	
	83 1,3-Dichlorobenzene	146	9.617	9.617	(0.995)	6935	0.50000	0.57	
	84 1,4-Dichlorobenzene	146	9.684	9.684	(1.002)	7150	0.50000	0.57(M)	
	86 Benzyl Chloride	91	9.842	9.842	(1.283)	3833	0.50000	4.32(M)	
	87 n-Butylbenzene	91	10.018	10.018	(1.037)	8543	0.50000	0.50	
	88 1,2-Dichlorobenzene	146	10.011	10.011	(1.036)	6353	0.50000	0.55(M)	
	89 1,2-Dibromo-3-Chloropropane	155	10.700	10.700	(1.107)	208	0.50000	2.98(M)	
	90 1,2,4-Trichlorobenzene	180	11.383	11.383	(1.178)	3032	0.50000	0.57	
	91 Hexachlorobutadiene	225	11.484	11.484	(1.189)	2121	0.50000	0.15(M)	
	92 Naphthalene	128	11.611	11.611	(1.202)	4482	0.50000	0.54	
	93 1,2,3-Trichlorobenzene	180	11.765	11.765	(1.218)	2207	0.50000	0.58(M)	
M	94 1,2-Dichloroethylene (total)	96				6740	1.00000		
M	95 Xylenes (total)	106				18532	1.50000		
	141 Cyclohexane	56	4.125	4.125	(0.987)	3707	0.50000		(MH)
	138 Freon TF	101	1.910	1.910	(0.457)	2725	0.50000		
	147 Methylcyclohexane	55	5.426	5.426	(1.093)	6511	0.50000	0.49(M)	
	146 Methyl Acetate	43	2.258	2.258	(0.541)	1953	0.50000	0.52(M)	

QC Flag Legend

T - Target compound detected outside RT window.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

01158838

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110203.D

Page 1

Date : 02-NOV-2022 12:03

Client ID: VSTD000.5

Instrument: voa6.i

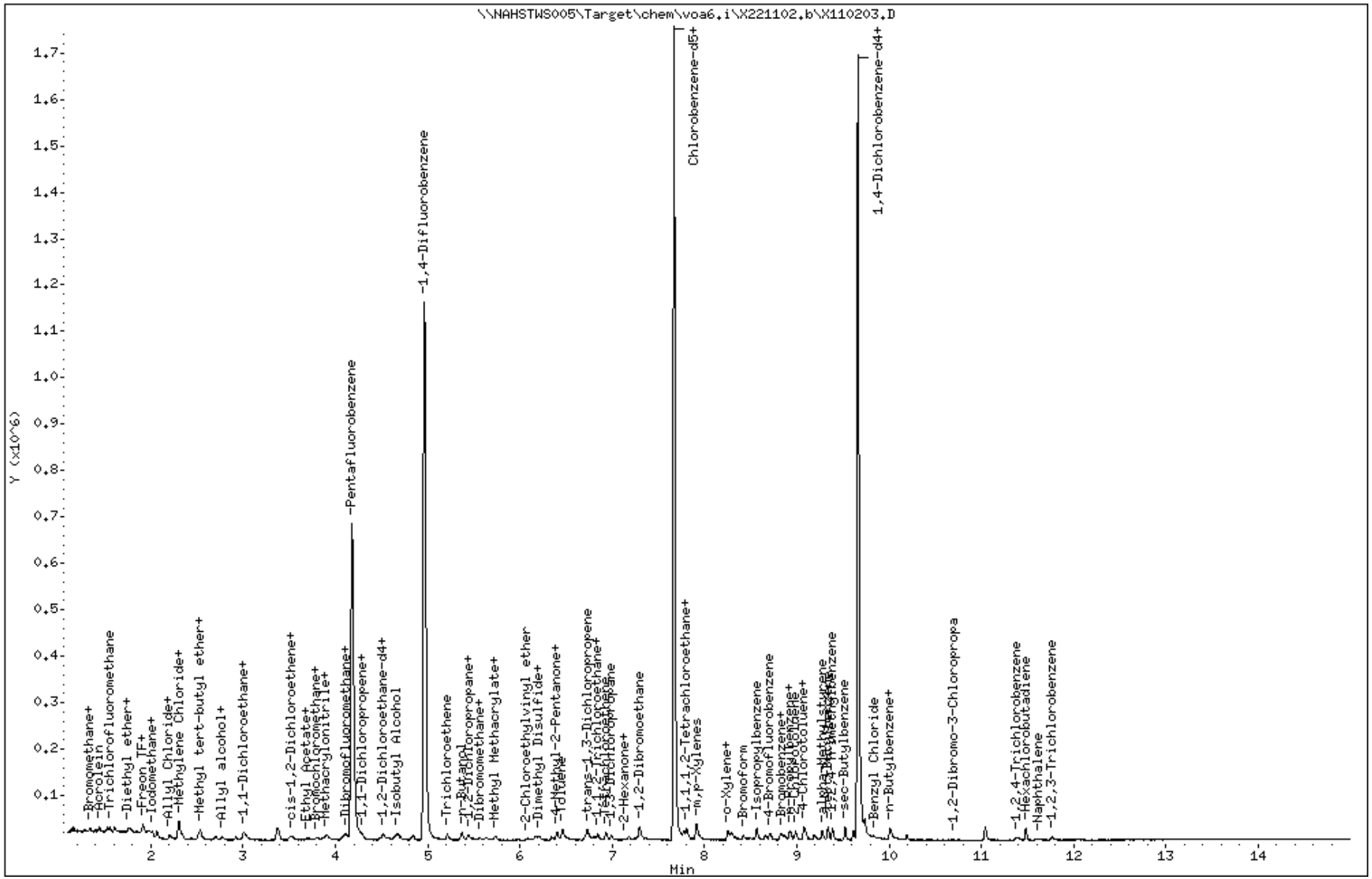
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Operator: PC

Column phase: DB624

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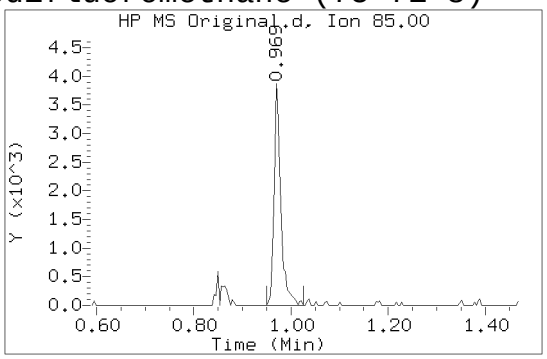


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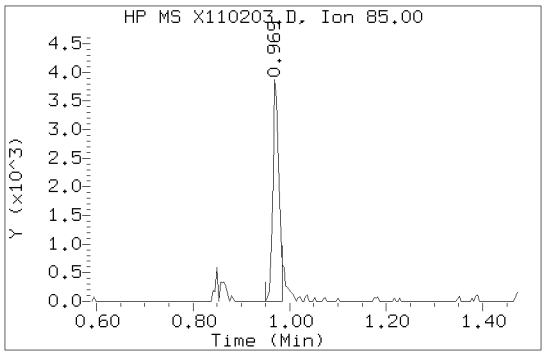
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Reason Code:

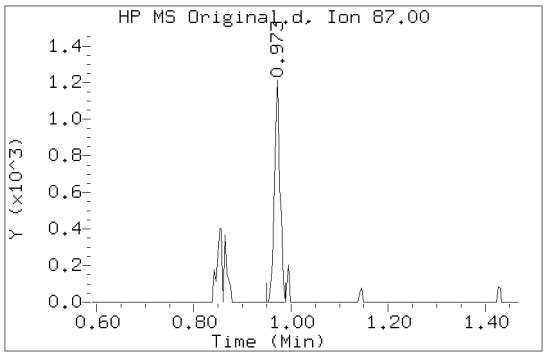
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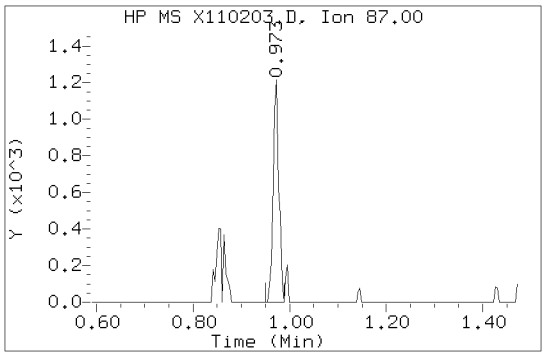
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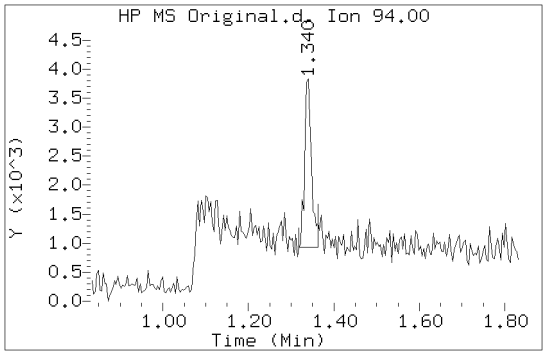
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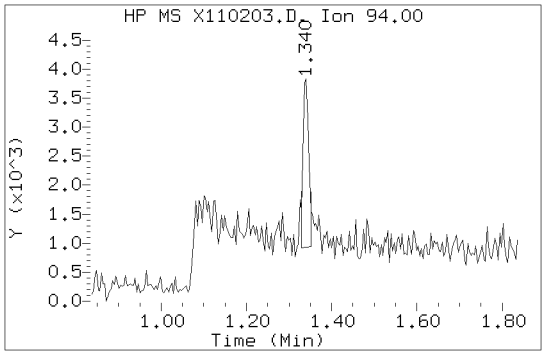
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Reason Code:

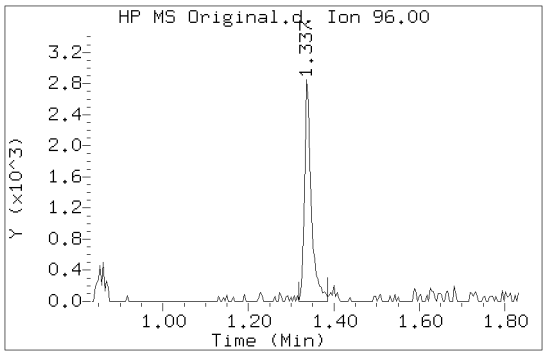
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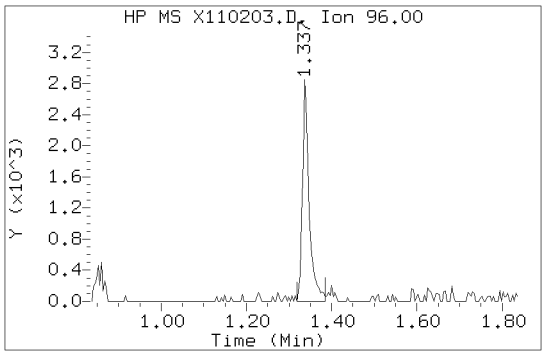
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AFTER
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09-Nov-2022
12:34

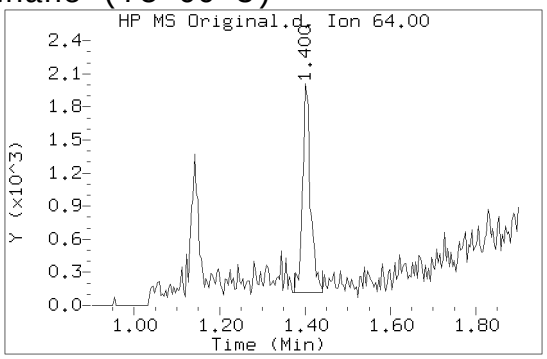


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Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

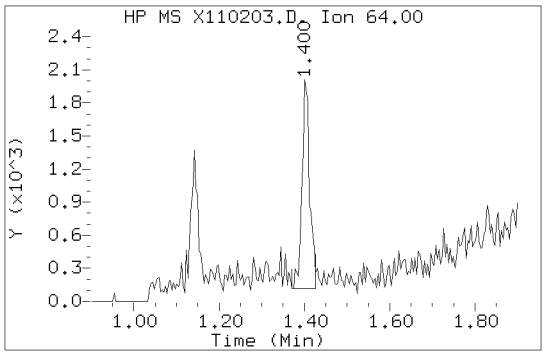
Chloroethane (75-00-3)

Reason Code:

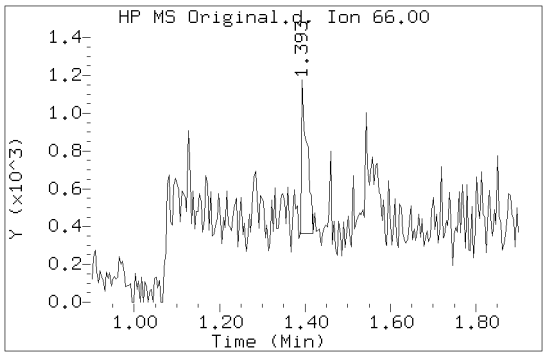
BEFORE
MASS
64
AREA
2532
HEIGHT
1897
08-Nov-2022
15:18
linh
pham



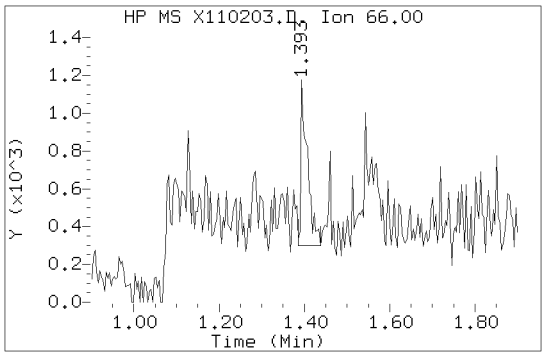
AFTER
MASS
64
AREA
2447
HEIGHT
1897
09-Nov-2022
12:34



BEFORE
MASS
66
AREA
726
HEIGHT
813
08-Nov-2022
15:18
linh
pham



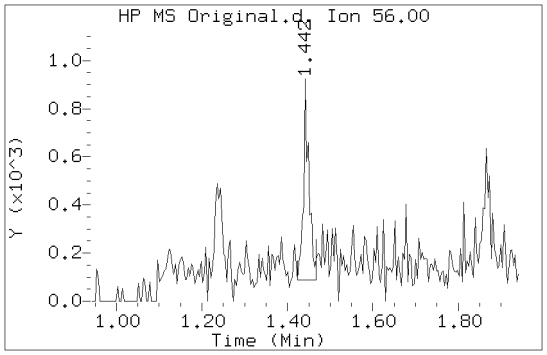
AFTER
MASS
66
AREA
956
HEIGHT
876
09-Nov-2022
12:34



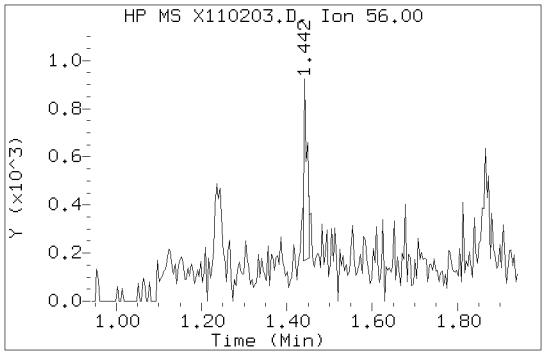
Acrolein (107-02-8)

Reason Code:

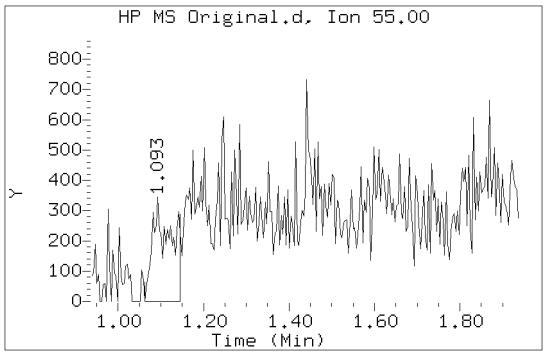
BEFORE
MASS
56
AREA
772
HEIGHT
836
08-Nov-2022
15:18
linh
pham



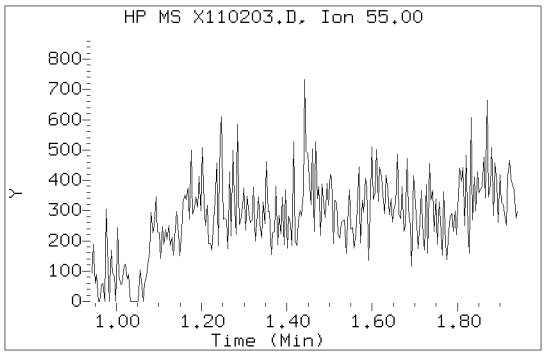
AFTER
MASS
56
AREA
462
HEIGHT
753
09-Nov-2022
12:34



BEFORE
MASS
55
AREA
1029
HEIGHT
345
08-Nov-2022
15:18
linh
pham



AFTER
MASS
55
AREA
0
HEIGHT
0
09-Nov-2022
12:34

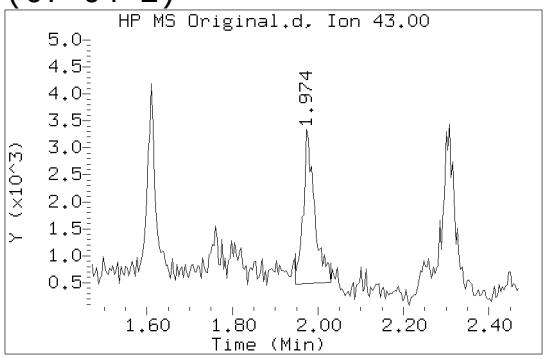


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Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

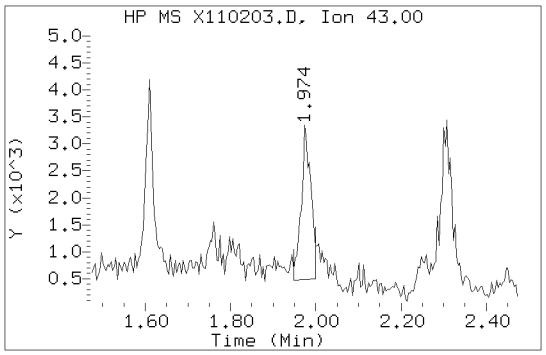
Acetone (67-64-1)

Reason Code:

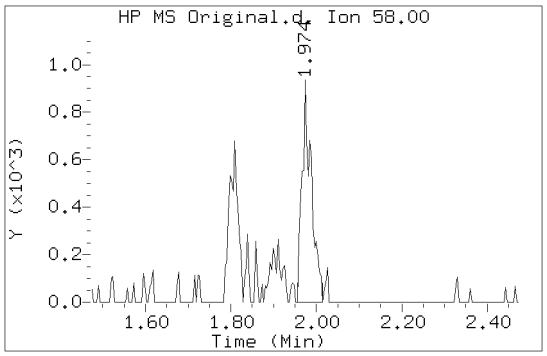
BEFORE
MASS
43
AREA
5328
HEIGHT
2855
08-Nov-2022
15:18
linh
pham



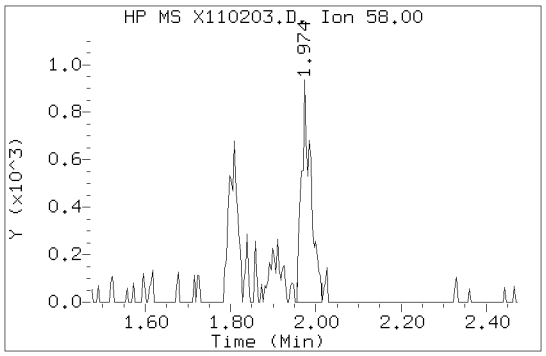
AFTER
MASS
43
AREA
4640
HEIGHT
2856
09-Nov-2022
12:34



BEFORE
MASS
58
AREA
1457
HEIGHT
936
08-Nov-2022
15:18
linh
pham



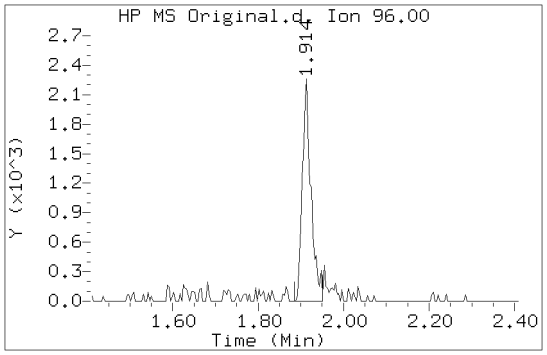
AFTER
MASS
58
AREA
1457
HEIGHT
936
09-Nov-2022
12:34



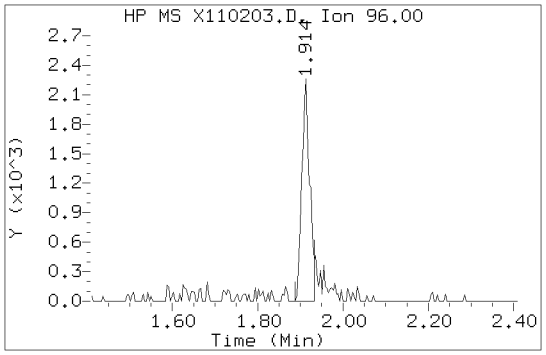
1,1-Dichloroethene (75-35-4)

Reason Code:

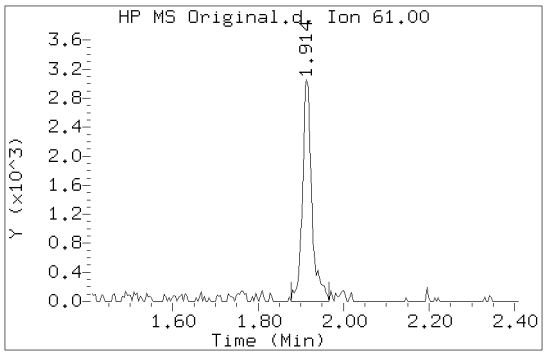
BEFORE
MASS
96
AREA
3258
HEIGHT
2261
08-Nov-2022
15:18
linh
pham



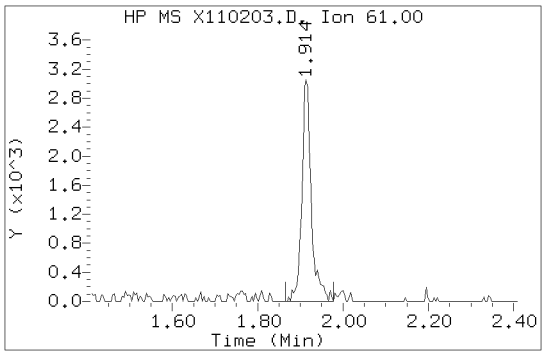
AFTER
MASS
96
AREA
2985
HEIGHT
2261
09-Nov-2022
12:34



BEFORE
MASS
61
AREA
4790
HEIGHT
3055
08-Nov-2022
15:18
linh
pham



AFTER
MASS
61
AREA
4856
HEIGHT
3055
09-Nov-2022
12:34



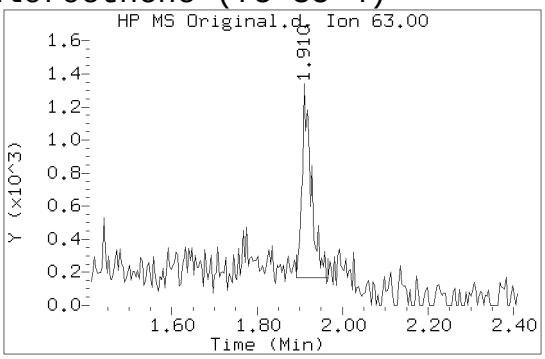
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Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

1,1-Dichloroethene (75-35-4)

Reason Code:

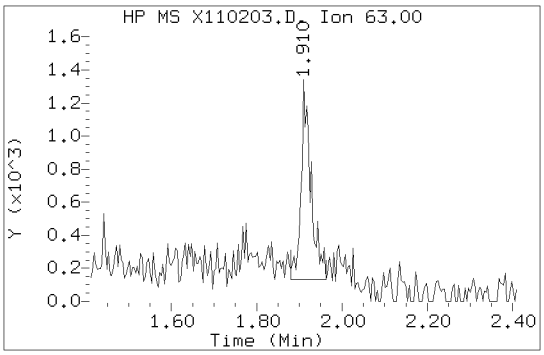
BEFORE

MASS
63
AREA
1758
HEIGHT
1175
08-Nov-2022
15:18
linh
pham



AFTER

MASS
63
AREA
1980
HEIGHT
1209
09-Nov-2022
12:34

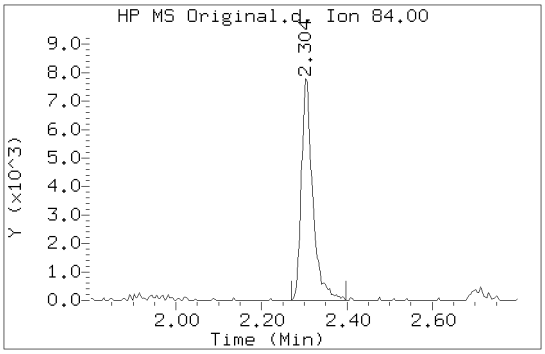


Methylene Chloride (75-09-2)

Reason Code:

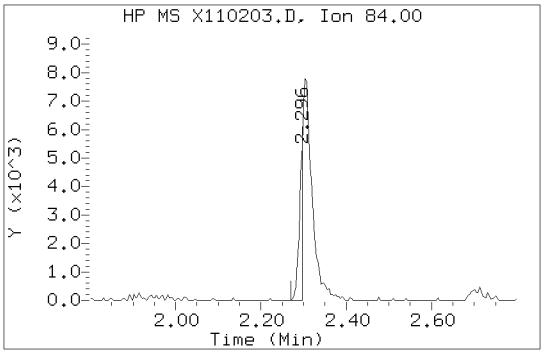
BEFORE

MASS
84
AREA
14664
HEIGHT
7787
08-Nov-2022
15:18
linh
pham



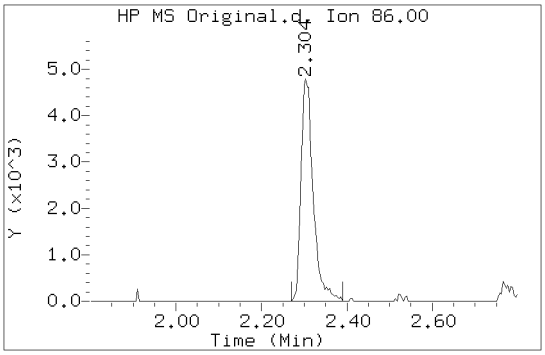
AFTER

MASS
84
AREA
3193
HEIGHT
5421
09-Nov-2022
12:34



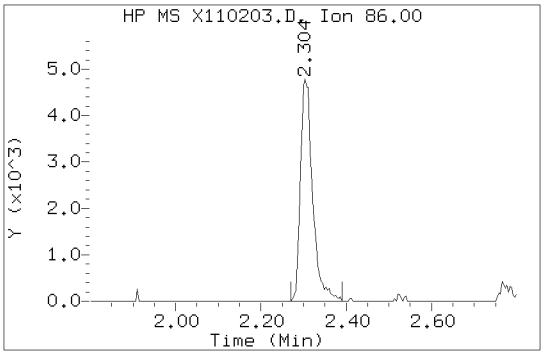
BEFORE

MASS
86
AREA
9713
HEIGHT
4792
08-Nov-2022
15:18
linh
pham



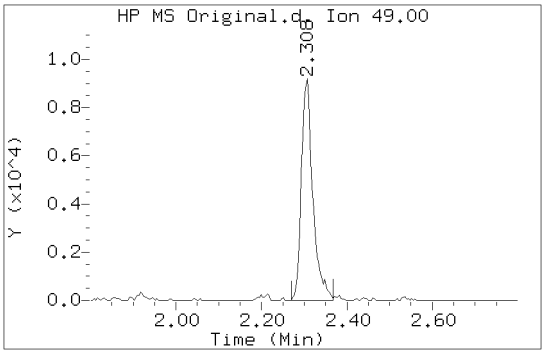
AFTER

MASS
86
AREA
9713
HEIGHT
4792
09-Nov-2022
12:34



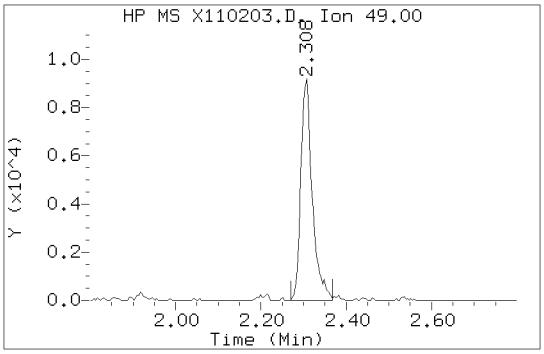
BEFORE

MASS
49
AREA
17470
HEIGHT
9198
08-Nov-2022
15:18
linh
pham



AFTER

MASS
49
AREA
17470
HEIGHT
9198
09-Nov-2022
12:34



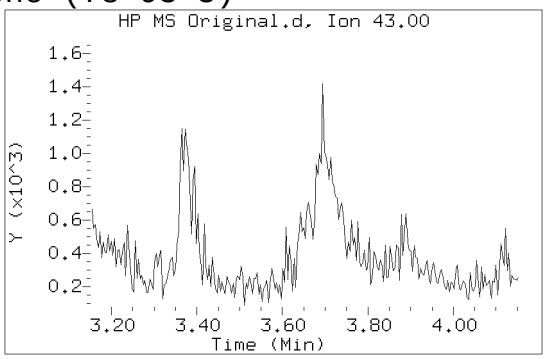
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Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

2-Butanone (78-93-3)

Reason Code:

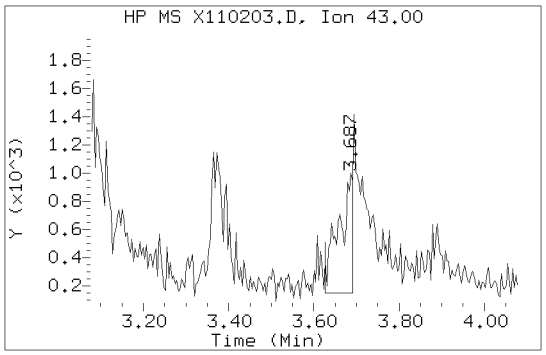
BEFORE

MASS
43
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



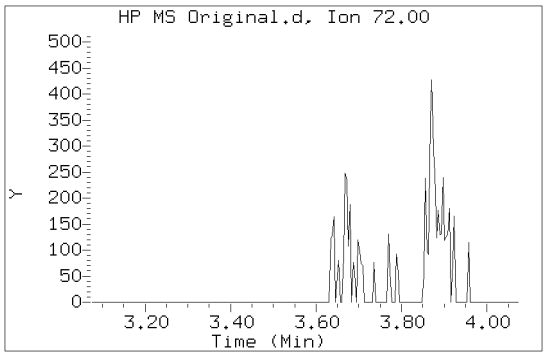
AFTER

MASS
43
AREA
1919
HEIGHT
853
09-Nov-2022
12:34



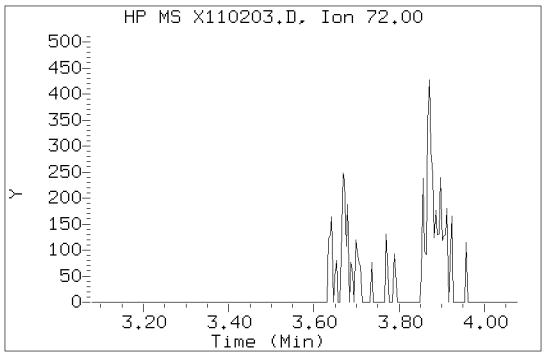
BEFORE

MASS
72
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

MASS
72
AREA
0
HEIGHT
0
09-Nov-2022
12:34

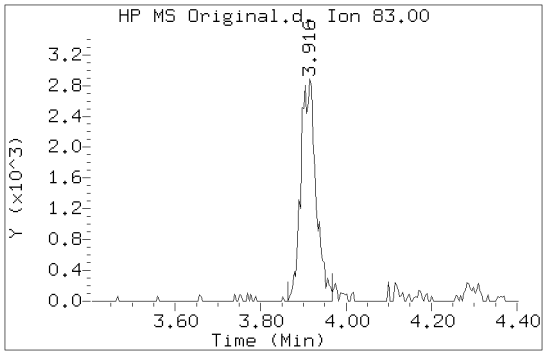


Chloroform (67-66-3)

Reason Code:

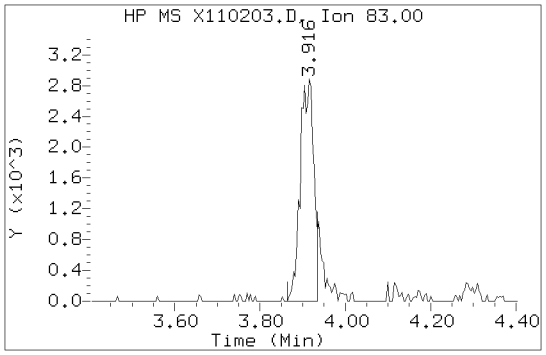
BEFORE

MASS
83
AREA
7302
HEIGHT
2887
08-Nov-2022
15:18
linh
pham



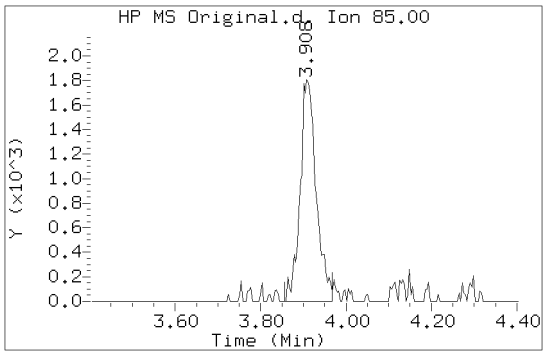
AFTER

MASS
83
AREA
6477
HEIGHT
2887
09-Nov-2022
12:34



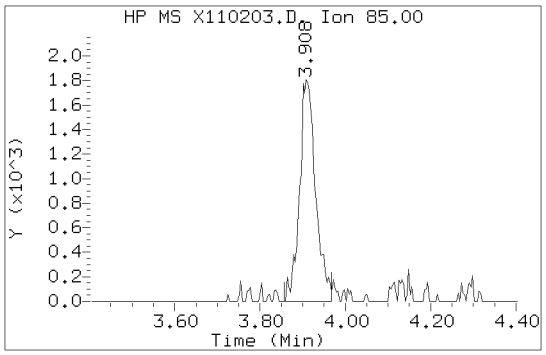
BEFORE

MASS
85
AREA
4798
HEIGHT
1806
08-Nov-2022
15:18
linh
pham



AFTER

MASS
85
AREA
4798
HEIGHT
1806
09-Nov-2022
12:34



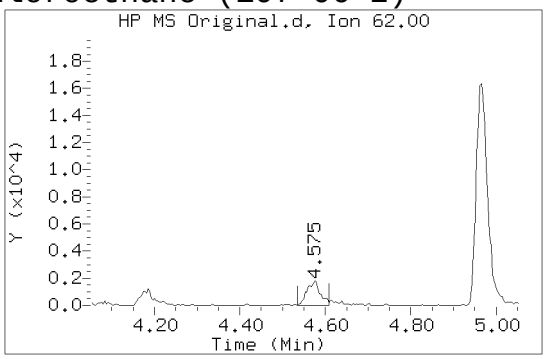
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Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

1,2-Dichloroethane (107-06-2)

Reason Code:

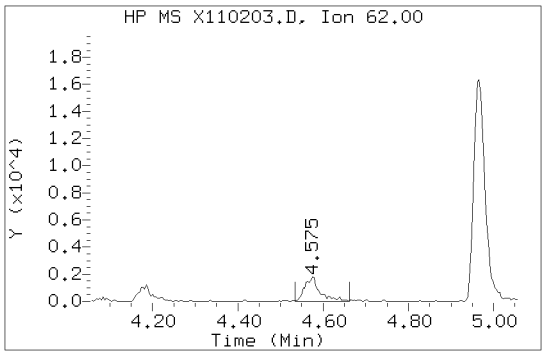
BEFORE

MASS
62
AREA
3911
HEIGHT
1812
08-Nov-2022
15:18
linh
pham



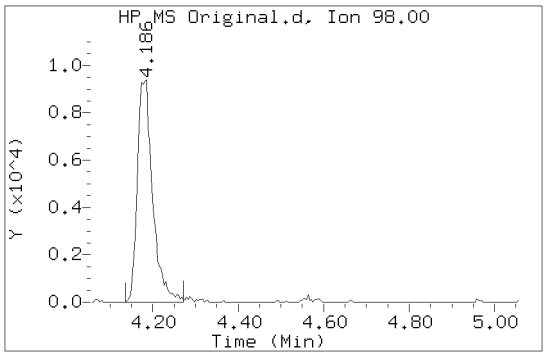
AFTER

MASS
62
AREA
4473
HEIGHT
1812
09-Nov-2022
12:34



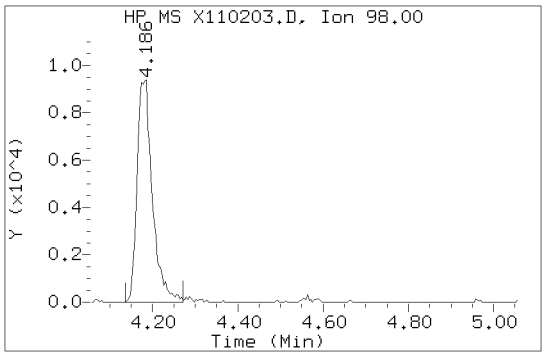
BEFORE

MASS
98
AREA
23326
HEIGHT
9392
08-Nov-2022
15:18
linh
pham



AFTER

MASS
98
AREA
23326
HEIGHT
9392
09-Nov-2022
12:34

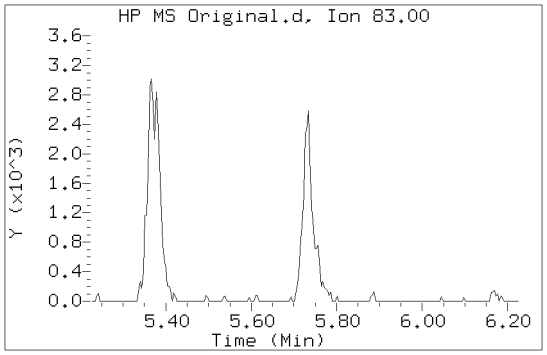


Bromodichloromethane (75-27-4)

Reason Code:

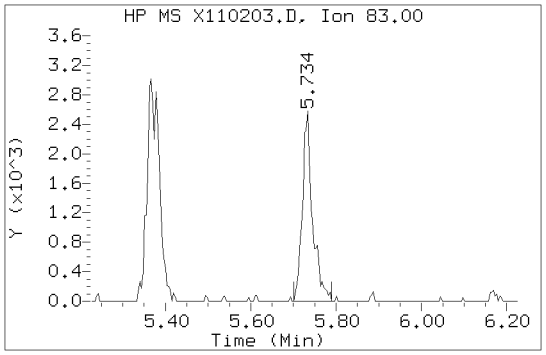
BEFORE

MASS
83
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



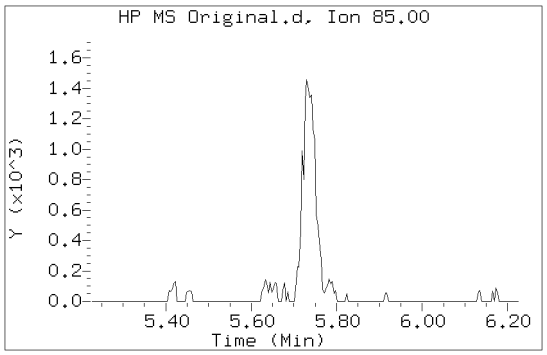
AFTER

MASS
83
AREA
4361
HEIGHT
2579
09-Nov-2022
12:34



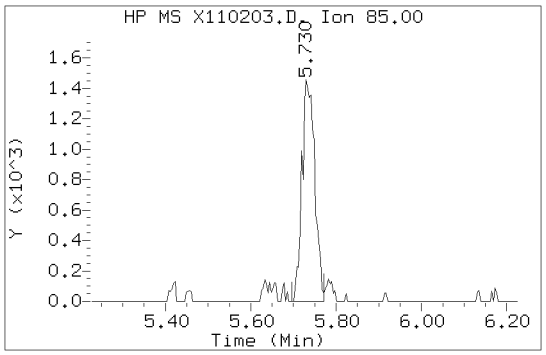
BEFORE

MASS
85
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

MASS
85
AREA
3082
HEIGHT
1457
09-Nov-2022
12:34

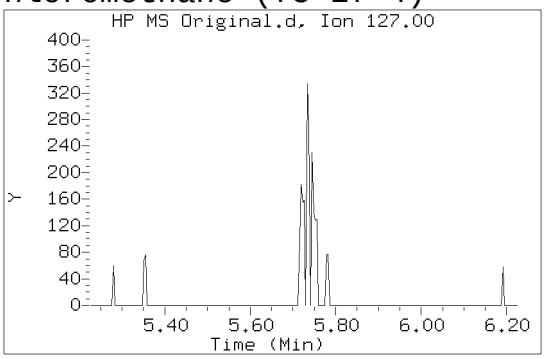


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InstruID : voa6.i
LabSampID : VSTD000.5

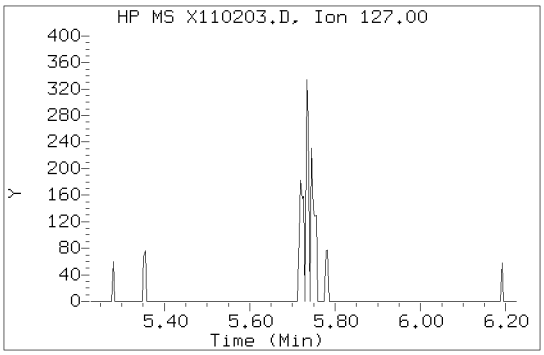
Bromodichloromethane (75-27-4)

Reason Code:

BEFORE
MASS
127
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



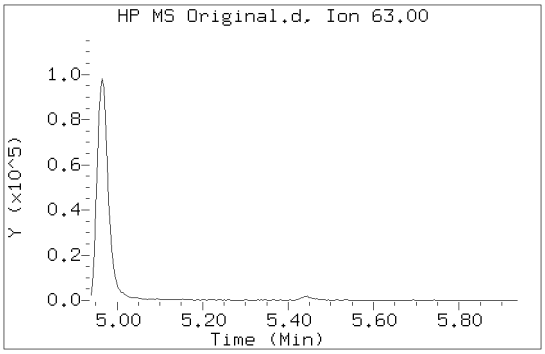
AFTER
MASS
127
AREA
0
HEIGHT
0
09-Nov-2022
12:34



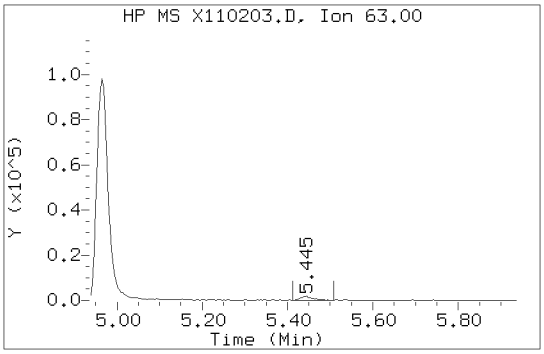
1,2-Dichloropropane (78-87-5)

Reason Code:

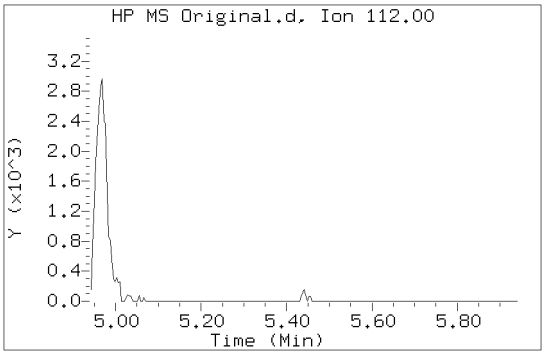
BEFORE
MASS
63
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



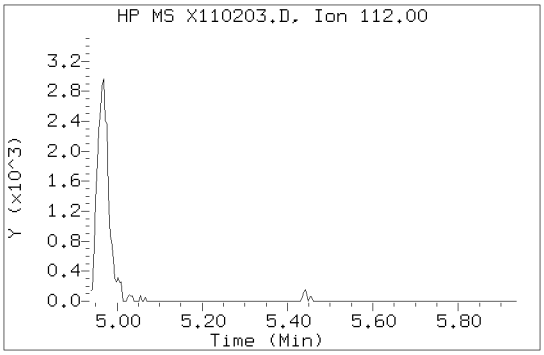
AFTER
MASS
63
AREA
3111
HEIGHT
1904
09-Nov-2022
12:34



BEFORE
MASS
112
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



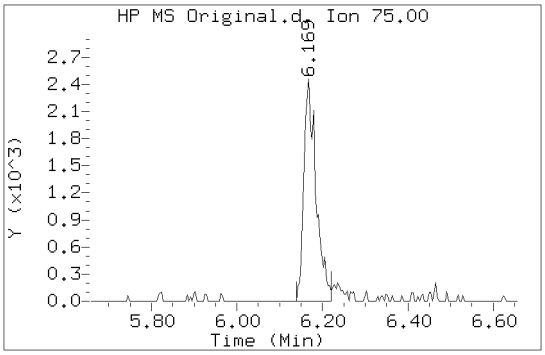
AFTER
MASS
112
AREA
0
HEIGHT
0
09-Nov-2022
12:34



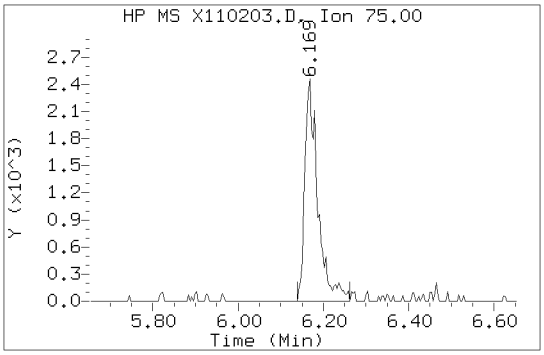
cis-1,3-Dichloropropene (10061-01-5)

Reason Code:

BEFORE
MASS
75
AREA
4929
HEIGHT
2462
08-Nov-2022
15:18
linh
pham



AFTER
MASS
75
AREA
5236
HEIGHT
2462
09-Nov-2022
12:34

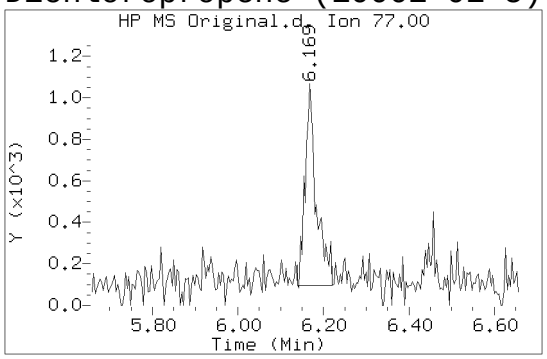


Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110203.D
Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

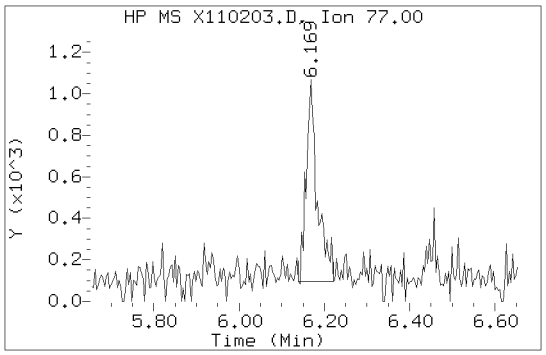
cis-1,3-Dichloropropene (10061-01-5)

Reason Code:

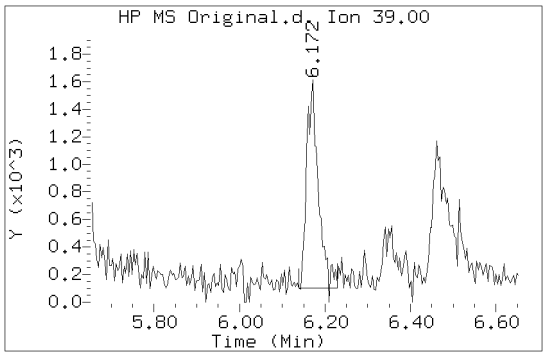
BEFORE
MASS
77
AREA
1780
HEIGHT
973
08-Nov-2022
15:18
linh
pham



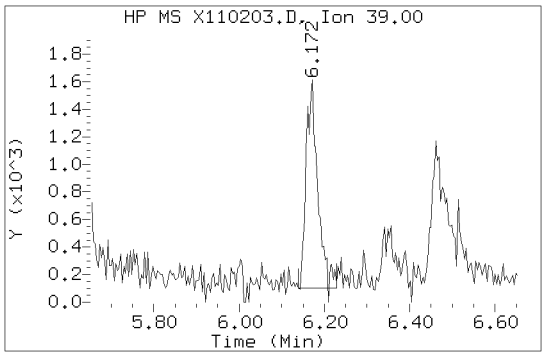
AFTER
MASS
77
AREA
1780
HEIGHT
973
09-Nov-2022
12:34



BEFORE
MASS
39
AREA
2854
HEIGHT
1509
08-Nov-2022
15:18
linh
pham



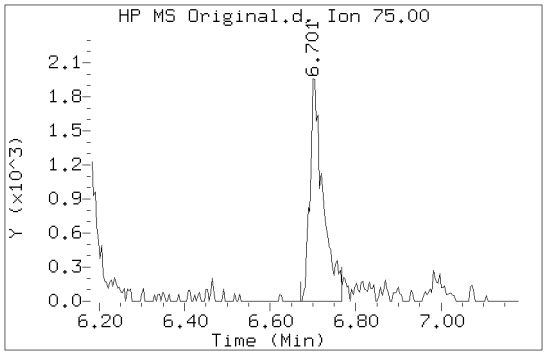
AFTER
MASS
39
AREA
2854
HEIGHT
1509
09-Nov-2022
12:34



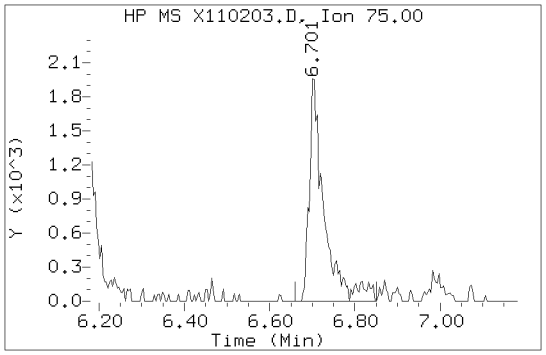
trans-1,3-Dichloropropene (10061-02-6)

Reason Code:

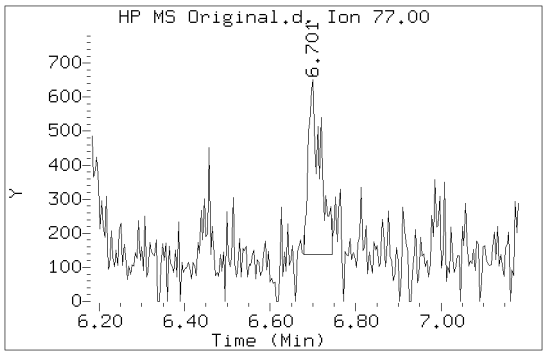
BEFORE
MASS
75
AREA
4210
HEIGHT
1958
08-Nov-2022
15:18
linh
pham



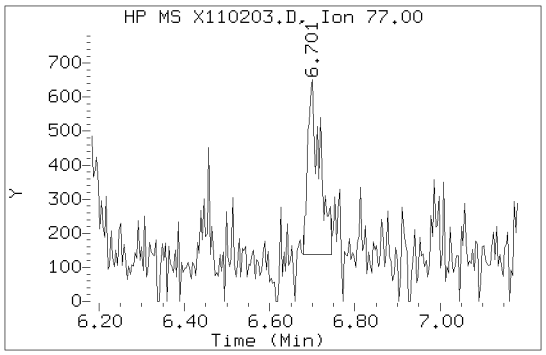
AFTER
MASS
75
AREA
4765
HEIGHT
1958
09-Nov-2022
12:34



BEFORE
MASS
77
AREA
1001
HEIGHT
513
08-Nov-2022
15:18
linh
pham



AFTER
MASS
77
AREA
1001
HEIGHT
513
09-Nov-2022
12:34

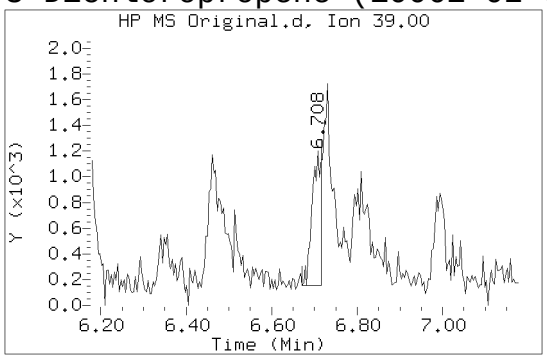


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Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

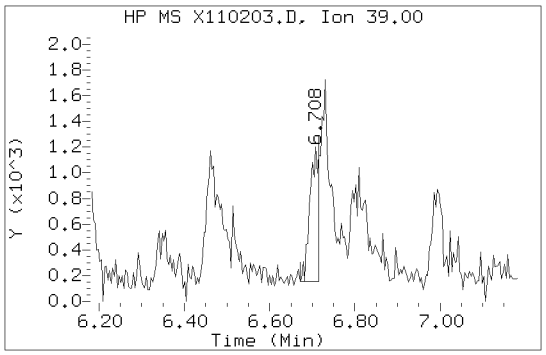
trans-1,3-Dichloropropene (10061-02-6)

Reason Code:

BEFORE
MASS
39
AREA
1515
HEIGHT
1046
08-Nov-2022
15:18
linh
pham



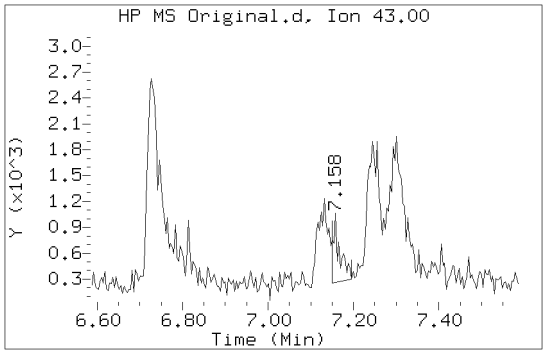
AFTER
MASS
39
AREA
1515
HEIGHT
1046
09-Nov-2022
12:34



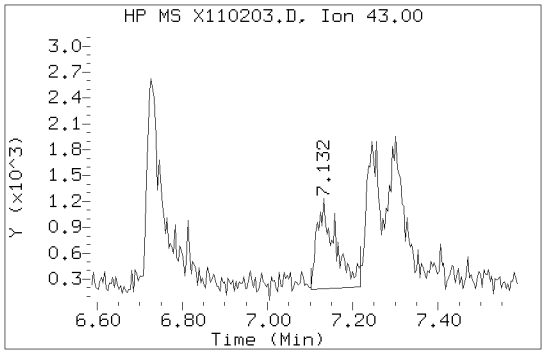
2-Hexanone (591-78-6)

Reason Code:

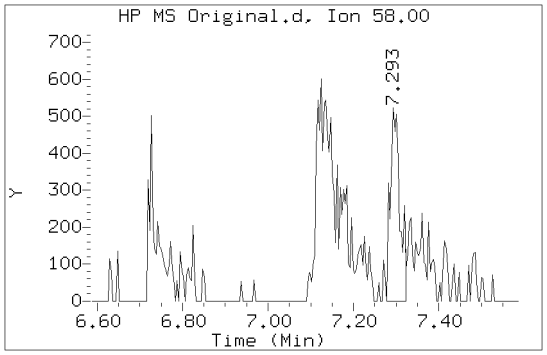
BEFORE
MASS
43
AREA
867
HEIGHT
801
08-Nov-2022
15:18
linh
pham



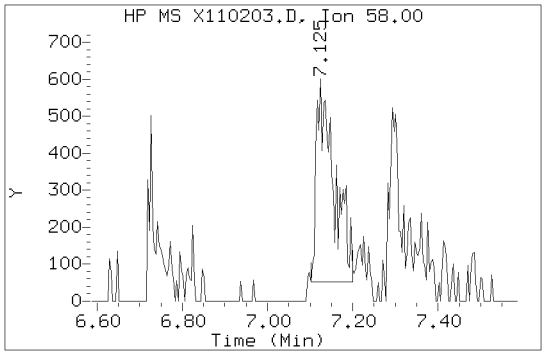
AFTER
MASS
43
AREA
3143
HEIGHT
1046
09-Nov-2022
12:34



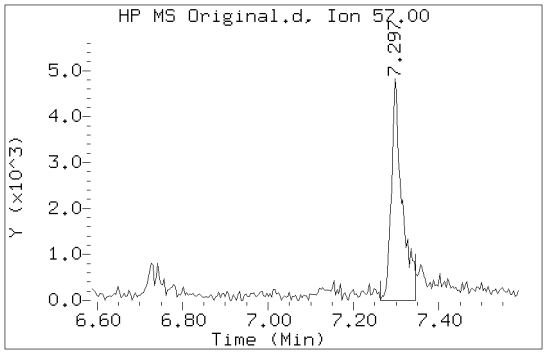
BEFORE
MASS
58
AREA
822
HEIGHT
523
08-Nov-2022
15:18
linh
pham



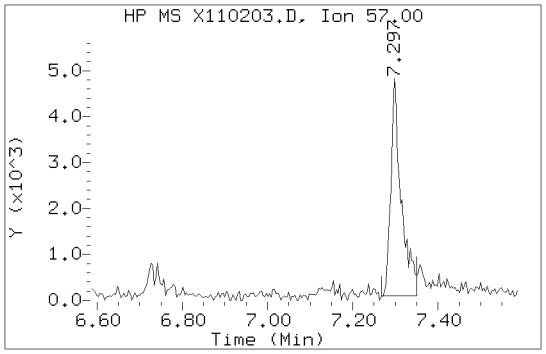
AFTER
MASS
58
AREA
1556
HEIGHT
548
09-Nov-2022
12:34



BEFORE
MASS
57
AREA
8406
HEIGHT
4825
08-Nov-2022
15:18
linh
pham



AFTER
MASS
57
AREA
8033
HEIGHT
4730
09-Nov-2022
12:34



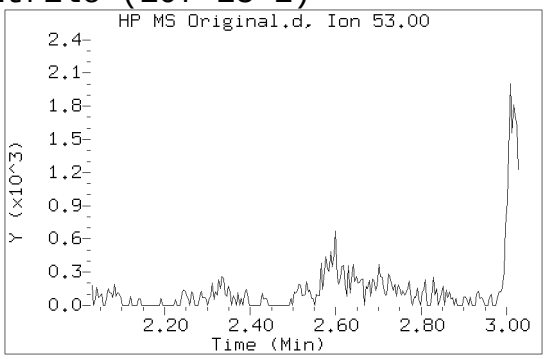
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Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

Acrylonitrile (107-13-1)

Reason Code:

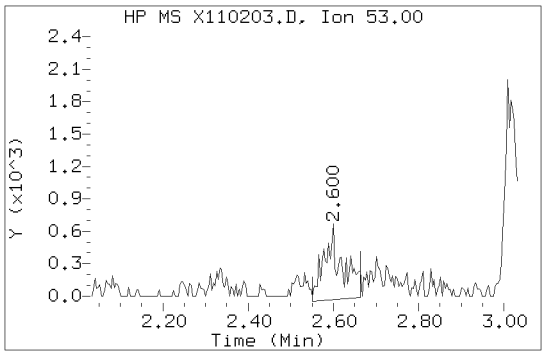
BEFORE

MASS
53
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



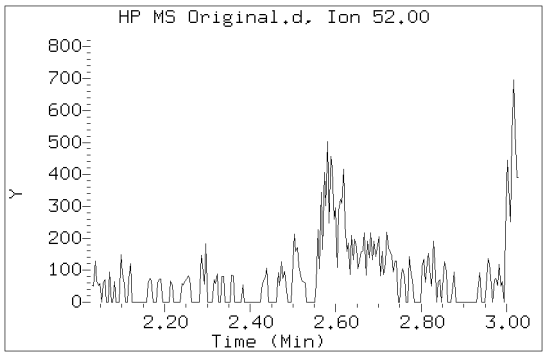
AFTER

MASS
53
AREA
2071
HEIGHT
702
09-Nov-2022
12:34



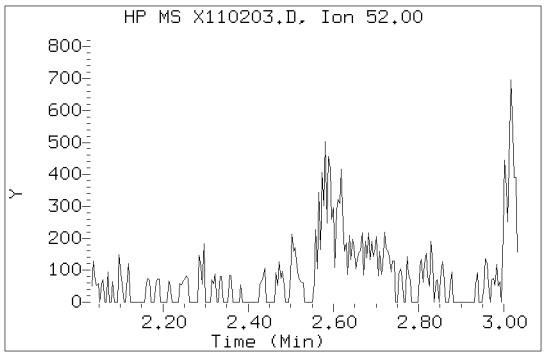
BEFORE

MASS
52
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



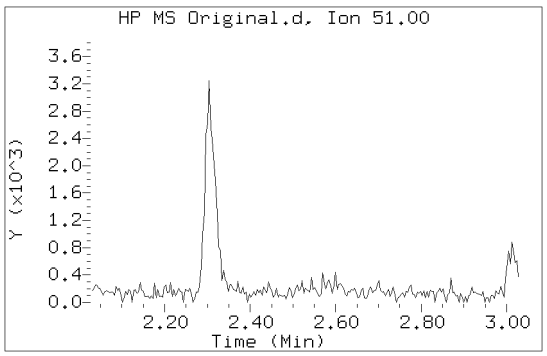
AFTER

MASS
52
AREA
0
HEIGHT
0
09-Nov-2022
12:34



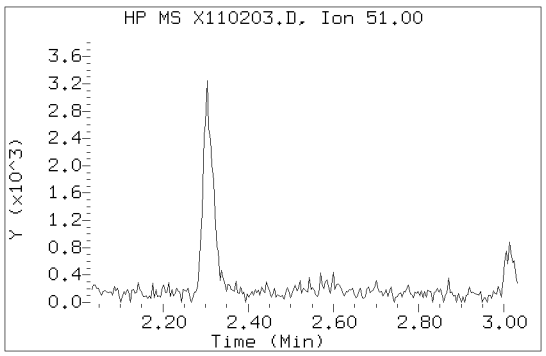
BEFORE

MASS
51
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

MASS
51
AREA
0
HEIGHT
0
09-Nov-2022
12:34

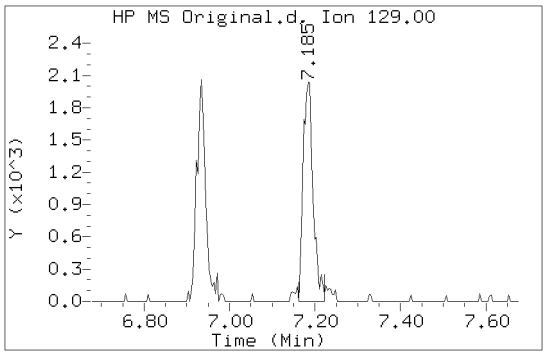


Dibromochloromethane (124-48-1)

Reason Code:

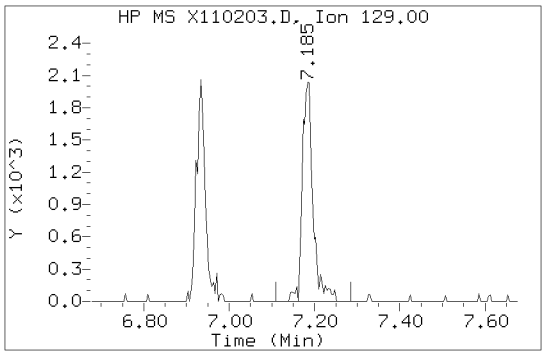
BEFORE

MASS
129
AREA
3387
HEIGHT
2039
08-Nov-2022
15:18
linh
pham



AFTER

MASS
129
AREA
3651
HEIGHT
2039
09-Nov-2022
12:34

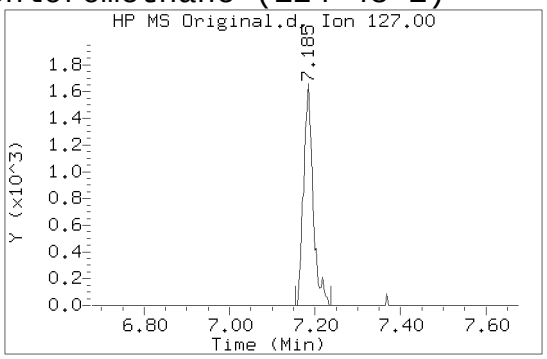


Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110203.D
Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

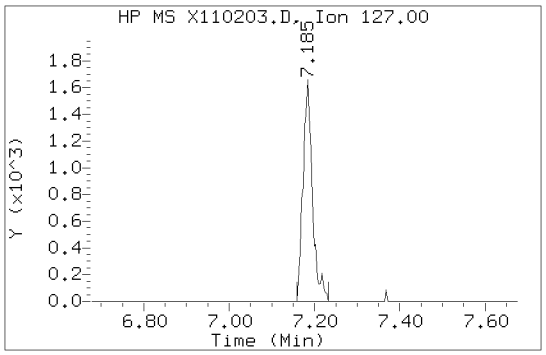
Dibromochloromethane (124-48-1)

Reason Code:

BEFORE
MASS
127
AREA
2594
HEIGHT
1659
08-Nov-2022
15:18
linh
pham



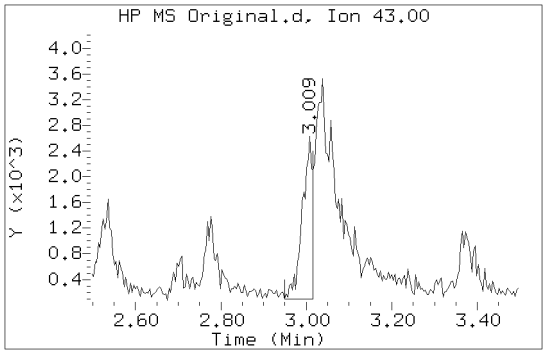
AFTER
MASS
127
AREA
2594
HEIGHT
1659
09-Nov-2022
12:34



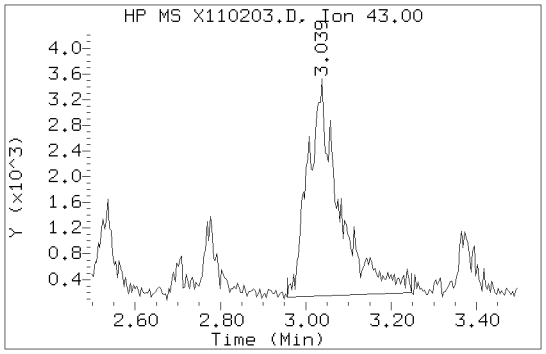
Vinyl Acetate (108-05-4)

Reason Code:

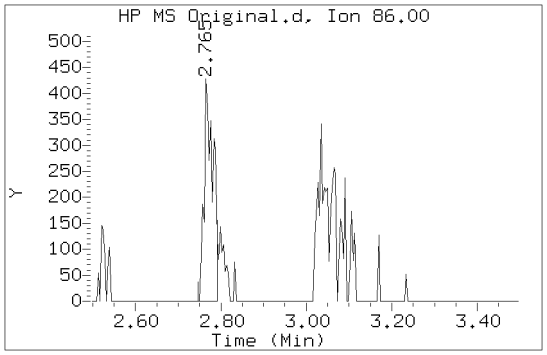
BEFORE
MASS
43
AREA
4272
HEIGHT
2535
08-Nov-2022
15:18
linh
pham



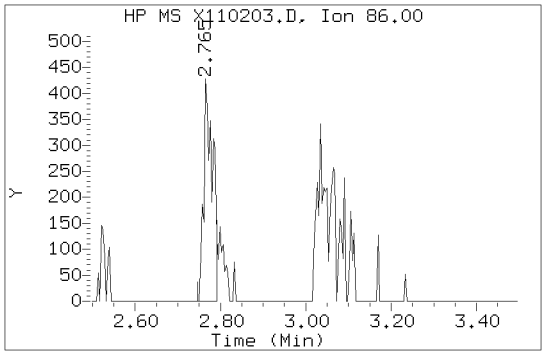
AFTER
MASS
43
AREA
17401
HEIGHT
3376
09-Nov-2022
12:34



BEFORE
MASS
86
AREA
620
HEIGHT
428
08-Nov-2022
15:18
linh
pham



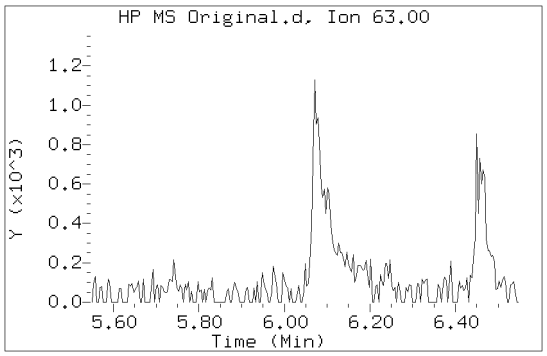
AFTER
MASS
86
AREA
620
HEIGHT
428
09-Nov-2022
12:34



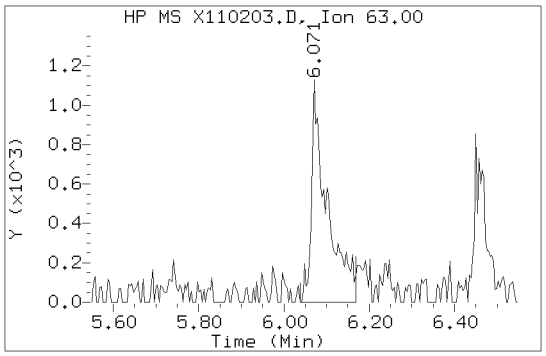
2-Chloroethylvinyl ether (110-75-8)

Reason Code:

BEFORE
MASS
63
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER
MASS
63
AREA
2859
HEIGHT
1129
09-Nov-2022
12:34

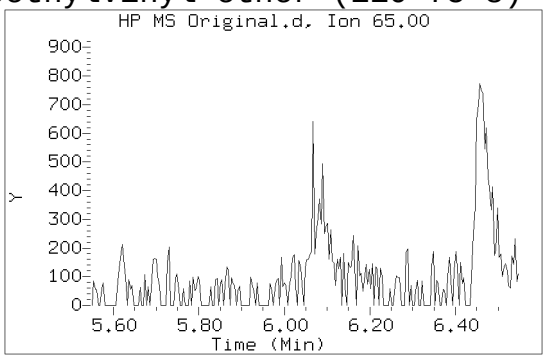


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Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

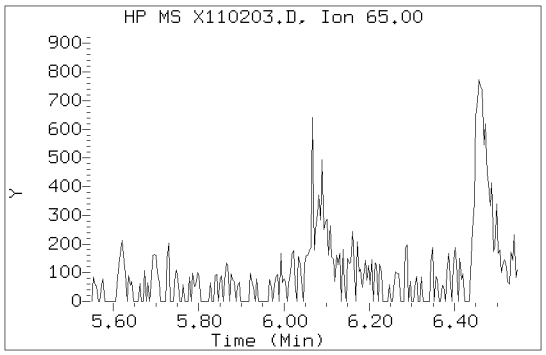
2-Chloroethylvinyl ether (110-75-8)

Reason Code:

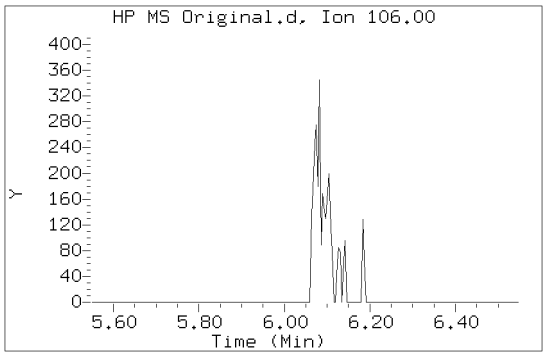
BEFORE
MASS
65
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



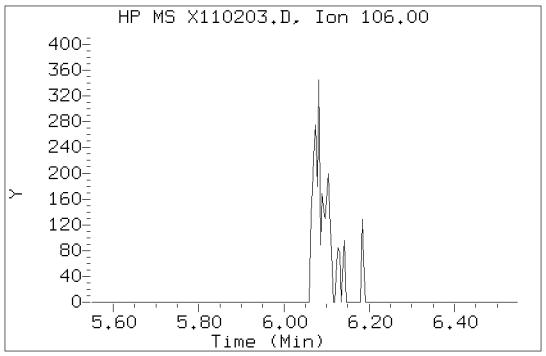
AFTER
MASS
65
AREA
0
HEIGHT
0
09-Nov-2022
12:34



BEFORE
MASS
106
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



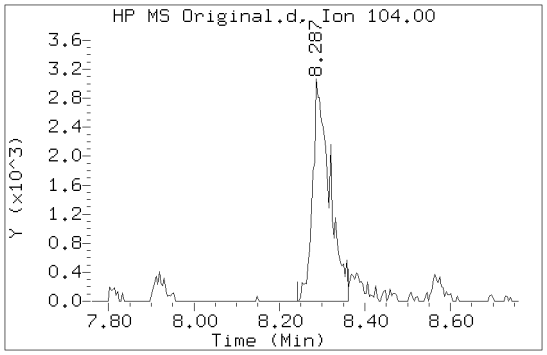
AFTER
MASS
106
AREA
0
HEIGHT
0
09-Nov-2022
12:34



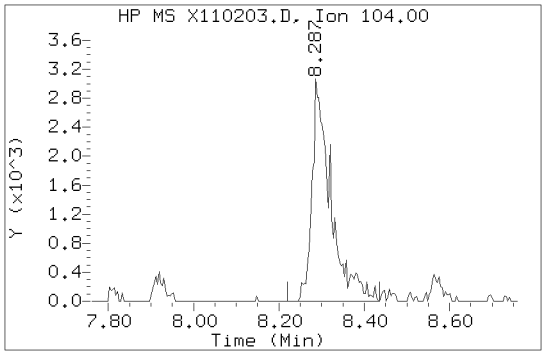
Styrene (100-42-5)

Reason Code:

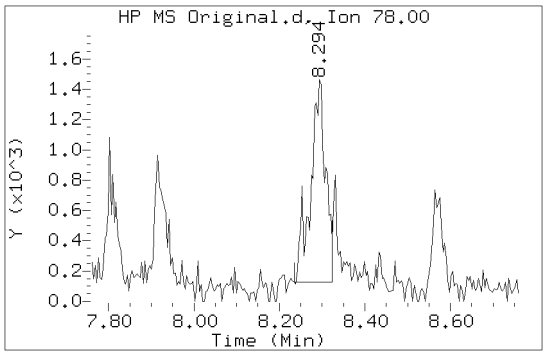
BEFORE
MASS
104
AREA
8459
HEIGHT
3066
08-Nov-2022
15:18
linh
pham



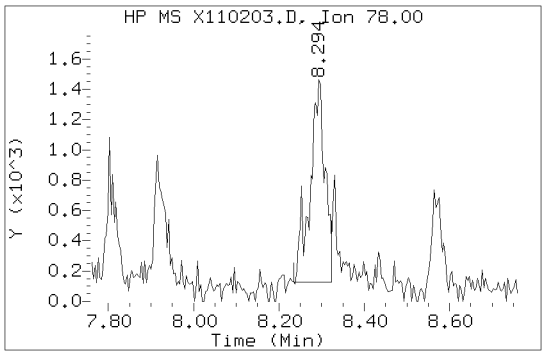
AFTER
MASS
104
AREA
9328
HEIGHT
3066
09-Nov-2022
12:34



BEFORE
MASS
78
AREA
3286
HEIGHT
1336
08-Nov-2022
15:18
linh
pham



AFTER
MASS
78
AREA
3286
HEIGHT
1336
09-Nov-2022
12:34

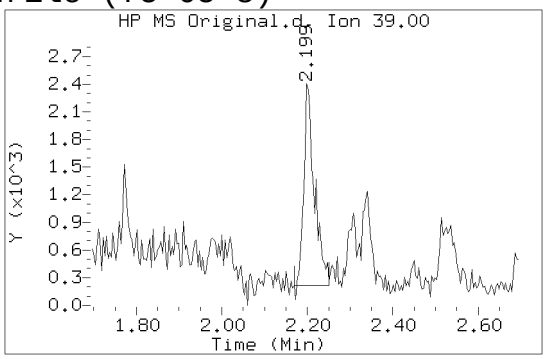


Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110203.D
Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

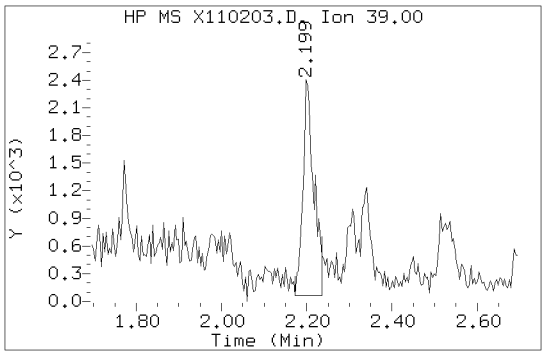
Acetonitrile (75-05-8)

Reason Code:

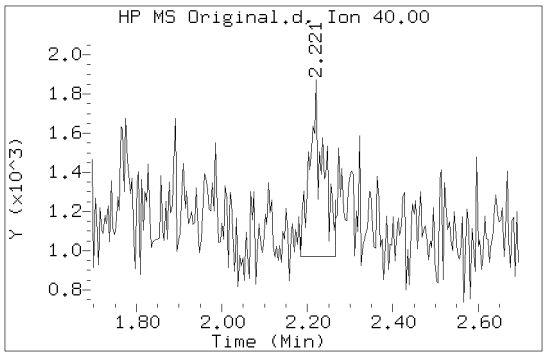
BEFORE
MASS
39
AREA
3786
HEIGHT
2188
08-Nov-2022
15:18
linh
pham



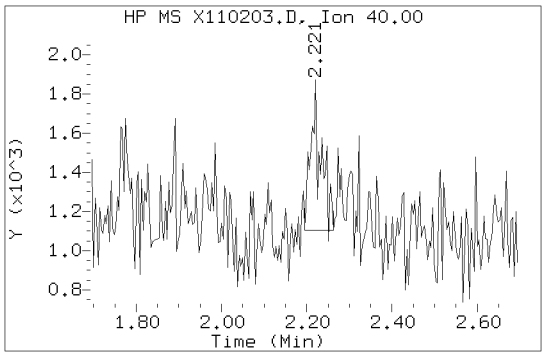
AFTER
MASS
39
AREA
4238
HEIGHT
2339
09-Nov-2022
12:34



BEFORE
MASS
40
AREA
2016
HEIGHT
901
08-Nov-2022
15:18
linh
pham



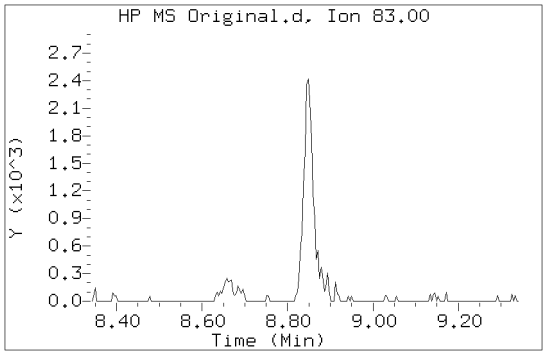
AFTER
MASS
40
AREA
1277
HEIGHT
767
09-Nov-2022
12:34



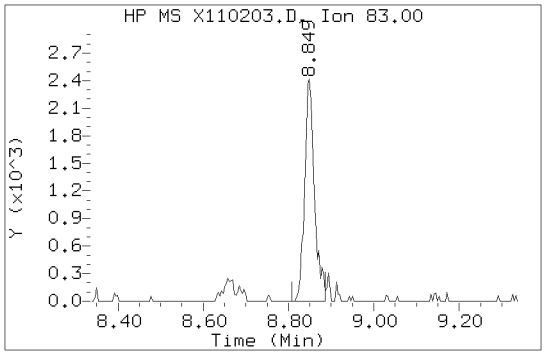
1,1,2,2-Tetrachloroethane (79-34-5)

Reason Code:

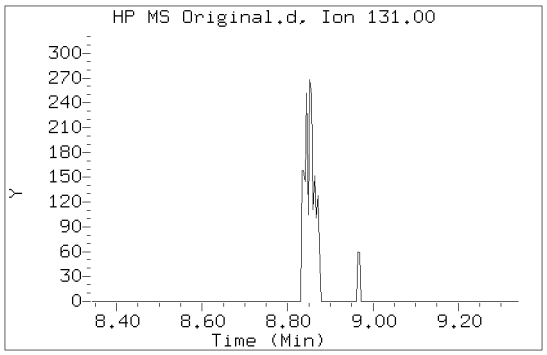
BEFORE
MASS
83
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



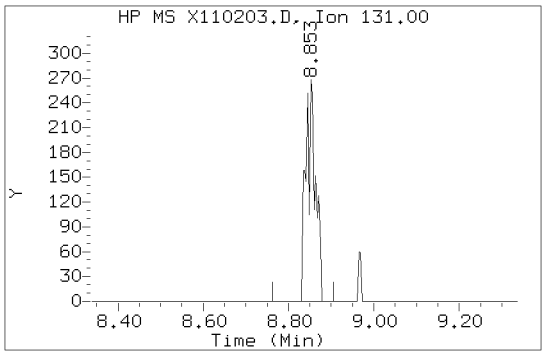
AFTER
MASS
83
AREA
3922
HEIGHT
2419
09-Nov-2022
12:34



BEFORE
MASS
131
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER
MASS
131
AREA
426
HEIGHT
268
09-Nov-2022
12:34

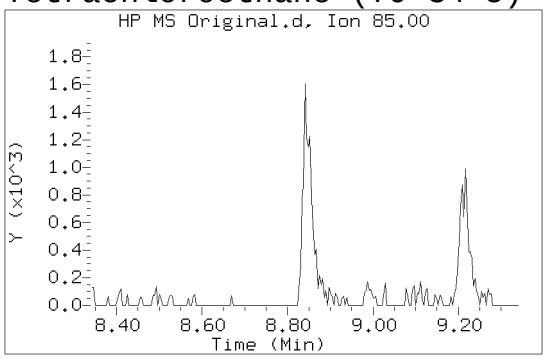


Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110203.D
Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

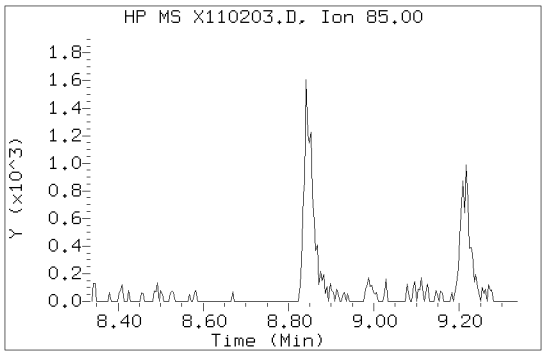
1,1,2,2-Tetrachloroethane (79-34-5)

Reason Code:

BEFORE
MASS
85
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



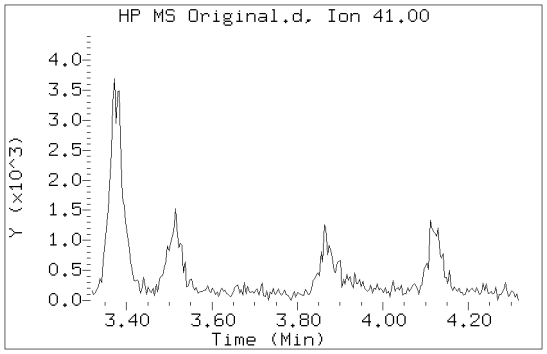
AFTER
MASS
85
AREA
0
HEIGHT
0
09-Nov-2022
12:34



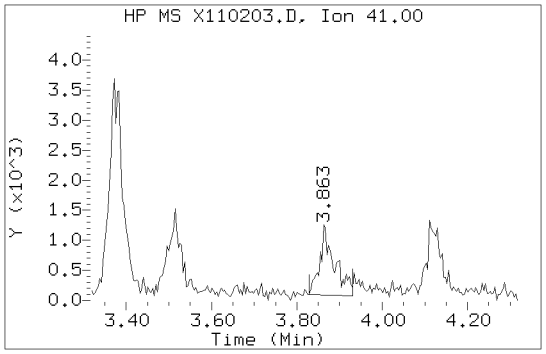
Methacrylonitrile (126-98-7)

Reason Code:

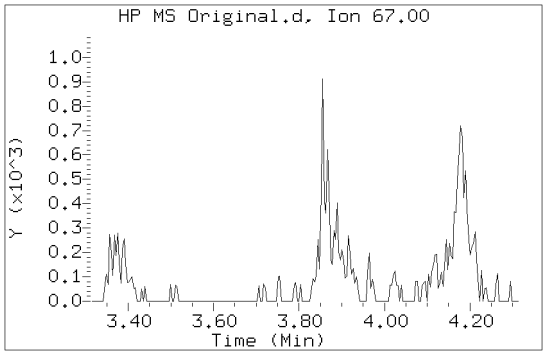
BEFORE
MASS
41
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



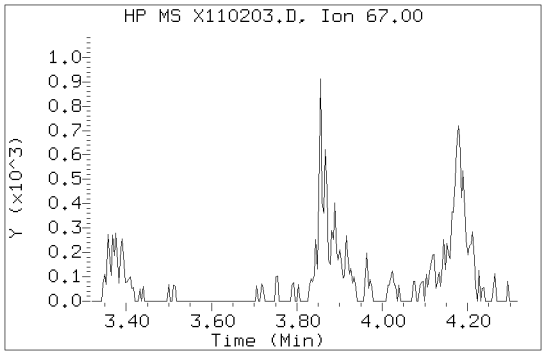
AFTER
MASS
41
AREA
2785
HEIGHT
1170
09-Nov-2022
12:34



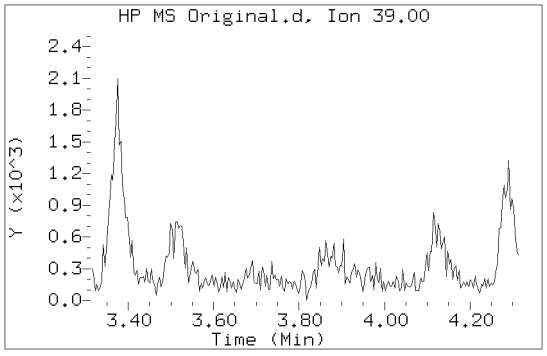
BEFORE
MASS
67
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



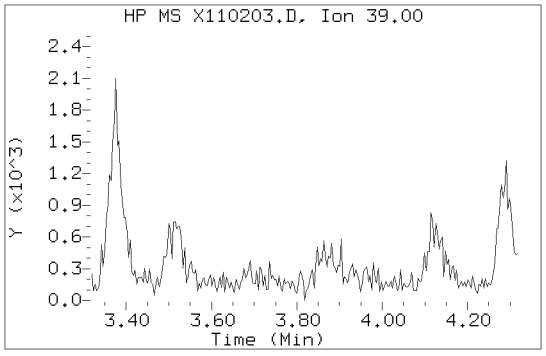
AFTER
MASS
67
AREA
0
HEIGHT
0
09-Nov-2022
12:34



BEFORE
MASS
39
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER
MASS
39
AREA
0
HEIGHT
0
09-Nov-2022
12:34



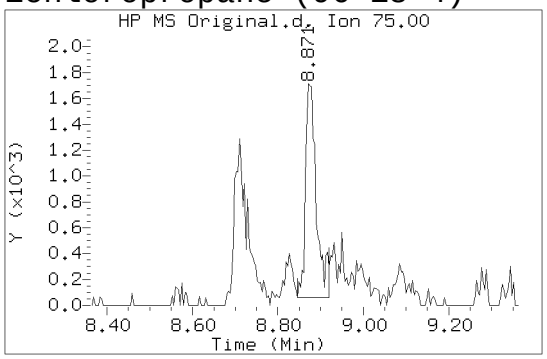
Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110203.D
Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

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

Reason Code:

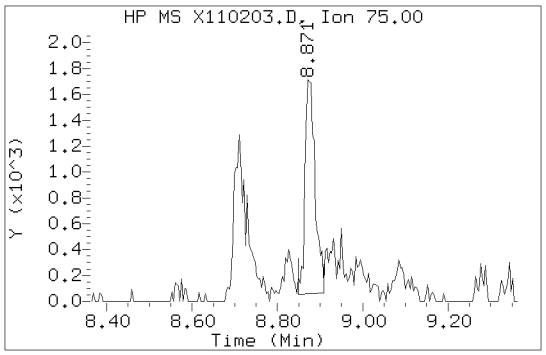
BEFORE

MASS
75
AREA
2984
HEIGHT
1655
08-Nov-2022
15:18
linh
pham



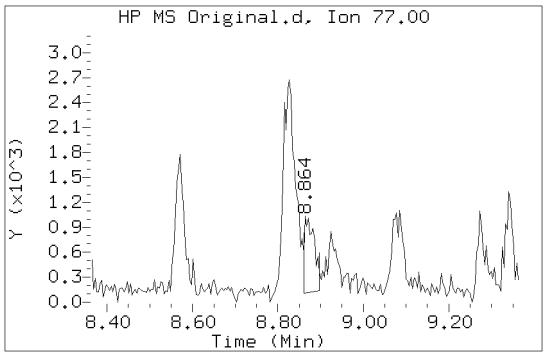
AFTER

MASS
75
AREA
2782
HEIGHT
1657
09-Nov-2022
12:34



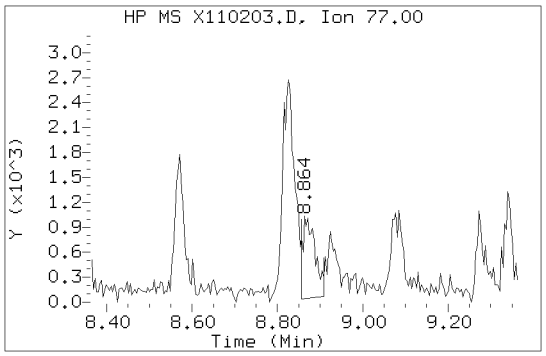
BEFORE

MASS
77
AREA
1537
HEIGHT
927
08-Nov-2022
15:18
linh
pham



AFTER

MASS
77
AREA
2035
HEIGHT
991
09-Nov-2022
12:34

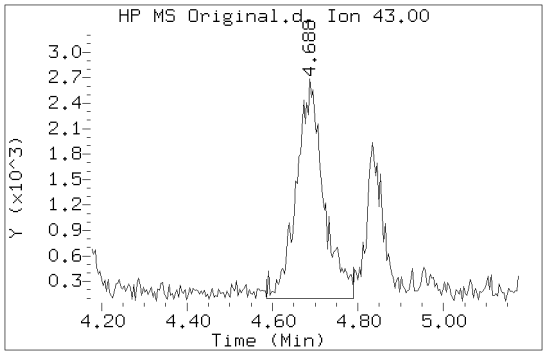


Isobutyl Alcohol (78-83-1)

Reason Code:

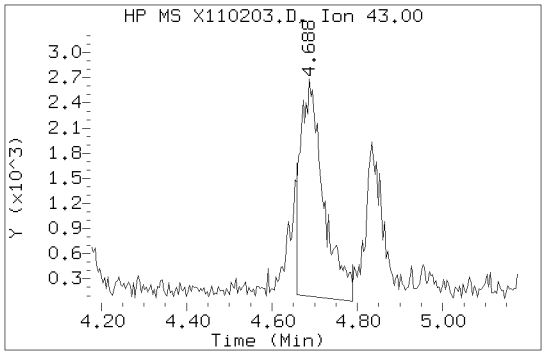
BEFORE

MASS
43
AREA
11532
HEIGHT
2592
08-Nov-2022
15:18
linh
pham



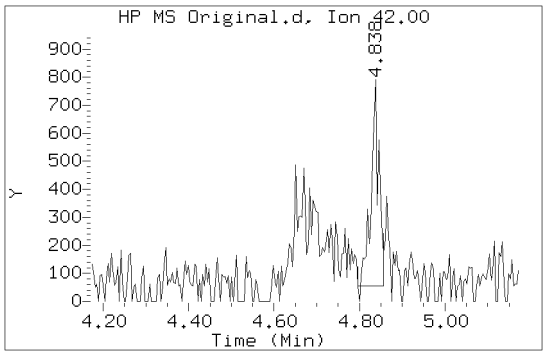
AFTER

MASS
43
AREA
9851
HEIGHT
2589
09-Nov-2022
12:34



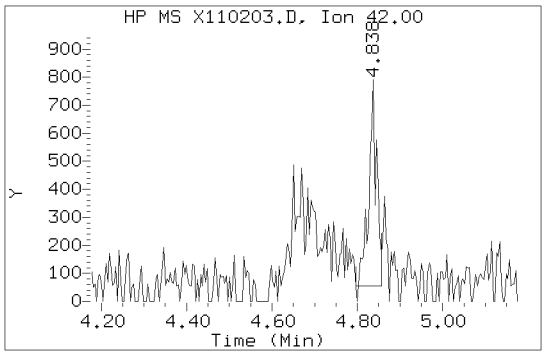
BEFORE

MASS
42
AREA
936
HEIGHT
737
08-Nov-2022
15:18
linh
pham



AFTER

MASS
42
AREA
936
HEIGHT
737
09-Nov-2022
12:34

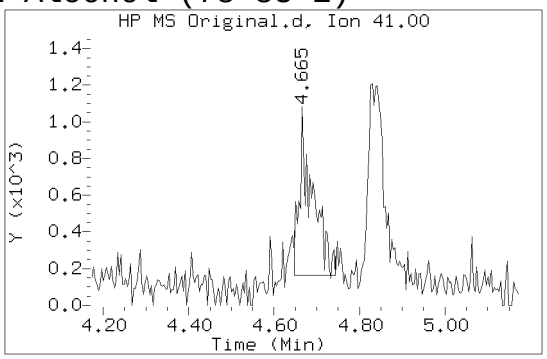


Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110203.D
Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

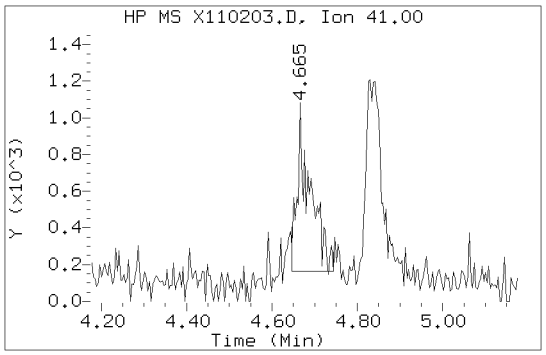
Isobutyl Alcohol (78-83-1)

Reason Code:

BEFORE
MASS
41
AREA
1982
HEIGHT
919
08-Nov-2022
15:18
linh
pham



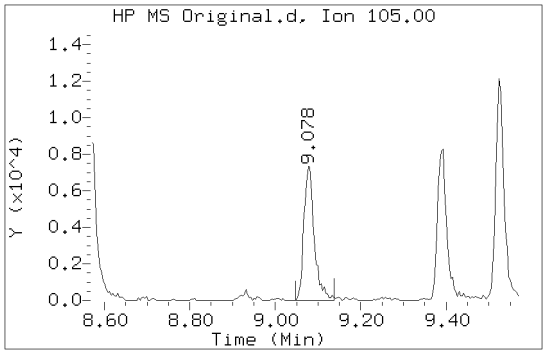
AFTER
MASS
41
AREA
1982
HEIGHT
919
09-Nov-2022
12:34



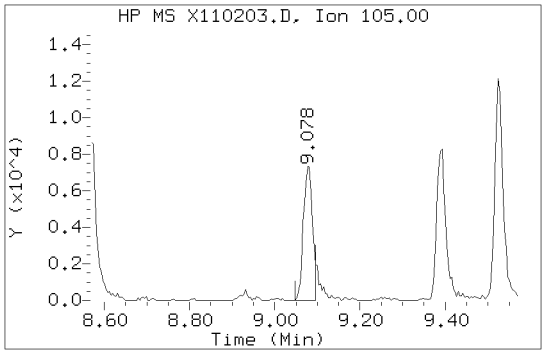
1,3,5-Trimethylbenzene (108-67-8)

Reason Code:

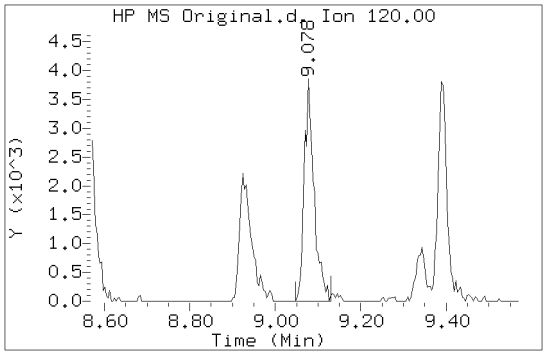
BEFORE
MASS
105
AREA
12471
HEIGHT
7333
08-Nov-2022
15:18
linh
pham



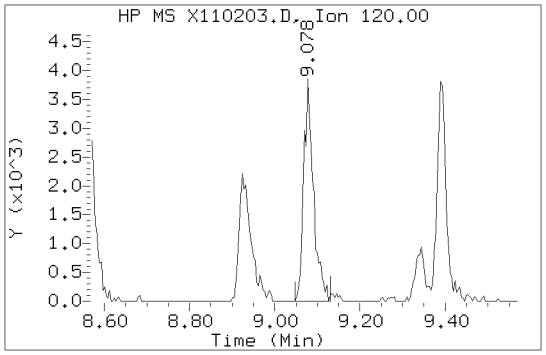
AFTER
MASS
105
AREA
11037
HEIGHT
7333
09-Nov-2022
12:34



BEFORE
MASS
120
AREA
6151
HEIGHT
3856
08-Nov-2022
15:18
linh
pham



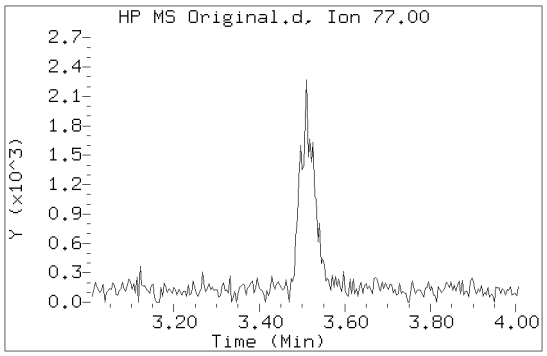
AFTER
MASS
120
AREA
6151
HEIGHT
3856
09-Nov-2022
12:34



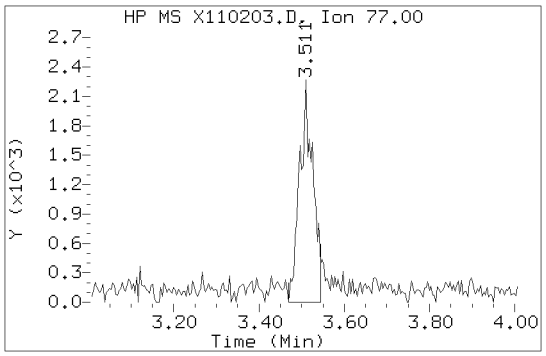
2,2-Dichloropropane (594-20-7)

Reason Code:

BEFORE
MASS
77
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER
MASS
77
AREA
4986
HEIGHT
2268
09-Nov-2022
12:34



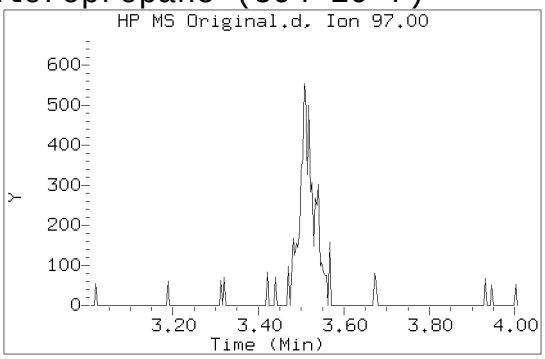
Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110203.D
Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

2,2-Dichloropropane (594-20-7)

Reason Code:

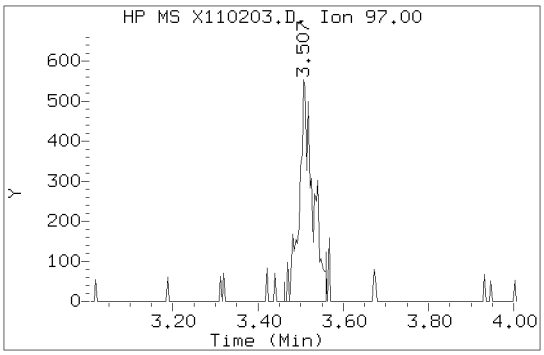
BEFORE

MASS
97
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

MASS
97
AREA
1251
HEIGHT
554
09-Nov-2022
12:34

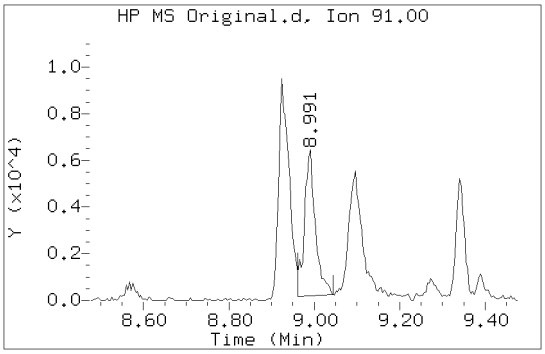


2-Chlorotoluene (95-49-8)

Reason Code:

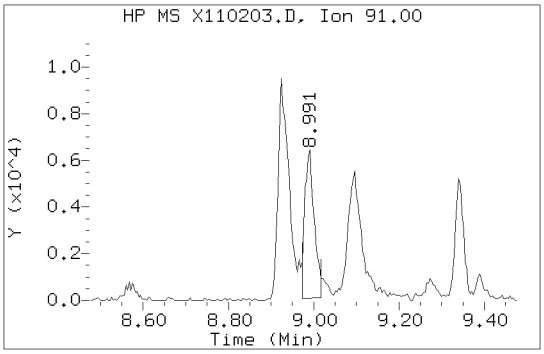
BEFORE

MASS
91
AREA
11302
HEIGHT
6259
08-Nov-2022
15:18
linh
pham



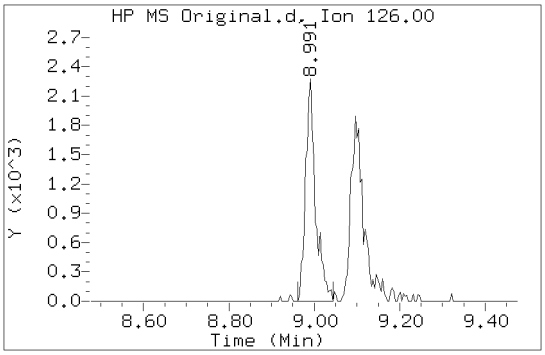
AFTER

MASS
91
AREA
10088
HEIGHT
6354
09-Nov-2022
12:34



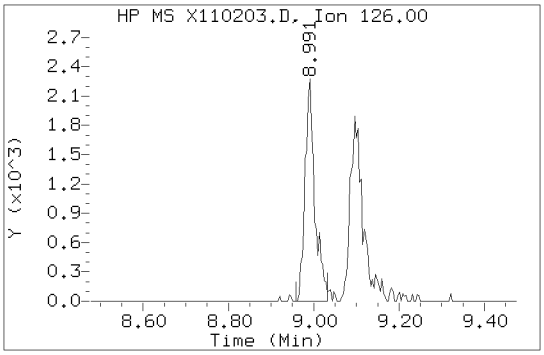
BEFORE

MASS
126
AREA
3706
HEIGHT
2275
08-Nov-2022
15:18
linh
pham



AFTER

MASS
126
AREA
3654
HEIGHT
2275
09-Nov-2022
12:34

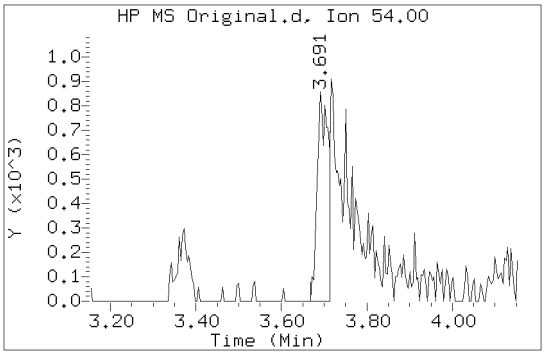


Propionitrile (107-12-0)

Reason Code:

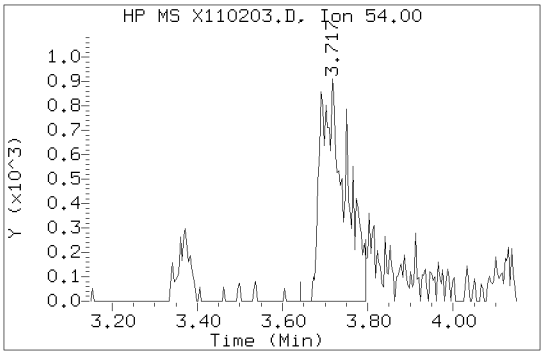
BEFORE

MASS
54
AREA
1501
HEIGHT
858
08-Nov-2022
15:18
linh
pham



AFTER

MASS
54
AREA
3703
HEIGHT
911
09-Nov-2022
12:34

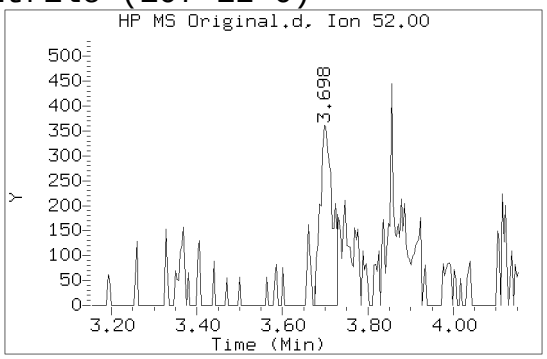


Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110203.D
Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

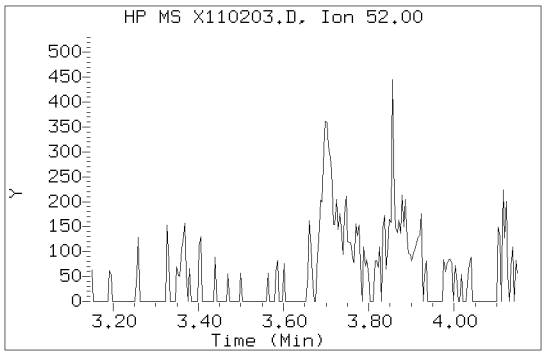
Propionitrile (107-12-0)

Reason Code:

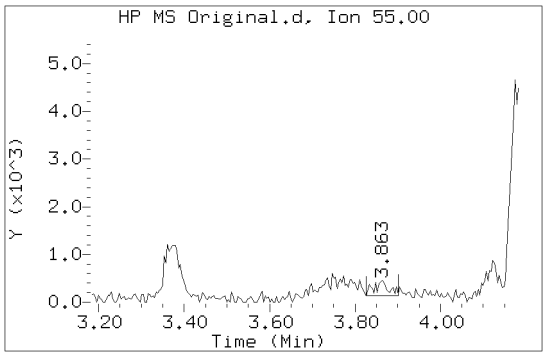
BEFORE
MASS
52
AREA
713
HEIGHT
361
08-Nov-2022
15:18
linh
pham



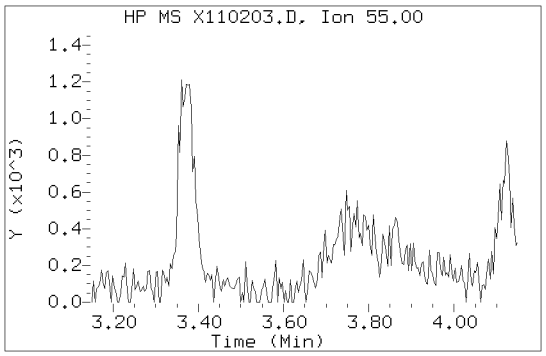
AFTER
MASS
52
AREA
0
HEIGHT
0
09-Nov-2022
12:34



BEFORE
MASS
55
AREA
724
HEIGHT
325
08-Nov-2022
15:18
linh
pham



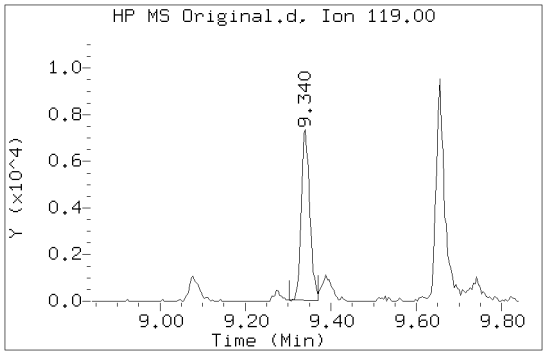
AFTER
MASS
55
AREA
0
HEIGHT
0
09-Nov-2022
12:34



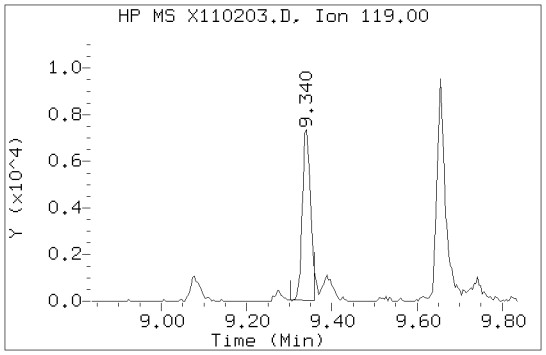
tert-Butylbenzene (98-06-6)

Reason Code:

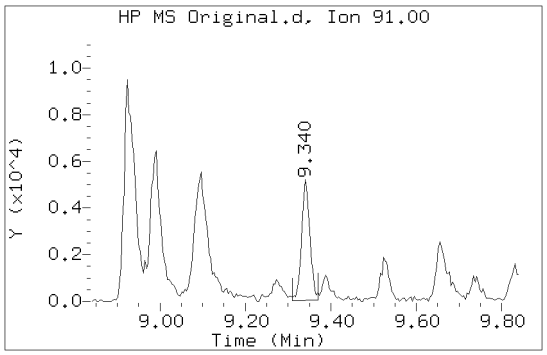
BEFORE
MASS
119
AREA
10439
HEIGHT
7311
08-Nov-2022
15:18
linh
pham



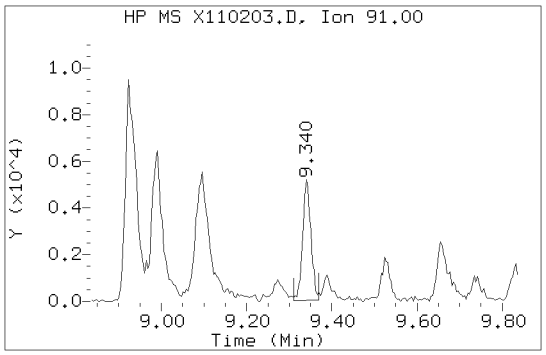
AFTER
MASS
119
AREA
10031
HEIGHT
7311
09-Nov-2022
12:34



BEFORE
MASS
91
AREA
7255
HEIGHT
5186
08-Nov-2022
15:18
linh
pham



AFTER
MASS
91
AREA
7255
HEIGHT
5186
09-Nov-2022
12:34

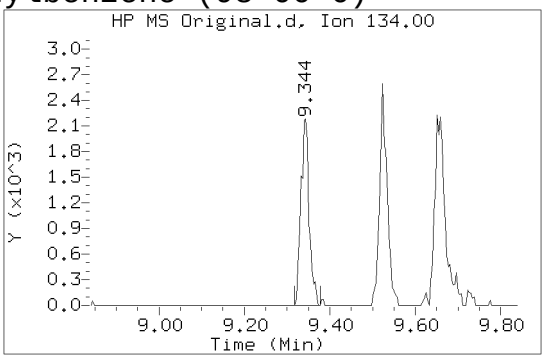


Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110203.D
Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

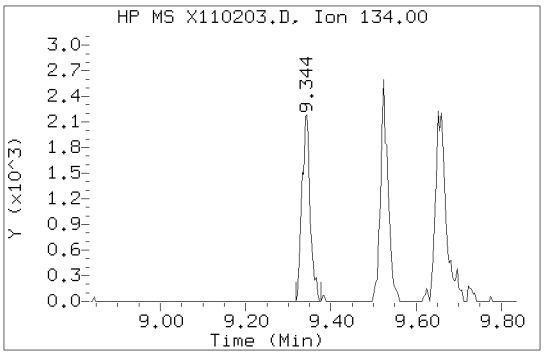
tert-Butylbenzene (98-06-6)

Reason Code:

BEFORE
MASS
134
AREA
3021
HEIGHT
2186
08-Nov-2022
15:18
linh
pham



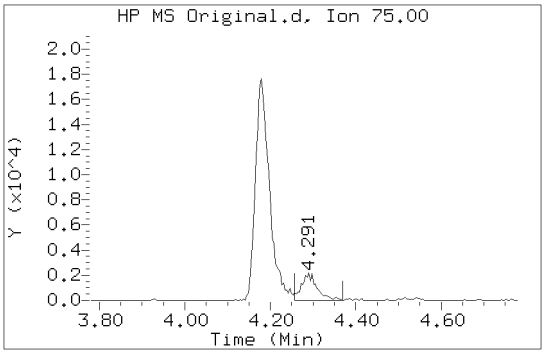
AFTER
MASS
134
AREA
3021
HEIGHT
2186
09-Nov-2022
12:34



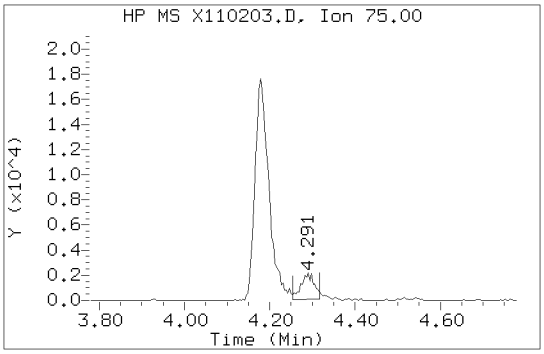
1,1-Dichloropropene (563-58-6)

Reason Code:

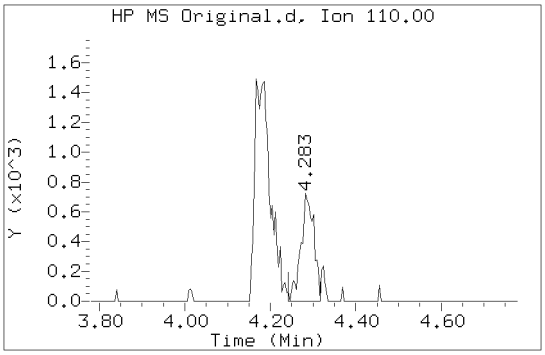
BEFORE
MASS
75
AREA
5505
HEIGHT
2198
08-Nov-2022
15:18
linh
pham



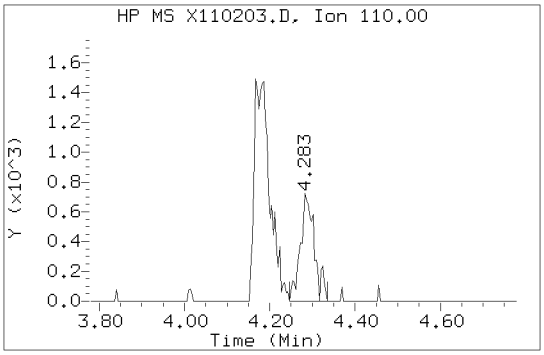
AFTER
MASS
75
AREA
4531
HEIGHT
2104
09-Nov-2022
12:34



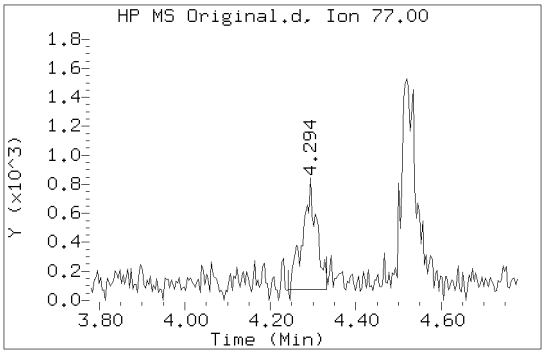
BEFORE
MASS
110
AREA
1547
HEIGHT
723
08-Nov-2022
15:18
linh
pham



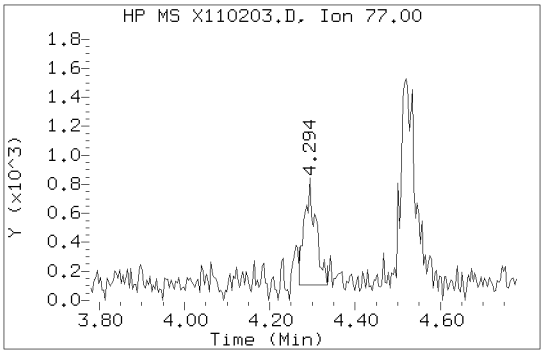
AFTER
MASS
110
AREA
1673
HEIGHT
723
09-Nov-2022
12:34



BEFORE
MASS
77
AREA
1753
HEIGHT
767
08-Nov-2022
15:18
linh
pham



AFTER
MASS
77
AREA
1392
HEIGHT
735
09-Nov-2022
12:34

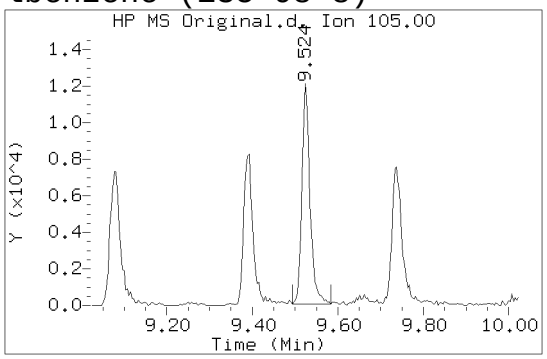


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InstruID : voa6.i
LabSampID : VSTD000.5

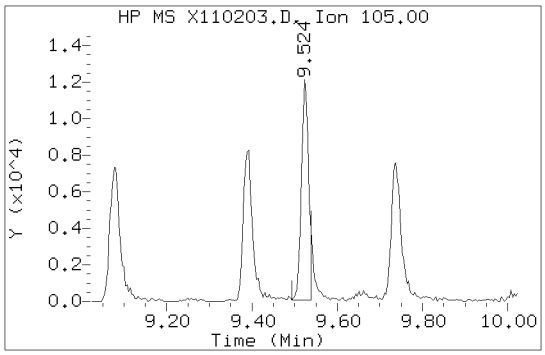
sec-Butylbenzene (135-98-8)

Reason Code:

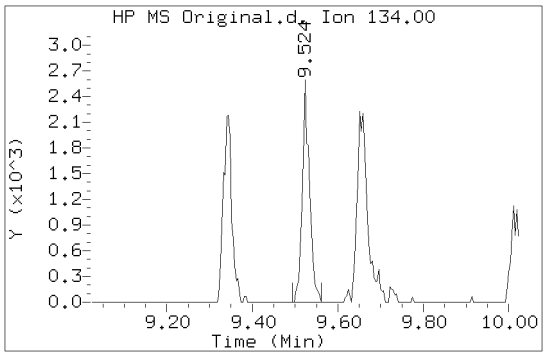
BEFORE
MASS
105
AREA
16445
HEIGHT
12081
08-Nov-2022
15:18
linh
pham



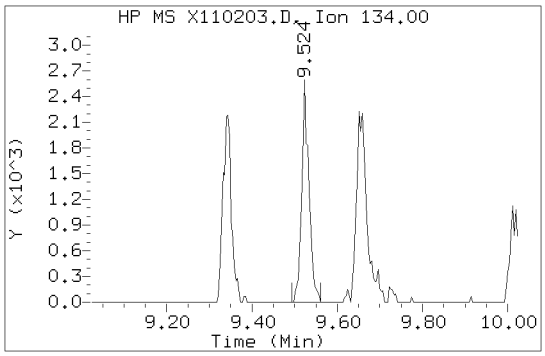
AFTER
MASS
105
AREA
14692
HEIGHT
12081
09-Nov-2022
12:34



BEFORE
MASS
134
AREA
3147
HEIGHT
2595
08-Nov-2022
15:18
linh
pham



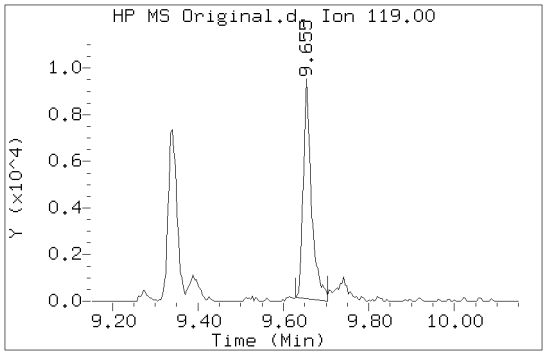
AFTER
MASS
134
AREA
3147
HEIGHT
2595
09-Nov-2022
12:34



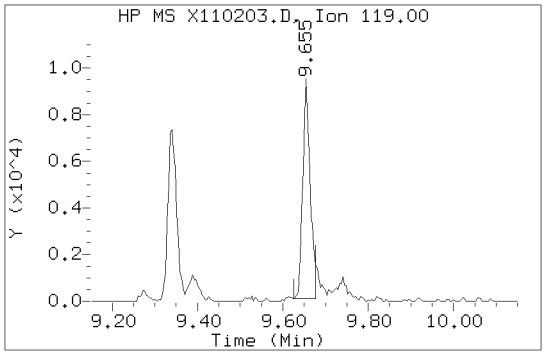
p-Isopropyltoluene (99-87-6)

Reason Code:

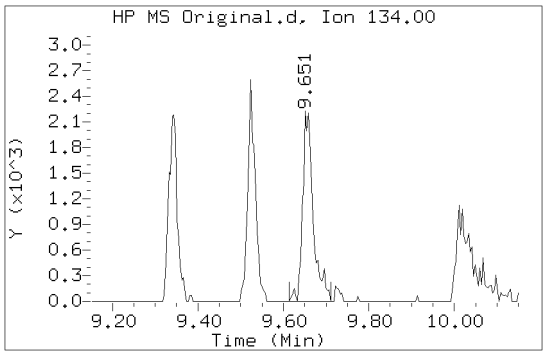
BEFORE
MASS
119
AREA
12880
HEIGHT
9427
08-Nov-2022
15:18
linh
pham



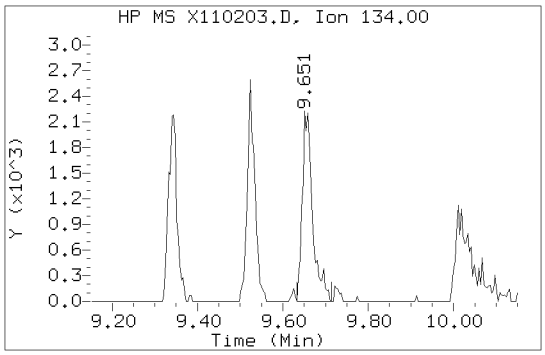
AFTER
MASS
119
AREA
11794
HEIGHT
9423
09-Nov-2022
12:34



BEFORE
MASS
134
AREA
3902
HEIGHT
2226
08-Nov-2022
15:18
linh
pham



AFTER
MASS
134
AREA
3824
HEIGHT
2226
09-Nov-2022
12:34



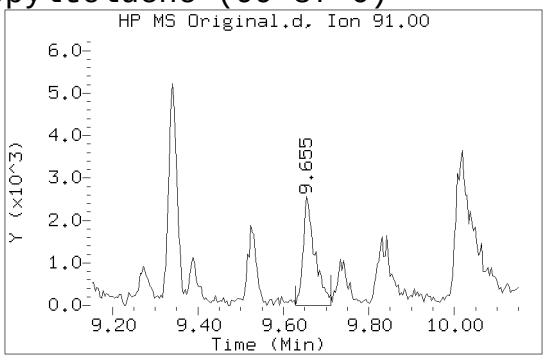
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Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

p-Isopropyltoluene (99-87-6)

Reason Code:

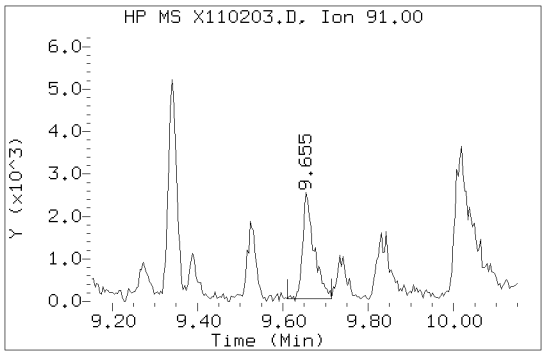
BEFORE

MASS
91
AREA
4990
HEIGHT
2568
08-Nov-2022
15:18
linh
pham



AFTER

MASS
91
AREA
4720
HEIGHT
2507
09-Nov-2022
12:34

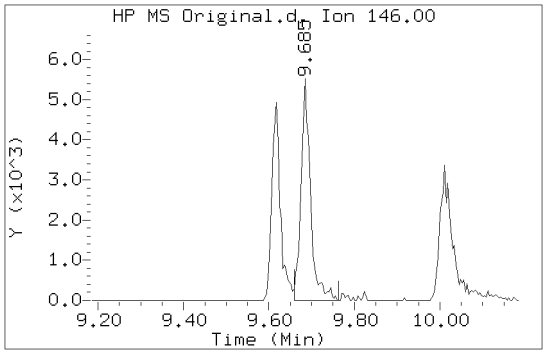


1,4-Dichlorobenzene (106-46-7)

Reason Code:

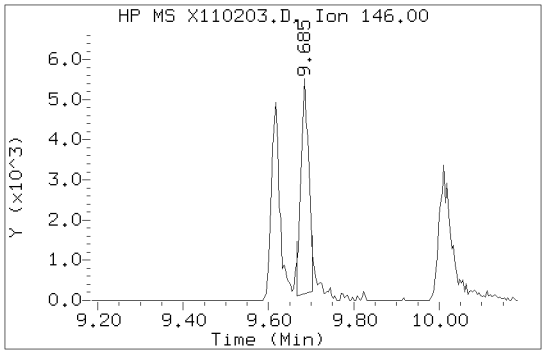
BEFORE

MASS
146
AREA
8783
HEIGHT
5521
08-Nov-2022
15:18
linh
pham



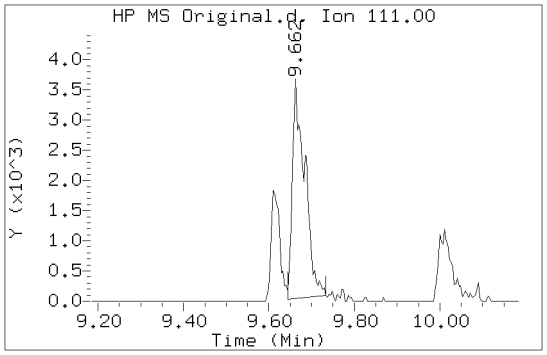
AFTER

MASS
146
AREA
7150
HEIGHT
5351
09-Nov-2022
12:34



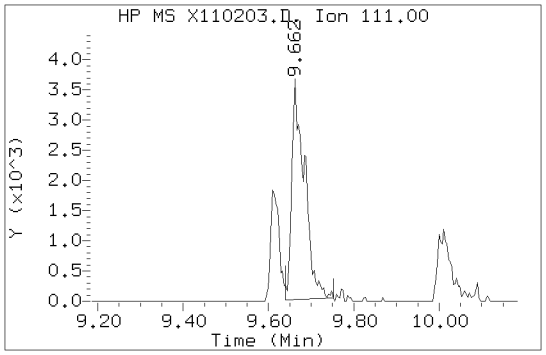
BEFORE

MASS
111
AREA
7461
HEIGHT
3636
08-Nov-2022
15:18
linh
pham



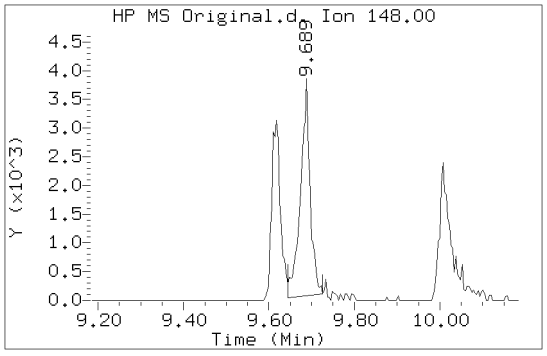
AFTER

MASS
111
AREA
7739
HEIGHT
3658
09-Nov-2022
12:34



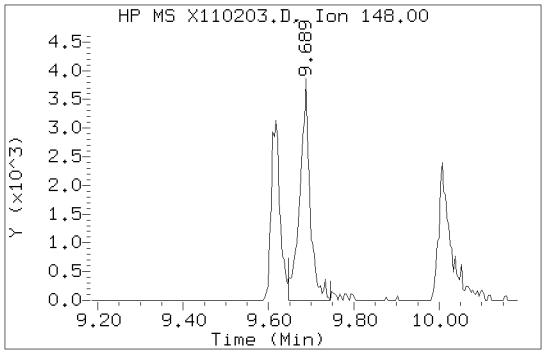
BEFORE

MASS
148
AREA
6015
HEIGHT
3775
08-Nov-2022
15:18
linh
pham



AFTER

MASS
148
AREA
6520
HEIGHT
3860
09-Nov-2022
12:34



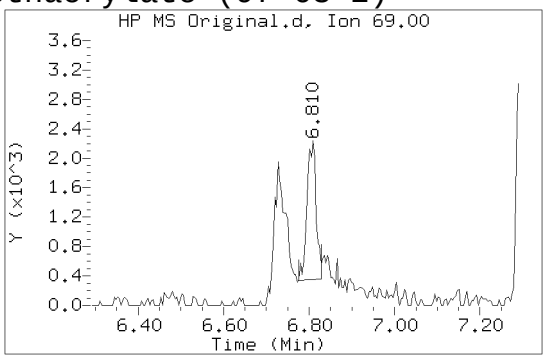
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Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

Ethyl Methacrylate (97-63-2)

Reason Code:

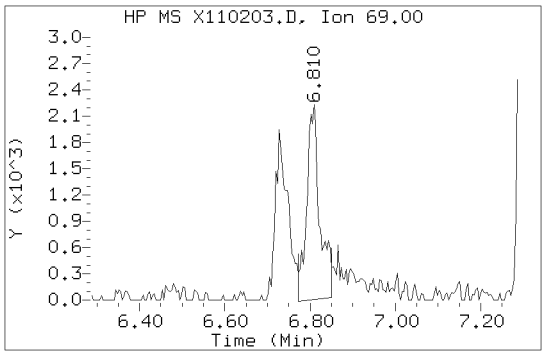
BEFORE

MASS
69
AREA
2810
HEIGHT
1883
08-Nov-2022
15:18
linh
pham



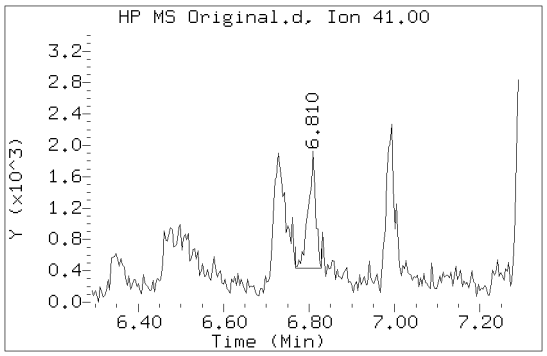
AFTER

MASS
69
AREA
4812
HEIGHT
2227
09-Nov-2022
12:34



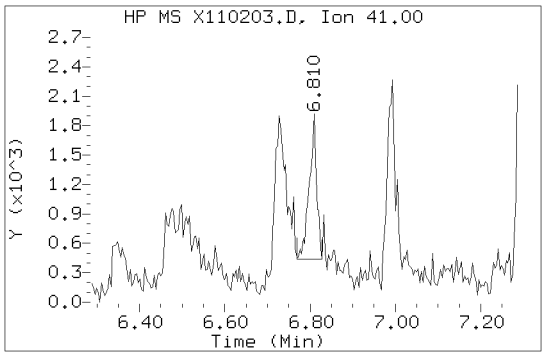
BEFORE

MASS
41
AREA
1793
HEIGHT
1485
08-Nov-2022
15:18
linh
pham



AFTER

MASS
41
AREA
1793
HEIGHT
1485
09-Nov-2022
12:34

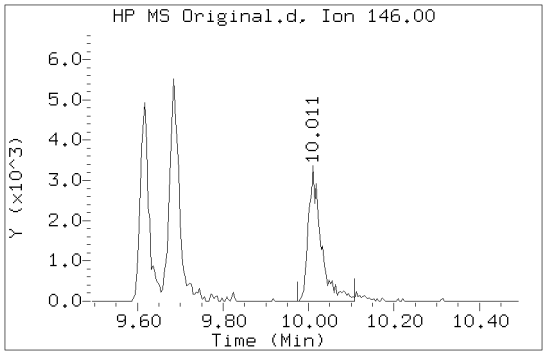


1,2-Dichlorobenzene (95-50-1)

Reason Code:

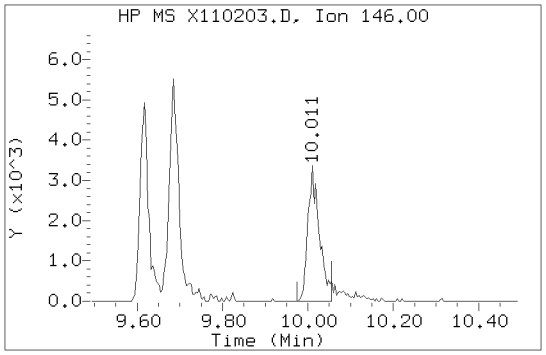
BEFORE

MASS
146
AREA
6946
HEIGHT
3371
08-Nov-2022
15:18
linh
pham



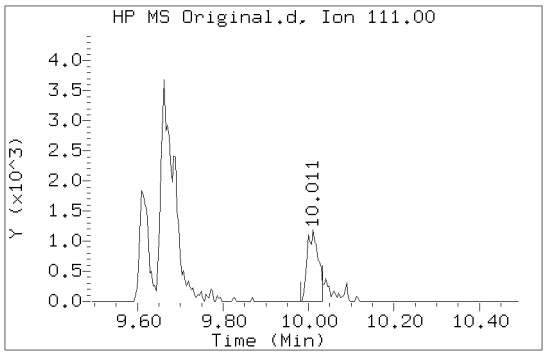
AFTER

MASS
146
AREA
6353
HEIGHT
3371
09-Nov-2022
12:34



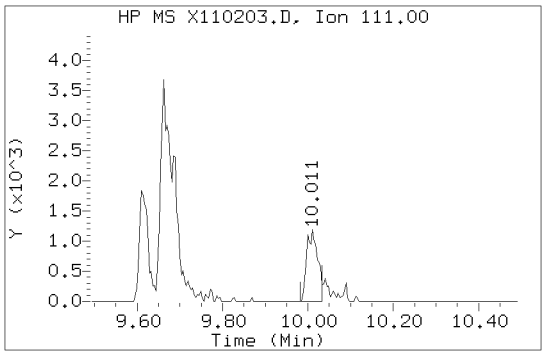
BEFORE

MASS
111
AREA
2141
HEIGHT
1193
08-Nov-2022
15:18
linh
pham



AFTER

MASS
111
AREA
2141
HEIGHT
1193
09-Nov-2022
12:34



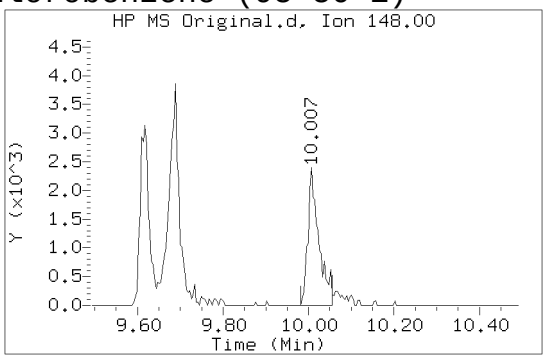
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Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

1,2-Dichlorobenzene (95-50-1)

Reason Code:

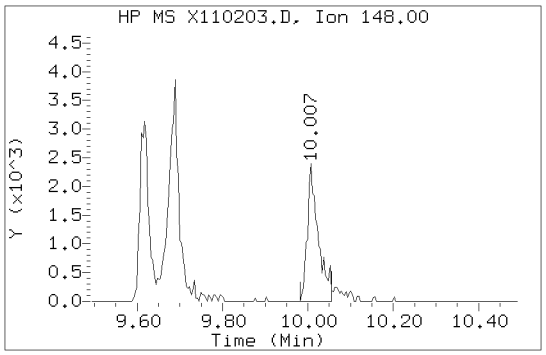
BEFORE

MASS
148
AREA
4291
HEIGHT
2403
08-Nov-2022
15:18
linh
pham



AFTER

MASS
148
AREA
4291
HEIGHT
2403
09-Nov-2022
12:34

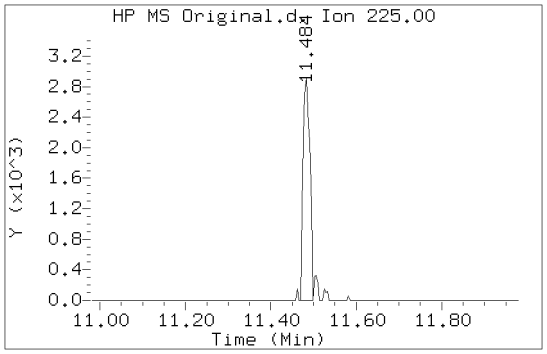


Hexachlorobutadiene (87-68-3)

Reason Code:

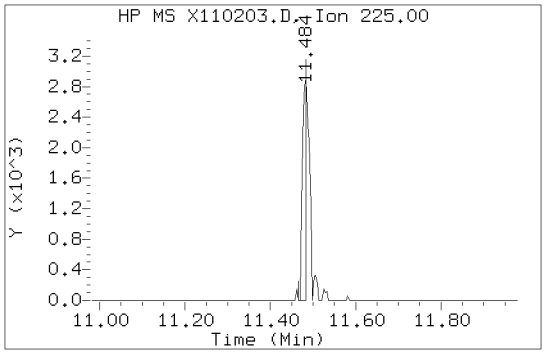
BEFORE

MASS
225
AREA
3382
HEIGHT
2904
08-Nov-2022
15:18
linh
pham



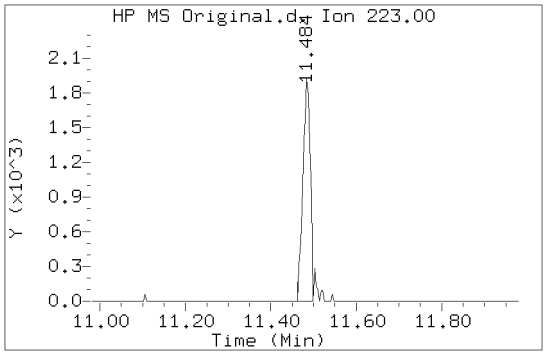
AFTER

MASS
225
AREA
2121
HEIGHT
2904
09-Nov-2022
12:34



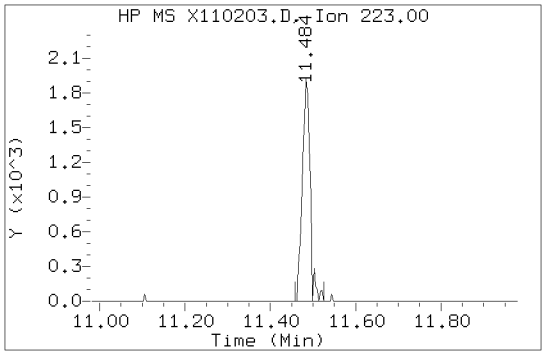
BEFORE

MASS
223
AREA
2366
HEIGHT
1920
08-Nov-2022
15:18
linh
pham



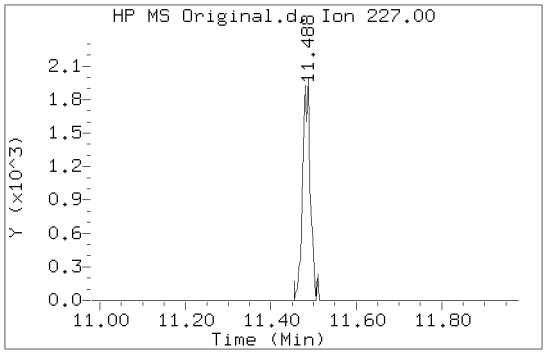
AFTER

MASS
223
AREA
2522
HEIGHT
1920
09-Nov-2022
12:34



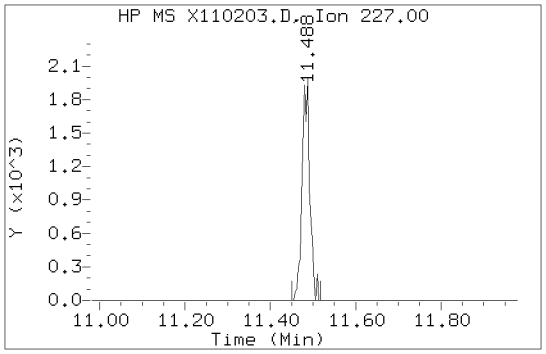
BEFORE

MASS
227
AREA
2527
HEIGHT
1988
08-Nov-2022
15:18
linh
pham



AFTER

MASS
227
AREA
2579
HEIGHT
1988
09-Nov-2022
12:34

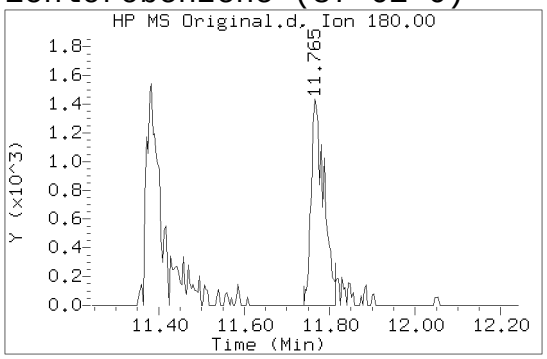


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Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

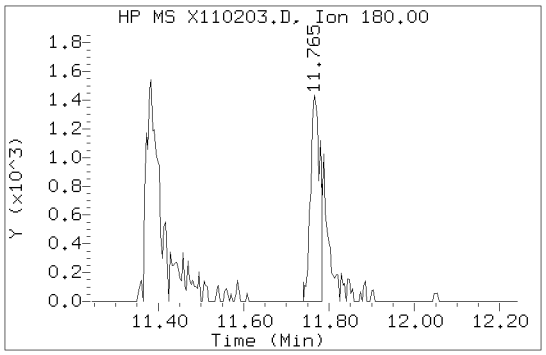
1,2,3-Trichlorobenzene (87-61-6)

Reason Code:

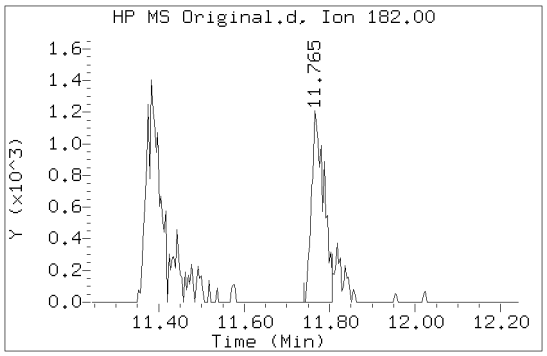
BEFORE
MASS
180
AREA
2990
HEIGHT
1437
08-Nov-2022
15:18
linh
pham



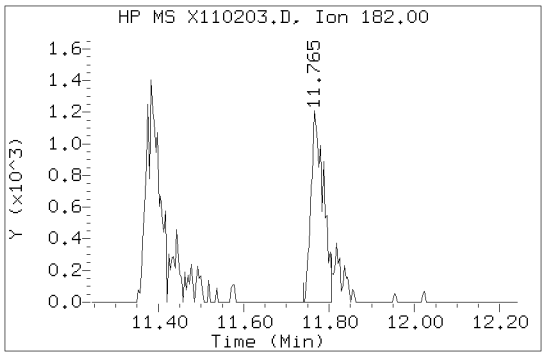
AFTER
MASS
180
AREA
2207
HEIGHT
1437
09-Nov-2022
12:34



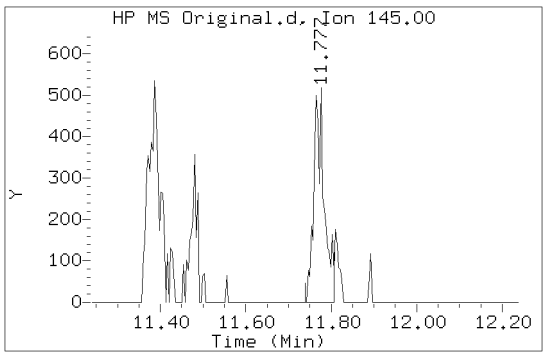
BEFORE
MASS
182
AREA
2421
HEIGHT
1209
08-Nov-2022
15:18
linh
pham



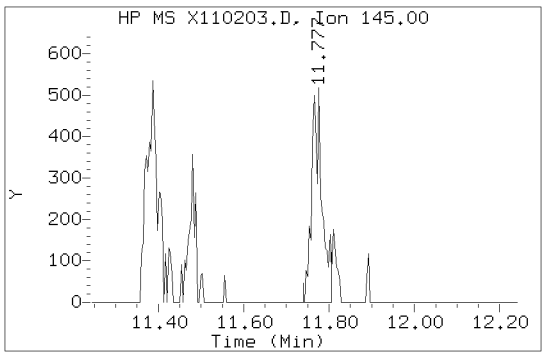
AFTER
MASS
182
AREA
2421
HEIGHT
1209
09-Nov-2022
12:34



BEFORE
MASS
145
AREA
864
HEIGHT
519
08-Nov-2022
15:18
linh
pham



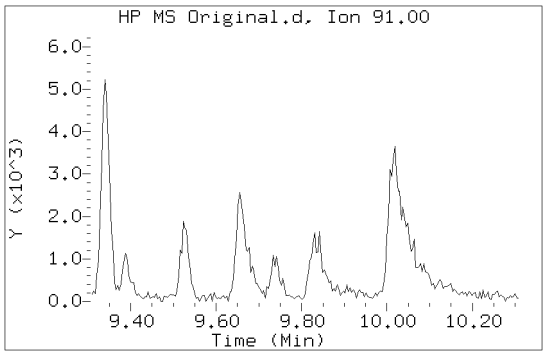
AFTER
MASS
145
AREA
864
HEIGHT
519
09-Nov-2022
12:34



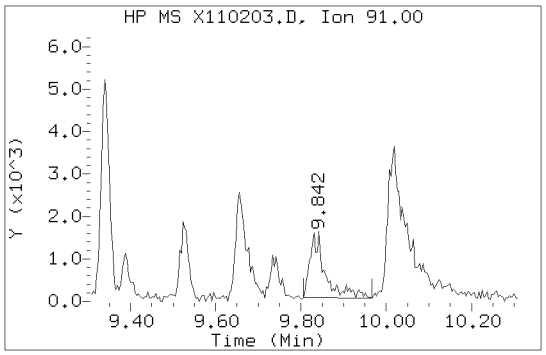
Benzyl Chloride (100-44-7)

Reason Code:

BEFORE
MASS
91
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER
MASS
91
AREA
3833
HEIGHT
1565
09-Nov-2022
12:34

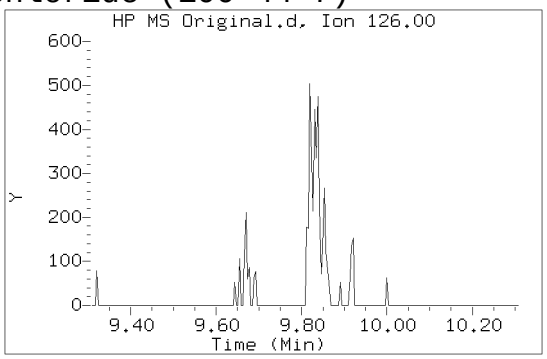


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Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

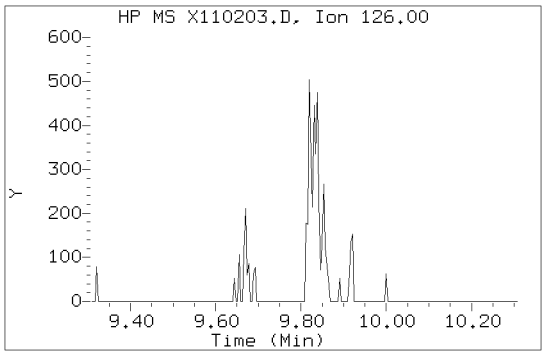
Benzyl Chloride (100-44-7)

Reason Code:

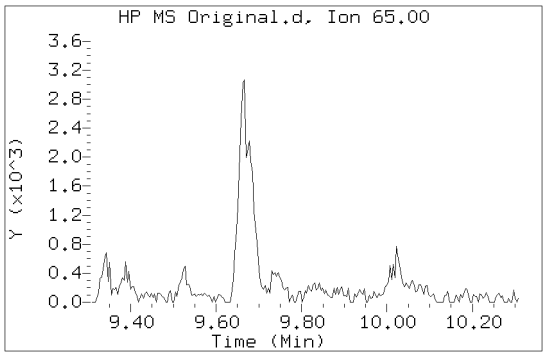
BEFORE
MASS
126
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



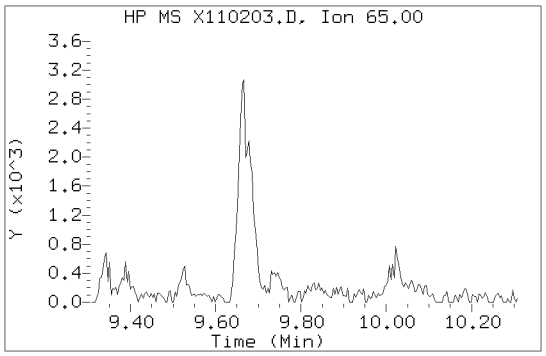
AFTER
MASS
126
AREA
0
HEIGHT
0
09-Nov-2022
12:34



BEFORE
MASS
65
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



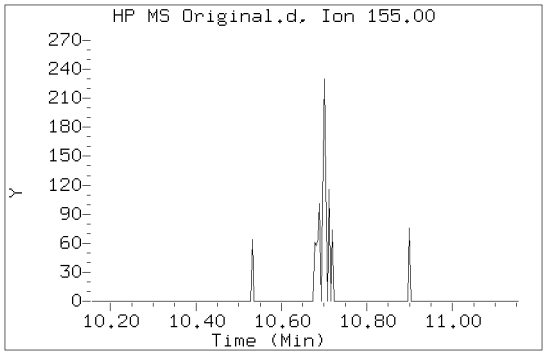
AFTER
MASS
65
AREA
0
HEIGHT
0
09-Nov-2022
12:34



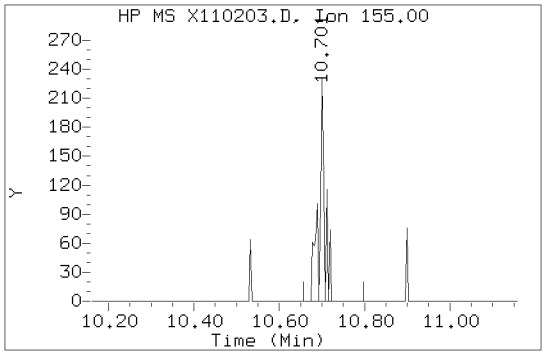
1,2-Dibromo-3-Chloropropane (96-12-8)

Reason Code:

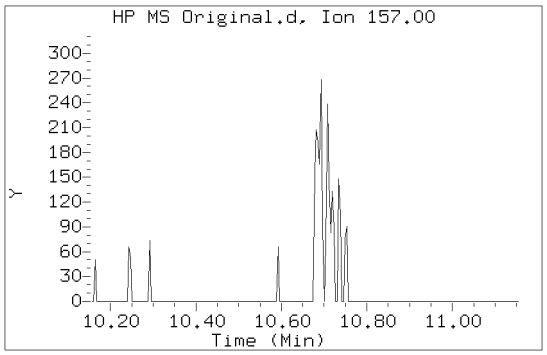
BEFORE
MASS
155
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



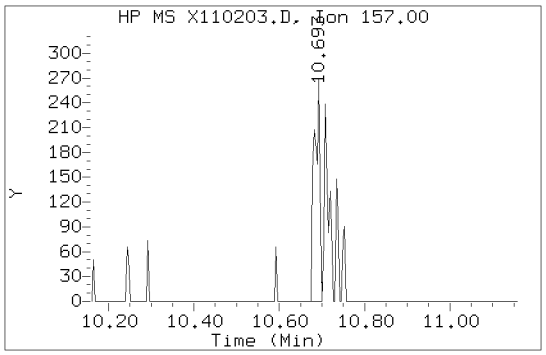
AFTER
MASS
155
AREA
208
HEIGHT
230
09-Nov-2022
12:34



BEFORE
MASS
157
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER
MASS
157
AREA
242
HEIGHT
268
09-Nov-2022
12:34



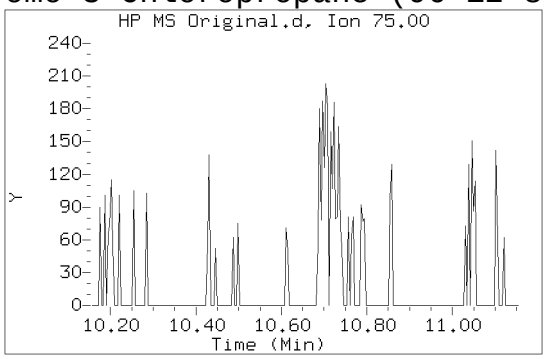
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Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

1,2-Dibromo-3-Chloropropane (96-12-8)

Reason Code:

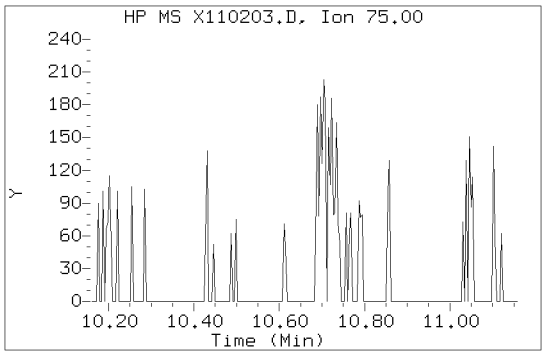
BEFORE

MASS
75
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

MASS
75
AREA
0
HEIGHT
0
09-Nov-2022
12:34

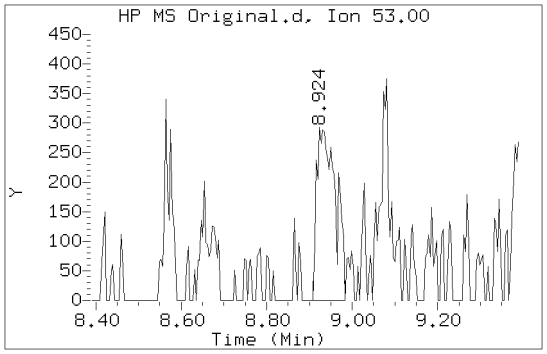


trans-1,4-Dichloro-2-butene (110-57-6)

Reason Code:

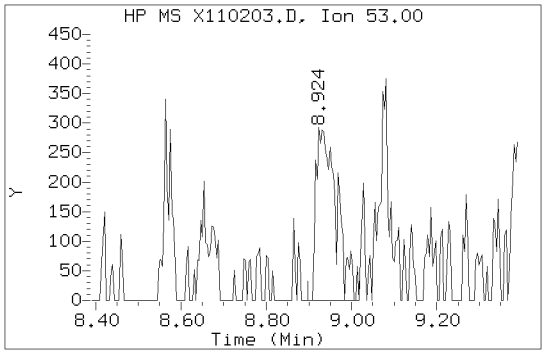
BEFORE

MASS
53
AREA
891
HEIGHT
293
08-Nov-2022
15:18
linh
pham



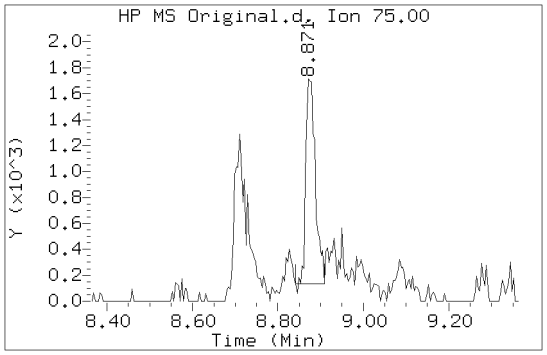
AFTER

MASS
53
AREA
979
HEIGHT
293
09-Nov-2022
12:34



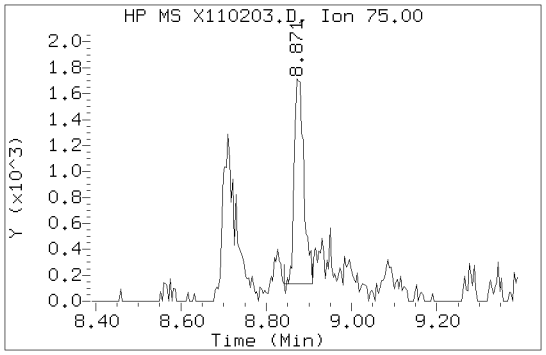
BEFORE

MASS
75
AREA
2466
HEIGHT
1578
08-Nov-2022
15:18
linh
pham



AFTER

MASS
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AREA
2466
HEIGHT
1578
09-Nov-2022
12:34

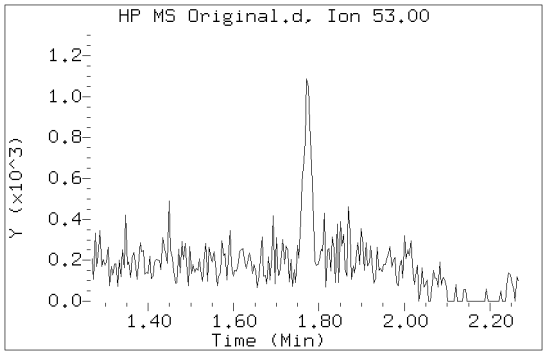


Chloroprene (126-99-8)

Reason Code:

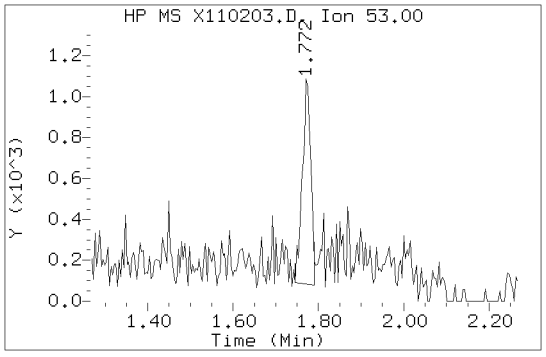
BEFORE

MASS
53
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

MASS
53
AREA
1410
HEIGHT
1003
09-Nov-2022
12:34

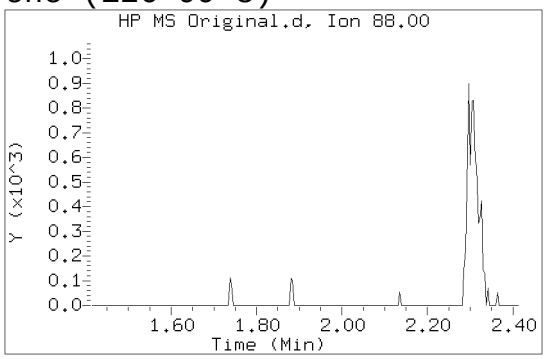


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Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

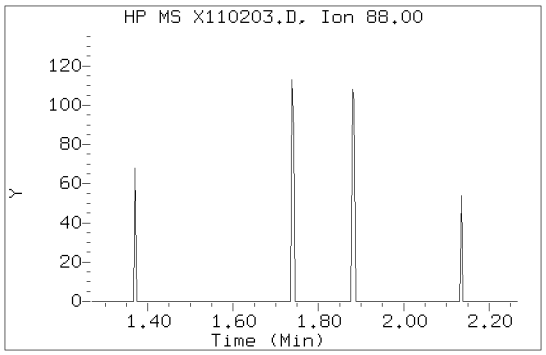
Chloroprene (126-99-8)

Reason Code:

BEFORE
MASS
88
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



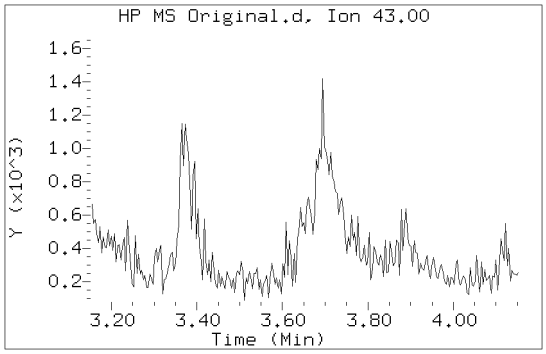
AFTER
MASS
88
AREA
0
HEIGHT
0
09-Nov-2022
12:34



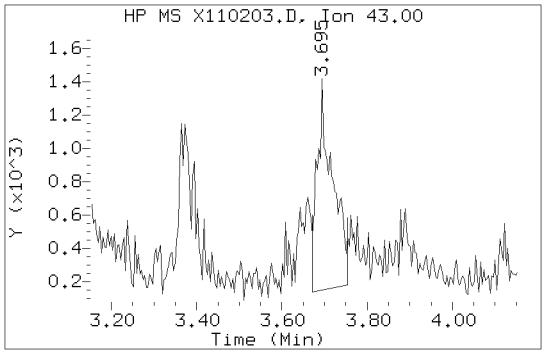
Ethyl Acetate (141-78-6)

Reason Code:

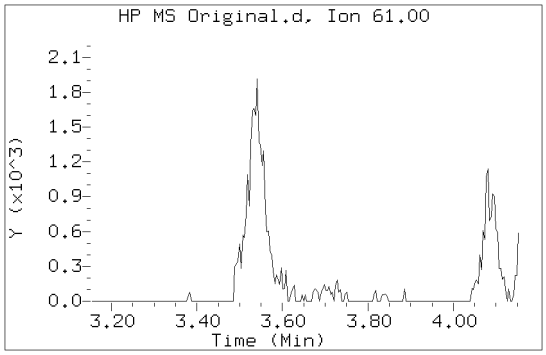
BEFORE
MASS
43
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



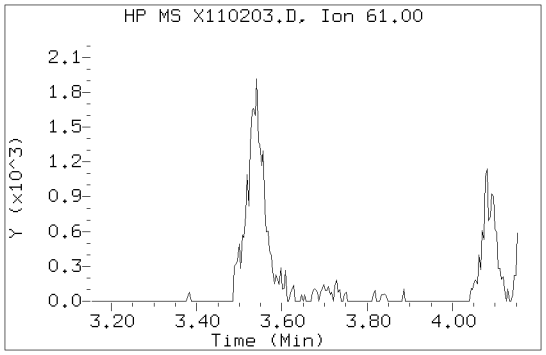
AFTER
MASS
43
AREA
3227
HEIGHT
1267
09-Nov-2022
12:34



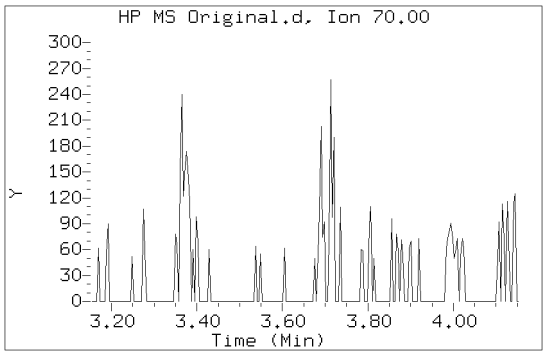
BEFORE
MASS
61
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



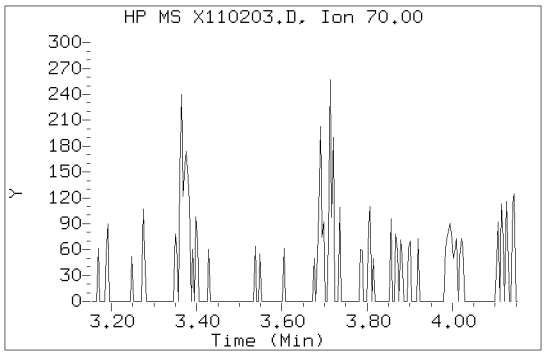
AFTER
MASS
61
AREA
0
HEIGHT
0
09-Nov-2022
12:34



BEFORE
MASS
70
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER
MASS
70
AREA
0
HEIGHT
0
09-Nov-2022
12:34

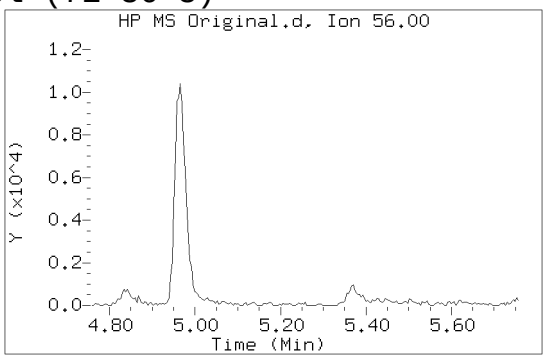


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Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

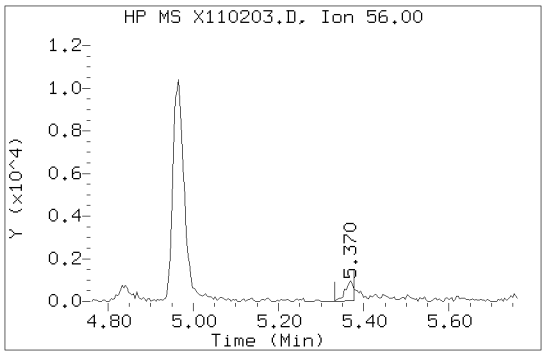
n-Butanol (71-36-3)

Reason Code:

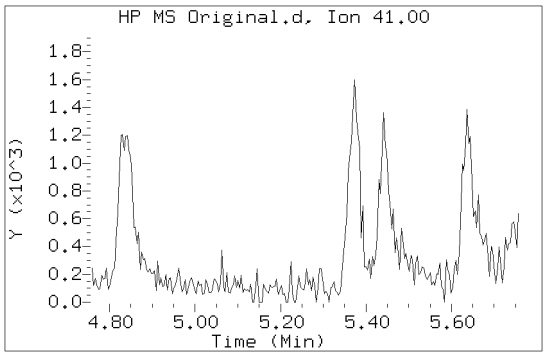
BEFORE
MASS
56
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



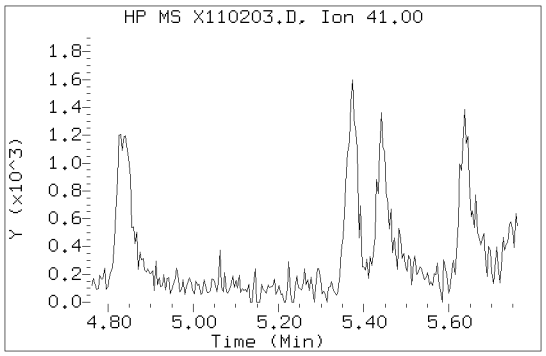
AFTER
MASS
56
AREA
1209
HEIGHT
914
09-Nov-2022
12:34



BEFORE
MASS
41
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



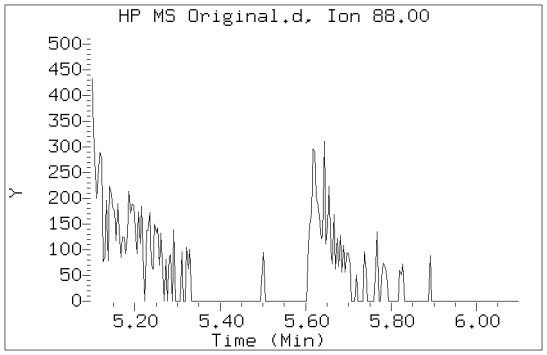
AFTER
MASS
41
AREA
0
HEIGHT
0
09-Nov-2022
12:34



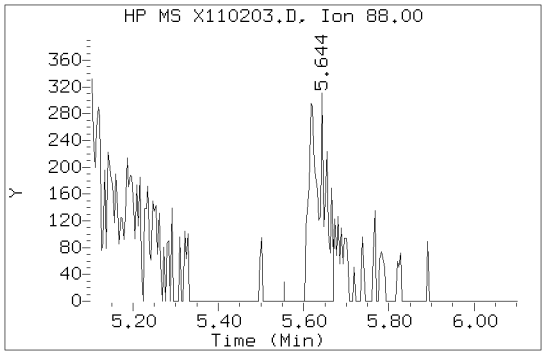
1,4-Dioxane ()

Reason Code:

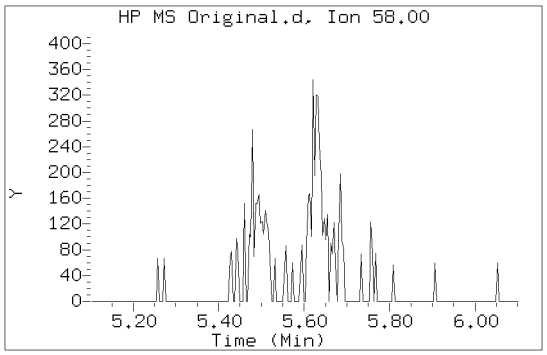
BEFORE
MASS
88
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



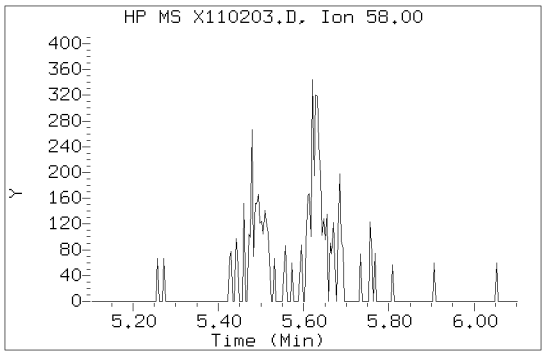
AFTER
MASS
88
AREA
679
HEIGHT
311
09-Nov-2022
12:34



BEFORE
MASS
58
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER
MASS
58
AREA
0
HEIGHT
0
09-Nov-2022
12:34

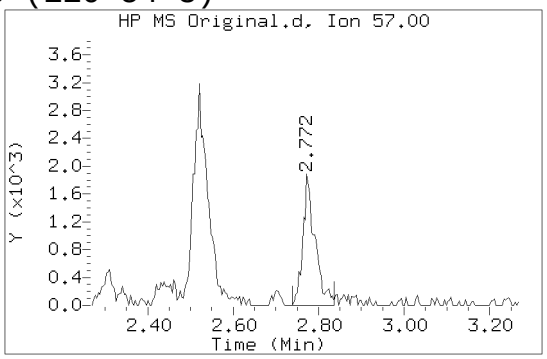


Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110203.D
Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

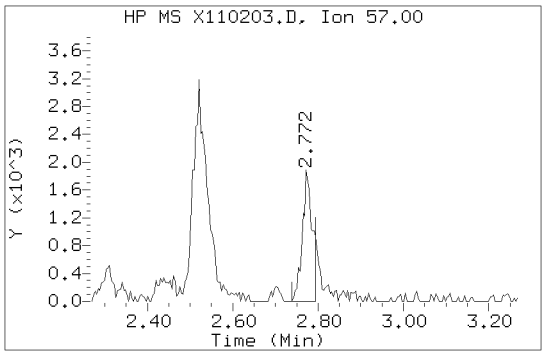
n-Hexane (110-54-3)

Reason Code:

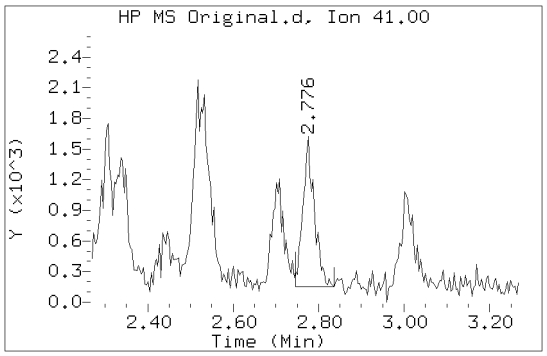
BEFORE
MASS
57
AREA
3753
HEIGHT
1893
08-Nov-2022
15:18
linh
pham



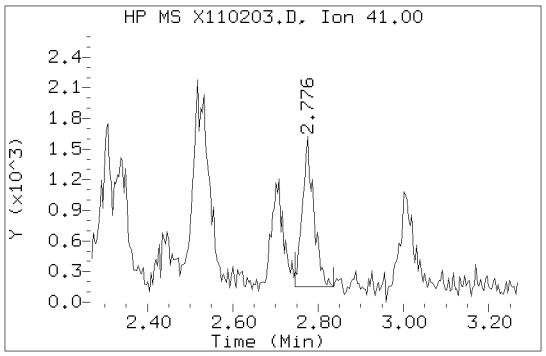
AFTER
MASS
57
AREA
3089
HEIGHT
1893
09-Nov-2022
12:34



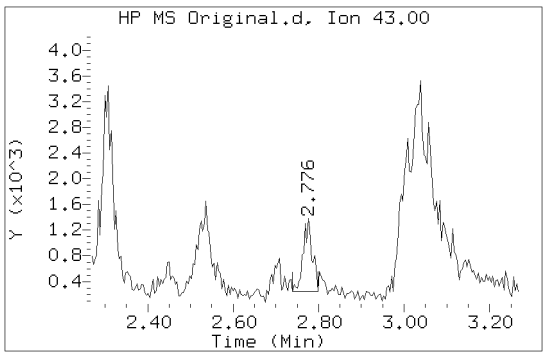
BEFORE
MASS
41
AREA
2743
HEIGHT
1471
08-Nov-2022
15:18
linh
pham



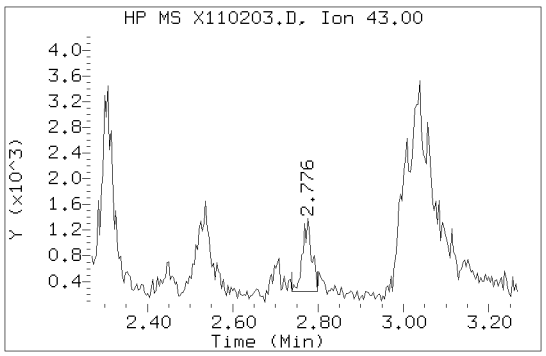
AFTER
MASS
41
AREA
2743
HEIGHT
1471
09-Nov-2022
12:34



BEFORE
MASS
43
AREA
1718
HEIGHT
1142
08-Nov-2022
15:18
linh
pham



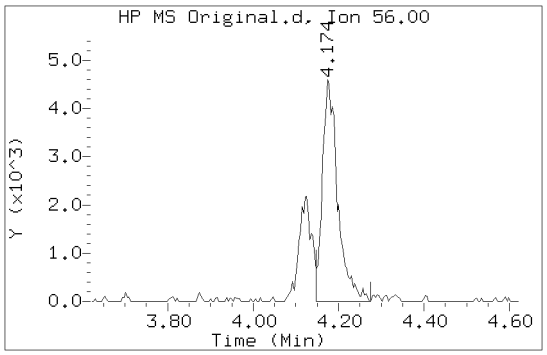
AFTER
MASS
43
AREA
1718
HEIGHT
1142
09-Nov-2022
12:34



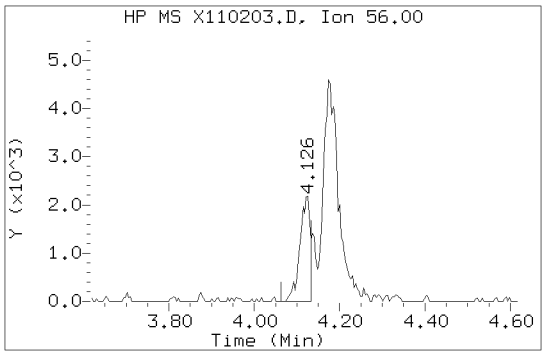
Cyclohexane (110-82-7)

Reason Code:

BEFORE
MASS
56
AREA
11474
HEIGHT
4597
08-Nov-2022
15:18
linh
pham



AFTER
MASS
56
AREA
3707
HEIGHT
2186
09-Nov-2022
12:34



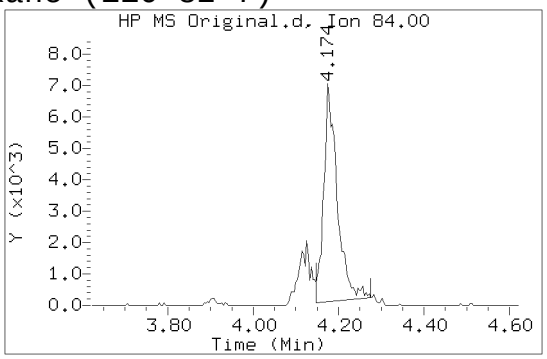
Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110203.D
Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

Cyclohexane (110-82-7)

Reason Code:

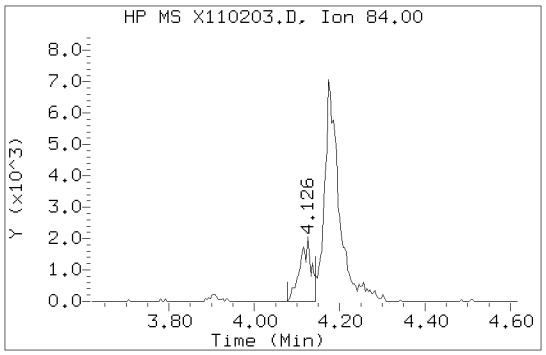
BEFORE

MASS
84
AREA
15215
HEIGHT
6946
08-Nov-2022
15:18
linh
pham



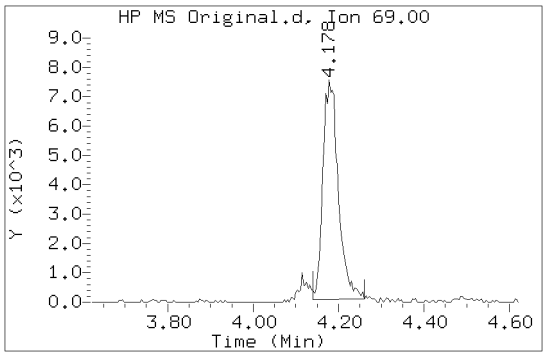
AFTER

MASS
84
AREA
3916
HEIGHT
2063
09-Nov-2022
12:34



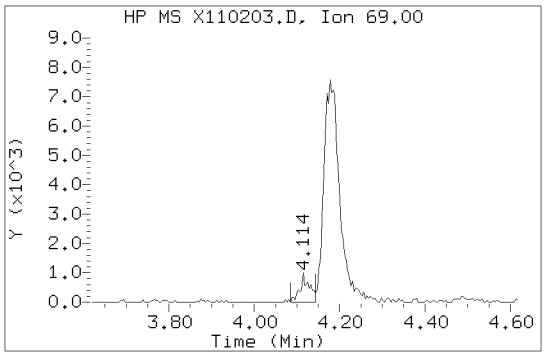
BEFORE

MASS
69
AREA
18720
HEIGHT
7475
08-Nov-2022
15:18
linh
pham



AFTER

MASS
69
AREA
1558
HEIGHT
1018
09-Nov-2022
12:34

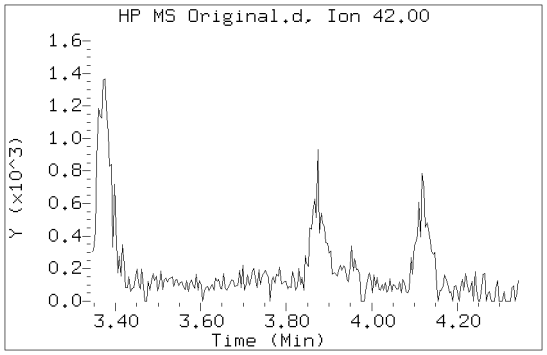


Tetrahydrofuran (109-99-9)

Reason Code:

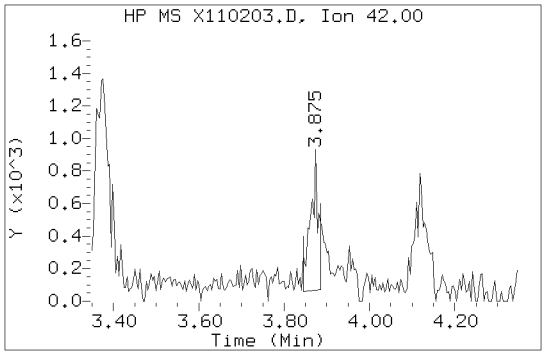
BEFORE

MASS
42
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



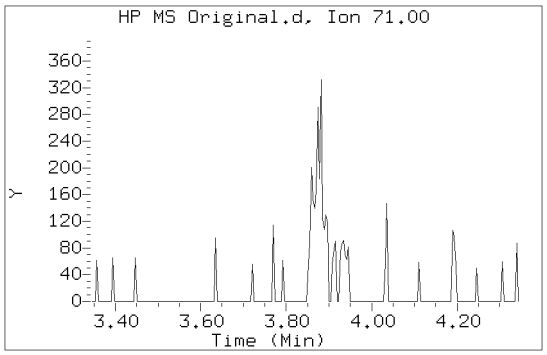
AFTER

MASS
42
AREA
1105
HEIGHT
863
09-Nov-2022
12:34



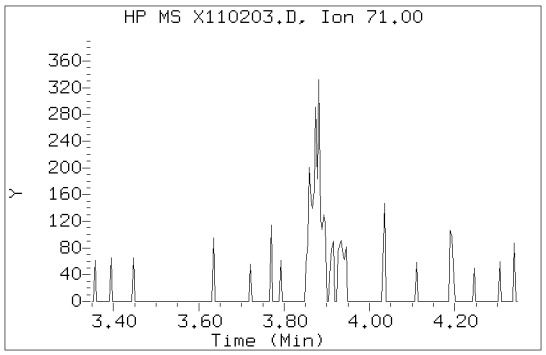
BEFORE

MASS
71
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

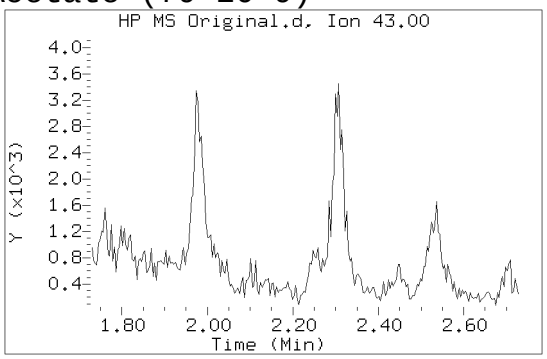
MASS
71
AREA
0
HEIGHT
0
09-Nov-2022
12:34



Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110203.D
Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

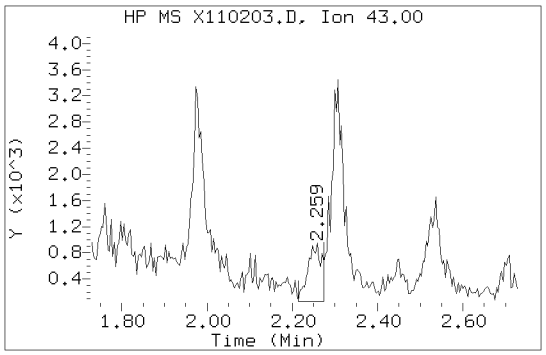
Methyl Acetate (79-20-9)

BEFORE
MASS
43
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham

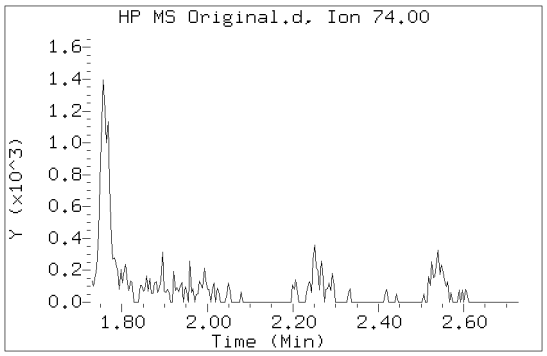


AFTER
MASS
43
AREA
1953
HEIGHT
893
09-Nov-2022
12:34

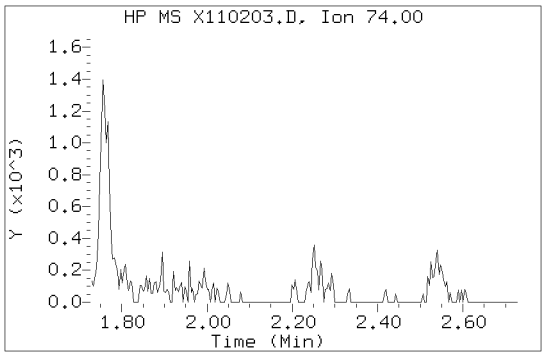
Reason Code:



BEFORE
MASS
74
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham

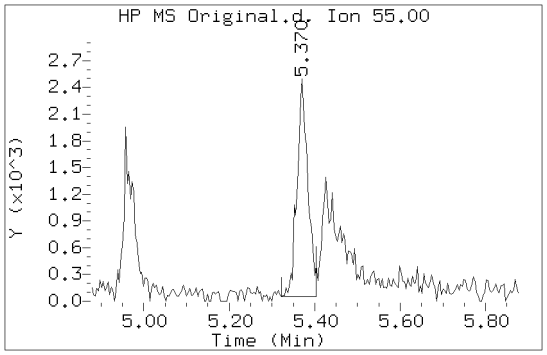


AFTER
MASS
74
AREA
0
HEIGHT
0
09-Nov-2022
12:34



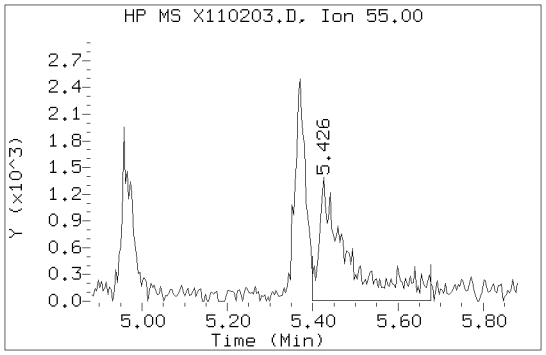
Methylcyclohexane (108-87-2)

BEFORE
MASS
55
AREA
4403
HEIGHT
2444
08-Nov-2022
15:18
linh
pham

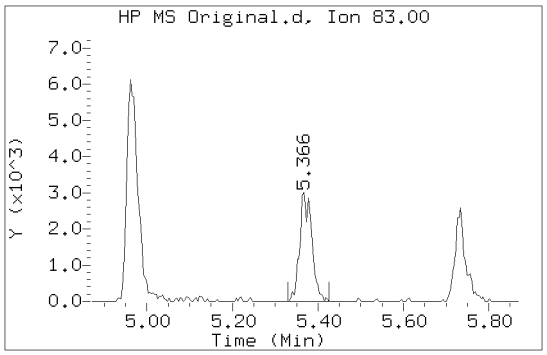


AFTER
MASS
55
AREA
6511
HEIGHT
1384
09-Nov-2022
12:34

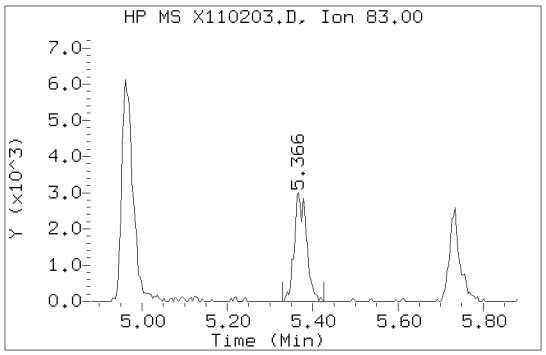
Reason Code:



BEFORE
MASS
83
AREA
6075
HEIGHT
3017
08-Nov-2022
15:18
linh
pham



AFTER
MASS
83
AREA
6075
HEIGHT
3017
09-Nov-2022
12:34



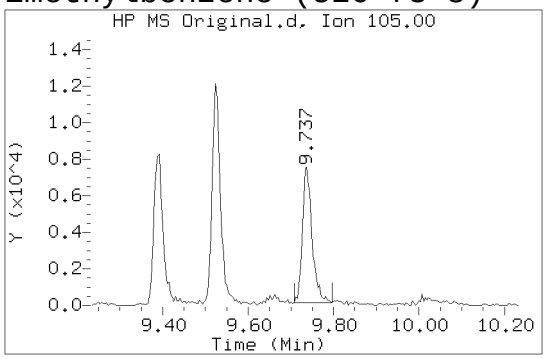
Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110203.D
Inj Date : 02-NOV-2022 12:03
InstruID : voa6.i
LabSampID : VSTD000.5

1,2,3-Trimethylbenzene (526-73-8)

Reason Code:

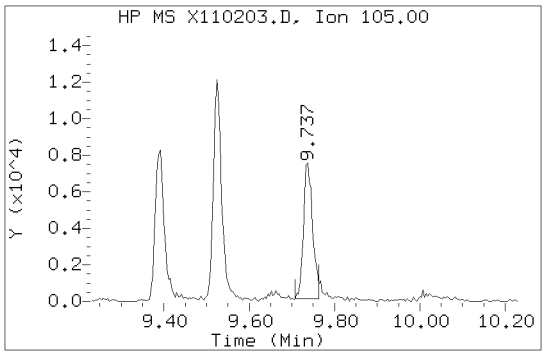
BEFORE

MASS
105
AREA
12021
HEIGHT
7436
08-Nov-2022
15:18
linh
pham



AFTER

MASS
105
AREA
11431
HEIGHT
7436
09-Nov-2022
12:34

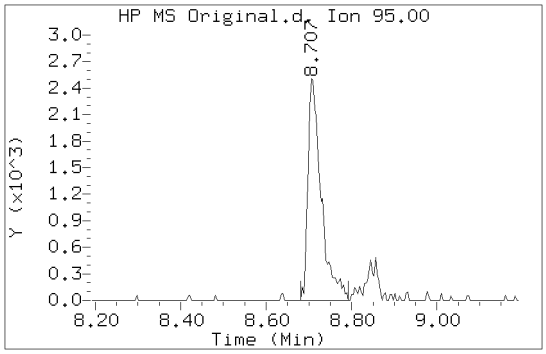


4-Bromofluorobenzene (460-00-4)

Reason Code:

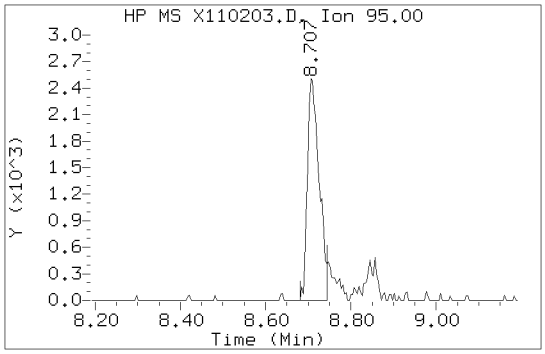
BEFORE

MASS
95
AREA
5425
HEIGHT
2506
08-Nov-2022
15:18
linh
pham



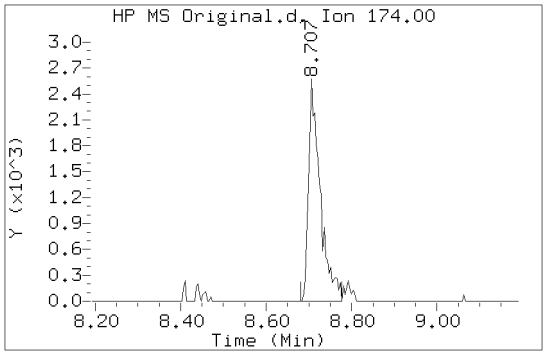
AFTER

MASS
95
AREA
4822
HEIGHT
2506
09-Nov-2022
12:34



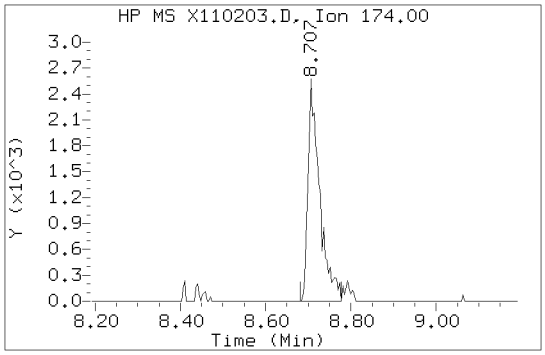
BEFORE

MASS
174
AREA
4881
HEIGHT
2574
08-Nov-2022
15:18
linh
pham



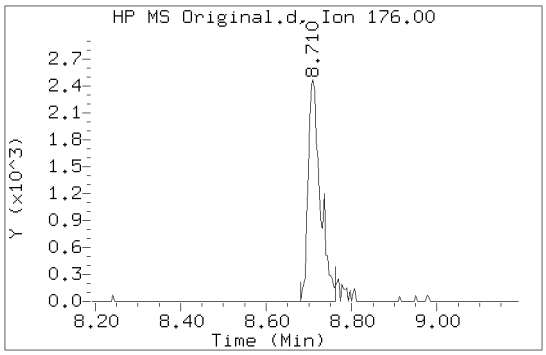
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12:34



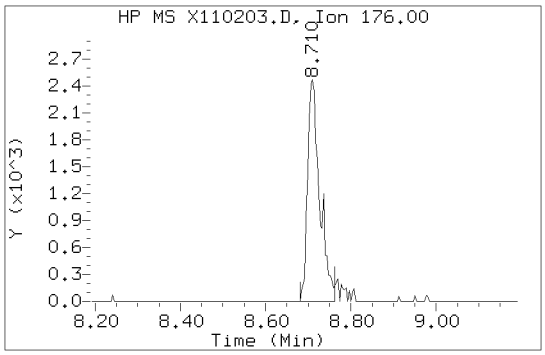
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08-Nov-2022
15:18
linh
pham



AFTER

MASS
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HEIGHT
2468
09-Nov-2022
12:34



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110204.D
Lab Smp Id: VSTD001 Client Smp ID: VSTD001
Inj Date : 02-NOV-2022 12:24
Operator : PC Inst ID: voa6.i
Smp Info : VSTD001;VSTD001;1;3;
Misc Info : HS22052000V6;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\8260W.m
Meth Date : 09-Nov-2022 12:35 voa6.i Quant Type: ISTD
Cal Date : 02-NOV-2022 12:03 Cal File: X110203.D
Als bottle: 5 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260V6.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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)	589666	50.0000	
135	1,4-Dioxane	88	5.617	5.617	(1.345)	1232	20.0000	19.59(M)
140	1,3-Butadiene	54	1.164	1.164	(0.279)	4495	1.00000	0.90
25	Methacrylonitrile	41	3.863	3.863	(0.925)	5798	1.00000	1.09(MH)
12	Isobutyl Alcohol	43	4.691	4.691	(1.123)	16215	20.0000	18.41(M)
13	Acetonitrile	39	2.202	2.202	(0.527)	7107	10.0000	10.05
14	Allyl Chloride	41	2.206	2.206	(0.528)	14925	1.00000	1.12
4	Propionitrile	54	3.675	3.675	(0.880)	8748	10.0000	11.80
136	n-Hexane	57	2.772	2.772	(0.664)	6218	1.00000	0.85
72	trans-1,4-Dichloro-2-butene	53	8.916	8.916	(1.162)	1907	1.00000	0.97(M)
194	Acetaldehyde	44	1.209	1.209	(0.289)	3990	4.00000	(M)
23	Chloroprene	53	1.767	1.767	(0.423)	2235	1.00000	0.98(M)
145	alpha-Methylstyrene	118	9.276	9.276	(0.960)	9606	1.00000	0.94
200	Dimethyl Disulfide	94	6.202	6.202	(0.808)	10313	1.00000	0.95(M)
139	Diethyl ether	59	1.760	1.760	(0.421)	5202	1.00000	1.12
130	Ethyl Acetate	43	3.683	3.683	(0.882)	6812	1.00000	1.10(M)
40	Methyl Methacrylate	41	5.628	5.628	(1.347)	6307	1.00000	1.15
49	Ethyl Methacrylate	69	6.798	6.798	(1.369)	9245	1.00000	0.99(M)
132	n-Butanol	56	5.366	5.366	(1.284)	2342	20.0000	20.95(M)
142	Tetrahydrofuran	42	3.859	3.859	(0.924)	1970	2.00000	2.10(M)

150	Allyl alcohol	57	2.772	2.772 (0.664)	6218	20.0000	16.42
166	1,2,3-Trimethylbenzene	105	9.737	9.737 (1.007)	24700	1.00000	1.22(M)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110204.D Page 2
Report Date: 09-Nov-2022 12:35

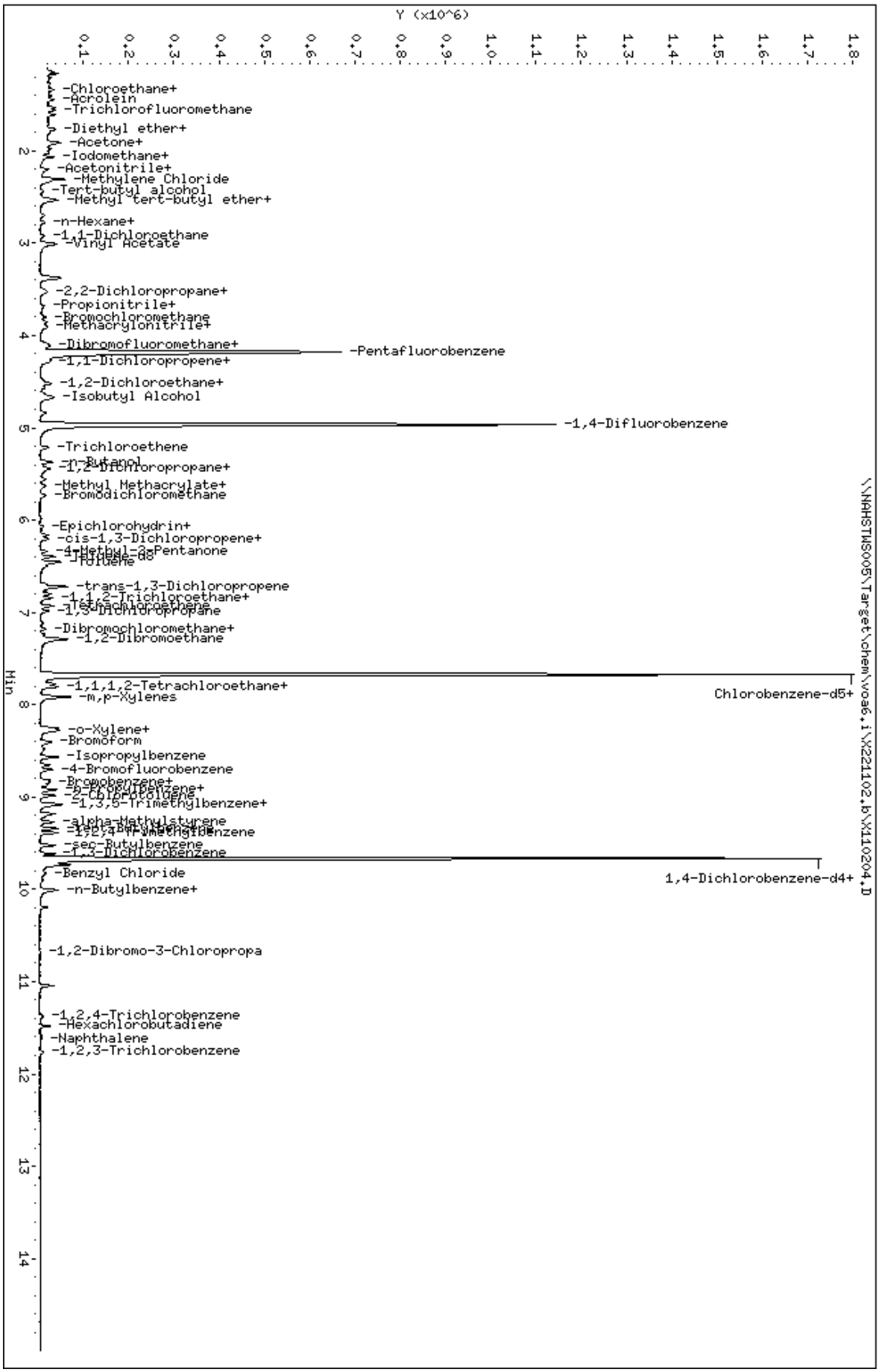
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	2 Dichlorodifluoromethane	85	0.969	0.969	(0.232)	6530	1.00000	1.79
	3 Chloromethane	50	1.077	1.077	(0.258)	7717	1.00000	2.55
	5 Vinyl Chloride	62	1.141	1.141	(0.273)	7800	1.00000	1.16
	6 Bromomethane	94	1.336	1.336	(0.320)	4926	1.00000	2.41(M)
	7 Chloroethane	64	1.400	1.400	(0.335)	4228	1.00000	1.01
	8 Trichlorofluoromethane	101	1.557	1.557	(0.373)	8668	1.00000	1.01
	9 Acrolein	56	1.445	1.445	(0.346)	845	2.00000	4.21(M)
	10 Acetone	43	1.973	1.973	(0.472)	6765	2.00000	1.80
	11 1,1-Dichloroethene	96	1.913	1.913	(0.458)	5276	1.00000	1.05
	15 Iodomethane	142	2.022	2.022	(0.484)	5322	2.00000	3.13
	16 Acrylonitrile	53	2.562	2.562	(0.613)	3690	2.00000	1.91(M)
	17 Methylene Chloride	84	2.303	2.303	(0.551)	7823	1.00000	1.21(M)
	18 Methyl tert-butyl ether	73	2.532	2.532	(0.606)	20241	1.00000	1.14
	19 Carbon Disulfide	76	2.067	2.067	(0.495)	31927	2.00000	2.09
	20 trans-1,2-Dichloroethene	96	2.532	2.532	(0.606)	5829	1.00000	1.04
	21 Vinyl Acetate	43	3.027	3.027	(0.725)	31753	2.00000	2.02(M)
	22 1,1-Dichloroethane	63	2.925	2.925	(0.700)	10495	1.00000	1.04
	24 2-Butanone	43	3.671	3.671	(0.879)	4262	2.00000	2.02(M)
	26 2,2-Dichloropropane	77	3.507	3.507	(0.839)	8534	1.00000	2.21
	27 cis-1,2-Dichloroethene	96	3.540	3.540	(0.847)	6527	1.00000	1.00
	28 Chloroform	83	3.904	3.904	(0.935)	12669	1.00000	1.13(M)
	29 Bromochloromethane	128	3.795	3.795	(0.908)	3682	1.00000	1.05
$	30 Dibromofluoromethane	113	4.110	4.110	(0.984)	5826	1.00000	1.52
	31 1,1,1-Trichloroethane	97	4.076	4.076	(0.976)	8932	1.00000	1.04
	32 1,1-Dichloropropene	75	4.286	4.286	(0.863)	7511	1.00000	1.00
	33 1,2-Dichloroethane	62	4.567	4.567	(0.920)	8902	1.00000	1.05
	34 Carbon Tetrachloride	117	4.267	4.267	(0.860)	6722	1.00000	0.96(H)
$	35 1,2-Dichloroethane-d4	65	4.477	4.477	(1.072)	7575	1.00000	1.53
*	36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	930783	50.0000	
	37 Benzene	78	4.519	4.519	(0.910)	24778	1.00000	1.07
	38 Trichloroethene	130	5.212	5.212	(1.050)	6842	1.00000	1.05
	39 Bromodichloromethane	83	5.729	5.729	(1.154)	8093	1.00000	0.98
	41 2-Chloroethylvinyl ether	63	6.067	6.067	(1.222)	4934	2.00000	1.80
	42 1,2-Dichloropropane	63	5.441	5.441	(1.096)	6931	1.00000	1.10(M)
	44 Dibromomethane	93	5.561	5.561	(1.120)	4571	1.00000	1.07
	45 4-Methyl-2-Pentanone	43	6.340	6.340	(0.827)	11507	2.00000	2.05
	46 cis-1,3-Dichloropropene	75	6.164	6.164	(1.242)	9964	1.00000	0.96
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	871141	50.0000	
$	48 Toluene-d8	98	6.397	6.397	(0.834)	21702	1.00000	1.03
	50 Toluene	91	6.457	6.457	(0.842)	26099	1.00000	1.04
	51 trans-1,3-Dichloropropene	75	6.697	6.697	(1.349)	8352	1.00000	0.93
	52 2-Hexanone	43	7.109	7.109	(0.927)	7153	2.00000	1.89(M)
	53 1,1,2-Trichloroethane	83	6.850	6.850	(0.893)	5213	1.00000	1.04
	54 1,3-Dichloropropane	76	6.989	6.989	(0.911)	10086	1.00000	1.01
	55 Dibromochloromethane	129	7.180	7.180	(0.936)	6377	1.00000	0.99
	56 Tetrachloroethene	164	6.933	6.933	(0.904)	5774	1.00000	1.69
	57 1,2-Dibromoethane	107	7.274	7.274	(0.948)	6481	1.00000	1.03
	58 1-Chlorohexane	55	7.705	7.705	(1.552)	4864	1.00000	0.85(H)
	59 Chlorobenzene	112	7.697	7.697	(1.003)	17594	1.00000	1.04
	60 1,1,1,2-Tetrachloroethane	131	7.776	7.776	(1.014)	6076	1.00000	1.01
	61 Ethylbenzene	106	7.806	7.806	(1.018)	9301	1.00000	1.08
	62 m,p-Xylenes	106	7.915	7.915	(1.032)	21478	2.00000	2.01

63 o-Xylene	106	8.252	8.252 (1.076)	9916	1.00000	0.95
64 Styrene	104	8.282	8.282 (1.080)	16729	1.00000	0.95(M)

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	66 Bromoform	173	8.413	8.413	(1.097)	3497	1.00000	3.21(TM)
	67 Isopropylbenzene	105	8.563	8.563	(1.116)	25061	1.00000	0.98
	68 1,1,2,2-Tetrachloroethane	83	8.848	8.848	(0.915)	7535	1.00000	1.06(M)
$	69 4-Bromofluorobenzene	95	8.702	8.702	(1.134)	9099	1.00000	1.38
*	70 1,4-Dichlorobenzene-d4	152	9.666	9.666	(1.000)	427380	50.0000	
	71 1,2,3-Trichloropropane	75	8.871	8.871	(0.918)	5396	1.00000	1.00(M)
	73 n-Propylbenzene	91	8.923	8.923	(0.923)	26436	1.00000	0.93
	74 Bromobenzene	156	8.822	8.822	(0.913)	7914	1.00000	1.07
	75 1,3,5-Trimethylbenzene	105	9.073	9.073	(0.939)	18977	1.00000	0.94
	76 2-Chlorotoluene	91	8.983	8.983	(0.929)	18864	1.00000	1.05
	77 4-Chlorotoluene	91	9.084	9.084	(0.940)	20046	1.00000	0.98(M)
	78 tert-Butylbenzene	119	9.339	9.339	(0.966)	16562	1.00000	1.54
	79 1,2,4-Trimethylbenzene	105	9.388	9.388	(0.971)	20017	1.00000	0.96
	81 sec-Butylbenzene	105	9.527	9.527	(0.986)	22328	1.00000	1.79
	82 p-Isopropyltoluene	119	9.651	9.651	(0.998)	19645	1.00000	0.95(M)
	83 1,3-Dichlorobenzene	146	9.613	9.613	(0.995)	12233	1.00000	0.99
	84 1,4-Dichlorobenzene	146	9.688	9.688	(1.002)	12963	1.00000	1.01
	86 Benzyl Chloride	91	9.827	9.827	(1.281)	6229	1.00000	4.52
	87 n-Butylbenzene	91	10.014	10.014	(1.036)	14667	1.00000	0.84
	88 1,2-Dichlorobenzene	146	10.007	10.007	(1.035)	11809	1.00000	1.02
	89 1,2-Dibromo-3-Chloropropane	155	10.681	10.681	(1.105)	551	1.00000	3.42(M)
	90 1,2,4-Trichlorobenzene	180	11.379	11.379	(1.177)	4795	1.00000	0.89(M)
	91 Hexachlorobutadiene	225	11.484	11.484	(1.188)	3613	1.00000	0.63
	92 Naphthalene	128	11.592	11.592	(1.199)	8288	1.00000	0.99(M)
	93 1,2,3-Trichlorobenzene	180	11.776	11.776	(1.218)	3989	1.00000	1.03
M	94 1,2-Dichloroethylene (total)	96				12356	2.00000	
M	95 Xylenes (total)	106				31394	3.00000	
	141 Cyclohexane	56	4.121	4.121	(0.987)	7388	1.00000	0.50(H)
	138 Freon TF	101	1.906	1.906	(0.456)	5530	1.00000	0.63
	147 Methylcyclohexane	55	5.415	5.415	(1.091)	12281	1.00000	0.95(MH)
	146 Methyl Acetate	43	2.251	2.251	(0.539)	3215	1.00000	0.89(M)
	148 Tert-Butyl alcohol	59	2.442	2.442	(0.585)	10890	20.0000	21.61(a)
	149 Isopropyl Alcohol	45	2.105	2.105	(0.504)	6915	20.0000	25.19

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: \\NAHSTMS005\Target\chem\voa6.i\X221102.b\X110204.D
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Client ID: VSTD001
Sample Info: VSTD001;VSTD001;1;3;
Purge Volume: 5.0
Column phase: DB624

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

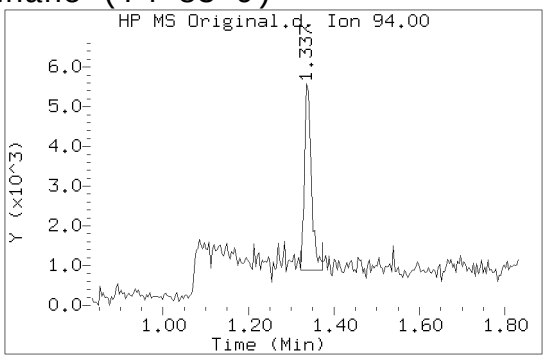
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Inj Date : 02-NOV-2022 12:24
InstruID : voa6.i
LabSampID : VSTD001

Bromomethane (74-83-9)

Reason Code:

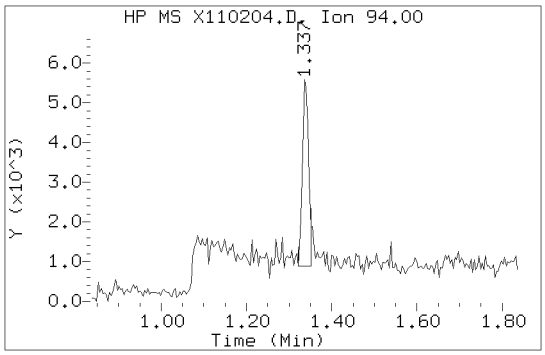
BEFORE

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08-Nov-2022
15:18
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pham



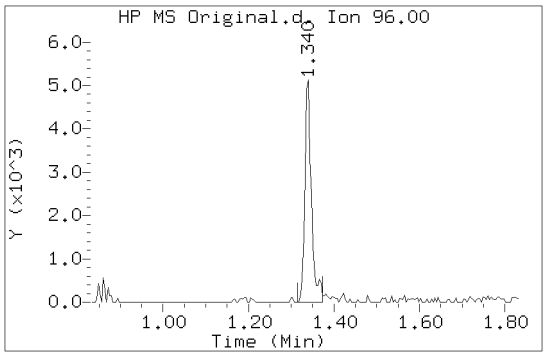
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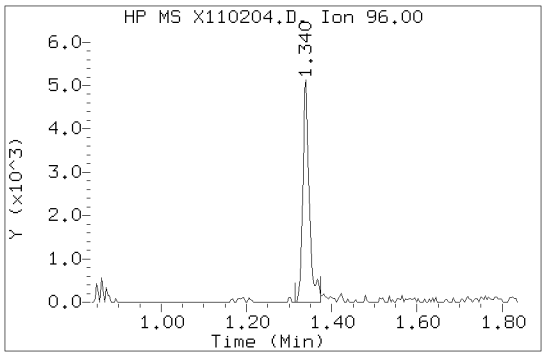
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pham



AFTER

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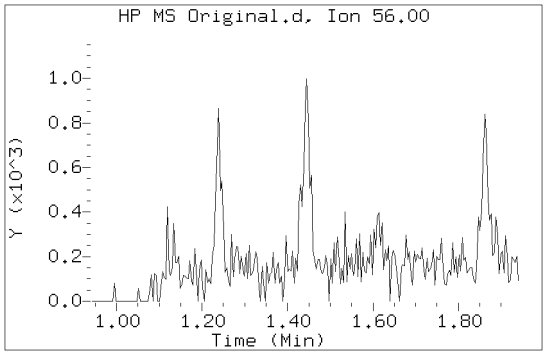


Acrolein (107-02-8)

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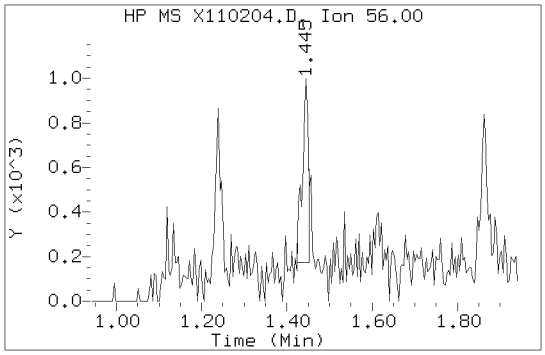
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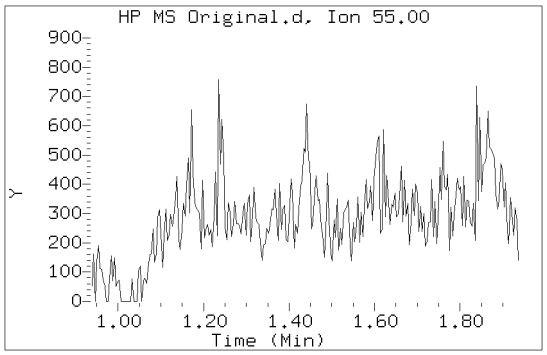
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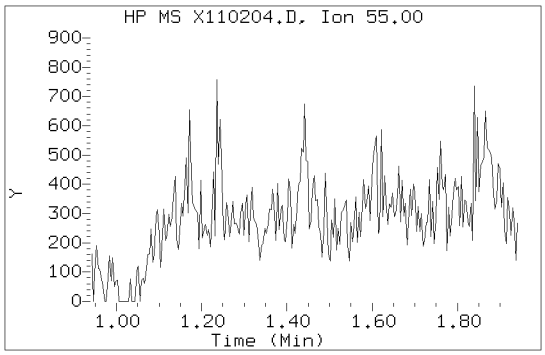
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AFTER

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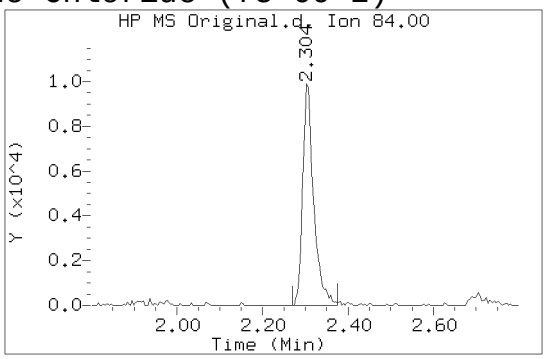


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InstruID : voa6.i
LabSampID : VSTD001

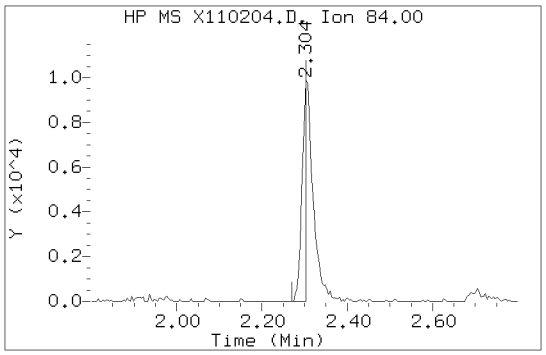
Methylene Chloride (75-09-2)

Reason Code:

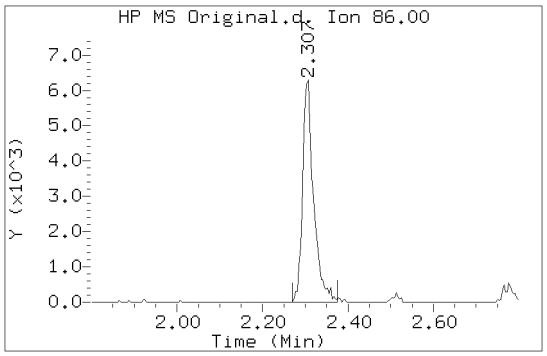
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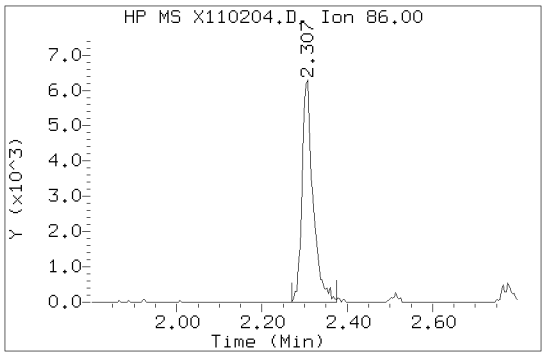
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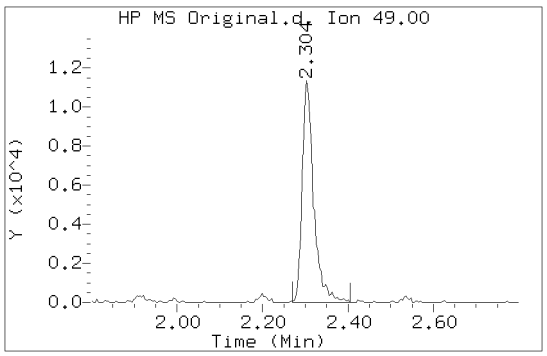
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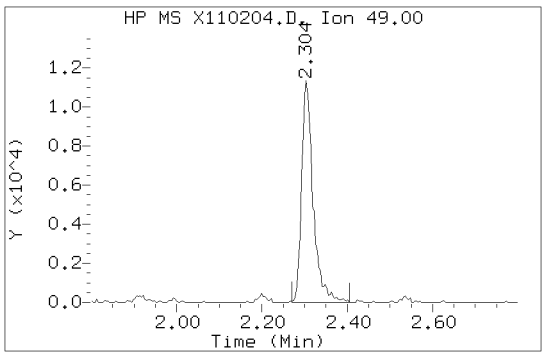
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09-Nov-2022
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BEFORE
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08-Nov-2022
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linh
pham



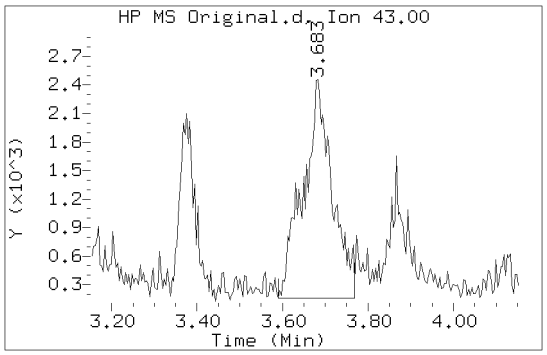
AFTER
MASS
49
AREA
21686
HEIGHT
11349
09-Nov-2022
12:35



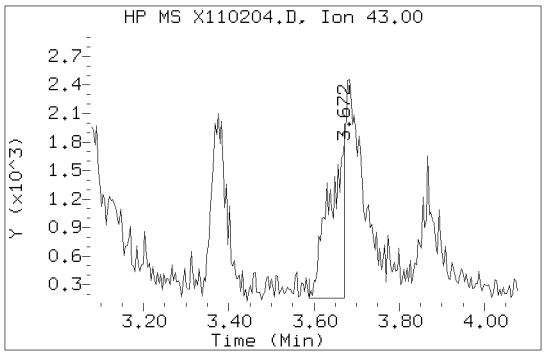
2-Butanone (78-93-3)

Reason Code:

BEFORE
MASS
43
AREA
10887
HEIGHT
2299
08-Nov-2022
15:18
linh
pham



AFTER
MASS
43
AREA
4262
HEIGHT
1636
09-Nov-2022
12:35



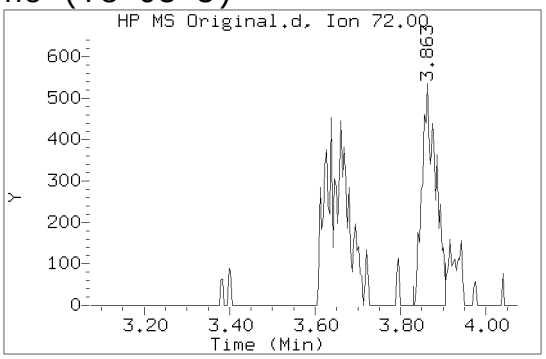
Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110204.D
Inj Date : 02-NOV-2022 12:24
InstruID : voa6.i
LabSampID : VSTD001

2-Butanone (78-93-3)

Reason Code:

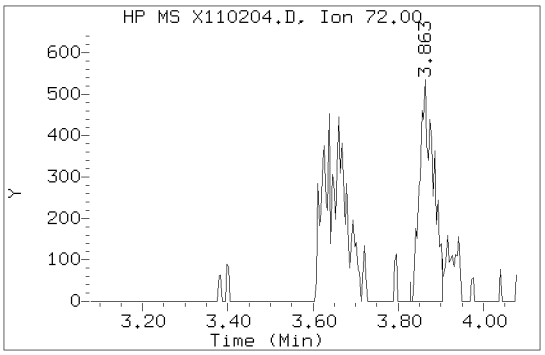
BEFORE

MASS
72
AREA
1193
HEIGHT
535
08-Nov-2022
15:18
linh
pham



AFTER

MASS
72
AREA
1193
HEIGHT
535
09-Nov-2022
12:35

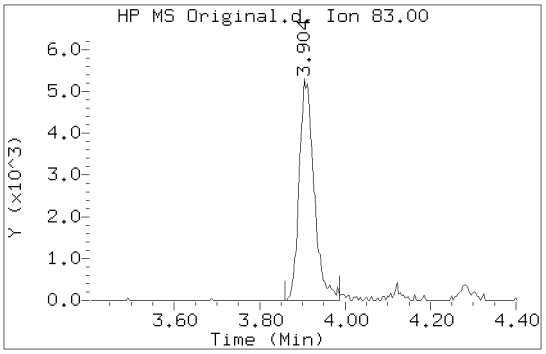


Chloroform (67-66-3)

Reason Code:

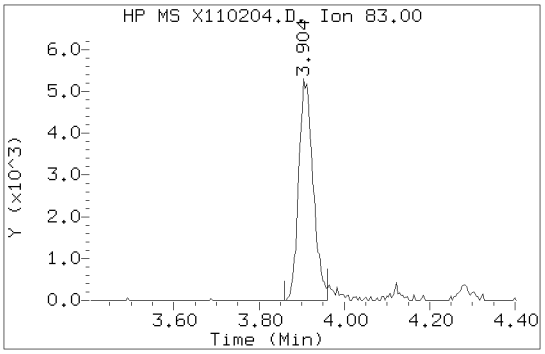
BEFORE

MASS
83
AREA
13043
HEIGHT
5306
08-Nov-2022
15:18
linh
pham



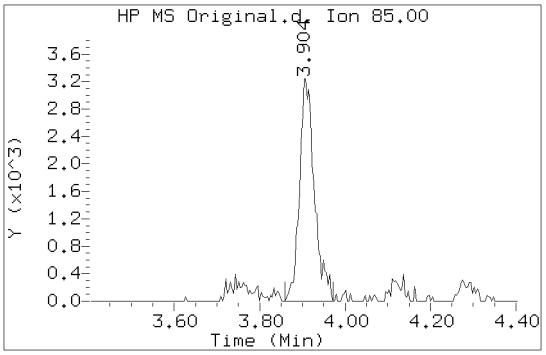
AFTER

MASS
83
AREA
12669
HEIGHT
5306
09-Nov-2022
12:35



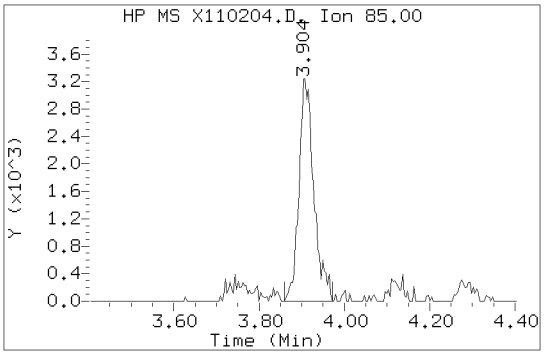
BEFORE

MASS
85
AREA
7996
HEIGHT
3238
08-Nov-2022
15:18
linh
pham



AFTER

MASS
85
AREA
7996
HEIGHT
3238
09-Nov-2022
12:35

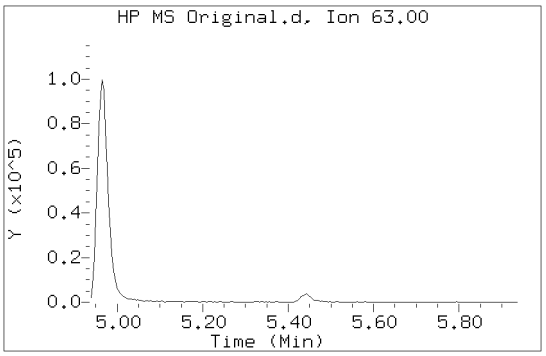


1,2-Dichloropropane (78-87-5)

Reason Code:

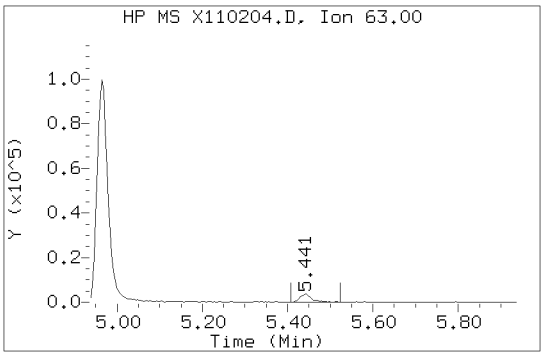
BEFORE

MASS
63
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

MASS
63
AREA
6931
HEIGHT
3825
09-Nov-2022
12:35

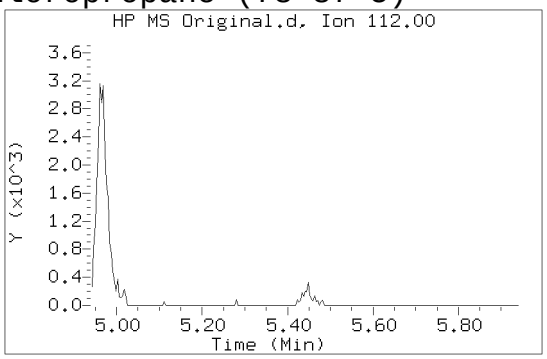


Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110204.D
Inj Date : 02-NOV-2022 12:24
InstruID : voa6.i
LabSampID : VSTD001

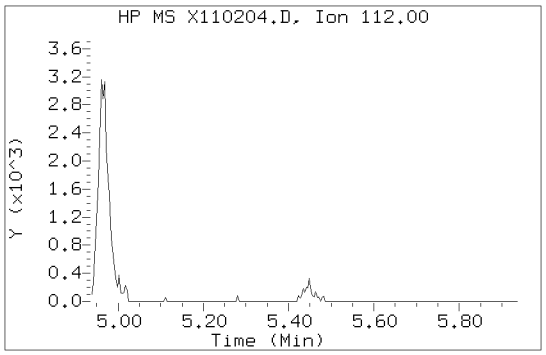
1,2-Dichloropropane (78-87-5)

Reason Code:

BEFORE
MASS
112
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



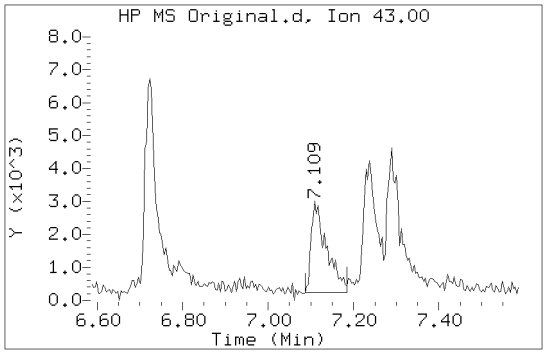
AFTER
MASS
112
AREA
0
HEIGHT
0
09-Nov-2022
12:35



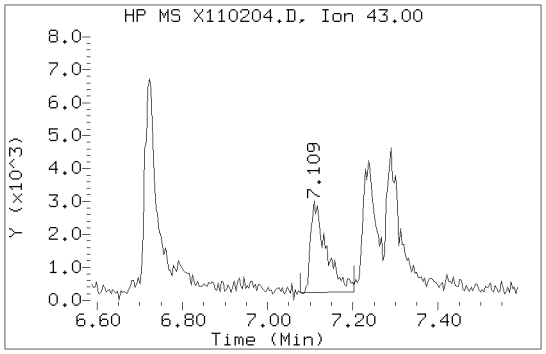
2-Hexanone (591-78-6)

Reason Code:

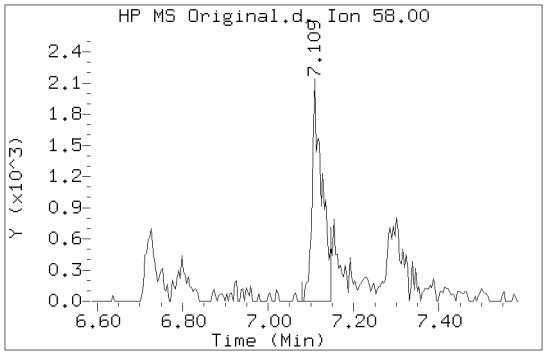
BEFORE
MASS
43
AREA
6922
HEIGHT
2790
08-Nov-2022
15:18
linh
pham



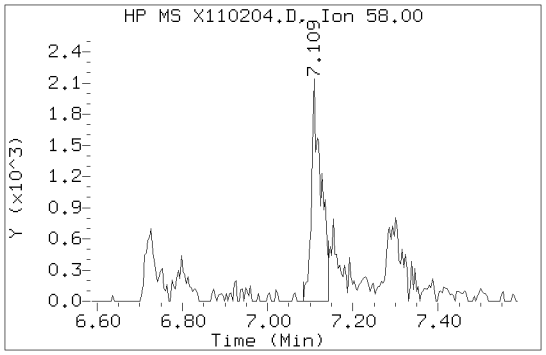
AFTER
MASS
43
AREA
7153
HEIGHT
2774
09-Nov-2022
12:35



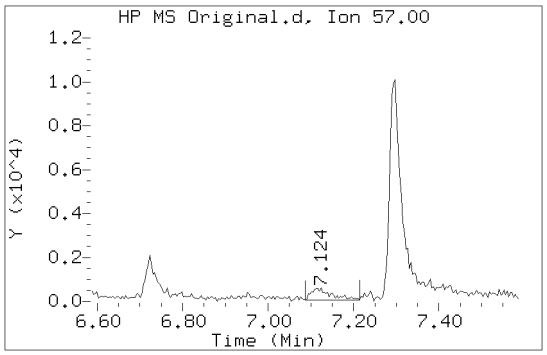
BEFORE
MASS
58
AREA
3448
HEIGHT
2140
08-Nov-2022
15:18
linh
pham



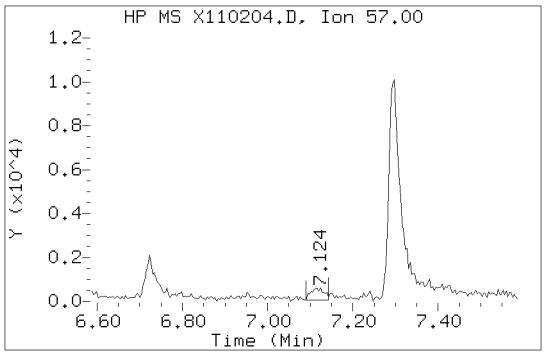
AFTER
MASS
58
AREA
3329
HEIGHT
2140
09-Nov-2022
12:35



BEFORE
MASS
57
AREA
1831
HEIGHT
555
08-Nov-2022
15:18
linh
pham



AFTER
MASS
57
AREA
1171
HEIGHT
544
09-Nov-2022
12:35



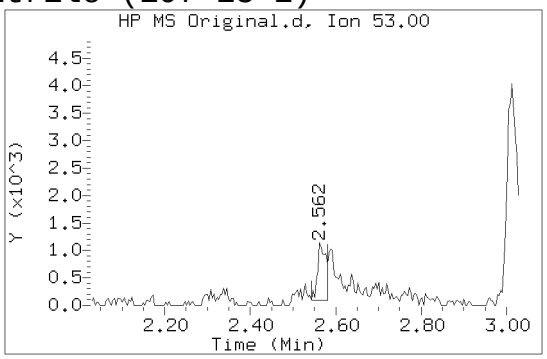
Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110204.D
Inj Date : 02-NOV-2022 12:24
InstruID : voa6.i
LabSampID : VSTD001

Acrylonitrile (107-13-1)

Reason Code:

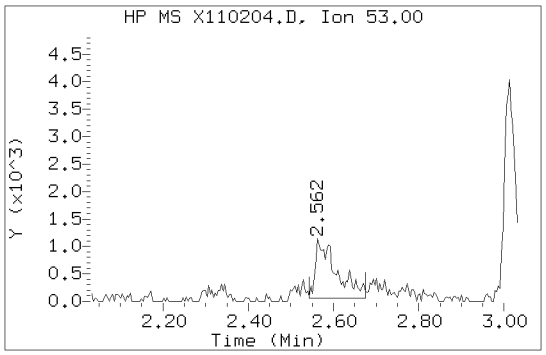
BEFORE

MASS
53
AREA
1431
HEIGHT
1051
08-Nov-2022
15:18
linh
pham



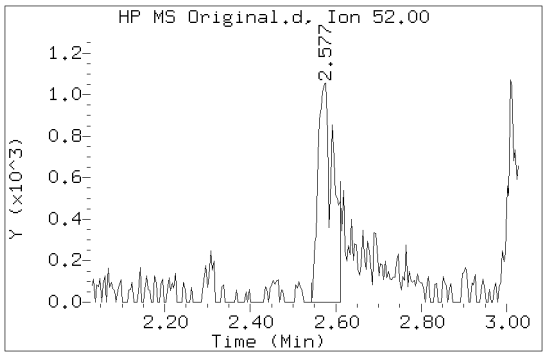
AFTER

MASS
53
AREA
3690
HEIGHT
1086
09-Nov-2022
12:35



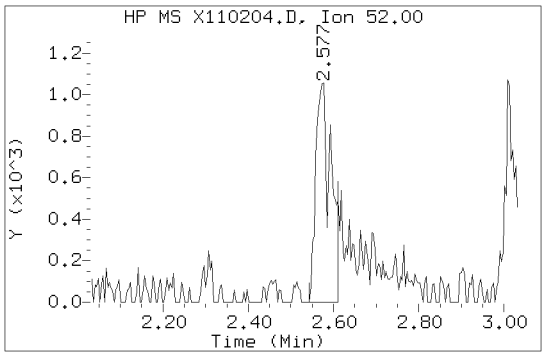
BEFORE

MASS
52
AREA
2610
HEIGHT
1056
08-Nov-2022
15:18
linh
pham



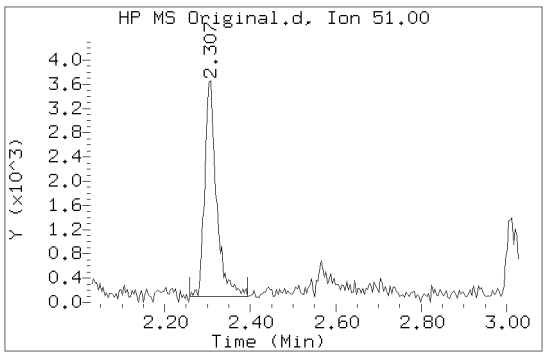
AFTER

MASS
52
AREA
2610
HEIGHT
1056
09-Nov-2022
12:35



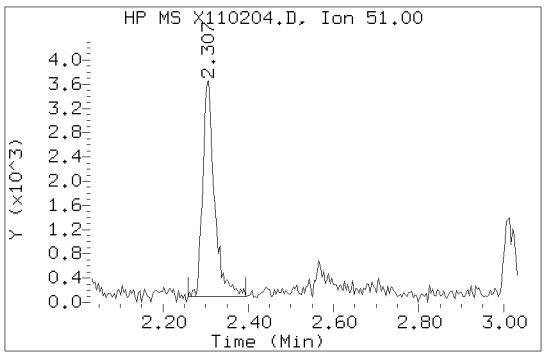
BEFORE

MASS
51
AREA
6869
HEIGHT
3562
08-Nov-2022
15:18
linh
pham



AFTER

MASS
51
AREA
6869
HEIGHT
3562
09-Nov-2022
12:35

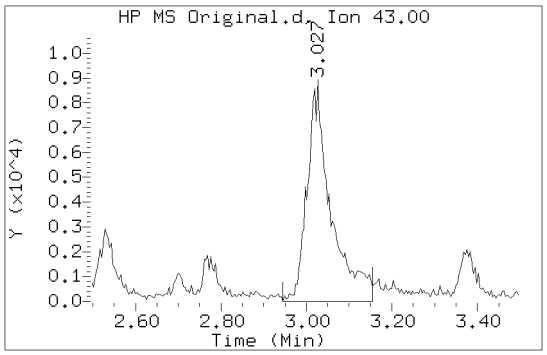


Vinyl Acetate (108-05-4)

Reason Code:

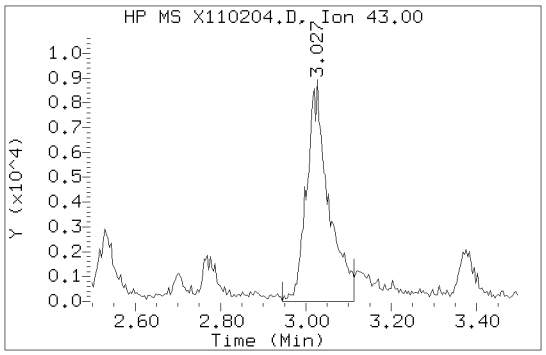
BEFORE

MASS
43
AREA
34344
HEIGHT
8936
08-Nov-2022
15:18
linh
pham



AFTER

MASS
43
AREA
31753
HEIGHT
8936
09-Nov-2022
12:35

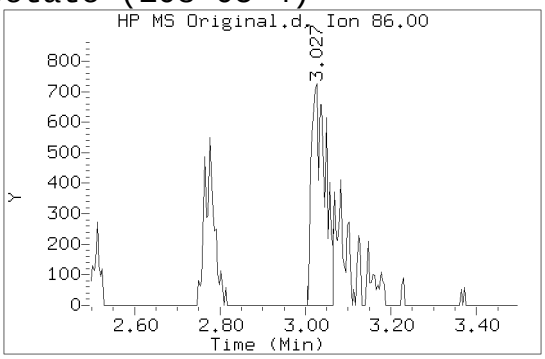


Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110204.D
Inj Date : 02-NOV-2022 12:24
InstruID : voa6.i
LabSampID : VSTD001

Vinyl Acetate (108-05-4)

BEFORE

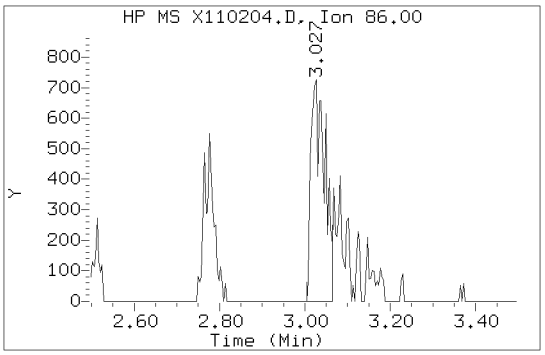
MASS
86
AREA
1648
HEIGHT
726
08-Nov-2022
15:18
linh
pham



Reason Code:

AFTER

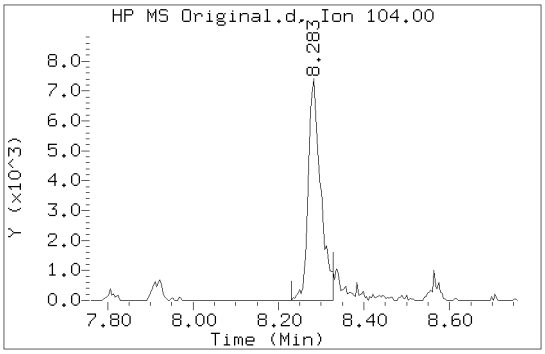
MASS
86
AREA
1648
HEIGHT
726
09-Nov-2022
12:35



Styrene (100-42-5)

BEFORE

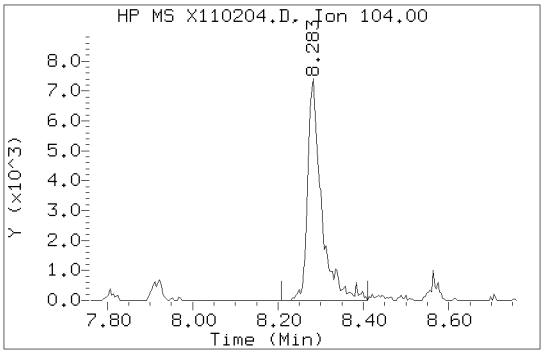
MASS
104
AREA
14979
HEIGHT
7410
08-Nov-2022
15:18
linh
pham



Reason Code:

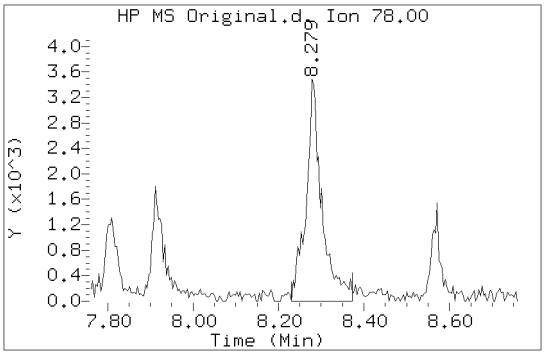
AFTER

MASS
104
AREA
16729
HEIGHT
7410
09-Nov-2022
12:35



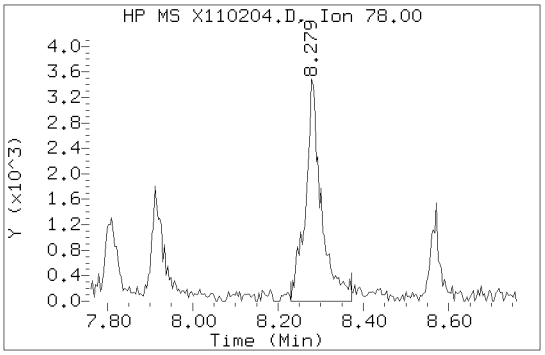
BEFORE

MASS
78
AREA
9017
HEIGHT
3490
08-Nov-2022
15:18
linh
pham



AFTER

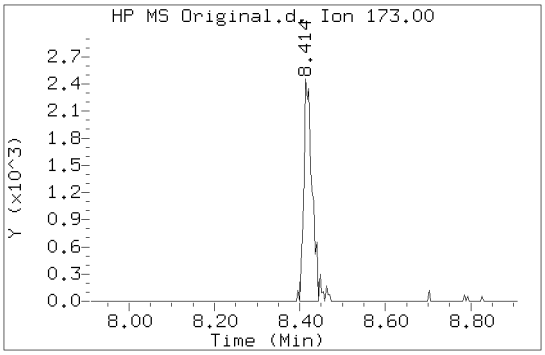
MASS
78
AREA
9017
HEIGHT
3490
09-Nov-2022
12:35



Bromoform (75-25-2)

BEFORE

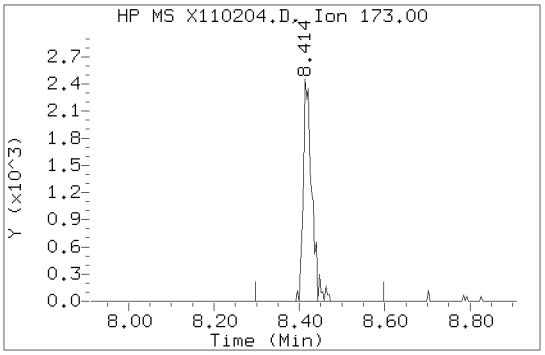
MASS
173
AREA
3288
HEIGHT
2456
08-Nov-2022
15:18
linh
pham



Reason Code:

AFTER

MASS
173
AREA
3497
HEIGHT
2456
09-Nov-2022
12:35



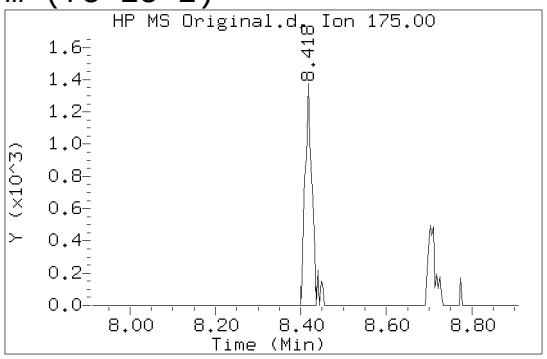
Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110204.D
Inj Date : 02-NOV-2022 12:24
InstruID : voa6.i
LabSampID : VSTD001

Bromoform (75-25-2)

Reason Code:

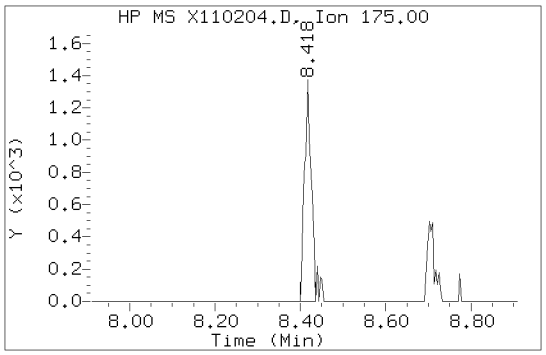
BEFORE

MASS
175
AREA
1526
HEIGHT
1375
08-Nov-2022
15:18
linh
pham



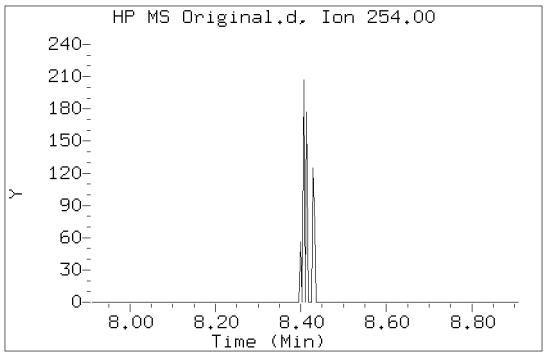
AFTER

MASS
175
AREA
1526
HEIGHT
1375
09-Nov-2022
12:35



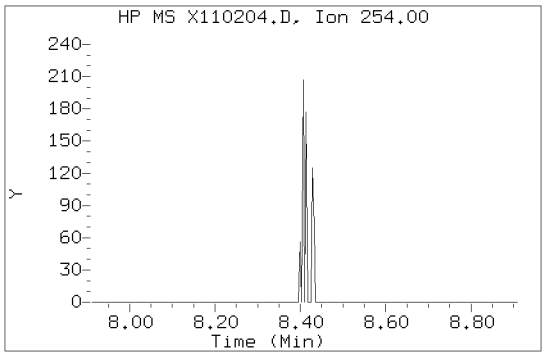
BEFORE

MASS
254
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

MASS
254
AREA
0
HEIGHT
0
09-Nov-2022
12:35

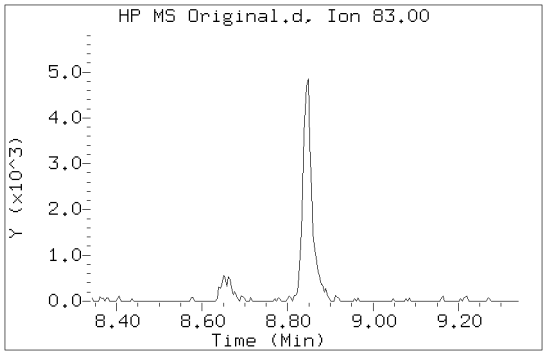


1,1,2,2-Tetrachloroethane (79-34-5)

Reason Code:

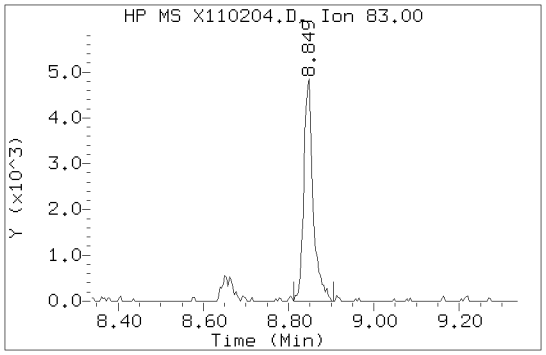
BEFORE

MASS
83
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



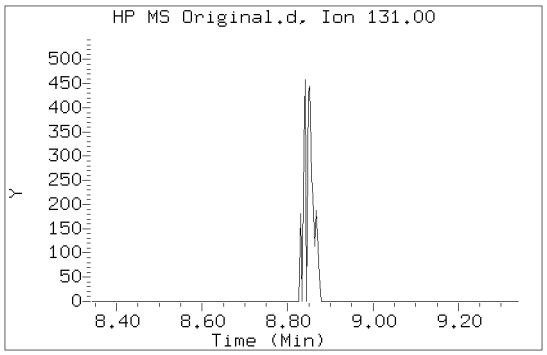
AFTER

MASS
83
AREA
7535
HEIGHT
4851
09-Nov-2022
12:35



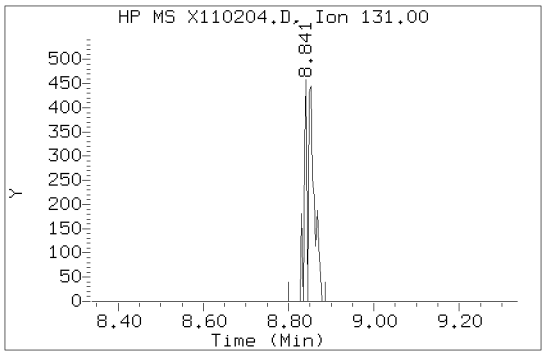
BEFORE

MASS
131
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

MASS
131
AREA
623
HEIGHT
458
09-Nov-2022
12:35



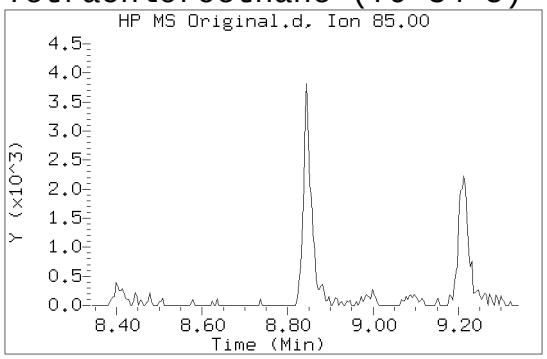
Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110204.D
Inj Date : 02-NOV-2022 12:24
InstruID : voa6.i
LabSampID : VSTD001

1,1,2,2-Tetrachloroethane (79-34-5)

Reason Code:

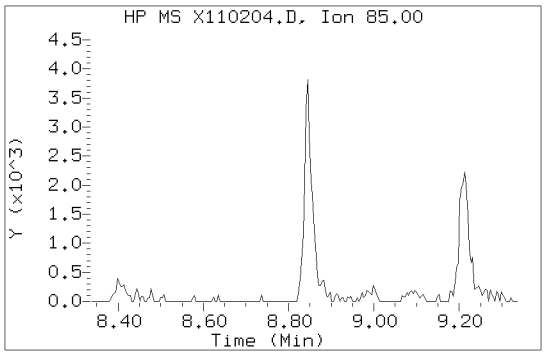
BEFORE

MASS
85
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

MASS
85
AREA
0
HEIGHT
0
09-Nov-2022
12:35

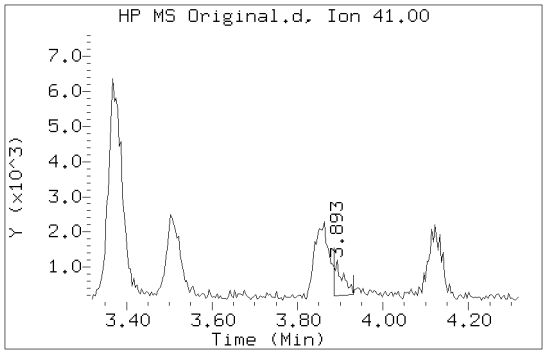


Methacrylonitrile (126-98-7)

Reason Code:

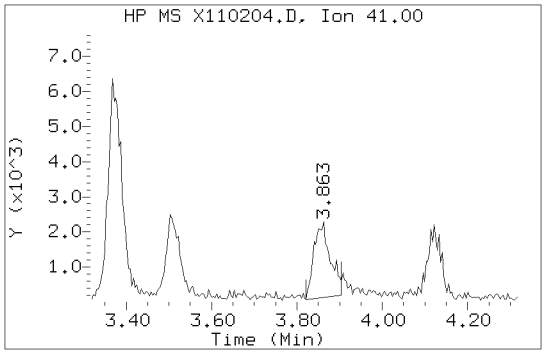
BEFORE

MASS
41
AREA
1408
HEIGHT
1020
08-Nov-2022
15:18
linh
pham



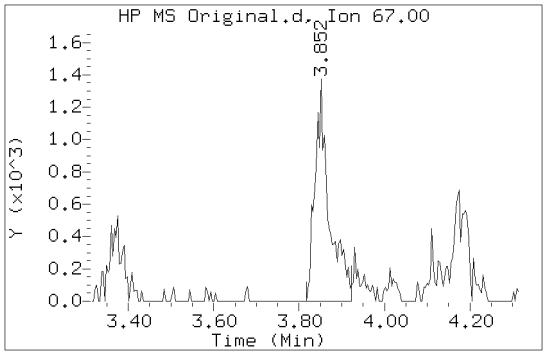
AFTER

MASS
41
AREA
5798
HEIGHT
2170
09-Nov-2022
12:35



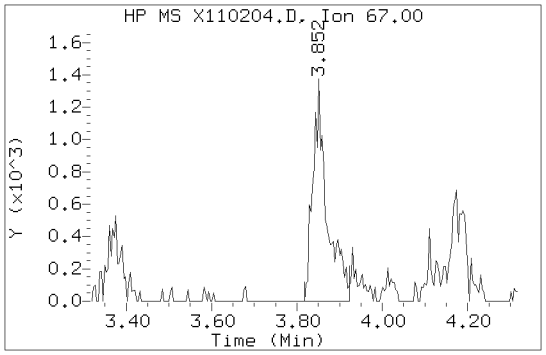
BEFORE

MASS
67
AREA
3148
HEIGHT
1375
08-Nov-2022
15:18
linh
pham



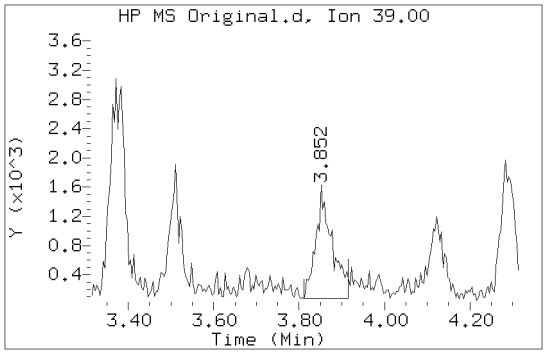
AFTER

MASS
67
AREA
3148
HEIGHT
1375
09-Nov-2022
12:35



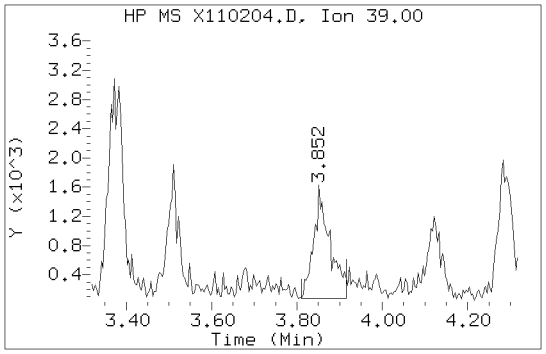
BEFORE

MASS
39
AREA
4075
HEIGHT
1555
08-Nov-2022
15:18
linh
pham



AFTER

MASS
39
AREA
4075
HEIGHT
1555
09-Nov-2022
12:35



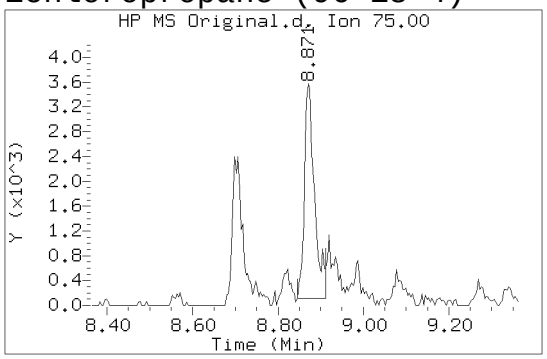
Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110204.D
Inj Date : 02-NOV-2022 12:24
InstruID : voa6.i
LabSampID : VSTD001

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

Reason Code:

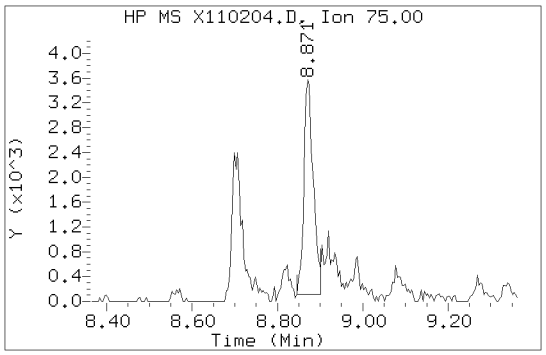
BEFORE

MASS
75
AREA
5795
HEIGHT
3463
08-Nov-2022
15:18
linh
pham



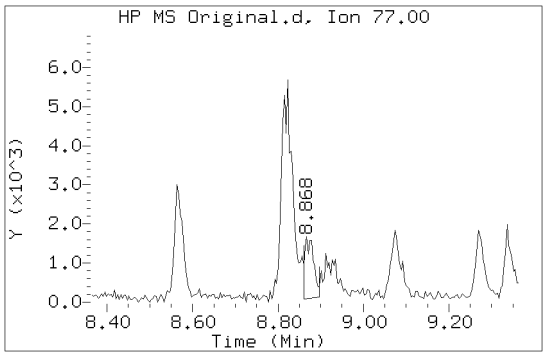
AFTER

MASS
75
AREA
5396
HEIGHT
3463
09-Nov-2022
12:35



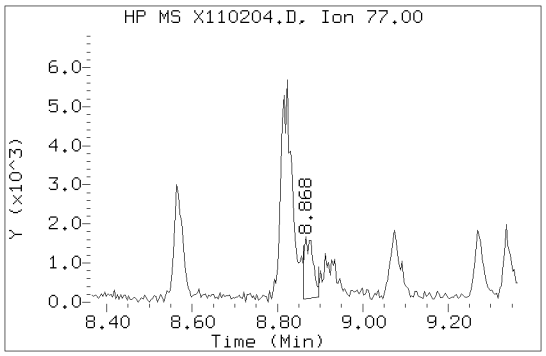
BEFORE

MASS
77
AREA
2400
HEIGHT
1576
08-Nov-2022
15:18
linh
pham



AFTER

MASS
77
AREA
2400
HEIGHT
1576
09-Nov-2022
12:35

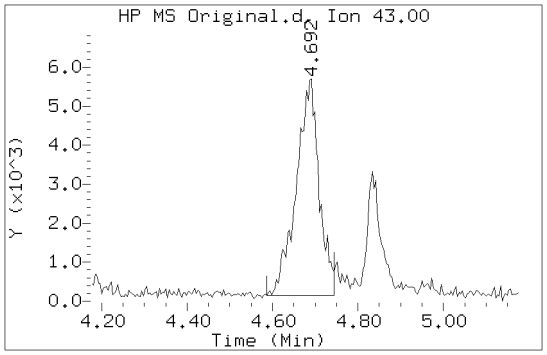


Isobutyl Alcohol (78-83-1)

Reason Code:

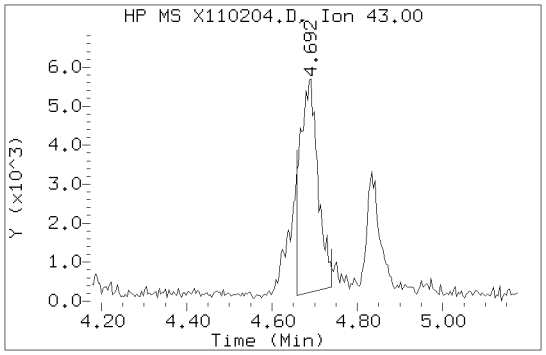
BEFORE

MASS
43
AREA
20841
HEIGHT
5557
08-Nov-2022
15:18
linh
pham



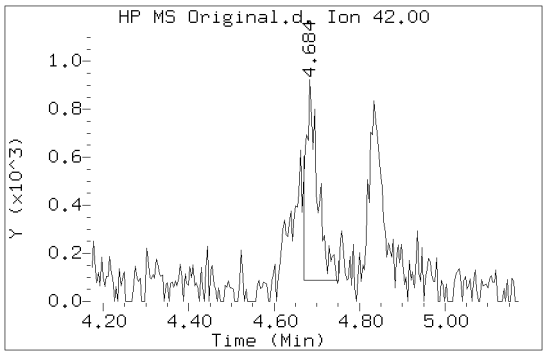
AFTER

MASS
43
AREA
16215
HEIGHT
5465
09-Nov-2022
12:35



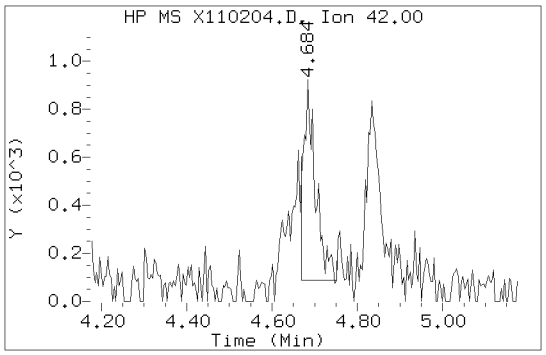
BEFORE

MASS
42
AREA
1631
HEIGHT
836
08-Nov-2022
15:18
linh
pham



AFTER

MASS
42
AREA
1631
HEIGHT
836
09-Nov-2022
12:35



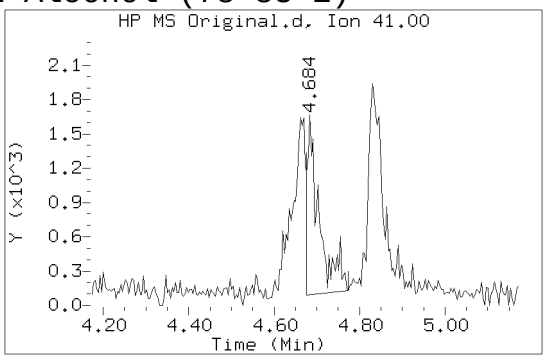
Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110204.D
Inj Date : 02-NOV-2022 12:24
InstruID : voa6.i
LabSampID : VSTD001

Isobutyl Alcohol (78-83-1)

Reason Code:

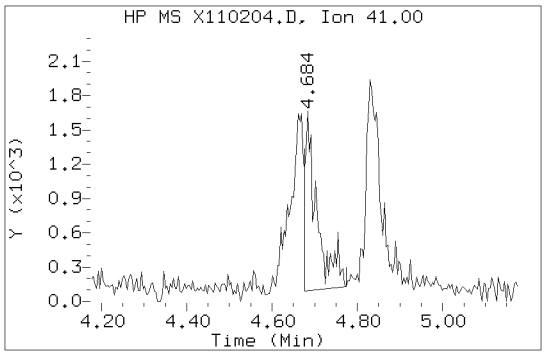
BEFORE

MASS
41
AREA
3045
HEIGHT
1569
08-Nov-2022
15:18
linh
pham



AFTER

MASS
41
AREA
3045
HEIGHT
1569
09-Nov-2022
12:35

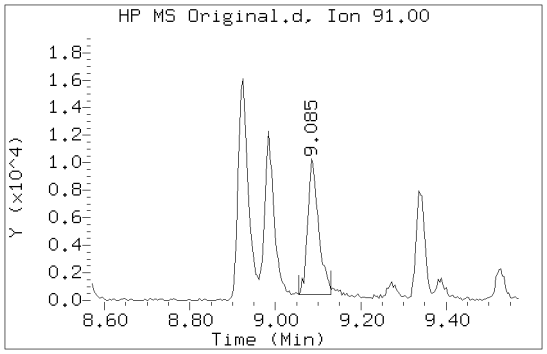


4-Chlorotoluene (106-43-4)

Reason Code:

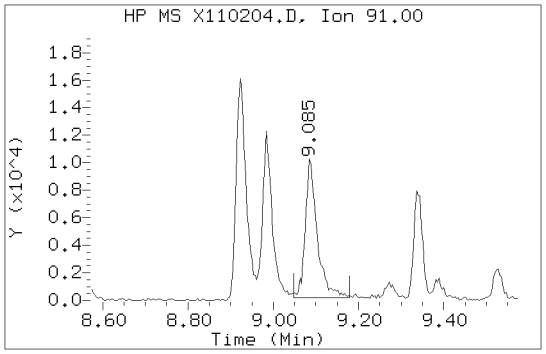
BEFORE

MASS
91
AREA
17547
HEIGHT
9868
08-Nov-2022
15:18
linh
pham



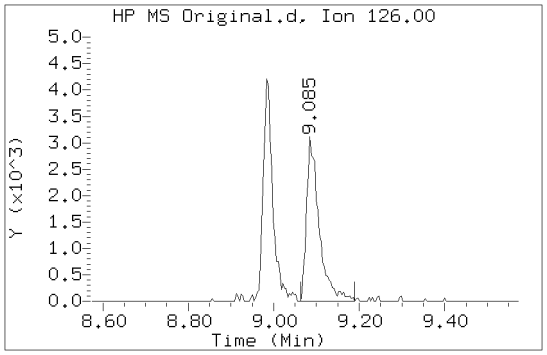
AFTER

MASS
91
AREA
20046
HEIGHT
10112
09-Nov-2022
12:35



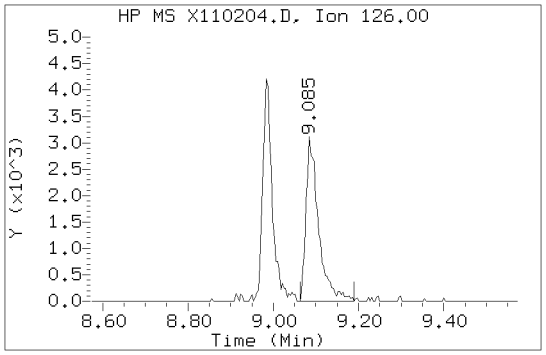
BEFORE

MASS
126
AREA
6372
HEIGHT
3119
08-Nov-2022
15:18
linh
pham



AFTER

MASS
126
AREA
6372
HEIGHT
3119
09-Nov-2022
12:35

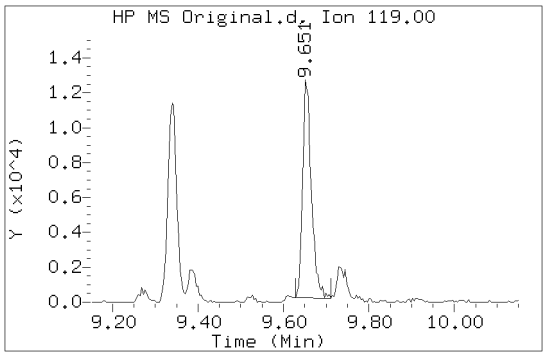


p-Isopropyltoluene (99-87-6)

Reason Code:

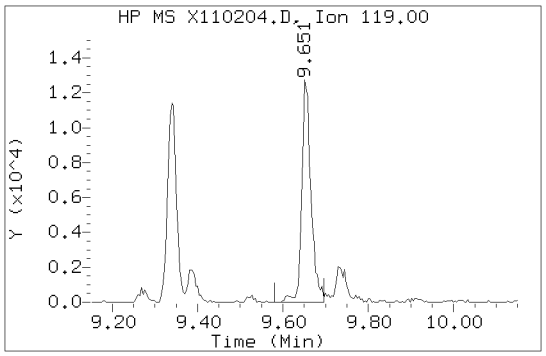
BEFORE

MASS
119
AREA
18424
HEIGHT
12500
08-Nov-2022
15:18
linh
pham



AFTER

MASS
119
AREA
19645
HEIGHT
12726
09-Nov-2022
12:35



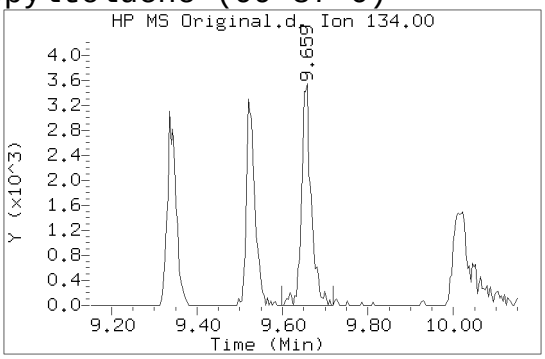
Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110204.D
Inj Date : 02-NOV-2022 12:24
InstruID : voa6.i
LabSampID : VSTD001

p-Isopropyltoluene (99-87-6)

Reason Code:

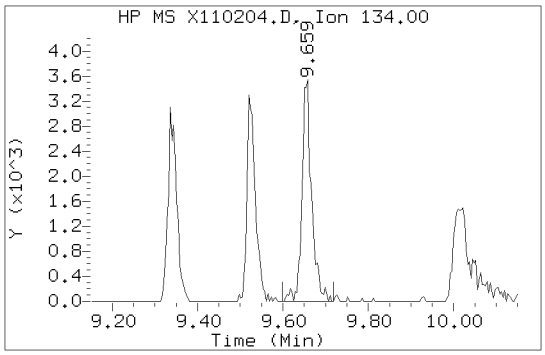
BEFORE

MASS
134
AREA
5709
HEIGHT
3543
08-Nov-2022
15:18
linh
pham



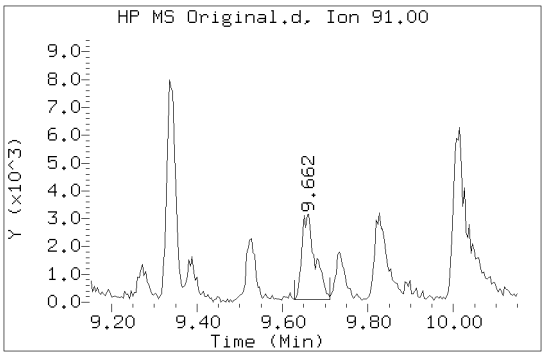
AFTER

MASS
134
AREA
5709
HEIGHT
3543
09-Nov-2022
12:35



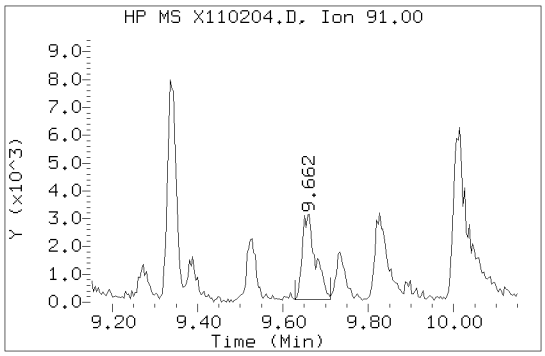
BEFORE

MASS
91
AREA
6772
HEIGHT
3070
08-Nov-2022
15:18
linh
pham



AFTER

MASS
91
AREA
6772
HEIGHT
3070
09-Nov-2022
12:35

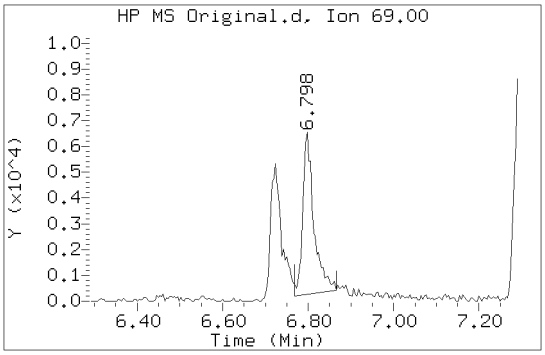


Ethyl Methacrylate (97-63-2)

Reason Code:

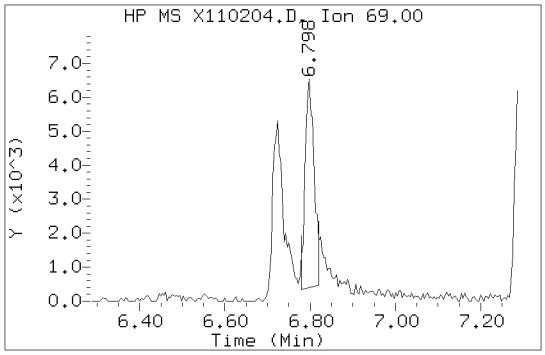
BEFORE

MASS
69
AREA
11629
HEIGHT
6281
08-Nov-2022
15:18
linh
pham



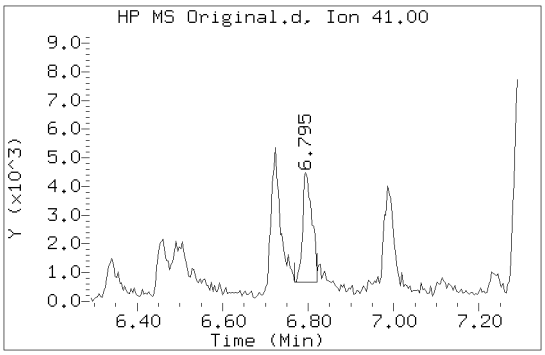
AFTER

MASS
69
AREA
9245
HEIGHT
6144
09-Nov-2022
12:35



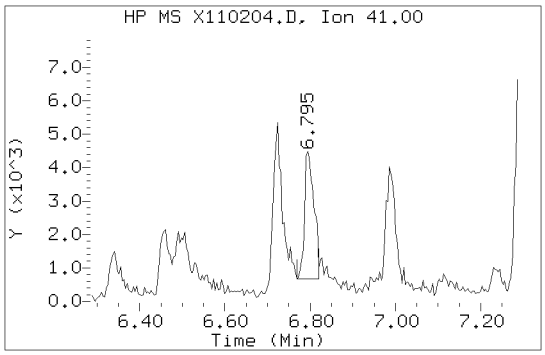
BEFORE

MASS
41
AREA
5944
HEIGHT
3826
08-Nov-2022
15:18
linh
pham



AFTER

MASS
41
AREA
5944
HEIGHT
3826
09-Nov-2022
12:35

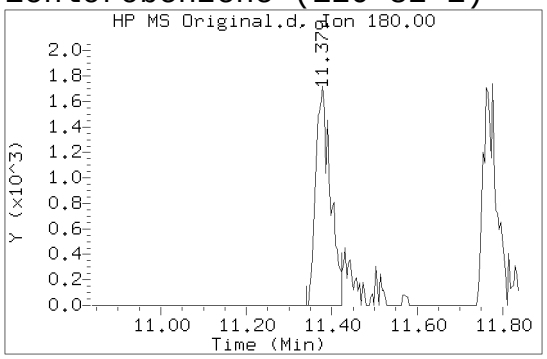


Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110204.D
Inj Date : 02-NOV-2022 12:24
InstruID : voa6.i
LabSampID : VSTD001

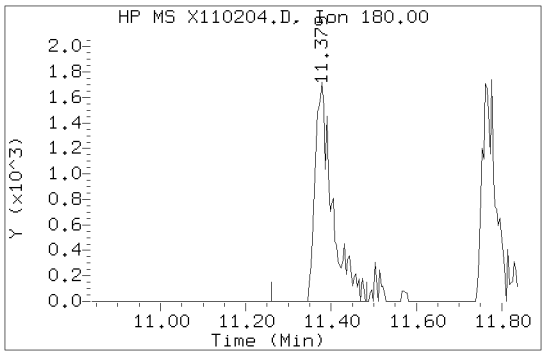
1,2,4-Trichlorobenzene (120-82-1)

Reason Code:

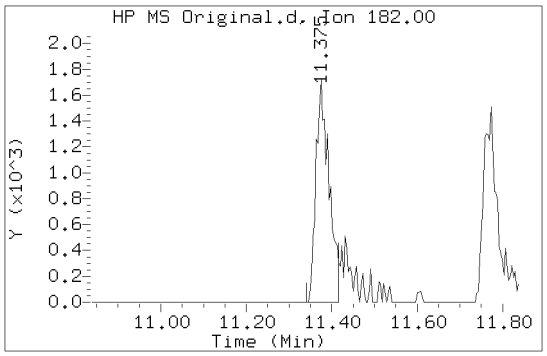
BEFORE
MASS
180
AREA
4109
HEIGHT
1719
08-Nov-2022
15:18
linh
pham



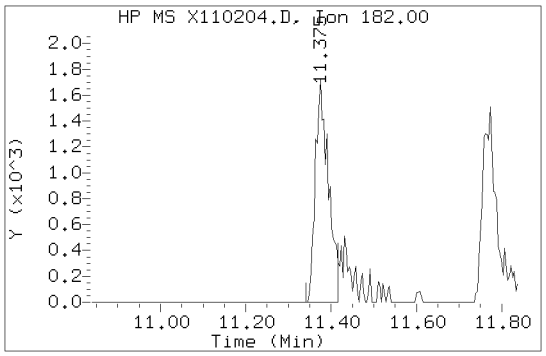
AFTER
MASS
180
AREA
4795
HEIGHT
1719
09-Nov-2022
12:35



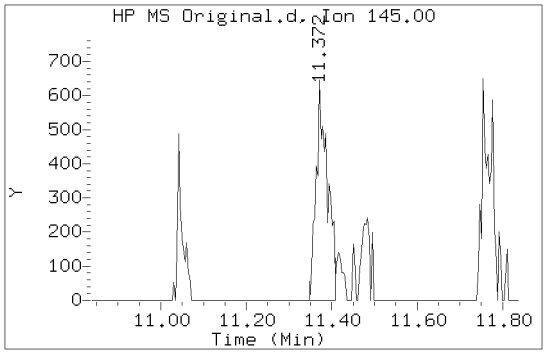
BEFORE
MASS
182
AREA
3662
HEIGHT
1718
08-Nov-2022
15:18
linh
pham



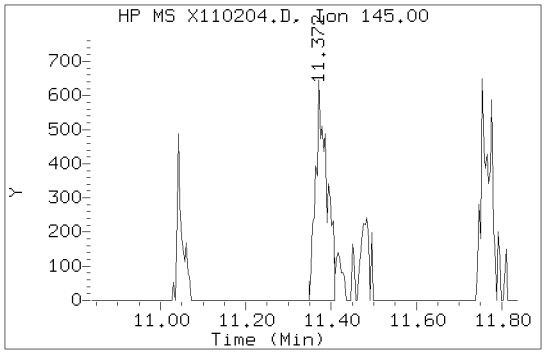
AFTER
MASS
182
AREA
3662
HEIGHT
1718
09-Nov-2022
12:35



BEFORE
MASS
145
AREA
1181
HEIGHT
645
08-Nov-2022
15:18
linh
pham



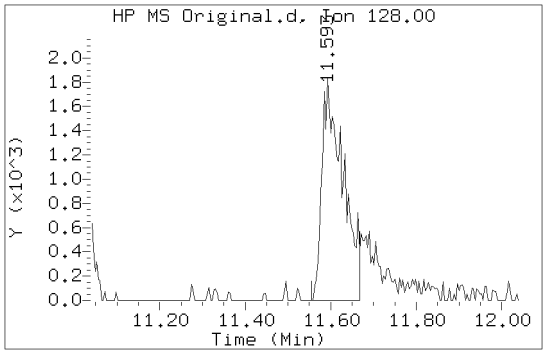
AFTER
MASS
145
AREA
1181
HEIGHT
645
09-Nov-2022
12:35



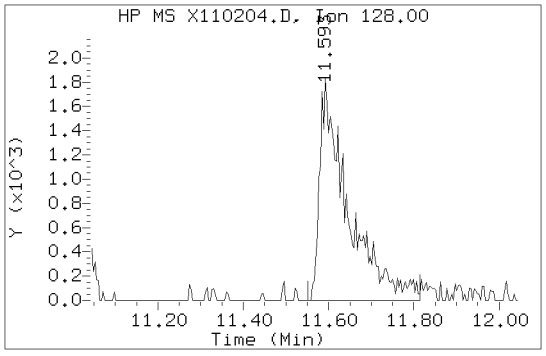
Naphthalene (91-20-3)

Reason Code:

BEFORE
MASS
128
AREA
6237
HEIGHT
1829
08-Nov-2022
15:18
linh
pham



AFTER
MASS
128
AREA
8288
HEIGHT
1829
09-Nov-2022
12:35

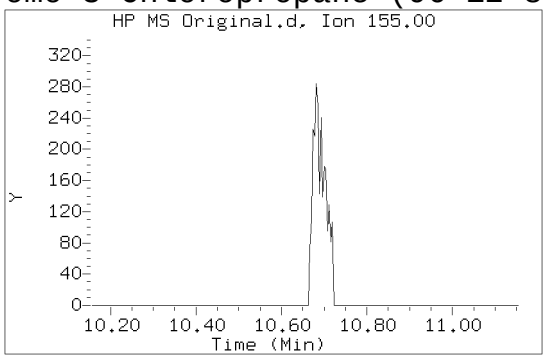


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Inj Date : 02-NOV-2022 12:24
InstruID : voa6.i
LabSampID : VSTD001

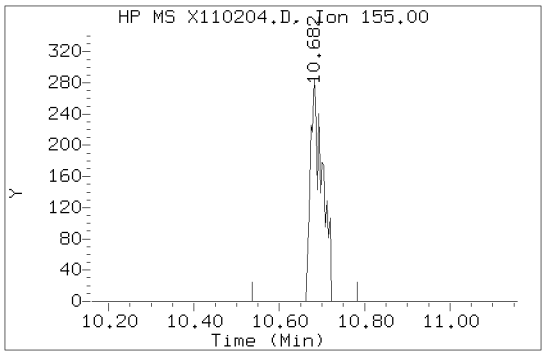
1,2-Dibromo-3-Chloropropane (96-12-8)

Reason Code:

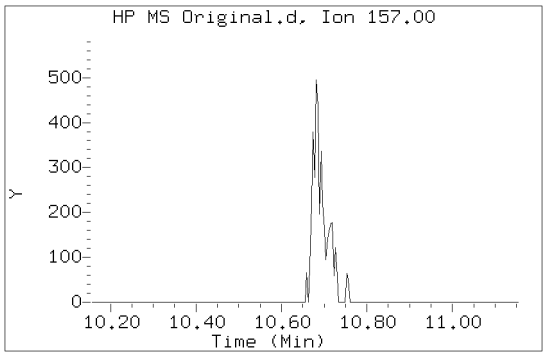
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0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



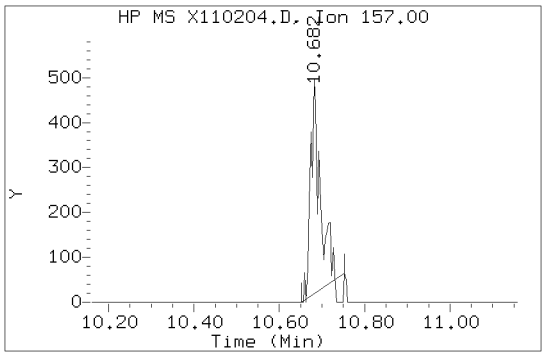
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MASS
155
AREA
551
HEIGHT
284
09-Nov-2022
12:35



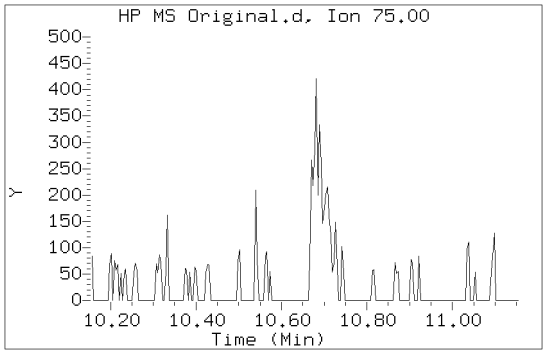
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MASS
157
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



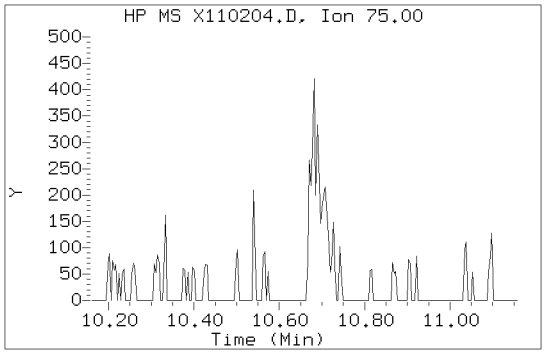
AFTER
MASS
157
AREA
679
HEIGHT
476
09-Nov-2022
12:35



BEFORE
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75
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



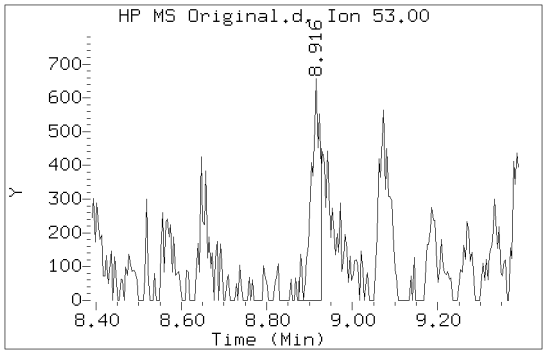
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HEIGHT
0
09-Nov-2022
12:35



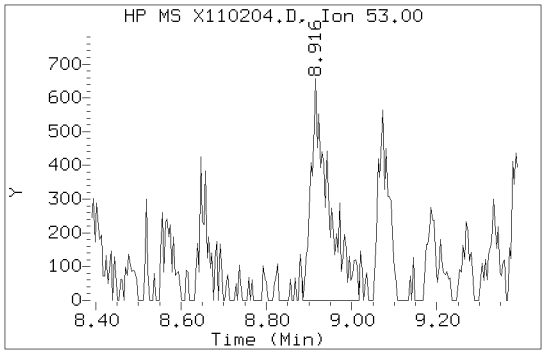
trans-1,4-Dichloro-2-butene (110-57-6)

Reason Code:

BEFORE
MASS
53
AREA
940
HEIGHT
657
08-Nov-2022
15:18
linh
pham



AFTER
MASS
53
AREA
1907
HEIGHT
657
09-Nov-2022
12:35



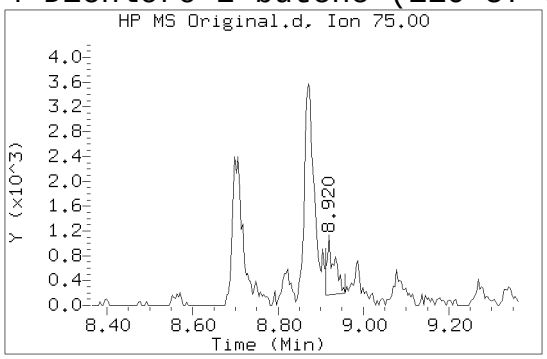
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Inj Date : 02-NOV-2022 12:24
InstruID : voa6.i
LabSampID : VSTD001

trans-1,4-Dichloro-2-butene (110-57-6)

Reason Code:

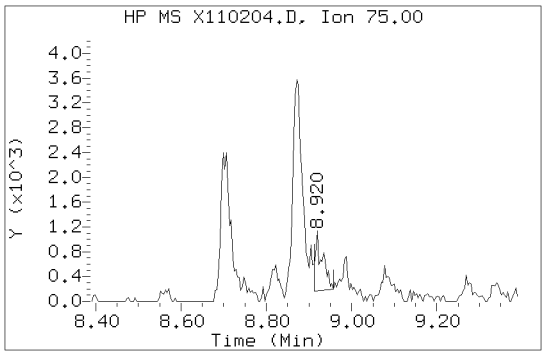
BEFORE

MASS
75
AREA
1140
HEIGHT
962
08-Nov-2022
15:18
linh
pham



AFTER

MASS
75
AREA
1140
HEIGHT
962
09-Nov-2022
12:35

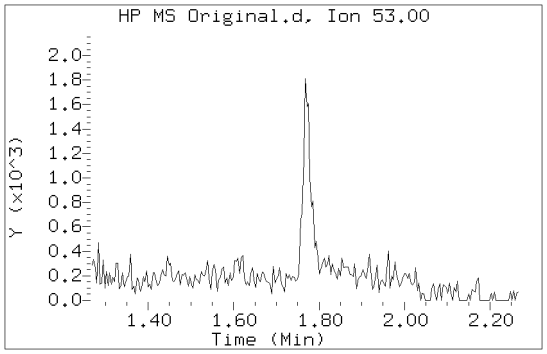


Chloroprene (126-99-8)

Reason Code:

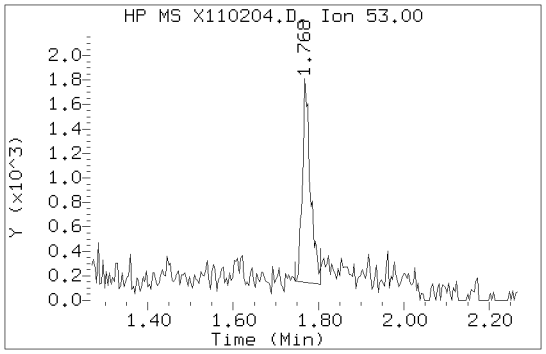
BEFORE

MASS
53
AREA
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HEIGHT
0
08-Nov-2022
15:18
linh
pham



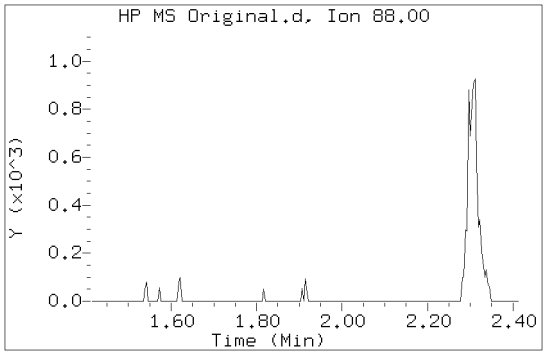
AFTER

MASS
53
AREA
2235
HEIGHT
1662
09-Nov-2022
12:35



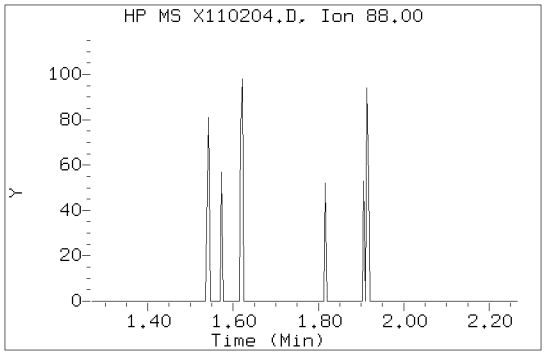
BEFORE

MASS
88
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

MASS
88
AREA
0
HEIGHT
0
09-Nov-2022
12:35

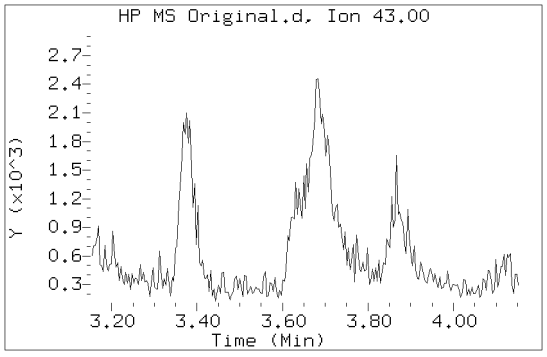


Ethyl Acetate (141-78-6)

Reason Code:

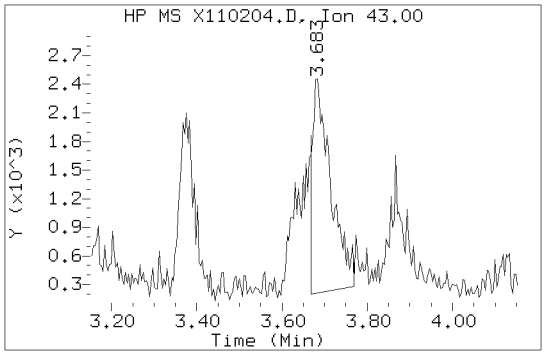
BEFORE

MASS
43
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

MASS
43
AREA
6812
HEIGHT
2244
09-Nov-2022
12:35

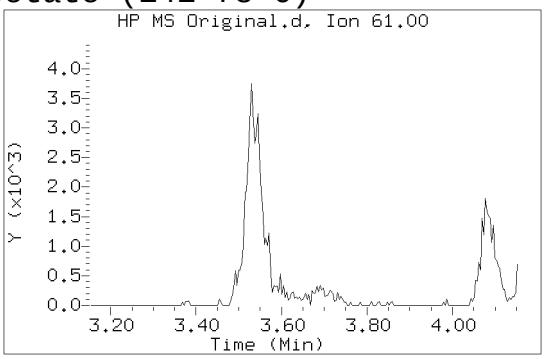


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Inj Date : 02-NOV-2022 12:24
InstruID : voa6.i
LabSampID : VSTD001

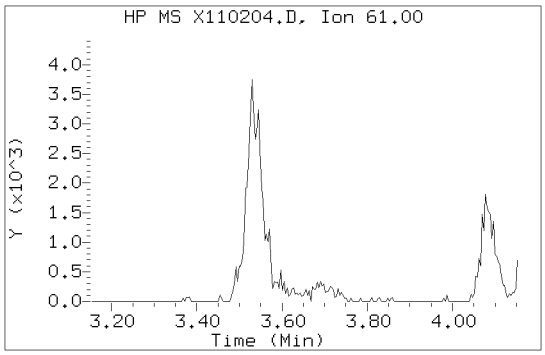
Ethyl Acetate (141-78-6)

Reason Code:

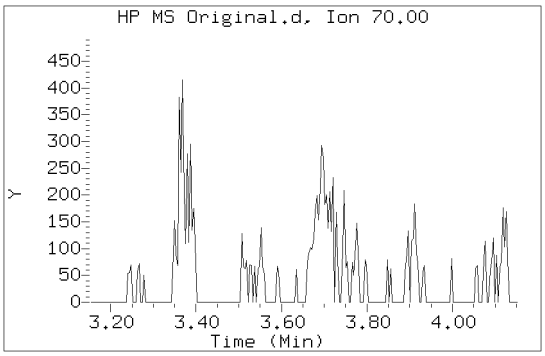
BEFORE
MASS
61
AREA
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HEIGHT
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08-Nov-2022
15:18
linh
pham



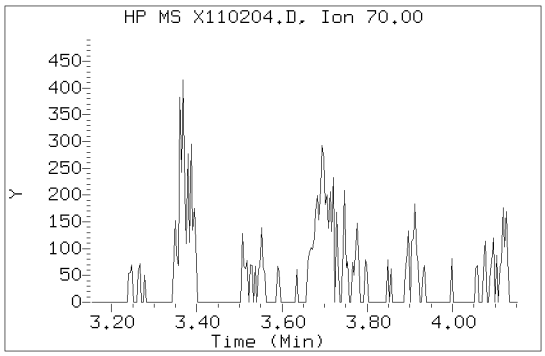
AFTER
MASS
61
AREA
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HEIGHT
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09-Nov-2022
12:35



BEFORE
MASS
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AREA
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HEIGHT
0
08-Nov-2022
15:18
linh
pham



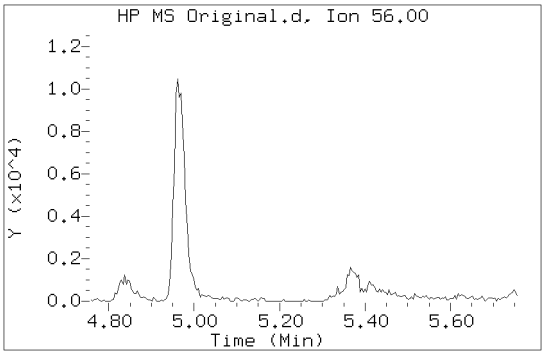
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0
09-Nov-2022
12:35



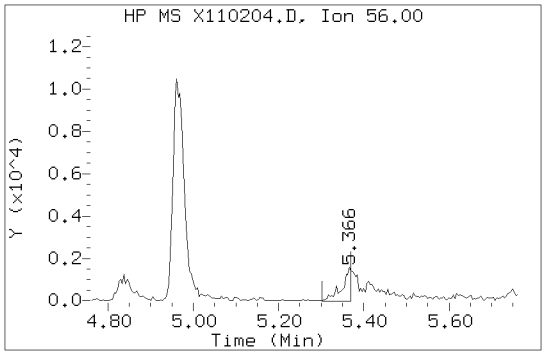
n-Butanol (71-36-3)

Reason Code:

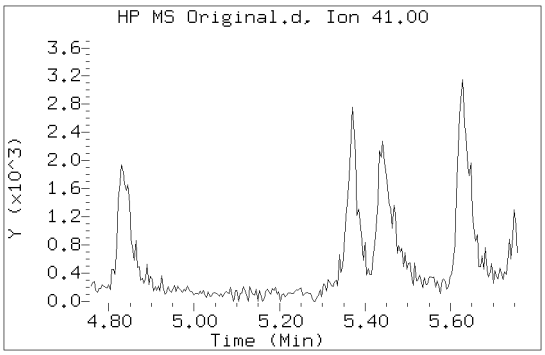
BEFORE
MASS
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AREA
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HEIGHT
0
08-Nov-2022
15:18
linh
pham



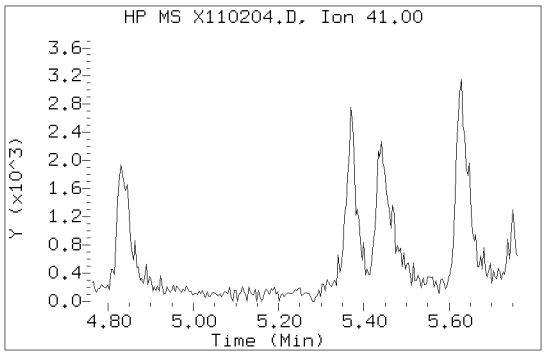
AFTER
MASS
56
AREA
2342
HEIGHT
1622
09-Nov-2022
12:35



BEFORE
MASS
41
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER
MASS
41
AREA
0
HEIGHT
0
09-Nov-2022
12:35

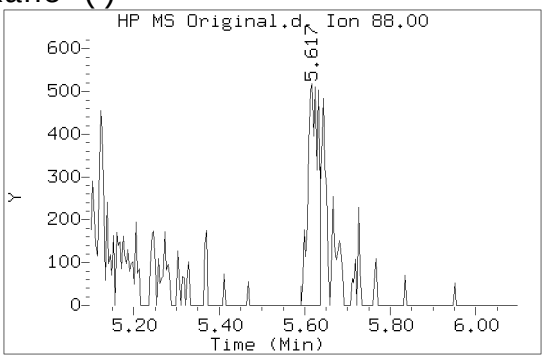


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Inj Date : 02-NOV-2022 12:24
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LabSampID : VSTD001

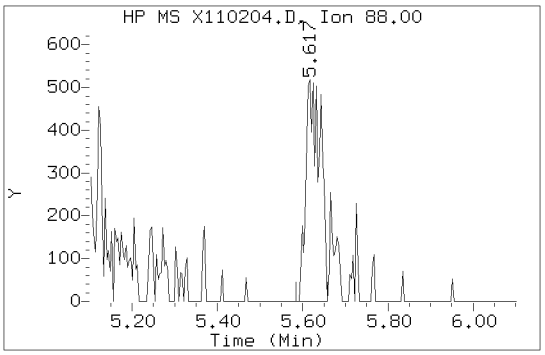
1,4-Dioxane ()

Reason Code:

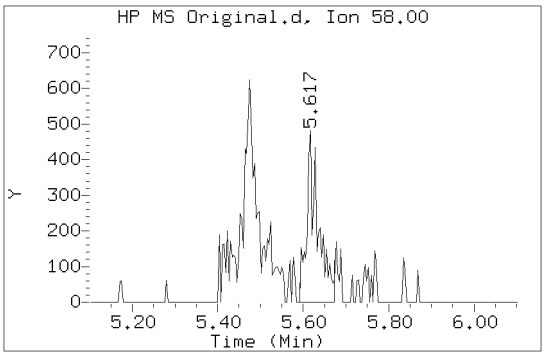
BEFORE
MASS
88
AREA
886
HEIGHT
518
08-Nov-2022
15:18
linh
pham



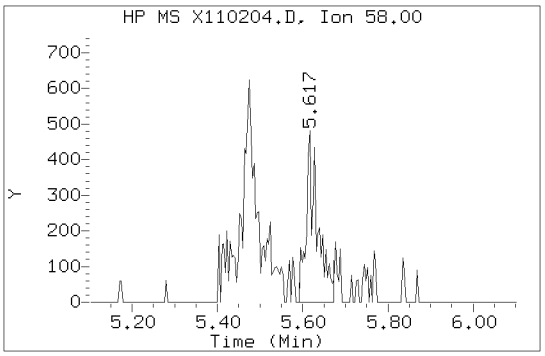
AFTER
MASS
88
AREA
1232
HEIGHT
518
09-Nov-2022
12:35



BEFORE
MASS
58
AREA
891
HEIGHT
481
08-Nov-2022
15:18
linh
pham



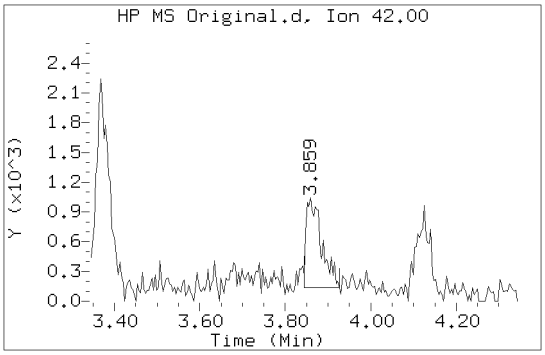
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58
AREA
891
HEIGHT
481
09-Nov-2022
12:35



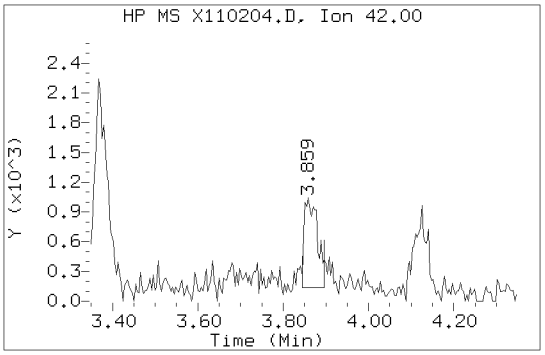
Tetrahydrofuran (109-99-9)

Reason Code:

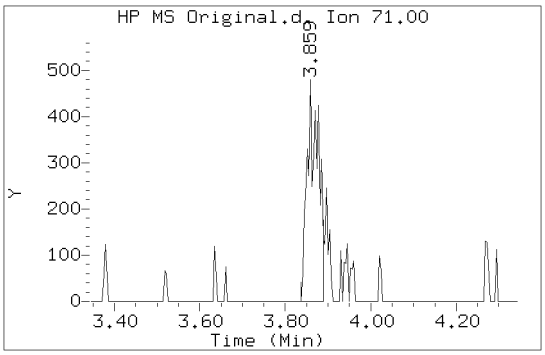
BEFORE
MASS
42
AREA
2230
HEIGHT
907
08-Nov-2022
15:18
linh
pham



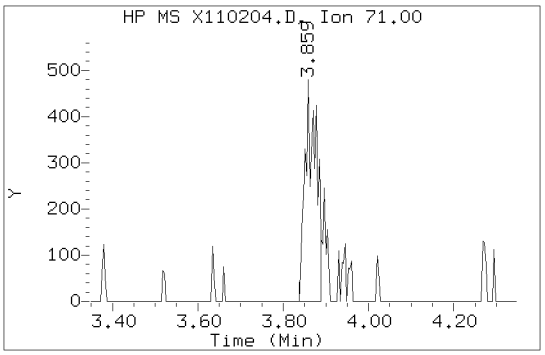
AFTER
MASS
42
AREA
1970
HEIGHT
907
09-Nov-2022
12:35



BEFORE
MASS
71
AREA
878
HEIGHT
480
08-Nov-2022
15:18
linh
pham



AFTER
MASS
71
AREA
878
HEIGHT
480
09-Nov-2022
12:35

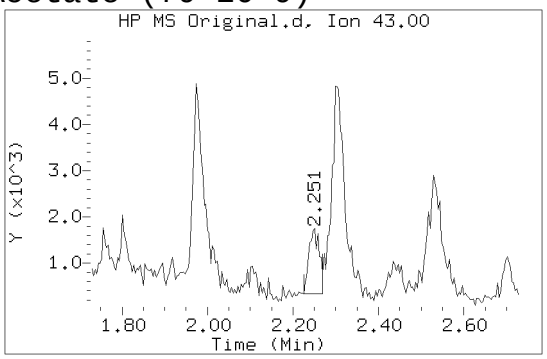


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Inj Date : 02-NOV-2022 12:24
InstruID : voa6.i
LabSampID : VSTD001

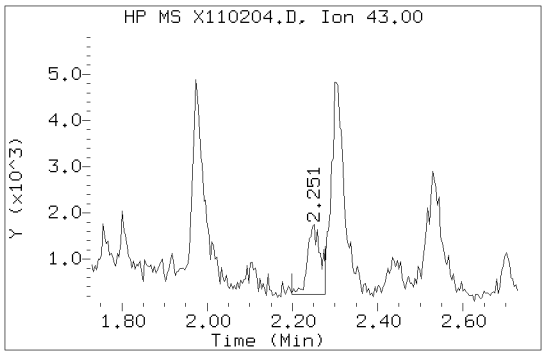
Methyl Acetate (79-20-9)

Reason Code:

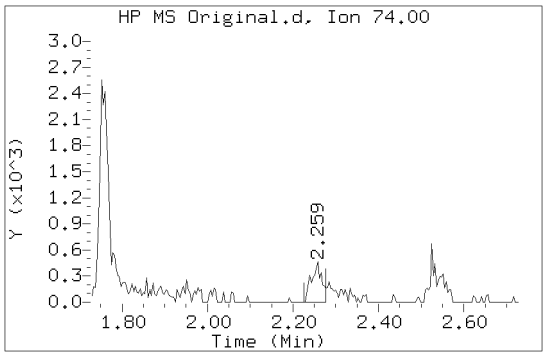
BEFORE
MASS
43
AREA
2413
HEIGHT
1417
08-Nov-2022
15:18
linh
pham



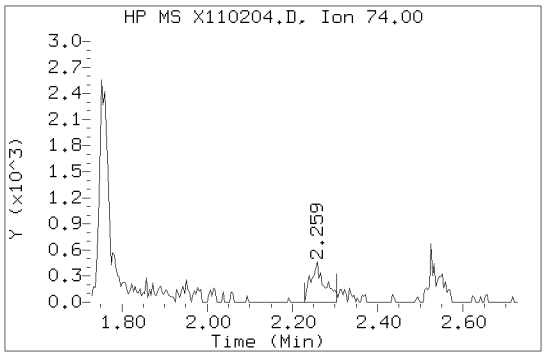
AFTER
MASS
43
AREA
3215
HEIGHT
1519
09-Nov-2022
12:35



BEFORE
MASS
74
AREA
772
HEIGHT
466
08-Nov-2022
15:18
linh
pham



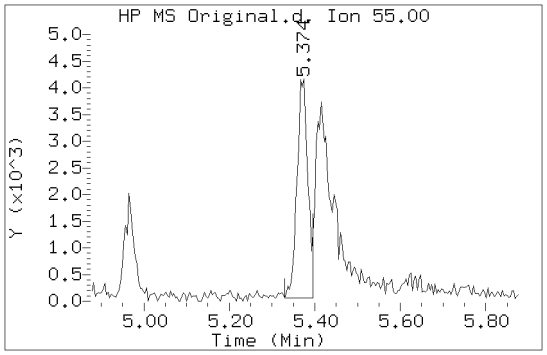
AFTER
MASS
74
AREA
1015
HEIGHT
466
09-Nov-2022
12:35



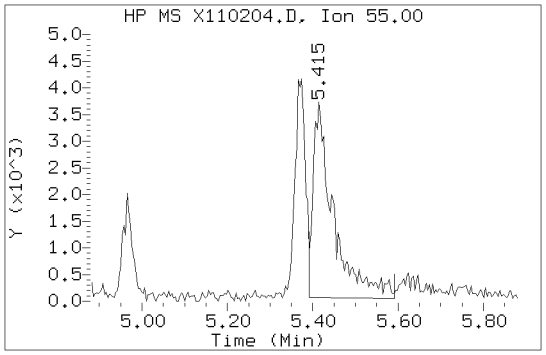
Methylcyclohexane (108-87-2)

Reason Code:

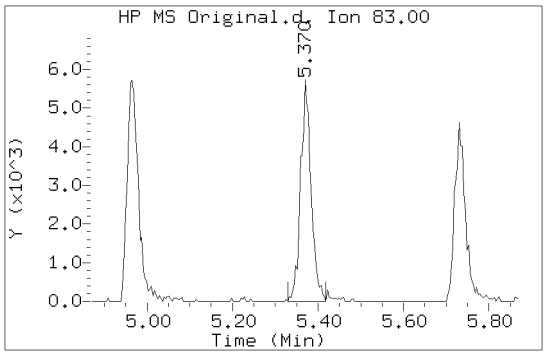
BEFORE
MASS
55
AREA
7510
HEIGHT
4101
08-Nov-2022
15:18
linh
pham



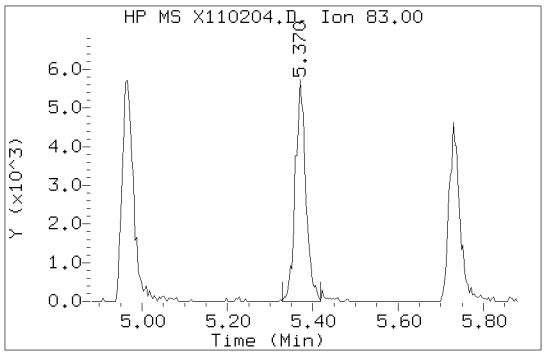
AFTER
MASS
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AREA
12281
HEIGHT
3674
09-Nov-2022
12:35



BEFORE
MASS
83
AREA
9935
HEIGHT
5735
08-Nov-2022
15:18
linh
pham



AFTER
MASS
83
AREA
9935
HEIGHT
5735
09-Nov-2022
12:35



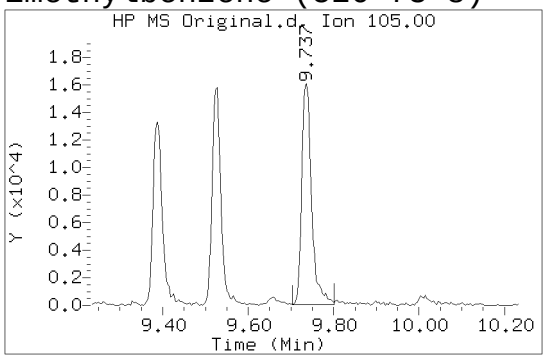
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Inj Date : 02-NOV-2022 12:24
InstruID : voa6.i
LabSampID : VSTD001

1,2,3-Trimethylbenzene (526-73-8)

Reason Code:

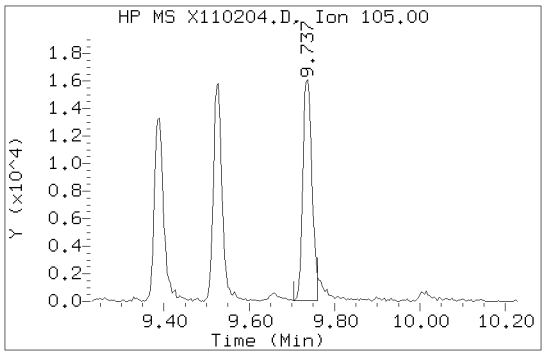
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16044
08-Nov-2022
15:18
linh
pham



AFTER

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09-Nov-2022
12:35

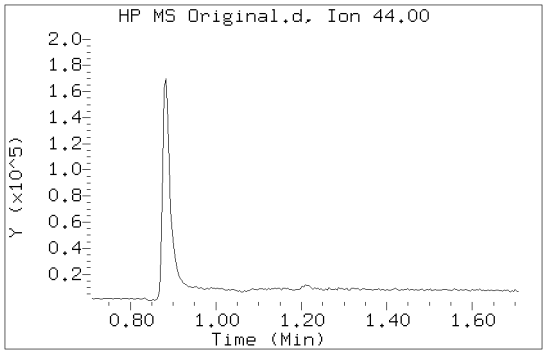


Acetaldehyde (75-07-0)

Reason Code:

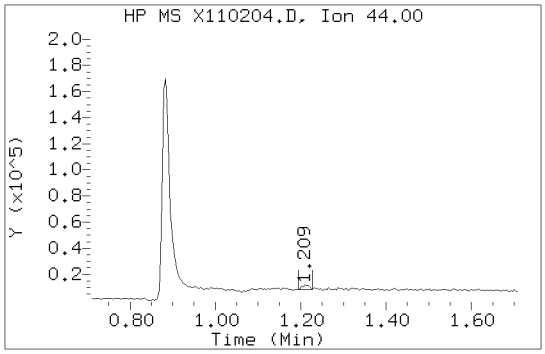
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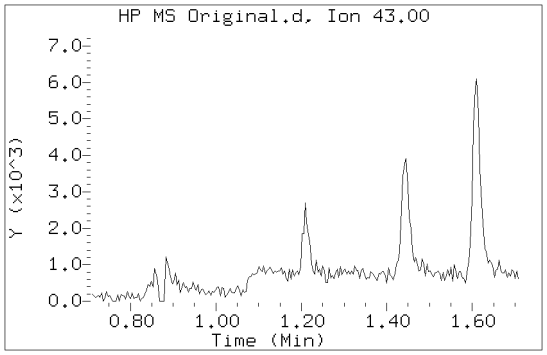
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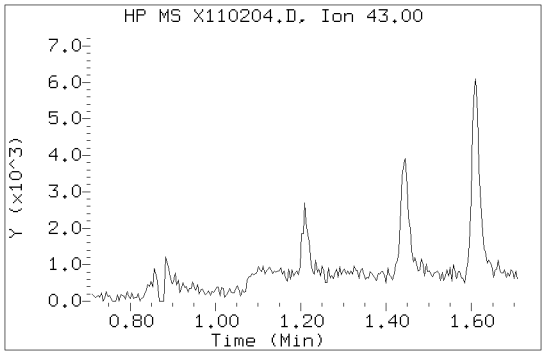
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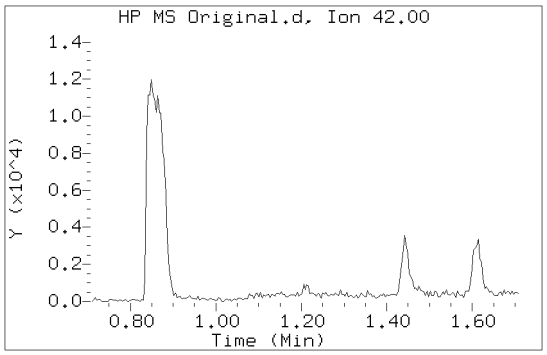
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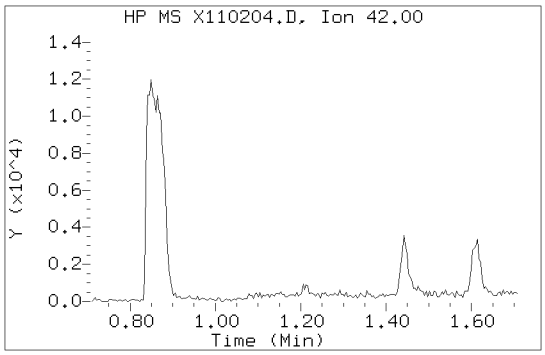
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AFTER

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09-Nov-2022
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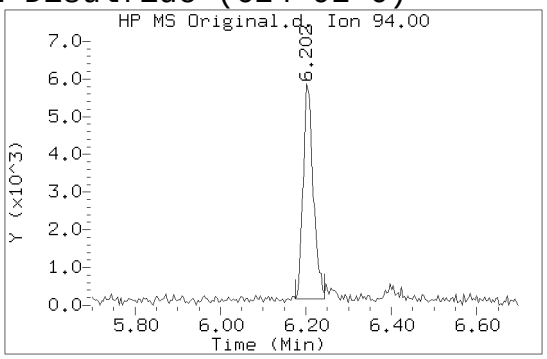
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Inj Date : 02-NOV-2022 12:24
InstruID : voa6.i
LabSampID : VSTD001

Dimethyl Disulfide (624-92-0)

Reason Code:

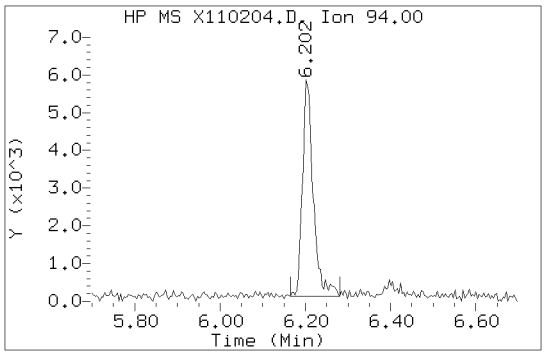
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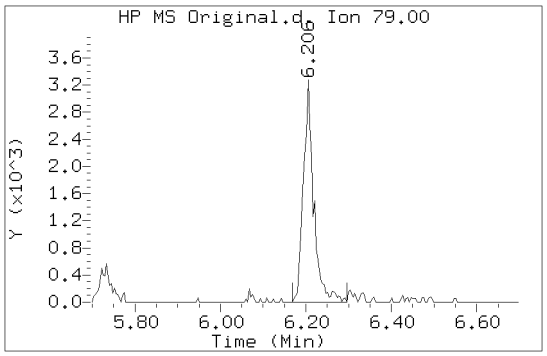
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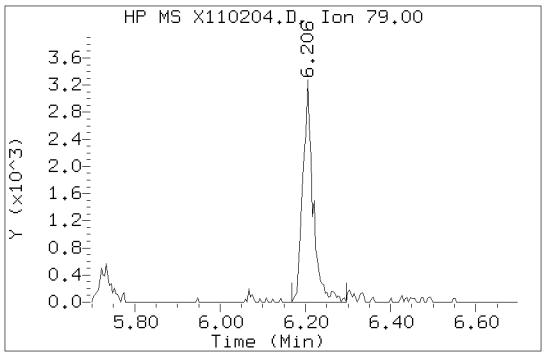
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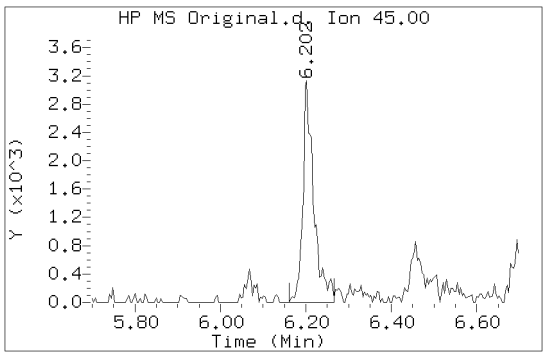
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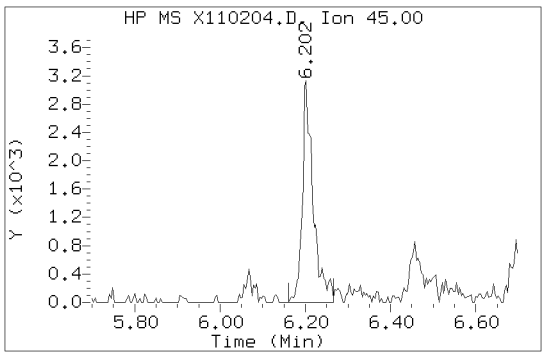
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08-Nov-2022
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linh
pham



AFTER

MASS
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09-Nov-2022
12:35



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110205.D
Lab Smp Id: VSTD002 Client Smp ID: VSTD002
Inj Date : 02-NOV-2022 12:45
Operator : PC Inst ID: voa6.i
Smp Info : VSTD002;VSTD002;1;4;
Misc Info : HS22052000V6;WATER;0;1;
Comment :
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Meth Date : 09-Nov-2022 12:35 voa6.i Quant Type: ISTD
Cal Date : 02-NOV-2022 12:24 Cal File: X110204.D
Als bottle: 6 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260V6.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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)	604501	50.0000	
135 1,4-Dioxane	88	5.609	5.609	(1.342)	2561	40.0000	39.73(M)
140 1,3-Butadiene	54	1.164	1.164	(0.278)	10864	2.00000	2.14
25 Methacrylonitrile	41	3.851	3.851	(0.921)	11355	2.00000	2.09
12 Isobutyl Alcohol	43	4.680	4.680	(1.119)	38206	40.0000	42.31
13 Acetonitrile	39	2.198	2.198	(0.526)	13535	20.0000	18.68
14 Allyl Chloride	41	2.206	2.206	(0.528)	26219	2.00000	1.92
4 Propionitrile	54	3.671	3.671	(0.878)	13929	20.0000	18.33
136 n-Hexane	57	2.772	2.772	(0.663)	11975	2.00000	2.01
72 trans-1,4-Dichloro-2-butene	53	8.905	8.905	(1.161)	3546	2.00000	1.79(M)
194 Acetaldehyde	44	1.212	1.212	(0.290)	7954	8.00000	2.34(M)
23 Chloroprene	53	1.767	1.767	(0.423)	4918	2.00000	2.12(M)
145 alpha-Methylstyrene	118	9.264	9.264	(0.959)	19985	2.00000	1.95
200 Dimethyl Disulfide	94	6.202	6.202	(0.808)	19277	2.00000	1.75(M)
139 Diethyl ether	59	1.756	1.756	(0.420)	9736	2.00000	2.04
130 Ethyl Acetate	43	3.668	3.668	(0.877)	13281	2.00000	2.09
40 Methyl Methacrylate	41	5.624	5.624	(1.345)	10257	2.00000	1.83
49 Ethyl Methacrylate	69	6.794	6.794	(1.368)	17826	2.00000	1.90
132 n-Butanol	56	5.362	5.362	(1.282)	4541	40.0000	39.62(M)
142 Tetrahydrofuran	42	3.855	3.855	(0.922)	3838	4.00000	4.00(M)

150	Allyl alcohol	57	2.772	2.772 (0.663)	11975	40.0000	39.69
166	1,2,3-Trimethylbenzene	105	9.733	9.733 (1.007)	41453	2.00000	2.05

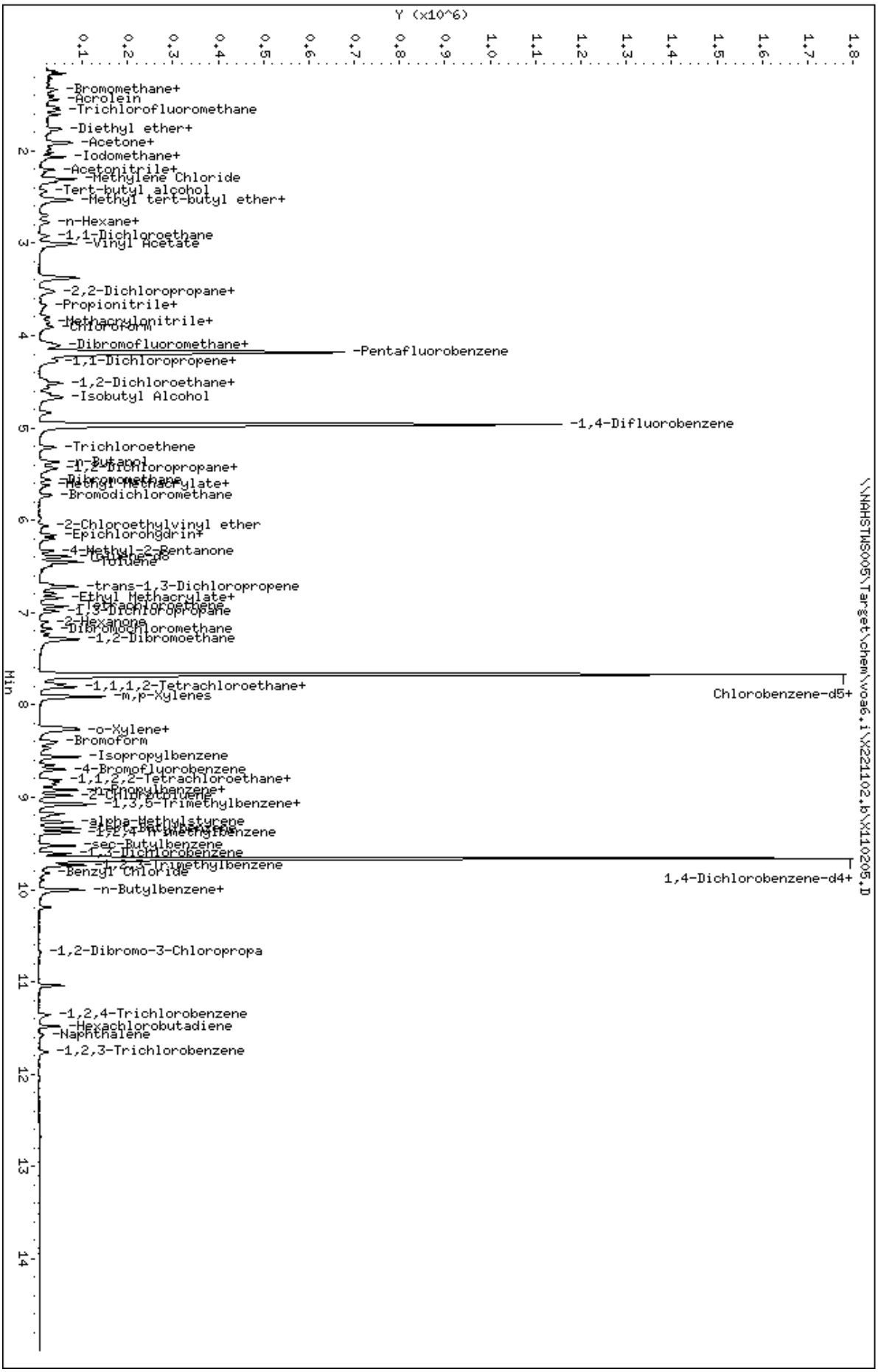
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	2 Dichlorodifluoromethane	85	0.972	0.972	(0.233)	12780	2.00000	2.87
	3 Chloromethane	50	1.077	1.077	(0.258)	14962	2.00000	3.59
	5 Vinyl Chloride	62	1.141	1.141	(0.273)	13899	2.00000	2.02
	6 Bromomethane	94	1.340	1.340	(0.321)	9723	2.00000	3.46
	7 Chloroethane	64	1.400	1.400	(0.335)	8772	2.00000	2.05
	8 Trichlorofluoromethane	101	1.557	1.557	(0.373)	17759	2.00000	2.03
	9 Acrolein	56	1.441	1.441	(0.345)	1752	4.00000	6.50(M)
	10 Acetone	43	1.973	1.973	(0.472)	13965	4.00000	5.15
	11 1,1-Dichloroethene	96	1.910	1.910	(0.457)	10481	2.00000	2.03
	15 Iodomethane	142	2.022	2.022	(0.484)	13190	4.00000	4.30
	16 Acrylonitrile	53	2.562	2.562	(0.613)	7144	4.00000	3.61(M)
	17 Methylene Chloride	84	2.303	2.303	(0.551)	14098	2.00000	2.14(M)
	18 Methyl tert-butyl ether	73	2.536	2.536	(0.606)	36629	2.00000	2.02
	19 Carbon Disulfide	76	2.067	2.067	(0.494)	63785	4.00000	4.08
	20 trans-1,2-Dichloroethene	96	2.536	2.536	(0.606)	11689	2.00000	2.04
	21 Vinyl Acetate	43	3.012	3.012	(0.720)	56348	4.00000	3.50(M)
	22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	20089	2.00000	1.95
	24 2-Butanone	43	3.660	3.660	(0.875)	8400	4.00000	3.88(MH)
	26 2,2-Dichloropropane	77	3.506	3.506	(0.839)	18203	2.00000	3.29
	27 cis-1,2-Dichloroethene	96	3.529	3.529	(0.844)	13398	2.00000	2.00
	28 Chloroform	83	3.908	3.908	(0.935)	23273	2.00000	2.03
	29 Bromochloromethane	128	3.803	3.803	(0.909)	7515	2.00000	2.09
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	12360	2.00000	2.57
	31 1,1,1-Trichloroethane	97	4.080	4.080	(0.976)	18036	2.00000	2.04
	32 1,1-Dichloropropene	75	4.286	4.286	(0.863)	14904	2.00000	1.97
	33 1,2-Dichloroethane	62	4.564	4.564	(0.919)	16845	2.00000	1.96
	34 Carbon Tetrachloride	117	4.267	4.267	(0.860)	14550	2.00000	2.23(H)
$	35 1,2-Dichloroethane-d4	65	4.481	4.481	(1.072)	14779	2.00000	2.53
*	36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	943010	50.0000	
	37 Benzene	78	4.515	4.515	(0.909)	46317	2.00000	1.97
	38 Trichloroethene	130	5.216	5.216	(1.051)	13294	2.00000	2.02
	39 Bromodichloromethane	83	5.733	5.733	(1.155)	16139	2.00000	1.94
	41 2-Chloroethylvinyl ether	63	6.059	6.059	(1.220)	10236	4.00000	3.70
	42 1,2-Dichloropropane	63	5.445	5.445	(1.097)	12613	2.00000	1.98(M)
	44 Dibromomethane	93	5.561	5.561	(1.120)	8700	2.00000	2.02(M)
	45 4-Methyl-2-Pentanone	43	6.340	6.340	(0.827)	22181	4.00000	3.91(M)
	46 cis-1,3-Dichloropropene	75	6.161	6.161	(1.241)	20001	2.00000	1.91
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	882434	50.0000	
$	48 Toluene-d8	98	6.393	6.393	(0.833)	43508	2.00000	2.04(M)
	50 Toluene	91	6.453	6.453	(0.841)	51935	2.00000	2.05
	51 trans-1,3-Dichloropropene	75	6.689	6.689	(1.347)	15877	2.00000	1.76
	52 2-Hexanone	43	7.101	7.101	(0.926)	13629	4.00000	3.57(M)
	53 1,1,2-Trichloroethane	83	6.843	6.843	(0.892)	10668	2.00000	2.10
	54 1,3-Dichloropropane	76	6.981	6.981	(0.910)	20041	2.00000	1.99
	55 Dibromochloromethane	129	7.180	7.180	(0.936)	11693	2.00000	1.79
	56 Tetrachloroethene	164	6.929	6.929	(0.903)	11325	2.00000	2.76
	57 1,2-Dibromoethane	107	7.266	7.266	(0.947)	12215	2.00000	1.93
	58 1-Chlorohexane	55	7.705	7.705	(1.552)	10330	2.00000	1.94(H)
	59 Chlorobenzene	112	7.694	7.694	(1.003)	34296	2.00000	2.01
	60 1,1,1,2-Tetrachloroethane	131	7.772	7.772	(1.013)	11493	2.00000	1.89
	61 Ethylbenzene	106	7.806	7.806	(1.018)	18129	2.00000	2.09
	62 m,p-Xylenes	106	7.911	7.911	(1.031)	43934	4.00000	4.07

63 o-Xylene	106	8.245	8.245 (1.075)	21575	2.00000	2.05
64 Styrene	104	8.271	8.271 (1.078)	32700	2.00000	1.85

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
66	Bromoform	173	8.417	8.417	(1.097)	6935	2.00000	3.95(T)
67	Isopropylbenzene	105	8.563	8.563	(1.116)	53363	2.00000	2.07
68	1,1,2,2-Tetrachloroethane	83	8.841	8.841	(0.915)	15001	2.00000	2.11
$ 69	4-Bromofluorobenzene	95	8.698	8.698	(1.134)	17955	2.00000	2.43
* 70	1,4-Dichlorobenzene-d4	152	9.666	9.666	(1.000)	427897	50.0000	
71	1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	11024	2.00000	2.04(M)
73	n-Propylbenzene	91	8.920	8.920	(0.923)	60136	2.00000	2.12
74	Bromobenzene	156	8.815	8.815	(0.912)	14381	2.00000	1.95
75	1,3,5-Trimethylbenzene	105	9.069	9.069	(0.938)	42106	2.00000	2.09
76	2-Chlorotoluene	91	8.983	8.983	(0.929)	37507	2.00000	2.09
77	4-Chlorotoluene	91	9.084	9.084	(0.940)	40982	2.00000	2.01
78	tert-Butylbenzene	119	9.339	9.339	(0.966)	36475	2.00000	2.73
79	1,2,4-Trimethylbenzene	105	9.384	9.384	(0.971)	42928	2.00000	2.06
81	sec-Butylbenzene	105	9.523	9.523	(0.985)	49508	2.00000	2.95
82	p-Isopropyltoluene	119	9.651	9.651	(0.998)	42506	2.00000	2.06
83	1,3-Dichlorobenzene	146	9.609	9.609	(0.994)	25055	2.00000	2.03
84	1,4-Dichlorobenzene	146	9.684	9.684	(1.002)	26046	2.00000	2.04
86	Benzyl Chloride	91	9.819	9.819	(1.280)	12986	2.00000	5.07
87	n-Butylbenzene	91	10.003	10.003	(1.035)	35127	2.00000	2.01
88	1,2-Dichlorobenzene	146	10.003	10.003	(1.035)	23000	2.00000	1.98
89	1,2-Dibromo-3-Chloropropane	155	10.681	10.681	(1.105)	1348	2.00000	4.44(M)
90	1,2,4-Trichlorobenzene	180	11.360	11.360	(1.175)	10188	2.00000	1.89(M)
91	Hexachlorobutadiene	225	11.480	11.480	(1.188)	7459	2.00000	1.88
92	Naphthalene	128	11.570	11.570	(1.197)	16867	2.00000	2.01(M)
93	1,2,3-Trichlorobenzene	180	11.753	11.753	(1.216)	7619	2.00000	1.96
M 94	1,2-Dichloroethylene (total)	96				25087	4.00000	
M 95	Xylenes (total)	106				65509	6.00000	
141	Cyclohexane	56	4.121	4.121	(0.986)	15540	2.00000	1.74(H)
138	Freon TF	101	1.910	1.910	(0.457)	10801	2.00000	1.78
147	Methylcyclohexane	55	5.407	5.407	(1.089)	24111	2.00000	1.84(MH)
146	Methyl Acetate	43	2.243	2.243	(0.537)	6060	2.00000	1.65
148	Tert-Butyl alcohol	59	2.438	2.438	(0.583)	22038	40.0000	42.66(a)
149	Isopropyl Alcohol	45	2.105	2.105	(0.503)	10997	40.0000	39.08(T)

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\X221102.b\X110205.D
Date : 02-NOV-2022 12:45
Client ID: VSTD002
Sample Info: VSTD002;VSTD002;1;4;
Purge Volume: 5.0
Column phase: DB624

\\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110205.D

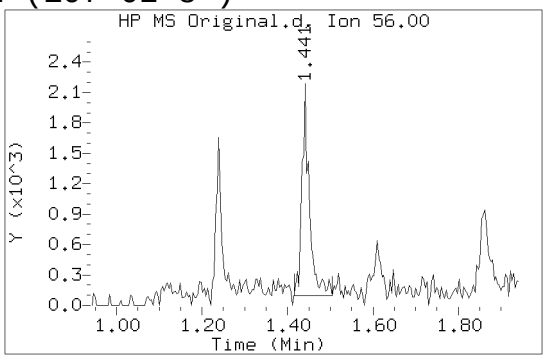
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Operator: PC
Column diameter: 0.18

Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110205.D
Inj Date : 02-NOV-2022 12:45
InstruID : voa6.i
LabSampID : VSTD002

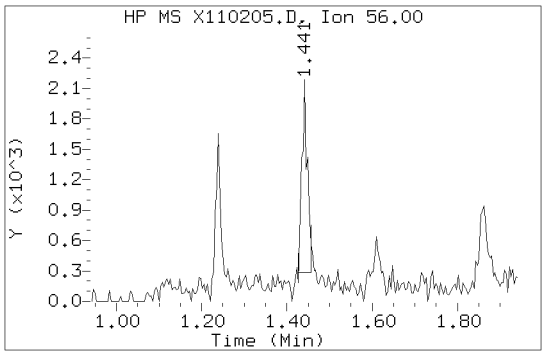
Acrolein (107-02-8)

Reason Code:

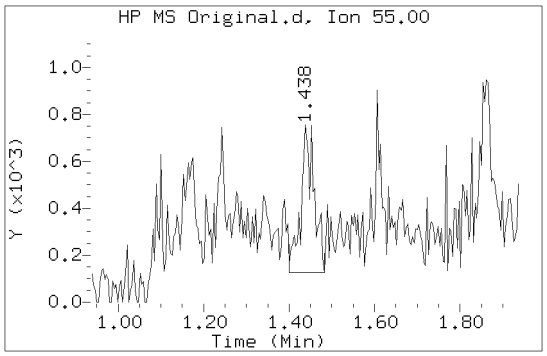
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08-Nov-2022
15:18
linh
pham



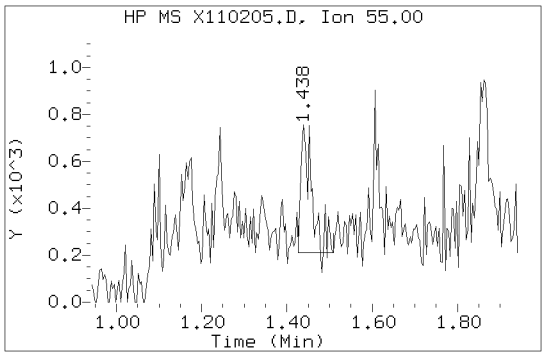
AFTER
MASS
56
AREA
1752
HEIGHT
1903
09-Nov-2022
12:35



BEFORE
MASS
55
AREA
1376
HEIGHT
630
08-Nov-2022
15:18
linh
pham



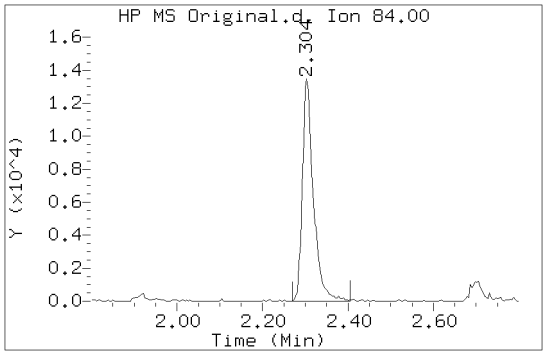
AFTER
MASS
55
AREA
969
HEIGHT
544
09-Nov-2022
12:35



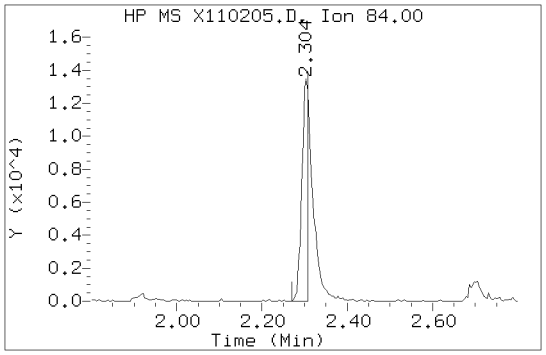
Methylene Chloride (75-09-2)

Reason Code:

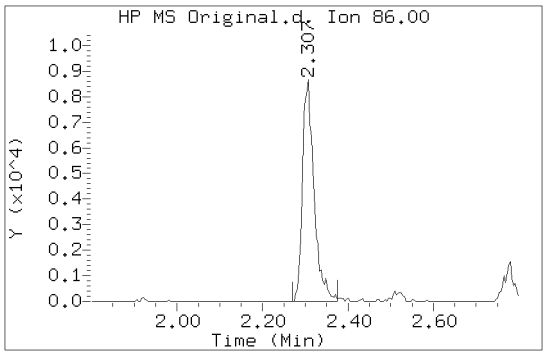
BEFORE
MASS
84
AREA
24683
HEIGHT
13478
08-Nov-2022
15:18
linh
pham



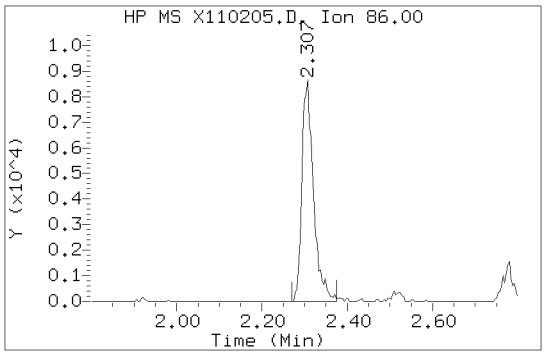
AFTER
MASS
84
AREA
14098
HEIGHT
13478
09-Nov-2022
12:35



BEFORE
MASS
86
AREA
16635
HEIGHT
8666
08-Nov-2022
15:18
linh
pham



AFTER
MASS
86
AREA
16635
HEIGHT
8666
09-Nov-2022
12:35



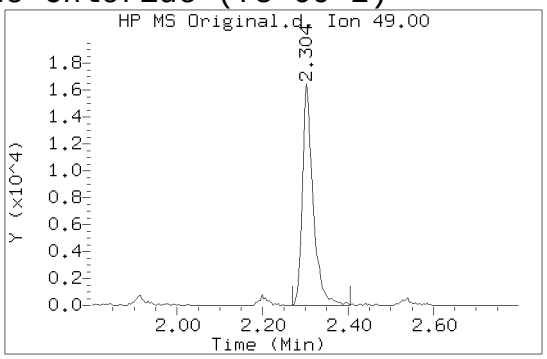
Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110205.D
Inj Date : 02-NOV-2022 12:45
InstruID : voa6.i
LabSampID : VSTD002

Methylene Chloride (75-09-2)

Reason Code:

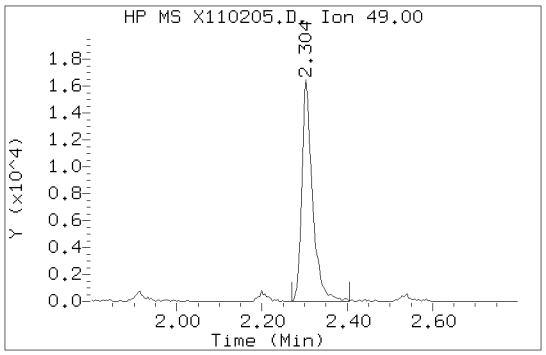
BEFORE

MASS
49
AREA
29254
HEIGHT
16480
08-Nov-2022
15:18
linh
pham



AFTER

MASS
49
AREA
29254
HEIGHT
16480
09-Nov-2022
12:35

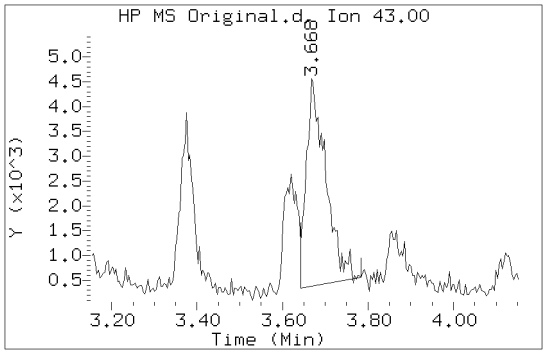


2-Butanone (78-93-3)

Reason Code:

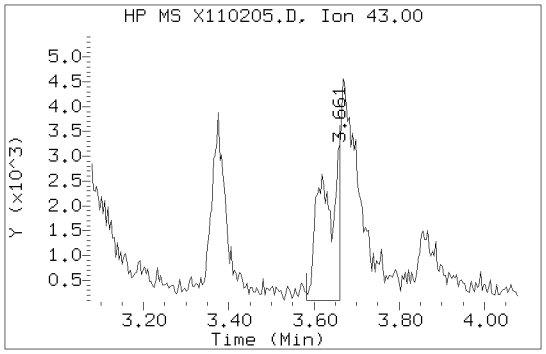
BEFORE

MASS
43
AREA
13281
HEIGHT
4174
08-Nov-2022
15:18
linh
pham



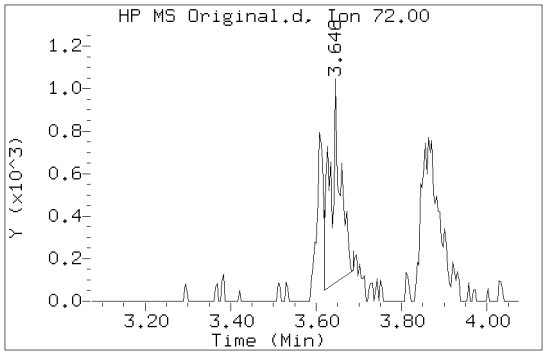
AFTER

MASS
43
AREA
8400
HEIGHT
3135
09-Nov-2022
12:35



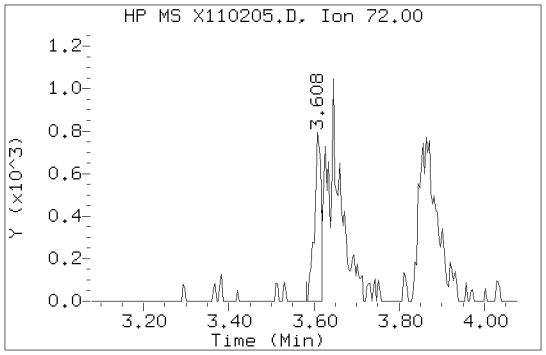
BEFORE

MASS
72
AREA
1578
HEIGHT
958
08-Nov-2022
15:18
linh
pham



AFTER

MASS
72
AREA
859
HEIGHT
795
09-Nov-2022
12:35

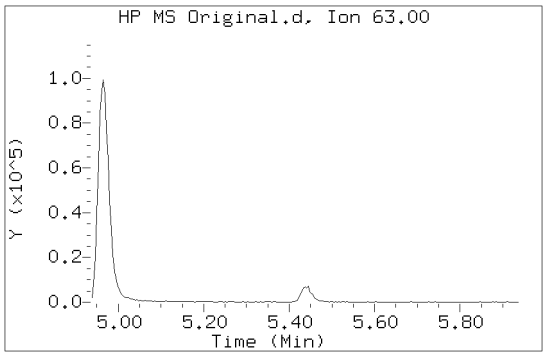


1,2-Dichloropropane (78-87-5)

Reason Code:

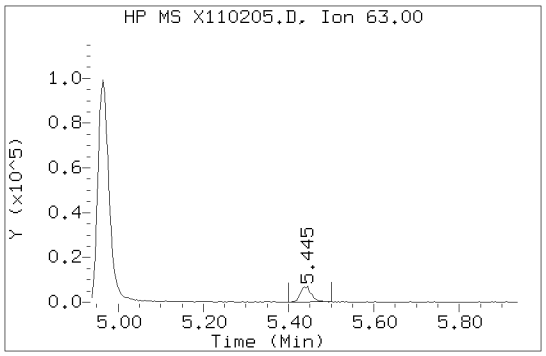
BEFORE

MASS
63
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

MASS
63
AREA
12613
HEIGHT
6993
09-Nov-2022
12:35



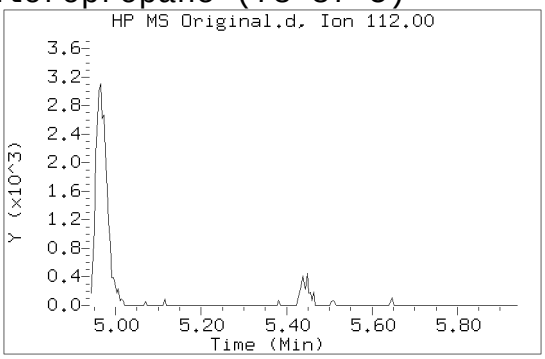
Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110205.D
Inj Date : 02-NOV-2022 12:45
InstruID : voa6.i
LabSampID : VSTD002

1,2-Dichloropropane (78-87-5)

Reason Code:

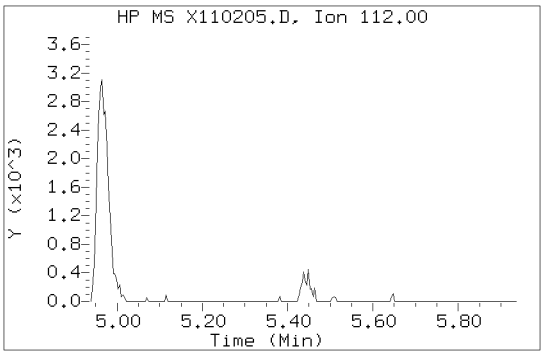
BEFORE

MASS
112
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

MASS
112
AREA
0
HEIGHT
0
09-Nov-2022
12:35

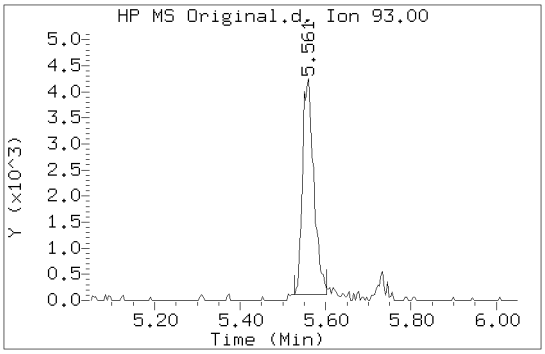


Dibromomethane (74-95-3)

Reason Code:

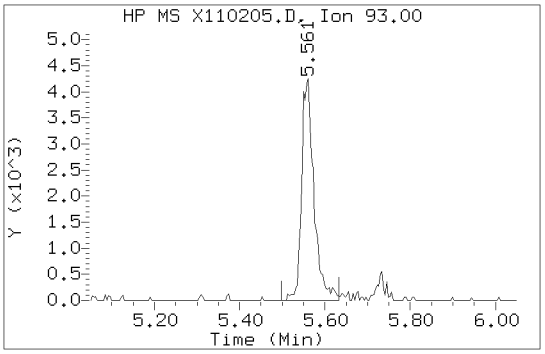
BEFORE

MASS
93
AREA
7759
HEIGHT
4138
08-Nov-2022
15:18
linh
pham



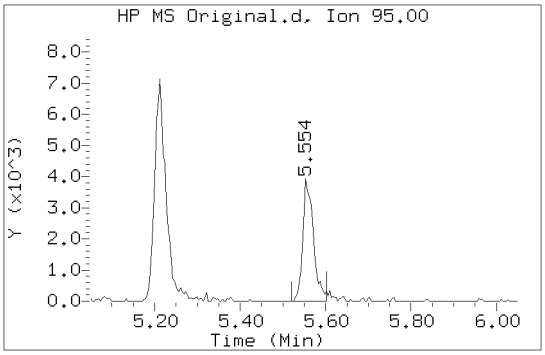
AFTER

MASS
93
AREA
8700
HEIGHT
4251
09-Nov-2022
12:35



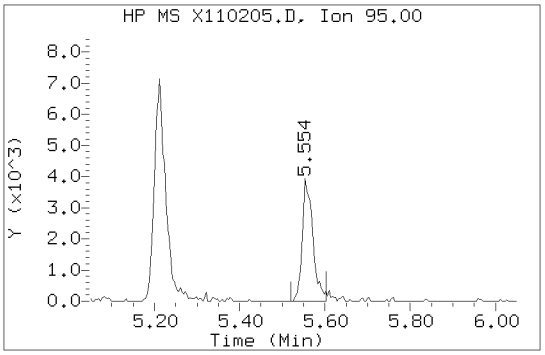
BEFORE

MASS
95
AREA
6924
HEIGHT
3938
08-Nov-2022
15:18
linh
pham



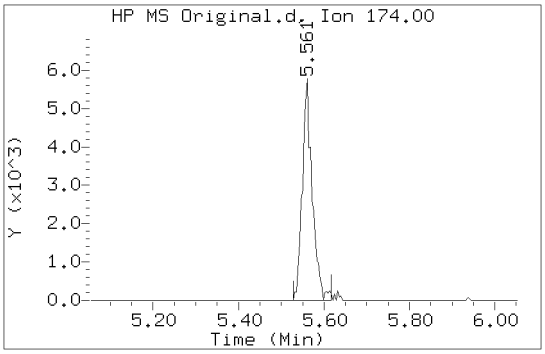
AFTER

MASS
95
AREA
6924
HEIGHT
3938
09-Nov-2022
12:35



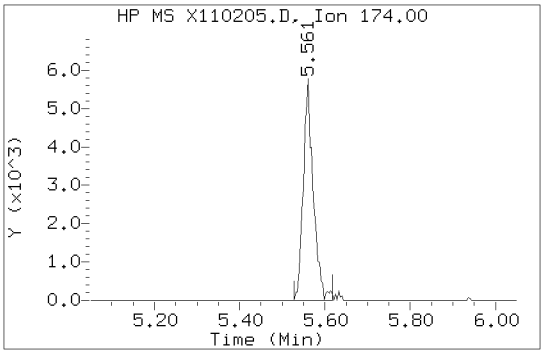
BEFORE

MASS
174
AREA
9499
HEIGHT
5777
08-Nov-2022
15:18
linh
pham



AFTER

MASS
174
AREA
9499
HEIGHT
5777
09-Nov-2022
12:35



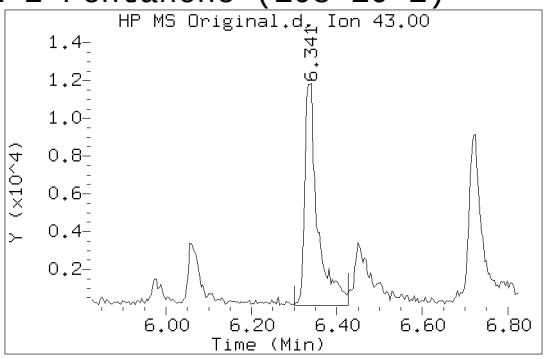
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Inj Date : 02-NOV-2022 12:45
InstruID : voa6.i
LabSampID : VSTD002

4-Methyl-2-Pentanone (108-10-1)

Reason Code:

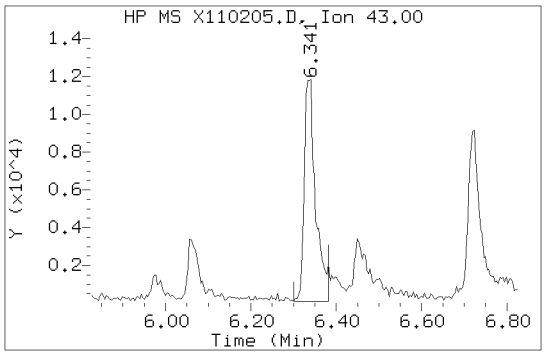
BEFORE

MASS
43
AREA
24781
HEIGHT
11718
08-Nov-2022
15:18
linh
pham



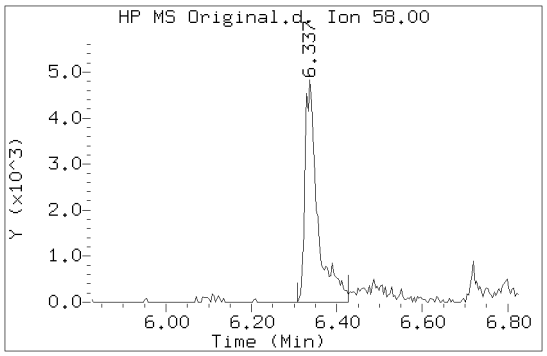
AFTER

MASS
43
AREA
22181
HEIGHT
11718
09-Nov-2022
12:35



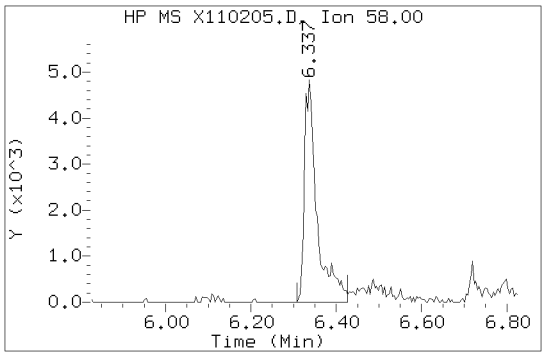
BEFORE

MASS
58
AREA
10097
HEIGHT
4830
08-Nov-2022
15:18
linh
pham



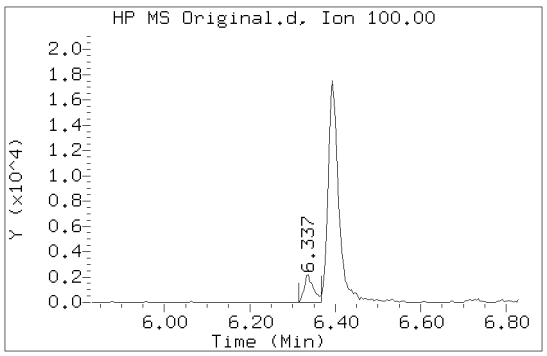
AFTER

MASS
58
AREA
10097
HEIGHT
4830
09-Nov-2022
12:35



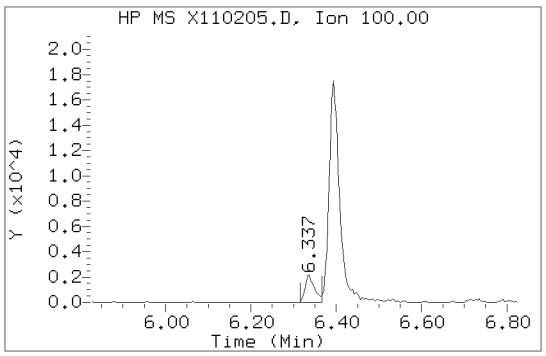
BEFORE

MASS
100
AREA
3394
HEIGHT
2196
08-Nov-2022
15:18
linh
pham



AFTER

MASS
100
AREA
3394
HEIGHT
2196
09-Nov-2022
12:35

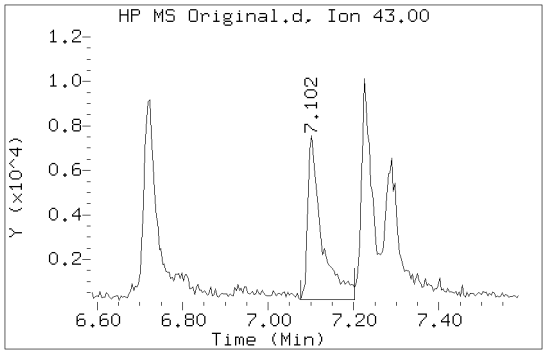


2-Hexanone (591-78-6)

Reason Code:

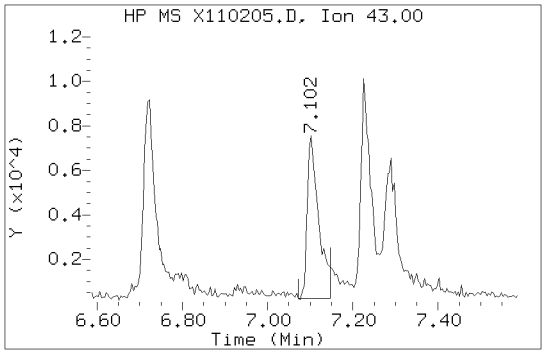
BEFORE

MASS
43
AREA
16811
HEIGHT
7370
08-Nov-2022
15:18
linh
pham



AFTER

MASS
43
AREA
13629
HEIGHT
7311
09-Nov-2022
12:35

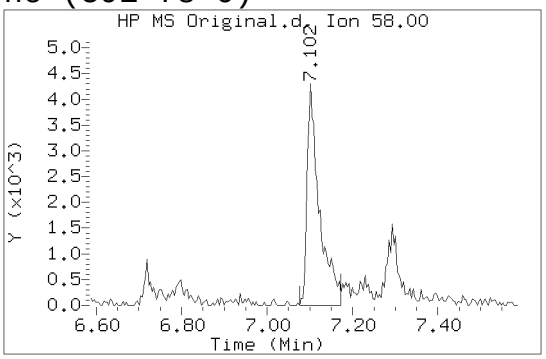


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Inj Date : 02-NOV-2022 12:45
InstruID : voa6.i
LabSampID : VSTD002

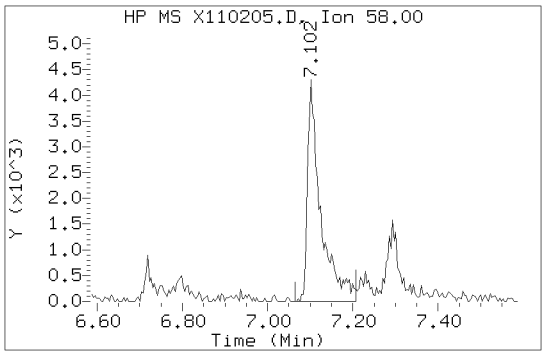
2-Hexanone (591-78-6)

Reason Code:

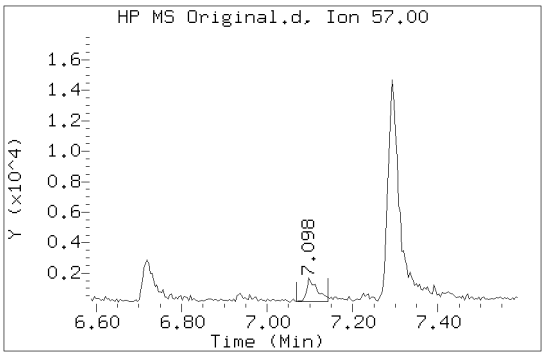
BEFORE
MASS
58
AREA
8580
HEIGHT
4304
08-Nov-2022
15:18
linh
pham



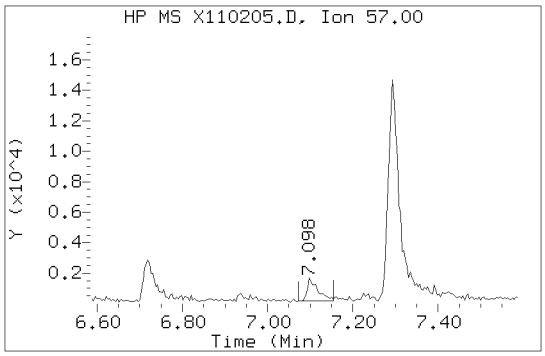
AFTER
MASS
58
AREA
9264
HEIGHT
4304
09-Nov-2022
12:35



BEFORE
MASS
57
AREA
2690
HEIGHT
1587
08-Nov-2022
15:18
linh
pham



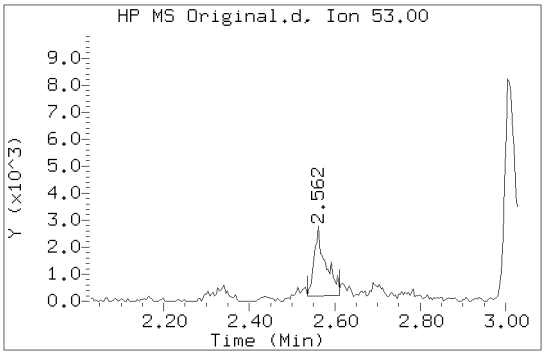
AFTER
MASS
57
AREA
2683
HEIGHT
1557
09-Nov-2022
12:35



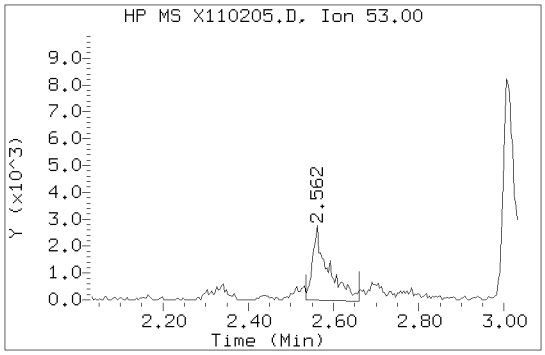
Acrylonitrile (107-13-1)

Reason Code:

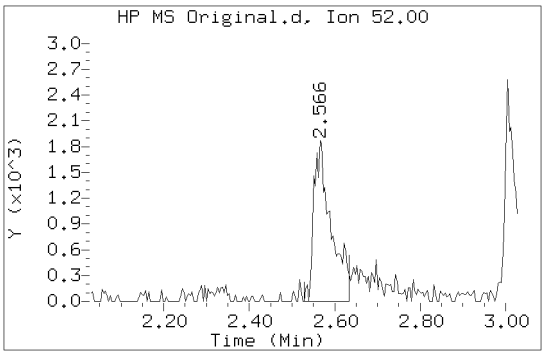
BEFORE
MASS
53
AREA
4792
HEIGHT
2567
08-Nov-2022
15:18
linh
pham



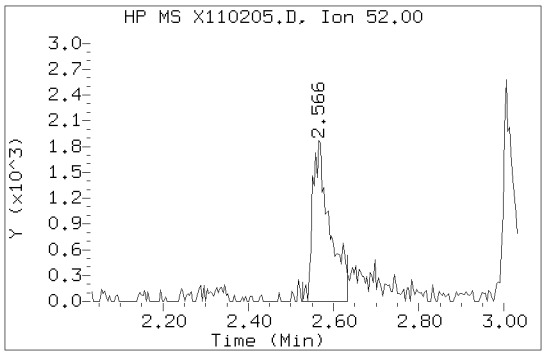
AFTER
MASS
53
AREA
7144
HEIGHT
2781
09-Nov-2022
12:35



BEFORE
MASS
52
AREA
5242
HEIGHT
1874
08-Nov-2022
15:18
linh
pham



AFTER
MASS
52
AREA
5242
HEIGHT
1874
09-Nov-2022
12:35

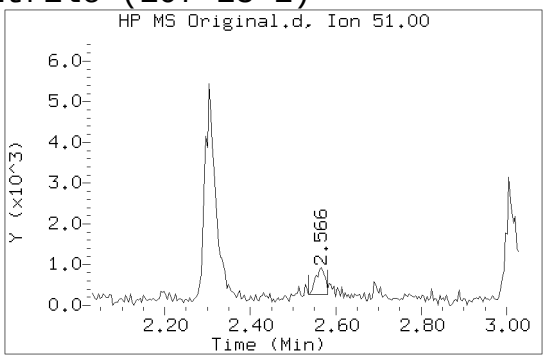


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Inj Date : 02-NOV-2022 12:45
InstruID : voa6.i
LabSampID : VSTD002

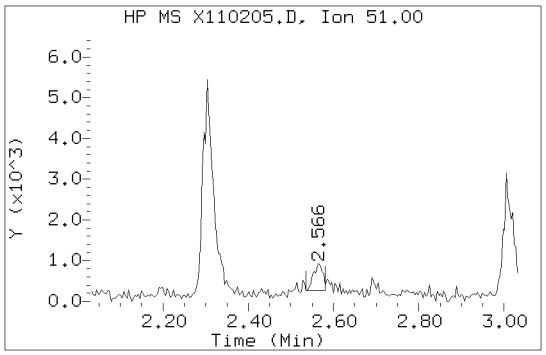
Acrylonitrile (107-13-1)

Reason Code:

BEFORE
MASS
51
AREA
989
HEIGHT
652
08-Nov-2022
15:18
linh
pham



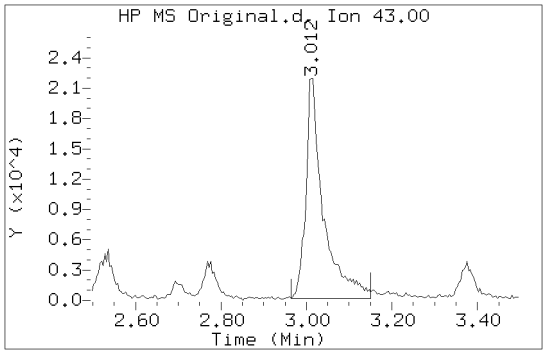
AFTER
MASS
51
AREA
989
HEIGHT
652
09-Nov-2022
12:35



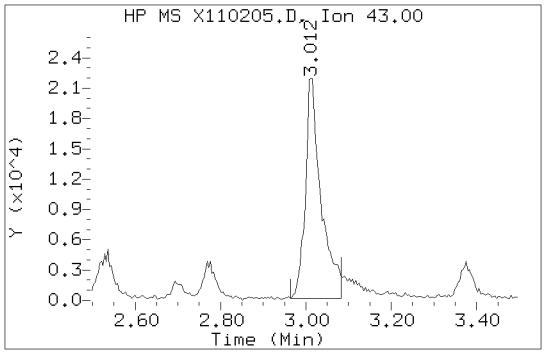
Vinyl Acetate (108-05-4)

Reason Code:

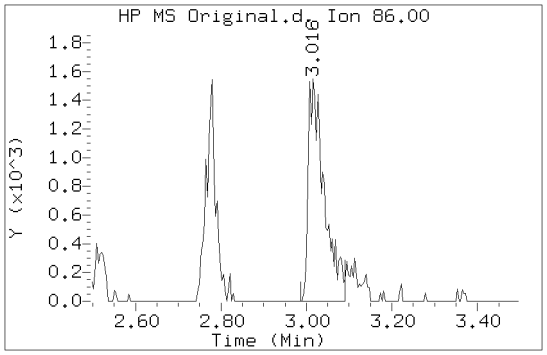
BEFORE
MASS
43
AREA
62234
HEIGHT
21752
08-Nov-2022
15:18
linh
pham



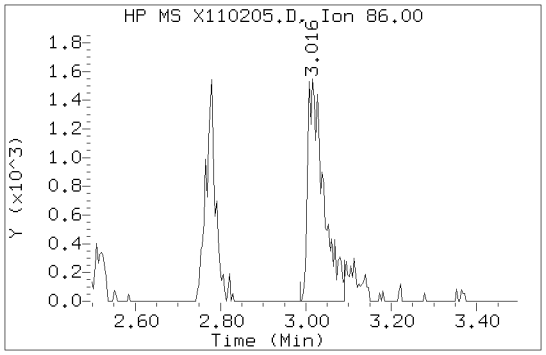
AFTER
MASS
43
AREA
56348
HEIGHT
21752
09-Nov-2022
12:35



BEFORE
MASS
86
AREA
4018
HEIGHT
1548
08-Nov-2022
15:18
linh
pham



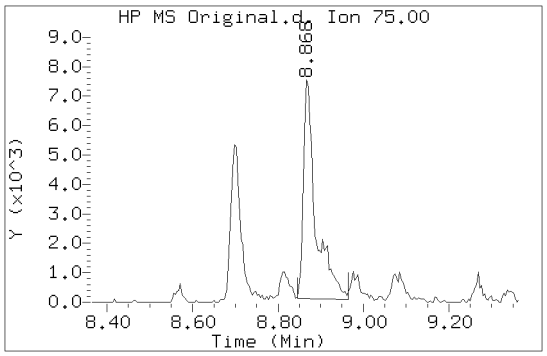
AFTER
MASS
86
AREA
4018
HEIGHT
1548
09-Nov-2022
12:35



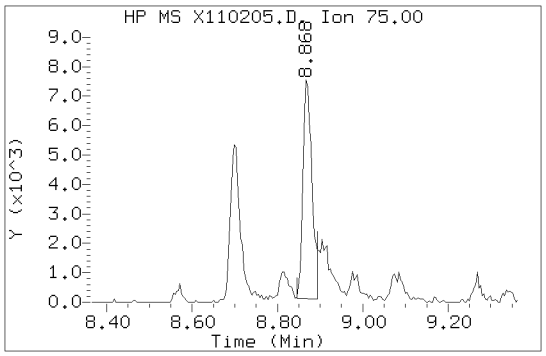
1,2,3-Trichloropropane (96-18-4)

Reason Code:

BEFORE
MASS
75
AREA
14969
HEIGHT
7421
08-Nov-2022
15:18
linh
pham



AFTER
MASS
75
AREA
11024
HEIGHT
7421
09-Nov-2022
12:35



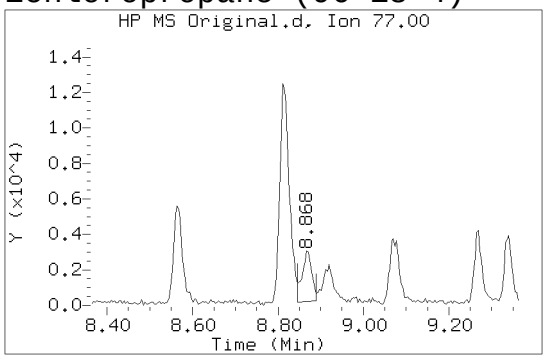
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Inj Date : 02-NOV-2022 12:45
InstruID : voa6.i
LabSampID : VSTD002

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

Reason Code:

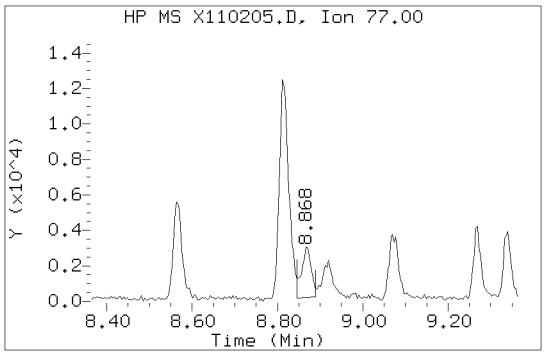
BEFORE

MASS
77
AREA
4699
HEIGHT
2862
08-Nov-2022
15:18
linh
pham



AFTER

MASS
77
AREA
4699
HEIGHT
2862
09-Nov-2022
12:35

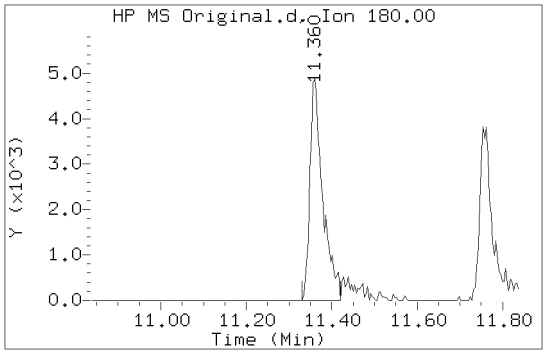


1,2,4-Trichlorobenzene (120-82-1)

Reason Code:

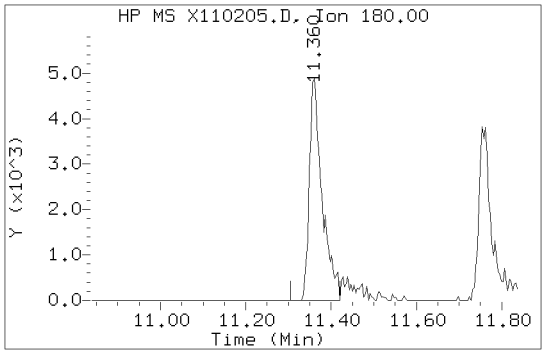
BEFORE

MASS
180
AREA
10187
HEIGHT
4880
08-Nov-2022
15:18
linh
pham



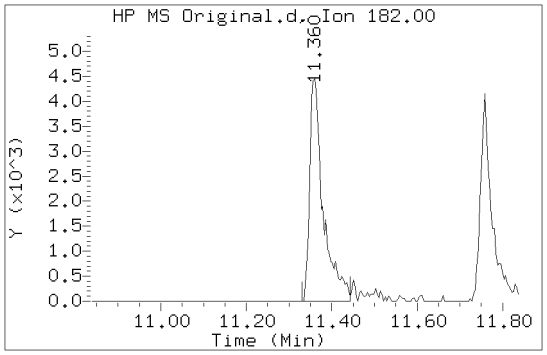
AFTER

MASS
180
AREA
10188
HEIGHT
4880
09-Nov-2022
12:35



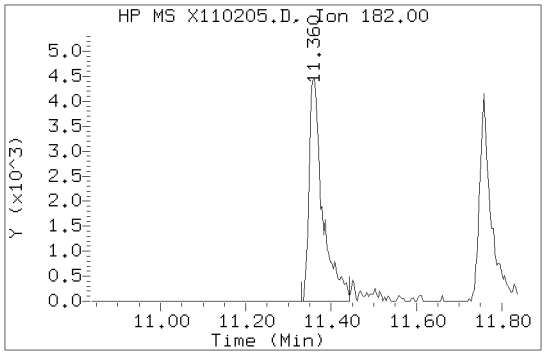
BEFORE

MASS
182
AREA
9809
HEIGHT
4447
08-Nov-2022
15:18
linh
pham



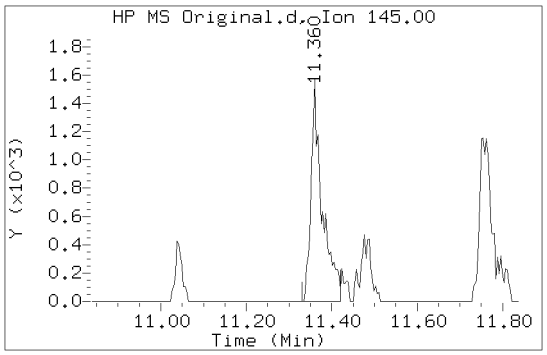
AFTER

MASS
182
AREA
9809
HEIGHT
4447
09-Nov-2022
12:35



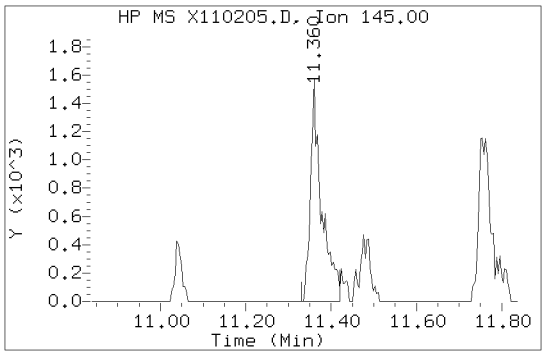
BEFORE

MASS
145
AREA
2836
HEIGHT
1567
08-Nov-2022
15:18
linh
pham



AFTER

MASS
145
AREA
2836
HEIGHT
1567
09-Nov-2022
12:35

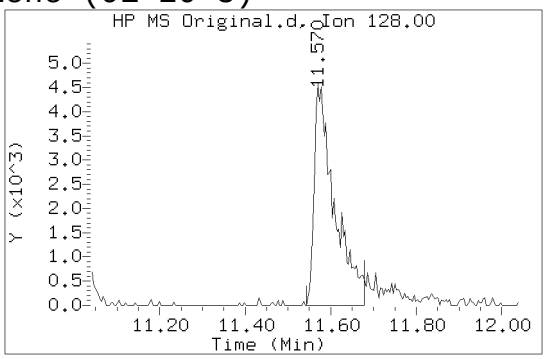


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Inj Date : 02-NOV-2022 12:45
InstruID : voa6.i
LabSampID : VSTD002

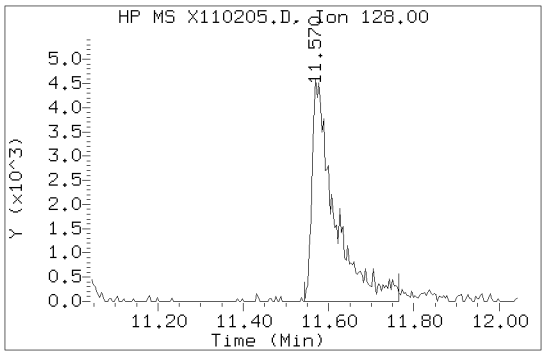
Naphthalene (91-20-3)

Reason Code:

BEFORE
MASS
128
AREA
15066
HEIGHT
4578
08-Nov-2022
15:18
linh
pham



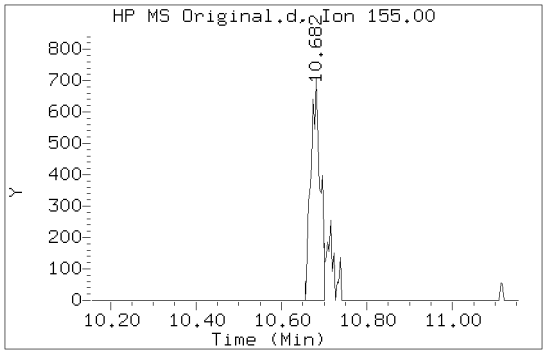
AFTER
MASS
128
AREA
16867
HEIGHT
4578
09-Nov-2022
12:35



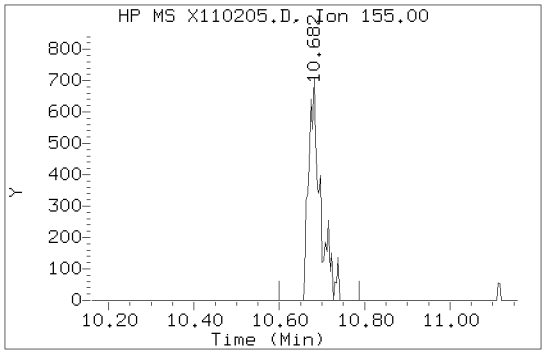
1,2-Dibromo-3-Chloropropane (96-12-8)

Reason Code:

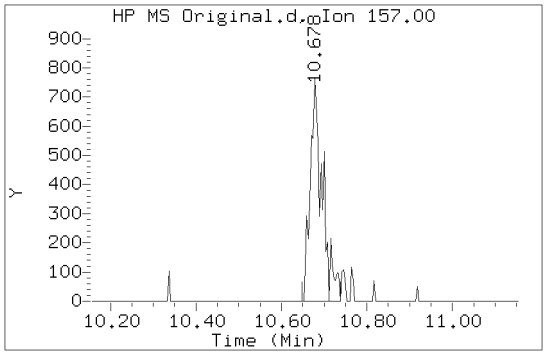
BEFORE
MASS
155
AREA
1075
HEIGHT
706
08-Nov-2022
15:18
linh
pham



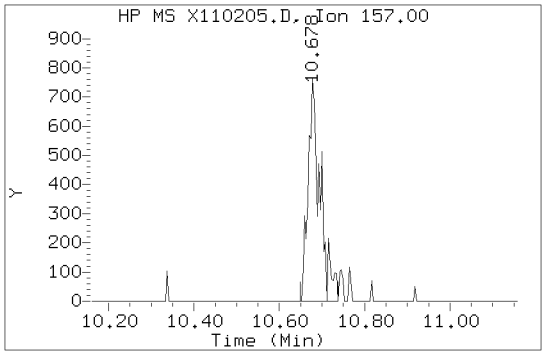
AFTER
MASS
155
AREA
1348
HEIGHT
706
09-Nov-2022
12:35



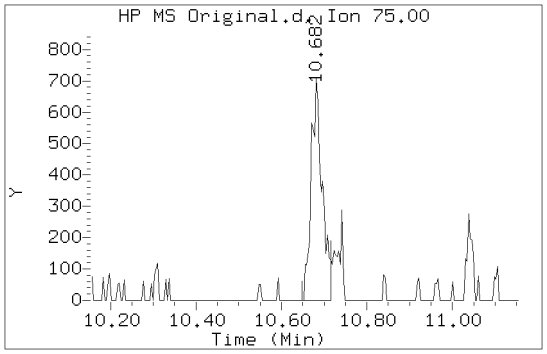
BEFORE
MASS
157
AREA
1508
HEIGHT
762
08-Nov-2022
15:18
linh
pham



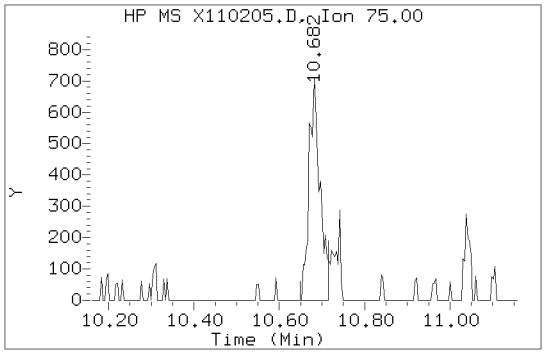
AFTER
MASS
157
AREA
1508
HEIGHT
762
09-Nov-2022
12:35



BEFORE
MASS
75
AREA
1268
HEIGHT
707
08-Nov-2022
15:18
linh
pham



AFTER
MASS
75
AREA
1268
HEIGHT
707
09-Nov-2022
12:35



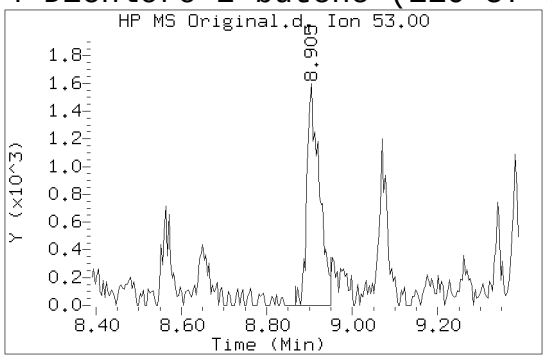
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Inj Date : 02-NOV-2022 12:45
InstruID : voa6.i
LabSampID : VSTD002

trans-1,4-Dichloro-2-butene (110-57-6)

Reason Code:

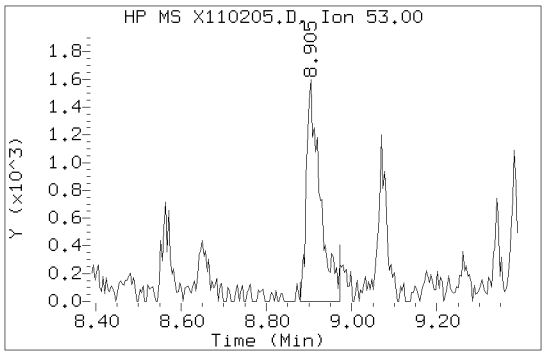
BEFORE

MASS
53
AREA
3261
HEIGHT
1598
08-Nov-2022
15:18
linh
pham



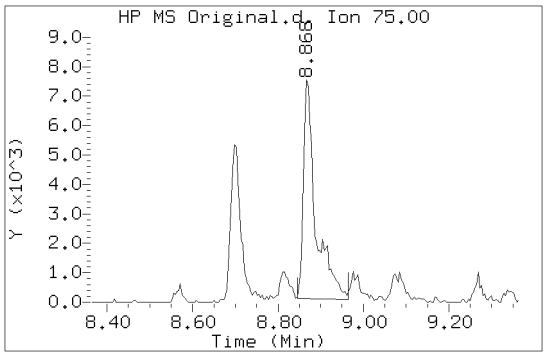
AFTER

MASS
53
AREA
3546
HEIGHT
1598
09-Nov-2022
12:35



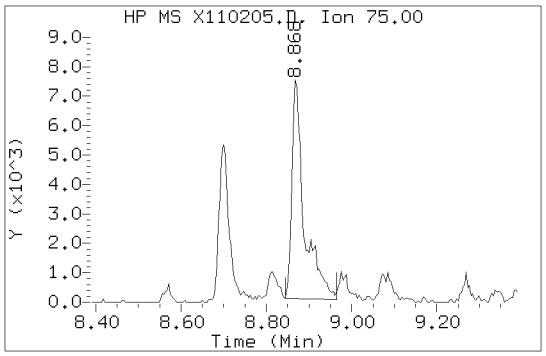
BEFORE

MASS
75
AREA
14969
HEIGHT
7421
08-Nov-2022
15:18
linh
pham



AFTER

MASS
75
AREA
14969
HEIGHT
7421
09-Nov-2022
12:35

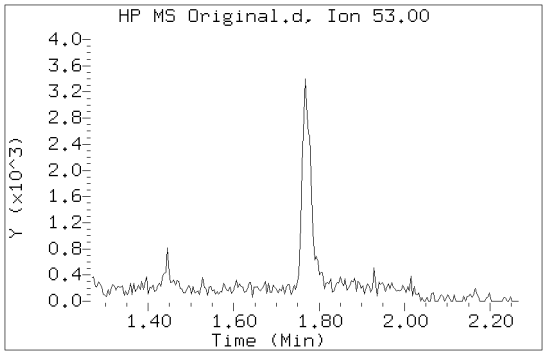


Chloroprene (126-99-8)

Reason Code:

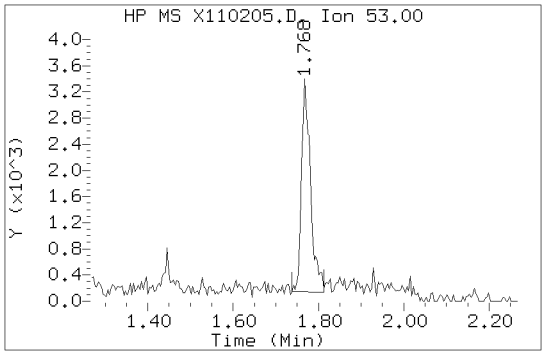
BEFORE

MASS
53
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



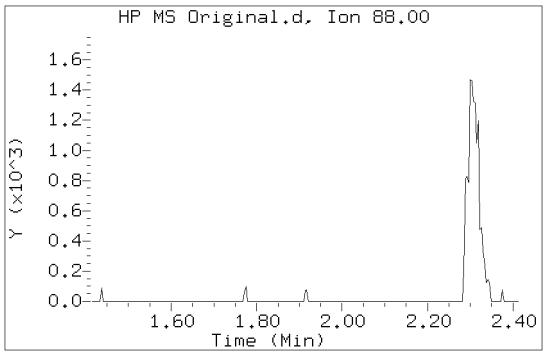
AFTER

MASS
53
AREA
4918
HEIGHT
3253
09-Nov-2022
12:35



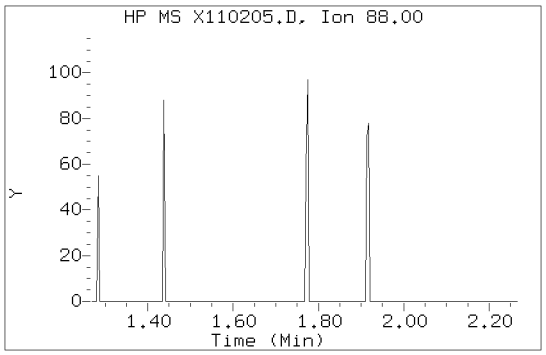
BEFORE

MASS
88
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

MASS
88
AREA
0
HEIGHT
0
09-Nov-2022
12:35

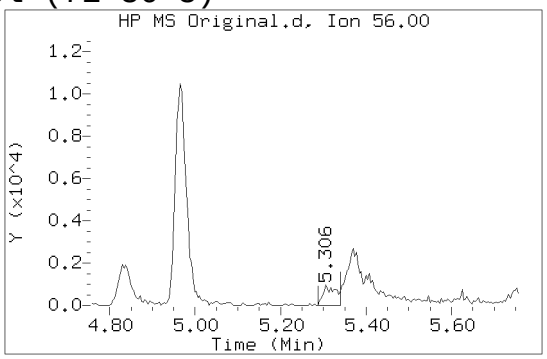


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Inj Date : 02-NOV-2022 12:45
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LabSampID : VSTD002

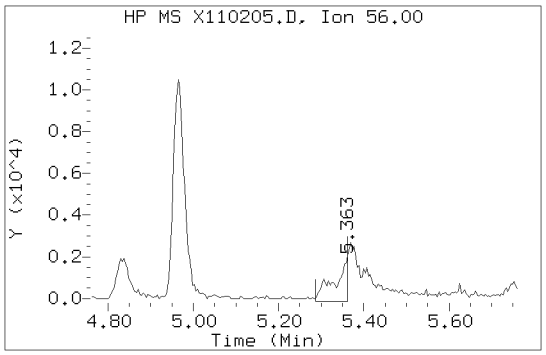
n-Butanol (71-36-3)

Reason Code:

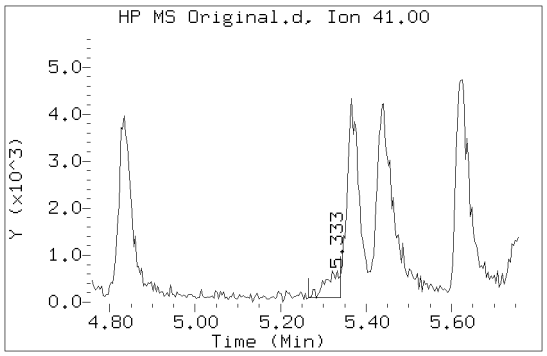
BEFORE
MASS
56
AREA
1998
HEIGHT
957
08-Nov-2022
15:18
linh
pham



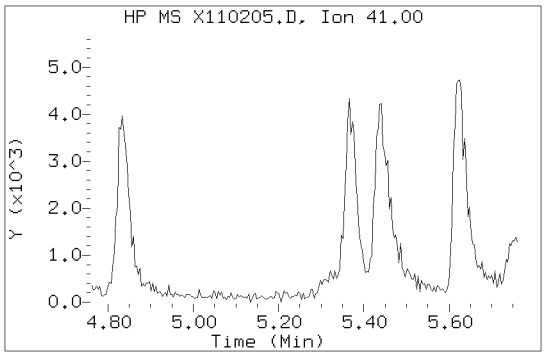
AFTER
MASS
56
AREA
4541
HEIGHT
2171
09-Nov-2022
12:35



BEFORE
MASS
41
AREA
1277
HEIGHT
572
08-Nov-2022
15:18
linh
pham



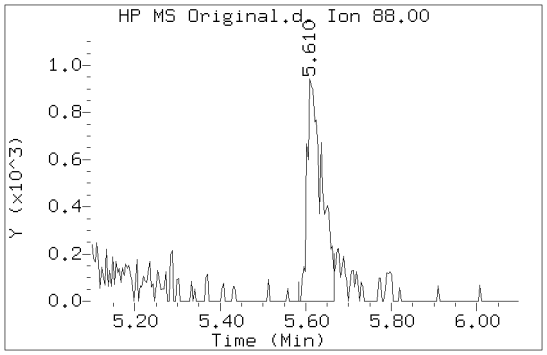
AFTER
MASS
41
AREA
0
HEIGHT
0
09-Nov-2022
12:35



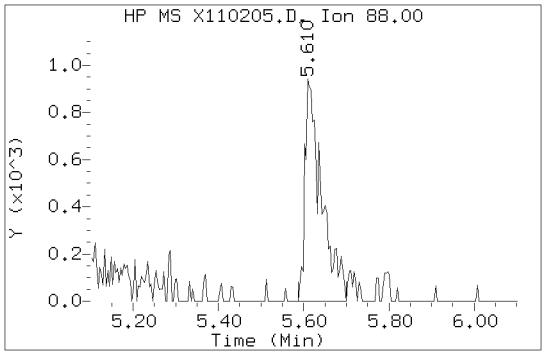
1,4-Dioxane ()

Reason Code:

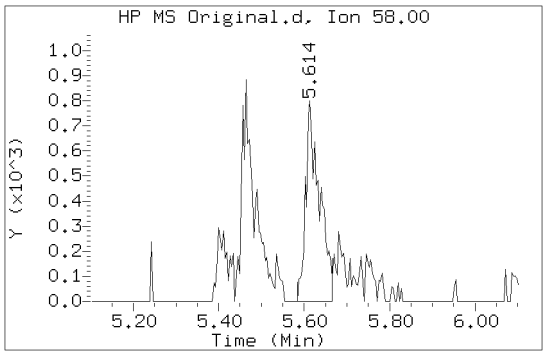
BEFORE
MASS
88
AREA
2287
HEIGHT
942
08-Nov-2022
15:18
linh
pham



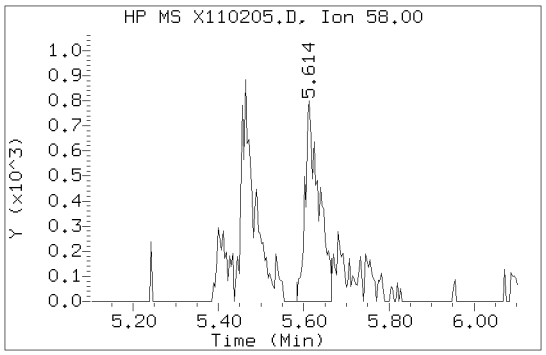
AFTER
MASS
88
AREA
2561
HEIGHT
942
09-Nov-2022
12:35



BEFORE
MASS
58
AREA
1813
HEIGHT
799
08-Nov-2022
15:18
linh
pham



AFTER
MASS
58
AREA
1813
HEIGHT
799
09-Nov-2022
12:35

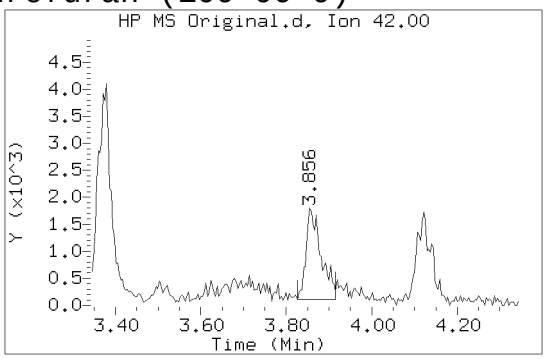


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Inj Date : 02-NOV-2022 12:45
InstruID : voa6.i
LabSampID : VSTD002

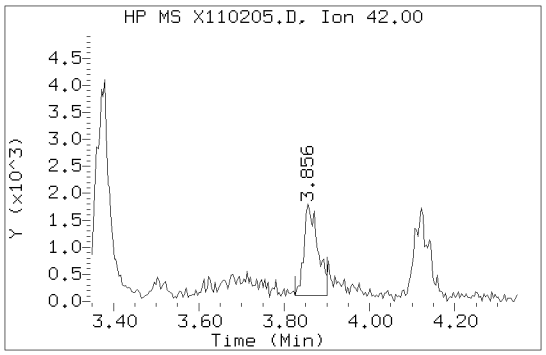
Tetrahydrofuran (109-99-9)

Reason Code:

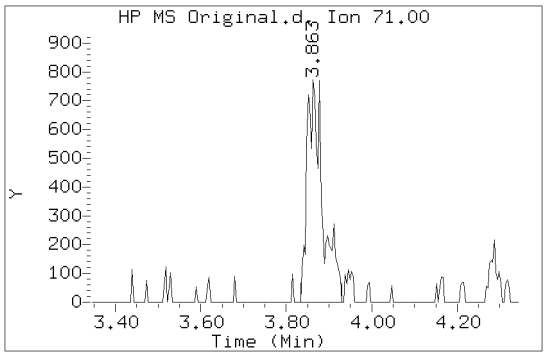
BEFORE
MASS
42
AREA
4153
HEIGHT
1695
08-Nov-2022
15:18
linh
pham



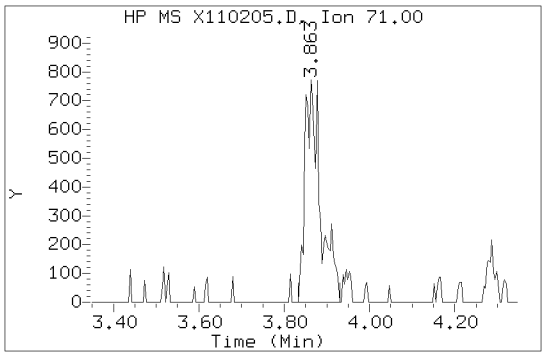
AFTER
MASS
42
AREA
3838
HEIGHT
1695
09-Nov-2022
12:35



BEFORE
MASS
71
AREA
1969
HEIGHT
772
08-Nov-2022
15:18
linh
pham



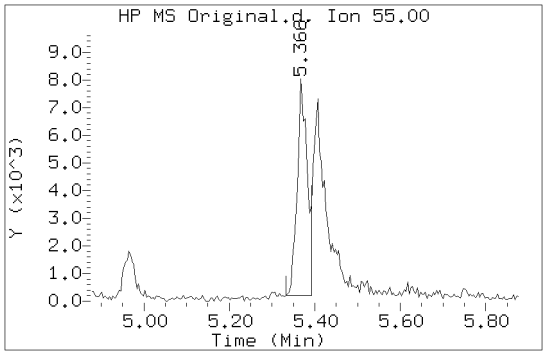
AFTER
MASS
71
AREA
1969
HEIGHT
772
09-Nov-2022
12:35



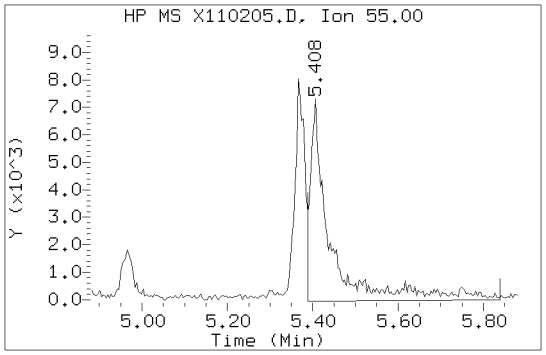
Methylcyclohexane (108-87-2)

Reason Code:

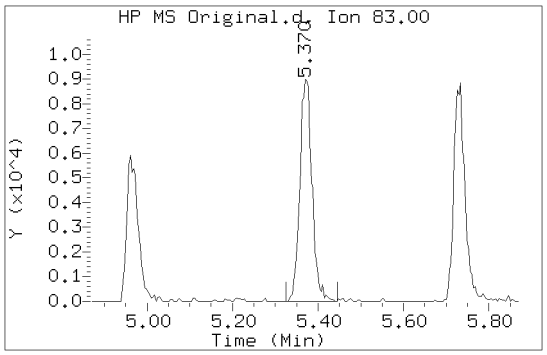
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7833
08-Nov-2022
15:18
linh
pham



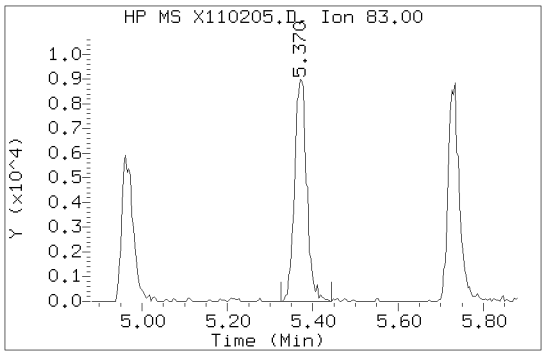
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BEFORE
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8982
08-Nov-2022
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linh
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AFTER
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12:35



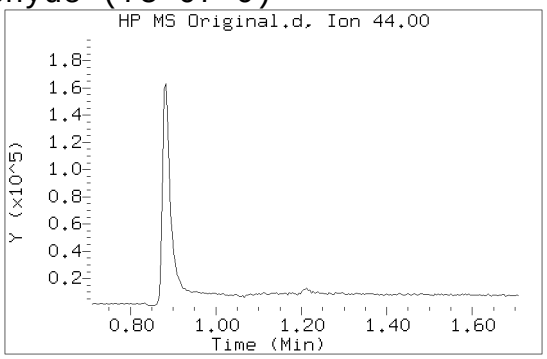
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LabSampID : VSTD002

Acetaldehyde (75-07-0)

Reason Code:

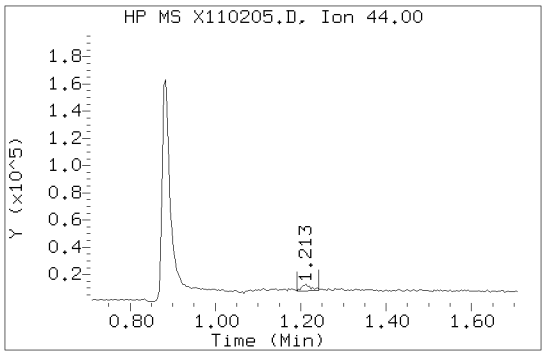
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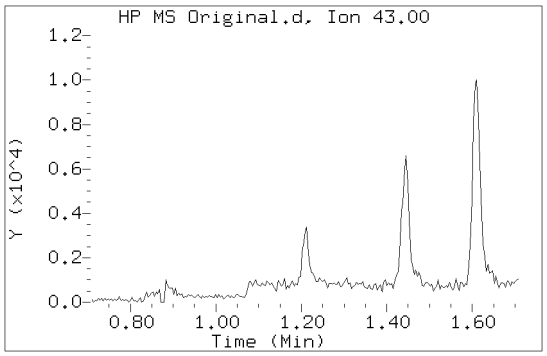
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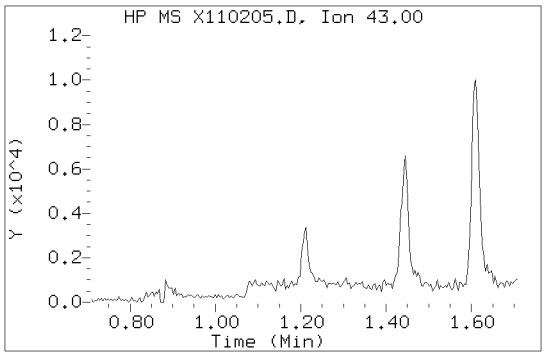
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pham



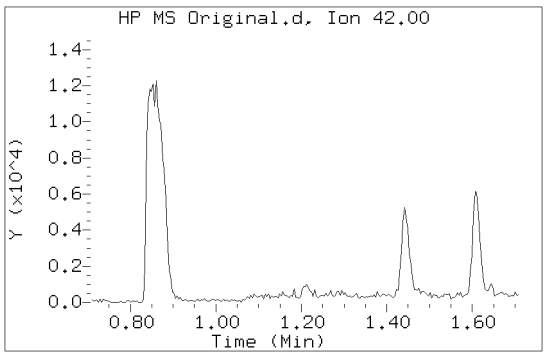
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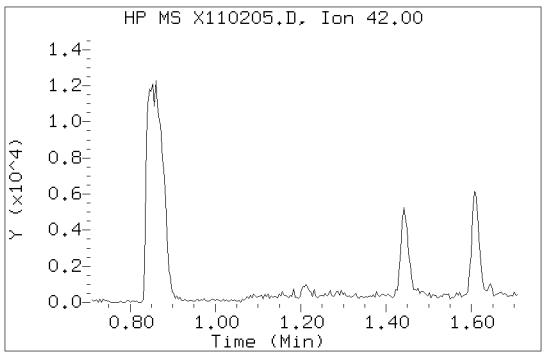
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AFTER

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09-Nov-2022
12:35

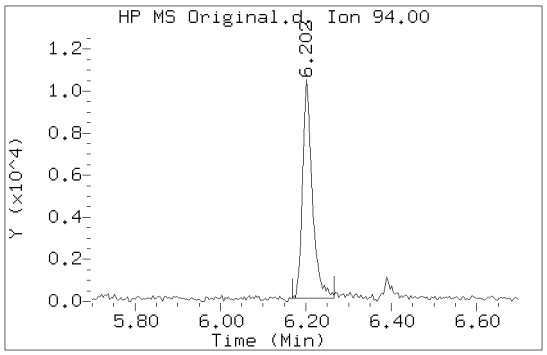


Dimethyl Disulfide (624-92-0)

Reason Code:

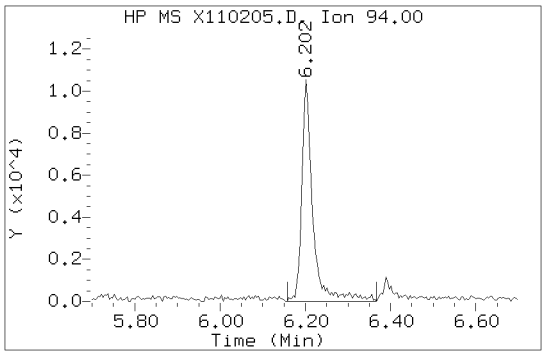
BEFORE

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HEIGHT
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08-Nov-2022
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linh
pham



AFTER

MASS
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19277
HEIGHT
10546
09-Nov-2022
12:35



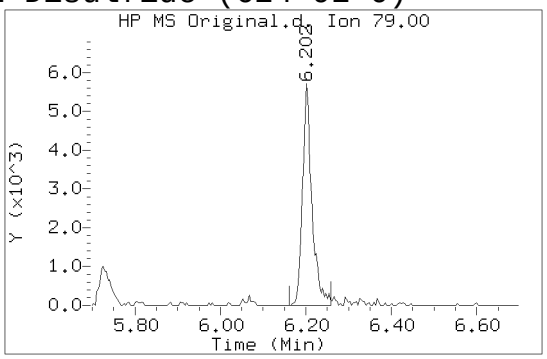
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Inj Date : 02-NOV-2022 12:45
InstruID : voa6.i
LabSampID : VSTD002

Dimethyl Disulfide (624-92-0)

Reason Code:

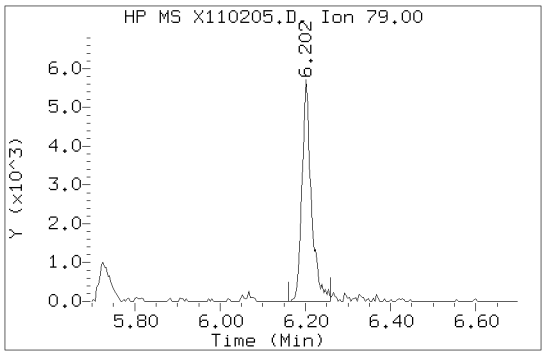
BEFORE

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08-Nov-2022
15:18
linh
pham



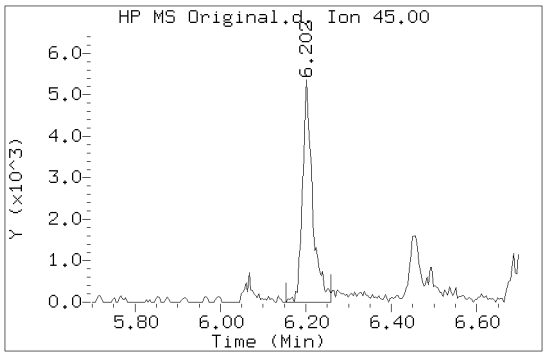
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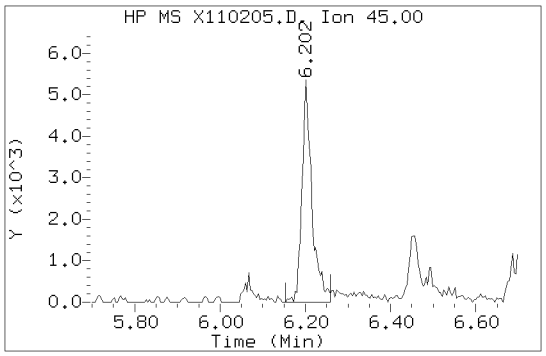
BEFORE

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AREA
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5360
08-Nov-2022
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linh
pham



AFTER

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09-Nov-2022
12:35

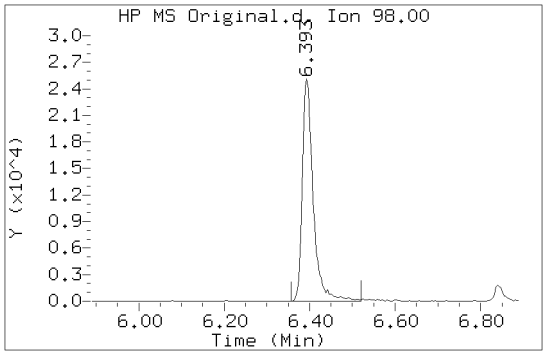


Toluene-d8 (2037-26-5)

Reason Code:

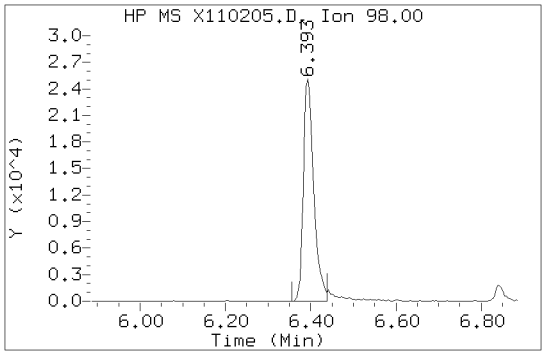
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08-Nov-2022
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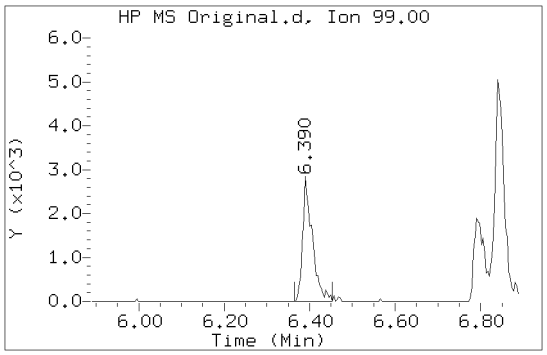
AFTER

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09-Nov-2022
12:35



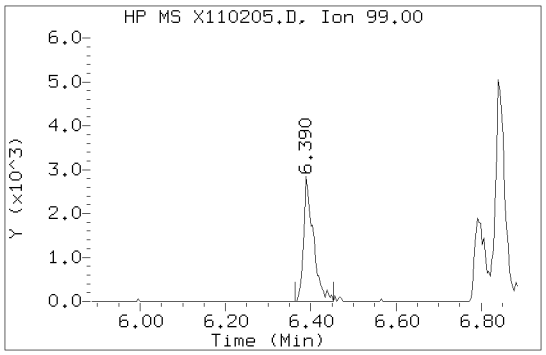
BEFORE

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4558
HEIGHT
2846
08-Nov-2022
15:18
linh
pham



AFTER

MASS
99
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4558
HEIGHT
2846
09-Nov-2022
12:35



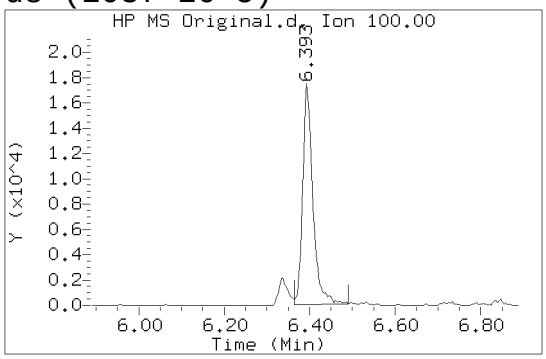
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Inj Date : 02-NOV-2022 12:45
InstruID : voa6.i
LabSampID : VSTD002

Toluene-d8 (2037-26-5)

Reason Code:

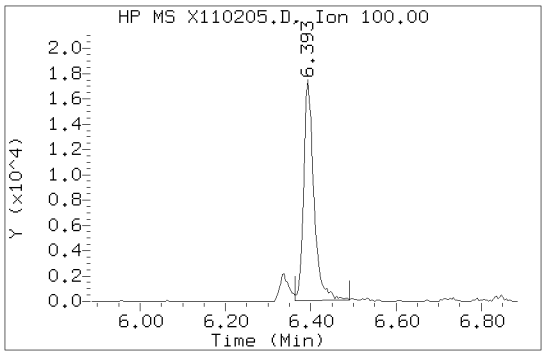
BEFORE

MASS
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17469
08-Nov-2022
15:18
linh
pham



AFTER

MASS
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AREA
29649
HEIGHT
17469
09-Nov-2022
12:35



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110206.D
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Inj Date : 02-NOV-2022 13:06
Operator : PC Inst ID: voa6.i
Smp Info : VSTD005;VSTD005;1;5;
Misc Info : HS22052000V6;WATER;0;1;
Comment :
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Meth Date : 09-Nov-2022 12:35 voa6.i Quant Type: ISTD
Cal Date : 02-NOV-2022 12:45 Cal File: X110205.D
Als bottle: 7 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260V6.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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)	583697	50.0000	
135 1,4-Dioxane	88	5.606	5.606	(1.341)	6515	100.000	104.67
140 1,3-Butadiene	54	1.164	1.164	(0.278)	24117	5.00000	4.92
25 Methacrylonitrile	41	3.840	3.840	(0.918)	24620	5.00000	4.70
12 Isobutyl Alcohol	43	4.680	4.680	(1.119)	91788	100.000	105.27
13 Acetonitrile	39	2.198	2.198	(0.526)	37629	50.0000	53.80
14 Allyl Chloride	41	2.202	2.202	(0.527)	68295	5.00000	5.19
4 Propionitrile	54	3.660	3.660	(0.875)	37960	50.0000	51.74
136 n-Hexane	57	2.776	2.776	(0.664)	23621	5.00000	4.60
72 trans-1,4-Dichloro-2-butene	53	8.897	8.897	(1.160)	8635	5.00000	4.49
194 Acetaldehyde	44	1.212	1.212	(0.290)	11340	20.0000	12.51(M)
23 Chloroprene	53	1.771	1.771	(0.424)	10734	5.00000	4.80(M)
145 alpha-Methylstyrene	118	9.265	9.265	(0.959)	48024	5.00000	4.76
200 Dimethyl Disulfide	94	6.202	6.202	(0.808)	47570	5.00000	4.46
139 Diethyl ether	59	1.756	1.756	(0.420)	24310	5.00000	5.28
130 Ethyl Acetate	43	3.664	3.664	(0.876)	31965	5.00000	5.21
40 Methyl Methacrylate	41	5.613	5.613	(1.342)	27594	5.00000	5.11
49 Ethyl Methacrylate	69	6.790	6.790	(1.368)	42889	5.00000	4.75(M)
132 n-Butanol	56	5.291	5.291	(1.265)	9274	100.000	83.81(M)
142 Tetrahydrofuran	42	3.851	3.851	(0.921)	8557	10.0000	9.24

150	Allyl alcohol	57	2.776	2.776 (0.664)	23621	100.000	91.48
166	1,2,3-Trimethylbenzene	105	9.733	9.733 (1.007)	100471	5.00000	5.04

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	2 Dichlorodifluoromethane	85	0.973	0.973	(0.233)	26672	5.00000	5.51
	3 Chloromethane	50	1.077	1.077	(0.258)	34823	5.00000	6.72
	5 Vinyl Chloride	62	1.141	1.141	(0.273)	32383	5.00000	4.89
	6 Bromomethane	94	1.340	1.340	(0.321)	22869	5.00000	6.62
	7 Chloroethane	64	1.400	1.400	(0.335)	20343	5.00000	4.93
	8 Trichlorofluoromethane	101	1.557	1.557	(0.373)	38976	5.00000	4.62
	9 Acrolein	56	1.441	1.441	(0.345)	4394	10.0000	13.68(M)
	10 Acetone	43	1.973	1.973	(0.472)	26617	10.0000	11.61
	11 1,1-Dichloroethene	96	1.913	1.913	(0.458)	23989	5.00000	4.83
	15 Iodomethane	142	2.026	2.026	(0.485)	42677	10.0000	8.97
	16 Acrylonitrile	53	2.551	2.551	(0.610)	19752	10.0000	10.35
	17 Methylene Chloride	84	2.303	2.303	(0.551)	31336	5.00000	4.93(M)
	18 Methyl tert-butyl ether	73	2.536	2.536	(0.606)	90475	5.00000	5.17
	19 Carbon Disulfide	76	2.067	2.067	(0.494)	144910	10.0000	9.60
	20 trans-1,2-Dichloroethene	96	2.528	2.528	(0.605)	26531	5.00000	4.81
	21 Vinyl Acetate	43	3.004	3.004	(0.719)	157801	10.0000	10.15
	22 1,1-Dichloroethane	63	2.918	2.918	(0.698)	50270	5.00000	5.06
	24 2-Butanone	43	3.593	3.593	(0.859)	17890	10.0000	8.57(H)
	26 2,2-Dichloropropane	77	3.514	3.514	(0.840)	40842	5.00000	6.03
	27 cis-1,2-Dichloroethene	96	3.529	3.529	(0.844)	32716	5.00000	5.08
	28 Chloroform	83	3.904	3.904	(0.934)	55456	5.00000	5.01
	29 Bromochloromethane	128	3.799	3.799	(0.909)	17775	5.00000	5.14
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	33597	5.00000	6.25
	31 1,1,1-Trichloroethane	97	4.084	4.084	(0.977)	39849	5.00000	4.68
	32 1,1-Dichloropropene	75	4.283	4.283	(0.863)	34915	5.00000	4.80
	33 1,2-Dichloroethane	62	4.556	4.556	(0.918)	42394	5.00000	5.14
	34 Carbon Tetrachloride	117	4.260	4.260	(0.858)	29235	5.00000	4.82(H)
$	35 1,2-Dichloroethane-d4	65	4.474	4.474	(1.070)	36714	5.00000	5.83(M)
*	36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	906194	50.0000	
	37 Benzene	78	4.515	4.515	(0.909)	112970	5.00000	5.02
	38 Trichloroethene	130	5.212	5.212	(1.050)	32441	5.00000	5.13
	39 Bromodichloromethane	83	5.730	5.730	(1.154)	39506	5.00000	4.95
	41 2-Chloroethylvinyl ether	63	6.052	6.052	(1.219)	24847	10.0000	9.34
	42 1,2-Dichloropropane	63	5.437	5.437	(1.095)	31907	5.00000	5.23
	44 Dibromomethane	93	5.553	5.553	(1.119)	21000	5.00000	5.09
	45 4-Methyl-2-Pentanone	43	6.333	6.333	(0.826)	59595	10.0000	10.81
	46 cis-1,3-Dichloropropene	75	6.161	6.161	(1.241)	49908	5.00000	4.96
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	857948	50.0000	
$	48 Toluene-d8	98	6.389	6.389	(0.833)	106026	5.00000	5.12(M)
	50 Toluene	91	6.449	6.449	(0.841)	121398	5.00000	4.94
	51 trans-1,3-Dichloropropene	75	6.685	6.685	(1.347)	41398	5.00000	4.78
	52 2-Hexanone	43	7.094	7.094	(0.925)	41238	10.0000	11.11
	53 1,1,2-Trichloroethane	83	6.839	6.839	(0.892)	25279	5.00000	5.13
	54 1,3-Dichloropropane	76	6.985	6.985	(0.911)	50567	5.00000	5.17
	55 Dibromochloromethane	129	7.180	7.180	(0.936)	30494	5.00000	4.82
	56 Tetrachloroethene	164	6.925	6.925	(0.903)	24282	5.00000	5.44
	57 1,2-Dibromoethane	107	7.263	7.263	(0.947)	31452	5.00000	5.11
	58 1-Chlorohexane	55	7.701	7.701	(1.551)	22049	5.00000	4.46(H)
	59 Chlorobenzene	112	7.698	7.698	(1.003)	82400	5.00000	4.97
	60 1,1,1,2-Tetrachloroethane	131	7.776	7.776	(1.014)	28452	5.00000	4.83
	61 Ethylbenzene	106	7.803	7.803	(1.017)	38970	5.00000	4.62
	62 m,p-Xylenes	106	7.911	7.911	(1.031)	99655	10.0000	9.49(M)

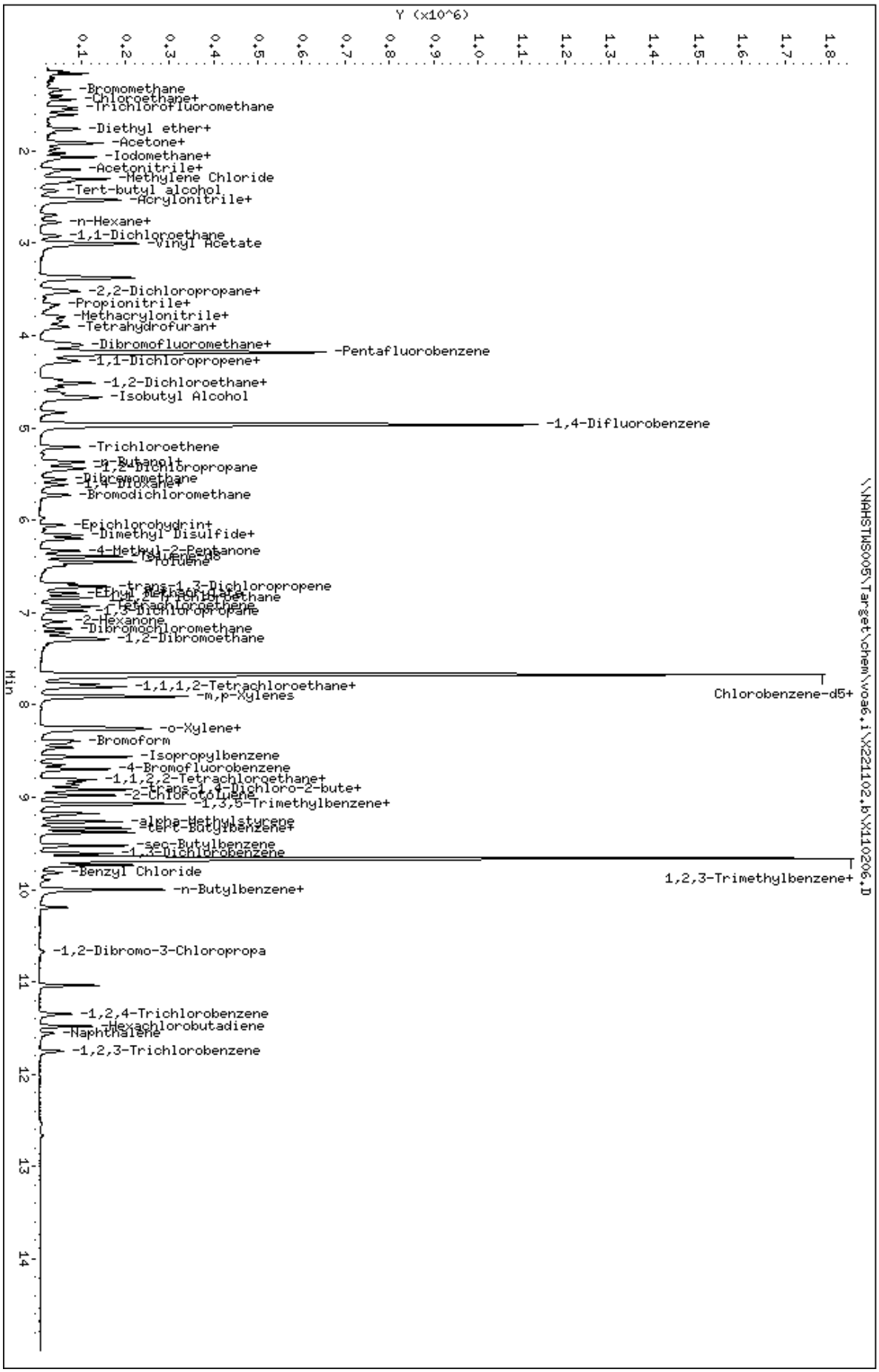
63 o-Xylene	106	8.245	8.245 (1.075)	49636	5.00000	4.86
64 Styrene	104	8.267	8.267 (1.078)	82202	5.00000	4.78

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	66 Bromoform	173	8.414	8.414	(1.097)	16655	5.00000	6.17(M)
	67 Isopropylbenzene	105	8.564	8.564	(1.116)	115031	5.00000	4.61
	68 1,1,2,2-Tetrachloroethane	83	8.841	8.841	(0.915)	35974	5.00000	5.14
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.133)	43112	5.00000	5.63(M)
*	70 1,4-Dichlorobenzene-d4	152	9.666	9.666	(1.000)	421835	50.0000	
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	27456	5.00000	5.16(M)
	73 n-Propylbenzene	91	8.916	8.916	(0.922)	135709	5.00000	4.86
	74 Bromobenzene	156	8.811	8.811	(0.912)	37147	5.00000	5.11
	75 1,3,5-Trimethylbenzene	105	9.070	9.070	(0.938)	99086	5.00000	4.98
	76 2-Chlorotoluene	91	8.980	8.980	(0.929)	87809	5.00000	4.98
	77 4-Chlorotoluene	91	9.077	9.077	(0.939)	98608	5.00000	4.92
	78 tert-Butylbenzene	119	9.339	9.339	(0.966)	85892	5.00000	5.75
	79 1,2,4-Trimethylbenzene	105	9.381	9.381	(0.971)	99505	5.00000	4.86
	81 sec-Butylbenzene	105	9.523	9.523	(0.985)	119935	5.00000	6.02
	82 p-Isopropyltoluene	119	9.651	9.651	(0.998)	102248	5.00000	5.04
	83 1,3-Dichlorobenzene	146	9.609	9.609	(0.994)	59310	5.00000	4.88
	84 1,4-Dichlorobenzene	146	9.684	9.684	(1.002)	61244	5.00000	4.86
	86 Benzyl Chloride	91	9.816	9.816	(1.279)	30801	5.00000	6.58
	87 n-Butylbenzene	91	9.999	9.999	(1.035)	89771	5.00000	5.23
	88 1,2-Dichlorobenzene	146	9.999	9.999	(1.035)	55134	5.00000	4.83
	89 1,2-Dibromo-3-Chloropropane	155	10.670	10.670	(1.104)	3069	5.00000	6.71(M)
	90 1,2,4-Trichlorobenzene	180	11.345	11.345	(1.174)	26991	5.00000	5.09
	91 Hexachlorobutadiene	225	11.480	11.480	(1.188)	19835	5.00000	6.01
	92 Naphthalene	128	11.559	11.559	(1.196)	38853	5.00000	4.71
	93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	18866	5.00000	4.93
M	94 1,2-Dichloroethylene (total)	96				59247	10.0000	
M	95 Xylenes (total)	106				149291	15.0000	
	141 Cyclohexane	56	4.125	4.125	(0.987)	29825	5.00000	4.13(H)
	138 Freon TF	101	1.913	1.913	(0.458)	21790	5.00000	4.40
	147 Methylcyclohexane	55	5.392	5.392	(1.086)	51987	5.00000	4.14(MH)
	146 Methyl Acetate	43	2.240	2.240	(0.536)	17742	5.00000	5.00(M)
	148 Tert-Butyl alcohol	59	2.431	2.431	(0.581)	51249	100.000	102.74
	149 Isopropyl Alcohol	45	2.097	2.097	(0.502)	25495	100.000	93.84(T)

QC Flag Legend

T - Target compound detected outside RT window.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

01158921



Data File: \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110206.D
Date : 02-NOV-2022 13:06
Client ID: VSTD005
Sample Info: VSTD005;VSTD005;1;5;
Purge Volume: 5.0
Column phase: DB624

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

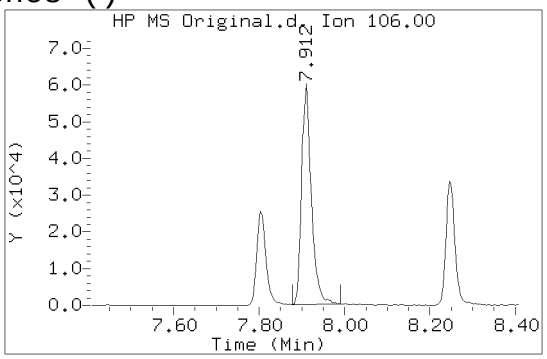
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Inj Date : 02-NOV-2022 13:06
InstruID : voa6.i
LabSampID : VSTD005

m,p-Xylenes ()

Reason Code:

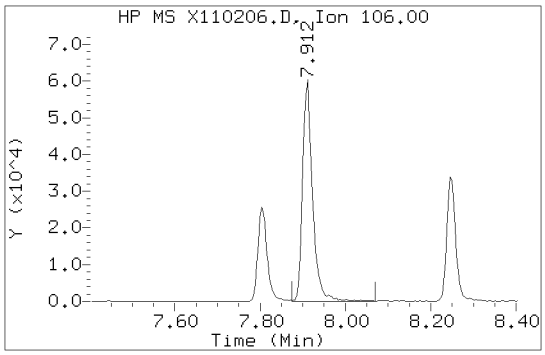
BEFORE

MASS
106
AREA
97432
HEIGHT
60163
08-Nov-2022
15:18
linh
pham



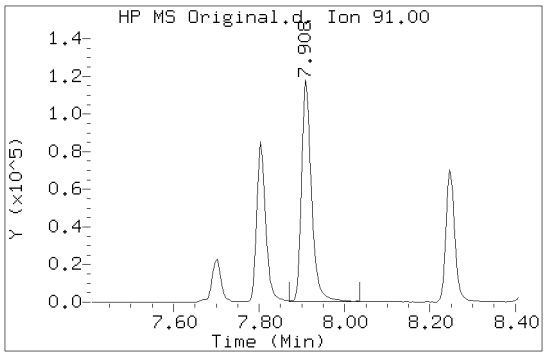
AFTER

MASS
106
AREA
99655
HEIGHT
60324
09-Nov-2022
12:34



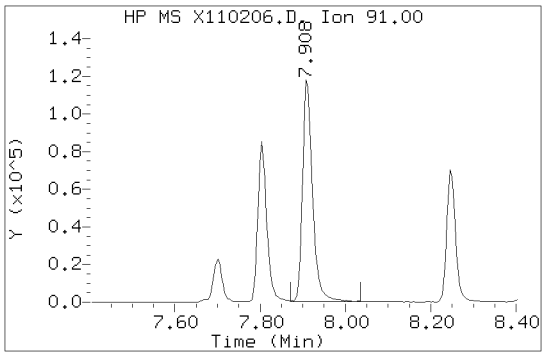
BEFORE

MASS
91
AREA
196575
HEIGHT
117926
08-Nov-2022
15:18
linh
pham



AFTER

MASS
91
AREA
196575
HEIGHT
117926
09-Nov-2022
12:34

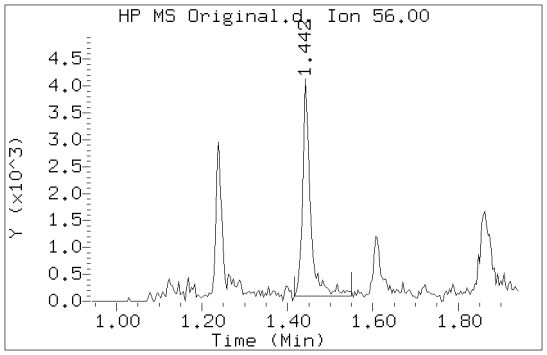


Acrolein (107-02-8)

Reason Code:

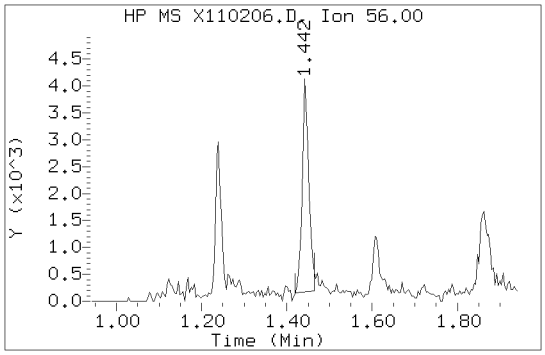
BEFORE

MASS
56
AREA
5353
HEIGHT
4036
08-Nov-2022
15:18
linh
pham



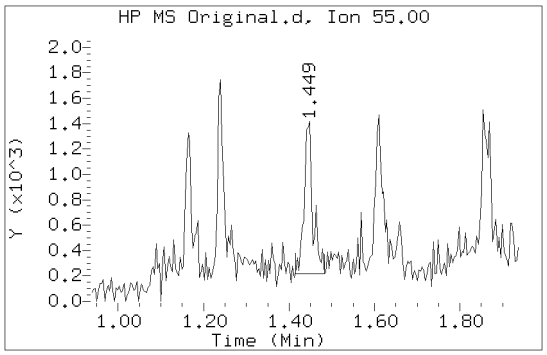
AFTER

MASS
56
AREA
4394
HEIGHT
3962
09-Nov-2022
12:34



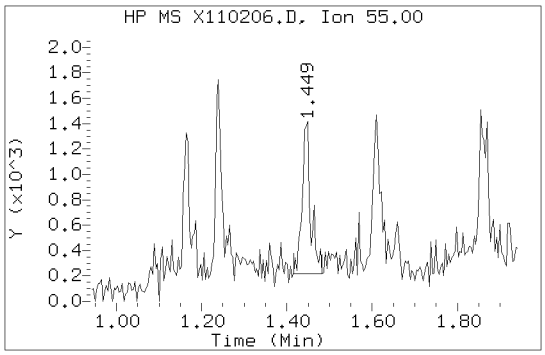
BEFORE

MASS
55
AREA
1722
HEIGHT
1199
08-Nov-2022
15:18
linh
pham



AFTER

MASS
55
AREA
1722
HEIGHT
1199
09-Nov-2022
12:34



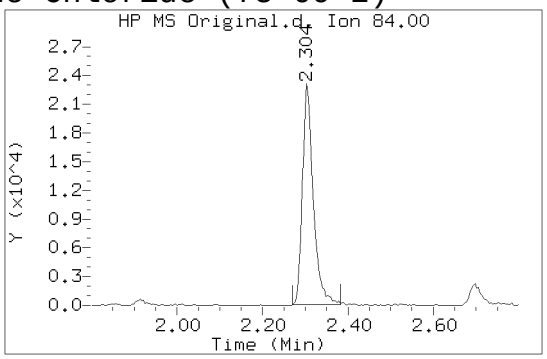
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InstruID : voa6.i
LabSampID : VSTD005

Methylene Chloride (75-09-2)

Reason Code:

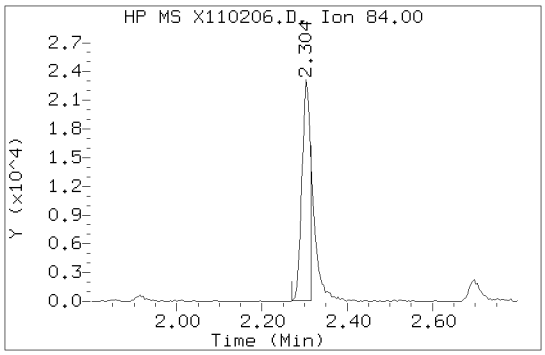
BEFORE

MASS
84
AREA
41328
HEIGHT
23047
08-Nov-2022
15:18
linh
pham



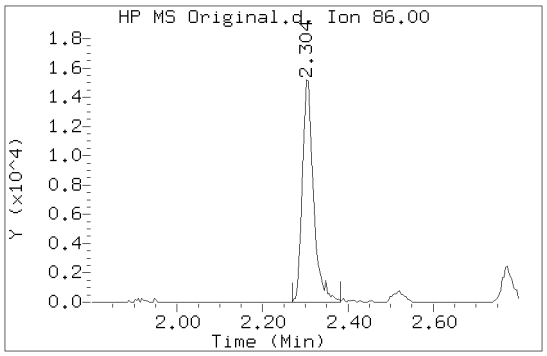
AFTER

MASS
84
AREA
31336
HEIGHT
23047
09-Nov-2022
12:34



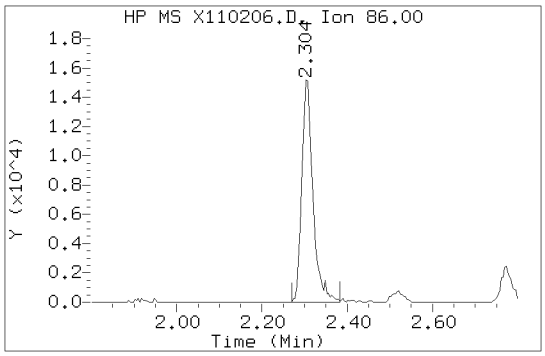
BEFORE

MASS
86
AREA
28272
HEIGHT
15181
08-Nov-2022
15:18
linh
pham



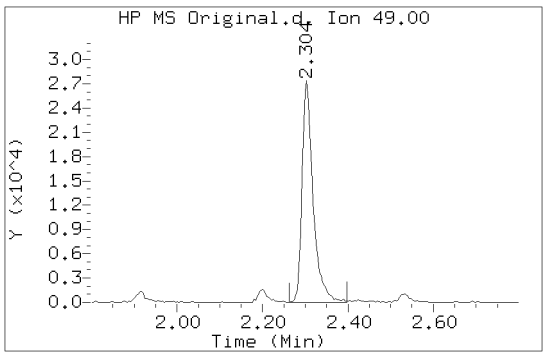
AFTER

MASS
86
AREA
28272
HEIGHT
15181
09-Nov-2022
12:34



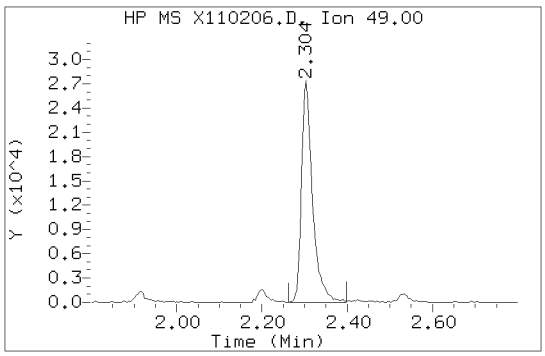
BEFORE

MASS
49
AREA
50333
HEIGHT
27376
08-Nov-2022
15:18
linh
pham



AFTER

MASS
49
AREA
50333
HEIGHT
27376
09-Nov-2022
12:34

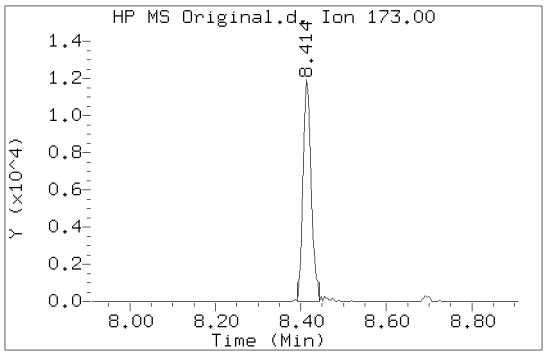


Bromoform (75-25-2)

Reason Code:

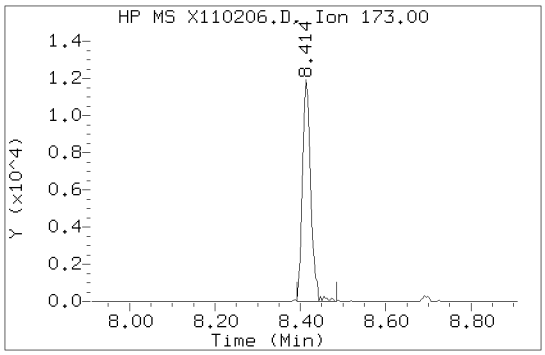
BEFORE

MASS
173
AREA
16355
HEIGHT
11928
08-Nov-2022
15:18
linh
pham



AFTER

MASS
173
AREA
16655
HEIGHT
11928
09-Nov-2022
12:34



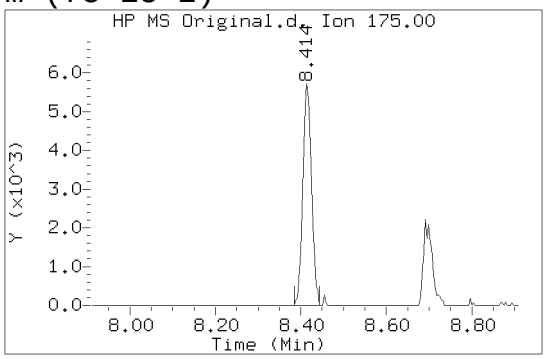
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Inj Date : 02-NOV-2022 13:06
InstruID : voa6.i
LabSampID : VSTD005

Bromoform (75-25-2)

Reason Code:

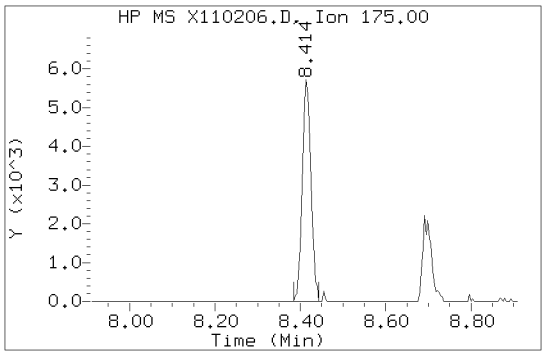
BEFORE

MASS
175
AREA
8316
HEIGHT
5722
08-Nov-2022
15:18
linh
pham



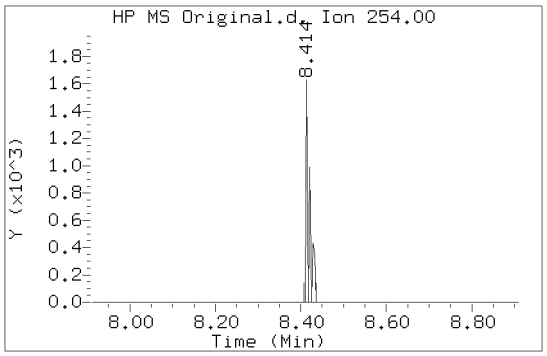
AFTER

MASS
175
AREA
8316
HEIGHT
5722
09-Nov-2022
12:34



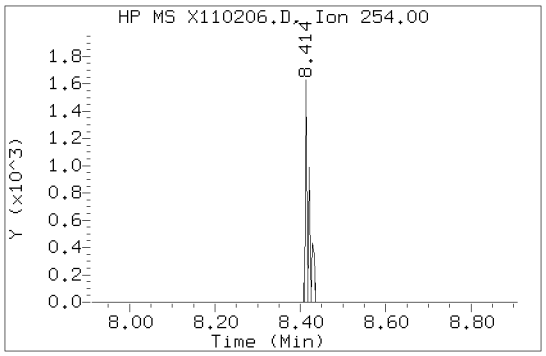
BEFORE

MASS
254
AREA
765
HEIGHT
1629
08-Nov-2022
15:18
linh
pham



AFTER

MASS
254
AREA
765
HEIGHT
1629
09-Nov-2022
12:34

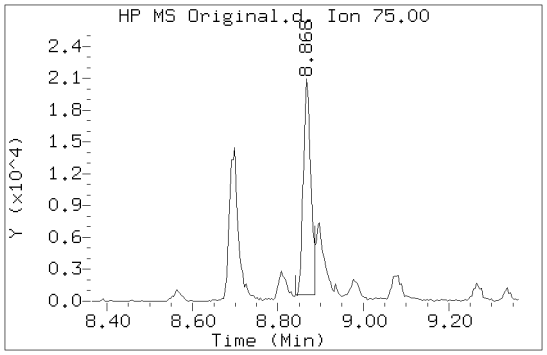


1,2,3-Trichloropropane (96-18-4)

Reason Code:

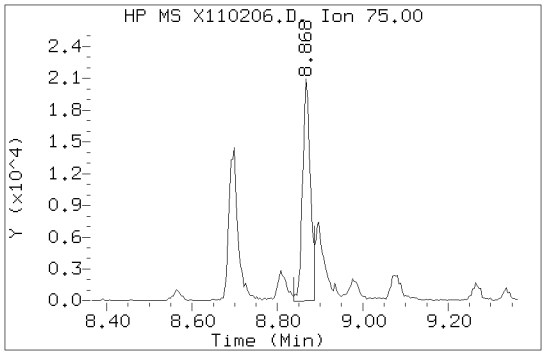
BEFORE

MASS
75
AREA
25550
HEIGHT
20340
08-Nov-2022
15:18
linh
pham



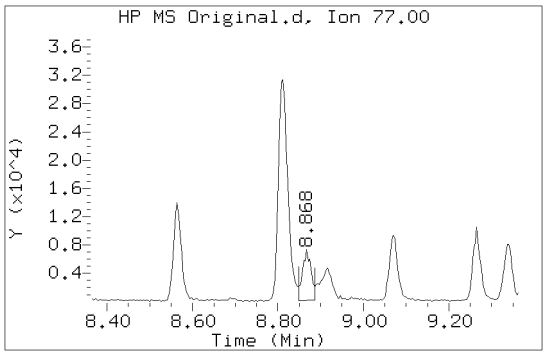
AFTER

MASS
75
AREA
27456
HEIGHT
20955
09-Nov-2022
12:34



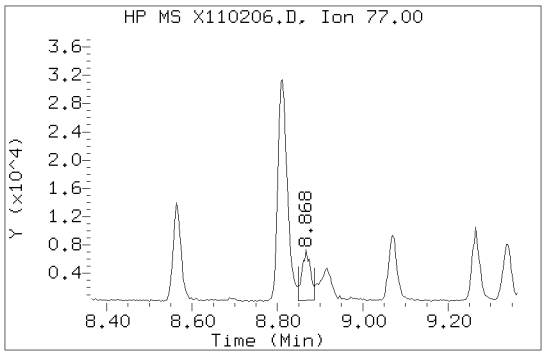
BEFORE

MASS
77
AREA
10312
HEIGHT
7215
08-Nov-2022
15:18
linh
pham



AFTER

MASS
77
AREA
10312
HEIGHT
7215
09-Nov-2022
12:34



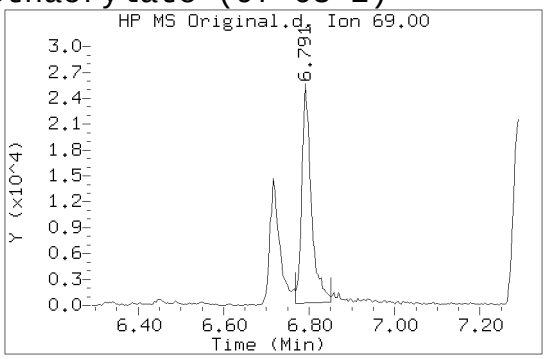
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Inj Date : 02-NOV-2022 13:06
InstruID : voa6.i
LabSampID : VSTD005

Ethyl Methacrylate (97-63-2)

Reason Code:

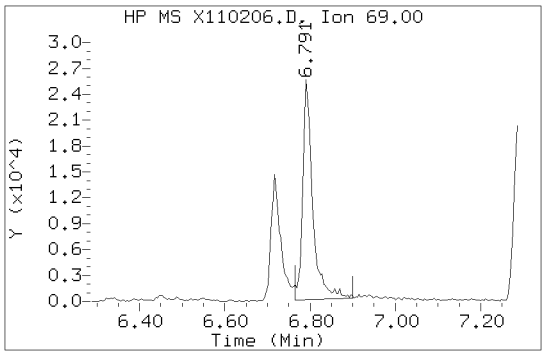
BEFORE

MASS
69
AREA
40444
HEIGHT
25437
08-Nov-2022
15:18
linh
pham



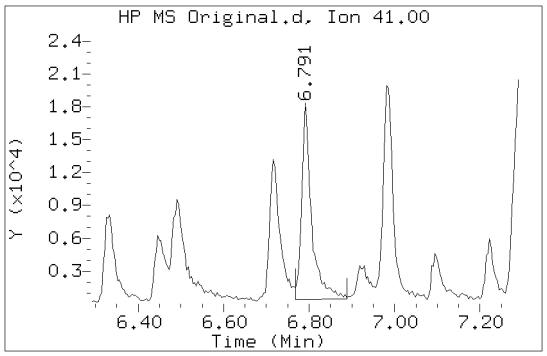
AFTER

MASS
69
AREA
42889
HEIGHT
25523
09-Nov-2022
12:34



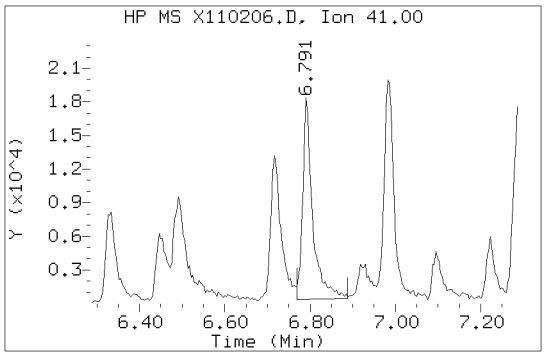
BEFORE

MASS
41
AREA
29888
HEIGHT
17979
08-Nov-2022
15:18
linh
pham



AFTER

MASS
41
AREA
29888
HEIGHT
17979
09-Nov-2022
12:34

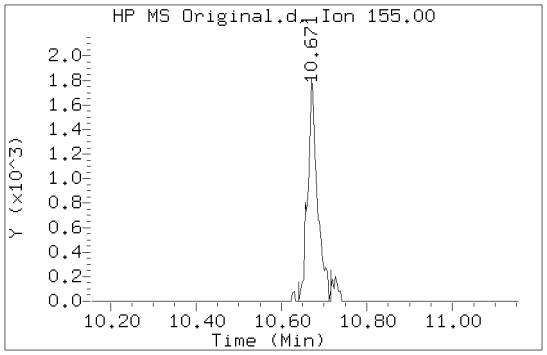


1,2-Dibromo-3-Chloropropane (96-12-8)

Reason Code:

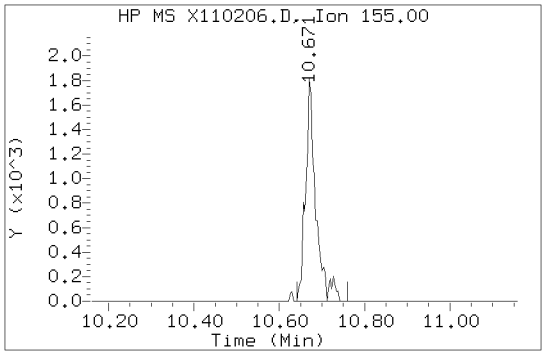
BEFORE

MASS
155
AREA
2892
HEIGHT
1813
08-Nov-2022
15:18
linh
pham



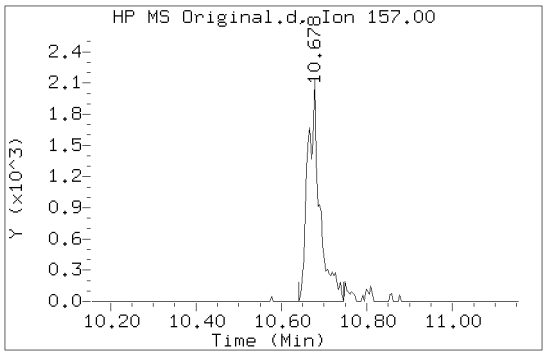
AFTER

MASS
155
AREA
3069
HEIGHT
1813
09-Nov-2022
12:34



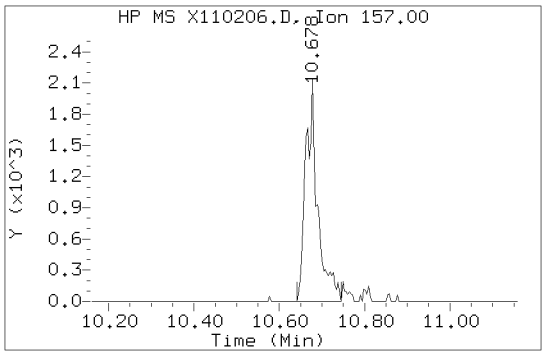
BEFORE

MASS
157
AREA
4176
HEIGHT
2132
08-Nov-2022
15:18
linh
pham



AFTER

MASS
157
AREA
4176
HEIGHT
2132
09-Nov-2022
12:34



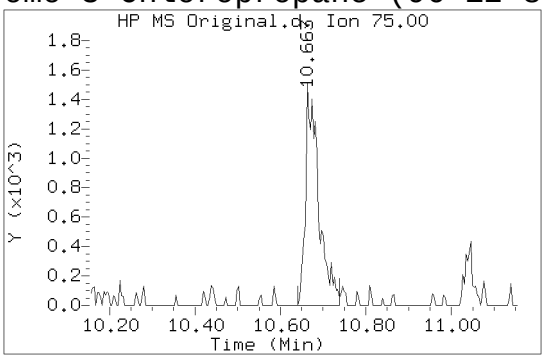
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Inj Date : 02-NOV-2022 13:06
InstruID : voa6.i
LabSampID : VSTD005

1,2-Dibromo-3-Chloropropane (96-12-8)

Reason Code:

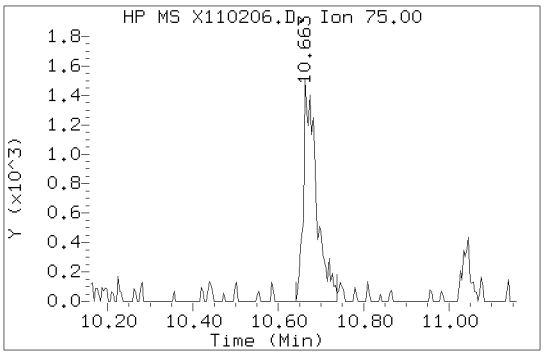
BEFORE

MASS
75
AREA
3217
HEIGHT
1507
08-Nov-2022
15:18
linh
pham



AFTER

MASS
75
AREA
3217
HEIGHT
1507
09-Nov-2022
12:34

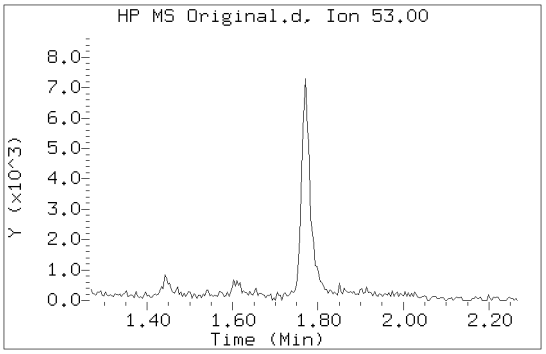


Chloroprene (126-99-8)

Reason Code:

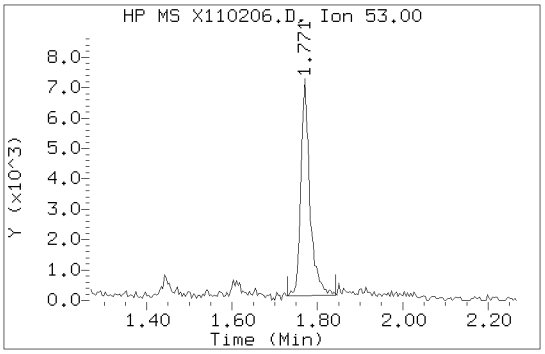
BEFORE

MASS
53
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



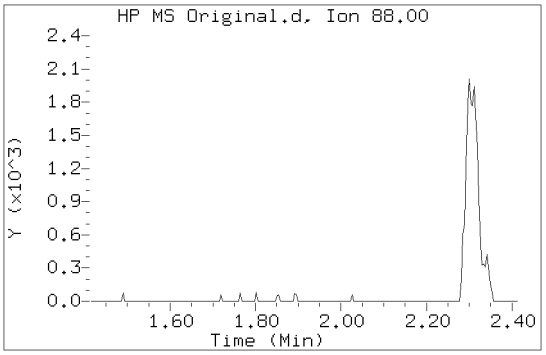
AFTER

MASS
53
AREA
10734
HEIGHT
7143
09-Nov-2022
12:34



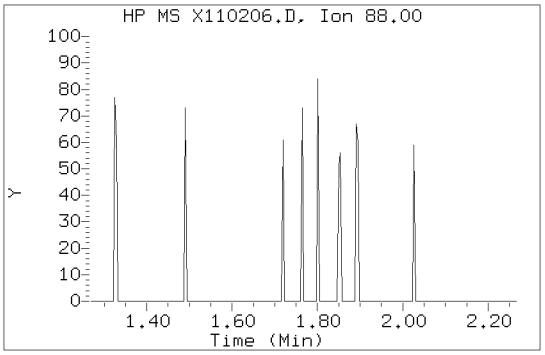
BEFORE

MASS
88
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

MASS
88
AREA
0
HEIGHT
0
09-Nov-2022
12:34

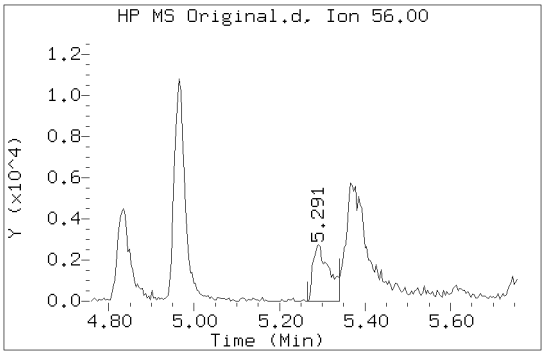


n-Butanol (71-36-3)

Reason Code:

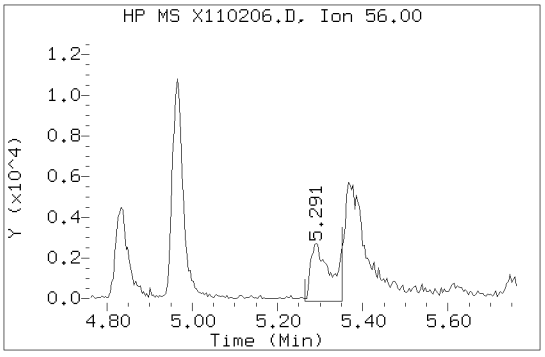
BEFORE

MASS
56
AREA
7304
HEIGHT
2735
08-Nov-2022
15:18
linh
pham



AFTER

MASS
56
AREA
9274
HEIGHT
2854
09-Nov-2022
12:34



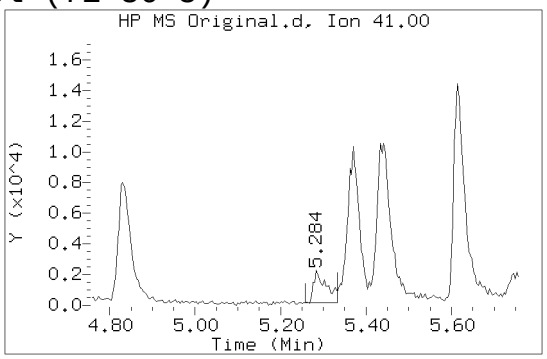
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Inj Date : 02-NOV-2022 13:06
InstruID : voa6.i
LabSampID : VSTD005

n-Butanol (71-36-3)

Reason Code:

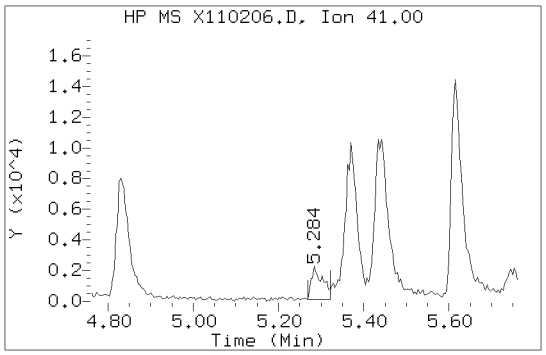
BEFORE

MASS
41
AREA
4462
HEIGHT
2127
08-Nov-2022
15:18
linh
pham



AFTER

MASS
41
AREA
3910
HEIGHT
2144
09-Nov-2022
12:34

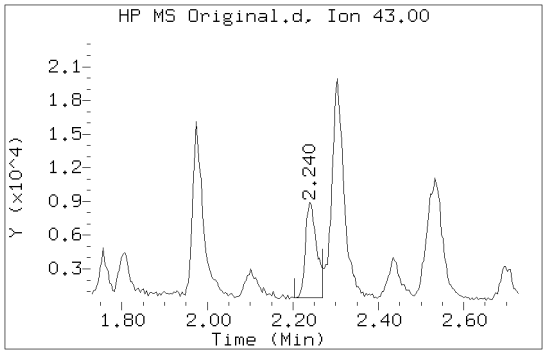


Methyl Acetate (79-20-9)

Reason Code:

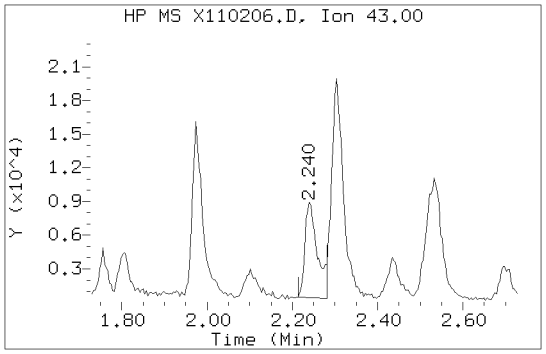
BEFORE

MASS
43
AREA
15750
HEIGHT
8520
08-Nov-2022
15:18
linh
pham



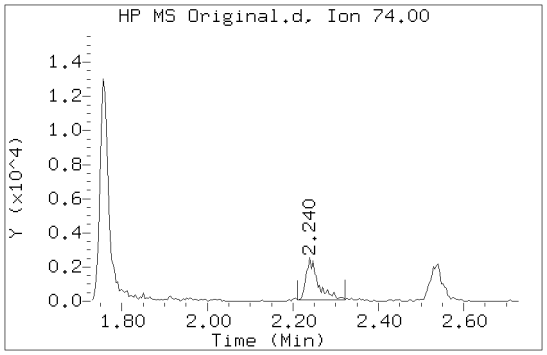
AFTER

MASS
43
AREA
17742
HEIGHT
8526
09-Nov-2022
12:34



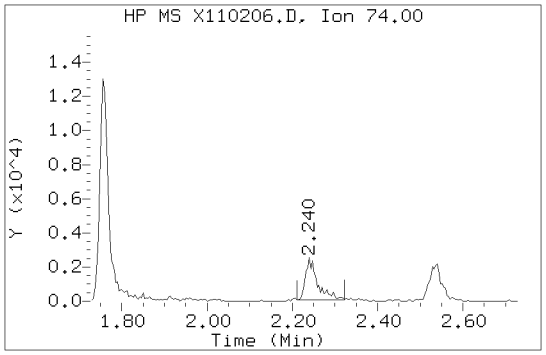
BEFORE

MASS
74
AREA
4834
HEIGHT
2484
08-Nov-2022
15:18
linh
pham



AFTER

MASS
74
AREA
4834
HEIGHT
2484
09-Nov-2022
12:34

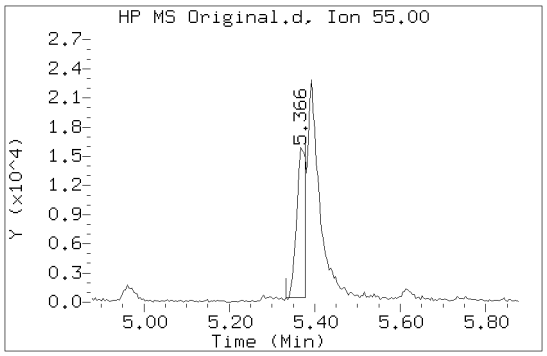


Methylcyclohexane (108-87-2)

Reason Code:

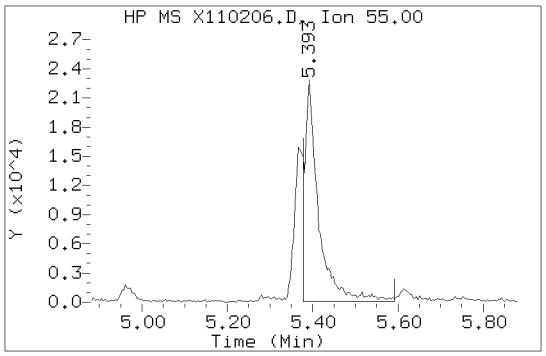
BEFORE

MASS
55
AREA
21862
HEIGHT
15514
08-Nov-2022
15:18
linh
pham



AFTER

MASS
55
AREA
51987
HEIGHT
22768
09-Nov-2022
12:34



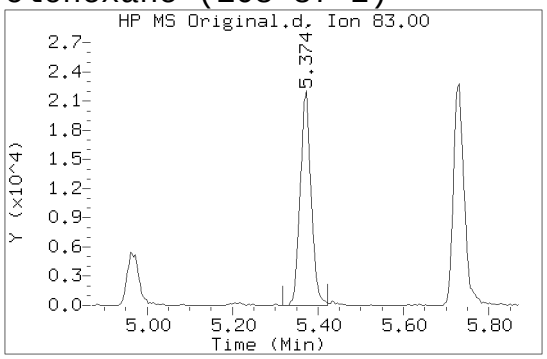
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Inj Date : 02-NOV-2022 13:06
InstruID : voa6.i
LabSampID : VSTD005

Methylcyclohexane (108-87-2)

Reason Code:

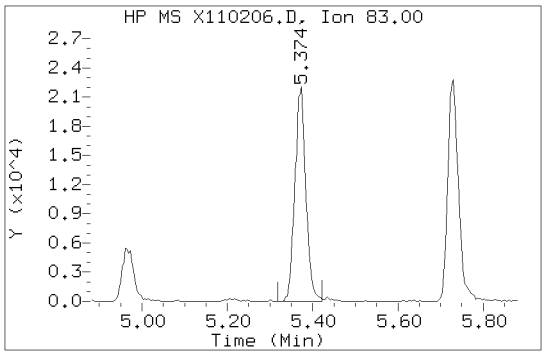
BEFORE

MASS
83
AREA
39922
HEIGHT
22056
08-Nov-2022
15:18
linh
pham



AFTER

MASS
83
AREA
39922
HEIGHT
22056
09-Nov-2022
12:34

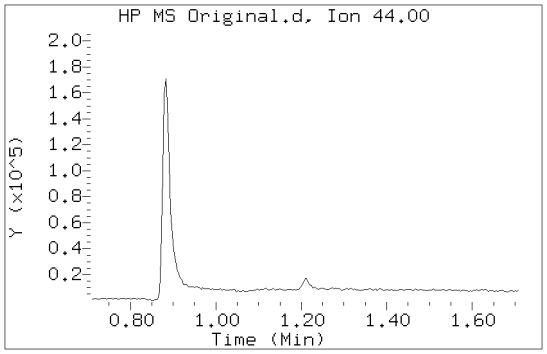


Acetaldehyde (75-07-0)

Reason Code:

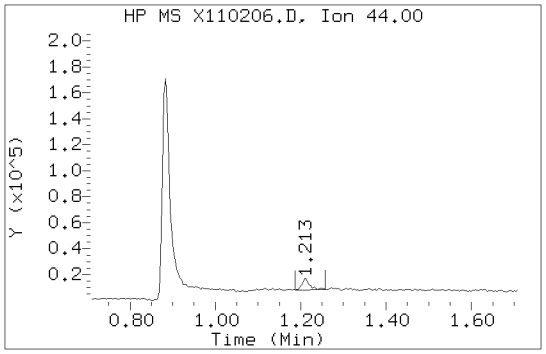
BEFORE

MASS
44
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



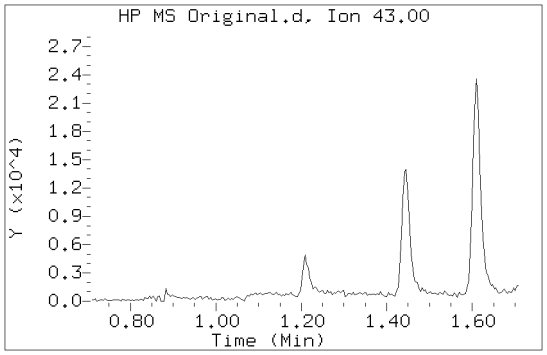
AFTER

MASS
44
AREA
11340
HEIGHT
8542
09-Nov-2022
12:34



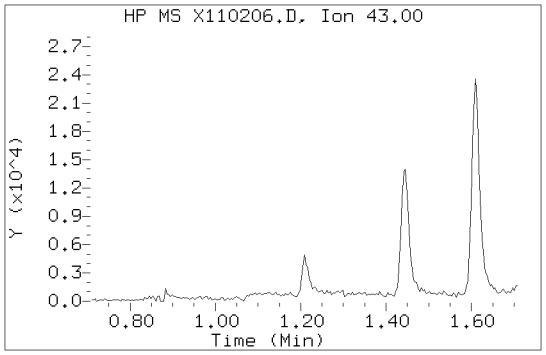
BEFORE

MASS
43
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



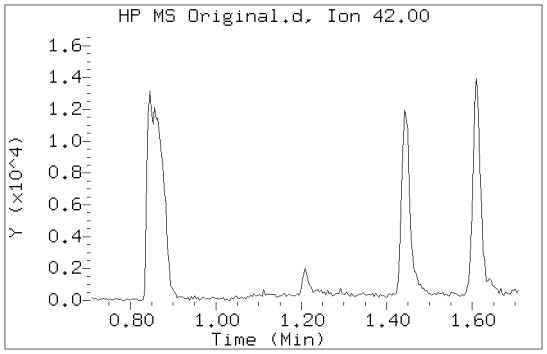
AFTER

MASS
43
AREA
0
HEIGHT
0
09-Nov-2022
12:34



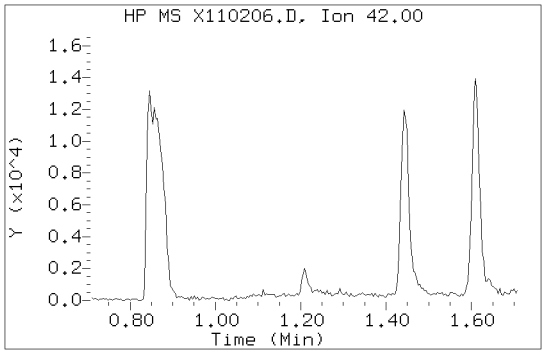
BEFORE

MASS
42
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

MASS
42
AREA
0
HEIGHT
0
09-Nov-2022
12:34



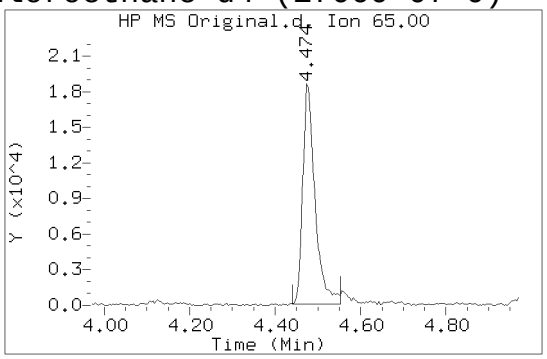
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Inj Date : 02-NOV-2022 13:06
InstruID : voa6.i
LabSampID : VSTD005

1,2-Dichloroethane-d4 (17060-07-0)

Reason Code:

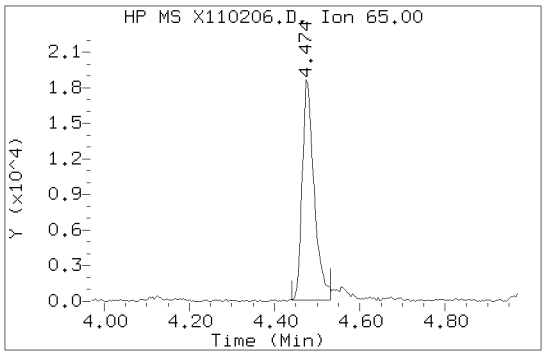
BEFORE

MASS
65
AREA
37820
HEIGHT
18587
08-Nov-2022
15:18
linh
pham



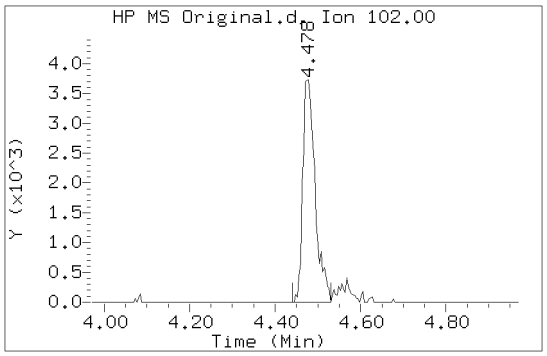
AFTER

MASS
65
AREA
36714
HEIGHT
18587
09-Nov-2022
12:34



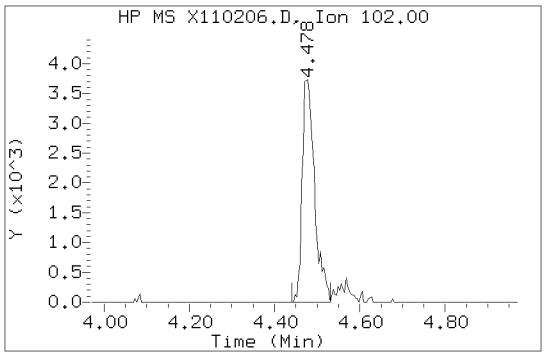
BEFORE

MASS
102
AREA
7675
HEIGHT
3727
08-Nov-2022
15:18
linh
pham



AFTER

MASS
102
AREA
7675
HEIGHT
3727
09-Nov-2022
12:34

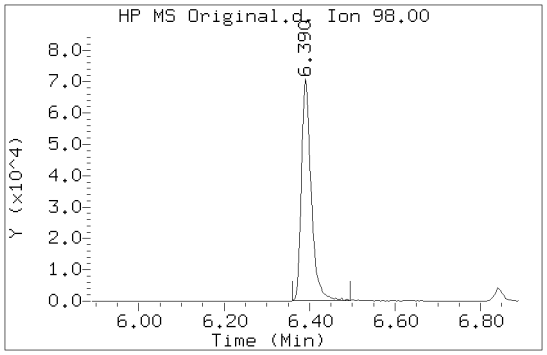


Toluene-d8 (2037-26-5)

Reason Code:

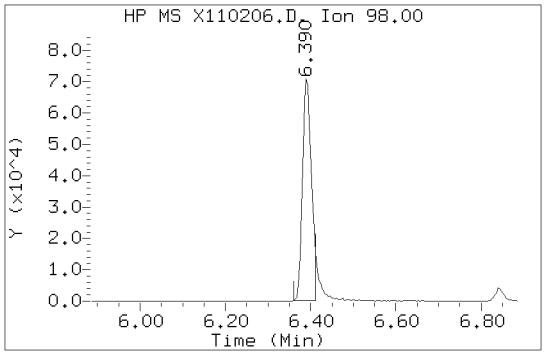
BEFORE

MASS
98
AREA
114963
HEIGHT
70622
08-Nov-2022
15:18
linh
pham



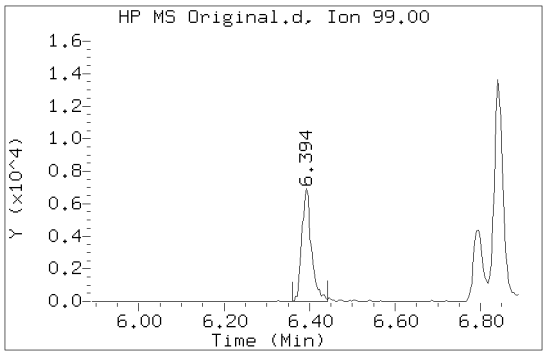
AFTER

MASS
98
AREA
106026
HEIGHT
70622
09-Nov-2022
12:34



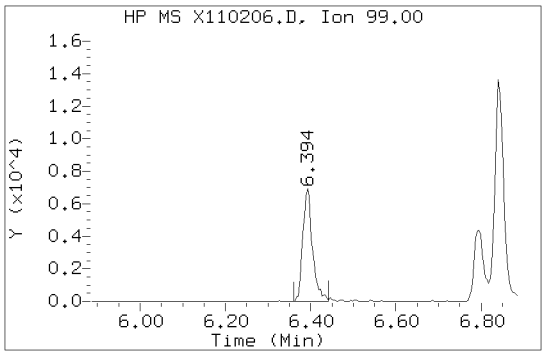
BEFORE

MASS
99
AREA
11187
HEIGHT
6925
08-Nov-2022
15:18
linh
pham



AFTER

MASS
99
AREA
11187
HEIGHT
6925
09-Nov-2022
12:34

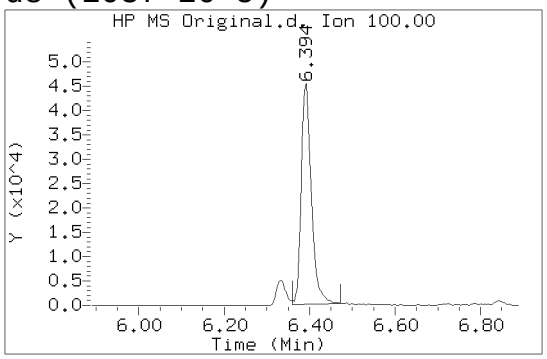


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Inj Date : 02-NOV-2022 13:06
InstruID : voa6.i
LabSampID : VSTD005

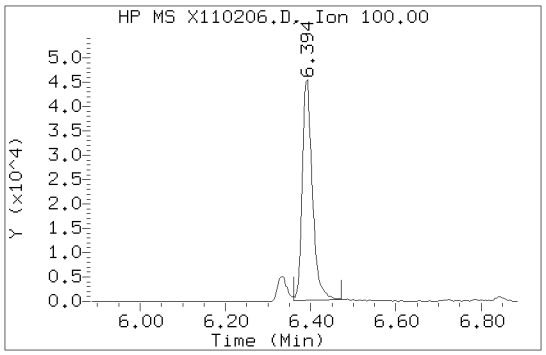
Toluene-d8 (2037-26-5)

Reason Code:

BEFORE
MASS
100
AREA
76569
HEIGHT
45333
08-Nov-2022
15:18
linh
pham



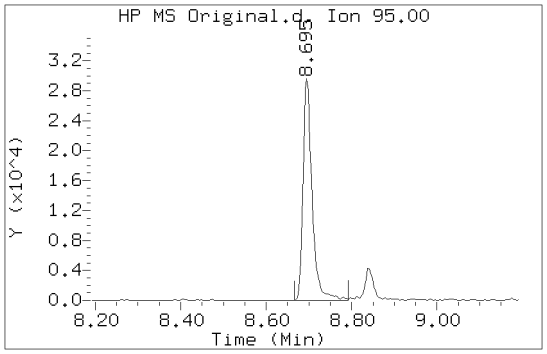
AFTER
MASS
100
AREA
76569
HEIGHT
45333
09-Nov-2022
12:34



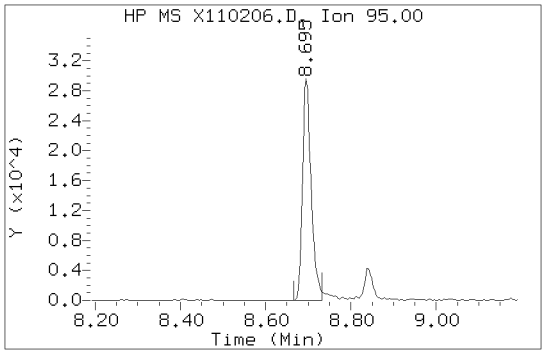
4-Bromofluorobenzene (460-00-4)

Reason Code:

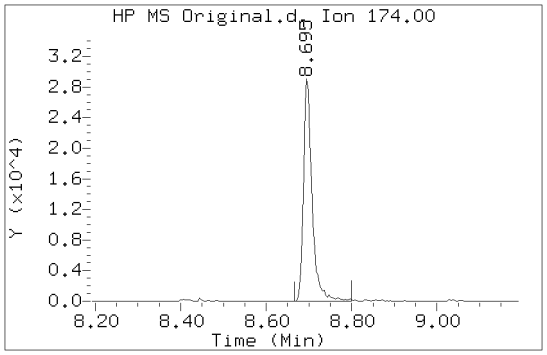
BEFORE
MASS
95
AREA
44948
HEIGHT
29616
08-Nov-2022
15:18
linh
pham



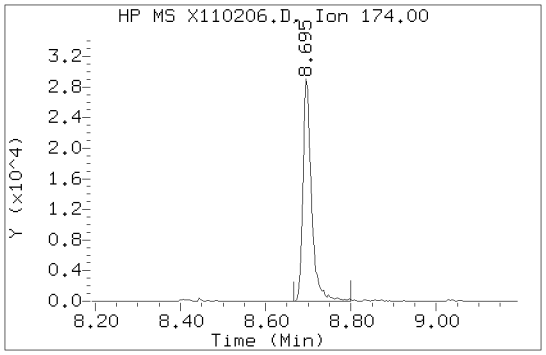
AFTER
MASS
95
AREA
43112
HEIGHT
29616
09-Nov-2022
12:34



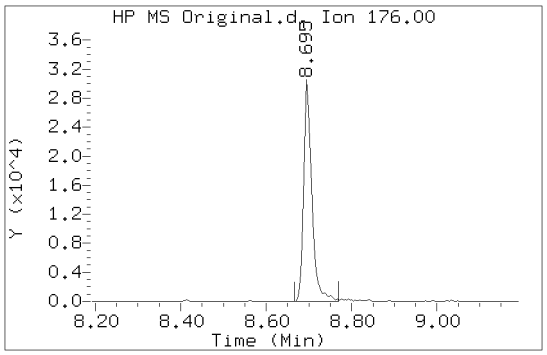
BEFORE
MASS
174
AREA
41956
HEIGHT
29056
08-Nov-2022
15:18
linh
pham



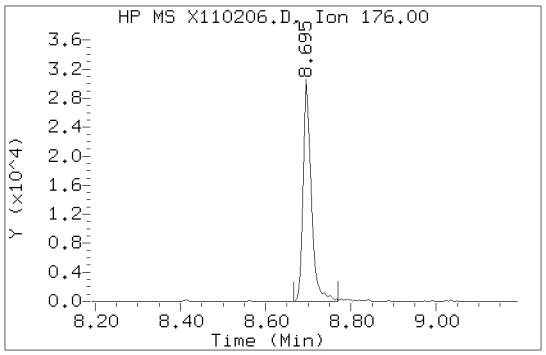
AFTER
MASS
174
AREA
41956
HEIGHT
29056
09-Nov-2022
12:34



BEFORE
MASS
176
AREA
41612
HEIGHT
30544
08-Nov-2022
15:18
linh
pham



AFTER
MASS
176
AREA
41612
HEIGHT
30544
09-Nov-2022
12:34



Data File: \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110207.D Page 1
Report Date: 09-Nov-2022 12:35

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110207.D
Lab Smp Id: VSTD020 Client Smp ID: VSTD020
Inj Date : 02-NOV-2022 13:27
Operator : PC Inst ID: voa6.i
Smp Info : VSTD020;VSTD020;1;6;
Misc Info : HS22052000V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\8260W.m
Meth Date : 09-Nov-2022 12:35 voa6.i Quant Type: ISTD
Cal Date : 02-NOV-2022 13:06 Cal File: X110206.D
Als bottle: 8 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260V6.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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)	583722	50.0000	
135 1,4-Dioxane	88	5.602	5.602	(1.341)	25621	400.000	411.64(M)
140 1,3-Butadiene	54	1.164	1.164	(0.279)	90955	20.0000	18.58
25 Methacrylonitrile	41	3.829	3.829	(0.917)	99819	20.0000	19.08
12 Isobutyl Alcohol	43	4.676	4.676	(1.119)	339581	400.000	389.47
13 Acetonitrile	39	2.198	2.198	(0.526)	125187	200.000	178.99
14 Allyl Chloride	41	2.198	2.198	(0.526)	240260	20.0000	18.28
4 Propionitrile	54	3.649	3.649	(0.873)	142212	200.000	193.85
136 n-Hexane	57	2.768	2.768	(0.663)	89079	20.0000	18.52
72 trans-1,4-Dichloro-2-butene	53	8.890	8.890	(1.159)	37412	20.0000	18.97
194 Acetaldehyde	44	1.209	1.209	(0.289)	36475	80.0000	82.31(M)
23 Chloroprene	53	1.771	1.771	(0.424)	40288	20.0000	18.02(M)
145 alpha-Methylstyrene	118	9.261	9.261	(0.958)	200555	20.0000	19.07
200 Dimethyl Disulfide	94	6.198	6.198	(0.808)	185153	20.0000	16.92
139 Diethyl ether	59	1.756	1.756	(0.420)	87018	20.0000	18.93
130 Ethyl Acetate	43	3.653	3.653	(0.874)	121288	20.0000	19.78
40 Methyl Methacrylate	41	5.606	5.606	(1.342)	98424	20.0000	18.23
49 Ethyl Methacrylate	69	6.787	6.787	(1.367)	173975	20.0000	19.05
132 n-Butanol	56	5.261	5.261	(1.259)	37332	400.000	337.36
142 Tetrahydrofuran	42	3.844	3.844	(0.920)	36002	40.0000	38.88

150	Allyl alcohol	57	2.768	2.768 (0.663)	89079	400.000	370.05
166	1,2,3-Trimethylbenzene	105	9.729	9.729 (1.007)	358617	20.0000	17.27

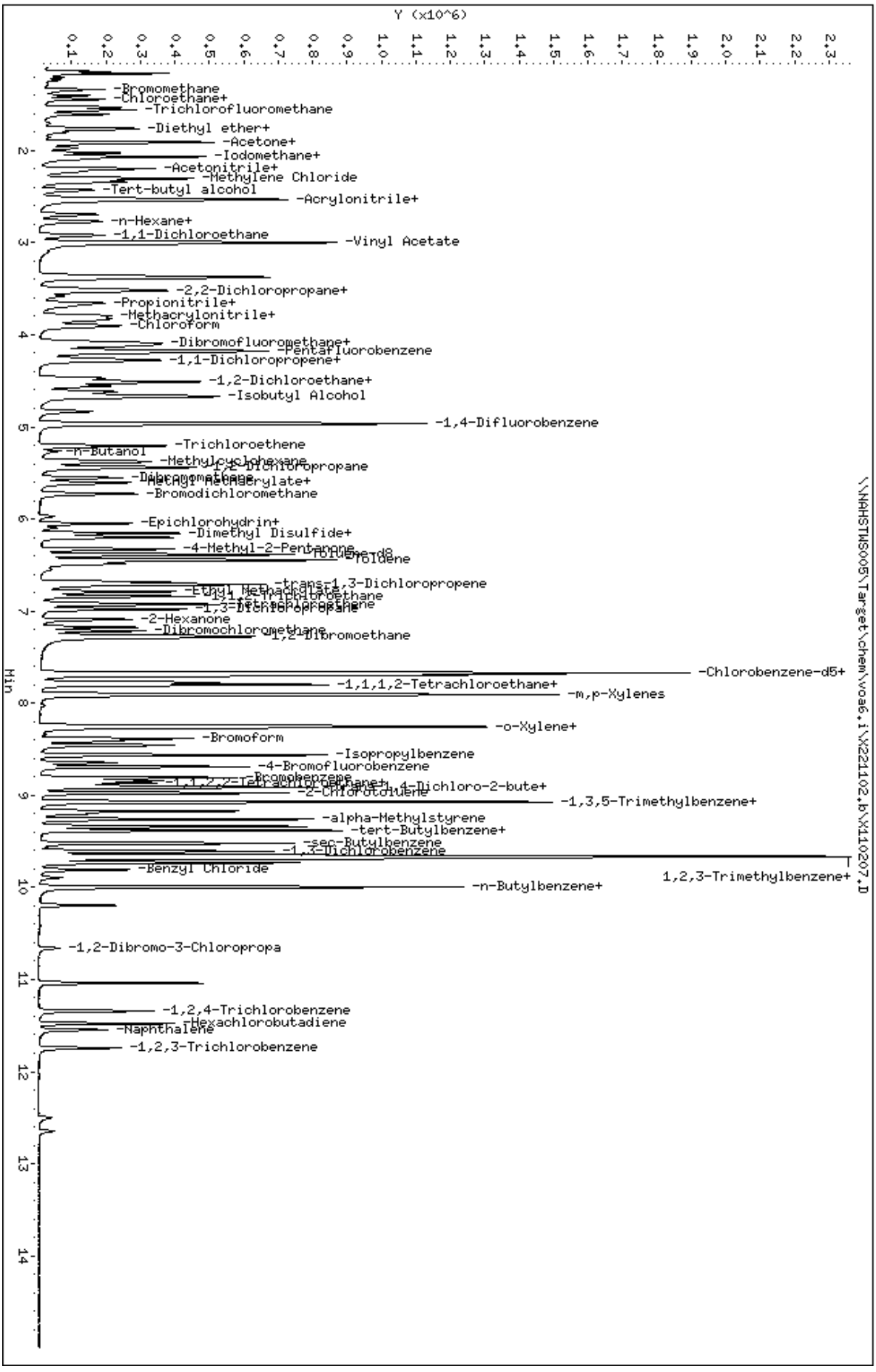
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	2 Dichlorodifluoromethane	85	0.969	0.969	(0.232)	106595	20.0000	20.22
	3 Chloromethane	50	1.077	1.077	(0.258)	122267	20.0000	20.12
	5 Vinyl Chloride	62	1.141	1.141	(0.273)	123570	20.0000	18.68
	6 Bromomethane	94	1.336	1.336	(0.320)	78782	20.0000	19.72
	7 Chloroethane	64	1.400	1.400	(0.335)	80694	20.0000	19.57
	8 Trichlorofluoromethane	101	1.557	1.557	(0.373)	160242	20.0000	19.00
	9 Acrolein	56	1.445	1.445	(0.346)	13448	40.0000	37.42
	10 Acetone	43	1.973	1.973	(0.472)	88131	40.0000	41.90
	11 1,1-Dichloroethene	96	1.910	1.910	(0.457)	94360	20.0000	18.99
	15 Iodomethane	142	2.022	2.022	(0.484)	219182	40.0000	36.17
	16 Acrylonitrile	53	2.536	2.536	(0.607)	70956	40.0000	37.18
	17 Methylene Chloride	84	2.303	2.303	(0.551)	127933	20.0000	20.14
	18 Methyl tert-butyl ether	73	2.532	2.532	(0.606)	322662	20.0000	18.45
	19 Carbon Disulfide	76	2.067	2.067	(0.495)	562820	40.0000	37.31
	20 trans-1,2-Dichloroethene	96	2.528	2.528	(0.605)	103974	20.0000	18.86
	21 Vinyl Acetate	43	2.997	2.997	(0.717)	609304	40.0000	39.22
	22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	189254	20.0000	19.08
	24 2-Butanone	43	3.581	3.581	(0.857)	80713	40.0000	38.67(H)
	26 2,2-Dichloropropane	77	3.507	3.507	(0.839)	154367	20.0000	19.43
	27 cis-1,2-Dichloroethene	96	3.522	3.522	(0.843)	124687	20.0000	19.36
	28 Chloroform	83	3.904	3.904	(0.935)	202628	20.0000	18.33
	29 Bromochloromethane	128	3.795	3.795	(0.908)	65882	20.0000	19.05
$	30 Dibromofluoromethane	113	4.099	4.099	(0.981)	118974	20.0000	20.77
	31 1,1,1-Trichloroethane	97	4.080	4.080	(0.977)	154279	20.0000	18.14
	32 1,1-Dichloropropene	75	4.279	4.279	(0.862)	134467	20.0000	18.27
	33 1,2-Dichloroethane	62	4.556	4.556	(0.918)	161039	20.0000	19.31
	34 Carbon Tetrachloride	117	4.260	4.260	(0.858)	115509	20.0000	19.09(H)
$	35 1,2-Dichloroethane-d4	65	4.470	4.470	(1.070)	136082	20.0000	20.48
*	36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	917798	50.0000	
	37 Benzene	78	4.507	4.507	(0.908)	431657	20.0000	18.95
	38 Trichloroethene	130	5.208	5.208	(1.049)	121124	20.0000	18.93
	39 Bromodichloromethane	83	5.726	5.726	(1.153)	154157	20.0000	19.07
	41 2-Chloroethylvinyl ether	63	6.048	6.048	(1.218)	103191	40.0000	38.32
	42 1,2-Dichloropropane	63	5.437	5.437	(1.095)	116143	20.0000	18.81
	44 Dibromomethane	93	5.553	5.553	(1.119)	78629	20.0000	18.81
	45 4-Methyl-2-Pentanone	43	6.325	6.325	(0.825)	227374	40.0000	40.20
	46 cis-1,3-Dichloropropene	75	6.157	6.157	(1.240)	195120	20.0000	19.15
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	880343	50.0000	
$	48 Toluene-d8	98	6.385	6.385	(0.832)	433437	20.0000	20.40
	50 Toluene	91	6.445	6.445	(0.840)	474255	20.0000	18.83
	51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.346)	169309	20.0000	19.31
	52 2-Hexanone	43	7.086	7.086	(0.924)	158411	40.0000	41.59
	53 1,1,2-Trichloroethane	83	6.839	6.839	(0.892)	94495	20.0000	18.72
	54 1,3-Dichloropropane	76	6.981	6.981	(0.910)	195134	20.0000	19.47
	55 Dibromochloromethane	129	7.176	7.176	(0.936)	119570	20.0000	18.42
	56 Tetrachloroethene	164	6.929	6.929	(0.903)	93484	20.0000	18.92
	57 1,2-Dibromoethane	107	7.259	7.259	(0.946)	121247	20.0000	19.22
	58 1-Chlorohexane	55	7.697	7.697	(1.550)	94062	20.0000	19.10
	59 Chlorobenzene	112	7.694	7.694	(1.003)	321634	20.0000	18.91
	60 1,1,1,2-Tetrachloroethane	131	7.772	7.772	(1.013)	112375	20.0000	18.62
	61 Ethylbenzene	106	7.802	7.802	(1.017)	156721	20.0000	18.11
	62 m,p-Xylenes	106	7.907	7.907	(1.031)	398530	40.0000	37.02

63 o-Xylene	106	8.245	8.245 (1.075)	196432	20.0000	18.75
64 Styrene	104	8.260	8.260 (1.077)	340687	20.0000	19.33

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	66 Bromoform	173	8.410	8.410	(1.096)	70538	20.0000	17.86
	67 Isopropylbenzene	105	8.563	8.563	(1.116)	464511	20.0000	18.14
	68 1,1,2,2-Tetrachloroethane	83	8.837	8.837	(0.915)	138684	20.0000	19.02
$	69 4-Bromofluorobenzene	95	8.691	8.691	(1.133)	161062	20.0000	19.81
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	440081	50.0000	
	71 1,2,3-Trichloropropane	75	8.863	8.863	(0.917)	104465	20.0000	18.83
	73 n-Propylbenzene	91	8.912	8.912	(0.922)	541519	20.0000	18.59
	74 Bromobenzene	156	8.807	8.807	(0.912)	144684	20.0000	19.11
	75 1,3,5-Trimethylbenzene	105	9.069	9.069	(0.939)	385547	20.0000	18.61
	76 2-Chlorotoluene	91	8.976	8.976	(0.929)	342982	20.0000	18.64
	77 4-Chlorotoluene	91	9.073	9.073	(0.939)	393049	20.0000	18.81
	78 tert-Butylbenzene	119	9.339	9.339	(0.967)	319359	20.0000	19.10
	79 1,2,4-Trimethylbenzene	105	9.381	9.381	(0.971)	400648	20.0000	18.77
	81 sec-Butylbenzene	105	9.523	9.523	(0.986)	434443	20.0000	18.82
	82 p-Isopropyltoluene	119	9.651	9.651	(0.999)	379159	20.0000	17.92
	83 1,3-Dichlorobenzene	146	9.606	9.606	(0.994)	238227	20.0000	18.81
	84 1,4-Dichlorobenzene	146	9.684	9.684	(1.002)	247761	20.0000	18.87
	86 Benzyl Chloride	91	9.808	9.808	(1.279)	154397	20.0000	16.57
	87 n-Butylbenzene	91	9.995	9.995	(1.035)	328725	20.0000	18.36
	88 1,2-Dichlorobenzene	146	9.995	9.995	(1.035)	225742	20.0000	18.96
	89 1,2-Dibromo-3-Chloropropane	155	10.659	10.659	(1.103)	13558	20.0000	19.63
	90 1,2,4-Trichlorobenzene	180	11.341	11.341	(1.174)	103012	20.0000	18.64
	91 Hexachlorobutadiene	225	11.480	11.480	(1.188)	62614	20.0000	19.14
	92 Naphthalene	128	11.547	11.547	(1.195)	155682	20.0000	18.09
	93 1,2,3-Trichlorobenzene	180	11.742	11.742	(1.215)	72667	20.0000	18.23
M	94 1,2-Dichloroethylene (total)	96				228661	40.0000	
M	95 Xylenes (total)	106				594962	60.0000	
	141 Cyclohexane	56	4.118	4.118	(0.986)	129515	20.0000	20.06
	138 Freon TF	101	1.910	1.910	(0.457)	86773	20.0000	19.33
	147 Methylcyclohexane	55	5.385	5.385	(1.085)	230547	20.0000	18.14
	146 Methyl Acetate	43	2.232	2.232	(0.534)	71435	20.0000	20.14
	148 Tert-Butyl alcohol	59	2.427	2.427	(0.581)	191942	400.000	384.78
	149 Isopropyl Alcohol	45	2.097	2.097	(0.502)	106410	400.000	391.67

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.



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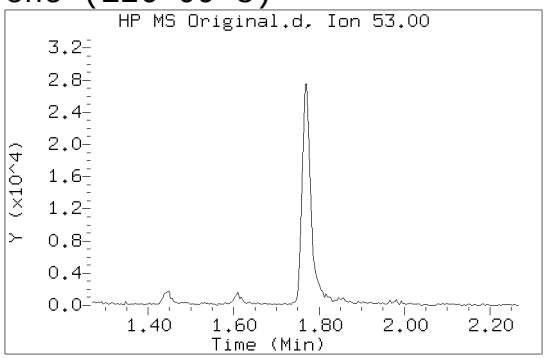
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Operator: PC
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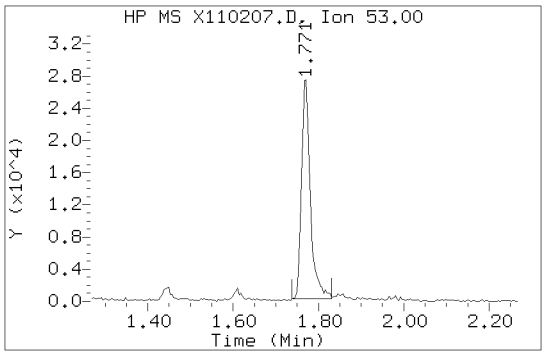
Chloroprene (126-99-8)

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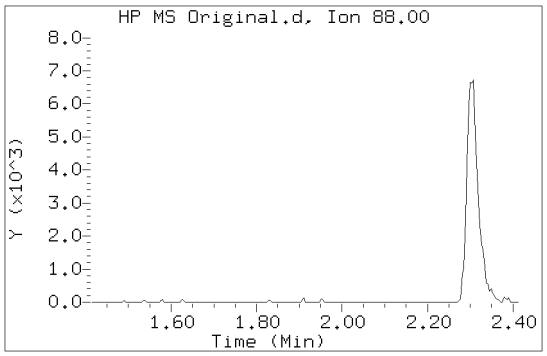
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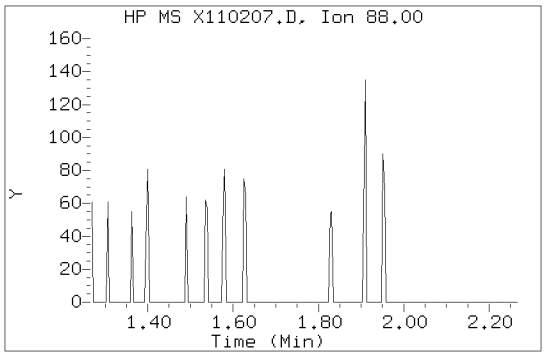
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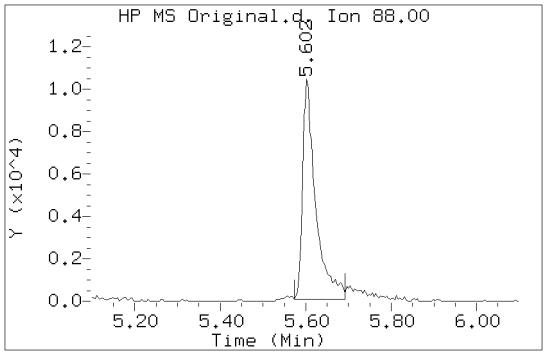
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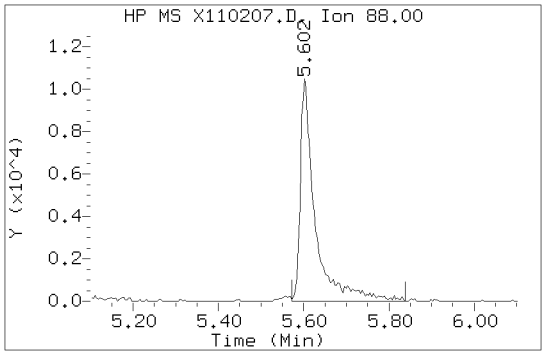
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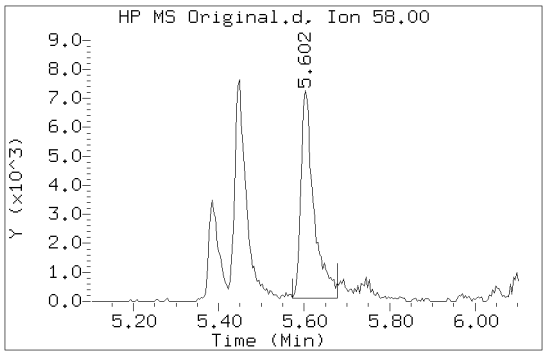
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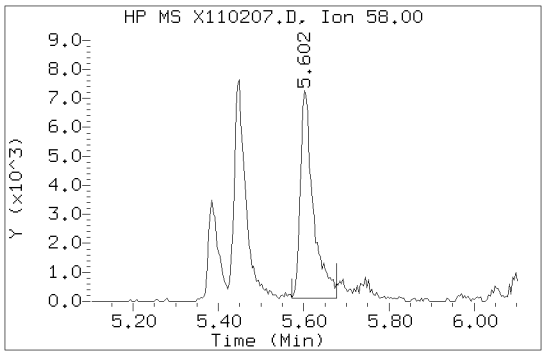
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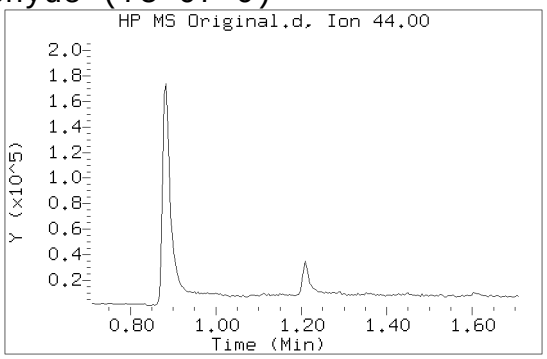


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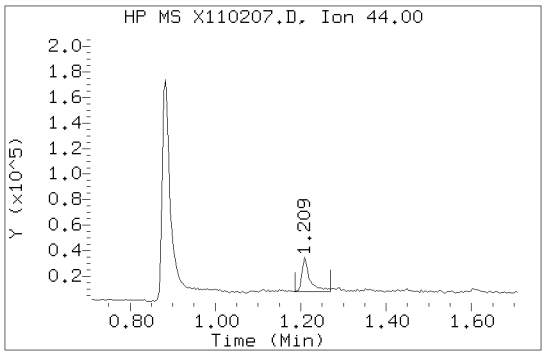
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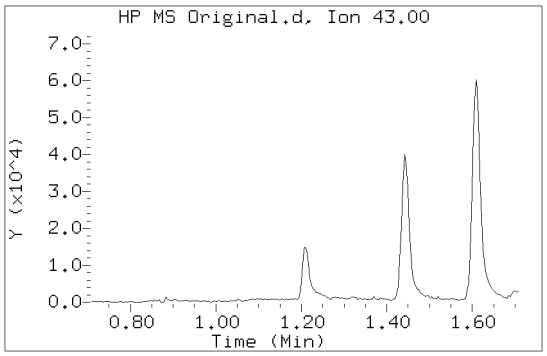
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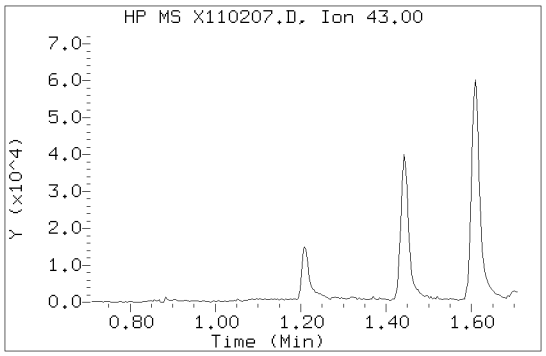
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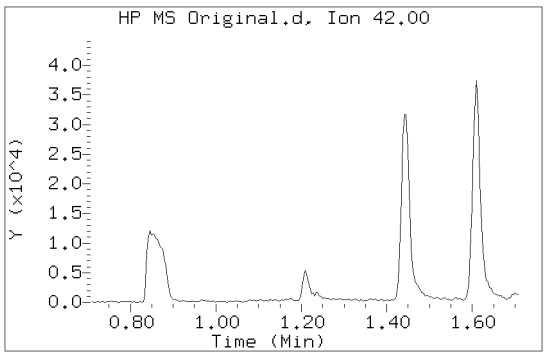
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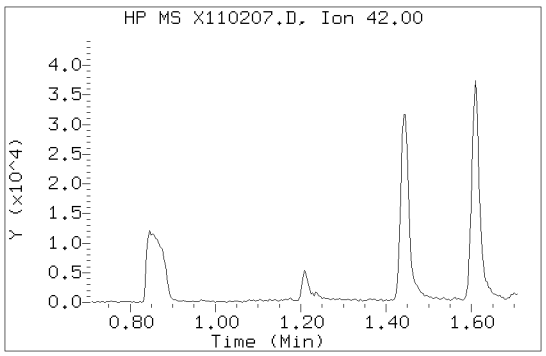
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Report Date: 09-Nov-2022 12:35

ALS Laboratory Group

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Inj Date : 02-NOV-2022 13:48
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Smp Info : VSTD050;VSTD050;1;7;
Misc Info : HS22052000V6;WATER;0;1;
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Meth Date : 09-Nov-2022 12:35 voa6.i Quant Type: ISTD
Cal Date : 02-NOV-2022 13:27 Cal File: X110207.D
Als bottle: 9 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260V6.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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)	602205	50.0000	
135 1,4-Dioxane	88	5.602	5.602	(1.340)	59509	1000.00	926.76
140 1,3-Butadiene	54	1.164	1.164	(0.278)	268424	50.0000	53.17
25 Methacrylonitrile	41	3.818	3.818	(0.913)	251709	50.0000	46.65
12 Isobutyl Alcohol	43	4.672	4.672	(1.117)	871554	1000.00	968.93
13 Acetonitrile	39	2.198	2.198	(0.526)	334390	500.000	463.45
14 Allyl Chloride	41	2.198	2.198	(0.526)	616639	50.0000	45.48
4 Propionitrile	54	3.649	3.649	(0.873)	362365	500.000	478.80
136 n-Hexane	57	2.772	2.772	(0.663)	271751	50.0000	54.55
72 trans-1,4-Dichloro-2-butene	53	8.890	8.890	(1.159)	105474	50.0000	51.56
194 Acetaldehyde	44	1.209	1.209	(0.289)	87732	200.000	217.17(M)
23 Chloroprene	53	1.767	1.767	(0.423)	116175	50.0000	50.37(M)
145 alpha-Methylstyrene	118	9.261	9.261	(0.958)	586676	50.0000	50.88
200 Dimethyl Disulfide	94	6.198	6.198	(0.808)	558081	50.0000	49.17
139 Diethyl ether	59	1.756	1.756	(0.420)	223028	50.0000	47.03
130 Ethyl Acetate	43	3.653	3.653	(0.874)	297200	50.0000	46.99
40 Methyl Methacrylate	41	5.606	5.606	(1.341)	262360	50.0000	47.10
49 Ethyl Methacrylate	69	6.787	6.787	(1.367)	465871	50.0000	49.93
132 n-Butanol	56	5.257	5.257	(1.257)	108276	1000.00	948.44
142 Tetrahydrofuran	42	3.844	3.844	(0.919)	90540	100.000	94.78

150	Allyl alcohol	57	2.772	2.772 (0.663)	271751	1000.00	1090.99
166	1,2,3-Trimethylbenzene	105	9.729	9.729 (1.007)	1004202	50.0000	44.12

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110208.D Page 2
Report Date: 09-Nov-2022 12:35

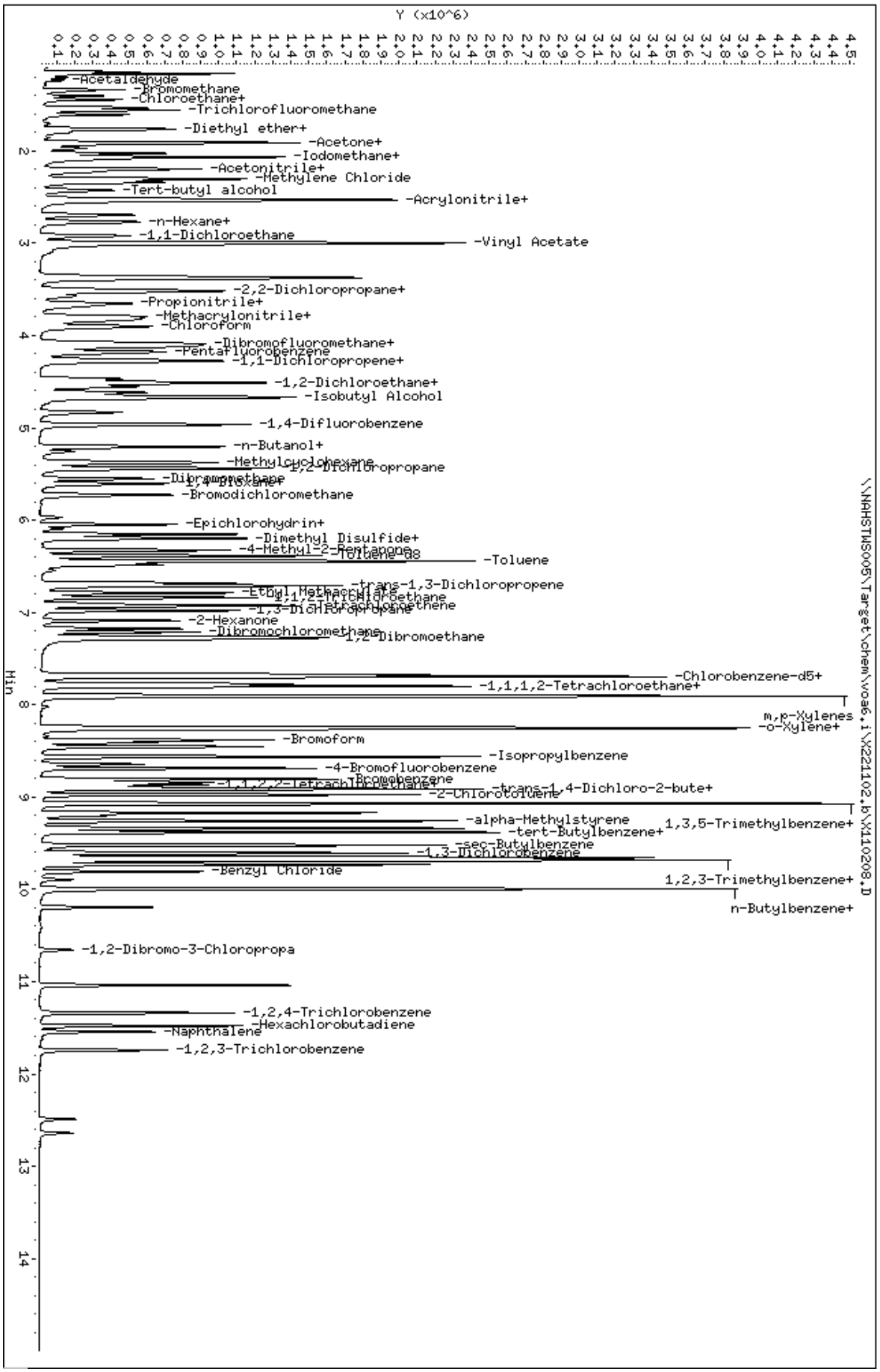
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	2 Dichlorodifluoromethane	85	0.972	0.972	(0.233)	297188	50.0000	53.63
	3 Chloromethane	50	1.077	1.077	(0.258)	323298	50.0000	49.42
	5 Vinyl Chloride	62	1.141	1.141	(0.273)	342534	50.0000	50.19
	6 Bromomethane	94	1.336	1.336	(0.320)	209754	50.0000	48.90
	7 Chloroethane	64	1.400	1.400	(0.335)	212488	50.0000	49.95
	8 Trichlorofluoromethane	101	1.557	1.557	(0.372)	444678	50.0000	51.13
	9 Acrolein	56	1.441	1.441	(0.345)	33355	100.000	85.32
	10 Acetone	43	1.970	1.970	(0.471)	218510	100.000	102.78
	11 1,1-Dichloroethene	96	1.913	1.913	(0.458)	255637	50.0000	49.89
	15 Iodomethane	142	2.026	2.026	(0.485)	699146	100.000	103.87
	16 Acrylonitrile	53	2.532	2.532	(0.606)	194712	100.000	98.90
	17 Methylene Chloride	84	2.299	2.299	(0.550)	318000	50.0000	48.54
	18 Methyl tert-butyl ether	73	2.532	2.532	(0.606)	835554	50.0000	46.31
	19 Carbon Disulfide	76	2.067	2.067	(0.494)	1541595	100.000	99.05
	20 trans-1,2-Dichloroethene	96	2.524	2.524	(0.604)	281847	50.0000	49.57
	21 Vinyl Acetate	43	2.997	2.997	(0.717)	1590798	100.000	99.26
	22 1,1-Dichloroethane	63	2.918	2.918	(0.698)	494390	50.0000	48.31
	24 2-Butanone	43	3.574	3.574	(0.855)	219883	100.000	102.12(H)
	26 2,2-Dichloropropane	77	3.506	3.506	(0.839)	420710	50.0000	49.33
	27 cis-1,2-Dichloroethene	96	3.525	3.525	(0.843)	325778	50.0000	49.04
	28 Chloroform	83	3.904	3.904	(0.934)	542261	50.0000	47.55
	29 Bromochloromethane	128	3.795	3.795	(0.908)	172106	50.0000	48.24
$	30 Dibromofluoromethane	113	4.095	4.095	(0.979)	268120	50.0000	44.73
	31 1,1,1-Trichloroethane	97	4.080	4.080	(0.976)	427676	50.0000	48.75
	32 1,1-Dichloropropene	75	4.279	4.279	(0.862)	372230	50.0000	49.49
	33 1,2-Dichloroethane	62	4.552	4.552	(0.917)	422610	50.0000	49.59
	34 Carbon Tetrachloride	117	4.264	4.264	(0.859)	330146	50.0000	52.35(H)
$	35 1,2-Dichloroethane-d4	65	4.470	4.470	(1.069)	325660	50.0000	46.94
*	36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	937869	50.0000	
	37 Benzene	78	4.511	4.511	(0.909)	1154561	50.0000	49.61
	38 Trichloroethene	130	5.205	5.205	(1.048)	324066	50.0000	49.57
	39 Bromodichloromethane	83	5.726	5.726	(1.153)	407654	50.0000	49.36
	41 2-Chloroethylvinyl ether	63	6.048	6.048	(1.218)	285323	100.000	103.70
	42 1,2-Dichloropropane	63	5.433	5.433	(1.094)	311007	50.0000	49.31
	44 Dibromomethane	93	5.553	5.553	(1.119)	206885	50.0000	48.45
	45 4-Methyl-2-Pentanone	43	6.325	6.325	(0.825)	585289	100.000	99.76
	46 cis-1,3-Dichloropropene	75	6.153	6.153	(1.239)	525700	50.0000	50.50
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	913175	50.0000	
$	48 Toluene-d8	98	6.385	6.385	(0.832)	925821	50.0000	42.01(M)
	50 Toluene	91	6.445	6.445	(0.840)	1280128	50.0000	49.01
	51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.346)	456883	50.0000	51.01
	52 2-Hexanone	43	7.086	7.086	(0.924)	406187	100.000	102.82
	53 1,1,2-Trichloroethane	83	6.839	6.839	(0.892)	253497	50.0000	48.41
	54 1,3-Dichloropropane	76	6.981	6.981	(0.910)	509122	50.0000	48.99
	55 Dibromochloromethane	129	7.176	7.176	(0.935)	332031	50.0000	49.32
	56 Tetrachloroethene	164	6.929	6.929	(0.903)	265562	50.0000	50.88
	57 1,2-Dibromoethane	107	7.259	7.259	(0.946)	325464	50.0000	49.74
	58 1-Chlorohexane	55	7.697	7.697	(1.550)	271539	50.0000	53.41
	59 Chlorobenzene	112	7.694	7.694	(1.003)	873848	50.0000	49.53
	60 1,1,1,2-Tetrachloroethane	131	7.772	7.772	(1.013)	314572	50.0000	50.25
	61 Ethylbenzene	106	7.799	7.799	(1.017)	441893	50.0000	49.23
	62 m,p-Xylenes	106	7.904	7.904	(1.030)	1123937	100.000	100.65

63 o-Xylene	106	8.241	8.241 (1.074)	544728	50.0000	50.13
64 Styrene	104	8.260	8.260 (1.077)	955424	50.0000	52.27

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	66 Bromoform	173	8.410	8.410	(1.096)	213545	50.0000	47.43
	67 Isopropylbenzene	105	8.563	8.563	(1.116)	1347428	50.0000	50.73
	68 1,1,2,2-Tetrachloroethane	83	8.837	8.837	(0.915)	372565	50.0000	46.60
$	69 4-Bromofluorobenzene	95	8.691	8.691	(1.133)	391515	50.0000	46.07
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	482492	50.0000	
	71 1,2,3-Trichloropropane	75	8.863	8.863	(0.917)	290199	50.0000	47.72(M)
	73 n-Propylbenzene	91	8.912	8.912	(0.922)	1586734	50.0000	49.68
	74 Bromobenzene	156	8.803	8.803	(0.911)	405008	50.0000	48.79
	75 1,3,5-Trimethylbenzene	105	9.069	9.069	(0.939)	1132357	50.0000	49.85
	76 2-Chlorotoluene	91	8.976	8.976	(0.929)	974451	50.0000	48.32
	77 4-Chlorotoluene	91	9.069	9.069	(0.939)	1138425	50.0000	49.71
	78 tert-Butylbenzene	119	9.336	9.336	(0.966)	943173	50.0000	50.52
	79 1,2,4-Trimethylbenzene	105	9.381	9.381	(0.971)	1150601	50.0000	49.16
	81 sec-Butylbenzene	105	9.523	9.523	(0.986)	1306428	50.0000	50.16
	82 p-Isopropyltoluene	119	9.650	9.650	(0.999)	1147342	50.0000	49.46
	83 1,3-Dichlorobenzene	146	9.606	9.606	(0.994)	681869	50.0000	49.12
	84 1,4-Dichlorobenzene	146	9.684	9.684	(1.002)	703273	50.0000	48.87
	86 Benzyl Chloride	91	9.808	9.808	(1.279)	517481	50.0000	44.60
	87 n-Butylbenzene	91	9.995	9.995	(1.035)	1013878	50.0000	51.67
	88 1,2-Dichlorobenzene	146	9.992	9.992	(1.034)	643704	50.0000	49.32
	89 1,2-Dibromo-3-Chloropropane	155	10.659	10.659	(1.103)	39321	50.0000	47.48
	90 1,2,4-Trichlorobenzene	180	11.337	11.337	(1.173)	294006	50.0000	48.53
	91 Hexachlorobutadiene	225	11.480	11.480	(1.188)	183666	50.0000	51.00
	92 Naphthalene	128	11.544	11.544	(1.195)	452429	50.0000	47.97
	93 1,2,3-Trichlorobenzene	180	11.742	11.742	(1.215)	207306	50.0000	47.44
M	94 1,2-Dichloroethylene (total)	96				607625	100.000	
M	95 Xylenes (total)	106				1668665	150.000	
	141 Cyclohexane	56	4.121	4.121	(0.986)	364971	50.0000	54.93
	138 Freon TF	101	1.913	1.913	(0.458)	253752	50.0000	55.35
	147 Methylcyclohexane	55	5.381	5.381	(1.084)	618769	50.0000	47.66
	146 Methyl Acetate	43	2.228	2.228	(0.533)	188246	50.0000	51.45
	148 Tert-Butyl alcohol	59	2.427	2.427	(0.580)	481967	1000.00	936.54
	149 Isopropyl Alcohol	45	2.093	2.093	(0.501)	266842	1000.00	952.04

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.



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Client ID: VSTD050
Sample Info: VSTD050;VSTD050;1;7;
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Column phase: DB624

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

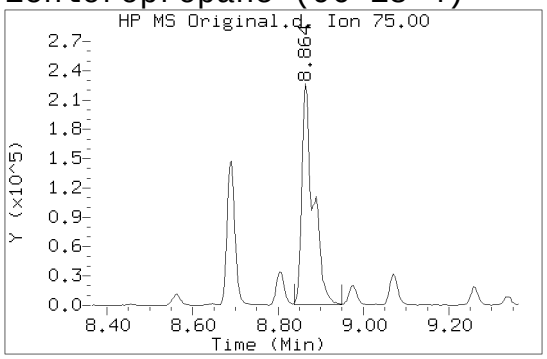
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Inj Date : 02-NOV-2022 13:48
InstruID : voa6.i
LabSampID : VSTD050

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

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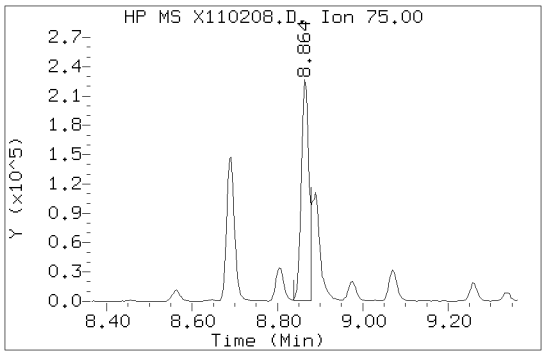
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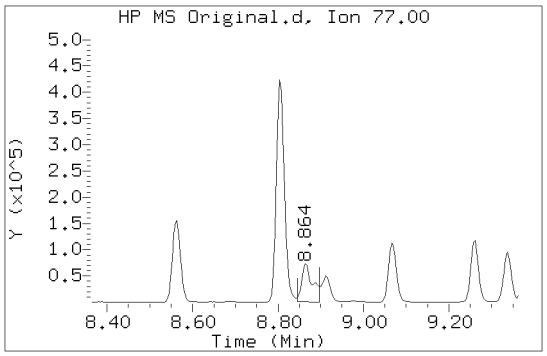
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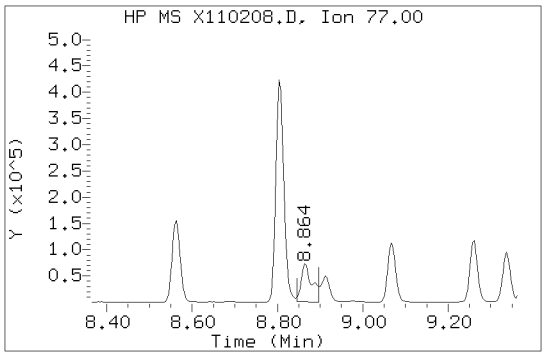
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AFTER

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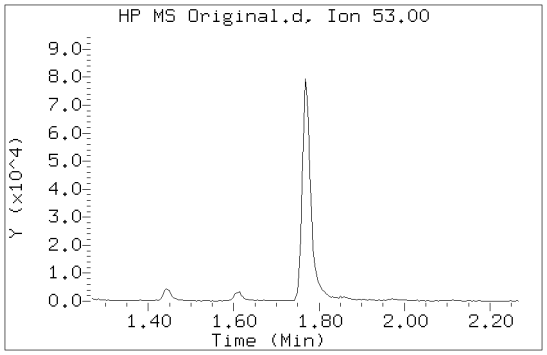


Chloroprene (126-99-8)

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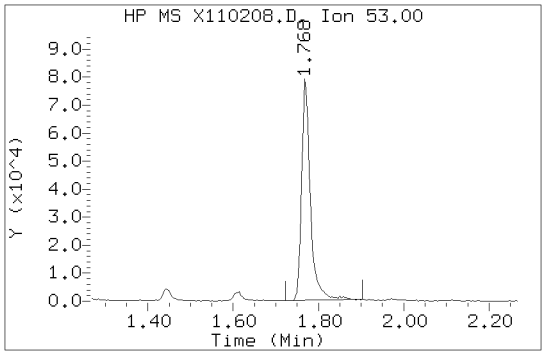
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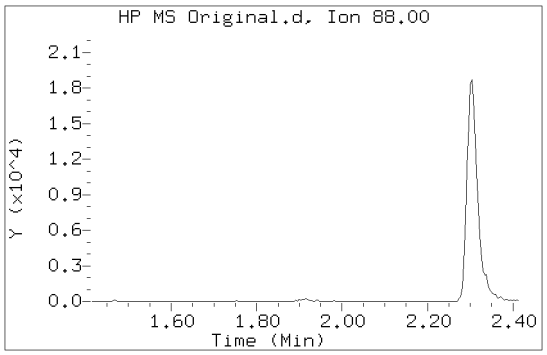
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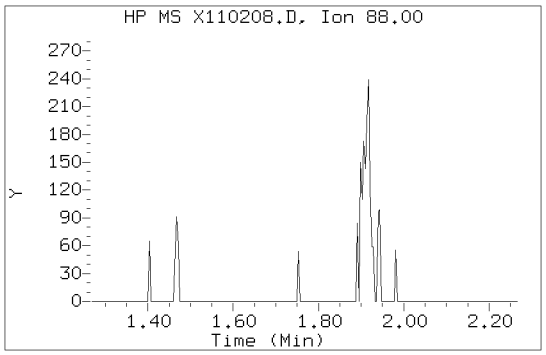
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AFTER

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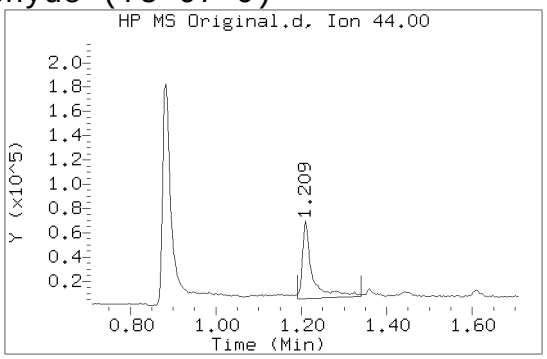
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InstruID : voa6.i
LabSampID : VSTD050

Acetaldehyde (75-07-0)

Reason Code:

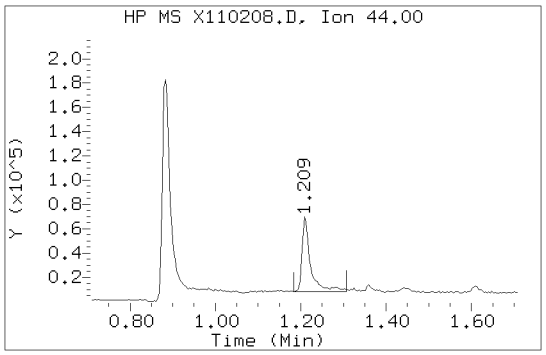
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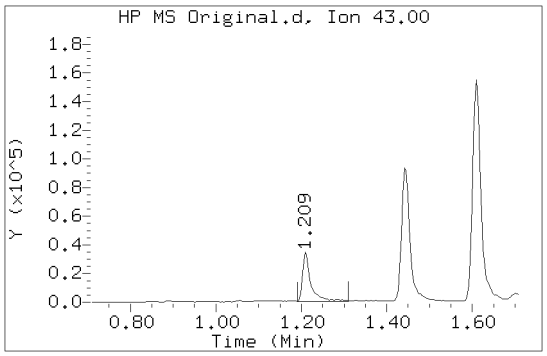
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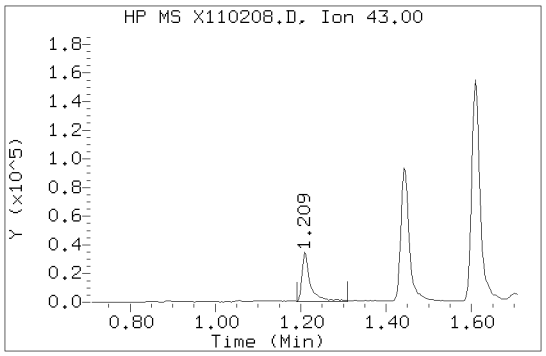
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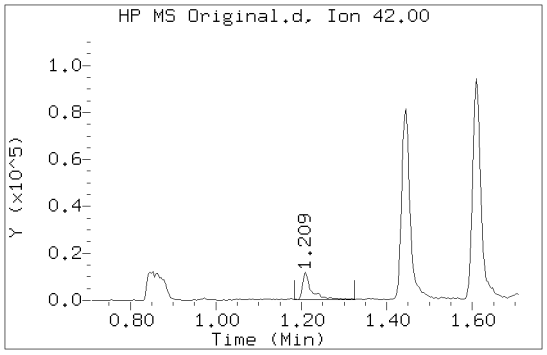
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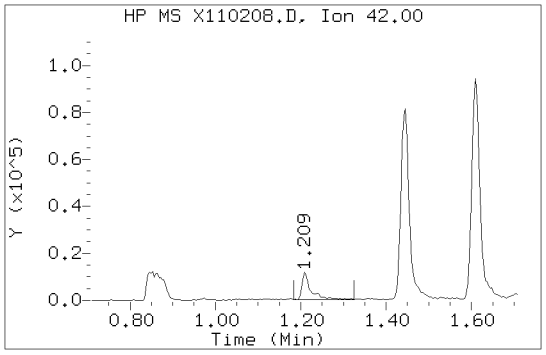
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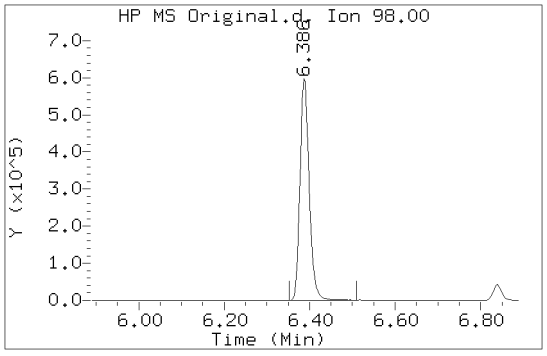


Toluene-d8 (2037-26-5)

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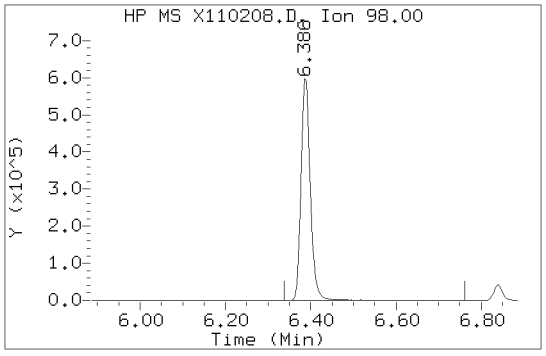
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AFTER

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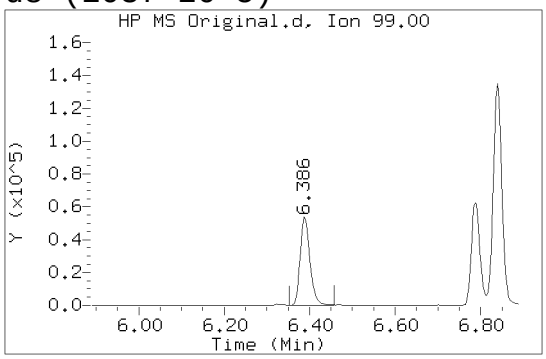


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LabSampID : VSTD050

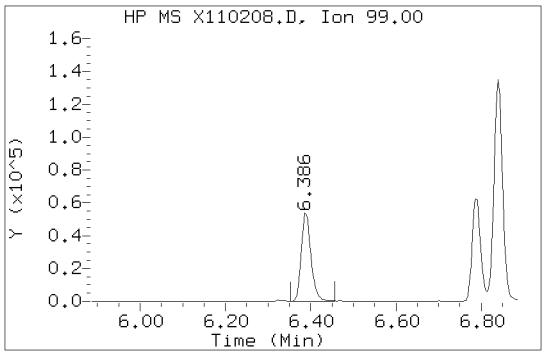
Toluene-d8 (2037-26-5)

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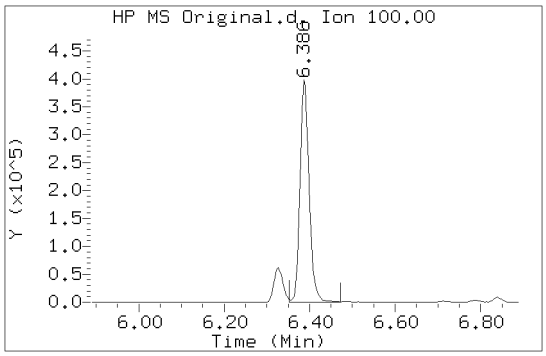
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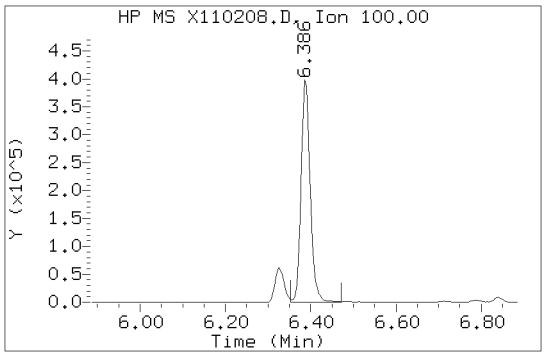
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08-Nov-2022
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pham



AFTER
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09-Nov-2022
12:35



ALS Laboratory Group

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Misc Info : HS22052000V6;WATER;0;1;
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Als bottle: 10 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260V6.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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)	641951	50.0000	
135 1,4-Dioxane	88	5.602	5.602	(1.341)	124104	2000.00	1813.06
140 1,3-Butadiene	54	1.164	1.164	(0.279)	500213	100.000	92.95
25 Methacrylonitrile	41	3.818	3.818	(0.914)	549529	100.000	95.54
12 Isobutyl Alcohol	43	4.672	4.672	(1.118)	1786931	2000.00	1863.58
13 Acetonitrile	39	2.194	2.194	(0.525)	726984	1000.00	945.18
14 Allyl Chloride	41	2.198	2.198	(0.526)	1322107	100.000	91.48
4 Propionitrile	54	3.649	3.649	(0.873)	764129	1000.00	947.14
136 n-Hexane	57	2.768	2.768	(0.663)	537883	100.000	98.94
72 trans-1,4-Dichloro-2-butene	53	8.889	8.889	(1.159)	223525	100.000	103.44
194 Acetaldehyde	44	1.209	1.209	(0.289)	175492	400.000	424.14(M)
23 Chloroprene	53	1.767	1.767	(0.423)	226918	100.000	92.30
145 alpha-Methylstyrene	118	9.261	9.261	(0.958)	1184217	100.000	98.08
200 Dimethyl Disulfide	94	6.198	6.198	(0.808)	1290978	100.000	107.68
139 Diethyl ether	59	1.756	1.756	(0.420)	458911	100.000	90.79
130 Ethyl Acetate	43	3.653	3.653	(0.874)	620428	100.000	92.03
40 Methyl Methacrylate	41	5.606	5.606	(1.342)	572847	100.000	96.48
49 Ethyl Methacrylate	69	6.786	6.786	(1.367)	1008805	100.000	102.39
132 n-Butanol	56	5.253	5.253	(1.258)	235757	2000.00	1937.25
142 Tetrahydrofuran	42	3.844	3.844	(0.920)	190167	200.000	186.76

150	Allyl alcohol	57	2.768	2.768 (0.663)	537883	2000.00	1979.03
166	1,2,3-Trimethylbenzene	105	9.733	9.733 (1.007)	2198767	100.000	92.26

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Report Date: 09-Nov-2022 12:35

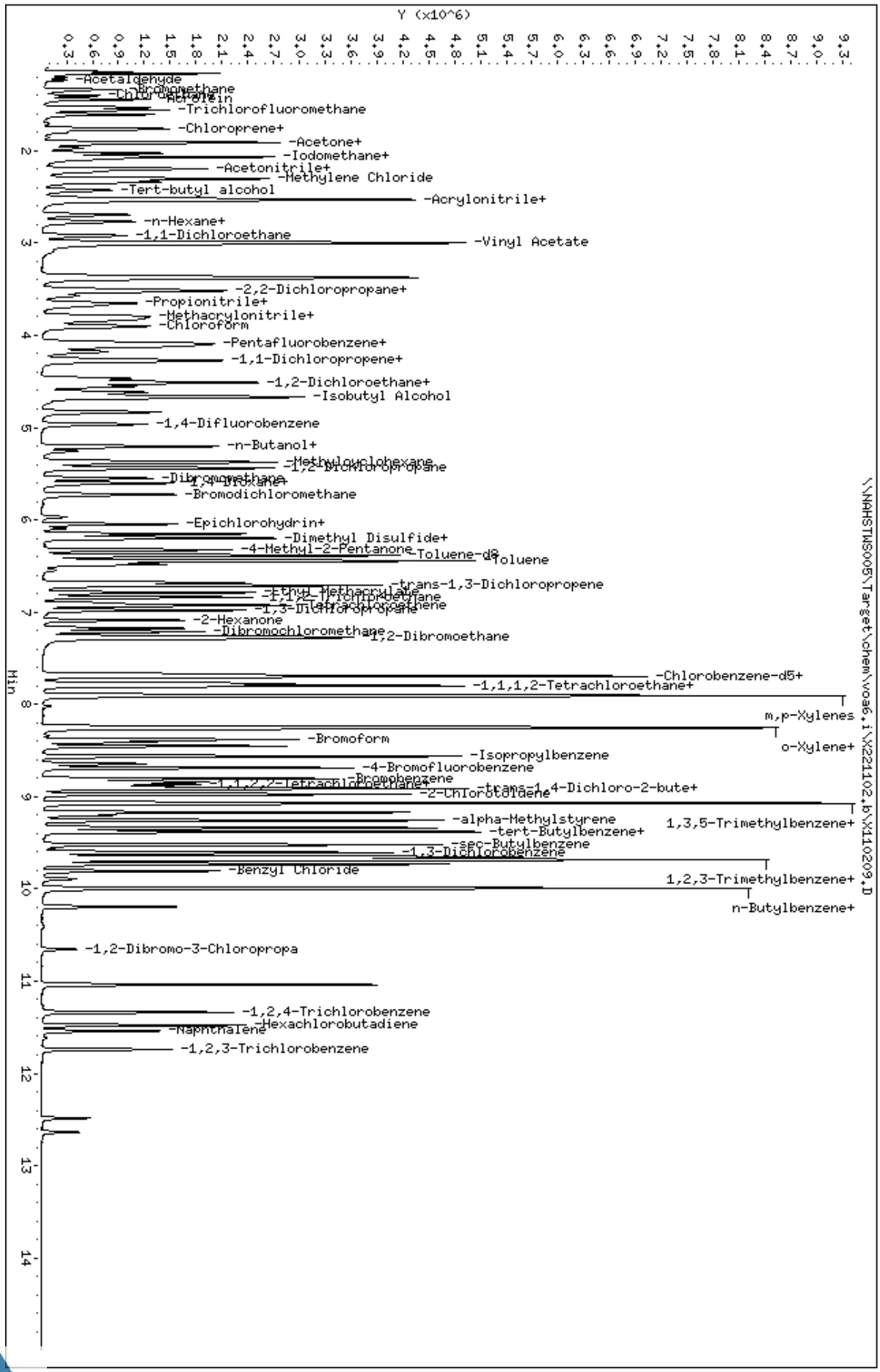
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	2 Dichlorodifluoromethane	85	0.972	0.972	(0.233)	545177	100.000	91.85
	3 Chloromethane	50	1.077	1.077	(0.258)	632506	100.000	89.56
	5 Vinyl Chloride	62	1.141	1.141	(0.273)	657776	100.000	90.42
	6 Bromomethane	94	1.336	1.336	(0.320)	422631	100.000	91.31
	7 Chloroethane	64	1.400	1.400	(0.335)	414003	100.000	91.29
	8 Trichlorofluoromethane	101	1.557	1.557	(0.373)	870839	100.000	93.93
	9 Acrolein	56	1.441	1.441	(0.345)	92414	200.000	205.27
	10 Acetone	43	1.969	1.969	(0.472)	425910	200.000	189.17
	11 1,1-Dichloroethene	96	1.913	1.913	(0.458)	505066	100.000	92.47
	15 Iodomethane	142	2.026	2.026	(0.485)	1484901	200.000	195.45
	16 Acrylonitrile	53	2.528	2.528	(0.605)	414172	200.000	197.35
	17 Methylene Chloride	84	2.299	2.299	(0.550)	612684	100.000	87.73
	18 Methyl tert-butyl ether	73	2.532	2.532	(0.606)	1749862	100.000	90.99
	19 Carbon Disulfide	76	2.067	2.067	(0.495)	3034833	200.000	182.93
	20 trans-1,2-Dichloroethene	96	2.524	2.524	(0.604)	555687	100.000	91.69
	21 Vinyl Acetate	43	2.993	2.993	(0.716)	3362164	200.000	196.80
	22 1,1-Dichloroethane	63	2.918	2.918	(0.699)	988101	100.000	90.58
	24 2-Butanone	43	3.574	3.574	(0.856)	472249	200.000	205.75(H)
	26 2,2-Dichloropropane	77	3.510	3.510	(0.840)	855682	100.000	93.01
	27 cis-1,2-Dichloroethene	96	3.521	3.521	(0.843)	664189	100.000	93.80
	28 Chloroform	83	3.904	3.904	(0.935)	1097992	100.000	90.33
	29 Bromochloromethane	128	3.791	3.791	(0.908)	347217	100.000	91.30
$	30 Dibromofluoromethane	113	4.095	4.095	(0.980)	644427	100.000	100.19
	31 1,1,1-Trichloroethane	97	4.080	4.080	(0.977)	869372	100.000	92.98
	32 1,1-Dichloropropene	75	4.279	4.279	(0.862)	747255	100.000	94.09
	33 1,2-Dichloroethane	62	4.552	4.552	(0.917)	844310	100.000	93.82
	34 Carbon Tetrachloride	117	4.264	4.264	(0.859)	675692	100.000	97.85(H)
$	35 1,2-Dichloroethane-d4	65	4.470	4.470	(1.070)	728330	100.000	98.02
*	36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	990344	50.0000	
	37 Benzene	78	4.511	4.511	(0.909)	2297656	100.000	93.50
	38 Trichloroethene	130	5.205	5.205	(1.048)	645570	100.000	93.52
	39 Bromodichloromethane	83	5.726	5.726	(1.153)	841784	100.000	96.53
	41 2-Chloroethylvinyl ether	63	6.048	6.048	(1.218)	590571	200.000	203.28
	42 1,2-Dichloropropane	63	5.437	5.437	(1.095)	626280	100.000	94.04
	44 Dibromomethane	93	5.549	5.549	(1.118)	421498	100.000	93.49
	45 4-Methyl-2-Pentanone	43	6.325	6.325	(0.825)	1217691	200.000	196.46
	46 cis-1,3-Dichloropropene	75	6.153	6.153	(1.239)	1093587	100.000	99.50
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	964709	50.0000	
$	48 Toluene-d8	98	6.385	6.385	(0.832)	2416766	100.000	103.80
	50 Toluene	91	6.445	6.445	(0.840)	2586127	100.000	93.73
	51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.346)	959265	100.000	101.44
	52 2-Hexanone	43	7.086	7.086	(0.924)	849138	200.000	203.47
	53 1,1,2-Trichloroethane	83	6.839	6.839	(0.892)	516428	100.000	93.36
	54 1,3-Dichloropropane	76	6.981	6.981	(0.910)	1054747	100.000	96.08
	55 Dibromochloromethane	129	7.176	7.176	(0.935)	708202	100.000	99.58
	56 Tetrachloroethene	164	6.929	6.929	(0.903)	537869	100.000	97.05
	57 1,2-Dibromoethane	107	7.259	7.259	(0.946)	666747	100.000	96.46
	58 1-Chlorohexane	55	7.697	7.697	(1.550)	542443	100.000	99.12
	59 Chlorobenzene	112	7.694	7.694	(1.003)	1767516	100.000	94.84
	60 1,1,1,2-Tetrachloroethane	131	7.772	7.772	(1.013)	653460	100.000	98.81
	61 Ethylbenzene	106	7.799	7.799	(1.017)	892212	100.000	94.09
	62 m,p-Xylenes	106	7.904	7.904	(1.030)	2247653	200.000	190.53

63 o-Xylene	106	8.241	8.241 (1.074)	1100141	100.000	95.84
64 Styrene	104	8.260	8.260 (1.077)	1930855	100.000	100.00

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	66 Bromoform	173	8.410	8.410	(1.096)	455371	100.000	93.26
	67 Isopropylbenzene	105	8.563	8.563	(1.116)	2699200	100.000	96.20
	68 1,1,2,2-Tetrachloroethane	83	8.837	8.837	(0.915)	764136	100.000	91.28
$	69 4-Bromofluorobenzene	95	8.687	8.687	(1.132)	920950	100.000	102.26
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	505277	50.0000	
	71 1,2,3-Trichloropropane	75	8.863	8.863	(0.917)	651054	100.000	102.24
	73 n-Propylbenzene	91	8.912	8.912	(0.922)	3189479	100.000	95.37
	74 Bromobenzene	156	8.803	8.803	(0.911)	816505	100.000	93.93
	75 1,3,5-Trimethylbenzene	105	9.069	9.069	(0.939)	2268337	100.000	95.36
	76 2-Chlorotoluene	91	8.976	8.976	(0.929)	1938210	100.000	91.78
	77 4-Chlorotoluene	91	9.069	9.069	(0.939)	2270668	100.000	94.68
	78 tert-Butylbenzene	119	9.339	9.339	(0.967)	1882621	100.000	95.80
	79 1,2,4-Trimethylbenzene	105	9.381	9.381	(0.971)	2303953	100.000	94.01
	81 sec-Butylbenzene	105	9.523	9.523	(0.986)	2635190	100.000	95.83
	82 p-Isopropyltoluene	119	9.650	9.650	(0.999)	2317616	100.000	95.40
	83 1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	1370217	100.000	94.27
	84 1,4-Dichlorobenzene	146	9.680	9.680	(1.002)	1417457	100.000	94.06
	86 Benzyl Chloride	91	9.808	9.808	(1.279)	1177662	100.000	91.44
	87 n-Butylbenzene	91	9.992	9.992	(1.034)	2071325	100.000	100.81
	88 1,2-Dichlorobenzene	146	9.992	9.992	(1.034)	1302291	100.000	95.29
	89 1,2-Dibromo-3-Chloropropane	155	10.655	10.655	(1.103)	80027	100.000	89.71
	90 1,2,4-Trichlorobenzene	180	11.337	11.337	(1.173)	620981	100.000	97.87
	91 Hexachlorobutadiene	225	11.480	11.480	(1.188)	389797	100.000	100.19
	92 Naphthalene	128	11.540	11.540	(1.194)	949552	100.000	96.14
	93 1,2,3-Trichlorobenzene	180	11.742	11.742	(1.215)	426864	100.000	93.28
M	94 1,2-Dichloroethylene (total)	96				1219876	200.000	
M	95 Xylenes (total)	106				3347794	300.000	
	141 Cyclohexane	56	4.121	4.121	(0.987)	712197	100.000	98.60
	138 Freon TF	101	1.913	1.913	(0.458)	483822	100.000	98.18
	147 Methylcyclohexane	55	5.377	5.377	(1.083)	1516847	100.000	110.66(A)
	146 Methyl Acetate	43	2.228	2.228	(0.533)	387884	100.000	99.45
	148 Tert-Butyl alcohol	59	2.427	2.427	(0.581)	985034	2000.00	1795.58
	149 Isopropyl Alcohol	45	2.093	2.093	(0.501)	533337	2000.00	1785.04

QC Flag Legend

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
Column diameter: 0.18

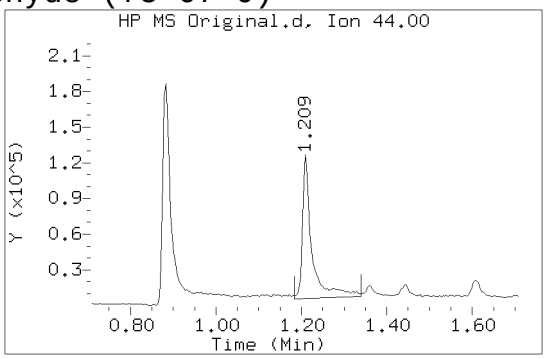
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Inj Date : 02-NOV-2022 14:09
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LabSampID : VSTD100

Acetaldehyde (75-07-0)

Reason Code:

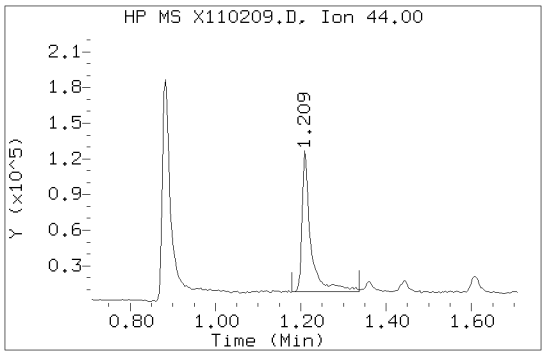
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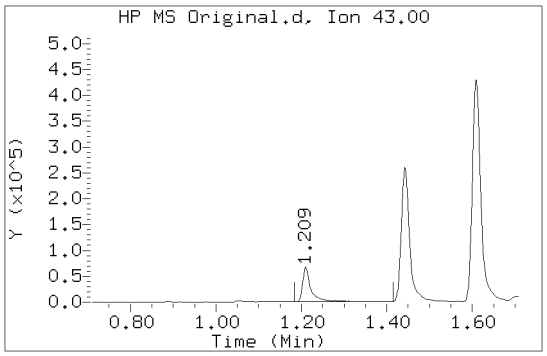
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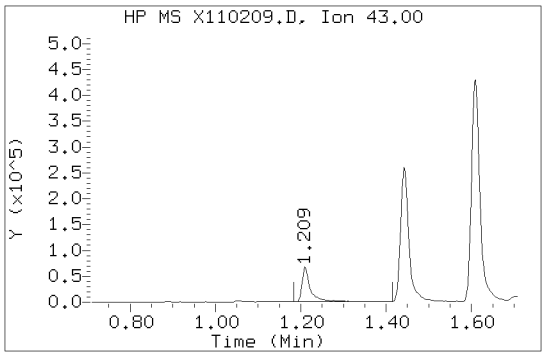
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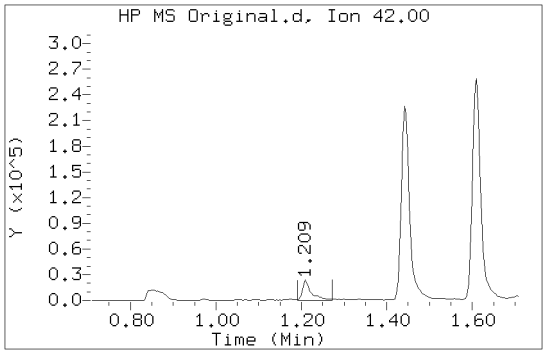
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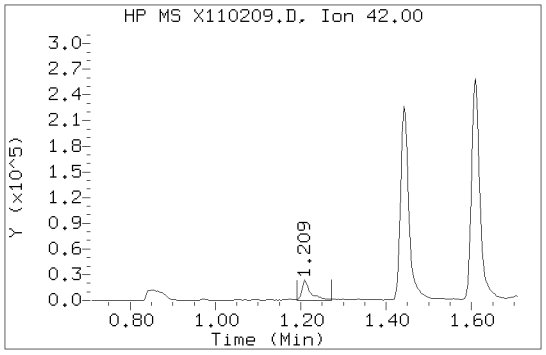
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AFTER

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09-Nov-2022
12:35



ALS Laboratory Group

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Inj Date : 02-NOV-2022 14:29
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Smp Info : VSTD150;VSTD150;1;9;
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Cal Date : 02-NOV-2022 14:09 Cal File: X110209.D
Als bottle: 11 Calibration Sample, Level: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260V6.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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)	626072	50.0000	
135 1,4-Dioxane	88	5.602	5.602	(1.340)	207926	3000.00	3114.68
140 1,3-Butadiene	54	1.164	1.164	(0.278)	776529	150.000	147.96
25 Methacrylonitrile	41	3.818	3.818	(0.913)	860766	150.000	153.45
12 Isobutyl Alcohol	43	4.672	4.672	(1.117)	2810677	3000.00	3005.59
13 Acetonitrile	39	2.194	2.194	(0.525)	1133543	1500.00	1511.15
14 Allyl Chloride	41	2.194	2.194	(0.525)	2083133	150.000	147.80
4 Propionitrile	54	3.649	3.649	(0.873)	1185410	1500.00	1506.59
136 n-Hexane	57	2.768	2.768	(0.662)	808535	150.000	147.77
72 trans-1,4-Dichloro-2-butene	53	8.889	8.889	(1.159)	358723	150.000	165.70
194 Acetaldehyde	44	1.208	1.208	(0.289)	238390	600.000	598.23(M)
23 Chloroprene	53	1.767	1.767	(0.423)	344641	150.000	143.74
145 alpha-Methylstyrene	118	9.261	9.261	(0.958)	1857284	150.000	155.76
200 Dimethyl Disulfide	94	6.198	6.198	(0.808)	2087492	150.000	173.80
139 Diethyl ether	59	1.756	1.756	(0.420)	692483	150.000	140.48
130 Ethyl Acetate	43	3.653	3.653	(0.874)	967417	150.000	147.13
40 Methyl Methacrylate	41	5.602	5.602	(1.340)	878050	150.000	151.64
49 Ethyl Methacrylate	69	6.786	6.786	(1.367)	1541888	150.000	157.43
132 n-Butanol	56	5.253	5.253	(1.256)	410648	3000.00	3459.95
142 Tetrahydrofuran	42	3.844	3.844	(0.919)	297351	300.000	299.43

150	Allyl alcohol	57	2.768	2.768 (0.662)	808535	3000.00	2955.67
166	1,2,3-Trimethylbenzene	105	9.733	9.733 (1.007)	3351124	150.000	142.37

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Report Date: 09-Nov-2022 12:35

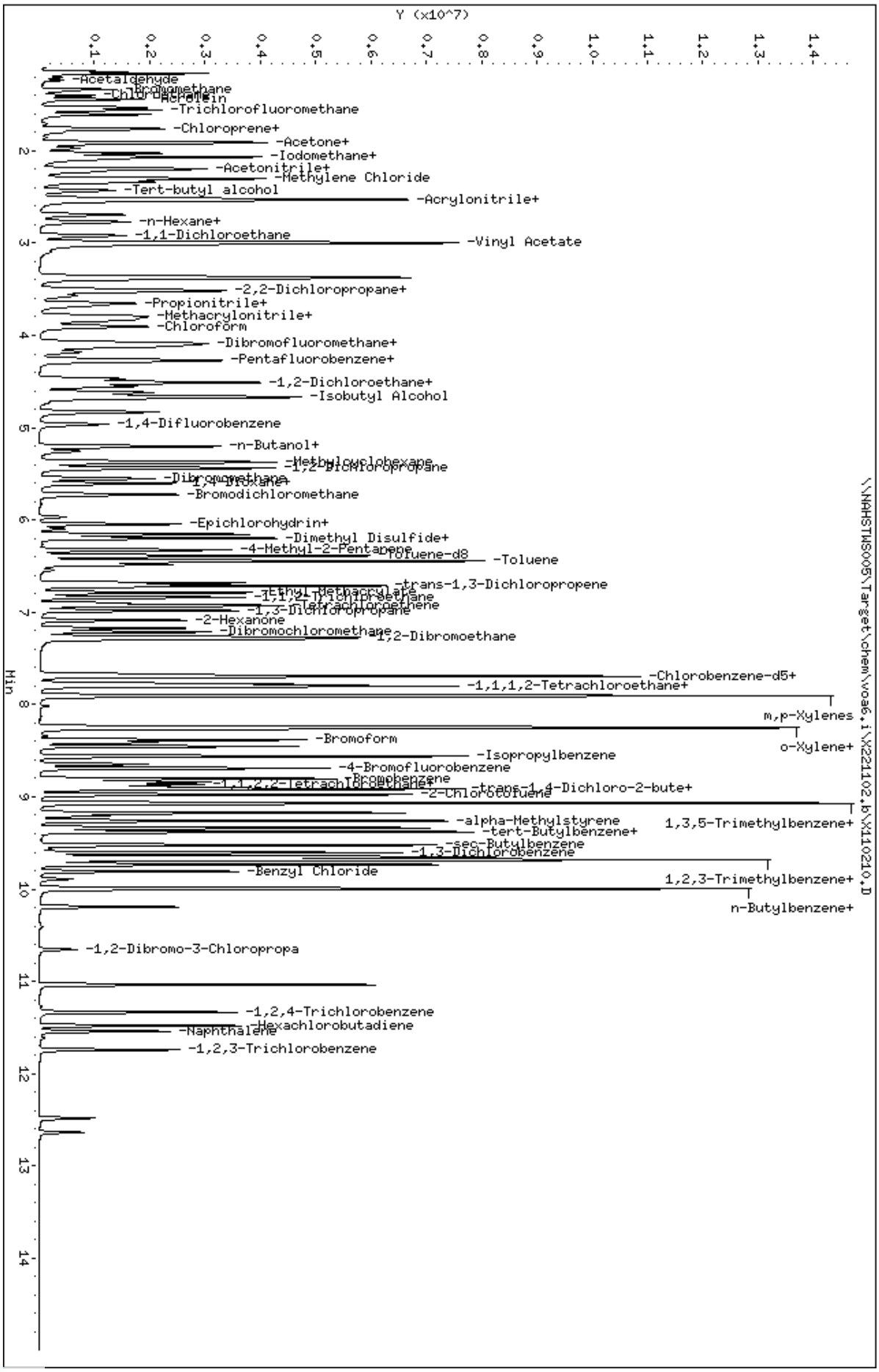
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	2 Dichlorodifluoromethane	85	0.972	0.972	(0.233)	845446	150.000	145.70
	3 Chloromethane	50	1.077	1.077	(0.258)	1037088	150.000	149.63
	5 Vinyl Chloride	62	1.141	1.141	(0.273)	1020473	150.000	143.84
	6 Bromomethane	94	1.336	1.336	(0.320)	681885	150.000	150.23
	7 Chloroethane	64	1.400	1.400	(0.335)	642963	150.000	145.38
	8 Trichlorofluoromethane	101	1.557	1.557	(0.372)	1321106	150.000	146.11
	9 Acrolein	56	1.441	1.441	(0.345)	142790	300.000	304.02
	10 Acetone	43	1.969	1.969	(0.471)	654774	300.000	299.06
	11 1,1-Dichloroethene	96	1.909	1.909	(0.457)	764582	150.000	143.53
	15 Iodomethane	142	2.026	2.026	(0.485)	2411390	300.000	303.44
	16 Acrylonitrile	53	2.528	2.528	(0.605)	652110	300.000	318.62
	17 Methylene Chloride	84	2.299	2.299	(0.550)	970948	150.000	142.55
	18 Methyl tert-butyl ether	73	2.532	2.532	(0.606)	2740669	150.000	146.12
	19 Carbon Disulfide	76	2.067	2.067	(0.494)	4790065	300.000	296.06
	20 trans-1,2-Dichloroethene	96	2.524	2.524	(0.604)	882613	150.000	149.33
	21 Vinyl Acetate	43	2.997	2.997	(0.717)	5209347	300.000	312.66
	22 1,1-Dichloroethane	63	2.918	2.918	(0.698)	1575174	150.000	148.06
	24 2-Butanone	43	3.574	3.574	(0.855)	755970	300.000	337.71(H)
	26 2,2-Dichloropropane	77	3.506	3.506	(0.839)	1354293	150.000	150.18
	27 cis-1,2-Dichloroethene	96	3.521	3.521	(0.842)	1042228	150.000	150.92
	28 Chloroform	83	3.904	3.904	(0.934)	1732098	150.000	146.11
	29 Bromochloromethane	128	3.788	3.788	(0.906)	555032	150.000	149.65
$	30 Dibromofluoromethane	113	4.095	4.095	(0.979)	955571	150.000	152.05
	31 1,1,1-Trichloroethane	97	4.080	4.080	(0.976)	1385286	150.000	151.91
	32 1,1-Dichloropropene	75	4.279	4.279	(0.862)	1167382	150.000	147.87
	33 1,2-Dichloroethane	62	4.552	4.552	(0.917)	1336025	150.000	149.36
	34 Carbon Tetrachloride	117	4.264	4.264	(0.859)	1088682	150.000	150.90(H)
$	35 1,2-Dichloroethane-d4	65	4.470	4.470	(1.069)	1107394	150.000	152.57
*	36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	984472	50.0000	
	37 Benzene	78	4.511	4.511	(0.909)	3650870	150.000	149.46
	38 Trichloroethene	130	5.205	5.205	(1.048)	1031111	150.000	150.26
	39 Bromodichloromethane	83	5.726	5.726	(1.153)	1362547	150.000	157.18
	41 2-Chloroethylvinyl ether	63	6.048	6.048	(1.218)	957024	300.000	331.38
	42 1,2-Dichloropropane	63	5.433	5.433	(1.094)	998252	150.000	150.80
	44 Dibromomethane	93	5.549	5.549	(1.118)	668220	150.000	149.10
	45 4-Methyl-2-Pentanone	43	6.325	6.325	(0.825)	1909863	300.000	307.57
	46 cis-1,3-Dichloropropene	75	6.153	6.153	(1.239)	1744952	150.000	159.71
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	966505	50.0000	
$	48 Toluene-d8	98	6.389	6.389	(0.833)	3488841	150.000	149.57
	50 Toluene	91	6.445	6.445	(0.840)	4043080	150.000	146.26
	51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.346)	1531930	150.000	162.96
	52 2-Hexanone	43	7.086	7.086	(0.924)	1344375	300.000	321.55
	53 1,1,2-Trichloroethane	83	6.839	6.839	(0.892)	808270	150.000	145.85
	54 1,3-Dichloropropane	76	6.981	6.981	(0.910)	1641201	150.000	149.22
	55 Dibromochloromethane	129	7.176	7.176	(0.935)	1132076	150.000	158.89
	56 Tetrachloroethene	164	6.929	6.929	(0.903)	820825	150.000	147.55
	57 1,2-Dibromoethane	107	7.259	7.259	(0.946)	1046328	150.000	151.10
	58 1-Chlorohexane	55	7.697	7.697	(1.550)	825800	150.000	148.33
	59 Chlorobenzene	112	7.694	7.694	(1.003)	2771812	150.000	148.45
	60 1,1,1,2-Tetrachloroethane	131	7.772	7.772	(1.013)	1031168	150.000	155.63
	61 Ethylbenzene	106	7.799	7.799	(1.017)	1378998	150.000	145.16
	62 m,p-Xylenes	106	7.907	7.907	(1.031)	3502619	300.000	296.36

63 o-Xylene	106	8.241	8.241 (1.074)	1718922	150.000	149.46
64 Styrene	104	8.260	8.260 (1.077)	3044449	150.000	157.38

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	66 Bromoform	173	8.410	8.410	(1.096)	743207	150.000	150.39
	67 Isopropylbenzene	105	8.563	8.563	(1.116)	4153431	150.000	147.76
	68 1,1,2,2-Tetrachloroethane	83	8.841	8.841	(0.915)	1197494	150.000	144.84
$	69 4-Bromofluorobenzene	95	8.687	8.687	(1.132)	1366640	150.000	151.33
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	499037	50.0000	
	71 1,2,3-Trichloropropane	75	8.863	8.863	(0.917)	934817	150.000	148.65(M)
	73 n-Propylbenzene	91	8.912	8.912	(0.922)	4879536	150.000	147.73
	74 Bromobenzene	156	8.807	8.807	(0.912)	1278232	150.000	148.90
	75 1,3,5-Trimethylbenzene	105	9.069	9.069	(0.939)	3529389	150.000	150.24
	76 2-Chlorotoluene	91	8.976	8.976	(0.929)	3015926	150.000	144.60
	77 4-Chlorotoluene	91	9.069	9.069	(0.939)	3564971	150.000	150.51
	78 tert-Butylbenzene	119	9.336	9.336	(0.966)	2915343	150.000	149.89
	79 1,2,4-Trimethylbenzene	105	9.381	9.381	(0.971)	3570445	150.000	147.51
	81 sec-Butylbenzene	105	9.523	9.523	(0.986)	4032110	150.000	148.00
	82 p-Isopropyltoluene	119	9.650	9.650	(0.999)	3538900	150.000	147.50
	83 1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	2152176	150.000	149.92
	84 1,4-Dichlorobenzene	146	9.684	9.684	(1.002)	2225290	150.000	149.52
	86 Benzyl Chloride	91	9.808	9.808	(1.279)	1988635	150.000	151.37
	87 n-Butylbenzene	91	9.995	9.995	(1.035)	3193141	150.000	157.35
	88 1,2-Dichlorobenzene	146	9.992	9.992	(1.034)	2044211	150.000	151.45
	89 1,2-Dibromo-3-Chloropropane	155	10.655	10.655	(1.103)	131273	150.000	147.21
	90 1,2,4-Trichlorobenzene	180	11.337	11.337	(1.173)	975306	150.000	155.65
	91 Hexachlorobutadiene	225	11.480	11.480	(1.188)	596017	150.000	149.12
	92 Naphthalene	128	11.540	11.540	(1.194)	1536035	150.000	157.46
	93 1,2,3-Trichlorobenzene	180	11.742	11.742	(1.215)	684160	150.000	151.37
M	94 1,2-Dichloroethylene (total)	96				1924841	300.000	
M	95 Xylenes (total)	106				5221541	450.000	
	141 Cyclohexane	56	4.121	4.121	(0.986)	1067181	150.000	147.30
	138 Freon TF	101	1.913	1.913	(0.458)	718526	150.000	147.45
	147 Methylcyclohexane	55	5.377	5.377	(1.083)	2333446	150.000	171.25(A)
	146 Methyl Acetate	43	2.228	2.228	(0.533)	617807	150.000	162.42
	148 Tert-Butyl alcohol	59	2.431	2.431	(0.581)	1645013	3000.00	3074.69
	149 Isopropyl Alcohol	45	2.093	2.093	(0.501)	887599	3000.00	3046.07

QC Flag Legend

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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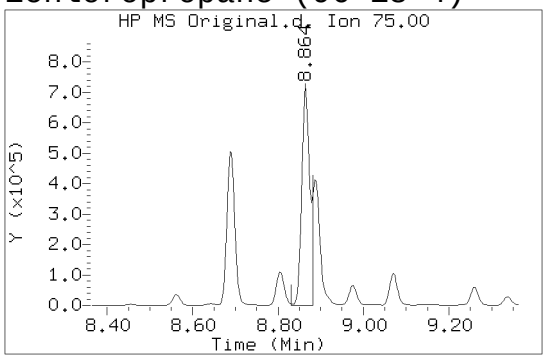
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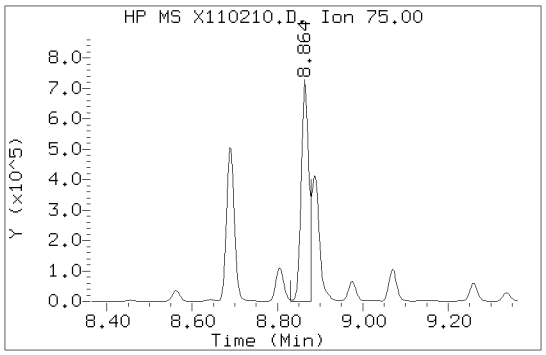
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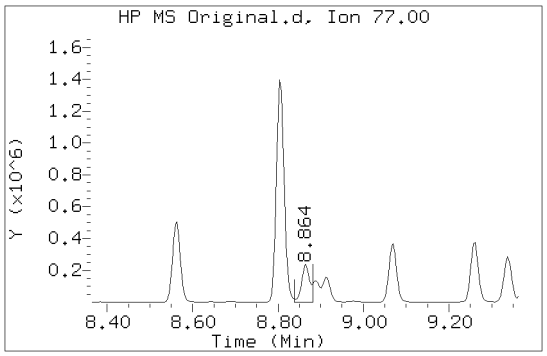
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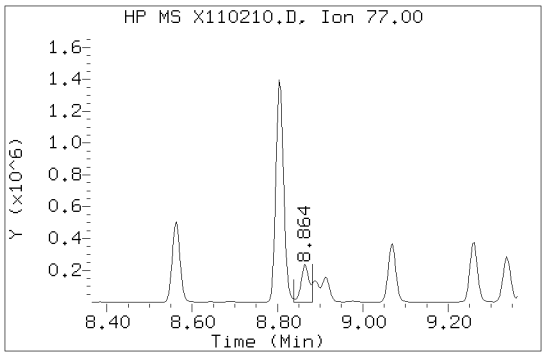
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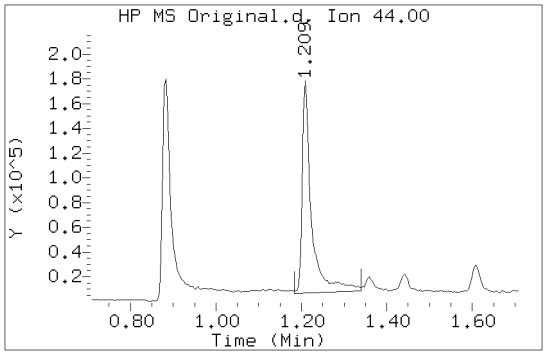
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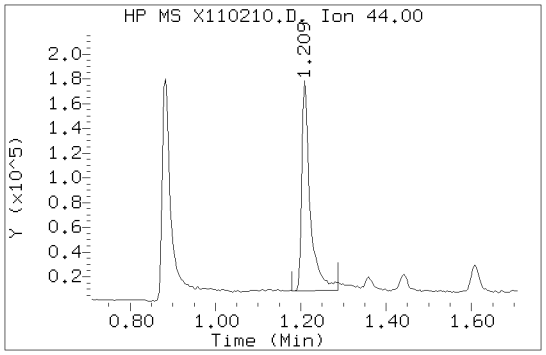
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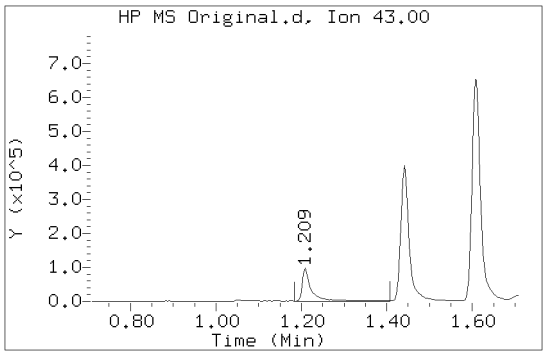
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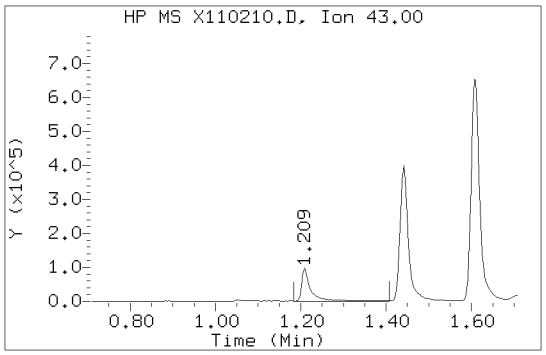
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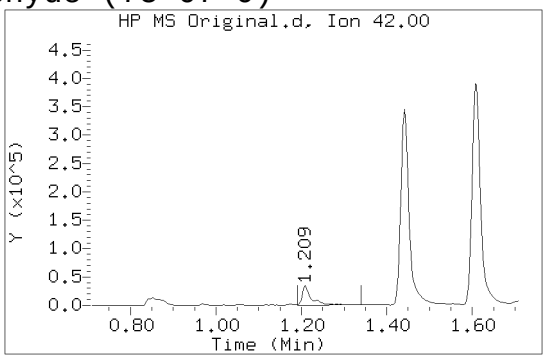
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Acetaldehyde (75-07-0)

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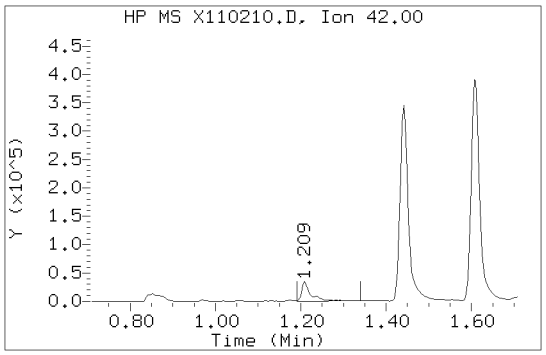
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AFTER

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Data File: \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110211.D Page 1
Report Date: 09-Nov-2022 12:35

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110211.D
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Inj Date : 02-NOV-2022 14:50
Operator : PC Inst ID: voa6.i
Smp Info : VSTD200;VSTD200;1;10;
Misc Info : HS22052000V6;WATER;0;1;
Comment   :
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Meth Date : 09-Nov-2022 12:35 voa6.i Quant Type: ISTD
Cal Date : 02-NOV-2022 14:29 Cal File: X110210.D
Als bottle: 12 Calibration Sample, Level: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260V6.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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)	644601	50.0000	
135 1,4-Dioxane	88	5.598	5.598	(1.339)	282891	4000.00	4115.83(A)
140 1,3-Butadiene	54	1.164	1.164	(0.278)	1104952	200.000	204.49(A)
25 Methacrylonitrile	41	3.818	3.818	(0.913)	1180859	200.000	204.46(A)
12 Isobutyl Alcohol	43	4.676	4.676	(1.118)	3873048	4000.00	4022.58(A)
13 Acetonitrile	39	2.194	2.194	(0.525)	1611204	2000.00	2086.19(A)
14 Allyl Chloride	41	2.194	2.194	(0.525)	2951256	200.000	203.38(A)
4 Propionitrile	54	3.653	3.653	(0.874)	1649618	2000.00	2036.31(A)
136 n-Hexane	57	2.768	2.768	(0.662)	1178645	200.000	201.06(A)
72 trans-1,4-Dichloro-2-butene	53	8.890	8.890	(1.159)	498452	200.000	224.71(A)
194 Acetaldehyde	44	1.209	1.209	(0.289)	319029	800.000	783.27(M)
23 Chloroprene	53	1.767	1.767	(0.423)	485695	200.000	196.75
145 alpha-Methylstyrene	118	9.261	9.261	(0.958)	2542356	200.000	207.93(A)
200 Dimethyl Disulfide	94	6.198	6.198	(0.808)	2983742	200.000	242.44(A)
139 Diethyl ether	59	1.756	1.756	(0.420)	954483	200.000	188.07
130 Ethyl Acetate	43	3.653	3.653	(0.874)	1310160	200.000	193.54
40 Methyl Methacrylate	41	5.606	5.606	(1.341)	1233538	200.000	206.91(A)
49 Ethyl Methacrylate	69	6.790	6.790	(1.368)	2134518	200.000	211.25(A)
132 n-Butanol	56	5.257	5.257	(1.257)	566416	4000.00	4635.20(A)
142 Tetrahydrofuran	42	3.844	3.844	(0.919)	417886	400.000	408.71(A)

150	Allyl alcohol	57	2.768	2.768 (0.662)	1178645	4000.00	4021.18(A)
166	1,2,3-Trimethylbenzene	105	9.733	9.733 (1.007)	4654156	200.000	192.84

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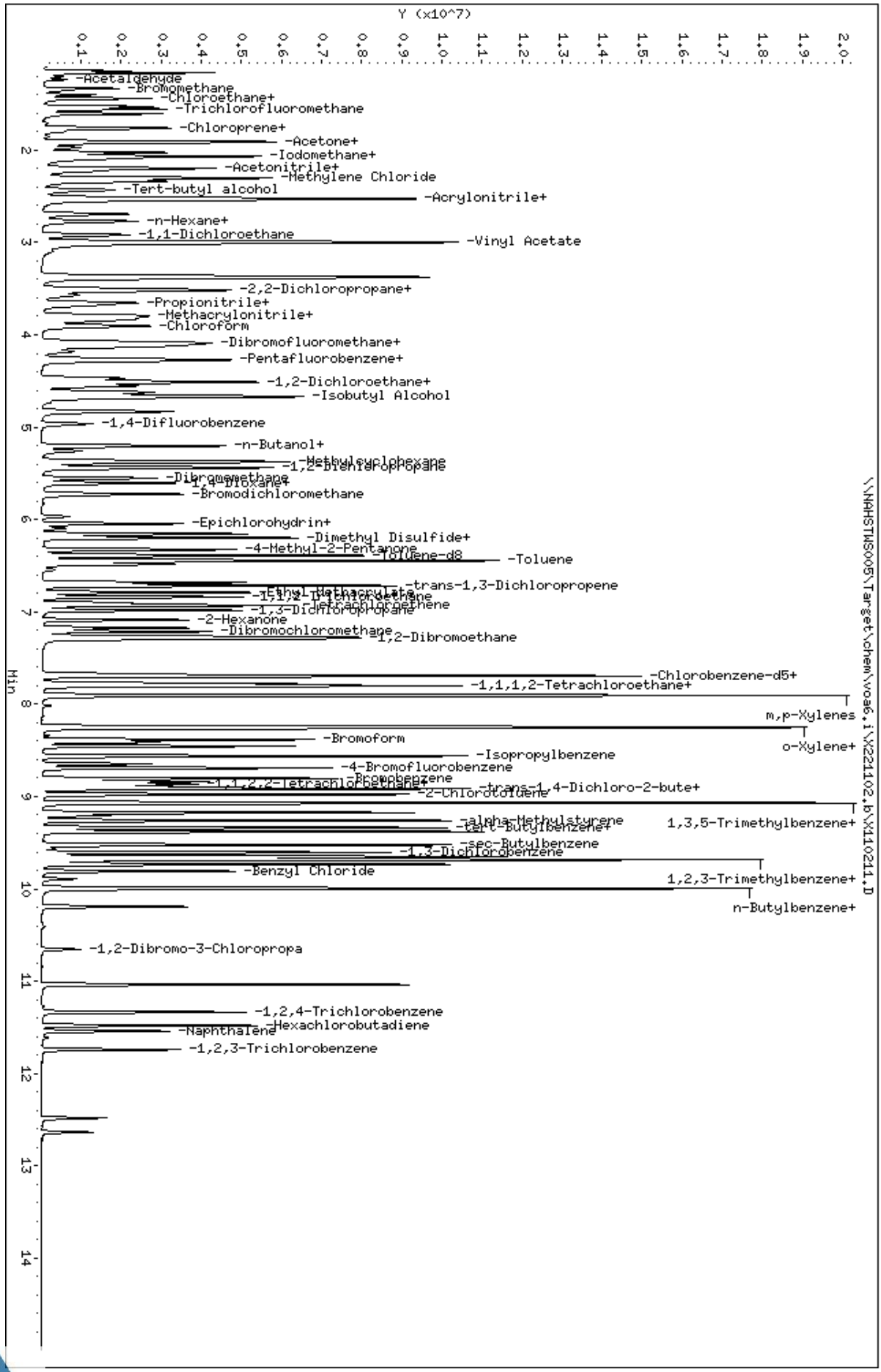
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	2 Dichlorodifluoromethane	85	0.969	0.969	(0.232)	1230194	200.000	205.67(A)
	3 Chloromethane	50	1.077	1.077	(0.258)	1465350	200.000	204.83(A)
	5 Vinyl Chloride	62	1.141	1.141	(0.273)	1435163	200.000	196.48
	6 Bromomethane	94	1.332	1.332	(0.319)	954942	200.000	203.89(A)
	7 Chloroethane	64	1.400	1.400	(0.335)	882731	200.000	193.86
	8 Trichlorofluoromethane	101	1.557	1.557	(0.372)	1863691	200.000	200.19(A)
	9 Acrolein	56	1.441	1.441	(0.345)	207953	400.000	397.38
	10 Acetone	43	1.970	1.970	(0.471)	911307	400.000	404.78(A)
	11 1,1-Dichloroethene	96	1.910	1.910	(0.457)	1072003	200.000	195.46
	15 Iodomethane	142	2.026	2.026	(0.485)	3520582	400.000	398.94
	16 Acrylonitrile	53	2.528	2.528	(0.605)	920696	400.000	436.92(A)
	17 Methylene Chloride	84	2.299	2.299	(0.550)	1329978	200.000	189.65
	18 Methyl tert-butyl ether	73	2.532	2.532	(0.606)	3822204	200.000	197.93
	19 Carbon Disulfide	76	2.067	2.067	(0.494)	6918122	400.000	415.30(A)
	20 trans-1,2-Dichloroethene	96	2.524	2.524	(0.604)	1233320	200.000	202.67(A)
	21 Vinyl Acetate	43	2.997	2.997	(0.717)	6995415	400.000	407.79(A)
	22 1,1-Dichloroethane	63	2.918	2.918	(0.698)	2192173	200.000	200.14(A)
	24 2-Butanone	43	3.574	3.574	(0.855)	1044756	400.000	453.31(AH)
	26 2,2-Dichloropropane	77	3.506	3.506	(0.839)	1890675	200.000	203.20(A)
	27 cis-1,2-Dichloroethene	96	3.521	3.521	(0.842)	1440760	200.000	202.64(A)
	28 Chloroform	83	3.904	3.904	(0.934)	2373672	200.000	194.47
	29 Bromochloromethane	128	3.791	3.791	(0.907)	758912	200.000	198.74
$	30 Dibromofluoromethane	113	4.095	4.095	(0.979)	1291187	200.000	199.38
	31 1,1,1-Trichloroethane	97	4.080	4.080	(0.976)	1947829	200.000	207.46(A)
	32 1,1-Dichloropropene	75	4.279	4.279	(0.862)	1673019	200.000	205.41(A)
	33 1,2-Dichloroethane	62	4.552	4.552	(0.917)	1857661	200.000	201.29(A)
	34 Carbon Tetrachloride	117	4.264	4.264	(0.859)	1571835	200.000	199.84(H)
$	35 1,2-Dichloroethane-d4	65	4.470	4.470	(1.069)	1492777	200.000	199.63
*	36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	1015699	50.0000	
	37 Benzene	78	4.511	4.511	(0.909)	5025919	200.000	199.43
	38 Trichloroethene	130	5.205	5.205	(1.048)	1445714	200.000	204.21(A)
	39 Bromodichloromethane	83	5.726	5.726	(1.153)	1884115	200.000	210.66(A)
	41 2-Chloroethylvinyl ether	63	6.048	6.048	(1.218)	1304185	400.000	437.70(A)
	42 1,2-Dichloropropane	63	5.437	5.437	(1.095)	1370161	200.000	200.62(A)
	44 Dibromomethane	93	5.550	5.550	(1.118)	920462	200.000	199.07
	45 4-Methyl-2-Pentanone	43	6.325	6.325	(0.825)	2629353	400.000	413.24(A)
	46 cis-1,3-Dichloropropene	75	6.157	6.157	(1.240)	2402631	200.000	213.15(A)
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	990350	50.0000	
$	48 Toluene-d8	98	6.389	6.389	(0.833)	4641416	200.000	194.20
	50 Toluene	91	6.445	6.445	(0.840)	5548499	200.000	195.89
	51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.346)	2101712	200.000	216.70(A)
	52 2-Hexanone	43	7.086	7.086	(0.924)	1836653	400.000	428.72(A)
	53 1,1,2-Trichloroethane	83	6.839	6.839	(0.892)	1105455	200.000	194.68
	54 1,3-Dichloropropane	76	6.981	6.981	(0.910)	2230023	200.000	197.88
	55 Dibromochloromethane	129	7.176	7.176	(0.935)	1556251	200.000	213.17(A)
	56 Tetrachloroethene	164	6.929	6.929	(0.903)	1158518	200.000	203.03(A)
	57 1,2-Dibromoethane	107	7.259	7.259	(0.946)	1429510	200.000	201.46(A)
	58 1-Chlorohexane	55	7.697	7.697	(1.550)	1185153	200.000	200.84(A)
	59 Chlorobenzene	112	7.694	7.694	(1.003)	3791299	200.000	198.16
	60 1,1,1,2-Tetrachloroethane	131	7.776	7.776	(1.014)	1420828	200.000	209.28(A)
	61 Ethylbenzene	106	7.802	7.802	(1.017)	1914559	200.000	196.69
	62 m,p-Xylenes	106	7.907	7.907	(1.031)	4846352	400.000	400.18(A)

63 o-Xylene	106	8.241	8.241 (1.074)	2375743	200.000	201.60(A)
64 Styrene	104	8.260	8.260 (1.077)	4148362	200.000	209.29(A)

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	66 Bromoform	173	8.410	8.410	(1.096)	1034542	200.000	203.43(A)
	67 Isopropylbenzene	105	8.563	8.563	(1.116)	5785118	200.000	200.85(A)
	68 1,1,2,2-Tetrachloroethane	83	8.841	8.841	(0.915)	1624400	200.000	191.62
$	69 4-Bromofluorobenzene	95	8.691	8.691	(1.133)	1839541	200.000	198.71
*	70 1,4-Dichlorobenzene-d4	152	9.666	9.666	(1.000)	511700	50.0000	
	71 1,2,3-Trichloropropane	75	8.863	8.863	(0.917)	1264942	200.000	196.16(M)
	73 n-Propylbenzene	91	8.912	8.912	(0.922)	6797859	200.000	200.71(A)
	74 Bromobenzene	156	8.803	8.803	(0.911)	1742043	200.000	197.90
	75 1,3,5-Trimethylbenzene	105	9.069	9.069	(0.938)	4881578	200.000	202.65(A)
	76 2-Chlorotoluene	91	8.976	8.976	(0.929)	4138957	200.000	193.54
	77 4-Chlorotoluene	91	9.069	9.069	(0.938)	4882692	200.000	201.04(A)
	78 tert-Butylbenzene	119	9.339	9.339	(0.966)	4031806	200.000	201.98(A)
	79 1,2,4-Trimethylbenzene	105	9.381	9.381	(0.971)	4910029	200.000	197.84
	81 sec-Butylbenzene	105	9.523	9.523	(0.985)	5691384	200.000	203.42(A)
	82 p-Isopropyltoluene	119	9.651	9.651	(0.998)	4973352	200.000	202.15(A)
	83 1,3-Dichlorobenzene	146	9.606	9.606	(0.994)	2929610	200.000	199.02
	84 1,4-Dichlorobenzene	146	9.684	9.684	(1.002)	3012332	200.000	197.40
	86 Benzyl Chloride	91	9.808	9.808	(1.279)	2765200	200.000	203.98(A)
	87 n-Butylbenzene	91	9.995	9.995	(1.034)	4534837	200.000	217.93(A)
	88 1,2-Dichlorobenzene	146	9.992	9.992	(1.034)	2771933	200.000	200.28(A)
	89 1,2-Dibromo-3-Chloropropane	155	10.655	10.655	(1.102)	190166	200.000	206.86(A)
	90 1,2,4-Trichlorobenzene	180	11.337	11.337	(1.173)	1373865	200.000	213.83(A)
	91 Hexachlorobutadiene	225	11.480	11.480	(1.188)	862380	200.000	200.35(A)
	92 Naphthalene	128	11.540	11.540	(1.194)	2178282	200.000	217.78(A)
	93 1,2,3-Trichlorobenzene	180	11.742	11.742	(1.215)	959174	200.000	206.97(A)
M	94 1,2-Dichloroethylene (total)	96				2674080	400.000	
M	95 Xylenes (total)	106				7222095	600.000	
	141 Cyclohexane	56	4.121	4.121	(0.986)	1557359	200.000	201.32(A)
	138 Freon TF	101	1.910	1.910	(0.457)	1027791	200.000	201.35(A)
	147 Methylcyclohexane	55	5.377	5.377	(1.083)	3357175	200.000	238.81(A)
	146 Methyl Acetate	43	2.228	2.228	(0.533)	864401	200.000	220.72(A)
	148 Tert-Butyl alcohol	59	2.434	2.434	(0.582)	2285952	4000.00	4149.85(A)
	149 Isopropyl Alcohol	45	2.097	2.097	(0.502)	1223416	4000.00	4077.85(A)

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.



Data File: \\NAHSTWS005\Target\chem\voa6,i\X221102,b\X110211,D
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Sample Info: WSTD200;WSTD200;1;10;
Purge Volume: 5.0
Column phase: DB624

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

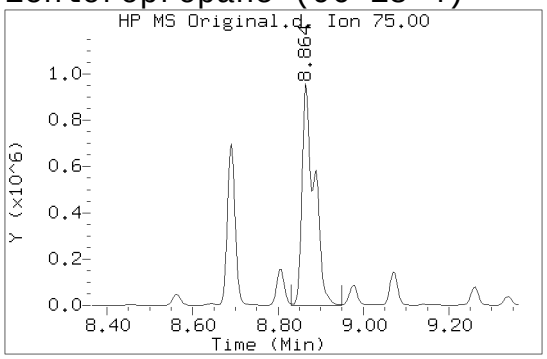
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LabSampID : VSTD200

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

Reason Code:

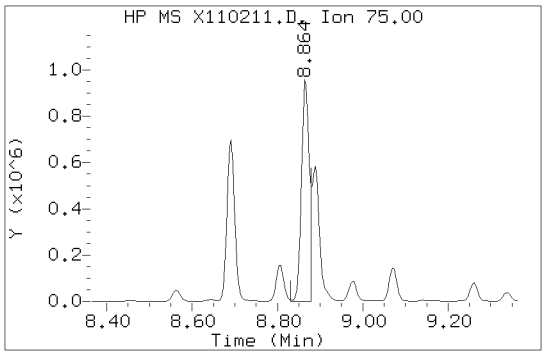
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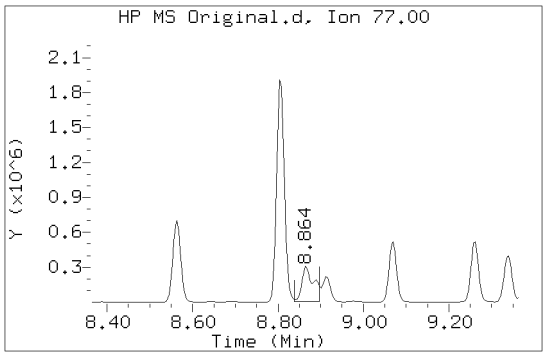
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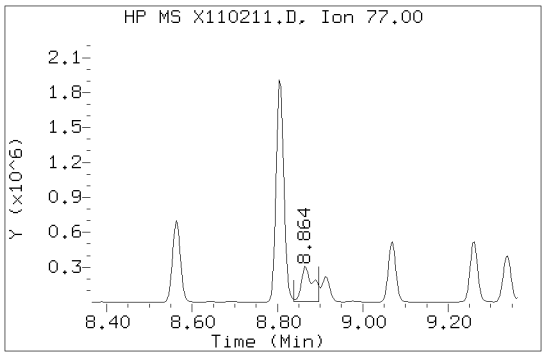
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AFTER

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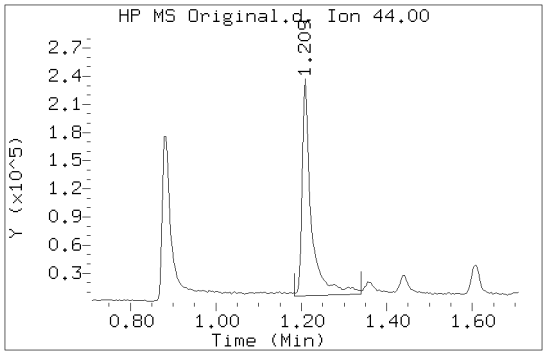


Acetaldehyde (75-07-0)

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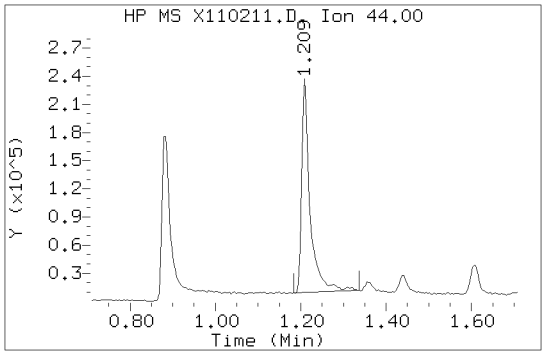
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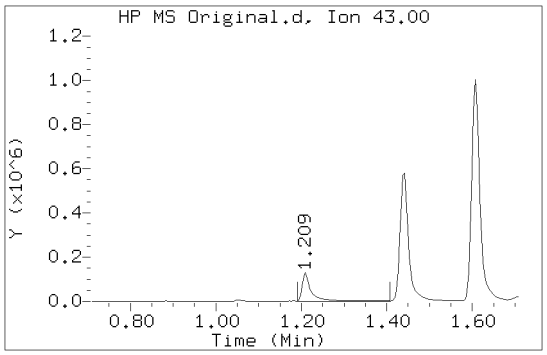
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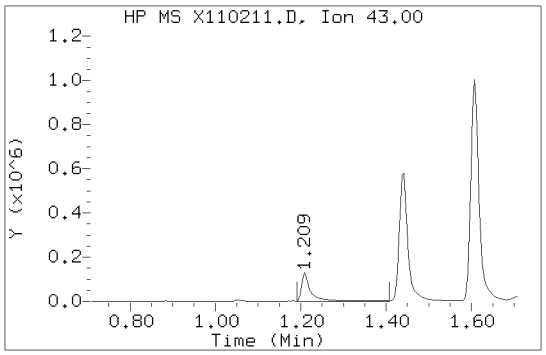
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AFTER

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09-Nov-2022
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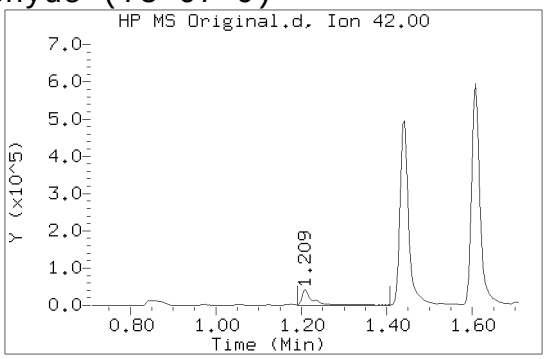
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Acetaldehyde (75-07-0)

Reason Code:

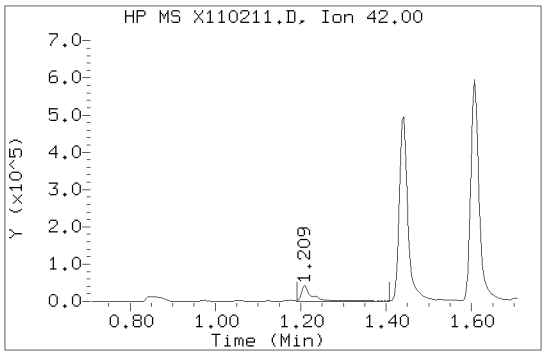
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AFTER

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09-Nov-2022
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Data File: \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110214.D Page 1
Report Date: 09-Nov-2022 12:35

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110214.D
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Cal Date : 02-NOV-2022 14:50 Cal File: X110211.D
Als bottle: 15 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260V6.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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)	648912	50.0000	
135 1,4-Dioxane	88	5.598	5.598	(1.340)	59485	859.710	859.70
140 1,3-Butadiene	54	1.164	1.164	(0.279)	233875	42.9957	42.99
25 Methacrylonitrile	41	3.818	3.818	(0.914)	262578	45.1633	45.16
12 Isobutyl Alcohol	43	4.672	4.676	(1.118)	906973	935.733	935.73
13 Acetonitrile	39	2.194	2.194	(0.525)	359347	462.193	462.19
14 Allyl Chloride	41	2.198	2.194	(0.526)	654025	44.7725	44.77
4 Propionitrile	54	3.649	3.653	(0.873)	366385	449.268	449.26
136 n-Hexane	57	2.772	2.768	(0.664)	214358	40.1490	40.14
72 trans-1,4-Dichloro-2-butene	53	8.890	8.890	(1.159)	107045	49.7732	49.77
194 Acetaldehyde	44	1.209	1.209	(0.289)	98945	228.183	228.18
23 Chloroprene	53	1.767	1.767	(0.423)	105100	42.2941	42.29(M)
145 alpha-Methylstyrene	118	9.261	9.261	(0.958)	546999	46.6896	46.68
200 Dimethyl Disulfide	94	6.198	6.198	(0.808)	624807	52.3618	52.36
139 Diethyl ether	59	1.756	1.756	(0.420)	229482	44.9174	44.91
130 Ethyl Acetate	43	3.653	3.653	(0.874)	315791	46.3399	46.33
40 Methyl Methacrylate	41	5.606	5.606	(1.342)	272408	45.3909	45.39
49 Ethyl Methacrylate	69	6.787	6.790	(1.367)	489024	49.1239	49.12
132 n-Butanol	56	5.257	5.257	(1.258)	104991	853.475	853.47
142 Tetrahydrofuran	42	3.844	3.844	(0.920)	91051	88.4620	88.46

150	Allyl alcohol	57	2.772	2.768 (0.664)	214358	802.758	802.75
166	1,2,3-Trimethylbenzene	105	9.729	9.733 (1.007)	1042020	45.0591	45.05

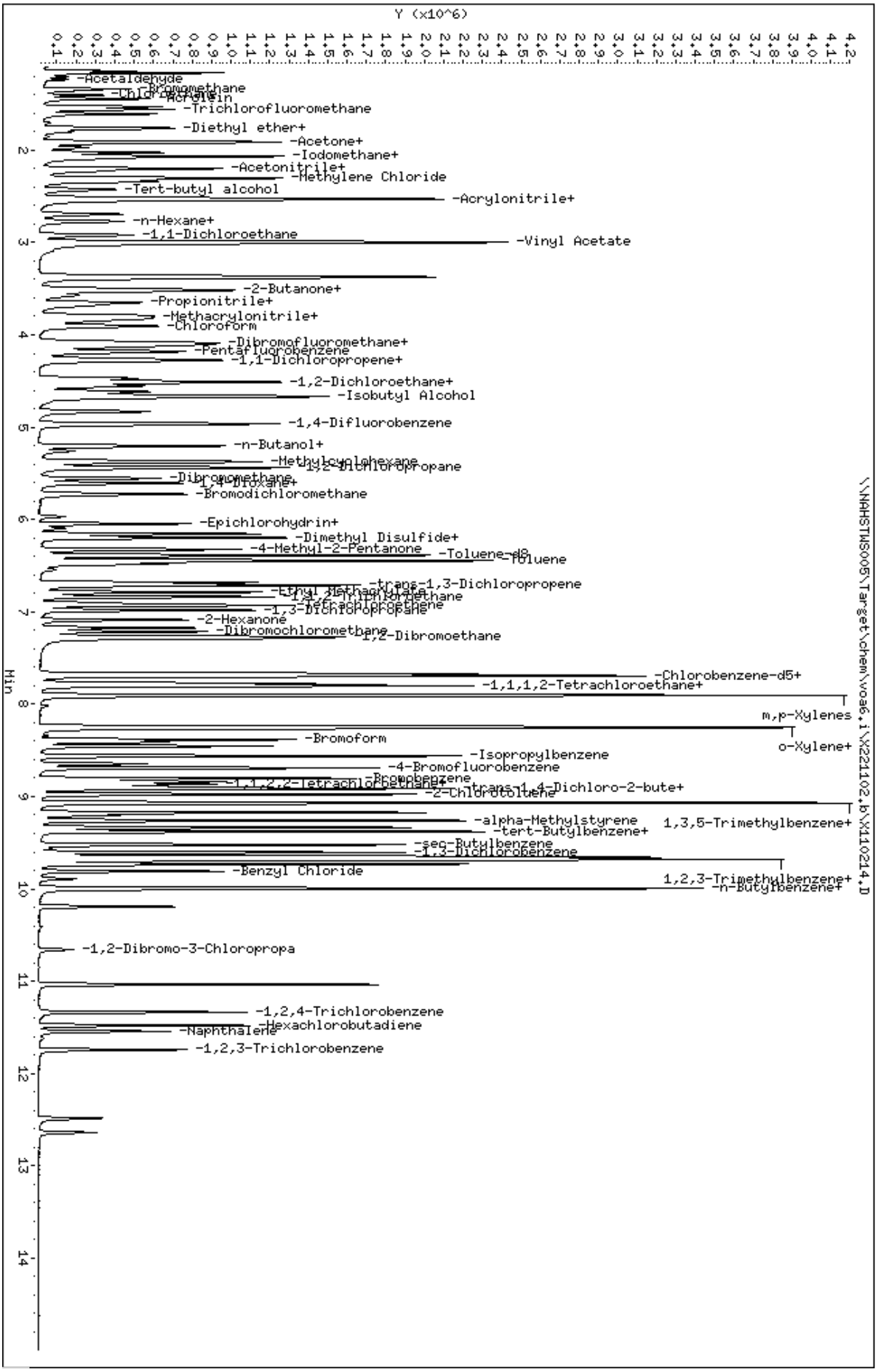
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	2 Dichlorodifluoromethane	85	0.972	0.969	(0.233)	268006	44.9840	44.98
	3 Chloromethane	50	1.077	1.077	(0.258)	324236	46.1002	46.10
	5 Vinyl Chloride	62	1.141	1.141	(0.273)	310631	42.2443	42.24
	6 Bromomethane	94	1.340	1.332	(0.321)	213871	46.3475	46.34
	7 Chloroethane	64	1.404	1.400	(0.336)	199924	43.6158	43.61
	8 Trichlorofluoromethane	101	1.557	1.557	(0.373)	402085	42.9052	42.90
	9 Acrolein	56	1.445	1.441	(0.346)	42217	99.2133	99.21
	10 Acetone	43	1.970	1.970	(0.472)	209318	91.2102	91.21
	11 1,1-Dichloroethene	96	1.913	1.910	(0.458)	229999	41.6590	41.65
	15 Iodomethane	142	2.026	2.026	(0.485)	637095	88.8025	88.80
	16 Acrylonitrile	53	2.532	2.528	(0.606)	188463	88.8420	88.84
	17 Methylene Chloride	84	2.303	2.299	(0.551)	318649	45.1386	45.13
	18 Methyl tert-butyl ether	73	2.532	2.532	(0.606)	879369	45.2364	45.23
	19 Carbon Disulfide	76	2.067	2.067	(0.495)	1447008	86.2892	86.28
	20 trans-1,2-Dichloroethene	96	2.528	2.524	(0.605)	268716	43.8661	43.86
	21 Vinyl Acetate	43	2.997	2.997	(0.717)	1720616	99.6375	99.63
	22 1,1-Dichloroethane	63	2.922	2.918	(0.699)	488838	44.3334	44.33
	24 2-Butanone	43	3.574	3.574	(0.856)	223886	96.4971	96.49
	26 2,2-Dichloropropane	77	3.507	3.506	(0.839)	415854	45.3520	45.35
	27 cis-1,2-Dichloroethene	96	3.525	3.521	(0.844)	323357	45.1783	45.17
	28 Chloroform	83	3.904	3.904	(0.935)	540984	44.0293	44.02
	29 Bromochloromethane	128	3.791	3.791	(0.908)	174991	45.5217	45.52
$	30 Dibromofluoromethane	113	4.099	4.095	(0.981)	322063	49.8107	49.81
	31 1,1,1-Trichloroethane	97	4.080	4.080	(0.977)	403831	42.7272	42.72
	32 1,1-Dichloropropene	75	4.279	4.279	(0.862)	343925	42.8596	42.85
	33 1,2-Dichloroethane	62	4.552	4.552	(0.917)	431733	47.4827	47.48
	34 Carbon Tetrachloride	117	4.264	4.264	(0.859)	310391	46.3272	46.32
$	35 1,2-Dichloroethane-d4	65	4.470	4.470	(1.070)	363914	48.6687	48.66
*	36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	1000698	50.0000	
	37 Benzene	78	4.511	4.511	(0.909)	1137051	45.7953	45.79
	38 Trichloroethene	130	5.205	5.205	(1.048)	307580	44.0976	44.09
	39 Bromodichloromethane	83	5.726	5.726	(1.153)	421175	47.7982	47.79
	41 2-Chloroethylvinyl ether	63	6.048	6.048	(1.218)	290713	99.0313	99.03
	42 1,2-Dichloropropane	63	5.437	5.437	(1.095)	313019	46.5201	46.52
	44 Dibromomethane	93	5.550	5.550	(1.118)	209614	46.0144	46.01
	45 4-Methyl-2-Pentanone	43	6.325	6.325	(0.825)	581699	94.2938	94.29
	46 cis-1,3-Dichloropropene	75	6.157	6.157	(1.240)	541548	48.7647	48.76
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	960204	50.0000	
$	48 Toluene-d8	98	6.385	6.389	(0.832)	1177383	50.8100	50.80
	50 Toluene	91	6.445	6.445	(0.840)	1249944	45.5167	45.51
	51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.346)	478870	50.1167	50.11
	52 2-Hexanone	43	7.086	7.086	(0.924)	406876	97.9572	97.95
	53 1,1,2-Trichloroethane	83	6.839	6.839	(0.892)	259437	47.1242	47.12
	54 1,3-Dichloropropane	76	6.981	6.981	(0.910)	519918	47.5849	47.58
	55 Dibromochloromethane	129	7.176	7.176	(0.936)	348746	49.2706	49.27
	56 Tetrachloroethene	164	6.929	6.929	(0.903)	236414	43.1630	43.16
	57 1,2-Dibromoethane	107	7.259	7.259	(0.946)	328322	47.7241	47.72
	58 1-Chlorohexane	55	7.697	7.697	(1.550)	228534	42.3113	42.31
	59 Chlorobenzene	112	7.694	7.694	(1.003)	864664	46.6133	46.61
	60 1,1,1,2-Tetrachloroethane	131	7.772	7.776	(1.013)	320471	48.6868	48.68
	61 Ethylbenzene	106	7.799	7.802	(1.017)	412101	43.6663	43.66
	62 m,p-Xylenes	106	7.904	7.907	(1.030)	1044074	88.9203	88.92

63 o-Xylene	106	8.241	8.241 (1.074)	520644	45.5696	45.56
64 Styrene	104	8.260	8.260 (1.077)	932619	48.5291	48.52

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	66 Bromoform	173	8.410	8.410	(1.096)	220214	46.5704	46.57
	67 Isopropylbenzene	105	8.563	8.563	(1.116)	1172481	41.9863	41.98
	68 1,1,2,2-Tetrachloroethane	83	8.837	8.841	(0.915)	372519	45.8597	45.85
$	69 4-Bromofluorobenzene	95	8.691	8.691	(1.133)	454663	50.8550	50.85
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.666	(1.000)	490324	50.0000	
	71 1,2,3-Trichloropropane	75	8.863	8.863	(0.917)	285414	46.1919	46.19(M)
	73 n-Propylbenzene	91	8.912	8.912	(0.922)	1379508	42.5081	42.50
	74 Bromobenzene	156	8.803	8.803	(0.911)	394805	46.8079	46.80
	75 1,3,5-Trimethylbenzene	105	9.066	9.069	(0.938)	1014446	43.9506	43.95
	76 2-Chlorotoluene	91	8.976	8.976	(0.929)	909729	44.3953	44.39
	77 4-Chlorotoluene	91	9.069	9.069	(0.939)	1061915	45.6304	45.63
	78 tert-Butylbenzene	119	9.336	9.339	(0.966)	797607	42.1369	42.13
	79 1,2,4-Trimethylbenzene	105	9.381	9.381	(0.971)	1047946	44.0671	44.06
	81 sec-Butylbenzene	105	9.523	9.523	(0.986)	1091394	41.3850	41.38
	82 p-Isopropyltoluene	119	9.651	9.651	(0.999)	981109	41.6191	41.61
	83 1,3-Dichlorobenzene	146	9.606	9.606	(0.994)	649145	46.0230	46.02
	84 1,4-Dichlorobenzene	146	9.684	9.684	(1.002)	681334	46.5957	46.59
	86 Benzyl Chloride	91	9.808	9.808	(1.279)	550780	45.0978	45.09
	87 n-Butylbenzene	91	9.995	9.995	(1.035)	865048	43.3855	43.38
	88 1,2-Dichlorobenzene	146	9.992	9.992	(1.034)	615028	46.3762	46.37
	89 1,2-Dibromo-3-Chloropropane	155	10.659	10.655	(1.103)	38036	45.3292	45.32
	90 1,2,4-Trichlorobenzene	180	11.337	11.337	(1.173)	295223	47.9525	47.95
	91 Hexachlorobutadiene	225	11.480	11.480	(1.188)	178874	48.9337	48.93
	92 Naphthalene	128	11.544	11.540	(1.195)	475442	49.6064	49.60
	93 1,2,3-Trichlorobenzene	180	11.742	11.742	(1.215)	216006	48.6431	48.64
M	94 1,2-Dichloroethylene (total)	96				592073	89.0444	89.04
M	95 Xylenes (total)	106				1564718	134.490	134.48
	141 Cyclohexane	56	4.118	4.121	(0.986)	298087	41.7730	41.77
	138 Freon TF	101	1.913	1.910	(0.458)	212311	43.0030	43.00
	147 Methylcyclohexane	55	5.381	5.377	(1.084)	693389	50.0640	50.06
	146 Methyl Acetate	43	2.228	2.228	(0.533)	186216	47.2347	47.23
	148 Tert-Butyl alcohol	59	2.427	2.434	(0.581)	469230	846.168	846.16
	149 Isopropyl Alcohol	45	2.093	2.097	(0.501)	256411	848.983	848.98

QC Flag Legend

M - Compound response manually integrated.



Data File: \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110214.D
Date : 02-NOV-2022 15:53
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

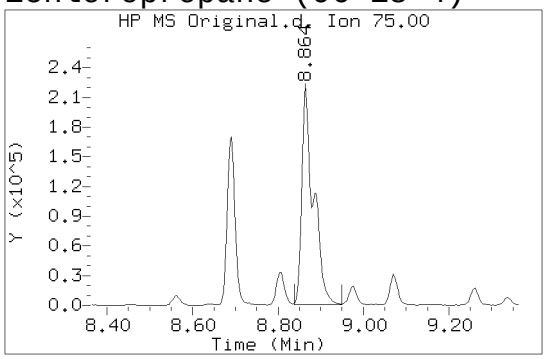
Data File : \\NAHSTWS005\Target\chem\voa6.i\X221102.b\X110214.D
Inj Date : 02-NOV-2022 15:53
InstruID : voa6.i
LabSampID : ICV

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

Reason Code:

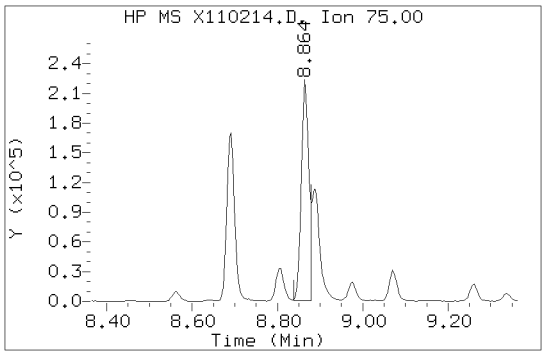
BEFORE

MASS
75
AREA
428065
HEIGHT
223456
08-Nov-2022
15:18
linh
pham



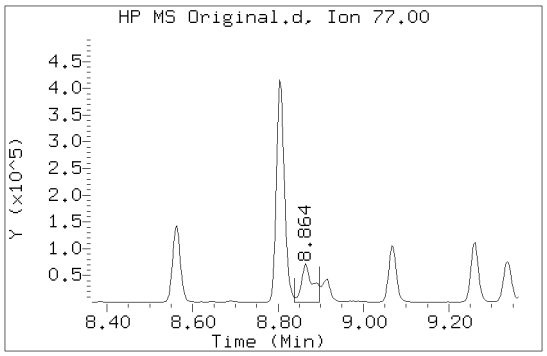
AFTER

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AREA
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HEIGHT
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09-Nov-2022
12:35



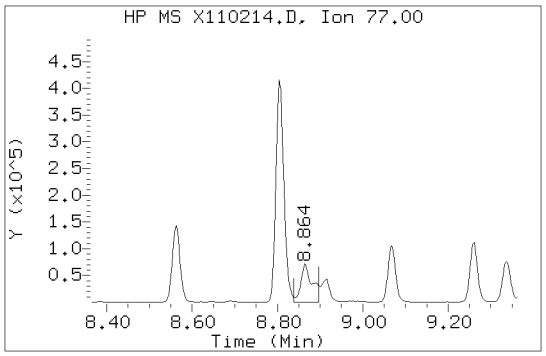
BEFORE

MASS
77
AREA
137352
HEIGHT
71594
08-Nov-2022
15:18
linh
pham



AFTER

MASS
77
AREA
137352
HEIGHT
71594
09-Nov-2022
12:35

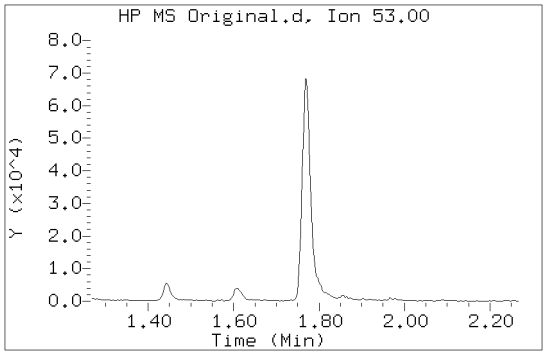


Chloroprene (126-99-8)

Reason Code:

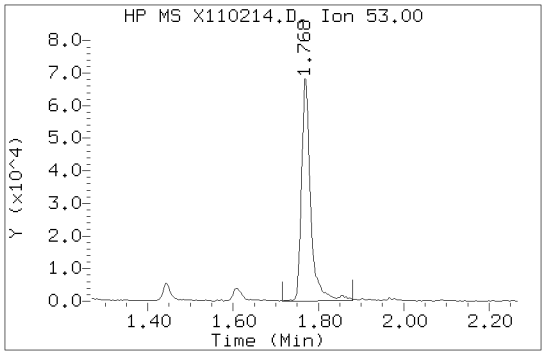
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08-Nov-2022
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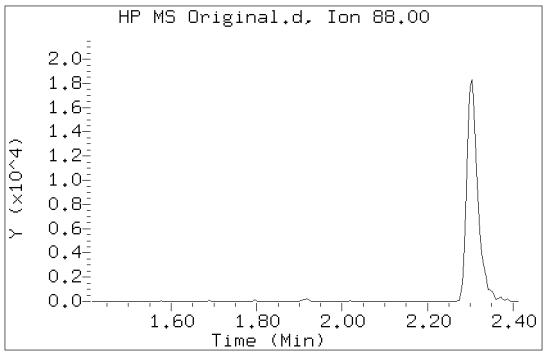
AFTER

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HEIGHT
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09-Nov-2022
12:35



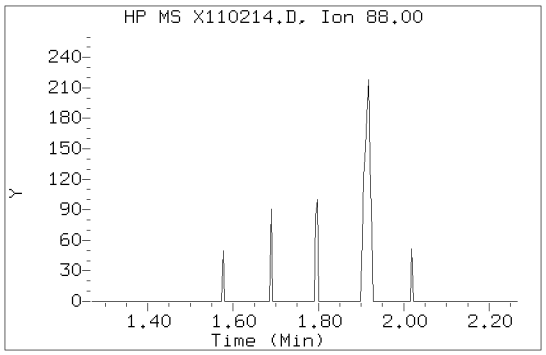
BEFORE

MASS
88
AREA
0
HEIGHT
0
08-Nov-2022
15:18
linh
pham



AFTER

MASS
88
AREA
0
HEIGHT
0
09-Nov-2022
12:35



01158978

right solutions.
right partner.

Raw Data VOA6 421126

Volatiles by by EPA 8260

Workorder

HS22110111

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Monthly Effluent Samples

11/17/2022

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\voa6.i\X221106.b\X110601.D Page 1
Report Date: 06-Nov-2022 12:23

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110601.D
Lab Smp Id: BFB Client Smp ID: BFB
Inj Date : 06-NOV-2022 11:59
Operator : PC Inst ID: voa6.i
Smp Info : BFB;BFB;3;;BFB
Misc Info : HS22052000V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\bfb.m
Meth Date : 27-Sep-2022 15:10 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	
8.691	8.889	(0.000)	95	218752			0.00- 100.00	100.00
8.691	8.889	(0.000)	50	40672			15.00- 40.00	18.59
8.691	8.889	(0.000)	75	107528			30.00- 60.00	49.16
8.691	8.889	(0.000)	96	15122			5.00- 9.00	6.91
8.691	8.889	(0.000)	173	1563			0.00- 2.00	0.82
8.691	8.889	(0.000)	174	191104			50.00- 0.00	87.36
8.691	8.889	(0.000)	175	14320			5.00- 9.00	7.49
8.691	8.889	(0.000)	176	182336			95.00- 101.00	95.41
8.691	8.889	(0.000)	177	11219			5.00- 9.00	6.15

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	18.59
75	30.00 - 60.00% of mass 95	49.16
96	5.00 - 9.00% of mass 95	6.91
173	Less than 2.00% of mass 174	0.71 (0.82)
174	Greater than 50.00% of mass 95	87.36
175	5.00 - 9.00% of mass 174	6.55 (7.49)
176	95.00 - 101.00% of mass 174	83.35 (95.41)
177	5.00 - 9.00% of mass 176	5.13 (6.15)

Data File: X110601.D
Spectrum: Scan 2160 (8.68)
Location of Maximum: 95.00
Number of points: 128

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	2401	69.00	23040	104.90	521	143.70	202
37.10	11010	70.00	2679	106.00	987	144.90	183
38.00	9947	71.00	763	106.80	475	145.90	314
39.00	5304	72.00	1231	109.00	127	147.00	130
40.00	1229	73.00	9631	109.80	110	147.90	588
41.00	1970	74.00	35624	110.90	196	148.70	111
42.00	2485	75.00	107528	111.60	100	149.90	188
43.10	1614	76.00	9183	112.00	95	151.90	127
43.90	2308	76.90	1328	113.00	246	152.60	111
45.00	2706	78.00	1115	114.80	255	153.90	148
45.90	224	79.00	6842	115.80	732	154.80	726
47.00	2348	79.90	1781	116.90	1315	156.00	76
47.80	1052	80.90	6816	117.90	713	156.90	466
49.00	9702	81.90	1386	118.80	1051	158.70	291
50.00	40672	82.90	483	119.90	193	160.60	165
51.00	12197	84.00	116	122.90	56	161.10	82
52.00	755	85.00	286	123.60	140	168.90	59
53.10	276	87.00	8462	124.00	123	170.00	127
53.90	309	87.90	8771	125.70	83	171.50	162
55.00	3837	88.80	186	126.90	81	172.90	1563
56.00	4237	89.40	70	127.80	789	173.90	191104
57.00	7011	90.90	893	129.00	293	174.90	14320
57.90	519	91.90	5082	129.80	527	175.90	182336
58.90	55	93.00	7958	130.80	299	176.90	11219
60.00	1588	94.00	25064	133.70	107	177.90	467
61.00	10459	95.00	218752	134.70	412	185.90	257
62.00	10871	96.00	15122	135.90	89	206.90	56
63.10	7060	97.00	579	136.80	491	262.80	53
64.00	853	98.00	1428	138.90	55	280.80	62
65.10	270	98.90	80	139.80	406		
65.70	143	101.80	77	140.80	2067		
67.00	783	102.70	120	142.00	209		
68.00	21176	103.80	1063	142.90	2371		

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110601.D

Date : 06-NOV-2022 11:59

Client ID: BFB

Instrument: voa6.i

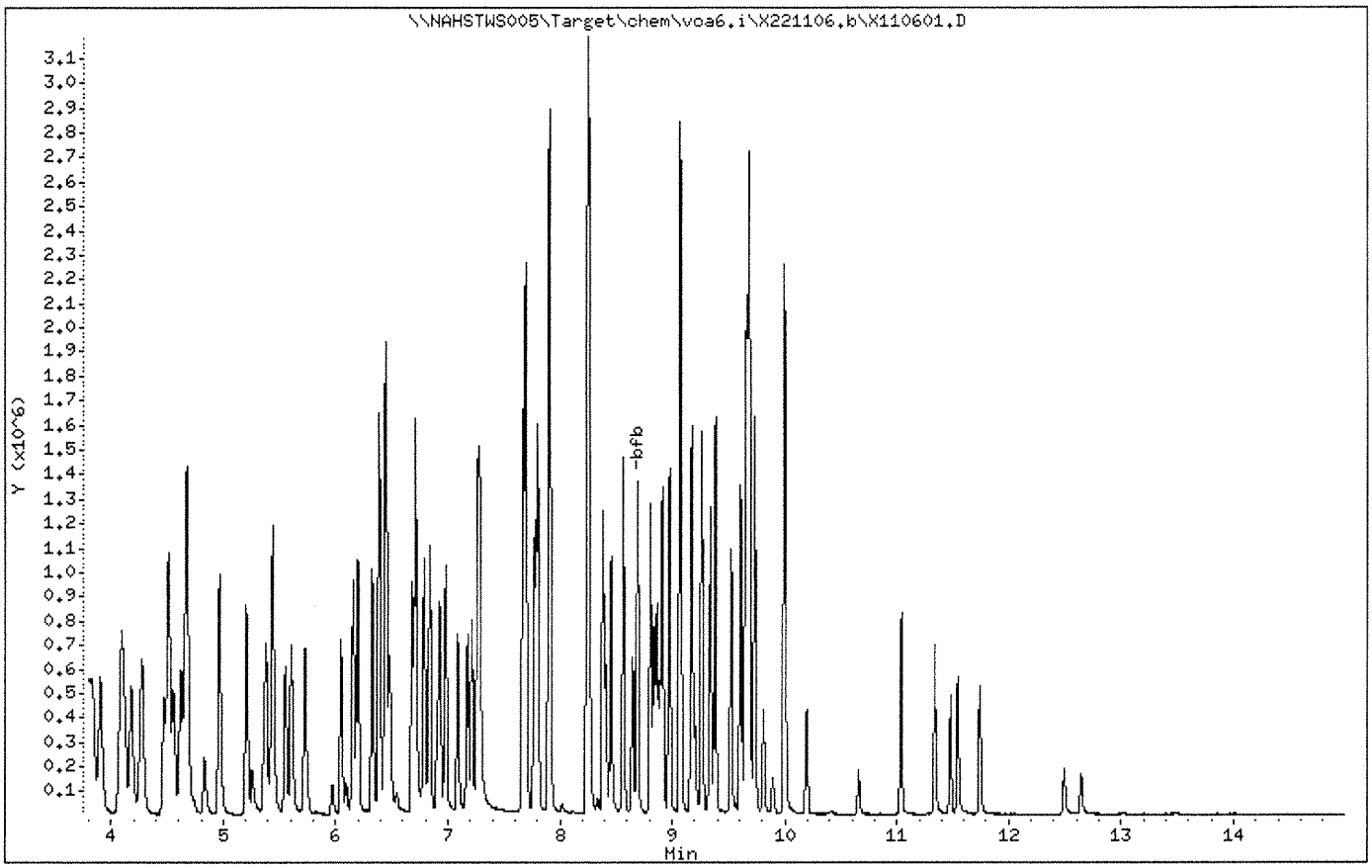
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110601.D Page 2

Date : 06-NOV-2022 11:59

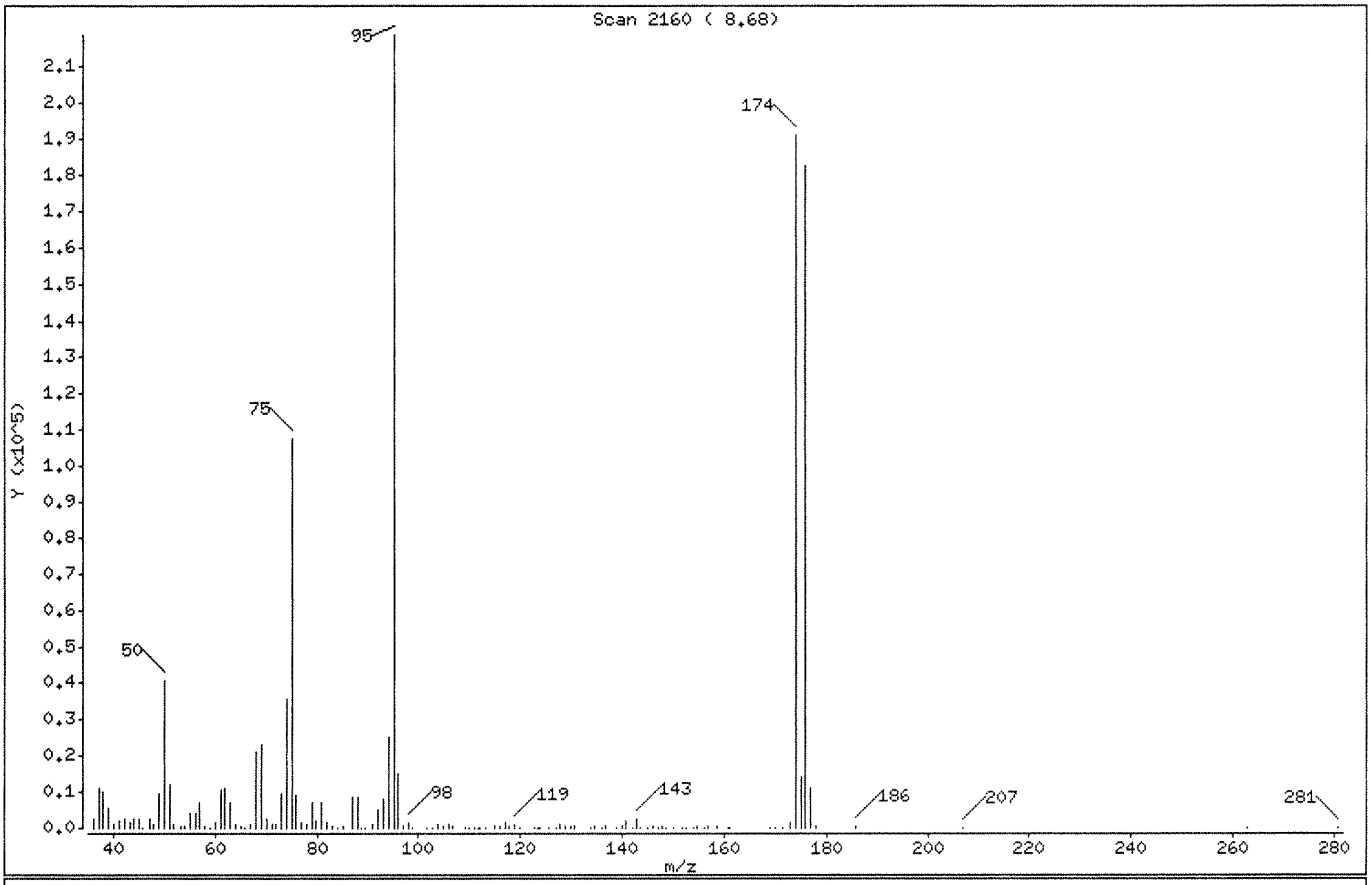
Client ID: BFB Instrument: voa6.i

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	18.59
75	30.00 - 60.00% of mass 95	49.16
96	5.00 - 9.00% of mass 95	6.91
173	Less than 2.00% of mass 174	0.71 (0.82)
174	Greater than 50.00% of mass 95	87.36
175	5.00 - 9.00% of mass 174	6.55 (7.49)
176	95.00 - 101.00% of mass 174	83.35 (95.41)
177	5.00 - 9.00% of mass 176	5.13 (6.15)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110601.D

Date : 06-NOV-2022 11:59

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: X110601.D
Spectrum: Scan 2160 (8.68)
Location of Maximum: 95.00
Number of points: 128

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	2401	69.00	23040	104.90	521	143.70	202
37.10	11010	70.00	2679	106.00	987	144.90	183
38.00	9947	71.00	763	106.80	475	145.90	314
39.00	5304	72.00	1231	109.00	127	147.00	130
40.00	1229	73.00	9631	109.80	110	147.90	588
41.00	1970	74.00	35624	110.90	196	148.70	111
42.00	2485	75.00	107528	111.60	100	149.90	188
43.10	1614	76.00	9183	112.00	95	151.90	127
43.90	2308	76.90	1328	113.00	246	152.60	111
45.00	2706	78.00	1115	114.80	255	153.90	148
45.90	224	79.00	6842	115.80	732	154.80	726
47.00	2348	79.90	1781	116.90	1315	156.00	76
47.80	1052	80.90	6816	117.90	713	156.90	466
49.00	9702	81.90	1386	118.80	1051	158.70	291
50.00	40672	82.90	483	119.90	193	160.60	165
51.00	12197	84.00	116	122.90	56	161.10	82
52.00	755	85.00	286	123.60	140	168.90	59
53.10	276	87.00	8462	124.00	123	170.00	127
53.90	309	87.90	8771	125.70	83	171.50	162
55.00	3837	88.80	186	126.90	81	172.90	1563
56.00	4237	89.40	70	127.80	789	173.90	191104
57.00	7011	90.90	893	129.00	293	174.90	14320
57.90	519	91.90	5082	129.80	527	175.90	182336
58.90	55	93.00	7958	130.80	299	176.90	11219
60.00	1588	94.00	25064	133.70	107	177.90	467
61.00	10459	95.00	218752	134.70	412	185.90	257
62.00	10871	96.00	15122	135.90	89	206.90	56
63.10	7060	97.00	579	136.80	491	262.80	53
64.00	853	98.00	1428	138.90	55	280.80	62
65.10	270	98.90	80	139.80	406		
65.70	143	101.80	77	140.80	2067		
67.00	783	102.70	120	142.00	209		
68.00	21176	103.80	1063	142.90	2371		

Data File : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110601.D
Inj Date : 06-NOV-2022 11:59
InstruID : voa6.i
LabSampID : BFB

NO MANUAL INTEGRATIONS

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110602.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 06-NOV-2022 12:20
Operator : PC Inst ID: voa6.i
Smp Info : CCV;CCV;2;;
Misc Info : HS22052000V6;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\8260W.m
Meth Date : 17-Nov-2022 10:50 voa6.i Quant Type: ISTD
Cal Date : 02-NOV-2022 13:48 Cal File: X110208.D
Als bottle: 2 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)	625842	50.0000	
135	1,4-Dioxane	88	5.598	5.598	(1.340)	66155	1000.00	991.35
140	1,3-Butadiene	54	1.164	1.164	(0.279)	242104	50.0000	46.14
25	Methacrylonitrile	41	3.818	3.818	(0.914)	286078	50.0000	51.01
12	Isobutyl Alcohol	43	4.676	4.676	(1.119)	907474	1000.00	970.76
13	Acetonitrile	39	2.195	2.195	(0.525)	344123	500.000	458.92
14	Allyl Chloride	41	2.198	2.198	(0.526)	657248	50.0000	46.65
4	Propionitrile	54	3.653	3.653	(0.874)	398252	500.000	506.34
136	n-Hexane	57	2.768	2.768	(0.663)	242565	50.0000	47.00
72	trans-1,4-Dichloro-2-butene	53	8.890	8.890	(1.159)	108298	50.0000	51.93
23	Chloroprene	53	1.767	1.767	(0.423)	105071	50.0000	43.84(M)
130	Ethyl Acetate	43	3.653	3.653	(0.874)	326380	50.0000	49.65
40	Methyl Methacrylate	41	5.606	5.606	(1.342)	291054	50.0000	50.28
49	Ethyl Methacrylate	69	6.787	6.787	(1.367)	501094	50.0000	52.31
2	Dichlorodifluoromethane	85	0.973	0.973	(0.233)	264985	50.0000	46.10
3	Chloromethane	50	1.077	1.077	(0.258)	316787	50.0000	46.68
5	Vinyl Chloride	62	1.141	1.141	(0.273)	311814	50.0000	43.96
6	Bromomethane	94	1.336	1.336	(0.320)	209351	50.0000	47.02
7	Chloroethane	64	1.400	1.400	(0.335)	201350	50.0000	45.54
8	Trichlorofluoromethane	101	1.557	1.557	(0.373)	414215	50.0000	45.82

9	Acrolein	56	1.441	1.441 (0.345)	39373	100.000	96.14
10	Acetone	43	1.973	1.973 (0.472)	239436	100.000	108.45

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110602.D Page 2
Report Date: 17-Nov-2022 10:50

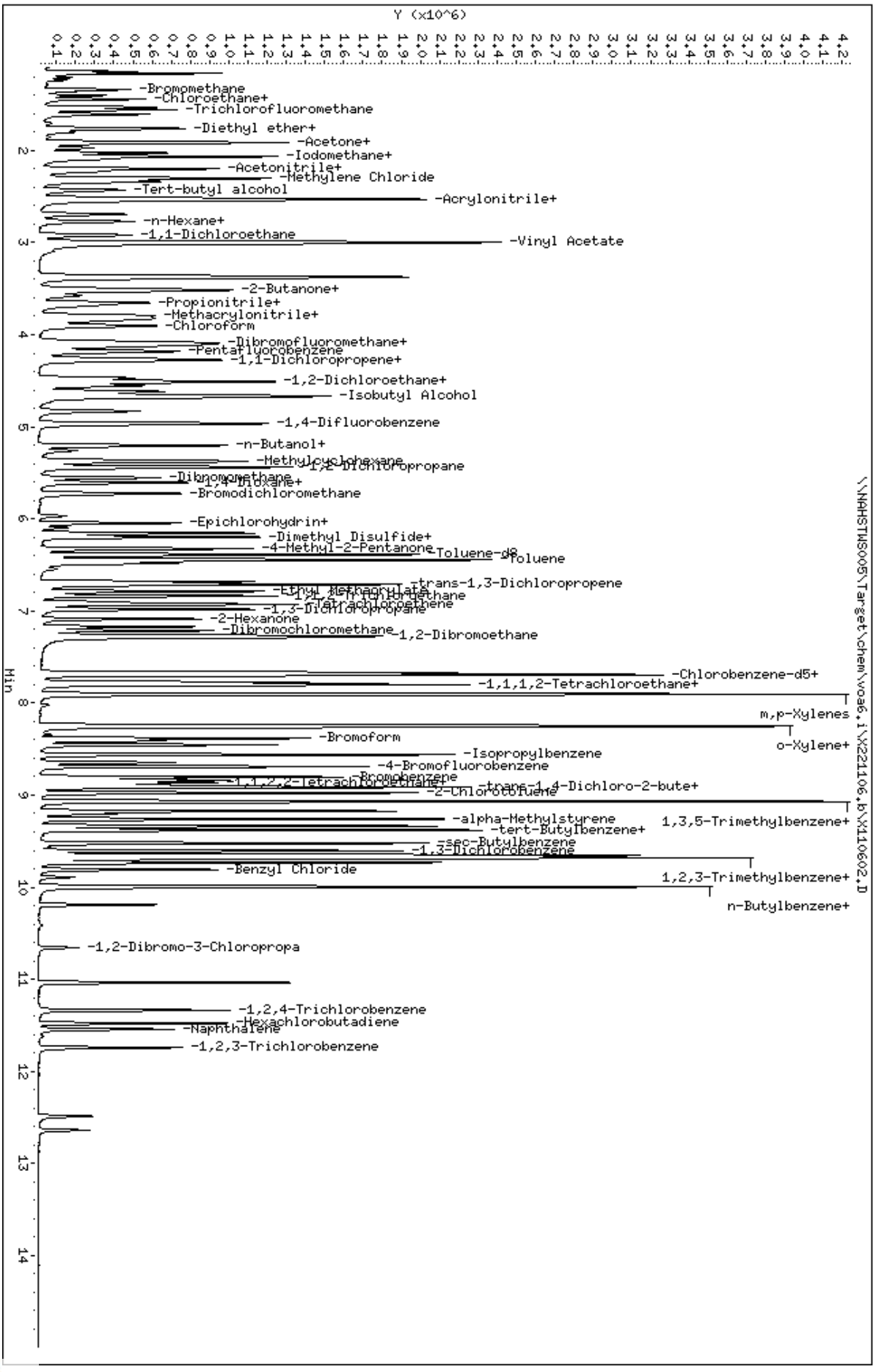
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	11 1,1-Dichloroethene	96	1.910	1.910	(0.457)	235671	50.0000	44.25
	15 Iodomethane	142	2.026	2.026	(0.485)	685151	100.000	98.32
	16 Acrylonitrile	53	2.532	2.532	(0.606)	205654	100.000	100.51
	17 Methylene Chloride	84	2.300	2.300	(0.550)	310054	50.0000	45.54
	18 Methyl tert-butyl ether	73	2.536	2.536	(0.607)	898504	50.0000	47.92
	19 Carbon Disulfide	76	2.067	2.067	(0.495)	1431227	100.000	88.49
	20 trans-1,2-Dichloroethene	96	2.524	2.524	(0.604)	267337	50.0000	45.24
	21 Vinyl Acetate	43	2.997	2.997	(0.717)	1726312	100.000	103.65
	22 1,1-Dichloroethane	63	2.918	2.918	(0.699)	486020	50.0000	45.70
	24 2-Butanone	43	3.574	3.574	(0.856)	248091	100.000	110.87
	26 2,2-Dichloropropane	77	3.507	3.507	(0.839)	417685	50.0000	47.18
	27 cis-1,2-Dichloroethene	96	3.522	3.522	(0.843)	320242	50.0000	46.39
	28 Chloroform	83	3.904	3.904	(0.935)	541239	50.0000	45.67
	29 Bromochloromethane	128	3.791	3.791	(0.908)	173212	50.0000	46.71
$	30 Dibromofluoromethane	113	4.095	4.095	(0.980)	314772	50.0000	50.47
	31 1,1,1-Trichloroethane	97	4.080	4.080	(0.977)	404180	50.0000	44.34
	32 1,1-Dichloropropene	75	4.279	4.279	(0.862)	347077	50.0000	44.95
	33 1,2-Dichloroethane	62	4.556	4.556	(0.918)	426971	50.0000	48.80
	34 Carbon Tetrachloride	117	4.260	4.260	(0.858)	308787	50.0000	47.84
$	35 1,2-Dichloroethane-d4	65	4.470	4.470	(1.070)	354620	50.0000	49.16
*	36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	962835	50.0000	
	37 Benzene	78	4.511	4.511	(0.909)	1127088	50.0000	47.17
	38 Trichloroethene	130	5.205	5.205	(1.048)	306125	50.0000	45.61
	39 Bromodichloromethane	83	5.726	5.726	(1.153)	412984	50.0000	48.71
	41 2-Chloroethylvinyl ether	63	6.044	6.044	(1.217)	284084	100.000	100.57
	42 1,2-Dichloropropane	63	5.437	5.437	(1.095)	309775	50.0000	47.84
	44 Dibromomethane	93	5.550	5.550	(1.118)	211642	50.0000	48.28
	45 4-Methyl-2-Pentanone	43	6.326	6.326	(0.825)	614799	100.000	102.77
	46 cis-1,3-Dichloropropene	75	6.153	6.153	(1.239)	535253	50.0000	50.09
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	931081	50.0000	
$	48 Toluene-d8	98	6.386	6.386	(0.832)	1160929	50.0000	51.66
	50 Toluene	91	6.446	6.446	(0.840)	1240353	50.0000	46.58
	51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.346)	472038	50.0000	51.34
	52 2-Hexanone	43	7.087	7.087	(0.924)	429442	100.000	106.62
	53 1,1,2-Trichloroethane	83	6.839	6.839	(0.892)	255472	50.0000	47.85
	54 1,3-Dichloropropane	76	6.982	6.982	(0.910)	522525	50.0000	49.31
	55 Dibromochloromethane	129	7.173	7.173	(0.935)	338975	50.0000	49.38
	56 Tetrachloroethene	164	6.925	6.925	(0.903)	245765	50.0000	46.23
	57 1,2-Dibromoethane	107	7.259	7.259	(0.946)	334345	50.0000	50.11
	58 1-Chlorohexane	55	7.698	7.698	(1.550)	243676	50.0000	46.81
	59 Chlorobenzene	112	7.694	7.694	(1.003)	852919	50.0000	47.41
	60 1,1,1,2-Tetrachloroethane	131	7.773	7.773	(1.013)	310927	50.0000	48.71
	61 Ethylbenzene	106	7.799	7.799	(1.017)	416606	50.0000	45.52
	62 m,p-Xylenes	106	7.904	7.904	(1.030)	1057466	100.000	92.87
	63 o-Xylene	106	8.241	8.241	(1.074)	517520	50.0000	46.71
	64 Styrene	104	8.260	8.260	(1.077)	916875	50.0000	49.20
	66 Bromoform	173	8.410	8.410	(1.096)	217335	50.0000	47.35
	67 Isopropylbenzene	105	8.564	8.564	(1.116)	1222885	50.0000	45.16
	68 1,1,2,2-Tetrachloroethane	83	8.837	8.837	(0.915)	381758	50.0000	49.27
$	69 4-Bromofluorobenzene	95	8.691	8.691	(1.133)	438651	50.0000	50.60
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	467684	50.0000	
	71 1,2,3-Trichloropropane	75	8.863	8.863	(0.917)	300073	50.0000	50.91(M)

73 n-Propylbenzene	91	8.912	8.912 (0.922)	1437866	50.0000	46.45
74 Bromobenzene	156	8.803	8.803 (0.911)	392810	50.0000	48.82

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)	
75	1,3,5-Trimethylbenzene	105	9.066	9.066	(0.938)	1030554	50.0000	46.80	
76	2-Chlorotoluene	91	8.976	8.976	(0.929)	910663	50.0000	46.59	
77	4-Chlorotoluene	91	9.070	9.070	(0.939)	1061628	50.0000	47.82	
78	tert-Butylbenzene	119	9.336	9.336	(0.966)	828590	50.0000	45.84	
79	1,2,4-Trimethylbenzene	105	9.381	9.381	(0.971)	1065087	50.0000	46.95	
81	sec-Butylbenzene	105	9.523	9.523	(0.986)	1153633	50.0000	45.77	
82	p-Isopropyltoluene	119	9.651	9.651	(0.999)	1020205	50.0000	45.37	
83	1,3-Dichlorobenzene	146	9.606	9.606	(0.994)	636766	50.0000	47.33	
84	1,4-Dichlorobenzene	146	9.684	9.684	(1.002)	669882	50.0000	48.03	
87	n-Butylbenzene	91	9.995	9.995	(1.035)	894646	50.0000	47.04	
88	1,2-Dichlorobenzene	146	9.992	9.992	(1.034)	603603	50.0000	47.71	
89	1,2-Dibromo-3-Chloropropane	155	10.655	10.655	(1.103)	42834	50.0000	53.02	
90	1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	280827	50.0000	47.82	
91	Hexachlorobutadiene	225	11.480	11.480	(1.188)	168370	50.0000	48.30	
92	Naphthalene	128	11.544	11.544	(1.195)	500766	50.0000	54.77	
93	1,2,3-Trichlorobenzene	180	11.742	11.742	(1.215)	208761	50.0000	49.28	
M 94	1,2-Dichloroethylene (total)	96				587579	100.000		(a)
141	Cyclohexane	56	4.118	4.118	(0.986)	322430	50.0000	46.80	
138	Freon TF	101	1.913	1.913	(0.458)	223920	50.0000	47.02	
147	Methylcyclohexane	55	5.381	5.381	(1.084)	685223	50.0000	51.42	
146	Methyl Acetate	43	2.228	2.228	(0.533)	196999	50.0000	51.81	
148	Tert-Butyl alcohol	59	2.431	2.431	(0.582)	536870	1000.00	1003.83	
149	Isopropyl Alcohol	45	2.097	2.097	(0.502)	295275	1000.00	1013.70	

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\X221106.b\X110602.D
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Sample Info: CCV;CCV;2;;
Purge Volume: 5.0
Column phase: DB624

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

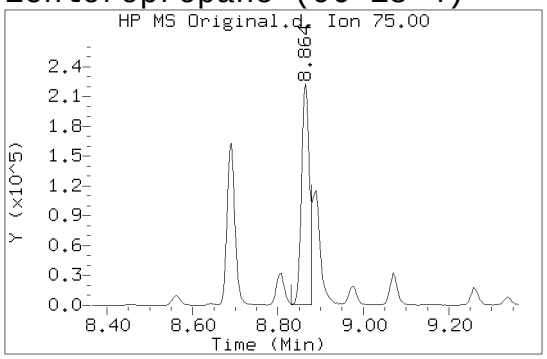
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LabSampID : CCV

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

Reason Code:

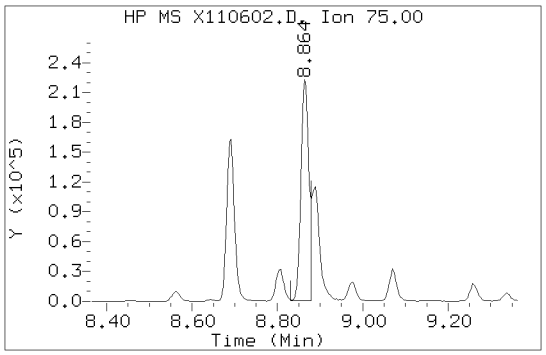
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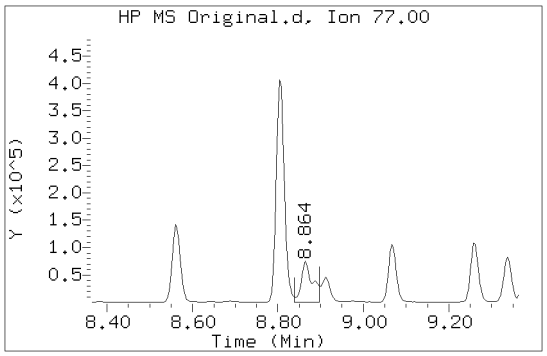
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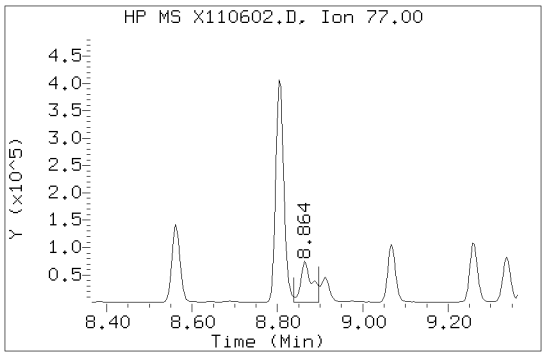
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AFTER

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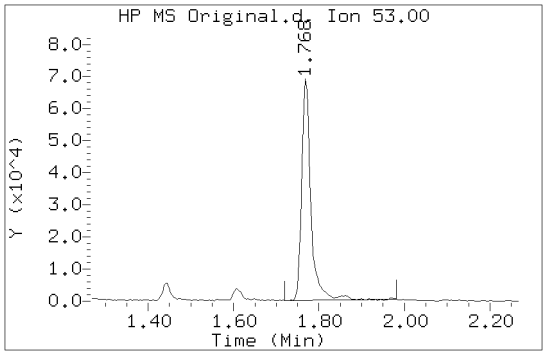


Chloroprene (126-99-8)

Reason Code:

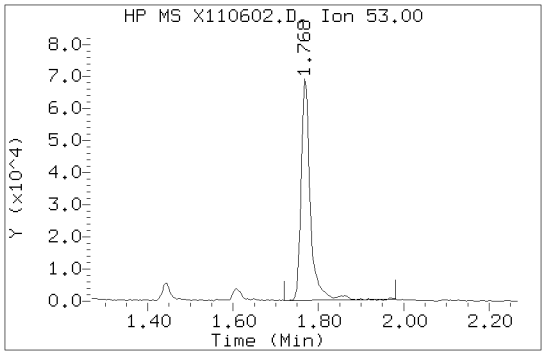
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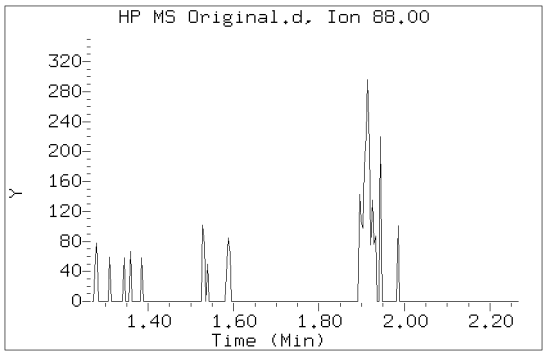
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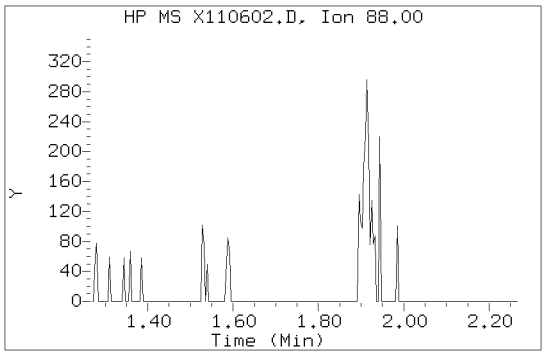
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AFTER

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17-Nov-2022
10:50
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pham



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110604.D
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Operator : PC Inst ID: voa6.i
Smp Info : CCB;CCB;;;
Misc Info : HS22052000V6;WATER;0;1;
Comment :
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Meth Date : 06-Nov-2022 20:11 pcabasca Quant Type: ISTD
Cal Date : 02-NOV-2022 13:48 Cal File: X110208.D
Als bottle: 4
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	4.181	4.178	(1.000)	710320	50.0000	
$ 30 Dibromofluoromethane	113	4.099	4.095	(0.980)	323083	45.6940	45.69
$ 35 1,2-Dichloroethane-d4	65	4.470	4.470	(1.069)	361277	44.1789	44.17
* 36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	1028355	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	922625	50.0000	
$ 48 Toluene-d8	98	6.385	6.386	(0.832)	1196623	53.7436	53.74
$ 69 4-Bromofluorobenzene	95	8.691	8.691	(1.133)	406540	47.3428	47.34
* 70 1,4-Dichlorobenzene-d4	152	9.665	9.662	(1.000)	425098	50.0000	

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110605.D Page 1
Report Date: 17-Nov-2022 10:50

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110605.D
Lab Smp Id: VLCSW-221106 Client Smp ID: VLCSW-221106
Inj Date : 06-NOV-2022 13:23
Operator : PC Inst ID: voa6.i
Smp Info : VLCSW-221106;VLCSW-221106;3;;LCS
Misc Info : HS22052000V6;WATER;0;1;
Comment   :
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Meth Date : 17-Nov-2022 10:50 voa6.i Quant Type: ISTD
Cal Date : 02-NOV-2022 13:48 Cal File: X110208.D
Als bottle: 5 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	4.177	4.178	(1.000)	599002	50.0000	
135 1,4-Dioxane	88	5.602	5.598	(1.341)	23140	362.297	362.29(a)
140 1,3-Butadiene	54	1.164	1.164	(0.279)	97345	19.3871	19.38
25 Methacrylonitrile	41	3.821	3.818	(0.915)	108495	20.2160	20.21
12 Isobutyl Alcohol	43	4.676	4.676	(1.119)	371096	414.764	414.76
13 Acetonitrile	39	2.194	2.195	(0.525)	153521	213.912	213.91
14 Allyl Chloride	41	2.198	2.198	(0.526)	281056	20.8434	20.84
4 Propionitrile	54	3.653	3.653	(0.874)	152449	202.512	202.51(a)
136 n-Hexane	57	2.772	2.768	(0.664)	82747	16.7404	16.74
72 trans-1,4-Dichloro-2-butene	53	8.890	8.890	(1.159)	42059	21.0958	21.09
23 Chloroprene	53	1.771	1.767	(0.424)	44186	19.2628	19.26(M)
130 Ethyl Acetate	43	3.660	3.653	(0.876)	130771	20.7885	20.78
40 Methyl Methacrylate	41	5.609	5.606	(1.343)	113232	20.4398	20.43
49 Ethyl Methacrylate	69	6.787	6.787	(1.367)	191465	20.6878	20.68
2 Dichlorodifluoromethane	85	0.972	0.973	(0.233)	104788	19.4032	19.40
3 Chloromethane	50	1.077	1.077	(0.258)	136264	21.7409	21.74
5 Vinyl Chloride	62	1.141	1.141	(0.273)	129765	19.1178	19.11
6 Bromomethane	94	1.336	1.336	(0.320)	91933	22.2603	22.26
7 Chloroethane	64	1.404	1.400	(0.336)	83363	19.7020	19.70
8 Trichlorofluoromethane	101	1.557	1.557	(0.373)	168291	19.4541	19.45

9	Acrolein	56	1.445	1.441 (0.346)	23299	61.1760	61.17
10	Acetone	43	1.973	1.973 (0.472)	103126	47.9879	47.98

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110605.D Page 2
Report Date: 17-Nov-2022 10:50

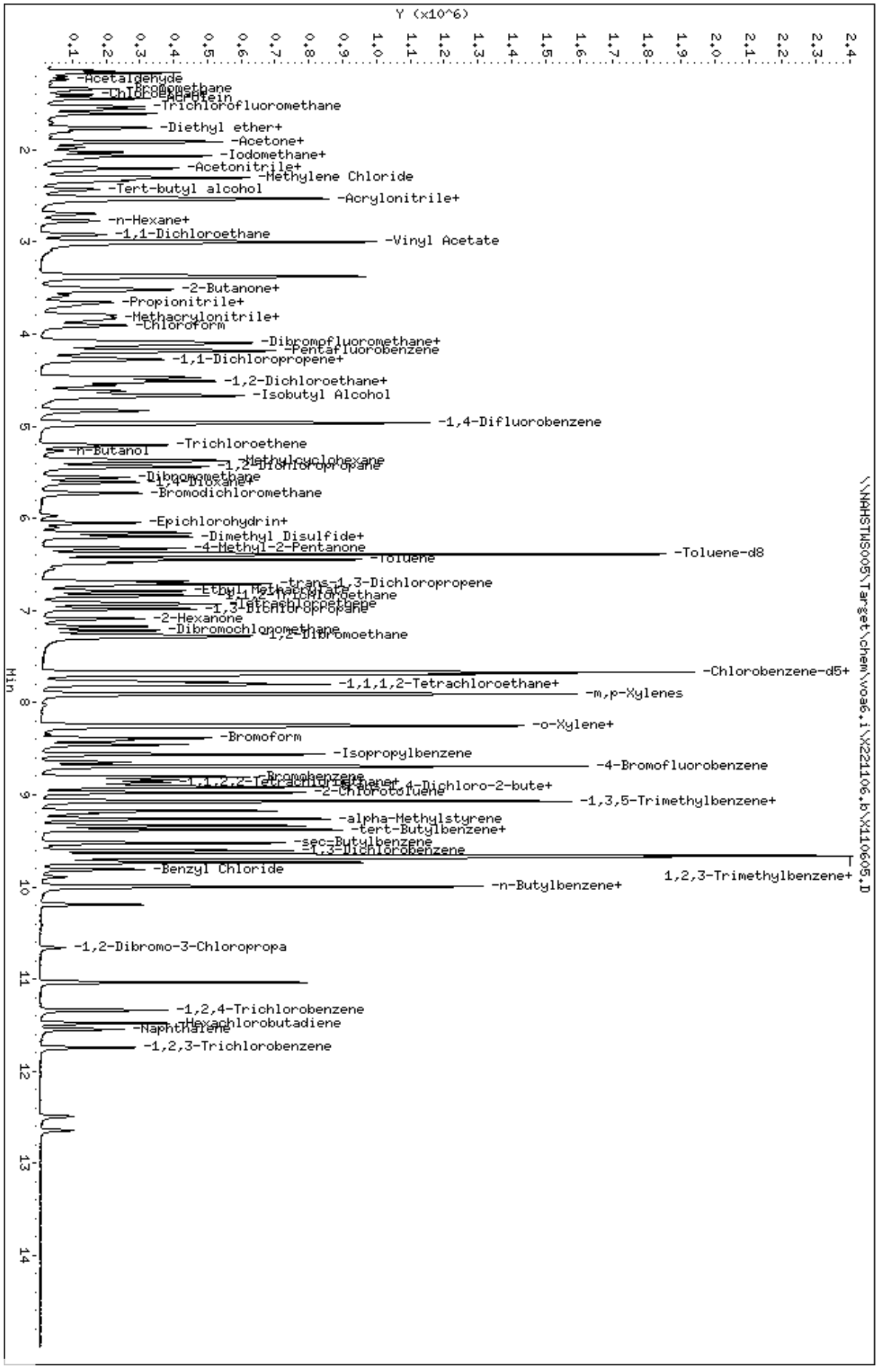
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
11	1,1-Dichloroethene	96	1.913	1.910	(0.458)	96199	18.8761	18.87
15	Iodomethane	142	2.026	2.026	(0.485)	222494	35.8135	35.81
16	Acrylonitrile	53	2.536	2.532	(0.607)	76815	39.2280	39.22
17	Methylene Chloride	84	2.303	2.300	(0.551)	138023	21.1809	21.18
18	Methyl tert-butyl ether	73	2.536	2.536	(0.607)	371704	20.7144	20.71
19	Carbon Disulfide	76	2.067	2.067	(0.495)	585204	37.8051	37.80
20	trans-1,2-Dichloroethene	96	2.528	2.524	(0.605)	107588	19.0264	19.02
21	Vinyl Acetate	43	2.997	2.997	(0.717)	704059	44.1678	44.16
22	1,1-Dichloroethane	63	2.918	2.918	(0.699)	191956	18.8593	18.85
24	2-Butanone	43	3.581	3.574	(0.857)	91120	42.5460	42.54
26	2,2-Dichloropropane	77	3.510	3.507	(0.840)	162176	19.8654	19.86
27	cis-1,2-Dichloroethene	96	3.525	3.522	(0.844)	133266	20.1709	20.17
28	Chloroform	83	3.904	3.904	(0.935)	217072	19.1390	19.13
29	Bromochloromethane	128	3.795	3.791	(0.908)	70580	19.8903	19.89
$ 30	Dibromofluoromethane	113	4.099	4.095	(0.981)	301315	50.4774	50.47
31	1,1,1-Trichloroethane	97	4.084	4.080	(0.978)	159002	18.2249	18.22
32	1,1-Dichloropropene	75	4.279	4.279	(0.862)	133287	17.8663	17.86
33	1,2-Dichloroethane	62	4.556	4.556	(0.918)	173844	20.5657	20.56
34	Carbon Tetrachloride	117	4.264	4.260	(0.859)	118710	19.3546	19.35
$ 35	1,2-Dichloroethane-d4	65	4.470	4.470	(1.070)	341189	49.4247	49.42
* 36	1,4-Difluorobenzene	114	4.965	4.965	(1.000)	930337	50.0000	
37	Benzene	78	4.511	4.511	(0.909)	455455	19.7310	19.73
38	Trichloroethene	130	5.208	5.205	(1.049)	124844	19.2525	19.25
39	Bromodichloromethane	83	5.726	5.726	(1.153)	165726	20.2303	20.23
41	2-Chloroethylvinyl ether	63	6.048	6.044	(1.218)	113283	41.5083	41.50
42	1,2-Dichloropropane	63	5.433	5.437	(1.094)	124988	19.9803	19.98
44	Dibromomethane	93	5.553	5.550	(1.119)	87042	20.5525	20.55
45	4-Methyl-2-Pentanone	43	6.325	6.326	(0.825)	246435	43.0919	43.09
46	cis-1,3-Dichloropropene	75	6.157	6.153	(1.240)	215666	20.8888	20.88
* 47	Chlorobenzene-d5	117	7.671	7.671	(1.000)	890133	50.0000	
$ 48	Toluene-d8	98	6.385	6.386	(0.832)	1092289	50.8484	50.84
50	Toluene	91	6.445	6.446	(0.840)	497157	19.5291	19.52
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.346)	182709	20.5678	20.56
52	2-Hexanone	43	7.086	7.087	(0.924)	173226	44.9879	44.98
53	1,1,2-Trichloroethane	83	6.839	6.839	(0.892)	103481	20.2760	20.27
54	1,3-Dichloropropane	76	6.981	6.982	(0.910)	210225	20.7552	20.75
55	Dibromochloromethane	129	7.176	7.173	(0.936)	133146	20.2915	20.29
56	Tetrachloroethene	164	6.925	6.925	(0.903)	95440	19.1037	19.10
57	1,2-Dibromoethane	107	7.263	7.259	(0.947)	134881	21.1493	21.14
58	1-Chlorohexane	55	7.697	7.698	(1.550)	93185	18.6709	18.67
59	Chlorobenzene	112	7.694	7.694	(1.003)	344167	20.0143	20.01
60	1,1,1,2-Tetrachloroethane	131	7.776	7.773	(1.014)	122685	20.1059	20.10
61	Ethylbenzene	106	7.802	7.799	(1.017)	162480	18.5717	18.57
62	m,p-Xylenes	106	7.904	7.904	(1.030)	422149	38.7832	38.78
63	o-Xylene	106	8.241	8.241	(1.074)	206415	19.4888	19.48
64	Styrene	104	8.260	8.260	(1.077)	364540	20.4622	20.46
66	Bromoform	173	8.410	8.410	(1.096)	82973	20.3784	20.37
67	Isopropylbenzene	105	8.563	8.564	(1.116)	462935	17.8826	17.88
68	1,1,2,2-Tetrachloroethane	83	8.837	8.837	(0.915)	156604	20.8795	20.87
$ 69	4-Bromofluorobenzene	95	8.691	8.691	(1.133)	412626	49.7918	49.79
* 70	1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	452740	50.0000	
71	1,2,3-Trichloropropane	75	8.863	8.863	(0.917)	123695	21.6809	21.68(M)

73 n-Propylbenzene	91	8.912	8.912 (0.922)	540906	18.0511	18.05
74 Bromobenzene	156	8.807	8.803 (0.912)	157924	20.2777	20.27

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
75	1,3,5-Trimethylbenzene	105	9.066	9.066	(0.938)	392928	18.4367	18.43
76	2-Chlorotoluene	91	8.976	8.976	(0.929)	362911	19.1805	19.18
77	4-Chlorotoluene	91	9.073	9.070	(0.939)	422006	19.6389	19.63
78	tert-Butylbenzene	119	9.336	9.336	(0.966)	314715	18.3220	18.32
79	1,2,4-Trimethylbenzene	105	9.381	9.381	(0.971)	411591	18.7446	18.74
81	sec-Butylbenzene	105	9.523	9.523	(0.986)	427308	18.0345	18.03
82	p-Isopropyltoluene	119	9.651	9.651	(0.999)	382302	17.5637	17.56
83	1,3-Dichlorobenzene	146	9.606	9.606	(0.994)	255161	19.5921	19.59
84	1,4-Dichlorobenzene	146	9.684	9.684	(1.002)	270810	20.0579	20.05
87	n-Butylbenzene	91	9.995	9.995	(1.035)	331062	17.9824	17.98
88	1,2-Dichlorobenzene	146	9.995	9.992	(1.035)	245531	20.0512	20.05
89	1,2-Dibromo-3-Chloropropane	155	10.659	10.655	(1.103)	16646	22.9134	22.91
90	1,2,4-Trichlorobenzene	180	11.341	11.338	(1.174)	110586	19.4534	19.45
91	Hexachlorobutadiene	225	11.480	11.480	(1.188)	62896	18.6823	18.68
92	Naphthalene	128	11.547	11.544	(1.195)	190232	21.4960	21.49
93	1,2,3-Trichlorobenzene	180	11.746	11.742	(1.216)	84277	20.5541	20.55
M 94	1,2-Dichloroethylene (total)	96				240854	39.1973	39.19
M 95	Xylenes (total)	106				628564	58.2720	58.27
141	Cyclohexane	56	4.118	4.118	(0.986)	124712	18.7954	18.79
138	Freon TF	101	1.913	1.913	(0.458)	87826	19.0647	19.06
147	Methylcyclohexane	55	5.381	5.381	(1.084)	320148	24.8635	24.86
146	Methyl Acetate	43	2.232	2.228	(0.534)	77397	21.2680	21.26
148	Tert-Butyl alcohol	59	2.431	2.431	(0.582)	209732	409.726	409.72
149	Isopropyl Alcohol	45	2.097	2.097	(0.502)	111825	401.106	401.10

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\X221106.b\X110605.D
Date : 06-NOV-2022 13:23
Client ID: VLCSW-221106
Sample Info: VLCSW-221106;VLCSW-221106;3;;LCS
Purge Volume: 5.0
Column phase: DB624

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

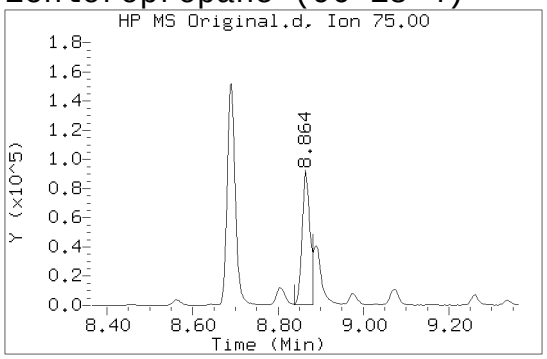
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Inj Date : 06-NOV-2022 13:23
InstruID : voa6.i
LabSampID : VLCSW-221106

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

Reason Code:

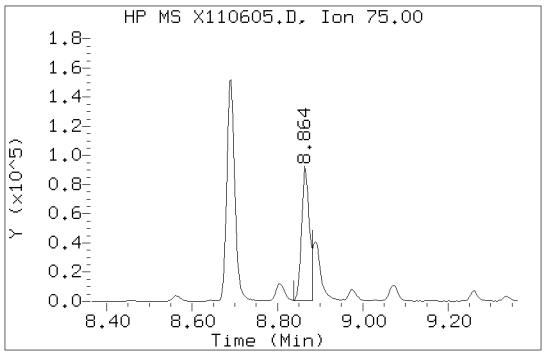
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HEIGHT
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09-Nov-2022
12:24
linh
pham



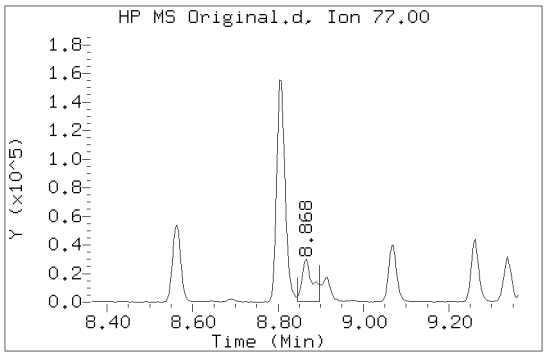
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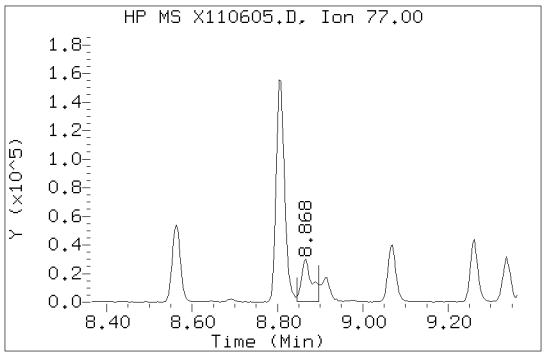
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AFTER

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17-Nov-2022
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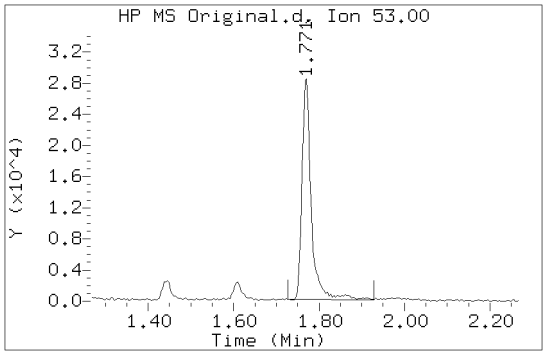


Chloroprene (126-99-8)

Reason Code:

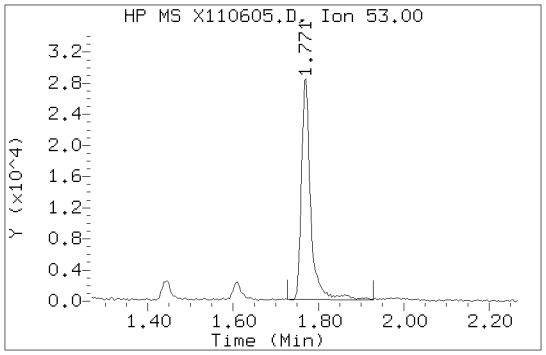
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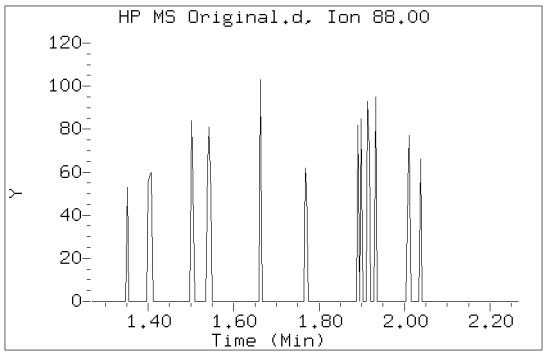
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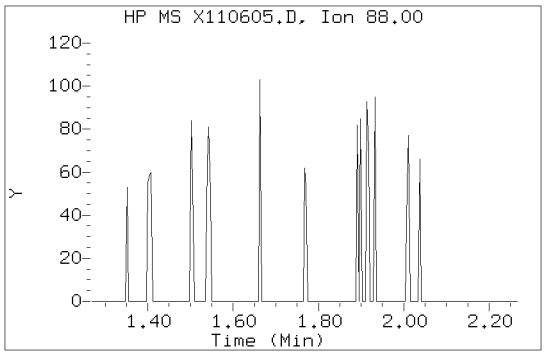
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12:24
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AFTER

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HEIGHT
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17-Nov-2022
10:50
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pham



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110608.D
Lab Smp Id: VBLKW-221106 Client Smp ID: VBLKW-221106
Inj Date : 06-NOV-2022 14:26
Operator : PC Inst ID: voa6.i
Smp Info : VBLKW-221106;VBLKW-221106;3;;BLANK
Misc Info : HS22052000V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\8260W.m
Meth Date : 17-Nov-2022 10:50 voa6.i Quant Type: ISTD
Cal Date : 02-NOV-2022 13:48 Cal File: X110208.D
Als bottle: 8 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	4.181	4.178	(1.000)	697823	50.0000	
$ 30 Dibromofluoromethane	113	4.099	4.095	(0.980)	315896	45.4802	45.48
$ 35 1,2-Dichloroethane-d4	65	4.470	4.470	(1.069)	354146	44.0834	44.08
* 36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	1002160	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	901110	50.0000	
$ 48 Toluene-d8	98	6.386	6.386	(0.832)	1174239	53.9974	53.99
$ 69 4-Bromofluorobenzene	95	8.691	8.691	(1.133)	388099	46.2804	46.28
* 70 1,4-Dichlorobenzene-d4	152	9.666	9.662	(1.000)	421065	50.0000	

01159002

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110608.D

Page 1

Date : 06-NOV-2022 14:26

Client ID: VBLKW-221106

Instrument: voa6.i

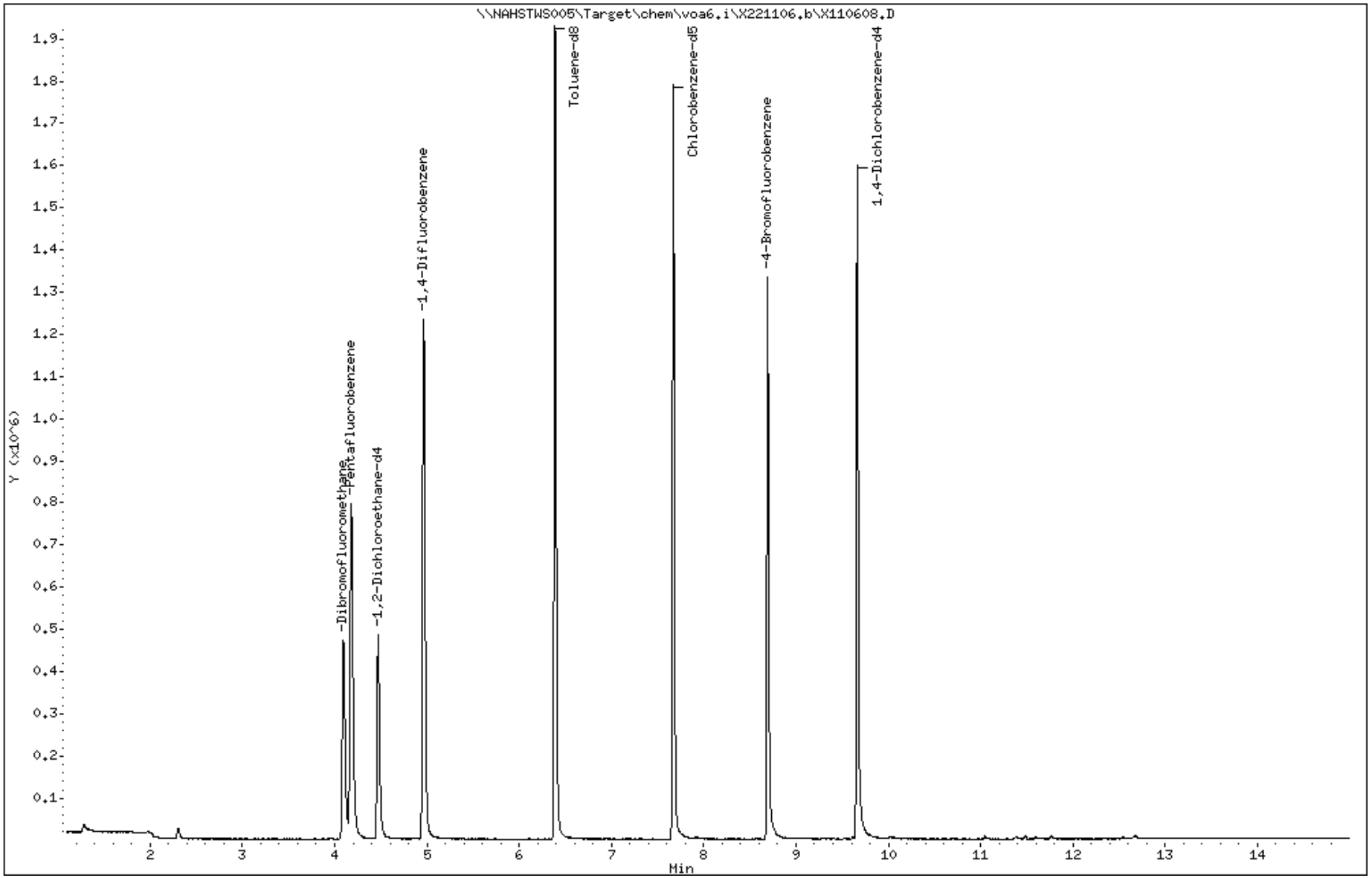
Sample Info: VBLKW-221106;VBLKW-221106;3;;BLANK

Purge Volume: 5.0

Operator: PC

Column phase: DB624

Column diameter: 0.18



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Inj Date : 06-NOV-2022 14:26
InstruID : voa6.i
LabSampID : VBLKW-221106

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110612.D Page 1
Report Date: 17-Nov-2022 10:50

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110612.D
Lab Smp Id: HS22110180-01MS Client Smp ID: HS22110180-01MS
Inj Date : 06-NOV-2022 15:50
Operator : PC Inst ID: voa6.i
Smp Info : HS22110180-01MS;HS22110180-01MS;3;;MS
Misc Info : HS22052000V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\8260W.m
Meth Date : 17-Nov-2022 10:50 voa6.i Quant Type: ISTD
Cal Date : 02-NOV-2022 13:48 Cal File: X110208.D
Als bottle: 12 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)	699870	50.0000	
135 1,4-Dioxane	88	5.602	5.598	(1.340)	20396	273.311	273.31(a)
140 1,3-Butadiene	54	1.164	1.164	(0.278)	118345	20.1725	20.17
25 Methacrylonitrile	41	3.821	3.818	(0.914)	101665	16.2131	16.21
12 Isobutyl Alcohol	43	4.676	4.676	(1.118)	341726	326.892	326.89
13 Acetonitrile	39	2.198	2.195	(0.526)	155968	186.000	186.00
14 Allyl Chloride	41	2.198	2.198	(0.526)	283213	17.9762	17.97
4 Propionitrile	54	3.653	3.653	(0.874)	151390	172.121	172.12(a)
136 n-Hexane	57	2.768	2.768	(0.662)	140140	24.3722	24.37
72 trans-1,4-Dichloro-2-butene	53	8.890	8.890	(1.159)	35522	17.4518	17.45
23 Chloroprene	53	1.767	1.767	(0.423)	50778	18.9462	18.94(M)
130 Ethyl Acetate	43	3.657	3.653	(0.875)	112411	15.2944	15.29
40 Methyl Methacrylate	41	5.610	5.606	(1.342)	106278	16.4195	16.41
49 Ethyl Methacrylate	69	6.787	6.787	(1.367)	180189	18.0964	18.09
2 Dichlorodifluoromethane	85	0.972	0.973	(0.233)	97571	15.5861	15.58
3 Chloromethane	50	1.077	1.077	(0.258)	129748	17.9733	17.97
5 Vinyl Chloride	62	1.141	1.141	(0.273)	142324	17.9461	17.94
6 Bromomethane	94	1.336	1.336	(0.320)	95954	20.0207	20.02
7 Chloroethane	64	1.400	1.400	(0.335)	91168	18.4412	18.44
8 Trichlorofluoromethane	101	1.557	1.557	(0.373)	210749	20.8510	20.85

9	Acrolein	56	1.441	1.441 (0.345)	23146	52.5131	52.51
10	Acetone	43	1.970	1.973 (0.471)	65496	25.4060	25.40

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110612.D Page 2
Report Date: 17-Nov-2022 10:50

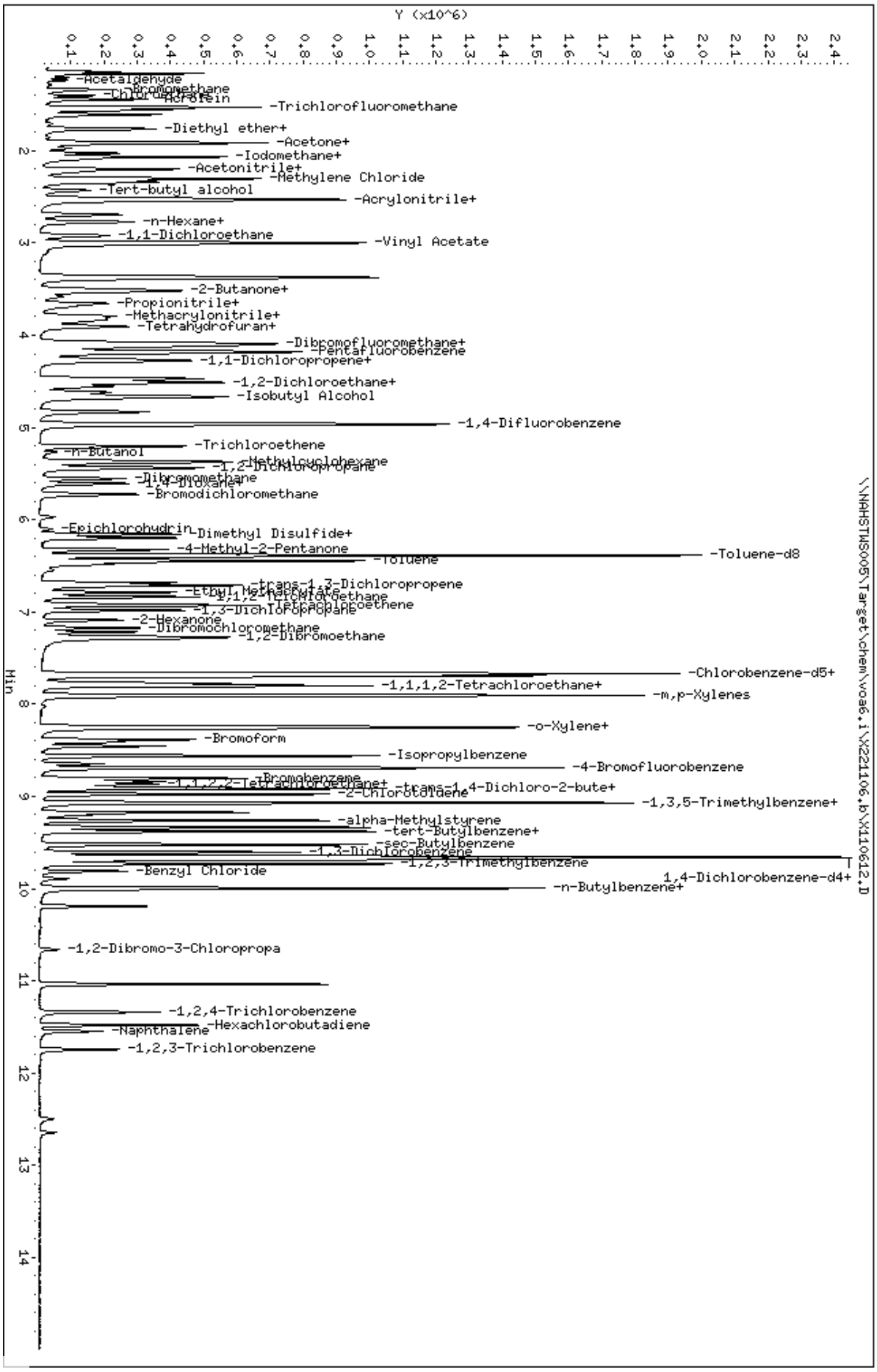
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
11	1,1-Dichloroethene	96	1.910	1.910	(0.457)	117921	19.8035	19.80
15	Iodomethane	142	2.026	2.026	(0.485)	218687	30.5573	30.55
16	Acrylonitrile	53	2.536	2.532	(0.606)	80837	35.3322	35.33
17	Methylene Chloride	84	2.303	2.300	(0.551)	138860	18.2382	18.23
18	Methyl tert-butyl ether	73	2.532	2.536	(0.606)	351219	16.7519	16.75
19	Carbon Disulfide	76	2.067	2.067	(0.494)	645710	35.7019	35.70
20	trans-1,2-Dichloroethene	96	2.528	2.524	(0.605)	123142	18.6385	18.63
21	Vinyl Acetate	43	2.997	2.997	(0.717)	630974	33.8781	33.87
22	1,1-Dichloroethane	63	2.922	2.918	(0.699)	214035	17.9978	17.99
24	2-Butanone	43	3.582	3.574	(0.857)	74026	29.5829	29.58
26	2,2-Dichloropropane	77	3.507	3.507	(0.839)	189507	19.8675	19.86
27	cis-1,2-Dichloroethene	96	3.522	3.522	(0.842)	137639	17.8303	17.83
28	Chloroform	83	3.904	3.904	(0.934)	228121	17.2144	17.21
29	Bromochloromethane	128	3.791	3.791	(0.907)	73061	17.6221	17.62
$ 30	Dibromofluoromethane	113	4.095	4.095	(0.979)	314104	45.0946	45.09
31	1,1,1-Trichloroethane	97	4.080	4.080	(0.976)	191636	18.7997	18.79
32	1,1-Dichloropropene	75	4.279	4.279	(0.862)	172433	21.4836	21.48
33	1,2-Dichloroethane	62	4.556	4.556	(0.918)	171965	18.9087	18.90
34	Carbon Tetrachloride	117	4.260	4.260	(0.858)	149047	22.5602	22.56
$ 35	1,2-Dichloroethane-d4	65	4.470	4.470	(1.069)	347356	43.1212	43.12
* 36	1,4-Difluorobenzene	114	4.965	4.965	(1.000)	1000924	50.0000	
37	Benzene	78	4.511	4.511	(0.909)	494038	19.8931	19.89
38	Trichloroethene	130	5.205	5.205	(1.048)	143316	20.5425	20.54
39	Bromodichloromethane	83	5.726	5.726	(1.153)	164022	18.6103	18.61
42	1,2-Dichloropropane	63	5.433	5.437	(1.094)	126786	18.8384	18.83
44	Dibromomethane	93	5.553	5.550	(1.119)	84623	18.5722	18.57
45	4-Methyl-2-Pentanone	43	6.326	6.326	(0.825)	225858	38.6842	38.68
46	cis-1,3-Dichloropropene	75	6.153	6.153	(1.239)	207305	18.6629	18.66
* 47	Chlorobenzene-d5	117	7.671	7.671	(1.000)	908763	50.0000	
$ 48	Toluene-d8	98	6.386	6.386	(0.832)	1175454	53.5981	53.59
50	Toluene	91	6.446	6.446	(0.840)	539158	20.7448	20.74
51	trans-1,3-Dichloropropene	75	6.682	6.682	(1.346)	173815	18.1867	18.18
52	2-Hexanone	43	7.087	7.087	(0.924)	144406	36.7344	36.73
53	1,1,2-Trichloroethane	83	6.839	6.839	(0.892)	99033	19.0066	19.00
54	1,3-Dichloropropane	76	6.982	6.982	(0.910)	204198	19.7469	19.74
55	Dibromochloromethane	129	7.176	7.173	(0.936)	128225	19.1410	19.14
56	Tetrachloroethene	164	6.929	6.925	(0.903)	120298	23.4581	23.45
57	1,2-Dibromoethane	107	7.259	7.259	(0.946)	128873	19.7930	19.79
58	1-Chlorohexane	55	7.698	7.698	(1.550)	121354	22.5903	22.59
59	Chlorobenzene	112	7.694	7.694	(1.003)	363419	20.7006	20.70
60	1,1,1,2-Tetrachloroethane	131	7.776	7.773	(1.014)	122422	19.6515	19.65
61	Ethylbenzene	106	7.803	7.799	(1.017)	188825	21.1405	21.14
62	m,p-Xylenes	106	7.904	7.904	(1.030)	476209	42.8529	42.85
63	o-Xylene	106	8.241	8.241	(1.074)	226400	20.9375	20.93
64	Styrene	104	8.260	8.260	(1.077)	381421	20.9708	20.97
66	Bromoform	173	8.410	8.410	(1.096)	75380	18.4030	18.40
67	Isopropylbenzene	105	8.560	8.564	(1.116)	582197	22.0285	22.02
68	1,1,2,2-Tetrachloroethane	83	8.837	8.837	(0.915)	142526	18.3582	18.35
$ 69	4-Bromofluorobenzene	95	8.687	8.691	(1.132)	417460	49.3448	49.34
* 70	1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	468631	50.0000	
71	1,2,3-Trichloropropane	75	8.863	8.863	(0.917)	113188	19.1665	19.16(M)
73	n-Propylbenzene	91	8.912	8.912	(0.922)	679020	21.8918	21.89

74	Bromobenzene	156	8.807	8.803 (0.912)	162374	20.1421	20.14
75	1,3,5-Trimethylbenzene	105	9.070	9.066 (0.939)	471166	21.3581	21.35

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
	76 2-Chlorotoluene	91	8.976	8.976	(0.929)	403450	20.6000	20.59
	77 4-Chlorotoluene	91	9.073	9.070	(0.939)	463414	20.8346	20.83
	78 tert-Butylbenzene	119	9.336	9.336	(0.966)	403324	22.5531	22.55
	79 1,2,4-Trimethylbenzene	105	9.381	9.381	(0.971)	469739	20.6673	20.66
	81 sec-Butylbenzene	105	9.523	9.523	(0.986)	562600	22.7098	22.70
	82 p-Isopropyltoluene	119	9.651	9.651	(0.999)	487916	21.6557	21.65
	83 1,3-Dichlorobenzene	146	9.606	9.606	(0.994)	272384	20.2054	20.20
	84 1,4-Dichlorobenzene	146	9.684	9.684	(1.002)	284841	20.3817	20.38
	87 n-Butylbenzene	91	9.995	9.995	(1.035)	423548	22.2259	22.22
	88 1,2-Dichlorobenzene	146	9.995	9.992	(1.035)	249366	19.6739	19.67
	89 1,2-Dibromo-3-Chloropropane	155	10.663	10.655	(1.104)	12889	17.8246	17.82
	90 1,2,4-Trichlorobenzene	180	11.337	11.338	(1.173)	108297	18.4047	18.40
	91 Hexachlorobutadiene	225	11.480	11.480	(1.188)	79536	22.8815	22.88
	92 Naphthalene	128	11.547	11.544	(1.195)	148894	16.2543	16.25
	93 1,2,3-Trichlorobenzene	180	11.742	11.742	(1.215)	72177	17.0062	17.00
M	94 1,2-Dichloroethylene (total)	96				260781	36.4687	36.46
M	95 Xylenes (total)	106				702609	63.7903	63.79
	141 Cyclohexane	56	4.121	4.118	(0.986)	192233	24.9316	24.93
	138 Freon TF	101	1.913	1.913	(0.458)	124626	23.2589	23.25
	147 Methylcyclohexane	55	5.381	5.381	(1.084)	318822	23.0144	23.01
	146 Methyl Acetate	43	2.232	2.228	(0.534)	71425	16.7982	16.79
	148 Tert-Butyl alcohol	59	2.431	2.431	(0.581)	182902	305.814	305.81
	149 Isopropyl Alcohol	45	2.097	2.097	(0.502)	101788	312.484	312.48

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\X221106.b\X110612.D
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Sample Info: HS22110180-01MS;HS22110180-01MS;3;;MS
Purge Volume: 5.0
Column phase: DB624

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

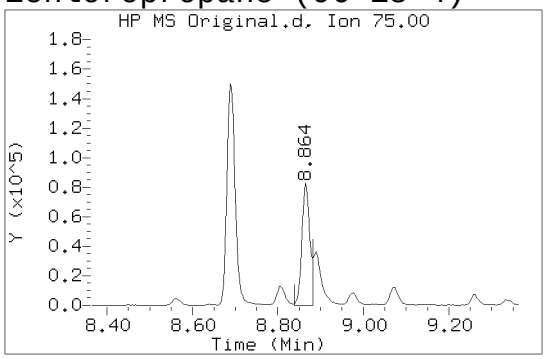
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1,2,3-Trichloropropane (96-18-4)

Reason Code:

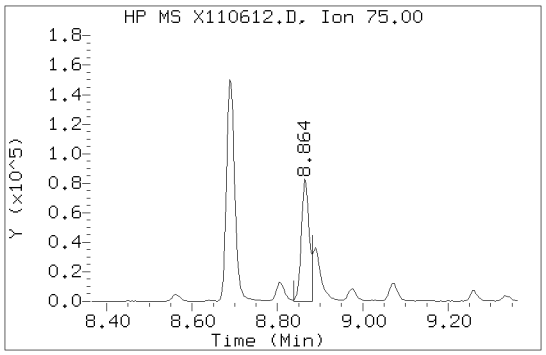
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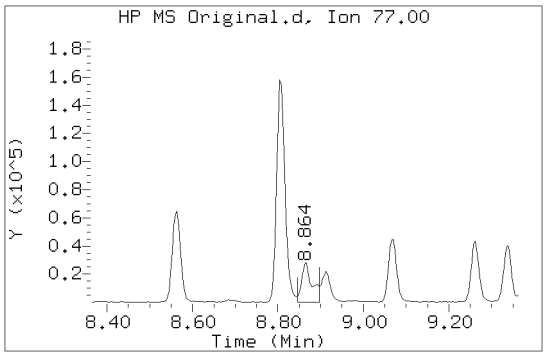
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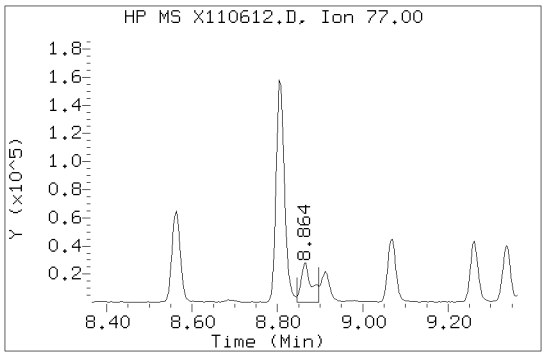
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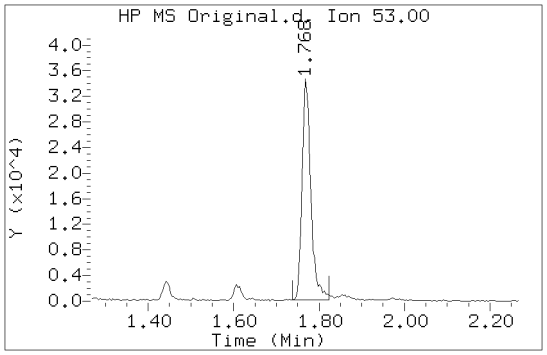


Chloroprene (126-99-8)

Reason Code:

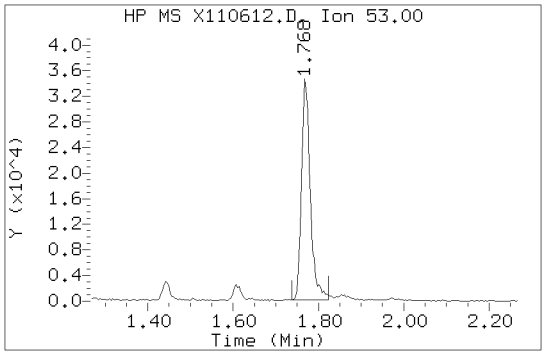
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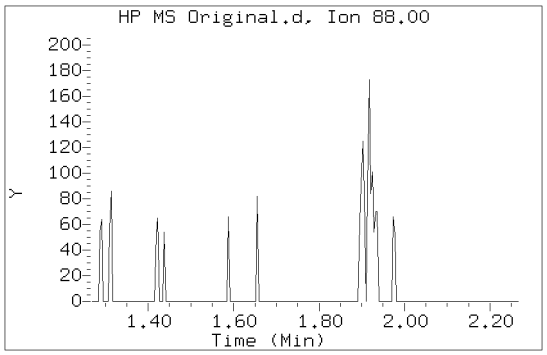
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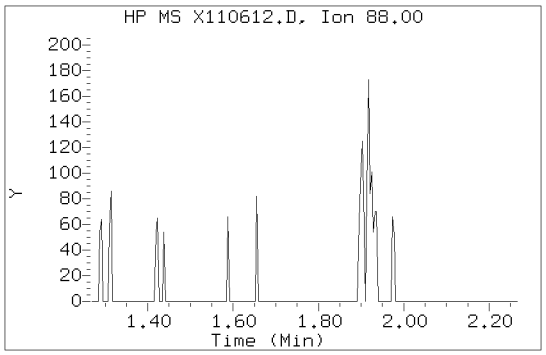
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09-Nov-2022
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AFTER

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17-Nov-2022
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linh
pham



ALS Laboratory Group

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Inj Date : 06-NOV-2022 16:11
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Cal Date : 02-NOV-2022 13:48 Cal File: X110208.D
Als bottle: 12 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	4.181	4.178	(1.000)	690775	50.0000	
135 1,4-Dioxane	88	5.606	5.598	(1.341)	22245	302.013	302.01(a)
140 1,3-Butadiene	54	1.164	1.164	(0.278)	111179	19.2005	19.20
25 Methacrylonitrile	41	3.825	3.818	(0.915)	105671	17.0739	17.07
12 Isobutyl Alcohol	43	4.676	4.676	(1.118)	334000	323.708	323.70
13 Acetonitrile	39	2.198	2.195	(0.526)	150659	182.035	182.03
14 Allyl Chloride	41	2.198	2.198	(0.526)	280961	18.0681	18.06
4 Propionitrile	54	3.649	3.653	(0.873)	158252	182.291	182.29(a)
136 n-Hexane	57	2.772	2.768	(0.663)	130967	23.0688	23.06
72 trans-1,4-Dichloro-2-butene	53	8.890	8.890	(1.159)	38864	19.0467	19.04
23 Chloroprene	53	1.771	1.767	(0.424)	49074	18.5515	18.55(M)
130 Ethyl Acetate	43	3.657	3.653	(0.875)	116974	16.1248	16.12
40 Methyl Methacrylate	41	5.606	5.606	(1.341)	101774	15.9307	15.93
49 Ethyl Methacrylate	69	6.787	6.787	(1.367)	183940	18.5993	18.59
2 Dichlorodifluoromethane	85	0.973	0.973	(0.233)	93708	15.1825	15.18
3 Chloromethane	50	1.077	1.077	(0.258)	122302	17.2270	17.22
5 Vinyl Chloride	62	1.141	1.141	(0.273)	135424	17.3009	17.30
6 Bromomethane	94	1.336	1.336	(0.320)	90254	19.1389	19.13
7 Chloroethane	64	1.400	1.400	(0.335)	88001	18.0350	18.03
8 Trichlorofluoromethane	101	1.557	1.557	(0.373)	205913	20.6407	20.64

9	Acrolein	56	1.441	1.441 (0.345)	22217	51.1541	51.15
10	Acetone	43	1.973	1.973 (0.472)	67388	26.5472	26.54

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110613.D Page 2
Report Date: 17-Nov-2022 10:50

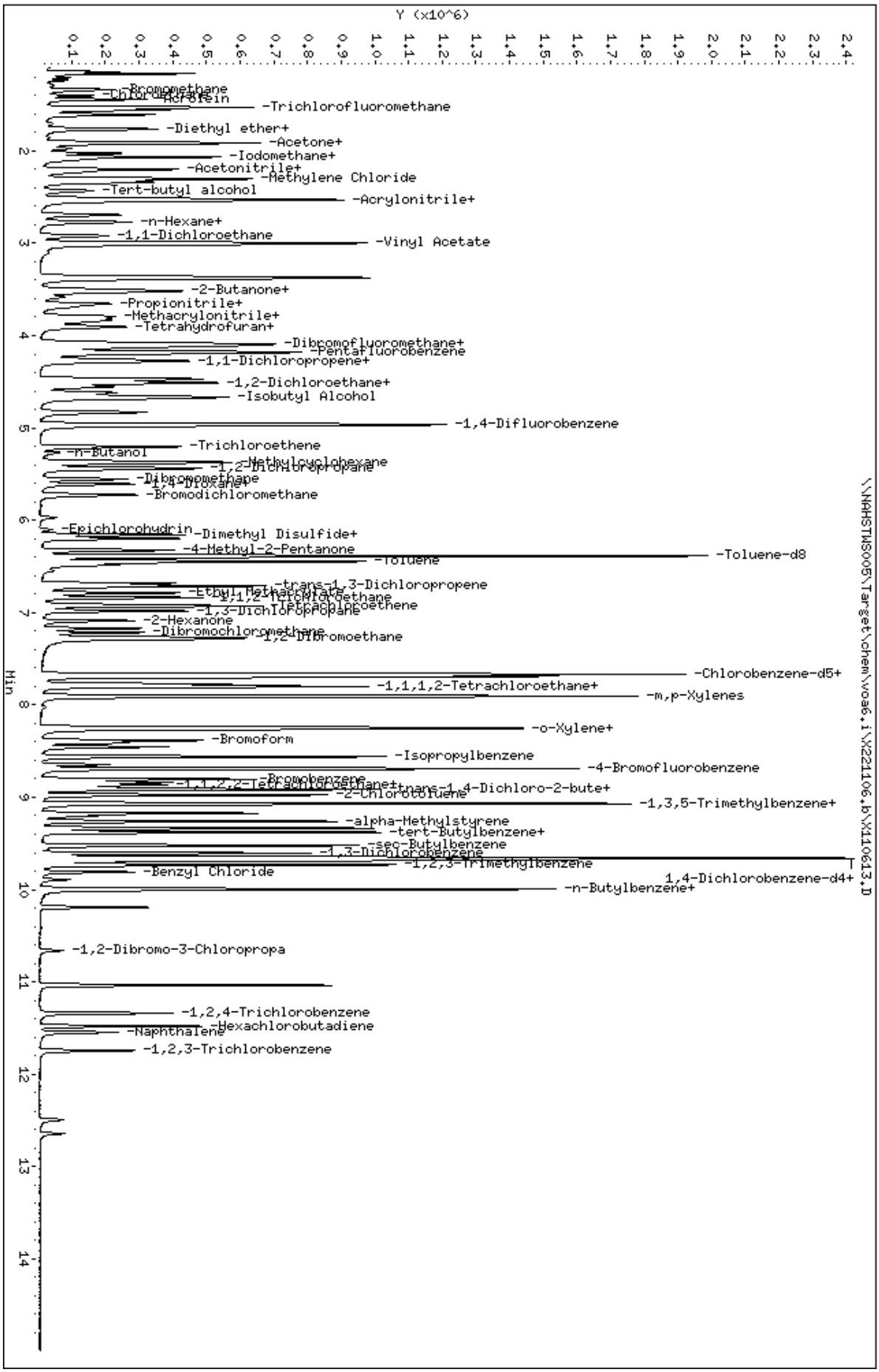
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	11 1,1-Dichloroethene	96	1.910	1.910	(0.457)	111186	18.9183	18.91
	15 Iodomethane	142	2.026	2.026	(0.485)	228064	32.1364	32.13
	16 Acrylonitrile	53	2.536	2.532	(0.606)	76807	34.0128	34.01
	17 Methylene Chloride	84	2.303	2.300	(0.551)	136770	18.2002	18.20
	18 Methyl tert-butyl ether	73	2.536	2.536	(0.606)	349766	16.9022	16.90
	19 Carbon Disulfide	76	2.067	2.067	(0.494)	618382	34.6411	34.64
	20 trans-1,2-Dichloroethene	96	2.528	2.524	(0.605)	118662	18.1969	18.19
	21 Vinyl Acetate	43	2.997	2.997	(0.717)	636676	34.6343	34.63
	22 1,1-Dichloroethane	63	2.918	2.918	(0.698)	208146	17.7331	17.73
	24 2-Butanone	43	3.582	3.574	(0.857)	74570	30.1926	30.19
	26 2,2-Dichloropropane	77	3.507	3.507	(0.839)	181712	19.3360	19.33
	27 cis-1,2-Dichloroethene	96	3.525	3.522	(0.843)	135490	17.7830	17.78
	28 Chloroform	83	3.904	3.904	(0.934)	221981	16.9716	16.97
	29 Bromochloromethane	128	3.795	3.791	(0.908)	71100	17.3749	17.37
$	30 Dibromofluoromethane	113	4.095	4.095	(0.979)	310452	45.1564	45.15
	31 1,1,1-Trichloroethane	97	4.084	4.080	(0.977)	183171	18.2058	18.20
	32 1,1-Dichloropropene	75	4.279	4.279	(0.862)	164945	20.6911	20.69
	33 1,2-Dichloroethane	62	4.556	4.556	(0.918)	167172	18.5073	18.50
	34 Carbon Tetrachloride	117	4.264	4.260	(0.859)	147991	22.5534	22.55
$	35 1,2-Dichloroethane-d4	65	4.470	4.470	(1.069)	347580	43.7112	43.71
*	36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	994132	50.0000	
	37 Benzene	78	4.511	4.511	(0.909)	476347	19.3118	19.31
	38 Trichloroethene	130	5.205	5.205	(1.048)	136729	19.7322	19.73
	39 Bromodichloromethane	83	5.726	5.726	(1.153)	160786	18.3678	18.36
	42 1,2-Dichloropropane	63	5.433	5.437	(1.094)	124496	18.6245	18.62
	44 Dibromomethane	93	5.553	5.550	(1.119)	84692	18.7144	18.71
	45 4-Methyl-2-Pentanone	43	6.326	6.326	(0.825)	232047	39.6463	39.64
	46 cis-1,3-Dichloropropene	75	6.157	6.153	(1.240)	207717	18.8278	18.82
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	911007	50.0000	
$	48 Toluene-d8	98	6.386	6.386	(0.832)	1163008	52.9000	52.89
	50 Toluene	91	6.446	6.446	(0.840)	529032	20.3050	20.30
	51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.346)	177018	18.6484	18.64
	52 2-Hexanone	43	7.087	7.087	(0.924)	150782	38.2618	38.26
	53 1,1,2-Trichloroethane	83	6.839	6.839	(0.892)	99570	19.0626	19.06
	54 1,3-Dichloropropane	76	6.982	6.982	(0.910)	202227	19.5081	19.50
	55 Dibromochloromethane	129	7.173	7.173	(0.935)	127624	19.0043	19.00
	56 Tetrachloroethene	164	6.925	6.925	(0.903)	117558	22.8811	22.88
	57 1,2-Dibromoethane	107	7.259	7.259	(0.946)	130369	19.9735	19.97
	58 1-Chlorohexane	55	7.698	7.698	(1.550)	121233	22.7215	22.72
	59 Chlorobenzene	112	7.694	7.694	(1.003)	352866	20.0500	20.04
	60 1,1,1,2-Tetrachloroethane	131	7.773	7.773	(1.013)	121502	19.4557	19.45
	61 Ethylbenzene	106	7.799	7.799	(1.017)	185177	20.6810	20.68
	62 m,p-Xylenes	106	7.904	7.904	(1.030)	461275	41.4067	41.40
	63 o-Xylene	106	8.241	8.241	(1.074)	219731	20.2707	20.27
	64 Styrene	104	8.260	8.260	(1.077)	378520	20.7600	20.76
	66 Bromoform	173	8.410	8.410	(1.096)	79185	19.1674	19.16
	67 Isopropylbenzene	105	8.564	8.564	(1.116)	571884	21.5850	21.58
	68 1,1,2,2-Tetrachloroethane	83	8.837	8.837	(0.915)	149226	19.3290	19.32
$	69 4-Bromofluorobenzene	95	8.691	8.691	(1.133)	414869	48.9200	48.92
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	466016	50.0000	
	71 1,2,3-Trichloropropane	75	8.863	8.863	(0.917)	109227	18.5996	18.59(M)
	73 n-Propylbenzene	91	8.912	8.912	(0.922)	665136	21.5645	21.56

74	Bromobenzene	156	8.807	8.803 (0.912)	160408	20.0099	20.00
75	1,3,5-Trimethylbenzene	105	9.070	9.066 (0.939)	469268	21.3914	21.39

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
76	2-Chlorotoluene	91	8.976	8.976	(0.929)	398885	20.4812	20.48
77	4-Chlorotoluene	91	9.073	9.070	(0.939)	458001	20.7068	20.70
78	tert-Butylbenzene	119	9.336	9.336	(0.966)	397724	22.3694	22.36
79	1,2,4-Trimethylbenzene	105	9.381	9.381	(0.971)	465653	20.6025	20.60
81	sec-Butylbenzene	105	9.523	9.523	(0.986)	559512	22.7118	22.71
82	p-Isopropyltoluene	119	9.651	9.651	(0.999)	485833	21.6843	21.68
83	1,3-Dichlorobenzene	146	9.606	9.606	(0.994)	269160	20.0783	20.07
84	1,4-Dichlorobenzene	146	9.684	9.684	(1.002)	285900	20.5723	20.57
87	n-Butylbenzene	91	9.995	9.995	(1.035)	420790	22.2051	22.20
88	1,2-Dichlorobenzene	146	9.995	9.992	(1.035)	254150	20.1638	20.16
89	1,2-Dibromo-3-Chloropropane	155	10.659	10.655	(1.103)	14951	20.3400	20.34
90	1,2,4-Trichlorobenzene	180	11.341	11.338	(1.174)	119509	20.4242	20.42
91	Hexachlorobutadiene	225	11.480	11.480	(1.188)	79504	23.0017	23.00
92	Naphthalene	128	11.544	11.544	(1.195)	186643	20.4896	20.48
93	1,2,3-Trichlorobenzene	180	11.742	11.742	(1.215)	87919	20.8315	20.83
M 94	1,2-Dichloroethylene (total)	96				254152	35.9798	35.97
M 95	Xylenes (total)	106				681006	61.6774	61.67
141	Cyclohexane	56	4.118	4.118	(0.985)	184015	24.1694	24.16
138	Freon TF	101	1.913	1.913	(0.458)	118801	22.4478	22.44
147	Methylcyclohexane	55	5.381	5.381	(1.084)	313035	22.7510	22.75
146	Methyl Acetate	43	2.232	2.228	(0.534)	74004	17.6339	17.63
148	Tert-Butyl alcohol	59	2.431	2.431	(0.581)	191940	325.151	325.15
149	Isopropyl Alcohol	45	2.097	2.097	(0.502)	102068	317.469	317.46

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
Column diameter: 0.18

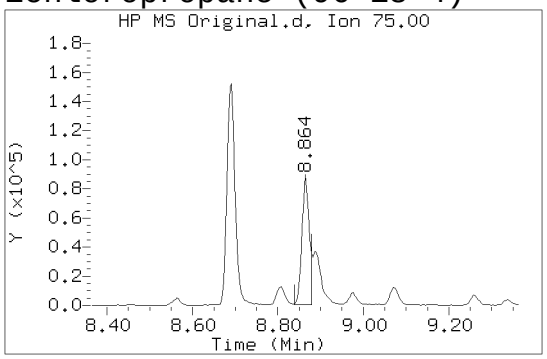
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LabSampID : HS22110180-01MSD

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

Reason Code:

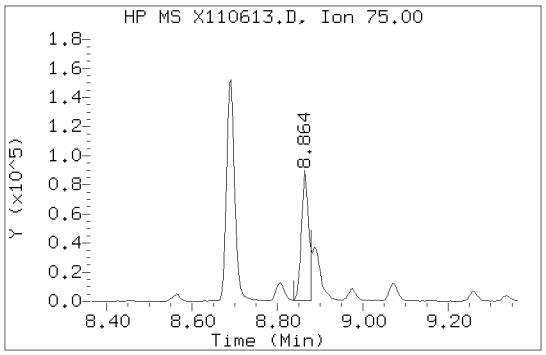
BEFORE

MASS
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AREA
109227
HEIGHT
89243
09-Nov-2022
12:24
linh
pham



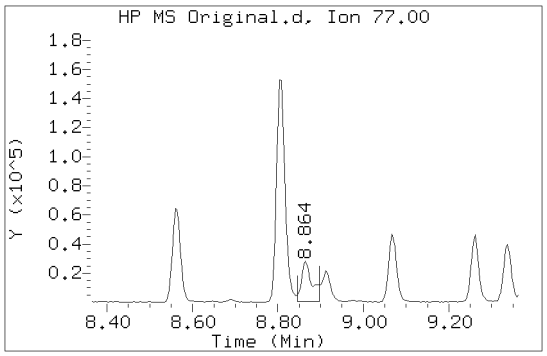
AFTER

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AREA
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HEIGHT
89243
17-Nov-2022
10:50
linh
pham



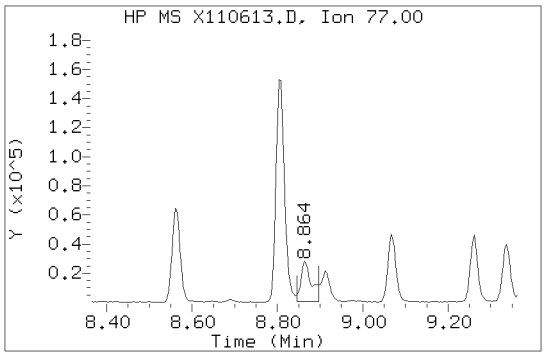
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AREA
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HEIGHT
28154
09-Nov-2022
12:24
linh
pham



AFTER

MASS
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AREA
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HEIGHT
28154
17-Nov-2022
10:50
linh
pham

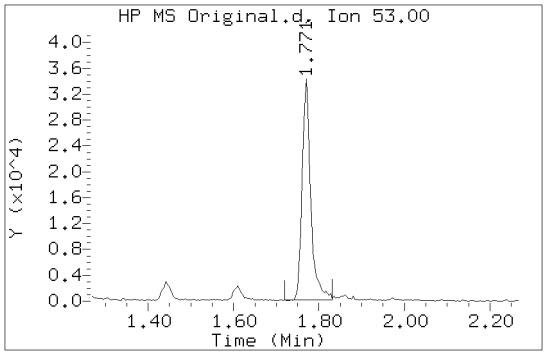


Chloroprene (126-99-8)

Reason Code:

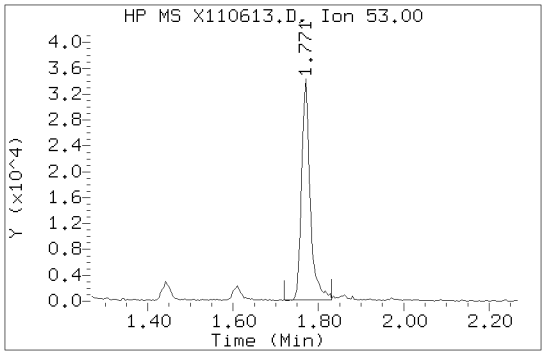
BEFORE

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AREA
49074
HEIGHT
34144
09-Nov-2022
12:24
linh
pham



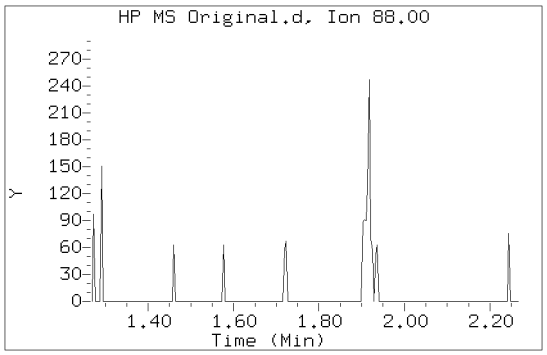
AFTER

MASS
53
AREA
49074
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34144
17-Nov-2022
10:50
linh
pham



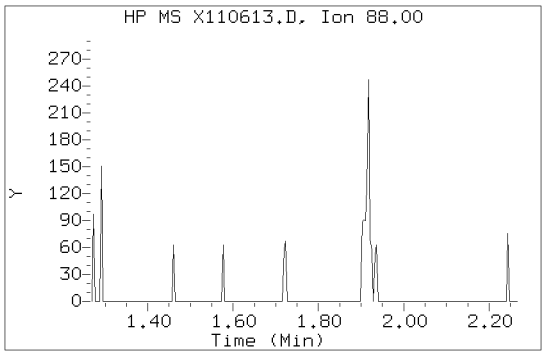
BEFORE

MASS
88
AREA
0
HEIGHT
0
09-Nov-2022
12:24
linh
pham



AFTER

MASS
88
AREA
0
HEIGHT
0
17-Nov-2022
10:50
linh
pham



Data File: \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110616.D Page 1
Report Date: 17-Nov-2022 10:50

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110616.D
Lab Smp Id: HS22110111-03 Client Smp ID: HS22110111-03
Inj Date : 06-NOV-2022 17:15
Operator : PC Inst ID: voa6.i
Smp Info : HS22110111-03;HS22110111-03;;;
Misc Info : HS22052000V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\8260W.m
Meth Date : 17-Nov-2022 10:50 voa6.i Quant Type: ISTD
Cal Date : 02-NOV-2022 13:48 Cal File: X110208.D
Als bottle: 15
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)	697520	50.0000	
$ 30 Dibromofluoromethane	113	4.099	4.095	(0.980)	313245	45.1225	45.12
$ 35 1,2-Dichloroethane-d4	65	4.470	4.470	(1.069)	346172	43.1190	43.11
* 36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	997181	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	882952	50.0000	
$ 48 Toluene-d8	98	6.385	6.386	(0.832)	1153476	54.1335	54.13
$ 69 4-Bromofluorobenzene	95	8.691	8.691	(1.133)	381537	46.4327	46.43
* 70 1,4-Dichlorobenzene-d4	152	9.665	9.662	(1.000)	407668	50.0000	

01159019

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110616.D

Page 1

Date : 06-NOV-2022 17:15

Client ID: HS22110111-03

Instrument: voa6.i

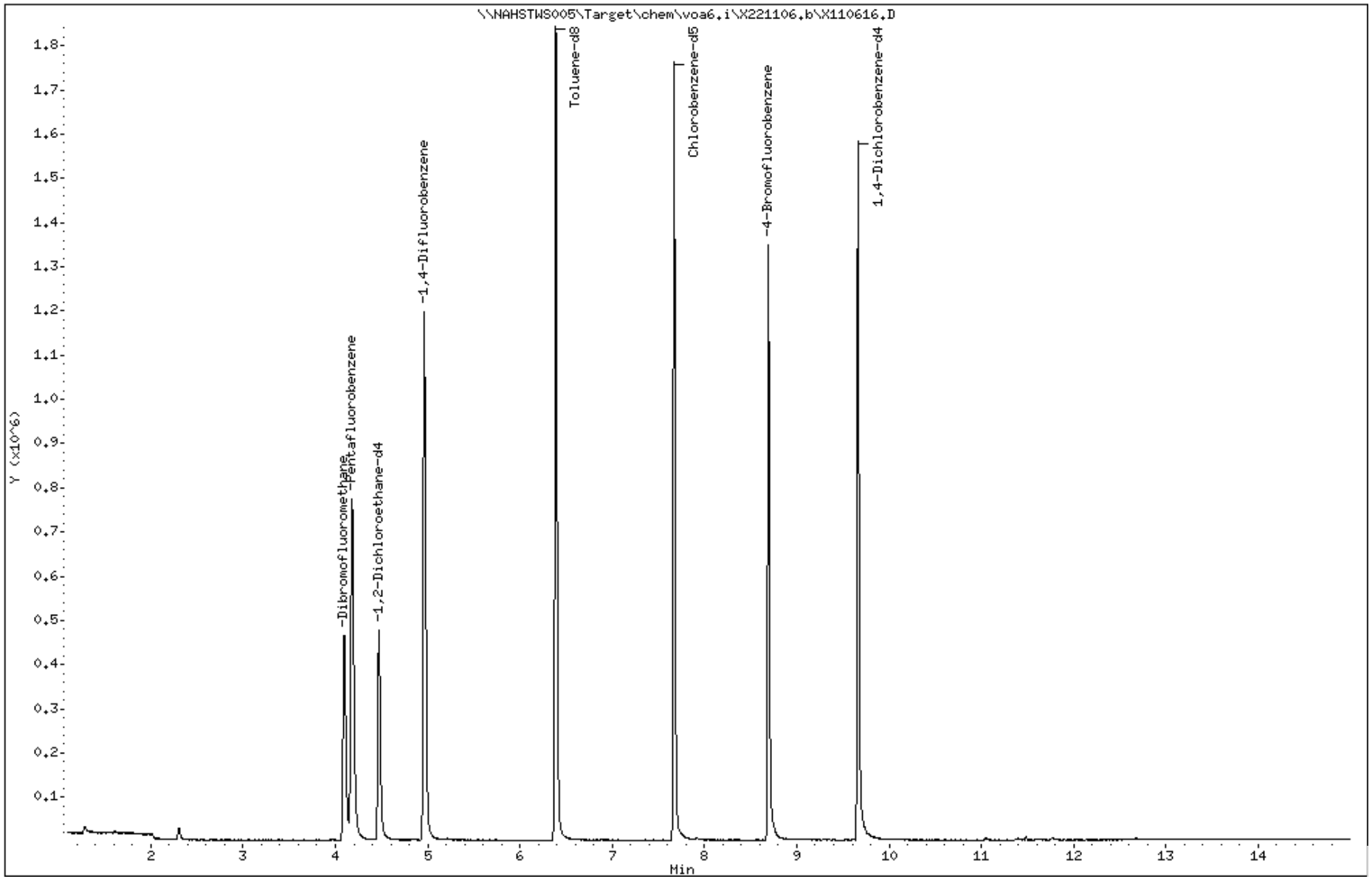
Sample Info: HS22110111-03;HS22110111-03;;;

Purge Volume: 5.0

Operator: PC

Column phase: DB624

Column diameter: 0.18



Data File : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110616.D
Inj Date : 06-NOV-2022 17:15
InstruID : voa6.i
LabSampID : HS22110111-03

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110617.D Page 1
Report Date: 17-Nov-2022 10:50

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110617.D
Lab Smp Id: HS22110111-01 Client Smp ID: HS22110111-01
Inj Date : 06-NOV-2022 17:36
Operator : PC Inst ID: voa6.i
Smp Info : HS22110111-01;HS22110111-01;;;
Misc Info : HS22052000V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\8260W.m
Meth Date : 17-Nov-2022 10:50 voa6.i Quant Type: ISTD
Cal Date : 02-NOV-2022 13:48 Cal File: X110208.D
Als bottle: 16
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)	673177	50.0000	
27 cis-1,2-Dichloroethene	96	3.533	3.522	(0.846)	12076	1.62640	1.62(a)
$ 30 Dibromofluoromethane	113	4.095	4.095	(0.980)	301078	44.9404	44.94
$ 35 1,2-Dichloroethane-d4	65	4.470	4.470	(1.070)	334826	43.2130	43.21
* 36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	981626	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	871140	50.0000	
$ 48 Toluene-d8	98	6.386	6.386	(0.832)	1141361	54.2912	54.29
$ 69 4-Bromofluorobenzene	95	8.691	8.691	(1.133)	374253	46.1653	46.16
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	407350	50.0000	
M 94 1,2-Dichloroethylene (total)	96				12076	1.62640	1.62(a)

QC Flag Legend

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

01159022

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110617.D

Date : 06-NOV-2022 17:36

Client ID: HS22110111-01

Instrument: voa6.i

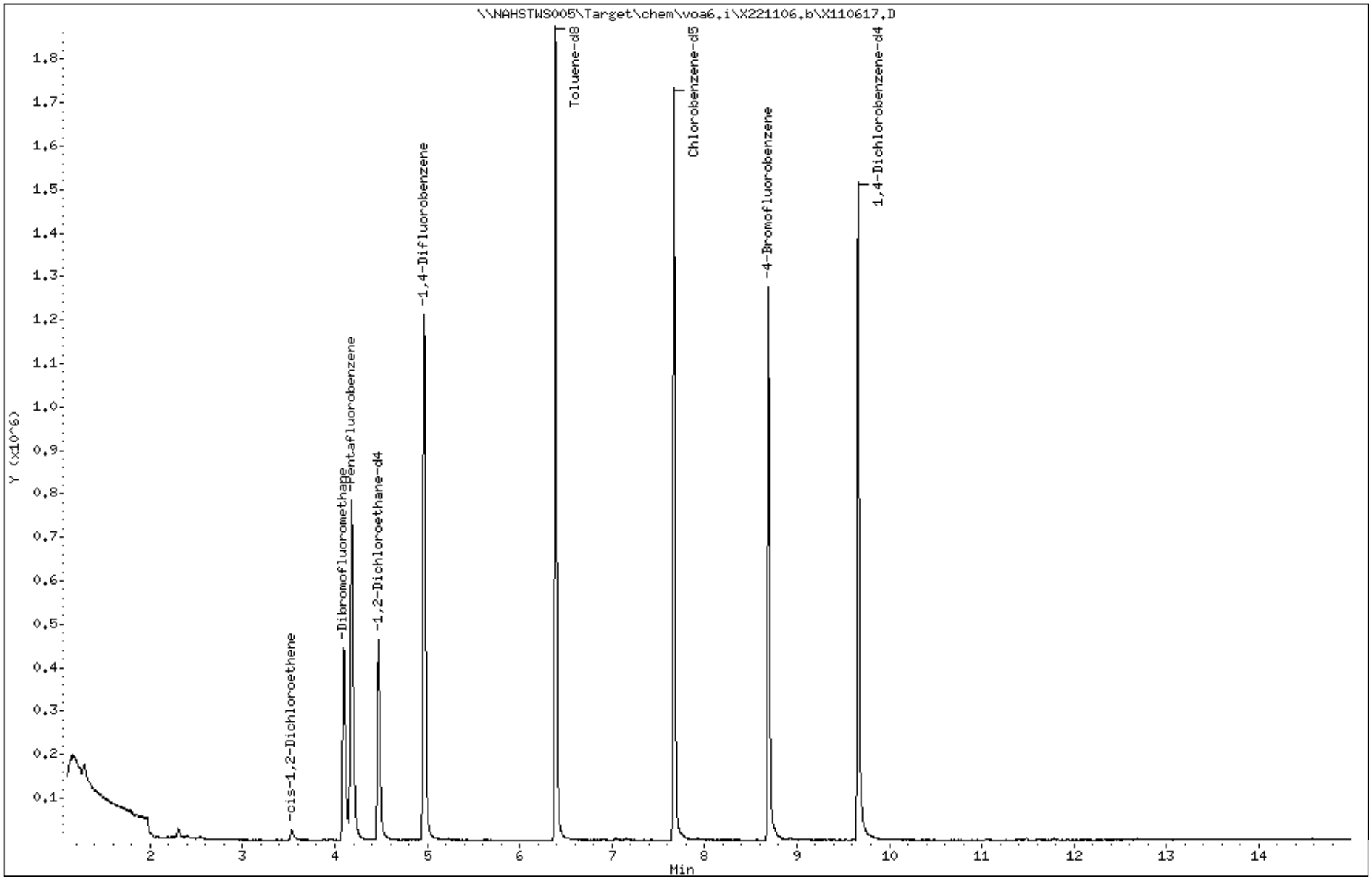
Sample Info: HS22110111-01;HS22110111-01;;;

Purge Volume: 5.0

Operator: PC

Column phase: DB624

Column diameter: 0.18



Data File: \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110617.D

Date : 06-NOV-2022 17:36

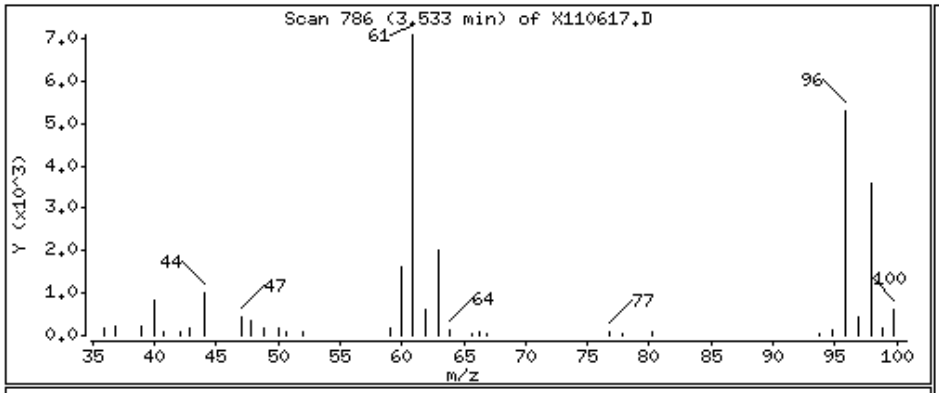
Client ID: HS22110111-01 Instrument: voa6.i

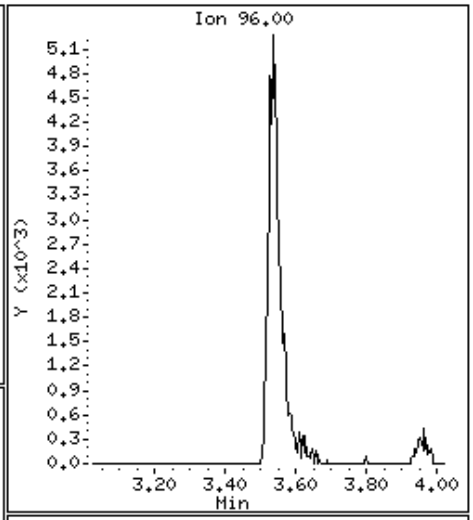
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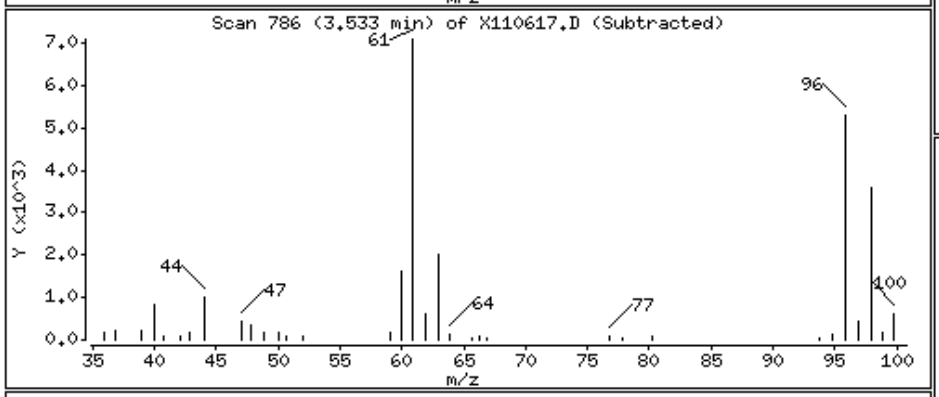
Purge Volume: 5.0 Operator: PC

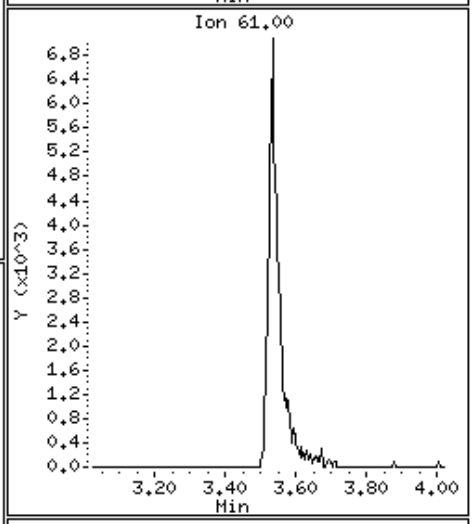
Column phase: DB624 Column diameter: 0.18

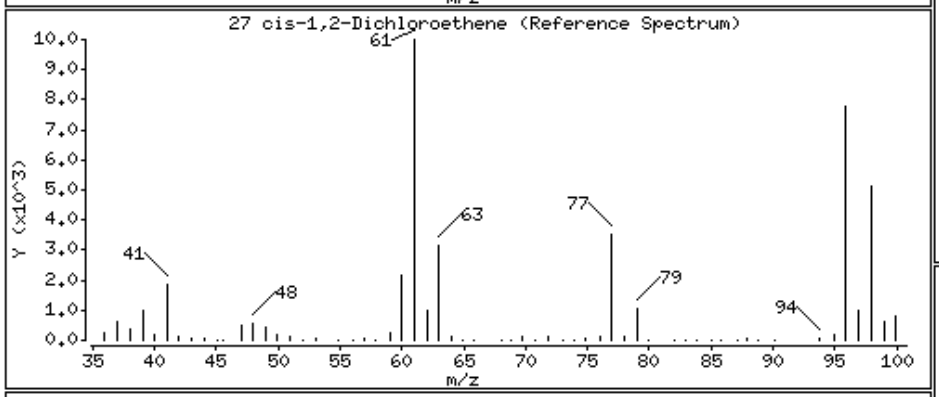
27 cis-1,2-Dichloroethene Concentration: 1.62 ug/l

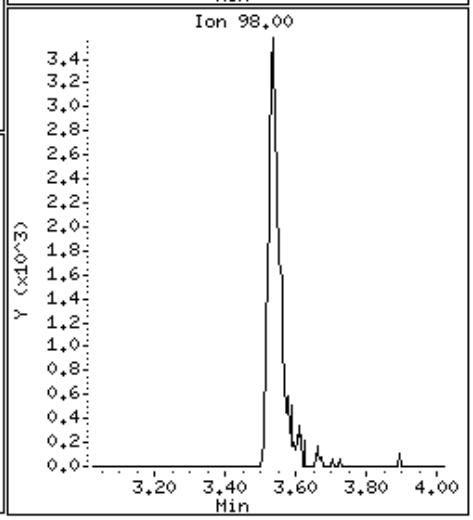


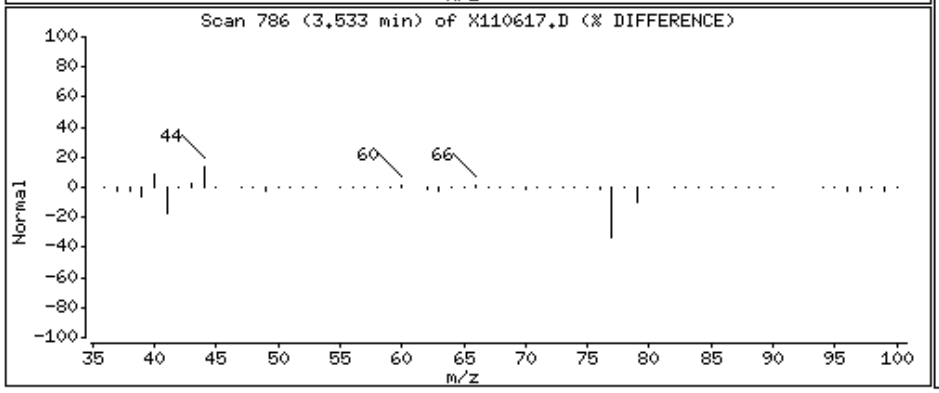












Data File : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110617.D
Inj Date : 06-NOV-2022 17:36
InstruID : voa6.i
LabSampID : HS22110111-01

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110631.D Page 1
Report Date: 17-Nov-2022 10:51

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110631.D
Lab Smp Id: CCV-END Client Smp ID: CCV-END
Inj Date : 06-NOV-2022 22:30
Operator : PC Inst ID: voa6.i
Smp Info : CCV-END;CCV-END;2;;
Misc Info : HS22052000V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\8260W.m
Meth Date : 17-Nov-2022 10:51 voa6.i Quant Type: ISTD
Cal Date : 02-NOV-2022 13:48 Cal File: X110208.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: 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)	557188	50.0000	
135	1,4-Dioxane	88	5.602	5.602	(1.341)	63126	1000.00	1062.51
140	1,3-Butadiene	54	1.164	1.164	(0.279)	253277	50.0000	54.22
25	Methacrylonitrile	41	3.818	3.818	(0.914)	250857	50.0000	50.25
12	Isobutyl Alcohol	43	4.676	4.676	(1.119)	808080	1000.00	970.94
13	Acetonitrile	39	2.195	2.195	(0.525)	322220	500.000	482.66
14	Allyl Chloride	41	2.198	2.198	(0.526)	598570	50.0000	47.72
4	Propionitrile	54	3.649	3.649	(0.873)	361840	500.000	516.73
136	n-Hexane	57	2.772	2.772	(0.664)	241375	50.0000	52.41
72	trans-1,4-Dichloro-2-butene	53	8.890	8.890	(1.159)	97032	50.0000	50.25
23	Chloroprene	53	1.767	1.767	(0.423)	113077	50.0000	52.99(M)
130	Ethyl Acetate	43	3.653	3.653	(0.874)	295092	50.0000	50.43
40	Methyl Methacrylate	41	5.606	5.606	(1.342)	256731	50.0000	49.82
49	Ethyl Methacrylate	69	6.787	6.787	(1.367)	446417	50.0000	51.28
2	Dichlorodifluoromethane	85	0.972	0.972	(0.233)	280125	50.0000	54.62
3	Chloromethane	50	1.077	1.077	(0.258)	277548	50.0000	45.96
5	Vinyl Chloride	62	1.141	1.141	(0.273)	318138	50.0000	50.38
6	Bromomethane	94	1.336	1.336	(0.320)	184376	50.0000	46.52
7	Chloroethane	64	1.400	1.400	(0.335)	204503	50.0000	51.95
8	Trichlorofluoromethane	101	1.557	1.557	(0.373)	446213	50.0000	55.45

9	Acrolein	56	1.441	1.441 (0.345)	41439	100.000	112.40
10	Acetone	43	1.973	1.973 (0.472)	180174	100.000	91.43

Data File: \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110631.D Page 2
Report Date: 17-Nov-2022 10:51

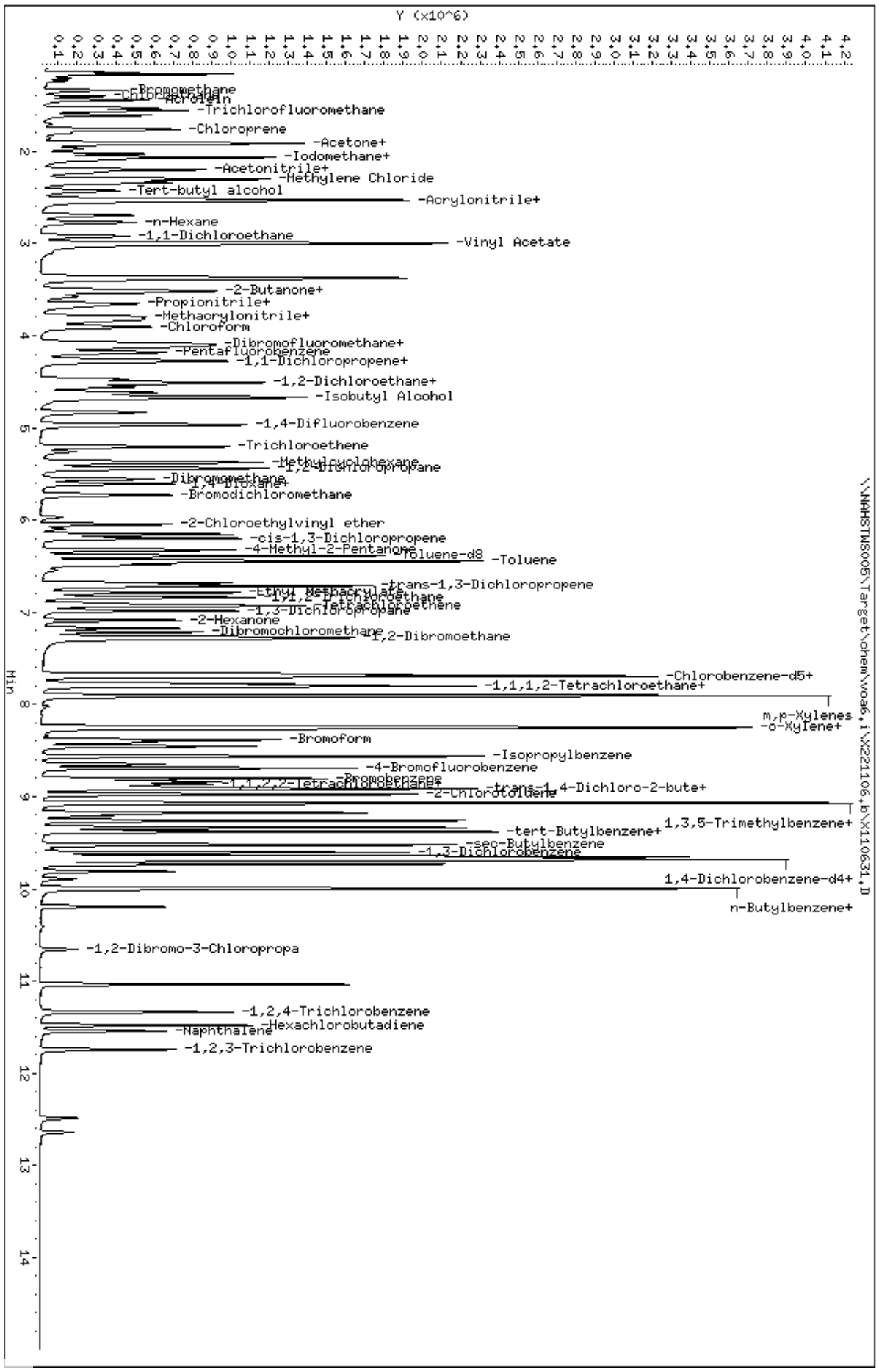
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	11 1,1-Dichloroethene	96	1.913	1.913	(0.458)	243238	50.0000	51.30
	15 Iodomethane	142	2.026	2.026	(0.485)	543587	100.000	88.27
	16 Acrylonitrile	53	2.532	2.532	(0.606)	187172	100.000	102.75
	17 Methylene Chloride	84	2.299	2.299	(0.550)	294324	50.0000	48.55
	18 Methyl tert-butyl ether	73	2.532	2.532	(0.606)	802018	50.0000	48.04
	19 Carbon Disulfide	76	2.067	2.067	(0.495)	1442257	100.000	100.16
	20 trans-1,2-Dichloroethene	96	2.528	2.528	(0.605)	263358	50.0000	50.06
	21 Vinyl Acetate	43	2.997	2.997	(0.717)	1370609	100.000	92.43
	22 1,1-Dichloroethane	63	2.918	2.918	(0.699)	463682	50.0000	48.97
	24 2-Butanone	43	3.578	3.578	(0.856)	210893	100.000	105.86
	26 2,2-Dichloropropane	77	3.507	3.507	(0.839)	362310	50.0000	45.99
	27 cis-1,2-Dichloroethene	96	3.522	3.522	(0.843)	305580	50.0000	49.72
	28 Chloroform	83	3.904	3.904	(0.935)	500103	50.0000	47.40
	29 Bromochloromethane	128	3.791	3.791	(0.908)	164393	50.0000	49.80
$	30 Dibromofluoromethane	113	4.095	4.095	(0.980)	290219	50.0000	52.24
	31 1,1,1-Trichloroethane	97	4.080	4.080	(0.977)	405153	50.0000	49.92
	32 1,1-Dichloropropene	75	4.279	4.279	(0.862)	349289	50.0000	49.78
	33 1,2-Dichloroethane	62	4.552	4.552	(0.917)	391934	50.0000	49.30
	34 Carbon Tetrachloride	117	4.260	4.260	(0.858)	311810	50.0000	52.97
$	35 1,2-Dichloroethane-d4	65	4.470	4.470	(1.070)	323434	50.0000	50.36
*	36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	874939	50.0000	
	37 Benzene	78	4.507	4.507	(0.908)	1074233	50.0000	49.48
	38 Trichloroethene	130	5.205	5.205	(1.048)	316911	50.0000	51.96
	39 Bromodichloromethane	83	5.726	5.726	(1.153)	374674	50.0000	48.63
	41 2-Chloroethylvinyl ether	63	6.044	6.044	(1.217)	255194	100.000	99.42
	42 1,2-Dichloropropane	63	5.433	5.433	(1.094)	281100	50.0000	47.78
	44 Dibromomethane	93	5.550	5.550	(1.118)	195508	50.0000	49.08
	45 4-Methyl-2-Pentanone	43	6.326	6.326	(0.825)	557945	100.000	100.73
	46 cis-1,3-Dichloropropene	75	6.153	6.153	(1.239)	474006	50.0000	48.81
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	862067	50.0000	
$	48 Toluene-d8	98	6.386	6.386	(0.832)	1056022	50.0000	50.76
	50 Toluene	91	6.445	6.445	(0.840)	1199905	50.0000	48.66
	51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.346)	407571	50.0000	48.78
	52 2-Hexanone	43	7.086	7.086	(0.924)	385418	100.000	103.35
	53 1,1,2-Trichloroethane	83	6.839	6.839	(0.892)	233458	50.0000	47.23
	54 1,3-Dichloropropane	76	6.982	6.982	(0.910)	474331	50.0000	48.35
	55 Dibromochloromethane	129	7.176	7.176	(0.935)	307543	50.0000	48.39
	56 Tetrachloroethene	164	6.929	6.929	(0.903)	258487	50.0000	52.44
	57 1,2-Dibromoethane	107	7.259	7.259	(0.946)	308461	50.0000	49.94
	58 1-Chlorohexane	55	7.698	7.698	(1.550)	251740	50.0000	53.09
	59 Chlorobenzene	112	7.694	7.694	(1.003)	816952	50.0000	49.05
	60 1,1,1,2-Tetrachloroethane	131	7.776	7.776	(1.014)	292393	50.0000	49.47
	61 Ethylbenzene	106	7.799	7.799	(1.017)	419023	50.0000	49.45
	62 m,p-Xylenes	106	7.904	7.904	(1.030)	1055410	100.000	100.11
	63 o-Xylene	106	8.241	8.241	(1.074)	509115	50.0000	49.63
	64 Styrene	104	8.260	8.260	(1.077)	896850	50.0000	51.98
	66 Bromoform	173	8.410	8.410	(1.096)	198792	50.0000	46.81
	67 Isopropylbenzene	105	8.563	8.563	(1.116)	1291976	50.0000	51.53
	68 1,1,2,2-Tetrachloroethane	83	8.837	8.837	(0.915)	351549	50.0000	45.54
$	69 4-Bromofluorobenzene	95	8.687	8.687	(1.132)	417458	50.0000	52.00
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	465883	50.0000	
	71 1,2,3-Trichloropropane	75	8.863	8.863	(0.917)	280565	50.0000	47.78(M)

73 n-Propylbenzene	91	8.912	8.912 (0.922)	1513044	50.0000	49.06
74 Bromobenzene	156	8.807	8.807 (0.912)	378555	50.0000	47.23

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)	
75	1,3,5-Trimethylbenzene	105	9.066	9.066	(0.938)	1080285	50.0000	49.25	
76	2-Chlorotoluene	91	8.976	8.976	(0.929)	921270	50.0000	47.31	
77	4-Chlorotoluene	91	9.070	9.070	(0.939)	1063680	50.0000	48.10	
78	tert-Butylbenzene	119	9.336	9.336	(0.966)	911292	50.0000	50.55	
79	1,2,4-Trimethylbenzene	105	9.381	9.381	(0.971)	1092306	50.0000	48.34	
81	sec-Butylbenzene	105	9.523	9.523	(0.986)	1258602	50.0000	50.04	
82	p-Isopropyltoluene	119	9.651	9.651	(0.999)	1104300	50.0000	49.30	
83	1,3-Dichlorobenzene	146	9.606	9.606	(0.994)	645678	50.0000	48.17	
84	1,4-Dichlorobenzene	146	9.684	9.684	(1.002)	671896	50.0000	48.36	
87	n-Butylbenzene	91	9.995	9.995	(1.035)	964131	50.0000	50.89	
88	1,2-Dichlorobenzene	146	9.992	9.992	(1.034)	614829	50.0000	48.79	
89	1,2-Dibromo-3-Chloropropane	155	10.659	10.659	(1.103)	39164	50.0000	48.89	
90	1,2,4-Trichlorobenzene	180	11.337	11.337	(1.173)	282821	50.0000	48.34	
91	Hexachlorobutadiene	225	11.480	11.480	(1.188)	180217	50.0000	51.81	
92	Naphthalene	128	11.544	11.544	(1.195)	456273	50.0000	50.10	
93	1,2,3-Trichlorobenzene	180	11.742	11.742	(1.215)	207214	50.0000	49.11	
M 94	1,2-Dichloroethylene (total)	96				568938	100.000		(a)
141	Cyclohexane	56	4.121	4.121	(0.987)	351253	50.0000	57.09	
138	Freon TF	101	1.910	1.910	(0.457)	247838	50.0000	58.41	
147	Methylcyclohexane	55	5.381	5.381	(1.084)	661203	50.0000	54.60	
146	Methyl Acetate	43	2.228	2.228	(0.533)	177626	50.0000	52.47	
148	Tert-Butyl alcohol	59	2.431	2.431	(0.582)	487554	1000.00	1023.94	
149	Isopropyl Alcohol	45	2.093	2.093	(0.501)	263920	1000.00	1017.69	

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\X221106.b\X110631.D
Date : 06-NOV-2022 22:30
Client ID: CCV-END
Sample Info: CCV-END;CCV-END;2;;
Purge Volume: 5.0
Column phase: DB624

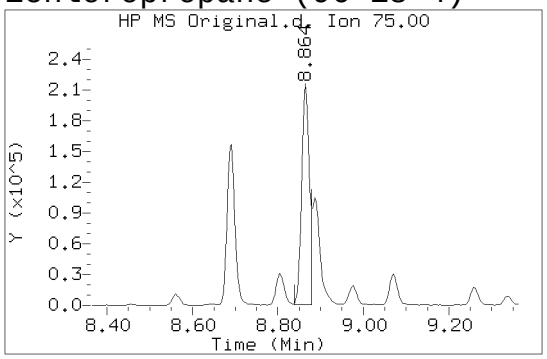
Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File : \\NAHSTWS005\Target\chem\voa6.i\X221106.b\X110631.D
Inj Date : 06-NOV-2022 22:30
InstruID : voa6.i
LabSampID : CCV-END

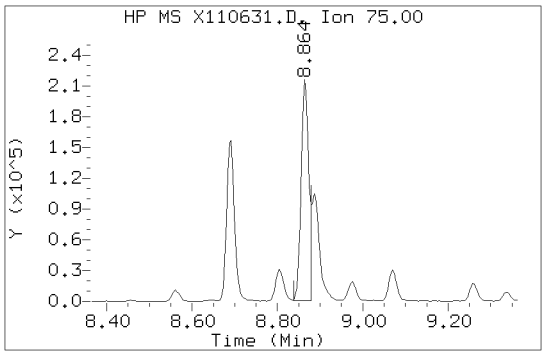
1,2,3-Trichloropropane (96-18-4)

Reason Code:

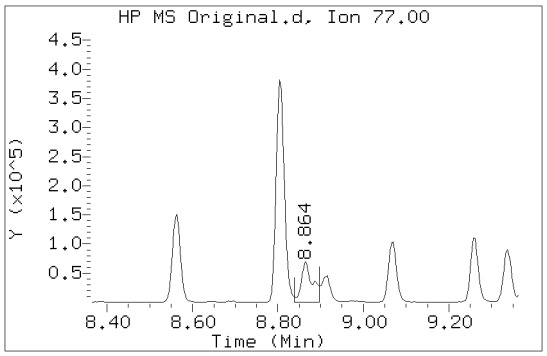
BEFORE
MASS
75
AREA
280565
HEIGHT
215921
09-Nov-2022
12:24
linh
pham



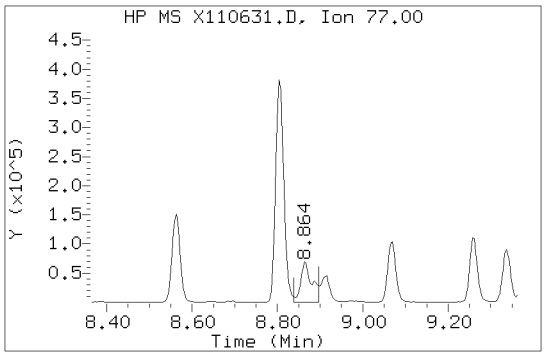
AFTER
MASS
75
AREA
280565
HEIGHT
215921
17-Nov-2022
10:50
linh
pham



BEFORE
MASS
77
AREA
131535
HEIGHT
69273
09-Nov-2022
12:24
linh
pham



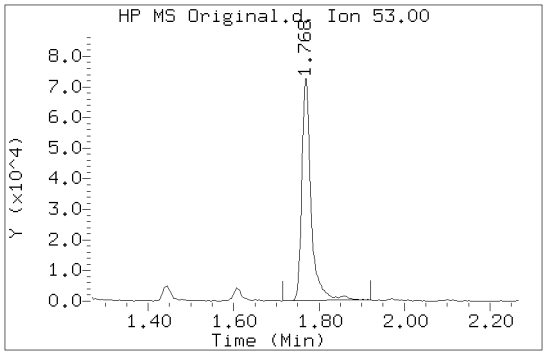
AFTER
MASS
77
AREA
131535
HEIGHT
69273
17-Nov-2022
10:50
linh
pham



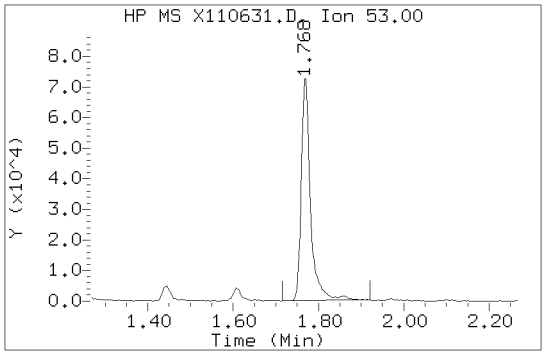
Chloroprene (126-99-8)

Reason Code:

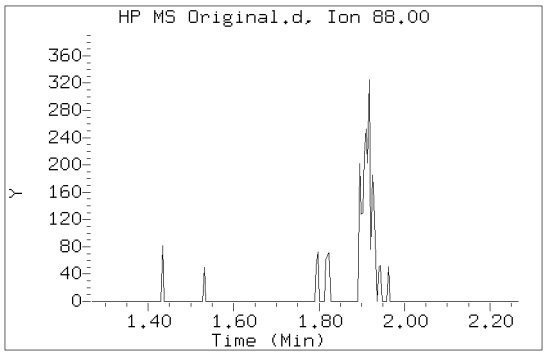
BEFORE
MASS
53
AREA
113077
HEIGHT
72386
09-Nov-2022
12:24
linh
pham



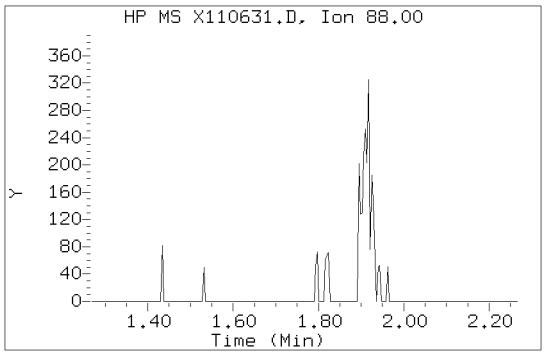
AFTER
MASS
53
AREA
113077
HEIGHT
72386
17-Nov-2022
10:50
linh
pham



BEFORE
MASS
88
AREA
0
HEIGHT
0
09-Nov-2022
12:24
linh
pham



AFTER
MASS
88
AREA
0
HEIGHT
0
17-Nov-2022
10:50
linh
pham



HS22110111-MSSEMI-SW8270SIM

ALS WO# HS22110111

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Form 1

Organic Analysis Data Sheet

Semi-Volatiles by by EPA 8270SIM

Workorder

HS22110111

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Monthly Effluent Samples

11/17/2022

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
HS22110111

Semi-Volatiles by by EPA 8270SIM

HS22110111-01		Collected	Received	Matrix	Basis
LH18/24-SP650_110122		11/01/22 14:00	11/02/22 09:35	Water	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile	PrepBatch
1,4-Dioxane	ug/L	0.11	a	0.010	0.010	0.010	1	11/11/22 13:44	SV-6_421640	10	185720

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder
HS22110111

Semi-Volatiles by by EPA 8270SIM

MBLK-185720	Collected	Received	Matrix	Basis
MBLK-185720	NA	NA	Aqueous	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile	PrepBatch
1,4-Dioxane	ug/L	0.010	U	0.010	0.010	0.010	1	11/11/22 12:23	SV-6_421640	06	185720

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Form 2

System Monitoring Compound Recovery

Semi-Volatiles by by EPA 8270SIM

Workorder

HS22110111

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Monthly Effluent Samples

11/17/2022

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Form 2 - System Monitoring Compound Recovery

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder
HS22110111

RunID
SV-6_421640

Semi-Volatiles by by EPA 8270SIM

MBLK-185720	Analyzed 11/11/22		Conc Units ug/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
2-Fluorobiphenyl	0.07418	0.08	92.7	40-140	
4-Terphenyl-d14	0.07579	0.08	94.7	40-140	
Nitrobenzene-d5	0.06454	0.08	80.7	40-140	

LCS-185720	Analyzed 11/11/22		Conc Units ug/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
2-Fluorobiphenyl	0.08768	0.08	110	40-140	
4-Terphenyl-d14	0.08407	0.08	105	40-140	
Nitrobenzene-d5	0.06918	0.08	86.5	40-140	

LCSD-185720	Analyzed 11/11/22		Conc Units ug/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
2-Fluorobiphenyl	0.08666	0.08	108	40-140	
4-Terphenyl-d14	0.07887	0.08	98.6	40-140	
Nitrobenzene-d5	0.08517	0.08	106	40-140	

HS22110111-01	Analyzed 11/11/22		Conc Units ug/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
2-Fluorobiphenyl	0.089	0.08	112	40-140	
4-Terphenyl-d14	0.072	0.08	90.1	40-140	
Nitrobenzene-d5	0.10	0.08	128	40-140	

Q - Surrogate %Recovery Flag * - %Recovery / RPD Outside Limits

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Form 3B

Laboratory Control Sample Recovery

Semi-Volatiles by by EPA 8270SIM

Workorder

HS22110111

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Monthly Effluent Samples

11/17/2022

ALS Environmental–Houston Laboratory
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Form 3B - Laboratory Control Sample Recovery

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder
HS22110111

Semi-Volatiles by by EPA 8270SIM

SV-6_421640		QC ID	LCS-185720			LCS-185720					
QC Matrix	Aqueous	Run Date	11/11/22			11/11/22					
Prep Method	SW3510	Units Run Time	12:44			13:04					
Prep Batch	185720 11/04/22	ug/L Prep Amt	1000 mL			1000 mL					
Analyte		%R Limits	Spike Added	LCS Result	%R	Q	LCSD Result	%R	Q	RPD Limit	RPD	Q
1,4-Dioxane		40-140	0.08	0.07422	93		0.08223	103.0		20	10.2	
2-Fluorobiphenyl		40-140	0.08	0.08768	110		0.08666	108.0		20	1.17	
4-Terphenyl-d14		40-140	0.08	0.08407	105		0.07887	99.0		20	6.38	
Nitrobenzene-d5		40-140	0.08	0.06918	86		0.08517	106.0		20	20.7	

- %Recovery / RPD Flag * - %Recovery / RPD Outside Limits

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Form 4

Method Blank Summary

Semi-Volatiles by by EPA 8270SIM

Workorder

HS22110111

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Monthly Effluent Samples

11/17/2022

ALS Environmental–Houston Laboratory
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Form 4 - Method Blank Summary

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder
HS22110111

Semi-Volatiles by by EPA 8270SIM

Client Sample ID	Type	Lab Sample ID	File ID	Date Analyzed	Run ID
METHOD BLANK	MBLK	MBLK-185720	06.D	11/11/22 12:23	SV-6_421640
LCS-185720	LCS	LCS-185720	07.D	11/11/22 12:44	SV-6_421640
LCSD-185720	LCSD	LCSD-185720	08.D	11/11/22 13:04	SV-6_421640
LH18/24-SP650_110122	SAMP	HS22110111-01	10.D	11/11/22 13:44	SV-6_421640

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Form 5

Instrument Performance Check

Workorder

HS22110111

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Monthly Effluent Samples

11/17/2022

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Form 5 - Instrument Performance Check

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder
HS22110111

RunID
SV-6_410398

Tune File 001.D 03/10/22 10:15

m / e	Ion Abundance Criterion	%RA
51	30.0 - 80.0% of mass 198	55.4 (55.4)
68	Less than 2.0% of mass 69	0.8 (1.59) 1
69	Mass 69 RA	49.8 (49.8)
70	Less than 2.0% of mass 69	0.2 (0.46) 1
127	25.0 - 75.0% of mass 198	59.7 (59.7)
197	Less than 1.0% of mass 198	0.1 (0.092)
198	Base peak, 100% RA	100 (100)
199	5.0 - 9.0% of mass 198	6.9 (6.91)
275	10.0 - 30.0% of mass 198	21.2 (21.2)
365	Greater than 0.75% of mass	2.1 (2.07)
441	Present, but less than mass	9.1 (74.9)
442	40.0 - 110.0% of mass 198	62.4 (62.4)
443	15.0 - 24.0% of mass 442	12.2 (19.5) 2

Value is % of mass 1) 69 2) 442 RA - Relative Abundance

This check applies to the following analyses

	Type	Date Analyzed	Lab File ID	Sample ID
1	ICAL4	03/10/22 10:25	002	14 DX-0.08
2	ICAL1	03/10/22 10:47	003	14 DX-0.01
3	ICAL2	03/10/22 11:05	004	14 DX-0.03
4	ICAL3	03/10/22 11:22	005	14 DX-0.05
5	ICAL5	03/10/22 11:40	006	14 DX-0.1
6	ICAL6	03/10/22 11:58	007	14 DX-0.15
7	ICAL7	03/10/22 12:16	008	14 DX-0.2
8	ICAL8	03/10/22 12:56	009	14 DX-0.5
9	ICV	03/10/22 14:15	010	14 DX-ICV

Form 5 - Instrument Performance Check

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder
HS22110111

RunID
SV-6_421640

Tune File 01.D 11/11/22 10:20

m / e	Ion Abundance Criterion	%RA
51	30.0 - 80.0% of mass 198	41.8 (41.85)
68	Less than 2.0% of mass 69	0.5 (1.44) 1
69	Mass 69 RA	33.2 (33.18)
70	Less than 2.0% of mass 69	0.2 (0.57) 1
127	25.0 - 75.0% of mass 198	40.5 (40.5)
197	Less than 1.0% of mass 198	0.3 (0.28)
198	Base peak, 100% RA	100 (100)
199	5.0 - 9.0% of mass 198	6.7 (6.68)
275	10.0 - 30.0% of mass 198	24.8 (24.8)
365	Greater than 0.75% of mass	3 (3)
441	Present, but less than mass	12.7 (78.45)
442	40.0 - 110.0% of mass 198	84.5 (84.49)
443	15.0 - 24.0% of mass 442	16.2 (19.14) 2

Value is % of mass 1) 69 2) 442 RA - Relative Abundance

This check applies to the following analyses

	Type	Date Analyzed	Lab File ID	Sample ID
1	CCV	11/11/22 11:35	04	14DIOX-0.08
2	MBLK	11/11/22 12:23	06	MBLK-185720
3	LCS	11/11/22 12:44	07	LCS-185720
4	LCSD	11/11/22 13:04	08	LCSD-185720
5	SAMP	11/11/22 13:44	10	LH18/24-SP650_110122
6	CCV	11/11/22 14:21	11	14DIOX-CCV END

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Form 6

Initial Calibration Data

Workorder

HS22110111

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Monthly Effluent Samples

11/17/2022

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 Data

Client Bhate Environmental Associates, Inc.
Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder HS22110111

RunID SV-6_410398

Volatiles Organics by Method 8260C

ICAL Start Date 10-MAR-2022 1025
ICAL End Date 10-MAR-2022 1256

Calibration File Names

Level 1 \\nahstws005\Target\chem\SV6.i\220310.b\003.D
Level 2 \\nahstws005\Target\chem\SV6.i\220310.b\004.D
Level 3 \\nahstws005\Target\chem\SV6.i\220310.b\005.D
Level 4 \\nahstws005\Target\chem\SV6.i\220310.b\002.D
Level 5 \\nahstws005\Target\chem\SV6.i\220310.b\006.D
Level 6 \\nahstws005\Target\chem\SV6.i\220310.b\007.D
Level 7 \\nahstws005\Target\chem\S
Level 8 \\nahstws005\Target\chem\S

Calibration Files

Compound	Level 1 0.01000 Level 7 0.20000	Level 2 0.03000 Level 8 0.50000	Level 3 0.05000	Level 4 0.08000	Level 5 0.10000	Level 6 0.15000	Curve	b	m1	m2	%RSD or R^2	Q
1,4-Dioxane	0.03798 0.04227	0.03918 0.03722	0.04058	0.04498	0.04442	0.04181	0.04105	6.932				
----------	0.04227 ---------	0.03722 ---------	---------	---------	---------	---------	0.04105 ---------	6.932 ----------				
2-Fluorophenol	NE NE	NE NE	NE	NE	NE	NE	NE	NE				
Phenol-d6	NE NE	NE NE	NE	NE	NE	NE	NE	NE				
Nitrobenzene-d5	0.35847 0.33135	0.33688 0.31866	0.34994	0.32911	0.33873	0.30360	0.33334	5.160				
2-Fluorobiphenyl	1.56485 1.51386	1.50533 1.44464	1.78010	1.61832	1.49752	1.52796	1.55657	6.656				
105 2,4,6-Tribromophenol	NE NE	NE NE	NE	NE	NE	NE	NE	NE				
158 4-Terphenyl-d14	1.90541 1.92766	1.83082 1.91858	1.91899	1.73323	1.90173	1.90441	1.88010	3.537				

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)

Workorder

HS22110111

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Monthly Effluent Samples

11/17/2022

ALS Environmental–Houston Laboratory

10450 Stancliff Road, Suite 210, Houston, TX 77099

Phone (281) 530-5656 Fax (281) 530-5887

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Initial Calibration Verification (ICV)

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder HS22110111

RunID SV-6_410398

Volatiles Organics by Method 8260C

Instrument ID SV6.i ICAL Date 10-MAR-2022
Lab File ID 010.D ICAL Time 1025
?VAL? ?VAL? Conc Units ug/L
Analysis Type SV Level LOW

Compound	CONC Added	CONC Recovered	% Recovered	Limits	Q
1,4-Dioxane	0.08000	0.08051	100.64	40-140	
Nitrobenzene-d5	0.08000	0.07786	97.33	40-140	
2-Fluorobiphenyl	0.08000	0.08171	102.14	40-140	
158 4-Terphenyl-d14	0.08000	0.06597	82.47	40-140	

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Form 7

Continuing Calibration Verification (CCV)

Workorder

HS22110111

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Monthly Effluent Samples

11/17/2022

ALS Environmental–Houston Laboratory

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Continuing Calibration Verification (CCV)

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

Project Longhorn GW Treatment Plant Monthly Effluent Samples **HS22110111**

RunID

Volatiles Organics by Method 8260C

SV-6_421640

Instrument ID SV6.i Injection Date 11-NOV-2022 1135
Lab File ID 04.D ICAL Date(s) 10-MAR-2022 10-MAR-2022
Analysis Type WATER ICAL Times 1025 1256
Lab Sample ID 14DIOX-0.08 Quant Type ISTD

Compound	RRF / Amount	RF0.080	Min RRF	%D / %DRIFT	Max %D / %DRIFT	CURVE TYPE	Q
Nitrobenzene-d5	0.33334	0.35358	0.010	6.06972	20.0	Averaged	
2-Fluorobiphenyl	1.55657	1.61312	0.010	3.63275	20.0	Averaged	
158 4-Terphenyl-d14	1.88010	1.84193	0.010	-2.03040	20.0	Averaged	
1,4-Dioxane	0.04105	0.04104	0.010	-0.03084	20.0	Averaged	

Continuing Calibration Verification (CCV)

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

Project Longhorn GW Treatment Plant Monthly Effluent Samples **HS22110111**

RunID

Volatiles Organics by Method 8260C

SV-6_421640

Instrument ID SV6.i Injection Date 11-NOV-2022 1421
Lab File ID 11.D ICAL Date(s) 10-MAR-2022 10-MAR-2022
Analysis Type WATER ICAL Times 1025 1256
Lab Sample ID 14DIOX-CCV EN D Quant Type ISTD

Compound	RRF / Amount	RF0.080	Min RRF	%D / %DRIFT	Max %D / %DRIFT	CURVE TYPE	Q
Nitrobenzene-d5	0.33334	0.34901	0.010	4.70111	20.0	Averaged	
2-Fluorobiphenyl	1.55657	1.77611	0.010	14.10364	20.0	Averaged	
158 4-Terphenyl-d14	1.88010	1.78625	0.010	-4.99197	20.0	Averaged	
1,4-Dioxane	0.04105	0.04355	0.010	6.07532	20.0	Averaged	

FORM 8
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS22110111

Lab File ID (Standard): 04 Date Analyzed: 11/11/22

Instrument ID: SV6 Time Analyzed: 1135

		IS1(DCB) AREA #	RT #	IS2(NPT) AREA #	RT #	IS3(ANT) AREA #	RT #
	12 HOUR STD	5056	3.37	16867	4.47	9501	6.14
	UPPER LIMIT	10112	3.87	33734	4.97	19002	6.64
	LOWER LIMIT	2528	2.87	8434	3.97	4751	5.64
	CLIENT SAMPLE NO.						
01	MBLK-185720	3918	3.37	14348	4.47	8143	6.14
02	LCS-185720	7286	3.37	19149	4.47	9961	6.14
03	LCSD-185720	6843	3.37	15790	4.47	9053	6.14
04	HS22110111-01	7802	3.37	15720	4.48	10471	6.14
05							
06							
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag internal standard area values with an asterisk.
* Values outside of QC limits.

FORM 8
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS22110111

Lab File ID (Standard): 04 Date Analyzed: 11/11/22

Instrument ID: SV6 Time Analyzed: 1135

		IS4 (PHN) AREA	#	RT	#	IS5 (CRY) AREA	#	RT	#	IS6 (PRY) AREA	#	RT	#
	12 HOUR STD	17588		7.59		10111		10.35		8633		12.34	
	UPPER LIMIT	35176		8.09		20222		10.85		17266		12.84	
	LOWER LIMIT	8794		7.09		5056		9.85		4317		11.84	
	CLIENT SAMPLE NO.												
01	MBLK-185720	14895		7.59		6303		10.35		4326		12.34	
02	LCS-185720	19258		7.58		7757		10.34		4669		12.33	
03	LCSD-185720	17469		7.59		6219		10.35		4437		12.34	
04	HS22110111-01	20955		7.58		11249		10.34		9014		12.33	
05													
06													
07													
08													
09													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag internal standard area values with an asterisk.
* Values outside of QC limits.

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Form 12

Preparation Log

EPA 3510

Workorder

HS22110111

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Monthly Effluent Samples

11/17/2022

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Form 12 - Preparation Log

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder
HS22110111

RunID
185720

EPA 3510

Prep Batch 185720 **Prep Method** **Prep Date** 11/04/22

	Matrix	Type	Lab Sample ID	Initial Amt (mL)	Final Amt (mL)	Client Sample ID
1	Aqueous	MBLK	MBLK-185720	1000	1	MBLK-185720
2	Aqueous	LCS	LCS-185720	1000	1	LCS-185720
3	Aqueous	LCSD	LCSD-185720	1000	1	LCSD-185720
4	Water	SAMP	HS22110111-01	1000	1	LH18/24-SP650_110122

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Analysis Run Log

Semi-Volatiles by by EPA 8270SIM

Workorder

HS22110111

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Monthly Effluent Samples

11/17/2022

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

SV06 -Logbook

Batch: 48608 **Analyst:** Jose Juarez

Date: 03-10-2022 **Reviewer:**

Method: 8270D SIM PAH/1,4-DIOXANE **Laboratory:** Houston

Comments: 2 ICALS

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	DFTPP	TUNE	03-10-2022 10:15 am	1.00	0.00 mL	0.00 mL	001.D	Liquid	Y	NA
2	1 4 DX-0.08	ICAL4	03-10-2022 10:25 am	1.00	1000.00 mL	1000.00 mL	002.D	Liquid	Y	NA
3	1 4 DX-0.01	ICAL1	03-10-2022 10:47 am	1.00	1000.00 mL	1000.00 mL	003.D	Liquid	Y	NA
4	1 4 DX-0.03	ICAL2	03-10-2022 11:05 am	1.00	1000.00 mL	1000.00 mL	004.D	Liquid	Y	NA
5	1 4 DX-0.05	ICAL3	03-10-2022 11:22 am	1.00	1000.00 mL	1000.00 mL	005.D	Liquid	Y	NA
6	1 4 DX-0.1	ICAL5	03-10-2022 11:40 am	1.00	1000.00 mL	1000.00 mL	006.D	Liquid	Y	NA
7	1 4 DX-0.15	ICAL6	03-10-2022 11:58 am	1.00	1000.00 mL	1000.00 mL	007.D	Liquid	Y	NA
8	1 4 DX-0.2	ICAL7	03-10-2022 12:16 pm	1.00	1000.00 mL	1000.00 mL	008.D	Liquid	Y	NA
9	1 4 DX-0.5	ICAL8	03-10-2022 12:56 pm	1.00	1000.00 mL	1000.00 mL	009.D	Liquid	Y	NA
10	1 4 DX-ICV	ICV	03-10-2022 02:15 pm	1.00	1000.00 mL	1000.00 mL	010.D	Liquid	Y	NA
11	SIM PAH-0.08	ICAL4	03-10-2022 02:39 pm	1.00	1000.00 mL	1000.00 mL	011.D	Liquid	Y	NA
12	SIM PAH-0.01	ICAL1	03-10-2022 03:04 pm	1.00	1000.00 mL	1000.00 mL	012.D	Liquid	Y	NA
13	SIM PAH-0.025	ICAL2	03-10-2022 03:24 pm	1.00	1000.00 mL	1000.00 mL	013.D	Liquid	Y	NA
14	SIM PAH-0.05	ICAL3	03-10-2022 03:44 pm	1.00	1000.00 mL	1000.00 mL	014.D	Liquid	Y	NA
15	SIM PAH-0.1	ICAL5	03-10-2022 04:04 pm	1.00	1000.00 mL	1000.00 mL	015.D	Liquid	Y	NA
16	SIM PAH-0.15	ICAL6	03-10-2022 04:24 pm	1.00	1000.00 mL	1000.00 mL	016.D	Liquid	Y	NA
17	SIM PAH-0.2	ICAL7	03-10-2022 04:44 pm	1.00	1000.00 mL	1000.00 mL	017.D	Liquid	Y	NA
18	SIM PAH-0.5	ICAL8	03-10-2022 05:05 pm	1.00	1000.00 mL	1000.00 mL	018.D	Liquid	Y	NA
19	SIM PAH-ICV	ICV	03-10-2022 05:25 pm	1.00	1000.00 mL	1000.00 mL	019.D	Liquid	Y	NA
20	CCB	SAMP	03-10-2022 05:45 pm	1.00	1000.00 mL	1000.00 mL	020.D	Liquid	Y	NA

Form 13 - Analysis Run Log

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Monthly Effluent Samples

Workorder
HS22110111

RUNID
SV-6_421640

Semi-Volatiles by by EPA 8270SIM

Run ID SV-6_421640 **Start Date** 11/11/22 **EndDate** 11/11/22 **Matrix** Aqueous

Client Sample ID	Type	Lab Sample ID	File ID	Analysis Date	DF
MBLK-185720	MBLK	MBLK-185720	06.D	11/11/22 12:23	1
LCS-185720	LCS	LCS-185720	07.D	11/11/22 12:44	1
LCSD-185720	LCSD	LCSD-185720	08.D	11/11/22 13:04	1
LH18/24-SP650_110122	SAMP	HS22110111-01	10.D	11/11/22 13:44	1

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Raw Data SV-6 410398

Semi-Volatiles by by EPA 8270SIM

Workorder

HS22110111

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Monthly Effluent Samples

11/17/2022

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\220310.b\001.D Page 1
Report Date: 10-Mar-2022 10:29

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\SV6.i\220310.b\001.D
Lab Smp Id: DFTPP Client Smp ID: DFTPP
Inj Date : 10-MAR-2022 10:15 MS Autotune Date: 09-MAR-2022 11:12
Operator : smith Inst ID: SV6.i
Smp Info : DFTPP;DFTPP;3;;DFTPP
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\SV6.i\220310.b\DFTPP.m
Meth Date : 09-Dec-2021 09:52 jjuarez 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: WATER
Processing Host: NAHSTW7122

Concentration Formula: Amt * DF * Uf * Vf * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vf	1.000	Volumetric correction factor
Cpnd Variable		Local Compound Variable

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		
5.667	6.357	-0.690	198	97000			0.00- 100.00	100.00
5.667	6.357	-0.690	51	53776			10.00- 80.00	55.44
5.667	6.357	-0.690	68	766			0.00- 2.00	1.59
5.667	6.357	-0.690	69	48284			0.00- 0.00	49.78
5.667	6.357	-0.690	70	222			0.00- 2.00	0.46
5.667	6.357	-0.690	127	57876			10.00- 80.00	59.67
5.667	6.357	-0.690	197	89			0.00- 2.00	0.09
5.667	6.357	-0.690	199	6703			5.00- 9.00	6.91
5.667	6.357	-0.690	275	20548			10.00- 60.00	21.18
5.667	6.357	-0.690	365	2011			1.00- 100.00	2.07
5.667	6.357	-0.690	441	8864			0.01- 99.99	74.94
5.667	6.357	-0.690	442	60568			50.00- 150.00	62.44
5.667	6.357	-0.690	443	11828			15.00- 24.00	19.53

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 198	55.44
68	Less than 2.00% of mass 69	0.79 (1.59)
69	Mass 69 relative abundance	49.78
70	Less than 2.00% of mass 69	0.23 (0.46)
127	10.00 - 80.00% of mass 198	59.67
197	Less than 2.00% of mass 198	0.09
199	5.00 - 9.00% of mass 198	6.91
275	10.00 - 60.00% of mass 198	21.18
365	1.00 - 100.00% of mass 198	2.07
441	Present, but less than mass 443	9.14
442	50.00 - 150.00% of mass 198	62.44
443	15.00 - 24.00% of mass 442	12.19 (19.53)

Data File: 001.D
Spectrum: Average Spectrum: 5.657 to 5.662 min. (SUB)
Location of Maximum: 198.00
Number of points: 255

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	59	111.00	4304	180.00	2452	257.00	491
37.00	224	112.00	539	181.00	1144	258.00	2733
38.00	615	113.00	143	182.00	177	259.00	454
39.00	3676	116.00	789	184.00	192	261.00	82
40.00	317	117.00	14919	185.00	1728	264.00	185
41.00	107	118.00	1145	186.00	13758	265.00	973
44.00	143	119.00	105	187.00	3715	266.00	174
45.00	94	120.00	150	188.00	457	268.00	88
47.00	15	122.00	973	189.00	685	270.00	75
48.00	89	123.00	1516	190.00	117	272.00	103
49.00	508	124.00	642	191.00	390	273.00	1456
50.00	14754	125.00	696	192.00	1177	274.00	3568
51.00	53776	126.00	256	193.00	1358	275.00	20544
52.00	2771	127.00	57872	194.00	259	276.00	2620
53.00	81	128.00	4240	195.00	139	277.00	1638
55.00	257	129.00	21648	196.00	2928	278.00	262
56.00	1346	130.00	1884	197.00	89	283.00	139
57.00	3111	131.00	409	198.00	97000	284.00	97
58.00	105	132.00	154	199.00	6703	285.00	237
61.00	558	134.00	606	200.00	528	293.00	305
62.00	699	135.00	1740	201.00	612	294.00	85
63.00	1803	136.00	678	203.00	645	295.00	95
64.00	268	137.00	930	204.00	3334	296.00	5500
65.00	1049	138.00	177	205.00	5688	297.00	828
68.00	766	140.00	157	206.00	23784	303.00	625
69.00	48280	141.00	2481	207.00	3124	304.00	170
70.00	222	142.00	824	208.00	849	308.00	75
73.00	474	143.00	679	209.00	168	314.00	238
74.00	5459	144.00	97	210.00	354	315.00	643
75.00	8373	145.00	111	211.00	911	316.00	288
76.00	3216	146.00	464	215.00	167	321.00	145
77.00	63088	147.00	1285	216.00	492	323.00	1574
78.00	4098	148.00	3525	217.00	6177	324.00	249
79.00	3357	149.00	673	218.00	732	327.00	240
80.00	2361	150.00	140	221.00	5622	328.00	123
81.00	3824	151.00	388	222.00	202	332.00	116
82.00	1046	152.00	197	223.00	1480	333.00	145
83.00	984	153.00	769	224.00	12590	334.00	1088
84.00	280	154.00	654	225.00	3091	335.00	208
85.00	674	155.00	1544	226.00	254	341.00	172
86.00	1189	156.00	1996	227.00	4932	346.00	310
87.00	592	157.00	598	228.00	818	352.00	508
88.00	224	158.00	423	229.00	1162	353.00	276
89.00	90	159.00	429	230.00	119	354.00	517
91.00	780	160.00	694	231.00	476	355.00	80

92.00	934	161.00	1193	233.00	83	365.00	2011
93.00	5961	162.00	336	234.00	295	366.00	237
94.00	433	163.00	100	235.00	300	371.00	101
95.00	133	164.00	97	236.00	162	372.00	897
96.00	339	165.00	922	237.00	449	373.00	165
97.00	116	166.00	761	239.00	168	383.00	177
98.00	4829	167.00	6070	240.00	144	390.00	86
99.00	3781	168.00	3181	241.00	236	402.00	245
100.00	330	169.00	504	242.00	771	403.00	502
101.00	2289	170.00	104	243.00	851	404.00	138
102.00	119	171.00	173	244.00	9664	421.00	356
103.00	671	172.00	468	245.00	1352	422.00	273
104.00	1246	173.00	626	246.00	1814	423.00	3205
105.00	1212	174.00	1018	247.00	300	424.00	810
106.00	442	175.00	1981	249.00	349	441.00	8864
107.00	16936	176.00	577	253.00	177	442.00	60568
108.00	2535	177.00	828	254.00	257	443.00	11828
109.00	409	178.00	262	255.00	47016	444.00	1210
110.00	29360	179.00	3529	256.00	7188		

Data File: \\NAHSTWS005\Target\chem\SV6.i\220310.b\001.D

Date : 10-MAR-2022 10:15

Client ID: DFTPP

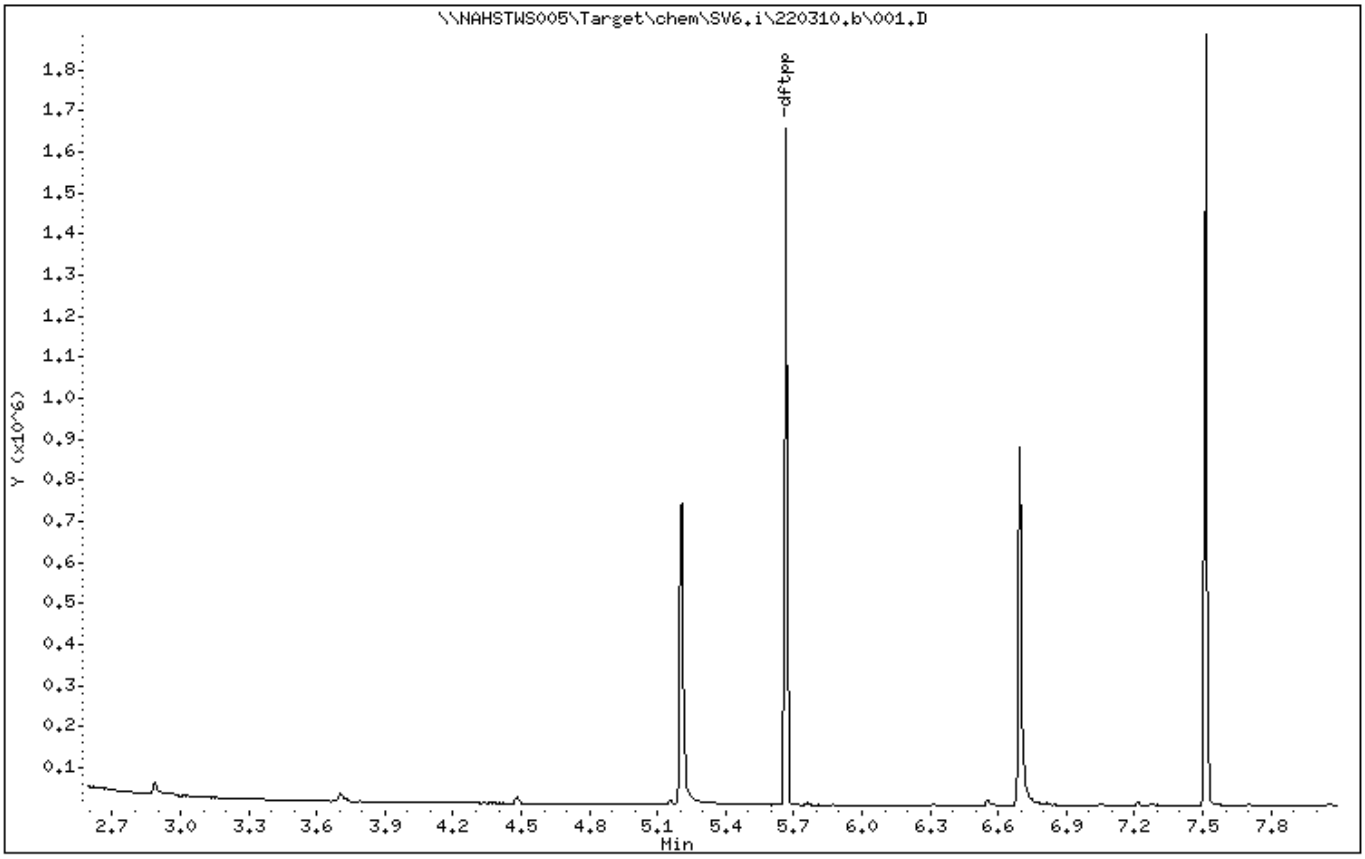
Instrument: SV6.i

Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: smith

Column phase: DB-5MS

Column diameter: 0.25



Data File: \\NAHSTWS005\Target\chem\SV6.i\220310.b\001.D

Date : 10-MAR-2022 10:15

Client ID: DFTPP

Instrument: SV6.i

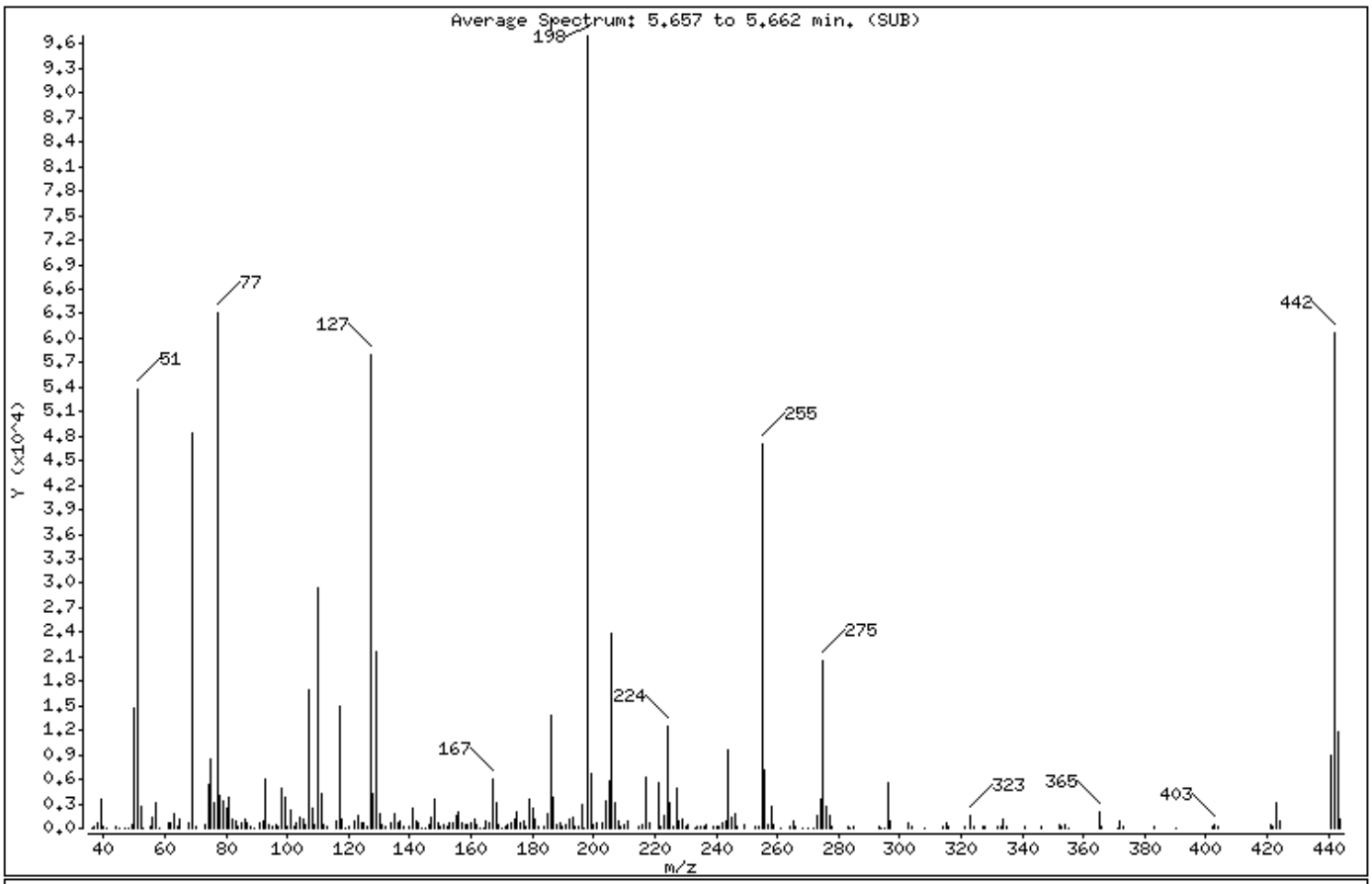
Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: smith

Column phase: DB-5MS

Column diameter: 0.25

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 198	55.44
68	Less than 2.00% of mass 69	0.79 (1.59)
69	Mass 69 relative abundance	49.78
70	Less than 2.00% of mass 69	0.23 (0.46)
127	10.00 - 80.00% of mass 198	59.67
197	Less than 2.00% of mass 198	0.09
199	5.00 - 9.00% of mass 198	6.91
275	10.00 - 60.00% of mass 198	21.18
365	1.00 - 100.00% of mass 198	2.07
441	Present, but less than mass 443	9.14
442	50.00 - 150.00% of mass 198	62.44
443	15.00 - 24.00% of mass 442	12.19 (19.53)

Data File: \\NAHSTWS005\Target\chem\SV6.i\220310.b\001.D

Date : 10-MAR-2022 10:15

Client ID: DFTPP Instrument: SV6.i

Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: smith

Column phase: DB-5MS Column diameter: 0.25

Data File: 001.D
Spectrum: Average Spectrum: 5.657 to 5.662 min. (SUB)
Location of Maximum: 198.00
Number of points: 255

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	59	111.00	4304	180.00	2452	257.00	491
37.00	224	112.00	539	181.00	1144	258.00	2733
38.00	615	113.00	143	182.00	177	259.00	454
39.00	3676	116.00	789	184.00	192	261.00	82
40.00	317	117.00	14919	185.00	1728	264.00	185
41.00	107	118.00	1145	186.00	13758	265.00	973
44.00	143	119.00	105	187.00	3715	266.00	174
45.00	94	120.00	150	188.00	457	268.00	88
47.00	15	122.00	973	189.00	685	270.00	75
48.00	89	123.00	1516	190.00	117	272.00	103
49.00	508	124.00	642	191.00	390	273.00	1456
50.00	14754	125.00	696	192.00	1177	274.00	3568
51.00	53776	126.00	256	193.00	1358	275.00	20544
52.00	2771	127.00	57872	194.00	259	276.00	2620
53.00	81	128.00	4240	195.00	139	277.00	1638
55.00	257	129.00	21648	196.00	2928	278.00	262
56.00	1346	130.00	1884	197.00	89	283.00	139
57.00	3111	131.00	409	198.00	97000	284.00	97
58.00	105	132.00	154	199.00	6703	285.00	237
61.00	558	134.00	606	200.00	528	293.00	305
62.00	699	135.00	1740	201.00	612	294.00	85
63.00	1803	136.00	678	203.00	645	295.00	95
64.00	268	137.00	930	204.00	3334	296.00	5500
65.00	1049	138.00	177	205.00	5688	297.00	828
68.00	766	140.00	157	206.00	23784	303.00	625
69.00	48280	141.00	2481	207.00	3124	304.00	170
70.00	222	142.00	824	208.00	849	308.00	75
73.00	474	143.00	679	209.00	168	314.00	238
74.00	5459	144.00	97	210.00	354	315.00	643
75.00	8373	145.00	111	211.00	911	316.00	288
76.00	3216	146.00	464	215.00	167	321.00	145
77.00	63088	147.00	1285	216.00	492	323.00	1574
78.00	4098	148.00	3525	217.00	6177	324.00	249
79.00	3357	149.00	673	218.00	732	327.00	240
80.00	2361	150.00	140	221.00	5622	328.00	123

Data File: \\NAHSTWS005\Target\chem\SV6.i\220310.b\001.D Page 4

Date : 10-MAR-2022 10:15

Client ID: DFTPP Instrument: SV6.i

Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: smith

Column phase: DB-5MS Column diameter: 0.25

Data File: 001.D
Spectrum: Average Spectrum: 5.657 to 5.662 min. (SUB)
Location of Maximum: 198.00
Number of points: 255

m/z	Y	m/z	Y	m/z	Y	m/z	Y
81.00	3824	151.00	388	222.00	202	332.00	116
82.00	1046	152.00	197	223.00	1480	333.00	145
83.00	984	153.00	769	224.00	12590	334.00	1088
84.00	280	154.00	654	225.00	3091	335.00	208
85.00	674	155.00	1544	226.00	254	341.00	172
86.00	1189	156.00	1996	227.00	4932	346.00	310
87.00	592	157.00	598	228.00	818	352.00	508
88.00	224	158.00	423	229.00	1162	353.00	276
89.00	90	159.00	429	230.00	119	354.00	517
91.00	780	160.00	694	231.00	476	355.00	80
92.00	934	161.00	1193	233.00	83	365.00	2011
93.00	5961	162.00	336	234.00	295	366.00	237
94.00	433	163.00	100	235.00	300	371.00	101
95.00	133	164.00	97	236.00	162	372.00	897
96.00	339	165.00	922	237.00	449	373.00	165
97.00	116	166.00	761	239.00	168	383.00	177
98.00	4829	167.00	6070	240.00	144	390.00	86
99.00	3781	168.00	3181	241.00	236	402.00	245
100.00	330	169.00	504	242.00	771	403.00	502
101.00	2289	170.00	104	243.00	851	404.00	138
102.00	119	171.00	173	244.00	9664	421.00	356
103.00	671	172.00	468	245.00	1352	422.00	273
104.00	1246	173.00	626	246.00	1814	423.00	3205
105.00	1212	174.00	1018	247.00	300	424.00	810
106.00	442	175.00	1981	249.00	349	441.00	8864
107.00	16936	176.00	577	253.00	177	442.00	60568
108.00	2535	177.00	828	254.00	257	443.00	11828
109.00	409	178.00	262	255.00	47016	444.00	1210
110.00	29360	179.00	3529	256.00	7188		

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\220310.b\002.D
Lab Smp Id: 1 4 DX-0.08 Client Smp ID: 1 4 DX-0.08
Inj Date : 10-MAR-2022 10:25 MS Autotune Date: 09-MAR-2022 11:12
Operator : LG Inst ID: SV6.i
Smp Info : 1 4 DX-0.08;1 4 DX-0.08
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\SV6.i\220310.b\DXSIM.m
Meth Date : 25-Aug-2022 16:08 SV6.i Quant Type: ISTD
Cal Date : 10-MAR-2022 10:25 Cal File: 002.D
Als bottle: 2 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)	AMOUNTS ON-COL (NG)
* 20 1,4-Dichlorobenzene-d4	152	3.790	3.790	(1.000)	6809	0.10000	(aM)
* 45 Naphthalene-d8	136	4.918	4.918	(1.000)	24566	0.10000	
$ 33 Nitrobenzene-d5	82	4.262	4.262	(0.867)	6468	0.08000	0.07898(M)
* 86 Acenaphthene-d10	164	6.603	6.603	(1.000)	12954	0.10000	
$ 69 2-Fluorobiphenyl	172	5.943	5.943	(0.900)	16771	0.08000	0.08317
* 126 Phenanthrene-d10	188	8.053	8.053	(1.000)	26502	0.10000	
* 182 Chrysene-d12	240	10.958	10.958	(1.000)	11837	0.10000	(M)
$ 158 4-Terphenyl-d14	244	9.656	9.656	(0.881)	16413	0.08000	0.07375(M)
* 198 Perylene-d12	264	13.085	13.085	(1.000)	8294	0.10000	
1 1,4-Dioxane	58	2.005	2.005	(0.529)	245	0.08000	0.08765(M)

QC Flag Legend

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

01159069

Data File: \\NAHSTWS005\Target\chem\SV6.i\220310.b\002.D

Date : 10-MAR-2022 10:25

Client ID: 1 4 DX-0.08

Instrument: SV6.i

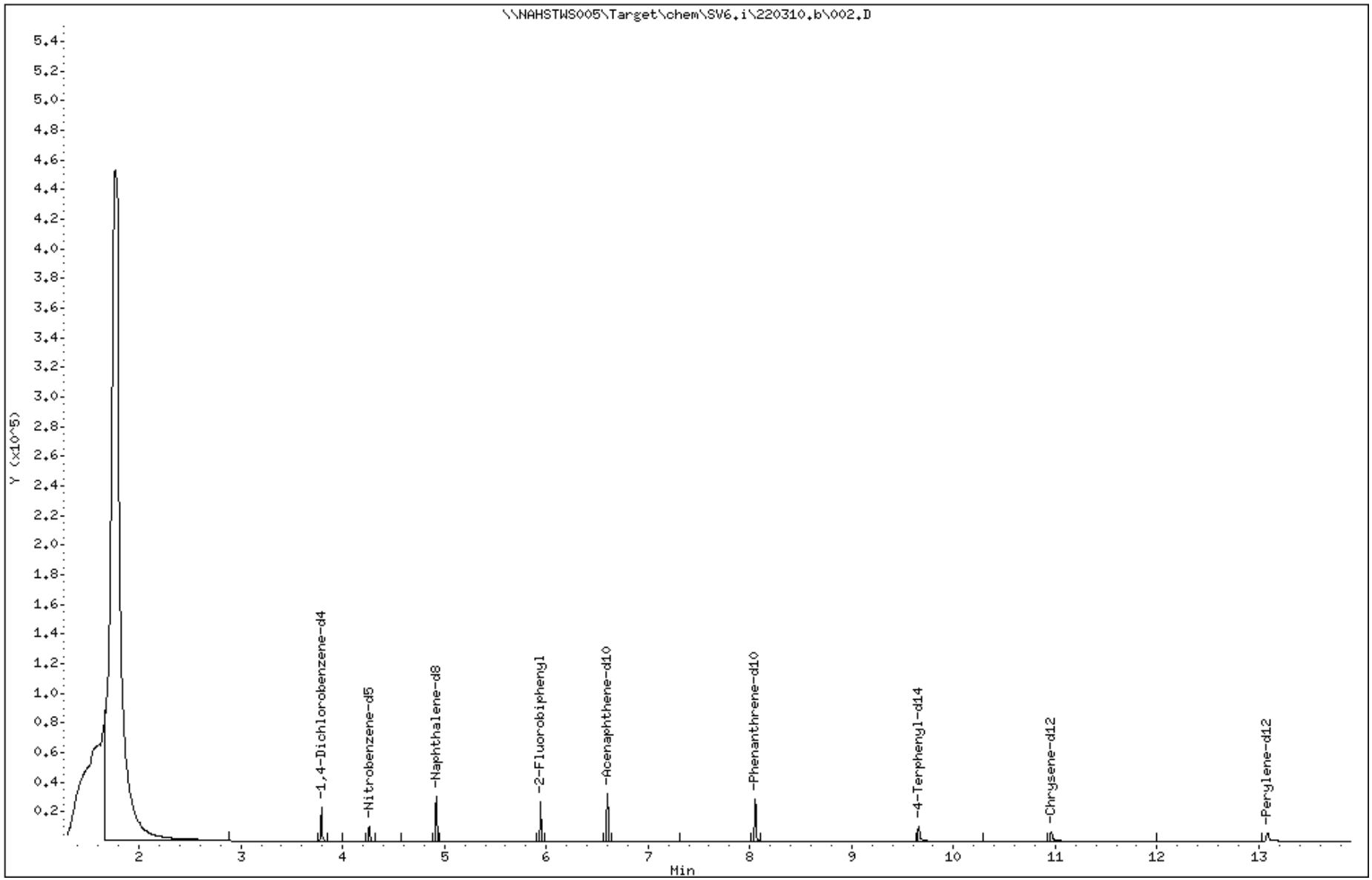
Sample Info: 1 4 DX-0.08;1 4 DX-0.08

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28



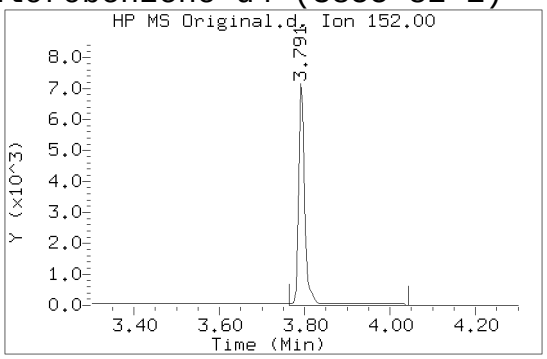
Data File : \\NAHSTWS005\Target\chem\SV6.i\220310.b\002.D
Inj Date : 10-MAR-2022 10:25
InstruID : SV6.i
LabSampID : 1 4 DX-0.08

1,4-Dichlorobenzene-d4 (3855-82-1)

Reason Code:

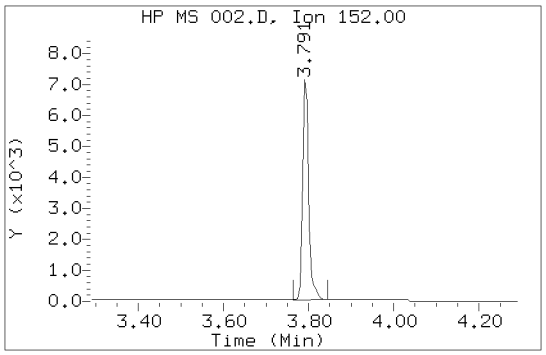
BEFORE

MASS
152
AREA
7703
HEIGHT
7154
25-Aug-2022
16:02
linh
pham



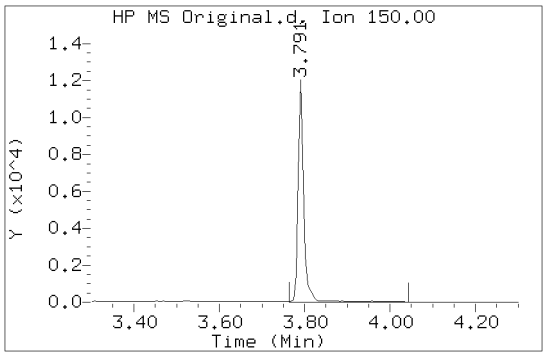
AFTER

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AREA
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HEIGHT
7102
25-Aug-2022
16:08
linh
pham



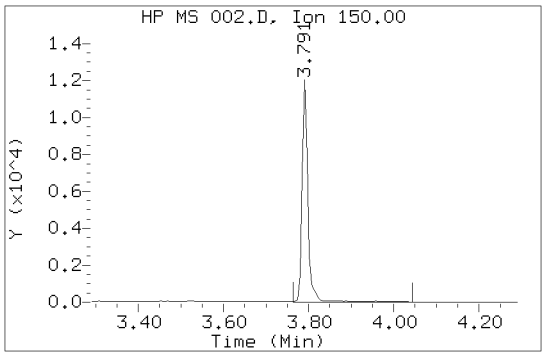
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HEIGHT
12036
25-Aug-2022
16:02
linh
pham



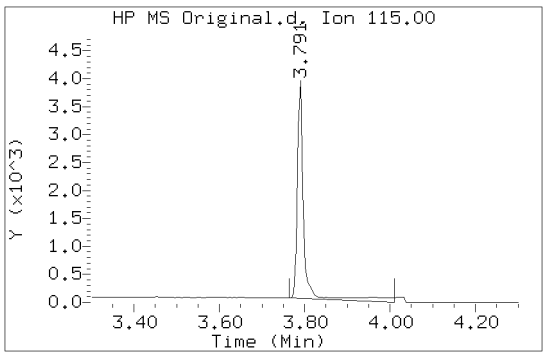
AFTER

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HEIGHT
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25-Aug-2022
16:08
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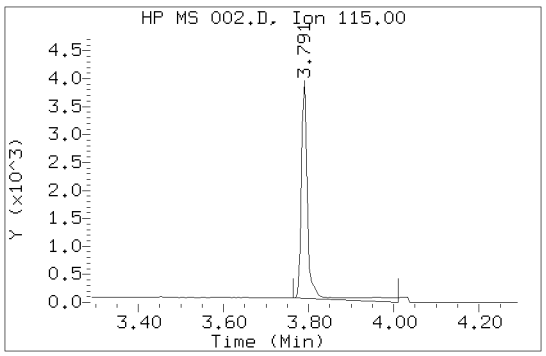
BEFORE

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AREA
4211
HEIGHT
3890
25-Aug-2022
16:02
linh
pham



AFTER

MASS
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AREA
4211
HEIGHT
3890
25-Aug-2022
16:08
linh
pham

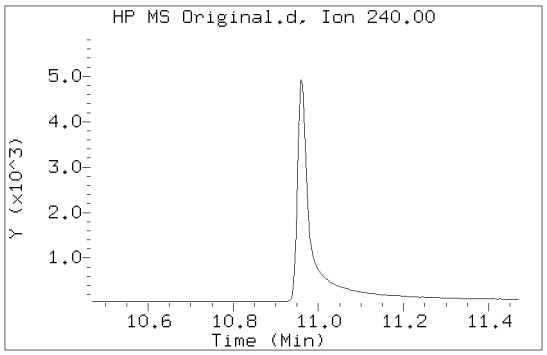


Chrysene-d12 (1719-03-5)

Reason Code:

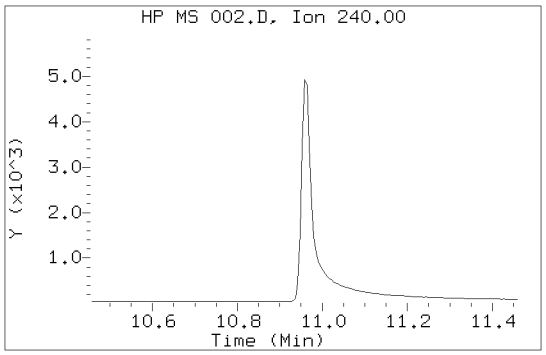
BEFORE

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AREA
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HEIGHT
0
25-Aug-2022
16:02
linh
pham



AFTER

MASS
240
AREA
11837
HEIGHT
4871
25-Aug-2022
16:08
linh
pham



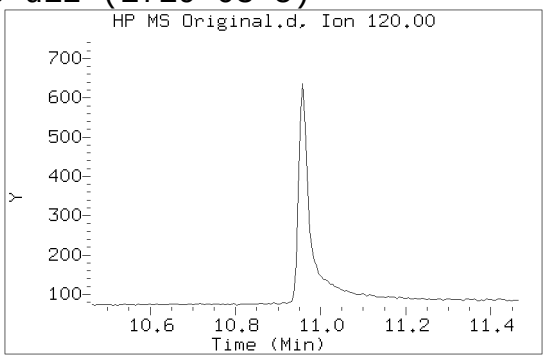
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Inj Date : 10-MAR-2022 10:25
InstruID : SV6.i
LabSampID : 1 4 DX-0.08

Chrysene-d12 (1719-03-5)

Reason Code:

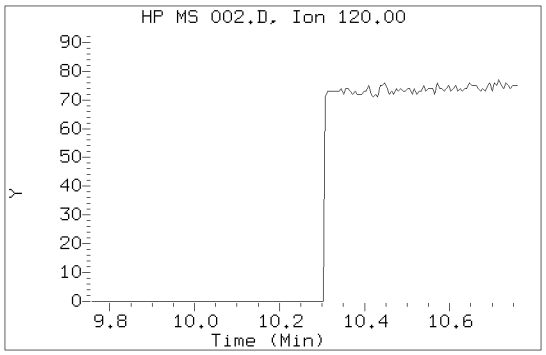
BEFORE

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AREA
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HEIGHT
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25-Aug-2022
16:02
linh
pham



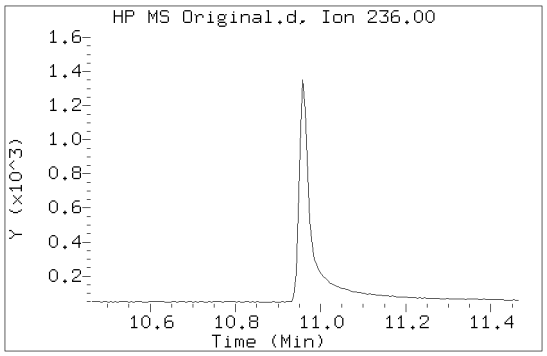
AFTER

MASS
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AREA
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HEIGHT
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25-Aug-2022
16:08
linh
pham



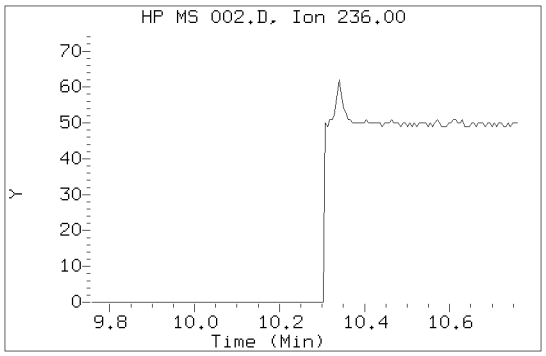
BEFORE

MASS
236
AREA
0
HEIGHT
0
25-Aug-2022
16:02
linh
pham



AFTER

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236
AREA
0
HEIGHT
0
25-Aug-2022
16:08
linh
pham

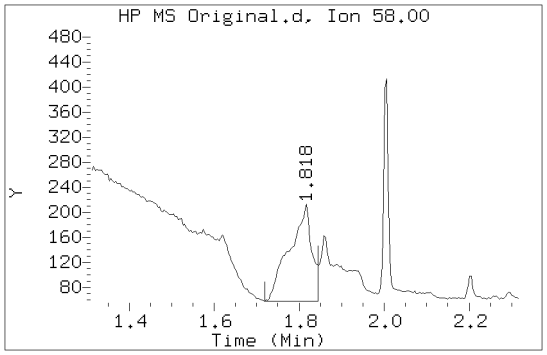


1,4-Dioxane ()

Reason Code:

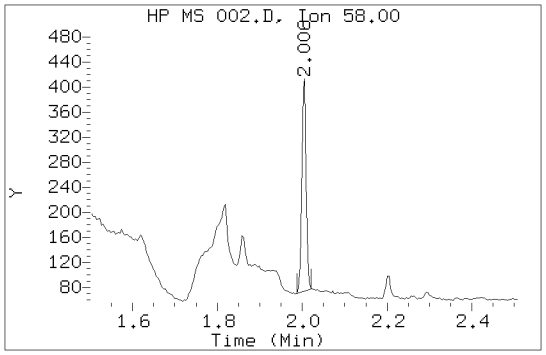
BEFORE

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25-Aug-2022
16:02
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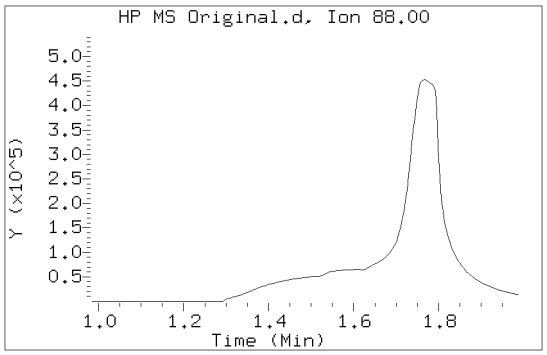
AFTER

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HEIGHT
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25-Aug-2022
16:08
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pham



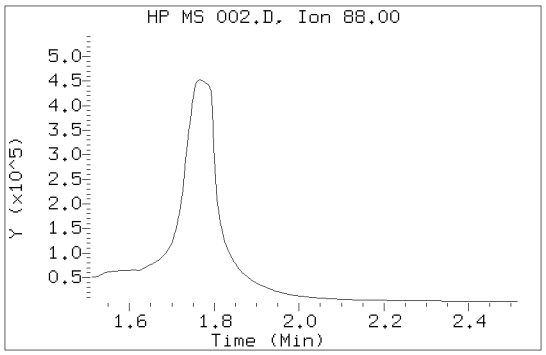
BEFORE

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AREA
0
HEIGHT
0
25-Aug-2022
16:02
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pham



AFTER

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AREA
0
HEIGHT
0
25-Aug-2022
16:08
linh
pham



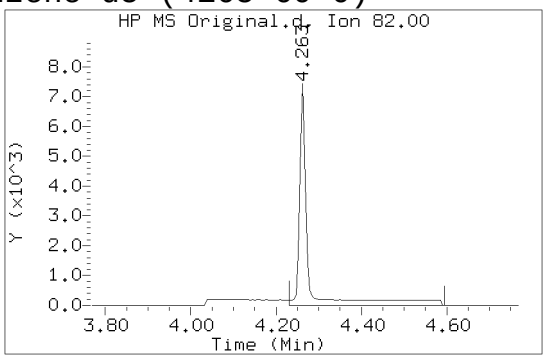
Data File : \\NAHSTWS005\Target\chem\SV6.i\220310.b\002.D
Inj Date : 10-MAR-2022 10:25
InstruID : SV6.i
LabSampID : 1 4 DX-0.08

Nitrobenzene-d5 (4165-60-0)

Reason Code:

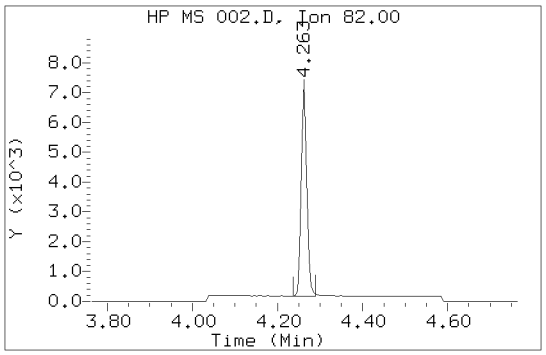
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HEIGHT
7437
25-Aug-2022
16:02
linh
pham



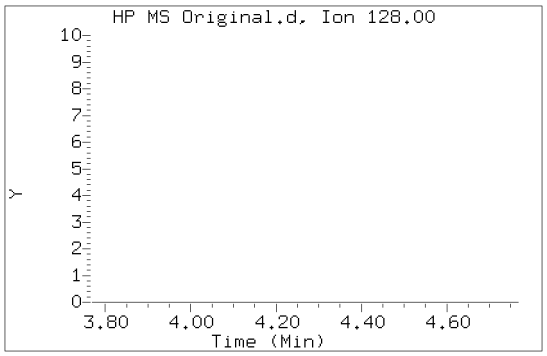
AFTER

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AREA
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HEIGHT
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25-Aug-2022
16:08
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pham



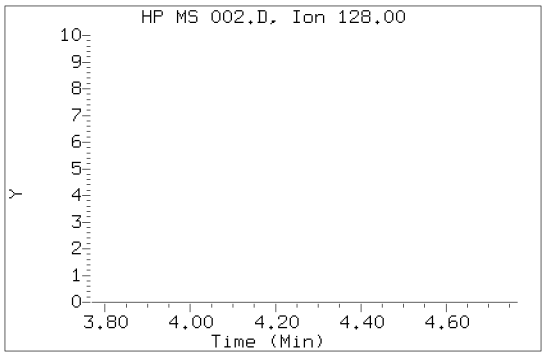
BEFORE

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25-Aug-2022
16:02
linh
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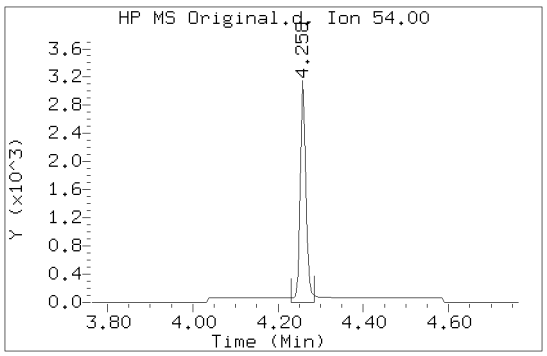
AFTER

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25-Aug-2022
16:08
linh
pham



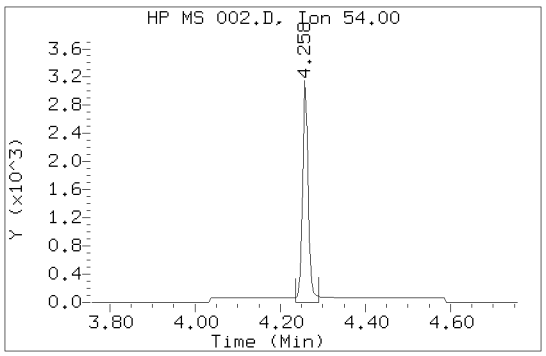
BEFORE

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25-Aug-2022
16:02
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AFTER

MASS
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AREA
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HEIGHT
3148
25-Aug-2022
16:08
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pham

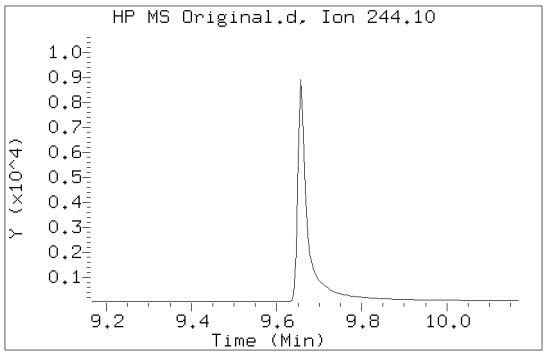


4-Terphenyl-d14 (1718-51-0)

Reason Code:

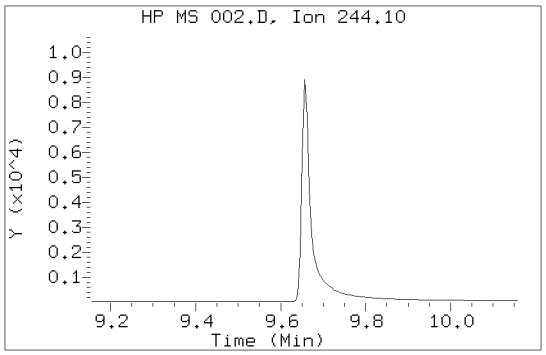
BEFORE

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244.1
AREA
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HEIGHT
0
25-Aug-2022
16:02
linh
pham



AFTER

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AREA
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HEIGHT
8885
25-Aug-2022
16:08
linh
pham

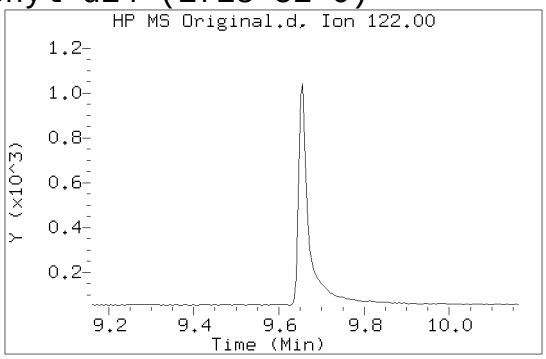


Data File : \\NAHSTWS005\Target\chem\SV6.i\220310.b\002.D
Inj Date : 10-MAR-2022 10:25
InstruID : SV6.i
LabSampID : 1 4 DX-0.08

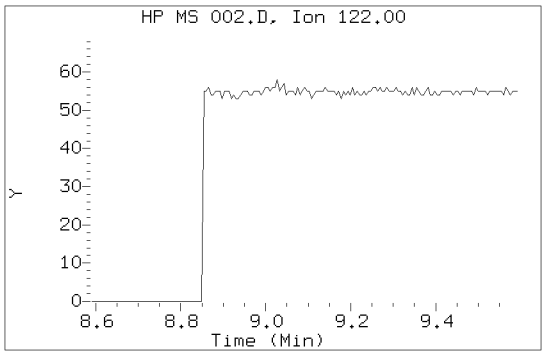
4-Terphenyl-d14 (1718-51-0)

Reason Code:

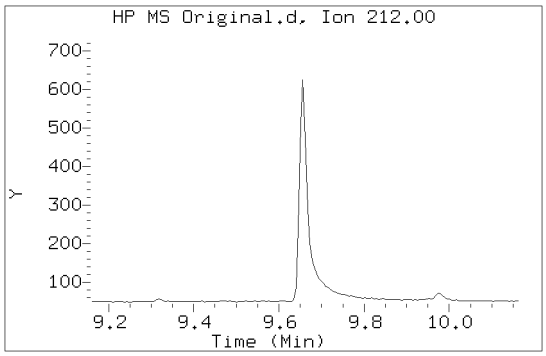
BEFORE
MASS
122
AREA
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HEIGHT
0
25-Aug-2022
16:02
linh
pham



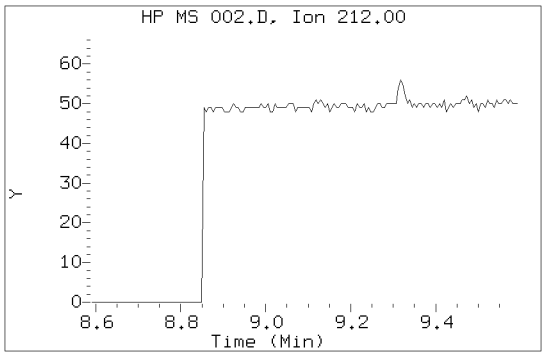
AFTER
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25-Aug-2022
16:08
linh
pham



BEFORE
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212
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HEIGHT
0
25-Aug-2022
16:02
linh
pham



AFTER
MASS
212
AREA
0
HEIGHT
0
25-Aug-2022
16:08
linh
pham



Data File: \\NAHSTWS005\Target\chem\SV6.i\220310.b\003.D Page 1
Report Date: 25-Aug-2022 16:08

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\220310.b\003.D
Lab Smp Id: 1 4 DX-0.01 Client Smp ID: 1 4 DX-0.01
Inj Date : 10-MAR-2022 10:47 MS Autotune Date: 09-MAR-2022 11:12
Operator : LG Inst ID: SV6.i
Smp Info : 1 4 DX-0.01;1 4 DX-0.01
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\SV6.i\220310.b\DXSIM.m
Meth Date : 25-Aug-2022 16:08 SV6.i Quant Type: ISTD
Cal Date : 10-MAR-2022 10:25 Cal File: 002.D
Als bottle: 3 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	3.795	3.795	(1.000)	5529	0.10000	(a)
* 45 Naphthalene-d8	136	4.922	4.922	(1.000)	16961	0.10000	(M)
$ 33 Nitrobenzene-d5	82	4.262	4.262	(0.866)	608	0.01000	0.01075(QM)
* 86 Acenaphthene-d10	164	6.603	6.603	(1.000)	9707	0.10000	
$ 69 2-Fluorobiphenyl	172	5.943	5.943	(0.900)	1519	0.01000	0.01005(QM)
* 126 Phenanthrene-d10	188	8.058	8.058	(1.000)	16382	0.10000	
* 182 Chrysene-d12	240	10.963	10.963	(1.000)	6576	0.10000	(M)
$ 158 4-Terphenyl-d14	244	9.661	9.661	(0.881)	1253	0.01000	0.01013(M)
* 198 Perylene-d12	264	13.090	13.090	(1.000)	3752	0.10000	
1 1,4-Dioxane	58	1.994	1.994	(0.525)	21	0.01000	0.009252(M)

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.

01159075

Data File: \\NAHSTWS005\Target\chem\SV6.i\220310.b\003.D

Date : 10-MAR-2022 10:47

Client ID: 1 4 DX-0.01

Instrument: SV6.i

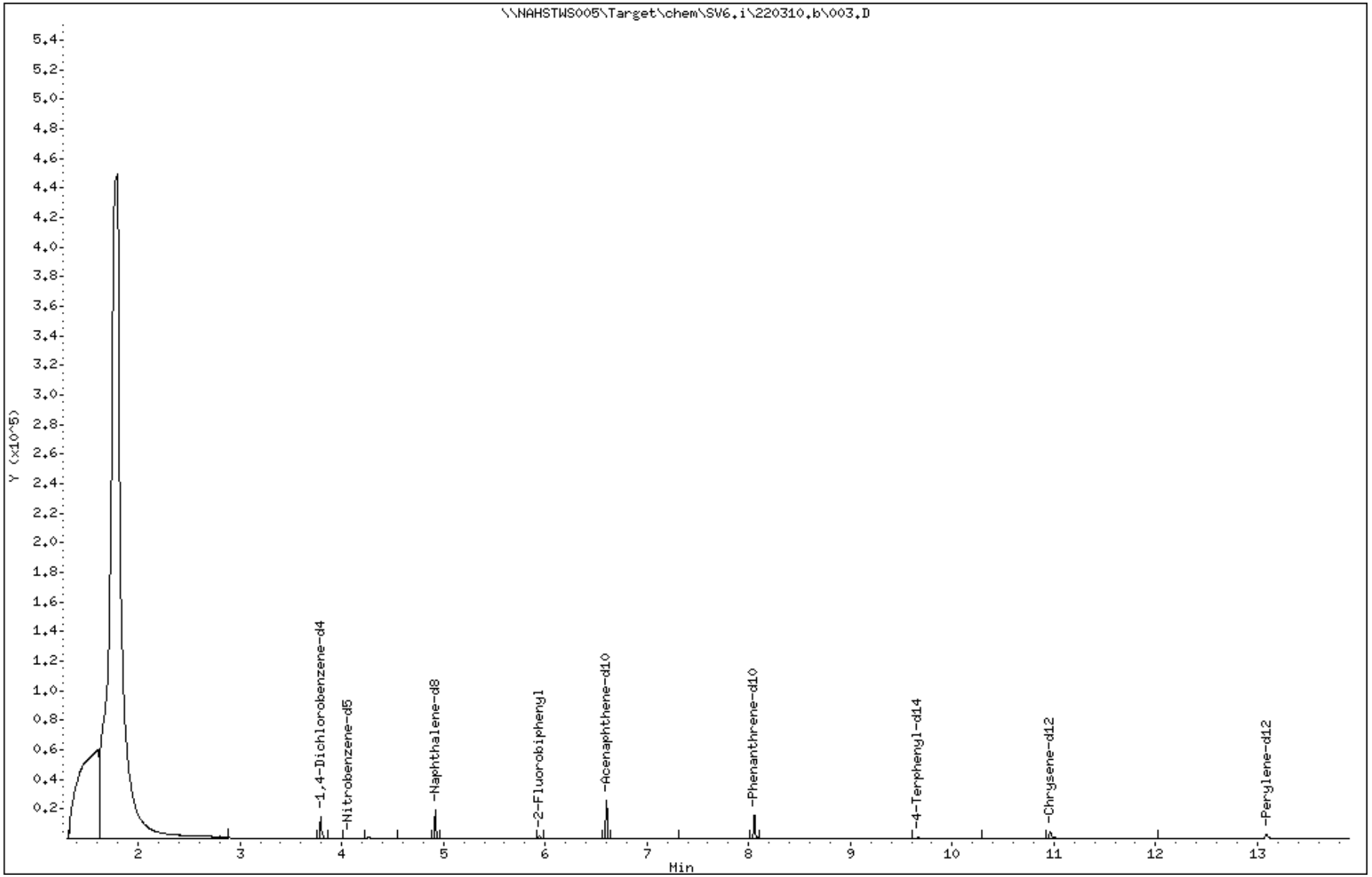
Sample Info: 1 4 DX-0.01;1 4 DX-0.01

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28



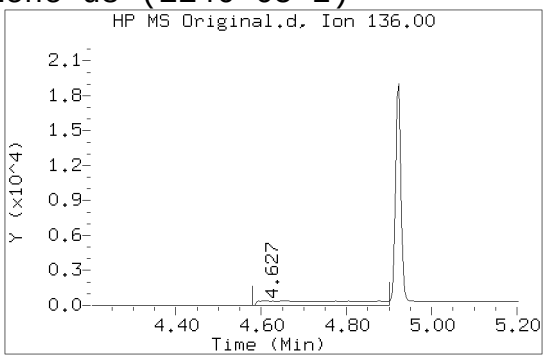
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Inj Date : 10-MAR-2022 10:47
InstruID : SV6.i
LabSampID : 1 4 DX-0.01

Naphthalene-d8 (1146-65-2)

Reason Code:

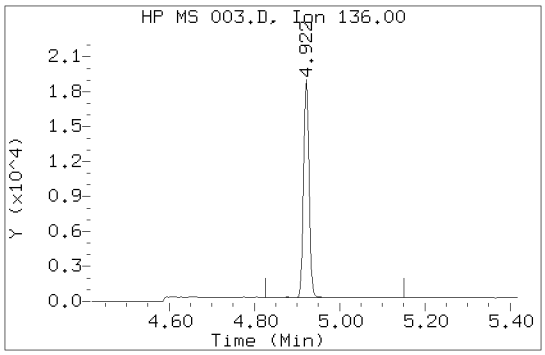
BEFORE

MASS
136
AREA
6591
HEIGHT
377
25-Aug-2022
16:04
linh
pham



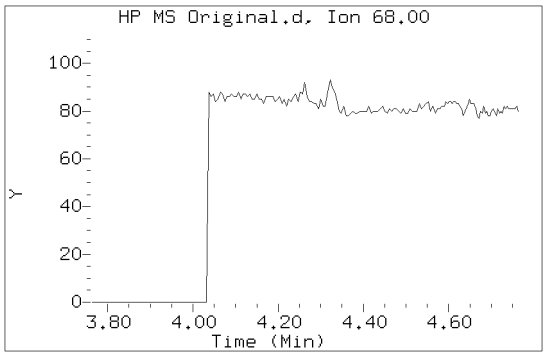
AFTER

MASS
136
AREA
16961
HEIGHT
18707
25-Aug-2022
16:08
linh
pham



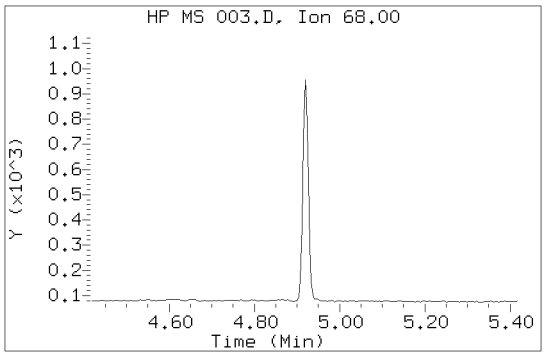
BEFORE

MASS
68
AREA
0
HEIGHT
0
25-Aug-2022
16:04
linh
pham



AFTER

MASS
68
AREA
0
HEIGHT
0
25-Aug-2022
16:08
linh
pham

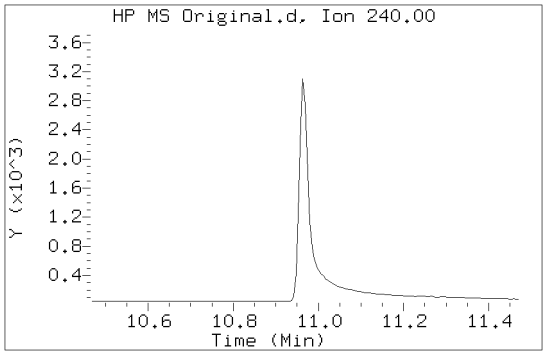


Chrysene-d12 (1719-03-5)

Reason Code:

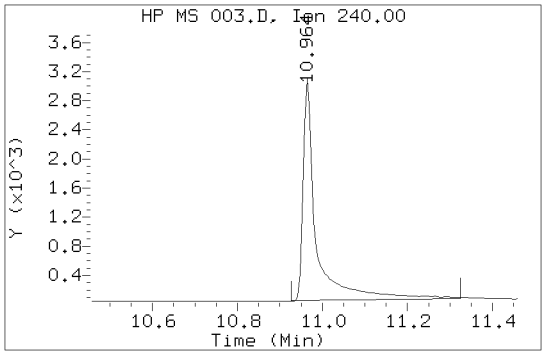
BEFORE

MASS
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AREA
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HEIGHT
0
25-Aug-2022
16:04
linh
pham



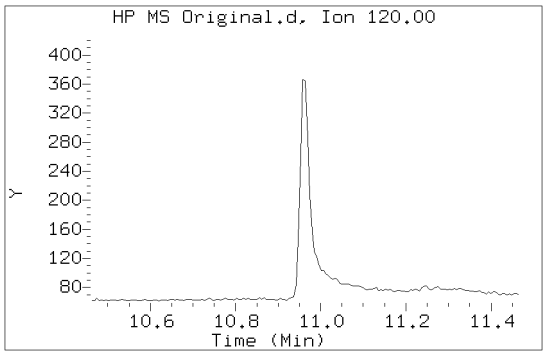
AFTER

MASS
240
AREA
6576
HEIGHT
3041
25-Aug-2022
16:08
linh
pham



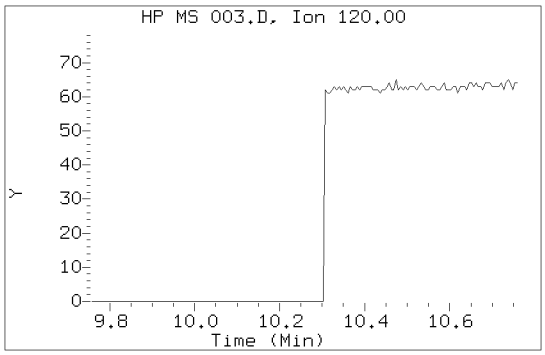
BEFORE

MASS
120
AREA
0
HEIGHT
0
25-Aug-2022
16:04
linh
pham



AFTER

MASS
120
AREA
0
HEIGHT
0
25-Aug-2022
16:08
linh
pham



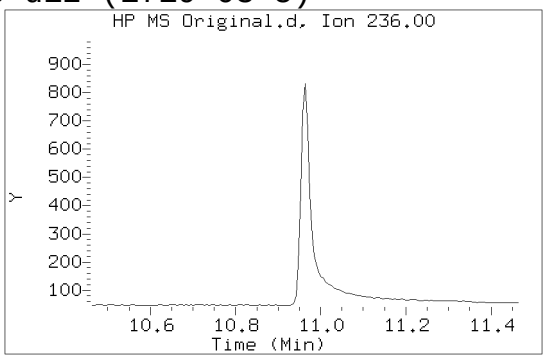
Data File : \\NAHSTWS005\Target\chem\SV6.i\220310.b\003.D
Inj Date : 10-MAR-2022 10:47
InstruID : SV6.i
LabSampID : 1 4 DX-0.01

Chrysene-d12 (1719-03-5)

Reason Code:

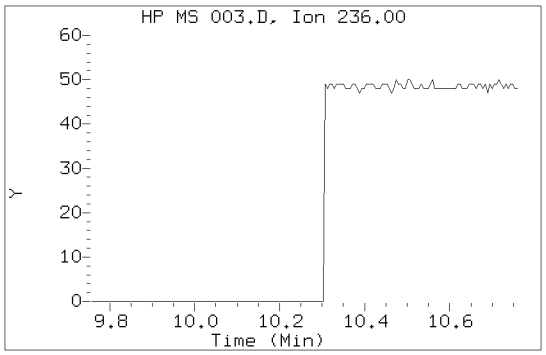
BEFORE

MASS
236
AREA
0
HEIGHT
0
25-Aug-2022
16:04
linh
pham



AFTER

MASS
236
AREA
0
HEIGHT
0
25-Aug-2022
16:08
linh
pham

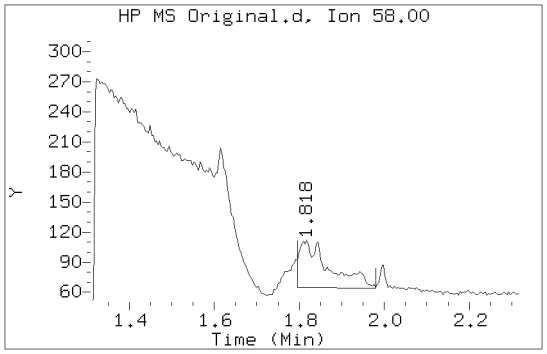


1,4-Dioxane ()

Reason Code:

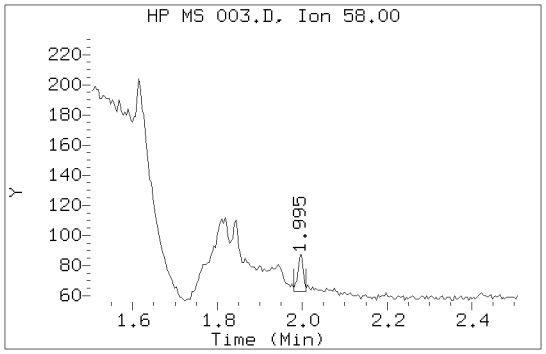
BEFORE

MASS
58
AREA
231
HEIGHT
47
25-Aug-2022
16:04
linh
pham



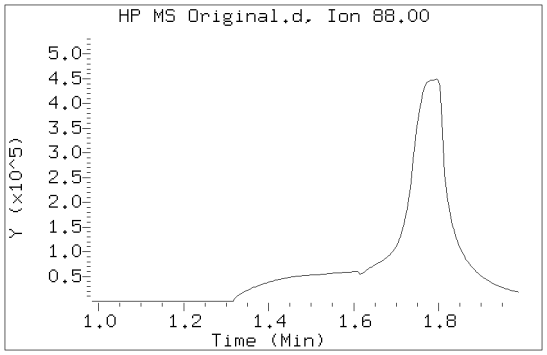
AFTER

MASS
58
AREA
21
HEIGHT
24
25-Aug-2022
16:08
linh
pham



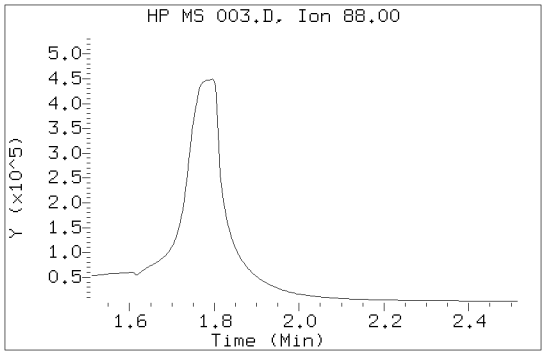
BEFORE

MASS
88
AREA
0
HEIGHT
0
25-Aug-2022
16:04
linh
pham



AFTER

MASS
88
AREA
0
HEIGHT
0
25-Aug-2022
16:08
linh
pham

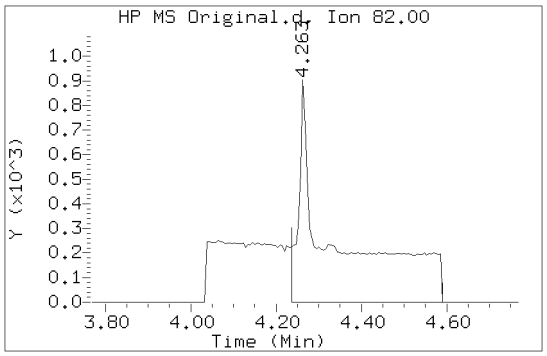


Nitrobenzene-d5 (4165-60-0)

Reason Code:

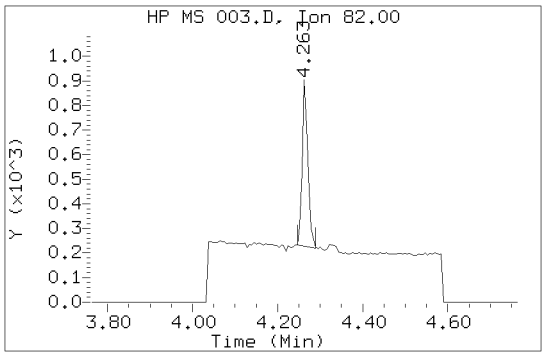
BEFORE

MASS
82
AREA
4980
HEIGHT
904
25-Aug-2022
16:04
linh
pham



AFTER

MASS
82
AREA
608
HEIGHT
676
25-Aug-2022
16:08
linh
pham



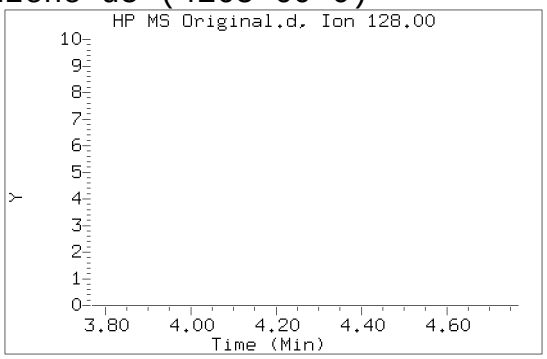
Data File : \\NAHSTWS005\Target\chem\SV6.i\220310.b\003.D
Inj Date : 10-MAR-2022 10:47
InstruID : SV6.i
LabSampID : 1 4 DX-0.01

Nitrobenzene-d5 (4165-60-0)

Reason Code:

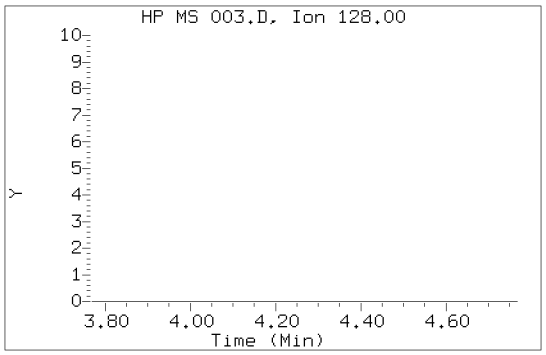
BEFORE

MASS
128
AREA
0
HEIGHT
0
25-Aug-2022
16:04
linh
pham



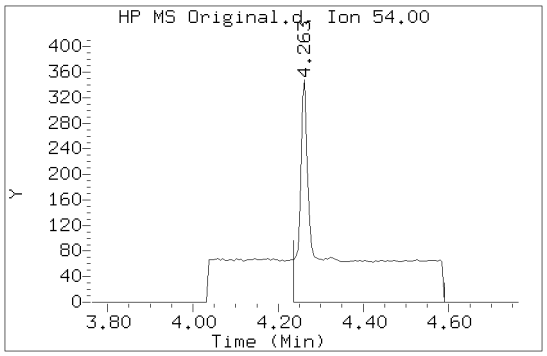
AFTER

MASS
128
AREA
0
HEIGHT
0
25-Aug-2022
16:08
linh
pham



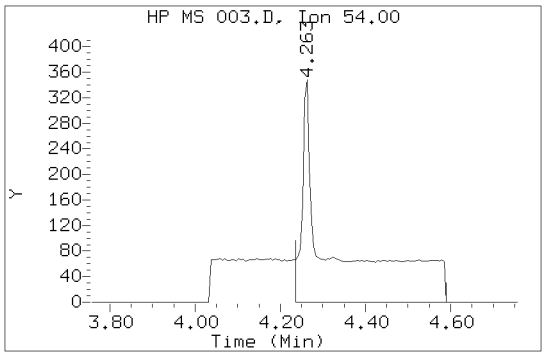
BEFORE

MASS
54
AREA
1660
HEIGHT
348
25-Aug-2022
16:04
linh
pham



AFTER

MASS
54
AREA
1660
HEIGHT
348
25-Aug-2022
16:08
linh
pham

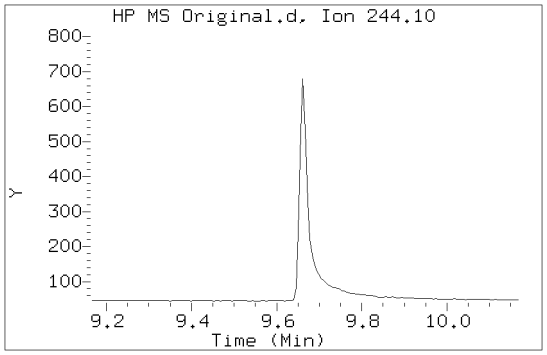


4-Terphenyl-d14 (1718-51-0)

Reason Code:

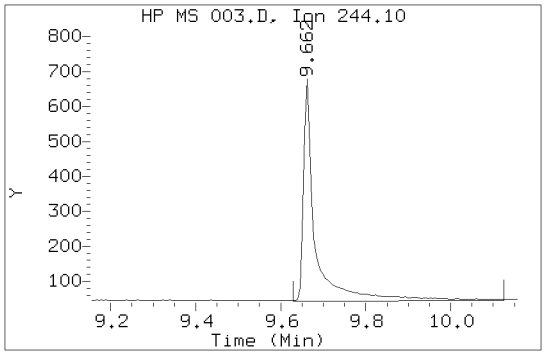
BEFORE

MASS
244.1
AREA
0
HEIGHT
0
25-Aug-2022
16:04
linh
pham



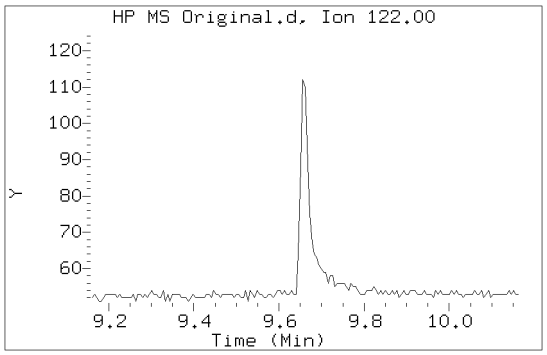
AFTER

MASS
244.1
AREA
1253
HEIGHT
635
25-Aug-2022
16:08
linh
pham



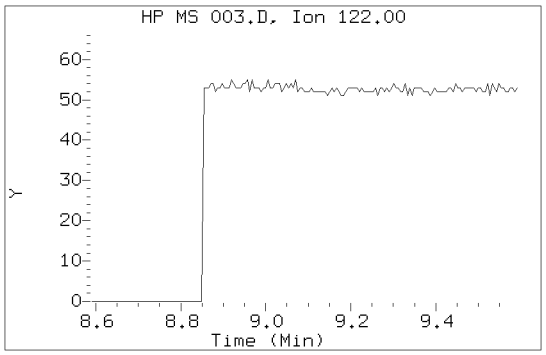
BEFORE

MASS
122
AREA
0
HEIGHT
0
25-Aug-2022
16:04
linh
pham



AFTER

MASS
122
AREA
0
HEIGHT
0
25-Aug-2022
16:08
linh
pham

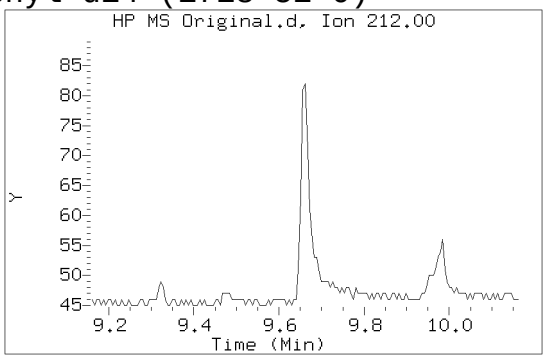


Data File : \\NAHSTWS005\Target\chem\SV6.i\220310.b\003.D
Inj Date : 10-MAR-2022 10:47
InstruID : SV6.i
LabSampID : 1 4 DX-0.01

4-Terphenyl-d14 (1718-51-0)

BEFORE

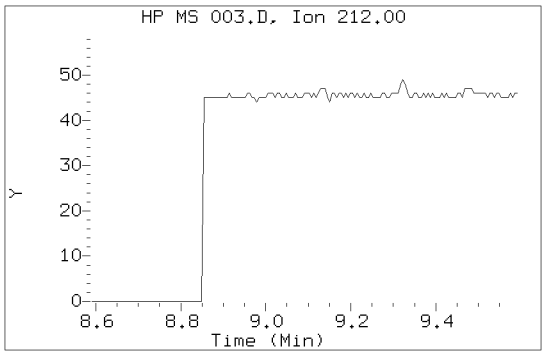
MASS
212
AREA
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HEIGHT
0
25-Aug-2022
16:04
linh
pham



AFTER

MASS
212
AREA
0
HEIGHT
0
25-Aug-2022
16:08
linh
pham

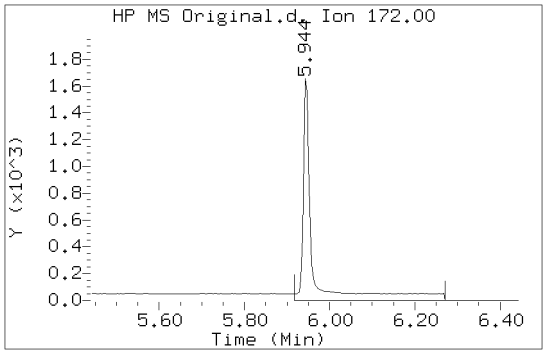
Reason Code:



2-Fluorobiphenyl (321-60-8)

BEFORE

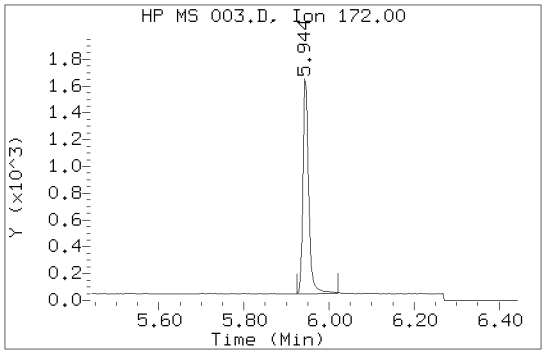
MASS
172
AREA
2590
HEIGHT
1655
25-Aug-2022
16:04
linh
pham



AFTER

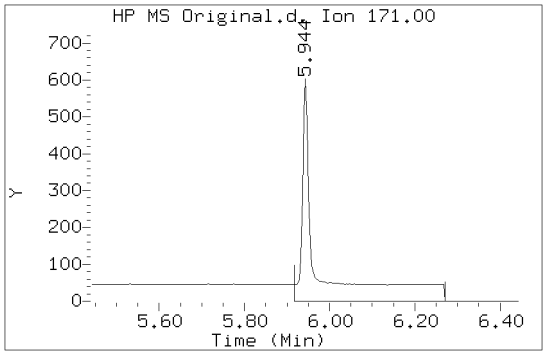
MASS
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AREA
1519
HEIGHT
1606
25-Aug-2022
16:08
linh
pham

Reason Code:



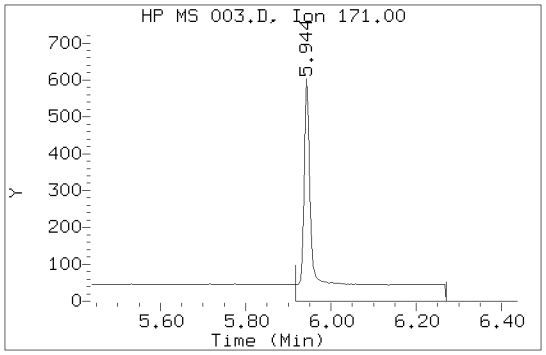
BEFORE

MASS
171
AREA
1483
HEIGHT
603
25-Aug-2022
16:04
linh
pham



AFTER

MASS
171
AREA
1483
HEIGHT
603
25-Aug-2022
16:08
linh
pham



Data File: \\NAHSTWS005\Target\chem\SV6.i\220310.b\004.D Page 1
Report Date: 25-Aug-2022 16:08

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\220310.b\004.D
Lab Smp Id: 1 4 DX-0.03 Client Smp ID: 1 4 DX-0.03
Inj Date : 10-MAR-2022 11:05 MS Autotune Date: 09-MAR-2022 11:12
Operator : LG Inst ID: SV6.i
Smp Info : 1 4 DX-0.03;1 4 DX-0.03
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\SV6.i\220310.b\DXSIM.m
Meth Date : 25-Aug-2022 16:08 SV6.i Quant Type: ISTD
Cal Date : 10-MAR-2022 10:47 Cal File: 003.D
Als bottle: 4 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	3.790	3.790	(1.000)	4850	0.10000	(aM)
* 45 Naphthalene-d8	136	4.918	4.918	(1.000)	18345	0.10000	(M)
$ 33 Nitrobenzene-d5	82	4.262	4.262	(0.867)	1854	0.03000	0.03032(QM)
* 86 Acenaphthene-d10	164	6.603	6.603	(1.000)	9938	0.10000	
$ 69 2-Fluorobiphenyl	172	5.943	5.943	(0.900)	4488	0.03000	0.02901(Q)
* 126 Phenanthrene-d10	188	8.053	8.053	(1.000)	16949	0.10000	
* 182 Chrysene-d12	240	10.963	10.963	(1.000)	7290	0.10000	(M)
$ 158 4-Terphenyl-d14	244	9.656	9.656	(0.881)	4004	0.03000	0.02921(M)
* 198 Perylene-d12	264	13.090	13.090	(1.000)	4319	0.10000	
1 1,4-Dioxane	58	1.990	1.990	(0.525)	57	0.03000	0.02863(M)

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.

01159081

Data File: \\NAHSTWS005\Target\chem\SV6.i\220310.b\004.D

Date : 10-MAR-2022 11:05

Client ID: 1 4 DX-0.03

Instrument: SV6.i

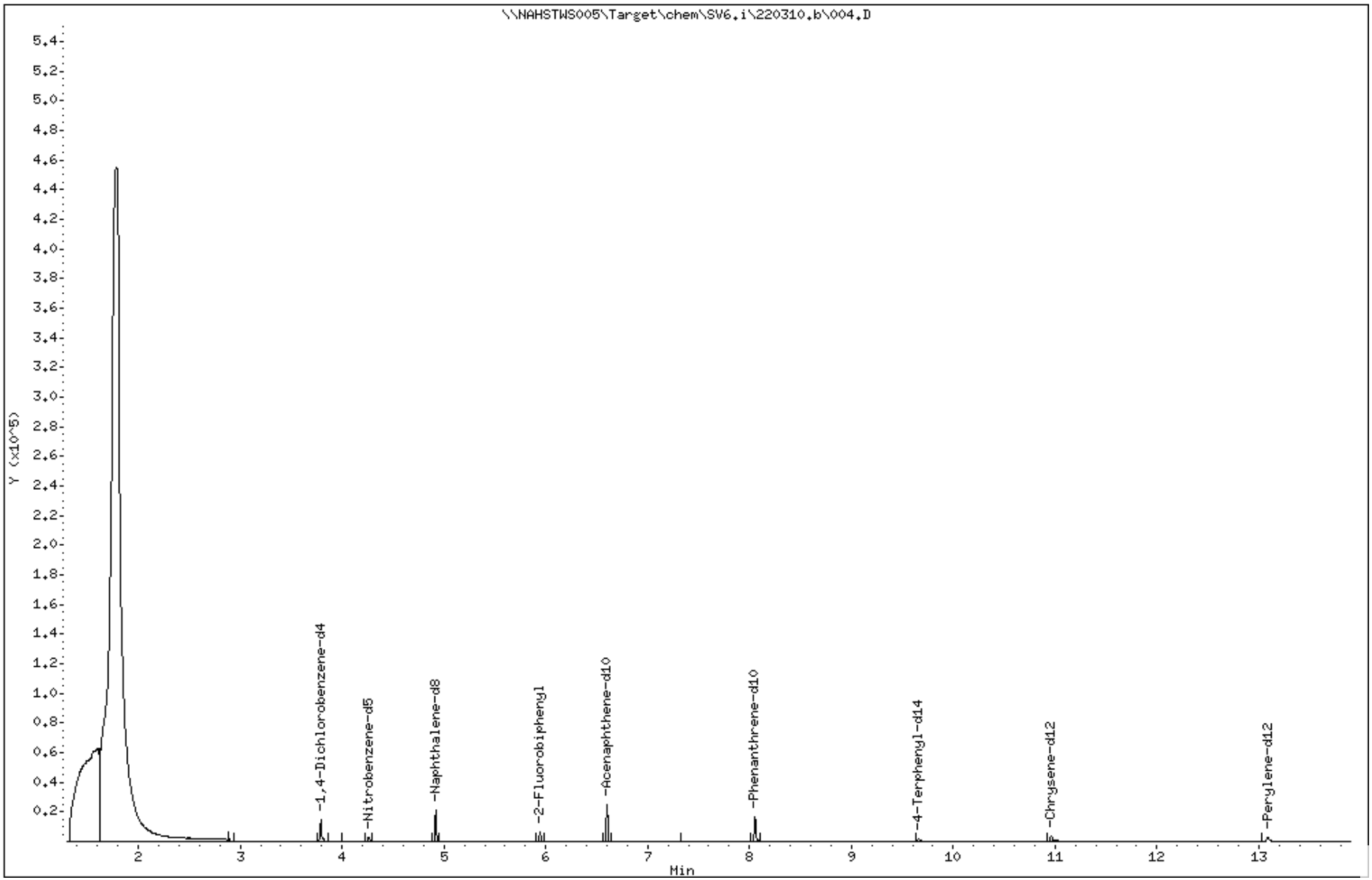
Sample Info: 1 4 DX-0.03;1 4 DX-0.03

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28

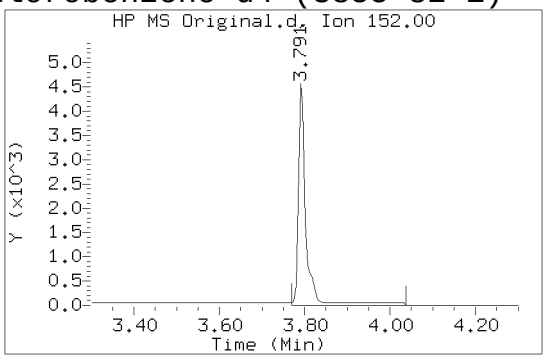


Data File : \\NAHSTWS005\Target\chem\SV6.i\220310.b\004.D
Inj Date : 10-MAR-2022 11:05
InstruID : SV6.i
LabSampID : 1 4 DX-0.03

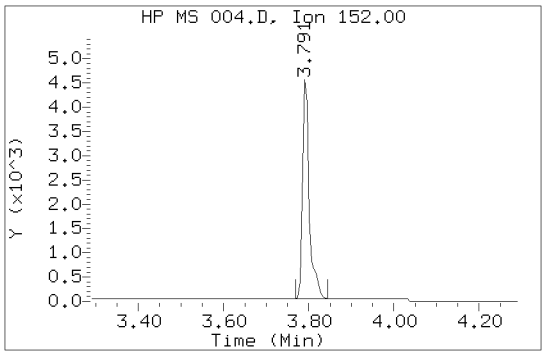
1,4-Dichlorobenzene-d4 (3855-82-1)

Reason Code:

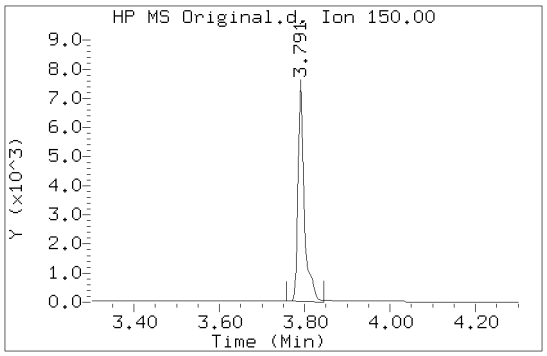
BEFORE
MASS
152
AREA
5742
HEIGHT
4567
25-Aug-2022
16:04
linh
pham



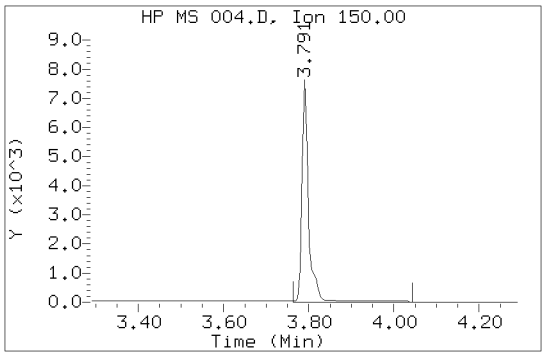
AFTER
MASS
152
AREA
4850
HEIGHT
4511
25-Aug-2022
16:08
linh
pham



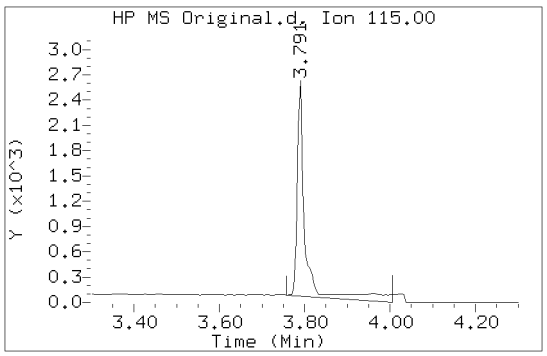
BEFORE
MASS
150
AREA
7811
HEIGHT
7601
25-Aug-2022
16:04
linh
pham



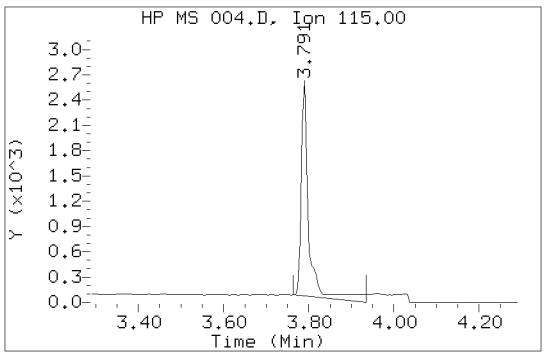
AFTER
MASS
150
AREA
8525
HEIGHT
7633
25-Aug-2022
16:08
linh
pham



BEFORE
MASS
115
AREA
3339
HEIGHT
2555
25-Aug-2022
16:04
linh
pham



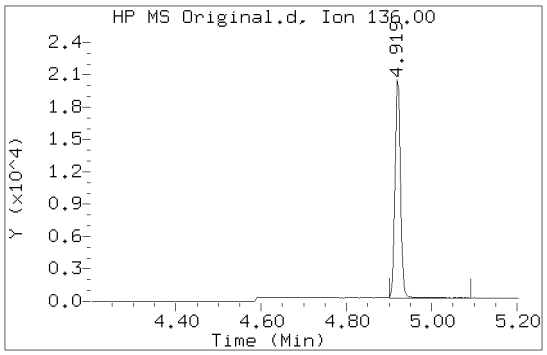
AFTER
MASS
115
AREA
3101
HEIGHT
2555
25-Aug-2022
16:08
linh
pham



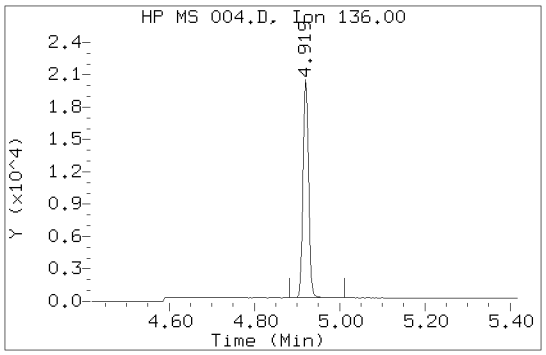
Naphthalene-d8 (1146-65-2)

Reason Code:

BEFORE
MASS
136
AREA
18381
HEIGHT
20218
25-Aug-2022
16:04
linh
pham



AFTER
MASS
136
AREA
18345
HEIGHT
20214
25-Aug-2022
16:08
linh
pham



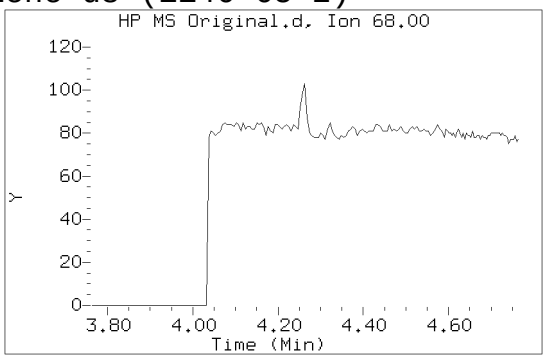
Data File : \\NAHSTWS005\Target\chem\SV6.i\220310.b\004.D
Inj Date : 10-MAR-2022 11:05
InstruID : SV6.i
LabSampID : 1 4 DX-0.03

Naphthalene-d8 (1146-65-2)

Reason Code:

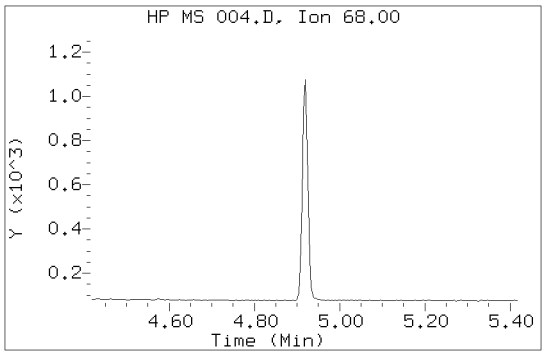
BEFORE

MASS
68
AREA
905
HEIGHT
999
25-Aug-2022
16:04
linh
pham



AFTER

MASS
68
AREA
0
HEIGHT
0
25-Aug-2022
16:08
linh
pham

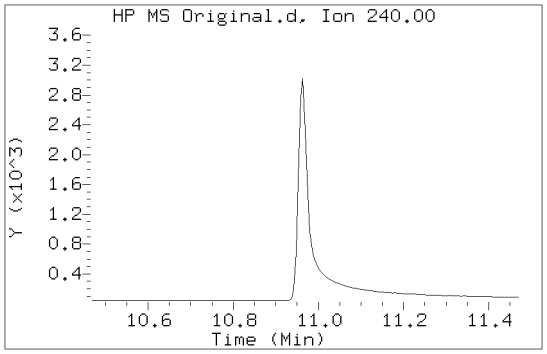


Chrysene-d12 (1719-03-5)

Reason Code:

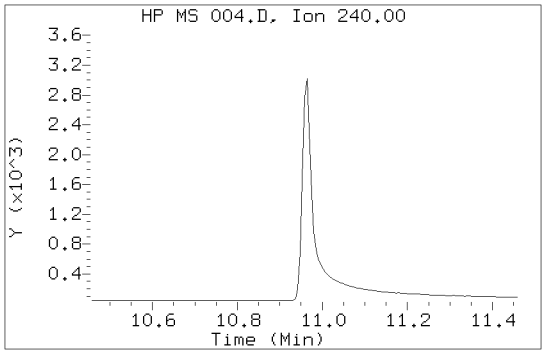
BEFORE

MASS
240
AREA
0
HEIGHT
0
25-Aug-2022
16:04
linh
pham



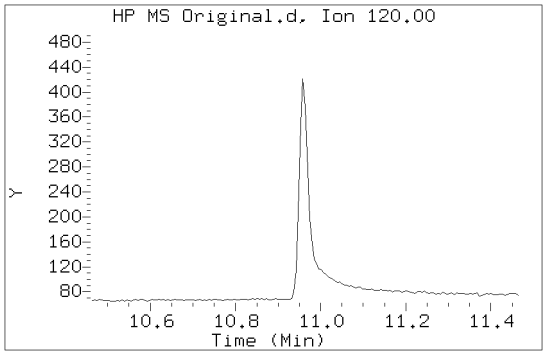
AFTER

MASS
240
AREA
7290
HEIGHT
2973
25-Aug-2022
16:08
linh
pham



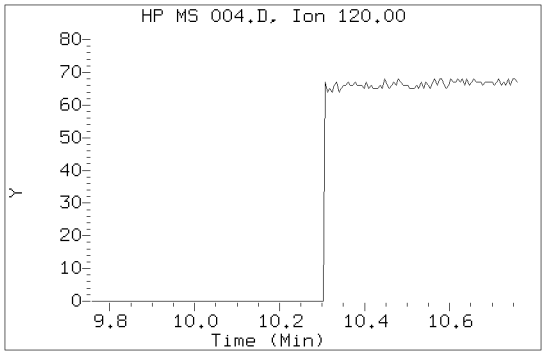
BEFORE

MASS
120
AREA
0
HEIGHT
0
25-Aug-2022
16:04
linh
pham



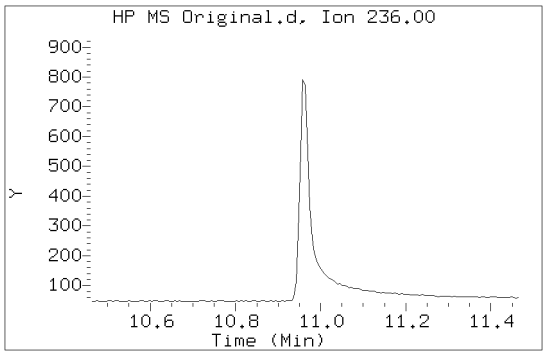
AFTER

MASS
120
AREA
0
HEIGHT
0
25-Aug-2022
16:08
linh
pham



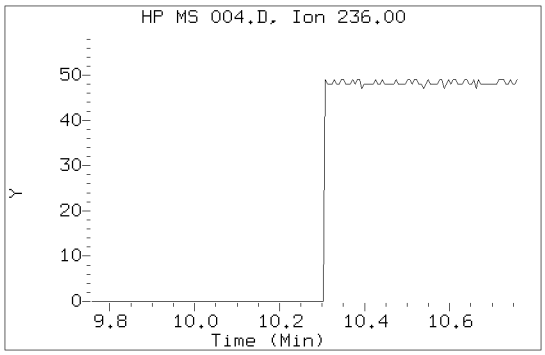
BEFORE

MASS
236
AREA
0
HEIGHT
0
25-Aug-2022
16:04
linh
pham



AFTER

MASS
236
AREA
0
HEIGHT
0
25-Aug-2022
16:08
linh
pham



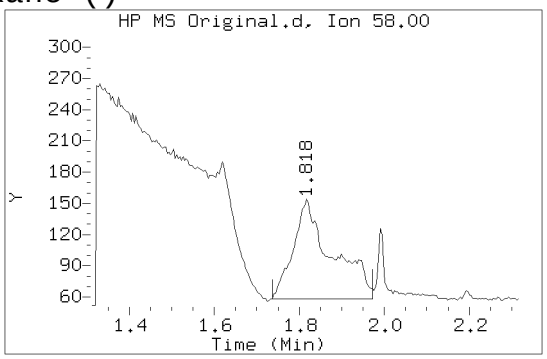
Data File : \\NAHSTWS005\Target\chem\SV6.i\220310.b\004.D
Inj Date : 10-MAR-2022 11:05
InstruID : SV6.i
LabSampID : 1 4 DX-0.03

1,4-Dioxane ()

Reason Code:

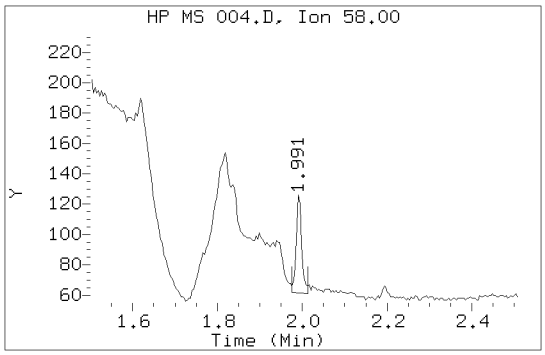
BEFORE

MASS
58
AREA
606
HEIGHT
96
25-Aug-2022
16:04
linh
pham



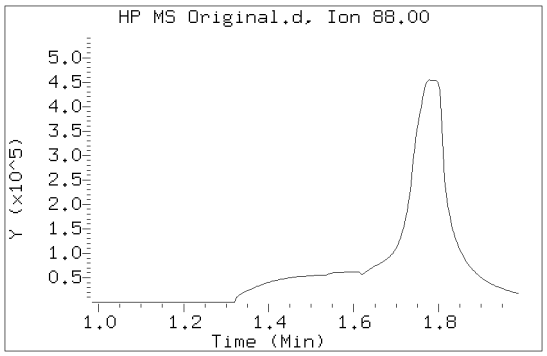
AFTER

MASS
58
AREA
57
HEIGHT
64
25-Aug-2022
16:08
linh
pham



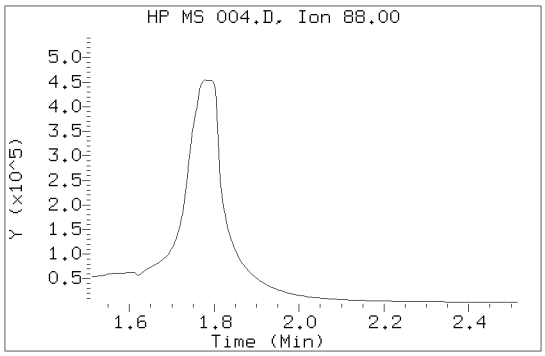
BEFORE

MASS
88
AREA
0
HEIGHT
0
25-Aug-2022
16:04
linh
pham



AFTER

MASS
88
AREA
0
HEIGHT
0
25-Aug-2022
16:08
linh
pham

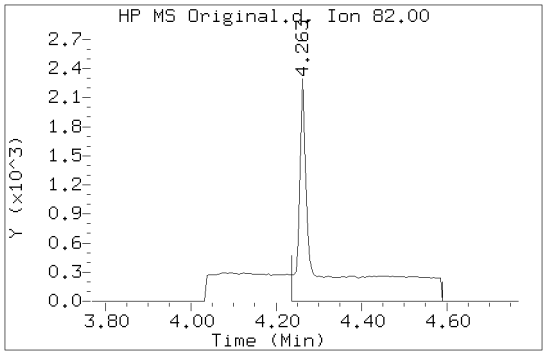


Nitrobenzene-d5 (4165-60-0)

Reason Code:

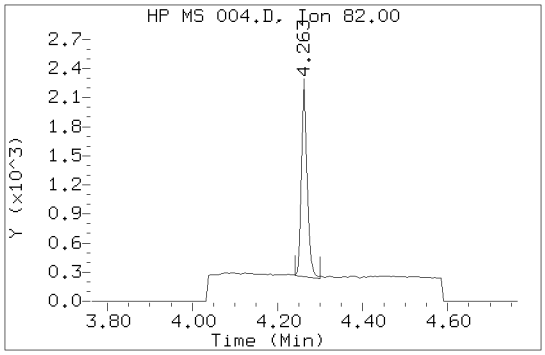
BEFORE

MASS
82
AREA
7178
HEIGHT
2293
25-Aug-2022
16:04
linh
pham



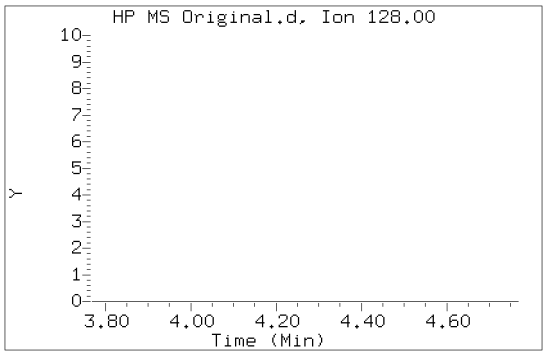
AFTER

MASS
82
AREA
1854
HEIGHT
2038
25-Aug-2022
16:08
linh
pham



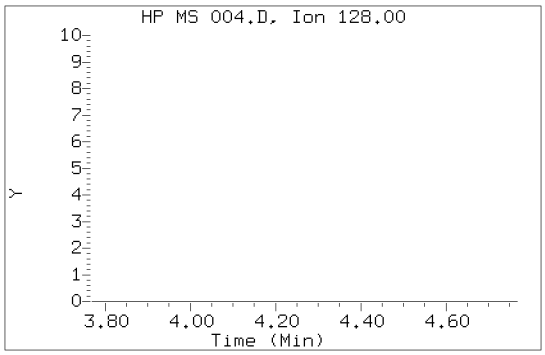
BEFORE

MASS
128
AREA
0
HEIGHT
0
25-Aug-2022
16:04
linh
pham



AFTER

MASS
128
AREA
0
HEIGHT
0
25-Aug-2022
16:08
linh
pham



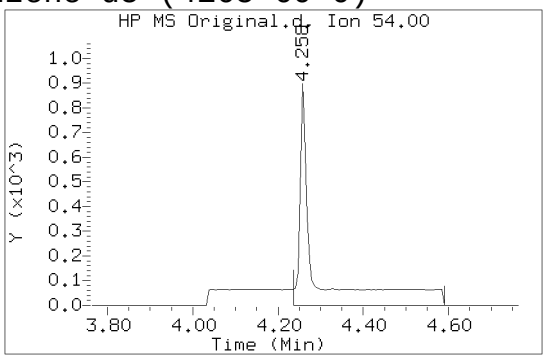
Data File : \\NAHSTWS005\Target\chem\SV6.i\220310.b\004.D
Inj Date : 10-MAR-2022 11:05
InstruID : SV6.i
LabSampID : 1 4 DX-0.03

Nitrobenzene-d5 (4165-60-0)

Reason Code:

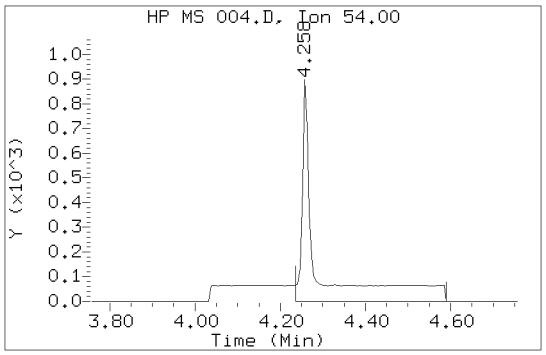
BEFORE

MASS
54
AREA
2147
HEIGHT
898
25-Aug-2022
16:04
linh
pham



AFTER

MASS
54
AREA
2147
HEIGHT
898
25-Aug-2022
16:08
linh
pham

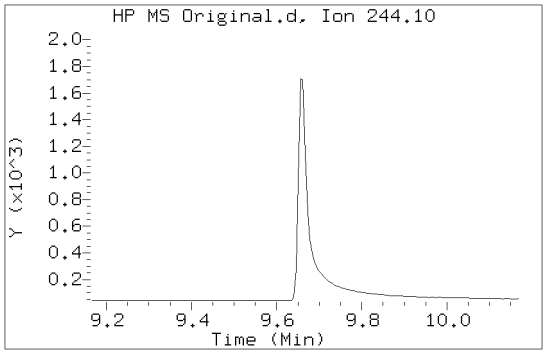


4-Terphenyl-d14 (1718-51-0)

Reason Code:

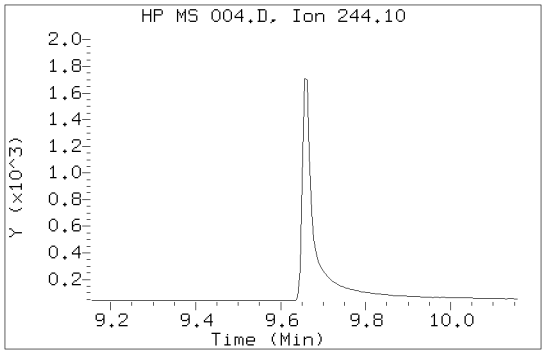
BEFORE

MASS
244.1
AREA
0
HEIGHT
0
25-Aug-2022
16:04
linh
pham



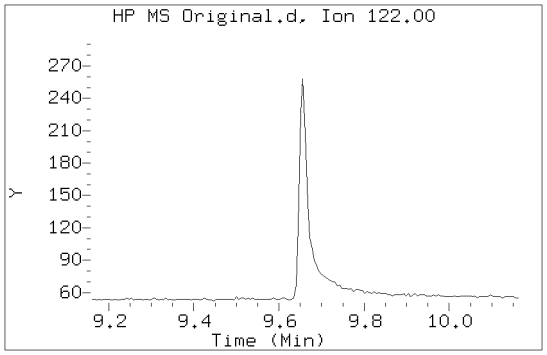
AFTER

MASS
244.1
AREA
4004
HEIGHT
1671
25-Aug-2022
16:08
linh
pham



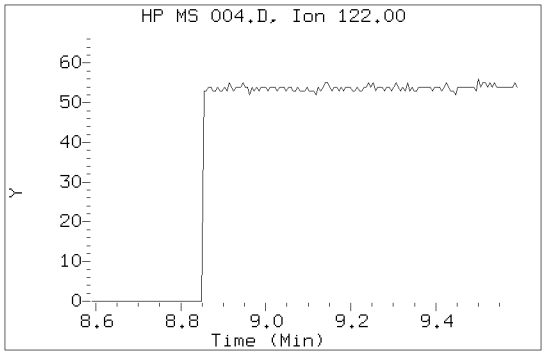
BEFORE

MASS
122
AREA
0
HEIGHT
0
25-Aug-2022
16:04
linh
pham



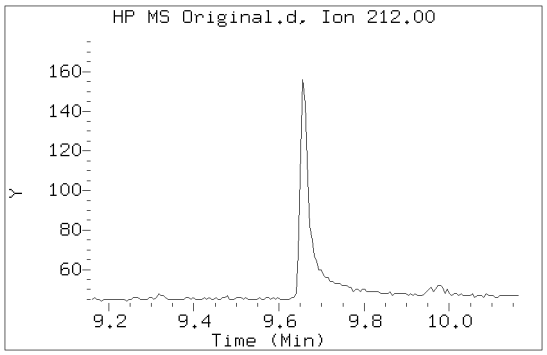
AFTER

MASS
122
AREA
0
HEIGHT
0
25-Aug-2022
16:08
linh
pham



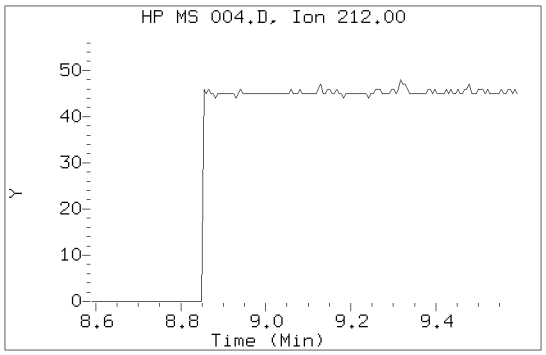
BEFORE

MASS
212
AREA
0
HEIGHT
0
25-Aug-2022
16:04
linh
pham



AFTER

MASS
212
AREA
0
HEIGHT
0
25-Aug-2022
16:08
linh
pham



Data File: \\NAHSTWS005\Target\chem\SV6.i\220310.b\005.D Page 1
Report Date: 25-Aug-2022 16:08

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\220310.b\005.D
Lab Smp Id: 1 4 DX-0.05 Client Smp ID: 1 4 DX-0.05
Inj Date : 10-MAR-2022 11:22 MS Autotune Date: 09-MAR-2022 11:12
Operator : LG Inst ID: SV6.i
Smp Info : 1 4 DX-0.05;1 4 DX-0.05
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\SV6.i\220310.b\DXSIM.m
Meth Date : 25-Aug-2022 16:08 SV6.i Quant Type: ISTD
Cal Date : 10-MAR-2022 11:05 Cal File: 004.D
Als bottle: 5 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)	ON-COL (NG)
* 20 1,4-Dichlorobenzene-d4	152	3.790	3.790	(1.000)	5274	0.10000	(aM)
* 45 Naphthalene-d8	136	4.918	4.918	(1.000)	20409	0.10000	
$ 33 Nitrobenzene-d5	82	4.262	4.262	(0.867)	3571	0.05000	0.05249(QM)
* 86 Acenaphthene-d10	164	6.603	6.603	(1.000)	9759	0.10000	
$ 69 2-Fluorobiphenyl	172	5.943	5.943	(0.900)	8686	0.05000	0.05718
* 126 Phenanthrene-d10	188	8.053	8.053	(1.000)	16554	0.10000	
* 182 Chrysene-d12	240	10.958	10.958	(1.000)	6789	0.10000	(M)
$ 158 4-Terphenyl-d14	244	9.656	9.656	(0.881)	6514	0.05000	0.05103(M)
* 198 Perylene-d12	264	13.085	13.085	(1.000)	4224	0.10000	
1 1,4-Dioxane	58	1.994	1.994	(0.526)	107	0.05000	0.04942(M)

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.

01159087

Data File: \\NAHSTWS005\Target\chem\SV6.i\220310.b\005.D

Date : 10-MAR-2022 11:22

Client ID: 1 4 DX-0.05

Instrument: SV6.i

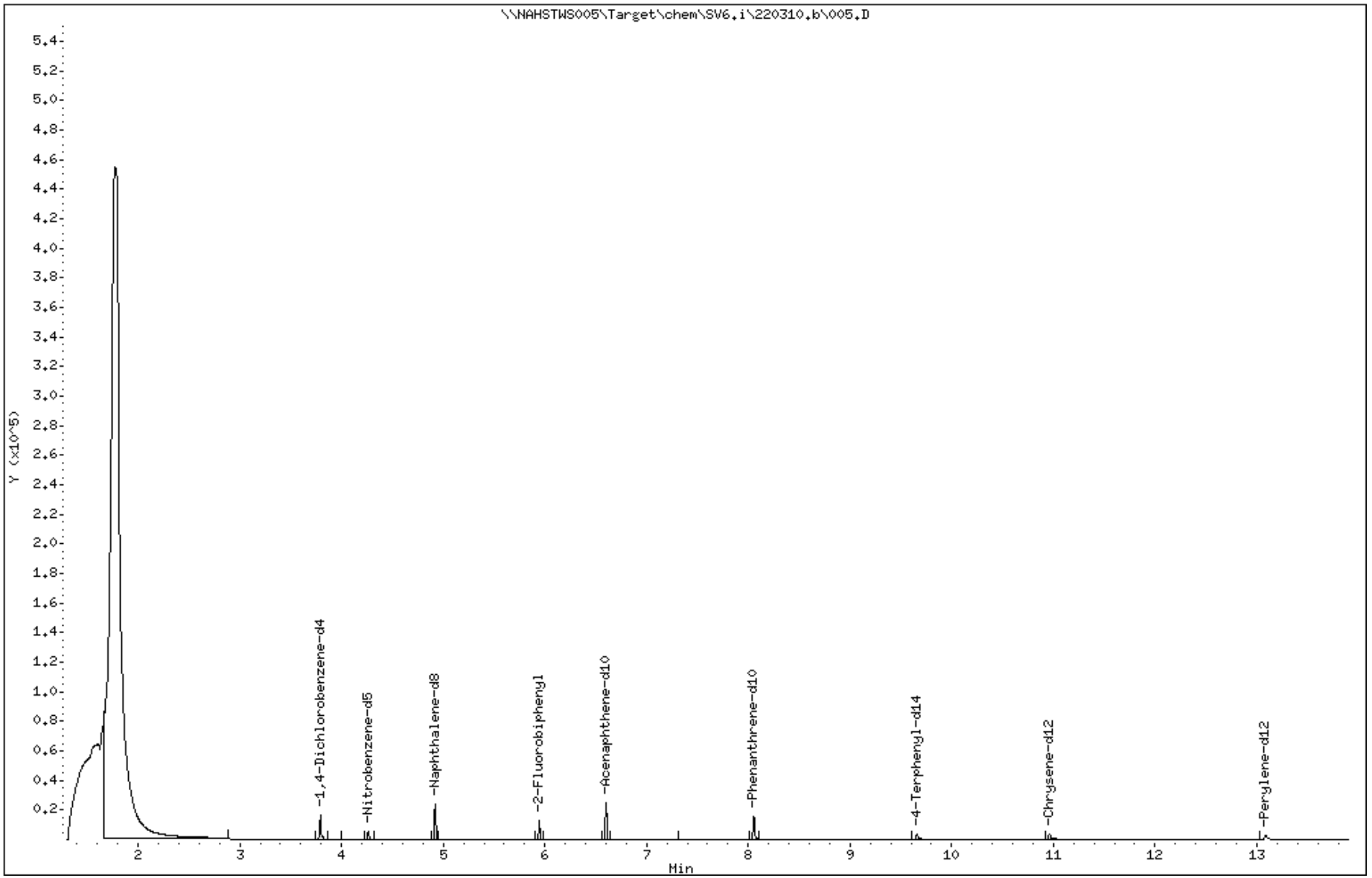
Sample Info: 1 4 DX-0.05;1 4 DX-0.05

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28

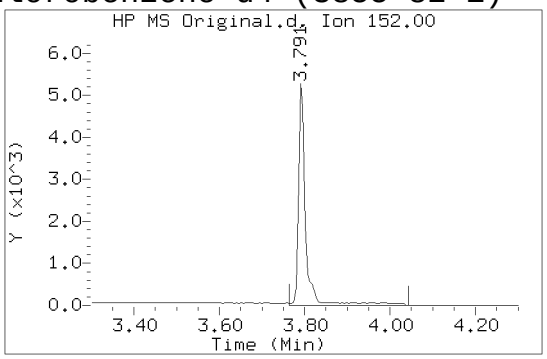


Data File : \\NAHSTWS005\Target\chem\SV6.i\220310.b\005.D
Inj Date : 10-MAR-2022 11:22
InstruID : SV6.i
LabSampID : 1 4 DX-0.05

1,4-Dichlorobenzene-d4 (3855-82-1)

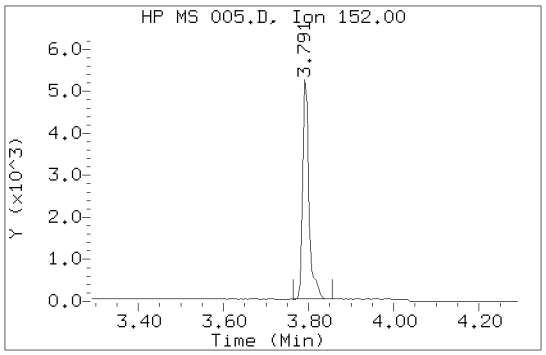
BEFORE

MASS
152
AREA
6163
HEIGHT
5277
25-Aug-2022
16:04
linh
pham



AFTER

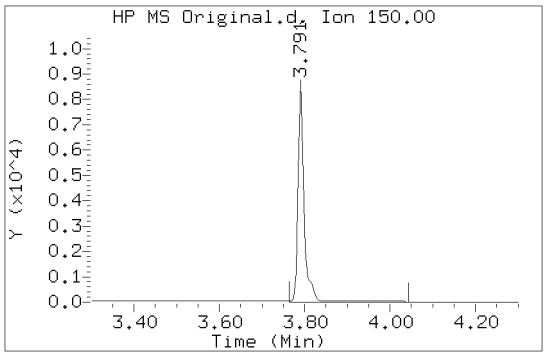
MASS
152
AREA
5274
HEIGHT
5222
25-Aug-2022
16:08
linh
pham



Reason Code:

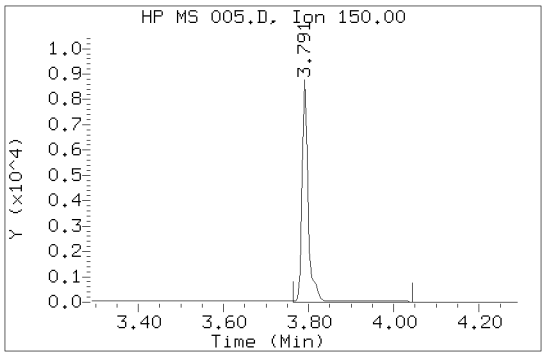
BEFORE

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AREA
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HEIGHT
8769
25-Aug-2022
16:04
linh
pham



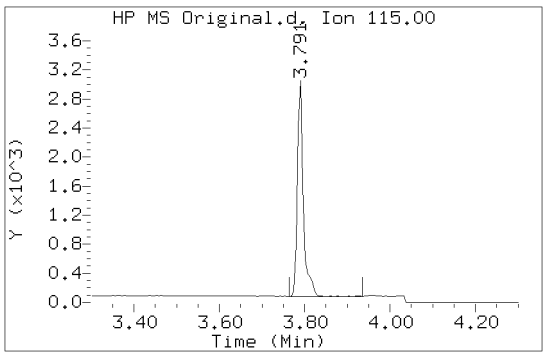
AFTER

MASS
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AREA
9110
HEIGHT
8769
25-Aug-2022
16:08
linh
pham



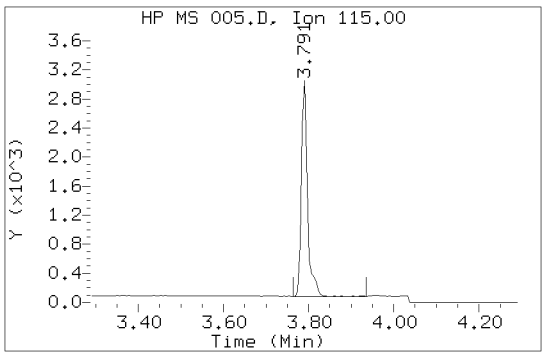
BEFORE

MASS
115
AREA
2922
HEIGHT
2969
25-Aug-2022
16:04
linh
pham



AFTER

MASS
115
AREA
2922
HEIGHT
2969
25-Aug-2022
16:08
linh
pham

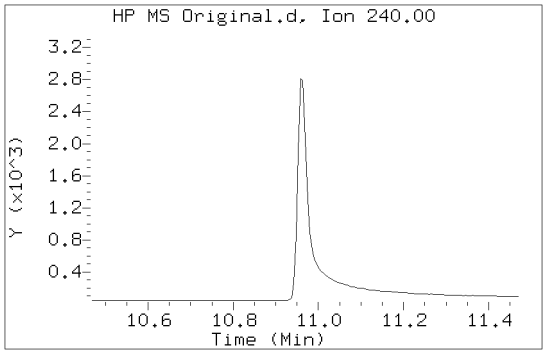


Reason Code:

Chrysene-d12 (1719-03-5)

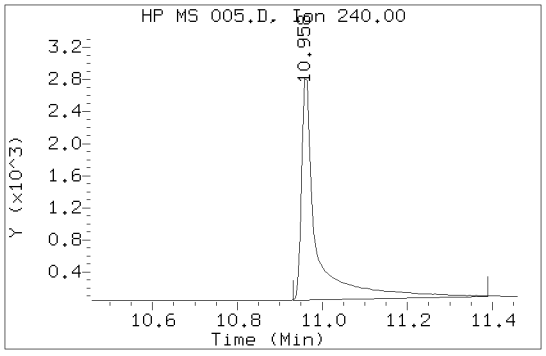
BEFORE

MASS
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AREA
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HEIGHT
0
25-Aug-2022
16:04
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AFTER

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AREA
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HEIGHT
2758
25-Aug-2022
16:08
linh
pham



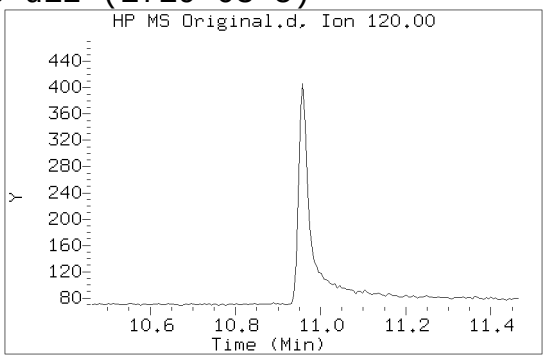
Reason Code:

Data File : \\NAHSTWS005\Target\chem\SV6.i\220310.b\005.D
Inj Date : 10-MAR-2022 11:22
InstruID : SV6.i
LabSampID : 1 4 DX-0.05

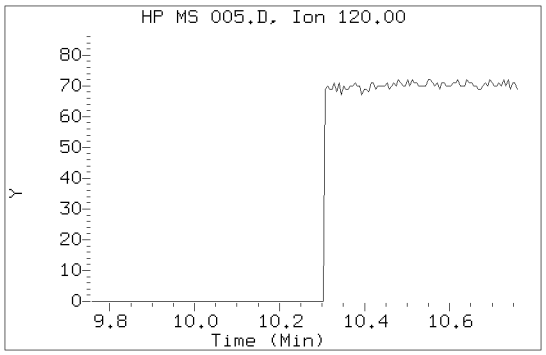
Chrysene-d12 (1719-03-5)

Reason Code:

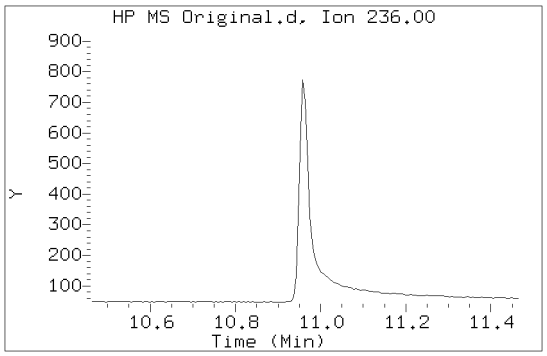
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120
AREA
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HEIGHT
0
25-Aug-2022
16:04
linh
pham



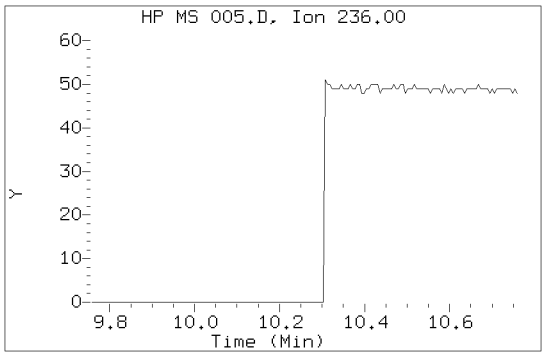
AFTER
MASS
120
AREA
0
HEIGHT
0
25-Aug-2022
16:08
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BEFORE
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HEIGHT
0
25-Aug-2022
16:04
linh
pham



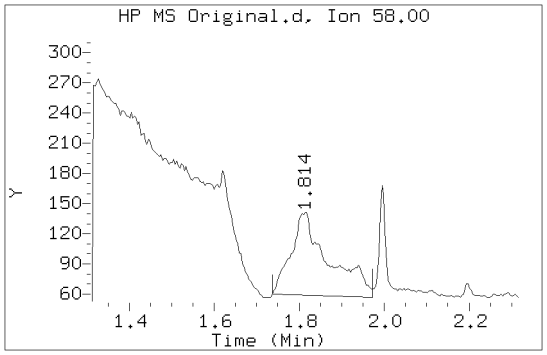
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MASS
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25-Aug-2022
16:08
linh
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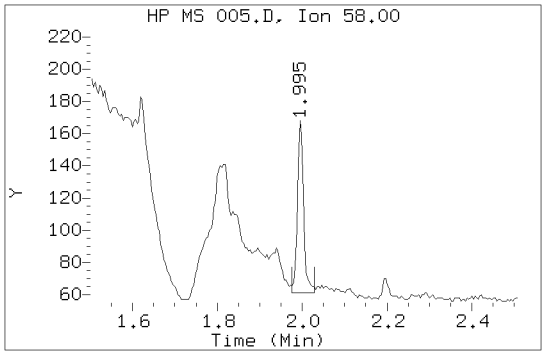
1,4-Dioxane ()

Reason Code:

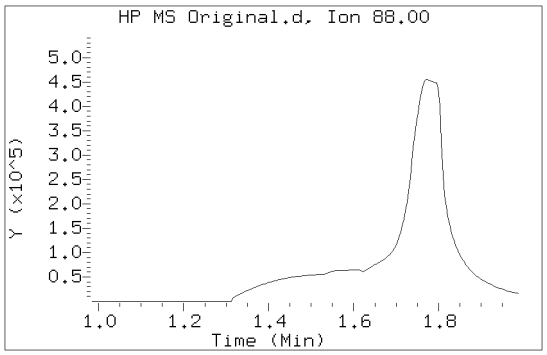
BEFORE
MASS
58
AREA
509
HEIGHT
81
25-Aug-2022
16:04
linh
pham



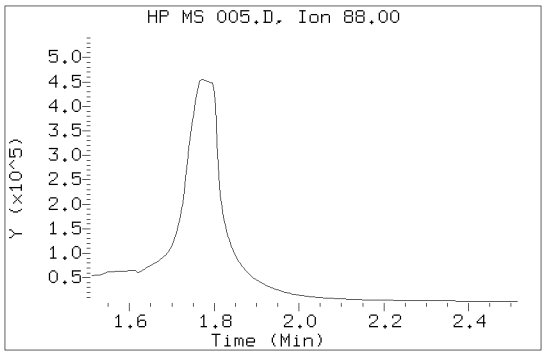
AFTER
MASS
58
AREA
107
HEIGHT
107
25-Aug-2022
16:08
linh
pham



BEFORE
MASS
88
AREA
0
HEIGHT
0
25-Aug-2022
16:04
linh
pham



AFTER
MASS
88
AREA
0
HEIGHT
0
25-Aug-2022
16:08
linh
pham

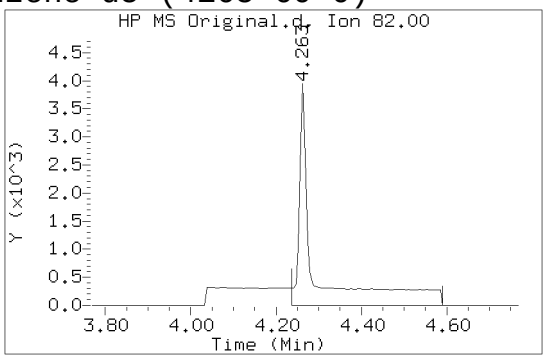


Data File : \\NAHSTWS005\Target\chem\SV6.i\220310.b\005.D
Inj Date : 10-MAR-2022 11:22
InstruID : SV6.i
LabSampID : 1 4 DX-0.05

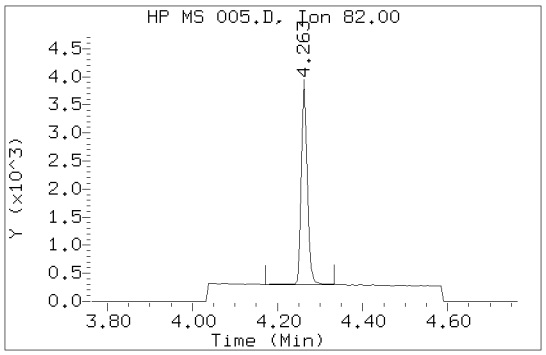
Nitrobenzene-d5 (4165-60-0)

Reason Code:

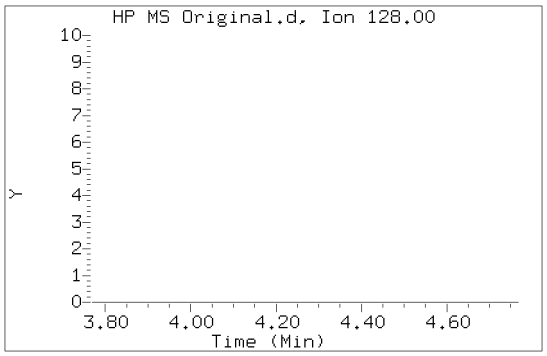
BEFORE
MASS
82
AREA
9627
HEIGHT
3947
25-Aug-2022
16:04
linh
pham



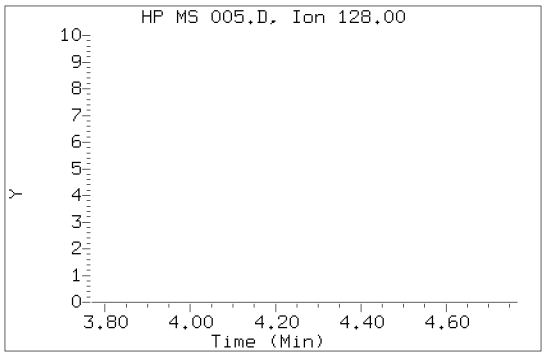
AFTER
MASS
82
AREA
3571
HEIGHT
3653
25-Aug-2022
16:08
linh
pham



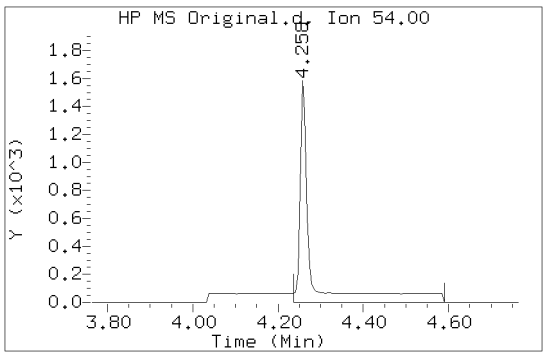
BEFORE
MASS
128
AREA
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HEIGHT
0
25-Aug-2022
16:04
linh
pham



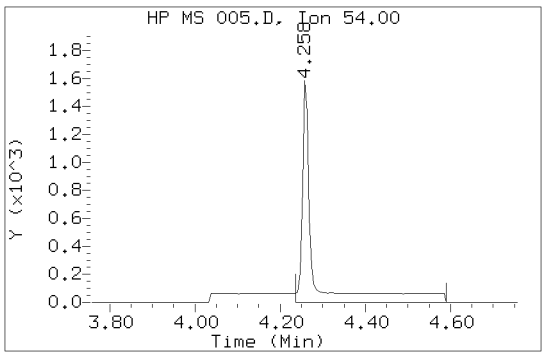
AFTER
MASS
128
AREA
0
HEIGHT
0
25-Aug-2022
16:08
linh
pham



BEFORE
MASS
54
AREA
2838
HEIGHT
1584
25-Aug-2022
16:04
linh
pham



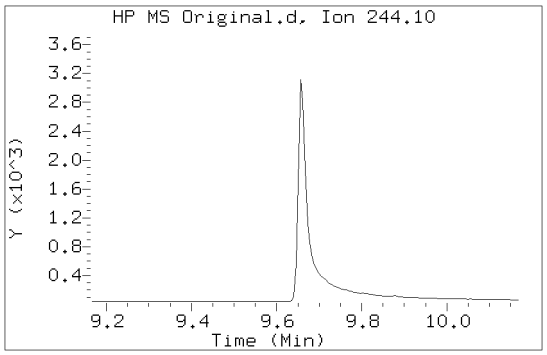
AFTER
MASS
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AREA
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HEIGHT
1584
25-Aug-2022
16:08
linh
pham



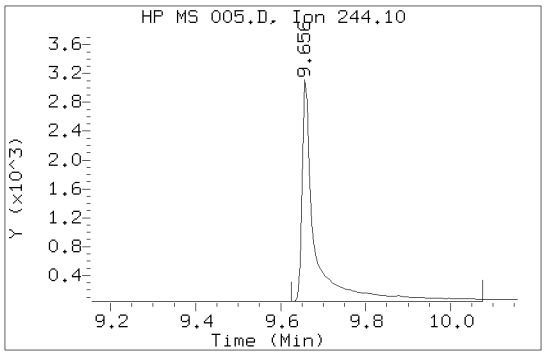
4-Terphenyl-d14 (1718-51-0)

Reason Code:

BEFORE
MASS
244.1
AREA
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HEIGHT
0
25-Aug-2022
16:04
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AFTER
MASS
244.1
AREA
6514
HEIGHT
3070
25-Aug-2022
16:08
linh
pham

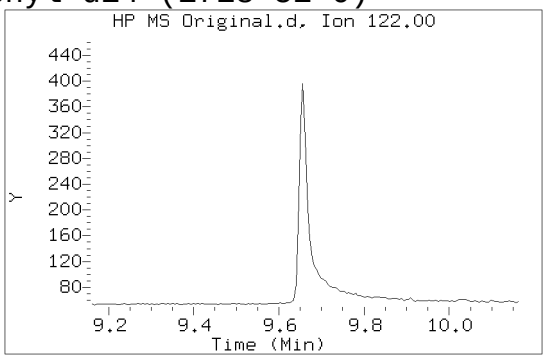


Data File : \\NAHSTWS005\Target\chem\SV6.i\220310.b\005.D
Inj Date : 10-MAR-2022 11:22
InstruID : SV6.i
LabSampID : 1 4 DX-0.05

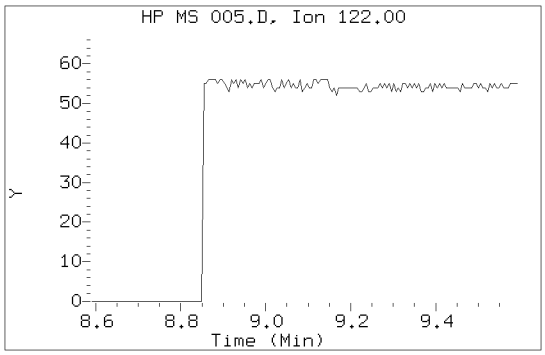
4-Terphenyl-d14 (1718-51-0)

Reason Code:

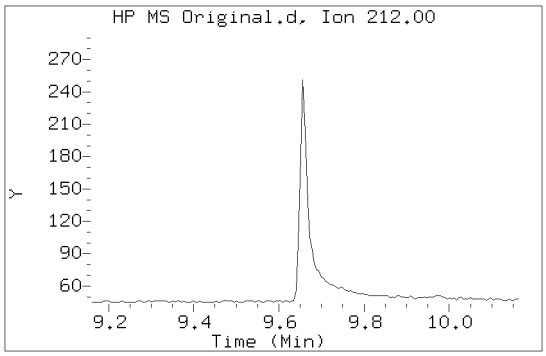
BEFORE
MASS
122
AREA
0
HEIGHT
0
25-Aug-2022
16:04
linh
pham



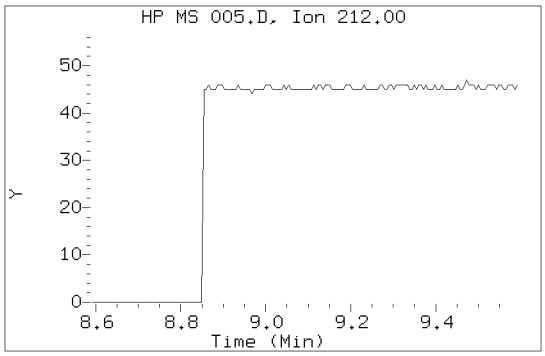
AFTER
MASS
122
AREA
0
HEIGHT
0
25-Aug-2022
16:08
linh
pham



BEFORE
MASS
212
AREA
0
HEIGHT
0
25-Aug-2022
16:04
linh
pham



AFTER
MASS
212
AREA
0
HEIGHT
0
25-Aug-2022
16:08
linh
pham



ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\220310.b\006.D
Lab Smp Id: 1 4 DX-0.1 Client Smp ID: 1 4 DX-0.1
Inj Date : 10-MAR-2022 11:40 MS Autotune Date: 09-MAR-2022 11:12
Operator : LG Inst ID: SV6.i
Smp Info : 1 4 DX-0.1;1 4 DX-0.1
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\SV6.i\220310.b\DXSIM.m
Meth Date : 25-Aug-2022 16:08 SV6.i Quant Type: ISTD
Cal Date : 10-MAR-2022 11:22 Cal File: 005.D
Als bottle: 6 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	3.790	3.790	(1.000)	6146	0.10000	(aM)
* 45 Naphthalene-d8	136	4.918	4.918	(1.000)	20583	0.10000	
$ 33 Nitrobenzene-d5	82	4.262	4.262	(0.867)	6972	0.10000	0.1016(M)
* 86 Acenaphthene-d10	164	6.603	6.603	(1.000)	11296	0.10000	
$ 69 2-Fluorobiphenyl	172	5.943	5.943	(0.900)	16916	0.10000	0.09621
* 126 Phenanthrene-d10	188	8.058	8.058	(1.000)	19503	0.10000	
* 182 Chrysene-d12	240	10.963	10.963	(1.000)	7205	0.10000	(M)
$ 158 4-Terphenyl-d14	244	9.661	9.661	(0.881)	13702	0.10000	0.1012(M)
* 198 Perylene-d12	264	13.090	13.090	(1.000)	4516	0.10000	
1 1,4-Dioxane	58	1.994	1.994	(0.526)	273	0.10000	0.1082(M)

QC Flag Legend

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

01159093

Data File: \\NAHSTWS005\Target\chem\SV6.i\220310.b\006.D

Date : 10-MAR-2022 11:40

Client ID: 1 4 DX-0.1

Instrument: SV6.i

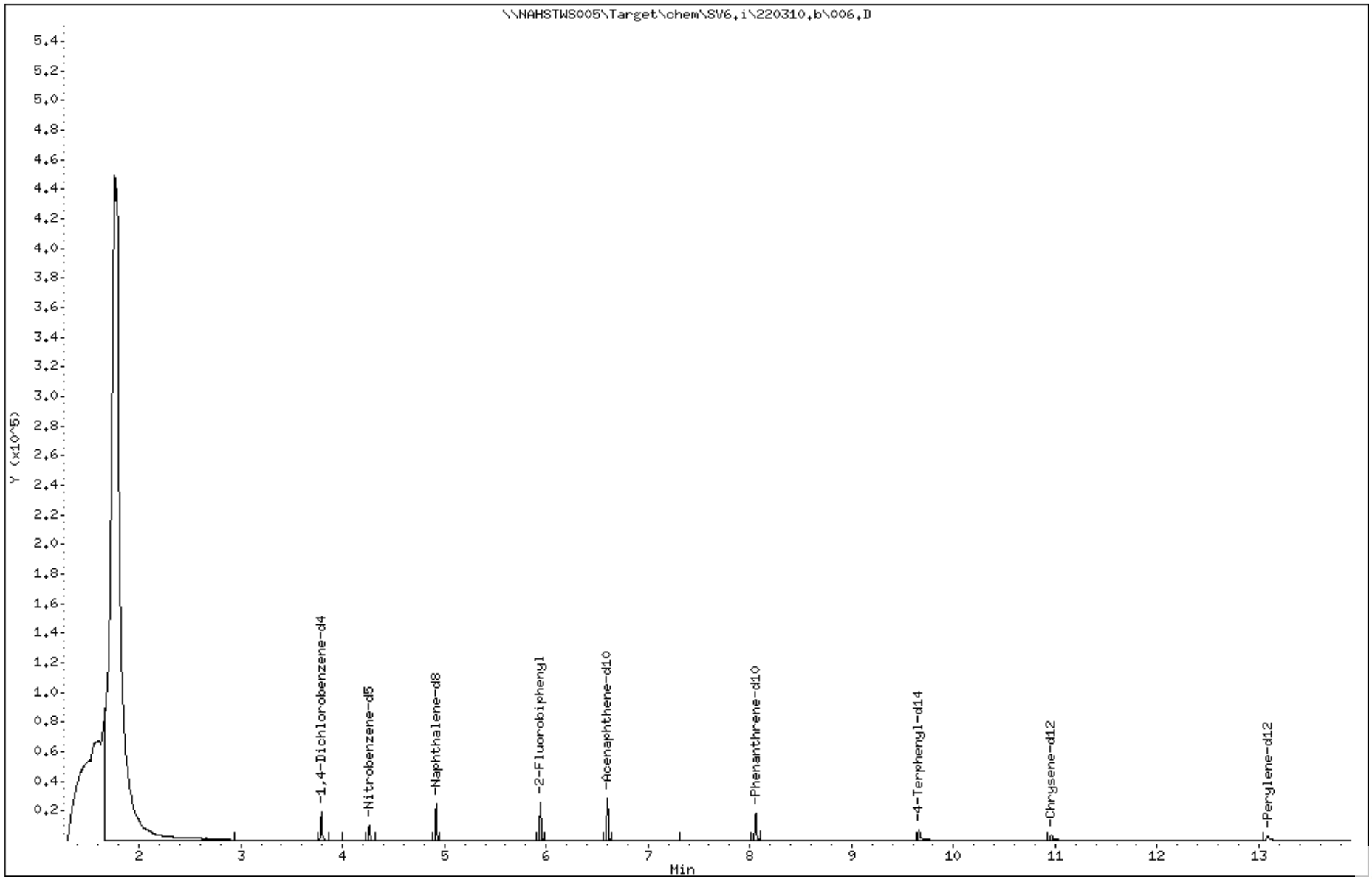
Sample Info: 1 4 DX-0.1;1 4 DX-0.1

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28

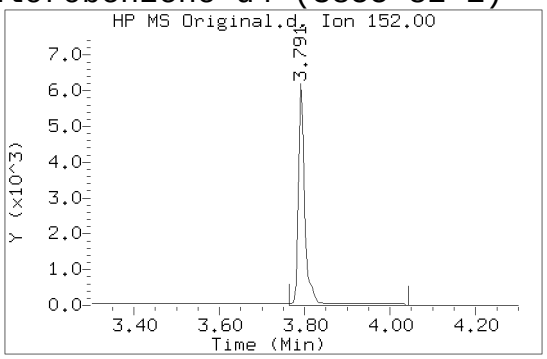


Data File : \\NAHSTWS005\Target\chem\SV6.i\220310.b\006.D
Inj Date : 10-MAR-2022 11:40
InstruID : SV6.i
LabSampID : 1 4 DX-0.1

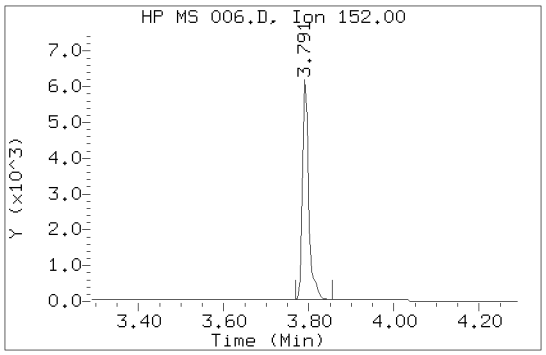
1,4-Dichlorobenzene-d4 (3855-82-1)

Reason Code:

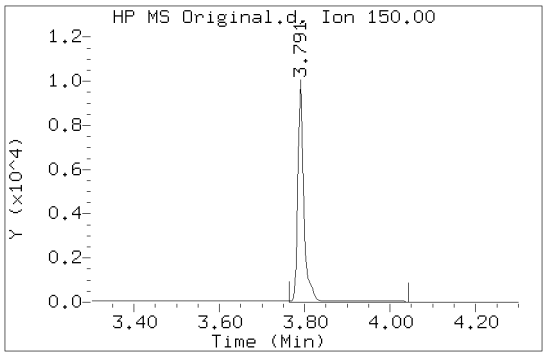
BEFORE
MASS
152
AREA
7014
HEIGHT
6198
25-Aug-2022
16:04
linh
pham



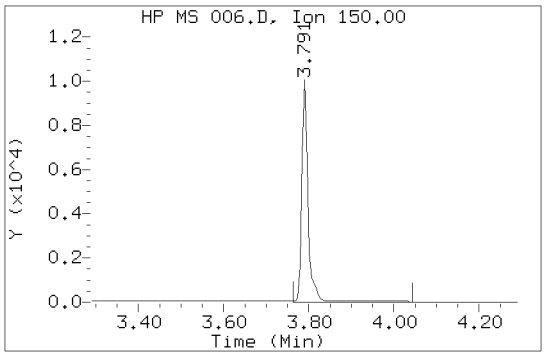
AFTER
MASS
152
AREA
6146
HEIGHT
6147
25-Aug-2022
16:08
linh
pham



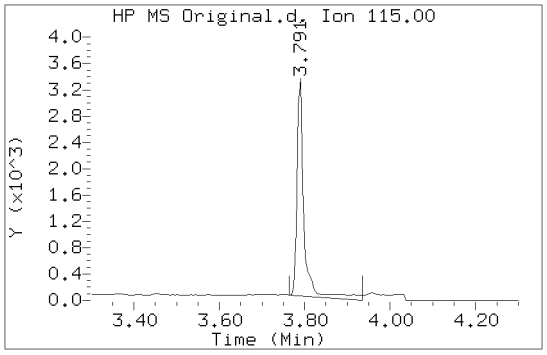
BEFORE
MASS
150
AREA
10435
HEIGHT
10058
25-Aug-2022
16:04
linh
pham



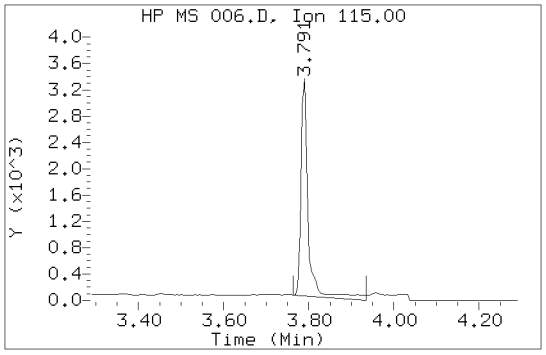
AFTER
MASS
150
AREA
10435
HEIGHT
10058
25-Aug-2022
16:08
linh
pham



BEFORE
MASS
115
AREA
3810
HEIGHT
3300
25-Aug-2022
16:04
linh
pham



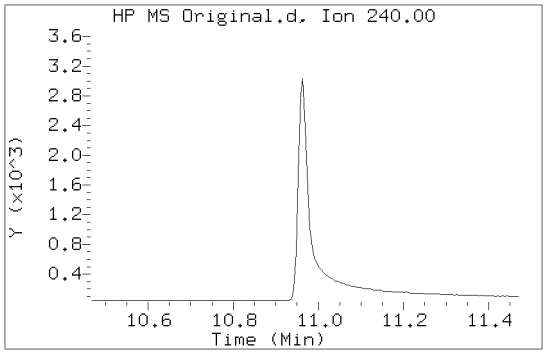
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AREA
3810
HEIGHT
3300
25-Aug-2022
16:08
linh
pham



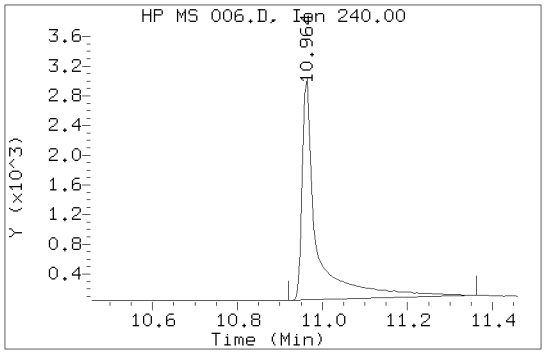
Chrysene-d12 (1719-03-5)

Reason Code:

BEFORE
MASS
240
AREA
0
HEIGHT
0
25-Aug-2022
16:04
linh
pham



AFTER
MASS
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AREA
7205
HEIGHT
2978
25-Aug-2022
16:08
linh
pham

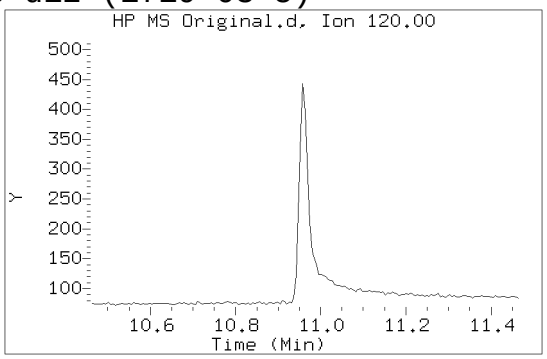


Data File : \\NAHSTWS005\Target\chem\SV6.i\220310.b\006.D
Inj Date : 10-MAR-2022 11:40
InstruID : SV6.i
LabSampID : 1 4 DX-0.1

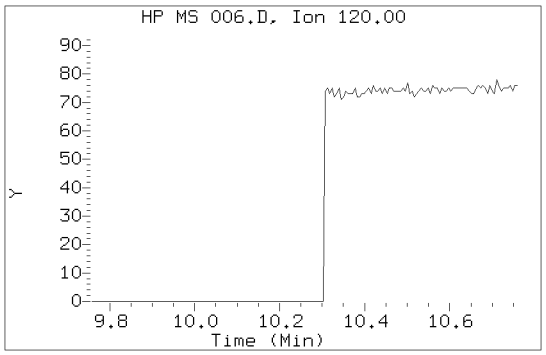
Chrysene-d12 (1719-03-5)

Reason Code:

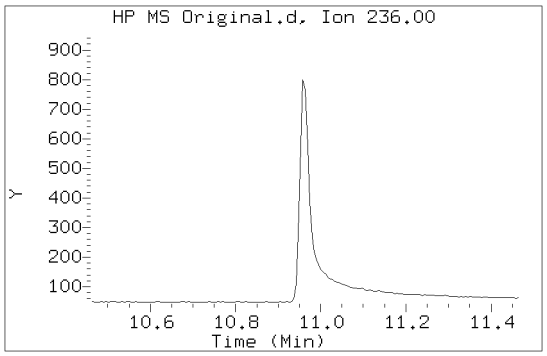
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HEIGHT
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25-Aug-2022
16:04
linh
pham



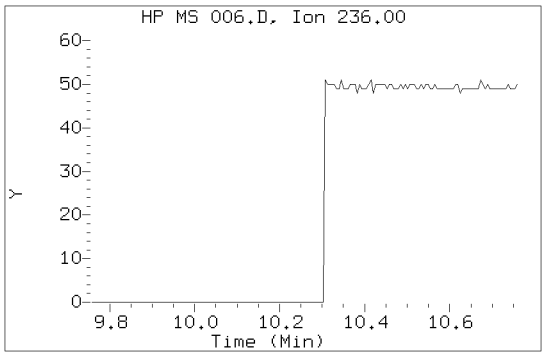
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MASS
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AREA
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HEIGHT
0
25-Aug-2022
16:08
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BEFORE
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25-Aug-2022
16:04
linh
pham



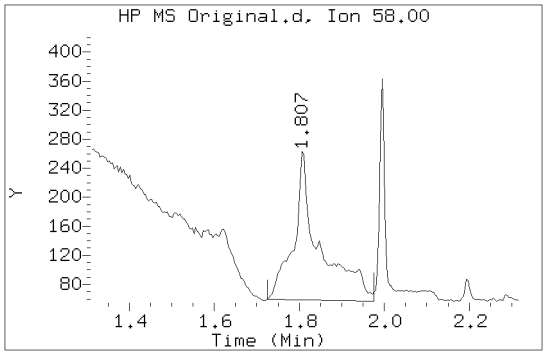
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25-Aug-2022
16:08
linh
pham



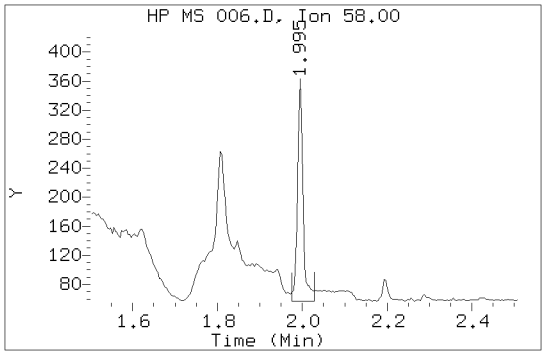
1,4-Dioxane ()

Reason Code:

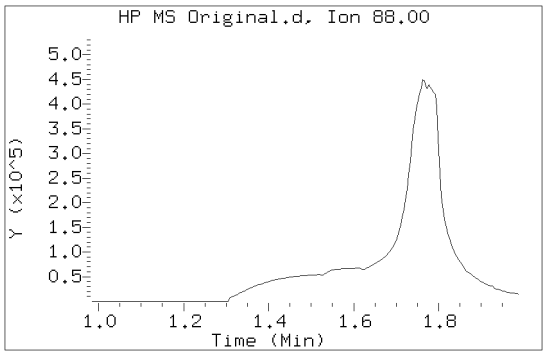
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203
25-Aug-2022
16:04
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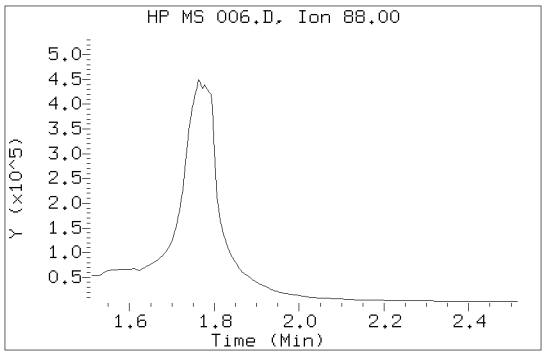
AFTER
MASS
58
AREA
273
HEIGHT
306
25-Aug-2022
16:08
linh
pham



BEFORE
MASS
88
AREA
0
HEIGHT
0
25-Aug-2022
16:04
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pham



AFTER
MASS
88
AREA
0
HEIGHT
0
25-Aug-2022
16:08
linh
pham



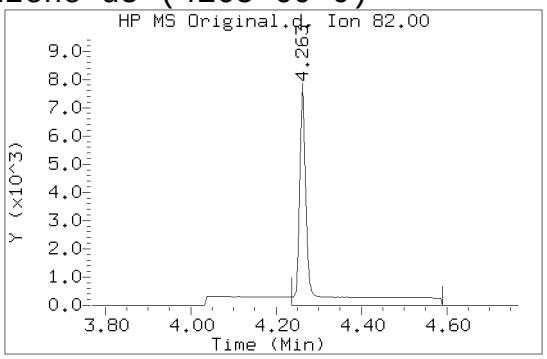
Data File : \\NAHSTWS005\Target\chem\SV6.i\220310.b\006.D
Inj Date : 10-MAR-2022 11:40
InstruID : SV6.i
LabSampID : 1 4 DX-0.1

Nitrobenzene-d5 (4165-60-0)

Reason Code:

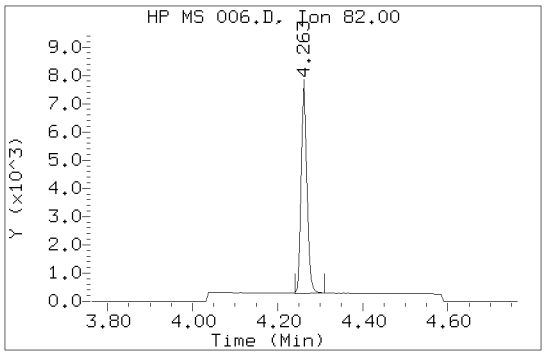
BEFORE

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AREA
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HEIGHT
7851
25-Aug-2022
16:04
linh
pham



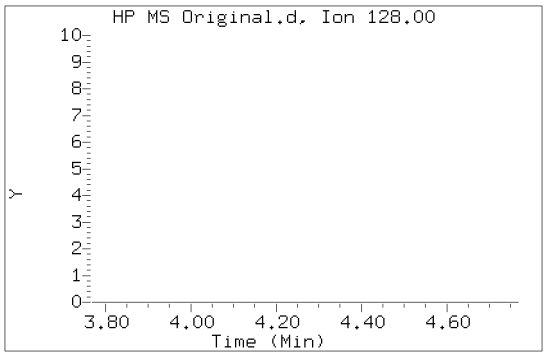
AFTER

MASS
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AREA
6972
HEIGHT
7565
25-Aug-2022
16:08
linh
pham



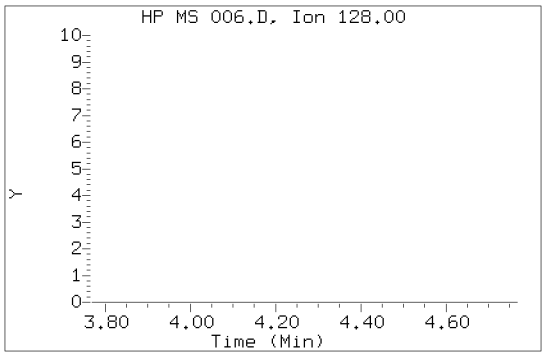
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HEIGHT
0
25-Aug-2022
16:04
linh
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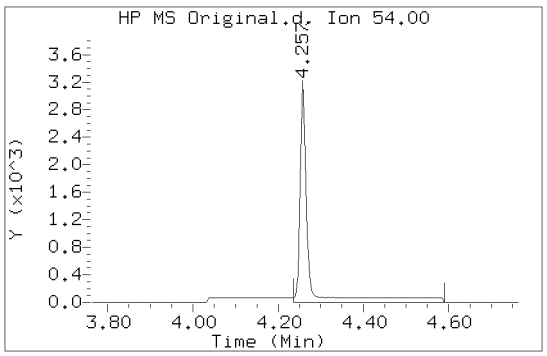
AFTER

MASS
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AREA
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HEIGHT
0
25-Aug-2022
16:08
linh
pham



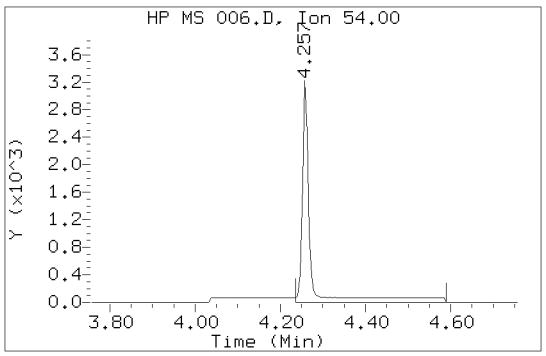
BEFORE

MASS
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AREA
4279
HEIGHT
3222
25-Aug-2022
16:04
linh
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AFTER

MASS
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AREA
4279
HEIGHT
3222
25-Aug-2022
16:08
linh
pham

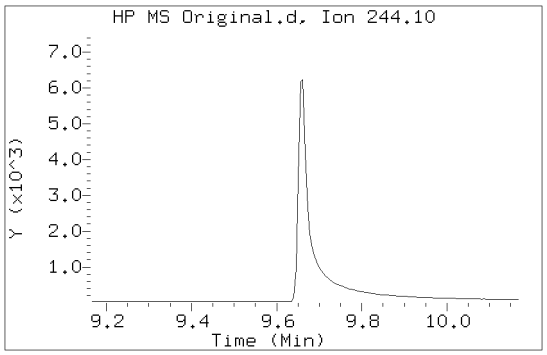


4-Terphenyl-d14 (1718-51-0)

Reason Code:

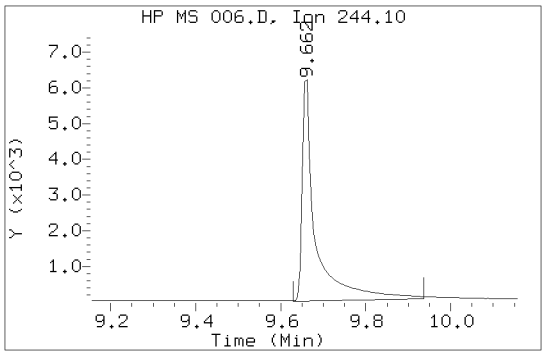
BEFORE

MASS
244.1
AREA
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HEIGHT
0
25-Aug-2022
16:04
linh
pham



AFTER

MASS
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AREA
13702
HEIGHT
6196
25-Aug-2022
16:08
linh
pham

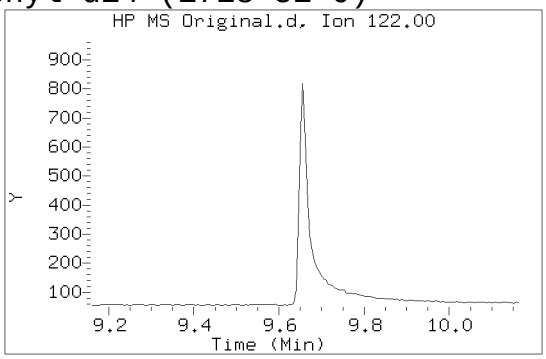


Data File : \\NAHSTWS005\Target\chem\SV6.i\220310.b\006.D
Inj Date : 10-MAR-2022 11:40
InstruID : SV6.i
LabSampID : 1 4 DX-0.1

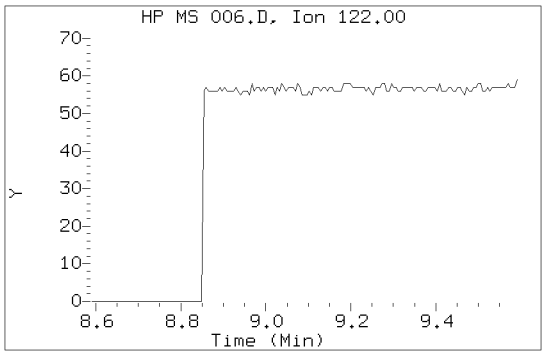
4-Terphenyl-d14 (1718-51-0)

Reason Code:

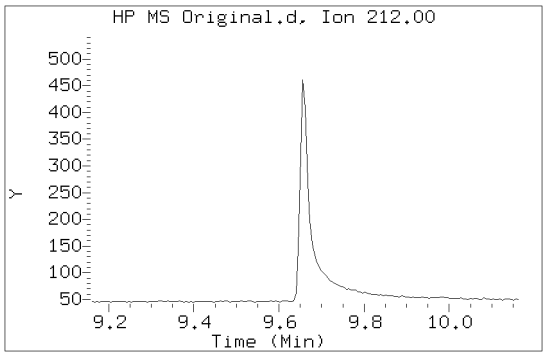
BEFORE
MASS
122
AREA
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HEIGHT
0
25-Aug-2022
16:04
linh
pham



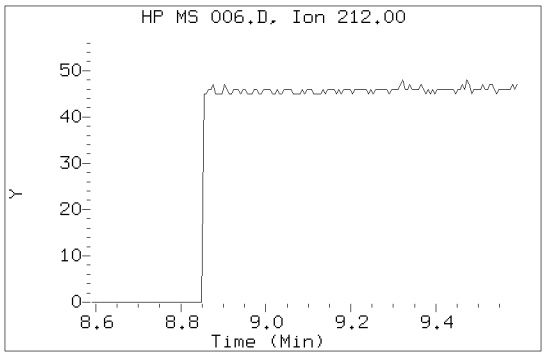
AFTER
MASS
122
AREA
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HEIGHT
0
25-Aug-2022
16:08
linh
pham



BEFORE
MASS
212
AREA
0
HEIGHT
0
25-Aug-2022
16:04
linh
pham



AFTER
MASS
212
AREA
0
HEIGHT
0
25-Aug-2022
16:08
linh
pham



ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\220310.b\007.D
Lab Smp Id: 1 4 DX-0.15 Client Smp ID: 1 4 DX-0.15
Inj Date : 10-MAR-2022 11:58 MS Autotune Date: 09-MAR-2022 11:12
Operator : LG Inst ID: SV6.i
Smp Info : 1 4 DX-0.15;1 4 DX-0.15
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\SV6.i\220310.b\DXSIM.m
Meth Date : 25-Aug-2022 16:08 SV6.i Quant Type: ISTD
Cal Date : 10-MAR-2022 11:40 Cal File: 006.D
Als bottle: 7 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	3.790	3.790	(1.000)	3795	0.10000	(aM)
* 45 Naphthalene-d8	136	4.918	4.918	(1.000)	14247	0.10000	(M)
$ 33 Nitrobenzene-d5	82	4.262	4.262	(0.867)	6488	0.15000	0.1366(M)
* 86 Acenaphthene-d10	164	6.603	6.603	(1.000)	7392	0.10000	
$ 69 2-Fluorobiphenyl	172	5.943	5.943	(0.900)	16942	0.15000	0.1472
* 126 Phenanthrene-d10	188	8.058	8.058	(1.000)	12440	0.10000	
* 182 Chrysene-d12	240	10.963	10.963	(1.000)	4575	0.10000	(M)
$ 158 4-Terphenyl-d14	244	9.661	9.661	(0.881)	13069	0.15000	0.1519(AM)
* 198 Perylene-d12	264	13.090	13.090	(1.000)	2595	0.10000	
1 1,4-Dioxane	58	1.979	1.979	(0.522)	238	0.15000	0.1528(M)

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.

01159099

Data File: \\NAHSTWS005\Target\chem\SV6.i\220310.b\007.D

Date : 10-MAR-2022 11:58

Client ID: 1 4 DX-0.15

Instrument: SV6.i

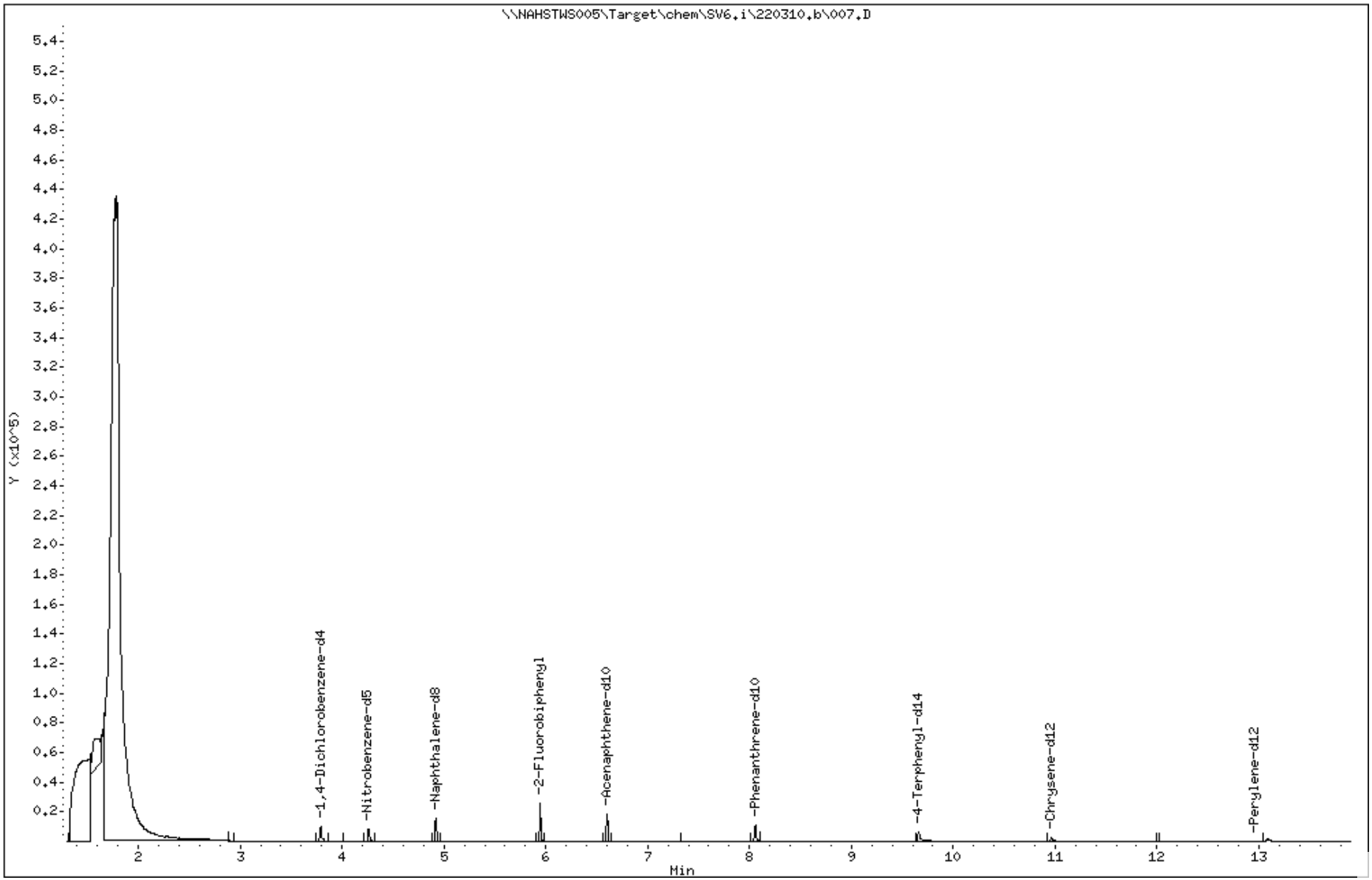
Sample Info: 1 4 DX-0.15;1 4 DX-0.15

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28



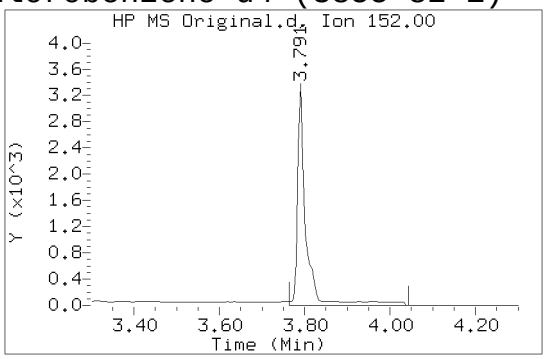
Data File : \\NAHSTWS005\Target\chem\SV6.i\220310.b\007.D
Inj Date : 10-MAR-2022 11:58
InstruID : SV6.i
LabSampID : 1 4 DX-0.15

1,4-Dichlorobenzene-d4 (3855-82-1)

Reason Code:

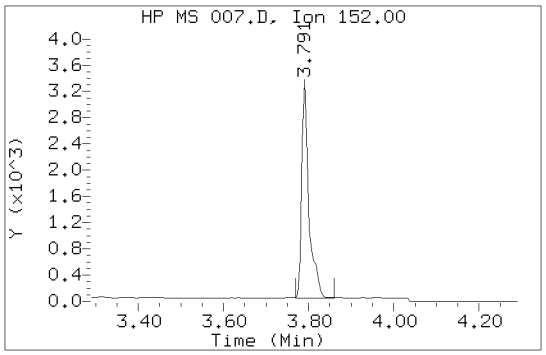
BEFORE

MASS
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AREA
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3379
25-Aug-2022
16:04
linh
pham



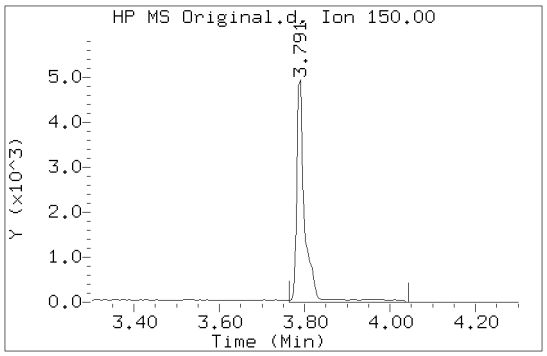
AFTER

MASS
152
AREA
3795
HEIGHT
3326
25-Aug-2022
16:08
linh
pham



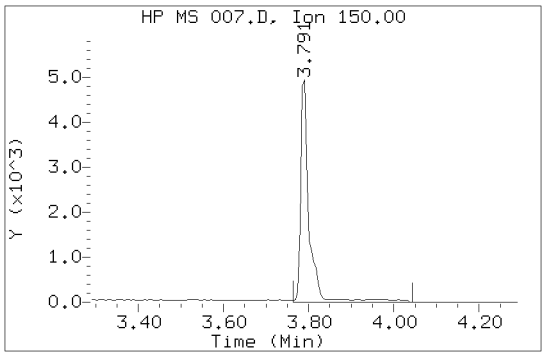
BEFORE

MASS
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AREA
6833
HEIGHT
4945
25-Aug-2022
16:04
linh
pham



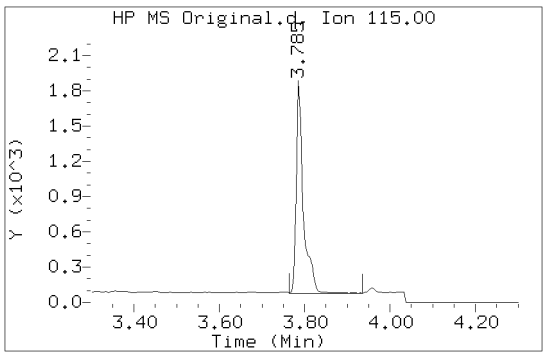
AFTER

MASS
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AREA
6833
HEIGHT
4945
25-Aug-2022
16:08
linh
pham



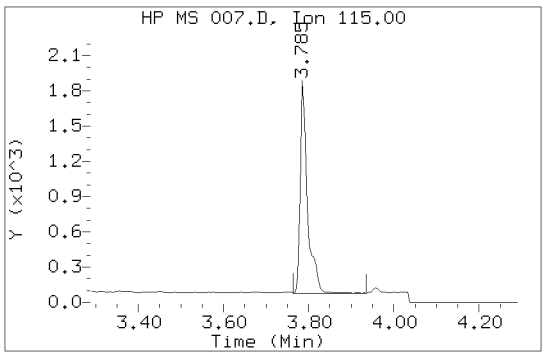
BEFORE

MASS
115
AREA
2089
HEIGHT
1807
25-Aug-2022
16:04
linh
pham



AFTER

MASS
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AREA
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HEIGHT
1807
25-Aug-2022
16:08
linh
pham

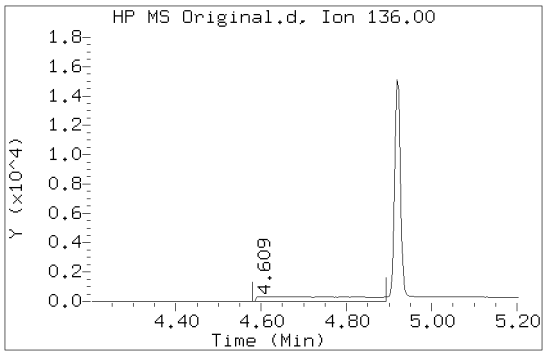


Naphthalene-d8 (1146-65-2)

Reason Code:

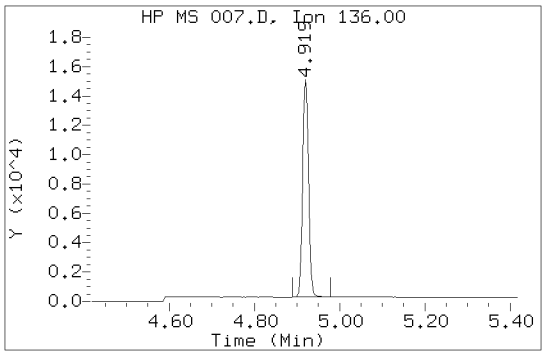
BEFORE

MASS
136
AREA
5460
HEIGHT
316
25-Aug-2022
16:04
linh
pham



AFTER

MASS
136
AREA
14247
HEIGHT
14814
25-Aug-2022
16:08
linh
pham



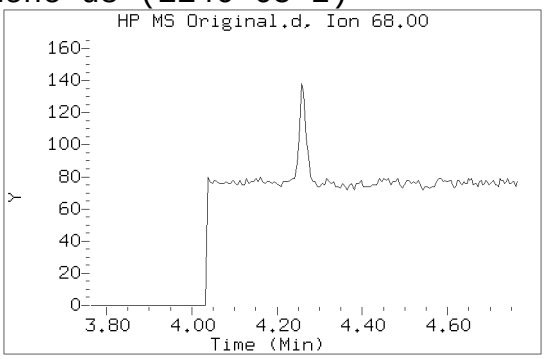
Data File : \\NAHSTWS005\Target\chem\SV6.i\220310.b\007.D
Inj Date : 10-MAR-2022 11:58
InstruID : SV6.i
LabSampID : 1 4 DX-0.15

Naphthalene-d8 (1146-65-2)

Reason Code:

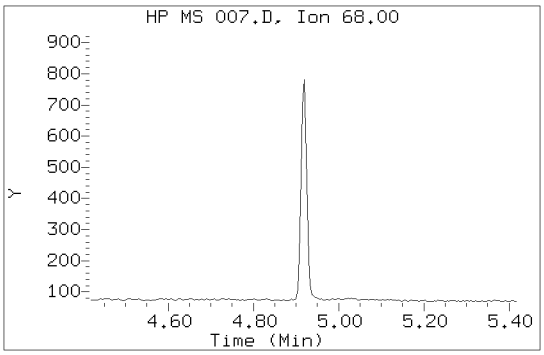
BEFORE

MASS
68
AREA
0
HEIGHT
0
25-Aug-2022
16:04
linh
pham



AFTER

MASS
68
AREA
0
HEIGHT
0
25-Aug-2022
16:08
linh
pham

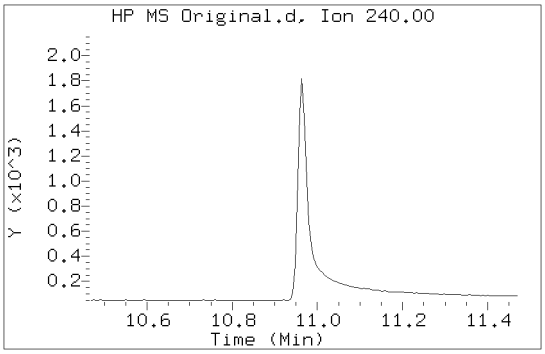


Chrysene-d12 (1719-03-5)

Reason Code:

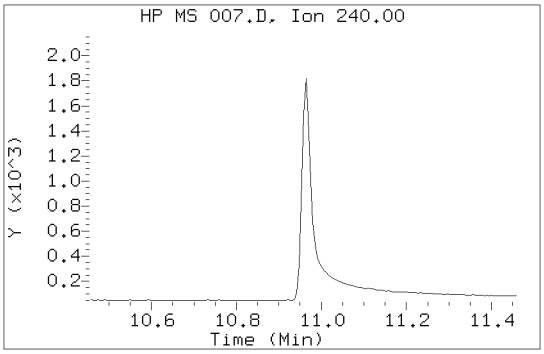
BEFORE

MASS
240
AREA
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HEIGHT
0
25-Aug-2022
16:04
linh
pham



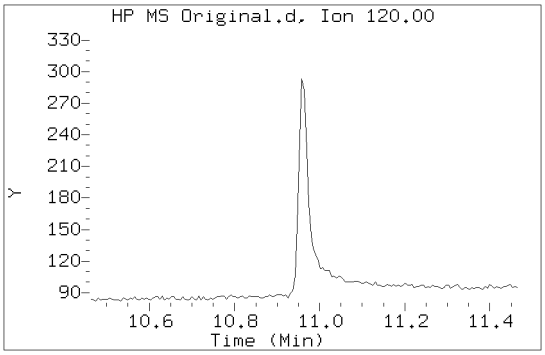
AFTER

MASS
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HEIGHT
1766
25-Aug-2022
16:08
linh
pham



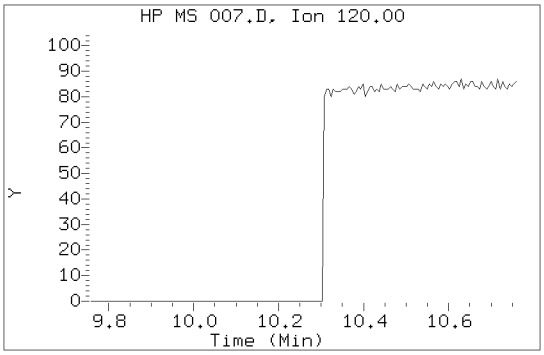
BEFORE

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25-Aug-2022
16:04
linh
pham



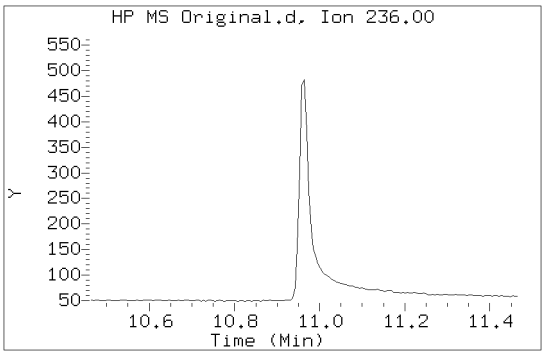
AFTER

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HEIGHT
0
25-Aug-2022
16:08
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pham



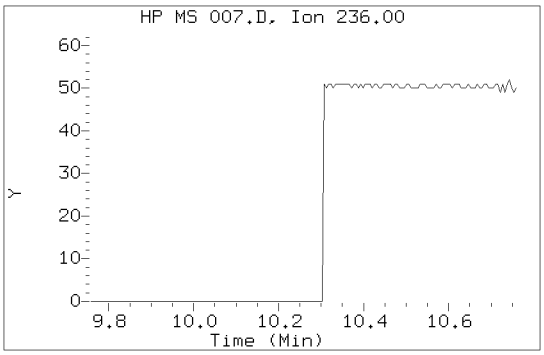
BEFORE

MASS
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AREA
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HEIGHT
0
25-Aug-2022
16:04
linh
pham



AFTER

MASS
236
AREA
0
HEIGHT
0
25-Aug-2022
16:08
linh
pham



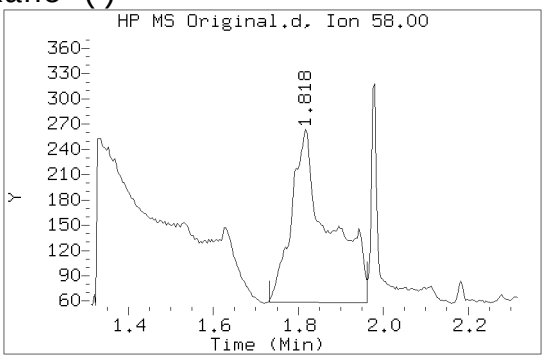
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Inj Date : 10-MAR-2022 11:58
InstruID : SV6.i
LabSampID : 1 4 DX-0.15

1,4-Dioxane ()

Reason Code:

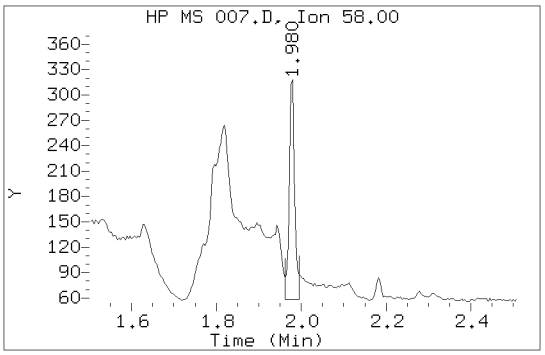
BEFORE

MASS
58
AREA
1252
HEIGHT
205
25-Aug-2022
16:04
linh
pham



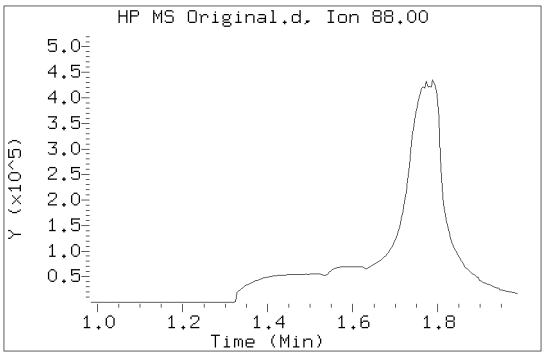
AFTER

MASS
58
AREA
238
HEIGHT
260
25-Aug-2022
16:08
linh
pham



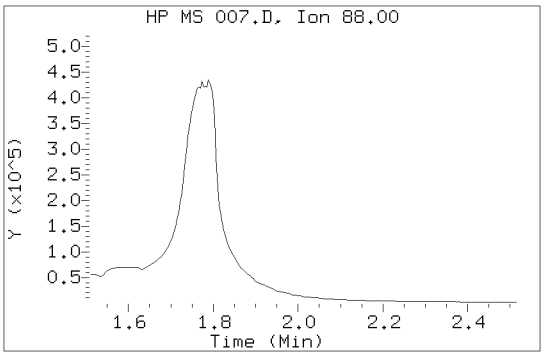
BEFORE

MASS
88
AREA
0
HEIGHT
0
25-Aug-2022
16:04
linh
pham



AFTER

MASS
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AREA
0
HEIGHT
0
25-Aug-2022
16:08
linh
pham

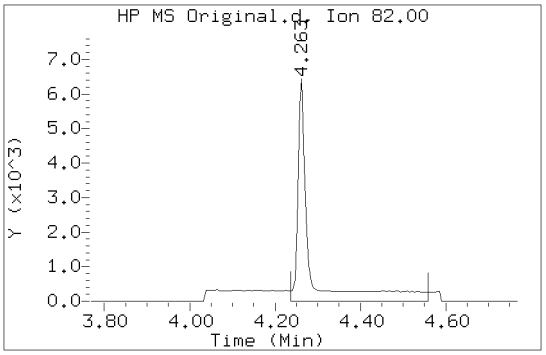


Nitrobenzene-d5 (4165-60-0)

Reason Code:

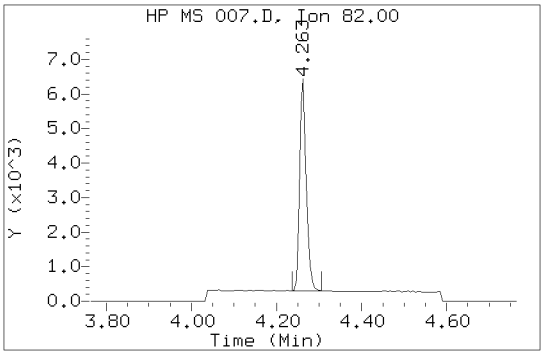
BEFORE

MASS
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AREA
12102
HEIGHT
6437
25-Aug-2022
16:04
linh
pham



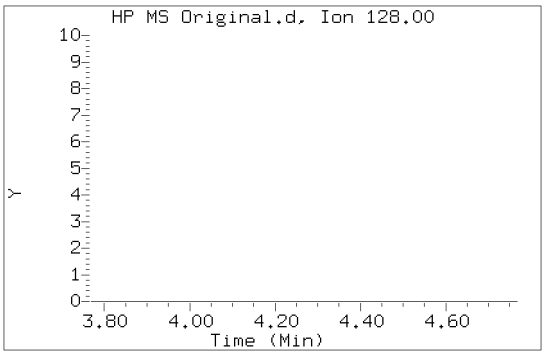
AFTER

MASS
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AREA
6488
HEIGHT
6131
25-Aug-2022
16:08
linh
pham



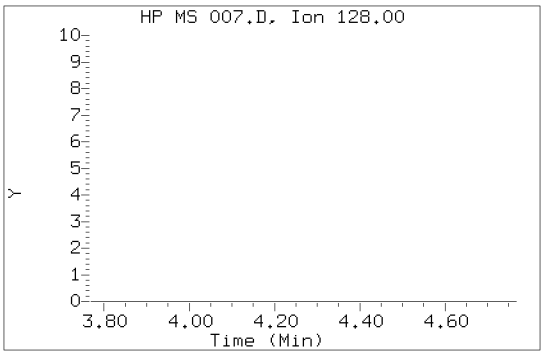
BEFORE

MASS
128
AREA
0
HEIGHT
0
25-Aug-2022
16:04
linh
pham



AFTER

MASS
128
AREA
0
HEIGHT
0
25-Aug-2022
16:08
linh
pham

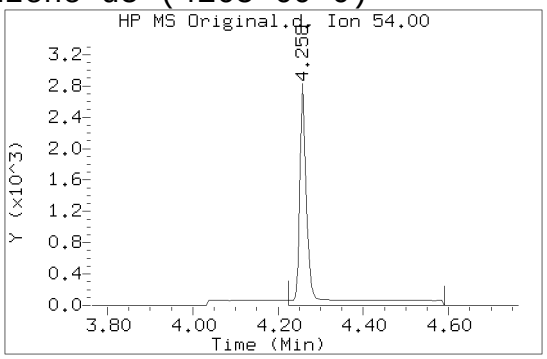


Data File : \\NAHSTWS005\Target\chem\SV6.i\220310.b\007.D
Inj Date : 10-MAR-2022 11:58
InstruID : SV6.i
LabSampID : 1 4 DX-0.15

Nitrobenzene-d5 (4165-60-0)

BEFORE

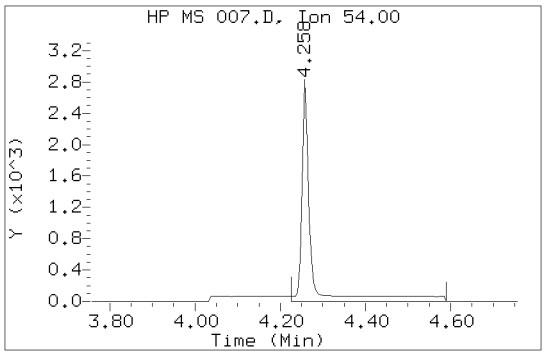
MASS
54
AREA
4221
HEIGHT
2829
25-Aug-2022
16:04
linh
pham



Reason Code:

AFTER

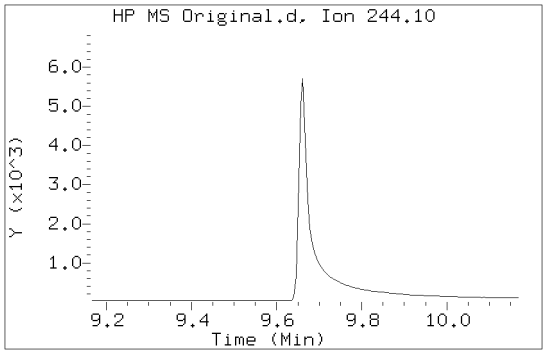
MASS
54
AREA
4221
HEIGHT
2829
25-Aug-2022
16:08
linh
pham



4-Terphenyl-d14 (1718-51-0)

BEFORE

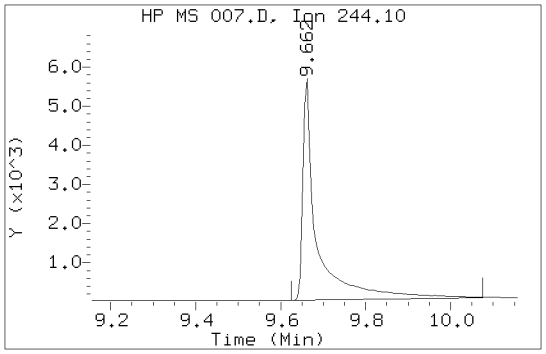
MASS
244.1
AREA
0
HEIGHT
0
25-Aug-2022
16:04
linh
pham



Reason Code:

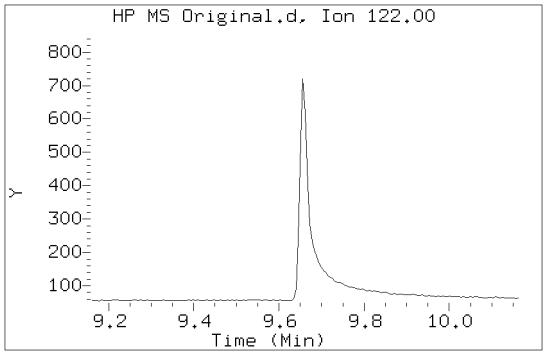
AFTER

MASS
244.1
AREA
13069
HEIGHT
5661
25-Aug-2022
16:08
linh
pham



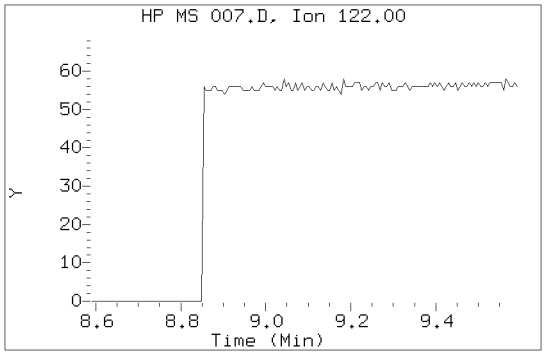
BEFORE

MASS
122
AREA
0
HEIGHT
0
25-Aug-2022
16:04
linh
pham



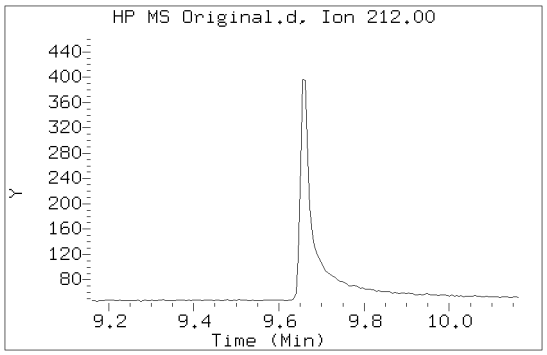
AFTER

MASS
122
AREA
0
HEIGHT
0
25-Aug-2022
16:08
linh
pham



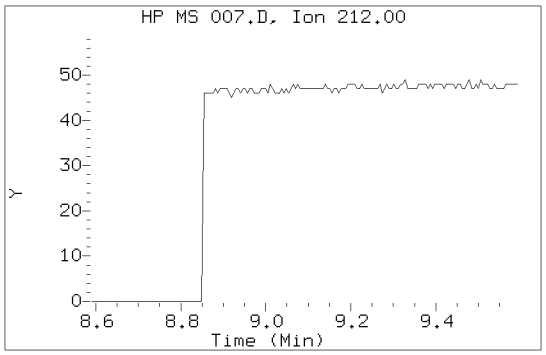
BEFORE

MASS
212
AREA
0
HEIGHT
0
25-Aug-2022
16:04
linh
pham



AFTER

MASS
212
AREA
0
HEIGHT
0
25-Aug-2022
16:08
linh
pham



ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\220310.b\008.D
Lab Smp Id: 1 4 DX-0.2 Client Smp ID: 1 4 DX-0.2
Inj Date : 10-MAR-2022 12:16 MS Autotune Date: 09-MAR-2022 11:12
Operator : LG Inst ID: SV6.i
Smp Info : 1 4 DX-0.2;1 4 DX-0.2
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\SV6.i\220310.b\DXSIM.m
Meth Date : 25-Aug-2022 16:08 SV6.i Quant Type: ISTD
Cal Date : 10-MAR-2022 11:58 Cal File: 007.D
Als bottle: 8 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)	AMOUNTS ON-COL (NG)
* 20 1,4-Dichlorobenzene-d4	152	3.796	3.796	(1.000)	7263	0.10000	(aM)
* 45 Naphthalene-d8	136	4.918	4.918	(1.000)	25657	0.10000	
$ 33 Nitrobenzene-d5	82	4.262	4.262	(0.867)	17003	0.20000	0.1988(AM)
* 86 Acenaphthene-d10	164	6.603	6.603	(1.000)	14251	0.10000	
$ 69 2-Fluorobiphenyl	172	5.943	5.943	(0.900)	43148	0.20000	0.1945(A)
* 126 Phenanthrene-d10	188	8.059	8.059	(1.000)	24746	0.10000	
* 182 Chrysene-d12	240	10.963	10.963	(1.000)	9545	0.10000	(M)
$ 158 4-Terphenyl-d14	244	9.661	9.661	(0.881)	36799	0.20000	0.2050(AM)
* 198 Perylene-d12	264	13.090	13.090	(1.000)	5135	0.10000	
1 1,4-Dioxane	58	2.013	2.013	(0.530)	614	0.20000	0.2059(M)

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.

01159105

Data File: \\NAHSTWS005\Target\chem\SV6.i\220310.b\008.D

Date : 10-MAR-2022 12:16

Client ID: 1 4 DX-0.2

Instrument: SV6.i

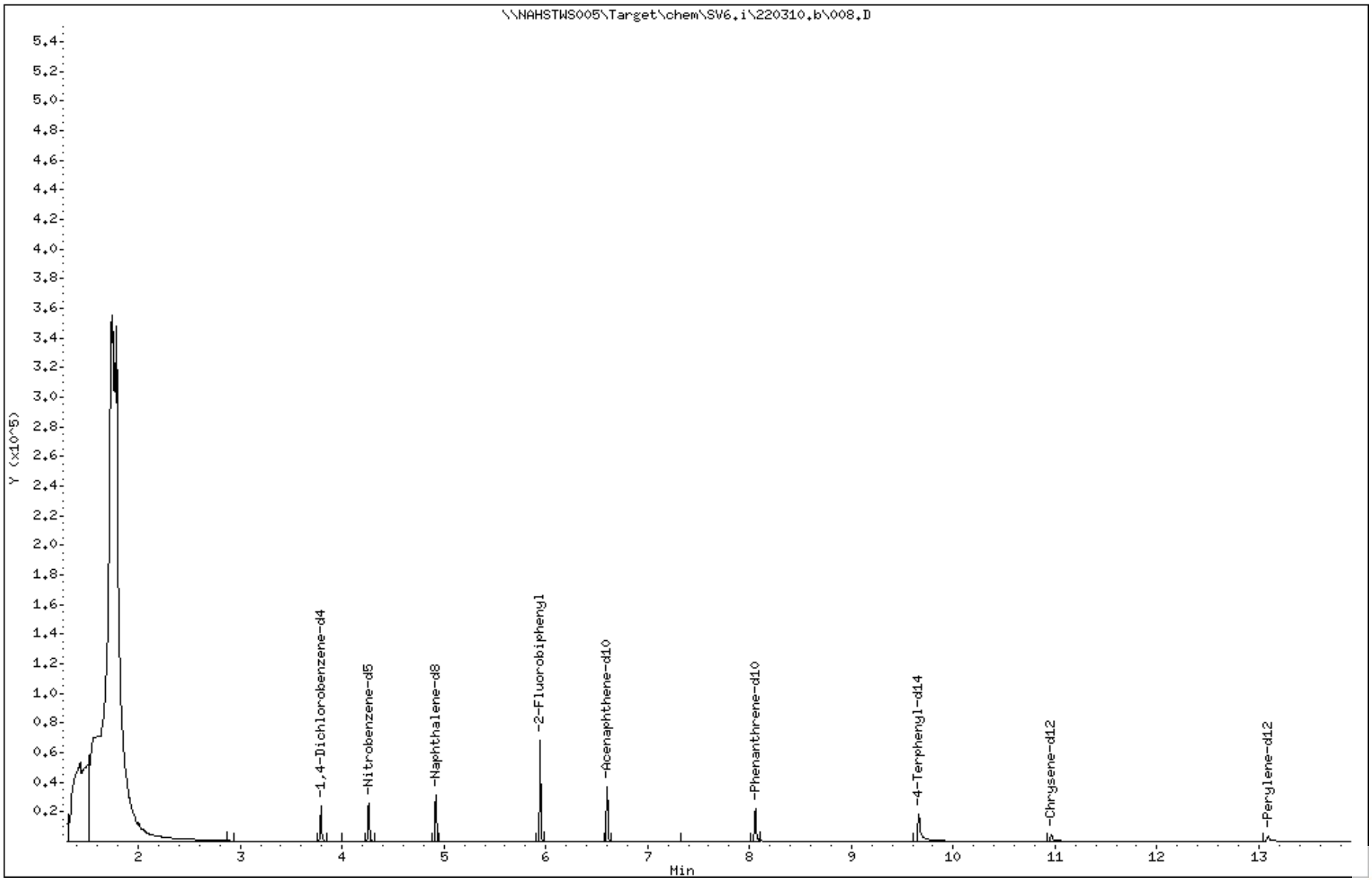
Sample Info: 1 4 DX-0.2;1 4 DX-0.2

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28



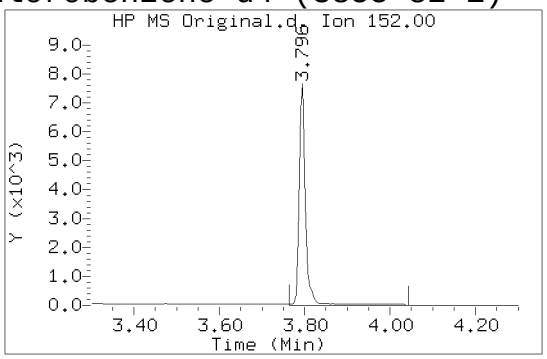
Data File : \\NAHSTWS005\Target\chem\SV6.i\220310.b\008.D
Inj Date : 10-MAR-2022 12:16
InstruID : SV6.i
LabSampID : 1 4 DX-0.2

1,4-Dichlorobenzene-d4 (3855-82-1)

Reason Code:

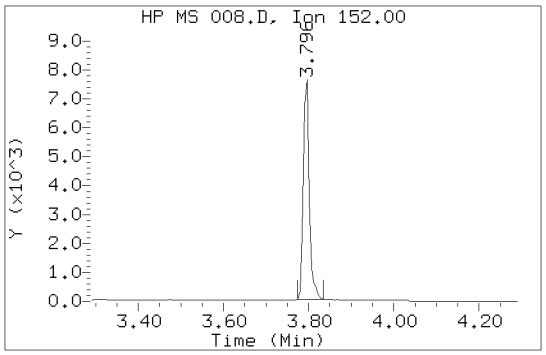
BEFORE

MASS
152
AREA
8188
HEIGHT
7663
25-Aug-2022
16:04
linh
pham



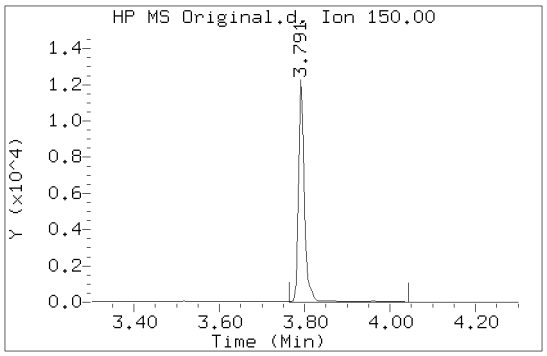
AFTER

MASS
152
AREA
7263
HEIGHT
7596
25-Aug-2022
16:08
linh
pham



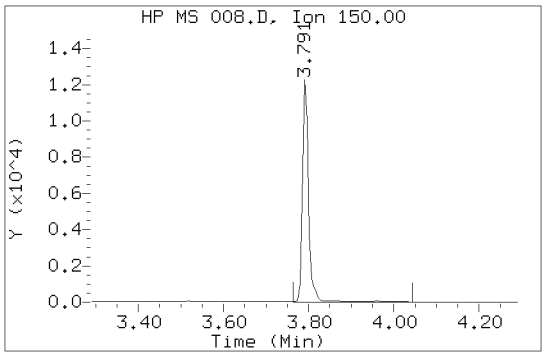
BEFORE

MASS
150
AREA
12278
HEIGHT
12265
25-Aug-2022
16:04
linh
pham



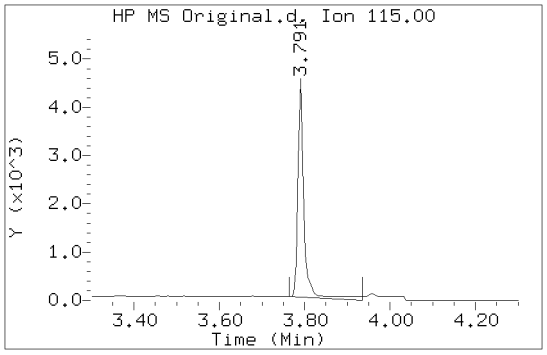
AFTER

MASS
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12278
HEIGHT
12265
25-Aug-2022
16:08
linh
pham



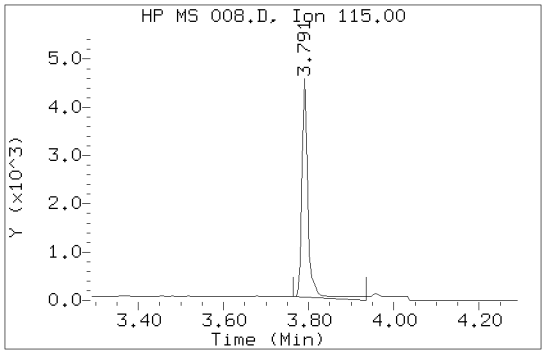
BEFORE

MASS
115
AREA
4513
HEIGHT
4526
25-Aug-2022
16:04
linh
pham



AFTER

MASS
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AREA
4513
HEIGHT
4526
25-Aug-2022
16:08
linh
pham

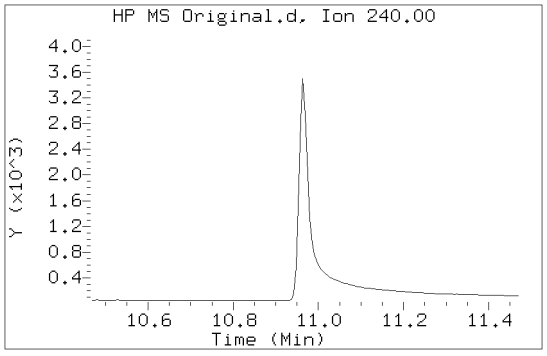


Chrysene-d12 (1719-03-5)

Reason Code:

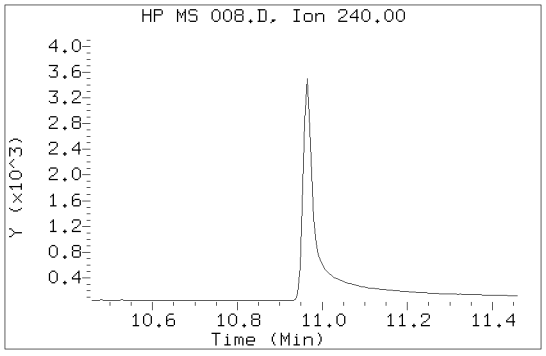
BEFORE

MASS
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AREA
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HEIGHT
0
25-Aug-2022
16:04
linh
pham



AFTER

MASS
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AREA
9545
HEIGHT
3446
25-Aug-2022
16:08
linh
pham

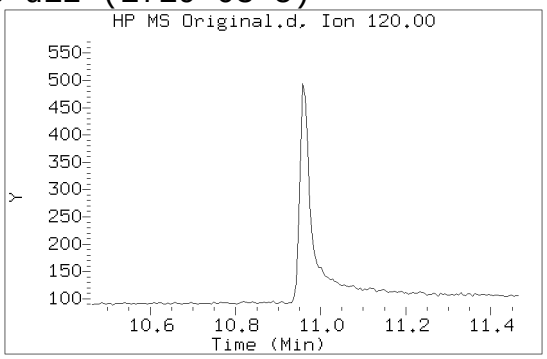


Data File : \\NAHSTWS005\Target\chem\SV6.i\220310.b\008.D
Inj Date : 10-MAR-2022 12:16
InstruID : SV6.i
LabSampID : 1 4 DX-0.2

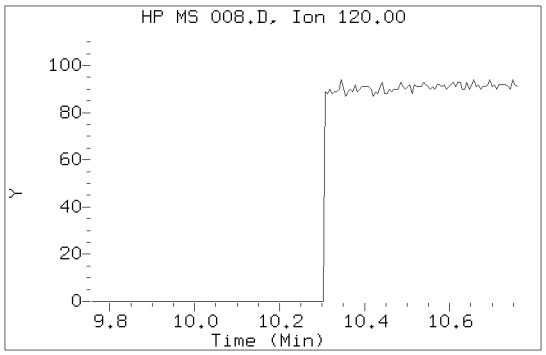
Chrysene-d12 (1719-03-5)

Reason Code:

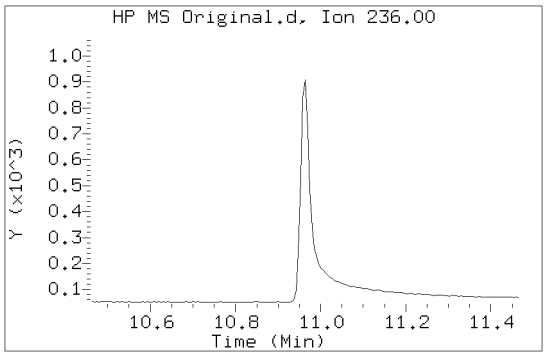
BEFORE
MASS
120
AREA
0
HEIGHT
0
25-Aug-2022
16:04
linh
pham



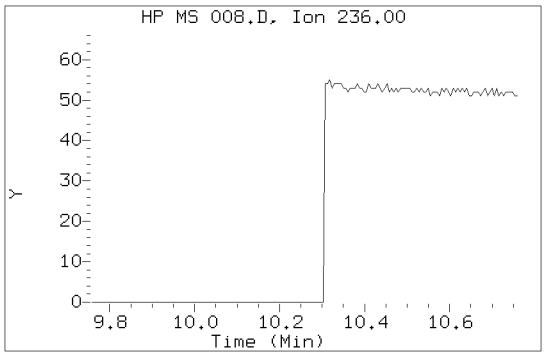
AFTER
MASS
120
AREA
0
HEIGHT
0
25-Aug-2022
16:08
linh
pham



BEFORE
MASS
236
AREA
0
HEIGHT
0
25-Aug-2022
16:04
linh
pham



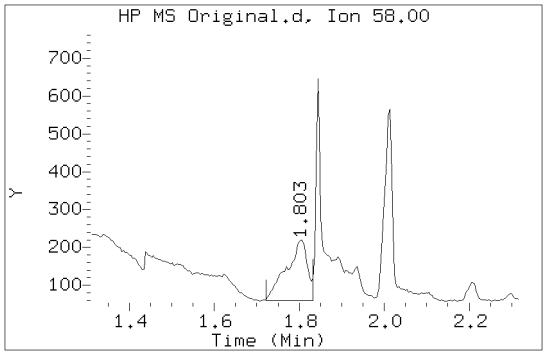
AFTER
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236
AREA
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HEIGHT
0
25-Aug-2022
16:08
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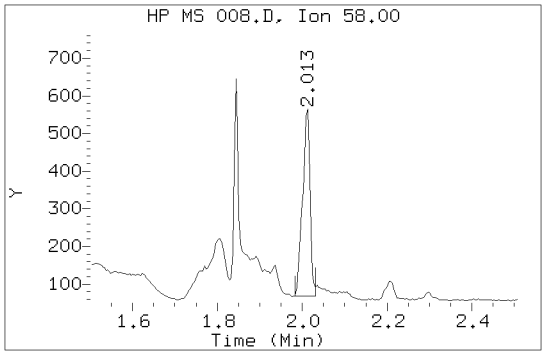
1,4-Dioxane ()

Reason Code:

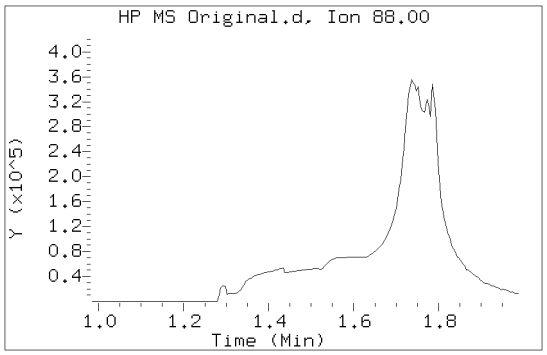
BEFORE
MASS
58
AREA
554
HEIGHT
160
25-Aug-2022
16:04
linh
pham



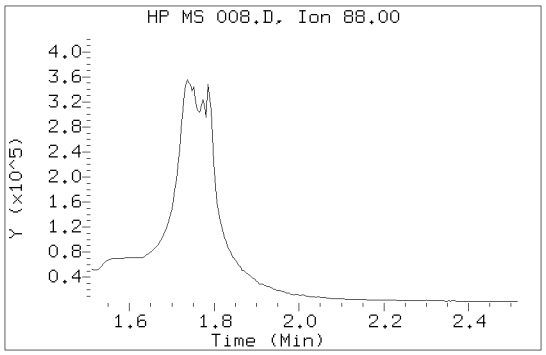
AFTER
MASS
58
AREA
614
HEIGHT
496
25-Aug-2022
16:08
linh
pham



BEFORE
MASS
88
AREA
0
HEIGHT
0
25-Aug-2022
16:04
linh
pham



AFTER
MASS
88
AREA
0
HEIGHT
0
25-Aug-2022
16:08
linh
pham



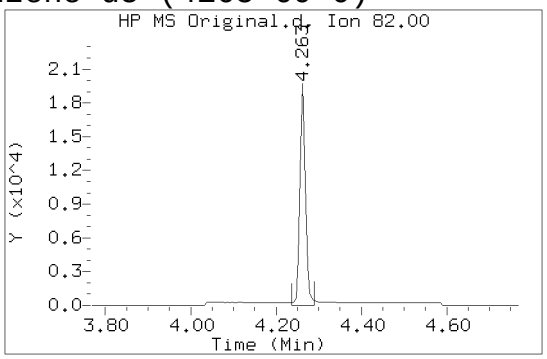
Data File : \\NAHSTWS005\Target\chem\SV6.i\220310.b\008.D
Inj Date : 10-MAR-2022 12:16
InstruID : SV6.i
LabSampID : 1 4 DX-0.2

Nitrobenzene-d5 (4165-60-0)

Reason Code:

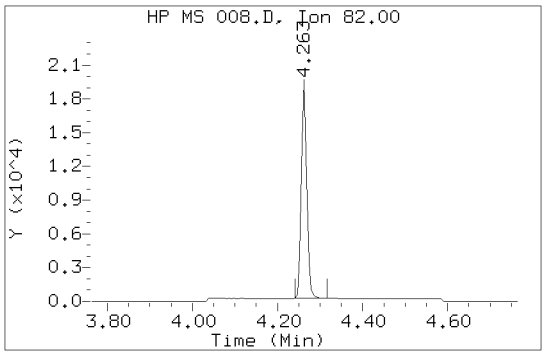
BEFORE

MASS
82
AREA
17887
HEIGHT
19712
25-Aug-2022
16:04
linh
pham



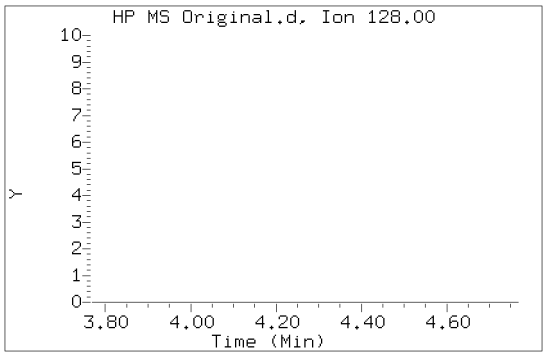
AFTER

MASS
82
AREA
17003
HEIGHT
19451
25-Aug-2022
16:08
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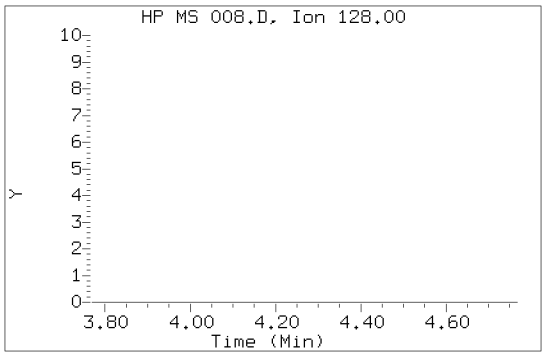
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16:04
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pham



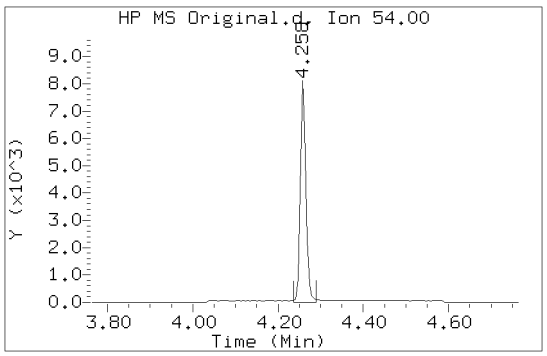
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25-Aug-2022
16:08
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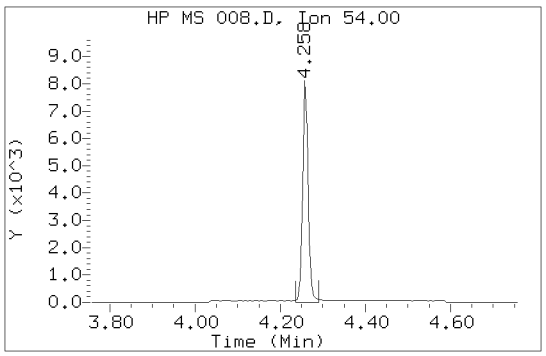
BEFORE

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HEIGHT
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25-Aug-2022
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AFTER

MASS
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7400
HEIGHT
8110
25-Aug-2022
16:08
linh
pham

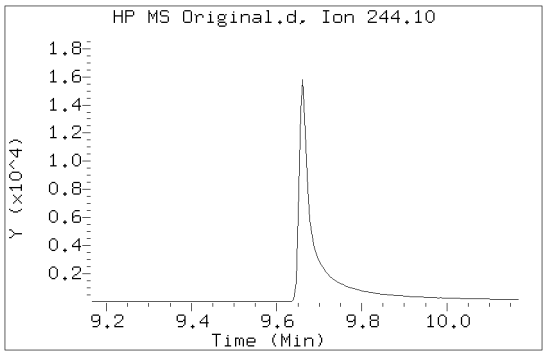


4-Terphenyl-d14 (1718-51-0)

Reason Code:

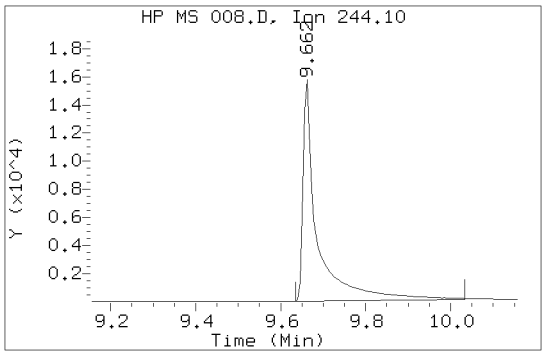
BEFORE

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HEIGHT
0
25-Aug-2022
16:04
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AFTER

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AREA
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HEIGHT
15739
25-Aug-2022
16:08
linh
pham

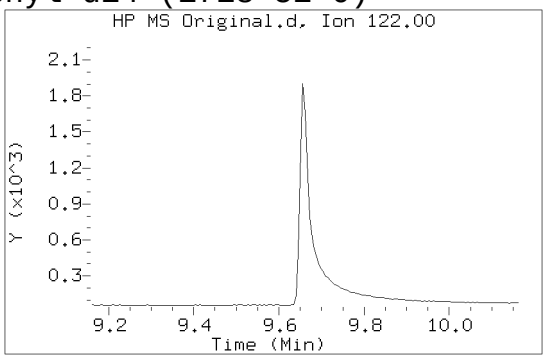


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Inj Date : 10-MAR-2022 12:16
InstruID : SV6.i
LabSampID : 1 4 DX-0.2

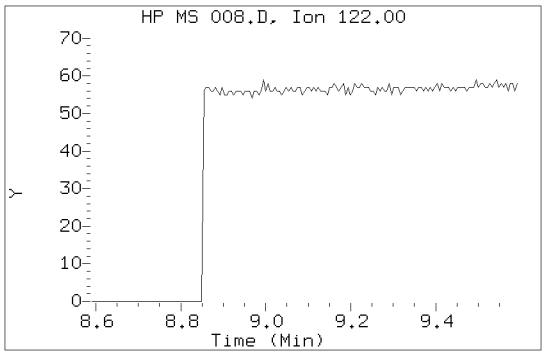
4-Terphenyl-d14 (1718-51-0)

Reason Code:

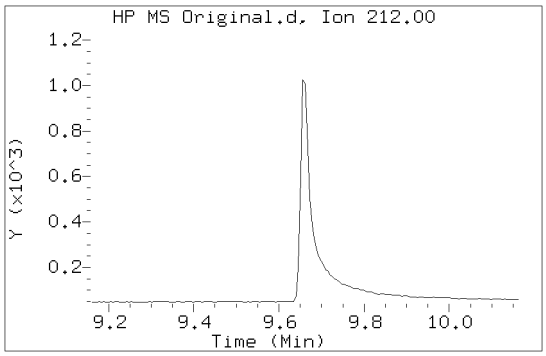
BEFORE
MASS
122
AREA
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HEIGHT
0
25-Aug-2022
16:04
linh
pham



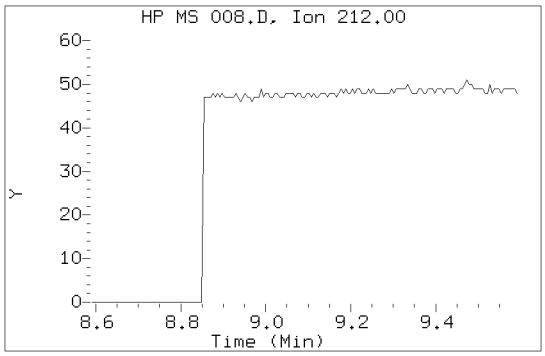
AFTER
MASS
122
AREA
0
HEIGHT
0
25-Aug-2022
16:08
linh
pham



BEFORE
MASS
212
AREA
0
HEIGHT
0
25-Aug-2022
16:04
linh
pham



AFTER
MASS
212
AREA
0
HEIGHT
0
25-Aug-2022
16:08
linh
pham



Data File: \\NAHSTWS005\Target\chem\SV6.i\220310.b\009.D Page 1
Report Date: 25-Aug-2022 16:08

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\220310.b\009.D
Lab Smp Id: 1 4 DX-0.5 Client Smp ID: 1 4 DX-0.5
Inj Date : 10-MAR-2022 12:56 MS Autotune Date: 09-MAR-2022 11:12
Operator : LG Inst ID: SV6.i
Smp Info : 1 4 DX-0.5;1 4 DX-0.5
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\SV6.i\220310.b\DXSIM.m
Meth Date : 25-Aug-2022 16:08 SV6.i Quant Type: ISTD
Cal Date : 10-MAR-2022 12:16 Cal File: 008.D
Als bottle: 9 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)	AMOUNTS ON-COL (NG)
* 20 1,4-Dichlorobenzene-d4	152	3.801	3.801	(1.000)	6911	0.10000	(aQM)
* 45 Naphthalene-d8	136	4.922	4.922	(1.000)	13189	0.10000	(M)
$ 33 Nitrobenzene-d5	82	4.268	4.268	(0.907)	21014	0.50000	0.4780(A)
* 86 Acenaphthene-d10	164	6.603	6.603	(1.000)	7222	0.10000	(QM)
$ 69 2-Fluorobiphenyl	172	5.943	5.943	(1.000)	52166	0.50000	0.4640(A)
* 126 Phenanthrene-d10	188	8.064	8.064	(1.000)	12388	0.10000	
* 182 Chrysene-d12	240	10.969	10.969	(1.000)	3790	0.10000	(M)
$ 158 4-Terphenyl-d14	244	9.667	9.667	(0.881)	36357	0.50000	0.5102(AM)
* 198 Perylene-d12	264	13.101	13.101	(1.000)	1809	0.10000	
1 1,4-Dioxane	58	2.049	2.049	(0.539)	1286	0.50000	0.4533(H)

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.

01159112

Data File: \\NAHSTWS005\Target\chem\SV6.i\220310.b\009.D

Date : 10-MAR-2022 12:56

Client ID: 1 4 DX-0.5

Instrument: SV6.i

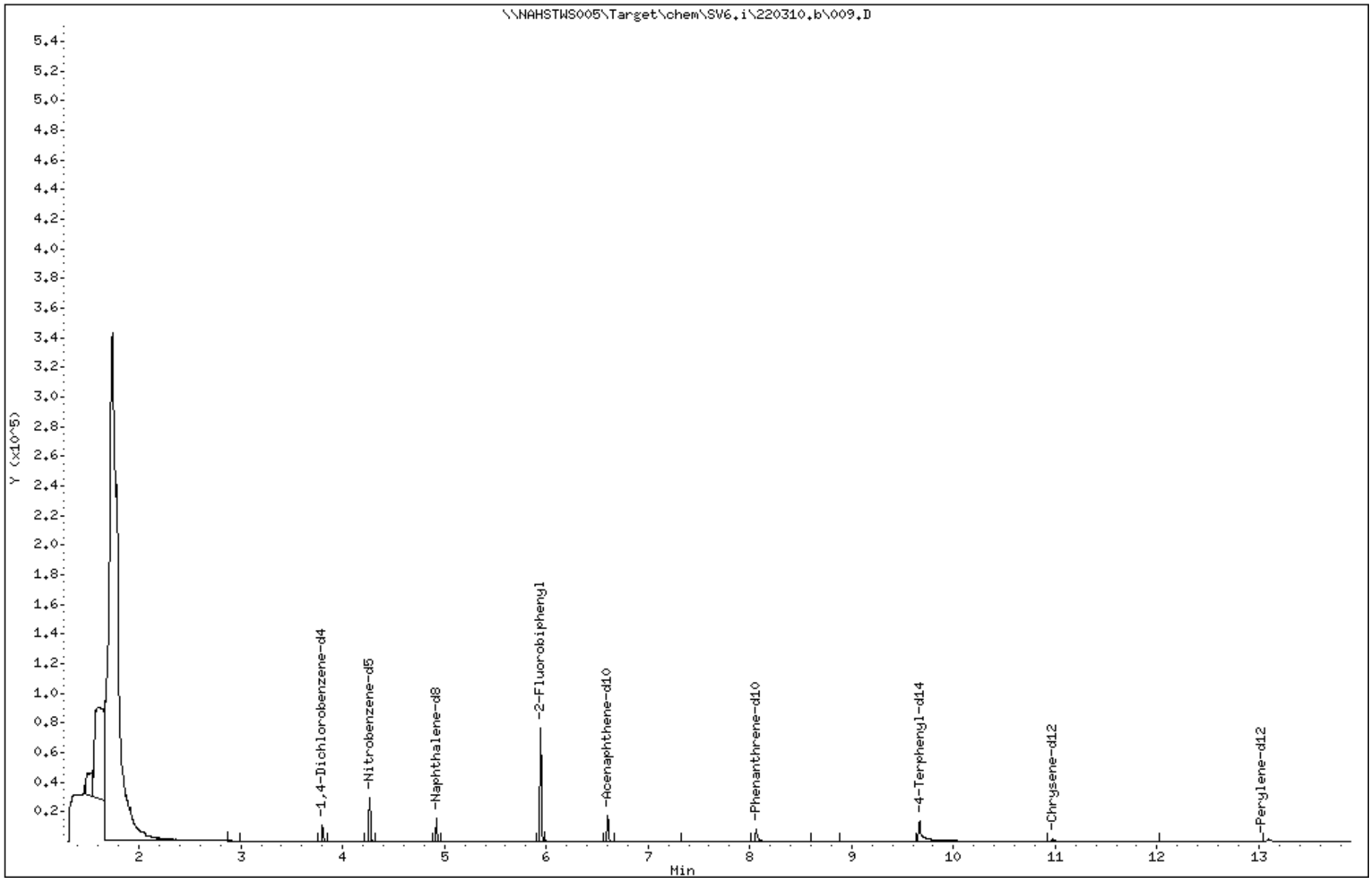
Sample Info: 1 4 DX-0.5;1 4 DX-0.5

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28



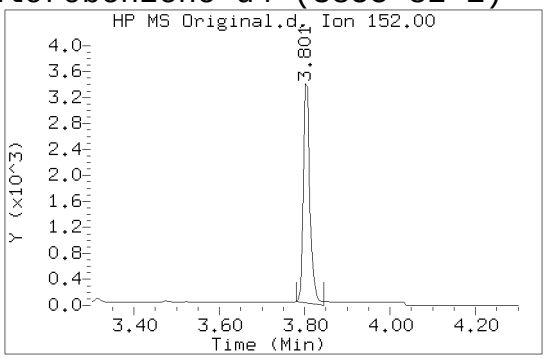
Data File : \\NAHSTWS005\Target\chem\SV6.i\220310.b\009.D
Inj Date : 10-MAR-2022 12:56
InstruID : SV6.i
LabSampID : 1 4 DX-0.5

1,4-Dichlorobenzene-d4 (3855-82-1)

Reason Code:

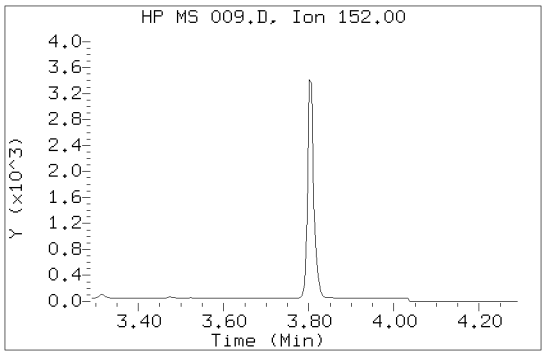
BEFORE

MASS
152
AREA
3578
HEIGHT
3374
25-Aug-2022
16:04
linh
pham



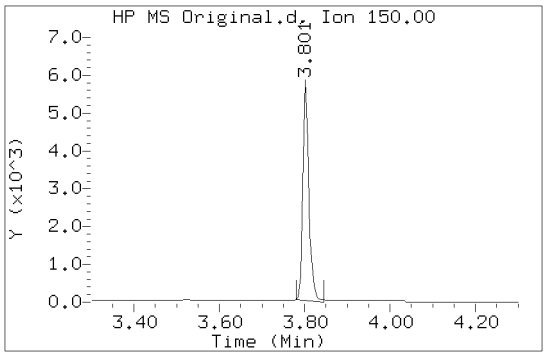
AFTER

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AREA
6911
HEIGHT
3414
25-Aug-2022
16:08
linh
pham



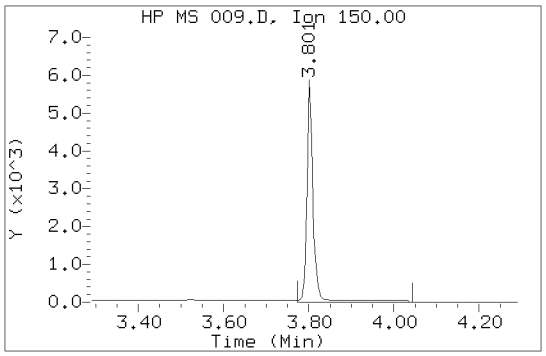
BEFORE

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AREA
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HEIGHT
5835
25-Aug-2022
16:04
linh
pham



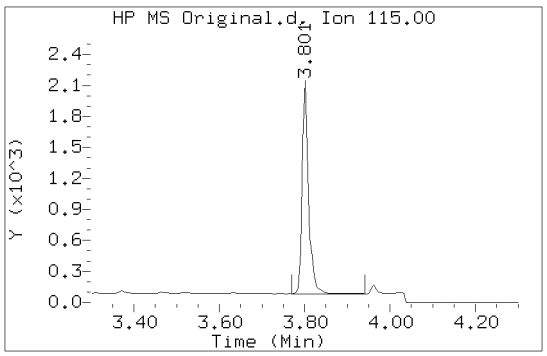
AFTER

MASS
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AREA
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5877
25-Aug-2022
16:08
linh
pham



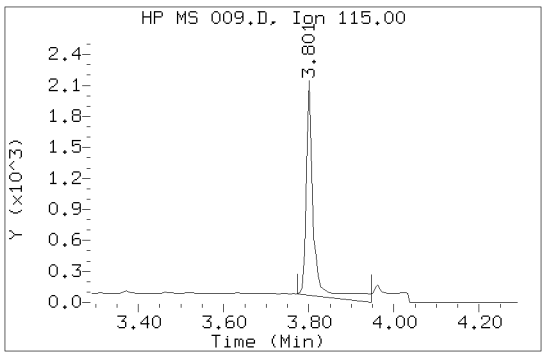
BEFORE

MASS
115
AREA
2092
HEIGHT
2063
25-Aug-2022
16:04
linh
pham



AFTER

MASS
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AREA
2533
HEIGHT
2075
25-Aug-2022
16:08
linh
pham

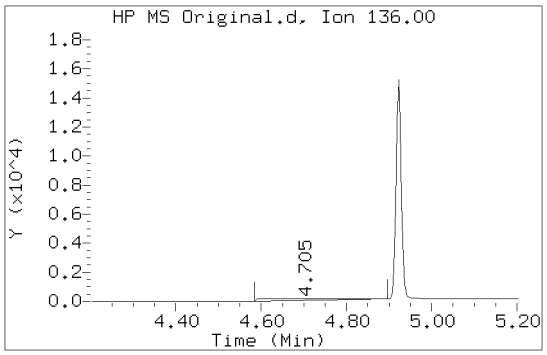


Naphthalene-d8 (1146-65-2)

Reason Code:

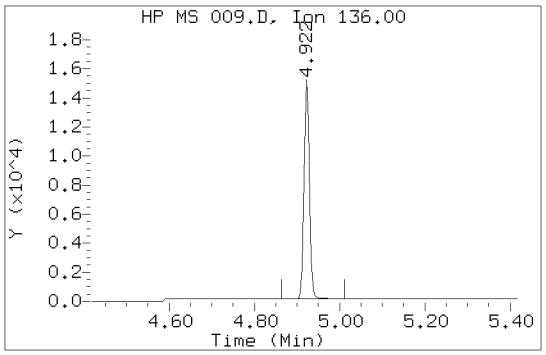
BEFORE

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136
AREA
1531
HEIGHT
108
25-Aug-2022
16:04
linh
pham



AFTER

MASS
136
AREA
13189
HEIGHT
15077
25-Aug-2022
16:08
linh
pham



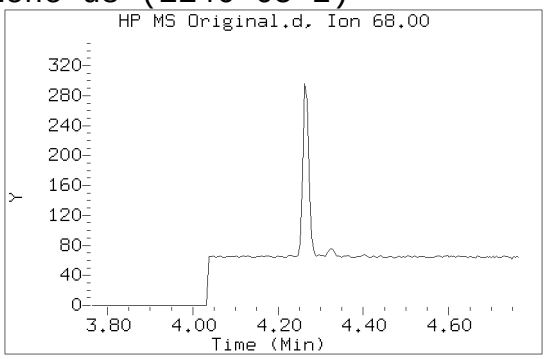
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Inj Date : 10-MAR-2022 12:56
InstruID : SV6.i
LabSampID : 1 4 DX-0.5

Naphthalene-d8 (1146-65-2)

Reason Code:

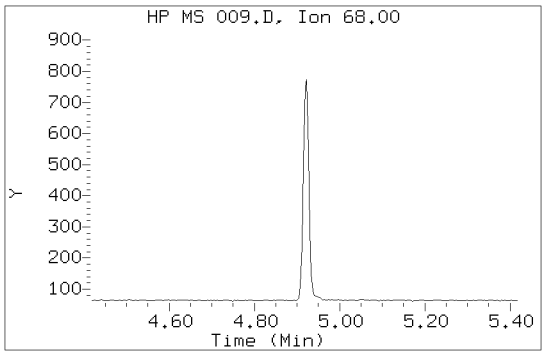
BEFORE

MASS
68
AREA
262
HEIGHT
233
25-Aug-2022
16:04
linh
pham



AFTER

MASS
68
AREA
0
HEIGHT
0
25-Aug-2022
16:08
linh
pham

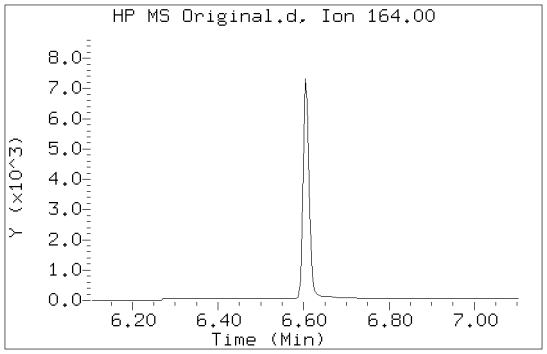


Acenaphthene-d10 (15067-26-2)

Reason Code:

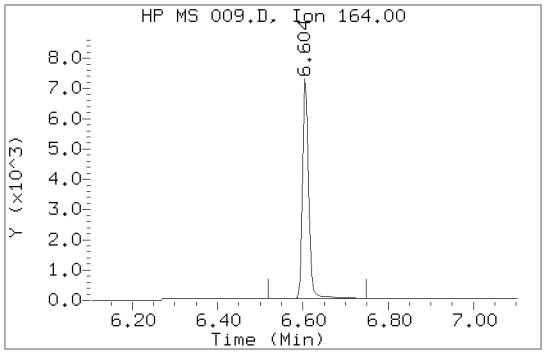
BEFORE

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25-Aug-2022
16:04
linh
pham



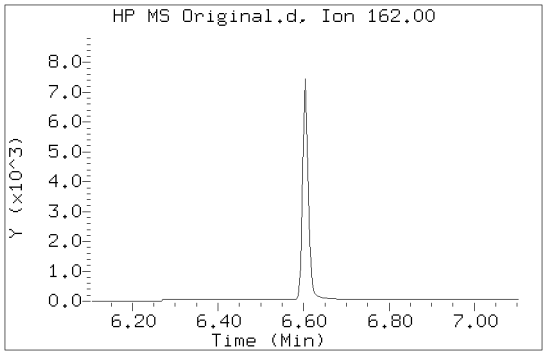
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16:08
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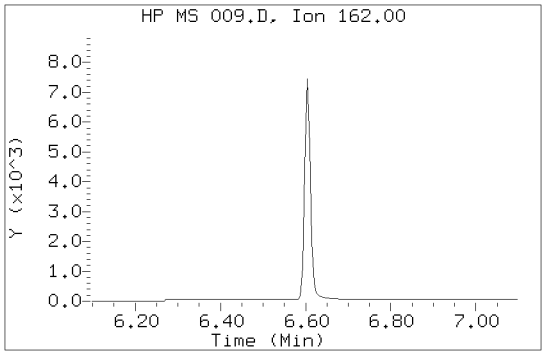
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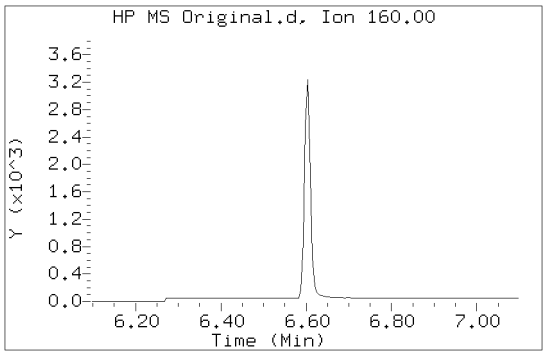
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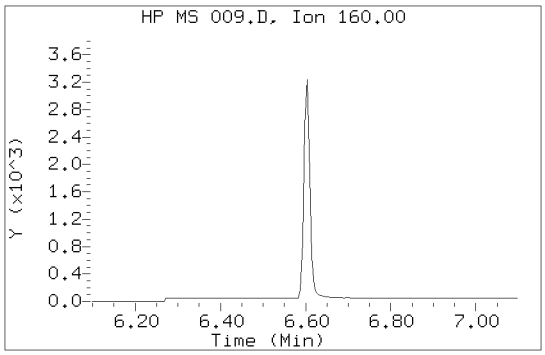
BEFORE

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25-Aug-2022
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pham



AFTER

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HEIGHT
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25-Aug-2022
16:08
linh
pham



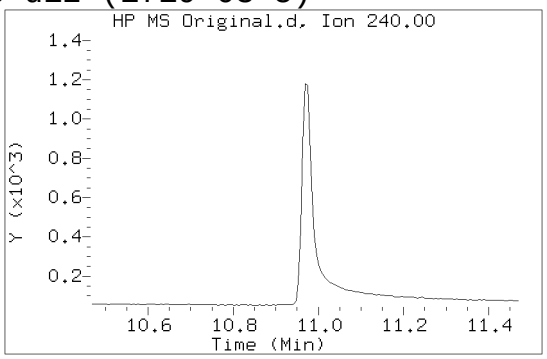
Data File : \\NAHSTWS005\Target\chem\SV6.i\220310.b\009.D
Inj Date : 10-MAR-2022 12:56
InstruID : SV6.i
LabSampID : 1 4 DX-0.5

Chrysene-d12 (1719-03-5)

Reason Code:

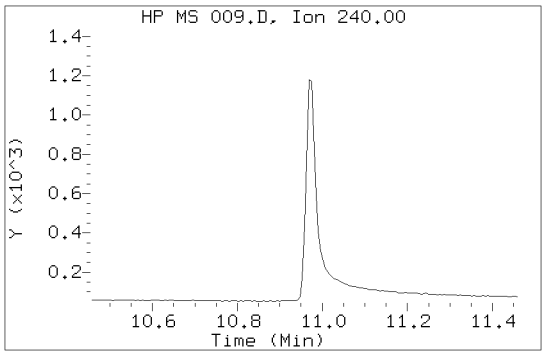
BEFORE

MASS
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AREA
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HEIGHT
0
25-Aug-2022
16:04
linh
pham



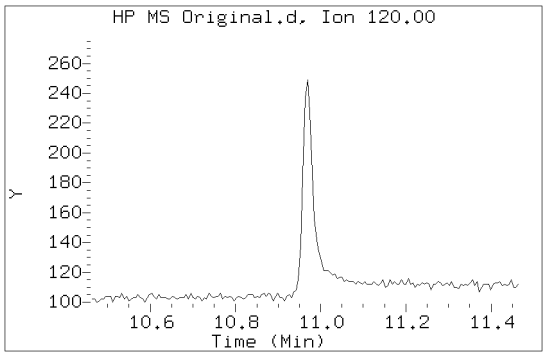
AFTER

MASS
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AREA
3790
HEIGHT
1133
25-Aug-2022
16:08
linh
pham



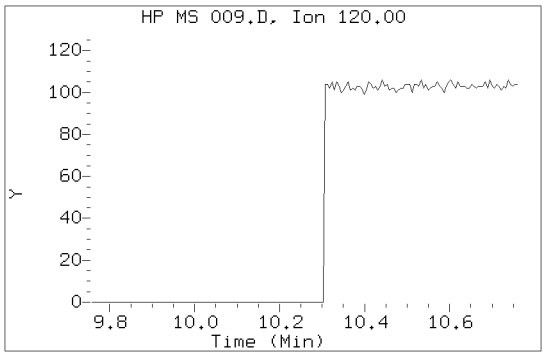
BEFORE

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HEIGHT
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25-Aug-2022
16:04
linh
pham



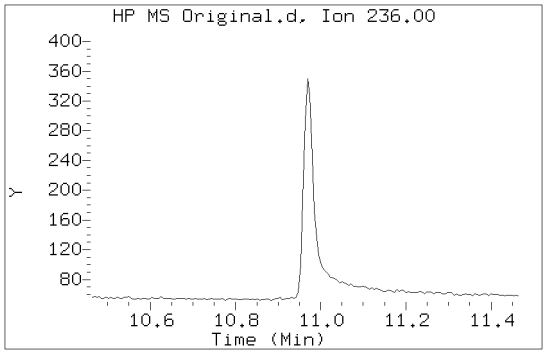
AFTER

MASS
120
AREA
0
HEIGHT
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25-Aug-2022
16:08
linh
pham



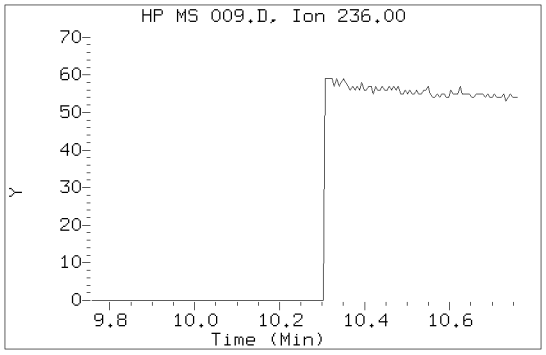
BEFORE

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0
25-Aug-2022
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AFTER

MASS
236
AREA
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HEIGHT
0
25-Aug-2022
16:08
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pham

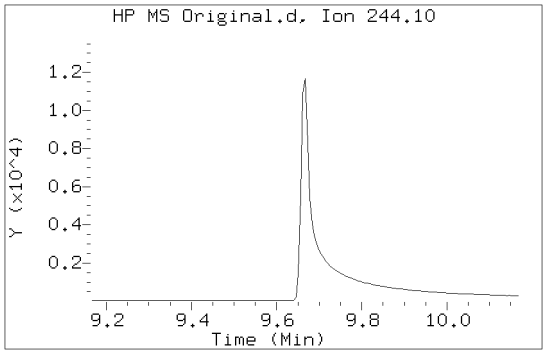


4-Terphenyl-d14 (1718-51-0)

Reason Code:

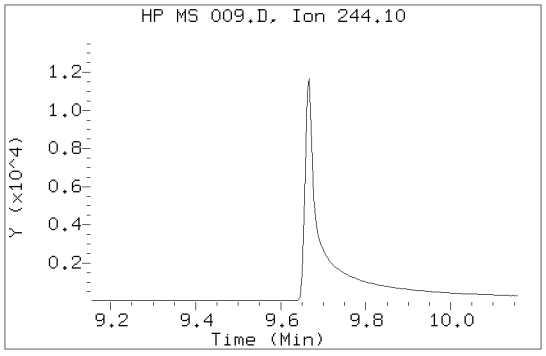
BEFORE

MASS
244.1
AREA
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HEIGHT
0
25-Aug-2022
16:04
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AFTER

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AREA
36357
HEIGHT
11597
25-Aug-2022
16:08
linh
pham

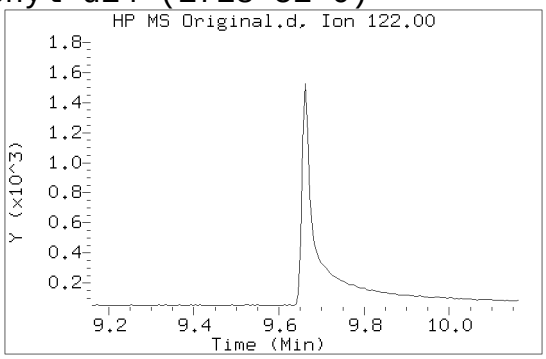


Data File : \\NAHSTWS005\Target\chem\SV6.i\220310.b\009.D
Inj Date : 10-MAR-2022 12:56
InstruID : SV6.i
LabSampID : 1 4 DX-0.5

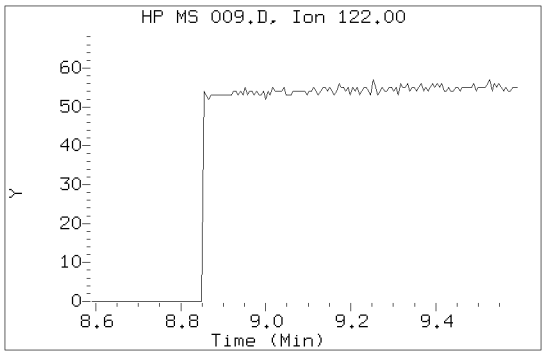
4-Terphenyl-d14 (1718-51-0)

Reason Code:

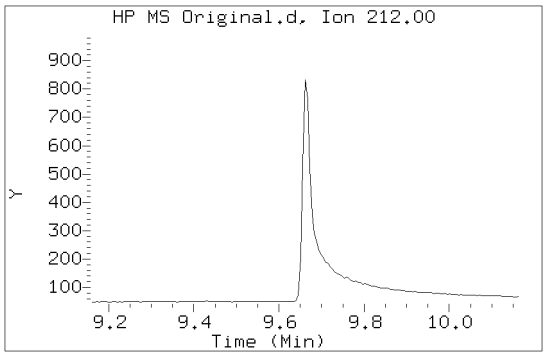
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25-Aug-2022
16:04
linh
pham



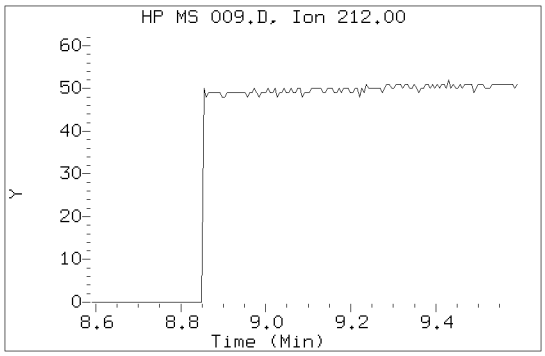
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25-Aug-2022
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linh
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BEFORE
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212
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HEIGHT
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25-Aug-2022
16:04
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pham



AFTER
MASS
212
AREA
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HEIGHT
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25-Aug-2022
16:08
linh
pham



Data File: \\NAHSTWS005\Target\chem\SV6.i\220310.b\010.D Page 1
Report Date: 25-Aug-2022 16:08

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\220310.b\010.D
Lab Smp Id: 1 4 DX-ICV Client Smp ID: 1 4 DX-ICV
Inj Date : 10-MAR-2022 14:15 MS Autotune Date: 09-MAR-2022 11:12
Operator : LG Inst ID: SV6.i
Smp Info : 1 4 DX-ICV;1 4 DX-ICV
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\SV6.i\220310.b\DXSIM.m
Meth Date : 25-Aug-2022 16:08 SV6.i Quant Type: ISTD
Cal Date : 10-MAR-2022 12:56 Cal File: 009.D
Als bottle: 10 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	3.795	3.801	(1.000)	6142	0.10000	(aM)
* 45 Naphthalene-d8	136	4.922	4.922	(1.000)	16012	0.10000	(M)
$ 33 Nitrobenzene-d5	82	4.262	4.268	(0.866)	4156	0.07786	0.07786(M)
* 86 Acenaphthene-d10	164	6.609	6.603	(1.000)	8780	0.10000	(M)
$ 69 2-Fluorobiphenyl	172	5.947	5.943	(0.900)	11167	0.08171	0.08171(M)
* 126 Phenanthrene-d10	188	8.064	8.064	(1.000)	15732	0.10000	
* 182 Chrysene-d12	240	10.974	10.969	(1.000)	6319	0.10000	(M)
$ 158 4-Terphenyl-d14	244	9.667	9.667	(0.881)	7838	0.06597	0.06597(M)
* 198 Perylene-d12	264	13.101	13.101	(1.000)	4163	0.10000	(M)
1 1,4-Dioxane	58	2.002	2.049	(0.527)	203	0.08051	0.08051(M)

QC Flag Legend

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

01159118

Data File: \\NAHSTWS005\Target\chem\SV6.i\220310.b\010.D

Date : 10-MAR-2022 14:15

Client ID: 1 4 DX-ICV

Instrument: SV6.i

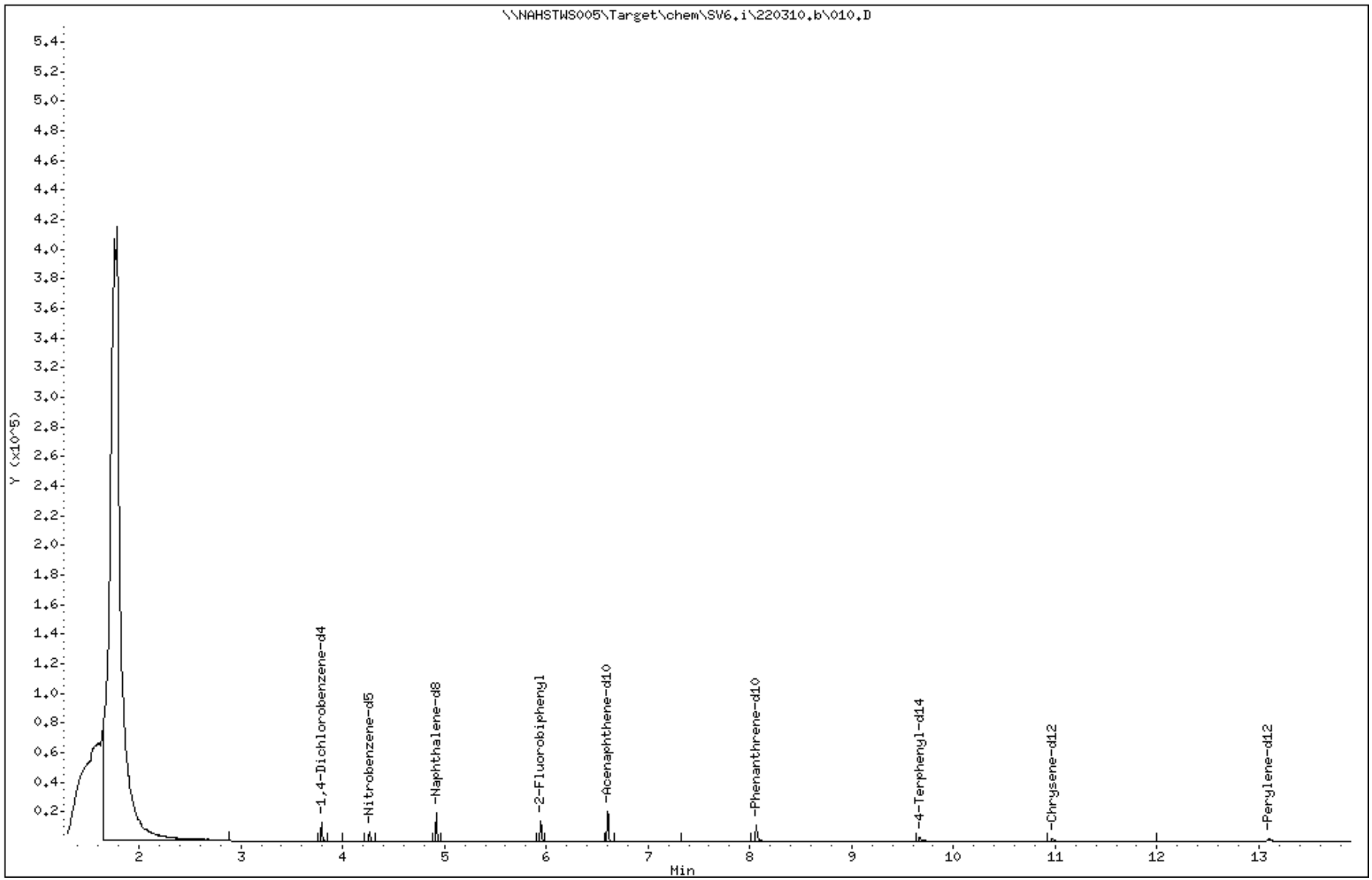
Sample Info: 1 4 DX-ICV;1 4 DX-ICV

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28



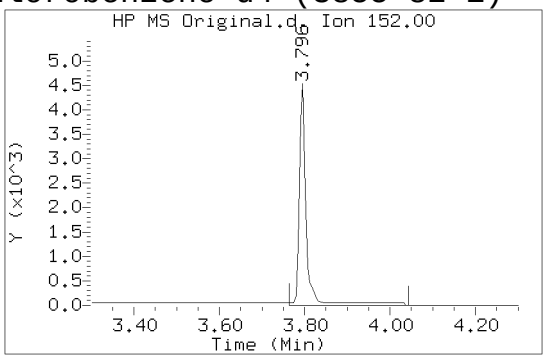
Data File : \\NAHSTWS005\Target\chem\SV6.i\220310.b\010.D
Inj Date : 10-MAR-2022 14:15
InstruID : SV6.i
LabSampID : 1 4 DX-ICV

1,4-Dichlorobenzene-d4 (3855-82-1)

Reason Code:

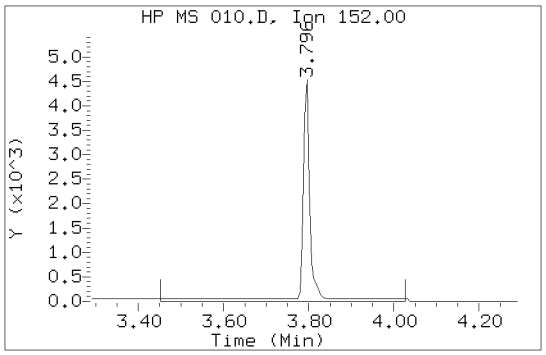
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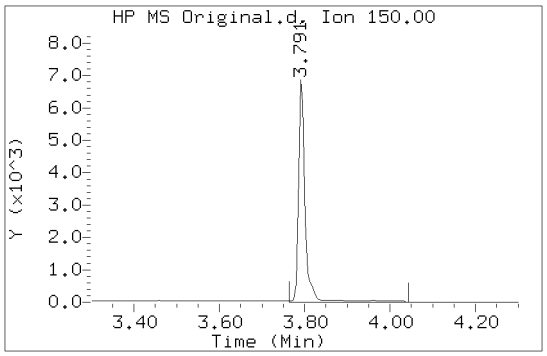
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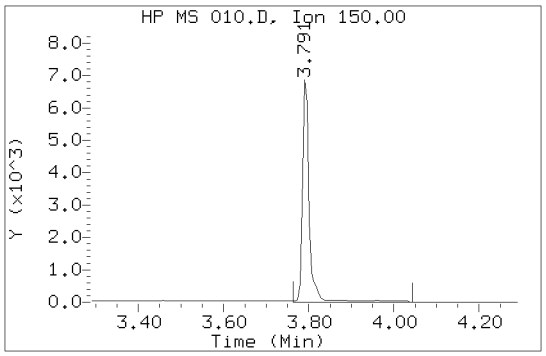
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AREA
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HEIGHT
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25-Aug-2022
16:04
linh
pham



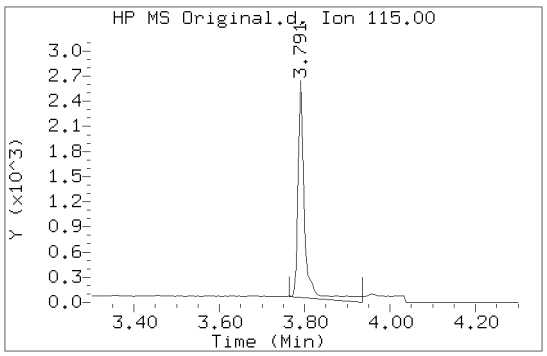
AFTER

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16:08
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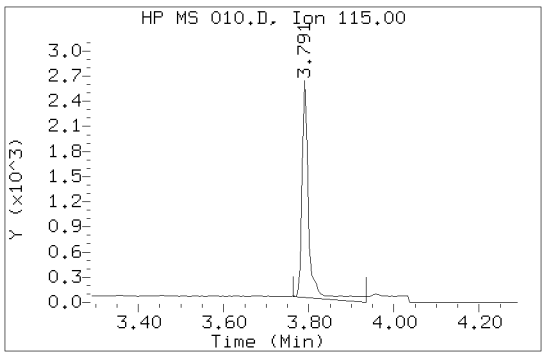
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2584
25-Aug-2022
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AFTER

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HEIGHT
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25-Aug-2022
16:08
linh
pham

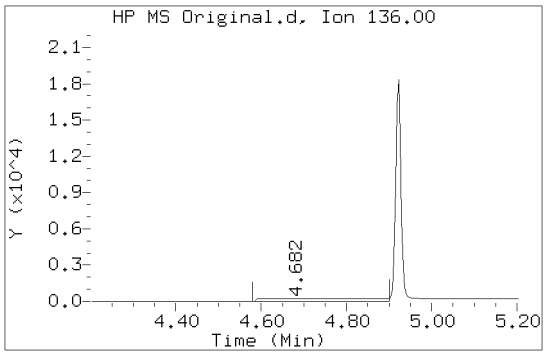


Naphthalene-d8 (1146-65-2)

Reason Code:

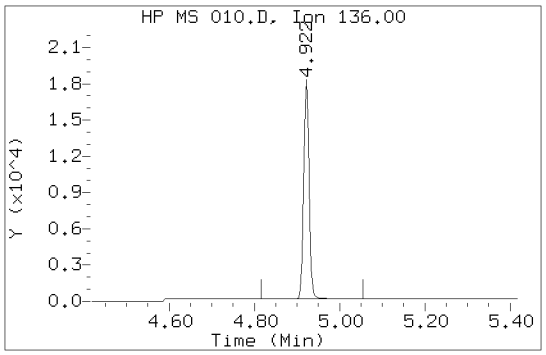
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208
25-Aug-2022
16:04
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AFTER

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AREA
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HEIGHT
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25-Aug-2022
16:08
linh
pham



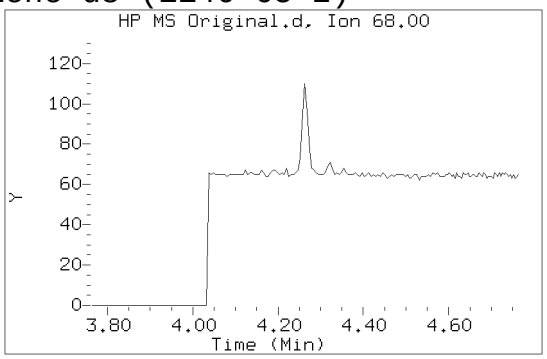
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Inj Date : 10-MAR-2022 14:15
InstruID : SV6.i
LabSampID : 1 4 DX-ICV

Naphthalene-d8 (1146-65-2)

Reason Code:

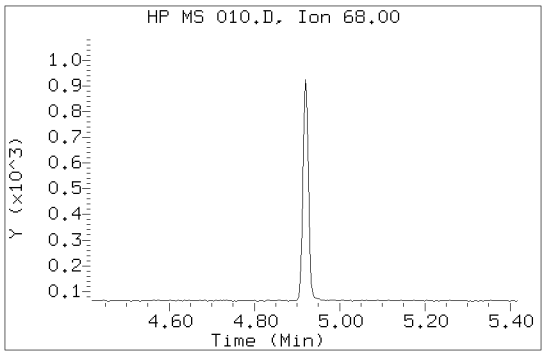
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0
25-Aug-2022
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pham



AFTER

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AREA
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HEIGHT
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25-Aug-2022
16:08
linh
pham

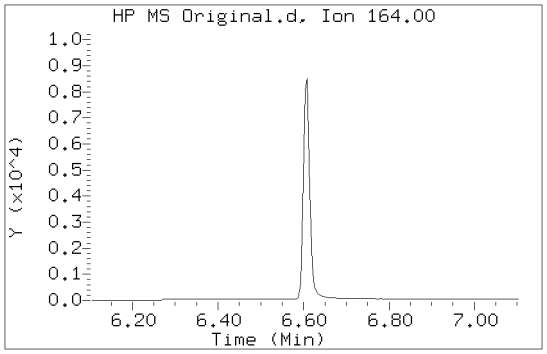


Acenaphthene-d10 (15067-26-2)

Reason Code:

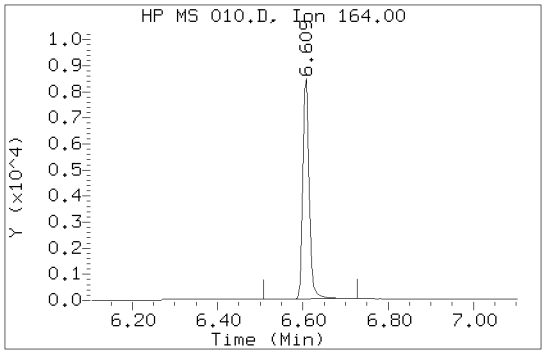
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16:04
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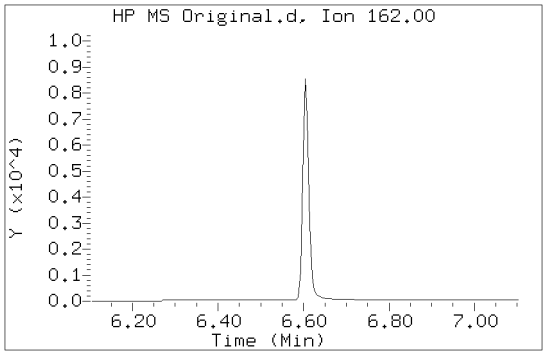
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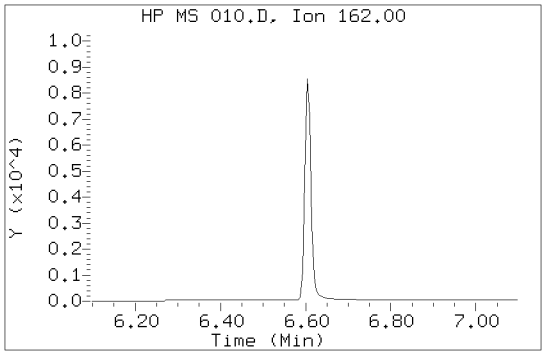
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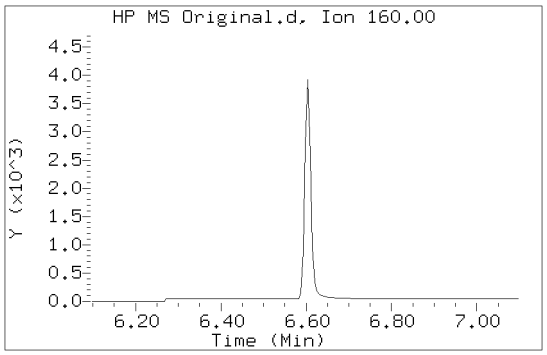
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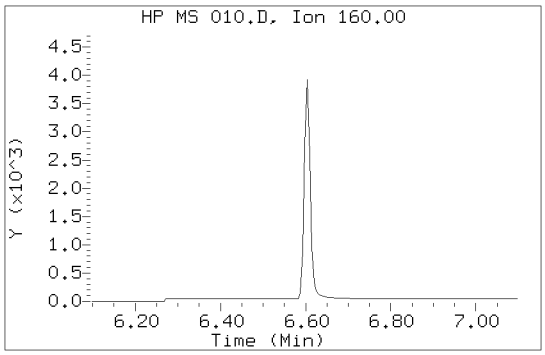
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AFTER

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HEIGHT
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16:08
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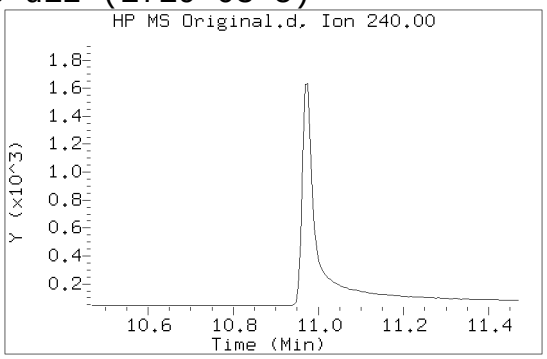
Data File : \\NAHSTWS005\Target\chem\SV6.i\220310.b\010.D
Inj Date : 10-MAR-2022 14:15
InstruID : SV6.i
LabSampID : 1 4 DX-ICV

Chrysene-d12 (1719-03-5)

Reason Code:

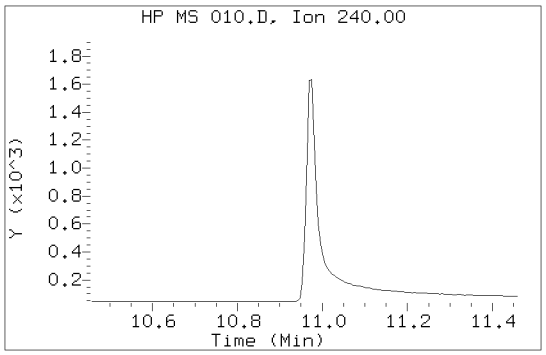
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25-Aug-2022
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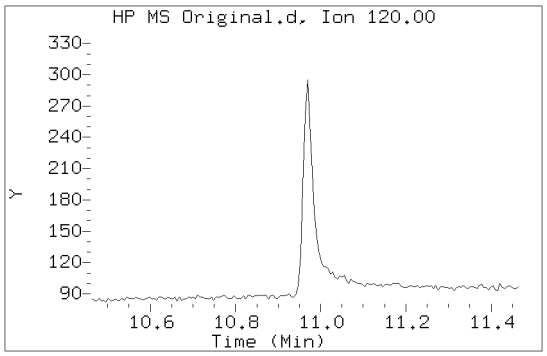
AFTER

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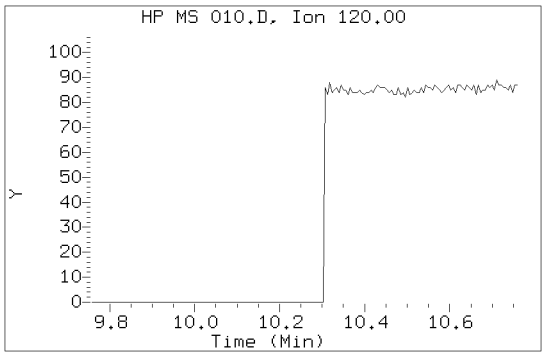
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16:04
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pham



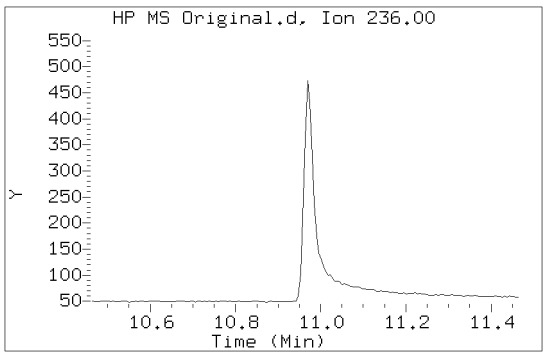
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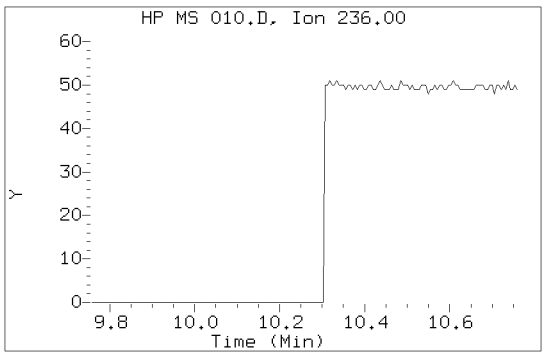
BEFORE

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AFTER

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16:08
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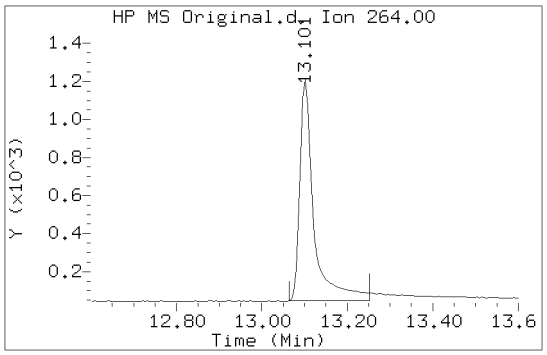


Perylene-d12 (1520-96-3)

Reason Code:

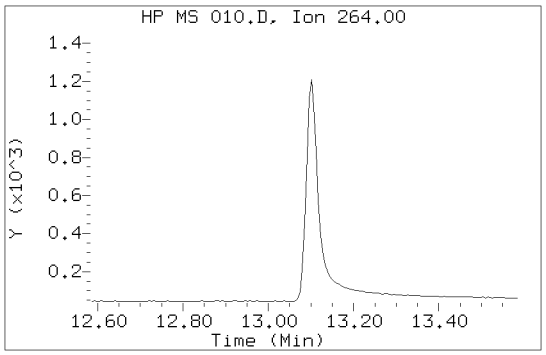
BEFORE

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25-Aug-2022
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AFTER

MASS
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AREA
4163
HEIGHT
1174
25-Aug-2022
16:08
linh
pham

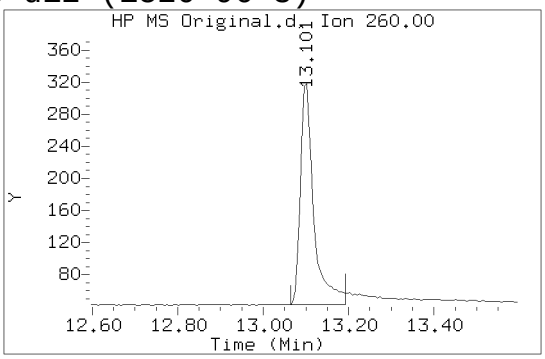


Data File : \\NAHSTWS005\Target\chem\SV6.i\220310.b\010.D
Inj Date : 10-MAR-2022 14:15
InstruID : SV6.i
LabSampID : 1 4 DX-ICV

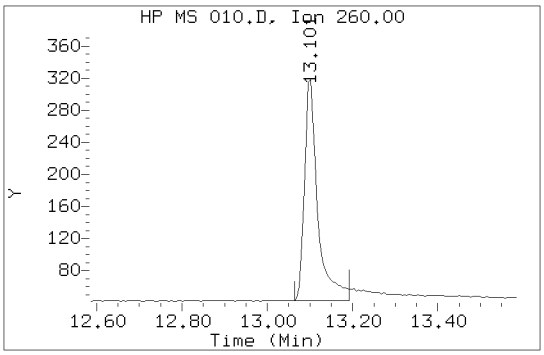
Perylene-d12 (1520-96-3)

Reason Code:

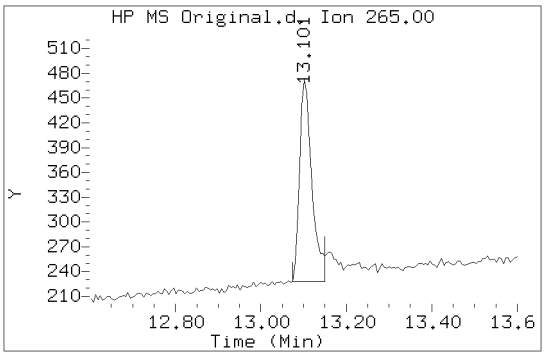
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HEIGHT
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16:04
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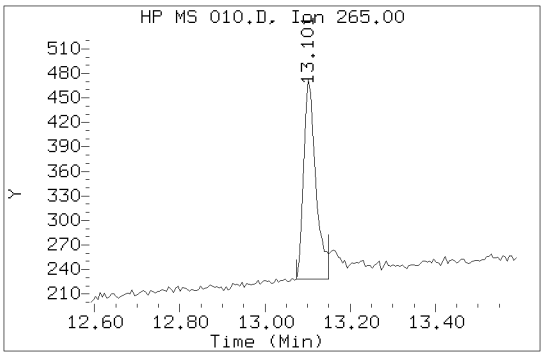
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25-Aug-2022
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BEFORE
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490
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244
25-Aug-2022
16:04
linh
pham



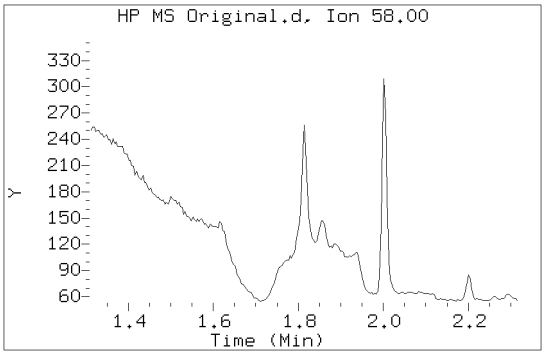
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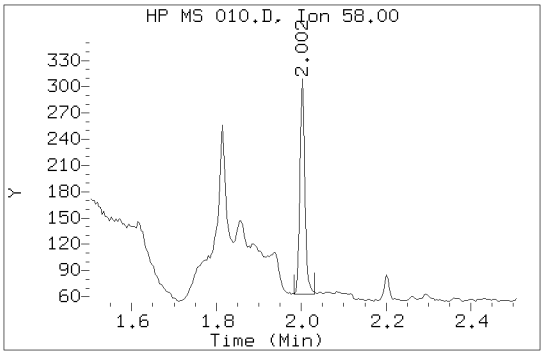
1,4-Dioxane ()

Reason Code:

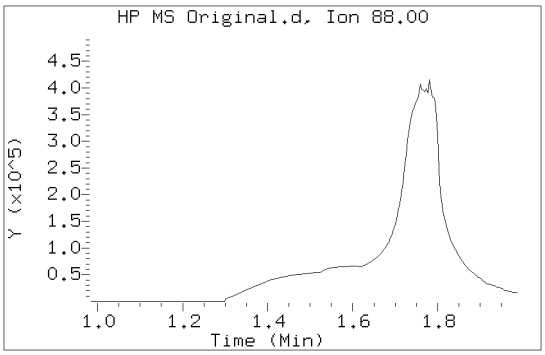
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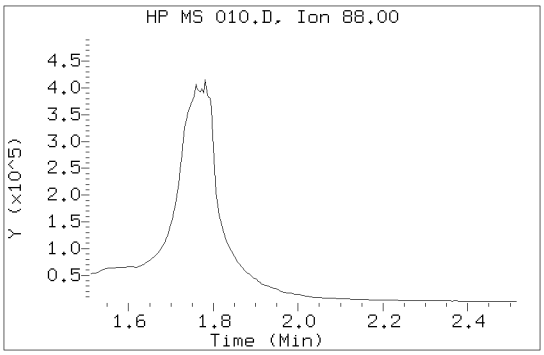
AFTER
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AREA
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HEIGHT
246
25-Aug-2022
16:08
linh
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BEFORE
MASS
88
AREA
0
HEIGHT
0
25-Aug-2022
16:04
linh
pham



AFTER
MASS
88
AREA
0
HEIGHT
0
25-Aug-2022
16:08
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pham



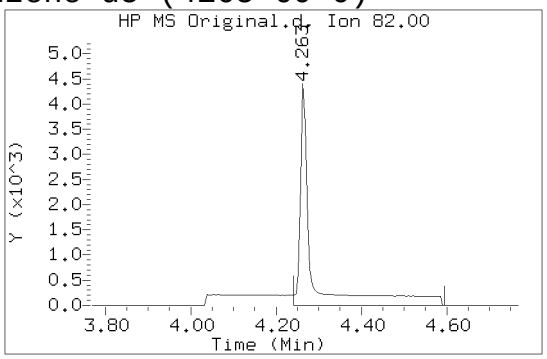
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Inj Date : 10-MAR-2022 14:15
InstruID : SV6.i
LabSampID : 1 4 DX-ICV

Nitrobenzene-d5 (4165-60-0)

Reason Code:

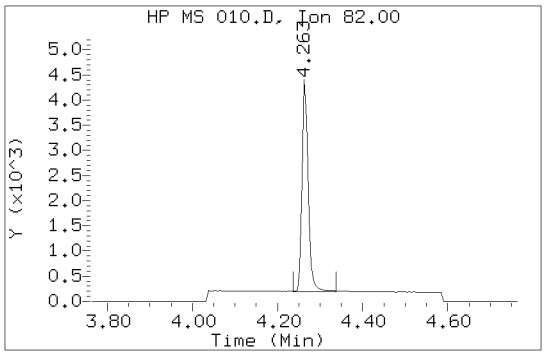
BEFORE

MASS
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25-Aug-2022
16:04
linh
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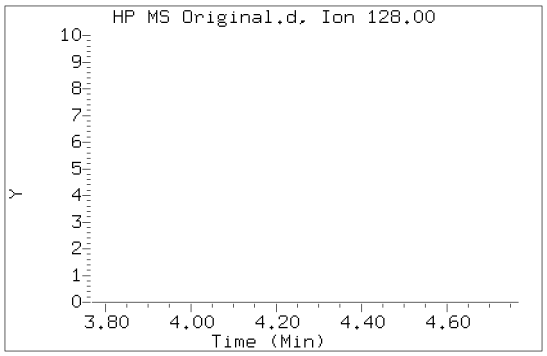
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16:08
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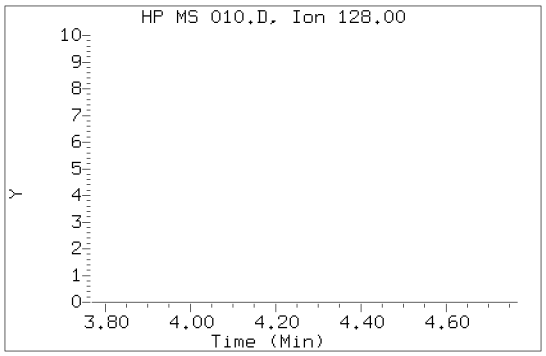
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16:04
linh
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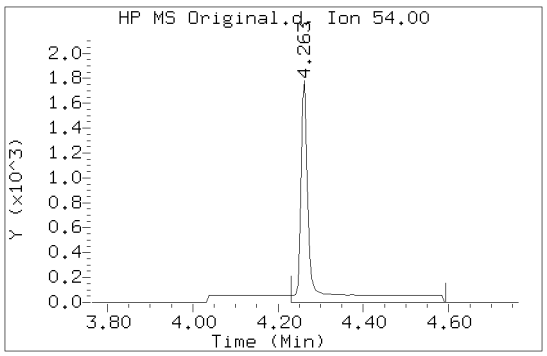
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MASS
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16:08
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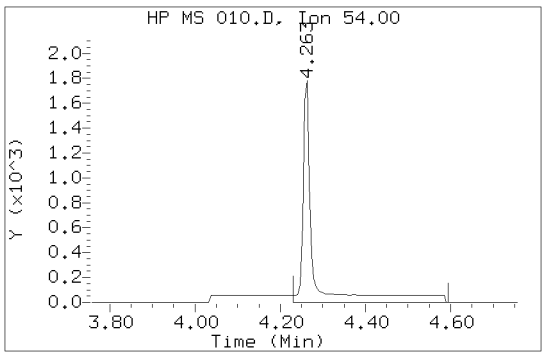
BEFORE

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1781
25-Aug-2022
16:04
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AFTER

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25-Aug-2022
16:08
linh
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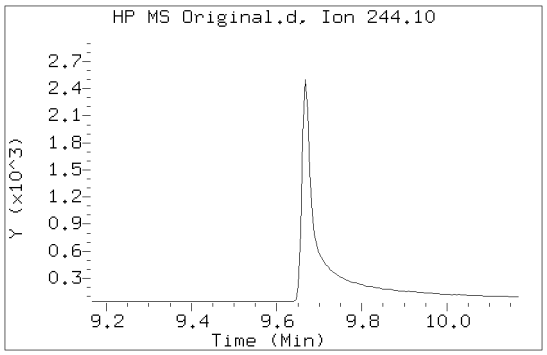


4-Terphenyl-d14 (1718-51-0)

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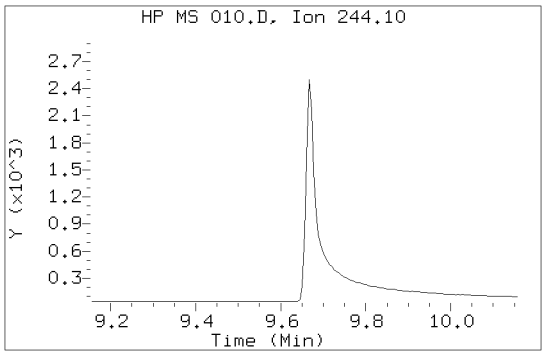
BEFORE

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AREA
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HEIGHT
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25-Aug-2022
16:04
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AFTER

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25-Aug-2022
16:08
linh
pham

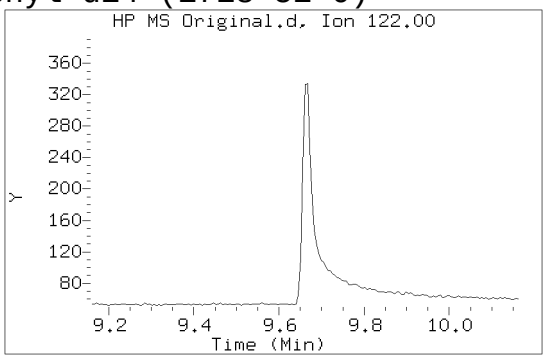


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Inj Date : 10-MAR-2022 14:15
InstruID : SV6.i
LabSampID : 1 4 DX-ICV

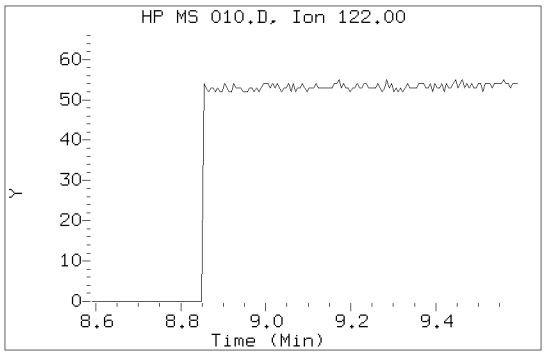
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Reason Code:

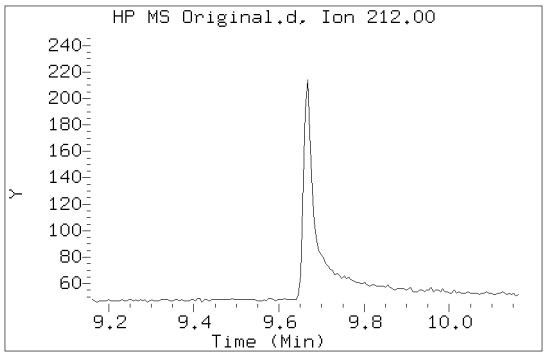
BEFORE
MASS
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AREA
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HEIGHT
0
25-Aug-2022
16:04
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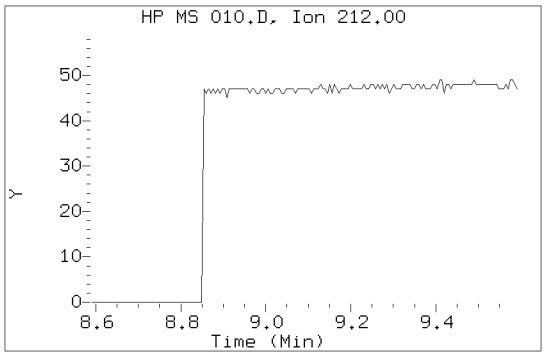
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122
AREA
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HEIGHT
0
25-Aug-2022
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BEFORE
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HEIGHT
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25-Aug-2022
16:04
linh
pham



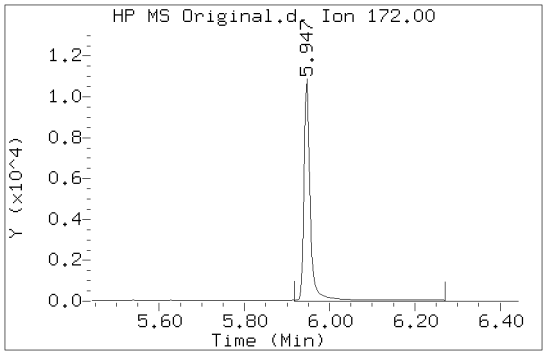
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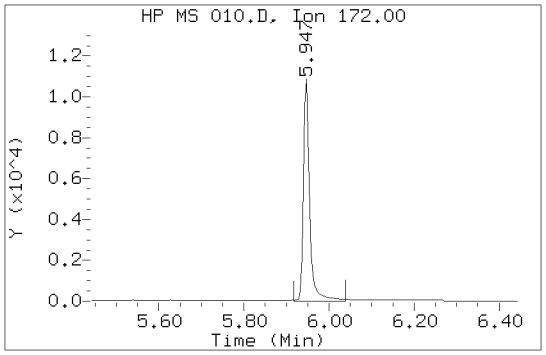
2-Fluorobiphenyl (321-60-8)

Reason Code:

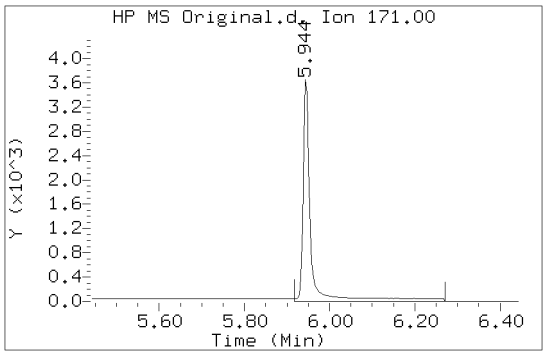
BEFORE
MASS
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AREA
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HEIGHT
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25-Aug-2022
16:04
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pham



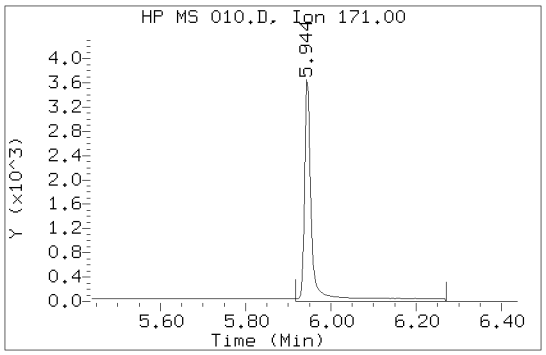
AFTER
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HEIGHT
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25-Aug-2022
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pham



BEFORE
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AREA
4702
HEIGHT
3651
25-Aug-2022
16:04
linh
pham



AFTER
MASS
171
AREA
4702
HEIGHT
3651
25-Aug-2022
16:08
linh
pham



01159125

right solutions.
right partner.

Raw Data SV-6 421640

Semi-Volatiles by by EPA 8270SIM

Workorder

HS22110111

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Monthly Effluent Samples

11/17/2022

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\221111.b\01.D Page 1
Report Date: 11-Nov-2022 10:48

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\SV6.i\221111.b\01.D
Lab Smp Id: DFTPP Client Smp ID: DFTPP
Inj Date : 11-NOV-2022 10:20
Operator : smith Inst ID: SV6.i
Smp Info : DFTPP;DFTPP;3;;DFTPP
Misc Info :
Comment :
Method : \\NAHSTWS005\Target\chem\SV6.i\221111.b\DFTPP.m
Meth Date : 27-Sep-2022 15:31 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: NAHSTW7095

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		
5.244	5.512	-0.268	198	744384			0.00- 100.00	100.00
5.244	5.512	-0.268	51	313408			10.00- 80.00	42.10
5.244	5.512	-0.268	68	3566			0.00- 2.00	1.44
5.244	5.512	-0.268	69	246976			0.00- 0.00	33.18
5.244	5.512	-0.268	70	1398			0.00- 2.00	0.57
5.244	5.512	-0.268	127	301440			10.00- 80.00	40.50
5.244	5.512	-0.268	197	2088			0.00- 2.00	0.28
5.244	5.512	-0.268	199	49704			5.00- 9.00	6.68
5.244	5.512	-0.268	275	184640			10.00- 60.00	24.80
5.244	5.512	-0.268	365	22312			1.00- 100.00	3.00
5.244	5.512	-0.268	441	94424			0.01- 99.99	78.45
5.244	5.512	-0.268	442	628928			50.00- 150.00	84.49
5.244	5.512	-0.268	443	120360			15.00- 24.00	19.14

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 198	41.85
68	Less than 2.00% of mass 69	0.48 (1.44)
69	Mass 69 relative abundance	33.18
70	Less than 2.00% of mass 69	0.19 (0.57)
127	10.00 - 80.00% of mass 198	40.50
197	Less than 2.00% of mass 198	0.28
199	5.00 - 9.00% of mass 198	6.68
275	10.00 - 60.00% of mass 198	24.80
365	1.00 - 100.00% of mass 198	3.00
441	Present, but less than mass 443	12.68
442	50.00 - 150.00% of mass 198	84.49
443	15.00 - 24.00% of mass 442	16.17 (19.14)

Data File: 01.D
Spectrum: Avg. Scans 496-498 (5.24), Background Scan 491 (SUB)
Location of Maximum: 198.00
Number of points: 328

m/z	Y	m/z	Y	m/z	Y	m/z	Y
37.00	325	131.00	2089	215.00	2039	304.00	1604
38.00	2160	132.00	1009	216.00	3752	305.00	174
39.00	17456	133.00	419	217.00	48864	308.00	662
40.00	604	134.00	3167	218.00	6277	309.00	501
45.00	539	135.00	10096	219.00	624	310.00	632
50.00	77336	136.00	3853	221.00	37616	311.00	157
51.00	311488	137.00	4698	222.00	3426	312.00	156
52.00	15940	138.00	1048	223.00	11375	313.00	381
53.00	604	139.00	636	224.00	112008	314.00	2334
55.00	929	140.00	1310	225.00	27480	315.00	5251
56.00	9508	141.00	14730	226.00	2680	316.00	2950
57.00	21672	142.00	5145	227.00	43752	317.00	609
58.00	855	143.00	3516	228.00	6182	320.00	181
59.00	284	144.00	1050	229.00	9520	321.00	1541
60.00	99	145.00	880	230.00	1323	322.00	765
61.00	3521	146.00	2714	231.00	3783	323.00	17352
62.00	3604	147.00	7911	232.00	563	324.00	3133
63.00	11569	148.00	20368	233.00	742	325.00	212
64.00	1576	149.00	3971	234.00	2589	326.00	318
65.00	5495	150.00	1053	235.00	3042	327.00	2984
66.00	325	151.00	1925	236.00	2022	328.00	1528
67.00	244	152.00	1169	237.00	3382	329.00	220
68.00	3566	153.00	4637	238.00	509	330.00	54
69.00	246976	154.00	3709	239.00	1519	332.00	1152
70.00	1398	155.00	9243	240.00	1380	333.00	1563
71.00	257	156.00	14319	241.00	2297	334.00	10442
72.00	107	157.00	2685	242.00	5574	335.00	2725
73.00	1308	158.00	2750	243.00	5927	336.00	391
74.00	25864	159.00	2471	244.00	88664	339.00	195
75.00	39880	160.00	5126	245.00	12104	340.00	209
76.00	14045	161.00	7781	246.00	16149	341.00	2000
77.00	302016	162.00	2327	247.00	3159	342.00	498
78.00	19800	163.00	633	248.00	695	346.00	3533
79.00	17104	164.00	746	249.00	2742	347.00	649
80.00	13135	165.00	5445	250.00	656	350.00	50
81.00	19960	166.00	4867	251.00	642	351.00	236
82.00	5053	167.00	36184	252.00	741	352.00	5026
83.00	4305	168.00	16007	253.00	1638	353.00	3431
85.00	3024	169.00	2953	254.00	1852	354.00	4969
86.00	3600	170.00	1169	255.00	418304	355.00	942
87.00	2574	171.00	1339	256.00	60696	358.00	54
88.00	393	172.00	3128	257.00	4448	359.00	351
89.00	504	173.00	4335	258.00	23624	364.00	52
91.00	4042	174.00	7123	259.00	3927	365.00	22312
92.00	4568	175.00	14134	260.00	634	366.00	3180

93.00	32960	176.00	3884	261.00	633	367.00	147
94.00	2368	177.00	5887	262.00	130	370.00	533
95.00	548	178.00	1931	263.00	189	371.00	1270
96.00	1475	179.00	24600	264.00	388	372.00	8680
97.00	534	180.00	16896	265.00	8778	373.00	2299
98.00	25448	181.00	8922	266.00	1584	374.00	150
99.00	18896	182.00	1273	267.00	237	377.00	182
100.00	1593	183.00	805	270.00	625	383.00	2273
101.00	11404	184.00	2135	271.00	880	384.00	671
102.00	575	185.00	13029	272.00	1188	385.00	219
103.00	3338	186.00	101536	273.00	12480	390.00	1365
104.00	6559	187.00	28424	274.00	32472	391.00	917
105.00	6400	188.00	2666	275.00	184640	392.00	644
106.00	2045	189.00	5575	276.00	23904	393.00	51
107.00	90240	190.00	904	277.00	14903	395.00	50
108.00	13174	191.00	2806	278.00	2243	397.00	63
109.00	2207	192.00	7704	279.00	537	401.00	536
110.00	155264	193.00	8756	281.00	156	402.00	3394
111.00	25000	194.00	1920	282.00	373	403.00	5349
112.00	3011	195.00	1250	283.00	1630	404.00	1757
113.00	1114	196.00	21224	284.00	1064	405.00	27
114.00	233	197.00	2088	285.00	2772	410.00	177
115.00	323	198.00	744384	286.00	464	415.00	204
116.00	4599	199.00	49704	288.00	158	420.00	52
117.00	86904	200.00	3774	289.00	626	421.00	4462
118.00	6073	201.00	3377	290.00	445	422.00	3867
119.00	731	203.00	4860	291.00	358	423.00	32712
120.00	981	204.00	25960	292.00	678	424.00	6285
121.00	324	205.00	43856	293.00	3331	425.00	688
122.00	5330	206.00	186624	294.00	860	441.00	94424
123.00	8843	207.00	24784	295.00	1046	442.00	628928
124.00	3698	208.00	6339	296.00	51880	443.00	120360
125.00	3776	209.00	2105	297.00	7094	444.00	11073
126.00	1065	210.00	2793	298.00	548	445.00	595
127.00	301440	211.00	7669	299.00	72		
128.00	22616	212.00	379	301.00	658		
129.00	116312	213.00	468	302.00	731		
130.00	10003	214.00	167	303.00	5901		

Data File: \\NAHSTWS005\Target\chem\SV6.i\221111.b\01.D

Date : 11-NOV-2022 10:20

Client ID: DFTPP

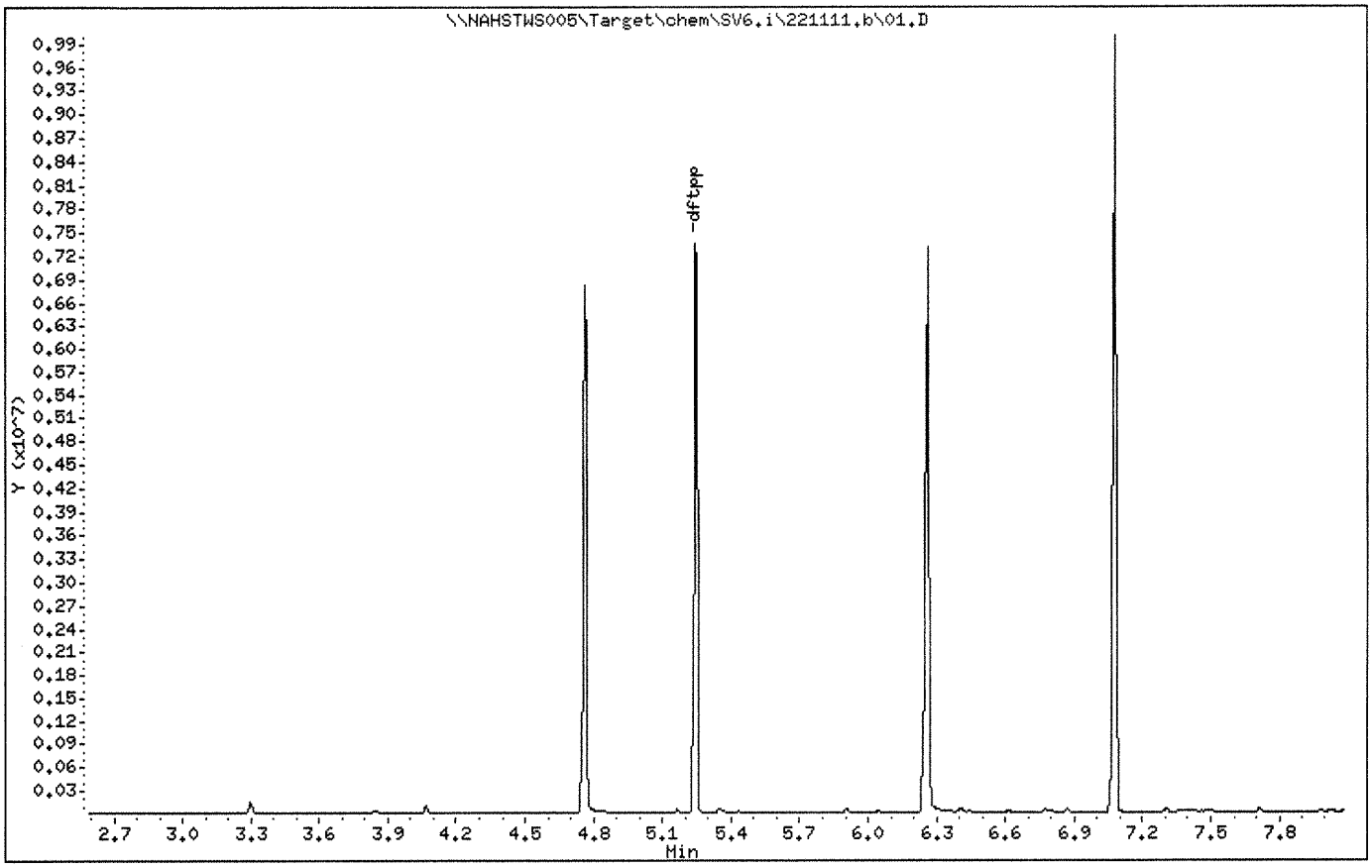
Instrument: SV6.i

Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: smith

Column phase: DB-5MS

Column diameter: 0.25



Data File: \\NAHSTWS005\Target\chem\SV6.i\221111.b\01.D

Date : 11-NOV-2022 10:20

Client ID: DFTPP

Instrument: SV6.i

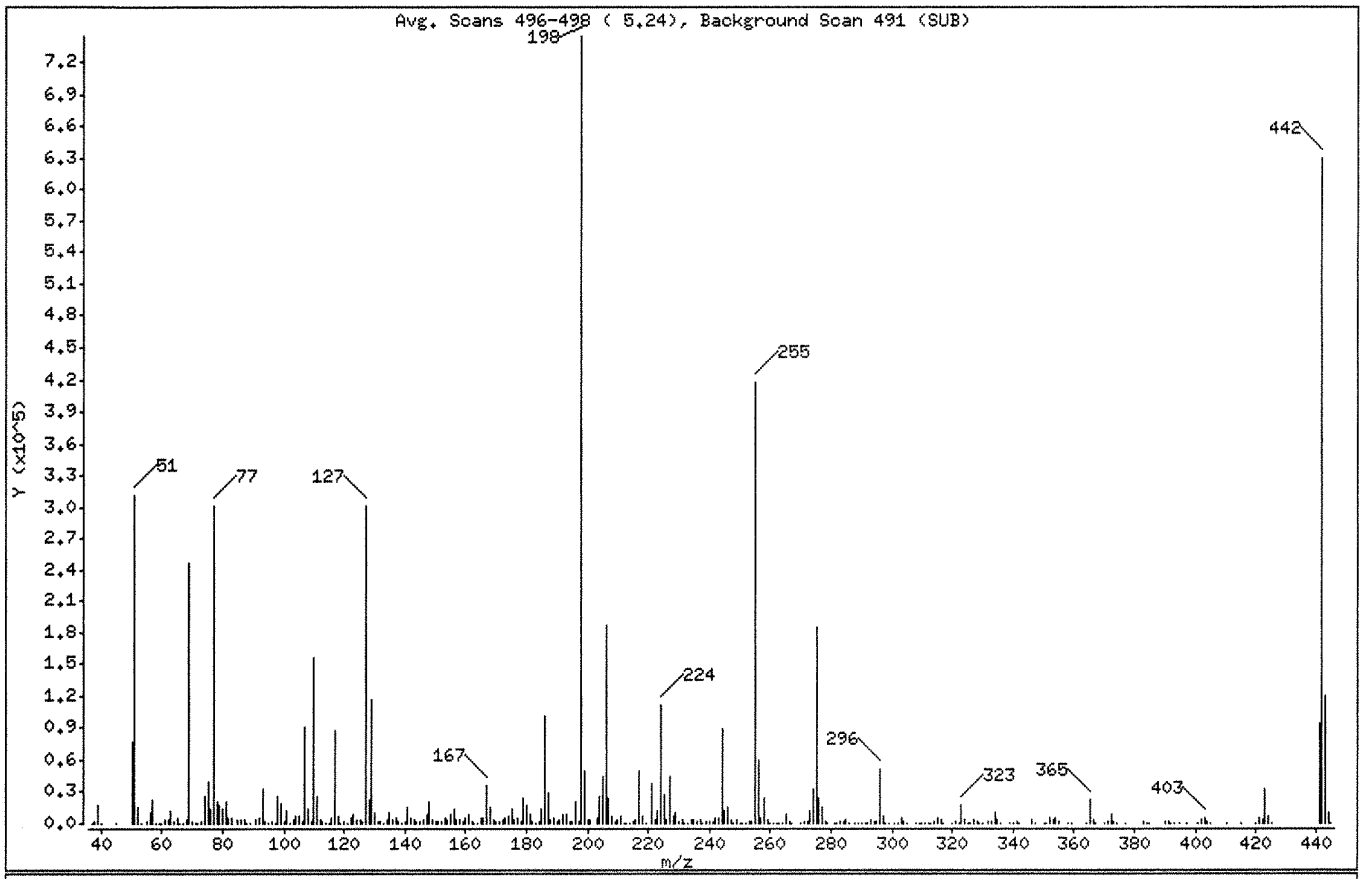
Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: smith

Column phase: DB-5MS

Column diameter: 0.25

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 198	41.85
68	Less than 2.00% of mass 69	0.48 (1.44)
69	Mass 69 relative abundance	33.18
70	Less than 2.00% of mass 69	0.19 (0.57)
127	10.00 - 80.00% of mass 198	40.50
197	Less than 2.00% of mass 198	0.28
199	5.00 - 9.00% of mass 198	6.68
275	10.00 - 60.00% of mass 198	24.80
365	1.00 - 100.00% of mass 198	3.00
441	Present, but less than mass 443	12.68
442	50.00 - 150.00% of mass 198	84.49
443	15.00 - 24.00% of mass 442	16.17 (19.14)

Date : 11-NOV-2022 10:20

Client ID: DFTPP Instrument: SV6.i

Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: smith

Column phase: DB-5MS Column diameter: 0.25

Data File: 01.D
Spectrum: Avg. Scans 496-498 (5.24), Background Scan 491 (SUB)
Location of Maximum: 198.00
Number of points: 328

m/z	Y	m/z	Y	m/z	Y	m/z	Y
37.00	325	131.00	2089	215.00	2039	304.00	1604
38.00	2160	132.00	1009	216.00	3752	305.00	174
39.00	17456	133.00	419	217.00	48864	308.00	662
40.00	604	134.00	3167	218.00	6277	309.00	501
45.00	539	135.00	10096	219.00	624	310.00	632
50.00	77336	136.00	3853	221.00	37616	311.00	157
51.00	311488	137.00	4698	222.00	3426	312.00	156
52.00	15940	138.00	1048	223.00	11375	313.00	381
53.00	604	139.00	636	224.00	112008	314.00	2334
55.00	929	140.00	1310	225.00	27480	315.00	5251
56.00	9508	141.00	14730	226.00	2680	316.00	2950
57.00	21672	142.00	5145	227.00	43752	317.00	609
58.00	855	143.00	3516	228.00	6182	320.00	181
59.00	284	144.00	1050	229.00	9520	321.00	1541
60.00	99	145.00	880	230.00	1323	322.00	765
61.00	3521	146.00	2714	231.00	3783	323.00	17352
62.00	3604	147.00	7911	232.00	563	324.00	3133
63.00	11569	148.00	20368	233.00	742	325.00	212
64.00	1576	149.00	3971	234.00	2589	326.00	318
65.00	5495	150.00	1053	235.00	3042	327.00	2984
66.00	325	151.00	1925	236.00	2022	328.00	1528
67.00	244	152.00	1169	237.00	3382	329.00	220
68.00	3566	153.00	4637	238.00	509	330.00	54
69.00	246976	154.00	3709	239.00	1519	332.00	1152
70.00	1398	155.00	9243	240.00	1380	333.00	1563
71.00	257	156.00	14319	241.00	2297	334.00	10442
72.00	107	157.00	2685	242.00	5574	335.00	2725
73.00	1308	158.00	2750	243.00	5927	336.00	391
74.00	25864	159.00	2471	244.00	88664	339.00	195
75.00	39880	160.00	5126	245.00	12104	340.00	209
76.00	14045	161.00	7781	246.00	16149	341.00	2000
77.00	302016	162.00	2327	247.00	3159	342.00	498
78.00	19800	163.00	633	248.00	695	346.00	3533
79.00	17104	164.00	746	249.00	2742	347.00	649
80.00	13135	165.00	5445	250.00	656	350.00	50

Data File: \\NAHSTWS005\Target\chem\SV6.i\221111.b\01.D

Date : 11-NOV-2022 10:20

Client ID: DFTPP Instrument: SV6.i

Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: smith

Column phase: DB-5MS Column diameter: 0.25

Data File: 01.D
Spectrum: Avg. Scans 496-498 (5.24), Background Scan 491 (SUB)
Location of Maximum: 198.00
Number of points: 328

m/z	Y	m/z	Y	m/z	Y	m/z	Y
81.00	19960	166.00	4867	251.00	642	351.00	236
82.00	5053	167.00	36184	252.00	741	352.00	5026
83.00	4305	168.00	16007	253.00	1638	353.00	3431
85.00	3024	169.00	2953	254.00	1852	354.00	4969
86.00	3600	170.00	1169	255.00	418304	355.00	942
87.00	2574	171.00	1339	256.00	60696	358.00	54
88.00	393	172.00	3128	257.00	4448	359.00	351
89.00	504	173.00	4335	258.00	23624	364.00	52
91.00	4042	174.00	7123	259.00	3927	365.00	22312
92.00	4568	175.00	14134	260.00	634	366.00	3180
93.00	32960	176.00	3884	261.00	633	367.00	147
94.00	2368	177.00	5887	262.00	130	370.00	533
95.00	548	178.00	1931	263.00	189	371.00	1270
96.00	1475	179.00	24600	264.00	388	372.00	8680
97.00	534	180.00	16896	265.00	8778	373.00	2299
98.00	25448	181.00	8922	266.00	1584	374.00	150
99.00	18896	182.00	1273	267.00	237	377.00	182
100.00	1593	183.00	805	270.00	625	383.00	2273
101.00	11404	184.00	2135	271.00	880	384.00	671
102.00	575	185.00	13029	272.00	1188	385.00	219
103.00	3338	186.00	101536	273.00	12480	390.00	1365
104.00	6559	187.00	28424	274.00	32472	391.00	917
105.00	6400	188.00	2666	275.00	184640	392.00	644
106.00	2045	189.00	5575	276.00	23904	393.00	51
107.00	90240	190.00	904	277.00	14903	395.00	50
108.00	13174	191.00	2806	278.00	2243	397.00	63
109.00	2207	192.00	7704	279.00	537	401.00	536
110.00	155264	193.00	8756	281.00	156	402.00	3394
111.00	25000	194.00	1920	282.00	373	403.00	5349
112.00	3011	195.00	1250	283.00	1630	404.00	1757
113.00	1114	196.00	21224	284.00	1064	405.00	27
114.00	233	197.00	2088	285.00	2772	410.00	177
115.00	323	198.00	744384	286.00	464	415.00	204
116.00	4599	199.00	49704	288.00	158	420.00	52
117.00	86904	200.00	3774	289.00	626	421.00	4462

Data File: \\NAHSTWS005\Target\chem\SV6.i\221111.b\01.D

Date : 11-NOV-2022 10:20

Client ID: DFTPP Instrument: SV6.i

Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: smith

Column phase: DB-5MS Column diameter: 0.25

Data File: 01.D
Spectrum: Avg. Scans 496-498 (5.24), Background Scan 491 (SUB)
Location of Maximum: 198.00
Number of points: 328

m/z	Y	m/z	Y	m/z	Y	m/z	Y
118.00	6073	201.00	3377	290.00	445	422.00	3867
119.00	731	203.00	4860	291.00	358	423.00	32712
120.00	981	204.00	25960	292.00	678	424.00	6285
121.00	324	205.00	43856	293.00	3331	425.00	688
122.00	5330	206.00	186624	294.00	860	441.00	94424
123.00	8843	207.00	24784	295.00	1046	442.00	628928
124.00	3698	208.00	6339	296.00	51880	443.00	120360
125.00	3776	209.00	2105	297.00	7094	444.00	11073
126.00	1065	210.00	2793	298.00	548	445.00	595
127.00	301440	211.00	7669	299.00	72		
128.00	22616	212.00	379	301.00	658		
129.00	116312	213.00	468	302.00	731		
130.00	10003	214.00	167	303.00	5901		

Data File : \\NAHSTWS005\Target\chem\SV6.i\221111.b\01.D
Inj Date : 11-NOV-2022 10:20
InstruID : SV6.i
LabSampID : DFTPP

NO MANUAL INTEGRATIONS

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\221111.b\04.D
Lab Smp Id: 14DIOX-0.08 Client Smp ID: 14DIOX-0.08
Inj Date : 11-NOV-2022 11:35
Operator : LG Inst ID: SV6.i
Smp Info : 14DIOX-0.08
Misc Info : ;;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\SV6.i\221111.b\DXSIM.m
Meth Date : 17-Nov-2022 12:16 SV6.i Quant Type: ISTD
Cal Date : 10-MAR-2022 12:56 Cal File: 009.D
Als bottle: 4 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)	ON-COL (NG)
* 20 1,4-Dichlorobenzene-d4	152	3.368	3.368	(1.000)	5056	0.10000	(aQM)
* 45 Naphthalene-d8	136	4.471	4.471	(1.000)	16867	0.10000	(M)
$ 33 Nitrobenzene-d5	82	3.835	3.835	(0.858)	4771	0.08000	0.08486(QM)
* 86 Acenaphthene-d10	164	6.141	6.141	(1.000)	9501	0.10000	(QM)
$ 69 2-Fluorobiphenyl	172	5.492	5.492	(0.894)	12261	0.08000	0.08291(M)
* 126 Phenanthrene-d10	188	7.586	7.586	(1.000)	17588	0.10000	
* 182 Chrysene-d12	240	10.345	10.345	(1.000)	10111	0.10000	(QM)
$ 158 4-Terphenyl-d14	244	9.162	9.162	(0.886)	14899	0.08000	0.07838(M)
* 198 Perylene-d12	264	12.338	12.338	(1.000)	8633	0.10000	
1 1,4-Dioxane	58	1.526	1.526	(0.453)	166	0.08000	0.07998(QMH)

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.

01159137

Data File: \\NAHSTWS005\Target\chem\SV6.i\221111.b\04.D

Date : 11-NOV-2022 11:35

Client ID: 14DIOX-0.08

Instrument: SV6.i

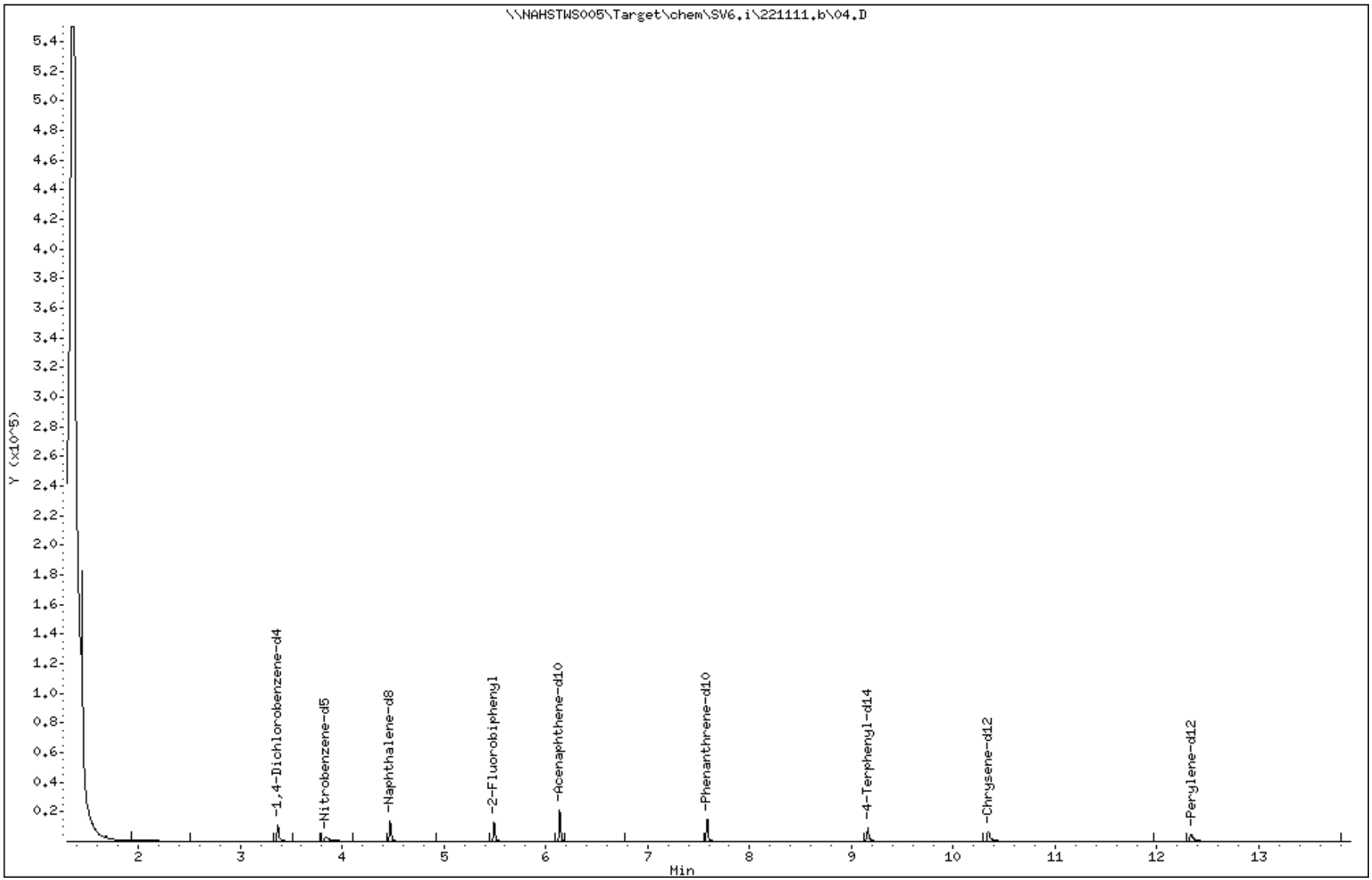
Sample Info: 14DIOX-0.08

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28



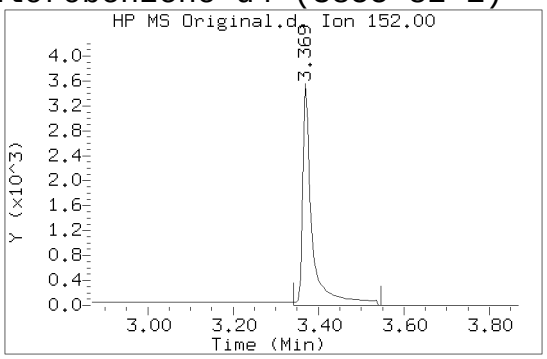
Data File : \\NAHSTWS005\Target\chem\SV6.i\221111.b\04.D
Inj Date : 11-NOV-2022 11:35
InstruID : SV6.i
LabSampID : 14DIOX-0.08

1,4-Dichlorobenzene-d4 (3855-82-1)

Reason Code:

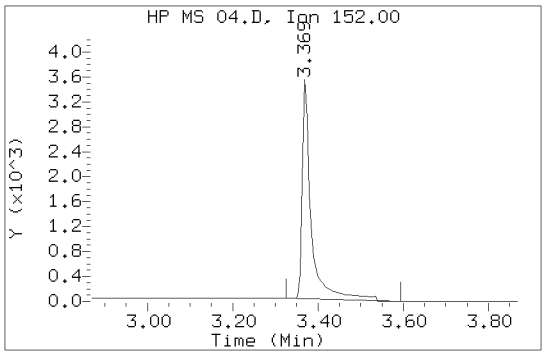
BEFORE

MASS
152
AREA
5419
HEIGHT
3556
11-Nov-2022
11:51
ALSHS
Server



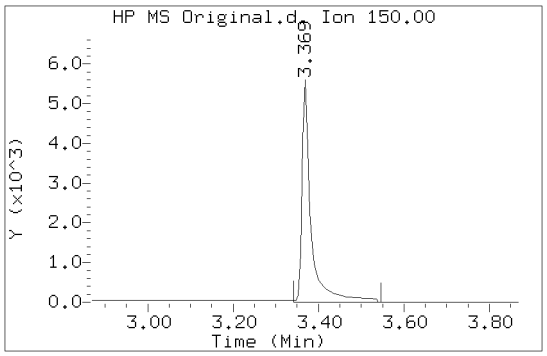
AFTER

MASS
152
AREA
5056
HEIGHT
3513
17-Nov-2022
12:16
ALSHS
Ser



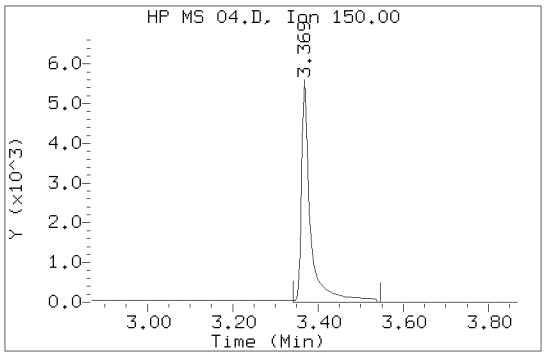
BEFORE

MASS
150
AREA
8177
HEIGHT
5598
11-Nov-2022
11:51
ALSHS
Server



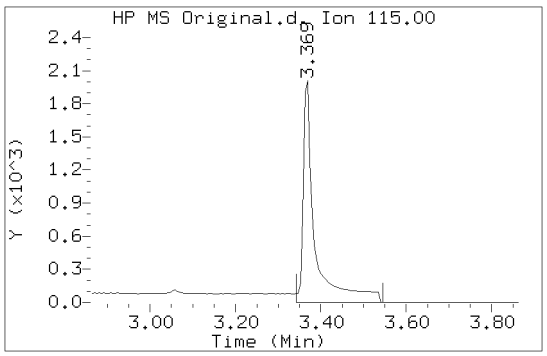
AFTER

MASS
150
AREA
8177
HEIGHT
5598
17-Nov-2022
12:16
ALSHS
Ser



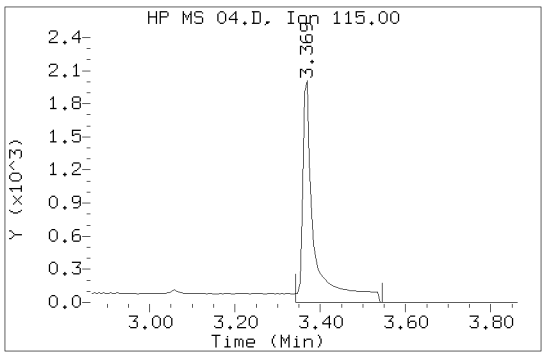
BEFORE

MASS
115
AREA
3755
HEIGHT
2009
11-Nov-2022
11:51
ALSHS
Server



AFTER

MASS
115
AREA
3755
HEIGHT
2009
17-Nov-2022
12:16
ALSHS
Ser

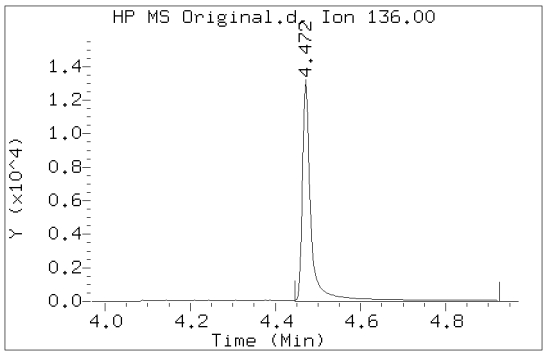


Naphthalene-d8 (1146-65-2)

Reason Code:

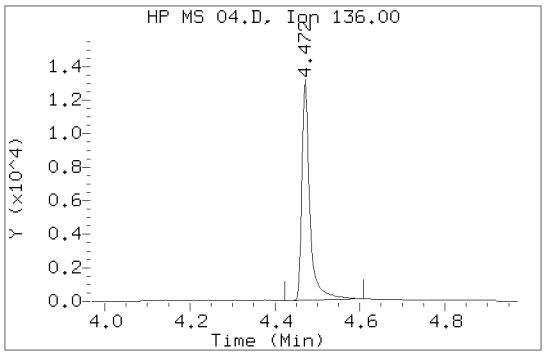
BEFORE

MASS
136
AREA
19595
HEIGHT
13220
11-Nov-2022
11:51
ALSHS
Server



AFTER

MASS
136
AREA
16867
HEIGHT
13140
17-Nov-2022
12:16
ALSHS
Ser



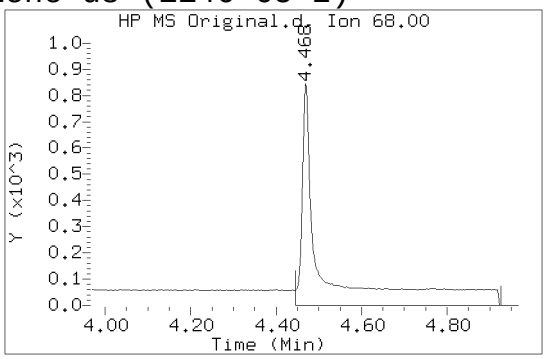
Data File : \\NAHSTWS005\Target\chem\SV6.i\221111.b\04.D
Inj Date : 11-NOV-2022 11:35
InstruID : SV6.i
LabSampID : 14DIOX-0.08

Naphthalene-d8 (1146-65-2)

Reason Code:

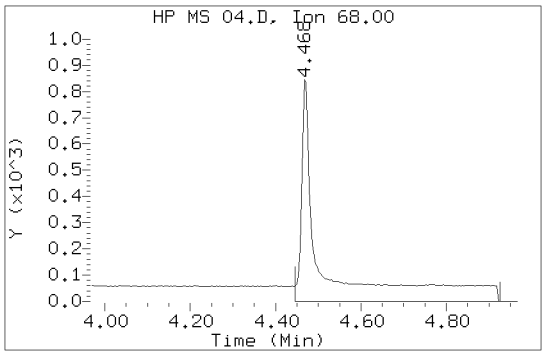
BEFORE

MASS
68
AREA
2790
HEIGHT
845
11-Nov-2022
11:51
ALSHS
Server



AFTER

MASS
68
AREA
2790
HEIGHT
845
17-Nov-2022
12:16
ALSHS
Ser

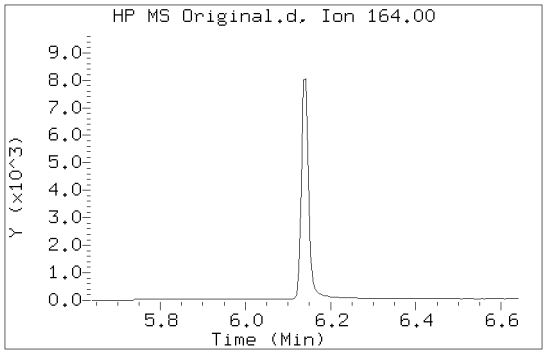


Acenaphthene-d10 (15067-26-2)

Reason Code:

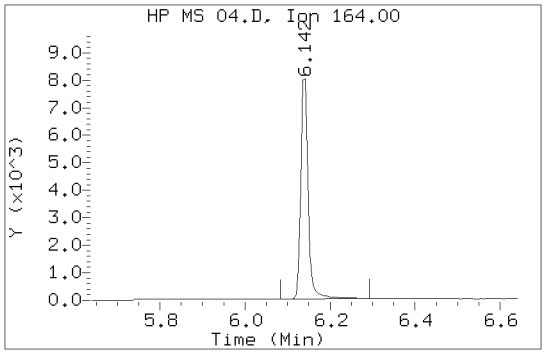
BEFORE

MASS
164
AREA
12035
HEIGHT
8058
11-Nov-2022
11:51
ALSHS
Server



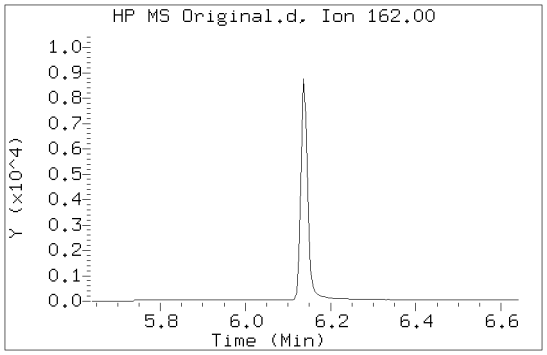
AFTER

MASS
164
AREA
9501
HEIGHT
7997
17-Nov-2022
12:16
ALSHS
Ser



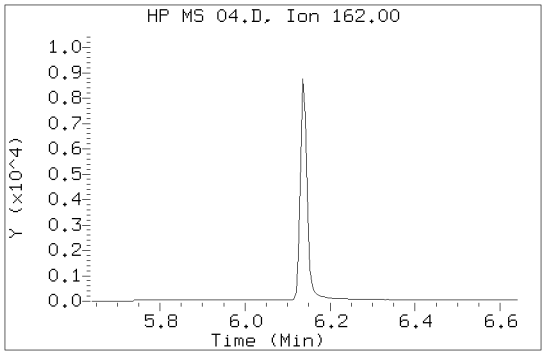
BEFORE

MASS
162
AREA
12059
HEIGHT
8758
11-Nov-2022
11:51
ALSHS
Server



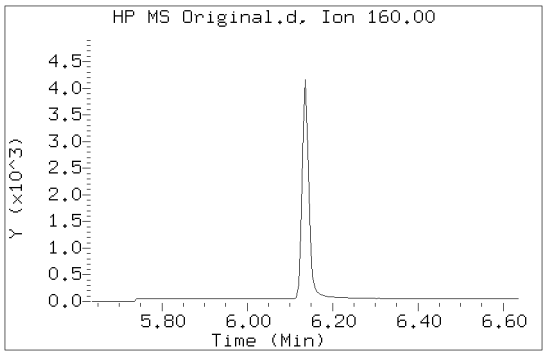
AFTER

MASS
162
AREA
12059
HEIGHT
8758
17-Nov-2022
12:16
ALSHS
Ser



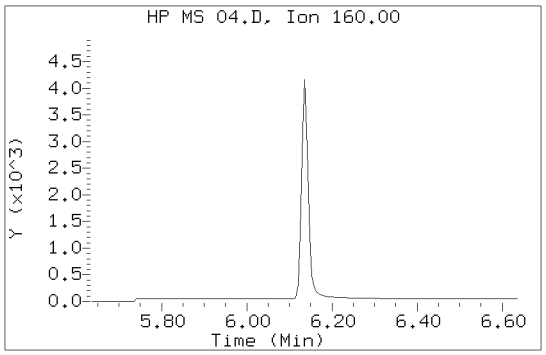
BEFORE

MASS
160
AREA
6589
HEIGHT
4161
11-Nov-2022
11:51
ALSHS
Server



AFTER

MASS
160
AREA
6589
HEIGHT
4161
17-Nov-2022
12:16
ALSHS
Ser

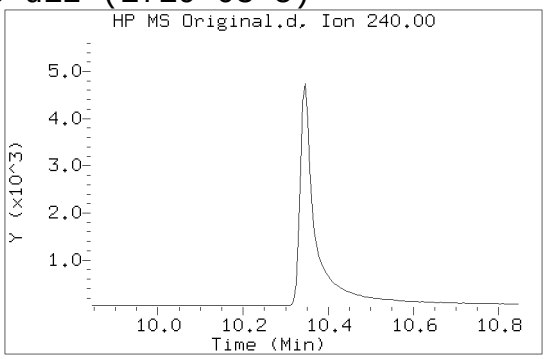


Data File : \\NAHSTWS005\Target\chem\SV6.i\221111.b\04.D
Inj Date : 11-NOV-2022 11:35
InstruID : SV6.i
LabSampID : 14DIOX-0.08

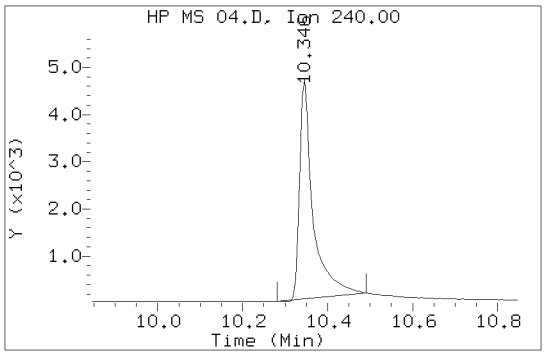
Chrysene-d12 (1719-03-5)

Reason Code:

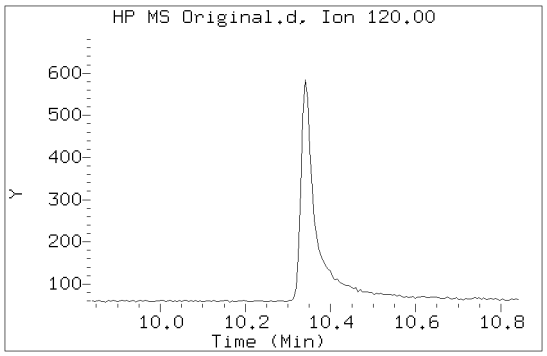
BEFORE
MASS
240
AREA
12944
HEIGHT
4693
11-Nov-2022
11:51
ALSHS
Server



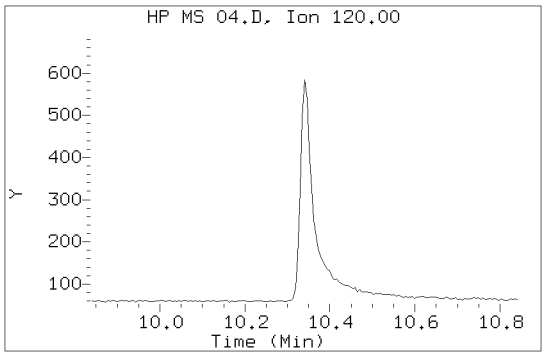
AFTER
MASS
240
AREA
10111
HEIGHT
4639
17-Nov-2022
12:16
ALSHS
Ser



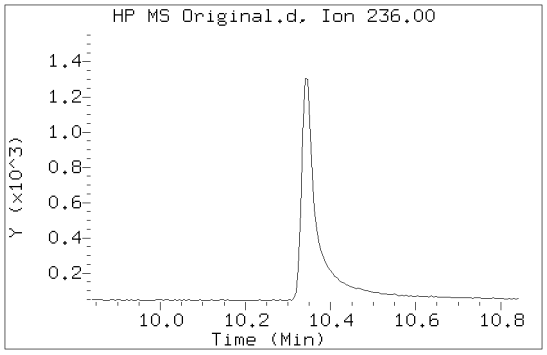
BEFORE
MASS
120
AREA
1433
HEIGHT
523
11-Nov-2022
11:51
ALSHS
Server



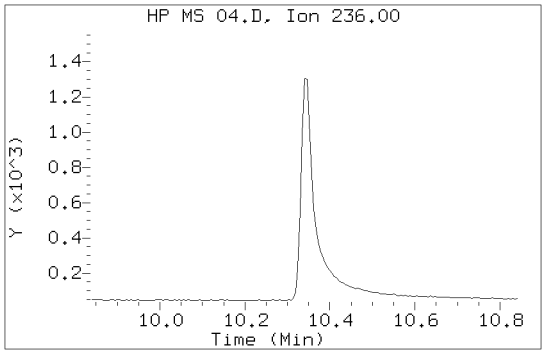
AFTER
MASS
120
AREA
1433
HEIGHT
523
17-Nov-2022
12:16
ALSHS
Ser



BEFORE
MASS
236
AREA
3618
HEIGHT
1256
11-Nov-2022
11:51
ALSHS
Server



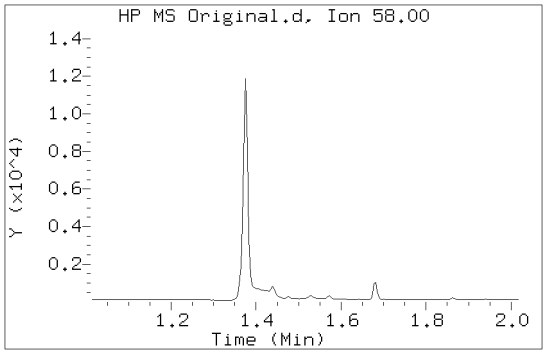
AFTER
MASS
236
AREA
3618
HEIGHT
1256
17-Nov-2022
12:16
ALSHS
Ser



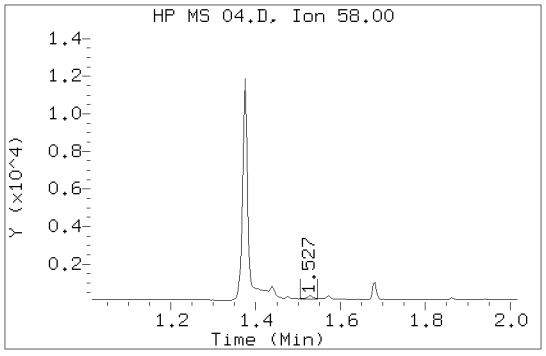
1,4-Dioxane ()

Reason Code:

BEFORE
MASS
58
AREA
122
HEIGHT
34
11-Nov-2022
11:51
ALSHS
Server



AFTER
MASS
58
AREA
166
HEIGHT
167
17-Nov-2022
12:16
ALSHS
Ser



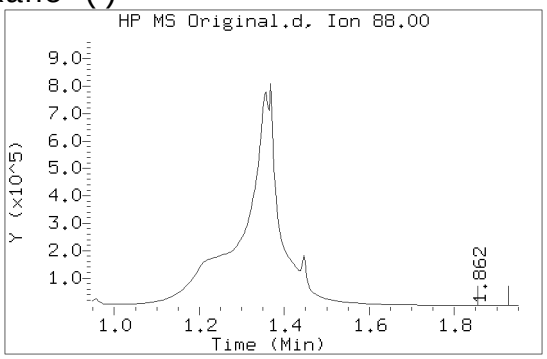
Data File : \\NAHSTWS005\Target\chem\SV6.i\221111.b\04.D
Inj Date : 11-NOV-2022 11:35
InstruID : SV6.i
LabSampID : 14DIOX-0.08

1,4-Dioxane ()

Reason Code:

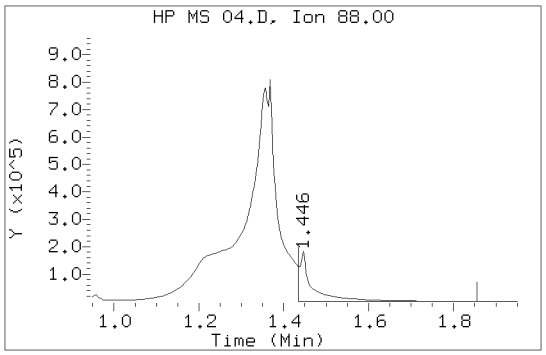
BEFORE

MASS
88
AREA
584
HEIGHT
427
11-Nov-2022
11:51
ALSHS
Server



AFTER

MASS
88
AREA
387808
HEIGHT
181298
17-Nov-2022
12:16
ALSHS
Ser

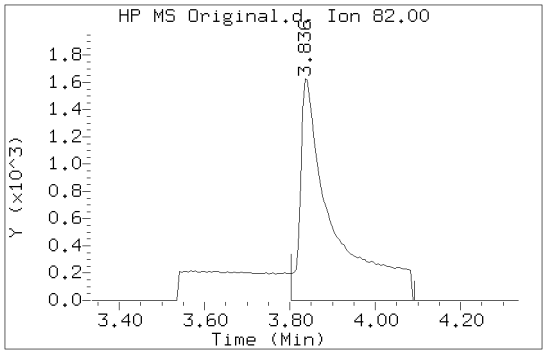


Nitrobenzene-d5 (4165-60-0)

Reason Code:

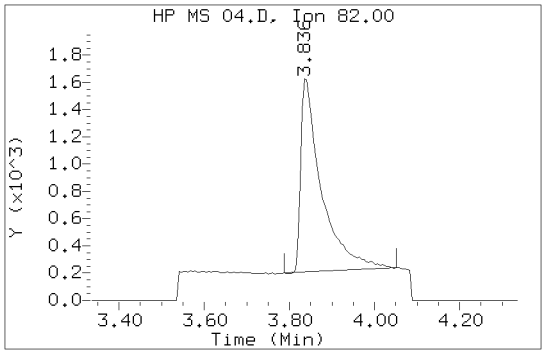
BEFORE

MASS
82
AREA
8516
HEIGHT
1627
11-Nov-2022
11:51
ALSHS
Server



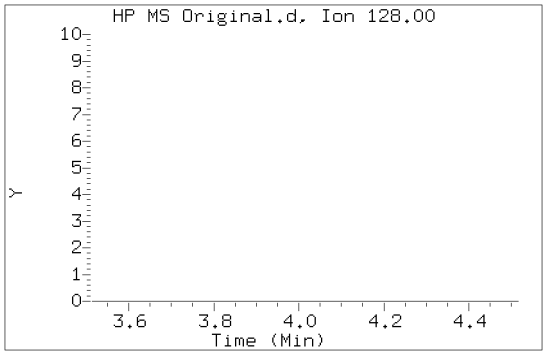
AFTER

MASS
82
AREA
4771
HEIGHT
1419
17-Nov-2022
12:16
ALSHS
Ser



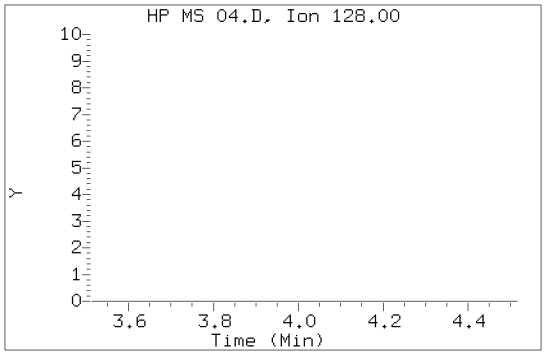
BEFORE

MASS
128
AREA
0
HEIGHT
0
11-Nov-2022
11:51
ALSHS
Server



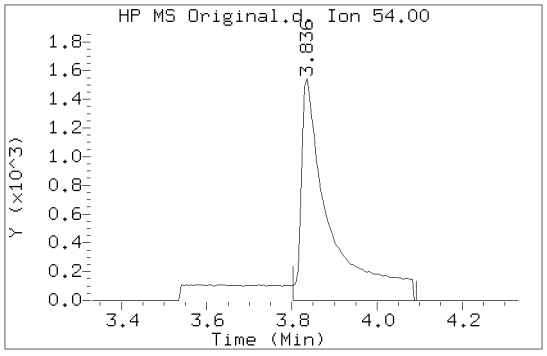
AFTER

MASS
128
AREA
0
HEIGHT
0
17-Nov-2022
12:16
ALSHS
Ser



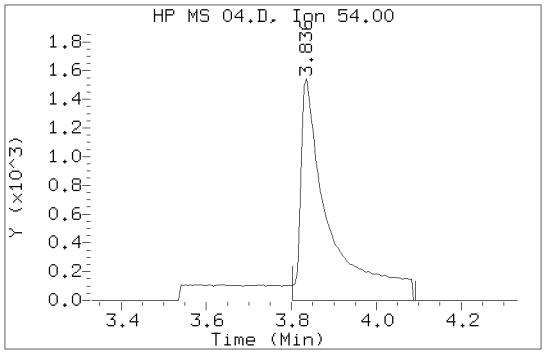
BEFORE

MASS
54
AREA
7042
HEIGHT
1543
11-Nov-2022
11:51
ALSHS
Server



AFTER

MASS
54
AREA
7042
HEIGHT
1543
17-Nov-2022
12:16
ALSHS
Ser



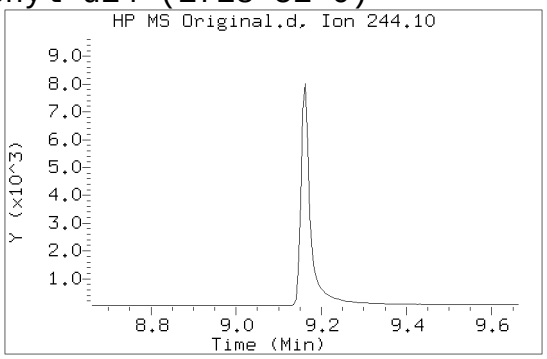
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Inj Date : 11-NOV-2022 11:35
InstruID : SV6.i
LabSampID : 14DIOX-0.08

4-Terphenyl-d14 (1718-51-0)

Reason Code:

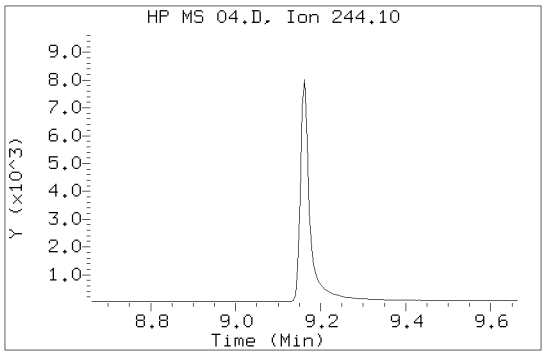
BEFORE

MASS
244.1
AREA
14637
HEIGHT
8013
11-Nov-2022
11:51
ALSHS
Server



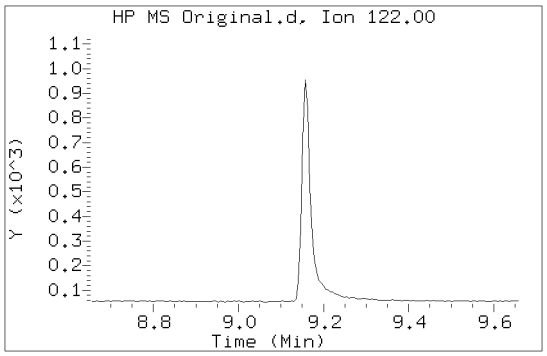
AFTER

MASS
244.1
AREA
14899
HEIGHT
8025
17-Nov-2022
12:16
ALSHS
Ser



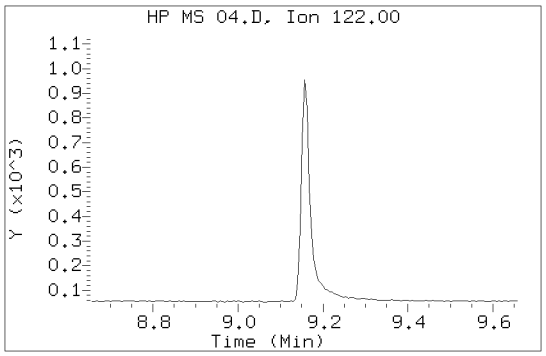
BEFORE

MASS
122
AREA
3284
HEIGHT
954
11-Nov-2022
11:51
ALSHS
Server



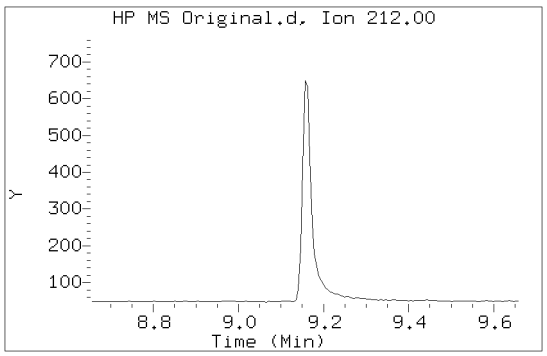
AFTER

MASS
122
AREA
3284
HEIGHT
954
17-Nov-2022
12:16
ALSHS
Ser



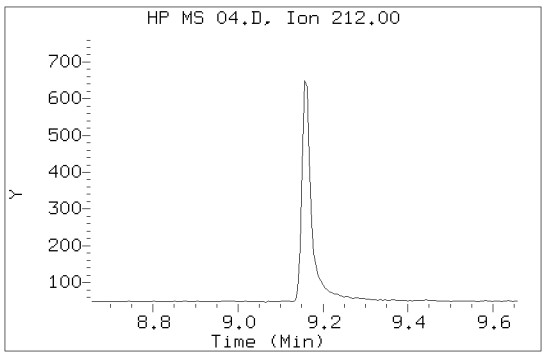
BEFORE

MASS
212
AREA
2615
HEIGHT
649
11-Nov-2022
11:51
ALSHS
Server



AFTER

MASS
212
AREA
2615
HEIGHT
649
17-Nov-2022
12:16
ALSHS
Ser

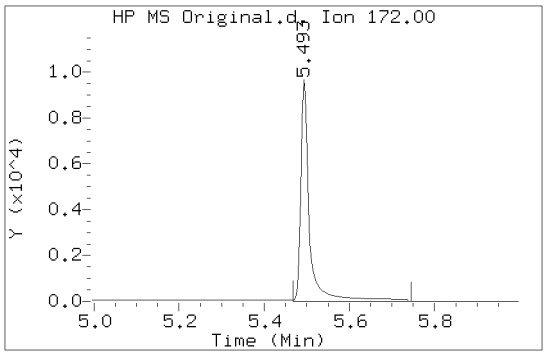


2-Fluorobiphenyl (321-60-8)

Reason Code:

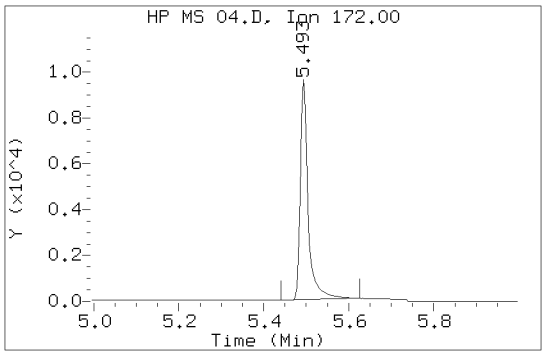
BEFORE

MASS
172
AREA
13940
HEIGHT
9673
11-Nov-2022
11:51
ALSHS
Server



AFTER

MASS
172
AREA
12261
HEIGHT
9602
17-Nov-2022
12:16
ALSHS
Ser



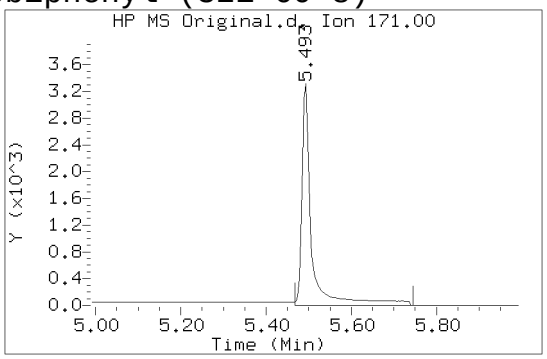
Data File : \\NAHSTWS005\Target\chem\SV6.i\221111.b\04.D
Inj Date : 11-NOV-2022 11:35
InstruID : SV6.i
LabSampID : 14DIOX-0.08

2-Fluorobiphenyl (321-60-8)

Reason Code:

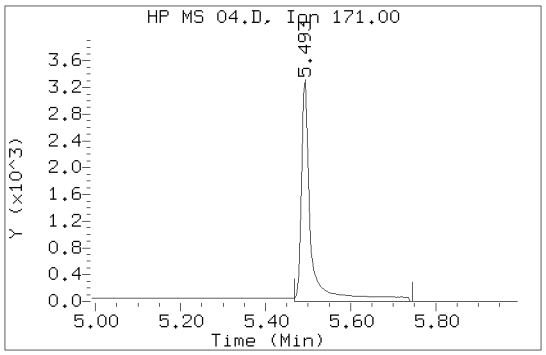
BEFORE

MASS
171
AREA
5229
HEIGHT
3315
11-Nov-2022
11:51
ALSHS
Server



AFTER

MASS
171
AREA
5229
HEIGHT
3315
17-Nov-2022
12:16
ALSHS
Ser



Data File: \\NAHSTWS005\Target\chem\SV6.i\221111.b\06.D Page 1
Report Date: 17-Nov-2022 12:08

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\221111.b\06.D
Lab Smp Id: MBLK-185720
Inj Date : 11-NOV-2022 12:23
Operator : LG Inst ID: SV6.i
Smp Info : MBLK-185720
Misc Info : ;;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\SV6.i\221111.b\DXSIM.m
Meth Date : 11-Nov-2022 11:58 marco.guti Quant Type: ISTD
Cal Date : 10-MAR-2022 12:56 Cal File: 009.D
Als bottle: 6 QC Sample: BLANK
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	3.368	3.368	(1.000)	3918	0.10000	(aQ)
* 45 Naphthalene-d8	136	4.471	4.471	(1.000)	14348	0.10000	
$ 33 Nitrobenzene-d5	82	3.835	3.835	(0.858)	3087	0.06454	0.06454(M)
* 86 Acenaphthene-d10	164	6.141	6.141	(1.000)	8143	0.10000	(Q)
$ 69 2-Fluorobiphenyl	172	5.496	5.492	(0.895)	9403	0.07418	0.07418(M)
* 126 Phenanthrene-d10	188	7.586	7.586	(1.000)	14895	0.10000	(M)
* 182 Chrysene-d12	240	10.345	10.345	(1.000)	6303	0.10000	(M)
$ 158 4-Terphenyl-d14	244	9.162	9.162	(0.886)	8981	0.07579	0.07579(M)
* 198 Perylene-d12	264	12.338	12.338	(1.000)	4326	0.10000	(M)

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.

01159145

Data File: \\NAHSTWS005\Target\chem\SV6.i\221111.b\06.D

Date : 11-NOV-2022 12:23

Client ID:

Instrument: SV6.i

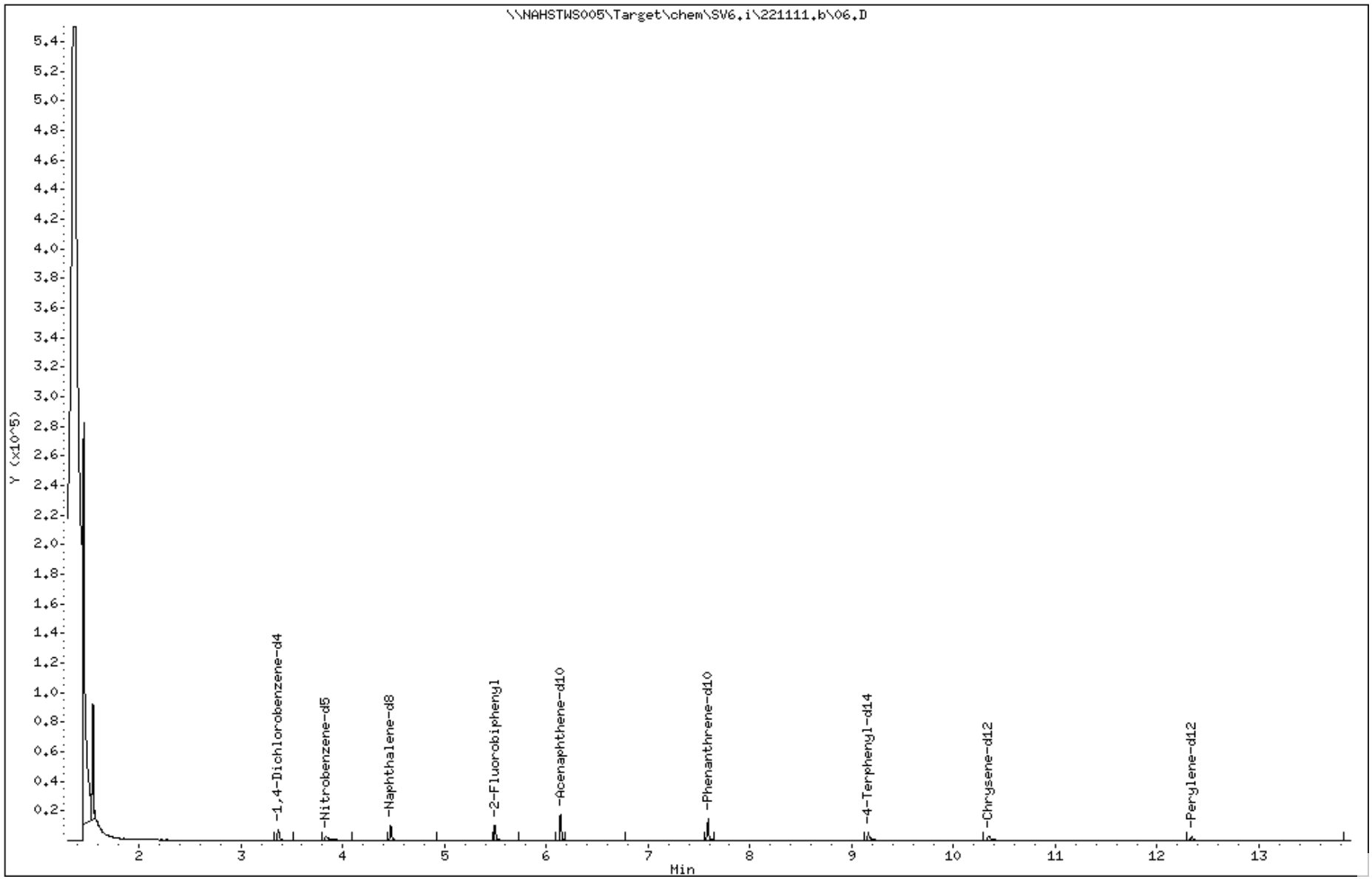
Sample Info: MBLK-185720

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28



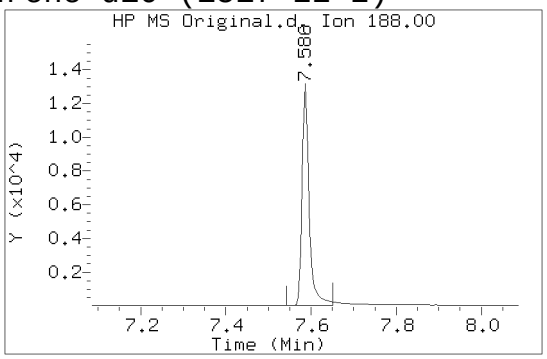
Data File : \\NAHSTWS005\Target\chem\SV6.i\221111.b\06.D
Inj Date : 11-NOV-2022 12:23
InstruID : SV6.i
LabSampID : MBLK-185720

Phenanthrene-d10 (1517-22-2)

Reason Code:

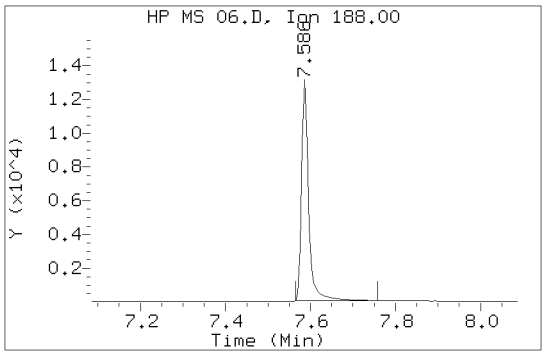
BEFORE

MASS
188
AREA
14789
HEIGHT
13129
11-Nov-2022
12:41
ALSHS
Server



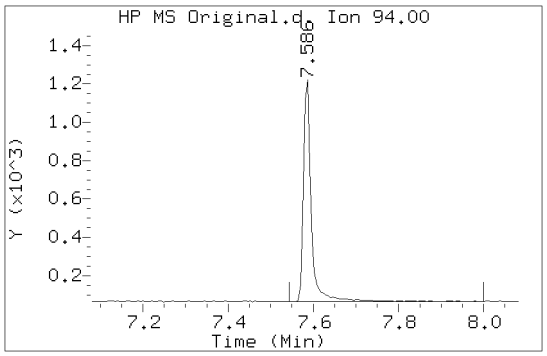
AFTER

MASS
188
AREA
14895
HEIGHT
13098
17-Nov-2022
12:08
ALSHS
Ser



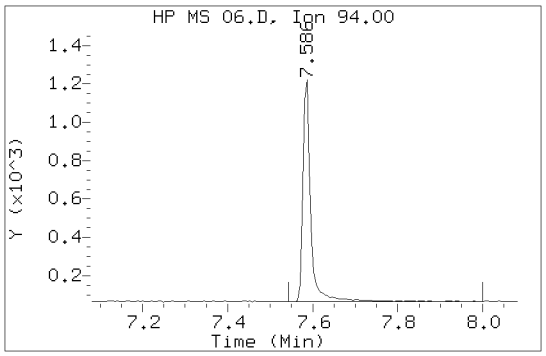
BEFORE

MASS
94
AREA
1515
HEIGHT
1157
11-Nov-2022
12:41
ALSHS
Server



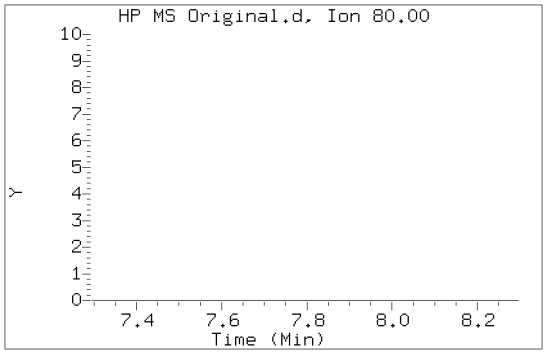
AFTER

MASS
94
AREA
1515
HEIGHT
1157
17-Nov-2022
12:08
ALSHS
Ser



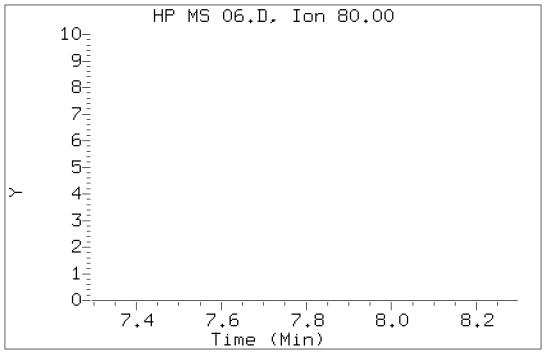
BEFORE

MASS
80
AREA
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HEIGHT
0
11-Nov-2022
12:41
ALSHS
Server



AFTER

MASS
80
AREA
0
HEIGHT
0
17-Nov-2022
12:08
ALSHS
Ser

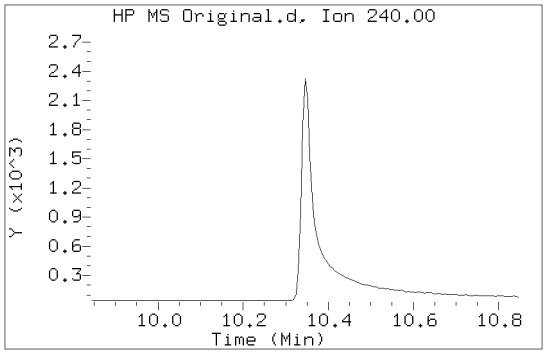


Chrysene-d12 (1719-03-5)

Reason Code:

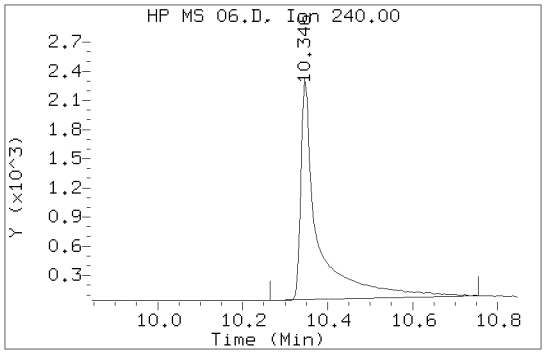
BEFORE

MASS
240
AREA
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HEIGHT
0
11-Nov-2022
12:41
ALSHS
Server



AFTER

MASS
240
AREA
6303
HEIGHT
2270
17-Nov-2022
12:08
ALSHS
Ser



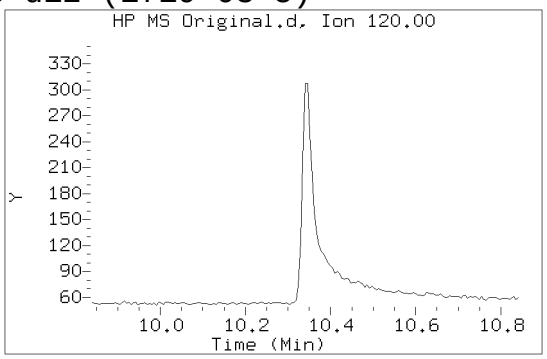
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Inj Date : 11-NOV-2022 12:23
InstruID : SV6.i
LabSampID : MBLK-185720

Chrysene-d12 (1719-03-5)

Reason Code:

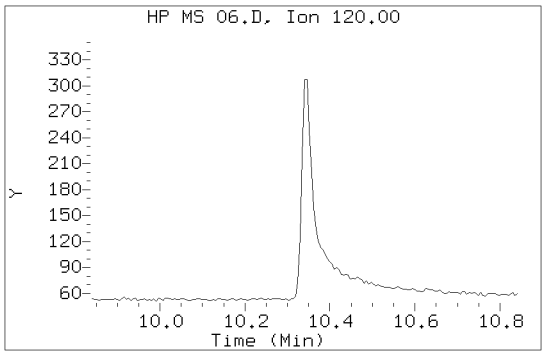
BEFORE

MASS
120
AREA
0
HEIGHT
0
11-Nov-2022
12:41
ALSHS
Server



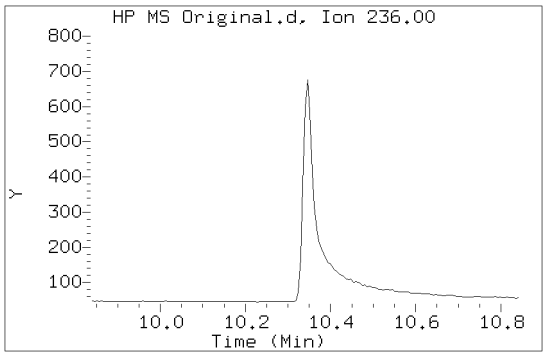
AFTER

MASS
120
AREA
0
HEIGHT
0
17-Nov-2022
12:08
ALSHS
Ser



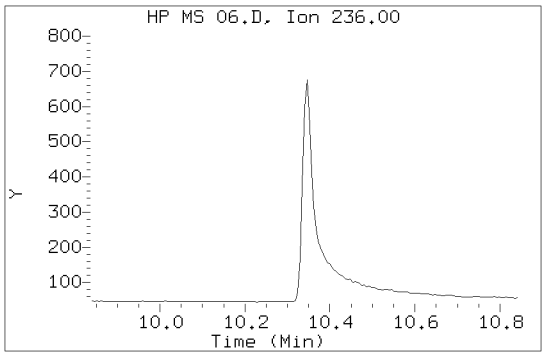
BEFORE

MASS
236
AREA
0
HEIGHT
0
11-Nov-2022
12:41
ALSHS
Server



AFTER

MASS
236
AREA
0
HEIGHT
0
17-Nov-2022
12:08
ALSHS
Ser

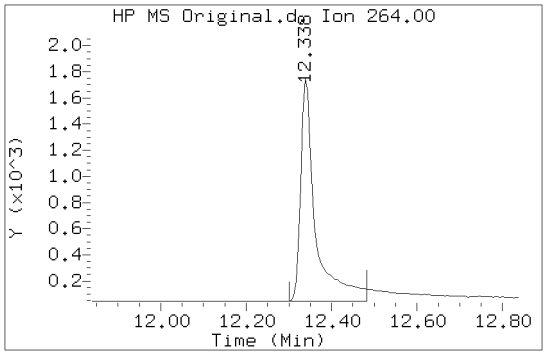


Perylene-d12 (1520-96-3)

Reason Code:

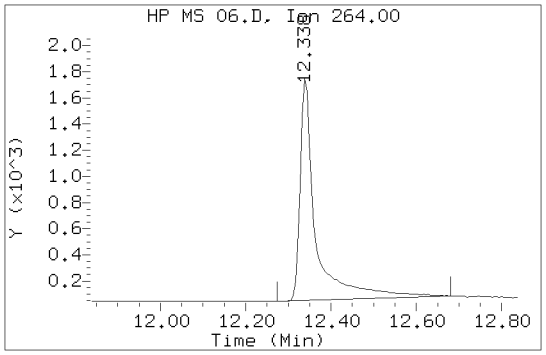
BEFORE

MASS
264
AREA
4110
HEIGHT
1698
11-Nov-2022
12:41
ALSHS
Server



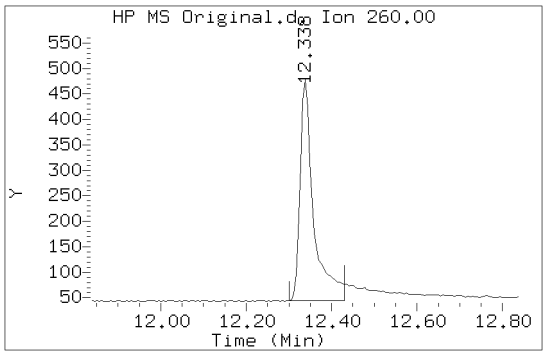
AFTER

MASS
264
AREA
4326
HEIGHT
1692
17-Nov-2022
12:08
ALSHS
Ser



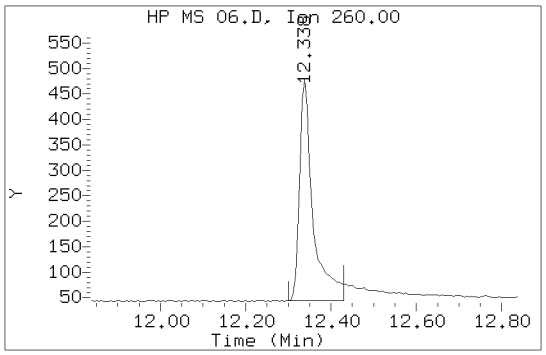
BEFORE

MASS
260
AREA
955
HEIGHT
434
11-Nov-2022
12:41
ALSHS
Server



AFTER

MASS
260
AREA
955
HEIGHT
434
17-Nov-2022
12:08
ALSHS
Ser



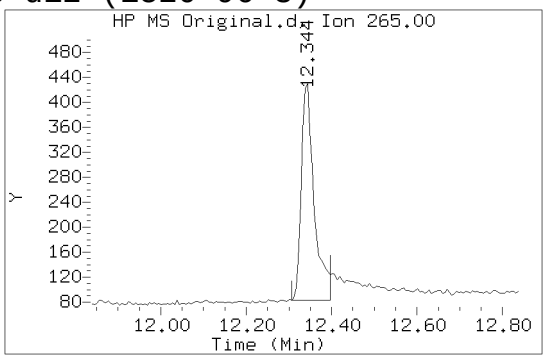
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Inj Date : 11-NOV-2022 12:23
InstruID : SV6.i
LabSampID : MBLK-185720

Perylene-d12 (1520-96-3)

Reason Code:

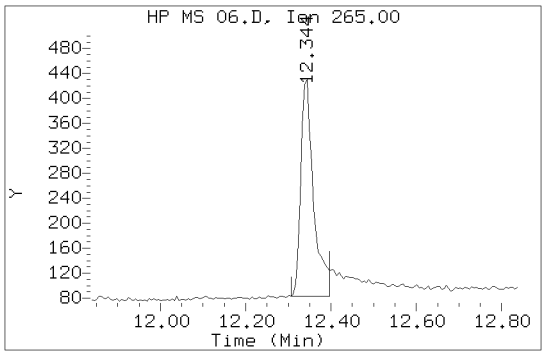
BEFORE

MASS
265
AREA
727
HEIGHT
347
11-Nov-2022
12:41
ALSHS
Server



AFTER

MASS
265
AREA
727
HEIGHT
347
17-Nov-2022
12:08
ALSHS
Ser

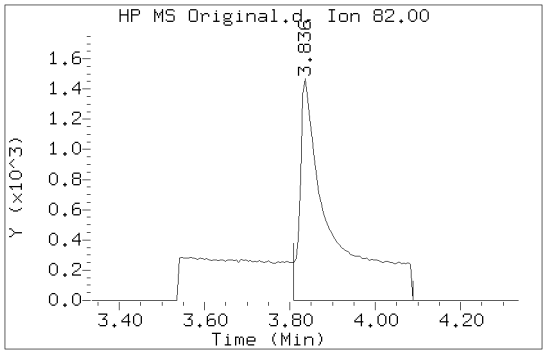


Nitrobenzene-d5 (4165-60-0)

Reason Code:

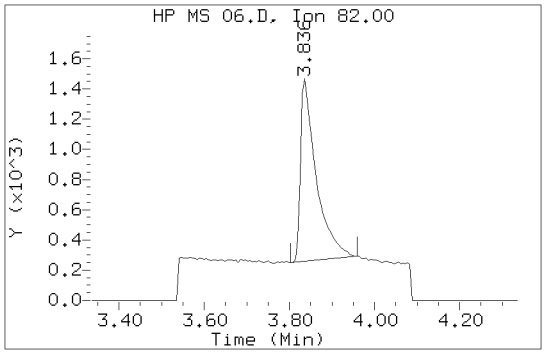
BEFORE

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AREA
7545
HEIGHT
1468
11-Nov-2022
12:41
ALSHS
Server



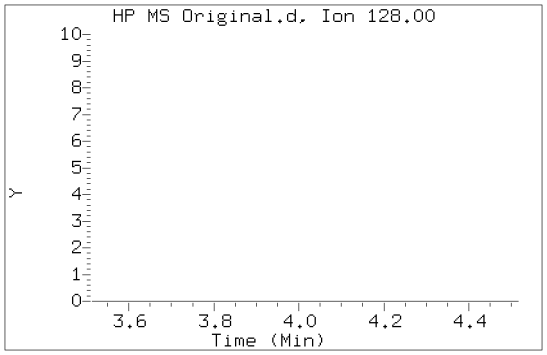
AFTER

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AREA
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HEIGHT
1208
17-Nov-2022
12:08
ALSHS
Ser



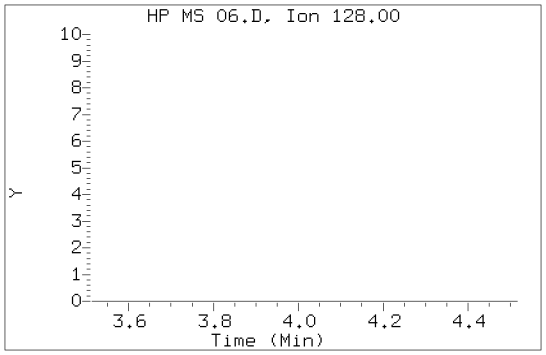
BEFORE

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AREA
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HEIGHT
0
11-Nov-2022
12:41
ALSHS
Server



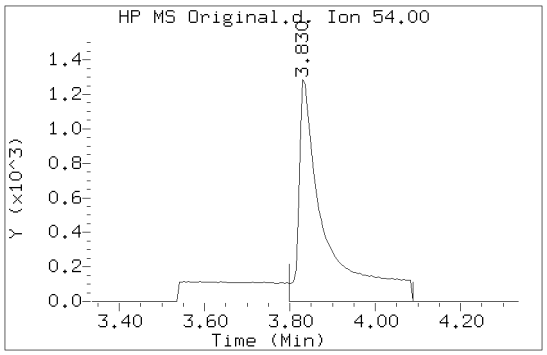
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AREA
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HEIGHT
0
17-Nov-2022
12:08
ALSHS
Ser



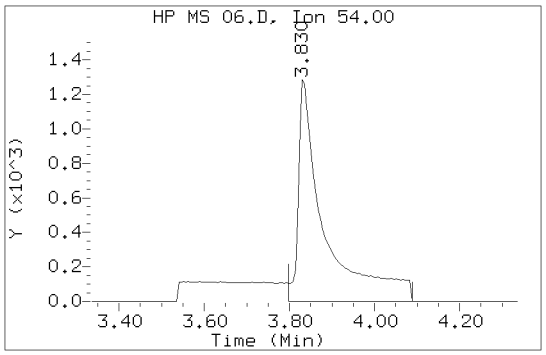
BEFORE

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54
AREA
5418
HEIGHT
1285
11-Nov-2022
12:41
ALSHS
Server



AFTER

MASS
54
AREA
5418
HEIGHT
1285
17-Nov-2022
12:08
ALSHS
Ser



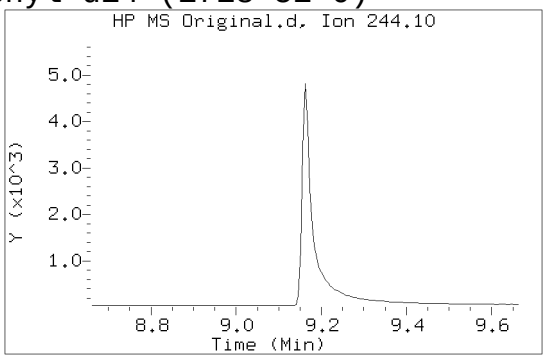
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Inj Date : 11-NOV-2022 12:23
InstruID : SV6.i
LabSampID : MBLK-185720

4-Terphenyl-d14 (1718-51-0)

Reason Code:

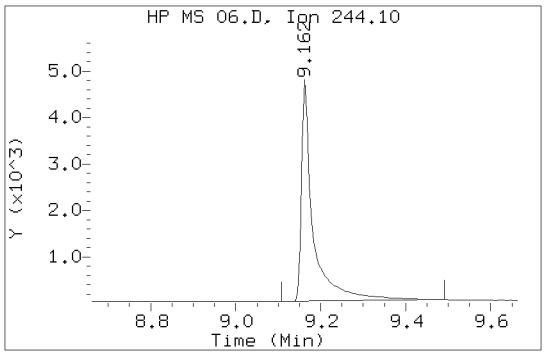
BEFORE

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AREA
0
HEIGHT
0
11-Nov-2022
12:41
ALSHS
Server



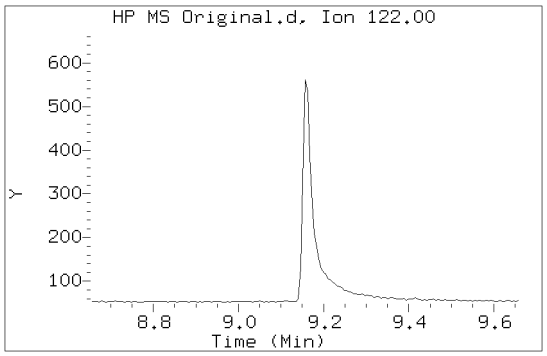
AFTER

MASS
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AREA
8981
HEIGHT
4768
17-Nov-2022
12:08
ALSHS
Ser



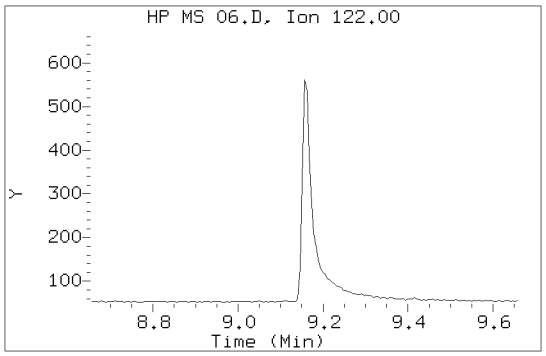
BEFORE

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AREA
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HEIGHT
0
11-Nov-2022
12:41
ALSHS
Server



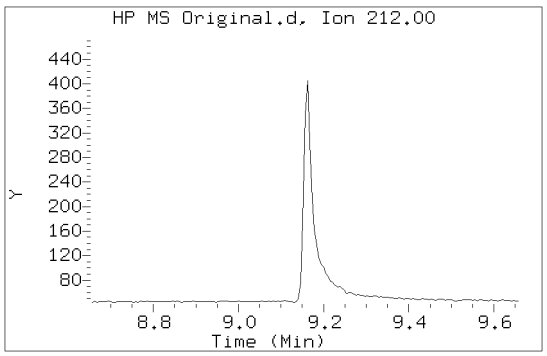
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17-Nov-2022
12:08
ALSHS
Ser



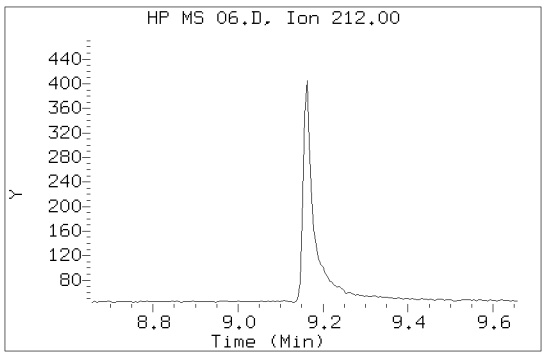
BEFORE

MASS
212
AREA
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HEIGHT
0
11-Nov-2022
12:41
ALSHS
Server



AFTER

MASS
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AREA
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HEIGHT
0
17-Nov-2022
12:08
ALSHS
Ser

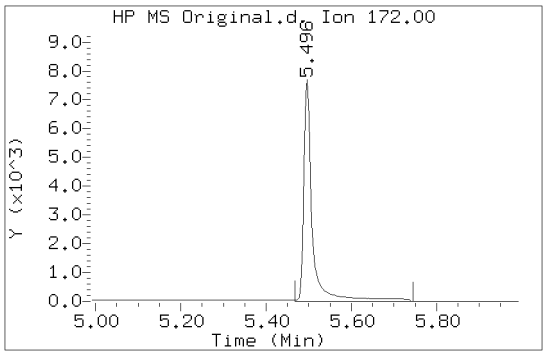


2-Fluorobiphenyl (321-60-8)

Reason Code:

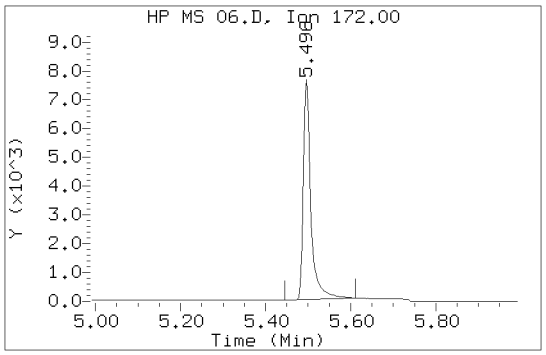
BEFORE

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AREA
10897
HEIGHT
7696
11-Nov-2022
12:41
ALSHS
Server



AFTER

MASS
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AREA
9403
HEIGHT
7625
17-Nov-2022
12:08
ALSHS
Ser



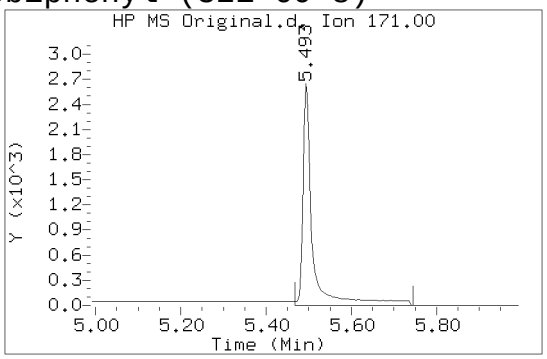
Data File : \\NAHSTWS005\Target\chem\SV6.i\221111.b\06.D
Inj Date : 11-NOV-2022 12:23
InstruID : SV6.i
LabSampID : MBLK-185720

2-Fluorobiphenyl (321-60-8)

Reason Code:

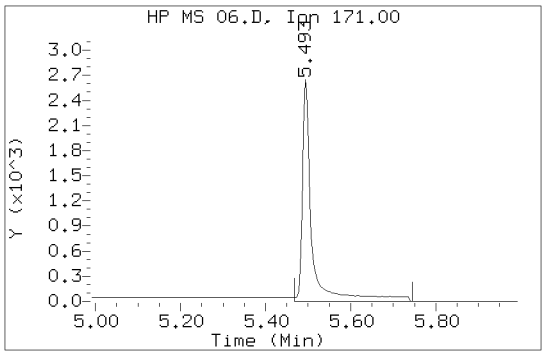
BEFORE

MASS
171
AREA
4162
HEIGHT
2648
11-Nov-2022
12:41
ALSHS
Server



AFTER

MASS
171
AREA
4162
HEIGHT
2648
17-Nov-2022
12:08
ALSHS
Ser



Data File: \\NAHSTWS005\Target\chem\SV6.i\221111.b\07.D Page 1
Report Date: 11-Nov-2022 14:56

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\221111.b\07.D
Lab Smp Id: LCS-185720
Inj Date : 11-NOV-2022 12:44
Operator : LG Inst ID: SV6.i
Smp Info : LCS-185720
Misc Info :
Comment :
Method : \\nahstws005\Target\chem\SV6.i\221111.b\DXSIM.m
Meth Date : 11-Nov-2022 11:58 marco.guti Quant Type: ISTD
Cal Date : 10-MAR-2022 12:56 Cal File: 009.D
Als bottle: 7 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTWS005

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	3.374	3.368	(1.000)	7286	0.10000	(aM)
* 45 Naphthalene-d8	136	4.471	4.471	(1.000)	19149	0.10000	(M)
$ 33 Nitrobenzene-d5	82	3.835	3.835	(0.858)	4416	0.06918	0.06918(M)
* 86 Acenaphthene-d10	164	6.136	6.141	(1.000)	9961	0.10000	(Q)
$ 69 2-Fluorobiphenyl	172	5.492	5.492	(0.895)	13595	0.08768	0.08768(M)
* 126 Phenanthrene-d10	188	7.580	7.586	(1.000)	19258	0.10000	
* 182 Chrysene-d12	240	10.340	10.345	(1.000)	7757	0.10000	(M)
$ 158 4-Terphenyl-d14	244	9.156	9.162	(0.886)	12261	0.08407	0.08407(M)
* 198 Perylene-d12	264	12.332	12.338	(1.000)	4669	0.10000	
1 1,4-Dioxane	58	1.548	1.526	(0.459)	222	0.07422	0.07422(M)

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.

01159152

Data File: \\NAHSTWS005\Target\chem\SV6.i\221111.b\07.D

Date : 11-NOV-2022 12:44

Client ID:

Instrument: SV6.i

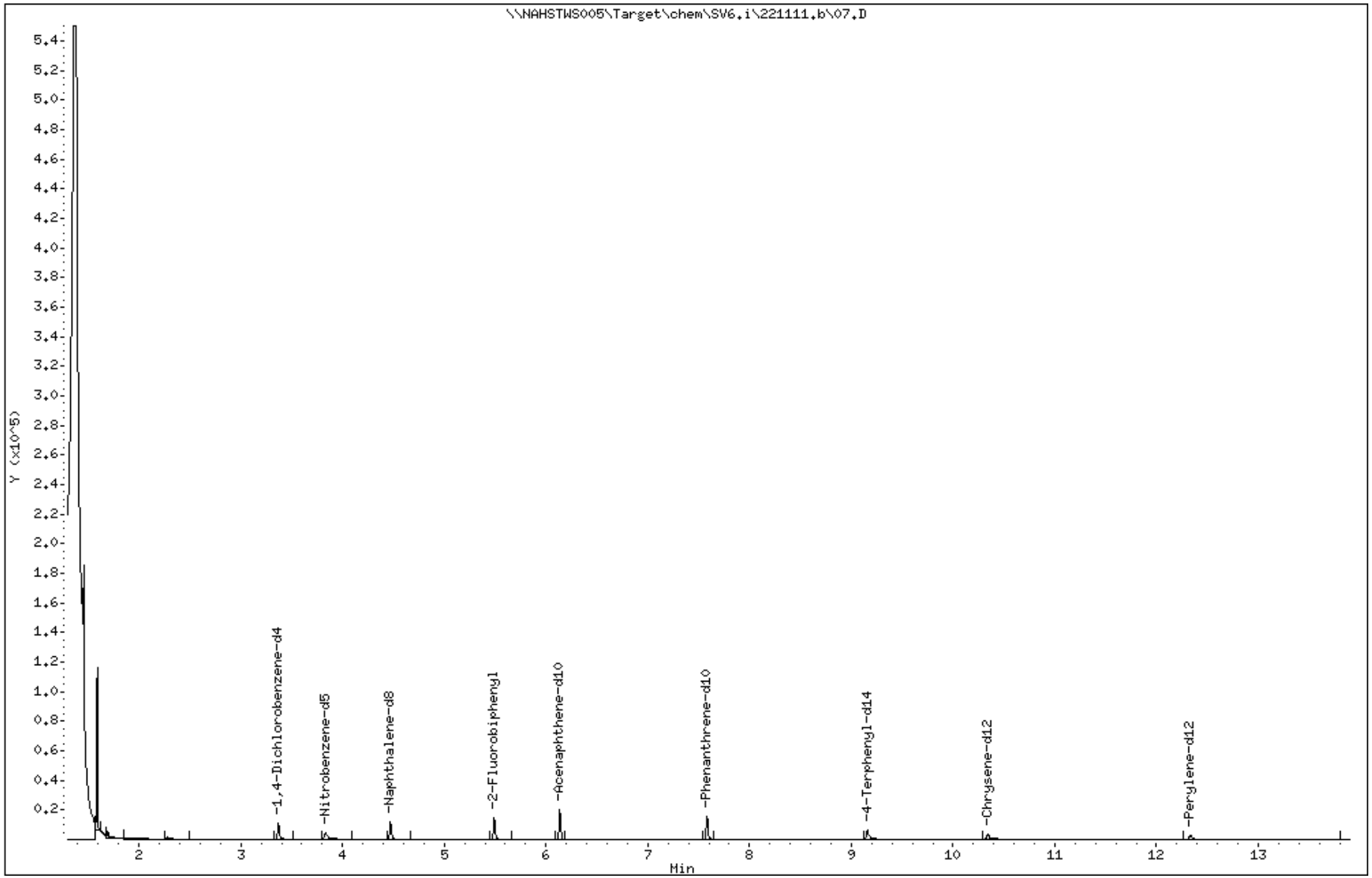
Sample Info: LCS-185720

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28

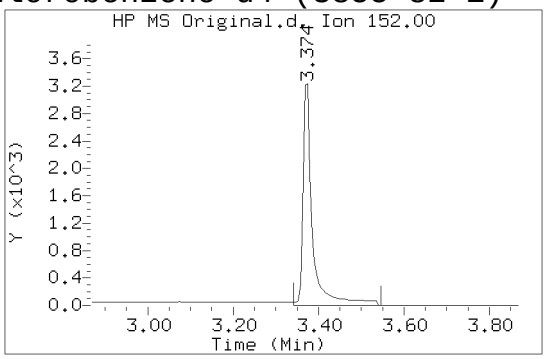


Data File : \\NAHSTWS005\Target\chem\SV6.i\221111.b\07.D
Inj Date : 11-NOV-2022 12:44
InstruID : SV6.i
LabSampID : LCS-185720

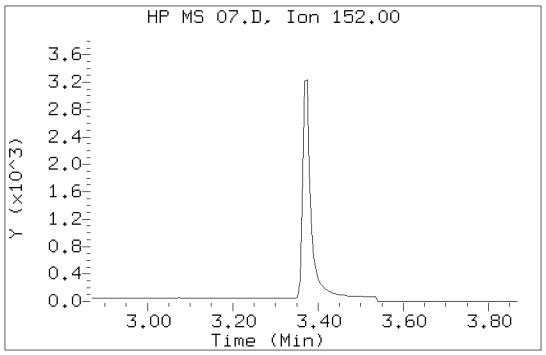
1,4-Dichlorobenzene-d4 (3855-82-1)

Reason Code:

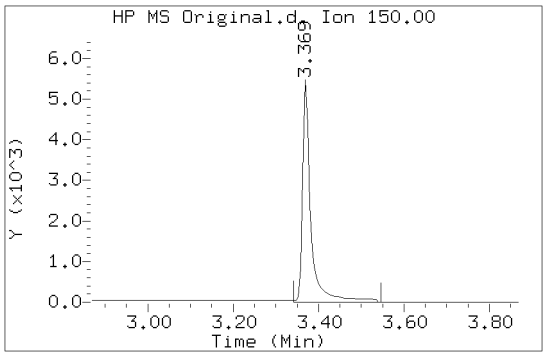
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3236
11-Nov-2022
12:59
ALSHS
Server



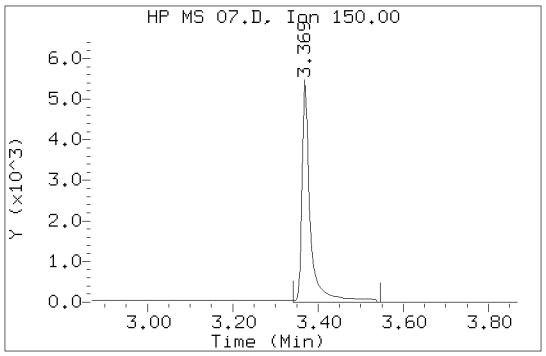
AFTER
MASS
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AREA
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HEIGHT
3236
11-Nov-2022
14:56



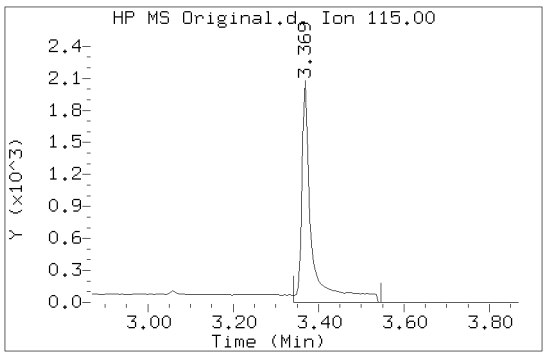
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HEIGHT
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11-Nov-2022
12:59
ALSHS
Server



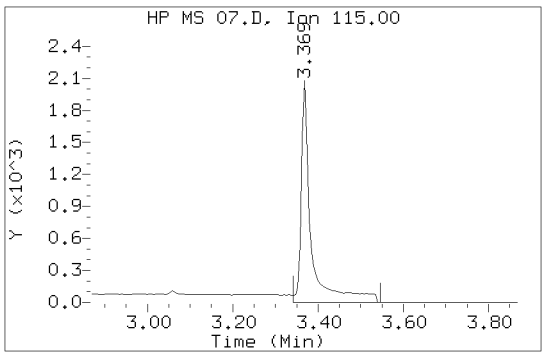
AFTER
MASS
150
AREA
7364
HEIGHT
5474
11-Nov-2022
14:56



BEFORE
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115
AREA
3328
HEIGHT
2079
11-Nov-2022
12:59
ALSHS
Server



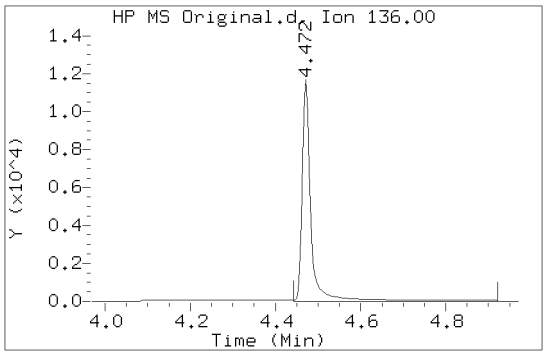
AFTER
MASS
115
AREA
3328
HEIGHT
2079
11-Nov-2022
14:56



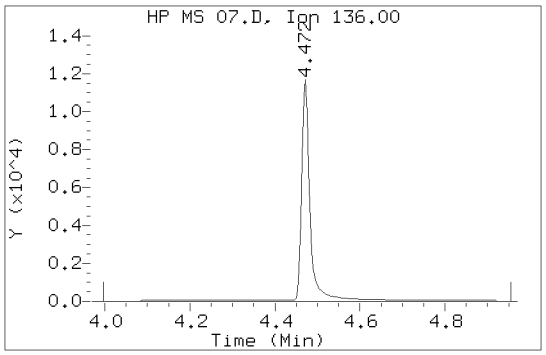
Naphthalene-d8 (1146-65-2)

Reason Code:

BEFORE
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136
AREA
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HEIGHT
11685
11-Nov-2022
12:59
ALSHS
Server



AFTER
MASS
136
AREA
19149
HEIGHT
11685
11-Nov-2022
14:56



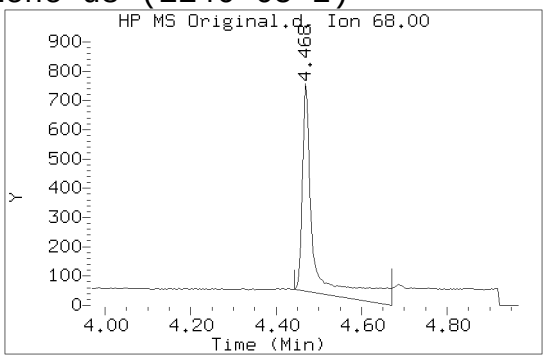
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Inj Date : 11-NOV-2022 12:44
InstruID : SV6.i
LabSampID : LCS-185720

Naphthalene-d8 (1146-65-2)

Reason Code:

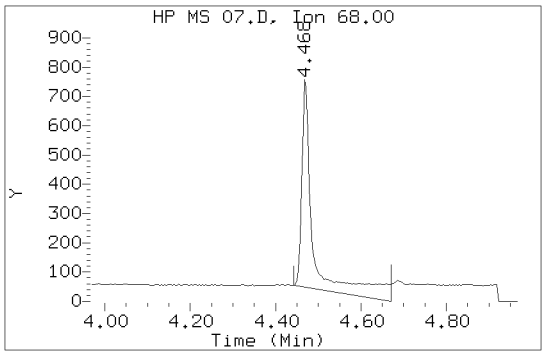
BEFORE

MASS
68
AREA
1347
HEIGHT
709
11-Nov-2022
12:59
ALSHS
Server



AFTER

MASS
68
AREA
1347
HEIGHT
709
11-Nov-2022
14:56

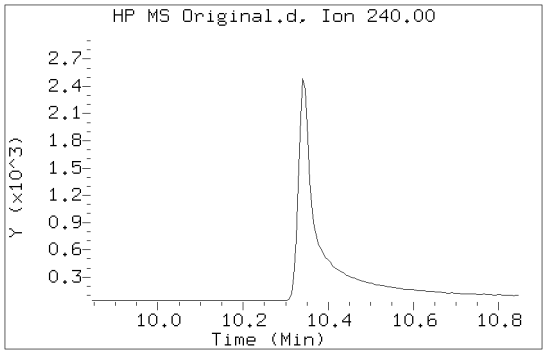


Chrysene-d12 (1719-03-5)

Reason Code:

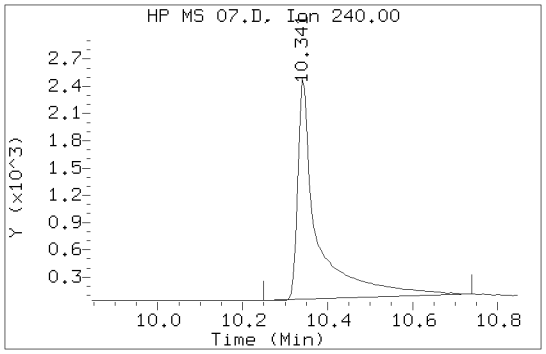
BEFORE

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AREA
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HEIGHT
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11-Nov-2022
12:59
ALSHS
Server



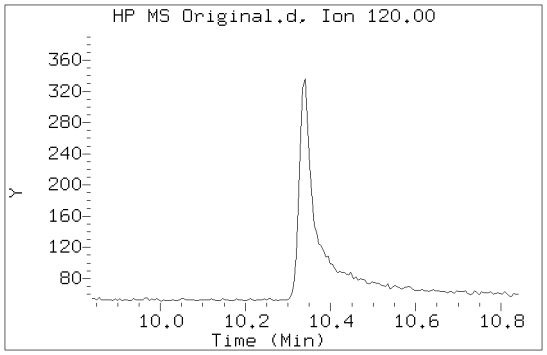
AFTER

MASS
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AREA
7757
HEIGHT
2425
11-Nov-2022
14:56



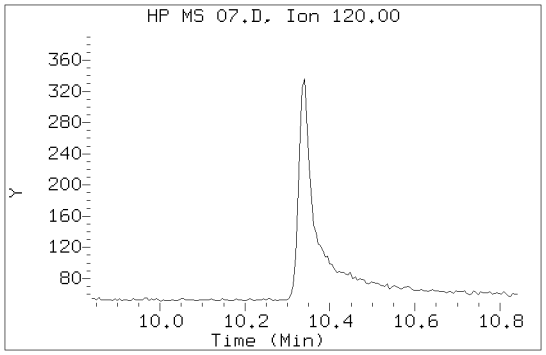
BEFORE

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12:59
ALSHS
Server



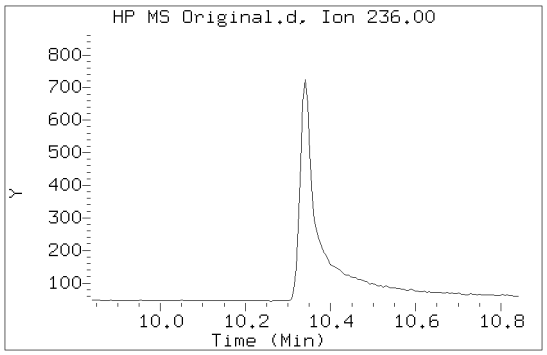
AFTER

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AREA
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HEIGHT
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11-Nov-2022
14:56



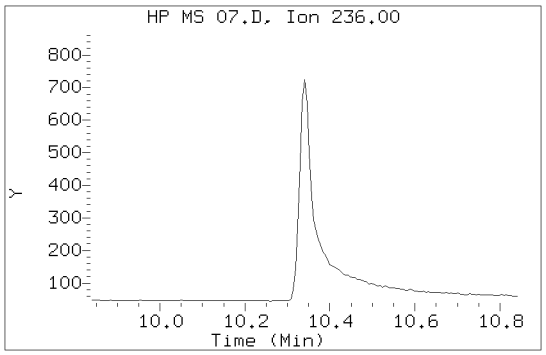
BEFORE

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HEIGHT
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11-Nov-2022
12:59
ALSHS
Server



AFTER

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AREA
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HEIGHT
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11-Nov-2022
14:56



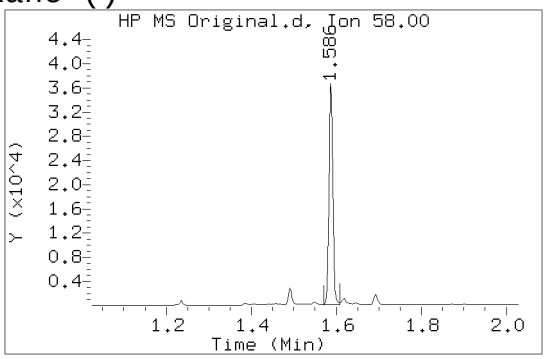
Data File : \\NAHSTWS005\Target\chem\SV6.i\221111.b\07.D
Inj Date : 11-NOV-2022 12:44
InstruID : SV6.i
LabSampID : LCS-185720

1,4-Dioxane ()

Reason Code:

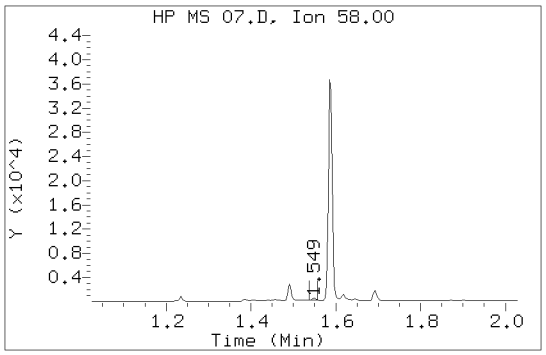
BEFORE

MASS
58
AREA
24081
HEIGHT
36497
11-Nov-2022
12:59
ALSHS
Server



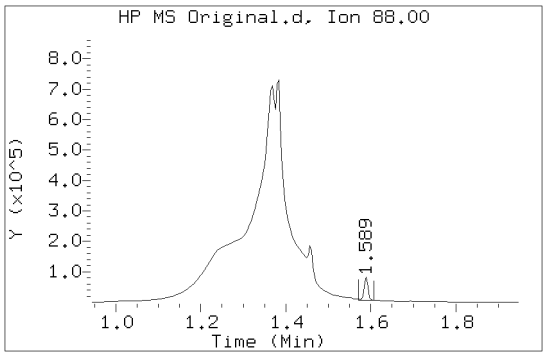
AFTER

MASS
58
AREA
222
HEIGHT
398
11-Nov-2022
14:56



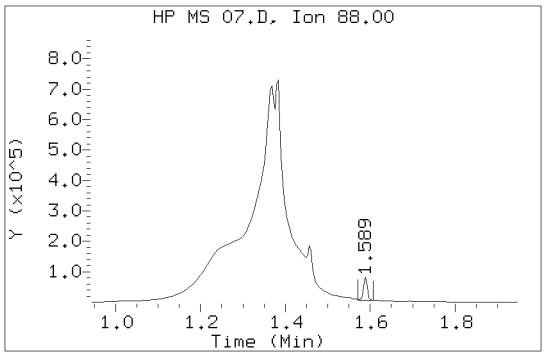
BEFORE

MASS
88
AREA
47804
HEIGHT
75424
11-Nov-2022
12:59
ALSHS
Server



AFTER

MASS
88
AREA
47804
HEIGHT
75424
11-Nov-2022
14:56

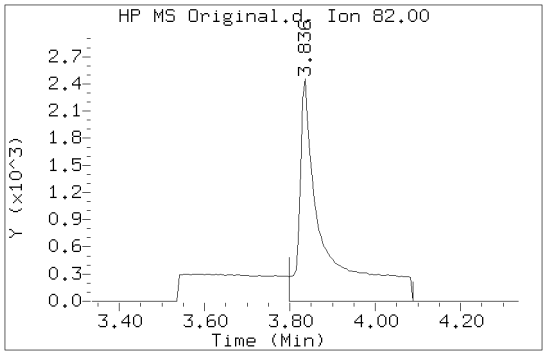


Nitrobenzene-d5 (4165-60-0)

Reason Code:

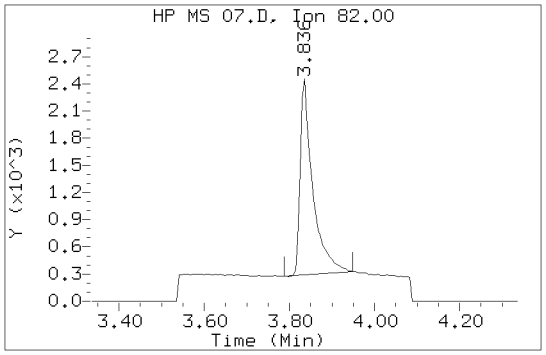
BEFORE

MASS
82
AREA
9591
HEIGHT
2455
11-Nov-2022
12:59
ALSHS
Server



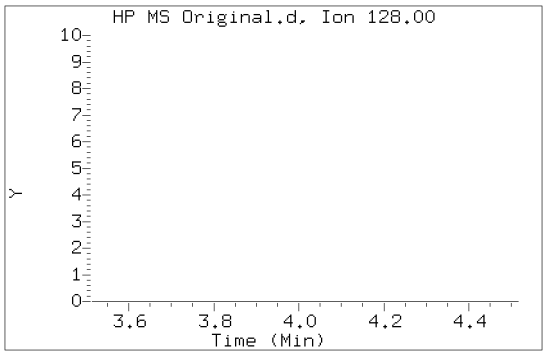
AFTER

MASS
82
AREA
4416
HEIGHT
2161
11-Nov-2022
14:56



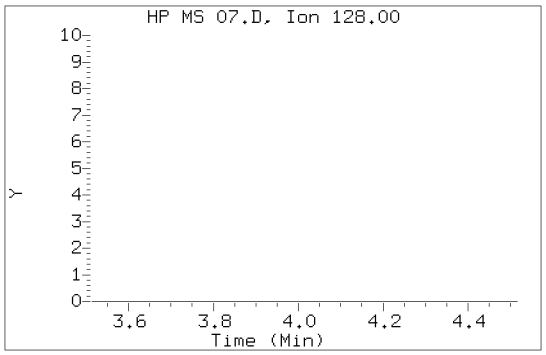
BEFORE

MASS
128
AREA
0
HEIGHT
0
11-Nov-2022
12:59
ALSHS
Server



AFTER

MASS
128
AREA
0
HEIGHT
0
11-Nov-2022
14:56



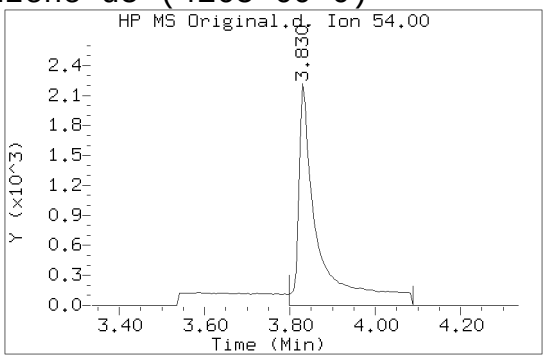
Data File : \\NAHSTWS005\Target\chem\SV6.i\221111.b\07.D
Inj Date : 11-NOV-2022 12:44
InstruID : SV6.i
LabSampID : LCS-185720

Nitrobenzene-d5 (4165-60-0)

Reason Code:

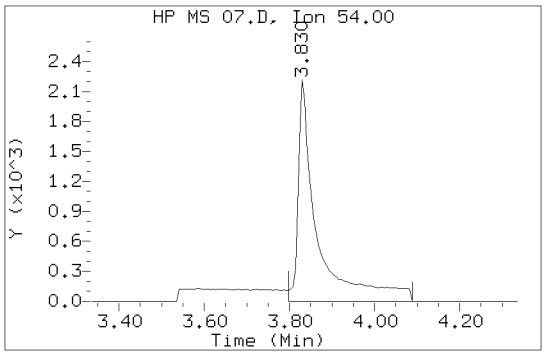
BEFORE

MASS
54
AREA
6886
HEIGHT
2218
11-Nov-2022
12:59
ALSHS
Server



AFTER

MASS
54
AREA
6886
HEIGHT
2218
11-Nov-2022
14:56

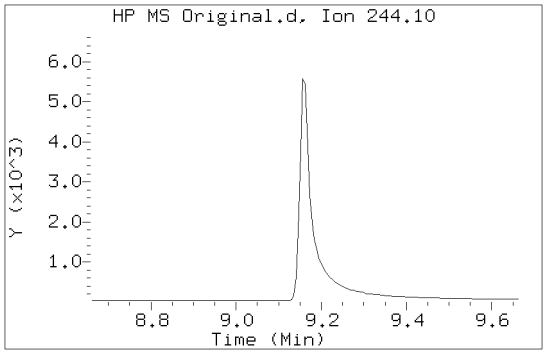


4-Terphenyl-d14 (1718-51-0)

Reason Code:

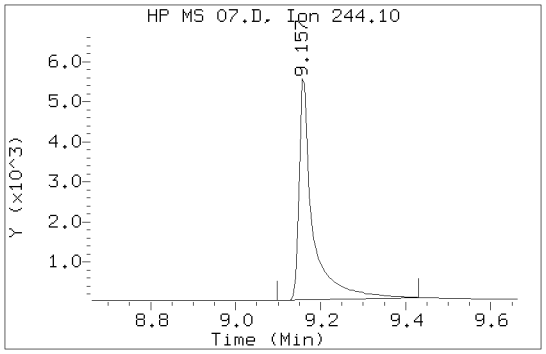
BEFORE

MASS
244.1
AREA
0
HEIGHT
0
11-Nov-2022
12:59
ALSHS
Server



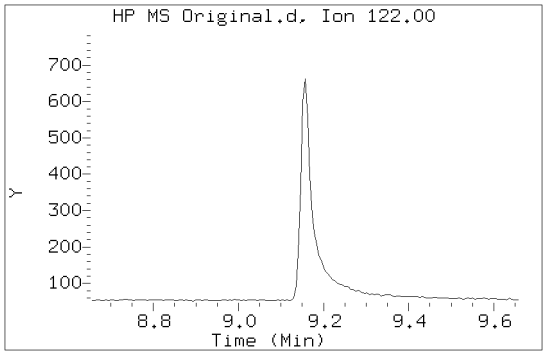
AFTER

MASS
244.1
AREA
12261
HEIGHT
5522
11-Nov-2022
14:56



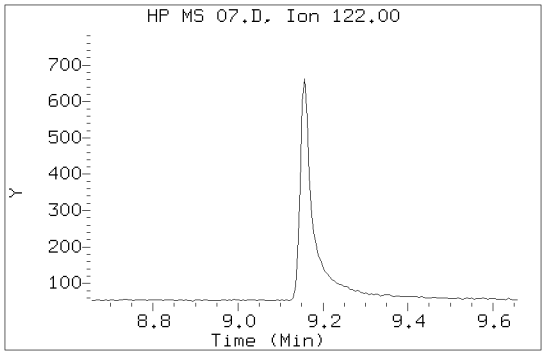
BEFORE

MASS
122
AREA
0
HEIGHT
0
11-Nov-2022
12:59
ALSHS
Server



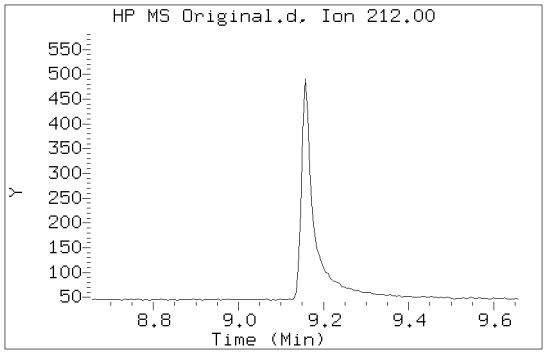
AFTER

MASS
122
AREA
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HEIGHT
0
11-Nov-2022
14:56



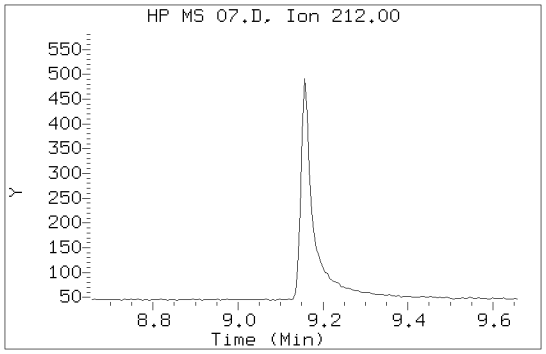
BEFORE

MASS
212
AREA
0
HEIGHT
0
11-Nov-2022
12:59
ALSHS
Server



AFTER

MASS
212
AREA
0
HEIGHT
0
11-Nov-2022
14:56



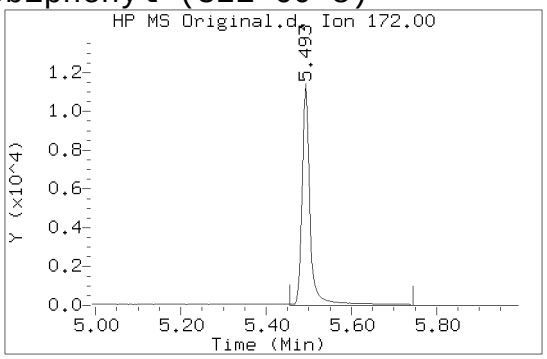
Data File : \\NAHSTWS005\Target\chem\SV6.i\221111.b\07.D
Inj Date : 11-NOV-2022 12:44
InstruID : SV6.i
LabSampID : LCS-185720

2-Fluorobiphenyl (321-60-8)

Reason Code:

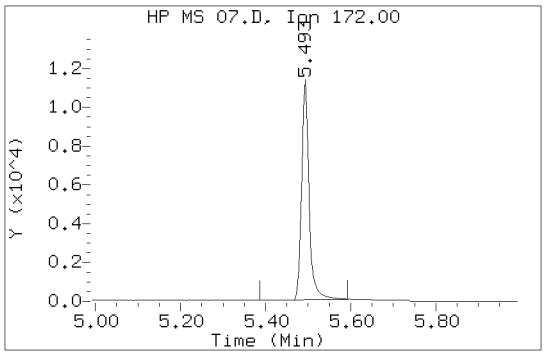
BEFORE

MASS
172
AREA
15228
HEIGHT
11427
11-Nov-2022
12:59
ALSHS
Server



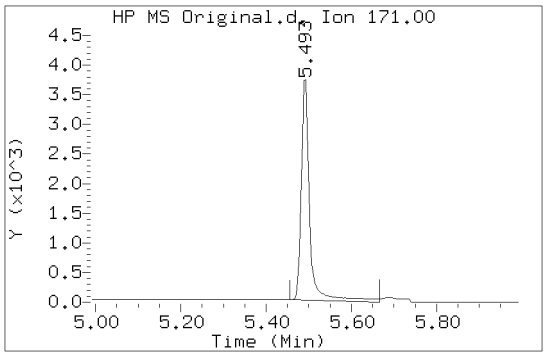
AFTER

MASS
172
AREA
13595
HEIGHT
11342
11-Nov-2022
14:56



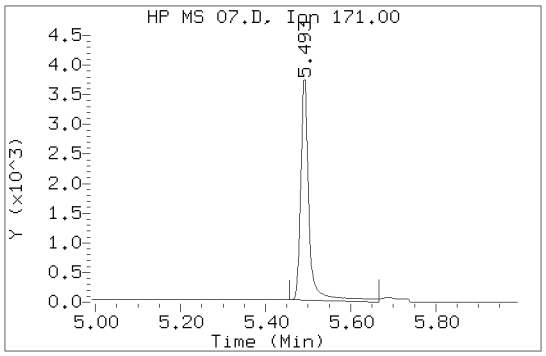
BEFORE

MASS
171
AREA
5063
HEIGHT
3712
11-Nov-2022
12:59
ALSHS
Server



AFTER

MASS
171
AREA
5063
HEIGHT
3712
11-Nov-2022
14:56



Data File: \\NAHSTWS005\Target\chem\SV6.i\221111.b\08.D Page 1
Report Date: 11-Nov-2022 14:57

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\221111.b\08.D
Lab Smp Id: LCSD-185720
Inj Date : 11-NOV-2022 13:04
Operator : LG Inst ID: SV6.i
Smp Info : LCSD-185720
Misc Info :
Comment :
Method : \\nahstws005\Target\chem\SV6.i\221111.b\DXSIM.m
Meth Date : 11-Nov-2022 11:58 marco.guti Quant Type: ISTD
Cal Date : 10-MAR-2022 12:56 Cal File: 009.D
Als bottle: 7 QC Sample: LCSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTWS005

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	3.368	3.368	(1.000)	6843	0.10000	(aM)
* 45 Naphthalene-d8	136	4.471	4.471	(1.000)	15790	0.10000	
$ 33 Nitrobenzene-d5	82	3.835	3.835	(0.858)	4483	0.08517	0.08517(M)
* 86 Acenaphthene-d10	164	6.141	6.141	(1.000)	9053	0.10000	(Q)
$ 69 2-Fluorobiphenyl	172	5.492	5.492	(0.894)	12212	0.08666	0.08666(M)
* 126 Phenanthrene-d10	188	7.586	7.586	(1.000)	17469	0.10000	
* 182 Chrysene-d12	240	10.345	10.345	(1.000)	6219	0.10000	(M)
$ 158 4-Terphenyl-d14	244	9.162	9.162	(0.886)	9222	0.07887	0.07887(M)
* 198 Perylene-d12	264	12.338	12.338	(1.000)	4437	0.10000	(M)
1 1,4-Dioxane	58	1.515	1.526	(0.450)	231	0.08223	0.08223(M)

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.

01159159

Data File: \\NAHSTWS005\Target\chem\SV6.i\221111.b\08.D

Date : 11-NOV-2022 13:04

Client ID:

Instrument: SV6.i

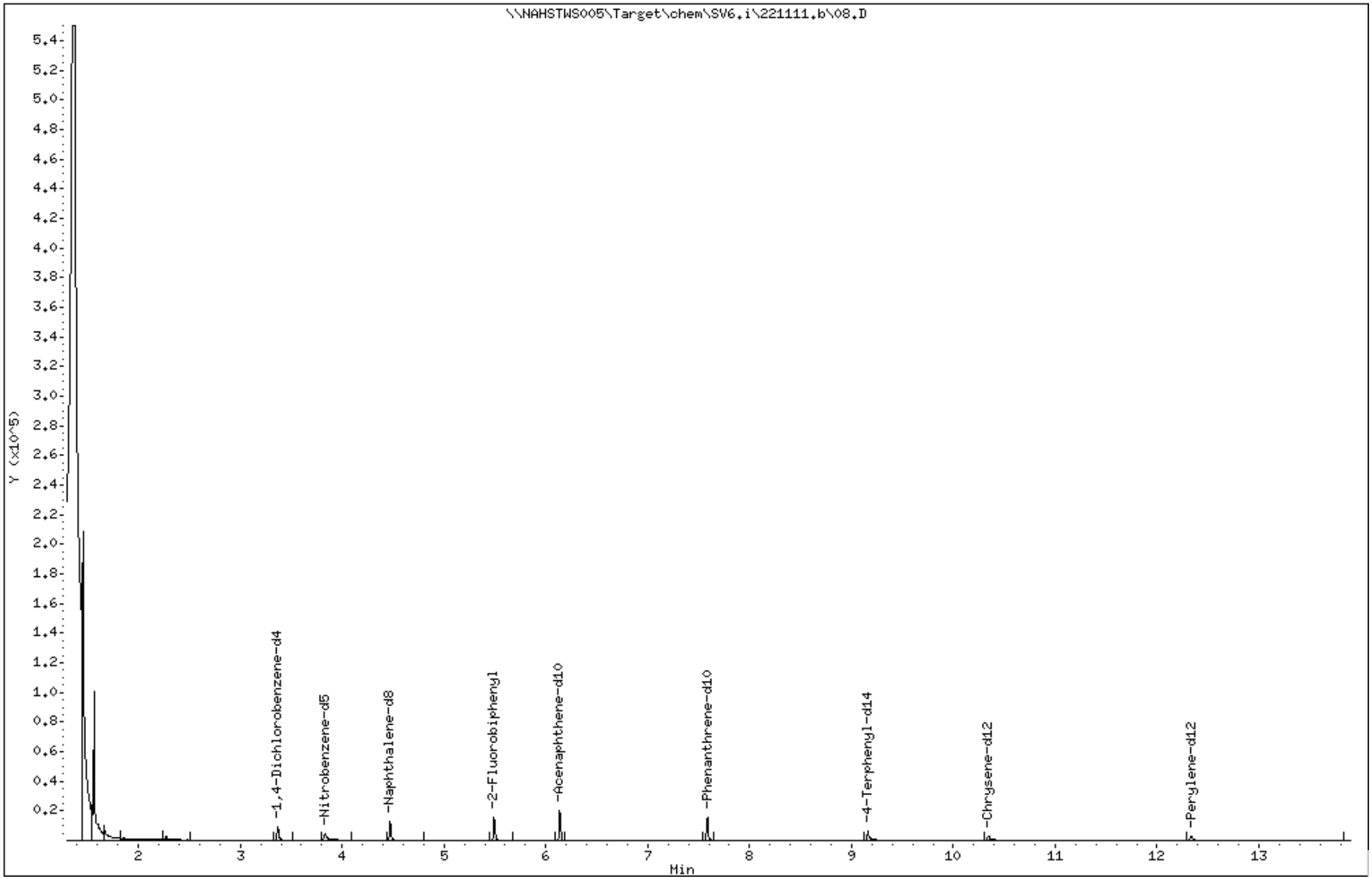
Sample Info: LCSD-185720

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28

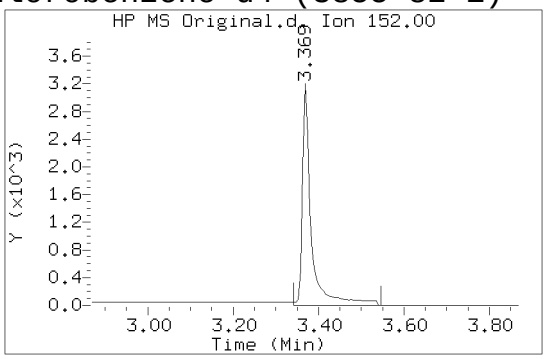


Data File : \\NAHSTWS005\Target\chem\SV6.i\221111.b\08.D
Inj Date : 11-NOV-2022 13:04
InstruID : SV6.i
LabSampID : LCSD-185720

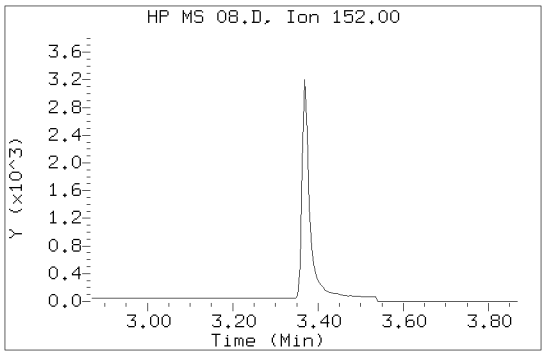
1,4-Dichlorobenzene-d4 (3855-82-1)

Reason Code:

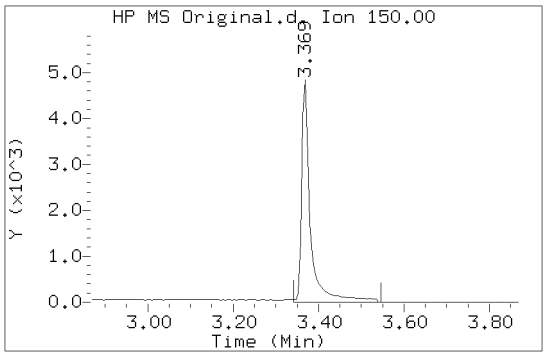
BEFORE
MASS
152
AREA
4548
HEIGHT
3202
11-Nov-2022
13:20
ALSHS
Server



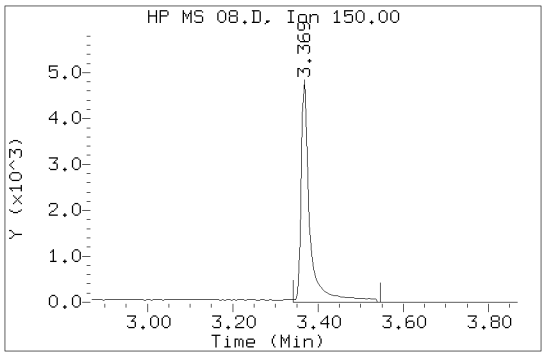
AFTER
MASS
152
AREA
6843
HEIGHT
3202
11-Nov-2022
14:57



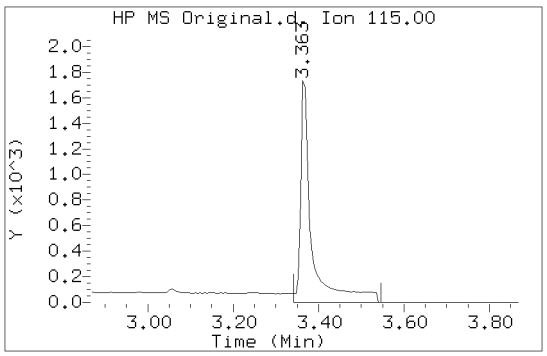
BEFORE
MASS
150
AREA
6841
HEIGHT
4841
11-Nov-2022
13:20
ALSHS
Server



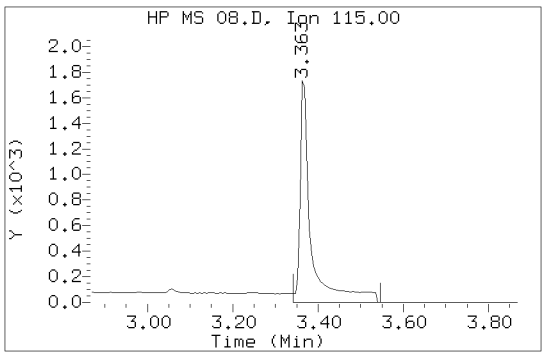
AFTER
MASS
150
AREA
6841
HEIGHT
4841
11-Nov-2022
14:57



BEFORE
MASS
115
AREA
3088
HEIGHT
1733
11-Nov-2022
13:20
ALSHS
Server



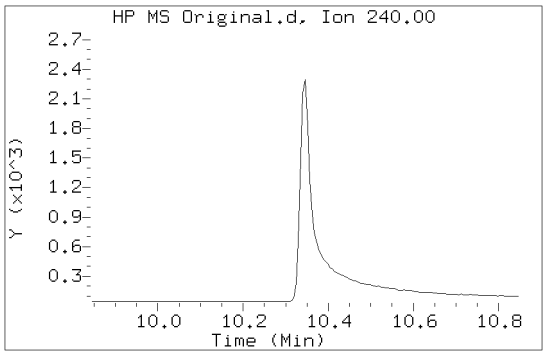
AFTER
MASS
115
AREA
3088
HEIGHT
1733
11-Nov-2022
14:57



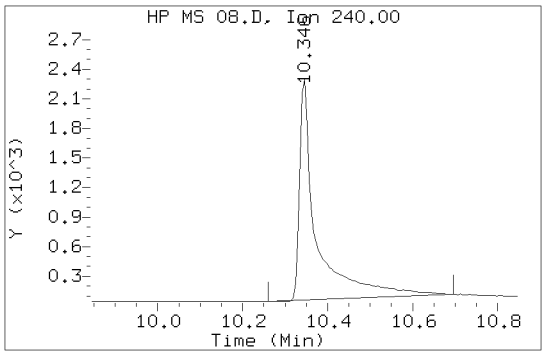
Chrysene-d12 (1719-03-5)

Reason Code:

BEFORE
MASS
240
AREA
0
HEIGHT
0
11-Nov-2022
13:20
ALSHS
Server



AFTER
MASS
240
AREA
6219
HEIGHT
2234
11-Nov-2022
14:57



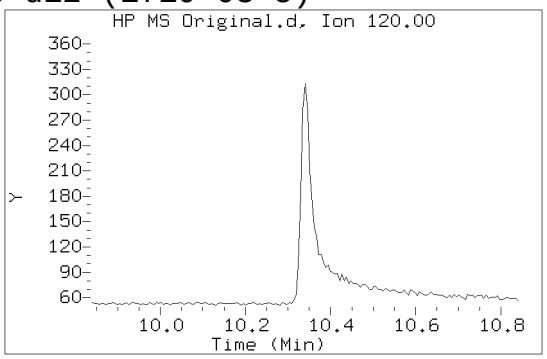
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Inj Date : 11-NOV-2022 13:04
InstruID : SV6.i
LabSampID : LCSD-185720

Chrysene-d12 (1719-03-5)

Reason Code:

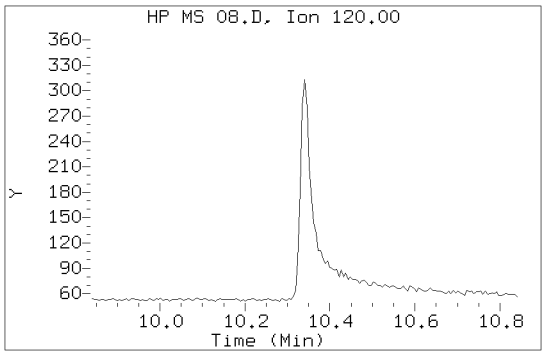
BEFORE

MASS
120
AREA
0
HEIGHT
0
11-Nov-2022
13:20
ALSHS
Server



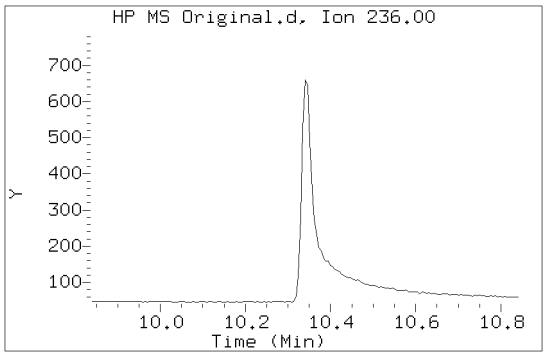
AFTER

MASS
120
AREA
0
HEIGHT
0
11-Nov-2022
14:57



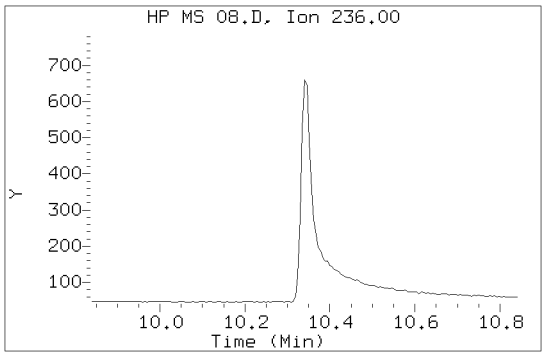
BEFORE

MASS
236
AREA
0
HEIGHT
0
11-Nov-2022
13:20
ALSHS
Server



AFTER

MASS
236
AREA
0
HEIGHT
0
11-Nov-2022
14:57

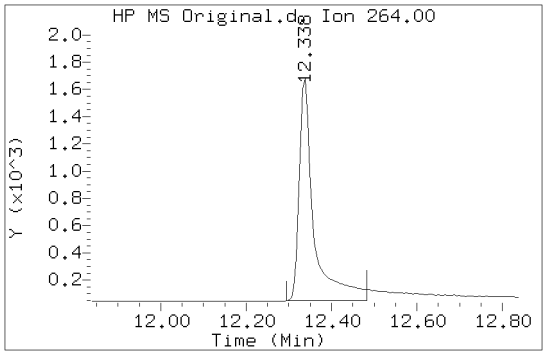


Perylene-d12 (1520-96-3)

Reason Code:

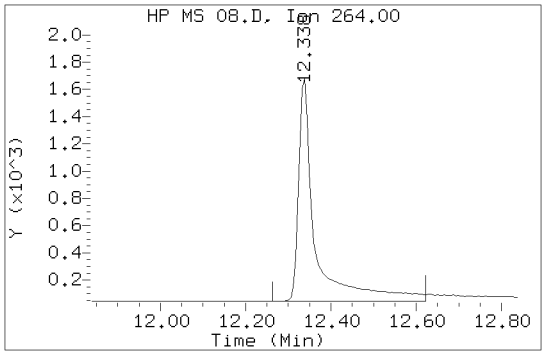
BEFORE

MASS
264
AREA
3907
HEIGHT
1629
11-Nov-2022
13:20
ALSHS
Server



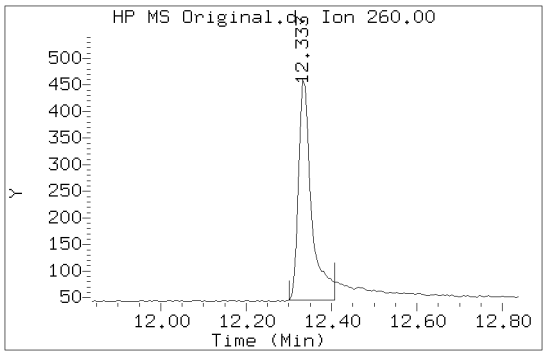
AFTER

MASS
264
AREA
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HEIGHT
1630
11-Nov-2022
14:57



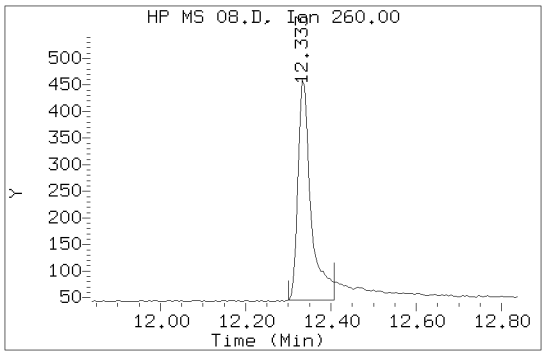
BEFORE

MASS
260
AREA
877
HEIGHT
414
11-Nov-2022
13:20
ALSHS
Server



AFTER

MASS
260
AREA
877
HEIGHT
414
11-Nov-2022
14:57



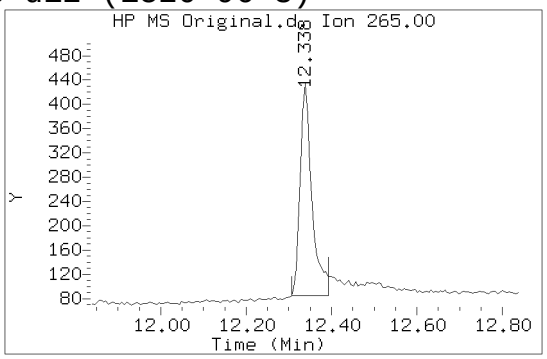
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Inj Date : 11-NOV-2022 13:04
InstruID : SV6.i
LabSampID : LCSD-185720

Perylene-d12 (1520-96-3)

Reason Code:

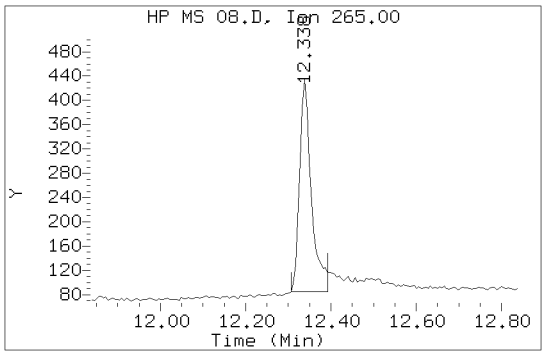
BEFORE

MASS
265
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668
HEIGHT
349
11-Nov-2022
13:20
ALSHS
Server



AFTER

MASS
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AREA
668
HEIGHT
349
11-Nov-2022
14:57

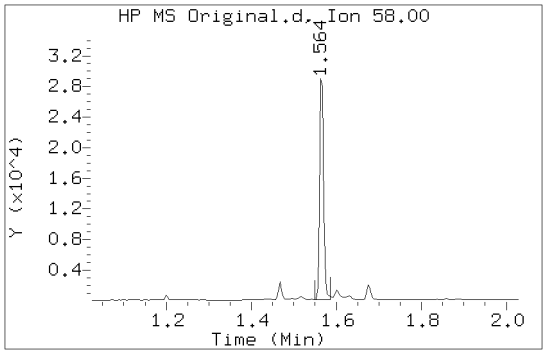


1,4-Dioxane ()

Reason Code:

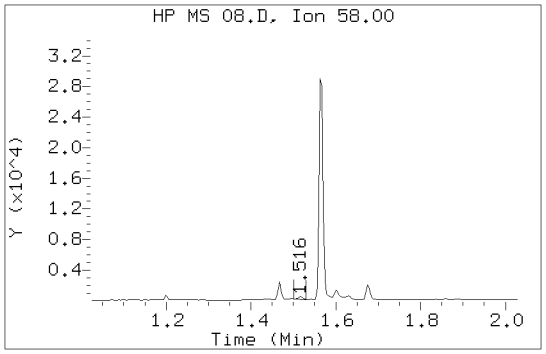
BEFORE

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HEIGHT
28877
11-Nov-2022
13:20
ALSHS
Server



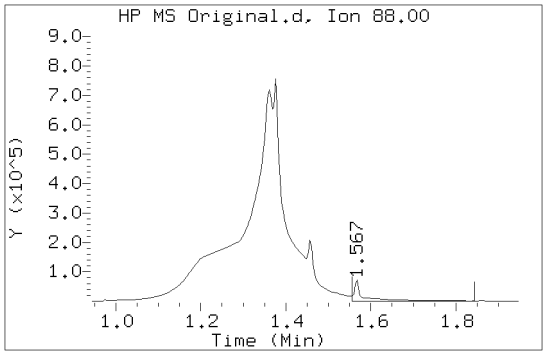
AFTER

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AREA
231
HEIGHT
352
11-Nov-2022
14:57



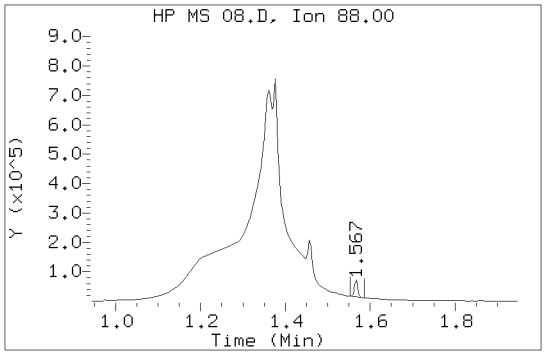
BEFORE

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HEIGHT
71533
11-Nov-2022
13:20
ALSHS
Server



AFTER

MASS
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32962
HEIGHT
57974
11-Nov-2022
14:57

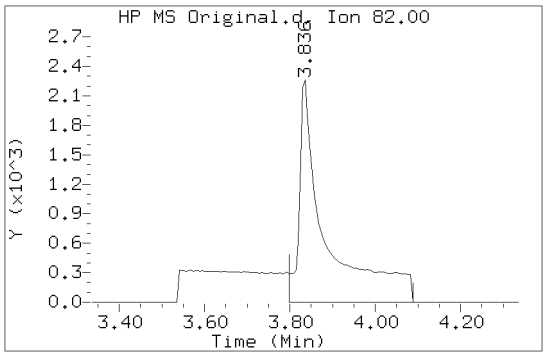


Nitrobenzene-d5 (4165-60-0)

Reason Code:

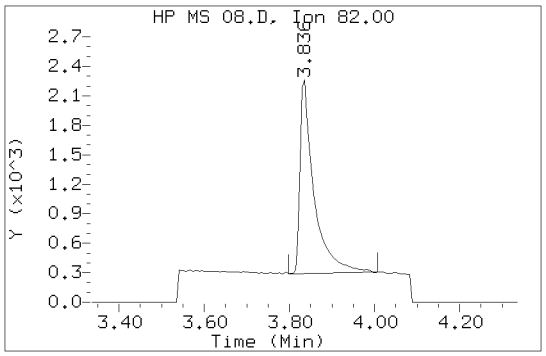
BEFORE

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AREA
9654
HEIGHT
2262
11-Nov-2022
13:20
ALSHS
Server



AFTER

MASS
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4483
HEIGHT
1968
11-Nov-2022
14:57



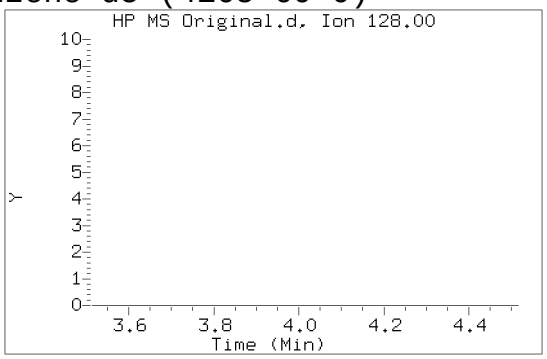
Data File : \\NAHSTWS005\Target\chem\SV6.i\221111.b\08.D
Inj Date : 11-NOV-2022 13:04
InstruID : SV6.i
LabSampID : LCSD-185720

Nitrobenzene-d5 (4165-60-0)

Reason Code:

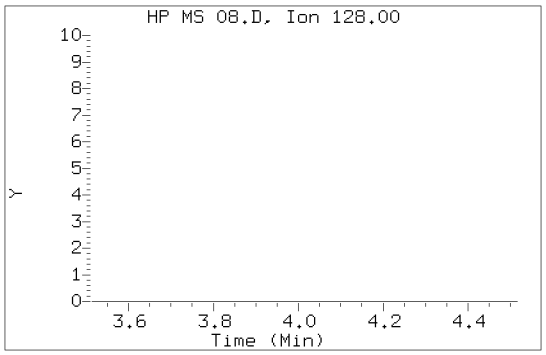
BEFORE

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HEIGHT
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11-Nov-2022
13:20
ALSHS
Server



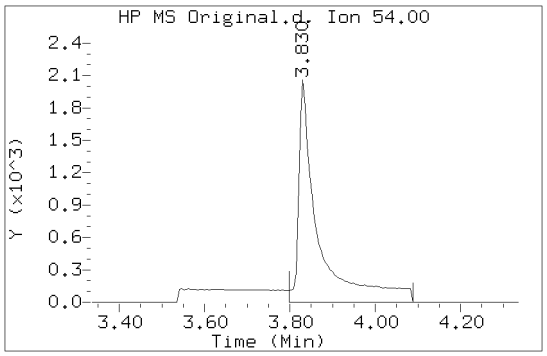
AFTER

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HEIGHT
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11-Nov-2022
14:57



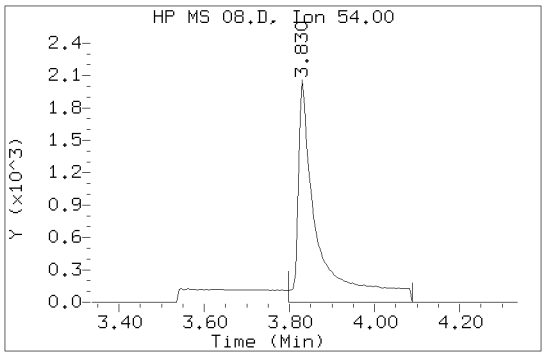
BEFORE

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AREA
6479
HEIGHT
2058
11-Nov-2022
13:20
ALSHS
Server



AFTER

MASS
54
AREA
6479
HEIGHT
2058
11-Nov-2022
14:57

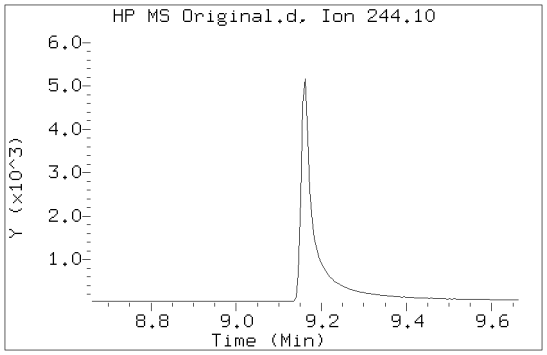


4-Terphenyl-d14 (1718-51-0)

Reason Code:

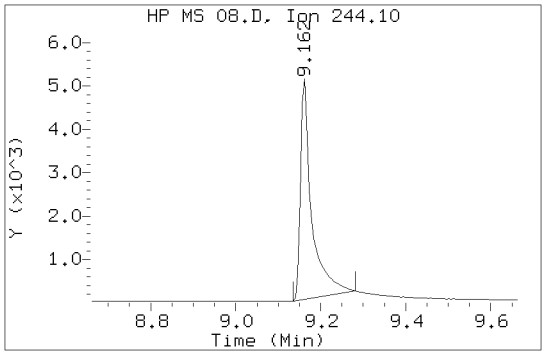
BEFORE

MASS
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AREA
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HEIGHT
0
11-Nov-2022
13:20
ALSHS
Server



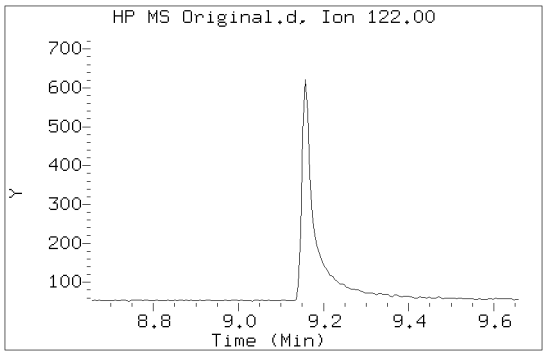
AFTER

MASS
244.1
AREA
9222
HEIGHT
5074
11-Nov-2022
14:57



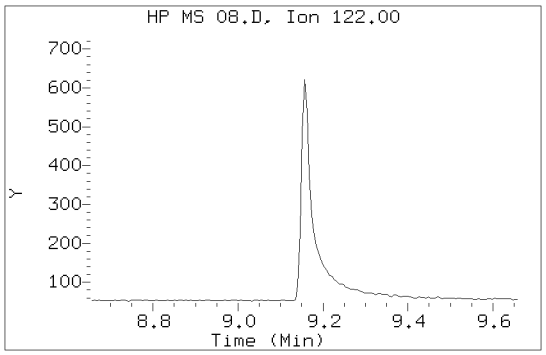
BEFORE

MASS
122
AREA
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HEIGHT
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11-Nov-2022
13:20
ALSHS
Server



AFTER

MASS
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AREA
0
HEIGHT
0
11-Nov-2022
14:57



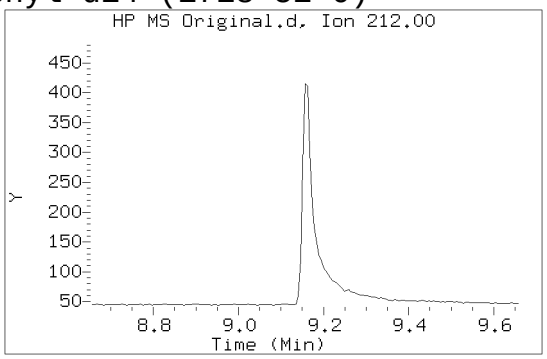
Data File : \\NAHSTWS005\Target\chem\SV6.i\221111.b\08.D
Inj Date : 11-NOV-2022 13:04
InstruID : SV6.i
LabSampID : LCSD-185720

4-Terphenyl-d14 (1718-51-0)

Reason Code:

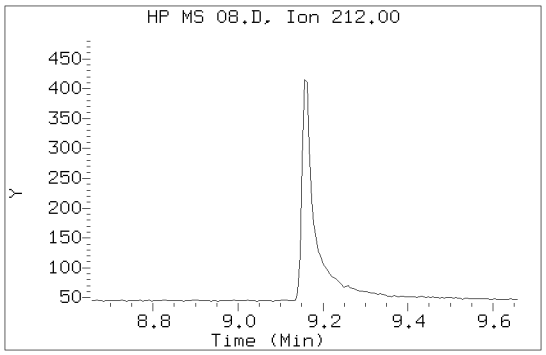
BEFORE

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212
AREA
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HEIGHT
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11-Nov-2022
13:20
ALSHS
Server



AFTER

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HEIGHT
0
11-Nov-2022
14:57

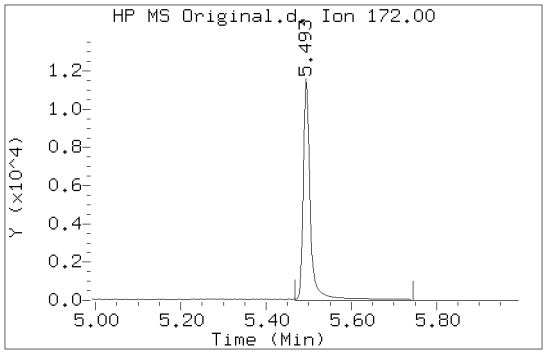


2-Fluorobiphenyl (321-60-8)

Reason Code:

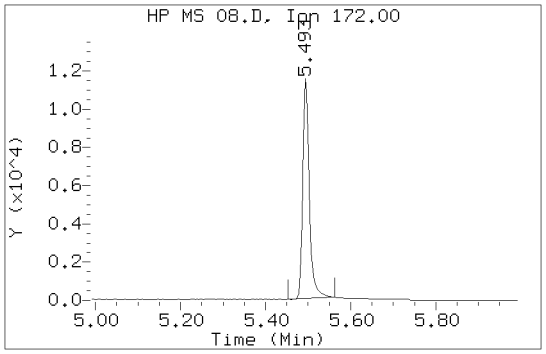
BEFORE

MASS
172
AREA
13881
HEIGHT
11599
11-Nov-2022
13:20
ALSHS
Server



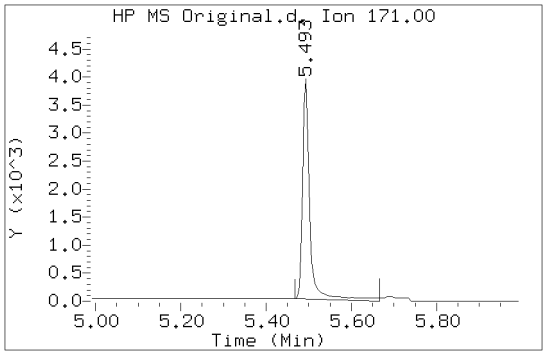
AFTER

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AREA
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HEIGHT
11508
11-Nov-2022
14:57



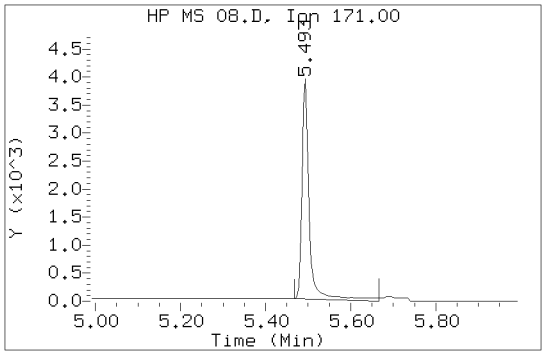
BEFORE

MASS
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AREA
4625
HEIGHT
3925
11-Nov-2022
13:20
ALSHS
Server



AFTER

MASS
171
AREA
4625
HEIGHT
3925
11-Nov-2022
14:57



Data File: \\NAHSTWS005\Target\chem\SV6.i\221111.b\10.D Page 1
Report Date: 11-Nov-2022 15:00

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\221111.b\10.D
Lab Smp Id: HS22110111-01
Inj Date : 11-NOV-2022 13:44
Operator : LG Inst ID: SV6.i
Smp Info : HS22110111-01
Misc Info :
Comment :
Method : \\nahstws005\Target\chem\SV6.i\221111.b\DXSIM.m
Meth Date : 11-Nov-2022 11:58 marco.guti Quant Type: ISTD
Cal Date : 10-MAR-2022 12:56 Cal File: 009.D
Als bottle: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTWS005

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	3.374	3.368	(1.000)	7802	0.10000	(aM)
* 45 Naphthalene-d8	136	4.479	4.471	(1.000)	15720	0.10000	(M)
$ 33 Nitrobenzene-d5	82	3.830	3.835	(0.855)	5379	0.10265	0.1026(M)
* 86 Acenaphthene-d10	164	6.136	6.141	(1.000)	10471	0.10000	(Q)
$ 69 2-Fluorobiphenyl	172	5.492	5.492	(0.895)	14556	0.08931	0.08931(M)
* 126 Phenanthrene-d10	188	7.581	7.586	(1.000)	20955	0.10000	
* 182 Chrysene-d12	240	10.340	10.345	(1.000)	11249	0.10000	(M)
$ 158 4-Terphenyl-d14	244	9.157	9.162	(0.886)	15247	0.07209	0.07209(M)
* 198 Perylene-d12	264	12.333	12.338	(1.000)	9014	0.10000	
1 1,4-Dioxane	58	1.515	1.526	(0.449)	362	0.11302	0.1130(M)

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.

01159166

Data File: \\NAHSTWS005\Target\chem\SV6.i\221111.b\10.D

Date : 11-NOV-2022 13:44

Client ID:

Instrument: SV6.i

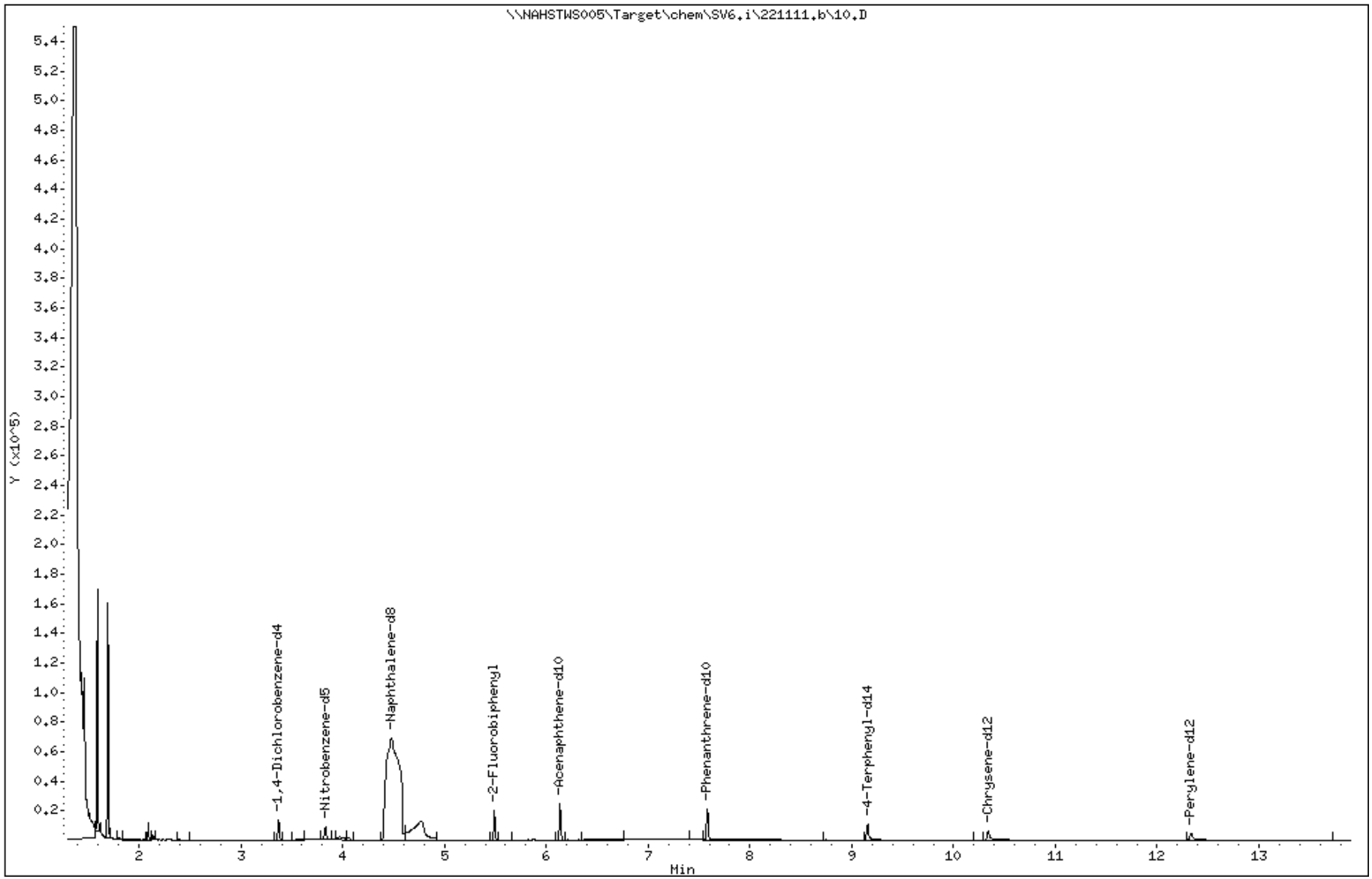
Sample Info: HS22110111-01

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28



Data File: \\NAHSTWS005\Target\chem\SV6.i\221111.b\10.D

Date : 11-NOV-2022 13:44

Client ID:

Instrument: SV6.i

Sample Info: HS22110111-01

Purge Volume: 1000.0

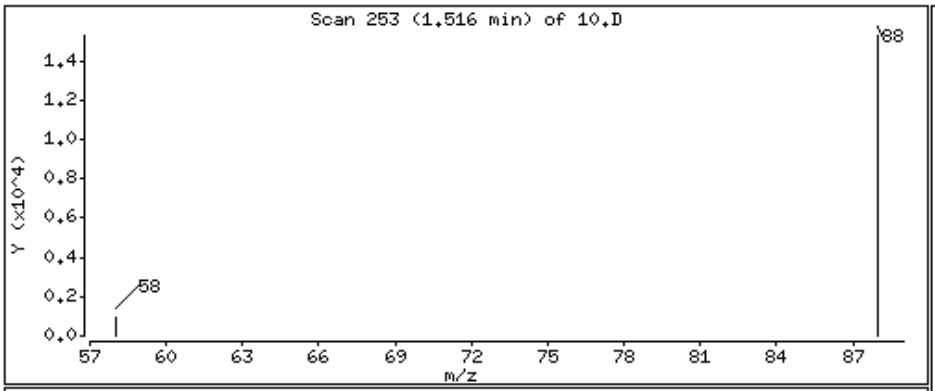
Operator: LG

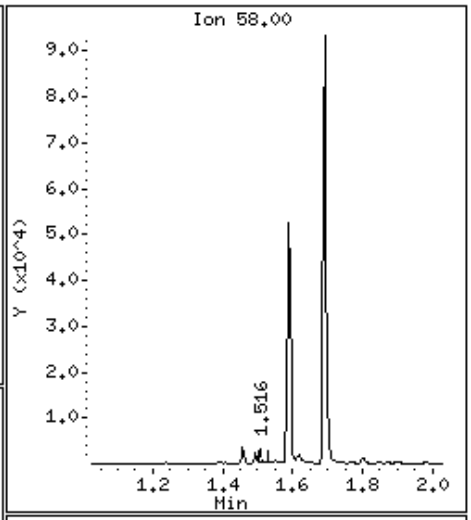
Column phase: RTX-5SIL MS

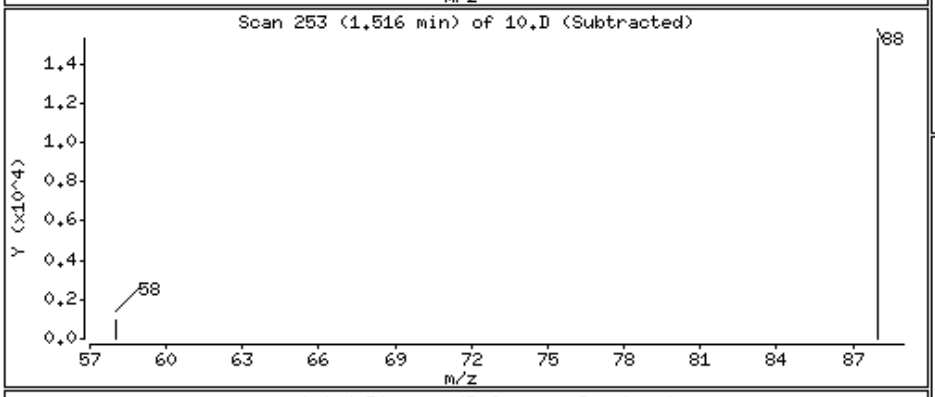
Column diameter: 0.28

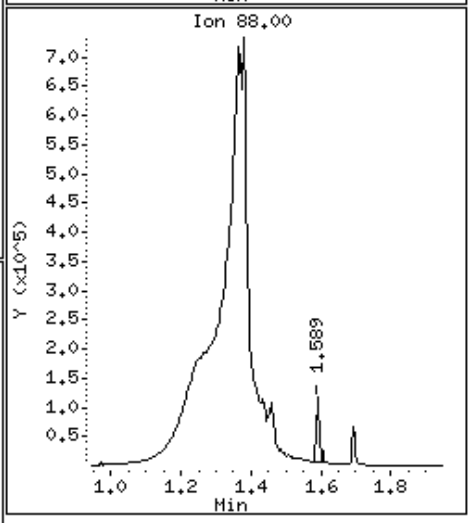
1 1,4-Dioxane

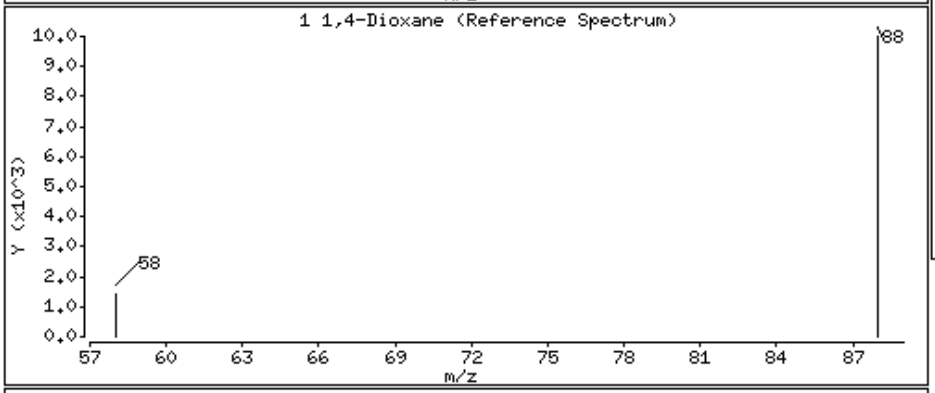
Concentration: 0.1130 ug/L

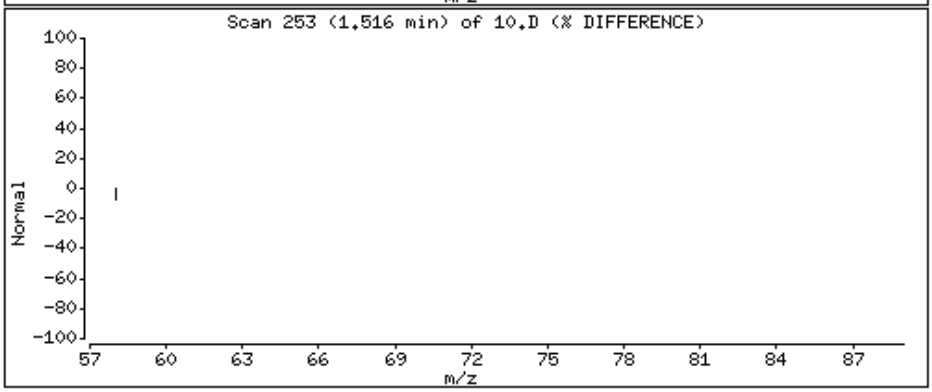












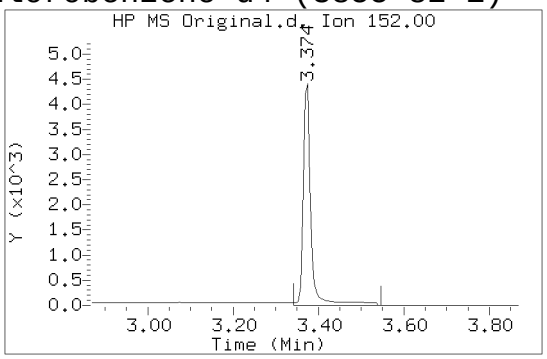
Data File : \\NAHSTWS005\Target\chem\SV6.i\221111.b\10.D
Inj Date : 11-NOV-2022 13:44
InstruID : SV6.i
LabSampID : HS22110111-01

1,4-Dichlorobenzene-d4 (3855-82-1)

Reason Code:

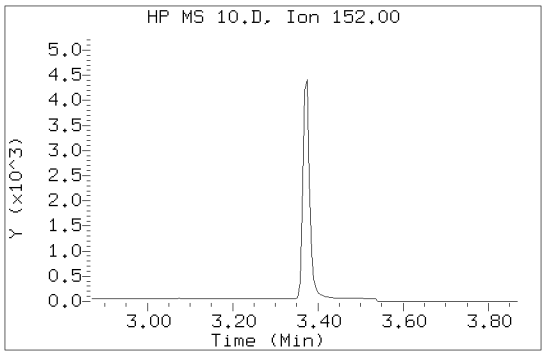
BEFORE

MASS
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AREA
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HEIGHT
4411
11-Nov-2022
13:59
ALSHS
Server



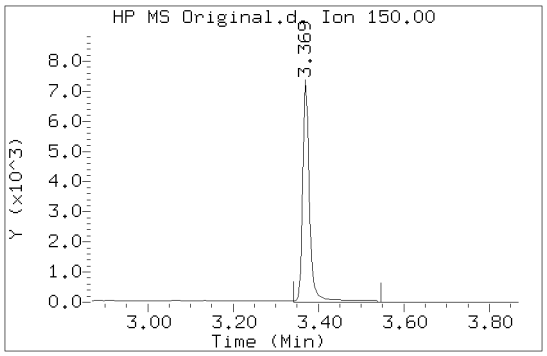
AFTER

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4411
11-Nov-2022
15:00



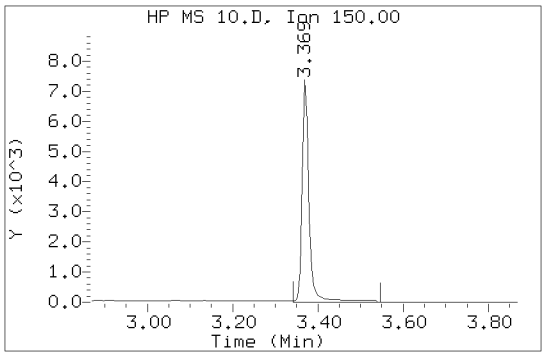
BEFORE

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HEIGHT
7376
11-Nov-2022
13:59
ALSHS
Server



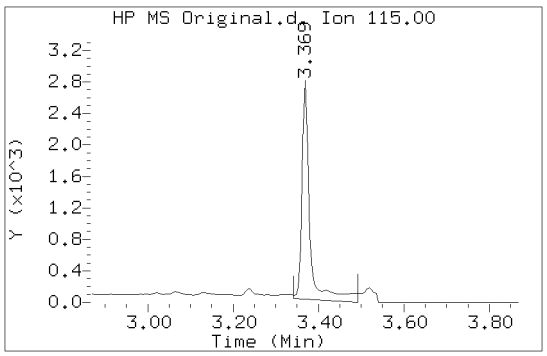
AFTER

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8272
HEIGHT
7376
11-Nov-2022
15:00



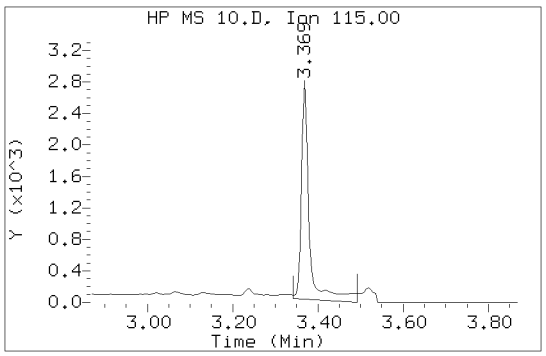
BEFORE

MASS
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AREA
3548
HEIGHT
2776
11-Nov-2022
13:59
ALSHS
Server



AFTER

MASS
115
AREA
3548
HEIGHT
2776
11-Nov-2022
15:00

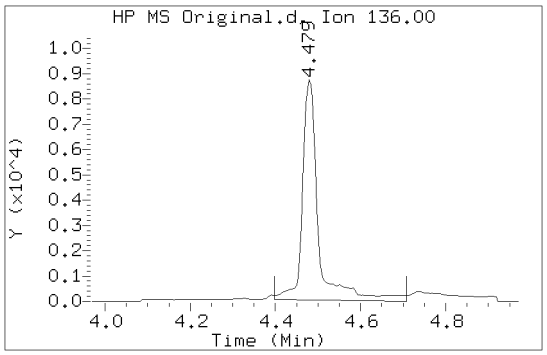


Naphthalene-d8 (1146-65-2)

Reason Code:

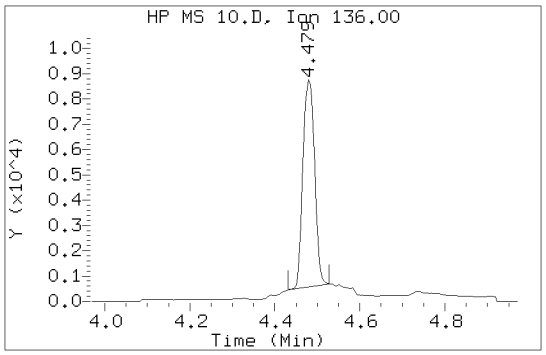
BEFORE

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AREA
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HEIGHT
8710
11-Nov-2022
13:59
ALSHS
Server



AFTER

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136
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15720
HEIGHT
8190
11-Nov-2022
15:00



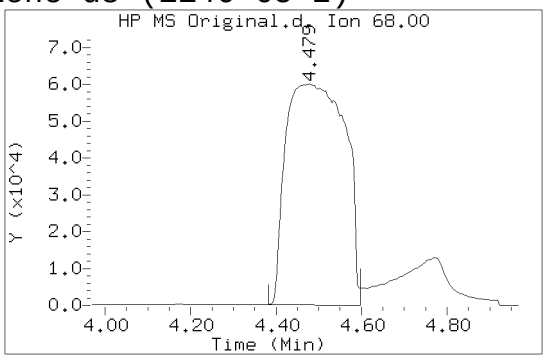
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Inj Date : 11-NOV-2022 13:44
InstruID : SV6.i
LabSampID : HS22110111-01

Naphthalene-d8 (1146-65-2)

Reason Code:

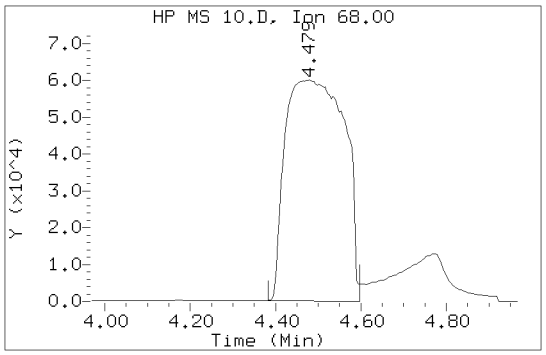
BEFORE

MASS
68
AREA
578557
HEIGHT
60142
11-Nov-2022
13:59
ALSHS
Server



AFTER

MASS
68
AREA
578557
HEIGHT
60142
11-Nov-2022
15:00

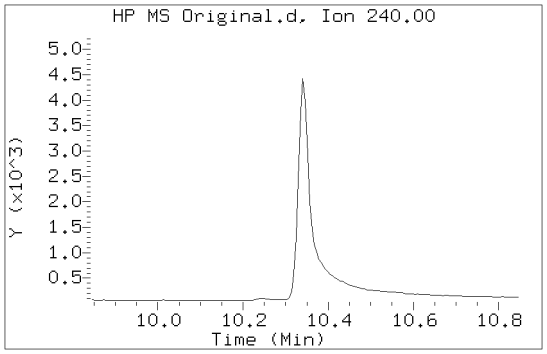


Chrysene-d12 (1719-03-5)

Reason Code:

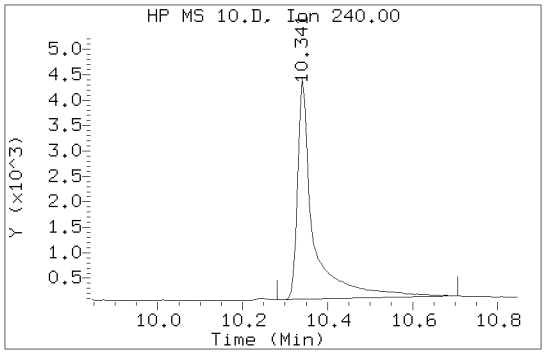
BEFORE

MASS
240
AREA
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HEIGHT
0
11-Nov-2022
13:59
ALSHS
Server



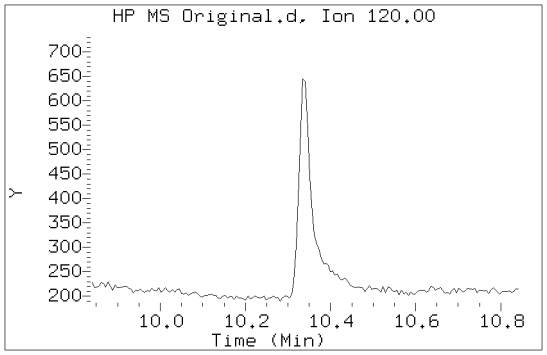
AFTER

MASS
240
AREA
11249
HEIGHT
4336
11-Nov-2022
15:00



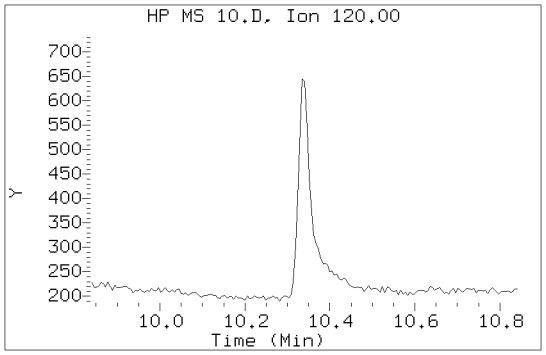
BEFORE

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AREA
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HEIGHT
0
11-Nov-2022
13:59
ALSHS
Server



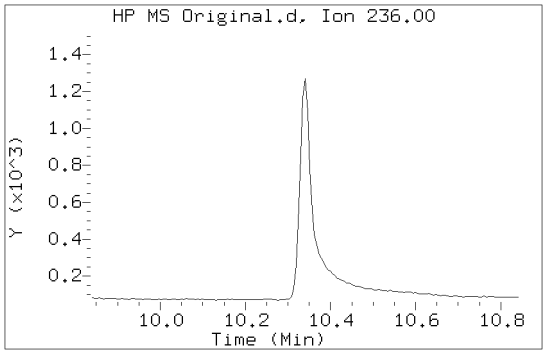
AFTER

MASS
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AREA
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HEIGHT
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11-Nov-2022
15:00



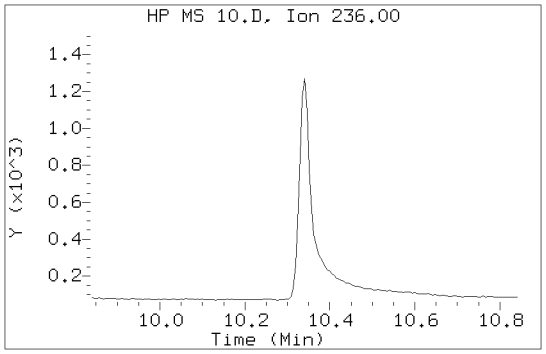
BEFORE

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AREA
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HEIGHT
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11-Nov-2022
13:59
ALSHS
Server



AFTER

MASS
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AREA
0
HEIGHT
0
11-Nov-2022
15:00



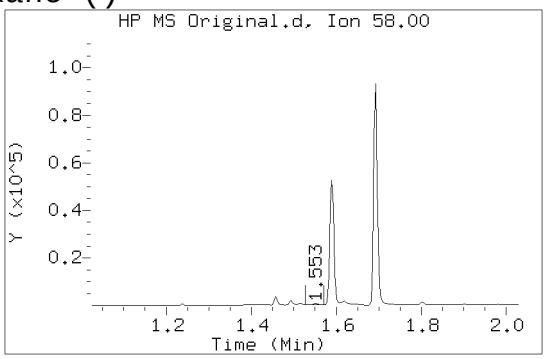
Data File : \\NAHSTWS005\Target\chem\SV6.i\221111.b\10.D
Inj Date : 11-NOV-2022 13:44
InstruID : SV6.i
LabSampID : HS22110111-01

1,4-Dioxane ()

Reason Code:

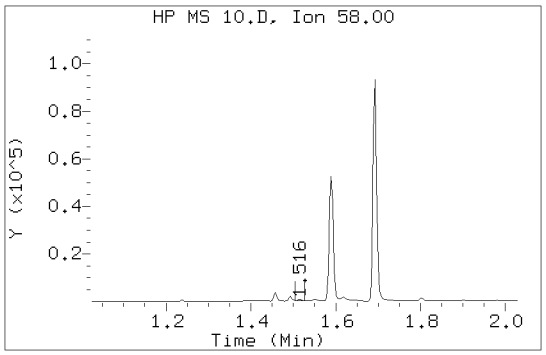
BEFORE

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AREA
418
HEIGHT
512
11-Nov-2022
13:59
ALSHS
Server



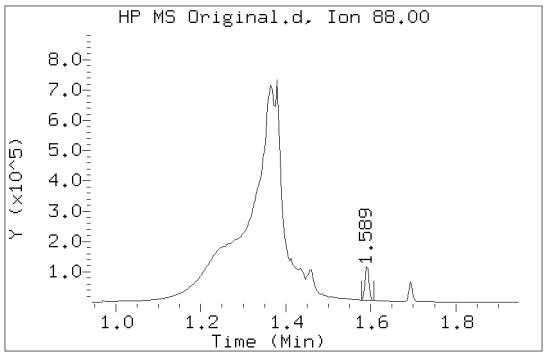
AFTER

MASS
58
AREA
362
HEIGHT
673
11-Nov-2022
15:00



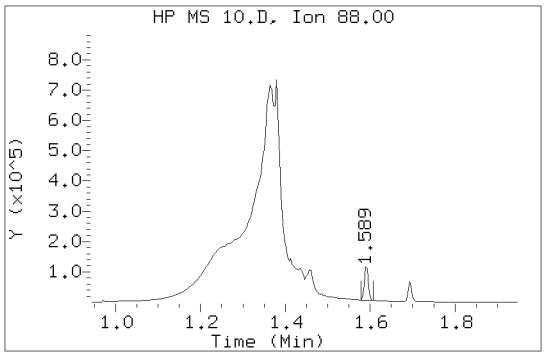
BEFORE

MASS
88
AREA
72161
HEIGHT
110955
11-Nov-2022
13:59
ALSHS
Server



AFTER

MASS
88
AREA
72161
HEIGHT
110955
11-Nov-2022
15:00

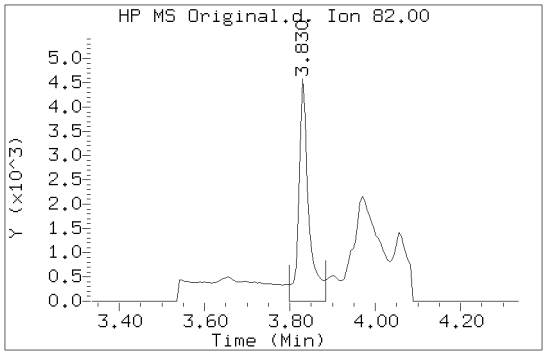


Nitrobenzene-d5 (4165-60-0)

Reason Code:

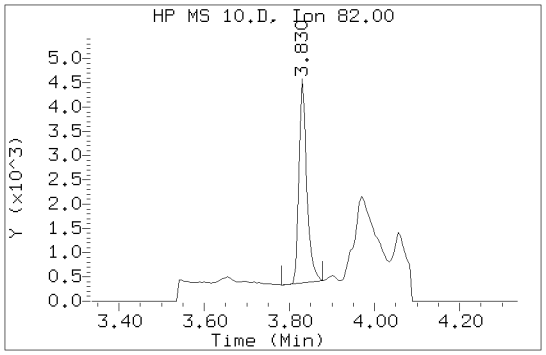
BEFORE

MASS
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AREA
7504
HEIGHT
4580
11-Nov-2022
13:59
ALSHS
Server



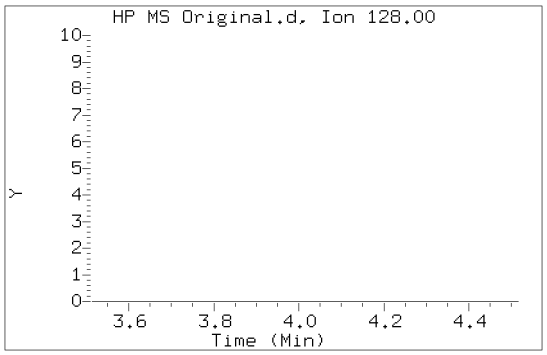
AFTER

MASS
82
AREA
5379
HEIGHT
4201
11-Nov-2022
15:00



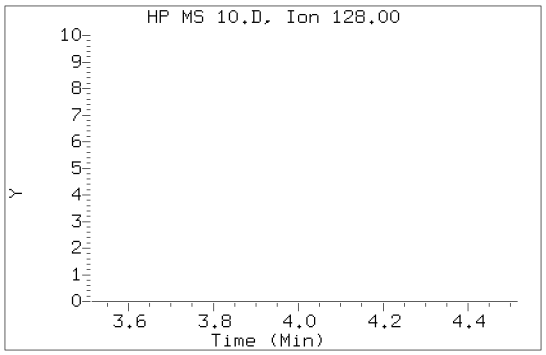
BEFORE

MASS
128
AREA
0
HEIGHT
0
11-Nov-2022
13:59
ALSHS
Server



AFTER

MASS
128
AREA
0
HEIGHT
0
11-Nov-2022
15:00



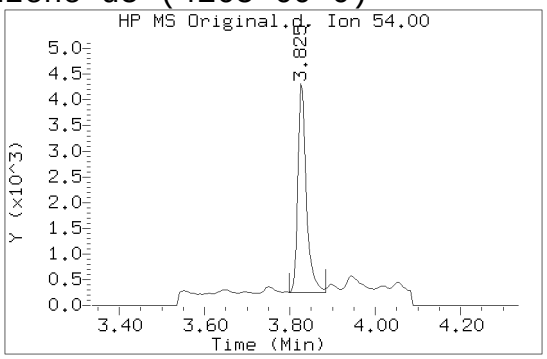
Data File : \\NAHSTWS005\Target\chem\SV6.i\221111.b\10.D
Inj Date : 11-NOV-2022 13:44
InstruID : SV6.i
LabSampID : HS22110111-01

Nitrobenzene-d5 (4165-60-0)

Reason Code:

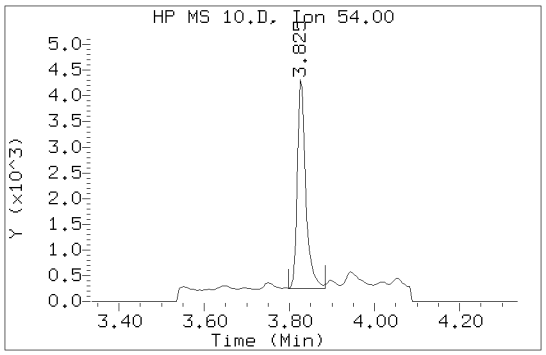
BEFORE

MASS
54
AREA
5711
HEIGHT
4069
11-Nov-2022
13:59
ALSHS
Server



AFTER

MASS
54
AREA
5711
HEIGHT
4069
11-Nov-2022
15:00

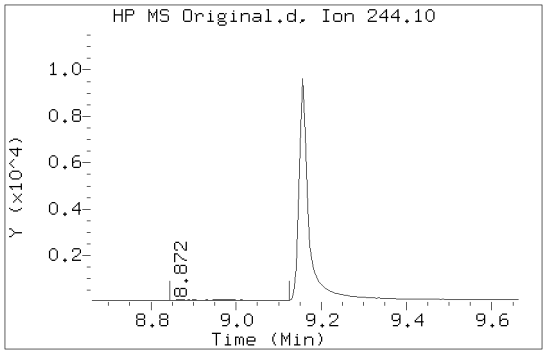


4-Terphenyl-d14 (1718-51-0)

Reason Code:

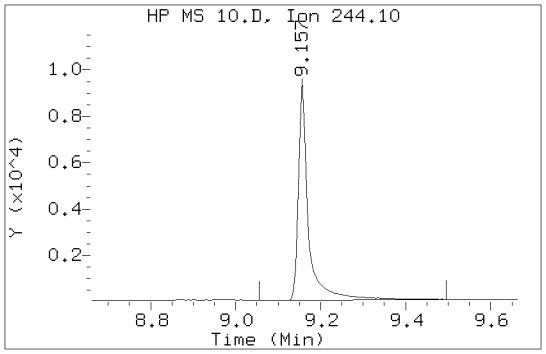
BEFORE

MASS
244.1
AREA
109
HEIGHT
18
11-Nov-2022
13:59
ALSHS
Server



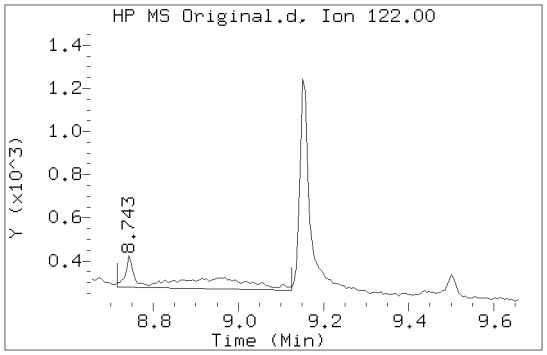
AFTER

MASS
244.1
AREA
15247
HEIGHT
9536
11-Nov-2022
15:00



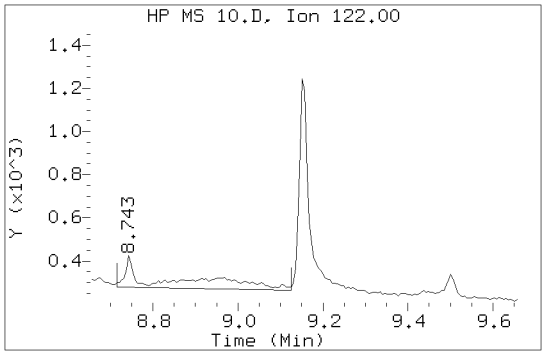
BEFORE

MASS
122
AREA
844
HEIGHT
145
11-Nov-2022
13:59
ALSHS
Server



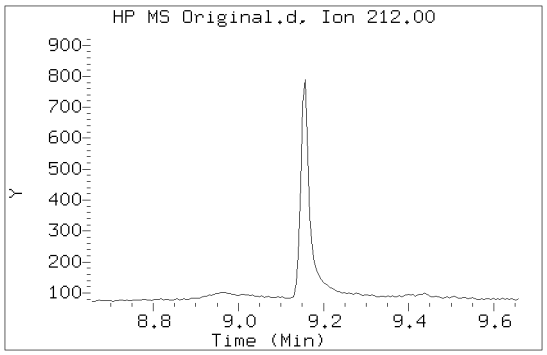
AFTER

MASS
122
AREA
844
HEIGHT
145
11-Nov-2022
15:00



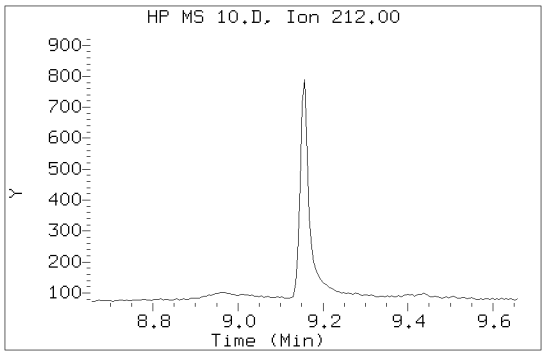
BEFORE

MASS
212
AREA
0
HEIGHT
0
11-Nov-2022
13:59
ALSHS
Server



AFTER

MASS
212
AREA
0
HEIGHT
0
11-Nov-2022
15:00



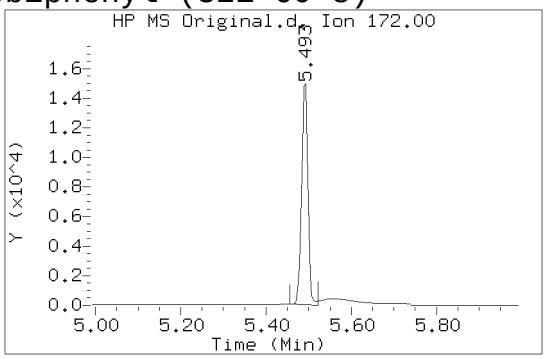
Data File : \\NAHSTWS005\Target\chem\SV6.i\221111.b\10.D
Inj Date : 11-NOV-2022 13:44
InstruID : SV6.i
LabSampID : HS22110111-01

2-Fluorobiphenyl (321-60-8)

Reason Code:

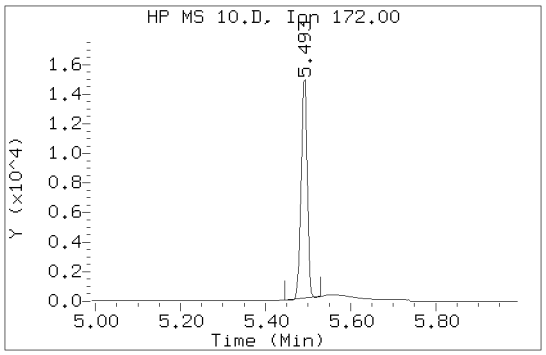
BEFORE

MASS
172
AREA
15293
HEIGHT
14944
11-Nov-2022
13:59
ALSHS
Server



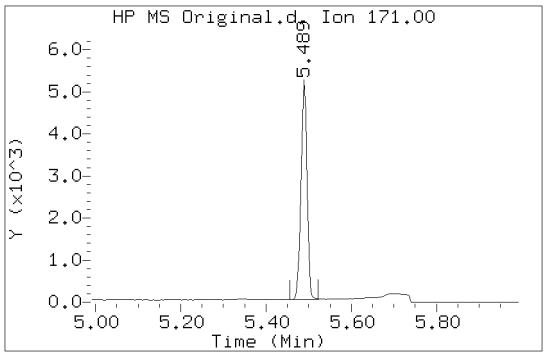
AFTER

MASS
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AREA
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HEIGHT
14755
11-Nov-2022
15:00



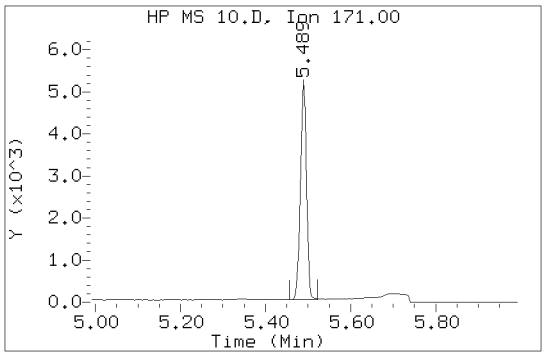
BEFORE

MASS
171
AREA
5073
HEIGHT
5228
11-Nov-2022
13:59
ALSHS
Server



AFTER

MASS
171
AREA
5073
HEIGHT
5228
11-Nov-2022
15:00



Data File: \\NAHSTWS005\Target\chem\SV6.i\221111.b\11.D Page 1
Report Date: 17-Nov-2022 12:50

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\221111.b\11.D
Lab Smp Id: 14DIOX-CCV END Client Smp ID: 14DIOX-CCV END
Inj Date : 11-NOV-2022 14:21
Operator : LG Inst ID: SV6.i
Smp Info : 14DIOX-0.08
Misc Info : ;;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\SV6.i\221111.b\DXSIM.m
Meth Date : 17-Nov-2022 12:48 SV6.i Quant Type: ISTD
Cal Date : 10-MAR-2022 12:56 Cal File: 009.D
Als bottle: 10 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14

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	3.368	3.368	(1.000)	5052	0.10000	(aQ)
* 45 Naphthalene-d8	136	4.471	4.471	(1.000)	17374	0.10000	
$ 33 Nitrobenzene-d5	82	3.835	3.835	(0.858)	4851	0.08000	0.08376(QM)
* 86 Acenaphthene-d10	164	6.141	6.141	(1.000)	9442	0.10000	(Q)
$ 69 2-Fluorobiphenyl	172	5.496	5.496	(0.895)	13416	0.08000	0.09128
* 126 Phenanthrene-d10	188	7.586	7.586	(1.000)	17024	0.10000	
* 182 Chrysene-d12	240	10.345	10.345	(1.000)	8683	0.10000	(M)
$ 158 4-Terphenyl-d14	244	9.167	9.167	(0.886)	12408	0.08000	0.07601(M)
* 198 Perylene-d12	264	12.338	12.338	(1.000)	6904	0.10000	
1 1,4-Dioxane	58	1.559	1.559	(0.463)	176	0.08000	0.08486(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.

01159174

Data File: \\NAHSTWS005\Target\chem\SV6.i\221111.b\11.D

Date : 11-NOV-2022 14:21

Client ID: 14DIOX-CCV END

Instrument: SV6.i

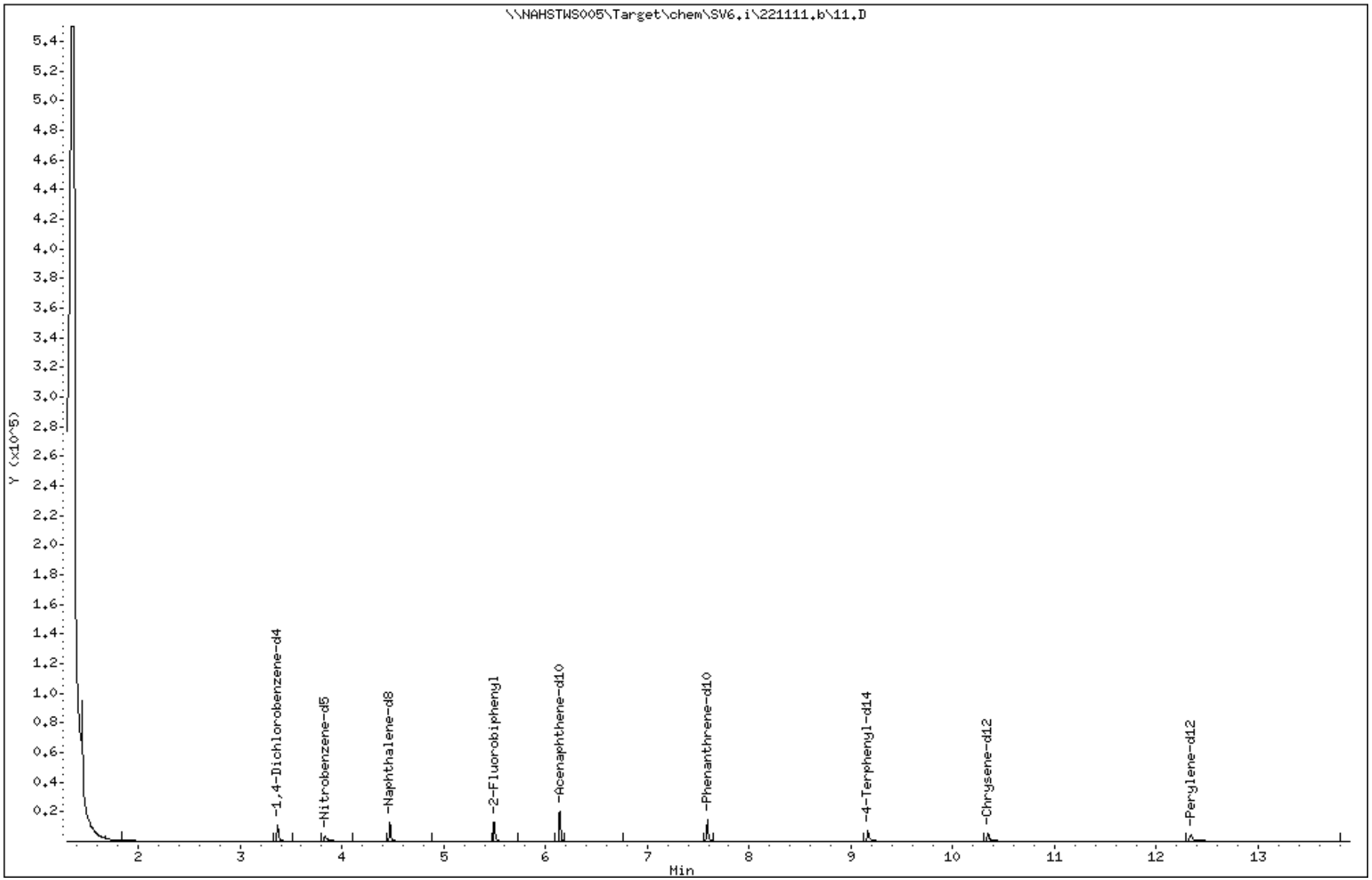
Sample Info: 14DIOX-0.08

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28



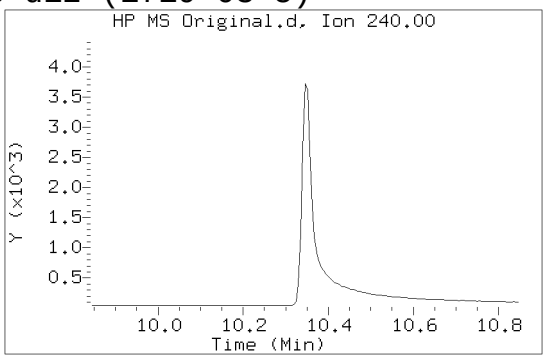
Data File : \\NAHSTWS005\Target\chem\SV6.i\221111.b\11.D
Inj Date : 11-NOV-2022 14:21
InstruID : SV6.i
LabSampID : 14DIOX-CCV END

Chrysene-d12 (1719-03-5)

Reason Code:

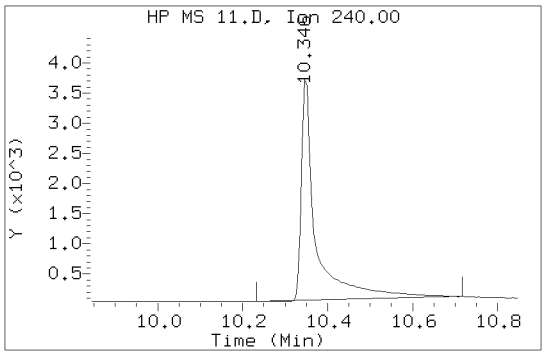
BEFORE

MASS
240
AREA
0
HEIGHT
0
11-Nov-2022
14:36
ALSHS
Server



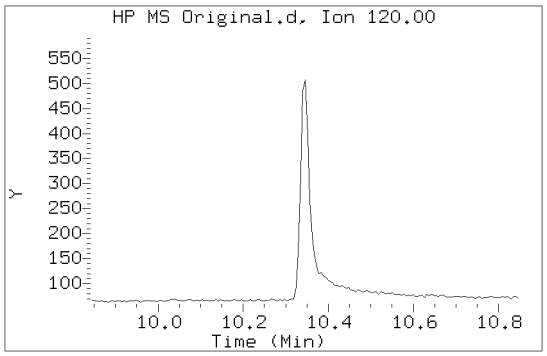
AFTER

MASS
240
AREA
8683
HEIGHT
3654
17-Nov-2022
12:50
ALSHS
Ser



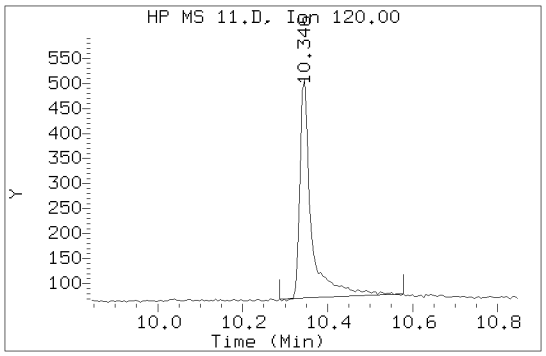
BEFORE

MASS
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AREA
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HEIGHT
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11-Nov-2022
14:36
ALSHS
Server



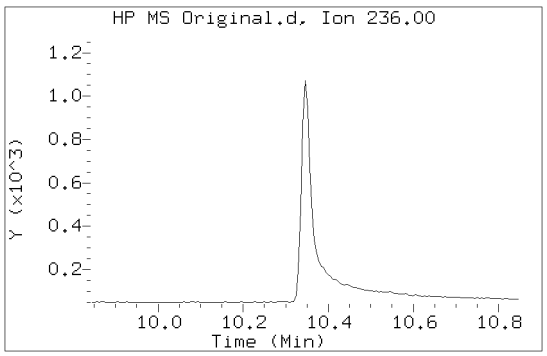
AFTER

MASS
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AREA
812
HEIGHT
435
17-Nov-2022
12:50
ALSHS
Ser



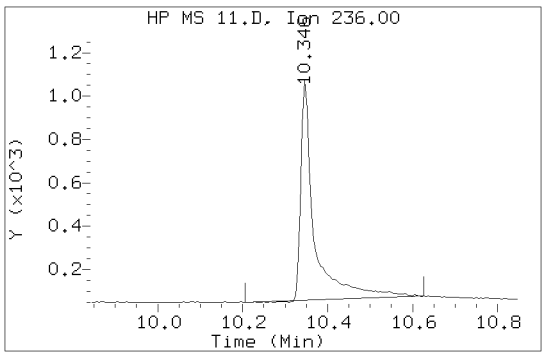
BEFORE

MASS
236
AREA
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HEIGHT
0
11-Nov-2022
14:36
ALSHS
Server



AFTER

MASS
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AREA
2216
HEIGHT
1011
17-Nov-2022
12:50
ALSHS
Ser

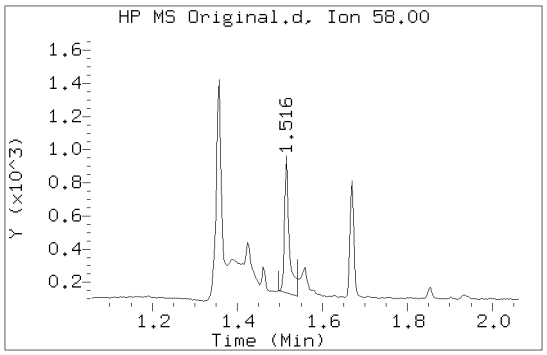


1,4-Dioxane ()

Reason Code:

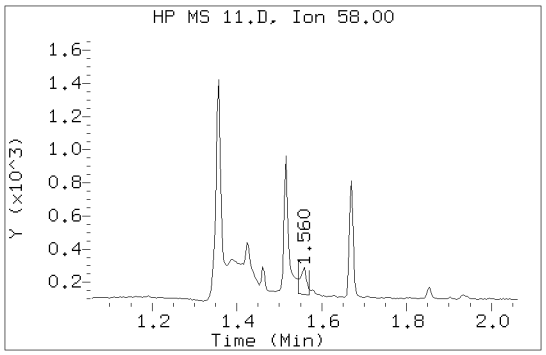
BEFORE

MASS
58
AREA
630
HEIGHT
826
11-Nov-2022
14:36
ALSHS
Server



AFTER

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58
AREA
176
HEIGHT
163
17-Nov-2022
12:50
ALSHS
Ser



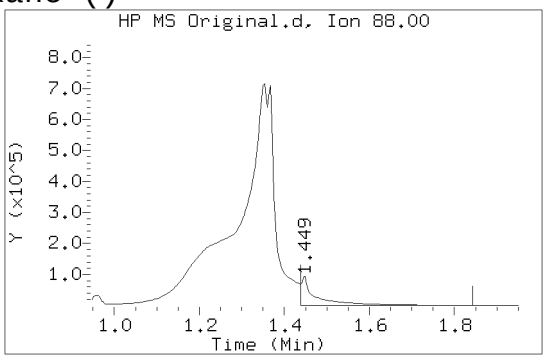
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Inj Date : 11-NOV-2022 14:21
InstruID : SV6.i
LabSampID : 14DIOX-CCV END

1,4-Dioxane ()

Reason Code:

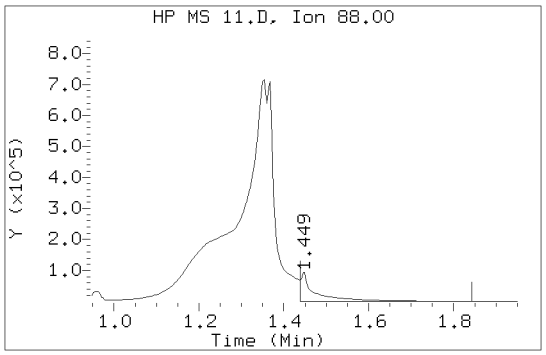
BEFORE

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88
AREA
229782
HEIGHT
93862
11-Nov-2022
14:36
ALSHS
Server



AFTER

MASS
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AREA
229782
HEIGHT
93862
17-Nov-2022
12:50
ALSHS
Ser

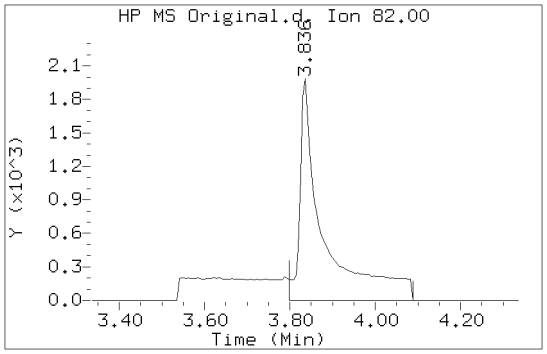


Nitrobenzene-d5 (4165-60-0)

Reason Code:

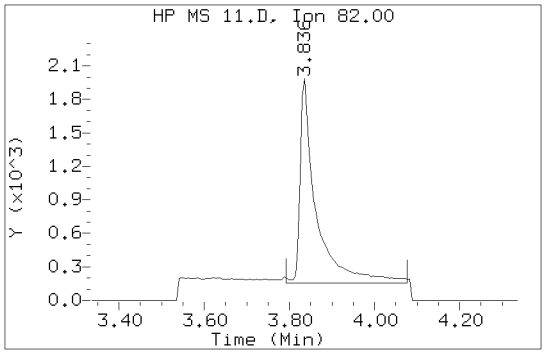
BEFORE

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AREA
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HEIGHT
1985
11-Nov-2022
14:36
ALSHS
Server



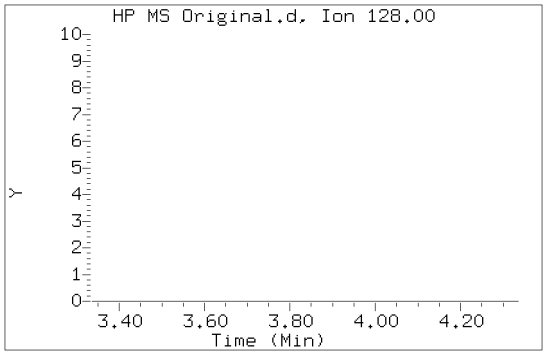
AFTER

MASS
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AREA
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HEIGHT
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17-Nov-2022
12:50
ALSHS
Ser



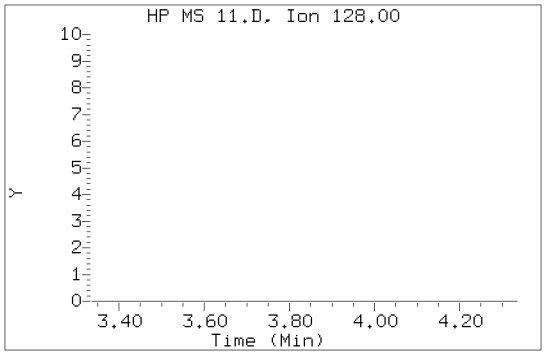
BEFORE

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AREA
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HEIGHT
0
11-Nov-2022
14:36
ALSHS
Server



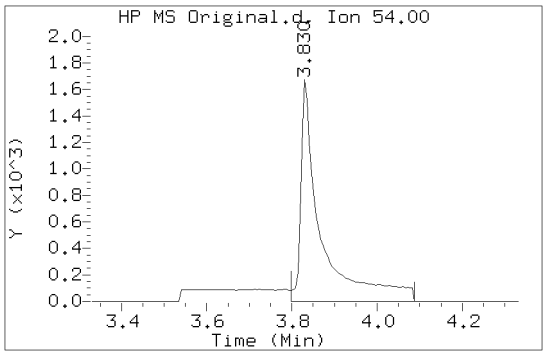
AFTER

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AREA
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HEIGHT
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17-Nov-2022
12:50
ALSHS
Ser



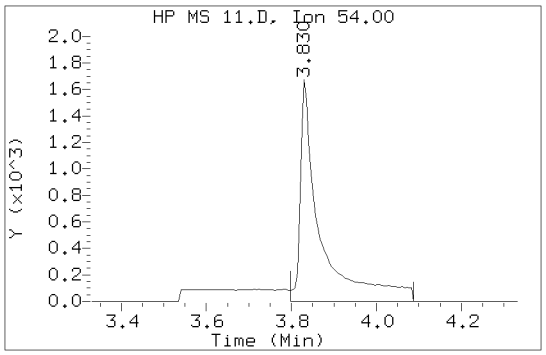
BEFORE

MASS
54
AREA
5426
HEIGHT
1673
11-Nov-2022
14:36
ALSHS
Server



AFTER

MASS
54
AREA
5426
HEIGHT
1673
17-Nov-2022
12:50
ALSHS
Ser

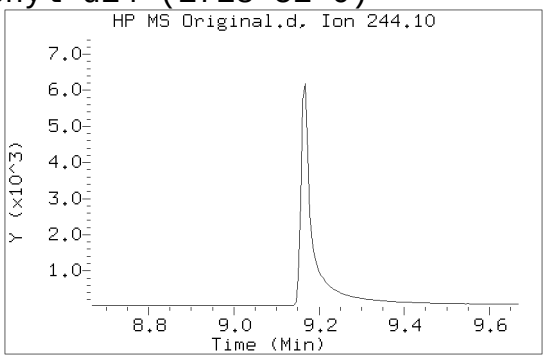


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Inj Date : 11-NOV-2022 14:21
InstruID : SV6.i
LabSampID : 14DIOX-CCV END

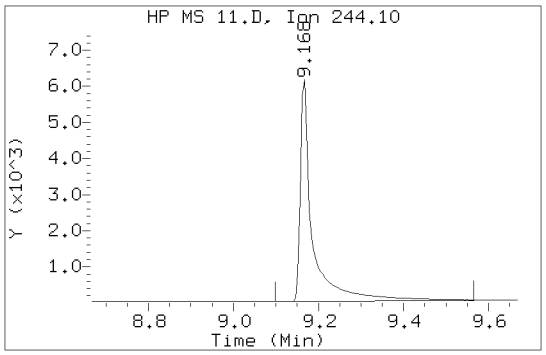
4-Terphenyl-d14 (1718-51-0)

Reason Code:

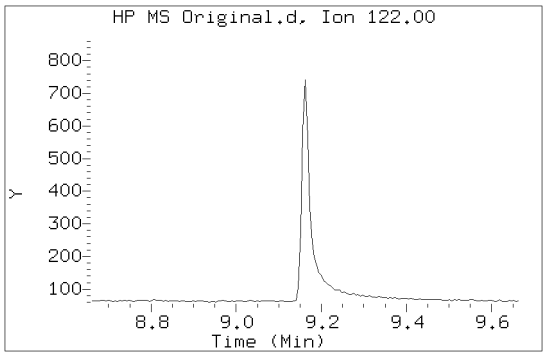
BEFORE
MASS
244.1
AREA
0
HEIGHT
0
11-Nov-2022
14:36
ALSHS
Server



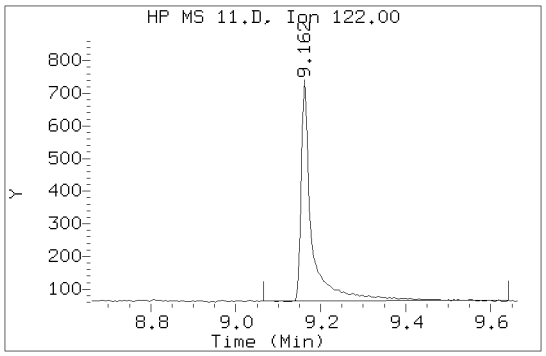
AFTER
MASS
244.1
AREA
12408
HEIGHT
6133
17-Nov-2022
12:50
ALSHS
Ser



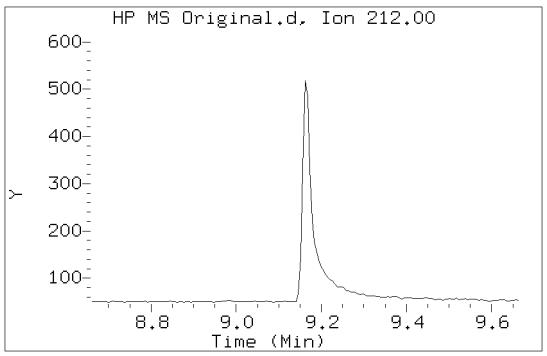
BEFORE
MASS
122
AREA
0
HEIGHT
0
11-Nov-2022
14:36
ALSHS
Server



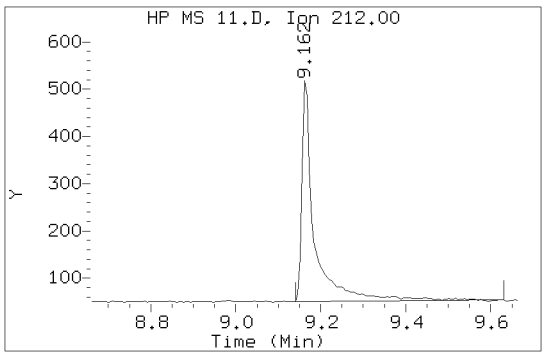
AFTER
MASS
122
AREA
1178
HEIGHT
677
17-Nov-2022
12:50
ALSHS
Ser



BEFORE
MASS
212
AREA
0
HEIGHT
0
11-Nov-2022
14:36
ALSHS
Server



AFTER
MASS
212
AREA
948
HEIGHT
466
17-Nov-2022
12:50
ALSHS
Ser



HS22110111 - ME - ICP_W_DOD

ALS WO# HS22110111

ALS Houston, US

Date: 16-Nov-22

FORM 13 - ANALYSIS RUN LOG

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS22110111
Start Date: 10-Nov-2022 End Date: 10-Nov-2022

Run ID:ICPMS07_421548
Instrument:ICPMS07
Method:

Sample No.	D/F	Time	FileID	Analytes
ICPMS07_421548_Tune	1	10-Nov-2022 00:00	ICPMS07_421548_Tune_1	
CAL BLK	1	10-Nov-2022 11:39	009CALB.d_6974159	AG BA PB SE
2/10/200	1	10-Nov-2022 11:41	010CALS.d_6974160	AG BA PB SE
5/25/500	1	10-Nov-2022 11:43	011CALS.d_6974161	AG BA PB SE
10/50/100	1	10-Nov-2022 11:45	012CALS.d_6974162	AG BA PB SE
100/500/10K	1	10-Nov-2022 11:47	013CALS.d_6974163	AG BA PB SE
200/1000/20K	1	10-Nov-2022 11:48	014CALS.d_6974164	AG BA PB SE
ICV	1	10-Nov-2022 12:01	016_ICV.d_6974166	AG BA PB SE
LLICV2	1	10-Nov-2022 12:03	017LCV2.d_6974167	AG BA PB SE
LLICV5	1	10-Nov-2022 12:05	018LCV5.d_6974168	AG BA PB SE
ICB	1	10-Nov-2022 12:07	019_ICB.d_6974169	AG BA PB SE
ICSA	1	10-Nov-2022 12:13	020ICSA.d_6974170	AG BA PB SE
ICSAB	1	10-Nov-2022 12:15	021ICSB.d_6974171	AG BA PB SE
CCV 1	1	10-Nov-2022 12:21	023_CCV.d_6974276	AG BA PB SE
CCB 1	1	10-Nov-2022 12:23	024_CCB.d_6974277	AG BA PB SE
MBLK-185976	1	10-Nov-2022 12:28	025SMPL.d_6974278	AG BA PB SE
LCS-185976	1	10-Nov-2022 12:30	026SMPL.d_6974279	AG BA PB SE
ZZZZZZSD	5	10-Nov-2022 12:34	028SMPL.d_6974281	AG BA PB SE
ZZZZZZMS	1	10-Nov-2022 12:36	029SMPL.d_6974282	AG BA PB SE
ZZZZZZMSD	1	10-Nov-2022 12:38	030SMPL.d_6974283	AG BA PB SE
ZZZZZZPDS	1	10-Nov-2022 12:40	031SMPL.d_6974284	BA PB SE
CCV 2	1	10-Nov-2022 12:47	035_CCV.d_6974286	AG BA PB SE
CCB 2	1	10-Nov-2022 12:49	036_CCB.d_6974287	AG BA PB SE
CCV 3	1	10-Nov-2022 15:48	095_CCV.d_6975202	AG BA PB SE
CCB 3	1	10-Nov-2022 15:49	096_CCB.d_6975203	AG BA PB SE
LH18/24-SP650_110122	1	10-Nov-2022 16:15	102SMPL.d_6975209	AG BA PB SE
CCV 4	1	10-Nov-2022 16:32	107_CCV.d_6975214	AG BA PB SE
CCB 4	1	10-Nov-2022 16:34	108_CCB.d_6975215	AG BA PB SE
CCV 5	1	10-Nov-2022 17:04	121_CCV.d_6975410	AG BA PB SE
CCB 5	1	10-Nov-2022 17:06	122_CCB.d_6975411	AG BA PB SE

ALS Houston, US Date: 16-Nov-22

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS22110111

Run ID: ICPMS07_421548
Instrument: ICPMS07
Method: SW6020A

ICV	Date: 10-Nov-2022 12:01		Seq: 6974166	ICV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Barium	100	97.789	98	90-110	
Lead	100	96.88	97	90-110	
Selenium	100	97.343	97	90-110	
Silver	100	99.464	100	90-110	

CCV1	Date: 10-Nov-2022 12:21		Seq: 6974276	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Barium	100	95.142	95	90-110	
Lead	100	98.302	98	90-110	
Selenium	100	99.089	99	90-110	
Silver	100	97.693	98	90-110	

CCV2	Date: 10-Nov-2022 12:47		Seq: 6974286	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Barium	100	96.572	97	90-110	
Lead	100	98.087	98	90-110	
Selenium	100	99.383	99	90-110	
Silver	100	98.741	99	90-110	

CCV3	Date: 10-Nov-2022 15:48		Seq: 6975202	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Barium	100	96.909	97	90-110	
Lead	100	90.587	91	90-110	
Selenium	100	98.295	98	90-110	
Silver	100	98.183	98	90-110	

CCV4	Date: 10-Nov-2022 16:32		Seq: 6975214	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Barium	100	97.172	97	90-110	
Lead	100	96.534	97	90-110	
Selenium	100	101.621	102	90-110	
Silver	100	98.671	99	90-110	

CCV5	Date: 10-Nov-2022 17:04		Seq: 6975410	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Barium	100	97.957	98	90-110	
Lead	100	100.778	101	90-110	
Selenium	100	99.658	100	90-110	
Silver	100	99.11	99	90-110	

ALS Houston, US

Date: 16-Nov-22

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS22110111

Run ID: ICPMS07_421548
Instrument: ICPMS07
Method: SW6020A

ICB	Date: 10-Nov-2022 12:07		Seq: 6974169	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: 10-Nov-2022 12:23		Seq: 6974277	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-185976	Date: 10-Nov-2022 12:28		Seq: 6974278	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: 10-Nov-2022 12:49		Seq: 6974287	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: 10-Nov-2022 15:49		Seq: 6975203	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	

CCB4	Date: 10-Nov-2022 16:34		Seq: 6975215	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	

CCB5	Date: 10-Nov-2022 17:06		Seq: 6975411	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: 16-Nov-22

Form 4 - ICP Interference Check Sample

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS22110111

Run ID: ICPMS07_421548
Instrument: ICPMS07
Method: SW6020A

ICSA	Date: 10-Nov-2022 12:13	Seq: 6974170	ICSA	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Barium		0.807	0	
Lead		0.183	0	
Selenium		-0.039	0	
Silver		0.133	0	

ICSAB	Date: 10-Nov-2022 12:15	Seq: 6974171	ICSAB	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Barium	100	104.6	105	
Lead	100	104.9	105	
Selenium	100	102.2	102	
Silver	100	100.2	100	

ALS Houston, US Date: 16-Nov-22

Form 5A - Matrix Spike/Matrix Spike Duplicate Recovery

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS22110111

Date Analyzed: 10-Nov-2022 12:38
Date Extracted: 09-Nov-2022 12:30
Units: ug/L

Matrix Spike: HS22110108-01MS
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	399.1	452.9	50.00	108	413.3	50.00	28.4	86-114	9.16	20
Lead	5.000	48.34	50.00	95.9	47.37	50.00	93.9	88-115	2.03	20
Selenium	5.000	50.87	50.00	102	51.17	50.00	103	80-120	0.606	20
Silver	5.000	49.64	50.00	99.4	47.51	50.00	95.1	85-116	4.40	20

ALS Houston, US Date: 16-Nov-22

Form 5B - Post Digest Sample Recovery

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS22110111

Date Analyzed: 10-Nov-2022 12:40
Date Extracted: 09-Nov-2022 12:30
Units: ug/L

Lab Sample ID: HS22110108-01PDS
Client Sample ID:

Analysis Method: SW6020A

Analyte	Sample Result	PDS Result	Spike Amount	% Rec	% Rec Limits
Barium	399.1	518.6	100	120	80-120
Lead	0	118.2	100	118	80-120
Selenium	0	116.7	100	117	80-120

ALS Houston, US

Date: 16-Nov-22

Form 7 - Laboratory Control Sample

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS22110111

Date Analyzed: 10-Nov-2022 12:30
Date Extracted: 09-Nov-2022 12:30
Units: ug/L

Lab Sample ID: LCS-185976
Analysis Method: SW6020A

Analyte	Spike Amount	LCS Result	% Rec	% Rec Limits
Barium	50	49.33	99	86-114
Lead	50	46.48	93	88-115
Selenium	50	53.16	106	80-120
Silver	50	50.15	100	85-116

ALS Houston, US Date: 16-Nov-22

Form 8 - ICP Serial Dilutions

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS22110111

Date Analyzed: 10-Nov-2022 12:34
Date Extracted: 09-Nov-2022 12:30
Units: ug/L

Lab Sample ID: HS22110108-01SD
Client Sample ID:

Analysis Method: SW6020A

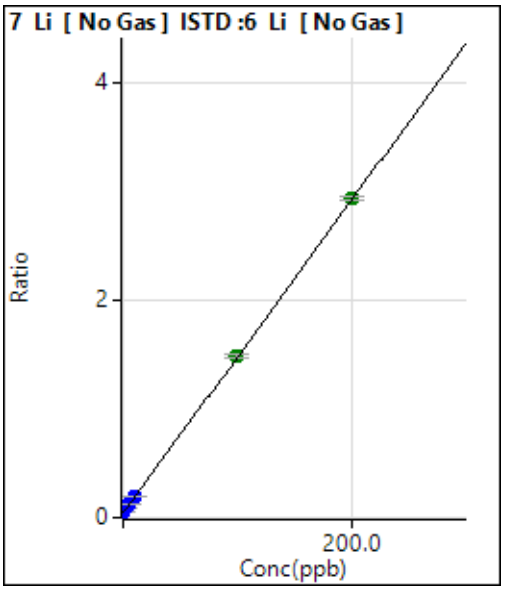
Analyte	Sample Result	C	SD Result	C	RPD	Q
Barium	399.1		365.2		8	
Lead	0	U	0	U	0	
Selenium	0	U	0	U	0	
Silver	0	U	0	U	0	

Calibration for 172_ICV.d

Batch Folder: D:\Agilent\ICPMH\1\DATA\111022A.b\
Analysis File: 111022A.batch.bin
DA Date-Time: 11/10/2022 22:40:38
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	163CALB.d	CAL BLK	11/10/2022 19:44:10
2	164CALS.d	2/10/200	11/10/2022 19:46:04
3	165CALS.d	5/25/500	11/10/2022 19:47:58
4	166CALS.d	10/50/100	11/10/2022 19:49:51
5	167CALS.d	100/500/10K	11/10/2022 19:51:44
6	168CALS.d	200/1000/20K	11/10/2022 19:53:33

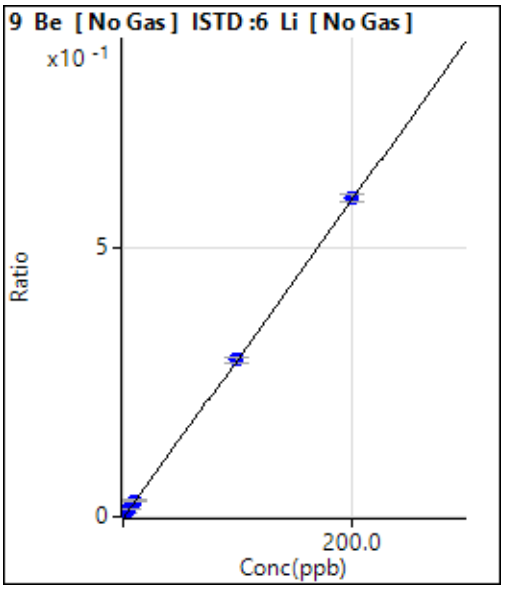
Calibration for 172_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	37952.69	0.0564	P	0.3	
2	☐	2.000	2.002	57441.58	0.0852	P	2.2	0.1
3	☐	5.000	4.723	85816.11	0.1245	P	4.3	-5.5
4	☐	10.000	9.567	133847.65	0.1944	P	2.4	-4.3
5	☐	100.000	99.890	1030211.24	1.4981	A	2.4	-0.1
6	☐	200.000	200.083	1907822.58	2.9441	A	1.2	0.0

y = 0.0144 * x + 0.0564
R = 1.0000
DL = 0.03314 ppb
BEC = 3.904 ppb

Weight: <None>
Min Conc: <None>

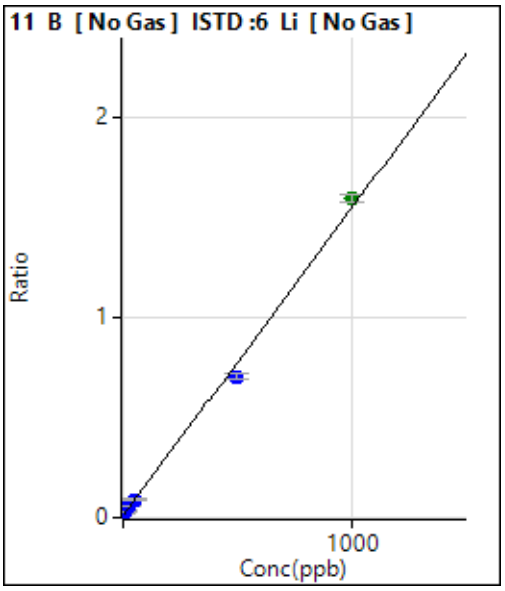


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	0.00	0.0000	P		
2	☐	2.000	2.080	4145.64	0.0062	P	6.8	4.0
3	☐	5.000	5.116	10435.60	0.0151	P	3.2	2.3
4	☐	10.000	10.083	20528.39	0.0298	P	5.0	0.8
5	☐	100.000	99.016	201410.68	0.2930	P	3.7	-1.0
6	☐	200.000	200.484	384337.06	0.5932	P	2.0	0.2

y = 0.0030 * x + 0.0000E+000
R = 1.0000
DL = 0 ppb
BEC = 0 ppb

Weight: <None>
Min Conc: <None>

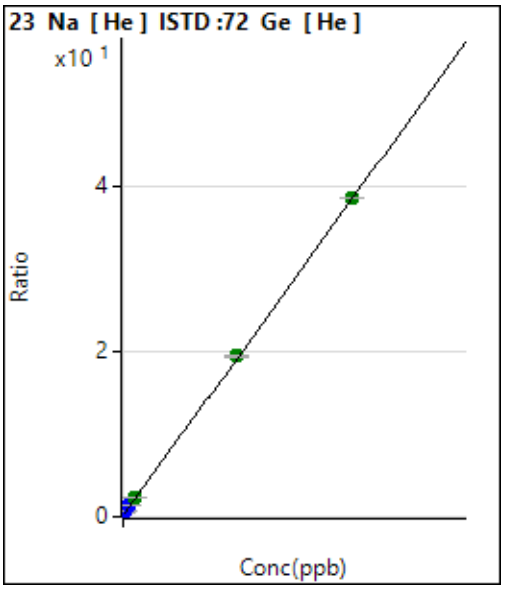
Calibration for 172_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	12847.61	0.0191	P	2.4	
2	☐	10.000	9.199	22356.17	0.0332	P	2.6	-8.0
3	☐	25.000	23.015	37484.92	0.0544	P	2.9	-7.9
4	☐	50.000	46.822	62533.41	0.0909	P	4.2	-6.4
5	☐	500.000	446.830	484288.48	0.7042	P	3.5	-10.6
6	☐	1000.000	1026.801	1032846.91	1.5934	A	2.3	2.7

y = 0.0015 * x + 0.0191
R = 0.9981
DL = 0.9024 ppb
BEC = 12.44 ppb

Weight: <None>
Min Conc: <None>

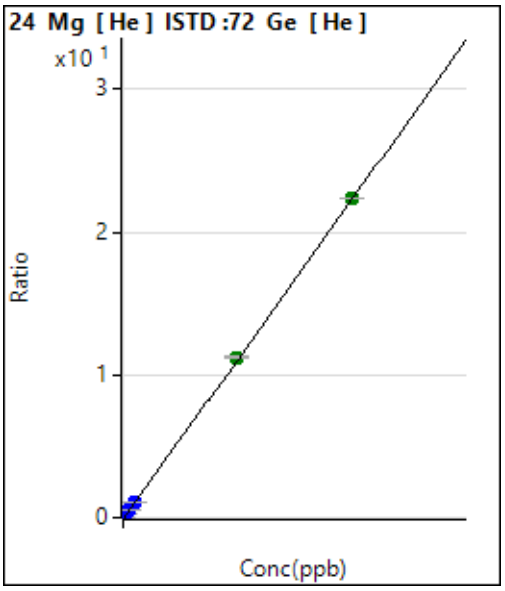


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	150208.34	0.3703	P	0.9	
2	☐	200.000	204.851	307636.71	0.7613	P	1.1	2.4
3	☐	500.000	501.942	536416.58	1.3283	P	1.7	0.4
4	☐	1000.000	1054.769	956869.26	2.3833	A	1.1	5.5
5	☐	10000.00	9991.859	7603121.97	19.4394	A	0.9	-0.1
6	☐	20000.00	20001.23	14448603.1	38.5420	A	0.4	0.0

y = 0.0019 * x + 0.3703
R = 1.0000
DL = 5.302 ppb
BEC = 194.1 ppb

Weight: <None>
Min Conc: <None>

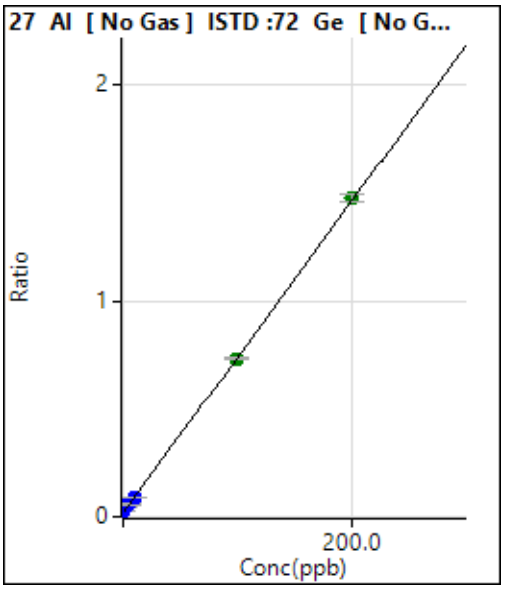
Calibration for 172_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	920.05	0.0023	P	7.4	
2	☐	200.000	195.872	89432.28	0.2213	P	1.9	-2.1
3	☐	500.000	491.432	222869.29	0.5519	P	1.0	-1.7
4	☐	1000.000	972.825	437706.96	1.0902	P	0.6	-2.7
5	☐	10000.00	10005.65	4377384.73	11.1919	A	1.2	0.1
6	☐	20000.00	19998.78	8385264.67	22.3675	A	0.4	0.0

y = 0.0011 * x + 0.0023
R = 1.0000
DL = 0.448 ppb
BEC = 2.029 ppb

Weight: <None>
Min Conc: <None>

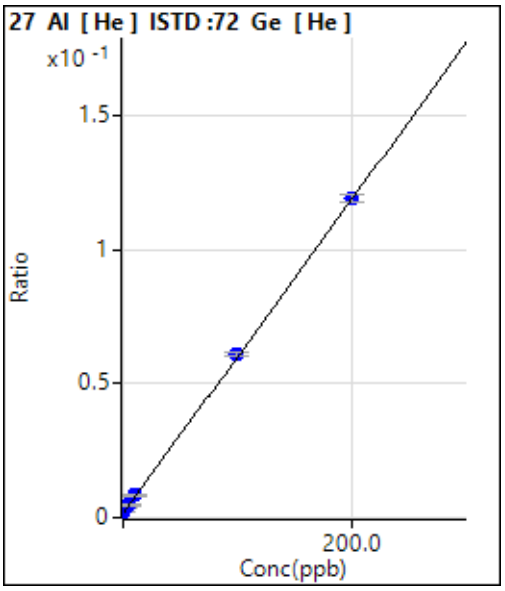


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	34623.52	0.0264	P	3.0	
2	☐	2.000	2.113	54593.93	0.0416	P	3.6	5.6
3	☐	5.000	4.437	75919.88	0.0584	P	2.2	-11.3
4	☐	10.000	8.980	118867.64	0.0912	P	0.9	-10.2
5	☐	100.000	97.959	922663.92	0.7335	A	2.0	-2.0
6	☐	200.000	201.084	1740496.64	1.4779	A	2.2	0.5

y = 0.0072 * x + 0.0264
R = 0.9999
DL = 0.3235 ppb
BEC = 3.654 ppb

Weight: <None>
Min Conc: <None>

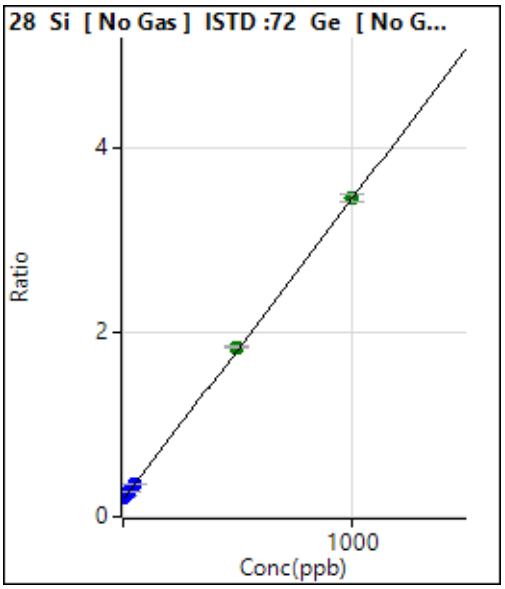
Calibration for 172_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	900.04	0.0022	P	5.7	
2	☐	2.000	2.420	1470.10	0.0036	P	3.3	21.0
3	☐	5.000	4.420	1943.50	0.0048	P	12.7	-11.6
4	☐	10.000	10.476	3357.13	0.0084	P	6.8	4.8
5	☐	100.000	100.346	23870.79	0.0610	P	2.5	0.3
6	☐	200.000	199.813	44735.54	0.1193	P	2.0	-0.1

y = 5.8614E-004 * x + 0.0022
R = 1.0000
DL = 0.6432 ppb
BEC = 3.787 ppb

Weight: <None>
Min Conc: <None>

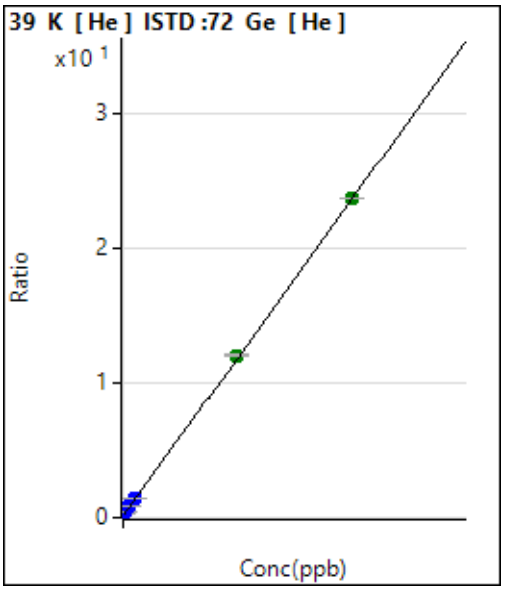


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	260545.58	0.1985	P	0.5	
2	☐	10.000	8.826	298114.72	0.2273	P	1.5	-11.7
3	☐	25.000	24.156	360524.07	0.2773	P	1.2	-3.4
4	☐	50.000	47.007	458637.52	0.3519	P	0.6	-6.0
5	☐	500.000	502.575	2313244.13	1.8388	A	0.8	0.5
6	☐	1000.000	998.895	4072954.52	3.4587	A	2.3	-0.1

y = 0.0033 * x + 0.1985
R = 1.0000
DL = 0.9569 ppb
BEC = 60.81 ppb

Weight: <None>
Min Conc: <None>

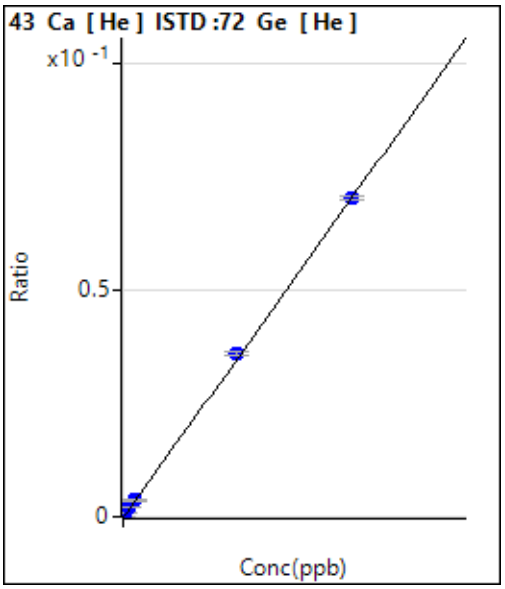
Calibration for 172_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	100309.26	0.2473	P	1.9	
2	☐	200.000	201.446	195738.69	0.4844	P	0.8	0.7
3	☐	500.000	503.109	338986.26	0.8394	P	0.8	0.6
4	☐	1000.000	991.495	567723.14	1.4141	P	1.1	-0.9
5	☐	10000.00	10042.03	4718401.81	12.0642	A	1.5	0.4
6	☐	20000.00	19979.31	8906252.16	23.7577	A	0.2	-0.1

y = 0.0012 * x + 0.2473
R = 1.0000
DL = 12.11 ppb
BEC = 210.2 ppb

Weight: <None>
Min Conc: <None>

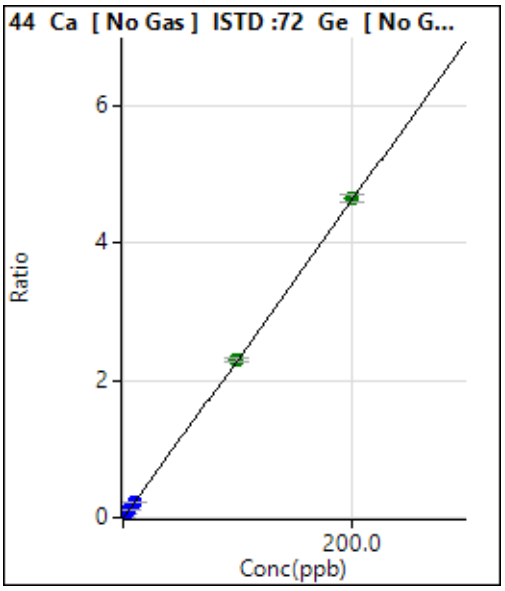


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	30.00	0.0001	P	32.9	
2	☐	200.000	210.551	330.01	0.0008	P	17.1	5.3
3	☐	500.000	547.434	810.04	0.0020	P	3.2	9.5
4	☐	1000.000	1023.691	1480.11	0.0037	P	8.2	2.4
5	☐	10000.00	10175.64	14070.78	0.0360	P	2.6	1.8
6	☐	20000.00	19909.70	26362.10	0.0703	P	1.4	-0.5

y = 3.5285E-006 * x + 7.3867E-005
R = 0.9999
DL = 20.64 ppb
BEC = 20.93 ppb

Weight: <None>
Min Conc: <None>

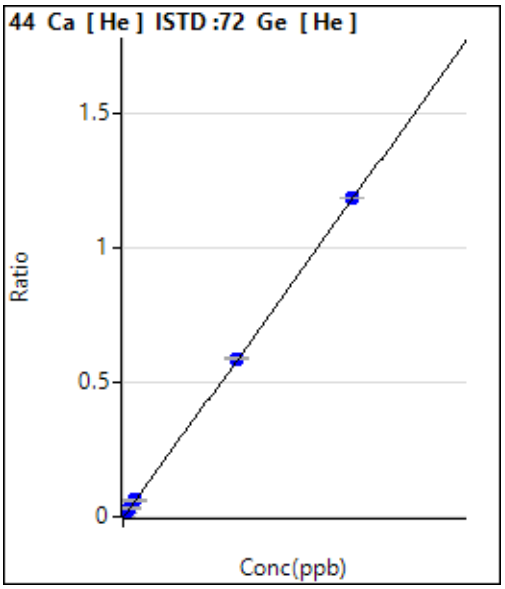
Calibration for 172_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	10514.19	0.0080	P	1.8	
2	☐	2.000	1.926	68959.02	0.0526	P	1.1	-3.7
3	☐	5.000	4.829	155658.55	0.1197	P	1.5	-3.4
4	☐	10.000	9.625	300668.23	0.2307	P	0.9	-3.8
5	☐	100.000	99.183	2896564.75	2.3028	A	2.4	-0.8
6	☐	200.000	200.432	5470594.09	4.6454	A	2.1	0.2

y = 0.0231 * x + 0.0080
R = 1.0000
DL = 0.01838 ppb
BEC = 0.3462 ppb

Weight: <None>
Min Conc: <None>

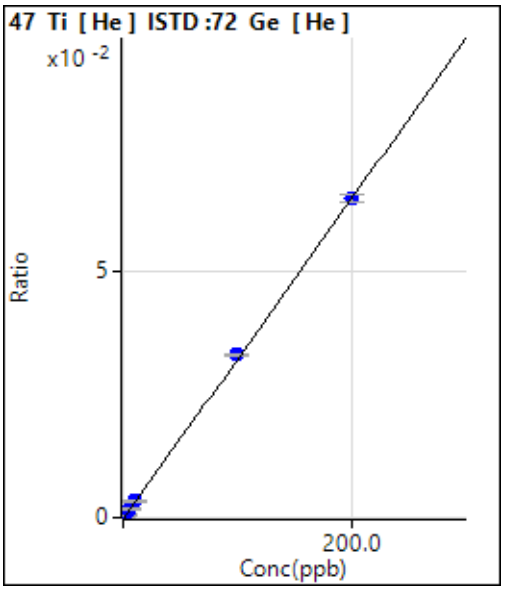


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	500.02	0.0012	P	22.5	
2	☐	200.000	203.419	5361.11	0.0133	P	1.3	1.7
3	☐	500.000	517.244	12852.84	0.0318	P	3.8	3.4
4	☐	1000.000	1007.913	24432.02	0.0609	P	1.7	0.8
5	☐	10000.00	9934.547	230313.29	0.5889	P	1.9	-0.7
6	☐	20000.00	20031.86	444673.40	1.1862	P	0.5	0.2

y = 5.9152E-005 * x + 0.0012
R = 1.0000
DL = 14.12 ppb
BEC = 20.87 ppb

Weight: <None>
Min Conc: <None>

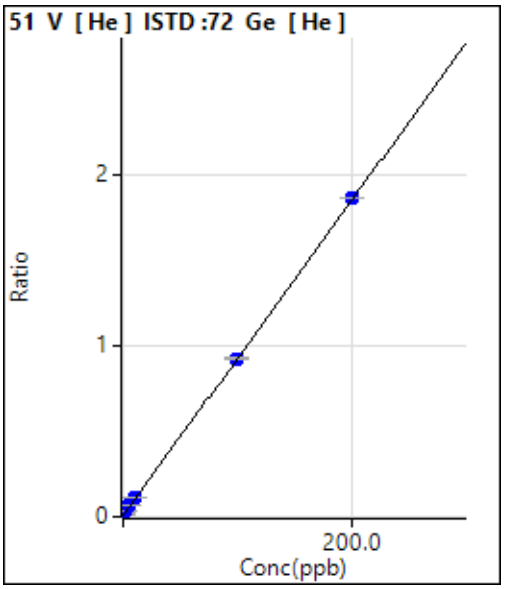
Calibration for 172_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	10.00	0.0000	P	0.9	
2	☐	2.000	1.976	270.01	0.0007	P	26.0	-1.2
3	☐	5.000	4.970	663.37	0.0016	P	15.0	-0.6
4	☐	10.000	10.223	1346.75	0.0034	P	12.0	2.2
5	☐	100.000	101.677	12962.99	0.0331	P	1.4	1.7
6	☐	200.000	199.151	24328.57	0.0649	P	2.6	-0.4

y = 3.2571E-004 * x + 2.4657E-005
R = 0.9999
DL = 0.001964 ppb
BEC = 0.0757 ppb

Weight: <None>
Min Conc: <None>

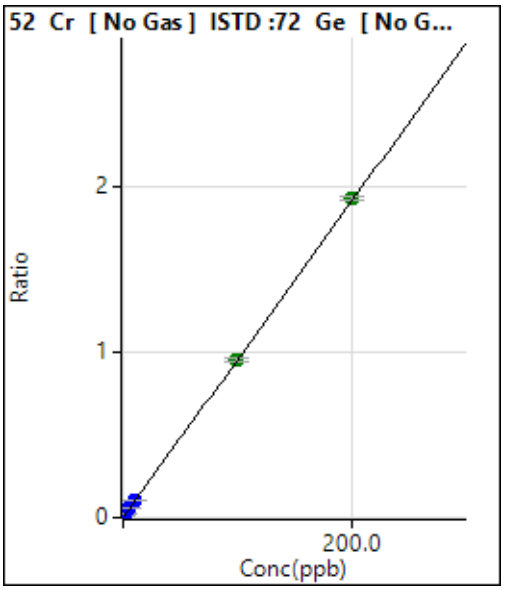


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	6833.96	0.0169	P	4.1	
2	☐	2.000	2.116	14709.05	0.0364	P	1.1	5.8
3	☐	5.000	5.099	25830.96	0.0640	P	0.7	2.0
4	☐	10.000	10.216	44660.21	0.1112	P	0.6	2.2
5	☐	100.000	98.730	363329.05	0.9289	P	0.8	-1.3
6	☐	200.000	200.620	701113.60	1.8702	P	0.2	0.3

y = 0.0092 * x + 0.0169
R = 1.0000
DL = 0.2257 ppb
BEC = 1.824 ppb

Weight: <None>
Min Conc: <None>

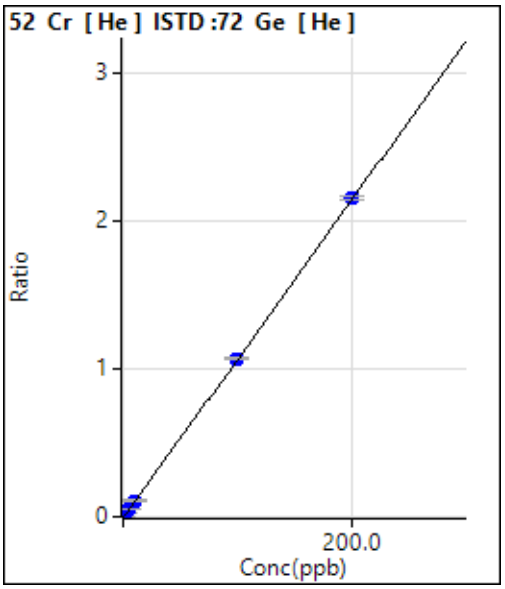
Calibration for 172_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	13717.08	0.0104	P	3.0	
2	☐	2.000	1.853	36983.65	0.0282	P	2.4	-7.4
3	☐	5.000	4.640	71355.39	0.0549	P	2.0	-7.2
4	☐	10.000	9.287	129565.00	0.0994	P	0.5	-7.1
5	☐	100.000	98.298	1197501.18	0.9520	A	2.6	-1.7
6	☐	200.000	200.897	2278624.76	1.9349	A	1.7	0.4

y = 0.0096 * x + 0.0104
R = 1.0000
DL = 0.09899 ppb
BEC = 1.091 ppb

Weight: <None>
Min Conc: <None>

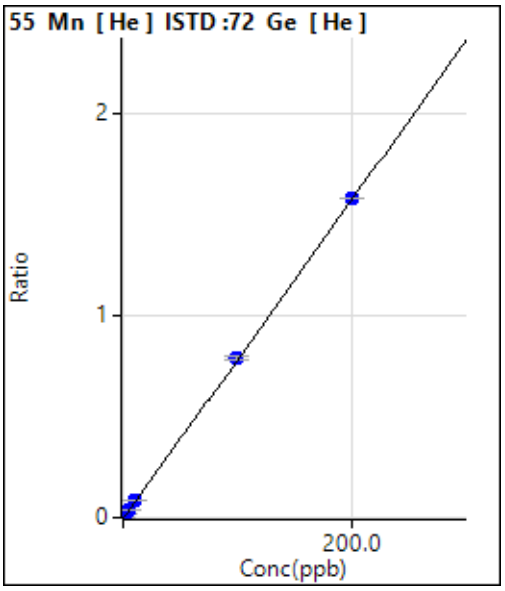


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	773.37	0.0019	P	6.1	
2	☐	2.000	1.972	9340.01	0.0231	P	4.5	-1.4
3	☐	5.000	5.082	22839.31	0.0566	P	1.1	1.6
4	☐	10.000	10.090	44325.42	0.1104	P	0.5	0.9
5	☐	100.000	99.292	418329.71	1.0696	P	1.2	-0.7
6	☐	200.000	200.348	808295.40	2.1562	P	0.9	0.2

y = 0.0108 * x + 0.0019
R = 1.0000
DL = 0.03235 ppb
BEC = 0.1773 ppb

Weight: <None>
Min Conc: <None>

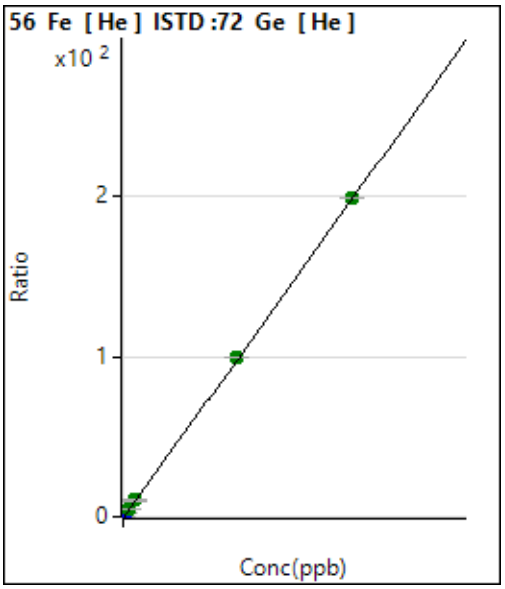
Calibration for 172_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	580.02	0.0014	P	5.4	
2	☐	2.000	2.109	7292.08	0.0180	P	0.8	5.5
3	☐	5.000	5.051	16643.64	0.0412	P	2.9	1.0
4	☐	10.000	10.142	32646.04	0.0813	P	1.0	1.4
5	☐	100.000	99.789	307964.44	0.7874	P	1.8	-0.2
6	☐	200.000	200.096	591368.65	1.5775	P	0.4	0.0

y = 0.0079 * x + 0.0014
R = 1.0000
DL = 0.02941 ppb
BEC = 0.1816 ppb

Weight: <None>
Min Conc: <None>

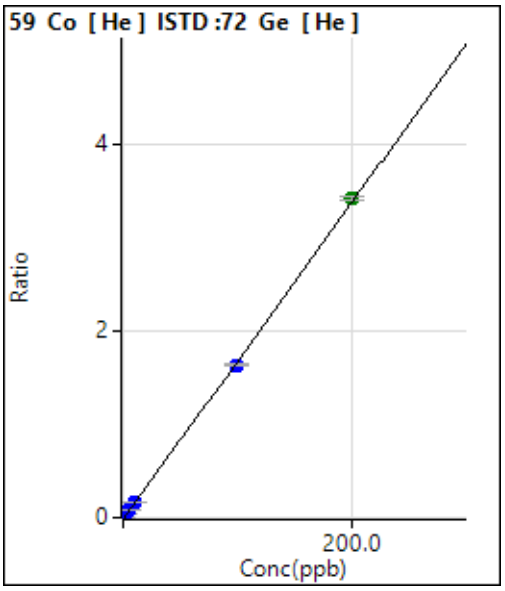


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	13199.92	0.0326	P	3.7	
2	☐	200.000	204.082	834806.86	2.0658	P	0.2	2.0
3	☐	500.000	532.991	2157750.59	5.3428	A	0.8	6.6
4	☐	1000.000	1024.707	4111879.94	10.2417	A	1.3	2.5
5	☐	10000.00	9985.138	38922363.5	99.5149	A	0.7	-0.1
6	☐	20000.00	20005.33	74730572.2	199.346	A	0.3	0.0

y = 0.0100 * x + 0.0326
R = 1.0000
DL = 0.3606 ppb
BEC = 3.267 ppb

Weight: <None>
Min Conc: <None>

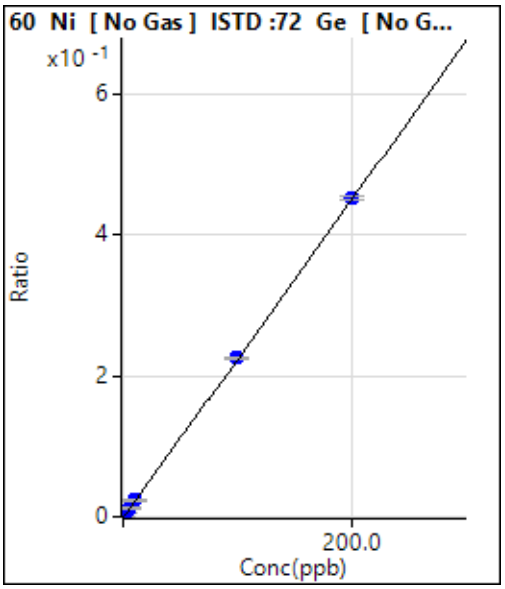
Calibration for 172_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	33.33	0.0001	P	75.3	
2	☐	2.000	2.002	13740.51	0.0340	P	6.4	0.1
3	☐	5.000	4.847	33204.15	0.0822	P	2.0	-3.1
4	☐	10.000	9.786	66602.52	0.1659	P	1.9	-2.1
5	☐	100.000	96.449	639243.25	1.6344	P	1.1	-3.6
6	☐	200.000	201.790	1281910.50	3.4193	A	1.3	0.9

y = 0.0169 * x + 8.1956E-005
R = 0.9998
DL = 0.01093 ppb
BEC = 0.004837 ppb

Weight: <None>
Min Conc: <None>

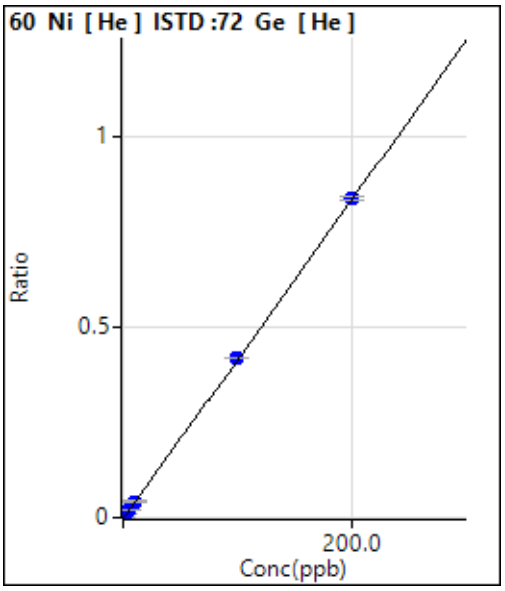


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	683.36	0.0005	P	13.8	
2	☐	2.000	2.009	6631.73	0.0051	P	2.3	0.4
3	☐	5.000	5.187	15899.47	0.0122	P	0.9	3.7
4	☐	10.000	10.053	30253.89	0.0232	P	0.4	0.5
5	☐	100.000	99.576	283403.34	0.2253	P	1.5	-0.4
6	☐	200.000	200.205	532834.04	0.4524	P	1.8	0.1

y = 0.0023 * x + 5.2058E-004
R = 1.0000
DL = 0.09582 ppb
BEC = 0.2306 ppb

Weight: <None>
Min Conc: <None>

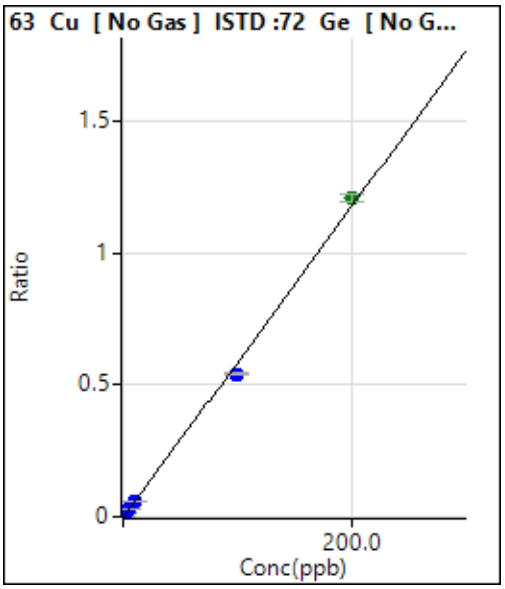
Calibration for 172_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	183.34	0.0005	P	28.2	
2	☐	2.000	2.085	3720.59	0.0092	P	5.6	4.3
3	☐	5.000	5.030	8709.59	0.0216	P	2.8	0.6
4	☐	10.000	10.081	17171.09	0.0428	P	2.6	0.8
5	☐	100.000	99.912	164210.08	0.4198	P	0.9	-0.1
6	☐	200.000	200.038	314943.29	0.8401	P	0.6	0.0

y = 0.0042 * x + 4.5271E-004
R = 1.0000
DL = 0.0913 ppb
BEC = 0.1078 ppb

Weight: <None>
Min Conc: <None>

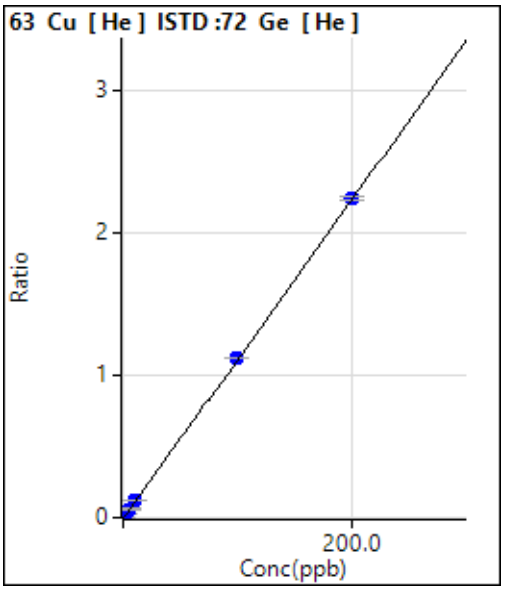


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	2890.36	0.0022	P	8.4	
2	☐	2.000	1.834	17117.70	0.0131	P	2.5	-8.3
3	☐	5.000	4.643	38564.95	0.0297	P	2.1	-7.1
4	☐	10.000	9.148	73384.55	0.0563	P	1.4	-8.5
5	☐	100.000	91.158	680989.63	0.5414	P	1.3	-8.8
6	☐	200.000	204.474	1426794.56	1.2116	A	1.9	2.2

y = 0.0059 * x + 0.0022
R = 0.9987
DL = 0.09429 ppb
BEC = 0.3722 ppb

Weight: <None>
Min Conc: <None>

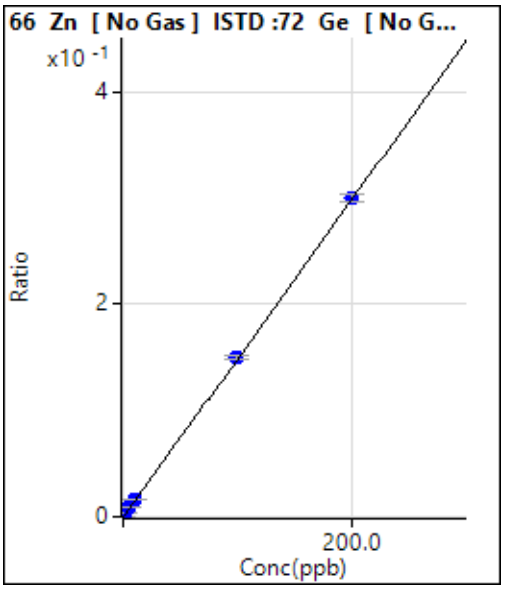
Calibration for 172_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1356.76	0.0033	P	4.5	
2	☐	2.000	2.127	10954.65	0.0271	P	3.0	6.4
3	☐	5.000	5.084	24288.69	0.0601	P	3.3	1.7
4	☐	10.000	10.161	46917.97	0.1169	P	2.7	1.6
5	☐	100.000	99.676	436876.88	1.1170	P	0.3	-0.3
6	☐	200.000	200.151	839531.50	2.2395	P	0.8	0.1

y = 0.0112 * x + 0.0033
R = 1.0000
DL = 0.04084 ppb
BEC = 0.2994 ppb

Weight: <None>
Min Conc: <None>

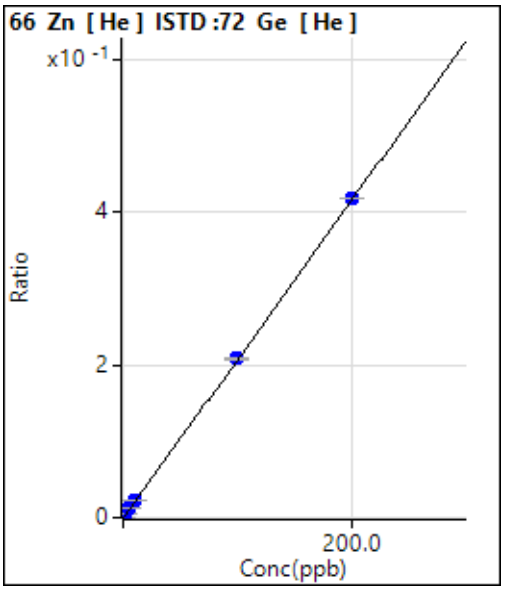


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1090.06	0.0008	P	6.8	
2	☐	2.000	2.061	5131.03	0.0039	P	2.6	3.0
3	☐	5.000	5.063	10917.90	0.0084	P	5.2	1.3
4	☐	10.000	10.005	20579.19	0.0158	P	1.1	0.0
5	☐	100.000	99.599	188370.34	0.1498	P	2.0	-0.4
6	☐	200.000	200.198	353488.15	0.3002	P	2.2	0.1

y = 0.0015 * x + 8.3022E-004
R = 1.0000
DL = 0.1132 ppb
BEC = 0.5552 ppb

Weight: <None>
Min Conc: <None>

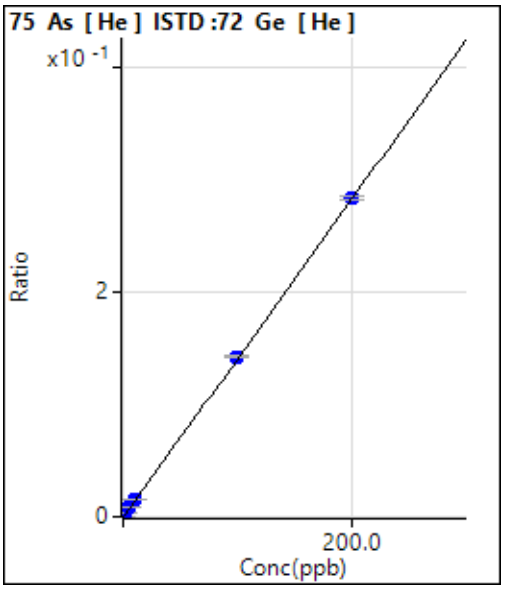
Calibration for 172_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	440.01	0.0011	P	17.3	
2	☐	2.000	1.935	2066.86	0.0051	P	4.8	-3.3
3	☐	5.000	5.106	4730.92	0.0117	P	5.0	2.1
4	☐	10.000	10.304	9049.85	0.0225	P	1.9	3.0
5	☐	100.000	99.433	81403.26	0.2081	P	0.6	-0.6
6	☐	200.000	200.266	156723.07	0.4181	P	0.4	0.1

y = 0.0021 * x + 0.0011
R = 1.0000
DL = 0.2706 ppb
BEC = 0.5216 ppb

Weight: <None>
Min Conc: <None>

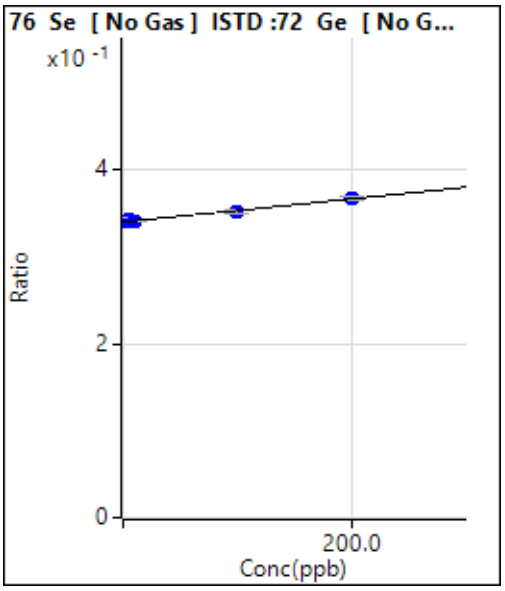


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	275.56	0.0007	P	8.8	
2	☐	2.000	2.044	1443.42	0.0036	P	8.4	2.2
3	☐	5.000	5.124	3203.72	0.0079	P	4.7	2.5
4	☐	10.000	10.060	5991.36	0.0149	P	1.1	0.6
5	☐	100.000	100.240	55774.54	0.1426	P	0.7	0.2
6	☐	200.000	199.873	106338.60	0.2837	P	0.6	-0.1

y = 0.0014 * x + 6.7924E-004
R = 1.0000
DL = 0.1262 ppb
BEC = 0.4797 ppb

Weight: <None>
Min Conc: <None>

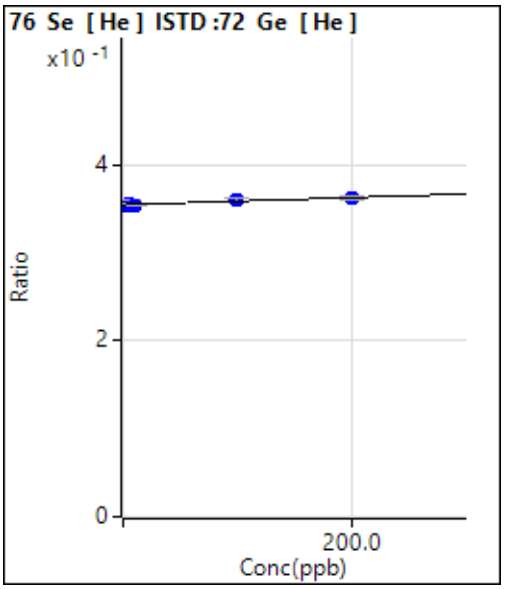
Calibration for 172_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	446084.46	0.3398	P	1.1	
2	☐	2.000	10.399	447574.68	0.3412	P	0.9	420.0
3	☐	5.000	19.727	445198.21	0.3425	P	1.3	294.5
4	☐	10.000	4.819	443734.35	0.3405	P	0.3	-51.8
5	☐	100.000	92.437	443026.11	0.3522	P	1.4	-7.6
6	☐	200.000	203.588	432259.80	0.3670	P	1.7	1.8

y = 1.3372E-004 * x + 0.3398
R = 0.9948
DL = 87.1 ppb
BEC = 2541 ppb

Weight: <None>
Min Conc: <None>

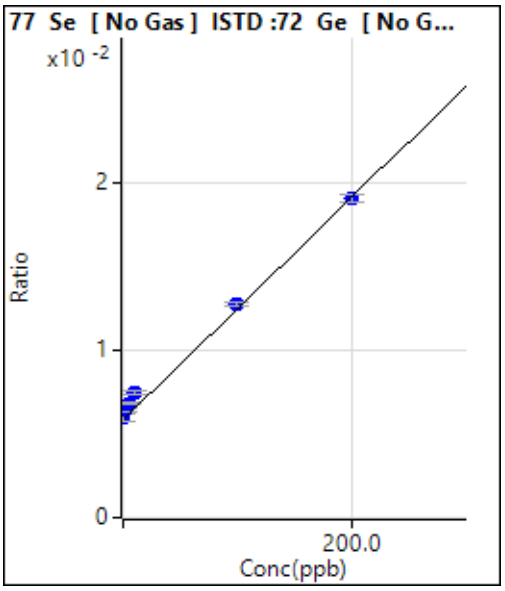


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	143713.00	0.3544	P	0.9	
2	☐	2.000	-40.427	142517.45	0.3527	P	0.9	-2121.
3	☐	5.000	37.267	143722.65	0.3559	P	1.9	645.3
4	☐	10.000	-11.849	142075.24	0.3539	P	0.8	-218.5
5	☐	100.000	125.714	140634.16	0.3596	P	1.2	25.7
6	☐	200.000	187.853	135747.49	0.3621	P	1.4	-6.1

y = 4.1346E-005 * x + 0.3544
R = 0.9473
DL = 220.4 ppb
BEC = 8570 ppb

Weight: <None>
Min Conc: <None>

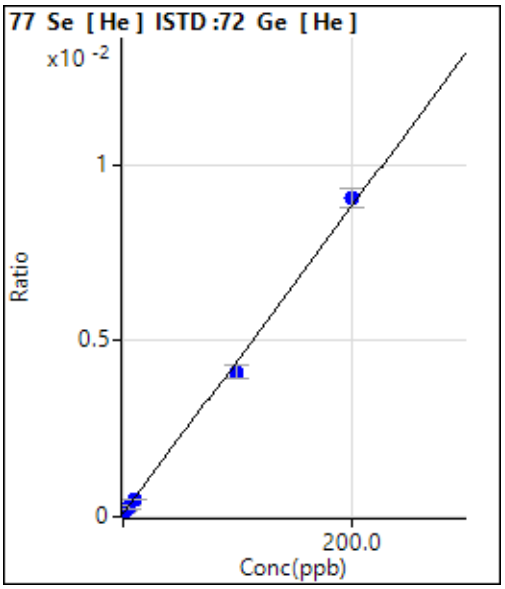
Calibration for 172_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	7809.04	0.0059	P	7.4	
2	☐	2.000	7.121	8422.83	0.0064	P	3.0	256.1
3	☐	5.000	13.083	8863.03	0.0068	P	1.0	161.7
4	☐	10.000	22.853	9730.32	0.0075	P	3.8	128.5
5	☐	100.000	102.582	16056.42	0.0128	P	2.6	2.6
6	☐	200.000	197.813	22485.66	0.0191	P	2.1	-1.1

y = 6.6459E-005 * x + 0.0059
R = 0.9985
DL = 19.84 ppb
BEC = 89.49 ppb

Weight: <None>
Min Conc: <None>

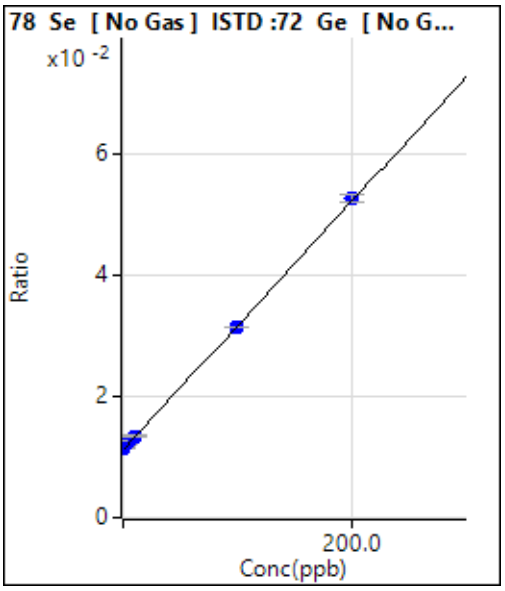


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	53.33	0.0001	P	29.5	
2	☐	2.000	1.335	76.67	0.0002	P	52.9	-33.3
3	☐	5.000	3.217	110.00	0.0003	P	32.1	-35.7
4	☐	10.000	8.209	196.67	0.0005	P	10.5	-17.9
5	☐	100.000	91.341	1610.12	0.0041	P	9.5	-8.7
6	☐	200.000	204.470	3393.81	0.0091	P	5.5	2.2

y = 4.3620E-005 * x + 1.3172E-004
R = 0.9988
DL = 2.676 ppb
BEC = 3.02 ppb

Weight: <None>
Min Conc: <None>

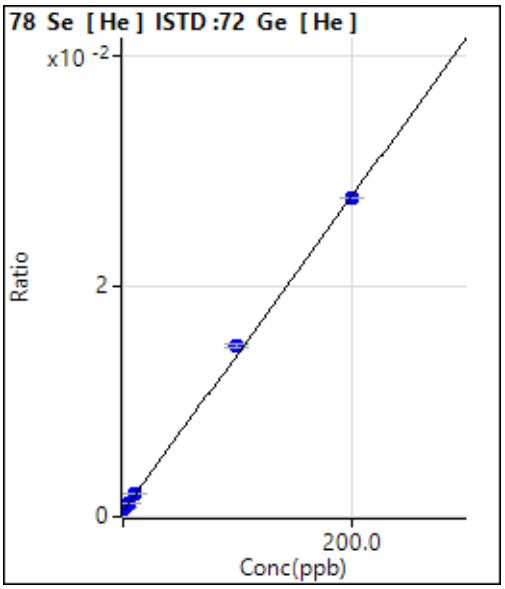
Calibration for 172_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	15058.64	0.0115	P	2.4	
2	☐	2.000	2.888	15819.53	0.0121	P	2.7	44.4
3	☐	5.000	6.278	16583.76	0.0128	P	0.4	25.6
4	☐	10.000	9.704	17538.29	0.0135	P	2.3	-3.0
5	☐	100.000	97.372	39491.55	0.0314	P	0.5	-2.6
6	☐	200.000	201.288	62005.83	0.0527	P	2.6	0.6

y = 2.0458E-004 * x + 0.0115
R = 0.9998
DL = 4.015 ppb
BEC = 56.07 ppb

Weight: <None>
Min Conc: <None>

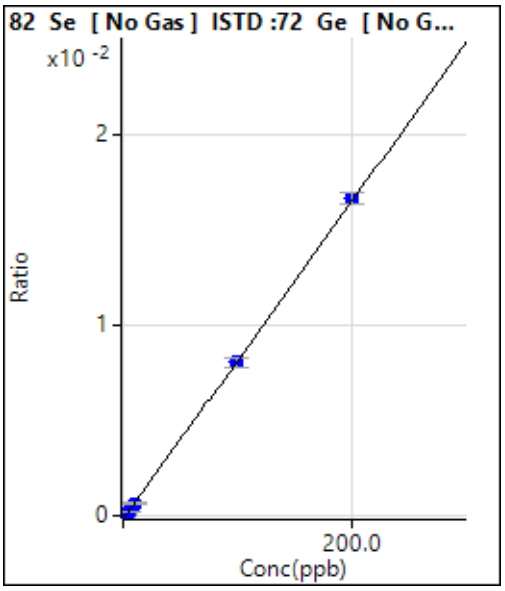


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	243.33	0.0006	P	4.8	
2	☐	2.000	1.921	348.67	0.0009	P	7.8	-3.9
3	☐	5.000	4.341	482.01	0.0012	P	6.4	-13.2
4	☐	10.000	10.482	816.03	0.0020	P	3.4	4.8
5	☐	100.000	104.213	5805.94	0.0148	P	2.5	4.2
6	☐	200.000	197.887	10364.01	0.0276	P	0.3	-1.1

y = 1.3667E-004 * x + 6.0007E-004
R = 0.9997
DL = 0.6283 ppb
BEC = 4.391 ppb

Weight: <None>
Min Conc: <None>

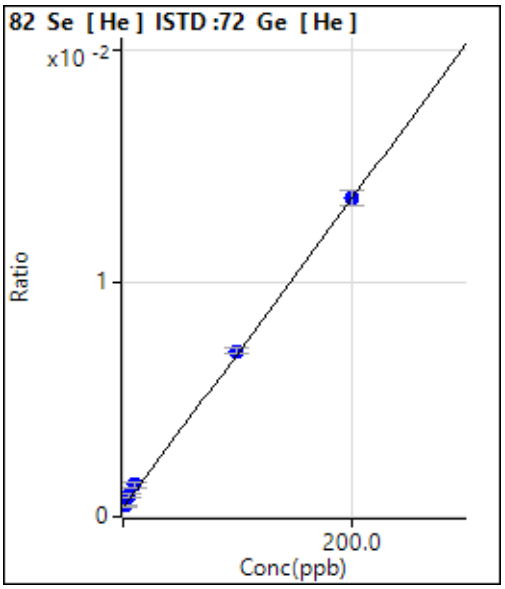
Calibration for 172_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	-106.97	-0.0001	P	-112.	
2	☐	2.000	2.130	125.96	0.0001	P	76.1	6.5
3	☐	5.000	3.692	292.68	0.0002	P	31.7	-26.2
4	☐	10.000	8.502	816.58	0.0006	P	16.3	-15.0
5	☐	100.000	97.513	10113.67	0.0080	P	5.2	-2.5
6	☐	200.000	201.350	19642.67	0.0167	P	3.8	0.7

y = 8.3260E-005 * x - 8.1639E-005
R = 0.9999
DL = 3.321 ppb
BEC = -0.9805 ppb

Weight: <None>
Min Conc: <None>

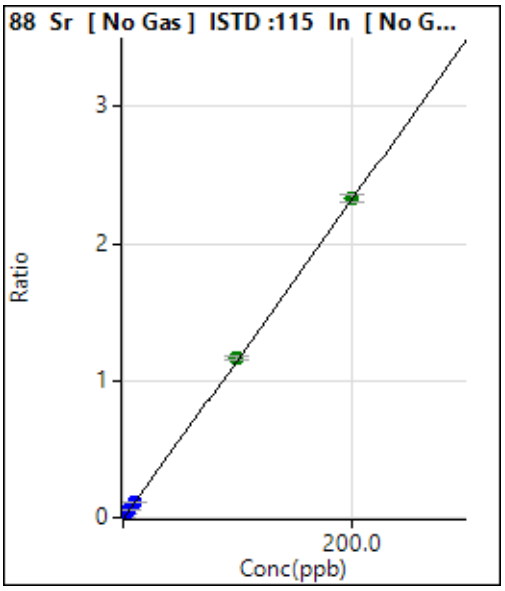


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	183.34	0.0005	P	28.9	
2	☐	2.000	0.137	186.67	0.0005	P	13.3	-93.1
3	☐	5.000	6.394	353.34	0.0009	P	16.2	27.9
4	☐	10.000	13.754	546.69	0.0014	P	14.6	37.5
5	☐	100.000	100.648	2780.34	0.0071	P	2.5	0.6
6	☐	200.000	199.472	5114.40	0.0136	P	4.5	-0.3

y = 6.6121E-005 * x + 4.5278E-004
R = 0.9997
DL = 5.938 ppb
BEC = 6.848 ppb

Weight: <None>
Min Conc: <None>

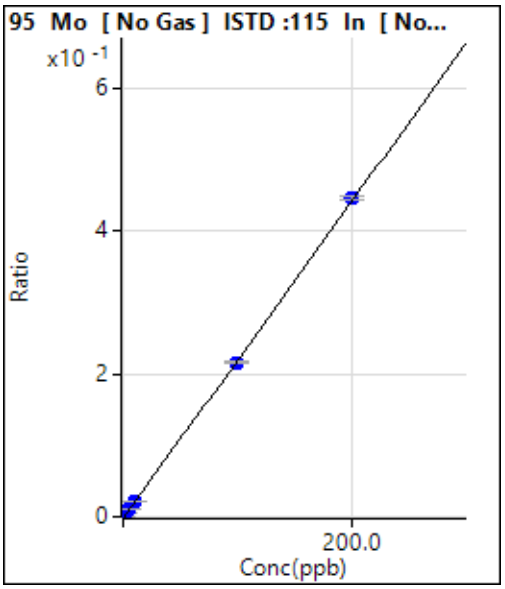
Calibration for 172_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1193.41	0.0008	P	0.6	
2	☐	2.000	1.850	35497.28	0.0223	P	0.5	-7.5
3	☐	5.000	4.590	85981.56	0.0542	P	2.8	-8.2
4	☐	10.000	9.184	171845.75	0.1077	P	3.4	-8.2
5	☐	100.000	99.934	1793869.04	1.1643	A	1.7	-0.1
6	☐	200.000	200.086	3401007.45	2.3303	A	2.3	0.0

y = 0.0116 * x + 7.5021E-004
R = 1.0000
DL = 0.00115 ppb
BEC = 0.06443 ppb

Weight: <None>
Min Conc: <None>

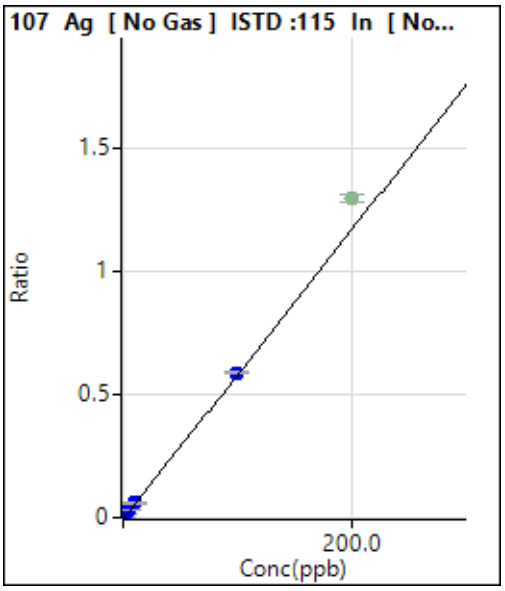


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	46.67	0.0000	P	60.5	
2	☐	2.000	2.037	7235.45	0.0045	P	5.6	1.9
3	☐	5.000	4.942	17428.29	0.0110	P	1.9	-1.2
4	☐	10.000	9.885	34989.64	0.0219	P	4.1	-1.1
5	☐	100.000	97.478	332779.79	0.2160	P	1.4	-2.5
6	☐	200.000	201.268	650818.68	0.4459	P	1.5	0.6

y = 0.0022 * x + 2.9196E-005
R = 0.9999
DL = 0.02393 ppb
BEC = 0.01318 ppb

Weight: <None>
Min Conc: <None>

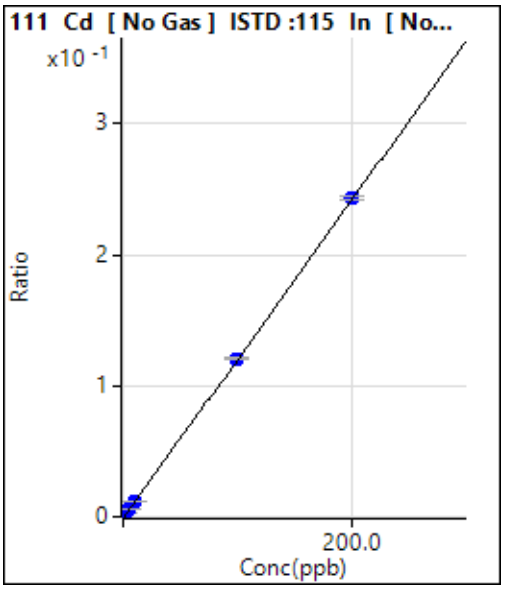
Calibration for 172_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	700.03	0.0004	P	2.8	
2	☐	2.000	1.986	19270.97	0.0121	P	2.6	-0.7
3	☐	5.000	4.979	47103.98	0.0297	P	1.8	-0.4
4	☐	10.000	9.934	93824.65	0.0588	P	1.7	-0.7
5	☐	100.000	100.008	905643.92	0.5878	P	1.4	0.0
6	☑	200.000		1892891.95	1.2969	A	2.1	

y = 0.0059 * x + 4.4018E-004
R = 1.0000
DL = 0.006298 ppb
BEC = 0.07495 ppb

Weight: <None>
Min Conc: <None>

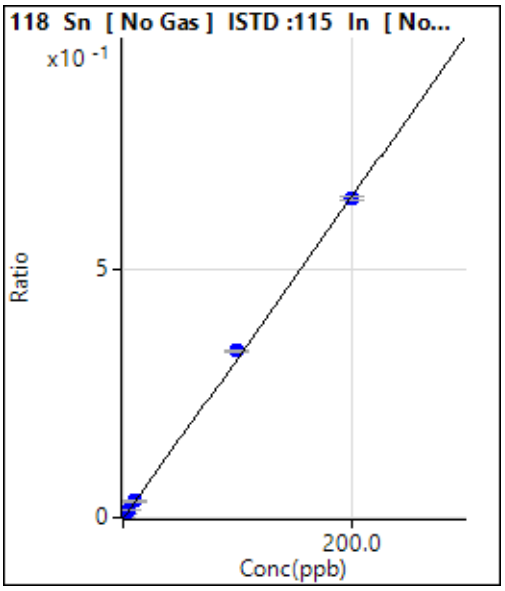


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	0.00	0.0000	P		
2	☐	2.000	1.953	3777.25	0.0024	P	1.6	-2.4
3	☐	5.000	4.777	9206.70	0.0058	P	3.3	-4.5
4	☐	10.000	9.807	19007.30	0.0119	P	3.7	-1.9
5	☐	100.000	99.164	185584.24	0.1204	P	1.5	-0.8
6	☐	200.000	200.434	355336.28	0.2435	P	1.5	0.2

y = 0.0012 * x + 0.0000E+000
R = 1.0000
DL = 0 ppb
BEC = 0 ppb

Weight: <None>
Min Conc: <None>

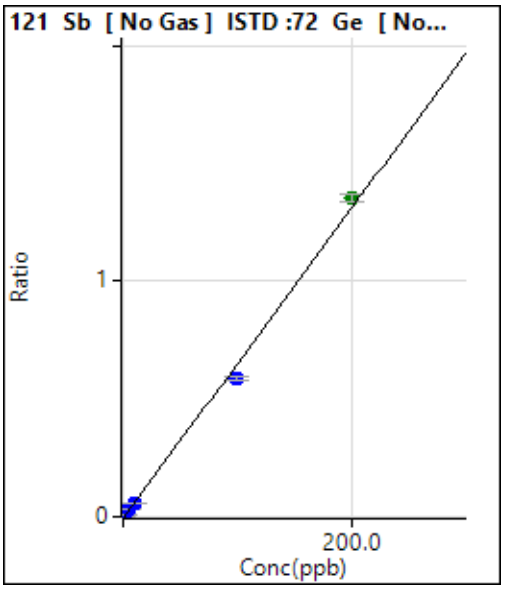
Calibration for 172_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	836.71	0.0005	P	5.0	
2	☐	2.000	1.863	10454.33	0.0066	P	3.3	-6.8
3	☐	5.000	4.853	25819.10	0.0163	P	2.2	-2.9
4	☐	10.000	10.327	54288.43	0.0340	P	14.5	3.3
5	☐	100.000	103.648	518596.08	0.3366	P	1.4	3.6
6	☐	200.000	198.165	938557.98	0.6430	P	1.1	-0.9

y = 0.0032 * x + 5.2615E-004
R = 0.9998
DL = 0.02416 ppb
BEC = 0.1623 ppb

Weight: <None>
Min Conc: <None>

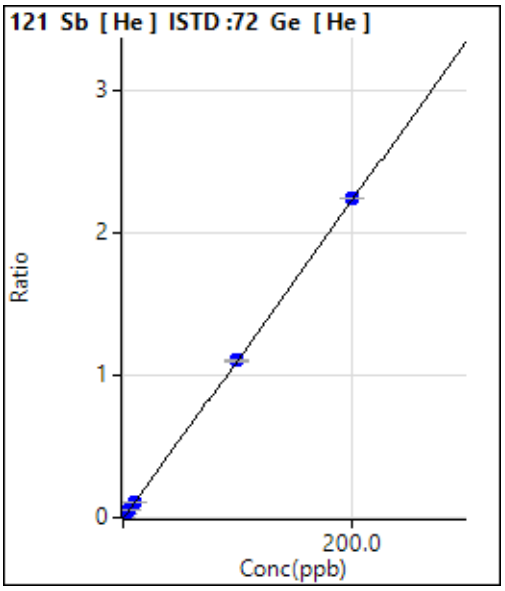


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1073.40	0.0008	P	7.0	
2	☐	2.000	1.708	15836.47	0.0121	P	1.6	-14.6
3	☐	5.000	4.433	39031.69	0.0300	P	2.1	-11.3
4	☐	10.000	8.794	76576.39	0.0588	P	2.3	-12.1
5	☐	100.000	89.094	739426.71	0.5878	P	1.5	-10.9
6	☐	200.000	205.530	1595596.95	1.3550	A	2.3	2.8

y = 0.0066 * x + 8.1783E-004
R = 0.9980
DL = 0.02616 ppb
BEC = 0.1241 ppb

Weight: <None>
Min Conc: <None>

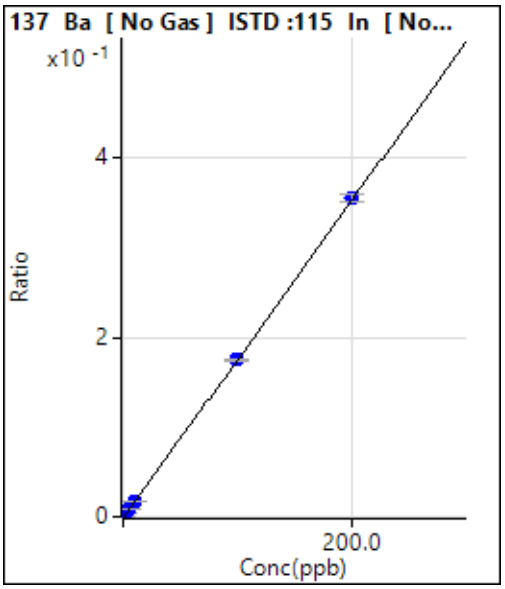
Calibration for 172_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	620.03	0.0015	P	12.2	
2	☐	2.000	1.928	9306.81	0.0230	P	4.1	-3.6
3	☐	5.000	4.917	22760.04	0.0564	P	1.8	-1.7
4	☐	10.000	9.632	43743.04	0.1090	P	0.8	-3.7
5	☐	100.000	98.651	430893.34	1.1017	P	1.2	-1.3
6	☐	200.000	200.696	839627.75	2.2397	P	0.3	0.3

y = 0.0112 * x + 0.0015
R = 1.0000
DL = 0.05034 ppb
BEC = 0.1371 ppb

Weight: <None>
Min Conc: <None>

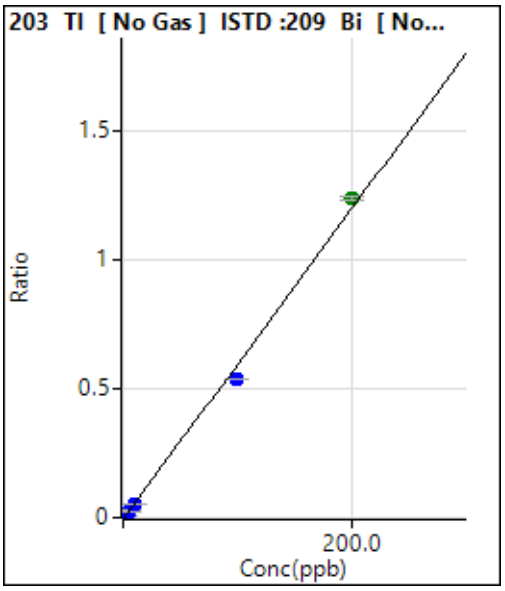


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	236.67	0.0001	P	24.6	
2	☐	2.000	1.944	5724.70	0.0036	P	1.3	-2.8
3	☐	5.000	4.900	14014.43	0.0088	P	5.7	-2.0
4	☐	10.000	9.577	27332.47	0.0171	P	2.8	-4.2
5	☐	100.000	98.536	269343.61	0.1748	P	1.5	-1.5
6	☐	200.000	200.756	519590.06	0.3560	P	1.9	0.4

y = 0.0018 * x + 1.4912E-004
R = 1.0000
DL = 0.06201 ppb
BEC = 0.08413 ppb

Weight: <None>
Min Conc: <None>

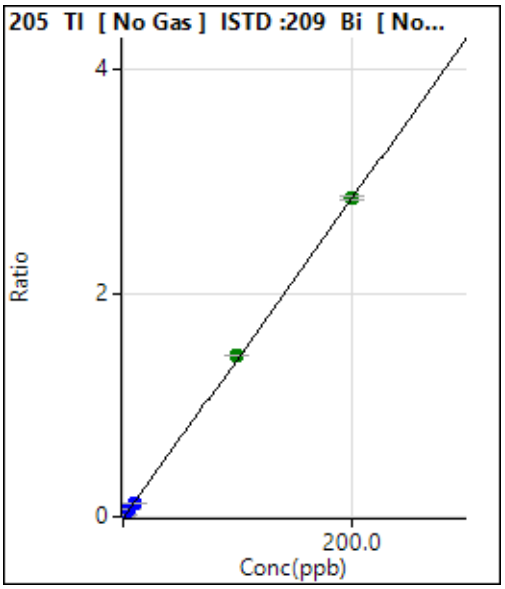
Calibration for 172_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	16.67	0.0000	P	173.2	
2	☐	2.000	1.668	15166.13	0.0101	P	2.6	-16.6
3	☐	5.000	4.299	38506.34	0.0259	P	3.3	-14.0
4	☐	10.000	8.470	76923.10	0.0510	P	2.5	-15.3
5	☐	100.000	88.758	766858.11	0.5344	P	0.2	-11.2
6	☐	200.000	205.718	1692846.95	1.2385	A	1.1	2.9

y = 0.0060 * x + 1.1214E-005
R = 0.9979
DL = 0.009678 ppb
BEC = 0.001863 ppb

Weight: <None>
Min Conc: <None>

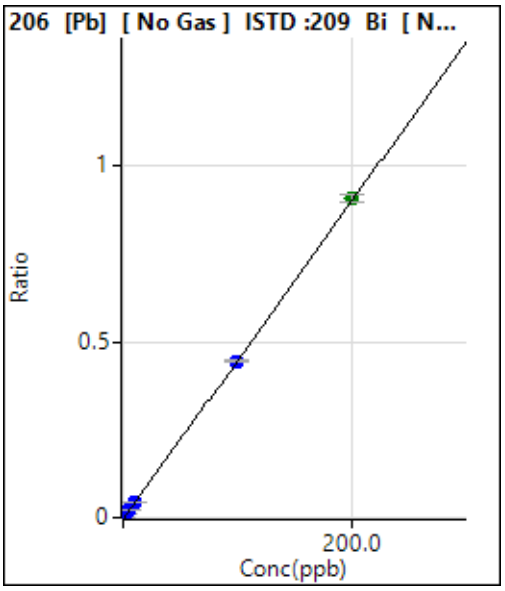


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	76.67	0.0001	P	18.0	
2	☐	2.000	1.733	37443.26	0.0248	P	1.4	-13.3
3	☐	5.000	4.318	91842.87	0.0617	P	1.9	-13.6
4	☐	10.000	8.606	185541.02	0.1230	P	1.7	-13.9
5	☐	100.000	101.067	2072602.52	1.4442	A	0.7	1.1
6	☐	200.000	199.556	3897538.38	2.8516	A	1.0	-0.2

y = 0.0143 * x + 5.1900E-005
R = 1.0000
DL = 0.001958 ppb
BEC = 0.003632 ppb

Weight: <None>
Min Conc: <None>

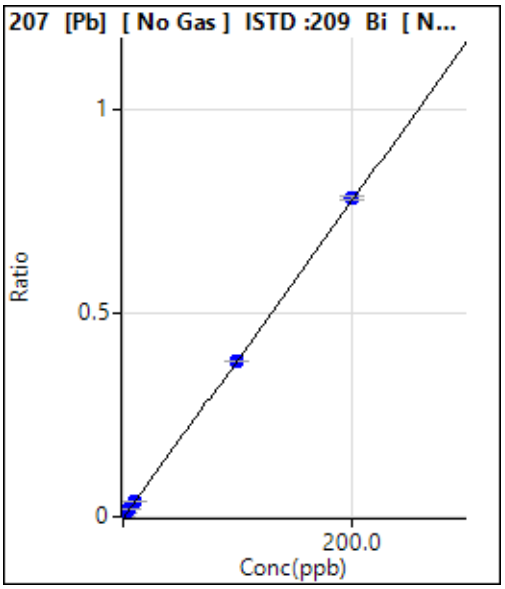
Calibration for 172_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	180.00	0.0001	P	19.8	
2	☐	2.000	1.837	12720.00	0.0084	P	4.9	-8.1
3	☐	5.000	4.829	32656.34	0.0220	P	1.6	-3.4
4	☐	10.000	9.433	64510.02	0.0428	P	2.2	-5.7
5	☐	100.000	98.277	637850.29	0.4445	P	0.7	-1.7
6	☐	200.000	200.896	1241800.53	0.9085	A	1.8	0.4

y = 0.0045 * x + 1.2218E-004
R = 0.9999
DL = 0.01603 ppb
BEC = 0.02702 ppb

Weight: <None>
Min Conc: <None>

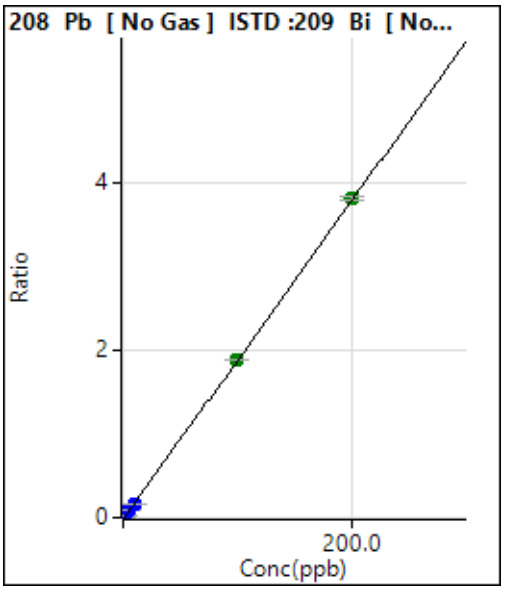


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	146.67	0.0001	P	57.8	
2	☐	2.000	1.911	11375.39	0.0075	P	0.1	-4.5
3	☐	5.000	4.725	27520.70	0.0185	P	2.2	-5.5
4	☐	10.000	9.559	56283.94	0.0373	P	1.4	-4.4
5	☐	100.000	97.920	547267.09	0.3814	P	0.8	-2.1
6	☐	200.000	201.070	1070245.74	0.7830	P	0.7	0.5

y = 0.0039 * x + 9.9921E-005
R = 0.9999
DL = 0.04448 ppb
BEC = 0.02566 ppb

Weight: <None>
Min Conc: <None>

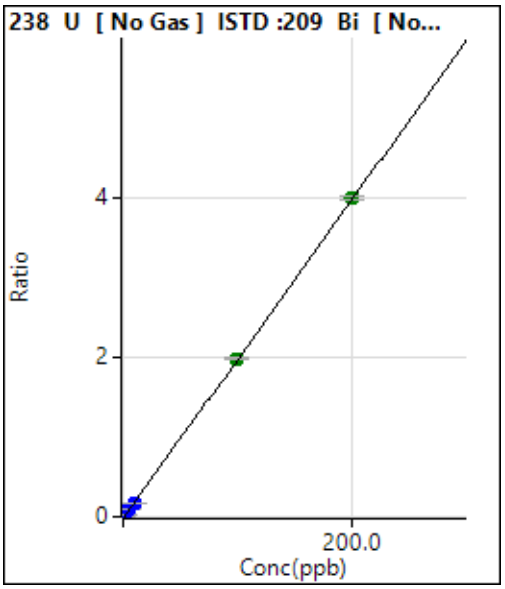
Calibration for 172_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	756.69	0.0005	P	9.4	
2	☐	2.000	1.775	51696.37	0.0343	P	1.0	-11.2
3	☐	5.000	4.531	128892.87	0.0867	P	1.1	-9.4
4	☐	10.000	8.884	255497.08	0.1694	P	1.5	-11.2
5	☐	100.000	98.924	2699543.45	1.8811	A	0.1	-1.1
6	☐	200.000	200.608	5213701.85	3.8142	A	0.9	0.3

y = 0.0190 * x + 5.1347E-004
R = 1.0000
DL = 0.00764 ppb
BEC = 0.02701 ppb

Weight: <None>
Min Conc: <None>

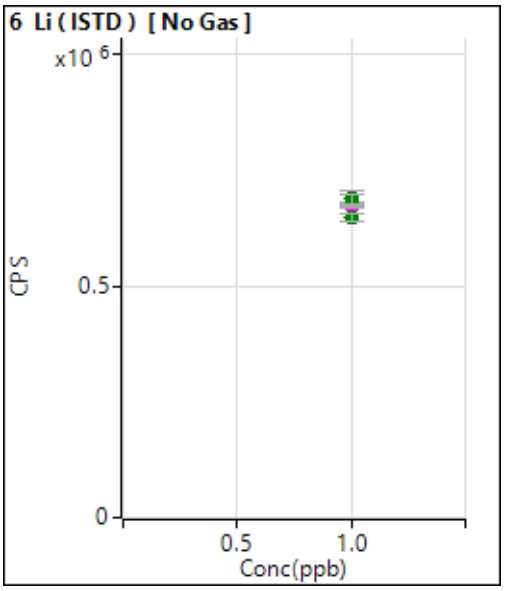


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	3.33	0.0000	P	173.2	
2	☐	2.000	1.766	53162.59	0.0352	P	0.5	-11.7
3	☐	5.000	4.427	131376.23	0.0883	P	1.7	-11.5
4	☐	10.000	8.768	263815.63	0.1749	P	2.4	-12.3
5	☐	100.000	99.447	2847205.69	1.9841	A	1.3	-0.6
6	☐	200.000	200.355	5463943.04	3.9973	A	1.0	0.2

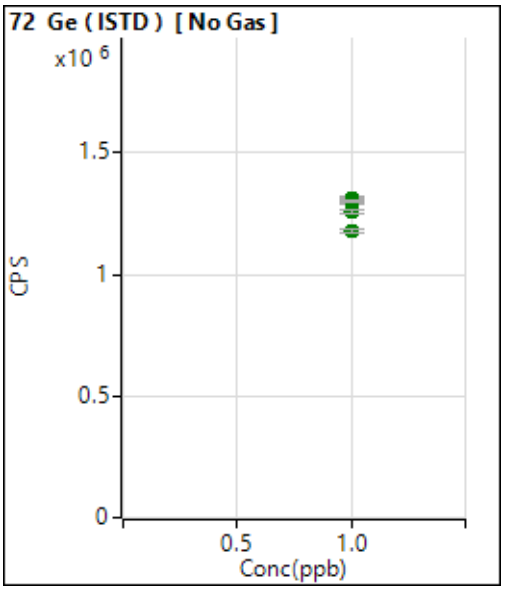
y = 0.0200 * x + 2.3202E-006
R = 1.0000
DL = 0.0006043 ppb
BEC = 0.0001163 ppb

Weight: <None>
Min Conc: <None>

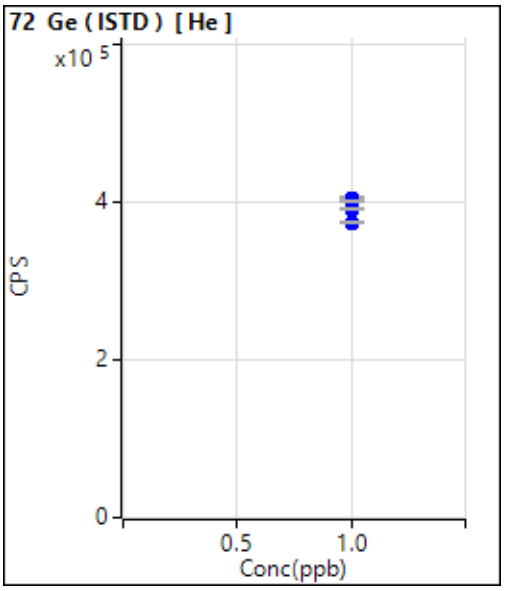
Calibration for 172_ICV.d



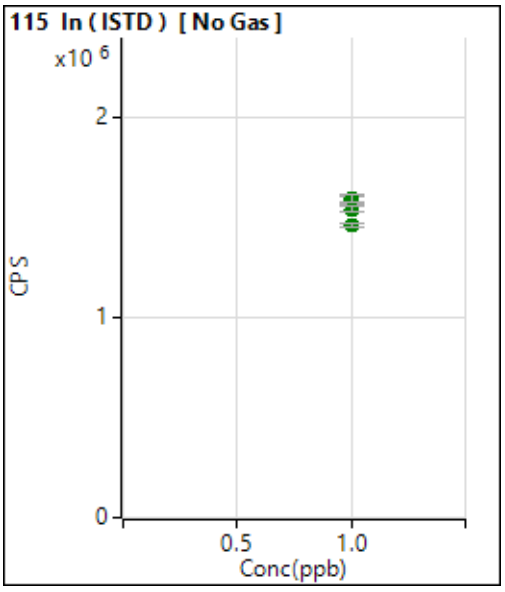
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		673514.83		M	0.4	
2	☐	1.000		673988.79		M	1.8	
3	☐	1.000		690057.04		M	4.4	
4	☐	1.000		688658.62		M	2.5	
5	☐	1.000		688030.40		A	3.3	
6	☐	1.000		648102.08		A	2.2	



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		1312746.60		A	0.4	
2	☐	1.000		1311815.68		A	1.3	
3	☐	1.000		1300158.16		A	1.3	
4	☐	1.000		1303316.52		A	0.4	
5	☐	1.000		1258073.63		A	1.3	
6	☐	1.000		1177888.63		A	1.6	

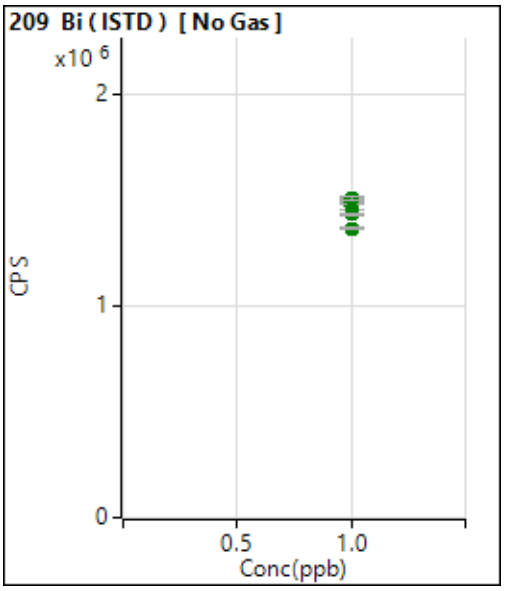


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		405581.79		P	0.9	
2	☐	1.000		404105.15		P	0.4	
3	☐	1.000		403881.83		P	0.9	
4	☐	1.000		401496.66		P	0.5	
5	☐	1.000		391130.65		P	0.6	
6	☐	1.000		374882.42		P	0.8	



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		1590716.70		A	1.4	
2	☐	1.000		1592364.08		A	1.8	
3	☐	1.000		1587313.25		A	2.2	
4	☐	1.000		1596379.57		A	1.8	
5	☐	1.000		1541036.61		A	1.8	
6	☐	1.000		1459738.40		A	1.3	

Calibration for 172_ICV.d



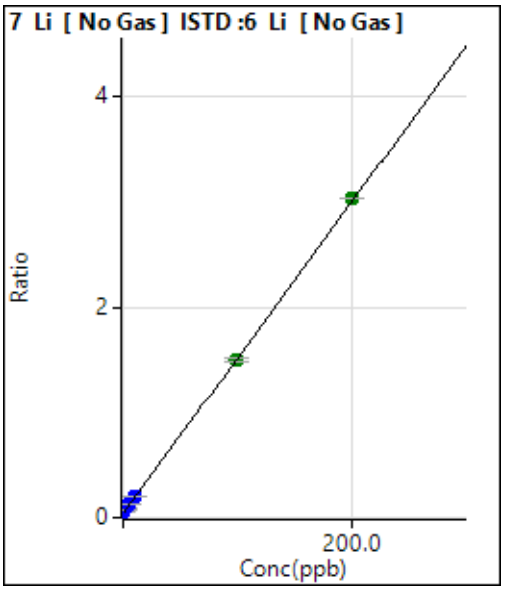
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		1473383.00		A	2.2	
2	☐	1.000		1508805.50		A	0.5	
3	☐	1.000		1487599.87		A	1.4	
4	☐	1.000		1508375.13		A	1.0	
5	☐	1.000		1435062.22		A	0.5	
6	☐	1.000		1366866.18		A	0.6	

Calibration for 016_ICV.d

Batch Folder: D:\Agilent\ICPMH\1\DATA\111022A.b\
Analysis File: 111022A.batch.bin
DA Date-Time: 11/10/2022 22:40:38
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	009CALB.d	CAL BLK	11/10/2022 11:39:33
2	010CALS.d	2/10/200	11/10/2022 11:41:27
3	011CALS.d	5/25/500	11/10/2022 11:43:20
4	012CALS.d	10/50/100	11/10/2022 11:45:13
5	013CALS.d	100/500/10K	11/10/2022 11:47:05
6	014CALS.d	200/1000/20K	11/10/2022 11:48:54

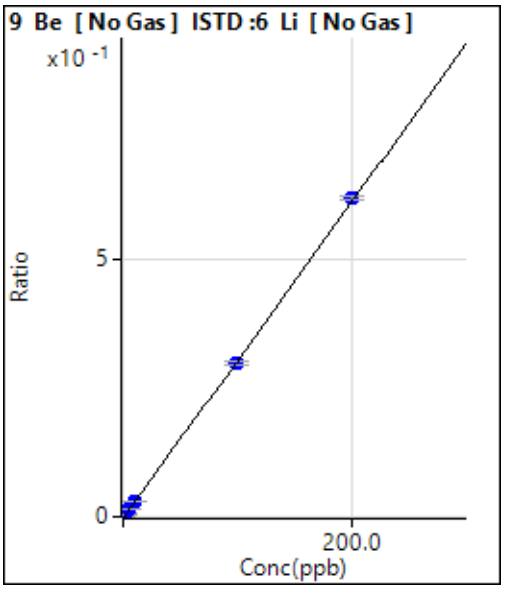
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	45222.33	0.0549	P	3.0	
2	☐	2.000	1.870	67401.89	0.0826	P	0.9	-6.5
3	☐	5.000	4.664	100141.21	0.1241	P	1.4	-6.7
4	☐	10.000	9.536	155117.74	0.1962	P	0.8	-4.6
5	☐	100.000	97.332	1174254.33	1.4970	A	2.8	-2.7
6	☐	200.000	201.367	2239390.90	3.0384	A	0.1	0.7

y = 0.0148 * x + 0.0549
R = 0.9999
DL = 0.3364 ppb
BEC = 3.708 ppb

Weight: <None>
Min Conc: <None>

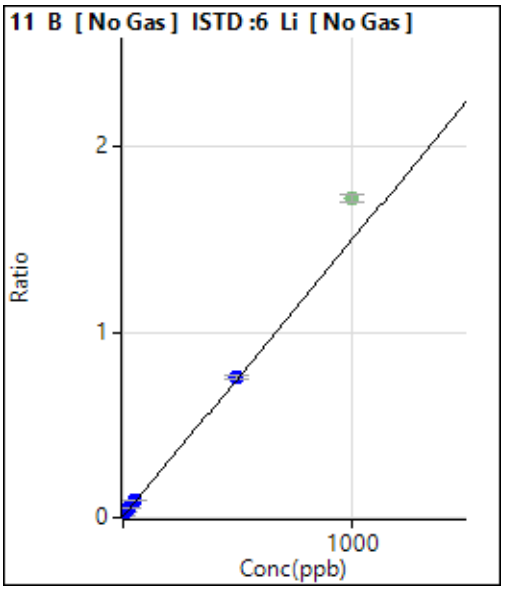


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	28.33	0.0000	P	45.4	
2	☐	2.000	1.842	4634.14	0.0057	P	3.6	-7.9
3	☐	5.000	4.834	11993.52	0.0149	P	2.1	-3.3
4	☐	10.000	9.707	23556.46	0.0298	P	0.5	-2.9
5	☐	100.000	96.889	233065.80	0.2971	P	1.8	-3.1
6	☐	200.000	201.576	455553.98	0.6181	P	0.9	0.8

y = 0.0031 * x + 3.4483E-005
R = 0.9998
DL = 0.01533 ppb
BEC = 0.01125 ppb

Weight: <None>
Min Conc: <None>

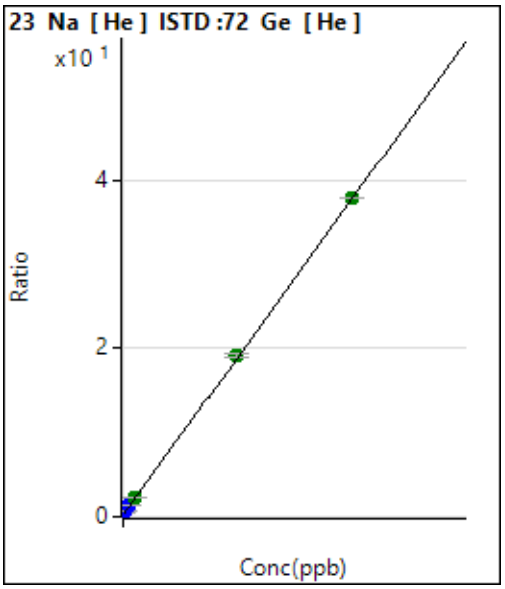
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	12545.69	0.0152	P	2.3	
2	☐	10.000	9.404	23840.26	0.0292	P	1.4	-6.0
3	☐	25.000	24.012	41140.15	0.0510	P	1.3	-4.0
4	☐	50.000	50.218	71100.50	0.0899	P	0.3	0.4
5	☐	500.000	500.040	595453.44	0.7590	P	2.2	0.0
6	☑	1000.000		1268088.08	1.7204	A	2.4	

y = 0.0015 * x + 0.0152
R = 1.0000
DL = 0.7125 ppb
BEC = 10.25 ppb

Weight: <None>
Min Conc: <None>

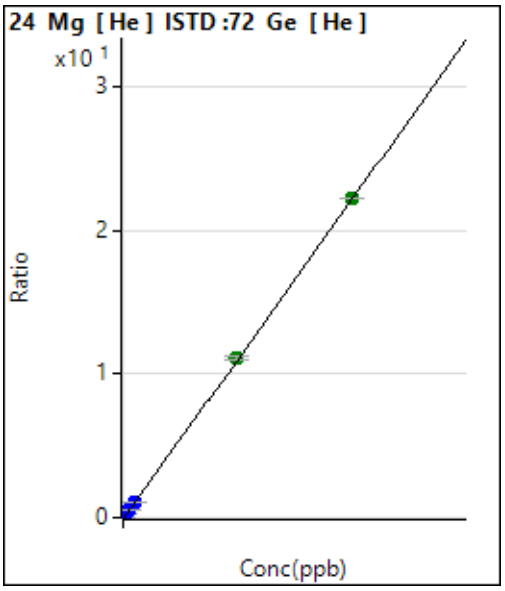


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	165151.28	0.3991	P	1.6	
2	☐	200.000	193.981	316820.98	0.7632	P	0.6	-3.0
3	☐	500.000	490.208	548670.51	1.3191	P	1.0	-2.0
4	☐	1000.000	1051.498	986702.09	2.3725	A	1.5	5.1
5	☐	10000.00	10023.03	7963974.05	19.2100	A	2.4	0.2
6	☐	20000.00	19986.21	15213700.1	37.9086	A	0.4	-0.1

y = 0.0019 * x + 0.3991
R = 1.0000
DL = 10.18 ppb
BEC = 212.7 ppb

Weight: <None>
Min Conc: <None>

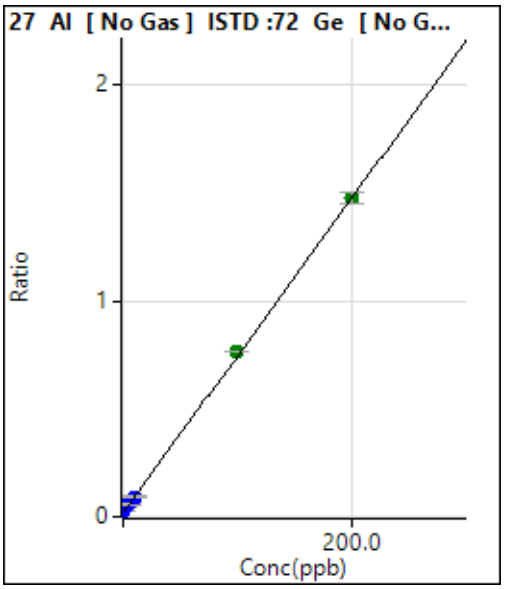
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	350.01	0.0008	P	32.0	
2	☐	200.000	193.584	89744.11	0.2162	P	0.7	-3.2
3	☐	500.000	484.903	224704.68	0.5402	P	1.5	-3.0
4	☐	1000.000	963.848	446264.71	1.0730	P	0.8	-3.6
5	☐	10000.00	10010.72	4617217.22	11.1366	A	1.6	0.1
6	☐	20000.00	19996.88	8927450.08	22.2450	A	0.6	0.0

y = 0.0011 * x + 8.4565E-004
R = 1.0000
DL = 0.7309 ppb
BEC = 0.7602 ppb

Weight: <None>
Min Conc: <None>

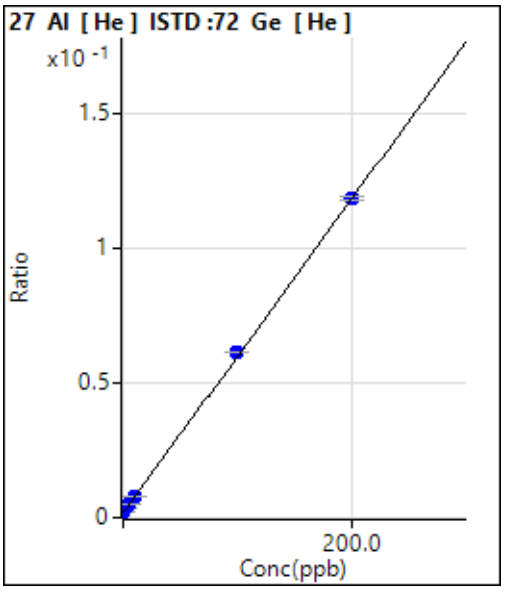


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	35652.65	0.0258	P	2.2	
2	☐	2.000	2.092	56585.16	0.0411	P	2.0	4.6
3	☐	5.000	4.397	79566.66	0.0579	P	2.2	-12.1
4	☐	10.000	9.188	127271.35	0.0928	P	1.4	-8.1
5	☐	100.000	101.859	1036605.11	0.7685	A	0.4	1.9
6	☐	200.000	199.125	1929874.50	1.4777	A	3.3	-0.4

y = 0.0073 * x + 0.0258
R = 0.9999
DL = 0.2356 ppb
BEC = 3.545 ppb

Weight: <None>
Min Conc: <None>

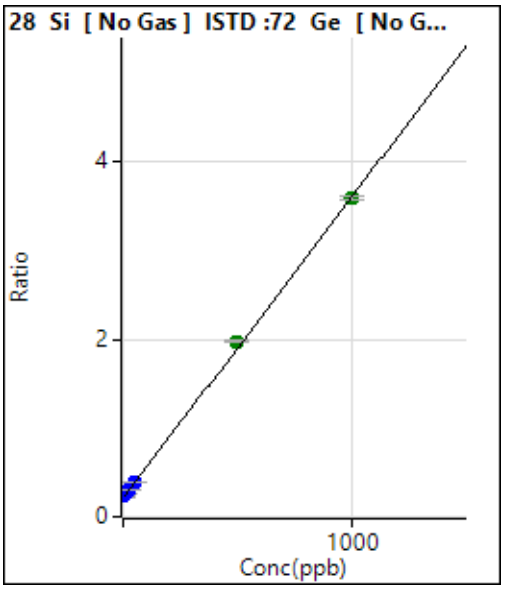
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	963.38	0.0023	P	1.1	
2	☐	2.000	1.822	1406.76	0.0034	P	8.4	-8.9
3	☐	5.000	4.743	2116.87	0.0051	P	8.0	-5.1
4	☐	10.000	9.690	3313.78	0.0080	P	5.5	-3.1
5	☐	100.000	101.243	25390.11	0.0612	P	0.8	1.2
6	☐	200.000	199.402	47494.52	0.1183	P	0.7	-0.3

y = 5.8180E-004 * x + 0.0023
R = 1.0000
DL = 0.1327 ppb
BEC = 4.002 ppb

Weight: <None>
Min Conc: <None>

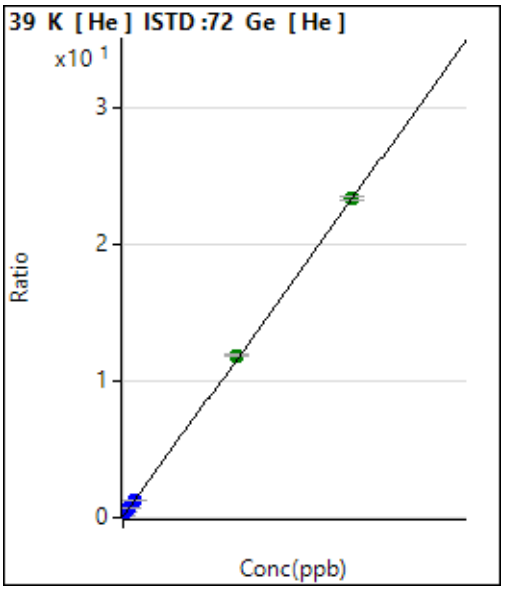


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	314970.72	0.2284	P	1.8	
2	☐	10.000	9.410	358375.87	0.2603	P	1.5	-5.9
3	☐	25.000	24.396	427558.42	0.3112	P	0.7	-2.4
4	☐	50.000	47.912	535851.94	0.3910	P	3.5	-4.2
5	☐	500.000	516.324	2671487.67	1.9808	A	1.5	3.3
6	☐	1000.000	991.963	4696237.12	3.5952	A	1.8	-0.8

y = 0.0034 * x + 0.2284
R = 0.9998
DL = 3.669 ppb
BEC = 67.28 ppb

Weight: <None>
Min Conc: <None>

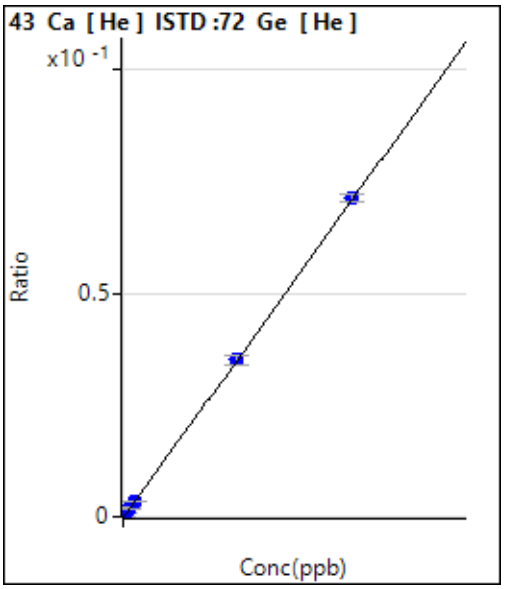
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	77557.33	0.1874	P	2.2	
2	☐	200.000	194.618	171683.20	0.4136	P	0.4	-2.7
3	☐	500.000	492.208	315836.96	0.7593	P	0.5	-1.6
4	☐	1000.000	982.409	552702.80	1.3289	P	0.3	-1.8
5	☐	10000.00	10072.64	4929851.49	11.8908	A	1.7	0.7
6	☐	20000.00	19964.80	9384421.73	23.3844	A	1.6	-0.2

y = 0.0012 * x + 0.1874
R = 1.0000
DL = 10.59 ppb
BEC = 161.3 ppb

Weight: <None>
Min Conc: <None>

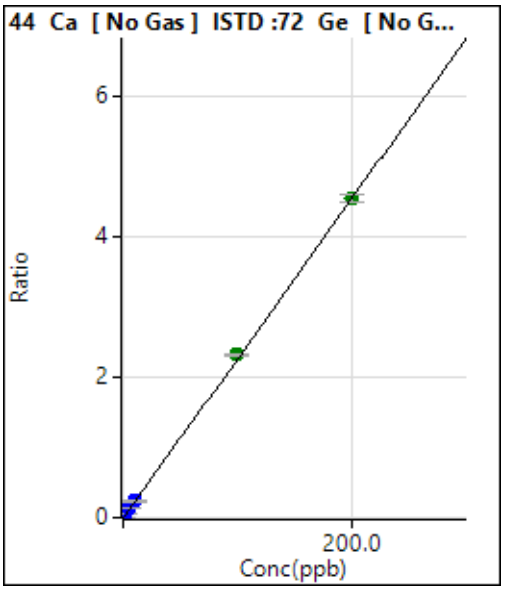


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	23.33	0.0001	P	24.6	
2	☐	200.000	216.787	343.34	0.0008	P	4.3	8.4
3	☐	500.000	509.198	776.70	0.0019	P	9.9	1.8
4	☐	1000.000	962.267	1446.77	0.0035	P	6.5	-3.8
5	☐	10000.00	9872.399	14571.20	0.0352	P	5.7	-1.3
6	☐	20000.00	20065.28	28650.13	0.0714	P	2.4	0.3

y = 3.5550E-006 * x + 5.6378E-005
R = 1.0000
DL = 11.7 ppb
BEC = 15.86 ppb

Weight: <None>
Min Conc: <None>

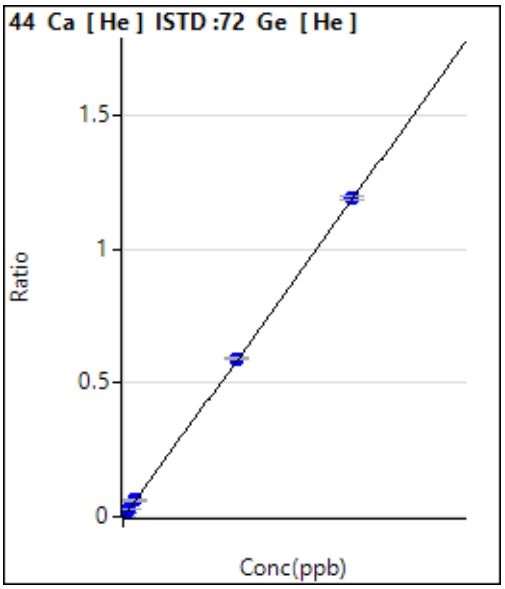
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	18028.77	0.0131	P	6.2	
2	☐	2.000	1.955	79136.90	0.0575	P	0.6	-2.3
3	☐	5.000	4.889	170589.74	0.1242	P	1.5	-2.2
4	☐	10.000	9.719	320637.95	0.2339	P	2.0	-2.8
5	☐	100.000	101.487	3127684.12	2.3190	A	1.2	1.5
6	☐	200.000	199.274	5931498.25	4.5409	A	2.0	-0.4

y = 0.0227 * x + 0.0131
R = 1.0000
DL = 0.1063 ppb
BEC = 0.5753 ppb

Weight: <None>
Min Conc: <None>

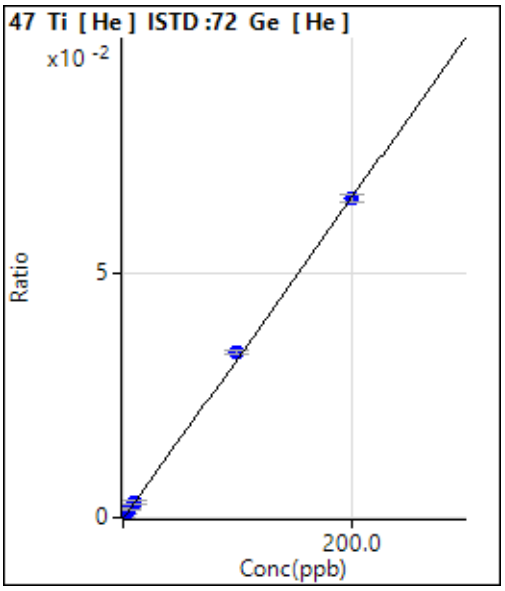


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	640.03	0.0015	P	11.9	
2	☐	200.000	202.053	5621.23	0.0135	P	6.1	1.0
3	☐	500.000	498.707	12956.31	0.0312	P	4.6	-0.3
4	☐	1000.000	1007.751	25524.02	0.0614	P	1.3	0.8
5	☐	10000.00	9922.150	244861.77	0.5906	P	1.3	-0.8
6	☐	20000.00	20038.54	478030.41	1.1911	P	0.9	0.2

y = 5.9366E-005 * x + 0.0015
R = 1.0000
DL = 9.301 ppb
BEC = 26.06 ppb

Weight: <None>
Min Conc: <None>

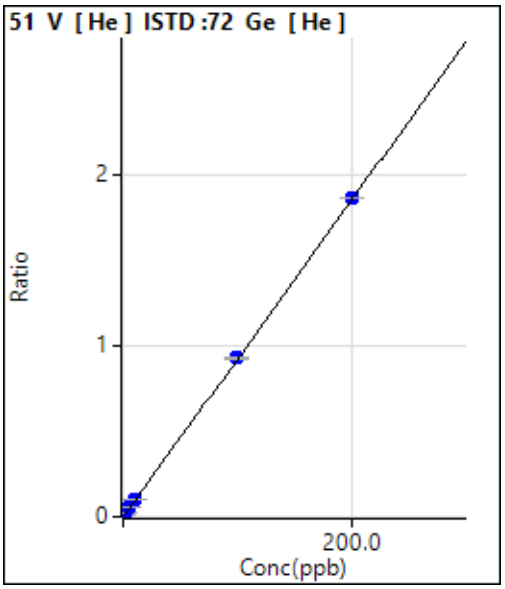
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	13.33	0.0000	P	114.6	
2	☐	2.000	1.956	280.01	0.0007	P	6.1	-2.2
3	☐	5.000	5.079	706.70	0.0017	P	13.7	1.6
4	☐	10.000	9.583	1323.43	0.0032	P	19.0	-4.2
5	☐	100.000	102.776	14007.33	0.0338	P	2.4	2.8
6	☐	200.000	198.631	26185.15	0.0652	P	2.7	-0.7

y = 3.2833E-004 * x + 3.2221E-005
R = 0.9999
DL = 0.3375 ppb
BEC = 0.09813 ppb

Weight: <None>
Min Conc: <None>

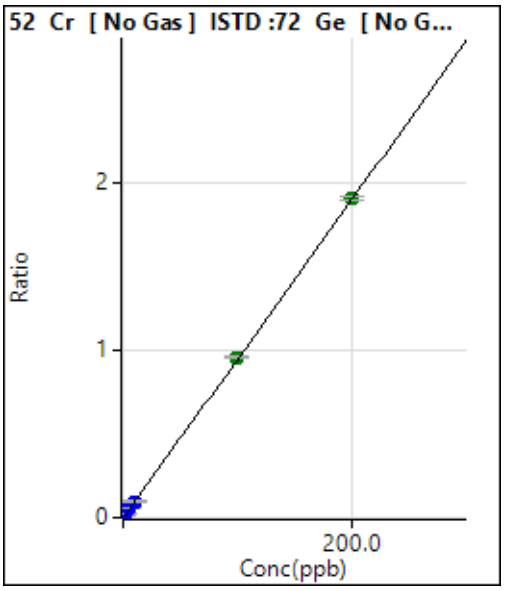


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	2706.95	0.0065	P	5.1	
2	☐	2.000	2.050	10624.16	0.0256	P	0.3	2.5
3	☐	5.000	4.966	21917.52	0.0527	P	0.9	-0.7
4	☐	10.000	9.871	40877.37	0.0983	P	0.3	-1.3
5	☐	100.000	99.364	385579.55	0.9300	P	1.4	-0.6
6	☐	200.000	200.325	749784.50	1.8683	P	0.5	0.2

y = 0.0093 * x + 0.0065
R = 1.0000
DL = 0.1087 ppb
BEC = 0.7039 ppb

Weight: <None>
Min Conc: <None>

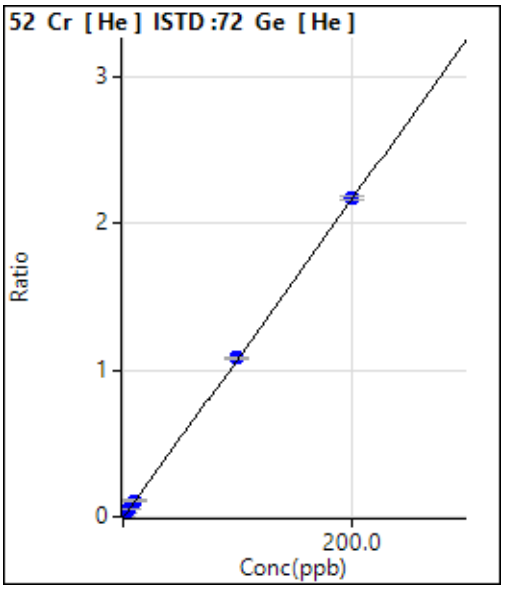
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	10480.84	0.0076	P	3.1	
2	☐	2.000	1.892	35272.36	0.0256	P	1.9	-5.4
3	☐	5.000	4.727	72303.98	0.0526	P	1.2	-5.5
4	☐	10.000	9.417	133350.64	0.0973	P	2.6	-5.8
5	☐	100.000	100.076	1295815.53	0.9607	A	1.1	0.1
6	☐	200.000	199.999	2498032.15	1.9123	A	1.7	0.0

y = 0.0095 * x + 0.0076
R = 1.0000
DL = 0.07391 ppb
BEC = 0.7979 ppb

Weight: <None>
Min Conc: <None>

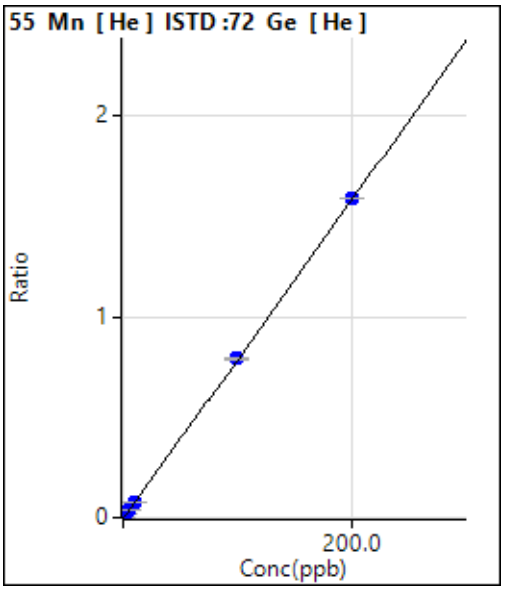


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	746.70	0.0018	P	5.5	
2	☐	2.000	2.065	10050.54	0.0242	P	3.5	3.3
3	☐	5.000	4.937	23033.02	0.0554	P	1.2	-1.3
4	☐	10.000	10.003	45883.70	0.1103	P	1.8	0.0
5	☐	100.000	99.871	450002.69	1.0853	P	1.2	-0.1
6	☐	200.000	200.065	871821.47	2.1724	P	0.8	0.0

y = 0.0108 * x + 0.0018
R = 1.0000
DL = 0.02742 ppb
BEC = 0.1663 ppb

Weight: <None>
Min Conc: <None>

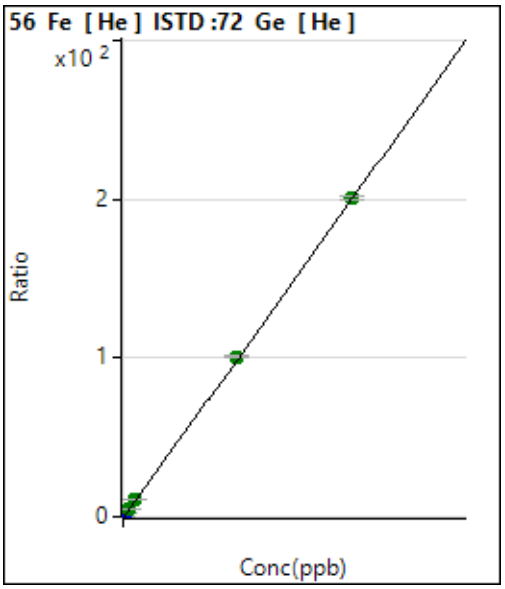
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	686.70	0.0017	P	2.1	
2	☐	2.000	2.056	7468.84	0.0180	P	5.9	2.8
3	☐	5.000	4.900	16880.65	0.0406	P	3.1	-2.0
4	☐	10.000	9.915	33441.12	0.0804	P	2.0	-0.9
5	☐	100.000	99.701	329024.00	0.7936	P	1.5	-0.3
6	☐	200.000	200.156	638729.33	1.5915	P	0.5	0.1

y = 0.0079 * x + 0.0017
R = 1.0000
DL = 0.01316 ppb
BEC = 0.2089 ppb

Weight: <None>
Min Conc: <None>

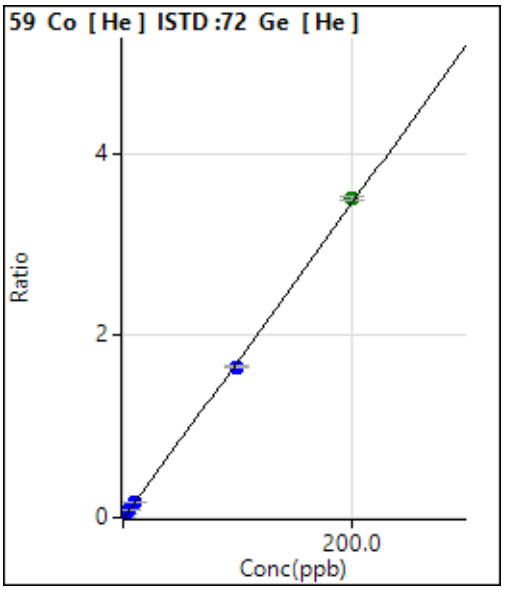


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	10537.60	0.0255	P	5.1	
2	☐	200.000	202.007	853517.96	2.0560	P	0.5	1.0
3	☐	500.000	536.339	2253022.16	5.4167	A	0.7	7.3
4	☐	1000.000	1030.163	4317413.89	10.3806	A	0.3	3.0
5	☐	10000.00	10001.34	41693247.7	100.558	A	1.2	0.0
6	☐	20000.00	19996.88	80679123.8	201.033	A	0.7	0.0

y = 0.0101 * x + 0.0255
R = 1.0000
DL = 0.388 ppb
BEC = 2.533 ppb

Weight: <None>
Min Conc: <None>

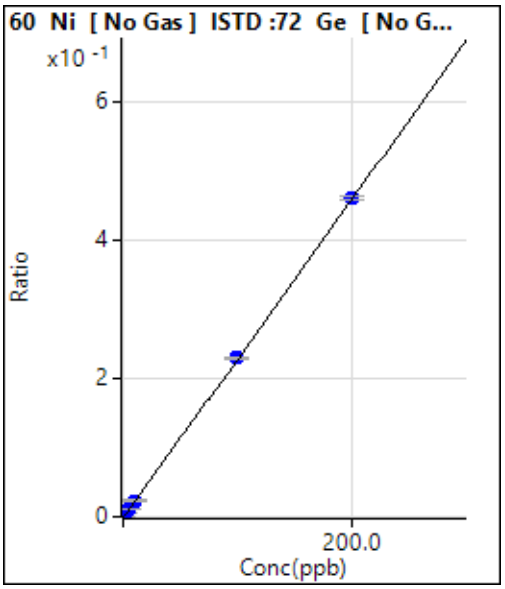
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	96.68	0.0002	P	84.1	
2	☐	2.000	1.882	13647.02	0.0329	P	2.0	-5.9
3	☐	5.000	4.725	34189.95	0.0822	P	2.2	-5.5
4	☐	10.000	9.552	69017.60	0.1659	P	0.4	-4.5
5	☐	100.000	95.459	686653.55	1.6562	P	1.8	-4.5
6	☐	200.000	202.301	1408599.72	3.5097	A	0.9	1.2

y = 0.0173 * x + 2.3347E-004
R = 0.9996
DL = 0.03397 ppb
BEC = 0.01346 ppb

Weight: <None>
Min Conc: <None>

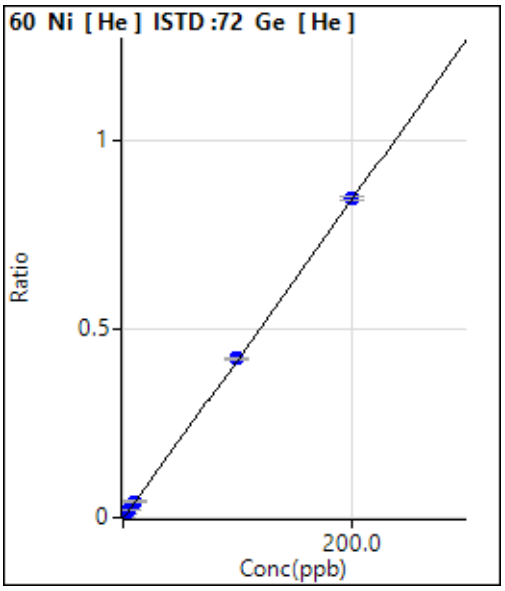


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	556.69	0.0004	P	15.8	
2	☐	2.000	2.051	7065.28	0.0051	P	2.2	2.6
3	☐	5.000	4.993	16366.77	0.0119	P	4.4	-0.1
4	☐	10.000	9.996	32144.84	0.0234	P	2.0	0.0
5	☐	100.000	99.773	310750.25	0.2304	P	0.9	-0.2
6	☐	200.000	200.113	603174.86	0.4617	P	0.8	0.1

y = 0.0023 * x + 4.0311E-004
R = 1.0000
DL = 0.0827 ppb
BEC = 0.1749 ppb

Weight: <None>
Min Conc: <None>

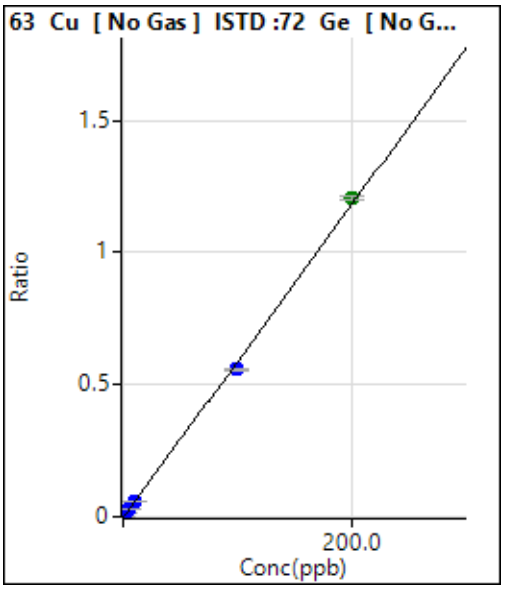
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	206.67	0.0005	P	19.5	
2	☐	2.000	2.067	3830.61	0.0092	P	2.3	3.4
3	☐	5.000	5.167	9283.32	0.0223	P	2.7	3.3
4	☐	10.000	10.060	17875.35	0.0430	P	2.7	0.6
5	☐	100.000	99.775	174877.75	0.4218	P	1.5	-0.2
6	☐	200.000	200.104	339285.06	0.8454	P	0.8	0.1

y = 0.0042 * x + 4.9945E-004
R = 1.0000
DL = 0.06929 ppb
BEC = 0.1183 ppb

Weight: <None>
Min Conc: <None>

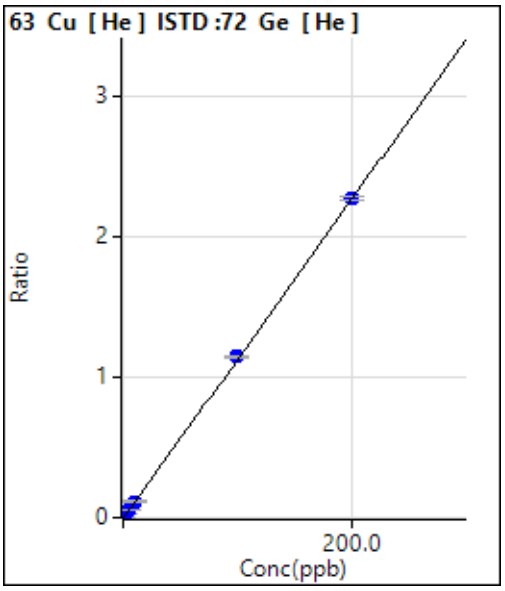


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	3210.44	0.0023	P	9.6	
2	☐	2.000	1.845	18245.83	0.0133	P	4.7	-7.7
3	☐	5.000	4.742	41781.22	0.0304	P	2.1	-5.2
4	☐	10.000	9.410	79568.76	0.0580	P	1.6	-5.9
5	☐	100.000	93.554	750259.36	0.5563	P	0.6	-6.4
6	☐	200.000	203.260	1575245.55	1.2058	A	1.1	1.6

y = 0.0059 * x + 0.0023
R = 0.9993
DL = 0.1131 ppb
BEC = 0.3929 ppb

Weight: <None>
Min Conc: <None>

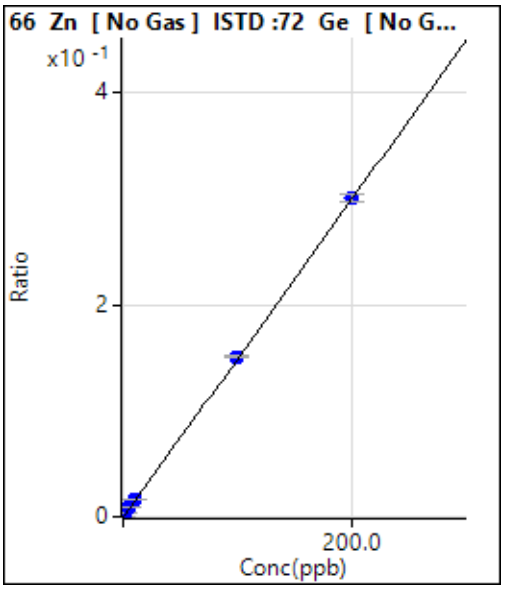
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1513.44	0.0037	P	3.1	
2	☐	2.000	1.986	10881.20	0.0262	P	5.6	-0.7
3	☐	5.000	5.022	25240.29	0.0607	P	2.1	0.4
4	☐	10.000	9.856	48068.45	0.1156	P	1.3	-1.4
5	☐	100.000	100.639	475365.17	1.1465	P	0.8	0.6
6	☐	200.000	199.687	911499.91	2.2712	P	0.7	-0.2

y = 0.0114 * x + 0.0037
R = 1.0000
DL = 0.03015 ppb
BEC = 0.3221 ppb

Weight: <None>
Min Conc: <None>

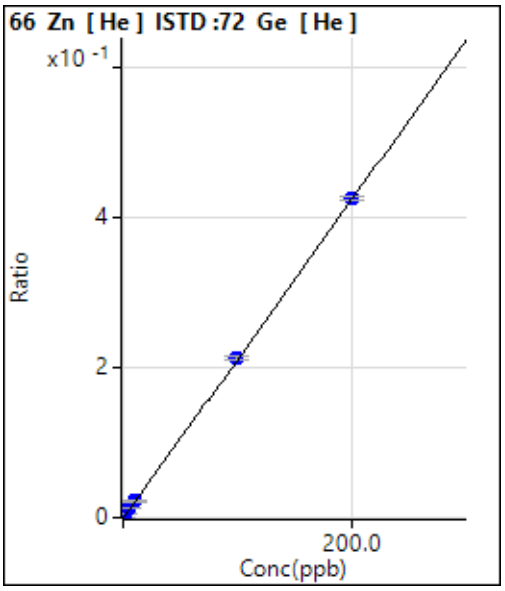


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1056.73	0.0008	P	12.5	
2	☐	2.000	1.985	5154.38	0.0037	P	1.3	-0.7
3	☐	5.000	5.137	11638.54	0.0085	P	2.8	2.7
4	☐	10.000	10.118	21847.82	0.0159	P	4.5	1.2
5	☐	100.000	100.113	203569.05	0.1509	P	0.5	0.1
6	☐	200.000	199.934	392724.45	0.3007	P	2.0	0.0

y = 0.0015 * x + 7.6562E-004
R = 1.0000
DL = 0.1907 ppb
BEC = 0.5104 ppb

Weight: <None>
Min Conc: <None>

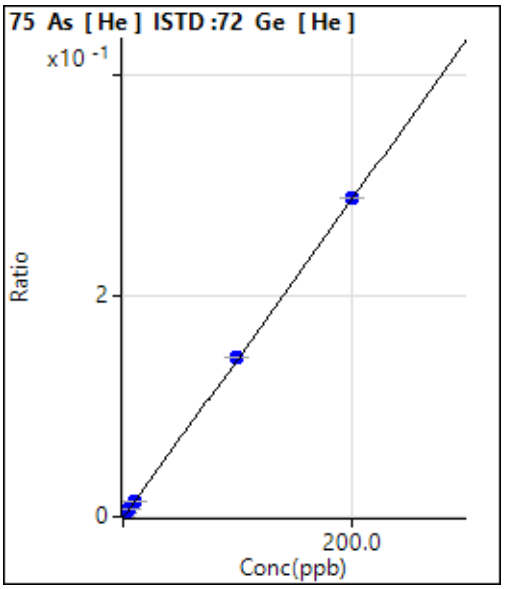
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	366.68	0.0009	P	15.9	
2	☐	2.000	2.104	2226.89	0.0054	P	2.0	5.2
3	☐	5.000	5.389	5137.74	0.0124	P	4.5	7.8
4	☐	10.000	9.881	9113.23	0.0219	P	1.4	-1.2
5	☐	100.000	100.100	88678.49	0.2139	P	2.6	0.1
6	☐	200.000	199.945	171118.12	0.4264	P	1.0	0.0

y = 0.0021 * x + 8.8606E-004
R = 1.0000
DL = 0.1983 ppb
BEC = 0.4164 ppb

Weight: <None>
Min Conc: <None>

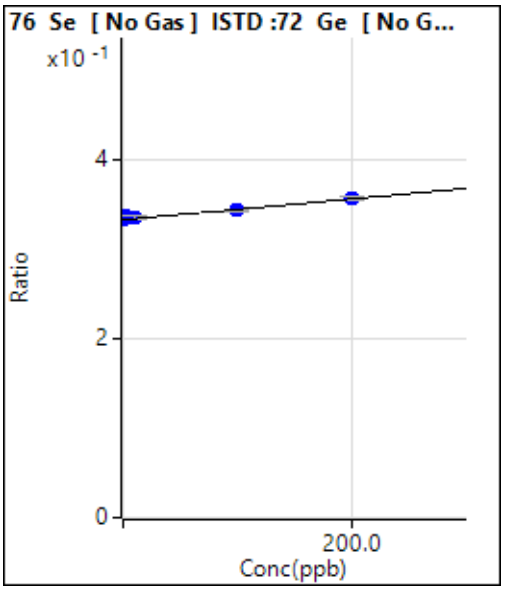


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	100.00	0.0002	P	23.4	
2	☐	2.000	1.952	1267.85	0.0031	P	7.3	-2.4
3	☐	5.000	5.060	3133.72	0.0075	P	2.5	1.2
4	☐	10.000	9.858	6009.13	0.0144	P	1.9	-1.4
5	☐	100.000	99.752	59712.38	0.1440	P	0.6	-0.2
6	☐	200.000	200.130	115854.60	0.2887	P	0.5	0.1

y = 0.0014 * x + 2.4172E-004
R = 1.0000
DL = 0.1179 ppb
BEC = 0.1677 ppb

Weight: <None>
Min Conc: <None>

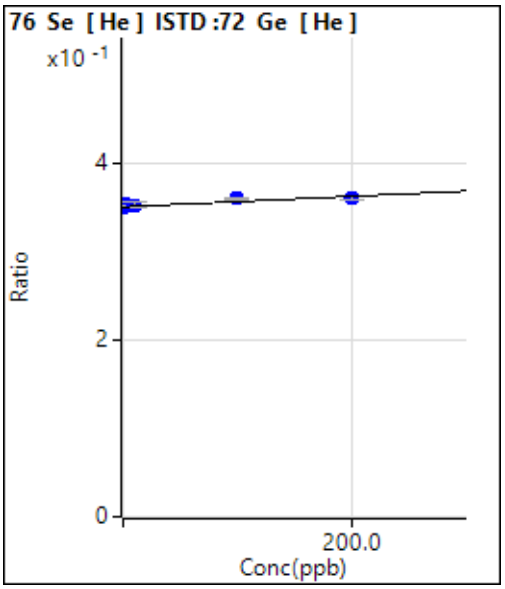
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	459505.46	0.3331	P	0.4	
2	☐	2.000	31.213	463647.95	0.3368	P	1.0	1460.6
3	☐	5.000	21.825	461245.24	0.3357	P	0.7	336.5
4	☐	10.000	19.955	459910.01	0.3355	P	1.0	99.6
5	☐	100.000	88.509	463315.71	0.3435	P	1.0	-11.5
6	☐	200.000	204.535	466550.29	0.3571	P	1.3	2.3

y = 1.1751E-004 * x + 0.3331
R = 0.9864
DL = 31.41 ppb
BEC = 2835 ppb

Weight: <None>
Min Conc: <None>

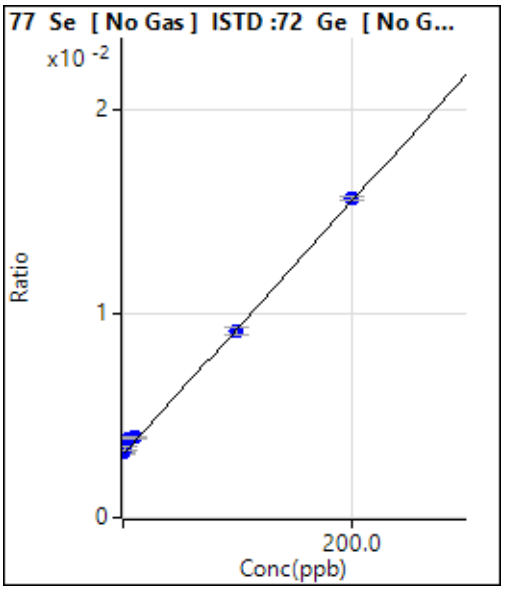


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	145485.00	0.3516	P	0.3	
2	☐	2.000	74.512	147829.36	0.3561	P	0.4	3625.6
3	☐	5.000	18.062	146700.41	0.3527	P	0.7	261.2
4	☐	10.000	37.451	147172.78	0.3539	P	1.4	274.5
5	☐	100.000	159.658	149804.63	0.3613	P	0.6	59.7
6	☐	200.000	167.747	145171.39	0.3617	P	1.2	-16.1

y = 6.0446E-005 * x + 0.3516
R = 0.8806
DL = 51.5 ppb
BEC = 5817 ppb

Weight: <None>
Min Conc: <None>

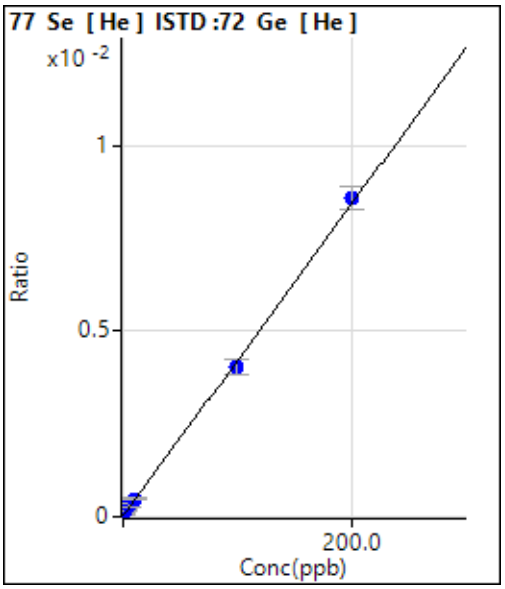
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	4380.78	0.0032	P	2.6	
2	☐	2.000	3.431	4664.23	0.0034	P	5.7	71.6
3	☐	5.000	11.875	5374.52	0.0039	P	2.0	137.5
4	☐	10.000	12.370	5404.53	0.0039	P	3.0	23.7
5	☐	100.000	96.735	12365.83	0.0092	P	4.2	-3.3
6	☐	200.000	201.328	20442.42	0.0156	P	1.5	0.7

y = 6.1952E-005 * x + 0.0032
R = 0.9993
DL = 4.043 ppb
BEC = 51.26 ppb

Weight: <None>
Min Conc: <None>

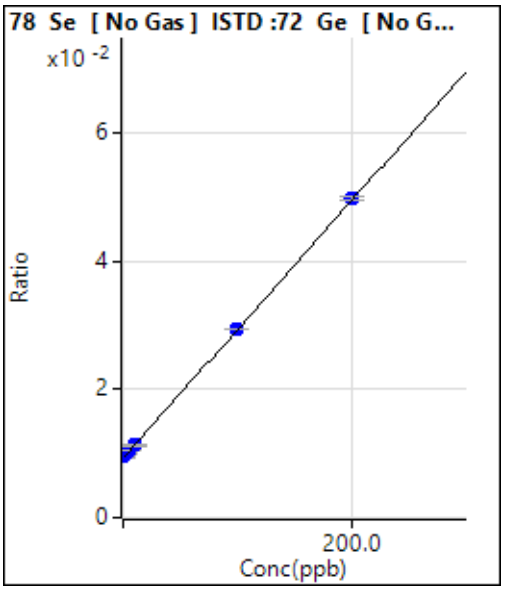


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	26.67	0.0001	P	43.3	
2	☐	2.000	2.282	66.67	0.0002	P	37.6	14.1
3	☐	5.000	5.704	126.67	0.0003	P	27.8	14.1
4	☐	10.000	10.093	203.34	0.0005	P	11.0	0.9
5	☐	100.000	94.274	1673.47	0.0040	P	10.3	-5.7
6	☐	200.000	202.838	3450.51	0.0086	P	7.3	1.4

y = 4.2084E-005 * x + 6.4454E-005
R = 0.9994
DL = 1.991 ppb
BEC = 1.532 ppb

Weight: <None>
Min Conc: <None>

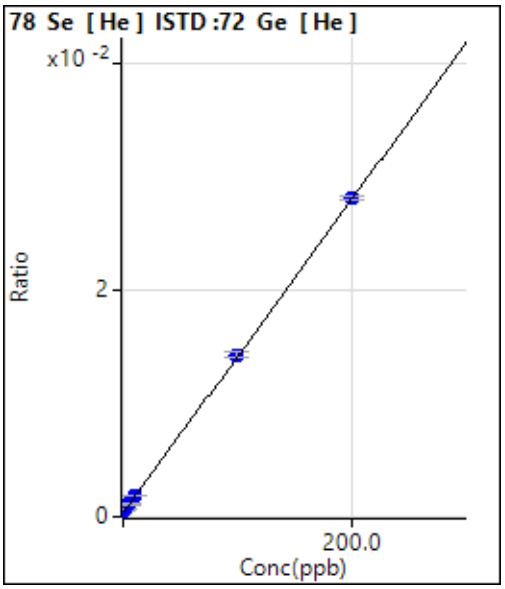
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	13196.67	0.0096	P	3.9	
2	☐	2.000	2.271	13793.98	0.0100	P	2.4	13.6
3	☐	5.000	4.851	14481.36	0.0105	P	1.0	-3.0
4	☐	10.000	8.548	15462.47	0.0113	P	4.4	-14.5
5	☐	100.000	98.977	39708.76	0.0294	P	0.8	-1.0
6	☐	200.000	200.585	65107.00	0.0498	P	1.4	0.3

y = 2.0079E-004 * x + 0.0096
R = 1.0000
DL = 5.641 ppb
BEC = 47.63 ppb

Weight: <None>
Min Conc: <None>

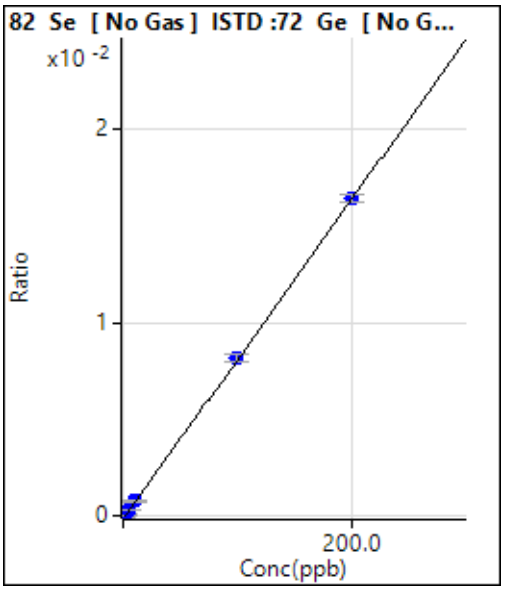


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	200.67	0.0005	P	15.6	
2	☐	2.000	1.857	308.00	0.0007	P	5.7	-7.1
3	☐	5.000	4.512	461.34	0.0011	P	6.4	-9.8
4	☐	10.000	9.796	765.36	0.0018	P	4.6	-2.0
5	☐	100.000	100.061	5939.33	0.0143	P	4.5	0.1
6	☐	200.000	199.993	11299.41	0.0282	P	0.8	0.0

y = 1.3836E-004 * x + 4.8502E-004
R = 1.0000
DL = 1.637 ppb
BEC = 3.506 ppb

Weight: <None>
Min Conc: <None>

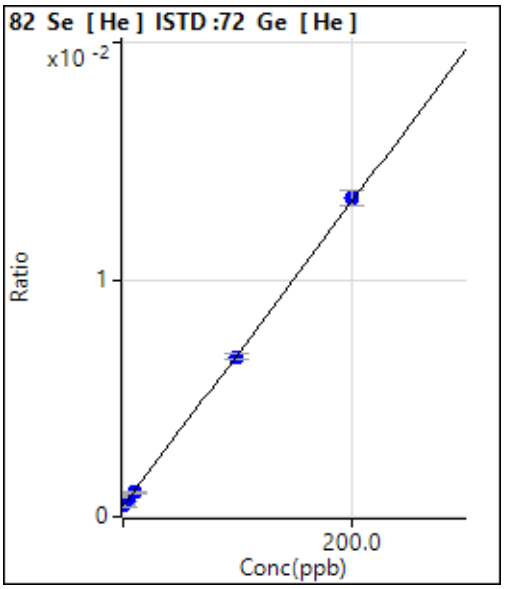
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	-97.66	-0.0001	P	-29.4	
2	☐	2.000	1.705	96.86	0.0001	P	52.8	-14.7
3	☐	5.000	4.396	402.94	0.0003	P	4.6	-12.1
4	☐	10.000	10.242	1066.77	0.0008	P	24.2	2.4
5	☐	100.000	100.060	11075.74	0.0082	P	4.1	0.1
6	☐	200.000	199.976	21535.44	0.0165	P	2.3	0.0

y = 8.2789E-005 * x - 7.0664E-005
R = 1.0000
DL = 0.7519 ppb
BEC = -0.8535 ppb

Weight: <None>
Min Conc: <None>

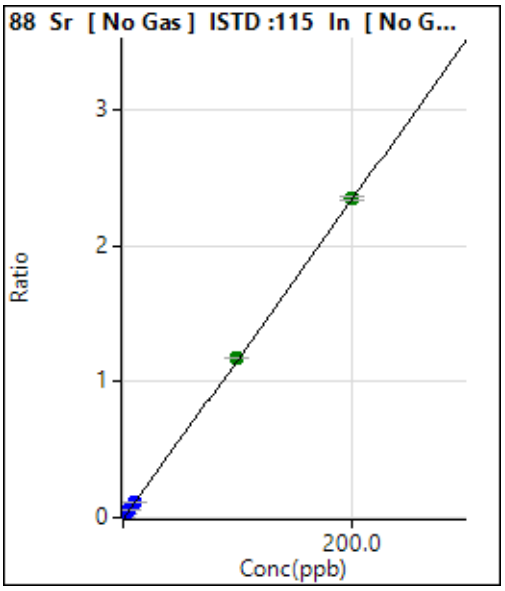


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	213.34	0.0005	P	11.8	
2	☐	2.000	0.222	220.00	0.0005	P	34.2	-88.9
3	☐	5.000	5.211	353.34	0.0008	P	14.7	4.2
4	☐	10.000	8.203	433.35	0.0010	P	5.7	-18.0
5	☐	100.000	97.236	2800.34	0.0068	P	4.1	-2.8
6	☐	200.000	201.484	5394.52	0.0134	P	4.7	0.7

y = 6.4165E-005 * x + 5.1558E-004
R = 0.9998
DL = 2.841 ppb
BEC = 8.035 ppb

Weight: <None>
Min Conc: <None>

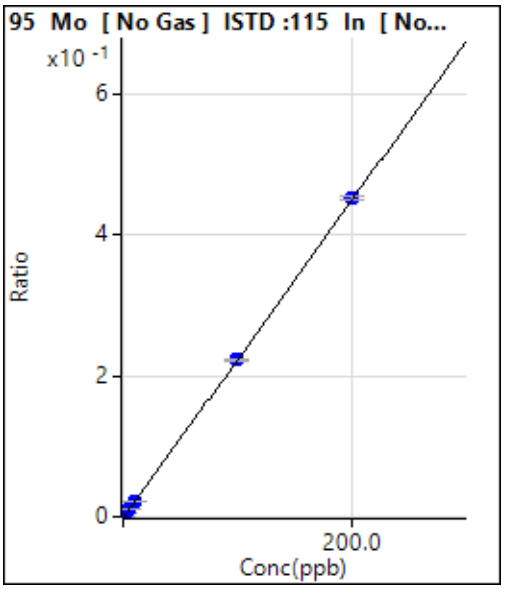
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1246.75	0.0007	P	1.6	
2	☐	2.000	1.850	37773.59	0.0225	P	2.5	-7.5
3	☐	5.000	4.529	90702.96	0.0539	P	0.9	-9.4
4	☐	10.000	9.319	182899.30	0.1101	P	1.3	-6.8
5	☐	100.000	99.839	1932366.64	1.1722	A	0.8	-0.2
6	☐	200.000	200.128	3762422.86	2.3488	A	0.7	0.1

y = 0.0117 * x + 7.4644E-004
R = 1.0000
DL = 0.003123 ppb
BEC = 0.06362 ppb

Weight: <None>
Min Conc: <None>

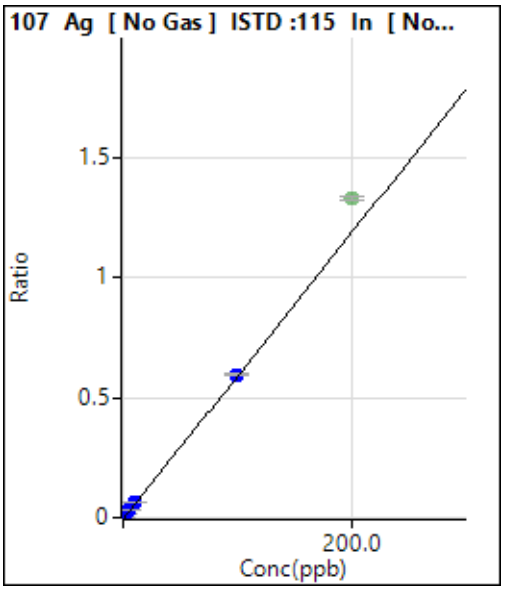


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	26.67	0.0000	P	20.9	
2	☐	2.000	1.915	7282.11	0.0043	P	10.3	-4.2
3	☐	5.000	4.877	18523.15	0.0110	P	2.7	-2.5
4	☐	10.000	9.862	36944.88	0.0222	P	0.6	-1.4
5	☐	100.000	98.811	367043.81	0.2226	P	1.0	-1.2
6	☐	200.000	200.605	723932.38	0.4520	P	1.1	0.3

y = 0.0023 * x + 1.5948E-005
R = 1.0000
DL = 0.004442 ppb
BEC = 0.007078 ppb

Weight: <None>
Min Conc: <None>

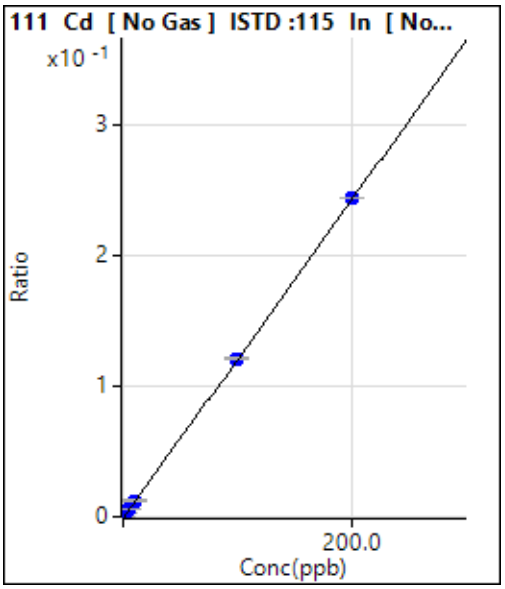
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	993.39	0.0006	P	4.5	
2	☐	2.000	1.964	20729.86	0.0123	P	1.0	-1.8
3	☐	5.000	4.930	50526.89	0.0300	P	2.5	-1.4
4	☐	10.000	10.101	101137.84	0.0609	P	1.9	1.0
5	☐	100.000	99.994	984801.63	0.5974	P	0.4	0.0
6	☑	200.000		2131968.40	1.3310	A	0.7	

y = 0.0060 * x + 5.9496E-004
R = 1.0000
DL = 0.01332 ppb
BEC = 0.09969 ppb

Weight: <None>
Min Conc: <None>

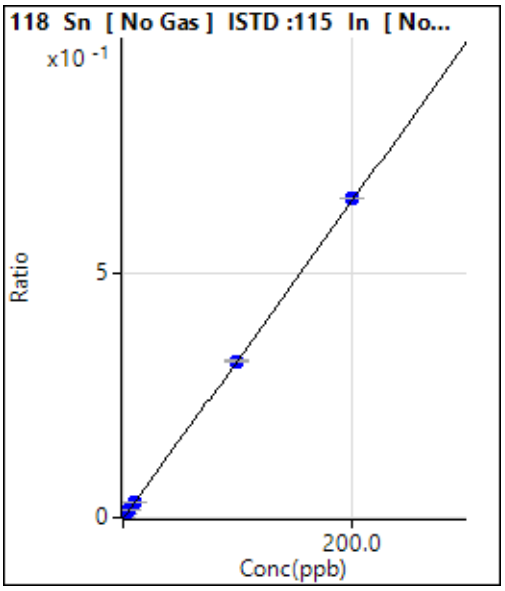


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	20.00	0.0000	P	131.9	
2	☐	2.000	2.018	4167.40	0.0025	P	2.0	0.9
3	☐	5.000	4.883	10057.33	0.0060	P	4.2	-2.3
4	☐	10.000	10.217	20753.26	0.0125	P	2.6	2.2
5	☐	100.000	99.435	200213.95	0.1215	P	1.5	-0.6
6	☐	200.000	200.274	391805.92	0.2446	P	0.5	0.1

y = 0.0012 * x + 1.1975E-005
R = 1.0000
DL = 0.0388 ppb
BEC = 0.009804 ppb

Weight: <None>
Min Conc: <None>

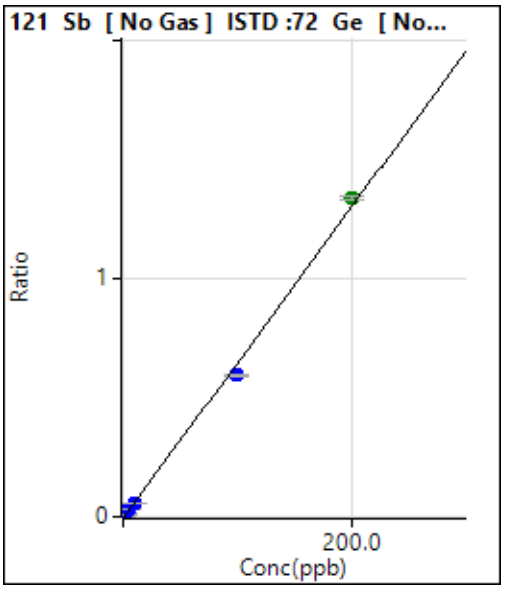
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1170.07	0.0007	P	9.7	
2	☐	2.000	1.888	11465.24	0.0068	P	1.8	-5.6
3	☐	5.000	4.821	27459.10	0.0163	P	1.8	-3.6
4	☐	10.000	9.672	53207.89	0.0320	P	1.4	-3.3
5	☐	100.000	98.062	524660.25	0.3183	P	1.1	-1.9
6	☐	200.000	200.991	1043677.36	0.6516	P	0.4	0.5

y = 0.0032 * x + 7.0034E-004
R = 0.9999
DL = 0.06302 ppb
BEC = 0.2163 ppb

Weight: <None>
Min Conc: <None>

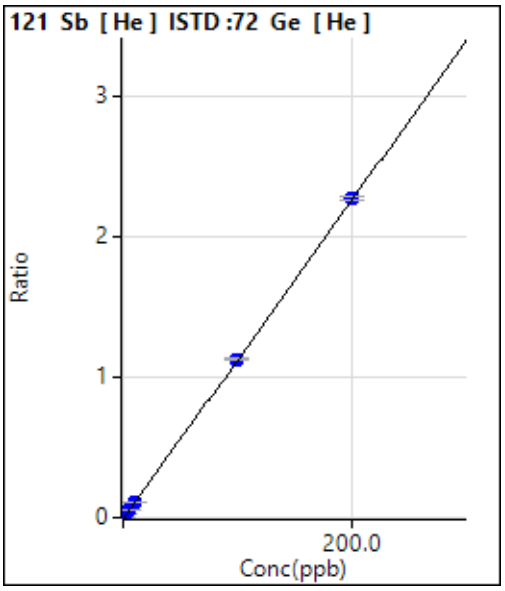


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	373.35	0.0003	P	16.3	
2	☐	2.000	1.823	16754.21	0.0122	P	2.5	-8.9
3	☐	5.000	4.503	40770.46	0.0297	P	2.5	-9.9
4	☐	10.000	9.012	81039.43	0.0591	P	1.5	-9.9
5	☐	100.000	90.646	798610.93	0.5921	P	0.4	-9.4
6	☐	200.000	204.741	1746607.37	1.3370	A	1.7	2.4

y = 0.0065 * x + 2.7034E-004
R = 0.9985
DL = 0.02025 ppb
BEC = 0.04141 ppb

Weight: <None>
Min Conc: <None>

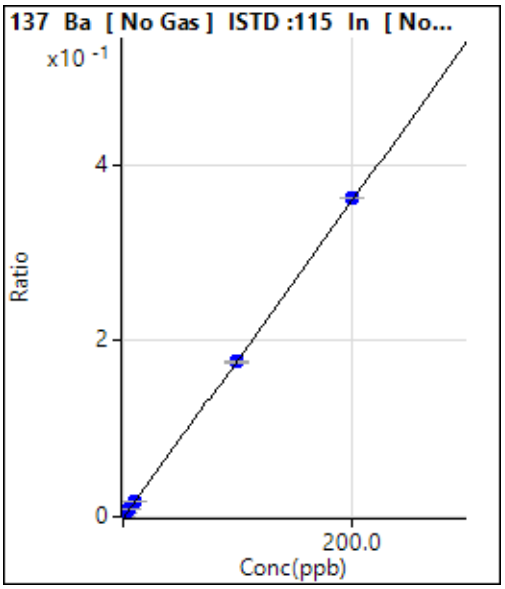
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	226.68	0.0005	P	20.0	
2	☐	2.000	1.905	9213.38	0.0222	P	4.2	-4.8
3	☐	5.000	4.997	23845.29	0.0573	P	3.6	-0.1
4	☐	10.000	9.976	47375.77	0.1139	P	1.9	-0.2
5	☐	100.000	99.278	468025.03	1.1288	P	1.4	-0.7
6	☐	200.000	200.363	914076.11	2.2777	P	0.7	0.2

y = 0.0114 * x + 5.4790E-004
R = 1.0000
DL = 0.0289 ppb
BEC = 0.04821 ppb

Weight: <None>
Min Conc: <None>

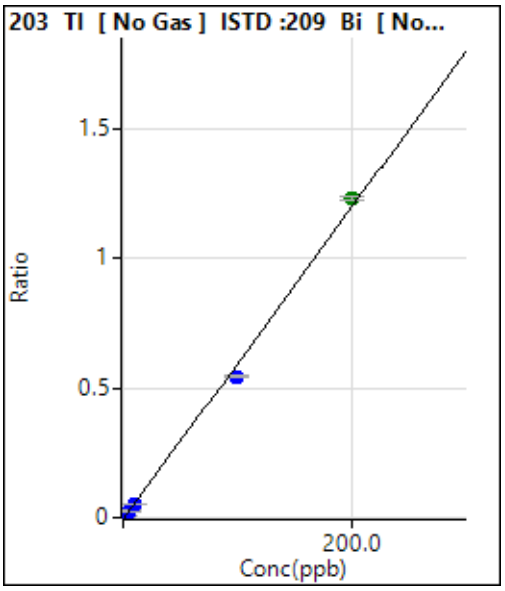


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	206.67	0.0001	P	26.2	
2	☐	2.000	1.876	5894.76	0.0035	P	2.3	-6.2
3	☐	5.000	4.965	15262.51	0.0091	P	1.0	-0.7
4	☐	10.000	9.560	28815.46	0.0173	P	0.2	-4.4
5	☐	100.000	97.828	290698.10	0.1763	P	1.4	-2.2
6	☐	200.000	201.110	580466.88	0.3624	P	0.3	0.6

y = 0.0018 * x + 1.2361E-004
R = 0.9999
DL = 0.05385 ppb
BEC = 0.06862 ppb

Weight: <None>
Min Conc: <None>

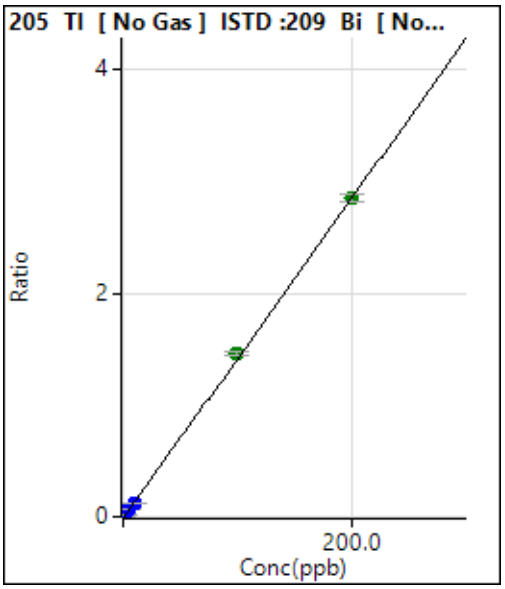
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	63.33	0.0000	P	18.0	
2	☐	2.000	1.775	16621.28	0.0107	P	3.7	-11.3
3	☐	5.000	4.304	40479.17	0.0259	P	0.6	-13.9
4	☐	10.000	8.778	81853.58	0.0528	P	1.4	-12.2
5	☐	100.000	90.640	818769.42	0.5446	P	1.9	-9.4
6	☐	200.000	204.761	1824548.05	1.2302	A	1.3	2.4

y = 0.0060 * x + 4.1307E-005
R = 0.9985
DL = 0.003712 ppb
BEC = 0.006876 ppb

Weight: <None>
Min Conc: <None>

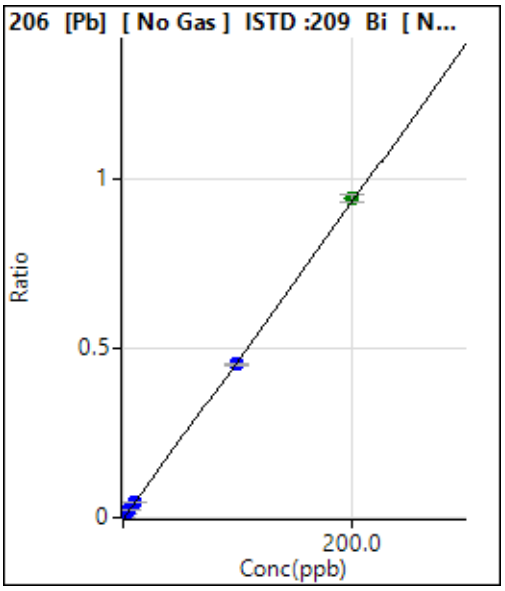


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	183.34	0.0001	P	23.1	
2	☐	2.000	1.757	39242.31	0.0253	P	1.1	-12.1
3	☐	5.000	4.350	97442.28	0.0623	P	1.2	-13.0
4	☐	10.000	8.923	198195.20	0.1278	P	1.4	-10.8
5	☐	100.000	101.635	2186408.72	1.4542	A	2.1	1.6
6	☐	200.000	199.255	4227376.19	2.8509	A	2.1	-0.4

y = 0.0143 * x + 1.1967E-004
R = 0.9999
DL = 0.005794 ppb
BEC = 0.008364 ppb

Weight: <None>
Min Conc: <None>

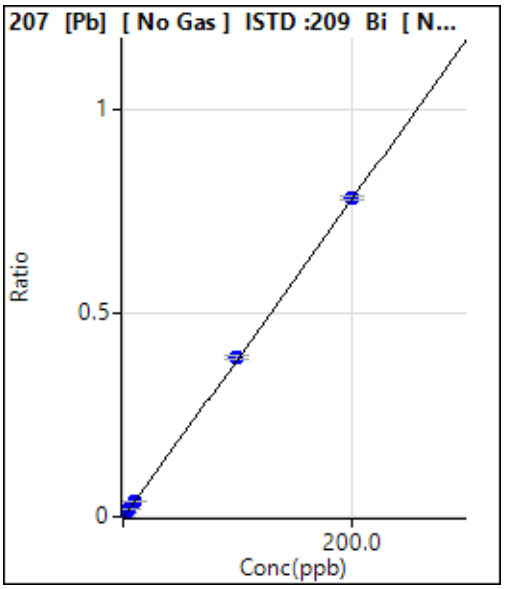
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	340.01	0.0002	P	7.5	
2	☐	2.000	1.877	13958.07	0.0090	P	3.6	-6.2
3	☐	5.000	4.617	34033.36	0.0218	P	1.2	-7.7
4	☐	10.000	9.599	69842.21	0.0450	P	0.5	-4.0
5	☐	100.000	96.776	679573.53	0.4520	P	1.6	-3.2
6	☐	200.000	201.643	1396156.96	0.9415	A	2.0	0.8

y = 0.0047 * x + 2.2180E-004
R = 0.9998
DL = 0.01071 ppb
BEC = 0.04751 ppb

Weight: <None>
Min Conc: <None>

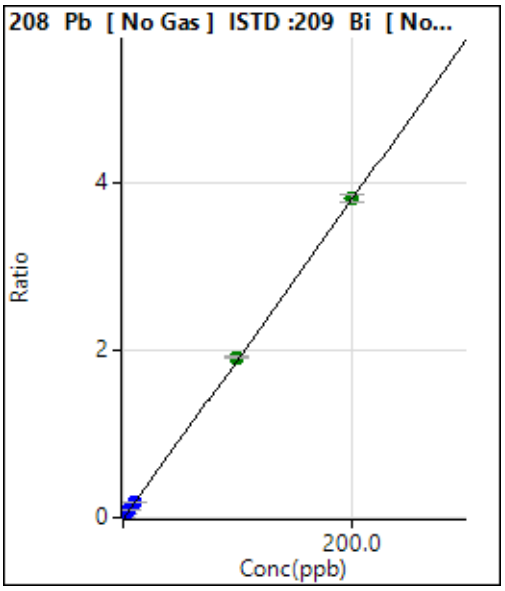


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	223.34	0.0001	P	7.1	
2	☐	2.000	1.945	12032.70	0.0077	P	4.1	-2.7
3	☐	5.000	4.842	29799.29	0.0191	P	0.8	-3.2
4	☐	10.000	9.765	59411.37	0.0383	P	0.6	-2.3
5	☐	100.000	99.830	586721.18	0.3902	P	2.1	-0.2
6	☐	200.000	200.101	1159790.95	0.7821	P	0.9	0.1

y = 0.0039 * x + 1.4573E-004
R = 1.0000
DL = 0.007977 ppb
BEC = 0.03729 ppb

Weight: <None>
Min Conc: <None>

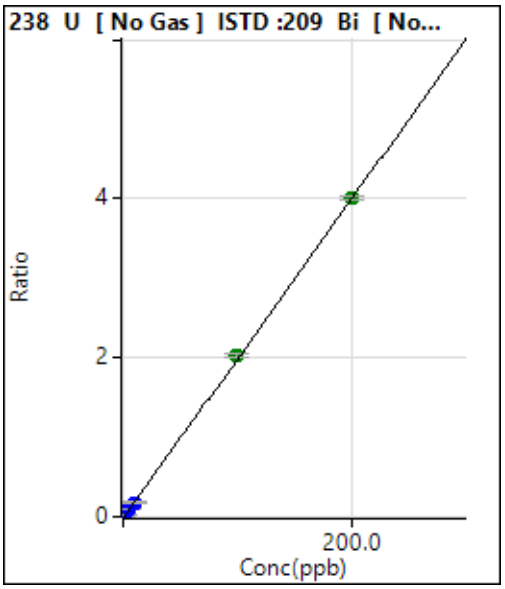
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1246.72	0.0008	P	7.1	
2	☐	2.000	1.800	54717.51	0.0352	P	1.2	-10.0
3	☐	5.000	4.504	135887.40	0.0869	P	1.7	-9.9
4	☐	10.000	9.163	273034.01	0.1760	P	0.7	-8.4
5	☐	100.000	100.181	2881443.22	1.9165	A	1.6	0.2
6	☐	200.000	199.966	5671222.34	3.8246	A	1.9	0.0

y = 0.0191 * x + 8.1357E-004
R = 1.0000
DL = 0.009114 ppb
BEC = 0.04255 ppb

Weight: <None>
Min Conc: <None>

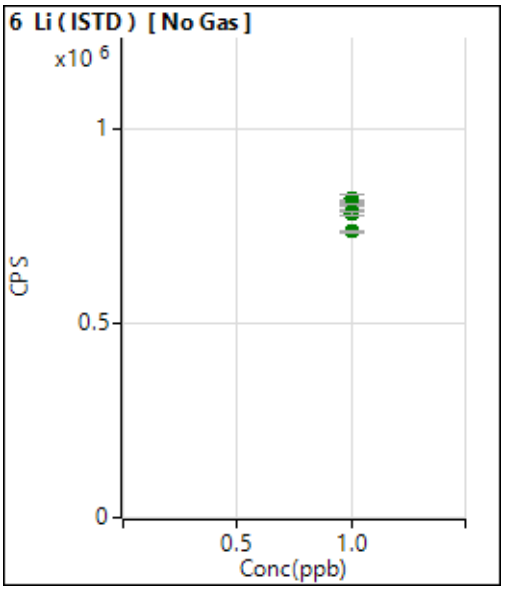


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	13.33	0.0000	P	42.5	
2	☐	2.000	1.788	55820.61	0.0359	P	1.5	-10.6
3	☐	5.000	4.445	139629.04	0.0893	P	1.4	-11.1
4	☐	10.000	9.006	280731.47	0.1810	P	1.4	-9.9
5	☐	100.000	100.992	3051584.54	2.0297	A	2.1	1.0
6	☐	200.000	199.570	5947856.58	4.0109	A	1.2	-0.2

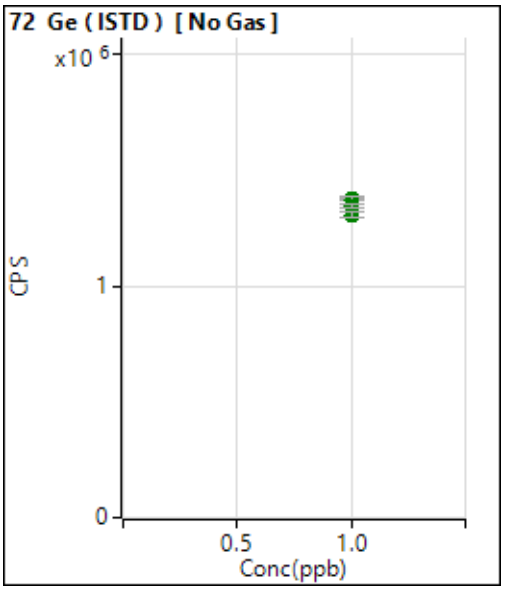
y = 0.0201 * x + 8.6808E-006
R = 1.0000
DL = 0.0005504 ppb
BEC = 0.0004319 ppb

Weight: <None>
Min Conc: <None>

Calibration for 016_ICV.d

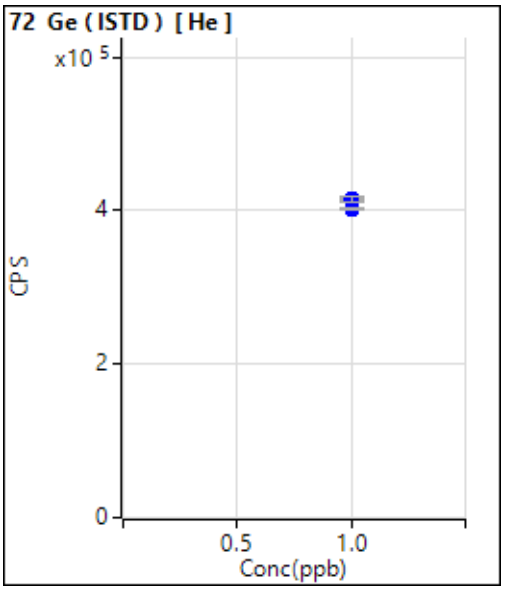


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		823334.35		A	2.2	
2	☐	1.000		815580.43		A	0.8	
3	☐	1.000		807296.14		A	0.6	
4	☐	1.000		790528.61		A	0.8	
5	☐	1.000		784511.29		A	1.2	
6	☐	1.000		737035.11		A	1.0	

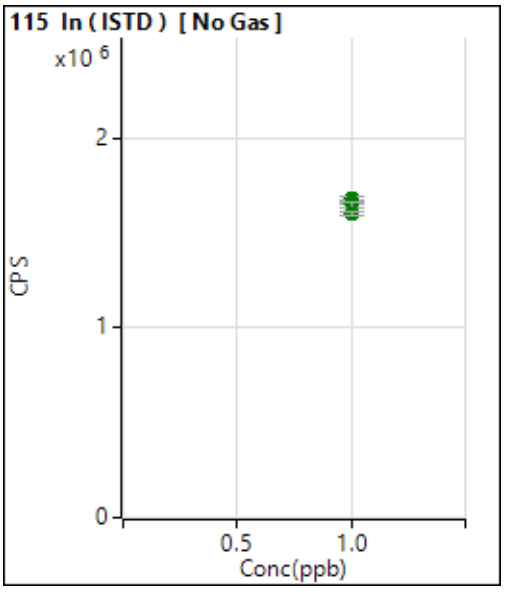


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		1379474.46		A	1.0	
2	☐	1.000		1376765.14		A	0.6	
3	☐	1.000		1374138.73		A	0.9	
4	☐	1.000		1371181.18		A	1.9	
5	☐	1.000		1348824.93		A	1.1	
6	☐	1.000		1306525.95		A	1.8	

Calibration for 016_ICV.d

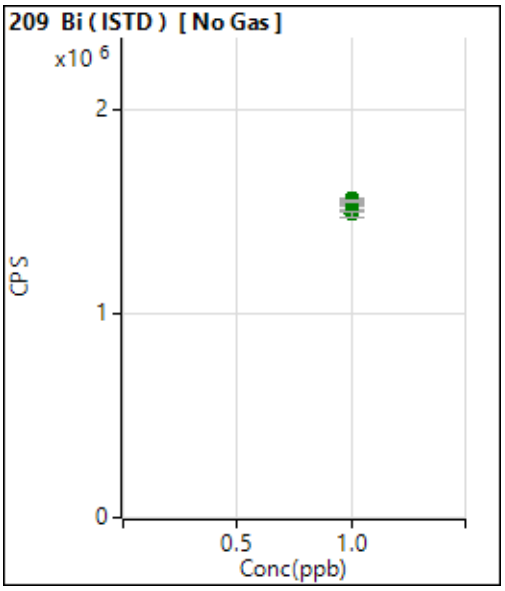


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		413777.95		P	0.1	
2	☐	1.000		415129.89		P	0.2	
3	☐	1.000		415948.35		P	0.6	
4	☐	1.000		415917.48		P	0.9	
5	☐	1.000		414662.22		P	1.4	
6	☐	1.000		401334.10		P	0.7	



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		1670122.71		A	0.9	
2	☐	1.000		1682748.05		A	1.7	
3	☐	1.000		1683236.59		A	0.7	
4	☐	1.000		1661420.79		A	0.5	
5	☐	1.000		1648646.45		A	1.5	
6	☐	1.000		1601760.42		A	1.1	

Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		1532763.26		A	0.7	
2	☐	1.000		1553372.48		A	1.7	
3	☐	1.000		1562899.51		A	0.4	
4	☐	1.000		1551021.28		A	0.4	
5	☐	1.000		1503630.08		A	0.8	
6	☐	1.000		1483099.36		A	1.4	

Calibration Blank Report

Sample Table

Sample Name	CAL BLK
Data File Name	009CALB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq Date Time	2022-11-10T11:39:33-06:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li	7	1	No Gas	45222	0.00
Be	9	1	No Gas	28	156.74
V	51	2	He	2707	0.20
Cr	52	2	He	747	0.72
Fe	56	2	He	10538	0.05
Se	78	2	He	201	7.70
As	75	2	He	100	23.34
Ca	44	2	He	640	1.84
Na	23	2	He	165151	0.00
Mg	24	2	He	350	9.20
K	39	2	He	77557	0.00
Mn	55	2	He	687	0.32
Co	59	2	He	97	87.16
Ni	60	2	He	207	9.46
Cu	63	2	He	1513	0.21
Zn	66	2	He	367	4.36
Al	27	2	He	963	0.12
B	11	1	No Gas	12546	0.00
Al	27	1	No Gas	35653	0.00
Si	28	1	No Gas	314971	0.00
Ag	107	1	No Gas	993	0.36
Cd	111	1	No Gas	20	661.44
Sr	88	1	No Gas	1247	0.20
Mo	95	1	No Gas	27	81.19
Sn	118	1	No Gas	1170	0.88
Sb	121	1	No Gas	373	4.61
Ba	137	1	No Gas	207	12.90
Tl	205	1	No Gas	183	12.39
Tl	203	1	No Gas	63	28.79
Pb	208	1	No Gas	1247	0.54
U	238	1	No Gas	13	324.76
Ca	43	2	He	23	106.04
Sb	121	2	He	227	8.78
Ti	47	2	He	13	859.23
Cu	63	1	No Gas	3210	0.32

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD

Calibration Blank Report

Li	6	1	No Gas	823334	2.16
Ge	72	2	He	413778	0.14
Ge	72	1	No Gas	1379474	1.04
In	115	1	No Gas	1670123	0.91

Calibration Blank Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Bi	209	1	No Gas	1532763	0.74

Calibration Standard Report

Sample Table

Sample Name	2/10/200
Data File Name	010CALS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq Date Time	2022-11-10T11:41:27-06:00
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	4634	0.09
V	51	2	He	10624	0.00
Cr	52	2	He	10051	0.03
Fe	56	2	He	853518	0.00
Se	78	2	He	308	1.80
As	75	2	He	1268	0.55
Ca	44	2	He	5621	0.10
Na	23	2	He	316821	0.00
Mg	24	2	He	89744	0.00
K	39	2	He	171683	0.00
Mn	55	2	He	7469	0.08
Co	59	2	He	13647	0.02
Ni	60	2	He	3831	0.05
Cu	63	2	He	10881	0.05
Zn	66	2	He	2227	0.08
Al	27	2	He	1407	0.61
B	11	1	No Gas	23840	0.01
Al	27	1	No Gas	56585	0.00
Si	28	1	No Gas	358376	0.00
Ag	107	1	No Gas	20730	0.01
Cd	111	1	No Gas	4167	0.05
Sr	88	1	No Gas	37774	0.00
Mo	95	1	No Gas	7282	0.13
Sn	118	1	No Gas	11465	0.02
Sb	121	1	No Gas	16754	0.01
Ba	137	1	No Gas	5895	0.04
Tl	205	1	No Gas	39242	0.01
Tl	203	1	No Gas	16621	0.01
Pb	208	1	No Gas	54718	0.00
U	238	1	No Gas	55821	0.00
Ca	43	2	He	343	1.30
Sb	121	2	He	9213	0.05
Cu	63	1	No Gas	18246	0.03

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	815580	0.78	823334	99.06	70	120	
Ge	72	2	He	415130	0.22	413778	100.33	70	120	
Ge	72	1	No Gas	1376765	0.60	1379474	99.80	70	120	

Calibration Standard Report

In	115	1	No Gas	1682748	1.75	1670123	100.76	70	120	
Bi	209	1	No Gas	1553372	1.71	1532763	101.34	70	120	

Calibration Standard Report

Sample Table

Sample Name	5/25/500
Data File Name	011CALS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq Date Time	2022-11-10T11:43:20-06:00
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	11994	0.02
V	51	2	He	21918	0.01
Cr	52	2	He	23033	0.01
Fe	56	2	He	2253022	0.00
Se	78	2	He	461	1.35
As	75	2	He	3134	0.07
Ca	44	2	He	12956	0.03
Na	23	2	He	548671	0.00
Mg	24	2	He	224705	0.00
K	39	2	He	315837	0.00
Mn	55	2	He	16881	0.02
Co	59	2	He	34190	0.00
Ni	60	2	He	9283	0.03
Cu	63	2	He	25240	0.01
Zn	66	2	He	5138	0.08
Al	27	2	He	2117	0.40
B	11	1	No Gas	41140	0.00
Al	27	1	No Gas	79567	0.00
Si	28	1	No Gas	427558	0.00
Ag	107	1	No Gas	50527	0.00
Cd	111	1	No Gas	10057	0.04
Sr	88	1	No Gas	90703	0.00
Mo	95	1	No Gas	18523	0.02
Sn	118	1	No Gas	27459	0.01
Sb	121	1	No Gas	40770	0.01
Ba	137	1	No Gas	15263	0.01
Tl	205	1	No Gas	97442	0.00
Tl	203	1	No Gas	40479	0.00
Pb	208	1	No Gas	135887	0.00
U	238	1	No Gas	139629	0.00
Ca	43	2	He	777	1.35
Sb	121	2	He	23845	0.01
Cu	63	1	No Gas	41781	0.01

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	807296	0.64	823334	98.05	70	120	
Ge	72	2	He	415948	0.60	413778	100.52	70	120	
Ge	72	1	No Gas	1374139	0.89	1379474	99.61	70	120	

Calibration Standard Report

In	115	1	No Gas	1683237	0.68	1670123	100.79	70	120	
Bi	209	1	No Gas	1562900	0.44	1532763	101.97	70	120	

Calibration Standard Report

Sample Table

Sample Name	10/50/100
Data File Name	012CALS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq Date Time	2022-11-10T11:45:13-06:00
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	23556	0.00
V	51	2	He	40877	0.00
Cr	52	2	He	45884	0.00
Fe	56	2	He	4317414	0.00
Se	78	2	He	765	0.58
As	75	2	He	6009	0.02
Ca	44	2	He	25524	0.00
Na	23	2	He	986702	0.00
Mg	24	2	He	446265	0.00
K	39	2	He	552703	0.00
Mn	55	2	He	33441	0.00
Co	59	2	He	69018	0.00
Ni	60	2	He	17875	0.02
Cu	63	2	He	48068	0.00
Zn	66	2	He	9113	0.01
Al	27	2	He	3314	0.18
B	11	1	No Gas	71100	0.00
Al	27	1	No Gas	127271	0.00
Si	28	1	No Gas	535852	0.00
Ag	107	1	No Gas	101138	0.00
Cd	111	1	No Gas	20753	0.01
Sr	88	1	No Gas	182899	0.00
Mo	95	1	No Gas	36945	0.00
Sn	118	1	No Gas	53208	0.00
Sb	121	1	No Gas	81039	0.00
Ba	137	1	No Gas	28815	0.00
Tl	205	1	No Gas	198195	0.00
Tl	203	1	No Gas	81854	0.00
Pb	208	1	No Gas	273034	0.00
U	238	1	No Gas	280731	0.00
Ca	43	2	He	1447	0.51
Sb	121	2	He	47376	0.00
Cu	63	1	No Gas	79569	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	790529	0.85	823334	96.02	70	120	
Ge	72	2	He	415917	0.93	413778	100.52	70	120	
Ge	72	1	No Gas	1371181	1.95	1379474	99.40	70	120	

Calibration Standard Report

In	115	1	No Gas	1661421	0.50	1670123	99.48	70	120	
Bi	209	1	No Gas	1551021	0.43	1532763	101.19	70	120	

Calibration Standard Report

Sample Table

Sample Name	100/500/10K
Data File Name	013CALS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq Date Time	2022-11-10T11:47:05-06:00
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	233066	0.00
V	51	2	He	385580	0.00
Cr	52	2	He	450003	0.00
Fe	56	2	He	41693248	0.00
Se	78	2	He	5939	0.05
As	75	2	He	59712	0.00
Ca	44	2	He	244862	0.00
Na	23	2	He	7963974	0.00
Mg	24	2	He	4617217	0.00
K	39	2	He	4929851	0.00
Mn	55	2	He	329024	0.00
Co	59	2	He	686654	0.00
Ni	60	2	He	174878	0.00
Cu	63	2	He	475365	0.00
Zn	66	2	He	88678	0.00
Al	27	2	He	25390	0.01
B	11	1	No Gas	595453	0.00
Al	27	1	No Gas	1036605	0.00
Si	28	1	No Gas	2671488	0.00
Ag	107	1	No Gas	984802	0.00
Cd	111	1	No Gas	200214	0.00
Sr	88	1	No Gas	1932367	0.00
Mo	95	1	No Gas	367044	0.00
Sn	118	1	No Gas	524660	0.00
Sb	121	1	No Gas	798611	0.00
Ba	137	1	No Gas	290698	0.00
Tl	205	1	No Gas	2186409	0.00
Tl	203	1	No Gas	818769	0.00
Pb	208	1	No Gas	2881443	0.00
U	238	1	No Gas	3051585	0.00
Ca	43	2	He	14571	0.03
Sb	121	2	He	468025	0.00
Cu	63	1	No Gas	750259	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	784511	1.18	823334	95.28	70	120	
Ge	72	2	He	414662	1.44	413778	100.21	70	120	
Ge	72	1	No Gas	1348825	1.15	1379474	97.78	70	120	

Calibration Standard Report

In	115	1	No Gas	1648646	1.48	1670123	98.71	70	120	
Bi	209	1	No Gas	1503630	0.81	1532763	98.10	70	120	

Calibration Standard Report

Sample Table

Sample Name	200/1000/20K
Data File Name	014CALS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq Date Time	2022-11-10T11:48:54-06:00
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	455554	0.00
V	51	2	He	749785	0.00
Cr	52	2	He	871821	0.00
Fe	56	2	He	80679124	0.00
Se	78	2	He	11299	0.00
As	75	2	He	115855	0.00
Ca	44	2	He	478030	0.00
Na	23	2	He	15213700	0.00
Mg	24	2	He	8927450	0.00
K	39	2	He	9384422	0.00
Mn	55	2	He	638729	0.00
Co	59	2	He	1408600	0.00
Ni	60	2	He	339285	0.00
Cu	63	2	He	911500	0.00
Zn	66	2	He	171118	0.00
Al	27	2	He	47495	0.00
B	11	1	No Gas	1268088	0.00
Al	27	1	No Gas	1929875	0.00
Si	28	1	No Gas	4696237	0.00
Ag	107	1	No Gas	2131968	0.00
Cd	111	1	No Gas	391806	0.00
Sr	88	1	No Gas	3762423	0.00
Mo	95	1	No Gas	723932	0.00
Sn	118	1	No Gas	1043677	0.00
Sb	121	1	No Gas	1746607	0.00
Ba	137	1	No Gas	580467	0.00
Tl	205	1	No Gas	4227376	0.00
Tl	203	1	No Gas	1824548	0.00
Pb	208	1	No Gas	5671222	0.00
U	238	1	No Gas	5947857	0.00
Ca	43	2	He	28650	0.01
Sb	121	2	He	914076	0.00
Cu	63	1	No Gas	1575246	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	737035	1.02	823334	89.52	70	120	
Ge	72	2	He	401334	0.73	413778	96.99	70	120	
Ge	72	1	No Gas	1306526	1.78	1379474	94.71	70	120	

Calibration Standard Report

In	115	1	No Gas	1601760	1.12	1670123	95.91	70	120	
Bi	209	1	No Gas	1483099	1.44	1532763	96.76	70	120	

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICV
Data File Name	016_ICV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq Date Time	2022-11-10T12:01:37-06:00
Sample Type	ICV
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	98.034	2.064	1176527	1.12	100	98.0	90	110	
Be	9	1	No Gas	96.540	1.178	231080	0.17	100	96.5	90	110	
V	51	2	He	100.022	0.874	380117	0.53	100	100.0	90	110	
Cr	52	2	He	100.314	0.919	442682	1.00	100	100.3	90	110	
Fe	56	2	He	10072.467	0.844	41123988	0.60	10000	100.7	90	110	
Se	78	2	He	97.343	2.164	5666	1.96	100	97.3	90	110	
As	75	2	He	100.981	0.499	59197	0.22	100	101.0	90	110	
Ca	44	2	He	10025.960	2.055	242316	1.89	10000	100.3	90	110	
Na	23	2	He	10091.229	0.141	7852640	0.28	10000	100.9	90	110	
Mg	24	2	He	10146.046	0.286	4583416	0.57	10000	101.5	90	110	
K	39	2	He	10217.838	0.996	4897026	1.00	10000	102.2	90	110	
Mn	55	2	He	100.395	1.378	324491	1.17	100	100.4	90	110	
Co	59	2	He	95.290	0.577	671346	0.26	100	95.3	90	110	
Ni	60	2	He	100.407	0.725	172360	0.39	100	100.4	90	110	
Cu	63	2	He	100.302	0.848	463994	0.53	100	100.3	90	110	
Zn	66	2	He	100.318	0.974	87048	0.64	100	100.3	90	110	
Al	27	2	He	101.420	3.881	24906	3.67	100	101.4	90	110	
B	11	1	No Gas	446.629	2.775	591021	2.63	500	89.3	90	110	ICV Main CR1 Failed
Al	27	1	No Gas	101.786	3.197	1019464	1.52	100	101.8	90	110	
Si	28	1	No Gas	515.613	4.209	2625951	1.69	500	103.1	90	110	
Ag	107	1	No Gas	91.126	2.184	969182	0.99	100	91.1	90	110	
Cd	111	1	No Gas	98.773	2.116	196787	0.51	100	98.8	90	110	
Sr	88	1	No Gas	101.303	1.619	1940119	1.43	100	101.3	90	110	
Mo	95	1	No Gas	98.470	2.513	361876	0.51	100	98.5	90	110	
Sn	118	1	No Gas	97.339	2.213	515302	0.78	100	97.3	90	110	
Sb	121	1	No Gas	90.358	1.649	783632	0.67	100	90.4	90	110	
Ba	137	1	No Gas	97.789	1.899	287529	0.18	100	97.8	90	110	
Tl	205	1	No Gas	100.824	0.916	2192670	1.45	100	100.8	90	110	
Tl	203	1	No Gas	87.594	2.084	799796	0.94	100	87.6	90	110	ICV Main CR1 Failed
Pb	208	1	No Gas	96.880	2.186	2816429	0.41	100	96.9	90	110	
U	238	1	No Gas	97.800	1.591	2987150	0.55	100	97.8	90	110	
Ca	43	2	He	9946.745	2.060	14381	1.68	10000	99.5	90	110	
Sb	121	2	He	99.347	0.733	458700	0.41	100	99.3	90	110	
Ti	47	2	He	101.912	1.843	13600	1.46	100	101.9	90	110	
Cu	63	1	No Gas	94.188	1.599	743533	0.81	100	94.2	90	110	
Se	82	1	No Gas	98.667	1.330	10752	0.93	100	98.7	90	110	

QC ISTD Table

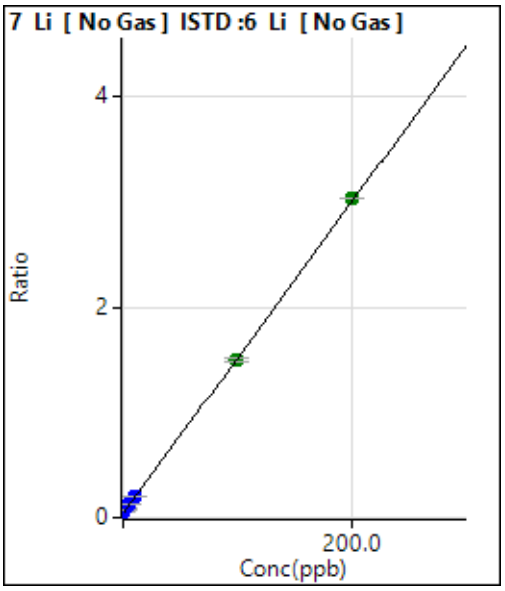
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	780593	1.10	823334	94.81	70	120	
Ge	72	2	He	406074	0.39	413778	98.14	70	120	
Ge	72	1	No Gas	1327985	2.06	1379474	96.27	70	120	
In	115	1	No Gas	1631530	2.06	1670123	97.69	70	120	
Bi	209	1	No Gas	1520072	2.00	1532763	99.17	70	120	

Calibration for 016_ICV.d

Batch Folder: D:\Agilent\ICPMH\1\DATA\111022A.b\
Analysis File: 111022A.batch.bin
DA Date-Time: 11/10/2022 22:40:38
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	009CALB.d	CAL BLK	11/10/2022 11:39:33
2	010CALS.d	2/10/200	11/10/2022 11:41:27
3	011CALS.d	5/25/500	11/10/2022 11:43:20
4	012CALS.d	10/50/100	11/10/2022 11:45:13
5	013CALS.d	100/500/10K	11/10/2022 11:47:05
6	014CALS.d	200/1000/20K	11/10/2022 11:48:54

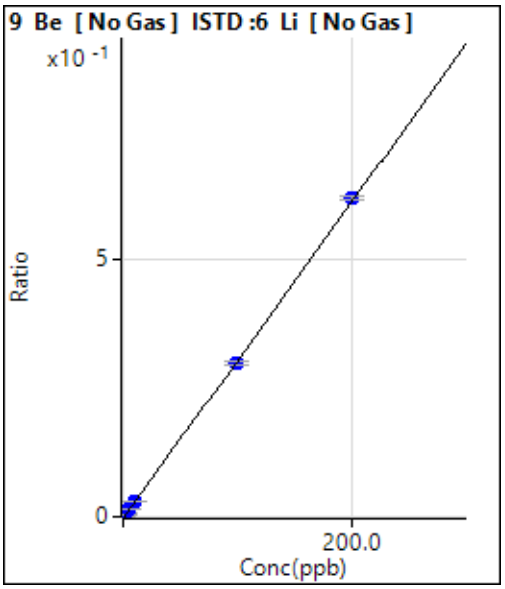
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	45222.33	0.0549	P	3.0	
2	☐	2.000	1.870	67401.89	0.0826	P	0.9	-6.5
3	☐	5.000	4.664	100141.21	0.1241	P	1.4	-6.7
4	☐	10.000	9.536	155117.74	0.1962	P	0.8	-4.6
5	☐	100.000	97.332	1174254.33	1.4970	A	2.8	-2.7
6	☐	200.000	201.367	2239390.90	3.0384	A	0.1	0.7

y = 0.0148 * x + 0.0549
R = 0.9999
DL = 0.3364 ppb
BEC = 3.708 ppb

Weight: <None>
Min Conc: <None>

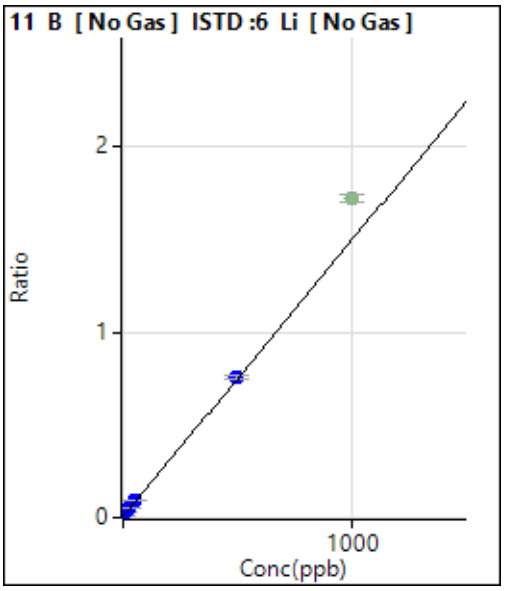


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	28.33	0.0000	P	45.4	
2	☐	2.000	1.842	4634.14	0.0057	P	3.6	-7.9
3	☐	5.000	4.834	11993.52	0.0149	P	2.1	-3.3
4	☐	10.000	9.707	23556.46	0.0298	P	0.5	-2.9
5	☐	100.000	96.889	233065.80	0.2971	P	1.8	-3.1
6	☐	200.000	201.576	455553.98	0.6181	P	0.9	0.8

y = 0.0031 * x + 3.4483E-005
R = 0.9998
DL = 0.01533 ppb
BEC = 0.01125 ppb

Weight: <None>
Min Conc: <None>

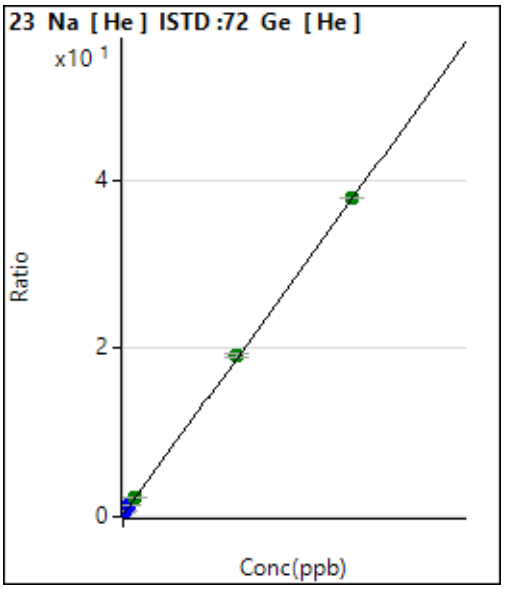
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	12545.69	0.0152	P	2.3	
2	☐	10.000	9.404	23840.26	0.0292	P	1.4	-6.0
3	☐	25.000	24.012	41140.15	0.0510	P	1.3	-4.0
4	☐	50.000	50.218	71100.50	0.0899	P	0.3	0.4
5	☐	500.000	500.040	595453.44	0.7590	P	2.2	0.0
6	☑	1000.000		1268088.08	1.7204	A	2.4	

y = 0.0015 * x + 0.0152
R = 1.0000
DL = 0.7125 ppb
BEC = 10.25 ppb

Weight: <None>
Min Conc: <None>

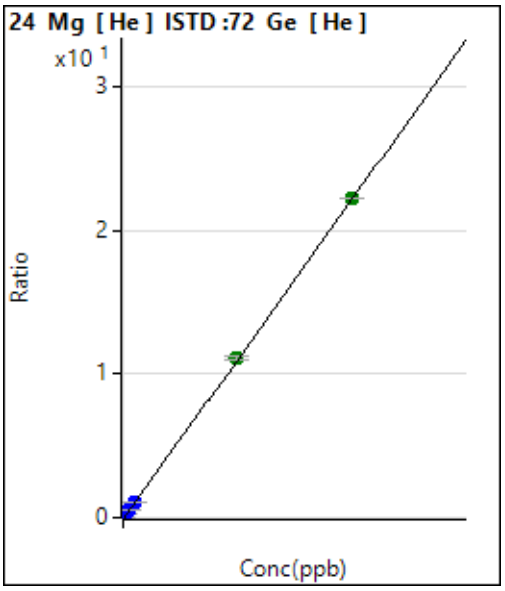


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	165151.28	0.3991	P	1.6	
2	☐	200.000	193.981	316820.98	0.7632	P	0.6	-3.0
3	☐	500.000	490.208	548670.51	1.3191	P	1.0	-2.0
4	☐	1000.000	1051.498	986702.09	2.3725	A	1.5	5.1
5	☐	10000.00	10023.03	7963974.05	19.2100	A	2.4	0.2
6	☐	20000.00	19986.21	15213700.1	37.9086	A	0.4	-0.1

y = 0.0019 * x + 0.3991
R = 1.0000
DL = 10.18 ppb
BEC = 212.7 ppb

Weight: <None>
Min Conc: <None>

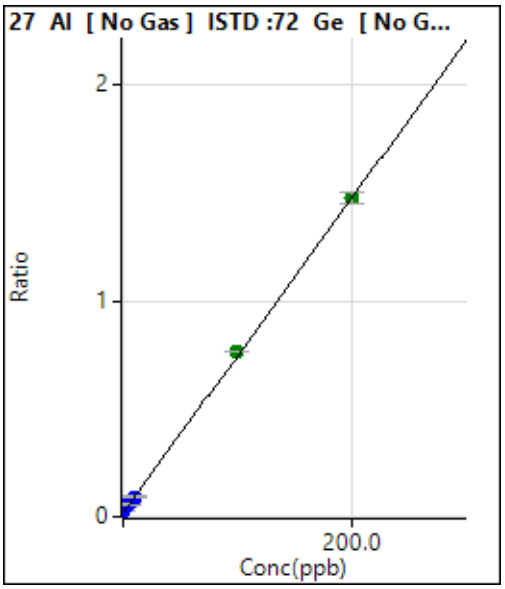
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	350.01	0.0008	P	32.0	
2	☐	200.000	193.584	89744.11	0.2162	P	0.7	-3.2
3	☐	500.000	484.903	224704.68	0.5402	P	1.5	-3.0
4	☐	1000.000	963.848	446264.71	1.0730	P	0.8	-3.6
5	☐	10000.00	10010.72	4617217.22	11.1366	A	1.6	0.1
6	☐	20000.00	19996.88	8927450.08	22.2450	A	0.6	0.0

y = 0.0011 * x + 8.4565E-004
R = 1.0000
DL = 0.7309 ppb
BEC = 0.7602 ppb

Weight: <None>
Min Conc: <None>

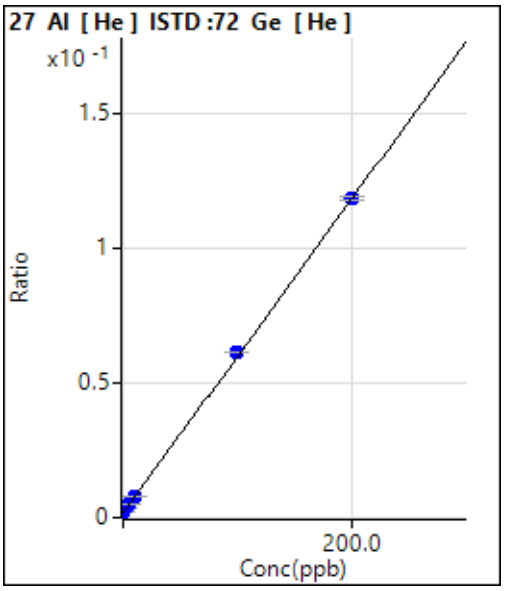


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	35652.65	0.0258	P	2.2	
2	☐	2.000	2.092	56585.16	0.0411	P	2.0	4.6
3	☐	5.000	4.397	79566.66	0.0579	P	2.2	-12.1
4	☐	10.000	9.188	127271.35	0.0928	P	1.4	-8.1
5	☐	100.000	101.859	1036605.11	0.7685	A	0.4	1.9
6	☐	200.000	199.125	1929874.50	1.4777	A	3.3	-0.4

y = 0.0073 * x + 0.0258
R = 0.9999
DL = 0.2356 ppb
BEC = 3.545 ppb

Weight: <None>
Min Conc: <None>

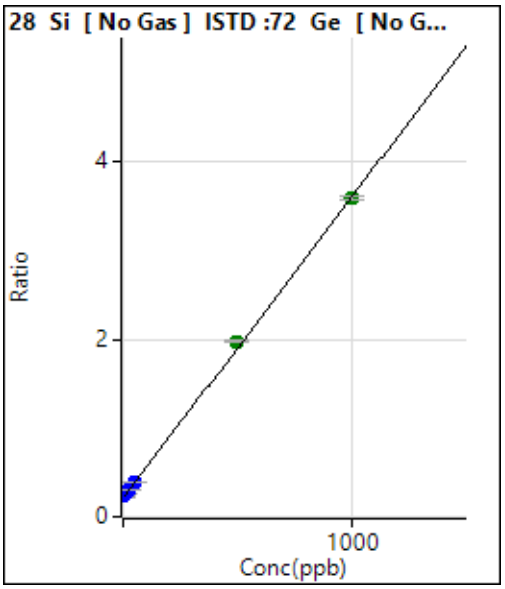
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	963.38	0.0023	P	1.1	
2	☐	2.000	1.822	1406.76	0.0034	P	8.4	-8.9
3	☐	5.000	4.743	2116.87	0.0051	P	8.0	-5.1
4	☐	10.000	9.690	3313.78	0.0080	P	5.5	-3.1
5	☐	100.000	101.243	25390.11	0.0612	P	0.8	1.2
6	☐	200.000	199.402	47494.52	0.1183	P	0.7	-0.3

y = 5.8180E-004 * x + 0.0023
R = 1.0000
DL = 0.1327 ppb
BEC = 4.002 ppb

Weight: <None>
Min Conc: <None>

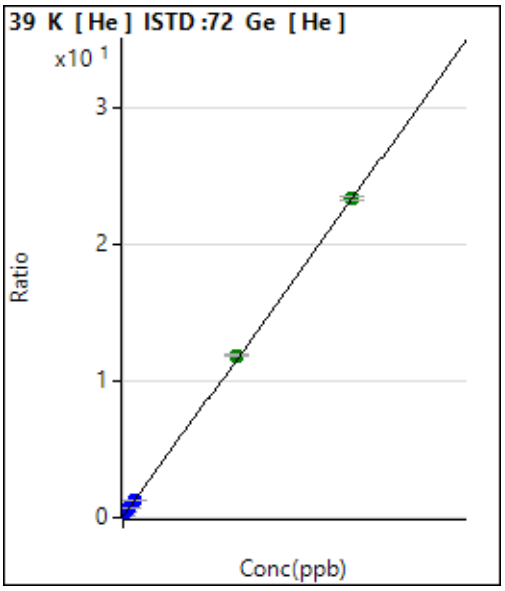


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	314970.72	0.2284	P	1.8	
2	☐	10.000	9.410	358375.87	0.2603	P	1.5	-5.9
3	☐	25.000	24.396	427558.42	0.3112	P	0.7	-2.4
4	☐	50.000	47.912	535851.94	0.3910	P	3.5	-4.2
5	☐	500.000	516.324	2671487.67	1.9808	A	1.5	3.3
6	☐	1000.000	991.963	4696237.12	3.5952	A	1.8	-0.8

y = 0.0034 * x + 0.2284
R = 0.9998
DL = 3.669 ppb
BEC = 67.28 ppb

Weight: <None>
Min Conc: <None>

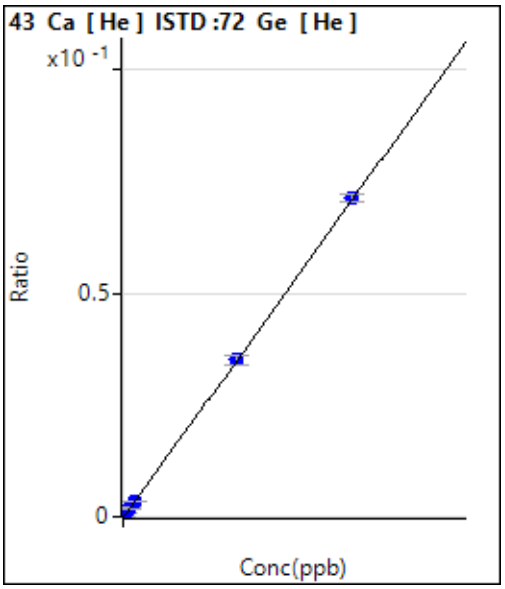
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	77557.33	0.1874	P	2.2	
2	☐	200.000	194.618	171683.20	0.4136	P	0.4	-2.7
3	☐	500.000	492.208	315836.96	0.7593	P	0.5	-1.6
4	☐	1000.000	982.409	552702.80	1.3289	P	0.3	-1.8
5	☐	10000.00	10072.64	4929851.49	11.8908	A	1.7	0.7
6	☐	20000.00	19964.80	9384421.73	23.3844	A	1.6	-0.2

y = 0.0012 * x + 0.1874
R = 1.0000
DL = 10.59 ppb
BEC = 161.3 ppb

Weight: <None>
Min Conc: <None>

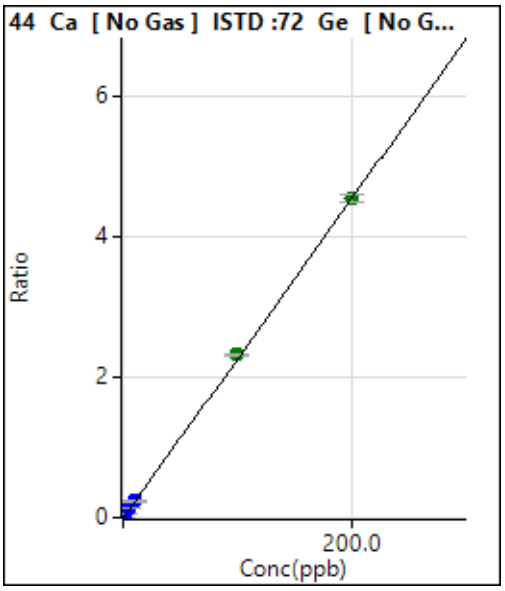


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	23.33	0.0001	P	24.6	
2	☐	200.000	216.787	343.34	0.0008	P	4.3	8.4
3	☐	500.000	509.198	776.70	0.0019	P	9.9	1.8
4	☐	1000.000	962.267	1446.77	0.0035	P	6.5	-3.8
5	☐	10000.00	9872.399	14571.20	0.0352	P	5.7	-1.3
6	☐	20000.00	20065.28	28650.13	0.0714	P	2.4	0.3

y = 3.5550E-006 * x + 5.6378E-005
R = 1.0000
DL = 11.7 ppb
BEC = 15.86 ppb

Weight: <None>
Min Conc: <None>

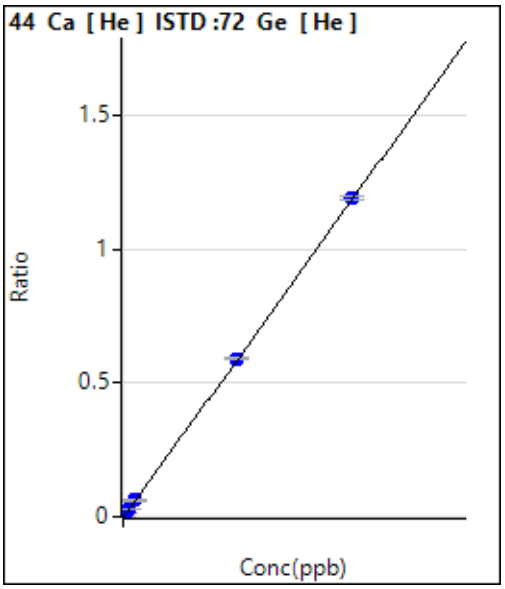
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	18028.77	0.0131	P	6.2	
2	☐	2.000	1.955	79136.90	0.0575	P	0.6	-2.3
3	☐	5.000	4.889	170589.74	0.1242	P	1.5	-2.2
4	☐	10.000	9.719	320637.95	0.2339	P	2.0	-2.8
5	☐	100.000	101.487	3127684.12	2.3190	A	1.2	1.5
6	☐	200.000	199.274	5931498.25	4.5409	A	2.0	-0.4

y = 0.0227 * x + 0.0131
R = 1.0000
DL = 0.1063 ppb
BEC = 0.5753 ppb

Weight: <None>
Min Conc: <None>

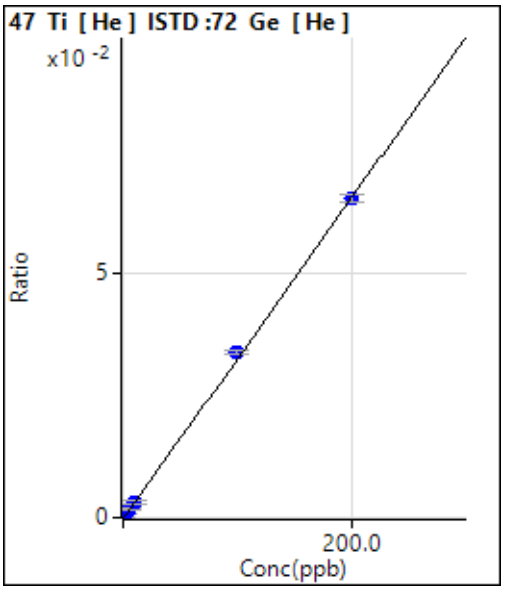


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	640.03	0.0015	P	11.9	
2	☐	200.000	202.053	5621.23	0.0135	P	6.1	1.0
3	☐	500.000	498.707	12956.31	0.0312	P	4.6	-0.3
4	☐	1000.000	1007.751	25524.02	0.0614	P	1.3	0.8
5	☐	10000.00	9922.150	244861.77	0.5906	P	1.3	-0.8
6	☐	20000.00	20038.54	478030.41	1.1911	P	0.9	0.2

y = 5.9366E-005 * x + 0.0015
R = 1.0000
DL = 9.301 ppb
BEC = 26.06 ppb

Weight: <None>
Min Conc: <None>

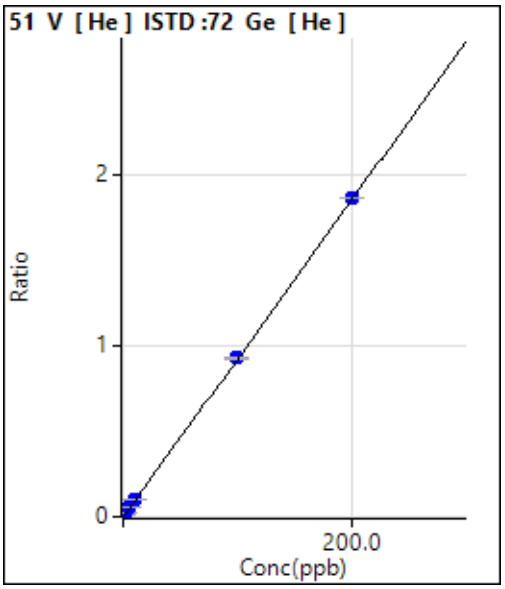
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	13.33	0.0000	P	114.6	
2	☐	2.000	1.956	280.01	0.0007	P	6.1	-2.2
3	☐	5.000	5.079	706.70	0.0017	P	13.7	1.6
4	☐	10.000	9.583	1323.43	0.0032	P	19.0	-4.2
5	☐	100.000	102.776	14007.33	0.0338	P	2.4	2.8
6	☐	200.000	198.631	26185.15	0.0652	P	2.7	-0.7

y = 3.2833E-004 * x + 3.2221E-005
R = 0.9999
DL = 0.3375 ppb
BEC = 0.09813 ppb

Weight: <None>
Min Conc: <None>

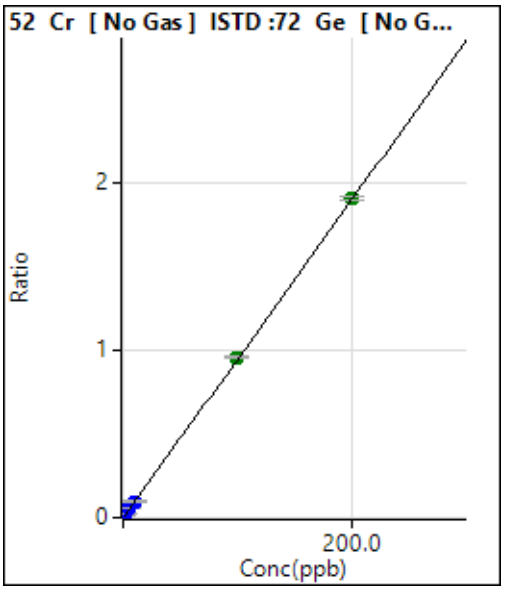


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	2706.95	0.0065	P	5.1	
2	☐	2.000	2.050	10624.16	0.0256	P	0.3	2.5
3	☐	5.000	4.966	21917.52	0.0527	P	0.9	-0.7
4	☐	10.000	9.871	40877.37	0.0983	P	0.3	-1.3
5	☐	100.000	99.364	385579.55	0.9300	P	1.4	-0.6
6	☐	200.000	200.325	749784.50	1.8683	P	0.5	0.2

y = 0.0093 * x + 0.0065
R = 1.0000
DL = 0.1087 ppb
BEC = 0.7039 ppb

Weight: <None>
Min Conc: <None>

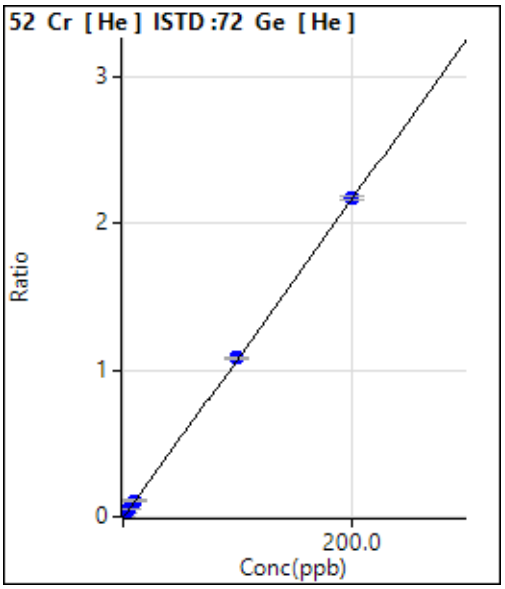
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	10480.84	0.0076	P	3.1	
2	☐	2.000	1.892	35272.36	0.0256	P	1.9	-5.4
3	☐	5.000	4.727	72303.98	0.0526	P	1.2	-5.5
4	☐	10.000	9.417	133350.64	0.0973	P	2.6	-5.8
5	☐	100.000	100.076	1295815.53	0.9607	A	1.1	0.1
6	☐	200.000	199.999	2498032.15	1.9123	A	1.7	0.0

y = 0.0095 * x + 0.0076
R = 1.0000
DL = 0.07391 ppb
BEC = 0.7979 ppb

Weight: <None>
Min Conc: <None>

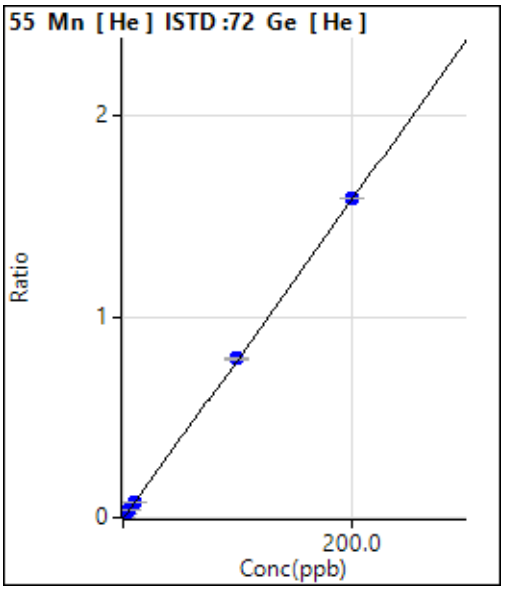


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	746.70	0.0018	P	5.5	
2	☐	2.000	2.065	10050.54	0.0242	P	3.5	3.3
3	☐	5.000	4.937	23033.02	0.0554	P	1.2	-1.3
4	☐	10.000	10.003	45883.70	0.1103	P	1.8	0.0
5	☐	100.000	99.871	450002.69	1.0853	P	1.2	-0.1
6	☐	200.000	200.065	871821.47	2.1724	P	0.8	0.0

y = 0.0108 * x + 0.0018
R = 1.0000
DL = 0.02742 ppb
BEC = 0.1663 ppb

Weight: <None>
Min Conc: <None>

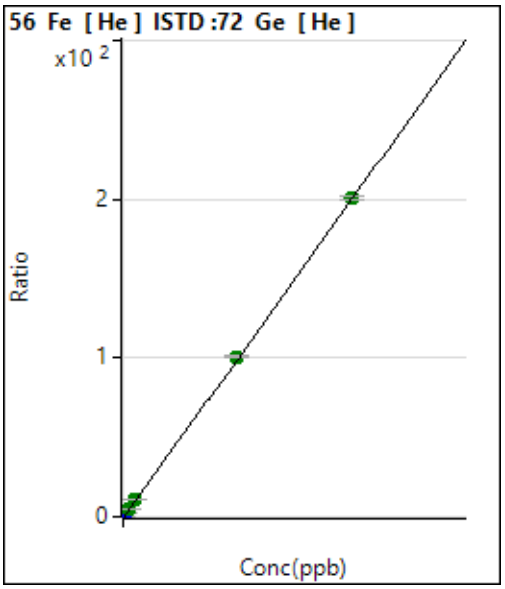
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	686.70	0.0017	P	2.1	
2	☐	2.000	2.056	7468.84	0.0180	P	5.9	2.8
3	☐	5.000	4.900	16880.65	0.0406	P	3.1	-2.0
4	☐	10.000	9.915	33441.12	0.0804	P	2.0	-0.9
5	☐	100.000	99.701	329024.00	0.7936	P	1.5	-0.3
6	☐	200.000	200.156	638729.33	1.5915	P	0.5	0.1

y = 0.0079 * x + 0.0017
R = 1.0000
DL = 0.01316 ppb
BEC = 0.2089 ppb

Weight: <None>
Min Conc: <None>

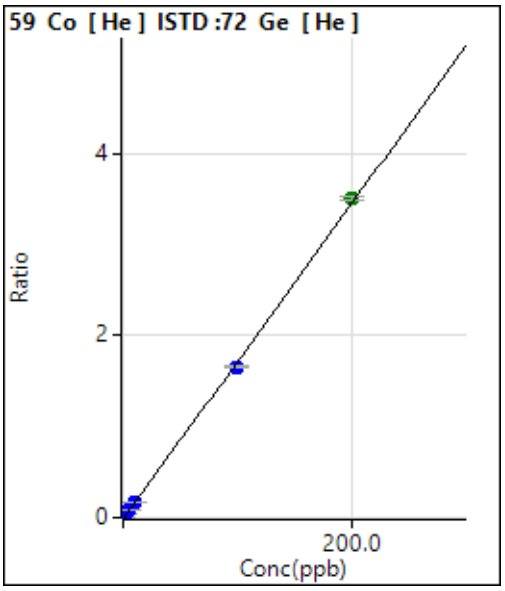


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	10537.60	0.0255	P	5.1	
2	☐	200.000	202.007	853517.96	2.0560	P	0.5	1.0
3	☐	500.000	536.339	2253022.16	5.4167	A	0.7	7.3
4	☐	1000.000	1030.163	4317413.89	10.3806	A	0.3	3.0
5	☐	10000.00	10001.34	41693247.7	100.558	A	1.2	0.0
6	☐	20000.00	19996.88	80679123.8	201.033	A	0.7	0.0

y = 0.0101 * x + 0.0255
R = 1.0000
DL = 0.388 ppb
BEC = 2.533 ppb

Weight: <None>
Min Conc: <None>

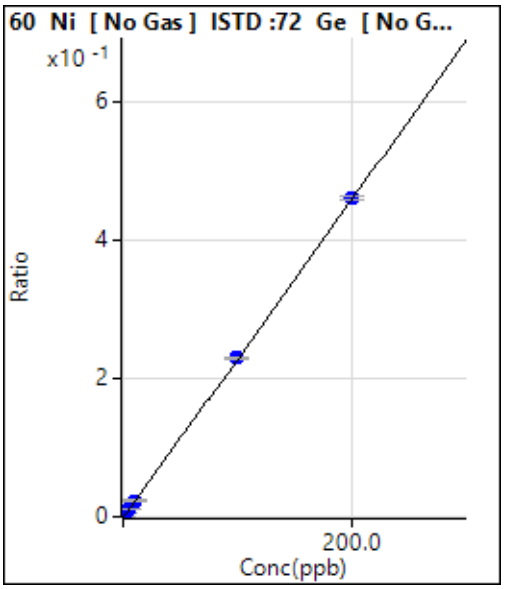
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	96.68	0.0002	P	84.1	
2	☐	2.000	1.882	13647.02	0.0329	P	2.0	-5.9
3	☐	5.000	4.725	34189.95	0.0822	P	2.2	-5.5
4	☐	10.000	9.552	69017.60	0.1659	P	0.4	-4.5
5	☐	100.000	95.459	686653.55	1.6562	P	1.8	-4.5
6	☐	200.000	202.301	1408599.72	3.5097	A	0.9	1.2

y = 0.0173 * x + 2.3347E-004
R = 0.9996
DL = 0.03397 ppb
BEC = 0.01346 ppb

Weight: <None>
Min Conc: <None>

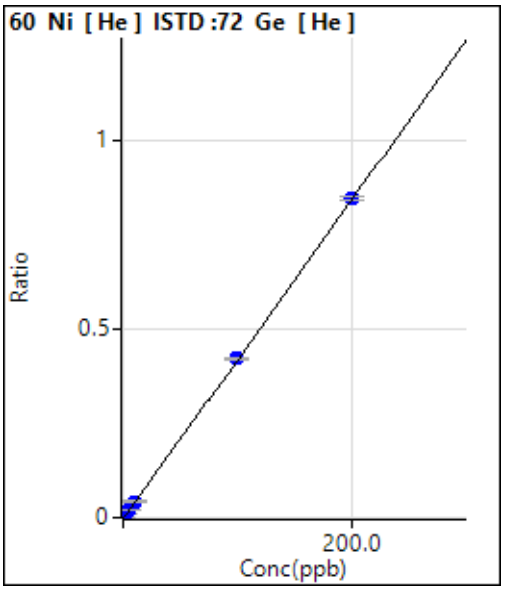


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	556.69	0.0004	P	15.8	
2	☐	2.000	2.051	7065.28	0.0051	P	2.2	2.6
3	☐	5.000	4.993	16366.77	0.0119	P	4.4	-0.1
4	☐	10.000	9.996	32144.84	0.0234	P	2.0	0.0
5	☐	100.000	99.773	310750.25	0.2304	P	0.9	-0.2
6	☐	200.000	200.113	603174.86	0.4617	P	0.8	0.1

y = 0.0023 * x + 4.0311E-004
R = 1.0000
DL = 0.0827 ppb
BEC = 0.1749 ppb

Weight: <None>
Min Conc: <None>

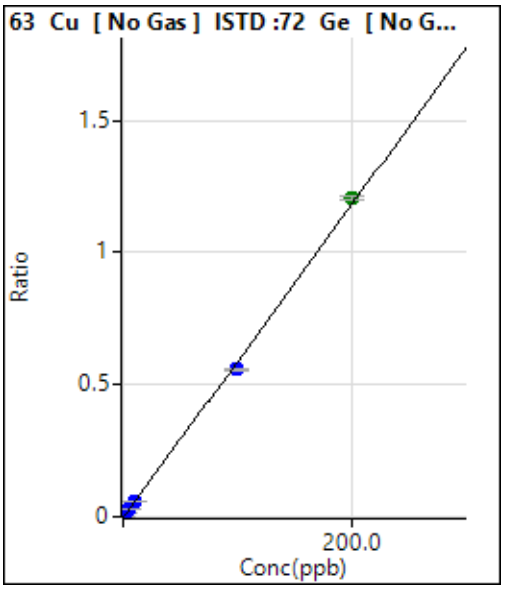
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	206.67	0.0005	P	19.5	
2	☐	2.000	2.067	3830.61	0.0092	P	2.3	3.4
3	☐	5.000	5.167	9283.32	0.0223	P	2.7	3.3
4	☐	10.000	10.060	17875.35	0.0430	P	2.7	0.6
5	☐	100.000	99.775	174877.75	0.4218	P	1.5	-0.2
6	☐	200.000	200.104	339285.06	0.8454	P	0.8	0.1

y = 0.0042 * x + 4.9945E-004
R = 1.0000
DL = 0.06929 ppb
BEC = 0.1183 ppb

Weight: <None>
Min Conc: <None>

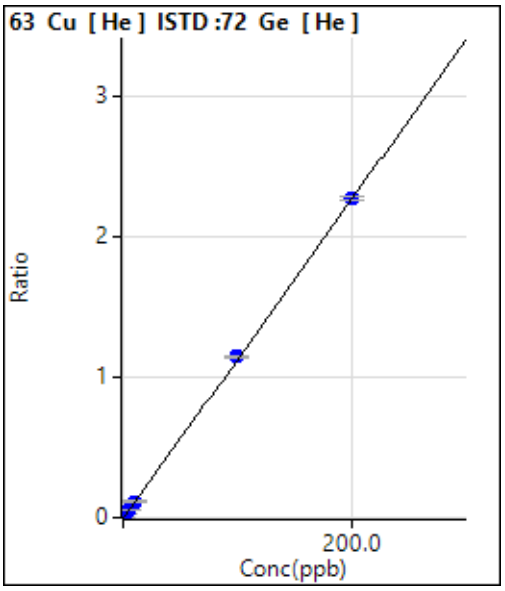


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	3210.44	0.0023	P	9.6	
2	☐	2.000	1.845	18245.83	0.0133	P	4.7	-7.7
3	☐	5.000	4.742	41781.22	0.0304	P	2.1	-5.2
4	☐	10.000	9.410	79568.76	0.0580	P	1.6	-5.9
5	☐	100.000	93.554	750259.36	0.5563	P	0.6	-6.4
6	☐	200.000	203.260	1575245.55	1.2058	A	1.1	1.6

y = 0.0059 * x + 0.0023
R = 0.9993
DL = 0.1131 ppb
BEC = 0.3929 ppb

Weight: <None>
Min Conc: <None>

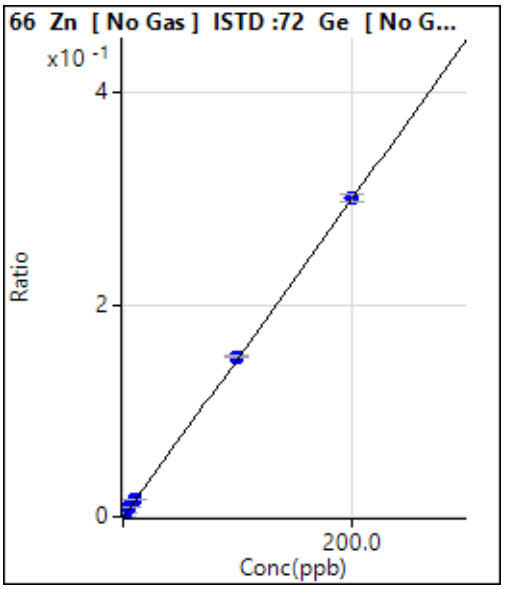
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1513.44	0.0037	P	3.1	
2	☐	2.000	1.986	10881.20	0.0262	P	5.6	-0.7
3	☐	5.000	5.022	25240.29	0.0607	P	2.1	0.4
4	☐	10.000	9.856	48068.45	0.1156	P	1.3	-1.4
5	☐	100.000	100.639	475365.17	1.1465	P	0.8	0.6
6	☐	200.000	199.687	911499.91	2.2712	P	0.7	-0.2

y = 0.0114 * x + 0.0037
R = 1.0000
DL = 0.03015 ppb
BEC = 0.3221 ppb

Weight: <None>
Min Conc: <None>

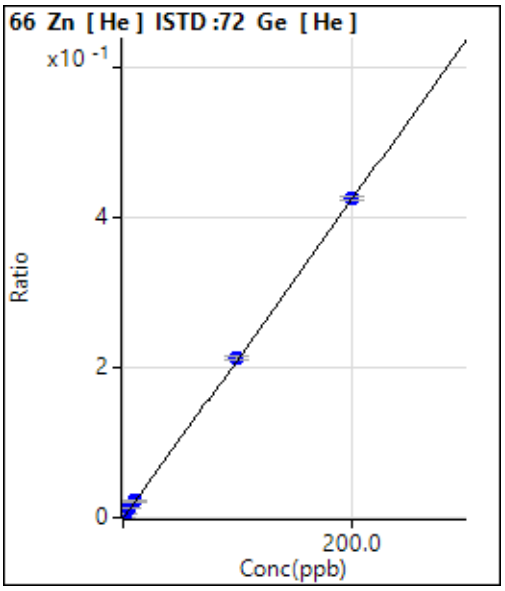


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1056.73	0.0008	P	12.5	
2	☐	2.000	1.985	5154.38	0.0037	P	1.3	-0.7
3	☐	5.000	5.137	11638.54	0.0085	P	2.8	2.7
4	☐	10.000	10.118	21847.82	0.0159	P	4.5	1.2
5	☐	100.000	100.113	203569.05	0.1509	P	0.5	0.1
6	☐	200.000	199.934	392724.45	0.3007	P	2.0	0.0

y = 0.0015 * x + 7.6562E-004
R = 1.0000
DL = 0.1907 ppb
BEC = 0.5104 ppb

Weight: <None>
Min Conc: <None>

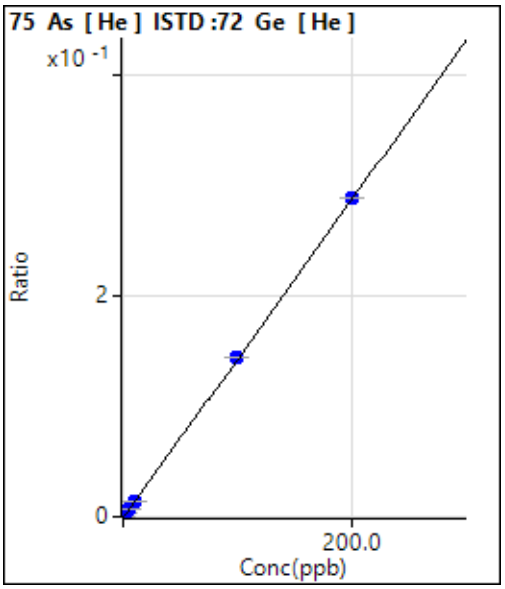
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	366.68	0.0009	P	15.9	
2	☐	2.000	2.104	2226.89	0.0054	P	2.0	5.2
3	☐	5.000	5.389	5137.74	0.0124	P	4.5	7.8
4	☐	10.000	9.881	9113.23	0.0219	P	1.4	-1.2
5	☐	100.000	100.100	88678.49	0.2139	P	2.6	0.1
6	☐	200.000	199.945	171118.12	0.4264	P	1.0	0.0

y = 0.0021 * x + 8.8606E-004
R = 1.0000
DL = 0.1983 ppb
BEC = 0.4164 ppb

Weight: <None>
Min Conc: <None>

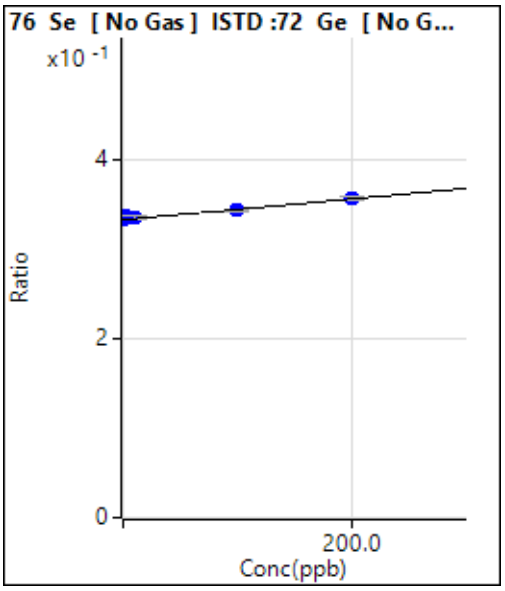


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	100.00	0.0002	P	23.4	
2	☐	2.000	1.952	1267.85	0.0031	P	7.3	-2.4
3	☐	5.000	5.060	3133.72	0.0075	P	2.5	1.2
4	☐	10.000	9.858	6009.13	0.0144	P	1.9	-1.4
5	☐	100.000	99.752	59712.38	0.1440	P	0.6	-0.2
6	☐	200.000	200.130	115854.60	0.2887	P	0.5	0.1

y = 0.0014 * x + 2.4172E-004
R = 1.0000
DL = 0.1179 ppb
BEC = 0.1677 ppb

Weight: <None>
Min Conc: <None>

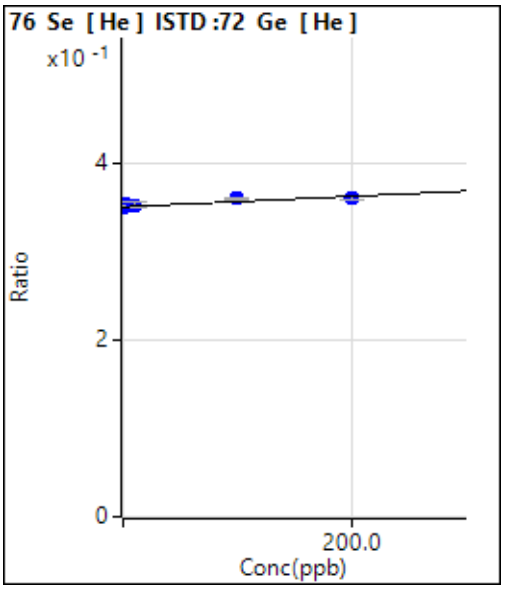
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	459505.46	0.3331	P	0.4	
2	☐	2.000	31.213	463647.95	0.3368	P	1.0	1460.6
3	☐	5.000	21.825	461245.24	0.3357	P	0.7	336.5
4	☐	10.000	19.955	459910.01	0.3355	P	1.0	99.6
5	☐	100.000	88.509	463315.71	0.3435	P	1.0	-11.5
6	☐	200.000	204.535	466550.29	0.3571	P	1.3	2.3

y = 1.1751E-004 * x + 0.3331
R = 0.9864
DL = 31.41 ppb
BEC = 2835 ppb

Weight: <None>
Min Conc: <None>

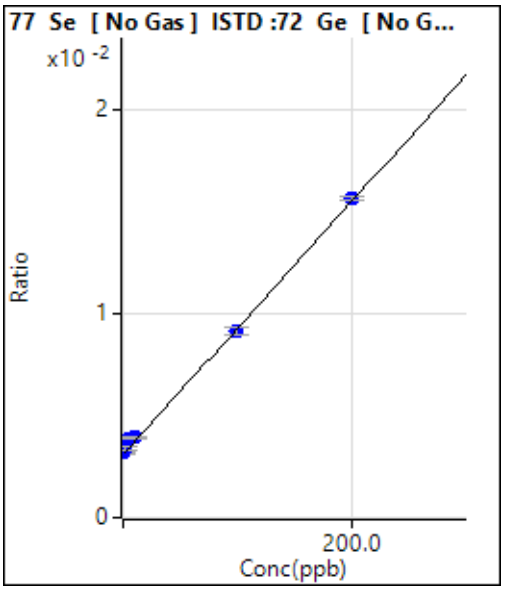


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	145485.00	0.3516	P	0.3	
2	☐	2.000	74.512	147829.36	0.3561	P	0.4	3625.6
3	☐	5.000	18.062	146700.41	0.3527	P	0.7	261.2
4	☐	10.000	37.451	147172.78	0.3539	P	1.4	274.5
5	☐	100.000	159.658	149804.63	0.3613	P	0.6	59.7
6	☐	200.000	167.747	145171.39	0.3617	P	1.2	-16.1

y = 6.0446E-005 * x + 0.3516
R = 0.8806
DL = 51.5 ppb
BEC = 5817 ppb

Weight: <None>
Min Conc: <None>

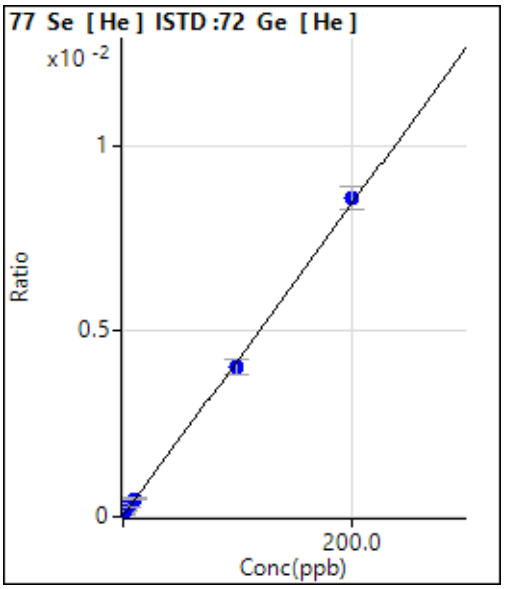
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	4380.78	0.0032	P	2.6	
2	☐	2.000	3.431	4664.23	0.0034	P	5.7	71.6
3	☐	5.000	11.875	5374.52	0.0039	P	2.0	137.5
4	☐	10.000	12.370	5404.53	0.0039	P	3.0	23.7
5	☐	100.000	96.735	12365.83	0.0092	P	4.2	-3.3
6	☐	200.000	201.328	20442.42	0.0156	P	1.5	0.7

y = 6.1952E-005 * x + 0.0032
R = 0.9993
DL = 4.043 ppb
BEC = 51.26 ppb

Weight: <None>
Min Conc: <None>

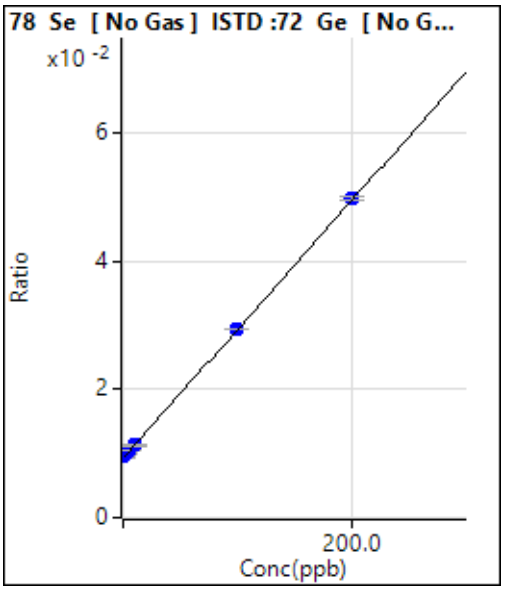


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	26.67	0.0001	P	43.3	
2	☐	2.000	2.282	66.67	0.0002	P	37.6	14.1
3	☐	5.000	5.704	126.67	0.0003	P	27.8	14.1
4	☐	10.000	10.093	203.34	0.0005	P	11.0	0.9
5	☐	100.000	94.274	1673.47	0.0040	P	10.3	-5.7
6	☐	200.000	202.838	3450.51	0.0086	P	7.3	1.4

y = 4.2084E-005 * x + 6.4454E-005
R = 0.9994
DL = 1.991 ppb
BEC = 1.532 ppb

Weight: <None>
Min Conc: <None>

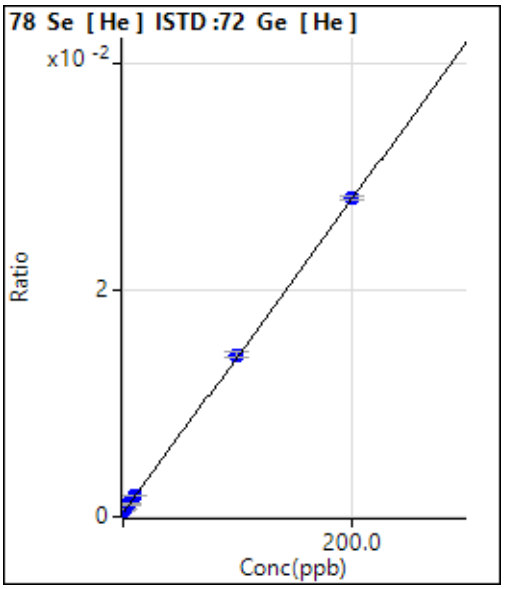
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	13196.67	0.0096	P	3.9	
2	☐	2.000	2.271	13793.98	0.0100	P	2.4	13.6
3	☐	5.000	4.851	14481.36	0.0105	P	1.0	-3.0
4	☐	10.000	8.548	15462.47	0.0113	P	4.4	-14.5
5	☐	100.000	98.977	39708.76	0.0294	P	0.8	-1.0
6	☐	200.000	200.585	65107.00	0.0498	P	1.4	0.3

y = 2.0079E-004 * x + 0.0096
R = 1.0000
DL = 5.641 ppb
BEC = 47.63 ppb

Weight: <None>
Min Conc: <None>

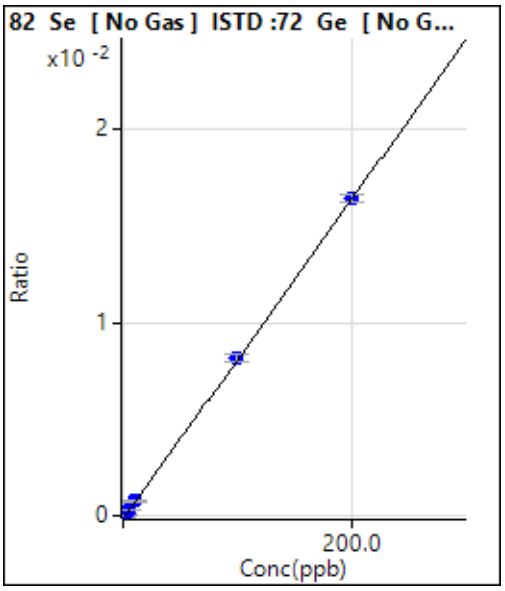


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	200.67	0.0005	P	15.6	
2	☐	2.000	1.857	308.00	0.0007	P	5.7	-7.1
3	☐	5.000	4.512	461.34	0.0011	P	6.4	-9.8
4	☐	10.000	9.796	765.36	0.0018	P	4.6	-2.0
5	☐	100.000	100.061	5939.33	0.0143	P	4.5	0.1
6	☐	200.000	199.993	11299.41	0.0282	P	0.8	0.0

y = 1.3836E-004 * x + 4.8502E-004
R = 1.0000
DL = 1.637 ppb
BEC = 3.506 ppb

Weight: <None>
Min Conc: <None>

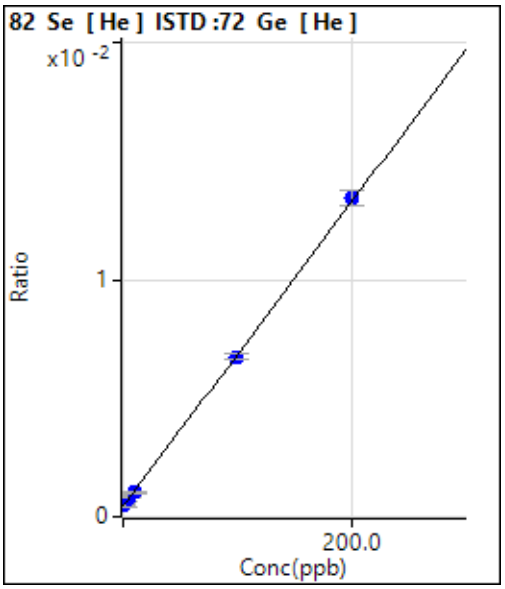
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	-97.66	-0.0001	P	-29.4	
2	☐	2.000	1.705	96.86	0.0001	P	52.8	-14.7
3	☐	5.000	4.396	402.94	0.0003	P	4.6	-12.1
4	☐	10.000	10.242	1066.77	0.0008	P	24.2	2.4
5	☐	100.000	100.060	11075.74	0.0082	P	4.1	0.1
6	☐	200.000	199.976	21535.44	0.0165	P	2.3	0.0

y = 8.2789E-005 * x - 7.0664E-005
R = 1.0000
DL = 0.7519 ppb
BEC = -0.8535 ppb

Weight: <None>
Min Conc: <None>

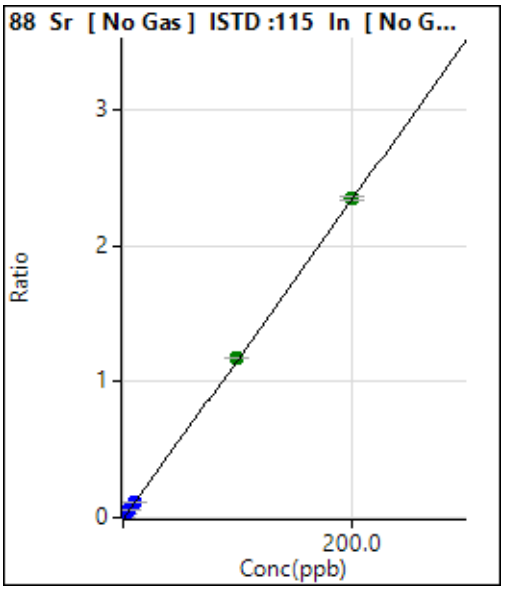


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	213.34	0.0005	P	11.8	
2	☐	2.000	0.222	220.00	0.0005	P	34.2	-88.9
3	☐	5.000	5.211	353.34	0.0008	P	14.7	4.2
4	☐	10.000	8.203	433.35	0.0010	P	5.7	-18.0
5	☐	100.000	97.236	2800.34	0.0068	P	4.1	-2.8
6	☐	200.000	201.484	5394.52	0.0134	P	4.7	0.7

y = 6.4165E-005 * x + 5.1558E-004
R = 0.9998
DL = 2.841 ppb
BEC = 8.035 ppb

Weight: <None>
Min Conc: <None>

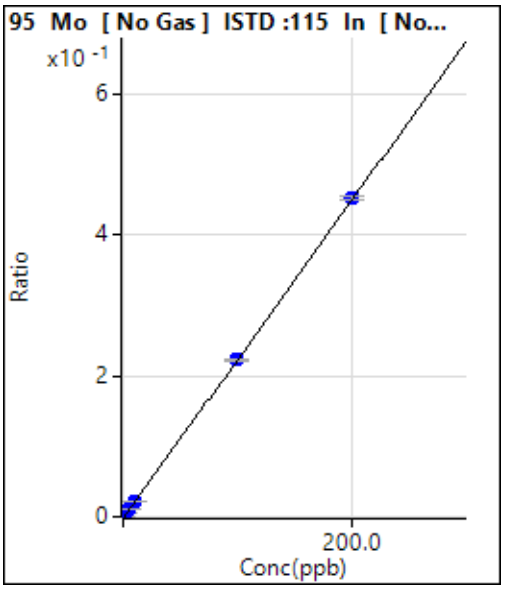
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1246.75	0.0007	P	1.6	
2	☐	2.000	1.850	37773.59	0.0225	P	2.5	-7.5
3	☐	5.000	4.529	90702.96	0.0539	P	0.9	-9.4
4	☐	10.000	9.319	182899.30	0.1101	P	1.3	-6.8
5	☐	100.000	99.839	1932366.64	1.1722	A	0.8	-0.2
6	☐	200.000	200.128	3762422.86	2.3488	A	0.7	0.1

y = 0.0117 * x + 7.4644E-004
R = 1.0000
DL = 0.003123 ppb
BEC = 0.06362 ppb

Weight: <None>
Min Conc: <None>

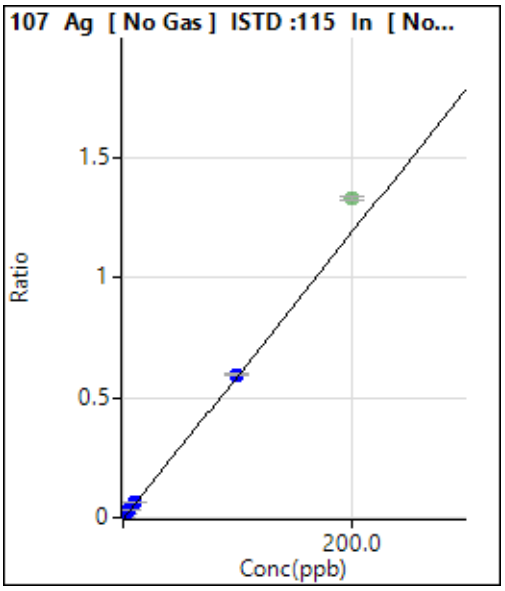


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	26.67	0.0000	P	20.9	
2	☐	2.000	1.915	7282.11	0.0043	P	10.3	-4.2
3	☐	5.000	4.877	18523.15	0.0110	P	2.7	-2.5
4	☐	10.000	9.862	36944.88	0.0222	P	0.6	-1.4
5	☐	100.000	98.811	367043.81	0.2226	P	1.0	-1.2
6	☐	200.000	200.605	723932.38	0.4520	P	1.1	0.3

y = 0.0023 * x + 1.5948E-005
R = 1.0000
DL = 0.004442 ppb
BEC = 0.007078 ppb

Weight: <None>
Min Conc: <None>

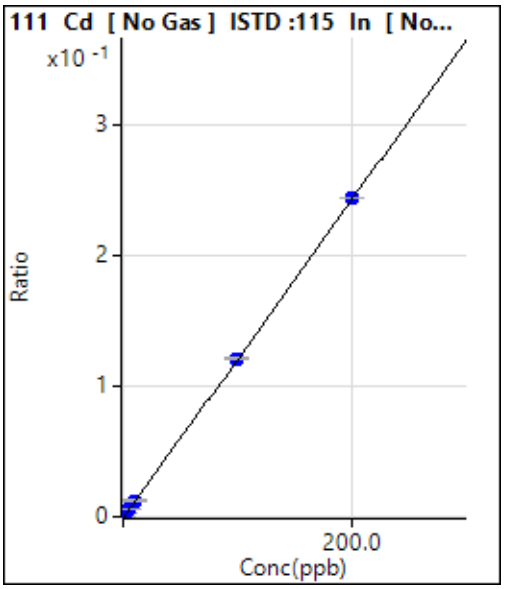
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	993.39	0.0006	P	4.5	
2	☐	2.000	1.964	20729.86	0.0123	P	1.0	-1.8
3	☐	5.000	4.930	50526.89	0.0300	P	2.5	-1.4
4	☐	10.000	10.101	101137.84	0.0609	P	1.9	1.0
5	☐	100.000	99.994	984801.63	0.5974	P	0.4	0.0
6	☑	200.000		2131968.40	1.3310	A	0.7	

y = 0.0060 * x + 5.9496E-004
R = 1.0000
DL = 0.01332 ppb
BEC = 0.09969 ppb

Weight: <None>
Min Conc: <None>

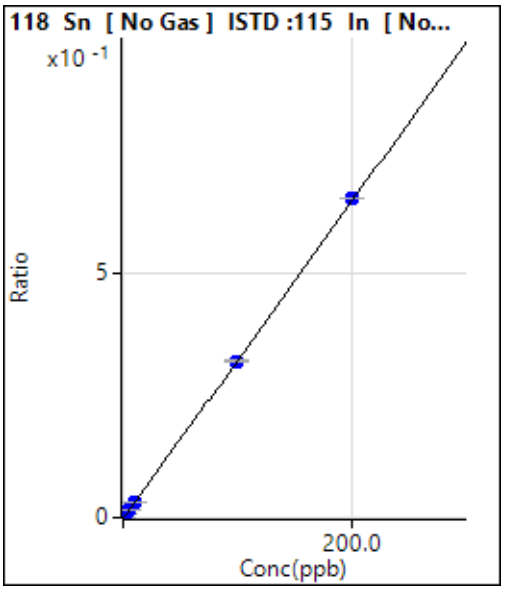


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	20.00	0.0000	P	131.9	
2	☐	2.000	2.018	4167.40	0.0025	P	2.0	0.9
3	☐	5.000	4.883	10057.33	0.0060	P	4.2	-2.3
4	☐	10.000	10.217	20753.26	0.0125	P	2.6	2.2
5	☐	100.000	99.435	200213.95	0.1215	P	1.5	-0.6
6	☐	200.000	200.274	391805.92	0.2446	P	0.5	0.1

y = 0.0012 * x + 1.1975E-005
R = 1.0000
DL = 0.0388 ppb
BEC = 0.009804 ppb

Weight: <None>
Min Conc: <None>

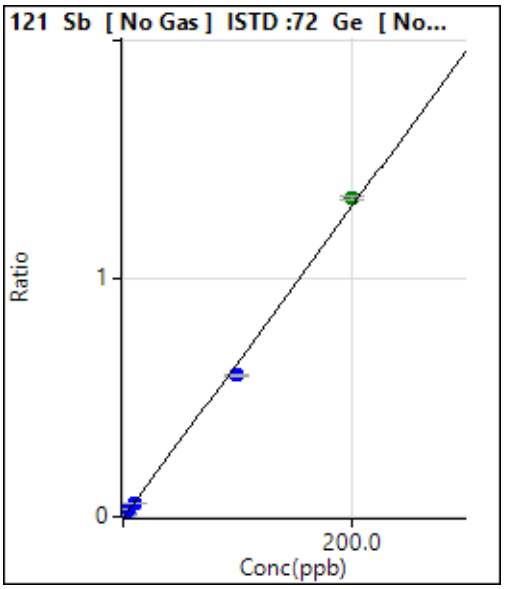
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1170.07	0.0007	P	9.7	
2	☐	2.000	1.888	11465.24	0.0068	P	1.8	-5.6
3	☐	5.000	4.821	27459.10	0.0163	P	1.8	-3.6
4	☐	10.000	9.672	53207.89	0.0320	P	1.4	-3.3
5	☐	100.000	98.062	524660.25	0.3183	P	1.1	-1.9
6	☐	200.000	200.991	1043677.36	0.6516	P	0.4	0.5

y = 0.0032 * x + 7.0034E-004
R = 0.9999
DL = 0.06302 ppb
BEC = 0.2163 ppb

Weight: <None>
Min Conc: <None>

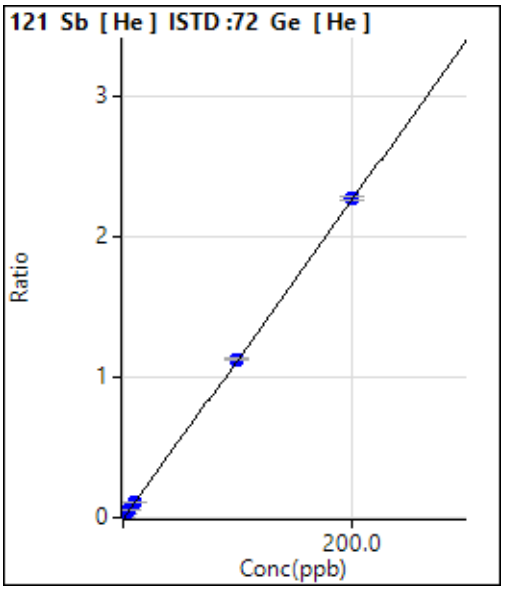


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	373.35	0.0003	P	16.3	
2	☐	2.000	1.823	16754.21	0.0122	P	2.5	-8.9
3	☐	5.000	4.503	40770.46	0.0297	P	2.5	-9.9
4	☐	10.000	9.012	81039.43	0.0591	P	1.5	-9.9
5	☐	100.000	90.646	798610.93	0.5921	P	0.4	-9.4
6	☐	200.000	204.741	1746607.37	1.3370	A	1.7	2.4

y = 0.0065 * x + 2.7034E-004
R = 0.9985
DL = 0.02025 ppb
BEC = 0.04141 ppb

Weight: <None>
Min Conc: <None>

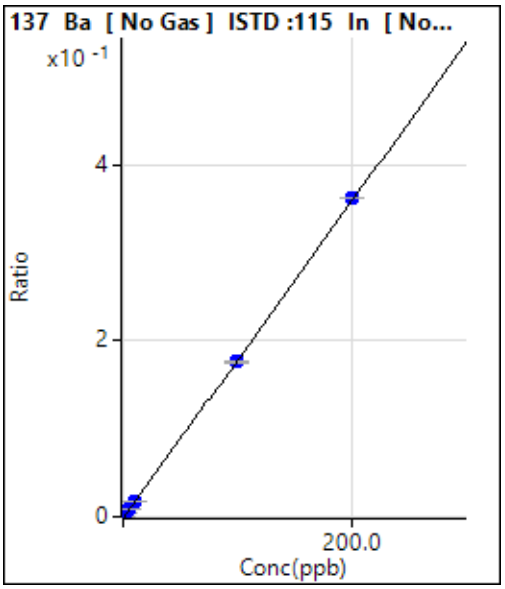
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	226.68	0.0005	P	20.0	
2	☐	2.000	1.905	9213.38	0.0222	P	4.2	-4.8
3	☐	5.000	4.997	23845.29	0.0573	P	3.6	-0.1
4	☐	10.000	9.976	47375.77	0.1139	P	1.9	-0.2
5	☐	100.000	99.278	468025.03	1.1288	P	1.4	-0.7
6	☐	200.000	200.363	914076.11	2.2777	P	0.7	0.2

y = 0.0114 * x + 5.4790E-004
R = 1.0000
DL = 0.0289 ppb
BEC = 0.04821 ppb

Weight: <None>
Min Conc: <None>

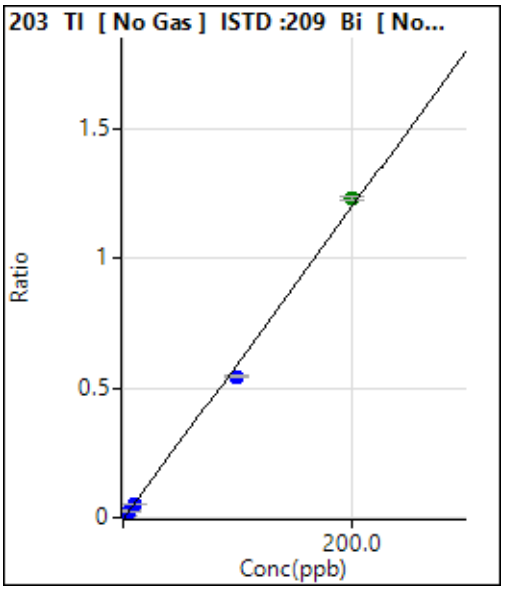


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	206.67	0.0001	P	26.2	
2	☐	2.000	1.876	5894.76	0.0035	P	2.3	-6.2
3	☐	5.000	4.965	15262.51	0.0091	P	1.0	-0.7
4	☐	10.000	9.560	28815.46	0.0173	P	0.2	-4.4
5	☐	100.000	97.828	290698.10	0.1763	P	1.4	-2.2
6	☐	200.000	201.110	580466.88	0.3624	P	0.3	0.6

y = 0.0018 * x + 1.2361E-004
R = 0.9999
DL = 0.05385 ppb
BEC = 0.06862 ppb

Weight: <None>
Min Conc: <None>

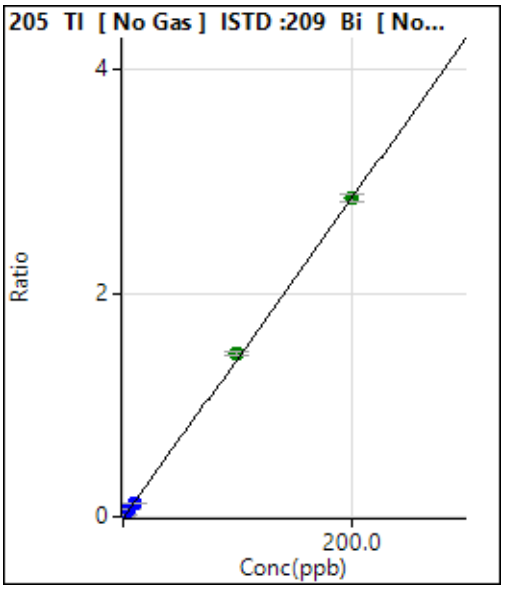
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	63.33	0.0000	P	18.0	
2	☐	2.000	1.775	16621.28	0.0107	P	3.7	-11.3
3	☐	5.000	4.304	40479.17	0.0259	P	0.6	-13.9
4	☐	10.000	8.778	81853.58	0.0528	P	1.4	-12.2
5	☐	100.000	90.640	818769.42	0.5446	P	1.9	-9.4
6	☐	200.000	204.761	1824548.05	1.2302	A	1.3	2.4

y = 0.0060 * x + 4.1307E-005
R = 0.9985
DL = 0.003712 ppb
BEC = 0.006876 ppb

Weight: <None>
Min Conc: <None>

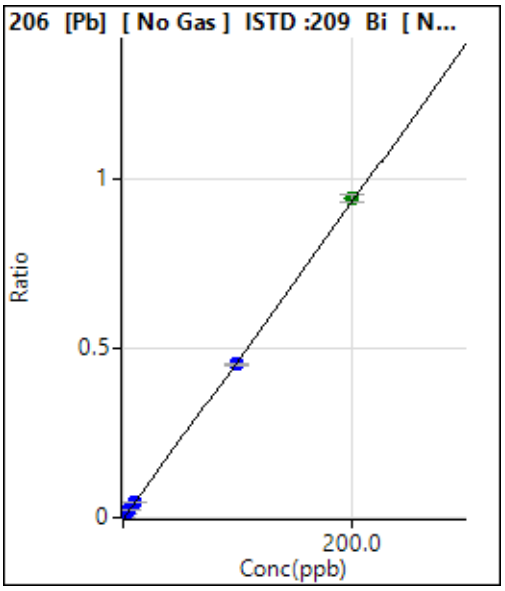


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	183.34	0.0001	P	23.1	
2	☐	2.000	1.757	39242.31	0.0253	P	1.1	-12.1
3	☐	5.000	4.350	97442.28	0.0623	P	1.2	-13.0
4	☐	10.000	8.923	198195.20	0.1278	P	1.4	-10.8
5	☐	100.000	101.635	2186408.72	1.4542	A	2.1	1.6
6	☐	200.000	199.255	4227376.19	2.8509	A	2.1	-0.4

y = 0.0143 * x + 1.1967E-004
R = 0.9999
DL = 0.005794 ppb
BEC = 0.008364 ppb

Weight: <None>
Min Conc: <None>

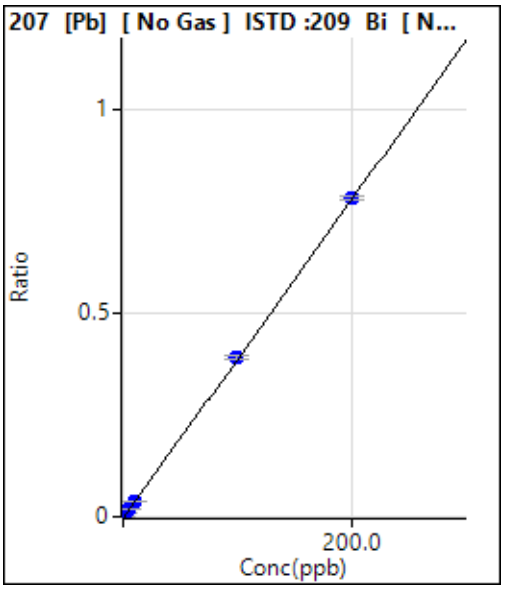
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	340.01	0.0002	P	7.5	
2	☐	2.000	1.877	13958.07	0.0090	P	3.6	-6.2
3	☐	5.000	4.617	34033.36	0.0218	P	1.2	-7.7
4	☐	10.000	9.599	69842.21	0.0450	P	0.5	-4.0
5	☐	100.000	96.776	679573.53	0.4520	P	1.6	-3.2
6	☐	200.000	201.643	1396156.96	0.9415	A	2.0	0.8

y = 0.0047 * x + 2.2180E-004
R = 0.9998
DL = 0.01071 ppb
BEC = 0.04751 ppb

Weight: <None>
Min Conc: <None>

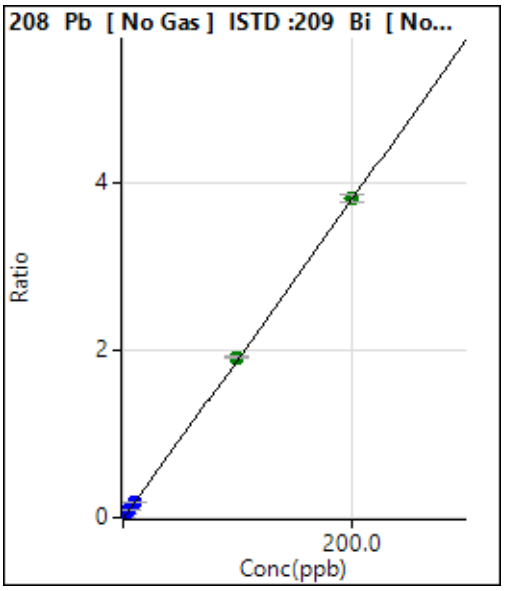


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	223.34	0.0001	P	7.1	
2	☐	2.000	1.945	12032.70	0.0077	P	4.1	-2.7
3	☐	5.000	4.842	29799.29	0.0191	P	0.8	-3.2
4	☐	10.000	9.765	59411.37	0.0383	P	0.6	-2.3
5	☐	100.000	99.830	586721.18	0.3902	P	2.1	-0.2
6	☐	200.000	200.101	1159790.95	0.7821	P	0.9	0.1

y = 0.0039 * x + 1.4573E-004
R = 1.0000
DL = 0.007977 ppb
BEC = 0.03729 ppb

Weight: <None>
Min Conc: <None>

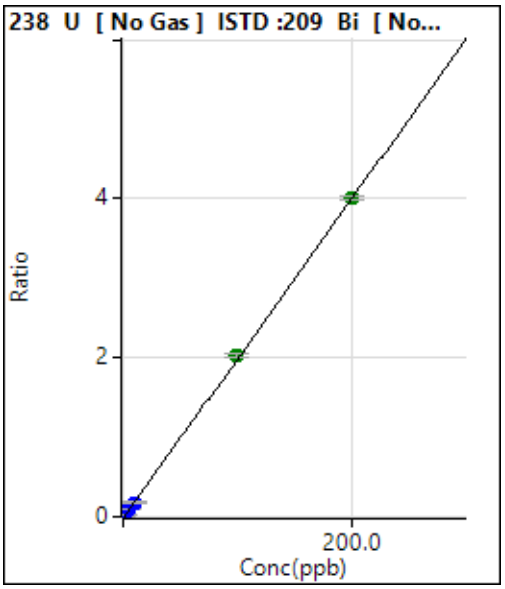
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1246.72	0.0008	P	7.1	
2	☐	2.000	1.800	54717.51	0.0352	P	1.2	-10.0
3	☐	5.000	4.504	135887.40	0.0869	P	1.7	-9.9
4	☐	10.000	9.163	273034.01	0.1760	P	0.7	-8.4
5	☐	100.000	100.181	2881443.22	1.9165	A	1.6	0.2
6	☐	200.000	199.966	5671222.34	3.8246	A	1.9	0.0

y = 0.0191 * x + 8.1357E-004
R = 1.0000
DL = 0.009114 ppb
BEC = 0.04255 ppb

Weight: <None>
Min Conc: <None>

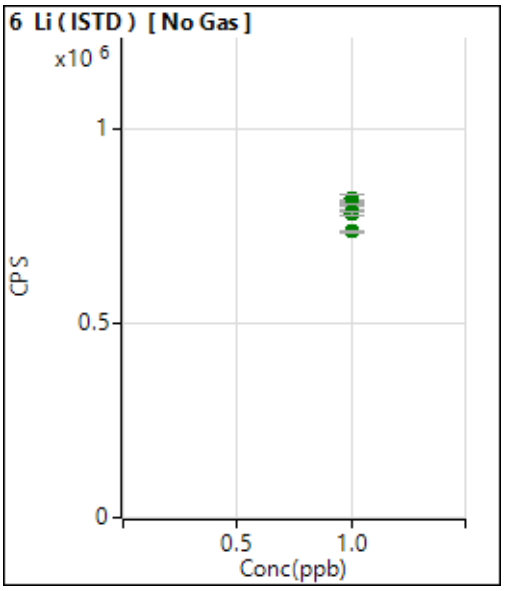


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	13.33	0.0000	P	42.5	
2	☐	2.000	1.788	55820.61	0.0359	P	1.5	-10.6
3	☐	5.000	4.445	139629.04	0.0893	P	1.4	-11.1
4	☐	10.000	9.006	280731.47	0.1810	P	1.4	-9.9
5	☐	100.000	100.992	3051584.54	2.0297	A	2.1	1.0
6	☐	200.000	199.570	5947856.58	4.0109	A	1.2	-0.2

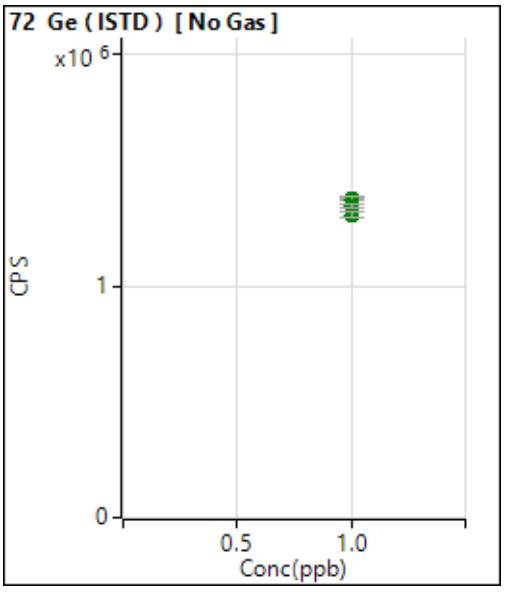
y = 0.0201 * x + 8.6808E-006
R = 1.0000
DL = 0.0005504 ppb
BEC = 0.0004319 ppb

Weight: <None>
Min Conc: <None>

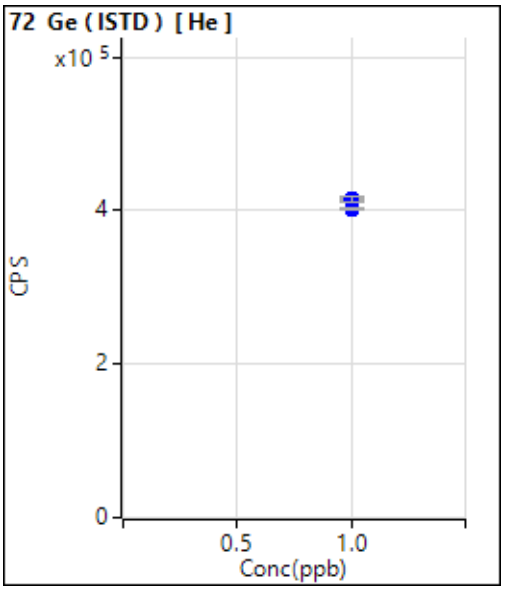
Calibration for 016_ICV.d



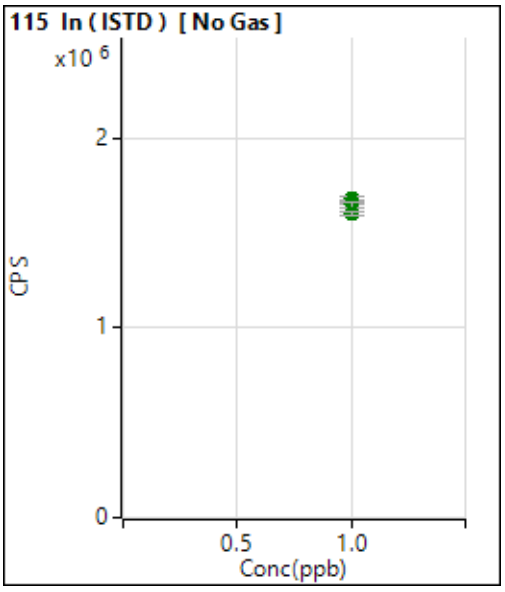
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		823334.35		A	2.2	
2	☐	1.000		815580.43		A	0.8	
3	☐	1.000		807296.14		A	0.6	
4	☐	1.000		790528.61		A	0.8	
5	☐	1.000		784511.29		A	1.2	
6	☐	1.000		737035.11		A	1.0	



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		1379474.46		A	1.0	
2	☐	1.000		1376765.14		A	0.6	
3	☐	1.000		1374138.73		A	0.9	
4	☐	1.000		1371181.18		A	1.9	
5	☐	1.000		1348824.93		A	1.1	
6	☐	1.000		1306525.95		A	1.8	

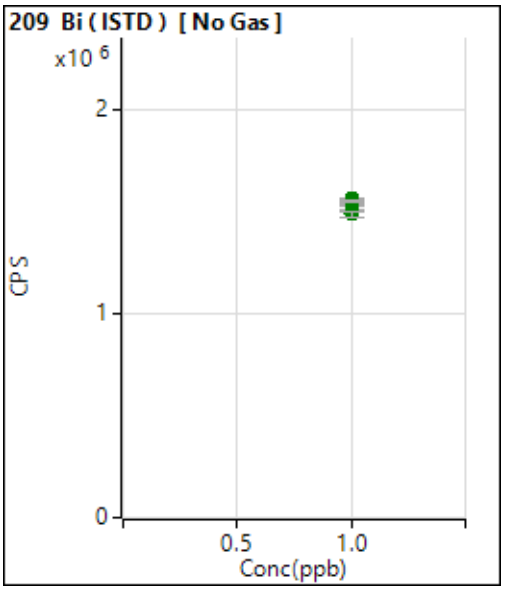


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		413777.95		P	0.1	
2	☐	1.000		415129.89		P	0.2	
3	☐	1.000		415948.35		P	0.6	
4	☐	1.000		415917.48		P	0.9	
5	☐	1.000		414662.22		P	1.4	
6	☐	1.000		401334.10		P	0.7	



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		1670122.71		A	0.9	
2	☐	1.000		1682748.05		A	1.7	
3	☐	1.000		1683236.59		A	0.7	
4	☐	1.000		1661420.79		A	0.5	
5	☐	1.000		1648646.45		A	1.5	
6	☐	1.000		1601760.42		A	1.1	

Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		1532763.26		A	0.7	
2	☐	1.000		1553372.48		A	1.7	
3	☐	1.000		1562899.51		A	0.4	
4	☐	1.000		1551021.28		A	0.4	
5	☐	1.000		1503630.08		A	0.8	
6	☐	1.000		1483099.36		A	1.4	

Sample Report

Sample Table

Sample Name	LLICV2
Data File Name	017LCV2.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq Date Time	2022-11-10T12:03:27-06:00
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	1.954	1.954	4.49	67191	0.00	2	
Be	9	1	No Gas	2.015	2.015	1.87	4976	0.04	2	
V	51	2	He	1.634	1.634	2.84	8891	0.02	2	
Cr	52	2	He	2.041	2.041	2.89	9797	0.02	2	
Fe	56	2	He	204.732	204.732	1.72	852381	0.02	200	
Se	78	2	He	1.861	1.861	19.01	304	0.61	2	
As	75	2	He	1.902	1.902	6.77	1220	0.16	2	
Ca	44	2	He	196.626	196.626	4.00	5408	3.64	200	
Na	23	2	He	193.024	193.024	2.72	311518	0.06	200	
Mg	24	2	He	196.956	196.956	1.25	89986	0.22	200	
K	39	2	He	206.857	206.857	2.93	175046	0.12	200	
Mn	55	2	He	2.064	2.064	7.63	7392	0.03	2	
Co	59	2	He	1.976	1.976	2.14	14118	0.01	2	
Ni	60	2	He	1.975	1.975	8.85	3614	0.05	2	
Cu	63	2	He	2.110	2.110	4.11	11298	0.02	2	
Zn	66	2	He	1.915	1.915	5.40	2030	0.09	2	
Al	27	2	He	2.582	2.582	11.01	1567	0.16	2	
B	11	1	No Gas	25.589	25.589	8.04	46243	0.06	10	NewName Main CR1 Failed
Al	27	1	No Gas	2.237	2.237	1.64	57030	0.00	2	
Si	28	1	No Gas	10.071	10.071	8.85	355130	0.00	10	
Ag	107	1	No Gas	1.874	1.874	0.71	21267	0.01	2	
Cd	111	1	No Gas	2.091	2.091	1.05	4264	0.05	2	
Sr	88	1	No Gas	1.848	1.848	1.30	37255	0.00	2	
Mo	95	1	No Gas	1.965	1.965	2.70	7382	0.03	2	
Sn	118	1	No Gas	2.006	2.006	1.03	11956	0.02	2	
Sb	121	1	No Gas	1.849	1.849	3.31	16701	0.01	2	
Ba	137	1	No Gas	1.994	1.994	4.89	6175	0.03	2	
Tl	205	1	No Gas	1.866	1.866	1.62	41793	0.00	2	
Tl	203	1	No Gas	1.860	1.860	2.82	17476	0.01	2	
Pb	208	1	No Gas	1.838	1.838	3.58	56006	0.00	2	
U	238	1	No Gas	1.790	1.790	2.56	56085	0.00	2	
Ca	43	2	He	192.663	192.663	3.59	303	63.51	200	
Sb	121	2	He	1.988	1.988	0.99	9470	0.02	2	
Ti	47	2	He	1.986	1.986	7.63	280	0.71	200	
Cu	63	1	No Gas	1.922	1.922	2.49	18540	0.01	2	
Se	82	1	No Gas	2.161	2.161	7.37	146	1.48	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	800877	0.51	823334	97.27	70	120	
Ge	72	2	He	409186	1.34	413778	98.89	70	120	
Ge	72	1	No Gas	1352719	1.04	1379474	98.06	70	120	
In	115	1	No Gas	1661579	1.27	1670123	99.49	70	120	
Bi	209	1	No Gas	1558334	1.40	1532763	101.67	70	120	

Sample Report

Sample Table

Sample Name	LLICV5
Data File Name	018LCV5.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq Date Time	2022-11-10T12:05:20-06:00
Sample Type	LLCCV5
Dilution	1
Comment	
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	4.713	4.713	3.67	99247	0.00	5	
Be	9	1	No Gas	4.815	4.815	2.34	11772	0.04	5	
V	51	2	He	4.630	4.630	2.65	20482	0.02	5	
Cr	52	2	He	4.889	4.889	2.90	22662	0.02	5	
Fe	56	2	He	521.833	521.833	1.08	2178095	0.02	500	
Se	78	2	He	5.148	5.148	4.79	495	1.04	5	
As	75	2	He	4.958	4.958	0.41	3053	0.16	5	
Ca	44	2	He	500.998	500.998	0.75	12930	3.87	500	
Na	23	2	He	489.122	489.122	0.82	544255	0.09	500	
Mg	24	2	He	483.217	483.217	1.35	222456	0.22	500	
K	39	2	He	495.703	495.703	1.33	315445	0.16	500	
Mn	55	2	He	5.063	5.063	0.52	17305	0.03	5	
Co	59	2	He	4.758	4.758	1.07	34203	0.01	5	
Ni	60	2	He	4.869	4.869	3.17	8703	0.06	5	
Cu	63	2	He	5.025	5.025	1.18	25090	0.02	5	
Zn	66	2	He	5.222	5.222	4.94	4958	0.11	5	
Al	27	2	He	4.332	4.332	17.05	2004	0.22	5	
B	11	1	No Gas	29.207	29.207	3.52	50713	0.06	25	
Al	27	1	No Gas	4.678	4.678	2.76	80945	0.01	5	
Si	28	1	No Gas	23.989	23.989	3.92	418205	0.01	25	
Ag	107	1	No Gas	4.512	4.512	2.48	49767	0.01	5	
Cd	111	1	No Gas	5.092	5.092	2.96	10341	0.05	5	
Sr	88	1	No Gas	4.566	4.566	0.78	90159	0.01	5	
Mo	95	1	No Gas	4.965	4.965	0.84	18593	0.03	5	
Sn	118	1	No Gas	4.811	4.811	3.50	27025	0.02	5	
Sb	121	1	No Gas	4.506	4.506	2.18	40088	0.01	5	
Ba	137	1	No Gas	4.760	4.760	3.31	14435	0.03	5	
Tl	205	1	No Gas	4.382	4.382	2.55	97193	0.00	5	
Tl	203	1	No Gas	4.308	4.308	1.83	40111	0.01	5	
Pb	208	1	No Gas	4.555	4.555	1.45	136017	0.00	5	
U	238	1	No Gas	4.460	4.460	1.97	138700	0.00	5	
Ca	43	2	He	501.381	501.381	5.48	760	65.97	500	
Sb	121	2	He	4.965	4.965	0.92	23545	0.02	5	
Ti	47	2	He	4.375	4.375	7.57	607	0.72	5	
Cu	63	1	No Gas	4.722	4.722	2.87	40882	0.01	5	
Se	82	1	No Gas	4.986	4.986	37.03	463	1.08	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	795566	1.69	823334	96.63	70	120	
Ge	72	2	He	413233	0.74	413778	99.87	70	120	
Ge	72	1	No Gas	1350131	1.13	1379474	97.87	70	120	

Sample Report

In	115	1	No Gas	1659698	0.73	1670123	99.38	70	120	
Bi	209	1	No Gas	1547443	1.05	1532763	100.96	70	120	

Initial Calibration Blank (ICB) Report

Sample Table

Sample Name	ICB
Data File Name	019_ICB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq Date Time	2022-11-10T12:07:13-06:00
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	0.095	27.7	44179	0.6	0.5	
Be	9	1	No Gas	0.007	56.6	45	22.2	0.5	
V	51	2	He	-0.255	-4.9	1700	2.2	2.5	
Cr	52	2	He	0.167	16.6	1470	7.7	2.5	
Fe	56	2	He	1.646	4.2	17108	2.2	100	
Se	78	2	He	-0.121	-93.9	191	3.2	1	
As	75	2	He	-0.058	-19.8	64	10.8	2.5	
Ca	44	2	He	-1.236	-61.4	600	2.9	100	
Na	23	2	He	0.853	286.2	163178	0.7	100	
Mg	24	2	He	0.594	31.5	613	13.7	100	
K	39	2	He	2.898	42.4	77698	0.2	100	
Mn	55	2	He	0.066	32.0	890	7.8	2.5	
Co	59	2	He	-0.005	-39.4	57	27.0	2.5	
Ni	60	2	He	0.025	27.5	247	4.7	2.5	
Cu	63	2	He	0.072	12.4	1823	2.6	1	
Zn	66	2	He	0.357	12.6	670	6.0	2.5	
Al	27	2	He	-0.864	-34.2	743	9.2	5	
B	11	1	No Gas	6.341	10.8	19342	4.0	0.5	ICB Main CR1 Failed
Al	27	1	No Gas	-0.565	-8.3	29124	2.2	5	
Si	28	1	No Gas	-8.880	-7.0	265679	0.6	10	
Ag	107	1	No Gas	-0.025	-58.1	713	23.1	2.5	
Cd	111	1	No Gas	0.000	152.1	20	0.0	1	
Sr	88	1	No Gas	-0.008	-17.6	1090	2.4	2.5	
Mo	95	1	No Gas	0.005	90.1	43	35.3	2.5	
Sn	118	1	No Gas	0.198	25.1	2227	12.2	5	
Sb	121	1	No Gas	0.011	61.4	460	13.6	2.5	
Ba	137	1	No Gas	0.060	34.9	383	15.3	2.5	
Tl	205	1	No Gas	0.016	7.3	537	2.8	1	
Tl	203	1	No Gas	0.010	41.1	160	22.5	1	
Pb	208	1	No Gas	0.009	4.7	1540	3.2	2.5	
U	238	1	No Gas	0.001	74.1	43	53.3	2.5	
Ca	43	2	He	-2.071	-329.2	20	50.0	100	
Sb	121	2	He	0.008	140.4	260	20.0	2.5	
Ti	47	2	He	-0.024	-539.6	10	173.2	2.5	
Se	82	1	No Gas	-0.117	-551.7	-107	-65.6	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	783925	0.58	823334	95.21	70	120	
Ge	72	2	He	407221	0.62	413778	98.42	70	120	
Ge	72	1	No Gas	1340392	0.64	1379474	97.17	70	120	
In	115	1	No Gas	1660271	0.91	1670123	99.41	70	120	
Bi	209	1	No Gas	1552169	2.42	1532763	101.27	70	120	

Interference Check Solution A (ICS-A) Report

Sample Table

Sample Name	ICSA
Data File Name	020ICSA.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq Date Time	2022-11-10T12:13:21-06:00
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	0.076	120.0	42206	0.6	0	ICSA Main CR1 Failed
Be	9	1	No Gas	-0.003	-173.5	20	50.0	0	ICSA Main CR1 Failed
V	51	2	He	-0.166	-31.1	1981	9.5	0	ICSA Main CR1 Failed
Cr	52	2	He	1.540	3.0	7332	3.0	0	ICSA Main CR1 Failed
Fe	56	2	He	104844.939	0.4	417499154	0.4	0	
Se	78	2	He	-0.039	-515.5	190	5.9	0	ICSA Main CR1 Failed
As	75	2	He	0.231	33.5	228	19.1	0	ICSA Main CR1 Failed
Ca	44	2	He	107743.202	1.1	2534366	0.9	0	
Na	23	2	He	106132.517	0.4	79062594	0.2	0	
Mg	24	2	He	105320.900	0.4	46411309	0.9	0	
K	39	2	He	105877.605	0.6	48806129	0.5	0	
Mn	55	2	He	0.382	11.8	1860	7.4	0	ICSA Main CR1 Failed
Co	59	2	He	0.231	3.5	1677	3.6	0	ICSA Main CR1 Failed
Ni	60	2	He	0.741	9.6	1437	8.3	0	ICSA Main CR1 Failed
Cu	63	2	He	0.465	9.1	3541	5.0	0	ICSA Main CR1 Failed
Zn	66	2	He	2.811	2.7	2720	1.9	0	ICSA Main CR1 Failed
Al	27	2	He	103387.622	0.9	23828554	0.4	0	
B	11	1	No Gas	6.999	17.3	19302	5.3	0	
Al	27	1	No Gas	98167.535	1.0	925923533	0.5	0	
Si	28	1	No Gas	12.351	11.7	349622	1.2	0	ICSA Main CR1 Failed
Ag	107	1	No Gas	0.122	4.0	2177	0.7	0	ICSA Main CR1 Failed
Cd	111	1	No Gas	1.273	6.8	2457	5.1	0	ICSA Main CR1 Failed
Sr	88	1	No Gas	4.421	1.2	82591	1.5	0	ICSA Main CR1 Failed
Mo	95	1	No Gas	2170.718	0.7	7676525	1.2	0	
Sn	118	1	No Gas	0.307	9.9	2660	5.6	0	ICSA Main CR1 Failed
Sb	121	1	No Gas	0.377	5.5	3534	4.2	0	ICSA Main CR1 Failed
Ba	137	1	No Gas	0.807	3.3	2477	4.2	0	ICSA Main CR1 Failed
Tl	205	1	No Gas	0.014	12.0	477	7.4	0	ICSA Main CR1 Failed
Tl	203	1	No Gas	0.015	39.2	193	26.0	0	ICSA Main CR1 Failed
Pb	208	1	No Gas	0.183	2.2	6337	2.1	0	ICSA Main CR1 Failed
U	238	1	No Gas	0.009	23.3	273	22.1	0	ICSA Main CR1 Failed
Ca	43	2	He	99685.216	1.2	140401	0.7	0	
Sb	121	2	He	0.342	2.5	1757	2.4	0	ICSA Main CR1 Failed
Ti	47	2	He	2269.696	0.7	295227	1.0	0	
Se	82	1	No Gas	0.485	189.0	-39	-251.1	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	753079	2.50	823334	91.47	70	120	
Ge	72	2	He	396139	0.44	413778	95.74	70	120	
Ge	72	1	No Gas	1293669	0.70	1379474	93.78	70	120	
In	115	1	No Gas	1569694	1.81	1670123	93.99	70	120	
Bi	209	1	No Gas	1469018	1.00	1532763	95.84	70	120	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB
Data File Name	021ICSB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq Date Time	2022-11-10T12:15:16-06:00
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	97.566	2.148	1101415	1.05	100	97.6	180	120	ICSB Main CR1 Failed
Be	9	1	No Gas	97.729	1.915	219994	0.69	100	97.7	80	120	
V	51	2	He	104.938	1.216	383783	0.33	100	104.9	80	120	
Cr	52	2	He	105.964	1.218	450106	0.46	100	106.0	80	120	
Fe	56	2	He	115085.733	1.203	452224700	0.39	100	115085.7	80	120	
Se	78	2	He	102.196	2.281	5717	1.52	100	102.2	80	120	
As	75	2	He	104.706	0.311	59089	0.71	100	104.7	80	120	
Ca	44	2	He	116623.024	0.136	2707171	0.81	100	116623.0	80	120	
Na	23	2	He	115706.401	0.525	85045859	0.38	100	115706.4	80	120	
Mg	24	2	He	114988.410	0.805	50002604	0.35	100	114988.4	80	120	
K	39	2	He	115065.226	0.223	52338948	1.07	100	115065.2	80	120	
Mn	55	2	He	104.586	1.766	325378	0.87	100	104.6	80	120	
Co	59	2	He	99.119	0.685	672264	0.48	100	99.1	80	120	
Ni	60	2	He	102.752	1.006	169798	0.69	100	102.8	80	120	
Cu	63	2	He	101.786	0.978	453263	0.11	100	101.8	80	120	
Zn	66	2	He	103.791	0.660	86692	0.91	100	103.8	80	120	
Al	27	2	He	102277.242	0.743	23262357	0.16	100	102277.2	80	120	ICSB Main CR1 Failed
B	11	1	No Gas	551.117	2.903	612911	1.94	100	551.1	80	120	
Al	27	1	No Gas	95753.166	1.072	888033053	0.43	100	95753.2	80	120	ICSB Main CR1 Failed
Si	28	1	No Gas	517.776	2.312	2525549	0.66	100	517.8	80	120	
Ag	107	1	No Gas	91.820	1.596	947602	0.80	100	91.8	80	120	
Cd	111	1	No Gas	102.429	0.792	198053	1.75	100	102.4	80	120	
Sr	88	1	No Gas	107.859	2.445	2003876	0.21	100	107.9	80	120	
Mo	95	1	No Gas	2226.596	1.993	7939680	0.36	100	2226.6	80	120	ICSB Main CR1 Failed
Sn	118	1	No Gas	105.729	1.375	543059	1.02	100	105.7	80	120	
Sb	121	1	No Gas	95.833	1.367	796207	1.13	100	95.8	80	120	
Ba	137	1	No Gas	104.645	2.262	298529	1.04	100	104.6	80	120	
Tl	205	1	No Gas	105.419	2.078	2173180	0.30	100	105.4	80	120	
Tl	203	1	No Gas	94.362	2.279	816837	1.09	100	94.4	80	120	
Pb	208	1	No Gas	104.921	1.825	2891978	1.08	100	104.9	80	120	
U	238	1	No Gas	109.228	3.190	3162476	1.69	100	109.2	80	120	
Ca	43	2	He	109496.625	1.034	152187	0.46	100	109496.6	80	120	
Sb	121	2	He	103.950	0.801	462057	1.18	100	104.0	80	120	
Ti	47	2	He	2361.430	0.967	303101	0.17	100	2361.4	80	120	
Cu	63	1	No Gas	94.045	1.378	711215	0.43	100	94.0	80	120	
Se	82	1	No Gas	101.723	1.459	10622	0.43	100	101.7	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	734180	1.58	823334	89.17	70	120	
Ge	72	2	He	390933	0.90	413778	94.48	70	120	
Ge	72	1	No Gas	1272088	1.45	1379474	92.22	70	120	
In	115	1	No Gas	1583137	2.37	1670123	94.79	70	120	
Bi	209	1	No Gas	1441145	1.94	1532763	94.02	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	023_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq Date Time	2022-11-10T12:21:54-06:00
Sample Type	CCV
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	%High2	QC Flag
Li	7	1	No Gas	96.652	2.510	1140191	0.81	100	96.7	90	110	
Be	9	1	No Gas	94.899	1.497	223180	0.26	100	94.9	90	110	
V	51	2	He	98.320	1.017	380661	0.50	100	98.3	90	110	
Cr	52	2	He	98.856	0.351	444392	0.37	100	98.9	90	110	
Fe	56	2	He	9878.116	1.159	41082420	0.87	10000	98.8	90	110	
Se	78	2	He	99.089	1.581	5871	1.01	100	99.1	90	110	
As	75	2	He	99.377	1.531	59343	1.10	100	99.4	90	110	
Ca	44	2	He	9825.053	0.969	241904	0.78	10000	98.3	90	110	
Na	23	2	He	9868.929	1.143	7826331	0.82	10000	98.7	90	110	
Mg	24	2	He	9844.499	0.546	4530102	0.58	10000	98.4	90	110	
K	39	2	He	10035.600	1.101	4900769	1.13	10000	100.4	90	110	
Mn	55	2	He	99.179	1.443	326538	0.96	100	99.2	90	110	
Co	59	2	He	94.530	0.916	678407	0.60	100	94.5	90	110	
Ni	60	2	He	98.968	0.487	173061	0.06	100	99.0	90	110	
Cu	63	2	He	99.177	0.973	467356	0.45	100	99.2	90	110	
Zn	66	2	He	99.443	1.014	87900	0.64	100	99.4	90	110	
Al	27	2	He	103.809	2.087	25944	1.61	100	103.8	90	110	
B	11	1	No Gas	489.331	2.436	569919	2.35	500	97.9	90	110	
Al	27	1	No Gas	101.262	3.121	1024249	1.91	100	101.3	90	110	
Si	28	1	No Gas	511.009	1.720	2631156	0.19	5000	10.2	90	110	CCV Main CR1-2 Failed
Ag	107	1	No Gas	89.504	0.987	979034	0.68	100	89.5	90	110	CCV Main CR1-2 Failed
Cd	111	1	No Gas	97.210	1.364	199189	1.22	100	97.2	90	110	
Sr	88	1	No Gas	98.128	2.255	1932406	1.08	100	98.1	90	110	
Mo	95	1	No Gas	95.602	1.919	361331	0.72	100	95.6	90	110	
Sn	118	1	No Gas	96.976	0.795	528009	0.79	100	97.0	90	110	
Sb	121	1	No Gas	90.619	0.992	793553	1.12	100	90.6	90	110	
Ba	137	1	No Gas	95.142	1.163	287705	0.43	100	95.1	90	110	
Tl	205	1	No Gas	99.347	3.763	2178465	3.02	100	99.3	90	110	
Tl	203	1	No Gas	88.256	1.548	812736	0.81	100	88.3	90	110	CCV Main CR1-2 Failed
Pb	208	1	No Gas	98.302	1.058	2882445	0.86	100	98.3	90	110	
U	238	1	No Gas	99.468	2.003	3063771	0.42	100	99.5	90	110	
Ca	43	2	He	9600.236	3.295	14141	3.44	10000	96.0	90	110	
Sb	121	2	He	98.009	0.939	460970	0.96	100	98.0	90	110	
Ti	47	2	He	96.606	1.697	13133	1.18	100	96.6	90	110	
Cu	63	1	No Gas	93.153	0.693	742547	0.76	100	93.2	90	110	
Se	82	1	No Gas	98.802	2.463	10872	2.83	100	98.8	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	767008	1.65	823334	93.16	70	120	
Ge	72	2	He	413648	0.52	413778	99.97	70	120	
Ge	72	1	No Gas	1340720	1.43	1379474	97.19	70	120	
In	115	1	No Gas	1677676	1.56	1670123	100.45	70	120	
Bi	209	1	No Gas	1532931	1.66	1532763	100.01	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	024_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq Date Time	2022-11-10T12:23:56-06:00
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	0.182	55.0	44346	1.1	0.5	
Be	9	1	No Gas	0.009	177.4	47	76.0	0.5	
V	51	2	He	0.005	1034.2	2736	2.9	2.5	
Cr	52	2	He	0.020	117.0	843	16.0	2.5	
Fe	56	2	He	0.807	26.4	13954	3.2	100	
Se	78	2	He	-0.037	-1445.9	199	13.9	2	
As	75	2	He	-0.035	-52.7	80	18.2	2.5	
Ca	44	2	He	-0.017	-12580.5	643	8.6	100	
Na	23	2	He	-4.011	-194.9	162825	0.5	100	
Mg	24	2	He	0.648	18.6	653	12.8	100	
K	39	2	He	4.111	176.8	79907	0.4	100	
Mn	55	2	He	0.005	316.3	707	6.4	2.5	
Co	59	2	He	-0.001	-287.7	90	29.4	2.5	
Ni	60	2	He	-0.025	-23.2	163	7.1	2.5	
Cu	63	2	He	-0.002	-1701.8	1517	15.8	2	
Zn	66	2	He	0.075	88.5	437	17.5	2.5	
Al	27	2	He	0.935	46.2	1193	6.3	5	
B	11	1	No Gas	16.225	15.6	30281	8.6	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	1.095	5.5	44913	0.6	5	
Si	28	1	No Gas	-12.027	-6.6	248932	0.6	10	
Ag	107	1	No Gas	-0.023	-25.7	740	8.4	2.5	
Cd	111	1	No Gas	0.003	226.2	27	57.3	1	
Sr	88	1	No Gas	0.017	27.0	1577	5.9	2.5	
Mo	95	1	No Gas	0.046	26.1	200	21.8	2.5	
Sn	118	1	No Gas	0.066	20.4	1517	4.4	5	
Sb	121	1	No Gas	0.020	49.6	533	15.9	2.5	
Ba	137	1	No Gas	0.006	231.5	223	18.1	2.5	
Tl	205	1	No Gas	0.080	42.3	1984	38.2	1	
Tl	203	1	No Gas	0.087	42.6	880	39.3	1	
Pb	208	1	No Gas	-0.002	-90.8	1210	6.8	2.5	
U	238	1	No Gas	0.008	36.8	263	33.2	2.5	
Ca	43	2	He	-0.177	-1794.7	23	24.7	100	
Sb	121	2	He	0.009	37.0	270	9.8	2.5	
Ti	47	2	He	-0.075	-53.9	3	173.2	2.5	
Cu	63	1	No Gas	-0.010	-441.7	3010	10.4	2.5	
Se	82	1	No Gas	-0.419	-49.2	-140	-17.6	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	769494	1.58	823334	93.46	70	120	
Ge	72	2	He	416220	4.13	413778	100.59	70	120	
Ge	72	1	No Gas	1327555	1.44	1379474	96.24	70	120	
In	115	1	No Gas	1662041	0.75	1670123	99.52	70	120	
Bi	209	1	No Gas	1569310	1.73	1532763	102.38	70	120	

Sample Report

Sample Table

Sample Name	MBLK-185976
Data File Name	025SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq Date Time	2022-11-10T12:28:53-06:00
Sample Type	Sample
Dilution	1
Comment	DOD TW 185976
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	0.097	0.097	41.52	47109	0.00	2000	
Be	9	1	No Gas	0.000	0.000	-1986.50	28	0.00	2000	
V	51	2	He	0.328	0.328	12.52	4146	0.01	2000	
Cr	52	2	He	0.111	0.111	17.92	1300	0.01	2000	
Fe	56	2	He	1.704	1.704	11.82	18416	0.01	200000	
Se	78	2	He	-0.085	-0.085	-286.62	205	-0.04	2000	
As	75	2	He	-0.023	-0.023	-168.83	90	-0.03	2000	
Ca	44	2	He	-2.445	-2.445	-185.71	607	-0.40	200000	
Na	23	2	He	-29.773	-29.773	-19.65	148440	-0.02	200000	
Mg	24	2	He	17.672	17.672	3.38	8866	0.20	200000	
K	39	2	He	1.265	1.265	213.43	81698	0.00	200000	
Mn	55	2	He	0.004	0.004	859.52	730	0.00	2000	
Co	59	2	He	-0.012	-0.012	-17.48	13	-0.09	2000	
Ni	60	2	He	0.002	0.002	858.19	220	0.00	2000	
Cu	63	2	He	-0.016	-0.016	-149.66	1503	0.00	2000	
Zn	66	2	He	0.275	0.275	15.60	637	0.04	2000	
Al	27	2	He	6.747	6.747	13.36	2704	0.25	2000	
B	11	1	No Gas	2.177	2.177	21.68	15442	0.01	2000	
Al	27	1	No Gas	6.347	6.347	4.81	102056	0.01	2000	
Si	28	1	No Gas	78.740	78.740	4.34	701358	0.01	2000	
Ag	107	1	No Gas	-0.046	-0.046	-2.77	560	-0.01	2000	
Cd	111	1	No Gas	-0.008	-0.008	-32.55	3	-0.25	2000	
Sr	88	1	No Gas	-0.018	-0.018	-23.94	947	0.00	2000	
Mo	95	1	No Gas	0.027	0.027	35.81	133	0.02	2000	
Sn	118	1	No Gas	0.013	0.013	74.47	1307	0.00	2000	
Sb	121	1	No Gas	0.040	0.040	22.25	747	0.01	2000	
Ba	137	1	No Gas	-0.006	-0.006	-402.01	197	0.00	2000	
Tl	205	1	No Gas	0.009	0.009	48.29	417	0.00	2000	
Tl	203	1	No Gas	0.007	0.007	46.12	140	0.01	2000	
Pb	208	1	No Gas	0.003	0.003	197.34	1437	0.00	2000	
U	238	1	No Gas	0.000	0.000	-226.79	10	0.00	2000	
Ca	43	2	He	-2.865	-2.865	-392.85	20	-14.32	200000	
Sb	121	2	He	0.039	0.039	29.62	427	0.01	2000	
Ti	47	2	He	0.043	0.043	165.29	20	0.21	2000	
Cu	63	1	No Gas	-0.014	-0.014	-215.78	3180	0.00	2000	
Zn	66	1	No Gas	0.190	0.190	27.80	1490	0.01	2000	
Se	82	1	No Gas	-0.404	-0.404	-56.39	-148	0.27	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	835494	1.21	823334	101.48	70	120	
Ge	72	2	He	432500	0.72	413778	104.52	70	120	
Ge	72	1	No Gas	1415676	2.40	1379474	102.62	70	120	
In	115	1	No Gas	1759446	0.82	1670123	105.35	70	120	

Sample Report

Bi	209	1	No Gas	1660885	1.65	1532763	108.36	70	120	

Sample Report

Sample Table

Sample Name	LCS-185976
Data File Name	026SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq Date Time	2022-11-10T12:30:46-06:00
Sample Type	Sample
Dilution	1
Comment	DOD TW 185976
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	0.129	0.129	51.92	46528	0.00	2000	
Be	9	1	No Gas	49.930	49.930	0.56	125319	0.04	2000	
V	51	2	He	51.651	51.651	1.21	212394	0.02	2000	
Cr	52	2	He	51.641	51.641	1.43	245352	0.02	2000	
Fe	56	2	He	5249.202	5249.202	1.08	23044322	0.02	200000	
Se	78	2	He	53.156	53.156	1.56	3422	1.55	2000	
As	75	2	He	53.521	53.521	1.05	33778	0.16	2000	
Ca	44	2	He	5098.890	5098.890	1.62	132803	3.84	200000	
Na	23	2	He	5230.016	5230.016	2.37	4458439	0.12	200000	
Mg	24	2	He	5343.765	5343.765	1.51	2595069	0.21	200000	
K	39	2	He	5393.006	5393.006	1.81	2816951	0.19	200000	
Mn	55	2	He	51.871	51.871	2.00	180564	0.03	2000	
Co	59	2	He	49.619	49.619	1.63	375827	0.01	2000	
Ni	60	2	He	52.655	52.655	1.13	97269	0.05	2000	
Cu	63	2	He	52.824	52.824	0.61	263477	0.02	2000	
Zn	66	2	He	54.459	54.459	1.19	50976	0.11	2000	
Al	27	2	He	58.891	58.891	1.24	15973	0.37	2000	
B	11	1	No Gas	0.916	0.916	7.33	13590	0.01	2000	
Al	27	1	No Gas	53.621	53.621	0.43	596788	0.01	2000	
Si	28	1	No Gas	82.726	82.726	1.77	728991	0.01	2000	
Ag	107	1	No Gas	50.154	50.154	0.28	537482	0.01	2000	
Cd	111	1	No Gas	51.495	51.495	1.07	112732	0.05	2000	
Sr	88	1	No Gas	0.016	0.016	14.42	1680	0.00	2000	
Mo	95	1	No Gas	49.452	49.452	0.30	199709	0.02	2000	
Sn	118	1	No Gas	-0.027	-0.027	-39.84	1097	0.00	2000	
Sb	121	1	No Gas	47.145	47.145	0.67	441112	0.01	2000	
Ba	137	1	No Gas	49.330	49.330	0.27	159473	0.03	2000	
Tl	205	1	No Gas	43.876	43.876	0.74	1049399	0.00	2000	
Tl	203	1	No Gas	43.622	43.622	0.43	438106	0.01	2000	
Pb	208	1	No Gas	46.484	46.484	0.87	1487038	0.00	2000	
U	238	1	No Gas	0.000	0.000	65.67	30	0.00	2000	
Ca	43	2	He	5154.247	5154.247	3.67	8022	64.25	200000	
Sb	121	2	He	51.398	51.398	1.86	255208	0.02	2000	
Ti	47	2	He	52.804	52.804	0.99	7582	0.70	2000	
Cu	63	1	No Gas	48.921	48.921	0.32	418067	0.01	2000	
Zn	66	1	No Gas	53.557	53.557	0.25	116117	0.05	2000	
Se	82	1	No Gas	52.213	52.213	3.84	6088	0.86	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	818384	1.47	823334	99.40	70	120	
Ge	72	2	He	436560	1.34	413778	105.51	70	120	
Ge	72	1	No Gas	1431824	0.08	1379474	103.79	70	120	
In	115	1	No Gas	1792119	0.26	1670123	107.30	70	120	

Sample Report

Bi	209	1	No Gas	1671398	0.74	1532763	109.04	70	120	

Sample Report

Sample Table

Sample Name	HS22110108-01SD
Data File Name	028SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq Date Time	2022-11-10T12:34:30-06:00
Sample Type	Sample
Dilution	5
Comment	DOD TW 185976
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	9.264	46.320	1.71	151831	0.01	2000	
Be	9	1	No Gas	0.007	0.033	49.25	43	0.02	2000	
V	51	2	He	0.917	4.585	2.69	6351	0.01	2000	
Cr	52	2	He	0.812	4.059	14.72	4477	0.02	2000	
Fe	56	2	He	178.571	892.857	0.85	767634	0.02	200000	
Se	78	2	He	0.060	0.302	351.24	208	0.03	2000	
As	75	2	He	0.185	0.926	27.71	214	0.09	2000	
Ca	44	2	He	12216.341	61081.706	0.74	306461	3.99	200000	
Na	23	2	He	82638.989	413194.944	0.61	65567202	0.13	200000	
Mg	24	2	He	10148.032	50740.160	0.80	4760404	0.21	200000	
K	39	2	He	366.967	1834.834	0.71	258833	0.14	200000	
Mn	55	2	He	84.667	423.336	0.59	284285	0.03	2000	
Co	59	2	He	1.268	6.340	1.72	9373	0.01	2000	
Ni	60	2	He	2.797	13.984	3.77	5191	0.05	2000	
Cu	63	2	He	1.644	8.219	4.28	9413	0.02	2000	
Zn	66	2	He	18.183	90.913	1.13	16691	0.11	2000	
Al	27	2	He	16.387	81.935	7.25	5001	0.33	2000	
B	11	1	No Gas	10.219	51.097	2.67	24052	0.04	2000	
Al	27	1	No Gas	15.979	79.894	8.98	195059	0.01	2000	
Si	28	1	No Gas	3033.261	15166.307	1.53	14423727	0.02	2000	>LDR
Ag	107	1	No Gas	-0.041	-0.207	-16.88	597	-0.01	2000	
Cd	111	1	No Gas	0.027	0.134	29.10	77	0.04	2000	
Sr	88	1	No Gas	229.283	1146.413	1.53	4616228	0.00	2000	
Mo	95	1	No Gas	0.232	1.160	9.87	923	0.03	2000	
Sn	118	1	No Gas	0.060	0.302	46.72	1537	0.00	2000	
Sb	121	1	No Gas	0.141	0.706	2.50	1633	0.01	2000	
Ba	137	1	No Gas	73.037	365.183	2.41	225892	0.03	2000	
Tl	205	1	No Gas	0.022	0.108	17.49	663	0.00	2000	
Tl	203	1	No Gas	0.023	0.114	47.66	277	0.01	2000	
Pb	208	1	No Gas	0.065	0.325	14.02	3190	0.00	2000	
U	238	1	No Gas	0.396	1.979	2.45	12363	0.00	2000	
Ca	43	2	He	12220.421	61102.103	1.28	18342	66.62	200000	
Sb	121	2	He	0.167	0.834	7.80	1030	0.02	2000	
Ti	47	2	He	0.095	0.473	45.37	27	0.36	2000	
Cu	63	1	No Gas	1.931	9.657	4.10	18860	0.01	2000	
Zn	66	1	No Gas	17.649	88.247	1.27	37335	0.05	2000	
Se	82	1	No Gas	0.739	3.694	49.16	-13	-5.64	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	790013	0.87	823334	95.95	70	120	
Ge	72	2	He	421686	0.79	413778	101.91	70	120	
Ge	72	1	No Gas	1370778	1.26	1379474	99.37	70	120	
In	115	1	No Gas	1715820	1.88	1670123	102.74	70	120	

Sample Report

Bi	209	1	No Gas	1552528	0.66	1532763	101.29	70	120	

Sample Report

Sample Table

Sample Name	HS22110108-01MS
Data File Name	029SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq Date Time	2022-11-10T12:36:22-06:00
Sample Type	Sample
Dilution	1
Comment	DOD TW 185976
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	43.792	43.792	2.09	586689	0.01	2000	
Be	9	1	No Gas	50.343	50.343	2.17	128713	0.04	2000	
V	51	2	He	53.549	53.549	1.04	219420	0.02	2000	
Cr	52	2	He	55.553	55.553	0.46	263074	0.02	2000	
Fe	56	2	He	6010.199	6010.199	0.72	26301760	0.02	200000	
Se	78	2	He	50.866	50.866	1.53	3274	1.55	2000	
As	75	2	He	55.555	55.555	0.87	34950	0.16	2000	
Ca	44	2	He	68689.337	68689.337	2.00	1775155	3.87	200000	
Na	23	2	He	408607.180	408607.180	0.29	333893402	0.12	200000	>LDR
Mg	24	2	He	54126.559	54126.559	0.36	26201985	0.21	200000	
K	39	2	He	7224.225	7224.225	0.76	3734347	0.19	200000	
Mn	55	2	He	488.030	488.030	0.33	1687700	0.03	2000	
Co	59	2	He	54.657	54.657	0.64	412724	0.01	2000	
Ni	60	2	He	63.114	63.114	0.52	116193	0.05	2000	
Cu	63	2	He	56.907	56.907	0.70	282817	0.02	2000	
Zn	66	2	He	132.460	132.460	0.56	123057	0.11	2000	
Al	27	2	He	137.185	137.185	0.73	35746	0.38	2000	
B	11	1	No Gas	40.202	40.202	0.75	62563	0.06	2000	
Al	27	1	No Gas	141.460	141.460	3.74	1511174	0.01	2000	
Si	28	1	No Gas	15155.372	15155.372	0.54	73860119	0.02	2000	>LDR
Ag	107	1	No Gas	49.645	49.645	1.10	514862	0.01	2000	
Cd	111	1	No Gas	51.174	51.174	0.77	108419	0.05	2000	
Sr	88	1	No Gas	1151.544	1151.544	0.91	23433273	0.00	2000	
Mo	95	1	No Gas	53.156	53.156	1.39	207730	0.03	2000	
Sn	118	1	No Gas	0.045	0.045	43.41	1467	0.00	2000	
Sb	121	1	No Gas	47.993	47.993	1.12	448316	0.01	2000	
Ba	137	1	No Gas	452.946	452.946	0.32	1415286	0.03	2000	
Tl	205	1	No Gas	45.572	45.572	1.51	1028677	0.00	2000	
Tl	203	1	No Gas	44.868	44.868	1.62	425267	0.01	2000	
Pb	208	1	No Gas	48.336	48.336	1.73	1459255	0.00	2000	
U	238	1	No Gas	1.971	1.971	3.09	62489	0.00	2000	
Ca	43	2	He	65422.664	65422.664	0.39	101237	64.62	200000	
Sb	121	2	He	51.836	51.836	0.30	256612	0.02	2000	
Ti	47	2	He	56.915	56.915	2.21	8146	0.70	2000	
Cu	63	1	No Gas	55.111	55.111	1.29	469776	0.01	2000	
Zn	66	1	No Gas	132.147	132.147	1.48	284435	0.05	2000	
Se	82	1	No Gas	53.621	53.621	1.93	6245	0.86	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	833753	1.08	823334	101.27	70	120	
Ge	72	2	He	435180	0.42	413778	105.17	70	120	
Ge	72	1	No Gas	1429571	0.76	1379474	103.63	70	120	
In	115	1	No Gas	1734299	0.34	1670123	103.84	70	120	
Bi	209	1	No Gas	1577647	1.36	1532763	102.93	70	120	

Sample Report

Sample Table

Sample Name	HS22110108-01MSD
Data File Name	030SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq Date Time	2022-11-10T12:38:14-06:00
Sample Type	Sample
Dilution	1
Comment	DOD TW 185976
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	41.991	41.991	0.93	580825	0.01	2000	
Be	9	1	No Gas	48.507	48.507	0.47	127621	0.04	2000	
V	51	2	He	52.169	52.169	0.66	218869	0.02	2000	
Cr	52	2	He	53.925	53.925	0.95	261400	0.02	2000	
Fe	56	2	He	5903.606	5903.606	0.10	26445335	0.02	200000	
Se	78	2	He	51.175	51.175	1.70	3370	1.52	2000	
As	75	2	He	54.173	54.173	1.60	34884	0.16	2000	
Ca	44	2	He	67839.865	67839.865	0.67	1794636	3.78	200000	
Na	23	2	He	401195.282	401195.282	0.47	335562535	0.12	200000	>LDR
Mg	24	2	He	53435.246	53435.246	0.30	26477056	0.20	200000	
K	39	2	He	7135.014	7135.014	0.82	3776058	0.19	200000	
Mn	55	2	He	476.317	476.317	0.32	1686052	0.03	2000	
Co	59	2	He	53.306	53.306	0.53	411999	0.01	2000	
Ni	60	2	He	61.964	61.964	1.29	116757	0.05	2000	
Cu	63	2	He	55.624	55.624	0.78	282976	0.02	2000	
Zn	66	2	He	130.399	130.399	0.62	124005	0.11	2000	
Al	27	2	He	146.995	146.995	2.23	39130	0.38	2000	
B	11	1	No Gas	38.471	38.471	3.39	62163	0.06	2000	
Al	27	1	No Gas	145.931	145.931	2.40	1574148	0.01	2000	
Si	28	1	No Gas	14650.930	14650.930	0.60	72164854	0.02	2000	>LDR
Ag	107	1	No Gas	47.508	47.508	0.36	502836	0.01	2000	
Cd	111	1	No Gas	49.113	49.113	1.16	106185	0.05	2000	
Sr	88	1	No Gas	1106.134	1106.134	1.59	22969257	0.00	2000	
Mo	95	1	No Gas	51.179	51.179	0.50	204102	0.03	2000	
Sn	118	1	No Gas	0.068	0.068	9.58	1627	0.00	2000	
Sb	121	1	No Gas	46.723	46.723	0.53	441072	0.01	2000	
Ba	137	1	No Gas	413.270	413.270	0.98	1317753	0.03	2000	
Tl	205	1	No Gas	44.383	44.383	1.21	1006881	0.00	2000	
Tl	203	1	No Gas	44.180	44.180	1.55	420840	0.01	2000	
Pb	208	1	No Gas	47.367	47.367	0.69	1437352	0.00	2000	
U	238	1	No Gas	1.934	1.934	0.44	61638	0.00	2000	
Ca	43	2	He	64409.507	64409.507	1.16	102012	63.14	200000	
Sb	121	2	He	51.140	51.140	1.07	259115	0.02	2000	
Ti	47	2	He	55.300	55.300	0.88	8103	0.68	2000	
Cu	63	1	No Gas	53.668	53.668	0.65	462388	0.01	2000	
Zn	66	1	No Gas	129.605	129.605	0.66	281927	0.05	2000	
Se	82	1	No Gas	53.819	53.819	2.44	6335	0.85	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	857840	0.21	823334	104.19	70	120	
Ge	72	2	He	445442	1.00	413778	107.65	70	120	
Ge	72	1	No Gas	1444596	0.97	1379474	104.72	70	120	
In	115	1	No Gas	1769786	0.55	1670123	105.97	70	120	
Bi	209	1	No Gas	1585603	1.83	1532763	103.45	70	120	

Sample Report

Sample Table

Sample Name	HS22110108-01PDS
Data File Name	031SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq Date Time	2022-11-10T12:40:17-06:00
Sample Type	Sample
Dilution	1
Comment	DOD TW 185976
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	43.754	43.754	2.07	589300	0.01	2000	
Be	9	1	No Gas	113.884	113.884	2.27	292652	0.04	2000	
V	51	2	He	120.105	120.105	0.98	498843	0.02	2000	
Cr	52	2	He	121.352	121.352	0.88	585782	0.02	2000	
Fe	56	2	He	12471.615	12471.615	1.25	55709913	0.02	200000	
Se	78	2	He	116.717	116.717	1.72	7390	1.58	2000	
As	75	2	He	123.630	123.630	1.55	79273	0.16	2000	
Ca	44	2	He	75562.695	75562.695	1.22	1993784	3.79	200000	
Na	23	2	He	412745.326	412745.326	1.14	344344688	0.12	200000	>LDR
Mg	24	2	He	60452.850	60452.850	1.20	29877647	0.20	200000	
K	39	2	He	13645.364	13645.364	1.27	7127293	0.19	200000	
Mn	55	2	He	557.270	557.270	1.24	1967390	0.03	2000	
Co	59	2	He	116.025	116.025	1.08	894366	0.01	2000	
Ni	60	2	He	125.372	125.372	2.05	235404	0.05	2000	
Cu	63	2	He	120.305	120.305	1.21	608590	0.02	2000	
Zn	66	2	He	195.303	195.303	1.33	185072	0.11	2000	
Al	27	2	He	217.326	217.326	2.26	57209	0.38	2000	
B	11	1	No Gas	40.154	40.154	2.86	62833	0.06	2000	
Al	27	1	No Gas	205.934	205.934	2.21	2190348	0.01	2000	
Si	28	1	No Gas	14985.997	14985.997	1.65	73278347	0.02	2000	>LDR
Ag	107	1	No Gas	123.528	123.528	0.82	1278425	0.01	2000	
Cd	111	1	No Gas	115.767	115.767	0.52	245021	0.05	2000	
Sr	88	1	No Gas	1147.235	1147.235	1.19	23324303	0.00	2000	
Mo	95	1	No Gas	118.358	118.358	1.47	462094	0.03	2000	
Sn	118	1	No Gas	0.061	0.061	28.22	1557	0.00	2000	
Sb	121	1	No Gas	105.340	105.340	2.23	986794	0.01	2000	
Ba	137	1	No Gas	518.561	518.561	1.79	1618757	0.03	2000	
Tl	205	1	No Gas	118.010	118.010	1.89	2606185	0.00	2000	
Tl	203	1	No Gas	106.300	106.300	1.86	985807	0.01	2000	
Pb	208	1	No Gas	118.158	118.158	1.74	3488868	0.00	2000	
U	238	1	No Gas	1.990	1.990	1.58	61752	0.00	2000	
Ca	43	2	He	72156.850	72156.850	0.97	113996	63.30	200000	
Sb	121	2	He	115.174	115.174	0.93	581822	0.02	2000	
Ti	47	2	He	127.990	127.990	2.48	18683	0.69	2000	
Cu	63	1	No Gas	113.728	113.728	2.15	969066	0.01	2000	
Zn	66	1	No Gas	196.099	196.099	2.16	422935	0.05	2000	
Se	82	1	No Gas	116.600	116.600	2.45	13751	0.85	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	838206	1.82	823334	101.81	70	120	
Ge	72	2	He	444350	1.60	413778	107.39	70	120	
Ge	72	1	No Gas	1434571	2.20	1379474	103.99	70	120	
In	115	1	No Gas	1732821	0.96	1670123	103.75	70	120	
Bi	209	1	No Gas	1543722	1.34	1532763	100.71	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	035_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq Date Time	2022-11-10T12:47:43-06:00
Sample Type	CCV
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	%High2	QC Flag
Li	7	1	No Gas	94.790	1.369	1133239	1.26	100	94.8	90	110	
Be	9	1	No Gas	93.558	1.489	222784	0.50	100	93.6	90	110	
V	51	2	He	98.857	1.324	376298	0.51	100	98.9	90	110	
Cr	52	2	He	99.752	0.752	440889	0.52	100	99.8	90	110	
Fe	56	2	He	10048.324	1.261	41088369	0.47	10000	100.5	90	110	
Se	78	2	He	99.383	3.675	5789	2.69	100	99.4	90	110	
As	75	2	He	100.013	1.322	58720	0.69	100	100.0	90	110	
Ca	44	2	He	9958.818	0.638	241082	0.77	10000	99.6	90	110	
Na	23	2	He	10074.737	0.573	7852392	0.69	10000	100.7	90	110	
Mg	24	2	He	10047.543	1.529	4545750	0.83	10000	100.5	90	110	
K	39	2	He	10197.401	0.791	4894950	0.22	10000	102.0	90	110	
Mn	55	2	He	100.410	1.281	325037	0.42	100	100.4	90	110	
Co	59	2	He	95.246	1.094	672069	0.22	100	95.2	90	110	
Ni	60	2	He	99.880	1.373	171718	0.53	100	99.9	90	110	
Cu	63	2	He	99.370	1.435	460395	0.62	100	99.4	90	110	
Zn	66	2	He	101.384	1.251	88108	1.17	100	101.4	90	110	
Al	27	2	He	101.970	2.710	25076	2.77	100	102.0	90	110	
B	11	1	No Gas	498.475	4.482	587390	2.83	500	99.7	90	110	
Al	27	1	No Gas	102.456	0.868	1013372	0.70	100	102.5	90	110	
Si	28	1	No Gas	497.321	0.706	2512804	1.30	5000	9.9	90	110	CCV Main CR1-2 Failed
Ag	107	1	No Gas	98.741	1.650	974487	1.50	100	98.7	90	110	
Cd	111	1	No Gas	98.484	0.416	198733	0.55	100	98.5	90	110	
Sr	88	1	No Gas	98.294	1.016	1906486	1.04	100	98.3	90	110	
Mo	95	1	No Gas	96.924	1.168	360796	1.22	100	96.9	90	110	
Sn	118	1	No Gas	97.830	0.674	524546	0.28	100	97.8	90	110	
Sb	121	1	No Gas	92.493	1.203	792142	0.16	100	92.5	90	110	
Ba	137	1	No Gas	96.572	1.318	287601	1.43	100	96.6	90	110	
Tl	205	1	No Gas	99.024	0.897	2183902	0.78	100	99.0	90	110	
Tl	203	1	No Gas	88.143	0.507	816295	0.63	100	88.1	90	110	CCV Main CR1-2 Failed
Pb	208	1	No Gas	98.087	0.813	2892341	0.92	100	98.1	90	110	
U	238	1	No Gas	99.225	0.860	3073841	0.99	100	99.2	90	110	
Ca	43	2	He	9784.713	3.295	14171	3.53	10000	97.8	90	110	
Sb	121	2	He	99.591	1.210	460541	0.72	100	99.6	90	110	
Ti	47	2	He	100.042	3.441	13373	3.74	100	100.0	90	110	
Cu	63	1	No Gas	93.719	1.612	730593	0.64	100	93.7	90	110	
Se	82	1	No Gas	101.770	4.381	10956	4.87	100	101.8	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	776627	1.87	823334	94.33	70	120	
Ge	72	2	He	406720	0.89	413778	98.29	70	120	
Ge	72	1	No Gas	1311292	1.35	1379474	95.06	70	120	
In	115	1	No Gas	1652042	0.40	1670123	98.92	70	120	
Bi	209	1	No Gas	1541386	0.13	1532763	100.56	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	036_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq Date Time	2022-11-10T12:49:32-06:00
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	0.230	48.3	46242	1.3	0.5	
Be	9	1	No Gas	0.008	77.2	47	32.7	0.5	
V	51	2	He	-0.322	-6.7	1437	4.9	2.5	
Cr	52	2	He	0.041	23.8	910	3.8	2.5	
Fe	56	2	He	1.036	11.3	14525	4.0	100	
Se	78	2	He	-0.030	-907.9	195	7.8	2	
As	75	2	He	-0.040	-34.6	74	10.3	2.5	
Ca	44	2	He	-1.368	-80.9	593	4.9	100	
Na	23	2	He	26.895	14.2	181978	0.8	100	
Mg	24	2	He	1.031	11.7	807	7.3	100	
K	39	2	He	5.600	9.0	78506	0.7	100	
Mn	55	2	He	0.002	1351.3	677	9.8	2.5	
Co	59	2	He	-0.001	-399.4	90	19.2	2.5	
Ni	60	2	He	-0.031	-130.7	150	46.7	2.5	
Cu	63	2	He	-0.023	-116.3	1373	8.2	2	
Zn	66	2	He	0.113	80.8	457	18.2	2.5	
Al	27	2	He	0.500	35.0	1060	3.8	5	
B	11	1	No Gas	23.874	8.0	40269	8.0	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	0.911	10.6	43030	1.0	5	
Si	28	1	No Gas	-12.319	-10.8	247048	1.2	10	
Ag	107	1	No Gas	-0.037	-23.1	613	14.8	2.5	
Cd	111	1	No Gas	0.007	113.1	33	45.8	1	
Sr	88	1	No Gas	0.027	37.2	1747	11.5	2.5	
Mo	95	1	No Gas	0.038	25.3	167	21.1	2.5	
Sn	118	1	No Gas	0.070	14.9	1520	2.6	5	
Sb	121	1	No Gas	0.038	27.6	687	12.6	2.5	
Ba	137	1	No Gas	0.000	12183.2	203	14.2	2.5	
Tl	205	1	No Gas	0.095	36.9	2280	33.0	1	
Tl	203	1	No Gas	0.105	34.1	1033	31.8	1	
Pb	208	1	No Gas	0.004	41.9	1363	1.8	2.5	
U	238	1	No Gas	0.014	19.5	457	17.6	2.5	
Ca	43	2	He	4.918	278.6	30	66.7	100	
Sb	121	2	He	0.034	105.1	380	43.5	2.5	
Ti	47	2	He	-0.048	-90.1	7	86.6	2.5	
Cu	63	1	No Gas	0.049	62.6	3464	6.7	2.5	
Se	82	1	No Gas	0.073	1087.9	-86	-101.2	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	792705	2.38	823334	96.28	70	120	
Ge	72	2	He	404788	0.91	413778	97.83	70	120	
Ge	72	1	No Gas	1324634	1.48	1379474	96.02	70	120	
In	115	1	No Gas	1642225	1.19	1670123	98.33	70	120	
Bi	209	1	No Gas	1543357	1.60	1532763	100.69	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	095_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq Date Time	2022-11-10T15:48:00-06:00
Sample Type	CCV
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	%High2	QC Flag
Li	7	1	No Gas	96.149	2.006	964035	1.01	100	96.1	90	110	
Be	9	1	No Gas	94.956	1.582	189750	0.51	100	95.0	90	110	
V	51	2	He	98.121	0.563	323188	0.94	100	98.1	90	110	
Cr	52	2	He	97.851	0.352	374219	1.20	100	97.9	90	110	
Fe	56	2	He	9779.278	0.651	34599650	0.72	10000	97.8	90	110	
Se	78	2	He	98.295	2.904	4957	3.46	100	98.3	90	110	
As	75	2	He	96.625	0.971	49088	0.54	100	96.6	90	110	
Ca	44	2	He	9783.104	1.474	204898	0.52	10000	97.8	90	110	
Na	23	2	He	10255.664	1.355	6912954	0.41	10000	102.6	90	110	
Mg	24	2	He	10063.894	1.082	3939456	0.38	10000	100.6	90	110	
K	39	2	He	10118.364	1.087	4202836	0.97	10000	101.2	90	110	
Mn	55	2	He	98.138	1.540	274866	0.55	100	98.1	90	110	
Co	59	2	He	92.714	1.064	566020	0.45	100	92.7	90	110	
Ni	60	2	He	97.941	0.605	145702	1.21	100	97.9	90	110	
Cu	63	2	He	96.790	0.751	388047	0.74	100	96.8	90	110	
Zn	66	2	He	97.745	0.688	73512	1.62	100	97.7	90	110	
Al	27	2	He	103.848	2.107	22078	1.18	100	103.8	90	110	
B	11	1	No Gas	514.647	2.187	508877	3.03	500	102.9	90	110	
Al	27	1	No Gas	107.027	0.520	827129	0.84	100	107.0	90	110	
Si	28	1	No Gas	564.667	0.607	2200585	0.40	5000	11.3	90	110	CCV Main CR1-2 Failed
Ag	107	1	No Gas	98.183	1.678	802465	1.16	100	98.2	90	110	
Cd	111	1	No Gas	97.984	0.647	163749	0.10	100	98.0	90	110	
Sr	88	1	No Gas	98.360	2.083	1579993	2.15	100	98.4	90	110	
Mo	95	1	No Gas	96.738	1.660	298220	1.41	100	96.7	90	110	
Sn	118	1	No Gas	97.747	0.707	434047	0.18	100	97.7	90	110	
Sb	121	1	No Gas	98.417	1.128	659522	0.98	100	98.4	90	110	
Ba	137	1	No Gas	96.909	2.425	238990	1.80	100	96.9	90	110	
Tl	205	1	No Gas	97.860	0.372	1812625	0.73	100	97.9	90	110	
Tl	203	1	No Gas	86.827	2.172	675250	1.27	100	86.8	90	110	CCV Main CR1-2 Failed
Pb	208	1	No Gas	90.587	4.122	2242971	3.28	100	90.6	90	110	
U	238	1	No Gas	96.967	1.178	2522690	0.62	100	97.0	90	110	
Ca	43	2	He	9610.546	1.425	12042	1.54	10000	96.1	90	110	
Sb	121	2	He	95.544	0.694	382285	0.62	100	95.5	90	110	
Ti	47	2	He	100.303	2.806	11598	1.99	100	100.3	90	110	
Cu	63	1	No Gas	99.830	0.666	608815	0.41	100	99.8	90	110	
Se	82	1	No Gas	107.376	2.842	9047	2.11	100	107.4	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	651754	2.04	823334	79.16	70	120	
Ge	72	2	He	351899	1.14	413778	85.05	70	120	
Ge	72	1	No Gas	1025995	0.89	1379474	74.38	70	120	
In	115	1	No Gas	1368202	0.71	1670123	81.92	70	120	
Bi	209	1	No Gas	1294560	0.95	1532763	84.46	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	096_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq Date Time	2022-11-10T15:49:50-06:00
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	0.291	21.1	37319	2.4	0.5	
Be	9	1	No Gas	0.006	27.2	33	8.7	0.5	
V	51	2	He	0.697	5.1	4537	1.5	2.5	
Cr	52	2	He	0.022	196.3	710	21.3	2.5	
Fe	56	2	He	1.654	9.2	14665	2.9	100	
Se	78	2	He	1.019	50.9	218	10.4	2	
As	75	2	He	0.102	32.6	136	13.5	2.5	
Ca	44	2	He	-0.588	-365.6	527	7.7	100	
Na	23	2	He	148.572	6.6	236217	1.2	100	CCB Main CR1 Failed
Mg	24	2	He	1.680	9.7	947	7.9	100	
K	39	2	He	38.017	9.2	80712	1.6	100	
Mn	55	2	He	-0.007	-322.4	560	11.2	2.5	
Co	59	2	He	-0.001	-905.8	77	52.7	2.5	
Ni	60	2	He	-0.043	-69.7	110	39.6	2.5	
Cu	63	2	He	0.013	63.3	1327	1.9	2	
Zn	66	2	He	0.002	4309.3	310	23.3	2.5	
Al	27	2	He	0.682	56.6	950	9.2	5	
B	11	1	No Gas	56.752	8.9	62757	7.3	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	1.310	15.1	37250	2.0	5	
Si	28	1	No Gas	-4.468	-60.1	224270	0.5	10	
Ag	107	1	No Gas	-0.036	-22.5	533	14.1	2.5	
Cd	111	1	No Gas	0.000	-7725.6	17	91.7	1	
Sr	88	1	No Gas	0.036	31.1	1620	9.6	2.5	
Mo	95	1	No Gas	0.028	31.5	110	24.1	2.5	
Sn	118	1	No Gas	0.038	48.4	1147	5.9	5	
Sb	121	1	No Gas	0.037	16.8	537	6.0	2.5	
Ba	137	1	No Gas	-0.005	-156.6	160	10.8	2.5	
Tl	205	1	No Gas	0.106	35.2	2067	34.1	1	
Tl	203	1	No Gas	0.115	43.5	923	42.6	1	
Pb	208	1	No Gas	-0.003	-120.1	960	9.9	2.5	
U	238	1	No Gas	0.021	6.4	537	7.5	2.5	
Ca	43	2	He	8.353	95.6	30	33.3	100	
Sb	121	2	He	0.018	17.6	263	5.8	2.5	
Ti	47	2	He	-0.069	-72.1	3	173.2	2.5	
Cu	63	1	No Gas	0.133	24.5	3274	1.5	2.5	
Se	82	1	No Gas	-0.089	-2028.6	-84	-186.2	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	629808	0.93	823334	76.49	70	120	
Ge	72	2	He	348515	1.53	413778	84.23	70	120	
Ge	72	1	No Gas	1053378	4.73	1379474	76.36	70	120	
In	115	1	No Gas	1394208	1.82	1670123	83.48	70	120	
Bi	209	1	No Gas	1257248	2.09	1532763	82.02	70	120	

Sample Report

Sample Table

Sample Name	HS22110111-01
Data File Name	102SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq Date Time	2022-11-10T16:15:00-06:00
Sample Type	Sample
Dilution	1
Comment	DOD TW 185976
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	21.619	21.619	0.81	278790	0.01	2000	
Be	9	1	No Gas	-0.001	-0.001	-446.62	23	0.00	2000	
V	51	2	He	0.969	0.969	7.62	6448	0.02	2000	
Cr	52	2	He	0.404	0.404	16.02	2564	0.02	2000	
Fe	56	2	He	63.455	63.455	0.29	275205	0.02	200000	
Se	78	2	He	0.235	0.235	55.74	215	0.11	2000	
As	75	2	He	0.289	0.289	16.50	273	0.11	2000	
Ca	44	2	He	5130.336	5130.336	0.43	127002	4.04	200000	
Na	23	2	He	848597.419	848597.419	1.02	660883923	0.13	200000	>LDR
Mg	24	2	He	2333.670	2333.670	1.43	1077283	0.22	200000	
K	39	2	He	2596.142	2596.142	0.20	1329305	0.20	200000	
Mn	55	2	He	37.033	37.033	1.54	122718	0.03	2000	
Co	59	2	He	0.069	0.069	19.07	590	0.01	2000	
Ni	60	2	He	0.281	0.281	39.49	700	0.04	2000	
Cu	63	2	He	0.185	0.185	8.49	2390	0.01	2000	
Zn	66	2	He	2.843	2.843	4.76	2877	0.10	2000	
Al	27	2	He	13.450	13.450	8.10	4214	0.32	2000	
B	11	1	No Gas	55.719	55.719	4.89	72883	0.08	2000	
Al	27	1	No Gas	12.798	12.798	1.47	157702	0.01	2000	
Si	28	1	No Gas	9667.213	9667.213	0.66	43724556	0.02	2000	>LDR
Ag	107	1	No Gas	-0.073	-0.073	-8.10	260	-0.03	2000	
Cd	111	1	No Gas	-0.006	-0.006	-44.71	7	-0.10	2000	
Sr	88	1	No Gas	121.324	121.324	1.47	2309068	0.01	2000	
Mo	95	1	No Gas	0.021	0.021	17.74	103	0.02	2000	
Sn	118	1	No Gas	-0.013	-0.013	-125.43	1067	0.00	2000	
Sb	121	1	No Gas	0.030	0.030	34.34	617	0.00	2000	
Ba	137	1	No Gas	94.596	94.596	0.25	276453	0.03	2000	
Tl	205	1	No Gas	-0.006	-0.006	-11.34	43	-0.01	2000	
Tl	203	1	No Gas	-0.004	-0.004	-31.06	23	-0.02	2000	
Pb	208	1	No Gas	-0.011	-0.011	-45.79	873	0.00	2000	
U	238	1	No Gas	0.024	0.024	5.65	707	0.00	2000	
Ca	43	2	He	5080.344	5080.344	4.15	7516	67.60	200000	
Sb	121	2	He	0.019	0.019	68.23	317	0.01	2000	
Ti	47	2	He	0.001	0.001	19562.29	13	0.00	2000	
Cu	63	1	No Gas	3.014	3.014	2.90	26690	0.01	2000	
Zn	66	1	No Gas	2.683	2.683	3.05	6342	0.04	2000	
Se	82	1	No Gas	0.353	0.353	394.09	-54	-0.65	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	742957	0.92	823334	90.24	70	120	
Ge	72	2	He	414898	1.30	413778	100.27	70	120	
Ge	72	1	No Gas	1323493	1.97	1379474	95.94	70	120	
In	115	1	No Gas	1621211	1.59	1670123	97.07	70	120	
Bi	209	1	No Gas	1453242	1.09	1532763	94.81	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	107_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq Date Time	2022-11-10T16:32:59-06:00
Sample Type	CCV
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	%High2	QC Flag
Li	7	1	No Gas	96.460	1.276	1020312	2.37	100	96.5	90	110	
Be	9	1	No Gas	96.224	1.989	202821	0.66	100	96.2	90	110	
V	51	2	He	98.283	0.578	352951	0.15	100	98.3	90	110	
Cr	52	2	He	98.708	0.279	411577	0.41	100	98.7	90	110	
Fe	56	2	He	9951.520	0.325	38389364	0.13	10000	99.5	90	110	
Se	78	2	He	101.621	0.373	5581	0.09	100	101.6	90	110	
As	75	2	He	100.636	0.984	55741	0.94	100	100.6	90	110	
Ca	44	2	He	9898.412	1.432	226047	1.31	10000	99.0	90	110	
Na	23	2	He	10204.167	1.478	7500524	1.04	10000	102.0	90	110	
Mg	24	2	He	9998.739	0.624	4267738	0.90	10000	100.0	90	110	
K	39	2	He	10177.867	1.221	4608939	0.77	10000	101.8	90	110	
Mn	55	2	He	99.306	0.712	303277	0.79	100	99.3	90	110	
Co	59	2	He	94.786	0.928	630948	0.48	100	94.8	90	110	
Ni	60	2	He	98.757	1.295	160176	0.85	100	98.8	90	110	
Cu	63	2	He	98.174	0.612	429126	0.17	100	98.2	90	110	
Zn	66	2	He	99.221	1.008	81350	0.67	100	99.2	90	110	
Al	27	2	He	98.004	1.938	22769	1.44	100	98.0	90	110	
B	11	1	No Gas	492.099	3.455	513545	2.29	500	98.4	90	110	
Al	27	1	No Gas	89.877	0.631	850337	0.41	100	89.9	90	110	CCV Main CR1-2 Failed
Si	28	1	No Gas	465.430	1.718	2257183	1.39	5000	9.3	90	110	CCV Main CR1-2 Failed
Ag	107	1	No Gas	98.671	1.095	905275	0.79	100	98.7	90	110	
Cd	111	1	No Gas	98.497	1.594	184760	0.23	100	98.5	90	110	
Sr	88	1	No Gas	98.435	1.112	1774906	1.22	100	98.4	90	110	
Mo	95	1	No Gas	94.253	1.340	326152	0.76	100	94.3	90	110	
Sn	118	1	No Gas	106.848	0.861	532499	0.90	100	106.8	90	110	
Sb	121	1	No Gas	90.259	0.829	736017	0.65	100	90.3	90	110	
Ba	137	1	No Gas	97.172	1.293	269008	0.52	100	97.2	90	110	
Tl	205	1	No Gas	99.419	0.982	2082924	1.45	100	99.4	90	110	
Tl	203	1	No Gas	88.589	1.008	779351	1.16	100	88.6	90	110	CCV Main CR1-2 Failed
Pb	208	1	No Gas	96.534	0.563	2704063	0.88	100	96.5	90	110	
U	238	1	No Gas	96.749	1.355	2847091	1.59	100	96.7	90	110	
Ca	43	2	He	9701.069	0.524	13253	0.38	10000	97.0	90	110	
Sb	121	2	He	98.079	0.382	427875	0.47	100	98.1	90	110	
Ti	47	2	He	99.507	6.094	12549	6.43	100	99.5	90	110	
Cu	63	1	No Gas	90.256	0.197	670052	0.14	100	90.3	90	110	
Se	82	1	No Gas	96.304	5.921	9864	5.71	100	96.3	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	687448	1.37	823334	83.50	70	120	
Ge	72	2	He	383675	0.44	413778	92.72	70	120	
Ge	72	1	No Gas	1248406	0.32	1379474	90.50	70	120	
In	115	1	No Gas	1535954	1.76	1670123	91.97	70	120	
Bi	209	1	No Gas	1464214	0.47	1532763	95.53	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	108_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq Date Time	2022-11-10T16:34:48-06:00
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	0.226	16.7	38731	0.7	0.5	
Be	9	1	No Gas	0.006	124.6	35	42.9	0.5	
V	51	2	He	-0.110	-5.1	2076	1.1	2.5	
Cr	52	2	He	0.135	8.0	1230	3.3	2.5	
Fe	56	2	He	0.798	8.3	12603	2.3	100	
Se	78	2	He	0.438	24.5	205	3.0	2	
As	75	2	He	0.025	121.2	104	16.4	2.5	
Ca	44	2	He	-8.304	-10.3	397	5.2	100	
Na	23	2	He	64.525	6.4	195755	0.7	100	
Mg	24	2	He	0.830	46.5	667	24.9	100	
K	39	2	He	10.009	17.9	74909	0.1	100	
Mn	55	2	He	-0.028	-89.4	540	13.4	2.5	
Co	59	2	He	0.000	-2189.4	87	35.3	2.5	
Ni	60	2	He	-0.043	-80.8	120	46.4	2.5	
Cu	63	2	He	-0.087	-13.8	1003	5.8	2	
Zn	66	2	He	0.037	151.9	363	12.4	2.5	
Al	27	2	He	-1.047	-23.2	647	7.6	5	
B	11	1	No Gas	32.457	9.0	42203	6.7	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	-0.886	-5.8	23867	1.8	5	
Si	28	1	No Gas	-13.052	-5.5	226553	1.0	10	
Ag	107	1	No Gas	-0.045	-21.5	507	18.2	2.5	
Cd	111	1	No Gas	0.002	450.6	23	89.2	1	
Sr	88	1	No Gas	-0.010	-76.7	980	12.7	2.5	
Mo	95	1	No Gas	0.029	51.5	127	40.5	2.5	
Sn	118	1	No Gas	-0.003	-203.5	1077	3.0	5	
Sb	121	1	No Gas	0.011	105.3	420	21.4	2.5	
Ba	137	1	No Gas	-0.026	-38.0	120	22.0	2.5	
Tl	205	1	No Gas	0.065	42.0	1543	37.7	1	
Tl	203	1	No Gas	0.059	34.0	587	31.0	1	
Pb	208	1	No Gas	-0.012	-11.3	863	3.7	2.5	
U	238	1	No Gas	0.014	12.1	427	11.1	2.5	
Ca	43	2	He	6.588	226.4	30	66.7	100	
Sb	121	2	He	0.005	293.3	227	26.6	2.5	
Ti	47	2	He	0.009	1324.4	13	114.6	2.5	
Cu	63	1	No Gas	-0.045	-39.7	2537	5.7	2.5	
Se	82	1	No Gas	0.108	1474.3	-76	-212.5	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	664428	0.36	823334	80.70	70	120	
Ge	72	2	He	376322	0.96	413778	90.95	70	120	
Ge	72	1	No Gas	1230933	0.57	1379474	89.23	70	120	
In	115	1	No Gas	1556872	1.51	1670123	93.22	70	120	
Bi	209	1	No Gas	1475574	0.68	1532763	96.27	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	121_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq Date Time	2022-11-10T17:04:54-06:00
Sample Type	CCV
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	%High2	QC Flag
Li	7	1	No Gas	102.476	6.348	995319	1.92	100	102.5	90	110	
Be	9	1	No Gas	99.427	4.859	192969	0.37	100	99.4	90	110	
V	51	2	He	97.389	0.921	340383	0.12	100	97.4	90	110	
Cr	52	2	He	98.930	0.385	401447	0.70	100	98.9	90	110	
Fe	56	2	He	9866.709	0.932	37041148	0.12	10000	98.7	90	110	
Se	78	2	He	99.658	0.154	5330	1.05	100	99.7	90	110	
As	75	2	He	100.849	0.586	54363	1.11	100	100.8	90	110	
Ca	44	2	He	9728.878	0.943	216228	0.53	10000	97.3	90	110	
Na	23	2	He	9974.097	0.518	7138568	0.71	10000	99.7	90	110	
Mg	24	2	He	9871.754	1.603	4100266	0.70	10000	98.7	90	110	
K	39	2	He	9801.835	1.740	4322065	0.79	10000	98.0	90	110	
Mn	55	2	He	98.459	1.028	292631	0.69	100	98.5	90	110	
Co	59	2	He	94.484	0.778	612083	0.33	100	94.5	90	110	
Ni	60	2	He	97.743	0.972	154290	0.98	100	97.7	90	110	
Cu	63	2	He	98.700	0.939	419850	0.51	100	98.7	90	110	
Zn	66	2	He	99.398	2.749	79311	2.68	100	99.4	90	110	
Al	27	2	He	95.680	3.734	21650	2.66	100	95.7	90	110	
B	11	1	No Gas	503.078	3.253	483535	2.34	500	100.6	90	110	
Al	27	1	No Gas	87.677	1.097	810658	0.33	100	87.7	90	110	CCV Main CR1-2 Failed
Si	28	1	No Gas	450.068	1.277	2140214	0.42	5000	9.0	90	110	CCV Main CR1-2 Failed
Ag	107	1	No Gas	99.110	0.745	889692	0.73	100	99.1	90	110	
Cd	111	1	No Gas	99.086	1.197	181863	0.54	100	99.1	90	110	
Sr	88	1	No Gas	98.183	1.714	1732030	0.82	100	98.2	90	110	
Mo	95	1	No Gas	93.939	2.313	318019	0.92	100	93.9	90	110	
Sn	118	1	No Gas	110.295	1.149	537773	0.94	100	110.3	90	110	CCV Main CR1-2 Failed
Sb	121	1	No Gas	91.470	0.944	728243	0.38	100	91.5	90	110	
Ba	137	1	No Gas	97.957	0.974	265336	0.48	100	98.0	90	110	
Tl	205	1	No Gas	103.985	0.716	2103308	1.29	100	104.0	90	110	
Tl	203	1	No Gas	92.571	0.338	786242	0.76	100	92.6	90	110	
Pb	208	1	No Gas	100.778	0.712	2725315	0.88	100	100.8	90	110	
U	238	1	No Gas	99.752	0.962	2834104	1.53	100	99.8	90	110	
Ca	43	2	He	9852.026	4.046	13096	3.44	10000	98.5	90	110	
Sb	121	2	He	98.757	0.645	419283	0.55	100	98.8	90	110	
Ti	47	2	He	101.147	1.532	12413	1.74	100	101.1	90	110	
Cu	63	1	No Gas	89.251	1.040	646935	0.29	100	89.3	90	110	CCV Main CR1-2 Failed
Se	82	1	No Gas	101.427	1.876	10148	1.35	100	101.4	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	633921	5.09	823334	76.99	70	120	
Ge	72	2	He	373400	0.96	413778	90.24	70	120	
Ge	72	1	No Gas	1218948	1.22	1379474	88.36	70	120	
In	115	1	No Gas	1502766	1.44	1670123	89.98	70	120	
Bi	209	1	No Gas	1413626	0.59	1532763	92.23	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	122_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq Date Time	2022-11-10T17:06:43-06:00
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	0.156	42.3	36153	1.8	0.5	
Be	9	1	No Gas	0.006	152.7	33	52.7	0.5	
V	51	2	He	-0.167	-8.2	1837	2.7	2.5	
Cr	52	2	He	0.144	19.2	1240	8.4	2.5	
Fe	56	2	He	2.652	7.1	19204	4.2	100	
Se	78	2	He	-0.050	-1259.6	176	17.9	2	
As	75	2	He	0.002	940.0	90	9.8	2.5	
Ca	44	2	He	-0.753	-187.0	553	5.2	100	
Na	23	2	He	28.148	3.6	166504	0.9	100	
Mg	24	2	He	1.510	10.3	930	6.5	100	
K	39	2	He	4.158	35.1	70832	0.6	100	
Mn	55	2	He	0.168	16.6	1103	6.9	2.5	
Co	59	2	He	0.003	184.1	103	31.1	2.5	
Ni	60	2	He	0.006	341.0	193	16.6	2.5	
Cu	63	2	He	0.032	187.7	1480	17.1	2	
Zn	66	2	He	0.362	16.5	610	7.1	2.5	
Al	27	2	He	-0.845	-8.7	677	2.3	5	
B	11	1	No Gas	26.493	13.0	34501	8.8	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	-0.522	-13.8	26362	2.4	5	
Si	28	1	No Gas	-9.746	-14.9	233521	1.8	10	
Ag	107	1	No Gas	-0.050	-6.3	453	4.6	2.5	
Cd	111	1	No Gas	-0.006	-49.5	7	86.6	1	
Sr	88	1	No Gas	0.003	314.1	1183	12.7	2.5	
Mo	95	1	No Gas	0.056	39.6	213	33.3	2.5	
Sn	118	1	No Gas	0.176	23.4	1927	12.1	5	
Sb	121	1	No Gas	0.035	52.3	600	24.9	2.5	
Ba	137	1	No Gas	0.050	21.4	323	7.1	2.5	
Tl	205	1	No Gas	0.065	36.6	1533	30.9	1	
Tl	203	1	No Gas	0.061	52.7	593	45.9	1	
Pb	208	1	No Gas	0.024	18.9	1863	5.8	2.5	
U	238	1	No Gas	0.011	27.1	323	25.2	2.5	
Ca	43	2	He	12.037	298.5	37	128.9	100	
Sb	121	2	He	0.028	40.2	320	14.3	2.5	
Ti	47	2	He	0.039	240.4	17	69.3	2.5	
Cu	63	1	No Gas	0.047	57.9	3114	6.9	2.5	
Se	82	1	No Gas	0.461	178.2	-39	-211.0	2	

QC ISTD Table

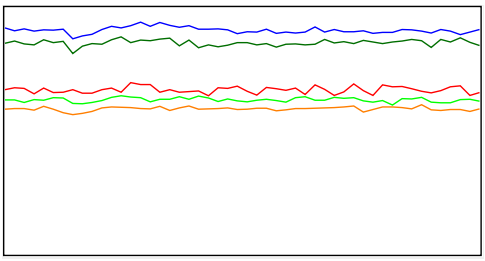
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	631504	0.54	823334	76.70	70	120	
Ge	72	2	He	368404	0.53	413778	89.03	70	120	
Ge	72	1	No Gas	1195993	0.76	1379474	86.70	70	120	
In	115	1	No Gas	1515156	1.83	1670123	90.72	70	120	
Bi	209	1	No Gas	1466511	1.44	1532763	95.68	70	120	

Tune Check Report

Operator Name	ALSHS NoUser
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\111022A.b
Acq. Date-Time	11/10/2022 10:48:19
Report Comment	---
Instrument Name	G8422A SG22121190

[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	3333	33331.75		
24	20000	12525	125251.86		
59	20000	18174	181744.19		
115	50000	29478	294782.10		
208	20000	17152	171515.51		

Mass	Resp Ratio	Resp Ratio (Required)	Resp Ratio (Flag)
9		-	
24		-	
59		-	
115		-	
208		-	

Mass	RSD%	RSD% (Required)	RSD% (Flag)
9	2.059	5.000	
24	1.400	5.000	
59	1.411	5.000	
115	1.335	5.000	
208	1.428	5.000	

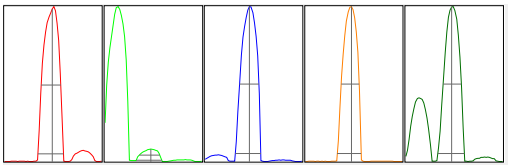
Mass	Background	Background (Required)	Background (Flag)
9	0.200		
24	0.200		
59	0.300		
115	1.200		
208	2.200		

Oxide/Doubly Charged Ratio

Oxide	156 / 140 0.491 %
Doubly Charged	70 / 140 1.368 %

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	3283.18	9.00	8.90 - 9.10	
24	12730.78	23.95	23.90 - 24.10	
59	19039.26	58.90	58.90 - 59.10	
115	30297.24	114.95	114.90 - 115.10	
208	16869.71	207.95	207.90 - 208.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.60	0.780		
24	0.62	0.784		
59	0.59	0.775		
115	0.55	0.728		
208	0.56	0.812		

Tune Parameters

Plasma Parameters

Plasma Mode	---	Nebulizer Gas	0.76 L/min	Dilution Gas	0.30 L/min
RF Power	1550 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	10.8 V	Deflect	13.2 V
Extract 2	-200.0 V	Cell Entrance	-30 V	Plate Bias	-35 V
Omega Bias	-75 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	200 V		

QP Parameters

Mass Gain	123	Axis Gain	0.9993	QP Bias	-3.0 V
Mass Offset	126	Axis Offset	0.02		

Hardware Settings

Torch

Torch H	0.2 mm	Torch V	-0.1 mm

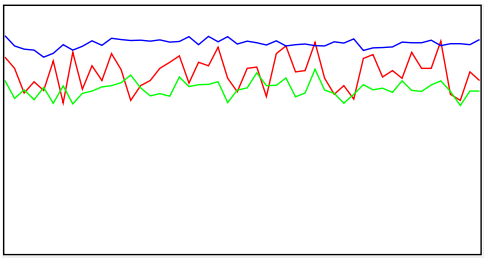
EM

Discriminator	4.5 mV	Analog HV	2138 V	Pulse HV	1150 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	200	146	1464.08		
24	1000	665	6652.98		
59	10000	8501	85012.88		

Mass	Resp Ratio	Resp Ratio (Required)	Resp Ratio (Flag)
9		-	
24		-	
59		-	

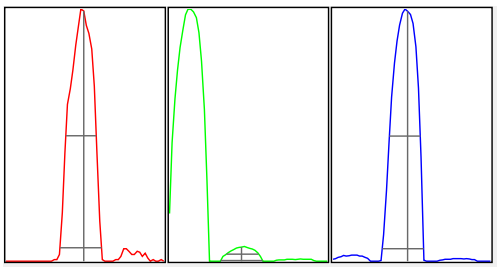
Mass	RSD%	RSD% (Required)	RSD% (Flag)
9	9.127	5.000	Fail
24	4.885	5.000	
59	2.060	5.000	

Mass	Background	Background (Required)	Background (Flag)
9	0.100		
24	0.100		
59	0.000		

Oxide/Doubly Charged Ratio

Oxide	156 / 140 0.325 %
Doubly Charged	70 / 140 1.050 %

Resolution/Axis



Integration Time [sec]	0.1
Acquisition Time [sec]	22.24
Y Axis	Linear

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
9	151.51	9.00	8.90 - 9.10	
24	669.44	23.90	23.90 - 24.10	
59	8601.71	58.95	58.90 - 59.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.57	0.777		
24	0.60	0.786		

Tune Check Report

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
59	0.58	0.771		

Tune Parameters

Plasma Parameters

Plasma Mode	---	Nebulizer Gas	0.76 L/min	Dilution Gas	0.30 L/min
RF Power	1550 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	9.9 V	Deflect	0.6 V
Extract 2	-200.0 V	Cell Entrance	-40 V	Plate Bias	-60 V
Omega Bias	-80 V	Cell Exit	-60 V		

Cell Parameters

Use Gas	Yes	3rd Gas Flow	---	Energy Discrimination	3.0 V
He Flow	3.8 mL/min	OctP Bias	-18.0 V		
H2 Flow	0.0 mL/min	OctP RF	190 V		

QP Parameters

Mass Gain	123	Axis Gain	0.9993	QP Bias	-15.0 V
Mass Offset	126	Axis Offset	0.02		

Hardware Settings

Torch

Torch H	0.2 mm	Torch V	-0.1 mm

EM

Discriminator	4.5 mV	Analog HV	2138 V	Pulse HV	1150 V

HS22110111 Wet Chemistry

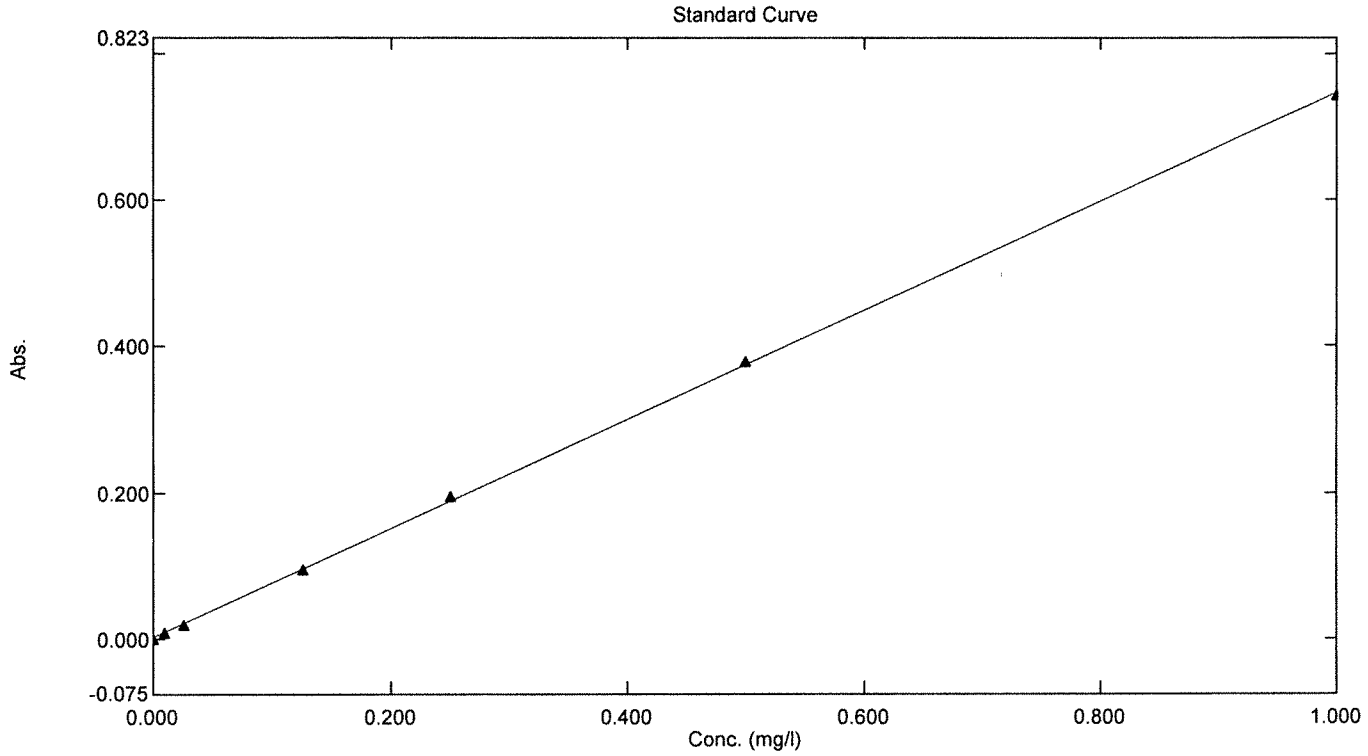
ALS WO# HS22110111

Standard Table Report

H522110111

11/09/2022 06:03:31 PM

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Correlation Coefficient r2 = 0.99981

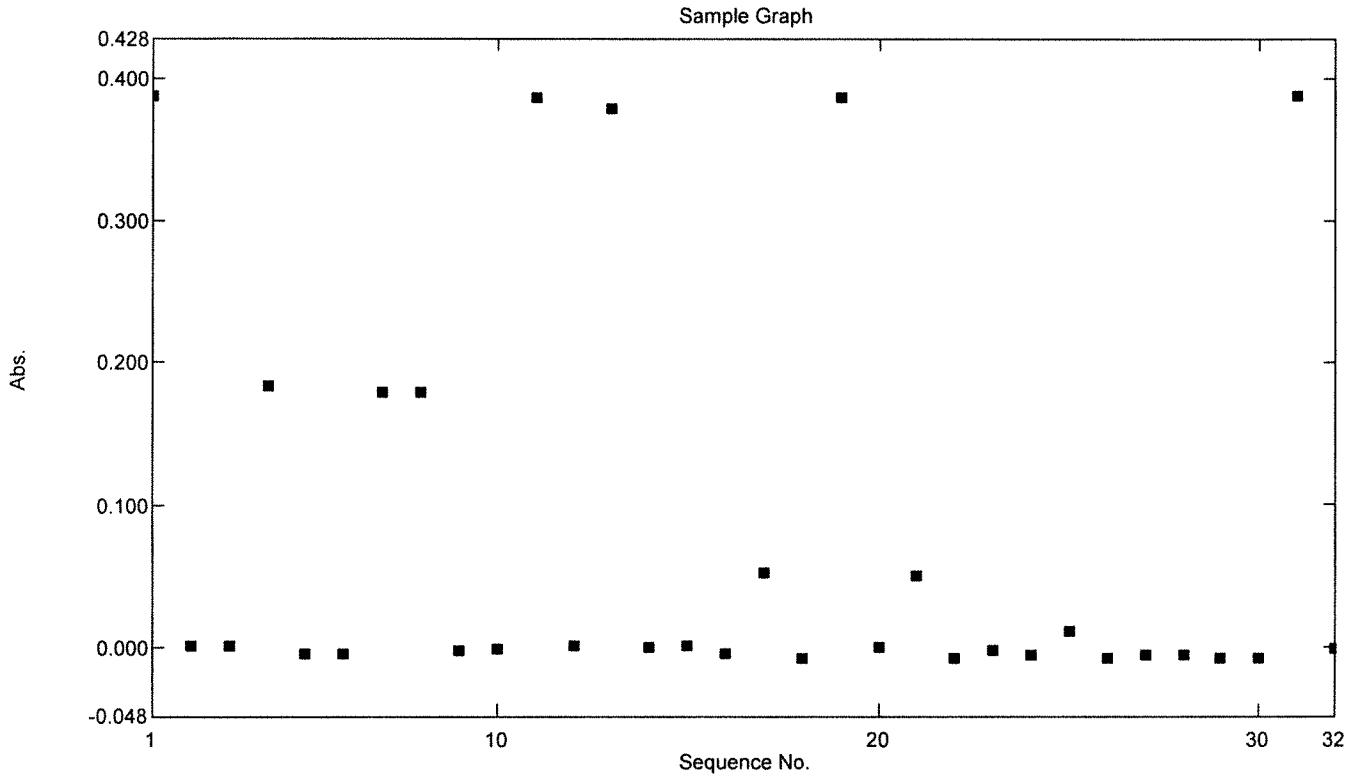
Standard Table

	Sample ID	Type	Ex	Conc	WL540.0	Wgt.Factor	Comments
1	STD1	Standard		0.000	-0.000	1.000	
2	STD2	Standard		0.010	0.007	1.000	
3	STD3	Standard		0.025	0.018	1.000	
4	STD4	Standard		0.125	0.096	1.000	
5	STD5	Standard		0.250	0.194	1.000	
6	STD6	Standard		0.500	0.380	1.000	
7	STD7	Standard		1.000	0.745	1.000	08-11-2022
8							

Sample Table Report

11/09/2022 06:03:37 PM

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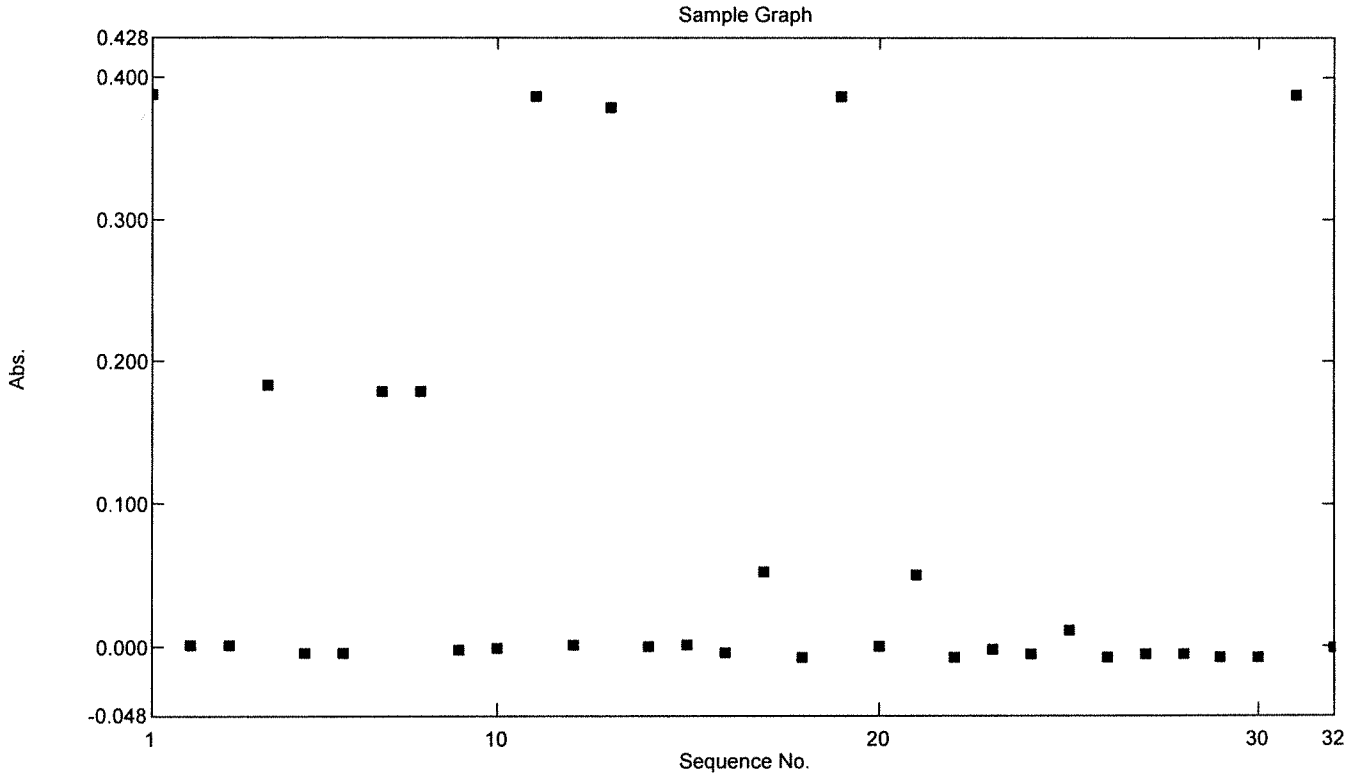
Sample Table

	Sample ID	Type	Ex	Date	Time	Conc	WL540.0	Comments
1	CCV	Unknown		11/02/2022	09:19:41 AM	0.517	0.388	320074911 WC-14
2	CCB	Unknown		11/02/2022	09:19:49 AM	-0.002	0.001	
3	MBLK	Unknown		11/02/2022	09:19:52 AM	-0.002	0.000	
4	LCS	Unknown		11/02/2022	09:20:15 AM	0.243	0.183	320074910 WC-14
5	HS22110094.01	Unknown		11/02/2022	09:20:36 AM	-0.009	-0.005	
6	HS22110094.01BKG	Unknown		11/02/2022	09:20:59 AM	-0.009	-0.005	0.000
7	HS22110094.01MS	Unknown		11/02/2022	09:21:43 AM	0.237	0.179	C-320074203
8	HS22110094.01MSD	Unknown		11/02/2022	09:21:45 AM	0.237	0.179	11 N-320073803
9	HS22110094.04	Unknown		11/02/2022	09:22:14 AM	-0.005	-0.002	
10	HS22110094.04BKG	Unknown		11/02/2022	09:22:16 AM	-0.005	-0.002	0.000
11	CCV2	Unknown		11/02/2022	09:22:33 AM	0.515	0.387	
12	CCB2	Unknown		11/02/2022	09:22:47 AM	-0.002	0.000	
13	CCV3	Unknown		11/02/2022	12:05:03 PM	0.504	0.378	
14	CCB3	Unknown		11/02/2022	12:05:12 PM	-0.004	-0.001	
15	HS22110106.01	Unknown		11/02/2022	12:06:08 PM	-0.001	0.001	
16	HS22110106.01BKG	Unknown		11/02/2022	12:06:42 PM	-0.009	-0.005	0.000
17	HS22110106.04	Unknown		11/02/2022	12:08:16 PM	0.067	0.052	
18	HS22110106.04BKG	Unknown		11/02/2022	12:08:37 PM	-0.014	-0.008	0.067
19	CCV4	Unknown		11/02/2022	12:10:39 PM	0.515	0.386	

Sample Table Report

11/09/2022 06:03:37 PM

File Name: C:\Program Files (x86)\Shimadzu\UVProbe\Data\CR6+_UNKNOWN\2022\11022022CR6_W.pho



Sample Table

	Sample ID	Type	Ex	Date	Time	Conc	WL540.0	Comments
20	CCB4	Unknown		11/02/2022	12:10:46 PM	-0.003	-0.001	
21	HS22110106.05	Unknown		11/02/2022	12:19:07 PM	0.065	0.050	
22	HS22110106.05BKG	Unknown		11/02/2022	12:19:30 PM	-0.014	-0.008	0.065
23	HS22110106.03	Unknown		11/02/2022	12:20:10 PM	-0.007	-0.003	
24	HS22110106.03BKG	Unknown		11/02/2022	12:20:22 PM	-0.010	-0.005	0.000
25	HS22110106.02	Unknown		11/02/2022	12:20:55 PM	0.012	0.011	
26	HS22110106.02BKG	Unknown		11/02/2022	12:21:07 PM	-0.013	-0.008	0.012
27	HS22110108.01	Unknown		11/02/2022	12:21:39 PM	-0.011	-0.006	
28	HS22110108.01BKG	Unknown		11/02/2022	12:21:47 PM	-0.010	-0.005	0.000
29	HS22110111.01	Unknown		11/02/2022	12:22:09 PM	-0.014	-0.008	
30	HS22110111.01BKG	Unknown		11/02/2022	12:22:11 PM	-0.014	-0.009	0.000
31	CCV5	Unknown		11/02/2022	12:22:32 PM	0.516	0.387	
32	CCB6	Unknown		11/02/2022	12:22:39 PM	-0.005	-0.002	
33								

HS22110111-E2201059 Perchlorate Level IV Report

ALS WO# HS22110111

November 08, 2022 Service Request No:E2201059

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

Laboratory Results for: HS22110111

Dear Dane,

Enclosed are the results of the sample(s) submitted to our laboratory November 02, 2022
For your reference, these analyses have been assigned our service request number **E2201059.**

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 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.:**	E2201059
Project:	HS22110111	**Date Received:**	11/02/22
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 11/02/22.

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:

EQ2200510: 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:**E2201059
Project: HS22110111

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2201059-001	LH18/24-SP650_110122_AIX	11/1/2022	1400

Service Request Summary

Folder #: **E2201059**
Client Name: ALS Environmental - US
Project Name: HS22110111
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: JGUIN
Date Received: 11/02/22
Internal Due Date: 11/11/2022
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS22110111
EDD: BASIC_WQC_CASNo_LOD

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

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2201059-001	LH18/24-SP650_110122_AIX	Water	11/01/22 1400	**IV**

Service Request Summary

Folder #:	**E2201059**
Client Name:	ALS Environmental - US
Project Name:	HS22110111
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:	JGUIN
Date Received:	11/02/22
Internal Due Date:	11/11/2022
QAP:	LAB QAP
Qualifier Set:	Lab Standard
Formset:	Lab Standard
Merged?:	Y
Report to MDL?:	Y
P.O. Number:	HS22110111
EDD:	BASIC_WQC_CASNo_LOD

1 120 mL-Plastic Bottle Natural WM Unpreserved

Location: EHRMS-AirArch 1

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	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	12/31/2022
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	2228443	12/31/2022
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 Health	C819-2022	11/14/2022

ALS

Chain of Custody

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F: +1 281 530 5887
www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **20239**

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:	HS22110111
TSR:	Houston House Acct

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS22110111-02**	**LH18/24-SP650_110122_AIX**	**Water**	**01 Nov 2022 14:00**
	Provide Level II and Level IV reports in separate pdf			11 Nov 2022

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

QC Level: DOD IV (DoD Data Package)

Relinquished By: CG Date/Time: 11/2/22 1100

Received By: Jum. J Date/Time: 11/2/22 1200

Cooler ID(s): Temperature(s):

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Houston, TX 77099
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F: +1 281 530 5887
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Sample Receipt Checklist

Work Order ID: HS22110111 **Date/Time received:** 02 Nov 2022 09:35

Client name: Bhate Environmental Associates, Inc. **Received by:** Corey Grandits

Completed/By:	02 Nov 2022 11:08	Corey Grandits	**Reviewed/By:**		
	Date/Time	eSignature		Date/Time	eSignature

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	COC ID(s):
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): 1.8UC/1.3C IR31

Cooler Information: 1 Cooler(s), 48897

Date/Time sample(s) sent to storage: 11/2/2022

Water - VOA vials have zero headspace?	☑ Yes	☐ No	☐ No VOA vials submitted
Water - pH acceptable upon receipt?	☑ Yes	☐ No	☐ Not Applicable
pH adjusted?	☐ Yes	☑ No	☐ Not Applicable

pH adjusted by:

Login notes:

Client contacted: **Date contacted:** **Person contacted:**

Contacted by: **Regarding:**

Comments:

Corrective action:

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

Preparation Information Benchsheet

Prep Run#: 409515 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/XMI **Prep Method:** Method **Prep Date/Time:** 11/7/22 08:27

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2201058-001	LH18/24-SP140_110122	.01	6850/ClO4 DOD			Water	10mL	
2	E2201059-001	LH18/24-SP650_110122_AIX	.01	6850/ClO4 DOD			Water	10mL	
3	E2201060-001	LH18/24-SP650_110122_AIX	.01	6850/ClO4 DOD			Water	10mL	
4	E2201060-002	LH18/24-SP650_110122_BIX	.01	6850/ClO4 DOD			Water	10mL	
5	E2201088-001	43MW05	.01	6850/ClO4 DOD			Water	10mL	
6	E2201088-002	43MW03	.01	6850/ClO4 DOD			Water	10mL	
7	E2201088-003	43MW03-Dup	.01	6850/ClO4 DOD			Water	10mL	
8	E2201088-004	43MW04	.01	6850/ClO4 DOD			Water	10mL	
9	E2201088-005	43MW06	.01	6850/ClO4 DOD			Water	10mL	
10	E2201088-006	43MW01	.01	6850/ClO4 DOD			Water	10mL	
11	E2201088-007	EB102722	.01	6850/ClO4 DOD			Water	10mL	
12	EQ2200510-01	MB		6850/ClO4 DOD			Liquid	10mL	
13	EQ2200510-02	LCS		6850/ClO4 DOD			Liquid	10mL	
14	EQ2200510-03	DLCS		6850/ClO4 DOD			Liquid	10mL	
15	EQ2200510-04	43MW01 MS	.01	6850/ClO4 DOD			Liquid	10mL	
16	EQ2200510-05	43MW01 DMS	.01	6850/ClO4 DOD			Liquid	10mL	

Spiking Solutions

Name: Perchlorate Intermediate Stock1 Inventory ID 225386 Logbook Ref: Perchlorate (1st Source) Expires On: 01/31/2023

EQ2200510-02 1.00µL EQ2200510-03 1.00µL EQ2200510-04 1.00µL EQ2200510-05 1.00µL

Name: Perchlorate Internal Standard 1ug/mL Inventory ID 225719 Logbook Ref: Perchlorate Internal Standard Expires On: 01/31/2023

E2201058-001 100.00µL E2201059-001 100.00µL E2201060-001 100.00µL E2201060-002 100.00µL E2201088-001 100.00µL E2201088-002 100.00µL
E2201088-003 100.00µL E2201088-004 100.00µL E2201088-005 100.00µL E2201088-006 100.00µL E2201088-007 100.00µL EQ2200510-01 100.00µL
EQ2200510-02 100.00µL EQ2200510-03 100.00µL EQ2200510-04 100.00µL EQ2200510-05 100.00µL

Preparation Materials

Water HPLC Grade 10/24/2022 Water (225656) 6850 Amber Glass screw vial 2mL Screw Top Vial (221308) 6850 0.45um syringe filters 6850 Syringe Filters (224414)
6850 Luer-Lok Syringes Luer-Lok Syringes (221305) 6850 Pipette Tips 50-1000 uL 6850 Pipette Tips (221307)

Preparation Information Benchsheet

Prep Run#: 409515
Team: Semivoa GCMS/XMI

Prep WorkFlow: GenExt28Day
Prep Method: Method

Status: Prepped
Prep Date/Time: 11/7/22 08:27

Preparation Steps

Step: Preparation
Started: 11/7/22 08:27
Finished: 11/7/22 11:40
By: XMI
Comments

Comments: _____

Reviewed By: GR Date: 11/07/22

Chain of Custody

Relinquished By: _____ Date: _____

Received By: _____ Date: _____

Extracts Examined
Yes No

Analytical Results

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ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2201059
Project:	HS22110111	**Date Collected:**	11/ 1/22 1400
Sample Matrix:	Water	**Date Received:**	11/ 2/22
Sample Name:	LH18/24-SP650_110122_AIX	**Units:**	µg/L
Lab Code:	E2201059-001	**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	11/ 7/22	11/8/22 10:11	409515	784376	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2201059
Project:	HS22110111	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2200510-01	**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	11/ 7/22	11/7/22 17:31	409515	784373	

Accuracy & Precision

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ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS22110111
Sample Matrix: Water

Service Request: E2201059
Date Analyzed: 11/ 7/22

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: 409515

	Lab Control Sample EQ2200510-02			Duplicate Lab Control Sample EQ2200510-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.113	0.100	113	0.105	0.100	105	84 - 119	8	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:**	E2201059
Project:	HS22110111	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2200510-02	**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	**0.113**		0.100	0.0500	0.0250	1	11/ 7/22	11/7/22 17:39	409515	784373	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2201059
Project:	HS22110111	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2200510-03	**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	**0.105**		0.100	0.0500	0.0250	1	11/ 7/22	11/7/22 17:47	409515	784373	

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

20221013

1st Review: XMI
2nd Review: Kneir

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 10/13/2022
Cal. Std. xp: 1/31/2023
ICAL ID: EC2200014

Mobile Phases A:0.10% Formic Acid/Water 3210301-02 B:MeOH 224417

	Sample Name	File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	PERCHLORATE1	20221013_016	Perchlorate6850c.lcm	1x	☒	225390	10/13/2022 10:53
2	PERCHLORATE2	20221013_017	Perchlorate6850c.lcm	1x	☒	225392	10/13/2022 11:02
3	PERCHLORATE3	20221013_018	Perchlorate6850c.lcm	1x	☒	225393	10/13/2022 11:10
4	PERCHLORATE4	20221013_019	Perchlorate6850c.lcm	1x	☒	225394	10/13/2022 11:19
5	PERCHLORATE5	20221013_020	Perchlorate6850c.lcm	1x	☒	225395	10/13/2022 11:27
6	PERCHLORATE6	20221013_021	Perchlorate6850c.lcm	1x	☒	225396	10/13/2022 11:35
7	PERCHLORATE7	20221013_022	Perchlorate6850c.lcm	1x	☒	225398	10/13/2022 11:44
8	PERCHLORATE8	20221013_023	Perchlorate6850c.lcm	1x	☒	225400	10/13/2022 11:52
9	PERCHLORATE9	20221013_024	Perchlorate6850c.lcm	1x	☒	225401	10/13/2022 12:01
10	PERCHLORATE10	20221013_025	Perchlorate6850c.lcm	1x	☒	225402	10/13/2022 12:09
11	PERCHLORATEICV	20221013_026	Perchlorate6850c.lcm	1x	☒	225404	10/13/2022 12:17
12	LODV	20221013_027	Perchlorate6850c.lcm	1x	☒	DNU-IR	10/13/2022 12:26
13	MB	20221013_028	Perchlorate6850c.lcm	1x	☒	IDOC	10/13/2022 12:34
14	LCS	20221013_029	Perchlorate6850c.lcm	1x	☒	IDOC-DNU-IR	10/13/2022 12:42
15	DLCS	20221013_030	Perchlorate6850c.lcm	1x	☒	IDOC-DNU-IR	10/13/2022 12:51
16	IB	20221013_031	Perchlorate6850c.lcm	1x	☒		10/13/2022 12:59
17	IB	20221013_032	Perchlorate6850c.lcm	1x	☒		10/13/2022 13:08
18	IB	20221013_033	Perchlorate6850c.lcm	1x	☒		10/13/2022 13:16
19	null	20221013_034	Perchlorate6850c.lcm	1x	☒		10/13/2022 13:21
20	null	20221013_035	Perchlorate6850c.lcm	1x	☒		10/13/2022 13:27
21	IB	20221013_036	Perchlorate6850c.lcm	1x	☒		10/13/2022 14:02
22	IB	20221013_037	Perchlorate6850c.lcm	1x	☒		10/13/2022 14:10
23	LODV	20221013_038	Perchlorate6850c.lcm	1x	☒	225199	10/13/2022 14:19
24	PERCHLORATE7	20221013_039	Perchlorate6850c.lcm	1x	☒	225398	10/13/2022 14:27
25	MB	20221013_040	Perchlorate6850c.lcm	1x	☒	IDOC	10/13/2022 14:44
26	LCS	20221013_041	Perchlorate6850c.lcm	1x	☒	IDOC	10/13/2022 14:52
27	DLCS	20221013_042	Perchlorate6850c.lcm	1x	☒	IDOC-DNU-IR	10/13/2022 15:01
28	LCS	20221013_043	Perchlorate6850c.lcm	1x	☒	IDOC	10/13/2022 15:09
29	DLCS	20221013_044	Perchlorate6850c.lcm	1x	☒	IDOC	10/13/2022 15:17
30	MB WIPE-1013PREP	20221013_045	Perchlorate6850c.lcm	1x	☒	DNU-IR	10/13/2022 15:26
31	MB WIPE-1013PREP	20221013_046	Perchlorate6850c.lcm	1x	☒	DNU-IR	10/13/2022 14:35
32	PERCHLORATE7	20221013_047	Perchlorate6850c.lcm	1x	☒	225398	10/13/2022 15:34
33	IB	20221013_048	Perchlorate6850c.lcm	1x	☒		10/13/2022 15:43
34	IB	20221013_049	Perchlorate6850c.lcm	1x	☒		10/13/2022 15:51
35	null	20221013_050	Perchlorate6850c.lcm	1x	☒		10/13/2022 15:56
36	null	20221013_051	Perchlorate6850c.lcm	1x	☒		10/13/2022 16:02

Initial Calibration - Detailed Report

Calibration ID: EC2200014 **Instrument ID:** E-LCMS-01
Column Name: 1

#	Lab Code	Sample Name	File Location	Aquisition Date
01	EC2200014-01	PERCHLORATE1	20221013_016	10/13/2022 10:53
02	EC2200014-02	PERCHLORATE2	20221013_017	10/13/2022 11:02
03	EC2200014-03	PERCHLORATE3	20221013_018	10/13/2022 11:10
04	EC2200014-04	PERCHLORATE4	20221013_019	10/13/2022 11:19
05	EC2200014-05	PERCHLORATE5	20221013_020	10/13/2022 11:27
06	EC2200014-06	PERCHLORATE6	20221013_021	10/13/2022 11:35
07	EC2200014-07	PERCHLORATE7	20221013_022	10/13/2022 11:44
08	EC2200014-08	PERCHLORATE8	20221013_023	10/13/2022 11:52
09	EC2200014-09	PERCHLORATE9	20221013_024	10/13/2022 12:01
10	EC2200014-10	PERCHLORATE10	20221013_025	10/13/2022 12:09

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

Perchlorate **Average RF** **RSD = 5.871** **Average RF = 0.1347**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.1000	0.1373	02	0.5000	0.1357	03	0.7000	0.1336	04	1.0000	0.1416
05	2.0000	0.1235	06	5.0000	0.1283	07	10.0000	0.1522	08	20.0000	0.1315
09	30.0000	0.1332	10	50.0000	0.1302						

Analyte

Perchlorate

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.1000	0.102	1.9	02	0.5000	0.504	0.7	03	0.7000	0.694	-0.8
04	1.0000	1.05	5.1	05	2.0000	1.83	-8.3	06	5.0000	4.76	-4.8
07	10.0000	11.3	13.0	08	20.0000	19.5	-2.4	09	30.0000	29.7	-1.1
10	50.0000	48.3	-3.3								

Initial Calibration Verification Summary Report

Calibration ID:	EC2200014	**Instrument ID:**	E-LCMS-01
Datafile ID:	20221013_026	**Column Name:**	1

Analyte	Lab Code	Type	Curve Fit	True Value	Calc Conc	Units	Result	Criteria
Perchlorate	EC2200014-11	T	Average RF	10	10.918	ng/mL	9.2	<= 15

Insight Report

Printed at 10/24/2022 11:16:28 AM

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Project File: I:\LCMS01\DATA\20221013ICAL\10132022_ICAL.damlp

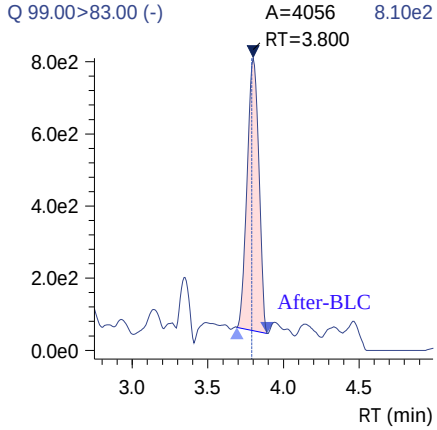
PERCHLORATE1

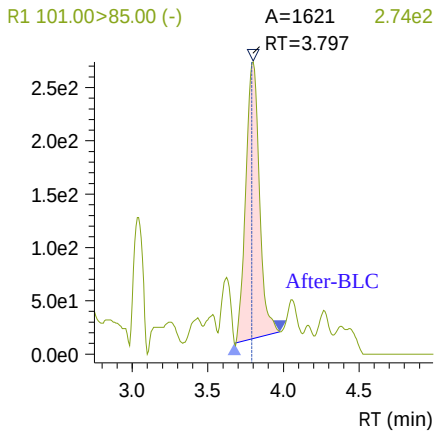
Sample ID: PERCHLORATE1
Date Acquired: 10/13/2022 10:53:53 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221013ICAL\20221013_016.lcd
Vial: 38 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	M	3.800	4056	295377	0.1019	ng/mL	101.00 >85.00	39.97	23.94 -44.46
Sodium Perchlorate -18O4_IS	Auto	3.796	295377	295377	1.0000	ng/mL	----	----	

Perchlorate

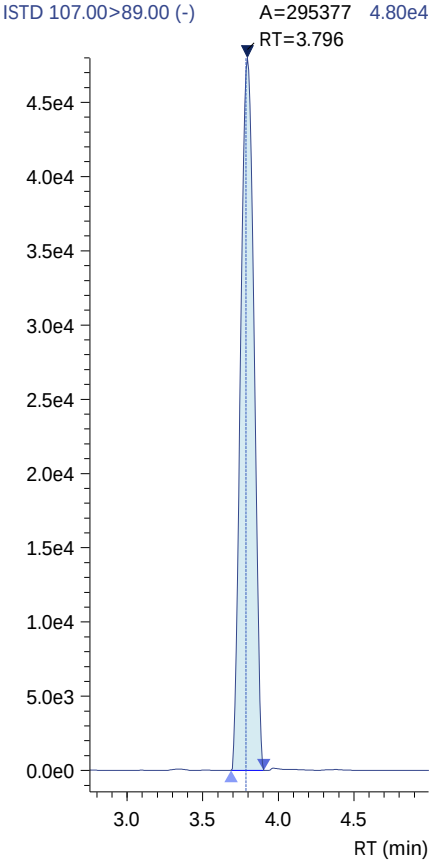
Conc 0.1019
R#1 39.97 (34.20)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 10/24/2022 9:43:49 AM

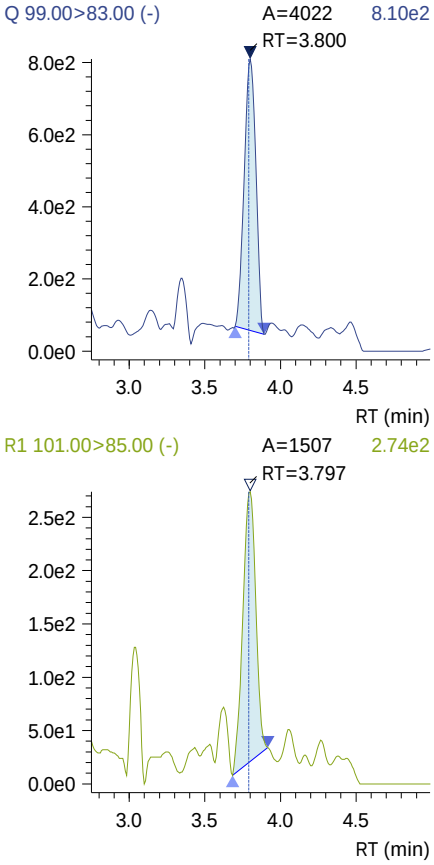
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Project File: I:\LCMS01\DATA\20221013ICAL\20221013ICAL.damlp

PERCHLORATE1

Sample ID: PERCHLORATE1
Date Acquired: 10/13/2022 10:53:53 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221013ICAL\20221013_016.lcd
Vial: 38 | Inj. Volume: 25.0000uL | Tray: 1

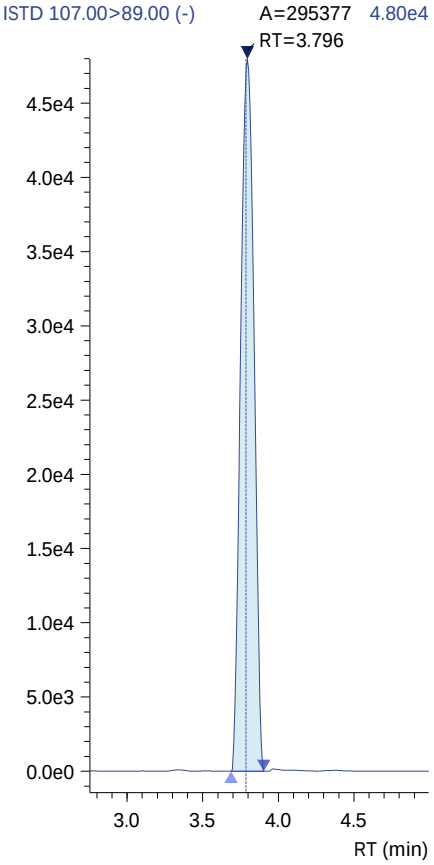
Perchlorate

Conc 0.1012
R#1 37.47 (33.91)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

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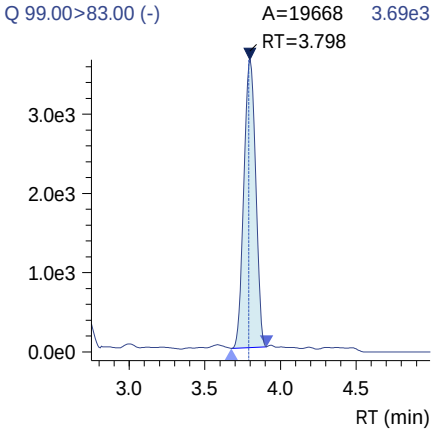
PERCHLORATE2

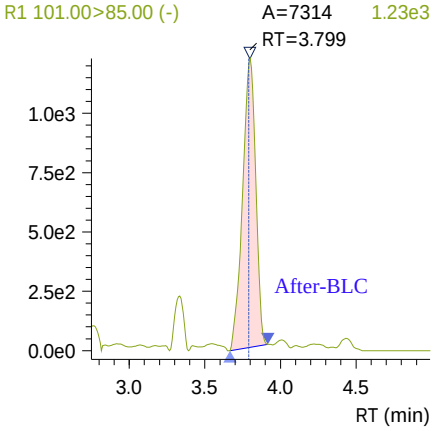
Sample ID: PERCHLORATE2
Date Acquired: 10/13/2022 11:02:18 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221013ICAL\20221013_017.lcd
Vial: 39 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	MI R1	3.798	19668	289981	0.5035	ng/mL	101.00 >85.00	37.19	23.94 -44.46
Sodium Perchlorate -18O4_IS	Auto	3.796	289981	289981	1.0000	ng/mL	----	----	

Perchlorate

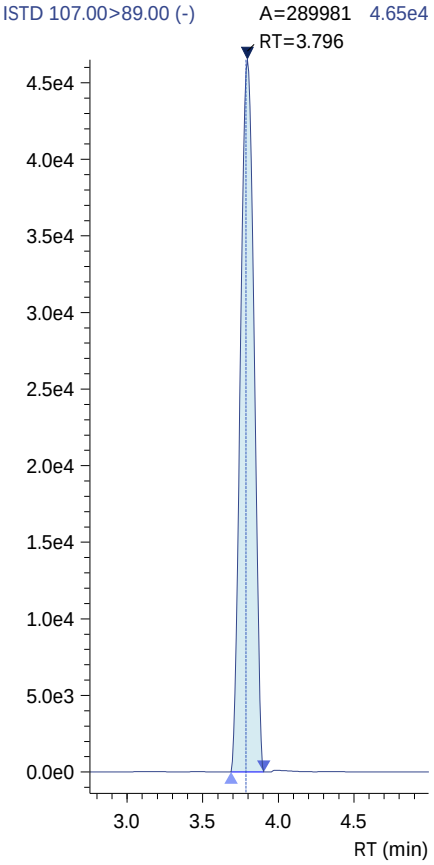
Conc 0.5035
R#1 37.19 (34.20)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

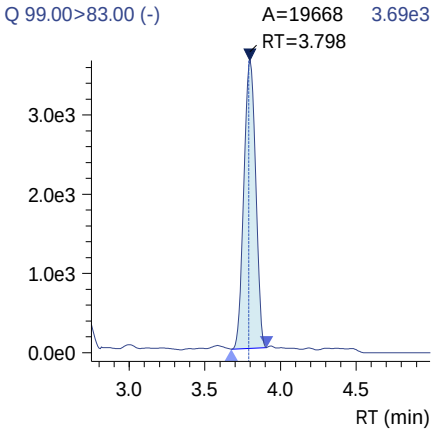
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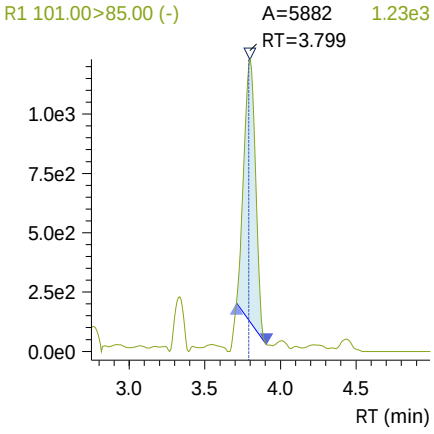
PERCHLORATE2

Sample ID: PERCHLORATE2
Date Acquired: 10/13/2022 11:02:18 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221013ICAL\20221013_017.lcd
Vial: 39 | Inj. Volume: 25.0000uL | Tray: 1

Perchlorate

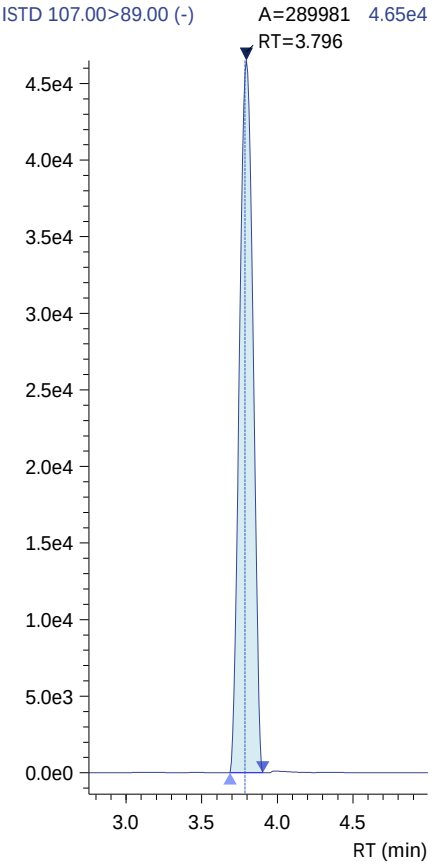
Conc 0.5040
R#1 29.91 (33.91)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 10/24/2022 11:16:28 AM

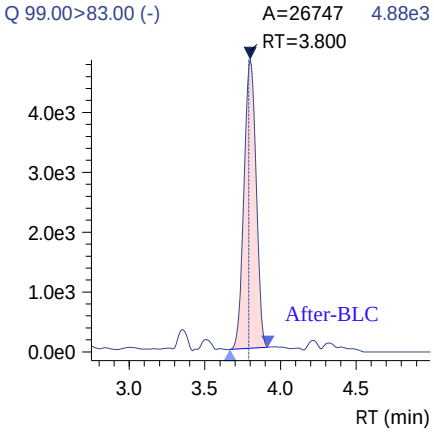
PERCHLORATE3

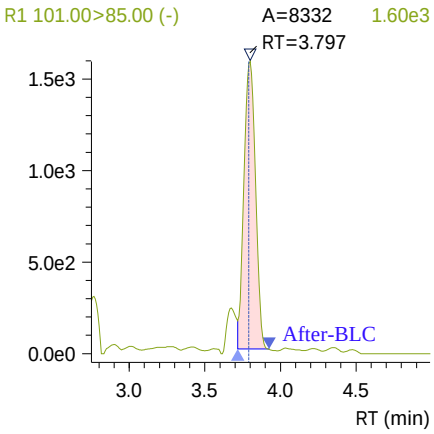
Sample ID: PERCHLORATE3
Date Acquired: 10/13/2022 11:10:43 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221013ICAL\20221013_018.lcd
Vial: 40 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	M	3.800	26747	286041	0.6942	ng/mL	101.00 >85.00	31.15	23.94 -44.46
Sodium Perchlorate -18O4_IS	Auto	3.796	286041	286041	1.0000	ng/mL	----	----	

Perchlorate

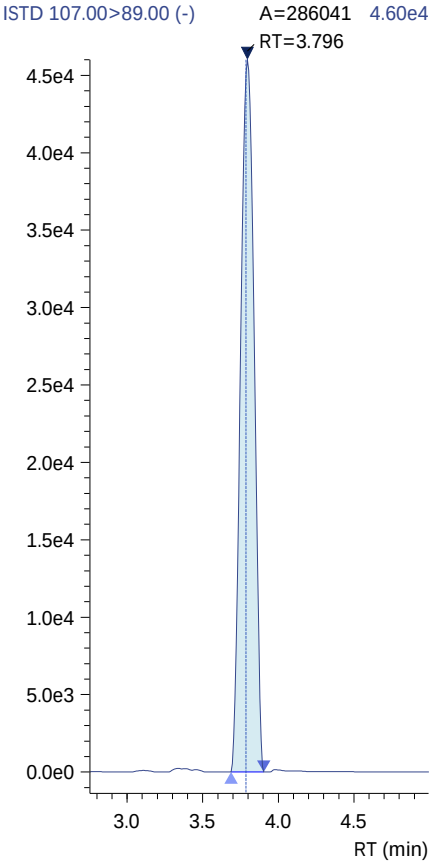
Conc 0.6942
R#1 31.15 (34.20)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 10/24/2022 9:43:49 AM

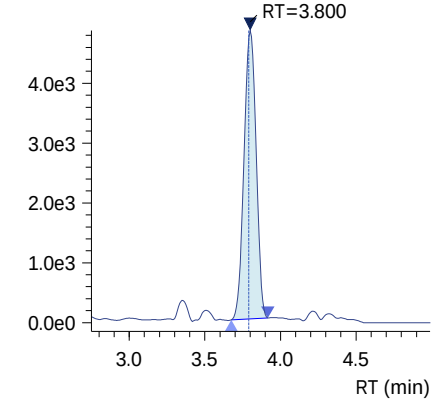
PERCHLORATE3

Sample ID: PERCHLORATE3
Date Acquired: 10/13/2022 11:10:43 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221013ICAL\20221013_018.lcd
Vial: 40 | Inj. Volume: 25.0000uL | Tray: 1

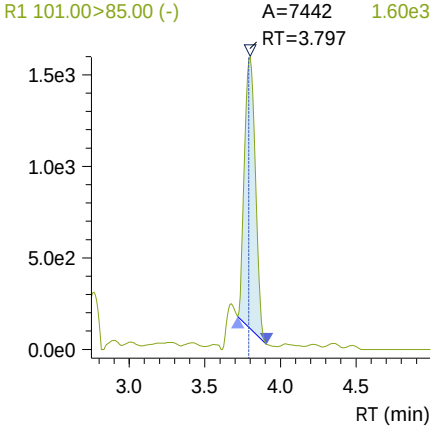
Perchlorate

Conc 0.6936
R#1 27.88 (33.91)

Q 99.00>83.00 (-) A=26697 4.88e3



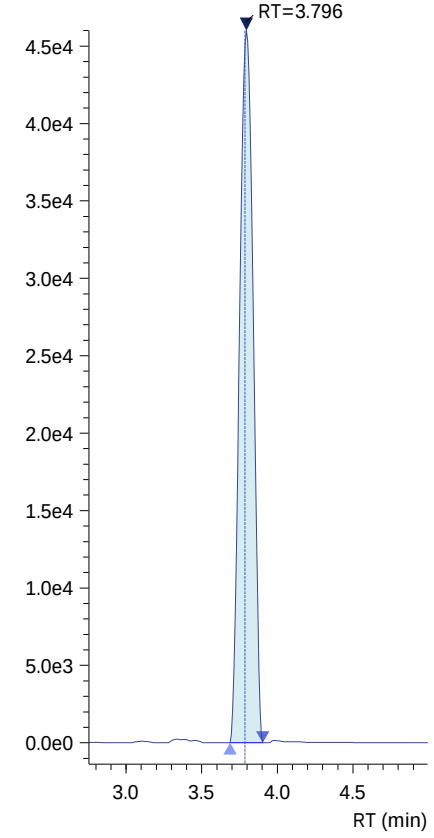
R1 101.00>85.00 (-) A=7442 1.60e3



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) A=286041 4.60e4



Insight Report

Printed at 10/24/2022 11:16:28 AM

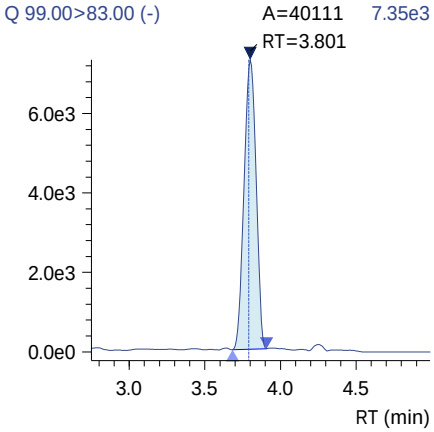
PERCHLORATE4

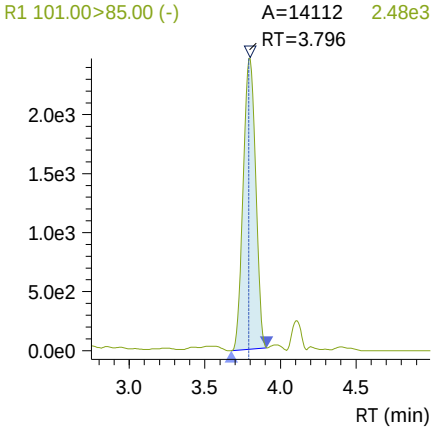
Sample ID: PERCHLORATE4
Date Acquired: 10/13/2022 11:19:07 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221013ICAL\20221013_019.lcd
Vial: 41 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.801	40111	283200	1.0514	ng/mL	101.00 >85.00	35.18	23.94 -44.46
Sodium Perchlorate -18O4_IS	Auto	3.797	283200	283200	1.0000	ng/mL	----	----	

Perchlorate

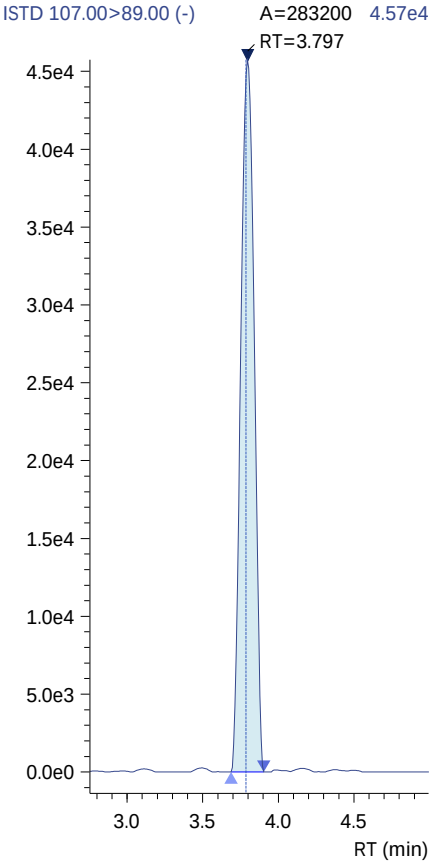
Conc 1.0514
R#1 35.18 (34.20)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 10/24/2022 11:16:28 AM

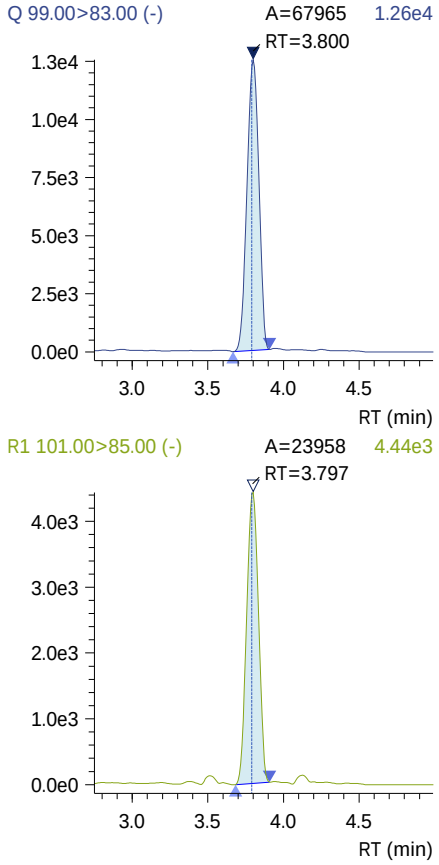
PERCHLORATE5

Sample ID: PERCHLORATE5
Date Acquired: 10/13/2022 11:27:29 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221013ICAL\20221013_020.lcd
Vial: 42 | 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	3.800	67965	275186	1.8335	ng/mL	101.00 >85.00	35.25	23.94 -44.46
Sodium Perchlorate -18O4_IS	Auto	3.796	275186	275186	1.0000	ng/mL	----	----	

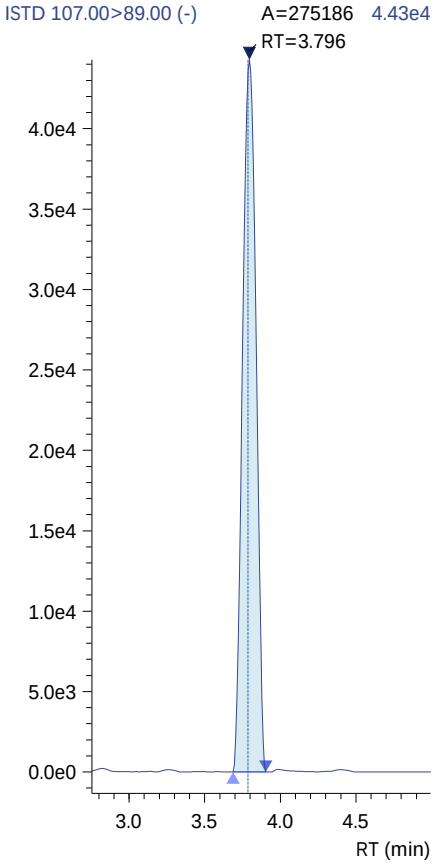
Perchlorate

Conc 1.8335
R#1 35.25 (34.20)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 10/24/2022 11:16:28 AM

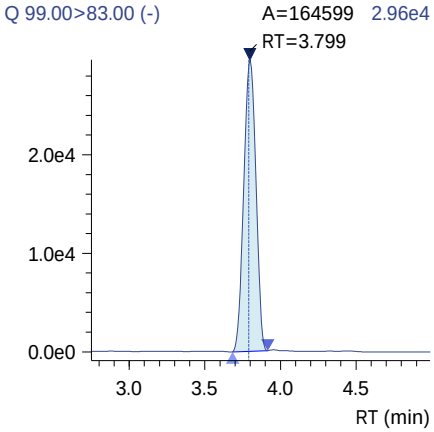
PERCHLORATE6

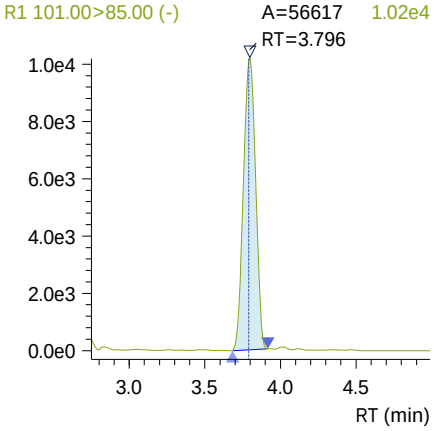
Sample ID: PERCHLORATE6
Date Acquired: 10/13/2022 11:35:51 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221013ICAL\20221013_021.lcd
Vial: 43 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.799	164599	256637	4.7613	ng/mL	101.00 >85.00	34.40	23.94 -44.46
Sodium Perchlorate -18O4_IS	Auto	3.796	256637	256637	1.0000	ng/mL	----	----	

Perchlorate

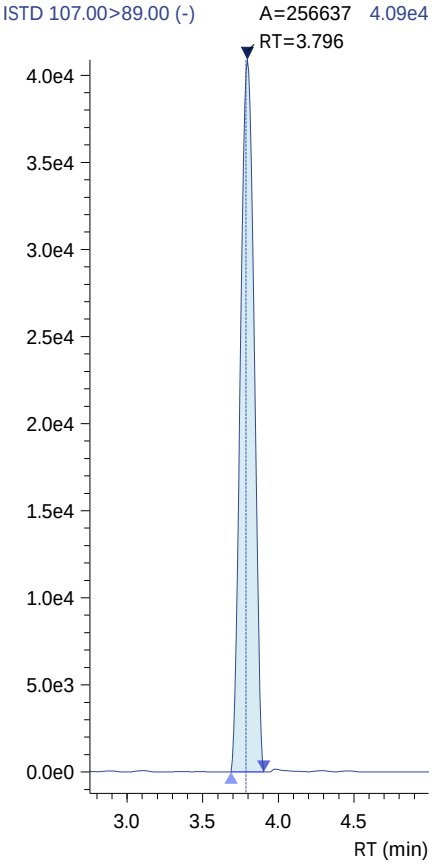
Conc 4.7613
R#1 34.40 (34.20)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 10/24/2022 11:16:28 AM

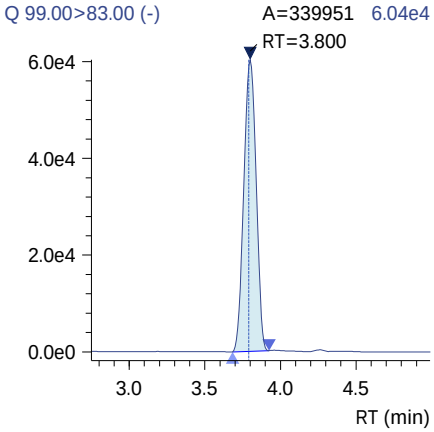
PERCHLORATE7

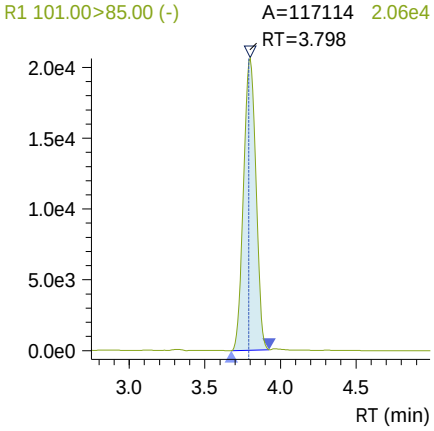
Sample ID: PERCHLORATE7
Date Acquired: 10/13/2022 11:44:14 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221013ICAL\20221013_022.lcd
Vial: 44 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.800	339951	223356	11.2988	ng/mL	101.00 >85.00	34.45	23.94 -44.46
Sodium Perchlorate -18O4_IS	Auto	3.796	223356	223356	1.0000	ng/mL	----	----	

Perchlorate

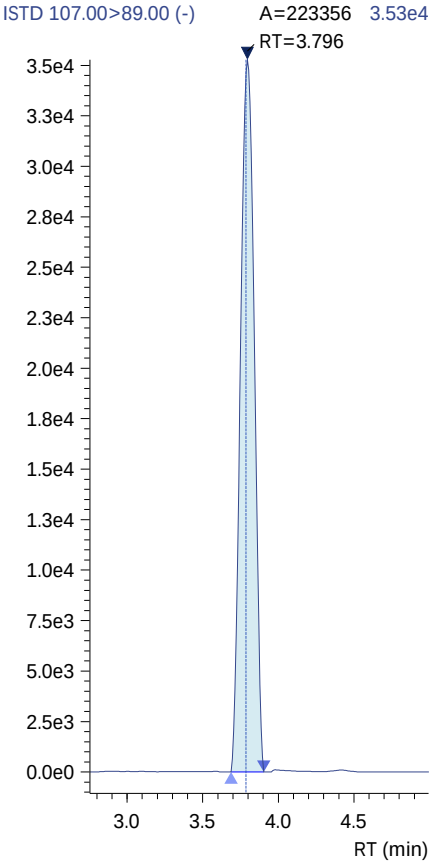
Conc 11.2988
R#1 34.45 (34.20)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 10/24/2022 11:16:28 AM

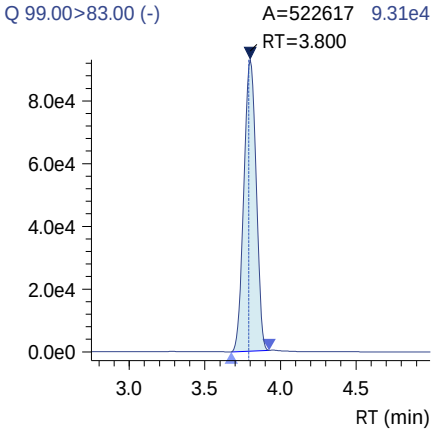
PERCHLORATE8

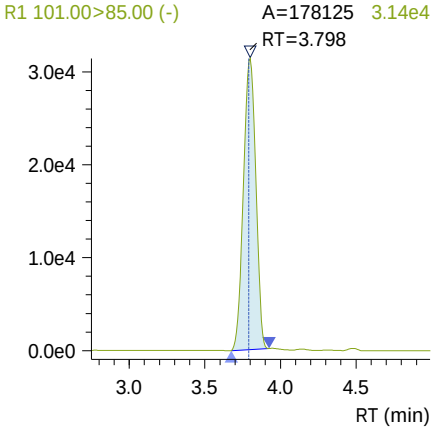
Sample ID: PERCHLORATE8
Date Acquired: 10/13/2022 11:52:37 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221013ICAL\20221013_023.lcd
Vial: 45 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.800	522617	198677	19.5 276	ng/mL	101.00 >85.00	34.08	23.94 -44.46
Sodium Perchlorate -18O4_IS	Auto	3.797	198677	198677	1.0000	ng/mL	----	----	

Perchlorate

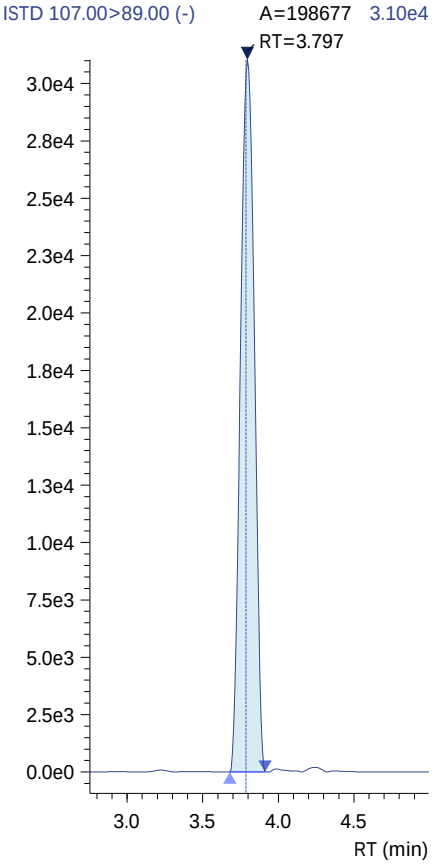
Conc 19.5276
R#1 34.08 (34.20)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 10/24/2022 11:16:28 AM

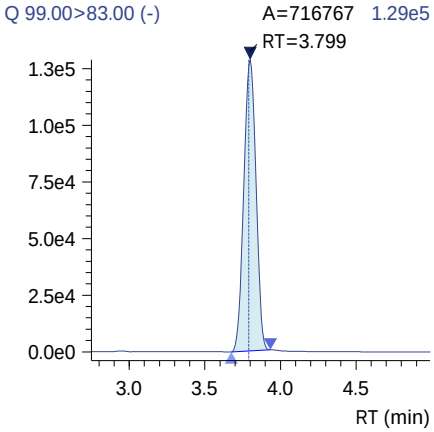
PERCHLORATE9

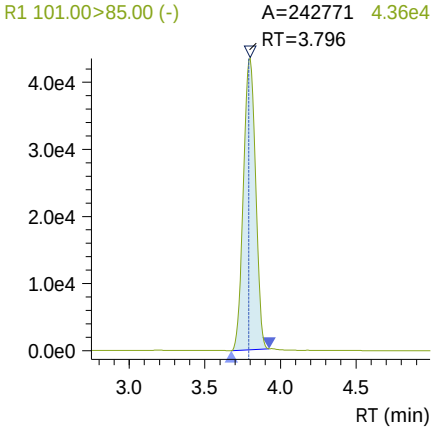
Sample ID: PERCHLORATE9
Date Acquired: 10/13/2022 12:01:03 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221013ICAL\20221013_024.lcd
Vial: 46 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.799	716767	179402	29.6596	ng/mL	101.00 >85.00	33.87	23.94 -44.46
Sodium Perchlorate-18O4_IS	Auto	3.796	179402	179402	1.0000	ng/mL	----	----	

Perchlorate

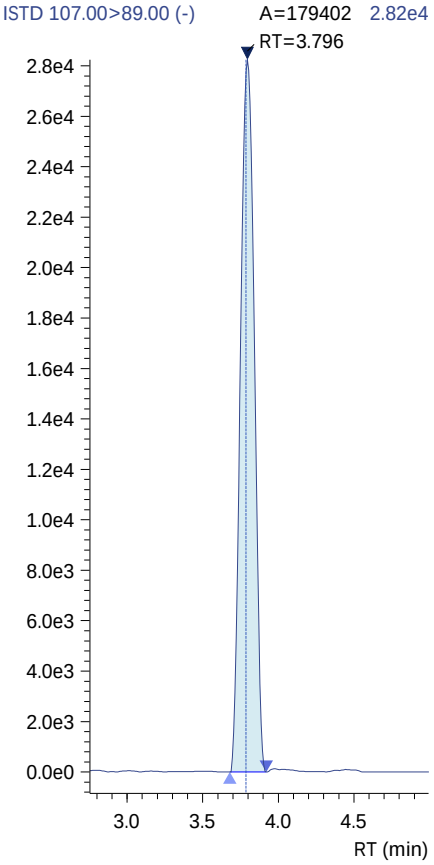
Conc 29.6596
R#1 33.87 (34.20)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 10/24/2022 11:16:28 AM

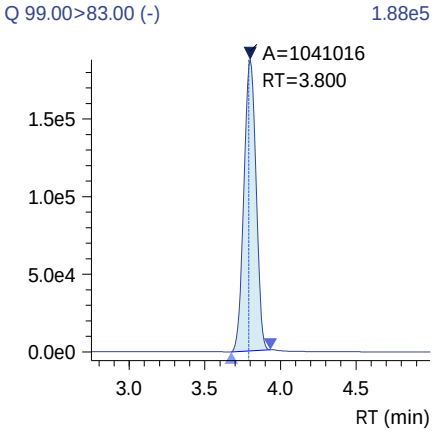
PERCHLORATE10

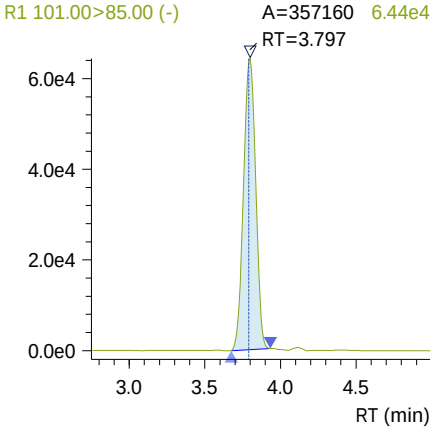
Sample ID: PERCHLORATE10
Date Acquired: 10/13/2022 12:09:25 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221013ICAL\20221013_025.lcd
Vial: 47 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.800	10410	159903	48.3	ng/mL	101.00	34.31	23.94
			16		299		>85.00		-44.46
Sodium Perchlorate -18O4_IS	Auto	3.796	159903	159903	1.0000	ng/mL	----	----	

Perchlorate

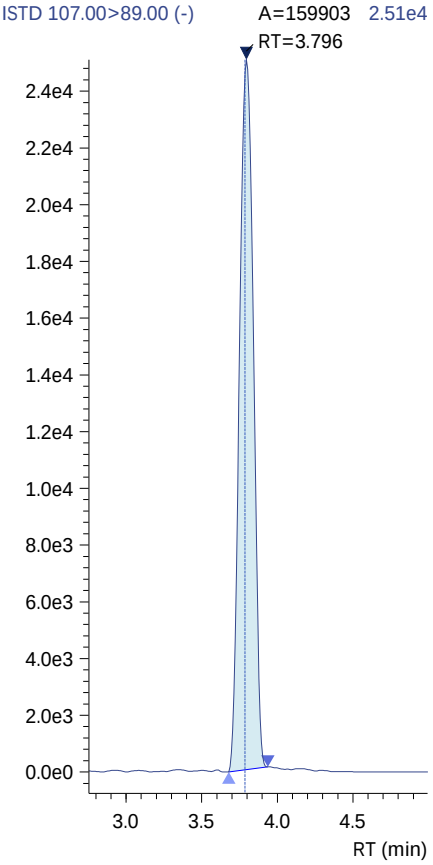
Conc 48.3299
R#1 34.31 (34.20)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 10/24/2022 11:16:28 AM

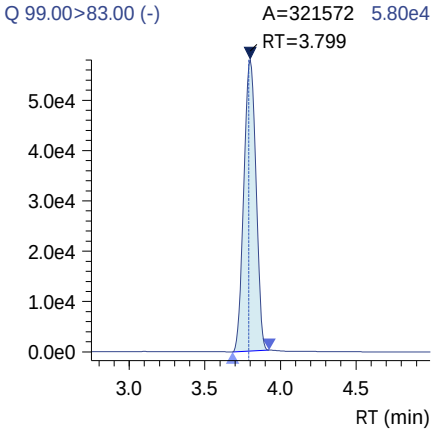
PERCHLORATEICV

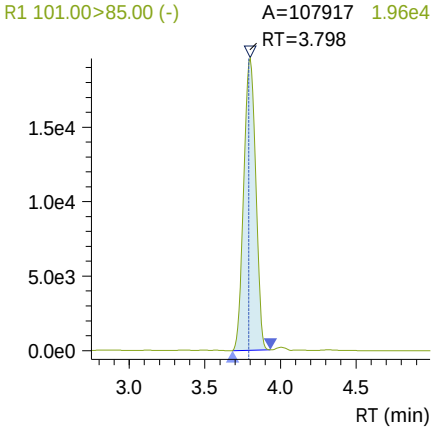
Sample ID: PERCHLORATEICV
Date Acquired: 10/13/2022 12:17:49 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221013ICAL\20221013_026.lcd
Vial: 48 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.799	321572	218649	10.9 180	ng/mL	101.00 >85.00	33.56	23.94 -44.46
Sodium Perchlorate -18O4_IS	Auto	3.797	218649	218649	1.0000	ng/mL	----	----	

Perchlorate

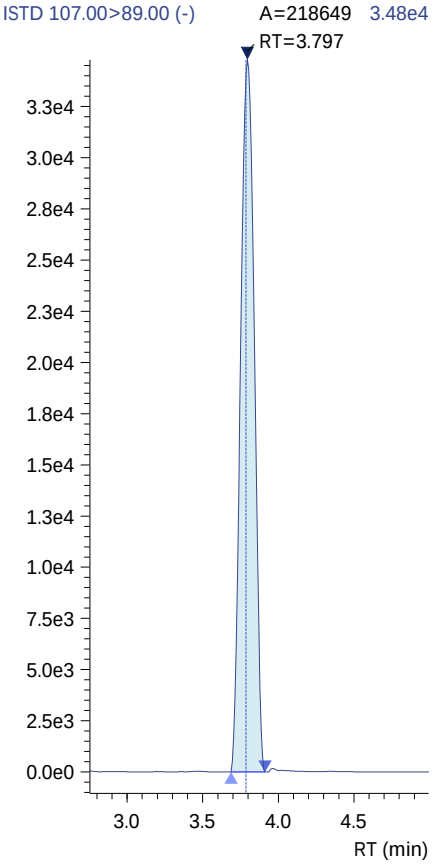
Conc 10.9180
R#1 33.56 (34.20)





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

20221107

Injection Log

LCMS01 -Shimadzu 8050

1st Review: XMI
2nd Review: Kneir

ICAL Date: 10/13/2022
Cal. Std. xp: 01/31/2023
ICAL ID: EC2200014

Mobile Phases : **A:**0.10% Formic Acid/Water 3210301-05 **B:**MeOH 224417

	Sample Name		File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	IB		20221107_057	Perchlorate6850c.lcm	1x	☒		11/7/2022 16:32
2	IB		20221107_058	Perchlorate6850c.lcm	1x	☒		11/7/2022 16:42
3	ICS		20221107_059	Perchlorate6850c.lcm	1x	☒		11/7/2022 16:51
4	LODV		20221107_060	Perchlorate6850c.lcm	1x	☒	225199	11/7/2022 16:59
5	LODV		20221107_061	Perchlorate6850c.lcm	1x	☒	DNU-NEW LOT TEST	11/7/2022 17:07
6	PERCHLORATE7		20221107_062	Perchlorate6850c.lcm	1x	☒	225398	11/7/2022 17:15
7	IB		20221107_063	Perchlorate6850c.lcm	1x	☒		11/7/2022 17:23
8	EQ2200510-01		20221107_064	Perchlorate6850c.lcm	1x	☒		11/7/2022 17:31
9	EQ2200510-02		20221107_065	Perchlorate6850c.lcm	1x	☒		11/7/2022 17:39
10	EQ2200510-03		20221107_066	Perchlorate6850c.lcm	1x	☒		11/7/2022 17:47
11	EQ2200510-04		20221107_067	Perchlorate6850c.lcm	1x	☒		11/7/2022 17:56
12	EQ2200510-05		20221107_068	Perchlorate6850c.lcm	1x	☒		11/7/2022 18:04
13	E2201058-001		20221107_069	Perchlorate6850c.lcm	1x	☒	DNU-OUT OF ICAL RA	11/7/2022 18:12
14	E2201059-001		20221107_070	Perchlorate6850c.lcm	1x	☒	DNU-CARRYOVER	11/7/2022 18:20
15	E2201060-001		20221107_071	Perchlorate6850c.lcm	1x	☒	DNU-CARRYOVER	11/7/2022 18:28
16	E2201060-002		20221107_072	Perchlorate6850c.lcm	1x	☒		11/7/2022 18:36
17	PERCHLORATE7		20221107_073	Perchlorate6850c.lcm	1x	☒	225398	11/7/2022 18:44
18	IB		20221107_074	Perchlorate6850c.lcm	1x	☒	CARRYOVER	11/7/2022 18:52
19	E2201088-001		20221107_075	Perchlorate6850c.lcm	1x	☒	DNU-CARRYOVER	11/7/2022 19:01
20	E2201088-002		20221107_076	Perchlorate6850c.lcm	1x	☒		11/7/2022 19:09
21	E2201088-003		20221107_077	Perchlorate6850c.lcm	1x	☒		11/7/2022 19:17
22	E2201088-004		20221107_078	Perchlorate6850c.lcm	1x	☒	DNU-RR	11/7/2022 19:25
23	E2201088-005		20221107_079	Perchlorate6850c.lcm	1x	☒		11/7/2022 19:33
24	E2201088-006		20221107_080	Perchlorate6850c.lcm	1x	☒	DNU-IR	11/7/2022 19:41
25	E2201088-007		20221107_081	Perchlorate6850c.lcm	1x	☒		11/7/2022 19:49
26	PERCHLORATE7		20221107_082	Perchlorate6850c.lcm	1x	☒	225398	11/7/2022 19:57
27	IB		20221107_083	Perchlorate6850c.lcm	1x	☒		11/7/2022 20:06

20221108

Injection Log

LCMS01 -Shimadzu 8050

1st Review: XMI
2nd Review: Kneir

ICAL Date: 10/13/2022
Cal. Std. xp: 01/31/2023
ICAL ID: EC2200014

Mobile Phases : **A:**0.10% Formic Acid/Water 3210301-05 **B:**MeOH 224417

	Sample Name		File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	ICS		20221108_001	Perchlorate6850c.lcm	1x	☒		11/8/2022 9:06
2	LODV		20221108_002	Perchlorate6850c.lcm	1x	☒	225199	11/8/2022 9:14
3	PERCHLORATE7		20221108_003	Perchlorate6850c.lcm	1x	☒	225398	11/8/2022 9:22
4	IB		20221108_004	Perchlorate6850c.lcm	1x	☒		11/8/2022 9:30
5	E2201060-001		20221108_005	Perchlorate6850c.lcm	1x	☒		11/8/2022 9:38
6	E2201088-001		20221108_006	Perchlorate6850c.lcm	1x	☒		11/8/2022 9:46
7	E2201088-004		20221108_007	Perchlorate6850c.lcm	1x	☒		11/8/2022 9:54
8	E2201088-006		20221108_008	Perchlorate6850c.lcm	1x	☒		11/8/2022 10:02
9	E2201059-001		20221108_009	Perchlorate6850c.lcm	1x	☒		11/8/2022 10:11
10	E2201058-001		20221108_010	Perchlorate6850c.lcm	1x	☒	X1000	11/8/2022 10:19
11	PERCHLORATE7		20221108_011	Perchlorate6850c.lcm	1x	☒	225398	11/8/2022 10:27

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS22110111

Service Request: E2201059
Date Analyzed: 11/ 7/22

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\20221107\20221107_062

Calibration Date: 10/13/22
Calibration ID: EC2200014
Analysis Lot: 784373
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	11.1	0.1347	0.1501	11.4	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS22110111

Service Request: E2201059
Date Analyzed: 11/ 7/22

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\20221107\20221107_073

Calibration Date: 10/13/22
Calibration ID: EC2200014
Analysis Lot: 784373
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	11.0	0.1347	0.1485	10.2	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS22110111

Service Request: E2201059
Date Analyzed: 11/ 7/22

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\20221107\20221107_082

Calibration Date: 10/13/22
Calibration ID: EC2200014
Analysis Lot: 784373
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.9	0.1347	0.1475	9.5	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS22110111

Service Request: E2201059
Date Analyzed: 11/ 8/22

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\20221108\20221108_003

Calibration Date: 10/13/22
Calibration ID: EC2200014
Analysis Lot: 784376
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.8	0.1347	0.1456	8.1	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS22110111

Service Request: E2201059
Date Analyzed: 11/ 8/22

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\20221108\20221108_011

Calibration Date: 10/13/22
Calibration ID: EC2200014
Analysis Lot: 784376
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.8	0.1347	0.1453	7.9	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2201059
Project:	HS22110111	**Date Analyzed:**	11/7/22 17:15

Internal Standard Area and RT Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20221107\20221107_062	**Lab Code:**	EQ2200514-01
Instrument ID:	E-LCMS-01	**Analysis Lot:**	784373
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	244,776	3.80
	Upper Limit ==>	367,164	5.80
	Lower Limit ==>	122,388	1.80
Associated Analyses			
Continuing Calibration Verification	EQ2200514-01	222,490	3.78
Method Blank	EQ2200510-01	281,257	3.78
Lab Control Sample	EQ2200510-02	278,114	3.78
Duplicate Lab Control Sample	EQ2200510-03	272,909	3.78

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:**	E2201059
Project:	HS22110111	**Date Analyzed:**	11/7/22 18:44

Internal Standard Area and RT Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20221107\20221107_073	**Lab Code:**	EQ2200514-02
Instrument ID:	E-LCMS-01	**Analysis Lot:**	784373
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	244,776	3.80
	Upper Limit ==>	367,164	5.80
	Lower Limit ==>	122,388	1.80
Associated Analyses			
Continuing Calibration Verification	EQ2200514-02	220,808	3.77

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:**	E2201059
Project:	HS22110111	**Date Analyzed:**	11/7/22 19:57

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20221107\20221107_082	**Lab Code:**	EQ2200514-03
Instrument ID:	E-LCMS-01	**Analysis Lot:**	784373
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	244,776	3.80
	Upper Limit ==>	367,164	5.80
	Lower Limit ==>	122,388	1.80
Associated Analyses			
Continuing Calibration Verification	EQ2200514-03	210,018	3.77

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:**	E2201059
Project:	HS22110111	**Date Analyzed:**	11/8/22 09:22

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20221108\20221108_003	**Lab Code:**	EQ2200515-01
Instrument ID:	E-LCMS-01	**Analysis Lot:**	784376
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	244,776	3.80
	Upper Limit ==>	367,164	5.80
	Lower Limit ==>	122,388	1.80
Associated Analyses			
Continuing Calibration Verification	EQ2200515-01	235,278	3.79
LH18/24-SP650_110122_AIX	E2201059-001	282,306	3.70

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:**	E2201059
Project:	HS22110111	**Date Analyzed:**	11/8/22 10:27

Internal Standard Area and RT Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20221108\20221108_011	**Lab Code:**	EQ2200515-02
Instrument ID:	E-LCMS-01	**Analysis Lot:**	784376
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	244,776	3.80
	Upper Limit ==>	367,164	5.80
	Lower Limit ==>	122,388	1.80
Associated Analyses			
Continuing Calibration Verification	EQ2200515-02	237,035	3.79

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

Insight Report

Printed at 11/8/2022 11:18:57 AM

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Project File: I:\LCMS01\DATA\20221107\11072022 sample.damlp

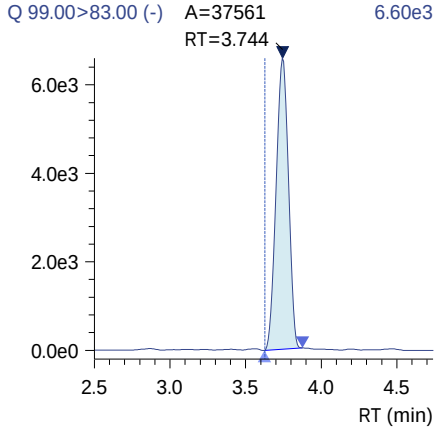
ICS

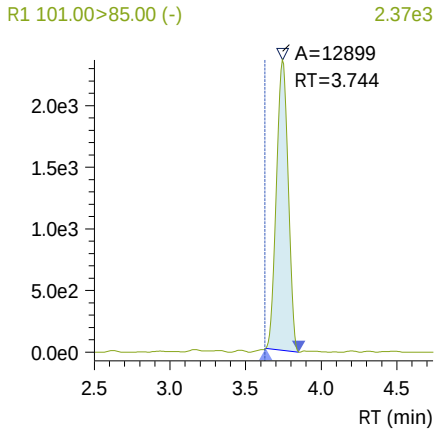
Sample ID: ICS
Date Acquired: 11/7/2022 4:51:04 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221107\20221107_059.lcd
Vial: 32 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.744	37561	260308	1.0712	ng/mL	101.00 >85.00	34.34	22.24 -41.31
Sodium Perchlorate-18O4 _IS	Auto	3.741	260308	260308	1.0000	ng/mL	----	----	

Perchlorate

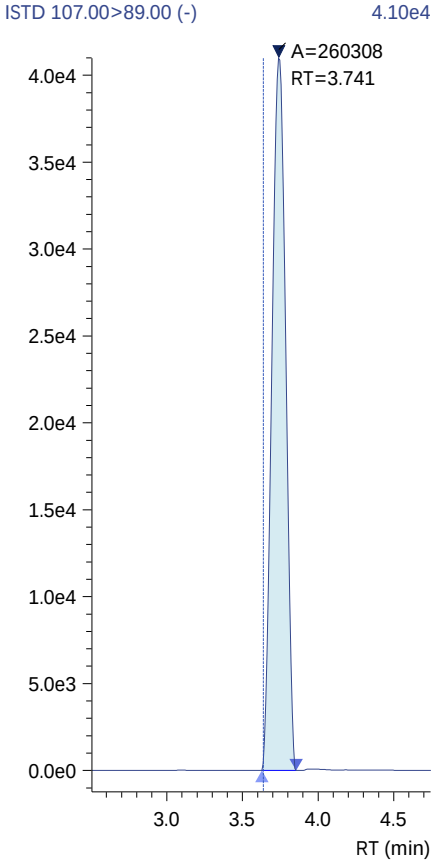
Conc 1.0712
R#1 34.34 (31.78)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 11/8/2022 11:18:57 AM

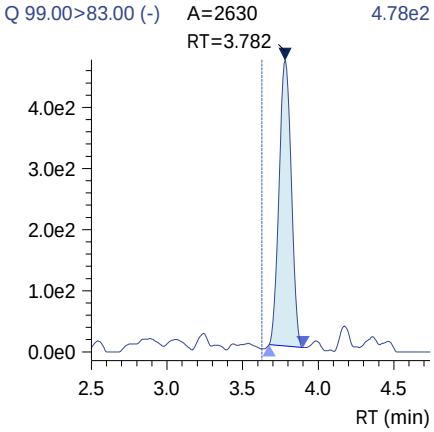
LODV

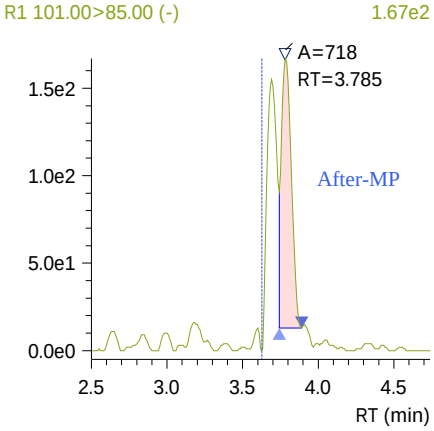
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Date Acquired: 11/7/2022 4:59:13 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221107\20221107_060.lcd
Vial: 37 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	MI R1	3.782	2630	327389	0.0596	ng/mL	101.00 >85.00	27.31	22.24 -41.31
Sodium Perchlorate-18O4_IS	Auto	3.780	327389	327389	1.0000	ng/mL	----	----	

Perchlorate

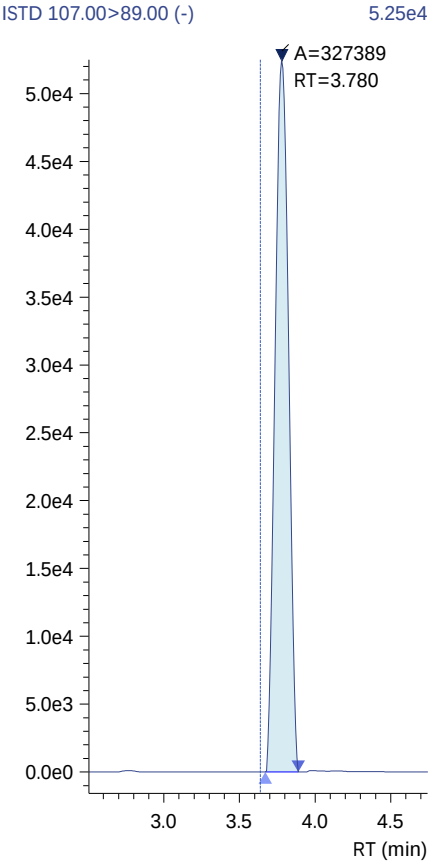
Conc 0.0596
R#1 27.31 (31.78)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Manual Integration - Before

Printed at 11/8/2022 11:21:31 AM

Method File: I:\LCMS01\DATA\20221107\20221013ICAL.lcm
Project File: I:\LCMS01\DATA\20221107\11072022 sample.damlp

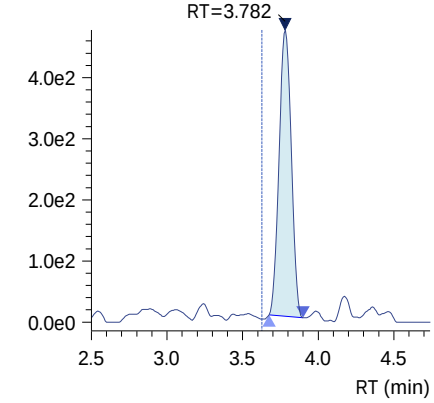
LODV

Sample ID: LODV
Date Acquired: 11/7/2022 4:59:13 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221107\20221107_060.lcd
Vial: 37 | Inj. Volume: 25.0000uL | Tray: 1

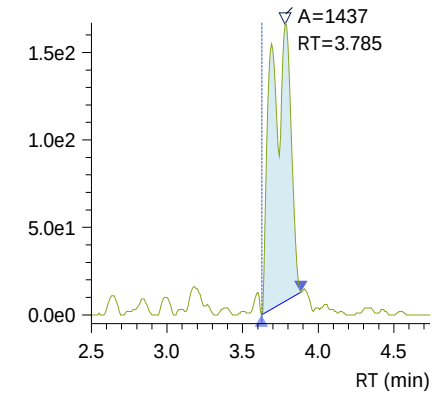
Perchlorate

Conc 0.0597
R#1 54.63 (31.78)

Q 99.00>83.00 (-) A=2630 4.78e2



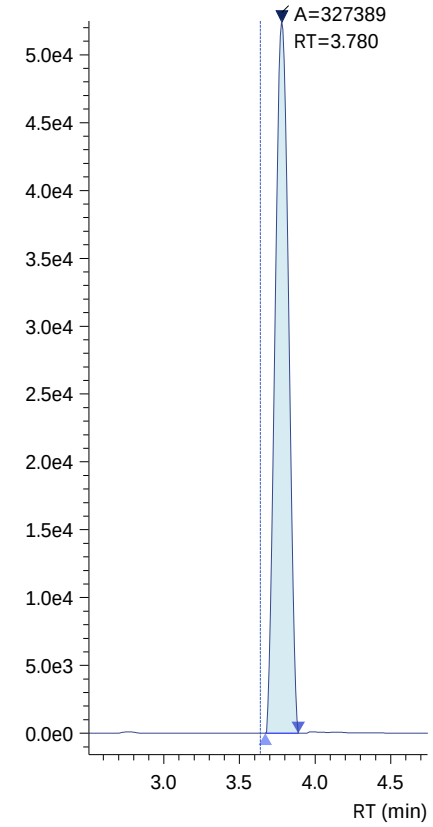
R1 101.00>85.00 (-) 1.67e2



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 5.25e4



Insight Report

Printed at 11/8/2022 11:18:57 AM

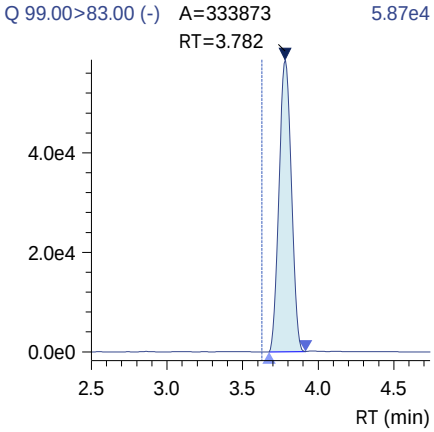
PERCHLORATE7

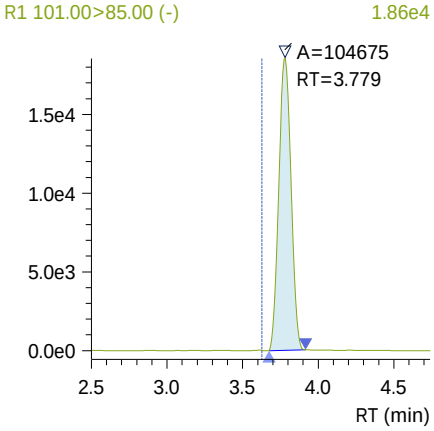
Sample ID: PERCHLORATE7
Date Acquired: 11/7/2022 5:15:29 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221107\20221107_062.lcd
Vial: 1 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.782	333873	222490	11.1400	ng/mL	101.00 >85.00	31.35	22.24 -41.31
Sodium Perchlorate-18O4_IS	Auto	3.779	222490	222490	1.0000	ng/mL	----	----	

Perchlorate

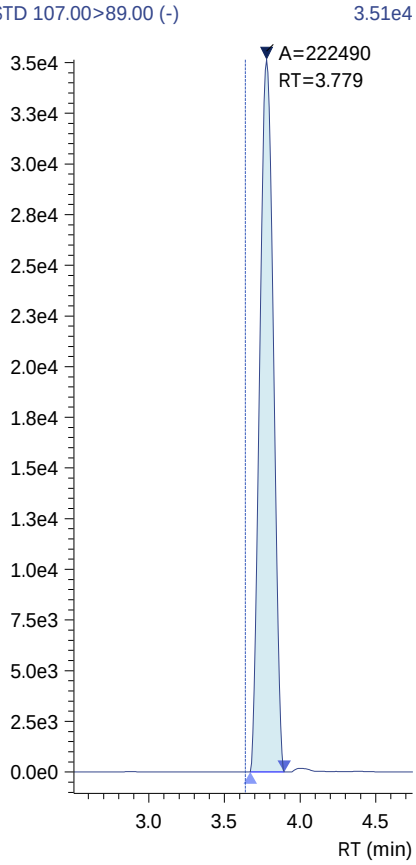
Conc 11.1400
R#1 31.35 (31.78)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 11/8/2022 11:18:57 AM

EQ2200510-01

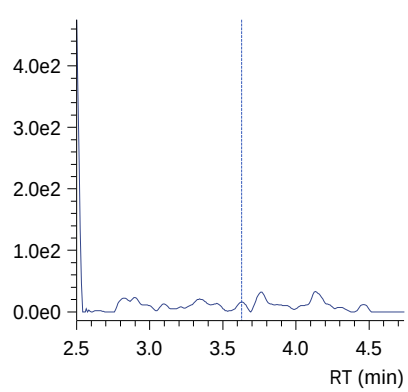
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Date Acquired: 11/7/2022 5:31:45 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221107\20221107_064.lcd
Vial: 42 | Inj. Volume: 25.0000uL | Tray: 5

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	ND(W/B)	----	----	281257	----	ng/mL	101.00 >85.00	0.00	22.24 -41.31
Sodium Perchlorate-18O4_IS	Auto	3.780	281257	281257	1.0000	ng/mL	----	----	

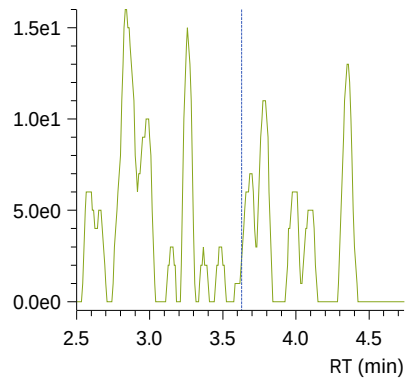
Perchlorate

Conc ----
R#1 0.00 (31.78)

Q 99.00>83.00 (-) 4.75e2



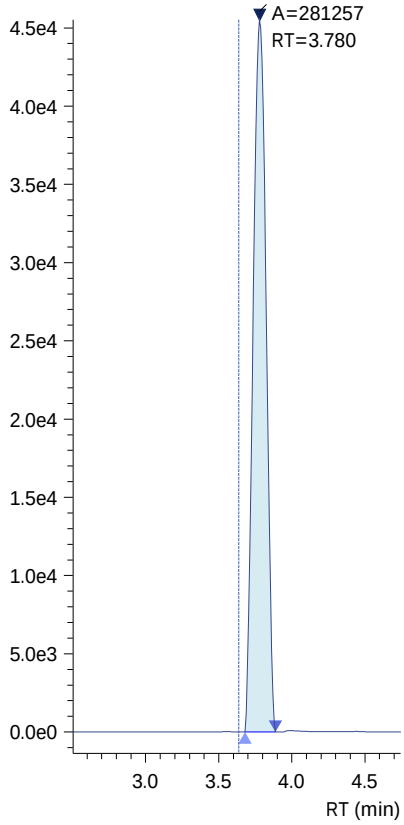
R1 101.00>85.00 (-) 1.60e1



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 4.55e4



Insight Report

Printed at 11/8/2022 11:18:57 AM

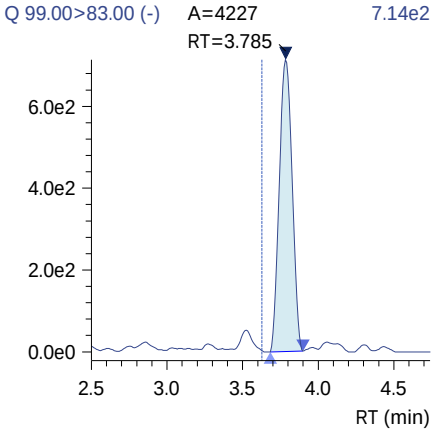
EQ2200510-02

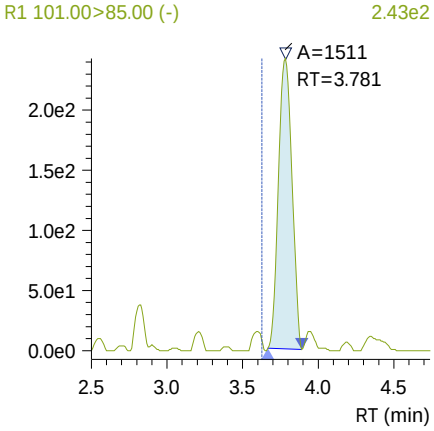
Sample ID: EQ2200510-02
Date Acquired: 11/7/2022 5:39:51 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221107\20221107_065.lcd
Vial: 43 | Inj. Volume: 25.0000uL | Tray: 5

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.785	4227	278114	0.1128	ng/mL	101.00 >85.00	35.75	22.24 -41.31
Sodium Perchlorate-18O4_IS	Auto	3.781	2781 14	278114	1.0000	ng/mL	----	----	

Perchlorate

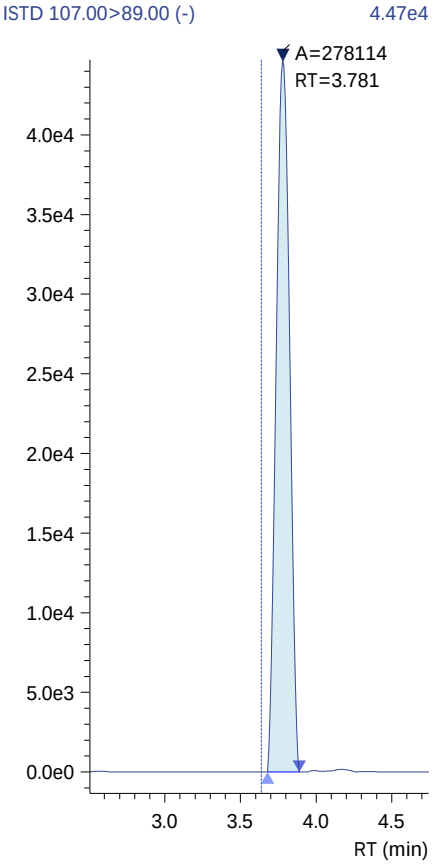
Conc 0.1128
R#1 35.75 (31.78)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 11/8/2022 11:18:57 AM

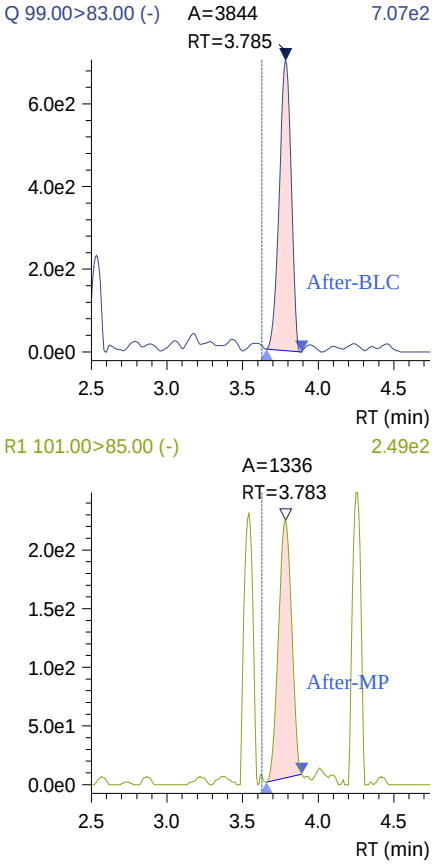
EQ2200510-03

Sample ID: EQ2200510-03
Date Acquired: 11/7/2022 5:47:57 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221107\20221107_066.lcd
Vial: 44 | Inj. Volume: 25.0000uL | Tray: 5

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	M	3.785	3844	272909	0.1046	ng/mL	101.00 >85.00	34.76	22.24 -41.31
Sodium Perchlorate-18O4_IS	Auto	3.781	272909	272909	1.0000	ng/mL	----	----	

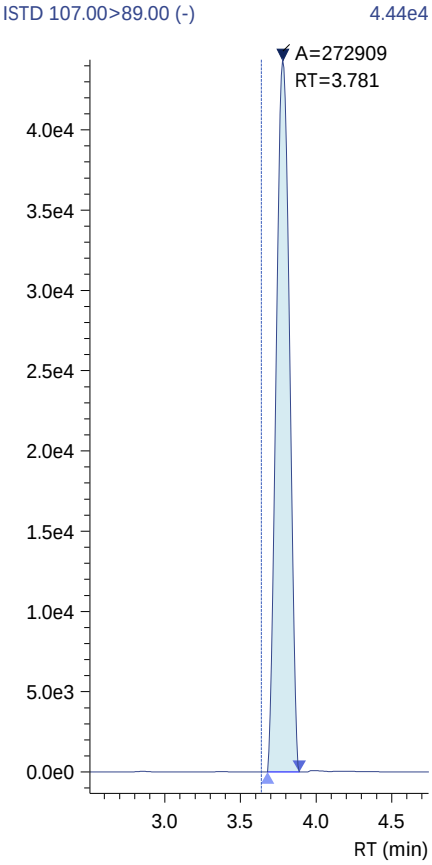
Perchlorate

Conc 0.1046
R#1 34.76 (31.78)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Manual Integration - Before

Printed at 11/8/2022 11:21:31 AM

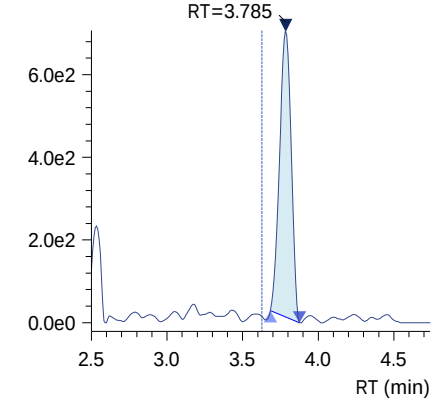
EQ2200510-03

Sample ID: EQ2200510-03
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Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221107\20221107_066.lcd
Vial: 44 | Inj. Volume: 25.0000uL | Tray: 5

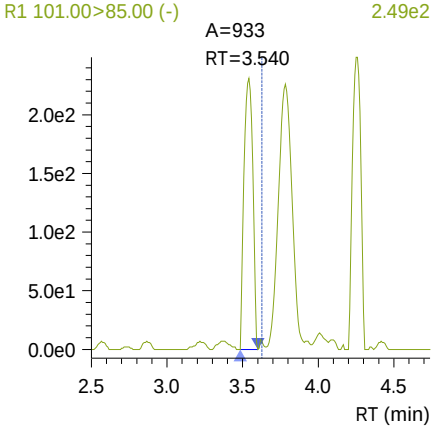
Perchlorate

Conc 0.1009
R#1 0.00 (31.78)

Q 99.00>83.00 (-) A=3705 7.07e2



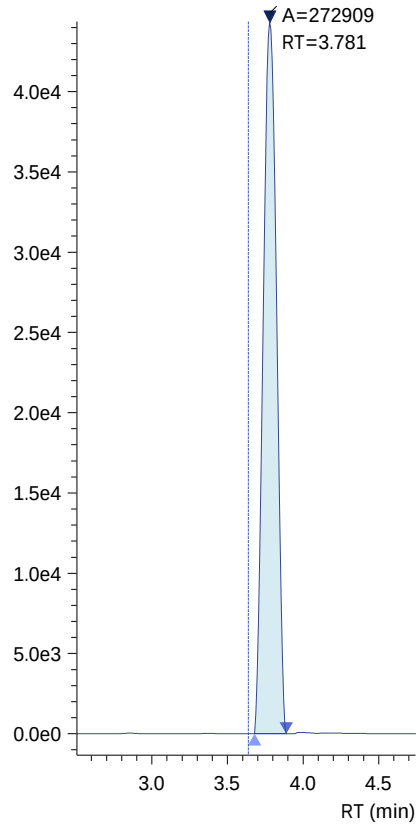
R1 101.00>85.00 (-) 2.49e2



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 4.44e4



Insight Report

Printed at 11/8/2022 11:18:57 AM

PERCHLORATE7

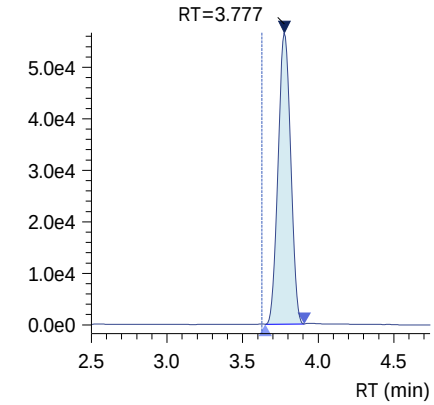
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Date Acquired: 11/7/2022 6:44:49 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221107\20221107_073.lcd
Vial: 1 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.777	3279 17	220808	11.0 246	ng/mL	101.00 >85.00	32.39	22.24 -41.31
Sodium Perchlorate-18O4_IS	Auto	3.774	220808	220808	1.0000	ng/mL	----	----	

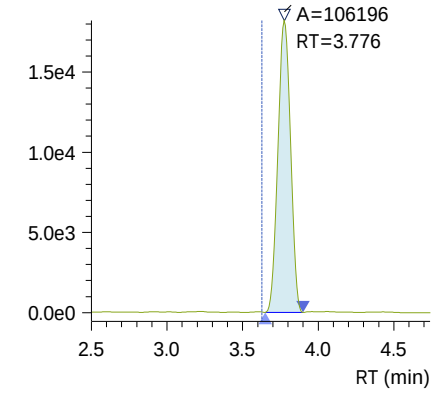
Perchlorate

Conc 11.0246
R#1 32.39 (31.78)

Q 99.00>83.00 (-) A=327917 5.67e4



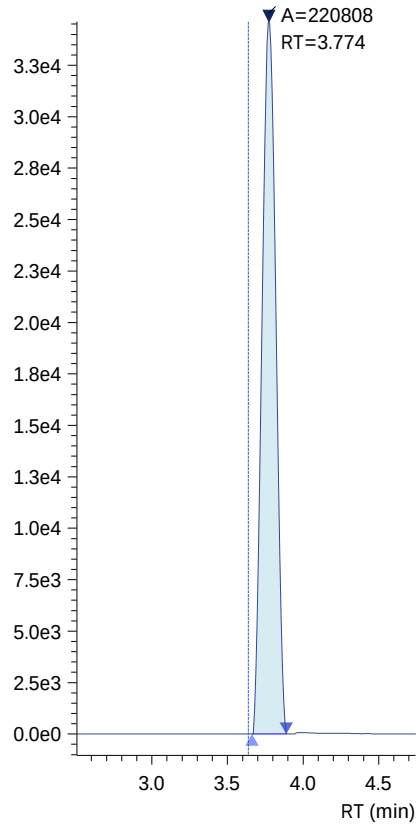
R1 101.00>85.00 (-) 1.82e4



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 3.46e4



Insight Report

Printed at 11/8/2022 11:23:00 AM

Method File: I:\LCMS01\DATA\20221108\20221013ICAL.lcm
Project File: I:\LCMS01\DATA\20221108\11082022.damlp

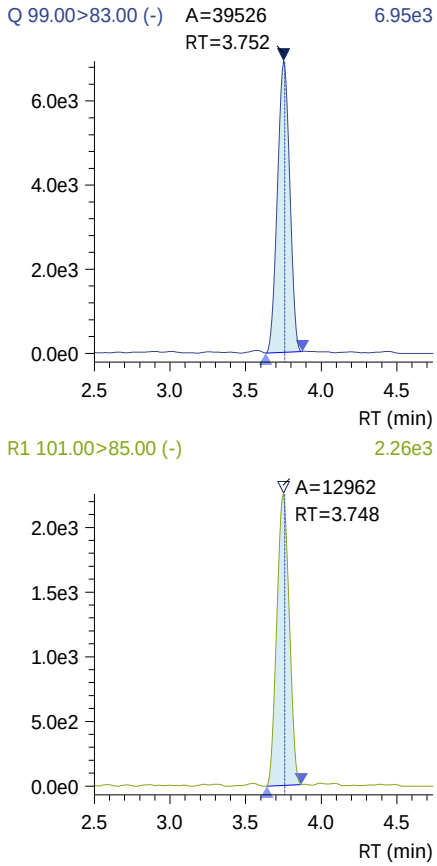
ICS

Sample ID: ICS
Date Acquired: 11/8/2022 9:06:02 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221108\20221108_001.lcd
Vial: 32 | 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	3.752	39526	269881	1.0872	ng/mL	101.00 >85.00	32.79	22.33 -41.48
Sodium Perchlorate-18O4 _IS	Auto	3.749	269881	269881	1.0000	ng/mL	----	----	

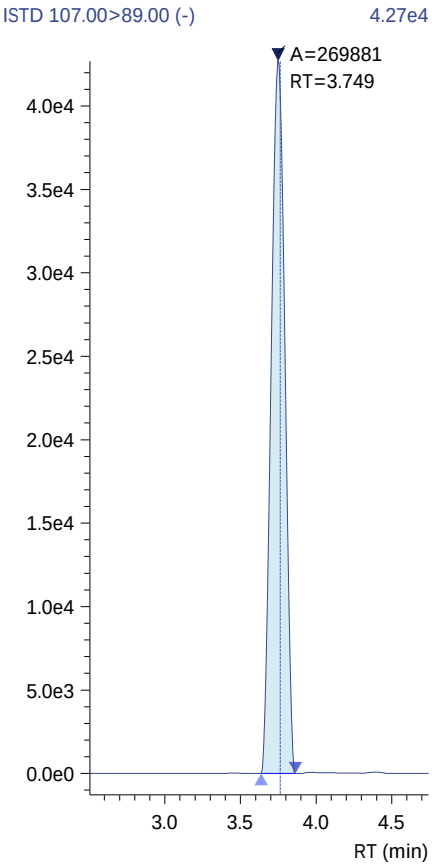
Perchlorate

Conc 1.0872
R#1 32.79 (31.91)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 11/8/2022 11:23:00 AM

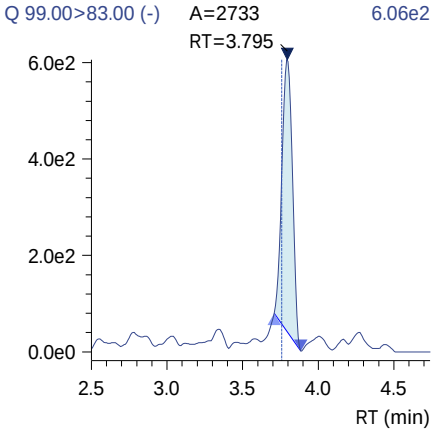
LODV

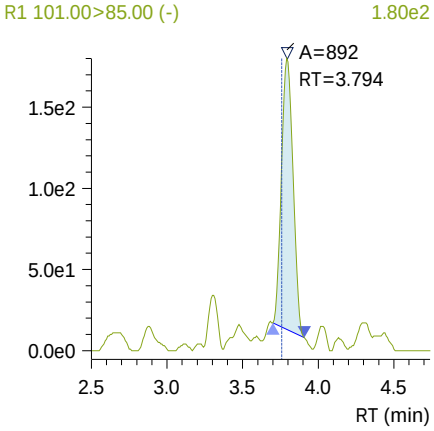
Sample ID: LODV
Date Acquired: 11/8/2022 9:14:09 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221108\20221108_002.lcd
Vial: 37 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.795	2733	338070	0.0600	ng/mL	101.00 >85.00	32.62	22.33 -41.48
Sodium Perchlorate-18O4_IS	Auto	3.789	3380 70	338070	1.0000	ng/mL	----	----	

Perchlorate

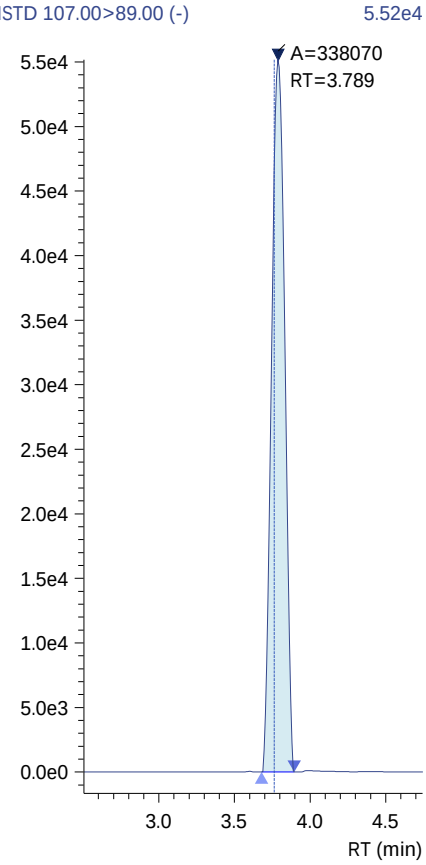
Conc 0.0600
R#1 32.62 (31.91)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 11/8/2022 11:23:00 AM

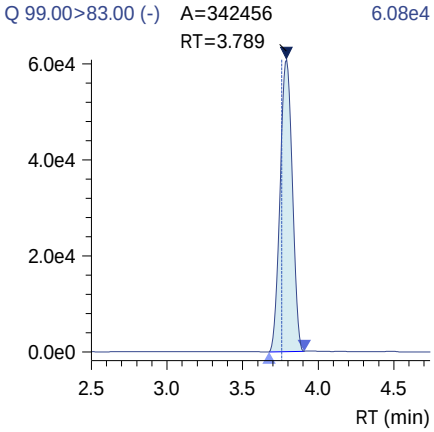
PERCHLORATE7

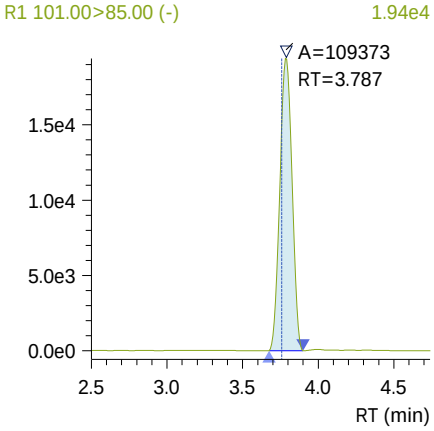
Sample ID: PERCHLORATE7
Date Acquired: 11/8/2022 9:22:17 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221108\20221108_003.lcd
Vial: 1 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.789	342456	235278	10.8053	ng/mL	101.00 >85.00	31.94	22.33 -41.48
Sodium Perchlorate-18O4_IS	Auto	3.786	235278	235278	1.0000	ng/mL	----	----	

Perchlorate

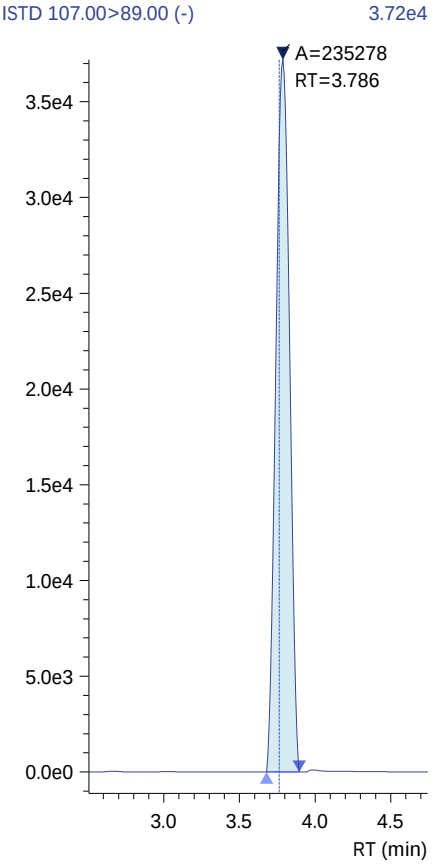
Conc 10.8053
R#1 31.94 (31.91)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 11/8/2022 11:23:00 AM

E2201059-001

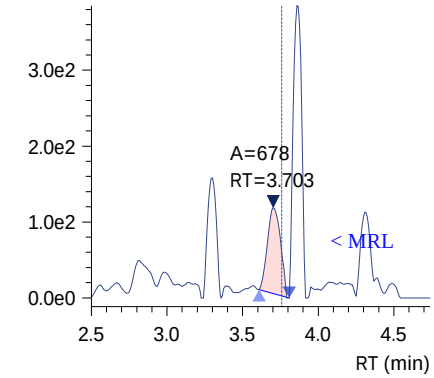
Sample ID: E2201059-001
Date Acquired: 11/8/2022 10:11:03 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221108\20221108_009.lcd
Vial: 48 | Inj. Volume: 25.0000uL | Tray: 5

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	M	3.703	678	282306	0.0178	ng/mL	101.00 >85.00	30.84	22.33 -41.48
Sodium Perchlorate-18O4_IS	Auto	3.703	282306	282306	1.0000	ng/mL	----	----	

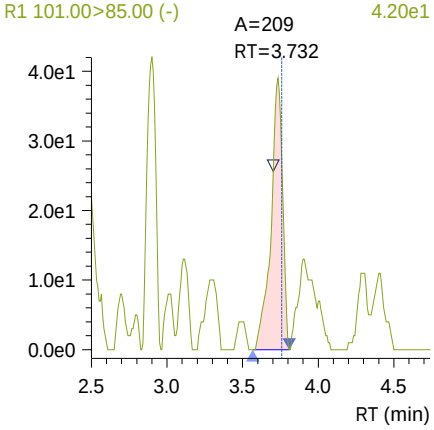
Perchlorate

Conc 0.0178
R#1 30.84 (31.91)

Q 99.00>83.00 (-) 3.85e2



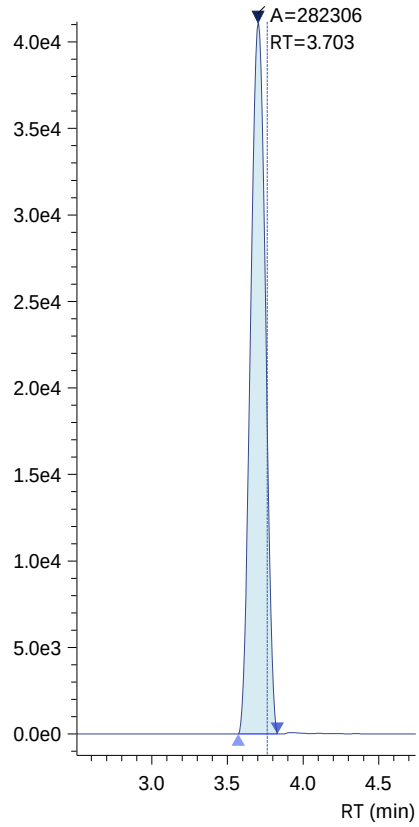
R1 101.00>85.00 (-) 4.20e1



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 4.12e4



Insight Report

Manual Integration - Before

Printed at 11/8/2022 11:25:21 AM

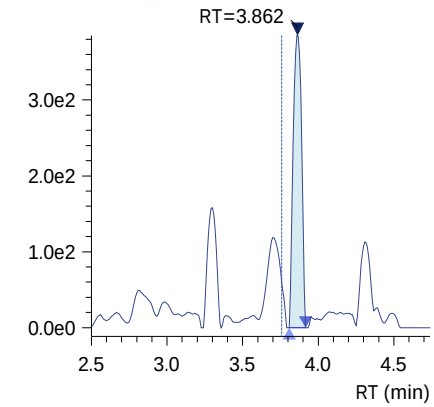
E2201059-001

Sample ID: E2201059-001
Date Acquired: 11/8/2022 10:11:03 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221108\20221108_009.lcd
Vial: 48 | Inj. Volume: 25.0000uL | Tray: 5

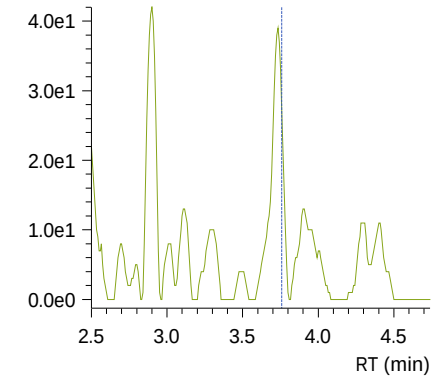
Perchlorate

Conc 0.0396
R#1 0.00 (31.91)

Q 99.00>83.00 (-) A=1506 3.85e2



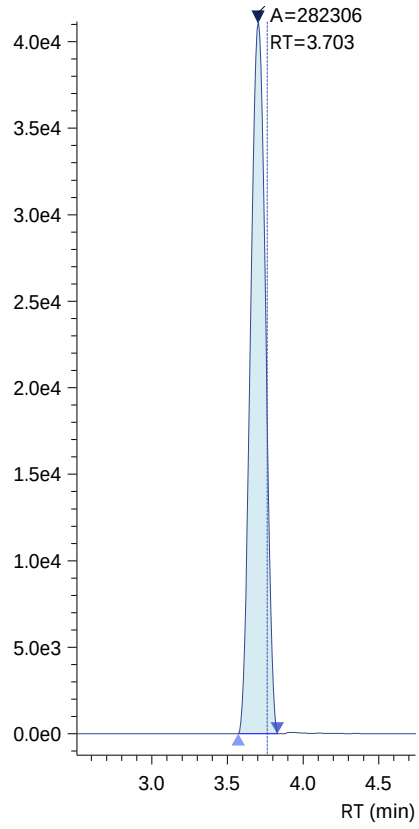
R1 101.00>85.00 (-) 4.20e1



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 4.12e4



Insight Report

Printed at 11/8/2022 11:23:00 AM

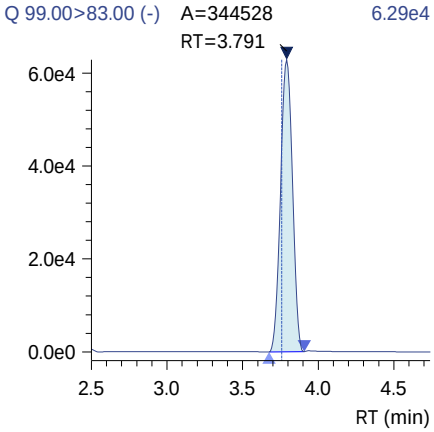
PERCHLORATE7

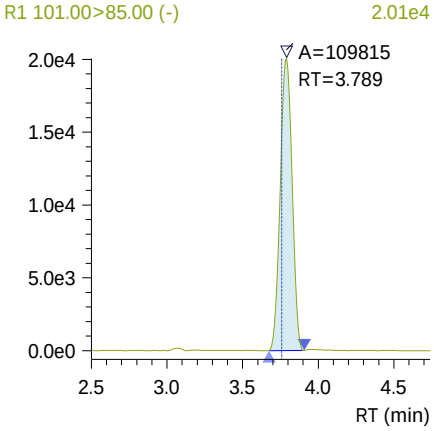
Sample ID: PERCHLORATE7
Date Acquired: 11/8/2022 10:27:20 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221108\20221108_011.lcd
Vial: 1 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.791	3445 28	237035	10.7 901	ng/mL	101.00 >85.00	31.87	22.33 -41.48
Sodium Perchlorate-18O4 _IS	Auto	3.788	2370 35	237035	1.0000	ng/mL	----	----	

Perchlorate

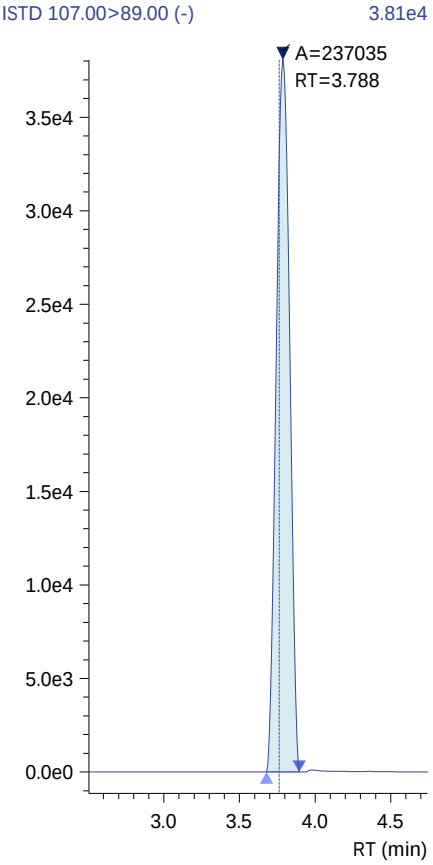
Conc 10.7901
R#1 31.87 (31.91)





Sodium Perchlorate-18O4_IS

Conc 1.0000



HS22110511 Longhorn GW Treatment Plant
Weekly Samples Cover Page

ALS WO# HS22110511

ALS Environmental
ALS Group USA, Corp
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  - LH18/24-SP650_110822_AIX
  - LH18/24-SP650_110822_BIX
  - Dates Report
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  - HS22110511-E2201095 Level II Perchlorate Report
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Accuracy and Precision
Initial Calibration
Chromatograms and Selected Ion Monitoring

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F: +1 281 530 5887
alsglobal.com

right solutions.
right partner.

WorkOrder: HS22110511

Longhorn GW Treatment Plant Weekly Samples

Bhate Environmental Associates, Inc.

Marcia Olive
445 Union Blvd Ste 129
Lakewood CO 80228

22-Nov-2022

HS22110511 Longhorn GW Treatment Plant Weekly Samples Final

ALS WO# HS22110511

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

November 15, 2022

Marcia Olive
Bhate Environmental Associates, Inc.
445 Union Blvd Ste 129
Lakewood, CO 80228

Work Order: **HS22110511**

Laboratory Results for: **Longhorn GW Treatment Plant Weekly Samples**

Dear Marcia Olive,

ALS Environmental received 3 sample(s) on Nov 09, 2022 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
Dane J. Wacasey

ALS Houston, US Date: 15-Nov-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS22110511

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS22110511-01	LH18/24-SP650_110822	Water		08-Nov-2022 14:00	09-Nov-2022 09:15	☐
HS22110511-02	LH18/24-SP650_110822_AIX	Water		08-Nov-2022 14:00	09-Nov-2022 09:15	☐
HS22110511-03	LH18/24-SP650_110822_BIX	Water		08-Nov-2022 14:00	09-Nov-2022 09:15	☐

ALS Houston, US Date: 15-Nov-22

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS22110511

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: R421865

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method E350.3

Batch ID: R421575

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method E365.3

Batch ID: R421567

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

ALS Houston, US

Date: 15-Nov-22

Client: Bhate Environmental Associates, Inc.

ANALYTICAL REPORT

Project: Longhorn GW Treatment Plant Weekly Samples

WorkOrder:HS22110511

Sample ID: LH18/24-SP650_110822

Lab ID:HS22110511-01

Collection Date: 08-Nov-2022 14:00

Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
AMMONIA AS N BY E350.3(ISE)		**Method:E350.3**						Analyst: AJ
Nitrogen, Ammonia (As N)	**3.5**	a	**0.10**	**0.10**	**0.20**	**mg/L**	1	10-Nov-2022 11:00
ORTHO PHOSPHATE (PO4) AS P BY E365.3-1978		**Method:E365.3**						Analyst: MZD
Phosphorus, Total Orthophosphate (As P)	**2.99**	a	**0.100**	**0.125**	**0.250**	**mg/L**	10	10-Nov-2022 13:30
TOTAL ORGANIC CARBON BY E415.1		**Method:E415.1**						Analyst: JAC
Organic Carbon, Total	**6.68**	a	**0.500**	**1.00**	**1.00**	**mg/L**	1	15-Nov-2022 14:49

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 15-Nov-22

ANALYTICAL REPORT

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
Sample ID: LH18/24-SP650_110822_AIX
Collection Date: 08-Nov-2022 14:00

WorkOrder:HS22110511
Lab ID:HS22110511-02
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	15-Nov-2022 15:53

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 15-Nov-22

Client: Bhate Environmental Associates, Inc.

ANALYTICAL REPORT

Project: Longhorn GW Treatment Plant Weekly Samples

WorkOrder:HS22110511

Sample ID: LH18/24-SP650_110822_BIX

Lab ID:HS22110511-03

Collection Date: 08-Nov-2022 14:00

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	15-Nov-2022 15:53

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 15-Nov-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS22110511

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R421567 (0)	**Test Name :** ORTHO PHOSPHATE (PO4) AS P BY E365.3-1978				**Matrix:** Water	
HS22110511-01	LH18/24-SP650_110822	08 Nov 2022 14:00			10 Nov 2022 13:30	10
Batch ID: R421575 (0)	**Test Name :** AMMONIA AS N BY E350.3(ISE)				**Matrix:** Water	
HS22110511-01	LH18/24-SP650_110822	08 Nov 2022 14:00			10 Nov 2022 11:00	1
Batch ID: R421854 (0)	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)				**Matrix:** Water	
HS22110511-02	LH18/24-SP650_110822_AIX	08 Nov 2022 14:00			15 Nov 2022 15:53	1
HS22110511-03	LH18/24-SP650_110822_BIX	08 Nov 2022 14:00			15 Nov 2022 15:53	1
Batch ID: R421865 (0)	**Test Name :** TOTAL ORGANIC CARBON BY E415.1				**Matrix:** Water	
HS22110511-01	LH18/24-SP650_110822	08 Nov 2022 14:00			15 Nov 2022 14:49	1

ALS Houston, US Date: 15-Nov-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS22110511

QC BATCH REPORT

Batch ID: R421567 (0) **Instrument:** UV-2450 **Method:** ORTHO PHOSPHATE (PO4) AS P BY E365.3-1978

MBLK Sample ID: **MBLK-R421567** Units: **mg/L** Analysis Date: **10-Nov-2022 13:30**
Client ID: Run ID: **UV-2450_421567** SeqNo: **6974905** 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)	0.0125	0.0250								U

LCS Sample ID: **LCS-R421567** Units: **mg/L** Analysis Date: **10-Nov-2022 13:30**
Client ID: Run ID: **UV-2450_421567** SeqNo: **6974904** 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)	0.27	0.0250	0.25	0	108	85 - 115				

MS Sample ID: **HS22110511-01MS** Units: **mg/L** Analysis Date: **10-Nov-2022 13:30**
Client ID: **LH18/24-SP650_110822** Run ID: **UV-2450_421567** SeqNo: **6974907** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	5.36	0.250	2.5	2.99	94.8	80 - 120				

MSD Sample ID: **HS22110511-01MSD** Units: **mg/L** Analysis Date: **10-Nov-2022 13:30**
Client ID: **LH18/24-SP650_110822** Run ID: **UV-2450_421567** SeqNo: **6974906** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	5.37	0.250	2.5	2.99	95.2	80 - 120	5.36	0.186	20	

The following samples were analyzed in this batch: HS22110511-01

ALS Houston, US Date: 15-Nov-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS22110511

QC BATCH REPORT

Batch ID: R421575 (0) **Instrument: WetChem_HS** **Method: AMMONIA AS N BY E350.3(ISE)**

MBLK Sample ID: **MBLK-R421575** Units: **mg/L** Analysis Date: **10-Nov-2022 11:00**
Client ID: Run ID: **WetChem_HS_421575** SeqNo: **6975095** 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)	0.10	0.20								U

LCS Sample ID: **LCS-R421575** Units: **mg/L** Analysis Date: **10-Nov-2022 11:00**
Client ID: Run ID: **WetChem_HS_421575** SeqNo: **6975094** 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)	10.1	0.20	10	0	101	80 - 120				

MS Sample ID: **HS22110269-03MS** Units: **mg/L** Analysis Date: **10-Nov-2022 11:00**
Client ID: Run ID: **WetChem_HS_421575** SeqNo: **6976260** 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)	9.549	0.20	10	0.089	94.6	80 - 120				

MSD Sample ID: **HS22110269-03MSD** Units: **mg/L** Analysis Date: **10-Nov-2022 11:00**
Client ID: Run ID: **WetChem_HS_421575** SeqNo: **6976259** 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)	9.549	0.20	10	0.089	94.6	80 - 120	9.549	0	20	

The following samples were analyzed in this batch: HS22110511-01

ALS Houston, US Date: 15-Nov-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS22110511

QC BATCH REPORT

Batch ID: R421865 (0) **Instrument: TOC_05** **Method: TOTAL ORGANIC CARBON BY E415.1**

MBLK Sample ID: **MBLK-11152022** Units: **mg/L** Analysis Date: **15-Nov-2022 12:46**
Client ID: Run ID: **TOC_05_421865** SeqNo: **6982347** 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-11152022** Units: **mg/L** Analysis Date: **15-Nov-2022 13:00**
Client ID: Run ID: **TOC_05_421865** SeqNo: **6982348** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	10.05	1.00	10	0	100	85 - 115				

LCSD Sample ID: **LCSD-11152022** Units: **mg/L** Analysis Date: **15-Nov-2022 13:14**
Client ID: Run ID: **TOC_05_421865** SeqNo: **6982349** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	10.04	1.00	10	0	100	85 - 115	10.05	0.0996	20	

MS Sample ID: **HS22110444-05MS** Units: **mg/L** Analysis Date: **15-Nov-2022 13:41**
Client ID: Run ID: **TOC_05_421865** SeqNo: **6982351** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	11.63	1.00	10	1.566	101	80 - 120				

The following samples were analyzed in this batch: HS22110511-01

ALS Houston, US Date: 15-Nov-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: **HS22110511**

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	22-041-0	27-Mar-2023
California	2919 2022-2023	30-Apr-2023
Dept of Defense	L21-682	31-Dec-2023
Florida	E87611-36	30-Jun-2023
Illinois	2000322022-9	09-May-2023
Kansas	E-10352; 2022-2023	31-Jul-2023
Kentucky	123043, 2022-2023	30-Apr-2023
Louisiana	03087, 2022-2023	30-Jun-2023
Maryland	343, 2022-2023	30-Jun-2023
North Carolina	624-2022	31-Dec-2022
North Dakota	R-193 2022-2023	30-Apr-2023
Oklahoma	2022-141	31-Aug-2023
Texas	T104704231-22-29	30-Apr-2023
Utah	TX026932022-13	31-Jul-2023

ALS Houston, US Date: 15-Nov-22

Sample Receipt Checklist

Work Order ID: HS22110511 **Date/Time Received:** 09-Nov-2022 09:15

Client Name: Bhate Environmental **Received by:** Nelson D. Dusara

Completed By: /S/ Corey Grandits (eSignature) 09-Nov-2022 11:12 (Date/Time) **Reviewed by:** /S/ Ragen Giga (eSignature) 15-Nov-2022 12:27 (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 ☐	COC IDs:Client
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):	2.1UC/1.6C	IR31	
Cooler(s)/Kit(s):	47937		
Date/Time sample(s) sent to storage:	11/9/2022		
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 WEEKLY SAMPLES

Prepared By: Scott Beesinger

P.O. Number

HS22110511

Bhate Environmental Associates, Inc.
Longhorn GW Treatment Plant Weekly Samples

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.)	Lab I.D.#
LH18/24-SP650_110822	Water	11/08/22 / 14:00		3	X	X			H2SO4	
LH18/24-SP650_110822	Water	11/08/22 / 14:00		1			X		NONE	
LH18/24–SP650_110822_AIX	Water	11/08/22 / 14:00		1				X	NONE	
LH18/24-SP650_110822_BIX	Water	11/08/22 / 14:00		1				X	NONE	

Additional Remarks: **Standard TAT**

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	11/08/22	14:30	Nelson	11/09/22	9:15						

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition

Remarks: 2 | IR31

L17937 C1F-0.5°

(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

47937

CUSTODY SEAL

Date: 11/08/22 Time: 1430
Name: Scott Beesinger
Company: BHATE

Seal Broken By: SM
Date: 11/09/22

47937

NOV 09 2022



47937

ORIGIN ID:SGRA (903) 930-6193
SCOTT BEESINGER
APTIM ENVIROMENTAL & INFASTRUCTURE
1203-B EAST GRAND AVE
PMB 202
MARSHALL, TX 75670
UNITED STATES US

SHIP DATE: 26SEP22
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 50-BO 87980-DW

RMA:

FedEx Express

WED - 09 NOV AA
PRIORITY OVERNIGHT

FedEx TRK# 0221 5789 1998 4295

77099
TX-US
IAH

AB SGRA

3923207 08Nov2022 GGGA 581G4/07F5/C0B8

November 15, 2022 Service Request No:E2201095

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

Laboratory Results for: HS22110511

Dear Dane,

Enclosed are the results of the sample(s) submitted to our laboratory November 09, 2022
For your reference, these analyses have been assigned our service request number **E2201095.**

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 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.:**	E2201095
Project:	HS22110511	**Date Received:**	11/09/22
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 11/09/22.

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:

EQ2200523: 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:**E2201095
Project: HS22110511

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2201095-001	LH18/24-SP650_110822_AIX	11/8/2022	1400
E2201095-002	LH18/24-SP650_110822_BIX	11/8/2022	1400

Service Request Summary

Folder #: **E2201095**
Client Name: ALS Environmental - US
Project Name: HS22110511
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: JGUIN
Date Received: 11/09/22
Internal Due Date: 11/15/2022
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS22110511
EDD: BASIC_WQC_CASNo_LOD

2 120 mL-Plastic Bottle Natural WM Unpreserved
Location: EHRMS-AirArch 1
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2201095-001	LH18/24-SP650_110822_AIX	Water	11/08/22 1400	**IV**
E2201095-002	LH18/24-SP650_110822_BIX	Water	11/08/22 1400	**IV**

Service Request Summary

Folder #:	**E2201095**
Client Name:	ALS Environmental - US
Project Name:	HS22110511
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:	JGUIN
Date Received:	11/09/22
Internal Due Date:	11/15/2022
QAP:	LAB QAP
Qualifier Set:	Lab Standard
Formset:	Lab Standard
Merged?:	Y
Report to MDL?:	Y
P.O. Number:	HS22110511
EDD:	BASIC_WQC_CASNo_LOD

2 120 mL-Plastic Bottle Natural WM Unpreserved

Location: EHRMS-AirArch 1

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	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	12/31/2022
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	2228443	12/31/2022
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

Chain of Custody

ALS Environmental - Houston HRMS
10450 Stancliff Rd, Suite 210, Houston TX 77099
Phone (713)266-1599 Fax (713)266-0130
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:** 20308

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:	HS22110511
TSR:	Houston House Acct

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS22110511-02**	**LH18/24-SP650_110822_AIX**	**Water**	**08 Nov 2022 14:00**
	6850-Perch. DOD Level II & Level IV in separate pdf			16 Nov 2022
2.	**HS22110511-03**	**LH18/24-SP650_110822_BIX**	**Water**	**08 Nov 2022 14:00**
	6850-Perch. DOD Level II & Level IV in separate pdf			16 Nov 2022

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

QC Level: DOD IV (DoD Data Package)

Relinquished By: CG 11/9/22 1200 Date/Time: _____

Received By: J.M 11/9/22 1200 Date/Time: _____

Cooler ID(s): _____ Temperature(s): _____

ALS Environmental

Cooler Receipt Form

Project Chemist JG

Client/Project ALS Houston

Thermometer ID IR31

Date/Time Received: 11/9/22 1200 Initials: JG

Date/Time Logged in: 11/9/22 1602 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
   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?
—		11/9/22	1200	CG	2.1	☑
						☐
						☐
						☐

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
T: +1 713 266 1599
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
10450 Stancliff Rd., Suite 210, Houston, TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

Preparation Information Benchsheet

Prep Run#: 409928 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/XMI **Prep Method:** Method **Prep Date/Time:** 11/14/22 08:31

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2201095-001	LH18/24-SP650_110822_AIX	.01	6850/ClO4 DOD			Water	10mL	
2	E2201095-002	LH18/24-SP650_110822_BIX	.01	6850/ClO4 DOD			Water	10mL	
3	E2201101-001	130_111022	.01	6850/ClO4 DOD			Water	10mL	
4	E2201101-002	17WW03_111022	.01	6850/ClO4 DOD			Water	10mL	
5	E2201101-003	17WW03_111022_a	.01	6850/ClO4 DOD			Water	10mL	
6	E2201101-004	17WW01_111022	.01	6850/ClO4 DOD			Water	10mL	
7	E2201101-005	17WW02_111022	.01	6850/ClO4 DOD			Water	10mL	
8	E2201101-006	17WW06_111022	.01	6850/ClO4 DOD			Water	10mL	
9	EQ2200523-01	MB		6850/ClO4 DOD			Liquid	10mL	
10	EQ2200523-02	LCS		6850/ClO4 DOD			Liquid	10mL	
11	EQ2200523-03	DLCS		6850/ClO4 DOD			Liquid	10mL	
12	EQ2200523-04	130_111022 MS	.01	6850/ClO4 DOD			Liquid	10mL	
13	EQ2200523-05	130_111022 DMS	.01	6850/ClO4 DOD			Liquid	10mL	

Spiking Solutions

Name: Perchlorate Intermediate Stock1 Inventory ID 225386 Logbook Ref: Perchlorate (1st Source) Expires On: 01/31/2023

EQ2200523-02 1.00µL EQ2200523-03 1.00µL EQ2200523-04 1.00µL EQ2200523-05 1.00µL

Name: Perchlorate Internal Standard 1ug/mL Inventory ID 225719 Logbook Ref: Perchlorate Internal Standard Expires On: 01/31/2023

E2201095-001 100.00µL E2201095-002 100.00µL E2201101-001 100.00µL E2201101-002 100.00µL E2201101-003 100.00µL E2201101-004 100.00µL
E2201101-005 100.00µL E2201101-006 100.00µL EQ2200523-01 100.00µL EQ2200523-02 100.00µL EQ2200523-03 100.00µL EQ2200523-04 100.00µL
EQ2200523-05 100.00µL

Preparation Materials

Water HPLC Grade 10/24/2022 Water (225656) 6850 Amber Glass screw vial 2mL Screw Top Vial (221308) 6850 0.45um syringe filters 6850 Syringe Filters (224414)
6850 Luer-Lok Syringes Luer-Lok Syringes (221305) 6850 Pipette Tips 50-1000 uL 6850 Pipette Tips (221307)

Preparation Steps

Step: Preparation
Started: 11/14/22 08:31
Finished: 11/14/22 12:15
By: XMI
Comments

Preparation Information Benchsheet

Prep Run#: 409928
Team: Semivoa GCMS/XMI

Prep WorkFlow: GenExt28Day
Prep Method: Method

Status: Prepped
Prep Date/Time: 11/14/22 08:31

Comments:

Reviewed By: GR Date: 11/14/22

Chain of Custody

Relinquished By: Date:

Received By: Date:

Extracts Examined
Yes No

Analytical Results

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

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2201095
Project:	HS22110511	**Date Collected:**	11/ 8/22 1400
Sample Matrix:	Water	**Date Received:**	11/ 9/22
Sample Name:	LH18/24-SP650_110822_AIX	**Units:**	µg/L
Lab Code:	E2201095-001	**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	**0.0441**	J	0.100	0.0500	0.0250	1	11/14/22	11/15/22 13:15	409928	785115	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2201095
Project:	HS22110511	**Date Collected:**	11/ 8/22 1400
Sample Matrix:	Water	**Date Received:**	11/ 9/22
Sample Name:	LH18/24-SP650_110822_BIX	**Units:**	µg/L
Lab Code:	E2201095-002	**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	**15.9**		0.100	0.0500	0.0250	1	11/14/22	11/15/22 13:23	409928	785115	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2201095
Project:	HS22110511	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2200523-01	**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	11/14/22	11/14/22 14:52	409928	785115	

Accuracy & Precision

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2201095
Project:	HS22110511	**Date Analyzed:**	11/14/22 - 11/15/22
Sample Matrix:	Water		

Lab Control Sample Summary

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

Analytical Method:	6850	**Units:**	µg/L
Prep Method:	Method	**Basis:**	NA
		Extraction Lot:	409928

	Lab Control Sample EQ2200523-02			Duplicate Lab Control Sample EQ2200523-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.115	0.100	115	0.107	0.100	107	84 - 119	8	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:**	E2201095
Project:	HS22110511	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2200523-02	**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	**0.115**		0.100	0.0500	0.0250	1	11/14/22	11/14/22 15:09	409928	785115	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2201095
Project:	HS22110511	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2200523-03	**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	**0.107**		0.100	0.0500	0.0250	1	11/14/22	11/15/22 11:06	409928	785115	

HS22110511 Wet Chemistry

ALS WO# HS22110511

NIT-AMM_W-E350.3-ISE/NIT_AMM_W_ISE

HS2211051I

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Logbook **32105**

Ion Selective Electrode Logbook

Analyst: AJ					Date: 11/10/22 11:00			
Method: SM4500NH3-D/EPA 350.3 or SM4500 NH3 B-F								
Probe Calibration Date: 11/10/22		Cal Std ID:			Probe ID: NH3-8			
Std Level		mV	Conc., mg/L:		Sodium Thiosulfate ID:			
STD 1 (mg/L):	0.2	129.1	0.203		Std Level	mV	Conc., mg/L:	
STD 2 (mg/L):	1	91.8	1.000		STD 4 (mg/L): 10	33.5	10.014	
STD 3 (mg/L):	5	51.0	4.997		STD 5 (mg/L): 50	-7.7	49.969	
LSC / MS Spike ID:					ICAL Date & Slope:			
ICV Cal STD ID:					100.1% / -59.0			
DPD Reagent ID:								

WO # / SX #	Bottle #	Initial g or ml	Final Vol. ml	Dilution Factor	Initial Conc. mg/L	Final Conc. mg/L	Chlorine Check (+/–)	Comments
ICV					10.528			
ICB					0.014			
MBIK					0.016			
LCS					10.096			
HS22110511.01					3.980		-ve	
HS22110268.02					0.059		+ve	DF: 10x rechecked
HS22110268.05					0.059		+ve	DF: 10X rechecked
HS22110268.08					0.067		+ve	DF: 10x rechecked
HS22110268.11					0.101		+ve	DF: 10X rechecked
HS22110269.01					0.021		+ve	rechecked
HS22110269.02					0.015		+ve	rechecked
HS22110269.03					0.089		+ve	rechecked
CCV					10.142			
CCB					0.009			
HS22110269.04					0.094		-ve	
HS22110269.04 MS					11.065		-ve	NR
HS22110269.04 MSD					11.065		-ve	NR.
HS22110440.01					0.394		+ve	rechecked
HS22110305.01					1.744		+ve	rechecked
HS22110309.01					0.134		-ve	
HS22110304.02					0.040		-ve	
HS22110304.03					0.010		-ve	
HS22110352.01					0.092		-ve	
HS22110514.01					24.187		+ve	rechecked
CCV					10.310			

Batch ID:	Reported By	Reviewed By:
R421575 / R421579	AJ	MD

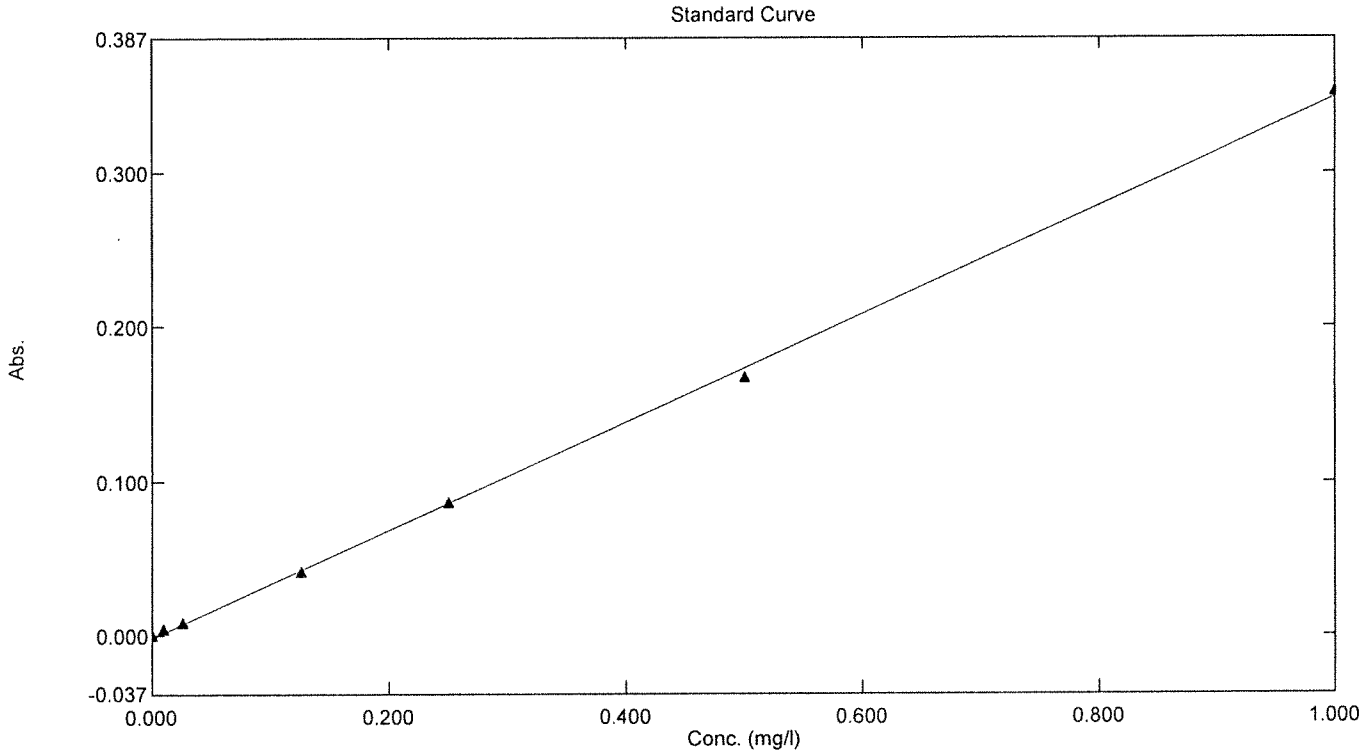
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HS22110511

Standard Table Report

11/16/2022 06:36:22 PM

File Name: C:\Program Files (x86)\Shimadzu\UVProbe\Data\P_ORTHO\2022\111102022_P_ORTHO.650WAVE.ph



Correlation Coefficient r2 = 0.99940

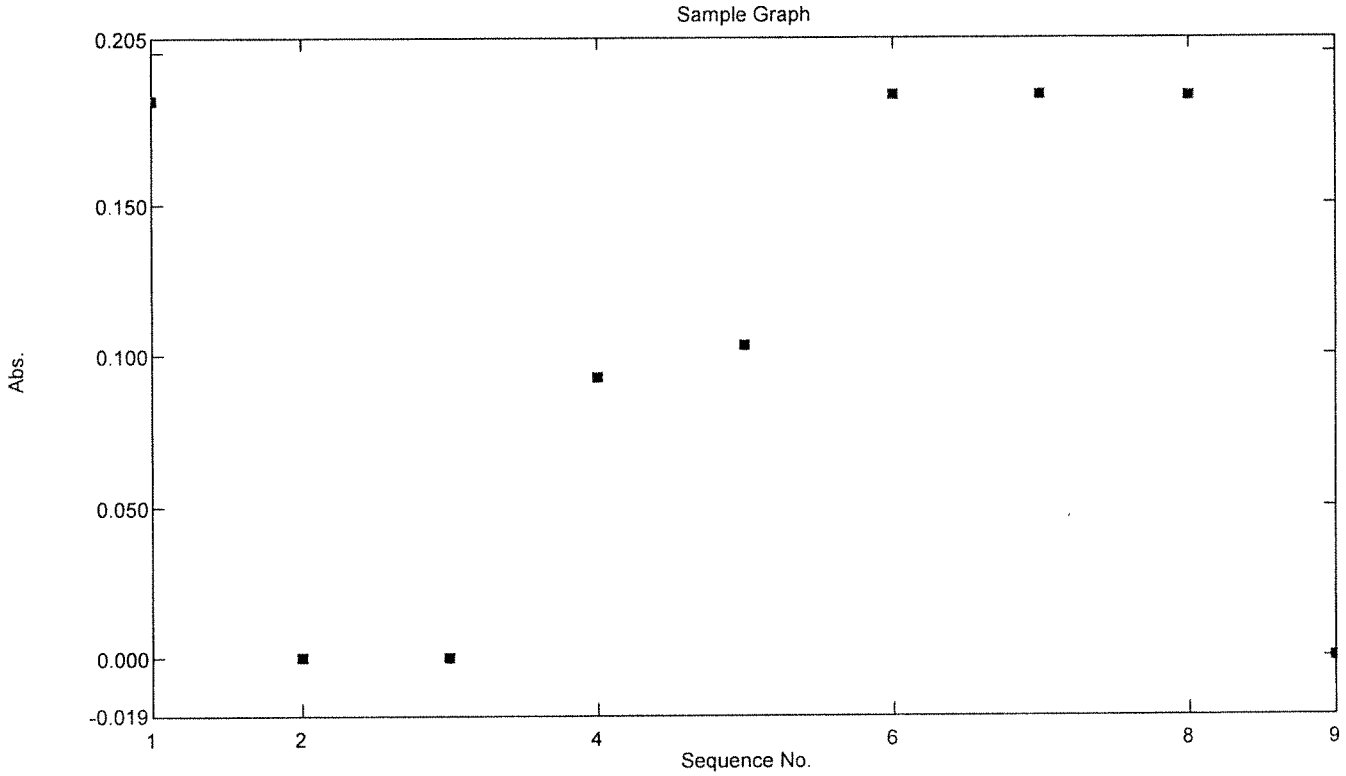
Standard Table

	Sample ID	Type	Ex	Conc	WL650.0	Wgt.Factor	Comments
1	STD1	Standard		0.000	-0.000	1.000	
2	STD2	Standard		0.010	0.004	1.000	
3	STD3	Standard		0.025	0.008	1.000	
4	STD4	Standard		0.125	0.041	1.000	
5	STD5	Standard		0.250	0.086	1.000	
6	STD6	Standard		0.500	0.167	1.000	
7	STD7	Standard		1.000	0.351	1.000	
8							

Sample Table Report

11/16/2022 06:36:25 PM

File Name: C:\Program Files (x86)\Shimadzu\UVProbe\Data\P_ORTHO\2022\111102022_P_ORTHO.650WAVE.p



Sample Table

	Sample ID	Conc	WL650.	Comments
1	CCV	0.532	0.184	320075405 WC-20
2	CCB	0.004	-0.000	
3	MBLK	0.004	-0.000	
4	LCS	0.270	0.093	320075407 WC-20
5	HS22110511.01	0.299	0.103	
6	HS22110511.01MS	0.536	0.186	
7	HS22110511.01MSD	0.537	0.186	11N-3100606616 WC-13
8	CCV2	0.534	0.185	A-320072106 WC-20
9	CCB2	0.004	-0.000	AS-320074210 WC-20
10				

C:\TOC-L\Data\2022_09_12_002.CAL.tlx

HS2210511

	Type	Analysis	Sample Name	Sample ID	Origin	Manual Diluti	Result	Notes
1	Standard	NPOC	CAL	3100606211	09.12.2022.	1.000		
2	Unknown	NPOC	ICV	3100606203	09.12.2022.	1.000	NPOC:10.12mg/L	
3	Unknown	NPOC	ICB		09.12.2022.	1.000	NPOC:0.2565mg/L	

C:\TOC-L\Data\2022_09_12_002.CAL.tlx

	Status	Date / Time	Vial
1	Completed	9/12/2022 3:	1, 2, 3, 4, 5,
2	Completed	9/12/2022 3:	8
3	Completed	9/12/2022 4:	1

TOC-Control L Report

2022_09_12_002.CAL.tlx

Instr.Information

Instrument Options	TOC/ASI/IC Unit/
Catalyst	Regular Sensitivity

Cal. Curve

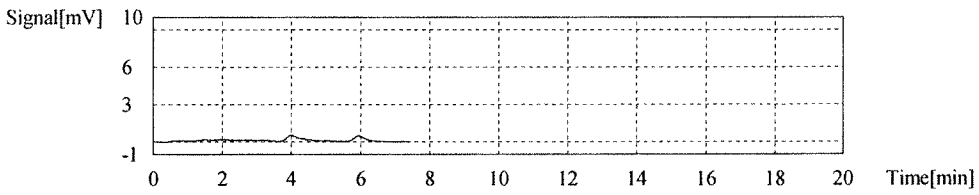
Sample Name:	CAL
Sample ID:	3100606211
Cal. Curve:	09.12.2022.2022_09_12_13_48_09.cal
Status	Completed

Type	Anal.
Standard	NPOC

Conc: 0.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	1.724	50uL	1.000	*******		9/12/2022 1:58:20 PM
2	1.656	50uL	1.000	*******		9/12/2022 2:00:30 PM
3	1.075	50uL	1.000	*******		9/12/2022 2:02:37 PM

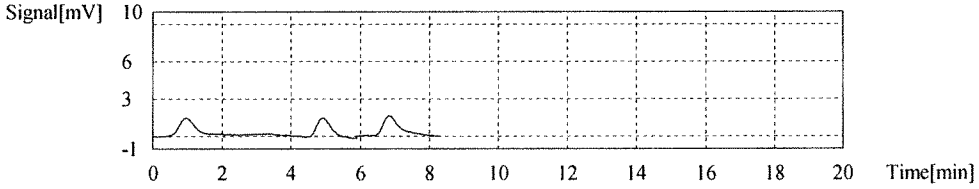
Acid Add.	1.500%
Sparge Gas Flow	80mL/min
Sp. Time	120.0sec
Mean Area	1.485



Conc: 1.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	6.172	50uL	1.000	*******		9/12/2022 2:13:20 PM
2	4.566	50uL	1.000	*******		9/12/2022 2:15:31 PM
3	5.372	50uL	1.000	*******		9/12/2022 2:18:11 PM

Acid Add.	1.500%
Sparge Gas Flow	80mL/min
Sp. Time	120.0sec
Mean Area	5.370



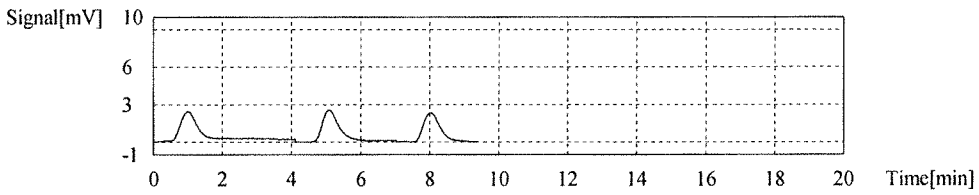
Conc: 2.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	9.434	50uL	1.000	*******		9/12/2022 2:29:04 PM
2	8.527	50uL	1.000	*******		9/12/2022 2:32:14 PM
3	7.960	50uL	1.000	*******		9/12/2022 2:34:50 PM

TOC-Control L Report

2022_09_12_002.CAL.tlx

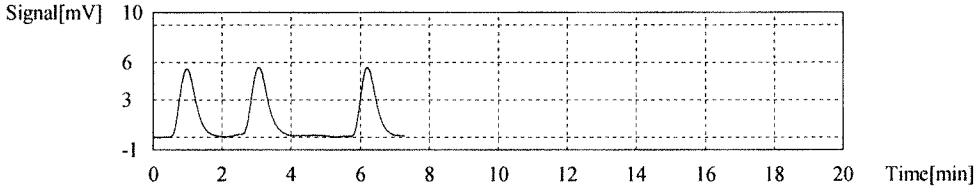
Acid Add. 1.500%
Sparge Gas Flow 80mL/min
Sp. Time 120.0sec
Mean Area 8.640



Conc: 5.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	17.74	50uL	1.000	*******		9/12/2022 2:43:40 PM
2	19.48	50uL	1.000	*******		9/12/2022 2:47:03 PM
3	17.29	50uL	1.000	*******		9/12/2022 2:49:20 PM

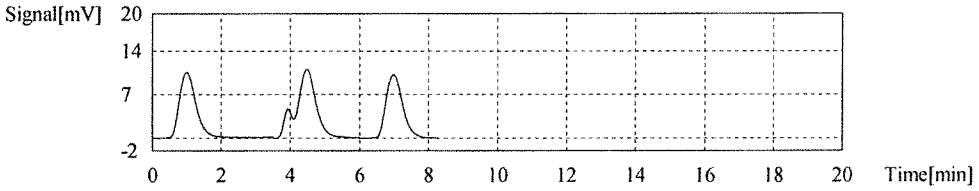
Acid Add. 1.500%
Sparge Gas Flow 80mL/min
Sp. Time 120.0sec
Mean Area 18.17



Conc: 10.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	35.42	50uL	1.000	*******		9/12/2022 2:59:35 PM
2	44.64	50uL	1.000	*******		9/12/2022 3:02:21 PM
3	34.88	50uL	1.000	*******		9/12/2022 3:04:52 PM

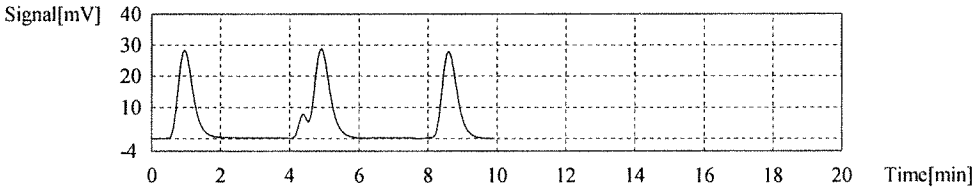
Acid Add. 1.500%
Sparge Gas Flow 80mL/min
Sp. Time 120.0sec
Mean Area 38.31



Conc: 25.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	89.89	50uL	1.000	*******		9/12/2022 3:15:34 PM
2	104.9	50uL	1.000	*******		9/12/2022 3:19:31 PM
3	86.51	50uL	1.000	*******		9/12/2022 3:22:02 PM

Acid Add. 1.500%
Sparge Gas Flow 80mL/min
Sp. Time 120.0sec
Mean Area 93.77



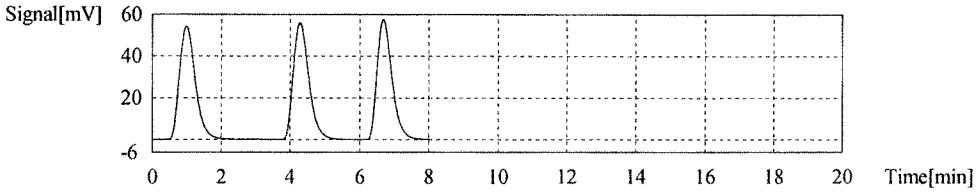
Conc: 50.00mg/L

TOC-Control L Report

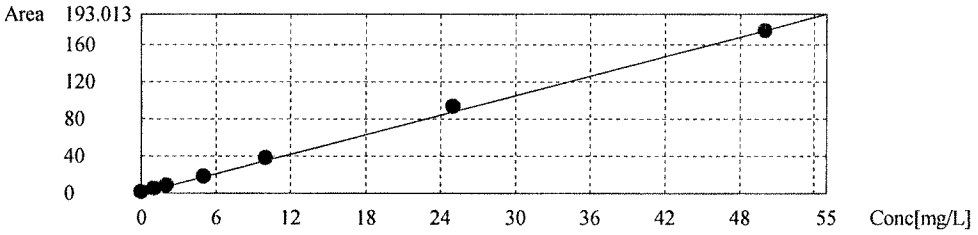
2022_09_12_002.CAL.tlx

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	176.2	50uL	1.000	*******		9/12/2022 3:32:07 PM
2	175.5	50uL	1.000	*******		9/12/2022 3:34:47 PM
3	174.7	50uL	1.000	*******		9/12/2022 3:37:18 PM

Acid Add. 1.500%
Sparge Gas Flow 80mL/min
Sp. Time 120.0sec
Mean Area 175.5



Slope: 3.506
Intercept 0.000
r^2 0.9990
r 0.9995
RSE(%) N/A
Zero Shift Yes



Sample

Sample Name: ICV
Sample ID: 3100606203
Origin: 09.12.2022.cal
Status Completed
Chk. Result

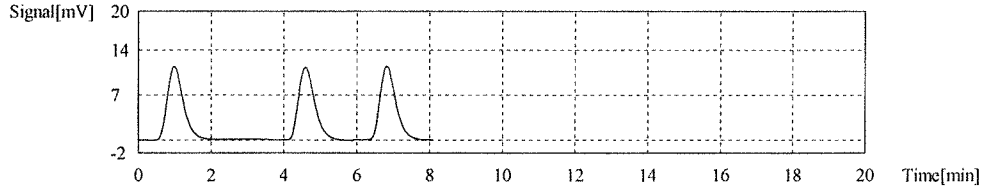
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:10.12mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	36.32	10.36mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	9/12/2022 3:47:42 PM
2	35.22	10.04mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	9/12/2022 3:50:09 PM
3	34.91	9.956mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	9/12/2022 3:52:36 PM

Mean Area 35.48
Mean Conc. 10.12mg/L



Sample

TOC-Control L Report

2022_09_12_002.CAL.tlx

Sample Name: ICB
Sample ID:
Origin: 09.12.2022.cal
Status Completed
Chk. Result

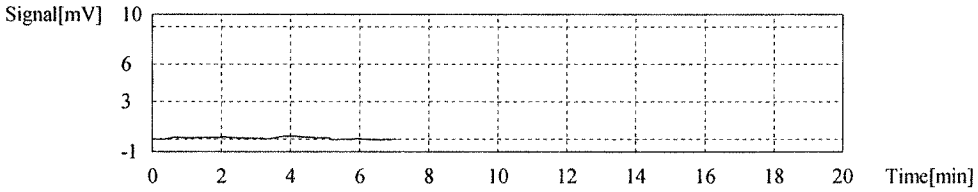
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.2565mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1.534	0.4375mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	9/12/2022 4:02:48 PM
2	0.9051	0.2581mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	9/12/2022 4:04:58 PM
3	0.2590	0.07387mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	9/12/2022 4:07:06 PM

Mean Area 0.8994
Mean Conc. 0.2565mg/L



C:\TOC-L\Data\2022_11_15_001.tlx

	Type	Analysis	Sample Name	Sample ID	Origin	Manual Diluti	Result	Notes
1	Unknown	NPOC	CCV	320075608	09.12.2022.	1.000	NPOC:24.88mg/L	
2	Unknown	NPOC	CCB		09.12.2022.	1.000	NPOC:0.04920mg/	
3	Unknown	NPOC	MBLK-11152022		09.12.2022.	1.000	NPOC:0.02615mg/	
4	Unknown	NPOC	LCS-11152022	3100606203	09.12.2022.	1.000	NPOC:10.05mg/L	
5	Unknown	NPOC	LCSD-11152022		09.12.2022.	1.000	NPOC:10.04mg/L	
6	Unknown	NPOC	HS22110444-05		09.12.2022.	1.000	NPOC:1.566mg/L	
7	Unknown	NPOC	HS22110444-05MS		09.12.2022.	1.000	NPOC:11.63mg/L	
8	Unknown	NPOC	HS22110444-06		09.12.2022.	1.000	NPOC:2.345mg/L	
9	Unknown	NPOC	HS22110444-07		09.12.2022.	1.000	NPOC:4.340mg/L	
10	Unknown	NPOC	HS22110444-08		09.12.2022.	1.000	NPOC:3.410mg/L	
11	Unknown	NPOC	HS22110444-09		09.12.2022.	1.000	NPOC:5.716mg/L	
12	Unknown	NPOC	HS22110511-01		09.12.2022.	1.000	NPOC:6.683mg/L	
13	Unknown	NPOC	CCV	320075608	09.12.2022.	1.000	NPOC:24.70mg/L	
14	Unknown	NPOC	CCB		09.12.2022.	1.000	NPOC:0.02420mg/	
15	Unknown	NPOC	HS22110534-01		09.12.2022.	1.000	NPOC:11.40mg/L	
16	Unknown	NPOC	HS22110572-01		09.12.2022.	1.000	NPOC:84.48mg/L	
17	Unknown	NPOC	HS22110572-02		09.12.2022.	1.000	NPOC:5.923mg/L	
18	Unknown	NPOC	CCV	320075608	09.12.2022.	1.000	NPOC:24.72mg/L	
19	Unknown	NPOC	CCB		09.12.2022.	1.000	NPOC:0.2114mg/L	
20	Unknown	NPOC	HS22110572-01DF2		09.12.2022.	1.000	NPOC:38.85mg/L	
21	Unknown	NPOC	CCV	320075608	09.12.2022.	1.000	NPOC:24.82mg/L	
22	Unknown	NPOC	CCB		09.12.2022.	1.000	NPOC:0.1377mg/L	

C:\TOC-L\Data\2022_11_15_001.tlx

	Status	Date / Time	Vial
1	Completed	11/15/2022 12:20:4	1
2	Completed	11/15/2022 12:33:4	2
3	Completed	11/15/2022 12:46:3	3
4	Completed	11/15/2022 1:00:38	4
5	Completed	11/15/2022 1:14:39	5
6	Completed	11/15/2022 1:27:38	6
7	Completed	11/15/2022 1:41:55	7
8	Completed	11/15/2022 1:55:00	8
9	Completed	11/15/2022 2:08:48	9
10	Completed	11/15/2022 2:22:05	10
11	Completed	11/15/2022 2:35:59	11
12	Completed	11/15/2022 2:49:40	12
13	Completed	11/15/2022 3:04:56	1
14	Completed	11/15/2022 3:17:48	2
15	Completed	11/15/2022 3:32:05	13
16	Completed	11/15/2022 3:47:44	14
17	Completed	11/15/2022 4:01:41	15
18	Completed	11/15/2022 4:17:06	1
19	Completed	11/15/2022 4:29:59	2
20	Completed	11/15/2022 4:55:44	16
21	Completed	11/15/2022 5:10:57	1
22	Completed	11/15/2022 5:23:50	2

TOC-Control L Report

2022_11_15_001.tlx

Instr.Information

Instrument Options: TOC/ASI/IC Unit/
Catalyst: Regular Sensitivity

Sample

Sample Name: CCV
Sample ID: 320075608
Origin: 09.12.2022.cal
Status: Completed
Chk. Result

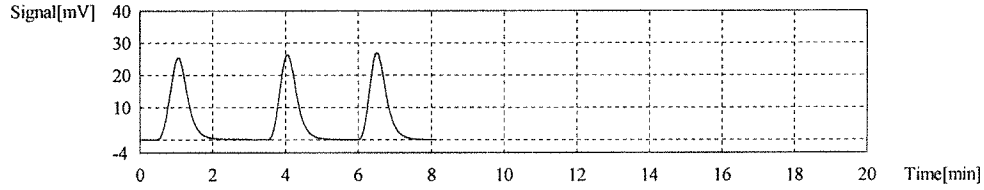
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:24.88mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	87.62	24.99mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/15/2022 12:15:12 PM
2	86.71	24.73mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/15/2022 12:17:56 PM
3	87.42	24.93mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/15/2022 12:20:48 PM

Mean Area: 87.25
Mean Conc.: 24.88mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: 09.12.2022.cal
Status: Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.04920mg/L

1. Det

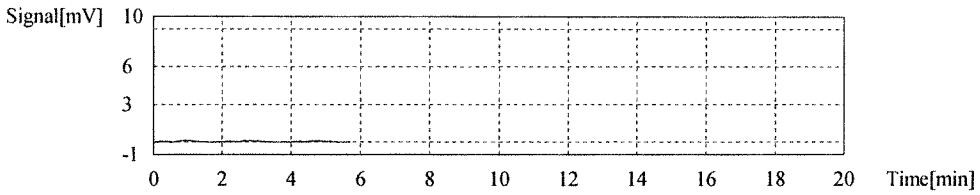
Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.3242	0.09246mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/15/2022 12:29:26 PM
2	0.1933	0.05513mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/15/2022 12:31:33 PM
3	0.000	0.000mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/15/2022 12:33:40 PM

TOC-Control L Report

2022_11_15_001.tlx

Mean Area 0.1725
Mean Conc. 0.04920mg/L



Sample

Sample Name: MBLK-11152022
Sample ID:
Origin: 09.12.2022 cal
Status Completed
Chk. Result

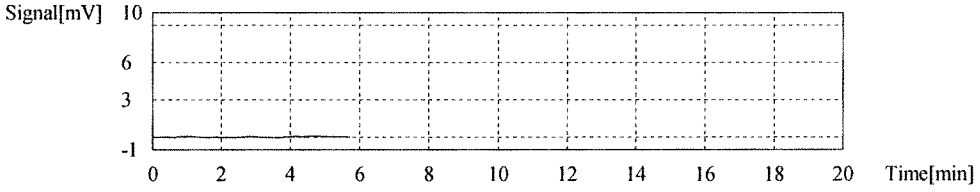
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.02615mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.1397	0.03984mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/15/2022 12:42:19 PM
2	0.1354	0.03862mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/15/2022 12:44:27 PM
3	0.000	0.000mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/15/2022 12:46:34 PM

Mean Area 0.09170
Mean Conc. 0.02615mg/L



Sample

Sample Name: LCS-11152022
Sample ID: 3100606203
Origin: 09.12.2022.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:10.05mg/L

1. Det

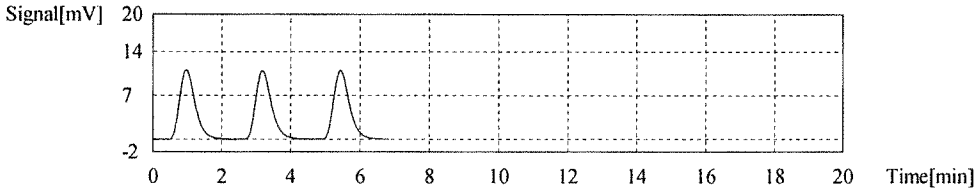
Anal.: NPOC

TOC-Control L Report

2022_11_15_001.tlx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	35.30	10.07mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/15/2022 12:55:32 PM
2	35.05	9.996mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/15/2022 12:58:02 PM
3	35.42	10.10mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/15/2022 1:00:38 PM

Mean Area 35.26
Mean Conc. 10.05mg/L



Sample

Sample Name: LCSD-11152022
Sample ID:
Origin: 09.12.2022.cal
Status Completed
Chk. Result

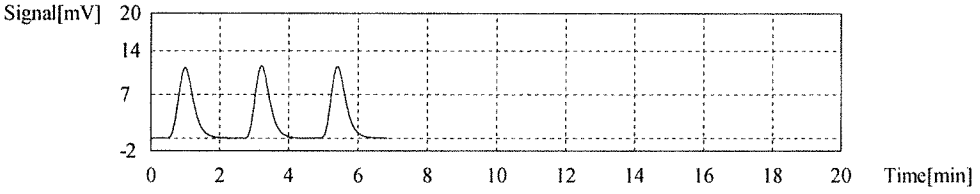
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:10.04mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	35.19	10.04mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/15/2022 1:09:38 PM
2	35.23	10.05mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/15/2022 1:12:03 PM
3	35.23	10.05mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/15/2022 1:14:39 PM

Mean Area 35.22
Mean Conc. 10.04mg/L



Sample

Sample Name: HS22110444-05
Sample ID:
Origin: 09.12.2022.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:1.566mg/L

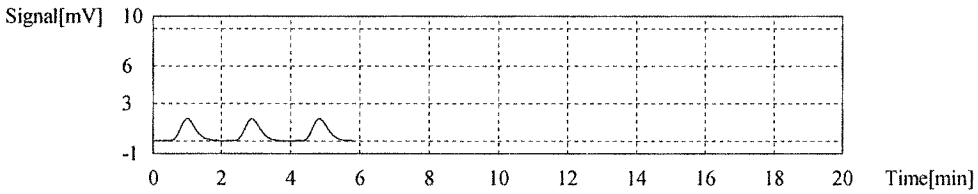
1. Det

TOC-Control L Report

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	5.362	1.529mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/15/2022 1:23:19 PM
2	5.550	1.583mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/15/2022 1:25:31 PM
3	5.556	1.585mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/15/2022 1:27:38 PM

Mean Area 5.489
Mean Conc. 1.566mg/L



Sample

Sample Name: HS22110444-05MS
Sample ID:
Origin: 09.12.2022.cal
Status Completed
Chk. Result

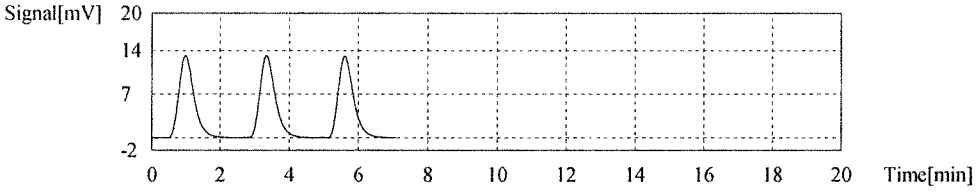
Type	Anal	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:11.63mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	41.13	11.73mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/15/2022 1:36:45 PM
2	40.42	11.53mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/15/2022 1:39:16 PM
3	40.80	11.64mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/15/2022 1:41:55 PM

Mean Area 40.78
Mean Conc. 11.63mg/L



Sample

Sample Name: HS22110511-01
Sample ID:
Origin: 09.12.2022.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:6.683mg/L

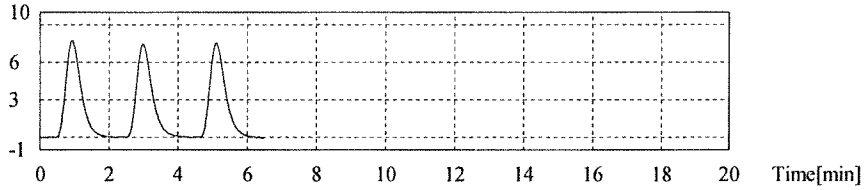
TOC-Control L Report

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	23.58	6.725mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/15/2022 2:44:49 PM
2	23.12	6.594mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/15/2022 2:47:09 PM
3	23.60	6.731mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/15/2022 2:49:40 PM

Mean Area 23.43
Mean Conc. 6.683mg/L



Sample

Sample Name: CCV
Sample ID: 320075608
Origin: 09.12.2022.cal
Status Completed
Chk. Result

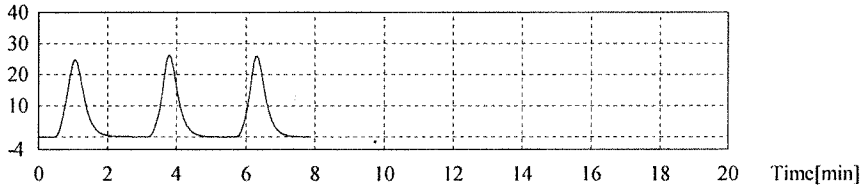
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:24.70mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	86.70	24.73mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/15/2022 2:59:18 PM
2	86.68	24.72mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/15/2022 3:02:04 PM
3	86.49	24.67mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/15/2022 3:04:56 PM

Mean Area 86.62
Mean Conc. 24.70mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: 09.12.2022.cal
Status Completed
Chk. Result

TOC-Control L Report

2022_11_15_001.tlx

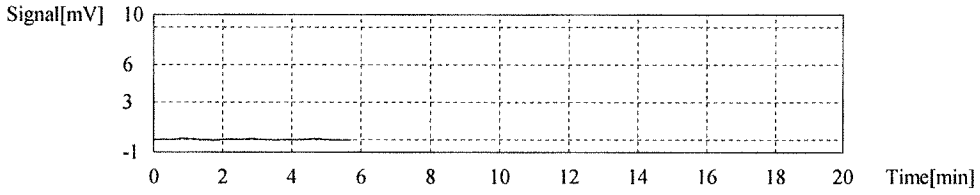
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.02420mg/L

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		09.12.2022.2022_09_12_13_48_09.cal	11/15/2022 3:13:35 PM
2	0.1375	0.03921mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/15/2022 3:15:41 PM
3	0.1171	0.03340mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/15/2022 3:17:48 PM

Mean Area 0.08487
Mean Conc. 0.02420mg/L



HS22110511-E2201095 Level IV Perchlorate Report

ALS WO# HS22110511

November 15, 2022 Service Request No:E2201095

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

Laboratory Results for: HS22110511

Dear Dane,

Enclosed are the results of the sample(s) submitted to our laboratory November 09, 2022
For your reference, these analyses have been assigned our service request number **E2201095.**

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.:**	E2201095
Project:	HS22110511	**Date Received:**	11/09/22
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 11/09/22.

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:

EQ2200523: 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:**E2201095
Project: HS22110511

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2201095-001	LH18/24-SP650_110822_AIX	11/8/2022	1400
E2201095-002	LH18/24-SP650_110822_BIX	11/8/2022	1400

Service Request Summary

Folder #: **E2201095**
Client Name: ALS Environmental - US
Project Name: HS22110511
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: JGUIN
Date Received: 11/09/22
Internal Due Date: 11/15/2022
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS22110511
EDD: BASIC_WQC_CASNo_LOD

2 120 mL-Plastic Bottle Natural WM Unpreserved
Location: EHRMS-AirArch 1
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2201095-001	LH18/24-SP650_110822_AIX	Water	11/08/22 1400	**IV**
E2201095-002	LH18/24-SP650_110822_BIX	Water	11/08/22 1400	**IV**

Service Request Summary

Folder #: **E2201095**
Client Name: ALS Environmental - US
Project Name: HS22110511
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: JGUIN
Date Received: 11/09/22
Internal Due Date: 11/15/2022
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS22110511
EDD: BASIC_WQC_CASNo_LOD

2 120 mL-Plastic Bottle Natural WM Unpreserved
Location: EHRMS-AirArch 1
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	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	12/31/2022
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	2228443	12/31/2022
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

Chain of Custody

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Subcontract Chain of Custody

SAMPLING STATE: Dept of Defense **COC ID:** 20308

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:	HS22110511
TSR:	Houston House Acct

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS22110511-02**	**LH18/24-SP650_110822_AIX**	**Water**	**08 Nov 2022 14:00**
	6850-Perch. DOD Level II & Level IV in separate pdf			16 Nov 2022
2.	**HS22110511-03**	**LH18/24-SP650_110822_BIX**	**Water**	**08 Nov 2022 14:00**
	6850-Perch. DOD Level II & Level IV in separate pdf			16 Nov 2022

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

QC Level: DOD IV (DoD Data Package)

Relinquished By: CG 11/9/22 1200 Date/Time: _____

Received By: J.M 11/9/22 1200 Date/Time: _____

Cooler ID(s): _____ Temperature(s): _____

ALS Environmental

Cooler Receipt Form

Project Chemist JG

Client/Project ALS Houston

Thermometer ID IR31

Date/Time Received: 11/9/22 1200 Initials: JG

Date/Time Logged in: 11/9/22 1602 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
   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?
—		11/9/22	1200	CG	2.1	☑
						☐
						☐
						☐

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:

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Houston, TX 77099
T: +1 713 266 1599
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

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Phone (713)266-1599 Fax (713)266-0130
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Preparation Information Benchsheet

Prep Run#: 409928 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/XMI **Prep Method:** Method **Prep Date/Time:** 11/14/22 08:31

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2201095-001	LH18/24-SP650_110822_AIX	.01	6850/ClO4 DOD			Water	10mL	
2	E2201095-002	LH18/24-SP650_110822_BIX	.01	6850/ClO4 DOD			Water	10mL	
3	E2201101-001	130_111022	.01	6850/ClO4 DOD			Water	10mL	
4	E2201101-002	17WW03_111022	.01	6850/ClO4 DOD			Water	10mL	
5	E2201101-003	17WW03_111022_a	.01	6850/ClO4 DOD			Water	10mL	
6	E2201101-004	17WW01_111022	.01	6850/ClO4 DOD			Water	10mL	
7	E2201101-005	17WW02_111022	.01	6850/ClO4 DOD			Water	10mL	
8	E2201101-006	17WW06_111022	.01	6850/ClO4 DOD			Water	10mL	
9	EQ2200523-01	MB		6850/ClO4 DOD			Liquid	10mL	
10	EQ2200523-02	LCS		6850/ClO4 DOD			Liquid	10mL	
11	EQ2200523-03	DLCS		6850/ClO4 DOD			Liquid	10mL	
12	EQ2200523-04	130_111022 MS	.01	6850/ClO4 DOD			Liquid	10mL	
13	EQ2200523-05	130_111022 DMS	.01	6850/ClO4 DOD			Liquid	10mL	

Spiking Solutions

Name: Perchlorate Intermediate Stock1 Inventory ID 225386 Logbook Ref: Perchlorate (1st Source) Expires On: 01/31/2023

EQ2200523-02 1.00µL EQ2200523-03 1.00µL EQ2200523-04 1.00µL EQ2200523-05 1.00µL

Name: Perchlorate Internal Standard 1ug/mL Inventory ID 225719 Logbook Ref: Perchlorate Internal Standard Expires On: 01/31/2023

E2201095-001 100.00µL E2201095-002 100.00µL E2201101-001 100.00µL E2201101-002 100.00µL E2201101-003 100.00µL E2201101-004 100.00µL
E2201101-005 100.00µL E2201101-006 100.00µL EQ2200523-01 100.00µL EQ2200523-02 100.00µL EQ2200523-03 100.00µL EQ2200523-04 100.00µL
EQ2200523-05 100.00µL

Preparation Materials

Water HPLC Grade 10/24/2022 Water (225656) 6850 Amber Glass screw vial 2mL Screw Top Vial (221308) 6850 0.45um syringe filters 6850 Syringe Filters (224414)
6850 Luer-Lok Syringes Luer-Lok Syringes (221305) 6850 Pipette Tips 50-1000 uL 6850 Pipette Tips (221307)

Preparation Steps

Step: Preparation
Started: 11/14/22 08:31
Finished: 11/14/22 12:15
By: XMI
Comments

Preparation Information Benchsheet

Prep Run#: 409928
Team: Semivoa GCMS/XMI

Prep WorkFlow: GenExt28Day
Prep Method: Method

Status: Prepped
Prep Date/Time: 11/14/22 08:31

Comments:

Reviewed By: GR Date: 11/14/22

Chain of Custody

Relinquished By: Date:

Received By: Date:

Extracts Examined
Yes No

Analytical Results

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ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2201095
Project:	HS22110511	**Date Collected:**	11/ 8/22 1400
Sample Matrix:	Water	**Date Received:**	11/ 9/22
Sample Name:	LH18/24-SP650_110822_AIX	**Units:**	µg/L
Lab Code:	E2201095-001	**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	**0.0441**	J	0.100	0.0500	0.0250	1	11/14/22	11/15/22 13:15	409928	785115	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2201095
Project:	HS22110511	**Date Collected:**	11/ 8/22 1400
Sample Matrix:	Water	**Date Received:**	11/ 9/22
Sample Name:	LH18/24-SP650_110822_BIX	**Units:**	µg/L
Lab Code:	E2201095-002	**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	**15.9**		0.100	0.0500	0.0250	1	11/14/22	11/15/22 13:23	409928	785115	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2201095
Project:	HS22110511	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2200523-01	**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	11/14/22	11/14/22 14:52	409928	785115	

Accuracy & Precision

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ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2201095
Project:	HS22110511	**Date Analyzed:**	11/14/22 - 11/15/22
Sample Matrix:	Water		

Lab Control Sample Summary

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

Analytical Method:	6850	**Units:**	µg/L
Prep Method:	Method	**Basis:**	NA
		Extraction Lot:	409928

	Lab Control Sample EQ2200523-02			Duplicate Lab Control Sample EQ2200523-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.115	0.100	115	0.107	0.100	107	84 - 119	8	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:**	E2201095
Project:	HS22110511	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2200523-02	**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	**0.115**		0.100	0.0500	0.0250	1	11/14/22	11/14/22 15:09	409928	785115	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2201095
Project:	HS22110511	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2200523-03	**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	**0.107**		0.100	0.0500	0.0250	1	11/14/22	11/15/22 11:06	409928	785115	

Initial Calibration

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20221013

1st Review: XMI
2nd Review: Kneir

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 10/13/2022
Cal. Std. xp: 1/31/2023
ICAL ID: EC2200014

Mobile Phases A:0.10% Formic Acid/Water 3210301-02 B:MeOH 224417

	Sample Name	File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	PERCHLORATE1	20221013_016	Perchlorate6850c.lcm	1x	☒	225390	10/13/2022 10:53
2	PERCHLORATE2	20221013_017	Perchlorate6850c.lcm	1x	☒	225392	10/13/2022 11:02
3	PERCHLORATE3	20221013_018	Perchlorate6850c.lcm	1x	☒	225393	10/13/2022 11:10
4	PERCHLORATE4	20221013_019	Perchlorate6850c.lcm	1x	☒	225394	10/13/2022 11:19
5	PERCHLORATE5	20221013_020	Perchlorate6850c.lcm	1x	☒	225395	10/13/2022 11:27
6	PERCHLORATE6	20221013_021	Perchlorate6850c.lcm	1x	☒	225396	10/13/2022 11:35
7	PERCHLORATE7	20221013_022	Perchlorate6850c.lcm	1x	☒	225398	10/13/2022 11:44
8	PERCHLORATE8	20221013_023	Perchlorate6850c.lcm	1x	☒	225400	10/13/2022 11:52
9	PERCHLORATE9	20221013_024	Perchlorate6850c.lcm	1x	☒	225401	10/13/2022 12:01
10	PERCHLORATE10	20221013_025	Perchlorate6850c.lcm	1x	☒	225402	10/13/2022 12:09
11	PERCHLORATEICV	20221013_026	Perchlorate6850c.lcm	1x	☒	225404	10/13/2022 12:17
12	LODV	20221013_027	Perchlorate6850c.lcm	1x	☒	DNU-IR	10/13/2022 12:26
13	MB	20221013_028	Perchlorate6850c.lcm	1x	☒	IDOC	10/13/2022 12:34
14	LCS	20221013_029	Perchlorate6850c.lcm	1x	☒	IDOC-DNU-IR	10/13/2022 12:42
15	DLCS	20221013_030	Perchlorate6850c.lcm	1x	☒	IDOC-DNU-IR	10/13/2022 12:51
16	IB	20221013_031	Perchlorate6850c.lcm	1x	☒		10/13/2022 12:59
17	IB	20221013_032	Perchlorate6850c.lcm	1x	☒		10/13/2022 13:08
18	IB	20221013_033	Perchlorate6850c.lcm	1x	☒		10/13/2022 13:16
19	null	20221013_034	Perchlorate6850c.lcm	1x	☒		10/13/2022 13:21
20	null	20221013_035	Perchlorate6850c.lcm	1x	☒		10/13/2022 13:27
21	IB	20221013_036	Perchlorate6850c.lcm	1x	☒		10/13/2022 14:02
22	IB	20221013_037	Perchlorate6850c.lcm	1x	☒		10/13/2022 14:10
23	LODV	20221013_038	Perchlorate6850c.lcm	1x	☒	225199	10/13/2022 14:19
24	PERCHLORATE7	20221013_039	Perchlorate6850c.lcm	1x	☒	225398	10/13/2022 14:27
25	MB	20221013_040	Perchlorate6850c.lcm	1x	☒	IDOC	10/13/2022 14:44
26	LCS	20221013_041	Perchlorate6850c.lcm	1x	☒	IDOC	10/13/2022 14:52
27	DLCS	20221013_042	Perchlorate6850c.lcm	1x	☒	IDOC-DNU-IR	10/13/2022 15:01
28	LCS	20221013_043	Perchlorate6850c.lcm	1x	☒	IDOC	10/13/2022 15:09
29	DLCS	20221013_044	Perchlorate6850c.lcm	1x	☒	IDOC	10/13/2022 15:17
30	MB WIPE-1013PREP	20221013_045	Perchlorate6850c.lcm	1x	☒	DNU-IR	10/13/2022 15:26
31	MB WIPE-1013PREP	20221013_046	Perchlorate6850c.lcm	1x	☒	DNU-IR	10/13/2022 14:35
32	PERCHLORATE7	20221013_047	Perchlorate6850c.lcm	1x	☒	225398	10/13/2022 15:34
33	IB	20221013_048	Perchlorate6850c.lcm	1x	☒		10/13/2022 15:43
34	IB	20221013_049	Perchlorate6850c.lcm	1x	☒		10/13/2022 15:51
35	null	20221013_050	Perchlorate6850c.lcm	1x	☒		10/13/2022 15:56
36	null	20221013_051	Perchlorate6850c.lcm	1x	☒		10/13/2022 16:02

Initial Calibration - Detailed Report

Calibration ID: EC2200014 **Instrument ID:** E-LCMS-01
Column Name: 1

#	Lab Code	Sample Name	File Location	Aquisition Date
01	EC2200014-01	PERCHLORATE1	20221013_016	10/13/2022 10:53
02	EC2200014-02	PERCHLORATE2	20221013_017	10/13/2022 11:02
03	EC2200014-03	PERCHLORATE3	20221013_018	10/13/2022 11:10
04	EC2200014-04	PERCHLORATE4	20221013_019	10/13/2022 11:19
05	EC2200014-05	PERCHLORATE5	20221013_020	10/13/2022 11:27
06	EC2200014-06	PERCHLORATE6	20221013_021	10/13/2022 11:35
07	EC2200014-07	PERCHLORATE7	20221013_022	10/13/2022 11:44
08	EC2200014-08	PERCHLORATE8	20221013_023	10/13/2022 11:52
09	EC2200014-09	PERCHLORATE9	20221013_024	10/13/2022 12:01
10	EC2200014-10	PERCHLORATE10	20221013_025	10/13/2022 12:09

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

Perchlorate **Average RF** **RSD = 5.871** **Average RF = 0.1347**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.1000	0.1373	02	0.5000	0.1357	03	0.7000	0.1336	04	1.0000	0.1416
05	2.0000	0.1235	06	5.0000	0.1283	07	10.0000	0.1522	08	20.0000	0.1315
09	30.0000	0.1332	10	50.0000	0.1302						

Analyte

Perchlorate

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.1000	0.102	1.9	02	0.5000	0.504	0.7	03	0.7000	0.694	-0.8
04	1.0000	1.05	5.1	05	2.0000	1.83	-8.3	06	5.0000	4.76	-4.8
07	10.0000	11.3	13.0	08	20.0000	19.5	-2.4	09	30.0000	29.7	-1.1
10	50.0000	48.3	-3.3								

Initial Calibration Verification Summary Report

Calibration ID:	EC2200014	**Instrument ID:**	E-LCMS-01
Datafile ID:	20221013_026	**Column Name:**	1

Analyte	Lab Code	Type	Curve Fit	True Value	Calc Conc	Units	Result	Criteria
Perchlorate	EC2200014-11	T	Average RF	10	10.918	ng/mL	9.2	<= 15

Insight Report

Printed at 10/24/2022 11:16:28 AM

Method File: I:\LCMS01\DATA\20221013ICAL\20221013ICAL.lcm
Project File: I:\LCMS01\DATA\20221013ICAL\10132022_ICAL.damlp

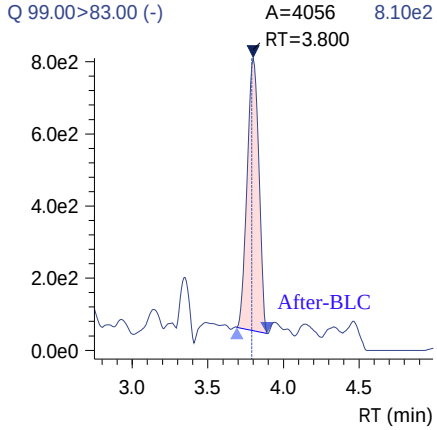
PERCHLORATE1

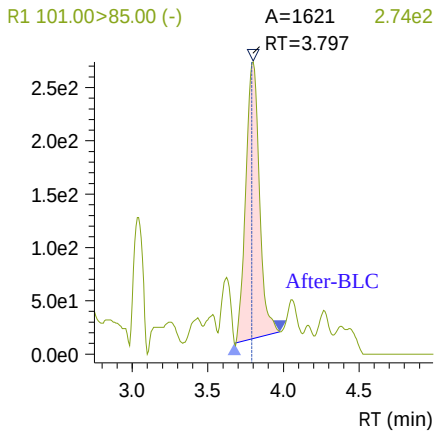
Sample ID: PERCHLORATE1
Date Acquired: 10/13/2022 10:53:53 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221013ICAL\20221013_016.lcd
Vial: 38 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	M	3.800	4056	295377	0.1019	ng/mL	101.00 >85.00	39.97	23.94 -44.46
Sodium Perchlorate -18O4_IS	Auto	3.796	295377	295377	1.0000	ng/mL	----	----	

Perchlorate

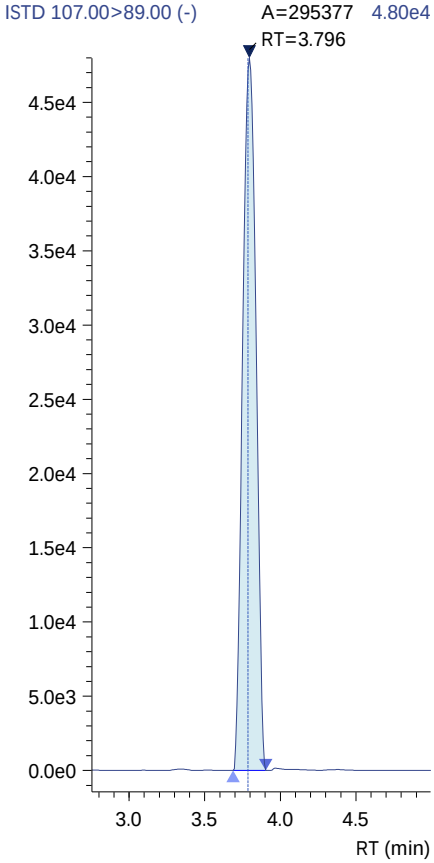
Conc 0.1019
R#1 39.97 (34.20)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 10/24/2022 9:43:49 AM

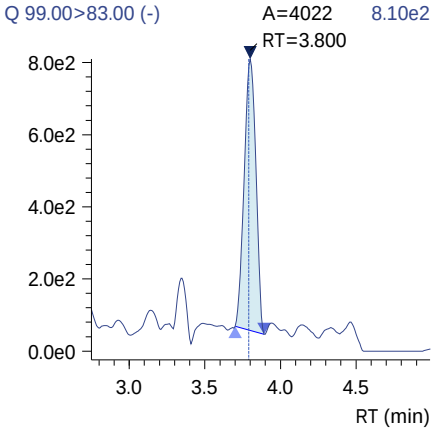
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Project File: I:\LCMS01\DATA\20221013ICAL\20221013ICAL.damlp

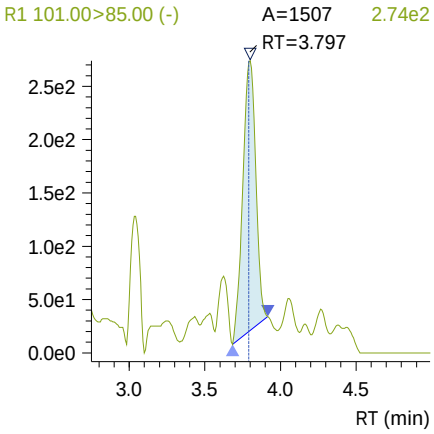
PERCHLORATE1

Sample ID: PERCHLORATE1
Date Acquired: 10/13/2022 10:53:53 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221013ICAL\20221013_016.lcd
Vial: 38 | Inj. Volume: 25.0000uL | Tray: 1

Perchlorate

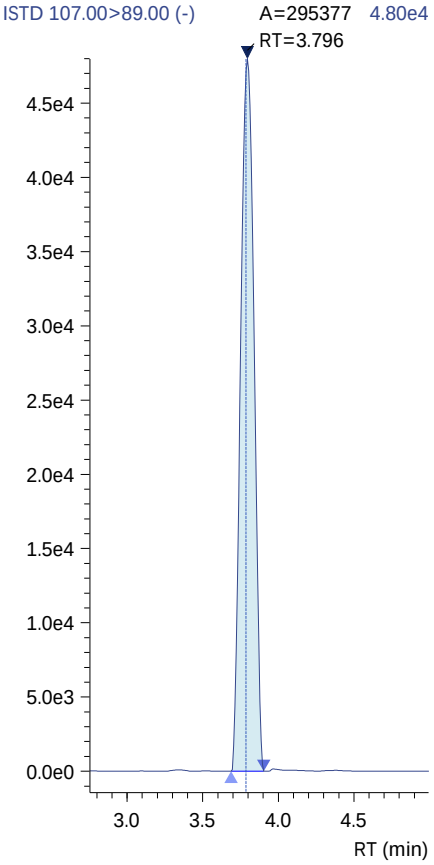
Conc 0.1012
R#1 37.47 (33.91)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 10/24/2022 11:16:28 AM

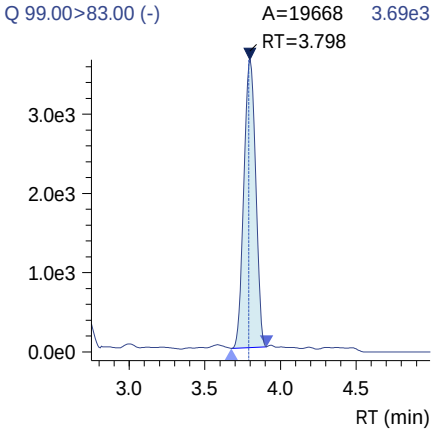
PERCHLORATE2

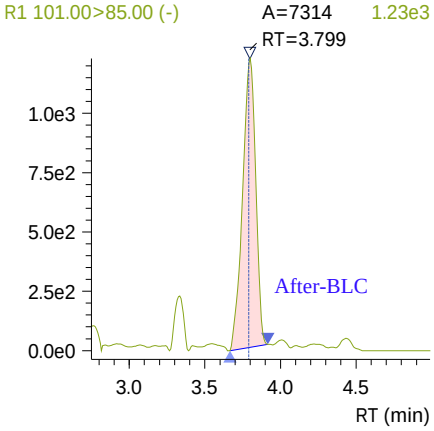
Sample ID: PERCHLORATE2
Date Acquired: 10/13/2022 11:02:18 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221013ICAL\20221013_017.lcd
Vial: 39 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	MI R1	3.798	19668	289981	0.5035	ng/mL	101.00 >85.00	37.19	23.94 -44.46
Sodium Perchlorate -18O4_IS	Auto	3.796	289981	289981	1.0000	ng/mL	----	----	

Perchlorate

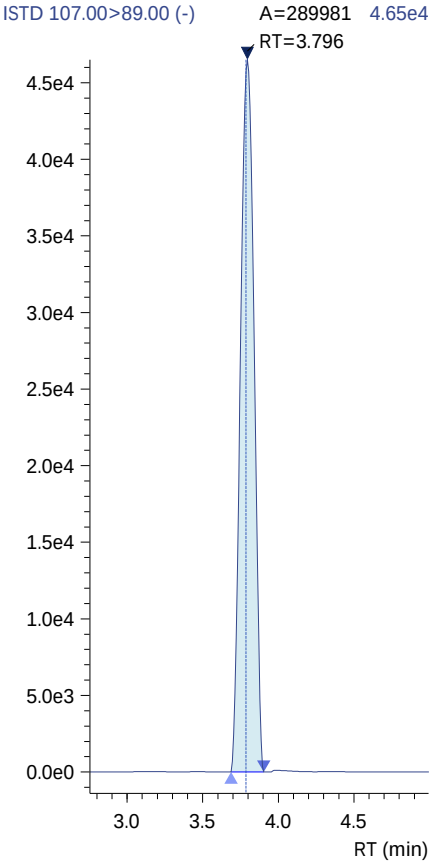
Conc 0.5035
R#1 37.19 (34.20)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 10/24/2022 9:43:49 AM

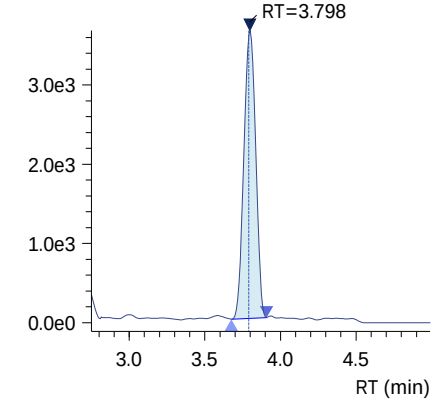
PERCHLORATE2

Sample ID: PERCHLORATE2
Date Acquired: 10/13/2022 11:02:18 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221013ICAL\20221013_017.lcd
Vial: 39 | Inj. Volume: 25.0000uL | Tray: 1

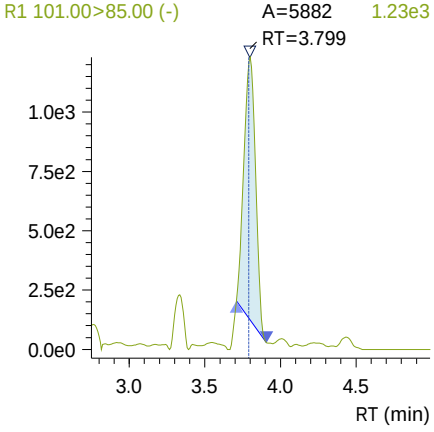
Perchlorate

Conc 0.5040
R#1 29.91 (33.91)

Q 99.00>83.00 (-) A=19668 3.69e3



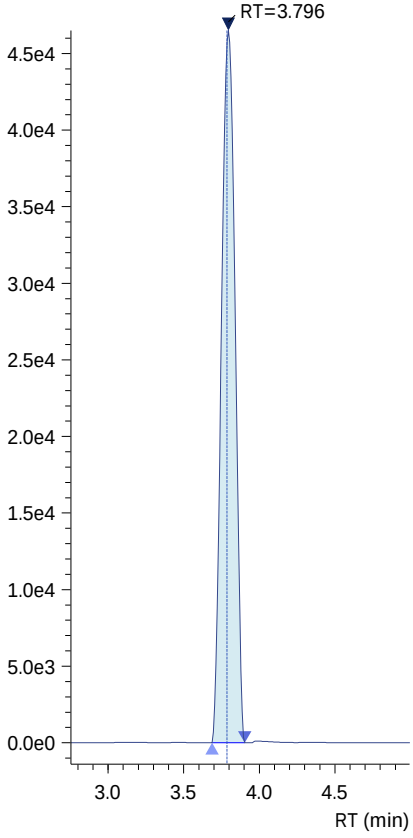
R1 101.00>85.00 (-) A=5882 1.23e3



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) A=289981 4.65e4



Insight Report

Printed at 10/24/2022 11:16:28 AM

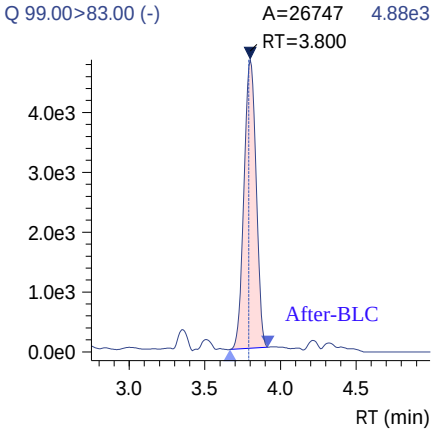
PERCHLORATE3

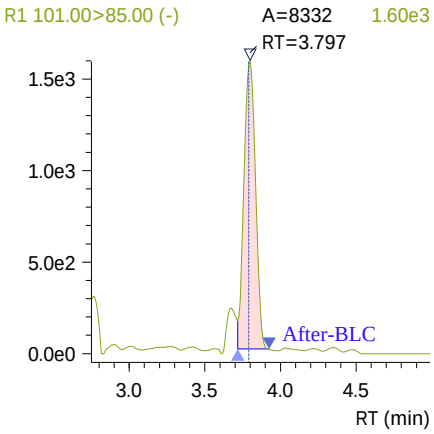
Sample ID: PERCHLORATE3
Date Acquired: 10/13/2022 11:10:43 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221013ICAL\20221013_018.lcd
Vial: 40 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	M	3.800	26747	286041	0.6942	ng/mL	101.00 >85.00	31.15	23.94 -44.46
Sodium Perchlorate -18O4_IS	Auto	3.796	286041	286041	1.0000	ng/mL	----	----	

Perchlorate

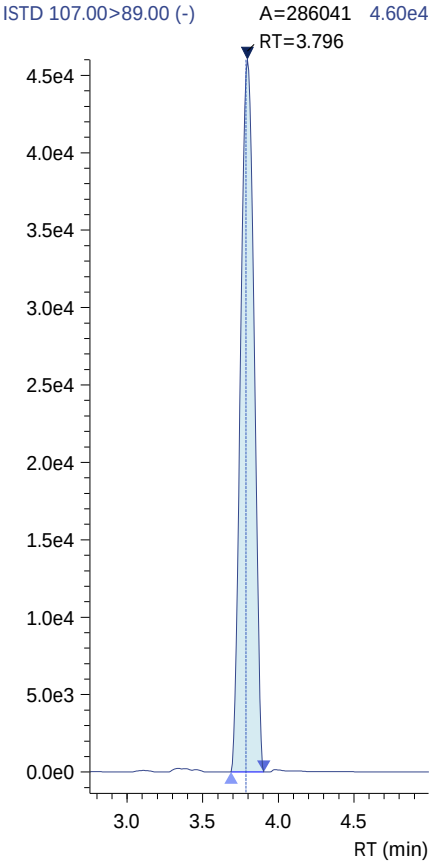
Conc 0.6942
R#1 31.15 (34.20)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 10/24/2022 9:43:49 AM

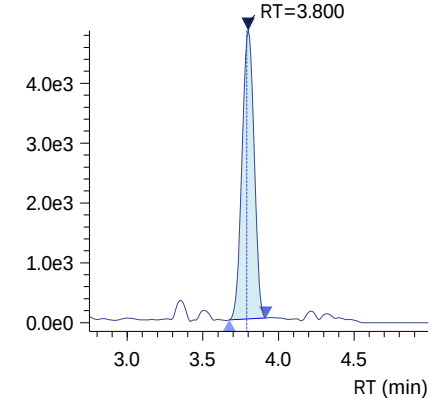
PERCHLORATE3

Sample ID: PERCHLORATE3
Date Acquired: 10/13/2022 11:10:43 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221013ICAL\20221013_018.lcd
Vial: 40 | Inj. Volume: 25.0000uL | Tray: 1

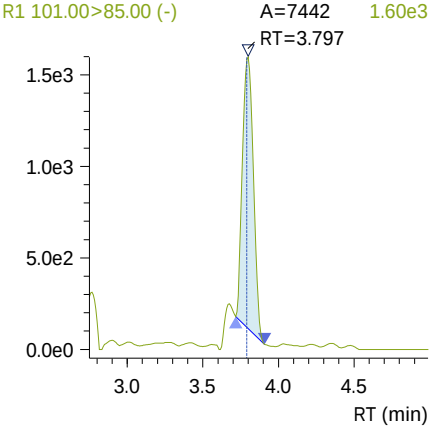
Perchlorate

Conc 0.6936
R#1 27.88 (33.91)

Q 99.00>83.00 (-) A=26697 4.88e3



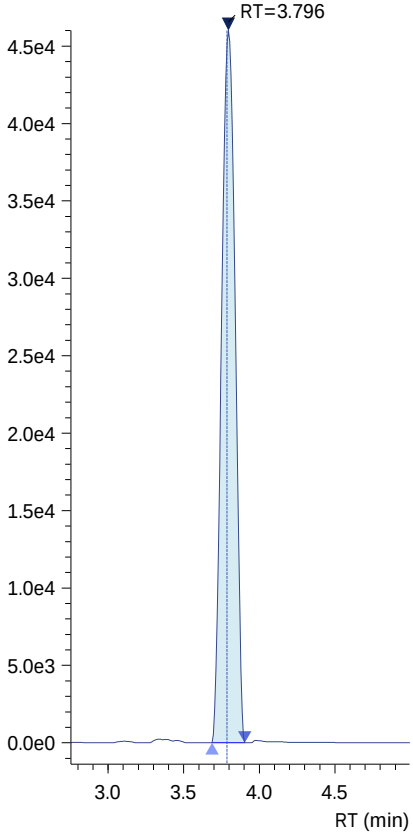
R1 101.00>85.00 (-) A=7442 1.60e3



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) A=286041 4.60e4



Insight Report

Printed at 10/24/2022 11:16:28 AM

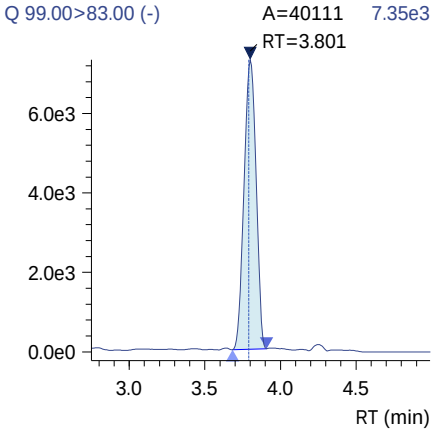
PERCHLORATE4

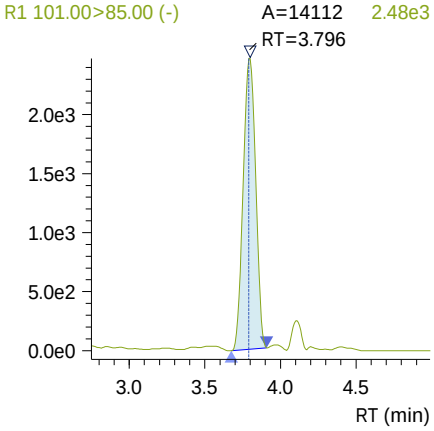
Sample ID: PERCHLORATE4
Date Acquired: 10/13/2022 11:19:07 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221013ICAL\20221013_019.lcd
Vial: 41 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.801	40111	283200	1.0514	ng/mL	101.00 >85.00	35.18	23.94 -44.46
Sodium Perchlorate -18O4_IS	Auto	3.797	283200	283200	1.0000	ng/mL	----	----	

Perchlorate

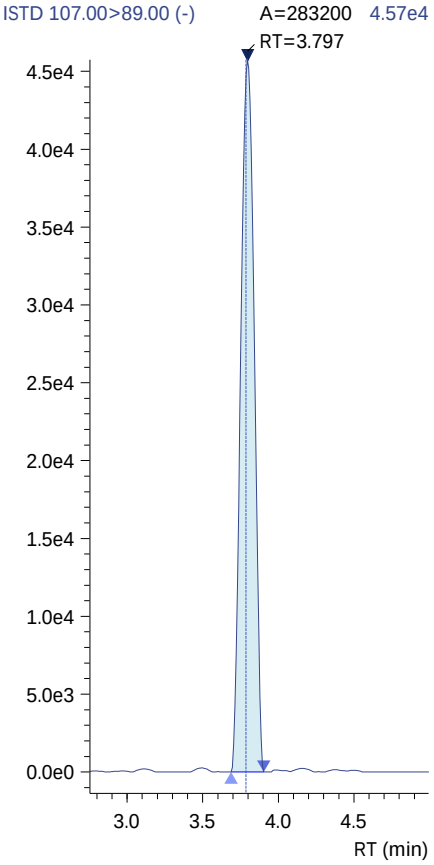
Conc 1.0514
R#1 35.18 (34.20)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 10/24/2022 11:16:28 AM

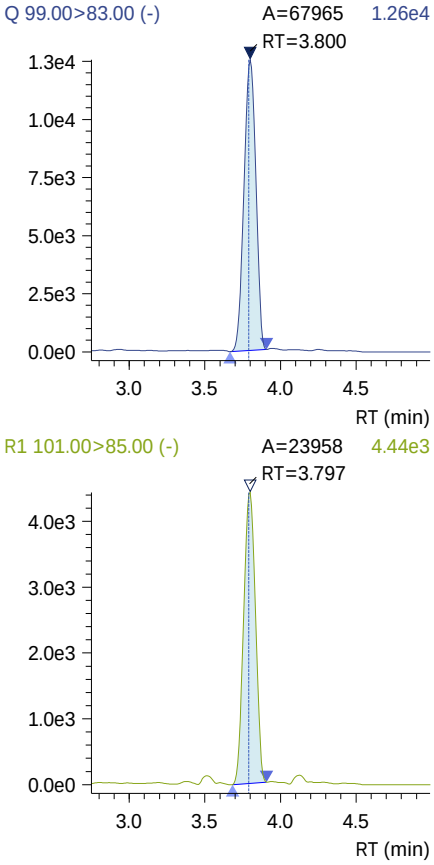
PERCHLORATE5

Sample ID: PERCHLORATE5
Date Acquired: 10/13/2022 11:27:29 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221013ICAL\20221013_020.lcd
Vial: 42 | 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	3.800	67965	275186	1.8335	ng/mL	101.00 >85.00	35.25	23.94 -44.46
Sodium Perchlorate -18O4_IS	Auto	3.796	275186	275186	1.0000	ng/mL	----	----	

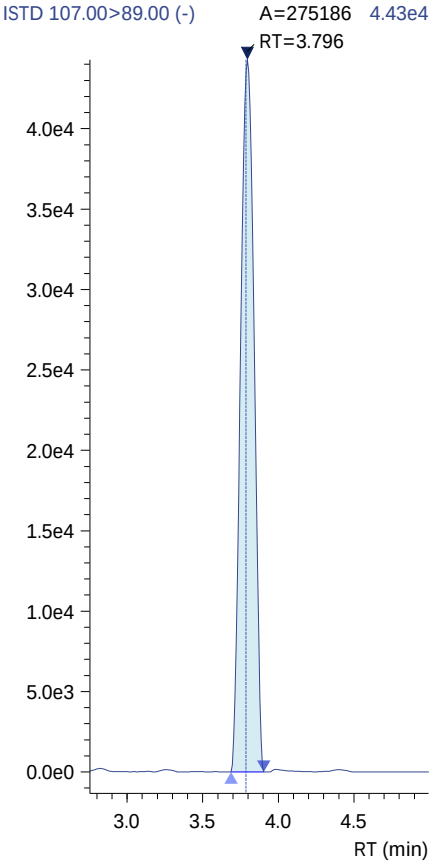
Perchlorate

Conc 1.8335
R#1 35.25 (34.20)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 10/24/2022 11:16:28 AM

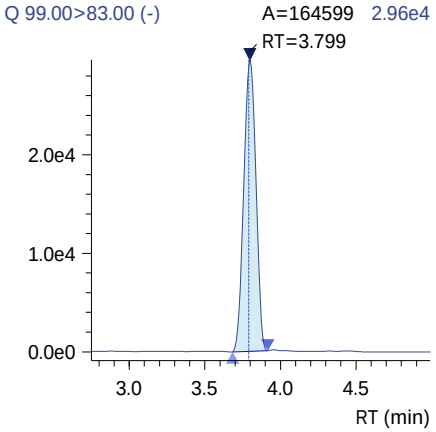
PERCHLORATE6

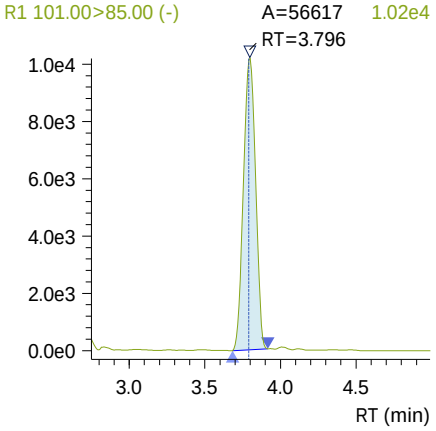
Sample ID: PERCHLORATE6
Date Acquired: 10/13/2022 11:35:51 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221013ICAL\20221013_021.lcd
Vial: 43 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.799	164599	256637	4.7613	ng/mL	101.00 >85.00	34.40	23.94 -44.46
Sodium Perchlorate -18O4_IS	Auto	3.796	256637	256637	1.0000	ng/mL	----	----	

Perchlorate

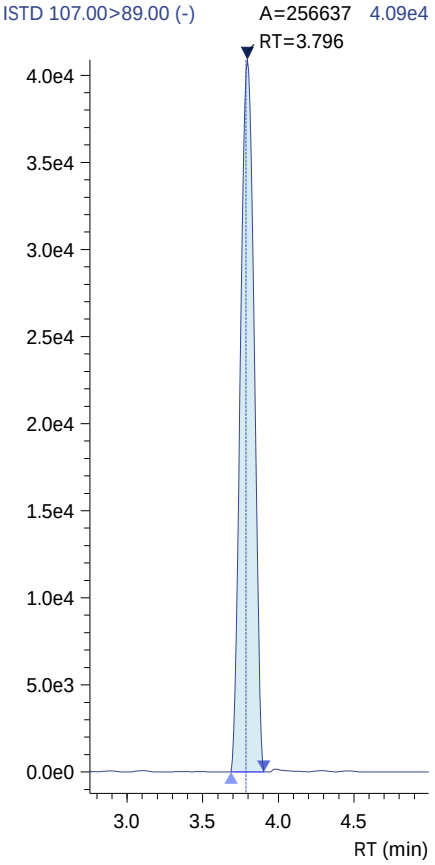
Conc 4.7613
R#1 34.40 (34.20)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 10/24/2022 11:16:28 AM

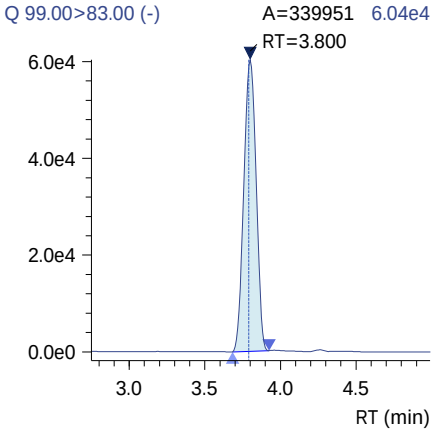
PERCHLORATE7

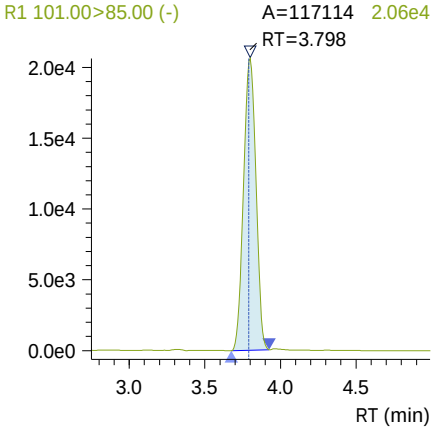
Sample ID: PERCHLORATE7
Date Acquired: 10/13/2022 11:44:14 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221013ICAL\20221013_022.lcd
Vial: 44 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.800	339951	223356	11.2988	ng/mL	101.00 >85.00	34.45	23.94 -44.46
Sodium Perchlorate-18O4_IS	Auto	3.796	223356	223356	1.0000	ng/mL	----	----	

Perchlorate

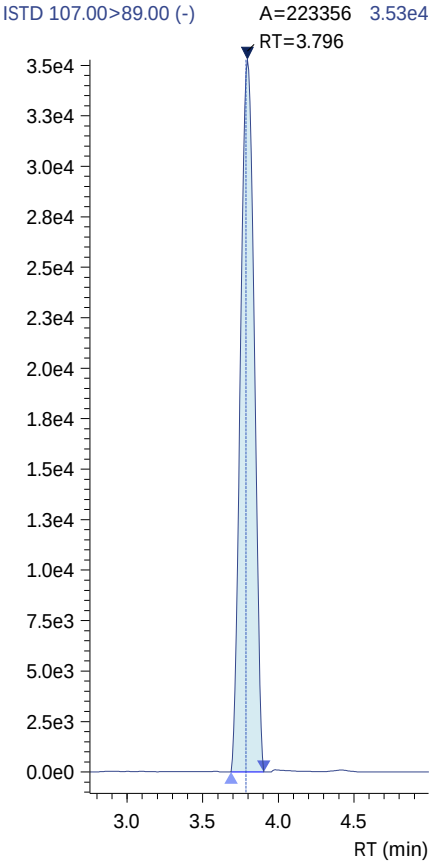
Conc 11.2988
R#1 34.45 (34.20)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 10/24/2022 11:16:28 AM

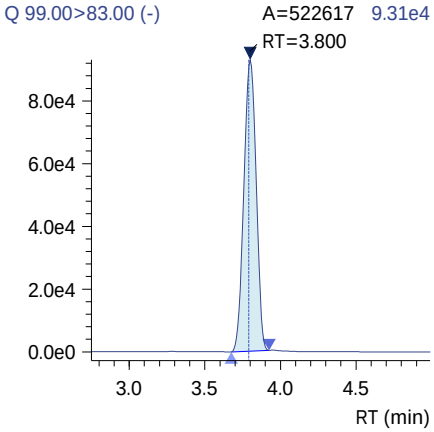
PERCHLORATE8

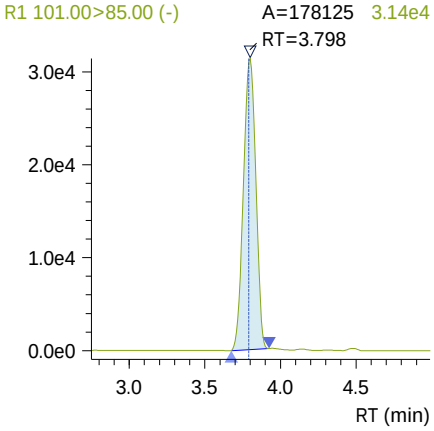
Sample ID: PERCHLORATE8
Date Acquired: 10/13/2022 11:52:37 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221013ICAL\20221013_023.lcd
Vial: 45 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.800	522617	198677	19.5 276	ng/mL	101.00 >85.00	34.08	23.94 -44.46
Sodium Perchlorate -18O4_IS	Auto	3.797	198677	198677	1.0000	ng/mL	----	----	

Perchlorate

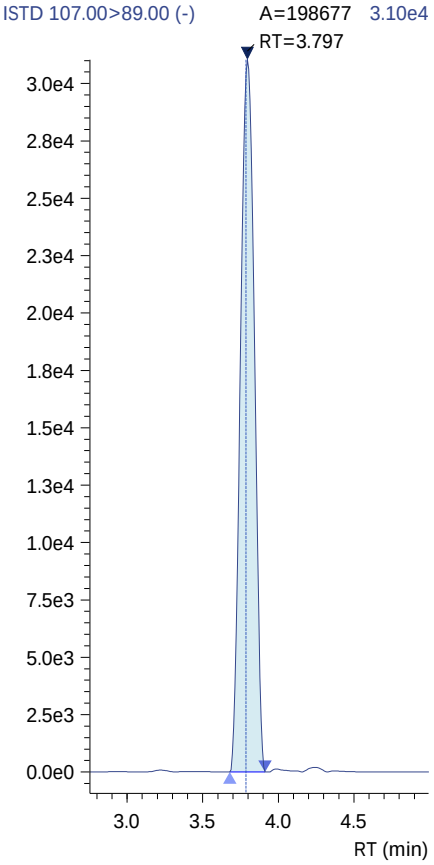
Conc 19.5276
R#1 34.08 (34.20)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 10/24/2022 11:16:28 AM

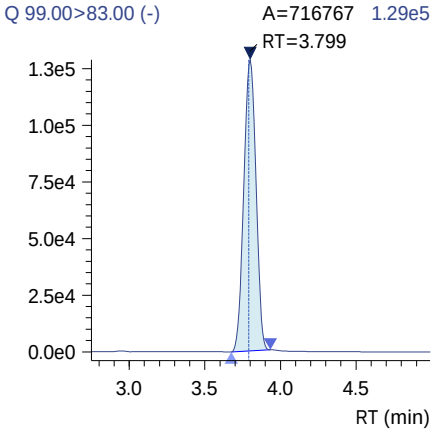
PERCHLORATE9

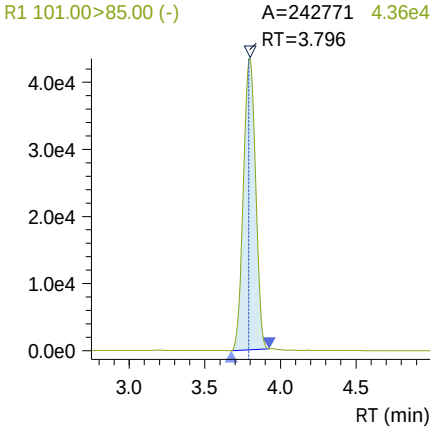
Sample ID: PERCHLORATE9
Date Acquired: 10/13/2022 12:01:03 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221013ICAL\20221013_024.lcd
Vial: 46 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.799	716767	179402	29.6596	ng/mL	101.00 >85.00	33.87	23.94 -44.46
Sodium Perchlorate-18O4_IS	Auto	3.796	179402	179402	1.0000	ng/mL	----	----	

Perchlorate

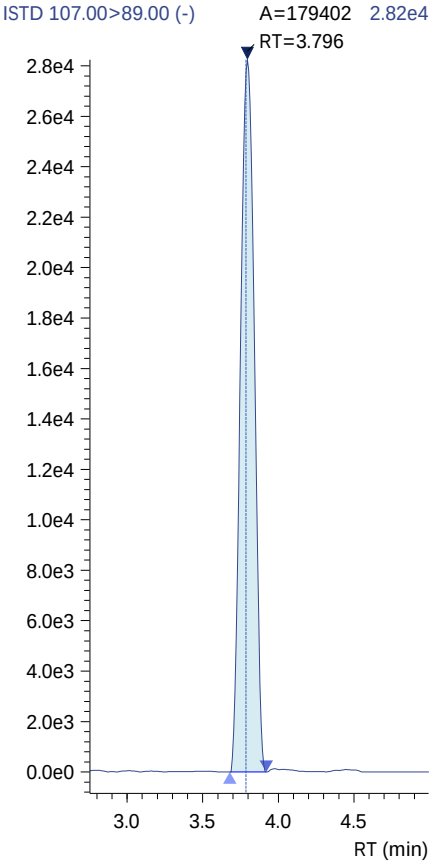
Conc 29.6596
R#1 33.87 (34.20)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 10/24/2022 11:16:28 AM

PERCHLORATE10

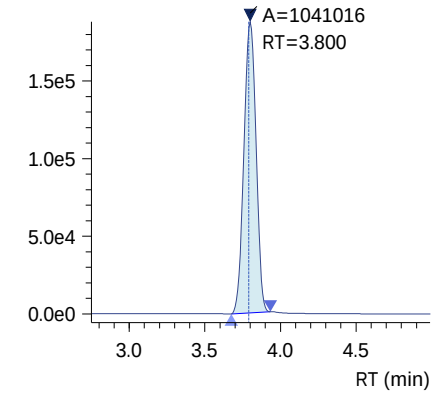
Sample ID: PERCHLORATE10
Date Acquired: 10/13/2022 12:09:25 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221013ICAL\20221013_025.lcd
Vial: 47 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.800	10410	159903	48.3	ng/mL	101.00	34.31	23.94
			16		299		>85.00		-44.46
Sodium Perchlorate -18O4_IS	Auto	3.796	159903	159903	1.0000	ng/mL	----	----	

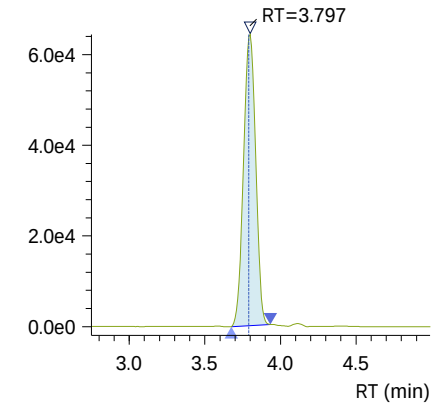
Perchlorate

Conc 48.3299
R#1 34.31 (34.20)

Q 99.00>83.00 (-) 1.88e5



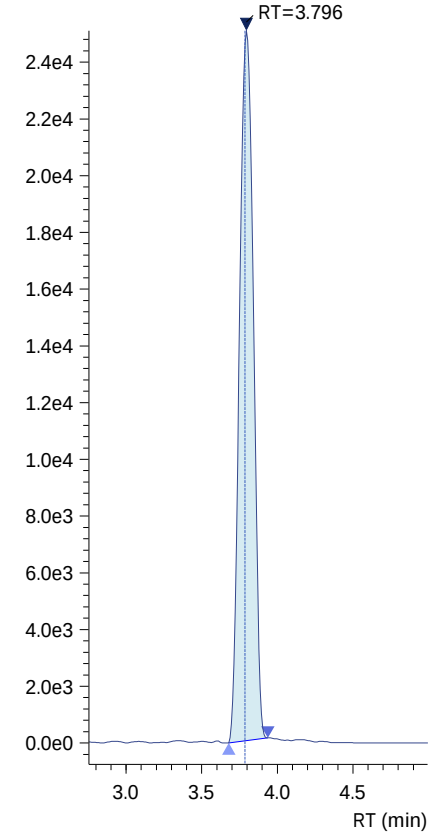
R1 101.00>85.00 (-) A=357160 6.44e4



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) A=159903 2.51e4



Insight Report

Printed at 10/24/2022 11:16:28 AM

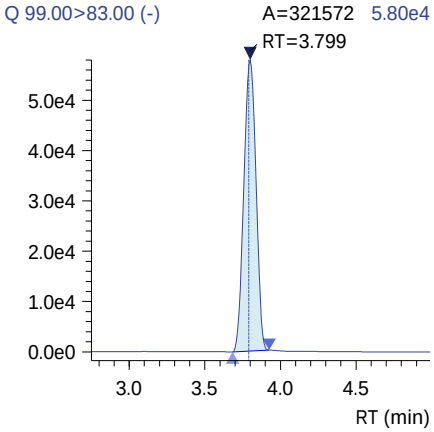
PERCHLORATEICV

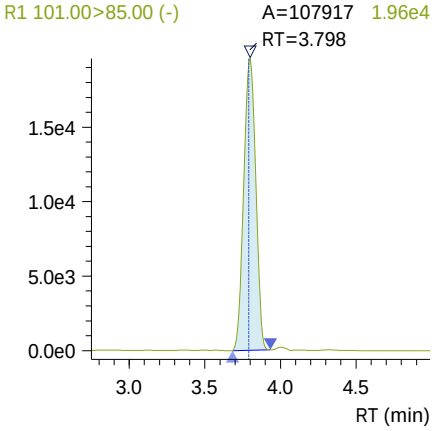
Sample ID: PERCHLORATEICV
Date Acquired: 10/13/2022 12:17:49 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221013ICAL\20221013_026.lcd
Vial: 48 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.799	321572	218649	10.9 180	ng/mL	101.00 >85.00	33.56	23.94 -44.46
Sodium Perchlorate -18O4_IS	Auto	3.797	218649	218649	1.0000	ng/mL	----	----	

Perchlorate

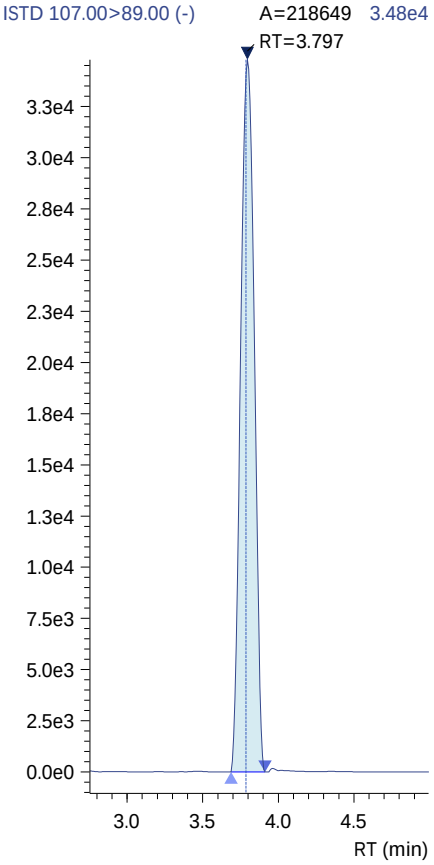
Conc 10.9180
R#1 33.56 (34.20)





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

20221115

Injection Log

LCMS01 -Shimadzu 8050

1st Review: XMI
2nd Review: Kneir

ICAL Date: 10/13/2022
Cal. Std. xp 01/31/2023
ICAL ID: EC2200014

Mobile Phases : A:0.10% Formic Acid/Water 3210301-05 **B:**MeOH 224417

	Sample Name		File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	IB		20221115_001	Perchlorate6850c.lcm	1x	☒		11/15/2022 10:01
2	LODV		20221115_002	Perchlorate6850c.lcm	1x	☒	DNU IS	11/15/2022 10:09
3	ICS		20221115_003	Perchlorate6850c.lcm	1x	☒		11/15/2022 10:17
4	LODV		20221115_004	Perchlorate6850c.lcm	1x	☒	225199	11/15/2022 10:25
5	CCV		20221115_005	Perchlorate6850c.lcm	1x	☒	225881	11/15/2022 10:34
6	IB		20221115_006	Perchlorate6850c.lcm	1x	☒		11/15/2022 10:42
7	EQ2200523-01		20221115_007	Perchlorate6850c.lcm	1x	☒	DNU IR	11/15/2022 10:50
8	EQ2200523-02		20221115_008	Perchlorate6850c.lcm	1x	☒	DNU IR	11/15/2022 10:58
9	EQ2200523-03		20221115_009	Perchlorate6850c.lcm	1x	☒		11/15/2022 11:06
10	EQ2200523-01		20221115_010	Perchlorate6850c.lcm	1x	☒		11/15/2022 12:09
11	EQ2200523-02		20221115_011	Perchlorate6850c.lcm	1x	☒		11/15/2022 12:58
12	IB		20221115_012	Perchlorate6850c.lcm	1x	☒		11/15/2022 13:07
13	E2201095-001		20221115_013	Perchlorate6850c.lcm	1x	☒		11/15/2022 13:15
14	E2201095-002		20221115_014	Perchlorate6850c.lcm	1x	☒		11/15/2022 13:23
15	CCV		20221115_015	Perchlorate6850c.lcm	1x	☒	225881	11/15/2022 13:31
16	EQ2200523-04		20221115_016	Perchlorate6850c.lcm	1x	☒		11/15/2022 13:39
17	EQ2200523-05		20221115_017	Perchlorate6850c.lcm	1x	☒		11/15/2022 13:48
18	E2201101-001		20221115_018	Perchlorate6850c.lcm	1x	☒	DNU IS	11/15/2022 13:56
19	E2201101-002		20221115_019	Perchlorate6850c.lcm	1x	☒		11/15/2022 14:04
20	E2201101-003		20221115_020	Perchlorate6850c.lcm	1x	☒		11/15/2022 14:20
21	E2201101-004		20221115_021	Perchlorate6850c.lcm	1x	☒		11/15/2022 14:28
22	E2201101-005		20221115_022	Perchlorate6850c.lcm	1x	☒	X1000	11/15/2022 14:36
23	E2201101-006		20221115_023	Perchlorate6850c.lcm	1x	☒	X5000	11/15/2022 14:44
24	CCV		20221115_024	Perchlorate6850c.lcm	1x	☒	225881	11/15/2022 15:01
25	E2201101-001		20221115_025	Perchlorate6850c.lcm	1x	☒		11/15/2022 15:33
26	CCV		20221115_026	Perchlorate6850c.lcm	1x	☒	225881	11/15/2022 15:42

Insight Report

Printed at 11/15/2022 4:22:58 PM

Method File: I:\LCMS01\DATA\20221115\20221013ICAL.lcm
Project File: I:\LCMS01\DATA\20221115\11152022.damlp

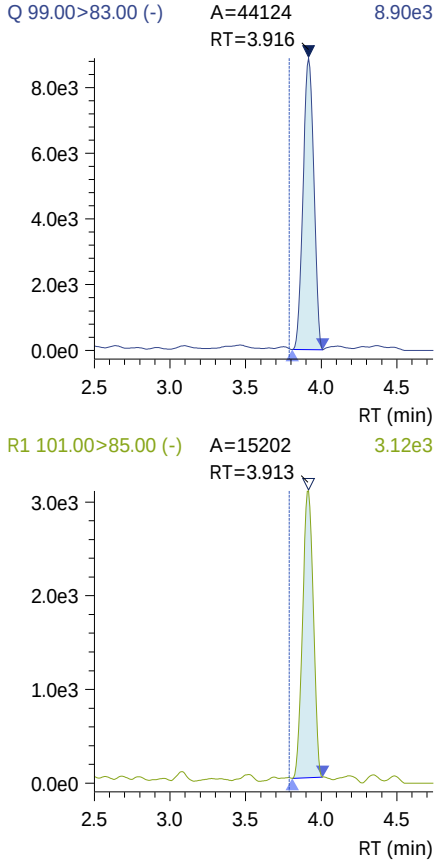
ICS

Sample ID: ICS
Date Acquired: 11/15/2022 10:17:45 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221115\20221115_003.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	3.916	44124	296672	1.1041	ng/mL	101.00 >85.00	34.45	22.97 -42.67
Sodium Perchlorate-18O4_IS	Auto	3.913	296672	296672	1.0000	ng/mL	----	----	

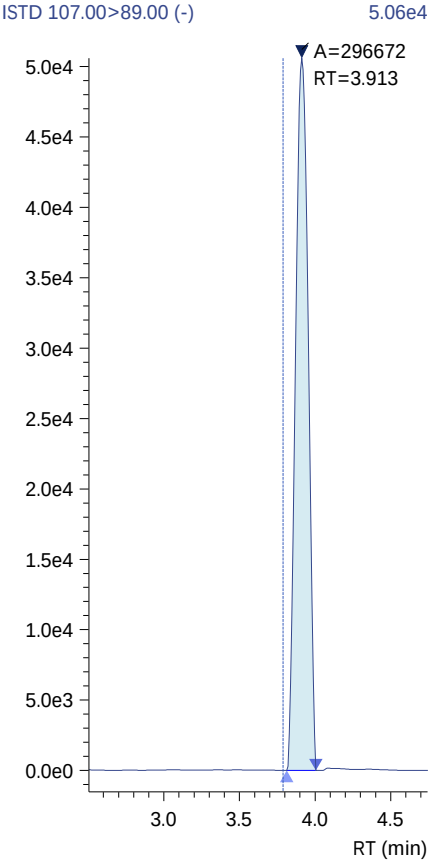
Perchlorate

Conc 1.1041
R#1 34.45 (32.82)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 11/15/2022 4:22:58 PM

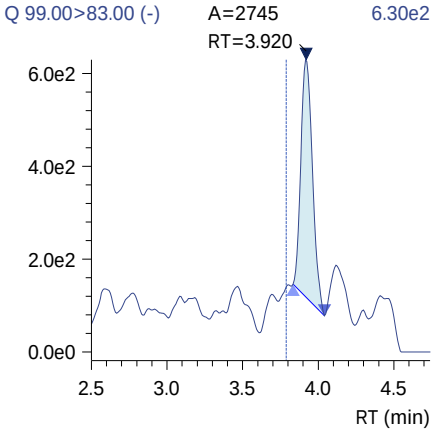
LODV

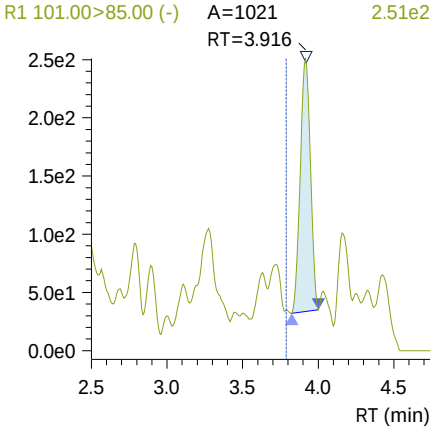
Sample ID: LODV
Date Acquired: 11/15/2022 10:25:53 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221115\20221115_004.lcd
Vial: 1 | Inj. Volume: 25.0000uL | Tray: 0

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.920	2745	320081	0.0637	ng/mL	101.00 >85.00	37.20	22.97 -42.67
Sodium Perchlorate-18O4_IS	Auto	3.916	32081	320081	1.0000	ng/mL	----	----	

Perchlorate

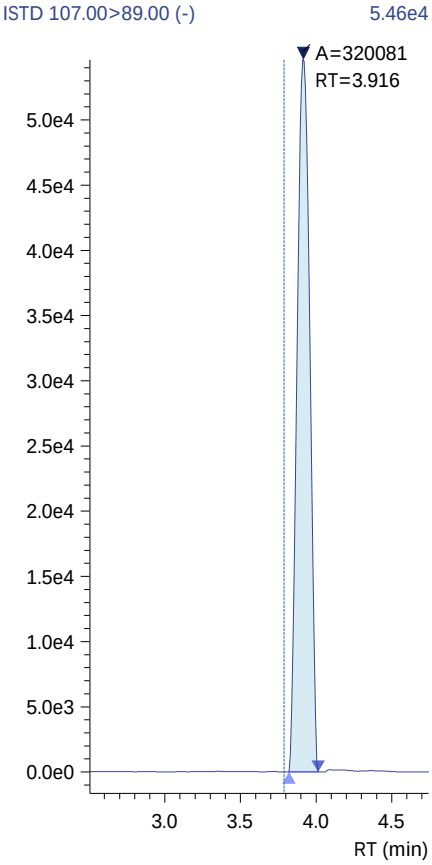
Conc 0.0637
R#1 37.20 (32.82)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 11/15/2022 4:22:58 PM

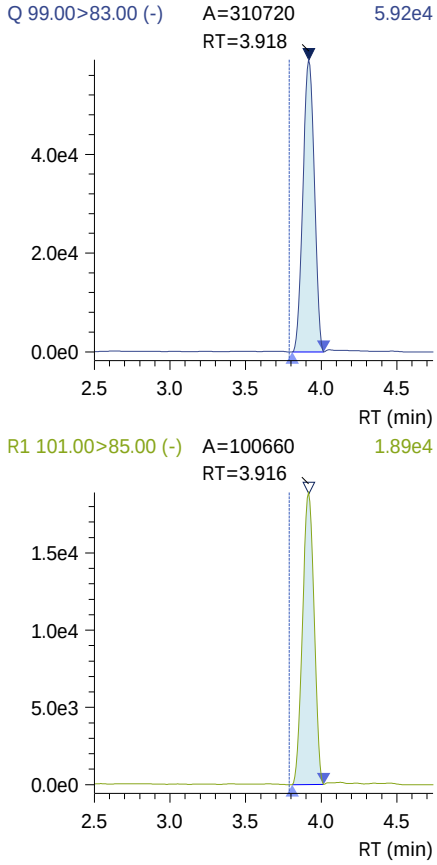
CCV

Sample ID: CCV
Date Acquired: 11/15/2022 10:34:00 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221115\20221115_005.lcd
Vial: 3 | 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	3.918	3107 20	204425	11.2 836	ng/mL	101.00 >85.00	32.40	22.97 -42.67
Sodium Perchlorate-18O4_IS	Auto	3.914	2044 25	204425	1.0000	ng/mL	----	----	

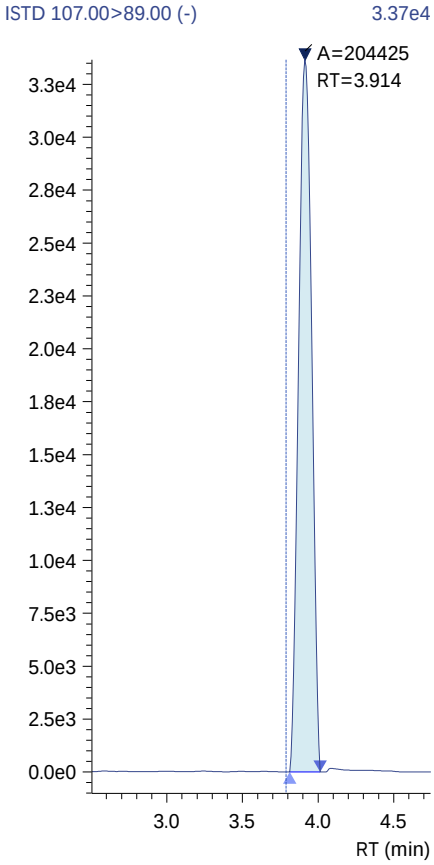
Perchlorate

Conc 11.2836
R#1 32.40 (32.82)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 11/15/2022 4:22:58 PM

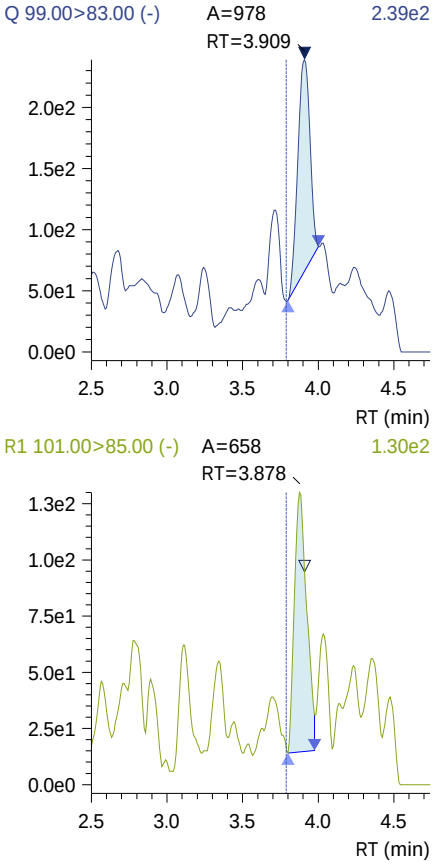
EQ2200523-01

Sample ID: EQ2200523-01
Date Acquired: 11/15/2022 12:09:44 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221115\20221115_010.lcd
Vial: 1 | Inj. Volume: 25.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.909	978	316153	0.0230	ng/mL	101.00 >85.00	67.28	22.97 -42.67
Sodium Perchlorate-18O4_IS	Auto	3.915	316153	316153	1.0000	ng/mL	----	----	

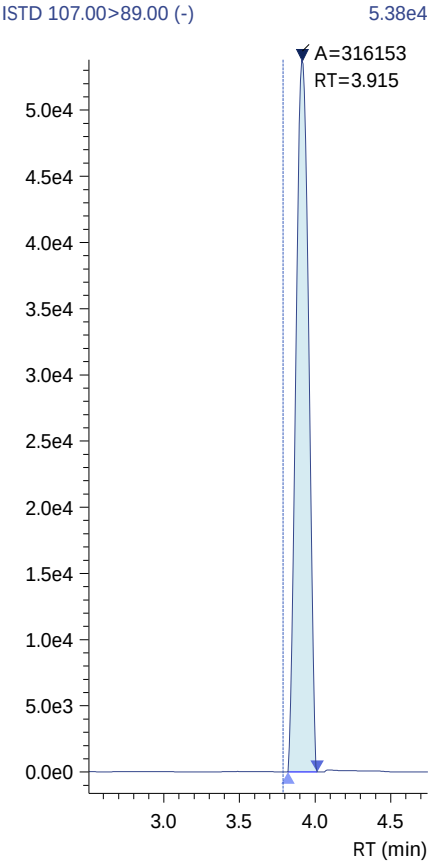
Perchlorate

Conc 0.0230
R#1 67.28 (32.82)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 11/15/2022 4:22:58 PM

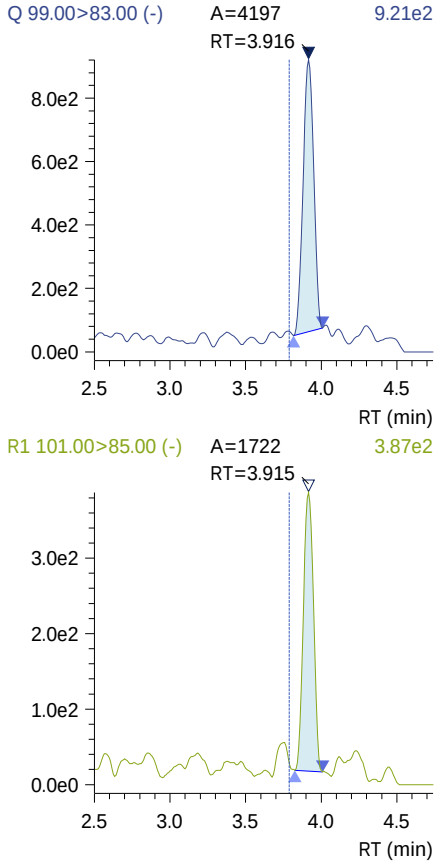
EQ2200523-02

Sample ID: EQ2200523-02
Date Acquired: 11/15/2022 12:58:47 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221115\20221115_011.lcd
Vial: 2 | Inj. Volume: 25.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.916	4197	275904	0.1129	ng/mL	101.00 >85.00	41.03	22.97 -42.67
Sodium Perchlorate-18O4_IS	Auto	3.916	275904	275904	1.0000	ng/mL	----	----	

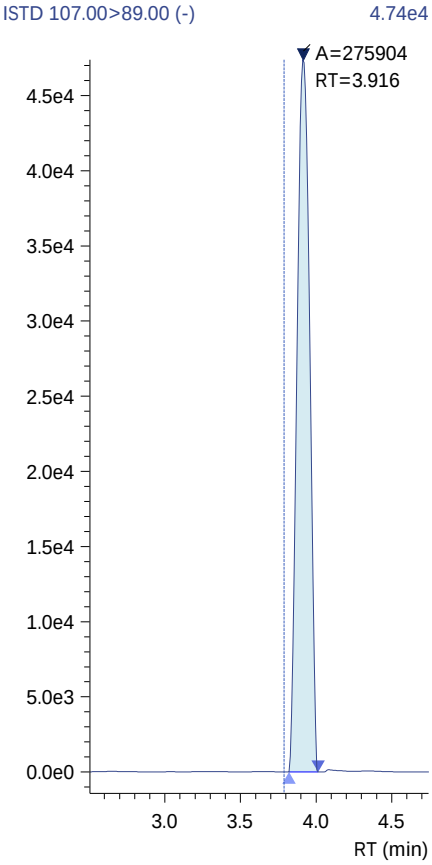
Perchlorate

Conc 0.1129
R#1 41.03 (32.82)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 11/15/2022 4:22:58 PM

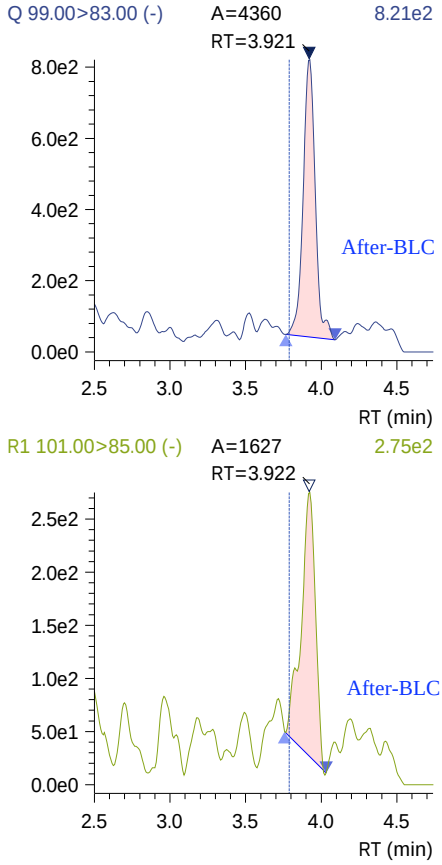
EQ2200523-03

Sample ID: EQ2200523-03
Date Acquired: 11/15/2022 11:06:44 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221115\20221115_009.lcd
Vial: 3 | Inj. Volume: 25.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	M	3.921	4360	302652	0.1069	ng/mL	101.00 >85.00	37.32	22.97 -42.67
Sodium Perchlorate-18O4_IS	Auto	3.915	302652	302652	1.0000	ng/mL	----	----	

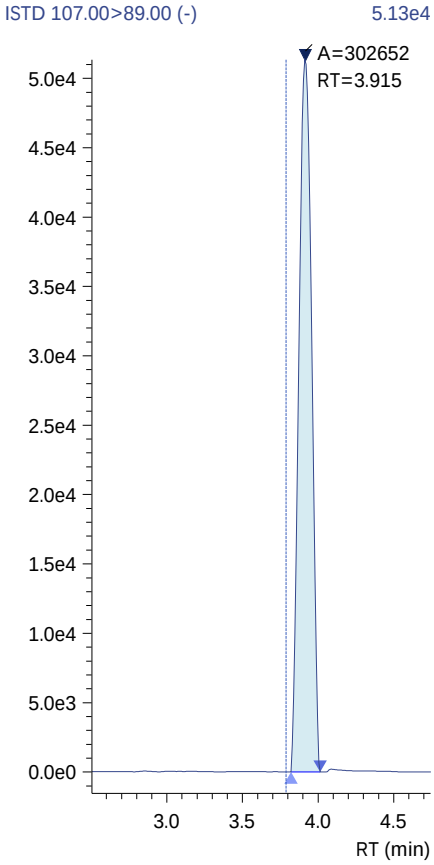
Perchlorate

Conc 0.1069
R#1 37.32 (32.82)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 11/15/2022 4:24:53 PM

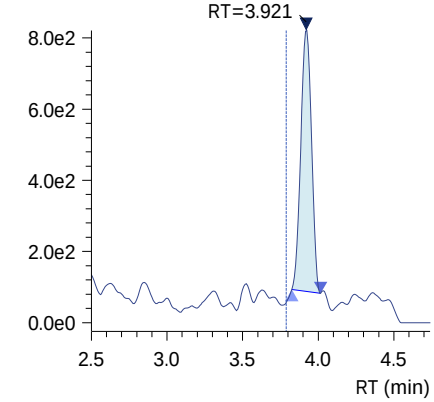
EQ2200523-03

Sample ID: EQ2200523-03
Date Acquired: 11/15/2022 11:06:44 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221115\20221115_009.lcd
Vial: 3 | Inj. Volume: 25.0000uL | Tray: 2

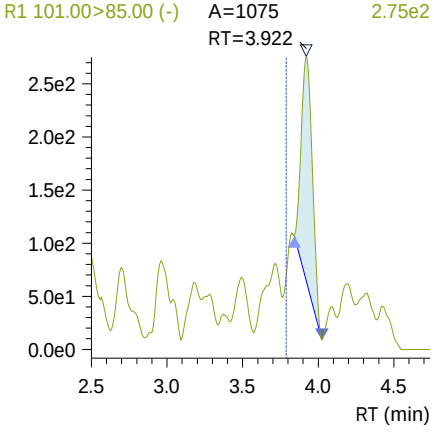
Perchlorate

Conc 0.0892
R#1 29.57 (32.82)

Q 99.00>83.00 (-) A=3634 8.21e2



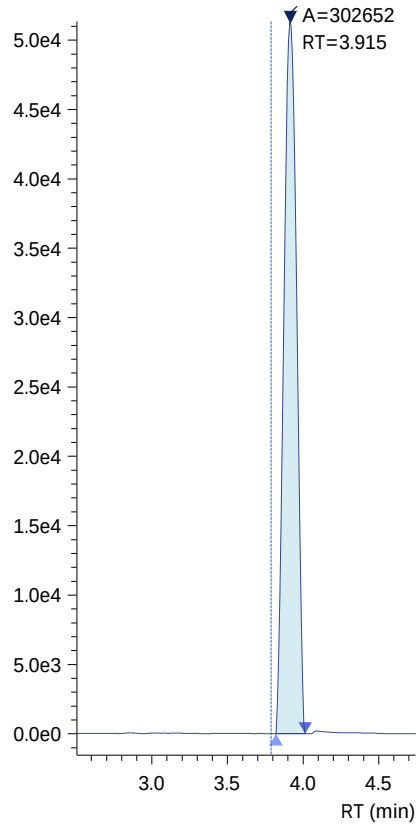
R1 101.00>85.00 (-) A=1075 2.75e2



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 5.13e4



Insight Report

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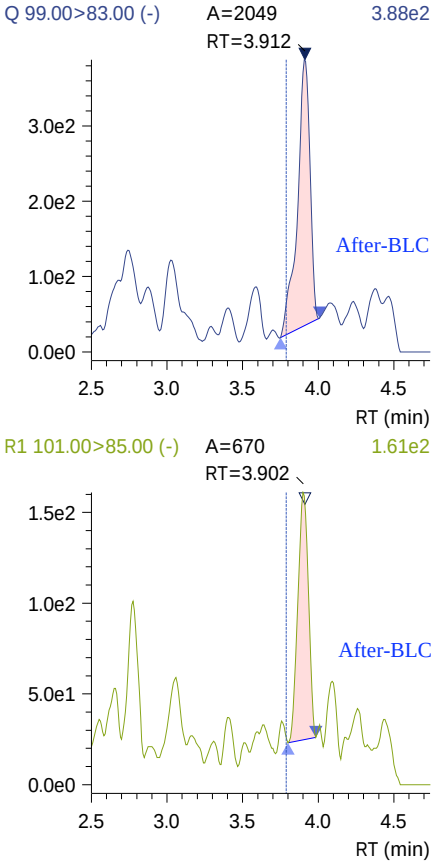
E2201095-001

Sample ID: E2201095-001
Date Acquired: 11/15/2022 1:15:33 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221115\20221115_013.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	M	3.912	2049	344755	0.0441	ng/mL	101.00 >85.00	32.71	22.97 -42.67
Sodium Perchlorate-18O4_IS	Auto	3.901	344755	344755	1.0000	ng/mL	----	----	

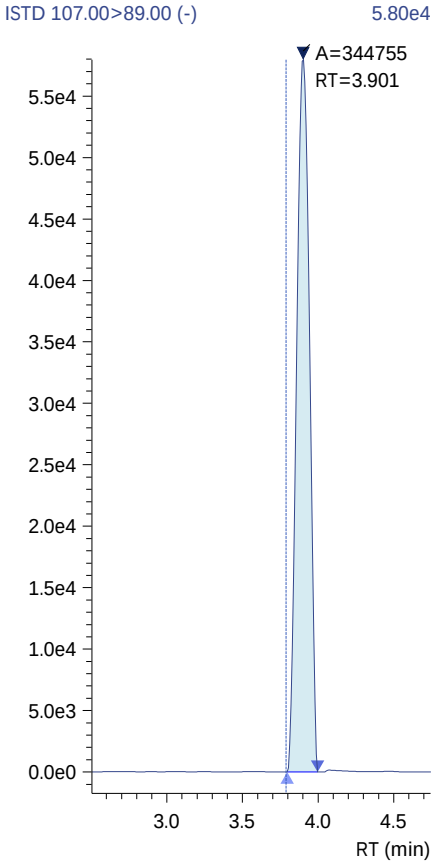
Perchlorate

Conc 0.0441
R#1 32.71 (32.82)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 11/15/2022 4:24:53 PM

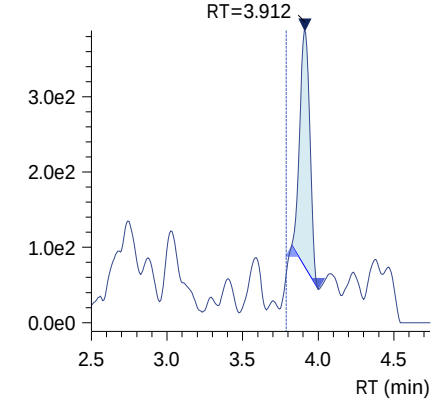
E2201095-001

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Date Acquired: 11/15/2022 1:15:33 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221115\20221115_013.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 2

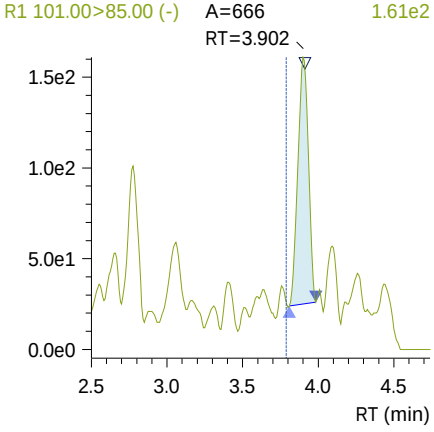
Perchlorate

Conc 0.0318
R#1 45.13 (32.82)

Q 99.00>83.00 (-) A=1475 3.88e2



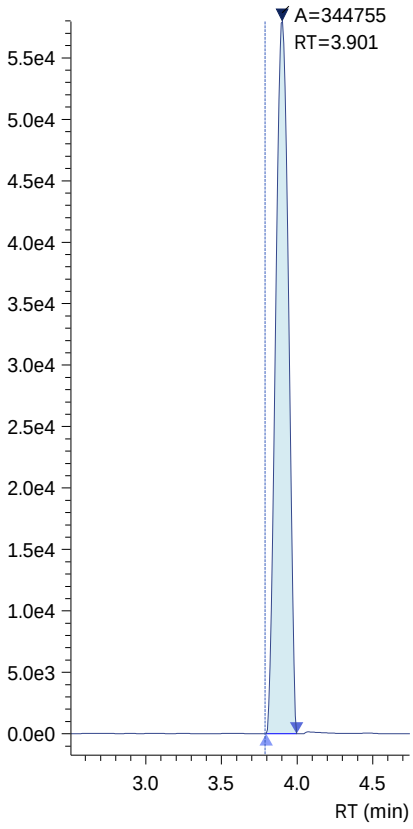
R1 101.00>85.00 (-) A=666 1.61e2



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 5.80e4



Insight Report

Printed at 11/15/2022 4:22:58 PM

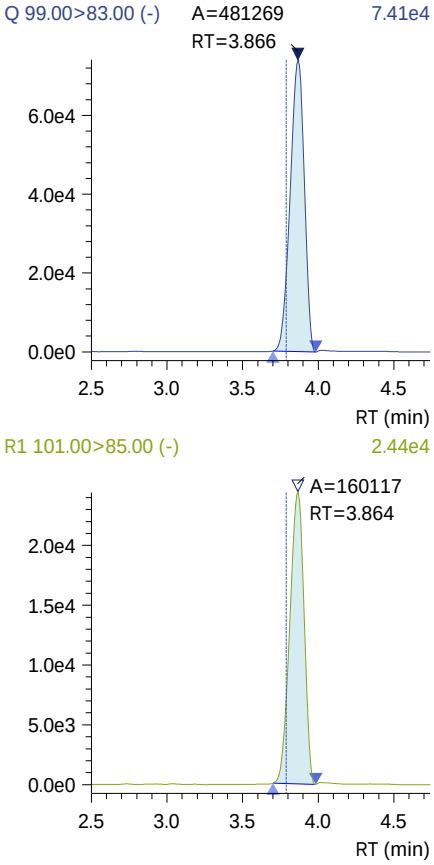
E2201095-002

Sample ID: E2201095-002
Date Acquired: 11/15/2022 1:23:41 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221115\20221115_014.lcd
Vial: 5 | Inj. Volume: 25.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.866	481269	224628	15.9051	ng/mL	101.00 >85.00	33.27	22.97 -42.67
Sodium Perchlorate-18O4_IS	Auto	3.860	224628	224628	1.0000	ng/mL	----	----	

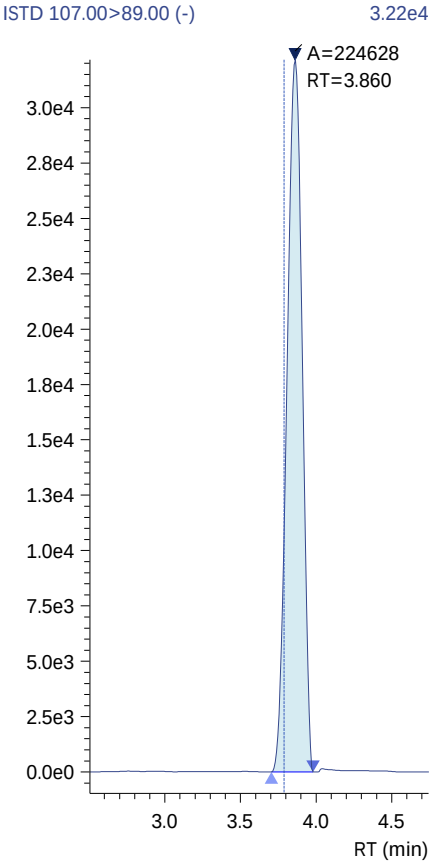
Perchlorate

Conc 15.9051
R#1 33.27 (32.82)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 11/15/2022 4:22:58 PM

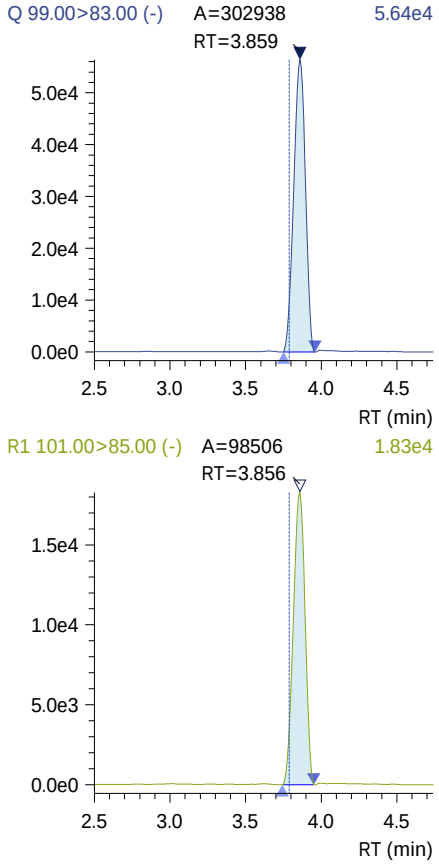
CCV

Sample ID: CCV
Date Acquired: 11/15/2022 1:31:49 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221115\20221115_015.lcd
Vial: 3 | 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	3.859	3029 38	200145	11.2 363	ng/mL	101.00 >85.00	32.52	22.97 -42.67
Sodium Perchlorate-18O4_IS	Auto	3.854	2001 45	200145	1.0000	ng/mL	----	----	

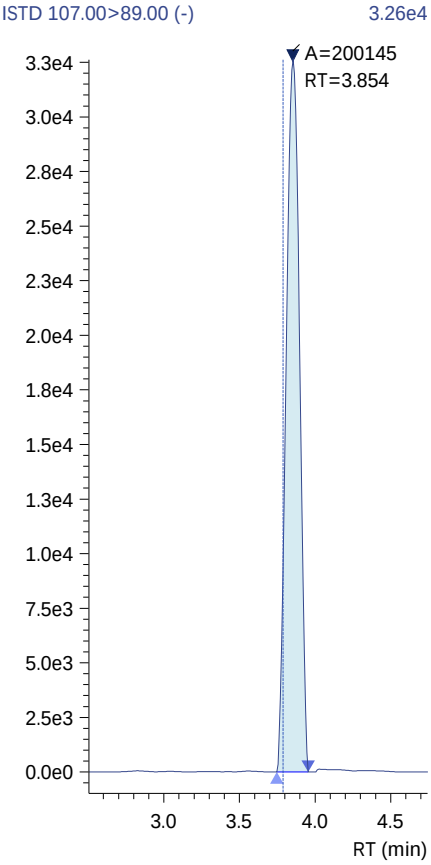
Perchlorate

Conc 11.2363
R#1 32.52 (32.82)



Sodium Perchlorate-18O4_IS

Conc 1.0000



HS22110517 Longhorn GW Treatment Plant
BiWeekly Samples Cover Page

ALS WO# HS22110517

ALS Environmental
ALS Group USA, Corp
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right solutions.
right partner.

WorkOrder: HS22110517

Longhorn GW Treatment Plant Bi-Weekly Samples

Bhate Environmental Associates, Inc.

Marcia Olive
445 Union Blvd Ste 129
Lakewood CO 80228

02-Dec-2022

HS22110517 Longhorn GW Treatment Plant BiWeekly Samples Final

ALS WO# HS22110517

10450 Stancliff Rd. Suite 210
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December 01, 2022

Marcia Olive
Bhate Environmental Associates, Inc.
445 Union Blvd Ste 129
Lakewood, CO 80228

Work Order: **HS22110517**

Laboratory Results for: **Longhorn GW Treatment Plant Bi-Weekly Samples**

Dear Marcia Olive,

ALS Environmental received 2 sample(s) on Nov 09, 2022 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
Dane J. Wacasey

ALS Houston, US Date: 01-Dec-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
Work Order: HS22110517

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS22110517-01	LH18/24-SP650_110822	Water		08-Nov-2022 14:00	09-Nov-2022 09:15	☐
HS22110517-02	Trip Blank	Water	cg-061422-310	08-Nov-2022 14:00	09-Nov-2022 09:15	☐

ALS Houston, US Date: 01-Dec-22

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
Work Order: HS22110517

GCMS Volatiles by Method SW8260

Batch ID: R421664

Sample ID: HS22110430-25MS

• MS and MSD are for an unrelated sample

Sample ID: Trip Blank (HS22110517-02)

• Surrogate Dibromofluoromethane exceeded recovery limits. Sample is ND.

Sample ID: VLCSW-221111

• Hexachlorobutadiene exceeded QC limits for LCS. Samples are ND for this compound.

WetChemistry by Method SW9056

Batch ID: R422503

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Batch ID: R422942

Sample ID: HS22111617-02MS

• MS and MSD are for an unrelated sample

ALS Houston, US Date: 01-Dec-22

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Longhorn GW Treatment Plant Bi-Weekly Samples WorkOrder:HS22110517
Sample ID: LH18/24-SP650_110822 Lab ID:HS22110517-01
Collection Date: 08-Nov-2022 14:00 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	11-Nov-2022 20:26
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Nov-2022 20:26
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 20:26
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:26
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Nov-2022 20:26
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Nov-2022 20:26
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:26
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:26
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 20:26
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 20:26
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:26
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:26
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Nov-2022 20:26
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 20:26
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Nov-2022 20:26
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 20:26
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:26
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:26
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:26
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:26
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Nov-2022 20:26
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	11-Nov-2022 20:26
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:26
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	11-Nov-2022 20:26
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:26
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:26
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	11-Nov-2022 20:26
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	11-Nov-2022 20:26
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Nov-2022 20:26
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:26
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Nov-2022 20:26
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Nov-2022 20:26
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:26
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:26
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	11-Nov-2022 20:26
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 20:26
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:26
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:26
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	11-Nov-2022 20:26

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 01-Dec-22

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Longhorn GW Treatment Plant Bi-Weekly Samples WorkOrder:HS22110517
Sample ID: LH18/24-SP650_110822 Lab ID:HS22110517-01
Collection Date: 08-Nov-2022 14:00 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	11-Nov-2022 20:26
cis-1,2-Dichloroethene	**1.3**		**0.20**	**0.50**	**1.0**	**ug/L**	1	11-Nov-2022 20:26
cis-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Nov-2022 20:26
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:26
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Nov-2022 20:26
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:26
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:26
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	11-Nov-2022 20:26
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:26
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	11-Nov-2022 20:26
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	11-Nov-2022 20:26
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:26
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:26
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:26
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:26
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:26
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:26
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:26
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:26
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Nov-2022 20:26
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Nov-2022 20:26
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Nov-2022 20:26
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Nov-2022 20:26
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:26
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	11-Nov-2022 20:26
Surr: 1,2-Dichloroethane-d4	*110*			**0**	*81-118*	*%REC*	*1*	*11-Nov-2022 20:26*
Surr: 4-Bromofluorobenzene	*100*			**0**	*85-114*	*%REC*	*1*	*11-Nov-2022 20:26*
Surr: Dibromofluoromethane	*116*			**0**	*80-119*	*%REC*	*1*	*11-Nov-2022 20:26*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*1*	*11-Nov-2022 20:26*
ANIONS BY SW9056A		**Method:SW9056**						Analyst: MZD
Chloride	**1,060**		**10.0**	**25.0**	**25.0**	**mg/L**	50	22-Nov-2022 23:56
Sulfate	**56.3**		**1.00**	**2.50**	**2.50**	**mg/L**	5	30-Nov-2022 19:45

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 01-Dec-22

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

Project: Longhorn GW Treatment Plant Bi-Weekly Samples WorkOrder:HS22110517

Sample ID: Trip Blank Lab ID:HS22110517-02

Collection Date: 08-Nov-2022 14:00 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	11-Nov-2022 20:06
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Nov-2022 20:06
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 20:06
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:06
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Nov-2022 20:06
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Nov-2022 20:06
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:06
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:06
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 20:06
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 20:06
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:06
1,2-Dibromo-3-chloropropane	1.0	U	0.20	1.0	1.0	ug/L	1	11-Nov-2022 20:06
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Nov-2022 20:06
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 20:06
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Nov-2022 20:06
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 20:06
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:06
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:06
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:06
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:06
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Nov-2022 20:06
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	11-Nov-2022 20:06
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:06
2-Hexanone	2.0	U	1.0	2.0	2.0	ug/L	1	11-Nov-2022 20:06
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:06
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:06
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	ug/L	1	11-Nov-2022 20:06
Acetone	2.0	U	0.40	2.0	2.0	ug/L	1	11-Nov-2022 20:06
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Nov-2022 20:06
Bromobenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:06
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Nov-2022 20:06
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Nov-2022 20:06
Bromoform	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:06
Bromomethane	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:06
Carbon disulfide	2.0	U	0.60	2.0	2.0	ug/L	1	11-Nov-2022 20:06
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	ug/L	1	11-Nov-2022 20:06
Chlorobenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:06
Chloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:06
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	11-Nov-2022 20:06

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 01-Dec-22

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

Project: Longhorn GW Treatment Plant Bi-Weekly Samples WorkOrder:HS22110517

Sample ID: Trip Blank Lab ID:HS22110517-02

Collection Date: 08-Nov-2022 14:00 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	11-Nov-2022 20:06
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Nov-2022 20:06
cis-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Nov-2022 20:06
Dibromochloromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:06
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Nov-2022 20:06
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:06
Ethylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:06
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	11-Nov-2022 20:06
Isopropylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:06
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	11-Nov-2022 20:06
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	11-Nov-2022 20:06
n-Butylbenzene	1.0	U	0.40	1.0	1.0	ug/L	1	11-Nov-2022 20:06
n-Propylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:06
Naphthalene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:06
o-Xylene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:06
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:06
Styrene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:06
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:06
Tetrachloroethene	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:06
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Nov-2022 20:06
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Nov-2022 20:06
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Nov-2022 20:06
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Nov-2022 20:06
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	ug/L	1	11-Nov-2022 20:06
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	11-Nov-2022 20:06
Surr: 1,2-Dichloroethane-d4	*115*			**0**	*81-118*	*%REC*	*1*	*11-Nov-2022 20:06*
Surr: 4-Bromofluorobenzene	*99.7*			**0**	*85-114*	*%REC*	*1*	*11-Nov-2022 20:06*
Surr: Dibromofluoromethane	*124*	*S*		**0**	*80-119*	*%REC*	*1*	*11-Nov-2022 20:06*
Surr: Toluene-d8	*104*			**0**	*89-112*	*%REC*	*1*	*11-Nov-2022 20:06*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 01-Dec-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder: HS22110517

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R421664 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS22110517-01	LH18/24-SP650_110822	08 Nov 2022 14:00			11 Nov 2022 20:26	1
HS22110517-02	Trip Blank	08 Nov 2022 14:00			11 Nov 2022 20:06	1
Batch ID: R422503 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Water	
HS22110517-01	LH18/24-SP650_110822	08 Nov 2022 14:00			22 Nov 2022 23:56	50
Batch ID: R422942 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Water	
HS22110517-01	LH18/24-SP650_110822	08 Nov 2022 14:00			30 Nov 2022 19:45	5

ALS Houston, US Date: 01-Dec-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder: HS22110517

QC BATCH REPORT

Batch ID: R421664 (0) **Instrument:** VOA10 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-221111** Units: **ug/L** Analysis Date: **11-Nov-2022 12:36**
Client ID: Run ID: **VOA10_421664** SeqNo: **6977945** 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	0.50	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	0.50	1.0								U
1,1-Dichloroethene	0.50	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	0.50	1.0								U
1,2-Dichlorobenzene	1.0	1.0								U
1,2-Dichloroethane	0.50	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	0.50	1.0								U
2-Butanone	1.0	2.0								U
2-Chlorotoluene	1.0	1.0								U
2-Hexanone	2.0	2.0								U
4-Chlorotoluene	1.0	1.0								U
4-Isopropyltoluene	1.0	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	1.0	1.0								U
Bromochloromethane	0.50	1.0								U
Bromodichloromethane	0.50	1.0								U
Bromoform	1.0	1.0								U
Bromomethane	1.0	1.0								U

ALS Houston, US Date: 01-Dec-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder: HS22110517

QC BATCH REPORT

Batch ID: R421664 (0) **Instrument:** VOA10 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-221111** Units: **ug/L** Analysis Date: **11-Nov-2022 12:36**
Client ID: Run ID: **VOA10_421664** SeqNo: **6977945** 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	1.0	1.0								U
Chlorobenzene	1.0	1.0								U
Chloroethane	1.0	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	1.0	1.0								U
Dibromomethane	0.50	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	1.0	2.0								U
Methylene chloride	2.0	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	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	1.0	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*53.28*	*1.0*	*50*	*0*	*107*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.62*	*1.0*	*50*	*0*	*99.2*	*85 - 114*				
Surr: Dibromofluoromethane	*56.46*	*1.0*	*50*	*0*	*113*	*80 - 119*				
Surr: Toluene-d8	*53.27*	*1.0*	*50*	*0*	*107*	*89 - 112*				

ALS Houston, US Date: 01-Dec-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder: HS22110517

QC BATCH REPORT

Batch ID: R421664 (0) **Instrument:** VOA10 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-221111** Units: **ug/L** Analysis Date: **11-Nov-2022 11:55**
Client ID: Run ID: **VOA10_421664** SeqNo: **6977944** 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	19.8	1.0	20	0	99.0	78 - 124				
1,1,1-Trichloroethane	22.12	1.0	20	0	111	74 - 131				
1,1,2,2-Tetrachloroethane	20.47	1.0	20	0	102	71 - 121				
1,1,2-Trichloroethane	20.15	1.0	20	0	101	80 - 119				
1,1-Dichloroethane	24.02	1.0	20	0	120	77 - 125				
1,1-Dichloroethene	25.48	1.0	20	0	127	71 - 131				
1,1-Dichloropropene	23.16	1.0	20	0	116	78 - 125				
1,2,3-Trichlorobenzene	21.04	1.0	20	0	105	69 - 129				
1,2,3-Trichloropropane	18.04	1.0	20	0	90.2	73 - 122				
1,2,4-Trichlorobenzene	20.58	1.0	20	0	103	69 - 130				
1,2,4-Trimethylbenzene	19.96	1.0	20	0	99.8	76 - 124				
1,2-Dibromo-3-chloropropane	18.96	1.0	20	0	94.8	62 - 128				
1,2-Dibromoethane	19.77	1.0	20	0	98.9	77 - 121				
1,2-Dichlorobenzene	20.63	1.0	20	0	103	80 - 119				
1,2-Dichloroethane	20.29	1.0	20	0	101	73 - 128				
1,2-Dichloropropane	21.85	1.0	20	0	109	78 - 122				
1,3,5-Trimethylbenzene	20.5	1.0	20	0	103	75 - 124				
1,3-Dichlorobenzene	18.86	1.0	20	0	94.3	80 - 119				
1,3-Dichloropropane	20.07	1.0	20	0	100	80 - 119				
1,4-Dichlorobenzene	21.09	1.0	20	0	105	79 - 118				
2,2-Dichloropropane	23.09	1.0	20	0	115	60 - 139				
2-Butanone	37.88	2.0	40	0	94.7	56 - 143				
2-Chlorotoluene	21.66	1.0	20	0	108	79 - 122				
2-Hexanone	40.66	2.0	40	0	102	57 - 139				
4-Chlorotoluene	20.28	1.0	20	0	101	78 - 122				
4-Isopropyltoluene	20.3	1.0	20	0	101	77 - 127				
4-Methyl-2-pentanone	37.82	2.0	40	0	94.6	67 - 130				
Acetone	39.87	2.0	40	0	99.7	39 - 160				
Benzene	21.55	1.0	20	0	108	79 - 120				
Bromobenzene	19.8	1.0	20	0	99.0	80 - 120				
Bromochloromethane	22.59	1.0	20	0	113	78 - 123				
Bromodichloromethane	21.58	1.0	20	0	108	79 - 125				
Bromoform	19.67	1.0	20	0	98.4	66 - 130				
Bromomethane	22.46	1.0	20	0	112	53 - 141				

ALS Houston, US Date: 01-Dec-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder: HS22110517

QC BATCH REPORT

Batch ID: R421664 (0) **Instrument:** VOA10 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-221111** Units: **ug/L** Analysis Date: **11-Nov-2022 11:55**
Client ID: Run ID: **VOA10_421664** SeqNo: **6977944** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	51.43	2.0	40	0	129	64 - 133				
Carbon tetrachloride	22.12	1.0	20	0	111	72 - 136				
Chlorobenzene	19.54	1.0	20	0	97.7	82 - 118				
Chloroethane	23.09	1.0	20	0	115	60 - 138				
Chloroform	21.09	1.0	20	0	105	79 - 124				
Chloromethane	21.37	1.0	20	0	107	50 - 139				
cis-1,2-Dichloroethene	21.57	1.0	20	0	108	78 - 123				
cis-1,3-Dichloropropene	21.09	1.0	20	0	105	75 - 124				
Dibromochloromethane	19.33	1.0	20	0	96.6	74 - 126				
Dibromomethane	19.76	1.0	20	0	98.8	79 - 123				
Dichlorodifluoromethane	23.33	1.0	20	0	117	32 - 152				
Ethylbenzene	20.03	1.0	20	0	100	79 - 121				
Hexachlorobutadiene	28.22	1.0	20	0	141	66 - 134				S
Isopropylbenzene	19.85	1.0	20	0	99.2	72 - 131				
m,p-Xylene	41.63	2.0	40	0	104	80 - 121				
Methylene chloride	24.39	2.0	20	0	122	74 - 124				
Naphthalene	18.25	1.0	20	0	91.2	61 - 128				
n-Butylbenzene	20.29	1.0	20	0	101	75 - 128				
n-Propylbenzene	21.26	1.0	20	0	106	76 - 126				
o-Xylene	20.17	1.0	20	0	101	78 - 122				
sec-Butylbenzene	20.21	1.0	20	0	101	77 - 126				
Styrene	19.8	1.0	20	0	99.0	78 - 123				
tert-Butylbenzene	20.03	1.0	20	0	100	78 - 124				
Tetrachloroethene	21.85	1.0	20	0	109	74 - 129				
Toluene	21.75	1.0	20	0	109	80 - 121				
trans-1,2-Dichloroethene	22.79	1.0	20	0	114	75 - 124				
trans-1,3-Dichloropropene	19.82	1.0	20	0	99.1	73 - 127				
Trichloroethene	22.37	1.0	20	0	112	79 - 123				
Trichlorofluoromethane	22.93	1.0	20	0	115	65 - 141				
Vinyl chloride	21.83	1.0	20	0	109	58 - 137				
Surr: 1,2-Dichloroethane-d4	*55.22*	*1.0*	*50*	*0*	*110*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.69*	*1.0*	*50*	*0*	*99.4*	*85 - 114*				
Surr: Dibromofluoromethane	*55.42*	*1.0*	*50*	*0*	*111*	*80 - 119*				
Surr: Toluene-d8	*53.05*	*1.0*	*50*	*0*	*106*	*89 - 112*				

ALS Houston, US Date: 01-Dec-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder: HS22110517

QC BATCH REPORT

Batch ID: R421664 (0) **Instrument:** VOA10 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS22110430-25MS** Units: **ug/L** Analysis Date: **11-Nov-2022 14:38**
Client ID: Run ID: **VOA10_421664** SeqNo: **6977951** 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	21.54	1.0	20	0	108	78 - 124				
1,1,1-Trichloroethane	24.59	1.0	20	0	123	74 - 131				
1,1,2,2-Tetrachloroethane	19.84	1.0	20	0	99.2	71 - 121				
1,1,2-Trichloroethane	21.71	1.0	20	0	109	80 - 119				
1,1-Dichloroethane	27.05	1.0	20	0	135	77 - 125				S
1,1-Dichloroethene	27.43	1.0	20	0	137	71 - 131				S
1,1-Dichloropropene	27.15	1.0	20	0	136	78 - 125				S
1,2,3-Trichlorobenzene	20.27	1.0	20	0	101	69 - 129				
1,2,3-Trichloropropane	18.14	1.0	20	0	90.7	73 - 122				
1,2,4-Trichlorobenzene	20.04	1.0	20	0	100	69 - 130				
1,2,4-Trimethylbenzene	20.77	1.0	20	0	104	76 - 124				
1,2-Dibromo-3-chloropropane	18.62	1.0	20	0	93.1	62 - 128				
1,2-Dibromoethane	21.36	1.0	20	0	107	77 - 121				
1,2-Dichlorobenzene	20.59	1.0	20	0	103	80 - 119				
1,2-Dichloroethane	22.19	1.0	20	0	111	73 - 128				
1,2-Dichloropropane	23.09	1.0	20	0	115	78 - 122				
1,3,5-Trimethylbenzene	21.93	1.0	20	0	110	75 - 124				
1,3-Dichlorobenzene	19.32	1.0	20	0	96.6	80 - 119				
1,3-Dichloropropane	21.63	1.0	20	0	108	80 - 119				
1,4-Dichlorobenzene	21.03	1.0	20	0	105	79 - 118				
2,2-Dichloropropane	25.94	1.0	20	0	130	60 - 139				
2-Butanone	42.67	2.0	40	0	107	56 - 143				
2-Chlorotoluene	22	1.0	20	0	110	79 - 122				
2-Hexanone	41.94	2.0	40	0	105	57 - 139				
4-Chlorotoluene	20.7	1.0	20	0	103	78 - 122				
4-Isopropyltoluene	22	1.0	20	0	110	77 - 127				
4-Methyl-2-pentanone	40.08	2.0	40	0	100	67 - 130				
Acetone	36.52	2.0	40	0	91.3	39 - 160				
Benzene	23.16	1.0	20	0	116	79 - 120				
Bromobenzene	19.5	1.0	20	0	97.5	80 - 120				
Bromochloromethane	24.05	1.0	20	0	120	78 - 123				
Bromodichloromethane	22.31	1.0	20	0	112	79 - 125				
Bromoform	20.52	1.0	20	0	103	66 - 130				
Bromomethane	24.1	1.0	20	0	120	53 - 141				

ALS Houston, US Date: 01-Dec-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder: HS22110517

QC BATCH REPORT

Batch ID: R421664 (0) **Instrument:** VOA10 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS22110430-25MS** Units: **ug/L** Analysis Date: **11-Nov-2022 14:38**
Client ID: Run ID: **VOA10_421664** SeqNo: **6977951** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	56.56	2.0	40	0	141	64 - 133				S
Carbon tetrachloride	33.51	1.0	20	7.377	131	72 - 136				
Chlorobenzene	21.1	1.0	20	0	106	82 - 118				
Chloroethane	24.96	1.0	20	0	125	60 - 138				
Chloroform	22.71	1.0	20	0.7478	110	79 - 124				
Chloromethane	20.39	1.0	20	0	102	50 - 139				
cis-1,2-Dichloroethene	28.24	1.0	20	3.514	124	78 - 123				S
cis-1,3-Dichloropropene	21.82	1.0	20	0	109	75 - 124				
Dibromochloromethane	20.6	1.0	20	0	103	74 - 126				
Dibromomethane	20.92	1.0	20	0	105	79 - 123				
Dichlorodifluoromethane	21.54	1.0	20	0	108	32 - 152				
Ethylbenzene	23.14	1.0	20	0	116	79 - 121				
Hexachlorobutadiene	28.43	1.0	20	0	142	66 - 134				S
Isopropylbenzene	23.19	1.0	20	0	116	72 - 131				
m,p-Xylene	47.11	2.0	40	0	118	80 - 121				
Methylene chloride	25.73	2.0	20	0	129	74 - 124				S
Naphthalene	18.13	1.0	20	0	90.6	61 - 128				
n-Butylbenzene	21.69	1.0	20	0	108	75 - 128				
n-Propylbenzene	22.96	1.0	20	0	115	76 - 126				
o-Xylene	22.59	1.0	20	0	113	78 - 122				
sec-Butylbenzene	22.26	1.0	20	0	111	77 - 126				
Styrene	21.37	1.0	20	0	107	78 - 123				
tert-Butylbenzene	21.93	1.0	20	0	110	78 - 124				
Tetrachloroethene	26.81	1.0	20	0.7796	130	74 - 129				S
Toluene	23.91	1.0	20	0	120	80 - 121				
trans-1,2-Dichloroethene	23.36	1.0	20	0	117	75 - 124				
trans-1,3-Dichloropropene	21.27	1.0	20	0	106	73 - 127				
Trichloroethene	72.13	1.0	20	48.83	117	79 - 123				
Trichlorofluoromethane	30.66	1.0	20	3.754	135	65 - 141				
Vinyl chloride	23.52	1.0	20	0	118	58 - 137				
Surr: 1,2-Dichloroethane-d4	*49.79*	*1.0*	*50*	*0*	*99.6*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*51.11*	*1.0*	*50*	*0*	*102*	*85 - 114*				
Surr: Dibromofluoromethane	*51.53*	*1.0*	*50*	*0*	*103*	*80 - 119*				
Surr: Toluene-d8	*54.32*	*1.0*	*50*	*0*	*109*	*89 - 112*				

ALS Houston, US Date: 01-Dec-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder: HS22110517

QC BATCH REPORT

Batch ID: R421664 (0) **Instrument:** VOA10 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS22110430-25MSD** Units: **ug/L** Analysis Date: **11-Nov-2022 14:59**
Client ID: Run ID: **VOA10_421664** SeqNo: **6977952** 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	21.29	1.0	20	0	106	78 - 124	21.54	1.16	20	
1,1,1-Trichloroethane	22.63	1.0	20	0	113	74 - 131	24.59	8.31	20	
1,1,2,2-Tetrachloroethane	21.25	1.0	20	0	106	71 - 121	19.84	6.85	20	
1,1,2-Trichloroethane	22.25	1.0	20	0	111	80 - 119	21.71	2.46	20	
1,1-Dichloroethane	21.06	1.0	20	0	105	77 - 125	27.05	24.9	20	R
1,1-Dichloroethene	27.86	1.0	20	0	139	71 - 131	27.43	1.55	20	S
1,1-Dichloropropene	25.3	1.0	20	0	127	78 - 125	27.15	7.06	20	S
1,2,3-Trichlorobenzene	21.55	1.0	20	0	108	69 - 129	20.27	6.13	20	
1,2,3-Trichloropropane	19.38	1.0	20	0	96.9	73 - 122	18.14	6.58	20	
1,2,4-Trichlorobenzene	21.59	1.0	20	0	108	69 - 130	20.04	7.46	20	
1,2,4-Trimethylbenzene	21.49	1.0	20	0	107	76 - 124	20.77	3.39	20	
1,2-Dibromo-3-chloropropane	19.34	1.0	20	0	96.7	62 - 128	18.62	3.82	20	
1,2-Dibromoethane	21.44	1.0	20	0	107	77 - 121	21.36	0.361	20	
1,2-Dichlorobenzene	22.11	1.0	20	0	111	80 - 119	20.59	7.12	20	
1,2-Dichloroethane	21.07	1.0	20	0	105	73 - 128	22.19	5.15	20	
1,2-Dichloropropane	22.02	1.0	20	0	110	78 - 122	23.09	4.76	20	
1,3,5-Trimethylbenzene	22.46	1.0	20	0	112	75 - 124	21.93	2.38	20	
1,3-Dichlorobenzene	20.1	1.0	20	0	101	80 - 119	19.32	3.97	20	
1,3-Dichloropropane	22.04	1.0	20	0	110	80 - 119	21.63	1.88	20	
1,4-Dichlorobenzene	22.11	1.0	20	0	111	79 - 118	21.03	5	20	
2,2-Dichloropropane	21.07	1.0	20	0	105	60 - 139	25.94	20.7	20	R
2-Butanone	40.5	2.0	40	0	101	56 - 143	42.67	5.2	20	
2-Chlorotoluene	22.77	1.0	20	0	114	79 - 122	22	3.44	20	
2-Hexanone	43.14	2.0	40	0	108	57 - 139	41.94	2.83	20	
4-Chlorotoluene	21.64	1.0	20	0	108	78 - 122	20.7	4.46	20	
4-Isopropyltoluene	23.11	1.0	20	0	116	77 - 127	22	4.91	20	
4-Methyl-2-pentanone	41.55	2.0	40	0	104	67 - 130	40.08	3.6	20	
Acetone	37.85	2.0	40	0	94.6	39 - 160	36.52	3.57	20	
Benzene	22.12	1.0	20	0	111	79 - 120	23.16	4.57	20	
Bromobenzene	21.06	1.0	20	0	105	80 - 120	19.5	7.66	20	
Bromochloromethane	22.66	1.0	20	0	113	78 - 123	24.05	5.95	20	
Bromodichloromethane	21.97	1.0	20	0	110	79 - 125	22.31	1.52	20	
Bromoform	21.31	1.0	20	0	107	66 - 130	20.52	3.75	20	
Bromomethane	21.37	1.0	20	0	107	53 - 141	24.1	12	20	

ALS Houston, US Date: 01-Dec-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder: HS22110517

QC BATCH REPORT

Batch ID: R421664 (0) **Instrument:** VOA10 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS22110430-25MSD** Units: **ug/L** Analysis Date: **11-Nov-2022 14:59**
Client ID: Run ID: **VOA10_421664** SeqNo: **6977952** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	53.02	2.0	40	0	133	64 - 133	56.56	6.45	20	
Carbon tetrachloride	31.54	1.0	20	7.377	121	72 - 136	33.51	6.08	20	
Chlorobenzene	20.93	1.0	20	0	105	82 - 118	21.1	0.813	20	
Chloroethane	19.86	1.0	20	0	99.3	60 - 138	24.96	22.8	20	R
Chloroform	21.43	1.0	20	0.7478	103	79 - 124	22.71	5.79	20	
Chloromethane	19.89	1.0	20	0	99.4	50 - 139	20.39	2.52	20	
cis-1,2-Dichloroethene	21.39	1.0	20	3.514	89.4	78 - 123	28.24	27.6	20	R
cis-1,3-Dichloropropene	21.77	1.0	20	0	109	75 - 124	21.82	0.228	20	
Dibromochloromethane	20.77	1.0	20	0	104	74 - 126	20.6	0.83	20	
Dibromomethane	20.74	1.0	20	0	104	79 - 123	20.92	0.869	20	
Dichlorodifluoromethane	18.76	1.0	20	0	93.8	32 - 152	21.54	13.8	20	
Ethylbenzene	22.51	1.0	20	0	113	79 - 121	23.14	2.77	20	
Hexachlorobutadiene	30.27	1.0	20	0	151	66 - 134	28.43	6.25	20	S
Isopropylbenzene	22.53	1.0	20	0	113	72 - 131	23.19	2.92	20	
m,p-Xylene	45	2.0	40	0	112	80 - 121	47.11	4.58	20	
Methylene chloride	26.47	2.0	20	0	132	74 - 124	25.73	2.83	20	S
Naphthalene	19.73	1.0	20	0	98.7	61 - 128	18.13	8.5	20	
n-Butylbenzene	22.85	1.0	20	0	114	75 - 128	21.69	5.19	20	
n-Propylbenzene	23.64	1.0	20	0	118	76 - 126	22.96	2.94	20	
o-Xylene	22.19	1.0	20	0	111	78 - 122	22.59	1.78	20	
sec-Butylbenzene	23.1	1.0	20	0	116	77 - 126	22.26	3.74	20	
Styrene	21.27	1.0	20	0	106	78 - 123	21.37	0.479	20	
tert-Butylbenzene	22.5	1.0	20	0	112	78 - 124	21.93	2.56	20	
Tetrachloroethene	26.19	1.0	20	0.7796	127	74 - 129	26.81	2.32	20	
Toluene	23.37	1.0	20	0	117	80 - 121	23.91	2.31	20	
trans-1,2-Dichloroethene	23.65	1.0	20	0	118	75 - 124	23.36	1.23	20	
trans-1,3-Dichloropropene	20.11	1.0	20	0	101	73 - 127	21.27	5.61	20	
Trichloroethene	66.79	1.0	20	48.83	89.8	79 - 123	72.13	7.69	20	
Trichlorofluoromethane	29.19	1.0	20	3.754	127	65 - 141	30.66	4.92	20	
Vinyl chloride	19.73	1.0	20	0	98.7	58 - 137	23.52	17.5	20	
Surr: 1,2-Dichloroethane-d4	*49.62*	*1.0*	*50*	*0*	*99.2*	*81 - 118*	*49.79*	*0.333*	*20*	
Surr: 4-Bromofluorobenzene	*49.28*	*1.0*	*50*	*0*	*98.6*	*85 - 114*	*51.11*	*3.66*	*20*	
Surr: Dibromofluoromethane	*49.9*	*1.0*	*50*	*0*	*99.8*	*80 - 119*	*51.53*	*3.22*	*20*	
Surr: Toluene-d8	*55.51*	*1.0*	*50*	*0*	*111*	*89 - 112*	*54.32*	*2.16*	*20*	

ALS Houston, US Date: 01-Dec-22

Client:	Bhate Environmental Associates, Inc.
Project:	Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder:	HS22110517

QC BATCH REPORT

Batch ID:	**R421664 (0)**	**Instrument:**	**VOA10**	**Method:**	**VOLATILES ORGANICS BY METHOD 8260C**

The following samples were analyzed in this batch: HS22110517-01 HS22110517-02

ALS Houston, US Date: 01-Dec-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder: HS22110517

QC BATCH REPORT

Batch ID: R422503 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MBLK Sample ID: **MBLK** Units: **mg/L** Analysis Date: **22-Nov-2022 22:00**
Client ID: Run ID: **ICS-Integrion_422503** SeqNo: **6997996** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	0.500	0.500								U

LCS Sample ID: **LCS** Units: **mg/L** Analysis Date: **22-Nov-2022 22:06**
Client ID: Run ID: **ICS-Integrion_422503** SeqNo: **6997997** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	19.37	0.500	20	0	96.8	80 - 120				

MS Sample ID: **HS22101542-08MS** Units: **mg/L** Analysis Date: **22-Nov-2022 22:16**
Client ID: Run ID: **ICS-Integrion_422503** SeqNo: **6997999** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	34.42	0.500	10	24.56	98.6	80 - 120				

MSD Sample ID: **HS22101542-08MSD** Units: **mg/L** Analysis Date: **22-Nov-2022 22:21**
Client ID: Run ID: **ICS-Integrion_422503** SeqNo: **6998000** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	34.33	0.500	10	24.56	97.6	80 - 120	34.42	0.279	20	

The following samples were analyzed in this batch: HS22110517-01

ALS Houston, US Date: 01-Dec-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder: HS22110517

QC BATCH REPORT

Batch ID: R422942 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MBLK Sample ID: **MBLK** Units: **mg/L** Analysis Date: **30-Nov-2022 19:14**
Client ID: Run ID: **ICS-Integrion_422942** SeqNo: **7008661** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	0.500	0.500								U

LCS Sample ID: **LCS** Units: **mg/L** Analysis Date: **30-Nov-2022 19:19**
Client ID: Run ID: **ICS-Integrion_422942** SeqNo: **7008662** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	21.11	0.500	20	0	106	80 - 120				

MS Sample ID: **HS22111617-02MS** Units: **mg/L** Analysis Date: **30-Nov-2022 19:29**
Client ID: Run ID: **ICS-Integrion_422942** SeqNo: **7008664** PrepDate: DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	2620	2.50	50	2759	-279	80 - 120				SEO

MSD Sample ID: **HS22111617-02MSD** Units: **mg/L** Analysis Date: **30-Nov-2022 19:35**
Client ID: Run ID: **ICS-Integrion_422942** SeqNo: **7008665** PrepDate: DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	2646	2.50	50	2759	-226	80 - 120	2620	1	20	SEO

The following samples were analyzed in this batch: HS22110517-01

ALS Houston, US Date: 01-Dec-22

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder: **HS22110517**

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	22-041-0	27-Mar-2023
California	2919 2022-2023	30-Apr-2023
Dept of Defense	L21-682	31-Dec-2023
Florida	E87611-36	30-Jun-2023
Illinois	2000322022-9	09-May-2023
Kansas	E-10352; 2022-2023	31-Jul-2023
Kentucky	123043, 2022-2023	30-Apr-2023
Louisiana	03087, 2022-2023	30-Jun-2023
Maryland	343, 2022-2023	30-Jun-2023
North Carolina	624-2022	31-Dec-2022
North Dakota	R-193 2022-2023	30-Apr-2023
Oklahoma	2022-141	31-Aug-2023
Texas	T104704231-22-29	30-Apr-2023
Utah	TX026932022-13	31-Jul-2023

ALS Houston, US Date: 01-Dec-22

Sample Receipt Checklist

Work Order ID: HS22110517 **Date/Time Received:** 09-Nov-2022 09:15

Client Name: Bhate Environmental **Received by:** Nelson D. Dusara

Completed By: /S/ Corey Grandits (eSignature) 09-Nov-2022 11:44 (Date/Time) **Reviewed by:** /S/ Ragen Giga (eSignature) 15-Nov-2022 11:46 (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 ☐	COC IDs:Client
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):	2.1UC/1.6C	IR31	
Cooler(s)/Kit(s):	47937		
Date/Time sample(s) sent to storage:	11/9/2022		
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

HS22110517

Bhate Environmental Associates, Inc.

Longhorn GW Treatment Plant Bi-Weekly Samples

Project: BHATE LONGHORN ARMY AMMN. PLANT (LHAAP) GROUNDWATER TREATMENT PLANT (GWTP) KARNACK, TEXAS	Project No. NWO1312.0150.0 16.0001
Job: **GROUNDWATER TREATMENT PLANT BI-WEEKLY SAMPLES**	
Prepared By: Scott Beesinger	P.O Number

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	VOC	CHLORIDE, SULFATE	Remarks (Preservatives, etc.)	Lab I.D.#
LH18/24-SP650_110822	Water	11/08/22 / 14:00		3	3		HCL	
LH18/24-SP650_110822	Water	11/08/22 / 14:00		1		1	NONE	
Trip Blank	Water	11/08/22		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	11/08/22	14:30	Nelson	11/09/22	9:15						

9For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition

Remarks

2.1 IR31

47937 C/F -0.5

(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

47937

CUSTODY SEAL

Date: 11/08/22 Time: 1430
Name: Scott Beesinger
Company: BHATE

Seal Broken By:
Date: 11/09/22

47937

NOV 09 2022

47937

ORIGIN ID:SGRA (903) 930-6193
SCOTT BEESINGER
APTIM ENVIROMENTAL & INFASTRUCTURE
1203-B EAST GRAND AVE
PMB 202
MARSHALL, TX 75670
UNITED STATES US

SHIP DATE: 26SEP22
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 50-BO 87980-DW

RMA:

FedEx Express

FedEx TRK# 0221 5789 1998 4295

WED - 09 NOV AA
PRIORITY OVERNIGHT

AB SGRA

77099
TX-US
IAH

3923207 08Nov2022 GGGA 581G4/07F5/C0B8

HS22110517-MSVOA-SW8260

ALS WO# HS22110517

01159540

right solutions.
right partner.

Form 1

Organic Analysis Data Sheet

Volatiles by by EPA 8260

Workorder

HS22110517

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Bi-Weekly Samples

11/21/2022

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 **HS22110517**

Volatiles by by EPA 8260

HS22110517-01		Collected	Received	Matrix	Basis
LH18/24-SP650_110822		11/08/22 14:00	11/09/22 09:15	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	11/11/22 20:26	VOA10_421664	V111130
1,1,1-Trichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:26	VOA10_421664	V111130
1,1,2,2-Tetrachloroethane	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 20:26	VOA10_421664	V111130
1,1,2-Trichloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:26	VOA10_421664	V111130
1,1-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:26	VOA10_421664	V111130
1,1-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:26	VOA10_421664	V111130
1,1-Dichloropropene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:26	VOA10_421664	V111130
1,2,3-Trichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 20:26	VOA10_421664	V111130
1,2,3-Trichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 20:26	VOA10_421664	V111130
1,2,4-Trichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 20:26	VOA10_421664	V111130
1,2,4-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:26	VOA10_421664	V111130
1,2-Dibromo-3-	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:26	VOA10_421664	V111130
1,2-Dibromoethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:26	VOA10_421664	V111130
1,2-Dichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 20:26	VOA10_421664	V111130
1,2-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:26	VOA10_421664	V111130
1,2-Dichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 20:26	VOA10_421664	V111130
1,3,5-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:26	VOA10_421664	V111130
1,3-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 20:26	VOA10_421664	V111130
1,3-Dichloropropane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:26	VOA10_421664	V111130
1,4-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 20:26	VOA10_421664	V111130
2,2-Dichloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:26	VOA10_421664	V111130
2-Butanone	ug/L	2.0	U	0.50	2.0	2.0	1	11/11/22 20:26	VOA10_421664	V111130
2-Chlorotoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:26	VOA10_421664	V111130
2-Hexanone	ug/L	2.0	U	1.0	2.0	2.0	1	11/11/22 20:26	VOA10_421664	V111130
4-Chlorotoluene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 20:26	VOA10_421664	V111130
4-Isopropyltoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:26	VOA10_421664	V111130
4-Methyl-2-pentanone	ug/L	2.0	U	0.70	2.0	2.0	1	11/11/22 20:26	VOA10_421664	V111130
Acetone	ug/L	2.0	U	0.40	2.0	2.0	1	11/11/22 20:26	VOA10_421664	V111130
Benzene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:26	VOA10_421664	V111130
Bromobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 20:26	VOA10_421664	V111130
Bromochloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:26	VOA10_421664	V111130
Bromodichloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:26	VOA10_421664	V111130
Bromoform	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 20:26	VOA10_421664	V111130

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder **HS22110517**

Volatiles by by EPA 8260

HS22110517-01	Collected	Received	Matrix	Basis
LH18/24-SP650_110822	11/08/22 14:00	11/09/22 09:15	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	11/11/22 20:26	VOA10_421664	V111130
Carbon disulfide	ug/L	2.0	U	0.60	2.0	2.0	1	11/11/22 20:26	VOA10_421664	V111130
Carbon tetrachloride	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 20:26	VOA10_421664	V111130
Chlorobenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:26	VOA10_421664	V111130
Chloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:26	VOA10_421664	V111130
Chloroform	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:26	VOA10_421664	V111130
Chloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:26	VOA10_421664	V111130
cis-1,2-Dichloroethene	ug/L	1.3		0.20	1.0	1.0	1	11/11/22 20:26	VOA10_421664	V111130
cis-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:26	VOA10_421664	V111130
Dibromochloromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:26	VOA10_421664	V111130
Dibromomethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:26	VOA10_421664	V111130
Dichlorodifluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:26	VOA10_421664	V111130
Ethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:26	VOA10_421664	V111130
Hexachlorobutadiene	ug/L	1.0	U	1.0	1.0	1.0	1	11/11/22 20:26	VOA10_421664	V111130
Isopropylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:26	VOA10_421664	V111130
m,p-Xylene	ug/L	2.0	U	0.50	2.0	2.0	1	11/11/22 20:26	VOA10_421664	V111130
Methylene chloride	ug/L	2.0	U	0.40	2.0	2.0	1	11/11/22 20:26	VOA10_421664	V111130
Naphthalene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:26	VOA10_421664	V111130
n-Butylbenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 20:26	VOA10_421664	V111130
n-Propylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:26	VOA10_421664	V111130
o-Xylene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:26	VOA10_421664	V111130
sec-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:26	VOA10_421664	V111130
Styrene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:26	VOA10_421664	V111130
tert-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:26	VOA10_421664	V111130
Tetrachloroethene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:26	VOA10_421664	V111130
Toluene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:26	VOA10_421664	V111130
trans-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:26	VOA10_421664	V111130
trans-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:26	VOA10_421664	V111130
Trichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:26	VOA10_421664	V111130
Trichlorofluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:26	VOA10_421664	V111130
Vinyl chloride	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:26	VOA10_421664	V111130

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder
HS22110517

Volatiles by by EPA 8260

HS22110517-02	Collected	Received	Matrix	Basis
Trip Blank	11/08/22 14:00	11/09/22 09:15	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	11/11/22 20:06	VOA10_421664	V111129
1,1,1-Trichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:06	VOA10_421664	V111129
1,1,2,2-Tetrachloroethane	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 20:06	VOA10_421664	V111129
1,1,2-Trichloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:06	VOA10_421664	V111129
1,1-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:06	VOA10_421664	V111129
1,1-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:06	VOA10_421664	V111129
1,1-Dichloropropene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:06	VOA10_421664	V111129
1,2,3-Trichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 20:06	VOA10_421664	V111129
1,2,3-Trichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 20:06	VOA10_421664	V111129
1,2,4-Trichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 20:06	VOA10_421664	V111129
1,2,4-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:06	VOA10_421664	V111129
1,2-Dibromo-3-	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:06	VOA10_421664	V111129
1,2-Dibromoethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:06	VOA10_421664	V111129
1,2-Dichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 20:06	VOA10_421664	V111129
1,2-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:06	VOA10_421664	V111129
1,2-Dichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 20:06	VOA10_421664	V111129
1,3,5-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:06	VOA10_421664	V111129
1,3-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 20:06	VOA10_421664	V111129
1,3-Dichloropropane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:06	VOA10_421664	V111129
1,4-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 20:06	VOA10_421664	V111129
2,2-Dichloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:06	VOA10_421664	V111129
2-Butanone	ug/L	2.0	U	0.50	2.0	2.0	1	11/11/22 20:06	VOA10_421664	V111129
2-Chlorotoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:06	VOA10_421664	V111129
2-Hexanone	ug/L	2.0	U	1.0	2.0	2.0	1	11/11/22 20:06	VOA10_421664	V111129
4-Chlorotoluene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 20:06	VOA10_421664	V111129
4-Isopropyltoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:06	VOA10_421664	V111129
4-Methyl-2-pentanone	ug/L	2.0	U	0.70	2.0	2.0	1	11/11/22 20:06	VOA10_421664	V111129
Acetone	ug/L	2.0	U	0.40	2.0	2.0	1	11/11/22 20:06	VOA10_421664	V111129
Benzene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:06	VOA10_421664	V111129
Bromobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 20:06	VOA10_421664	V111129
Bromochloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:06	VOA10_421664	V111129
Bromodichloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:06	VOA10_421664	V111129
Bromoform	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 20:06	VOA10_421664	V111129

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder **HS22110517**

Volatiles by by EPA 8260

HS22110517-02	Collected	Received	Matrix	Basis
Trip Blank	11/08/22 14:00	11/09/22 09:15	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	11/11/22 20:06	VOA10_421664	V111129
Carbon disulfide	ug/L	2.0	U	0.60	2.0	2.0	1	11/11/22 20:06	VOA10_421664	V111129
Carbon tetrachloride	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 20:06	VOA10_421664	V111129
Chlorobenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:06	VOA10_421664	V111129
Chloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:06	VOA10_421664	V111129
Chloroform	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:06	VOA10_421664	V111129
Chloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:06	VOA10_421664	V111129
cis-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:06	VOA10_421664	V111129
cis-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:06	VOA10_421664	V111129
Dibromochloromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:06	VOA10_421664	V111129
Dibromomethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:06	VOA10_421664	V111129
Dichlorodifluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:06	VOA10_421664	V111129
Ethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:06	VOA10_421664	V111129
Hexachlorobutadiene	ug/L	1.0	U	1.0	1.0	1.0	1	11/11/22 20:06	VOA10_421664	V111129
Isopropylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:06	VOA10_421664	V111129
m,p-Xylene	ug/L	2.0	U	0.50	2.0	2.0	1	11/11/22 20:06	VOA10_421664	V111129
Methylene chloride	ug/L	2.0	U	0.40	2.0	2.0	1	11/11/22 20:06	VOA10_421664	V111129
Naphthalene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:06	VOA10_421664	V111129
n-Butylbenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 20:06	VOA10_421664	V111129
n-Propylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:06	VOA10_421664	V111129
o-Xylene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:06	VOA10_421664	V111129
sec-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:06	VOA10_421664	V111129
Styrene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:06	VOA10_421664	V111129
tert-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:06	VOA10_421664	V111129
Tetrachloroethene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:06	VOA10_421664	V111129
Toluene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:06	VOA10_421664	V111129
trans-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:06	VOA10_421664	V111129
trans-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:06	VOA10_421664	V111129
Trichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:06	VOA10_421664	V111129
Trichlorofluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 20:06	VOA10_421664	V111129
Vinyl chloride	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 20:06	VOA10_421664	V111129

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder
HS22110517

Volatiles by by EPA 8260

VBLKW-221111	Collected	Received	Matrix	Basis
VBLKW-221111	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	11/11/22 12:36	VOA10_421664	V111107
1,1,1-Trichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 12:36	VOA10_421664	V111107
1,1,2,2-Tetrachloroethane	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 12:36	VOA10_421664	V111107
1,1,2-Trichloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 12:36	VOA10_421664	V111107
1,1-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 12:36	VOA10_421664	V111107
1,1-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 12:36	VOA10_421664	V111107
1,1-Dichloropropene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 12:36	VOA10_421664	V111107
1,2,3-Trichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 12:36	VOA10_421664	V111107
1,2,3-Trichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 12:36	VOA10_421664	V111107
1,2,4-Trichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 12:36	VOA10_421664	V111107
1,2,4-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 12:36	VOA10_421664	V111107
1,2-Dibromo-3-	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 12:36	VOA10_421664	V111107
1,2-Dibromoethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 12:36	VOA10_421664	V111107
1,2-Dichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 12:36	VOA10_421664	V111107
1,2-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 12:36	VOA10_421664	V111107
1,2-Dichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 12:36	VOA10_421664	V111107
1,3,5-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 12:36	VOA10_421664	V111107
1,3-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 12:36	VOA10_421664	V111107
1,3-Dichloropropane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 12:36	VOA10_421664	V111107
1,4-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 12:36	VOA10_421664	V111107
2,2-Dichloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 12:36	VOA10_421664	V111107
2-Butanone	ug/L	2.0	U	0.50	2.0	2.0	1	11/11/22 12:36	VOA10_421664	V111107
2-Chlorotoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 12:36	VOA10_421664	V111107
2-Hexanone	ug/L	2.0	U	1.0	2.0	2.0	1	11/11/22 12:36	VOA10_421664	V111107
4-Chlorotoluene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 12:36	VOA10_421664	V111107
4-Isopropyltoluene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 12:36	VOA10_421664	V111107
4-Methyl-2-pentanone	ug/L	2.0	U	0.70	2.0	2.0	1	11/11/22 12:36	VOA10_421664	V111107
Acetone	ug/L	2.0	U	0.40	2.0	2.0	1	11/11/22 12:36	VOA10_421664	V111107
Benzene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 12:36	VOA10_421664	V111107
Bromobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 12:36	VOA10_421664	V111107
Bromochloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 12:36	VOA10_421664	V111107
Bromodichloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 12:36	VOA10_421664	V111107
Bromoform	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 12:36	VOA10_421664	V111107

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder **HS22110517**

Volatiles by by EPA 8260

VBLKW-221111	Collected	Received	Matrix	Basis
VBLKW-221111	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	11/11/22 12:36	VOA10_421664	V111107
Carbon disulfide	ug/L	2.0	U	0.60	2.0	2.0	1	11/11/22 12:36	VOA10_421664	V111107
Carbon tetrachloride	ug/L	1.0	U	0.50	1.0	1.0	1	11/11/22 12:36	VOA10_421664	V111107
Chlorobenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 12:36	VOA10_421664	V111107
Chloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 12:36	VOA10_421664	V111107
Chloroform	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 12:36	VOA10_421664	V111107
Chloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 12:36	VOA10_421664	V111107
cis-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 12:36	VOA10_421664	V111107
cis-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 12:36	VOA10_421664	V111107
Dibromochloromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 12:36	VOA10_421664	V111107
Dibromomethane	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 12:36	VOA10_421664	V111107
Dichlorodifluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 12:36	VOA10_421664	V111107
Ethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 12:36	VOA10_421664	V111107
Hexachlorobutadiene	ug/L	1.0	U	1.0	1.0	1.0	1	11/11/22 12:36	VOA10_421664	V111107
Isopropylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 12:36	VOA10_421664	V111107
m,p-Xylene	ug/L	2.0	U	0.50	2.0	2.0	1	11/11/22 12:36	VOA10_421664	V111107
Methylene chloride	ug/L	2.0	U	0.40	2.0	2.0	1	11/11/22 12:36	VOA10_421664	V111107
Naphthalene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 12:36	VOA10_421664	V111107
n-Butylbenzene	ug/L	1.0	U	0.40	1.0	1.0	1	11/11/22 12:36	VOA10_421664	V111107
n-Propylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 12:36	VOA10_421664	V111107
o-Xylene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 12:36	VOA10_421664	V111107
sec-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 12:36	VOA10_421664	V111107
Styrene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 12:36	VOA10_421664	V111107
tert-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 12:36	VOA10_421664	V111107
Tetrachloroethene	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 12:36	VOA10_421664	V111107
Toluene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 12:36	VOA10_421664	V111107
trans-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 12:36	VOA10_421664	V111107
trans-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 12:36	VOA10_421664	V111107
Trichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 12:36	VOA10_421664	V111107
Trichlorofluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	11/11/22 12:36	VOA10_421664	V111107
Vinyl chloride	ug/L	1.0	U	0.20	1.0	1.0	1	11/11/22 12:36	VOA10_421664	V111107

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Form 2

System Monitoring Compound Recovery

Volatiles by by EPA 8260

Workorder

HS22110517

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Bi-Weekly Samples

11/21/2022

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 Bi-Weekly Samples

Workorder
HS22110517

RunID
VOA10_421664

Volatiles by by EPA 8260

VSTD050	Analyzed 11/11/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	47.47	50	94.9	80-120	
4-Bromofluorobenzene	49.52	50	99.0	80-120	
Dibromofluoromethane	49.94	50	99.9	80-120	
Toluene-d8	55.51	50	111	80-120	

CCB	Analyzed 11/11/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	54.02	50	108	80-120	
4-Bromofluorobenzene	48.95	50	97.9	80-120	
Dibromofluoromethane	57.1	50	114	80-120	
Toluene-d8	54.16	50	108	80-120	

VLCSW-221111	Analyzed 11/11/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	55.22	50	110	81-118	
4-Bromofluorobenzene	49.69	50	99.4	85-114	
Dibromofluoromethane	55.42	50	111	80-119	
Toluene-d8	53.05	50	106	89-112	

VBLKW-221111	Analyzed 11/11/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	53.28	50	107	81-118	
4-Bromofluorobenzene	49.62	50	99.2	85-114	
Dibromofluoromethane	56.46	50	113	80-119	
Toluene-d8	53.27	50	107	89-112	

Q - Surrogate %Recovery Flag * - %Recovery / RPD Outside Limits

Form 2 - System Monitoring Compound Recovery

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder
HS22110517

RunID
VOA10_421664

Volatiles by by EPA 8260

HS22110430-25MS	Analyzed 11/11/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	49.79	50	99.6	81-118	
4-Bromofluorobenzene	51.11	50	102	85-114	
Dibromofluoromethane	51.53	50	103	80-119	
Toluene-d8	54.32	50	109	89-112	

HS22110430-25MSD	Analyzed 11/11/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	49.62	50	99.2	81-118	
4-Bromofluorobenzene	49.28	50	98.6	85-114	
Dibromofluoromethane	49.9	50	99.8	80-119	
Toluene-d8	55.51	50	111	89-112	

HS22110517-02	Analyzed 11/11/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	58	50	115	81-118	
4-Bromofluorobenzene	50	50	99.7	85-114	
Dibromofluoromethane	62	50	124	80-119	
Toluene-d8	52	50	104	89-112	

HS22110517-01	Analyzed 11/11/22		Conc Units µg/L		DF 1
Surrogate	Result Conc	Spike Conc	%Recovery	%Recovery Limits	Q
1,2-Dichloroethane-d4	55	50	110	81-118	
4-Bromofluorobenzene	50	50	100	85-114	
Dibromofluoromethane	58	50	116	80-119	
Toluene-d8	53	50	106	89-112	

Q - Surrogate %Recovery Flag * - %Recovery / RPD Outside Limits

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Form 3A

Matrix Spike/Spike Duplicate Recovery

Workorder

HS22110517

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Bi-Weekly Samples

11/21/2022

ALS Environmental–Houston Laboratory

10450 Stancliff Road, Suite 210, Houston, TX 77099

Phone (281) 530-5656 Fax (281) 530-5887

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Form 3A - Matrix Spike/Spike Duplicate Recovery

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder **HS22110517**

		HS22110430-25		HS22110430-25MS				HS22110430-25MSD						
Sample Matrix	Aqueous	**Run Date**	11/11/22	11/11/22				11/11/22						
Units	µg/L	**Run Time**	13:57	14:38				14:59						
		Data File	V111111.D	V111113.D				V111114.D						
Analyte	%R Limits	DF	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	21.54	20.00	108		21.29	20.00	106		20	1.20	
1,1,1-Trichloroethane	74-131	1	0	24.59	20.00	123		22.63	20.00	113		20	8.30	
1,1,2,2-Tetrachloroethane	71-121	1	0	19.84	20.00	99		21.25	20.00	106		20	6.80	
1,1,2-Trichloroethane	80-119	1	0	21.71	20.00	109		22.25	20.00	111		20	2.50	
1,1-Dichloroethane	77-125	1	0	27.05	20.00	135	*	21.06	20.00	105		20	24.9	
1,1-Dichloroethene	71-131	1	0	27.43	20.00	137	*	27.86	20.00	139	*	20	1.50	
1,1-Dichloropropene	78-125	1	0	27.15	20.00	136	*	25.3	20.00	127	*	20	7.10	
1,2,3-Trichlorobenzene	69-129	1	0	20.27	20.00	101		21.55	20.00	108		20	6.10	
1,2,3-Trichloropropane	73-122	1	0	18.14	20.00	91		19.38	20.00	97		20	6.60	
1,2,4-Trichlorobenzene	69-130	1	0	20.04	20.00	100		21.59	20.00	108		20	7.50	
1,2,4-Trimethylbenzene	76-124	1	0	20.77	20.00	104		21.49	20.00	107		20	3.40	
1,2-Dibromo-3-	62-128	1	0	18.62	20.00	93		19.34	20.00	97		20	3.80	
1,2-Dibromoethane	77-121	1	0	21.36	20.00	107		21.44	20.00	107		20	0.400	
1,2-Dichlorobenzene	80-119	1	0	20.59	20.00	103		22.11	20.00	111		20	7.10	
1,2-Dichloroethane	73-128	1	0	22.19	20.00	111		21.07	20.00	105		20	5.10	
1,2-Dichloropropane	78-122	1	0	23.09	20.00	115		22.02	20.00	110		20	4.80	
1,3,5-Trimethylbenzene	75-124	1	0	21.93	20.00	110		22.46	20.00	112		20	2.40	
1,3-Dichlorobenzene	80-119	1	0	19.32	20.00	97		20.1	20.00	101		20	4.00	
1,3-Dichloropropane	80-119	1	0	21.63	20.00	108		22.04	20.00	110		20	1.90	
1,4-Dichlorobenzene	79-118	1	0	21.03	20.00	105		22.11	20.00	111		20	5.00	
2,2-Dichloropropane	60-139	1	0	25.94	20.00	130		21.07	20.00	105		20	20.7	
2-Butanone	56-143	1	0	42.67	40.00	107		40.5	40.00	101		20	5.20	
2-Chlorotoluene	79-122	1	0	22.00	20.00	110		22.77	20.00	114		20	3.40	
2-Hexanone	57-139	1	0	41.94	40.00	105		43.14	40.00	108		20	2.80	
4-Chlorotoluene	78-122	1	0	20.70	20.00	103		21.64	20.00	108		20	4.50	
4-Isopropyltoluene	77-127	1	0	22.00	20.00	110		23.11	20.00	116		20	4.90	
4-Methyl-2-pentanone	67-130	1	0	40.08	40.00	100		41.55	40.00	104		20	3.60	
Acetone	39-160	1	0	36.52	40.00	91		37.85	40.00	95		20	3.60	
Benzene	79-120	1	0	23.16	20.00	116		22.12	20.00	111		20	4.60	
Bromobenzene	80-120	1	0	19.50	20.00	98		21.06	20.00	105		20	7.70	
Bromochloromethane	78-123	1	0	24.05	20.00	120		22.66	20.00	113		20	6.00	
Bromodichloromethane	79-125	1	0	22.31	20.00	112		21.97	20.00	110		20	1.50	
Bromoform	66-130	1	0	20.52	20.00	103		21.31	20.00	107		20	3.70	
Bromomethane	53-141	1	0	24.10	20.00	120		21.37	20.00	107		20	12.0	

- %Recovery / RPD Flag * - %Recovery / RPD Outside Limits OL - Outside Limits

Form 3A - Matrix Spike/Spike Duplicate Recovery

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder **HS22110517**

		HS22110430-25		HS22110430-25MS				HS22110430-25MSD						
Sample Matrix	Aqueous	**Run Date**	11/11/22	11/11/22				11/11/22						
Units	µg/L	**Run Time**	13:57	14:38				14:59						
		Data File	V111111.D	V111113.D				V111114.D						
Analyte	%R Limits	DF	Result	MS Result	Spike Added	%R	Q	MSD Result	Spike Added	%R	Q	RPD Limit	RPD	Q
Carbon disulfide	64-133	1	0	56.56	40.00	141	*	53.02	40.00	133		20	6.50	
Carbon tetrachloride	72-136	1	7.377	33.51	20.00	131		31.54	20.00	121		20	6.10	
Chlorobenzene	82-118	1	0	21.10	20.00	106		20.93	20.00	105		20	0.800	
Chloroethane	60-138	1	0	24.96	20.00	125		19.86	20.00	99		20	22.8	
Chloroform	79-124	1	0.7478	22.71	20.00	110		21.43	20.00	103		20	5.80	
Chloromethane	50-139	1	0	20.39	20.00	102		19.89	20.00	99		20	2.50	
cis-1,2-Dichloroethene	78-123	1	3.514	28.24	20.00	124	*	21.39	20.00	89		20	27.6	
cis-1,3-Dichloropropene	75-124	1	0	21.82	20.00	109		21.77	20.00	109		20	0.200	
Dibromochloromethane	74-126	1	0	20.60	20.00	103		20.77	20.00	104		20	0.800	
Dibromomethane	79-123	1	0	20.92	20.00	105		20.74	20.00	104		20	0.900	
Dichlorodifluoromethane	32-152	1	0	21.54	20.00	108		18.76	20.00	94		20	13.8	
Ethylbenzene	79-121	1	0	23.14	20.00	116		22.51	20.00	113		20	2.80	
Hexachlorobutadiene	66-134	1	0	28.43	20.00	142	*	30.27	20.00	151	*	20	6.20	
Isopropylbenzene	72-131	1	0	23.19	20.00	116		22.53	20.00	113		20	2.90	
m,p-Xylene	80-121	1	0	47.11	40.00	118		45	40.00	112		20	4.60	
Methylene chloride	74-124	1	0	25.73	20.00	129	*	26.47	20.00	132	*	20	2.80	
n-Butylbenzene	75-128	1	0	21.69	20.00	108		22.85	20.00	114		20	5.20	
n-Propylbenzene	76-126	1	0	22.96	20.00	115		23.64	20.00	118		20	2.90	
Naphthalene	61-128	1	0	18.13	20.00	91		19.73	20.00	99		20	8.50	
o-Xylene	78-122	1	0	22.59	20.00	113		22.19	20.00	111		20	1.80	
sec-Butylbenzene	77-126	1	0	22.26	20.00	111		23.1	20.00	116		20	3.70	
Styrene	78-123	1	0	21.37	20.00	107		21.27	20.00	106		20	0.500	
tert-Butylbenzene	78-124	1	0	21.93	20.00	110		22.5	20.00	112		20	2.60	
Tetrachloroethene	74-129	1	0.7796	26.81	20.00	130	*	26.19	20.00	127		20	2.30	
Toluene	80-121	1	0	23.91	20.00	120		23.37	20.00	117		20	2.30	
trans-1,2-Dichloroethene	75-124	1	0	23.36	20.00	117		23.65	20.00	118		20	1.20	
trans-1,3-Dichloropropene	73-127	1	0	21.27	20.00	106		20.11	20.00	101		20	5.60	
Trichloroethene	79-123	1	48.83	72.13	20.00	117		66.79	20.00	90		20	7.70	
Trichlorofluoromethane	65-141	1	3.754	30.66	20.00	135		29.19	20.00	127		20	4.90	
Vinyl chloride	58-137	1	0	23.52	20.00	118		19.73	20.00	99		20	17.5	

- %Recovery / RPD Flag * - %Recovery / RPD Outside Limits OL - Outside Limits

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Form 3B

Laboratory Control Sample Recovery

Volatiles by by EPA 8260

Workorder

HS22110517

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Bi-Weekly Samples

11/21/2022

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
HS22110517

Volatiles by by EPA 8260

VOA10_421664		QC ID	VLCSW-221111			
QC Matrix Aqueous	Units ug/L	Run Date Run Time	11/11/22 11:55			
Analyte	%R Limits	Spike Added	LCS Result	%R	Q	
1,1,1,2-Tetrachloroethane	78-124	20	19.8	99		
1,1,1-Trichloroethane	74-131	20	22.12	111		
1,1,2,2-Tetrachloroethane	71-121	20	20.47	102		
1,1,2-Trichloroethane	80-119	20	20.15	101		
1,1-Dichloroethane	77-125	20	24.02	120		
1,1-Dichloroethene	71-131	20	25.48	127		
1,1-Dichloropropene	78-125	20	23.16	116		
1,2,3-Trichlorobenzene	69-129	20	21.04	105		
1,2,3-Trichloropropane	73-122	20	18.04	90		
1,2,4-Trichlorobenzene	69-130	20	20.58	103		
1,2,4-Trimethylbenzene	76-124	20	19.96	100		
1,2-Dibromo-3-chloropropane	62-128	20	18.96	95		
1,2-Dibromoethane	77-121	20	19.77	99		
1,2-Dichlorobenzene	80-119	20	20.63	103		
1,2-Dichloroethane	73-128	20	20.29	101		
1,2-Dichloroethane-d4	81-118	50	55.22	110		
1,2-Dichloropropane	78-122	20	21.85	109		
1,3,5-Trimethylbenzene	75-124	20	20.5	103		
1,3-Dichlorobenzene	80-119	20	18.86	94		
1,3-Dichloropropane	80-119	20	20.07	100		
1,4-Dichlorobenzene	79-118	20	21.09	105		
2,2-Dichloropropane	60-139	20	23.09	115		
2-Butanone	56-143	40	37.88	95		
2-Chlorotoluene	79-122	20	21.66	108		
2-Hexanone	57-139	40	40.66	102		
4-Bromofluorobenzene	85-114	50	49.69	99		
4-Chlorotoluene	78-122	20	20.28	101		
4-Isopropyltoluene	77-127	20	20.3	101		
4-Methyl-2-pentanone	67-130	40	37.82	95		
Acetone	39-160	40	39.87	100		
Benzene	79-120	20	21.55	108		
Bromobenzene	80-120	20	19.8	99		
Bromochloromethane	78-123	20	22.59	113		
Bromodichloromethane	79-125	20	21.58	108		
Bromoform	66-130	20	19.67	98		
Bromomethane	53-141	20	22.46	112		

- %Recovery / RPD Flag * - %Recovery / RPD Outside Limits

Form 3B - Laboratory Control Sample Recovery

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder
HS22110517

Volatiles by by EPA 8260

VOA10_421664		QC ID	VLCSW-221111			
QC Matrix Aqueous	Units	Run Date	11/11/22			
	ug/L	Run Time	11:55			
Analyte	%R Limits	Spike Added	LCS Result	%R	Q	
Carbon disulfide	64-133	40	51.43	129		
Carbon tetrachloride	72-136	20	22.12	111		
Chlorobenzene	82-118	20	19.54	98		
Chloroethane	60-138	20	23.09	115		
Chloroform	79-124	20	21.09	105		
Chloromethane	50-139	20	21.37	107		
cis-1,2-Dichloroethene	78-123	20	21.57	108		
cis-1,3-Dichloropropene	75-124	20	21.09	105		
Dibromochloromethane	74-126	20	19.33	97		
Dibromofluoromethane	80-119	50	55.42	111		
Dibromomethane	79-123	20	19.76	99		
Dichlorodifluoromethane	32-152	20	23.33	117		
Ethylbenzene	79-121	20	20.03	100		
Hexachlorobutadiene	66-134	20	28.22	141		
Isopropylbenzene	72-131	20	19.85	99		
m,p-Xylene	80-121	40	41.63	104		
Methylene chloride	74-124	20	24.39	122		
Naphthalene	61-128	20	18.25	91		
n-Butylbenzene	75-128	20	20.29	101		
n-Propylbenzene	76-126	20	21.26	106		
o-Xylene	78-122	20	20.17	101		
sec-Butylbenzene	77-126	20	20.21	101		
Styrene	78-123	20	19.8	99		
tert-Butylbenzene	78-124	20	20.03	100		
Tetrachloroethene	74-129	20	21.85	109		
Toluene	80-121	20	21.75	109		
Toluene-d8	89-112	50	53.05	106		
trans-1,2-Dichloroethene	75-124	20	22.79	114		
trans-1,3-Dichloropropene	73-127	20	19.82	99		
Trichloroethene	79-123	20	22.37	112		
Trichlorofluoromethane	65-141	20	22.93	115		
Vinyl chloride	58-137	20	21.83	109		

- %Recovery / RPD Flag * - %Recovery / RPD Outside Limits

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Form 4

Method Blank Summary

Volatiles by by EPA 8260

Workorder

HS22110517

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Bi-Weekly Samples

11/21/2022

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.

Project Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder
HS22110517

Volatiles by by EPA 8260

Client Sample ID	Type	Lab Sample ID	File ID	Date Analyzed	Run ID
METHOD BLANK	MBLK	VBLKW-221111	V111107.D	11/11/22 12:36	VOA10_421664
VLCSW-221111	LCS	VLCSW-221111	V111105.D	11/11/22 11:55	VOA10_421664
BatchQC	MS	HS22110430-25MS	V111113.D	11/11/22 14:38	VOA10_421664
BatchQC	MSD	HS22110430-25MSD	V111114.D	11/11/22 14:59	VOA10_421664
Trip Blank	SAMP	HS22110517-02	V111129.D	11/11/22 20:06	VOA10_421664
LH18/24-SP650_110822	SAMP	HS22110517-01	V111130.D	11/11/22 20:26	VOA10_421664

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Form 5

Instrument Performance Check

Workorder

HS22110517

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Bi-Weekly Samples

11/21/2022

ALS Environmental–Houston Laboratory

10450 Stancliff Road, Suite 210, Houston, TX 77099

Phone (281) 530-5656 Fax (281) 530-5887

www.alsglobal.com

Form 5 - Instrument Performance Check

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder
HS22110517

RunID
VOA10_421606

Tune File X111001.D 11/10/22 12:54

m / e	Ion Abundance Criterion	%RA
50	15.0 - 40.0% of mass 95	20.6 (20.6)
75	30.0 - 60.0% of mass 95	47 (47)
95	Base peak, 100% RA	100 (100)
96	5.0 - 9.0% of mass 95	6.7 (6.73)
173	Less than 2.0% of mass 174	1.4 (1.6) 1
174	50.0 - 120.0% of mass 95	89 (89)
175	4.0 - 9.0% of mass 174	7.2 (8.06) 1
176	93.0 - 101.0% of mass 174	85.2 (95.7) 1
177	5.0 - 9.0% of mass 176	6.6 (7.74) 2

Value is % of mass 1) 174 2) 176 RA - Relative Abundance

This check applies to the following analyses

	Type	Date Analyzed	Lab File ID	Sample ID
1	ICAL1	11/10/22 13:14	X111002	VSTD000.25
2	ICAL2	11/10/22 13:34	X111003	VSTD000.5
3	ICAL3	11/10/22 14:15	X111004	VSTD001
4	ICAL4	11/10/22 14:35	X111005	VSTD002
5	ICAL5	11/10/22 14:56	X111006	VSTD005
6	ICAL6	11/10/22 15:16	X111007	VSTD020
7	ICAL7	11/10/22 15:37	X111008	VSTD050
8	ICAL8	11/10/22 15:57	X111009	VSTD100
9	ICAL9	11/10/22 16:17	X111010	VSTD150
10	ICAL	11/10/22 16:38	X111011	VSTD200
11	ICV	11/10/22 17:39	X111014	VSTD050

Form 5 - Instrument Performance Check

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder
HS22110517

RunID
VOA10_421664

Tune File V111101.D 11/11/22 10:33

m / e	Ion Abundance Criterion	%RA
50	15.0 - 40.0% of mass 95	21.9 (21.9)
75	30.0 - 60.0% of mass 95	50.9 (50.9)
95	Base peak, 100% RA	100 (100)
96	5.0 - 9.0% of mass 95	7.3 (7.25)
173	Less than 2.0% of mass 174	0.7 (0.837) 1
174	50.0 - 120.0% of mass 95	85.4 (85.4)
175	4.0 - 9.0% of mass 174	7 (8.18) 1
176	93.0 - 101.0% of mass 174	82.1 (96.2) 1
177	5.0 - 9.0% of mass 176	5.2 (6.3) 2

Value is % of mass 1) 174 2) 176 RA - Relative Abundance

This check applies to the following analyses

	Type	Date Analyzed	Lab File ID	Sample ID
1	CCV	11/11/22 11:14	V111103	VSTD050
2	CCB	11/11/22 11:34	V111104	CCB
3	LCS	11/11/22 11:55	V111105	VLCSW-221111
4	MBLK	11/11/22 12:36	V111107	VBLKW-221111
5	MS	11/11/22 14:38	V111113	ZZZZZZMS
6	MSD	11/11/22 14:59	V111114	ZZZZZZMSD
7	SAMP	11/11/22 20:06	V111129	Trip Blank
8	SAMP	11/11/22 20:26	V111130	LH18/24-SP650_110822
9	CCV_EN	11/11/22 20:47	V111131	VSTD050-END

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Form 6

Initial Calibration Data

Workorder

HS22110517

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Bi-Weekly Samples

11/21/2022

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 Data

Client Bhate Environmental Associates, Inc.
Project Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder HS22110517

RunID VOA10_421606

Volatiles Organics by Method 8260C

ICAL Start Date 10-NOV-2022 1314
ICAL End Date 10-NOV-2022 1638

Calibration Files

Level 1 ..voa10.i\V221110.b\X111002.D
Level 2 ..voa10.i\V221110.b\X111003.D
Level 3 ..voa10.i\V221110.b\X111004.D
Level 4 ..voa10.i\V221110.b\X111005.D
Level 5 ..voa10.i\V221110.b\X111006.D
Level 6 ..voa10.i\V221110.b\X111007.D
Level 7 ..voa10.i\V221110.b\X111008.D
Level 8 ..voa10.i\V221110.b\X111009.D
Level 9 ..voa10.i\V221110.b\X111010.D
Level 10 ..voa10.i\V221110.b\X111011.D

Compound	Level 1 0.250 Level 7 50.0	Level 2 0.500 Level 8 100.0	Level 3 1.00 Level 9 150.0	Level 4 2.00 Level 10 200.0	Level 5 5.00	Level 6 20.00	Curve	b	m1	m2	%RSD or R^2	Q
Dichlorodifluoromethane	NE 0.33168	0.41707 0.49375	0.42991 0.50927	0.41946 0.45567	0.41303	0.38310	AVRG		0.42810		12.63524	
Chloromethane	NE 0.38387	0.48108 0.48764	0.49530 0.48063	0.48081 0.48253	0.46535	0.44806	AVRG		0.46725		7.30236	
Propionitrile	NE 0.07282	0.06286 0.06995	0.08624 0.06960	0.08292 0.07179	0.08322	0.05500	AVRG		0.07271		13.98188	
Vinyl Chloride	NE 0.38086	0.46536 0.51077	0.47402 0.53607	0.43823 0.49074	0.44009	0.44020	AVRG		0.46404		9.90844	
Bromomethane	NE 0.16970	0.20665 0.24665	0.22767 0.22403	0.21934 0.18610	0.20763	0.19722	AVRG		0.20944		11.08523	
Chloroethane	NE 0.20548	0.27842 0.25906	0.27248 0.32024	0.24917 0.30716	0.26486	0.24873	AVRG		0.26729		12.62623	
Trichlorofluoromethane	NE 0.42575	0.67777 0.69268	0.59201 0.68259	0.62711 0.65843	0.60649	0.52520	AVRG		0.60978		14.29797	
Acrolein	NE 24619	183 39803	293 58475	599 98180	1818	7569	QUAD	-0.03614	51.14531	-17.86988	0.99516	*
Acetone	NE 218941	3505 427642	4443 606017	11188 877600	24899	83173	LINR	-0.10883	0.19414		0.99673	
1,1-Dichloroethene	NE 144416	1548 370701	2441 NE	6127 NE	16202	67448	QUAD	-0.02285	3.77555	-1.40717	0.99778	

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 HS22110517

RunID VOA10_421606

Volatiles Organics by Method 8260C

ICAL Start Date 10-NOV-2022 1314 **ICAL End Date** 10-NOV-2022 1638

Compound	Level 1 0.250 Level 7 50.0	Level 2 0.500 Level 8 100.0	Level 3 1.00 Level 9 150.0	Level 4 2.00 Level 10 200.0	Level 5 5.00	Level 6 20.00	Curve	b	m1	m2	%RSD or R^2	Q
Isobutyl Alcohol	NE 0.07557	0.07751 0.08077	0.07564 0.08384	0.07736 0.08830	0.07172	0.07094	AVRG		0.07796		7.16022	
Acetonitrile	NE 0.06575	0.07571 0.05526	0.08762 0.06668	0.07239 0.06701	0.07409	0.06497	AVRG		0.06994		12.85115	
Allyl Chloride	NE 0.97885	1.23991 0.94195	1.24526 1.01028	1.07679 1.10563	1.05897	0.96067	AVRG		1.06870		10.52589	
Iodomethane	NE 355942	1488 858110	2870 1351419	8375 2149405	22802	112670	QUAD	0.08584	2.50623	-0.10475	0.99890	
Acrylonitrile	NE 0.18724	0.16856 0.18829	0.19359 0.15848	0.19243 0.17575	0.19677	0.19854	AVRG		0.18441		7.48156	
Methylene Chloride	NE 200956	2905 325588	3710 491109	9066 904304	21548	81339	QUAD	-0.07477	3.46762	-0.52540	0.99355	
Methyl tert-butyl ether	NE 1.35120	1.06671 1.31696	1.39559 1.16898	1.23534 1.32572	1.33798	1.29729	AVRG		1.27731		8.08388	
Carbon Disulfide	NE 878513	11091 1659683	13923 3203085	39423 4808317	82677	385826	QUAD	-0.02018	1.21212	-0.03233	0.99548	
trans-1,2-Dichloroethene	NE 0.35477	0.37255 0.39916	0.48838 0.34057	0.36076 0.36993	0.36426	0.39174	AVRG		0.38246		11.38330	
Vinyl Acetate	NE 1.00834	0.92639 1.02021	1.02589 1.05402	0.95598 1.03606	1.03034	1.06944	AVRG		1.01408		4.50313	
1,1-Dichloroethane	NE 336253	2831 740355	3616 NE	14716 NE	35092	151831	QUAD	-0.01207	1.52107	-0.10844	0.99891	
Chloroprene	NE 0.51430	0.50412 0.68410	0.63059 0.69052	0.58027 0.69990	0.60336	0.64668	AVRG		0.61709		11.83499	

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 HS22110517

RunID VOA10_421606

Volatiles Organics by Method 8260C

ICAL Start Date 10-NOV-2022 1314 **ICAL End Date** 10-NOV-2022 1638

Compound	Level 1 0.250 Level 7 50.0	Level 2 0.500 Level 8 100.0	Level 3 1.00 Level 9 150.0	Level 4 2.00 Level 10 200.0	Level 5 5.00	Level 6 20.00	Curve	b	m1	m2	%RSD or R^2	Q
2-Butanone	NE 0.25017	0.24032 0.24902	0.30569 0.25183	0.25821 0.24293	0.30162	0.23368	AVRG		0.25928		10.08888	
Methacrylonitrile	NE 0.43854	0.37919 0.42280	0.39392 0.44655	0.42014 0.42138	0.41249	0.41458	AVRG		0.41662		4.93849	
2,2-Dichloropropane	NE 0.48979	0.66758 0.61770	0.61675 0.60102	0.61628 0.59495	0.65472	0.58780	AVRG		0.60518		8.36444	
cis-1,2-Dichloroethene	NE 0.42155	0.45450 0.45377	0.54305 0.42092	0.48909 0.41231	0.47055	0.42550	AVRG		0.45458		9.24499	
Chloroform	NE 0.73469	0.88708 0.76757	0.96188 0.73057	0.90792 0.73735	0.90275	0.76290	AVRG		0.82141		11.16659	
Bromochloromethane	NE 0.23046	0.21219 0.21918	0.23805 0.20675	0.24645 0.19998	0.25536	0.23851	AVRG		0.22744		8.32452	
1,1,1-Trichloroethane	NE 0.50785	0.65584 0.64244	0.76310 0.64024	0.74727 0.64989	0.71230	0.62049	AVRG		0.65994		11.55404	
1,1-Dichloropropene	NE 0.30985	0.40692 0.40180	0.38644 0.39437	0.39378 0.40261	0.37292	0.39912	AVRG		0.38531		7.80295	
1,2-Dichloroethane	NE 0.42236	0.49689 0.43850	0.48514 0.42354	0.50409 0.43728	0.50264	0.44802	AVRG		0.46205		7.49168	
Carbon Tetrachloride	NE 0.25746	0.35064 0.36458	0.31649 0.36586	0.31484 0.38480	0.32831	0.31747	AVRG		0.33338		11.44250	
Benzene	NE 1.13821	1.35438 1.23412	1.29023 1.20317	1.39735 1.21261	1.37869	1.24662	AVRG		1.27282		6.94163	
Trichloroethene	NE 0.28460	0.32719 0.32443	0.34745 0.31674	0.34621 0.31211	0.33994	0.33291	AVRG		0.32573		6.04985	

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 HS22110517

RunID VOA10_421606

Volatiles Organics by Method 8260C

ICAL Start Date 10-NOV-2022 1314 **ICAL End Date** 10-NOV-2022 1638

Compound	Level 1 0.250 Level 7 50.0	Level 2 0.500 Level 8 100.0	Level 3 1.00 Level 9 150.0	Level 4 2.00 Level 10 200.0	Level 5 5.00	Level 6 20.00	Curve	b	m1	m2	%RSD or R^2	Q
Bromodichloromethane	NE 0.36527	0.40920 0.38291	0.41741 0.37844	0.42299 0.38299	0.42904	0.38504	AVRG		0.39703		5.74153	
Methyl Methacrylate	NE 0.48559	0.51364 0.50846	0.49841 0.52751	0.50338 0.54351	0.46083	0.44694	AVRG		0.49870		6.12464	
2-Chloroethylvinyl ether	NE 0.13376	0.14974 0.13870	0.13373 0.13834	0.13878 0.14287	0.11555	0.12310	AVRG		0.13495		7.59894	
1,2-Dichloropropane	NE 0.33074	0.41503 0.33915	0.35336 0.32665	0.39078 0.33063	0.36656	0.34793	AVRG		0.35565		8.49572	
2-Nitropropane	NE 0.30043	0.36657 0.30983	0.26400 0.31292	0.33105 0.31855	0.33641	0.27284	AVRG		0.31251		10.08978	
Dibromomethane	NE 0.18581	0.24020 0.18975	0.22982 0.18688	0.21578 0.18526	0.20782	0.19107	AVRG		0.20360		10.23613	
4-Methyl-2-Pentanone	NE 530824	8770 1115061	9918 1734551	29360 2694851	57554	210057	LINR	0.05766	0.46985		0.99795	
cis-1,3-Dichloropropene	NE 0.51734	0.50357 0.52970	0.55789 0.52458	0.58113 0.51894	0.52217	0.52031	AVRG		0.53063		4.49615	
Ethyl Methacrylate	NE 0.22069	0.20368 0.23203	0.15150 0.24245	0.21852 0.25019	0.20576	0.20064	AVRG		0.21394		13.59550	
Toluene	NE 1.37902	1.49733 1.51167	1.40938 1.45537	1.52364 1.54813	1.48846	1.45024	AVRG		1.47369		3.73512	
trans-1,3-Dichloropropene	NE 0.43715	0.49036 0.46307	0.48314 0.46539	0.50665 0.46801	0.44665	0.43619	AVRG		0.46629		5.16902	
2-Hexanone	NE 382051	6299 794391	7919 1204655	21835 1898739	46018	158977	LINR	0.03433	0.32916		0.99775	

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 HS22110517

RunID VOA10_421606

Volatiles Organics by Method 8260C

ICAL Start Date 10-NOV-2022 1314 **ICAL End Date** 10-NOV-2022 1638

Compound	Level 1 0.250 Level 7 50.0	Level 2 0.500 Level 8 100.0	Level 3 1.00 Level 9 150.0	Level 4 2.00 Level 10 200.0	Level 5 5.00	Level 6 20.00	Curve	b	m1	m2	%RSD or R^2	Q
1,1,2-Trichloroethane	NE 0.27713	0.28774 0.28317	0.31154 0.27797	0.32822 0.28807	0.31578	0.28460	AVRG		0.29491		6.30612	
1,3-Dichloropropane	NE 0.57185	0.64251 0.58068	0.62452 0.56796	0.65492 0.59993	0.61612	0.59377	AVRG		0.60581		5.09200	
Dibromochloromethane	NE 0.35691	0.40642 0.37621	0.41399 0.37719	0.42122 0.39691	0.36167	0.35286	AVRG		0.38482		6.66155	
Tetrachloroethene	NE 0.25448	0.34035 0.32219	0.25425 0.31986	0.31396 0.32999	0.31827	0.29962	AVRG		0.30588		10.20561	
1,2-Dibromoethane	NE 0.34389	0.37061 0.34890	0.34457 0.33497	0.43299 0.34692	0.38005	0.34655	AVRG		0.36105		8.44164	
1-Chlorohexane	NE 0.21748	0.27929 0.30276	0.27727 0.30801	0.27462 0.30648	0.27117	0.24029	AVRG		0.27527		11.05071	
Chlorobenzene	NE 0.89267	1.18963 0.94776	1.08775 0.93413	1.10888 0.98806	0.97949	0.92378	AVRG		1.00579		9.95291	
1,1,1,2-Tetrachloroethane	NE 0.33125	0.34795 0.35019	0.40942 0.34852	0.39920 0.37042	0.34488	0.34151	AVRG		0.36037		7.50806	
Ethylbenzene	NE 0.42021	0.58531 0.49019	0.47752 0.48124	0.49404 0.52236	0.49365	0.46929	AVRG		0.49265		8.97200	
m,p-Xylenes	0.50941 0.53083	0.69574 0.59828	0.64560 0.59987	0.64428 0.64659	0.60757	0.58693	AVRG		0.60651		9.22512	
o-Xylene	NE 0.53746	0.68877 0.58063	0.59810 0.58636	0.66747 0.62583	0.59768	0.56964	AVRG		0.60577		7.87438	
Styrene	NE 0.99824	1.21624 1.06502	1.10553 1.07212	1.19379 1.15333	1.06799	1.02978	AVRG		1.10023		6.70178	

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 HS22110517

RunID VOA10_421606

Volatiles Organics by Method 8260C

ICAL Start Date 10-NOV-2022 1314 **ICAL End Date** 10-NOV-2022 1638

Compound	Level 1 0.250 Level 7 50.0	Level 2 0.500 Level 8 100.0	Level 3 1.00 Level 9 150.0	Level 4 2.00 Level 10 200.0	Level 5 5.00	Level 6 20.00	Curve	b	m1	m2	%RSD or R^2	Q
Bromoform	NE 164151	2377 364147	3052 577658	8918 NE	16993	66465	LINR	0.02321	0.29841		0.99802	
Isopropylbenzene	NE 1.20914	1.72946 1.49764	1.45862 1.53982	1.57035 1.68019	1.44520	1.39757	AVRG		1.50311		10.28993	
1,1,2,2-Tetrachloroethane	NE 322468	4805 665348	8355 1017292	19087 1597328	36143	132209	LINR	-0.00350	0.81764		0.99987	
1,2,3-Trichloropropane	NE 0.93298	1.20844 0.97425	1.14478 0.96201	1.32106 0.98467	1.08187	0.95569	AVRG		1.06286		12.77207	
trans-1,4-Dichloro-2-butene	NE 0.16146	0.22056 0.17189	0.19408 0.17285	0.19002 0.18942	0.17860	0.16375	AVRG		0.18251		10.06936	
n-Propylbenzene	NE 2.28211	3.25275 2.81428	2.13162 2.86804	2.83478 2.97851	2.75453	2.62961	AVRG		2.72736		12.57798	
Bromobenzene	NE 0.70615	0.88906 0.72439	0.64231 0.72451	0.93300 0.74074	0.77972	0.72820	AVRG		0.76312		12.04133	
1,3,5-Trimethylbenzene	NE 1.76838	2.56207 2.08638	1.60064 2.10962	2.07697 2.18247	1.99643	1.94731	AVRG		2.03670		13.20240	
2-Chlorotoluene	NE 635892	8907 1413135	10447 2200194	33419 3544893	67567	273531	LINR	0.02811	1.80443		0.99868	
4-Chlorotoluene	NE 1.87404	2.67752 2.07204	1.73252 2.08390	2.41045 2.15790	2.14367	2.01483	AVRG		2.12965		13.08939	
tert-Butylbenzene	NE 1.40692	2.27748 1.75680	1.56032 1.80779	1.78515 1.84230	1.74564	1.62764	AVRG		1.75667		13.64508	
1,2,4-Trimethylbenzene	NE 1.89799	2.59812 2.19093	2.27827 2.20106	2.29946 2.29405	2.10835	2.05067	AVRG		2.21321		8.80466	

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 HS22110517

RunID VOA10_421606

Volatiles Organics by Method 8260C

ICAL Start Date 10-NOV-2022 1314 **ICAL End Date** 10-NOV-2022 1638

Compound	Level 1 0.250 Level 7 50.0	Level 2 0.500 Level 8 100.0	Level 3 1.00 Level 9 150.0	Level 4 2.00 Level 10 200.0	Level 5 5.00	Level 6 20.00	Curve	b	m1	m2	%RSD or R^2	Q
sec-Butylbenzene	NE 1.88315	2.95379 2.56915	2.44404 2.61696	2.44508 2.67158	2.37963	2.25826	AVRG		2.46907		12.02141	
p-Isopropyltoluene	NE 1.80623	2.64475 2.34617	2.13034 2.35834	2.20866 2.45081	2.16734	2.10067	AVRG		2.24592		10.66607	
1,3-Dichlorobenzene	NE 1.28217	1.89408 1.38962	1.77066 1.38546	1.77642 1.42362	1.48540	1.33614	AVRG		1.52706		14.71637	
1,4-Dichlorobenzene	NE 548142	8982 1165737	15449 1798647	30465 2882615	62817	228364	LINR	0.01155	1.46611		0.99926	
n-Butylbenzene	NE 1.65143	2.63996 2.23499	2.12880 2.25788	2.10540 2.31451	2.04628	2.00298	AVRG		2.15358		12.38645	
1,2-Dichlorobenzene	NE 540647	8824 1127669	15233 1745661	27258 2713582	60205	225895	LINR	-0.00020	1.39378		0.99988	
1,2-Dibromo-3-Chloropropane	NE 0.14868	0.14797 0.15145	0.16385 0.15250	0.17747 0.14853	0.16569	0.13500	AVRG		0.15457		8.07325	
1,2,4-Trichlorobenzene	NE 388008	6080 886028	10119 1345565	21248 2033627	45748	170245	LINR	0.00094	1.05967		0.99907	
Hexachlorobutadiene	NE 158258	2181 444581	4764 NE	8250 NE	20241	80136	QUAD	-0.02985	2.81842	-0.87871	0.99598	
Naphthalene	NE 2.55791	2.78138 2.67994	3.53515 2.67765	3.21556 2.62968	2.64804	2.58481	AVRG		2.81224		11.91710	
1,2,3-Trichlorobenzene	NE 365195	5222 812095	10414 1242539	21009 1863854	42719	160233	LINR	-0.00521	0.97221		0.99917	
Ethyl Acetate	NE 0.60006	NE 0.60347	NE 0.61105	0.63517 0.63085	0.62185	0.47723	AVRG		0.59710		9.12539	*

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Initial Calibration Data

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder HS22110517

RunID VOA10_421606

Volatiles Organics by Method 8260C

ICAL Start Date 10-NOV-2022 1314 **ICAL End Date** 10-NOV-2022 1638

Compound	Level 1 0.250 Level 7 50.0	Level 2 0.500 Level 8 100.0	Level 3 1.00 Level 9 150.0	Level 4 2.00 Level 10 200.0	Level 5 5.00	Level 6 20.00	Curve	b	m1	m2	%RSD or R^2	Q
Methyl Acrylate	NE 0.47225	NE 0.44510	NE 0.48833	NE 0.50157	0.46902	0.40154	AVRG		0.46297		7.69703	*
n-Butanol	NE 0.01304	0.02529 0.01384	0.03477 0.01439	0.02421 0.01529	0.01626	0.01300	AVRG		0.01890		39.94797	*
1,4-Dioxane	405 56661	690 116961	1329 177525	2541 289484	6196	22828	LINR	0.27734	0.00611		0.99835	
n-Hexane	NE 0.31590	0.40467 0.56772	0.86120 0.58126	0.45427 0.57688	0.43847	0.50622	AVRG		0.52295		29.60213	*
Freon TF	NE 125676	1399 373490	1766 NE	5610 NE	14418	56211	QUAD	-0.02460	4.51495	-2.41236	0.99819	
Methyl Acetate	NE 0.43272	0.42615 0.32183	0.40672 0.42144	0.43091 0.42047	0.41859	0.40761	AVRG		0.40961		8.33167	
Methylcyclohexane	NE 0.42911	0.48254 0.45218	0.43022 0.45055	0.52162 0.49581	0.40715	0.45441	AVRG		0.45818		7.85920	
Isopropyl alcohol	NE 0.03438	0.06703 0.02559	0.08993 0.03351	0.04618 0.03388	0.03423	0.03289	AVRG		0.04418		47.39322	*
4-Methyl-2-pentanol	NE 0.07484	0.14895 0.07942	0.11400 0.08865	0.11737 0.09818	0.09882	0.09334	AVRG		0.10151		22.32370	*
Tert-butyl alcohol	NE 0.04496	0.07344 0.04496	0.14271 0.04028	0.07557 0.04496	0.05229	0.04455	AVRG		0.06263		52.24499	*
Diethyl ether	NE 0.37351	0.25006 0.36156	0.44357 0.37658	0.36292 0.36904	0.29972	0.35489	AVRG		0.35465		15.12609	
1,3-Butadiene	NE 0.31928	0.35837 0.46853	0.63491 0.48353	0.38169 0.42720	0.38608	0.39675	AVRG		0.42848		21.68751	*

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Initial Calibration Data

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder HS22110517

RunID VOA10_421606

Volatiles Organics by Method 8260C

ICAL Start Date 10-NOV-2022 1314 **ICAL End Date** 10-NOV-2022 1638

Compound	Level 1 0.250 Level 7 50.0	Level 2 0.500 Level 8 100.0	Level 3 1.00 Level 9 150.0	Level 4 2.00 Level 10 200.0	Level 5 5.00	Level 6 20.00	Curve	b	m1	m2	%RSD or R^2	Q
Cyclohexane	NE 218836	2342 682169	3454 NE	8459 NE	21996	96410	QUAD	-0.01969	2.60145	-0.82086	0.99851	
Tetrahydrofuran	NE 0.10801	NE 0.09412	NE 0.09212	0.12305 0.10421	0.09906	0.09758	AVRG		0.10259		10.29890	*
Diisopropyl ether	NE 1.62304	NE 1.82406	2.19572 1.85127	1.61340 1.85254	1.55991	1.69257	AVRG		1.77657		11.52551	*
Dichlorofluoromethane	NE 0.57558	NE 0.69657	NE 0.71885	NE 0.73571	0.68459	0.57044	AVRG		0.66362		10.90882	*
2-Methylnaphthalene	NE 1.42913	2.45898 1.63440	1.81894 1.65362	1.62421 1.62989	1.45589	1.45419	AVRG		1.68436		18.75655	
1,2,3-Trimethylbenzene	NE 2.13561	2.31807 2.13618	2.01220 2.17542	2.18454 2.32426	2.07894	2.12109	AVRG		2.16515		4.72313	
Ethanol	NE 0.00565	NE 0.00576	NE 0.00635	0.01117 0.00593	0.00757	0.00584	AVRG		0.00690		28.97035	*
1,3,5-Trichlorobenzene	NE 0.90421	2.07406 1.00207	1.39750 0.99132	1.33018 0.96041	1.09432	0.98830	AVRG		1.19360		31.11127	*
3,3-Dimethyl-1-butanol	NE 0.04260	NE 0.04454	NE 0.04885	NE 0.05421	0.04796	0.04721	AVRG		0.04756		8.40432	*
tert-Amyl methyl ether	NE 1.39418	1.04234 1.46268	1.30736 1.49492	1.14898 1.54851	1.22134	1.27659	AVRG		1.32188		12.73637	
tert-Butyl ethyl ether	NE 1.45320	0.73026 1.57722	0.78542 1.54097	1.25769 1.50099	1.34315	1.27912	AVRG		1.27422		24.60369	*
tert-Amyl alcohol	NE 0.03056	NE 0.03322	0.08507 0.03494	0.07030 0.03893	0.04113	0.03047	AVRG		0.04558		45.07265	*

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Initial Calibration Data

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder HS22110517

RunID VOA10_421606

Volatiles Organics by Method 8260C

ICAL Start Date 10-NOV-2022 1314 **ICAL End Date** 10-NOV-2022 1638

Compound	Level 1 0.250 Level 7 50.0	Level 2 0.500 Level 8 100.0	Level 3 1.00 Level 9 150.0	Level 4 2.00 Level 10 200.0	Level 5 5.00	Level 6 20.00	Curve	b	m1	m2	%RSD or R^2	Q
1-Methylnaphthalene	NE 1.25821	2.25757 1.39434	1.62273 1.39249	1.55222 1.37787	1.33388	1.27895	AVRG		1.49647		20.65266	*
1,2-Dichloroethylene (total)	NE 0.38816	0.41353 0.42646	0.51571 0.38074	0.42493 0.39112	0.41741	0.40862	AVRG		0.41852		9.54801	
Xylenes (total)	NE 0.45291	0.62202 0.50872	0.58414 0.51766	0.58393 0.53886	0.51523	0.49939	AVRG		0.53587		9.73684	
Dibromofluoromethane	NE 0.38521	0.42017 0.41222	0.46520 0.40128	0.44418 0.38012	0.46897	0.42470	AVRG		0.42245		7.58137	
1,2-Dichloroethane-d4	NE 0.49038	0.61619 0.51025	0.58388 0.50357	0.53122 0.47720	0.58689	0.52884	AVRG		0.53649		8.99700	
Toluene-d8	NE 698101	11710 1660983	10487 2448194	30061 3513848	74726	328150	LINR	0.00554	1.26717		0.99863	
4-Bromofluorobenzene	NE 274831	4486 619939	5536 958342	15006 1437920	33924	125568	LINR	0.01883	0.50703		0.99878	

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)

Workorder

HS22110517

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Bi-Weekly Samples

11/21/2022

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 HS22110517

RunID VOA10_421606

Volatiles Organics by Method 8260C

Instrument ID voa10.i ICAL Date 10-NOV-2022
Lab File ID X111014.D ICAL Time 1537
?VAL? ?VAL? Conc Units ug/L
Analysis Type VOA Level LOW

Compound	Amount Added	Amount Recovered	% Recovered	Limits	Q
1,1,1,2-Tetrachlor	50.00	45.70	91.42	80-120	
1,1,1-Trichloroeth	50.00	41.38	82.76	80-120	
1,1,2,2-Tetrachlor	50.00	49.27	98.55	80-120	
Freon TF	50.00	45.57	91.16	80-120	
Methyl Acetate	50.00	40.09	80.19	80-120	
Cyclohexane	50.00	53.64	107.30	80-120	
Methylcyclohexane	50.00	44.59	89.19	80-120	
Carbon Disulfide	100.00	86.87	86.88	80-120	
2-Hexanone	100.00	96.80	96.80	80-120	
1,1,2-Trichloroeth	50.00	47.42	94.85	80-120	
1,1-Dichloroethane	50.00	44.52	89.05	80-120	
1,1-Dichloroethene	50.00	43.00	86.01	80-120	
1,1-Dichloropropen	50.00	43.05	86.12	80-120	
1,2,3-Trichloroben	50.00	47.39	94.80	80-120	
1,2,3-Trichloropro	50.00	44.73	89.48	80-120	
1,2,4-Trichloroben	50.00	47.97	95.95	80-120	
1,2,4-Trimethylben	50.00	44.53	89.07	80-120	
1,2-Dibromo-3-Chlo	50.00	46.26	92.54	80-120	
1,2-Dibromoethane	50.00	46.44	92.88	80-120	
Acrolein	100.00	95.35	95.36	80-120	
Acrylonitrile	100.00	82.51	82.52	80-120	
1,2-Dichlorobenzen	50.00	47.75	95.51	80-120	
1,2-Dichloroethane	50.00	44.33	88.66	80-120	
1,2-Dichloropropan	50.00	45.38	90.76	80-120	
1,3,5-Trimethylben	50.00	44.93	89.87	80-120	
1,3-Dichlorobenzen	50.00	42.98	85.97	80-120	
1,3-Dichloropropan	50.00	47.81	95.64	80-120	
1,4-Dichlorobenzen	50.00	47.48	94.97	80-120	
1-Chlorohexane	50.00	40.27	80.55	80-120	
2,2-Dichloropropan	50.00	44.13	88.26	80-120	
2-Butanone	100.00	95.80	95.80	80-120	
2-Chlorotoluene	50.00	45.54	91.09	80-120	
4-Chlorotoluene	50.00	45.62	91.25	80-120	
p-Isopropyltoluene	50.00	42.02	84.04	80-120	

Initial Calibration Verification (ICV)

Client Bhate Environmental Associates, Inc.
Project Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder HS22110517

RunID VOA10_421606

Volatiles Organics by Method 8260C

Instrument ID voa10.i ICAL Date 10-NOV-2022
Lab File ID X111014.D ICAL Time 1537
?VAL? ?VAL? Conc Units ug/L
Analysis Type VOA Level LOW

Compound	Amount Added	Amount Recovered	% Recovered	Limits	Q
4-Methyl-2-Pentano	100.00	92.15	92.15	80-120	
Acetone	100.00	86.88	86.89	80-120	
Benzene	50.00	44.36	88.72	80-120	
Bromobenzene	50.00	45.93	91.88	80-120	
Bromochloromethane	50.00	50.00	100.01	80-120	
Bromodichlorometha	50.00	45.52	91.06	80-120	
Bromoform	50.00	47.66	95.34	80-120	
Bromomethane	50.00	54.69	109.39	80-120	
Carbon Tetrachlori	50.00	41.57	83.14	80-120	
Chlorobenzene	50.00	43.47	86.94	80-120	
Chloroethane	50.00	46.71	93.44	80-120	
Chloroform	50.00	43.96	87.93	80-120	
Chloromethane	50.00	47.37	94.75	80-120	
cis-1,2-Dichloroet	50.00	43.89	87.79	80-120	
cis-1,3-Dichloropr	50.00	48.19	96.40	80-120	
Dibromochlorometha	50.00	47.26	94.54	80-120	
Dibromomethane	50.00	44.88	89.77	80-120	
Dichlorodifluorome	50.00	44.37	88.74	80-120	
Ethylbenzene	50.00	44.50	89.00	80-120	
Hexachlorobutadien	50.00	48.34	96.69	80-120	
Isopropylbenzene	50.00	41.92	83.85	80-120	
m,p-Xylenes	100.00	89.88	89.88	80-120	
Methyl tert-butyl	50.00	46.56	93.12	80-120	
Methylene Chloride	50.00	48.46	96.92	80-120	
n-Butylbenzene	50.00	40.47	80.95	80-120	
n-Propylbenzene	50.00	43.55	87.11	80-120	
Naphthalene	50.00	46.30	92.61	80-120	
o-Xylene	50.00	44.49	88.99	80-120	
sec-Butylbenzene	50.00	40.15	80.30	80-120	
Styrene	50.00	45.45	90.90	80-120	
tert-Butylbenzene	50.00	41.25	82.51	80-120	
Tetrachloroethene	50.00	44.68	89.37	80-120	
Toluene	50.00	47.52	95.04	80-120	
trans-1,2-Dichloro	50.00	40.55	81.10	80-120	

Initial Calibration Verification (ICV)

Client Bhate Environmental Associates, Inc.
Project Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder HS22110517

RunID VOA10_421606

Volatiles Organics by Method 8260C

Instrument ID voa10.i ICAL Date 10-NOV-2022
Lab File ID X111014.D ICAL Time 1537
?VAL? ?VAL? Conc Units ug/L
Analysis Type VOA Level LOW

Compound	Amount Added	Amount Recovered	% Recovered	Limits	Q
trans-1,3-Dichloro	50.00	47.35	94.72	80-120	
Trichloroethene	50.00	43.96	87.94	80-120	
Trichlorofluoromet	50.00	43.47	86.96	80-120	
Vinyl Chloride	50.00	47.01	94.03	80-120	
1,2-Dichloroethyle	50.00	84.44	168.89*	80-120	
Xylenes (total)	150.00	134.37	89.58	80-120	
1,4-Dioxane	1000.00	966.31	96.63	80-120	
Dibromofluorometha	50.00	52.28	104.57	70-130	
1,2-Dichloroethane	50.00	49.50	99.02	70-130	
Toluene-d8	50.00	55.18	110.37	70-130	
4-Bromofluorobenze	50.00	50.99	102.00	70-130	

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Form 7

Continuing Calibration Verification (CCV)

Workorder

HS22110517

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Bi-Weekly Samples

11/21/2022

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 Bi-Weekly Samples

Workorder HS22110517

RunID VOA10_421664

Volatiles Organics by Method 8260C

Instrument ID voa10.i Injection Date 11-NOV-2022 1114
Lab File ID V111103.D ICAL Date(s) 10-NOV-2022 10-NOV-2022
Analysis Type WATER ICAL Times 1314 1638
Lab Sample ID VSTD050 Quant Type ISTD

Compound	$\overline{RRF}$ / Amount	RF50	CCV RRF50	Min RRF	%D / %Drift	Max %D / %Drift	Curve Type	Q
Dichlorodifluoromethane	0.42810	0.42748	0.42748	0.100	0.14609	20.0	Averaged	
Chloromethane	0.46725	0.44667	0.44667	0.100	4.40505	20.0	Averaged	
Vinyl Chloride	0.46404	0.46520	0.46520	0.100	-0.25087	20.0	Averaged	
Bromomethane	0.20944	0.21464	0.21464	0.100	-2.48060	20.0	Averaged	
Chloroethane	0.26729	0.24045	0.24045	0.100	10.04209	20.0	Averaged	
Trichlorofluoromethane	0.60978	0.56420	0.56420	0.100	7.47422	20.0	Averaged	
Acrolein	100	102	0.02063	0.020	-2.20496	20.0	Quadratic	
Acetone	100	102	0.20910	0.100	-2.26474	20.0	Linear	
1,1-Dichloroethene	50.0	53.63904	0.33103	0.100	-7.27808	20.0	Quadratic	
Iodomethane	100	99	0.39143	0.100	0.81715	20.0	Quadratic	
Acrylonitrile	0.18441	0.19978	0.19978	0.050	-8.33593	20.0	Averaged	
Methylene Chloride	50.0	58.75806	0.38264	0.100	-17.51613	20.0	Quadratic	
Methyl tert-butyl ether	1.27731	1.37808	1.37808	0.100	-7.88916	20.0	Averaged	
Carbon Disulfide	100	113	0.99575	0.100	-13.27710	20.0	Quadratic	
trans-1,2-Dichloroethene	0.38246	0.39399	0.39399	0.100	-3.01616	20.0	Averaged	
Vinyl Acetate	1.01408	1.06947	1.06947	0.010	-5.46243	20.0	Averaged	
1,1-Dichloroethane	50.0	51.29332	0.71926	0.200	-2.58664	20.0	Quadratic	
2-Butanone	0.25928	0.22558	0.22558	0.100	12.99460	20.0	Averaged	
2,2-Dichloropropane	0.60518	0.56196	0.56196	0.100	7.14199	20.0	Averaged	
cis-1,2-Dichloroethene	0.45458	0.40971	0.40971	0.100	9.86999	20.0	Averaged	
Chloroform	0.82141	0.73358	0.73358	0.200	10.69257	20.0	Averaged	
Bromochloromethane	0.22744	0.22369	0.22369	0.100	1.64624	20.0	Averaged	
Dibromofluoromethane	0.42245	0.42193	0.42193	0.100	0.12283	20.0	Averaged	
1,1,1-Trichloroethane	0.65994	0.59013	0.59013	0.100	10.57792	20.0	Averaged	
1,1-Dichloropropene	0.38531	0.37732	0.37732	0.100	2.07594	20.0	Averaged	
1,2-Dichloroethane	0.46205	0.42462	0.42462	0.100	8.10096	20.0	Averaged	
Carbon Tetrachloride	0.33338	0.32284	0.32284	0.100	3.16297	20.0	Averaged	
1,2-Dichloroethane-d4	0.53649	0.50936	0.50936	0.100	5.05704	20.0	Averaged	
Benzene	1.27282	1.18639	1.18639	0.500	6.79042	20.0	Averaged	
Trichloroethene	0.32573	0.30747	0.30747	0.200	5.60536	20.0	Averaged	
Bromodichloromethane	0.39703	0.37557	0.37557	0.200	5.40566	20.0	Averaged	
2-Chloroethylvinyl ether	0.13495	0.13461	0.13461	0.001	0.25100	20.0	Averaged	
1,2-Dichloropropane	0.35565	0.34058	0.34058	0.100	4.23524	20.0	Averaged	
Dibromomethane	0.20360	0.18144	0.18144	0.100	10.88171	20.0	Averaged	

Continuing Calibration Verification (CCV)

Client Bhate Environmental Associates, Inc.
Project Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder HS22110517

RunID VOA10_421664

Volatiles Organics by Method 8260C

Instrument ID voa10.i Injection Date 11-NOV-2022 1114
Lab File ID V111103.D ICAL Date(s) 10-NOV-2022 10-NOV-2022
Analysis Type WATER ICAL Times 1314 1638
Lab Sample ID VSTD050 Quant Type ISTD

Compound	$\overline{RRF}$ / Amount	RF50	CCV RRF50	Min RRF	%D / %Drift	Max %D / %Drift	Curve Type	Q
4-Methyl-2-Pentanone	100	95.47964	0.43506	0.100	4.52036	20.0	Linear	
cis-1,3-Dichloropropene	0.53063	0.52006	0.52006	0.200	1.99116	20.0	Averaged	
Toluene-d8	50.0	55.50534	1.39967	0.100	-11.01068	20.0	Linear	
Toluene	1.47369	1.46761	1.46761	0.400	0.41274	20.0	Averaged	
trans-1,3-Dichloropropene	0.46629	0.44607	0.44607	0.100	4.33669	20.0	Averaged	
2-Hexanone	100	98.54454	0.31872	0.100	1.45546	20.0	Linear	
1,1,2-Trichloroethane	0.29491	0.28723	0.28723	0.100	2.60625	20.0	Averaged	
1,3-Dichloropropane	0.60581	0.59195	0.59195	0.100	2.28626	20.0	Averaged	
Dibromochloromethane	0.38482	0.36827	0.36827	0.100	4.30153	20.0	Averaged	
Tetrachloroethene	0.30588	0.30322	0.30322	0.200	0.87183	20.0	Averaged	
1,2-Dibromoethane	0.36105	0.34863	0.34863	0.100	3.43914	20.0	Averaged	
1-Chlorohexane	0.27527	0.25104	0.25104	0.100	8.80029	20.0	Averaged	
Chlorobenzene	1.00579	0.91638	0.91638	0.500	8.89007	20.0	Averaged	
1,1,1,2-Tetrachloroethane	0.36037	0.34613	0.34613	0.100	3.95176	20.0	Averaged	
Ethylbenzene	0.49265	0.45938	0.45938	0.100	6.75183	20.0	Averaged	
m,p-Xylenes	0.60651	0.56997	0.56997	0.100	6.02495	20.0	Averaged	
o-Xylene	0.60577	0.55071	0.55071	0.300	9.09032	20.0	Averaged	
Styrene	1.10023	1.01680	1.01680	0.300	7.58266	20.0	Averaged	
Bromoform	50.0	46.78818	0.27231	0.100	6.42363	20.0	Linear	
Isopropylbenzene	1.50311	1.29860	1.29860	0.100	13.60613	20.0	Averaged	
1,1,2,2-Tetrachloroethane	50.0	48.60297	0.79766	0.300	2.79405	20.0	Linear	
4-Bromofluorobenzene	50.0	49.51816	0.49260	0.100	0.96368	20.0	Linear	
1,2,3-Trichloropropane	1.06286	0.94940	0.94940	0.100	10.67533	20.0	Averaged	
n-Propylbenzene	2.72736	2.40988	2.40988	0.100	11.64038	20.0	Averaged	
Bromobenzene	0.76312	0.71575	0.71575	0.100	6.20744	20.0	Averaged	
1,3,5-Trimethylbenzene	2.03670	1.81886	1.81886	0.100	10.69554	20.0	Averaged	
2-Chlorotoluene	50.0	45.48922	1.59091	0.100	9.02157	20.0	Linear	
4-Chlorotoluene	2.12965	1.94188	1.94188	0.100	8.81715	20.0	Averaged	
tert-Butylbenzene	1.75667	1.48664	1.48664	0.100	15.37193	20.0	Averaged	
1,2,4-Trimethylbenzene	2.21321	1.93366	1.93366	0.100	12.63089	20.0	Averaged	
sec-Butylbenzene	2.46907	2.06097	2.06097	0.100	16.52844	20.0	Averaged	
p-Isopropyltoluene	2.24592	1.92790	1.92790	0.100	14.15995	20.0	Averaged	
1,3-Dichlorobenzene	1.52706	1.28268	1.28268	0.600	16.00337	20.0	Averaged	
1,4-Dichlorobenzene	50.0	46.93077	1.35917	0.400	6.13846	20.0	Linear	

Continuing Calibration Verification (CCV)

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

Project Longhorn GW Treatment Plant Bi-Weekly Samples **HS22110517**

RunID

Volatiles Organics by Method 8260C

VOA10_421664

Instrument ID voa10.i Injection Date 11-NOV-2022 1114
Lab File ID V111103.D ICAL Date(s) 10-NOV-2022 10-NOV-2022
Analysis Type WATER ICAL Times 1314 1638
Lab Sample ID VSTD050 Quant Type ISTD

Compound	$\overline{RRF}$ / Amount	RF50	CCV RRF50	Min RRF	%D / %Drift	Max %D / %Drift	Curve Type	Q
n-Butylbenzene	2.15358	1.80449	1.80449	0.500	16.20958	20.0	Averaged	
1,2-Dichlorobenzene	50.0	47.01829	1.31094	0.400	5.96342	20.0	Linear	
1,2-Dibromo-3-Chloropropane	0.15457	0.14196	0.14196	0.050	8.16055	20.0	Averaged	
1,2,4-Trichlorobenzene	50.0	46.49216	0.98433	0.200	7.01568	20.0	Linear	
Hexachlorobutadiene	50.0	52.55804	0.44540	0.100	-5.11608	20.0	Quadratic	
Naphthalene	2.81224	2.54535	2.54535	0.200	9.49018	20.0	Averaged	
1,2,3-Trichlorobenzene	50.0	47.48626	0.92839	0.100	5.02749	20.0	Linear	
1,2-Dichloroethylene (total	0.41852	0.40185	0.40185	0.200	3.98208	20.0	Averaged	
Xylenes (total)	0.53587	0.46217	0.46217	0.100	13.75377	20.0	Averaged	
1,4-Dioxane	1000	817	0.00491	0.001	18.29223	20.0	Linear	
Cyclohexane	50.0	58.96845	0.55980	0.100	-17.93689	20.0	Quadratic	
Freon TF	50.0	58.63104	0.31982	0.100	-17.26208	20.0	Quadratic	
Methylcyclohexane	0.45818	0.43362	0.43362	0.100	5.35977	20.0	Averaged	
Methyl Acetate	0.40961	0.43324	0.43324	0.100	-5.77099	20.0	Averaged	
Tert-butyl alcohol	0.06263	0.04182	0.04182	0.005	33.22540	20.0	Averaged	<-
Isopropyl alcohol	0.04418	0.03205	0.03205	0.005	27.45549	20.0	Averaged	<-
trans-1,4-Dichloro-2-butene	0.18251	0.16291	0.16291	0.050	10.73949	20.0	Averaged	
Isobutyl Alcohol	0.07796	0.07536	0.07536	0.005	3.33376	20.0	Averaged	
Acetonitrile	0.06994	0.06763	0.06763	0.005	3.30271	20.0	Averaged	
Allyl Chloride	1.06870	1.02922	1.02922	0.100	3.69462	20.0	Averaged	
Methacrylonitrile	0.41662	0.41790	0.41790	0.100	-0.30610	20.0	Averaged	
Methyl Methacrylate	0.49870	0.49291	0.49291	0.100	1.15940	20.0	Averaged	
Propionitrile	0.07271	0.06545	0.06545	0.010	9.98661	20.0	Averaged	
Chloroprene	0.61709	0.62171	0.62171	0.100	-0.74869	20.0	Averaged	
Ethyl Methacrylate	0.21394	0.22254	0.22254	0.100	-4.02180	20.0	Averaged	

Continuing Calibration Verification (CCV)

Client Bhate Environmental Associates, Inc.
Project Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder HS22110517

RunID VOA10_421664

Volatiles Organics by Method 8260C

Instrument ID voa10.i Injection Date 11-NOV-2022 2047
Lab File ID V111131.D ICAL Date(s) 10-NOV-2022 10-NOV-2022
Analysis Type WATER ICAL Times 1314 1638
Lab Sample ID VSTD050-END Quant Type ISTD

Compound	$\overline{RRF}$ / Amount	RF50	CCV RRF50	Min RRF	%D / %Drift	Max %D / %Drift	Curve Type	Q
Dichlorodifluoromethane	0.42810	0.41342	0.41342	0.100	3.43091	50.0	Averaged	
Chloromethane	0.46725	0.42389	0.42389	0.100	9.28040	50.0	Averaged	
Vinyl Chloride	0.46404	0.41497	0.41497	0.100	10.57468	50.0	Averaged	
Bromomethane	0.20944	0.17414	0.17414	0.100	16.85660	50.0	Averaged	
Chloroethane	0.26729	0.28241	0.28241	0.100	-5.65888	50.0	Averaged	
Trichlorofluoromethane	0.60978	0.54110	0.54110	0.100	11.26365	50.0	Averaged	
Acrolein	100	112	0.02255	0.020	-11.72694	50.0	Quadratic	
Acetone	100	85.12163	0.17582	0.100	14.87837	50.0	Linear	
1,1-Dichloroethene	50.0	55.69613	0.34561	0.100	-11.39226	50.0	Quadratic	
Iodomethane	100	90.84360	0.35594	0.100	9.15640	50.0	Quadratic	
Acrylonitrile	0.18441	0.19793	0.19793	0.050	-7.33661	50.0	Averaged	
Methylene Chloride	50.0	64.79345	0.42229	0.100	-29.58689	50.0	Quadratic	
Methyl tert-butyl ether	1.27731	1.31897	1.31897	0.100	-3.26173	50.0	Averaged	
Carbon Disulfide	100	117	1.02849	0.100	-16.81686	50.0	Quadratic	
trans-1,2-Dichloroethene	0.38246	0.36304	0.36304	0.100	5.07687	50.0	Averaged	
Vinyl Acetate	1.01408	0.76660	0.76660	0.010	24.40451	50.0	Averaged	
1,1-Dichloroethane	50.0	52.49027	0.73682	0.200	-4.98053	50.0	Quadratic	
2-Butanone	0.25928	0.24010	0.24010	0.100	7.39742	50.0	Averaged	
2,2-Dichloropropane	0.60518	0.52610	0.52610	0.100	13.06719	50.0	Averaged	
cis-1,2-Dichloroethene	0.45458	0.45949	0.45949	0.100	-1.07949	50.0	Averaged	
Chloroform	0.82141	0.78388	0.78388	0.200	4.56869	50.0	Averaged	
Bromochloromethane	0.22744	0.23779	0.23779	0.100	-4.55346	50.0	Averaged	
Dibromofluoromethane	0.42245	0.45343	0.45343	0.100	-7.33278	50.0	Averaged	
1,1,1-Trichloroethane	0.65994	0.62225	0.62225	0.100	5.71018	50.0	Averaged	
1,1-Dichloropropene	0.38531	0.37635	0.37635	0.100	2.32665	50.0	Averaged	
1,2-Dichloroethane	0.46205	0.42837	0.42837	0.100	7.28910	50.0	Averaged	
Carbon Tetrachloride	0.33338	0.30904	0.30904	0.100	7.30138	50.0	Averaged	
1,2-Dichloroethane-d4	0.53649	0.54389	0.54389	0.100	-1.37887	50.0	Averaged	
Benzene	1.27282	1.22945	1.22945	0.500	3.40736	50.0	Averaged	
Trichloroethene	0.32573	0.31789	0.31789	0.200	2.40827	50.0	Averaged	
Bromodichloromethane	0.39703	0.37083	0.37083	0.200	6.59837	50.0	Averaged	
2-Chloroethylvinyl ether	0.13495	0.11588	0.11588	0.001	14.13349	50.0	Averaged	
1,2-Dichloropropane	0.35565	0.32778	0.32778	0.100	7.83482	50.0	Averaged	
Dibromomethane	0.20360	0.18192	0.18192	0.100	10.64674	50.0	Averaged	

Continuing Calibration Verification (CCV)

Client Bhate Environmental Associates, Inc.
Project Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder HS22110517

RunID VOA10_421664

Volatiles Organics by Method 8260C

Instrument ID voa10.i Injection Date 11-NOV-2022 2047
Lab File ID V111131.D ICAL Date(s) 10-NOV-2022 10-NOV-2022
Analysis Type WATER ICAL Times 1314 1638
Lab Sample ID VSTD050-END Quant Type ISTD

Compound	$\overline{RRF}$ / Amount	RF50	CCV RRF50	Min RRF	%D / %Drift	Max %D / %Drift	Curve Type	Q
4-Methyl-2-Pentanone	100	86.58934	0.39329	0.100	13.41066	50.0	Linear	
cis-1,3-Dichloropropene	0.53063	0.50863	0.50863	0.200	4.14567	50.0	Averaged	
Toluene-d8	50.0	52.43218	1.32179	0.100	-4.86436	50.0	Linear	
Toluene	1.47369	1.42925	1.42925	0.400	3.01561	50.0	Averaged	
trans-1,3-Dichloropropene	0.46629	0.43052	0.43052	0.100	7.67010	50.0	Averaged	
2-Hexanone	100	87.16405	0.28126	0.100	12.83595	50.0	Linear	
1,1,2-Trichloroethane	0.29491	0.27603	0.27603	0.100	6.40389	50.0	Averaged	
1,3-Dichloropropane	0.60581	0.56793	0.56793	0.100	6.25192	50.0	Averaged	
Dibromochloromethane	0.38482	0.35521	0.35521	0.100	7.69343	50.0	Averaged	
Tetrachloroethene	0.30588	0.28965	0.28965	0.200	5.30788	50.0	Averaged	
1,2-Dibromoethane	0.36105	0.33597	0.33597	0.100	6.94656	50.0	Averaged	
1-Chlorohexane	0.27527	0.24344	0.24344	0.100	11.56220	50.0	Averaged	
Chlorobenzene	1.00579	0.89761	0.89761	0.500	10.75602	50.0	Averaged	
1,1,1,2-Tetrachloroethane	0.36037	0.32421	0.32421	0.100	10.03557	50.0	Averaged	
Ethylbenzene	0.49265	0.45053	0.45053	0.100	8.54949	50.0	Averaged	
m,p-Xylenes	0.60651	0.55001	0.55001	0.100	9.31633	50.0	Averaged	
o-Xylene	0.60577	0.55379	0.55379	0.300	8.58174	50.0	Averaged	
Styrene	1.10023	0.99494	0.99494	0.300	9.56992	50.0	Averaged	
Bromoform	50.0	44.68194	0.25974	0.100	10.63612	50.0	Linear	
Isopropylbenzene	1.50311	1.32163	1.32163	0.100	12.07343	50.0	Averaged	
1,1,2,2-Tetrachloroethane	50.0	46.19899	0.75835	0.300	7.60201	50.0	Linear	
4-Bromofluorobenzene	50.0	48.98464	0.48719	0.100	2.03072	50.0	Linear	
1,2,3-Trichloropropane	1.06286	0.82740	0.82740	0.100	22.15332	50.0	Averaged	
n-Propylbenzene	2.72736	2.52338	2.52338	0.100	7.47894	50.0	Averaged	
Bromobenzene	0.76312	0.70255	0.70255	0.100	7.93656	50.0	Averaged	
1,3,5-Trimethylbenzene	2.03670	1.91406	1.91406	0.100	6.02138	50.0	Averaged	
2-Chlorotoluene	50.0	46.61300	1.63147	0.100	6.77400	50.0	Linear	
4-Chlorotoluene	2.12965	1.95629	1.95629	0.100	8.14029	50.0	Averaged	
tert-Butylbenzene	1.75667	1.53806	1.53806	0.100	12.44462	50.0	Averaged	
1,2,4-Trimethylbenzene	2.21321	2.05028	2.05028	0.100	7.36162	50.0	Averaged	
sec-Butylbenzene	2.46907	2.12669	2.12669	0.100	13.86700	50.0	Averaged	
p-Isopropyltoluene	2.24592	2.00407	2.00407	0.100	10.76874	50.0	Averaged	
1,3-Dichlorobenzene	1.52706	1.32008	1.32008	0.600	13.55395	50.0	Averaged	
1,4-Dichlorobenzene	50.0	48.00517	1.39067	0.400	3.98965	50.0	Linear	

Continuing Calibration Verification (CCV)

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

Project Longhorn GW Treatment Plant Bi-Weekly Samples **HS22110517**

RunID

Volatiles Organics by Method 8260C

VOA10_421664

Instrument ID voa10.i Injection Date 11-NOV-2022 2047
Lab File ID V111131.D ICAL Date(s) 10-NOV-2022 10-NOV-2022
Analysis Type WATER ICAL Times 1314 1638
Lab Sample ID VSTD050-END Quant Type ISTD

Compound	$\overline{RRF}$ / Amount	RF50	CCV RRF50	Min RRF	%D / %Drift	Max %D / %Drift	Curve Type	Q
n-Butylbenzene	2.15358	1.85061	1.85061	0.500	14.06838	50.0	Averaged	
1,2-Dichlorobenzene	50.0	48.76725	1.35969	0.400	2.46549	50.0	Linear	
1,2-Dibromo-3-Chloropropane	0.15457	0.13704	0.13704	0.050	11.34398	50.0	Averaged	
1,2,4-Trichlorobenzene	50.0	48.37623	1.02426	0.200	3.24754	50.0	Linear	
Hexachlorobutadiene	50.0	51.05930	0.43077	0.100	-2.11860	50.0	Quadratic	
Naphthalene	2.81224	2.54391	2.54391	0.200	9.54138	50.0	Averaged	
1,2,3-Trichlorobenzene	50.0	49.27105	0.96310	0.100	1.45790	50.0	Linear	
1,2-Dichloroethylene (total	0.41852	0.41127	0.41127	0.200	1.73346	50.0	Averaged	
Xylenes (total)	0.53587	0.47964	0.47964	0.100	10.49306	50.0	Averaged	
1,4-Dioxane	1000	776	0.00465	0.001	22.44721	50.0	Linear	
Cyclohexane	50.0	58.90255	0.55902	0.100	-17.80511	50.0	Quadratic	
Freon TF	50.0	57.94578	0.31522	0.100	-15.89156	50.0	Quadratic	
Methylcyclohexane	0.45818	0.44296	0.44296	0.100	3.32152	50.0	Averaged	
Methyl Acetate	0.40961	0.42049	0.42049	0.100	-2.65687	50.0	Averaged	
Tert-butyl alcohol	0.06263	0.04222	0.04222	0.005	32.59043	50.0	Averaged	
Isopropyl alcohol	0.04418	0.03091	0.03091	0.005	30.02878	50.0	Averaged	
trans-1,4-Dichloro-2-butene	0.18251	0.14089	0.14089	0.050	22.80400	50.0	Averaged	
Isobutyl Alcohol	0.07796	0.07398	0.07398	0.005	5.10509	50.0	Averaged	
Acetonitrile	0.06994	0.06952	0.06952	0.005	0.60135	50.0	Averaged	
Allyl Chloride	1.06870	0.92682	0.92682	0.100	13.27646	50.0	Averaged	
Methacrylonitrile	0.41662	0.42810	0.42810	0.100	-2.75402	50.0	Averaged	
Methyl Methacrylate	0.49870	0.46172	0.46172	0.100	7.41552	50.0	Averaged	
Propionitrile	0.07271	0.07522	0.07522	0.010	-3.44524	50.0	Averaged	
Chloroprene	0.61709	0.62397	0.62397	0.100	-1.11374	50.0	Averaged	
Ethyl Methacrylate	0.21394	0.20722	0.20722	0.100	3.14118	50.0	Averaged	

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Form 8

Internal Standard Area and RT Summary

Workorder

HS22110517

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Bi-Weekly Samples

11/21/2022

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
HS22110517

RunID
VOA10_421664

		IS1				IS2				IS3				IS4			
Sample ID	File ID	Area		RT		Area		RT		Area		RT		Area		RT	
12-HOUR STD (CCV)	V111103	519869	#	4.91	#	760612	#	5.65	#	623784	#	8.27	#	395963	#	10.25	#
CCB	V111104	505335		4.92		755735		5.65		629552		8.27		387781		10.25	
VLCSW-221111	V111105	478725		4.92		733871		5.65		628542		8.27		402641		10.25	
VBLKW-221111	V111107	497852		4.92		740633		5.65		637490		8.27		394252		10.25	
ZZZZZZMS	V111113	516551		4.92		765366		5.65		652733		8.27		449350		10.25	
ZZZZZZMSD	V111114	528820		4.92		771262		5.64		633373		8.27		412480		10.25	
HS22110517-02	V111129	443180		4.91		671157		5.64		593365		8.27		392393		10.25	
HS22110517-01	V111130	473592		4.91		711927		5.65		610683		8.27		405335		10.25	
VSTD050-END	V111131	466220		4.92		707480		5.64		615561		8.27		388063		10.25	

IS1 - Pentafluorobenzene IS2 - 1,4-Difluorobenzene IS3 - Chlorobenzene-d5 IS4 - 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = +100% of 12H STD IS Area
AREA LOWER LIMIT = - 50% of 12H STD IS Area
RT - Retention Time IS - Internal Standard

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 by EPA 8260

Workorder

HS22110517

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Bi-Weekly Samples

11/21/2022

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MSVOA10 -Logbook

Batch: 51985 **Analyst:** Presenta Cabascango

Date: 11-10-2022 **Reviewer:**

Method: 8260 **Laboratory:** Houston

Comments:

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	11-10-2022 12:54 pm	1.00	50 mL	50 mL	X111001.D	Liquid	Y	NA
2	VSTD000.25	ICAL1	11-10-2022 01:14 pm	1.00	50 mL	50 mL	X111002.D	Liquid	Y	NA
3	VSTD000.5	ICAL2	11-10-2022 01:34 pm	1.00	50 mL	50 mL	X111003.D	Liquid	Y	NA
4	VSTD001	ICAL3	11-10-2022 02:15 pm	1.00	50 mL	50 mL	X111004.D	Liquid	Y	NA
5	VSTD002	ICAL4	11-10-2022 02:35 pm	1.00	50 mL	50 mL	X111005.D	Liquid	Y	NA
6	VSTD005	ICAL5	11-10-2022 02:56 pm	1.00	50 mL	50 mL	X111006.D	Liquid	Y	NA
7	VSTD020	ICAL6	11-10-2022 03:16 pm	1.00	50 mL	50 mL	X111007.D	Liquid	Y	NA
8	VSTD050	ICAL7	11-10-2022 03:37 pm	1.00	50 mL	50 mL	X111008.D	Liquid	Y	NA
9	VSTD100	ICAL8	11-10-2022 03:57 pm	1.00	50 mL	50 mL	X111009.D	Liquid	Y	NA
10	VSTD150	ICAL9	11-10-2022 04:17 pm	1.00	50 mL	50 mL	X111010.D	Liquid	Y	NA
11	VSTD200	ICAL	11-10-2022 04:38 pm	1.00	50 mL	50 mL	X111011.D	Liquid	Y	NA
12	BLANK	SAMP	11-10-2022 04:58 pm	1.00	50 mL	50 mL	X111012.D	Liquid	Y	NA
13	BLANK	SAMP	11-10-2022 05:18 pm	1.00	50 mL	50 mL	X111013.D	Liquid	Y	NA
14	VSTD050	CCV	11-10-2022 05:39 pm	1.00	50 mL	50 mL	X111014.D	Liquid	Y	NA
15	BFB	TUNE	11-10-2022 05:59 pm	1.00	50 mL	50 mL	Z111001.D	Liquid	Y	NA
16	VSTD050	CCV	11-10-2022 06:20 pm	1.00	50 mL	50 mL	Z111002.D	Liquid	Y	NA
17	BLANK	SAMP	11-10-2022 06:40 pm	1.00	50 mL	50 mL	Z111003.D	Liquid	Y	NA
18	CCB	SAMP	11-10-2022 07:00 pm	1.00	50 mL	50 mL	Z111004.D	Liquid	Y	NA
19	VLCSW-221110	LCS	11-10-2022 07:21 pm	1.00	50 mL	50 mL	Z111005.D	Liquid	Y	NA
20	BLANK	SAMP	11-10-2022 07:41 pm	1.00	50 mL	50 mL	Z111006.D	Liquid	Y	NA
21	VBLKW-221110	MBLK	11-10-2022 08:02 pm	1.00	50 mL	50 mL	Z111007.D	Liquid	Y	NA
22	HS22110430-17	SAMP	11-10-2022 08:22 pm	1.00	50 mL	50 mL	Z111008.D	Liquid	Y	NA
23	HS22110430-18	SAMP	11-10-2022 08:43 pm	1.00	50 mL	50 mL	Z111009.D	Liquid	Y	NA
24	HS22110430-19	SAMP	11-10-2022 09:03 pm	1.00	50 mL	50 mL	Z111010.D	Liquid	Y	NA
25	HS22110430-20	SAMP	11-10-2022 09:24 pm	1.00	50 mL	50 mL	Z111011.D	Liquid	Y	NA
26	HS22110430-22	SAMP	11-10-2022 09:44 pm	1.00	50 mL	50 mL	Z111012.D	Liquid	Y	NA
27	HS22110430-23	SAMP	11-10-2022 10:05 pm	1.00	50 mL	50 mL	Z111013.D	Liquid	Y	NA
28	HS22110430-50	SAMP	11-10-2022 10:25 pm	1.00	50 mL	50 mL	Z111014.D	Liquid	Y	NA
29	HS22110430-34	SAMP	11-10-2022 10:46 pm	1.00	50 mL	50 mL	Z111015.D	Liquid	Y	NA
30	HS22110430-40	SAMP	11-10-2022 11:06 pm	1.00	50 mL	50 mL	Z111016.D	Liquid	Y	NA
31	HS22110430-42	SAMP	11-10-2022 11:27 pm	1.00	50 mL	50 mL	Z111017.D	Liquid	Y	NA
32	HS22110430-49	SAMP	11-10-2022 11:47 pm	1.00	50 mL	50 mL	Z111018.D	Liquid	Y	NA
33	HS22110430-35	SAMP	11-11-2022 12:08 am	5.00	10 mL	50 mL	Z111019.D	Liquid	Y	NA
34	HS22110430-35	SAMP	11-11-2022 12:28 am	25.00	2 mL	50 mL	Z111020.D	Liquid	Y	NA
35	HS22110430-35MS	MS	11-11-2022 12:49 am	25.00	2 mL	50 mL	Z111021.D	Liquid	Y	NA
36	HS22110430-35MSD	MSD	11-11-2022 01:09 am	25.00	2 mL	50 mL	Z111022.D	Liquid	Y	NA
37	BLANK	SAMP	11-11-2022 01:30 am	1.00	50 mL	50 mL	Z111023.D	Liquid	Y	NA
38	HS22110430-43	SAMP	11-11-2022 01:50 am	5.00	10 mL	50 mL	Z111024.D	Liquid	Y	NA
39	HS22110430-43n/r	SAMP	11-11-2022 02:11 am	25.00	2 mL	50 mL	Z111025.D	Liquid	Y	NA
40	HS22110430-47	SAMP	11-11-2022 02:31 am	5.00	10 mL	50 mL	Z111026.D	Liquid	Y	NA
41	HS22110430-47n/r	SAMP	11-11-2022 02:51 am	50.00	1 mL	50 mL	Z111027.D	Liquid	Y	NA

MSVOA10 -Logbook

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
42	HS22110430-45	SAMP	11-11-2022 03:12 am	5.00	10 mL	50 mL	Z111028.D	Liquid	Y	NA
43	HS22110430-46	SAMP	11-11-2022 03:32 am	5.00	10 mL	50 mL	Z111029.D	Liquid	Y	NA
44	HS22110430-44	SAMP	11-11-2022 03:53 am	5.00	10 mL	50 mL	Z111030.D	Liquid	Y	NA
45	VSTD050-END	CCV	11-11-2022 04:13 am	1.00	50 mL	50 mL	Z111031.D	Liquid	Y	NA
46	BLANK	SAMP	11-11-2022 10:04 am	1.00	50 mL	50 mL	Z111035.D	Liquid	Y	NA

Form 13 - Analysis Run Log

Client Bhate Environmental Associates, Inc.

Project Longhorn GW Treatment Plant Bi-Weekly Samples

Workorder
HS22110517

Volatiles by by EPA 8260

RUNID
VOA10_421664

Run ID VOA10_421664 **Start Date** 11/11/22 **EndDate** 11/11/22 **Matrix** Aqueous

Client Sample ID	Type	Lab Sample ID	File ID	Analysis Date	DF
VSTD050	CCV	VSTD050	V111103.D	11/11/22 11:14	1
CCB	CCB	CCB	V111104.D	11/11/22 11:34	1
VLCSW-221111	LCS	VLCSW-221111	V111105.D	11/11/22 11:55	1
VBLKW-221111	MBLK	VBLKW-221111	V111107.D	11/11/22 12:36	1
BatchQC	MS	HS22110430-25MS	V111113.D	11/11/22 14:38	1
BatchQC	MSD	HS22110430-25MSD	V111114.D	11/11/22 14:59	1
Trip Blank	SAMP	HS22110517-02	V111129.D	11/11/22 20:06	1
LH18/24-SP650_110822	SAMP	HS22110517-01	V111130.D	11/11/22 20:26	1

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Raw Data VOA10 421606

Volatiles by by EPA 8260

Workorder

HS22110517

Client

Bhate Environmental Associates, Inc.

Project

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11/21/2022

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Data File: \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111001.D Page 1
Report Date: 10-Nov-2022 13:15

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111001.D
Lab Smp Id: BFB Client Smp ID: BFB
Inj Date : 10-NOV-2022 12:54
Operator : FT Inst ID: voa10.i
Smp Info : BFB;BFB;3;;BFB
Misc Info : V10;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\bfb.m
Meth Date : 27-Sep-2022 15:19 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)	FINAL (ug/l)	TARGET RANGE	RATIO
RT	EXP RT	REL RT	MASS	RESPONSE				
1 bfb							CAS #: 460-00-4	
9.276	9.276	(0.000)	95	106224			0.00- 100.00	100.00
9.276	9.276	(0.000)	50	21888			15.00- 40.00	20.61
9.276	9.276	(0.000)	75	49912			30.00- 60.00	46.99
9.276	9.276	(0.000)	96	7146			5.00- 9.00	6.73
9.276	9.276	(0.000)	173	1514			0.00- 2.00	1.60
9.276	9.276	(0.000)	174	94544			50.00- 0.00	89.00
9.276	9.276	(0.000)	175	7622			5.00- 9.00	8.06
9.276	9.276	(0.000)	176	90464			95.00- 101.00	95.68
9.276	9.276	(0.000)	177	7000			5.00- 9.00	7.74

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	20.61
75	30.00 - 60.00% of mass 95	46.99
96	5.00 - 9.00% of mass 95	6.73
173	Less than 2.00% of mass 174	1.43 (1.60)
174	Greater than 50.00% of mass 95	89.00
175	5.00 - 9.00% of mass 174	7.18 (8.06)
176	95.00 - 101.00% of mass 174	85.16 (95.68)
177	5.00 - 9.00% of mass 176	6.59 (7.74)

Data File: X111001.D
Spectrum: Scan 2316 (9.27)
Location of Maximum: 95.10
Number of points: 77

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.10	1543	62.10	4636	87.00	5382	131.00	357
37.10	8189	63.10	4008	87.90	3783	135.00	254
38.10	6153	64.00	582	90.80	468	140.70	1059
39.10	3296	65.10	378	92.10	2511	142.90	1453
40.00	769	67.20	424	93.10	4442	146.00	152
44.00	1237	68.10	12632	94.10	11379	147.80	247
45.10	1104	69.00	11564	95.10	106224	155.00	420
47.10	1942	69.90	667	96.10	7146	157.20	343
47.90	692	72.10	891	97.10	343	169.50	153
49.10	5234	73.00	5398	104.00	533	171.50	332
50.10	21888	74.10	18304	104.70	220	172.10	405
51.10	7654	75.10	49912	105.80	504	172.90	1514
51.90	334	76.10	5401	110.90	163	174.00	94544
54.80	255	76.90	877	115.50	199	175.00	7622
55.40	348	77.70	315	115.90	286	175.90	90464
56.10	1538	78.20	363	116.80	499	176.90	7000
57.00	3079	79.00	2904	118.10	533	178.10	293
58.30	219	80.20	926	118.90	682		
60.10	1673	80.90	3002	127.80	466		
61.00	4824	82.00	740	130.10	481		

Data File: \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111001.D Page 1

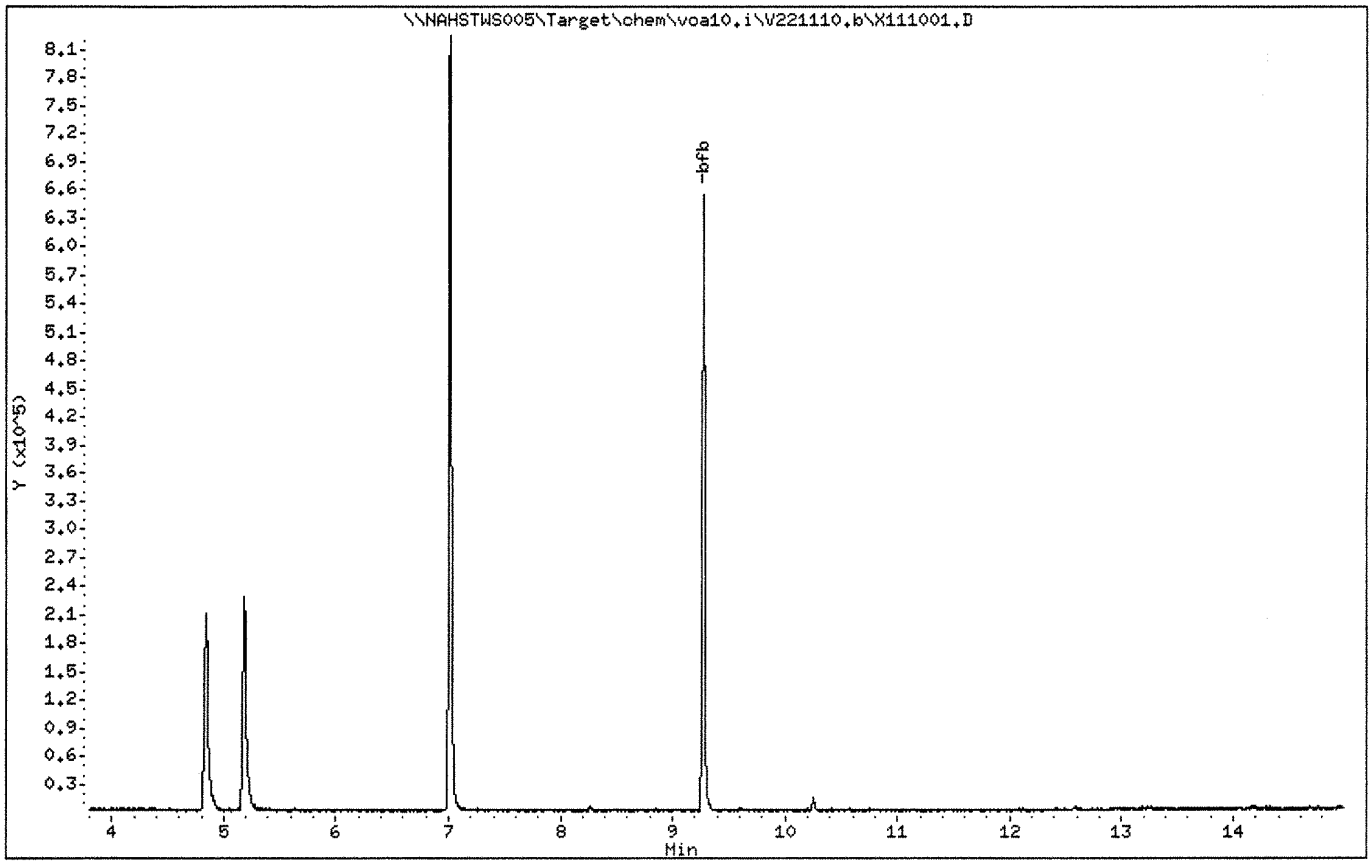
Date : 10-NOV-2022 12:54

Client ID: BFB Instrument: voa10.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0 Operator: FT

Column phase: DB624 Column diameter: 0.25



Data File: \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111001.D Page 2

Date : 10-NOV-2022 12:54

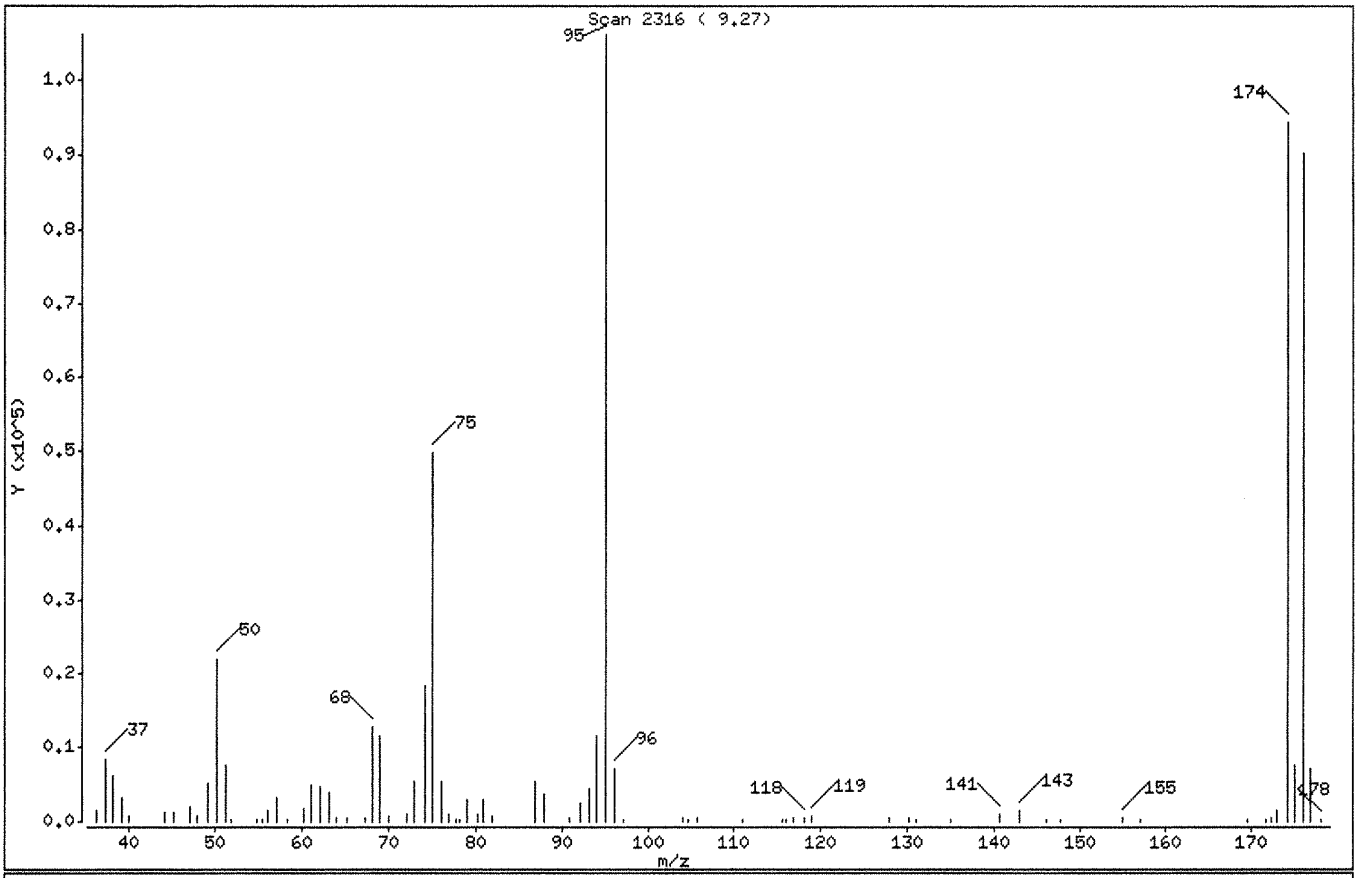
Client ID: BFB Instrument: voa10.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0 Operator: FT

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	20.61
75	30.00 - 60.00% of mass 95	46.99
96	5.00 - 9.00% of mass 95	6.73
173	Less than 2.00% of mass 174	1.43 (1.60)
174	Greater than 50.00% of mass 95	89.00
175	5.00 - 9.00% of mass 174	7.18 (8.06)
176	95.00 - 101.00% of mass 174	85.16 (95.68)
177	5.00 - 9.00% of mass 176	6.59 (7.74)

Data File: \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111001.D

Date : 10-NOV-2022 12:54

Client ID: BFB Instrument: voa10.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0 Operator: FT

Column phase: DB624 Column diameter: 0.25

Data File: X111001.D
Spectrum: Scan 2316 (9.27)
Location of Maximum: 95.10
Number of points: 77

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.10	1543	62.10	4636	87.00	5382	131.00	357
37.10	8189	63.10	4008	87.90	3783	135.00	254
38.10	6153	64.00	582	90.80	468	140.70	1059
39.10	3296	65.10	378	92.10	2511	142.90	1453
40.00	769	67.20	424	93.10	4442	146.00	152
44.00	1237	68.10	12632	94.10	11379	147.80	247
45.10	1104	69.00	11564	95.10	106224	155.00	420
47.10	1942	69.90	667	96.10	7146	157.20	343
47.90	692	72.10	891	97.10	343	169.50	153
49.10	5234	73.00	5398	104.00	533	171.50	332
50.10	21888	74.10	18304	104.70	220	172.10	405
51.10	7654	75.10	49912	105.80	504	172.90	1514
51.90	334	76.10	5401	110.90	163	174.00	94544
54.80	255	76.90	877	115.50	199	175.00	7622
55.40	348	77.70	315	115.90	286	175.90	90464
56.10	1538	78.20	363	116.80	499	176.90	7000
57.00	3079	79.00	2904	118.10	533	178.10	293
58.30	219	80.20	926	118.90	682		
60.10	1673	80.90	3002	127.80	466		
61.00	4824	82.00	740	130.10	481		

Data File: \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111002.D Page 1
Report Date: 17-Nov-2022 14:02

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111002.D
Lab Smp Id: VSTD000.25 Client Smp ID: VSTD000.25
Inj Date : 10-NOV-2022 13:14
Operator : FT Inst ID: voa10.i
Smp Info : VSTD000.25;VSTD000.25;1;1;
Misc Info : V10;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\8260C.m
Meth Date : 17-Nov-2022 14:02 voa10.i Quant Type: ISTD
Cal Date : 10-NOV-2022 15:37 Cal File: X111008.D
Als bottle: 2 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000008260V10.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

		QUANT SIG					AMOUNTS	
Compounds		MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/l)	ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.916	4.916	(1.000)	507296	50.0000	
	2 Dichlorodifluoromethane	85	1.227	1.227	(0.250)	684	0.25000	0.15
	3 Chloromethane	50	1.374	1.374	(0.279)	1057	0.25000	0.22
	5 Vinyl Chloride	62	1.449	1.449	(0.295)	854	0.25000	0.18
	6 Bromomethane	94	1.707	1.707	(0.347)	621	0.25000	0.29
	8 Trichlorofluoromethane	101	1.992	1.992	(0.405)	742	0.25000	0.11
	10 Acetone	43	2.491	2.491	(0.507)	4401	0.50000	
	12 Isobutyl Alcohol	43	5.385	5.385	(1.095)	3348	5.00000	4.23(T)
	13 Acetonitrile	39	2.779	2.779	(0.565)	2386	2.50000	3.36
	17 Methylene Chloride	84	2.888	2.888	(0.588)	1800	0.25000	(M)
	18 Methyl tert-butyl ether	73	3.199	3.199	(0.651)	1633	0.25000	0.12
	19 Carbon Disulfide	76	2.637	2.637	(0.536)	5199	0.50000	(M)
	20 trans-1,2-Dichloroethene	96	3.169	3.169	(0.645)	1013	0.25000	0.26(T)
	22 1,1-Dichloroethane	63	3.615	3.615	(0.735)	2152	0.25000	(M)
	27 cis-1,2-Dichloroethene	96	4.313	4.313	(0.877)	1490	0.25000	0.32(M)
	28 Chloroform	83	4.665	4.665	(0.949)	2018	0.25000	0.24
	29 Bromochloromethane	128	4.571	4.571	(0.930)	733	0.25000	0.31(M)
$	30 Dibromofluoromethane	113	4.837	4.837	(0.984)	1427	0.25000	0.33
	31 1,1,1-Trichloroethane	97	4.860	4.860	(0.989)	1582	0.25000	0.23(M)
	32 1,1-Dichloropropene	75	5.043	5.043	(0.894)	973	0.25000	0.16

33 1,2-Dichloroethane	62	5.257	5.257 (0.932)	1860	0.25000	0.25
34 Carbon Tetrachloride	117	5.025	5.025 (0.890)	1328	0.25000	0.25(M)

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
$	35 1,2-Dichloroethane-d4	65	5.190	5.190	(1.056)	2111	0.25000	0.38(T)
*	36 1,4-Difluorobenzene	114	5.643	5.643	(1.000)	784031	50.0000	
	37 Benzene	78	5.238	5.238	(0.928)	4686	0.25000	0.23
	38 Trichloroethene	130	5.883	5.883	(1.043)	848	0.25000	0.16
	42 1,2-Dichloropropane	63	6.101	6.101	(1.081)	1548	0.25000	0.27
	46 cis-1,3-Dichloropropene	75	6.775	6.775	(1.201)	1853	0.25000	0.22
*	47 Chlorobenzene-d5	117	8.267	8.267	(1.000)	691971	50.0000	
$	48 Toluene-d8	98	7.012	7.012	(0.848)	7104	0.25000	0.68(T)
	50 Toluene	91	7.064	7.064	(0.854)	4541	0.25000	0.22
	51 trans-1,3-Dichloropropene	75	7.266	7.266	(1.288)	1586	0.25000	0.21
	52 2-Hexanone	43	7.664	7.664	(0.927)	2678	0.50000	2.30
	53 1,1,2-Trichloroethane	83	7.424	7.424	(0.898)	1132	0.25000	0.27
	55 Dibromochloromethane	129	7.765	7.765	(0.939)	987	0.25000	0.18
	56 Tetrachloroethene	164	7.551	7.551	(0.913)	1284	0.25000	0.30
	57 1,2-Dibromoethane	107	7.862	7.862	(0.951)	1175	0.25000	0.23
	59 Chlorobenzene	112	8.294	8.294	(1.003)	3344	0.25000	0.24
	60 1,1,1,2-Tetrachloroethane	131	8.365	8.365	(1.012)	817	0.25000	0.16
	61 Ethylbenzene	106	8.391	8.391	(1.015)	1642	0.25000	0.24
	62 m,p-Xylenes	106	8.496	8.496	(1.028)	3525	0.50000	0.41
	63 o-Xylene	106	8.830	8.830	(1.068)	1725	0.25000	0.20
	64 Styrene	104	8.841	8.841	(1.069)	2551	0.25000	0.16
	67 Isopropylbenzene	105	9.152	9.152	(1.107)	3811	0.25000	0.18
	68 1,1,2,2-Tetrachloroethane	83	9.392	9.392	(0.916)	2053	0.25000	0.11(M)
$	69 4-Bromofluorobenzene	95	9.276	9.276	(1.122)	5368	0.25000	1.70
*	70 1,4-Dichlorobenzene-d4	152	10.250	10.250	(1.000)	435268	50.0000	
	75 1,3,5-Trimethylbenzene	105	9.643	9.643	(0.941)	3383	0.25000	0.19
	78 tert-Butylbenzene	119	9.924	9.924	(0.968)	2681	0.25000	0.17
	79 1,2,4-Trimethylbenzene	105	9.954	9.954	(0.971)	3315	0.25000	0.17
	81 sec-Butylbenzene	105	10.108	10.108	(0.986)	3697	0.25000	0.17
	87 n-Butylbenzene	91	10.573	10.573	(1.031)	3186	0.25000	0.16
	73 n-Propylbenzene	91	9.497	9.497	(0.926)	4565	0.25000	0.19
	71 1,2,3-Trichloropropane	75	9.433	9.433	(0.920)	2294	0.25000	0.24
	83 1,3-Dichlorobenzene	146	10.198	10.198	(0.995)	2751	0.25000	0.20
	84 1,4-Dichlorobenzene	146	10.265	10.265	(1.001)	3585	0.25000	0.85
	88 1,2-Dichlorobenzene	146	10.588	10.588	(1.033)	2738	0.25000	0.21
	90 1,2,4-Trichlorobenzene	180	11.933	11.933	(1.164)	2510	0.25000	0.31(M)
	92 Naphthalene	128	12.143	12.143	(1.185)	5418	0.25000	0.22
	136 n-Hexane	57	3.473	3.473	(0.706)	685	0.25000	0.12(T)
	147 Methylcyclohexane	55	6.071	6.071	(1.076)	813	0.25000	0.11
	141 Cyclohexane	56	4.901	4.901	(0.997)	1525	0.25000	(M)
	138 Freon TF	101	2.449	2.449	(0.498)	528	0.25000	(M)
	21 Vinyl Acetate	43	3.709	3.709	(0.754)	4935	0.50000	0.47(M)
	74 Bromobenzene	156	9.403	9.403	(0.917)	1689	0.25000	0.25
	76 2-Chlorotoluene	91	9.564	9.564	(0.933)	3035	0.25000	1.59
	77 4-Chlorotoluene	91	9.654	9.654	(0.942)	4152	0.25000	0.22
	82 p-Isopropyltoluene	119	10.232	10.232	(0.998)	3824	0.25000	0.19
	93 1,2,3-Trichlorobenzene	180	12.342	12.342	(1.204)	2350	0.25000	0.01
	148 tert-Butyl Alcohol	59	3.042	3.042	(0.619)	1924	5.00000	3.02
M	94 1,2-Dichloroethylene (total)	96				2503	0.50000	
M	95 Xylenes (total)	106				5250	0.75000	

QC Flag Legend

T - Target compound detected outside RT window.
M - Compound response manually integrated.

01159600

Data File: \\NAHSTWS005\Target\chem\voa10.i\W221110.b\X111002.D

Date : 10-NOV-2022 13:14

Client ID: VSTD000.25

Instrument: voa10.i

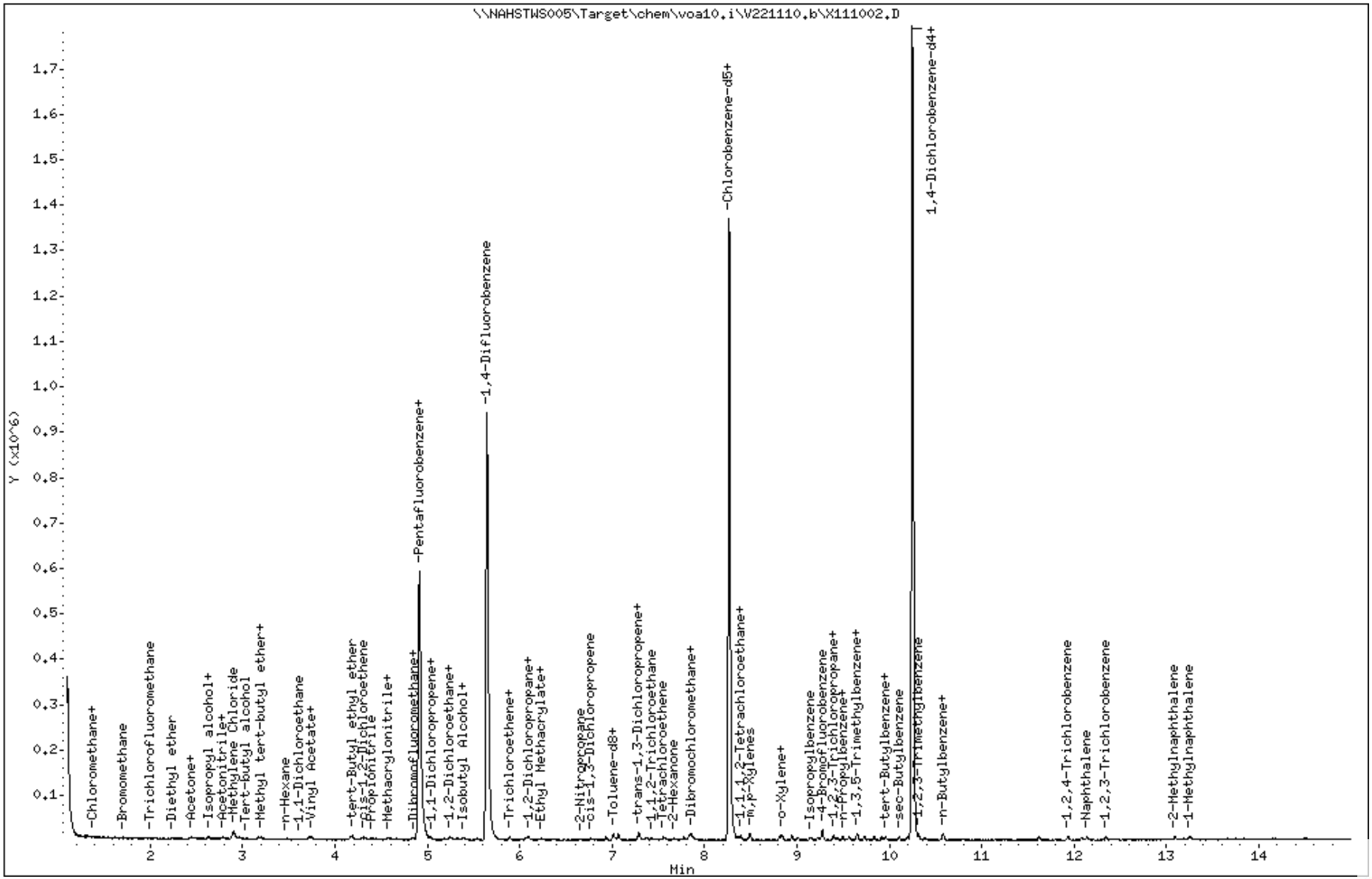
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Purge Volume: 5.0

Operator: FT

Column phase: DB624

Column diameter: 0.18



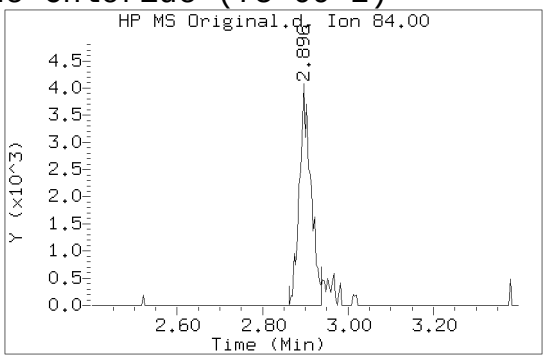
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LabSampID : VSTD000.25

Methylene Chloride (75-09-2)

Reason Code:

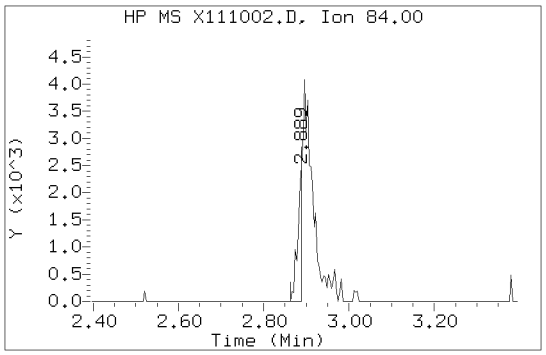
BEFORE

MASS
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HEIGHT
4080
17-Nov-2022
13:58
linh
pham



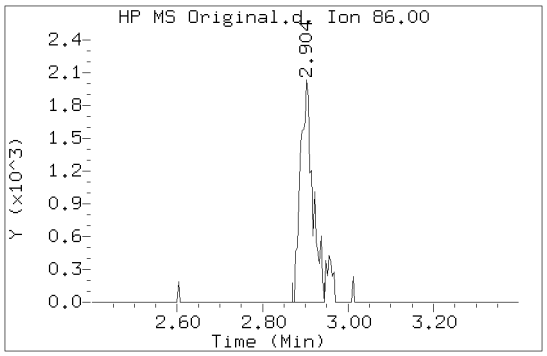
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2493
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14:02
linh
pham



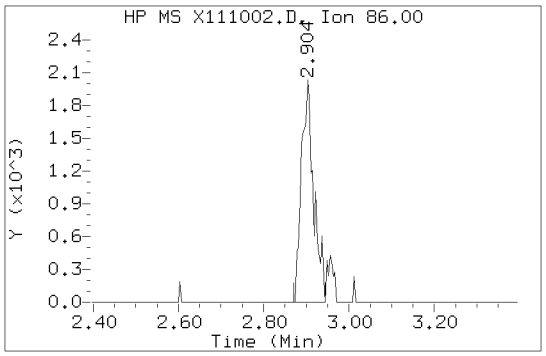
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AREA
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HEIGHT
2034
17-Nov-2022
13:58
linh
pham



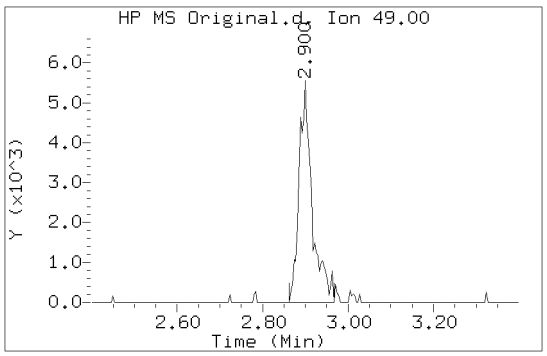
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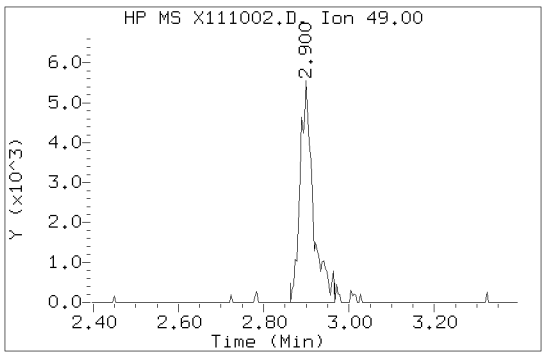
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5555
17-Nov-2022
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AFTER

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12033
HEIGHT
5555
17-Nov-2022
14:02
linh
pham

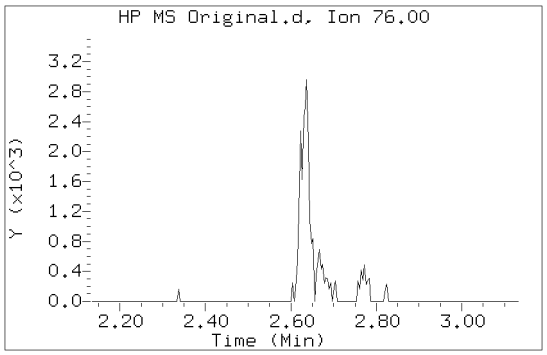


Carbon Disulfide (75-15-0)

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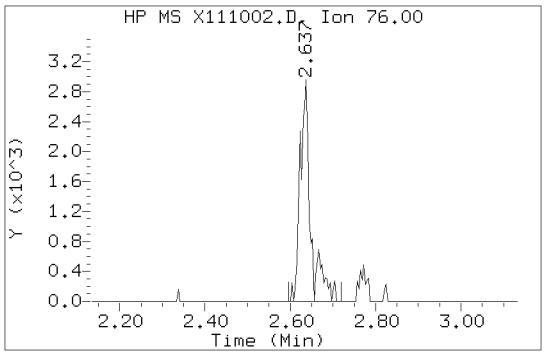
BEFORE

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17-Nov-2022
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AFTER

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HEIGHT
2960
17-Nov-2022
14:02
linh
pham

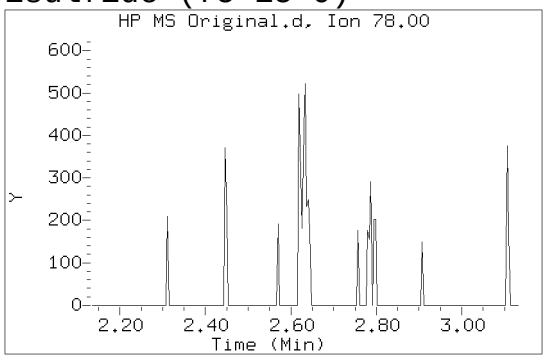


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InstruID : voa10.i
LabSampID : VSTD000.25

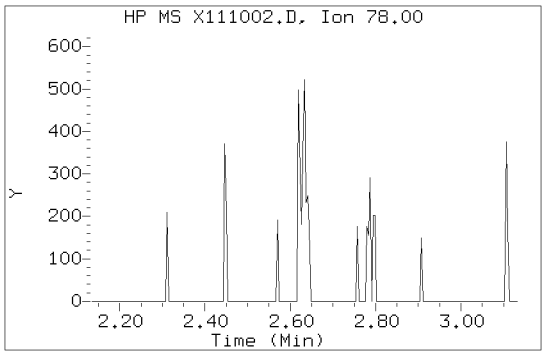
Carbon Disulfide (75-15-0)

Reason Code:

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HEIGHT
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17-Nov-2022
13:58
linh
pham



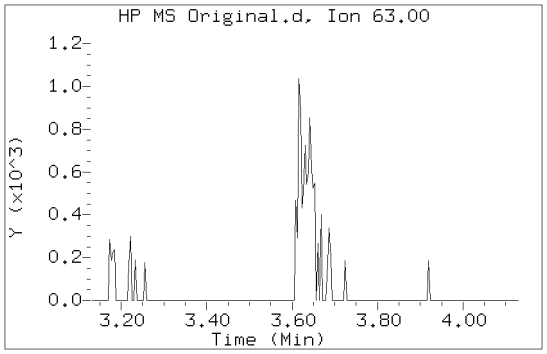
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14:02
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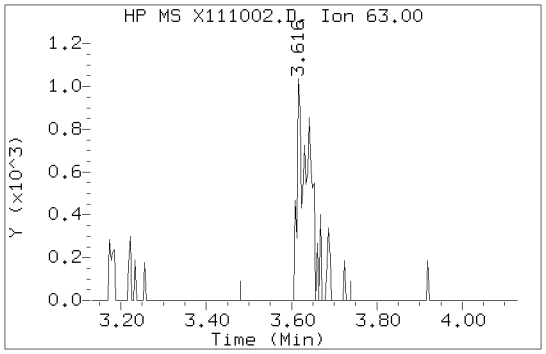
1,1-Dichloroethane (75-34-3)

Reason Code:

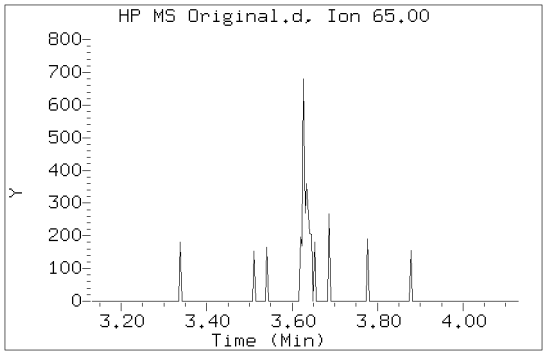
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AREA
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17-Nov-2022
13:58
linh
pham



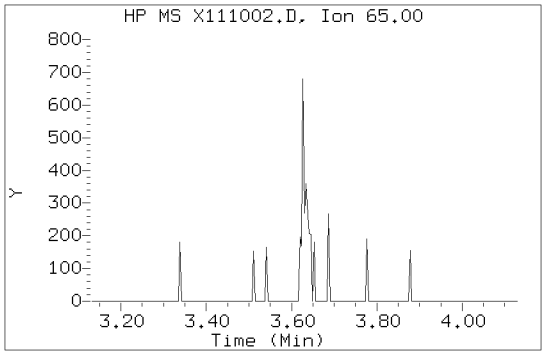
AFTER
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HEIGHT
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14:02
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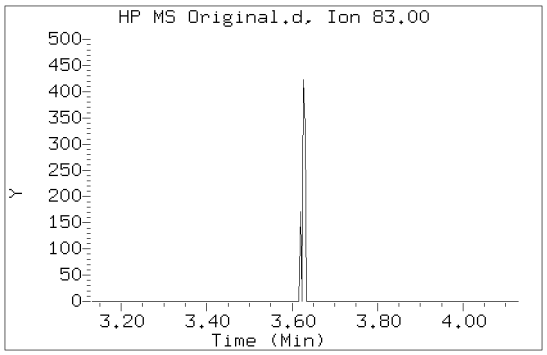
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17-Nov-2022
13:58
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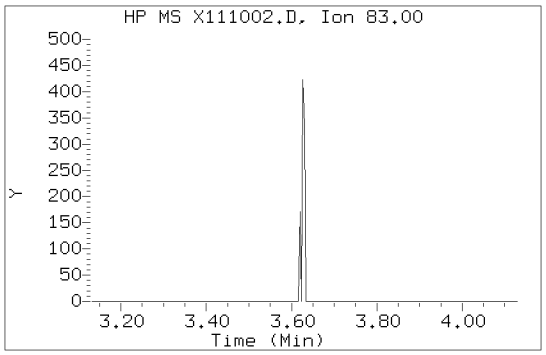
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HEIGHT
0
17-Nov-2022
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BEFORE
MASS
83
AREA
0
HEIGHT
0
17-Nov-2022
13:58
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pham



AFTER
MASS
83
AREA
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HEIGHT
0
17-Nov-2022
14:02
linh
pham



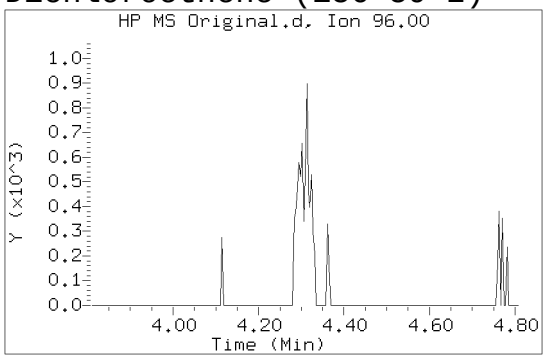
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Inj Date : 10-NOV-2022 13:14
InstruID : voa10.i
LabSampID : VSTD000.25

cis-1,2-Dichloroethene (156-59-2)

Reason Code:

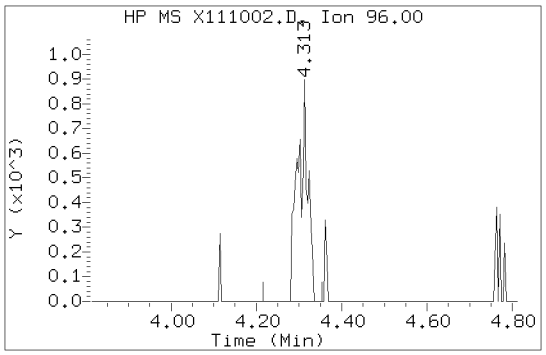
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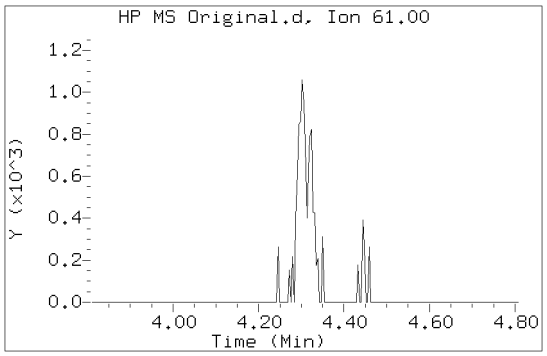
AFTER

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14:02
linh
pham



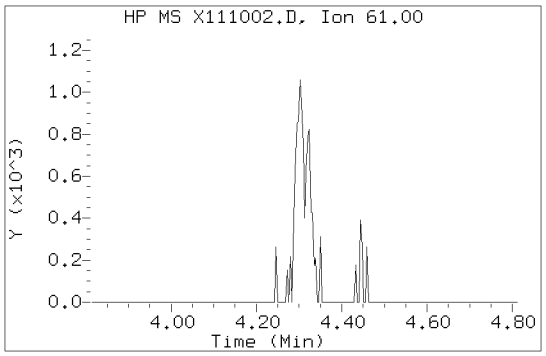
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13:58
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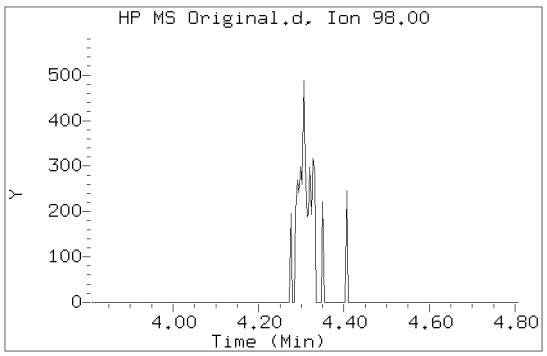
AFTER

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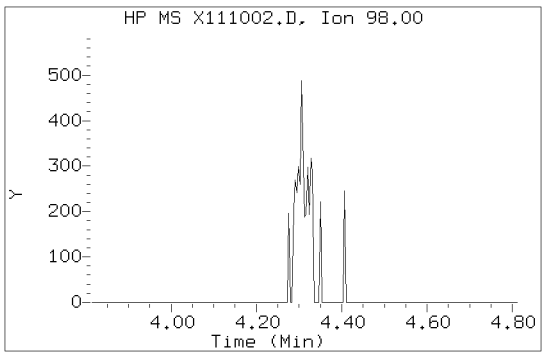
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98
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17-Nov-2022
13:58
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AFTER

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HEIGHT
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17-Nov-2022
14:02
linh
pham

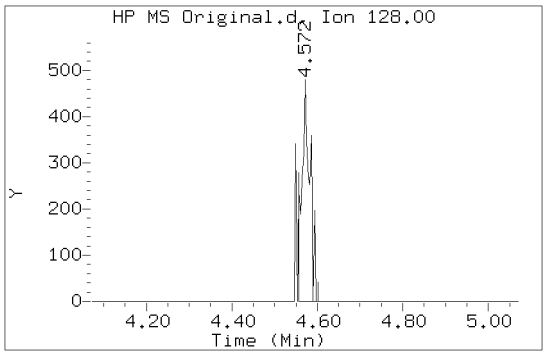


Bromochloromethane (74-97-5)

Reason Code:

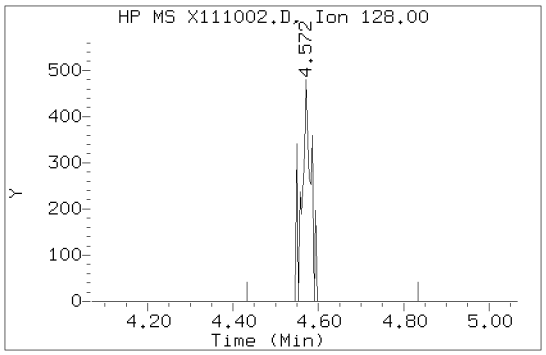
BEFORE

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656
HEIGHT
480
17-Nov-2022
13:58
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AFTER

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AREA
733
HEIGHT
480
17-Nov-2022
14:02
linh
pham



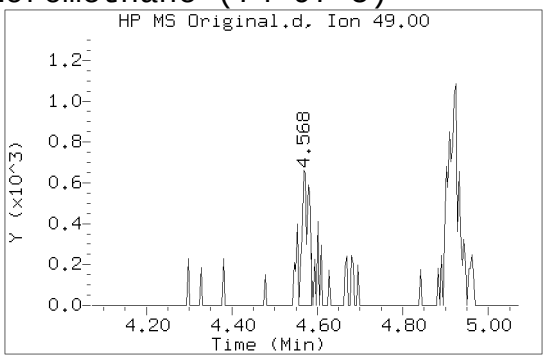
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Inj Date : 10-NOV-2022 13:14
InstruID : voa10.i
LabSampID : VSTD000.25

Bromochloromethane (74-97-5)

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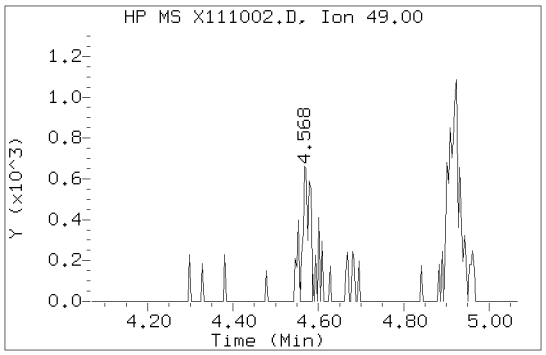
BEFORE

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783
HEIGHT
664
17-Nov-2022
13:58
linh
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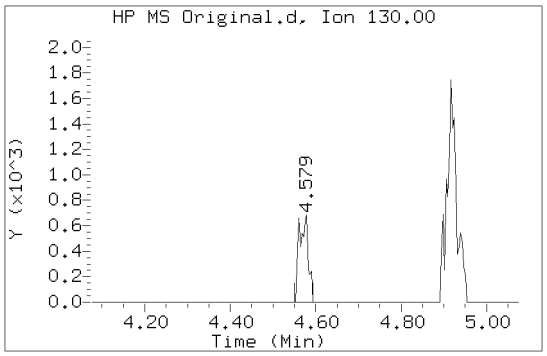
AFTER

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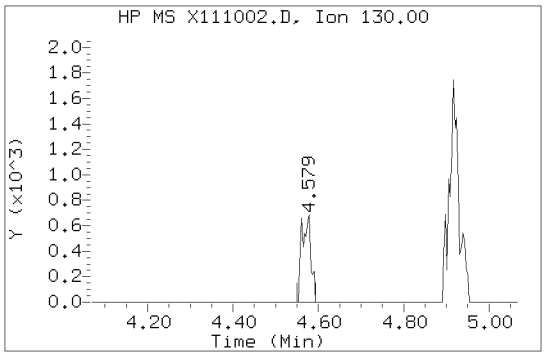
BEFORE

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17-Nov-2022
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AFTER

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HEIGHT
687
17-Nov-2022
14:02
linh
pham

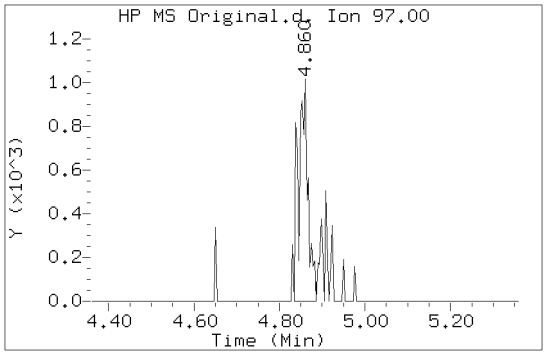


1,1,1-Trichloroethane (71-55-6)

Reason Code:

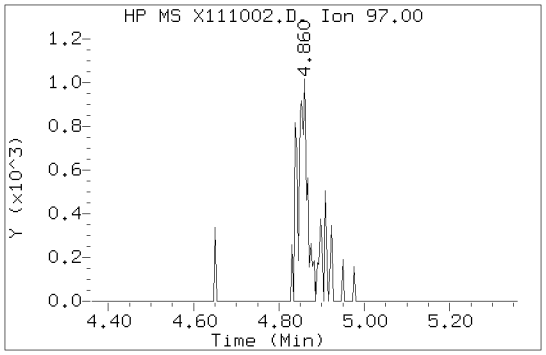
BEFORE

MASS
97
AREA
1582
HEIGHT
1017
17-Nov-2022
13:58
linh
pham



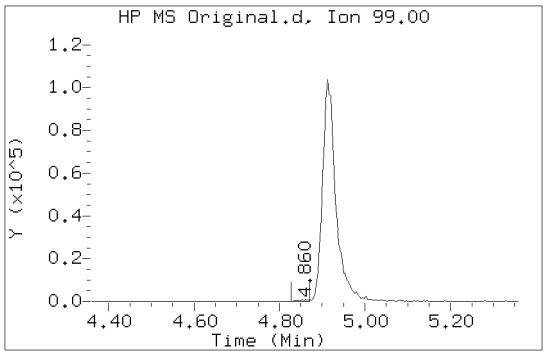
AFTER

MASS
97
AREA
1582
HEIGHT
1017
17-Nov-2022
14:02
linh
pham



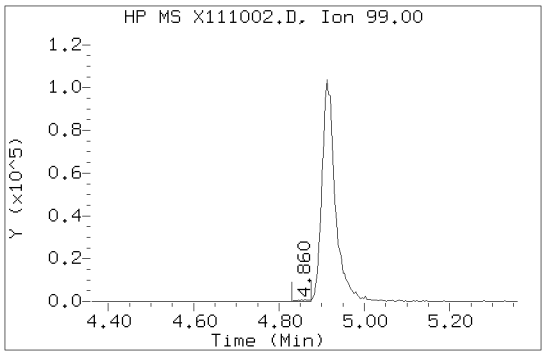
BEFORE

MASS
99
AREA
1292
HEIGHT
980
17-Nov-2022
13:58
linh
pham



AFTER

MASS
99
AREA
1404
HEIGHT
980
17-Nov-2022
14:02
linh
pham

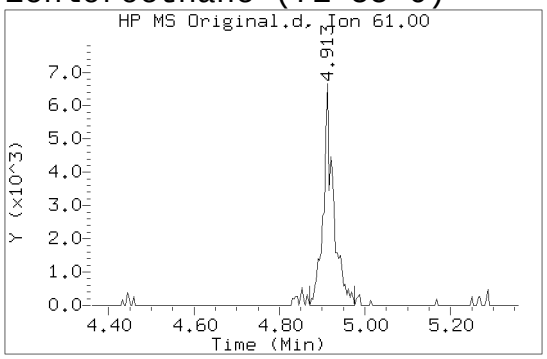


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Inj Date : 10-NOV-2022 13:14
InstruID : voa10.i
LabSampID : VSTD000.25

1,1,1-Trichloroethane (71-55-6)

BEFORE

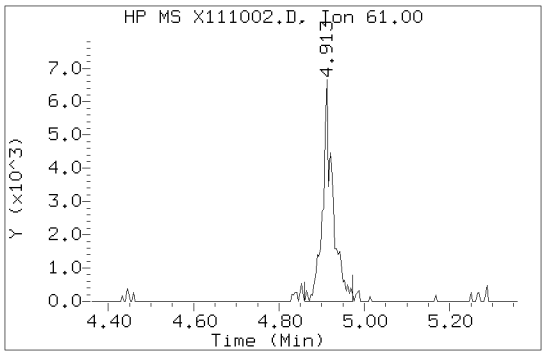
MASS
61
AREA
10883
HEIGHT
6661
17-Nov-2022
13:58
linh
pham



AFTER

MASS
61
AREA
10996
HEIGHT
6661
17-Nov-2022
14:02
linh
pham

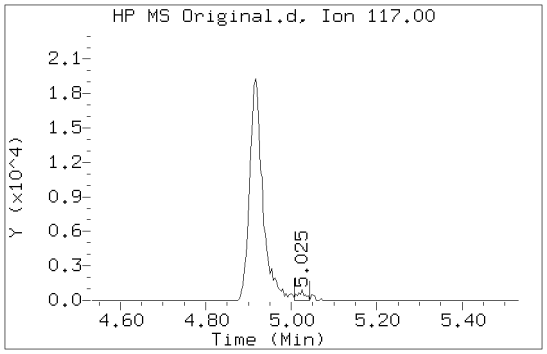
Reason Code:



Carbon Tetrachloride (56-23-5)

BEFORE

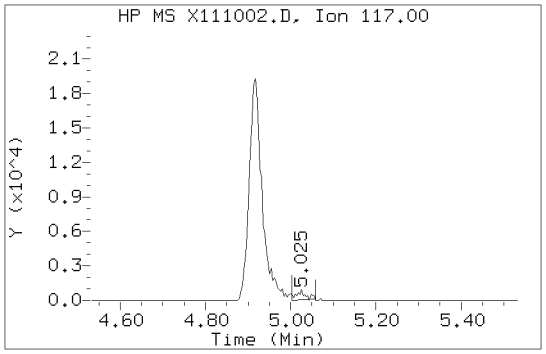
MASS
117
AREA
1102
HEIGHT
944
17-Nov-2022
13:58
linh
pham



AFTER

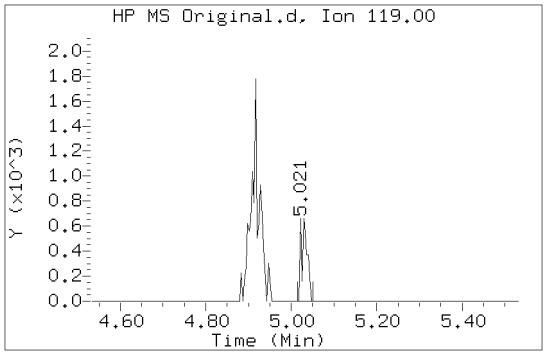
MASS
117
AREA
1328
HEIGHT
896
17-Nov-2022
14:02
linh
pham

Reason Code:



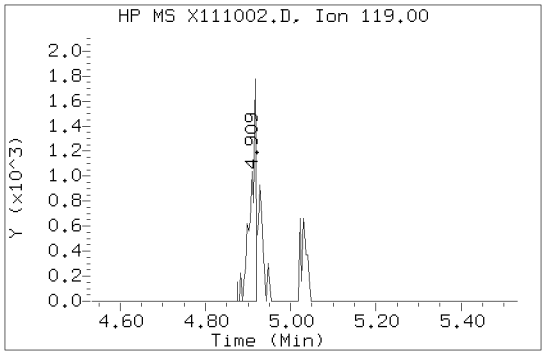
BEFORE

MASS
119
AREA
664
HEIGHT
663
17-Nov-2022
13:58
linh
pham



AFTER

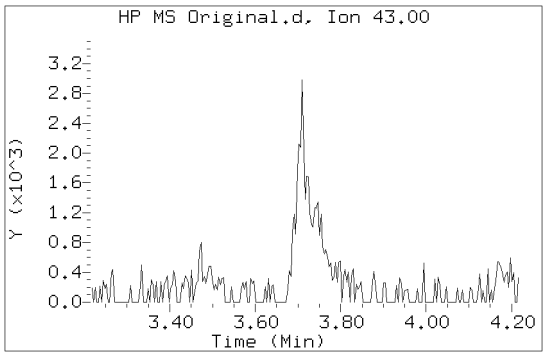
MASS
119
AREA
1480
HEIGHT
1040
17-Nov-2022
14:02
linh
pham



Vinyl Acetate (108-05-4)

BEFORE

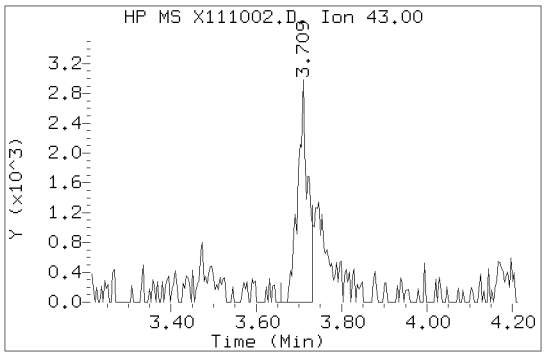
MASS
43
AREA
0
HEIGHT
0
17-Nov-2022
13:58
linh
pham



AFTER

MASS
43
AREA
4935
HEIGHT
2982
17-Nov-2022
14:02
linh
pham

Reason Code:



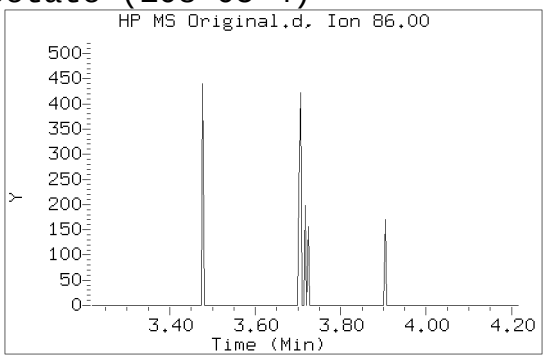
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111002.D
Inj Date : 10-NOV-2022 13:14
InstruID : voa10.i
LabSampID : VSTD000.25

Vinyl Acetate (108-05-4)

Reason Code:

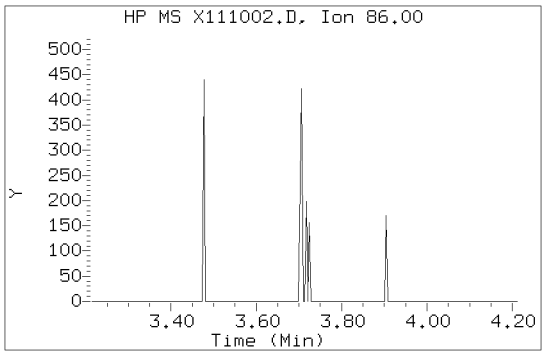
BEFORE

MASS
86
AREA
0
HEIGHT
0
17-Nov-2022
13:58
linh
pham



AFTER

MASS
86
AREA
0
HEIGHT
0
17-Nov-2022
14:02
linh
pham

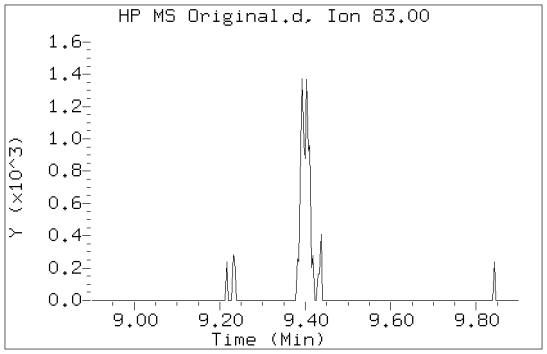


1,1,2,2-Tetrachloroethane (79-34-5)

Reason Code:

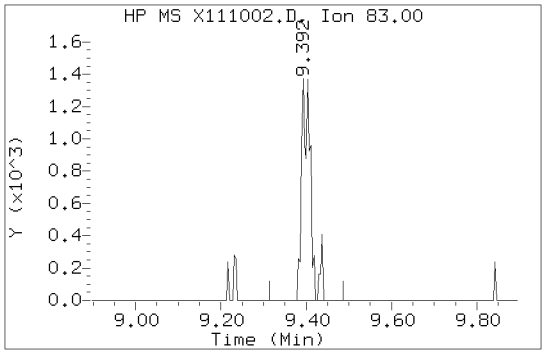
BEFORE

MASS
83
AREA
0
HEIGHT
0
17-Nov-2022
13:58
linh
pham



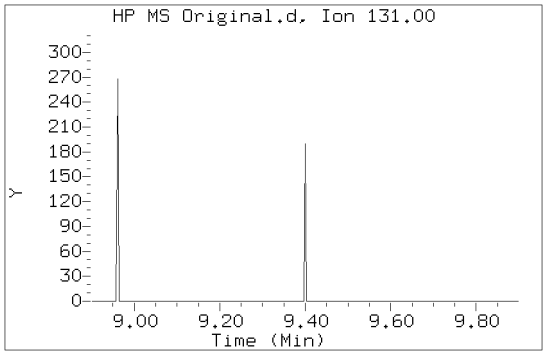
AFTER

MASS
83
AREA
2053
HEIGHT
1372
17-Nov-2022
14:02
linh
pham



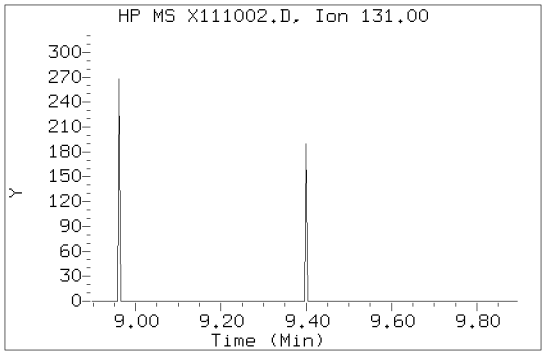
BEFORE

MASS
131
AREA
0
HEIGHT
0
17-Nov-2022
13:58
linh
pham



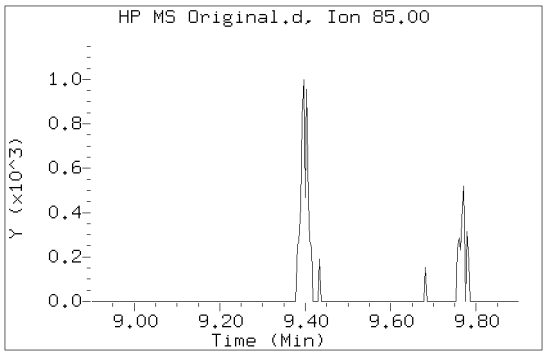
AFTER

MASS
131
AREA
0
HEIGHT
0
17-Nov-2022
14:02
linh
pham



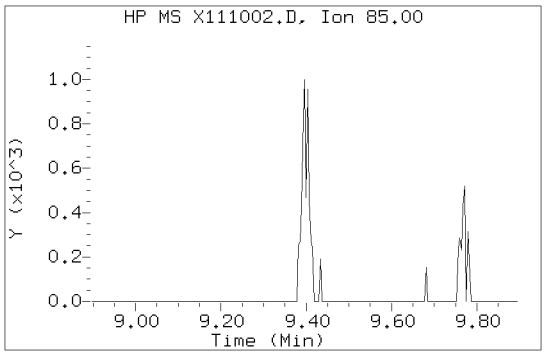
BEFORE

MASS
85
AREA
0
HEIGHT
0
17-Nov-2022
13:58
linh
pham



AFTER

MASS
85
AREA
0
HEIGHT
0
17-Nov-2022
14:02
linh
pham



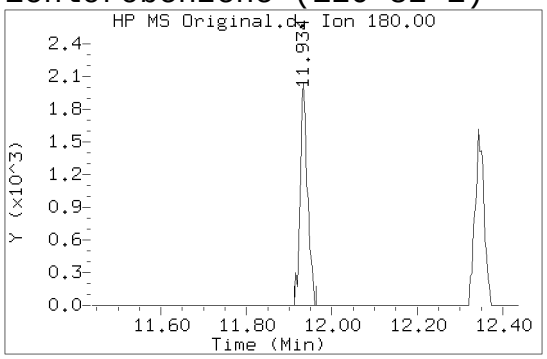
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111002.D
Inj Date : 10-NOV-2022 13:14
InstruID : voa10.i
LabSampID : VSTD000.25

1,2,4-Trichlorobenzene (120-82-1)

Reason Code:

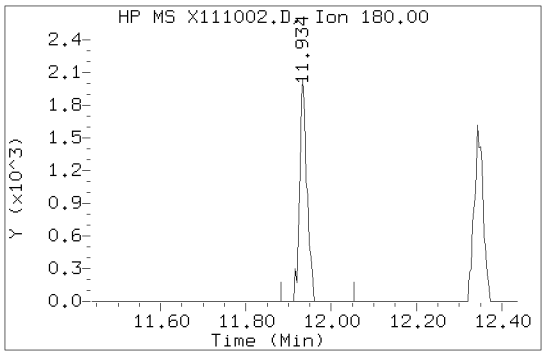
BEFORE

MASS
180
AREA
2510
HEIGHT
2036
17-Nov-2022
13:58
linh
pham



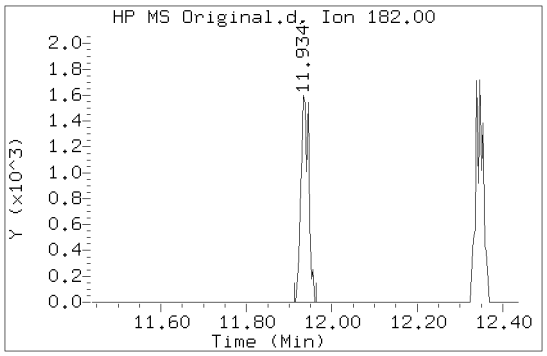
AFTER

MASS
180
AREA
2510
HEIGHT
2036
17-Nov-2022
14:02
linh
pham



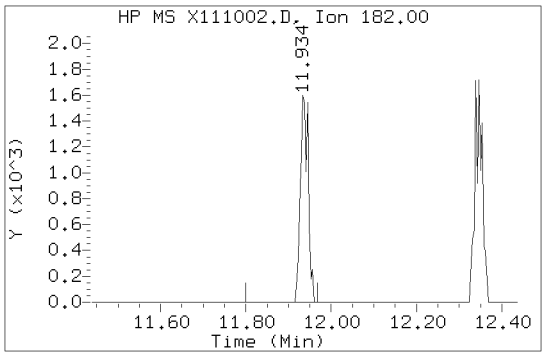
BEFORE

MASS
182
AREA
2089
HEIGHT
1601
17-Nov-2022
13:58
linh
pham



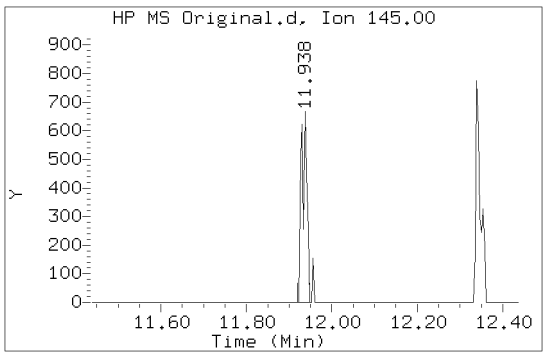
AFTER

MASS
182
AREA
2089
HEIGHT
1601
17-Nov-2022
14:02
linh
pham



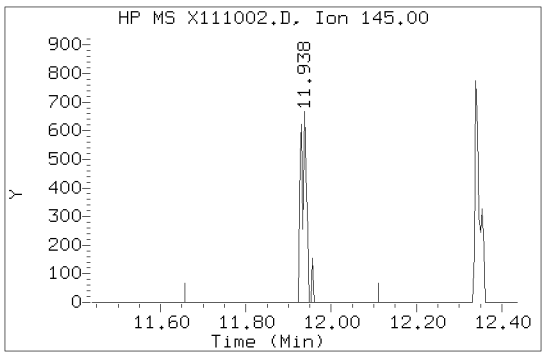
BEFORE

MASS
145
AREA
620
HEIGHT
668
17-Nov-2022
13:58
linh
pham



AFTER

MASS
145
AREA
655
HEIGHT
668
17-Nov-2022
14:02
linh
pham

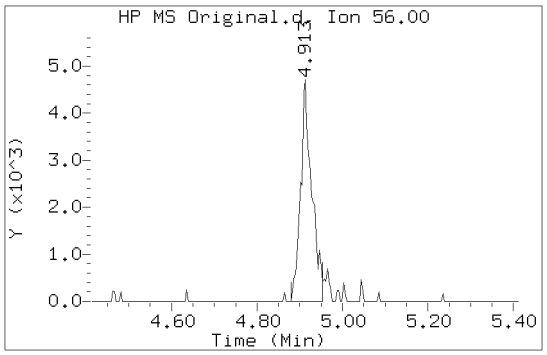


Cyclohexane (110-82-7)

Reason Code:

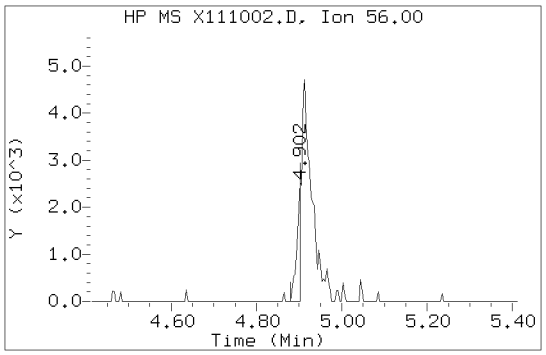
BEFORE

MASS
56
AREA
8753
HEIGHT
4710
17-Nov-2022
13:58
linh
pham



AFTER

MASS
56
AREA
1525
HEIGHT
2534
17-Nov-2022
14:02
linh
pham



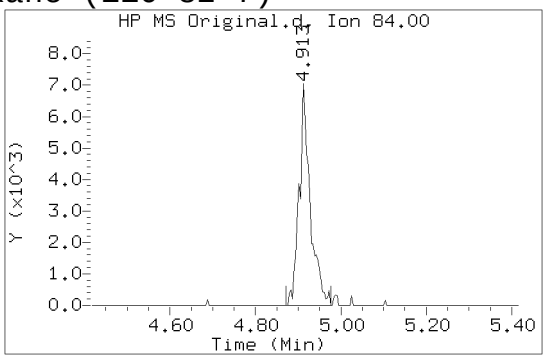
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111002.D
Inj Date : 10-NOV-2022 13:14
InstruID : voa10.i
LabSampID : VSTD000.25

Cyclohexane (110-82-7)

Reason Code:

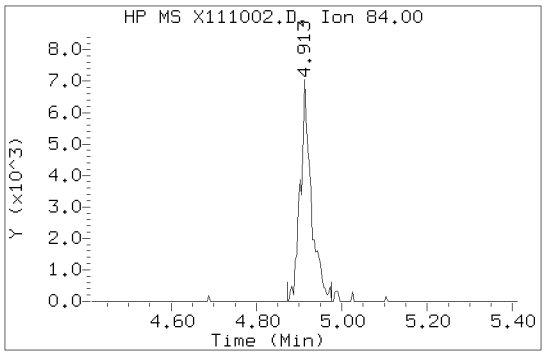
BEFORE

MASS
84
AREA
12907
HEIGHT
7046
17-Nov-2022
13:58
linh
pham



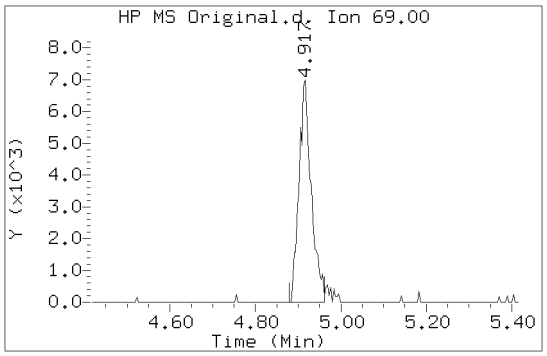
AFTER

MASS
84
AREA
12907
HEIGHT
7046
17-Nov-2022
14:02
linh
pham



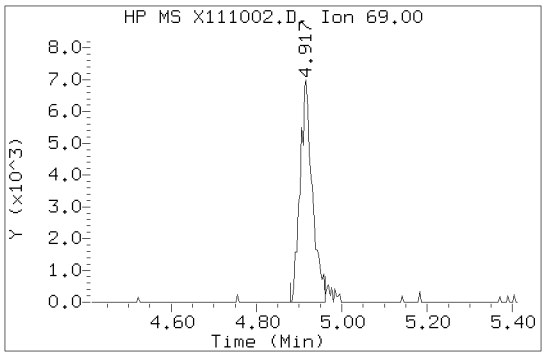
BEFORE

MASS
69
AREA
14098
HEIGHT
6994
17-Nov-2022
13:58
linh
pham



AFTER

MASS
69
AREA
14098
HEIGHT
6994
17-Nov-2022
14:02
linh
pham

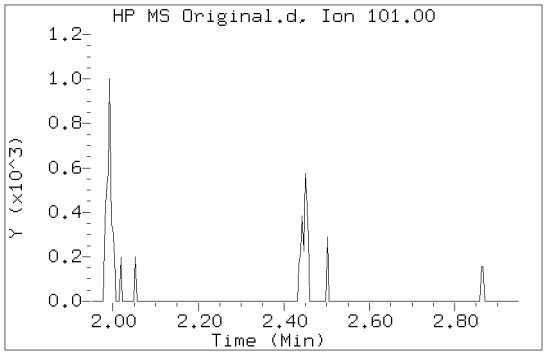


Freon TF (76-13-1)

Reason Code:

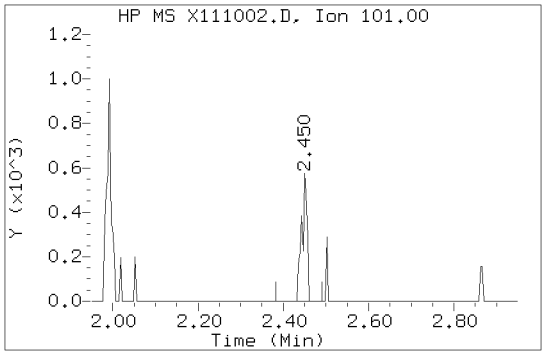
BEFORE

MASS
101
AREA
0
HEIGHT
0
17-Nov-2022
13:58
linh
pham



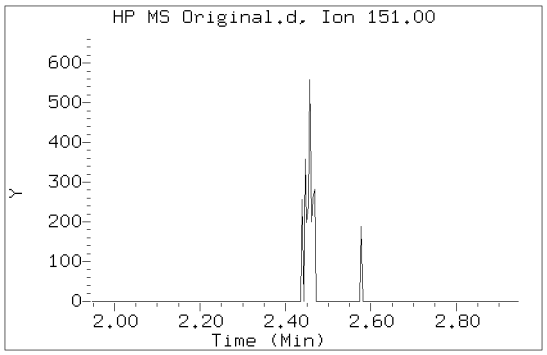
AFTER

MASS
101
AREA
528
HEIGHT
575
17-Nov-2022
14:02
linh
pham



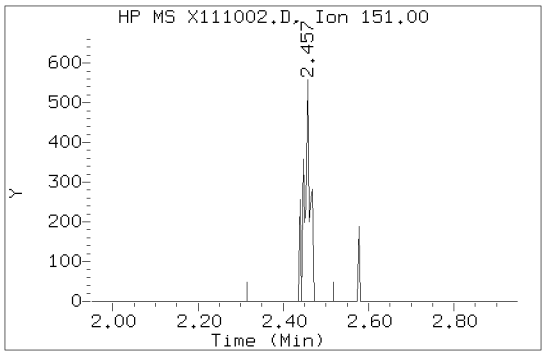
BEFORE

MASS
151
AREA
0
HEIGHT
0
17-Nov-2022
13:58
linh
pham



AFTER

MASS
151
AREA
529
HEIGHT
558
17-Nov-2022
14:02
linh
pham



Data File: \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111003.D Page 1
Report Date: 17-Nov-2022 14:02

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111003.D
Lab Smp Id: VSTD000.5 Client Smp ID: VSTD000.5
Inj Date : 10-NOV-2022 13:34
Operator : FT Inst ID: voa10.i
Smp Info : VSTD000.5;VSTD000.5;1;2;
Misc Info : V10;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\8260C.m
Meth Date : 17-Nov-2022 14:02 voa10.i Quant Type: ISTD
Cal Date : 10-NOV-2022 13:14 Cal File: X111002.D
Als bottle: 3 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000008260V10.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	4.916	4.916	(1.000)	451483	50.0000	
2 Dichlorodifluoromethane	85	1.231	1.231	(0.251)	1883	0.50000	0.48(M)
3 Chloromethane	50	1.370	1.370	(0.279)	2172	0.50000	0.51(M)
5 Vinyl Chloride	62	1.456	1.456	(0.296)	2101	0.50000	0.50(M)
6 Bromomethane	94	1.704	1.704	(0.347)	933	0.50000	0.49(M)
7 Chloroethane	64	1.782	1.782	(0.363)	1257	0.50000	0.52(M)
8 Trichlorofluoromethane	101	1.992	1.992	(0.405)	3060	0.50000	0.55(M)
9 Acrolein	56	2.337	2.337	(0.475)	183	1.00000	(M)
10 Acetone	43	2.487	2.487	(0.506)	3505	1.00000	(M)
12 Isobutyl Alcohol	43	5.373	5.373	(1.093)	6999	10.0000	9.94
13 Acetonitrile	39	2.776	2.776	(0.565)	3418	5.00000	5.41(M)
16 Acrylonitrile	53	3.151	3.151	(0.641)	1522	1.00000	0.91
11 1,1-Dichloroethene	96	2.446	2.446	(0.498)	1548	0.50000	(M)
15 Iodomethane	142	2.569	2.569	(0.523)	1488	1.00000	4.70(TM)
17 Methylene Chloride	84	2.892	2.892	(0.588)	2905	0.50000	(M)
18 Methyl tert-butyl ether	73	3.199	3.199	(0.651)	4816	0.50000	0.41
19 Carbon Disulfide	76	2.633	2.633	(0.536)	11091	1.00000	0.47
20 trans-1,2-Dichloroethene	96	3.173	3.173	(0.645)	1682	0.50000	0.48(M)
22 1,1-Dichloroethane	63	3.627	3.627	(0.738)	2831	0.50000	(M)
24 2-Butanone	43	4.361	4.361	(0.887)	2170	1.00000	0.92(M)

27 cis-1,2-Dichloroethene	96	4.301	4.301 (0.875)	2052	0.50000	0.49(M)
28 Chloroform	83	4.669	4.669 (0.950)	4005	0.50000	0.53(M)

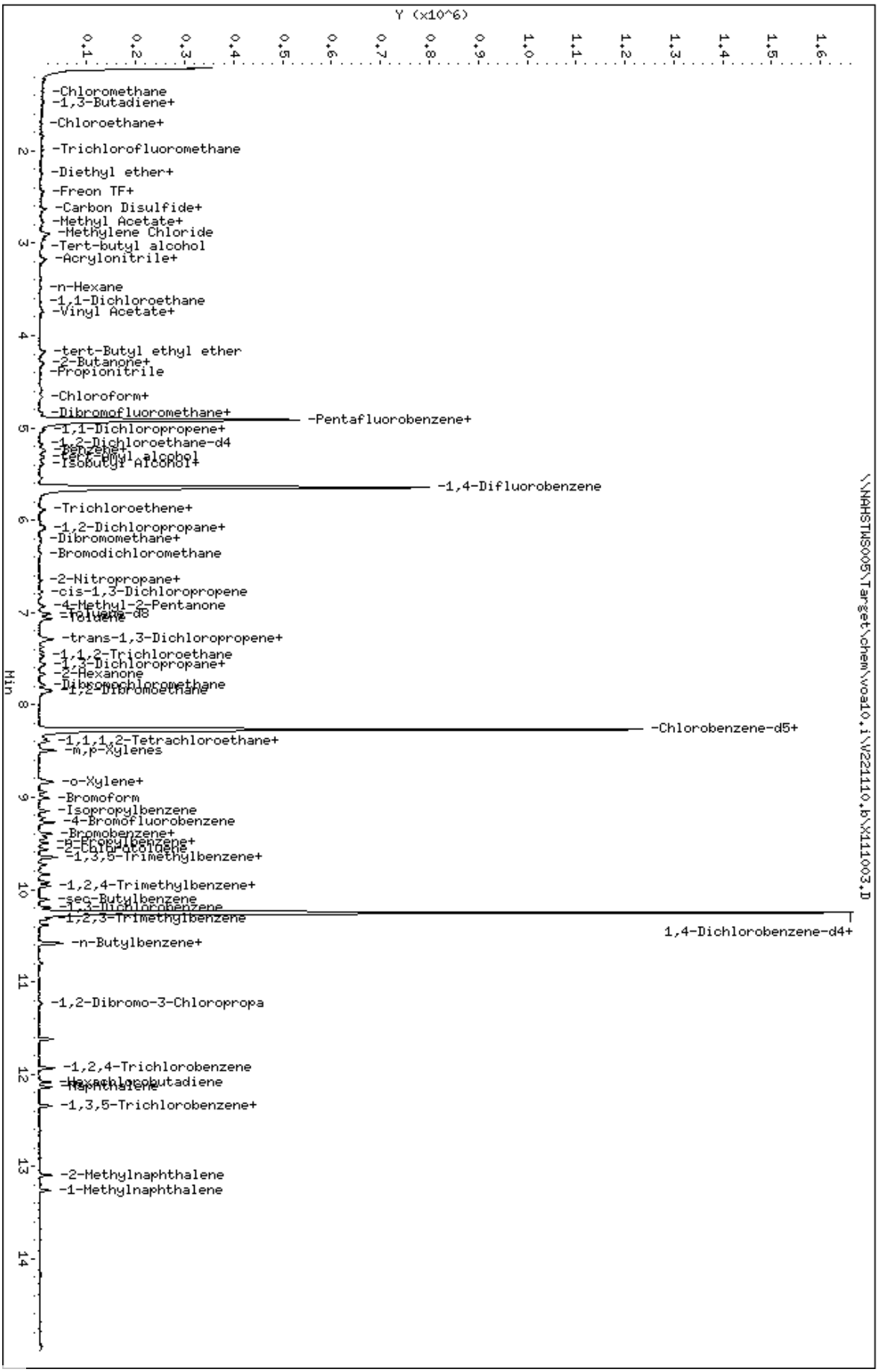
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	29 Bromochloromethane	128	4.564	4.564	(0.928)	958	0.50000	0.46(M)
$	30 Dibromofluoromethane	113	4.841	4.841	(0.985)	1897	0.50000	0.49(M)
	31 1,1,1-Trichloroethane	97	4.852	4.852	(0.987)	2961	0.50000	0.49(M)
	32 1,1-Dichloropropene	75	5.025	5.025	(0.890)	2863	0.50000	0.52(M)
	33 1,2-Dichloroethane	62	5.272	5.272	(0.934)	3496	0.50000	0.53(M)
	34 Carbon Tetrachloride	117	5.014	5.014	(0.888)	2467	0.50000	0.52(MH)
$	35 1,2-Dichloroethane-d4	65	5.182	5.182	(1.054)	2782	0.50000	0.57(M)
*	36 1,4-Difluorobenzene	114	5.647	5.647	(1.000)	703570	50.0000	
	37 Benzene	78	5.239	5.239	(0.928)	9529	0.50000	0.53
	38 Trichloroethene	130	5.891	5.891	(1.043)	2302	0.50000	0.50
	39 Bromodichloromethane	83	6.359	6.359	(1.126)	2879	0.50000	0.51(M)
	42 1,2-Dichloropropane	63	6.108	6.108	(1.082)	2920	0.50000	0.58
	45 4-Methyl-2-Pentanone	43	6.933	6.933	(0.839)	8770	1.00000	4.36(M)
	46 cis-1,3-Dichloropropene	75	6.775	6.775	(1.200)	3543	0.50000	0.47
*	47 Chlorobenzene-d5	117	8.267	8.267	(1.000)	631123	50.0000	
$	48 Toluene-d8	98	7.008	7.008	(0.848)	11710	0.50000	1.00(M)
	50 Toluene	91	7.064	7.064	(0.854)	9450	0.50000	0.50
	51 trans-1,3-Dichloropropene	75	7.263	7.263	(1.286)	3450	0.50000	0.52
	52 2-Hexanone	43	7.668	7.668	(0.927)	6299	1.00000	3.23(M)
	53 1,1,2-Trichloroethane	83	7.428	7.428	(0.898)	1816	0.50000	0.48(M)
	54 1,3-Dichloropropane	76	7.570	7.570	(0.916)	4055	0.50000	0.53
	55 Dibromochloromethane	129	7.765	7.765	(0.939)	2565	0.50000	0.52
	56 Tetrachloroethene	164	7.551	7.551	(0.913)	2148	0.50000	0.55(M)
	57 1,2-Dibromoethane	107	7.866	7.866	(0.951)	2339	0.50000	0.51
	59 Chlorobenzene	112	8.290	8.290	(1.003)	7508	0.50000	0.59
	60 1,1,1,2-Tetrachloroethane	131	8.365	8.365	(1.012)	2196	0.50000	0.48
	61 Ethylbenzene	106	8.395	8.395	(1.015)	3694	0.50000	0.59(M)
	62 m,p-Xylenes	106	8.496	8.496	(1.028)	8782	1.00000	1.14
	63 o-Xylene	106	8.837	8.837	(1.069)	4347	0.50000	0.56
	64 Styrene	104	8.845	8.845	(1.070)	7676	0.50000	0.55
	66 Bromoform	173	8.995	8.995	(1.088)	2377	0.50000	1.79(TM)
	67 Isopropylbenzene	105	9.148	9.148	(1.107)	10915	0.50000	0.57
	68 1,1,2,2-Tetrachloroethane	83	9.396	9.396	(0.917)	4805	0.50000	0.56(M)
$	69 4-Bromofluorobenzene	95	9.268	9.268	(1.121)	4486	0.50000	1.64(M)
*	70 1,4-Dichlorobenzene-d4	152	10.250	10.250	(1.000)	396710	50.0000	
	75 1,3,5-Trimethylbenzene	105	9.647	9.647	(0.941)	10164	0.50000	0.62
	78 tert-Butylbenzene	119	9.917	9.917	(0.967)	9035	0.50000	0.64(M)
	79 1,2,4-Trimethylbenzene	105	9.966	9.966	(0.972)	10307	0.50000	0.58
	81 sec-Butylbenzene	105	10.112	10.112	(0.986)	11718	0.50000	0.59(M)
	87 n-Butylbenzene	91	10.580	10.580	(1.032)	10473	0.50000	0.61(M)
	73 n-Propylbenzene	91	9.501	9.501	(0.927)	12904	0.50000	0.59
	71 1,2,3-Trichloropropane	75	9.441	9.441	(0.921)	4794	0.50000	0.56(M)
	83 1,3-Dichlorobenzene	146	10.198	10.198	(0.995)	7514	0.50000	0.62(M)
	84 1,4-Dichlorobenzene	146	10.269	10.269	(1.002)	8982	0.50000	1.34(M)
	88 1,2-Dichlorobenzene	146	10.584	10.584	(1.033)	8824	0.50000	0.78(M)
	89 1,2-Dibromo-3-Chloropropane	155	11.221	11.221	(1.095)	587	0.50000	0.47(M)
	90 1,2,4-Trichlorobenzene	180	11.934	11.934	(1.164)	6080	0.50000	0.76(M)
	92 Naphthalene	128	12.140	12.140	(1.184)	11034	0.50000	0.49(M)
	136 n-Hexane	57	3.477	3.477	(0.707)	1827	0.50000	0.38(T)
	147 Methylcyclohexane	55	6.056	6.056	(1.072)	3395	0.50000	0.52(M)
	141 Cyclohexane	56	4.901	4.901	(0.997)	2342	0.50000	(M)
	138 Freon TF	101	2.450	2.450	(0.498)	1399	0.50000	

146	Methyl Acetate	43	2.813	2.813 (0.572)	1924	0.50000	0.52(M)
21	Vinyl Acetate	43	3.705	3.705 (0.754)	8365	1.00000	0.91(M)

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	26 2,2-Dichloropropane	77	4.298	4.298	(0.874)	3014	0.50000	0.55(M)
	44 Dibromomethane	93	6.209	6.209	(1.100)	1690	0.50000	0.58
	91 Hexachlorobutadiene	225	12.080	12.080	(1.178)	2181	0.50000	(M)
	74 Bromobenzene	156	9.403	9.403	(0.917)	3527	0.50000	0.58
	76 2-Chlorotoluene	91	9.568	9.568	(0.933)	8907	0.50000	2.02(M)
	77 4-Chlorotoluene	91	9.658	9.658	(0.942)	10622	0.50000	0.62
	82 p-Isopropyltoluene	119	10.232	10.232	(0.998)	10492	0.50000	0.58
	93 1,2,3-Trichlorobenzene	180	12.342	12.342	(1.204)	5222	0.50000	0.41(M)
	148 tert-Butyl Alcohol	59	3.042	3.042	(0.619)	6631	10.0000	11.72
M	94 1,2-Dichloroethylene (total)	96				3734	1.00000	
M	95 Xylenes (total)	106				13129	1.50000	

QC Flag Legend

T - Target compound detected outside RT window.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.



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Client ID: VSTD000.5
Sample Info: VSTD000.5;VSTD000.5;1;2;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa10.i
Operator: FT
Column diameter: 0.18

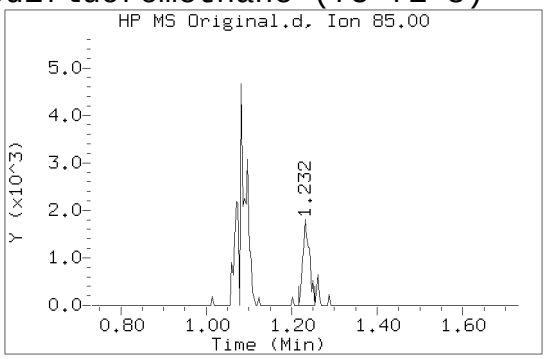
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Inj Date : 10-NOV-2022 13:34
InstruID : voa10.i
LabSampID : VSTD000.5

Dichlorodifluoromethane (75-71-8)

Reason Code:

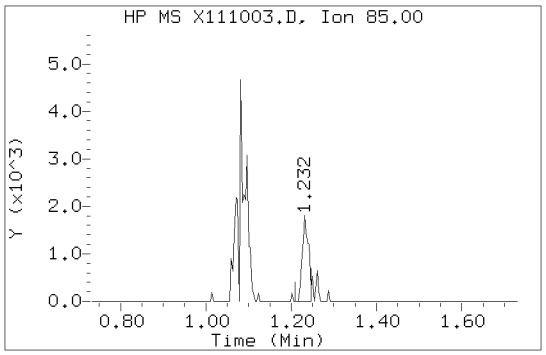
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13:58
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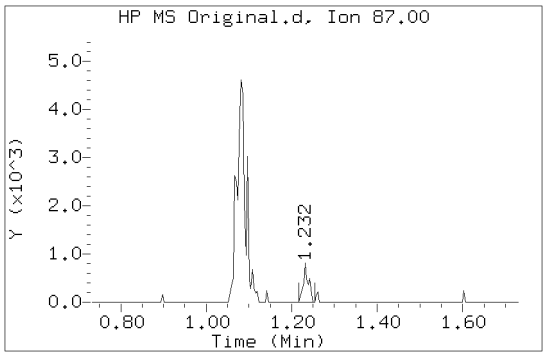
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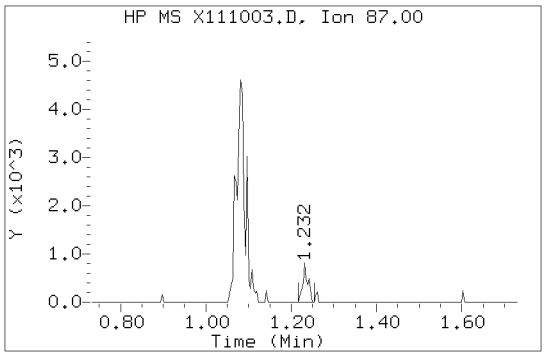
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AFTER

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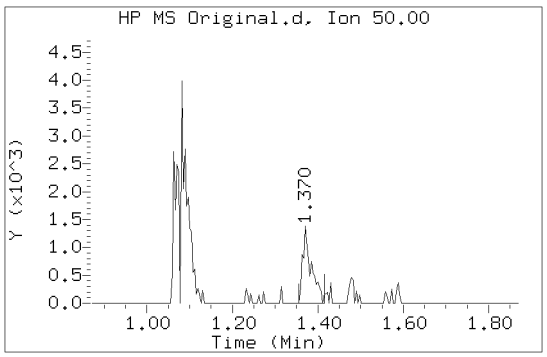


Chloromethane (74-87-3)

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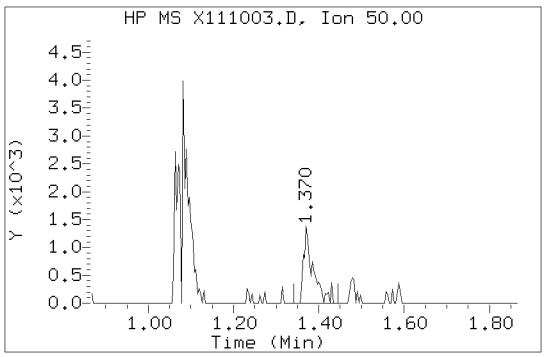
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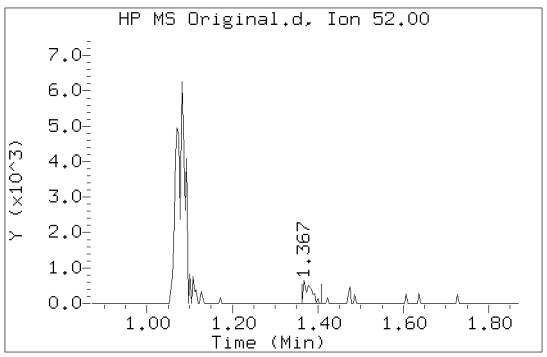
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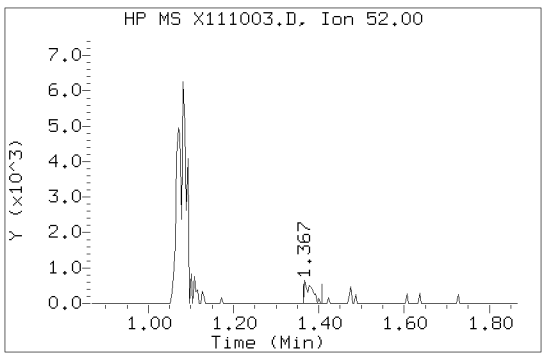
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AFTER

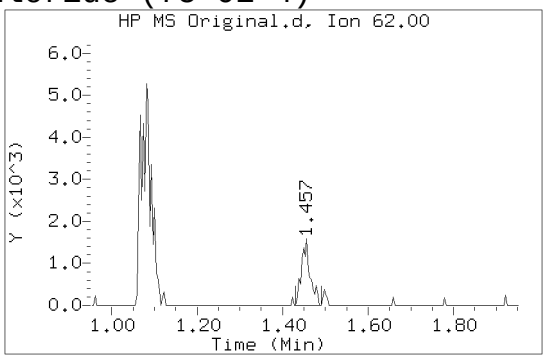
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LabSampID : VSTD000.5

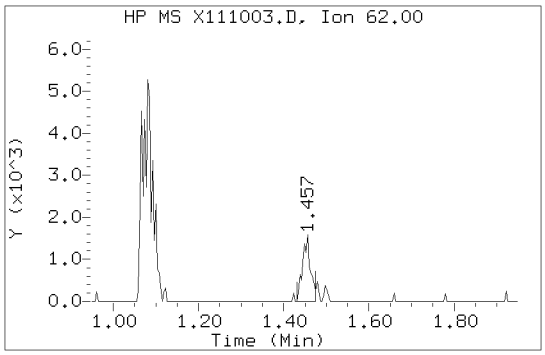
Vinyl Chloride (75-01-4)

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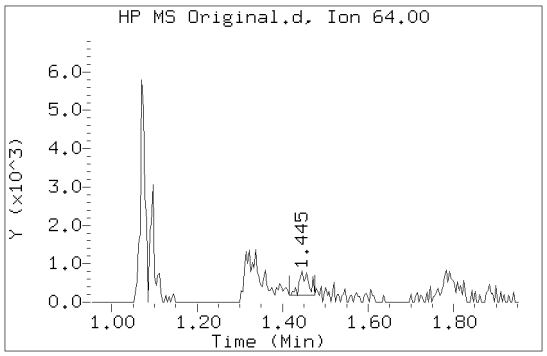


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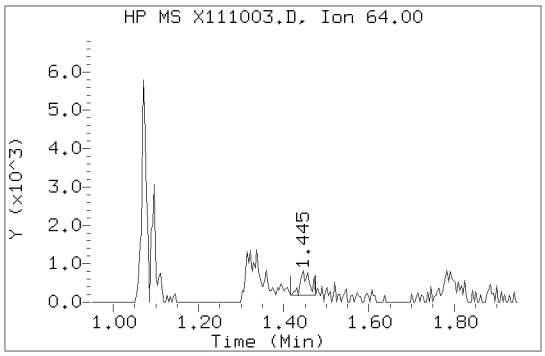
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BEFORE
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HEIGHT
626
17-Nov-2022
13:58
linh
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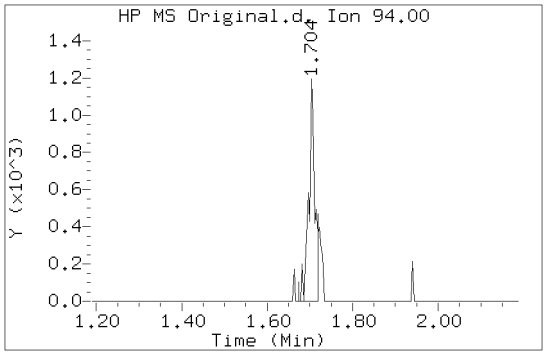


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14:02
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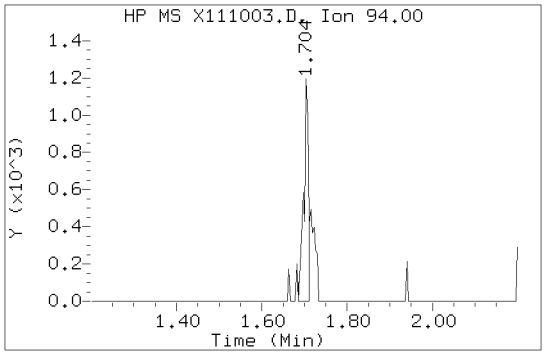
Bromomethane (74-83-9)

BEFORE
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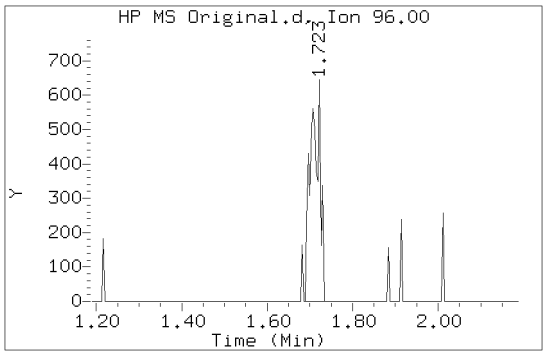


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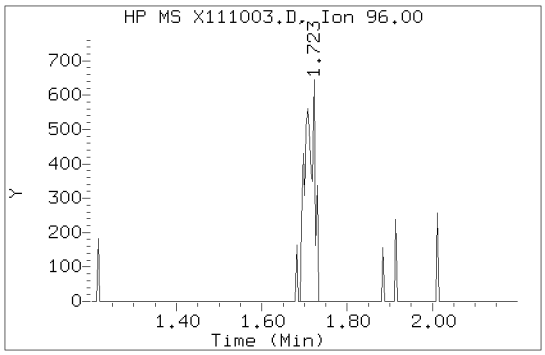
AFTER
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17-Nov-2022
14:02
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BEFORE
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AREA
991
HEIGHT
645
17-Nov-2022
13:58
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pham



AFTER
MASS
96
AREA
991
HEIGHT
645
17-Nov-2022
14:02
linh
pham



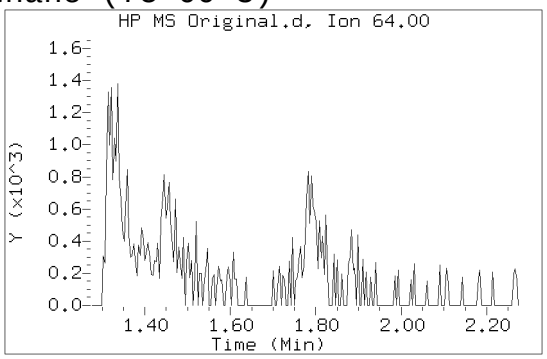
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Inj Date : 10-NOV-2022 13:34
InstruID : voa10.i
LabSampID : VSTD000.5

Chloroethane (75-00-3)

Reason Code:

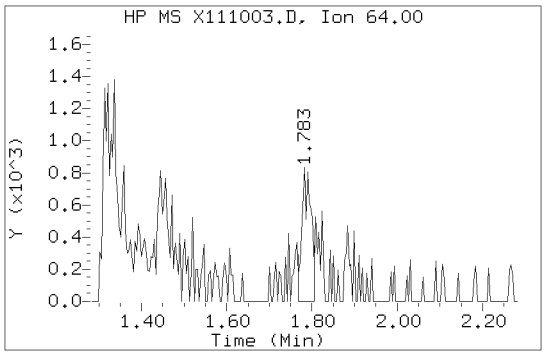
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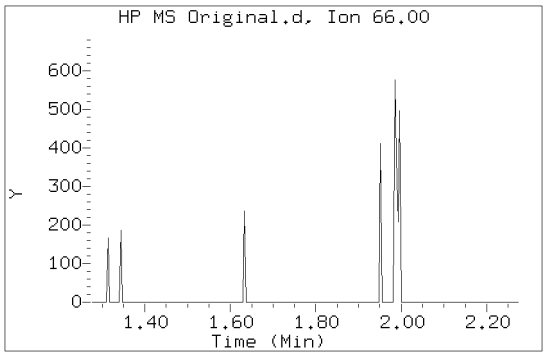
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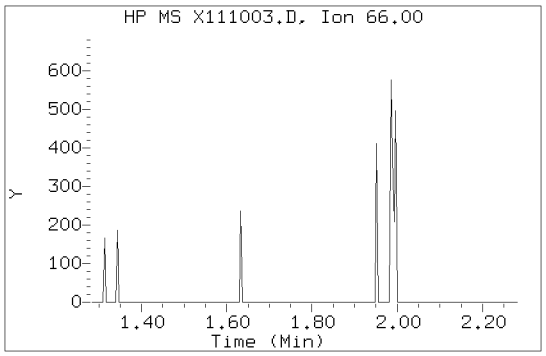
BEFORE

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HEIGHT
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17-Nov-2022
13:58
linh
pham



AFTER

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AREA
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HEIGHT
0
17-Nov-2022
14:02
linh
pham

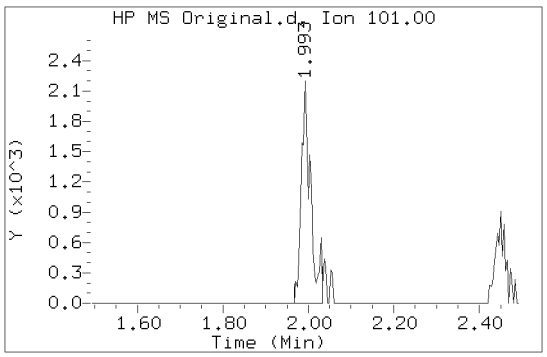


Trichlorofluoromethane (75-69-4)

Reason Code:

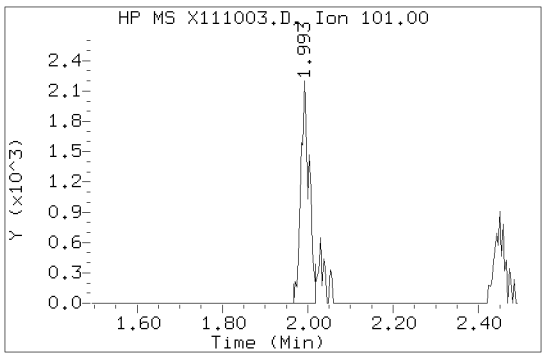
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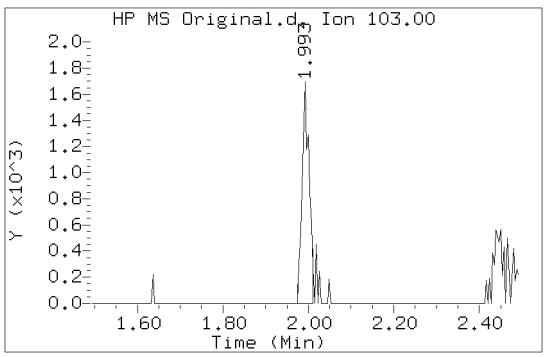
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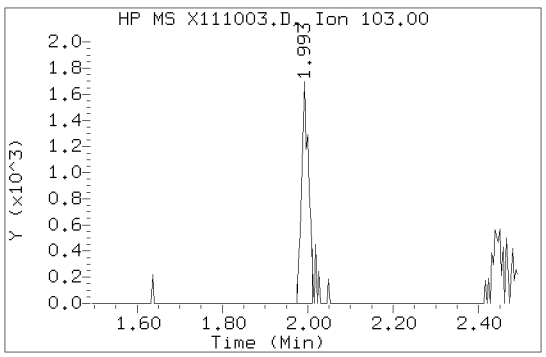
BEFORE

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17-Nov-2022
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pham



AFTER

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AREA
1989
HEIGHT
1696
17-Nov-2022
14:02
linh
pham

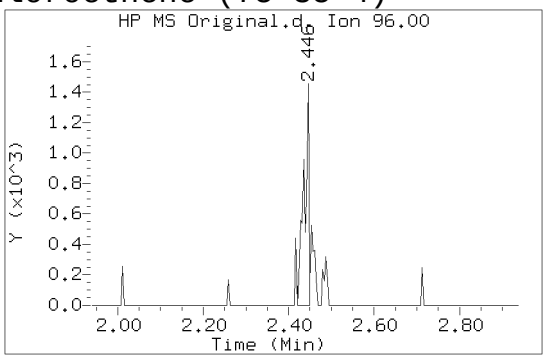


Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111003.D
Inj Date : 10-NOV-2022 13:34
InstruID : voa10.i
LabSampID : VSTD000.5

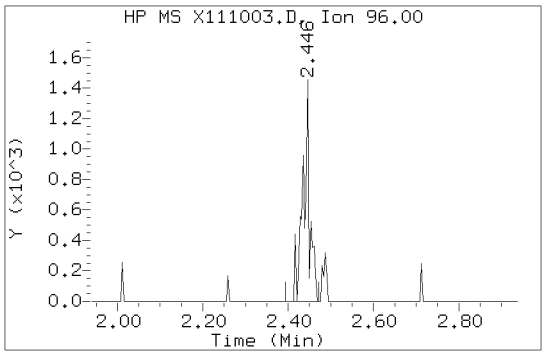
1,1-Dichloroethene (75-35-4)

Reason Code:

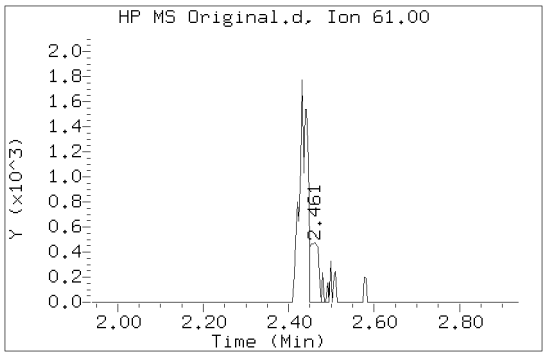
BEFORE
MASS
96
AREA
1130
HEIGHT
1456
17-Nov-2022
13:58
linh
pham



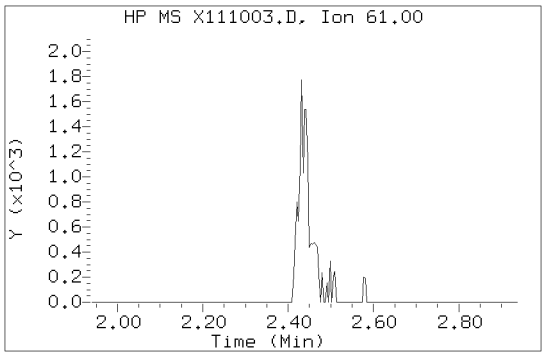
AFTER
MASS
96
AREA
1548
HEIGHT
1456
17-Nov-2022
14:02
linh
pham



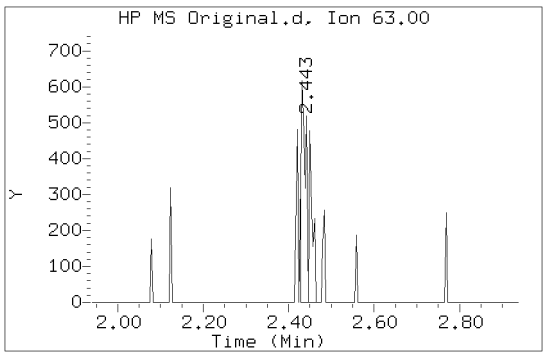
BEFORE
MASS
61
AREA
755
HEIGHT
478
17-Nov-2022
13:58
linh
pham



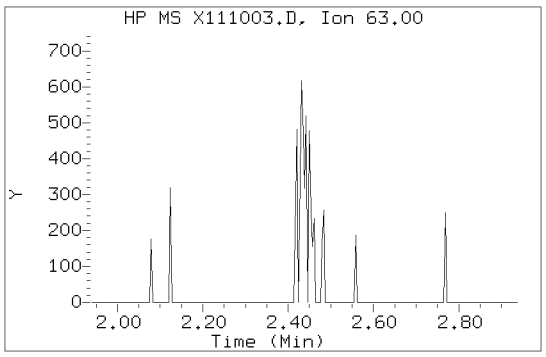
AFTER
MASS
61
AREA
0
HEIGHT
0
17-Nov-2022
14:02
linh
pham



BEFORE
MASS
63
AREA
762
HEIGHT
520
17-Nov-2022
13:58
linh
pham



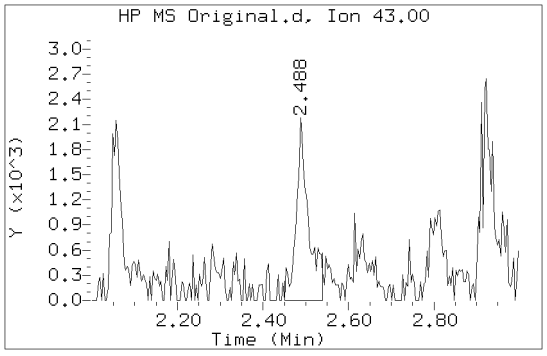
AFTER
MASS
63
AREA
0
HEIGHT
0
17-Nov-2022
14:02
linh
pham



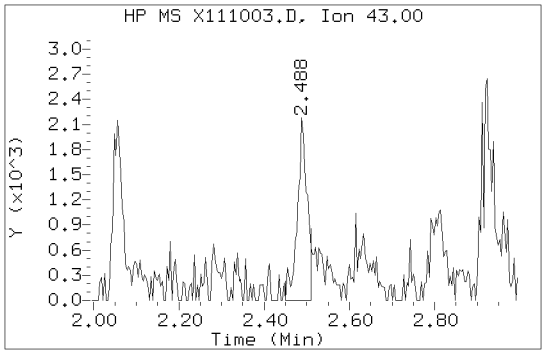
Acetone (67-64-1)

Reason Code:

BEFORE
MASS
43
AREA
4441
HEIGHT
2184
17-Nov-2022
13:58
linh
pham



AFTER
MASS
43
AREA
3505
HEIGHT
2184
17-Nov-2022
14:02
linh
pham



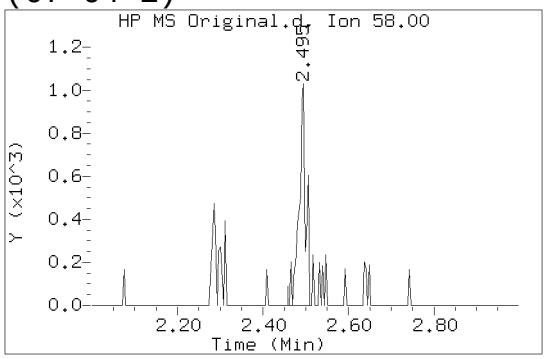
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111003.D
Inj Date : 10-NOV-2022 13:34
InstruID : voa10.i
LabSampID : VSTD000.5

Acetone (67-64-1)

Reason Code:

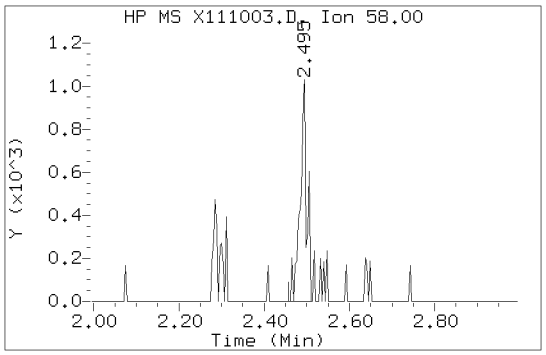
BEFORE

MASS
58
AREA
1134
HEIGHT
1031
17-Nov-2022
13:58
linh
pham



AFTER

MASS
58
AREA
1134
HEIGHT
1031
17-Nov-2022
14:02
linh
pham

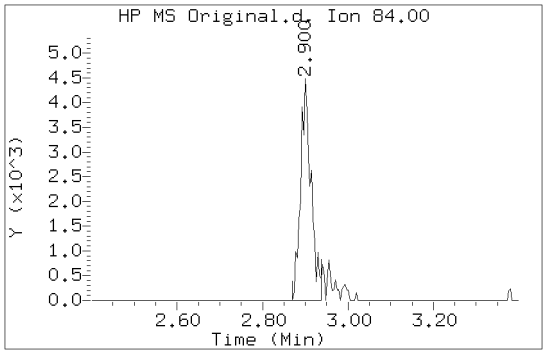


Methylene Chloride (75-09-2)

Reason Code:

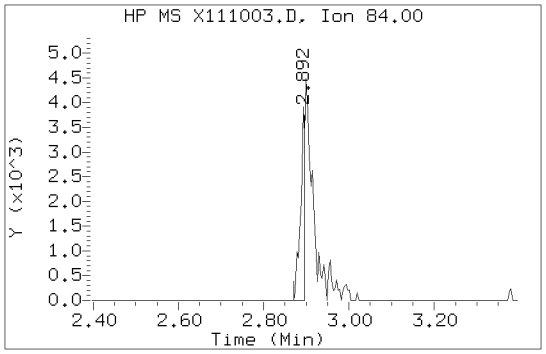
BEFORE

MASS
84
AREA
7700
HEIGHT
4484
17-Nov-2022
13:58
linh
pham



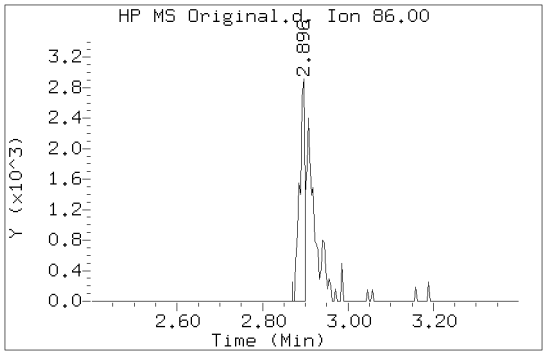
AFTER

MASS
84
AREA
2905
HEIGHT
3916
17-Nov-2022
14:02
linh
pham



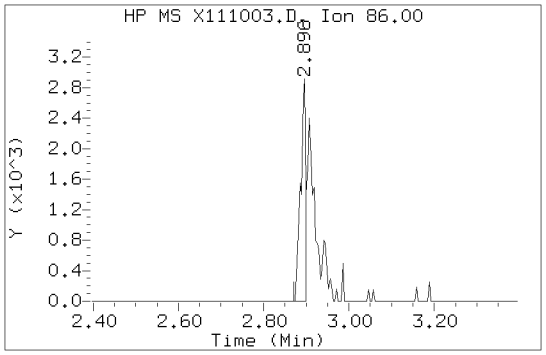
BEFORE

MASS
86
AREA
2553
HEIGHT
2915
17-Nov-2022
13:58
linh
pham



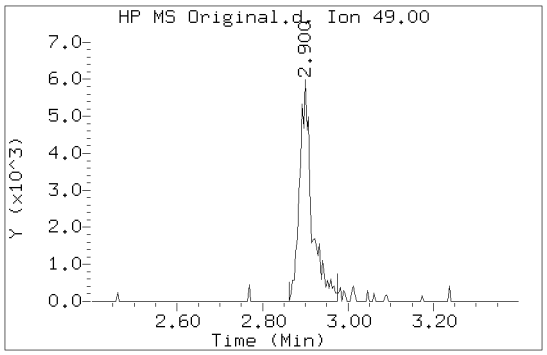
AFTER

MASS
86
AREA
2553
HEIGHT
2915
17-Nov-2022
14:02
linh
pham



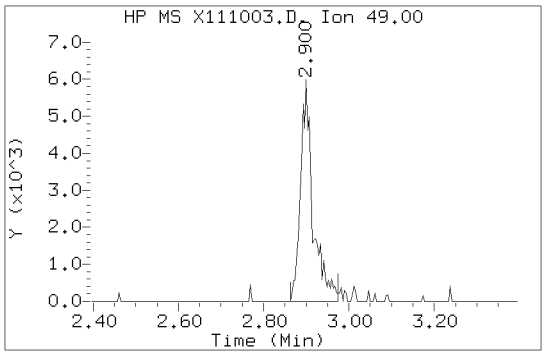
BEFORE

MASS
49
AREA
12249
HEIGHT
5988
17-Nov-2022
13:58
linh
pham



AFTER

MASS
49
AREA
12249
HEIGHT
5988
17-Nov-2022
14:02
linh
pham



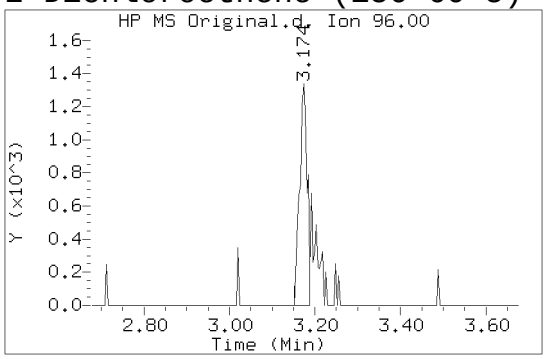
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111003.D
Inj Date : 10-NOV-2022 13:34
InstruID : voa10.i
LabSampID : VSTD000.5

trans-1,2-Dichloroethene (156-60-5)

Reason Code:

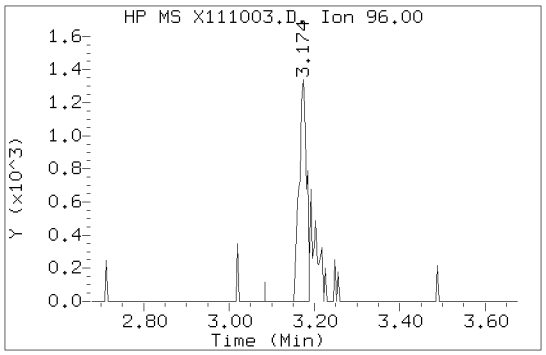
BEFORE

MASS
96
AREA
1682
HEIGHT
1339
17-Nov-2022
13:58
linh
pham



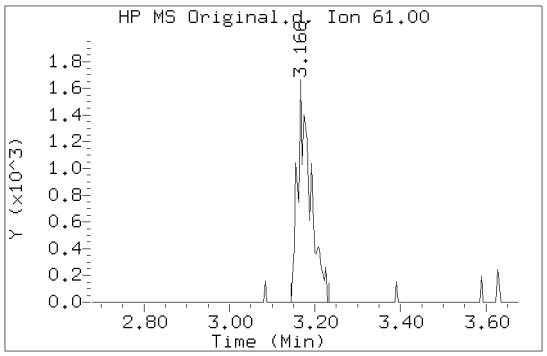
AFTER

MASS
96
AREA
1682
HEIGHT
1339
17-Nov-2022
14:02
linh
pham



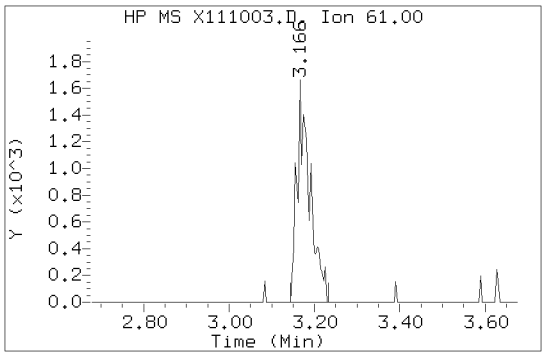
BEFORE

MASS
61
AREA
3500
HEIGHT
1663
17-Nov-2022
13:58
linh
pham



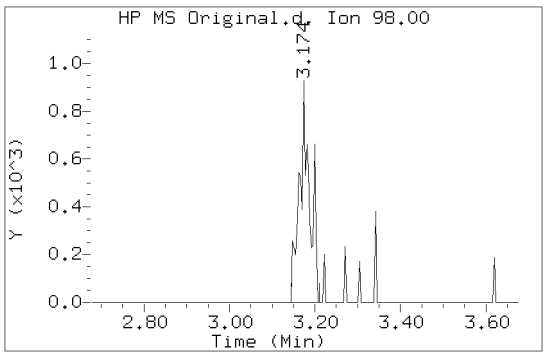
AFTER

MASS
61
AREA
3500
HEIGHT
1663
17-Nov-2022
14:02
linh
pham



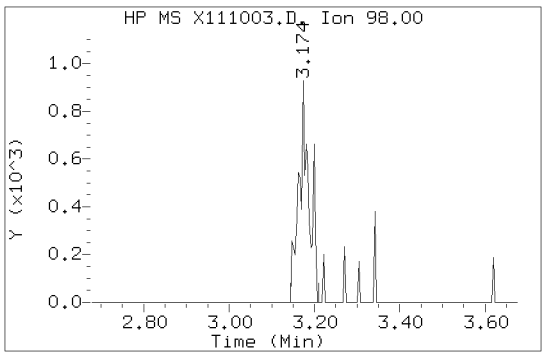
BEFORE

MASS
98
AREA
1557
HEIGHT
928
17-Nov-2022
13:58
linh
pham



AFTER

MASS
98
AREA
1557
HEIGHT
928
17-Nov-2022
14:02
linh
pham

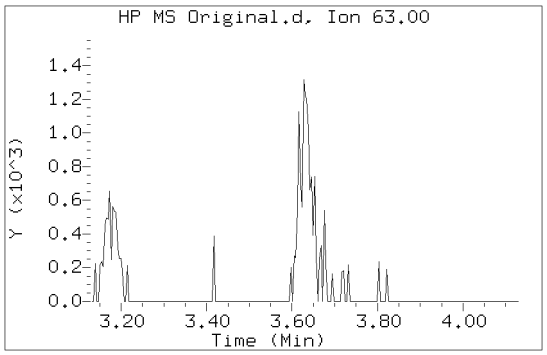


1,1-Dichloroethane (75-34-3)

Reason Code:

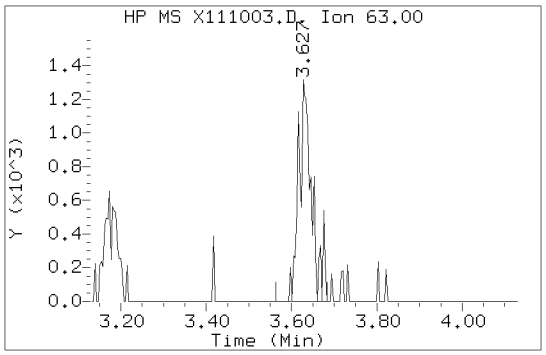
BEFORE

MASS
63
AREA
0
HEIGHT
0
17-Nov-2022
13:58
linh
pham



AFTER

MASS
63
AREA
2831
HEIGHT
1317
17-Nov-2022
14:02
linh
pham

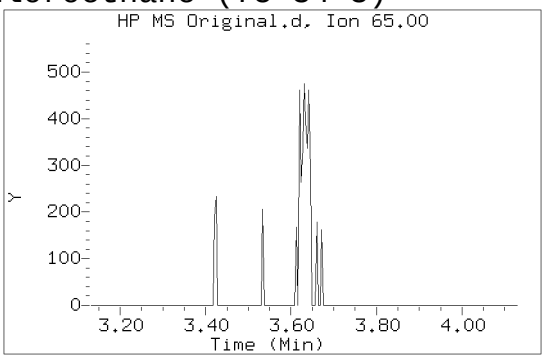


Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111003.D
Inj Date : 10-NOV-2022 13:34
InstruID : voa10.i
LabSampID : VSTD000.5

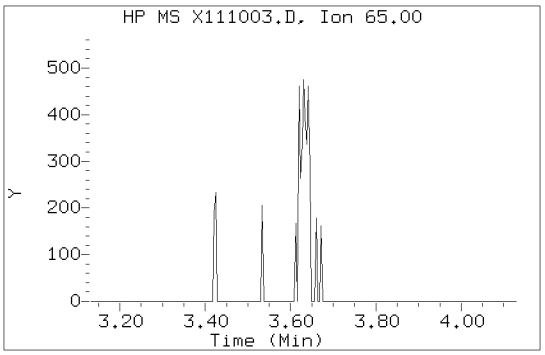
1,1-Dichloroethane (75-34-3)

Reason Code:

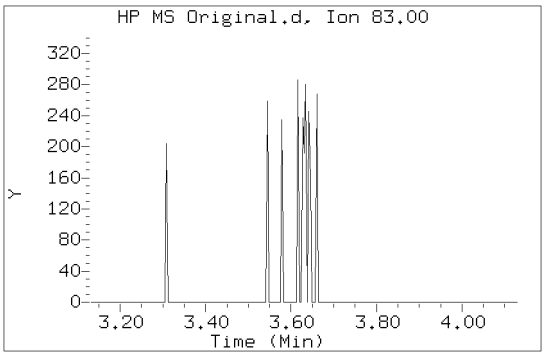
BEFORE
MASS
65
AREA
0
HEIGHT
0
17-Nov-2022
13:58
linh
pham



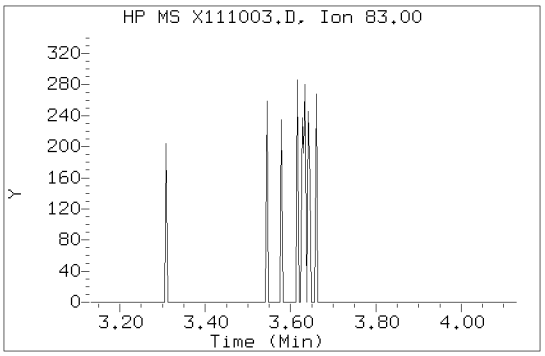
AFTER
MASS
65
AREA
0
HEIGHT
0
17-Nov-2022
14:02
linh
pham



BEFORE
MASS
83
AREA
0
HEIGHT
0
17-Nov-2022
13:58
linh
pham



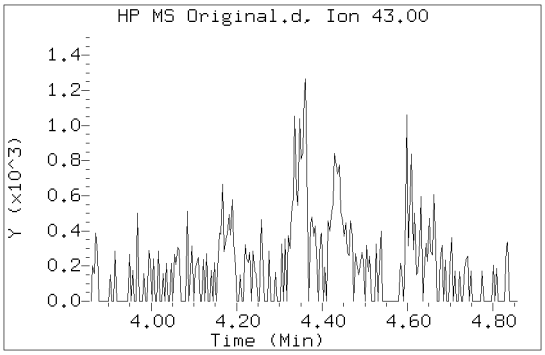
AFTER
MASS
83
AREA
0
HEIGHT
0
17-Nov-2022
14:02
linh
pham



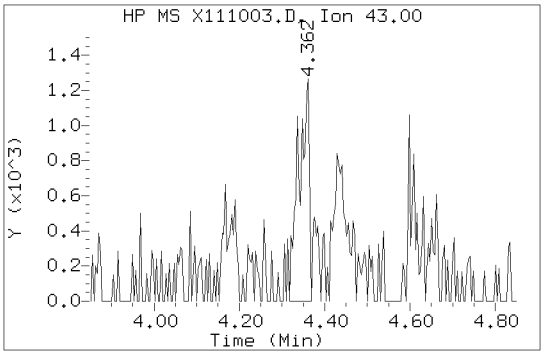
2-Butanone (78-93-3)

Reason Code:

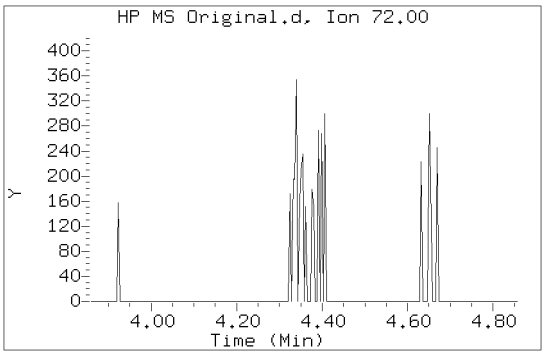
BEFORE
MASS
43
AREA
0
HEIGHT
0
17-Nov-2022
13:58
linh
pham



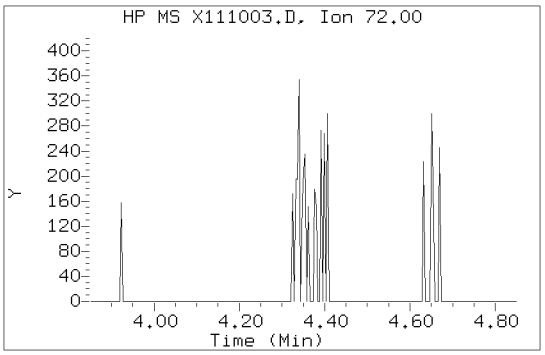
AFTER
MASS
43
AREA
2170
HEIGHT
1265
17-Nov-2022
14:02
linh
pham



BEFORE
MASS
72
AREA
0
HEIGHT
0
17-Nov-2022
13:58
linh
pham



AFTER
MASS
72
AREA
0
HEIGHT
0
17-Nov-2022
14:02
linh
pham



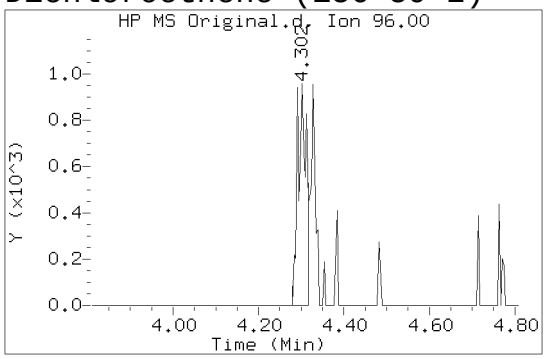
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111003.D
Inj Date : 10-NOV-2022 13:34
InstruID : voa10.i
LabSampID : VSTD000.5

cis-1,2-Dichloroethene (156-59-2)

Reason Code:

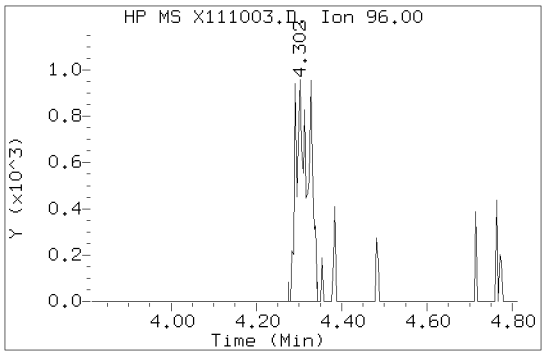
BEFORE

MASS
96
AREA
1338
HEIGHT
958
17-Nov-2022
13:58
linh
pham



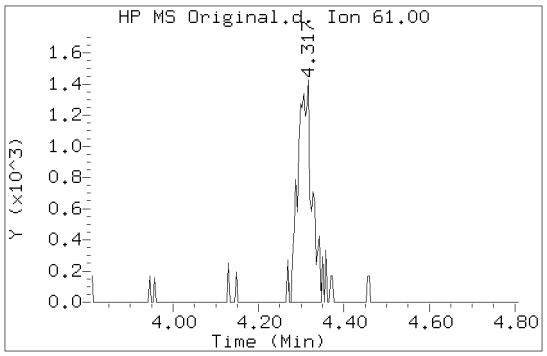
AFTER

MASS
96
AREA
2052
HEIGHT
958
17-Nov-2022
14:02
linh
pham



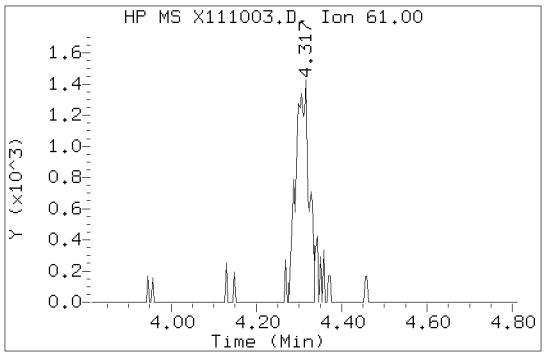
BEFORE

MASS
61
AREA
3248
HEIGHT
1427
17-Nov-2022
13:58
linh
pham



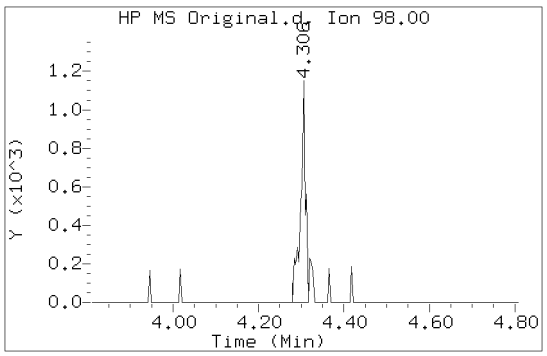
AFTER

MASS
61
AREA
3074
HEIGHT
1427
17-Nov-2022
14:02
linh
pham



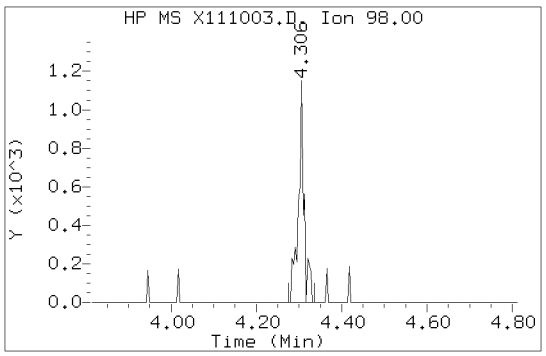
BEFORE

MASS
98
AREA
947
HEIGHT
1151
17-Nov-2022
13:58
linh
pham



AFTER

MASS
98
AREA
1078
HEIGHT
1151
17-Nov-2022
14:02
linh
pham

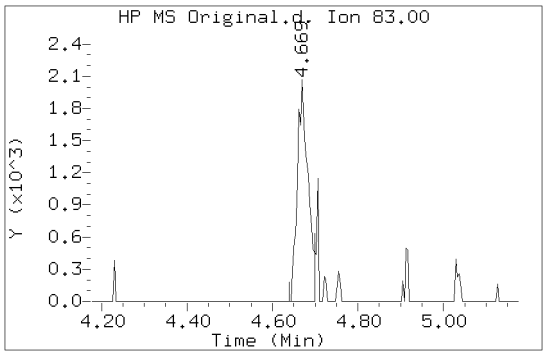


Chloroform (67-66-3)

Reason Code:

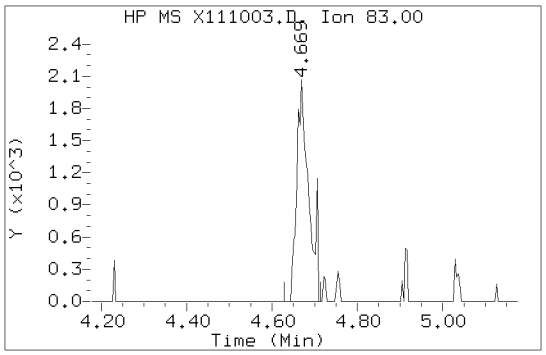
BEFORE

MASS
83
AREA
3647
HEIGHT
2068
17-Nov-2022
13:58
linh
pham



AFTER

MASS
83
AREA
4005
HEIGHT
2068
17-Nov-2022
14:02
linh
pham



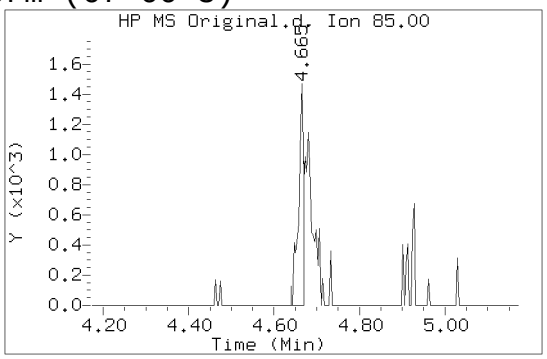
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111003.D
Inj Date : 10-NOV-2022 13:34
InstruID : voa10.i
LabSampID : VSTD000.5

Chloroform (67-66-3)

Reason Code:

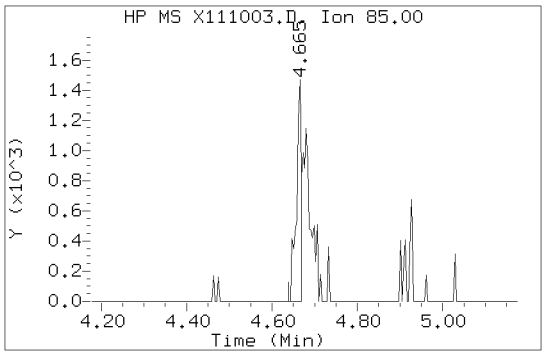
BEFORE

MASS
85
AREA
1184
HEIGHT
1470
17-Nov-2022
13:58
linh
pham



AFTER

MASS
85
AREA
1184
HEIGHT
1470
17-Nov-2022
14:02
linh
pham

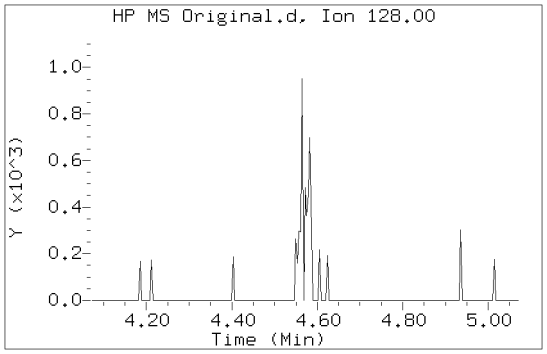


Bromochloromethane (74-97-5)

Reason Code:

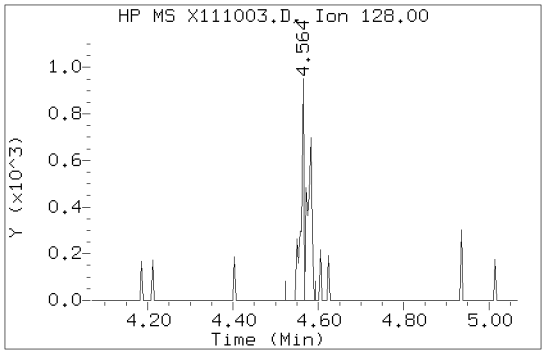
BEFORE

MASS
128
AREA
0
HEIGHT
0
17-Nov-2022
13:58
linh
pham



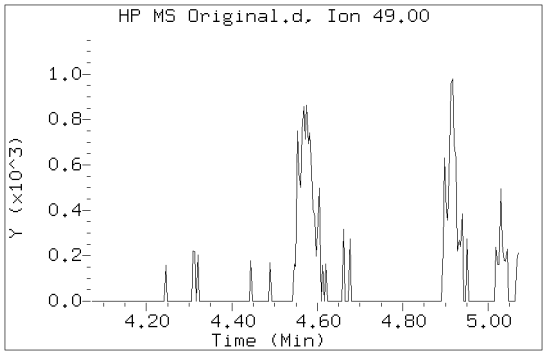
AFTER

MASS
128
AREA
958
HEIGHT
951
17-Nov-2022
14:02
linh
pham



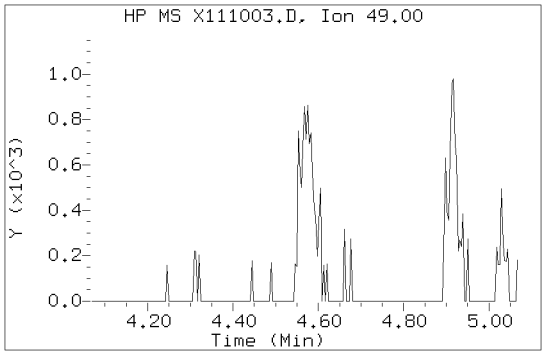
BEFORE

MASS
49
AREA
0
HEIGHT
0
17-Nov-2022
13:58
linh
pham



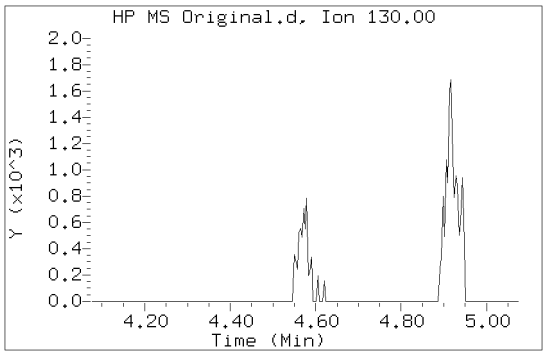
AFTER

MASS
49
AREA
0
HEIGHT
0
17-Nov-2022
14:02
linh
pham



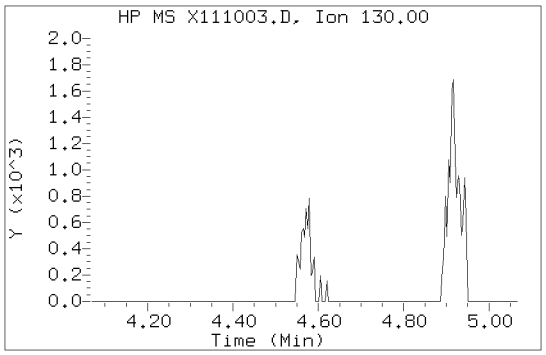
BEFORE

MASS
130
AREA
0
HEIGHT
0
17-Nov-2022
13:58
linh
pham



AFTER

MASS
130
AREA
0
HEIGHT
0
17-Nov-2022
14:02
linh
pham



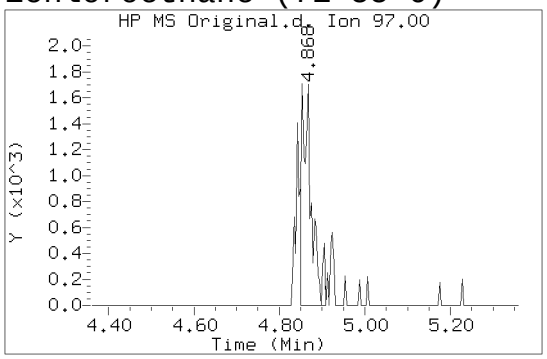
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111003.D
Inj Date : 10-NOV-2022 13:34
InstruID : voa10.i
LabSampID : VSTD000.5

1,1,1-Trichloroethane (71-55-6)

Reason Code:

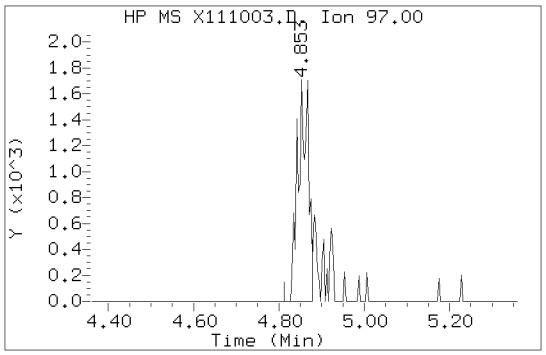
BEFORE

MASS
97
AREA
2721
HEIGHT
1703
17-Nov-2022
13:58
linh
pham



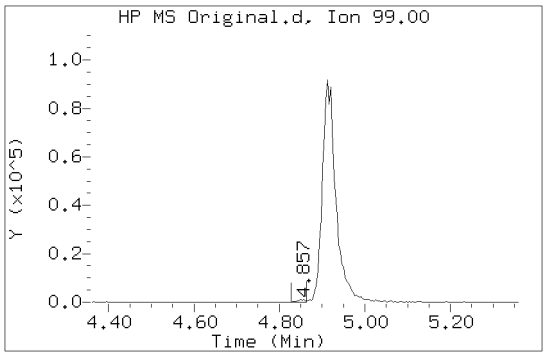
AFTER

MASS
97
AREA
2961
HEIGHT
1709
17-Nov-2022
14:02
linh
pham



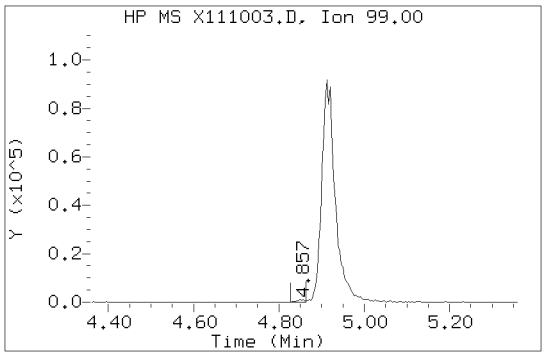
BEFORE

MASS
99
AREA
1353
HEIGHT
991
17-Nov-2022
13:58
linh
pham



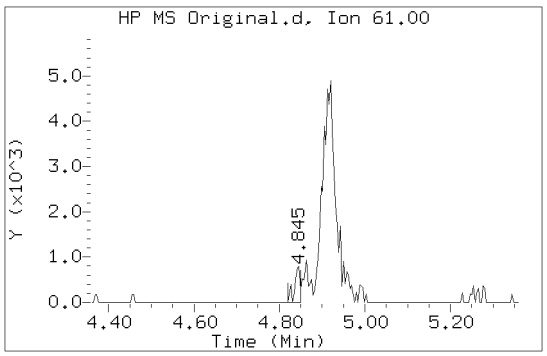
AFTER

MASS
99
AREA
1353
HEIGHT
991
17-Nov-2022
14:02
linh
pham



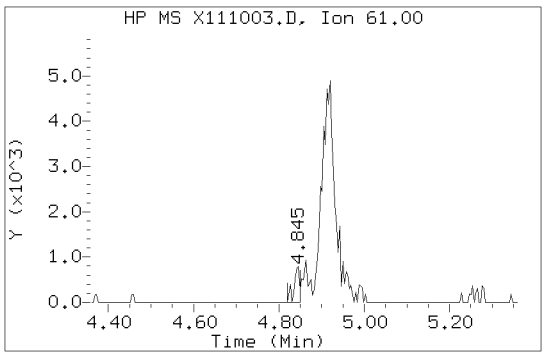
BEFORE

MASS
61
AREA
703
HEIGHT
792
17-Nov-2022
13:58
linh
pham



AFTER

MASS
61
AREA
703
HEIGHT
792
17-Nov-2022
14:02
linh
pham

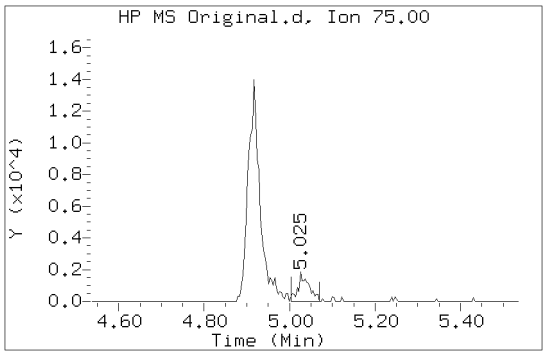


1,1-Dichloropropene (563-58-6)

Reason Code:

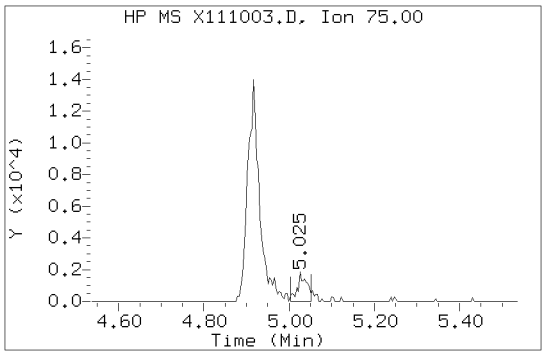
BEFORE

MASS
75
AREA
3296
HEIGHT
1864
17-Nov-2022
13:58
linh
pham



AFTER

MASS
75
AREA
2863
HEIGHT
1864
17-Nov-2022
14:02
linh
pham



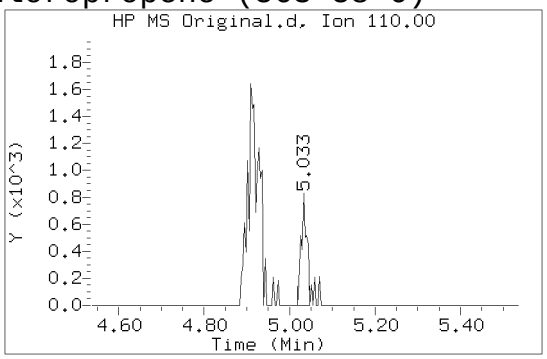
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111003.D
Inj Date : 10-NOV-2022 13:34
InstruID : voa10.i
LabSampID : VSTD000.5

1,1-Dichloropropene (563-58-6)

Reason Code:

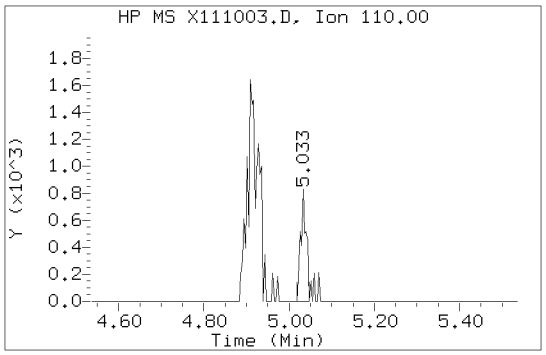
BEFORE

MASS
110
AREA
763
HEIGHT
830
17-Nov-2022
13:58
linh
pham



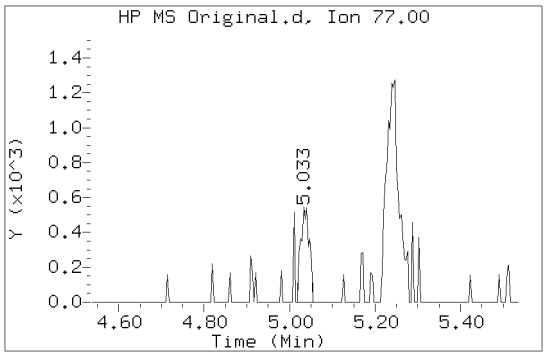
AFTER

MASS
110
AREA
763
HEIGHT
830
17-Nov-2022
14:02
linh
pham



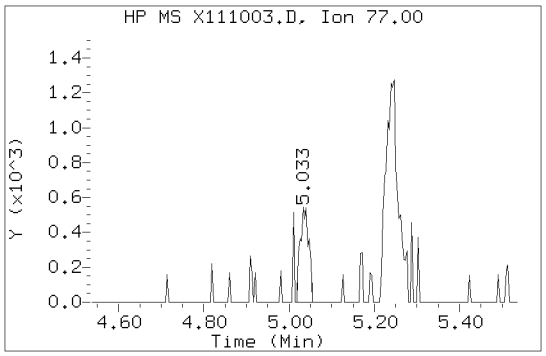
BEFORE

MASS
77
AREA
780
HEIGHT
546
17-Nov-2022
13:58
linh
pham



AFTER

MASS
77
AREA
780
HEIGHT
546
17-Nov-2022
14:02
linh
pham

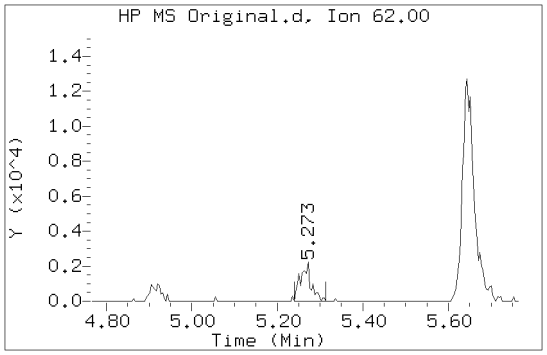


1,2-Dichloroethane (107-06-2)

Reason Code:

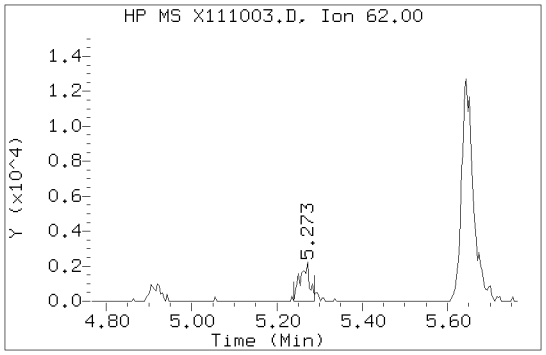
BEFORE

MASS
62
AREA
3861
HEIGHT
2242
17-Nov-2022
13:58
linh
pham



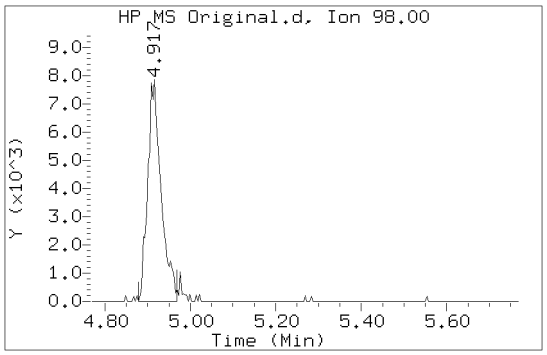
AFTER

MASS
62
AREA
3496
HEIGHT
2242
17-Nov-2022
14:02
linh
pham



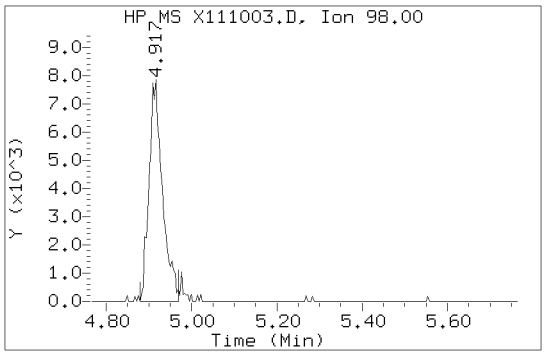
BEFORE

MASS
98
AREA
17172
HEIGHT
7854
17-Nov-2022
13:58
linh
pham



AFTER

MASS
98
AREA
17172
HEIGHT
7854
17-Nov-2022
14:02
linh
pham

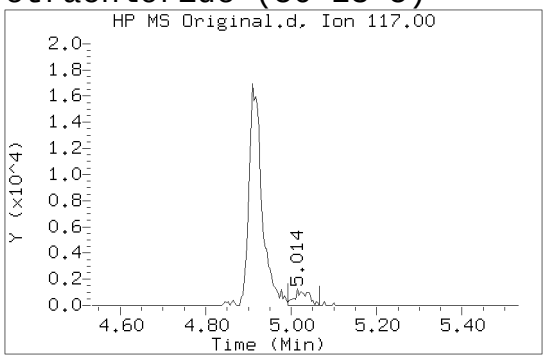


Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111003.D
Inj Date : 10-NOV-2022 13:34
InstruID : voa10.i
LabSampID : VSTD000.5

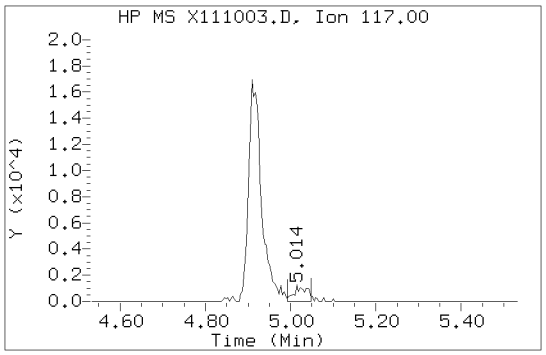
Carbon Tetrachloride (56-23-5)

Reason Code:

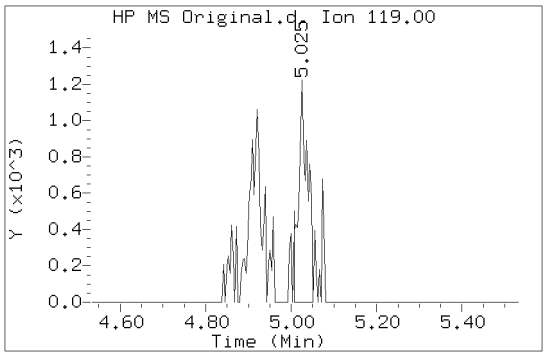
BEFORE
MASS
117
AREA
2746
HEIGHT
1283
17-Nov-2022
13:58
linh
pham



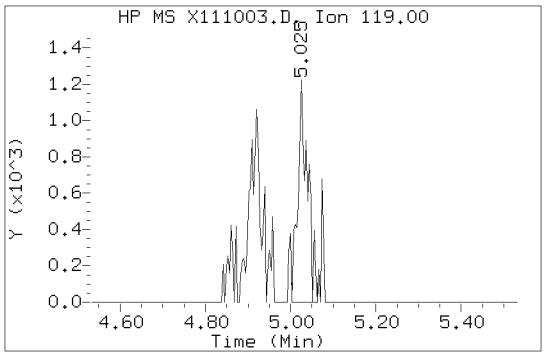
AFTER
MASS
117
AREA
2467
HEIGHT
1259
17-Nov-2022
14:02
linh
pham



BEFORE
MASS
119
AREA
1842
HEIGHT
1224
17-Nov-2022
13:58
linh
pham



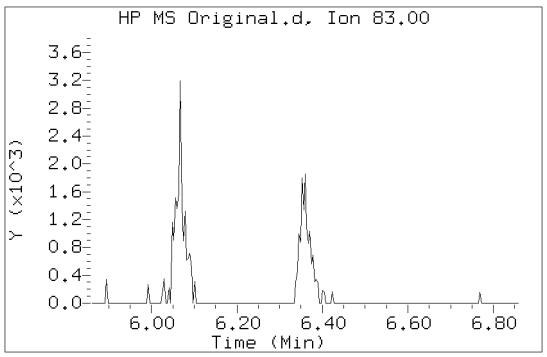
AFTER
MASS
119
AREA
1971
HEIGHT
1224
17-Nov-2022
14:02
linh
pham



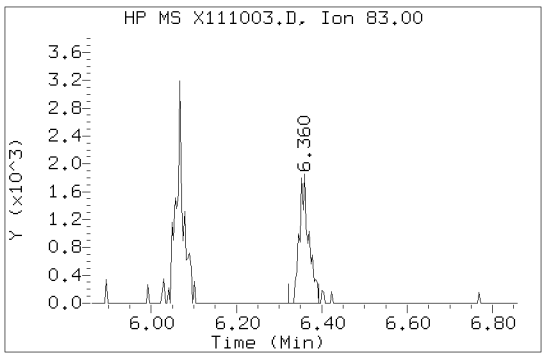
Bromodichloromethane (75-27-4)

Reason Code:

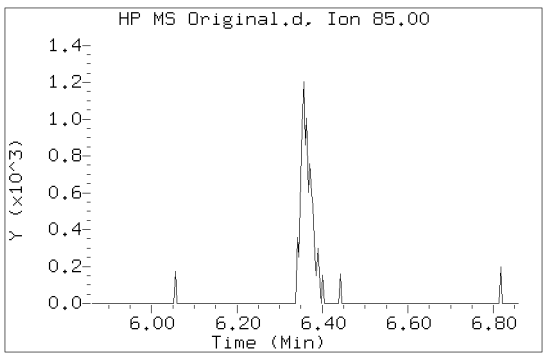
BEFORE
MASS
83
AREA
0
HEIGHT
0
17-Nov-2022
13:58
linh
pham



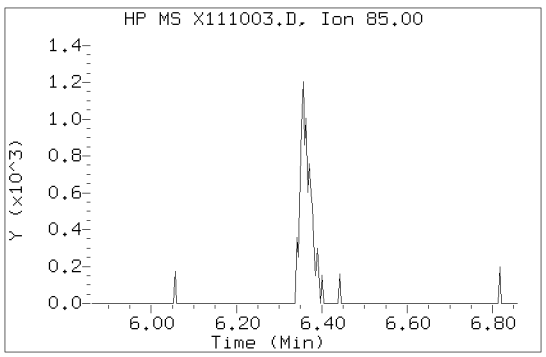
AFTER
MASS
83
AREA
2879
HEIGHT
1851
17-Nov-2022
14:02
linh
pham



BEFORE
MASS
85
AREA
0
HEIGHT
0
17-Nov-2022
13:58
linh
pham



AFTER
MASS
85
AREA
0
HEIGHT
0
17-Nov-2022
14:02
linh
pham

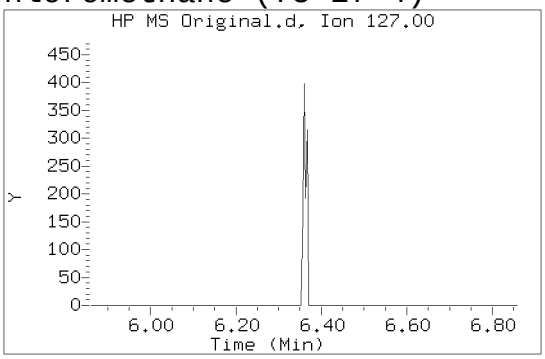


Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111003.D
Inj Date : 10-NOV-2022 13:34
InstruID : voa10.i
LabSampID : VSTD000.5

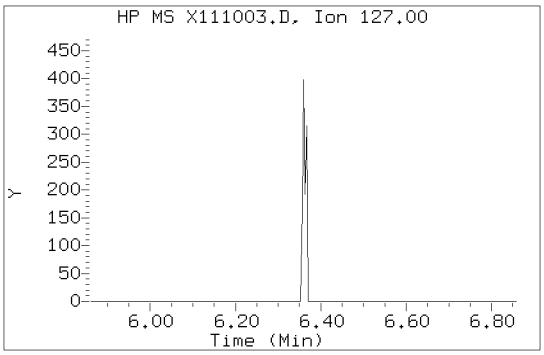
Bromodichloromethane (75-27-4)

Reason Code:

BEFORE
MASS
127
AREA
0
HEIGHT
0
17-Nov-2022
13:58
linh
pham



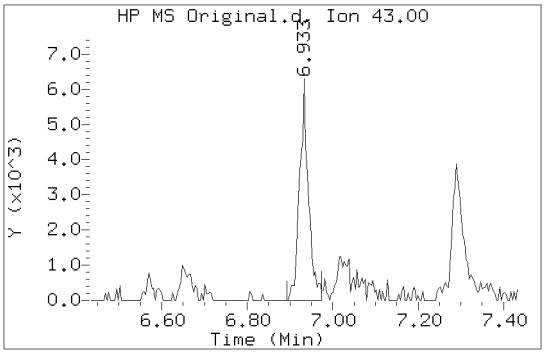
AFTER
MASS
127
AREA
0
HEIGHT
0
17-Nov-2022
14:02
linh
pham



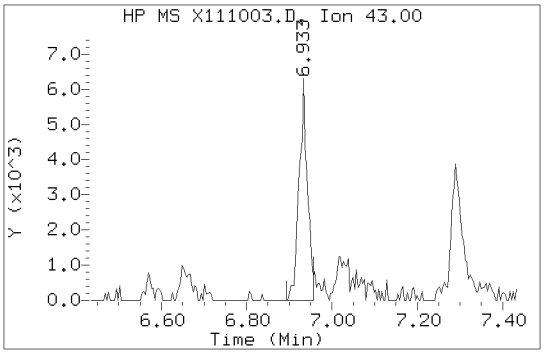
4-Methyl-2-Pentanone (108-10-1)

Reason Code:

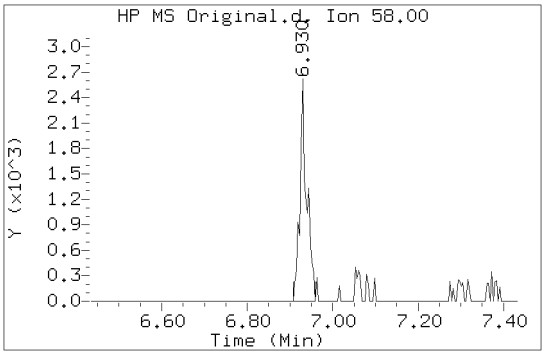
BEFORE
MASS
43
AREA
9313
HEIGHT
6300
17-Nov-2022
13:58
linh
pham



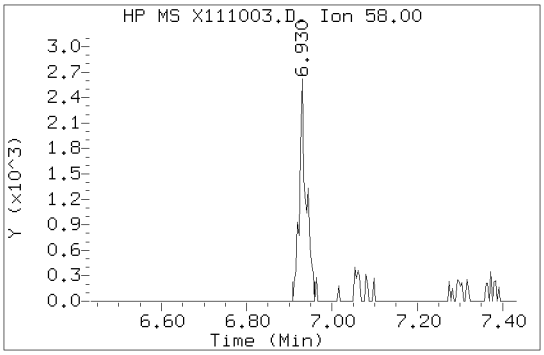
AFTER
MASS
43
AREA
8770
HEIGHT
6300
17-Nov-2022
14:02
linh
pham



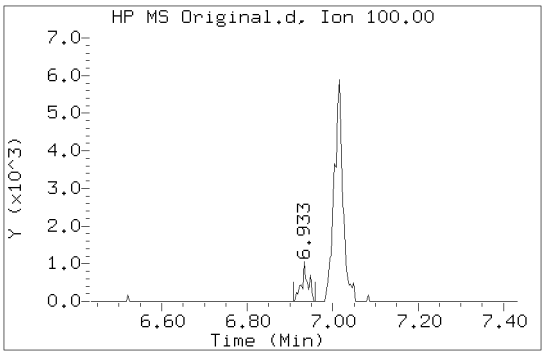
BEFORE
MASS
58
AREA
2971
HEIGHT
2620
17-Nov-2022
13:58
linh
pham



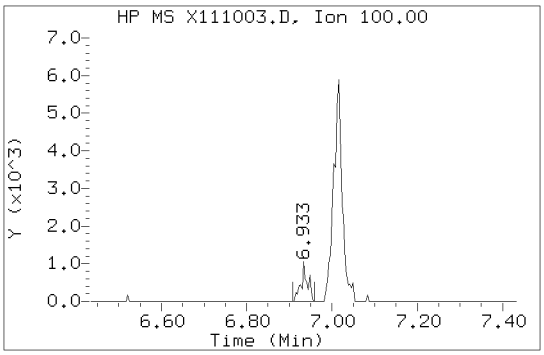
AFTER
MASS
58
AREA
2971
HEIGHT
2620
17-Nov-2022
14:02
linh
pham



BEFORE
MASS
100
AREA
1134
HEIGHT
1056
17-Nov-2022
13:58
linh
pham



AFTER
MASS
100
AREA
1134
HEIGHT
1056
17-Nov-2022
14:02
linh
pham



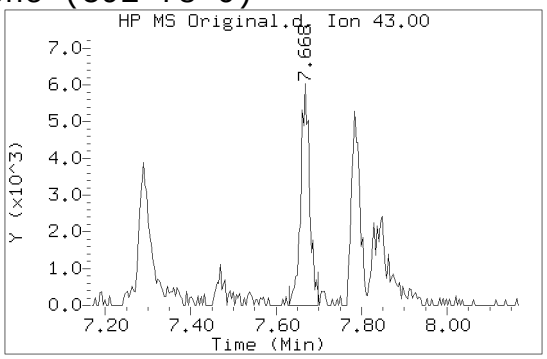
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111003.D
Inj Date : 10-NOV-2022 13:34
InstruID : voa10.i
LabSampID : VSTD000.5

2-Hexanone (591-78-6)

Reason Code:

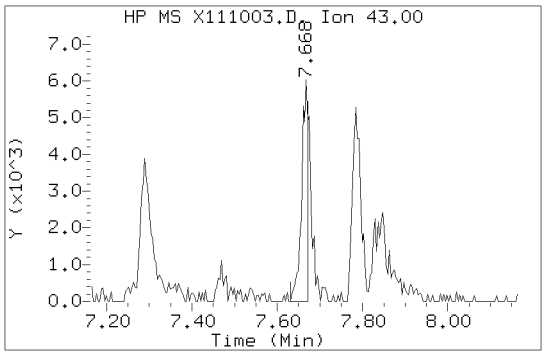
BEFORE

MASS
43
AREA
9079
HEIGHT
6035
17-Nov-2022
13:58
linh
pham



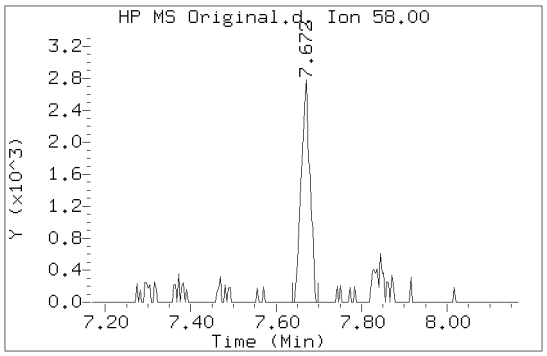
AFTER

MASS
43
AREA
6299
HEIGHT
6035
17-Nov-2022
14:02
linh
pham



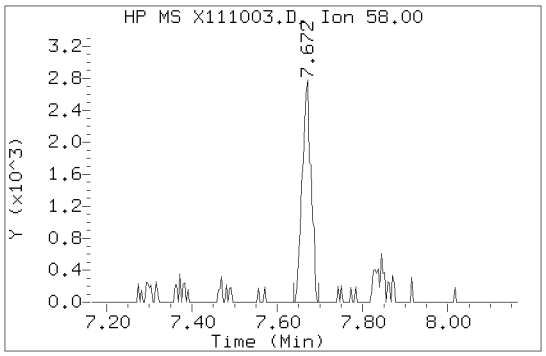
BEFORE

MASS
58
AREA
4064
HEIGHT
2781
17-Nov-2022
13:58
linh
pham



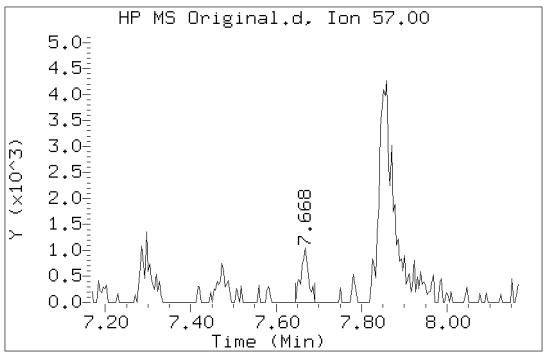
AFTER

MASS
58
AREA
4064
HEIGHT
2781
17-Nov-2022
14:02
linh
pham



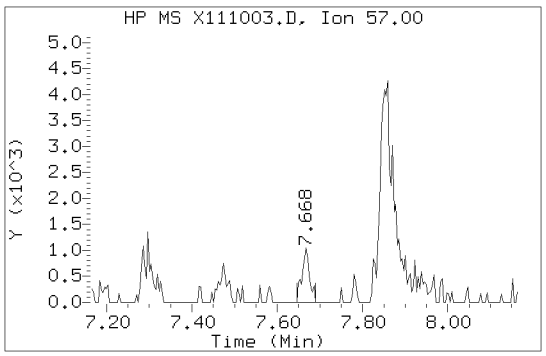
BEFORE

MASS
57
AREA
1337
HEIGHT
1045
17-Nov-2022
13:58
linh
pham



AFTER

MASS
57
AREA
1337
HEIGHT
1045
17-Nov-2022
14:02
linh
pham

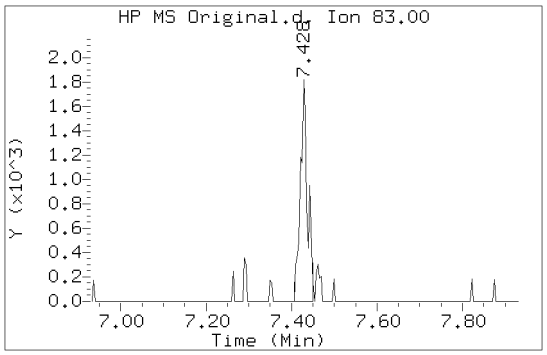


1,1,2-Trichloroethane (79-00-5)

Reason Code:

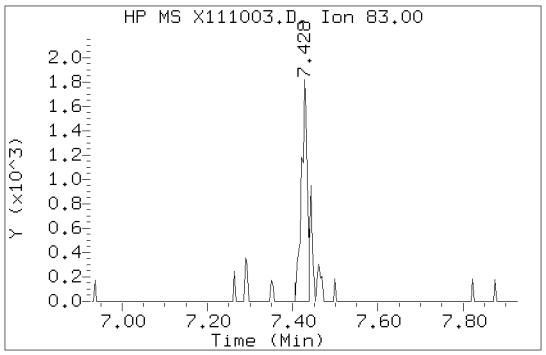
BEFORE

MASS
83
AREA
2162
HEIGHT
1819
17-Nov-2022
13:58
linh
pham



AFTER

MASS
83
AREA
1816
HEIGHT
1819
17-Nov-2022
14:02
linh
pham



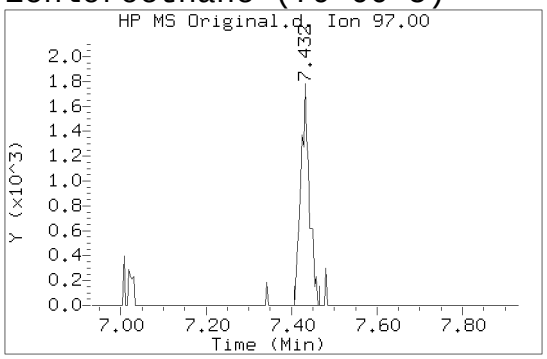
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111003.D
Inj Date : 10-NOV-2022 13:34
InstruID : voa10.i
LabSampID : VSTD000.5

1,1,2-Trichloroethane (79-00-5)

Reason Code:

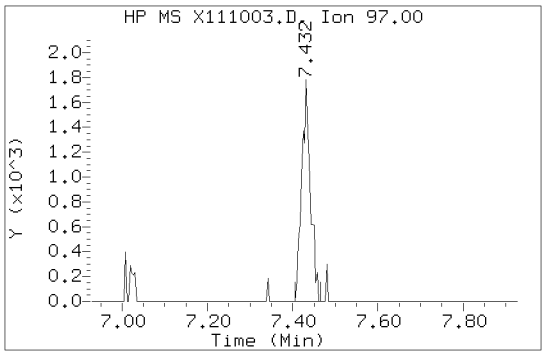
BEFORE

MASS
97
AREA
2570
HEIGHT
1783
17-Nov-2022
13:58
linh
pham



AFTER

MASS
97
AREA
2570
HEIGHT
1783
17-Nov-2022
14:02
linh
pham

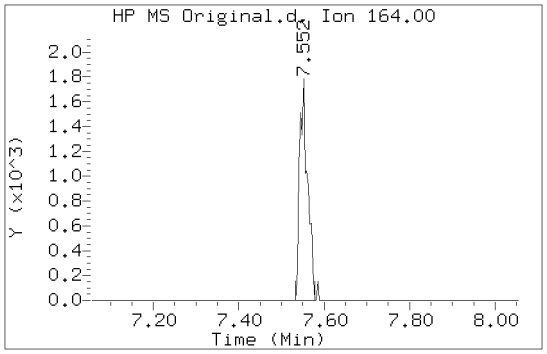


Tetrachloroethene (127-18-4)

Reason Code:

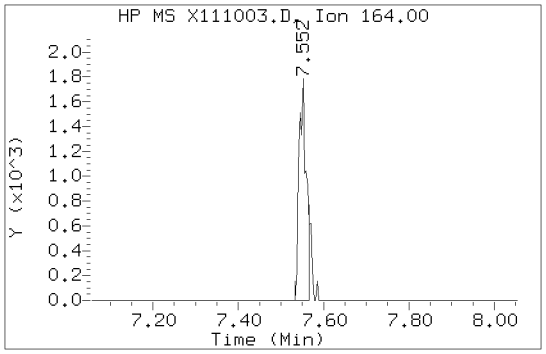
BEFORE

MASS
164
AREA
2344
HEIGHT
1786
17-Nov-2022
13:58
linh
pham



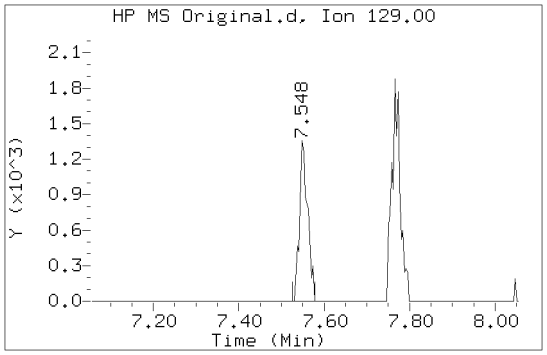
AFTER

MASS
164
AREA
2148
HEIGHT
1786
17-Nov-2022
14:02
linh
pham



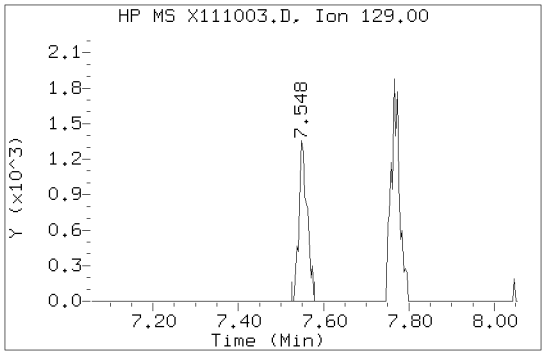
BEFORE

MASS
129
AREA
1850
HEIGHT
1359
17-Nov-2022
13:58
linh
pham



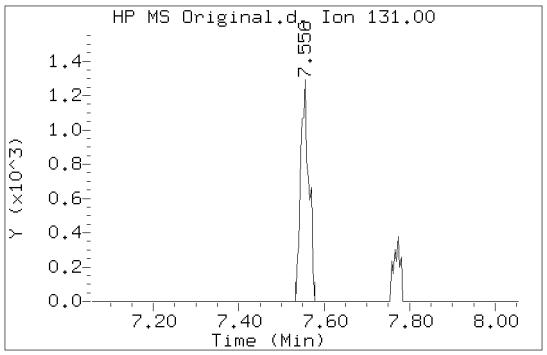
AFTER

MASS
129
AREA
1850
HEIGHT
1359
17-Nov-2022
14:02
linh
pham



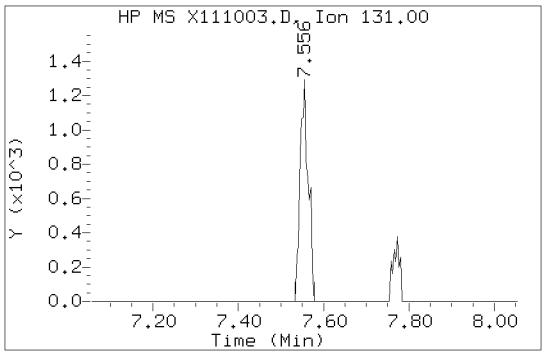
BEFORE

MASS
131
AREA
1768
HEIGHT
1293
17-Nov-2022
13:58
linh
pham



AFTER

MASS
131
AREA
1768
HEIGHT
1293
17-Nov-2022
14:02
linh
pham



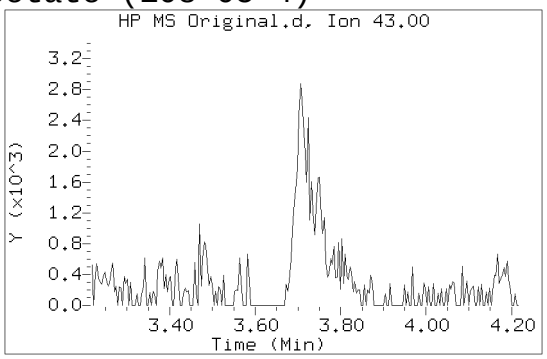
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111003.D
Inj Date : 10-NOV-2022 13:34
InstruID : voa10.i
LabSampID : VSTD000.5

Vinyl Acetate (108-05-4)

Reason Code:

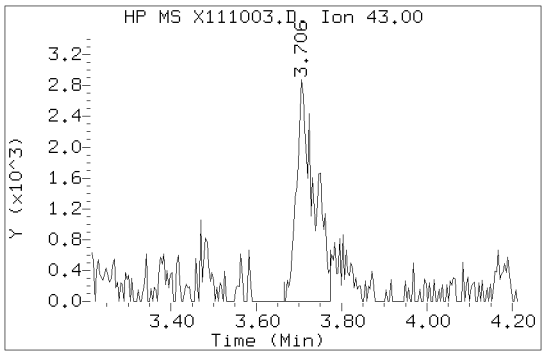
BEFORE

MASS
43
AREA
0
HEIGHT
0
17-Nov-2022
13:58
linh
pham



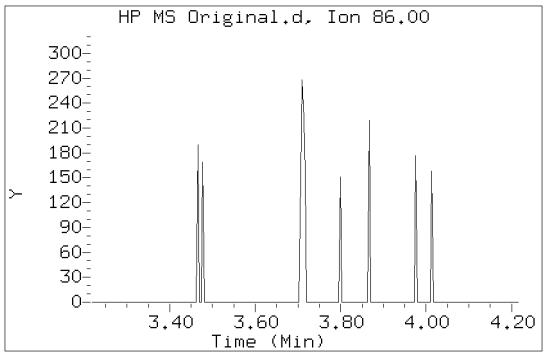
AFTER

MASS
43
AREA
8365
HEIGHT
2876
17-Nov-2022
14:02
linh
pham



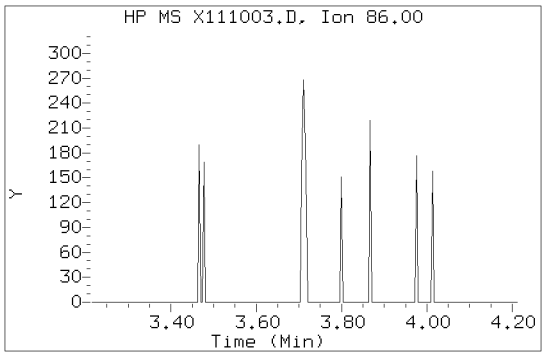
BEFORE

MASS
86
AREA
0
HEIGHT
0
17-Nov-2022
13:58
linh
pham



AFTER

MASS
86
AREA
0
HEIGHT
0
17-Nov-2022
14:02
linh
pham

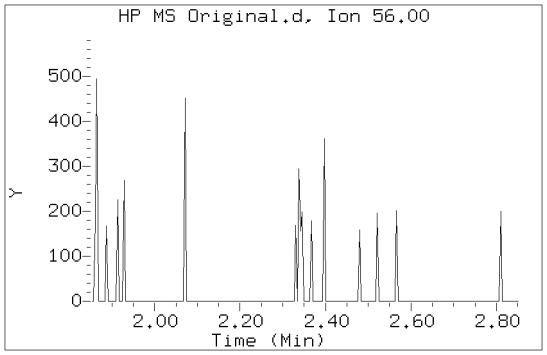


Acrolein (107-02-8)

Reason Code:

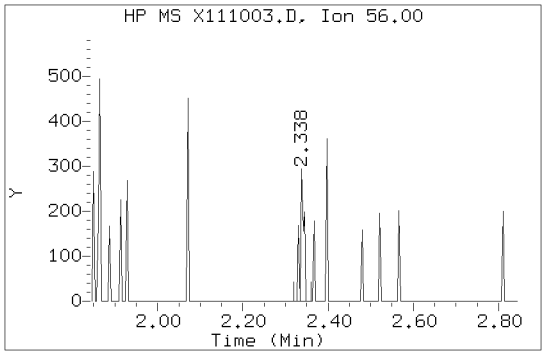
BEFORE

MASS
56
AREA
0
HEIGHT
0
17-Nov-2022
13:58
linh
pham



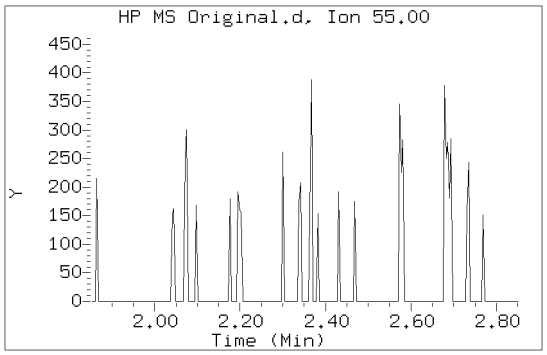
AFTER

MASS
56
AREA
183
HEIGHT
294
17-Nov-2022
14:02
linh
pham



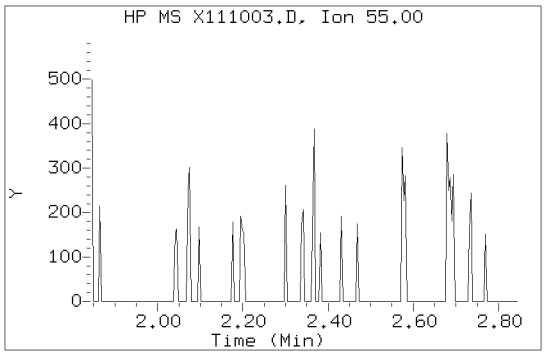
BEFORE

MASS
55
AREA
0
HEIGHT
0
17-Nov-2022
13:58
linh
pham



AFTER

MASS
55
AREA
0
HEIGHT
0
17-Nov-2022
14:02
linh
pham



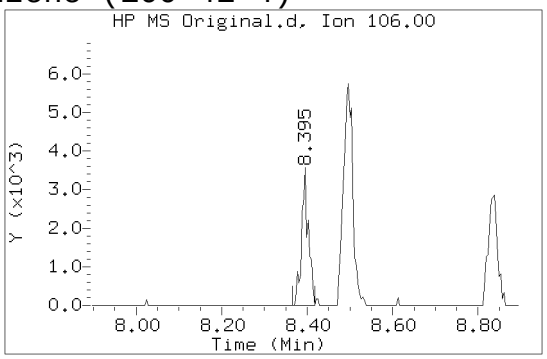
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111003.D
Inj Date : 10-NOV-2022 13:34
InstruID : voa10.i
LabSampID : VSTD000.5

Ethylbenzene (100-41-4)

Reason Code:

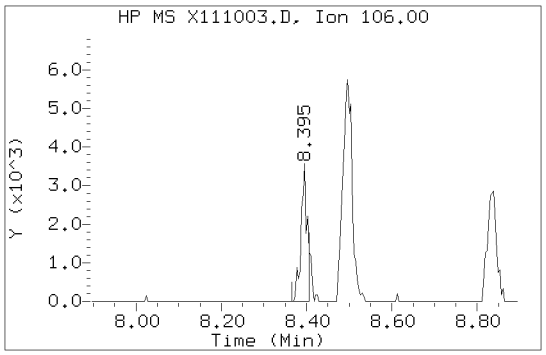
BEFORE

MASS
106
AREA
4065
HEIGHT
3566
17-Nov-2022
13:58
linh
pham



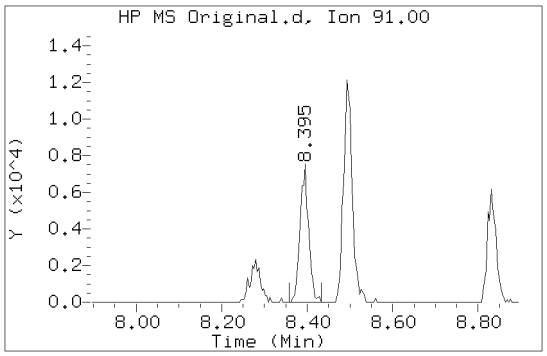
AFTER

MASS
106
AREA
3694
HEIGHT
3566
17-Nov-2022
14:02
linh
pham



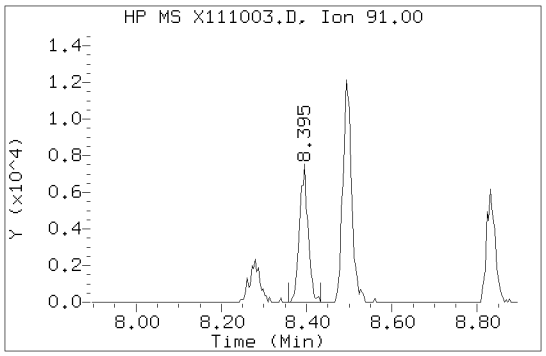
BEFORE

MASS
91
AREA
10777
HEIGHT
7559
17-Nov-2022
13:58
linh
pham



AFTER

MASS
91
AREA
10777
HEIGHT
7559
17-Nov-2022
14:02
linh
pham

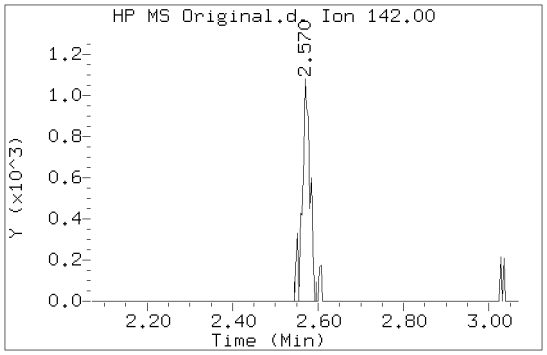


Iodomethane (74-88-4)

Reason Code:

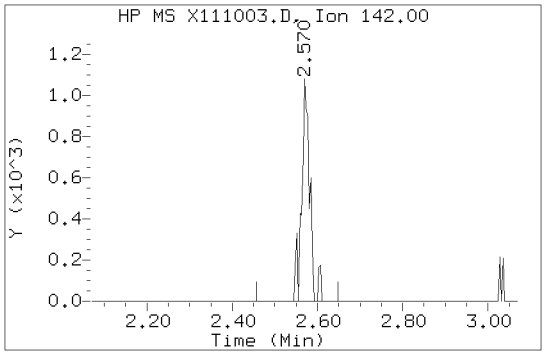
BEFORE

MASS
142
AREA
1412
HEIGHT
1081
17-Nov-2022
13:58
linh
pham



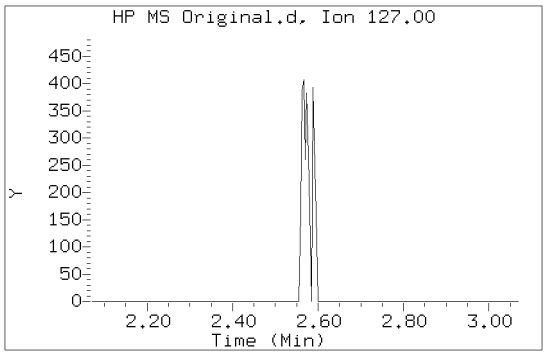
AFTER

MASS
142
AREA
1488
HEIGHT
1081
17-Nov-2022
14:02
linh
pham



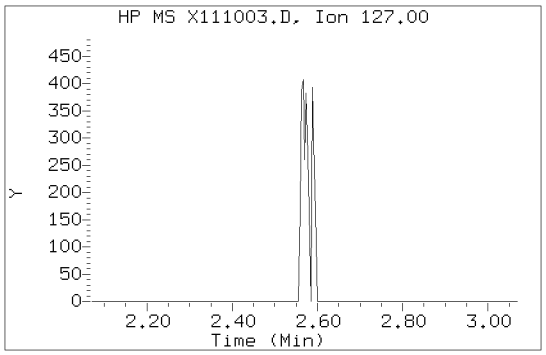
BEFORE

MASS
127
AREA
0
HEIGHT
0
17-Nov-2022
13:58
linh
pham



AFTER

MASS
127
AREA
0
HEIGHT
0
17-Nov-2022
14:02
linh
pham



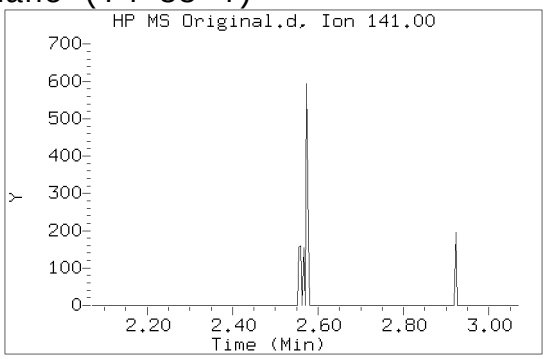
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111003.D
Inj Date : 10-NOV-2022 13:34
InstruID : voa10.i
LabSampID : VSTD000.5

Iodomethane (74-88-4)

Reason Code:

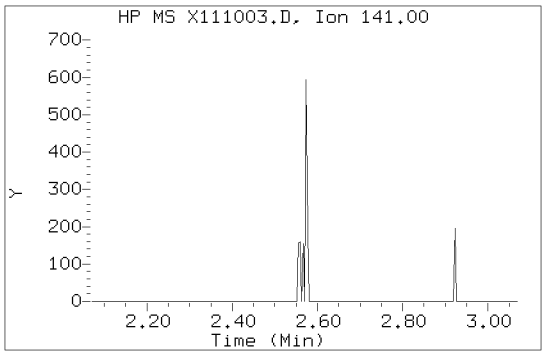
BEFORE

MASS
141
AREA
0
HEIGHT
0
17-Nov-2022
13:58
linh
pham



AFTER

MASS
141
AREA
0
HEIGHT
0
17-Nov-2022
14:02
linh
pham

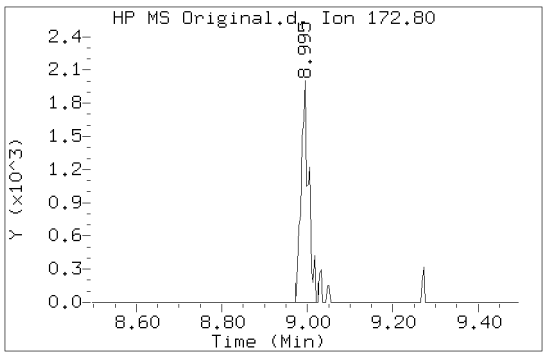


Bromoform (75-25-2)

Reason Code:

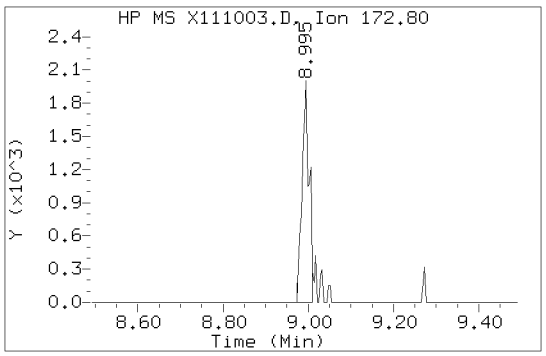
BEFORE

MASS
172.8
AREA
2514
HEIGHT
2003
17-Nov-2022
13:58
linh
pham



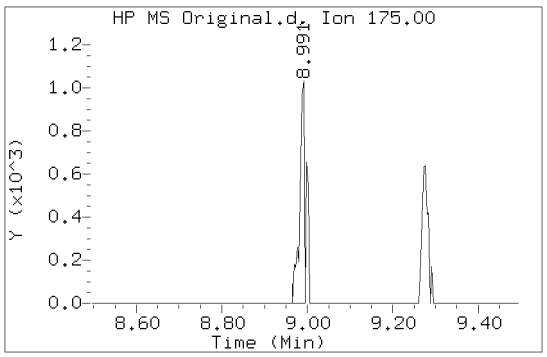
AFTER

MASS
172.8
AREA
2377
HEIGHT
2003
17-Nov-2022
14:02
linh
pham



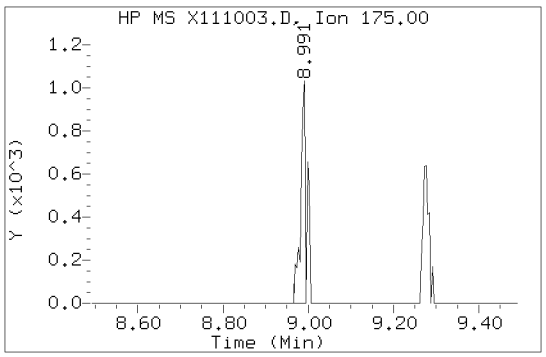
BEFORE

MASS
175
AREA
775
HEIGHT
1033
17-Nov-2022
13:58
linh
pham



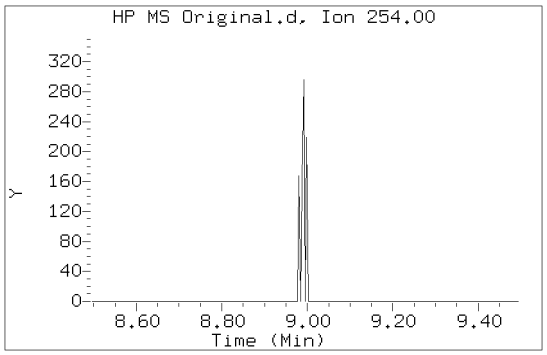
AFTER

MASS
175
AREA
775
HEIGHT
1033
17-Nov-2022
14:02
linh
pham



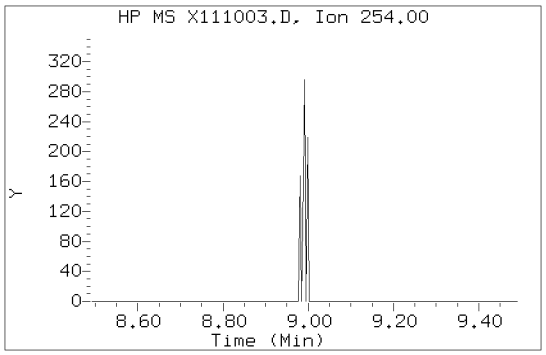
BEFORE

MASS
254
AREA
0
HEIGHT
0
17-Nov-2022
13:58
linh
pham



AFTER

MASS
254
AREA
0
HEIGHT
0
17-Nov-2022
14:02
linh
pham

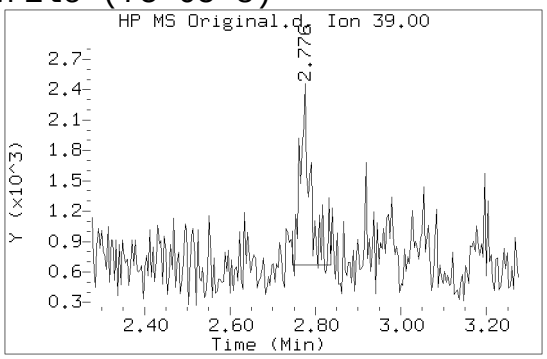


Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111003.D
Inj Date : 10-NOV-2022 13:34
InstruID : voa10.i
LabSampID : VSTD000.5

Acetonitrile (75-05-8)

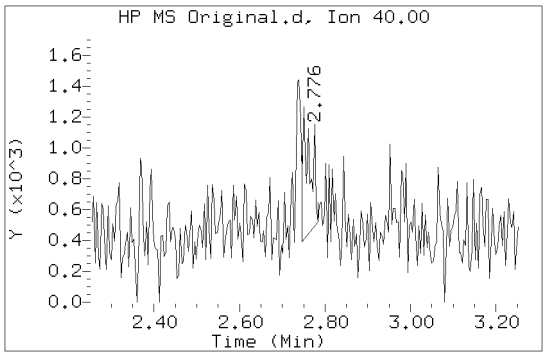
BEFORE

MASS
39
AREA
2925
HEIGHT
1786
17-Nov-2022
13:58
linh
pham



BEFORE

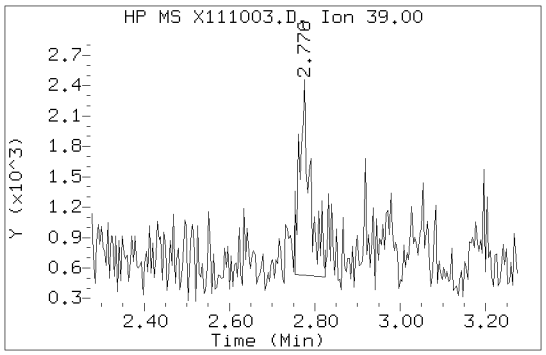
MASS
40
AREA
1012
HEIGHT
660
17-Nov-2022
13:58
linh
pham



Reason Code:

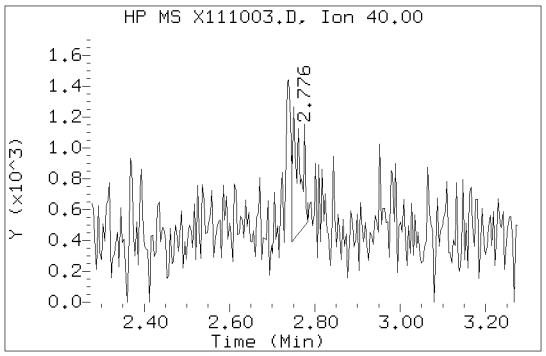
AFTER

MASS
39
AREA
3418
HEIGHT
1927
17-Nov-2022
14:02
linh
pham



AFTER

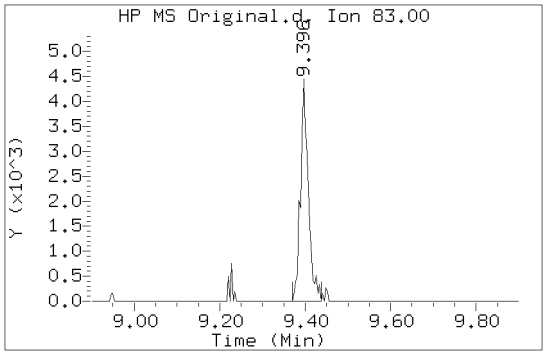
MASS
40
AREA
1012
HEIGHT
660
17-Nov-2022
14:02
linh
pham



1,1,2,2-Tetrachloroethane (79-34-5)

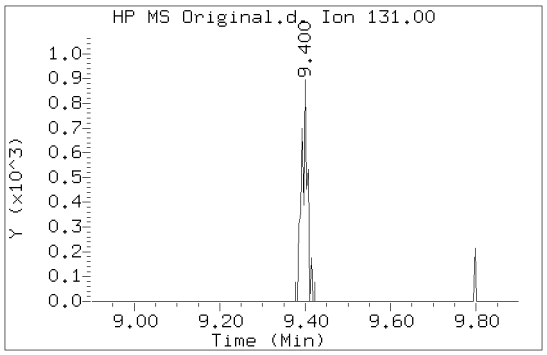
BEFORE

MASS
83
AREA
5815
HEIGHT
4449
17-Nov-2022
13:58
linh
pham



BEFORE

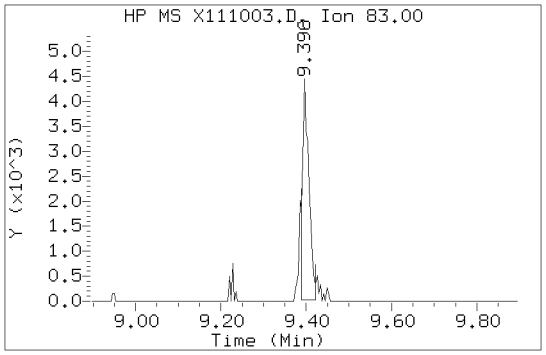
MASS
131
AREA
856
HEIGHT
895
17-Nov-2022
13:58
linh
pham



Reason Code:

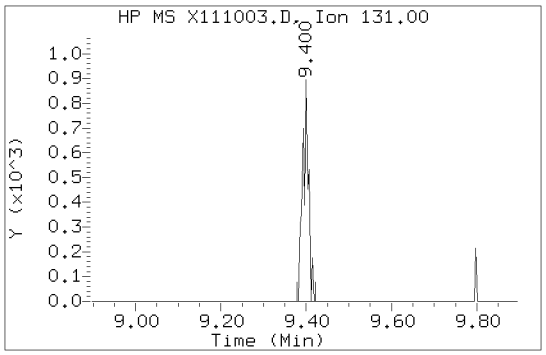
AFTER

MASS
83
AREA
4805
HEIGHT
4417
17-Nov-2022
14:02
linh
pham



AFTER

MASS
131
AREA
856
HEIGHT
895
17-Nov-2022
14:02
linh
pham



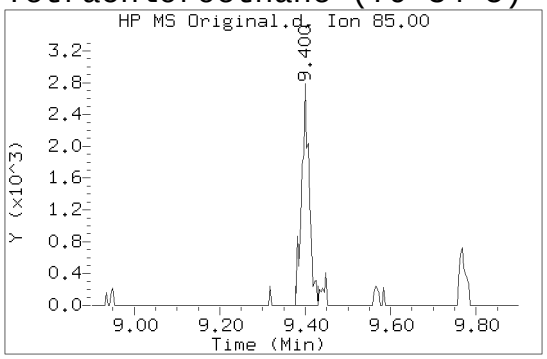
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111003.D
Inj Date : 10-NOV-2022 13:34
InstruID : voa10.i
LabSampID : VSTD000.5

1,1,2,2-Tetrachloroethane (79-34-5)

Reason Code:

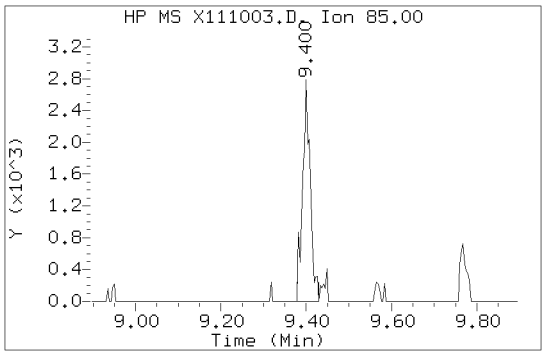
BEFORE

MASS
85
AREA
3545
HEIGHT
2787
17-Nov-2022
13:58
linh
pham



AFTER

MASS
85
AREA
3545
HEIGHT
2787
17-Nov-2022
14:02
linh
pham

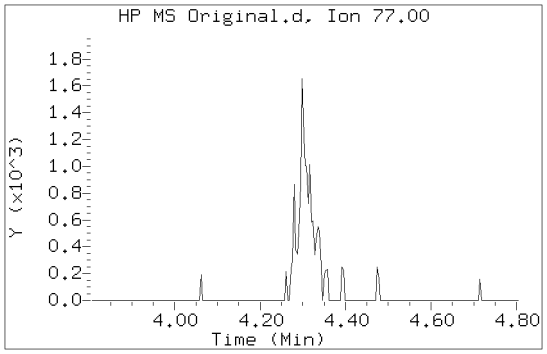


2,2-Dichloropropane (594-20-7)

Reason Code:

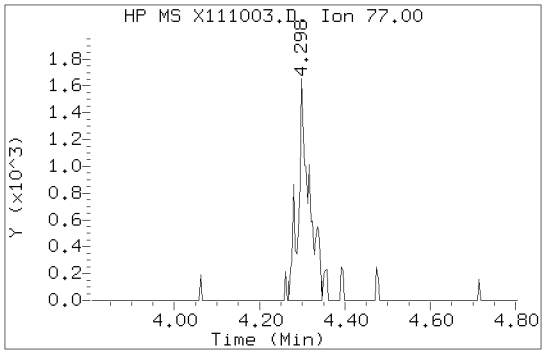
BEFORE

MASS
77
AREA
0
HEIGHT
0
17-Nov-2022
13:58
linh
pham



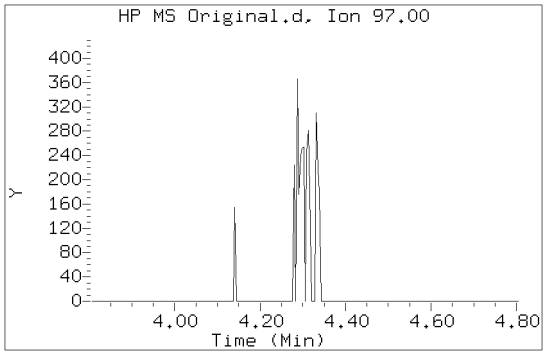
AFTER

MASS
77
AREA
3014
HEIGHT
1654
17-Nov-2022
14:02
linh
pham



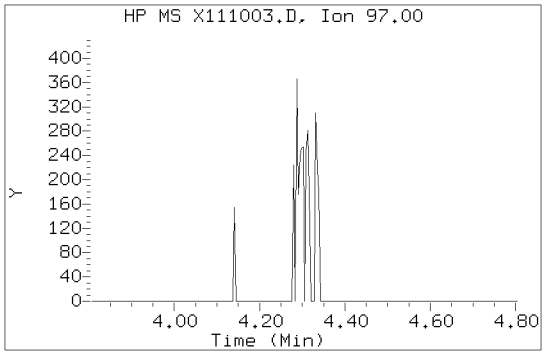
BEFORE

MASS
97
AREA
0
HEIGHT
0
17-Nov-2022
13:58
linh
pham



AFTER

MASS
97
AREA
0
HEIGHT
0
17-Nov-2022
14:02
linh
pham

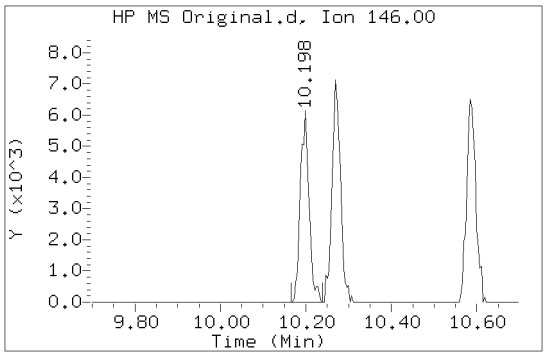


1,3-Dichlorobenzene (541-73-1)

Reason Code:

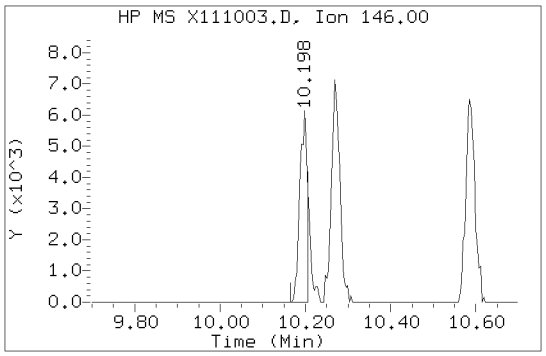
BEFORE

MASS
146
AREA
9004
HEIGHT
6151
17-Nov-2022
13:58
linh
pham



AFTER

MASS
146
AREA
7514
HEIGHT
6151
17-Nov-2022
14:02
linh
pham



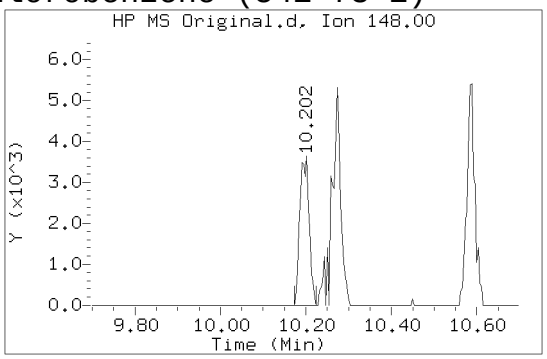
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111003.D
Inj Date : 10-NOV-2022 13:34
InstruID : voa10.i
LabSampID : VSTD000.5

1,3-Dichlorobenzene (541-73-1)

Reason Code:

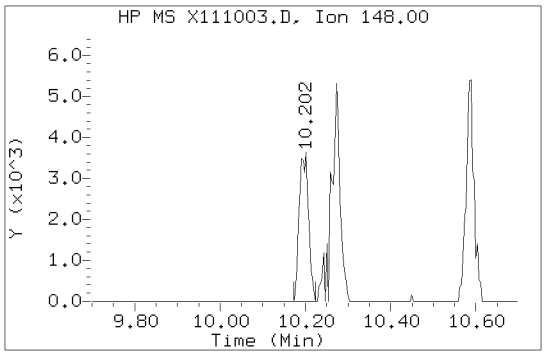
BEFORE

MASS
148
AREA
5646
HEIGHT
3652
17-Nov-2022
13:58
linh
pham



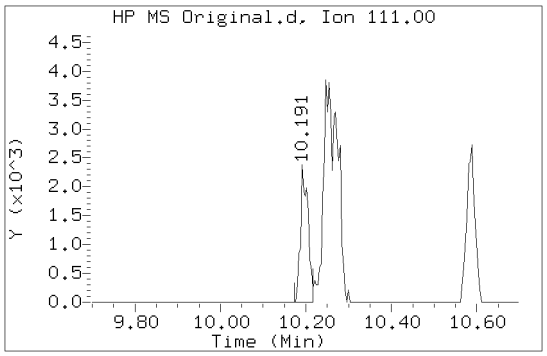
AFTER

MASS
148
AREA
5646
HEIGHT
3652
17-Nov-2022
14:02
linh
pham



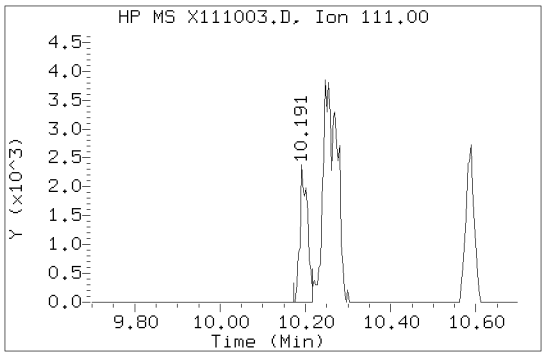
BEFORE

MASS
111
AREA
2990
HEIGHT
2381
17-Nov-2022
13:58
linh
pham



AFTER

MASS
111
AREA
2990
HEIGHT
2381
17-Nov-2022
14:02
linh
pham

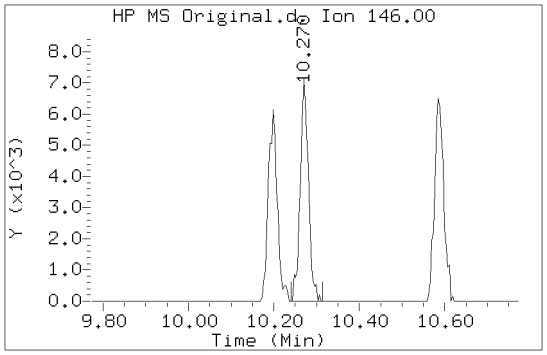


1,4-Dichlorobenzene (106-46-7)

Reason Code:

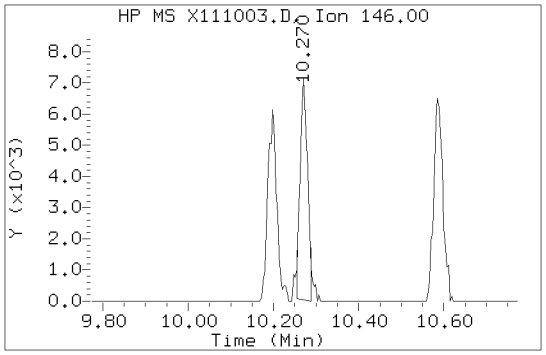
BEFORE

MASS
146
AREA
9863
HEIGHT
7130
17-Nov-2022
13:58
linh
pham



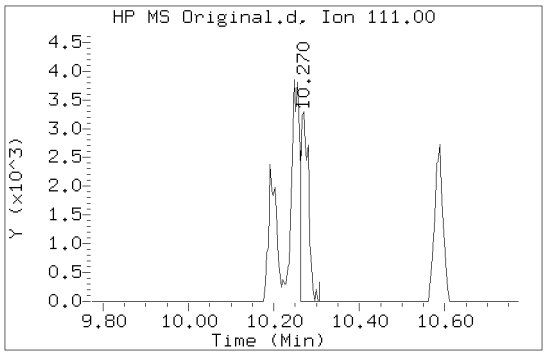
AFTER

MASS
146
AREA
8982
HEIGHT
7082
17-Nov-2022
14:02
linh
pham



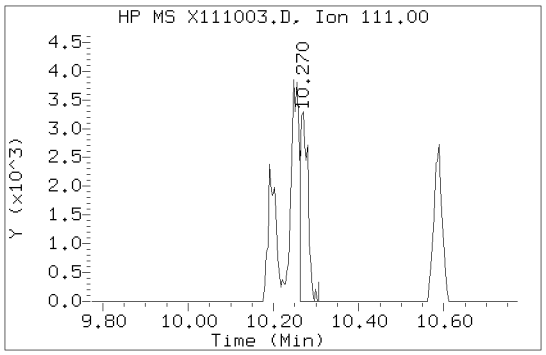
BEFORE

MASS
111
AREA
4212
HEIGHT
3299
17-Nov-2022
13:58
linh
pham



AFTER

MASS
111
AREA
4212
HEIGHT
3299
17-Nov-2022
14:02
linh
pham



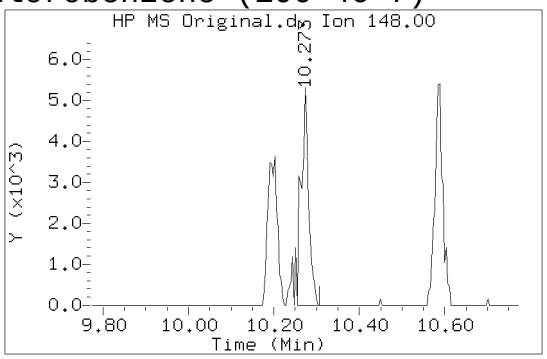
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111003.D
Inj Date : 10-NOV-2022 13:34
InstruID : voa10.i
LabSampID : VSTD000.5

1,4-Dichlorobenzene (106-46-7)

Reason Code:

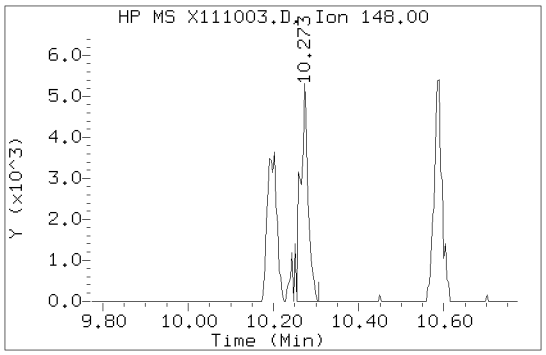
BEFORE

MASS
148
AREA
6616
HEIGHT
5316
17-Nov-2022
13:58
linh
pham



AFTER

MASS
148
AREA
6616
HEIGHT
5316
17-Nov-2022
14:02
linh
pham

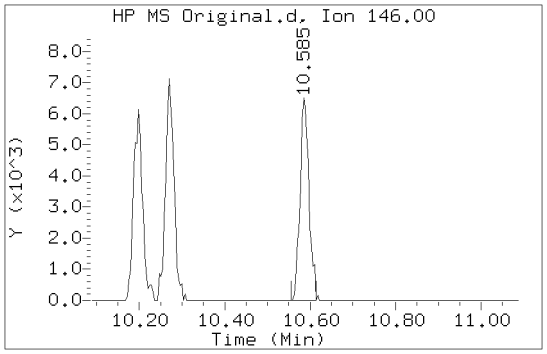


1,2-Dichlorobenzene (95-50-1)

Reason Code:

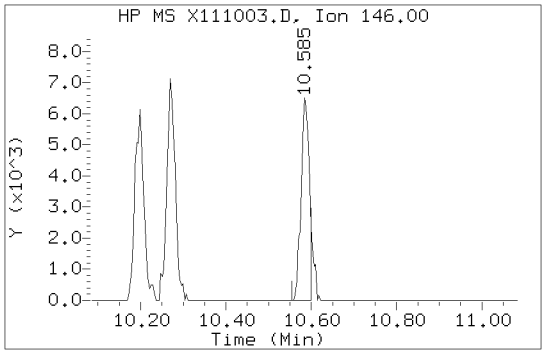
BEFORE

MASS
146
AREA
9713
HEIGHT
6506
17-Nov-2022
13:58
linh
pham



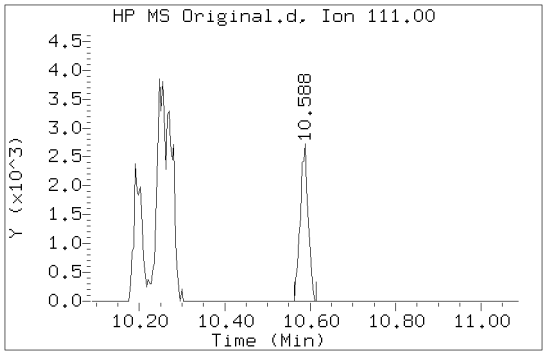
AFTER

MASS
146
AREA
8824
HEIGHT
6506
17-Nov-2022
14:02
linh
pham



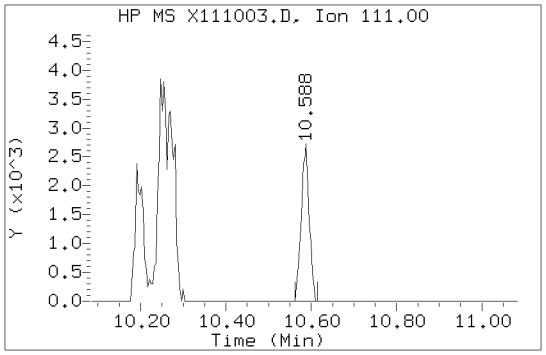
BEFORE

MASS
111
AREA
3642
HEIGHT
2729
17-Nov-2022
13:58
linh
pham



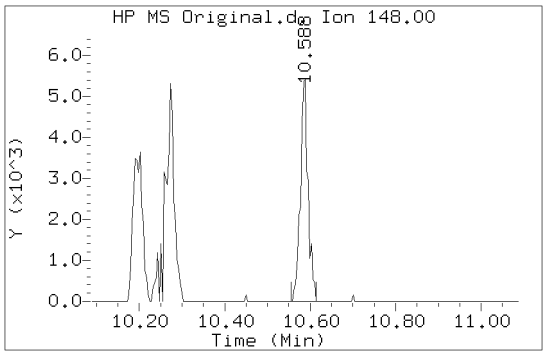
AFTER

MASS
111
AREA
3642
HEIGHT
2729
17-Nov-2022
14:02
linh
pham



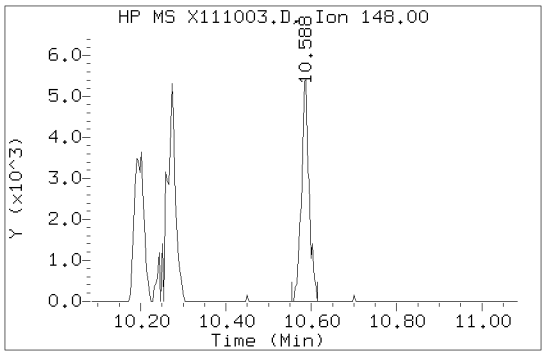
BEFORE

MASS
148
AREA
6969
HEIGHT
5409
17-Nov-2022
13:58
linh
pham



AFTER

MASS
148
AREA
6969
HEIGHT
5409
17-Nov-2022
14:02
linh
pham



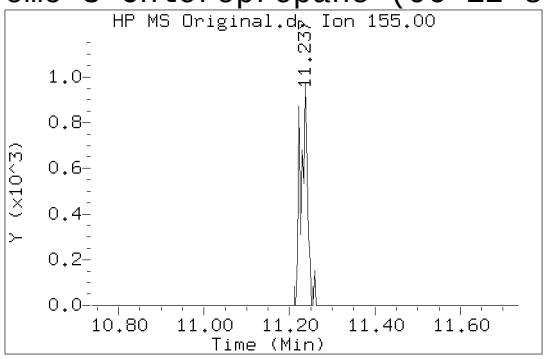
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111003.D
Inj Date : 10-NOV-2022 13:34
InstruID : voa10.i
LabSampID : VSTD000.5

1,2-Dibromo-3-Chloropropane (96-12-8)

Reason Code:

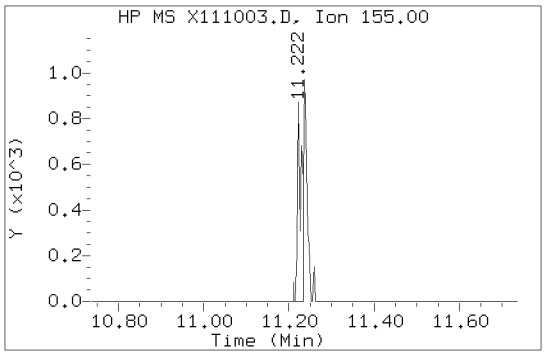
BEFORE

MASS
155
AREA
1095
HEIGHT
971
17-Nov-2022
13:58
linh
pham



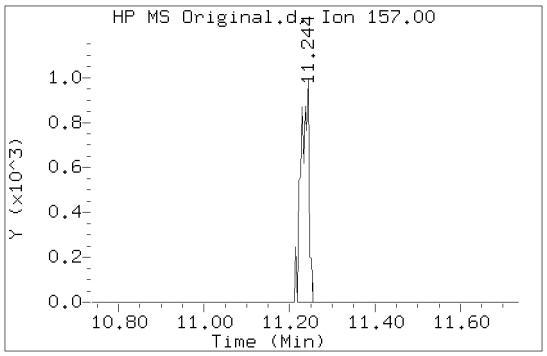
AFTER

MASS
155
AREA
587
HEIGHT
874
17-Nov-2022
14:02
linh
pham



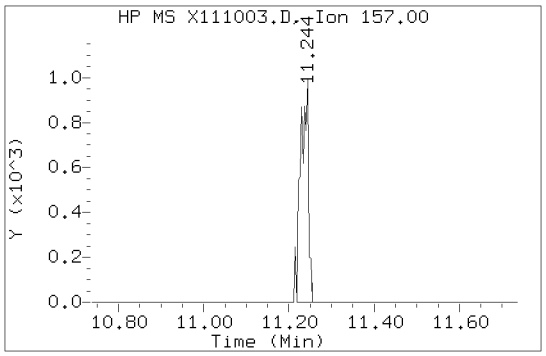
BEFORE

MASS
157
AREA
1263
HEIGHT
990
17-Nov-2022
13:58
linh
pham



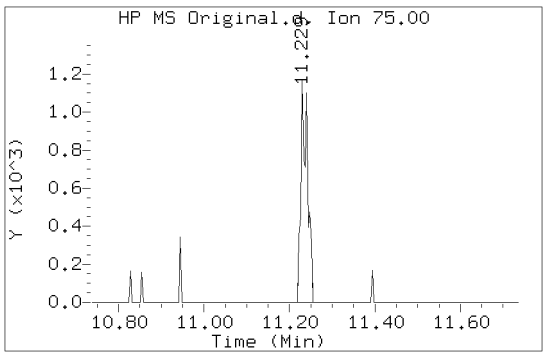
AFTER

MASS
157
AREA
1263
HEIGHT
990
17-Nov-2022
14:02
linh
pham



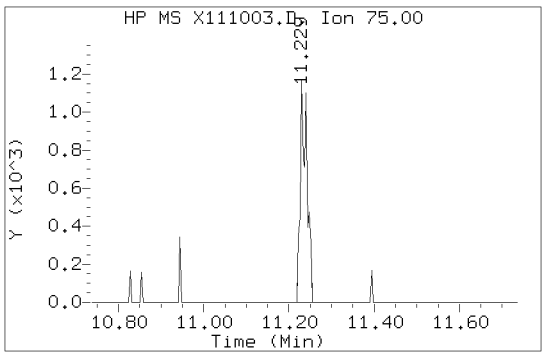
BEFORE

MASS
75
AREA
1283
HEIGHT
1165
17-Nov-2022
13:58
linh
pham



AFTER

MASS
75
AREA
1283
HEIGHT
1165
17-Nov-2022
14:02
linh
pham

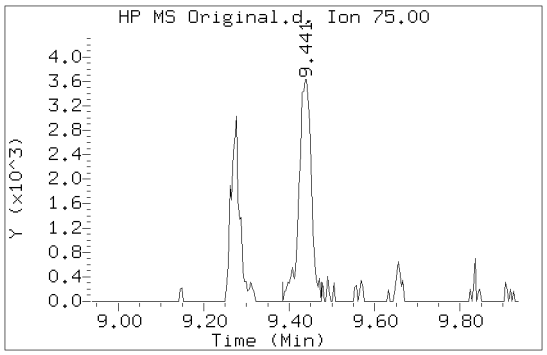


1,2,3-Trichloropropane (96-18-4)

Reason Code:

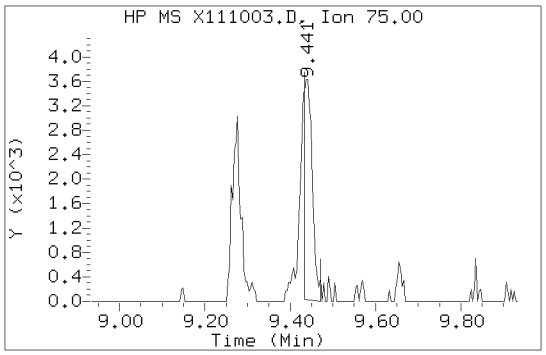
BEFORE

MASS
75
AREA
7455
HEIGHT
3627
17-Nov-2022
13:58
linh
pham



AFTER

MASS
75
AREA
4794
HEIGHT
3600
17-Nov-2022
14:02
linh
pham



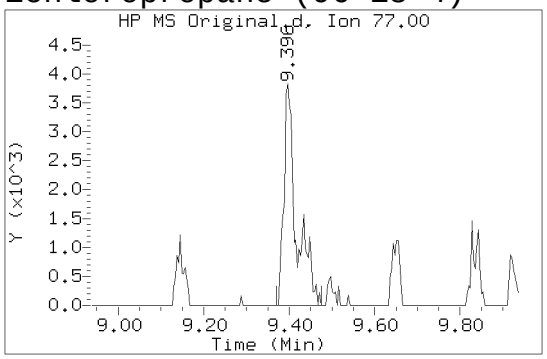
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Inj Date : 10-NOV-2022 13:34
InstruID : voa10.i
LabSampID : VSTD000.5

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

Reason Code:

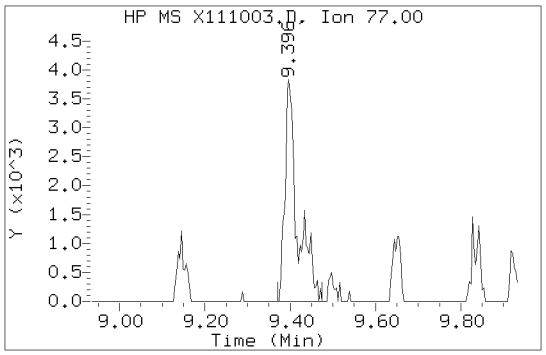
BEFORE

MASS
77
AREA
7784
HEIGHT
3831
17-Nov-2022
13:58
linh
pham



AFTER

MASS
77
AREA
7784
HEIGHT
3831
17-Nov-2022
14:02
linh
pham

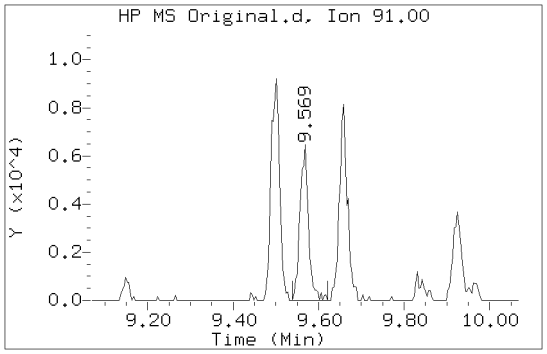


2-Chlorotoluene (95-49-8)

Reason Code:

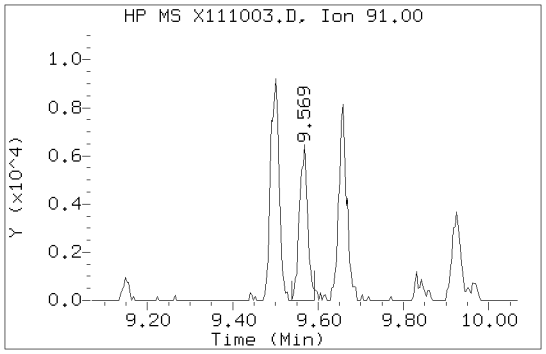
BEFORE

MASS
91
AREA
9261
HEIGHT
6464
17-Nov-2022
13:58
linh
pham



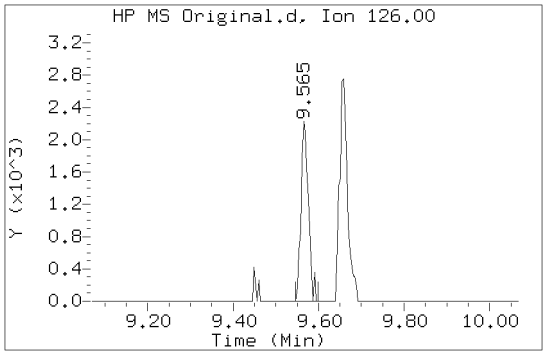
AFTER

MASS
91
AREA
8907
HEIGHT
6464
17-Nov-2022
14:02
linh
pham



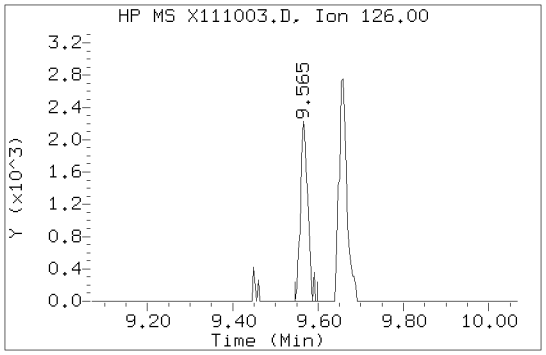
BEFORE

MASS
126
AREA
2759
HEIGHT
2226
17-Nov-2022
13:58
linh
pham



AFTER

MASS
126
AREA
2759
HEIGHT
2226
17-Nov-2022
14:02
linh
pham

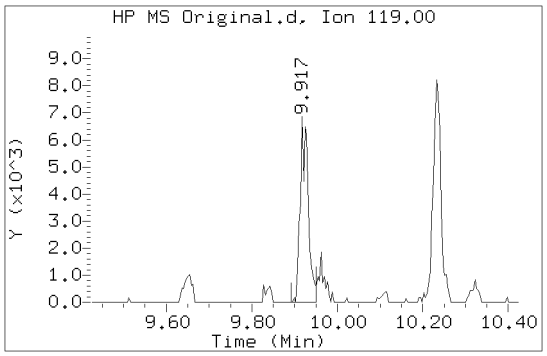


tert-Butylbenzene (98-06-6)

Reason Code:

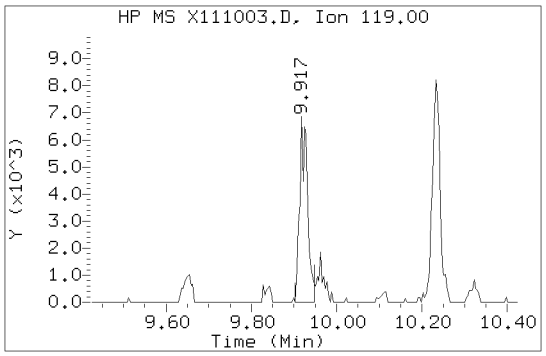
BEFORE

MASS
119
AREA
9209
HEIGHT
6869
17-Nov-2022
13:58
linh
pham



AFTER

MASS
119
AREA
9035
HEIGHT
6869
17-Nov-2022
14:02
linh
pham



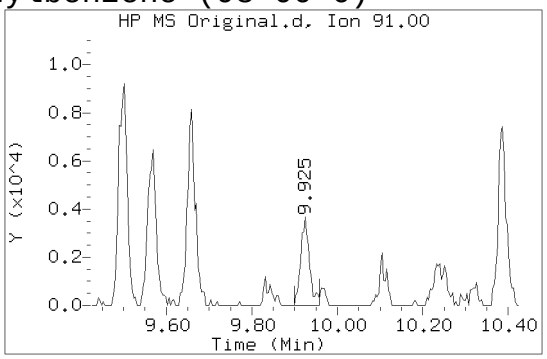
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Inj Date : 10-NOV-2022 13:34
InstruID : voa10.i
LabSampID : VSTD000.5

tert-Butylbenzene (98-06-6)

Reason Code:

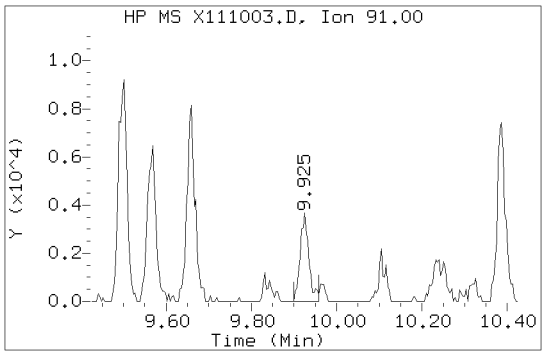
BEFORE

MASS
91
AREA
5354
HEIGHT
3683
17-Nov-2022
13:58
linh
pham



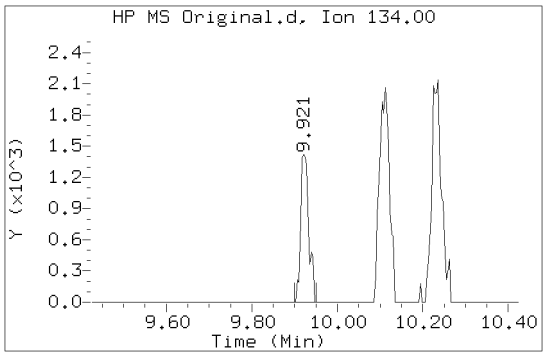
AFTER

MASS
91
AREA
5354
HEIGHT
3683
17-Nov-2022
14:02
linh
pham



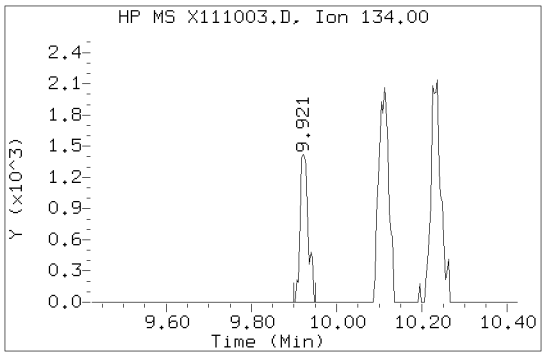
BEFORE

MASS
134
AREA
1955
HEIGHT
1419
17-Nov-2022
13:58
linh
pham



AFTER

MASS
134
AREA
1955
HEIGHT
1419
17-Nov-2022
14:02
linh
pham

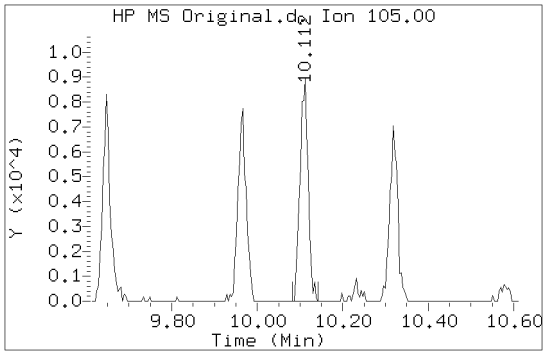


sec-Butylbenzene (135-98-8)

Reason Code:

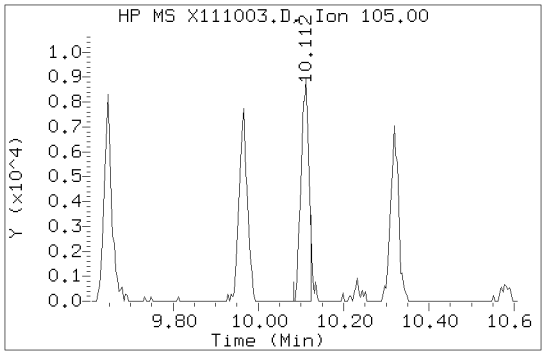
BEFORE

MASS
105
AREA
12258
HEIGHT
8926
17-Nov-2022
13:58
linh
pham



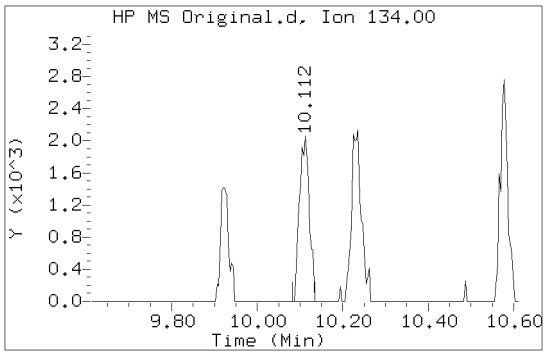
AFTER

MASS
105
AREA
11718
HEIGHT
8926
17-Nov-2022
14:02
linh
pham



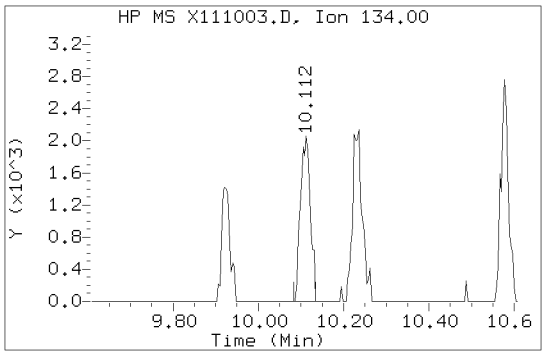
BEFORE

MASS
134
AREA
3391
HEIGHT
2063
17-Nov-2022
13:58
linh
pham



AFTER

MASS
134
AREA
3391
HEIGHT
2063
17-Nov-2022
14:02
linh
pham



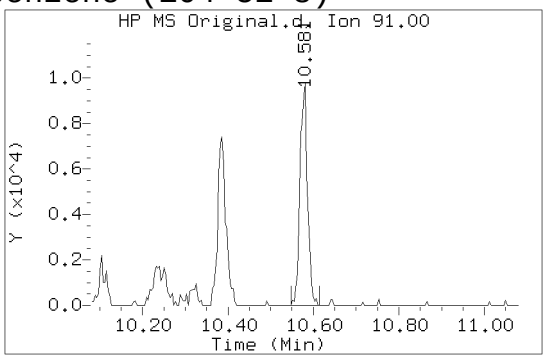
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111003.D
Inj Date : 10-NOV-2022 13:34
InstruID : voa10.i
LabSampID : VSTD000.5

n-Butylbenzene (104-51-8)

Reason Code:

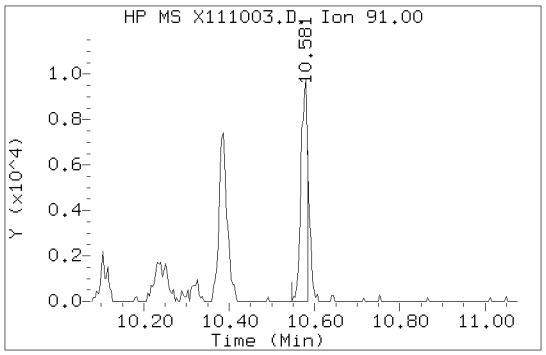
BEFORE

MASS
91
AREA
12348
HEIGHT
9753
17-Nov-2022
13:58
linh
pham



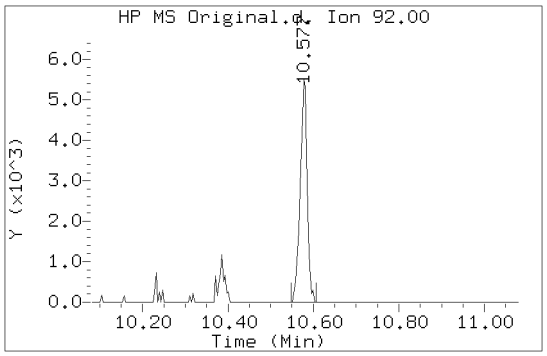
AFTER

MASS
91
AREA
10473
HEIGHT
9753
17-Nov-2022
14:02
linh
pham



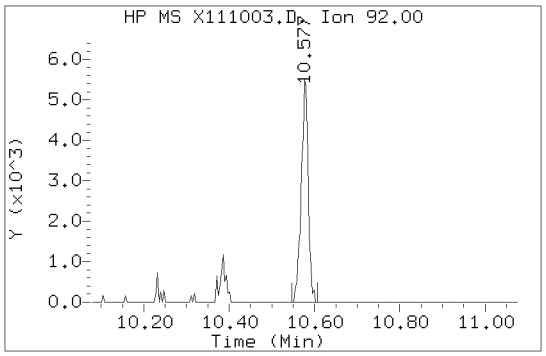
BEFORE

MASS
92
AREA
6470
HEIGHT
5493
17-Nov-2022
13:58
linh
pham



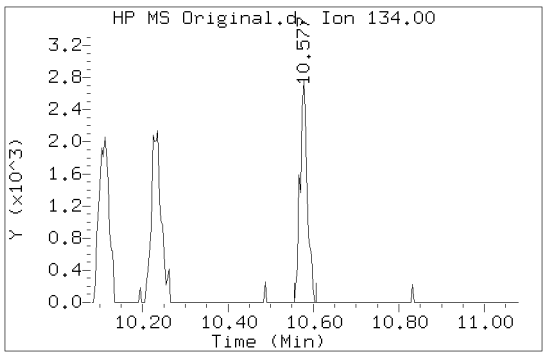
AFTER

MASS
92
AREA
6470
HEIGHT
5493
17-Nov-2022
14:02
linh
pham



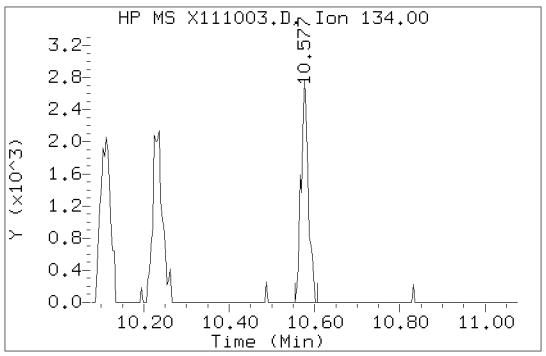
BEFORE

MASS
134
AREA
3388
HEIGHT
2761
17-Nov-2022
13:58
linh
pham



AFTER

MASS
134
AREA
3388
HEIGHT
2761
17-Nov-2022
14:02
linh
pham

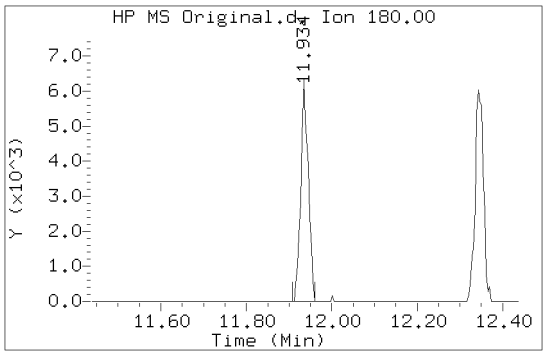


1,2,4-Trichlorobenzene (120-82-1)

Reason Code:

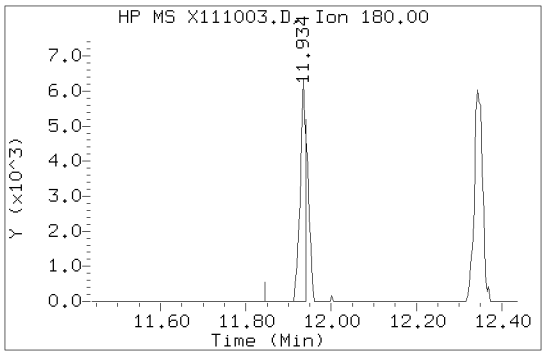
BEFORE

MASS
180
AREA
7977
HEIGHT
6324
17-Nov-2022
13:58
linh
pham



AFTER

MASS
180
AREA
6080
HEIGHT
6324
17-Nov-2022
14:02
linh
pham

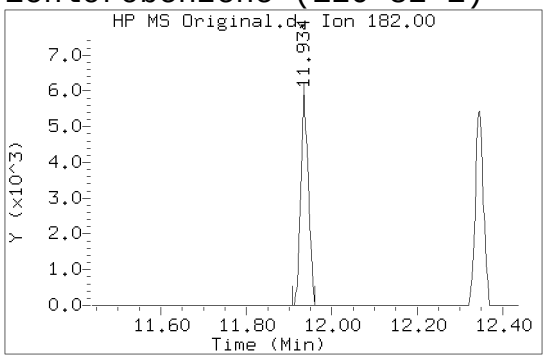


Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111003.D
Inj Date : 10-NOV-2022 13:34
InstruID : voa10.i
LabSampID : VSTD000.5

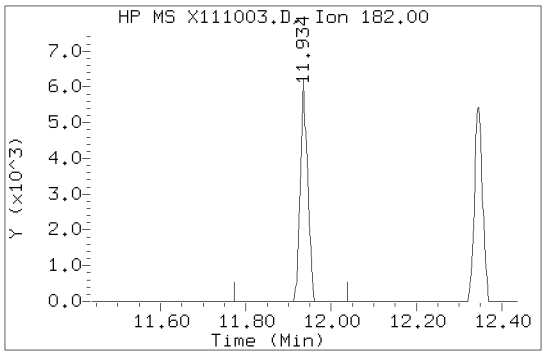
1,2,4-Trichlorobenzene (120-82-1)

Reason Code:

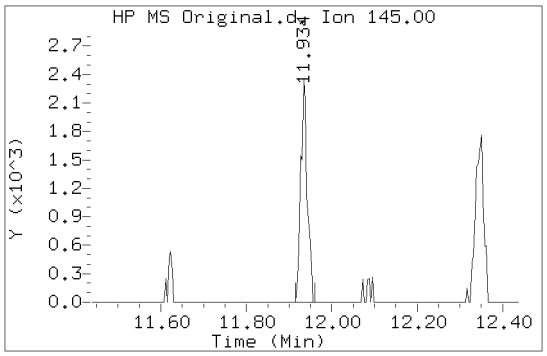
BEFORE
MASS
182
AREA
7608
HEIGHT
6203
17-Nov-2022
13:58
linh
pham



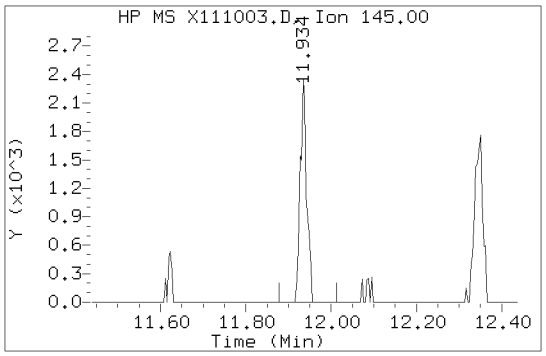
AFTER
MASS
182
AREA
7608
HEIGHT
6203
17-Nov-2022
14:02
linh
pham



BEFORE
MASS
145
AREA
2567
HEIGHT
2343
17-Nov-2022
13:58
linh
pham



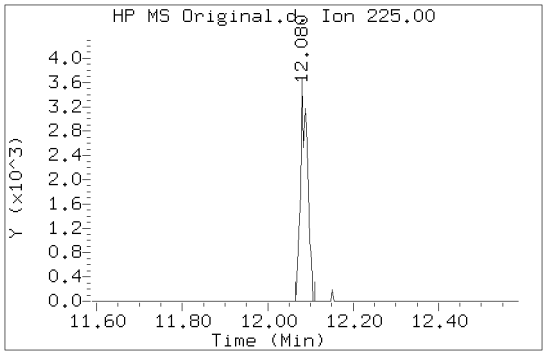
AFTER
MASS
145
AREA
2567
HEIGHT
2343
17-Nov-2022
14:02
linh
pham



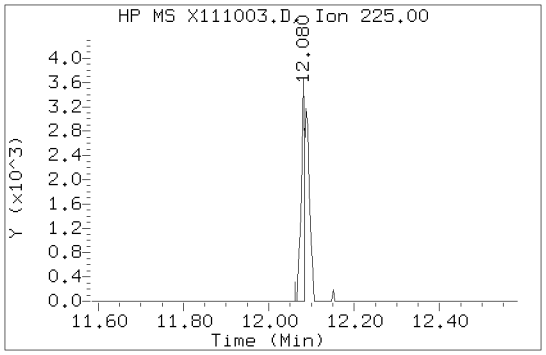
Hexachlorobutadiene (87-68-3)

Reason Code:

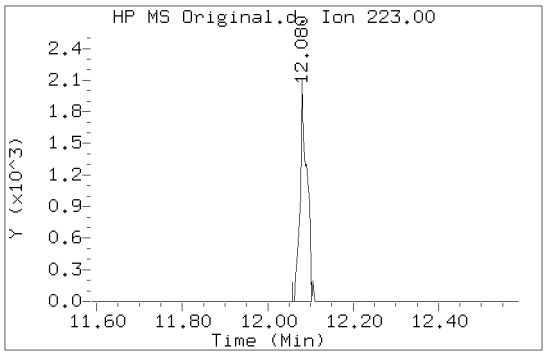
BEFORE
MASS
225
AREA
4329
HEIGHT
3659
17-Nov-2022
13:58
linh
pham



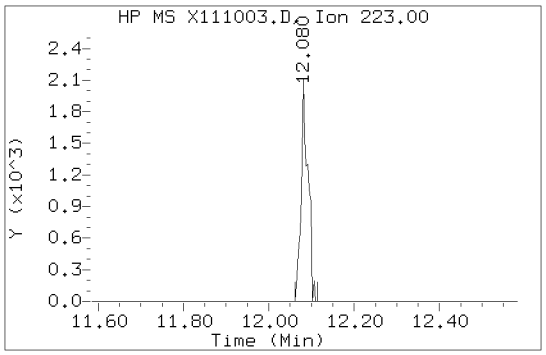
AFTER
MASS
225
AREA
2181
HEIGHT
3659
17-Nov-2022
14:02
linh
pham



BEFORE
MASS
223
AREA
2385
HEIGHT
2104
17-Nov-2022
13:58
linh
pham



AFTER
MASS
223
AREA
2428
HEIGHT
2104
17-Nov-2022
14:02
linh
pham



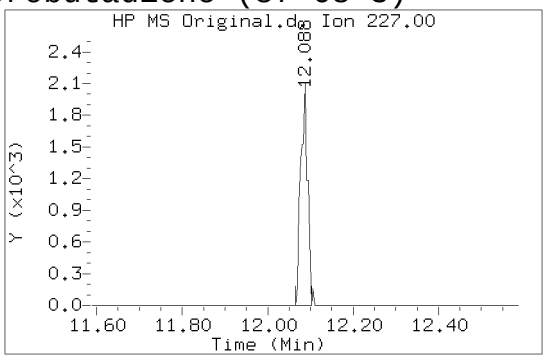
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111003.D
Inj Date : 10-NOV-2022 13:34
InstruID : voa10.i
LabSampID : VSTD000.5

Hexachlorobutadiene (87-68-3)

Reason Code:

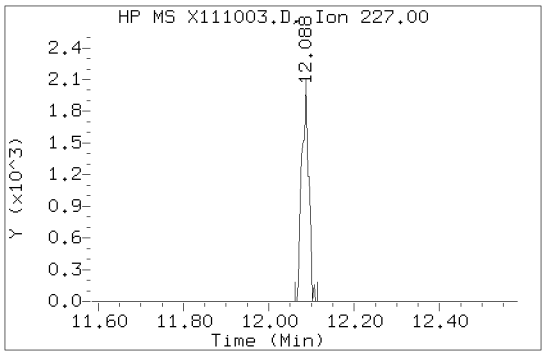
BEFORE

MASS
227
AREA
2399
HEIGHT
2099
17-Nov-2022
13:58
linh
pham



AFTER

MASS
227
AREA
2435
HEIGHT
2099
17-Nov-2022
14:02
linh
pham

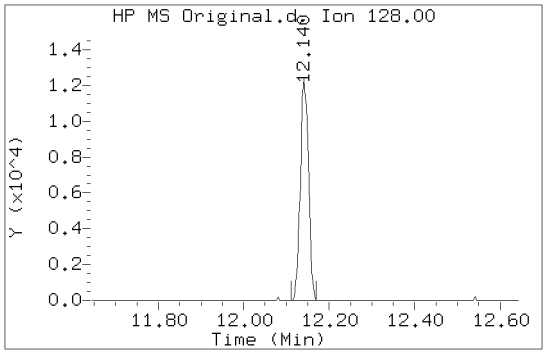


Naphthalene (91-20-3)

Reason Code:

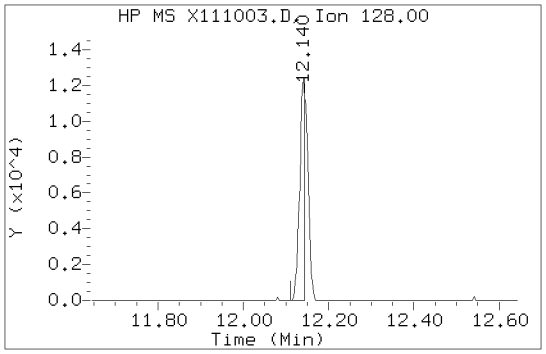
BEFORE

MASS
128
AREA
17053
HEIGHT
12384
17-Nov-2022
13:58
linh
pham



AFTER

MASS
128
AREA
11034
HEIGHT
12384
17-Nov-2022
14:02
linh
pham

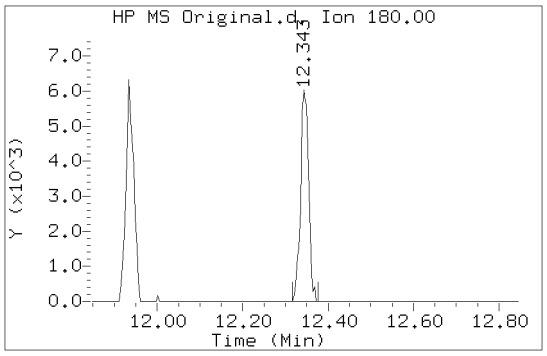


1,2,3-Trichlorobenzene (87-61-6)

Reason Code:

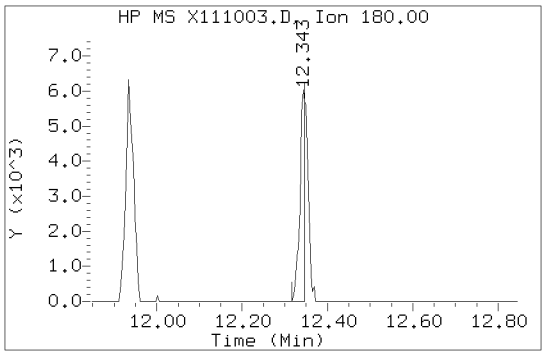
BEFORE

MASS
180
AREA
8228
HEIGHT
6040
17-Nov-2022
13:58
linh
pham



AFTER

MASS
180
AREA
5222
HEIGHT
6040
17-Nov-2022
14:02
linh
pham

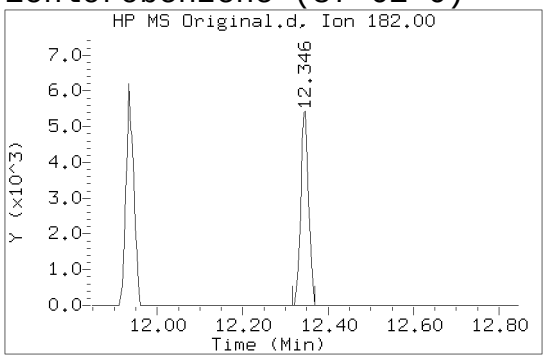


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Inj Date : 10-NOV-2022 13:34
InstruID : voa10.i
LabSampID : VSTD000.5

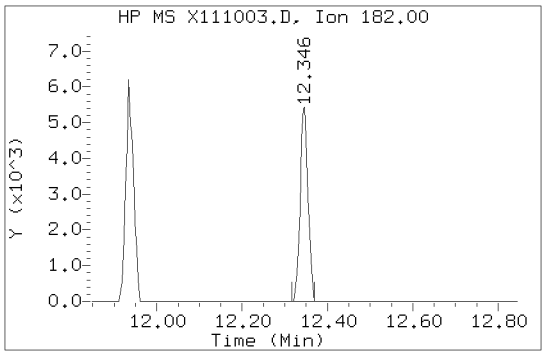
1,2,3-Trichlorobenzene (87-61-6)

Reason Code:

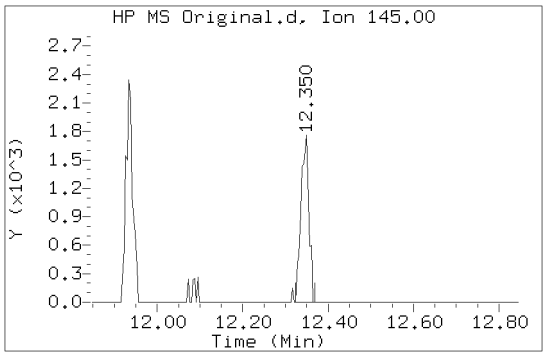
BEFORE
MASS
182
AREA
7198
HEIGHT
5438
17-Nov-2022
13:58
linh
pham



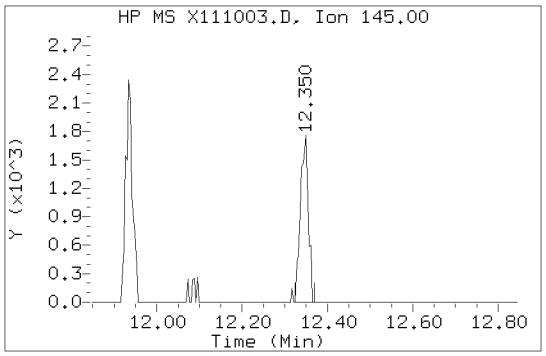
AFTER
MASS
182
AREA
7198
HEIGHT
5438
17-Nov-2022
14:02
linh
pham



BEFORE
MASS
145
AREA
2333
HEIGHT
1759
17-Nov-2022
13:58
linh
pham



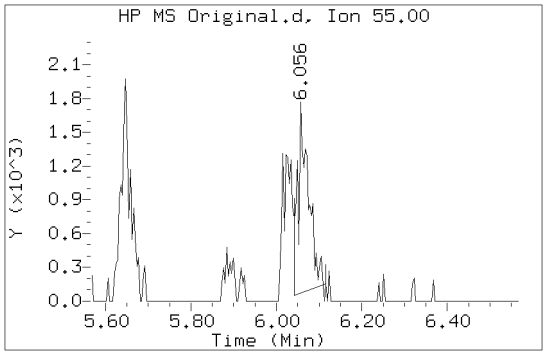
AFTER
MASS
145
AREA
2333
HEIGHT
1759
17-Nov-2022
14:02
linh
pham



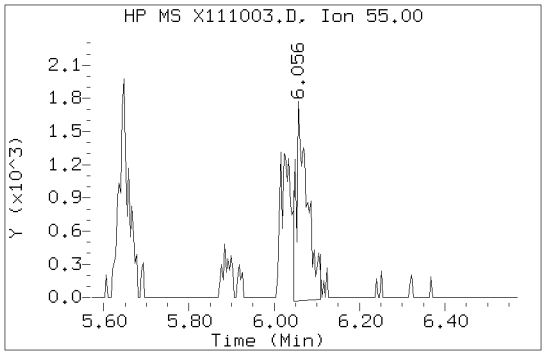
Methylcyclohexane (108-87-2)

Reason Code:

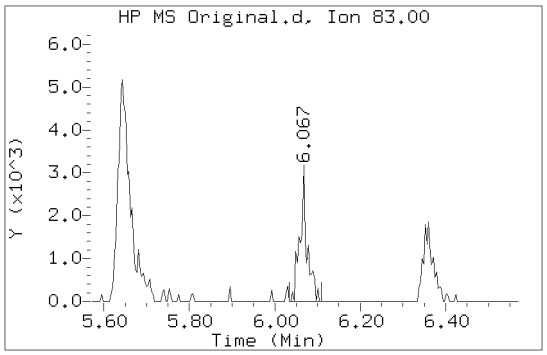
BEFORE
MASS
55
AREA
3009
HEIGHT
1702
17-Nov-2022
13:58
linh
pham



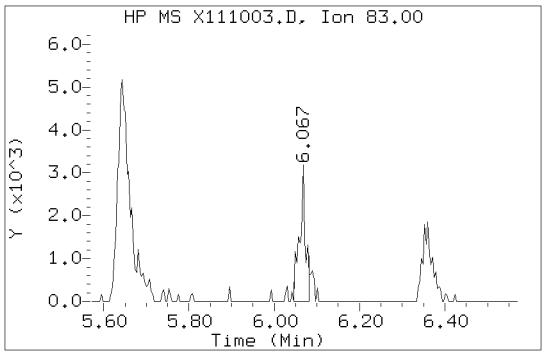
AFTER
MASS
55
AREA
3395
HEIGHT
1804
17-Nov-2022
14:02
linh
pham



BEFORE
MASS
83
AREA
3678
HEIGHT
3191
17-Nov-2022
13:58
linh
pham



AFTER
MASS
83
AREA
3136
HEIGHT
3191
17-Nov-2022
14:02
linh
pham



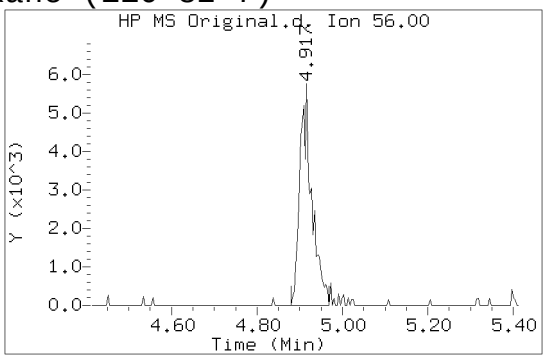
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Inj Date : 10-NOV-2022 13:34
InstruID : voa10.i
LabSampID : VSTD000.5

Cyclohexane (110-82-7)

Reason Code:

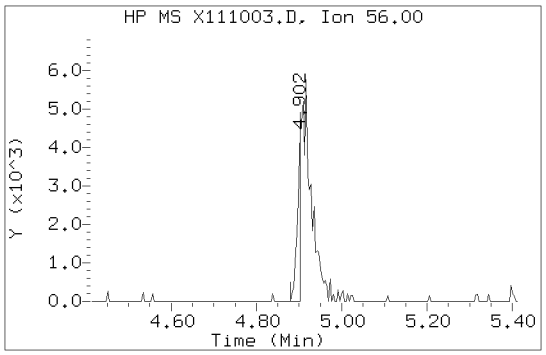
BEFORE

MASS
56
AREA
11267
HEIGHT
5762
17-Nov-2022
13:58
linh
pham



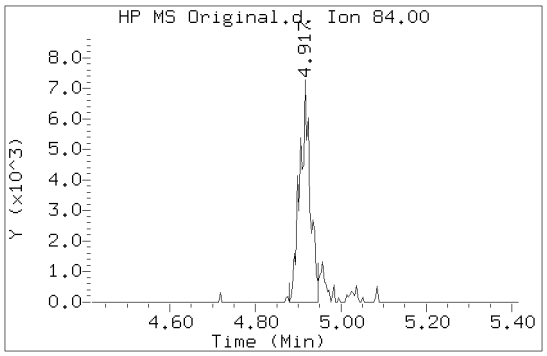
AFTER

MASS
56
AREA
2342
HEIGHT
4409
17-Nov-2022
14:02
linh
pham



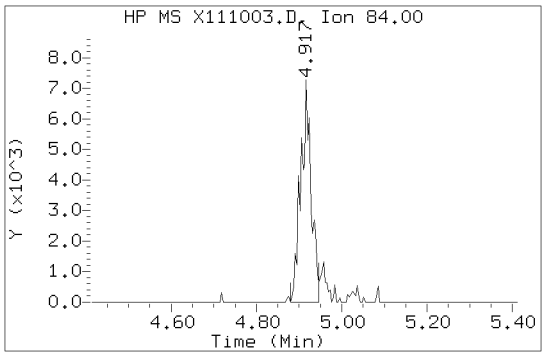
BEFORE

MASS
84
AREA
12453
HEIGHT
7280
17-Nov-2022
13:58
linh
pham



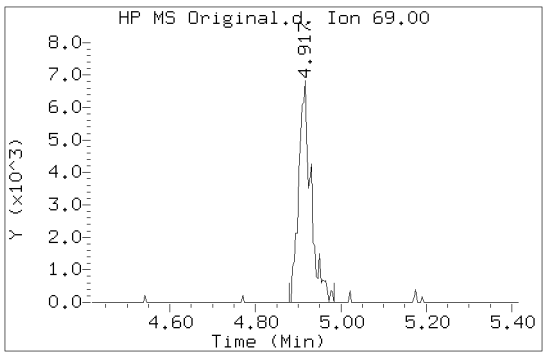
AFTER

MASS
84
AREA
12453
HEIGHT
7280
17-Nov-2022
14:02
linh
pham



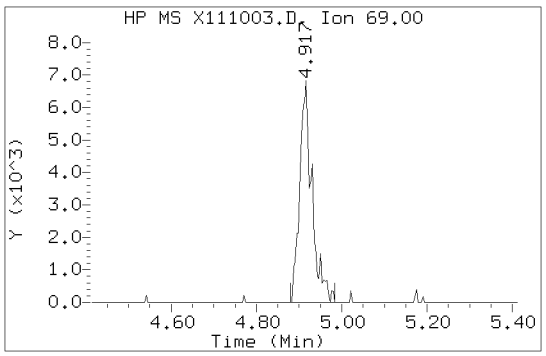
BEFORE

MASS
69
AREA
13882
HEIGHT
6825
17-Nov-2022
13:58
linh
pham



AFTER

MASS
69
AREA
13882
HEIGHT
6825
17-Nov-2022
14:02
linh
pham

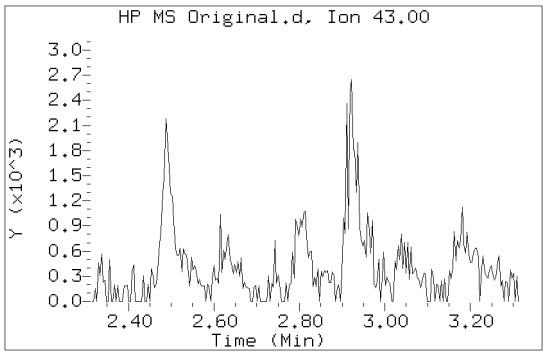


Methyl Acetate (79-20-9)

Reason Code:

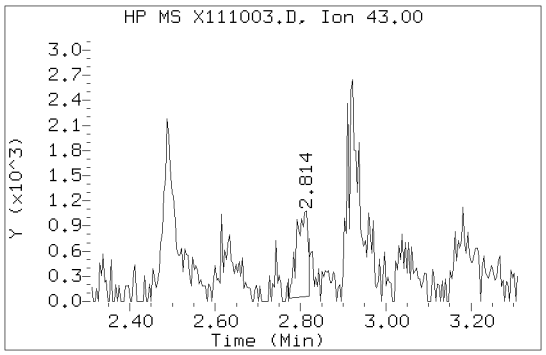
BEFORE

MASS
43
AREA
0
HEIGHT
0
17-Nov-2022
13:58
linh
pham



AFTER

MASS
43
AREA
1924
HEIGHT
1020
17-Nov-2022
14:02
linh
pham



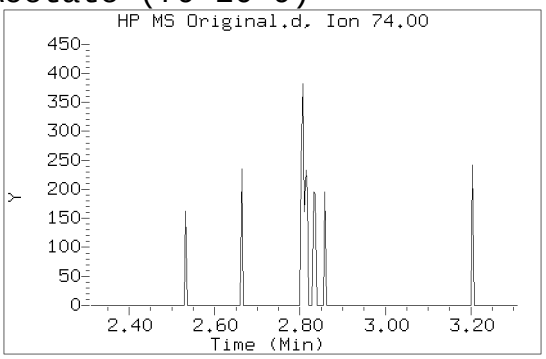
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Inj Date : 10-NOV-2022 13:34
InstruID : voa10.i
LabSampID : VSTD000.5

Methyl Acetate (79-20-9)

Reason Code:

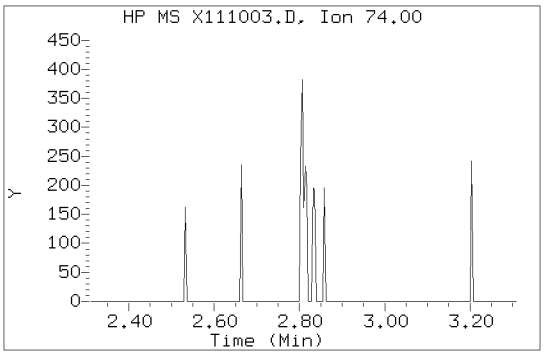
BEFORE

MASS
74
AREA
0
HEIGHT
0
17-Nov-2022
13:58
linh
pham



AFTER

MASS
74
AREA
0
HEIGHT
0
17-Nov-2022
14:02
linh
pham

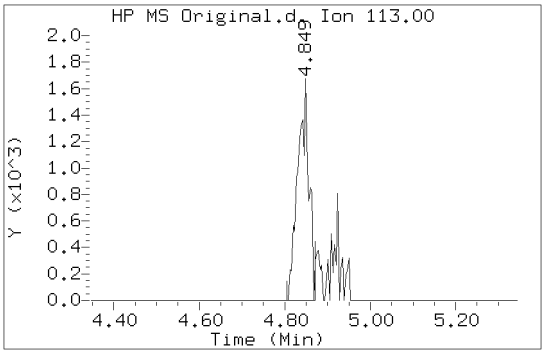


Dibromofluoromethane (1868-53-7)

Reason Code:

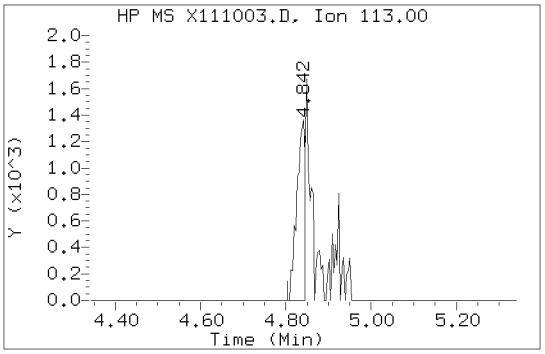
BEFORE

MASS
113
AREA
3113
HEIGHT
1675
17-Nov-2022
13:58
linh
pham



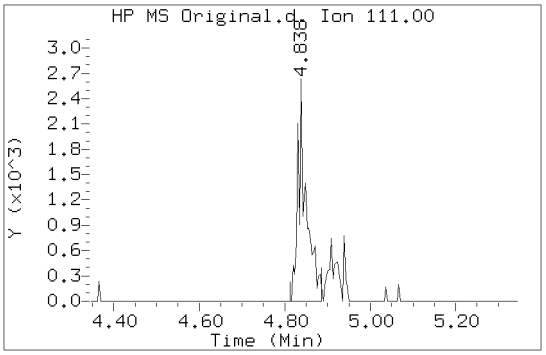
AFTER

MASS
113
AREA
1897
HEIGHT
1366
17-Nov-2022
14:02
linh
pham



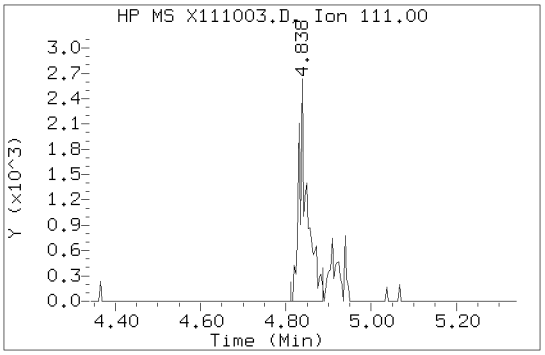
BEFORE

MASS
111
AREA
3582
HEIGHT
2634
17-Nov-2022
13:58
linh
pham



AFTER

MASS
111
AREA
3582
HEIGHT
2634
17-Nov-2022
14:02
linh
pham

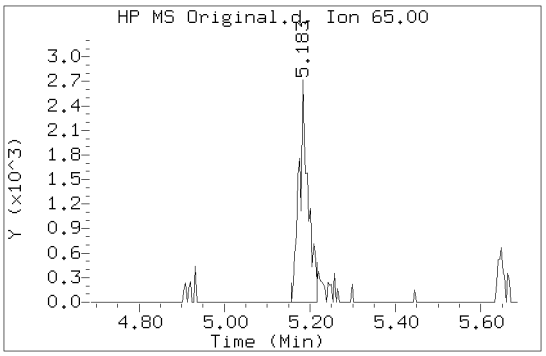


1,2-Dichloroethane-d4 (17060-07-0)

Reason Code:

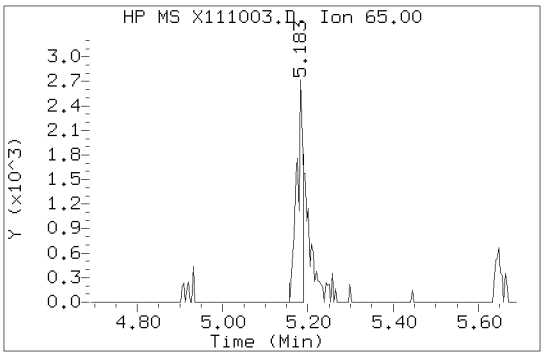
BEFORE

MASS
65
AREA
4070
HEIGHT
2718
17-Nov-2022
13:58
linh
pham



AFTER

MASS
65
AREA
2782
HEIGHT
2718
17-Nov-2022
14:02
linh
pham



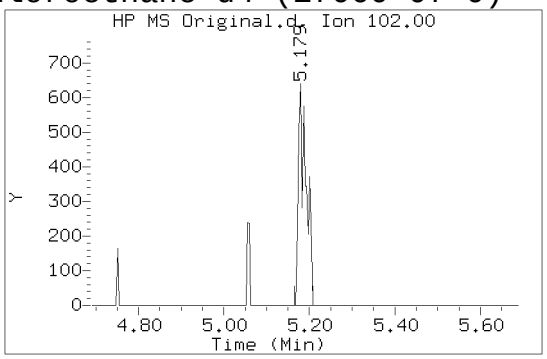
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111003.D
Inj Date : 10-NOV-2022 13:34
InstruID : voa10.i
LabSampID : VSTD000.5

1,2-Dichloroethane-d4 (17060-07-0)

Reason Code:

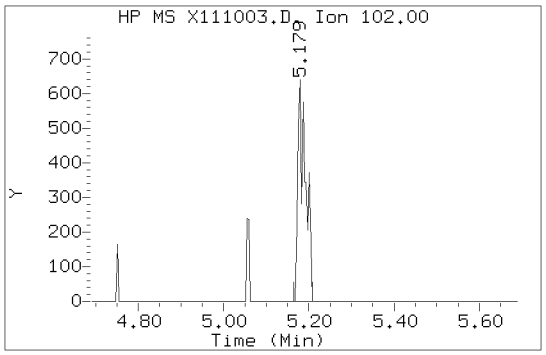
BEFORE

MASS
102
AREA
822
HEIGHT
640
17-Nov-2022
13:58
linh
pham



AFTER

MASS
102
AREA
822
HEIGHT
640
17-Nov-2022
14:02
linh
pham

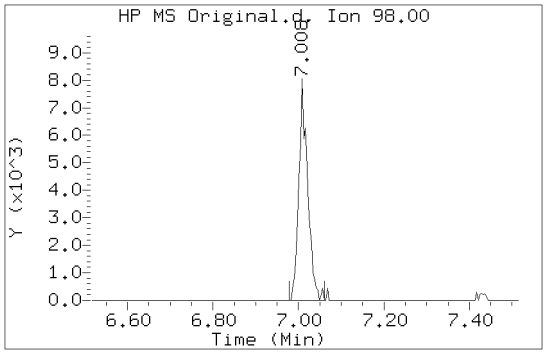


Toluene-d8 (2037-26-5)

Reason Code:

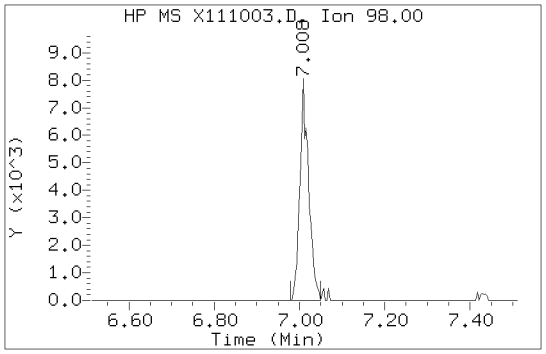
BEFORE

MASS
98
AREA
11858
HEIGHT
8058
17-Nov-2022
13:58
linh
pham



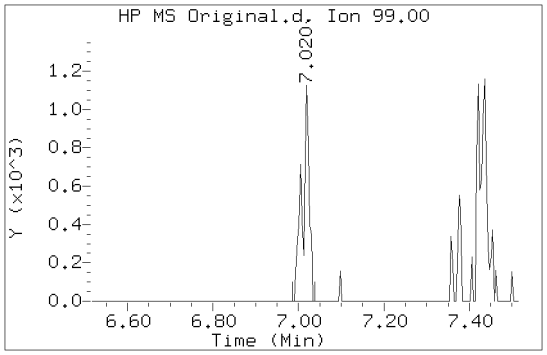
AFTER

MASS
98
AREA
11710
HEIGHT
8058
17-Nov-2022
14:02
linh
pham



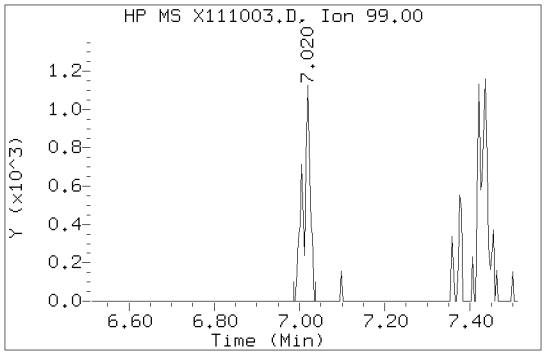
BEFORE

MASS
99
AREA
1274
HEIGHT
1126
17-Nov-2022
13:58
linh
pham



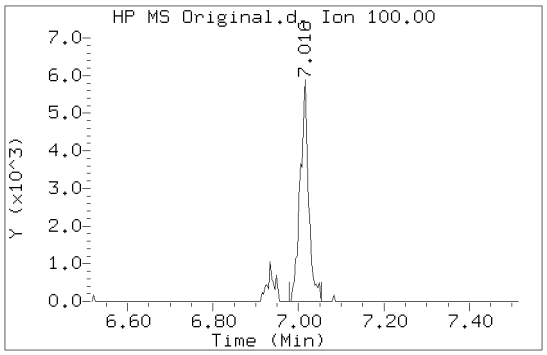
AFTER

MASS
99
AREA
1274
HEIGHT
1126
17-Nov-2022
14:02
linh
pham



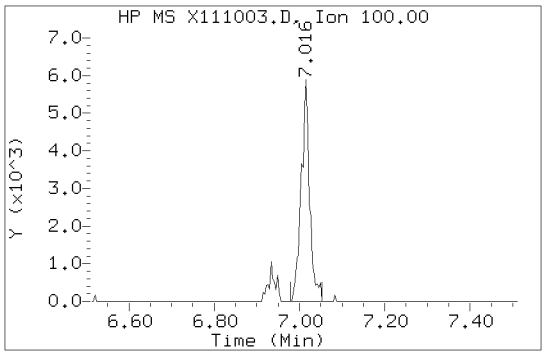
BEFORE

MASS
100
AREA
8328
HEIGHT
5891
17-Nov-2022
13:58
linh
pham



AFTER

MASS
100
AREA
8328
HEIGHT
5891
17-Nov-2022
14:02
linh
pham



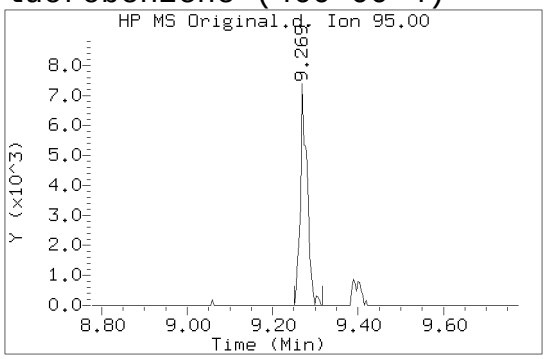
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Inj Date : 10-NOV-2022 13:34
InstruID : voa10.i
LabSampID : VSTD000.5

4-Bromofluorobenzene (460-00-4)

Reason Code:

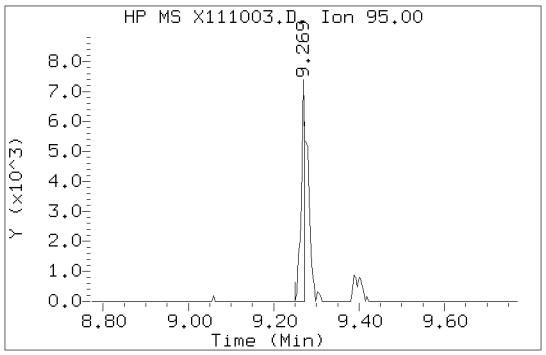
BEFORE

MASS
95
AREA
8491
HEIGHT
7394
17-Nov-2022
13:58
linh
pham



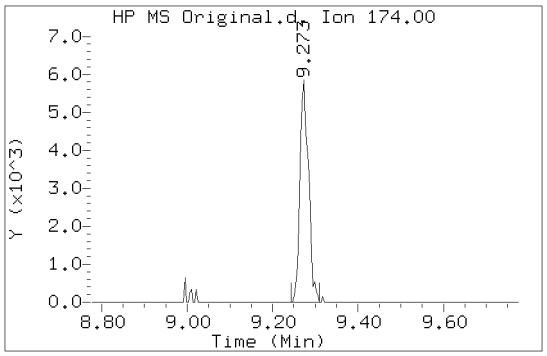
AFTER

MASS
95
AREA
4486
HEIGHT
7394
17-Nov-2022
14:02
linh
pham



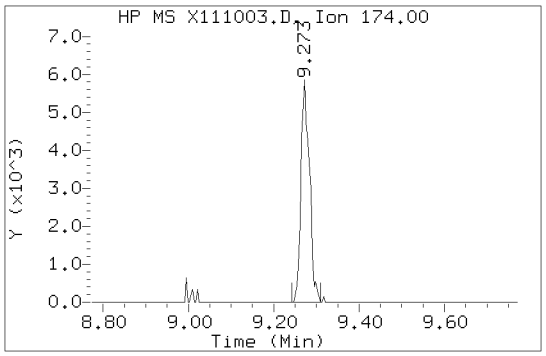
BEFORE

MASS
174
AREA
8407
HEIGHT
5856
17-Nov-2022
13:58
linh
pham



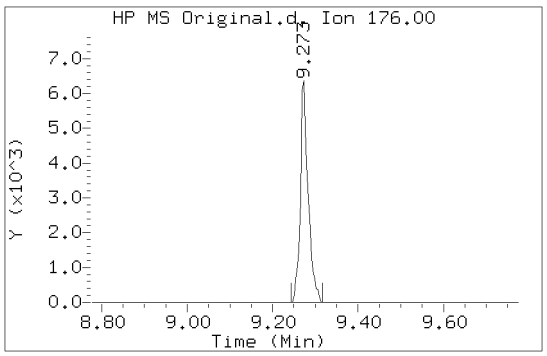
AFTER

MASS
174
AREA
8407
HEIGHT
5856
17-Nov-2022
14:02
linh
pham



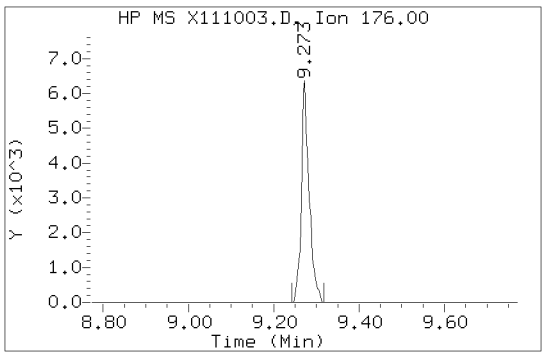
BEFORE

MASS
176
AREA
8307
HEIGHT
6366
17-Nov-2022
13:58
linh
pham



AFTER

MASS
176
AREA
8307
HEIGHT
6366
17-Nov-2022
14:02
linh
pham



Data File: \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111004.D Page 1
Report Date: 17-Nov-2022 14:02

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111004.D
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Inj Date : 10-NOV-2022 14:15
Operator : FT Inst ID: voa10.i
Smp Info : VSTD001;VSTD001;1;3;
Misc Info : V10;WATER;0;1;
Comment :
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Meth Date : 17-Nov-2022 14:02 voa10.i Quant Type: ISTD
Cal Date : 10-NOV-2022 13:34 Cal File: X111003.D
Als bottle: 5 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000008260V10.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	4.916	4.916	(1.000)	289017	50.0000	
2 Dichlorodifluoromethane	85	1.231	1.231	(0.251)	2485	1.00000	1.00(M)
3 Chloromethane	50	1.370	1.370	(0.279)	2863	1.00000	1.06(M)
5 Vinyl Chloride	62	1.452	1.452	(0.295)	2740	1.00000	1.02(M)
6 Bromomethane	94	1.700	1.700	(0.346)	1316	1.00000	1.08(M)
7 Chloroethane	64	1.786	1.786	(0.363)	1575	1.00000	1.01(M)
8 Trichlorofluoromethane	101	1.992	1.992	(0.405)	3422	1.00000	0.97(M)
9 Acrolein	56	2.348	2.348	(0.478)	293	2.00000	0.78(M)
10 Acetone	43	2.487	2.487	(0.506)	4443	2.00000	(M)
12 Isobutyl Alcohol	43	5.377	5.377	(1.094)	8744	20.0000	19.40
13 Acetonitrile	39	2.776	2.776	(0.565)	5065	10.0000	12.52(M)
16 Acrylonitrile	53	3.143	3.143	(0.639)	2238	2.00000	2.09(M)
11 1,1-Dichloroethene	96	2.434	2.434	(0.495)	2441	1.00000	0.44(M)
15 Iodomethane	142	2.573	2.573	(0.523)	2870	2.00000	5.53(M)
17 Methylene Chloride	84	2.896	2.896	(0.589)	3710	1.00000	(M)
18 Methyl tert-butyl ether	73	3.199	3.199	(0.651)	8067	1.00000	1.09(M)
19 Carbon Disulfide	76	2.637	2.637	(0.536)	13923	2.00000	1.90(M)
20 trans-1,2-Dichloroethene	96	3.169	3.169	(0.645)	2823	1.00000	1.27(M)
22 1,1-Dichloroethane	63	3.627	3.627	(0.738)	3616	1.00000	0.34(M)
24 2-Butanone	43	4.354	4.354	(0.886)	3534	2.00000	2.35(M)

27 cis-1,2-Dichloroethene	96	4.305	4.305 (0.876)	3139	1.00000	1.19
28 Chloroform	83	4.676	4.676 (0.951)	5560	1.00000	1.17

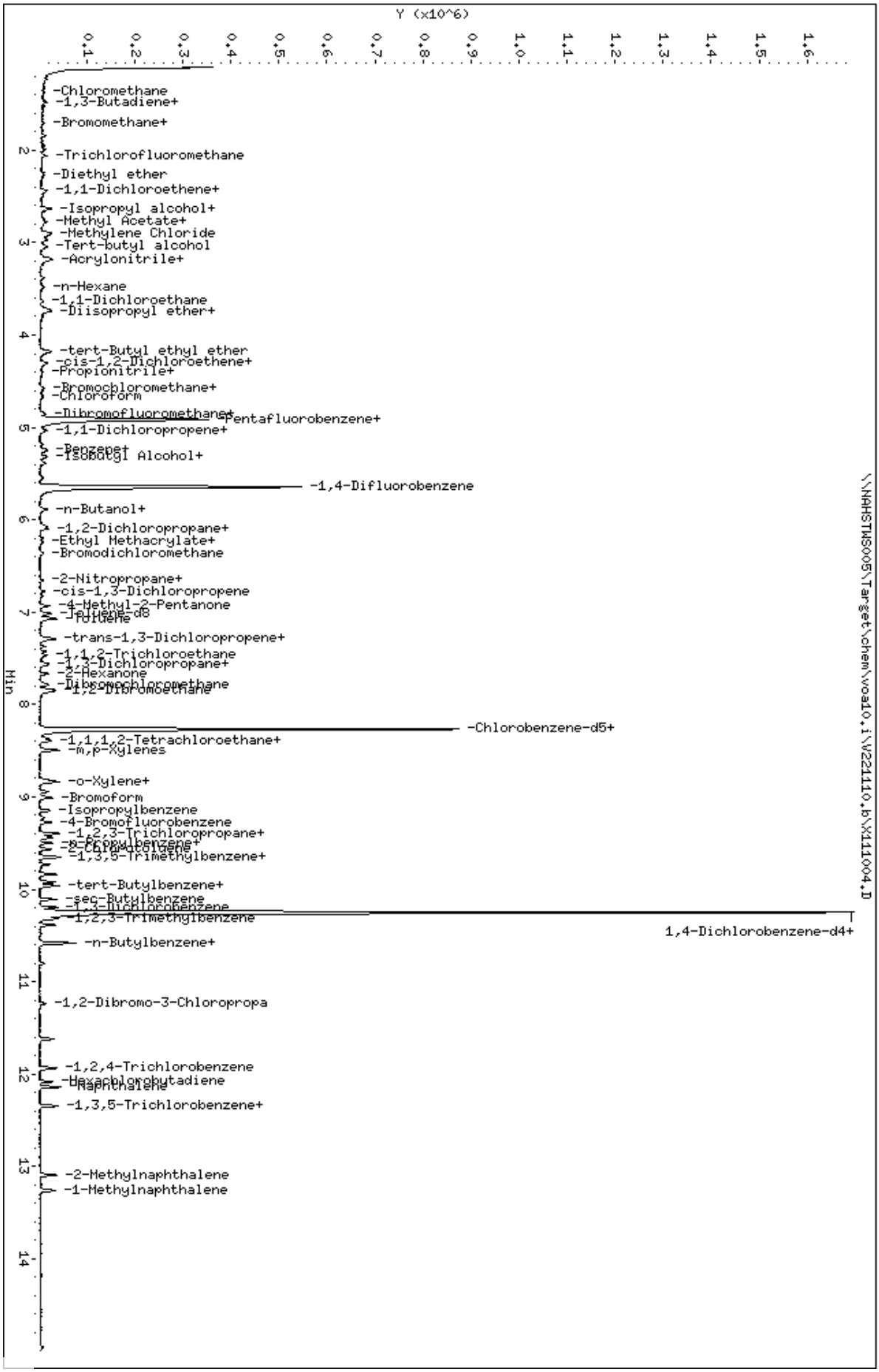
		QUANT SIG					AMOUNTS	
							CAL-AMT	ON-COL
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	(ug/l)	(ug/l)
	29 Bromochloromethane	128	4.579	4.579	(0.931)	1376	1.00000	1.04(M)
$	30 Dibromofluoromethane	113	4.830	4.830	(0.982)	2689	1.00000	1.10(M)
	31 1,1,1-Trichloroethane	97	4.856	4.856	(0.988)	4411	1.00000	1.15(M)
	32 1,1-Dichloropropene	75	5.036	5.036	(0.892)	3469	1.00000	1.00
	33 1,2-Dichloroethane	62	5.257	5.257	(0.932)	4355	1.00000	1.04(M)
	34 Carbon Tetrachloride	117	5.029	5.029	(0.891)	2841	1.00000	0.94(MH)
$	35 1,2-Dichloroethane-d4	65	5.182	5.182	(1.054)	3375	1.00000	1.08(TM)
*	36 1,4-Difluorobenzene	114	5.643	5.643	(1.000)	448836	50.0000	
	37 Benzene	78	5.242	5.242	(0.929)	11582	1.00000	1.01
	38 Trichloroethene	130	5.887	5.887	(1.043)	3119	1.00000	1.06(M)
	39 Bromodichloromethane	83	6.356	6.356	(1.126)	3747	1.00000	1.05(M)
	42 1,2-Dichloropropane	63	6.093	6.093	(1.080)	3172	1.00000	0.99
	45 4-Methyl-2-Pentanone	43	6.933	6.933	(0.838)	9918	2.00000	5.41(M)
	46 cis-1,3-Dichloropropene	75	6.768	6.768	(1.199)	5008	1.00000	1.05
*	47 Chlorobenzene-d5	117	8.271	8.271	(1.000)	416318	50.0000	
$	48 Toluene-d8	98	7.012	7.012	(0.848)	10487	1.00000	1.27
	50 Toluene	91	7.072	7.072	(0.855)	11735	1.00000	0.95
	51 trans-1,3-Dichloropropene	75	7.274	7.274	(1.289)	4337	1.00000	1.03
	52 2-Hexanone	43	7.664	7.664	(0.927)	7919	2.00000	4.60(M)
	53 1,1,2-Trichloroethane	83	7.431	7.431	(0.898)	2594	1.00000	1.05(M)
	54 1,3-Dichloropropane	76	7.574	7.574	(0.916)	5200	1.00000	1.03
	55 Dibromochloromethane	129	7.769	7.769	(0.939)	3447	1.00000	1.07
	56 Tetrachloroethene	164	7.551	7.551	(0.913)	2117	1.00000	0.83(M)
	57 1,2-Dibromoethane	107	7.862	7.862	(0.951)	2869	1.00000	0.95
	59 Chlorobenzene	112	8.290	8.290	(1.002)	9057	1.00000	1.08
	60 1,1,1,2-Tetrachloroethane	131	8.369	8.369	(1.012)	3409	1.00000	1.13
	61 Ethylbenzene	106	8.395	8.395	(1.015)	3976	1.00000	0.96
	62 m,p-Xylenes	106	8.496	8.496	(1.027)	10751	2.00000	2.12
	63 o-Xylene	106	8.826	8.826	(1.067)	4980	1.00000	0.98
	64 Styrene	104	8.848	8.848	(1.070)	9205	1.00000	1.00
	66 Bromoform	173	8.995	8.995	(1.087)	3052	1.00000	2.38(TM)
	67 Isopropylbenzene	105	9.148	9.148	(1.106)	12145	1.00000	0.97
	68 1,1,2,2-Tetrachloroethane	83	9.399	9.399	(0.917)	8355	1.00000	1.13(M)
$	69 4-Bromofluorobenzene	95	9.268	9.268	(1.121)	5536	1.00000	2.25
*	70 1,4-Dichlorobenzene-d4	152	10.250	10.250	(1.000)	389375	50.0000	
	75 1,3,5-Trimethylbenzene	105	9.647	9.647	(0.941)	12465	1.00000	0.78
	78 tert-Butylbenzene	119	9.924	9.924	(0.968)	12151	1.00000	0.88
	79 1,2,4-Trimethylbenzene	105	9.962	9.962	(0.972)	17742	1.00000	1.02
	81 sec-Butylbenzene	105	10.112	10.112	(0.986)	19033	1.00000	0.98
	87 n-Butylbenzene	91	10.573	10.573	(1.031)	16578	1.00000	0.98
	73 n-Propylbenzene	91	9.497	9.497	(0.926)	16600	1.00000	0.78
	71 1,2,3-Trichloropropane	75	9.429	9.429	(0.920)	8915	1.00000	1.07
	83 1,3-Dichlorobenzene	146	10.194	10.194	(0.995)	13789	1.00000	1.15
	84 1,4-Dichlorobenzene	146	10.269	10.269	(1.002)	15449	1.00000	1.93
	88 1,2-Dichlorobenzene	146	10.584	10.584	(1.033)	15233	1.00000	1.39
	89 1,2-Dibromo-3-Chloropropane	155	11.233	11.233	(1.096)	1276	1.00000	1.06(M)
	90 1,2,4-Trichlorobenzene	180	11.934	11.934	(1.164)	10119	1.00000	1.27(M)
	92 Naphthalene	128	12.143	12.143	(1.185)	27530	1.00000	1.25
	136 n-Hexane	57	3.484	3.484	(0.709)	4978	1.00000	1.64
	147 Methylcyclohexane	55	6.071	6.071	(1.076)	3862	1.00000	0.93
	141 Cyclohexane	56	4.905	4.905	(0.998)	3454	1.00000	0.56(M)
	138 Freon TF	101	2.434	2.434	(0.495)	1766	1.00000	0.14(M)

146	Methyl Acetate	43	2.813	2.813 (0.572)	2351	1.00000	0.99(M)
21	Vinyl Acetate	43	3.713	3.713 (0.755)	11860	2.00000	2.02(M)

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
26	2,2-Dichloropropane	77	4.298	4.298	(0.874)	3565	1.00000	1.01(M)
44	Dibromomethane	93	6.209	6.209	(1.100)	2063	1.00000	1.12(M)
91	Hexachlorobutadiene	225	12.083	12.083	(1.179)	4764	1.00000	0.22(M)
74	Bromobenzene	156	9.403	9.403	(0.917)	5002	1.00000	0.84
76	2-Chlorotoluene	91	9.564	9.564	(0.933)	10447	1.00000	2.14
77	4-Chlorotoluene	91	9.654	9.654	(0.942)	13492	1.00000	0.81
82	p-Isopropyltoluene	119	10.228	10.228	(0.998)	16590	1.00000	0.94
93	1,2,3-Trichlorobenzene	180	12.346	12.346	(1.204)	10414	1.00000	1.11(M)
148	tert-Butyl Alcohol	59	3.042	3.042	(0.619)	16498	20.0000	45.56
M 94	1,2-Dichloroethylene (total)	96				5962	2.00000	
M 95	Xylenes (total)	106				15731	3.00000	

QC Flag Legend

T - Target compound detected outside RT window.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.



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Client ID: VSTD001
Sample Info: VSTD001;VSTD001;1;3;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa10.i
Operator: FT
Column diameter: 0.18

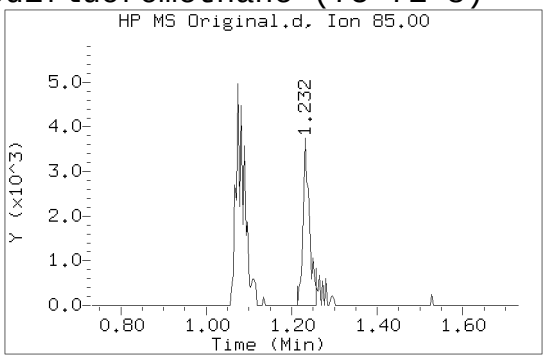
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LabSampID : VSTD001

Dichlorodifluoromethane (75-71-8)

Reason Code:

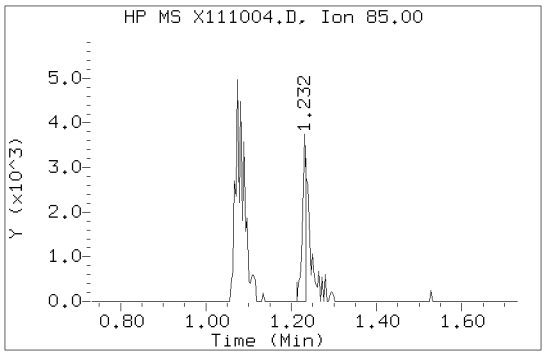
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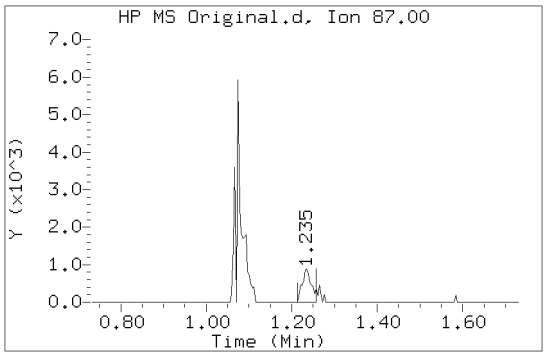
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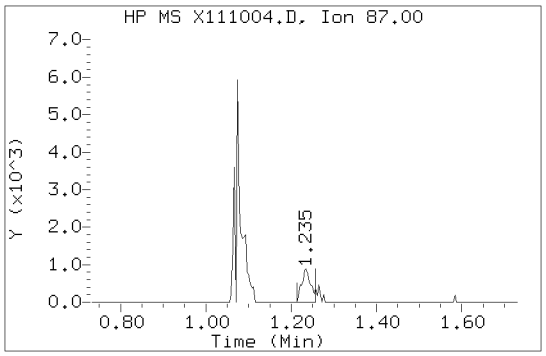
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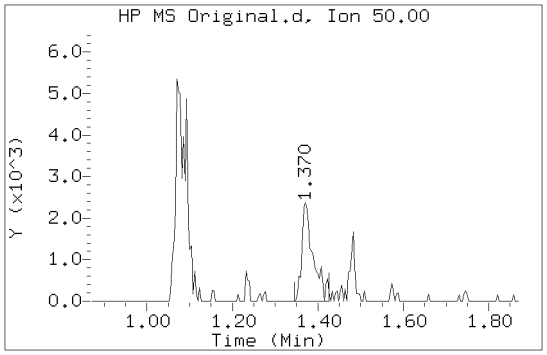


Chloromethane (74-87-3)

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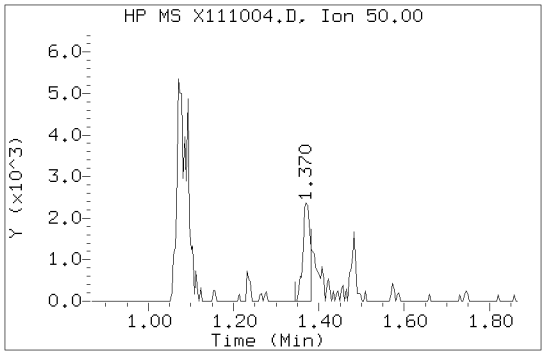
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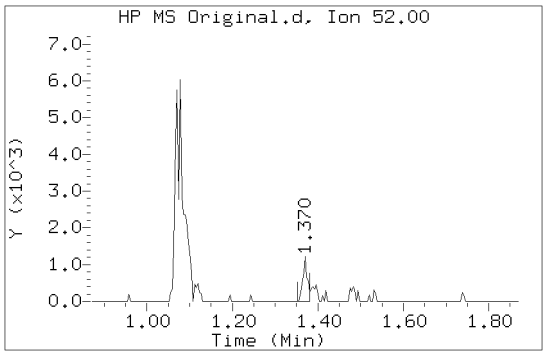
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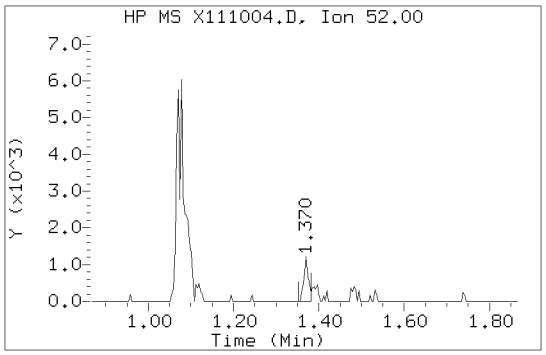
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AFTER

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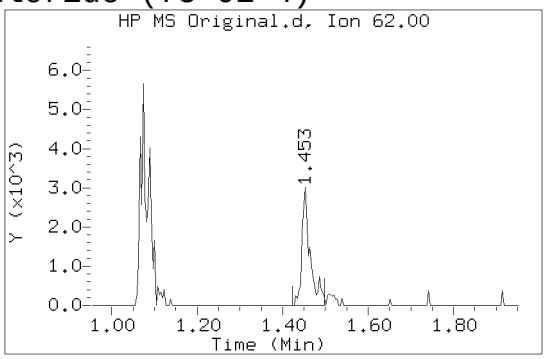
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InstruID : voa10.i
LabSampID : VSTD001

Vinyl Chloride (75-01-4)

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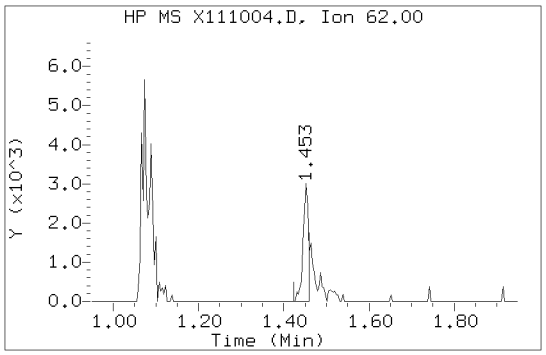
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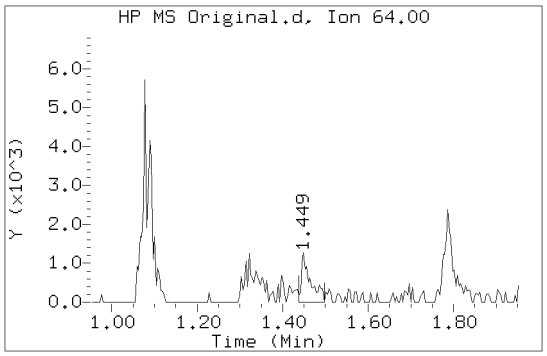
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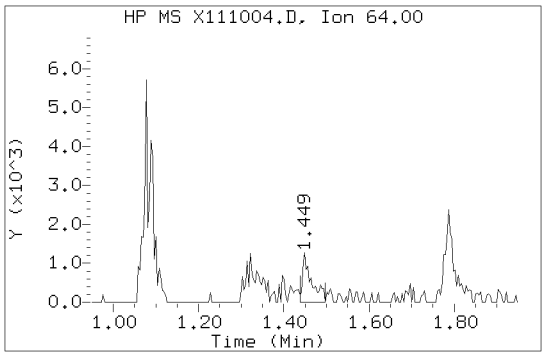
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AFTER

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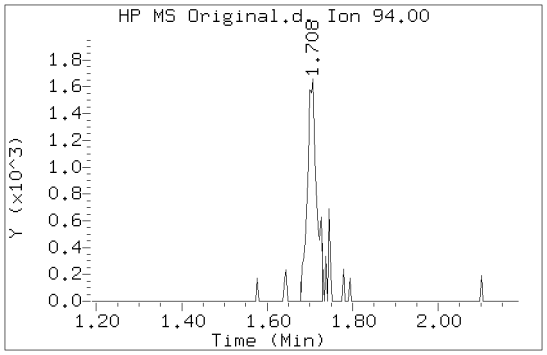


Bromomethane (74-83-9)

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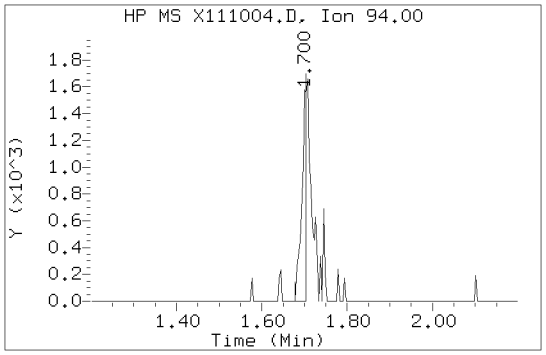
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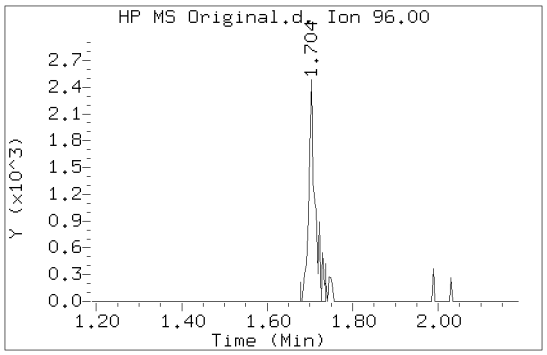
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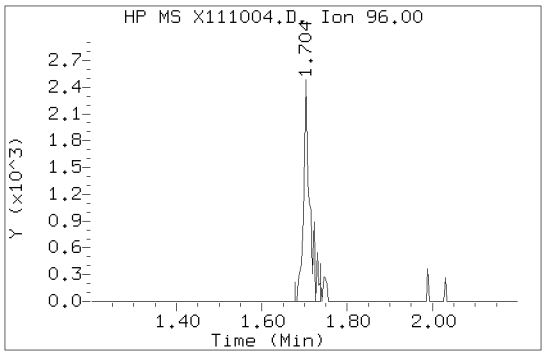
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AFTER

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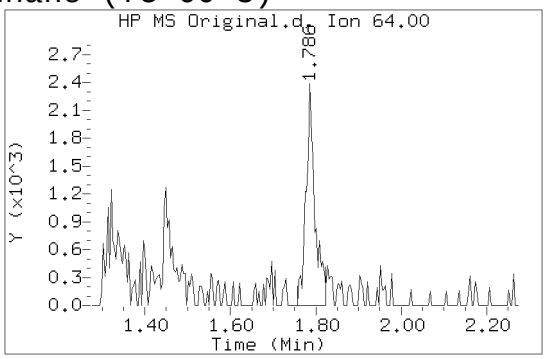
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LabSampID : VSTD001

Chloroethane (75-00-3)

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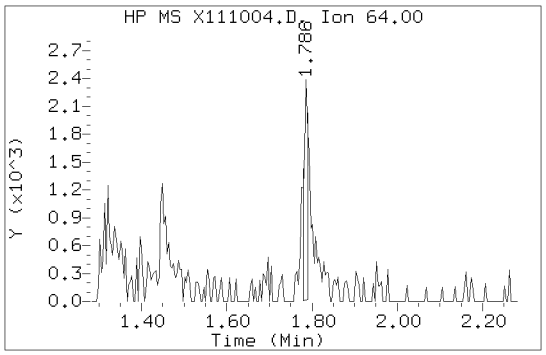
BEFORE

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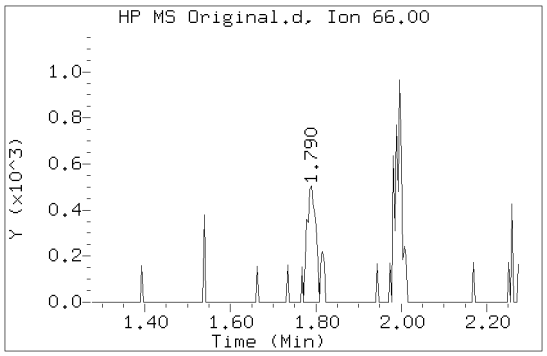
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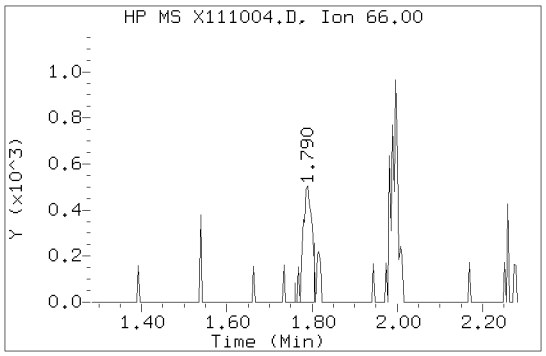
BEFORE

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AFTER

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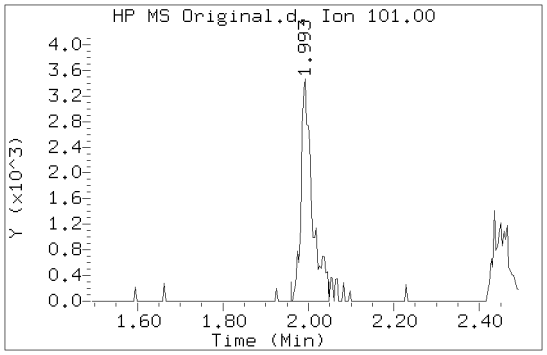


Trichlorofluoromethane (75-69-4)

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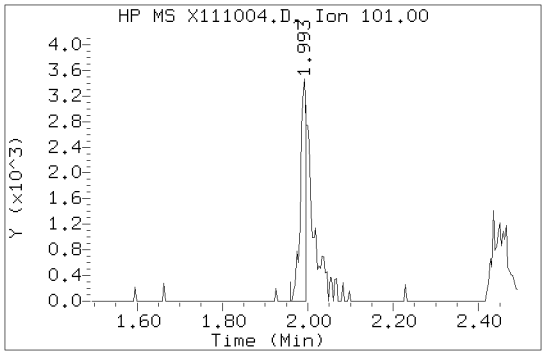
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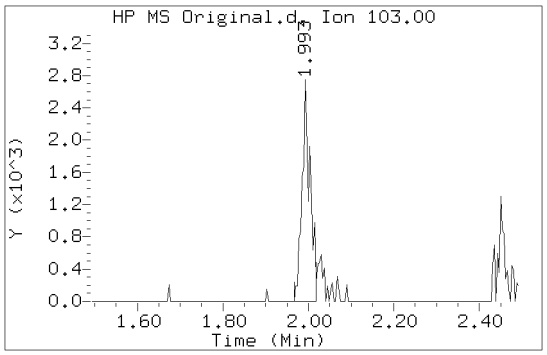
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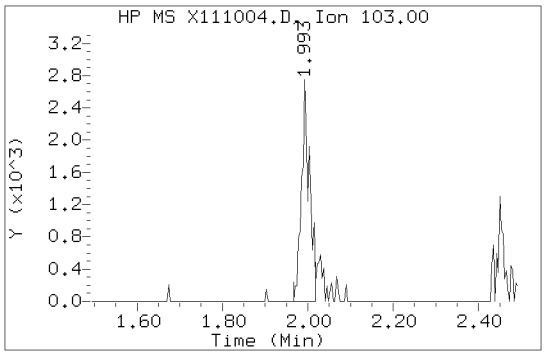
BEFORE

MASS
103
AREA
3698
HEIGHT
2750
17-Nov-2022
13:58
linh
pham



AFTER

MASS
103
AREA
3698
HEIGHT
2750
17-Nov-2022
14:02
linh
pham



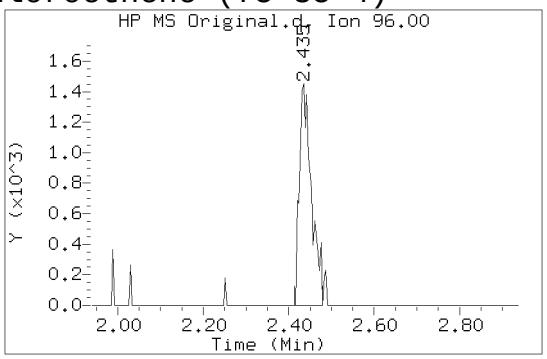
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111004.D
Inj Date : 10-NOV-2022 14:15
InstruID : voa10.i
LabSampID : VSTD001

1,1-Dichloroethene (75-35-4)

Reason Code:

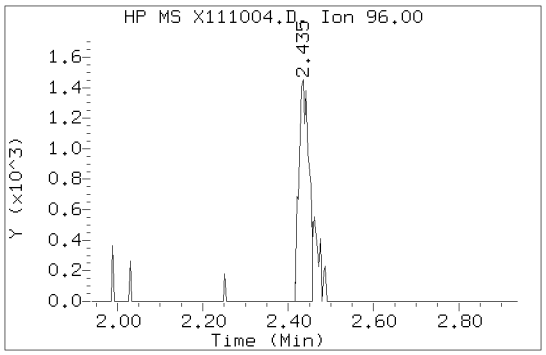
BEFORE

MASS
96
AREA
2891
HEIGHT
1452
17-Nov-2022
13:58
linh
pham



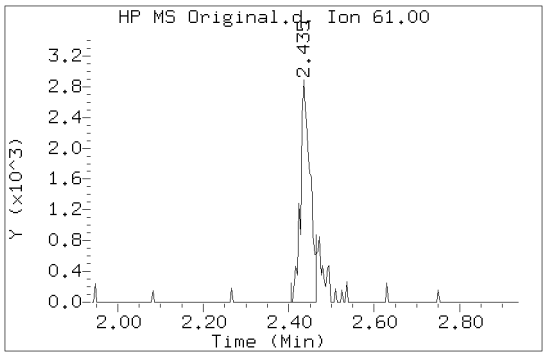
AFTER

MASS
96
AREA
2441
HEIGHT
1452
17-Nov-2022
14:02
linh
pham



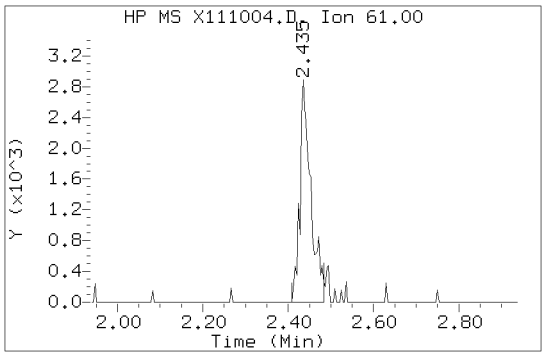
BEFORE

MASS
61
AREA
4654
HEIGHT
2889
17-Nov-2022
13:58
linh
pham



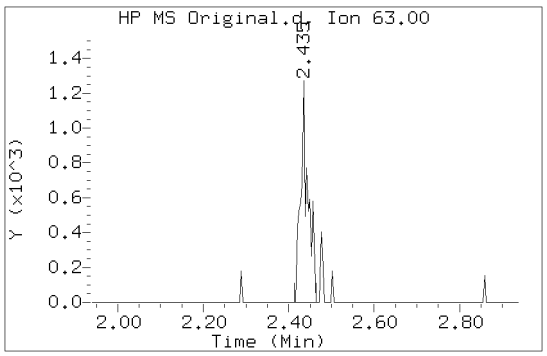
AFTER

MASS
61
AREA
5238
HEIGHT
2889
17-Nov-2022
14:02
linh
pham



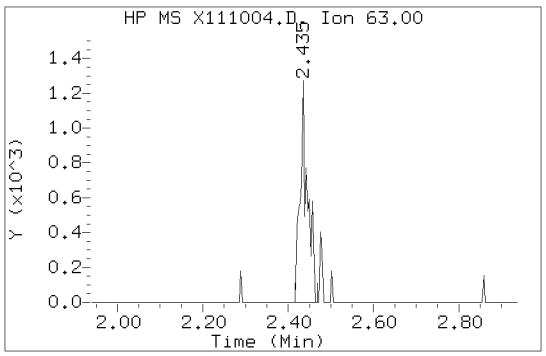
BEFORE

MASS
63
AREA
1556
HEIGHT
1272
17-Nov-2022
13:58
linh
pham



AFTER

MASS
63
AREA
1557
HEIGHT
1272
17-Nov-2022
14:02
linh
pham

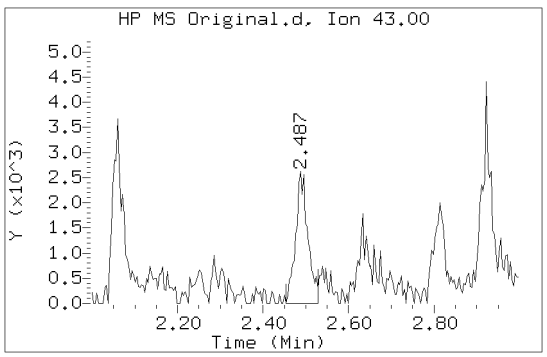


Acetone (67-64-1)

Reason Code:

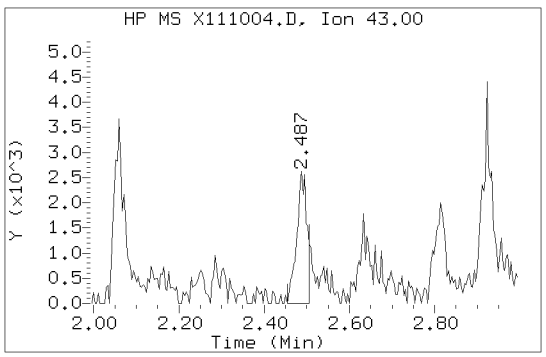
BEFORE

MASS
43
AREA
5245
HEIGHT
2620
17-Nov-2022
13:58
linh
pham



AFTER

MASS
43
AREA
4443
HEIGHT
2620
17-Nov-2022
14:02
linh
pham



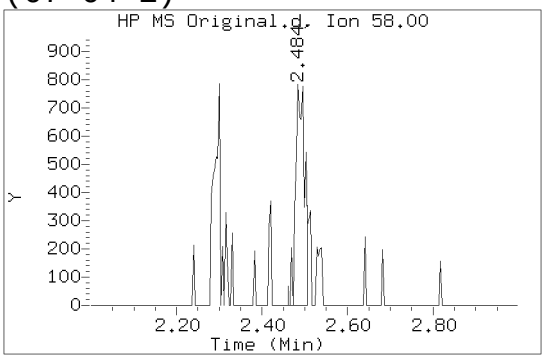
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111004.D
Inj Date : 10-NOV-2022 14:15
InstruID : voa10.i
LabSampID : VSTD001

Acetone (67-64-1)

Reason Code:

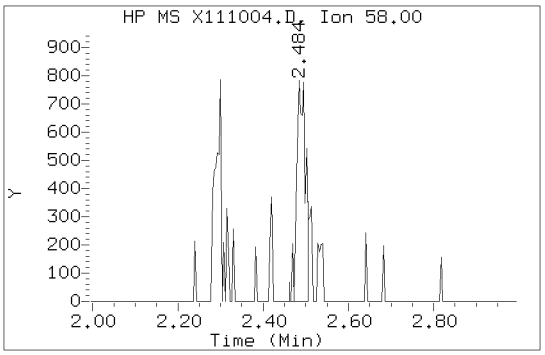
BEFORE

MASS
58
AREA
1158
HEIGHT
784
17-Nov-2022
13:58
linh
pham



AFTER

MASS
58
AREA
1158
HEIGHT
784
17-Nov-2022
14:02
linh
pham

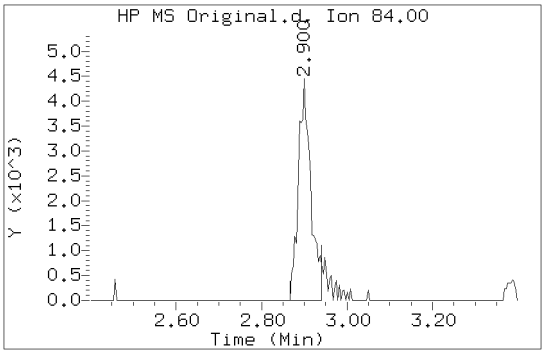


Methylene Chloride (75-09-2)

Reason Code:

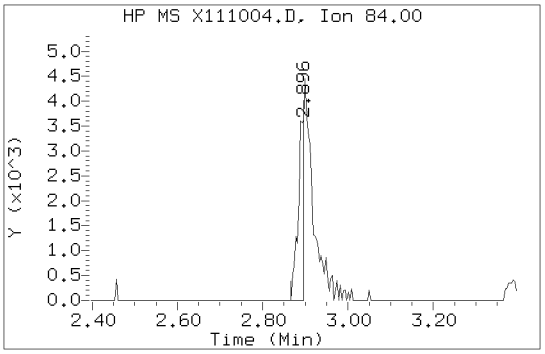
BEFORE

MASS
84
AREA
9219
HEIGHT
4451
17-Nov-2022
13:58
linh
pham



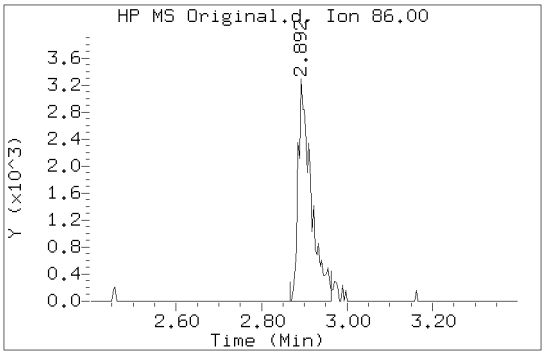
AFTER

MASS
84
AREA
3710
HEIGHT
3625
17-Nov-2022
14:02
linh
pham



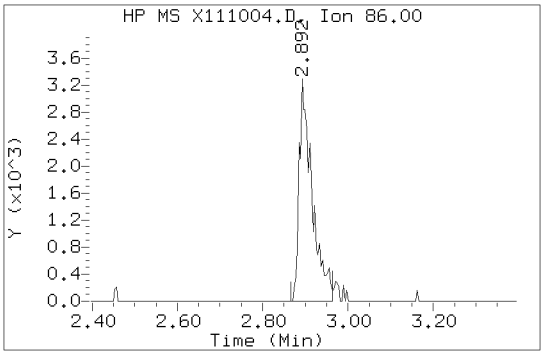
BEFORE

MASS
86
AREA
7044
HEIGHT
3292
17-Nov-2022
13:58
linh
pham



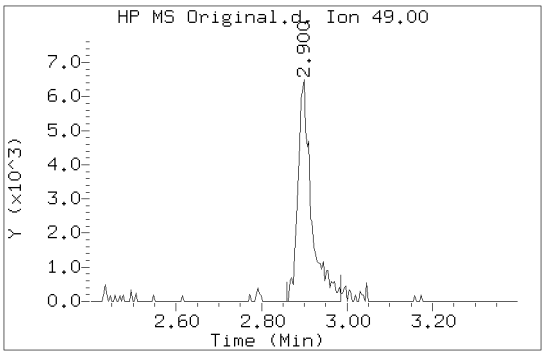
AFTER

MASS
86
AREA
7044
HEIGHT
3292
17-Nov-2022
14:02
linh
pham



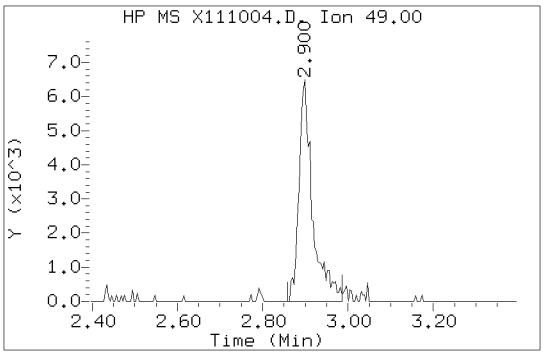
BEFORE

MASS
49
AREA
14696
HEIGHT
6492
17-Nov-2022
13:58
linh
pham



AFTER

MASS
49
AREA
14696
HEIGHT
6492
17-Nov-2022
14:02
linh
pham



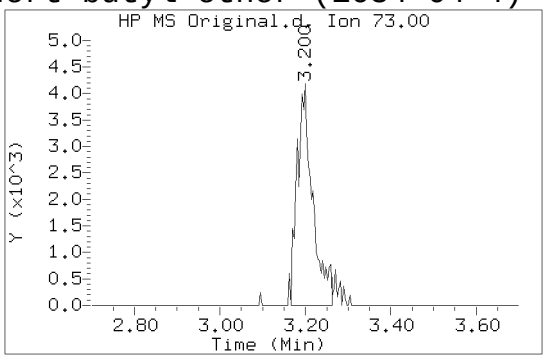
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111004.D
Inj Date : 10-NOV-2022 14:15
InstruID : voa10.i
LabSampID : VSTD001

Methyl tert-butyl ether (1634-04-4)

Reason Code:

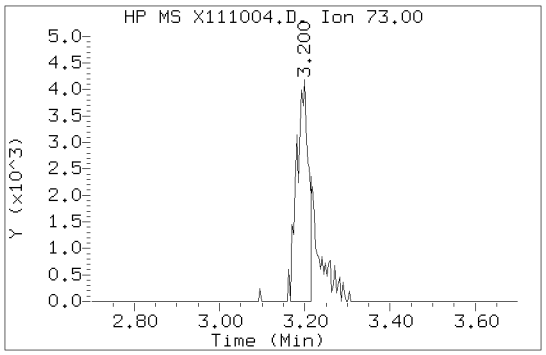
BEFORE

MASS
73
AREA
10616
HEIGHT
4185
17-Nov-2022
13:58
linh
pham



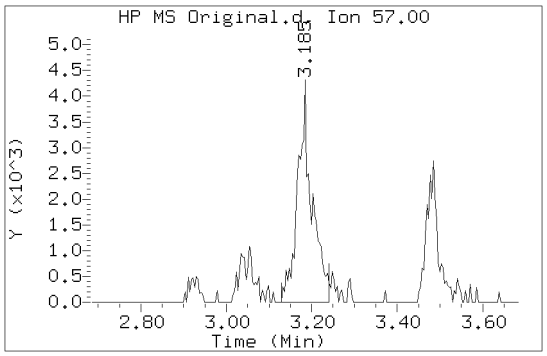
AFTER

MASS
73
AREA
8067
HEIGHT
4185
17-Nov-2022
14:02
linh
pham



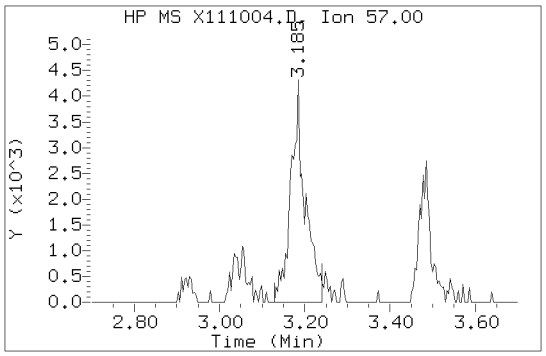
BEFORE

MASS
57
AREA
10047
HEIGHT
4316
17-Nov-2022
13:58
linh
pham



AFTER

MASS
57
AREA
10047
HEIGHT
4316
17-Nov-2022
14:02
linh
pham

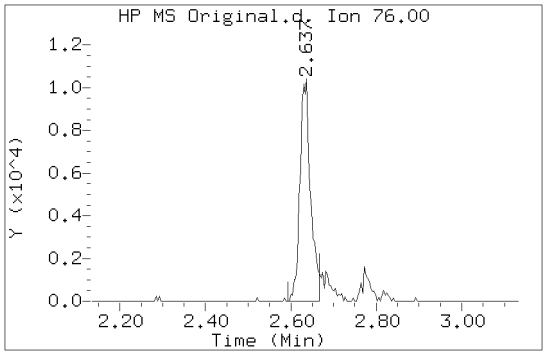


Carbon Disulfide (75-15-0)

Reason Code:

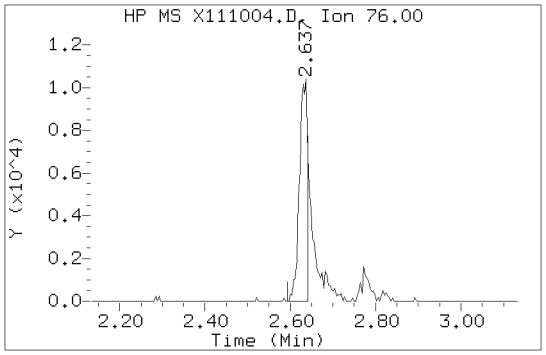
BEFORE

MASS
76
AREA
18464
HEIGHT
10410
17-Nov-2022
13:58
linh
pham



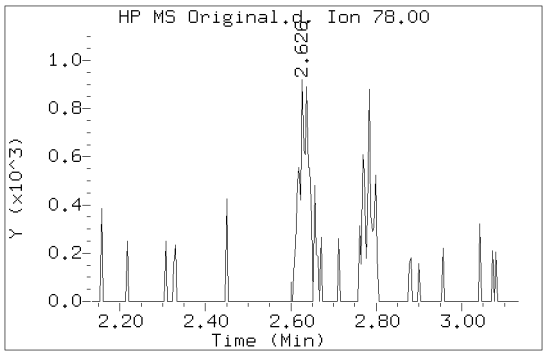
AFTER

MASS
76
AREA
13923
HEIGHT
10410
17-Nov-2022
14:02
linh
pham



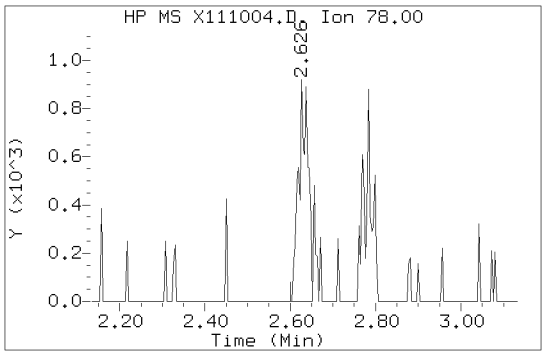
BEFORE

MASS
78
AREA
1433
HEIGHT
920
17-Nov-2022
13:58
linh
pham



AFTER

MASS
78
AREA
1433
HEIGHT
920
17-Nov-2022
14:02
linh
pham



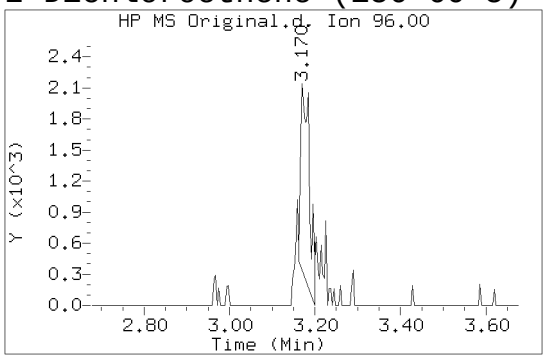
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111004.D
Inj Date : 10-NOV-2022 14:15
InstruID : voa10.i
LabSampID : VSTD001

trans-1,2-Dichloroethene (156-60-5)

Reason Code:

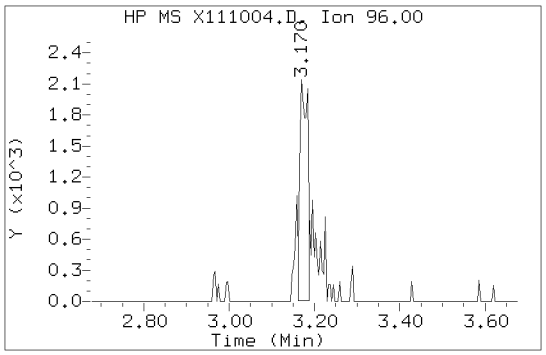
BEFORE

MASS
96
AREA
2721
HEIGHT
1799
17-Nov-2022
13:58
linh
pham



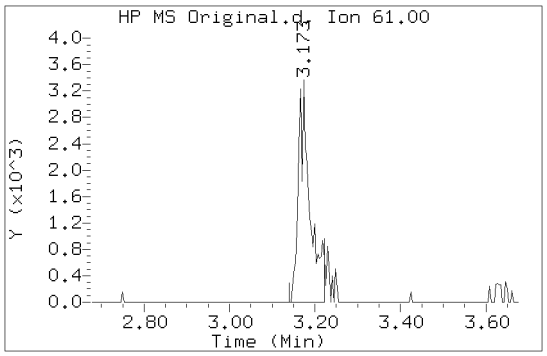
AFTER

MASS
96
AREA
2823
HEIGHT
2135
17-Nov-2022
14:02
linh
pham



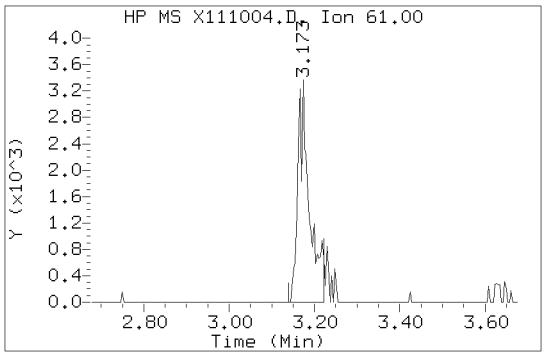
BEFORE

MASS
61
AREA
6372
HEIGHT
3368
17-Nov-2022
13:58
linh
pham



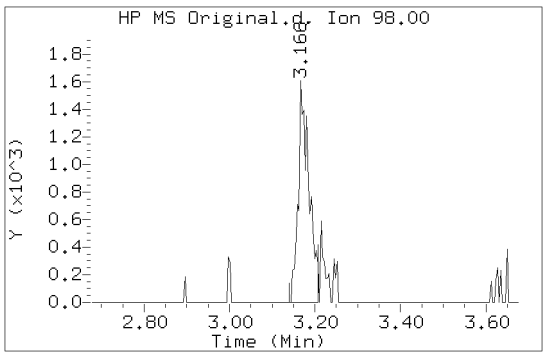
AFTER

MASS
61
AREA
6372
HEIGHT
3368
17-Nov-2022
14:02
linh
pham



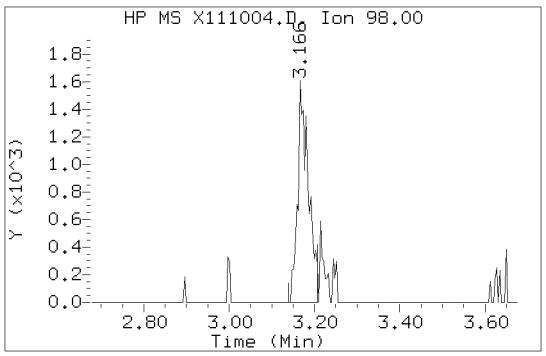
BEFORE

MASS
98
AREA
2851
HEIGHT
1607
17-Nov-2022
13:58
linh
pham



AFTER

MASS
98
AREA
2851
HEIGHT
1607
17-Nov-2022
14:02
linh
pham

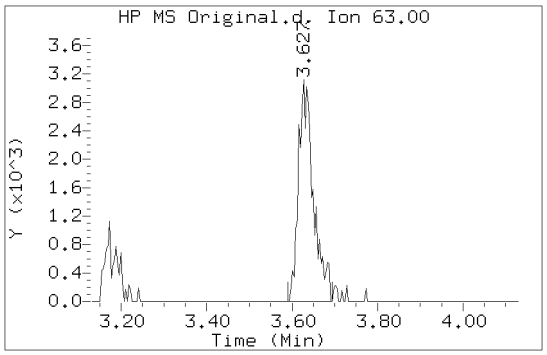


1,1-Dichloroethane (75-34-3)

Reason Code:

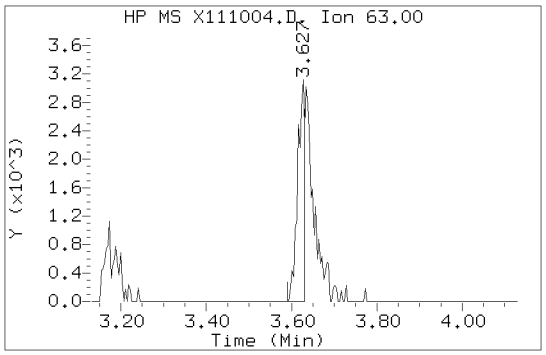
BEFORE

MASS
63
AREA
7642
HEIGHT
3121
17-Nov-2022
13:58
linh
pham



AFTER

MASS
63
AREA
3616
HEIGHT
3121
17-Nov-2022
14:02
linh
pham



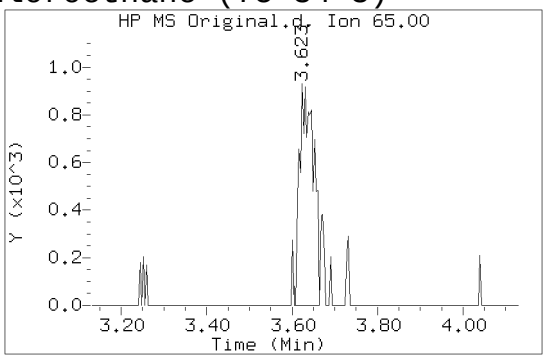
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111004.D
Inj Date : 10-NOV-2022 14:15
InstruID : voa10.i
LabSampID : VSTD001

1,1-Dichloroethane (75-34-3)

Reason Code:

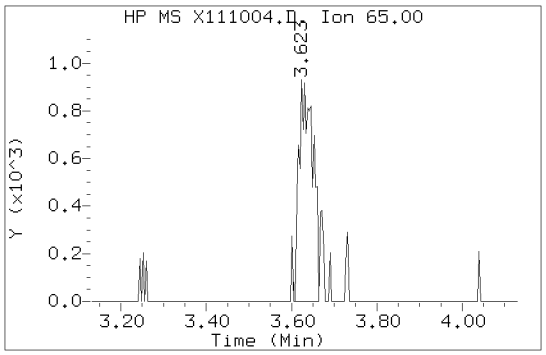
BEFORE

MASS
65
AREA
2135
HEIGHT
931
17-Nov-2022
13:58
linh
pham



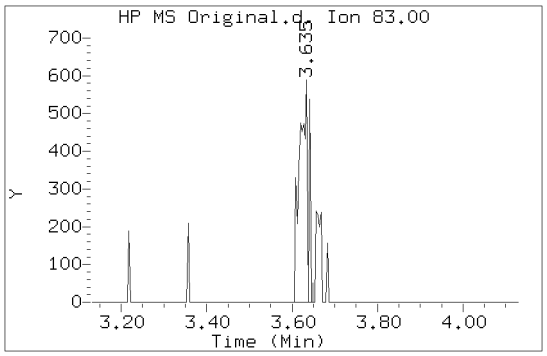
AFTER

MASS
65
AREA
2135
HEIGHT
931
17-Nov-2022
14:02
linh
pham



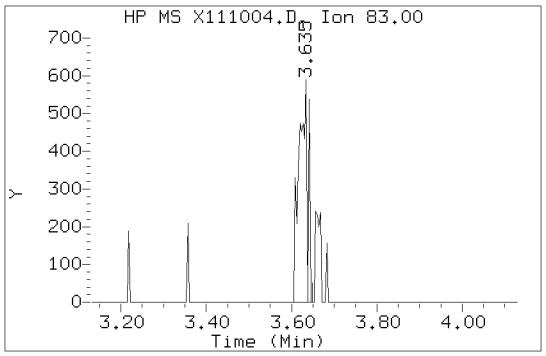
BEFORE

MASS
83
AREA
867
HEIGHT
589
17-Nov-2022
13:58
linh
pham



AFTER

MASS
83
AREA
867
HEIGHT
589
17-Nov-2022
14:02
linh
pham

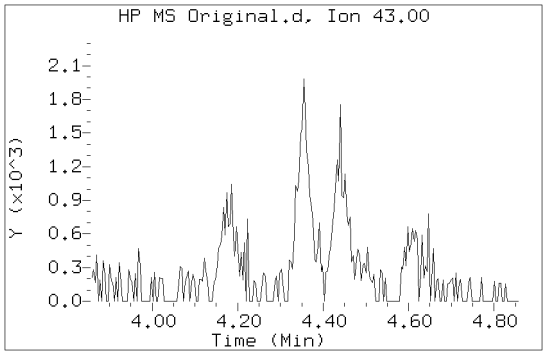


2-Butanone (78-93-3)

Reason Code:

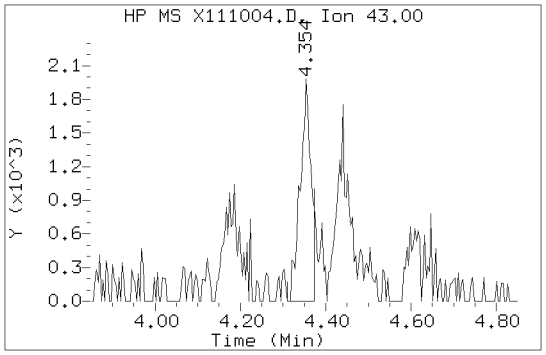
BEFORE

MASS
43
AREA
0
HEIGHT
0
17-Nov-2022
13:58
linh
pham



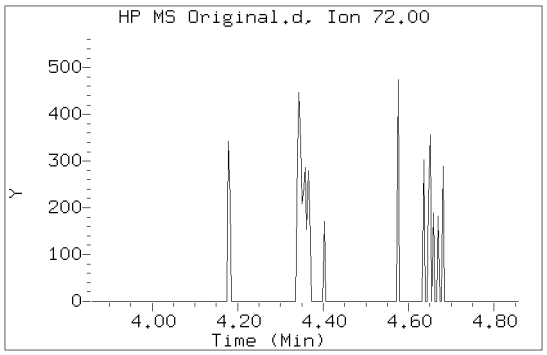
AFTER

MASS
43
AREA
3534
HEIGHT
1982
17-Nov-2022
14:02
linh
pham



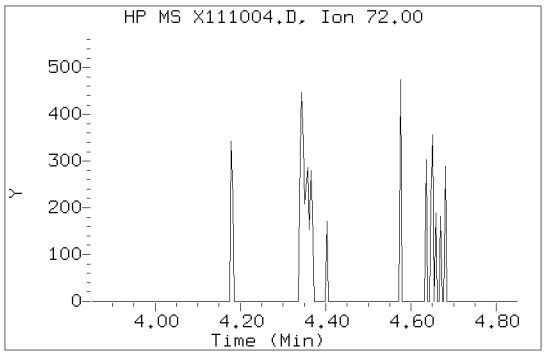
BEFORE

MASS
72
AREA
0
HEIGHT
0
17-Nov-2022
13:58
linh
pham



AFTER

MASS
72
AREA
0
HEIGHT
0
17-Nov-2022
14:02
linh
pham



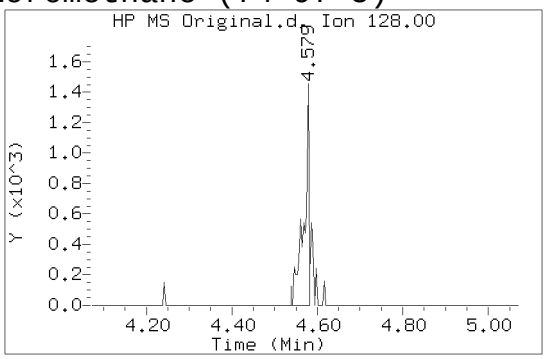
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111004.D
Inj Date : 10-NOV-2022 14:15
InstruID : voa10.i
LabSampID : VSTD001

Bromochloromethane (74-97-5)

Reason Code:

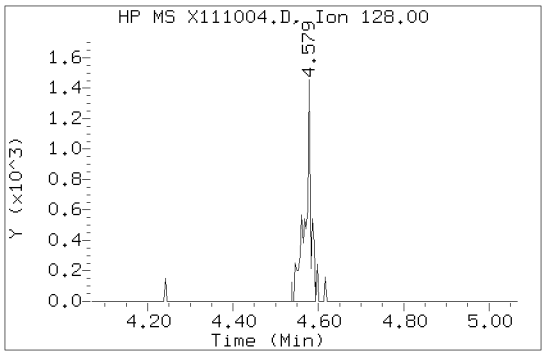
BEFORE

MASS
128
AREA
1168
HEIGHT
1456
17-Nov-2022
13:58
linh
pham



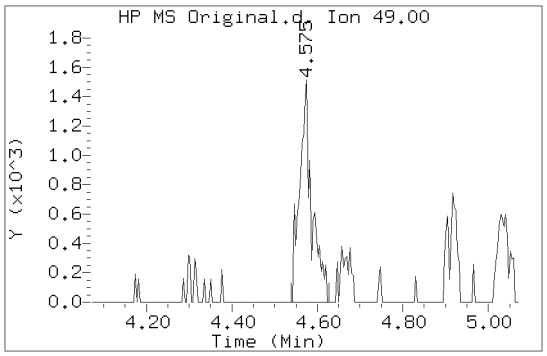
AFTER

MASS
128
AREA
1376
HEIGHT
1456
17-Nov-2022
14:02
linh
pham



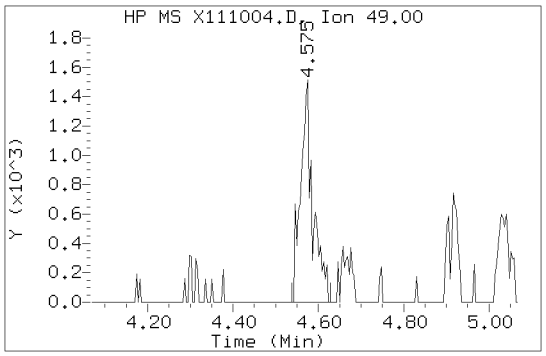
BEFORE

MASS
49
AREA
3049
HEIGHT
1514
17-Nov-2022
13:58
linh
pham



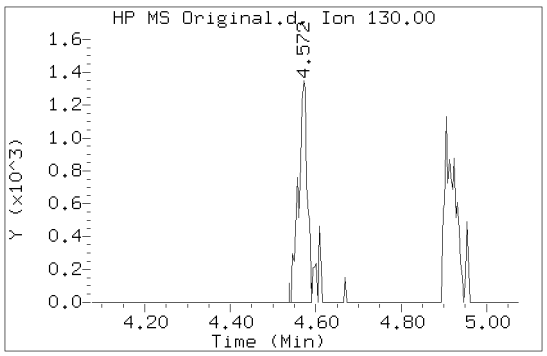
AFTER

MASS
49
AREA
3049
HEIGHT
1514
17-Nov-2022
14:02
linh
pham



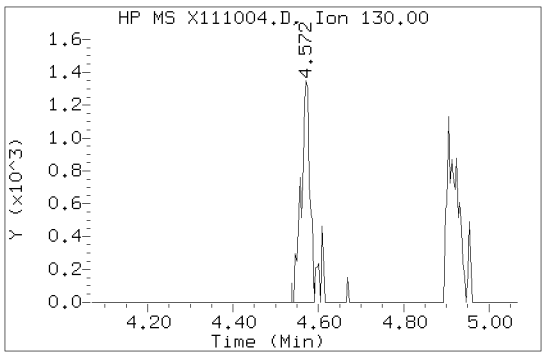
BEFORE

MASS
130
AREA
1965
HEIGHT
1349
17-Nov-2022
13:58
linh
pham



AFTER

MASS
130
AREA
1965
HEIGHT
1349
17-Nov-2022
14:02
linh
pham

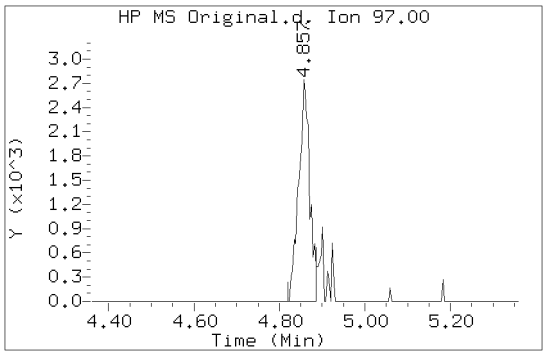


1,1,1-Trichloroethane (71-55-6)

Reason Code:

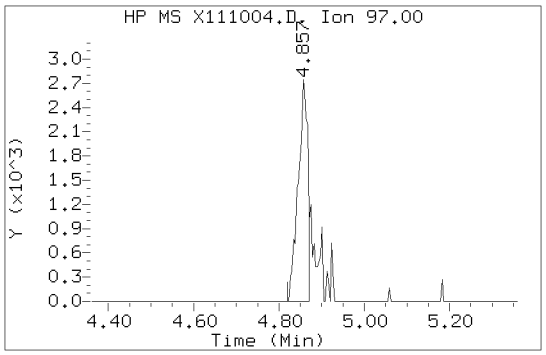
BEFORE

MASS
97
AREA
5061
HEIGHT
2744
17-Nov-2022
13:58
linh
pham



AFTER

MASS
97
AREA
4411
HEIGHT
2744
17-Nov-2022
14:02
linh
pham



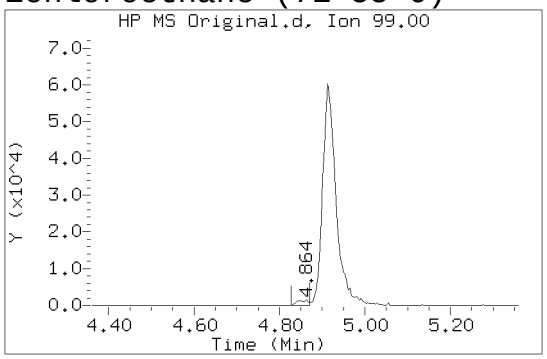
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111004.D
Inj Date : 10-NOV-2022 14:15
InstruID : voa10.i
LabSampID : VSTD001

1,1,1-Trichloroethane (71-55-6)

Reason Code:

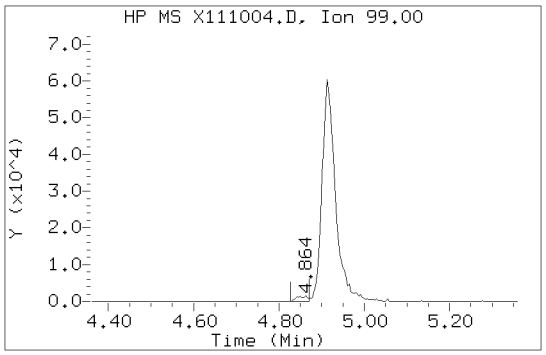
BEFORE

MASS
99
AREA
2638
HEIGHT
1496
17-Nov-2022
13:58
linh
pham



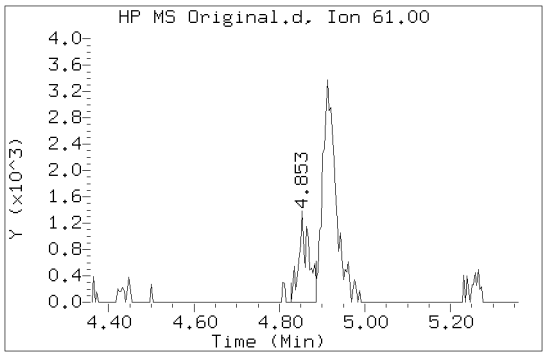
AFTER

MASS
99
AREA
2638
HEIGHT
1496
17-Nov-2022
14:02
linh
pham



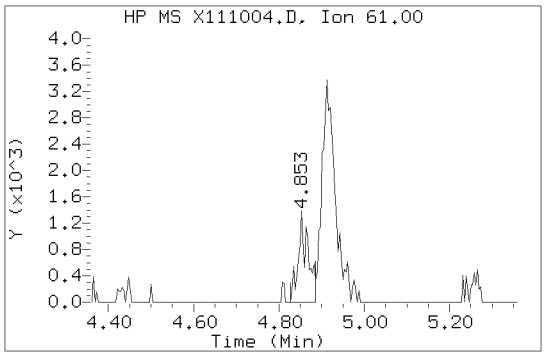
BEFORE

MASS
61
AREA
2254
HEIGHT
1389
17-Nov-2022
13:58
linh
pham



AFTER

MASS
61
AREA
2254
HEIGHT
1389
17-Nov-2022
14:02
linh
pham

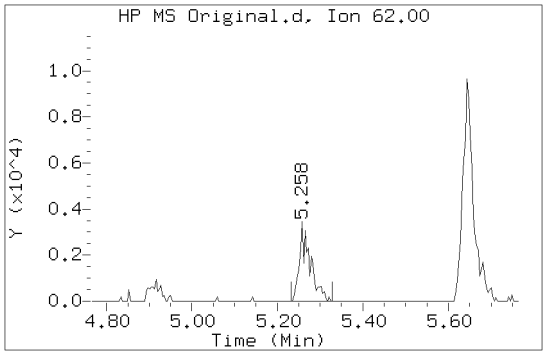


1,2-Dichloroethane (107-06-2)

Reason Code:

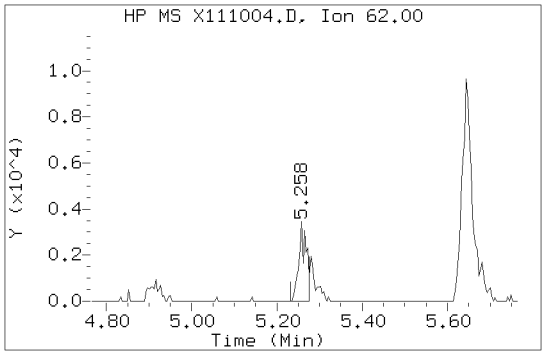
BEFORE

MASS
62
AREA
6094
HEIGHT
3454
17-Nov-2022
13:58
linh
pham



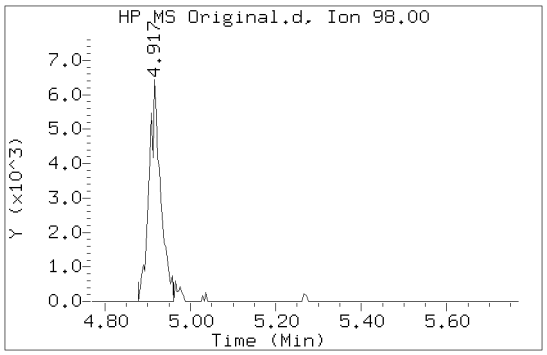
AFTER

MASS
62
AREA
4355
HEIGHT
3454
17-Nov-2022
14:02
linh
pham



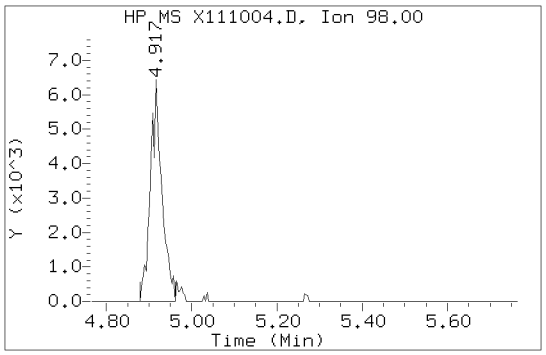
BEFORE

MASS
98
AREA
12001
HEIGHT
6435
17-Nov-2022
13:58
linh
pham



AFTER

MASS
98
AREA
12001
HEIGHT
6435
17-Nov-2022
14:02
linh
pham



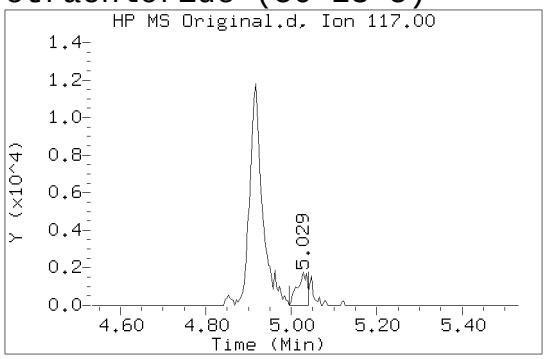
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111004.D
Inj Date : 10-NOV-2022 14:15
InstruID : voa10.i
LabSampID : VSTD001

Carbon Tetrachloride (56-23-5)

Reason Code:

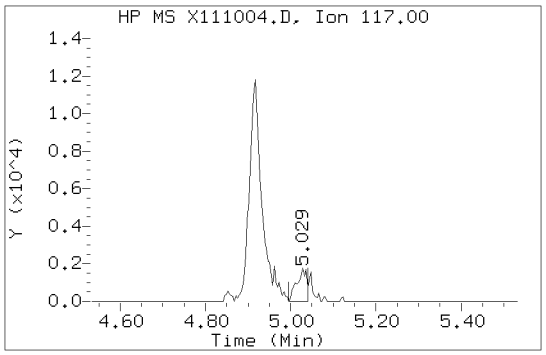
BEFORE

MASS
117
AREA
2841
HEIGHT
1768
17-Nov-2022
13:58
linh
pham



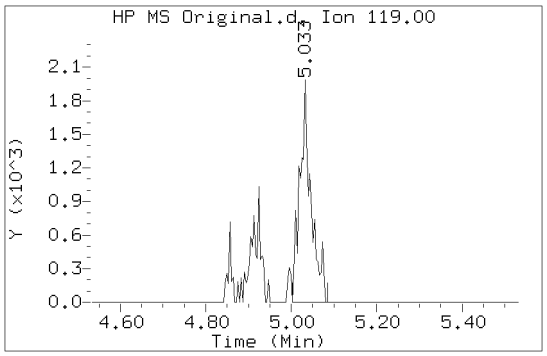
AFTER

MASS
117
AREA
2841
HEIGHT
1768
17-Nov-2022
14:02
linh
pham



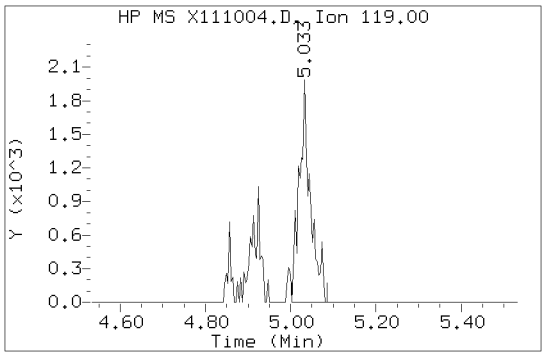
BEFORE

MASS
119
AREA
3635
HEIGHT
1986
17-Nov-2022
13:58
linh
pham



AFTER

MASS
119
AREA
3635
HEIGHT
1986
17-Nov-2022
14:02
linh
pham

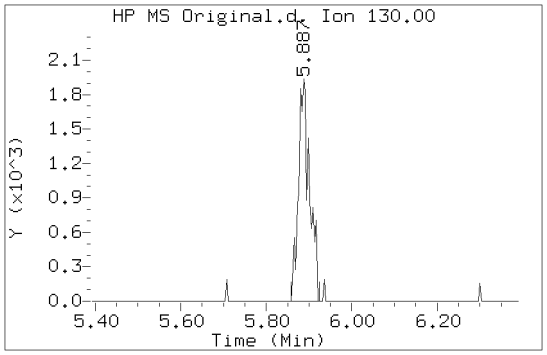


Trichloroethene (79-01-6)

Reason Code:

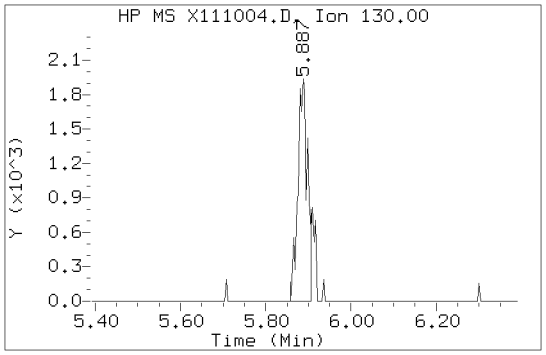
BEFORE

MASS
130
AREA
3578
HEIGHT
1937
17-Nov-2022
13:58
linh
pham



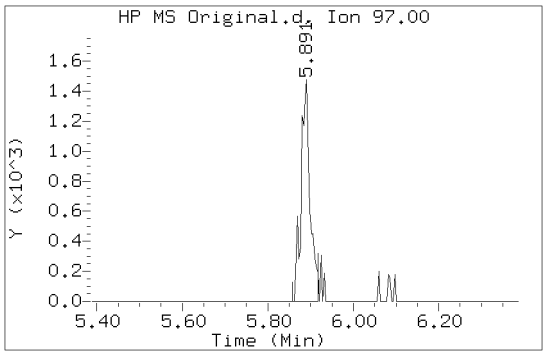
AFTER

MASS
130
AREA
3119
HEIGHT
1937
17-Nov-2022
14:02
linh
pham



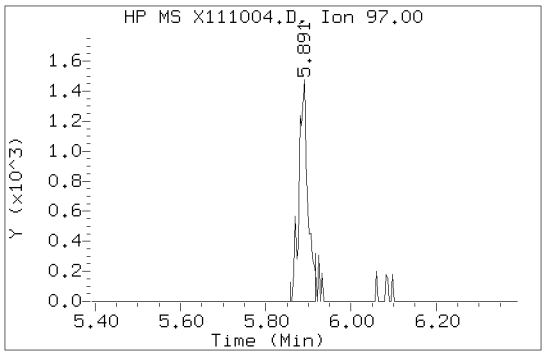
BEFORE

MASS
97
AREA
2206
HEIGHT
1476
17-Nov-2022
13:58
linh
pham



AFTER

MASS
97
AREA
2206
HEIGHT
1476
17-Nov-2022
14:02
linh
pham



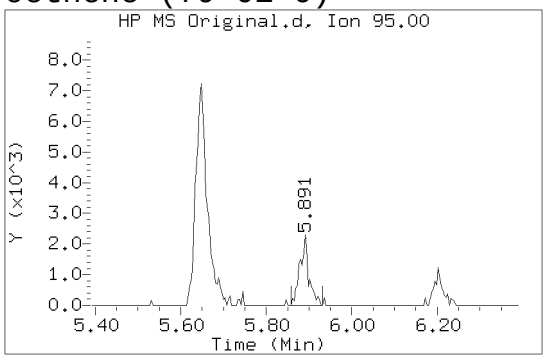
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111004.D
Inj Date : 10-NOV-2022 14:15
InstruID : voa10.i
LabSampID : VSTD001

Trichloroethene (79-01-6)

Reason Code:

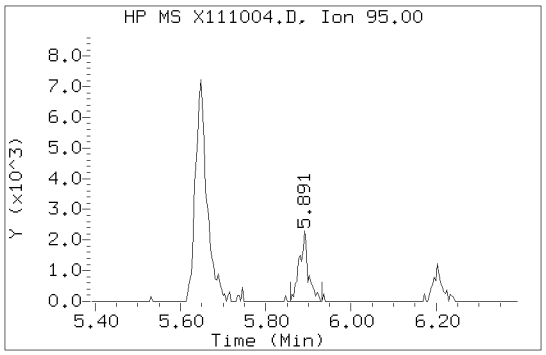
BEFORE

MASS
95
AREA
3416
HEIGHT
2297
17-Nov-2022
13:58
linh
pham



AFTER

MASS
95
AREA
3416
HEIGHT
2297
17-Nov-2022
14:02
linh
pham

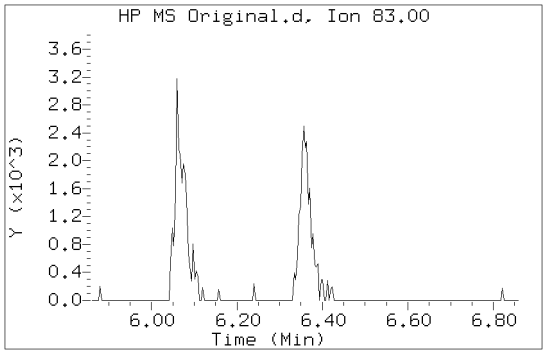


Bromodichloromethane (75-27-4)

Reason Code:

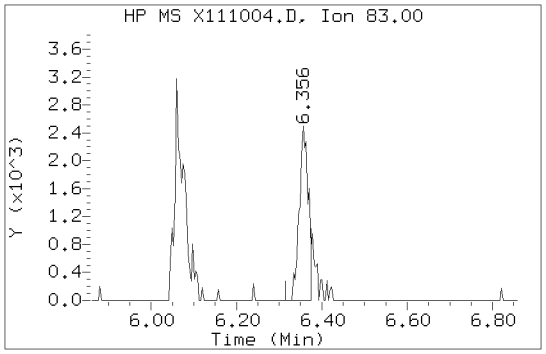
BEFORE

MASS
83
AREA
0
HEIGHT
0
17-Nov-2022
13:58
linh
pham



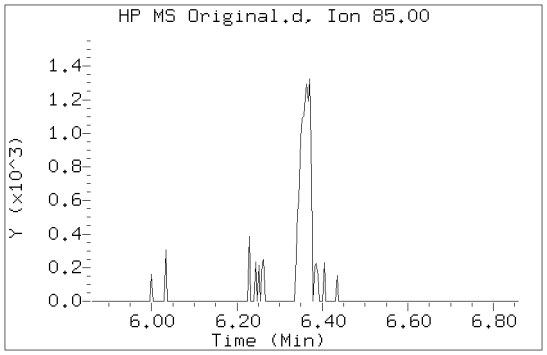
AFTER

MASS
83
AREA
3747
HEIGHT
2498
17-Nov-2022
14:02
linh
pham



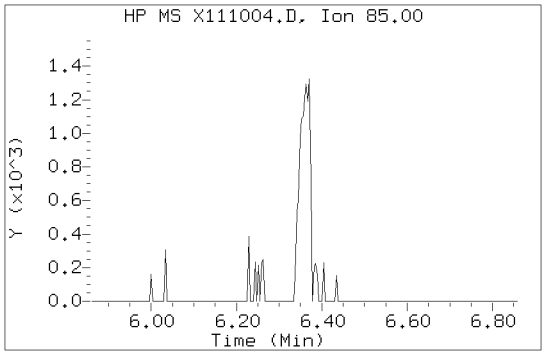
BEFORE

MASS
85
AREA
0
HEIGHT
0
17-Nov-2022
13:58
linh
pham



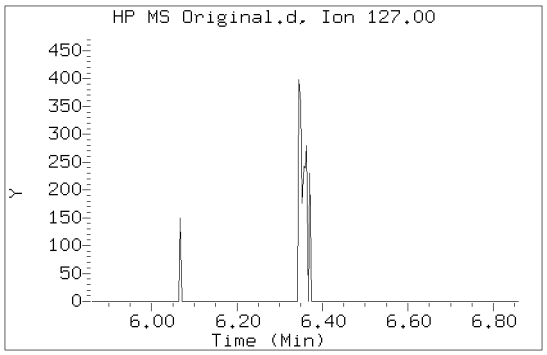
AFTER

MASS
85
AREA
0
HEIGHT
0
17-Nov-2022
14:02
linh
pham



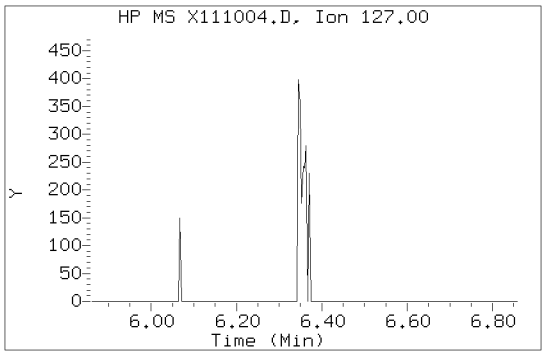
BEFORE

MASS
127
AREA
0
HEIGHT
0
17-Nov-2022
13:58
linh
pham



AFTER

MASS
127
AREA
0
HEIGHT
0
17-Nov-2022
14:02
linh
pham



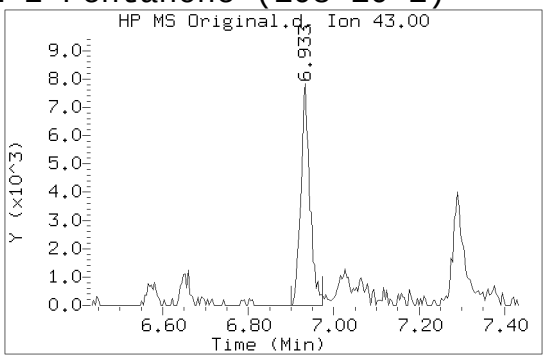
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111004.D
Inj Date : 10-NOV-2022 14:15
InstruID : voa10.i
LabSampID : VSTD001

4-Methyl-2-Pentanone (108-10-1)

Reason Code:

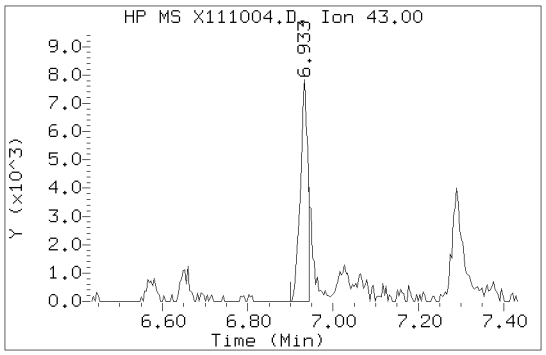
BEFORE

MASS
43
AREA
11889
HEIGHT
7832
17-Nov-2022
13:58
linh
pham



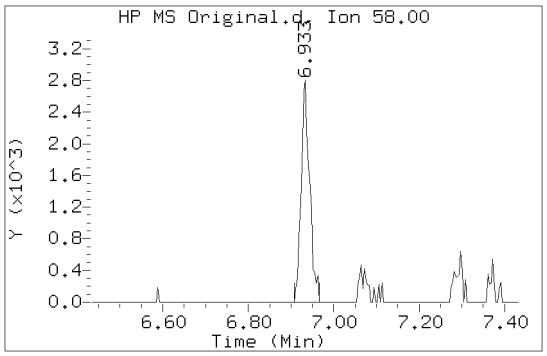
AFTER

MASS
43
AREA
9918
HEIGHT
7832
17-Nov-2022
14:02
linh
pham



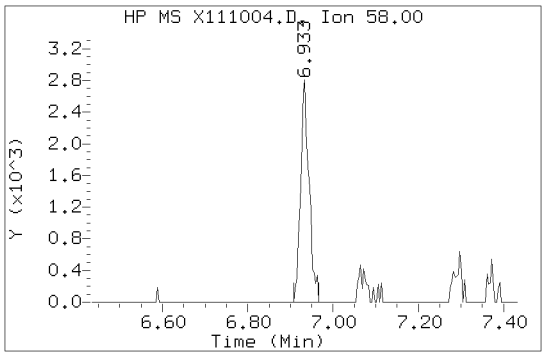
BEFORE

MASS
58
AREA
3985
HEIGHT
2807
17-Nov-2022
13:58
linh
pham



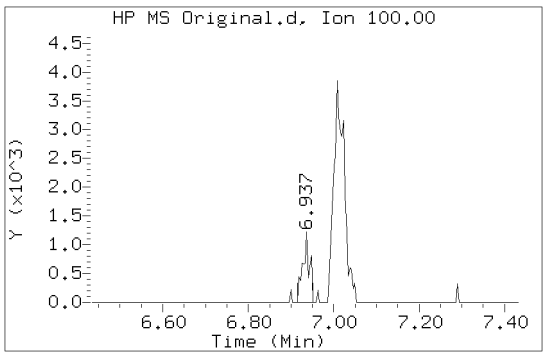
AFTER

MASS
58
AREA
3985
HEIGHT
2807
17-Nov-2022
14:02
linh
pham



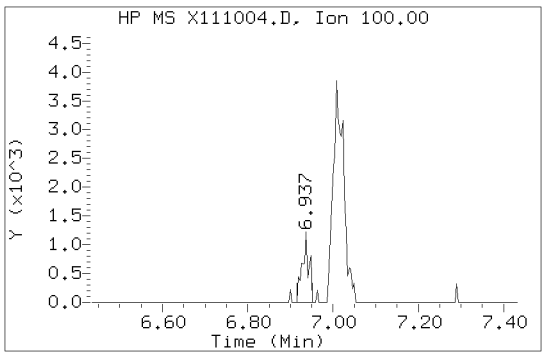
BEFORE

MASS
100
AREA
1334
HEIGHT
1226
17-Nov-2022
13:58
linh
pham



AFTER

MASS
100
AREA
1334
HEIGHT
1226
17-Nov-2022
14:02
linh
pham

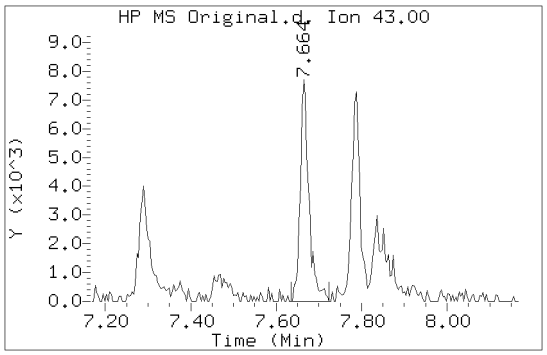


2-Hexanone (591-78-6)

Reason Code:

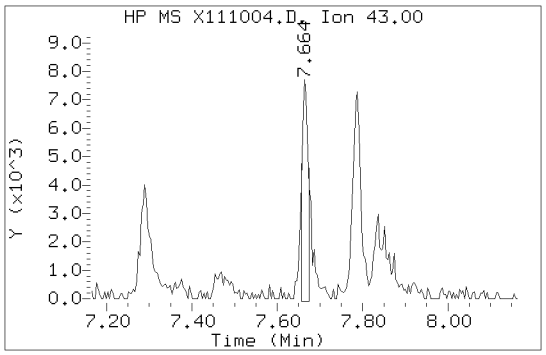
BEFORE

MASS
43
AREA
11264
HEIGHT
7704
17-Nov-2022
13:58
linh
pham



AFTER

MASS
43
AREA
7919
HEIGHT
7793
17-Nov-2022
14:02
linh
pham



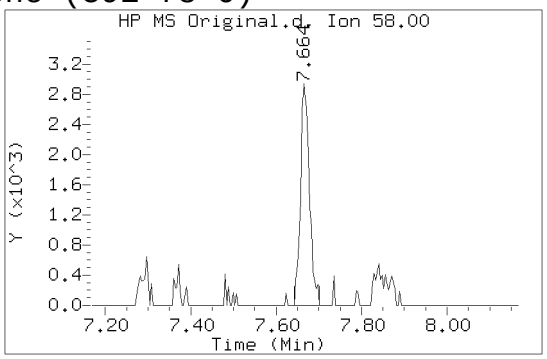
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111004.D
Inj Date : 10-NOV-2022 14:15
InstruID : voa10.i
LabSampID : VSTD001

2-Hexanone (591-78-6)

Reason Code:

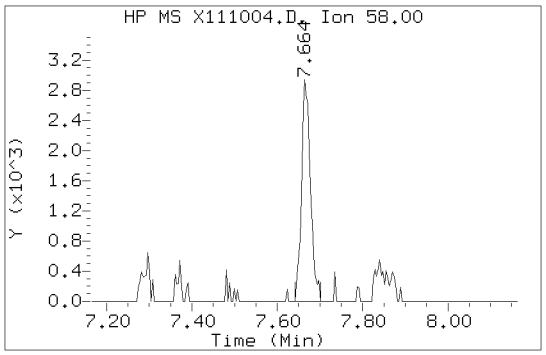
BEFORE

MASS
58
AREA
4401
HEIGHT
2941
17-Nov-2022
13:58
linh
pham



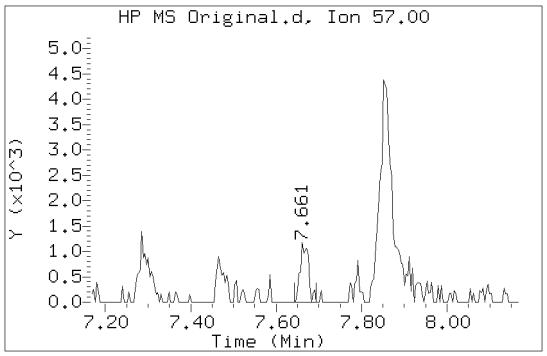
AFTER

MASS
58
AREA
4401
HEIGHT
2941
17-Nov-2022
14:02
linh
pham



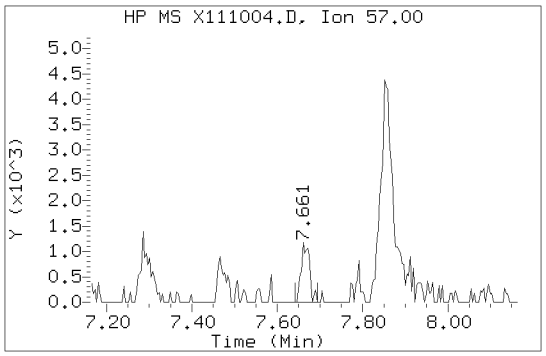
BEFORE

MASS
57
AREA
1644
HEIGHT
1184
17-Nov-2022
13:58
linh
pham



AFTER

MASS
57
AREA
1644
HEIGHT
1184
17-Nov-2022
14:02
linh
pham

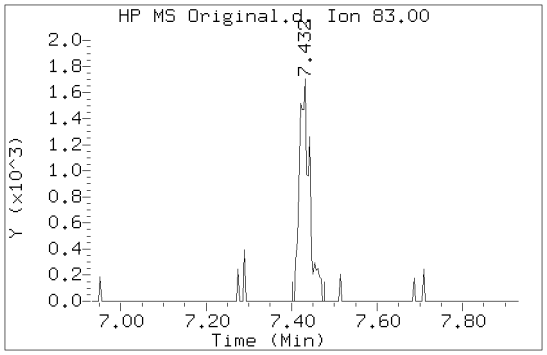


1,1,2-Trichloroethane (79-00-5)

Reason Code:

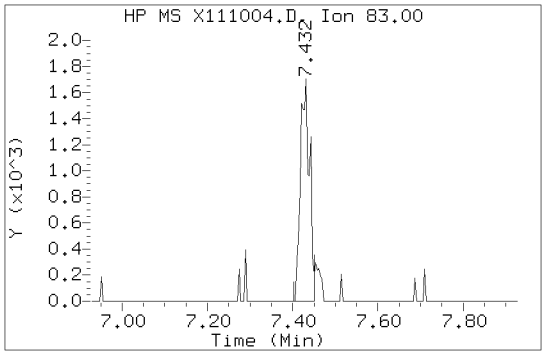
BEFORE

MASS
83
AREA
2850
HEIGHT
1705
17-Nov-2022
13:58
linh
pham



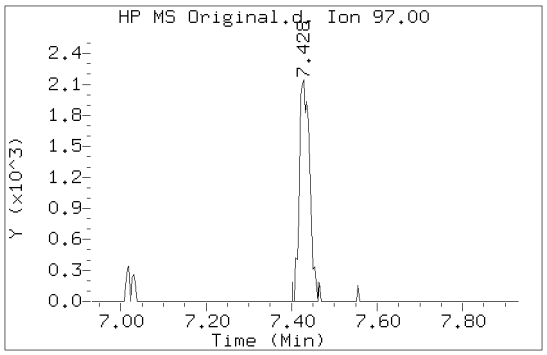
AFTER

MASS
83
AREA
2594
HEIGHT
1705
17-Nov-2022
14:02
linh
pham



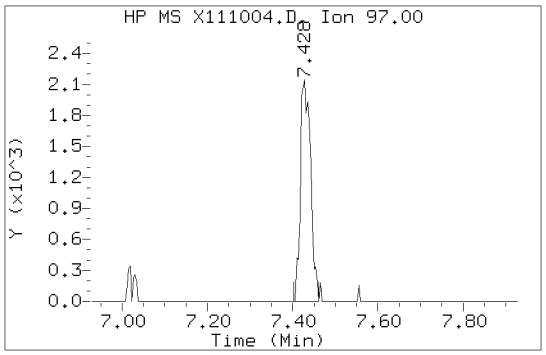
BEFORE

MASS
97
AREA
3656
HEIGHT
2146
17-Nov-2022
13:58
linh
pham



AFTER

MASS
97
AREA
3656
HEIGHT
2146
17-Nov-2022
14:02
linh
pham



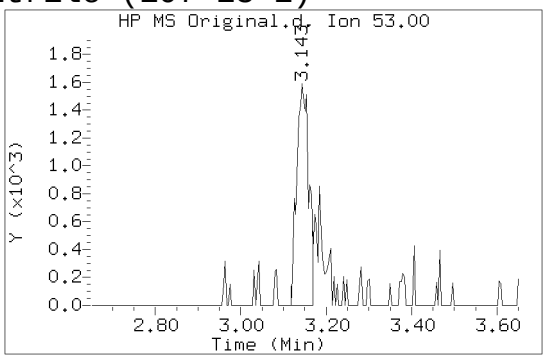
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111004.D
Inj Date : 10-NOV-2022 14:15
InstruID : voa10.i
LabSampID : VSTD001

Acrylonitrile (107-13-1)

Reason Code:

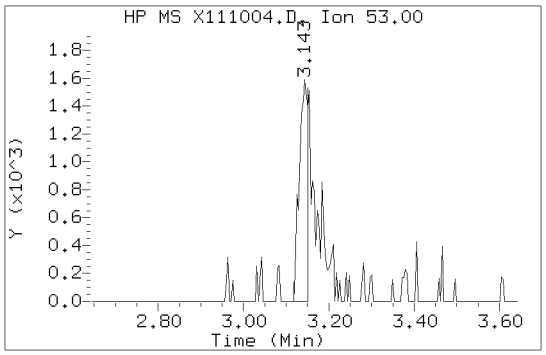
BEFORE

MASS
53
AREA
3196
HEIGHT
1590
17-Nov-2022
13:58
linh
pham



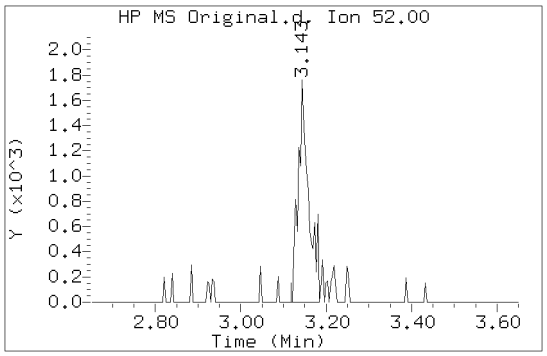
AFTER

MASS
53
AREA
2238
HEIGHT
1590
17-Nov-2022
14:02
linh
pham



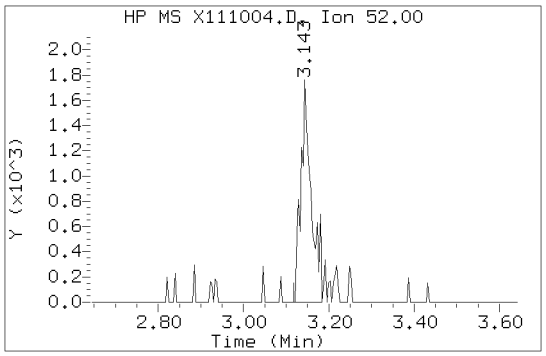
BEFORE

MASS
52
AREA
3061
HEIGHT
1762
17-Nov-2022
13:58
linh
pham



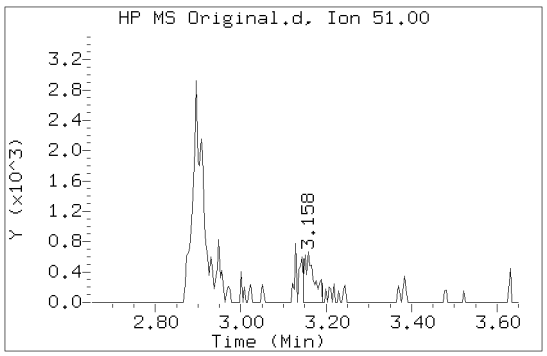
AFTER

MASS
52
AREA
3061
HEIGHT
1762
17-Nov-2022
14:02
linh
pham



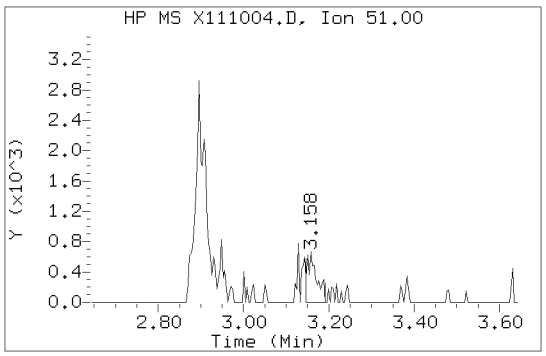
BEFORE

MASS
51
AREA
1009
HEIGHT
669
17-Nov-2022
13:58
linh
pham



AFTER

MASS
51
AREA
1009
HEIGHT
669
17-Nov-2022
14:02
linh
pham

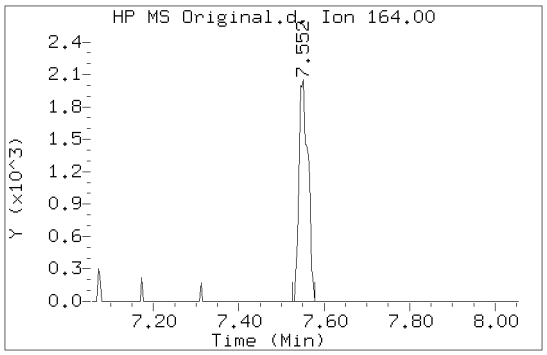


Tetrachloroethene (127-18-4)

Reason Code:

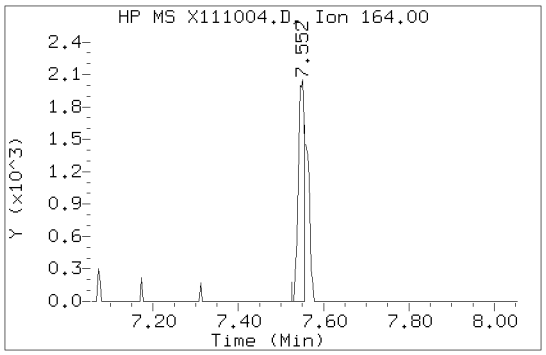
BEFORE

MASS
164
AREA
3119
HEIGHT
2052
17-Nov-2022
13:58
linh
pham



AFTER

MASS
164
AREA
2117
HEIGHT
2052
17-Nov-2022
14:02
linh
pham



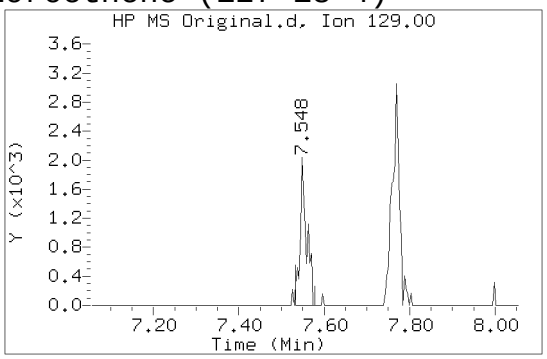
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111004.D
Inj Date : 10-NOV-2022 14:15
InstruID : voa10.i
LabSampID : VSTD001

Tetrachloroethene (127-18-4)

Reason Code:

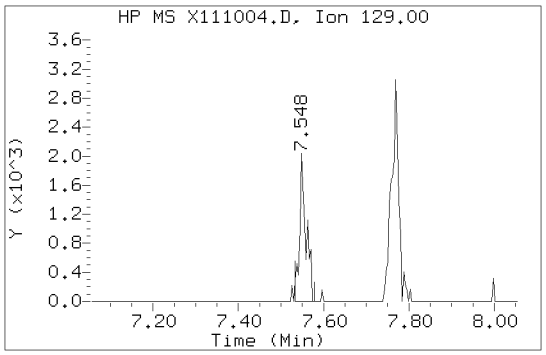
BEFORE

MASS
129
AREA
2226
HEIGHT
2044
17-Nov-2022
13:58
linh
pham



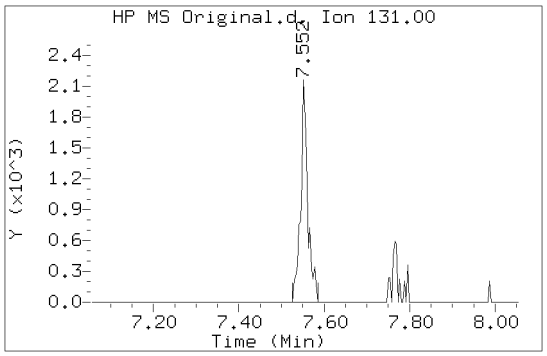
AFTER

MASS
129
AREA
2226
HEIGHT
2044
17-Nov-2022
14:02
linh
pham



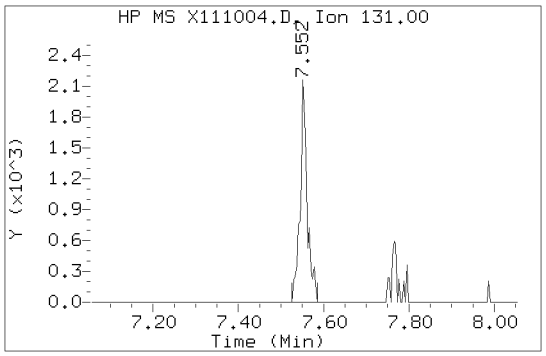
BEFORE

MASS
131
AREA
2526
HEIGHT
2160
17-Nov-2022
13:58
linh
pham



AFTER

MASS
131
AREA
2526
HEIGHT
2160
17-Nov-2022
14:02
linh
pham

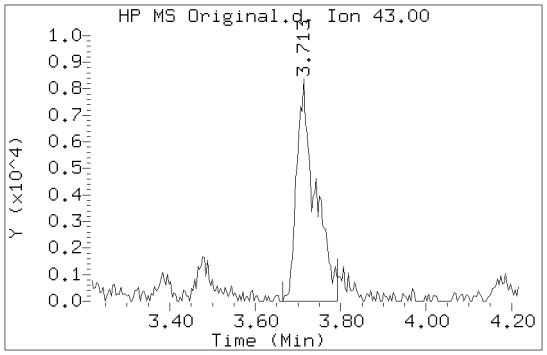


Vinyl Acetate (108-05-4)

Reason Code:

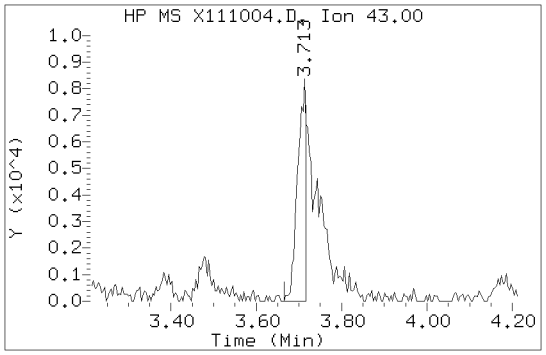
BEFORE

MASS
43
AREA
25636
HEIGHT
8370
17-Nov-2022
13:58
linh
pham



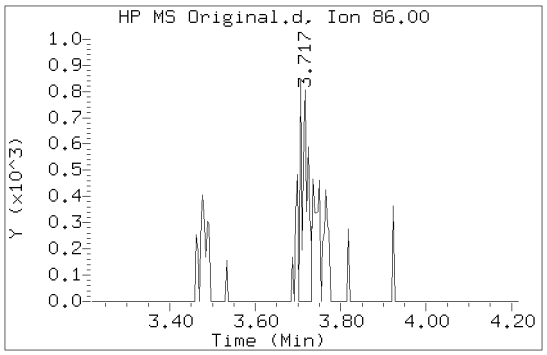
AFTER

MASS
43
AREA
11860
HEIGHT
8370
17-Nov-2022
14:02
linh
pham



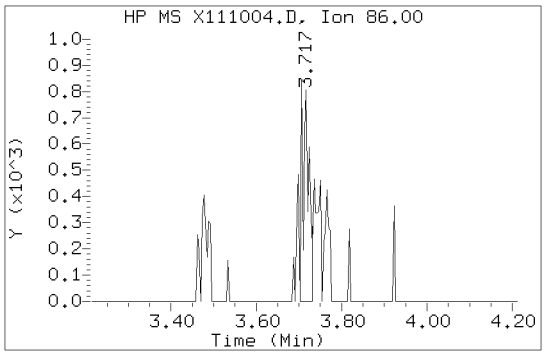
BEFORE

MASS
86
AREA
891
HEIGHT
806
17-Nov-2022
13:58
linh
pham



AFTER

MASS
86
AREA
891
HEIGHT
806
17-Nov-2022
14:02
linh
pham



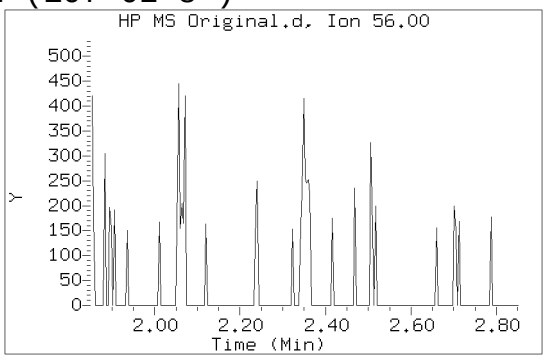
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111004.D
Inj Date : 10-NOV-2022 14:15
InstruID : voa10.i
LabSampID : VSTD001

Acrolein (107-02-8)

Reason Code:

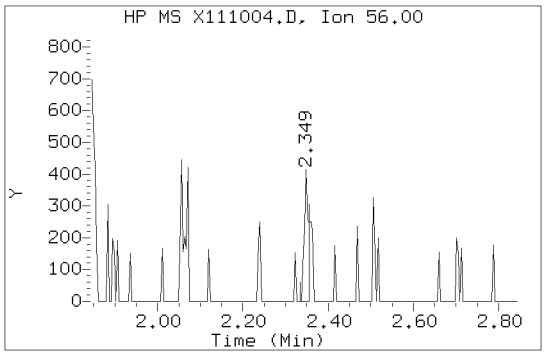
BEFORE

MASS
56
AREA
0
HEIGHT
0
17-Nov-2022
13:58
linh
pham



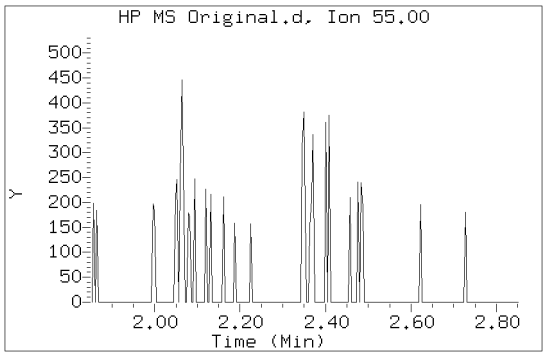
AFTER

MASS
56
AREA
293
HEIGHT
415
17-Nov-2022
14:02
linh
pham



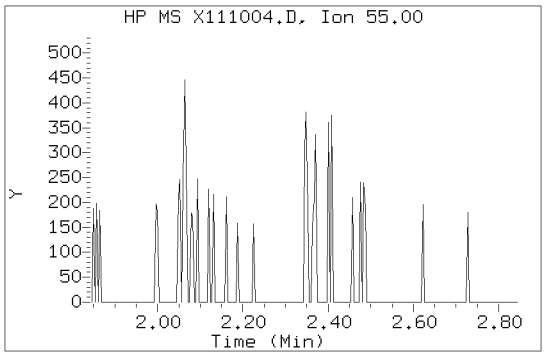
BEFORE

MASS
55
AREA
0
HEIGHT
0
17-Nov-2022
13:58
linh
pham



AFTER

MASS
55
AREA
0
HEIGHT
0
17-Nov-2022
14:02
linh
pham

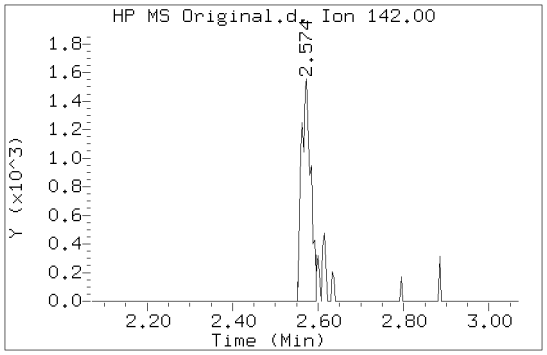


Iodomethane (74-88-4)

Reason Code:

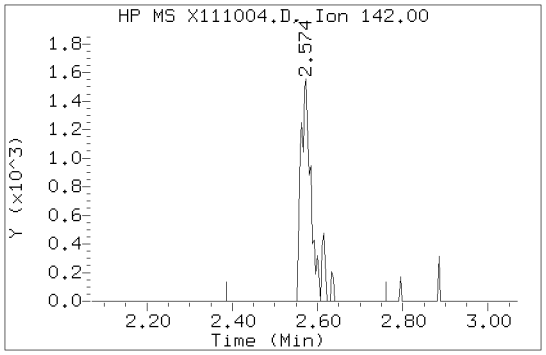
BEFORE

MASS
142
AREA
2418
HEIGHT
1555
17-Nov-2022
13:58
linh
pham



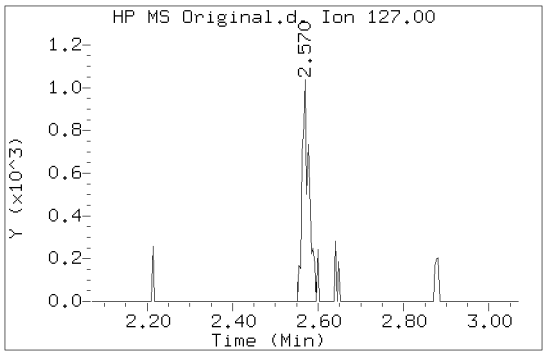
AFTER

MASS
142
AREA
2870
HEIGHT
1555
17-Nov-2022
14:02
linh
pham



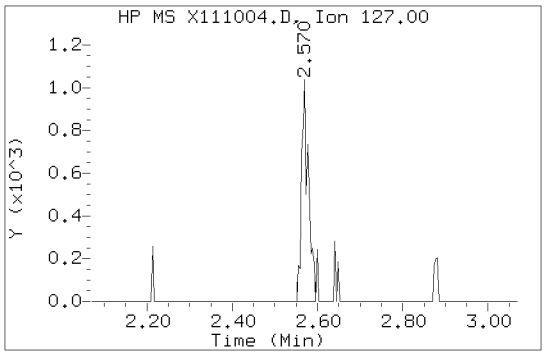
BEFORE

MASS
127
AREA
1191
HEIGHT
1037
17-Nov-2022
13:58
linh
pham



AFTER

MASS
127
AREA
1191
HEIGHT
1037
17-Nov-2022
14:02
linh
pham



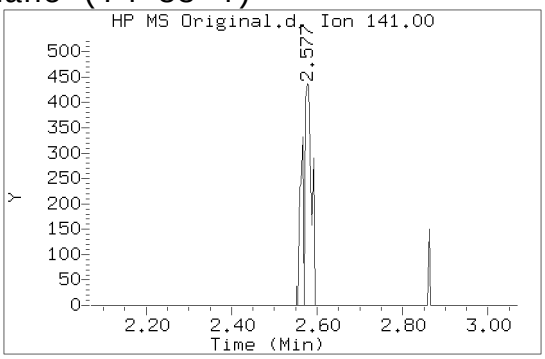
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111004.D
Inj Date : 10-NOV-2022 14:15
InstruID : voa10.i
LabSampID : VSTD001

Iodomethane (74-88-4)

Reason Code:

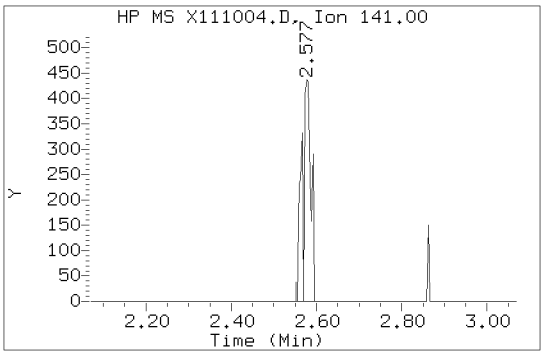
BEFORE

MASS
141
AREA
624
HEIGHT
437
17-Nov-2022
13:58
linh
pham



AFTER

MASS
141
AREA
624
HEIGHT
437
17-Nov-2022
14:02
linh
pham

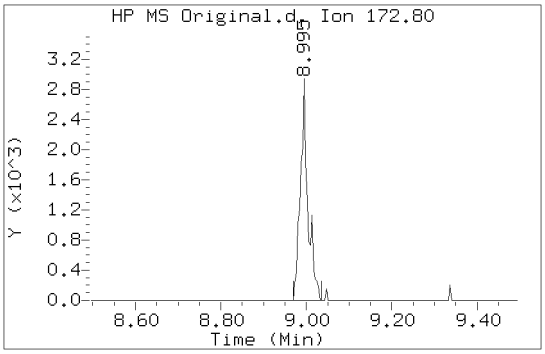


Bromoform (75-25-2)

Reason Code:

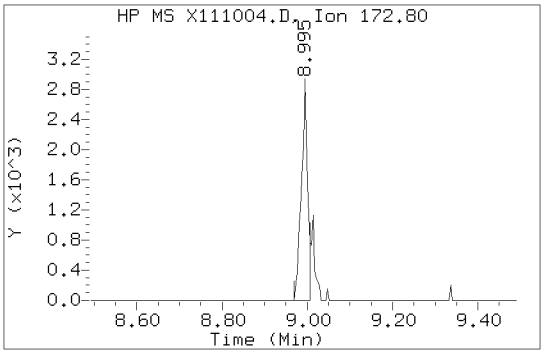
BEFORE

MASS
172.8
AREA
3722
HEIGHT
2943
17-Nov-2022
13:58
linh
pham



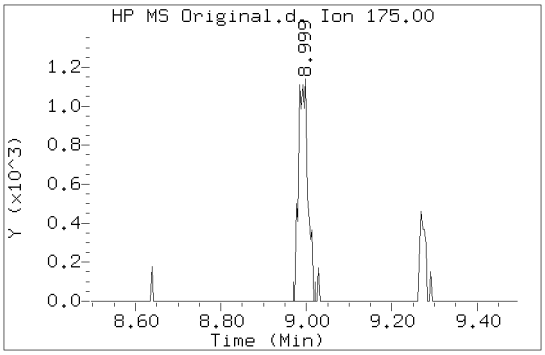
AFTER

MASS
172.8
AREA
3052
HEIGHT
2943
17-Nov-2022
14:02
linh
pham



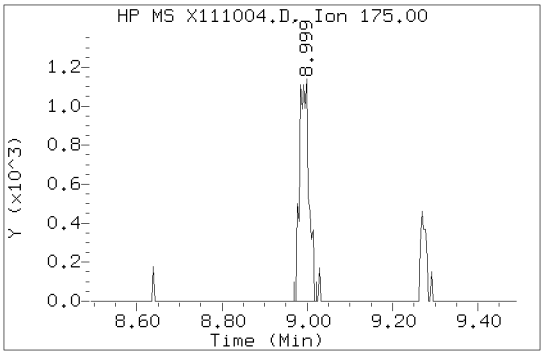
BEFORE

MASS
175
AREA
1782
HEIGHT
1140
17-Nov-2022
13:58
linh
pham



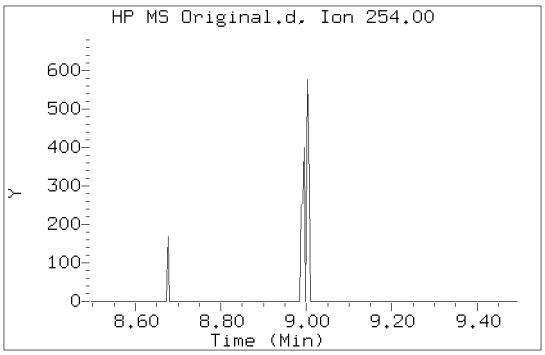
AFTER

MASS
175
AREA
1782
HEIGHT
1140
17-Nov-2022
14:02
linh
pham



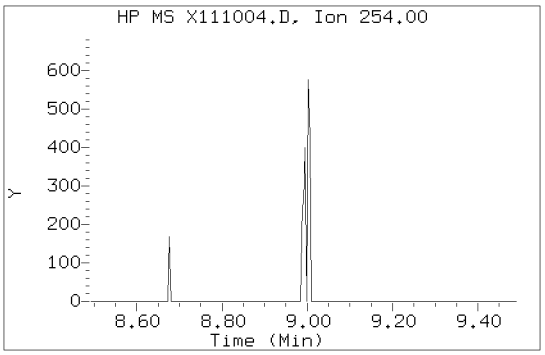
BEFORE

MASS
254
AREA
0
HEIGHT
0
17-Nov-2022
13:58
linh
pham



AFTER

MASS
254
AREA
0
HEIGHT
0
17-Nov-2022
14:02
linh
pham



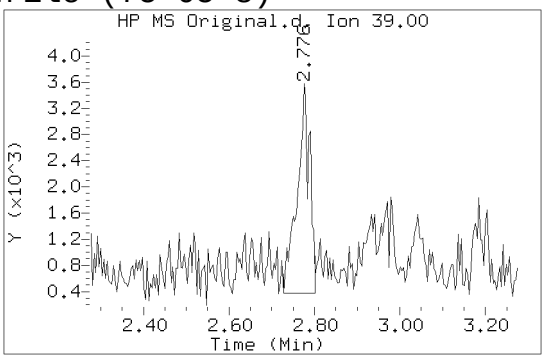
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111004.D
Inj Date : 10-NOV-2022 14:15
InstruID : voa10.i
LabSampID : VSTD001

Acetonitrile (75-05-8)

Reason Code:

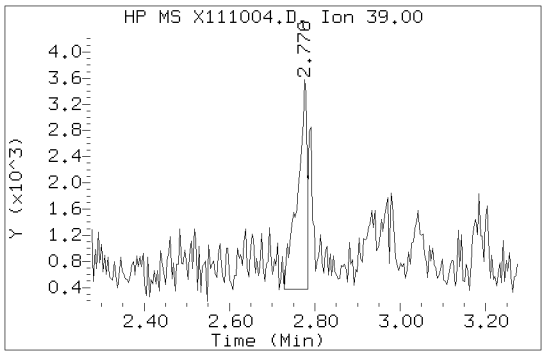
BEFORE

MASS
39
AREA
6680
HEIGHT
3204
17-Nov-2022
13:58
linh
pham



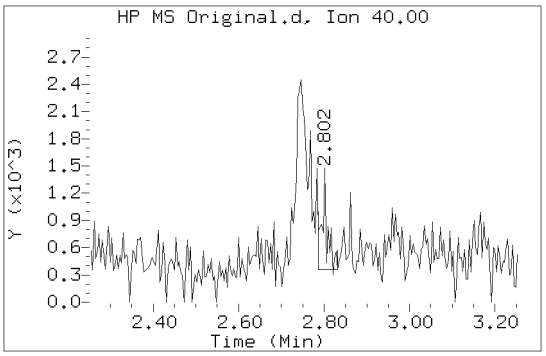
AFTER

MASS
39
AREA
5065
HEIGHT
3204
17-Nov-2022
14:02
linh
pham



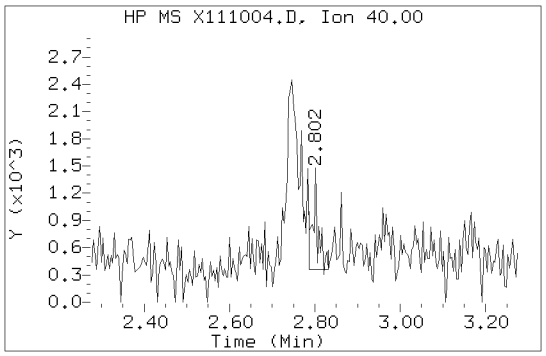
BEFORE

MASS
40
AREA
979
HEIGHT
1117
17-Nov-2022
13:58
linh
pham



AFTER

MASS
40
AREA
979
HEIGHT
1117
17-Nov-2022
14:02
linh
pham

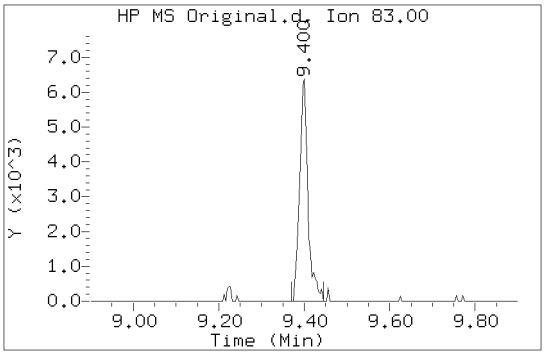


1,1,2,2-Tetrachloroethane (79-34-5)

Reason Code:

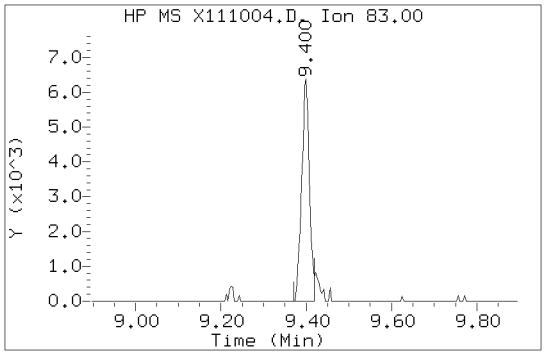
BEFORE

MASS
83
AREA
9005
HEIGHT
6383
17-Nov-2022
13:58
linh
pham



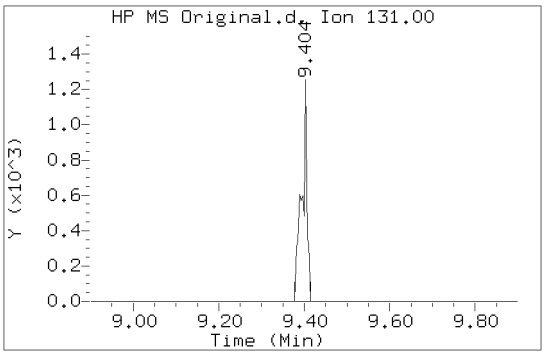
AFTER

MASS
83
AREA
8355
HEIGHT
6383
17-Nov-2022
14:02
linh
pham



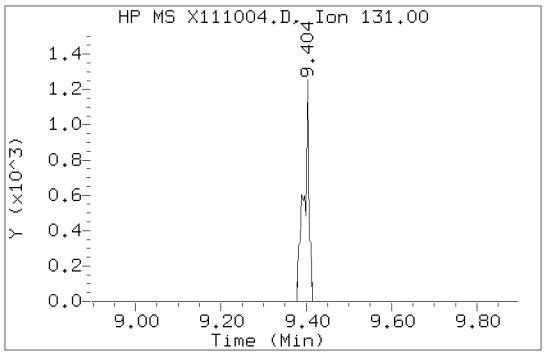
BEFORE

MASS
131
AREA
1088
HEIGHT
1255
17-Nov-2022
13:58
linh
pham



AFTER

MASS
131
AREA
1088
HEIGHT
1255
17-Nov-2022
14:02
linh
pham



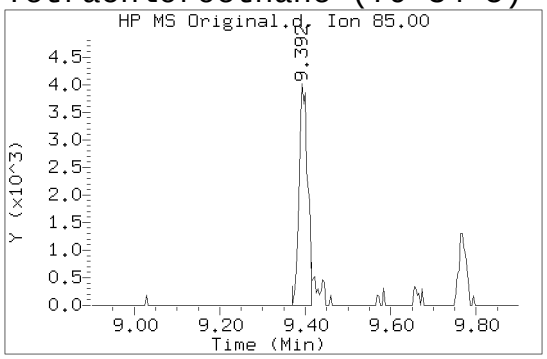
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111004.D
Inj Date : 10-NOV-2022 14:15
InstruID : voa10.i
LabSampID : VSTD001

1,1,2,2-Tetrachloroethane (79-34-5)

Reason Code:

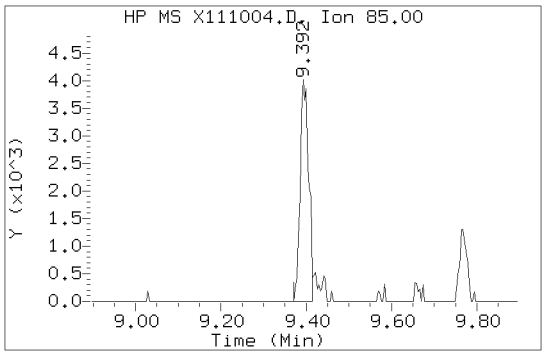
BEFORE

MASS
85
AREA
5728
HEIGHT
4017
17-Nov-2022
13:58
linh
pham



AFTER

MASS
85
AREA
5728
HEIGHT
4017
17-Nov-2022
14:02
linh
pham

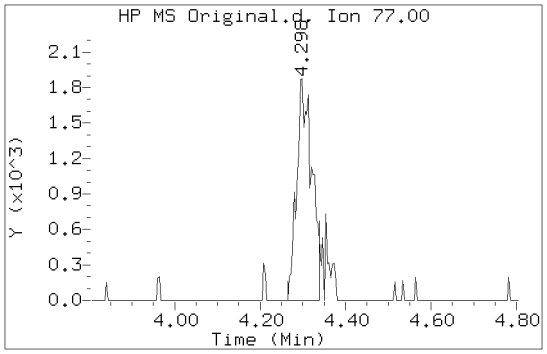


2,2-Dichloropropane (594-20-7)

Reason Code:

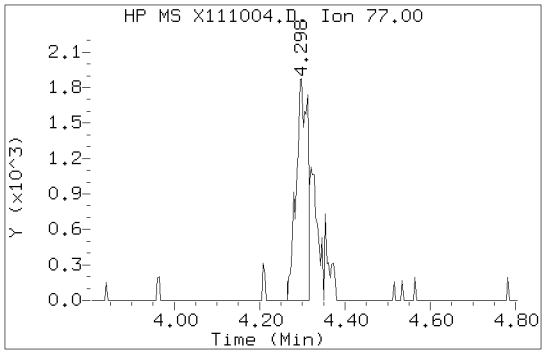
BEFORE

MASS
77
AREA
4716
HEIGHT
1875
17-Nov-2022
13:58
linh
pham



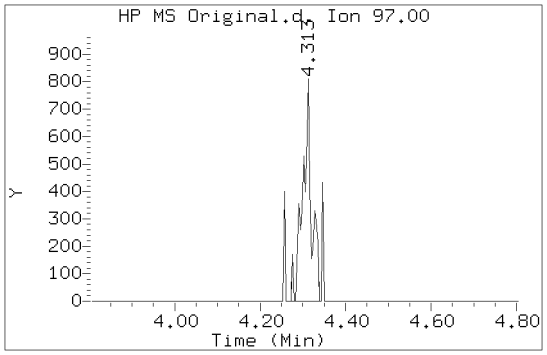
AFTER

MASS
77
AREA
3565
HEIGHT
1875
17-Nov-2022
14:02
linh
pham



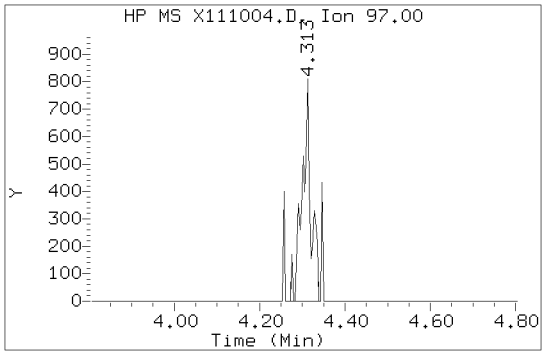
BEFORE

MASS
97
AREA
1164
HEIGHT
810
17-Nov-2022
13:58
linh
pham



AFTER

MASS
97
AREA
1164
HEIGHT
810
17-Nov-2022
14:02
linh
pham

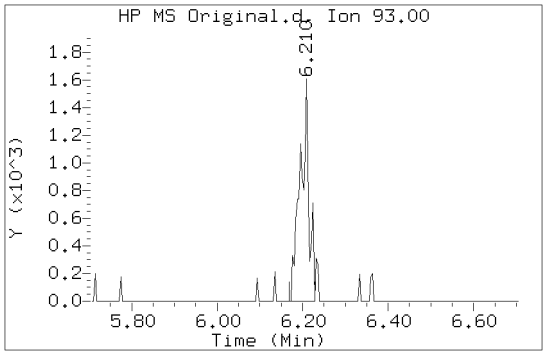


Dibromomethane (74-95-3)

Reason Code:

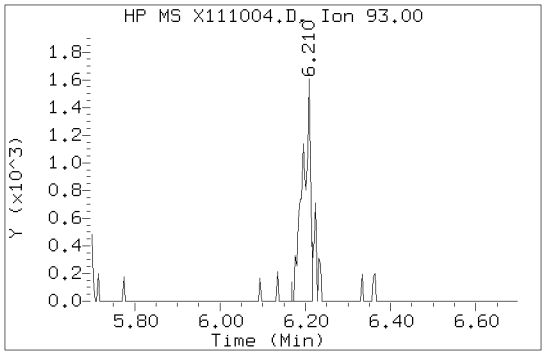
BEFORE

MASS
93
AREA
2323
HEIGHT
1607
17-Nov-2022
13:58
linh
pham



AFTER

MASS
93
AREA
2063
HEIGHT
1607
17-Nov-2022
14:02
linh
pham



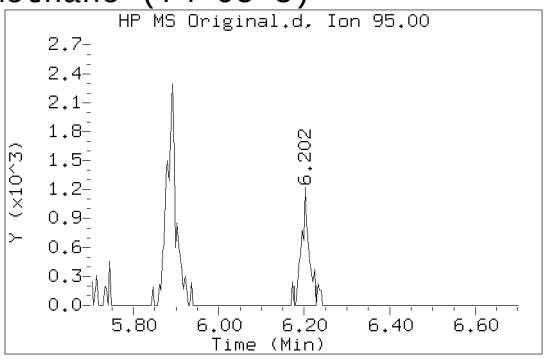
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111004.D
Inj Date : 10-NOV-2022 14:15
InstruID : voa10.i
LabSampID : VSTD001

Dibromomethane (74-95-3)

Reason Code:

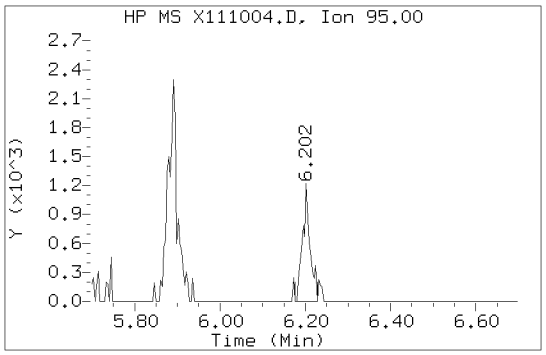
BEFORE

MASS
95
AREA
1511
HEIGHT
1223
17-Nov-2022
13:58
linh
pham



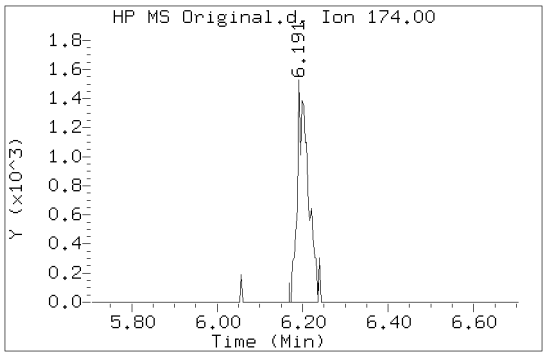
AFTER

MASS
95
AREA
1511
HEIGHT
1223
17-Nov-2022
14:02
linh
pham



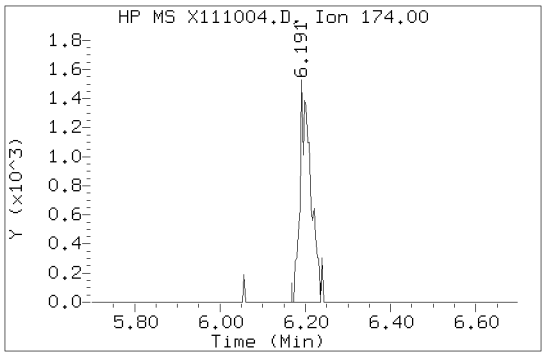
BEFORE

MASS
174
AREA
2717
HEIGHT
1528
17-Nov-2022
13:58
linh
pham



AFTER

MASS
174
AREA
2717
HEIGHT
1528
17-Nov-2022
14:02
linh
pham

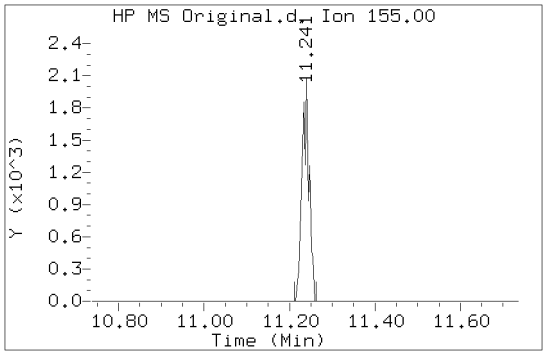


1,2-Dibromo-3-Chloropropane (96-12-8)

Reason Code:

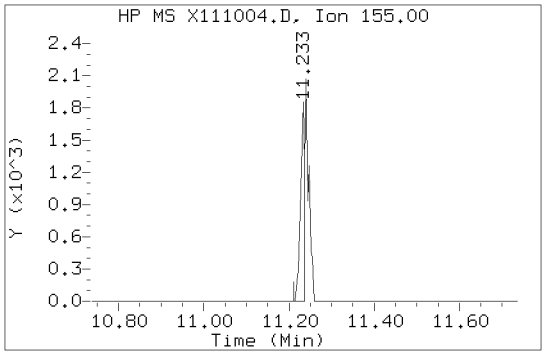
BEFORE

MASS
155
AREA
2434
HEIGHT
2071
17-Nov-2022
13:58
linh
pham



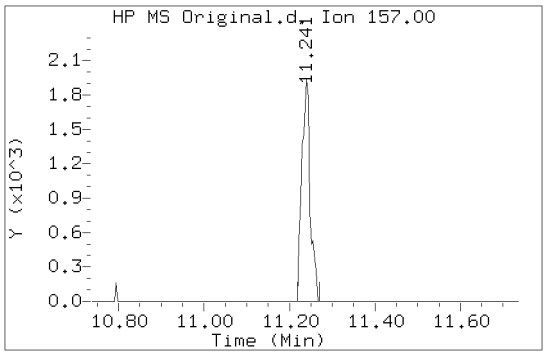
AFTER

MASS
155
AREA
1276
HEIGHT
1857
17-Nov-2022
14:02
linh
pham



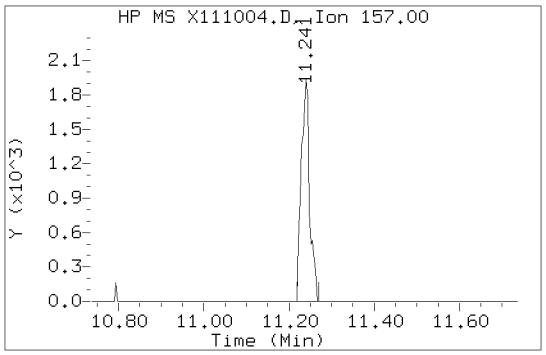
BEFORE

MASS
157
AREA
2718
HEIGHT
1934
17-Nov-2022
13:58
linh
pham



AFTER

MASS
157
AREA
2718
HEIGHT
1934
17-Nov-2022
14:02
linh
pham



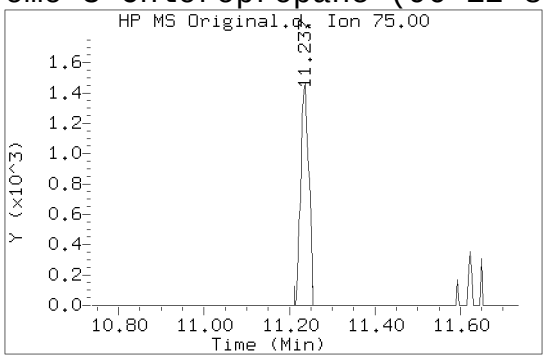
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111004.D
Inj Date : 10-NOV-2022 14:15
InstruID : voa10.i
LabSampID : VSTD001

1,2-Dibromo-3-Chloropropane (96-12-8)

Reason Code:

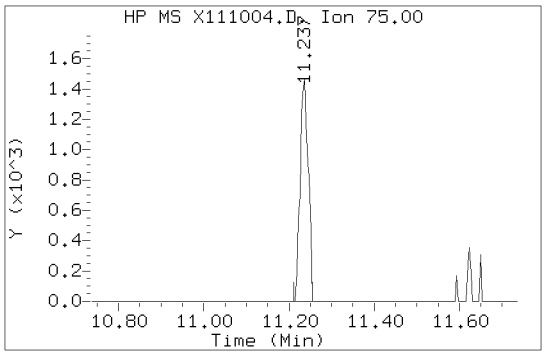
BEFORE

MASS
75
AREA
2005
HEIGHT
1461
17-Nov-2022
13:58
linh
pham



AFTER

MASS
75
AREA
2005
HEIGHT
1461
17-Nov-2022
14:02
linh
pham

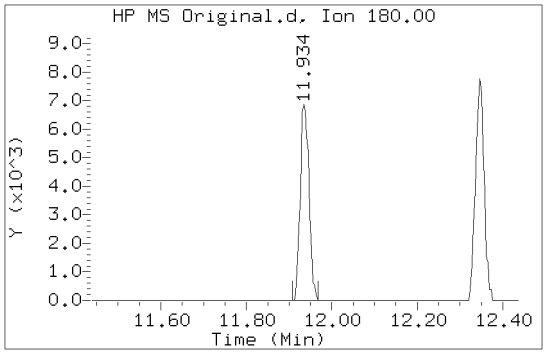


1,2,4-Trichlorobenzene (120-82-1)

Reason Code:

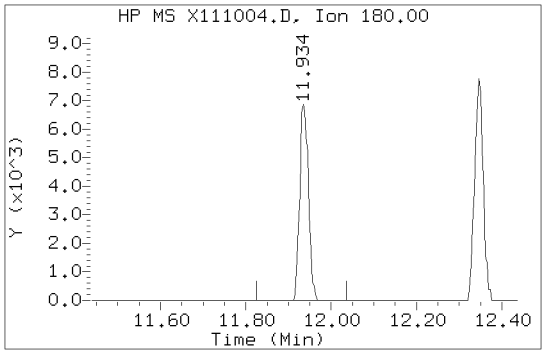
BEFORE

MASS
180
AREA
10117
HEIGHT
6878
17-Nov-2022
13:58
linh
pham



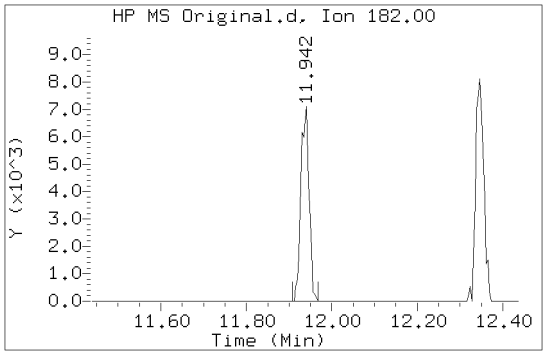
AFTER

MASS
180
AREA
10119
HEIGHT
6878
17-Nov-2022
14:02
linh
pham



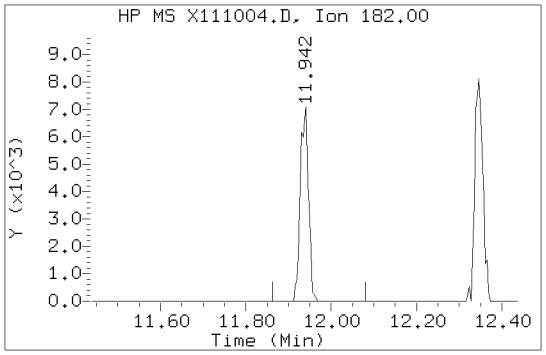
BEFORE

MASS
182
AREA
9793
HEIGHT
7098
17-Nov-2022
13:58
linh
pham



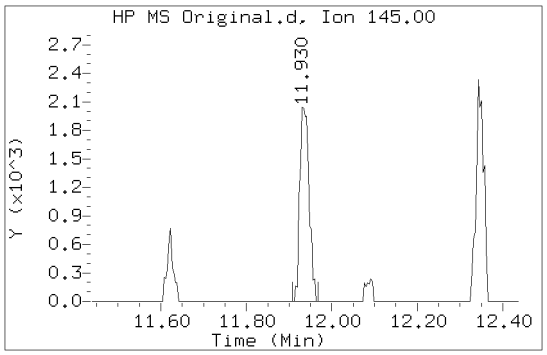
AFTER

MASS
182
AREA
9794
HEIGHT
7098
17-Nov-2022
14:02
linh
pham



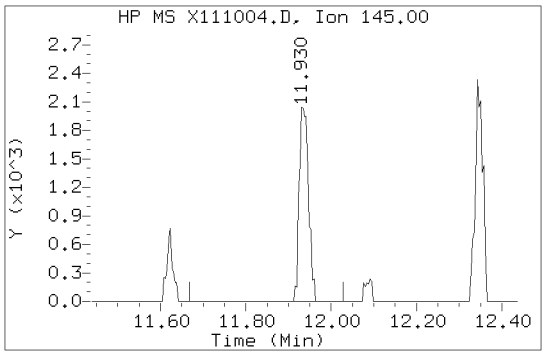
BEFORE

MASS
145
AREA
3194
HEIGHT
2047
17-Nov-2022
13:58
linh
pham



AFTER

MASS
145
AREA
3194
HEIGHT
2047
17-Nov-2022
14:02
linh
pham



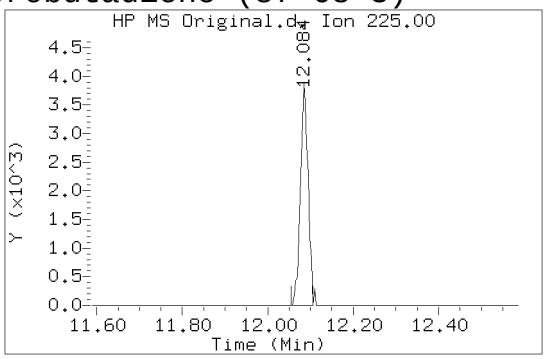
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111004.D
Inj Date : 10-NOV-2022 14:15
InstruID : voa10.i
LabSampID : VSTD001

Hexachlorobutadiene (87-68-3)

Reason Code:

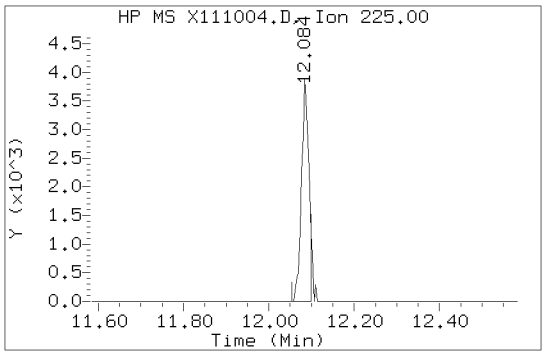
BEFORE

MASS
225
AREA
4945
HEIGHT
3871
17-Nov-2022
13:58
linh
pham



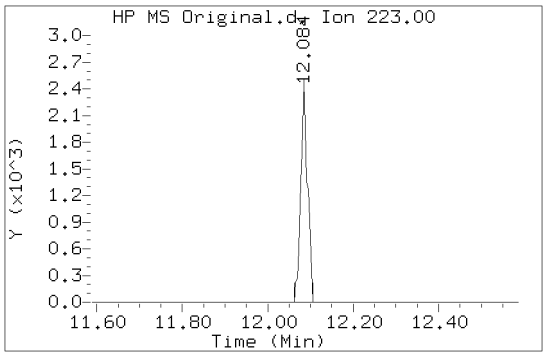
AFTER

MASS
225
AREA
4764
HEIGHT
3871
17-Nov-2022
14:02
linh
pham



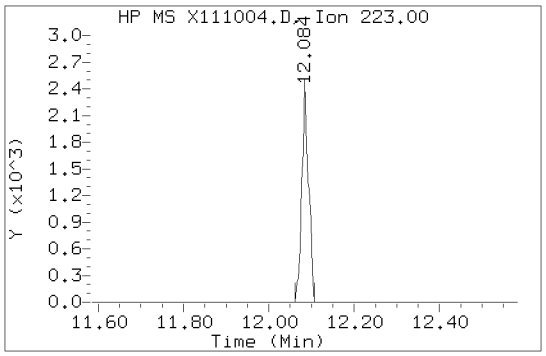
BEFORE

MASS
223
AREA
2816
HEIGHT
2502
17-Nov-2022
13:58
linh
pham



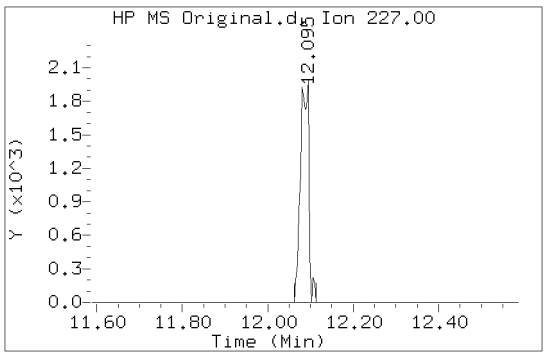
AFTER

MASS
223
AREA
2816
HEIGHT
2502
17-Nov-2022
14:02
linh
pham



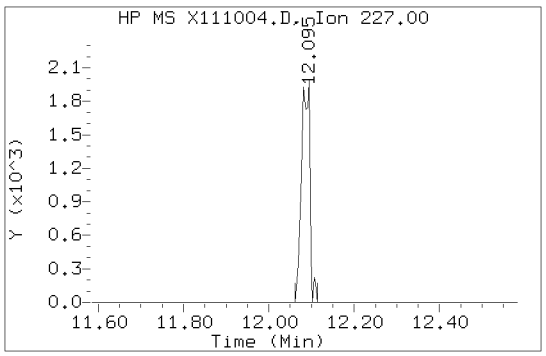
BEFORE

MASS
227
AREA
2816
HEIGHT
1984
17-Nov-2022
13:58
linh
pham



AFTER

MASS
227
AREA
2816
HEIGHT
1984
17-Nov-2022
14:02
linh
pham

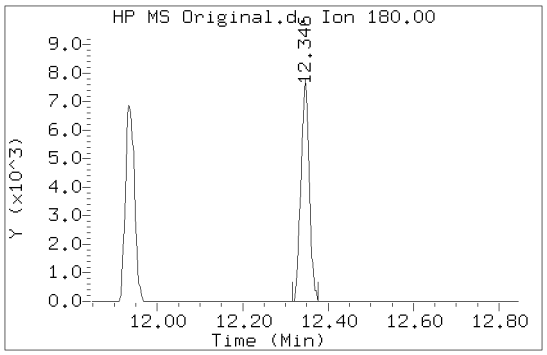


1,2,3-Trichlorobenzene (87-61-6)

Reason Code:

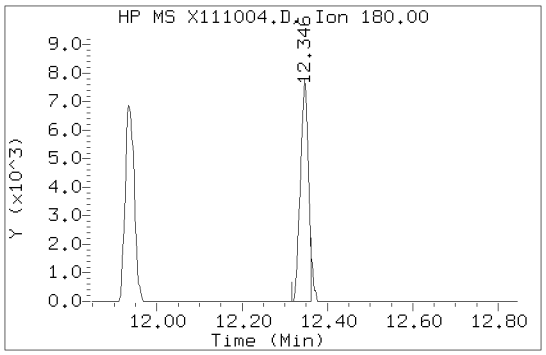
BEFORE

MASS
180
AREA
10883
HEIGHT
7771
17-Nov-2022
13:58
linh
pham



AFTER

MASS
180
AREA
10414
HEIGHT
7771
17-Nov-2022
14:02
linh
pham



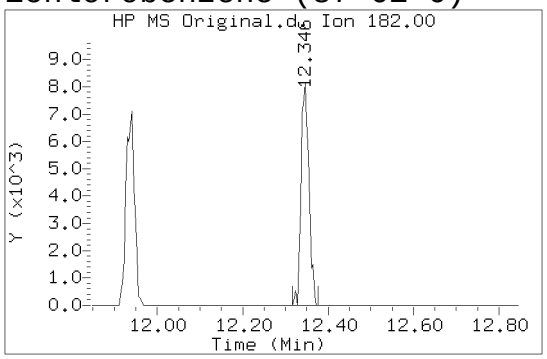
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Inj Date : 10-NOV-2022 14:15
InstruID : voa10.i
LabSampID : VSTD001

1,2,3-Trichlorobenzene (87-61-6)

Reason Code:

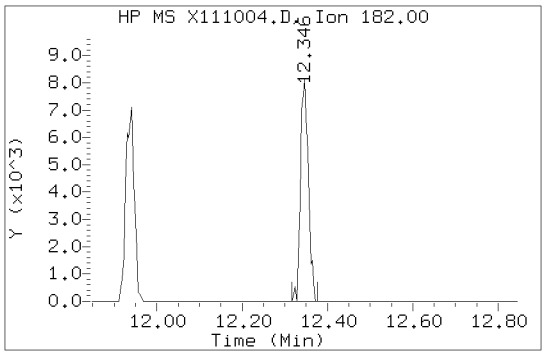
BEFORE

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AREA
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HEIGHT
8110
17-Nov-2022
13:58
linh
pham



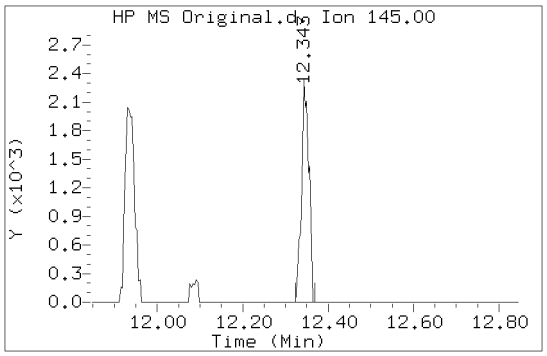
AFTER

MASS
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AREA
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HEIGHT
8110
17-Nov-2022
14:02
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pham



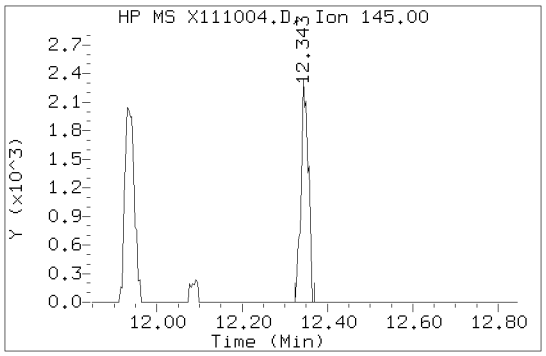
BEFORE

MASS
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AREA
2877
HEIGHT
2333
17-Nov-2022
13:58
linh
pham



AFTER

MASS
145
AREA
2877
HEIGHT
2333
17-Nov-2022
14:02
linh
pham

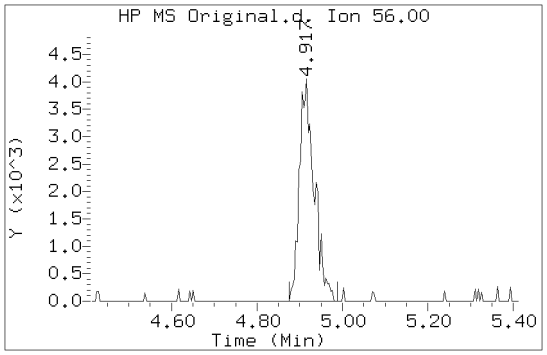


Cyclohexane (110-82-7)

Reason Code:

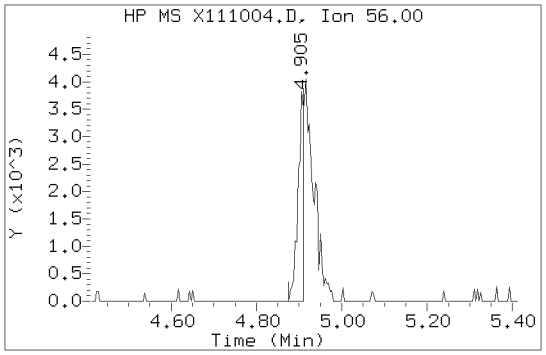
BEFORE

MASS
56
AREA
9912
HEIGHT
4052
17-Nov-2022
13:58
linh
pham



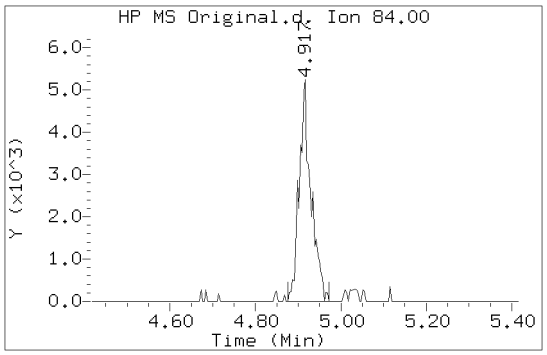
AFTER

MASS
56
AREA
3454
HEIGHT
3823
17-Nov-2022
14:02
linh
pham



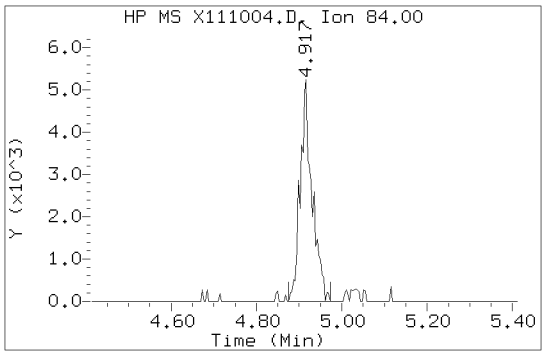
BEFORE

MASS
84
AREA
10245
HEIGHT
5243
17-Nov-2022
13:58
linh
pham



AFTER

MASS
84
AREA
10245
HEIGHT
5243
17-Nov-2022
14:02
linh
pham



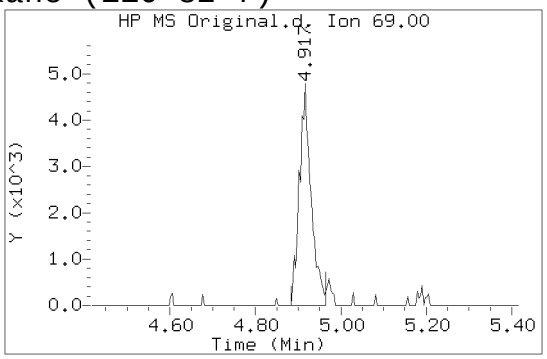
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Inj Date : 10-NOV-2022 14:15
InstruID : voa10.i
LabSampID : VSTD001

Cyclohexane (110-82-7)

Reason Code:

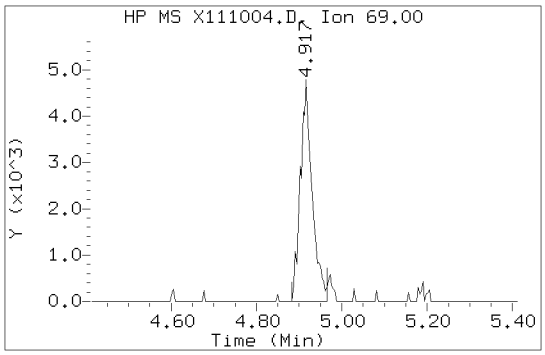
BEFORE

MASS
69
AREA
9331
HEIGHT
4787
17-Nov-2022
13:58
linh
pham



AFTER

MASS
69
AREA
9331
HEIGHT
4787
17-Nov-2022
14:02
linh
pham

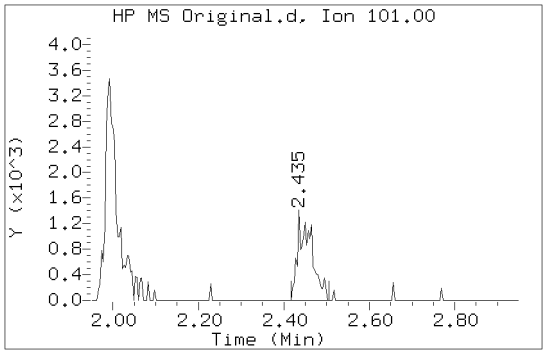


Freon TF (76-13-1)

Reason Code:

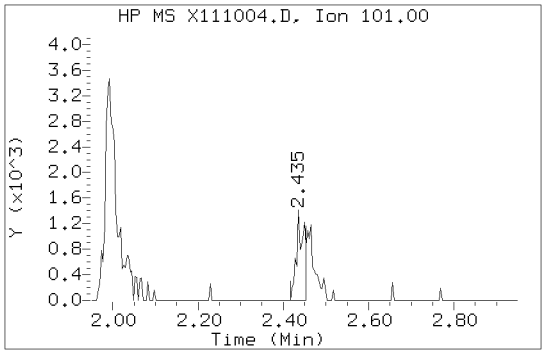
BEFORE

MASS
101
AREA
3184
HEIGHT
1418
17-Nov-2022
13:58
linh
pham



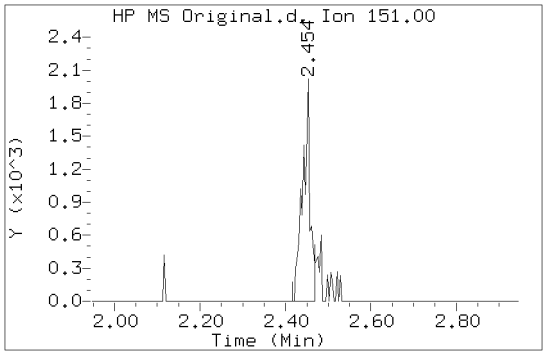
AFTER

MASS
101
AREA
1766
HEIGHT
1418
17-Nov-2022
14:02
linh
pham



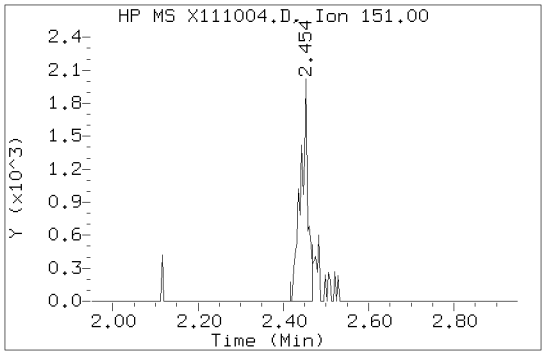
BEFORE

MASS
151
AREA
2463
HEIGHT
2021
17-Nov-2022
13:58
linh
pham



AFTER

MASS
151
AREA
2463
HEIGHT
2021
17-Nov-2022
14:02
linh
pham

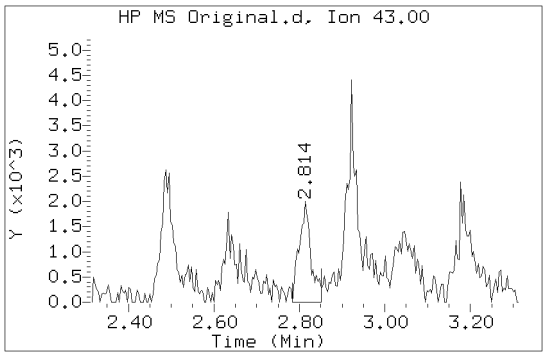


Methyl Acetate (79-20-9)

Reason Code:

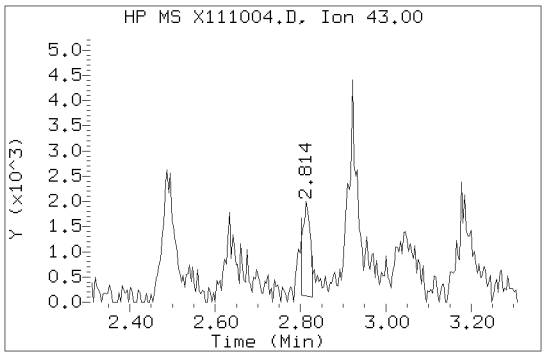
BEFORE

MASS
43
AREA
3918
HEIGHT
2005
17-Nov-2022
13:58
linh
pham



AFTER

MASS
43
AREA
2351
HEIGHT
1880
17-Nov-2022
14:02
linh
pham



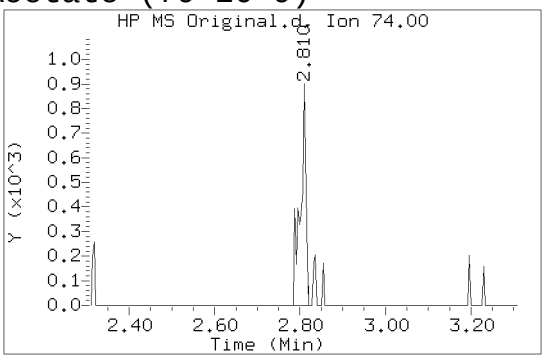
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Inj Date : 10-NOV-2022 14:15
InstruID : voa10.i
LabSampID : VSTD001

Methyl Acetate (79-20-9)

Reason Code:

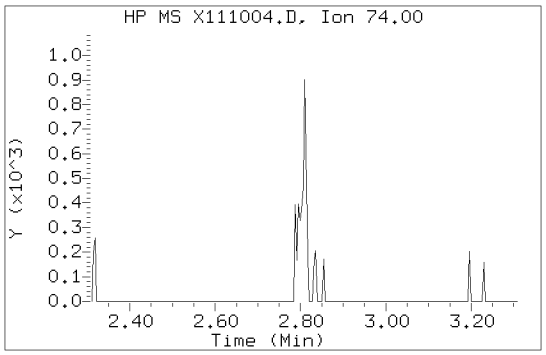
BEFORE

MASS
74
AREA
857
HEIGHT
901
17-Nov-2022
13:58
linh
pham



AFTER

MASS
74
AREA
0
HEIGHT
0
17-Nov-2022
14:02
linh
pham

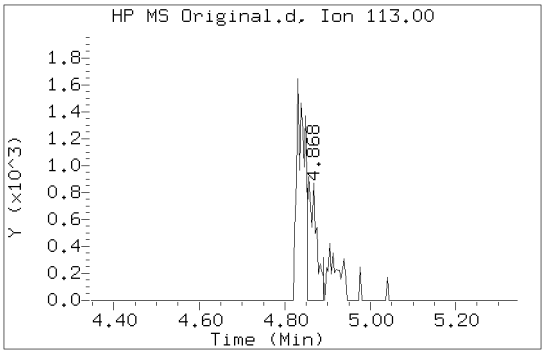


Dibromofluoromethane (1868-53-7)

Reason Code:

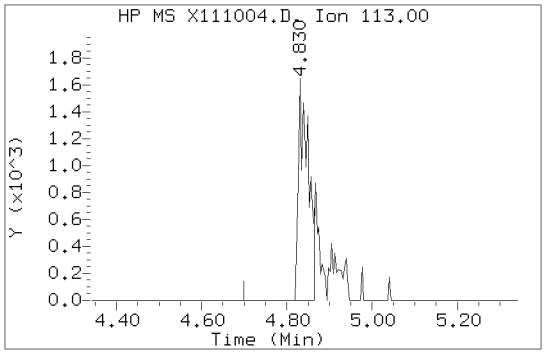
BEFORE

MASS
113
AREA
1262
HEIGHT
869
17-Nov-2022
13:58
linh
pham



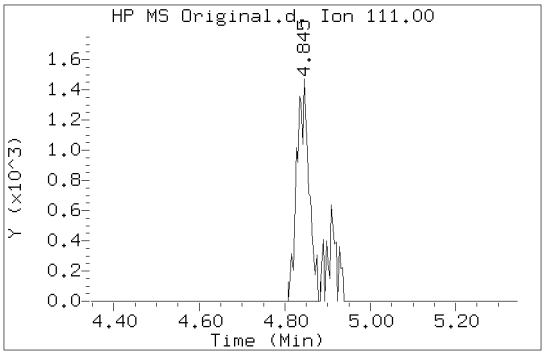
AFTER

MASS
113
AREA
2689
HEIGHT
1646
17-Nov-2022
14:02
linh
pham



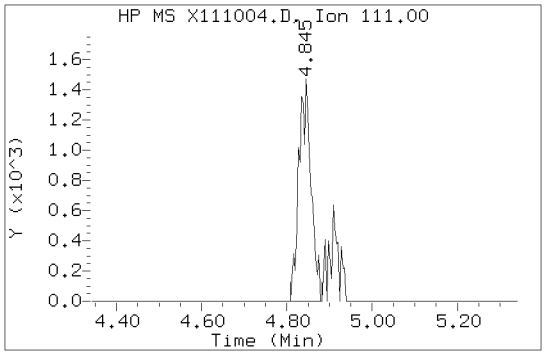
BEFORE

MASS
111
AREA
2957
HEIGHT
1472
17-Nov-2022
13:58
linh
pham



AFTER

MASS
111
AREA
2957
HEIGHT
1472
17-Nov-2022
14:02
linh
pham

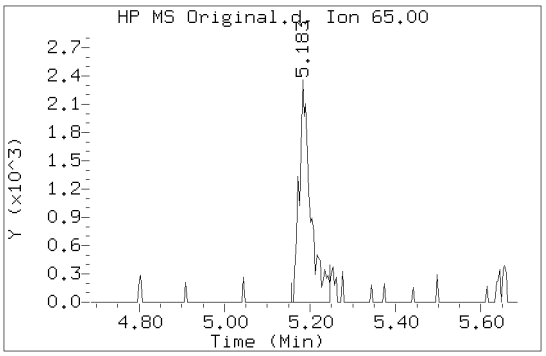


1,2-Dichloroethane-d4 (17060-07-0)

Reason Code:

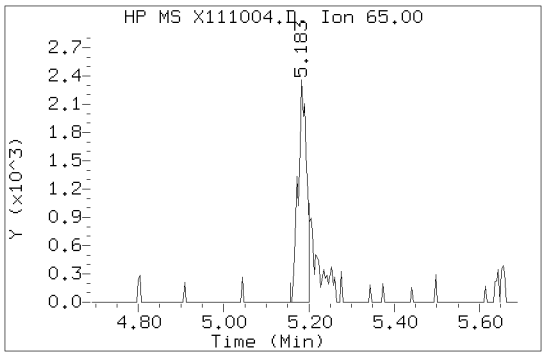
BEFORE

MASS
65
AREA
4459
HEIGHT
2358
17-Nov-2022
13:58
linh
pham



AFTER

MASS
65
AREA
3375
HEIGHT
2358
17-Nov-2022
14:02
linh
pham



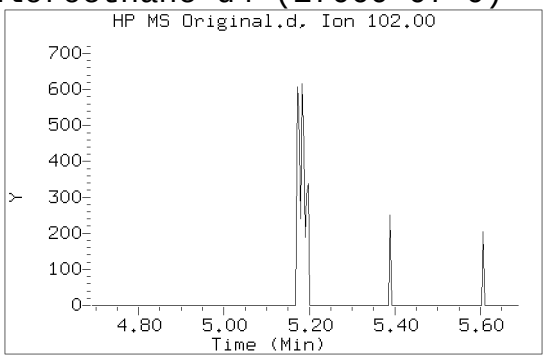
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Inj Date : 10-NOV-2022 14:15
InstruID : voa10.i
LabSampID : VSTD001

1,2-Dichloroethane-d4 (17060-07-0)

Reason Code:

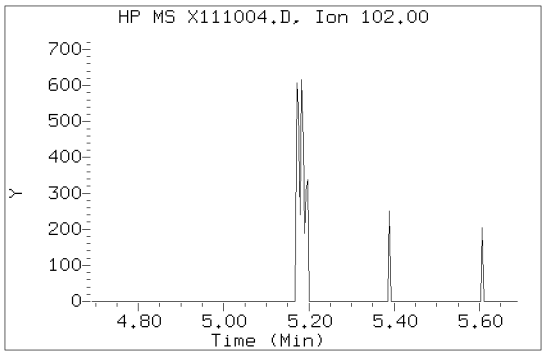
BEFORE

MASS
102
AREA
0
HEIGHT
0
17-Nov-2022
13:58
linh
pham



AFTER

MASS
102
AREA
0
HEIGHT
0
17-Nov-2022
14:02
linh
pham



Data File: \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111005.D Page 1
Report Date: 17-Nov-2022 14:02

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111005.D
Lab Smp Id: VSTD002 Client Smp ID: VSTD002
Inj Date : 10-NOV-2022 14:35
Operator : FT Inst ID: voa10.i
Smp Info : VSTD002;VSTD002;1;4;
Misc Info : V10;WATER;0;1;
Comment :
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Meth Date : 17-Nov-2022 14:02 voa10.i Quant Type: ISTD
Cal Date : 10-NOV-2022 14:15 Cal File: X111004.D
Als bottle: 6 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000008260V10.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	4.916	4.916	(1.000)	440869	50.0000	
2 Dichlorodifluoromethane	85	1.231	1.231	(0.251)	7397	2.00000	1.95(M)
3 Chloromethane	50	1.370	1.370	(0.279)	8479	2.00000	2.05(M)
5 Vinyl Chloride	62	1.452	1.452	(0.295)	7728	2.00000	1.88(M)
6 Bromomethane	94	1.711	1.711	(0.348)	3868	2.00000	2.09(M)
7 Chloroethane	64	1.782	1.782	(0.363)	4394	2.00000	1.86(M)
8 Trichlorofluoromethane	101	1.992	1.992	(0.405)	11059	2.00000	2.05(M)
9 Acrolein	56	2.360	2.360	(0.480)	599	4.00000	1.66(M)
10 Acetone	43	2.491	2.491	(0.507)	11188	4.00000	1.09
12 Isobutyl Alcohol	43	5.377	5.377	(1.094)	27284	40.0000	39.69
13 Acetonitrile	39	2.772	2.772	(0.564)	12765	20.0000	20.69
16 Acrylonitrile	53	3.147	3.147	(0.640)	6787	4.00000	4.17(M)
11 1,1-Dichloroethene	96	2.442	2.442	(0.497)	6127	2.00000	1.46(M)
15 Iodomethane	142	2.573	2.573	(0.523)	8375	4.00000	6.67(M)
17 Methylene Chloride	84	2.896	2.896	(0.589)	9066	2.00000	(M)
18 Methyl tert-butyl ether	73	3.203	3.203	(0.652)	21785	2.00000	1.93
19 Carbon Disulfide	76	2.633	2.633	(0.536)	39423	4.00000	4.39
20 trans-1,2-Dichloroethene	96	3.173	3.173	(0.645)	6362	2.00000	1.88
22 1,1-Dichloroethane	63	3.634	3.634	(0.739)	14716	2.00000	1.92
24 2-Butanone	43	4.346	4.346	(0.884)	9107	4.00000	3.98(M)

27 cis-1,2-Dichloroethene	96	4.305	4.305 (0.876)	8625	2.00000	2.15(M)
28 Chloroform	83	4.672	4.672 (0.950)	16011	2.00000	2.21(M)

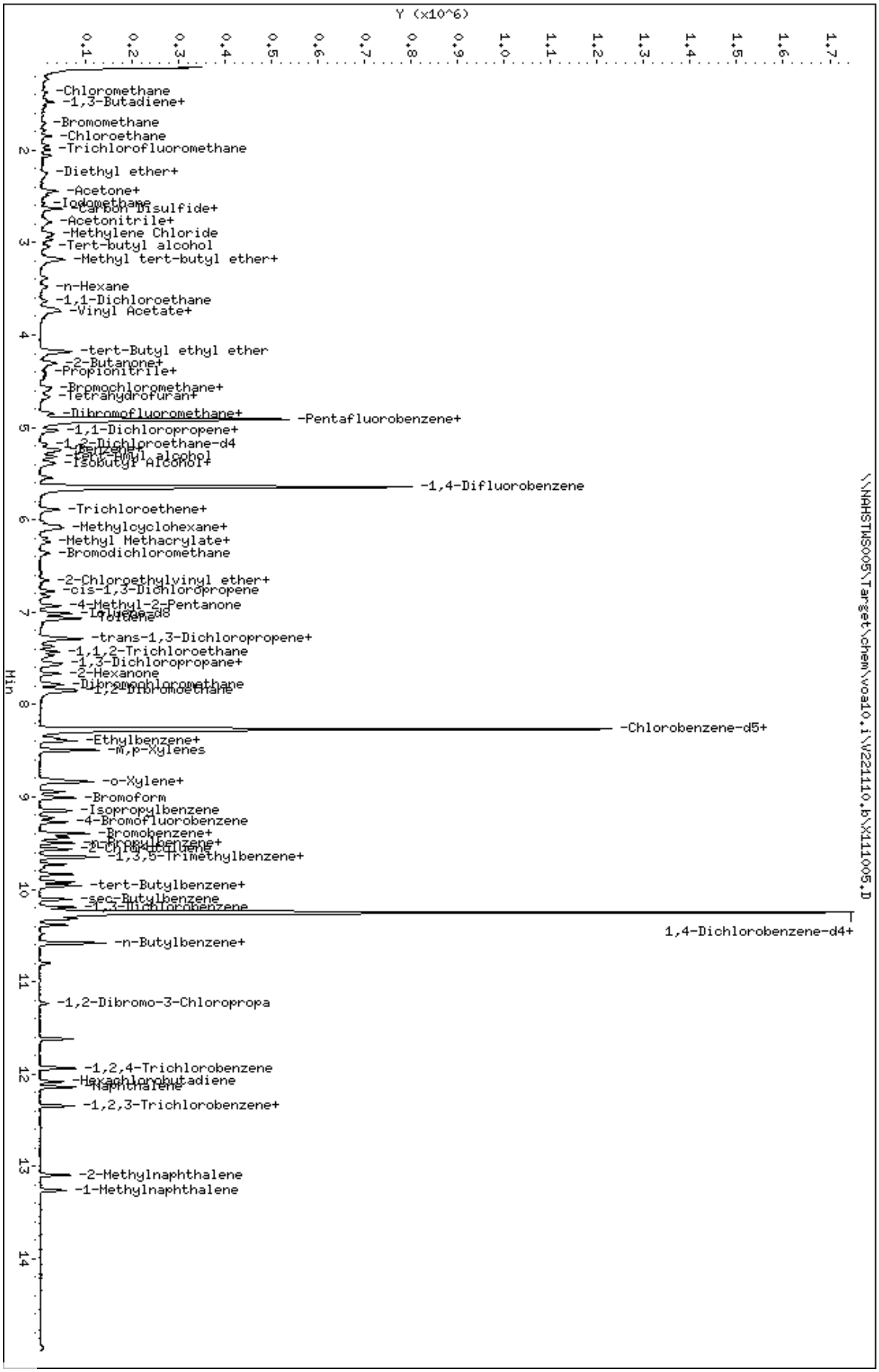
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
29	Bromochloromethane	128	4.564	4.564	(0.928)	4346	2.00000	2.16(M)
$ 30	Dibromofluoromethane	113	4.837	4.837	(0.984)	7833	2.00000	2.10(M)
31	1,1,1-Trichloroethane	97	4.860	4.860	(0.989)	13178	2.00000	2.26(M)
32	1,1-Dichloropropene	75	5.029	5.029	(0.890)	10760	2.00000	2.04(M)
33	1,2-Dichloroethane	62	5.268	5.268	(0.933)	13774	2.00000	2.18(M)
34	Carbon Tetrachloride	117	5.029	5.029	(0.890)	8603	2.00000	1.88(MH)
$ 35	1,2-Dichloroethane-d4	65	5.186	5.186	(1.055)	9368	2.00000	1.98(M)
* 36	1,4-Difluorobenzene	114	5.647	5.647	(1.000)	683114	50.0000	
37	Benzene	78	5.238	5.238	(0.928)	38182	2.00000	2.19
38	Trichloroethene	130	5.887	5.887	(1.042)	9460	2.00000	2.12
39	Bromodichloromethane	83	6.356	6.356	(1.125)	11558	2.00000	2.13(M)
42	1,2-Dichloropropane	63	6.101	6.101	(1.080)	10678	2.00000	2.19(M)
45	4-Methyl-2-Pentanone	43	6.933	6.933	(0.839)	29360	4.00000	7.99(M)
46	cis-1,3-Dichloropropene	75	6.772	6.772	(1.199)	15879	2.00000	2.19
* 47	Chlorobenzene-d5	117	8.267	8.267	(1.000)	611790	50.0000	
$ 48	Toluene-d8	98	7.012	7.012	(0.848)	30061	2.00000	2.21
50	Toluene	91	7.072	7.072	(0.855)	37286	2.00000	2.06
51	trans-1,3-Dichloropropene	75	7.270	7.270	(1.287)	13844	2.00000	2.17
52	2-Hexanone	43	7.668	7.668	(0.927)	21835	4.00000	7.13(M)
53	1,1,2-Trichloroethane	83	7.431	7.431	(0.899)	8032	2.00000	2.22(M)
54	1,3-Dichloropropane	76	7.570	7.570	(0.916)	16027	2.00000	2.16(M)
55	Dibromochloromethane	129	7.773	7.773	(0.940)	10308	2.00000	2.18
56	Tetrachloroethene	164	7.551	7.551	(0.913)	7683	2.00000	2.05(M)
57	1,2-Dibromoethane	107	7.859	7.859	(0.951)	10596	2.00000	2.39
59	Chlorobenzene	112	8.294	8.294	(1.003)	27136	2.00000	2.20
60	1,1,1,2-Tetrachloroethane	131	8.365	8.365	(1.012)	9769	2.00000	2.21(M)
61	Ethylbenzene	106	8.391	8.391	(1.015)	12090	2.00000	2.00
62	m,p-Xylenes	106	8.492	8.492	(1.027)	31533	4.00000	4.24
63	o-Xylene	106	8.830	8.830	(1.068)	16334	2.00000	2.20
64	Styrene	104	8.841	8.841	(1.069)	29214	2.00000	2.17
66	Bromoform	173	8.995	8.995	(1.088)	8918	2.00000	3.60(TM)
67	Isopropylbenzene	105	9.148	9.148	(1.107)	38429	2.00000	2.08
68	1,1,2,2-Tetrachloroethane	83	9.399	9.399	(0.917)	19087	2.00000	2.78(M)
$ 69	4-Bromofluorobenzene	95	9.268	9.268	(1.121)	15006	2.00000	3.36(M)
* 70	1,4-Dichlorobenzene-d4	152	10.250	10.250	(1.000)	394854	50.0000	
75	1,3,5-Trimethylbenzene	105	9.643	9.643	(0.941)	32804	2.00000	2.03
78	tert-Butylbenzene	119	9.924	9.924	(0.968)	28195	2.00000	2.03
79	1,2,4-Trimethylbenzene	105	9.962	9.962	(0.972)	36318	2.00000	2.07
81	sec-Butylbenzene	105	10.108	10.108	(0.986)	38618	2.00000	1.98
87	n-Butylbenzene	91	10.573	10.573	(1.031)	33253	2.00000	1.95
73	n-Propylbenzene	91	9.497	9.497	(0.926)	44773	2.00000	2.07
71	1,2,3-Trichloropropane	75	9.433	9.433	(0.920)	20865	2.00000	2.48(M)
83	1,3-Dichlorobenzene	146	10.198	10.198	(0.995)	28057	2.00000	2.32(M)
84	1,4-Dichlorobenzene	146	10.269	10.269	(1.002)	30465	2.00000	3.20
88	1,2-Dichlorobenzene	146	10.584	10.584	(1.033)	27258	2.00000	2.46(M)
89	1,2-Dibromo-3-Chloropropane	155	11.240	11.240	(1.097)	2803	2.00000	2.29(M)
90	1,2,4-Trichlorobenzene	180	11.937	11.937	(1.165)	21248	2.00000	2.58(M)
92	Naphthalene	128	12.143	12.143	(1.185)	50787	2.00000	2.28
136	n-Hexane	57	3.484	3.484	(0.709)	8011	2.00000	1.73
147	Methylcyclohexane	55	6.067	6.067	(1.074)	14253	2.00000	2.27
141	Cyclohexane	56	4.905	4.905	(0.998)	8459	2.00000	1.49(M)
138	Freon TF	101	2.446	2.446	(0.498)	5610	2.00000	1.62(M)

146	Methyl Acetate	43	2.806	2.806 (0.571)	7599	2.00000	2.10
21	Vinyl Acetate	43	3.713	3.713 (0.755)	33717	4.00000	3.77

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	26 2,2-Dichloropropane	77	4.305	4.305	(0.876)	10868	2.00000	2.03(M)
	44 Dibromomethane	93	6.198	6.198	(1.098)	5896	2.00000	2.11(M)
	91 Hexachlorobutadiene	225	12.084	12.084	(1.179)	8250	2.00000	1.43
	74 Bromobenzene	156	9.399	9.399	(0.917)	14736	2.00000	2.44
	76 2-Chlorotoluene	91	9.568	9.568	(0.933)	33419	2.00000	3.75
	77 4-Chlorotoluene	91	9.658	9.658	(0.942)	38071	2.00000	2.26(M)
	82 p-Isopropyltoluene	119	10.235	10.235	(0.999)	34884	2.00000	1.96
	93 1,2,3-Trichlorobenzene	180	12.346	12.346	(1.204)	21009	2.00000	2.47
	148 tert-Butyl Alcohol	59	3.042	3.042	(0.619)	26653	40.0000	48.26
	142 Tetrahydrofuran	42	4.650	4.650	(0.946)	4340	4.00000	4.79
M	94 1,2-Dichloroethylene (total)	96				14987	4.00000	
M	95 Xylenes (total)	106				47867	6.00000	

QC Flag Legend

T - Target compound detected outside RT window.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.



Data File: \\NAHSTWS005\Target\chem\woa10,i\W221110,b\X111005,D
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Client ID: VSTD002
Sample Info: VSTD002;VSTD002;1;4;
Purge Volume: 5.0
Column phase: DB624

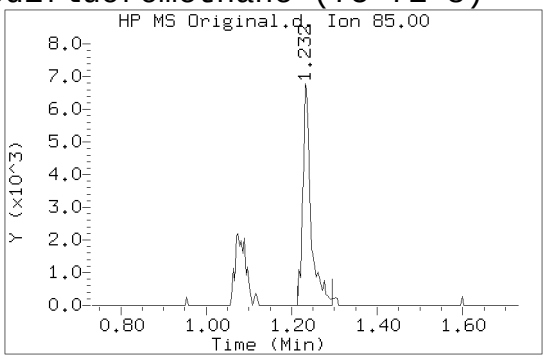
Instrument: woa10,i
Operator: FT
Column diameter: 0.18

Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111005.D
Inj Date : 10-NOV-2022 14:35
InstruID : voa10.i
LabSampID : VSTD002

Dichlorodifluoromethane (75-71-8)

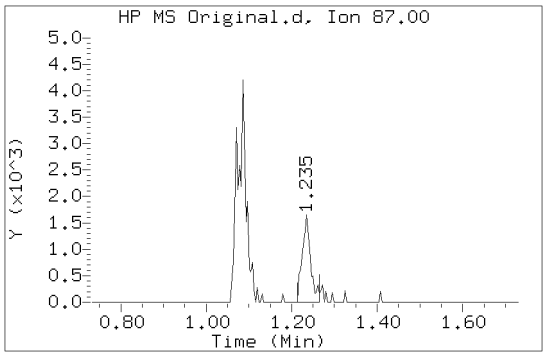
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AREA
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HEIGHT
6784
17-Nov-2022
13:58
linh
pham



BEFORE

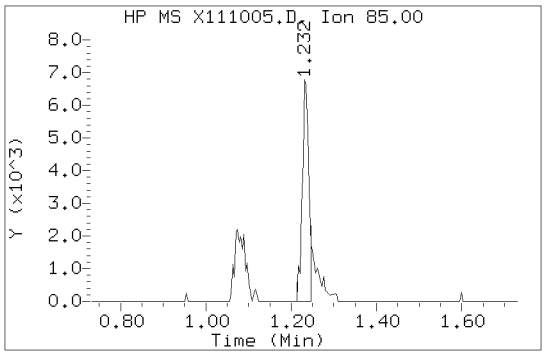
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13:58
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Reason Code:

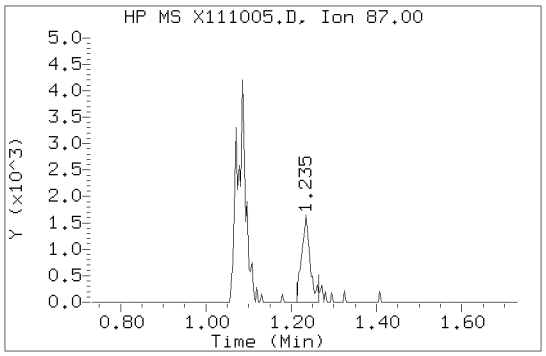
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AFTER

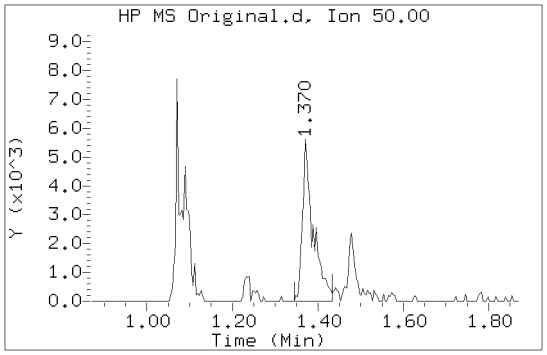
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14:02
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pham



Chloromethane (74-87-3)

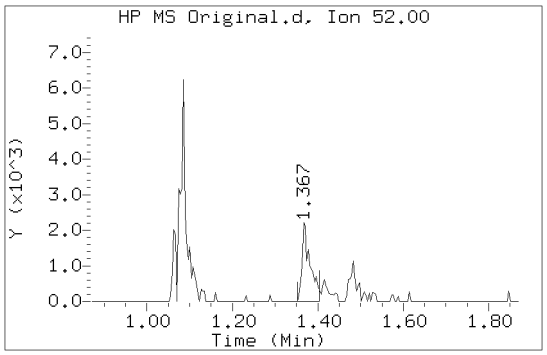
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BEFORE

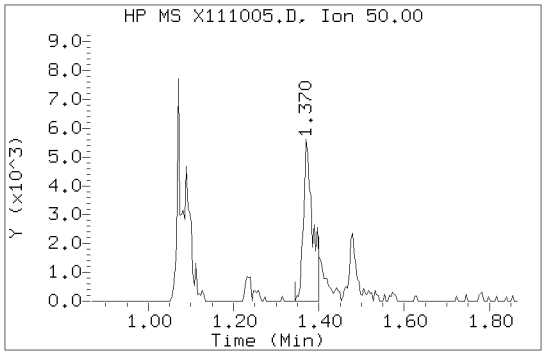
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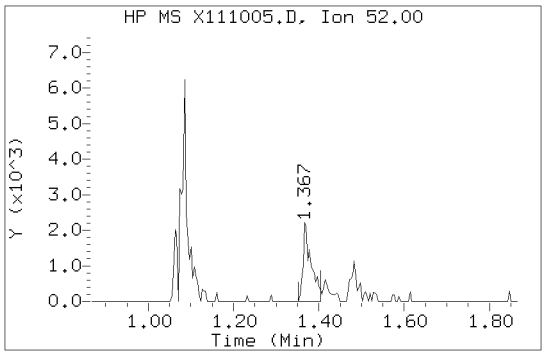
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AFTER

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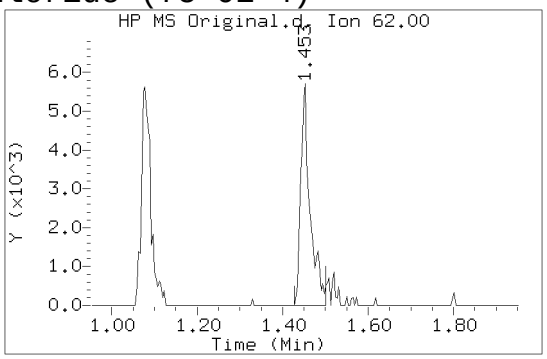


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Inj Date : 10-NOV-2022 14:35
InstruID : voa10.i
LabSampID : VSTD002

Vinyl Chloride (75-01-4)

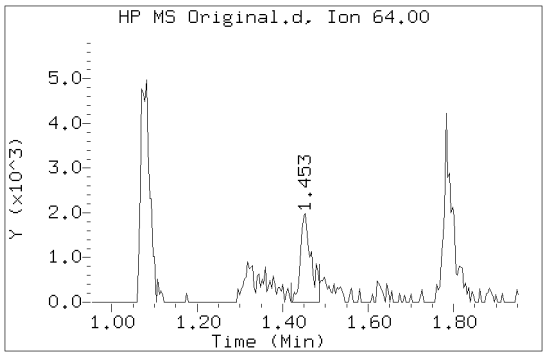
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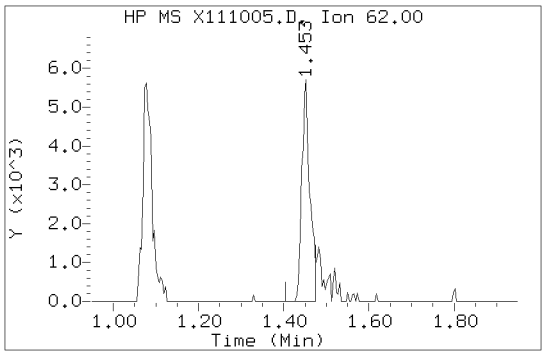
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Reason Code:

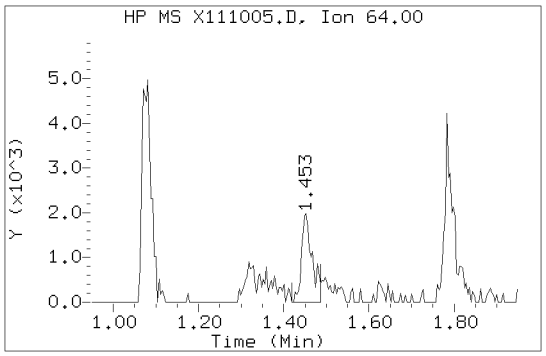
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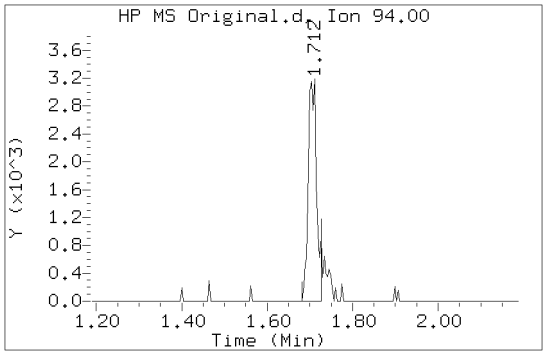
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HEIGHT
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17-Nov-2022
14:02
linh
pham



Bromomethane (74-83-9)

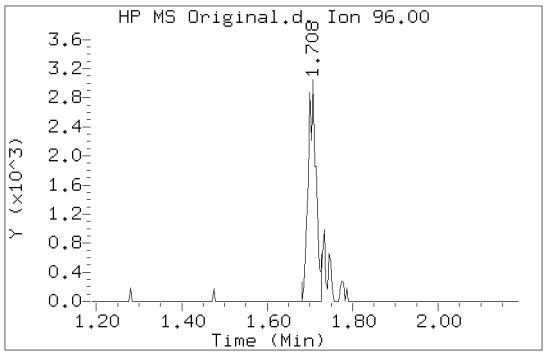
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BEFORE

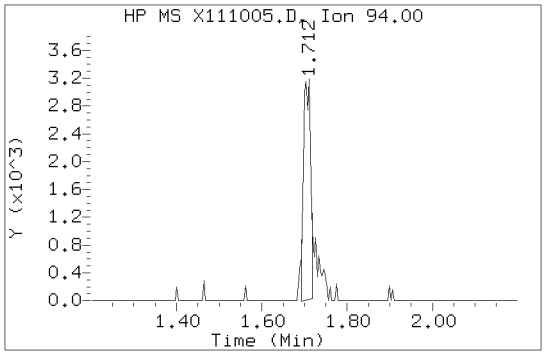
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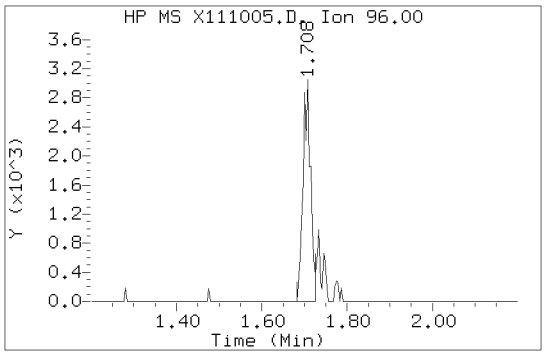
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AFTER

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3049
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14:02
linh
pham



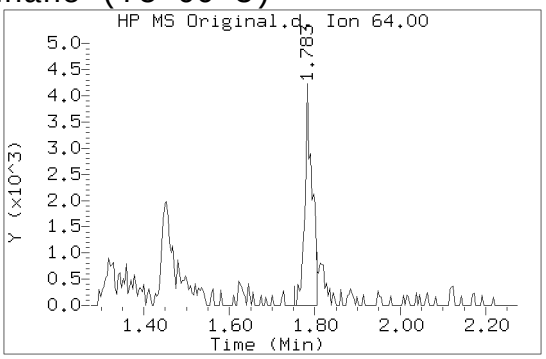
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Inj Date : 10-NOV-2022 14:35
InstruID : voa10.i
LabSampID : VSTD002

Chloroethane (75-00-3)

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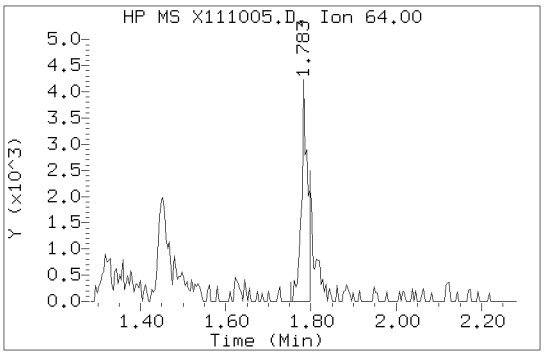
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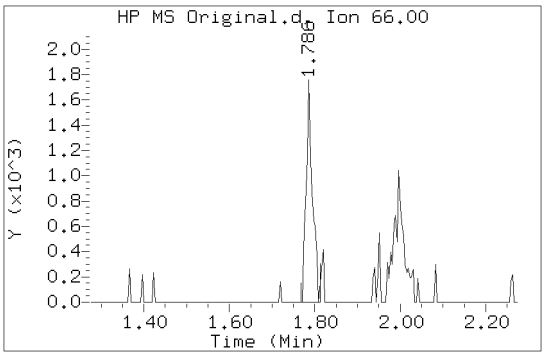
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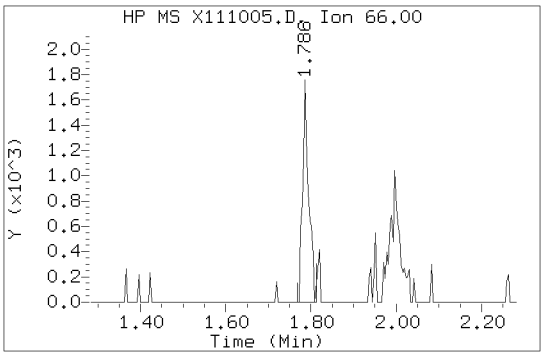
BEFORE

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17-Nov-2022
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AFTER

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1758
17-Nov-2022
14:02
linh
pham

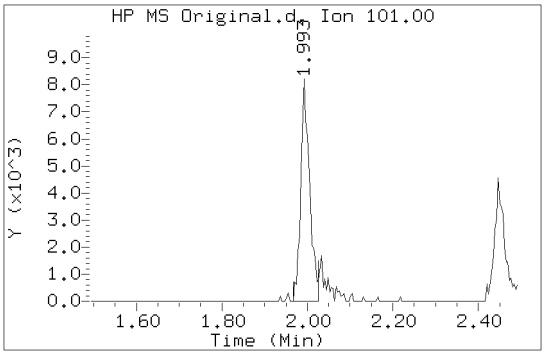


Trichlorofluoromethane (75-69-4)

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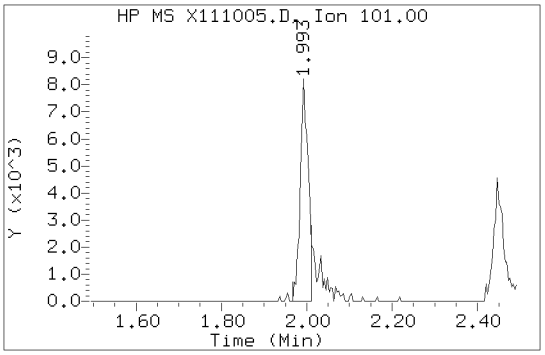
BEFORE

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13:58
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pham



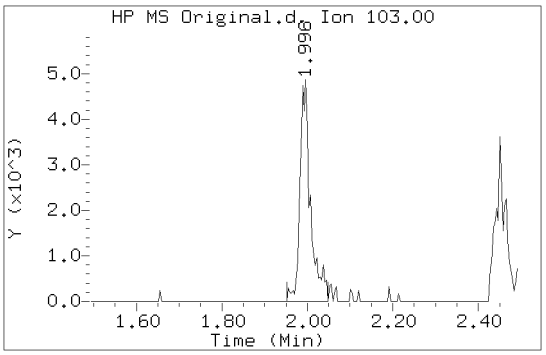
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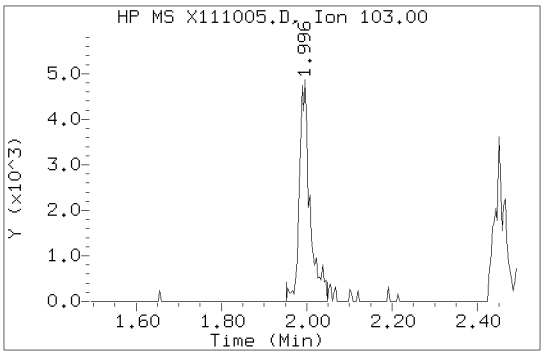
BEFORE

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4869
17-Nov-2022
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AFTER

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17-Nov-2022
14:02
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pham



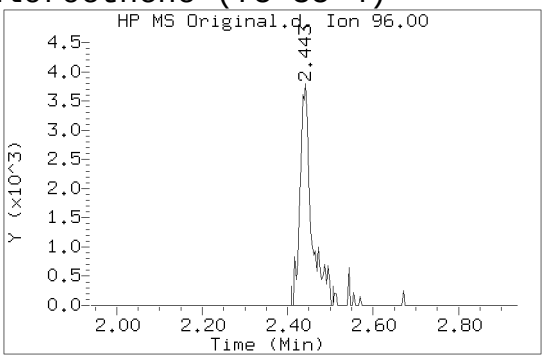
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Inj Date : 10-NOV-2022 14:35
InstruID : voa10.i
LabSampID : VSTD002

1,1-Dichloroethene (75-35-4)

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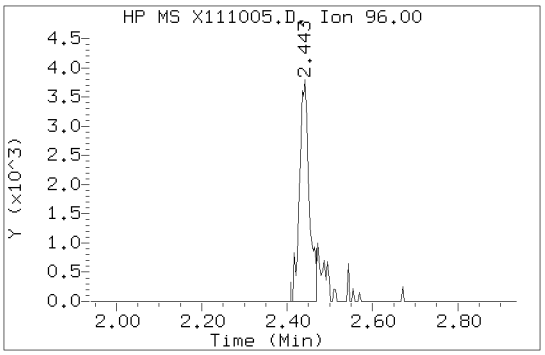
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13:58
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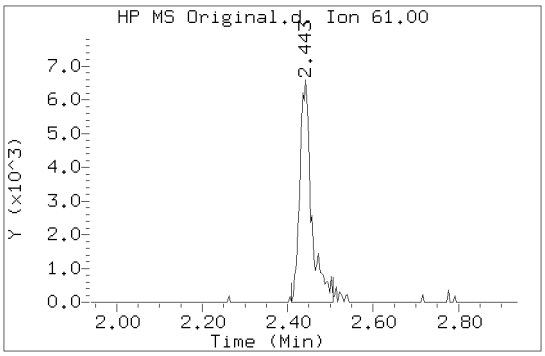
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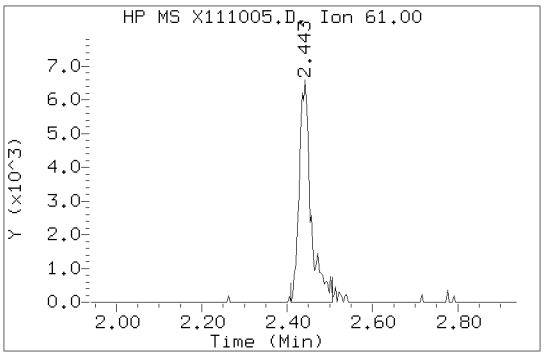
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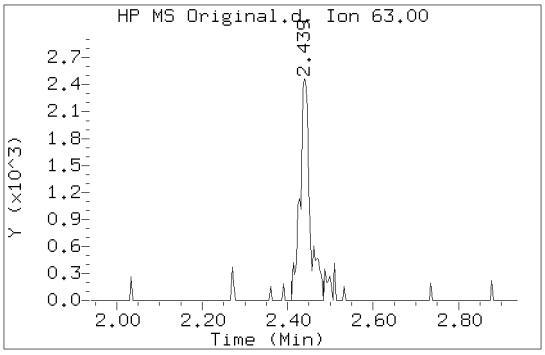
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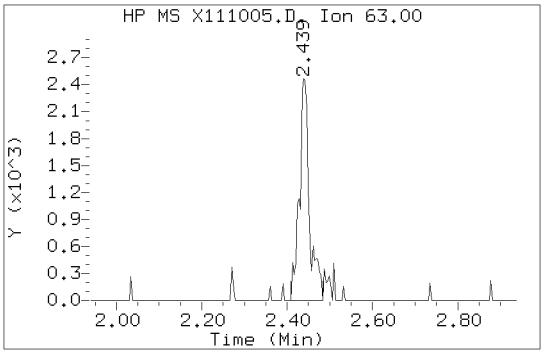
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AFTER

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17-Nov-2022
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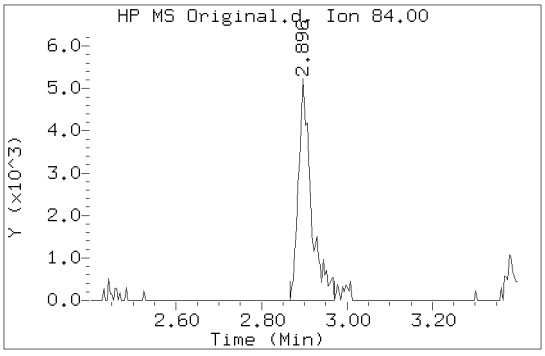


Methylene Chloride (75-09-2)

Reason Code:

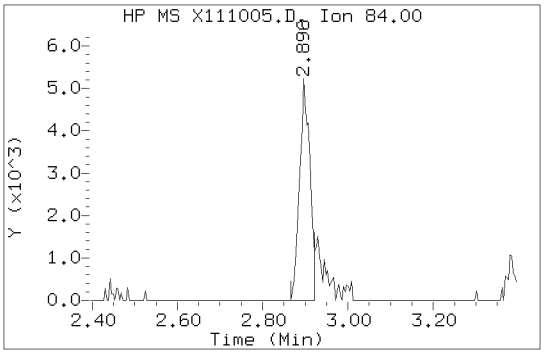
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pham



AFTER

MASS
84
AREA
9066
HEIGHT
5229
17-Nov-2022
14:02
linh
pham



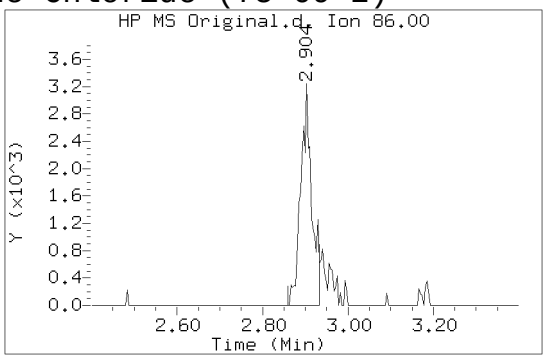
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111005.D
Inj Date : 10-NOV-2022 14:35
InstruID : voa10.i
LabSampID : VSTD002

Methylene Chloride (75-09-2)

Reason Code:

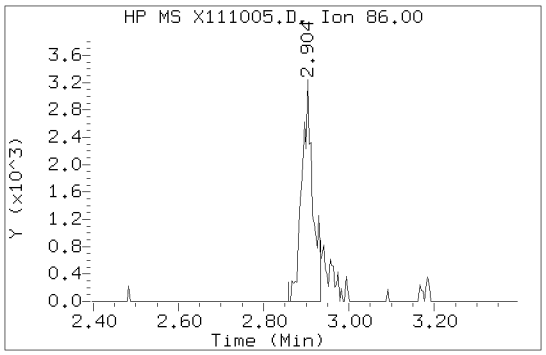
BEFORE

MASS
86
AREA
5877
HEIGHT
3243
17-Nov-2022
13:58
linh
pham



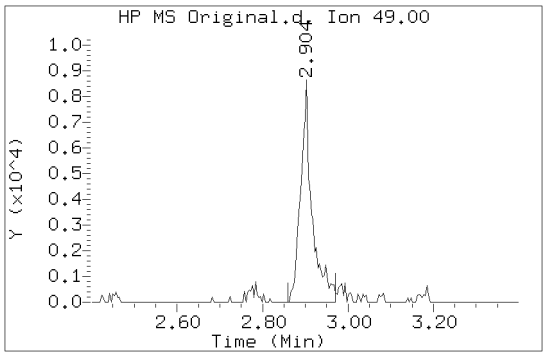
AFTER

MASS
86
AREA
5877
HEIGHT
3243
17-Nov-2022
14:02
linh
pham



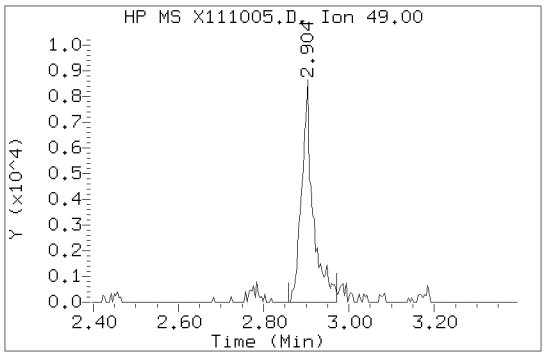
BEFORE

MASS
49
AREA
16339
HEIGHT
8646
17-Nov-2022
13:58
linh
pham



AFTER

MASS
49
AREA
16339
HEIGHT
8646
17-Nov-2022
14:02
linh
pham

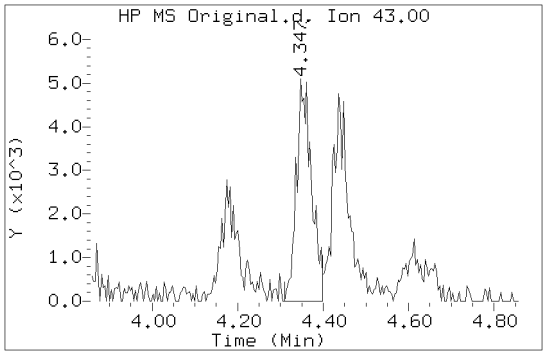


2-Butanone (78-93-3)

Reason Code:

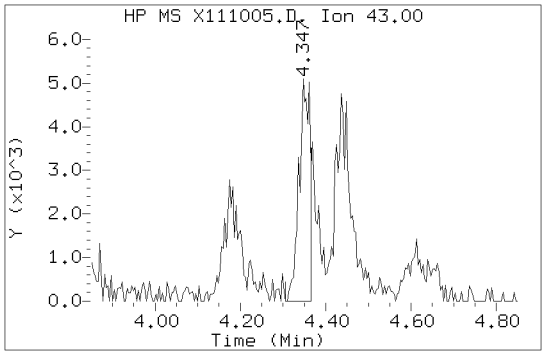
BEFORE

MASS
43
AREA
12686
HEIGHT
5097
17-Nov-2022
13:58
linh
pham



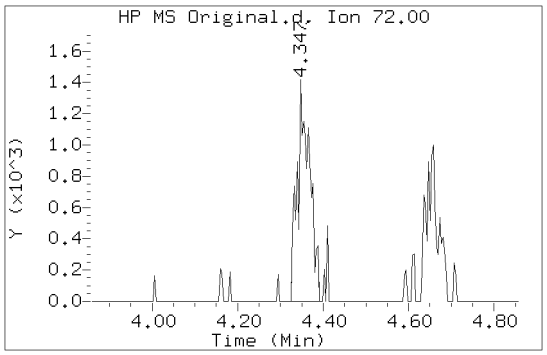
AFTER

MASS
43
AREA
9107
HEIGHT
5097
17-Nov-2022
14:02
linh
pham



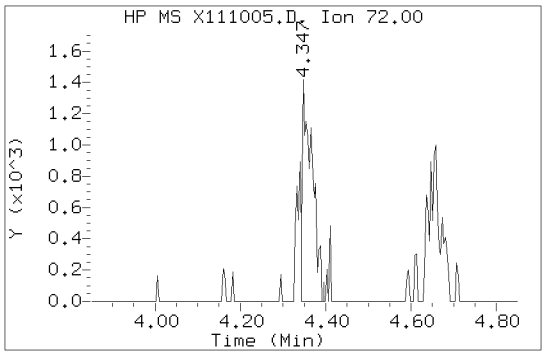
BEFORE

MASS
72
AREA
2899
HEIGHT
1417
17-Nov-2022
13:58
linh
pham



AFTER

MASS
72
AREA
2312
HEIGHT
1417
17-Nov-2022
14:02
linh
pham



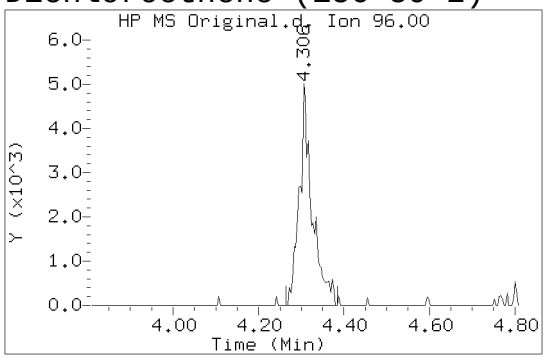
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111005.D
Inj Date : 10-NOV-2022 14:35
InstruID : voa10.i
LabSampID : VSTD002

cis-1,2-Dichloroethene (156-59-2)

Reason Code:

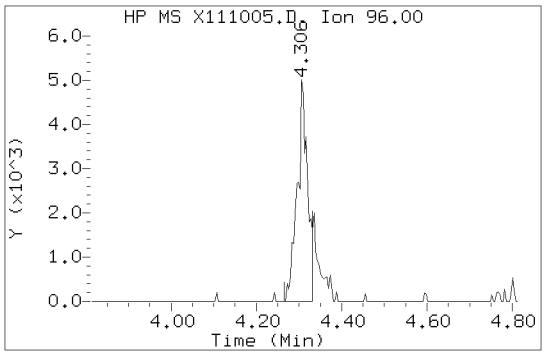
BEFORE

MASS
96
AREA
10628
HEIGHT
5012
17-Nov-2022
13:58
linh
pham



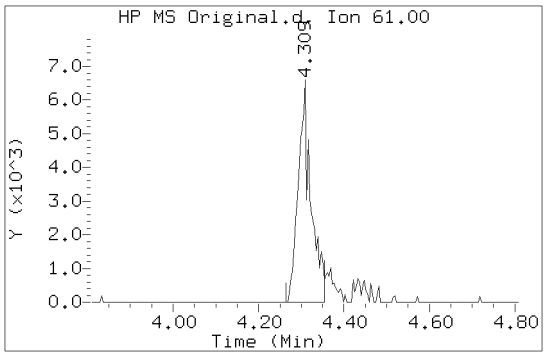
AFTER

MASS
96
AREA
8625
HEIGHT
5012
17-Nov-2022
14:02
linh
pham



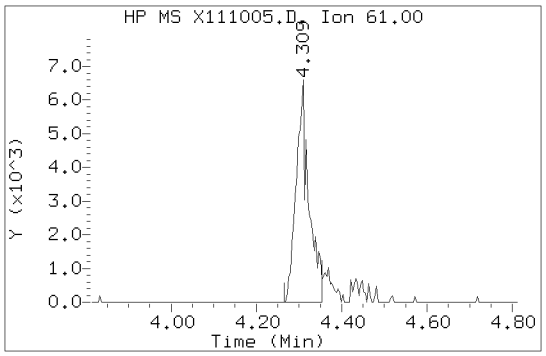
BEFORE

MASS
61
AREA
13778
HEIGHT
6597
17-Nov-2022
13:58
linh
pham



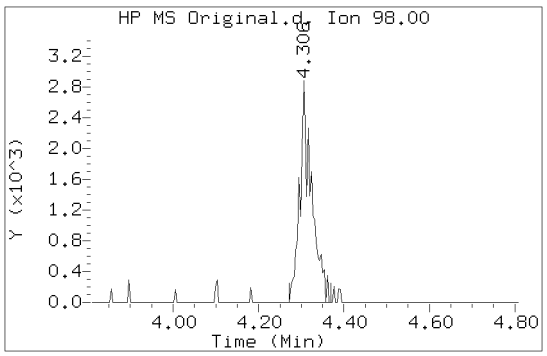
AFTER

MASS
61
AREA
13778
HEIGHT
6597
17-Nov-2022
14:02
linh
pham



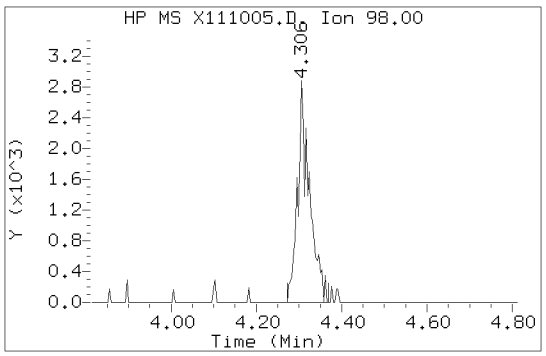
BEFORE

MASS
98
AREA
5581
HEIGHT
2879
17-Nov-2022
13:58
linh
pham



AFTER

MASS
98
AREA
5581
HEIGHT
2879
17-Nov-2022
14:02
linh
pham

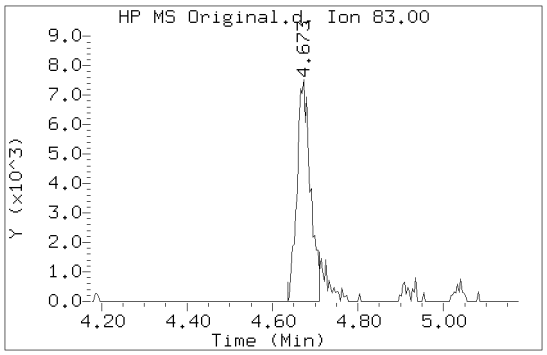


Chloroform (67-66-3)

Reason Code:

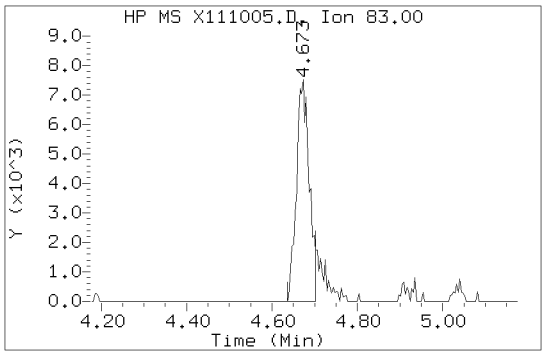
BEFORE

MASS
83
AREA
16630
HEIGHT
7524
17-Nov-2022
13:58
linh
pham



AFTER

MASS
83
AREA
16011
HEIGHT
7524
17-Nov-2022
14:02
linh
pham



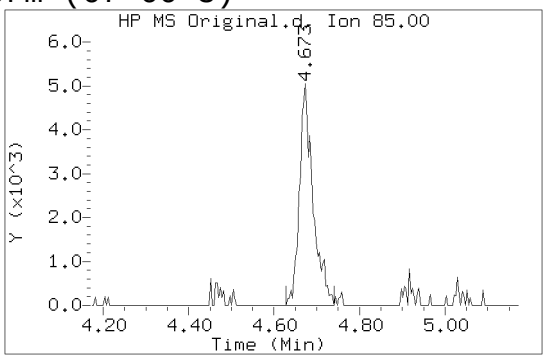
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111005.D
Inj Date : 10-NOV-2022 14:35
InstruID : voa10.i
LabSampID : VSTD002

Chloroform (67-66-3)

Reason Code:

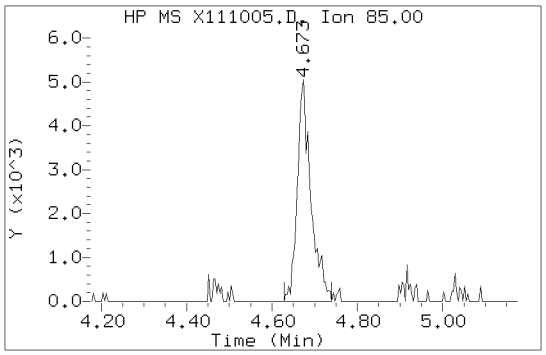
BEFORE

MASS
85
AREA
11368
HEIGHT
5051
17-Nov-2022
13:58
linh
pham



AFTER

MASS
85
AREA
11368
HEIGHT
5051
17-Nov-2022
14:02
linh
pham

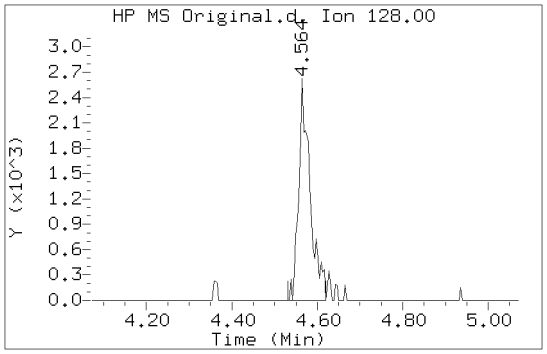


Bromochloromethane (74-97-5)

Reason Code:

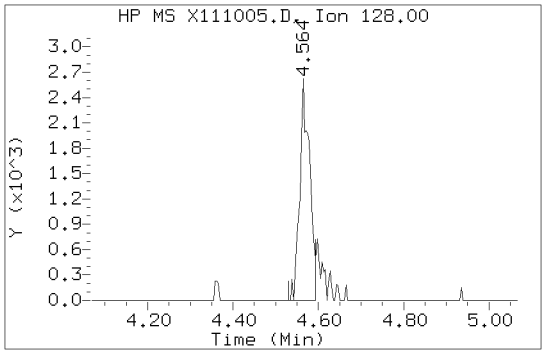
BEFORE

MASS
128
AREA
4941
HEIGHT
2623
17-Nov-2022
13:58
linh
pham



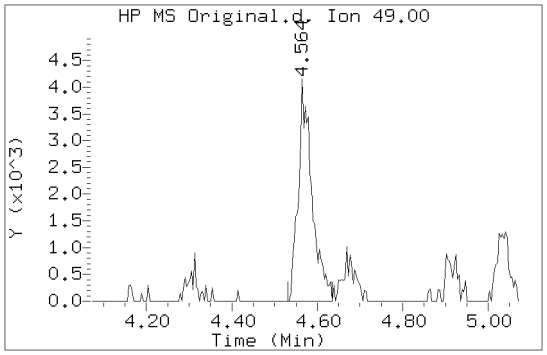
AFTER

MASS
128
AREA
4346
HEIGHT
2623
17-Nov-2022
14:02
linh
pham



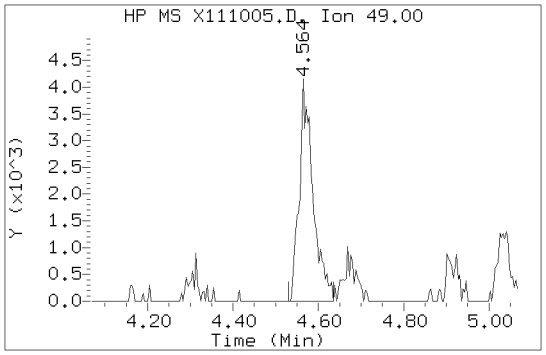
BEFORE

MASS
49
AREA
9362
HEIGHT
4153
17-Nov-2022
13:58
linh
pham



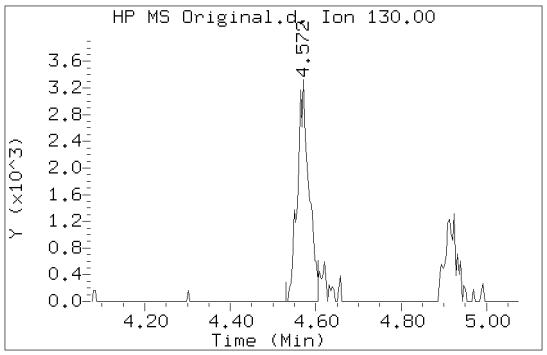
AFTER

MASS
49
AREA
9362
HEIGHT
4153
17-Nov-2022
14:02
linh
pham



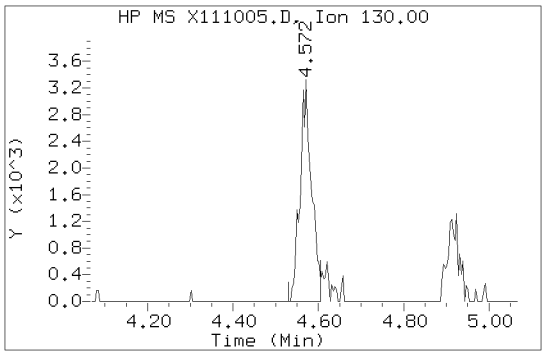
BEFORE

MASS
130
AREA
6336
HEIGHT
3324
17-Nov-2022
13:58
linh
pham



AFTER

MASS
130
AREA
6336
HEIGHT
3324
17-Nov-2022
14:02
linh
pham



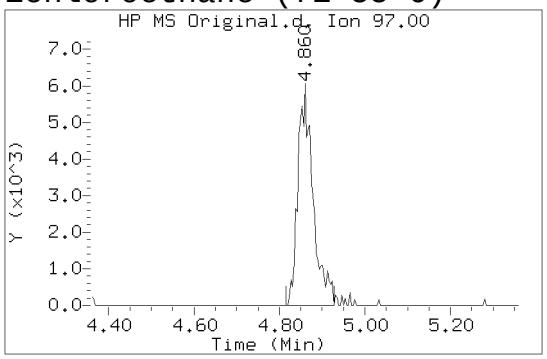
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111005.D
Inj Date : 10-NOV-2022 14:35
InstruID : voa10.i
LabSampID : VSTD002

1,1,1-Trichloroethane (71-55-6)

Reason Code:

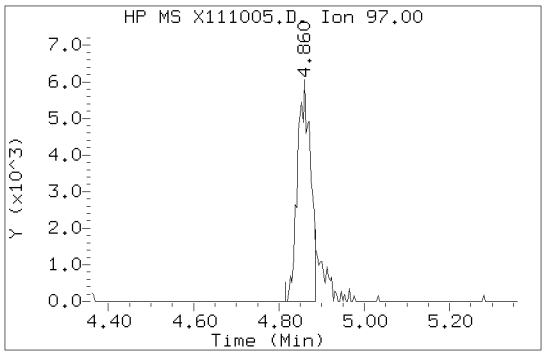
BEFORE

MASS
97
AREA
15076
HEIGHT
6059
17-Nov-2022
13:58
linh
pham



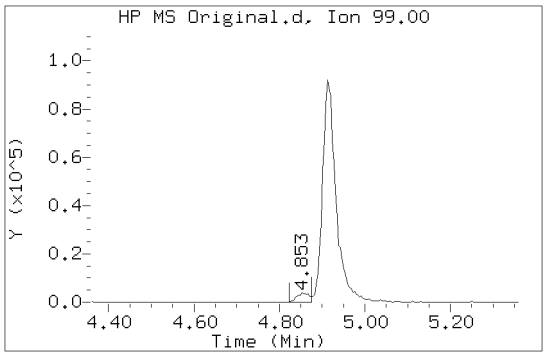
AFTER

MASS
97
AREA
13178
HEIGHT
6059
17-Nov-2022
14:02
linh
pham



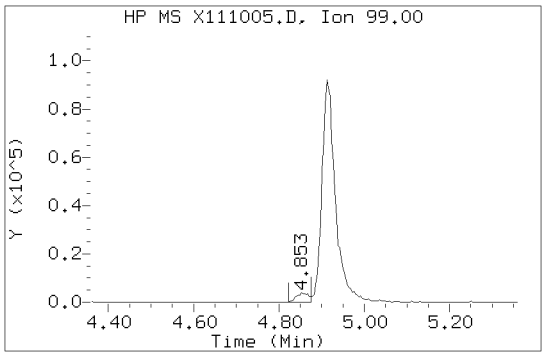
BEFORE

MASS
99
AREA
7767
HEIGHT
3981
17-Nov-2022
13:58
linh
pham



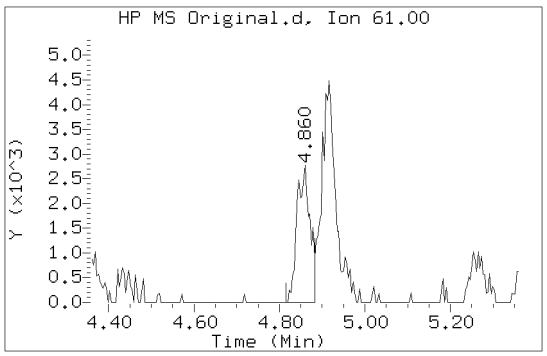
AFTER

MASS
99
AREA
7767
HEIGHT
3981
17-Nov-2022
14:02
linh
pham



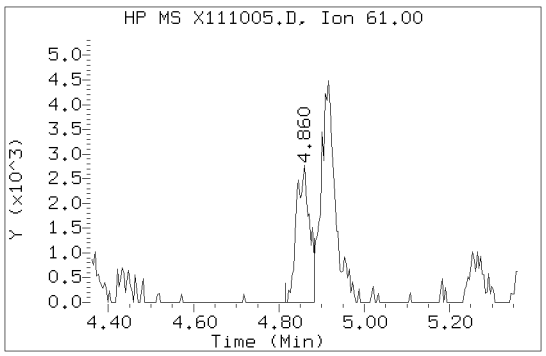
BEFORE

MASS
61
AREA
5988
HEIGHT
2776
17-Nov-2022
13:58
linh
pham



AFTER

MASS
61
AREA
5988
HEIGHT
2776
17-Nov-2022
14:02
linh
pham

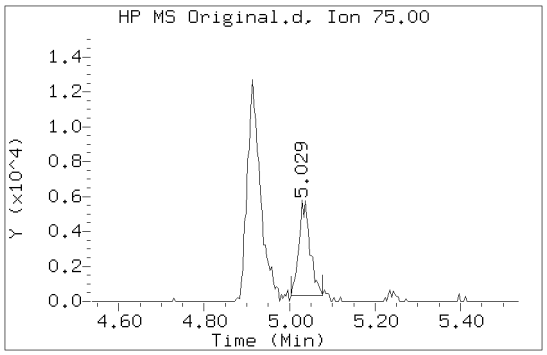


1,1-Dichloropropene (563-58-6)

Reason Code:

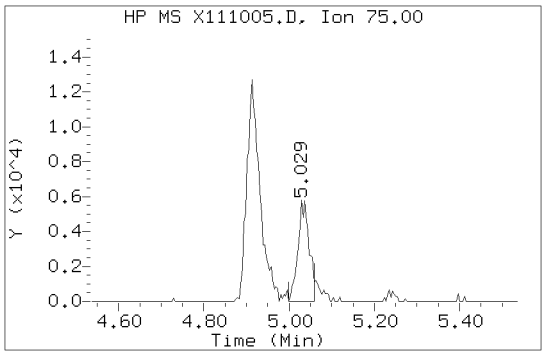
BEFORE

MASS
75
AREA
10182
HEIGHT
5498
17-Nov-2022
13:58
linh
pham



AFTER

MASS
75
AREA
10760
HEIGHT
5812
17-Nov-2022
14:02
linh
pham

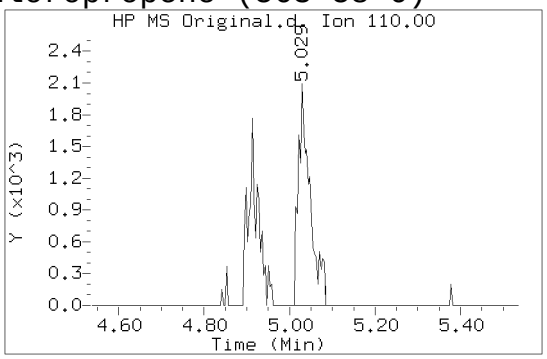


Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111005.D
Inj Date : 10-NOV-2022 14:35
InstruID : voa10.i
LabSampID : VSTD002

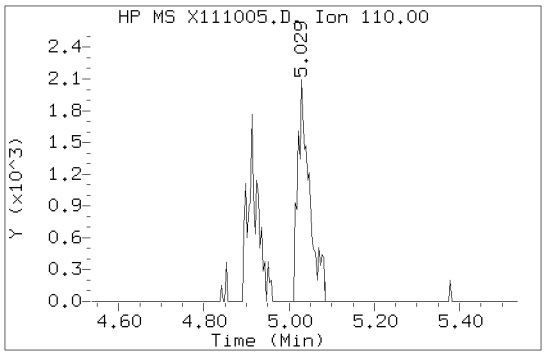
1,1-Dichloropropene (563-58-6)

Reason Code:

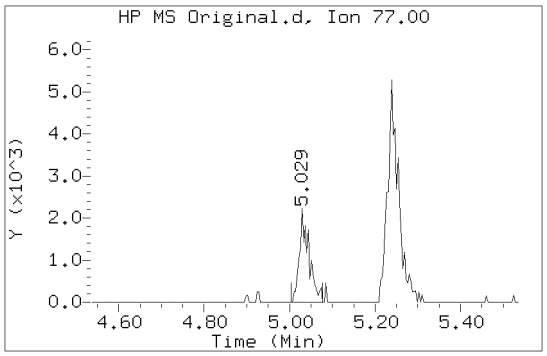
BEFORE
MASS
110
AREA
4030
HEIGHT
2093
17-Nov-2022
13:58
linh
pham



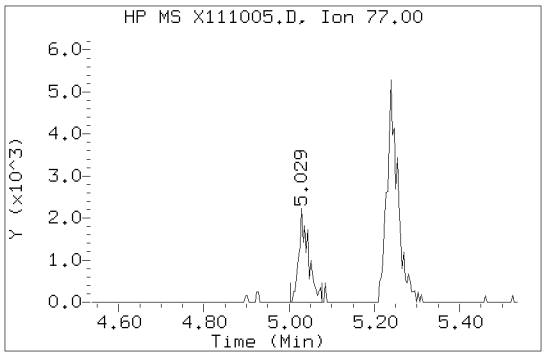
AFTER
MASS
110
AREA
4030
HEIGHT
2093
17-Nov-2022
14:02
linh
pham



BEFORE
MASS
77
AREA
3529
HEIGHT
2231
17-Nov-2022
13:58
linh
pham



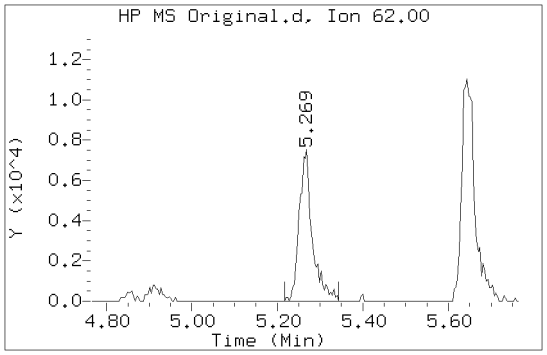
AFTER
MASS
77
AREA
3529
HEIGHT
2231
17-Nov-2022
14:02
linh
pham



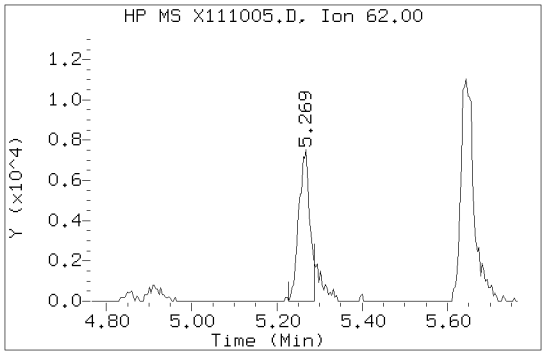
1,2-Dichloroethane (107-06-2)

Reason Code:

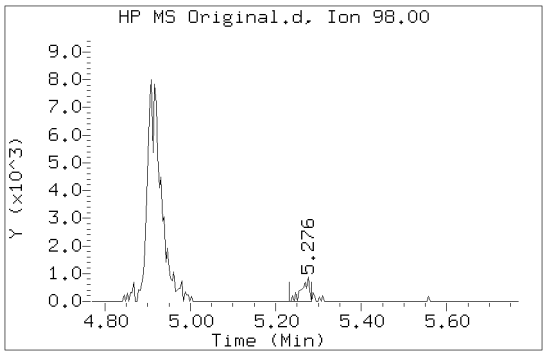
BEFORE
MASS
62
AREA
16340
HEIGHT
7524
17-Nov-2022
13:58
linh
pham



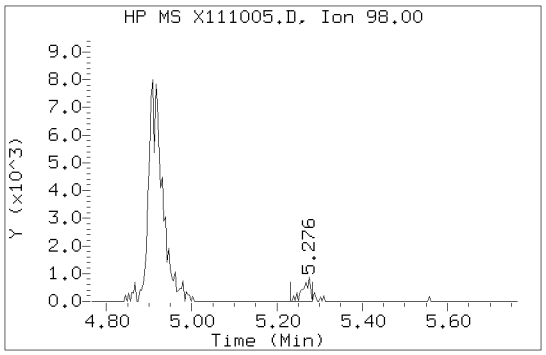
AFTER
MASS
62
AREA
13774
HEIGHT
7524
17-Nov-2022
14:02
linh
pham



BEFORE
MASS
98
AREA
1049
HEIGHT
875
17-Nov-2022
13:58
linh
pham



AFTER
MASS
98
AREA
1049
HEIGHT
875
17-Nov-2022
14:02
linh
pham

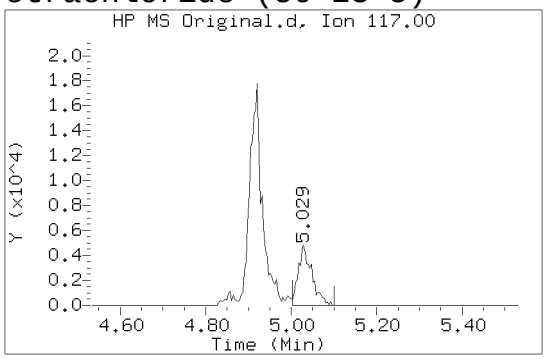


Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111005.D
Inj Date : 10-NOV-2022 14:35
InstruID : voa10.i
LabSampID : VSTD002

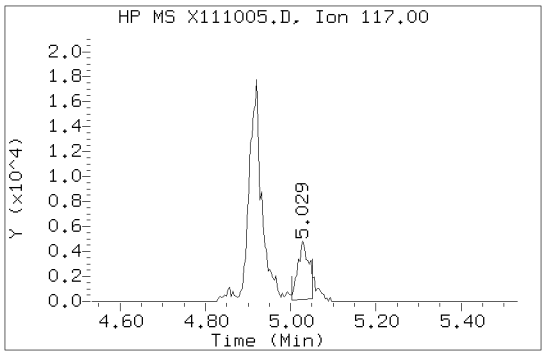
Carbon Tetrachloride (56-23-5)

Reason Code:

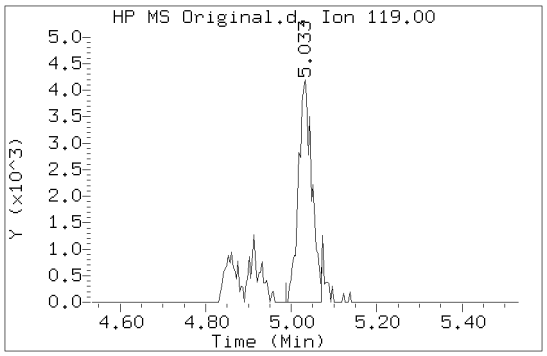
BEFORE
MASS
117
AREA
10780
HEIGHT
4851
17-Nov-2022
13:58
linh
pham



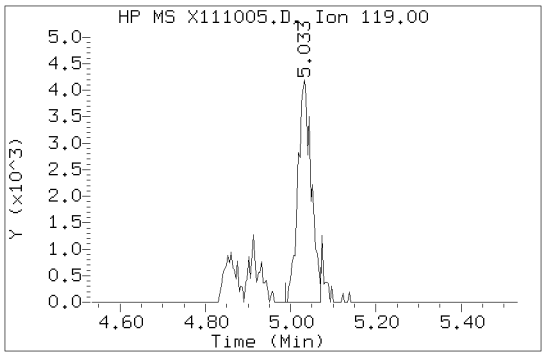
AFTER
MASS
117
AREA
8603
HEIGHT
4695
17-Nov-2022
14:02
linh
pham



BEFORE
MASS
119
AREA
9279
HEIGHT
4194
17-Nov-2022
13:58
linh
pham



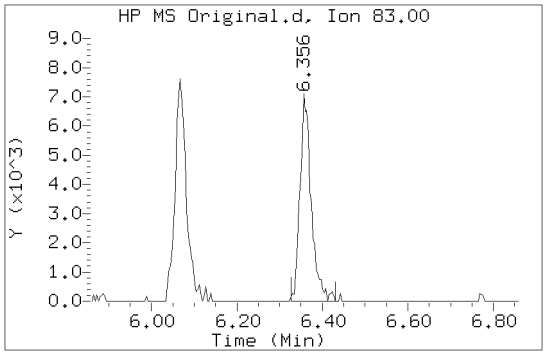
AFTER
MASS
119
AREA
9279
HEIGHT
4194
17-Nov-2022
14:02
linh
pham



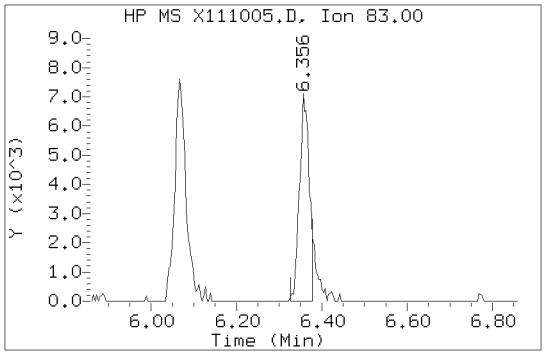
Bromodichloromethane (75-27-4)

Reason Code:

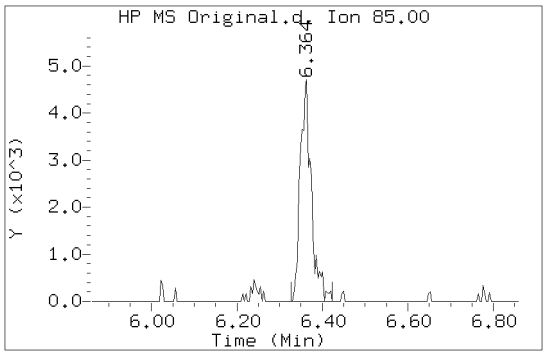
BEFORE
MASS
83
AREA
13262
HEIGHT
7116
17-Nov-2022
13:58
linh
pham



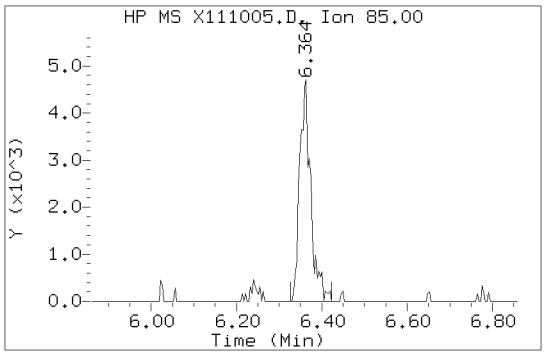
AFTER
MASS
83
AREA
11558
HEIGHT
7116
17-Nov-2022
14:02
linh
pham



BEFORE
MASS
85
AREA
8653
HEIGHT
4709
17-Nov-2022
13:58
linh
pham



AFTER
MASS
85
AREA
8653
HEIGHT
4709
17-Nov-2022
14:02
linh
pham



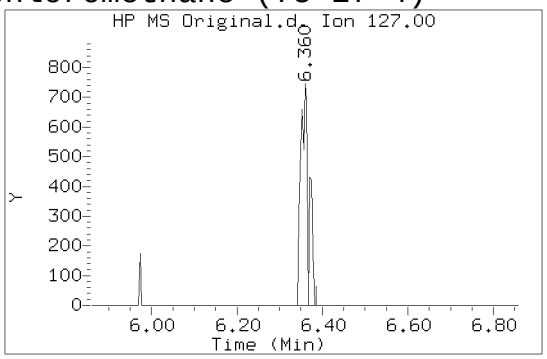
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111005.D
Inj Date : 10-NOV-2022 14:35
InstruID : voa10.i
LabSampID : VSTD002

Bromodichloromethane (75-27-4)

Reason Code:

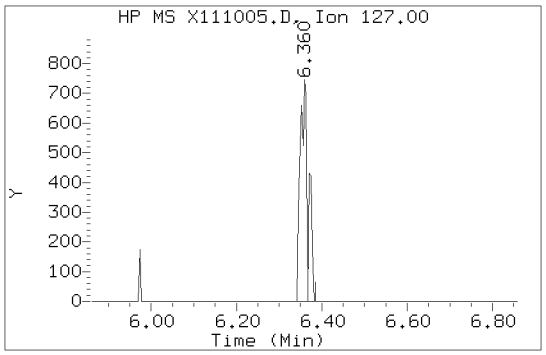
BEFORE

MASS
127
AREA
1008
HEIGHT
746
17-Nov-2022
13:58
linh
pham



AFTER

MASS
127
AREA
1008
HEIGHT
746
17-Nov-2022
14:02
linh
pham

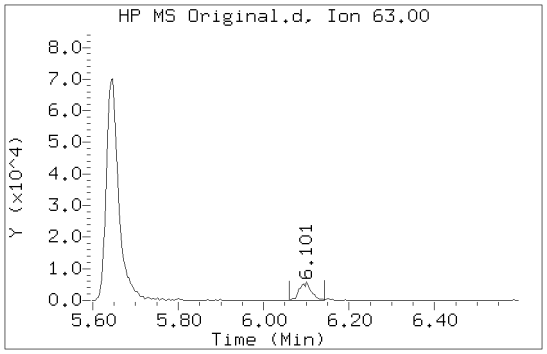


1,2-Dichloropropane (78-87-5)

Reason Code:

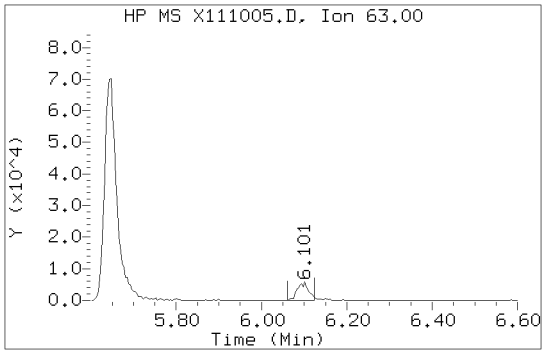
BEFORE

MASS
63
AREA
11163
HEIGHT
5856
17-Nov-2022
13:58
linh
pham



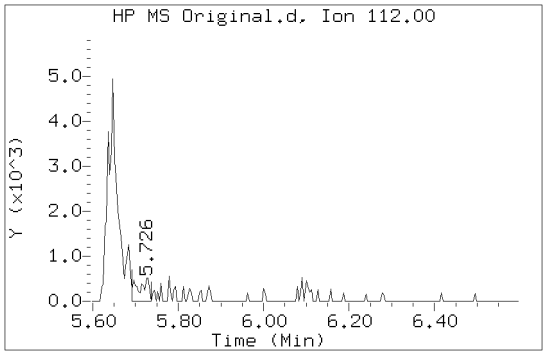
AFTER

MASS
63
AREA
10678
HEIGHT
5856
17-Nov-2022
14:02
linh
pham



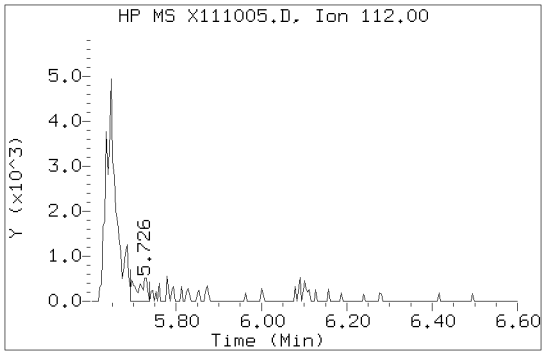
BEFORE

MASS
112
AREA
910
HEIGHT
519
17-Nov-2022
13:58
linh
pham



AFTER

MASS
112
AREA
910
HEIGHT
519
17-Nov-2022
14:02
linh
pham

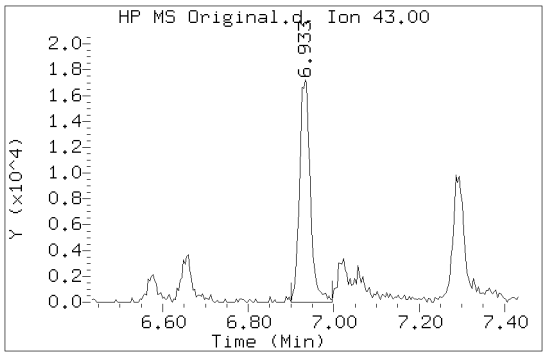


4-Methyl-2-Pentanone (108-10-1)

Reason Code:

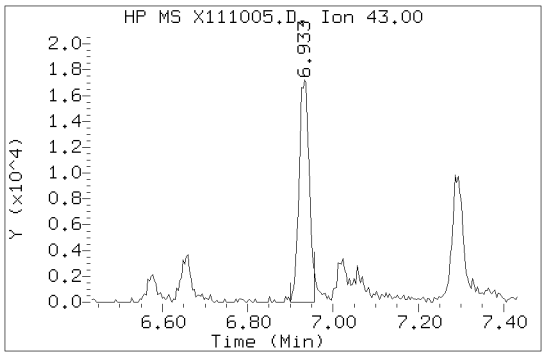
BEFORE

MASS
43
AREA
31022
HEIGHT
17216
17-Nov-2022
13:58
linh
pham



AFTER

MASS
43
AREA
29360
HEIGHT
17216
17-Nov-2022
14:02
linh
pham



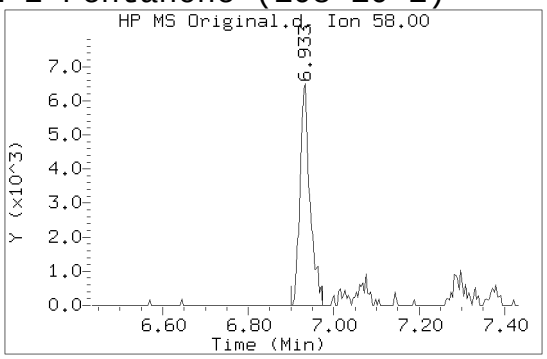
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111005.D
Inj Date : 10-NOV-2022 14:35
InstruID : voa10.i
LabSampID : VSTD002

4-Methyl-2-Pentanone (108-10-1)

Reason Code:

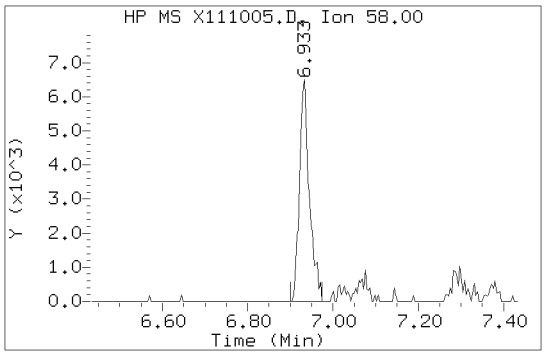
BEFORE

MASS
58
AREA
10777
HEIGHT
6499
17-Nov-2022
13:58
linh
pham



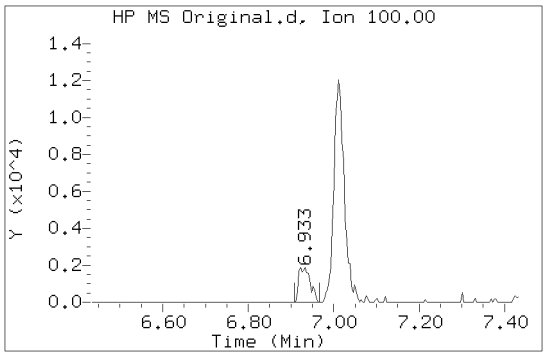
AFTER

MASS
58
AREA
10777
HEIGHT
6499
17-Nov-2022
14:02
linh
pham



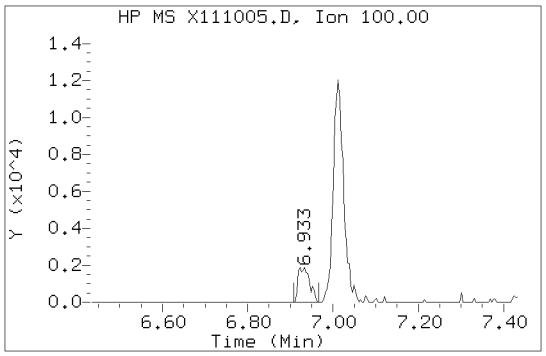
BEFORE

MASS
100
AREA
3612
HEIGHT
1878
17-Nov-2022
13:58
linh
pham



AFTER

MASS
100
AREA
3612
HEIGHT
1878
17-Nov-2022
14:02
linh
pham

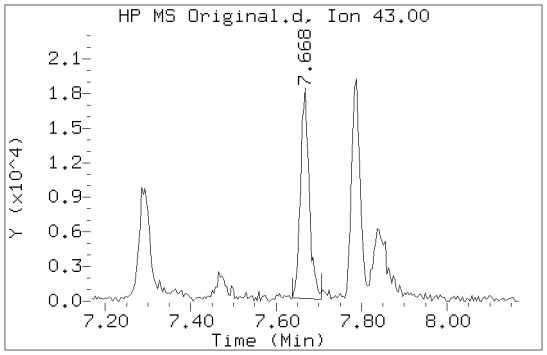


2-Hexanone (591-78-6)

Reason Code:

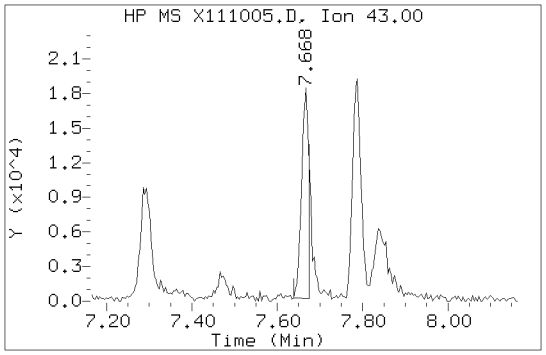
BEFORE

MASS
43
AREA
26549
HEIGHT
18239
17-Nov-2022
13:58
linh
pham



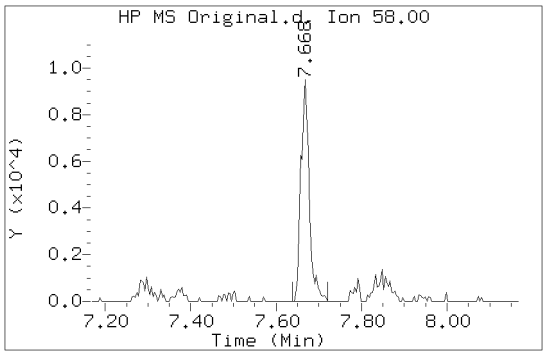
AFTER

MASS
43
AREA
21835
HEIGHT
18238
17-Nov-2022
14:02
linh
pham



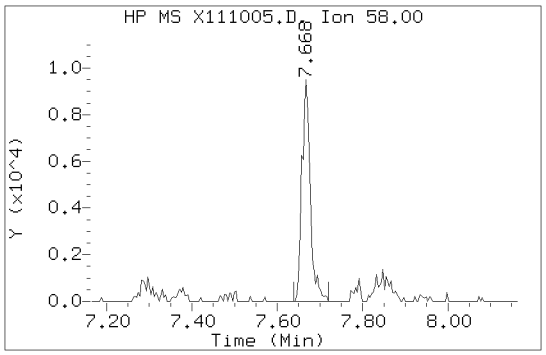
BEFORE

MASS
58
AREA
13402
HEIGHT
9500
17-Nov-2022
13:58
linh
pham



AFTER

MASS
58
AREA
13402
HEIGHT
9500
17-Nov-2022
14:02
linh
pham



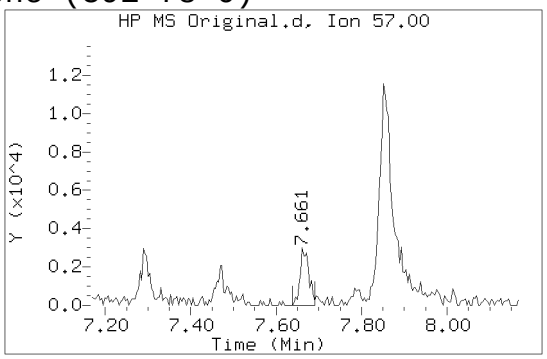
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111005.D
Inj Date : 10-NOV-2022 14:35
InstruID : voa10.i
LabSampID : VSTD002

2-Hexanone (591-78-6)

Reason Code:

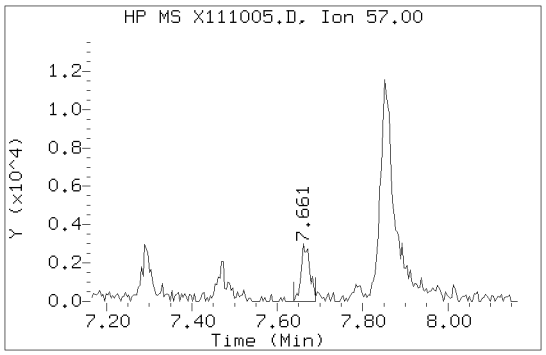
BEFORE

MASS
57
AREA
4376
HEIGHT
3004
17-Nov-2022
13:58
linh
pham



AFTER

MASS
57
AREA
4376
HEIGHT
3004
17-Nov-2022
14:02
linh
pham

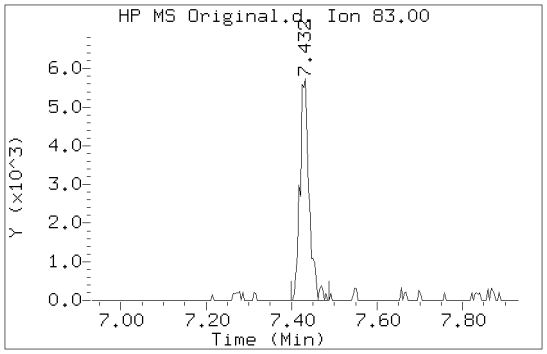


1,1,2-Trichloroethane (79-00-5)

Reason Code:

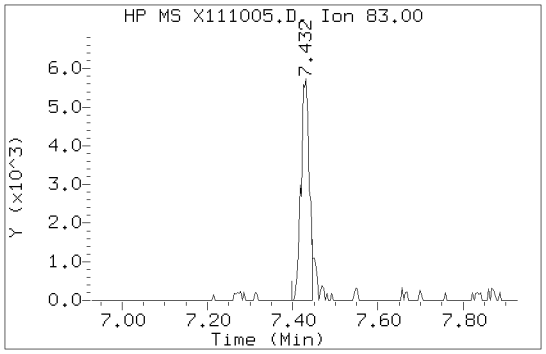
BEFORE

MASS
83
AREA
8877
HEIGHT
5738
17-Nov-2022
13:58
linh
pham



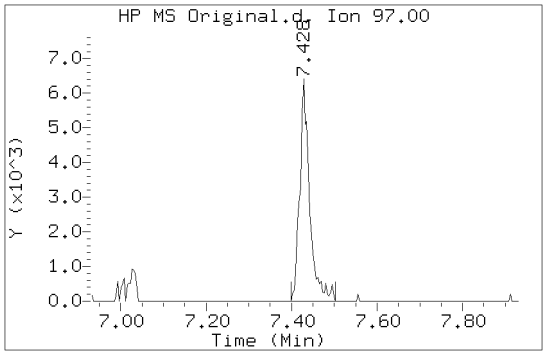
AFTER

MASS
83
AREA
8032
HEIGHT
5738
17-Nov-2022
14:02
linh
pham



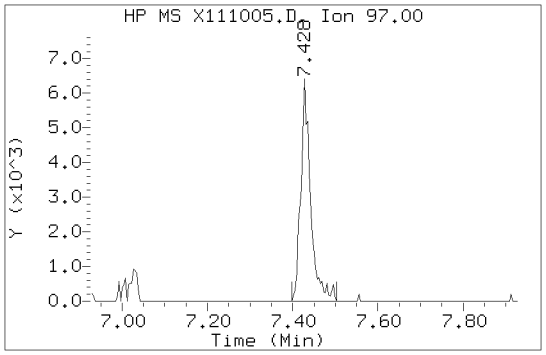
BEFORE

MASS
97
AREA
10565
HEIGHT
6410
17-Nov-2022
13:58
linh
pham



AFTER

MASS
97
AREA
10565
HEIGHT
6410
17-Nov-2022
14:02
linh
pham

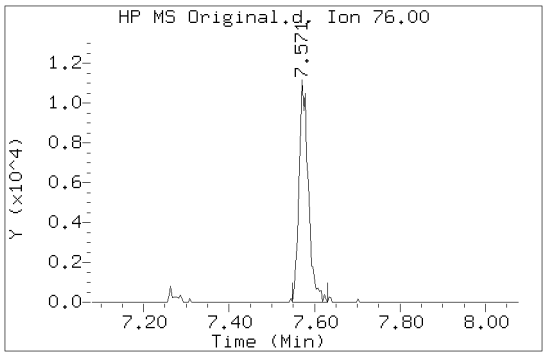


1,3-Dichloropropane (142-28-9)

Reason Code:

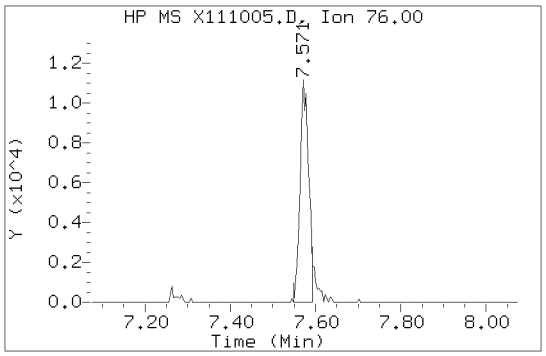
BEFORE

MASS
76
AREA
17343
HEIGHT
11167
17-Nov-2022
13:58
linh
pham



AFTER

MASS
76
AREA
16027
HEIGHT
11167
17-Nov-2022
14:02
linh
pham



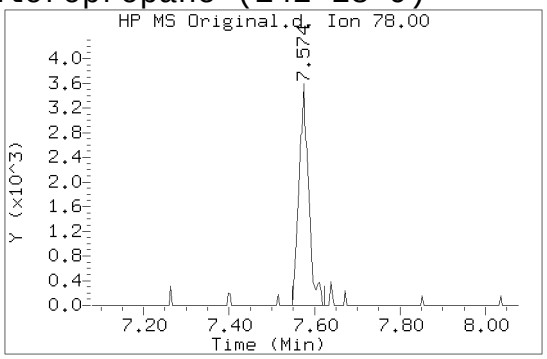
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111005.D
Inj Date : 10-NOV-2022 14:35
InstruID : voa10.i
LabSampID : VSTD002

1,3-Dichloropropane (142-28-9)

Reason Code:

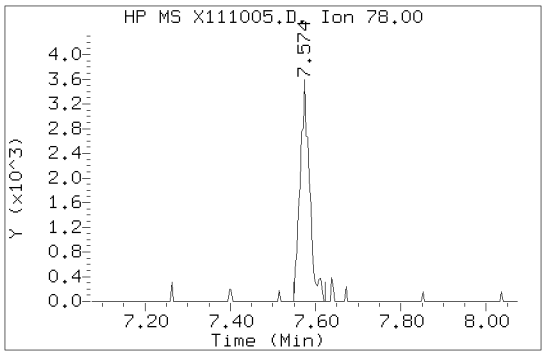
BEFORE

MASS
78
AREA
5718
HEIGHT
3594
17-Nov-2022
13:58
linh
pham



AFTER

MASS
78
AREA
5718
HEIGHT
3594
17-Nov-2022
14:02
linh
pham

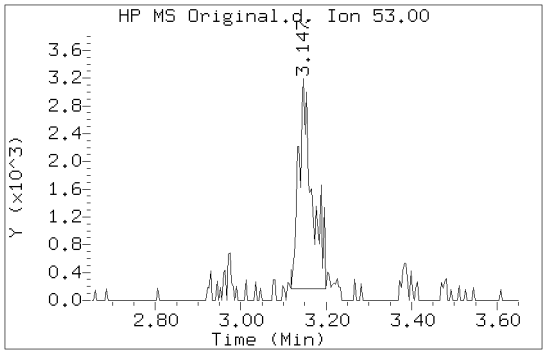


Acrylonitrile (107-13-1)

Reason Code:

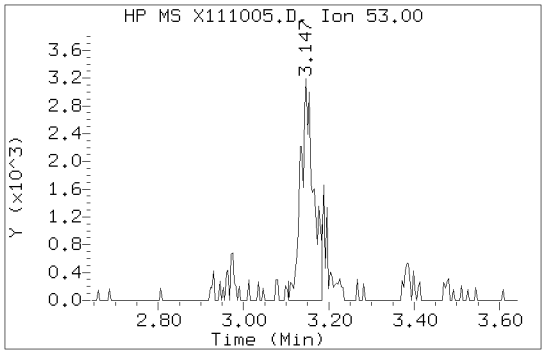
BEFORE

MASS
53
AREA
6615
HEIGHT
3023
17-Nov-2022
13:58
linh
pham



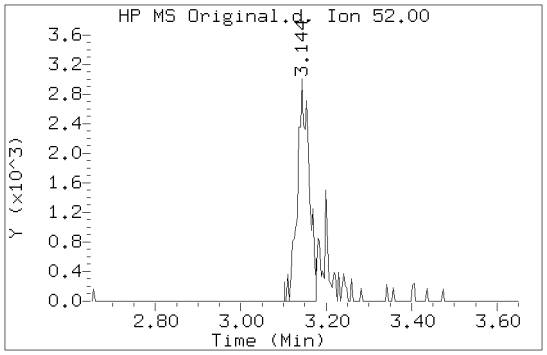
AFTER

MASS
53
AREA
6787
HEIGHT
3192
17-Nov-2022
14:02
linh
pham



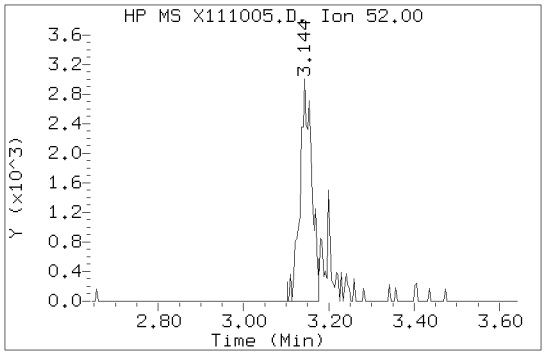
BEFORE

MASS
52
AREA
5849
HEIGHT
3004
17-Nov-2022
13:58
linh
pham



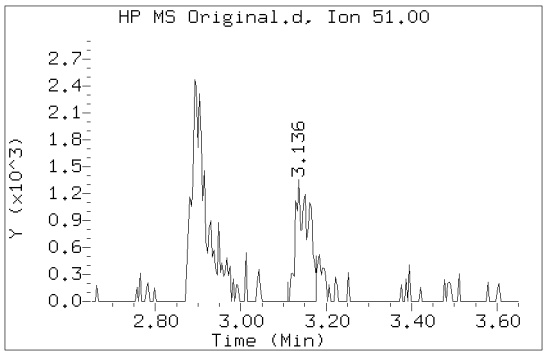
AFTER

MASS
52
AREA
5849
HEIGHT
3004
17-Nov-2022
14:02
linh
pham



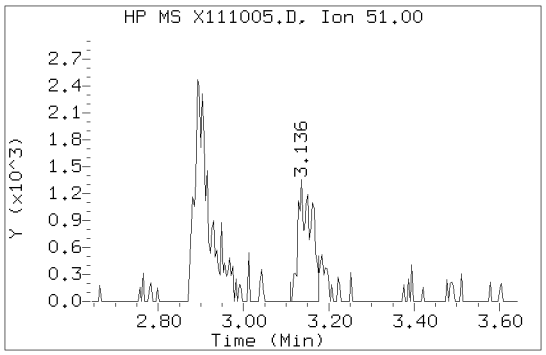
BEFORE

MASS
51
AREA
2955
HEIGHT
1357
17-Nov-2022
13:58
linh
pham



AFTER

MASS
51
AREA
2955
HEIGHT
1357
17-Nov-2022
14:02
linh
pham

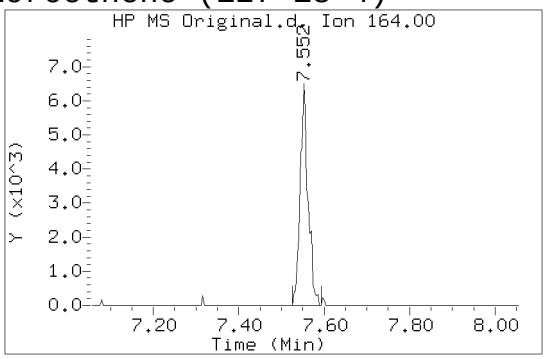


Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111005.D
Inj Date : 10-NOV-2022 14:35
InstruID : voa10.i
LabSampID : VSTD002

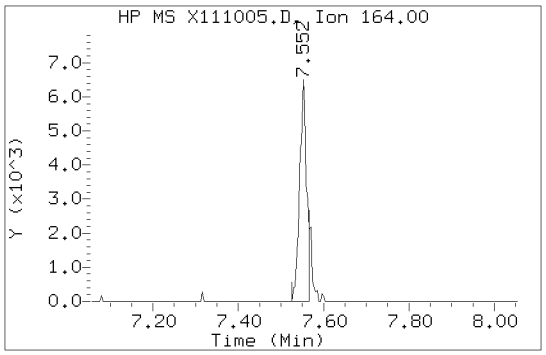
Tetrachloroethene (127-18-4)

Reason Code:

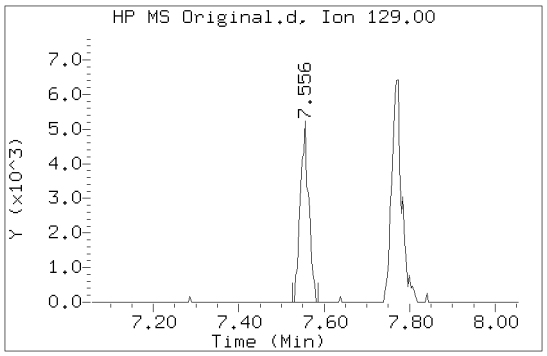
BEFORE
MASS
164
AREA
8534
HEIGHT
6502
17-Nov-2022
13:58
linh
pham



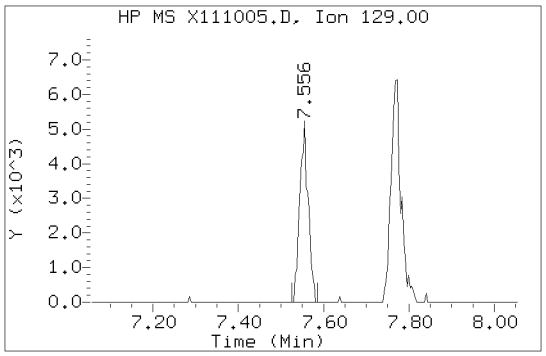
AFTER
MASS
164
AREA
7683
HEIGHT
6502
17-Nov-2022
14:02
linh
pham



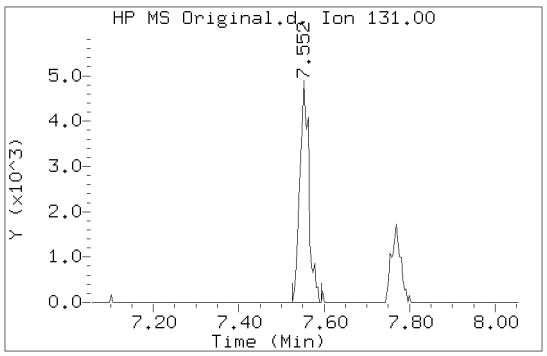
BEFORE
MASS
129
AREA
7343
HEIGHT
5239
17-Nov-2022
13:58
linh
pham



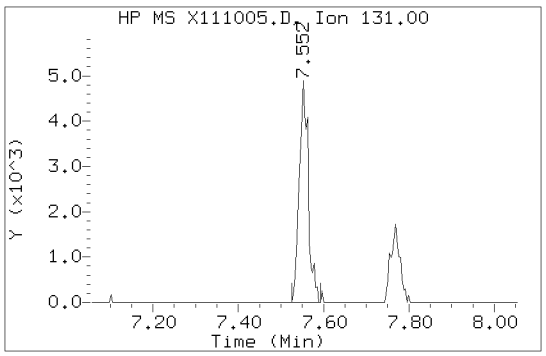
AFTER
MASS
129
AREA
7343
HEIGHT
5239
17-Nov-2022
14:02
linh
pham



BEFORE
MASS
131
AREA
7373
HEIGHT
4893
17-Nov-2022
13:58
linh
pham



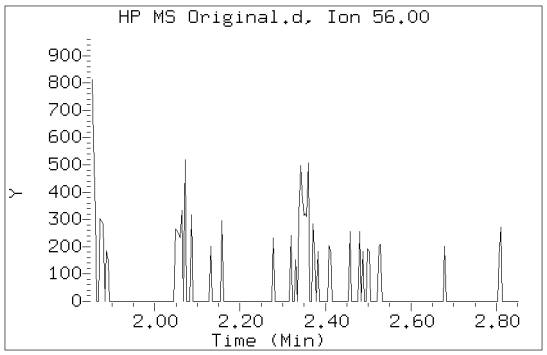
AFTER
MASS
131
AREA
7373
HEIGHT
4893
17-Nov-2022
14:02
linh
pham



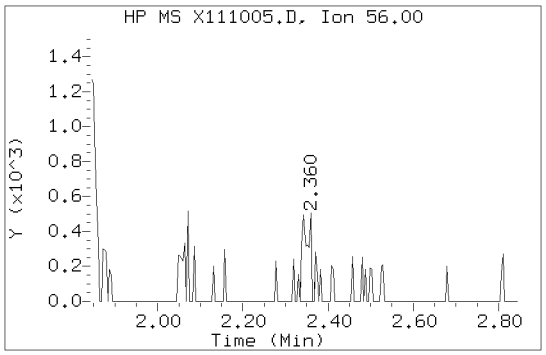
Acrolein (107-02-8)

Reason Code:

BEFORE
MASS
56
AREA
0
HEIGHT
0
17-Nov-2022
13:58
linh
pham



AFTER
MASS
56
AREA
599
HEIGHT
506
17-Nov-2022
14:02
linh
pham



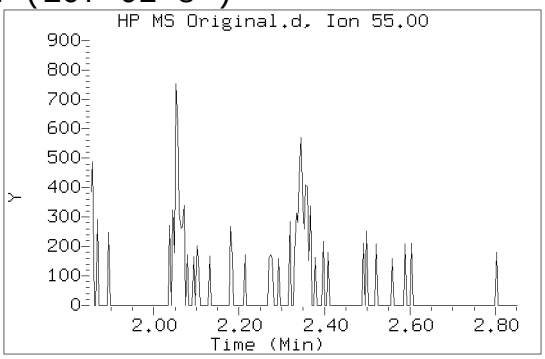
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111005.D
Inj Date : 10-NOV-2022 14:35
InstruID : voa10.i
LabSampID : VSTD002

Acrolein (107-02-8)

Reason Code:

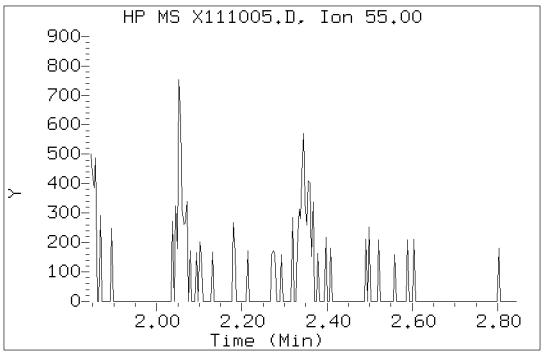
BEFORE

MASS
55
AREA
0
HEIGHT
0
17-Nov-2022
13:58
linh
pham



AFTER

MASS
55
AREA
0
HEIGHT
0
17-Nov-2022
14:02
linh
pham

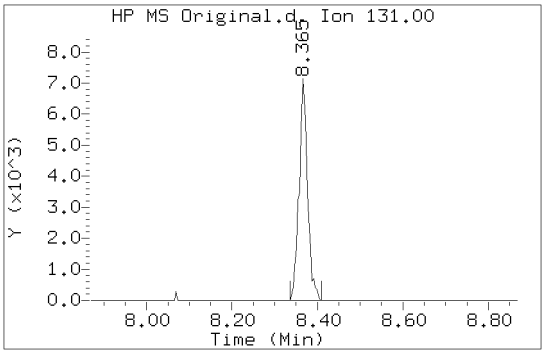


1,1,1,2-Tetrachloroethane (630-20-6)

Reason Code:

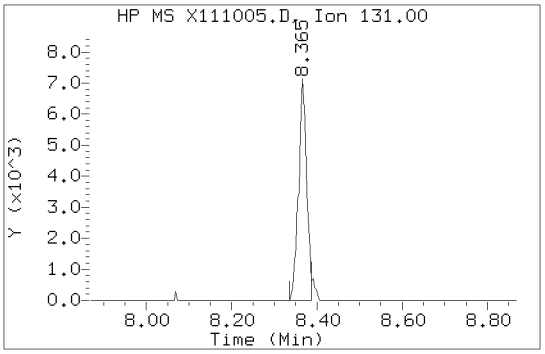
BEFORE

MASS
131
AREA
10142
HEIGHT
7142
17-Nov-2022
13:58
linh
pham



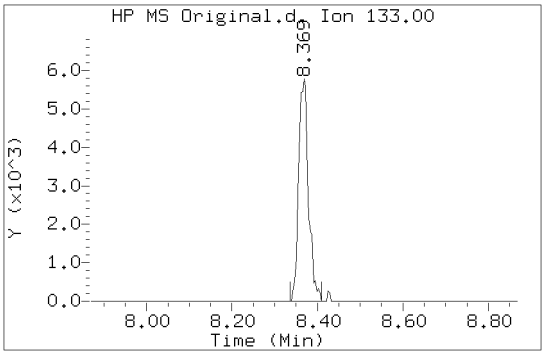
AFTER

MASS
131
AREA
9769
HEIGHT
7142
17-Nov-2022
14:02
linh
pham



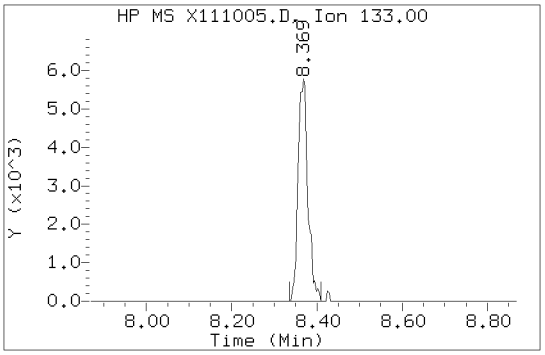
BEFORE

MASS
133
AREA
9501
HEIGHT
5781
17-Nov-2022
13:58
linh
pham



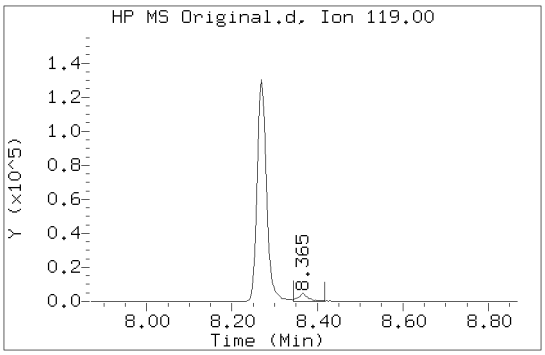
AFTER

MASS
133
AREA
9501
HEIGHT
5781
17-Nov-2022
14:02
linh
pham



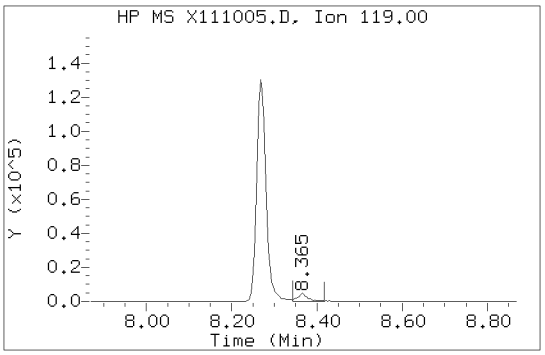
BEFORE

MASS
119
AREA
7802
HEIGHT
4839
17-Nov-2022
13:58
linh
pham



AFTER

MASS
119
AREA
7802
HEIGHT
4839
17-Nov-2022
14:02
linh
pham



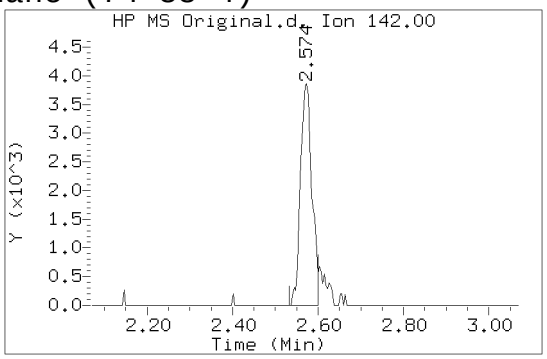
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111005.D
Inj Date : 10-NOV-2022 14:35
InstruID : voa10.i
LabSampID : VSTD002

Iodomethane (74-88-4)

Reason Code:

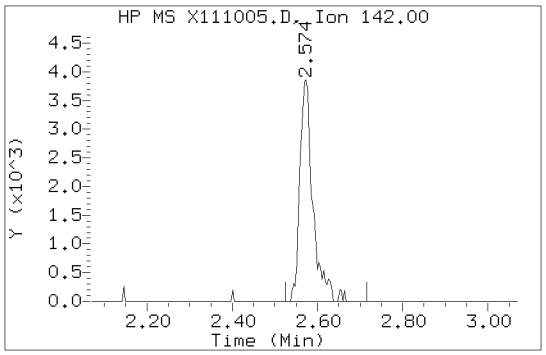
BEFORE

MASS
142
AREA
7383
HEIGHT
3862
17-Nov-2022
13:58
linh
pham



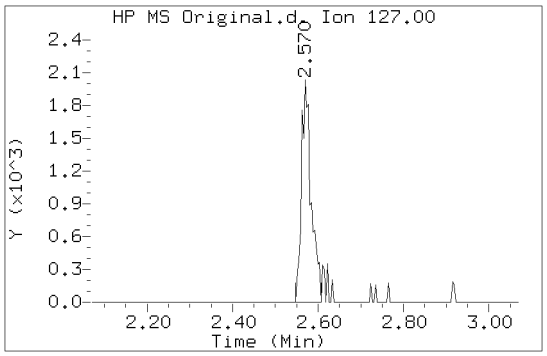
AFTER

MASS
142
AREA
8375
HEIGHT
3862
17-Nov-2022
14:02
linh
pham



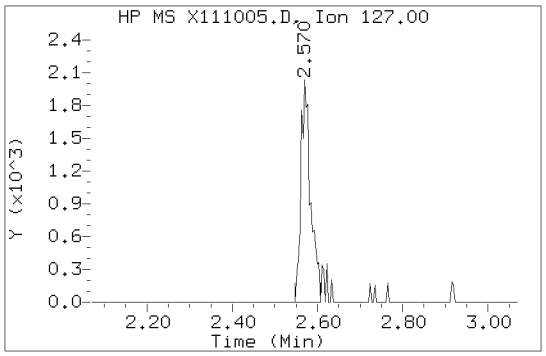
BEFORE

MASS
127
AREA
3270
HEIGHT
2032
17-Nov-2022
13:58
linh
pham



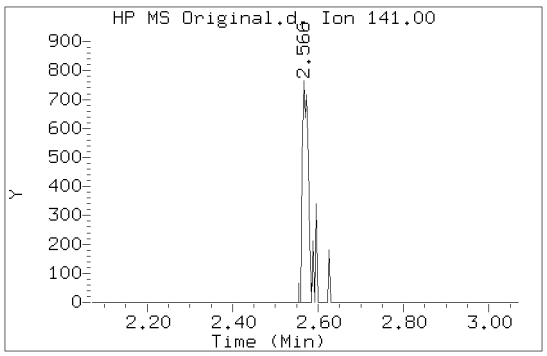
AFTER

MASS
127
AREA
3270
HEIGHT
2032
17-Nov-2022
14:02
linh
pham



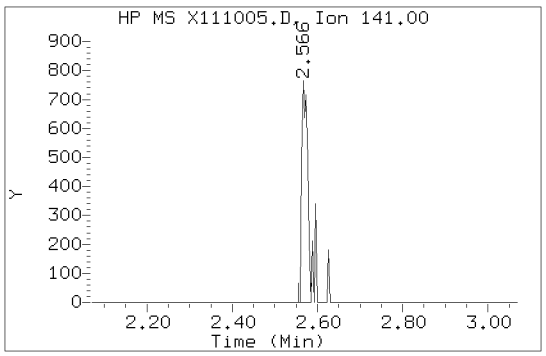
BEFORE

MASS
141
AREA
744
HEIGHT
765
17-Nov-2022
13:58
linh
pham



AFTER

MASS
141
AREA
744
HEIGHT
765
17-Nov-2022
14:02
linh
pham

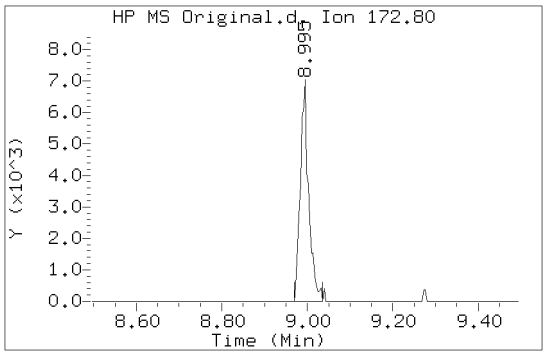


Bromoform (75-25-2)

Reason Code:

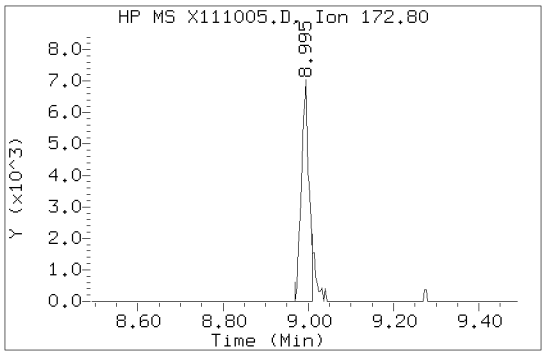
BEFORE

MASS
172.8
AREA
9797
HEIGHT
7043
17-Nov-2022
13:58
linh
pham



AFTER

MASS
172.8
AREA
8918
HEIGHT
7043
17-Nov-2022
14:02
linh
pham



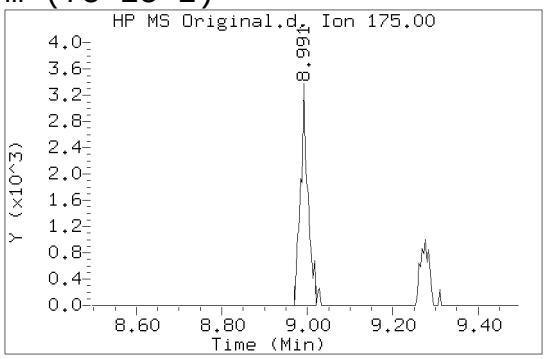
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111005.D
Inj Date : 10-NOV-2022 14:35
InstruID : voa10.i
LabSampID : VSTD002

Bromoform (75-25-2)

Reason Code:

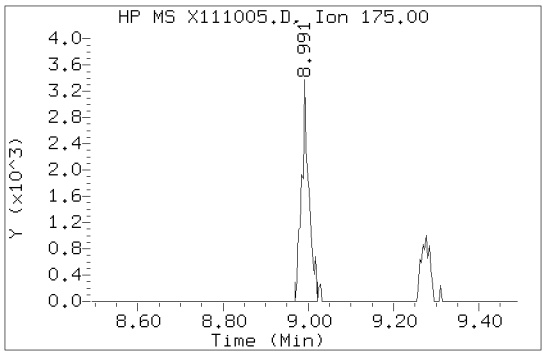
BEFORE

MASS
175
AREA
4154
HEIGHT
3377
17-Nov-2022
13:58
linh
pham



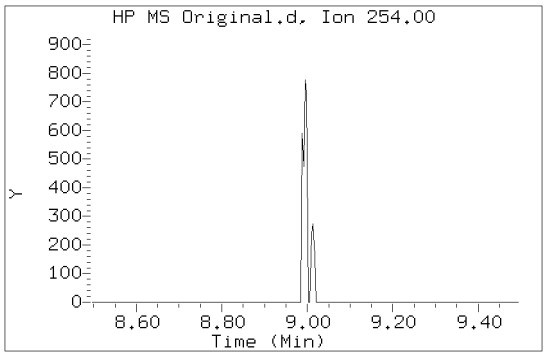
AFTER

MASS
175
AREA
4154
HEIGHT
3377
17-Nov-2022
14:02
linh
pham



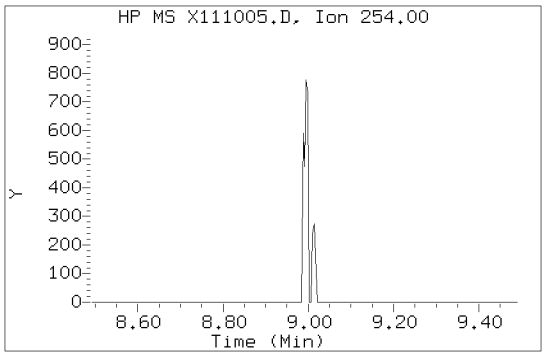
BEFORE

MASS
254
AREA
0
HEIGHT
0
17-Nov-2022
13:58
linh
pham



AFTER

MASS
254
AREA
0
HEIGHT
0
17-Nov-2022
14:02
linh
pham

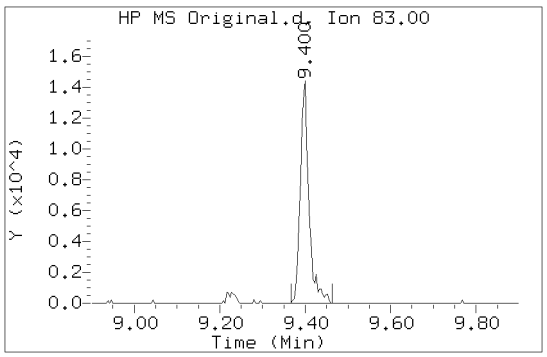


1,1,2,2-Tetrachloroethane (79-34-5)

Reason Code:

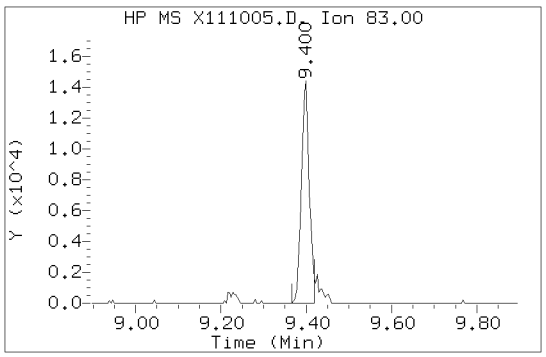
BEFORE

MASS
83
AREA
20901
HEIGHT
14400
17-Nov-2022
13:58
linh
pham



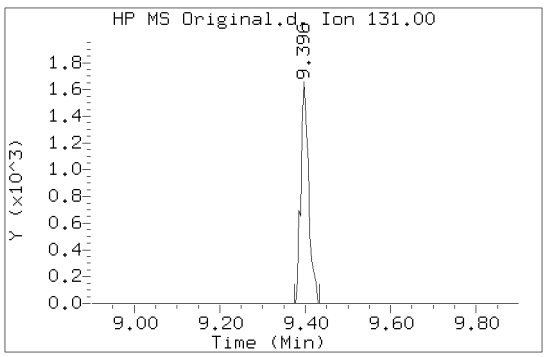
AFTER

MASS
83
AREA
19087
HEIGHT
14400
17-Nov-2022
14:02
linh
pham



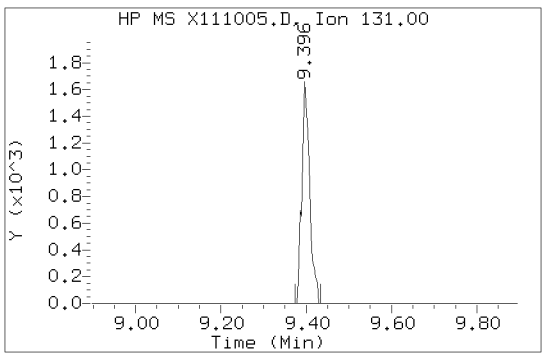
BEFORE

MASS
131
AREA
2194
HEIGHT
1658
17-Nov-2022
13:58
linh
pham



AFTER

MASS
131
AREA
2194
HEIGHT
1658
17-Nov-2022
14:02
linh
pham



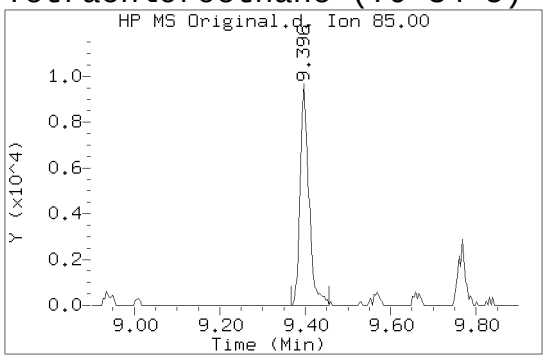
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111005.D
Inj Date : 10-NOV-2022 14:35
InstruID : voa10.i
LabSampID : VSTD002

1,1,2,2-Tetrachloroethane (79-34-5)

Reason Code:

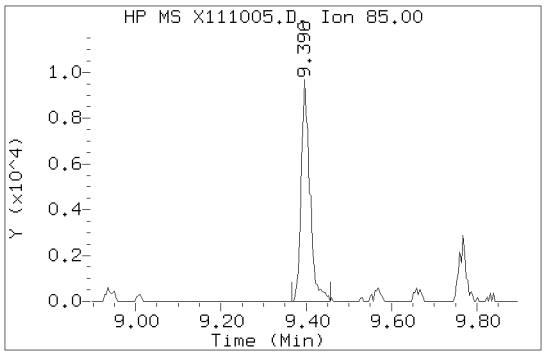
BEFORE

MASS
85
AREA
14147
HEIGHT
9682
17-Nov-2022
13:58
linh
pham



AFTER

MASS
85
AREA
14147
HEIGHT
9682
17-Nov-2022
14:02
linh
pham

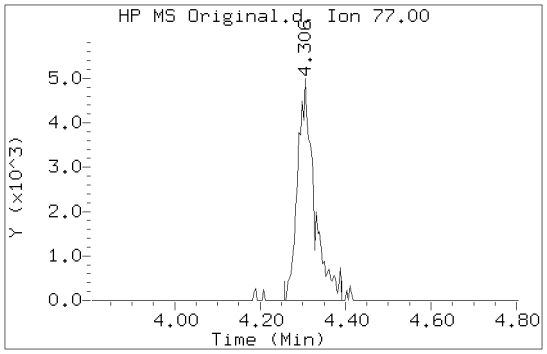


2,2-Dichloropropane (594-20-7)

Reason Code:

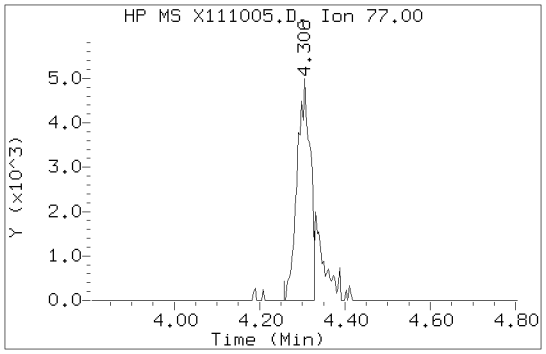
BEFORE

MASS
77
AREA
13778
HEIGHT
4995
17-Nov-2022
13:58
linh
pham



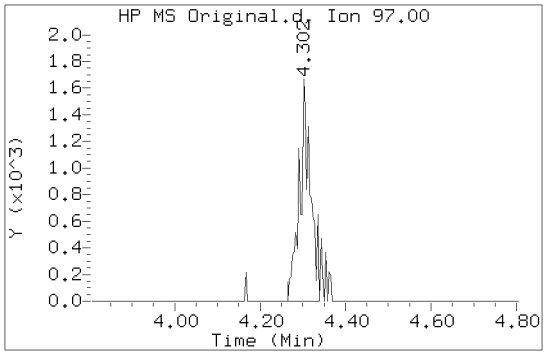
AFTER

MASS
77
AREA
10868
HEIGHT
4995
17-Nov-2022
14:02
linh
pham



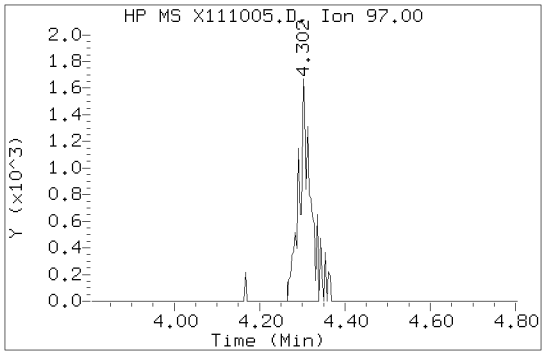
BEFORE

MASS
97
AREA
2988
HEIGHT
1669
17-Nov-2022
13:58
linh
pham



AFTER

MASS
97
AREA
2988
HEIGHT
1669
17-Nov-2022
14:02
linh
pham

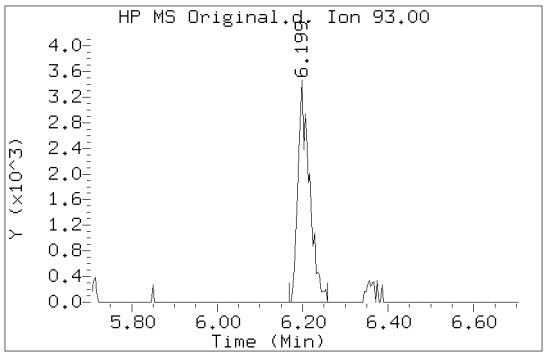


Dibromomethane (74-95-3)

Reason Code:

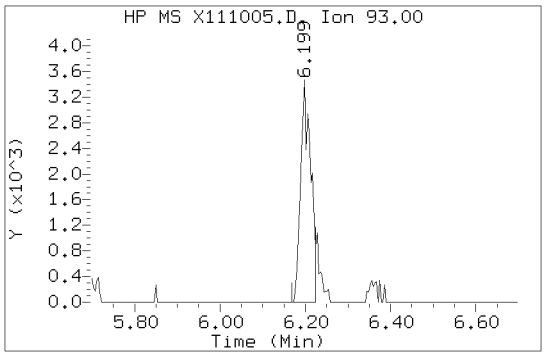
BEFORE

MASS
93
AREA
6601
HEIGHT
3468
17-Nov-2022
13:58
linh
pham



AFTER

MASS
93
AREA
5896
HEIGHT
3468
17-Nov-2022
14:02
linh
pham



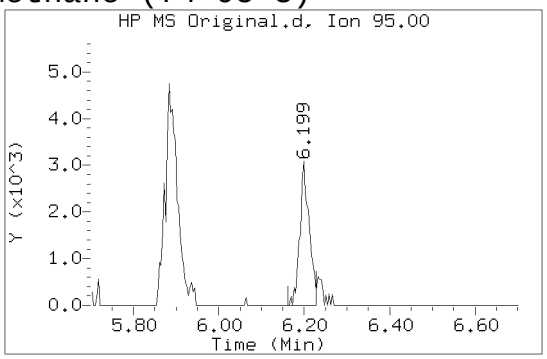
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Inj Date : 10-NOV-2022 14:35
InstruID : voa10.i
LabSampID : VSTD002

Dibromomethane (74-95-3)

Reason Code:

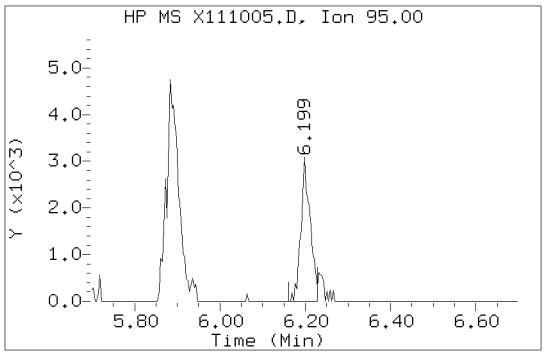
BEFORE

MASS
95
AREA
4829
HEIGHT
3091
17-Nov-2022
13:58
linh
pham



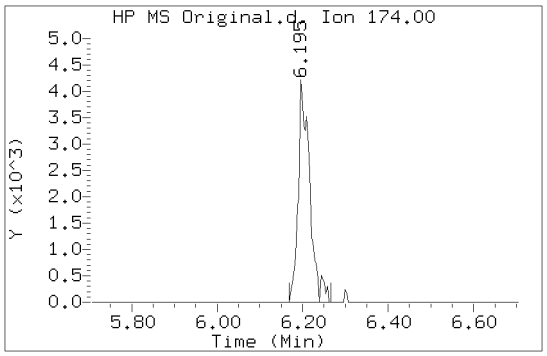
AFTER

MASS
95
AREA
4829
HEIGHT
3091
17-Nov-2022
14:02
linh
pham



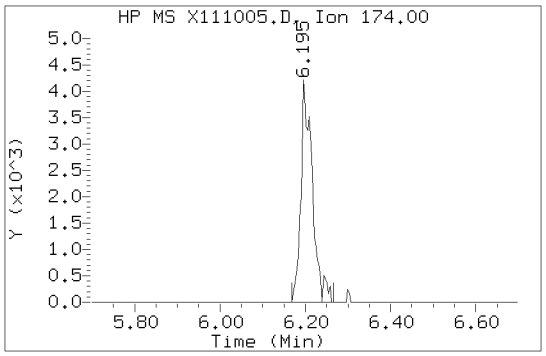
BEFORE

MASS
174
AREA
8031
HEIGHT
4214
17-Nov-2022
13:58
linh
pham



AFTER

MASS
174
AREA
8031
HEIGHT
4214
17-Nov-2022
14:02
linh
pham

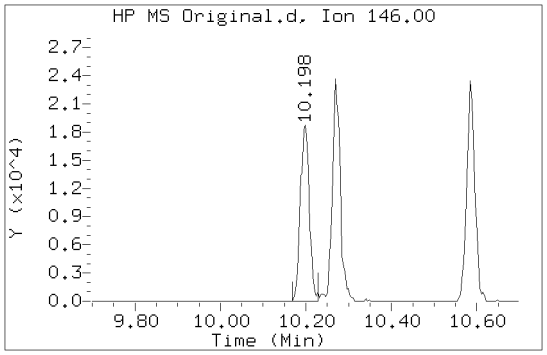


1,3-Dichlorobenzene (541-73-1)

Reason Code:

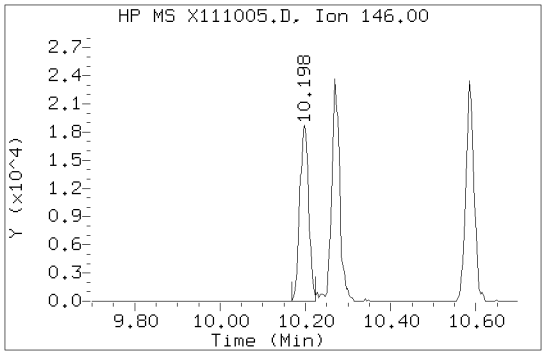
BEFORE

MASS
146
AREA
28275
HEIGHT
18712
17-Nov-2022
13:58
linh
pham



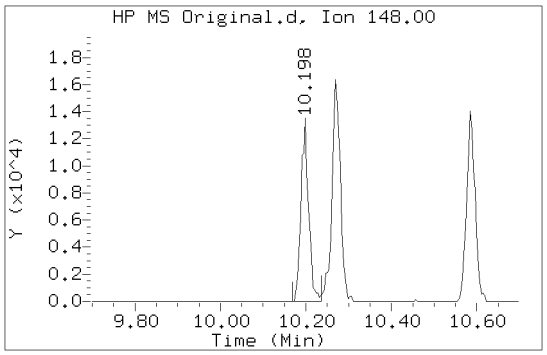
AFTER

MASS
146
AREA
28057
HEIGHT
18712
17-Nov-2022
14:02
linh
pham



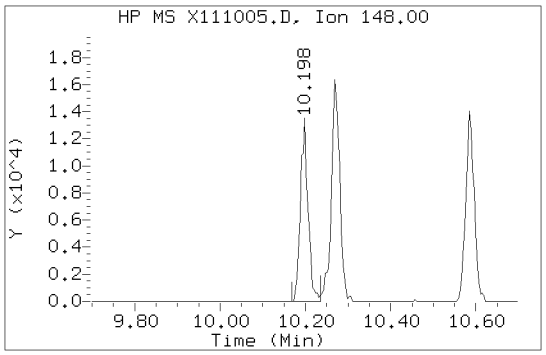
BEFORE

MASS
148
AREA
17243
HEIGHT
13548
17-Nov-2022
13:58
linh
pham



AFTER

MASS
148
AREA
17243
HEIGHT
13548
17-Nov-2022
14:02
linh
pham



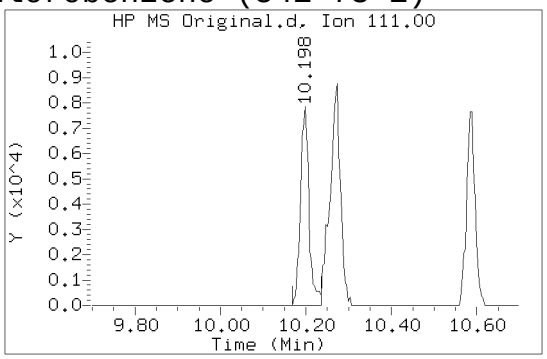
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111005.D
Inj Date : 10-NOV-2022 14:35
InstruID : voa10.i
LabSampID : VSTD002

1,3-Dichlorobenzene (541-73-1)

Reason Code:

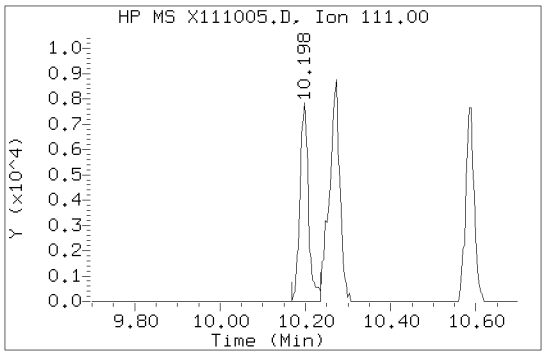
BEFORE

MASS
111
AREA
11326
HEIGHT
7849
17-Nov-2022
13:58
linh
pham



AFTER

MASS
111
AREA
11326
HEIGHT
7849
17-Nov-2022
14:02
linh
pham

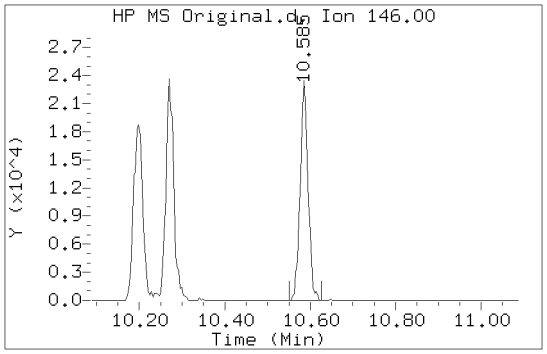


1,2-Dichlorobenzene (95-50-1)

Reason Code:

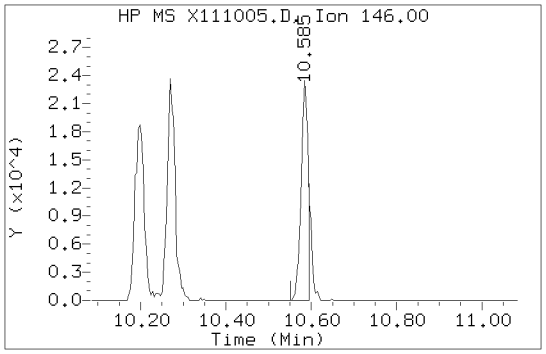
BEFORE

MASS
146
AREA
30954
HEIGHT
23448
17-Nov-2022
13:58
linh
pham



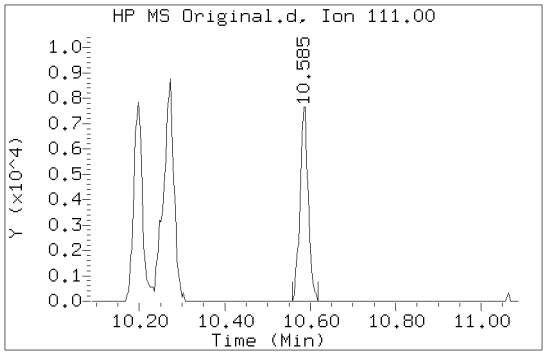
AFTER

MASS
146
AREA
27258
HEIGHT
23448
17-Nov-2022
14:02
linh
pham



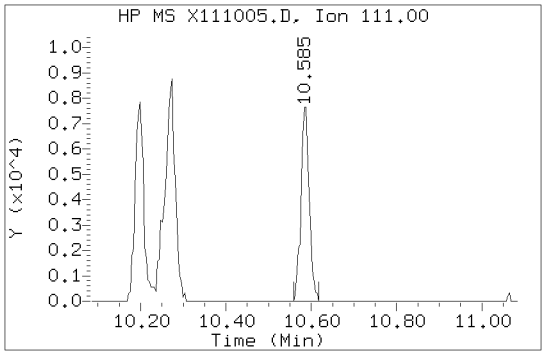
BEFORE

MASS
111
AREA
10604
HEIGHT
7663
17-Nov-2022
13:58
linh
pham



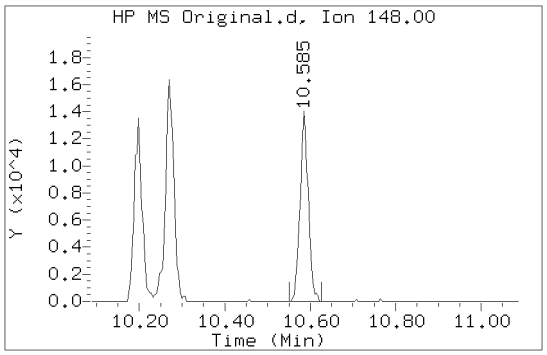
AFTER

MASS
111
AREA
10604
HEIGHT
7663
17-Nov-2022
14:02
linh
pham



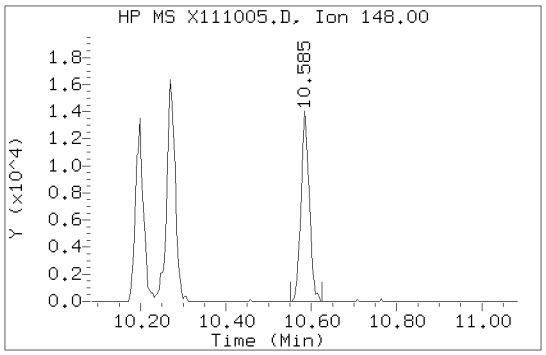
BEFORE

MASS
148
AREA
19282
HEIGHT
14068
17-Nov-2022
13:58
linh
pham



AFTER

MASS
148
AREA
19282
HEIGHT
14068
17-Nov-2022
14:02
linh
pham



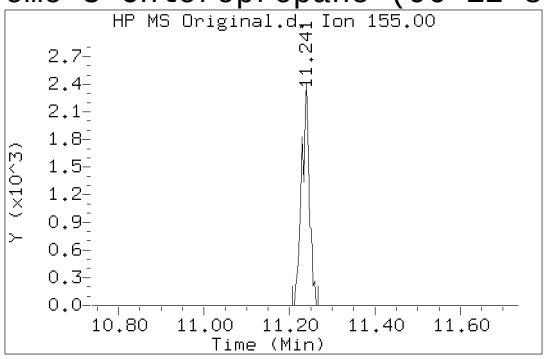
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111005.D
Inj Date : 10-NOV-2022 14:35
InstruID : voa10.i
LabSampID : VSTD002

1,2-Dibromo-3-Chloropropane (96-12-8)

Reason Code:

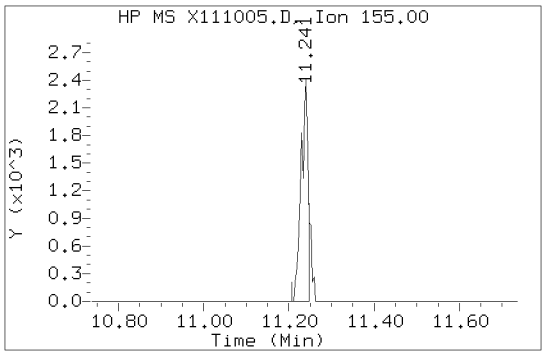
BEFORE

MASS
155
AREA
3095
HEIGHT
2405
17-Nov-2022
13:58
linh
pham



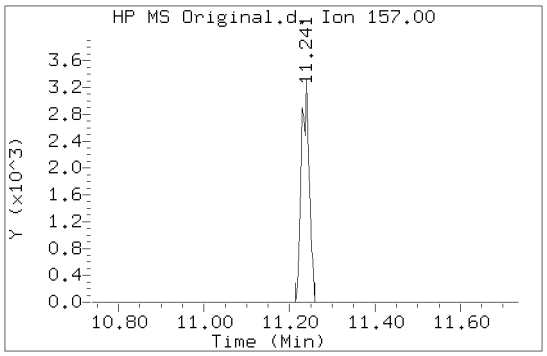
AFTER

MASS
155
AREA
2803
HEIGHT
2405
17-Nov-2022
14:02
linh
pham



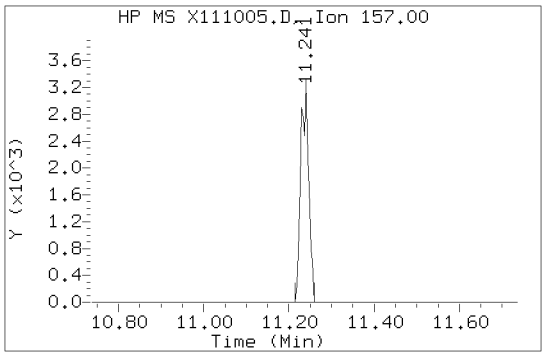
BEFORE

MASS
157
AREA
4371
HEIGHT
3314
17-Nov-2022
13:58
linh
pham



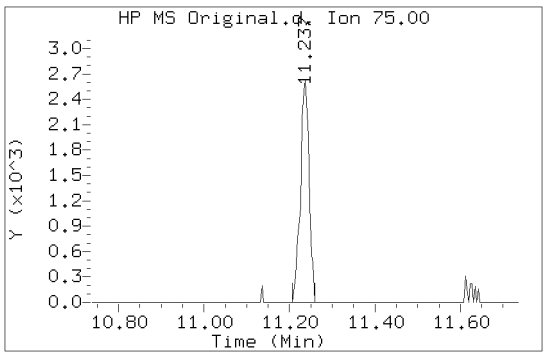
AFTER

MASS
157
AREA
4371
HEIGHT
3314
17-Nov-2022
14:02
linh
pham



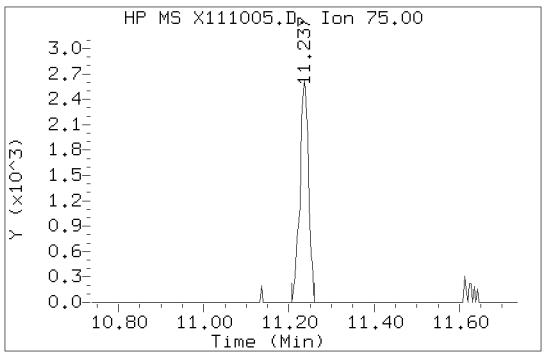
BEFORE

MASS
75
AREA
3838
HEIGHT
2620
17-Nov-2022
13:58
linh
pham



AFTER

MASS
75
AREA
3838
HEIGHT
2620
17-Nov-2022
14:02
linh
pham

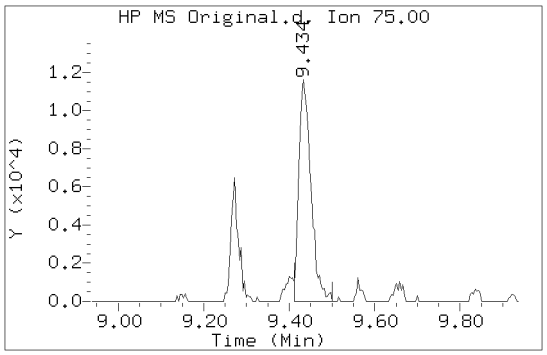


1,2,3-Trichloropropane (96-18-4)

Reason Code:

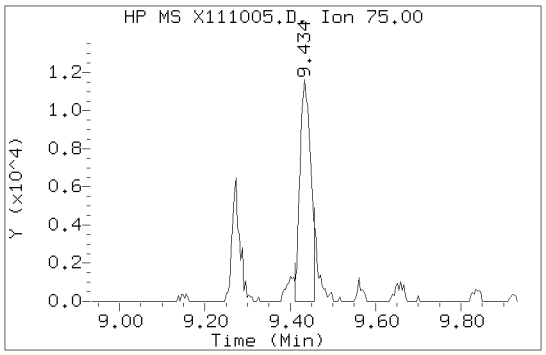
BEFORE

MASS
75
AREA
23429
HEIGHT
11620
17-Nov-2022
13:58
linh
pham



AFTER

MASS
75
AREA
20865
HEIGHT
11620
17-Nov-2022
14:02
linh
pham



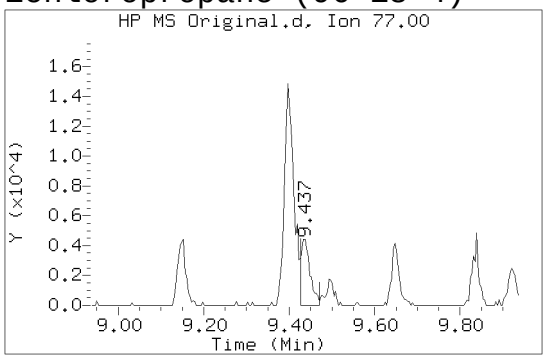
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Inj Date : 10-NOV-2022 14:35
InstruID : voa10.i
LabSampID : VSTD002

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

Reason Code:

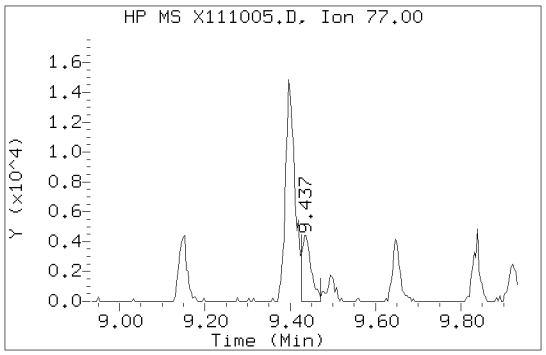
BEFORE

MASS
77
AREA
6835
HEIGHT
4442
17-Nov-2022
13:58
linh
pham



AFTER

MASS
77
AREA
6835
HEIGHT
4442
17-Nov-2022
14:02
linh
pham

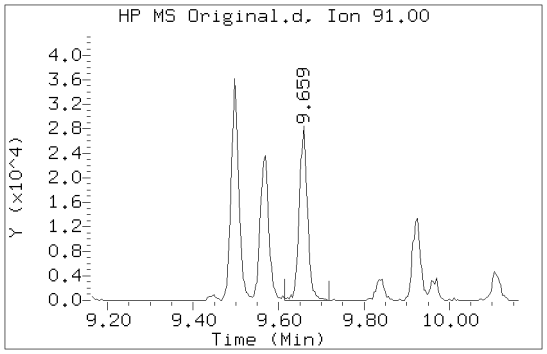


4-Chlorotoluene (106-43-4)

Reason Code:

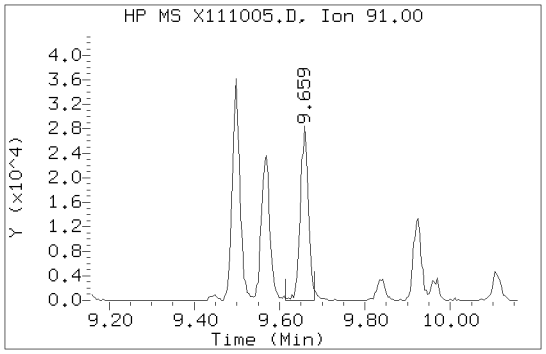
BEFORE

MASS
91
AREA
39004
HEIGHT
28440
17-Nov-2022
13:58
linh
pham



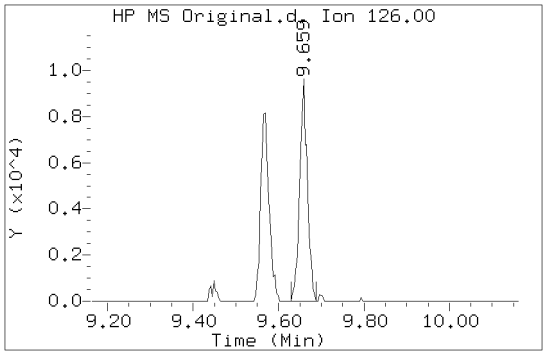
AFTER

MASS
91
AREA
38071
HEIGHT
28440
17-Nov-2022
14:02
linh
pham



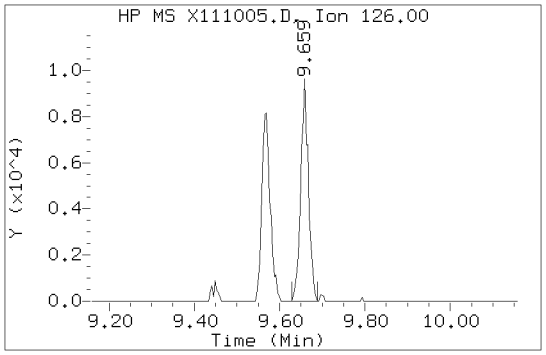
BEFORE

MASS
126
AREA
12285
HEIGHT
9635
17-Nov-2022
13:58
linh
pham



AFTER

MASS
126
AREA
12285
HEIGHT
9635
17-Nov-2022
14:02
linh
pham

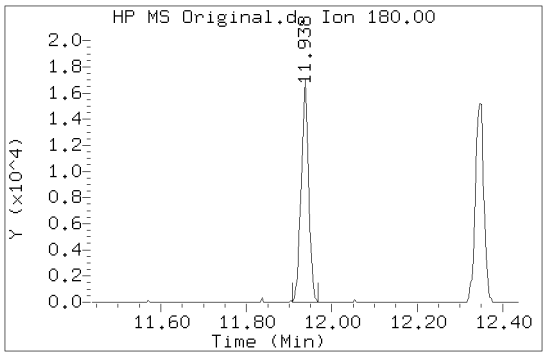


1,2,4-Trichlorobenzene (120-82-1)

Reason Code:

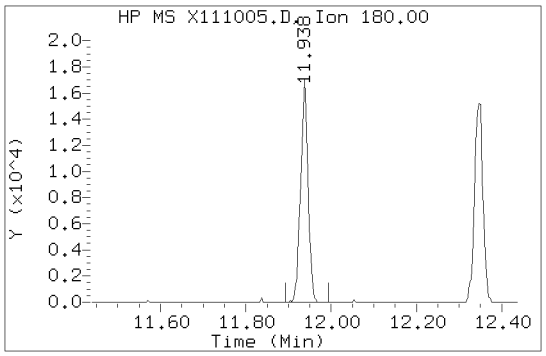
BEFORE

MASS
180
AREA
21205
HEIGHT
17008
17-Nov-2022
13:58
linh
pham



AFTER

MASS
180
AREA
21248
HEIGHT
17008
17-Nov-2022
14:02
linh
pham



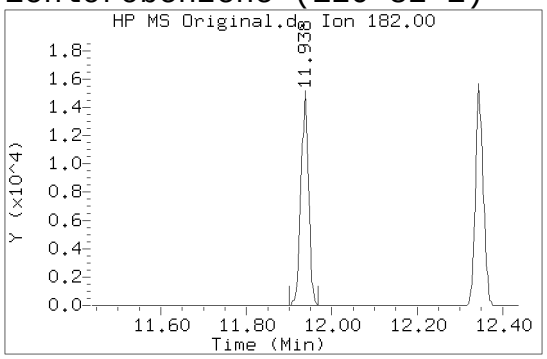
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111005.D
Inj Date : 10-NOV-2022 14:35
InstruID : voa10.i
LabSampID : VSTD002

1,2,4-Trichlorobenzene (120-82-1)

Reason Code:

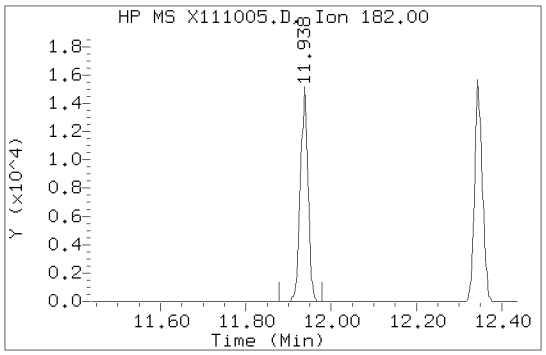
BEFORE

MASS
182
AREA
19444
HEIGHT
15173
17-Nov-2022
13:58
linh
pham



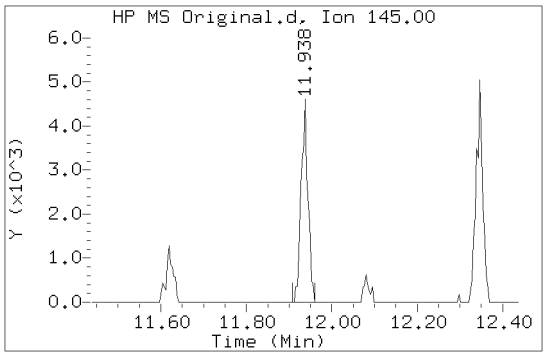
AFTER

MASS
182
AREA
19447
HEIGHT
15173
17-Nov-2022
14:02
linh
pham



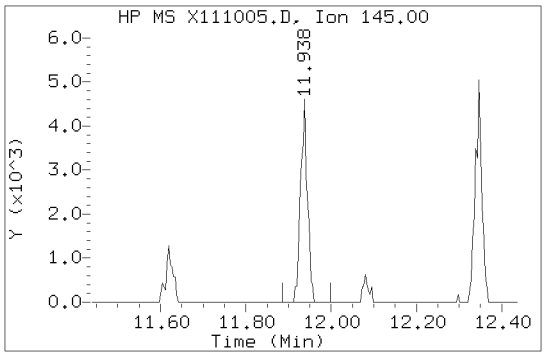
BEFORE

MASS
145
AREA
5319
HEIGHT
4610
17-Nov-2022
13:58
linh
pham



AFTER

MASS
145
AREA
5321
HEIGHT
4610
17-Nov-2022
14:02
linh
pham

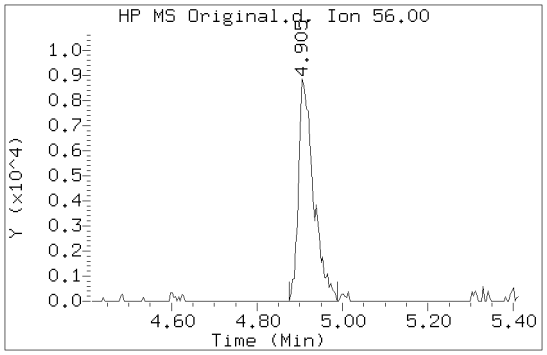


Cyclohexane (110-82-7)

Reason Code:

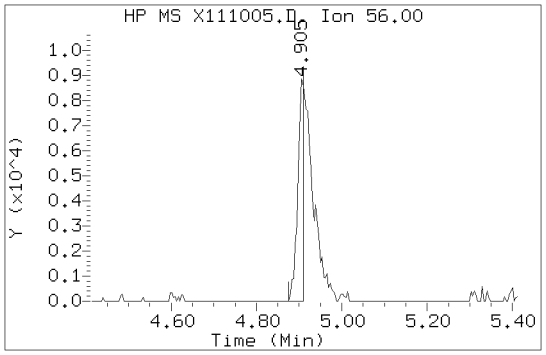
BEFORE

MASS
56
AREA
22085
HEIGHT
8859
17-Nov-2022
13:58
linh
pham



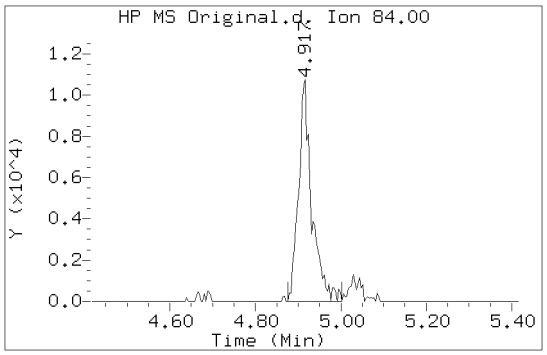
AFTER

MASS
56
AREA
8459
HEIGHT
8859
17-Nov-2022
14:02
linh
pham



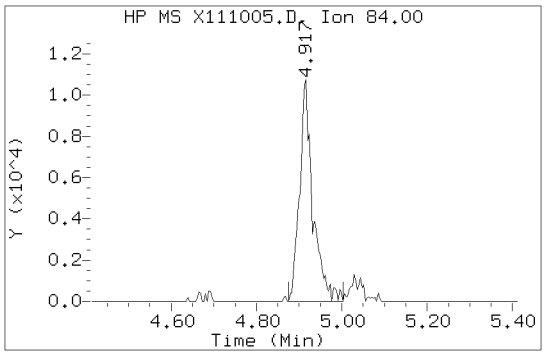
BEFORE

MASS
84
AREA
23688
HEIGHT
10751
17-Nov-2022
13:58
linh
pham



AFTER

MASS
84
AREA
23688
HEIGHT
10751
17-Nov-2022
14:02
linh
pham



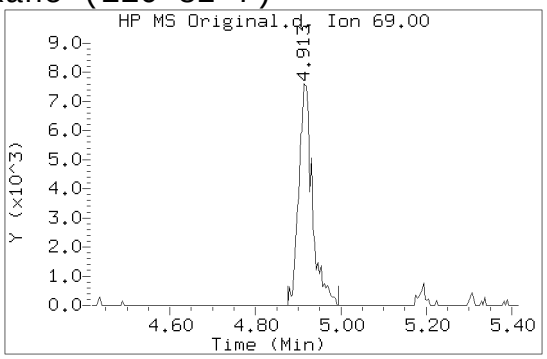
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InstruID : voa10.i
LabSampID : VSTD002

Cyclohexane (110-82-7)

Reason Code:

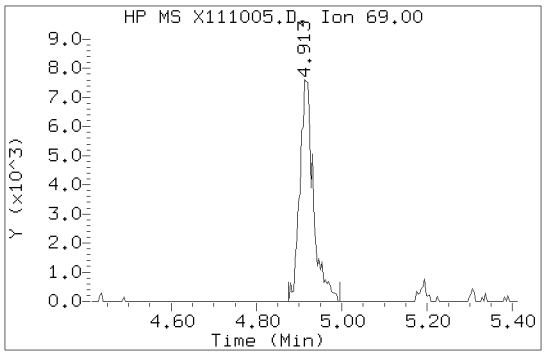
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7609
17-Nov-2022
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AFTER

MASS
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AREA
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HEIGHT
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17-Nov-2022
14:02
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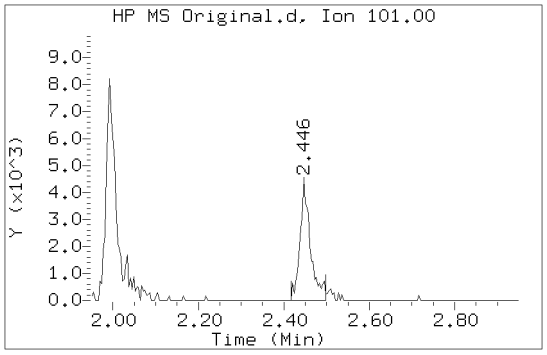


Freon TF (76-13-1)

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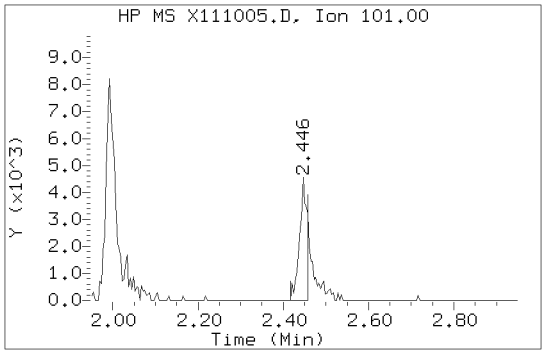
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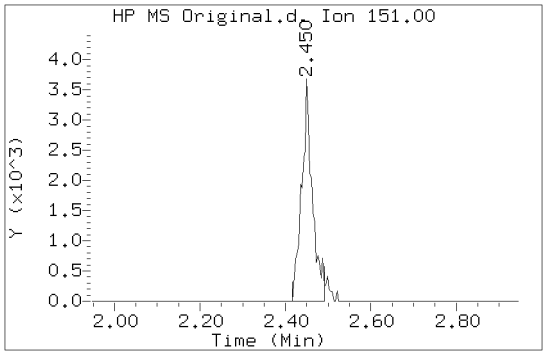
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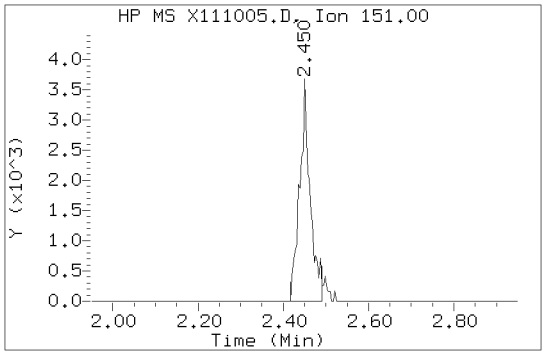
BEFORE

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17-Nov-2022
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AFTER

MASS
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17-Nov-2022
14:02
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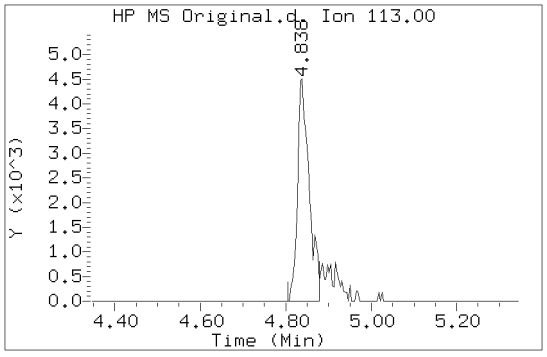


Dibromofluoromethane (1868-53-7)

Reason Code:

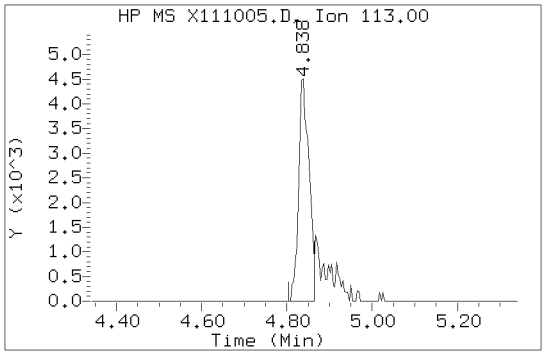
BEFORE

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17-Nov-2022
13:58
linh
pham



AFTER

MASS
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7833
HEIGHT
4506
17-Nov-2022
14:02
linh
pham

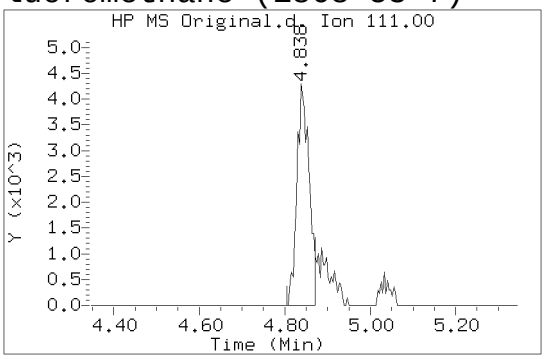


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Inj Date : 10-NOV-2022 14:35
InstruID : voa10.i
LabSampID : VSTD002

Dibromofluoromethane (1868-53-7)

BEFORE

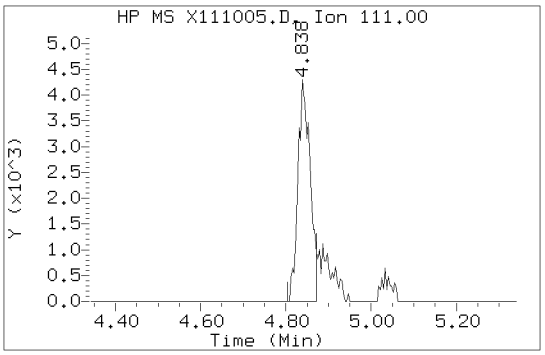
MASS
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8713
HEIGHT
4299
17-Nov-2022
13:58
linh
pham



AFTER

MASS
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8713
HEIGHT
4299
17-Nov-2022
14:02
linh
pham

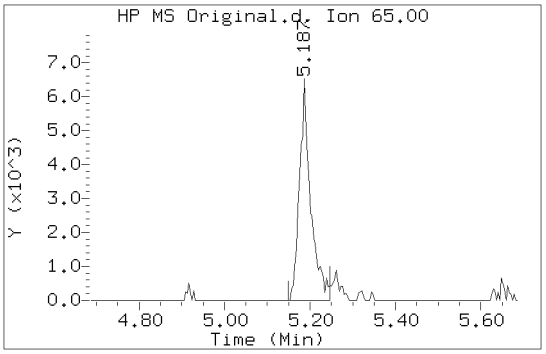
Reason Code:



1,2-Dichloroethane-d4 (17060-07-0)

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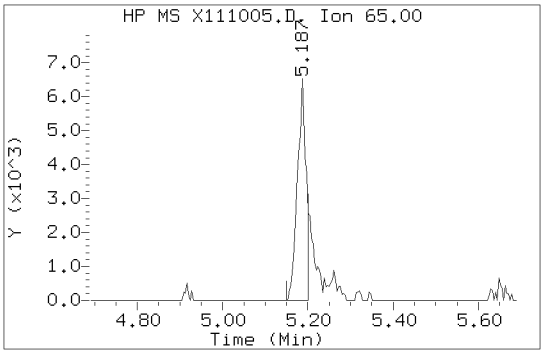
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17-Nov-2022
13:58
linh
pham



AFTER

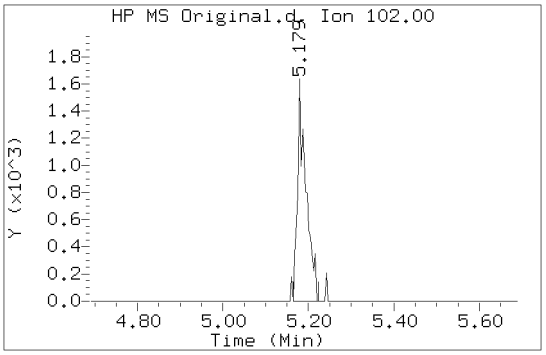
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14:02
linh
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Reason Code:



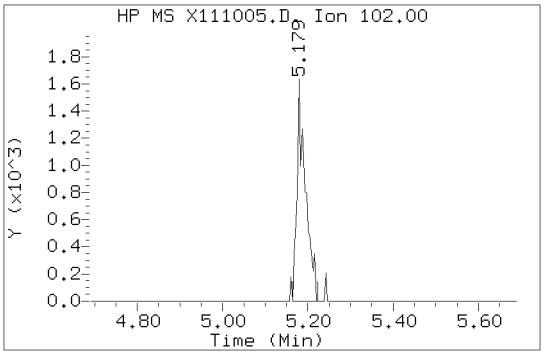
BEFORE

MASS
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AREA
2289
HEIGHT
1637
17-Nov-2022
13:58
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pham



AFTER

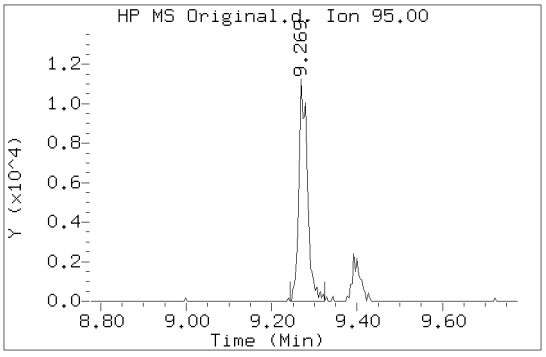
MASS
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14:02
linh
pham



4-Bromofluorobenzene (460-00-4)

BEFORE

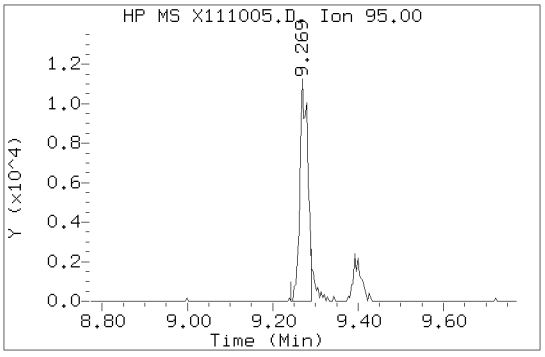
MASS
95
AREA
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HEIGHT
11254
17-Nov-2022
13:58
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pham



AFTER

MASS
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HEIGHT
11254
17-Nov-2022
14:02
linh
pham

Reason Code:



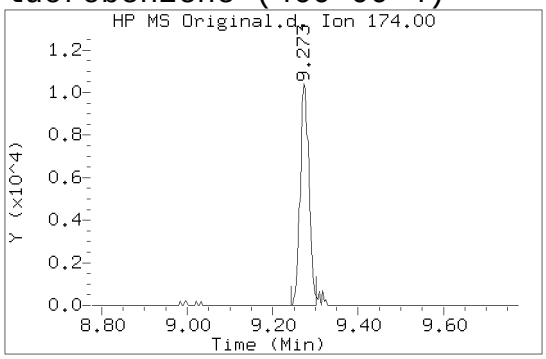
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Inj Date : 10-NOV-2022 14:35
InstruID : voa10.i
LabSampID : VSTD002

4-Bromofluorobenzene (460-00-4)

Reason Code:

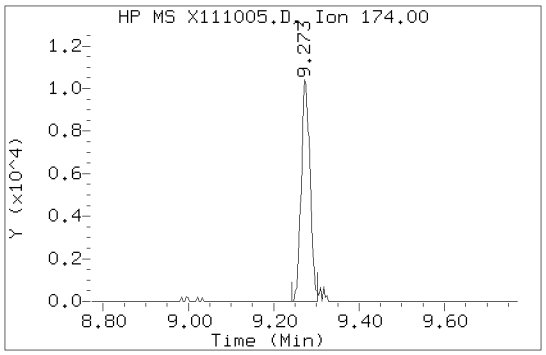
BEFORE

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AREA
15414
HEIGHT
10418
17-Nov-2022
13:58
linh
pham



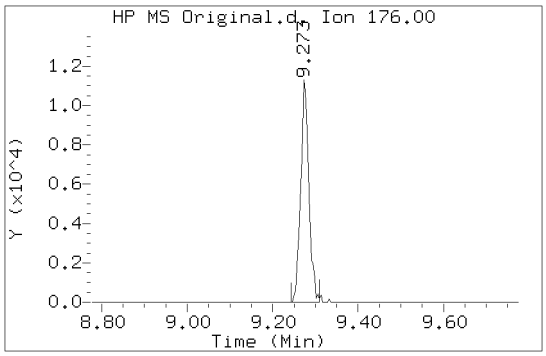
AFTER

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17-Nov-2022
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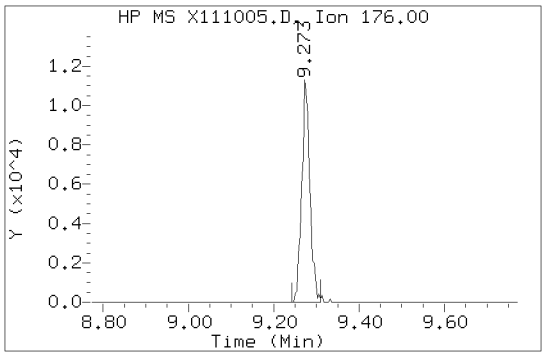
BEFORE

MASS
176
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11304
17-Nov-2022
13:58
linh
pham



AFTER

MASS
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15469
HEIGHT
11304
17-Nov-2022
14:02
linh
pham



Data File: \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111006.D Page 1
Report Date: 17-Nov-2022 14:03

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111006.D
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Inj Date : 10-NOV-2022 14:56
Operator : FT Inst ID: voa10.i
Smp Info : VSTD005;VSTD005;1;5;
Misc Info : V10;WATER;0;1;
Comment   :
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Meth Date : 17-Nov-2022 14:02 voa10.i Quant Type: ISTD
Cal Date : 10-NOV-2022 14:35 Cal File: X111005.D
Als bottle: 7 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000008260V10.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	4.916	4.916	(1.000)	444544	50.0000	
2	Dichlorodifluoromethane	85	1.235	1.235	(0.251)	18361	5.00000	4.82(M)
3	Chloromethane	50	1.370	1.370	(0.279)	20687	5.00000	4.97(M)
5	Vinyl Chloride	62	1.452	1.452	(0.295)	19564	5.00000	4.74(M)
6	Bromomethane	94	1.703	1.703	(0.347)	9230	5.00000	4.95(M)
7	Chloroethane	64	1.786	1.786	(0.363)	11774	5.00000	4.95(M)
8	Trichlorofluoromethane	101	1.992	1.992	(0.405)	26961	5.00000	4.97(M)
9	Acrolein	56	2.341	2.341	(0.476)	1818	10.0000	8.63(M)
10	Acetone	43	2.491	2.491	(0.507)	24899	10.0000	8.98
12	Isobutyl Alcohol	43	5.373	5.373	(1.093)	63767	100.000	91.99
13	Acetonitrile	39	2.772	2.772	(0.564)	32937	50.0000	52.96
16	Acrylonitrile	53	3.147	3.147	(0.640)	17495	10.0000	10.67(M)
11	1,1-Dichloroethene	96	2.438	2.438	(0.496)	16202	5.00000	5.64(M)
15	Iodomethane	142	2.569	2.569	(0.523)	22802	10.0000	10.70(M)
17	Methylene Chloride	84	2.903	2.903	(0.591)	21548	5.00000	4.60(M)
18	Methyl tert-butyl ether	73	3.195	3.195	(0.650)	59479	5.00000	5.23
19	Carbon Disulfide	76	2.629	2.629	(0.535)	82677	10.0000	10.20
20	trans-1,2-Dichloroethene	96	3.173	3.173	(0.645)	16193	5.00000	4.76(M)
22	1,1-Dichloroethane	63	3.634	3.634	(0.739)	35092	5.00000	5.36(M)
24	2-Butanone	43	4.354	4.354	(0.886)	26817	10.0000	11.63

27 cis-1,2-Dichloroethene	96	4.309	4.309 (0.876)	20918	5.00000	5.17(M)
28 Chloroform	83	4.676	4.676 (0.951)	40131	5.00000	5.49

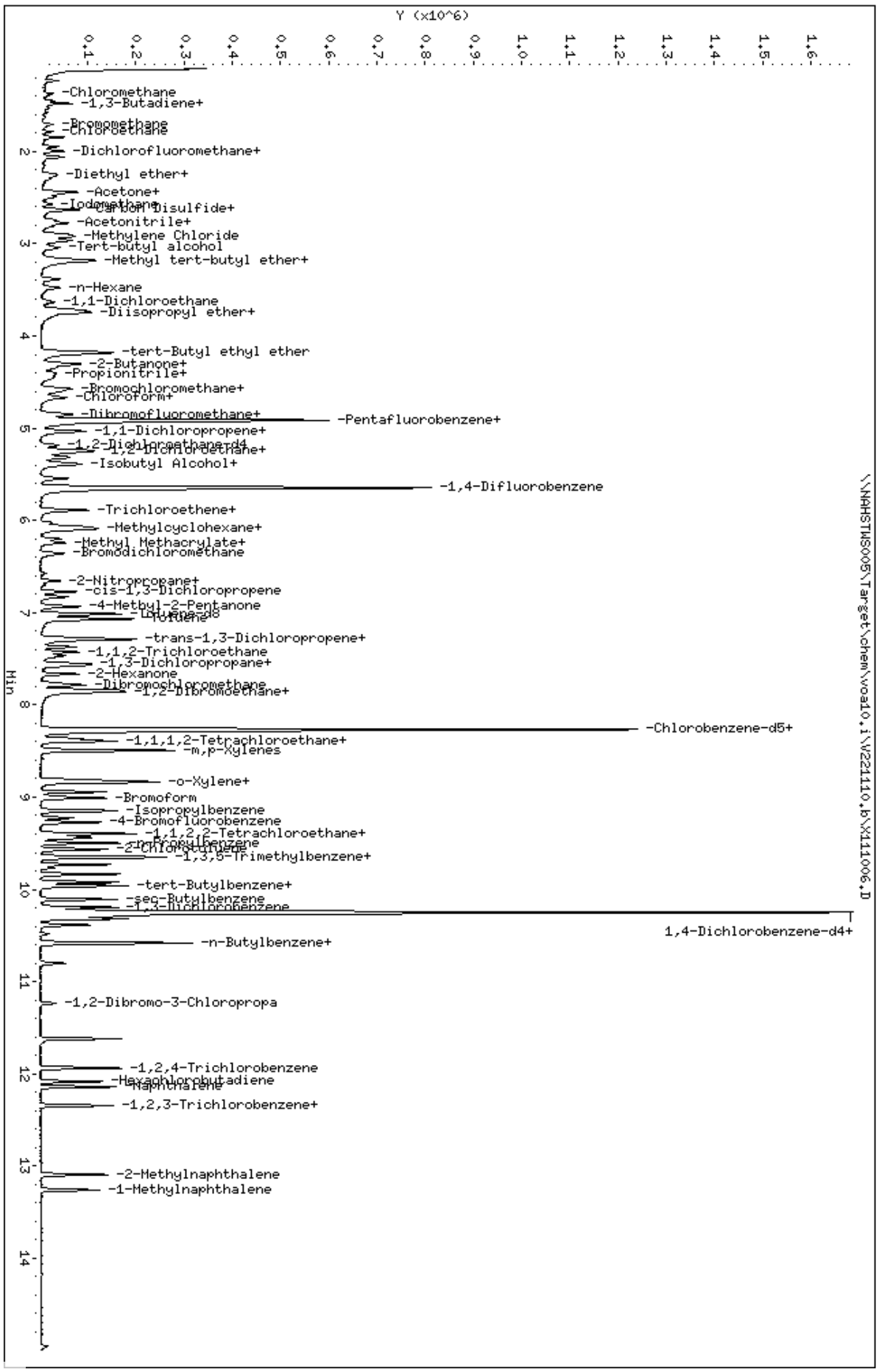
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	29 Bromochloromethane	128	4.571	4.571	(0.930)	11352	5.00000	5.61(M)
$	30 Dibromofluoromethane	113	4.845	4.845	(0.986)	20848	5.00000	5.55(M)
	31 1,1,1-Trichloroethane	97	4.860	4.860	(0.989)	31665	5.00000	5.39(M)
	32 1,1-Dichloropropene	75	5.028	5.028	(0.890)	26249	5.00000	4.83(M)
	33 1,2-Dichloroethane	62	5.261	5.261	(0.932)	35379	5.00000	5.43
	34 Carbon Tetrachloride	117	5.036	5.036	(0.892)	23109	5.00000	4.92(MH)
$	35 1,2-Dichloroethane-d4	65	5.182	5.182	(1.054)	26090	5.00000	5.46(M)
*	36 1,4-Difluorobenzene	114	5.647	5.647	(1.000)	703869	50.0000	
	37 Benzene	78	5.242	5.242	(0.928)	97042	5.00000	5.41
	38 Trichloroethene	130	5.887	5.887	(1.042)	23927	5.00000	5.21
	39 Bromodichloromethane	83	6.359	6.359	(1.126)	30199	5.00000	5.40
	42 1,2-Dichloropropane	63	6.097	6.097	(1.080)	25801	5.00000	5.15(M)
	45 4-Methyl-2-Pentanone	43	6.925	6.925	(0.838)	57554	10.0000	13.08
	46 cis-1,3-Dichloropropene	75	6.772	6.772	(1.199)	36754	5.00000	4.92
*	47 Chlorobenzene-d5	117	8.267	8.267	(1.000)	600158	50.0000	
$	48 Toluene-d8	98	7.015	7.015	(0.849)	74726	5.00000	5.18
	50 Toluene	91	7.068	7.068	(0.855)	89331	5.00000	5.05
	51 trans-1,3-Dichloropropene	75	7.270	7.270	(1.287)	31438	5.00000	4.78
	52 2-Hexanone	43	7.668	7.668	(0.927)	46018	10.0000	13.36
	53 1,1,2-Trichloroethane	83	7.428	7.428	(0.898)	18952	5.00000	5.35
	54 1,3-Dichloropropane	76	7.578	7.578	(0.917)	36977	5.00000	5.08
	55 Dibromochloromethane	129	7.765	7.765	(0.939)	21706	5.00000	4.69
	56 Tetrachloroethene	164	7.551	7.551	(0.913)	19101	5.00000	5.20(M)
	57 1,2-Dibromoethane	107	7.862	7.862	(0.951)	22809	5.00000	5.26
	59 Chlorobenzene	112	8.294	8.294	(1.003)	58785	5.00000	4.86
	60 1,1,1,2-Tetrachloroethane	131	8.365	8.365	(1.012)	20698	5.00000	4.78
	61 Ethylbenzene	106	8.395	8.395	(1.015)	29627	5.00000	5.01
	62 m,p-Xylenes	106	8.496	8.496	(1.028)	72927	10.0000	10.01
	63 o-Xylene	106	8.830	8.830	(1.068)	35870	5.00000	4.93
	64 Styrene	104	8.841	8.841	(1.069)	64096	5.00000	4.85
	66 Bromoform	173	8.991	8.991	(1.088)	16993	5.00000	5.90
	67 Isopropylbenzene	105	9.148	9.148	(1.107)	86735	5.00000	4.80
	68 1,1,2,2-Tetrachloroethane	83	9.396	9.396	(0.917)	36143	5.00000	5.48
$	69 4-Bromofluorobenzene	95	9.272	9.272	(1.122)	33924	5.00000	6.51(M)
*	70 1,4-Dichlorobenzene-d4	152	10.250	10.250	(1.000)	390372	50.0000	
	75 1,3,5-Trimethylbenzene	105	9.647	9.647	(0.941)	77935	5.00000	4.90
	78 tert-Butylbenzene	119	9.924	9.924	(0.968)	68145	5.00000	4.96
	79 1,2,4-Trimethylbenzene	105	9.962	9.962	(0.972)	82304	5.00000	4.76
	81 sec-Butylbenzene	105	10.108	10.108	(0.986)	92894	5.00000	4.81
	87 n-Butylbenzene	91	10.576	10.576	(1.032)	79881	5.00000	4.75
	73 n-Propylbenzene	91	9.497	9.497	(0.926)	107529	5.00000	5.04
	71 1,2,3-Trichloropropane	75	9.433	9.433	(0.920)	42233	5.00000	5.08
	83 1,3-Dichlorobenzene	146	10.194	10.194	(0.995)	57986	5.00000	4.86
	84 1,4-Dichlorobenzene	146	10.269	10.269	(1.002)	62817	5.00000	6.06
	88 1,2-Dichlorobenzene	146	10.584	10.584	(1.033)	60205	5.00000	5.52
	89 1,2-Dibromo-3-Chloropropane	155	11.236	11.236	(1.096)	6468	5.00000	5.35
	90 1,2,4-Trichlorobenzene	180	11.933	11.933	(1.164)	45748	5.00000	5.57(M)
	92 Naphthalene	128	12.143	12.143	(1.185)	103372	5.00000	4.70
	136 n-Hexane	57	3.480	3.480	(0.708)	19492	5.00000	4.19
	147 Methylcyclohexane	55	6.067	6.067	(1.074)	28658	5.00000	4.44
	141 Cyclohexane	56	4.916	4.916	(1.000)	21996	5.00000	5.35(M)
	138 Freon TF	101	2.449	2.449	(0.498)	14418	5.00000	5.96(M)

146	Methyl Acetate	43	2.806	2.806 (0.571)	18608	5.00000	5.10(M)
21	Vinyl Acetate	43	3.705	3.705 (0.754)	91606	10.0000	10.16(M)

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	26 2,2-Dichloropropane	77	4.305	4.305	(0.876)	29105	5.00000	5.40(M)
	44 Dibromomethane	93	6.202	6.202	(1.098)	14628	5.00000	5.10(M)
	91 Hexachlorobutadiene	225	12.083	12.083	(1.179)	20241	5.00000	5.69
	74 Bromobenzene	156	9.399	9.399	(0.917)	30438	5.00000	5.10
	76 2-Chlorotoluene	91	9.568	9.568	(0.933)	67567	5.00000	6.20
	77 4-Chlorotoluene	91	9.658	9.658	(0.942)	83683	5.00000	5.03
	82 p-Isopropyltoluene	119	10.232	10.232	(0.998)	84607	5.00000	4.82
	93 1,2,3-Trichlorobenzene	180	12.346	12.346	(1.204)	42719	5.00000	5.36
	148 tert-Butyl Alcohol	59	3.042	3.042	(0.619)	46486	100.000	83.47
	142 Tetrahydrofuran	42	4.650	4.650	(0.946)	8807	10.0000	9.65
M	94 1,2-Dichloroethylene (total)	96				37111	10.0000	
M	95 Xylenes (total)	106				108797	15.0000	

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.



Data File: \\NAHSTWS005\Target\chem\voa10.i\V221110.b\V111006.D
Date : 10-NOV-2022 14:56
Client ID: VSTD005
Sample Info: VSTD005;VSTD005;1;5;
Purge Volume: 5.0
Column phase: DB624

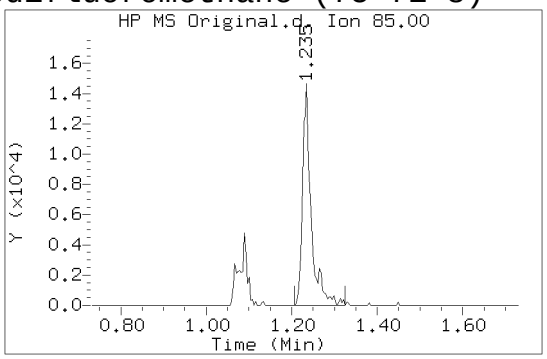
Instrument: voa10.i
Operator: FT
Column diameter: 0.18

Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111006.D
Inj Date : 10-NOV-2022 14:56
InstruID : voa10.i
LabSampID : VSTD005

Dichlorodifluoromethane (75-71-8)

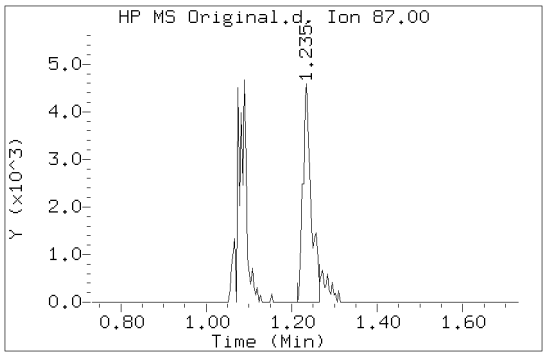
BEFORE

MASS
85
AREA
20865
HEIGHT
14652
17-Nov-2022
13:58
linh
pham



BEFORE

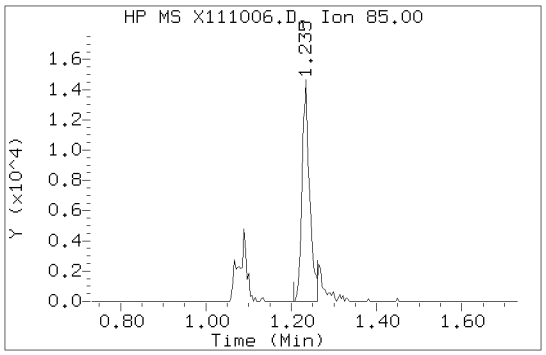
MASS
87
AREA
6337
HEIGHT
4591
17-Nov-2022
13:58
linh
pham



Reason Code:

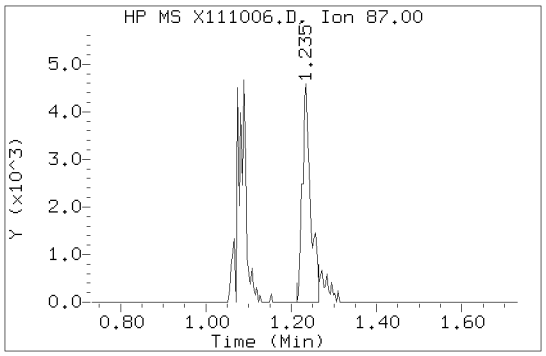
AFTER

MASS
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AREA
18361
HEIGHT
14652
17-Nov-2022
14:02
linh
pham



AFTER

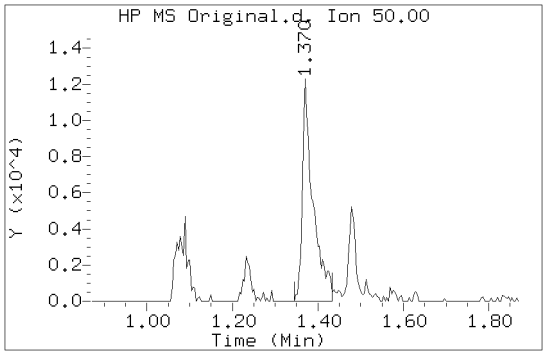
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AREA
6337
HEIGHT
4591
17-Nov-2022
14:02
linh
pham



Chloromethane (74-87-3)

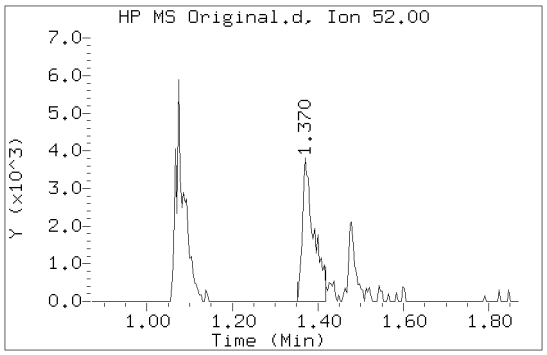
BEFORE

MASS
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AREA
21816
HEIGHT
12303
17-Nov-2022
13:58
linh
pham



BEFORE

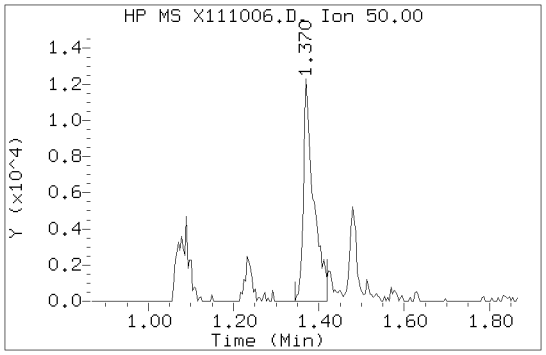
MASS
52
AREA
7195
HEIGHT
3813
17-Nov-2022
13:58
linh
pham



Reason Code:

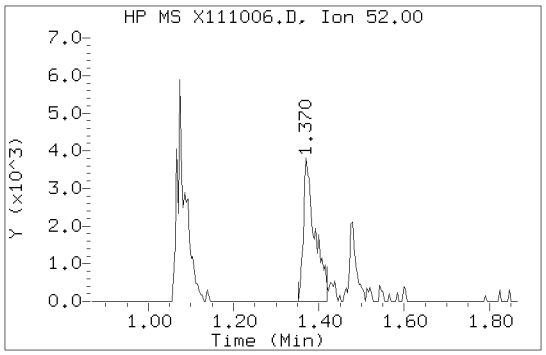
AFTER

MASS
50
AREA
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HEIGHT
12303
17-Nov-2022
14:02
linh
pham



AFTER

MASS
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AREA
7195
HEIGHT
3813
17-Nov-2022
14:02
linh
pham

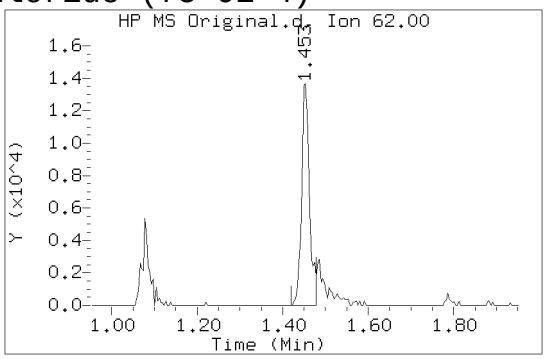


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Inj Date : 10-NOV-2022 14:56
InstruID : voa10.i
LabSampID : VSTD005

Vinyl Chloride (75-01-4)

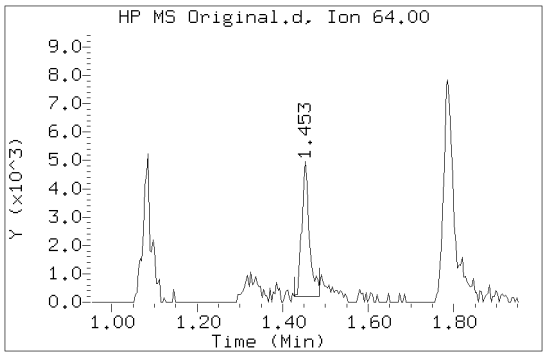
BEFORE

MASS
62
AREA
17995
HEIGHT
13665
17-Nov-2022
13:58
linh
pham



BEFORE

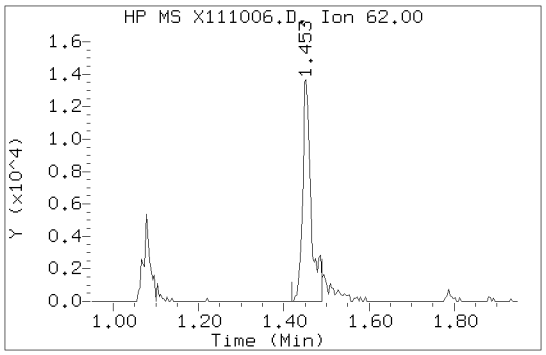
MASS
64
AREA
5965
HEIGHT
4746
17-Nov-2022
13:58
linh
pham



Reason Code:

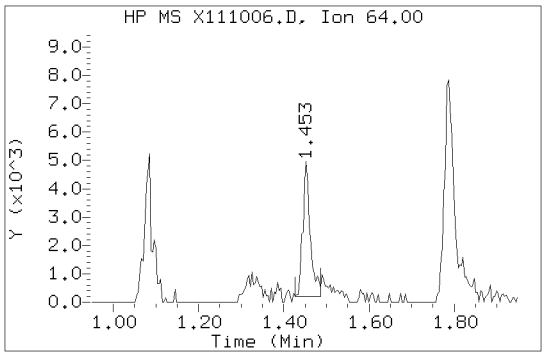
AFTER

MASS
62
AREA
19564
HEIGHT
13665
17-Nov-2022
14:02
linh
pham



AFTER

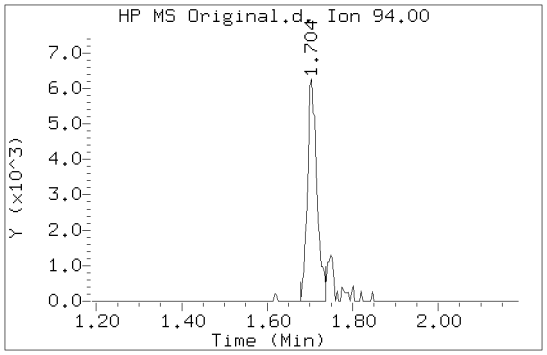
MASS
64
AREA
5965
HEIGHT
4746
17-Nov-2022
14:02
linh
pham



Bromomethane (74-83-9)

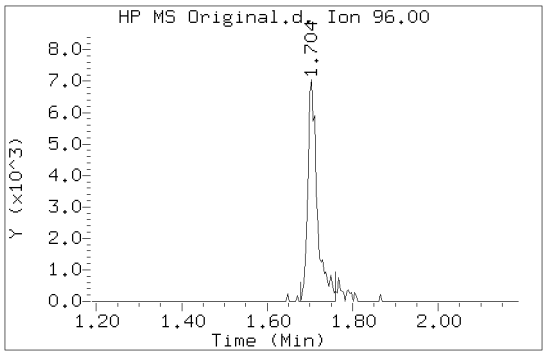
BEFORE

MASS
94
AREA
9729
HEIGHT
6267
17-Nov-2022
13:58
linh
pham



BEFORE

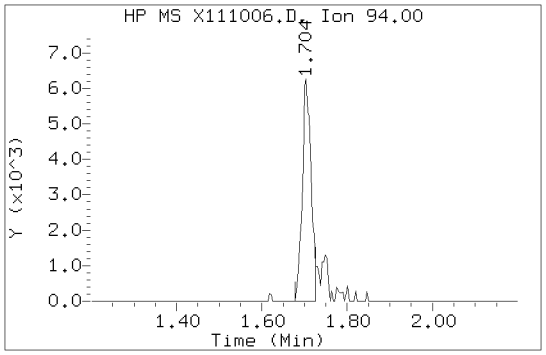
MASS
96
AREA
10945
HEIGHT
7047
17-Nov-2022
13:58
linh
pham



Reason Code:

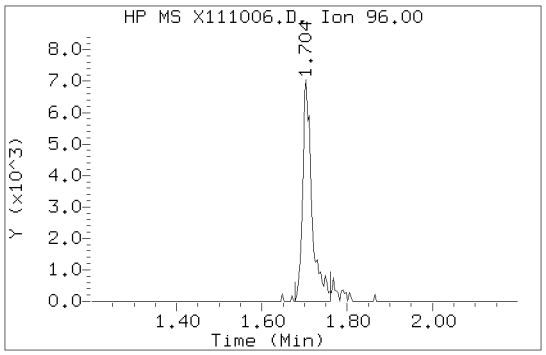
AFTER

MASS
94
AREA
9230
HEIGHT
6267
17-Nov-2022
14:02
linh
pham



AFTER

MASS
96
AREA
10945
HEIGHT
7047
17-Nov-2022
14:02
linh
pham

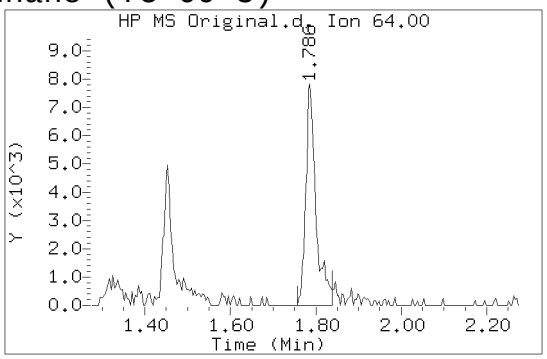


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Inj Date : 10-NOV-2022 14:56
InstruID : voa10.i
LabSampID : VSTD005

Chloroethane (75-00-3)

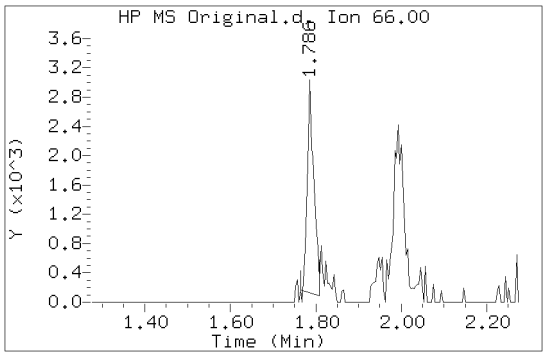
BEFORE

MASS
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AREA
13248
HEIGHT
7839
17-Nov-2022
13:58
linh
pham



BEFORE

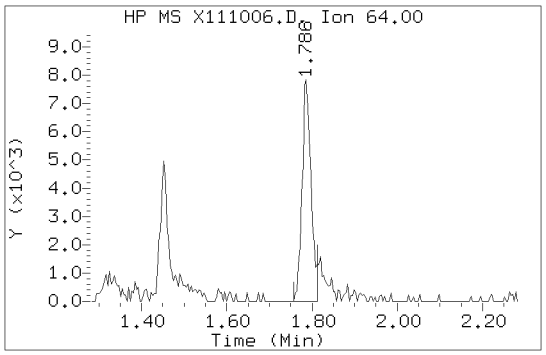
MASS
66
AREA
3176
HEIGHT
2908
17-Nov-2022
13:58
linh
pham



Reason Code:

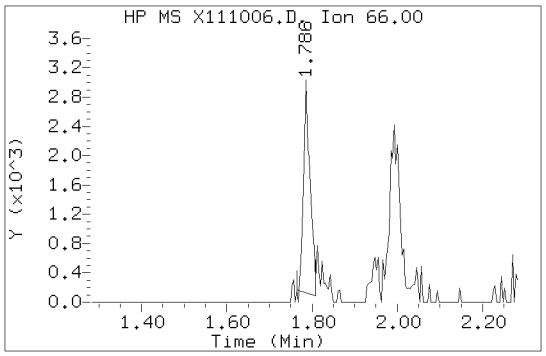
AFTER

MASS
64
AREA
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HEIGHT
7839
17-Nov-2022
14:02
linh
pham



AFTER

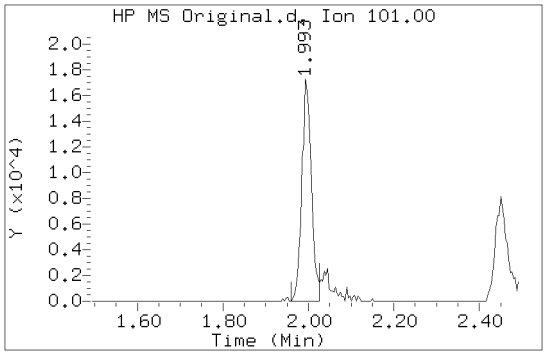
MASS
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AREA
3176
HEIGHT
2908
17-Nov-2022
14:02
linh
pham



Trichlorofluoromethane (75-69-4)

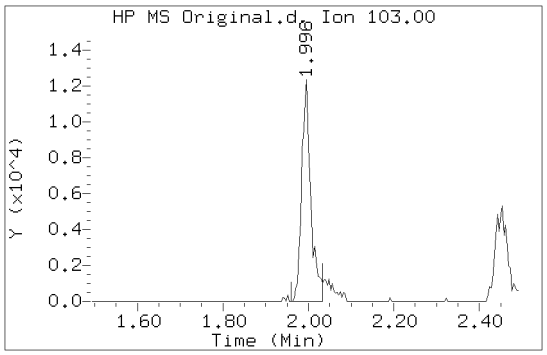
BEFORE

MASS
101
AREA
27685
HEIGHT
17280
17-Nov-2022
13:58
linh
pham



BEFORE

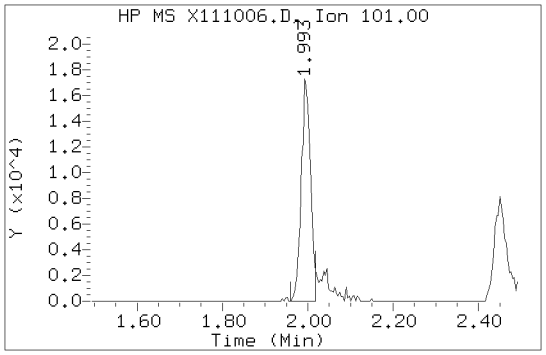
MASS
103
AREA
18886
HEIGHT
12338
17-Nov-2022
13:58
linh
pham



Reason Code:

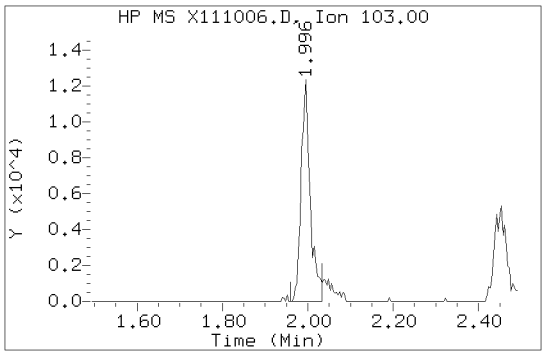
AFTER

MASS
101
AREA
26961
HEIGHT
17280
17-Nov-2022
14:02
linh
pham



AFTER

MASS
103
AREA
18886
HEIGHT
12338
17-Nov-2022
14:02
linh
pham



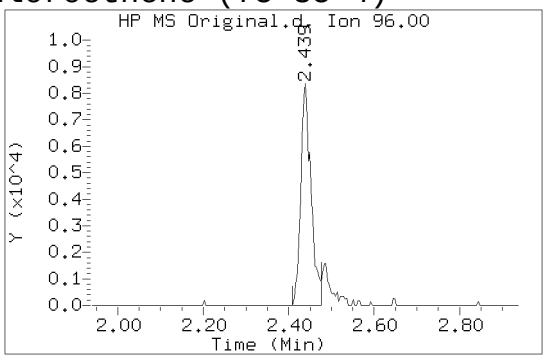
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Inj Date : 10-NOV-2022 14:56
InstruID : voa10.i
LabSampID : VSTD005

1,1-Dichloroethene (75-35-4)

Reason Code:

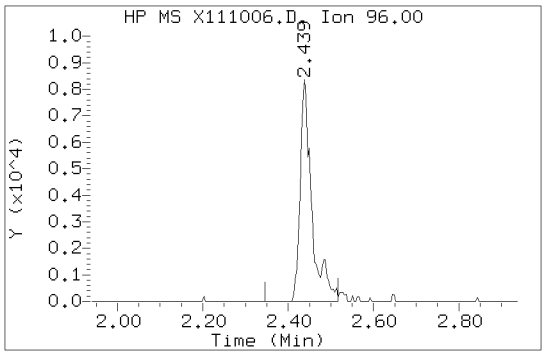
BEFORE

MASS
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HEIGHT
8360
17-Nov-2022
13:58
linh
pham



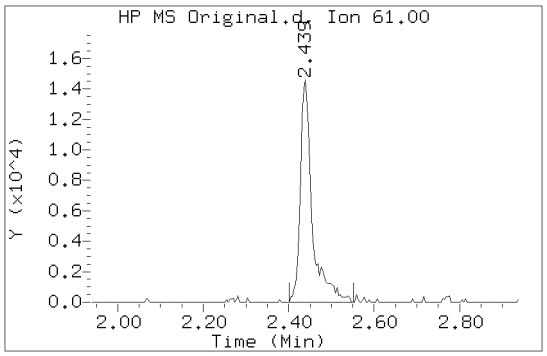
AFTER

MASS
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AREA
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8360
17-Nov-2022
14:02
linh
pham



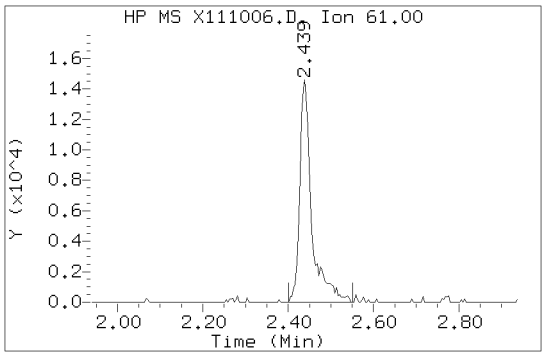
BEFORE

MASS
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AREA
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HEIGHT
14598
17-Nov-2022
13:58
linh
pham



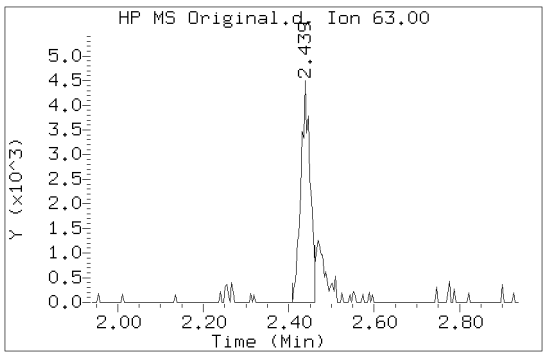
AFTER

MASS
61
AREA
29211
HEIGHT
14598
17-Nov-2022
14:02
linh
pham



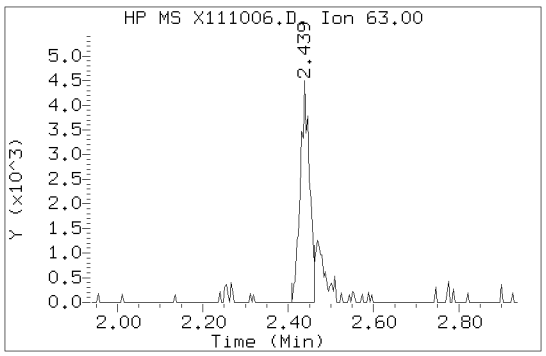
BEFORE

MASS
63
AREA
6980
HEIGHT
4500
17-Nov-2022
13:58
linh
pham



AFTER

MASS
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AREA
6980
HEIGHT
4500
17-Nov-2022
14:02
linh
pham

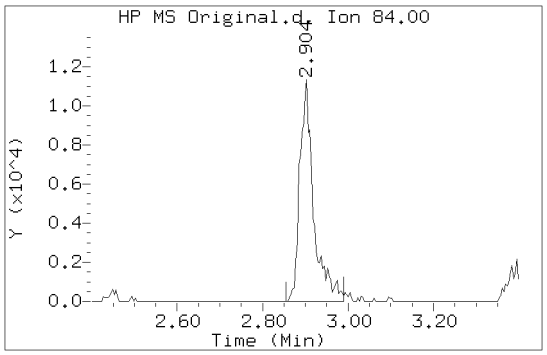


Methylene Chloride (75-09-2)

Reason Code:

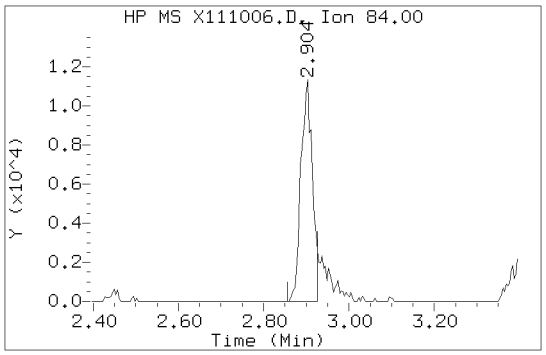
BEFORE

MASS
84
AREA
25990
HEIGHT
11345
17-Nov-2022
13:58
linh
pham



AFTER

MASS
84
AREA
21548
HEIGHT
11345
17-Nov-2022
14:02
linh
pham

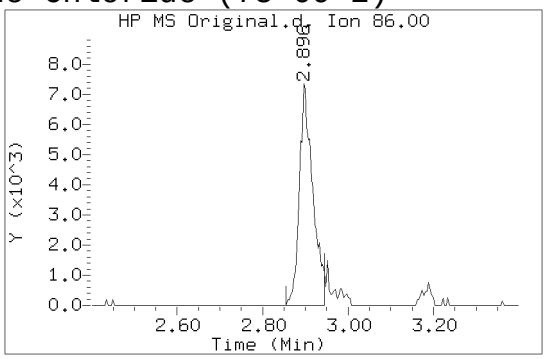


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Inj Date : 10-NOV-2022 14:56
InstruID : voa10.i
LabSampID : VSTD005

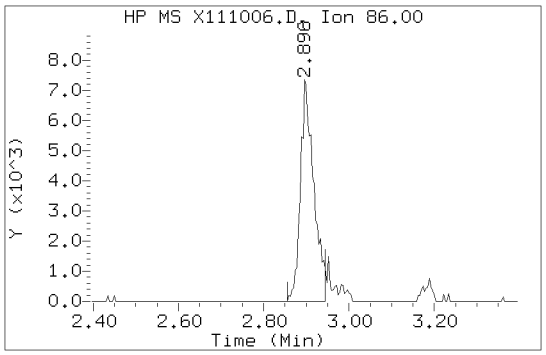
Methylene Chloride (75-09-2)

Reason Code:

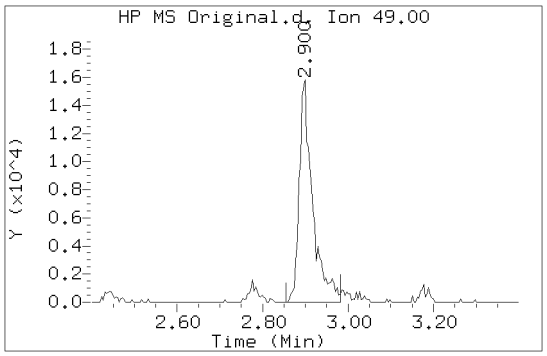
BEFORE
MASS
86
AREA
16304
HEIGHT
7354
17-Nov-2022
13:58
linh
pham



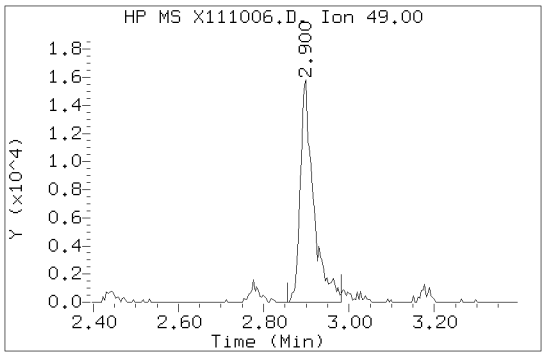
AFTER
MASS
86
AREA
16304
HEIGHT
7354
17-Nov-2022
14:02
linh
pham



BEFORE
MASS
49
AREA
35009
HEIGHT
15813
17-Nov-2022
13:58
linh
pham



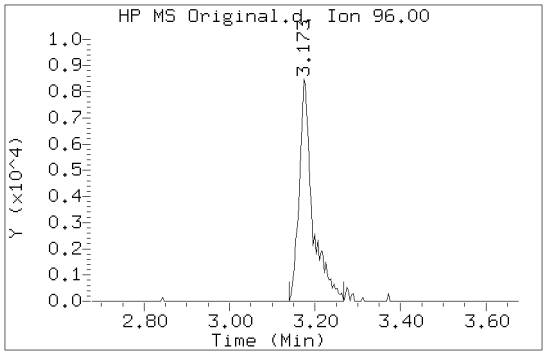
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15813
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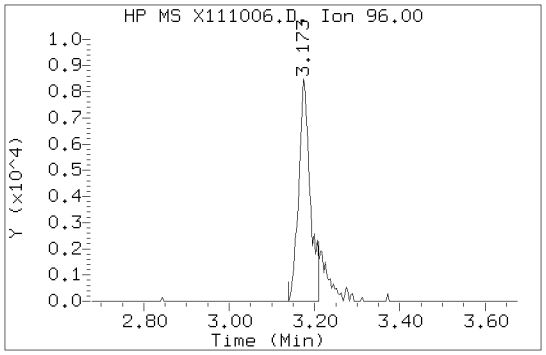
trans-1,2-Dichloroethene (156-60-5)

Reason Code:

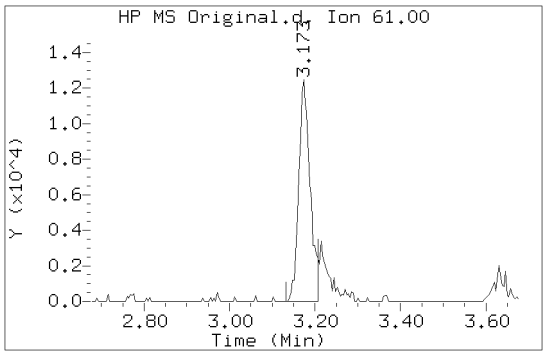
BEFORE
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18893
HEIGHT
8488
17-Nov-2022
13:58
linh
pham



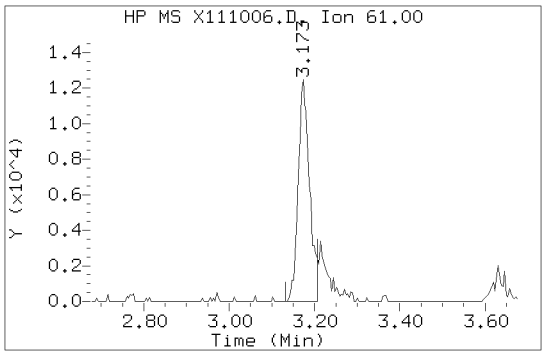
AFTER
MASS
96
AREA
16193
HEIGHT
8488
17-Nov-2022
14:02
linh
pham



BEFORE
MASS
61
AREA
23541
HEIGHT
12474
17-Nov-2022
13:58
linh
pham



AFTER
MASS
61
AREA
23541
HEIGHT
12474
17-Nov-2022
14:02
linh
pham



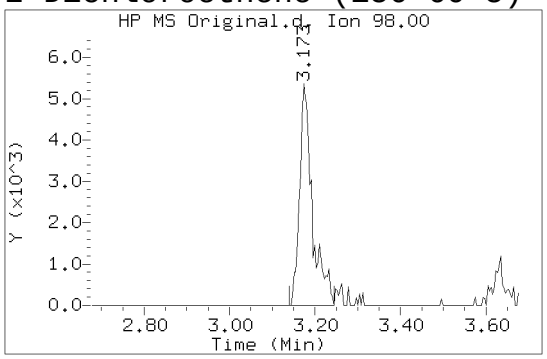
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Inj Date : 10-NOV-2022 14:56
InstruID : voa10.i
LabSampID : VSTD005

trans-1,2-Dichloroethene (156-60-5)

Reason Code:

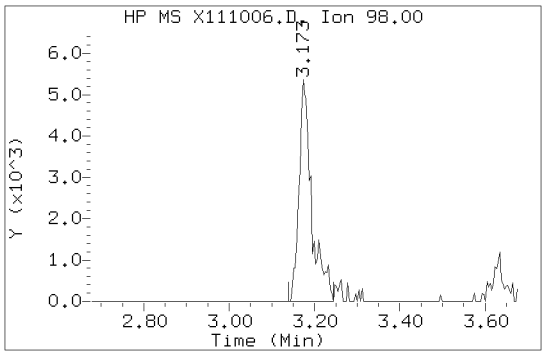
BEFORE

MASS
98
AREA
11270
HEIGHT
5363
17-Nov-2022
13:58
linh
pham



AFTER

MASS
98
AREA
11270
HEIGHT
5363
17-Nov-2022
14:02
linh
pham

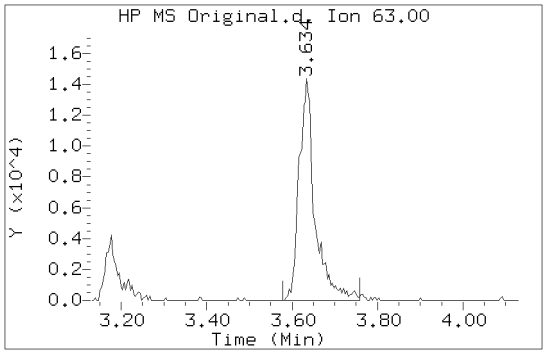


1,1-Dichloroethane (75-34-3)

Reason Code:

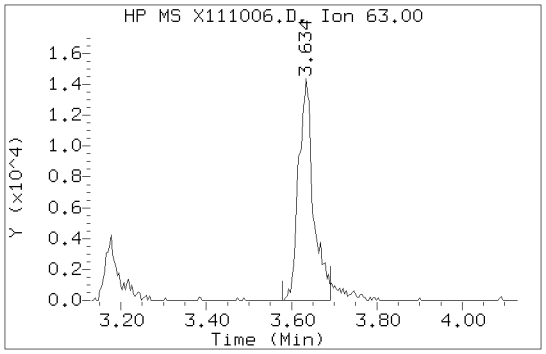
BEFORE

MASS
63
AREA
37389
HEIGHT
14372
17-Nov-2022
13:58
linh
pham



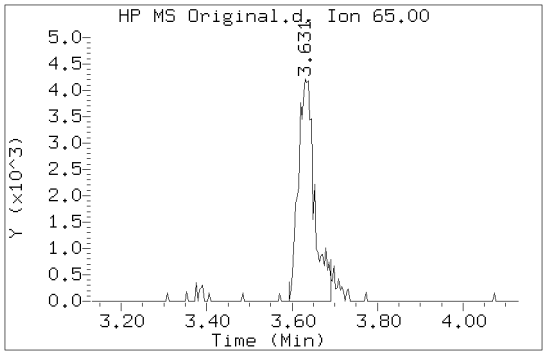
AFTER

MASS
63
AREA
35092
HEIGHT
14372
17-Nov-2022
14:02
linh
pham



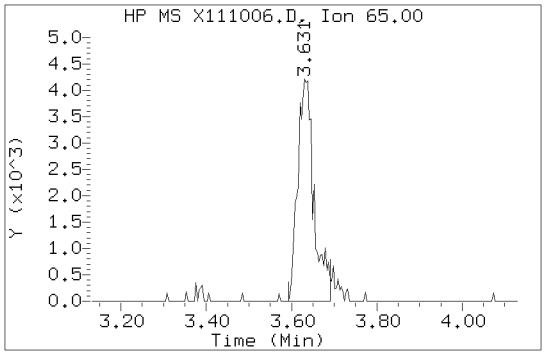
BEFORE

MASS
65
AREA
11296
HEIGHT
4215
17-Nov-2022
13:58
linh
pham



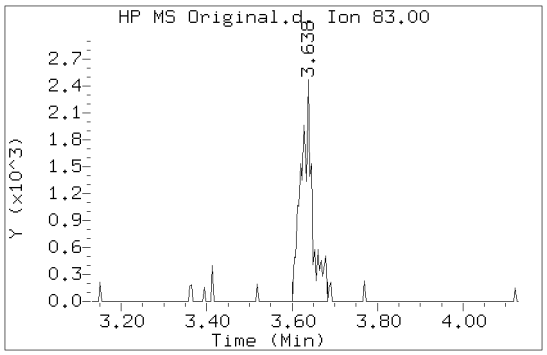
AFTER

MASS
65
AREA
11296
HEIGHT
4215
17-Nov-2022
14:02
linh
pham



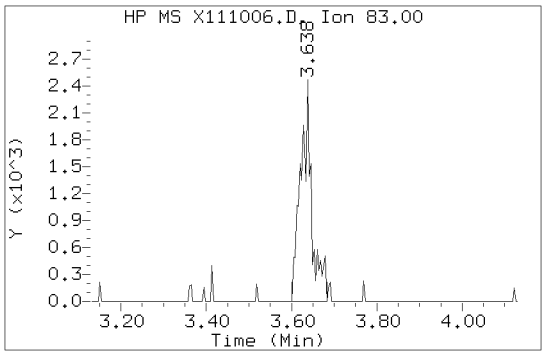
BEFORE

MASS
83
AREA
4533
HEIGHT
2468
17-Nov-2022
13:58
linh
pham



AFTER

MASS
83
AREA
4533
HEIGHT
2468
17-Nov-2022
14:02
linh
pham



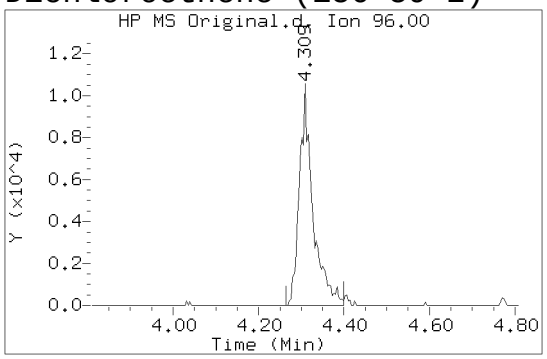
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Inj Date : 10-NOV-2022 14:56
InstruID : voa10.i
LabSampID : VSTD005

cis-1,2-Dichloroethene (156-59-2)

Reason Code:

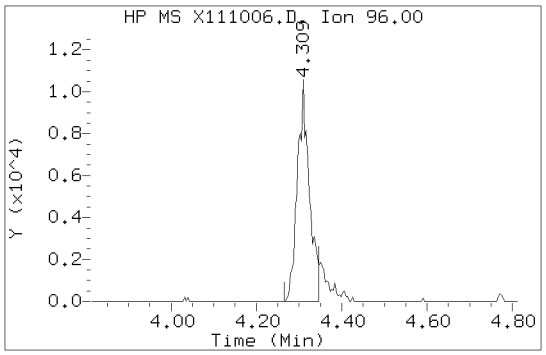
BEFORE

MASS
96
AREA
23499
HEIGHT
10573
17-Nov-2022
13:58
linh
pham



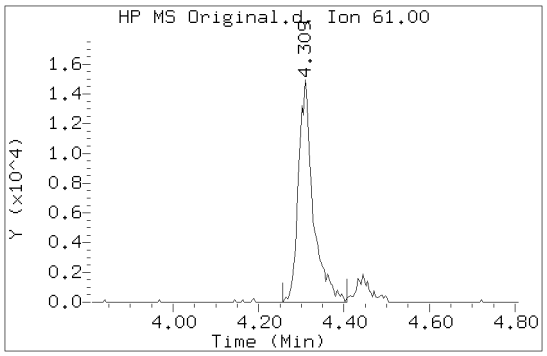
AFTER

MASS
96
AREA
20918
HEIGHT
10573
17-Nov-2022
14:02
linh
pham



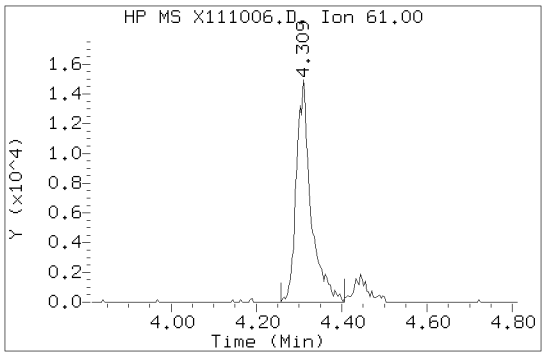
BEFORE

MASS
61
AREA
36252
HEIGHT
14941
17-Nov-2022
13:58
linh
pham



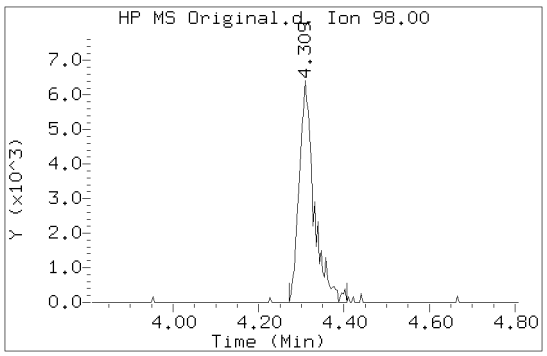
AFTER

MASS
61
AREA
36252
HEIGHT
14941
17-Nov-2022
14:02
linh
pham



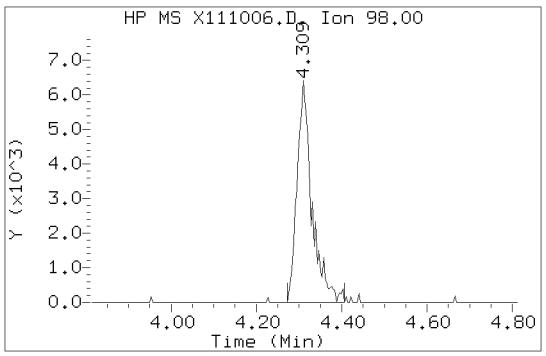
BEFORE

MASS
98
AREA
15710
HEIGHT
6412
17-Nov-2022
13:58
linh
pham



AFTER

MASS
98
AREA
15710
HEIGHT
6412
17-Nov-2022
14:02
linh
pham

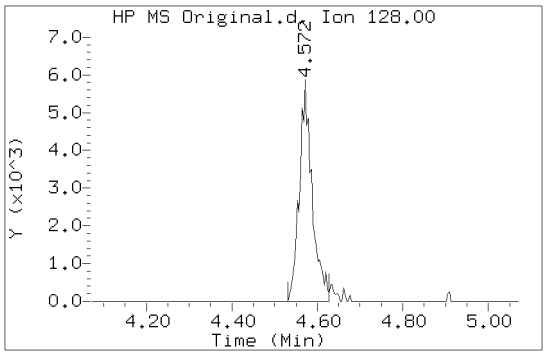


Bromochloromethane (74-97-5)

Reason Code:

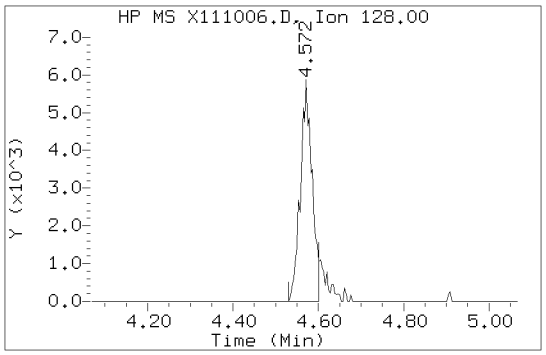
BEFORE

MASS
128
AREA
12367
HEIGHT
5873
17-Nov-2022
13:58
linh
pham



AFTER

MASS
128
AREA
11352
HEIGHT
5873
17-Nov-2022
14:02
linh
pham

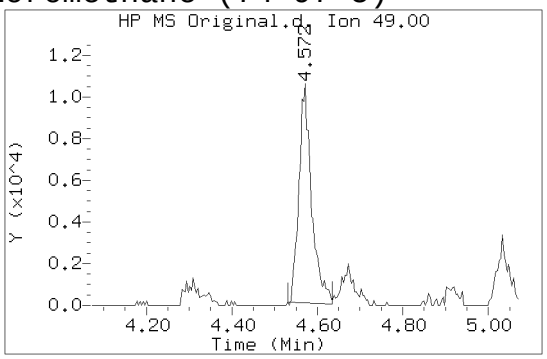


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Inj Date : 10-NOV-2022 14:56
InstruID : voa10.i
LabSampID : VSTD005

Bromochloromethane (74-97-5)

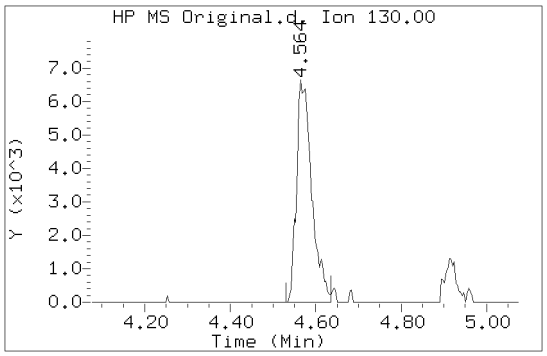
BEFORE

MASS
49
AREA
22007
HEIGHT
10520
17-Nov-2022
13:58
linh
pham



BEFORE

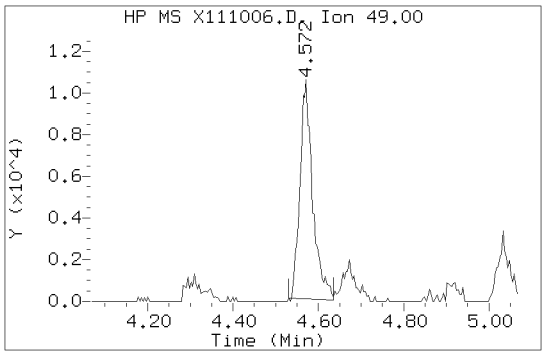
MASS
130
AREA
16667
HEIGHT
6646
17-Nov-2022
13:58
linh
pham



Reason Code:

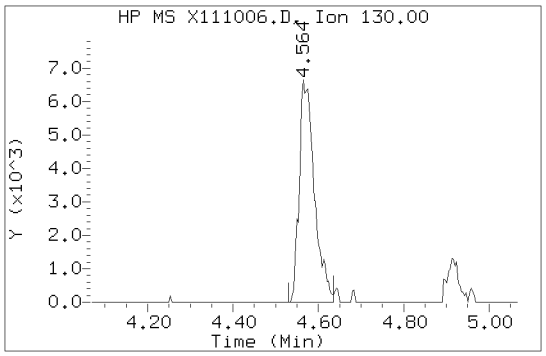
AFTER

MASS
49
AREA
22007
HEIGHT
10520
17-Nov-2022
14:02
linh
pham



AFTER

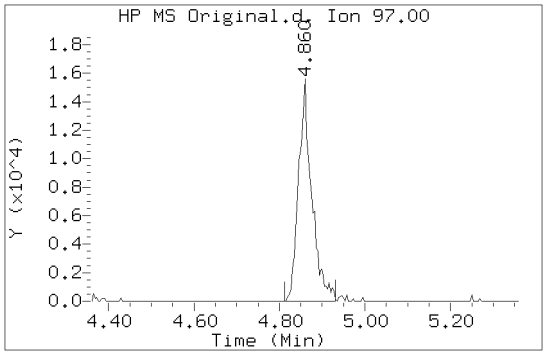
MASS
130
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16667
HEIGHT
6646
17-Nov-2022
14:02
linh
pham



1,1,1-Trichloroethane (71-55-6)

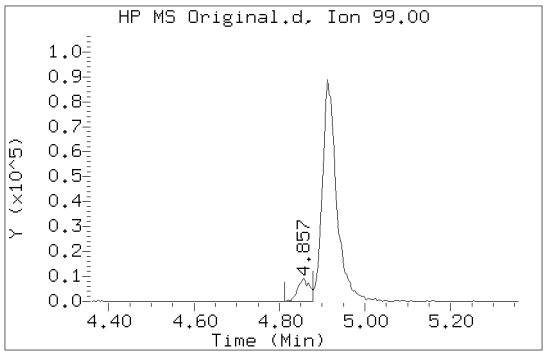
BEFORE

MASS
97
AREA
34152
HEIGHT
15600
17-Nov-2022
13:58
linh
pham



BEFORE

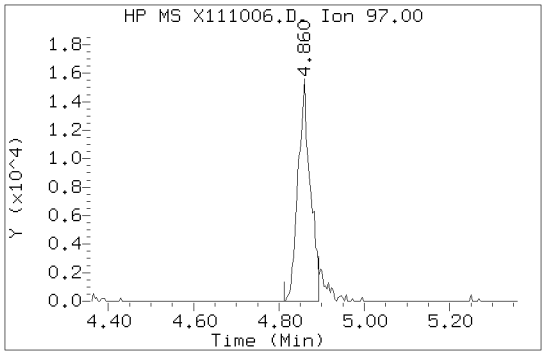
MASS
99
AREA
18296
HEIGHT
9274
17-Nov-2022
13:58
linh
pham



Reason Code:

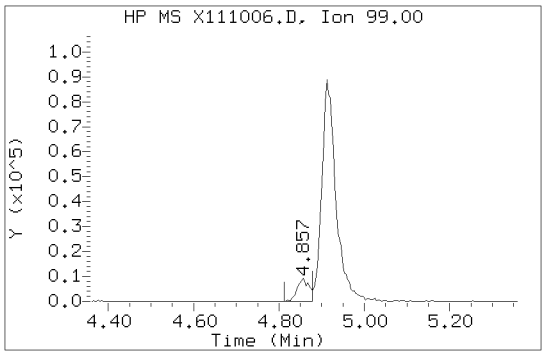
AFTER

MASS
97
AREA
31665
HEIGHT
15600
17-Nov-2022
14:02
linh
pham



AFTER

MASS
99
AREA
18296
HEIGHT
9274
17-Nov-2022
14:02
linh
pham



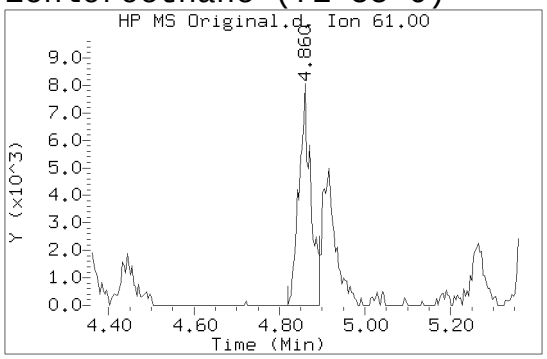
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Inj Date : 10-NOV-2022 14:56
InstruID : voa10.i
LabSampID : VSTD005

1,1,1-Trichloroethane (71-55-6)

Reason Code:

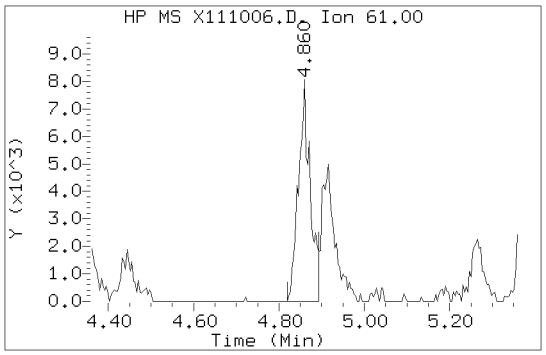
BEFORE

MASS
61
AREA
15687
HEIGHT
8064
17-Nov-2022
13:58
linh
pham



AFTER

MASS
61
AREA
15687
HEIGHT
8064
17-Nov-2022
14:02
linh
pham

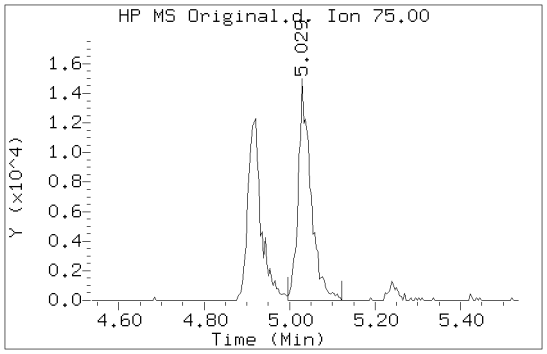


1,1-Dichloropropene (563-58-6)

Reason Code:

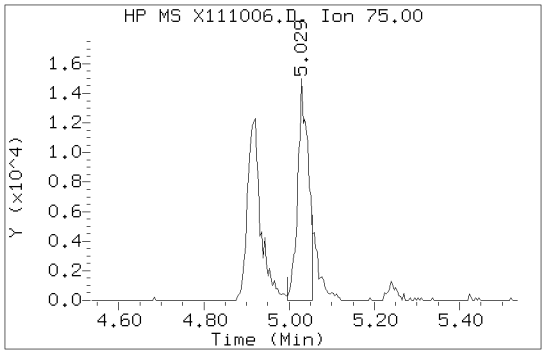
BEFORE

MASS
75
AREA
31172
HEIGHT
14990
17-Nov-2022
13:58
linh
pham



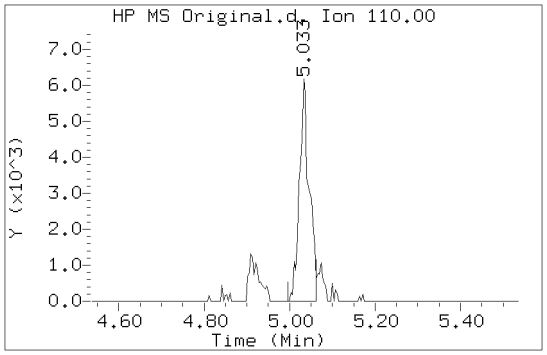
AFTER

MASS
75
AREA
26249
HEIGHT
14990
17-Nov-2022
14:02
linh
pham



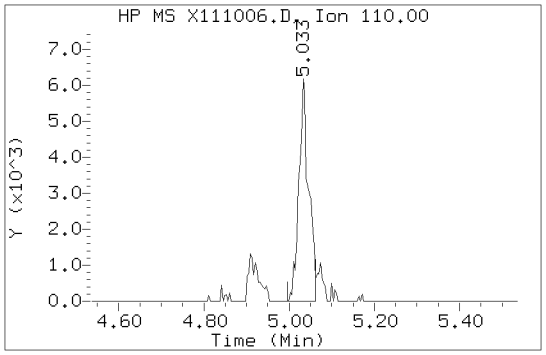
BEFORE

MASS
110
AREA
10027
HEIGHT
6174
17-Nov-2022
13:58
linh
pham



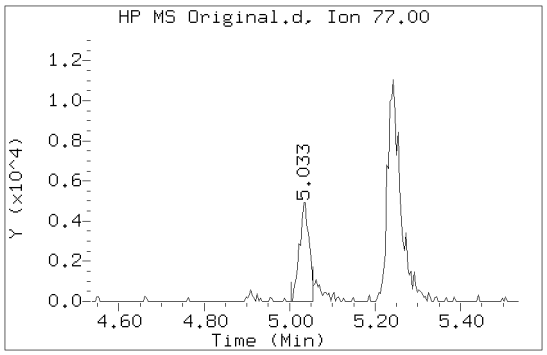
AFTER

MASS
110
AREA
10027
HEIGHT
6174
17-Nov-2022
14:02
linh
pham



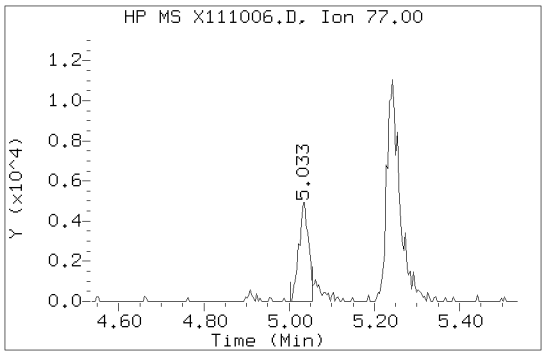
BEFORE

MASS
77
AREA
8004
HEIGHT
4934
17-Nov-2022
13:58
linh
pham



AFTER

MASS
77
AREA
8004
HEIGHT
4934
17-Nov-2022
14:02
linh
pham

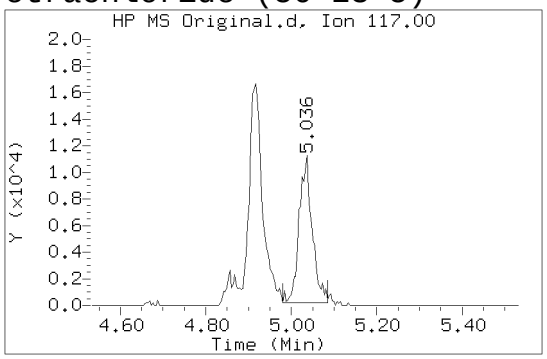


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InstruID : voa10.i
LabSampID : VSTD005

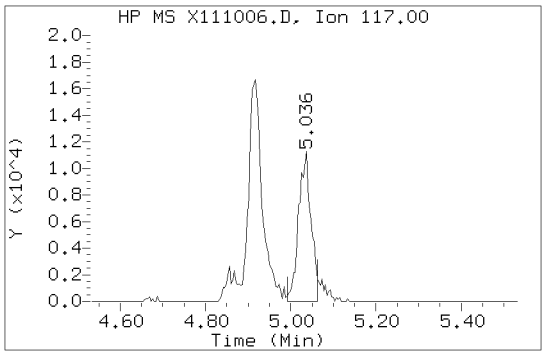
Carbon Tetrachloride (56-23-5)

Reason Code:

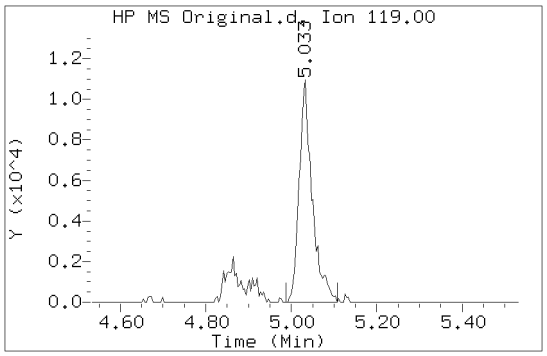
BEFORE
MASS
117
AREA
23854
HEIGHT
11116
17-Nov-2022
13:58
linh
pham



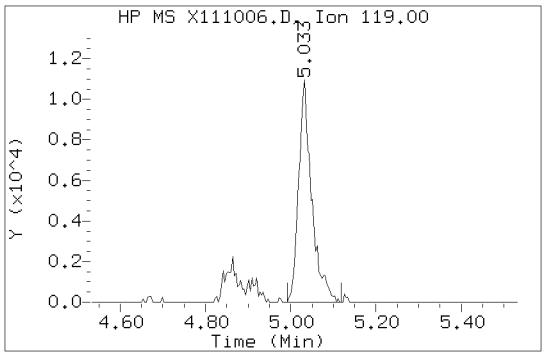
AFTER
MASS
117
AREA
23109
HEIGHT
11291
17-Nov-2022
14:02
linh
pham



BEFORE
MASS
119
AREA
23539
HEIGHT
10955
17-Nov-2022
13:58
linh
pham



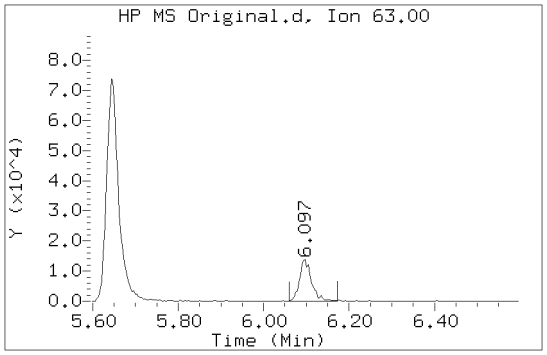
AFTER
MASS
119
AREA
23582
HEIGHT
10955
17-Nov-2022
14:02
linh
pham



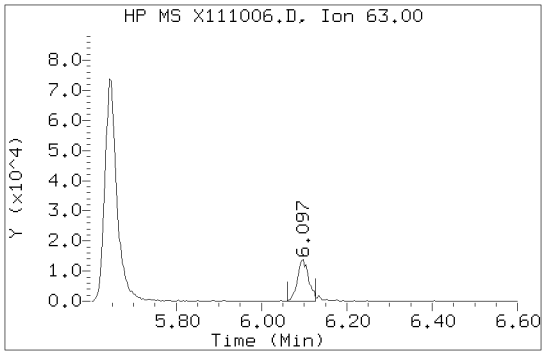
1,2-Dichloropropane (78-87-5)

Reason Code:

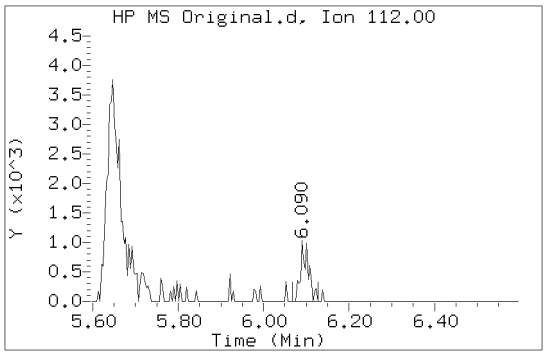
BEFORE
MASS
63
AREA
27453
HEIGHT
13828
17-Nov-2022
13:58
linh
pham



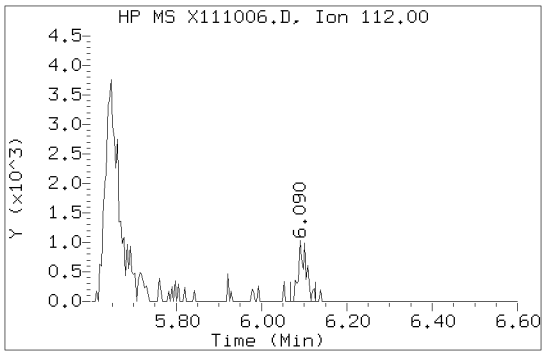
AFTER
MASS
63
AREA
25801
HEIGHT
13828
17-Nov-2022
14:02
linh
pham



BEFORE
MASS
112
AREA
1345
HEIGHT
1034
17-Nov-2022
13:58
linh
pham



AFTER
MASS
112
AREA
1345
HEIGHT
1034
17-Nov-2022
14:02
linh
pham



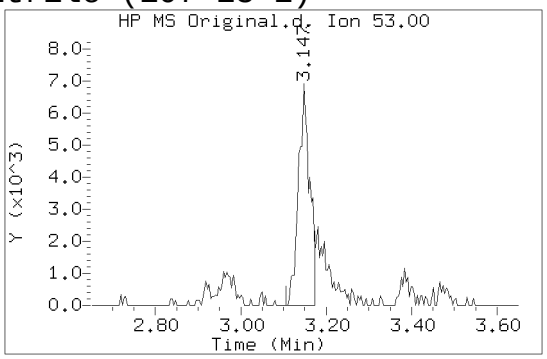
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Inj Date : 10-NOV-2022 14:56
InstruID : voa10.i
LabSampID : VSTD005

Acrylonitrile (107-13-1)

Reason Code:

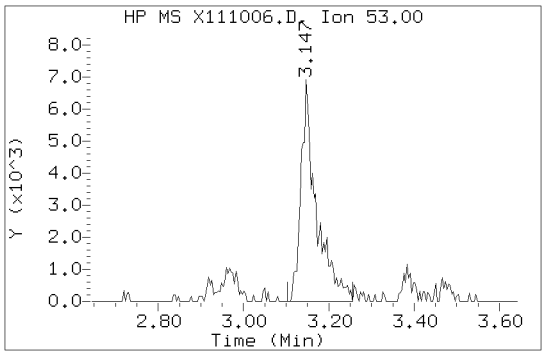
BEFORE

MASS
53
AREA
12750
HEIGHT
6916
17-Nov-2022
13:58
linh
pham



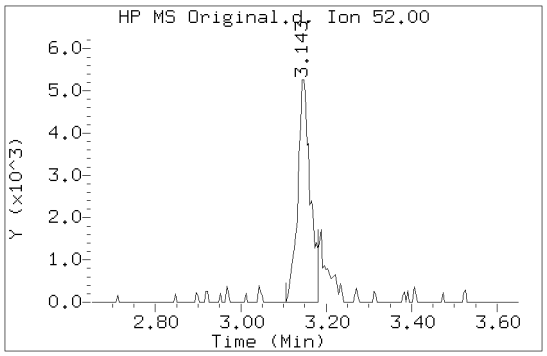
AFTER

MASS
53
AREA
17495
HEIGHT
6916
17-Nov-2022
14:02
linh
pham



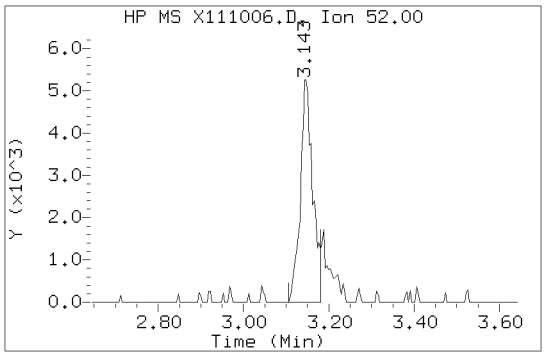
BEFORE

MASS
52
AREA
10880
HEIGHT
5258
17-Nov-2022
13:58
linh
pham



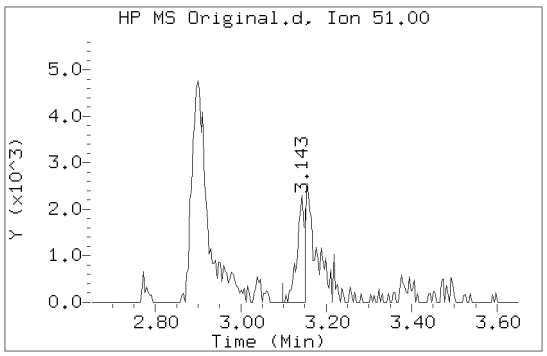
AFTER

MASS
52
AREA
10880
HEIGHT
5258
17-Nov-2022
14:02
linh
pham



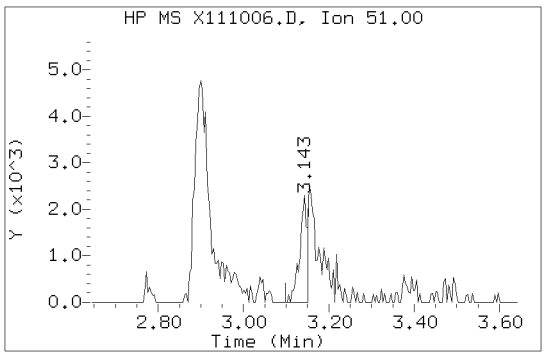
BEFORE

MASS
51
AREA
2880
HEIGHT
2298
17-Nov-2022
13:58
linh
pham



AFTER

MASS
51
AREA
2880
HEIGHT
2298
17-Nov-2022
14:02
linh
pham

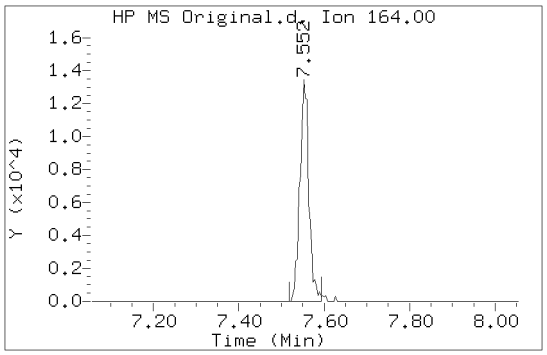


Tetrachloroethene (127-18-4)

Reason Code:

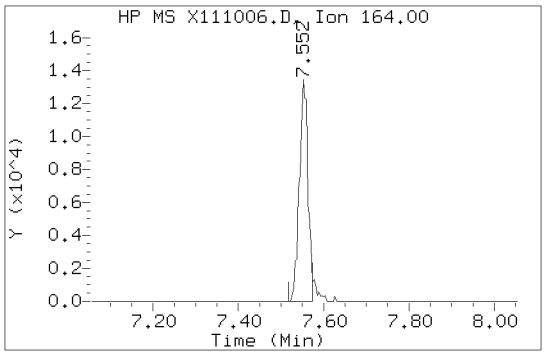
BEFORE

MASS
164
AREA
19902
HEIGHT
13448
17-Nov-2022
13:58
linh
pham



AFTER

MASS
164
AREA
19101
HEIGHT
13448
17-Nov-2022
14:02
linh
pham



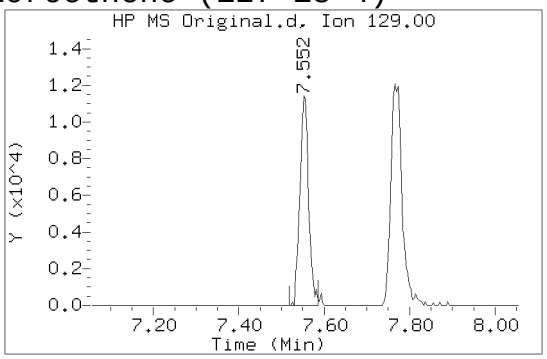
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111006.D
Inj Date : 10-NOV-2022 14:56
InstruID : voa10.i
LabSampID : VSTD005

Tetrachloroethene (127-18-4)

Reason Code:

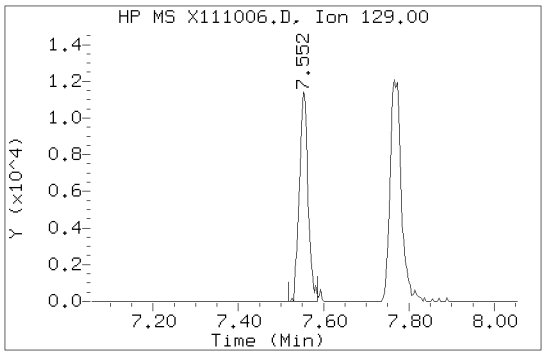
BEFORE

MASS
129
AREA
16528
HEIGHT
11422
17-Nov-2022
13:58
linh
pham



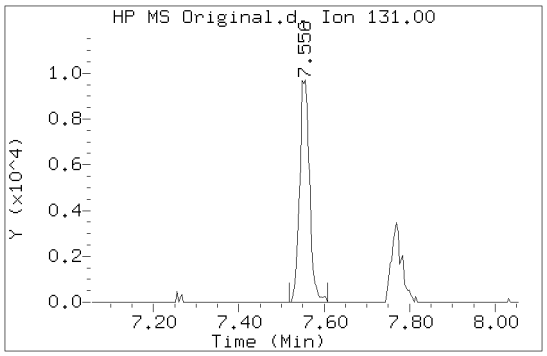
AFTER

MASS
129
AREA
16528
HEIGHT
11422
17-Nov-2022
14:02
linh
pham



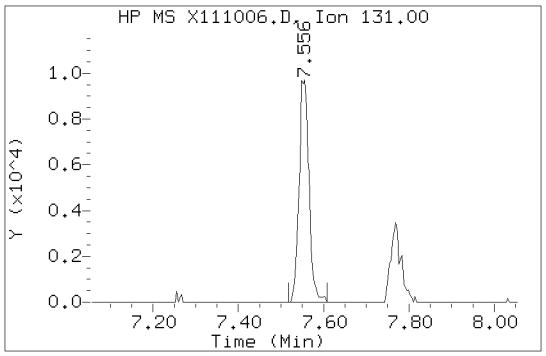
BEFORE

MASS
131
AREA
16023
HEIGHT
9709
17-Nov-2022
13:58
linh
pham



AFTER

MASS
131
AREA
16023
HEIGHT
9709
17-Nov-2022
14:02
linh
pham

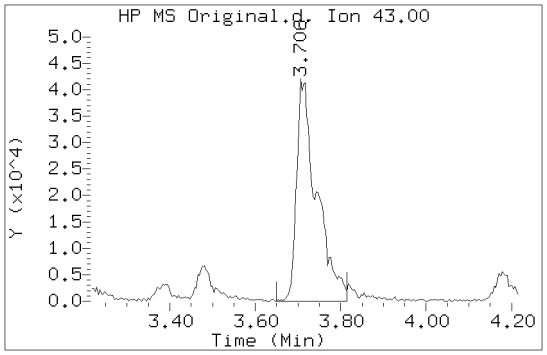


Vinyl Acetate (108-05-4)

Reason Code:

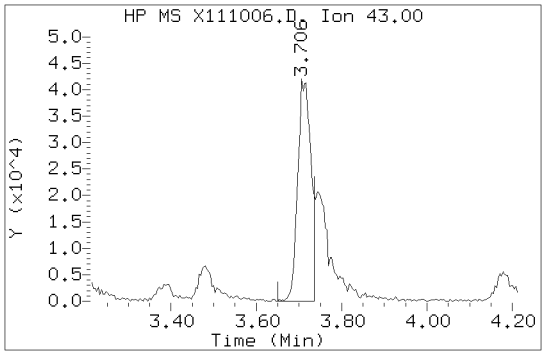
BEFORE

MASS
43
AREA
138604
HEIGHT
42024
17-Nov-2022
13:58
linh
pham



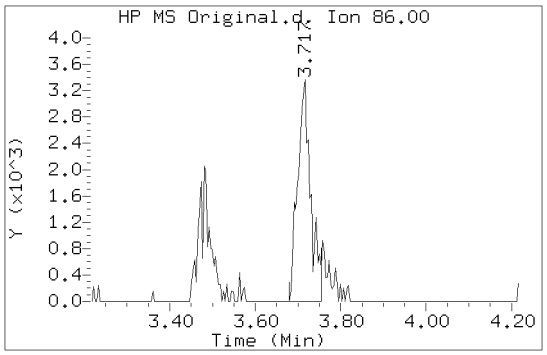
AFTER

MASS
43
AREA
91606
HEIGHT
42024
17-Nov-2022
14:02
linh
pham



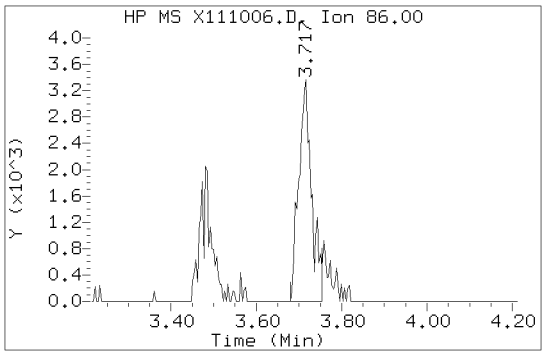
BEFORE

MASS
86
AREA
7221
HEIGHT
3367
17-Nov-2022
13:58
linh
pham



AFTER

MASS
86
AREA
7221
HEIGHT
3367
17-Nov-2022
14:02
linh
pham



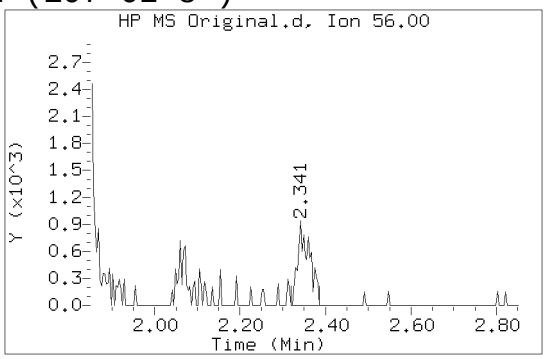
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111006.D
Inj Date : 10-NOV-2022 14:56
InstruID : voa10.i
LabSampID : VSTD005

Acrolein (107-02-8)

Reason Code:

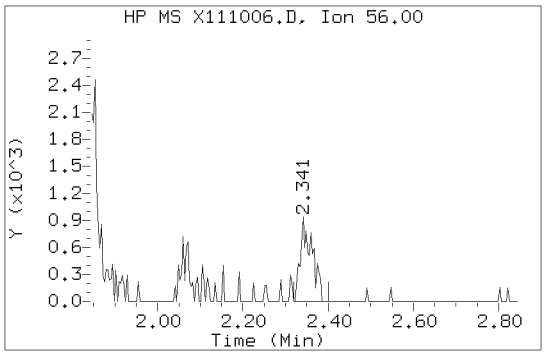
BEFORE

MASS
56
AREA
1818
HEIGHT
942
17-Nov-2022
13:58
linh
pham



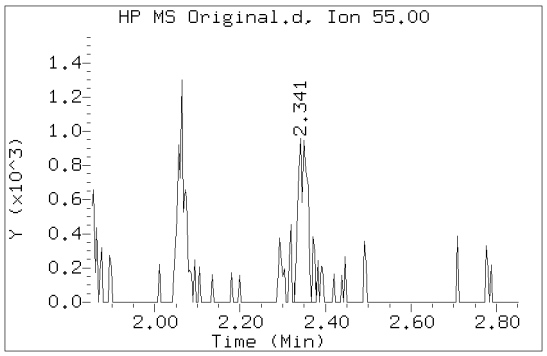
AFTER

MASS
56
AREA
1818
HEIGHT
942
17-Nov-2022
14:02
linh
pham



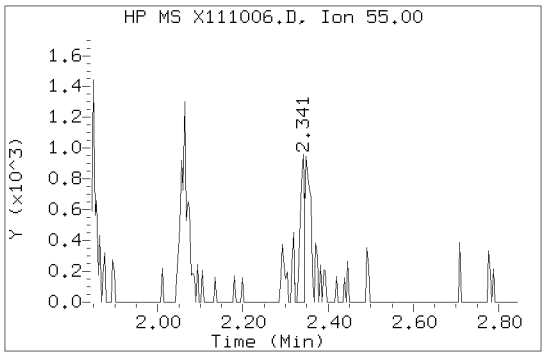
BEFORE

MASS
55
AREA
1589
HEIGHT
959
17-Nov-2022
13:58
linh
pham



AFTER

MASS
55
AREA
677
HEIGHT
959
17-Nov-2022
14:02
linh
pham

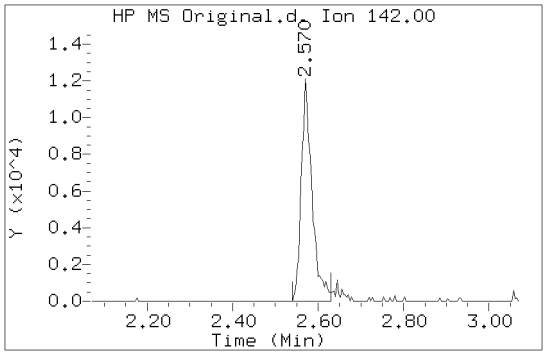


Iodomethane (74-88-4)

Reason Code:

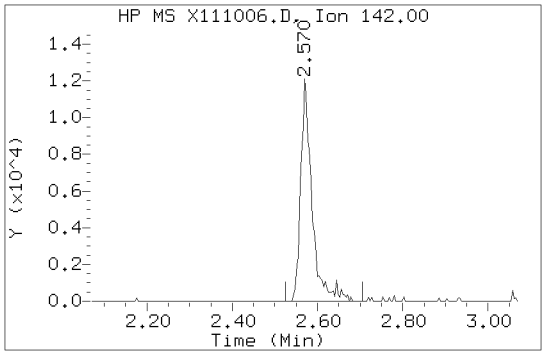
BEFORE

MASS
142
AREA
21622
HEIGHT
12107
17-Nov-2022
13:58
linh
pham



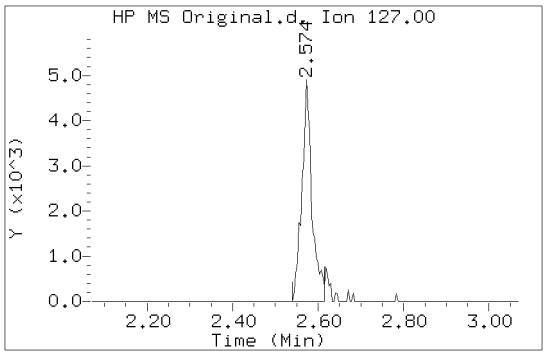
AFTER

MASS
142
AREA
22802
HEIGHT
12107
17-Nov-2022
14:02
linh
pham



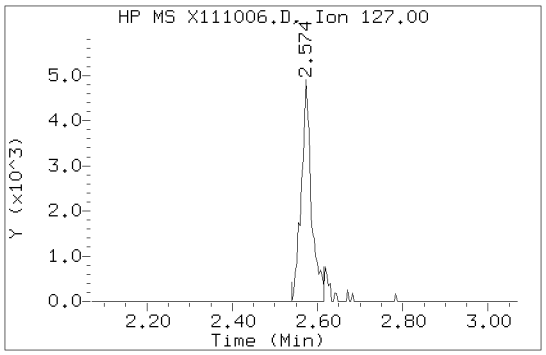
BEFORE

MASS
127
AREA
8239
HEIGHT
4908
17-Nov-2022
13:58
linh
pham



AFTER

MASS
127
AREA
8239
HEIGHT
4908
17-Nov-2022
14:02
linh
pham



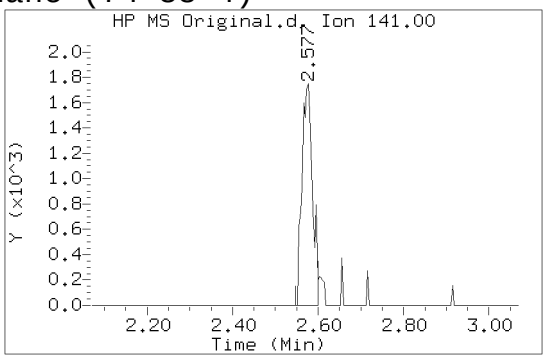
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Inj Date : 10-NOV-2022 14:56
InstruID : voa10.i
LabSampID : VSTD005

Iodomethane (74-88-4)

Reason Code:

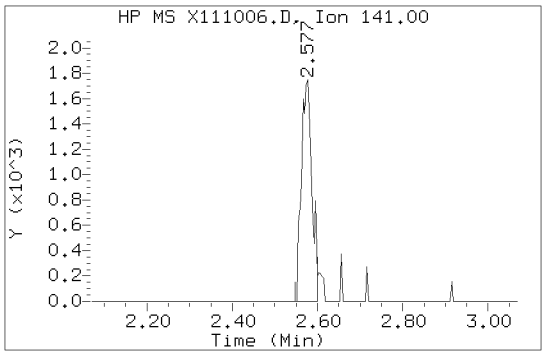
BEFORE

MASS
141
AREA
3057
HEIGHT
1749
17-Nov-2022
13:58
linh
pham



AFTER

MASS
141
AREA
3057
HEIGHT
1749
17-Nov-2022
14:02
linh
pham

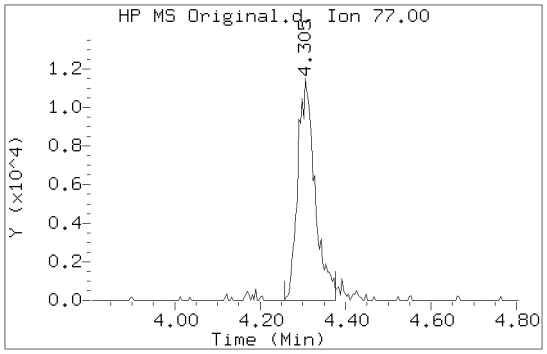


2,2-Dichloropropane (594-20-7)

Reason Code:

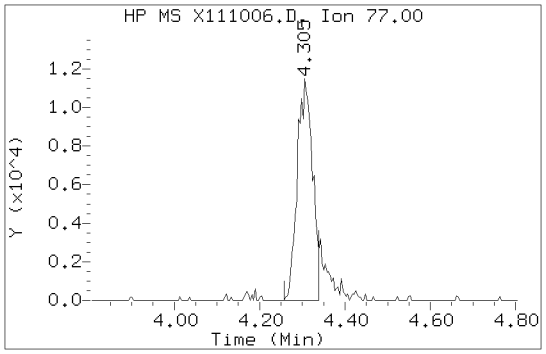
BEFORE

MASS
77
AREA
32570
HEIGHT
11490
17-Nov-2022
13:58
linh
pham



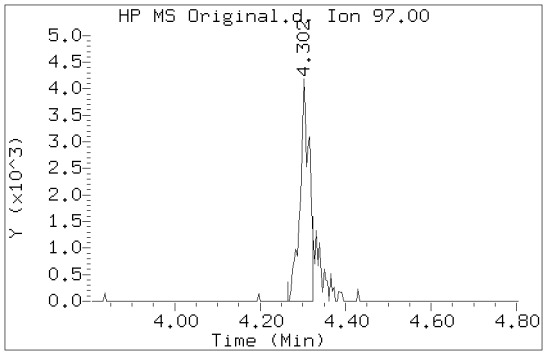
AFTER

MASS
77
AREA
29105
HEIGHT
11490
17-Nov-2022
14:02
linh
pham



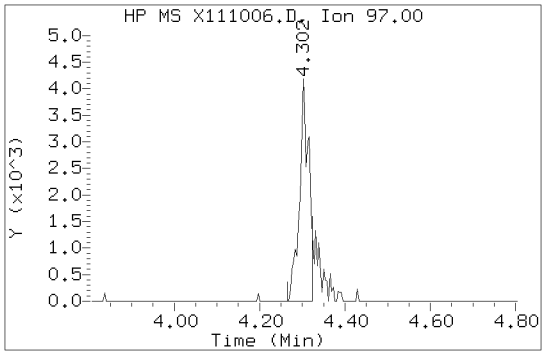
BEFORE

MASS
97
AREA
6528
HEIGHT
4184
17-Nov-2022
13:58
linh
pham



AFTER

MASS
97
AREA
6528
HEIGHT
4184
17-Nov-2022
14:02
linh
pham

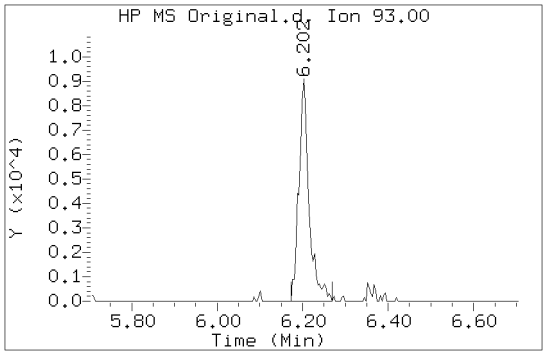


Dibromomethane (74-95-3)

Reason Code:

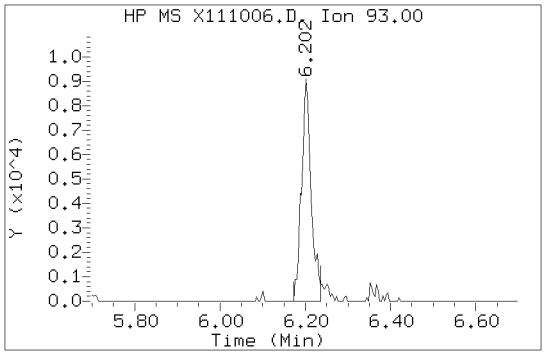
BEFORE

MASS
93
AREA
15468
HEIGHT
9094
17-Nov-2022
13:58
linh
pham



AFTER

MASS
93
AREA
14628
HEIGHT
9094
17-Nov-2022
14:02
linh
pham



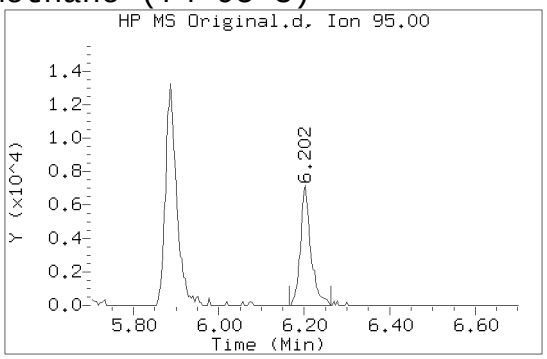
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111006.D
Inj Date : 10-NOV-2022 14:56
InstruID : voa10.i
LabSampID : VSTD005

Dibromomethane (74-95-3)

Reason Code:

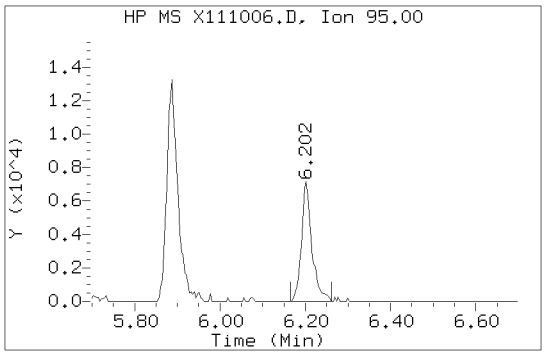
BEFORE

MASS
95
AREA
12446
HEIGHT
7150
17-Nov-2022
13:58
linh
pham



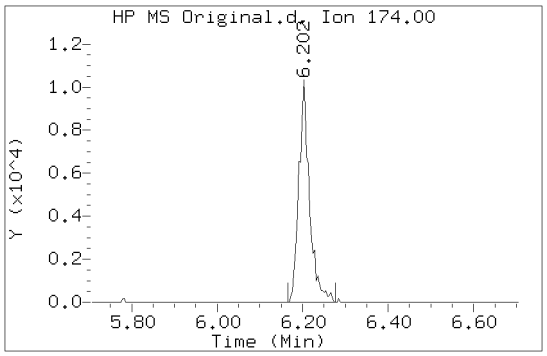
AFTER

MASS
95
AREA
12446
HEIGHT
7150
17-Nov-2022
14:02
linh
pham



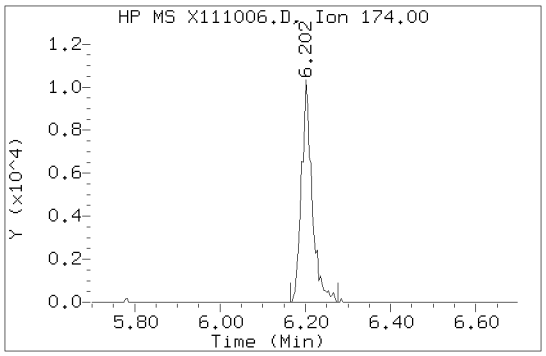
BEFORE

MASS
174
AREA
18296
HEIGHT
10340
17-Nov-2022
13:58
linh
pham



AFTER

MASS
174
AREA
18296
HEIGHT
10340
17-Nov-2022
14:02
linh
pham

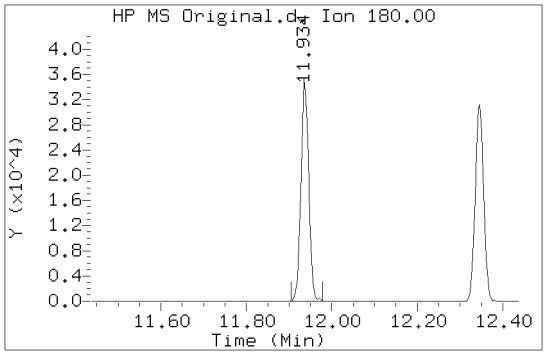


1,2,4-Trichlorobenzene (120-82-1)

Reason Code:

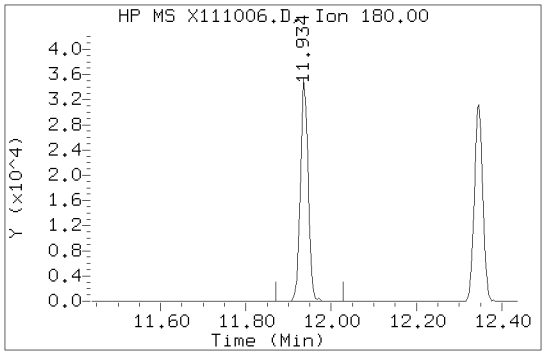
BEFORE

MASS
180
AREA
45747
HEIGHT
35288
17-Nov-2022
13:58
linh
pham



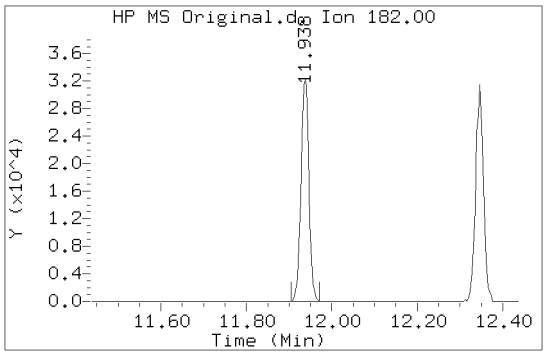
AFTER

MASS
180
AREA
45748
HEIGHT
35288
17-Nov-2022
14:02
linh
pham



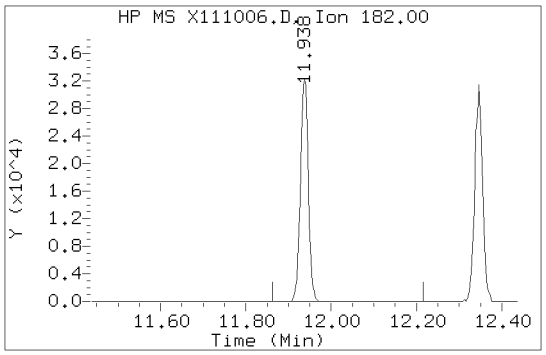
BEFORE

MASS
182
AREA
42977
HEIGHT
32192
17-Nov-2022
13:58
linh
pham



AFTER

MASS
182
AREA
42982
HEIGHT
32192
17-Nov-2022
14:02
linh
pham



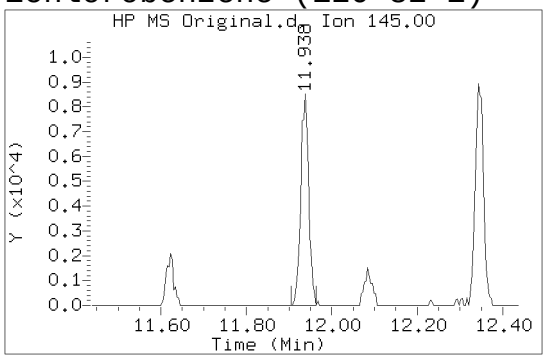
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Inj Date : 10-NOV-2022 14:56
InstruID : voa10.i
LabSampID : VSTD005

1,2,4-Trichlorobenzene (120-82-1)

Reason Code:

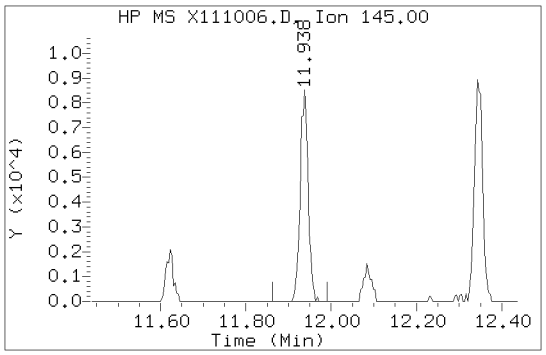
BEFORE

MASS
145
AREA
11369
HEIGHT
8522
17-Nov-2022
13:58
linh
pham



AFTER

MASS
145
AREA
11406
HEIGHT
8522
17-Nov-2022
14:02
linh
pham

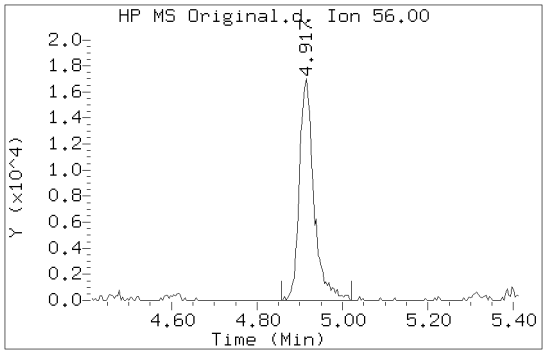


Cyclohexane (110-82-7)

Reason Code:

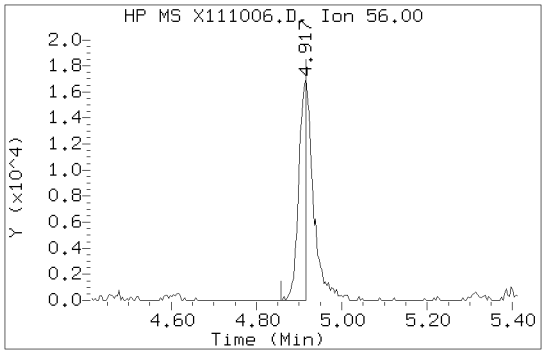
BEFORE

MASS
56
AREA
41007
HEIGHT
17016
17-Nov-2022
13:58
linh
pham



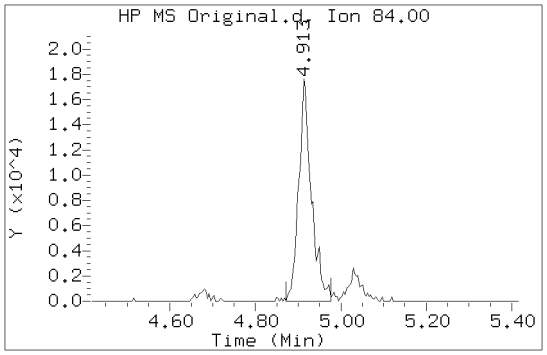
AFTER

MASS
56
AREA
21996
HEIGHT
17016
17-Nov-2022
14:02
linh
pham



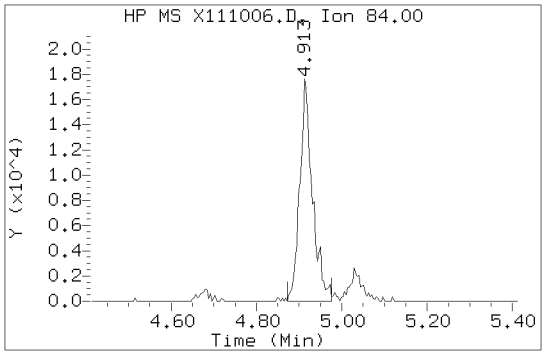
BEFORE

MASS
84
AREA
37030
HEIGHT
17624
17-Nov-2022
13:58
linh
pham



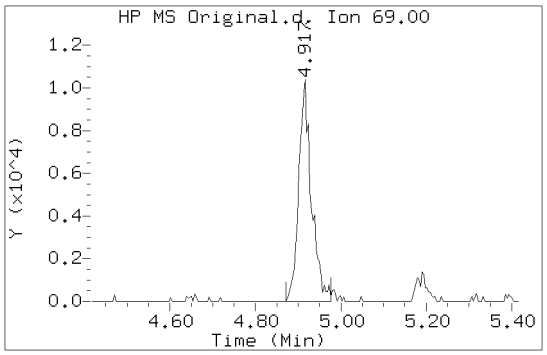
AFTER

MASS
84
AREA
37030
HEIGHT
17624
17-Nov-2022
14:02
linh
pham



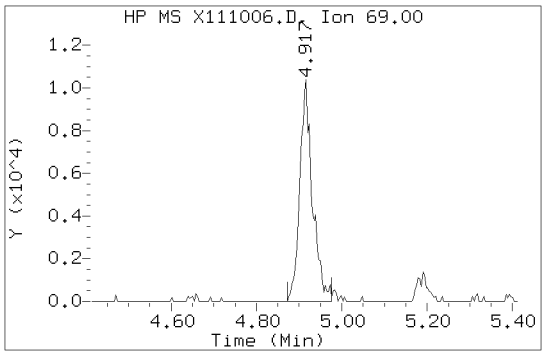
BEFORE

MASS
69
AREA
21760
HEIGHT
10387
17-Nov-2022
13:58
linh
pham



AFTER

MASS
69
AREA
21760
HEIGHT
10387
17-Nov-2022
14:02
linh
pham



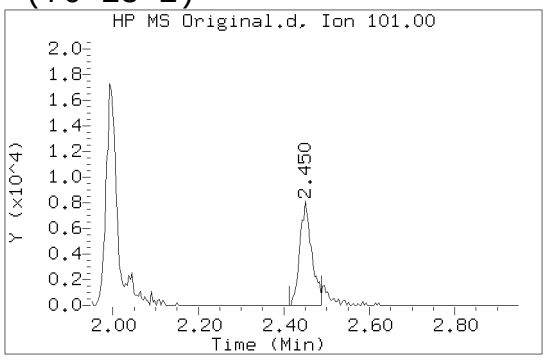
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111006.D
Inj Date : 10-NOV-2022 14:56
InstruID : voa10.i
LabSampID : VSTD005

Freon TF (76-13-1)

Reason Code:

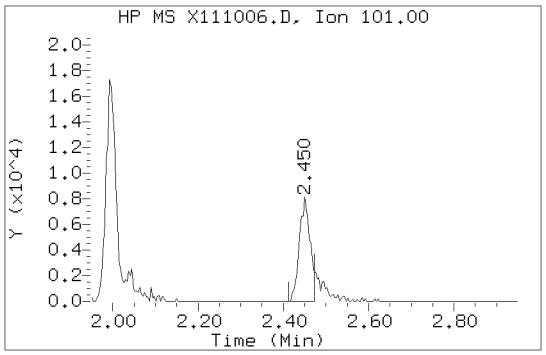
BEFORE

MASS
101
AREA
15926
HEIGHT
8136
17-Nov-2022
13:58
linh
pham



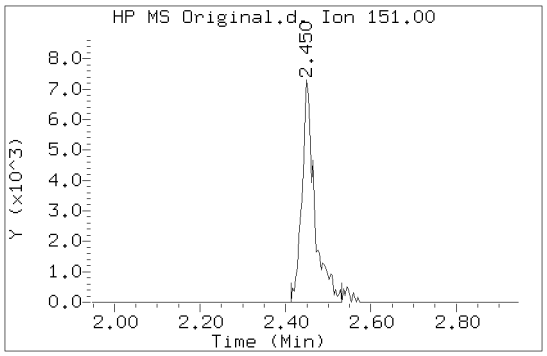
AFTER

MASS
101
AREA
14418
HEIGHT
8136
17-Nov-2022
14:02
linh
pham



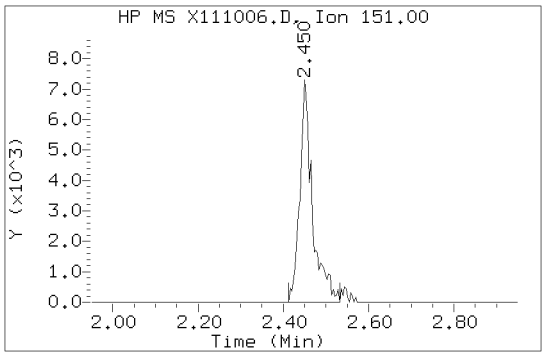
BEFORE

MASS
151
AREA
15317
HEIGHT
7304
17-Nov-2022
13:58
linh
pham



AFTER

MASS
151
AREA
15317
HEIGHT
7304
17-Nov-2022
14:02
linh
pham

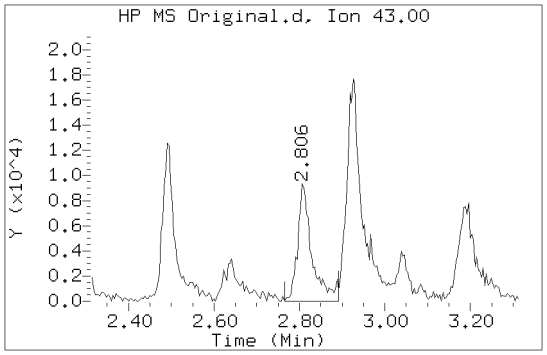


Methyl Acetate (79-20-9)

Reason Code:

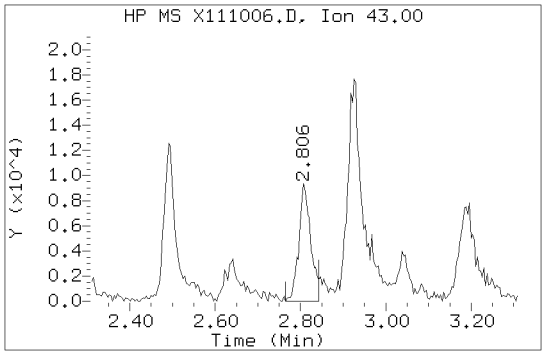
BEFORE

MASS
43
AREA
22072
HEIGHT
9380
17-Nov-2022
13:58
linh
pham



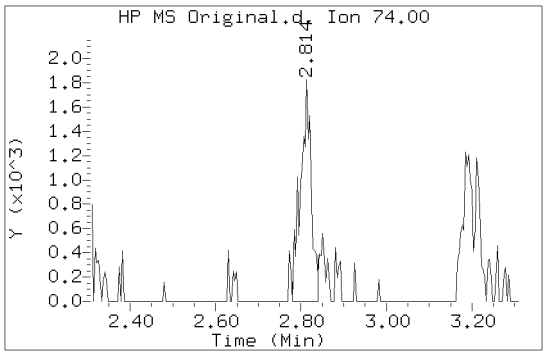
AFTER

MASS
43
AREA
18608
HEIGHT
9380
17-Nov-2022
14:02
linh
pham



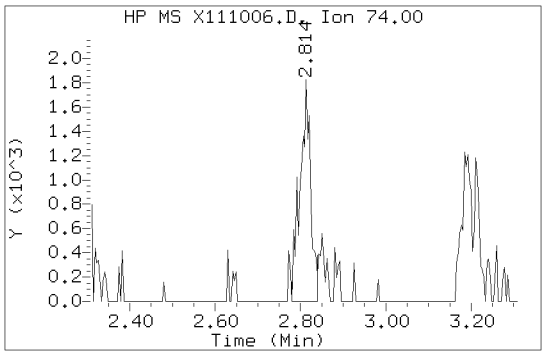
BEFORE

MASS
74
AREA
3195
HEIGHT
1825
17-Nov-2022
13:58
linh
pham



AFTER

MASS
74
AREA
3195
HEIGHT
1825
17-Nov-2022
14:02
linh
pham



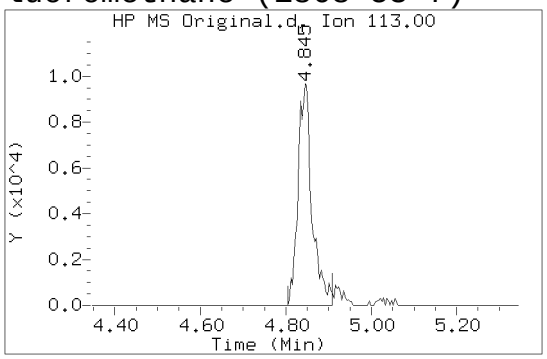
Data File : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111006.D
Inj Date : 10-NOV-2022 14:56
InstruID : voa10.i
LabSampID : VSTD005

Dibromofluoromethane (1868-53-7)

Reason Code:

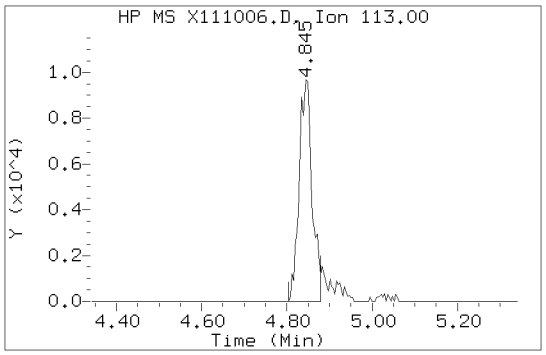
BEFORE

MASS
113
AREA
22428
HEIGHT
9679
17-Nov-2022
13:58
linh
pham



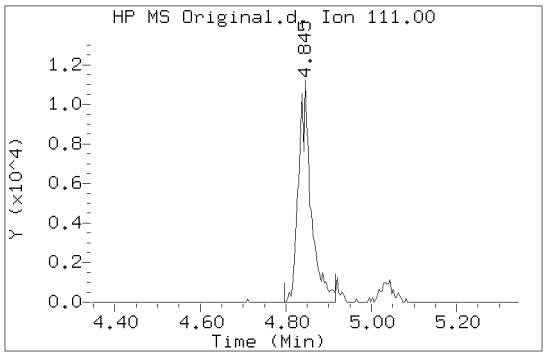
AFTER

MASS
113
AREA
20848
HEIGHT
9679
17-Nov-2022
14:02
linh
pham



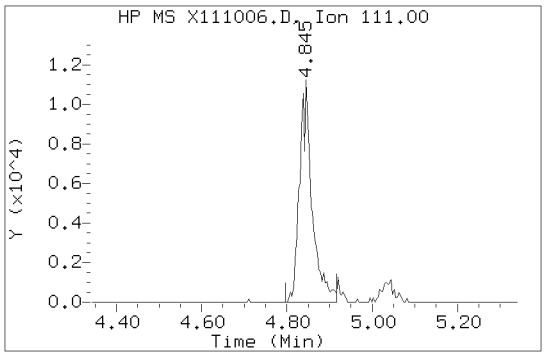
BEFORE

MASS
111
AREA
23220
HEIGHT
11234
17-Nov-2022
13:58
linh
pham



AFTER

MASS
111
AREA
23220
HEIGHT
11234
17-Nov-2022
14:02
linh
pham

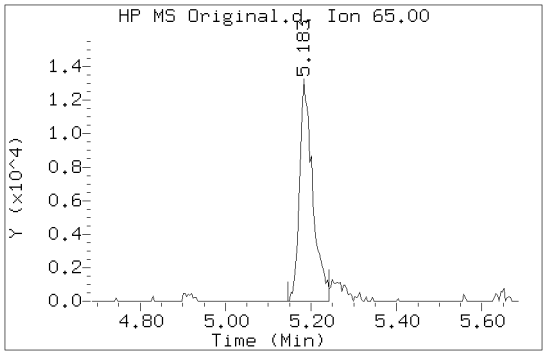


1,2-Dichloroethane-d4 (17060-07-0)

Reason Code:

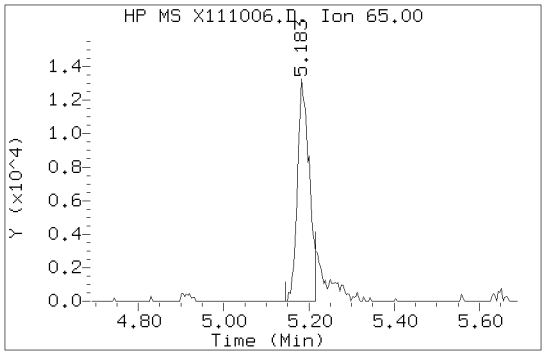
BEFORE

MASS
65
AREA
28772
HEIGHT
13271
17-Nov-2022
13:58
linh
pham



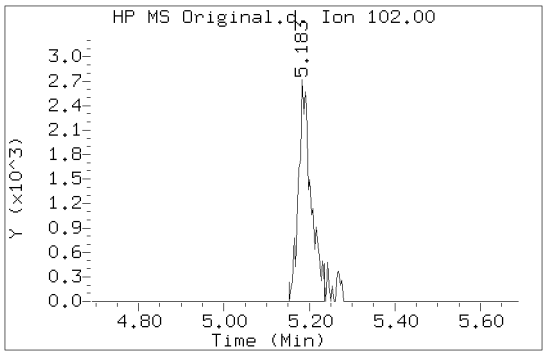
AFTER

MASS
65
AREA
26090
HEIGHT
13271
17-Nov-2022
14:02
linh
pham



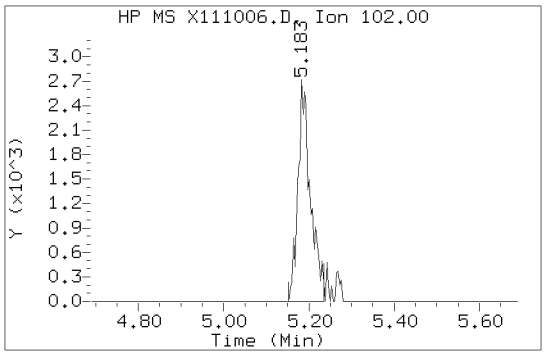
BEFORE

MASS
102
AREA
5620
HEIGHT
2719
17-Nov-2022
13:58
linh
pham



AFTER

MASS
102
AREA
5620
HEIGHT
2719
17-Nov-2022
14:02
linh
pham



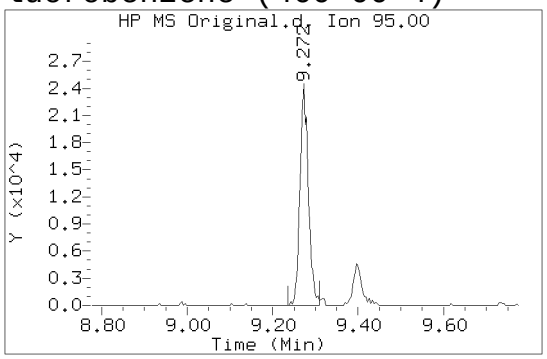
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Inj Date : 10-NOV-2022 14:56
InstruID : voa10.i
LabSampID : VSTD005

4-Bromofluorobenzene (460-00-4)

Reason Code:

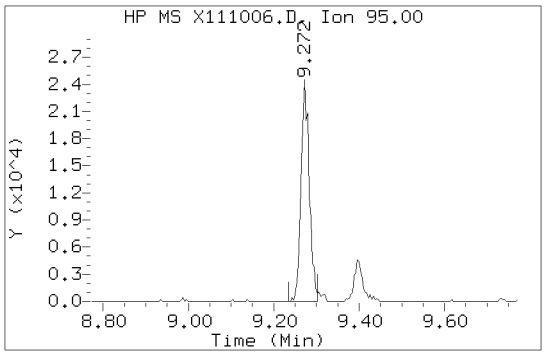
BEFORE

MASS
95
AREA
34288
HEIGHT
24520
17-Nov-2022
13:58
linh
pham



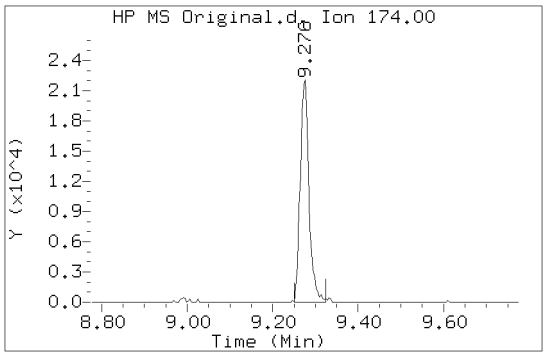
AFTER

MASS
95
AREA
33924
HEIGHT
24520
17-Nov-2022
14:02
linh
pham



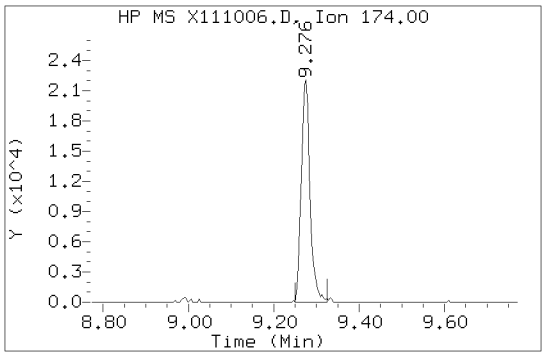
BEFORE

MASS
174
AREA
32499
HEIGHT
22072
17-Nov-2022
13:58
linh
pham



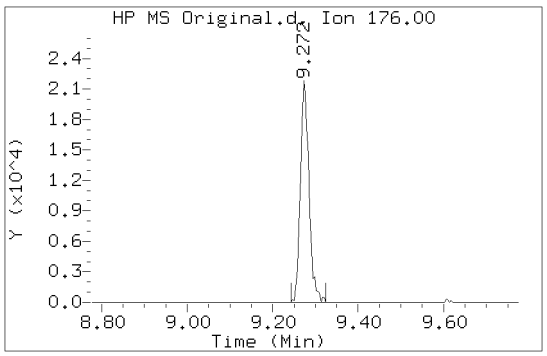
AFTER

MASS
174
AREA
32499
HEIGHT
22072
17-Nov-2022
14:02
linh
pham



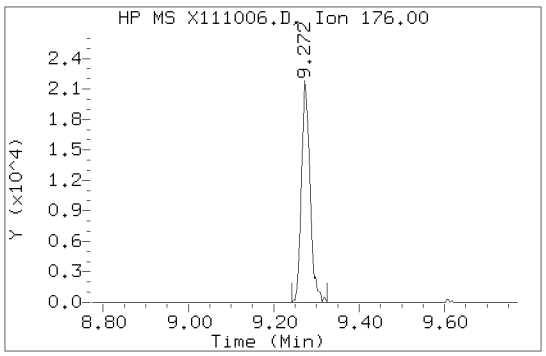
BEFORE

MASS
176
AREA
31483
HEIGHT
21816
17-Nov-2022
13:58
linh
pham



AFTER

MASS
176
AREA
31483
HEIGHT
21816
17-Nov-2022
14:02
linh
pham



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111007.D
Lab Smp Id: VSTD020 Client Smp ID: VSTD020
Inj Date : 10-NOV-2022 15:16
Operator : FT Inst ID: voa10.i
Smp Info : VSTD020;VSTD020;1;6;
Misc Info : V10;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\8260C.m
Meth Date : 17-Nov-2022 14:03 voa10.i Quant Type: ISTD
Cal Date : 10-NOV-2022 14:56 Cal File: X111006.D
Als bottle: 8 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000008260V10.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	4.916	4.916	(1.000)	491937	50.0000	
2 Dichlorodifluoromethane	85	1.231	1.231	(0.250)	75384	20.0000	17.89(M)
3 Chloromethane	50	1.370	1.370	(0.279)	88167	20.0000	19.17
5 Vinyl Chloride	62	1.452	1.452	(0.295)	86621	20.0000	18.97
6 Bromomethane	94	1.703	1.703	(0.347)	38807	20.0000	18.83
7 Chloroethane	64	1.786	1.786	(0.363)	48943	20.0000	18.61(M)
8 Trichlorofluoromethane	101	1.992	1.992	(0.405)	103347	20.0000	17.22(M)
9 Acrolein	56	2.348	2.348	(0.478)	7569	40.0000	37.32(M)
10 Acetone	43	2.491	2.491	(0.507)	83173	40.0000	38.10
12 Isobutyl Alcohol	43	5.377	5.377	(1.094)	279172	400.000	363.96
13 Acetonitrile	39	2.772	2.772	(0.564)	127839	200.000	185.77
16 Acrylonitrile	53	3.143	3.143	(0.639)	78135	40.0000	43.06
11 1,1-Dichloroethene	96	2.442	2.442	(0.497)	67448	20.0000	23.41
15 Iodomethane	142	2.569	2.569	(0.523)	112670	40.0000	32.71
17 Methylene Chloride	84	2.895	2.895	(0.589)	81339	20.0000	24.21
18 Methyl tert-butyl ether	73	3.192	3.192	(0.649)	255274	20.0000	20.31
19 Carbon Disulfide	76	2.633	2.633	(0.536)	385826	40.0000	45.52
20 trans-1,2-Dichloroethene	96	3.177	3.177	(0.646)	77085	20.0000	20.48
22 1,1-Dichloroethane	63	3.630	3.630	(0.738)	151831	20.0000	22.35
24 2-Butanone	43	4.354	4.354	(0.886)	91965	40.0000	36.05

27 cis-1,2-Dichloroethene	96	4.309	4.309 (0.876)	83727	20.0000	18.72
28 Chloroform	83	4.672	4.672 (0.950)	150119	20.0000	18.57

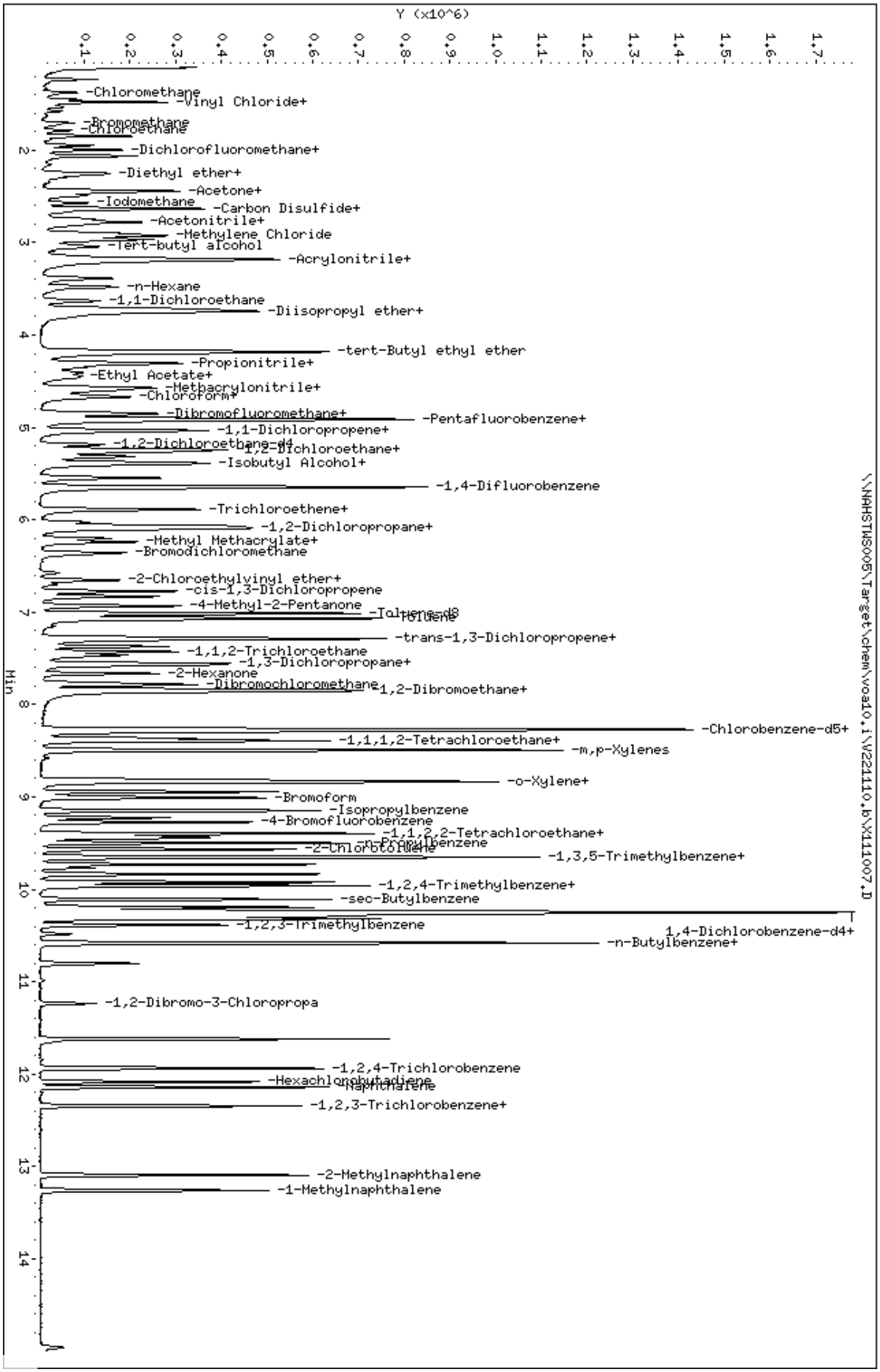
		QUANT SIG					AMOUNTS	
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/l)	ON-COL (ug/l)
	29 Bromochloromethane	128	4.575	4.575	(0.931)	46933	20.0000	20.97
$	30 Dibromofluoromethane	113	4.841	4.841	(0.985)	83570	20.0000	20.10
	31 1,1,1-Trichloroethane	97	4.863	4.863	(0.989)	122097	20.0000	18.80
	32 1,1-Dichloropropene	75	5.036	5.036	(0.892)	116330	20.0000	20.71(M)
	33 1,2-Dichloroethane	62	5.265	5.265	(0.932)	130582	20.0000	19.39
	34 Carbon Tetrachloride	117	5.032	5.032	(0.891)	92532	20.0000	19.04(MH)
$	35 1,2-Dichloroethane-d4	65	5.190	5.190	(1.056)	104063	20.0000	19.71
*	36 1,4-Difluorobenzene	114	5.647	5.647	(1.000)	728667	50.0000	
	37 Benzene	78	5.242	5.242	(0.928)	363349	20.0000	19.58
	38 Trichloroethene	130	5.887	5.887	(1.042)	97033	20.0000	20.44
	39 Bromodichloromethane	83	6.359	6.359	(1.126)	112227	20.0000	19.39
	42 1,2-Dichloropropane	63	6.097	6.097	(1.080)	101409	20.0000	19.56
	45 4-Methyl-2-Pentanone	43	6.933	6.933	(0.839)	210057	40.0000	38.58
	46 cis-1,3-Dichloropropene	75	6.772	6.772	(1.199)	151653	20.0000	19.61
*	47 Chlorobenzene-d5	117	8.267	8.267	(1.000)	626131	50.0000	
$	48 Toluene-d8	98	7.011	7.011	(0.848)	328150	20.0000	20.95
	50 Toluene	91	7.068	7.068	(0.855)	363217	20.0000	19.68
	51 trans-1,3-Dichloropropene	75	7.270	7.270	(1.287)	127134	20.0000	18.70
	52 2-Hexanone	43	7.664	7.664	(0.927)	158977	40.0000	40.28
	53 1,1,2-Trichloroethane	83	7.428	7.428	(0.898)	71278	20.0000	19.30
	54 1,3-Dichloropropane	76	7.574	7.574	(0.916)	148710	20.0000	19.60
	55 Dibromochloromethane	129	7.769	7.769	(0.940)	88374	20.0000	18.33
	56 Tetrachloroethene	164	7.551	7.551	(0.913)	75041	20.0000	19.59(M)
	57 1,2-Dibromoethane	107	7.862	7.862	(0.951)	86795	20.0000	19.19
	59 Chlorobenzene	112	8.293	8.293	(1.003)	231363	20.0000	18.36
	60 1,1,1,2-Tetrachloroethane	131	8.365	8.365	(1.012)	85533	20.0000	18.95
	61 Ethylbenzene	106	8.391	8.391	(1.015)	117536	20.0000	19.05
	62 m,p-Xylenes	106	8.492	8.492	(1.027)	293995	40.0000	38.70
	63 o-Xylene	106	8.830	8.830	(1.068)	142668	20.0000	18.80
	64 Styrene	104	8.841	8.841	(1.069)	257911	20.0000	18.71
	66 Bromoform	173	8.991	8.991	(1.088)	66465	20.0000	18.94
	67 Isopropylbenzene	105	9.148	9.148	(1.107)	350025	20.0000	18.59
	68 1,1,2,2-Tetrachloroethane	83	9.396	9.396	(0.917)	132209	20.0000	19.77
$	69 4-Bromofluorobenzene	95	9.272	9.272	(1.122)	125568	20.0000	20.71
*	70 1,4-Dichlorobenzene-d4	152	10.250	10.250	(1.000)	405324	50.0000	
	75 1,3,5-Trimethylbenzene	105	9.647	9.647	(0.941)	315717	20.0000	19.12
	78 tert-Butylbenzene	119	9.924	9.924	(0.968)	263889	20.0000	18.53(M)
	79 1,2,4-Trimethylbenzene	105	9.962	9.962	(0.972)	332475	20.0000	18.53
	81 sec-Butylbenzene	105	10.108	10.108	(0.986)	366131	20.0000	18.29(M)
	87 n-Butylbenzene	91	10.576	10.576	(1.032)	324742	20.0000	18.60
	73 n-Propylbenzene	91	9.497	9.497	(0.926)	426338	20.0000	19.28
	71 1,2,3-Trichloropropane	75	9.433	9.433	(0.920)	154945	20.0000	17.98
	83 1,3-Dichlorobenzene	146	10.194	10.194	(0.995)	216628	20.0000	17.49
	84 1,4-Dichlorobenzene	146	10.273	10.273	(1.002)	228364	20.0000	19.79
	88 1,2-Dichlorobenzene	146	10.584	10.584	(1.033)	225895	20.0000	19.98
	89 1,2-Dibromo-3-Chloropropane	155	11.236	11.236	(1.096)	21888	20.0000	17.46
	90 1,2,4-Trichlorobenzene	180	11.937	11.937	(1.165)	170245	20.0000	19.86(M)
	92 Naphthalene	128	12.143	12.143	(1.185)	419075	20.0000	18.38
	136 n-Hexane	57	3.484	3.484	(0.709)	99612	20.0000	19.36
	147 Methylcyclohexane	55	6.067	6.067	(1.074)	132444	20.0000	19.83
	141 Cyclohexane	56	4.912	4.912	(0.999)	96410	20.0000	22.93(M)
	138 Freon TF	101	2.453	2.453	(0.499)	56211	20.0000	22.99(M)

146	Methyl Acetate	43	2.805	2.805 (0.571)	80208	20.0000	19.90
21	Vinyl Acetate	43	3.713	3.713 (0.755)	420877	40.0000	42.18(M)

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	26 2,2-Dichloropropane	77	4.305	4.305	(0.876)	115665	20.0000	19.42
	44 Dibromomethane	93	6.198	6.198	(1.098)	55692	20.0000	18.76
	91 Hexachlorobutadiene	225	12.087	12.087	(1.179)	80136	20.0000	24.65
	74 Bromobenzene	156	9.396	9.396	(0.917)	118062	20.0000	19.08
	76 2-Chlorotoluene	91	9.568	9.568	(0.933)	273531	20.0000	20.10
	77 4-Chlorotoluene	91	9.654	9.654	(0.942)	326663	20.0000	18.92
	82 p-Isopropyltoluene	119	10.232	10.232	(0.998)	340580	20.0000	18.70
	93 1,2,3-Trichlorobenzene	180	12.346	12.346	(1.204)	160233	20.0000	20.07
	148 tert-Butyl Alcohol	59	3.045	3.045	(0.620)	175331	400.000	284.51
	142 Tetrahydrofuran	42	4.646	4.646	(0.945)	38402	40.0000	38.04
M	94 1,2-Dichloroethylene (total)	96				160812	40.0000	
M	95 Xylenes (total)	106				436663	60.0000	

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.



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Sample Info: WSTD020;WSTD020;1;6;
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Column phase: DB624

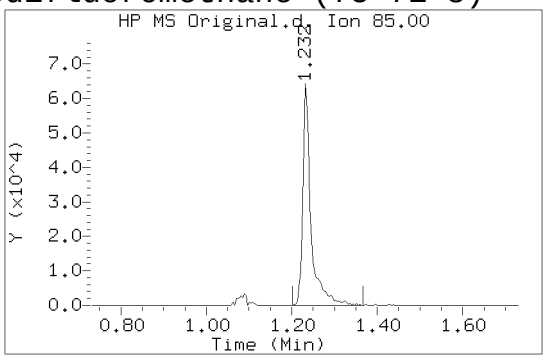
Instrument: voa10.i
Operator: FT
Column diameter: 0.18

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Inj Date : 10-NOV-2022 15:16
InstruID : voa10.i
LabSampID : VSTD020

Dichlorodifluoromethane (75-71-8)

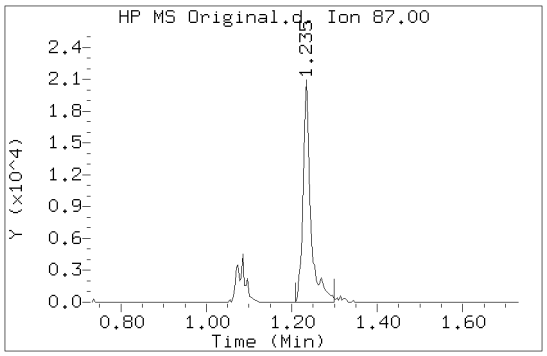
BEFORE

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HEIGHT
64280
17-Nov-2022
13:58
linh
pham



BEFORE

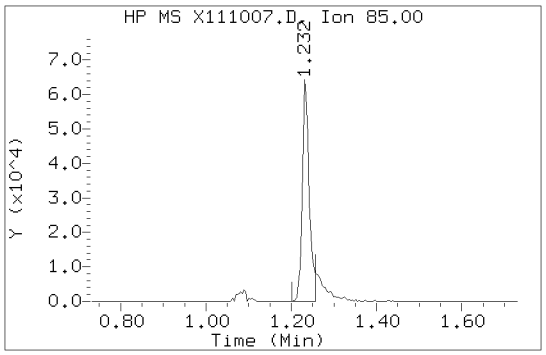
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Reason Code:

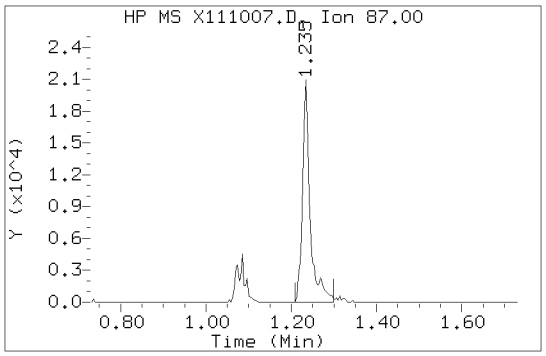
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pham



AFTER

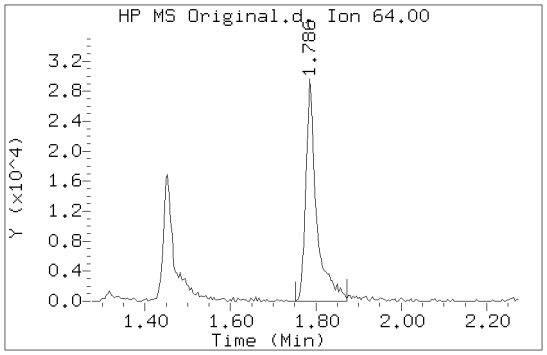
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Chloroethane (75-00-3)

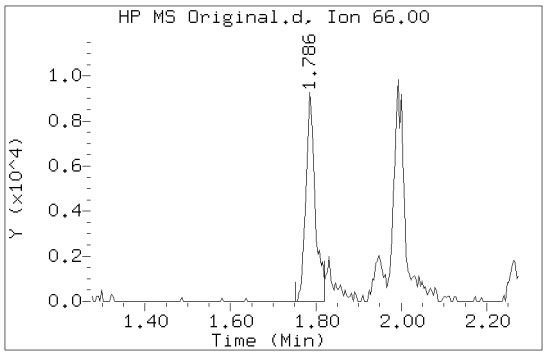
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BEFORE

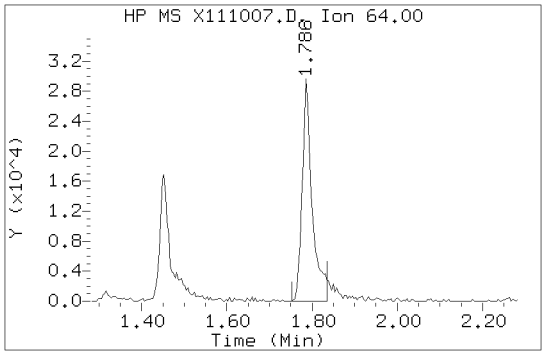
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Reason Code:

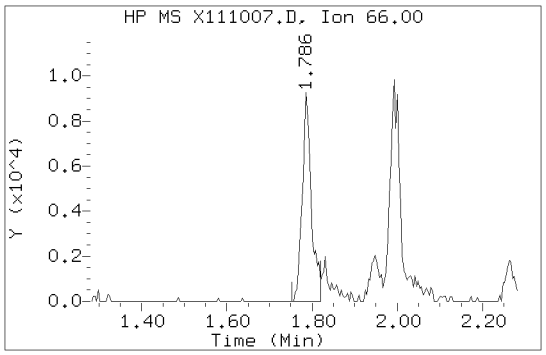
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AFTER

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17-Nov-2022
14:02
linh
pham



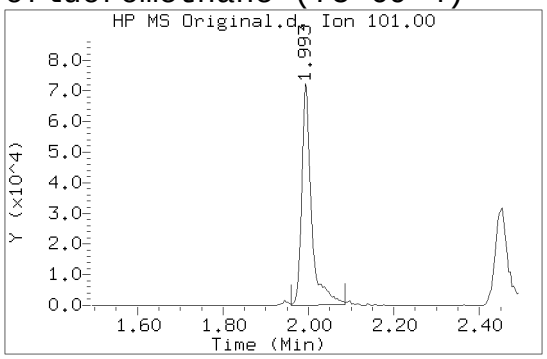
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InstruID : voa10.i
LabSampID : VSTD020

Trichlorofluoromethane (75-69-4)

Reason Code:

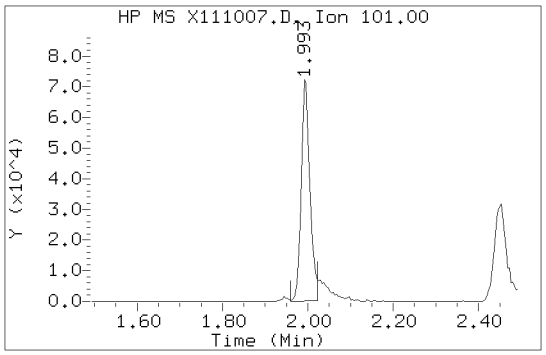
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13:58
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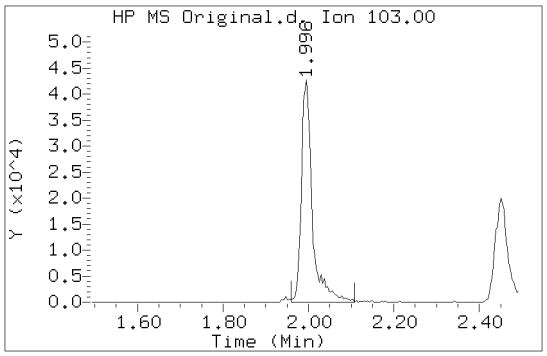
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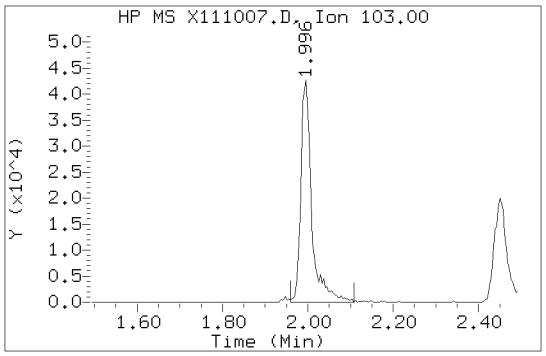
BEFORE

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HEIGHT
42720
17-Nov-2022
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AFTER

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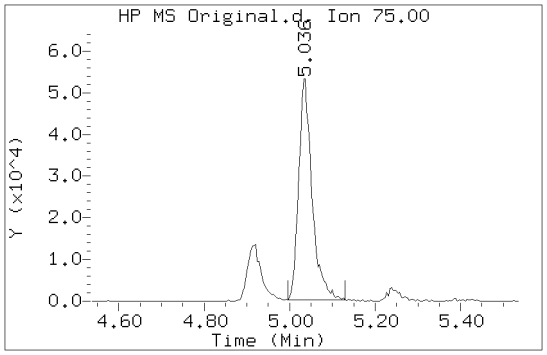


1,1-Dichloropropene (563-58-6)

Reason Code:

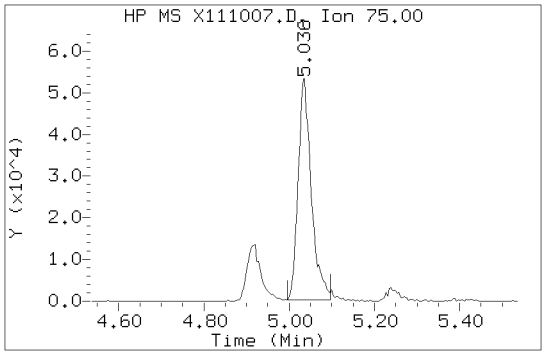
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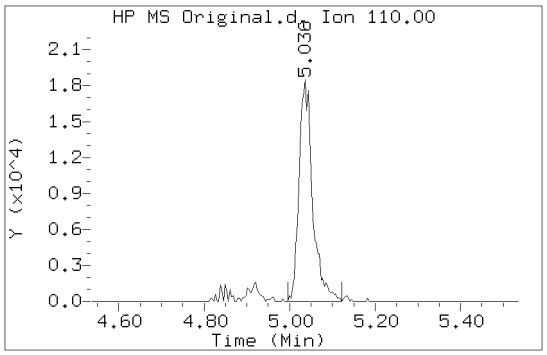
AFTER

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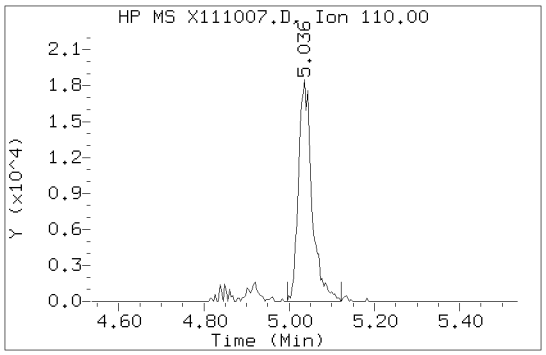
BEFORE

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HEIGHT
18496
17-Nov-2022
13:58
linh
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AFTER

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18496
17-Nov-2022
14:02
linh
pham



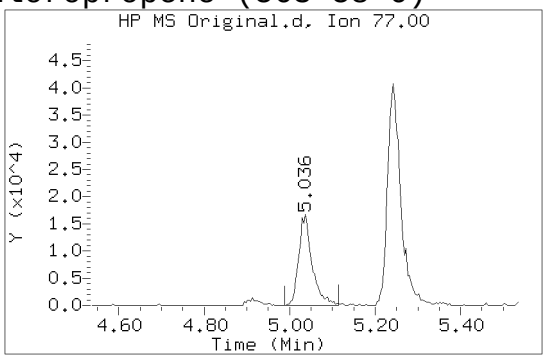
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InstruID : voa10.i
LabSampID : VSTD020

1,1-Dichloropropene (563-58-6)

Reason Code:

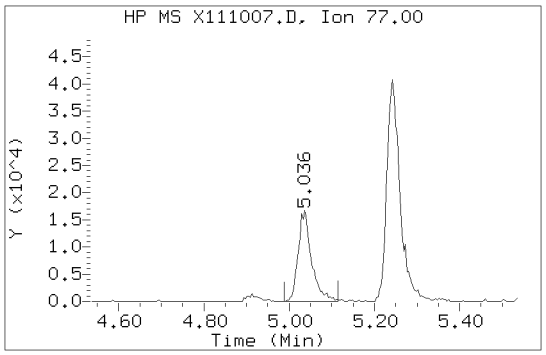
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16800
17-Nov-2022
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AFTER

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17-Nov-2022
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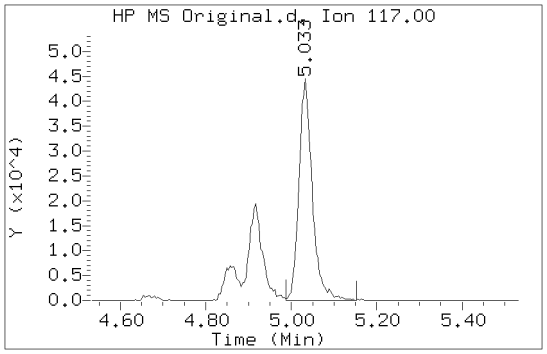


Carbon Tetrachloride (56-23-5)

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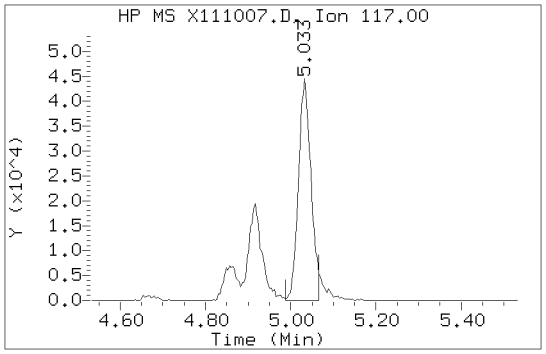
BEFORE

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HEIGHT
44528
17-Nov-2022
13:58
linh
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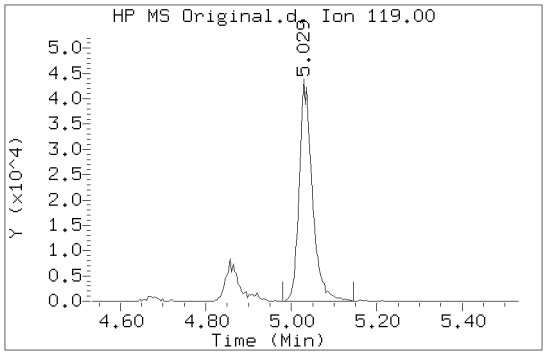
AFTER

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pham



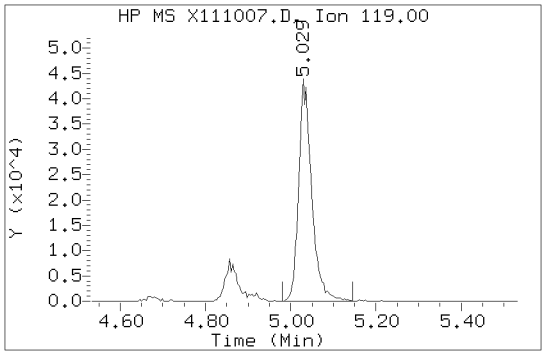
BEFORE

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AFTER

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14:02
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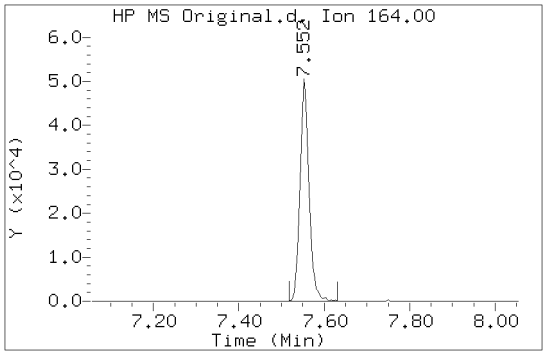


Tetrachloroethene (127-18-4)

Reason Code:

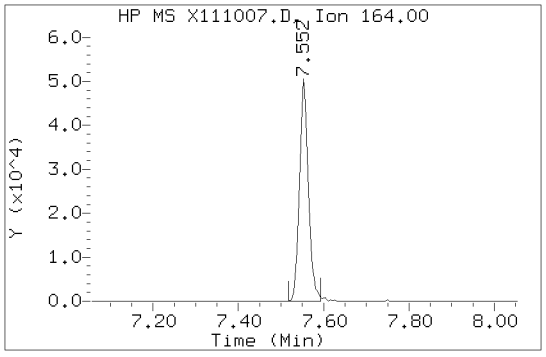
BEFORE

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17-Nov-2022
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AFTER

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50560
17-Nov-2022
14:02
linh
pham



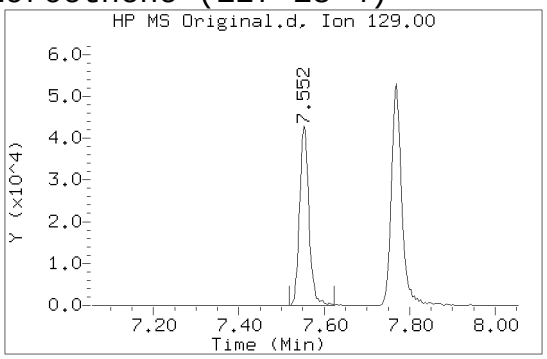
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LabSampID : VSTD020

Tetrachloroethene (127-18-4)

Reason Code:

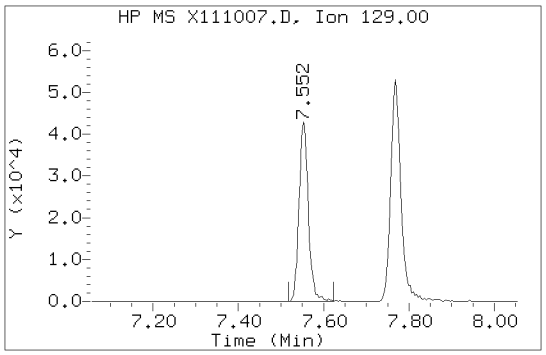
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17-Nov-2022
13:58
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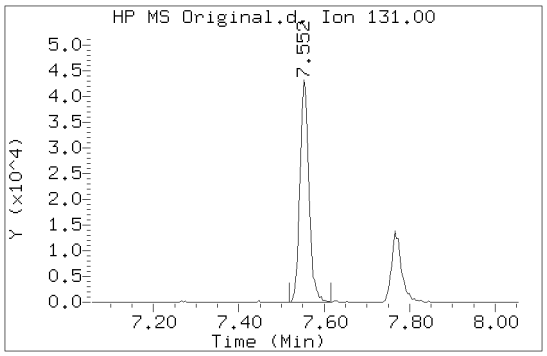
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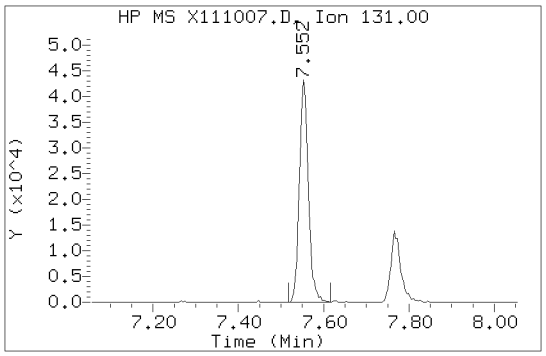
BEFORE

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AFTER

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linh
pham

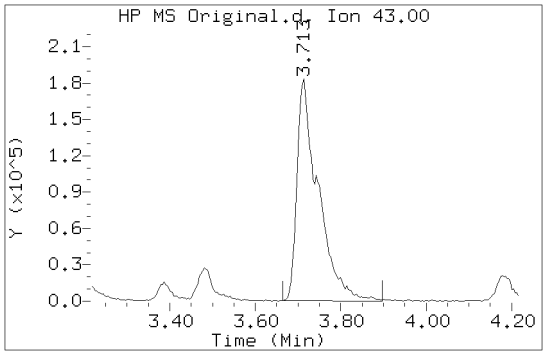


Vinyl Acetate (108-05-4)

Reason Code:

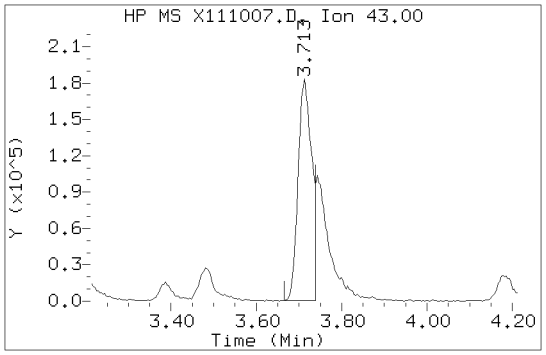
BEFORE

MASS
43
AREA
637836
HEIGHT
183008
17-Nov-2022
13:58
linh
pham



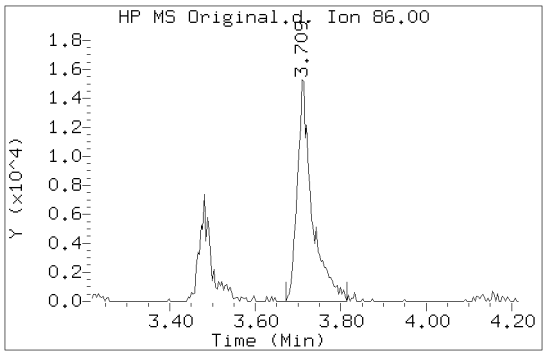
AFTER

MASS
43
AREA
420877
HEIGHT
183008
17-Nov-2022
14:02
linh
pham



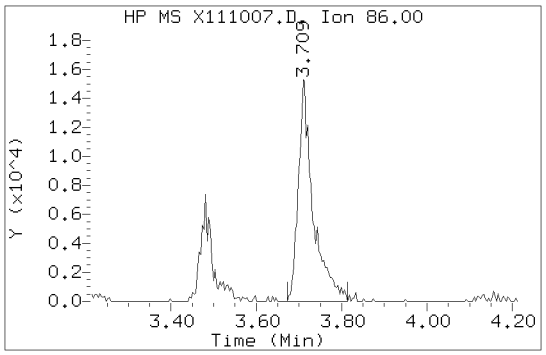
BEFORE

MASS
86
AREA
37362
HEIGHT
15288
17-Nov-2022
13:58
linh
pham



AFTER

MASS
86
AREA
37362
HEIGHT
15288
17-Nov-2022
14:02
linh
pham

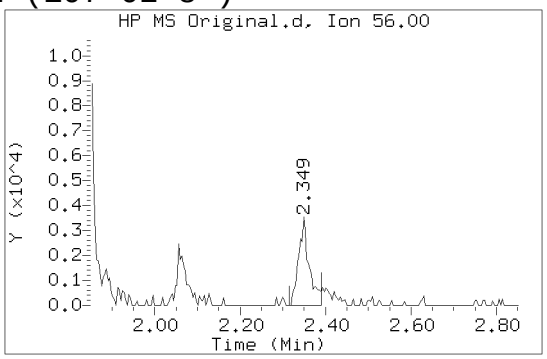


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Inj Date : 10-NOV-2022 15:16
InstruID : voa10.i
LabSampID : VSTD020

Acrolein (107-02-8)

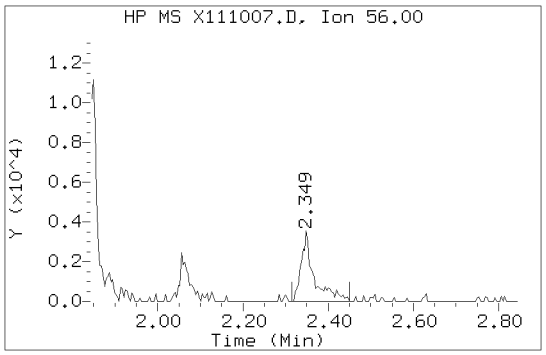
Reason Code:

BEFORE



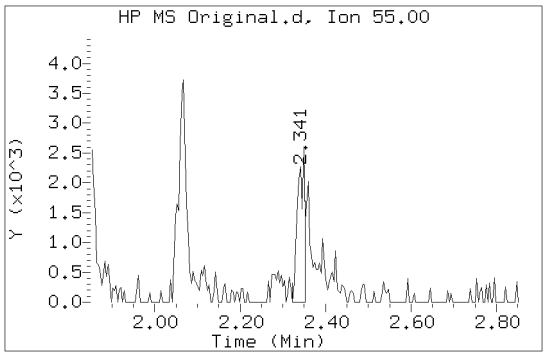
MASS
56
AREA
6200
HEIGHT
3540
17-Nov-2022
13:58
linh
pham

AFTER



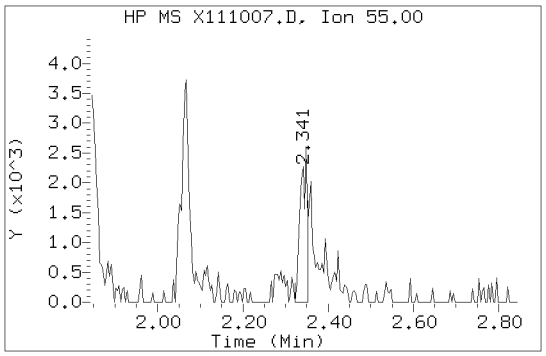
MASS
56
AREA
7569
HEIGHT
3540
17-Nov-2022
14:02
linh
pham

BEFORE



MASS
55
AREA
2886
HEIGHT
2274
17-Nov-2022
13:58
linh
pham

AFTER

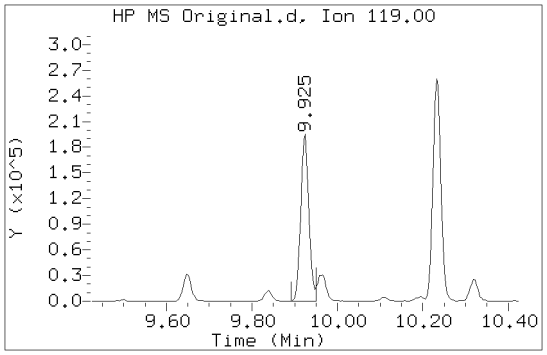


MASS
55
AREA
2886
HEIGHT
2274
17-Nov-2022
14:02
linh
pham

tert-Butylbenzene (98-06-6)

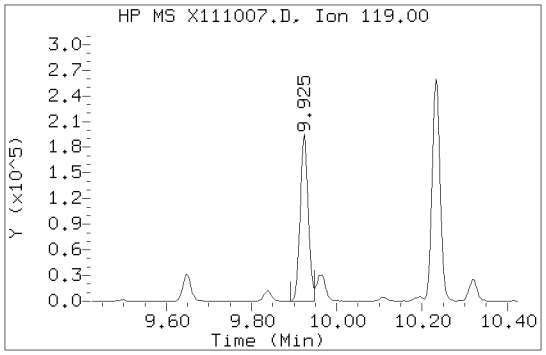
Reason Code:

BEFORE



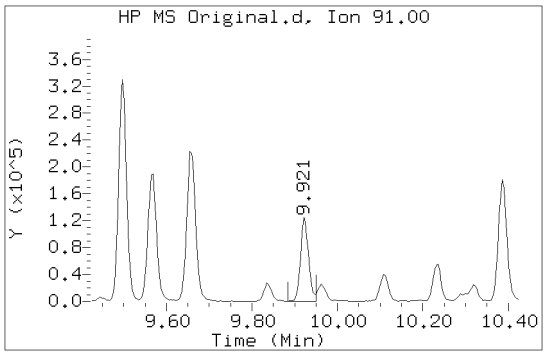
MASS
119
AREA
267600
HEIGHT
194861
17-Nov-2022
13:58
linh
pham

AFTER



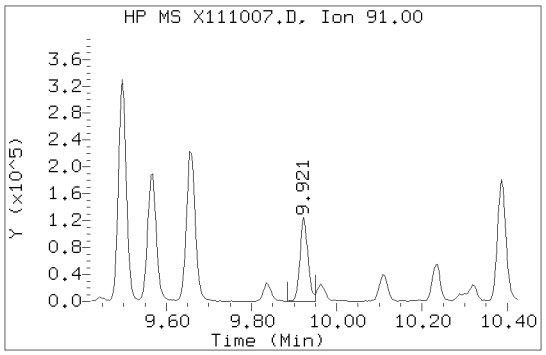
MASS
119
AREA
263889
HEIGHT
194861
17-Nov-2022
14:02
linh
pham

BEFORE



MASS
91
AREA
169250
HEIGHT
125280
17-Nov-2022
13:58
linh
pham

AFTER



MASS
91
AREA
169250
HEIGHT
125280
17-Nov-2022
14:02
linh
pham

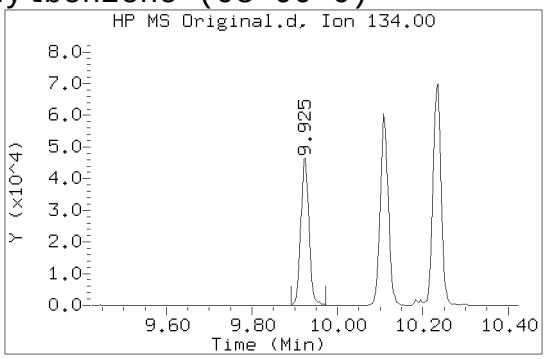
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Inj Date : 10-NOV-2022 15:16
InstruID : voa10.i
LabSampID : VSTD020

tert-Butylbenzene (98-06-6)

Reason Code:

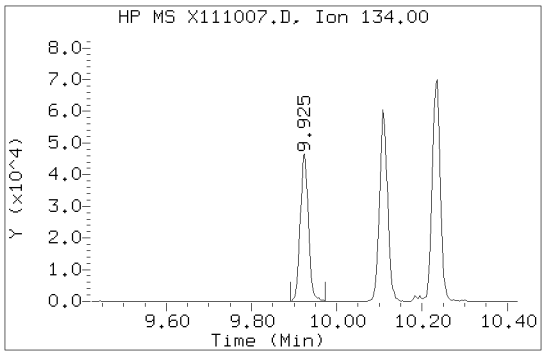
BEFORE

MASS
134
AREA
63765
HEIGHT
46616
17-Nov-2022
13:58
linh
pham



AFTER

MASS
134
AREA
63765
HEIGHT
46616
17-Nov-2022
14:02
linh
pham

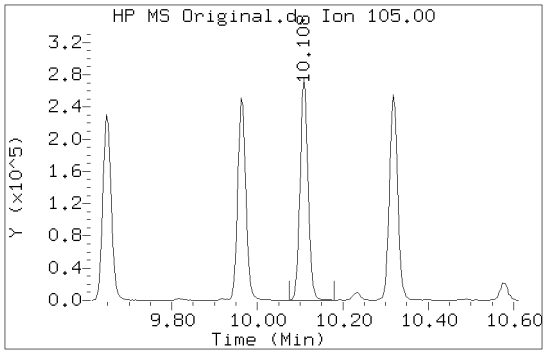


sec-Butylbenzene (135-98-8)

Reason Code:

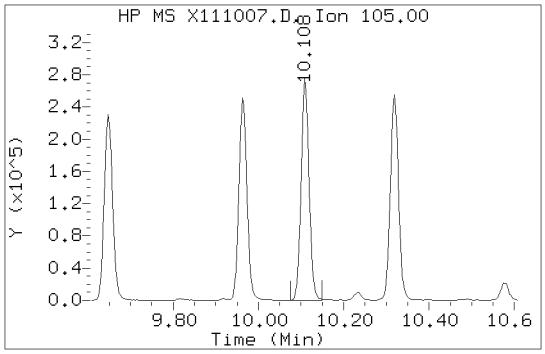
BEFORE

MASS
105
AREA
366677
HEIGHT
274973
17-Nov-2022
13:58
linh
pham



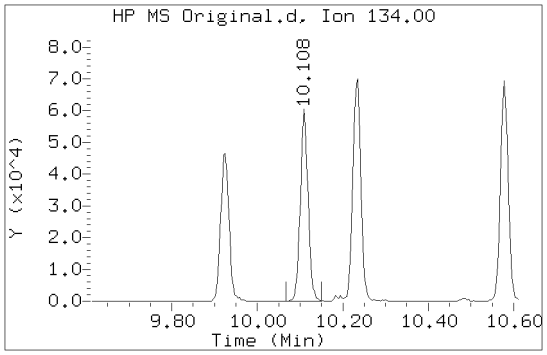
AFTER

MASS
105
AREA
366131
HEIGHT
274973
17-Nov-2022
14:02
linh
pham



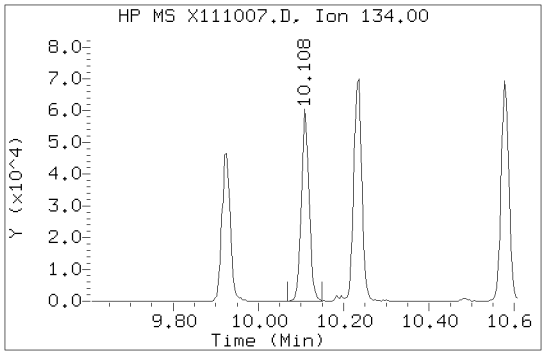
BEFORE

MASS
134
AREA
78418
HEIGHT
60400
17-Nov-2022
13:58
linh
pham



AFTER

MASS
134
AREA
78418
HEIGHT
60400
17-Nov-2022
14:02
linh
pham

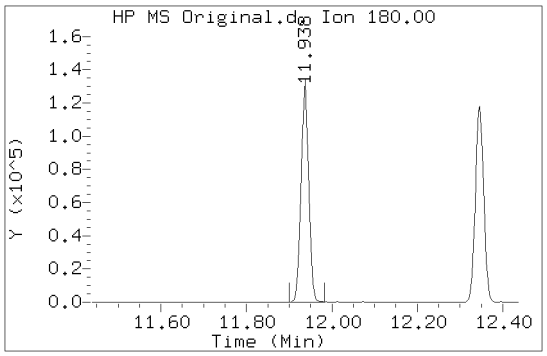


1,2,4-Trichlorobenzene (120-82-1)

Reason Code:

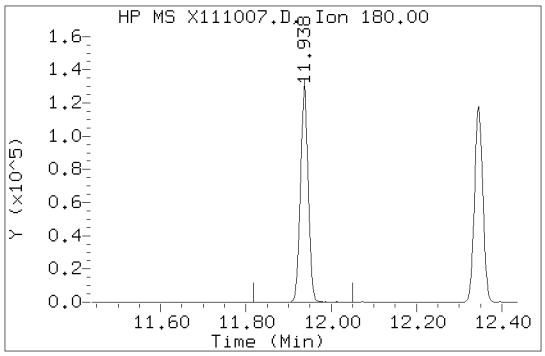
BEFORE

MASS
180
AREA
170029
HEIGHT
133888
17-Nov-2022
13:58
linh
pham



AFTER

MASS
180
AREA
170245
HEIGHT
133888
17-Nov-2022
14:02
linh
pham



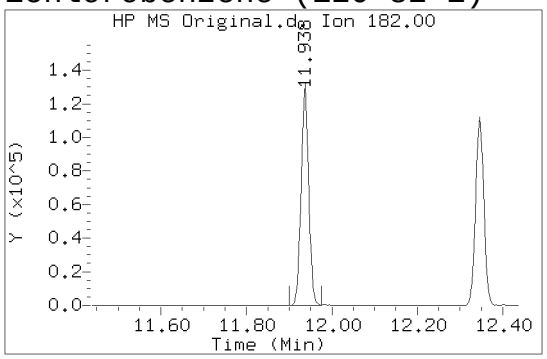
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Inj Date : 10-NOV-2022 15:16
InstruID : voa10.i
LabSampID : VSTD020

1,2,4-Trichlorobenzene (120-82-1)

Reason Code:

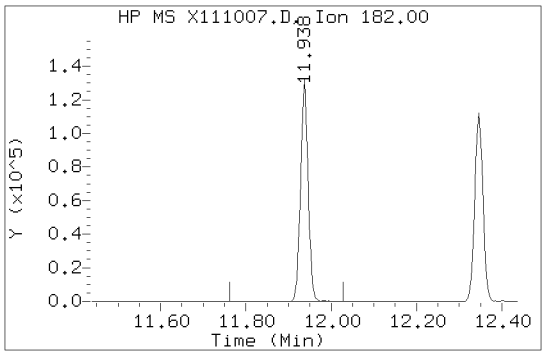
BEFORE

MASS
182
AREA
166736
HEIGHT
131968
17-Nov-2022
13:58
linh
pham



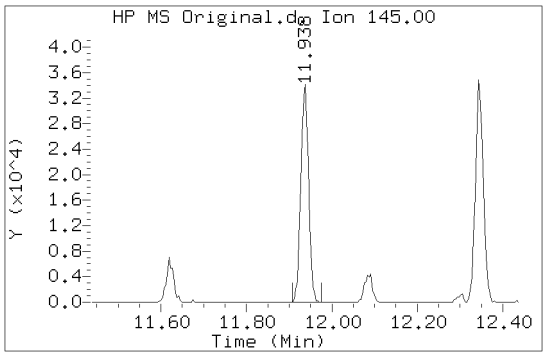
AFTER

MASS
182
AREA
166960
HEIGHT
131968
17-Nov-2022
14:02
linh
pham



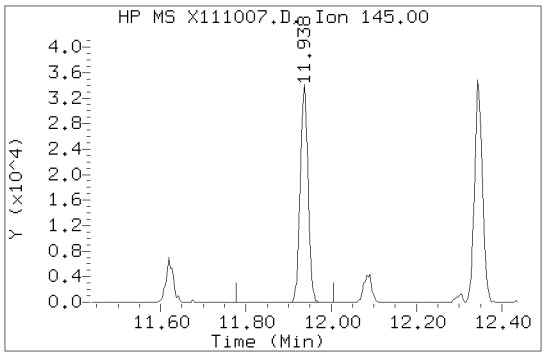
BEFORE

MASS
145
AREA
44789
HEIGHT
34144
17-Nov-2022
13:58
linh
pham



AFTER

MASS
145
AREA
44783
HEIGHT
34144
17-Nov-2022
14:02
linh
pham

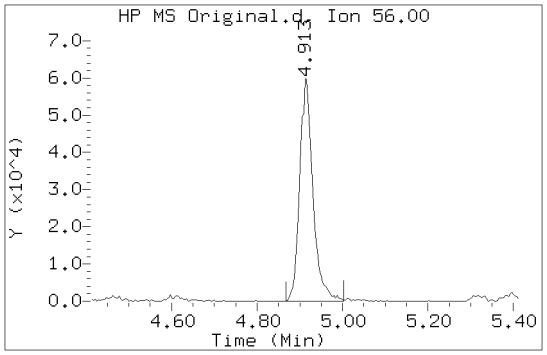


Cyclohexane (110-82-7)

Reason Code:

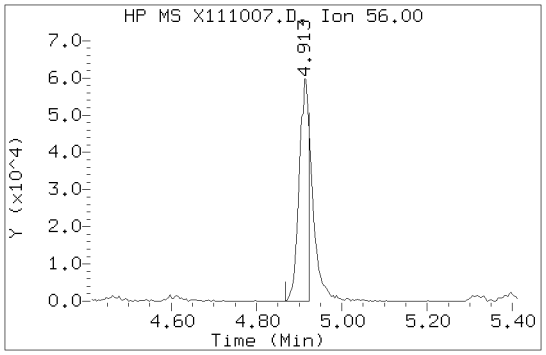
BEFORE

MASS
56
AREA
131433
HEIGHT
59752
17-Nov-2022
13:58
linh
pham



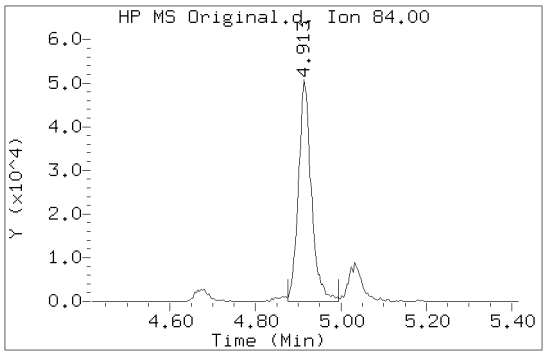
AFTER

MASS
56
AREA
96410
HEIGHT
59752
17-Nov-2022
14:02
linh
pham



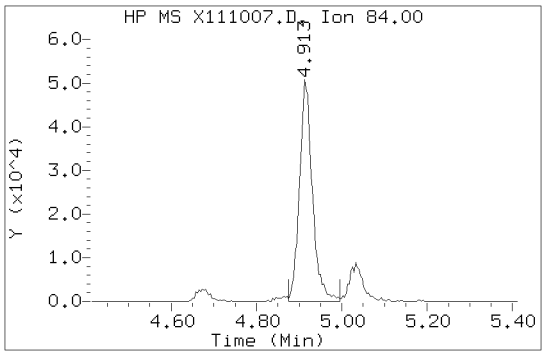
BEFORE

MASS
84
AREA
108564
HEIGHT
50784
17-Nov-2022
13:58
linh
pham



AFTER

MASS
84
AREA
108564
HEIGHT
50784
17-Nov-2022
14:02
linh
pham



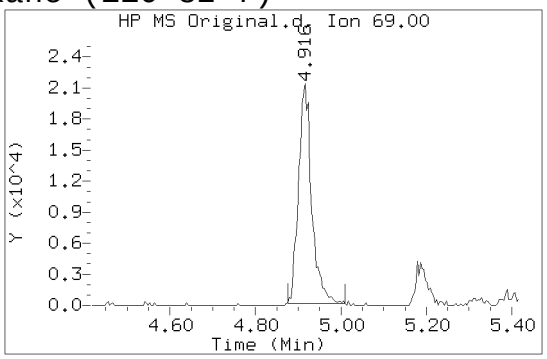
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Inj Date : 10-NOV-2022 15:16
InstruID : voa10.i
LabSampID : VSTD020

Cyclohexane (110-82-7)

Reason Code:

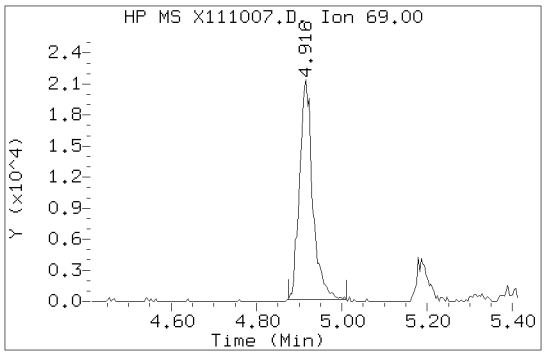
BEFORE

MASS
69
AREA
45957
HEIGHT
21206
17-Nov-2022
13:58
linh
pham



AFTER

MASS
69
AREA
45957
HEIGHT
21206
17-Nov-2022
14:02
linh
pham

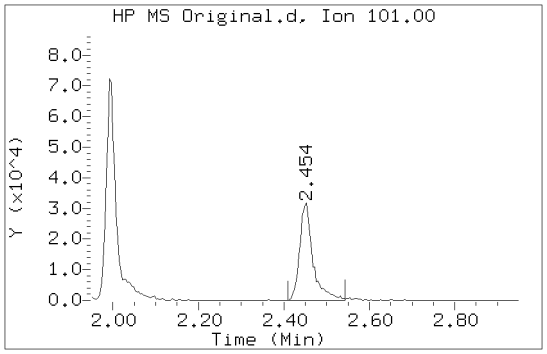


Freon TF (76-13-1)

Reason Code:

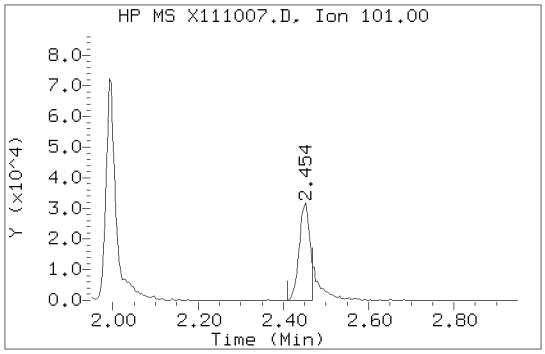
BEFORE

MASS
101
AREA
69671
HEIGHT
31776
17-Nov-2022
13:58
linh
pham



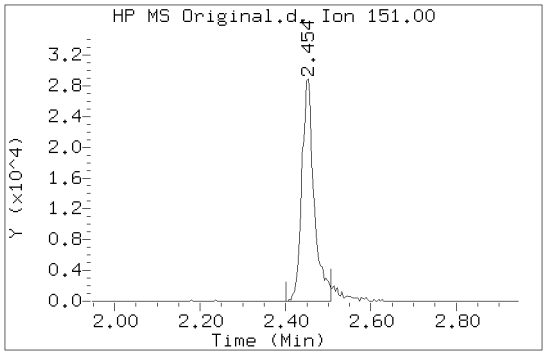
AFTER

MASS
101
AREA
56211
HEIGHT
31776
17-Nov-2022
14:02
linh
pham



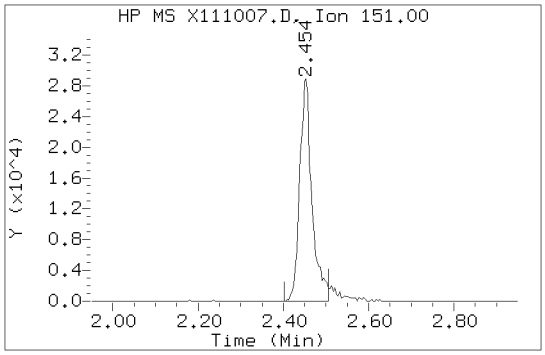
BEFORE

MASS
151
AREA
58681
HEIGHT
28896
17-Nov-2022
13:58
linh
pham



AFTER

MASS
151
AREA
58681
HEIGHT
28896
17-Nov-2022
14:02
linh
pham



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111008.D
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Inj Date : 10-NOV-2022 15:37
Operator : FT Inst ID: voa10.i
Smp Info : VSTD050;VSTD050;1;7;
Misc Info : V10;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\8260C.m
Meth Date : 17-Nov-2022 14:03 voa10.i Quant Type: ISTD
Cal Date : 10-NOV-2022 15:16 Cal File: X111007.D
Als bottle: 9 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000008260V10.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	4.916	4.916	(1.000)	496661	50.0000	
2 Dichlorodifluoromethane	85	1.235	1.235	(0.251)	164734	50.0000	38.73
3 Chloromethane	50	1.370	1.370	(0.279)	190655	50.0000	41.07
5 Vinyl Chloride	62	1.452	1.452	(0.296)	189160	50.0000	41.03
6 Bromomethane	94	1.704	1.704	(0.347)	84281	50.0000	40.51(M)
7 Chloroethane	64	1.786	1.786	(0.363)	102053	50.0000	38.43(M)
8 Trichlorofluoromethane	101	1.996	1.996	(0.406)	211451	50.0000	34.90
9 Acrolein	56	2.348	2.348	(0.478)	24619	100.000	122.75(M)
10 Acetone	43	2.491	2.491	(0.507)	218941	100.000	108.09
12 Isobutyl Alcohol	43	5.377	5.377	(1.094)	750654	1000.00	969.33
13 Acetonitrile	39	2.779	2.779	(0.565)	326552	500.000	470.03
16 Acrylonitrile	53	3.147	3.147	(0.640)	185985	100.000	101.53
11 1,1-Dichloroethene	96	2.438	2.438	(0.496)	144416	50.0000	47.80
15 Iodomethane	142	2.569	2.569	(0.523)	355942	100.000	91.40
17 Methylene Chloride	84	2.899	2.899	(0.590)	200956	50.0000	62.11
18 Methyl tert-butyl ether	73	3.196	3.196	(0.650)	671086	50.0000	52.89
19 Carbon Disulfide	76	2.633	2.633	(0.536)	878513	100.000	101.13
20 trans-1,2-Dichloroethene	96	3.173	3.173	(0.645)	176198	50.0000	46.37
22 1,1-Dichloroethane	63	3.630	3.630	(0.738)	336253	50.0000	48.40
24 2-Butanone	43	4.350	4.350	(0.885)	248500	100.000	96.48

27 cis-1,2-Dichloroethene	96	4.309	4.309 (0.876)	209368	50.0000	46.36
28 Chloroform	83	4.672	4.672 (0.950)	364891	50.0000	44.72

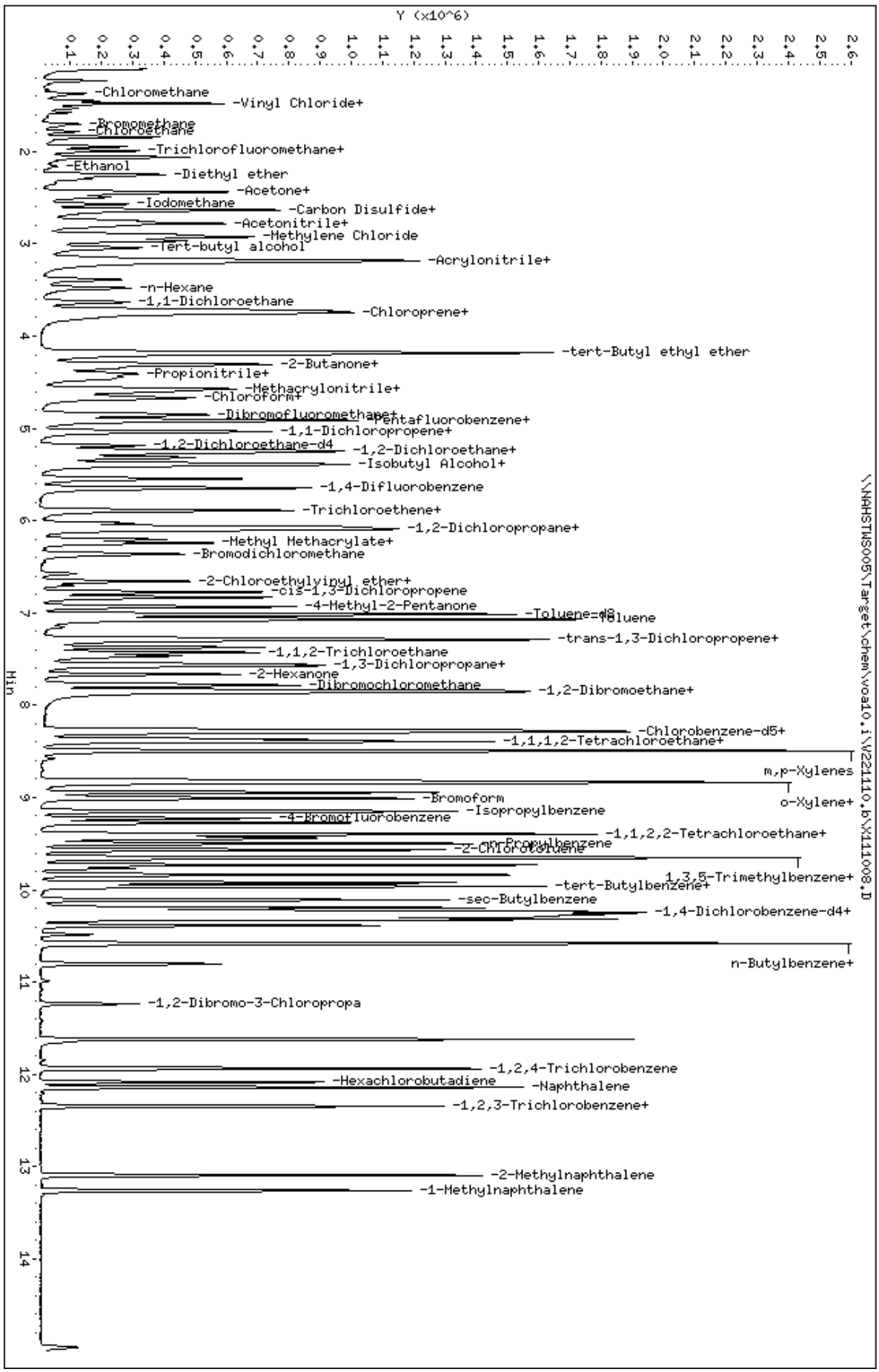
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
29	Bromochloromethane	128	4.571	4.571	(0.930)	114461	50.0000	50.66
$ 30	Dibromofluoromethane	113	4.845	4.845	(0.986)	191319	50.0000	45.59
31	1,1,1-Trichloroethane	97	4.856	4.856	(0.988)	252229	50.0000	38.47
32	1,1-Dichloropropene	75	5.036	5.036	(0.892)	228292	50.0000	40.20
33	1,2-Dichloroethane	62	5.265	5.265	(0.932)	311182	50.0000	45.70
34	Carbon Tetrachloride	117	5.029	5.029	(0.890)	189690	50.0000	38.61(MH)
$ 35	1,2-Dichloroethane-d4	65	5.190	5.190	(1.056)	243555	50.0000	45.70
* 36	1,4-Difluorobenzene	114	5.647	5.647	(1.000)	736777	50.0000	
37	Benzene	78	5.246	5.246	(0.929)	838606	50.0000	44.71
38	Trichloroethene	130	5.887	5.887	(1.042)	209686	50.0000	43.68
39	Bromodichloromethane	83	6.359	6.359	(1.126)	269119	50.0000	45.99
42	1,2-Dichloropropane	63	6.097	6.097	(1.080)	243682	50.0000	46.49
45	4-Methyl-2-Pentanone	43	6.929	6.929	(0.838)	530824	100.000	93.11
46	cis-1,3-Dichloropropene	75	6.775	6.775	(1.200)	381163	50.0000	48.74
* 47	Chlorobenzene-d5	117	8.267	8.267	(1.000)	626013	50.0000	
$ 48	Toluene-d8	98	7.012	7.012	(0.848)	698101	50.0000	44.27
50	Toluene	91	7.072	7.072	(0.855)	863285	50.0000	46.78
51	trans-1,3-Dichloropropene	75	7.270	7.270	(1.287)	322081	50.0000	46.87
52	2-Hexanone	43	7.668	7.668	(0.927)	382051	100.000	94.42
53	1,1,2-Trichloroethane	83	7.431	7.431	(0.899)	173487	50.0000	46.98
54	1,3-Dichloropropane	76	7.574	7.574	(0.916)	357983	50.0000	47.19
55	Dibromochloromethane	129	7.769	7.769	(0.940)	223433	50.0000	46.37
56	Tetrachloroethene	164	7.551	7.551	(0.913)	159305	50.0000	41.59
57	1,2-Dibromoethane	107	7.863	7.863	(0.951)	215277	50.0000	47.62
59	Chlorobenzene	112	8.294	8.294	(1.003)	558826	50.0000	44.37
60	1,1,1,2-Tetrachloroethane	131	8.365	8.365	(1.012)	207367	50.0000	45.95
61	Ethylbenzene	106	8.391	8.391	(1.015)	263054	50.0000	42.64
62	m,p-Xylenes	106	8.496	8.496	(1.028)	664615	100.000	87.52
63	o-Xylene	106	8.833	8.833	(1.068)	336457	50.0000	44.36
64	Styrene	104	8.841	8.841	(1.069)	624914	50.0000	45.36
66	Bromoform	173	8.995	8.995	(1.088)	164151	50.0000	45.09
67	Isopropylbenzene	105	9.148	9.148	(1.107)	756936	50.0000	40.22
68	1,1,2,2-Tetrachloroethane	83	9.399	9.399	(0.917)	322468	50.0000	48.64
$ 69	4-Bromofluorobenzene	95	9.276	9.276	(1.122)	274831	50.0000	44.23
* 70	1,4-Dichlorobenzene-d4	152	10.250	10.250	(1.000)	403883	50.0000	
75	1,3,5-Trimethylbenzene	105	9.647	9.647	(0.941)	714219	50.0000	43.41
78	tert-Butylbenzene	119	9.924	9.924	(0.968)	568233	50.0000	40.04
79	1,2,4-Trimethylbenzene	105	9.966	9.966	(0.972)	766567	50.0000	42.87
81	sec-Butylbenzene	105	10.108	10.108	(0.986)	760571	50.0000	38.13
87	n-Butylbenzene	91	10.577	10.577	(1.032)	666986	50.0000	38.34
73	n-Propylbenzene	91	9.497	9.497	(0.926)	921704	50.0000	41.83
71	1,2,3-Trichloropropane	75	9.433	9.433	(0.920)	376814	50.0000	43.88
83	1,3-Dichlorobenzene	146	10.198	10.198	(0.995)	517845	50.0000	41.98
84	1,4-Dichlorobenzene	146	10.273	10.273	(1.002)	548142	50.0000	46.86
88	1,2-Dichlorobenzene	146	10.584	10.584	(1.033)	540647	50.0000	48.01
89	1,2-Dibromo-3-Chloropropane	155	11.236	11.236	(1.096)	60051	50.0000	48.09
90	1,2,4-Trichlorobenzene	180	11.937	11.937	(1.165)	388008	50.0000	45.37(M)
92	Naphthalene	128	12.144	12.144	(1.185)	1033096	50.0000	45.47
136	n-Hexane	57	3.480	3.480	(0.708)	156893	50.0000	30.20
147	Methylcyclohexane	55	6.067	6.067	(1.074)	316157	50.0000	46.82
141	Cyclohexane	56	4.912	4.912	(0.999)	218836	50.0000	48.35
138	Freon TF	101	2.450	2.450	(0.498)	125676	50.0000	48.17

146	Methyl Acetate	43	2.809	2.809 (0.572)	214916	50.0000	52.82
21	Vinyl Acetate	43	3.717	3.717 (0.756)	1001604	100.000	99.43(M)

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
	26 2,2-Dichloropropane	77	4.305	4.305	(0.876)	243262	50.0000	40.46
	44 Dibromomethane	93	6.206	6.206	(1.099)	136897	50.0000	45.63
	91 Hexachlorobutadiene	225	12.084	12.084	(1.179)	158258	50.0000	46.98
	74 Bromobenzene	156	9.399	9.399	(0.917)	285201	50.0000	46.26
	76 2-Chlorotoluene	91	9.568	9.568	(0.933)	635892	50.0000	45.03
	77 4-Chlorotoluene	91	9.658	9.658	(0.942)	756893	50.0000	43.99
	82 p-Isopropyltoluene	119	10.232	10.232	(0.998)	729507	50.0000	40.21
	93 1,2,3-Trichlorobenzene	180	12.346	12.346	(1.204)	365195	50.0000	46.24
	148 tert-Butyl Alcohol	59	3.042	3.042	(0.619)	446629	1000.00	717.86
	142 Tetrahydrofuran	42	4.646	4.646	(0.945)	107289	100.000	105.28
M	94 1,2-Dichloroethylene (total)	96				385566	100.000	
M	95 Xylenes (total)	106				1001072	150.000	

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.



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Client ID: VSTD050
Sample Info: VSTD050;VSTD050;1;7;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa10.i
Operator: FT
Column diameter: 0.18

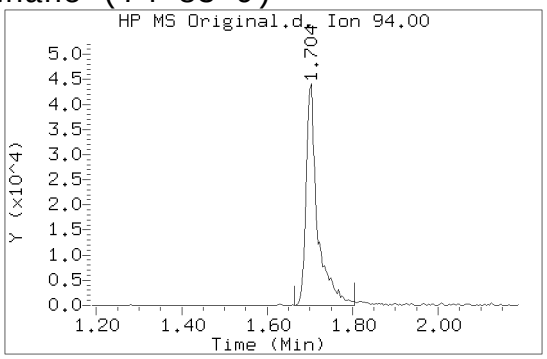
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InstruID : voa10.i
LabSampID : VSTD050

Bromomethane (74-83-9)

Reason Code:

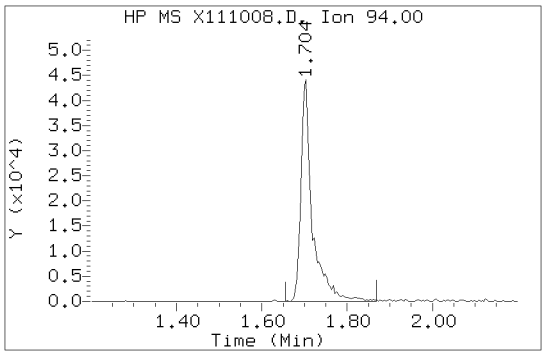
BEFORE

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HEIGHT
44144
17-Nov-2022
13:58
linh
pham



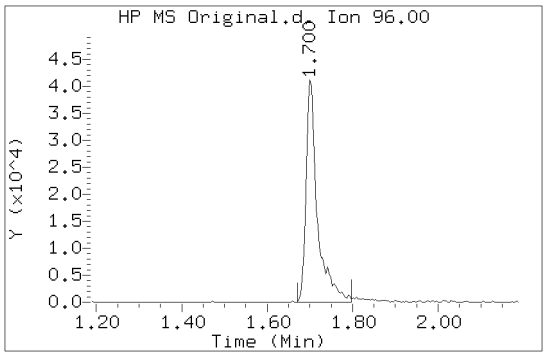
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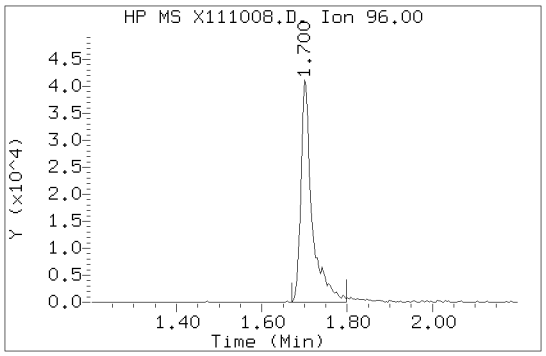
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AFTER

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17-Nov-2022
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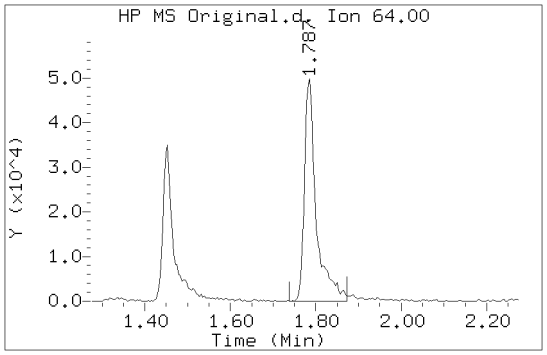


Chloroethane (75-00-3)

Reason Code:

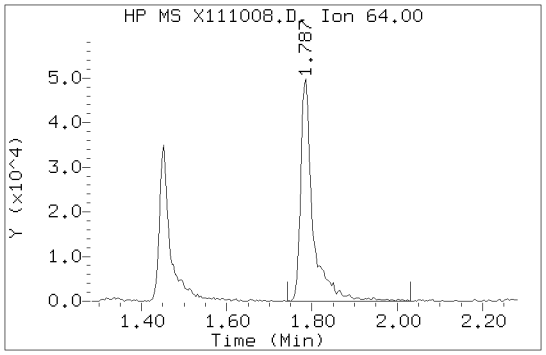
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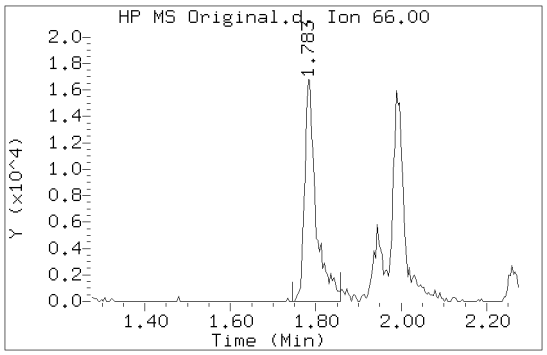
AFTER

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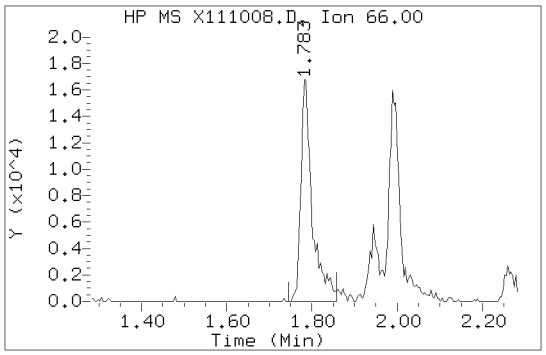
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HEIGHT
16768
17-Nov-2022
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AFTER

MASS
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31586
HEIGHT
16768
17-Nov-2022
14:02
linh
pham



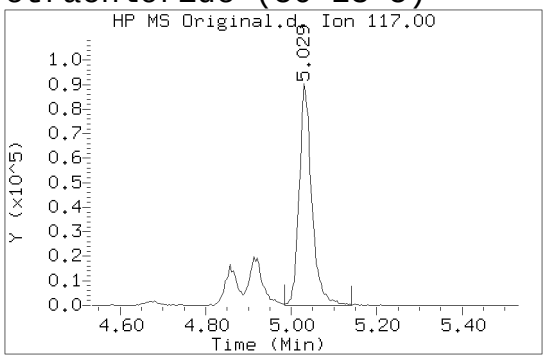
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InstruID : voa10.i
LabSampID : VSTD050

Carbon Tetrachloride (56-23-5)

Reason Code:

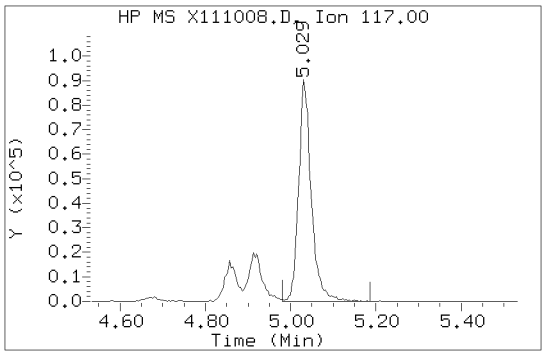
BEFORE

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AREA
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HEIGHT
90408
17-Nov-2022
13:58
linh
pham



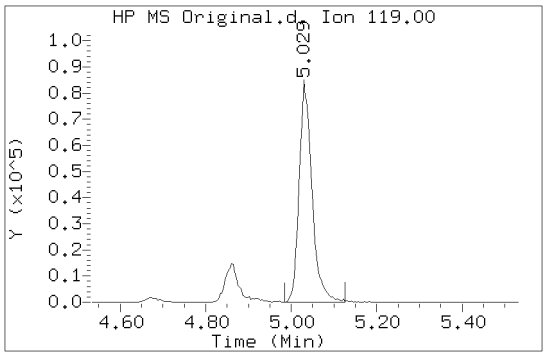
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17-Nov-2022
14:02
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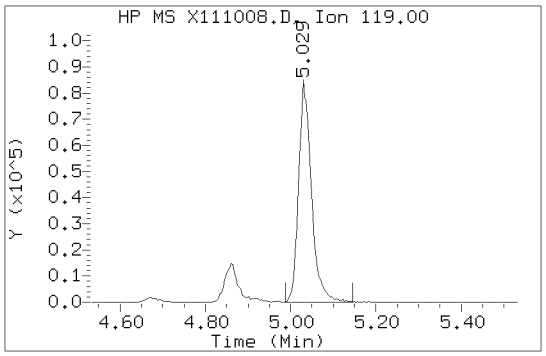
BEFORE

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AREA
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85016
17-Nov-2022
13:58
linh
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AFTER

MASS
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HEIGHT
85016
17-Nov-2022
14:02
linh
pham

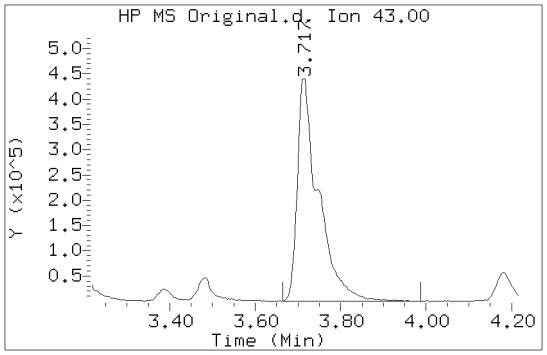


Vinyl Acetate (108-05-4)

Reason Code:

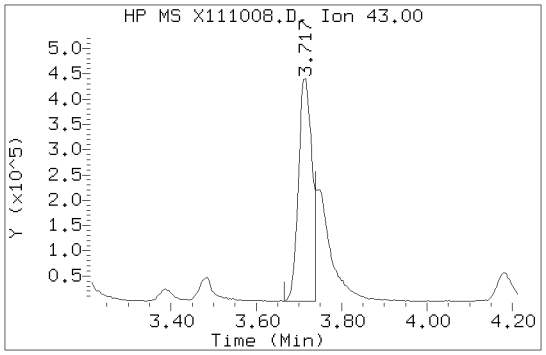
BEFORE

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HEIGHT
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17-Nov-2022
13:58
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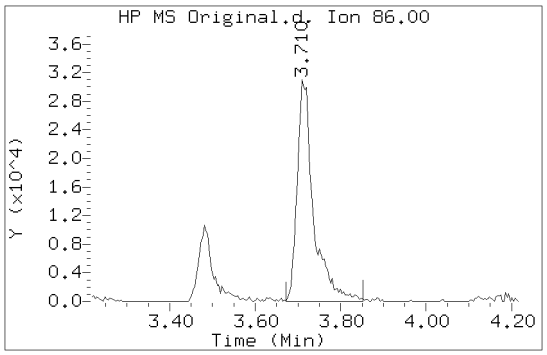
AFTER

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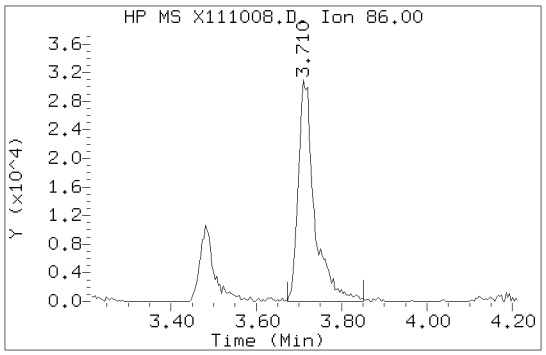
BEFORE

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86
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HEIGHT
31016
17-Nov-2022
13:58
linh
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AFTER

MASS
86
AREA
83367
HEIGHT
31016
17-Nov-2022
14:02
linh
pham



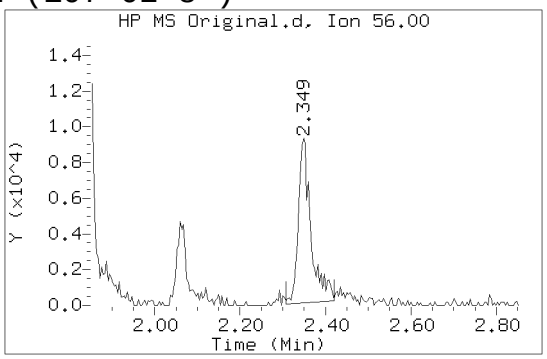
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Inj Date : 10-NOV-2022 15:37
InstruID : voa10.i
LabSampID : VSTD050

Acrolein (107-02-8)

Reason Code:

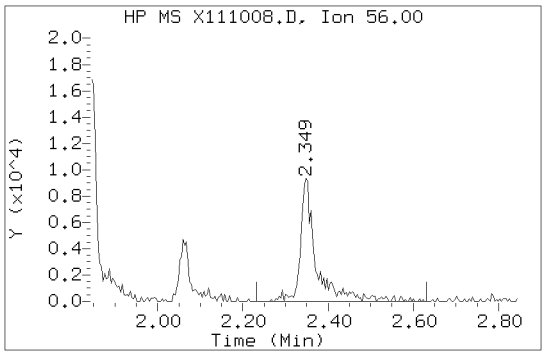
BEFORE

MASS
56
AREA
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HEIGHT
9199
17-Nov-2022
13:58
linh
pham



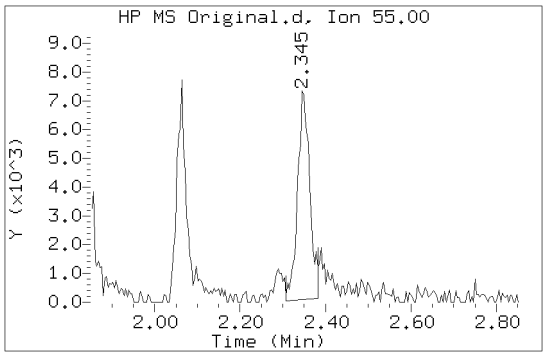
AFTER

MASS
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17-Nov-2022
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linh
pham



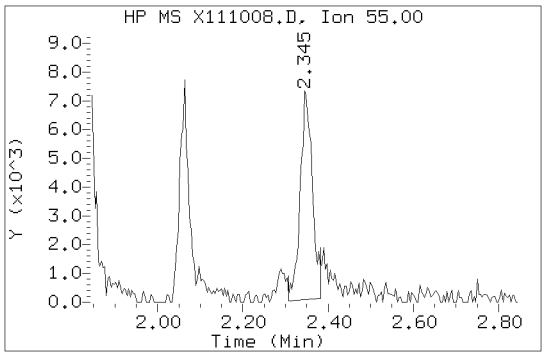
BEFORE

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AREA
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HEIGHT
7267
17-Nov-2022
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linh
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AFTER

MASS
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AREA
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HEIGHT
7267
17-Nov-2022
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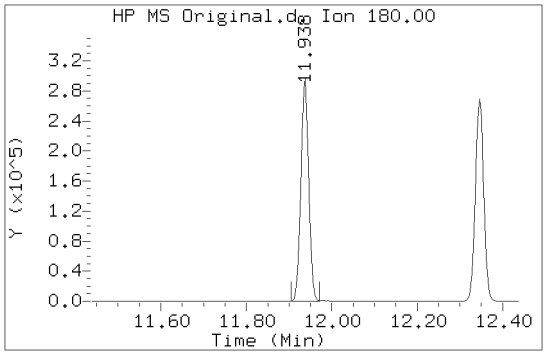


1,2,4-Trichlorobenzene (120-82-1)

Reason Code:

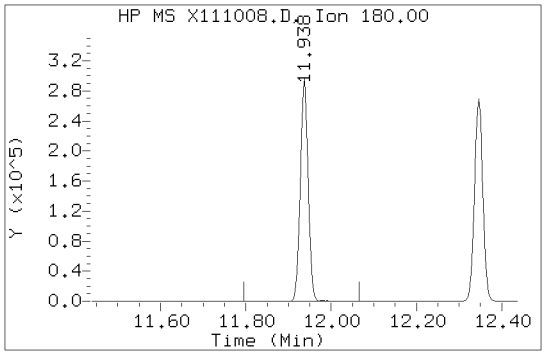
BEFORE

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AREA
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HEIGHT
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17-Nov-2022
13:58
linh
pham



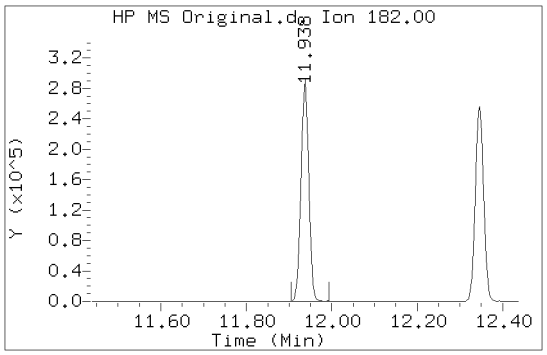
AFTER

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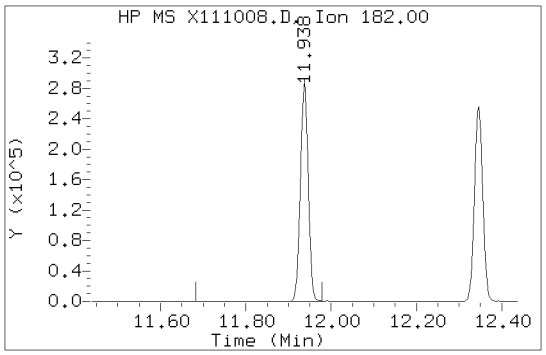
BEFORE

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17-Nov-2022
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AFTER

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17-Nov-2022
14:02
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pham



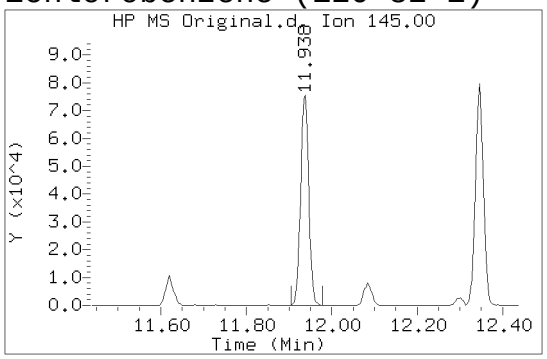
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Inj Date : 10-NOV-2022 15:37
InstruID : voa10.i
LabSampID : VSTD050

1,2,4-Trichlorobenzene (120-82-1)

Reason Code:

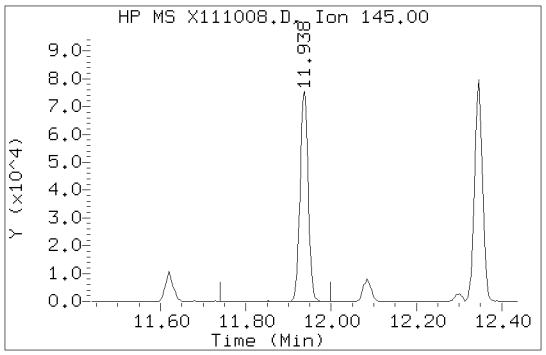
BEFORE

MASS
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75464
17-Nov-2022
13:58
linh
pham



AFTER

MASS
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HEIGHT
75464
17-Nov-2022
14:02
linh
pham



Data File: \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111009.D Page 1
Report Date: 17-Nov-2022 14:03

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111009.D
Lab Smp Id: VSTD100 Client Smp ID: VSTD100
Inj Date : 10-NOV-2022 15:57
Operator : FT Inst ID: voa10.i
Smp Info : VSTD100;VSTD100;1;8;
Misc Info : V10;WATER;0;1;
Comment :
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Meth Date : 17-Nov-2022 14:03 voa10.i Quant Type: ISTD
Cal Date : 10-NOV-2022 15:37 Cal File: X111008.D
Als bottle: 10 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000008260V10.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	4.916	4.916	(1.000)	499389	50.0000	
2	Dichlorodifluoromethane	85	1.231	1.231	(0.251)	493146	100.000	115.33
3	Chloromethane	50	1.370	1.370	(0.279)	487045	100.000	104.36
5	Vinyl Chloride	62	1.452	1.452	(0.295)	510141	100.000	110.06
6	Bromomethane	94	1.696	1.696	(0.345)	246344	100.000	117.76
7	Chloroethane	64	1.782	1.782	(0.363)	258742	100.000	96.92
8	Trichlorofluoromethane	101	1.992	1.992	(0.405)	691836	100.000	113.59
9	Acrolein	56	2.348	2.348	(0.478)	39803	200.000	196.33
10	Acetone	43	2.494	2.494	(0.507)	427642	200.000	215.10(A)
12	Isobutyl Alcohol	43	5.381	5.381	(1.095)	1613466	2000.00	2072.12
13	Acetonitrile	39	2.776	2.776	(0.565)	551887	1000.00	790.03
16	Acrylonitrile	53	3.143	3.143	(0.639)	376119	200.000	204.21
11	1,1-Dichloroethene	96	2.438	2.438	(0.496)	370701	100.000	100.21
15	Iodomethane	142	2.569	2.569	(0.523)	858110	200.000	204.15
17	Methylene Chloride	84	2.896	2.896	(0.589)	325588	100.000	98.13
18	Methyl tert-butyl ether	73	3.199	3.199	(0.651)	1315347	100.000	103.10
19	Carbon Disulfide	76	2.633	2.633	(0.536)	1659683	200.000	182.55
20	trans-1,2-Dichloroethene	96	3.177	3.177	(0.646)	398674	100.000	104.36
22	1,1-Dichloroethane	63	3.630	3.630	(0.738)	740355	100.000	100.23
24	2-Butanone	43	4.354	4.354	(0.886)	497438	200.000	192.09

27	cis-1,2-Dichloroethene	96	4.309	4.309 (0.876)	453213	100.000	99.82
28	Chloroform	83	4.672	4.672 (0.950)	766630	100.000	93.44

Data File: \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111009.D Page 2
Report Date: 17-Nov-2022 14:03

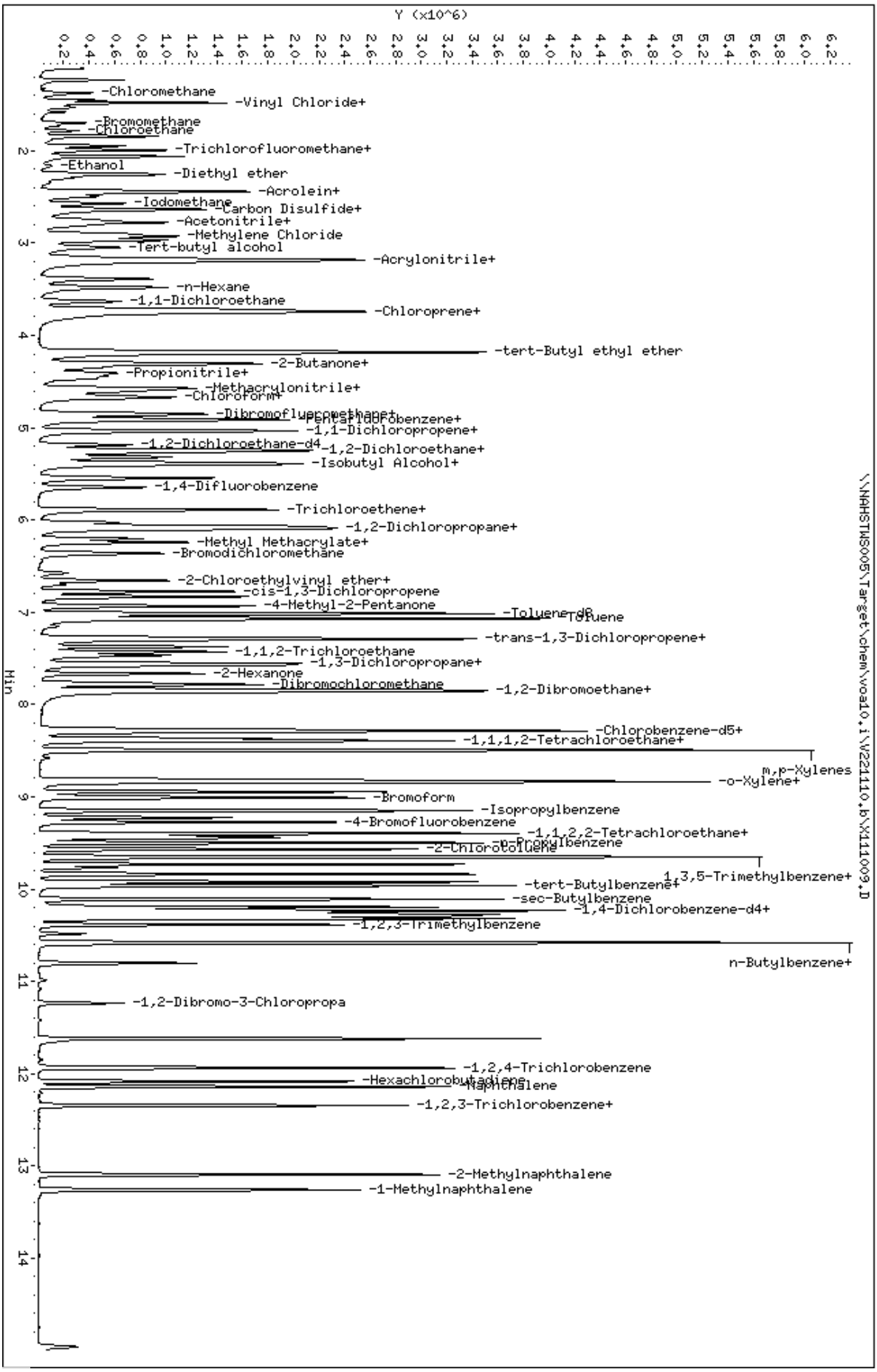
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
29	Bromochloromethane	128	4.567	4.567	(0.929)	218909	100.000	96.36
$ 30	Dibromofluoromethane	113	4.841	4.841	(0.985)	411721	100.000	97.57
31	1,1,1-Trichloroethane	97	4.860	4.860	(0.989)	641651	100.000	97.34
32	1,1-Dichloropropene	75	5.036	5.036	(0.892)	589355	100.000	104.27
33	1,2-Dichloroethane	62	5.265	5.265	(0.933)	643185	100.000	94.90
34	Carbon Tetrachloride	117	5.032	5.032	(0.892)	534769	100.000	109.35(H)
$ 35	1,2-Dichloroethane-d4	65	5.190	5.190	(1.056)	509628	100.000	95.10
* 36	1,4-Difluorobenzene	114	5.643	5.643	(1.000)	733395	50.0000	
37	Benzene	78	5.242	5.242	(0.929)	1810196	100.000	96.95
38	Trichloroethene	130	5.887	5.887	(1.043)	475867	100.000	99.59
39	Bromodichloromethane	83	6.359	6.359	(1.127)	561647	100.000	96.44
42	1,2-Dichloropropane	63	6.097	6.097	(1.080)	497461	100.000	95.36
45	4-Methyl-2-Pentanone	43	6.929	6.929	(0.838)	1115061	200.000	191.29
46	cis-1,3-Dichloropropene	75	6.775	6.775	(1.201)	776960	100.000	99.82
* 47	Chlorobenzene-d5	117	8.267	8.267	(1.000)	629800	50.0000	
$ 48	Toluene-d8	98	7.012	7.012	(0.848)	1660983	100.000	104.34
50	Toluene	91	7.072	7.072	(0.855)	1904095	100.000	102.57
51	trans-1,3-Dichloropropene	75	7.274	7.274	(1.289)	679230	100.000	99.31
52	2-Hexanone	43	7.668	7.668	(0.927)	794391	200.000	193.31
53	1,1,2-Trichloroethane	83	7.428	7.428	(0.898)	356678	100.000	96.01
54	1,3-Dichloropropane	76	7.574	7.574	(0.916)	731424	100.000	95.85
55	Dibromochloromethane	129	7.769	7.769	(0.940)	473870	100.000	97.76
56	Tetrachloroethene	164	7.555	7.555	(0.914)	405830	100.000	105.33
57	1,2-Dibromoethane	107	7.862	7.862	(0.951)	439477	100.000	96.63
59	Chlorobenzene	112	8.294	8.294	(1.003)	1193793	100.000	94.22
60	1,1,1,2-Tetrachloroethane	131	8.369	8.369	(1.012)	441104	100.000	97.17
61	Ethylbenzene	106	8.391	8.391	(1.015)	617447	100.000	99.50
62	m,p-Xylenes	106	8.496	8.496	(1.028)	1507175	200.000	197.28
63	o-Xylene	106	8.833	8.833	(1.068)	731364	100.000	95.84
64	Styrene	104	8.841	8.841	(1.069)	1341502	100.000	96.80
66	Bromoform	173	8.995	8.995	(1.088)	364147	100.000	98.04
67	Isopropylbenzene	105	9.148	9.148	(1.107)	1886431	100.000	99.63
68	1,1,2,2-Tetrachloroethane	83	9.399	9.399	(0.917)	665348	100.000	100.23
$ 69	4-Bromofluorobenzene	95	9.272	9.272	(1.122)	619939	100.000	98.01
* 70	1,4-Dichlorobenzene-d4	152	10.254	10.254	(1.000)	405207	50.0000	
75	1,3,5-Trimethylbenzene	105	9.647	9.647	(0.941)	1690828	100.000	102.43
78	tert-Butylbenzene	119	9.924	9.924	(0.968)	1423738	100.000	100.00
79	1,2,4-Trimethylbenzene	105	9.965	9.965	(0.972)	1775563	100.000	98.99
81	sec-Butylbenzene	105	10.108	10.108	(0.986)	2082077	100.000	104.05
87	n-Butylbenzene	91	10.577	10.577	(1.031)	1811269	100.000	103.78
73	n-Propylbenzene	91	9.497	9.497	(0.926)	2280734	100.000	103.18
71	1,2,3-Trichloropropane	75	9.433	9.433	(0.920)	789546	100.000	91.66
83	1,3-Dichlorobenzene	146	10.198	10.198	(0.995)	1126165	100.000	90.99
84	1,4-Dichlorobenzene	146	10.273	10.273	(1.002)	1165737	100.000	98.69
88	1,2-Dichlorobenzene	146	10.584	10.584	(1.032)	1127669	100.000	99.82
89	1,2-Dibromo-3-Chloropropane	155	11.236	11.236	(1.096)	122735	100.000	97.97
90	1,2,4-Trichlorobenzene	180	11.937	11.937	(1.164)	886028	100.000	103.22(M)
92	Naphthalene	128	12.143	12.143	(1.184)	2171858	100.000	95.29
136	n-Hexane	57	3.480	3.480	(0.708)	567026	100.000	108.56
147	Methylcyclohexane	55	6.067	6.067	(1.075)	663248	100.000	98.69
141	Cyclohexane	56	4.916	4.916	(1.000)	682169	100.000	100.11
138	Freon TF	101	2.449	2.449	(0.498)	373490	100.000	100.13

146	Methyl Acetate	43	2.813	2.813 (0.572)	321439	100.000	78.57
21	Vinyl Acetate	43	3.713	3.713 (0.755)	2037936	200.000	201.21(M)

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
26	2,2-Dichloropropane	77	4.305	4.305	(0.876)	616947	100.000	102.06
44	Dibromomethane	93	6.202	6.202	(1.099)	278317	100.000	93.19
91	Hexachlorobutadiene	225	12.087	12.087	(1.179)	444581	100.000	100.23
74	Bromobenzene	156	9.399	9.399	(0.917)	587054	100.000	94.92
76	2-Chlorotoluene	91	9.568	9.568	(0.933)	1413135	100.000	98.04
77	4-Chlorotoluene	91	9.658	9.658	(0.942)	1679213	100.000	97.29
82	p-Isopropyltoluene	119	10.232	10.232	(0.998)	1901368	100.000	104.46
93	1,2,3-Trichlorobenzene	180	12.346	12.346	(1.204)	812095	100.000	102.81
148	tert-Butyl Alcohol	59	3.045	3.045	(0.620)	898030	2000.00	1435.51
142	Tetrahydrofuran	42	4.646	4.646	(0.945)	188005	200.000	183.48
M 94	1,2-Dichloroethylene (total)	96				851887	200.000	
M 95	Xylenes (total)	106				2238539	300.000	

QC Flag Legend

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: voa10.i
Operator: FT
Column diameter: 0.18

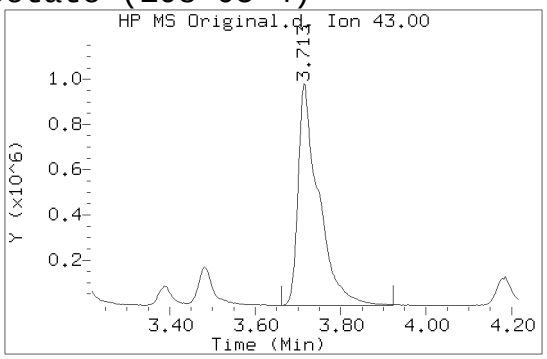
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InstruID : voa10.i
LabSampID : VSTD100

Vinyl Acetate (108-05-4)

Reason Code:

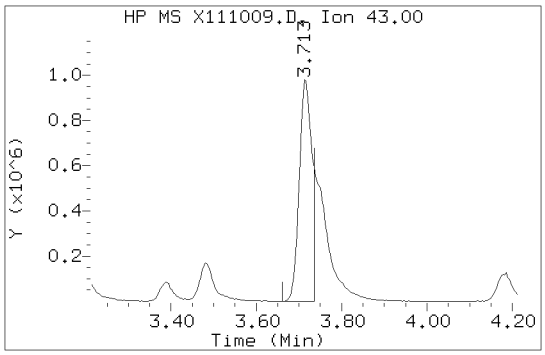
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17-Nov-2022
13:58
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pham



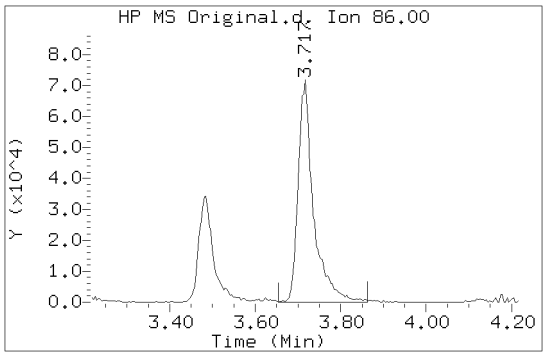
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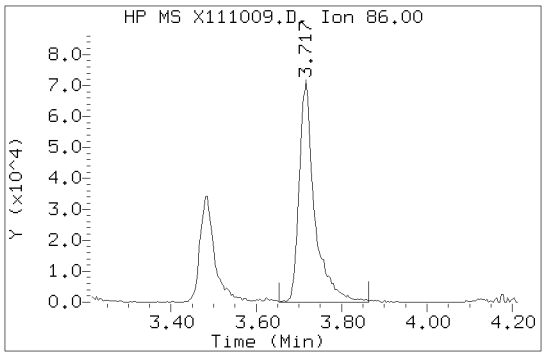
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17-Nov-2022
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AFTER

MASS
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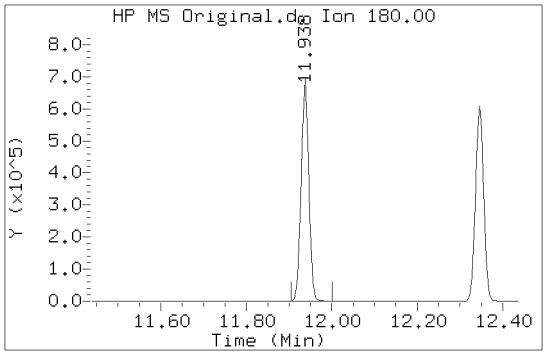


1,2,4-Trichlorobenzene (120-82-1)

Reason Code:

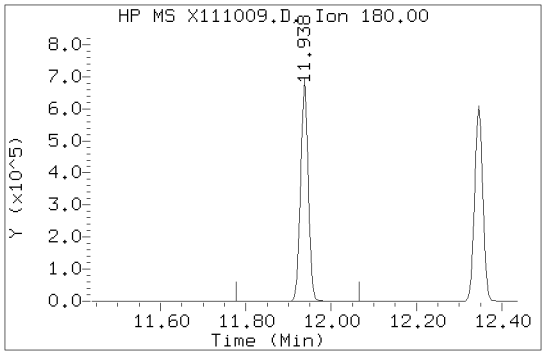
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HEIGHT
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17-Nov-2022
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pham



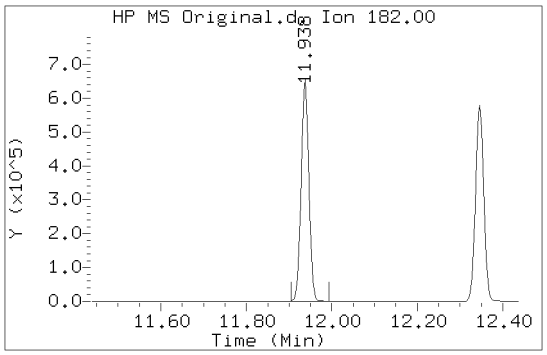
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14:02
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pham



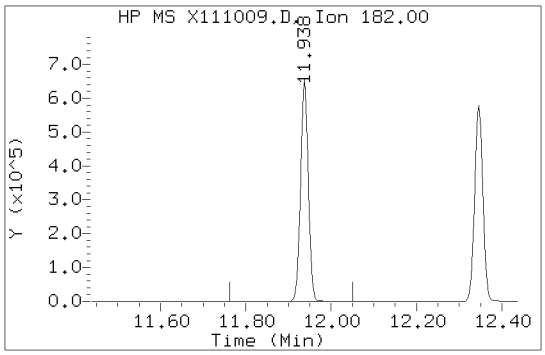
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AFTER

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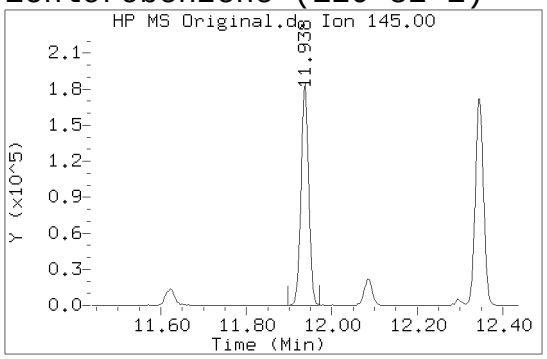
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LabSampID : VSTD100

1,2,4-Trichlorobenzene (120-82-1)

Reason Code:

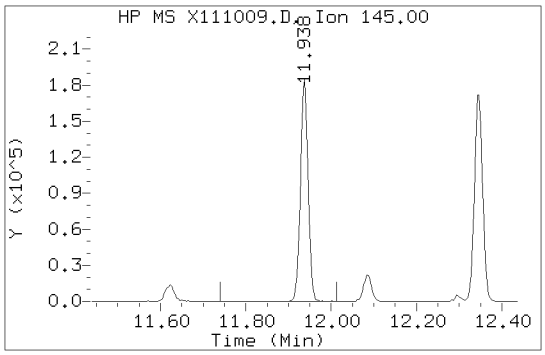
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17-Nov-2022
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pham



AFTER

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HEIGHT
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17-Nov-2022
14:02
linh
pham



Data File: \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111010.D Page 1
Report Date: 17-Nov-2022 14:03

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111010.D
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Inj Date : 10-NOV-2022 16:17
Operator : FT Inst ID: voa10.i
Smp Info : VSTD150;VSTD150;1;9;
Misc Info : V10;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\8260C.m
Meth Date : 17-Nov-2022 14:03 voa10.i Quant Type: ISTD
Cal Date : 10-NOV-2022 15:57 Cal File: X111009.D
Als bottle: 11 Calibration Sample, Level: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000008260V10.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	4.916	4.916	(1.000)	502441	50.0000	
2 Dichlorodifluoromethane	85	1.235	1.235	(0.251)	767641	150.000	178.44
3 Chloromethane	50	1.370	1.370	(0.279)	724462	150.000	154.29
5 Vinyl Chloride	62	1.452	1.452	(0.295)	808031	150.000	173.28
6 Bromomethane	94	1.692	1.692	(0.344)	337683	150.000	160.44
7 Chloroethane	64	1.778	1.778	(0.362)	482707	150.000	179.71
8 Trichlorofluoromethane	101	1.992	1.992	(0.405)	1028879	150.000	167.90
9 Acrolein	56	2.348	2.348	(0.478)	58475	300.000	283.71
10 Acetone	43	2.494	2.494	(0.507)	606017	300.000	305.19(A)
12 Isobutyl Alcohol	43	5.377	5.377	(1.094)	2527581	3000.00	3226.37
13 Acetonitrile	39	2.776	2.776	(0.565)	1005061	1500.00	1430.02
16 Acrylonitrile	53	3.150	3.150	(0.641)	477766	300.000	257.82
11 1,1-Dichloroethene	96	2.438	2.438	(0.496)	574698	150.000	122.73
15 Iodomethane	142	2.569	2.569	(0.523)	1351419	300.000	303.45
17 Methylene Chloride	84	2.896	2.896	(0.589)	491109	150.000	140.63
18 Methyl tert-butyl ether	73	3.199	3.199	(0.651)	1762035	150.000	137.27
19 Carbon Disulfide	76	2.633	2.633	(0.536)	3203085	300.000	319.66
20 trans-1,2-Dichloroethene	96	3.177	3.177	(0.646)	513342	150.000	133.56
22 1,1-Dichloroethane	63	3.630	3.630	(0.738)	1127330	150.000	142.74
24 2-Butanone	43	4.354	4.354	(0.886)	759168	300.000	291.38

27 cis-1,2-Dichloroethene	96	4.309	4.309 (0.876)	634459	150.000	138.89
28 Chloroform	83	4.672	4.672 (0.950)	1101203	150.000	133.41

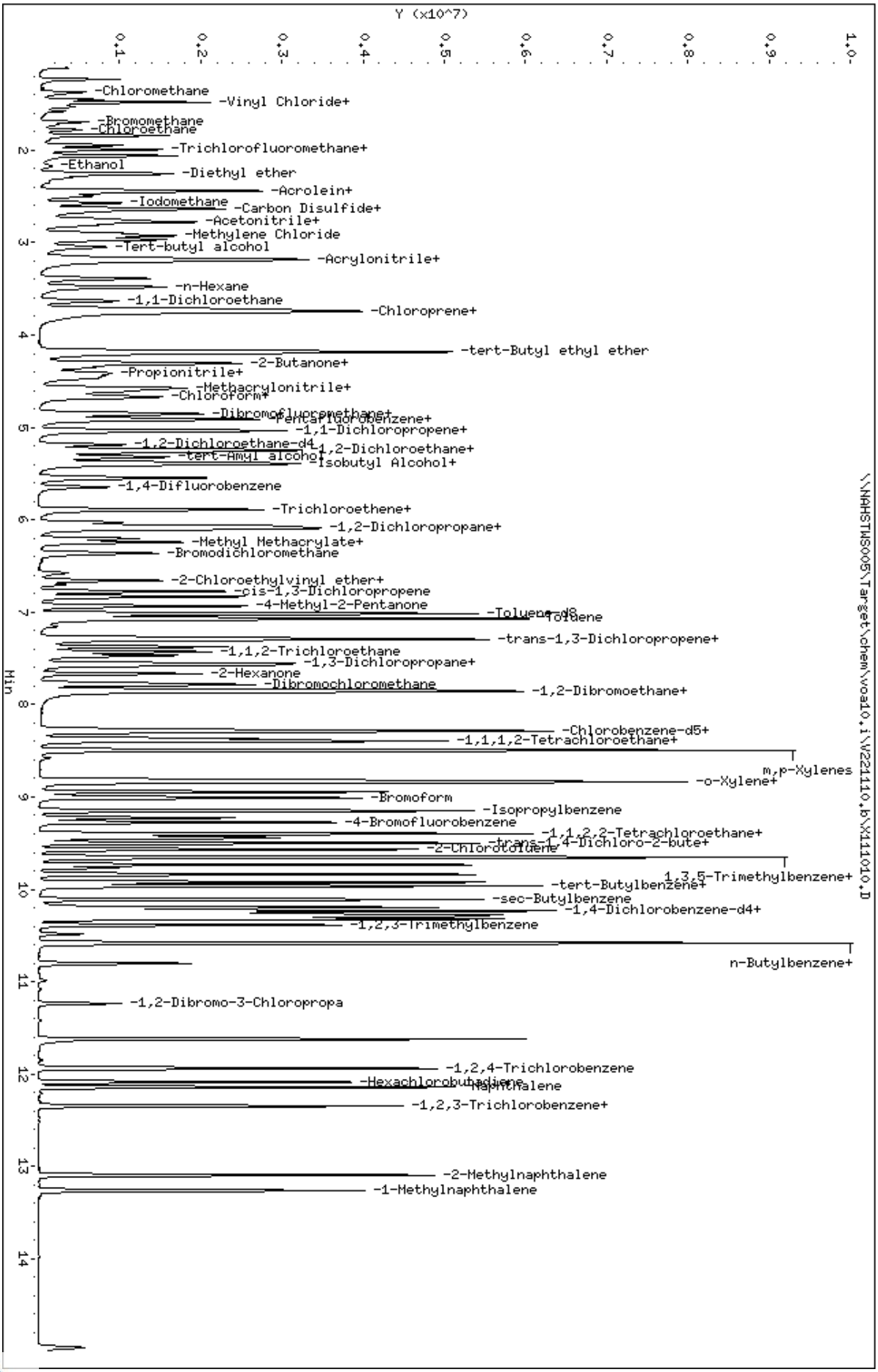
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	29 Bromochloromethane	128	4.571	4.571	(0.930)	311646	150.000	136.35
$	30 Dibromofluoromethane	113	4.841	4.841	(0.985)	604858	150.000	142.48
	31 1,1,1-Trichloroethane	97	4.860	4.860	(0.989)	965053	150.000	145.52
	32 1,1-Dichloropropene	75	5.036	5.036	(0.892)	868970	150.000	153.52
	33 1,2-Dichloroethane	62	5.268	5.268	(0.933)	933241	150.000	137.49
	34 Carbon Tetrachloride	117	5.032	5.032	(0.891)	806141	150.000	164.61(H)
$	35 1,2-Dichloroethane-d4	65	5.190	5.190	(1.056)	759036	150.000	140.79
*	36 1,4-Difluorobenzene	114	5.647	5.647	(1.000)	734478	50.0000	
	37 Benzene	78	5.246	5.246	(0.929)	2651104	150.000	141.79
	38 Trichloroethene	130	5.891	5.891	(1.043)	697919	150.000	145.86
	39 Bromodichloromethane	83	6.359	6.359	(1.126)	833857	150.000	142.97
	42 1,2-Dichloropropane	63	6.097	6.097	(1.080)	719753	150.000	137.77
	45 4-Methyl-2-Pentanone	43	6.933	6.933	(0.838)	1734551	300.000	291.92
	46 cis-1,3-Dichloropropene	75	6.775	6.775	(1.200)	1155882	150.000	148.29
*	47 Chlorobenzene-d5	117	8.271	8.271	(1.000)	638606	50.0000	
$	48 Toluene-d8	98	7.012	7.012	(0.848)	2448194	150.000	151.54
	50 Toluene	91	7.072	7.072	(0.855)	2788221	150.000	148.13
	51 trans-1,3-Dichloropropene	75	7.274	7.274	(1.288)	1025454	150.000	149.71
	52 2-Hexanone	43	7.668	7.668	(0.927)	1204655	300.000	288.25
	53 1,1,2-Trichloroethane	83	7.428	7.428	(0.898)	532549	150.000	141.38
	54 1,3-Dichloropropane	76	7.574	7.574	(0.916)	1088105	150.000	140.62
	55 Dibromochloromethane	129	7.769	7.769	(0.939)	722625	150.000	147.02
	56 Tetrachloroethene	164	7.555	7.555	(0.913)	612788	150.000	156.85
	57 1,2-Dibromoethane	107	7.863	7.863	(0.951)	641750	150.000	139.16
	59 Chlorobenzene	112	8.294	8.294	(1.003)	1789631	150.000	139.31
	60 1,1,1,2-Tetrachloroethane	131	8.365	8.365	(1.011)	667699	150.000	145.06
	61 Ethylbenzene	106	8.395	8.395	(1.015)	921976	150.000	146.52
	62 m,p-Xylenes	106	8.496	8.496	(1.027)	2298494	300.000	296.71
	63 o-Xylene	106	8.833	8.833	(1.068)	1123364	150.000	145.19
	64 Styrene	104	8.845	8.845	(1.069)	2053987	150.000	146.16
	66 Bromoform	173	8.995	8.995	(1.087)	577658	150.000	152.72
	67 Isopropylbenzene	105	9.148	9.148	(1.106)	2950016	150.000	153.66
	68 1,1,2,2-Tetrachloroethane	83	9.399	9.399	(0.917)	1017292	150.000	148.71
$	69 4-Bromofluorobenzene	95	9.276	9.276	(1.121)	958342	150.000	148.92
*	70 1,4-Dichlorobenzene-d4	152	10.254	10.254	(1.000)	417807	50.0000	
	75 1,3,5-Trimethylbenzene	105	9.647	9.647	(0.941)	2644244	150.000	155.37
	78 tert-Butylbenzene	119	9.924	9.924	(0.968)	2265923	150.000	154.36
	79 1,2,4-Trimethylbenzene	105	9.965	9.965	(0.972)	2758855	150.000	149.17
	81 sec-Butylbenzene	105	10.112	10.112	(0.986)	3280150	150.000	158.98
	87 n-Butylbenzene	91	10.577	10.577	(1.031)	2830071	150.000	157.26
	73 n-Propylbenzene	91	9.501	9.501	(0.927)	3594858	150.000	157.73
	71 1,2,3-Trichloropropane	75	9.437	9.437	(0.920)	1205805	150.000	135.76
	83 1,3-Dichlorobenzene	146	10.198	10.198	(0.995)	1736562	150.000	136.09
	84 1,4-Dichlorobenzene	146	10.273	10.273	(1.002)	1798647	150.000	147.39
	88 1,2-Dichlorobenzene	146	10.584	10.584	(1.032)	1745661	150.000	149.87
	89 1,2-Dibromo-3-Chloropropane	155	11.236	11.236	(1.096)	191143	150.000	147.98
	90 1,2,4-Trichlorobenzene	180	11.937	11.937	(1.164)	1345565	150.000	152.00(M)
	92 Naphthalene	128	12.143	12.143	(1.184)	3356224	150.000	142.82
	136 n-Hexane	57	3.480	3.480	(0.708)	876143	150.000	166.72
	147 Methylcyclohexane	55	6.067	6.067	(1.074)	992748	150.000	147.50(A)
	141 Cyclohexane	56	4.912	4.912	(0.999)	1051282	150.000	91.48
	138 Freon TF	101	2.449	2.449	(0.498)	604799	150.000	95.73

146	Methyl Acetate	43	2.813	2.813 (0.572)	635248	150.000	154.33
21	Vinyl Acetate	43	3.717	3.717 (0.756)	3177509	300.000	311.81(M)

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
	26 2,2-Dichloropropane	77	4.309	4.309	(0.876)	905931	150.000	148.96
	44 Dibromomethane	93	6.202	6.202	(1.098)	411781	150.000	137.68
	91 Hexachlorobutadiene	225	12.087	12.087	(1.179)	679583	150.000	111.48
	74 Bromobenzene	156	9.399	9.399	(0.917)	908115	150.000	142.41
	76 2-Chlorotoluene	91	9.568	9.568	(0.933)	2200194	150.000	147.32
	77 4-Chlorotoluene	91	9.658	9.658	(0.942)	2612010	150.000	146.77
	82 p-Isopropyltoluene	119	10.235	10.235	(0.998)	2955996	150.000	157.50
	93 1,2,3-Trichlorobenzene	180	12.346	12.346	(1.204)	1242539	150.000	152.68
	148 tert-Butyl Alcohol	59	3.049	3.049	(0.620)	1214272	3000.00	1929.23
	142 Tetrahydrofuran	42	4.650	4.650	(0.946)	277695	300.000	269.36
M	94 1,2-Dichloroethylene (total)	96				1147801	300.000	
M	95 Xylenes (total)	106				3421858	450.000	

QC Flag Legend

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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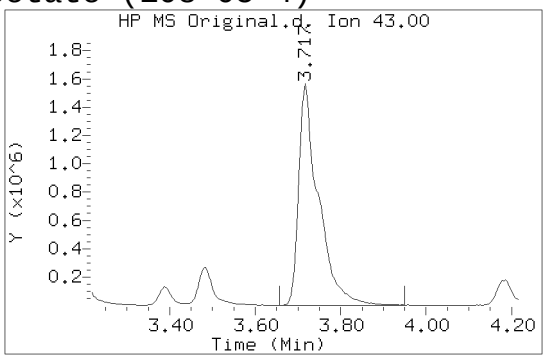
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Operator: FT
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Vinyl Acetate (108-05-4)

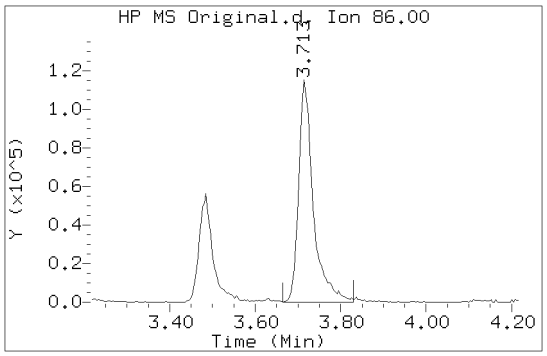
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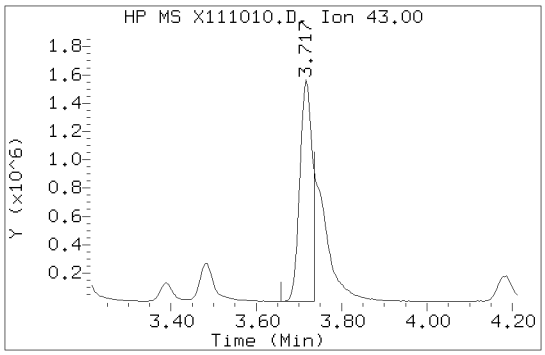
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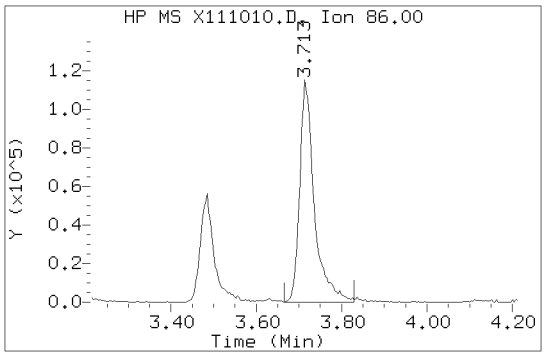
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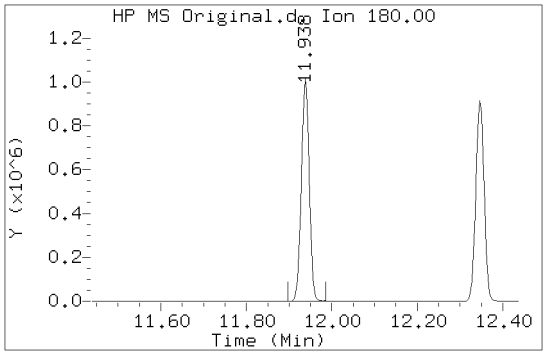
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1,2,4-Trichlorobenzene (120-82-1)

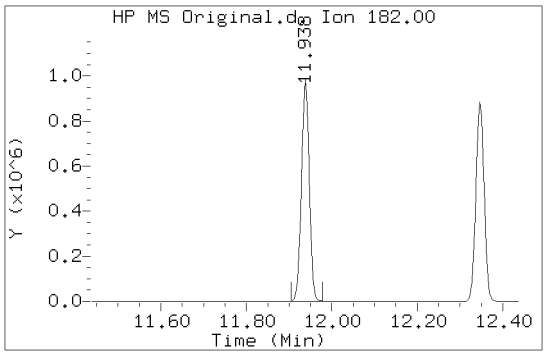
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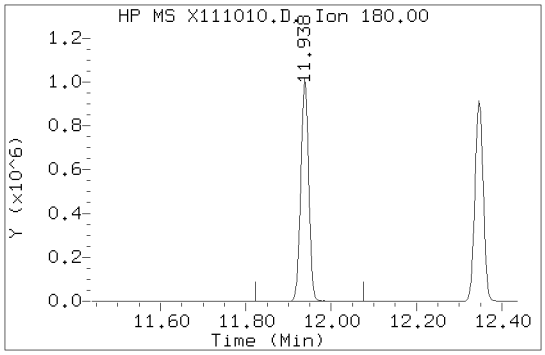
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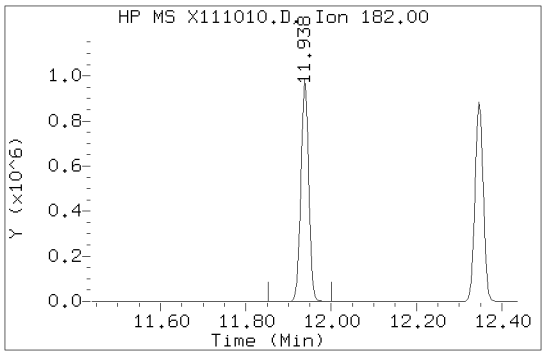
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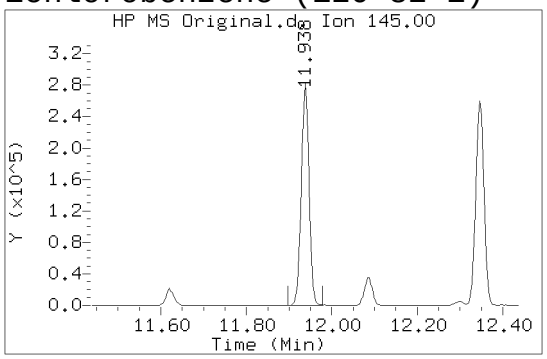
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1,2,4-Trichlorobenzene (120-82-1)

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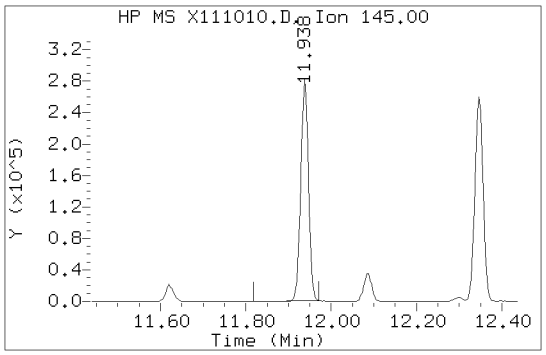
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ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111011.D
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Inj Date : 10-NOV-2022 16:38
Operator : FT Inst ID: voa10.i
Smp Info : VSTD200;VSTD200;1;10;
Misc Info : V10;WATER;0;1;
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Meth Date : 17-Nov-2022 14:03 voa10.i Quant Type: ISTD
Cal Date : 10-NOV-2022 16:17 Cal File: X111010.D
Als bottle: 12 Calibration Sample, Level: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000008260V10.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	4.916	4.916	(1.000)	578375	50.0000	
2 Dichlorodifluoromethane	85	1.231	1.231	(0.250)	1054199	200.000	212.87(A)
3 Chloromethane	50	1.370	1.370	(0.279)	1116328	200.000	206.53(A)
5 Vinyl Chloride	62	1.452	1.452	(0.295)	1135336	200.000	211.51(A)
6 Bromomethane	94	1.688	1.688	(0.344)	430541	200.000	177.71
7 Chloroethane	64	1.775	1.775	(0.361)	710613	200.000	229.83(A)
8 Trichlorofluoromethane	101	1.992	1.992	(0.405)	1523272	200.000	215.95(A)
9 Acrolein	56	2.352	2.352	(0.478)	98180	400.000	406.54(A)
10 Acetone	43	2.498	2.498	(0.508)	877600	400.000	385.34(A)
12 Isobutyl Alcohol	43	5.381	5.381	(1.095)	4085486	4000.00	4530.31(A)
13 Acetonitrile	39	2.775	2.775	(0.565)	1550360	2000.00	1916.27
16 Acrylonitrile	53	3.150	3.150	(0.641)	813207	400.000	381.23
11 1,1-Dichloroethene	96	2.438	2.438	(0.496)	853362	200.000	124.22
15 Iodomethane	142	2.569	2.569	(0.523)	2149405	400.000	397.65
17 Methylene Chloride	84	2.899	2.899	(0.590)	904304	200.000	203.12(A)
18 Methyl tert-butyl ether	73	3.199	3.199	(0.651)	3067051	200.000	207.58(A)
19 Carbon Disulfide	76	2.633	2.633	(0.536)	4808317	400.000	391.12
20 trans-1,2-Dichloroethene	96	3.177	3.177	(0.646)	855837	200.000	193.44
22 1,1-Dichloroethane	63	3.630	3.630	(0.738)	1726890	200.000	178.13
24 2-Butanone	43	4.357	4.357	(0.886)	1124051	400.000	374.78

27 cis-1,2-Dichloroethene	96	4.309	4.309 (0.876)	953889	200.000	181.40
28 Chloroform	83	4.676	4.676 (0.951)	1705859	200.000	179.53

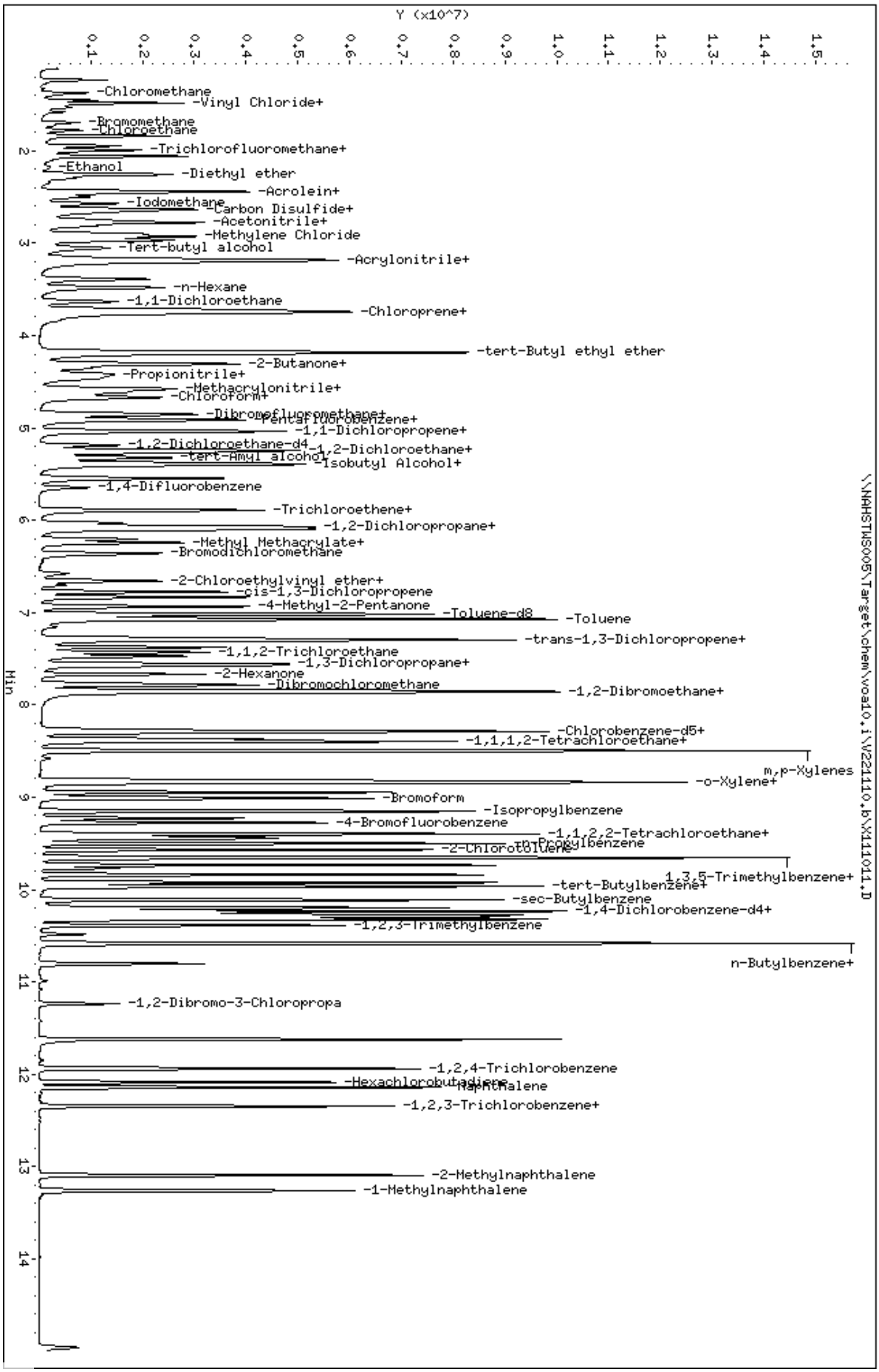
		QUANT SIG					AMOUNTS	
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/l)	ON-COL (ug/l)
	29 Bromochloromethane	128	4.571	4.571	(0.930)	462663	200.000	175.85
$	30 Dibromofluoromethane	113	4.845	4.845	(0.986)	879397	200.000	179.95
	31 1,1,1-Trichloroethane	97	4.860	4.860	(0.989)	1503530	200.000	196.95
	32 1,1-Dichloropropene	75	5.036	5.036	(0.892)	1342655	200.000	208.97(A)
	33 1,2-Dichloroethane	62	5.265	5.265	(0.932)	1458265	200.000	189.27
	34 Carbon Tetrachloride	117	5.032	5.032	(0.891)	1283239	200.000	230.84(AH)
$	35 1,2-Dichloroethane-d4	65	5.186	5.186	(1.055)	1103991	200.000	177.89
*	36 1,4-Difluorobenzene	114	5.647	5.647	(1.000)	833712	50.0000	
	37 Benzene	78	5.246	5.246	(0.929)	4043886	200.000	190.53
	38 Trichloroethene	130	5.891	5.891	(1.043)	1040829	200.000	191.63
	39 Bromodichloromethane	83	6.359	6.359	(1.126)	1277226	200.000	192.92
	42 1,2-Dichloropropane	63	6.097	6.097	(1.080)	1102607	200.000	185.93
	45 4-Methyl-2-Pentanone	43	6.933	6.933	(0.838)	2694851	400.000	411.21(A)
	46 cis-1,3-Dichloropropene	75	6.775	6.775	(1.200)	1730594	200.000	195.59
*	47 Chlorobenzene-d5	117	8.271	8.271	(1.000)	702323	50.0000	
$	48 Toluene-d8	98	7.015	7.015	(0.848)	3513848	200.000	197.69
	50 Toluene	91	7.071	7.071	(0.855)	4349141	200.000	210.10(A)
	51 trans-1,3-Dichloropropene	75	7.274	7.274	(1.288)	1560741	200.000	200.73(A)
	52 2-Hexanone	43	7.667	7.667	(0.927)	1898739	400.000	412.38(A)
	53 1,1,2-Trichloroethane	83	7.431	7.431	(0.898)	809280	200.000	195.36
	54 1,3-Dichloropropane	76	7.577	7.577	(0.916)	1685366	200.000	198.05
	55 Dibromochloromethane	129	7.769	7.769	(0.939)	1115047	200.000	206.28(A)
	56 Tetrachloroethene	164	7.555	7.555	(0.913)	927041	200.000	215.76(A)
	57 1,2-Dibromoethane	107	7.862	7.862	(0.951)	974601	200.000	192.17
	59 Chlorobenzene	112	8.293	8.293	(1.003)	2775736	200.000	196.47
	60 1,1,1,2-Tetrachloroethane	131	8.368	8.368	(1.012)	1040631	200.000	205.57(A)
	61 Ethylbenzene	106	8.395	8.395	(1.015)	1467450	200.000	212.06(A)
	62 m,p-Xylenes	106	8.496	8.496	(1.027)	3632932	400.000	426.43(A)
	63 o-Xylene	106	8.833	8.833	(1.068)	1758147	200.000	206.62(A)
	64 Styrene	104	8.845	8.845	(1.069)	3240040	200.000	209.65(A)
	66 Bromoform	173	8.994	8.994	(1.087)	925985	200.000	222.07(A)
	67 Isopropylbenzene	105	9.148	9.148	(1.106)	4720146	200.000	223.56(A)
	68 1,1,2,2-Tetrachloroethane	83	9.399	9.399	(0.917)	1597328	200.000	201.15(A)
$	69 4-Bromofluorobenzene	95	9.276	9.276	(1.121)	1437920	200.000	202.83(A)
*	70 1,4-Dichlorobenzene-d4	152	10.254	10.254	(1.000)	485171	50.0000	
	75 1,3,5-Trimethylbenzene	105	9.650	9.650	(0.941)	4235491	200.000	214.31(A)
	78 tert-Butylbenzene	119	9.924	9.924	(0.968)	3575323	200.000	209.74(A)
	79 1,2,4-Trimethylbenzene	105	9.965	9.965	(0.972)	4452024	200.000	207.30(A)
	81 sec-Butylbenzene	105	10.112	10.112	(0.986)	5184693	200.000	216.40(A)
	87 n-Butylbenzene	91	10.580	10.580	(1.032)	4491729	200.000	214.94(A)
	73 n-Propylbenzene	91	9.501	9.501	(0.927)	5780348	200.000	218.41(A)
	71 1,2,3-Trichloropropane	75	9.437	9.437	(0.920)	1910941	200.000	185.28
	83 1,3-Dichlorobenzene	146	10.198	10.198	(0.995)	2762793	200.000	186.45
	84 1,4-Dichlorobenzene	146	10.273	10.273	(1.002)	2882615	200.000	203.20(A)
	88 1,2-Dichlorobenzene	146	10.588	10.588	(1.033)	2713582	200.000	200.63(A)
	89 1,2-Dibromo-3-Chloropropane	155	11.236	11.236	(1.096)	288259	200.000	192.18
	90 1,2,4-Trichlorobenzene	180	11.937	11.937	(1.164)	2033627	200.000	197.82(M)
	92 Naphthalene	128	12.143	12.143	(1.184)	5103381	200.000	187.01
	136 n-Hexane	57	3.480	3.480	(0.708)	1334619	200.000	220.62(A)
	147 Methylcyclohexane	55	6.067	6.067	(1.074)	1653447	200.000	216.42(A)
	141 Cyclohexane	56	4.912	4.912	(0.999)	1639543	200.000	37.92
	138 Freon TF	101	2.449	2.449	(0.498)	895445	200.000	59.15

146	Methyl Acetate	43	2.813	2.813 (0.572)	972757	200.000	205.30(A)
21	Vinyl Acetate	43	3.716	3.716 (0.756)	4793860	400.000	408.67(AM)

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	26 2,2-Dichloropropane	77	4.305	4.305	(0.876)	1376412	200.000	196.61
	44 Dibromomethane	93	6.205	6.205	(1.099)	617808	200.000	181.98
	91 Hexachlorobutadiene	225	12.087	12.087	(1.179)	1010082	200.000	101.46
	74 Bromobenzene	156	9.399	9.399	(0.917)	1437533	200.000	194.13
	76 2-Chlorotoluene	91	9.568	9.568	(0.933)	3544893	200.000	203.86(A)
	77 4-Chlorotoluene	91	9.662	9.662	(0.942)	4187799	200.000	202.65(A)
	82 p-Isopropyltoluene	119	10.235	10.235	(0.998)	4756246	200.000	218.24(A)
	93 1,2,3-Trichlorobenzene	180	12.346	12.346	(1.204)	1863854	200.000	197.31
	148 tert-Butyl Alcohol	59	3.049	3.049	(0.620)	2080511	4000.00	2871.54
	142 Tetrahydrofuran	42	4.650	4.650	(0.946)	482178	400.000	406.30(A)
M	94 1,2-Dichloroethylene (total)	96				1809726	400.000	
M	95 Xylenes (total)	106				5391079	600.000	

QC Flag Legend

A - Target compound detected but, quantitated amount
    exceeded maximum amount.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.



Data File: \\NAHSTWS005\Target\chem\voa10,i\V221110,b\X111011,D
Date : 10-NOV-2022 16:38
Client ID: VSTD200
Sample Info: VSTD200;VSTD200;1;10;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa10,i
Operator: FT
Column diameter: 0.18

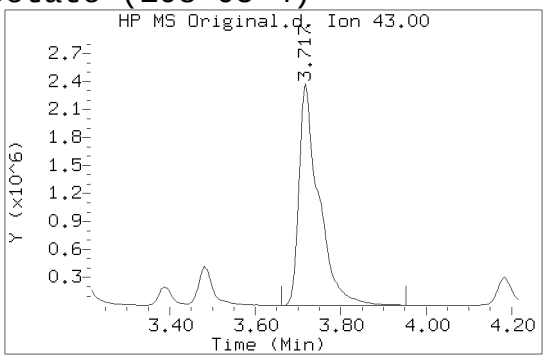
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InstruID : voa10.i
LabSampID : VSTD200

Vinyl Acetate (108-05-4)

Reason Code:

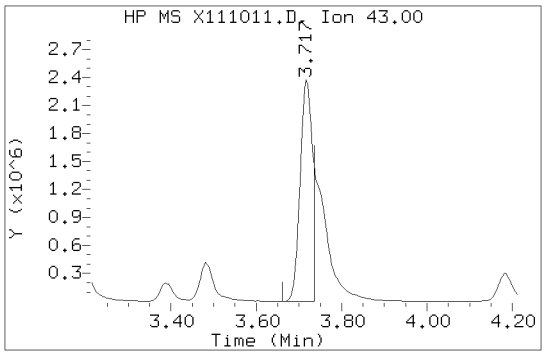
BEFORE

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HEIGHT
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17-Nov-2022
13:58
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pham



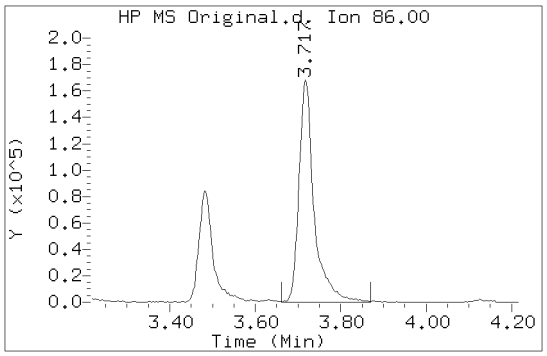
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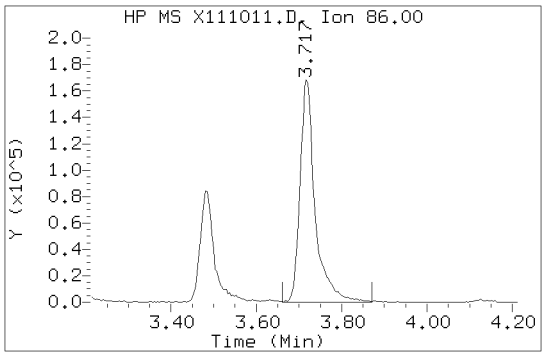
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AFTER

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17-Nov-2022
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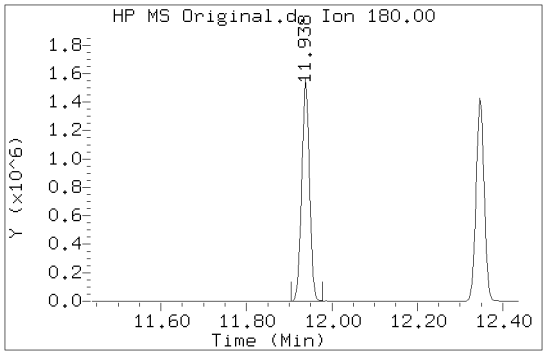


1,2,4-Trichlorobenzene (120-82-1)

Reason Code:

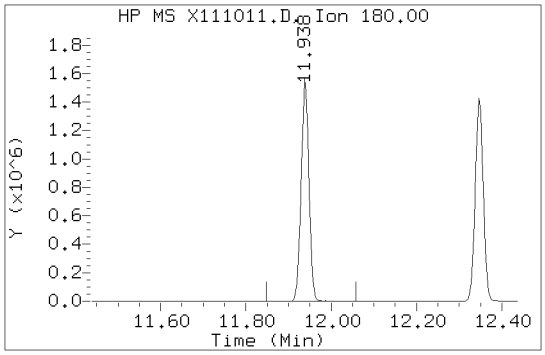
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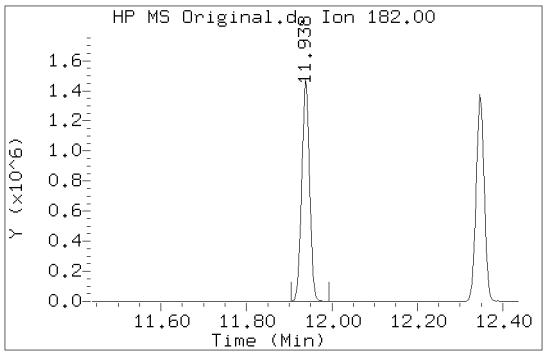
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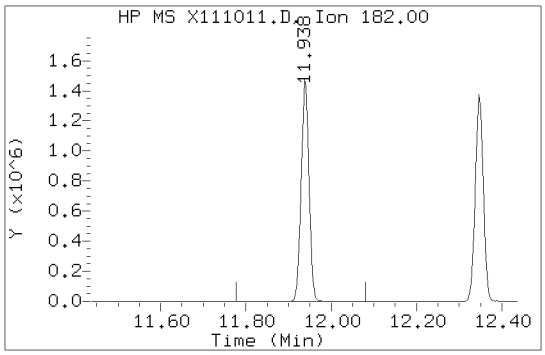
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17-Nov-2022
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AFTER

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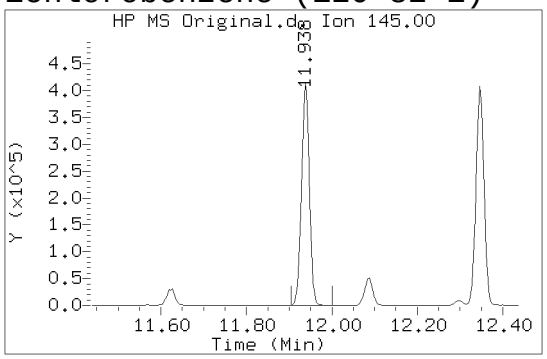
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Inj Date : 10-NOV-2022 16:38
InstruID : voa10.i
LabSampID : VSTD200

1,2,4-Trichlorobenzene (120-82-1)

Reason Code:

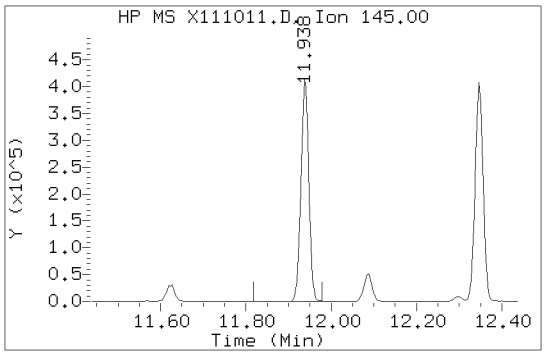
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AFTER

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linh
pham



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\X111014.D
Lab Smp Id: ICV Client Smp ID: ICV
Inj Date : 10-NOV-2022 17:39
Operator : FT Inst ID: voa10.i
Smp Info : VSTD050;VSTD050;2;;ICV
Misc Info : V10;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa10.i\V221110.b\8260C.m
Meth Date : 17-Nov-2022 14:03 voa10.i Quant Type: ISTD
Cal Date : 10-NOV-2022 16:38 Cal File: X111011.D
Als bottle: 15 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000008260V10.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	4.912	4.916	(1.000)	529361	50.0000	
2 Dichlorodifluoromethane	85	1.231	1.231	(0.251)	201113	44.3720	44.37
3 Chloromethane	50	1.370	1.370	(0.279)	234355	47.3740	47.37
5 Vinyl Chloride	62	1.452	1.452	(0.296)	230975	47.0143	47.01
6 Bromomethane	94	1.700	1.688	(0.346)	121278	54.6937	54.69
7 Chloroethane	64	1.786	1.775	(0.364)	132209	46.7199	46.71
8 Trichlorofluoromethane	101	1.992	1.992	(0.406)	280700	43.4798	43.47
9 Acrolein	56	2.348	2.352	(0.478)	20388	95.3592	95.35(M)
10 Acetone	43	2.491	2.498	(0.507)	189777	86.8898	86.88
12 Isobutyl Alcohol	43	5.377	5.381	(1.095)	796871	965.451	965.45
13 Acetonitrile	39	2.779	2.775	(0.566)	308353	416.420	416.42
16 Acrylonitrile	53	3.143	3.150	(0.640)	161106	82.5194	82.51
11 1,1-Dichloroethene	96	2.438	2.438	(0.496)	137019	43.0065	43.00
15 Iodomethane	142	2.569	2.569	(0.523)	338259	82.2269	82.22(M)
17 Methylene Chloride	84	2.899	2.899	(0.590)	167395	48.4615	48.46
18 Methyl tert-butyl ether	73	3.199	3.199	(0.651)	629658	46.5615	46.56
19 Carbon Disulfide	76	2.633	2.633	(0.536)	799886	86.8783	86.87
20 trans-1,2-Dichloroethene	96	3.177	3.177	(0.647)	164196	40.5506	40.55
22 1,1-Dichloroethane	63	3.630	3.630	(0.739)	328653	44.5241	44.52
24 2-Butanone	43	4.354	4.357	(0.886)	262981	95.8034	95.80

27 cis-1,2-Dichloroethene	96	4.305	4.309 (0.876)	211257	43.8952	43.89
28 Chloroform	83	4.672	4.676 (0.951)	382328	43.9636	43.96

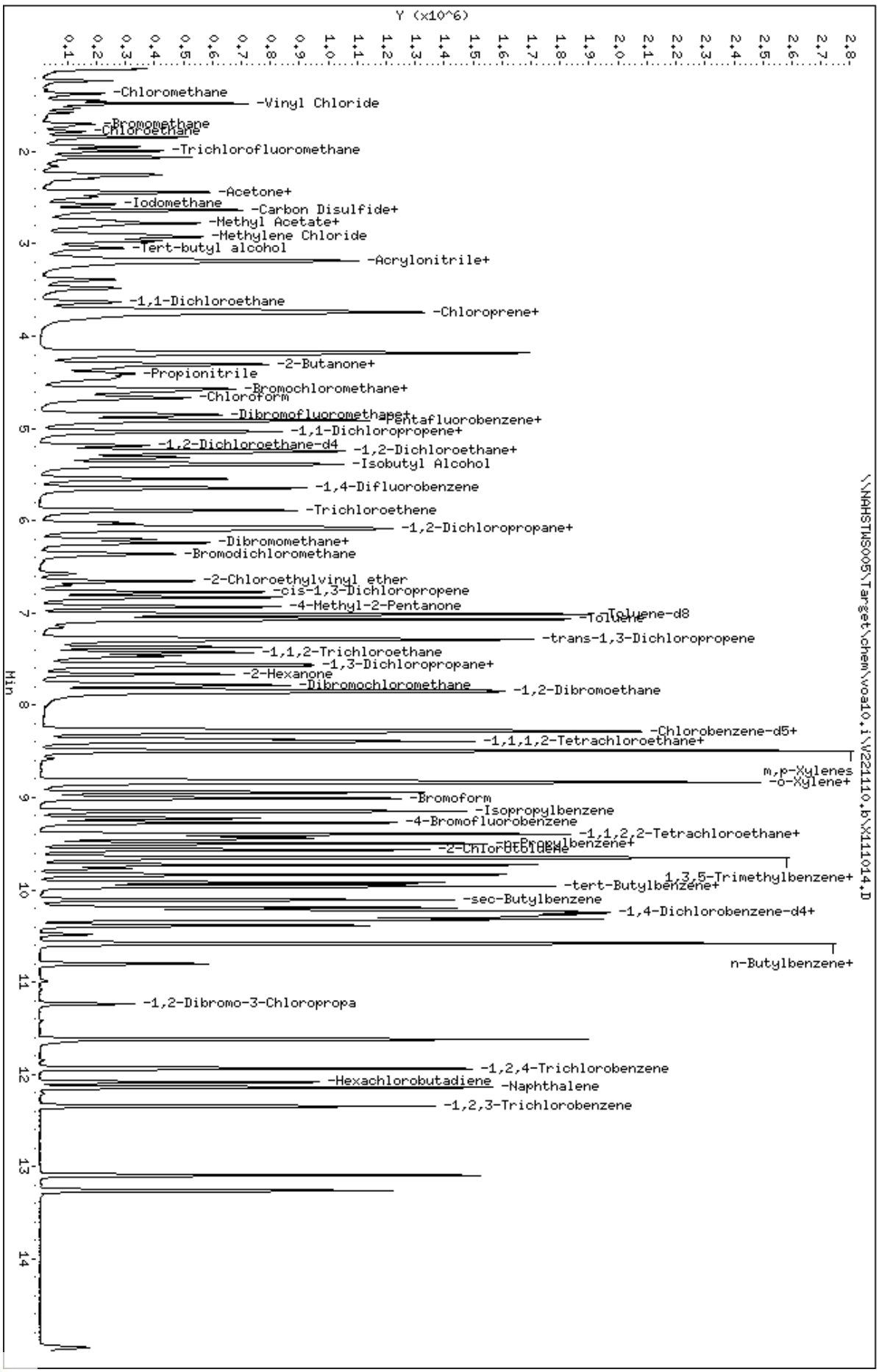
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
	29 Bromochloromethane	128	4.567	4.571	(0.930)	120403	50.0028	50.00
$	30 Dibromofluoromethane	113	4.841	4.845	(0.986)	233855	52.2865	52.28
	31 1,1,1-Trichloroethane	97	4.856	4.860	(0.989)	289133	41.3822	41.38
	32 1,1-Dichloropropene	75	5.036	5.036	(0.892)	265203	43.0592	43.05
	33 1,2-Dichloroethane	62	5.265	5.265	(0.933)	327419	44.3321	44.33
	34 Carbon Tetrachloride	117	5.032	5.032	(0.892)	221531	41.5713	41.57
$	35 1,2-Dichloroethane-d4	65	5.186	5.186	(1.056)	281203	49.5080	49.50
*	36 1,4-Difluorobenzene	114	5.643	5.647	(1.000)	799220	50.0000	
	37 Benzene	78	5.242	5.246	(0.929)	902527	44.3605	44.36
	38 Trichloroethene	130	5.887	5.891	(1.043)	228934	43.9699	43.96
	39 Bromodichloromethane	83	6.363	6.359	(1.128)	288935	45.5280	45.52
	42 1,2-Dichloropropane	63	6.097	6.097	(1.080)	257978	45.3802	45.38
	45 4-Methyl-2-Pentanone	43	6.929	6.933	(0.838)	548189	92.1549	92.15
	46 cis-1,3-Dichloropropene	75	6.775	6.775	(1.201)	408810	48.1989	48.19
*	47 Chlorobenzene-d5	117	8.267	8.271	(1.000)	653475	50.0000	
$	48 Toluene-d8	98	7.011	7.015	(0.848)	909325	55.1838	55.18
	50 Toluene	91	7.071	7.071	(0.855)	915287	47.5216	47.52
	51 trans-1,3-Dichloropropene	75	7.270	7.274	(1.288)	352980	47.3586	47.35
	52 2-Hexanone	43	7.664	7.667	(0.927)	409058	96.8022	96.80
	53 1,1,2-Trichloroethane	83	7.428	7.431	(0.898)	182796	47.4256	47.42
	54 1,3-Dichloropropane	76	7.574	7.577	(0.916)	378618	47.8200	47.81
	55 Dibromochloromethane	129	7.769	7.769	(0.940)	237737	47.2694	47.26
	56 Tetrachloroethene	164	7.555	7.555	(0.914)	178641	44.6854	44.68
	57 1,2-Dibromoethane	107	7.862	7.862	(0.951)	219150	46.4424	46.44
	59 Chlorobenzene	112	8.294	8.293	(1.003)	571454	43.4724	43.47
	60 1,1,1,2-Tetrachloroethane	131	8.365	8.368	(1.012)	215286	45.7094	45.70
	61 Ethylbenzene	106	8.395	8.395	(1.015)	286530	44.5017	44.50
	62 m,p-Xylenes	106	8.496	8.496	(1.028)	712482	89.8829	89.88
	63 o-Xylene	106	8.833	8.833	(1.068)	352268	44.4944	44.49
	64 Styrene	104	8.845	8.845	(1.070)	653558	45.4509	45.45
	66 Bromoform	173	8.995	8.994	(1.088)	181382	47.6686	47.66
	67 Isopropylbenzene	105	9.148	9.148	(1.107)	823640	41.9264	41.92
	68 1,1,2,2-Tetrachloroethane	83	9.396	9.399	(0.917)	334734	49.2751	49.27
$	69 4-Bromofluorobenzene	95	9.272	9.276	(1.122)	331718	50.9995	50.99
*	70 1,4-Dichlorobenzene-d4	152	10.250	10.254	(1.000)	413942	50.0000	
	75 1,3,5-Trimethylbenzene	105	9.647	9.650	(0.941)	757633	44.9327	44.93
	78 tert-Butylbenzene	119	9.924	9.924	(0.968)	599981	41.2550	41.25
	79 1,2,4-Trimethylbenzene	105	9.962	9.965	(0.972)	816045	44.5371	44.53
	81 sec-Butylbenzene	105	10.108	10.112	(0.986)	820714	40.1503	40.15
	87 n-Butylbenzene	91	10.576	10.580	(1.032)	721632	40.4748	40.47
	73 n-Propylbenzene	91	9.497	9.501	(0.926)	983493	43.5571	43.55
	71 1,2,3-Trichloropropane	75	9.433	9.437	(0.920)	393667	44.7387	44.73
	83 1,3-Dichlorobenzene	146	10.198	10.198	(0.995)	543417	42.9840	42.98
	84 1,4-Dichlorobenzene	146	10.269	10.273	(1.002)	569343	47.4849	47.48
	88 1,2-Dichlorobenzene	146	10.584	10.588	(1.033)	551148	47.7546	47.75
	89 1,2-Dibromo-3-Chloropropane	155	11.236	11.236	(1.096)	59208	46.2680	46.26
	90 1,2,4-Trichlorobenzene	180	11.937	11.937	(1.165)	420462	47.9747	47.97
	92 Naphthalene	128	12.143	12.143	(1.185)	1078074	46.3050	46.30
	147 Methylcyclohexane	55	6.067	6.067	(1.075)	326616	44.5974	44.59
	141 Cyclohexane	56	4.912	4.912	(1.000)	263843	53.6499	53.64
	138 Freon TF	101	2.449	2.449	(0.499)	125711	45.5776	45.57
	146 Methyl Acetate	43	2.809	2.813	(0.572)	173870	40.0938	40.09

21 Vinyl Acetate	43	3.716	3.716 (0.757)	1046436	97.4677	97.46(M)
26 2,2-Dichloropropane	77	4.305	4.305 (0.876)	282754	44.1311	44.13

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
	44 Dibromomethane	93	6.202	6.205	(1.099)	146069	44.8836	44.88
	91 Hexachlorobutadiene	225	12.083	12.087	(1.179)	167531	48.3446	48.34
	74 Bromobenzene	156	9.399	9.399	(0.917)	290235	45.9397	45.93
	76 2-Chlorotoluene	91	9.564	9.568	(0.933)	659387	45.5455	45.54
	77 4-Chlorotoluene	91	9.658	9.662	(0.942)	804419	45.6251	45.62
	82 p-Isopropyltoluene	119	10.232	10.235	(0.998)	781335	42.0216	42.02
	93 1,2,3-Trichlorobenzene	180	12.346	12.346	(1.204)	383604	47.3996	47.39
	148 tert-Butyl Alcohol	59	3.045	3.049	(0.620)	396890	598.512	598.51
M	94 1,2-Dichloroethylene (total)	96				375453	84.4458	84.44(R)
M	95 Xylenes (total)	106				1064750	134.377	134.37

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.



Data File: \\NAHSTWS005\Target\chem\voa10,i\V221110,b\V111014,D
Date : 10-NOV-2022 17:39
Client ID: ICV
Sample Info: VSTD050;VSTD050;2;;ICV
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Column phase: DB624

Instrument: voa10,i
Operator: FT
Column diameter: 0.18

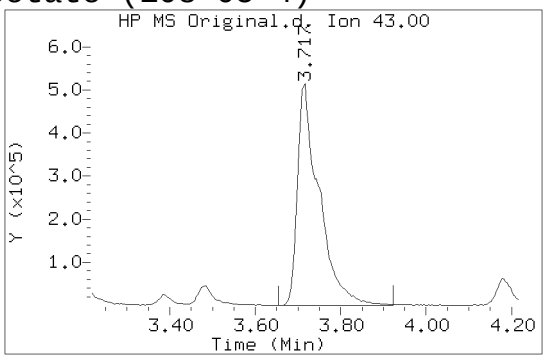
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InstruID : voa10.i
LabSampID : ICV

Vinyl Acetate (108-05-4)

Reason Code:

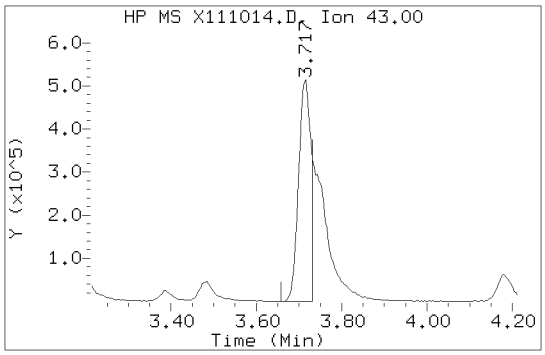
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17-Nov-2022
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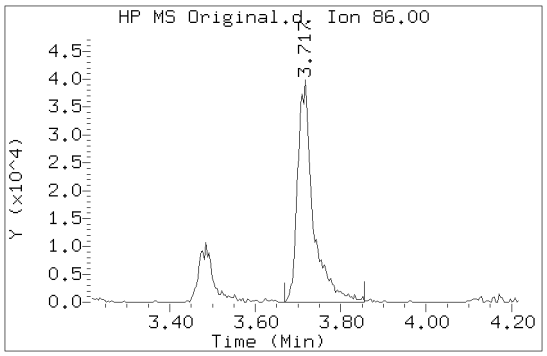
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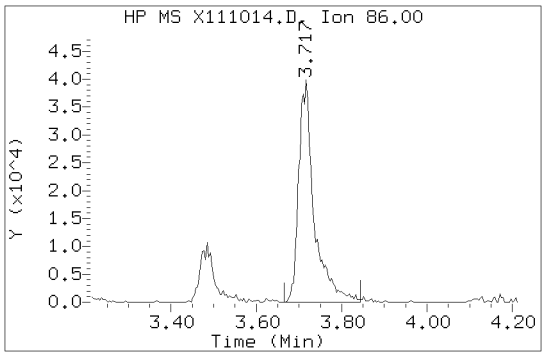
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AFTER

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17-Nov-2022
14:02
linh
pham

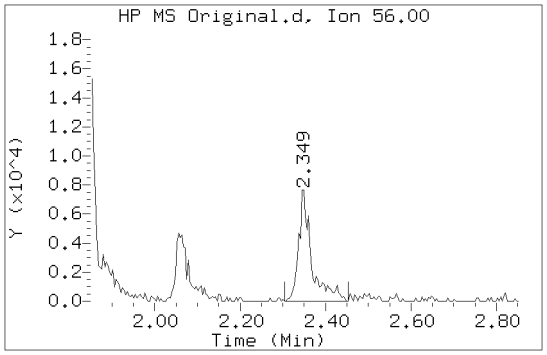


Acrolein (107-02-8)

Reason Code:

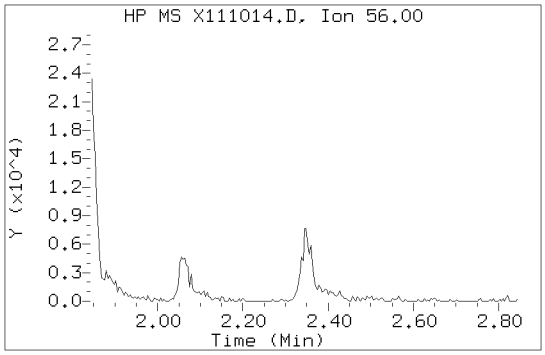
BEFORE

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HEIGHT
7668
17-Nov-2022
13:58
linh
pham



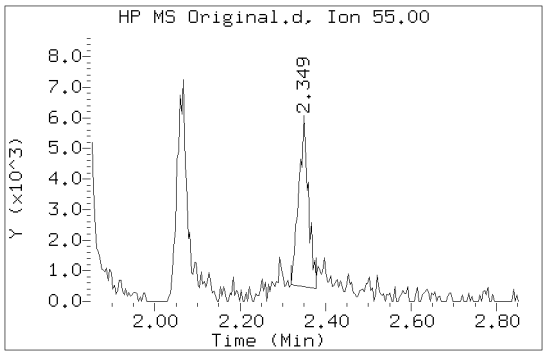
AFTER

MASS
56
AREA
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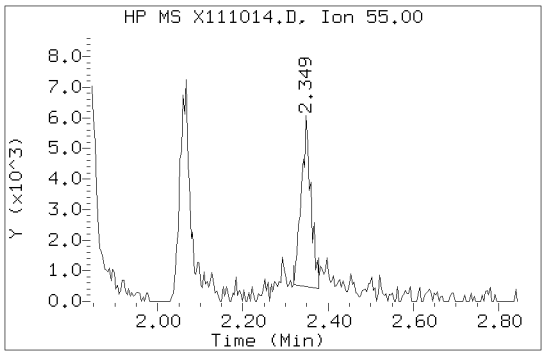
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AREA
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5594
17-Nov-2022
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AFTER

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5593
17-Nov-2022
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linh
pham



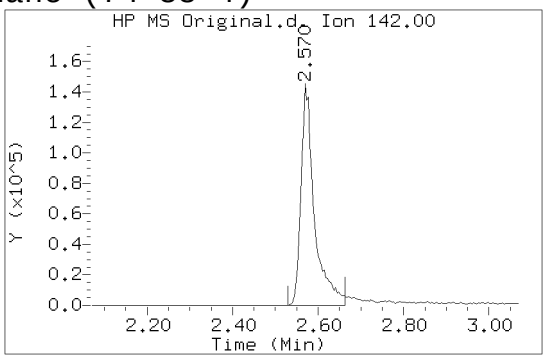
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Inj Date : 10-NOV-2022 17:39
InstruID : voa10.i
LabSampID : ICV

Iodomethane (74-88-4)

Reason Code:

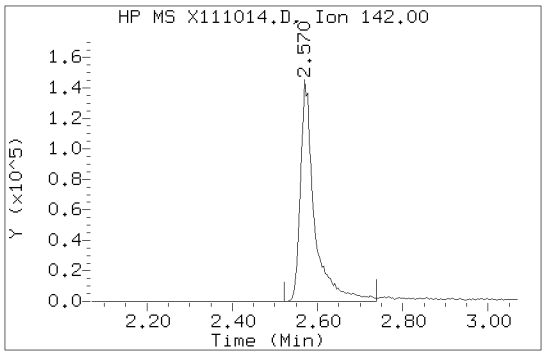
BEFORE

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17-Nov-2022
13:58
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pham



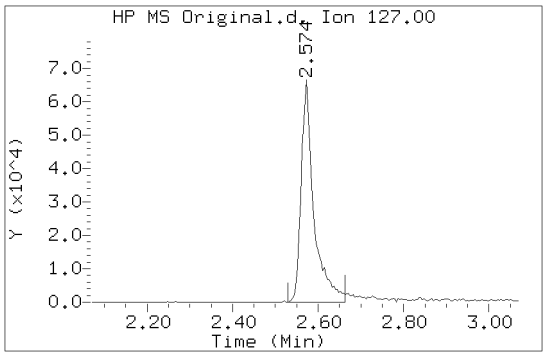
AFTER

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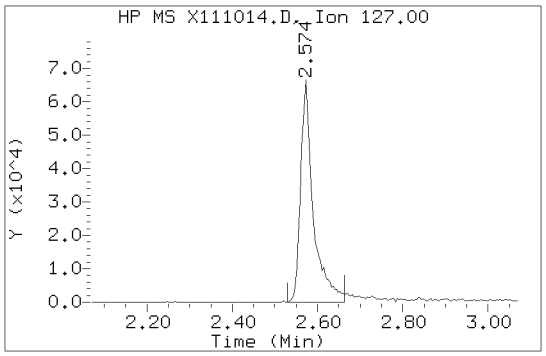
BEFORE

MASS
127
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140170
HEIGHT
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17-Nov-2022
13:58
linh
pham



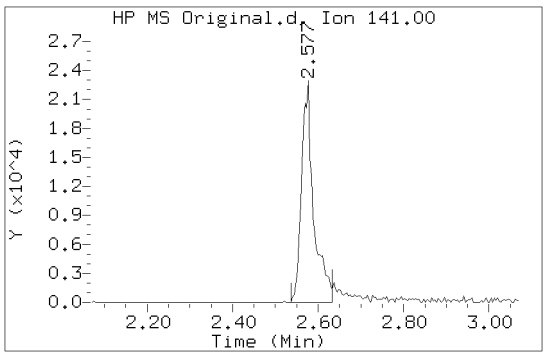
AFTER

MASS
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17-Nov-2022
14:02
linh
pham



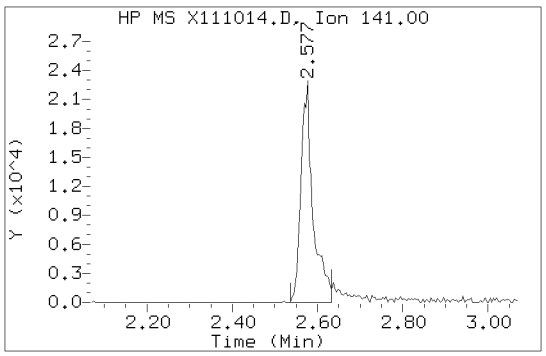
BEFORE

MASS
141
AREA
45862
HEIGHT
22944
17-Nov-2022
13:58
linh
pham



AFTER

MASS
141
AREA
45862
HEIGHT
22944
17-Nov-2022
14:02
linh
pham



01159795

right solutions.
right partner.

Raw Data VOA10 421664

Volatiles by by EPA 8260

Workorder

HS22110517

Client

Bhate Environmental Associates, Inc.

Project

Longhorn GW Treatment Plant Bi-Weekly Samples

11/21/2022

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\voa10.i\V221111.b\V111101.D Page 1
Report Date: 12-Nov-2022 09:09

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa10.i\V221111.b\V111101.D
Lab Smp Id: BFB Client Smp ID: BFB
Inj Date : 11-NOV-2022 10:33
Operator : PC Inst ID: voa10.i
Smp Info : BFB;BFB;3;;BFB
Misc Info : V10;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa10.i\V221111.b\bfb.m
Meth Date : 27-Sep-2022 15:19 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	
9.272	9.276	(0.000)	95	93504			0.00- 100.00	100.00
9.272	9.276	(0.000)	50	20496			15.00- 40.00	21.92
9.272	9.276	(0.000)	75	47632			30.00- 60.00	50.94
9.272	9.276	(0.000)	96	6781			5.00- 9.00	7.25
9.272	9.276	(0.000)	173	668			0.00- 2.00	0.84
9.272	9.276	(0.000)	174	79824			50.00- 0.00	85.37
9.272	9.276	(0.000)	175	6527			5.00- 9.00	8.18
9.272	9.276	(0.000)	176	76768			95.00- 101.00	96.17
9.272	9.276	(0.000)	177	4840			5.00- 9.00	6.30

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	21.92
75	30.00 - 60.00% of mass 95	50.94
96	5.00 - 9.00% of mass 95	7.25
173	Less than 2.00% of mass 174	0.71 (0.84)
174	Greater than 50.00% of mass 95	85.37
175	5.00 - 9.00% of mass 174	6.98 (8.18)
176	95.00 - 101.00% of mass 174	82.10 (96.17)
177	5.00 - 9.00% of mass 176	5.18 (6.30)

Data File: V111101.D
Spectrum: Scan 2315 (9.26)
Location of Maximum: 95.10
Number of points: 82

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	959	60.10	997	91.90	3206	139.60	256
37.10	6292	61.00	5743	93.10	3362	141.00	1021
38.10	5079	62.00	4968	94.10	10322	143.00	1369
39.10	2682	63.10	3733	95.10	93504	145.00	202
40.10	661	68.10	9796	96.10	6781	147.80	421
41.00	1217	69.00	10255	97.10	314	149.80	210
42.20	700	70.10	1436	98.00	1064	152.90	236
43.00	534	72.20	309	103.90	304	154.70	199
43.90	1051	73.10	3211	105.80	255	157.00	368
45.10	1160	74.10	15721	106.90	385	158.90	256
47.20	1295	75.10	47632	114.90	473	170.40	151
48.10	771	76.10	4319	115.90	657	170.90	156
49.10	3303	77.00	675	117.00	804	171.60	316
50.10	20496	78.00	416	117.90	327	172.10	238
51.10	5671	79.00	2754	118.90	598	172.80	668
52.10	215	79.90	1174	128.00	377	174.00	79824
55.20	1943	81.00	2468	129.10	265	175.00	6527
56.10	1207	81.80	682	129.90	227	176.00	76768
57.10	2820	86.90	4649	130.90	237	176.90	4840
58.10	413	88.00	4389	135.10	371		
59.30	390	90.80	452	136.60	248		

Data File: \\NAHSTWS005\Target\chem\voa10.i\V221111.b\V111101.D

Date : 11-NOV-2022 10:33

Client ID: BFB

Instrument: voa10.i

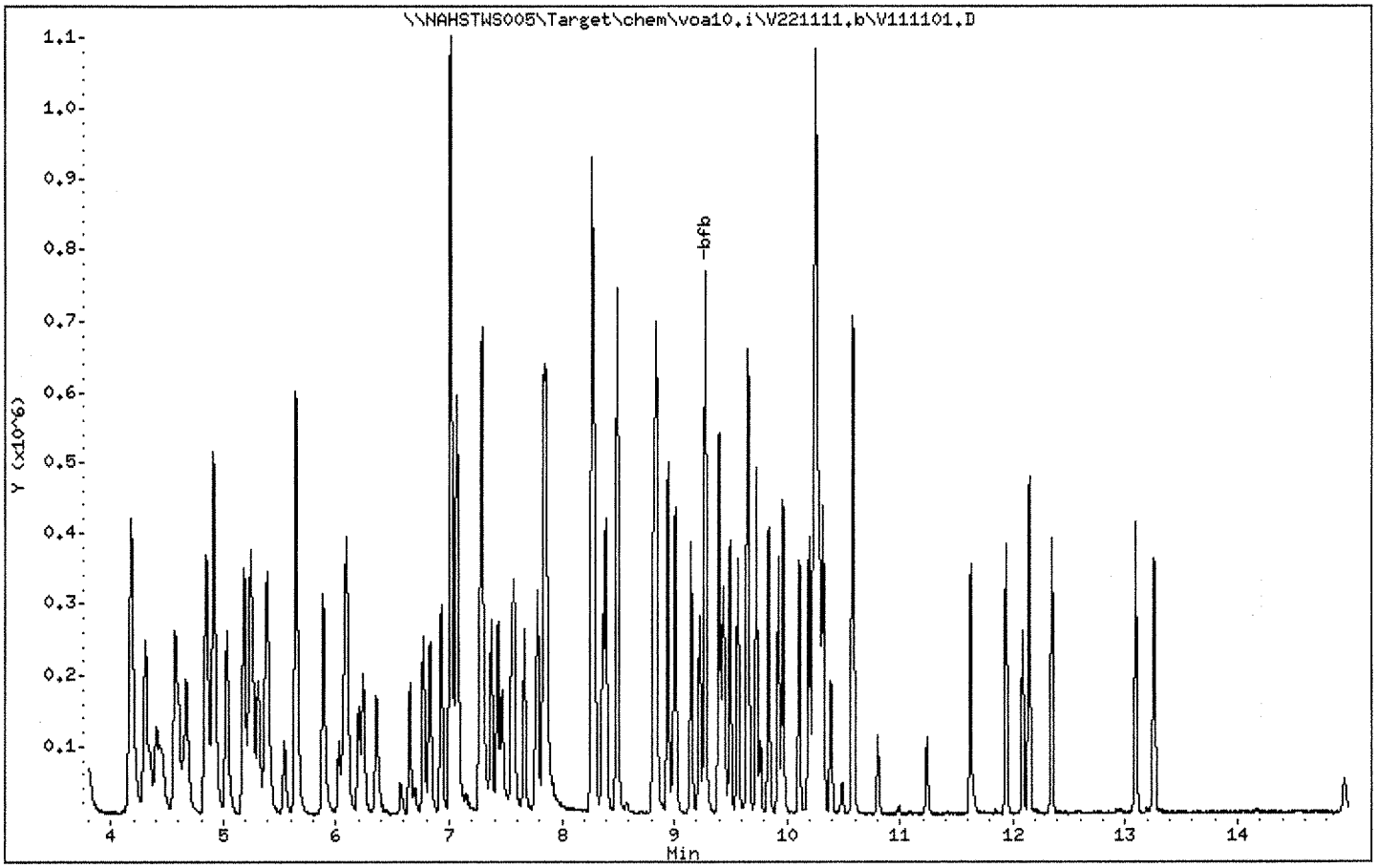
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\NAHSTWS005\Target\chem\voa10.i\V221111.b\V111101.D

Date : 11-NOV-2022 10:33

Client ID: BFB

Instrument: voa10.i

Sample Info: BFB;BFB;3;;BFB

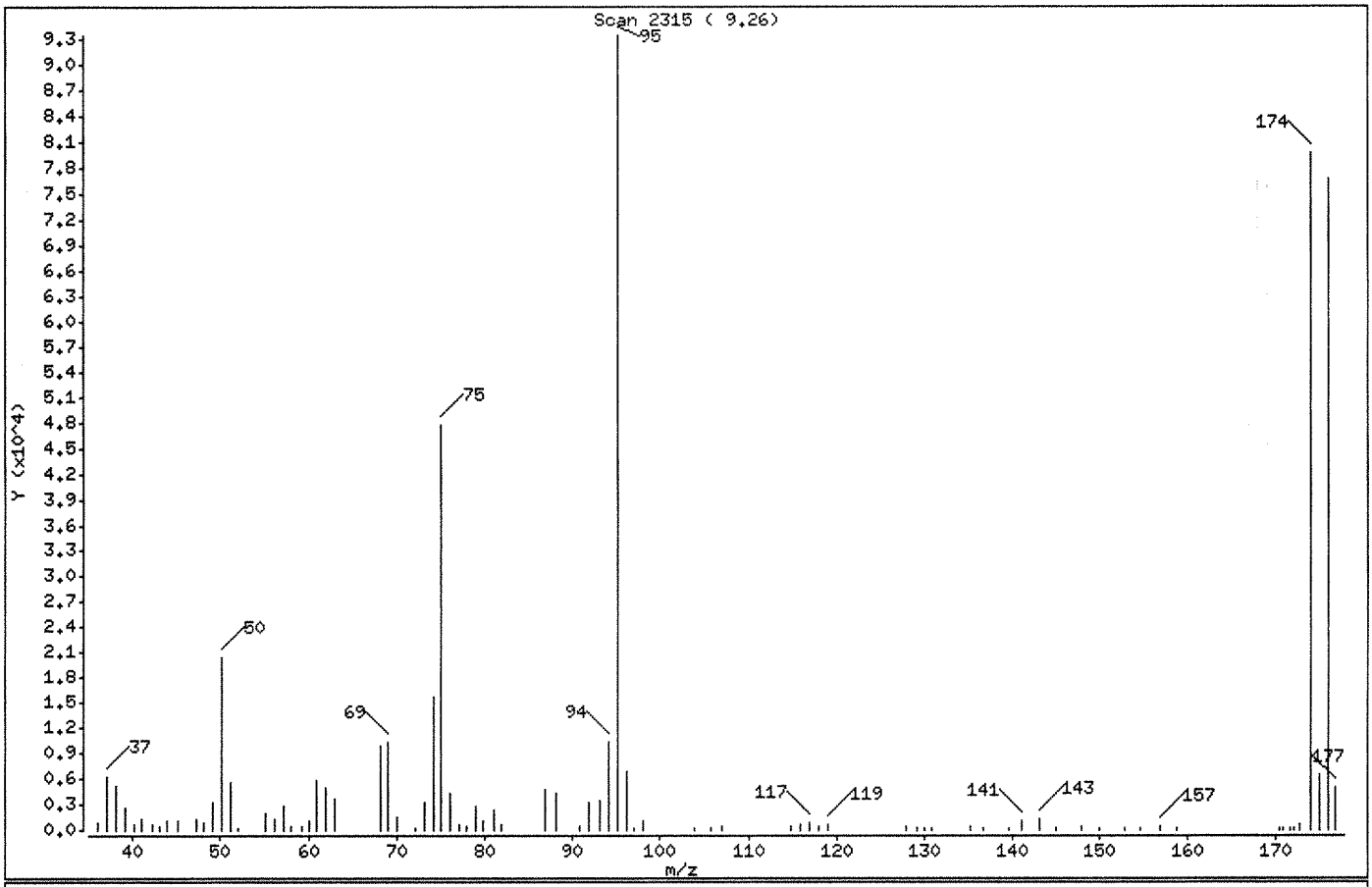
Volume Injected (uL): 2.0

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
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173	Less than 2.00% of mass 174	0.71 (0.84)
174	Greater than 50.00% of mass 95	85.37
175	5.00 - 9.00% of mass 174	6.98 (8.18)
176	95.00 - 101.00% of mass 174	82.10 (96.17)
177	5.00 - 9.00% of mass 176	5.18 (6.30)

Data File: \\NAHSTWS005\Target\chem\voa10.i\V221111.b\V111101.D

Date : 11-NOV-2022 10:33

Client ID: BFB Instrument: voa10.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0 Operator: PC

Column phase: DB624 Column diameter: 0.25

Data File: V111101.D
Spectrum: Scan 2315 (9.26)
Location of Maximum: 95.10
Number of points: 82

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	959	60.10	997	91.90	3206	139.60	256
37.10	6292	61.00	5743	93.10	3362	141.00	1021
38.10	5079	62.00	4968	94.10	10322	143.00	1369
39.10	2682	63.10	3733	95.10	93504	145.00	202
40.10	661	68.10	9796	96.10	6781	147.80	421
41.00	1217	69.00	10255	97.10	314	149.80	210
42.20	700	70.10	1436	98.00	1064	152.90	236
43.00	534	72.20	309	103.90	304	154.70	199
43.90	1051	73.10	3211	105.80	255	157.00	368
45.10	1160	74.10	15721	106.90	385	158.90	256
47.20	1295	75.10	47632	114.90	473	170.40	151
48.10	771	76.10	4319	115.90	657	170.90	156
49.10	3303	77.00	675	117.00	804	171.60	316
50.10	20496	78.00	416	117.90	327	172.10	238
51.10	5671	79.00	2754	118.90	598	172.80	668
52.10	215	79.90	1174	128.00	377	174.00	79824
55.20	1943	81.00	2468	129.10	265	175.00	6527
56.10	1207	81.80	682	129.90	227	176.00	76768
57.10	2820	86.90	4649	130.90	237	176.90	4840
58.10	413	88.00	4389	135.10	371		
59.30	390	90.80	452	136.60	248		

Data File : \\NAHSTWS005\Target\chem\voa10.i\V221111.b\V111101.D
Inj Date : 11-NOV-2022 10:33
InstruID : voa10.i
LabSampID : BFB

NO MANUAL INTEGRATIONS

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa10.i\V221111.b\V111103.D
Lab Smp Id: VSTD050 Client Smp ID: VSTD050
Inj Date : 11-NOV-2022 11:14
Operator : PC Inst ID: voa10.i
Smp Info : VSTD050;VSTD050;2;;
Misc Info : V10;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa10.i\V221111.b\8260C.m
Meth Date : 18-Nov-2022 13:01 voa10.i Quant Type: ISTD
Cal Date : 10-NOV-2022 15:37 Cal File: X111008.D
Als bottle: 3 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 430_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	4.912	4.912	(1.000)	519869	50.0000	
2 Dichlorodifluoromethane	85	1.235	1.235	(0.251)	222233	50.0000	49.92
3 Chloromethane	50	1.370	1.370	(0.279)	232210	50.0000	47.79
5 Vinyl Chloride	62	1.452	1.452	(0.296)	241844	50.0000	50.12
6 Bromomethane	94	1.704	1.704	(0.347)	111583	50.0000	51.24
7 Chloroethane	64	1.786	1.786	(0.364)	125000	50.0000	44.97
8 Trichlorofluoromethane	101	1.996	1.996	(0.406)	293312	50.0000	46.26
9 Acrolein	56	2.348	2.348	(0.478)	21454	100.000	102.20(M)
10 Acetone	43	2.491	2.491	(0.507)	217409	100.000	102.26
11 1,1-Dichloroethene	96	2.438	2.438	(0.496)	172094	50.0000	53.63
15 Iodomethane	142	2.573	2.573	(0.524)	406982	100.000	99.18
16 Acrylonitrile	53	3.147	3.147	(0.641)	207716	100.000	108.33
17 Methylene Chloride	84	2.896	2.896	(0.589)	198923	50.0000	58.75(M)
18 Methyl tert-butyl ether	73	3.195	3.195	(0.651)	716419	50.0000	53.94
19 Carbon Disulfide	76	2.633	2.633	(0.536)	1035321	100.000	113.27
20 trans-1,2-Dichloroethene	96	3.177	3.177	(0.647)	204825	50.0000	51.50
21 Vinyl Acetate	43	3.713	3.713	(0.756)	1111967	100.000	105.46(M)
22 1,1-Dichloroethane	63	3.627	3.627	(0.738)	373919	50.0000	51.29
24 2-Butanone	43	4.350	4.350	(0.886)	234548	100.000	87.00
26 2,2-Dichloropropane	77	4.305	4.305	(0.876)	292143	50.0000	46.42

27 cis-1,2-Dichloroethene	96	4.309	4.309 (0.877)	212998	50.0000	45.06
28 Chloroform	83	4.672	4.672 (0.951)	381366	50.0000	44.65

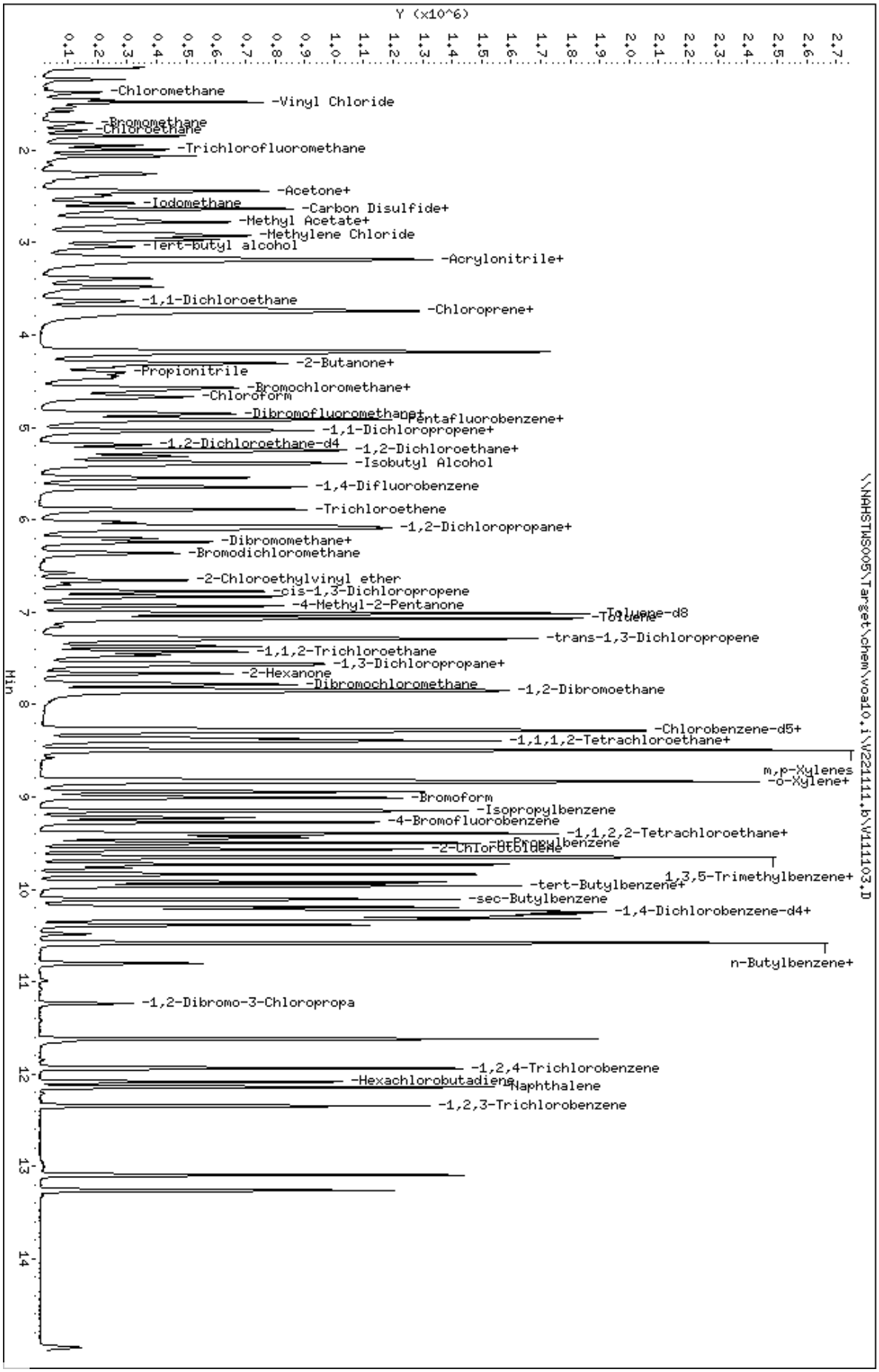
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	29 Bromochloromethane	128	4.567	4.567	(0.930)	116291	50.0000	49.17
$	30 Dibromofluoromethane	113	4.841	4.841	(0.986)	219349	50.0000	49.93
	31 1,1,1-Trichloroethane	97	4.856	4.856	(0.989)	306790	50.0000	44.71
	32 1,1-Dichloropropene	75	5.032	5.032	(0.891)	286991	50.0000	48.96
	33 1,2-Dichloroethane	62	5.265	5.265	(0.932)	322971	50.0000	45.94
	34 Carbon Tetrachloride	117	5.032	5.032	(0.891)	245555	50.0000	48.41
$	35 1,2-Dichloroethane-d4	65	5.186	5.186	(1.056)	264801	50.0000	47.47
*	36 1,4-Difluorobenzene	114	5.647	5.647	(1.000)	760612	50.0000	
	37 Benzene	78	5.242	5.242	(0.928)	902383	50.0000	46.60
	38 Trichloroethene	130	5.887	5.887	(1.042)	233867	50.0000	47.19
	39 Bromodichloromethane	83	6.359	6.359	(1.126)	285663	50.0000	47.29
	41 2-Chloroethylvinyl ether	63	6.652	6.652	(1.178)	204775	100.000	99.74
	42 1,2-Dichloropropane	63	6.097	6.097	(1.080)	259053	50.0000	47.88
	44 Dibromomethane	93	6.202	6.202	(1.098)	138008	50.0000	44.55
	45 4-Methyl-2-Pentanone	43	6.929	6.929	(0.838)	542770	100.000	95.47
	46 cis-1,3-Dichloropropene	75	6.772	6.772	(1.199)	395564	50.0000	49.00
*	47 Chlorobenzene-d5	117	8.267	8.267	(1.000)	623784	50.0000	
$	48 Toluene-d8	98	7.012	7.012	(0.848)	873093	50.0000	55.50
	50 Toluene	91	7.072	7.072	(0.855)	915472	50.0000	49.79
	51 trans-1,3-Dichloropropene	75	7.270	7.270	(1.287)	339284	50.0000	47.83
	52 2-Hexanone	43	7.664	7.664	(0.927)	397627	100.000	98.54
	53 1,1,2-Trichloroethane	83	7.428	7.428	(0.898)	179168	50.0000	48.69
	54 1,3-Dichloropropane	76	7.574	7.574	(0.916)	369252	50.0000	48.85
	55 Dibromochloromethane	129	7.769	7.769	(0.940)	229719	50.0000	47.84
	56 Tetrachloroethene	164	7.551	7.551	(0.913)	189142	50.0000	49.56
	57 1,2-Dibromoethane	107	7.863	7.863	(0.951)	217472	50.0000	48.28
	58 1-Chlorohexane	55	8.282	8.282	(1.467)	190945	50.0000	45.59
	59 Chlorobenzene	112	8.294	8.294	(1.003)	571622	50.0000	45.55
	60 1,1,1,2-Tetrachloroethane	131	8.365	8.365	(1.012)	215911	50.0000	48.02
	61 Ethylbenzene	106	8.391	8.391	(1.015)	286556	50.0000	46.62
	62 m,p-Xylenes	106	8.496	8.496	(1.028)	711074	100.000	93.97
	63 o-Xylene	106	8.830	8.830	(1.068)	343521	50.0000	45.45
	64 Styrene	104	8.845	8.845	(1.070)	634264	50.0000	46.20
	66 Bromoform	173	8.991	8.991	(1.088)	169863	50.0000	46.78
	67 Isopropylbenzene	105	9.148	9.148	(1.107)	810043	50.0000	43.19
	68 1,1,2,2-Tetrachloroethane	83	9.396	9.396	(0.917)	315843	50.0000	48.60
$	69 4-Bromofluorobenzene	95	9.276	9.276	(1.122)	307276	50.0000	49.51
*	70 1,4-Dichlorobenzene-d4	152	10.250	10.250	(1.000)	395963	50.0000	
	71 1,2,3-Trichloropropane	75	9.437	9.437	(0.921)	375926	50.0000	44.66
	73 n-Propylbenzene	91	9.497	9.497	(0.926)	954225	50.0000	44.17
	74 Bromobenzene	156	9.399	9.399	(0.917)	283410	50.0000	46.89
	75 1,3,5-Trimethylbenzene	105	9.647	9.647	(0.941)	720202	50.0000	44.65
	76 2-Chlorotoluene	91	9.568	9.568	(0.933)	629943	50.0000	45.48
	77 4-Chlorotoluene	91	9.658	9.658	(0.942)	768912	50.0000	45.59
	78 tert-Butylbenzene	119	9.924	9.924	(0.968)	588654	50.0000	42.31
	79 1,2,4-Trimethylbenzene	105	9.962	9.962	(0.972)	765659	50.0000	43.68
	81 sec-Butylbenzene	105	10.108	10.108	(0.986)	816069	50.0000	41.73
	82 p-Isopropyltoluene	119	10.232	10.232	(0.998)	763378	50.0000	42.92
	83 1,3-Dichlorobenzene	146	10.198	10.198	(0.995)	507894	50.0000	41.99
	84 1,4-Dichlorobenzene	146	10.269	10.269	(1.002)	538181	50.0000	46.93
	87 n-Butylbenzene	91	10.577	10.577	(1.032)	714513	50.0000	41.89
	88 1,2-Dichlorobenzene	146	10.584	10.584	(1.033)	519082	50.0000	47.01

89	1,2-Dibromo-3-Chloropropane	155	11.236	11.236 (1.096)	56210	50.0000	45.91
90	1,2,4-Trichlorobenzene	180	11.937	11.937 (1.165)	389759	50.0000	46.49

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
91	Hexachlorobutadiene	225	12.084	12.084	(1.179)	176363	50.0000	52.55
92	Naphthalene	128	12.140	12.140	(1.184)	1007864	50.0000	45.25
93	1,2,3-Trichlorobenzene	180	12.346	12.346	(1.204)	367610	50.0000	47.48
M 94	1,2-Dichloroethylene (total)	96				417823	100.000	(a)
135	1,4-Dioxane	88	6.247	6.247	(1.272)	51020	1000.00	817.07(M)
141	Cyclohexane	56	4.916	4.916	(1.001)	291025	50.0000	58.96
138	Freon TF	101	2.450	2.450	(0.499)	166264	50.0000	58.63
147	Methylcyclohexane	55	6.067	6.067	(1.074)	329815	50.0000	47.32
146	Methyl Acetate	43	2.806	2.806	(0.571)	225230	50.0000	52.88
148	Tert-Butyl alcohol	59	3.042	3.042	(0.619)	434861	1000.00	667.74
149	Isopropyl Alcohol	45	2.641	2.641	(0.538)	333231	1000.00	725.44
72	trans-1,4-Dichloro-2-butene	53	9.444	9.444	(1.142)	101623	50.0000	44.63
12	Isobutyl Alcohol	43	5.377	5.377	(1.095)	783564	1000.00	966.66
13	Acetonitrile	39	2.779	2.779	(0.566)	351595	500.000	483.48
14	Allyl Chloride	41	2.772	2.772	(0.564)	535058	50.0000	48.15
25	Methacrylonitrile	41	4.571	4.571	(0.931)	217252	50.0000	50.15
40	Methyl Methacrylate	41	6.239	6.239	(1.270)	256251	50.0000	49.42
4	Propionitrile	54	4.406	4.406	(0.897)	340253	500.000	450.06
23	Chloroprene	53	3.739	3.739	(0.761)	323209	50.0000	50.37
49	Ethyl Methacrylate	69	6.239	6.239	(1.105)	169270	50.0000	52.01

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\woa10,i\V221111,b\V111103,D
Date : 11-NOV-2022 11:14
Client ID: VSTD050
Sample Info: VSTD050;VSTD050;2;;
Purge Volume: 5.0
Column phase: DB624

Instrument: woa10,i
Operator: PC
Column diameter: 0.18

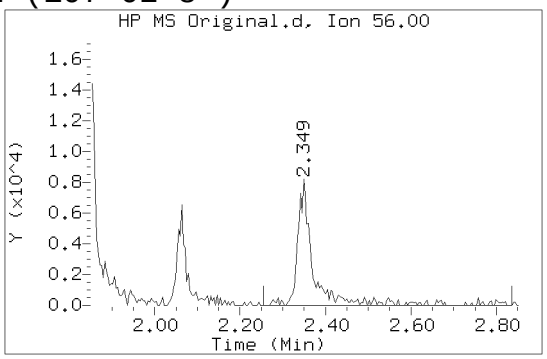
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Inj Date : 11-NOV-2022 11:14
InstruID : voa10.i
LabSampID : VSTD050

Acrolein (107-02-8)

Reason Code:

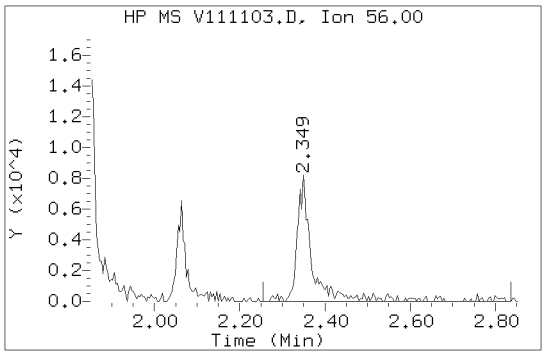
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18-Nov-2022
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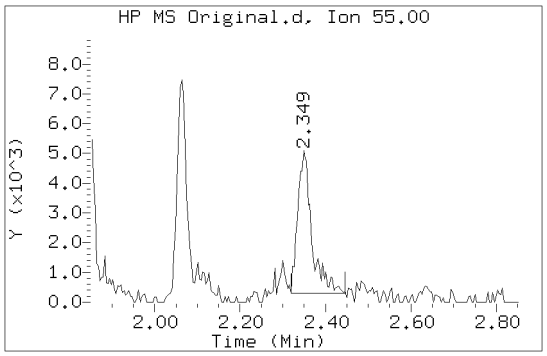
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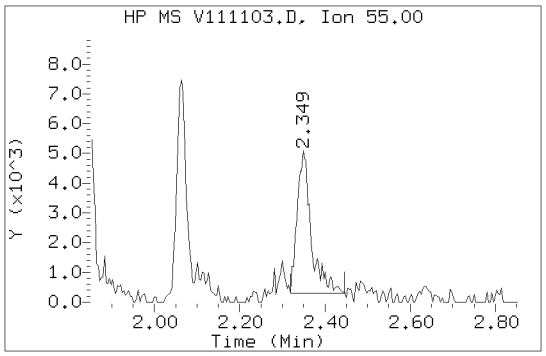
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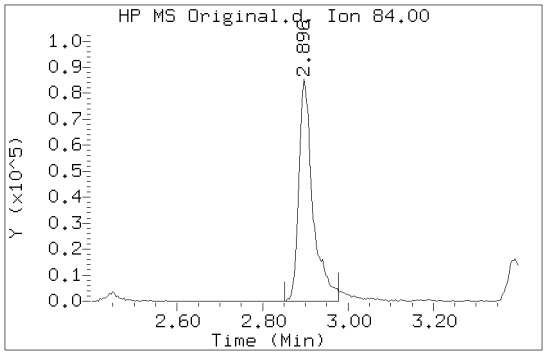


Methylene Chloride (75-09-2)

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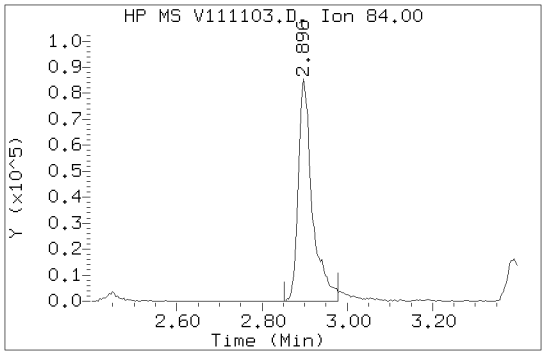
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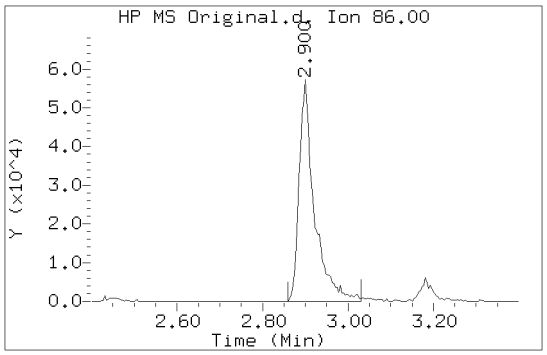
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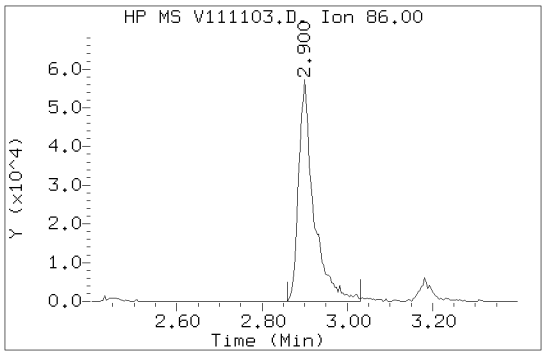
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AFTER

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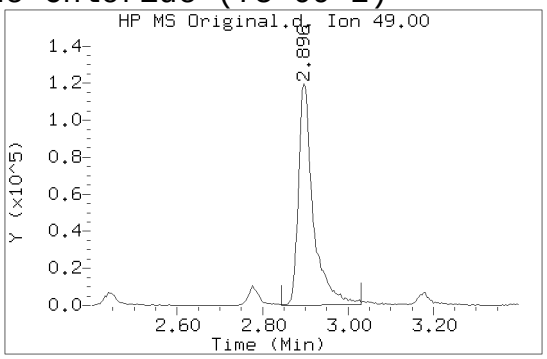
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Inj Date : 11-NOV-2022 11:14
InstruID : voa10.i
LabSampID : VSTD050

Methylene Chloride (75-09-2)

Reason Code:

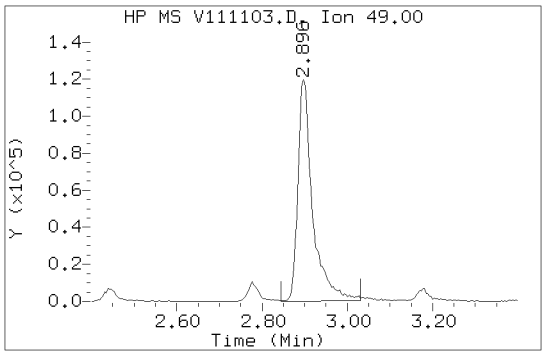
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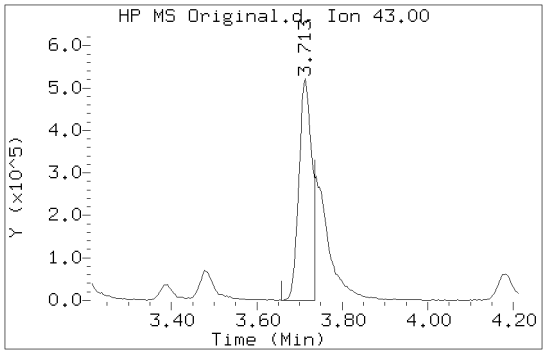


Vinyl Acetate (108-05-4)

Reason Code:

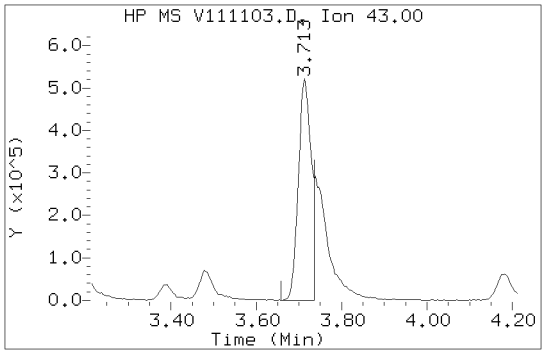
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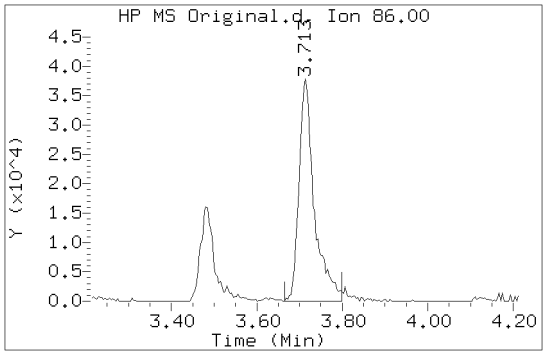
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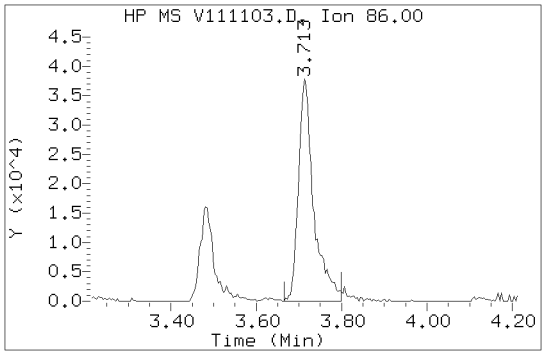
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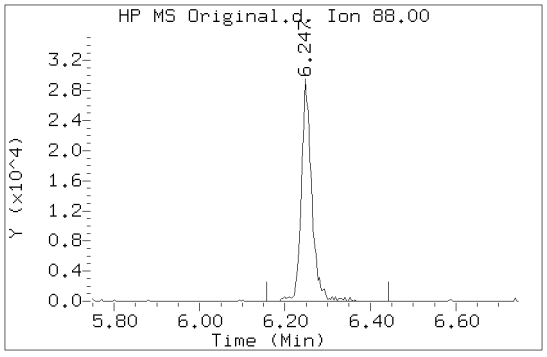


1,4-Dioxane ()

Reason Code:

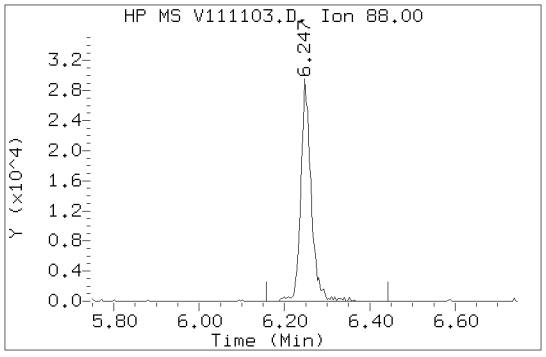
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AFTER

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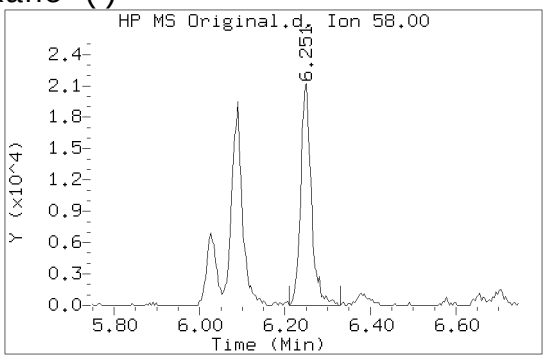
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InstruID : voa10.i
LabSampID : VSTD050

1,4-Dioxane ()

Reason Code:

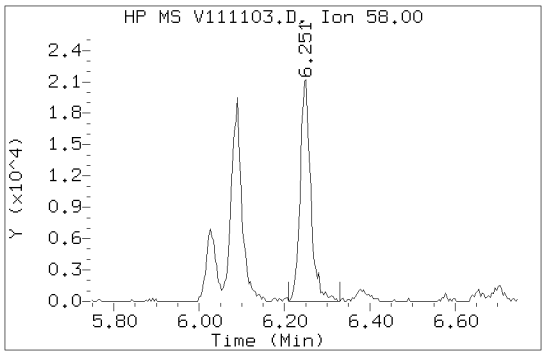
BEFORE

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18-Nov-2022
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linh
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AFTER

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Data File: \\NAHSTWS005\Target\chem\voa10.i\V221111.b\V111104.D Page 1
Report Date: 12-Nov-2022 09:09

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa10.i\V221111.b\V111104.D
Lab Smp Id: CCB Client Smp ID: CCB
Inj Date : 11-NOV-2022 11:34
Operator : PC Inst ID: voa10.i
Smp Info : CCB;CCB
Misc Info : V10;WATER;0;1;
Comment   :
Method   : \\nahstws005\Target\chem\voa10.i\V221111.b\8260C.m
Meth Date : 12-Nov-2022 07:38 Quant Type: ISTD
Cal Date : 10-NOV-2022 15:37 Cal File: X111008.D
Als bottle: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 430_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	4.916	4.912	(1.000)	505335	50.0000	
$ 30 Dibromofluoromethane	113	4.841	4.841	(0.985)	243805	57.1028	57.10
$ 35 1,2-Dichloroethane-d4	65	5.186	5.186	(1.055)	292879	54.0152	54.01
* 36 1,4-Difluorobenzene	114	5.647	5.647	(1.000)	755735	50.0000	
* 47 Chlorobenzene-d5	117	8.267	8.267	(1.000)	629552	50.0000	
$ 48 Toluene-d8	98	7.011	7.012	(0.848)	859739	54.1624	54.16
$ 69 4-Bromofluorobenzene	95	9.272	9.276	(1.122)	306483	48.9489	48.94
* 70 1,4-Dichlorobenzene-d4	152	10.250	10.250	(1.000)	387781	50.0000	

01159813

Data File: \\NAHSTWS005\Target\chem\voa10.i\V221111.b\V111104.D

Date : 11-NOV-2022 11:34

Client ID: CCB

Instrument: voa10.i

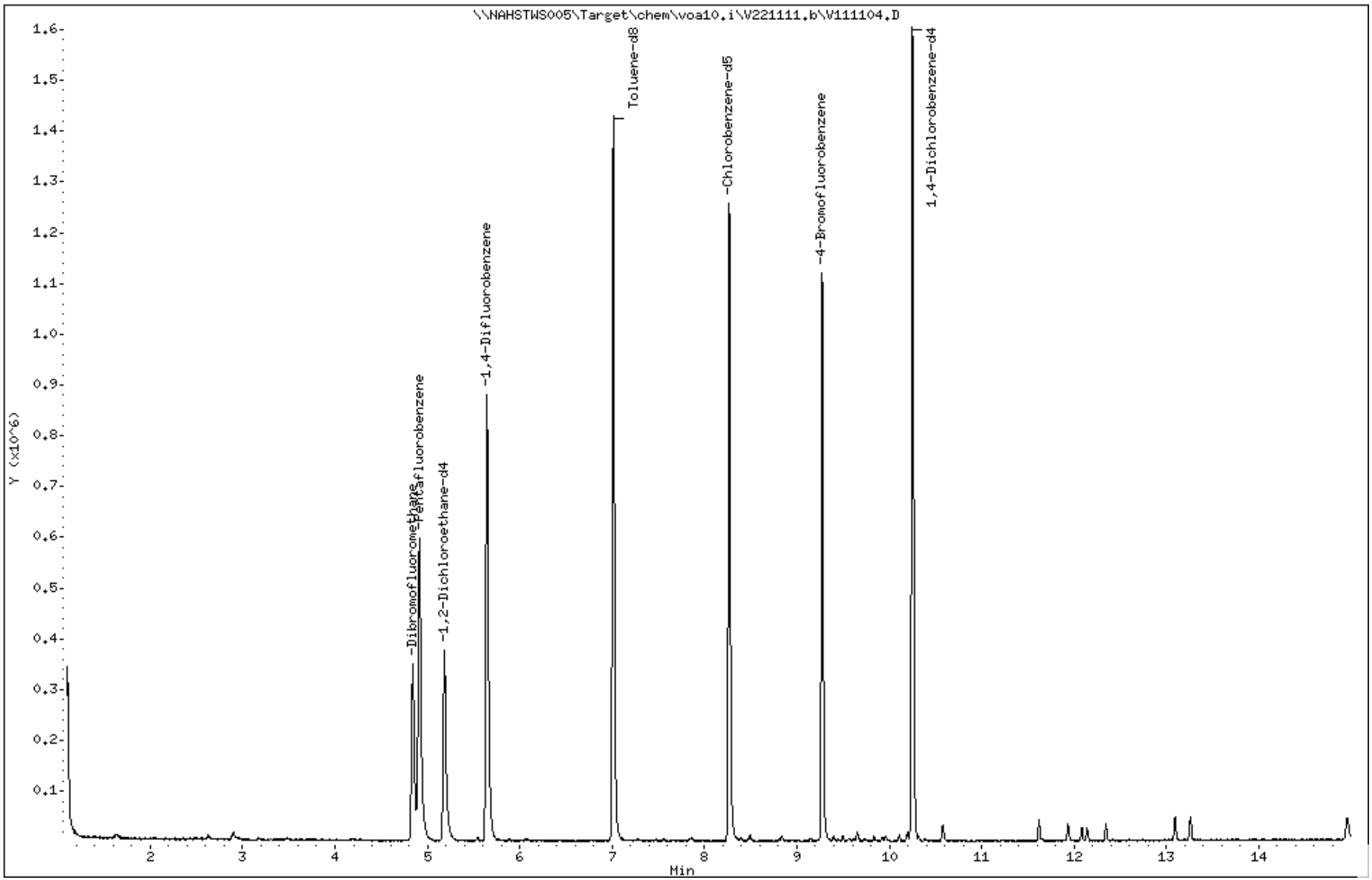
Sample Info: CCB;CCB

Purge Volume: 5.0

Operator: PC

Column phase: DB624

Column diameter: 0.18



Data File: \\NAHSTWS005\Target\chem\voa10.i\V221111.b\V111105.D Page 1
Report Date: 18-Nov-2022 14:13

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa10.i\V221111.b\V111105.D
Lab Smp Id: VLCSW-221111 Client Smp ID: VLCSW-221111
Inj Date : 11-NOV-2022 11:55
Operator : PC Inst ID: voa10.i
Smp Info : VLCSW-221111;VLCSW-221111;3;;LCS
Misc Info : V10;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa10.i\V221111.b\8260C.m
Meth Date : 18-Nov-2022 14:12 Linh.Pham Quant Type: ISTD
Cal Date : 10-NOV-2022 15:37 Cal File: X111008.D
Als bottle: 5 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 430_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	4.916	4.916	(1.000)	478725	50.0000	
2 Dichlorodifluoromethane	85	1.231	1.231	(0.251)	95630	23.3307	23.33
3 Chloromethane	50	1.370	1.370	(0.279)	95589	21.3668	21.36
5 Vinyl Chloride	62	1.449	1.452	(0.295)	96994	21.8311	21.83
6 Bromomethane	94	1.700	1.700	(0.346)	45034	22.4575	22.45
7 Chloroethane	64	1.786	1.786	(0.363)	59094	23.0914	23.09
8 Trichlorofluoromethane	101	1.992	1.988	(0.405)	133879	22.9310	22.93
9 Acrolein	56	2.352	2.352	(0.478)	6112	30.6968	30.69(M)
10 Acetone	43	2.491	2.494	(0.507)	84225	39.8705	39.87
11 1,1-Dichloroethene	96	2.442	2.438	(0.497)	71506	25.4850	25.48
15 Iodomethane	142	2.573	2.569	(0.523)	138978	40.2297	40.22
16 Acrylonitrile	53	3.147	3.143	(0.640)	81115	45.9422	45.94
17 Methylene Chloride	84	2.896	2.899	(0.589)	79674	24.3898	24.38(M)
18 Methyl tert-butyl ether	73	3.192	3.195	(0.649)	276011	22.5691	22.56
19 Carbon Disulfide	76	2.633	2.633	(0.536)	424253	51.4312	51.43(M)
20 trans-1,2-Dichloroethene	96	3.177	3.177	(0.646)	83462	22.7923	22.79
21 Vinyl Acetate	43	3.709	3.713	(0.754)	428939	44.1783	44.17(M)
22 1,1-Dichloroethane	63	3.630	3.630	(0.738)	158779	24.0246	24.02(M)
24 2-Butanone	43	4.350	4.354	(0.885)	94024	37.8757	37.87
26 2,2-Dichloropropane	77	4.305	4.305	(0.876)	133782	23.0887	23.08

27 cis-1,2-Dichloroethene	96	4.305	4.305 (0.876)	93881	21.5700	21.56
28 Chloroform	83	4.669	4.676 (0.950)	165864	21.0900	21.08

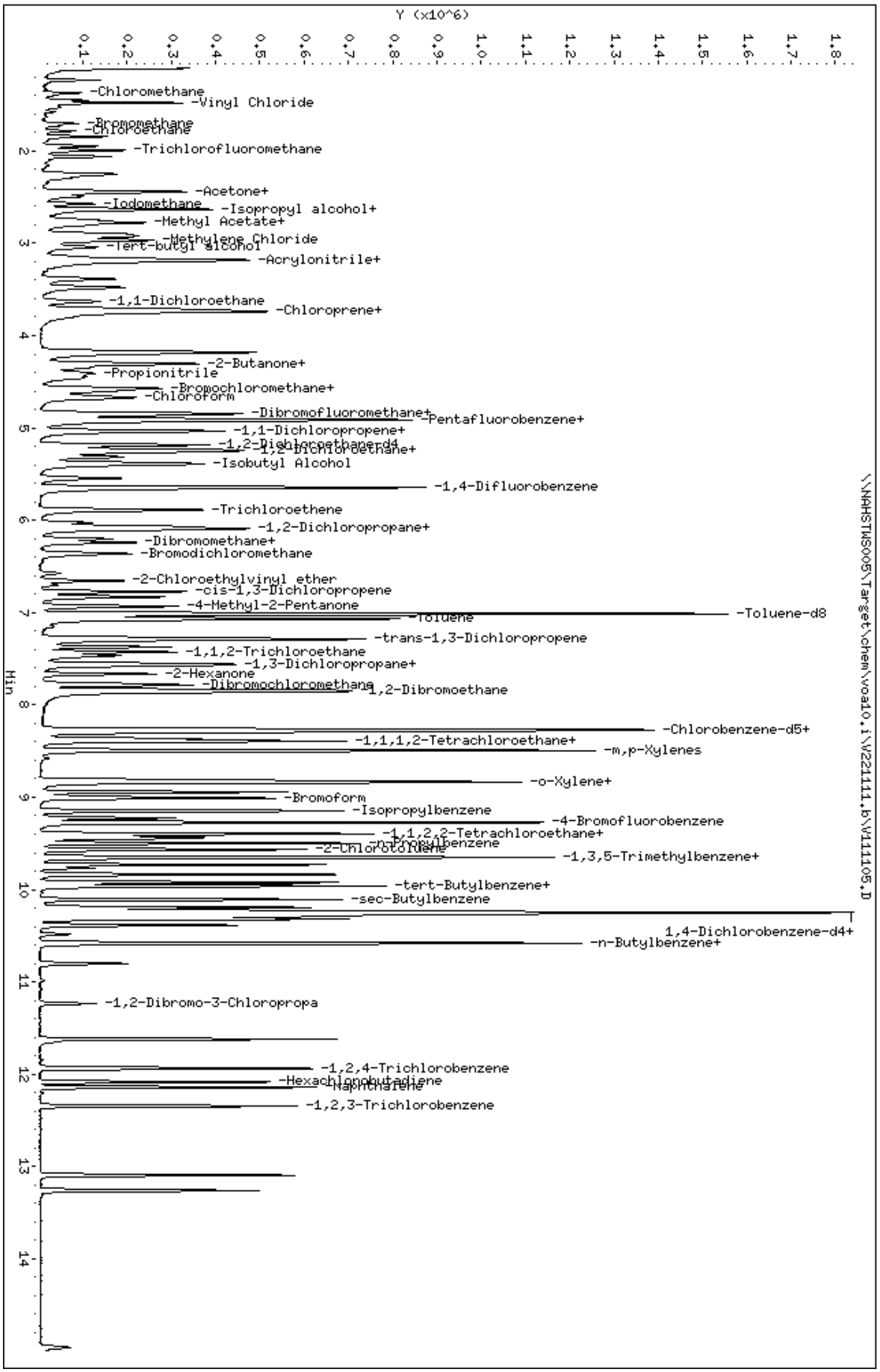
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
	29 Bromochloromethane	128	4.571	4.567	(0.930)	49198	22.5928	22.59
$	30 Dibromofluoromethane	113	4.841	4.841	(0.985)	224170	55.4225	55.42
	31 1,1,1-Trichloroethane	97	4.860	4.860	(0.989)	139755	22.1181	22.11
	32 1,1-Dichloropropene	75	5.036	5.036	(0.892)	130988	23.1615	23.16
	33 1,2-Dichloroethane	62	5.265	5.265	(0.932)	137620	20.2928	20.29
	34 Carbon Tetrachloride	117	5.029	5.028	(0.890)	108239	22.1202	22.12
$	35 1,2-Dichloroethane-d4	65	5.186	5.186	(1.055)	283633	55.2176	55.21
*	36 1,4-Difluorobenzene	114	5.647	5.643	(1.000)	733871	50.0000	
	37 Benzene	78	5.246	5.242	(0.929)	402649	21.5531	21.55
	38 Trichloroethene	130	5.883	5.887	(1.042)	106952	22.3708	22.37
	39 Bromodichloromethane	83	6.359	6.359	(1.126)	125764	21.5815	21.58
	41 2-Chloroethylvinyl ether	63	6.655	6.652	(1.179)	76201	38.4712	38.47
	42 1,2-Dichloropropane	63	6.097	6.097	(1.080)	114047	21.8481	21.84
	44 Dibromomethane	93	6.202	6.198	(1.098)	59037	19.7561	19.75
	45 4-Methyl-2-Pentanone	43	6.929	6.933	(0.838)	206351	37.8200	37.82
	46 cis-1,3-Dichloropropene	75	6.772	6.772	(1.199)	164285	21.0940	21.09
*	47 Chlorobenzene-d5	117	8.267	8.267	(1.000)	628542	50.0000	
$	48 Toluene-d8	98	7.012	7.012	(0.848)	840583	53.0464	53.04
	50 Toluene	91	7.068	7.072	(0.855)	402850	21.7456	21.74
	51 trans-1,3-Dichloropropene	75	7.274	7.270	(1.288)	135630	19.8176	19.81
	52 2-Hexanone	43	7.664	7.668	(0.927)	161160	40.6644	40.66
	53 1,1,2-Trichloroethane	83	7.428	7.431	(0.898)	74717	20.1539	20.15
	54 1,3-Dichloropropane	76	7.574	7.574	(0.916)	152864	20.0728	20.07
	55 Dibromochloromethane	129	7.769	7.769	(0.940)	93494	19.3269	19.32
	56 Tetrachloroethene	164	7.551	7.551	(0.913)	84034	21.8542	21.85
	57 1,2-Dibromoethane	107	7.863	7.859	(0.951)	89739	19.7719	19.77
	58 1-Chlorohexane	55	8.282	8.282	(1.467)	90770	22.4668	22.46
	59 Chlorobenzene	112	8.294	8.294	(1.003)	247015	19.5366	19.53
	60 1,1,1,2-Tetrachloroethane	131	8.365	8.369	(1.012)	89677	19.7955	19.79
	61 Ethylbenzene	106	8.391	8.391	(1.015)	124071	20.0342	20.03
	62 m,p-Xylenes	106	8.496	8.496	(1.028)	317426	41.6332	41.63
	63 o-Xylene	106	8.833	8.833	(1.068)	153613	20.1723	20.17
	64 Styrene	104	8.845	8.845	(1.070)	273798	19.7963	19.79
	66 Bromoform	173	8.991	8.991	(1.088)	69440	19.6720	19.67
	67 Isopropylbenzene	105	9.148	9.148	(1.107)	375066	19.8496	19.84
	68 1,1,2,2-Tetrachloroethane	83	9.396	9.399	(0.917)	135920	20.4680	20.46
$	69 4-Bromofluorobenzene	95	9.276	9.276	(1.122)	310720	49.6908	49.69
*	70 1,4-Dichlorobenzene-d4	152	10.250	10.250	(1.000)	402641	50.0000	
	71 1,2,3-Trichloropropane	75	9.433	9.433	(0.920)	154396	18.0390	18.03
	73 n-Propylbenzene	91	9.497	9.497	(0.926)	467039	21.2649	21.26
	74 Bromobenzene	156	9.396	9.399	(0.917)	121676	19.8000	19.79
	75 1,3,5-Trimethylbenzene	105	9.647	9.647	(0.941)	336250	20.5016	20.50
	76 2-Chlorotoluene	91	9.564	9.568	(0.933)	294345	21.6623	21.66
	77 4-Chlorotoluene	91	9.658	9.658	(0.942)	347711	20.2750	20.27
	78 tert-Butylbenzene	119	9.924	9.924	(0.968)	283287	20.0257	20.02
	79 1,2,4-Trimethylbenzene	105	9.962	9.962	(0.972)	355713	19.9585	19.95
	81 sec-Butylbenzene	105	10.108	10.112	(0.986)	401818	20.2091	20.20
	82 p-Isopropyltoluene	119	10.232	10.232	(0.998)	367071	20.2958	20.29
	83 1,3-Dichlorobenzene	146	10.198	10.198	(0.995)	231978	18.8644	18.86
	84 1,4-Dichlorobenzene	146	10.273	10.273	(1.002)	242167	21.0894	21.08
	87 n-Butylbenzene	91	10.577	10.576	(1.032)	351918	20.2923	20.29
	88 1,2-Dichlorobenzene	146	10.584	10.584	(1.033)	231663	20.6304	20.63

89	1,2-Dibromo-3-Chloropropane	155	11.236	11.236 (1.096)	23594	18.9550	18.95
90	1,2,4-Trichlorobenzene	180	11.937	11.937 (1.165)	175175	20.5752	20.57

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
	91 Hexachlorobutadiene	225	12.084	12.083	(1.179)	91343	28.2157	28.21
	92 Naphthalene	128	12.143	12.143	(1.185)	413249	18.2479	18.24
	93 1,2,3-Trichlorobenzene	180	12.346	12.346	(1.204)	166772	21.0414	21.04
M	94 1,2-Dichloroethylene (total)	96				177343	44.3623	44.36
M	95 Xylenes (total)	106				471039	61.8055	61.80
	135 1,4-Dioxane	88	6.251	6.247	(1.271)	21265	377.415	377.41
	141 Cyclohexane	56	4.912	4.916	(0.999)	139539	33.4420	33.44
	138 Freon TF	101	2.450	2.446	(0.498)	70625	29.4488	29.44
	147 Methylcyclohexane	55	6.067	6.063	(1.074)	99789	14.8389	14.83
	146 Methyl Acetate	43	2.809	2.809	(0.572)	81728	20.8396	20.83
	148 Tert-Butyl alcohol	59	3.042	3.042	(0.619)	167629	279.523	279.52
	149 Isopropyl Alcohol	45	2.637	2.633	(0.536)	123386	291.698	291.69
	72 trans-1,4-Dichloro-2-butene	53	9.444	9.448	(1.142)	41577	18.1213	18.12
	12 Isobutyl Alcohol	43	5.377	5.381	(1.094)	284648	381.343	381.34
	13 Acetonitrile	39	2.776	2.776	(0.565)	131399	196.219	196.21
	14 Allyl Chloride	41	2.776	2.776	(0.565)	192063	18.7703	18.77
	25 Methacrylonitrile	41	4.575	4.575	(0.931)	85890	21.5320	21.53
	40 Methyl Methacrylate	41	6.239	6.243	(1.269)	91148	19.0895	19.08
	4 Propionitrile	54	4.406	4.406	(0.896)	146220	210.034	210.03(a)
	23 Chloroprene	53	3.735	3.735	(0.760)	139267	23.5712	23.57
	49 Ethyl Methacrylate	69	6.243	6.239	(1.106)	60128	19.1485	19.14

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\voa10,i\V221111,b\V111105,D
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Client ID: VLCSW-221111
Sample Info: VLCSW-221111;VLCSW-221111;3;;LCS
Purge Volume: 5.0
Column phase: DB624

Instrument: voa10,i
Operator: PC
Column diameter: 0.18

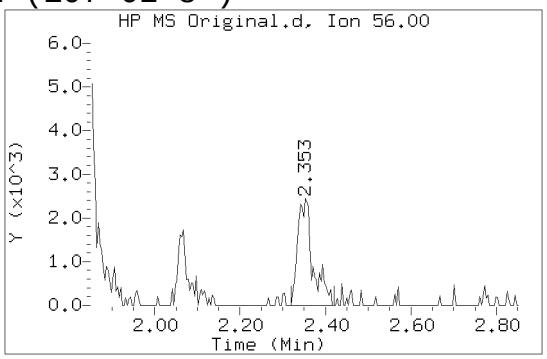
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LabSampID : VLCSW-221111

Acrolein (107-02-8)

Reason Code:

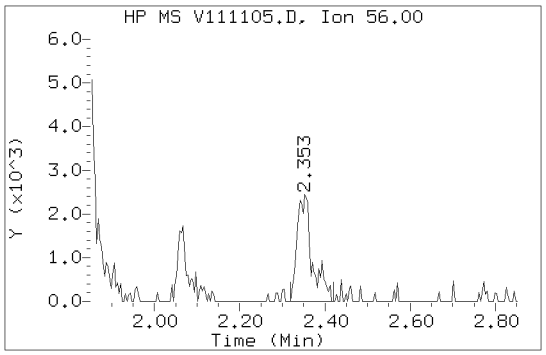
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18-Nov-2022
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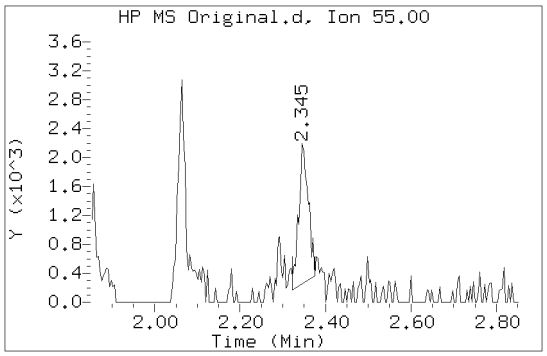
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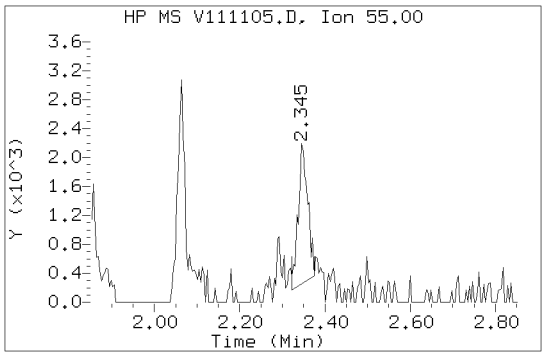
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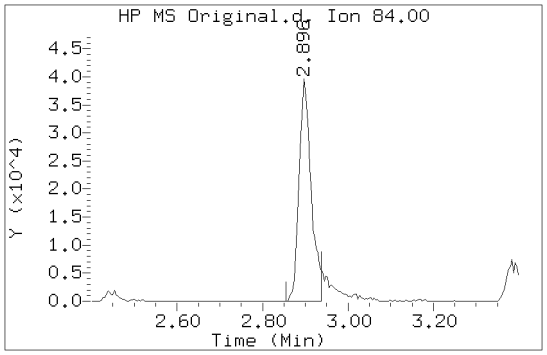


Methylene Chloride (75-09-2)

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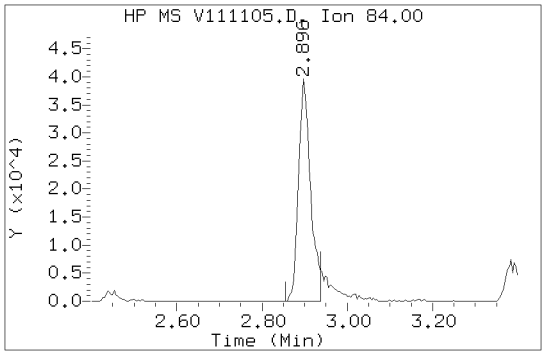
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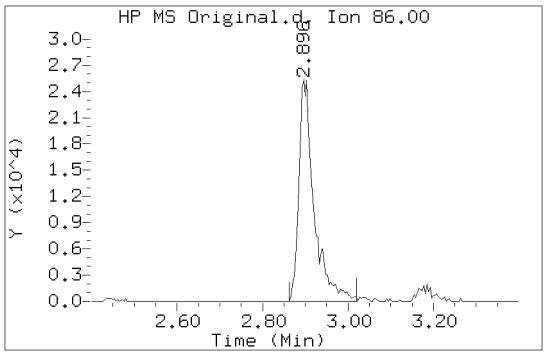
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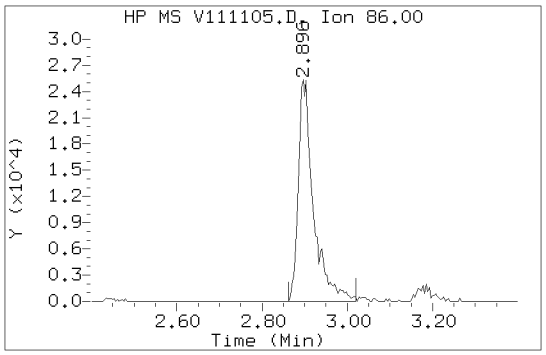
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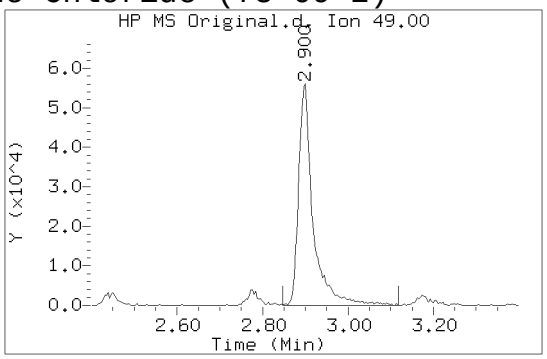
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LabSampID : VLCSW-221111

Methylene Chloride (75-09-2)

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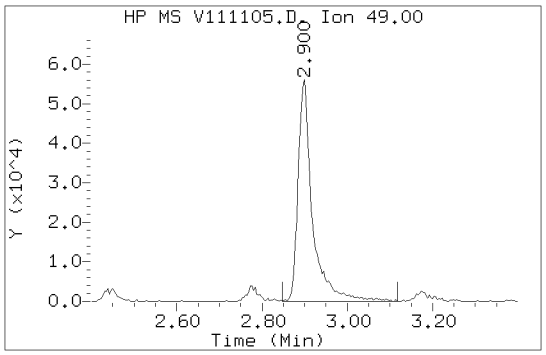
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AFTER

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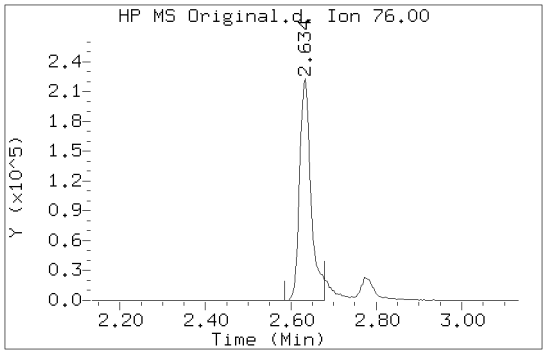


Carbon Disulfide (75-15-0)

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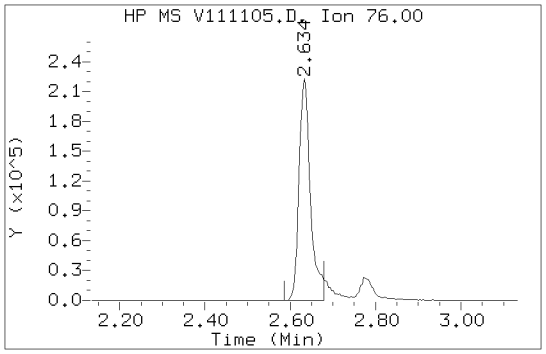
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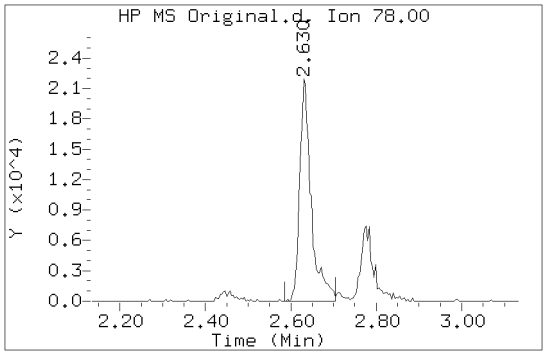
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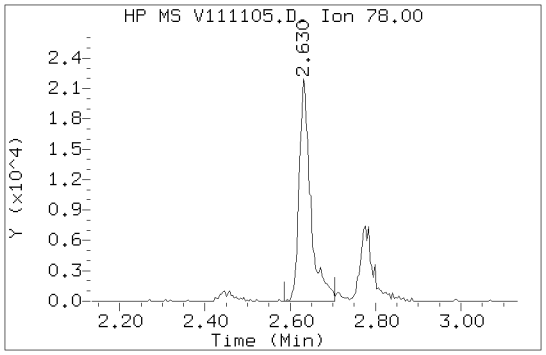
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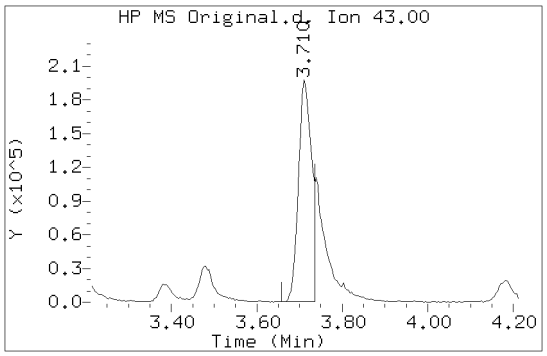


Vinyl Acetate (108-05-4)

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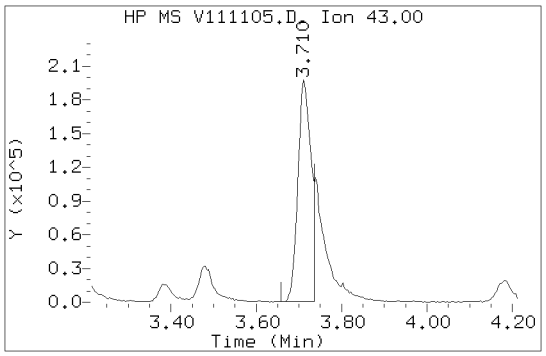
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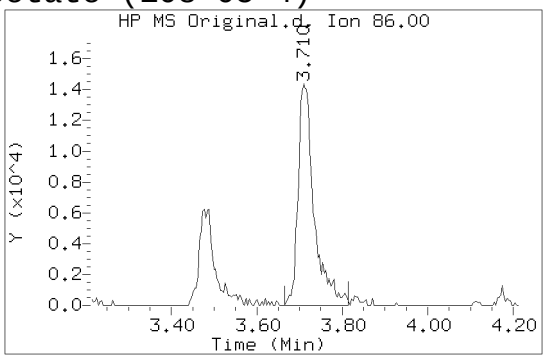


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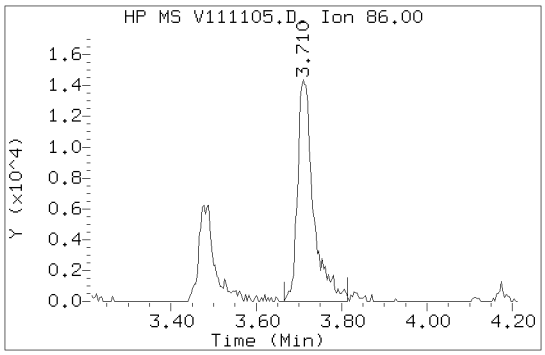
Vinyl Acetate (108-05-4)

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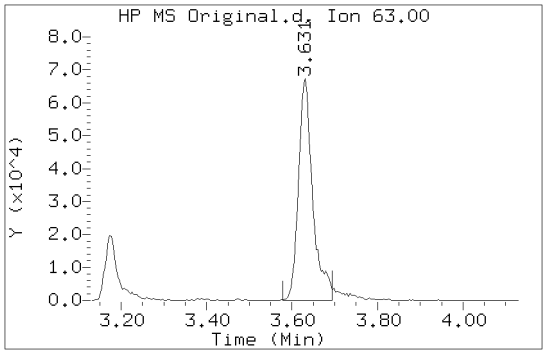
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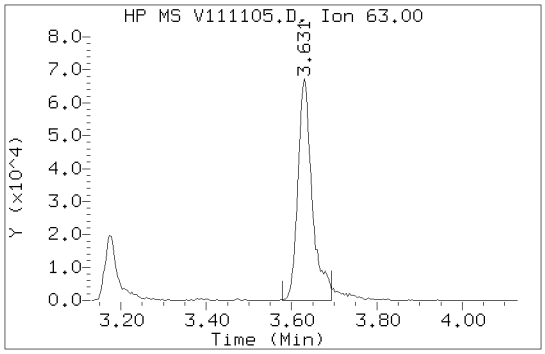
1,1-Dichloroethane (75-34-3)

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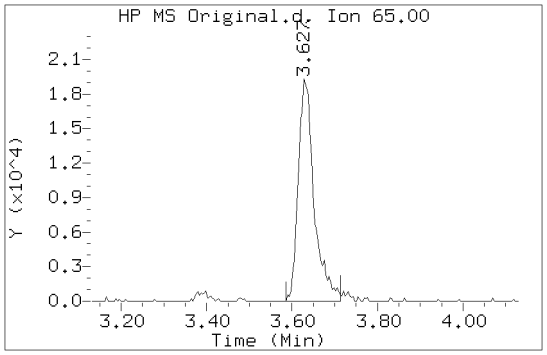
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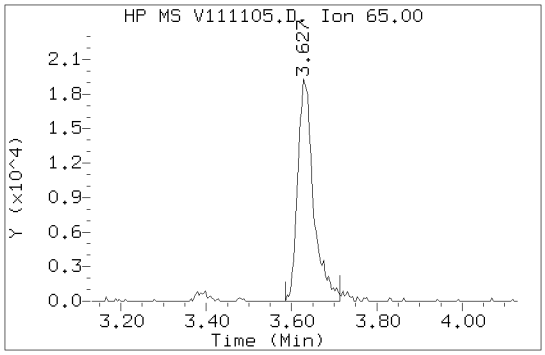
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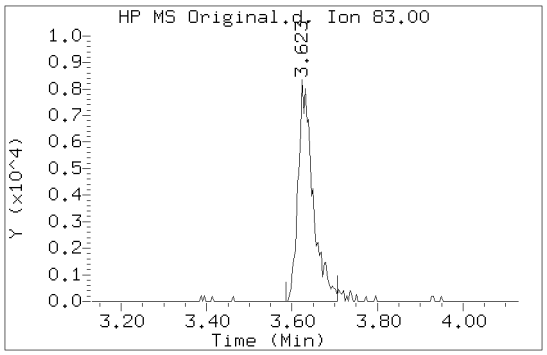
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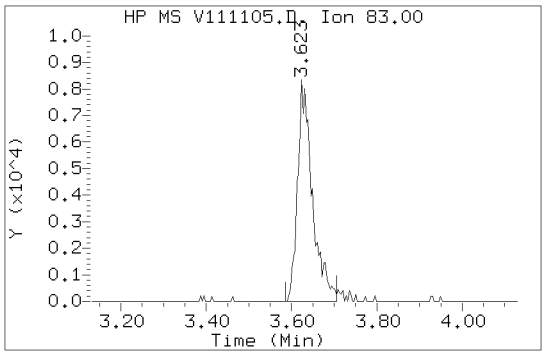
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BEFORE
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AFTER
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Data File: \\NAHSTWS005\Target\chem\voa10.i\V221111.b\V111107.D Page 1
Report Date: 18-Nov-2022 13:01

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa10.i\V221111.b\V111107.D
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Inj Date : 11-NOV-2022 12:36
Operator : PC Inst ID: voa10.i
Smp Info : VBLKW-221111;VBLKW-221111;3;;BLANK
Misc Info : V10;WATER;0;1;
Comment :
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Meth Date : 18-Nov-2022 13:01 voa10.i Quant Type: ISTD
Cal Date : 10-NOV-2022 15:37 Cal File: X111008.D
Als bottle: 7 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 430_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	4.916	4.912	(1.000)	497852	50.0000	
$ 30 Dibromofluoromethane	113	4.841	4.841	(0.985)	237476	56.4565	56.45
$ 35 1,2-Dichloroethane-d4	65	5.186	5.186	(1.055)	284620	53.2810	53.28
* 36 1,4-Difluorobenzene	114	5.647	5.647	(1.000)	740633	50.0000	
* 47 Chlorobenzene-d5	117	8.271	8.267	(1.000)	637490	50.0000	
$ 48 Toluene-d8	98	7.012	7.012	(0.848)	856229	53.2741	53.27
$ 69 4-Bromofluorobenzene	95	9.272	9.276	(1.121)	314662	49.6163	49.61
* 70 1,4-Dichlorobenzene-d4	152	10.250	10.250	(1.000)	394252	50.0000	

01159824

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Date : 11-NOV-2022 12:36

Client ID: VBLKW-221111

Instrument: voa10.i

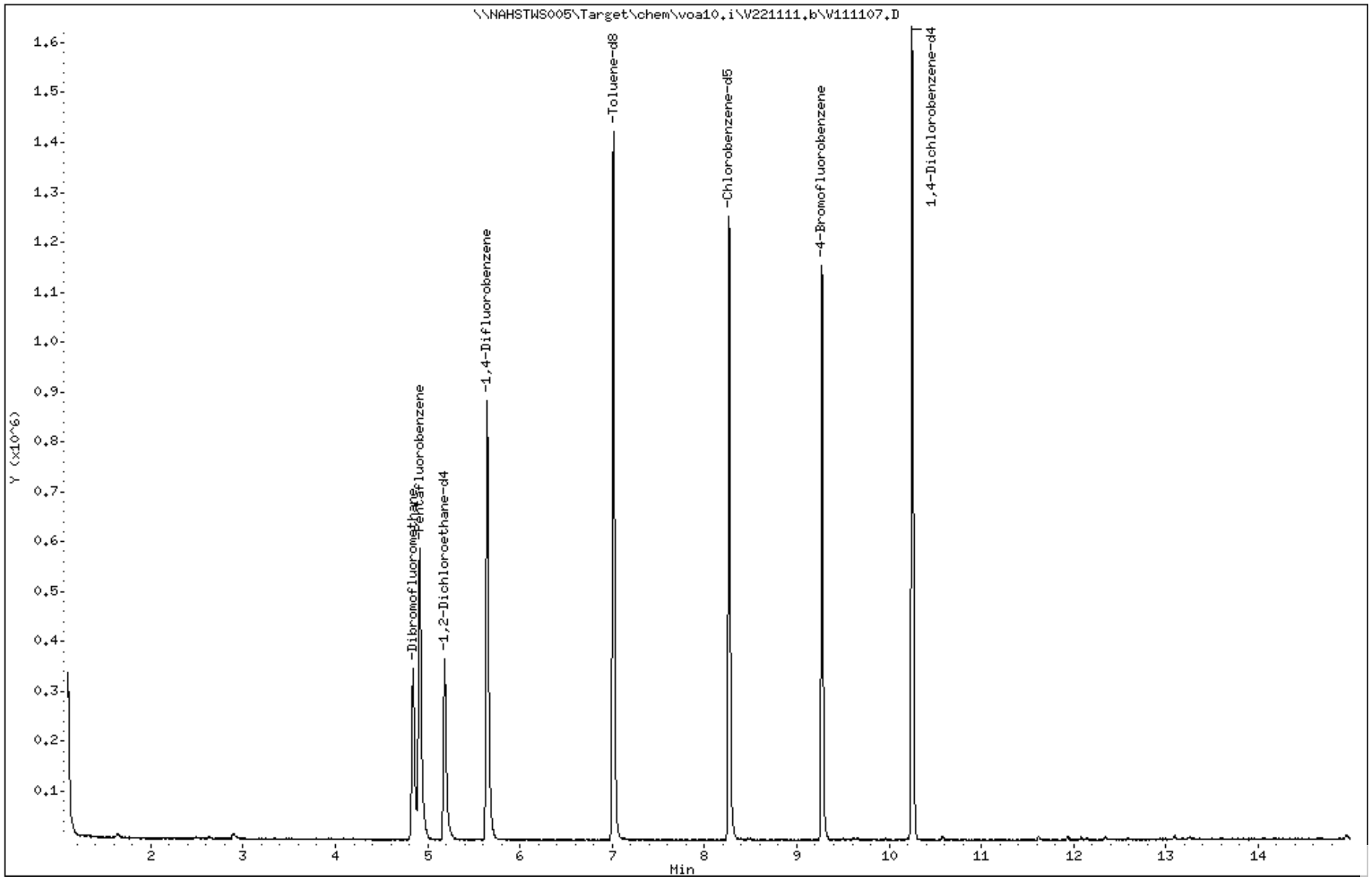
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Operator: PC

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NO MANUAL INTEGRATIONS

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Report Date: 18-Nov-2022 14:13

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa10.i\V221111.b\V111113.D
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Als bottle: 13 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 430_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	4.916	4.916	(1.000)	516551	50.0000	
2 Dichlorodifluoromethane	85	1.231	1.231	(0.251)	95274	21.5418	21.54
3 Chloromethane	50	1.370	1.370	(0.279)	98444	20.3936	20.39
5 Vinyl Chloride	62	1.449	1.452	(0.295)	112733	23.5155	23.51
6 Bromomethane	94	1.700	1.700	(0.346)	52145	24.0994	24.09
7 Chloroethane	64	1.782	1.786	(0.363)	68933	24.9636	24.96
8 Trichlorofluoromethane	101	1.992	1.988	(0.405)	193134	30.6579	30.65
9 Acrolein	56	2.348	2.352	(0.478)	5839	26.9859	26.98
10 Acetone	43	2.491	2.494	(0.507)	84153	36.5165	36.51
11 1,1-Dichloroethene	96	2.438	2.438	(0.496)	83170	27.4286	27.42
15 Iodomethane	142	2.569	2.569	(0.523)	124883	34.2816	34.28
16 Acrylonitrile	53	3.147	3.143	(0.640)	75808	39.7922	39.79
17 Methylene Chloride	84	2.896	2.899	(0.589)	90183	25.7310	25.73
18 Methyl tert-butyl ether	73	3.196	3.195	(0.650)	249246	18.8882	18.88
19 Carbon Disulfide	76	2.629	2.633	(0.535)	503728	56.5552	56.55
20 trans-1,2-Dichloroethene	96	3.177	3.177	(0.646)	92305	23.3614	23.36
21 Vinyl Acetate	43	3.713	3.713	(0.755)	460084	43.9161	43.91(M)
22 1,1-Dichloroethane	63	3.627	3.630	(0.738)	192933	27.0461	27.04
24 2-Butanone	43	4.354	4.354	(0.886)	114282	42.6651	42.66
26 2,2-Dichloropropane	77	4.305	4.305	(0.876)	162196	25.9427	25.94

27	cis-1,2-Dichloroethene	96	4.305	4.305 (0.876)	132605	28.2361	28.23
28	Chloroform	83	4.672	4.676 (0.950)	192681	22.7057	22.70

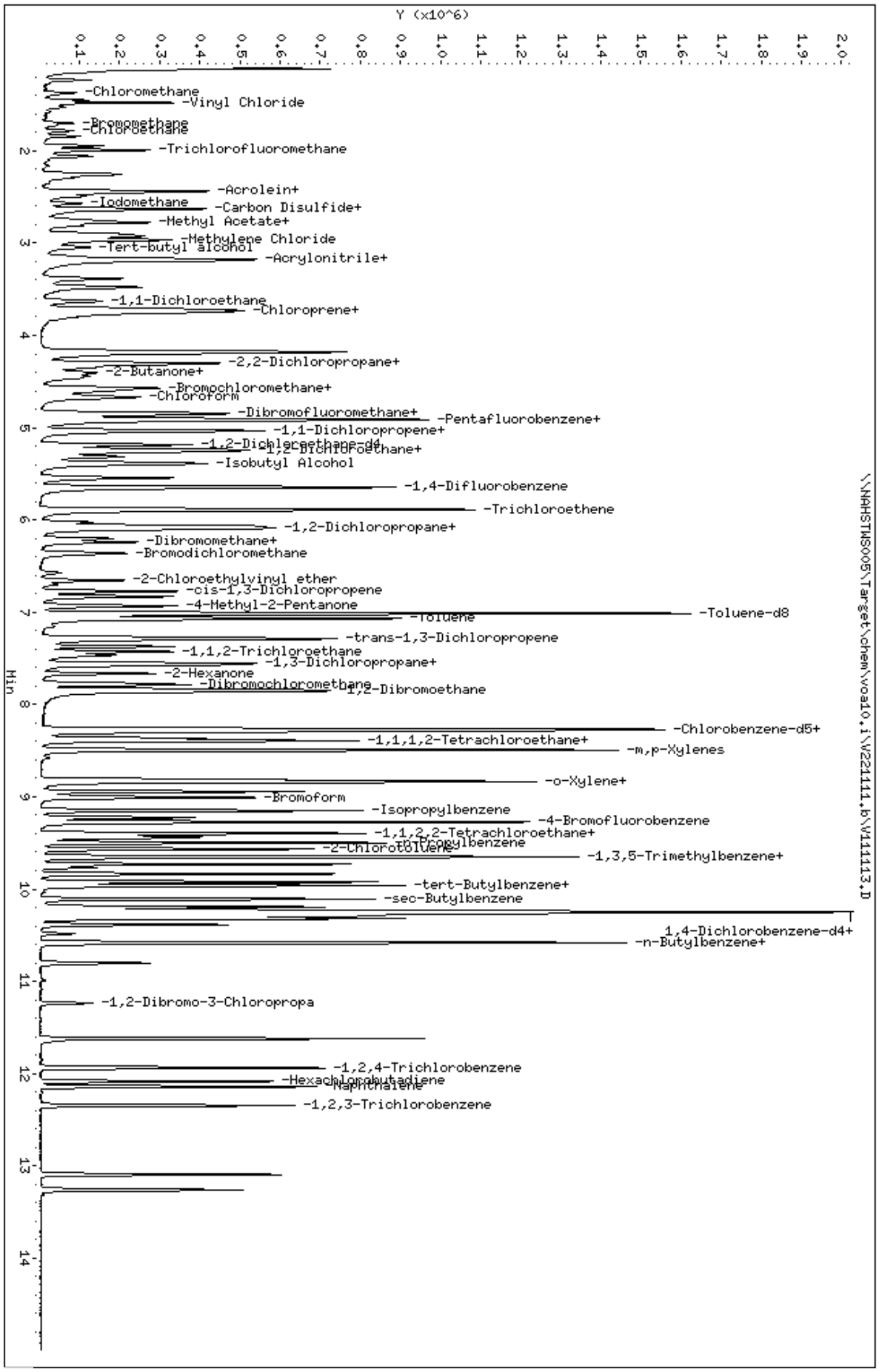
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	29 Bromochloromethane	128	4.571	4.567	(0.930)	56500	24.0461	24.04
$	30 Dibromofluoromethane	113	4.837	4.841	(0.984)	224886	51.5280	51.52
	31 1,1,1-Trichloroethane	97	4.860	4.860	(0.989)	167634	24.5876	24.58
	32 1,1-Dichloropropene	75	5.032	5.036	(0.891)	160152	27.1530	27.15
	33 1,2-Dichloroethane	62	5.265	5.265	(0.932)	156931	22.1881	22.18
	34 Carbon Tetrachloride	117	5.032	5.028	(0.891)	171034	33.5150	33.51
$	35 1,2-Dichloroethane-d4	65	5.186	5.186	(1.055)	275955	49.7889	49.78
*	36 1,4-Difluorobenzene	114	5.647	5.643	(1.000)	765366	50.0000	
	37 Benzene	78	5.242	5.242	(0.928)	451156	23.1558	23.15
	38 Trichloroethene	130	5.887	5.887	(1.042)	359644	72.1299	72.12
	39 Bromodichloromethane	83	6.359	6.359	(1.126)	135575	22.3077	22.30
	41 2-Chloroethylvinyl ether	63	6.652	6.652	(1.178)	84095	40.7095	40.70
	42 1,2-Dichloropropane	63	6.097	6.097	(1.080)	125694	23.0885	23.08
	44 Dibromomethane	93	6.202	6.198	(1.098)	65186	20.9161	20.91
	45 4-Methyl-2-Pentanone	43	6.929	6.933	(0.838)	228152	40.0795	40.07
	46 cis-1,3-Dichloropropene	75	6.772	6.772	(1.199)	177235	21.8204	21.82
*	47 Chlorobenzene-d5	117	8.267	8.267	(1.000)	652733	50.0000	
$	48 Toluene-d8	98	7.012	7.012	(0.848)	894026	54.3214	54.32
	50 Toluene	91	7.072	7.072	(0.855)	460079	23.9144	23.91
	51 trans-1,3-Dichloropropene	75	7.270	7.270	(1.287)	151815	21.2697	21.26
	52 2-Hexanone	43	7.664	7.668	(0.927)	172836	41.9381	41.93
	53 1,1,2-Trichloroethane	83	7.431	7.431	(0.899)	83600	21.7143	21.71
	54 1,3-Dichloropropane	76	7.574	7.574	(0.916)	171048	21.6282	21.62
	55 Dibromochloromethane	129	7.765	7.769	(0.939)	103464	20.5952	20.59
	56 Tetrachloroethene	164	7.551	7.551	(0.913)	107045	26.8067	26.80
	57 1,2-Dibromoethane	107	7.863	7.859	(0.951)	100677	21.3598	21.35
	58 1-Chlorohexane	55	8.279	8.282	(1.466)	112000	26.5807	26.58
	59 Chlorobenzene	112	8.294	8.294	(1.003)	277055	21.1004	21.10
	60 1,1,1,2-Tetrachloroethane	131	8.365	8.369	(1.012)	101339	21.5407	21.54
	61 Ethylbenzene	106	8.391	8.391	(1.015)	148840	23.1430	23.14
	62 m,p-Xylenes	106	8.496	8.496	(1.028)	372995	47.1085	47.10
	63 o-Xylene	106	8.830	8.833	(1.068)	178667	22.5928	22.59
	64 Styrene	104	8.841	8.845	(1.069)	306929	21.3693	21.36
	66 Bromoform	173	8.991	8.991	(1.088)	75432	20.5241	20.52
	67 Isopropylbenzene	105	9.148	9.148	(1.107)	455102	23.1928	23.19
	68 1,1,2,2-Tetrachloroethane	83	9.396	9.399	(0.917)	147093	19.8427	19.84
$	69 4-Bromofluorobenzene	95	9.272	9.276	(1.122)	332093	51.1130	51.11
*	70 1,4-Dichlorobenzene-d4	152	10.250	10.250	(1.000)	449350	50.0000	
	71 1,2,3-Trichloropropane	75	9.433	9.433	(0.920)	173284	18.1413	18.14
	73 n-Propylbenzene	91	9.497	9.497	(0.926)	562742	22.9590	22.95
	74 Bromobenzene	156	9.400	9.399	(0.917)	133758	19.5035	19.50
	75 1,3,5-Trimethylbenzene	105	9.647	9.647	(0.941)	401435	21.9318	21.93
	76 2-Chlorotoluene	91	9.564	9.568	(0.933)	333920	21.9971	21.99
	77 4-Chlorotoluene	91	9.658	9.658	(0.942)	396161	20.6989	20.69
	78 tert-Butylbenzene	119	9.924	9.924	(0.968)	346190	21.9285	21.92
	79 1,2,4-Trimethylbenzene	105	9.962	9.962	(0.972)	413166	20.7724	20.77
	81 sec-Butylbenzene	105	10.108	10.112	(0.986)	493877	22.2572	22.25
	82 p-Isopropyltoluene	119	10.232	10.232	(0.998)	444130	22.0039	22.00
	83 1,3-Dichlorobenzene	146	10.198	10.198	(0.995)	265138	19.3197	19.31
	84 1,4-Dichlorobenzene	146	10.269	10.273	(1.002)	269528	21.0339	21.03
	87 n-Butylbenzene	91	10.577	10.576	(1.032)	419784	21.6895	21.68
	88 1,2-Dichlorobenzene	146	10.584	10.584	(1.033)	257970	20.5851	20.58

89	1,2-Dibromo-3-Chloropropane	155	11.236	11.236 (1.096)	25865	18.6195	18.61
90	1,2,4-Trichlorobenzene	180	11.937	11.937 (1.165)	190425	20.0427	20.04

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
	91 Hexachlorobutadiene	225	12.084	12.083	(1.179)	102740	28.4311	28.43
	92 Naphthalene	128	12.144	12.143	(1.185)	458107	18.1259	18.12
	93 1,2,3-Trichlorobenzene	180	12.346	12.346	(1.204)	179342	20.2658	20.26
M	94 1,2-Dichloroethylene (total)	96				224910	51.5975	51.59
M	95 Xylenes (total)	106				551662	69.7013	69.70
	135 1,4-Dioxane	88	6.247	6.247	(1.271)	22963	377.697	377.69
	141 Cyclohexane	56	4.912	4.916	(0.999)	191135	41.5256	41.52
	138 Freon TF	101	2.446	2.446	(0.498)	96739	36.8173	36.81
	147 Methylcyclohexane	55	6.067	6.063	(1.074)	186199	26.5489	26.54
	146 Methyl Acetate	43	2.809	2.809	(0.572)	88306	20.8680	20.86
	148 Tert-Butyl alcohol	59	3.046	3.042	(0.620)	164307	253.920	253.92
	149 Isopropyl Alcohol	45	2.637	2.633	(0.536)	128251	280.996	280.99
	72 trans-1,4-Dichloro-2-butene	53	9.444	9.448	(1.142)	43413	18.2203	18.22
	12 Isobutyl Alcohol	43	5.373	5.381	(1.093)	310746	385.822	385.82
	13 Acetonitrile	39	2.776	2.776	(0.565)	152735	211.379	211.37
	14 Allyl Chloride	41	2.772	2.776	(0.564)	199580	18.0766	18.07(M)
	25 Methacrylonitrile	41	4.575	4.575	(0.931)	124014	28.8128	28.81
	40 Methyl Methacrylate	41	6.239	6.243	(1.269)	104387	20.2613	20.26
	4 Propionitrile	54	4.403	4.406	(0.896)	161666	215.216	215.21(a)
	23 Chloroprene	53	3.732	3.735	(0.759)	172338	27.0326	27.03
	49 Ethyl Methacrylate	69	6.239	6.239	(1.105)	69954	21.3610	21.36

QC Flag Legend

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



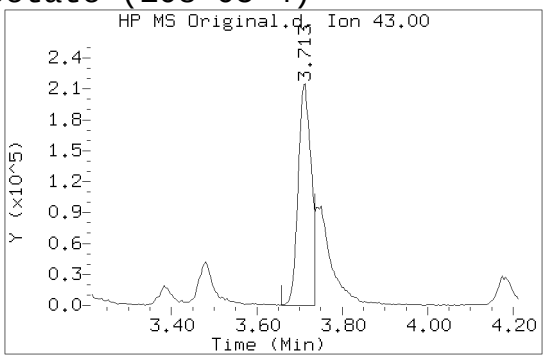
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Instrument: voa10,i
Operator: PC
Column diameter: 0.18

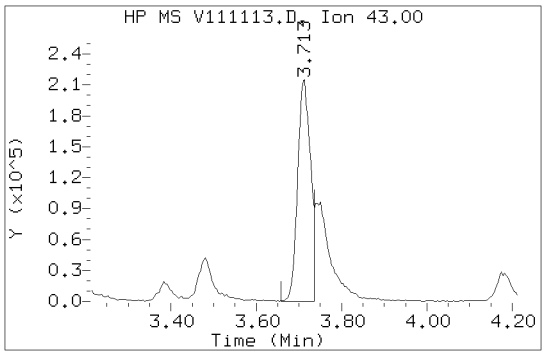
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Vinyl Acetate (108-05-4)

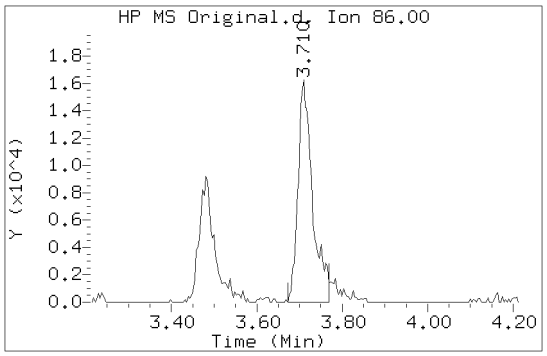
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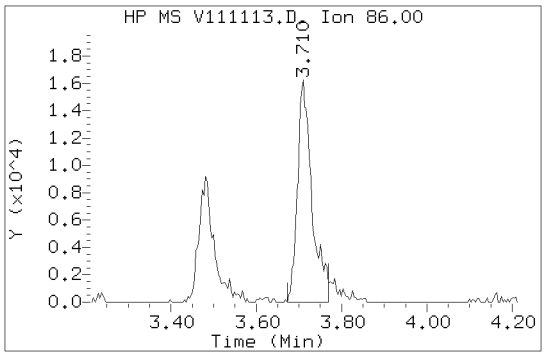
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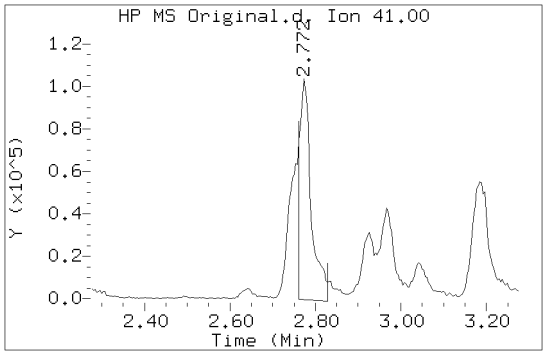


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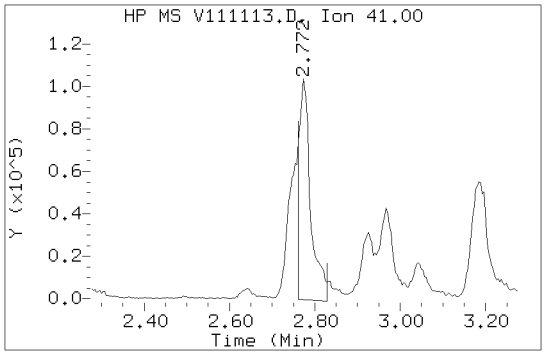


Allyl Chloride (107-05-1)

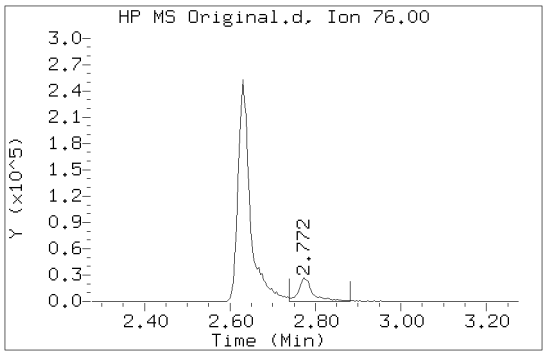
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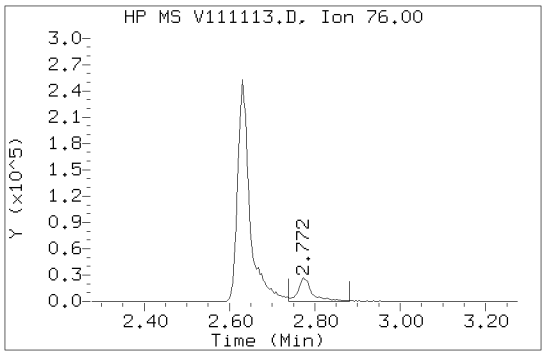
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Report Date: 18-Nov-2022 14:13

ALS Laboratory Group

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Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 430_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	4.916	4.916	(1.000)	528820	50.0000	
2 Dichlorodifluoromethane	85	1.231	1.231	(0.251)	84928	18.7570	18.75
3 Chloromethane	50	1.370	1.370	(0.279)	98276	19.8865	19.88
5 Vinyl Chloride	62	1.452	1.452	(0.295)	96834	19.7304	19.73
6 Bromomethane	94	1.700	1.700	(0.346)	47347	21.3743	21.37
7 Chloroethane	64	1.782	1.786	(0.363)	56131	19.8558	19.85
8 Trichlorofluoromethane	101	1.992	1.988	(0.405)	188235	29.1870	29.18
9 Acrolein	56	2.344	2.352	(0.477)	5786	26.0661	26.06
10 Acetone	43	2.491	2.494	(0.507)	88881	37.8457	37.84
11 1,1-Dichloroethene	96	2.438	2.438	(0.496)	86510	27.8568	27.85
15 Iodomethane	142	2.569	2.569	(0.523)	160271	41.7895	41.78
16 Acrylonitrile	53	3.147	3.143	(0.640)	84481	43.3159	43.31
17 Methylene Chloride	84	2.899	2.899	(0.590)	94708	26.4705	26.47
18 Methyl tert-butyl ether	73	3.195	3.195	(0.650)	282626	20.9208	20.92
19 Carbon Disulfide	76	2.629	2.633	(0.535)	483221	53.0212	53.02
20 trans-1,2-Dichloroethene	96	3.173	3.177	(0.645)	95670	23.6513	23.65
21 Vinyl Acetate	43	3.713	3.713	(0.755)	458605	42.7593	42.75(M)
22 1,1-Dichloroethane	63	3.630	3.630	(0.738)	153837	21.0619	21.06
24 2-Butanone	43	4.354	4.354	(0.886)	111064	40.5018	40.50
26 2,2-Dichloropropane	77	4.305	4.305	(0.876)	134862	21.0702	21.07

27 cis-1,2-Dichloroethene	96	4.309	4.305 (0.876)	102831	21.3882	21.38
28 Chloroform	83	4.669	4.676 (0.950)	186158	21.4281	21.42

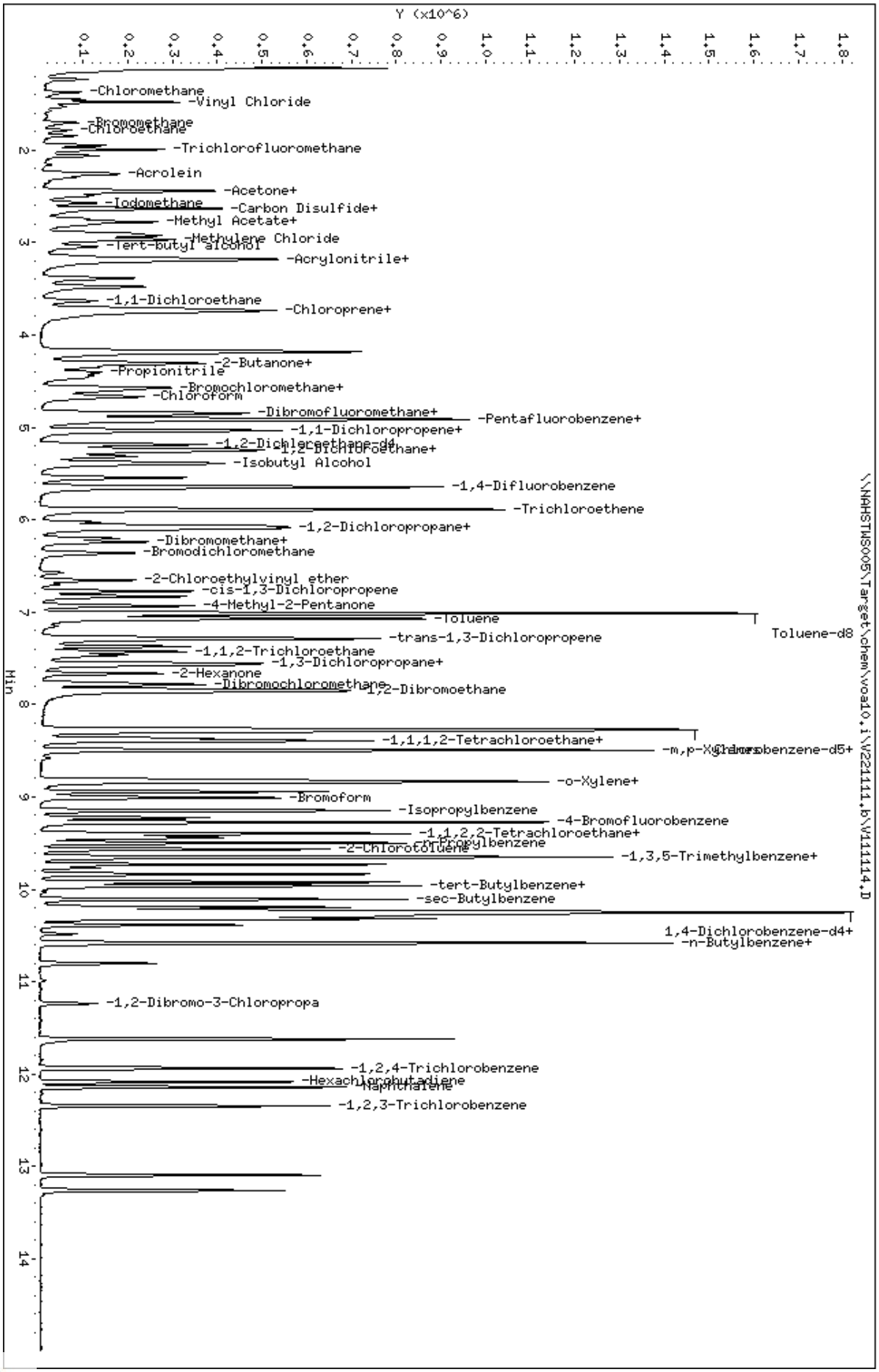
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
	29 Bromochloromethane	128	4.571	4.567	(0.930)	54499	22.6563	22.65
$	30 Dibromofluoromethane	113	4.841	4.841	(0.985)	222941	49.8972	49.89
	31 1,1,1-Trichloroethane	97	4.856	4.860	(0.988)	157920	22.6254	22.62
	32 1,1-Dichloropropene	75	5.036	5.036	(0.892)	150373	25.3001	25.30
	33 1,2-Dichloroethane	62	5.265	5.265	(0.933)	150204	21.0746	21.07
	34 Carbon Tetrachloride	117	5.032	5.028	(0.892)	162177	31.5365	31.53
$	35 1,2-Dichloroethane-d4	65	5.186	5.186	(1.055)	281571	49.6235	49.62
*	36 1,4-Difluorobenzene	114	5.643	5.643	(1.000)	771262	50.0000	
	37 Benzene	78	5.242	5.242	(0.929)	434317	22.1212	22.12
	38 Trichloroethene	130	5.887	5.887	(1.043)	335567	66.7865	66.78
	39 Bromodichloromethane	83	6.359	6.359	(1.127)	134553	21.9703	21.97
	41 2-Chloroethylvinyl ether	63	6.652	6.652	(1.179)	86182	41.4009	41.40
	42 1,2-Dichloropropane	63	6.093	6.097	(1.080)	120776	22.0155	22.01
	44 Dibromomethane	93	6.202	6.198	(1.099)	65120	20.7352	20.73
	45 4-Methyl-2-Pentanone	43	6.929	6.933	(0.838)	230131	41.5490	41.54
	46 cis-1,3-Dichloropropene	75	6.775	6.772	(1.201)	178193	21.7706	21.77
*	47 Chlorobenzene-d5	117	8.271	8.267	(1.000)	633373	50.0000	
$	48 Toluene-d8	98	7.012	7.012	(0.848)	886537	55.5067	55.50
	50 Toluene	91	7.071	7.072	(0.855)	436260	23.3695	23.36
	51 trans-1,3-Dichloropropene	75	7.270	7.270	(1.288)	144639	20.1094	20.10
	52 2-Hexanone	43	7.664	7.668	(0.927)	172736	43.1435	43.14
	53 1,1,2-Trichloroethane	83	7.431	7.431	(0.898)	83138	22.2543	22.25
	54 1,3-Dichloropropane	76	7.574	7.574	(0.916)	169128	22.0391	22.03
	55 Dibromochloromethane	129	7.765	7.769	(0.939)	101232	20.7668	20.76
	56 Tetrachloroethene	164	7.551	7.551	(0.913)	101492	26.1930	26.19
	57 1,2-Dibromoethane	107	7.862	7.859	(0.951)	98044	21.4370	21.43
	58 1-Chlorohexane	55	8.282	8.282	(1.468)	114641	26.9995	26.99
	59 Chlorobenzene	112	8.294	8.294	(1.003)	266660	20.9295	20.92
	60 1,1,1,2-Tetrachloroethane	131	8.365	8.369	(1.011)	97201	21.2927	21.29
	61 Ethylbenzene	106	8.395	8.391	(1.015)	140485	22.5116	22.51
	62 m,p-Xylenes	106	8.496	8.496	(1.027)	345721	44.9985	44.99
	63 o-Xylene	106	8.830	8.833	(1.068)	170313	22.1947	22.19
	64 Styrene	104	8.845	8.845	(1.069)	296401	21.2671	21.26
	66 Bromoform	173	8.995	8.991	(1.087)	76157	21.3077	21.30
	67 Isopropylbenzene	105	9.148	9.148	(1.106)	428902	22.5257	22.52
	68 1,1,2,2-Tetrachloroethane	83	9.399	9.399	(0.917)	144516	21.2500	21.24
$	69 4-Bromofluorobenzene	95	9.272	9.276	(1.121)	310456	49.2778	49.27
*	70 1,4-Dichlorobenzene-d4	152	10.250	10.250	(1.000)	412480	50.0000	
	71 1,2,3-Trichloropropane	75	9.433	9.433	(0.920)	169891	19.3759	19.37
	73 n-Propylbenzene	91	9.497	9.497	(0.926)	531998	23.6448	23.64
	74 Bromobenzene	156	9.399	9.399	(0.917)	132559	21.0564	21.05
	75 1,3,5-Trimethylbenzene	105	9.647	9.647	(0.941)	377372	22.4600	22.46
	76 2-Chlorotoluene	91	9.564	9.568	(0.933)	317979	22.7668	22.76
	77 4-Chlorotoluene	91	9.658	9.658	(0.942)	380260	21.6441	21.64
	78 tert-Butylbenzene	119	9.924	9.924	(0.968)	326038	22.4980	22.49
	79 1,2,4-Trimethylbenzene	105	9.962	9.962	(0.972)	392331	21.4880	21.48
	81 sec-Butylbenzene	105	10.108	10.112	(0.986)	470614	23.1046	23.10
	82 p-Isopropyltoluene	119	10.232	10.232	(0.998)	428191	23.1105	23.11
	83 1,3-Dichlorobenzene	146	10.198	10.198	(0.995)	253232	20.1015	20.10
	84 1,4-Dichlorobenzene	146	10.273	10.273	(1.002)	260452	22.1120	22.11
	87 n-Butylbenzene	91	10.576	10.576	(1.032)	405870	22.8451	22.84
	88 1,2-Dichlorobenzene	146	10.584	10.584	(1.033)	254286	22.1056	22.10

89	1,2-Dibromo-3-Chloropropane	155	11.240	11.236 (1.097)	24667	19.3443	19.34
90	1,2,4-Trichlorobenzene	180	11.937	11.937 (1.165)	188370	21.5949	21.59

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	91 Hexachlorobutadiene	225	12.087	12.083	(1.179)	100606	30.2652	30.26
	92 Naphthalene	128	12.143	12.143	(1.185)	457843	19.7348	19.73
	93 1,2,3-Trichlorobenzene	180	12.346	12.346	(1.204)	174912	21.5482	21.54
M	94 1,2-Dichloroethylene (total)	96				198501	45.0394	45.03
M	95 Xylenes (total)	106				516034	67.1932	67.19
	135 1,4-Dioxane	88	6.247	6.247	(1.271)	21608	348.285	348.28
	141 Cyclohexane	56	4.912	4.916	(0.999)	180529	38.6365	38.63
	138 Freon TF	101	2.446	2.446	(0.498)	93931	35.0626	35.06
	147 Methylcyclohexane	55	6.063	6.063	(1.074)	159727	22.6003	22.60
	146 Methyl Acetate	43	2.809	2.809	(0.571)	97046	22.4013	22.40
	148 Tert-Butyl alcohol	59	3.045	3.042	(0.620)	167032	252.143	252.14
	149 Isopropyl Alcohol	45	2.633	2.633	(0.536)	123582	264.485	264.48
	72 trans-1,4-Dichloro-2-butene	53	9.444	9.448	(1.142)	44389	19.1994	19.19
	12 Isobutyl Alcohol	43	5.381	5.381	(1.095)	308901	374.633	374.63
	13 Acetonitrile	39	2.776	2.776	(0.565)	147115	198.877	198.87
	14 Allyl Chloride	41	2.776	2.776	(0.565)	246749	21.8304	21.83
	25 Methacrylonitrile	41	4.579	4.575	(0.931)	97423	22.1096	22.10
	40 Methyl Methacrylate	41	6.236	6.243	(1.268)	104169	19.7499	19.74
	4 Propionitrile	54	4.406	4.406	(0.896)	157501	204.807	204.80(a)
	23 Chloroprene	53	3.731	3.735	(0.759)	164909	25.2672	25.26
	49 Ethyl Methacrylate	69	6.239	6.239	(1.106)	71148	21.5595	21.55

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\voa10.i\V221111.b\V111114.D
Date : 11-NOV-2022 14:59
Client ID: HS2210430-25MSD
Sample Info: HS2210430-25MSD;HS2210430-25MSD;3;;MSD
Purge Volume: 5.0
Column phase: DB624

Instrument: voa10.i
Operator: PC
Column diameter: 0.18

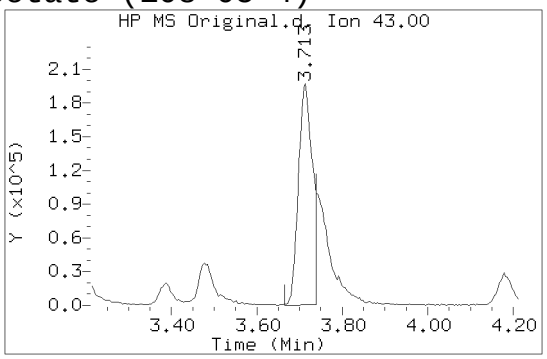
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Inj Date : 11-NOV-2022 14:59
InstruID : voa10.i
LabSampID : HS22110430-25MSD

Vinyl Acetate (108-05-4)

Reason Code:

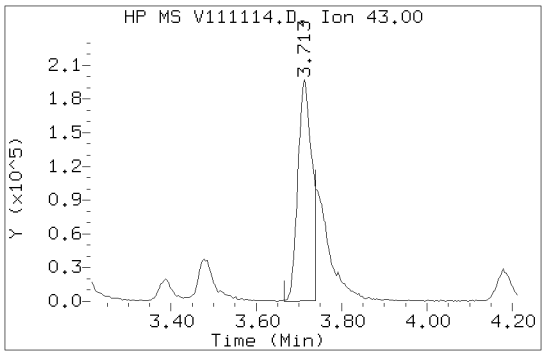
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18-Nov-2022
12:46
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pham



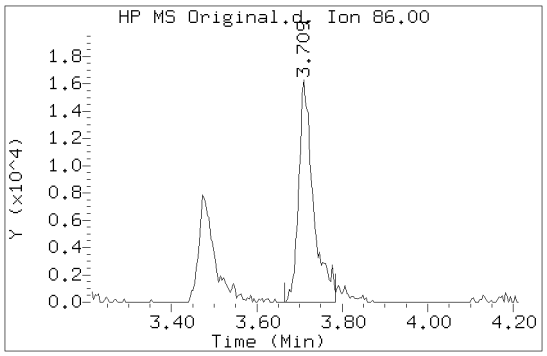
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MASS
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HEIGHT
196846
18-Nov-2022
14:13
linh
pham



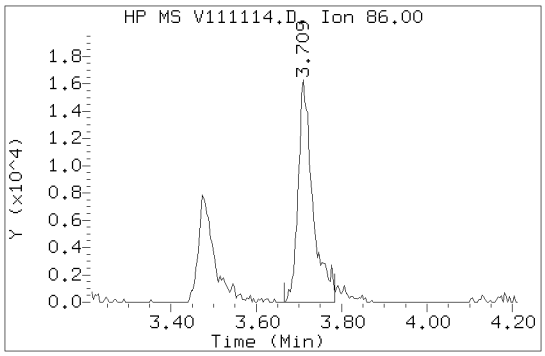
BEFORE

MASS
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HEIGHT
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18-Nov-2022
12:46
linh
pham



AFTER

MASS
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AREA
39611
HEIGHT
16289
18-Nov-2022
14:13
linh
pham



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa10.i\V221111.b\V111129.D
Lab Smp Id: HS22110517-02 Client Smp ID: HS22110517-02
Inj Date : 11-NOV-2022 20:06
Operator : PC Inst ID: voa10.i
Smp Info : HS22110517-02;HS22110517-02;;;
Misc Info : V10;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa10.i\V221111.b\8260C.m
Meth Date : 18-Nov-2022 13:01 voa10.i Quant Type: ISTD
Cal Date : 10-NOV-2022 15:37 Cal File: X111008.D
Als bottle: 28
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 430_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	4.912	4.912	(1.000)	443180	50.0000	
$ 30 Dibromofluoromethane	113	4.841	4.841	(0.986)	232721	62.1513	62.15
$ 35 1,2-Dichloroethane-d4	65	5.186	5.186	(1.056)	274357	57.6956	57.69
* 36 1,4-Difluorobenzene	114	5.643	5.647	(1.000)	671157	50.0000	
* 47 Chlorobenzene-d5	117	8.267	8.267	(1.000)	593365	50.0000	
$ 48 Toluene-d8	98	7.012	7.012	(0.848)	779525	52.1145	52.11
$ 69 4-Bromofluorobenzene	95	9.272	9.276	(1.122)	294365	49.8627	49.86
* 70 1,4-Dichlorobenzene-d4	152	10.250	10.250	(1.000)	392393	50.0000	

01159841

Data File: \\NAHSTWS005\Target\chem\voa10.i\V221111.b\V111129.D

Date : 11-NOV-2022 20:06

Client ID: HS22110517-02

Instrument: voa10.i

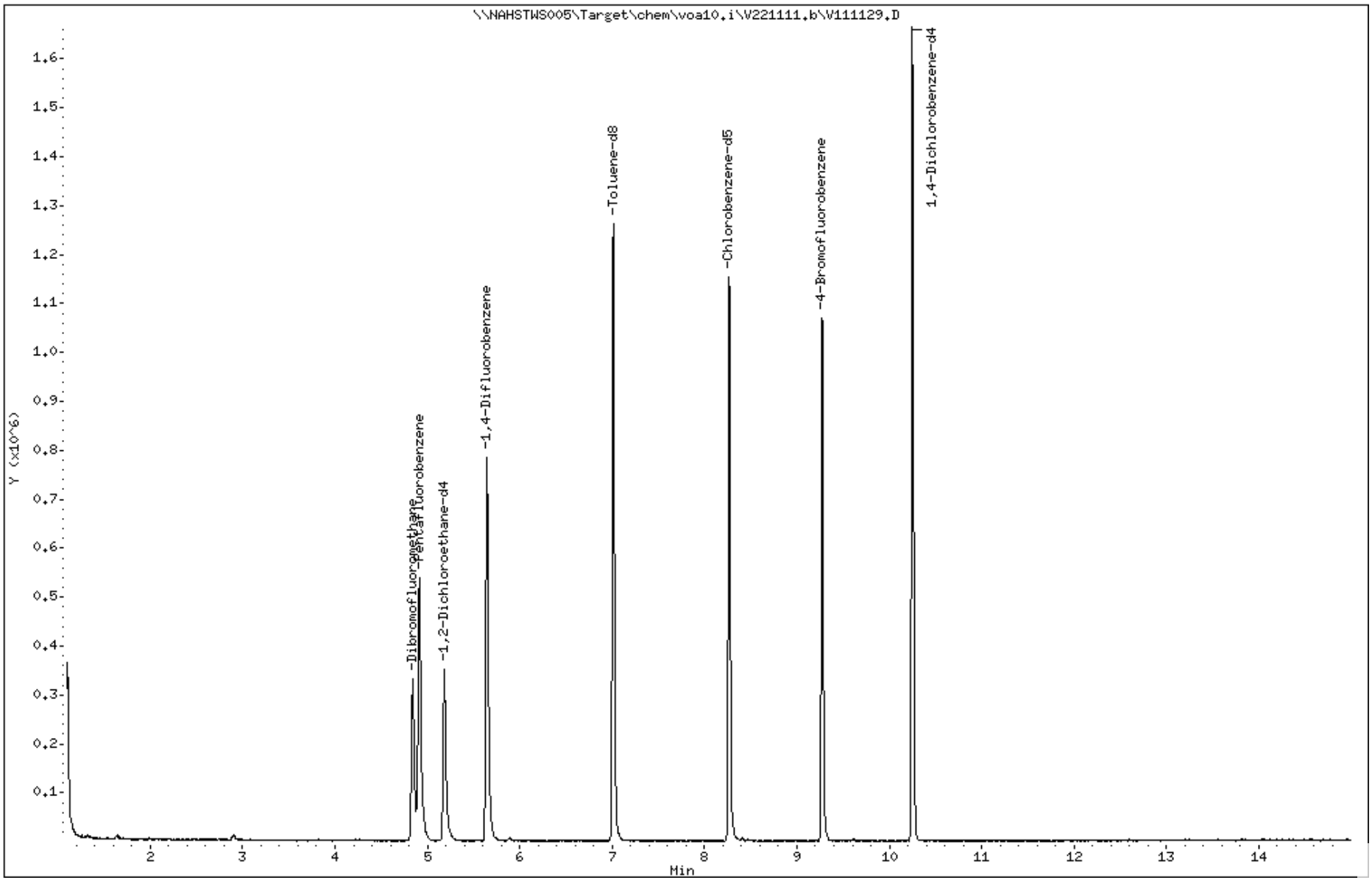
Sample Info: HS22110517-02;HS22110517-02;;;

Purge Volume: 5.0

Operator: PC

Column phase: DB624

Column diameter: 0.18



Data File : \\NAHSTWS005\Target\chem\voa10.i\V221111.b\V111129.D
Inj Date : 11-NOV-2022 20:06
InstruID : voa10.i
LabSampID : HS22110517-02

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa10.i\V221111.b\V111130.D Page 1
Report Date: 18-Nov-2022 13:01

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa10.i\V221111.b\V111130.D
Lab Smp Id: HS22110517-01 Client Smp ID: HS22110517-01
Inj Date : 11-NOV-2022 20:26
Operator : PC Inst ID: voa10.i
Smp Info : HS22110517-01;HS22110517-01;;;
Misc Info : V10;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa10.i\V221111.b\8260C.m
Meth Date : 18-Nov-2022 13:01 voa10.i Quant Type: ISTD
Cal Date : 10-NOV-2022 15:37 Cal File: X111008.D
Als bottle: 29
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 430_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	4.912	4.912	(1.000)	473592	50.0000	
27 cis-1,2-Dichloroethene	96	4.309	4.309	(0.877)	5752	1.33590	1.33(a)
$ 30 Dibromofluoromethane	113	4.841	4.841	(0.986)	231509	57.8573	57.85
$ 35 1,2-Dichloroethane-d4	65	5.182	5.186	(1.055)	279936	55.0886	55.08
* 36 1,4-Difluorobenzene	114	5.647	5.647	(1.000)	711927	50.0000	
* 47 Chlorobenzene-d5	117	8.267	8.267	(1.000)	610683	50.0000	
$ 48 Toluene-d8	98	7.012	7.012	(0.848)	812472	52.7733	52.77
$ 69 4-Bromofluorobenzene	95	9.272	9.276	(1.122)	305055	50.2016	50.20
* 70 1,4-Dichlorobenzene-d4	152	10.250	10.250	(1.000)	405335	50.0000	
M 94 1,2-Dichloroethylene (total)	96				5752	1.33590	1.33(a)

QC Flag Legend

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

01159844

Data File: \\NAHSTWS005\Target\chem\voa10.i\V221111.b\V111130.D

Date : 11-NOV-2022 20:26

Client ID: HS22110517-01

Instrument: voa10.i

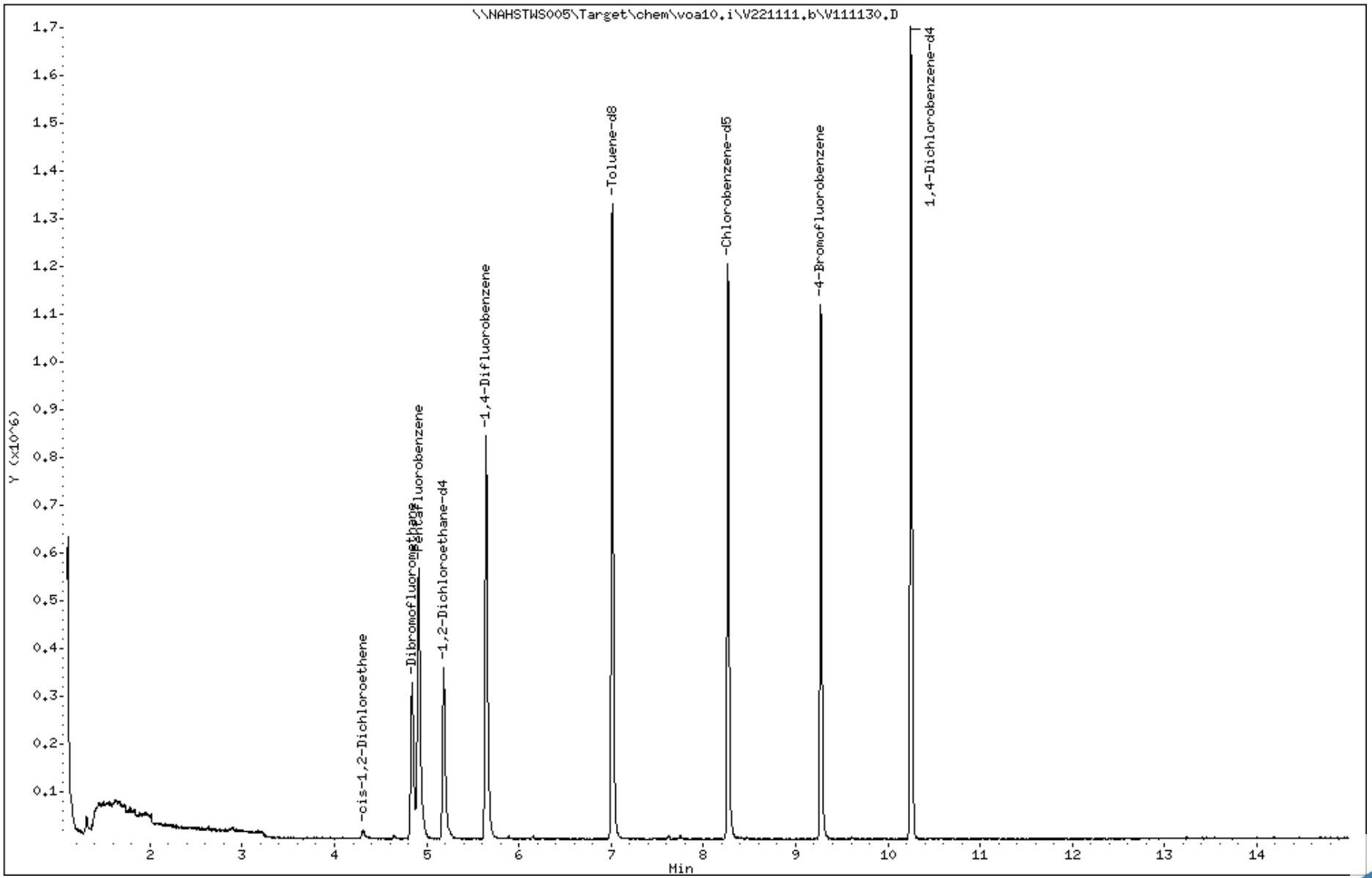
Sample Info: HS22110517-01;HS22110517-01;;;

Purge Volume: 5.0

Operator: PC

Column phase: DB624

Column diameter: 0.18



Data File: \\NAHSTWS005\Target\chem\voa10.i\V221111.b\V111130.D

Date : 11-NOV-2022 20:26

Client ID: HS22110517-01

Instrument: voa10.i

Sample Info: HS22110517-01;HS22110517-01;;;

Purge Volume: 5.0

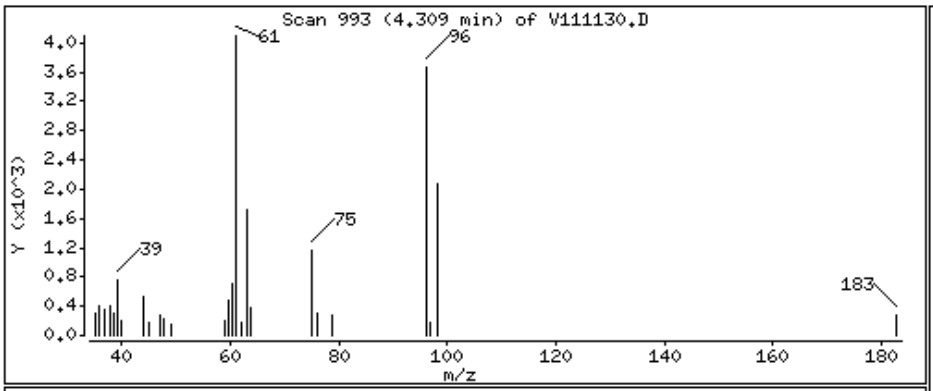
Operator: PC

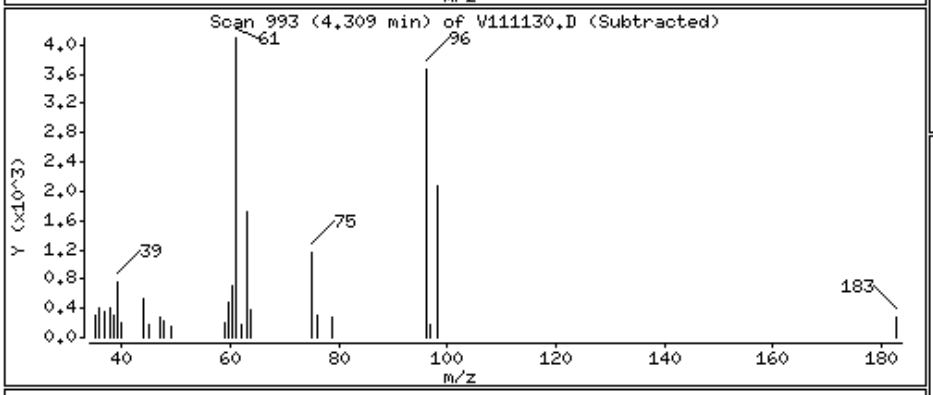
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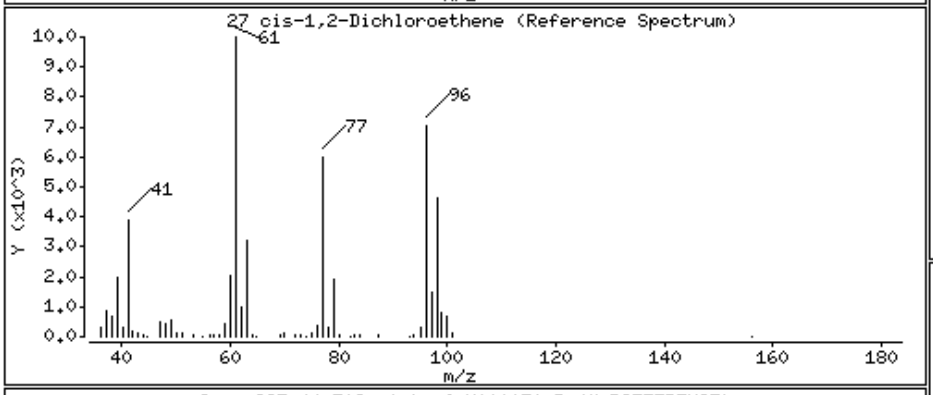
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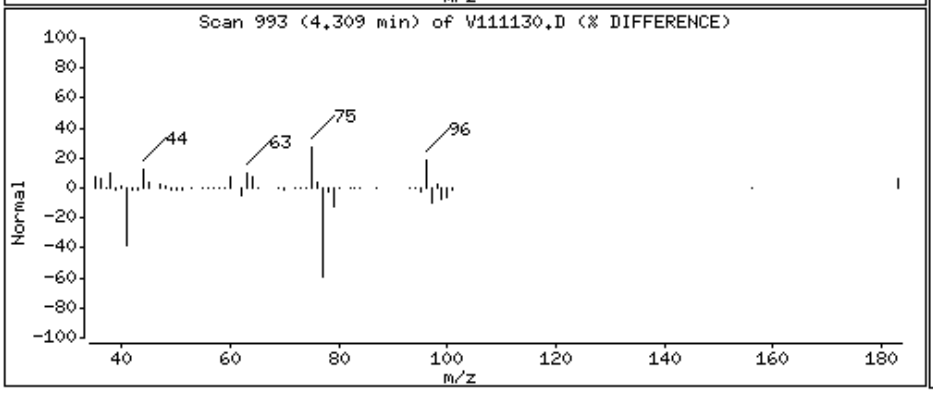
27 cis-1,2-Dichloroethene

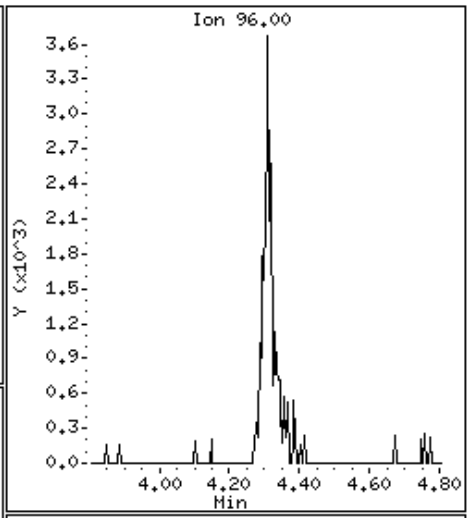
Concentration: 1.33 ug/l

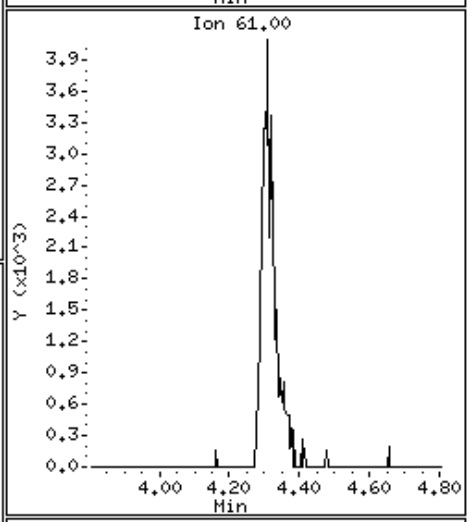


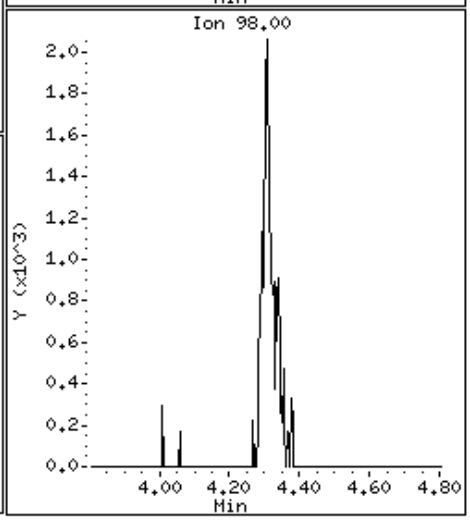












Data File : \\NAHSTWS005\Target\chem\voa10.i\V221111.b\V111130.D
Inj Date : 11-NOV-2022 20:26
InstruID : voa10.i
LabSampID : HS22110517-01

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa10.i\V221111.b\V111131.D Page 1
Report Date: 18-Nov-2022 14:24

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa10.i\V221111.b\V111131.D
Lab Smp Id: VSTD050-END Client Smp ID: VSTD050-END
Inj Date : 11-NOV-2022 20:47
Operator : PC Inst ID: voa10.i
Smp Info : VSTD050-END;VSTD050-END;2;;
Misc Info : V10;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa10.i\V221111.b\8260C.m
Meth Date : 18-Nov-2022 14:24 voa10.i Quant Type: ISTD
Cal Date : 10-NOV-2022 15:37 Cal File: X111008.D
Als bottle: 30 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 430_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)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.916	4.916	(1.000)	466220	50.0000	
2 Dichlorodifluoromethane	85	1.231	1.231	(0.251)	192743	50.0000	48.28
3 Chloromethane	50	1.370	1.370	(0.279)	197626	50.0000	45.35
5 Vinyl Chloride	62	1.452	1.452	(0.295)	193466	50.0000	44.71
6 Bromomethane	94	1.700	1.700	(0.346)	81186	50.0000	41.57
7 Chloroethane	64	1.786	1.786	(0.363)	131666	50.0000	52.82
8 Trichlorofluoromethane	101	1.988	1.988	(0.405)	252270	50.0000	44.36
9 Acrolein	56	2.352	2.352	(0.478)	21030	100.000	111.72
10 Acetone	43	2.494	2.494	(0.507)	163940	100.000	85.12
11 1,1-Dichloroethene	96	2.438	2.438	(0.496)	161128	50.0000	55.69
15 Iodomethane	142	2.569	2.569	(0.523)	331889	100.000	90.84
16 Acrylonitrile	53	3.143	3.143	(0.639)	184562	100.000	107.33
17 Methylene Chloride	84	2.899	2.899	(0.590)	196878	50.0000	64.79
18 Methyl tert-butyl ether	73	3.199	3.199	(0.651)	614930	50.0000	51.63
19 Carbon Disulfide	76	2.633	2.633	(0.536)	959005	100.000	116.81
20 trans-1,2-Dichloroethene	96	3.177	3.177	(0.646)	169257	50.0000	47.46
21 Vinyl Acetate	43	3.713	3.713	(0.755)	714804	100.000	75.59(M)
22 1,1-Dichloroethane	63	3.630	3.630	(0.738)	343519	50.0000	52.49
24 2-Butanone	43	4.354	4.354	(0.886)	223875	100.000	92.60
26 2,2-Dichloropropane	77	4.305	4.305	(0.876)	245277	50.0000	43.46

27 cis-1,2-Dichloroethene	96	4.305	4.305 (0.876)	214223	50.0000	50.53
28 Chloroform	83	4.676	4.676 (0.951)	365462	50.0000	47.71

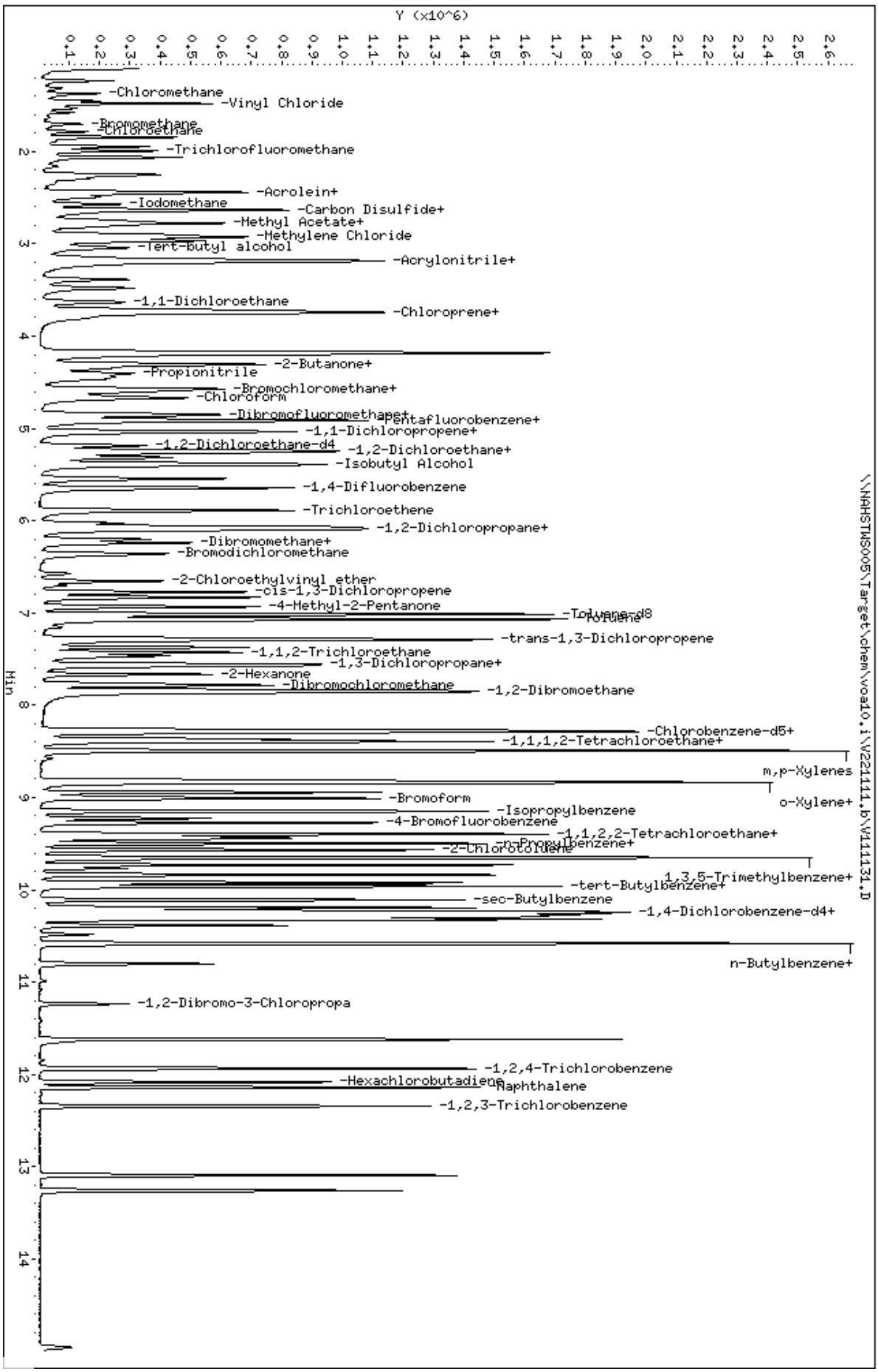
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	29 Bromochloromethane	128	4.567	4.567	(0.929)	110864	50.0000	52.27
$	30 Dibromofluoromethane	113	4.845	4.845	(0.986)	211397	50.0000	53.66
	31 1,1,1-Trichloroethane	97	4.860	4.860	(0.989)	290107	50.0000	47.14
	32 1,1-Dichloropropene	75	5.036	5.036	(0.892)	266260	50.0000	48.83
	33 1,2-Dichloroethane	62	5.265	5.265	(0.933)	303064	50.0000	46.35
	34 Carbon Tetrachloride	117	5.028	5.028	(0.891)	218641	50.0000	46.34
$	35 1,2-Dichloroethane-d4	65	5.186	5.186	(1.055)	253572	50.0000	50.68
*	36 1,4-Difluorobenzene	114	5.643	5.643	(1.000)	707480	50.0000	
	37 Benzene	78	5.242	5.242	(0.929)	869812	50.0000	48.29
	38 Trichloroethene	130	5.887	5.887	(1.043)	224898	50.0000	48.79
	39 Bromodichloromethane	83	6.359	6.359	(1.127)	262358	50.0000	46.70
	41 2-Chloroethylvinyl ether	63	6.652	6.652	(1.179)	163962	100.000	85.86
	42 1,2-Dichloropropane	63	6.097	6.097	(1.080)	231900	50.0000	46.08
	44 Dibromomethane	93	6.198	6.198	(1.098)	128706	50.0000	44.67
	45 4-Methyl-2-Pentanone	43	6.933	6.933	(0.838)	484190	100.000	86.58
	46 cis-1,3-Dichloropropene	75	6.772	6.772	(1.200)	359844	50.0000	47.92
*	47 Chlorobenzene-d5	117	8.271	8.271	(1.000)	615561	50.0000	
$	48 Toluene-d8	98	7.012	7.012	(0.848)	813641	50.0000	52.43
	50 Toluene	91	7.072	7.072	(0.855)	879792	50.0000	48.49
	51 trans-1,3-Dichloropropene	75	7.270	7.270	(1.288)	304587	50.0000	46.16
	52 2-Hexanone	43	7.668	7.668	(0.927)	346267	100.000	87.16
	53 1,1,2-Trichloroethane	83	7.431	7.431	(0.898)	169912	50.0000	46.79
	54 1,3-Dichloropropane	76	7.574	7.574	(0.916)	349596	50.0000	46.87
	55 Dibromochloromethane	129	7.769	7.769	(0.939)	218656	50.0000	46.15
	56 Tetrachloroethene	164	7.551	7.551	(0.913)	178296	50.0000	47.34
	57 1,2-Dibromoethane	107	7.859	7.859	(0.950)	206810	50.0000	46.52
	58 1-Chlorohexane	55	8.282	8.282	(1.468)	172228	50.0000	44.21
	59 Chlorobenzene	112	8.294	8.294	(1.003)	552534	50.0000	44.62
	60 1,1,1,2-Tetrachloroethane	131	8.369	8.369	(1.012)	199569	50.0000	44.98
	61 Ethylbenzene	106	8.391	8.391	(1.015)	277327	50.0000	45.72
	62 m,p-Xylenes	106	8.492	8.492	(1.027)	677124	100.000	90.68
	63 o-Xylene	106	8.833	8.833	(1.068)	340889	50.0000	45.70
	64 Styrene	104	8.845	8.845	(1.069)	612444	50.0000	45.21
	66 Bromoform	173	8.991	8.991	(1.087)	159886	50.0000	44.68
	67 Isopropylbenzene	105	9.148	9.148	(1.106)	813546	50.0000	43.96
	68 1,1,2,2-Tetrachloroethane	83	9.399	9.399	(0.917)	294286	50.0000	46.19
$	69 4-Bromofluorobenzene	95	9.272	9.272	(1.121)	299895	50.0000	48.98
*	70 1,4-Dichlorobenzene-d4	152	10.250	10.250	(1.000)	388063	50.0000	
	71 1,2,3-Trichloropropane	75	9.433	9.433	(0.920)	321084	50.0000	38.92
	73 n-Propylbenzene	91	9.497	9.497	(0.926)	979231	50.0000	46.26
	74 Bromobenzene	156	9.399	9.399	(0.917)	272635	50.0000	46.03
	75 1,3,5-Trimethylbenzene	105	9.647	9.647	(0.941)	742776	50.0000	46.98
	76 2-Chlorotoluene	91	9.568	9.568	(0.933)	633113	50.0000	46.61
	77 4-Chlorotoluene	91	9.658	9.658	(0.942)	759165	50.0000	45.92
	78 tert-Butylbenzene	119	9.924	9.924	(0.968)	596865	50.0000	43.77
	79 1,2,4-Trimethylbenzene	105	9.962	9.962	(0.972)	795639	50.0000	46.31
	81 sec-Butylbenzene	105	10.112	10.112	(0.986)	825288	50.0000	43.06
	82 p-Isopropyltoluene	119	10.232	10.232	(0.998)	777704	50.0000	44.61
	83 1,3-Dichlorobenzene	146	10.198	10.198	(0.995)	512276	50.0000	43.22
	84 1,4-Dichlorobenzene	146	10.273	10.273	(1.002)	539669	50.0000	48.00
	87 n-Butylbenzene	91	10.576	10.576	(1.032)	718152	50.0000	42.96
	88 1,2-Dichlorobenzene	146	10.584	10.584	(1.033)	527645	50.0000	48.76

89	1,2-Dibromo-3-Chloropropane	155	11.236	11.236 (1.096)	53179	50.0000	44.32
90	1,2,4-Trichlorobenzene	180	11.937	11.937 (1.165)	397478	50.0000	48.37

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
91	Hexachlorobutadiene	225	12.083	12.083	(1.179)	167166	50.0000	51.05
92	Naphthalene	128	12.143	12.143	(1.185)	987197	50.0000	45.22
93	1,2,3-Trichlorobenzene	180	12.346	12.346	(1.204)	373743	50.0000	49.27
M 94	1,2-Dichloroethylene (total)	96				383480	100.000	(a)
135	1,4-Dioxane	88	6.247	6.247	(1.271)	43388	1000.00	775.52
141	Cyclohexane	56	4.916	4.916	(1.000)	260627	50.0000	58.90
138	Freon TF	101	2.446	2.446	(0.498)	146964	50.0000	57.94
147	Methylcyclohexane	55	6.063	6.063	(1.074)	313383	50.0000	48.33
146	Methyl Acetate	43	2.809	2.809	(0.572)	196040	50.0000	51.32
148	Tert-Butyl alcohol	59	3.042	3.042	(0.619)	393693	1000.00	674.09
149	Isopropyl Alcohol	45	2.633	2.633	(0.536)	288242	1000.00	699.71
72	trans-1,4-Dichloro-2-butene	53	9.448	9.448	(1.142)	86729	50.0000	38.59
12	Isobutyl Alcohol	43	5.381	5.381	(1.095)	689826	1000.00	948.94
13	Acetonitrile	39	2.776	2.776	(0.565)	324120	500.000	496.99
14	Allyl Chloride	41	2.776	2.776	(0.565)	432100	50.0000	43.36(M)
25	Methacrylonitrile	41	4.575	4.575	(0.931)	199587	50.0000	51.37
40	Methyl Methacrylate	41	6.243	6.243	(1.270)	215261	50.0000	46.29
4	Propionitrile	54	4.406	4.406	(0.896)	350673	500.000	517.22
23	Chloroprene	53	3.735	3.735	(0.760)	290905	50.0000	50.55
49	Ethyl Methacrylate	69	6.239	6.239	(1.106)	146604	50.0000	48.42

QC Flag Legend

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



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Client ID: VSTD050-END
Sample Info: VSTD050-END;VSTD050-END;2;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa10.i
Operator: PC
Column diameter: 0.18

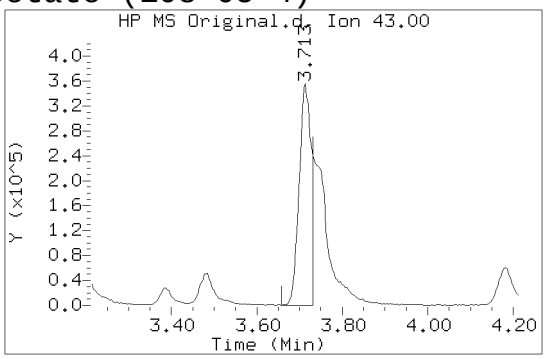
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LabSampID : VSTD050-END

Vinyl Acetate (108-05-4)

Reason Code:

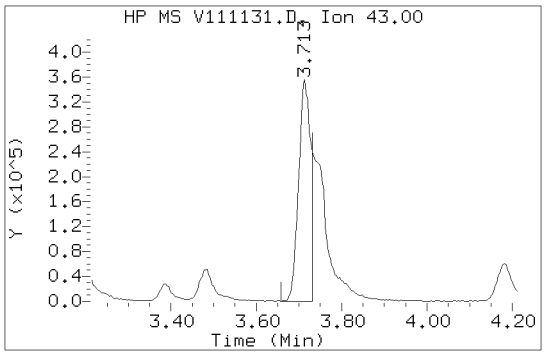
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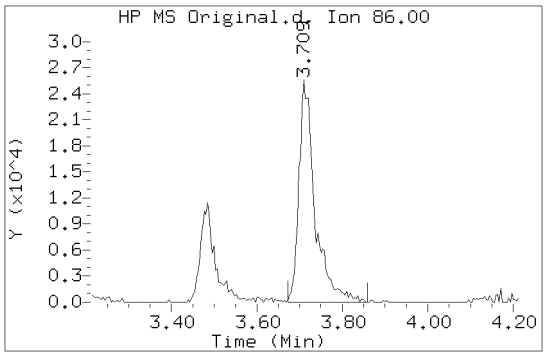
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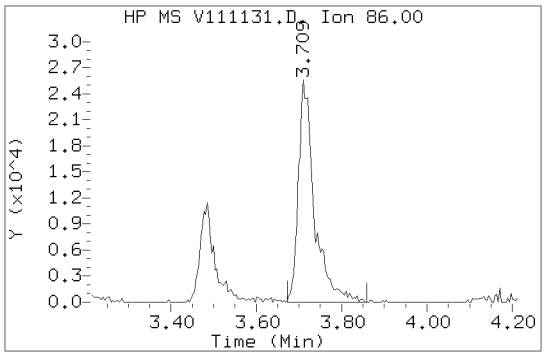
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AFTER

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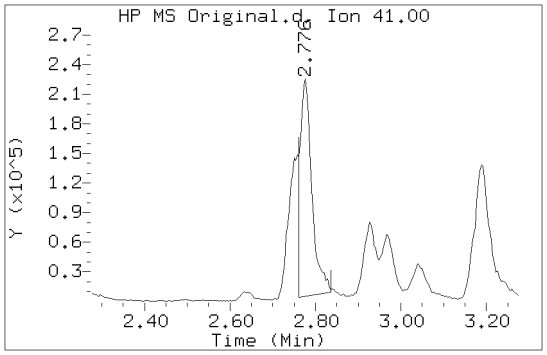


Allyl Chloride (107-05-1)

Reason Code:

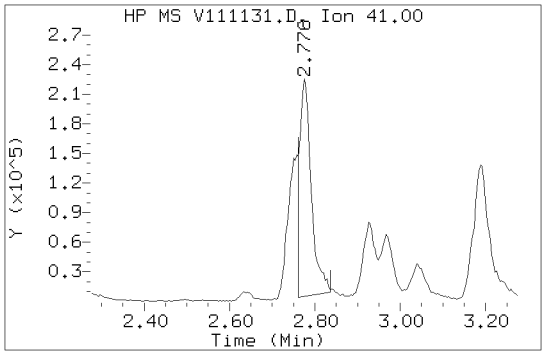
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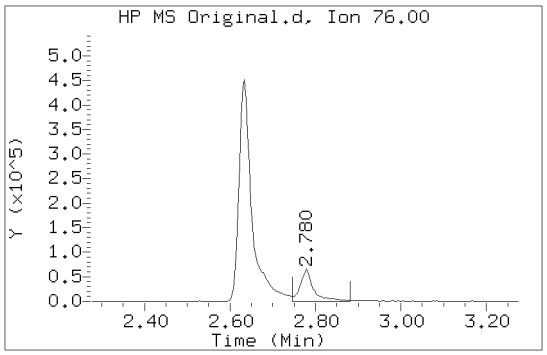
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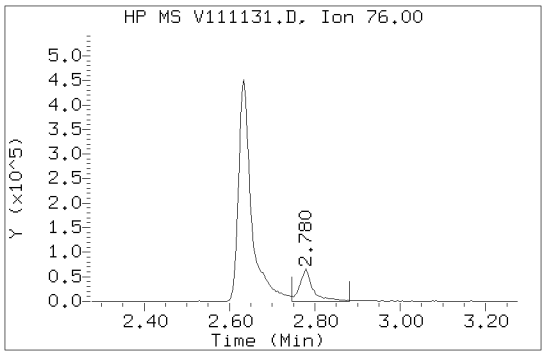
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AFTER

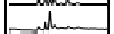
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142211
HEIGHT
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18-Nov-2022
14:24
linh
pham



HS22110517 9056_W IC

ALS WO# HS22110517

Sequence: 112222
Last Update Operator: alshs.nouser

CD	Name	Comment	Type	Position	Dilution	Level	Instrument Method	Processing Method	Volume	Status
	STD1		Calibratic	BB1	1.00	1	Anions Program IS	Anions Processing Method ISO	5.0	Finished
	STD2		Calibratic	BB2	1.00	2	Anions Program IS	Anions Processing Method ISO	5.0	Finished
	STD3		Calibratic	BB3	1.00	3	Anions Program IS	Anions Processing Method ISO	5.0	Finished
	STD4		Calibratic	BB4	1.00	4	Anions Program IS	Anions Processing Method ISO	5.0	Finished
	STD5		Calibratic	BB5	1.00	5	Anions Program IS	Anions Processing Method ISO	5.0	Finished
	STD6		Calibratic	BB6	1.00	6	Anions Program IS	Anions Processing Method ISO	5.0	Finished
	ICV		Unknown	BB7	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	ICB		Unknown	R7	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	CCV		Unknown	R2	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	CCB		Unknown	R6	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	MBLK		Unknown	R5	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	LCS		Unknown	R2	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
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	CCB		Unknown	R6	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
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	CCV		Unknown	R2	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	CCB		Unknown	R6	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished

Sequence: 112222
Last Update Operator: alshs.nouser

Inject Time
11/14/2022 3:23:57 PM -06:00
11/14/2022 3:29:16 PM -06:00
11/14/2022 3:34:36 PM -06:00
11/14/2022 3:39:55 PM -06:00
11/14/2022 3:45:14 PM -06:00
11/14/2022 3:50:34 PM -06:00
11/14/2022 3:55:53 PM -06:00
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Sequence: 113022
Injection #7: STD6

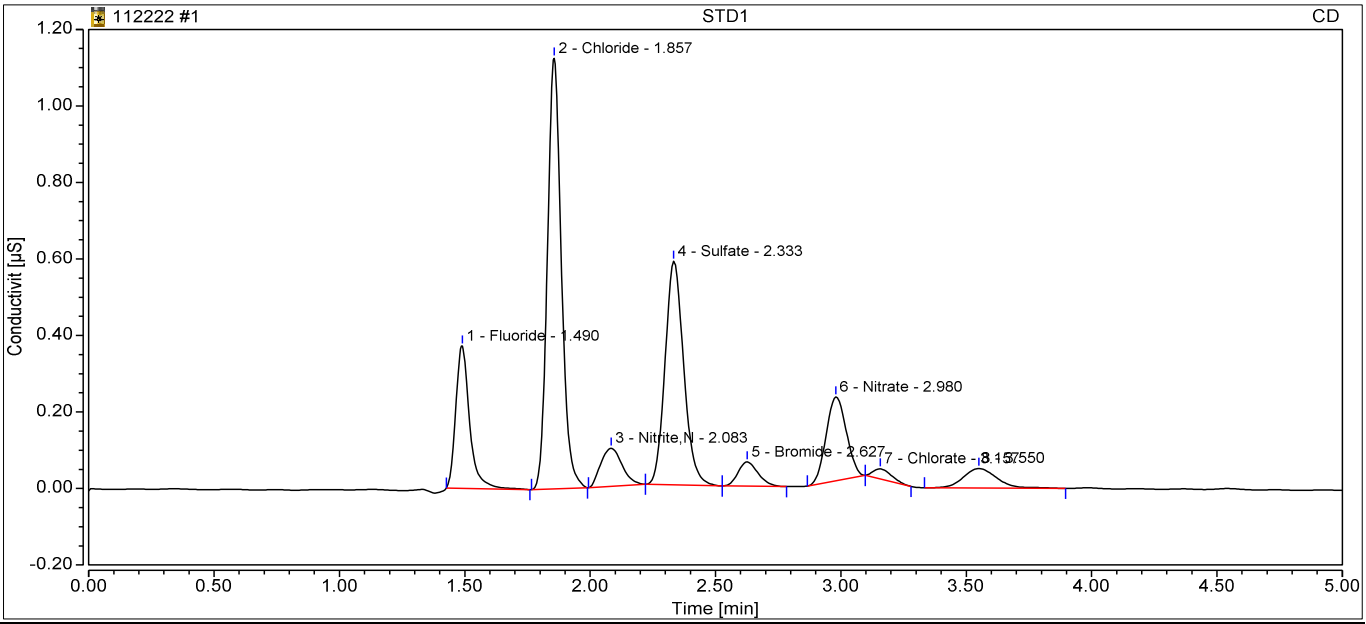
Calibration

Peak No.	Peak Name	Cal.Type	Eval.Type	Number of Points	Rel.Std.Dev. %	Coeff.of Determination	C0 (Offset)	C1 (Slope)	C2 (Curve)
1	*Fluoride*	*Lin, WithOffset, 1/A*	*Area*	*7*	*36.3211*	*0.99510*	*-0.0047*	*0.2197*	*0.0000*
2	Chloride	Lin, WithOffset, 1/A	Area	7	20.5864	0.99862	-0.0288	0.1445	0.0000
3	Nitrite,N	Quad, WithOffset, 1/A	Area	7	10.1133	0.99970	-0.0171	0.3231	-0.0038
4	Sulfate	Lin, WithOffset, 1/A	Area	7	24.0033	0.99810	-0.0195	0.1031	0.0000
5	Bromide	Lin, WithOffset, 1/A	Area	6	5.4776	0.99985	-0.0009	0.0628	0.0000
6	Nitrate	Lin, WithOffset, 1/A	Area	7	15.1979	0.99936	-0.0200	0.3318	0.0000
7	Chlorate	Quad, WithOffset, 1/A	Area	6	13.9968	0.99928	-0.0011	0.0295	-0.0002
8	Phosphate	Lin, WithOffset, 1/A	Area	7	16.6202	0.99923	-0.0083	0.1394	0.0000
Maximum					**36.3211**	0.99985			
Minimum					5.4776	**0.99510**			

1 STD1

Sample Name:	**STD1**	*Injection Volume:*	**5.00**
Vial Number:	**BB1**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/14/2022 15:23**	*Sample Weight:*	**1.0000**

Run Time:



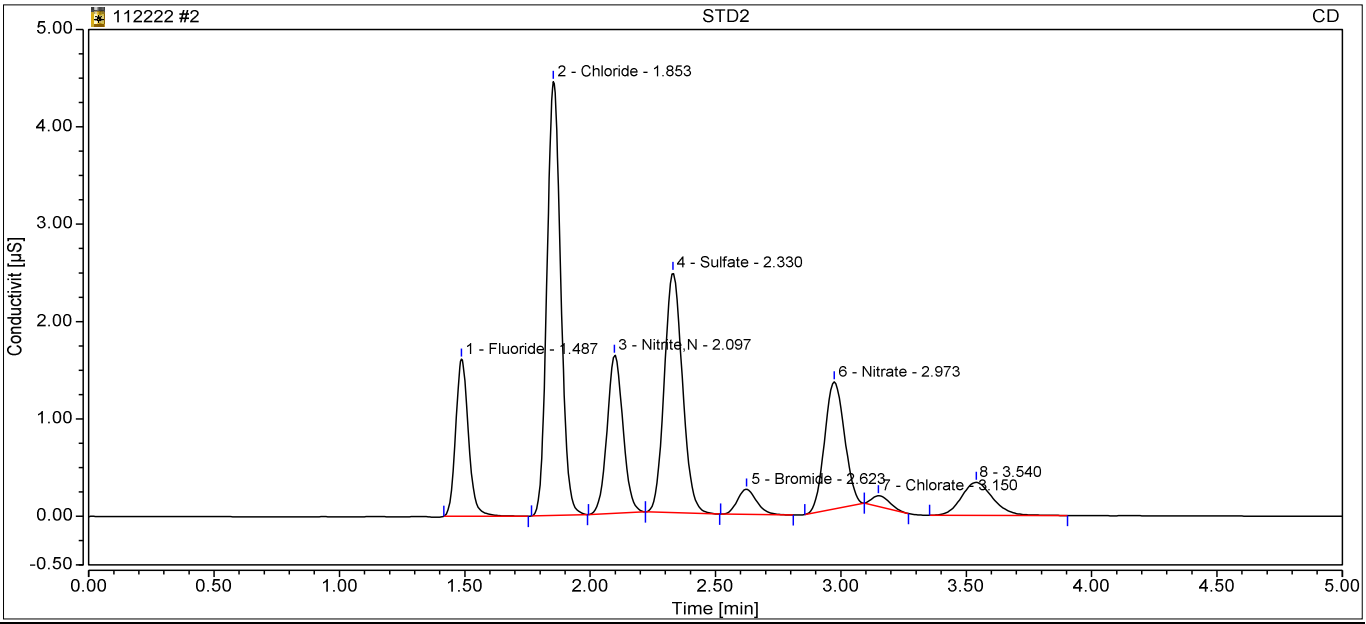
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.49	Fluoride	BMB	0.024	0.0805	0.0805	1.0000
2	1.86	Chloride	BMB	0.073	0.5049	0.5049	1.0000
3	2.08	Nitrite,N	BMB	0.010	0.0916	0.0916	1.0000
4	2.33	Sulfate	BMB	0.051	0.4728	0.4728	1.0000
5	2.63	Bromide	BMB	0.006	0.1081	0.1081	1.0000
6	2.98	Nitrate	BMB	0.021	0.0975	0.0975	1.0000
7	3.16	Chlorate	BMB	0.002	0.1156	0.1156	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.186**		**1.47**	

2 STD2

Sample Name:	**STD2**	*Injection Volume:*	**5.00**
Vial Number:	**BB2**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/14/2022 15:29**	*Sample Weight:*	**1.0000**

Run Time:

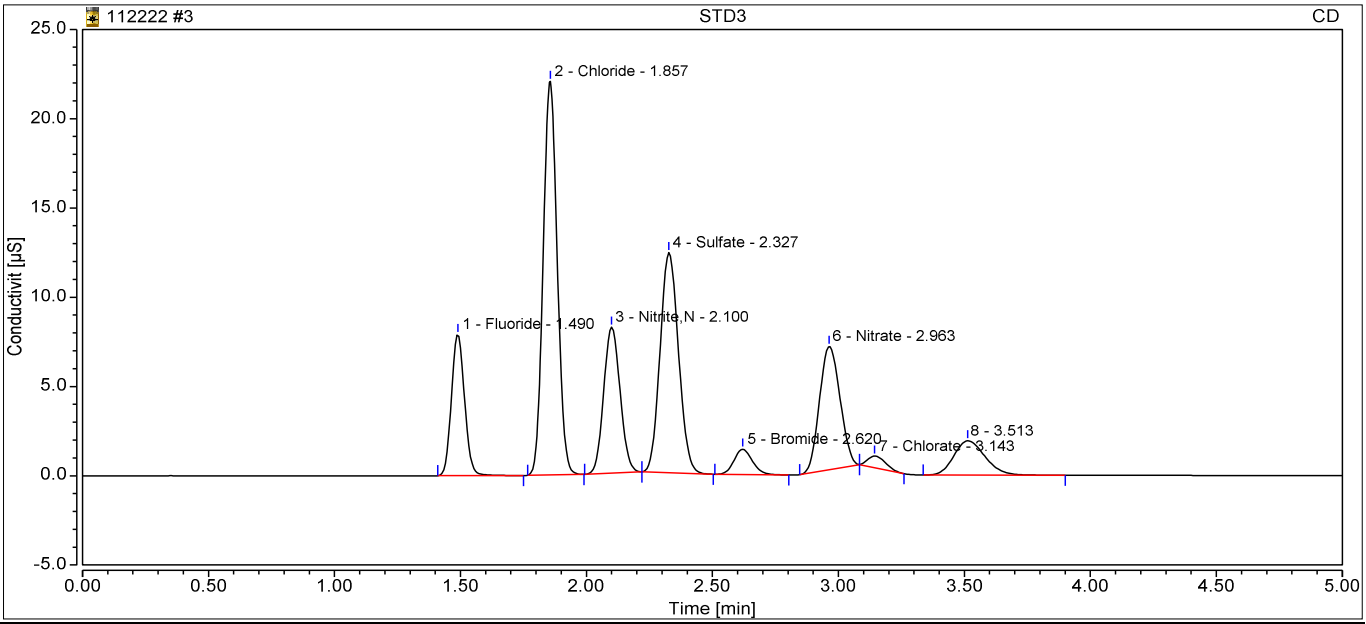


Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.49	Fluoride	BMB	0.096	0.4091	0.4091	1.0000
2	1.85	Chloride	BMB	0.284	1.9761	1.9761	1.0000
3	2.10	Nitrite,N	BMB	0.119	0.4316	0.4316	1.0000
4	2.33	Sulfate	BMB	0.207	1.9967	1.9967	1.0000
5	2.62	Bromide	BMB	0.023	0.3814	0.3814	1.0000
6	2.97	Nitrate	BMB	0.120	0.3995	0.3995	1.0000
7	3.15	Chlorate	BMB	0.009	0.3502	0.3502	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.859**		**5.94**	

3	*STD3*		
Sample Name:	**STD3**	*Injection Volume:*	**5.00**
Vial Number:	**BB3**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/14/2022 15:34**	*Sample Weight:*	**1.0000**

Run Time:



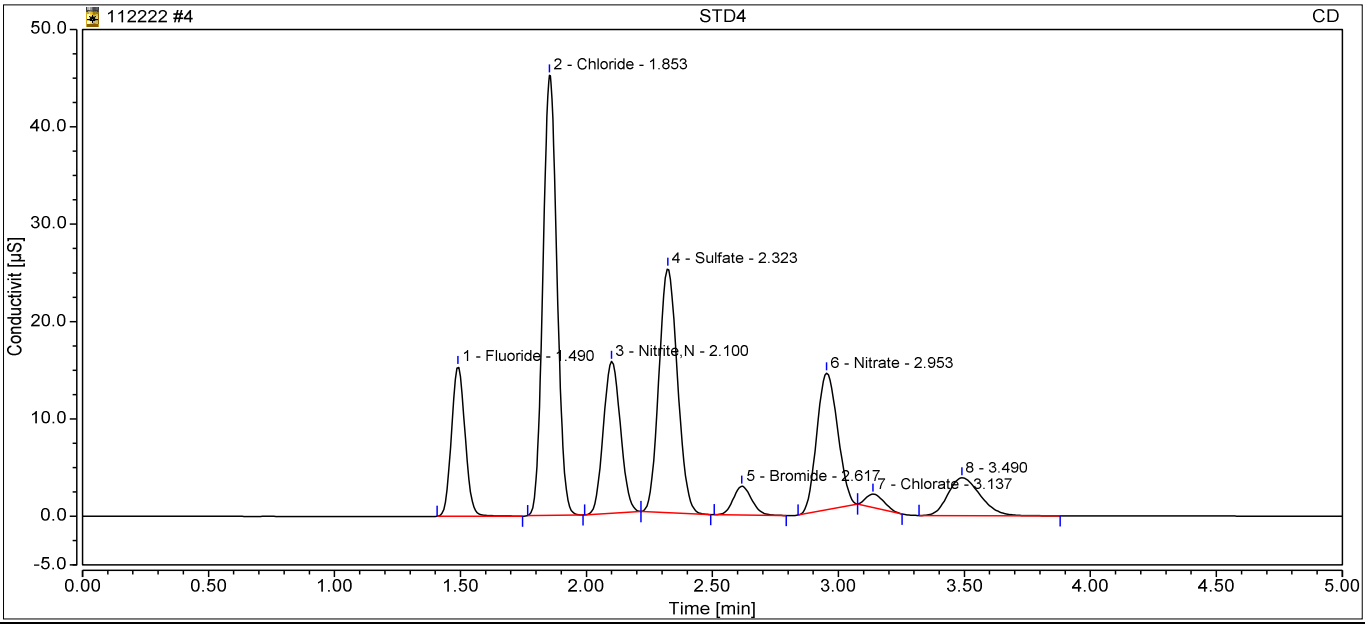
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.49	Fluoride	BMB	0.480	2.1731	2.1731	1.0000
2	1.86	Chloride	BMB	1.420	9.8774	9.8774	1.0000
3	2.10	Nitrite,N	BMB	0.618	2.0145	2.0145	1.0000
4	2.33	Sulfate	BMB	1.044	10.1614	10.1614	1.0000
5	2.62	Bromide	BMB	0.120	1.9212	1.9212	1.0000
6	2.96	Nitrate	BMB	0.652	2.0062	2.0062	1.0000
7	3.14	Chlorate	BMB	0.054	1.8885	1.8885	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**4.387**		**30.04**	

4 STD4

Sample Name:	**STD4**	*Injection Volume:*	**5.00**
Vial Number:	**BB4**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/14/2022 15:39**	*Sample Weight:*	**1.0000**

Run Time:



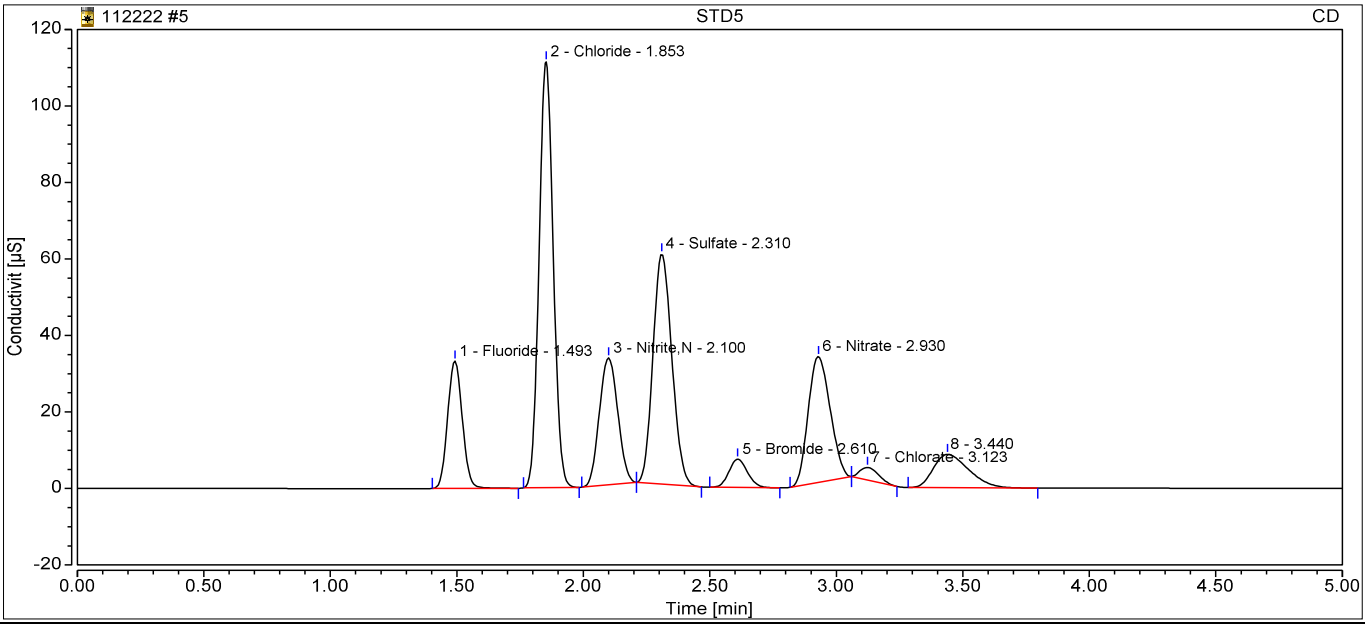
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.49	Fluoride	BMB	0.967	4.4026	4.4026	1.0000
2	1.85	Chloride	BMB	2.918	20.2995	20.2995	1.0000
3	2.10	Nitrite,N	BMB	1.228	4.0401	4.0401	1.0000
4	2.32	Sulfate	BMB	2.139	20.8444	20.8444	1.0000
5	2.62	Bromide	BMB	0.250	3.9997	3.9997	1.0000
6	2.95	Nitrate	BMB	1.347	4.1081	4.1081	1.0000
7	3.14	Chlorate	BMB	0.115	4.0232	4.0232	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**8.963**		**61.72**	

5 STD5

Sample Name:	**STD5**	*Injection Volume:*	**5.00**
Vial Number:	**BB5**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/14/2022 15:45**	*Sample Weight:*	**1.0000**

Run Time:

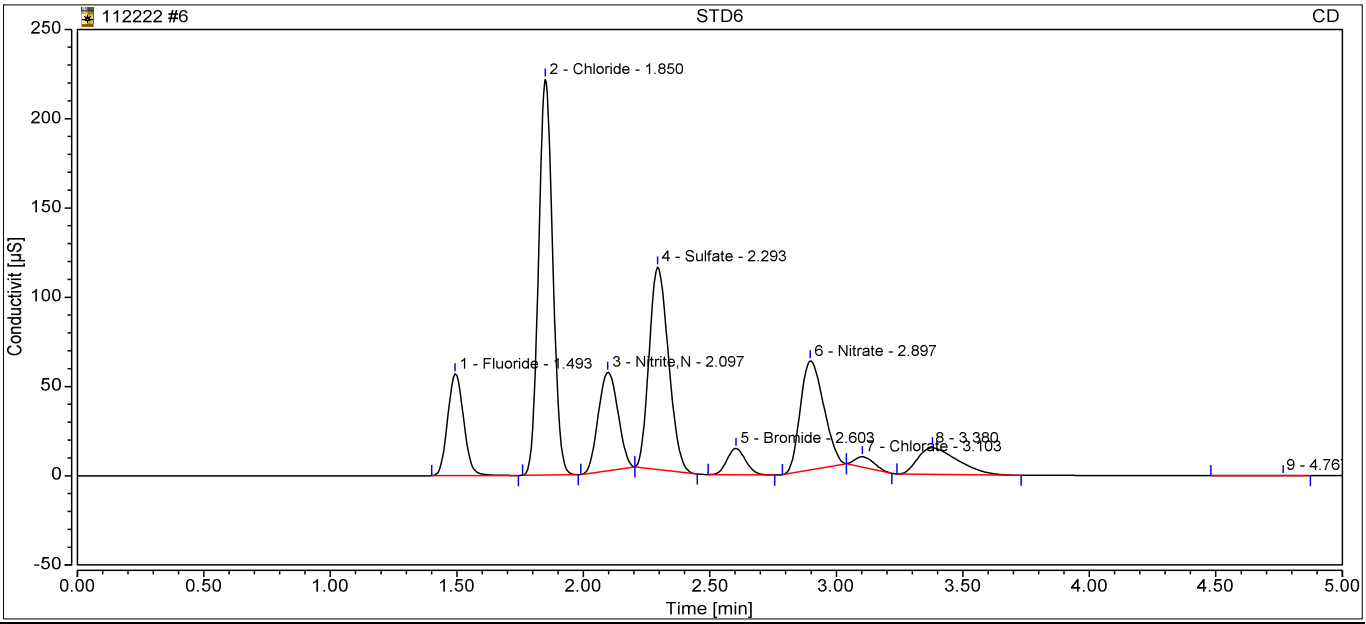


Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.49	Fluoride	BMB	2.245	10.2597	10.2597	1.0000
2	1.85	Chloride	BMB	7.201	50.1056	50.1056	1.0000
3	2.10	Nitrite,N	BMB	2.799	9.8335	9.8335	1.0000
4	2.31	Sulfate	BMB	5.204	50.7491	50.7491	1.0000
5	2.61	Bromide	BMB	0.628	10.0012	10.0012	1.0000
6	2.93	Nitrate	BMB	3.309	10.0419	10.0419	1.0000
7	3.12	Chlorate	BMB	0.282	10.2589	10.2589	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**21.669**		**151.25**	

6 STD6			
Sample Name:	**STD6**	*Injection Volume:*	**5.00**
Vial Number:	**BB6**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/14/2022 15:50**	*Sample Weight:*	**1.0000**

Run Time:



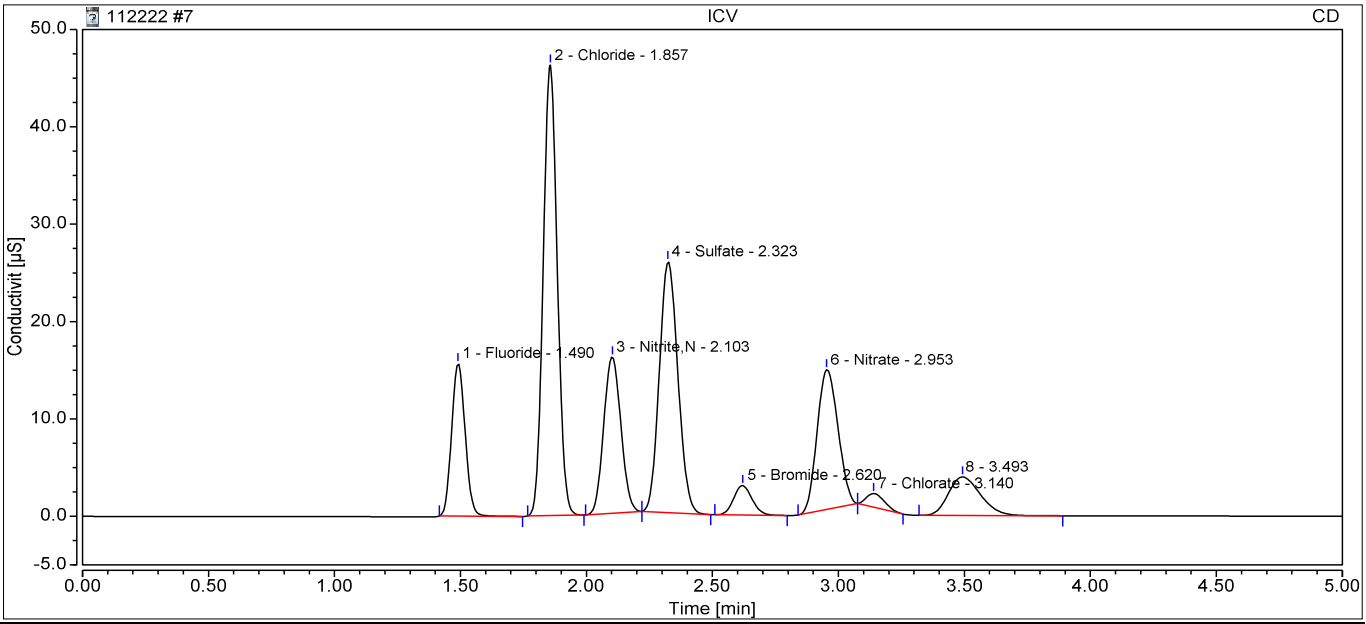
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.49	Fluoride	BMB	4.191	19.1750	19.1750	1.0000
2	1.85	Chloride	BMB	14.334	99.7366	99.7366	1.0000
3	2.10	Nitrite,N	BMB	4.956	20.1034	20.1034	1.0000
4	2.29	Sulfate	BMB	10.076	98.2756	98.2756	1.0000
5	2.60	Bromide	BMB	1.261	20.0884	20.0884	1.0000
6	2.90	Nitrate	BMB	6.552	19.8469	19.8469	1.0000
7	3.10	Chlorate	BMB	0.513	19.8598	19.8598	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**41.883**		**297.09**	

7 ICV

Sample Name:	**ICV**	*Injection Volume:*	**5.00**
Vial Number:	**BB7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/14/2022 15:55**	*Sample Weight:*	**1.0000**

Run Time:



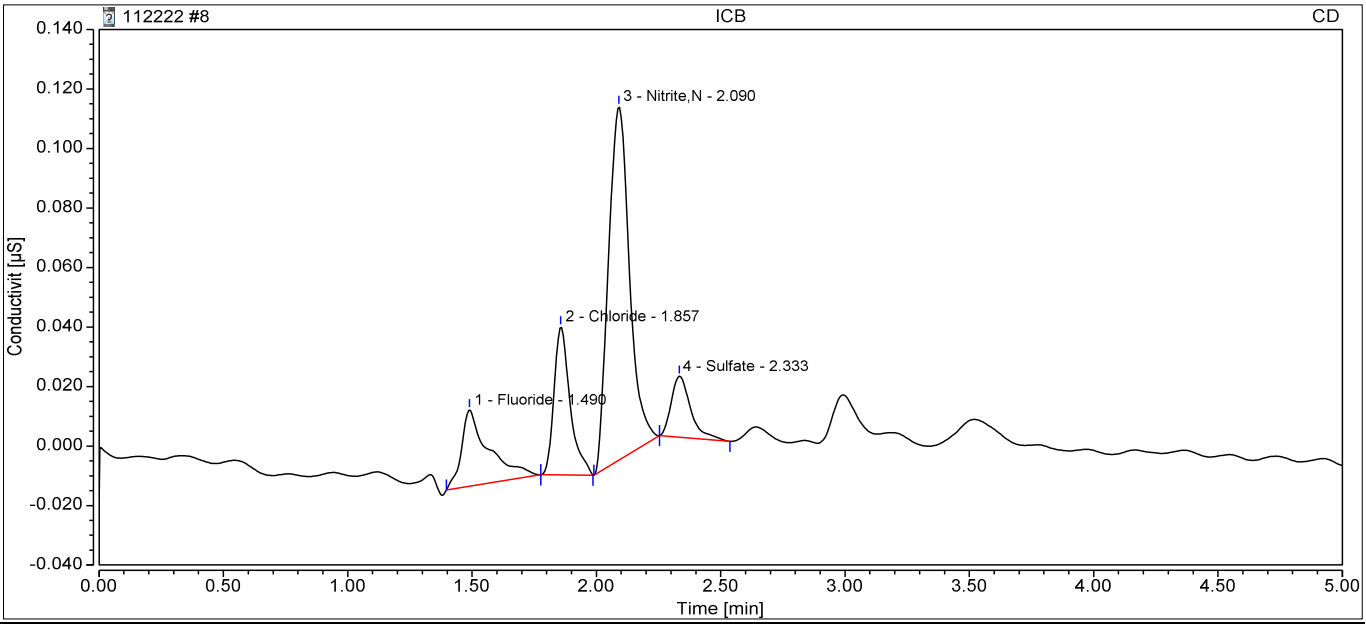
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.49	Fluoride	BMB	0.977	4.4493	4.4493	1.0000
2	1.86	Chloride	BMB	2.988	20.7910	20.7910	1.0000
3	2.10	Nitrite,N	BMB	1.268	4.1762	4.1762	1.0000
4	2.32	Sulfate	BMB	2.198	21.4170	21.4170	1.0000
5	2.62	Bromide	BMB	0.257	4.1011	4.1011	1.0000
6	2.95	Nitrate	BMB	1.380	4.2070	4.2070	1.0000
7	3.14	Chlorate	BMB	0.118	4.1500	4.1500	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**9.185**		**63.29**	

8 ICB

Sample Name:	**ICB**	*Injection Volume:*	**5.00**
Vial Number:	**R7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/14/2022 16:06**	*Sample Weight:*	**1.0000**

Run Time:



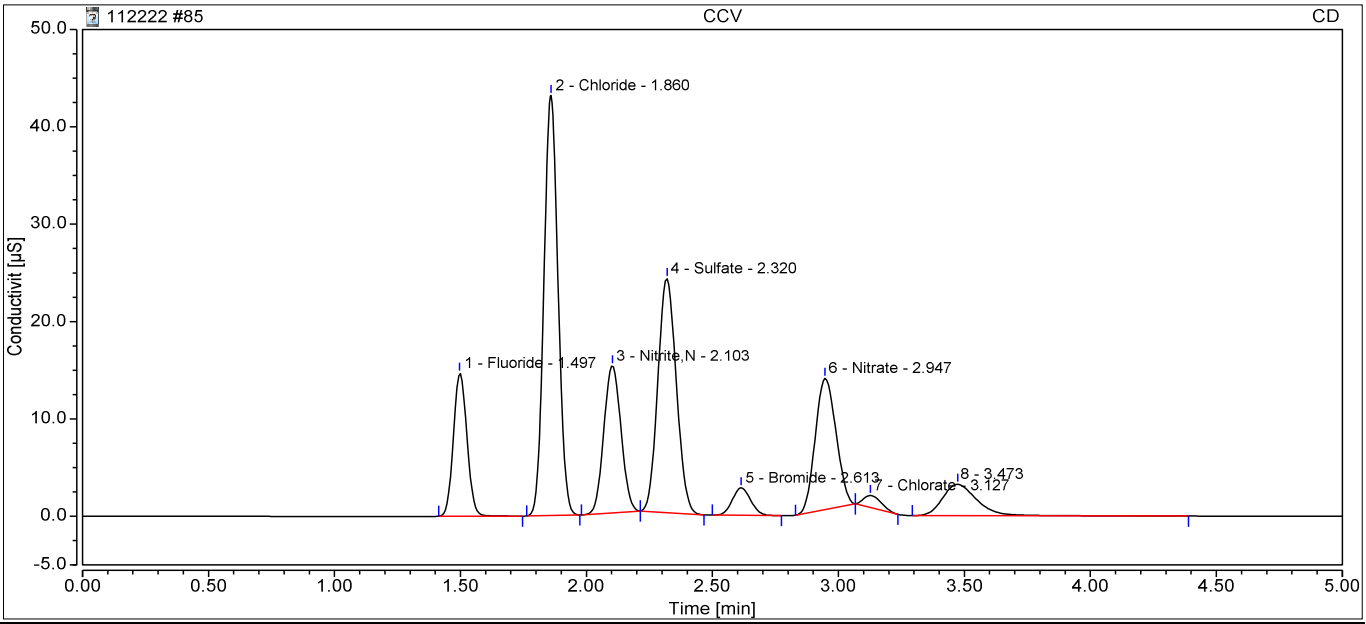
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.49	Fluoride	BMB	0.003	n.a.	n.a.	1.0000
2	1.86	Chloride	BMB	0.004	0.0241	0.0241	1.0000
3	2.09	Nitrite,N	BMB	0.012	0.0971	0.0971	1.0000
4	2.33	Sulfate	BMB	0.002	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.021**		**0.12**	

85 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**R2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/22/2022 21:45**	*Sample Weight:*	**1.0000**

Run Time:



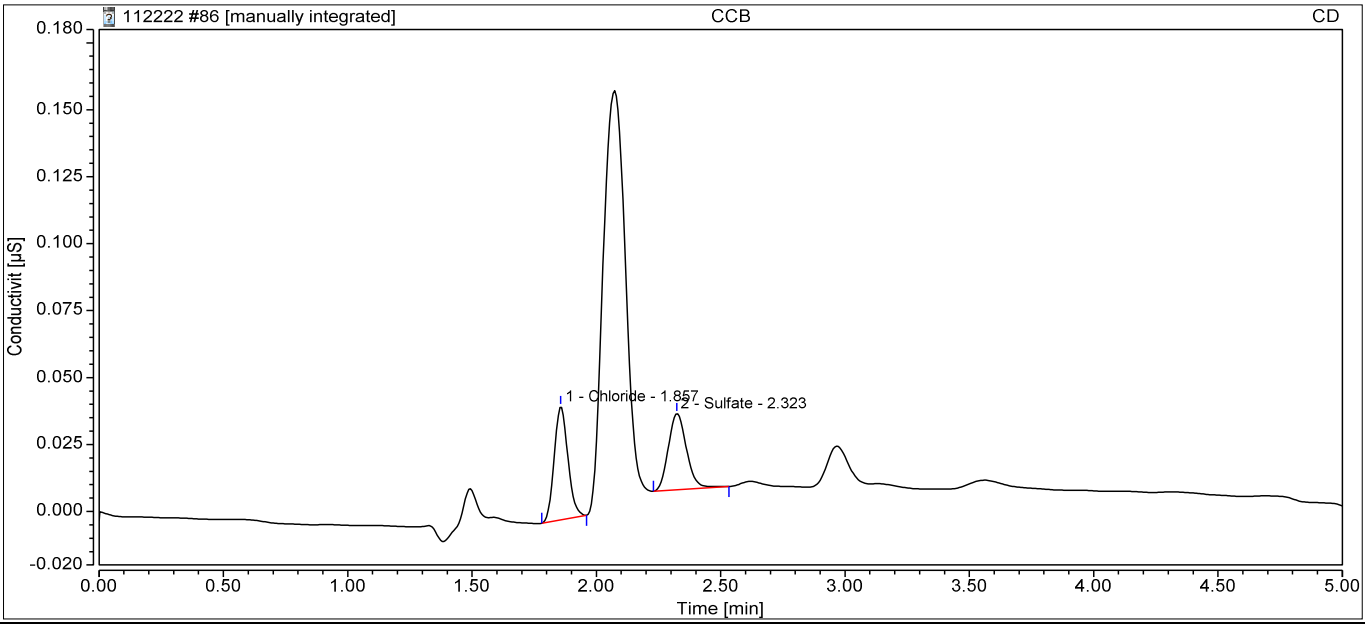
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.50	Fluoride	BMB	0.921	4.1912	4.1912	1.0000
2	1.86	Chloride	BMB	2.798	19.4668	19.4668	1.0000
3	2.10	Nitrite,N	BMB	1.194	3.9244	3.9244	1.0000
4	2.32	Sulfate	BMB	2.042	19.9032	19.9032	1.0000
5	2.61	Bromide	BMB	0.239	3.8113	3.8113	1.0000
6	2.95	Nitrate	BMB	1.289	3.9320	3.9320	1.0000
7	3.13	Chlorate	BMB	0.103	3.6149	3.6149	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**8.585**		**58.84**	

86 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**R6**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/22/2022 21:55**	*Sample Weight:*	**1.0000**

Run Time:



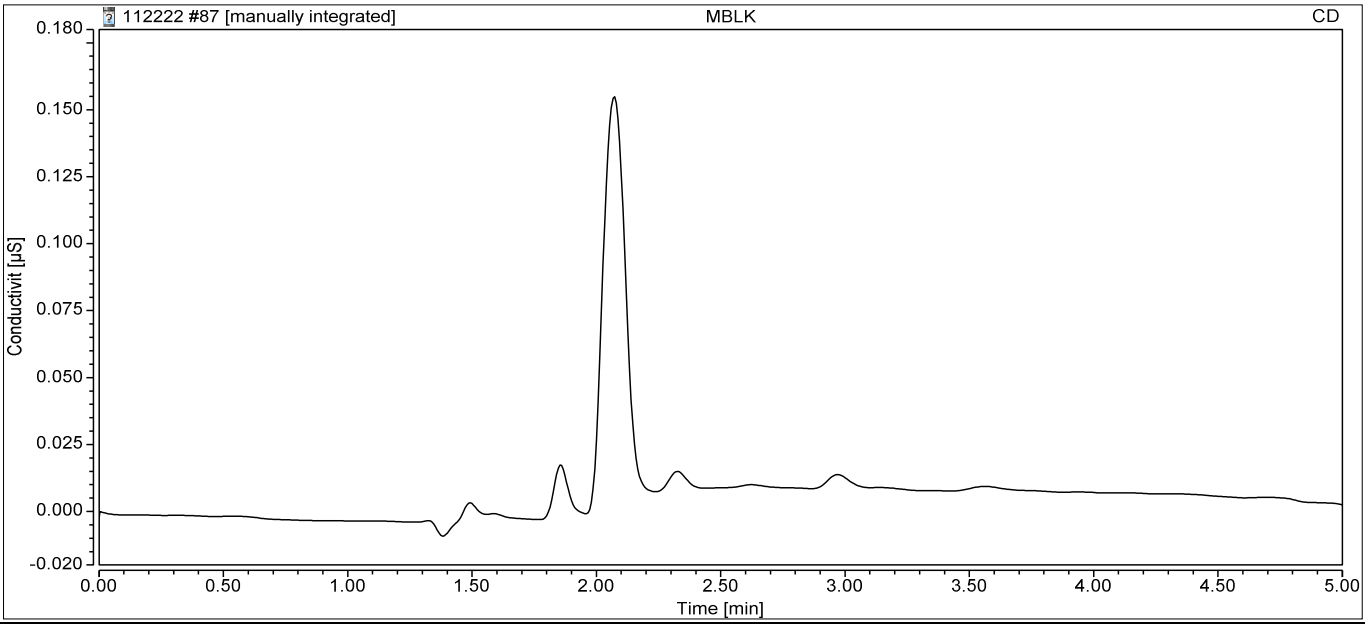
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	1.86	Chloride	BMB	0.003	0.0168	0.0168	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
2	2.32	Sulfate	BMB	0.002	0.0032	0.0032	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.005**		**0.02**	

87 MBLK

Sample Name:	**MBLK**	*Injection Volume:*	**5.00**
Vial Number:	**R5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/22/2022 22:00**	*Sample Weight:*	**1.0000**

Run Time:



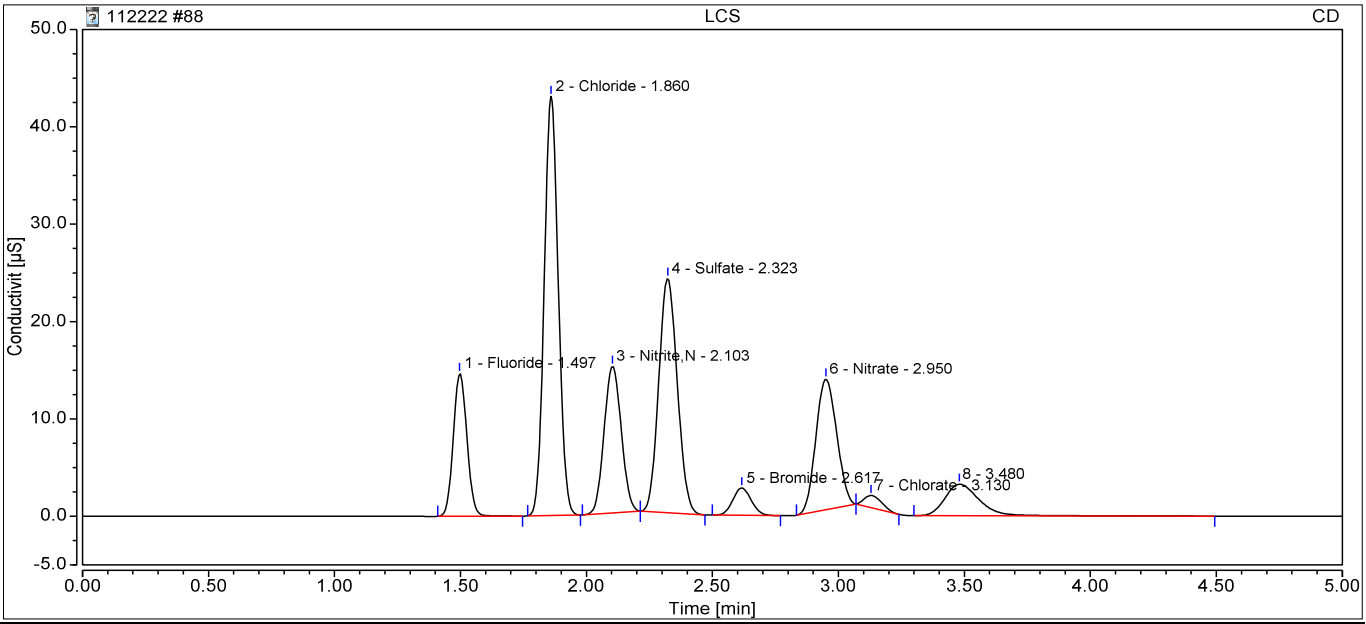
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chloride	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.000**		**0.00**	

88 LCS

Sample Name:	**LCS**	*Injection Volume:*	**5.00**
Vial Number:	**R2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/22/2022 22:06**	*Sample Weight:*	**1.0000**

Run Time:



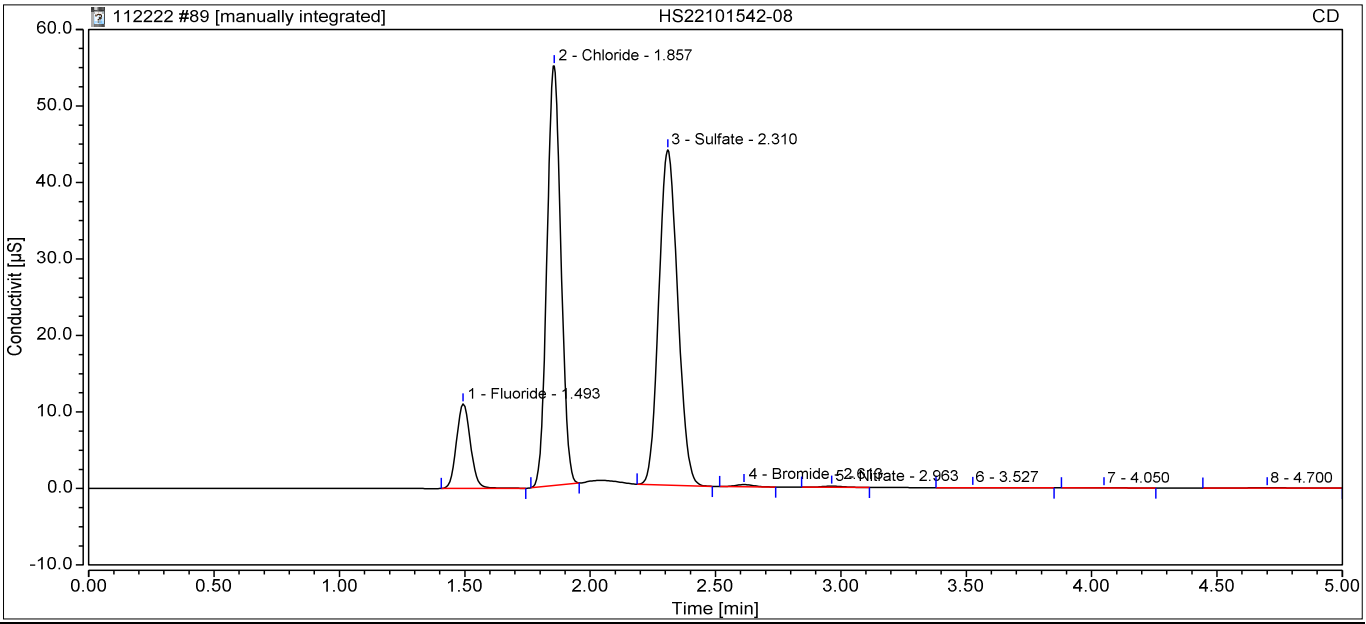
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.50	Fluoride	BMB	0.923	4.2012	4.2012	1.0000
2	1.86	Chloride	BMB	2.784	19.3694	19.3694	1.0000
3	2.10	Nitrite,N	BMB	1.191	3.9136	3.9136	1.0000
4	2.32	Sulfate	BMB	2.049	19.9725	19.9725	1.0000
5	2.62	Bromide	BMB	0.238	3.7994	3.7994	1.0000
6	2.95	Nitrate	BMB	1.284	3.9176	3.9176	1.0000
7	3.13	Chlorate	BMB	0.103	3.6000	3.6000	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**8.571**		**58.77**	

89 HS22101542-08

Sample Name:	**HS22101542-08**	*Injection Volume:*	**5.00**
Vial Number:	**GB7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/22/2022 22:11**	*Sample Weight:*	**1.0000**

Run Time:



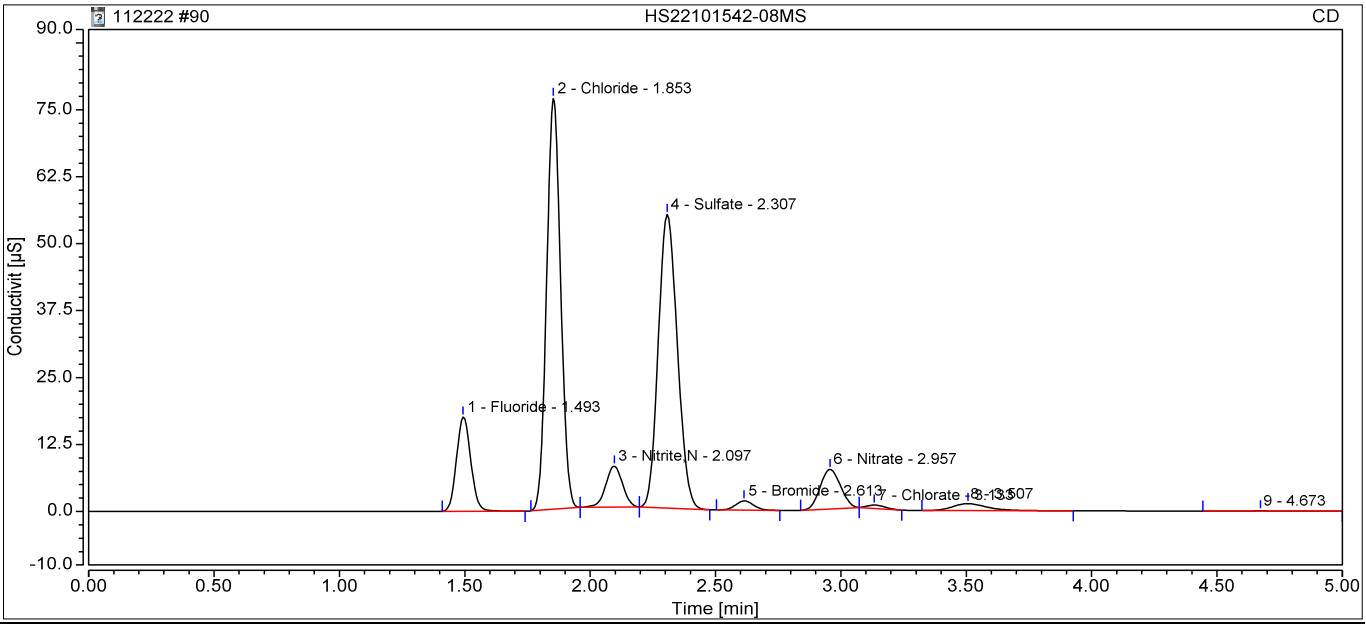
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.49	Fluoride	BMB	0.713	3.2371	3.2371	1.0000
2	1.86	Chloride	BMB	3.531	24.5645	24.5645	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
3	2.31	Sulfate	BMB	3.822	37.2604	37.2604	1.0000
4	2.61	Bromide	BMB	0.023	0.3881	0.3881	1.0000
5	2.96	Nitrate	BMB	0.015	0.0799	0.0799	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**8.103**		**65.53**	

90 HS22101542-08MS

Sample Name:	**HS22101542-08MS**	*Injection Volume:*	**5.00**
Vial Number:	**GB8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/22/2022 22:16**	*Sample Weight:*	**1.0000**

Run Time:



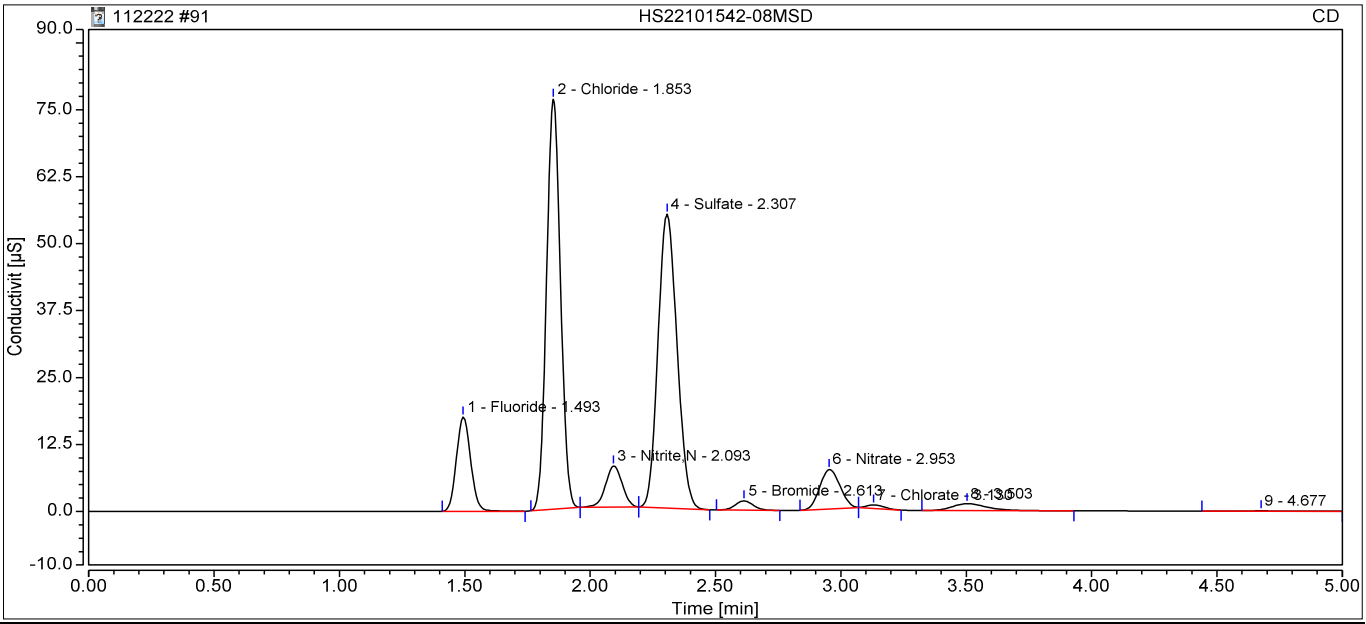
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.49	Fluoride	BMB	1.163	5.3021	5.3021	1.0000
2	1.85	Chloride	BMB	4.948	34.4243	34.4243	1.0000
3	2.10	Nitrite,N	BMB	0.597	1.9462	1.9462	1.0000
4	2.31	Sulfate	BMB	4.828	47.0817	47.0817	1.0000
5	2.61	Bromide	BMB	0.142	2.2728	2.2728	1.0000
6	2.96	Nitrate	BMB	0.691	2.1242	2.1242	1.0000
7	3.13	Chlorate	BMB	0.051	1.7772	1.7772	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**12.419**		**94.93**	

91 HS22101542-08MSD

Sample Name:	**HS22101542-08MSD**	*Injection Volume:*	**5.00**
Vial Number:	**GC1**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/22/2022 22:21**	*Sample Weight:*	**1.0000**

Run Time:

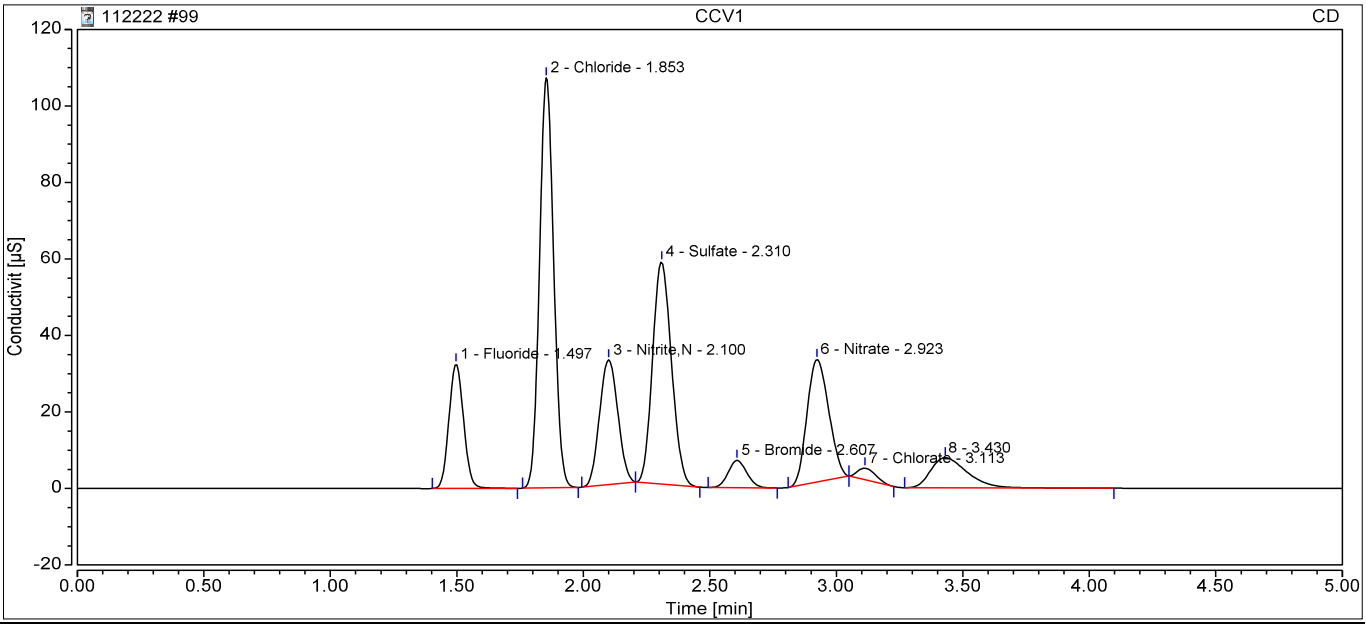


Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.49	Fluoride	BMB	1.162	5.2948	5.2948	1.0000
2	1.85	Chloride	BMB	4.934	34.3275	34.3275	1.0000
3	2.09	Nitrite,N	BMB	0.596	1.9452	1.9452	1.0000
4	2.31	Sulfate	BMB	4.829	47.0914	47.0914	1.0000
5	2.61	Bromide	BMB	0.142	2.2691	2.2691	1.0000
6	2.95	Nitrate	BMB	0.688	2.1156	2.1156	1.0000
7	3.13	Chlorate	BMB	0.051	1.7808	1.7808	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**12.402**		**94.82**	

99 CCV1			
Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**R3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/22/2022 23:14**	*Sample Weight:*	**1.0000**

Run Time:



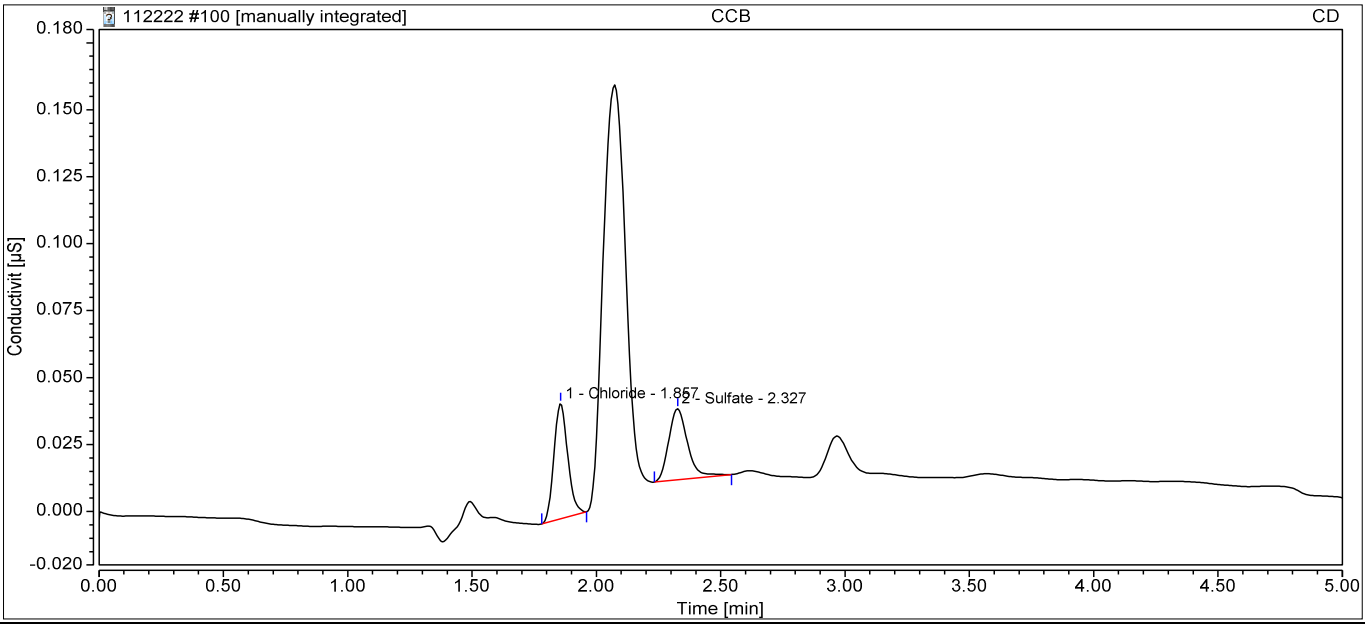
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.50	Fluoride	BMB	2.185	9.9859	9.9859	1.0000
2	1.85	Chloride	BMB	6.953	48.3769	48.3769	1.0000
3	2.10	Nitrite,N	BMB	2.741	9.5990	9.5990	1.0000
4	2.31	Sulfate	BMB	5.027	49.0244	49.0244	1.0000
5	2.61	Bromide	BMB	0.608	9.6931	9.6931	1.0000
6	2.92	Nitrate	BMB	3.189	9.6792	9.6792	1.0000
7	3.11	Chlorate	BMB	0.258	9.3166	9.3166	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**20.962**		**145.68**	

100 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**R6**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/22/2022 23:30**	*Sample Weight:*	**1.0000**

Run Time:



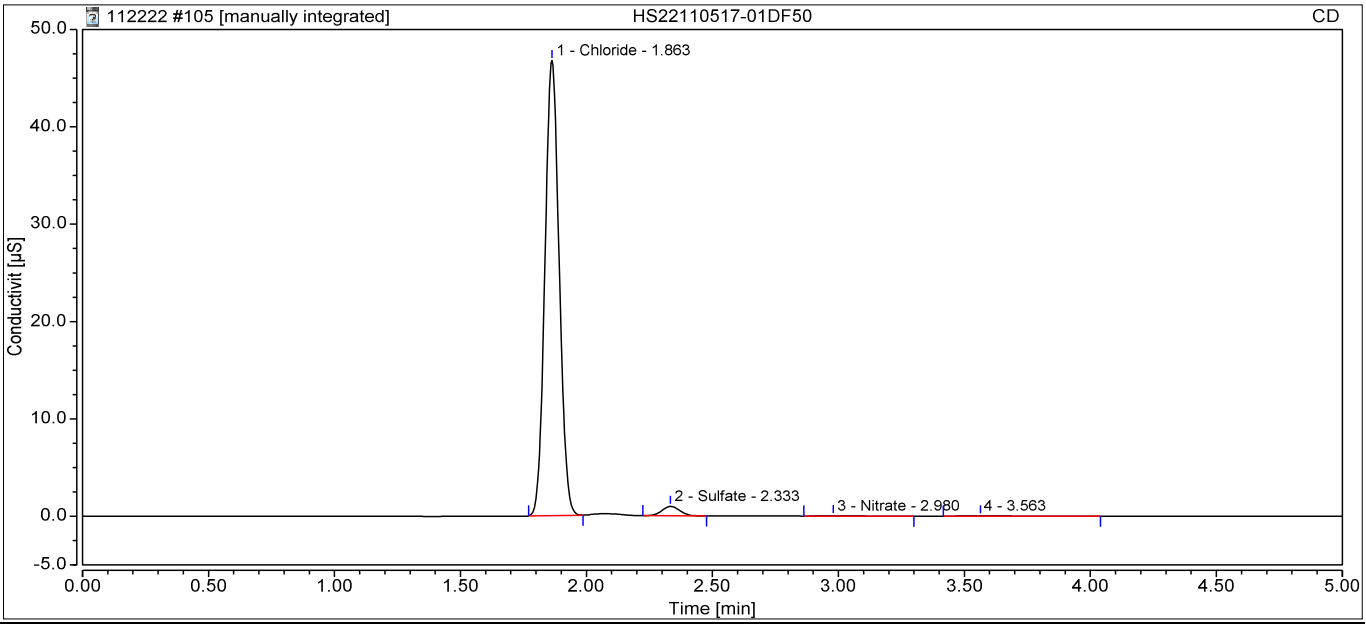
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	1.86	Chloride	BMB	0.003	0.0174	0.0174	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
2	2.33	Sulfate	BMB	0.002	0.0023	0.0023	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.005**		**0.02**	

105 HS22110517-01DF50

Sample Name:	**HS22110517-01DF50**	*Injection Volume:*	**5.00**
Vial Number:	**GD5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**50.0000**
Recording Time:	**11/22/2022 23:56**	*Sample Weight:*	**1.0000**

Run Time:



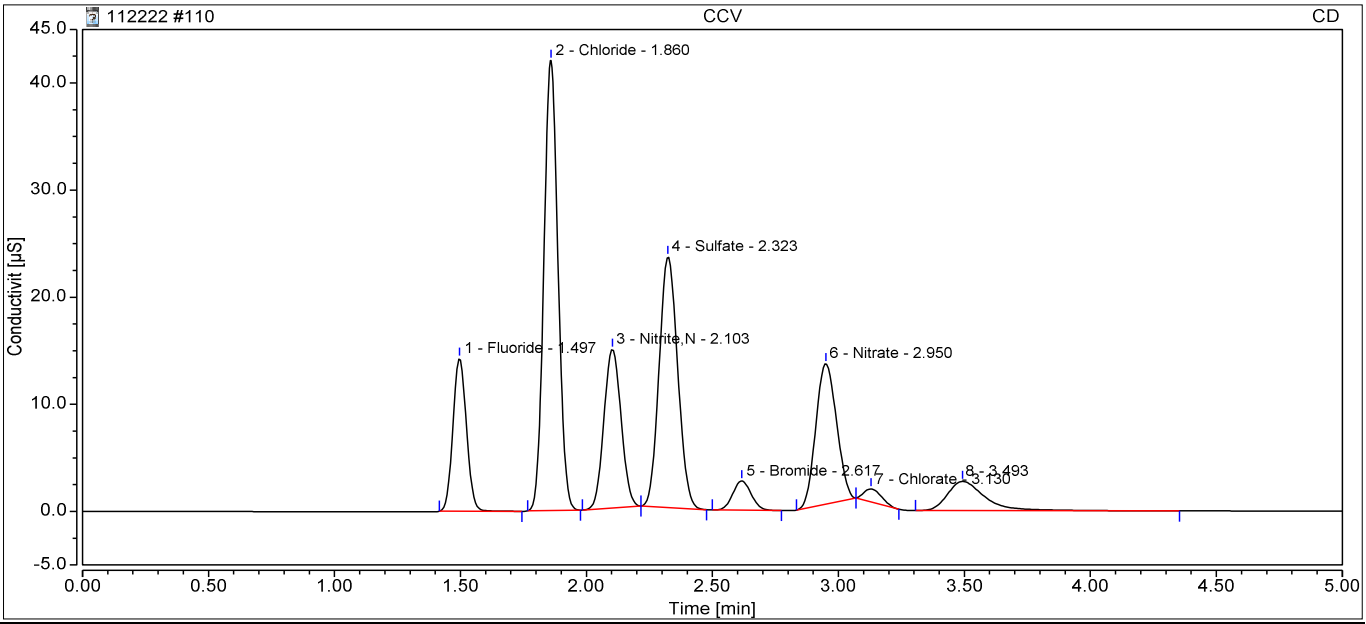
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	50.0000
1	1.86	Chloride	BMB	3.052	21.2348	1061.7415	50.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	50.0000
2	2.33	Sulfate	BMB	0.079	0.7508	37.5375	50.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	50.0000
3	2.98	Nitrate	BMB	0.003	0.0446	2.2319	50.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	50.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	50.0000
Total:			**0.000**	**3.134**		**1101.51**	

110 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**R2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/23/2022 00:33**	*Sample Weight:*	**1.0000**

Run Time:



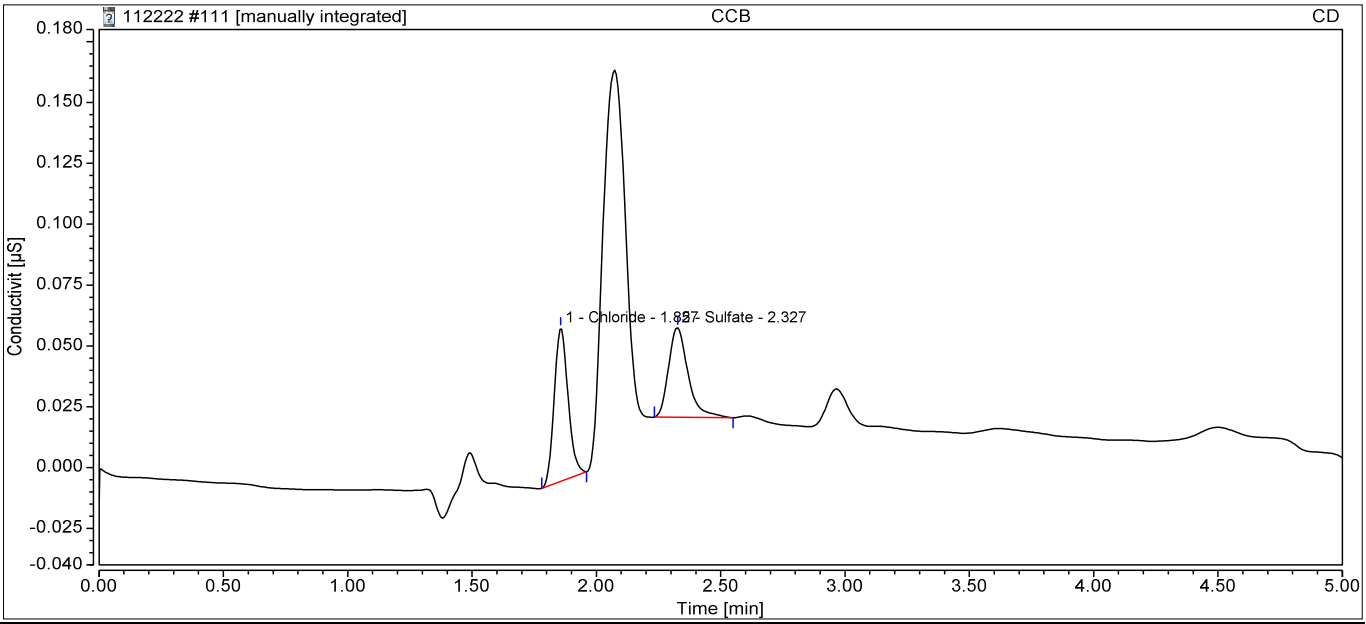
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.50	Fluoride	BMB	0.893	4.0653	4.0653	1.0000
2	1.86	Chloride	BMB	2.728	18.9798	18.9798	1.0000
3	2.10	Nitrite,N	BMB	1.172	3.8495	3.8495	1.0000
4	2.32	Sulfate	BMB	2.000	19.4866	19.4866	1.0000
5	2.62	Bromide	BMB	0.232	3.6990	3.6990	1.0000
6	2.95	Nitrate	BMB	1.252	3.8220	3.8220	1.0000
7	3.13	Chlorate	BMB	0.099	3.4575	3.4575	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**8.375**		**57.36**	

111 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**R6**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/23/2022 00:44**	*Sample Weight:*	**1.0000**

Run Time:



Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	1.86	Chloride	BMB	0.004	0.0263	0.0263	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
2	2.33	Sulfate	BMB	0.003	0.0122	0.0122	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.007**		**0.04**	

Sequence: 113022
Last Update Operator: alshs.nouser

CD	Name	Comment	Type	Position	Dilution	Level	Instrument Method	Processing Method	Volume	Status
	STD1		Calibratio	BB2	1.00	1	Anions Program IS	Anions Processing Method ISO	5.0	Finished
	STD1		Calibratio	BB1	1.00	1	Anions Program IS	Anions Processing Method ISO	5.0	Finished
	STD2		Calibratio	BB2	1.00	2	Anions Program IS	Anions Processing Method ISO	5.0	Finished
	STD3		Calibratio	BB3	1.00	3	Anions Program IS	Anions Processing Method ISO	5.0	Finished
	STD4		Calibratio	BB4	1.00	4	Anions Program IS	Anions Processing Method ISO	5.0	Finished
	STD5		Calibratio	BB5	1.00	5	Anions Program IS	Anions Processing Method ISO	5.0	Finished
	STD6		Calibratio	BB6	1.00	6	Anions Program IS	Anions Processing Method ISO	5.0	Finished
	ICV		Unknown	BB7	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	ICB		Unknown	R7	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	CCV		Unknown	R1	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	CCB		Unknown	R7	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	MBLK		Unknown	R8	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	LCS		Unknown	R2	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	HS22111617-02DF5		Unknown	RB5	5.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	HS22111617-02MSDF5	9056/W/SH	Unknown	RB6	5.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	HS22111617-02MSDDF		Unknown	RB7	5.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	HS22110517-01DF5	9056 RR-????	Unknown	RC3	5.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	CCV1		Unknown	R3	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	CCB		Unknown	R8	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished

Sequence: 113022
Last Update Operator: alshs.nouser

Inject Time
11/23/2022 12:14:30 PM -06:00
11/14/2022 3:23:57 PM -06:00
11/14/2022 3:29:16 PM -06:00
11/14/2022 3:34:36 PM -06:00
11/14/2022 3:39:55 PM -06:00
11/14/2022 3:45:14 PM -06:00
11/14/2022 3:50:34 PM -06:00
11/14/2022 3:55:53 PM -06:00
11/14/2022 4:06:32 PM -06:00
11/30/2022 6:58:27 PM -06:00
11/30/2022 7:08:52 PM -06:00
11/30/2022 7:14:05 PM -06:00
11/30/2022 7:19:18 PM -06:00
11/30/2022 7:24:42 PM -06:00
11/30/2022 7:29:55 PM -06:00
11/30/2022 7:35:08 PM -06:00
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11/30/2022 7:55:58 PM -06:00
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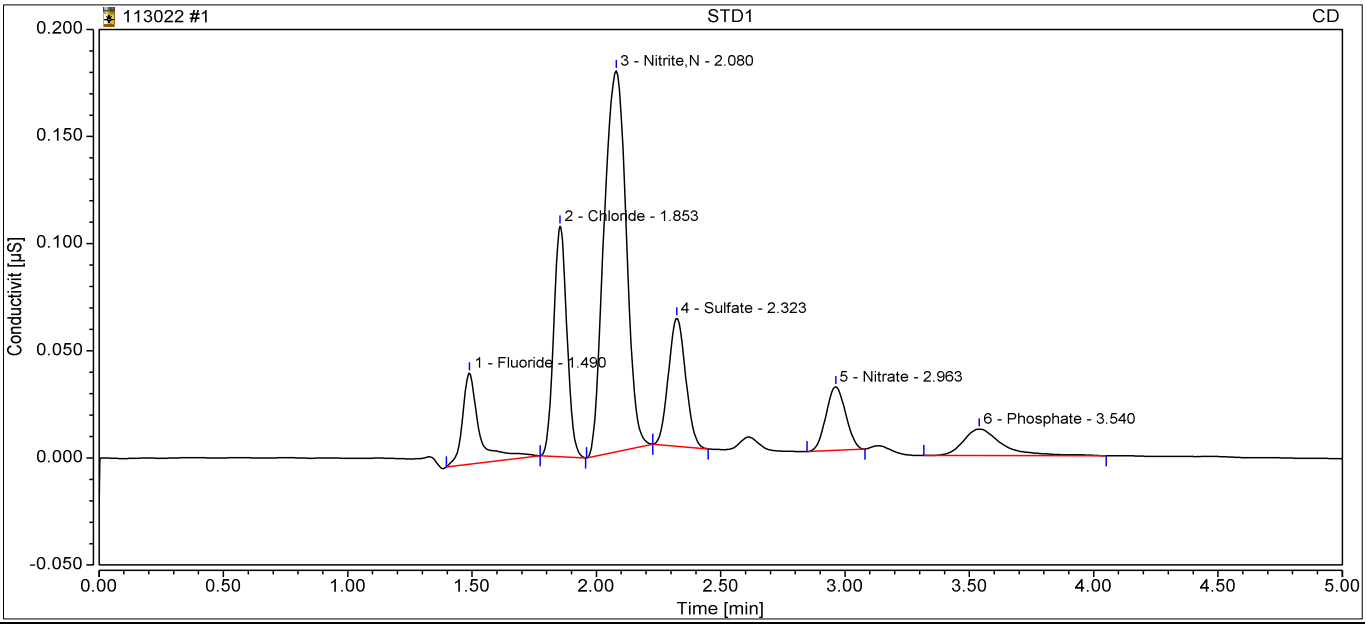
Sequence: 113022
Injection #7: STD6

Calibration

Peak No.	Peak Name	Cal.Type	Eval.Type	Number of Points	Rel.Std.Dev. %	Coeff.of Determination	C0 (Offset)	C1 (Slope)	C2 (Curve)
1	Fluoride	Lin, WithOffset, 1/A	Area	7	36.3211	0.99510	-0.0047	0.2197	0.0000
2	Chloride	Lin, WithOffset, 1/A	Area	7	20.5864	0.99862	-0.0288	0.1445	0.0000
3	Nitrite,N	Quad, WithOffset, 1/A	Area	7	10.1133	0.99970	-0.0171	0.3231	-0.0038
4	Sulfate	Lin, WithOffset, 1/A	Area	7	24.0033	0.99810	-0.0195	0.1031	0.0000
5	Bromide	Lin, WithOffset, 1/A	Area	6	5.4776	0.99985	-0.0009	0.0628	0.0000
6	*Nitrate*	*Lin, WithOffset, 1/A*	*Area*	*7*	*15.1979*	*0.99936*	*-0.0200*	*0.3318*	*0.0000*
7	Chlorate	Quad, WithOffset, 1/A	Area	6	13.9968	0.99928	-0.0011	0.0295	-0.0002
8	Phosphate	Lin, WithOffset, 1/A	Area	7	16.6202	0.99923	-0.0083	0.1394	0.0000
Maximum					**36.3211**	0.99985			
Minimum					5.4776	**0.99510**			

1 STD1			
Sample Name:	**STD1**	*Injection Volume:*	**5.00**
Vial Number:	**BB2**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/23/2022 12:14**	*Sample Weight:*	**1.0000**

Run Time:



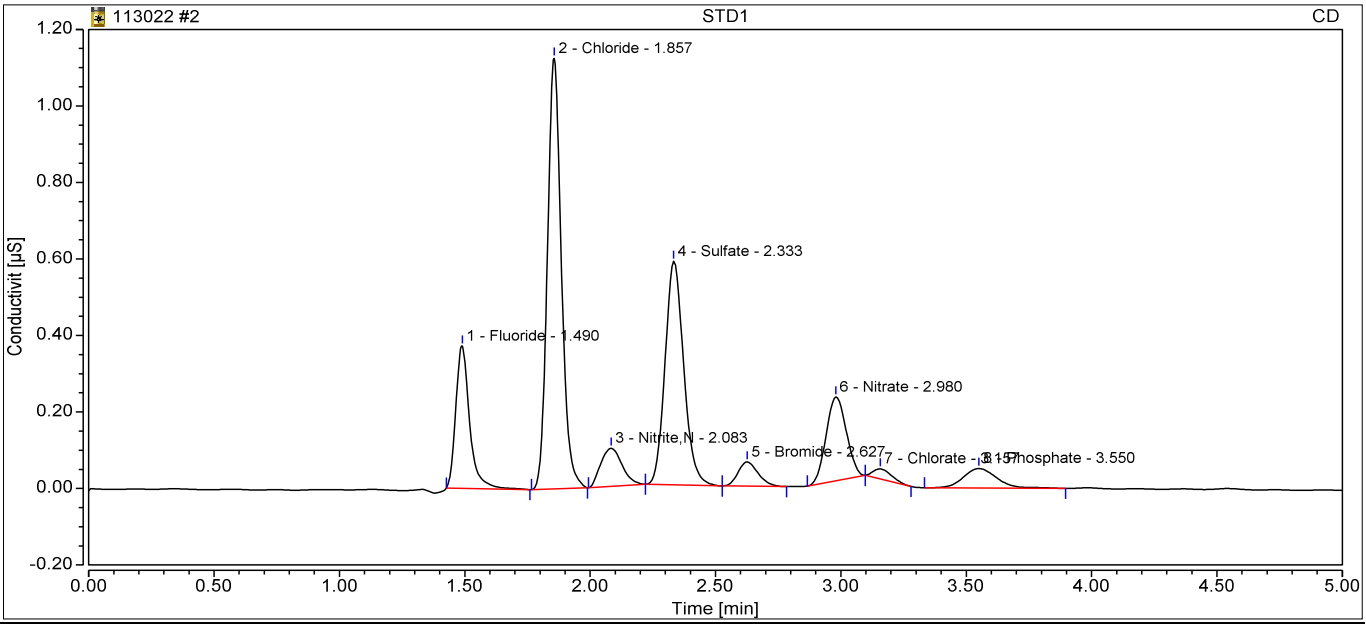
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.49	Fluoride	BMB	0.003	0.0369	0.0369	1.0000
2	1.85	Chloride	BMB	0.007	0.2455	0.2455	1.0000
3	2.08	Nitrite,N	BMB	0.018	0.1097	0.1097	1.0000
4	2.32	Sulfate	BMB	0.005	0.2357	0.2357	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
5	2.96	Nitrate	BMB	0.003	0.0685	0.0685	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
6	3.54	Phosphate	BMB	0.002	0.0755	0.0755	1.0000
Total:			**0.000**	**0.038**		**0.77**	

2 STD1

Sample Name:	**STD1**	*Injection Volume:*	**5.00**
Vial Number:	**BB1**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/14/2022 15:23**	*Sample Weight:*	**1.0000**

Run Time:



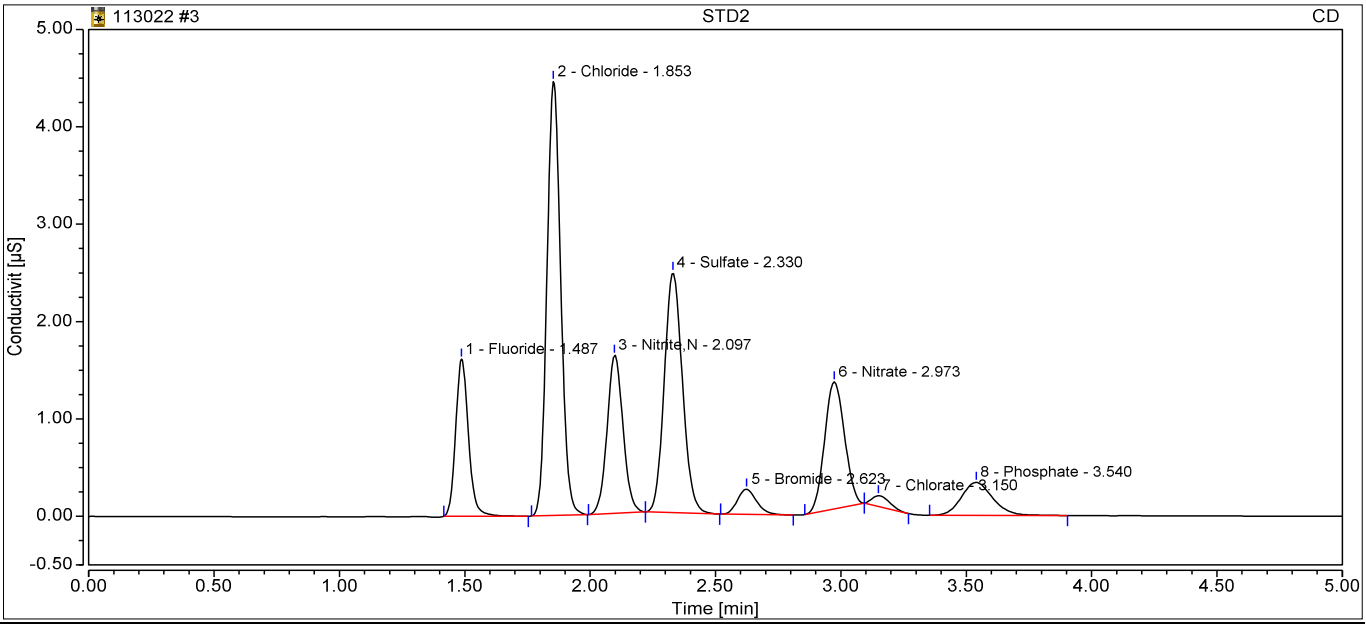
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.49	Fluoride	BMB	0.024	0.1300	0.1300	1.0000
2	1.86	Chloride	BMB	0.073	0.7039	0.7039	1.0000
3	2.08	Nitrite,N	BMB	0.010	0.0835	0.0835	1.0000
4	2.33	Sulfate	BMB	0.051	0.6796	0.6796	1.0000
5	2.63	Bromide	BMB	0.006	0.1081	0.1081	1.0000
6	2.98	Nitrate	BMB	0.021	0.1221	0.1221	1.0000
7	3.16	Chlorate	BMB	0.002	0.1156	0.1156	1.0000
8	3.55	Phosphate	BMB	0.008	0.1160	0.1160	1.0000
Total:			**0.000**	**0.194**		**2.06**	

3 STD2

Sample Name:	**STD2**	*Injection Volume:*	**5.00**
Vial Number:	**BB2**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/14/2022 15:29**	*Sample Weight:*	**1.0000**

Run Time:



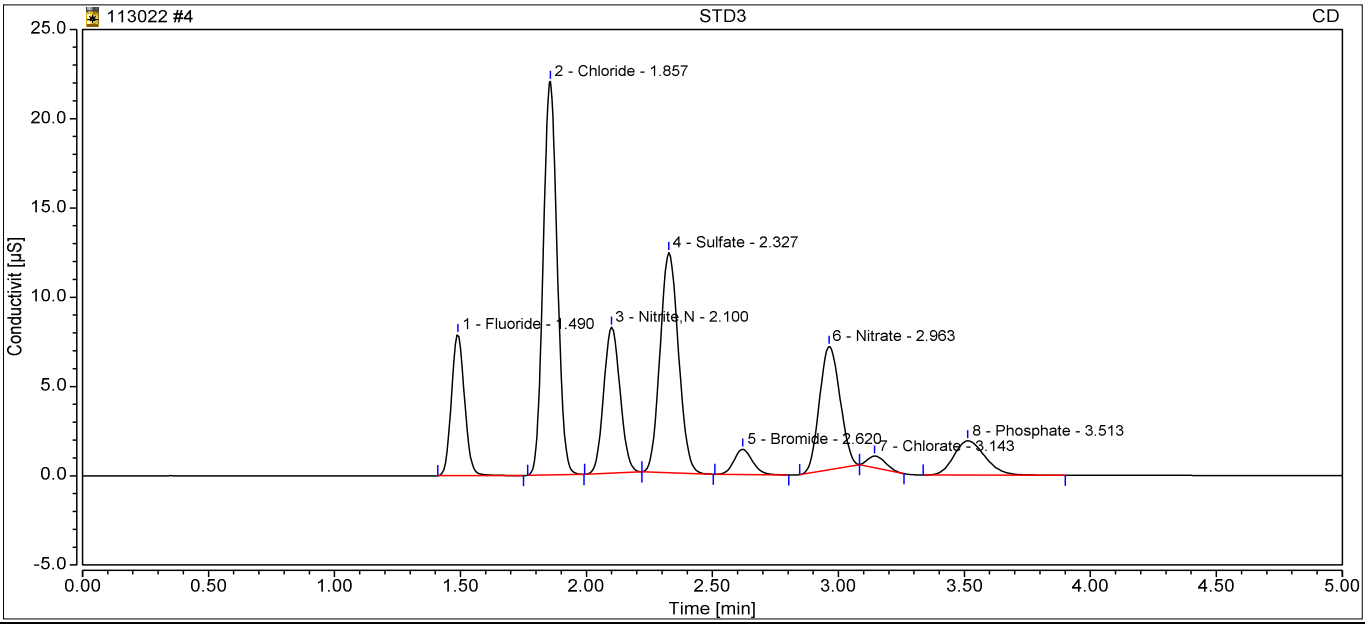
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.49	Fluoride	BMB	0.096	0.4564	0.4564	1.0000
2	1.85	Chloride	BMB	0.284	2.1674	2.1674	1.0000
3	2.10	Nitrite,N	BMB	0.119	0.4247	0.4247	1.0000
4	2.33	Sulfate	BMB	0.207	2.1953	2.1953	1.0000
5	2.62	Bromide	BMB	0.023	0.3814	0.3814	1.0000
6	2.97	Nitrate	BMB	0.120	0.4231	0.4231	1.0000
7	3.15	Chlorate	BMB	0.009	0.3502	0.3502	1.0000
8	3.54	Phosphate	BMB	0.049	0.4109	0.4109	1.0000
Total:			**0.000**	**0.908**		**6.81**	

4 STD3

Sample Name:	**STD3**	*Injection Volume:*	**5.00**
Vial Number:	**BB3**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/14/2022 15:34**	*Sample Weight:*	**1.0000**

Run Time:



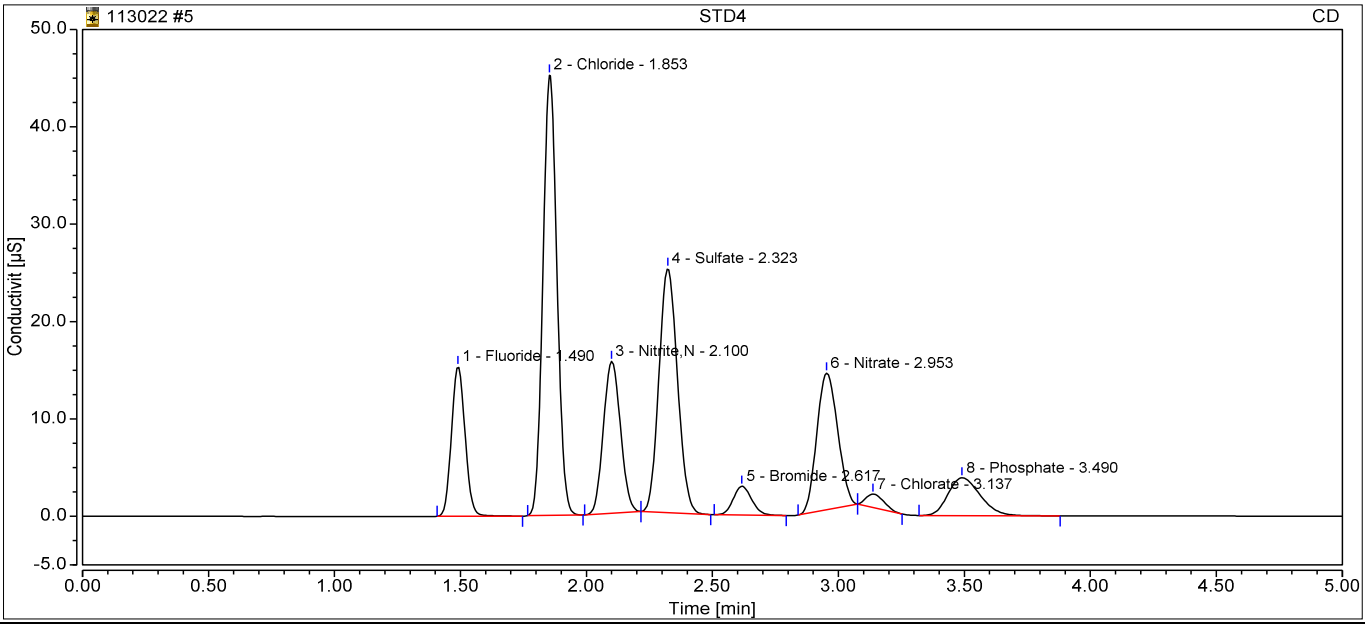
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.49	Fluoride	BMB	0.480	2.2090	2.2090	1.0000
2	1.86	Chloride	BMB	1.420	10.0273	10.0273	1.0000
3	2.10	Nitrite,N	BMB	0.618	2.0123	2.0123	1.0000
4	2.33	Sulfate	BMB	1.044	10.3156	10.3156	1.0000
5	2.62	Bromide	BMB	0.120	1.9212	1.9212	1.0000
6	2.96	Nitrate	BMB	0.652	2.0246	2.0246	1.0000
7	3.14	Chlorate	BMB	0.054	1.8885	1.8885	1.0000
8	3.51	Phosphate	BMB	0.276	2.0371	2.0371	1.0000
Total:			**0.000**	**4.663**		**32.44**	

5 STD4

Sample Name:	**STD4**	*Injection Volume:*	**5.00**
Vial Number:	**BB4**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/14/2022 15:39**	*Sample Weight:*	**1.0000**

Run Time:



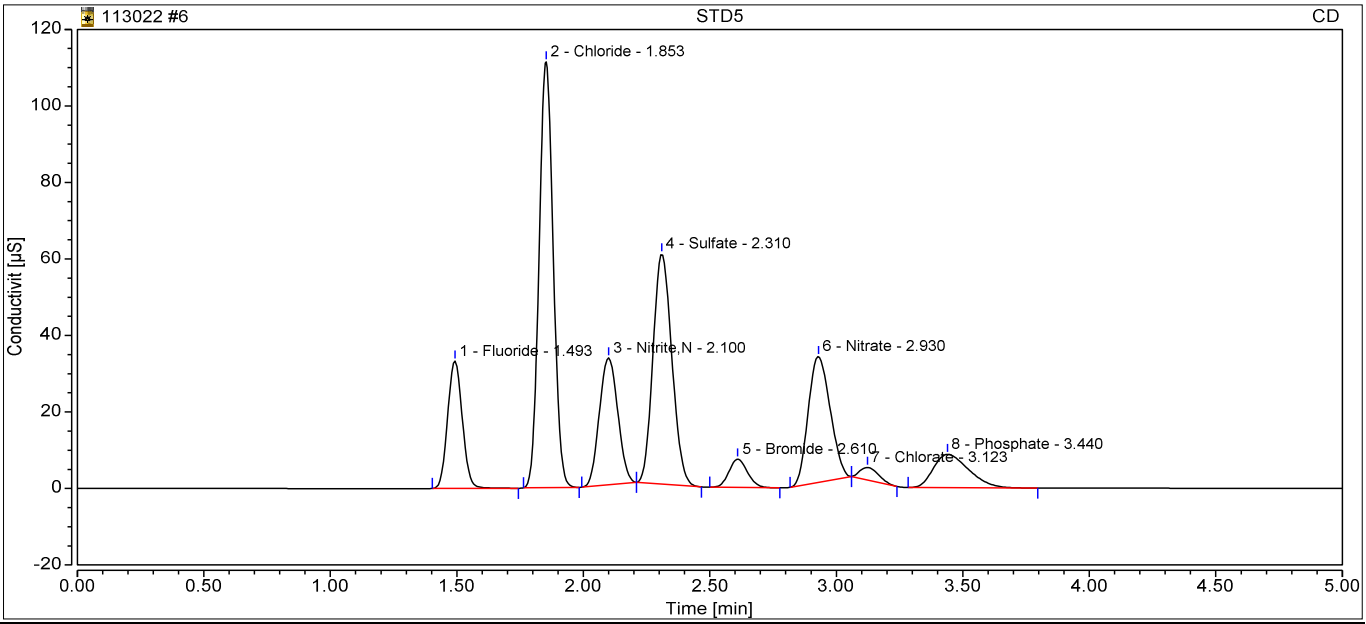
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.49	Fluoride	BMB	0.967	4.4240	4.4240	1.0000
2	1.85	Chloride	BMB	2.918	20.3948	20.3948	1.0000
3	2.10	Nitrite,N	BMB	1.228	4.0433	4.0433	1.0000
4	2.32	Sulfate	BMB	2.139	20.9405	20.9405	1.0000
5	2.62	Bromide	BMB	0.250	3.9997	3.9997	1.0000
6	2.95	Nitrate	BMB	1.347	4.1197	4.1197	1.0000
7	3.14	Chlorate	BMB	0.115	4.0232	4.0232	1.0000
8	3.49	Phosphate	BMB	0.572	4.1628	4.1628	1.0000
Total:			**0.000**	**9.535**		**66.11**	

6 STD5

Sample Name:	**STD5**	*Injection Volume:*	**5.00**
Vial Number:	**BB5**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/14/2022 15:45**	*Sample Weight:*	**1.0000**

Run Time:



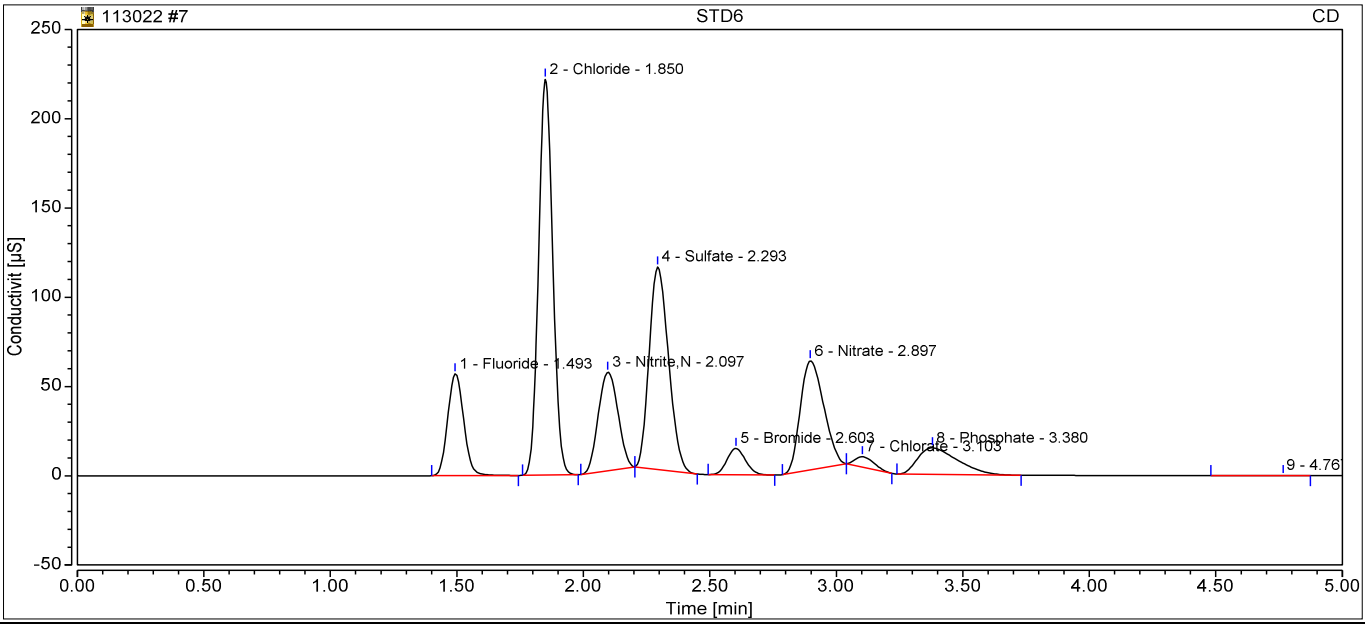
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.49	Fluoride	BMB	2.245	10.2431	10.2431	1.0000
2	1.85	Chloride	BMB	7.201	50.0450	50.0450	1.0000
3	2.10	Nitrite,N	BMB	2.799	9.8460	9.8460	1.0000
4	2.31	Sulfate	BMB	5.204	50.6826	50.6826	1.0000
5	2.61	Bromide	BMB	0.628	10.0012	10.0012	1.0000
6	2.93	Nitrate	BMB	3.309	10.0343	10.0343	1.0000
7	3.12	Chlorate	BMB	0.282	10.2589	10.2589	1.0000
8	3.44	Phosphate	BMB	1.410	10.1784	10.1784	1.0000
Total:			**0.000**	**23.080**		**161.29**	

7 STD6

Sample Name:	**STD6**	*Injection Volume:*	**5.00**
Vial Number:	**BB6**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/14/2022 15:50**	*Sample Weight:*	**1.0000**

Run Time:



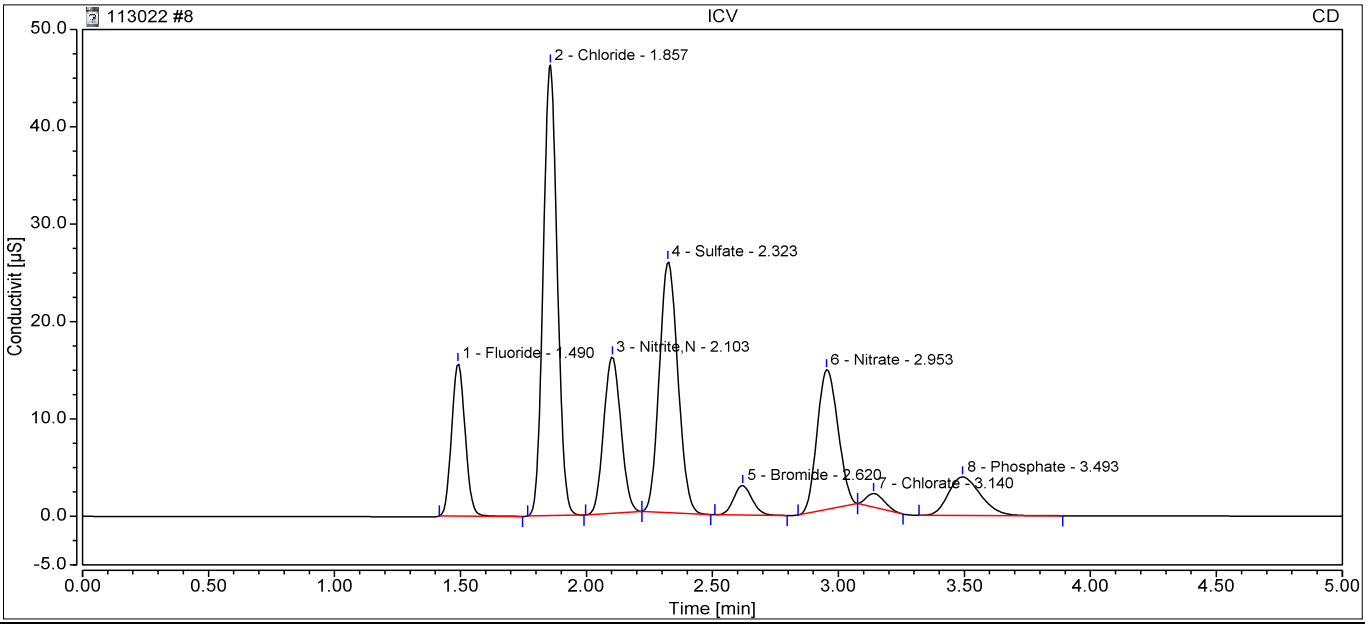
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.49	Fluoride	BMB	4.191	19.1005	19.1005	1.0000
2	1.85	Chloride	BMB	14.334	99.4162	99.4162	1.0000
3	2.10	Nitrite,N	BMB	4.956	20.0933	20.0933	1.0000
4	2.29	Sulfate	BMB	10.076	97.9507	97.9507	1.0000
5	2.60	Bromide	BMB	1.261	20.0884	20.0884	1.0000
6	2.90	Nitrate	BMB	6.552	19.8075	19.8075	1.0000
7	3.10	Chlorate	BMB	0.513	19.8598	19.8598	1.0000
8	3.38	Phosphate	BMB	2.726	19.6195	19.6195	1.0000
Total:			**0.000**	**44.610**		**315.94**	

8 ICV

Sample Name:	**ICV**	*Injection Volume:*	**5.00**
Vial Number:	**BB7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/14/2022 15:55**	*Sample Weight:*	**1.0000**

Run Time:

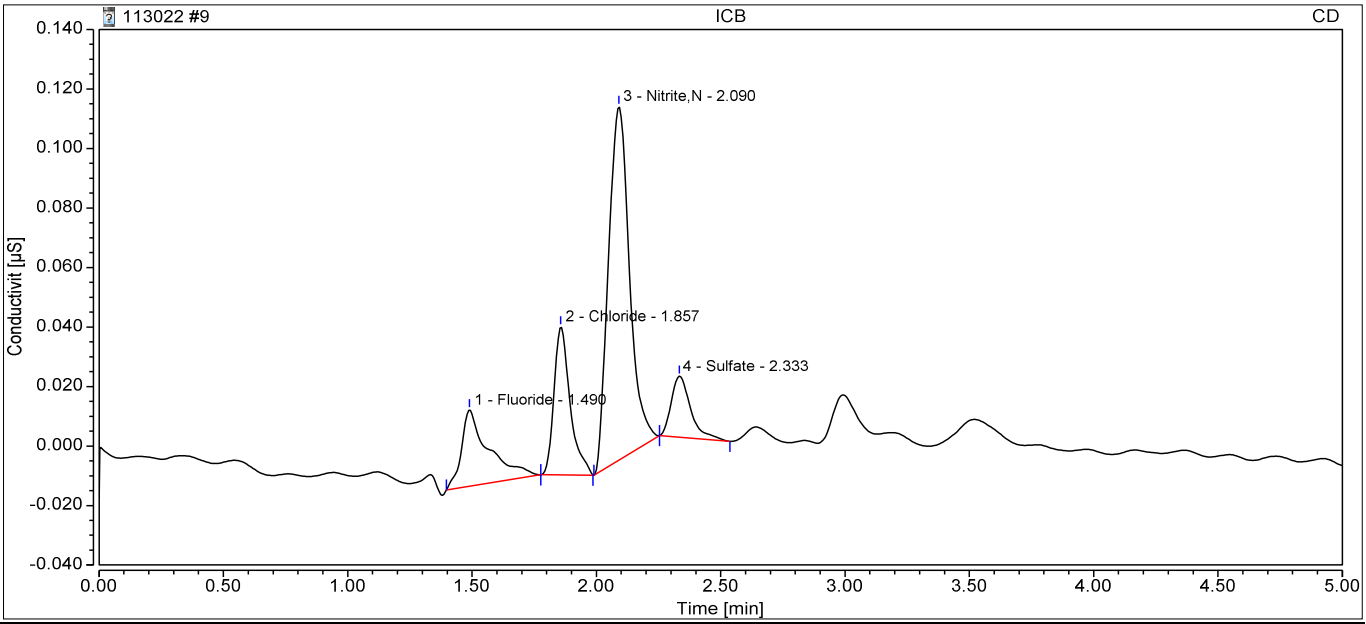


Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.49	Fluoride	BMB	0.977	4.4704	4.4704	1.0000
2	1.86	Chloride	BMB	2.988	20.8838	20.8838	1.0000
3	2.10	Nitrite,N	BMB	1.268	4.1797	4.1797	1.0000
4	2.32	Sulfate	BMB	2.198	21.5100	21.5100	1.0000
5	2.62	Bromide	BMB	0.257	4.1011	4.1011	1.0000
6	2.95	Nitrate	BMB	1.380	4.2183	4.2183	1.0000
7	3.14	Chlorate	BMB	0.118	4.1500	4.1500	1.0000
8	3.49	Phosphate	BMB	0.585	4.2531	4.2531	1.0000
Total:			**0.000**	**9.770**		**67.77**	

9	*ICB*		
Sample Name:	**ICB**	*Injection Volume:*	**5.00**
Vial Number:	**R7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/14/2022 16:06**	*Sample Weight:*	**1.0000**

Run Time:



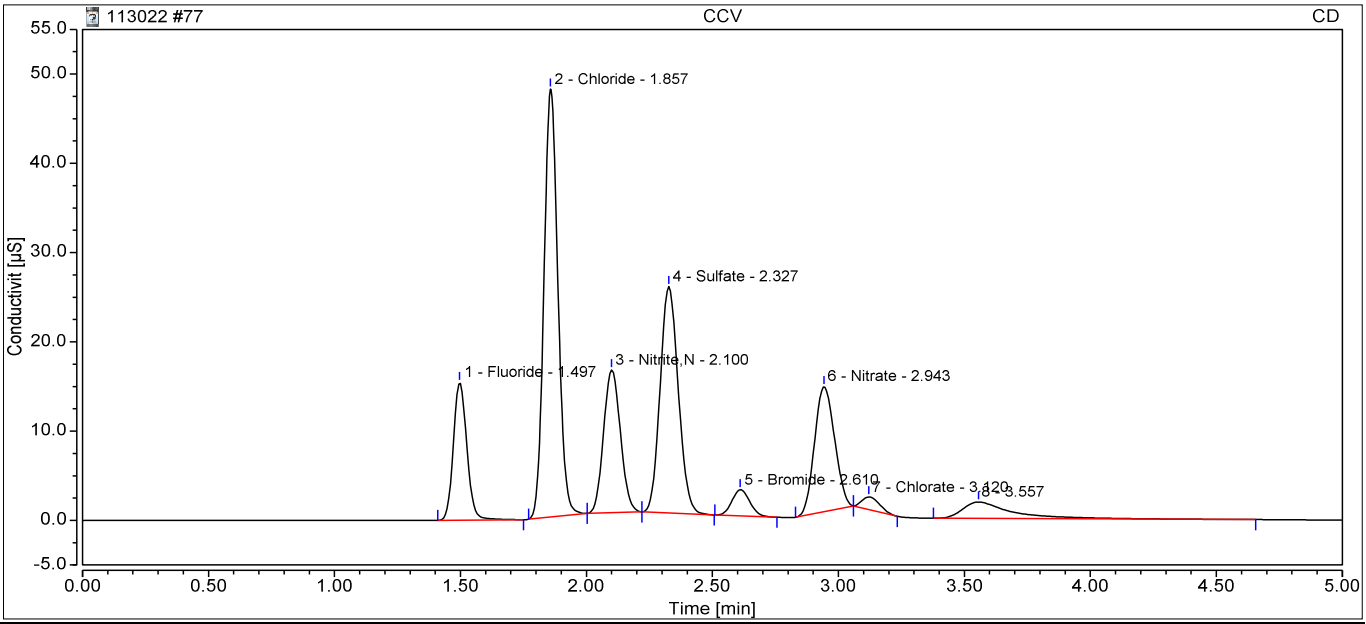
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.49	Fluoride	BMB	0.003	0.0363	0.0363	1.0000
2	1.86	Chloride	BMB	0.004	0.2256	0.2256	1.0000
3	2.09	Nitrite,N	BMB	0.012	0.0891	0.0891	1.0000
4	2.33	Sulfate	BMB	0.002	0.2072	0.2072	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.021**		**0.56**	

77 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**R1**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/30/2022 18:58**	*Sample Weight:*	**1.0000**

Run Time:



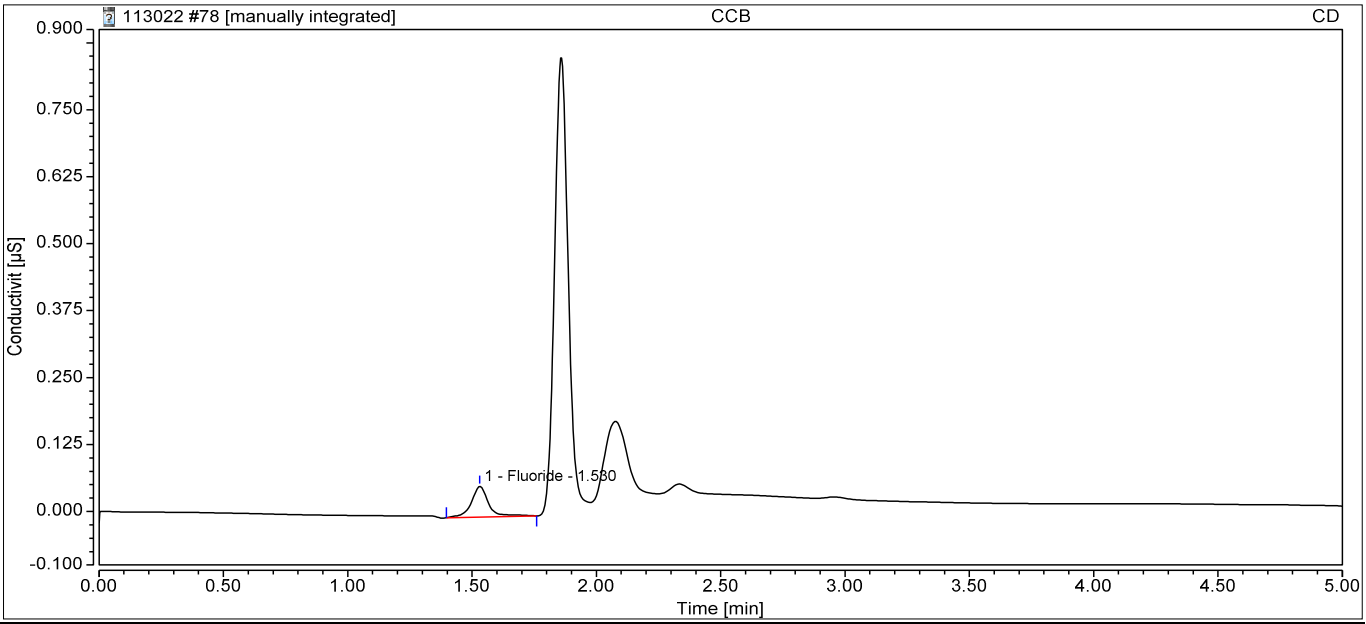
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.50	Fluoride	BMB	0.965	4.4167	4.4167	1.0000
2	1.86	Chloride	BMB	3.070	21.4503	21.4503	1.0000
3	2.10	Nitrite,N	BMB	1.241	4.0890	4.0890	1.0000
4	2.33	Sulfate	BMB	2.119	20.7437	20.7437	1.0000
5	2.61	Bromide	BMB	0.241	3.8436	3.8436	1.0000
6	2.94	Nitrate	BMB	1.294	3.9599	3.9599	1.0000
7	3.12	Chlorate	BMB	0.116	4.0741	4.0741	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**9.046**		**62.58**	

78 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**R7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/30/2022 19:08**	*Sample Weight:*	**1.0000**

Run Time:



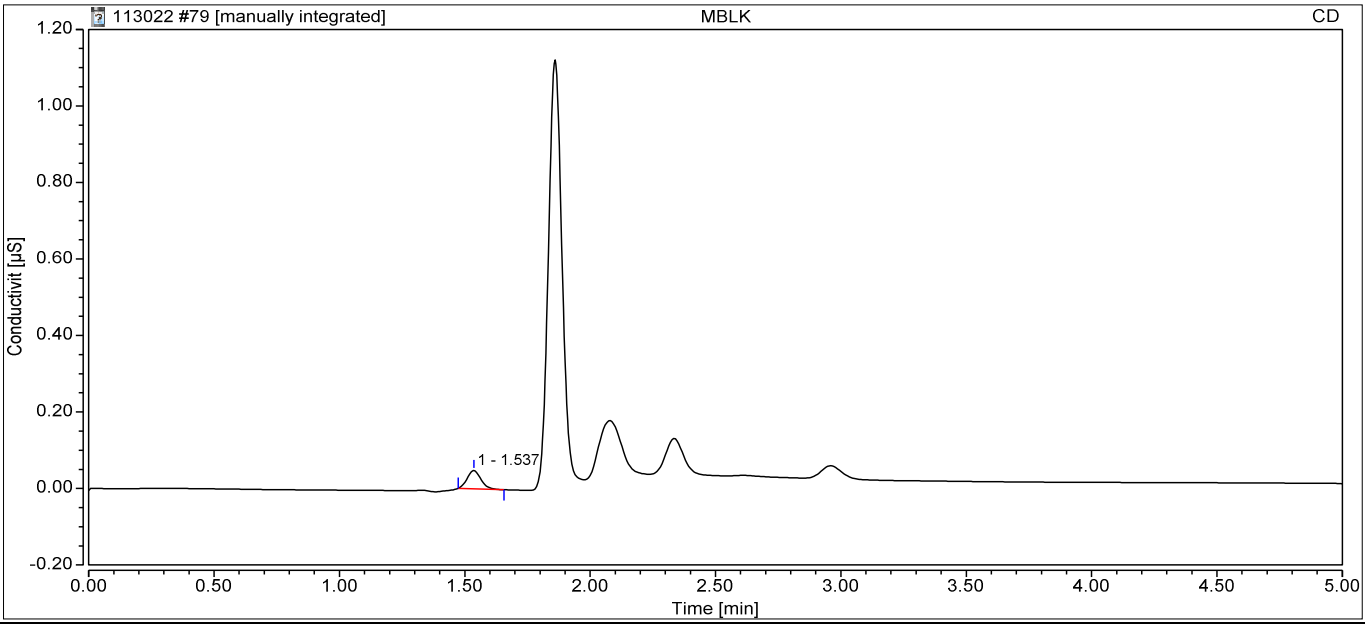
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.53	Fluoride	BMB	0.005	0.0427	0.0427	1.0000
n.a.	n.a.	Chloride	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.005**		**0.04**	

79 MBLK

Sample Name:	**MBLK**	*Injection Volume:*	**5.00**
Vial Number:	**R8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/30/2022 19:14**	*Sample Weight:*	**1.0000**

Run Time:



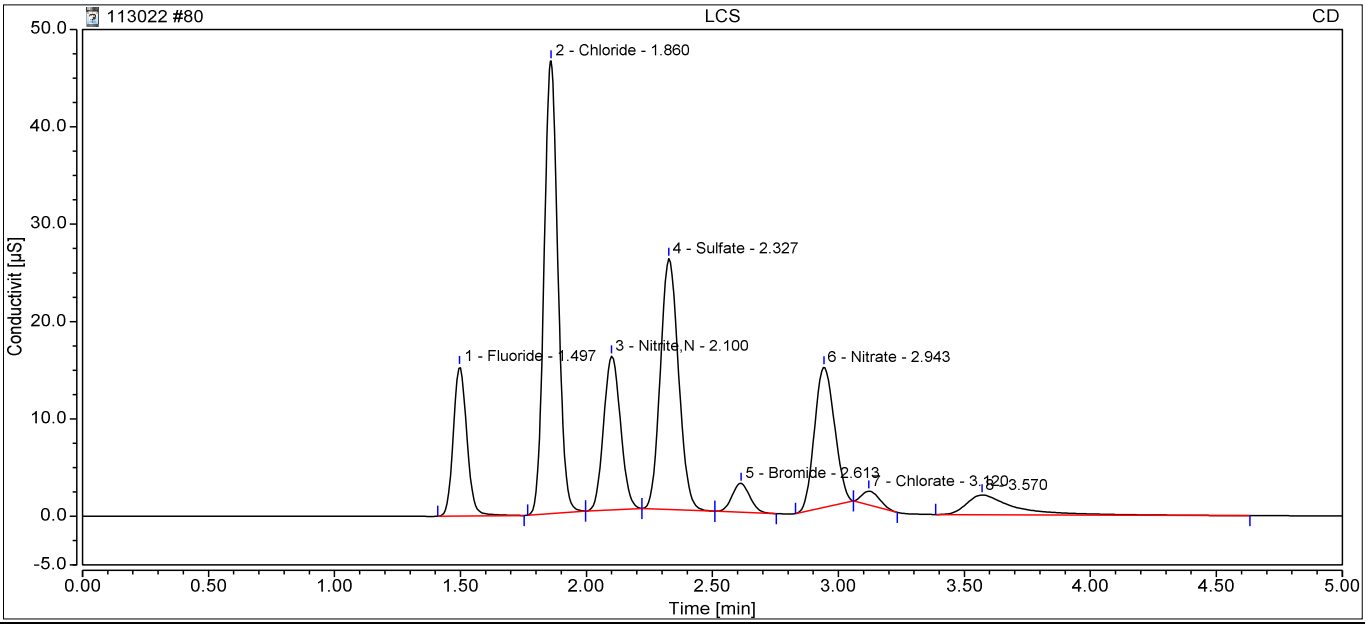
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chloride	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.000**		**0.00**	

80 LCS

Sample Name:	**LCS**	*Injection Volume:*	**5.00**
Vial Number:	**R2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/30/2022 19:19**	*Sample Weight:*	**1.0000**

Run Time:



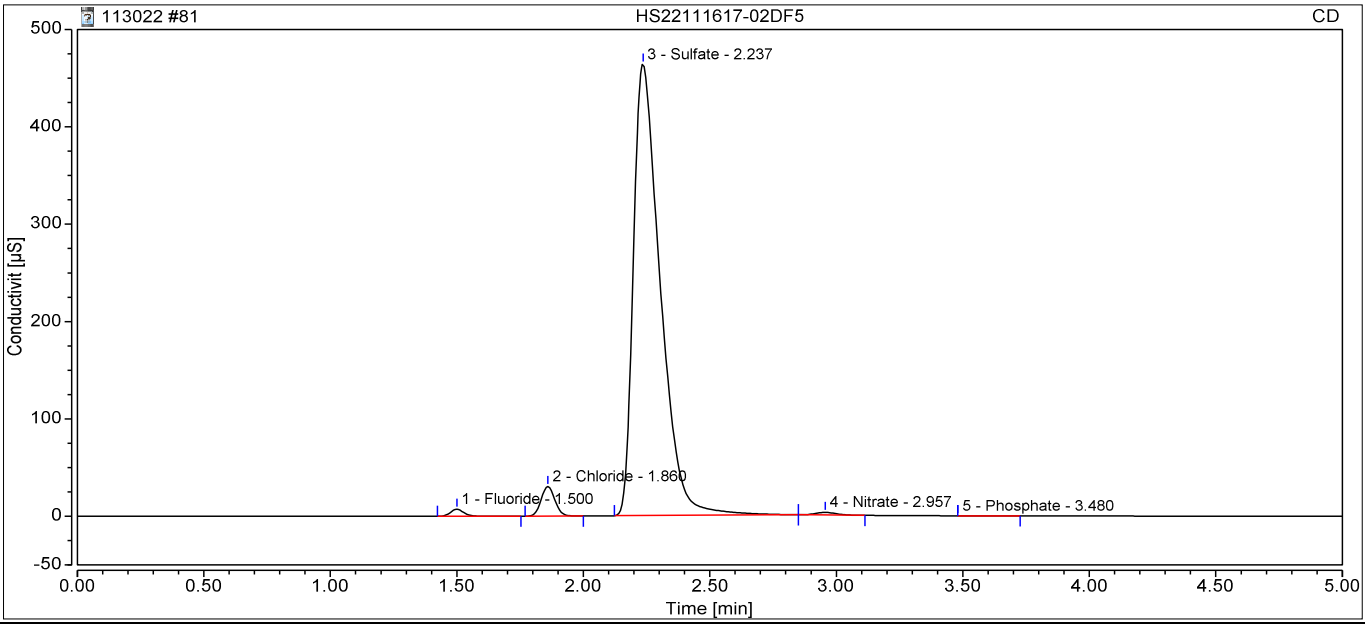
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.50	Fluoride	BMB	0.964	4.4096	4.4096	1.0000
2	1.86	Chloride	BMB	2.964	20.7142	20.7142	1.0000
3	2.10	Nitrite,N	BMB	1.227	4.0413	4.0413	1.0000
4	2.33	Sulfate	BMB	2.156	21.1067	21.1067	1.0000
5	2.61	Bromide	BMB	0.243	3.8757	3.8757	1.0000
6	2.94	Nitrate	BMB	1.333	4.0779	4.0779	1.0000
7	3.12	Chlorate	BMB	0.116	4.0833	4.0833	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**9.003**		**62.31**	

81 HS22111617-02DF5

Sample Name:	**HS22111617-02DF5**	*Injection Volume:*	**5.00**
Vial Number:	**RB5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**5.0000**
Recording Time:	**11/30/2022 19:24**	*Sample Weight:*	**1.0000**

Run Time:



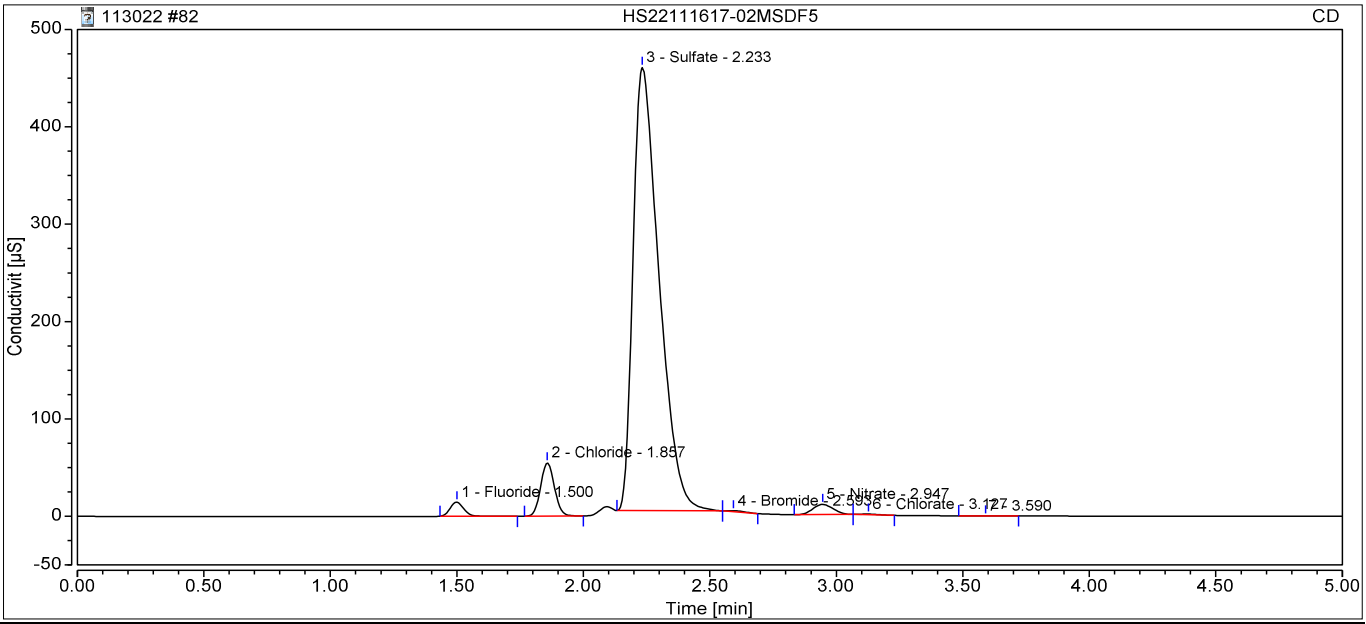
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.50	Fluoride	BMB	0.454	2.0878	10.4389	5.0000
2	1.86	Chloride	BMB	1.916	13.4620	67.3102	5.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	5.0000
3	2.24	Sulfate	BMB	56.859	551.8571	2759.2854	5.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	5.0000
4	2.96	Nitrate	BMB	0.254	0.8256	4.1278	5.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	5.0000
5	3.48	Phosphate	BMB	0.004	0.0910	0.4550	5.0000
Total:			**0.000**	**59.488**		**2841.62**	

82 HS22111617-02MSDF5

Sample Name:	**HS22111617-02MSDF5**	*Injection Volume:*	**5.00**
Vial Number:	**RB6**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**5.0000**
Recording Time:	**11/30/2022 19:29**	*Sample Weight:*	**1.0000**

Run Time:



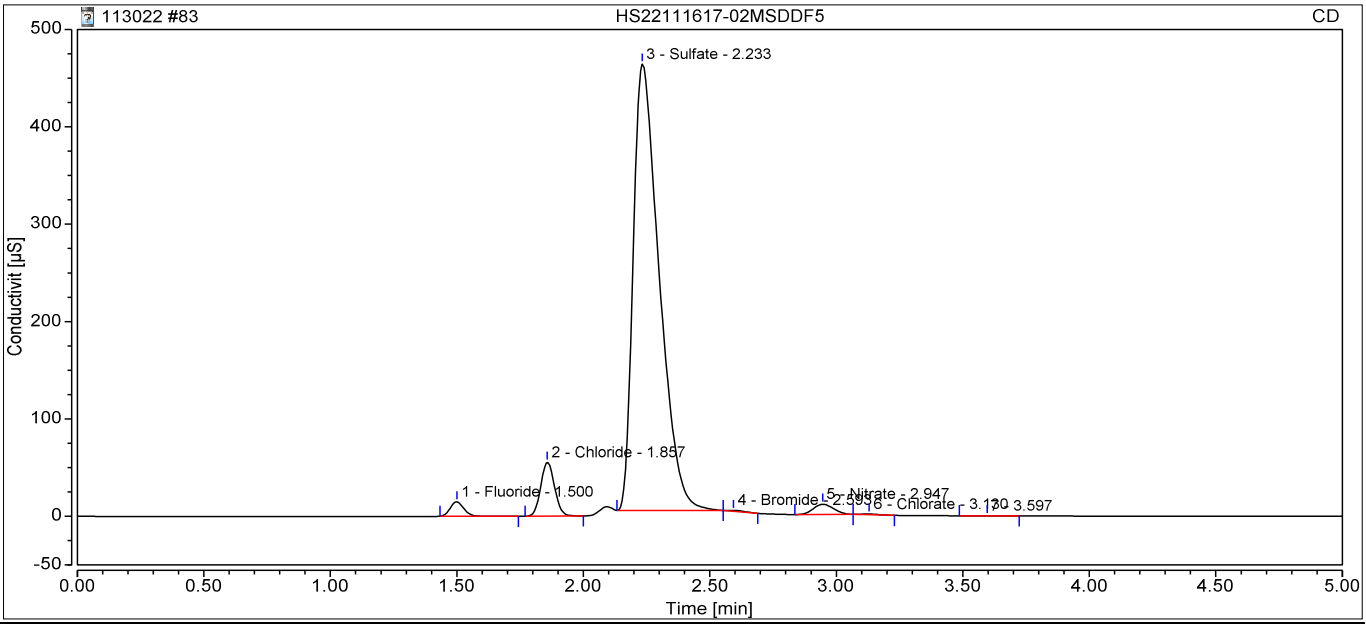
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.50	Fluoride	BMB	0.906	4.1443	20.7217	5.0000
2	1.86	Chloride	BMB	3.453	24.1015	120.5075	5.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	5.0000
3	2.23	Sulfate	BMB	53.985	523.9647	2619.8233	5.0000
4	2.59	Bromide	BMB	0.077	1.2325	6.1624	5.0000
5	2.95	Nitrate	BMB	0.971	2.9875	14.9377	5.0000
6	3.13	Chlorate	BMB	0.057	1.9887	9.9434	5.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	5.0000
Total:			**0.000**	**59.448**		**2792.10**	

83 HS22111617-02MSDDF5

Sample Name:	**HS22111617-02MSDDF5**	*Injection Volume:*	**5.00**
Vial Number:	**RB7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**5.0000**
Recording Time:	**11/30/2022 19:35**	*Sample Weight:*	**1.0000**

Run Time:



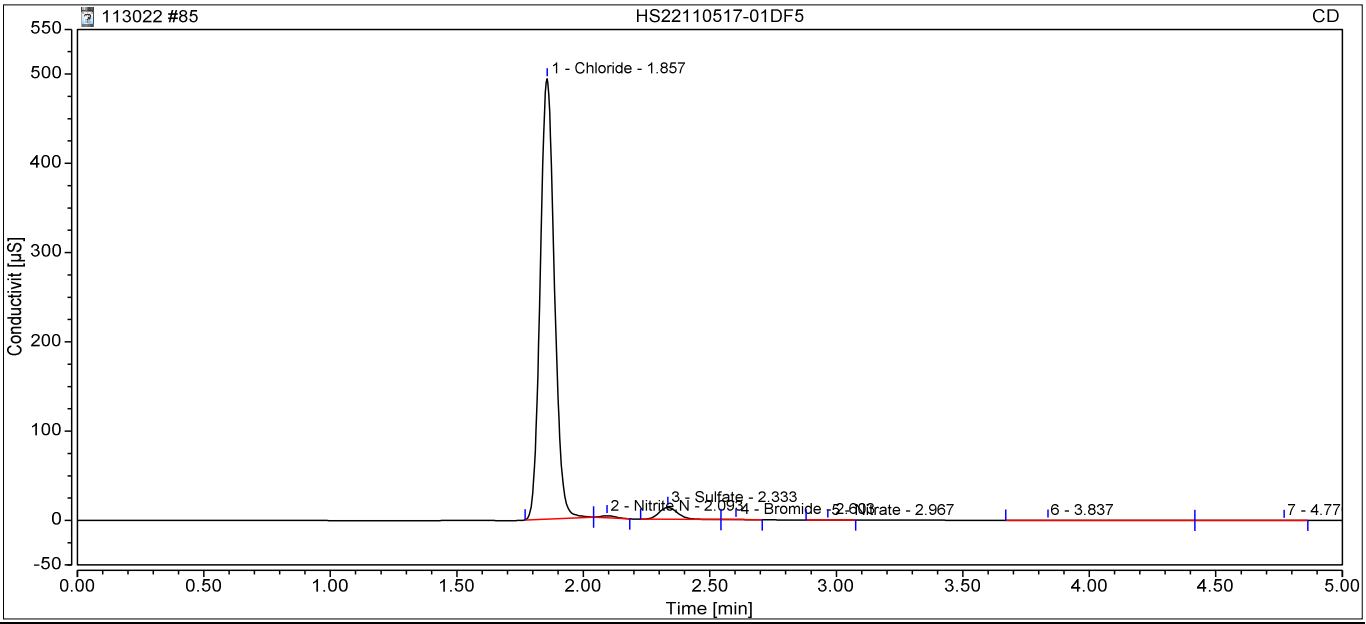
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.50	Fluoride	BMB	0.929	4.2486	21.2430	5.0000
2	1.86	Chloride	BMB	3.492	24.3718	121.8590	5.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	5.0000
3	2.23	Sulfate	BMB	54.528	529.2380	2646.1901	5.0000
4	2.59	Bromide	BMB	0.075	1.2012	6.0062	5.0000
5	2.95	Nitrate	BMB	0.978	3.0086	15.0431	5.0000
6	3.13	Chlorate	BMB	0.058	2.0371	10.1857	5.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	5.0000
Total:			**0.000**	**60.060**		**2820.53**	

85 HS22110517-01DF5

Sample Name:	**HS22110517-01DF5**	*Injection Volume:*	**5.00**
Vial Number:	**RC3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**5.0000**
Recording Time:	**11/30/2022 19:45**	*Sample Weight:*	**1.0000**

Run Time:



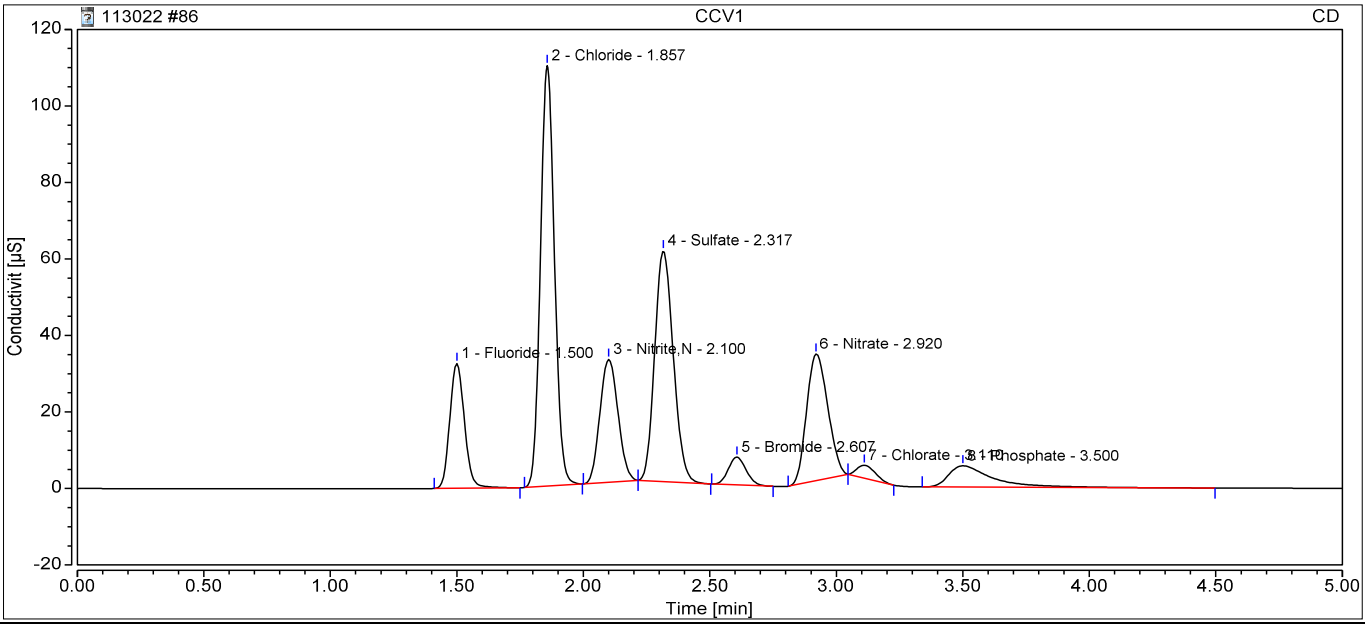
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	5.0000
1	1.86	Chloride	BMB	31.972	221.5071	1107.5355	5.0000
2	2.09	Nitrite,N	BMB	0.145	0.5035	2.5174	5.0000
3	2.33	Sulfate	BMB	1.140	11.2508	56.2542	5.0000
4	2.60	Bromide	BMB	0.012	0.2087	1.0436	5.0000
5	2.97	Nitrate	BMB	0.002	0.0672	0.3359	5.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	5.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	5.0000
Total:			**0.000**	**33.272**		**1167.69**	

86 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**R3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/30/2022 19:55**	*Sample Weight:*	**1.0000**

Run Time:



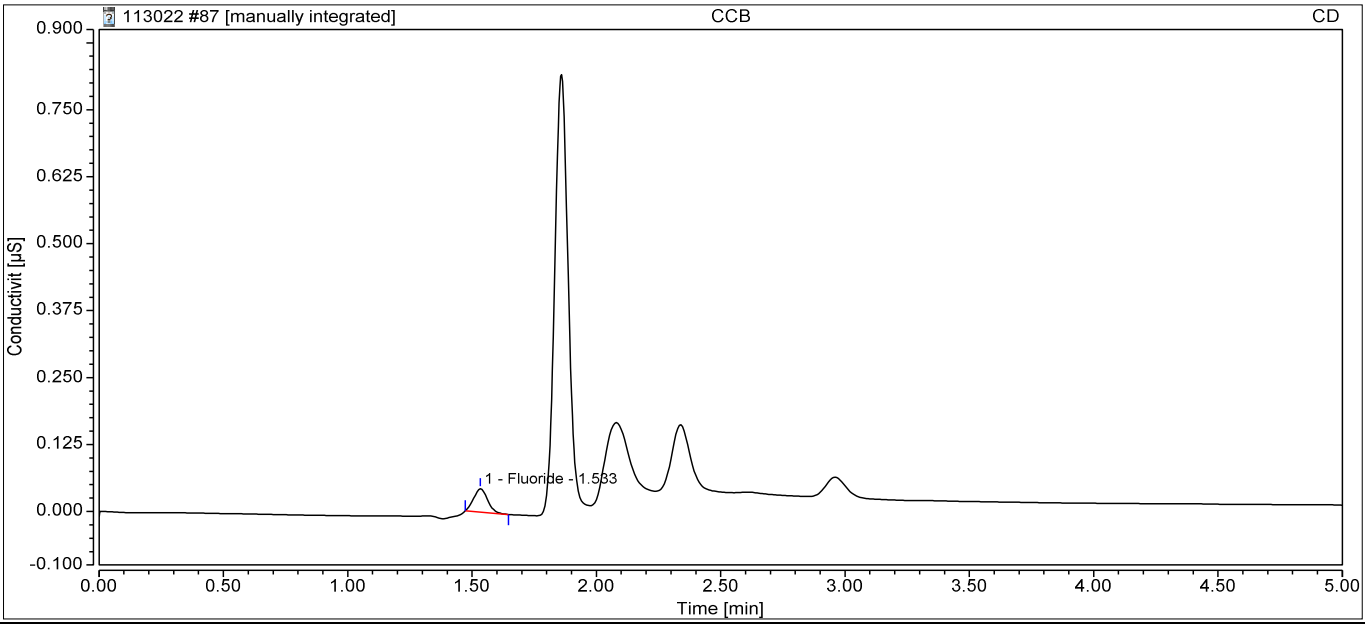
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.50	Fluoride	BMB	2.200	10.0360	10.0360	1.0000
2	1.86	Chloride	BMB	7.019	48.7859	48.7859	1.0000
3	2.10	Nitrite,N	BMB	2.659	9.2856	9.2856	1.0000
4	2.32	Sulfate	BMB	5.137	50.0333	50.0333	1.0000
5	2.61	Bromide	BMB	0.594	9.4740	9.4740	1.0000
6	2.92	Nitrate	BMB	3.207	9.7253	9.7253	1.0000
7	3.11	Chlorate	BMB	0.284	10.3122	10.3122	1.0000
8	3.50	Phosphate	BMB	1.133	8.1857	8.1857	1.0000
Total:			**0.000**	**22.233**		**155.84**	

87 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**R8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/30/2022 20:11**	*Sample Weight:*	**1.0000**

Run Time:



Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.53	Fluoride	BMB	0.003	0.0343	0.0343	1.0000
n.a.	n.a.	Chloride	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.003**		**0.03**	

APPENDIX D
QUALITY CONTROL SUMMARY REPORT

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December 19, 2022 Service Request No:E2201187

Marcia Olive
Bhate Environmental Associates, Inc.
445 Union Blvd
Suite 129
Lakewood, CO 80228

Laboratory Results for: LHAAP

Dear Marcia,

Enclosed are the results of the sample(s) submitted to our laboratory December 14, 2022
For your reference, these analyses have been assigned our service request number **E2201187.**

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

ALS Environmental

Client:	Bhate Environmental Associates	**Service Request No.:**	E2201187
Project:	LHAAP	**Date Received:**	12/14/22
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 12/14/22.

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:

EQ2200573: 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: Bhate Environmental Associates, Inc. **Service Request:**E2201187
Project: LHAAP

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2201187-001	LH18/24-SP650_121322_AIX	12/13/2022	0830
E2201187-002	LH18/24-SP650_121322_BIX	12/13/2022	0830

Service Request Summary

Folder #: **E2201187**
Client Name: Bhate Environmental Associates, Inc.
Project Name: LHAAP
Project Number:

Report To: Marcia Olive
Bhate Environmental Associates, Inc.
445 Union Blvd
Lakewood, CO 80228
USA
Phone Number: 303-597-2450
Cell Number:
Fax Number:
E-mail: molive@bhate.com

Project Chemist: James Guin
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 12/14/22
Internal Due Date: 12/15/2022
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: 2878
EDD: BASIC_WQC_CASNo_LOD

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
E2201187-001	LH18/24-SP650_121322_AIX	Water	12/13/22 0830	**IV**
E2201187-002	LH18/24-SP650_121322_BIX	Water	12/13/22 0830	**IV**

Service Request Summary

Folder #: **E2201187**
Client Name: Bhate Environmental Associates, Inc.
Project Name: LHAAP
Project Number:

Report To: Marcia Olive
Bhate Environmental Associates, Inc.
445 Union Blvd
Lakewood, CO 80228
USA
Phone Number: 303-597-2450
Cell Number:
Fax Number:
E-mail: molive@bhate.com

Project Chemist: James Guin
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 12/14/22
Internal Due Date: 12/15/2022
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: 2878
EDD: BASIC_WQC_CASNo_LOD

2 120 mL-Plastic Bottle Natural WM Unpreserved
Location: EHRMS-AirArch 1
Pressure Gas:
Rush

Test Comments:

Group	Test/Method	Samples	Comments
Semivoa GCMS	ClO4 DOD/6850	2	IV DUE 12/28

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	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	12/31/2022
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
www.alsglobal.com

bhate ENVIRONMENTAL CONSTRUCTION ENERGY

1608 13th Avenue South, Suite 300
Birmingham Alabama 35205
Tel: 205-918-4000
Fax: 205-918-4050

Chain of Custody and Analytical Request

Page: _____ of _____

Project/Phase No: NWO1312.0150

COC Number(1): _____

LIMS Number: _____

Facility/Base I.D.: LHAAP

Project/Site Name: LHAAP /

Client Name:

Collected by: Scott Beesinger

Field Sample ID (30 Characters Max)	Date Collected (dd-mmm-yyyy)	Time Collected (Military) (hhmm)	Sample Depth (beginning - ending)	SA Code (2)	Sample Number (3)	Sample Matrix (4)	Sample Analysis Requested (5): Number of containers	Perchlorate									Ambient Blank Lot Control Number	Equipment Blank Lot Control Number	Trip Blank Lot Control Number	Cooler ID
LH18/24-SP650-121322-AIX	13 DEC 2022	0830	-	N		WG	1	X												
LH18/24-SP650-121322-BTX	13 DEC 2022	0830	-	N		WG	1	X												
			-																	
			-																	
			-																	
			-																	
			-																	
			-																	
			-																	

Quality Assurance Samples (6)

COMMENTS:

24 HR. TAT

Custody Transfers Prior to Receipt by Laboratory

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1. Kenneth Moore	12/13/22	0830	1. CURIER	12-14-22	1010
2.			2.		
3.			3.		

IR#1 CF=0.5
2.0°

Sample Delivery Details / Laboratory Receipt

Delivered Directly to Lab: _____ Shipped _____ No.:

Method of Shipment: _____

Fed _____ Ex _____ Airbill _____ Number:

Analytical Lab: ALS 10450 Stancliff Rd. Suite 210 Houston, TX 77099 (281) 530-5656

ATTN: SONIA WEST Lab Recipient: Delivery Date/Time:

1.) Chain of Custody Number = date collected + custody number (e.g. 09-02-1999-01)

2.) Sample Type (SA) Codes: N = Normal Sample, TB = Trip Blank (-c) Sample, FD = Field Duplicate (-a) Samples, FR = Field Replicate (-b) Samples, EB = Equipment Blank (-d) Samples, MS = Matrix Spike, SD= Matrix Spike Duplicate, AB = Ambient Blank (-e)

3.) Sample Number: Unique sample number collected from a particular location per day. (e.g. Groundwater sample collected from MW-1 on 10/10/99 = 01, if sampled again on 10/10/99 = 02, etc.)

4.) Matrix Codes: GS = Soil Gas, WG = Groundwater, WS = Surface Water, SO = Soil, SE = Sediment, SL = Sludge, SS = Surface Soil Samples, WQ = Aqueous Blank Samples (trip, equipment, ambient, etc), SQ = Soil Blanks

5.) Sample Analysis Requested: Analytical method requested and number of containers provided for each.

6.) Quality assurance samples are assigned by date (ddmmyy) and the sample number associated with the sample (01, 02, etc) (e.g. Equipment blank collected in association with MW-1 on 10/10/99 will be designated 10109901 in the Equipment Blank Lot Control

ALS Environmental

Cooler Receipt Form

Project Chemist JG

Client/Project BLATE

Thermometer ID 1124

Date/Time Received: 12-14-22 Initials: IG

Date/Time Logged in: 12-14-22 Initials IL

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
   Were they intact? ☒ Yes ○ No ○ N/A
   Were they signed and dated? ☒ Yes ○ No ○ N/A
   If yes, how many and where? 1-F
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?
5300 5222 6021		12-14-22	1050	IG	1.9	☒
						☐
						☐
						☐

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
T: +1 713 266 1599
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
10450 Stancliff Rd., Suite 210, Houston, TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

Preparation Information Benchsheet

Prep Run#: 411365 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/XMI **Prep Method:** Method **Prep Date/Time:** 12/14/22 14:47

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2201170-001	MW-25-120722	.01	6850/ClO4			Ground Water	10mL	
2	E2201170-002	MW-26-120722	.01	6850/ClO4			Ground Water	10mL	
3	E2201170-003	MW-17-120722	.01	6850/ClO4			Ground Water	10mL	
4	E2201170-004	MW-22-120722	.01	6850/ClO4			Ground Water	10mL	
5	E2201170-005	MW-20-120722	.01	6850/ClO4			Ground Water	10mL	
6	E2201170-006	MW-28-120722	.01	6850/ClO4			Ground Water	10mL	
7	E2201170-007	MW-27-120722	.01	6850/ClO4			Ground Water	10mL	
8	E2201170-008	MW-5R-120722	.01	6850/ClO4			Ground Water	10mL	
9	E2201170-009	MW-6-120722	.01	6850/ClO4			Ground Water	10mL	
10	E2201170-010	MW-8-120722	.01	6850/ClO4			Ground Water	10mL	
11	E2201170-011	MW-19-120722	.01	6850/ClO4			Ground Water	10mL	
12	E2201170-012	MW-12-120722	.01	6850/ClO4			Ground Water	10mL	
13	E2201170-013	DUP-1-120722	.01	6850/ClO4			Ground Water	10mL	
14	E2201170-014	DUP-2-120722	.01	6850/ClO4			Ground Water	10mL	
15	E2201187-001	LH18/24-SP650_121322_AIX	.01	6850/ClO4 DOD			Water	10mL	
16	E2201187-002	LH18/24-SP650_121322_BIX	.01	6850/ClO4 DOD			Water	10mL	
17	EQ2200573-01	MB		6850/ClO4			Liquid	10mL	
18	EQ2200573-02	LCS		6850/ClO4			Liquid	10mL	
19	EQ2200573-03	DLCS		6850/ClO4			Liquid	10mL	
20	R2211598-013	2212050928 200L-HA-01	.01	6850/ClO4			Water	10mL	
21	R2211721-013	2212060743 200L-HA-04	.01	6850/ClO4			Water	10mL	

Spiking Solutions

Name: Perchlorate Intermediate Stock1 Inventory ID 225386 Logbook Ref: Perchlorate (1st Source) Expires On: 01/31/2023

EQ2200573-02	1.00µL	EQ2200573-02	1.00µL	EQ2200573-03	1.00µL	EQ2200573-03	1.00µL

Name: Perchlorate Internal Standard 1ug/mL Inventory ID 225719 Logbook Ref: Perchlorate Internal Standard Expires On: 01/31/2023

E2201170-001	100.00µL	E2201170-002	100.00µL	E2201170-003	100.00µL	E2201170-004	100.00µL	E2201170-005	100.00µL	E2201170-006	100.00µL
E2201170-007	100.00µL	E2201170-008	100.00µL	E2201170-009	100.00µL	E2201170-010	100.00µL	E2201170-011	100.00µL	E2201170-012	100.00µL
E2201170-013	100.00µL	E2201170-014	100.00µL	E2201187-001	100.00µL	E2201187-002	100.00µL	EQ2200573-01	100.00µL	EQ2200573-01	100.00µL
EQ2200573-02	100.00µL	EQ2200573-02	100.00µL	EQ2200573-03	100.00µL	EQ2200573-03	100.00µL	R2211598-013	100.00µL	R2211721-013	100.00µL

Preparation Information Benchsheet

Prep Run#: 411365 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/XMI **Prep Method:** Method **Prep Date/Time:** 12/14/22 14:47

Preparation Materials

Water HPLC Grade	10/24/2022 Water (225656)	6850 Amber Glass screw vial	2mL Screw Top Vial (221308)	6850 0.45um syringe filters	6850 Syringe Filters (224414)
6850 Luer-Lok Syringes	Luer-Lok Syringes (221305)	6850 Pipette Tips 50-1000 uL	6850 Pipette Tips (221307)		

Preparation Steps

Step: Preparation
Started: 12/14/22 14:47
Finished: 12/14/22 15:47
By: XMI
Comments

Comments: _____

Reviewed By: XMI Date: 12/14/22

Chain of Custody

Relinquished By: _____ Date: _____ Extracts Examined

Received By: _____ Date: _____ Yes No

Analytical Results

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

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Bhate Environmental Associates, Inc.	**Service Request:**	E2201187
Project:	LHAAP	**Date Collected:**	12/13/22 0830
Sample Matrix:	Water	**Date Received:**	12/14/22
Sample Name:	LH18/24-SP650_121322_AIX	**Units:**	µg/L
Lab Code:	E2201187-001	**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	**1.41**		0.100	0.0500	0.0250	1	12/12/22	12/17/22 16:09	411365	788927	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Bhate Environmental Associates, Inc.	**Service Request:**	E2201187
Project:	LHAAP	**Date Collected:**	12/13/22 0830
Sample Matrix:	Water	**Date Received:**	12/14/22
Sample Name:	LH18/24-SP650_121322_BIX	**Units:**	µg/L
Lab Code:	E2201187-002	**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	12/12/22	12/17/22 19:51	411365	788927	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Bhate Environmental Associates, Inc.	**Service Request:**	E2201187
Project:	LHAAP	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2200573-01	**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	12/12/22	12/17/22 15:42	411365	788927	

Accuracy & Precision

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	Bhate Environmental Associates, Inc.	**Service Request:**	E2201187
Project:	LHAAP	**Date Analyzed:**	12/17/22
Sample Matrix:	Water		

Lab Control Sample Summary

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

Analytical Method:	6850	**Units:**	µg/L
Prep Method:	Method	**Basis:**	NA
		Extraction Lot:	411365

	Lab Control Sample EQ2200573-02			Duplicate Lab Control Sample EQ2200573-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.112	0.100	112	0.109	0.100	109	84 - 119	3	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:	Bhate Environmental Associates, Inc.	**Service Request:**	E2201187
Project:	LHAAP	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2200573-02	**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	**0.112**		0.100	0.0500	0.0250	1	12/12/22	12/17/22 15:51	411365	788927	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Bhate Environmental Associates, Inc.	**Service Request:**	E2201187
Project:	LHAAP	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2200573-03	**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	**0.109**		0.100	0.0500	0.0250	1	12/12/22	12/17/22 19:34	411365	788927	

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

20221214

Injection Log

LCMS01 -Shimadzu 8050

1st Review: XMI
2nd Review: Kneir

ICAL Date: 12/14/2022
Cal. Std. xp: 01/31/2023
ICAL ID: EC2200016

Mobile Phases : **A:**0.10% Formic Acid/Water 3210301-08 **B:**MeOH 224417

	Sample Name		File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	IB		20221214_001	Perchlorate6850c.lcm	1x	☒		12/14/2022 15:12
2	ICS		20221214_002	Perchlorate6850c.lcm	1x	☒		12/14/2022 15:29
3	LODV		20221214_003	Perchlorate6850c.lcm	1x	☒	225199	12/14/2022 15:35
4	PERCHLORATE1		20221214_004	Perchlorate6850c.lcm	1x	☒	226061	12/14/2022 15:40
5	PERCHLORATE2		20221214_005	Perchlorate6850c.lcm	1x	☒	226062	12/14/2022 15:46
6	PERCHLORATE3		20221214_006	Perchlorate6850c.lcm	1x	☒	226063	12/14/2022 15:51
7	PERCHLORATE4		20221214_007	Perchlorate6850c.lcm	1x	☒	226064	12/14/2022 15:57
8	PERCHLORATE5		20221214_008	Perchlorate6850c.lcm	1x	☒	226065	12/14/2022 16:02
9	PERCHLORATE6		20221214_009	Perchlorate6850c.lcm	1x	☒	226066	12/14/2022 16:09
10	PERCHLORATE7		20221214_010	Perchlorate6850c.lcm	1x	☒	225881	12/14/2022 16:15
11	PERCHLORATE8		20221214_011	Perchlorate6850c.lcm	1x	☒	226068	12/14/2022 16:20
12	PERCHLORATE9		20221214_012	Perchlorate6850c.lcm	1x	☒	226069	12/14/2022 16:25
13	PERCHLORATE10		20221214_013	Perchlorate6850c.lcm	1x	☒	226070	12/14/2022 16:31
14	PERCHLORATEICV		20221214_014	Perchlorate6850c.lcm	1x	☒	226067	12/14/2022 16:37

Initial Calibration - Detailed Report

Calibration ID: EC2200016 **Instrument ID:** E-LCMS-01
Column Name: 1

#	Lab Code	Sample Name	File Location	Aquisition Date
01	EC2200016-01	PERCHLORATE1	20221214_004	12/14/2022 15:40
02	EC2200016-02	PERCHLORATE2	20221214_005	12/14/2022 15:46
03	EC2200016-03	PERCHLORATE3	20221214_006	12/14/2022 15:51
04	EC2200016-04	PERCHLORATE4	20221214_007	12/14/2022 15:57
05	EC2200016-05	PERCHLORATE5	20221214_008	12/14/2022 16:02
06	EC2200016-06	PERCHLORATE6	20221214_009	12/14/2022 16:09
07	EC2200016-07	PERCHLORATE7	20221214_010	12/14/2022 16:15
08	EC2200016-08	PERCHLORATE8	20221214_011	12/14/2022 16:20
09	EC2200016-09	PERCHLORATE9	20221214_012	12/14/2022 16:25
10	EC2200016-10	PERCHLORATE10	20221214_013	12/14/2022 16:31

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

Perchlorate **Average RF** **RSD = 2.927** **Average RF = 0.1567**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.1000	0.1615	02	0.5000	0.1479	03	0.7000	0.1579	04	1.0000	0.1573
05	2.0000	0.1505	06	5.0000	0.1573	07	10.0000	0.1541	08	20.0000	0.162
09	30.0000	0.1598	10	50.0000	0.1587						

Analyte

Perchlorate RSE = 2.93

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.1000	0.103	3.1	02	0.5000	0.472	-5.6	03	0.7000	0.705	0.8
04	1.0000	1.00	0.4	05	2.0000	1.92	-3.9	06	5.0000	5.02	0.4
07	10.0000	9.83	-1.7	08	20.0000	20.7	3.4	09	30.0000	30.6	2.0
10	50.0000	50.6	1.3								

Initial Calibration Verification Summary Report

Calibration ID:	EC2200016	**Instrument ID:**	E-LCMS-01
Datafile ID:	20221214_014	**Column Name:**	1

Analyte	Lab Code	Type	Curve Fit	True Value	Calc Conc	Units	Result	Criteria
Perchlorate	EC2200016-11	T	Average RF	10	9.359	ng/mL	-6.4	<= 15

Insight Report

Printed at 12/15/2022 10:55:51 AM

Method File: I:\LCMS01\DATA\20221013ICAL\20221013ICAL.lcm
Project File: I:\LCMS01\DATA\20221214\12142022 ICAL.damlp

PERCHLORATE1

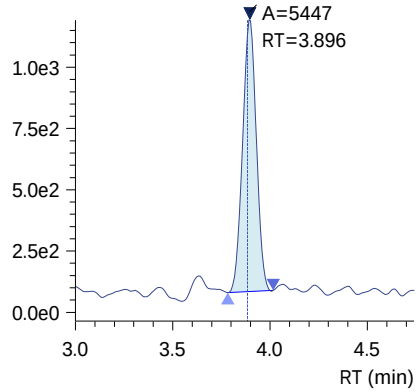
Sample ID: PERCHLORATE1
Date Acquired: 12/14/2022 3:40:29 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221214\20221214_004.lcd
Vial: 1 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.896	5447	337240	0.1031	ng/mL	101.00 >85.00	35.31	23.94 -44.46
Sodium Perchlorate-18O4_IS	Auto	3.889	337240	337240	1.0000	ng/mL	----	----	

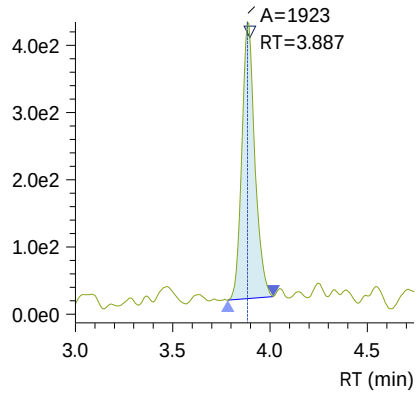
Perchlorate

Conc 0.1031
R#1 35.31 (34.02)

Q 99.00>83.00 (-) 1.19e3



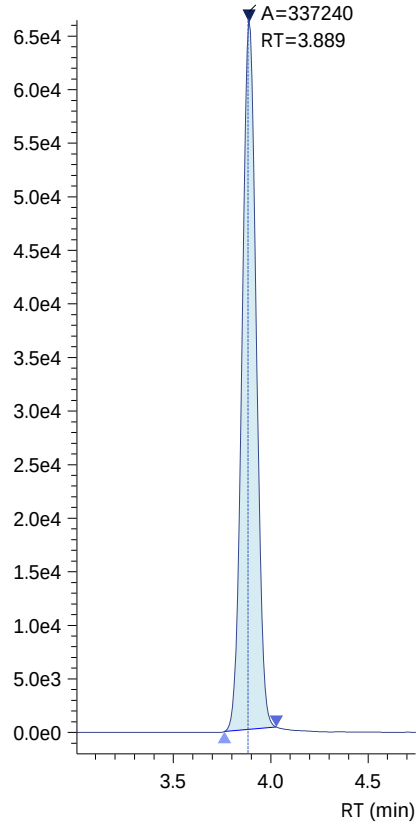
R1 101.00>85.00 (-) 4.35e2



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 6.65e4



Insight Report

Printed at 12/15/2022 10:55:51 AM

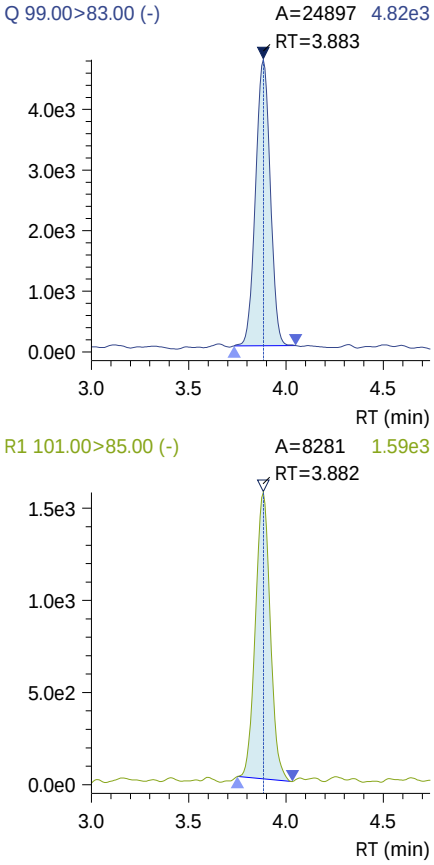
PERCHLORATE2

Sample ID: PERCHLORATE2
Date Acquired: 12/14/2022 3:46:03 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221214\20221214_005.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	3.883	24897	336620	0.4720	ng/mL	101.00 >85.00	33.26	23.94 -44.46
Sodium Perchlorate-18O4 _IS	Auto	3.878	336620	336620	1.0000	ng/mL	----	----	

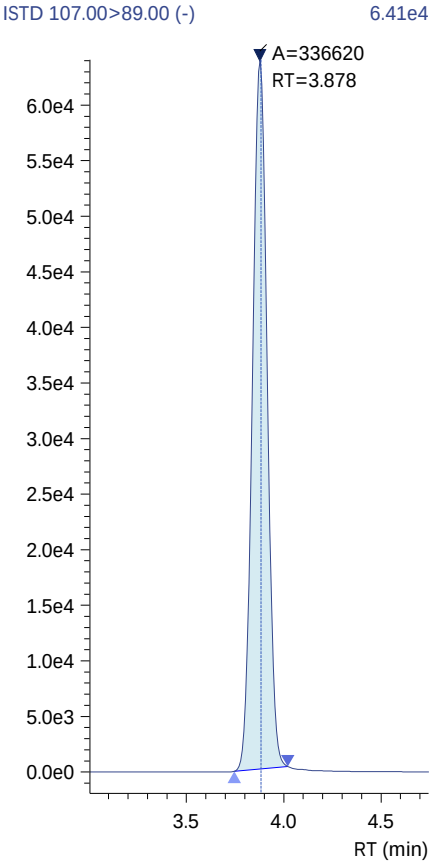
Perchlorate

Conc 0.4720
R#1 33.26 (34.02)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 12/15/2022 10:55:51 AM

PERCHLORATE3

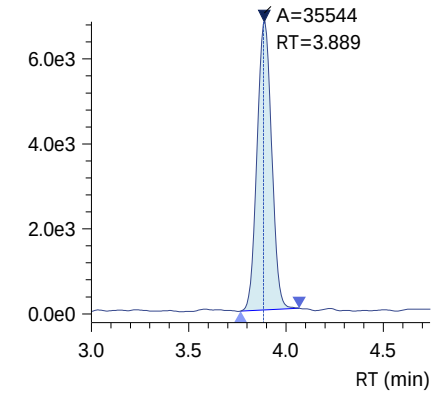
Sample ID: PERCHLORATE3
Date Acquired: 12/14/2022 3:51:33 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221214\20221214_006.lcd
Vial: 3 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.889	35544	321596	0.7053	ng/mL	101.00 >85.00	35.09	23.94 -44.46
Sodium Perchlorate-18O4_IS	Auto	3.885	321596	321596	1.0000	ng/mL	----	----	

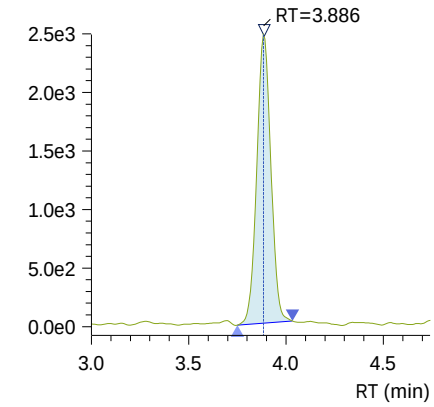
Perchlorate

Conc 0.7053
R#1 35.09 (34.02)

Q 99.00>83.00 (-) 6.88e3



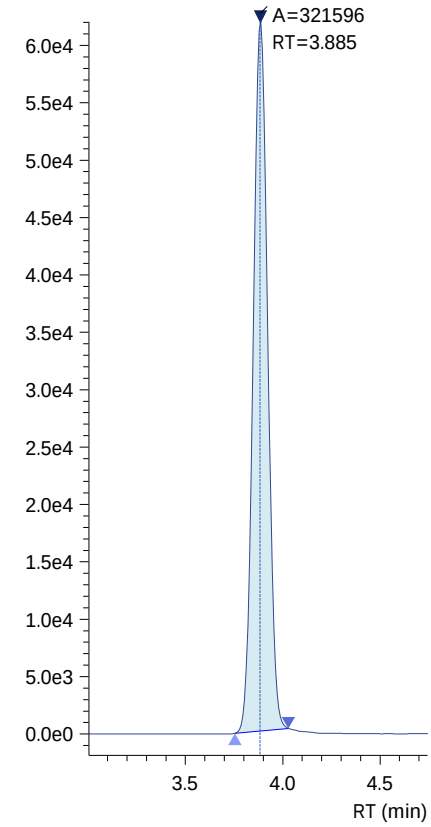
R1 101.00>85.00 (-) A=12471 2.50e3



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 6.21e4



Insight Report

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PERCHLORATE4

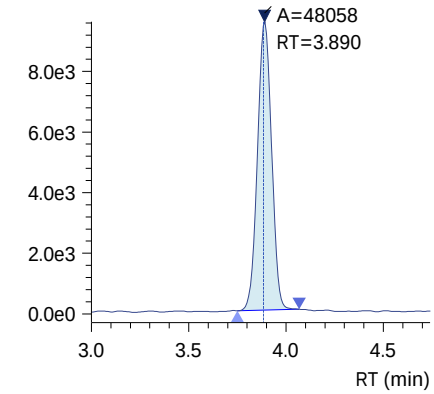
Sample ID: PERCHLORATE4
Date Acquired: 12/14/2022 3:57:06 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221214\20221214_007.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.890	48058	305584	1.0036	ng/mL	101.00 >85.00	33.87	23.94 -44.46
Sodium Perchlorate-18O4 _IS	Auto	3.886	305584	305584	1.0000	ng/mL	----	----	

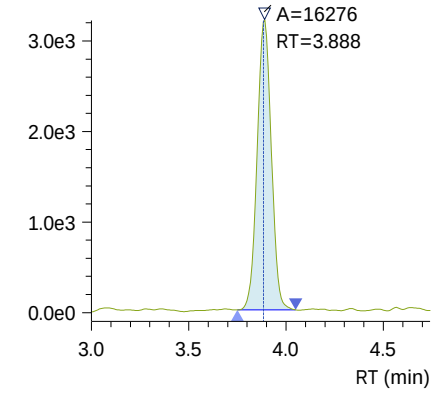
Perchlorate

Conc 1.0036
R#1 33.87 (34.02)

Q 99.00>83.00 (-) 9.64e3



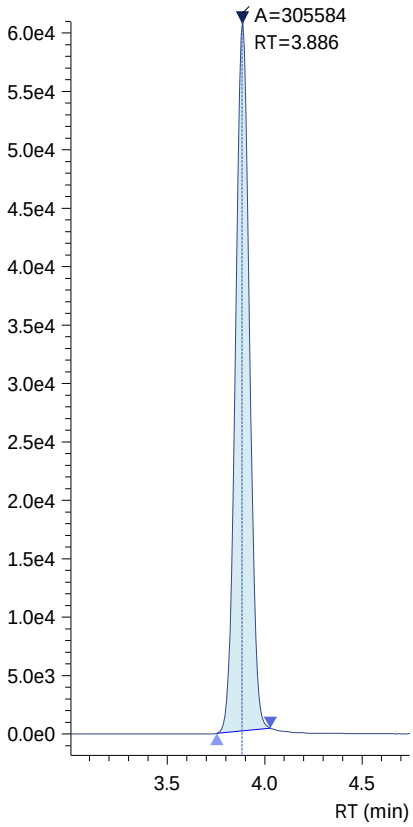
R1 101.00>85.00 (-) 3.23e3



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 6.10e4



Insight Report

Printed at 12/15/2022 10:55:51 AM

PERCHLORATE5

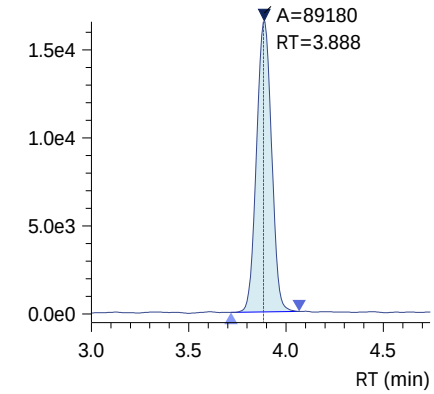
Sample ID: PERCHLORATE5
Date Acquired: 12/14/2022 4:02:38 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221214\20221214_008.lcd
Vial: 5 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.888	89180	296200	1.9213	ng/mL	101.00 >85.00	32.32	23.94 -44.46
Sodium Perchlorate-18O4 _IS	Auto	3.885	296200	296200	1.0000	ng/mL	----	----	

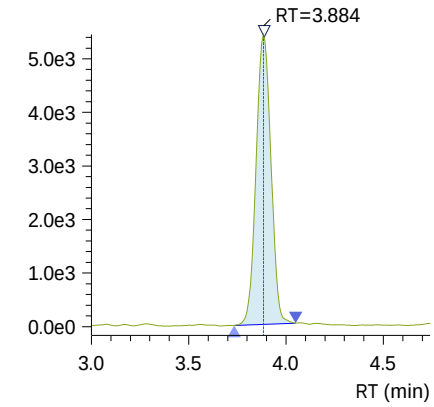
Perchlorate

Conc 1.9213
R#1 32.32 (34.02)

Q 99.00>83.00 (-) 1.66e4



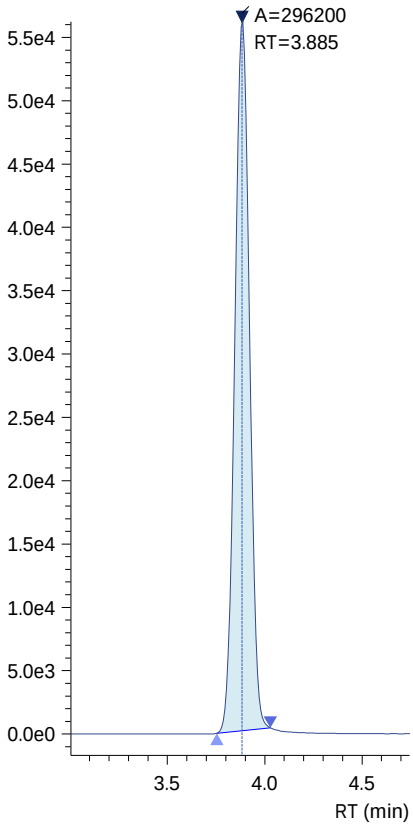
R1 101.00>85.00 (-) A=28822 5.45e3



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 5.62e4



Insight Report

Printed at 12/15/2022 10:55:51 AM

PERCHLORATE6

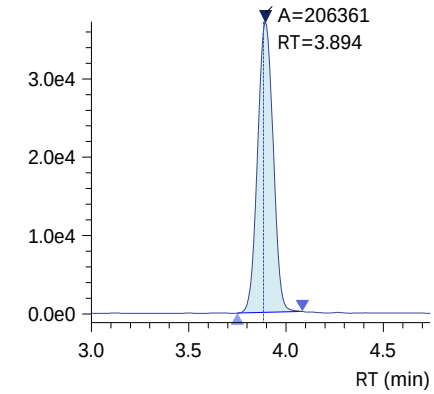
Sample ID: PERCHLORATE6
Date Acquired: 12/14/2022 4:09:28 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221214\20221214_009.lcd
Vial: 6 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.894	206361	262312	5.0202	ng/mL	101.00 >85.00	33.93	23.94 -44.46
Sodium Perchlorate-18O4_IS	Auto	3.889	262312	262312	1.0000	ng/mL	----	----	

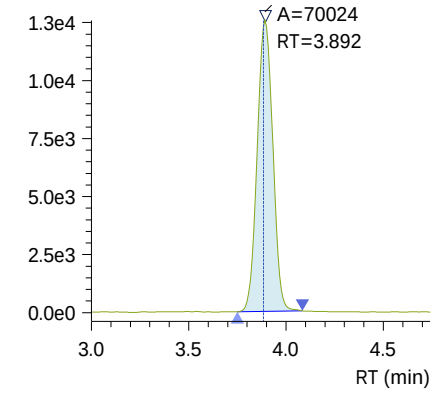
Perchlorate

Conc 5.0202
R#1 33.93 (34.02)

Q 99.00>83.00 (-) 3.73e4



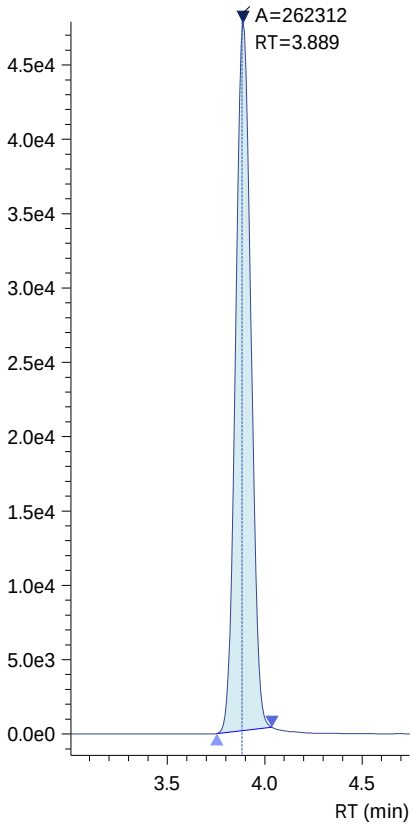
R1 101.00>85.00 (-) 1.26e4



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 4.79e4



Insight Report

Printed at 12/15/2022 10:55:51 AM

PERCHLORATE7

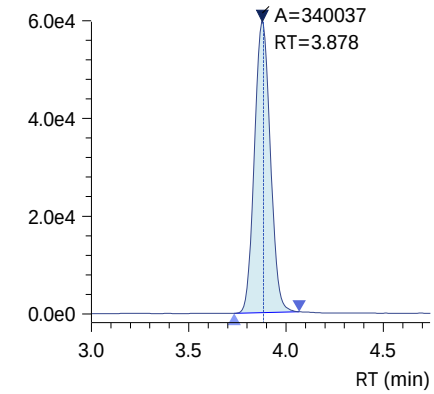
Sample ID: PERCHLORATE7
Date Acquired: 12/14/2022 4:15:00 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221214\20221214_010.lcd
Vial: 7 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.878	340037	220702	9.8317	ng/mL	101.00 >85.00	34.05	23.94 -44.46
Sodium Perchlorate-18O4_IS	Auto	3.875	220702	220702	1.0000	ng/mL	----	----	

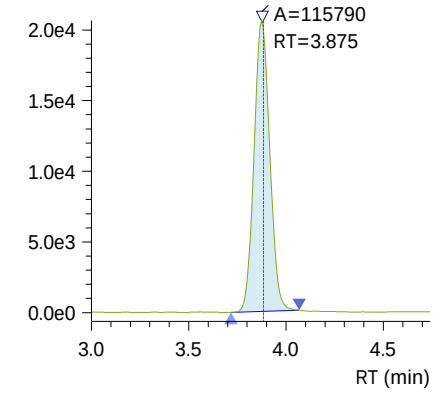
Perchlorate

Conc 9.8317
R#1 34.05 (34.02)

Q 99.00>83.00 (-) 5.98e4



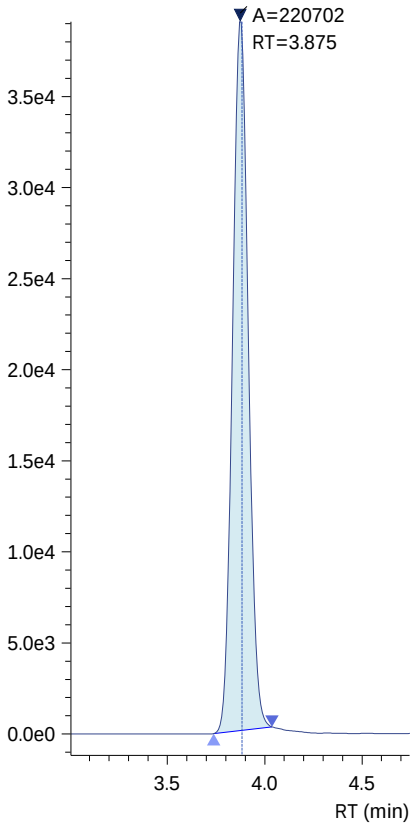
R1 101.00>85.00 (-) 2.07e4



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 3.91e4



Insight Report

Printed at 12/15/2022 10:55:51 AM

PERCHLORATE8

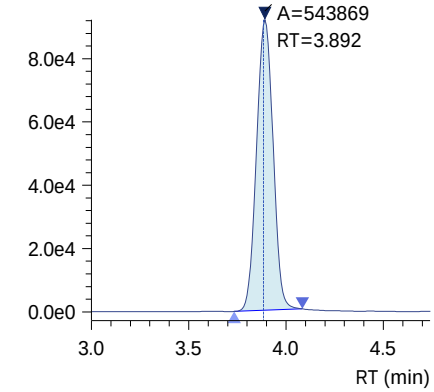
Sample ID: PERCHLORATE8
Date Acquired: 12/14/2022 4:20:30 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221214\20221214_011.lcd
Vial: 8 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.892	5438 69	167819	20.6 806	ng/mL	101.00 >85.00	33.45	23.94 -44.46
Sodium Perchlorate-18O4_IS	Auto	3.888	1678 19	167819	1.0000	ng/mL	----	----	

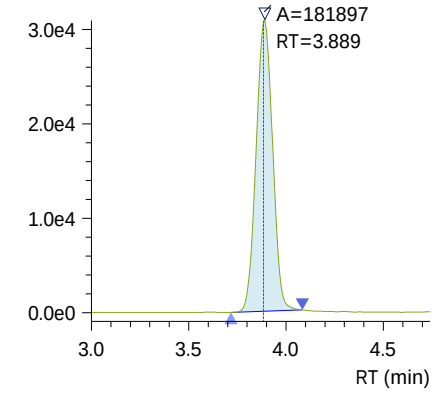
Perchlorate

Conc 20.6806
R#1 33.45 (34.02)

Q 99.00>83.00 (-) 9.23e4



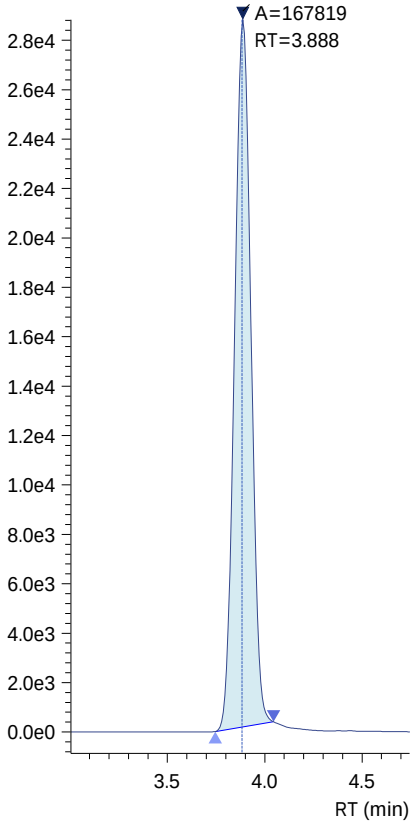
R1 101.00>85.00 (-) 3.09e4



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 2.88e4



Insight Report

Printed at 12/15/2022 10:55:51 AM

PERCHLORATE9

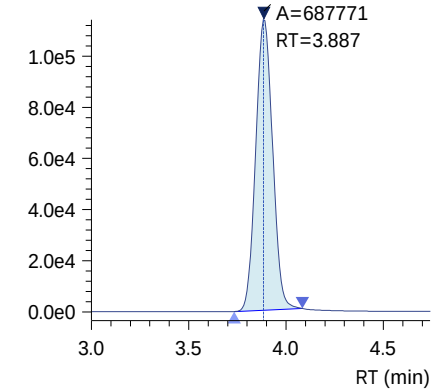
Sample ID: PERCHLORATE9
Date Acquired: 12/14/2022 4:25:58 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221214\20221214_012.lcd
Vial: 9 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.887	687771	143493	30.5860	ng/mL	101.00 >85.00	33.79	23.94 -44.46
Sodium Perchlorate-18O4_IS	Auto	3.883	143493	143493	1.0000	ng/mL	----	----	

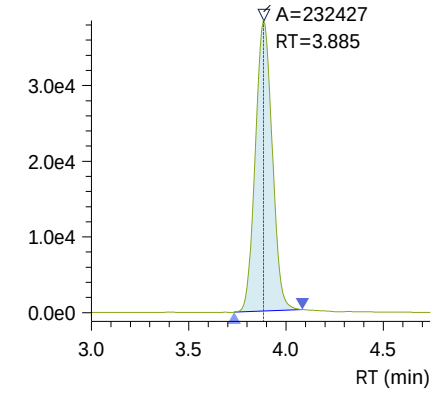
Perchlorate

Conc 30.5860
R#1 33.79 (34.02)

Q 99.00>83.00 (-) 1.14e5



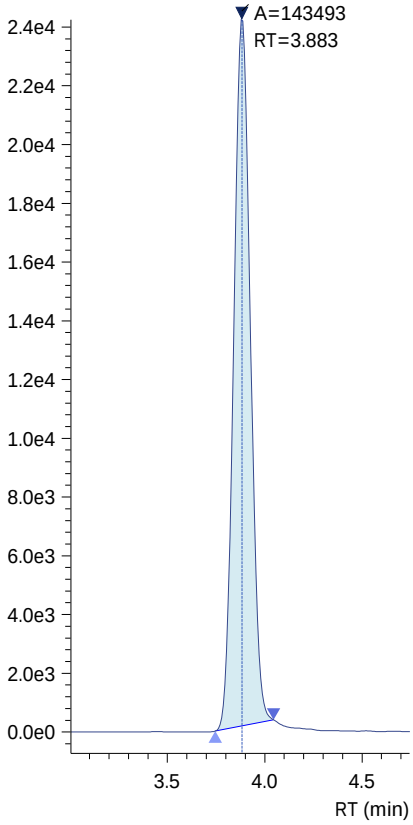
R1 101.00>85.00 (-) 3.86e4



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 2.43e4



Insight Report

Printed at 12/15/2022 10:55:51 AM

PERCHLORATE10

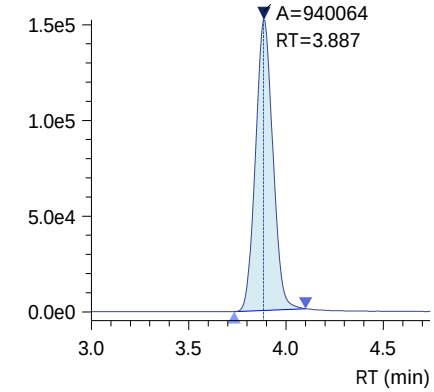
Sample ID: PERCHLORATE10
Date Acquired: 12/14/2022 4:31:28 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221214\20221214_013.lcd
Vial: 10 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.887	9400 64	118445	50.6 464	ng/mL	101.00 >85.00	33.39	23.94 -44.46
Sodium Perchlorate-18O4_IS	Auto	3.883	1184 45	118445	1.0000	ng/mL	----	----	

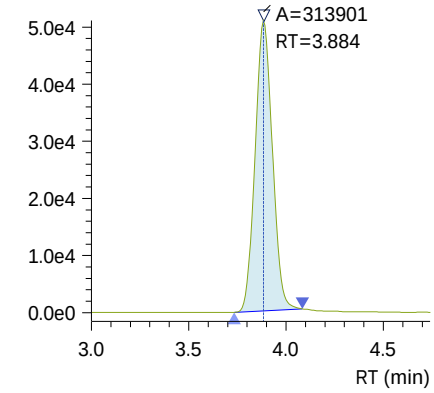
Perchlorate

Conc 50.6464
R#1 33.39 (34.02)

Q 99.00>83.00 (-) 1.53e5



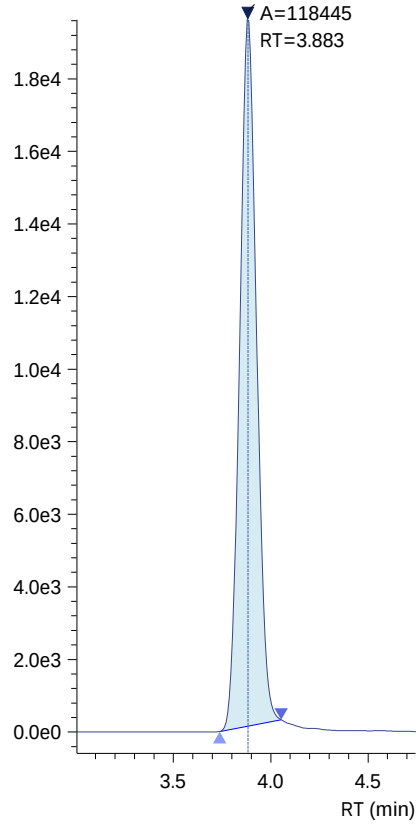
R1 101.00>85.00 (-) 5.12e4



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 1.96e4



Insight Report

Printed at 12/15/2022 10:55:51 AM

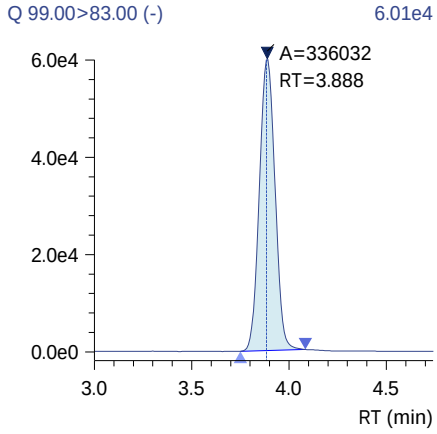
PERCHLORATEICV

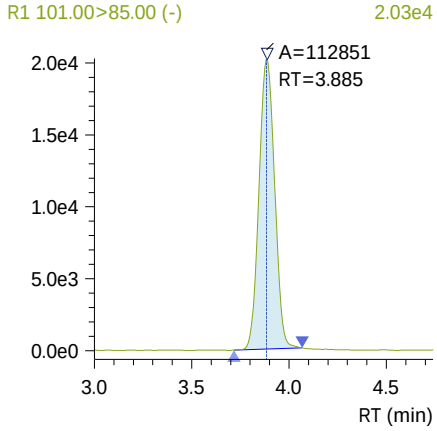
Sample ID: PERCHLORATEICV
Date Acquired: 12/14/2022 4:37:01 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221214\20221214_014.lcd
Vial: 11 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.888	3360 32	229124	9.3588	ng/mL	101.00 >85.00	33.58	23.94 -44.46
Sodium Perchlorate-18O4 _IS	Auto	3.884	2291 24	229124	1.0000	ng/mL	----	----	

Perchlorate

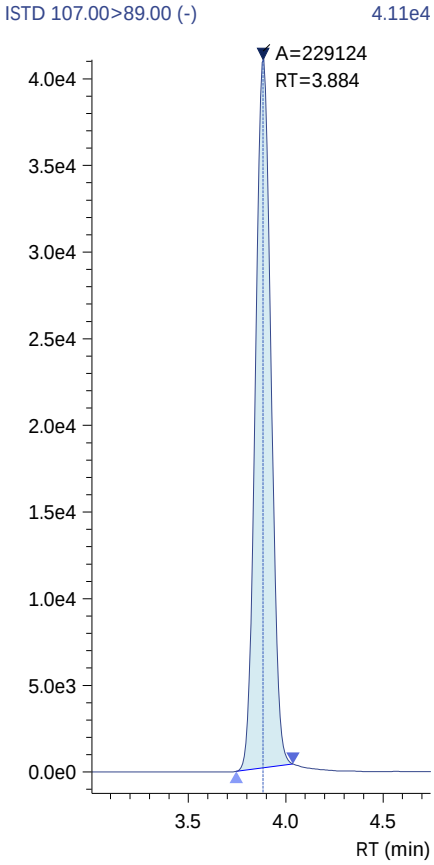
Conc 9.3588
R#1 33.58 (34.02)





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

20221217

Injection Log

LCMS01 -Shimadzu 8050

1st Review: XMI
2nd Review: Kneir

ICAL Date: 12/14/2022
Cal. Std. xp: 01/31/2023
ICAL ID: EC2200016

Mobile Phases : **A:**0.10% Formic Acid/Water 3210301-08 **B:**MeOH 224417

	Sample Name		File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	ICS		20221217-001	Perchlorate6850c.lcm	1x	☒		12/17/2022 15:16
2	LODV		20221217-002	Perchlorate6850c.lcm	1x	☒	225199	12/17/2022 15:25
3	PERCHLORATE7		20221217-003	Perchlorate6850c.lcm	1x	☒	225881	12/17/2022 15:33
4	EQ2200573-01		20221217-004	Perchlorate6850c.lcm	1x	☒		12/17/2022 15:42
5	EQ2200573-02		20221217-005	Perchlorate6850c.lcm	1x	☒		12/17/2022 15:51
6	EQ2200573-03		20221217-006	Perchlorate6850c.lcm	1x	☒	DNU-IR	12/17/2022 16:00
7	E2201187-001		20221217-007	Perchlorate6850c.lcm	1x	☒		12/17/2022 16:09
8	E2201187-002		20221217-008	Perchlorate6850c.lcm	1x	☒	DNU-IR	12/17/2022 16:18
9	R2211598-013		20221217-009	Perchlorate6850c.lcm	1x	☒		12/17/2022 16:26
10	R2211721-013		20221217-010	Perchlorate6850c.lcm	1x	☒		12/17/2022 16:35
11	PERCHLORATE7		20221217-011	Perchlorate6850c.lcm	1x	☒	225881	12/17/2022 16:44
12	EQ2200573-03		20221217-012	Perchlorate6850c.lcm	1x	☒		12/17/2022 19:34
13	E2201187-002		20221217-013	Perchlorate6850c.lcm	1x	☒		12/17/2022 19:51
14	PERCHLORATE7		20221217-014	Perchlorate6850c.lcm	1x	☒	225881	12/17/2022 20:00

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	Bhate Environmental Associates, Inc.	**Service Request:**	E2201187
Project:	LHAAP	**Date Analyzed:**	12/17/22 15:33

Internal Standard Area and RT Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20221216\20221217-003	**Lab Code:**	EQ2200574-01
Instrument ID:	E-LCMS-01	**Analysis Lot:**	788927
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	251,001	3.88
	Upper Limit ==>	376,502	5.88
	Lower Limit ==>	125,501	1.88
Associated Analyses			
Continuing Calibration Verification	EQ2200574-01	190,474	3.77
Method Blank	EQ2200573-01	279,616	3.79
Lab Control Sample	EQ2200573-02	273,578	3.79
LH18/24-SP650_121322_AIX	E2201187-001	233,766	3.75

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	Bhate Environmental Associates, Inc.	**Service Request:**	E2201187
Project:	LHAAP	**Date Analyzed:**	12/17/22 16:44

Internal Standard Area and RT Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20221216\20221217-011	**Lab Code:**	EQ2200574-02
Instrument ID:	E-LCMS-01	**Analysis Lot:**	788927
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	251,001	3.88
	Upper Limit ==>	376,502	5.88
	Lower Limit ==>	125,501	1.88
Associated Analyses			
Continuing Calibration Verification	EQ2200574-02	196,977	3.78
Duplicate Lab Control Sample	EQ2200573-03	237,113	3.78
LH18/24-SP650_121322_BIX	E2201187-002	256,491	3.74

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	Bhate Environmental Associates, Inc.	**Service Request:**	E2201187
Project:	LHAAP	**Date Analyzed:**	12/17/22 20:00

Internal Standard Area and RT Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20221216\20221217-014	**Lab Code:**	EQ2200574-03
Instrument ID:	E-LCMS-01	**Analysis Lot:**	788927
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	251,001	3.88
	Upper Limit ==>	376,502	5.88
	Lower Limit ==>	125,501	1.88
Associated Analyses			
Continuing Calibration Verification	EQ2200574-03	234,898	3.77

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	Bhate Environmental Associates, Inc.	**Service Request:**	E2201187
Project:	LHAAP	**Date Analyzed:**	12/17/22

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

Analytical Method:	6850	**Calibration Date:**	12/14/22
File ID:	I:\LCMS01\DATA\20221216\20221217-003	**Calibration ID:**	EC2200016
		Analysis Lot:	788927
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.54	0.1567	0.1495	-4.6	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	Bhate Environmental Associates, Inc.	**Service Request:**	E2201187
Project:	LHAAP	**Date Analyzed:**	12/17/22

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

Analytical Method:	6850	**Calibration Date:**	12/14/22
File ID:	I:\LCMS01\DATA\20221216\20221217-011	**Calibration ID:**	EC2200016
		Analysis Lot:	788927
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.48	0.1567	0.1486	-5.2	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	Bhate Environmental Associates, Inc.	**Service Request:**	E2201187
Project:	LHAAP	**Date Analyzed:**	12/17/22

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

Analytical Method:	6850	**Calibration Date:**	12/14/22
File ID:	I:\LCMS01\DATA\20221216\20221217-014	**Calibration ID:**	EC2200016
		Analysis Lot:	788927
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.61	0.1567	0.1505	-3.9	NA	± 15 %	Average RF

Insight Report

Printed at 12/19/2022 9:10:18 AM

Method File: I:\LCMS01\DATA\20221013ICAL\20221013ICAL.lcm
Project File: I:\LCMS01\DATA\20221216\20221216.damlp

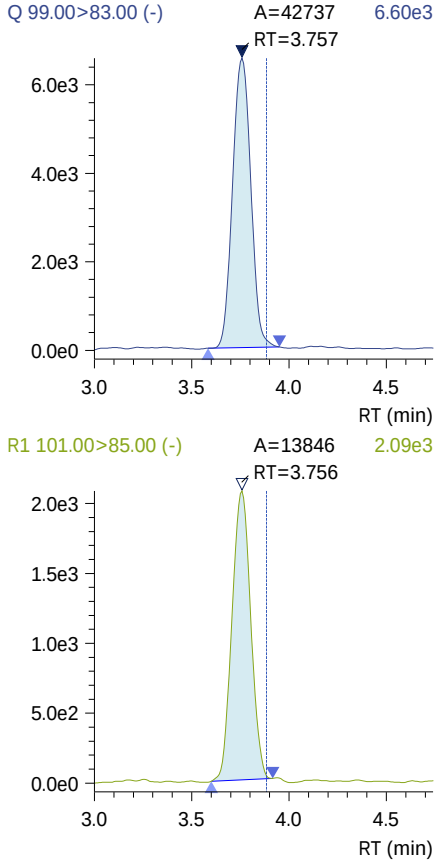
ICS

Sample ID: ICS
Date Acquired: 12/17/2022 3:16:13 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221216\20221217-001.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	3.757	42737	264355	1.0316	ng/mL	101.00 >85.00	32.40	23.39 -43.43
Sodium Perchlorate-18O4_IS	Auto	3.753	264355	264355	1.0000	ng/mL	----	----	

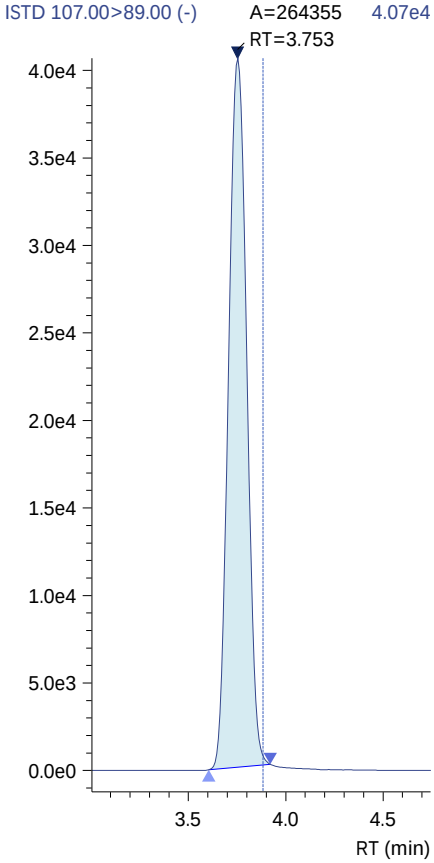
Perchlorate

Conc 1.0316
R#1 32.40 (33.41)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 12/19/2022 9:10:18 AM

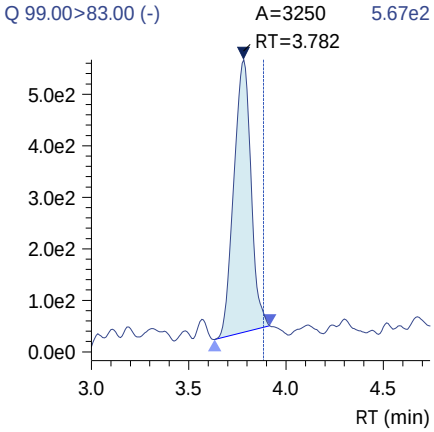
LODV

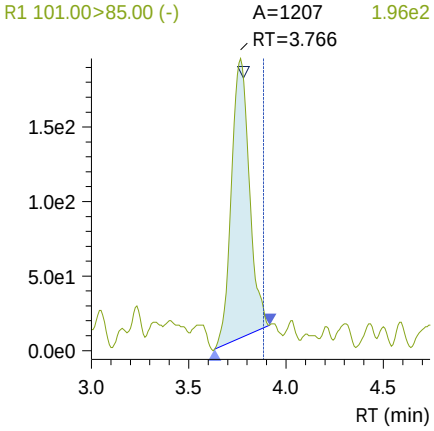
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Date Acquired: 12/17/2022 3:25:01 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221216\20221217-002.lcd
Vial: 1 | Inj. Volume: 25.0000uL | Tray: 0

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.782	3250	314353	0.0660	ng/mL	101.00 >85.00	37.13	23.39 -43.43
Sodium Perchlorate-18O4_IS	Auto	3.761	3143 53	314353	1.0000	ng/mL	----	----	

Perchlorate

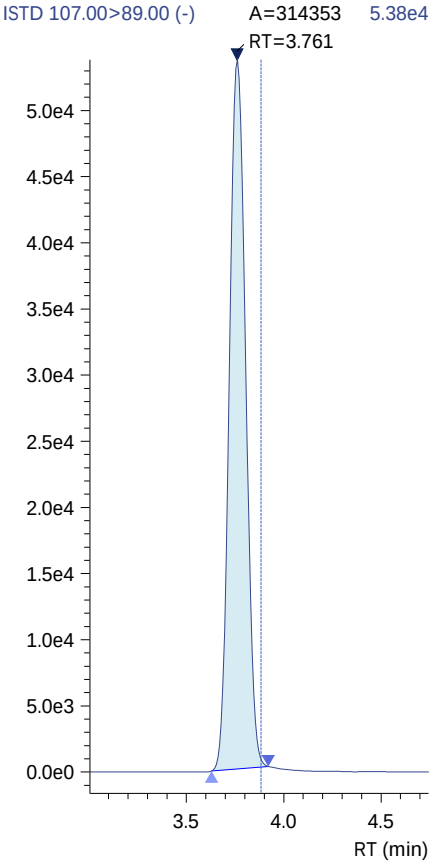
Conc 0.0660
R#1 37.13 (33.41)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 12/19/2022 9:10:18 AM

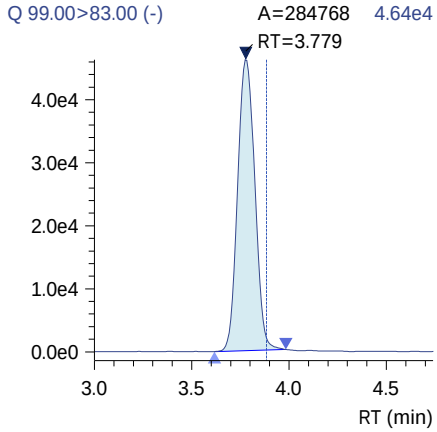
PERCHLORATE7

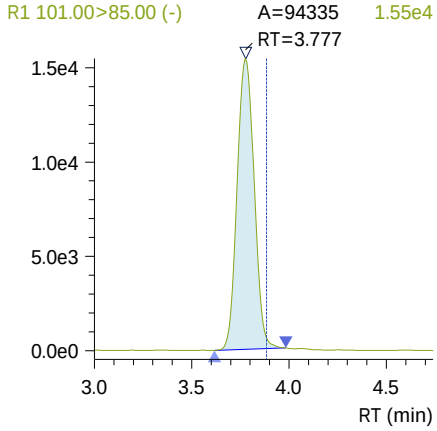
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Data File: I:\LCMS01\DATA\20221216\20221217-003.lcd
Vial: 7 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.779	284768	190474	9.5403	ng/mL	101.00 >85.00	33.13	23.39 -43.43
Sodium Perchlorate-18O4_IS	Auto	3.774	190474	190474	1.0000	ng/mL	----	----	

Perchlorate

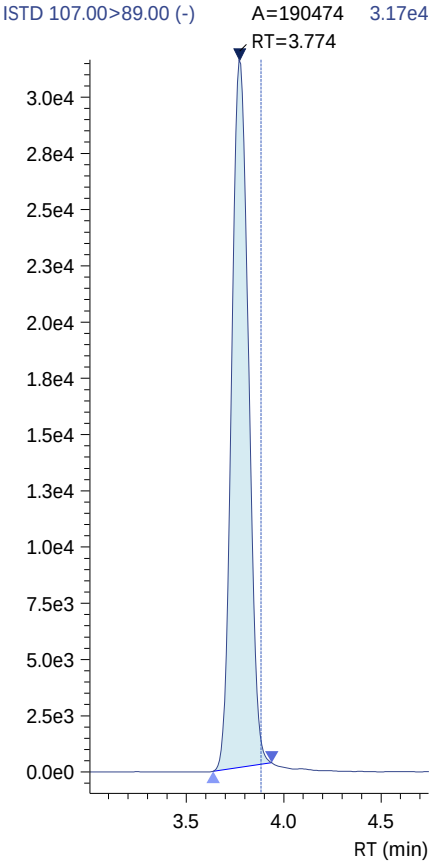
Conc 9.5403
R#1 33.13 (33.41)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 12/19/2022 9:10:18 AM

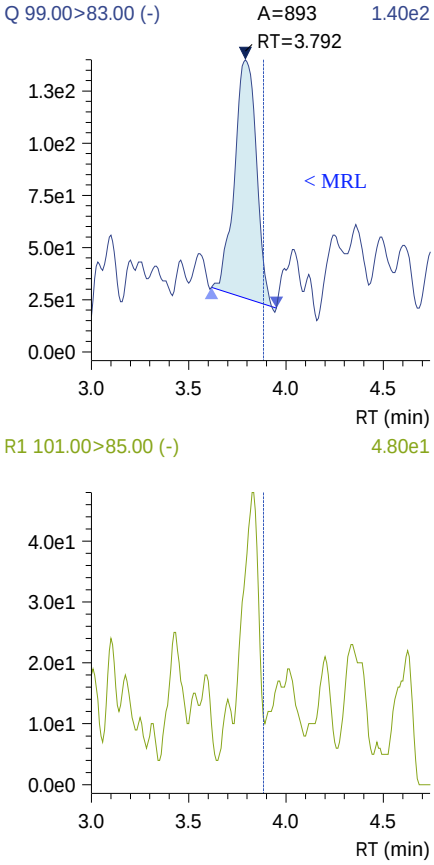
EQ2200573-01

Sample ID: EQ2200573-01
Date Acquired: 12/17/2022 3:42:47 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221216\20221217-004.lcd
Vial: 31 | Inj. Volume: 25.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.792	893	279616	0.0204	ng/mL	101.00 >85.00	0.00	23.39 -43.43
Sodium Perchlorate-18O4_IS	Auto	3.786	279616	279616	1.0000	ng/mL	----	----	

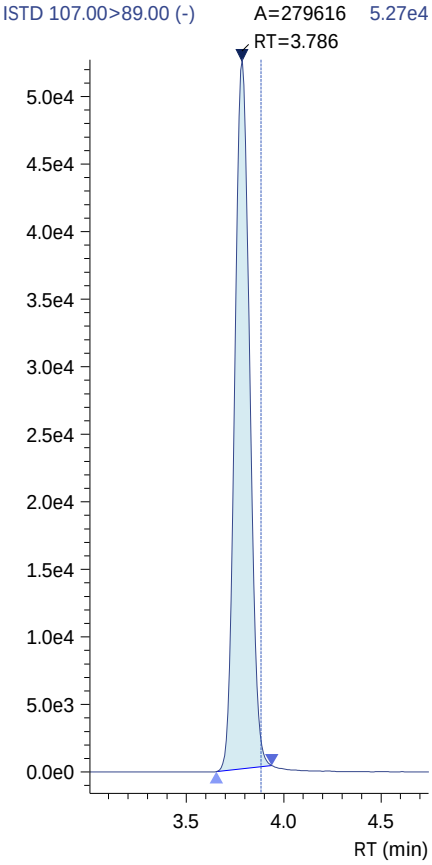
Perchlorate

Conc 0.0204
R#1 0.00 (33.41)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 12/19/2022 9:10:18 AM

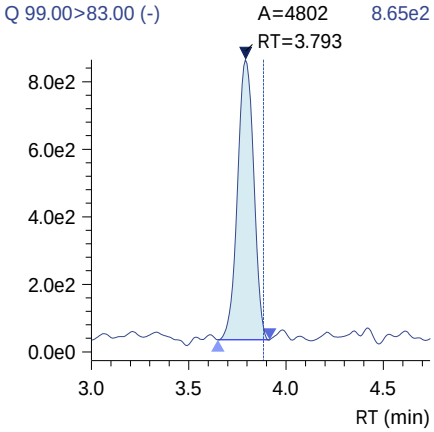
EQ2200573-02

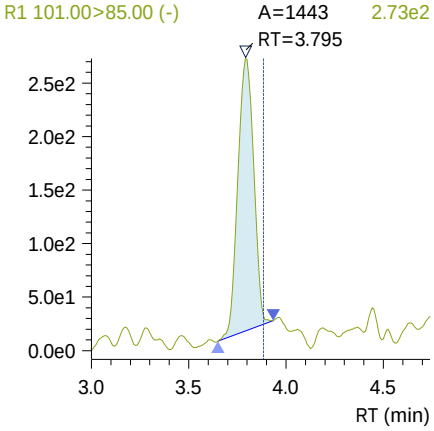
Sample ID: EQ2200573-02
Date Acquired: 12/17/2022 3:51:36 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221216\20221217-005.lcd
Vial: 32 | Inj. Volume: 25.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.793	4802	273578	0.1120	ng/mL	101.00 >85.00	30.05	23.39 -43.43
Sodium Perchlorate-18O4_IS	Auto	3.786	2735 78	273578	1.0000	ng/mL	----	----	

Perchlorate

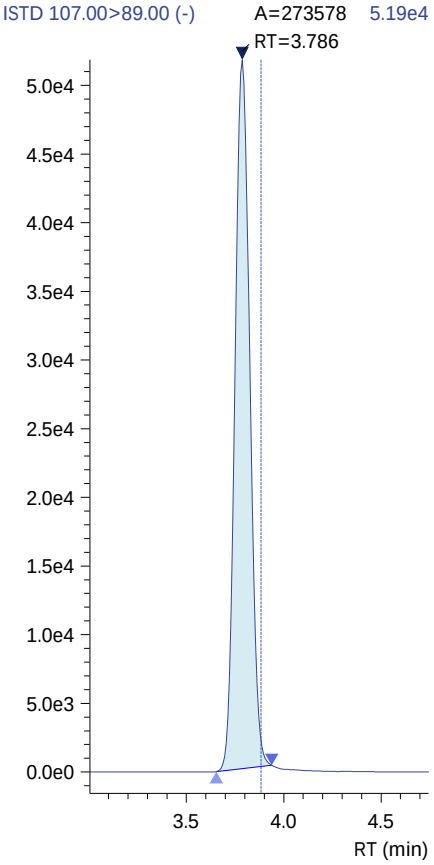
Conc 0.1120
R#1 30.05 (33.41)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

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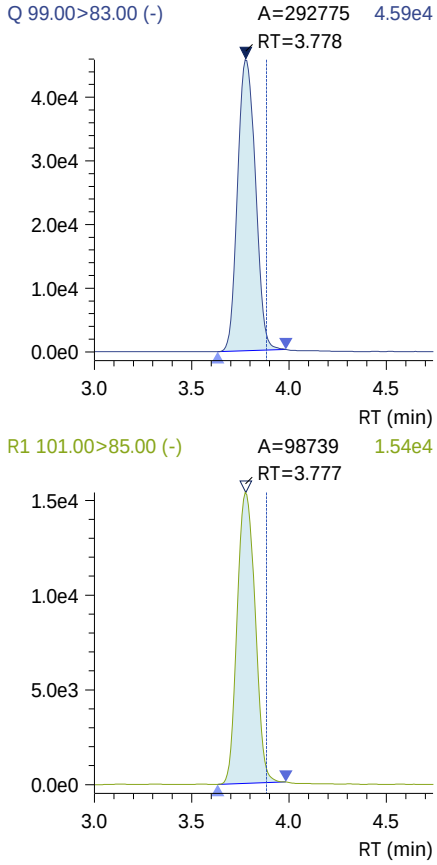
PERCHLORATE7

Sample ID: PERCHLORATE7
Date Acquired: 12/17/2022 4:44:41 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221216\20221217-011.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	3.778	292775	196977	9.4848	ng/mL	101.00 >85.00	33.73	23.39 -43.43
Sodium Perchlorate-18O4_IS	Auto	3.775	196977	196977	1.0000	ng/mL	----	----	

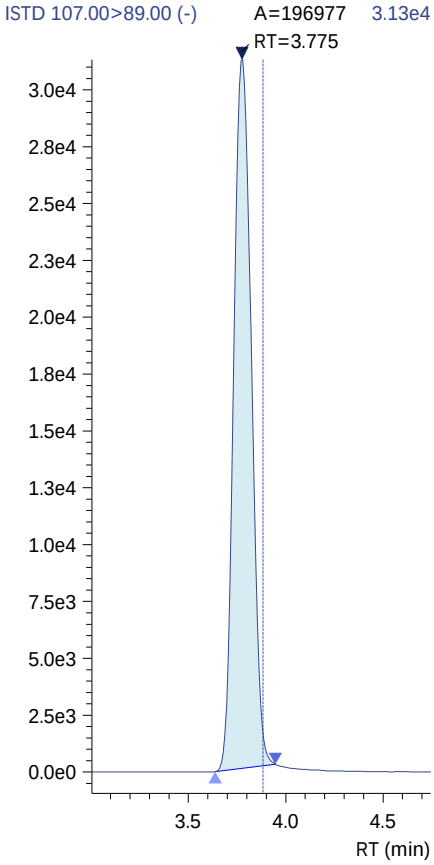
Perchlorate

Conc 9.4848
R#1 33.73 (33.41)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 12/19/2022 9:10:18 AM

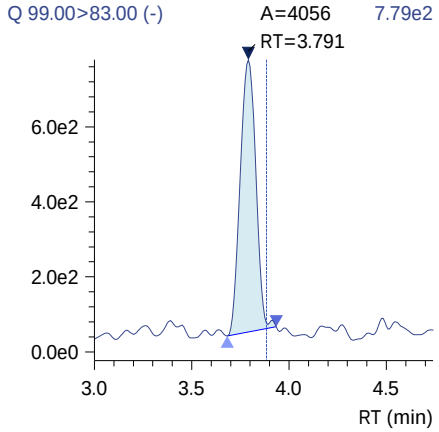
EQ2200573-03

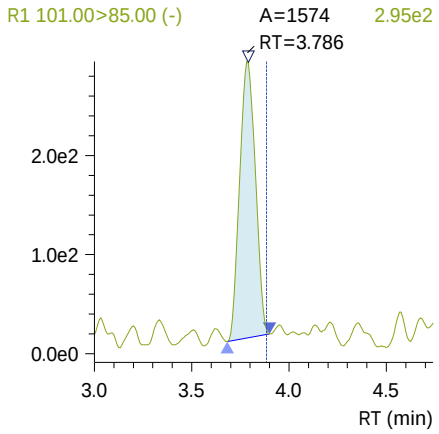
Sample ID: EQ2200573-03
Date Acquired: 12/17/2022 7:34:08 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221216\20221217-012.lcd
Vial: 12 | Inj. Volume: 25.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.791	4056	237113	0.1092	ng/mL	101.00 >85.00	38.81	23.39 -43.43
Sodium Perchlorate-18O4_IS	Auto	3.784	2371 13	237113	1.0000	ng/mL	----	----	

Perchlorate

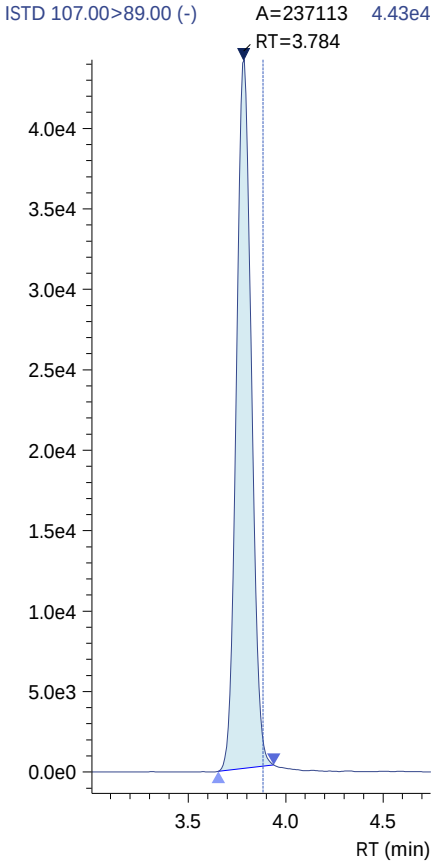
Conc 0.1092
R#1 38.81 (33.41)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 12/19/2022 9:10:18 AM

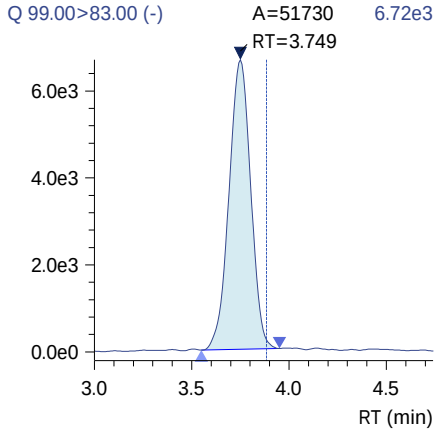
E2201187-001

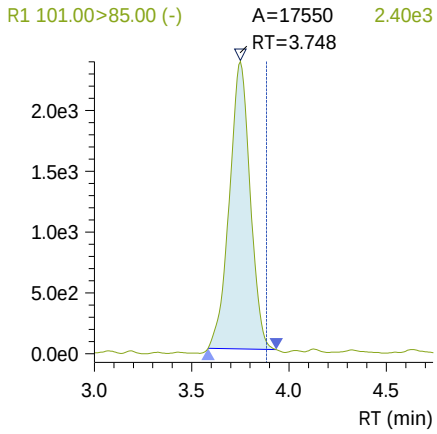
Sample ID: E2201187-001
Date Acquired: 12/17/2022 4:09:19 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221216\20221217-007.lcd
Vial: 48 | Inj. Volume: 25.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.749	51730	233766	1.4121	ng/mL	101.00 >85.00	33.93	23.39 -43.43
Sodium Perchlorate-18O4_IS	Auto	3.745	233766	233766	1.0000	ng/mL	----	----	

Perchlorate

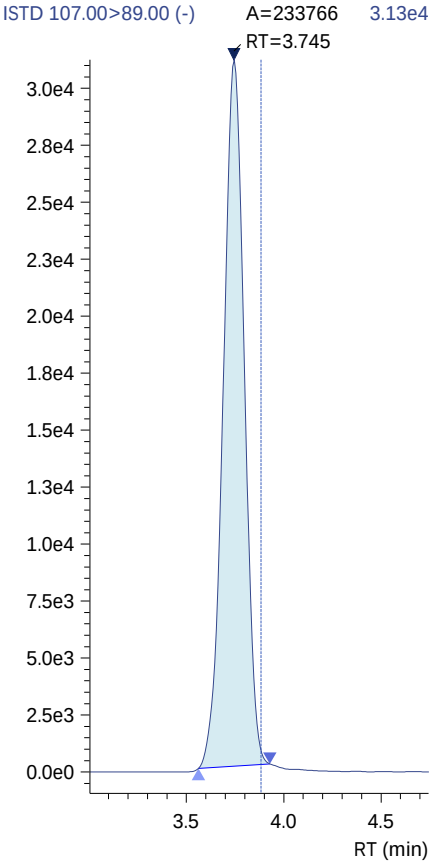
Conc 1.4121
R#1 33.93 (33.41)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 12/19/2022 9:10:18 AM

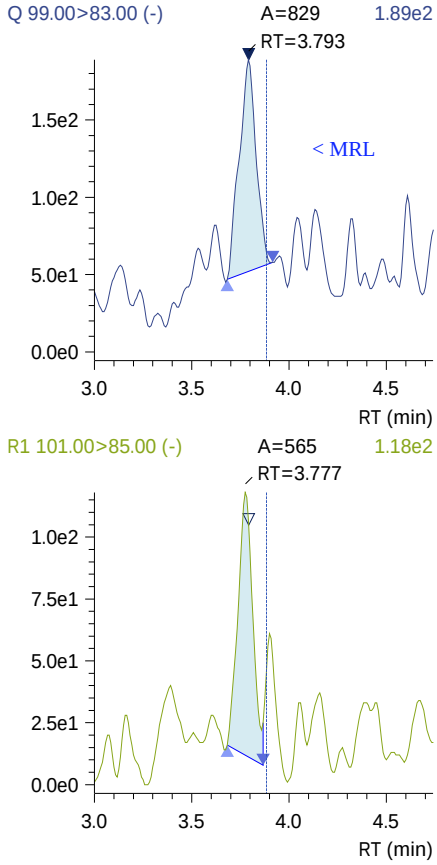
E2201187-002

Sample ID: E2201187-002
Date Acquired: 12/17/2022 7:51:48 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221216\20221217-013.lcd
Vial: 49 | Inj. Volume: 25.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.793	829	256491	0.0206	ng/mL	101.00 >85.00	68.22	23.39 -43.43
Sodium Perchlorate-18O4_IS	Auto	3.738	256491	256491	1.0000	ng/mL	----	----	

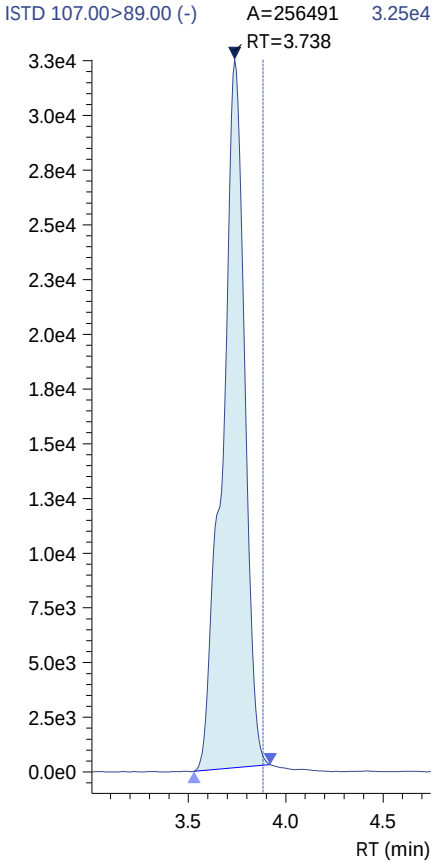
Perchlorate

Conc 0.0206
R#1 68.22 (33.41)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

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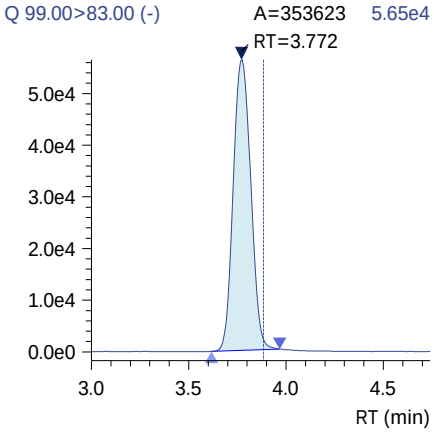
PERCHLORATE7

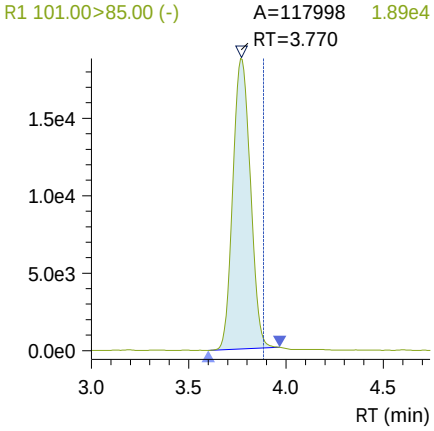
Sample ID: PERCHLORATE7
Date Acquired: 12/17/2022 8:00:38 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20221216\20221217-014.lcd
Vial: 7 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.772	353623	234898	9.6066	ng/mL	101.00 >85.00	33.37	23.39 -43.43
Sodium Perchlorate-18O4_IS	Auto	3.769	234898	234898	1.0000	ng/mL	----	----	

Perchlorate

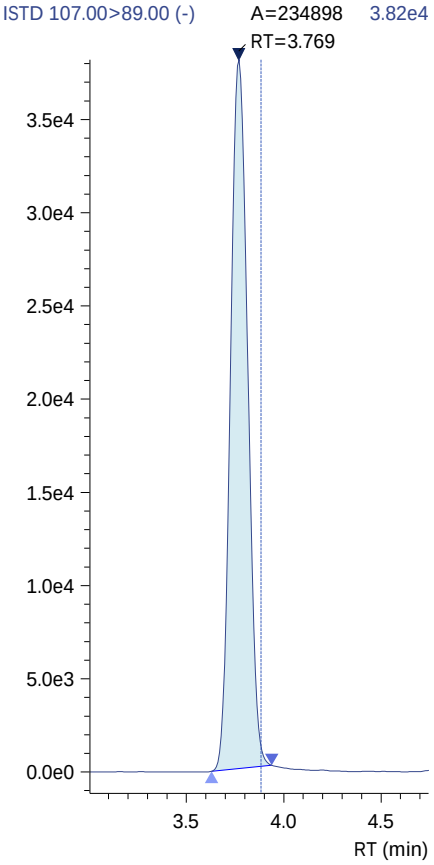
Conc 9.6066
R#1 33.37 (33.41)





Sodium Perchlorate-18O4_IS

Conc 1.0000



QUARTERLY CONTROL SUMMARY REPORT
4th QUARTER (Oct-Dec) 2022
GROUNDWATER TREATMENT PLANT
LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

March 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

Prepared By:

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Tables

Table 1: Field Sample Identification and Laboratory Packages
Table 2: Qualified Analytical Data
Table 3: Completeness by Method

1 INTRODUCTION

Bhate reviewed 16 data packages from ALS Environmental, Houston, Texas. Groundwater samples were collected October 4, 2022, through December 13, 2022, 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.

Analyses performed include:

- SW6850 – Perchlorate
- E350.3– Nitrogen, Ammonia
- E365.3– Orthophosphate
- E415.1 – Total Organic Carbon
- SW8260C- Volatiles
- SW8270D SIM- 1,4-Dioxane
- SW6020A– Metals
- SW9056A – Chloride (Cl) and Sulfate (SO_4)
- SW7196A – Hexavalent Chromium
- 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 times.

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 CCV for propene was outside control limits for the air samples. This compound was flagged estimated "J/UJ" in all four samples.

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.

No qualification of blank data was necessary.

1.5 Surrogates

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

No surrogates were outside control limits.

1.6 Laboratory Control Sample/Laboratory Control Sample Duplicate

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

In the air samples, the LCS/LCSD recoveries for ethanol were above control limits. When this compound was detected, it was flagged estimated "J".

1.7 Matrix Spike/Matrix Spike Duplicate Sample

The Matrix Spike (MS)/Matrix Spike Duplicate (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 analysis was performed on a batched (unrelated) sample no qualification was made to the sample data. Otherwise, only the sample used for spiking requires qualification.

The matrix spikes were within control limits.

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.

1.9.1 Laboratory Duplicate

The laboratory duplicate results were within control limits.

1.9.2 Field Duplicate

The field duplicate results were within 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 Identification	Lab Package	SW6850	E350.3	E365.3	E415.1	SW8270D SIM	SW8260C	SW6020A	SW9056A	SW7196A	E410.4	1664A	TO-15
GWTP Samples													
LH18/24-SP650_100422_BIX/AIX	HS22100184	X	X	X	X								
LH18/24-SP650_100422_AIX	HS22100181	X				X	X	X		X			
LH18/24-SP140_100422	HS22100180	X						X		X			
LH18/24-SP650_101122_BIX/AIX	HS22100562	X	X	X	X								
LH18/24-SP650_101122	HS22100565						X		X				
LH18/24-SP650_101822_BIX/AIX	HS22100969	X	X	X	X								
LH18/24-SP650_102622	HS22101489						X		X				
LH18/24-SP650_102622_BIX/AIX	HS22101488	X	X	X	X								
LH18/24-SP650_110122_BIX/AIX	HS22110109	X	X	X	X								
LH18/24-SP650_110122_AIX	HS22110111	X				X	X	X		X			
LH18/24-SP140_110122	HS22110108	X						X		X			
LH18/24-SP650_110822_BIX/AIX	HS22110511	X	X	X	X								
LH18/24-SP650_110822	HS22110517						X		X				
LH18/24-SP650_111822_BIX/AIX	E2201127	X											
LH18/24-SP650_121322_BIX/AIX	E2201187	X											
Air Samples													
LH18/24-Air_103122_Stripper	P2205014												X
LH18/24-Air_103122_Stripper_a	P2205014												X
LH18/24-Air_103122_GWTP	P2205014												X
LH18/24-Air_103122_Downwind_North	P2205014												X

GWTP – Groundwater Treatment Plant
SIM – Selected Ion Monitoring
SW – Solid Waste (Test Methods for Evaluating Solid Waste)
E – U.S. Environmental Protection Agency Method
BIX/AIX –Before/After Ion Exchange
HS – Houston
a – duplicate sample

Table 2: Qualified Analytical Data

Client Sample Identification	Laboratory Package	Analyte Name	Result and Data Validation Qualifier	Reason Code for Qualification
LH18/24-Air_103122_GWTP	P2205014	Propene Ethanol	0.84 UJ 18 J	CCV LCS/LCSD >
LH18/24-Air_103122_Downwind_North	P2205014	Propene Ethanol	1.4 J 16 J	CCV LCS/LCSD >
LH18/24-Air_103122_Stripper	P2205014	Propene	22 UJ	CCV
LH18/24-Air_103122_Stripper_a	P2205014	Propene	22 UJ	CCV

GWTP – Groundwater Treatment Plant
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.
LCS/LCSD > – Laboratory control spike/Laboratory control spike duplicate above control limits
CCV – Continuing calibration verification outside control limits

Table 3: Completeness by Method

Method	No. of Rejected Results	% Completeness
SW6850	0	100
E350.1	0	100
E365.2	0	100
E415.1	0	100
SW8270D SIM	0	100
SW8260B	0	100
SW6020A	0	100
SW9056	0	100
SW7196A	0	100
TO-15	0	100

E – U.S. Environmental Protection Agency method.
SW – Solid Waste (Test Methods for Evaluating Solid Waste)

APPENDIX E
AIR MONITORING ANALYTICAL LABORATORY REPORT

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ALS Environmental
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LABORATORY REPORT

November 23, 2022

Marcia Olive
Bhate Environmental Associates, Inc.
445 Union Blvd., Suite 129
Lakewood, CO 80228

RE: LHAAP-GWTP / NW01312.0150

Dear Marcia:

Enclosed are the results of the samples submitted to our laboratory on November 7, 2022. For your reference, these analyses have been assigned our service request number P2205014.

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

By Sue Anderson at 3:13 pm, Nov 23, 2022

Sue Anderson
Project Manager

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Client: Bhate Environmental Associates, Inc. Service Request No: P2205014
Project: LHAAP-GWTP / NW01312.0150

CASE NARRATIVE

The samples were received intact under chain of custody on November 7, 2022 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 analyte Vinyl Acetate could not be reported for this data set due to a vendor anomaly found in the new standard being used. Once the issue has been resolved subsequent reports will include the compound in question.

The upper control criterion was exceeded for Propene in the Continuing Calibration Verification (CCV) analyzed on November 16, 2022. Therefore, a potential for a high bias exists for those associated sample concentrations reported with positive results. The data has been qualified accordingly.

The spike recovery for ethanol in the Laboratory Control Samples (LCS/DLCS) analyzed on November 16, 2022 was outside the upper laboratory control criterion. The error associated with elevated recovery equates to a potential high bias; however, the duplicate laboratory control sample (DLCS) met the method acceptance limits. 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	http://dec.alaska.gov/eh/lab.aspx	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)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2018027
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1776326
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-008
Pennsylvania DEP	http://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	T104704413-19-10
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA016272019-10
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: P2205014
Project ID: LHAAP-GWTP / NW01312.0150

Date Received: 11/7/2022
Time Received: 10:08

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pfl (psig)	TO-15 - VOC Cans
LH18/24-Air_103122_Stripper	P2205014-001	Air	10/31/2022	14:00	AC02523	-0.20	3.77	X
LH18/24-Air_103122_Stripper_a	P2205014-002	Air	10/31/2022	14:00	AS01497	-0.15	3.79	X
LH18/24-Air_103122_GWTP	P2205014-003	Air	10/31/2022	14:30	AS01724	-3.28	3.68	X
LH18/24-Air_103122_Downwind_North	P2205014-004	Air	11/1/2022	07:00	AS00315	0.86	3.68	X

01159972

Air - Chain of Custody Record & Analytical Service Request

Page 1 of 1

2655 Park Center Drive, Suite A
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. R2205014

ALS Contact:

Company Name & Address (Reporting Information)	BHATE ENVIRONMANTAL 445 UNION BLVD. STE. 129 LAKEWOOD, CO. 80228
Project Name	LHAAP-GWTP
Project Number	NW01312.0150
Project Manager	Kim Nemmers
P.O. # / Billing Information	
Phone	205-918-4000
Fax	
Email Address for Result Reporting	molive@bhate.com
Sampler (Print & Sign)	Scott Beesinger Scott Beesinger

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	Analysis Method: TO-15		Comments e.g. Actual Preservative or specific instructions
1 LH18/24-Air_103122_STR.pper		10/31/22	1400	AC02523		-30	0	6L	X		
2 LH18/24-Air_103122_STR.pper_a		10/31/22	1400	AS01497		-30	0	6L	X		
3 LH18/24-Air_103122_GWTP		10/31/22	1430	AS01724	FCR00189	-28	-6	6L	X		
4 LH18/24-Air_103122_Downwind_North		11/1/22	0700	AS00315	FCR00440	-28	0	6L	X		
5 of 139											

Report Tier Levels - please select

Tier I - Results (Default if not specified) ____ Tier III (Results + QC & Calibration Summaries) ____
Tier II (Results + QC 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	11/1/22	0715			
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
				11-7-22	1008

Cooler / Blank Temperature ____ °C

ALS Environmental
Sample Acceptance Check Form

Client: Bhate Environmental Associates, Inc. Work order: P2205014

Project: LHAAP-GWTP / NW01312.0150

Sample(s) received on: 11/7/22 Date opened: 11/7/22 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
P2205014-001.01	6.0 L Ambient Can					
P2205014-002.01	6.0 L Silonite Can					
P2205014-003.01	6.0 L Silonite Can					
P2205014-004.01	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_103122_Stripper** ALS Project ID: P2205014
Client Project ID: **LHAAP-GWTP / NW01312.0150** ALS Sample ID: P2205014-001

Test Code: EPA TO-15 Date Collected: 10/31/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 11/7/22
Analyst: Wida Ang Date Analyzed: 11/16/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.030 Liter(s)
Test Notes:
Container ID: AC02523

Initial Pressure (psig): -0.20 Final Pressure (psig): 3.77

Canister Dilution Factor: 1.27

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	22	ND	13	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	22	ND	4.5	
74-87-3	Chloromethane	ND	22	ND	10	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	23	ND	3.3	
75-01-4	Vinyl Chloride	**97**	22	**38**	8.6	
106-99-0	1,3-Butadiene	ND	22	ND	10	
74-83-9	Bromomethane	ND	22	ND	5.6	
75-00-3	Chloroethane	ND	22	ND	8.2	
64-17-5	Ethanol	ND	210	ND	110	
75-05-8	Acetonitrile	ND	42	ND	25	
107-02-8	Acrolein	ND	42	ND	18	
67-64-1	Acetone	ND	220	ND	93	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	22	ND	3.9	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	42	ND	17	
107-13-1	Acrylonitrile	ND	42	ND	20	
75-35-4	1,1-Dichloroethene	**29**	23	**7.2**	5.8	
75-09-2	Methylene Chloride	**600**	22	**170**	6.3	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	22	ND	7.2	
76-13-1	Trichlorotrifluoroethane (CFC 113)	**1,800**	23	**240**	3.0	
75-15-0	Carbon Disulfide	ND	47	ND	15	
156-60-5	trans-1,2-Dichloroethene	ND	22	ND	5.7	
75-34-3	1,1-Dichloroethane	ND	22	ND	5.5	
1634-04-4	Methyl tert-Butyl Ether	ND	22	ND	6.2	
78-93-3	2-Butanone (MEK)	ND	42	ND	14	
156-59-2	cis-1,2-Dichloroethene	**1,500**	22	**380**	5.6	

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_103122_Stripper** ALS Project ID: P2205014
Client Project ID: **LHAAP-GWTP / NW01312.0150** ALS Sample ID: P2205014-001

Test Code: EPA TO-15 Date Collected: 10/31/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 11/7/22
Analyst: Wida Ang Date Analyzed: 11/16/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.030 Liter(s)
Test Notes:
Container ID: AC02523

Initial Pressure (psig): -0.20 Final Pressure (psig): 3.77

Canister Dilution Factor: 1.27

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
141-78-6	Ethyl Acetate	ND	89	ND	25	
110-54-3	n-Hexane	ND	22	ND	6.4	
67-66-3	Chloroform	ND	23	ND	4.7	
109-99-9	Tetrahydrofuran (THF)	ND	42	ND	14	
107-06-2	1,2-Dichloroethane	**24**	22	**5.9**	5.5	
71-55-6	1,1,1-Trichloroethane	ND	22	ND	4.0	
71-43-2	Benzene	ND	21	ND	6.6	
56-23-5	Carbon Tetrachloride	ND	21	ND	3.4	
110-82-7	Cyclohexane	ND	47	ND	14	
78-87-5	1,2-Dichloropropane	ND	21	ND	4.6	
75-27-4	Bromodichloromethane	ND	22	ND	3.4	
79-01-6	Trichloroethene	**3,400**	22	**630**	4.1	
123-91-1	1,4-Dioxane	ND	22	ND	6.1	
80-62-6	Methyl Methacrylate	ND	47	ND	11	
142-82-5	n-Heptane	ND	22	ND	5.5	
10061-01-5	cis-1,3-Dichloropropene	ND	21	ND	4.7	
108-10-1	4-Methyl-2-pentanone	ND	47	ND	11	
10061-02-6	trans-1,3-Dichloropropene	ND	22	ND	4.8	
79-00-5	1,1,2-Trichloroethane	ND	22	ND	4.0	
108-88-3	Toluene	ND	22	ND	5.8	
591-78-6	2-Hexanone	ND	47	ND	11	
124-48-1	Dibromochloromethane	ND	22	ND	2.6	
106-93-4	1,2-Dibromoethane	ND	22	ND	2.9	
123-86-4	n-Butyl Acetate	ND	47	ND	9.8	

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_103122_Stripper** ALS Project ID: P2205014
Client Project ID: **LHAAP-GWTP / NW01312.0150** ALS Sample ID: P2205014-001

Test Code: EPA TO-15 Date Collected: 10/31/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 11/7/22
Analyst: Wida Ang Date Analyzed: 11/16/22
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.030 Liter(s)
Test Notes:
Container ID: AC02523

Initial Pressure (psig): -0.20 Final Pressure (psig): 3.77

Canister Dilution Factor: 1.27

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	22	ND	4.8	
127-18-4	Tetrachloroethene	**27**	22	**4.0**	3.2	
108-90-7	Chlorobenzene	ND	22	ND	4.8	
100-41-4	Ethylbenzene	ND	22	ND	5.1	
179601-23-1	m,p-Xylenes	ND	47	ND	11	
75-25-2	Bromoform	ND	22	ND	2.1	
100-42-5	Styrene	ND	21	ND	5.0	
95-47-6	o-Xylene	ND	22	ND	5.1	
111-84-2	n-Nonane	ND	22	ND	4.2	
79-34-5	1,1,2,2-Tetrachloroethane	ND	22	ND	3.2	
98-82-8	Cumene	ND	22	ND	4.5	
80-56-8	alpha-Pinene	ND	23	ND	4.1	
103-65-1	n-Propylbenzene	ND	22	ND	4.6	
622-96-8	4-Ethyltoluene	ND	22	ND	4.6	
108-67-8	1,3,5-Trimethylbenzene	ND	22	ND	4.5	
95-63-6	1,2,4-Trimethylbenzene	ND	22	ND	4.5	
100-44-7	Benzyl Chloride	ND	47	ND	9.0	
541-73-1	1,3-Dichlorobenzene	ND	22	ND	3.7	
106-46-7	1,4-Dichlorobenzene	ND	22	ND	3.7	
95-50-1	1,2-Dichlorobenzene	ND	22	ND	3.7	
5989-27-5	d-Limonene	ND	21	ND	3.8	
96-12-8	1,2-Dibromo-3-chloropropane	ND	42	ND	4.4	
120-82-1	1,2,4-Trichlorobenzene	ND	47	ND	6.3	
91-20-3	Naphthalene	ND	22	ND	4.2	
87-68-3	Hexachlorobutadiene	ND	22	ND	2.1	

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_103122_Stripper_a** ALS Project ID: P2205014
Client Project ID: **LHAAP-GWTP / NW01312.0150** ALS Sample ID: P2205014-002

Test Code: EPA TO-15 Date Collected: 10/31/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 11/7/22
Analyst: Wida Ang Date Analyzed: 11/16/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 0.030 Liter(s)
Test Notes:
Container ID: AS01497

Initial Pressure (psig): -0.15 Final Pressure (psig): 3.79

Canister Dilution Factor: 1.27

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	22	ND	13	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	22	ND	4.5	
74-87-3	Chloromethane	ND	22	ND	10	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	23	ND	3.3	
75-01-4	Vinyl Chloride	**100**	22	**41**	8.6	
106-99-0	1,3-Butadiene	ND	22	ND	10	
74-83-9	Bromomethane	ND	22	ND	5.6	
75-00-3	Chloroethane	ND	22	ND	8.2	
64-17-5	Ethanol	ND	210	ND	110	
75-05-8	Acetonitrile	ND	42	ND	25	
107-02-8	Acrolein	ND	42	ND	18	
67-64-1	Acetone	ND	220	ND	93	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	22	ND	3.9	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	42	ND	17	
107-13-1	Acrylonitrile	ND	42	ND	20	
75-35-4	1,1-Dichloroethene	**28**	23	**7.1**	5.8	
75-09-2	Methylene Chloride	**610**	22	**180**	6.3	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	22	ND	7.2	
76-13-1	Trichlorotrifluoroethane (CFC 113)	**1,900**	23	**240**	3.0	
75-15-0	Carbon Disulfide	ND	47	ND	15	
156-60-5	trans-1,2-Dichloroethene	ND	22	ND	5.7	
75-34-3	1,1-Dichloroethane	ND	22	ND	5.5	
1634-04-4	Methyl tert-Butyl Ether	ND	22	ND	6.2	
78-93-3	2-Butanone (MEK)	ND	42	ND	14	
156-59-2	cis-1,2-Dichloroethene	**1,600**	22	**400**	5.6	

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_103122_Stripper_a** ALS Project ID: P2205014
Client Project ID: **LHAAP-GWTP / NW01312.0150** ALS Sample ID: P2205014-002

Test Code: EPA TO-15 Date Collected: 10/31/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 11/7/22
Analyst: Wida Ang Date Analyzed: 11/16/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 0.030 Liter(s)
Test Notes:
Container ID: AS01497

Initial Pressure (psig): -0.15 Final Pressure (psig): 3.79

Canister Dilution Factor: 1.27

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
141-78-6	Ethyl Acetate	ND	89	ND	25	
110-54-3	n-Hexane	ND	22	ND	6.4	
67-66-3	Chloroform	ND	23	ND	4.7	
109-99-9	Tetrahydrofuran (THF)	ND	42	ND	14	
107-06-2	1,2-Dichloroethane	**26**	22	**6.3**	5.5	
71-55-6	1,1,1-Trichloroethane	ND	22	ND	4.0	
71-43-2	Benzene	ND	21	ND	6.6	
56-23-5	Carbon Tetrachloride	ND	21	ND	3.4	
110-82-7	Cyclohexane	ND	47	ND	14	
78-87-5	1,2-Dichloropropane	ND	21	ND	4.6	
75-27-4	Bromodichloromethane	ND	22	ND	3.4	
79-01-6	Trichloroethene	**3,600**	22	**660**	4.1	
123-91-1	1,4-Dioxane	ND	22	ND	6.1	
80-62-6	Methyl Methacrylate	ND	47	ND	11	
142-82-5	n-Heptane	ND	22	ND	5.5	
10061-01-5	cis-1,3-Dichloropropene	ND	21	ND	4.7	
108-10-1	4-Methyl-2-pentanone	ND	47	ND	11	
10061-02-6	trans-1,3-Dichloropropene	ND	22	ND	4.8	
79-00-5	1,1,2-Trichloroethane	ND	22	ND	4.0	
108-88-3	Toluene	ND	22	ND	5.8	
591-78-6	2-Hexanone	ND	47	ND	11	
124-48-1	Dibromochloromethane	ND	22	ND	2.6	
106-93-4	1,2-Dibromoethane	ND	22	ND	2.9	
123-86-4	n-Butyl Acetate	ND	47	ND	9.8	

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_103122_Stripper_a** ALS Project ID: P2205014
Client Project ID: **LHAAP-GWTP / NW01312.0150** ALS Sample ID: P2205014-002

Test Code: EPA TO-15 Date Collected: 10/31/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 11/7/22
Analyst: Wida Ang Date Analyzed: 11/16/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 0.030 Liter(s)
Test Notes:
Container ID: AS01497

Initial Pressure (psig): -0.15 Final Pressure (psig): 3.79

Canister Dilution Factor: 1.27

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	22	ND	4.8	
127-18-4	Tetrachloroethene	**26**	22	**3.8**	3.2	
108-90-7	Chlorobenzene	ND	22	ND	4.8	
100-41-4	Ethylbenzene	ND	22	ND	5.1	
179601-23-1	m,p-Xylenes	ND	47	ND	11	
75-25-2	Bromoform	ND	22	ND	2.1	
100-42-5	Styrene	ND	21	ND	5.0	
95-47-6	o-Xylene	ND	22	ND	5.1	
111-84-2	n-Nonane	ND	22	ND	4.2	
79-34-5	1,1,2,2-Tetrachloroethane	ND	22	ND	3.2	
98-82-8	Cumene	ND	22	ND	4.5	
80-56-8	alpha-Pinene	ND	23	ND	4.1	
103-65-1	n-Propylbenzene	ND	22	ND	4.6	
622-96-8	4-Ethyltoluene	ND	22	ND	4.6	
108-67-8	1,3,5-Trimethylbenzene	ND	22	ND	4.5	
95-63-6	1,2,4-Trimethylbenzene	ND	22	ND	4.5	
100-44-7	Benzyl Chloride	ND	47	ND	9.0	
541-73-1	1,3-Dichlorobenzene	ND	22	ND	3.7	
106-46-7	1,4-Dichlorobenzene	ND	22	ND	3.7	
95-50-1	1,2-Dichlorobenzene	ND	22	ND	3.7	
5989-27-5	d-Limonene	ND	21	ND	3.8	
96-12-8	1,2-Dibromo-3-chloropropane	ND	42	ND	4.4	
120-82-1	1,2,4-Trichlorobenzene	ND	47	ND	6.3	
91-20-3	Naphthalene	ND	22	ND	4.2	
87-68-3	Hexachlorobutadiene	ND	22	ND	2.1	

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_103122_GWTP** ALS Project ID: P2205014
Client Project ID: **LHAAP-GWTP / NW01312.0150** ALS Sample ID: P2205014-003

Test Code: EPA TO-15 Date Collected: 10/31/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 11/7/22
Analyst: Wida Ang Date Analyzed: 11/16/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01724

Initial Pressure (psig): -3.28 Final Pressure (psig): 3.68

Canister Dilution Factor: 1.61

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.84	ND	0.49	
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.4**	0.85	**0.48**	0.17	
74-87-3	Chloromethane	ND	0.82	ND	0.40	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.87	ND	0.12	
75-01-4	Vinyl Chloride	ND	0.84	ND	0.33	
106-99-0	1,3-Butadiene	ND	0.84	ND	0.38	
74-83-9	Bromomethane	ND	0.82	ND	0.21	
75-00-3	Chloroethane	ND	0.82	ND	0.31	
64-17-5	Ethanol	**18**	8.1	**9.7**	4.3	
75-05-8	Acetonitrile	ND	1.6	ND	0.96	
107-02-8	Acrolein	ND	1.6	ND	0.70	
67-64-1	Acetone	**13**	8.4	**5.6**	3.5	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.3**	0.84	**0.22**	0.15	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.6	ND	0.66	
107-13-1	Acrylonitrile	ND	1.6	ND	0.74	
75-35-4	1,1-Dichloroethene	ND	0.87	ND	0.22	
75-09-2	Methylene Chloride	**2.0**	0.84	**0.58**	0.24	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.85	ND	0.27	
76-13-1	Trichlorotrifluoroethane (CFC 113)	**5.9**	0.87	**0.77**	0.11	
75-15-0	Carbon Disulfide	ND	1.8	ND	0.57	
156-60-5	trans-1,2-Dichloroethene	ND	0.85	ND	0.22	
75-34-3	1,1-Dichloroethane	ND	0.85	ND	0.21	
1634-04-4	Methyl tert-Butyl Ether	ND	0.85	ND	0.24	
78-93-3	2-Butanone (MEK)	ND	1.6	ND	0.55	
156-59-2	cis-1,2-Dichloroethene	**4.5**	0.84	**1.1**	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: **LH18/24-Air_103122_GWTP** ALS Project ID: P2205014
Client Project ID: **LHAAP-GWTP / NW01312.0150** ALS Sample ID: P2205014-003

Test Code: EPA TO-15 Date Collected: 10/31/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 11/7/22
Analyst: Wida Ang Date Analyzed: 11/16/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01724

Initial Pressure (psig): -3.28 Final Pressure (psig): 3.68

Canister Dilution Factor: 1.61

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
141-78-6	Ethyl Acetate	ND	3.4	ND	0.94	
110-54-3	n-Hexane	**1.6**	0.85	**0.45**	0.24	
67-66-3	Chloroform	ND	0.87	ND	0.18	
109-99-9	Tetrahydrofuran (THF)	ND	1.6	ND	0.55	
107-06-2	1,2-Dichloroethane	ND	0.85	ND	0.21	
71-55-6	1,1,1-Trichloroethane	ND	0.84	ND	0.15	
71-43-2	Benzene	ND	0.81	ND	0.25	
56-23-5	Carbon Tetrachloride	ND	0.81	ND	0.13	
110-82-7	Cyclohexane	ND	1.8	ND	0.51	
78-87-5	1,2-Dichloropropane	ND	0.81	ND	0.17	
75-27-4	Bromodichloromethane	ND	0.85	ND	0.13	
79-01-6	Trichloroethene	**9.3**	0.84	**1.7**	0.16	
123-91-1	1,4-Dioxane	ND	0.84	ND	0.23	
80-62-6	Methyl Methacrylate	ND	1.8	ND	0.43	
142-82-5	n-Heptane	ND	0.85	ND	0.21	
10061-01-5	cis-1,3-Dichloropropene	ND	0.81	ND	0.18	
108-10-1	4-Methyl-2-pentanone	ND	1.8	ND	0.43	
10061-02-6	trans-1,3-Dichloropropene	ND	0.82	ND	0.18	
79-00-5	1,1,2-Trichloroethane	ND	0.84	ND	0.15	
108-88-3	Toluene	**0.95**	0.84	**0.25**	0.22	
591-78-6	2-Hexanone	ND	1.8	ND	0.43	
124-48-1	Dibromochloromethane	ND	0.85	ND	0.10	
106-93-4	1,2-Dibromoethane	ND	0.84	ND	0.11	
123-86-4	n-Butyl Acetate	ND	1.8	ND	0.37	

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_103122_GWTP** ALS Project ID: P2205014
Client Project ID: **LHAAP-GWTP / NW01312.0150** ALS Sample ID: P2205014-003

Test Code: EPA TO-15 Date Collected: 10/31/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 11/7/22
Analyst: Wida Ang Date Analyzed: 11/16/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01724

Initial Pressure (psig): -3.28 Final Pressure (psig): 3.68

Canister Dilution Factor: 1.61

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.85	ND	0.18	
127-18-4	Tetrachloroethene	ND	0.84	ND	0.12	
108-90-7	Chlorobenzene	ND	0.84	ND	0.18	
100-41-4	Ethylbenzene	ND	0.84	ND	0.19	
179601-23-1	m,p-Xylenes	ND	1.8	ND	0.41	
75-25-2	Bromoform	ND	0.84	ND	0.081	
100-42-5	Styrene	ND	0.81	ND	0.19	
95-47-6	o-Xylene	ND	0.84	ND	0.19	
111-84-2	n-Nonane	ND	0.84	ND	0.16	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.84	ND	0.12	
98-82-8	Cumene	ND	0.84	ND	0.17	
80-56-8	alpha-Pinene	**2.3**	0.87	**0.42**	0.16	
103-65-1	n-Propylbenzene	ND	0.85	ND	0.17	
622-96-8	4-Ethyltoluene	ND	0.85	ND	0.17	
108-67-8	1,3,5-Trimethylbenzene	ND	0.84	ND	0.17	
95-63-6	1,2,4-Trimethylbenzene	ND	0.84	ND	0.17	
100-44-7	Benzyl Chloride	ND	1.8	ND	0.34	
541-73-1	1,3-Dichlorobenzene	ND	0.84	ND	0.14	
106-46-7	1,4-Dichlorobenzene	ND	0.84	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.85	ND	0.14	
5989-27-5	d-Limonene	ND	0.81	ND	0.14	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.6	ND	0.17	
120-82-1	1,2,4-Trichlorobenzene	ND	1.8	ND	0.24	
91-20-3	Naphthalene	ND	0.84	ND	0.16	
87-68-3	Hexachlorobutadiene	ND	0.84	ND	0.079	

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_103122_Downwind_North** ALS Project ID: P2205014
Client Project ID: **LHAAP-GWTP / NW01312.0150** ALS Sample ID: P2205014-004

Test Code: EPA TO-15 Date Collected: 11/1/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 11/7/22
Analyst: Wida Ang Date Analyzed: 11/17/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00315

Initial Pressure (psig): 0.86 Final Pressure (psig): 3.68

Canister Dilution Factor: 1.18

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	**1.4**	0.61	**0.81**	0.36	**V**
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.5**	0.63	**0.51**	0.13	
74-87-3	Chloromethane	ND	0.60	ND	0.29	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.64	ND	0.091	
75-01-4	Vinyl Chloride	ND	0.61	ND	0.24	
106-99-0	1,3-Butadiene	ND	0.61	ND	0.28	
74-83-9	Bromomethane	ND	0.60	ND	0.16	
75-00-3	Chloroethane	ND	0.60	ND	0.23	
64-17-5	Ethanol	**16**	5.9	**8.6**	3.1	
75-05-8	Acetonitrile	ND	1.2	ND	0.70	
107-02-8	Acrolein	ND	1.2	ND	0.51	
67-64-1	Acetone	**9.9**	6.1	**4.2**	2.6	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.7**	0.61	**0.30**	0.11	
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.6**	1.2	**0.64**	0.48	
107-13-1	Acrylonitrile	ND	1.2	ND	0.54	
75-35-4	1,1-Dichloroethene	ND	0.64	ND	0.16	
75-09-2	Methylene Chloride	ND	0.61	ND	0.18	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.63	ND	0.20	
76-13-1	Trichlorotrifluoroethane (CFC 113)	**1.9**	0.64	**0.25**	0.083	
75-15-0	Carbon Disulfide	**3.1**	1.3	**0.98**	0.42	
156-60-5	trans-1,2-Dichloroethene	ND	0.63	ND	0.16	
75-34-3	1,1-Dichloroethane	ND	0.63	ND	0.15	
1634-04-4	Methyl tert-Butyl Ether	ND	0.63	ND	0.17	
78-93-3	2-Butanone (MEK)	**2.1**	1.2	**0.70**	0.40	
156-59-2	cis-1,2-Dichloroethene	ND	0.61	ND	0.15	

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.
V = The continuing calibration verification standard was outside (biased high) the specified limits for this compound.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Bhate Environmental Associates, Inc.**
Client Sample ID: **LH18/24-Air_103122_Downwind_North** ALS Project ID: P2205014
Client Project ID: **LHAAP-GWTP / NW01312.0150** ALS Sample ID: P2205014-004

Test Code: EPA TO-15 Date Collected: 11/1/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 11/7/22
Analyst: Wida Ang Date Analyzed: 11/17/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00315

Initial Pressure (psig): 0.86 Final Pressure (psig): 3.68

Canister Dilution Factor: 1.18

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
141-78-6	Ethyl Acetate	**4.3**	2.5	**1.2**	0.69	
110-54-3	n-Hexane	**5.4**	0.63	**1.5**	0.18	
67-66-3	Chloroform	ND	0.64	ND	0.13	
109-99-9	Tetrahydrofuran (THF)	**1.9**	1.2	**0.63**	0.40	
107-06-2	1,2-Dichloroethane	ND	0.63	ND	0.15	
71-55-6	1,1,1-Trichloroethane	ND	0.61	ND	0.11	
71-43-2	Benzene	**0.93**	0.59	**0.29**	0.18	
56-23-5	Carbon Tetrachloride	ND	0.59	ND	0.094	
110-82-7	Cyclohexane	ND	1.3	ND	0.38	
78-87-5	1,2-Dichloropropane	ND	0.59	ND	0.13	
75-27-4	Bromodichloromethane	ND	0.63	ND	0.093	
79-01-6	Trichloroethene	ND	0.61	ND	0.11	
123-91-1	1,4-Dioxane	ND	0.61	ND	0.17	
80-62-6	Methyl Methacrylate	ND	1.3	ND	0.32	
142-82-5	n-Heptane	**0.65**	0.63	**0.16**	0.15	
10061-01-5	cis-1,3-Dichloropropene	ND	0.59	ND	0.13	
108-10-1	4-Methyl-2-pentanone	ND	1.3	ND	0.32	
10061-02-6	trans-1,3-Dichloropropene	ND	0.60	ND	0.13	
79-00-5	1,1,2-Trichloroethane	ND	0.61	ND	0.11	
108-88-3	Toluene	**2.3**	0.61	**0.61**	0.16	
591-78-6	2-Hexanone	ND	1.3	ND	0.32	
124-48-1	Dibromochloromethane	ND	0.63	ND	0.073	
106-93-4	1,2-Dibromoethane	ND	0.61	ND	0.080	
123-86-4	n-Butyl Acetate	ND	1.3	ND	0.27	

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_103122_Downwind_North** ALS Project ID: P2205014
Client Project ID: **LHAAP-GWTP / NW01312.0150** ALS Sample ID: P2205014-004

Test Code: EPA TO-15 Date Collected: 11/1/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 11/7/22
Analyst: Wida Ang Date Analyzed: 11/17/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00315

Initial Pressure (psig): 0.86 Final Pressure (psig): 3.68

Canister Dilution Factor: 1.18

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.63	ND	0.13	
127-18-4	Tetrachloroethene	ND	0.61	ND	0.091	
108-90-7	Chlorobenzene	ND	0.61	ND	0.13	
100-41-4	Ethylbenzene	ND	0.61	ND	0.14	
179601-23-1	m,p-Xylenes	ND	1.3	ND	0.30	
75-25-2	Bromoform	ND	0.61	ND	0.059	
100-42-5	Styrene	ND	0.59	ND	0.14	
95-47-6	o-Xylene	ND	0.61	ND	0.14	
111-84-2	n-Nonane	ND	0.61	ND	0.12	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.61	ND	0.089	
98-82-8	Cumene	ND	0.61	ND	0.12	
80-56-8	alpha-Pinene	**13**	0.64	**2.3**	0.11	
103-65-1	n-Propylbenzene	ND	0.63	ND	0.13	
622-96-8	4-Ethyltoluene	ND	0.63	ND	0.13	
108-67-8	1,3,5-Trimethylbenzene	ND	0.61	ND	0.12	
95-63-6	1,2,4-Trimethylbenzene	ND	0.61	ND	0.12	
100-44-7	Benzyl Chloride	ND	1.3	ND	0.25	
541-73-1	1,3-Dichlorobenzene	ND	0.61	ND	0.10	
106-46-7	1,4-Dichlorobenzene	ND	0.61	ND	0.10	
95-50-1	1,2-Dichlorobenzene	ND	0.63	ND	0.10	
5989-27-5	d-Limonene	**7.5**	0.59	**1.3**	0.11	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.2	ND	0.12	
120-82-1	1,2,4-Trichlorobenzene	ND	1.3	ND	0.17	
91-20-3	Naphthalene	ND	0.61	ND	0.12	
87-68-3	Hexachlorobutadiene	ND	0.61	ND	0.058	

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: P2205014
Client Project ID: **LHAAP-GWTP / NW01312.0150** ALS Sample ID: P221116-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 11/16/22
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	0.52	ND	0.30	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.53	ND	0.11	
74-87-3	Chloromethane	ND	0.51	ND	0.25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.54	ND	0.077	
75-01-4	Vinyl Chloride	ND	0.52	ND	0.20	
106-99-0	1,3-Butadiene	ND	0.52	ND	0.24	
74-83-9	Bromomethane	ND	0.51	ND	0.13	
75-00-3	Chloroethane	ND	0.51	ND	0.19	
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	5.2	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	0.41	
107-13-1	Acrylonitrile	ND	1.0	ND	0.46	
75-35-4	1,1-Dichloroethene	ND	0.54	ND	0.14	
75-09-2	Methylene Chloride	ND	0.52	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	0.35	
156-60-5	trans-1,2-Dichloroethene	ND	0.53	ND	0.13	
75-34-3	1,1-Dichloroethane	ND	0.53	ND	0.13	
1634-04-4	Methyl tert-Butyl Ether	ND	0.53	ND	0.15	
78-93-3	2-Butanone (MEK)	ND	1.0	ND	0.34	
156-59-2	cis-1,2-Dichloroethene	ND	0.52	ND	0.13	

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.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Bhate Environmental Associates, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2205014
Client Project ID: **LHAAP-GWTP / NW01312.0150** ALS Sample ID: P221116-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 11/16/22
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
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	0.54	ND	0.11	
109-99-9	Tetrahydrofuran (THF)	ND	1.0	ND	0.34	
107-06-2	1,2-Dichloroethane	ND	0.53	ND	0.13	
71-55-6	1,1,1-Trichloroethane	ND	0.52	ND	0.095	
71-43-2	Benzene	ND	0.50	ND	0.16	
56-23-5	Carbon Tetrachloride	ND	0.50	ND	0.080	
110-82-7	Cyclohexane	ND	1.1	ND	0.32	
78-87-5	1,2-Dichloropropane	ND	0.50	ND	0.11	
75-27-4	Bromodichloromethane	ND	0.53	ND	0.079	
79-01-6	Trichloroethene	ND	0.52	ND	0.097	
123-91-1	1,4-Dioxane	ND	0.52	ND	0.14	
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	0.50	ND	0.11	
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	0.52	ND	0.095	
108-88-3	Toluene	ND	0.52	ND	0.14	
591-78-6	2-Hexanone	ND	1.1	ND	0.27	
124-48-1	Dibromochloromethane	ND	0.53	ND	0.062	
106-93-4	1,2-Dibromoethane	ND	0.52	ND	0.068	
123-86-4	n-Butyl Acetate	ND	1.1	ND	0.23	

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: P2205014
Client Project ID: **LHAAP-GWTP / NW01312.0150** ALS Sample ID: P221116-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 11/16/22
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	0.53	ND	0.11	
127-18-4	Tetrachloroethene	ND	0.52	ND	0.077	
108-90-7	Chlorobenzene	ND	0.52	ND	0.11	
100-41-4	Ethylbenzene	ND	0.52	ND	0.12	
179601-23-1	m,p-Xylenes	ND	1.1	ND	0.25	
75-25-2	Bromoform	ND	0.52	ND	0.050	
100-42-5	Styrene	ND	0.50	ND	0.12	
95-47-6	o-Xylene	ND	0.52	ND	0.12	
111-84-2	n-Nonane	ND	0.52	ND	0.099	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.52	ND	0.076	
98-82-8	Cumene	ND	0.52	ND	0.11	
80-56-8	alpha-Pinene	ND	0.54	ND	0.097	
103-65-1	n-Propylbenzene	ND	0.53	ND	0.11	
622-96-8	4-Ethyltoluene	ND	0.53	ND	0.11	
108-67-8	1,3,5-Trimethylbenzene	ND	0.52	ND	0.11	
95-63-6	1,2,4-Trimethylbenzene	ND	0.52	ND	0.11	
100-44-7	Benzyl Chloride	ND	1.1	ND	0.21	
541-73-1	1,3-Dichlorobenzene	ND	0.52	ND	0.087	
106-46-7	1,4-Dichlorobenzene	ND	0.52	ND	0.087	
95-50-1	1,2-Dichlorobenzene	ND	0.53	ND	0.088	
5989-27-5	d-Limonene	ND	0.50	ND	0.090	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.0	ND	0.10	
120-82-1	1,2,4-Trichlorobenzene	ND	1.1	ND	0.15	
91-20-3	Naphthalene	ND	0.52	ND	0.099	
87-68-3	Hexachlorobutadiene	ND	0.52	ND	0.049	

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 / NW01312.0150** ALS Project ID: P2205014

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date(s) Collected: 10/31 - 11/1/22
Analyst: Wida Ang Date(s) Received: 11/7/22
Sample Type: 6.0 L Summa Canister(s) / 6.0 L Silonite Canister(s) Date(s) Analyzed: 11/16 - 11/17/22
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	P221116-MB	**97**	**103**	**103**	70-130	
Lab Control Sample	P221116-LCS	**100**	**95**	**110**	70-130	
Duplicate Lab Control Sample	P221116-DLCS	**96**	**99**	**109**	70-130	
LH18/24-Air_103122_Stripper	P2205014-001	**94**	**104**	**104**	70-130	
LH18/24-Air_103122_Stripper_a	P2205014-002	**97**	**102**	**102**	70-130	
LH18/24-Air_103122_Stripper_a	P2205014-002DUP	**97**	**102**	**102**	70-130	
LH18/24-Air_103122_GWTP	P2205014-003	**96**	**101**	**104**	70-130	
LH18/24-Air_103122_Downwind_North	P2205014-004	**99**	**100**	**103**	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: P2205014
Client Project ID: **LHAAP-GWTP / NW01312.0150** ALS Sample ID: P221116-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 11/16/22
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	212	270	270	**127**	**127**	56-128	0	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	212	196	202	**92**	**95**	71-112	3	25	
74-87-3	Chloromethane	206	223	234	**108**	**114**	53-126	5	25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	206	154	166	**75**	**81**	62-121	8	25	
75-01-4	Vinyl Chloride	204	161	173	**79**	**85**	63-123	7	25	
106-99-0	1,3-Butadiene	212	201	205	**95**	**97**	63-135	2	25	
74-83-9	Bromomethane	206	167	172	**81**	**83**	71-112	2	25	
75-00-3	Chloroethane	208	201	199	**97**	**96**	66-117	1	25	
64-17-5	Ethanol	706	922	895	**131**	**127**	57-117	3	25	**L**
75-05-8	Acetonitrile	182	186	180	**102**	**99**	59-131	3	25	
107-02-8	Acrolein	388	394	427	**102**	**110**	71-123	8	25	
67-64-1	Acetone	1,060	983	1030	**93**	**97**	60-117	4	25	
75-69-4	Trichlorofluoromethane (CFC 11)	210	195	197	**93**	**94**	71-114	1	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	412	422	446	**102**	**108**	61-124	6	25	
107-13-1	Acrylonitrile	412	458	455	**111**	**110**	65-130	0.9	25	
75-35-4	1,1-Dichloroethene	216	201	205	**93**	**95**	74-114	2	25	
75-09-2	Methylene Chloride	212	194	197	**92**	**93**	75-112	1	25	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	214	239	234	**112**	**109**	57-127	3	25	
76-13-1	Trichlorotrifluoroethane (CFC 113)	216	205	208	**95**	**96**	73-114	1	25	
75-15-0	Carbon Disulfide	426	378	379	**89**	**89**	70-113	0	25	
156-60-5	trans-1,2-Dichloroethene	216	224	225	**104**	**104**	76-119	0	25	
75-34-3	1,1-Dichloroethane	216	216	215	**100**	**100**	70-114	0	25	
1634-04-4	Methyl tert-Butyl Ether	214	192	191	**90**	**89**	72-118	1	25	
78-93-3	2-Butanone (MEK)	418	394	389	**94**	**93**	74-121	1	25	
156-59-2	cis-1,2-Dichloroethene	214	216	214	**101**	**100**	73-117	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.
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: P2205014
Client Project ID: **LHAAP-GWTP / NW01312.0150** ALS Sample ID: P221116-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 11/16/22
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
141-78-6	Ethyl Acetate	856	593	577	**69**	**67**	59-161	3	25	
110-54-3	n-Hexane	212	209	203	**99**	**96**	55-130	3	25	
67-66-3	Chloroform	212	193	189	**91**	**89**	71-114	2	25	
109-99-9	Tetrahydrofuran (THF)	412	373	369	**91**	**90**	73-114	1	25	
107-06-2	1,2-Dichloroethane	216	202	194	**94**	**90**	71-119	4	25	
71-55-6	1,1,1-Trichloroethane	210	204	200	**97**	**95**	73-119	2	25	
71-43-2	Benzene	216	199	196	**92**	**91**	72-113	1	25	
56-23-5	Carbon Tetrachloride	206	203	198	**99**	**96**	67-123	3	25	
110-82-7	Cyclohexane	422	378	373	**90**	**88**	70-119	2	25	
78-87-5	1,2-Dichloropropane	212	219	215	**103**	**101**	70-118	2	25	
75-27-4	Bromodichloromethane	216	204	201	**94**	**93**	74-119	1	25	
79-01-6	Trichloroethene	212	212	209	**100**	**99**	74-115	1	25	
123-91-1	1,4-Dioxane	212	198	198	**93**	**93**	77-124	0	25	
80-62-6	Methyl Methacrylate	426	387	380	**91**	**89**	78-126	2	25	
142-82-5	n-Heptane	212	197	192	**93**	**91**	70-119	2	25	
10061-01-5	cis-1,3-Dichloropropene	216	228	223	**106**	**103**	81-126	3	25	
108-10-1	4-Methyl-2-pentanone	432	470	449	**109**	**104**	73-129	5	25	
10061-02-6	trans-1,3-Dichloropropene	206	215	208	**104**	**101**	80-127	3	25	
79-00-5	1,1,2-Trichloroethane	212	214	209	**101**	**99**	78-117	2	25	
108-88-3	Toluene	212	184	187	**87**	**88**	70-118	1	25	
591-78-6	2-Hexanone	426	495	480	**116**	**113**	74-132	3	25	
124-48-1	Dibromochloromethane	216	213	216	**99**	**100**	69-137	1	25	
106-93-4	1,2-Dibromoethane	208	218	221	**105**	**106**	76-128	0.9	25	
123-86-4	n-Butyl Acetate	410	503	497	**123**	**121**	75-134	2	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

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **Bhate Environmental Associates, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2205014
Client Project ID: **LHAAP-GWTP / NW01312.0150** ALS Sample ID: P221116-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 11/16/22
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	214	224	223	**105**	**104**	68-120	1	25	
127-18-4	Tetrachloroethene	212	210	212	**99**	**100**	63-130	1	25	
108-90-7	Chlorobenzene	212	204	204	**96**	**96**	70-118	0	25	
100-41-4	Ethylbenzene	210	198	199	**94**	**95**	71-123	1	25	
179601-23-1	m,p-Xylenes	420	386	381	**92**	**91**	67-127	1	25	
75-25-2	Bromoform	214	223	224	**104**	**105**	65-149	1	25	
100-42-5	Styrene	212	218	215	**103**	**101**	76-132	2	25	
95-47-6	o-Xylene	212	205	200	**97**	**94**	69-124	3	25	
111-84-2	n-Nonane	212	255	244	**120**	**115**	64-127	4	25	
79-34-5	1,1,2,2-Tetrachloroethane	212	219	214	**103**	**101**	69-128	2	25	
98-82-8	Cumene	212	204	200	**96**	**94**	69-125	2	25	
80-56-8	alpha-Pinene	218	223	218	**102**	**100**	68-129	2	25	
103-65-1	n-Propylbenzene	214	211	204	**99**	**95**	70-127	4	25	
622-96-8	4-Ethyltoluene	216	218	211	**101**	**98**	69-127	3	25	
108-67-8	1,3,5-Trimethylbenzene	210	205	198	**98**	**94**	66-129	4	25	
95-63-6	1,2,4-Trimethylbenzene	208	214	206	**103**	**99**	63-142	4	25	
100-44-7	Benzyl Chloride	420	543	521	**129**	**124**	73-145	4	25	
541-73-1	1,3-Dichlorobenzene	210	233	224	**111**	**107**	67-136	4	25	
106-46-7	1,4-Dichlorobenzene	212	239	229	**113**	**108**	63-134	5	25	
95-50-1	1,2-Dichlorobenzene	212	227	217	**107**	**102**	64-139	5	25	
5989-27-5	d-Limonene	210	233	220	**111**	**105**	63-137	6	25	
96-12-8	1,2-Dibromo-3-chloropropane	416	470	443	**113**	**106**	72-145	6	25	
120-82-1	1,2,4-Trichlorobenzene	412	488	461	**118**	**112**	62-154	5	25	
91-20-3	Naphthalene	216	307	290	**142**	**134**	62-156	6	25	
87-68-3	Hexachlorobutadiene	210	244	228	**116**	**109**	55-142	6	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

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **Bhate Environmental Associates, Inc.**
Client Sample ID: **LH18/24-Air_103122_Stripper_a** ALS Project ID: P2205014
Client Project ID: **LHAAP-GWTP / NW01312.0150** ALS Sample ID: P2205014-002DUP

Test Code: EPA TO-15 Date Collected: 10/31/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 11/7/22
Analyst: Wida Ang Date Analyzed: 11/16/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 0.030 Liter(s)
Test Notes:
Container ID: AS01497

Initial Pressure (psig): -0.15 Final Pressure (psig): 3.79

Canister Dilution Factor: 1.27

Compound	Sample Result µg/m³	Sample Result ppbV	Duplicate Sample Result µg/m³	Duplicate Sample Result ppbV	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Propene	ND	ND	ND	ND	-	-	25	
Dichlorodifluoromethane (CFC 12)	ND	ND	ND	ND	-	-	25	
Chloromethane	ND	ND	ND	ND	-	-	25	
1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	ND	ND	ND	-	-	25	
Vinyl Chloride	104	40.6	89.2	34.9	96.6	**15**	25	
1,3-Butadiene	ND	ND	ND	ND	-	-	25	
Bromomethane	ND	ND	ND	ND	-	-	25	
Chloroethane	ND	ND	ND	ND	-	-	25	
Ethanol	ND	ND	ND	ND	-	-	25	
Acetonitrile	ND	ND	ND	ND	-	-	25	
Acrolein	ND	ND	ND	ND	-	-	25	
Acetone	ND	ND	ND	ND	-	-	25	
Trichlorofluoromethane	ND	ND	ND	ND	-	-	25	
2-Propanol (Isopropyl Alcohol)	ND	ND	ND	ND	-	-	25	
Acrylonitrile	ND	ND	ND	ND	-	-	25	
1,1-Dichloroethene	28.2	7.10	27.2	6.87	27.7	**4**	25	
Methylene Chloride	613	176	608	175	610.5	**0.8**	25	
3-Chloro-1-propene (Allyl Chloride)	ND	ND	ND	ND	-	-	25	
Trichlorotrifluoroethane	1,860	243	1,840	240	1850	**1**	25	
Carbon Disulfide	ND	ND	ND	ND	-	-	25	
trans-1,2-Dichloroethene	ND	ND	ND	ND	-	-	25	
1,1-Dichloroethane	ND	ND	ND	ND	-	-	25	
Methyl tert-Butyl Ether	ND	ND	ND	ND	-	-	25	
2-Butanone (MEK)	ND	ND	ND	ND	-	-	25	
cis-1,2-Dichloroethene	1,600	404	1,580	399	1590	**1**	25	

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

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **Bhate Environmental Associates, Inc.**
Client Sample ID: **LH18/24-Air_103122_Stripper_a** ALS Project ID: P2205014
Client Project ID: **LHAAP-GWTP / NW01312.0150** ALS Sample ID: P2205014-002DUP

Test Code: EPA TO-15 Date Collected: 10/31/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 11/7/22
Analyst: Wida Ang Date Analyzed: 11/16/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 0.030 Liter(s)
Test Notes:
Container ID: AS01497

Initial Pressure (psig): -0.15 Final Pressure (psig): 3.79

Canister Dilution Factor: 1.27

Compound	Sample Result µg/m³	Sample Result ppbV	Duplicate Sample Result µg/m³	Duplicate Sample Result ppbV	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Ethyl Acetate	ND	ND	ND	ND	-	-	25	
n-Hexane	ND	ND	ND	ND	-	-	25	
Chloroform	ND	ND	ND	ND	-	-	25	
Tetrahydrofuran (THF)	ND	ND	ND	ND	-	-	25	
1,2-Dichloroethane	25.6	6.32	24.9	6.15	25.25	**3**	25	
1,1,1-Trichloroethane	ND	ND	ND	ND	-	-	25	
Benzene	ND	ND	ND	ND	-	-	25	
Carbon Tetrachloride	ND	ND	ND	ND	-	-	25	
Cyclohexane	ND	ND	ND	ND	-	-	25	
1,2-Dichloropropane	ND	ND	ND	ND	-	-	25	
Bromodichloromethane	ND	ND	ND	ND	-	-	25	
Trichloroethene	3,560	664	3,540	659	3550	**0.6**	25	
1,4-Dioxane	ND	ND	ND	ND	-	-	25	
Methyl Methacrylate	ND	ND	ND	ND	-	-	25	
n-Heptane	ND	ND	ND	ND	-	-	25	
cis-1,3-Dichloropropene	ND	ND	ND	ND	-	-	25	
4-Methyl-2-pentanone	ND	ND	ND	ND	-	-	25	
trans-1,3-Dichloropropene	ND	ND	ND	ND	-	-	25	
1,1,2-Trichloroethane	ND	ND	ND	ND	-	-	25	
Toluene	ND	ND	ND	ND	-	-	25	
2-Hexanone	ND	ND	ND	ND	-	-	25	
Dibromochloromethane	ND	ND	ND	ND	-	-	25	
1,2-Dibromoethane	ND	ND	ND	ND	-	-	25	
n-Butyl Acetate	ND	ND	ND	ND	-	-	25	

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

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **Bhate Environmental Associates, Inc.**
Client Sample ID: **LH18/24-Air_103122_Stripper_a** ALS Project ID: P2205014
Client Project ID: **LHAAP-GWTP / NW01312.0150** ALS Sample ID: P2205014-002DUP

Test Code: EPA TO-15 Date Collected: 10/31/22
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 11/7/22
Analyst: Wida Ang Date Analyzed: 11/16/22
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 0.030 Liter(s)
Test Notes:
Container ID: AS01497

Initial Pressure (psig): -0.15 Final Pressure (psig): 3.79

Canister Dilution Factor: 1.27

Compound	Sample Result µg/m³	Sample Result ppbV	Duplicate Sample Result µg/m³	Duplicate Sample Result ppbV	Average µg/m³	% RPD	RPD Limit	Data Qualifier
n-Octane	ND	ND	ND	ND	-	-	25	
Tetrachloroethene	25.6	3.77	26.7	3.93	26.15	**4**	25	
Chlorobenzene	ND	ND	ND	ND	-	-	25	
Ethylbenzene	ND	ND	ND	ND	-	-	25	
m,p-Xylenes	ND	ND	ND	ND	-	-	25	
Bromoform	ND	ND	ND	ND	-	-	25	
Styrene	ND	ND	ND	ND	-	-	25	
o-Xylene	ND	ND	ND	ND	-	-	25	
n-Nonane	ND	ND	ND	ND	-	-	25	
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	-	-	25	
Cumene	ND	ND	ND	ND	-	-	25	
alpha-Pinene	ND	ND	ND	ND	-	-	25	
n-Propylbenzene	ND	ND	ND	ND	-	-	25	
4-Ethyltoluene	ND	ND	ND	ND	-	-	25	
1,3,5-Trimethylbenzene	ND	ND	ND	ND	-	-	25	
1,2,4-Trimethylbenzene	ND	ND	ND	ND	-	-	25	
Benzyl Chloride	ND	ND	ND	ND	-	-	25	
1,3-Dichlorobenzene	ND	ND	ND	ND	-	-	25	
1,4-Dichlorobenzene	ND	ND	ND	ND	-	-	25	
1,2-Dichlorobenzene	ND	ND	ND	ND	-	-	25	
d-Limonene	ND	ND	ND	ND	-	-	25	
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND	-	-	25	
1,2,4-Trichlorobenzene	ND	ND	ND	ND	-	-	25	
Naphthalene	ND	ND	ND	ND	-	-	25	
Hexachlorobutadiene	ND	ND	ND	ND	-	-	25	

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

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Bhate Environmental Associates, Inc.** ALS Project ID: P2205014
Client Project ID: **LHAAP-GWTP / NW01312.0150**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Lab File ID: 11162201.D
Analyst: Wida Ang Date Analyzed: 11/16/22
Sample Type: 6.0 L Summa Canister(s) Time Analyzed: 16:58
Test Notes:

		IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	24 Hour Standard	170898	11.31	743574	13.43	151604	17.73
	Upper Limit	239257	11.64	1041004	13.76	212246	18.06
	Lower Limit	102539	10.98	446144	13.10	90962	17.40
	Client Sample ID						
01	Method Blank	136788	11.29	608892	13.42	118872	17.72
02	Lab Control Sample	139423	11.31	615504	13.42	132059	17.73
03	Duplicate Lab Control Sample	167170	11.31	734108	13.42	149446	17.73
04	LH18/24-Air_103122_Stripper	163979	11.30	701522	13.42	132619	17.72
05	LH18/24-Air_103122_Stripper_a	136826	11.29	592178	13.42	115501	17.72
06	LH18/24-Air_103122_Stripper_a (Lab Duplicate)	128124	11.29	557929	13.42	110264	17.72
07	LH18/24-Air_103122_GWTP	125842	11.29	552060	13.42	109545	17.72
08	LH18/24-Air_103122_Downwind_North	122395	11.30	551186	13.42	111623	17.72
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:\MS16\DATA\2022 11\16\11162210.D Vial: 8
Acq On : 16 Nov 2022 22:03 Operator: WA
Sample : P2205014-001 (30mL) Inst : GCMS-16
Misc : S35-11092201

Quant Time: Nov 17 04:49:01 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) 11/17/22
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	163979	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	13.42	114	701522	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.72	54	132619	12.500	ng	-0.01
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.15	65	257970	11.764	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.08%			
57) Toluene-d8 (SS2)	15.87	98	756774	12.948	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.60%			
73) Bromofluorobenzene (SS3)	19.10	174	239296	12.992	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.92%			
Target Compounds						Qvalue
2) Propene	4.22	42	449	N.D.		
3) Dichlorodifluoromethan...	4.37	85	1438	N.D.		
4) Chloromethane	4.65	50	630	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	5.07	62	51284	2.296	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	6.48	45	9968	0.892	ng	97
11) Acetonitrile	6.76	41	2903	N.D.		
12) Acrolein	6.97	56	579	N.D.		
13) Acetone	7.19	58	5778	0.522	ng	92
14) Trichlorofluoromethane	7.40	101	694	N.D.		
15) 2-Propanol (Isopropanol)	7.72	45	1902	N.D.		
16) Acrylonitrile	7.92	53	1718	N.D.		
17) 1,1-Dichloroethene	8.35	96	8998	0.678	ng	98
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	8.56	84	196830	14.254	ng	83
20) 3-Chloro-1-propene (Al...	8.66	41	121	N.D.		
21) Trichlorotrifluoroethane	9.00	151	516453	43.628	ng	96
22) Carbon Disulfide	8.85	76	1164	N.D.		
23) trans-1,2-Dichloroethene	9.84	61	2215	N.D.		
24) 1,1-Dichloroethane	10.10	63	2774	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)	10.65	72	1520	N.D.		
28) cis-1,2-Dichloroethene	11.11	61	658031	35.965	ng	96
29) Diisopropyl Ether	11.47	87	260	N.D.		
30) Ethyl Acetate	11.48	61	917	N.D.		
31) n-Hexane	11.41	57	865	N.D.		
32) Chloroform	11.46	83	3952	N.D.		
34) Tetrahydrofuran (THF)	11.94	72	106	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	12.27	62	10770	0.564	ng	98
38) 1,1,1-Trichloroethane	12.55	97	231	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.		
41) Benzene	13.03	78	2513	N.D.		
42) Carbon Tetrachloride	13.19	117	1370	N.D.		
43) Cyclohexane	13.32	84	964	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	14.12	130	1185868	80.005	ng	97
48) 1,4-Dioxane	14.15	88	616	N.D.		
49) 2,2,4-Trimethylpentane...	14.19	57	277	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Data File : I:\MS16\DATA\2022 11\16\11162210.D Vial: 8
Acq On : 16 Nov 2022 22:03 Operator: WA
Sample : P2205014-001 (30mL) Inst : GCMS-16
Misc : S35-11092201

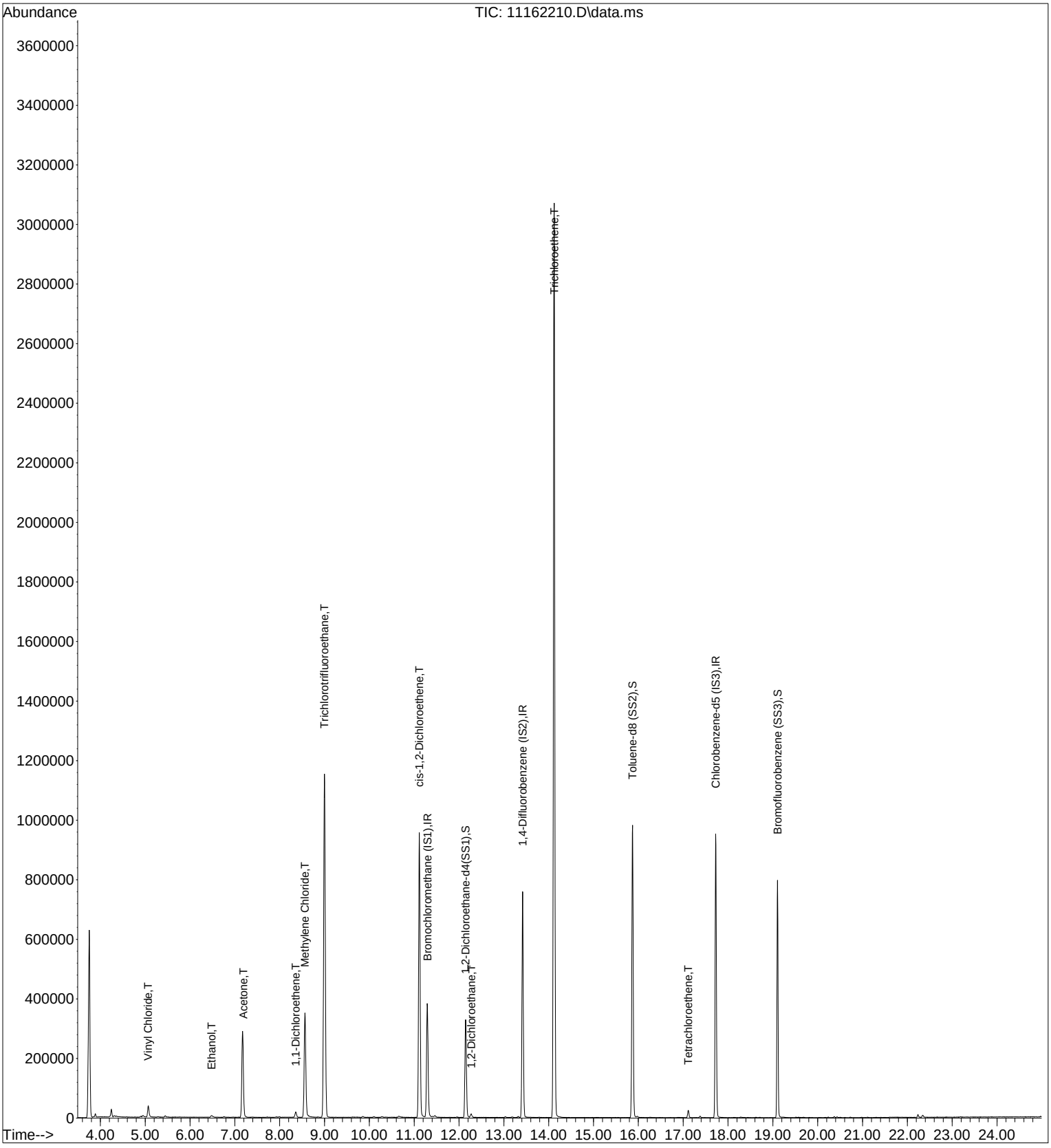
Quant Time: Nov 17 04:49:01 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

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	15.97	91	4677	N.D.	
59) 2-Hexanone	16.26	43	2760	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.87	43	2049	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	17.11	166	8889	0.635 ng	97
65) Chlorobenzene	17.77	112	600	N.D.	
66) Ethylbenzene	18.14	91	1675	N.D.	
67) m- & p-Xylenes	18.28	91	2882	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.61	104	902	N.D.	
70) o-Xylene	18.71	91	1108	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	19.23	105	904	N.D.	
75) alpha-Pinene	19.57	93	196	N.D.	
76) n-Propylbenzene	19.68	91	1114	N.D.	
77) 3-Ethyltoluene	0.00	105	0	N.D.	
78) 4-Ethyltoluene	19.81	105	1226	N.D.	
79) 1,3,5-Trimethylbenzene	19.87	105	755	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D.	
82) 1,2,4-Trimethylbenzene	20.24	105	1067	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	20.35	91	1611	N.D.	
85) 1,3-Dichlorobenzene	20.37	146	1478	N.D.	
86) 1,4-Dichlorobenzene	20.42	146	1896	N.D.	
87) sec-Butylbenzene	20.47	105	327	N.D.	
88) 4-Isopropyltoluene (p-...	20.61	119	641	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	
90) 1,2-Dichlorobenzene	20.72	146	1172	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	21.11	157	501	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	22.23	180	4102	N.D.	
95) Naphthalene	22.35	128	8380	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	22.66	225	330	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	20.23	119	422	N.D.	
100) n-Butylbenzene	20.97	91	890	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:\MS16\DATA\2022 11\16\11162210.D Vial: 8
Acq On : 16 Nov 2022 22:03 Operator: WA
Sample : P2205014-001 (30mL) Inst : GCMS-16
Misc : S35-11092201

Quant Time: Nov 17 04:49:01 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 11\16\11162210.D Vial: 8
Acq On : 16 Nov 2022 22:03 Operator: WA
Sample : P2205014-001 (30mL) Inst : GCMS-16
Misc : S35-11092201

Quant Time: Nov 17 04:49:01 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 11/17/22

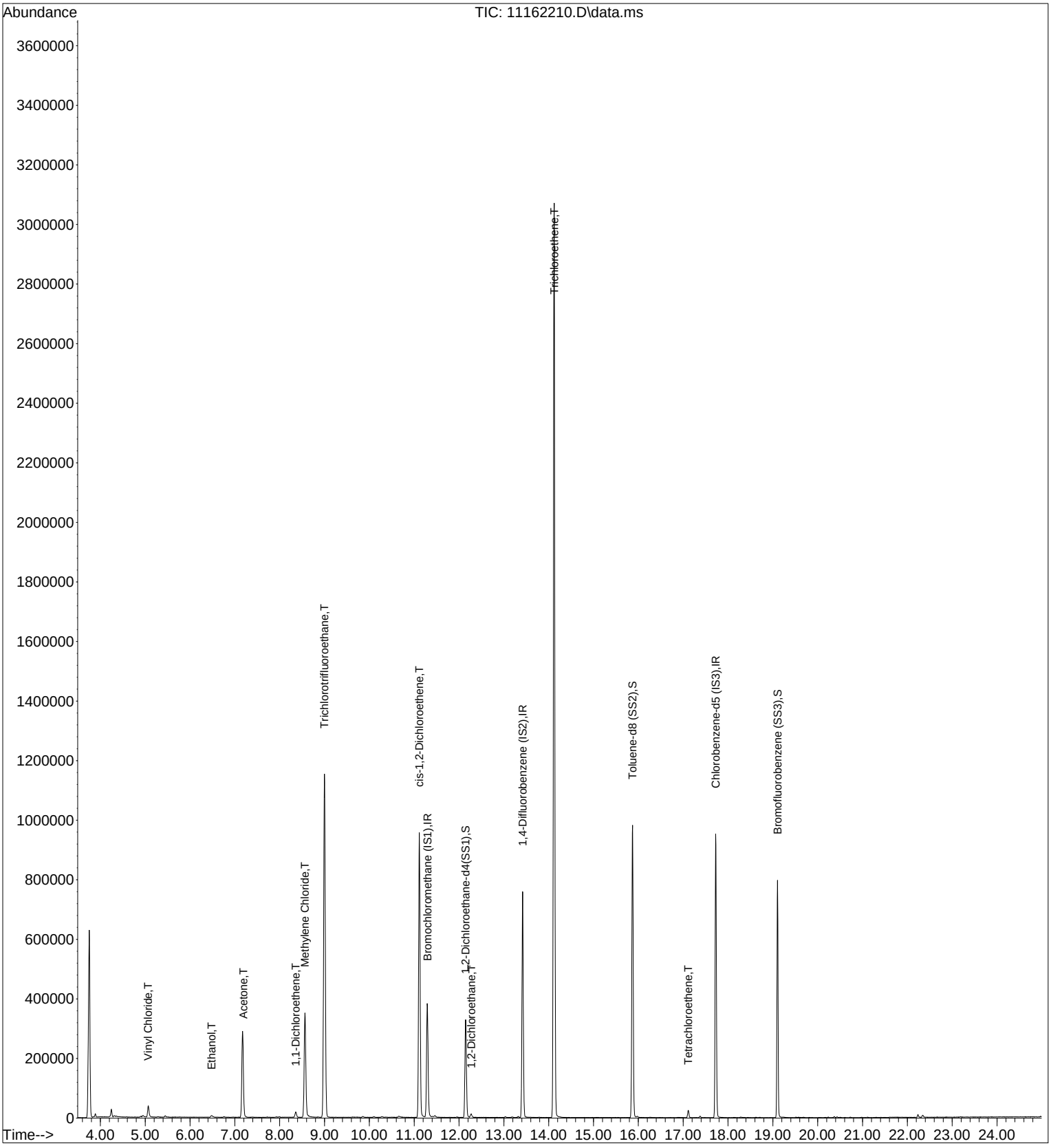
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	163979	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	13.42	114	701522	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.72	54	132619	12.500	ng	-0.01
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.15	65	257970	11.764	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.08%			
57) Toluene-d8 (SS2)	15.87	98	756774	12.948	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.60%			
73) Bromofluorobenzene (SS3)	19.10	174	239296	12.992	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.92%			
Target Compounds						Qvalue
6) Vinyl Chloride	5.07	62	51284	2.296	ng	99
10) Ethanol	6.48	45	9968	0.892	ng	97
13) Acetone	7.19	58	5778	0.522	ng	92
17) 1,1-Dichloroethene	8.35	96	8998	0.678	ng	98
19) Methylene Chloride	8.56	84	196830	14.254	ng	83
21) Trichlorotrifluoroethane	9.00	151	516453	43.628	ng	96
28) cis-1,2-Dichloroethene	11.11	61	658031	35.965	ng	96
36) 1,2-Dichloroethane	12.27	62	10770	0.564	ng	98
47) Trichloroethene	14.12	130	1185868	80.005	ng	97
64) Tetrachloroethene	17.11	166	8889	0.635	ng	97

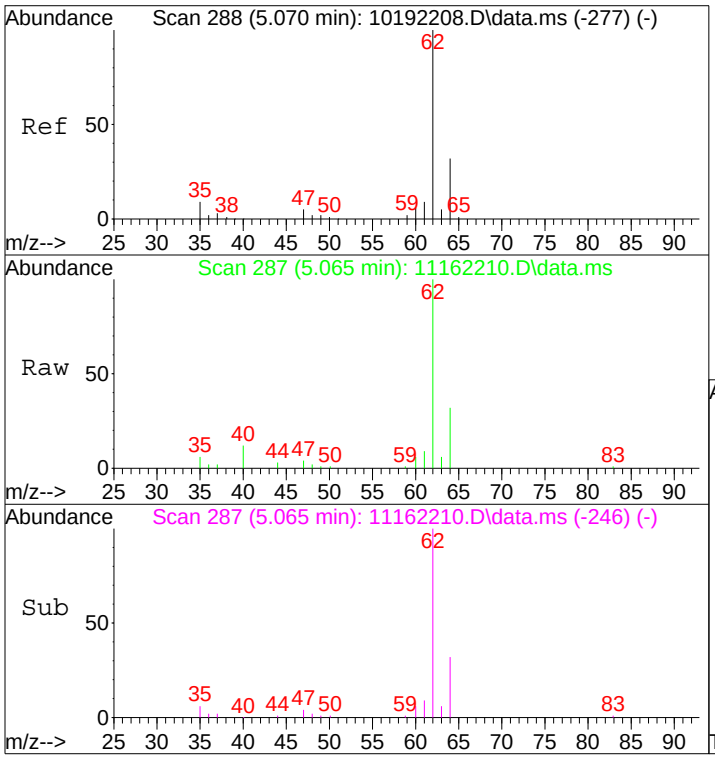
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 11\16\11162210.D Vial: 8
Acq On : 16 Nov 2022 22:03 Operator: WA
Sample : P2205014-001 (30mL) Inst : GCMS-16
Misc : S35-11092201

Quant Time: Nov 17 04:49:01 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

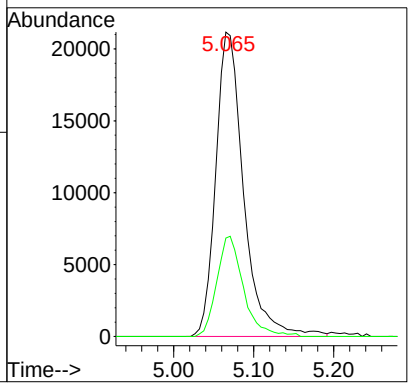


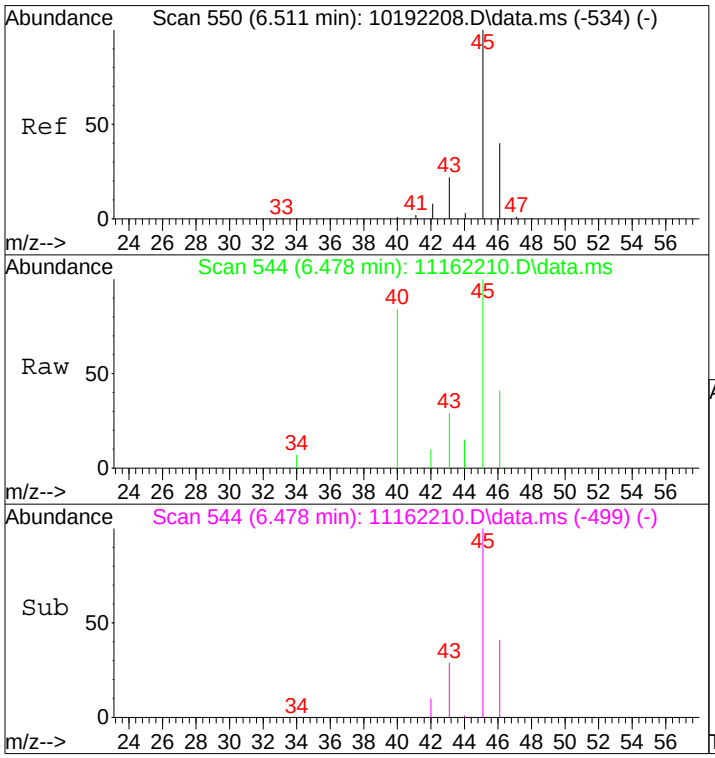


#6
Vinyl Chloride
Concen: 2.30 ng
RT: 5.07 min Scan# 287
Delta R.T. -0.022 min
Lab File: 11162210.D
Acq: 16 Nov 2022 22:03

Tgt Ion: 62 Resp: 51284

Ion	Ratio	Lower	Upper
62	100		
64	31.5	11.9	51.9

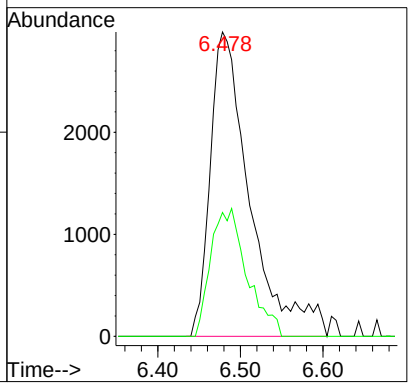


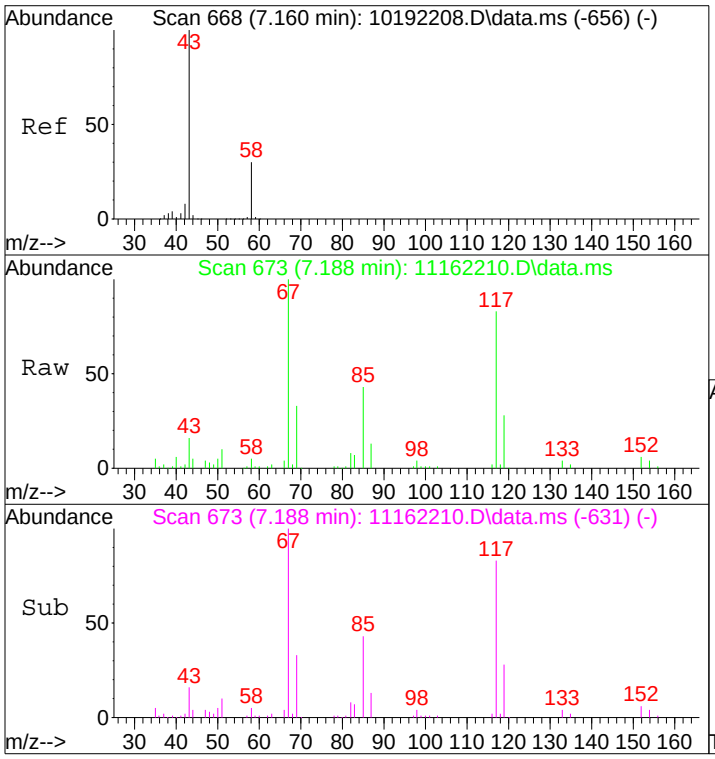


#10
Ethanol
Concen: 0.89 ng
RT: 6.48 min Scan# 544
Delta R.T. -0.005 min
Lab File: 11162210.D
Acq: 16 Nov 2022 22:03

Tgt Ion: 45 Resp: 9968

Ion	Ratio	Lower	Upper
45	100		
46	38.3	20.0	60.0

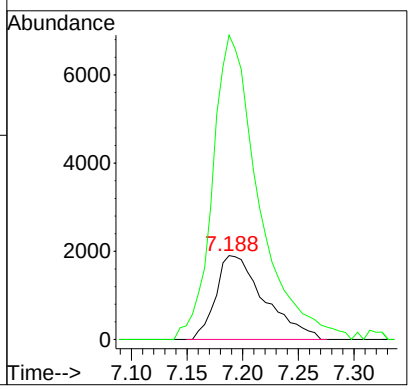


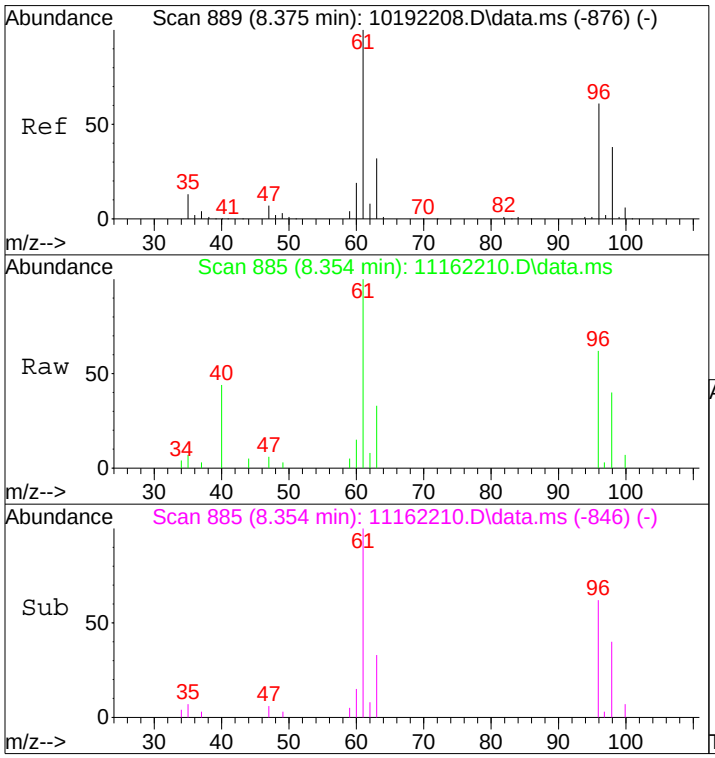


#13
Acetone
Concen: 0.52 ng
RT: 7.19 min Scan# 673
Delta R.T. -0.016 min
Lab File: 11162210.D
Acq: 16 Nov 2022 22:03

Tgt Ion: 58 Resp: 5778

Ion	Ratio	Lower	Upper
58	100		
43	345.9	298.4	358.4

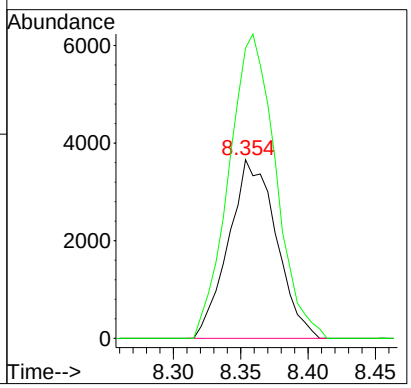


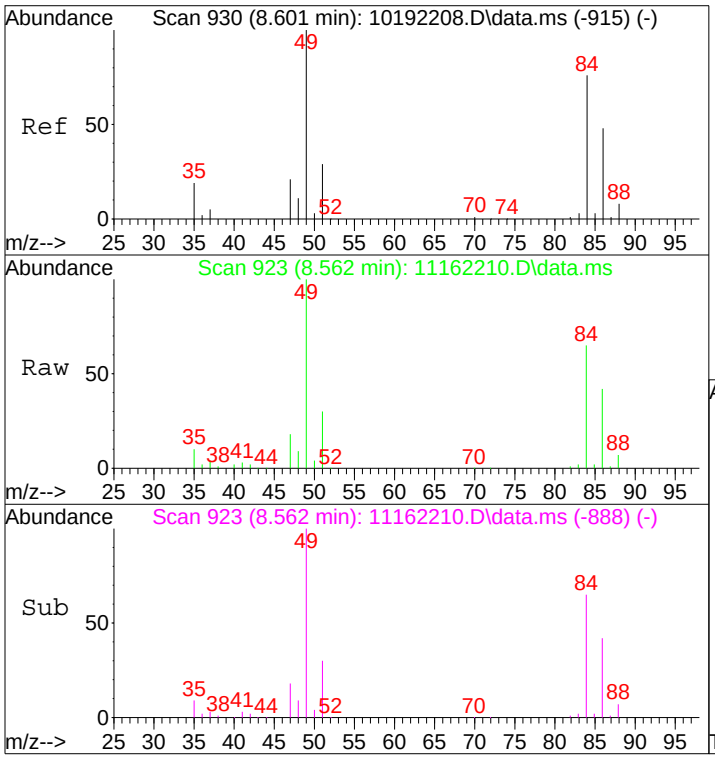


#17
1,1-Dichloroethene
Concen: 0.68 ng
RT: 8.35 min Scan# 885
Delta R.T. -0.033 min
Lab File: 11162210.D
Acq: 16 Nov 2022 22:03

Tgt Ion: 96 Resp: 8998

Ion	Ratio	Lower	Upper
96	100		
61	167.6	145.2	185.2

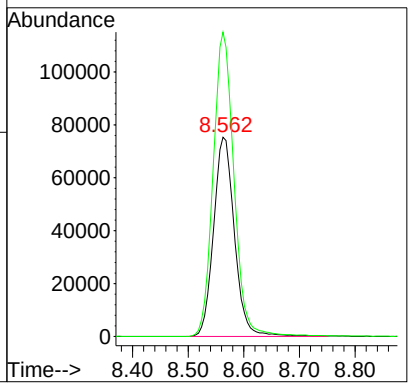


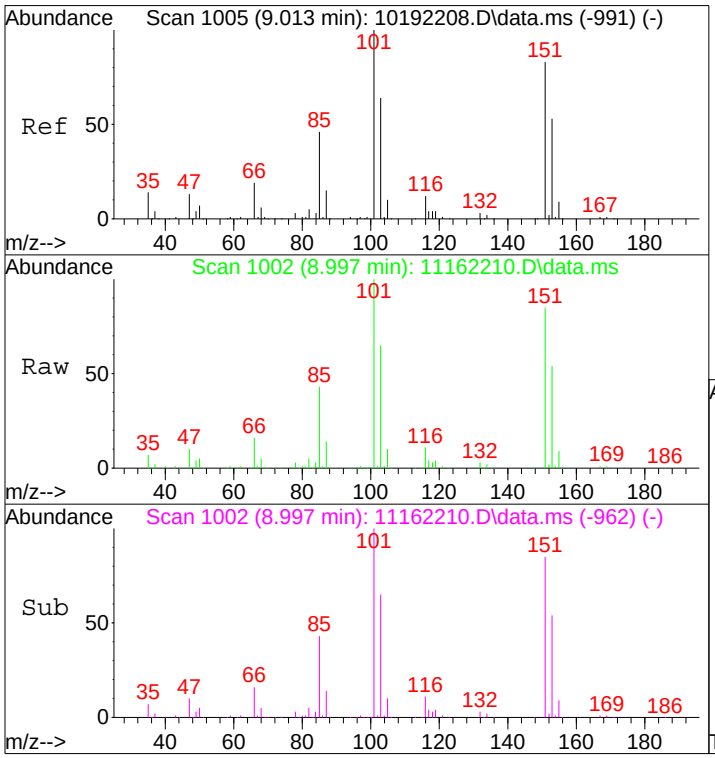


#19
Methylene Chloride
Concen: 14.25 ng
RT: 8.56 min Scan# 923
Delta R.T. -0.055 min
Lab File: 11162210.D
Acq: 16 Nov 2022 22:03

Tgt Ion: 84 Resp: 196830

Ion	Ratio	Lower	Upper
84	100		
49	152.4	107.3	157.3

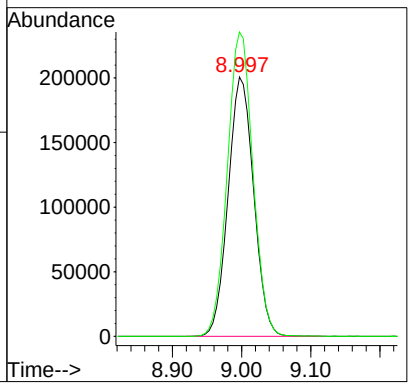


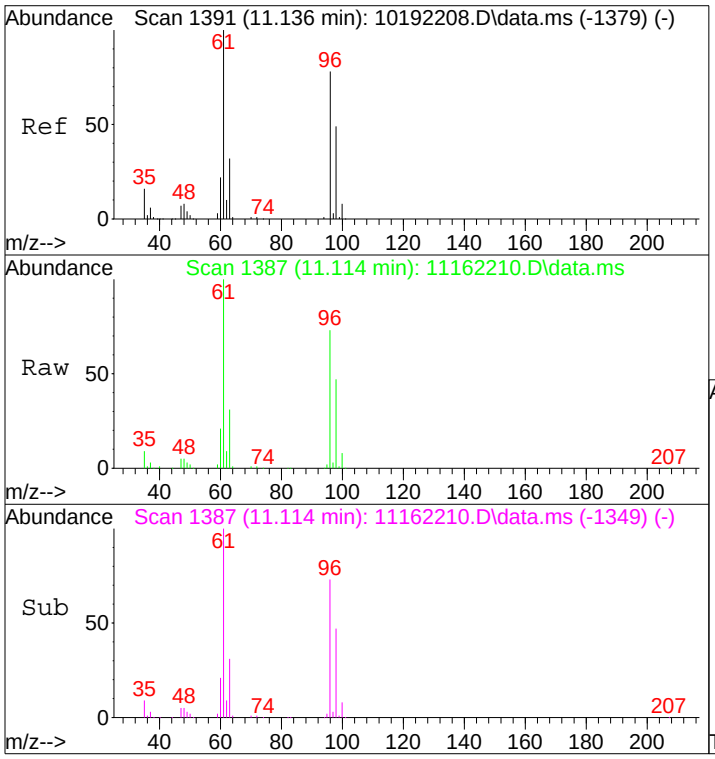


#21
Trichlorotrifluoroethane
Concen: 43.63 ng
RT: 9.00 min Scan# 1002
Delta R.T. -0.027 min
Lab File: 11162210.D
Acq: 16 Nov 2022 22:03

Tgt Ion:151 Resp: 516453

Ion	Ratio	Lower	Upper
151	100		
101	117.5	102.2	142.2

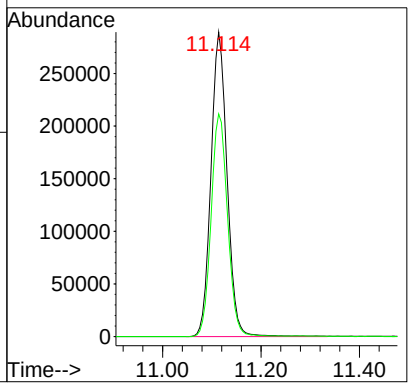


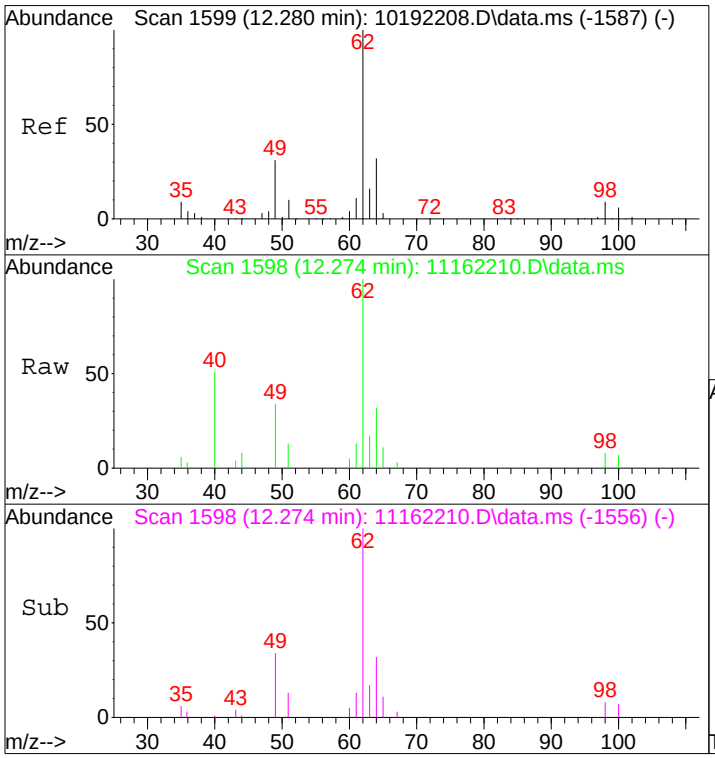


#28
cis-1,2-Dichloroethene
Concen: 35.97 ng
RT: 11.11 min Scan# 1387
Delta R.T. -0.038 min
Lab File: 11162210.D
Acq: 16 Nov 2022 22:03

Tgt Ion: 61 Resp: 658031

Ion	Ratio	Lower	Upper
61	100		
96	74.6	58.3	98.3

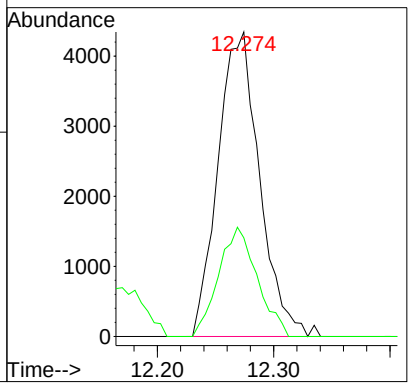


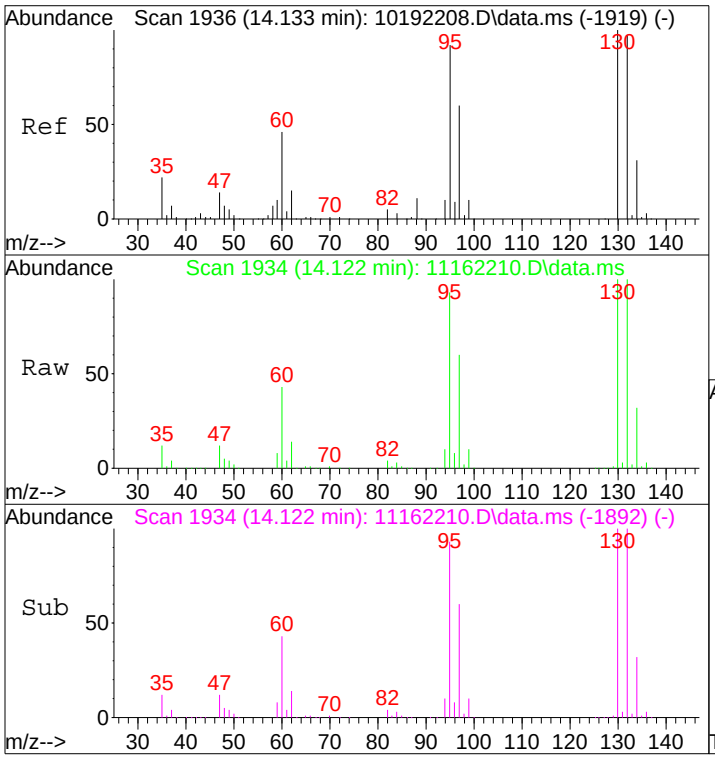


#36
1,2-Dichloroethane
Concen: 0.56 ng
RT: 12.27 min Scan# 1598
Delta R.T. -0.016 min
Lab File: 11162210.D
Acq: 16 Nov 2022 22:03

Tgt Ion: 62 Resp: 10770

Ion	Ratio	Lower	Upper
62	100		
64	33.3	12.2	52.2

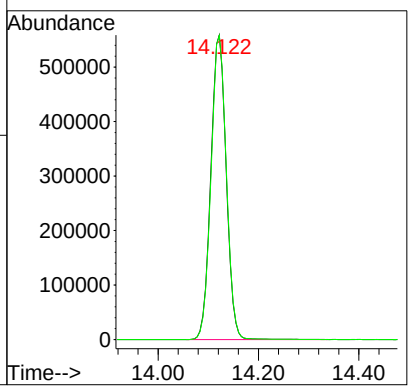


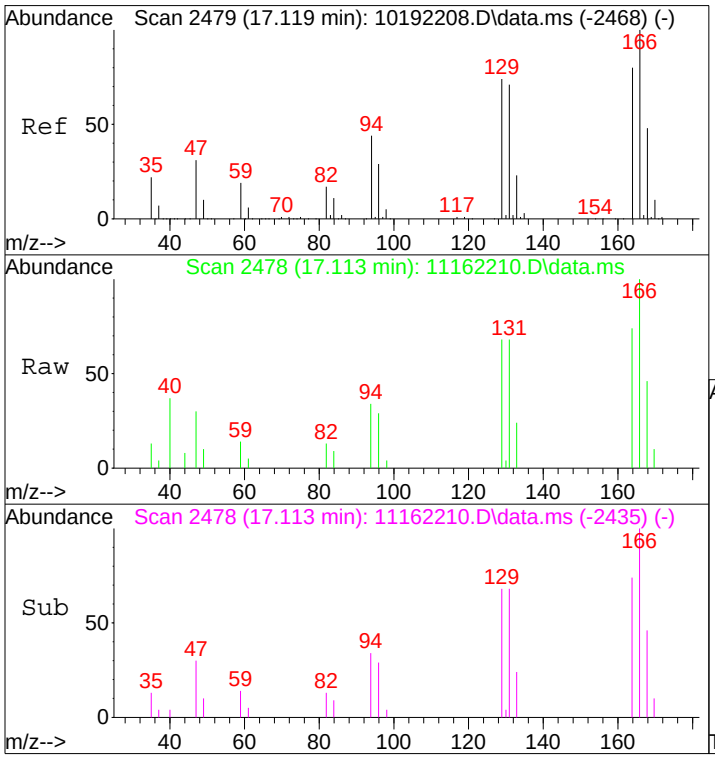


#47
Trichloroethene
Concen: 80.01 ng
RT: 14.12 min Scan# 1934
Delta R.T. -0.016 min
Lab File: 11162210.D
Acq: 16 Nov 2022 22:03

Tgt Ion:130 Resp: 1185868

Ion	Ratio	Lower	Upper
130	100		
132	99.7	77.0	117.0

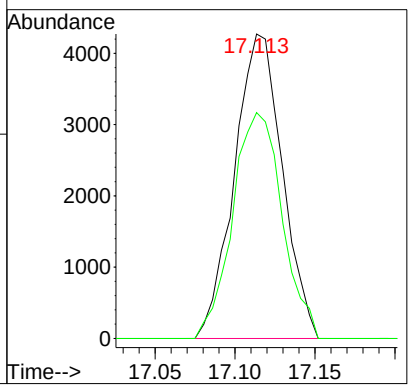




#64
Tetrachloroethene
Concen: 0.64 ng
RT: 17.11 min Scan# 2478
Delta R.T. -0.011 min
Lab File: 11162210.D
Acq: 16 Nov 2022 22:03

Tgt Ion:166 Resp: 8889

Ion	Ratio	Lower	Upper
166	100		
164	76.7	59.4	99.4



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 11\16\11162211.D Vial: 6
Acq On : 16 Nov 2022 22:37 Operator: WA
Sample : P2205014-002 (30mL) Inst : GCMS-16
Misc : S35-11092201

Quant Time: Nov 17 04:49:56 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) 11/17/22
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.29	130	136826	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	13.42	114	592178	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.72	54	115501	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	220971	12.076	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.64%				
57) Toluene-d8 (SS2)	15.87	98	650431	12.778	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.24%				
73) Bromofluorobenzene (SS3)	19.10	174	204798	12.767	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.16%				
Target Compounds							Qvalue
2) Propene	4.22	42	433	N.D.			
3) Dichlorodifluoromethan...	4.36	85	1451	N.D.			
4) Chloromethane	4.64	50	514	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	5.06	62	45635	2.449	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	6.57	45	101	N.D.			
11) Acetonitrile	6.76	41	745	N.D.			
12) Acrolein	0.00	56	0	N.D.			
13) Acetone	7.19	58	5269	0.570	ng	#	82
14) Trichlorofluoromethane	7.40	101	453	N.D.			
15) 2-Propanol (Isopropanol)	7.70	45	64	N.D.			
16) Acrylonitrile	7.94	53	109	N.D.			
17) 1,1-Dichloroethene	8.36	96	7365	0.665	ng		94
18) 2-Methyl-2-Propanol (t...	8.64	59	860	N.D.			
19) Methylene Chloride	8.56	84	166807	14.477	ng	#	78
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	9.00	151	434866	44.026	ng		97
22) Carbon Disulfide	8.85	76	601	N.D.			
23) trans-1,2-Dichloroethene	9.85	61	1874	N.D.			
24) 1,1-Dichloroethane	10.10	63	2241	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)	10.65	72	1971	N.D.			
28) cis-1,2-Dichloroethene	11.11	61	577803	37.847	ng		94
29) Diisopropyl Ether	11.46	87	122	N.D.			
30) Ethyl Acetate	11.45	61	129	N.D.			
31) n-Hexane	11.40	57	356	N.D.			
32) Chloroform	11.46	83	3206	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	12.26	62	9625	0.604	ng		99
38) 1,1,1-Trichloroethane	12.55	97	160	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.03	78	2050	N.D.			
42) Carbon Tetrachloride	13.18	117	1149	N.D.			
43) Cyclohexane	13.32	84	677	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	14.12	130	1053582	84.205	ng		97
48) 1,4-Dioxane	14.15	88	458	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:\MS16\DATA\2022 11\16\11162211.D Vial: 6
Acq On : 16 Nov 2022 22:37 Operator: WA
Sample : P2205014-002 (30mL) Inst : GCMS-16
Misc : S35-11092201

Quant Time: Nov 17 04:49:56 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

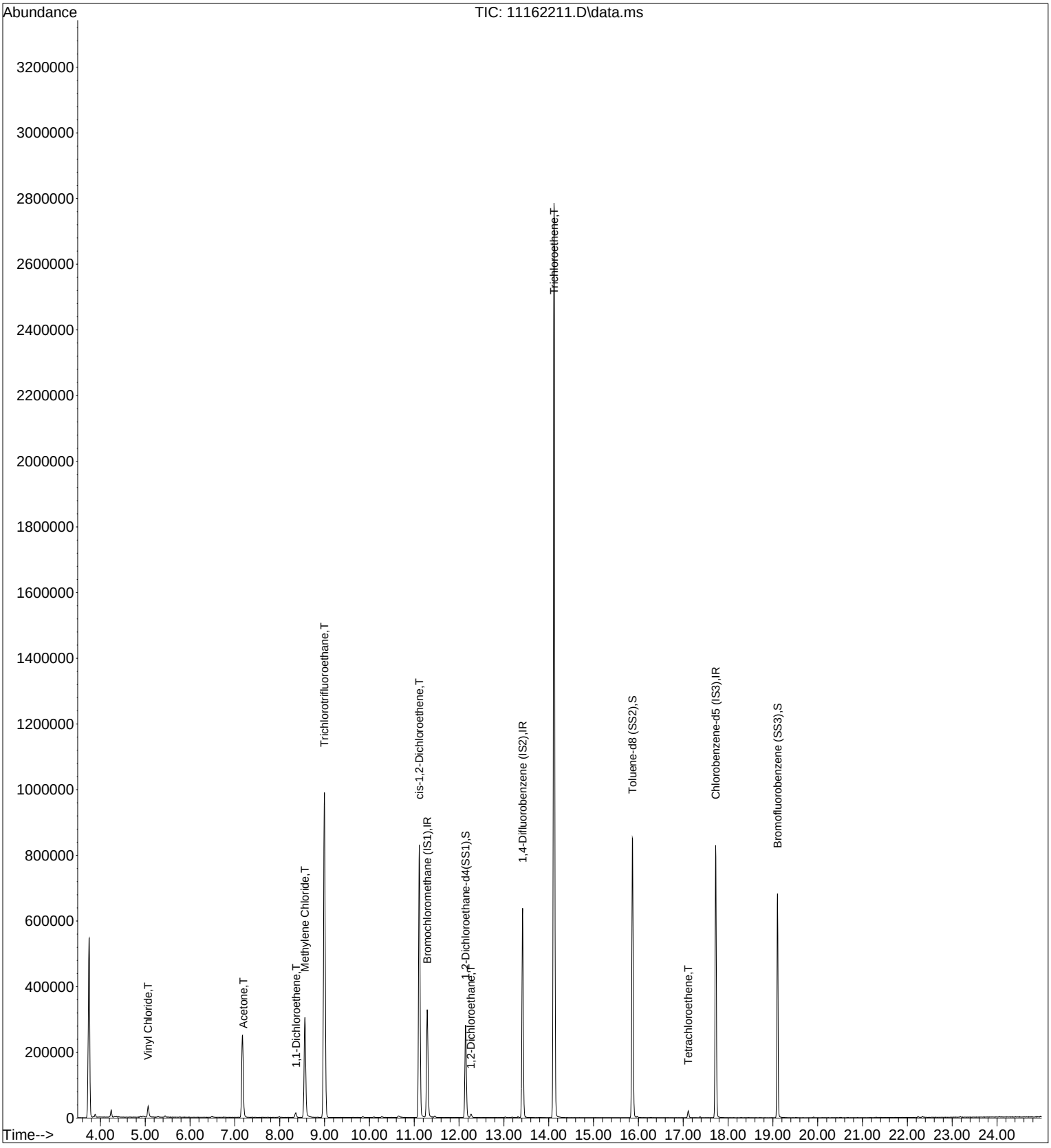
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.98	91	2467	N.D.	
59) 2-Hexanone	16.27	43	667	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	17.11	166	7367	0.604 ng	99
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	18.13	91	148	N.D.	
67) m- & p-Xylenes	18.30	91	412	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.64	104	180	N.D.	
70) o-Xylene	18.71	91	531	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	0.00	105	0	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	19.68	91	242	N.D.	
77) 3-Ethyltoluene	0.00	105	0	N.D.	
78) 4-Ethyltoluene	19.81	105	170	N.D.	
79) 1,3,5-Trimethylbenzene	19.87	105	118	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D.	
82) 1,2,4-Trimethylbenzene	20.24	105	416	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	20.43	146	481	N.D.	
86) 1,4-Dichlorobenzene	20.43	146	481	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D.	
88) 4-Isopropyltoluene (p-...	20.61	119	167	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	
90) 1,2-Dichlorobenzene	20.73	146	187	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	22.24	180	1139	N.D.	
95) Naphthalene	22.35	128	2602	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	0.00	119	0	N.D.	
100) n-Butylbenzene	20.98	91	106	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:\MS16\DATA\2022 11\16\11162211.D Vial: 6
Acq On : 16 Nov 2022 22:37 Operator: WA
Sample : P2205014-002 (30mL) Inst : GCMS-16
Misc : S35-11092201

Quant Time: Nov 17 04:49:56 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 11\16\11162211.D Vial: 6
Acq On : 16 Nov 2022 22:37 Operator: WA
Sample : P2205014-002 (30mL) Inst : GCMS-16
Misc : S35-11092201

Quant Time: Nov 17 04:49:56 2022 11/17/22
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

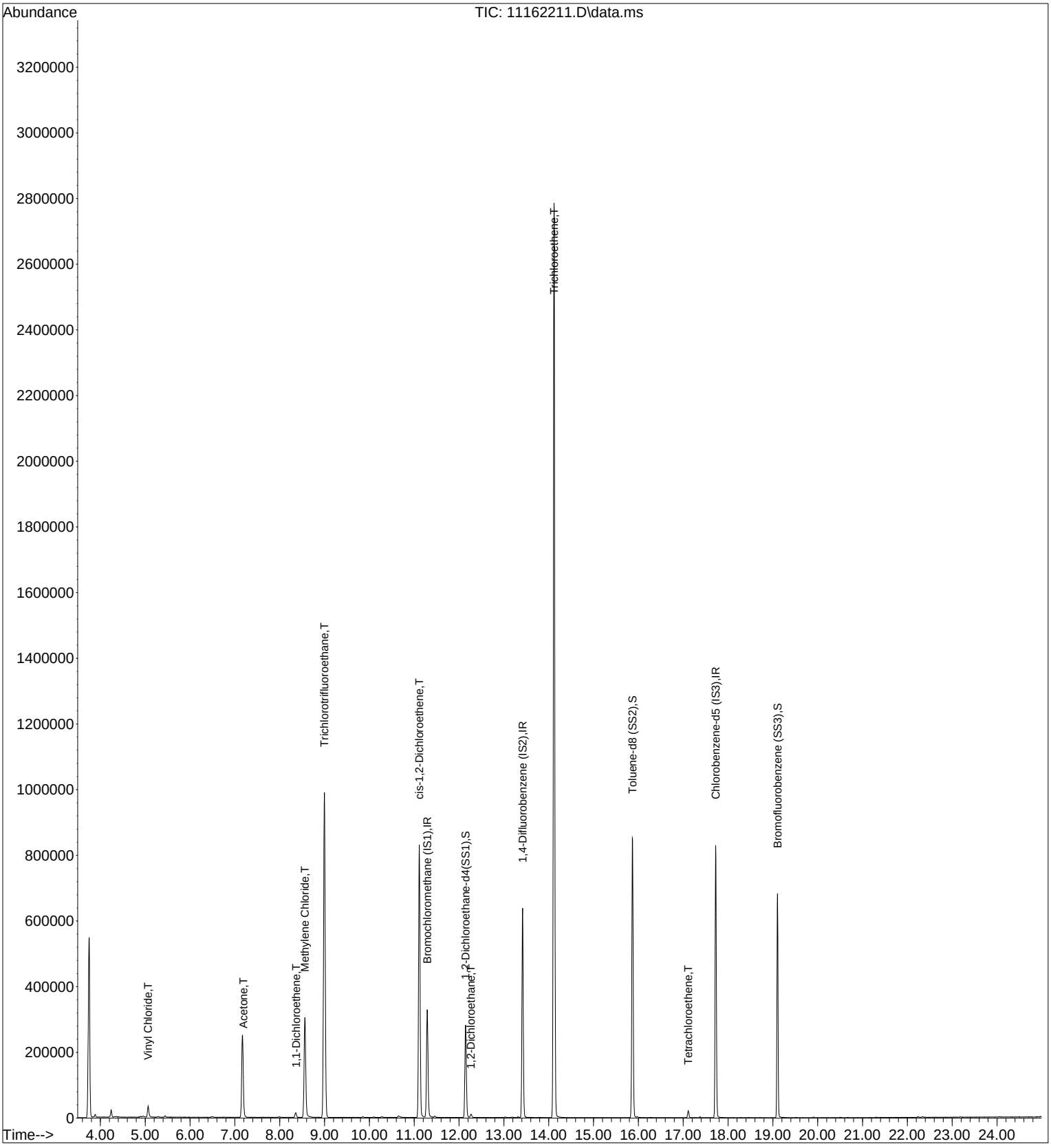
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.29	130	136826	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	13.42	114	592178	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.72	54	115501	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	220971	12.076	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.64%				
57) Toluene-d8 (SS2)	15.87	98	650431	12.778	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.24%				
73) Bromofluorobenzene (SS3)	19.10	174	204798	12.767	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.16%				
Target Compounds							Qvalue
6) Vinyl Chloride	5.06	62	45635	2.449	ng		99
13) Acetone	7.19	58	5269	0.570	ng	#	82
17) 1,1-Dichloroethene	8.36	96	7365	0.665	ng		94
19) Methylene Chloride	8.56	84	166807	14.477	ng	#	78
21) Trichlorotrifluoroethane	9.00	151	434866	44.026	ng		97
28) cis-1,2-Dichloroethene	11.11	61	577803	37.847	ng		94
36) 1,2-Dichloroethane	12.26	62	9625	0.604	ng		99
47) Trichloroethene	14.12	130	1053582	84.205	ng		97
64) Tetrachloroethene	17.11	166	7367	0.604	ng		99

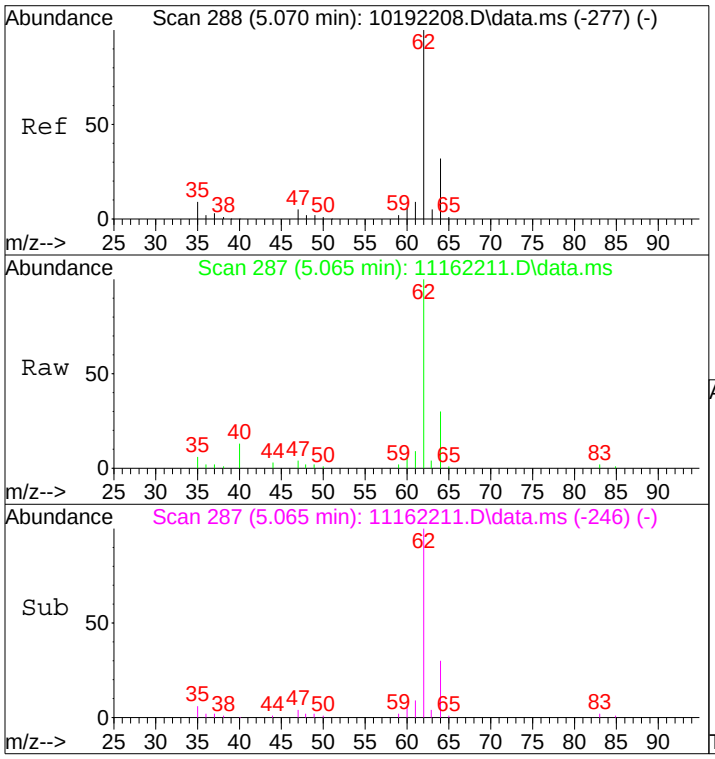
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 11\16\11162211.D Vial: 6
Acq On : 16 Nov 2022 22:37 Operator: WA
Sample : P2205014-002 (30mL) Inst : GCMS-16
Misc : S35-11092201

Quant Time: Nov 17 04:49:56 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

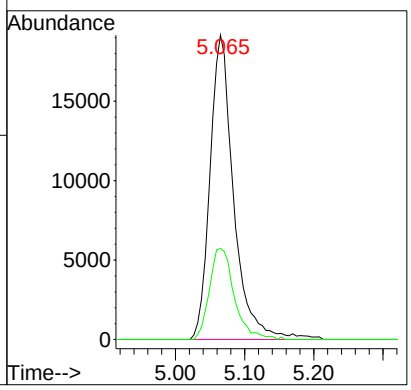


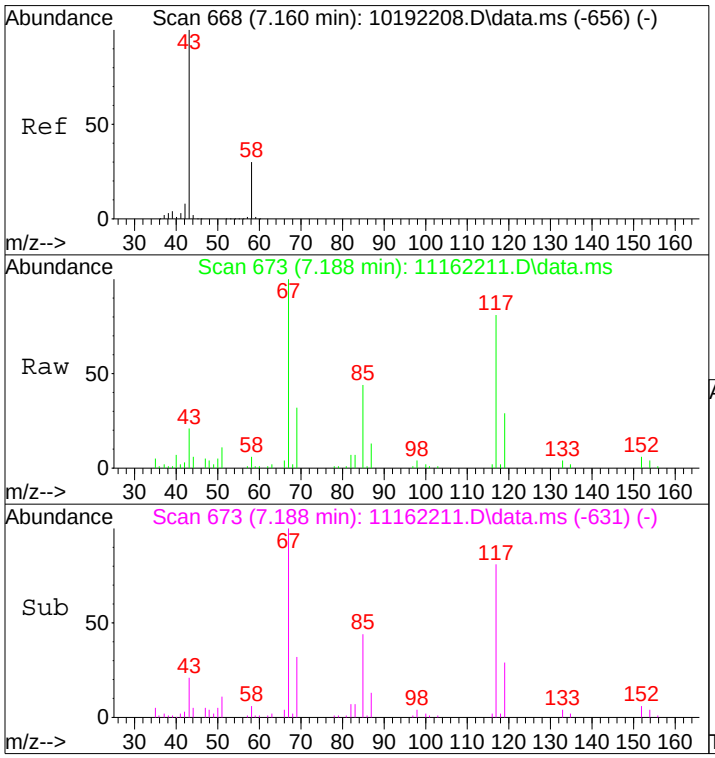


#6
Vinyl Chloride
Concen: 2.45 ng
RT: 5.06 min Scan# 287
Delta R.T. -0.022 min
Lab File: 11162211.D
Acq: 16 Nov 2022 22:37

Tgt Ion: 62 Resp: 45635

Ion	Ratio	Lower	Upper
62	100		
64	31.4	11.9	51.9

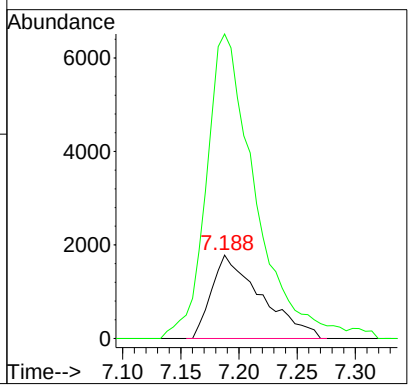


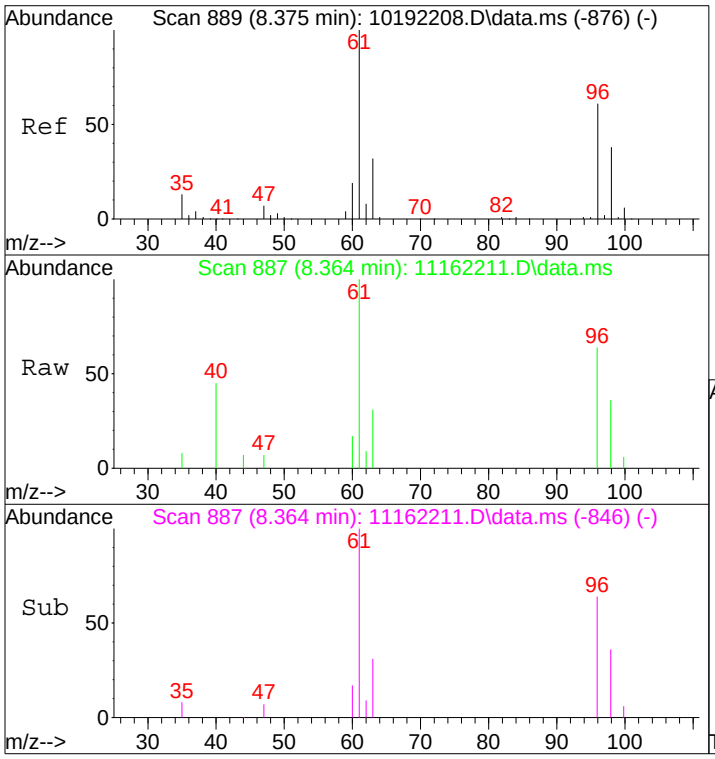


#13
Acetone
Concen: 0.57 ng
RT: 7.19 min Scan# 673
Delta R.T. -0.016 min
Lab File: 11162211.D
Acq: 16 Nov 2022 22:37

Tgt Ion: 58 Resp: 5269

Ion	Ratio	Lower	Upper
58	100		
43	364.9	298.4	358.4#

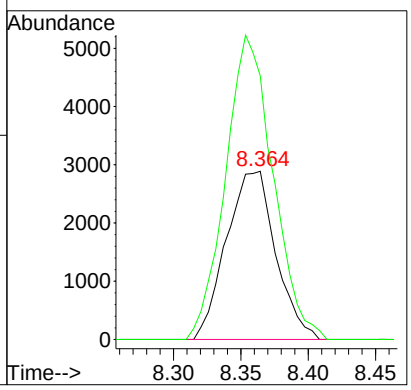


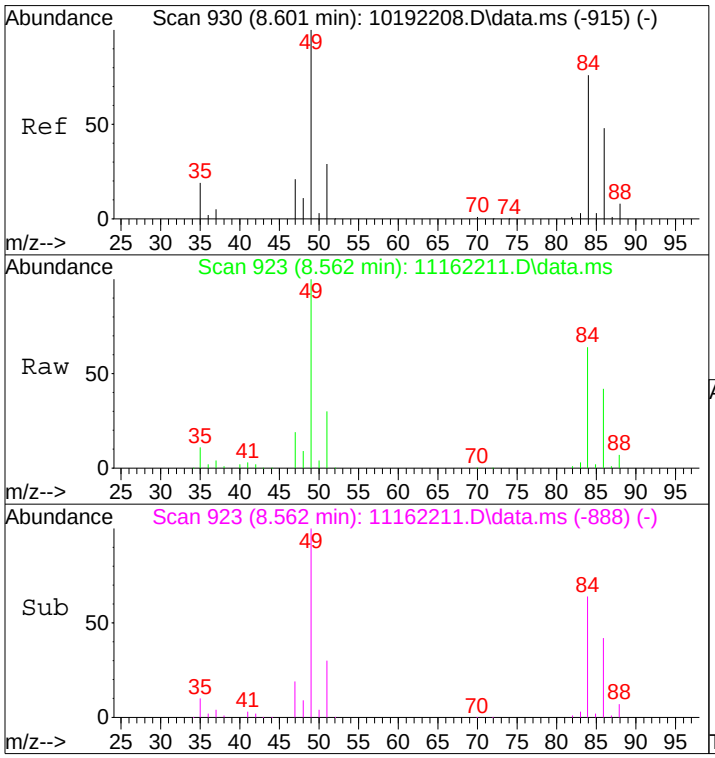


#17
1,1-Dichloroethene
Concen: 0.66 ng
RT: 8.36 min Scan# 887
Delta R.T. -0.022 min
Lab File: 11162211.D
Acq: 16 Nov 2022 22:37

Tgt Ion: 96 Resp: 7365

Ion	Ratio	Lower	Upper
96	100		
61	173.9	145.2	185.2

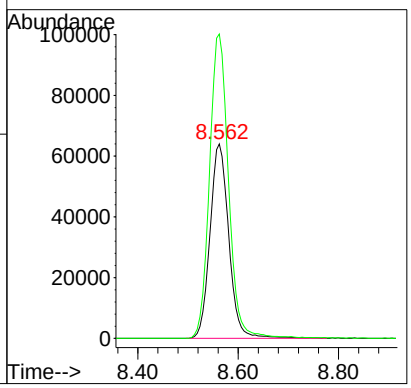


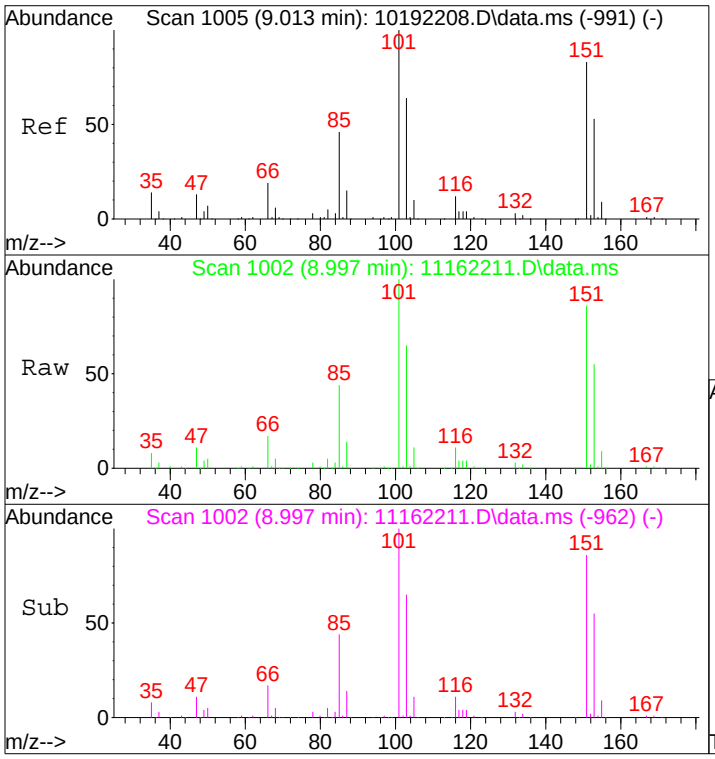


#19
Methylene Chloride
Concen: 14.48 ng
RT: 8.56 min Scan# 923
Delta R.T. -0.055 min
Lab File: 11162211.D
Acq: 16 Nov 2022 22:37

Tgt Ion: 84 Resp: 166807

Ion	Ratio	Lower	Upper
84	100		
49	158.5	107.3	157.3#

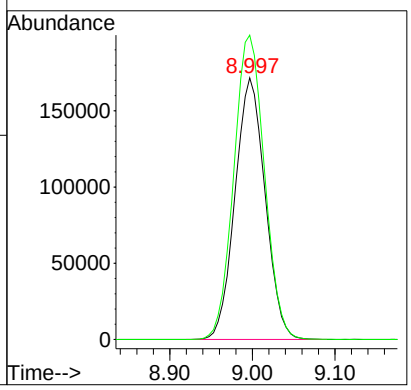


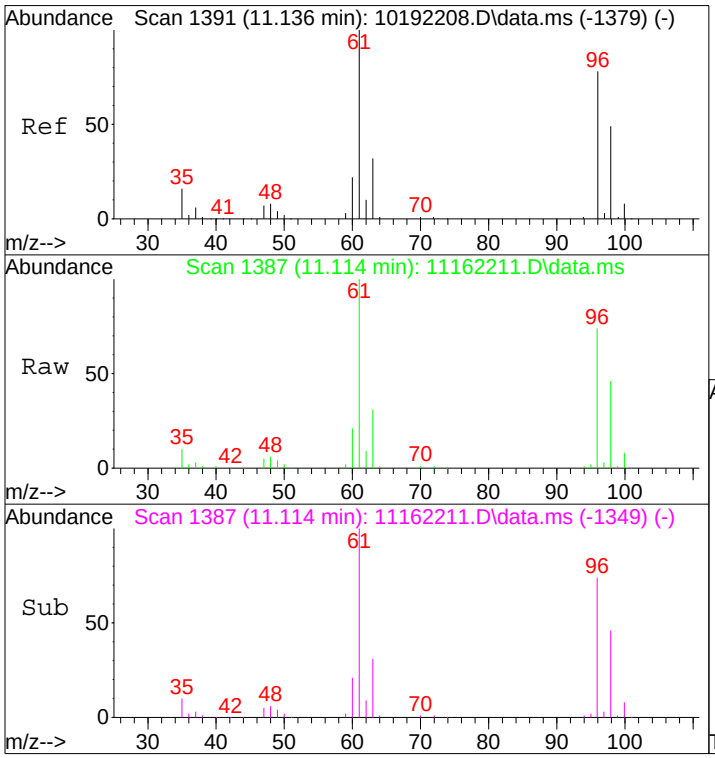


#21
Trichlorotrifluoroethane
Concen: 44.03 ng
RT: 9.00 min Scan# 1002
Delta R.T. -0.027 min
Lab File: 11162211.D
Acq: 16 Nov 2022 22:37

Tgt Ion:151 Resp: 434866

Ion	Ratio	Lower	Upper
151	100		
101	118.7	102.2	142.2

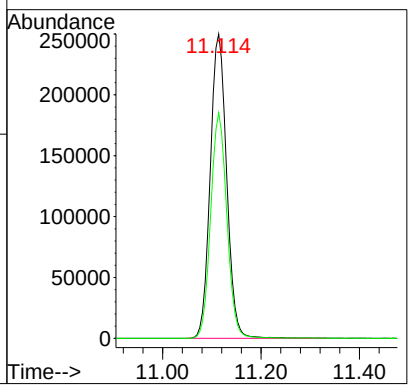


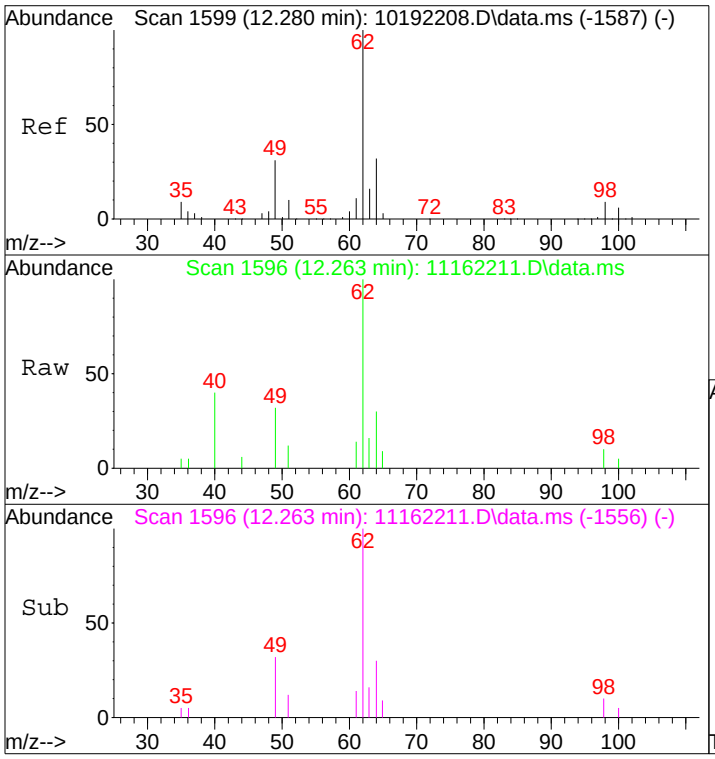


#28
cis-1,2-Dichloroethene
Concen: 37.85 ng
RT: 11.11 min Scan# 1387
Delta R.T. -0.038 min
Lab File: 11162211.D
Acq: 16 Nov 2022 22:37

Tgt Ion: 61 Resp: 577803

Ion	Ratio	Lower	Upper
61	100		
96	73.1	58.3	98.3

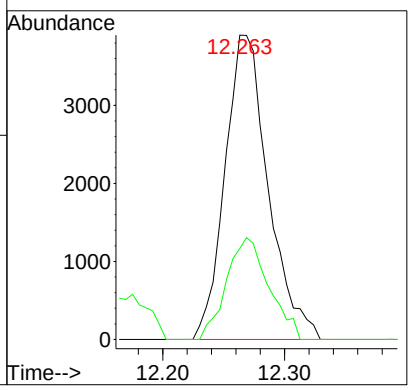


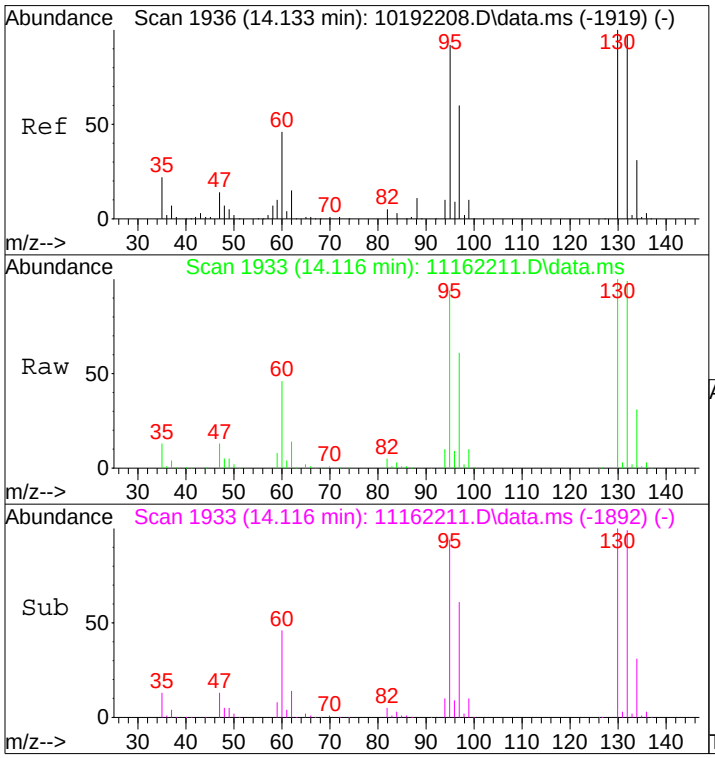


#36
1,2-Dichloroethane
Concen: 0.60 ng
RT: 12.26 min Scan# 1596
Delta R.T. -0.027 min
Lab File: 11162211.D
Acq: 16 Nov 2022 22:37

Tgt Ion: 62 Resp: 9625

Ion	Ratio	Lower	Upper
62	100		
64	32.7	12.2	52.2

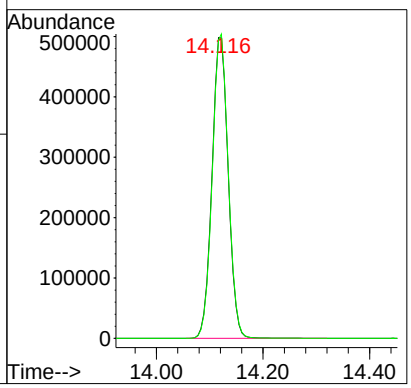


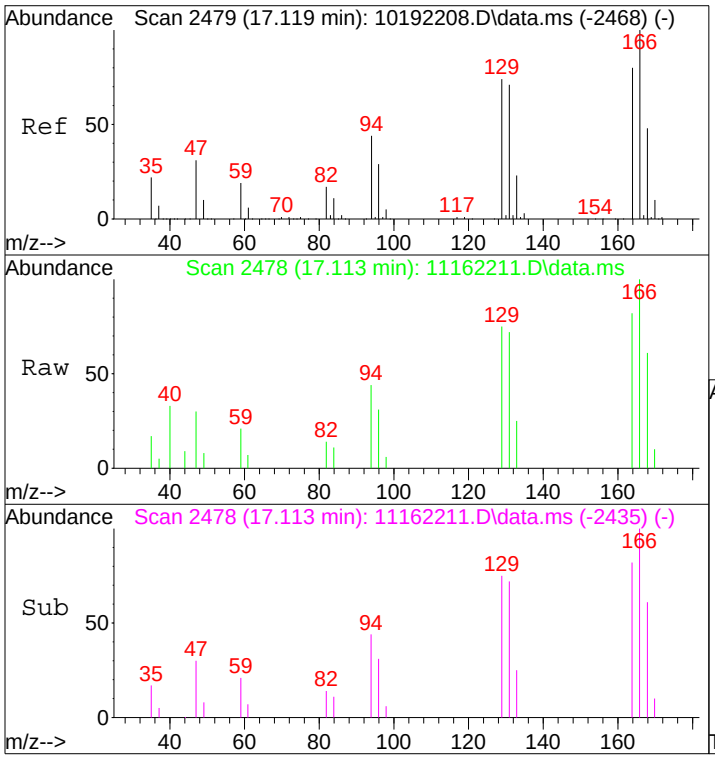


#47
Trichloroethene
Concen: 84.21 ng
RT: 14.12 min Scan# 1933
Delta R.T. -0.022 min
Lab File: 11162211.D
Acq: 16 Nov 2022 22:37

Tgt Ion:130 Resp: 1053582

Ion	Ratio	Lower	Upper
130	100		
132	99.9	77.0	117.0

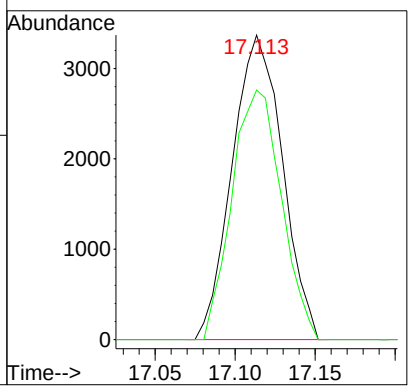




#64
Tetrachloroethene
Concen: 0.60 ng
RT: 17.11 min Scan# 2478
Delta R.T. -0.011 min
Lab File: 11162211.D
Acq: 16 Nov 2022 22:37

Tgt Ion:166 Resp: 7367

Ion	Ratio	Lower	Upper
166	100		
164	80.5	59.4	99.4



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 11\16\11162213.D Vial: 3
Acq On : 16 Nov 2022 23:45 Operator: WA
Sample : P2205014-003 (1000mL) Inst : GCMS-16
Misc : S35-11092201

Quant Time: Nov 17 04:51:20 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) 11/17/22
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.29	130	125842	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	13.42	114	552060	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.72	54	109545	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.14	65	202587	12.038	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.32%				
57) Toluene-d8 (SS2)	15.87	98	610401	12.643	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.12%				
73) Bromofluorobenzene (SS3)	19.10	174	198164	13.025	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.16%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.	d		
3) Dichlorodifluoromethan...	4.36	85	32060	1.476	ng		100
4) Chloromethane	4.64	50	3399	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.92	135	647	N.D.			
6) Vinyl Chloride	5.07	62	2344	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	6.46	45	96968	11.308	ng		99
11) Acetonitrile	6.74	41	3073	N.D.			
12) Acrolein	6.94	56	1719	N.D.			
13) Acetone	7.15	58	70397	8.280	ng	#	82
14) Trichlorofluoromethane	7.39	101	14917	0.779	ng		100
15) 2-Propanol (Isopropanol)	7.67	45	14712	0.574	ng		99
16) Acrylonitrile	7.91	53	290	N.D.			
17) 1,1-Dichloroethene	8.36	96	228	N.D.			
18) 2-Methyl-2-Propanol (t...	8.62	59	311	N.D.			
19) Methylene Chloride	8.57	84	13221	1.248	ng	#	78
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	9.00	151	33340	3.670	ng		97
22) Carbon Disulfide	8.85	76	953	N.D.			
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	10.34	86	1097	N.D.			
27) 2-Butanone (MEK)	10.62	72	5465	0.743	ng	#	32
28) cis-1,2-Dichloroethene	11.11	61	39061	2.782	ng		95
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	11.44	61	5365	1.079	ng		80
31) n-Hexane	11.41	57	21070	0.976	ng	#	95
32) Chloroform	11.46	83	1165	N.D.			
34) Tetrahydrofuran (THF)	11.92	72	1143	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.27	62	1365	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	13.03	78	19026	0.465	ng		98
42) Carbon Tetrachloride	13.18	117	4201	N.D.			
43) Cyclohexane	13.32	84	3024	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	14.12	83	787	N.D.			
47) Trichloroethene	14.12	130	67044	5.748	ng		98
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	14.19	57	3495	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Data File : I:\MS16\DATA\2022 11\16\11162213.D Vial: 3
Acq On : 16 Nov 2022 23:45 Operator: WA
Sample : P2205014-003 (1000mL) Inst : GCMS-16
Misc : S35-11092201

Quant Time: Nov 17 04:51:20 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

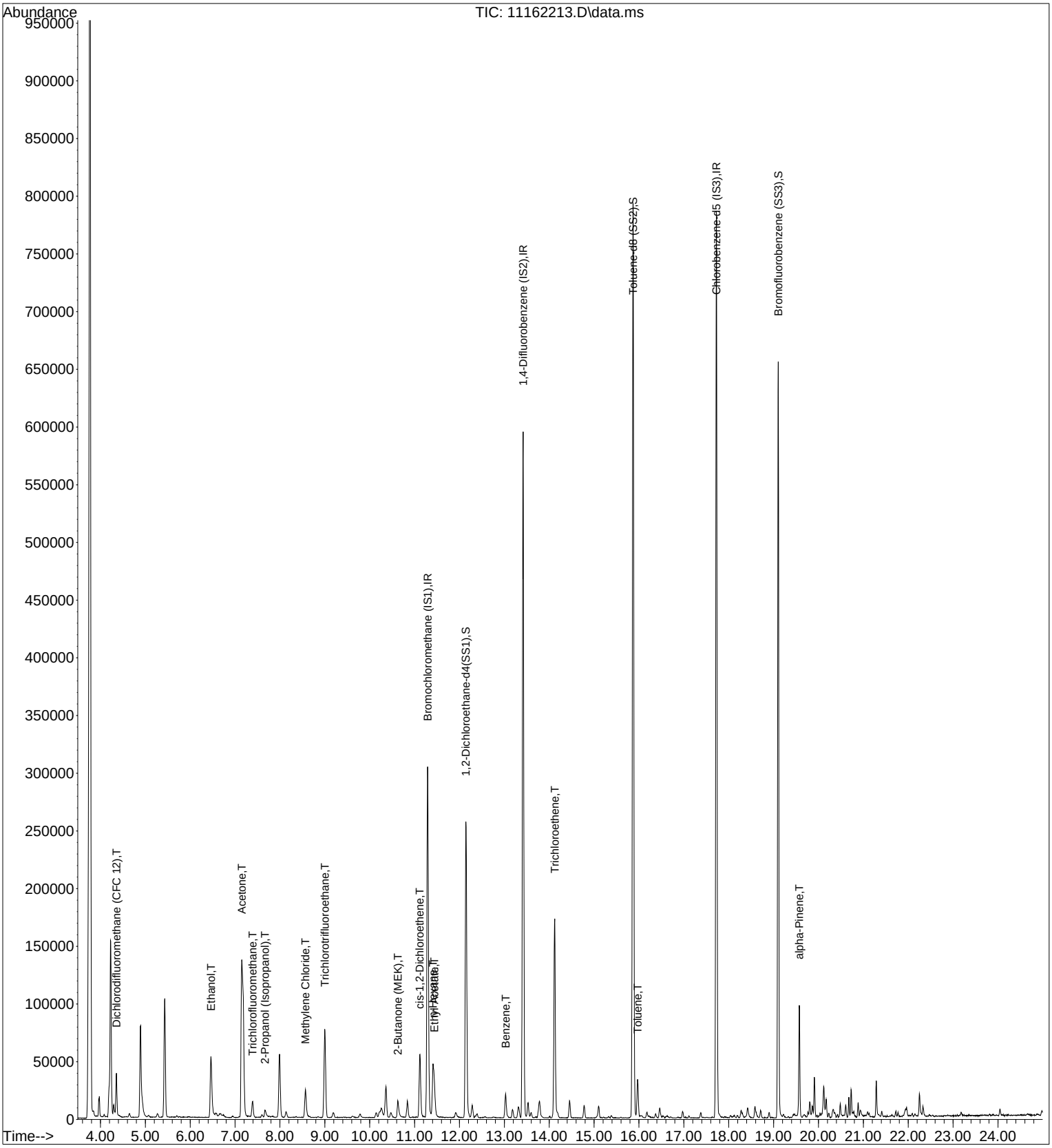
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.46	71	3020	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.97	91	26487	0.593 ng	100
59) 2-Hexanone	16.23	43	2771	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.87	43	1191	N.D.	
63) n-Octane	16.97	57	1020	N.D.	
64) Tetrachloroethene	17.11	166	741	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	18.13	91	2542	N.D.	
67) m- & p-Xylenes	18.28	91	5604	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.61	104	1809	N.D.	
70) o-Xylene	18.71	91	2301	N.D.	
71) n-Nonane	18.90	43	2414	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	19.23	105	475	N.D.	
75) alpha-Pinene	19.57	93	34163	1.459 ng	89
76) n-Propylbenzene	19.68	91	1143	N.D.	
77) 3-Ethyltoluene	0.00	105	0	N.D.	
78) 4-Ethyltoluene	19.81	105	1108	N.D.	
79) 1,3,5-Trimethylbenzene	19.86	105	464	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D.	
82) 1,2,4-Trimethylbenzene	20.23	105	1820	N.D.	
83) n-Decane	20.12	58	273	No Calib	#
84) Benzyl Chloride	20.43	91	186	N.D.	
85) 1,3-Dichlorobenzene	20.42	146	500	N.D.	
86) 1,4-Dichlorobenzene	20.42	146	500	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D.	
88) 4-Isopropyltoluene (p-...	20.60	119	4236	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.73	68	5283	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	22.24	180	525	N.D.	
95) Naphthalene	22.34	128	2188	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	18.19	55	356	No Calib	#
99) tert-Butylbenzene	20.23	119	214	N.D.	
100) n-Butylbenzene	20.94	91	1032	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:\MS16\DATA\2022 11\16\11162213.D Vial: 3
Acq On : 16 Nov 2022 23:45 Operator: WA
Sample : P2205014-003 (1000mL) Inst : GCMS-16
Misc : S35-11092201

Quant Time: Nov 17 04:51:20 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 11\16\11162213.D Vial: 3
Acq On : 16 Nov 2022 23:45 Operator: WA
Sample : P2205014-003 (1000mL) Inst : GCMS-16
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Quant Time: Nov 17 04:51:20 2022
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WA 11/17/22

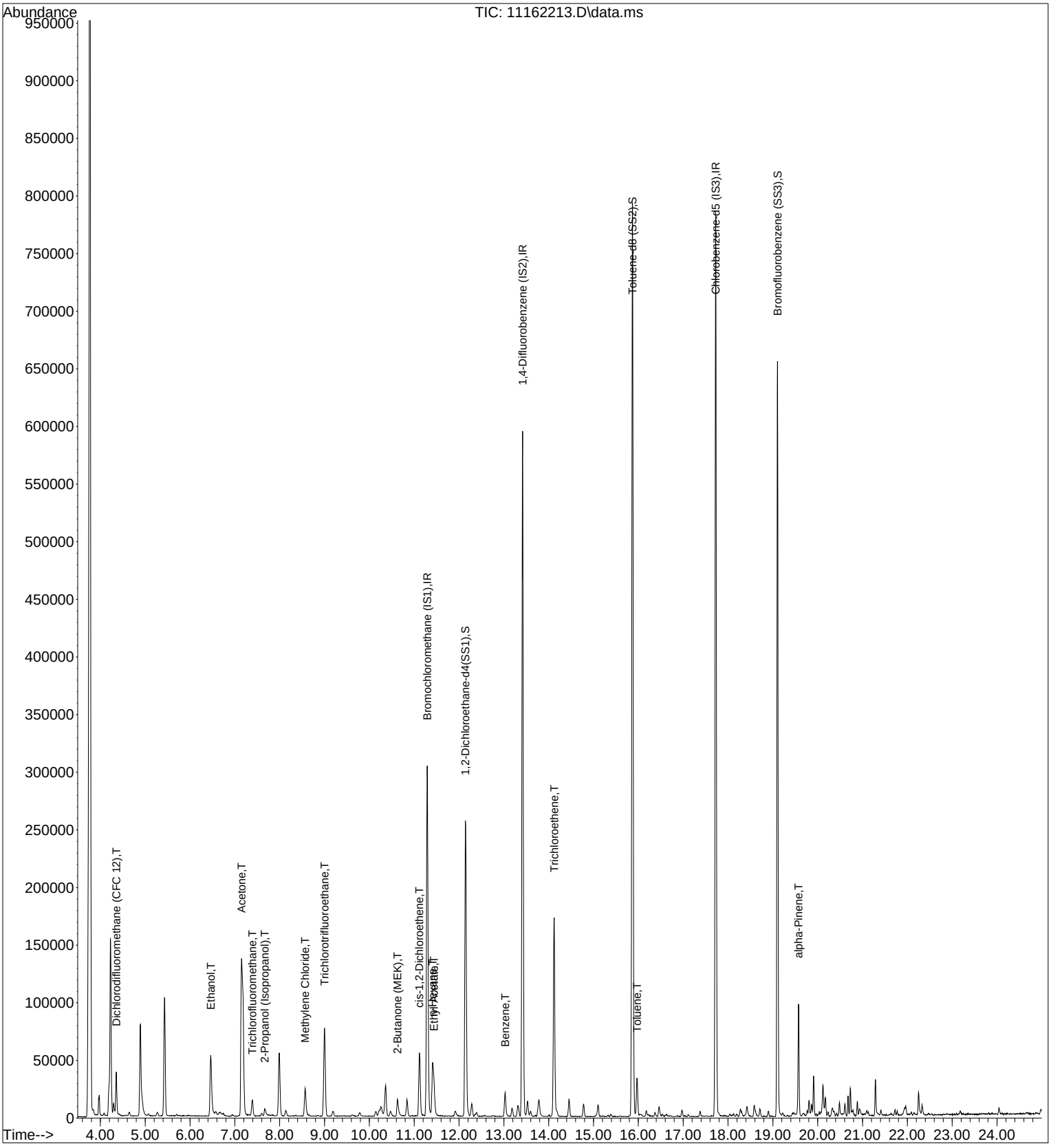
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.29	130	125842	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	13.42	114	552060	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.72	54	109545	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.14	65	202587	12.038	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.32%				
57) Toluene-d8 (SS2)	15.87	98	610401	12.643	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.12%				
73) Bromofluorobenzene (SS3)	19.10	174	198164	13.025	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.16%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	4.36	85	32060	1.476	ng		100
10) Ethanol	6.46	45	96968	11.308	ng		99
13) Acetone	7.15	58	70397	8.280	ng	#	82
14) Trichlorofluoromethane	7.39	101	14917	0.779	ng		100
15) 2-Propanol (Isopropanol)	7.67	45	14712	0.574	ng		99
19) Methylene Chloride	8.57	84	13221	1.248	ng	#	78
21) Trichlorotrifluoroethane	9.00	151	33340	3.670	ng		97
27) 2-Butanone (MEK)	10.62	72	5465	0.743	ng	#	32
28) cis-1,2-Dichloroethene	11.11	61	39061	2.782	ng		95
30) Ethyl Acetate	11.44	61	5365	1.079	ng		80
31) n-Hexane	11.41	57	21070	0.976	ng	#	95
41) Benzene	13.03	78	19026	0.465	ng		98
47) Trichloroethene	14.12	130	67044	5.748	ng		98
58) Toluene	15.97	91	26487	0.593	ng		100
75) alpha-Pinene	19.57	93	34163	1.459	ng		89

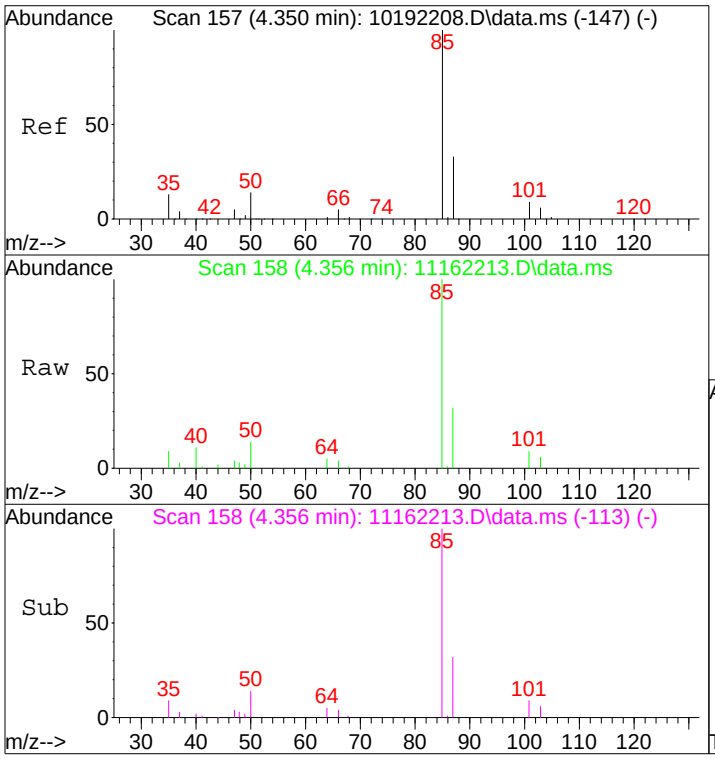
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 11\16\11162213.D Vial: 3
Acq On : 16 Nov 2022 23:45 Operator: WA
Sample : P2205014-003 (1000mL) Inst : GCMS-16
Misc : S35-11092201

Quant Time: Nov 17 04:51:20 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

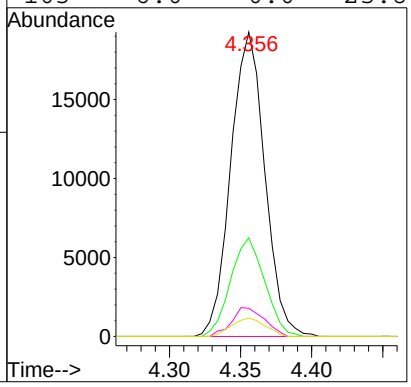


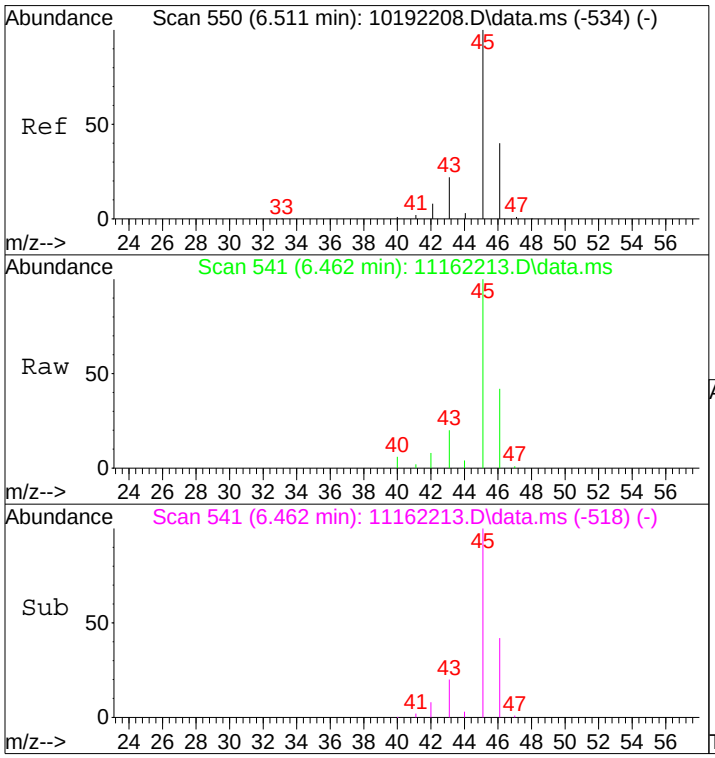


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.48 ng
RT: 4.36 min Scan# 158
Delta R.T. 0.000 min
Lab File: 11162213.D
Acq: 16 Nov 2022 23:45

Tgt Ion: 85 Resp: 32060

Ion	Ratio	Lower	Upper
85	100		
87	32.5	12.7	52.7
101	9.2	0.0	29.1
103	6.0	0.0	25.8

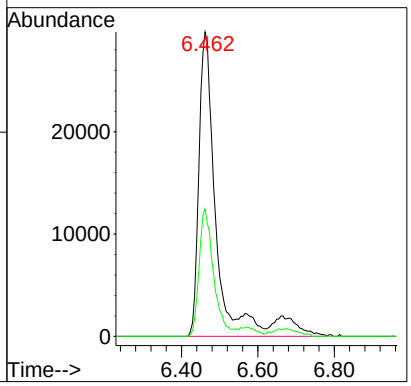


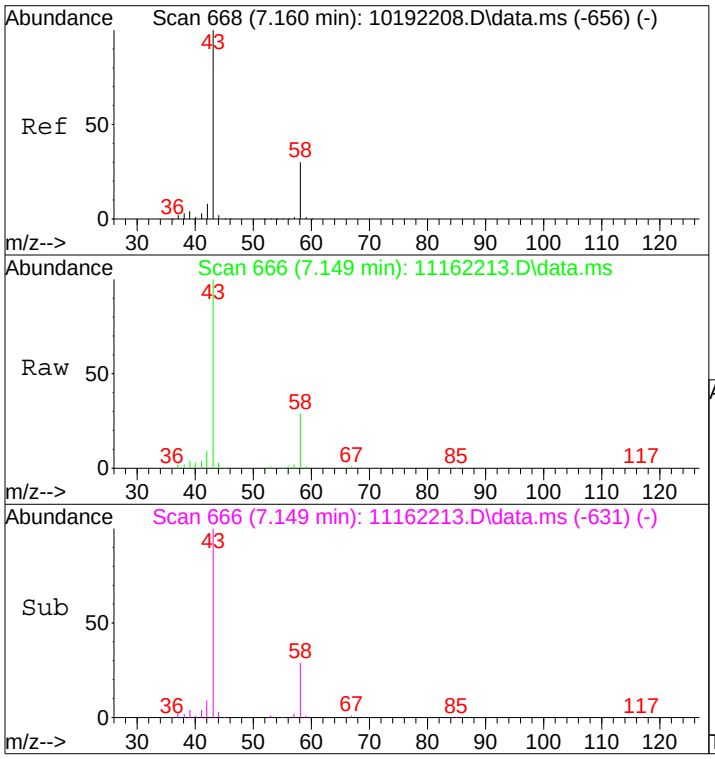


#10
Ethanol
Concen: 11.31 ng
RT: 6.46 min Scan# 541
Delta R.T. -0.121 min
Lab File: 11162213.D
Acq: 16 Nov 2022 23:45

Tgt Ion: 45 Resp: 96968

Ion	Ratio	Lower	Upper
45	100		
46	40.6	20.0	60.0

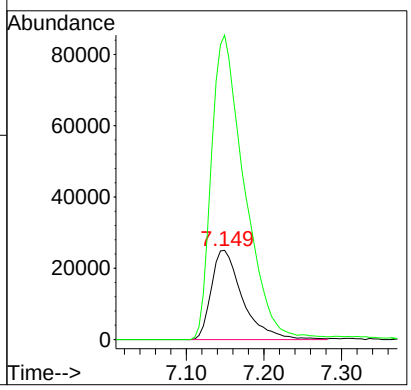


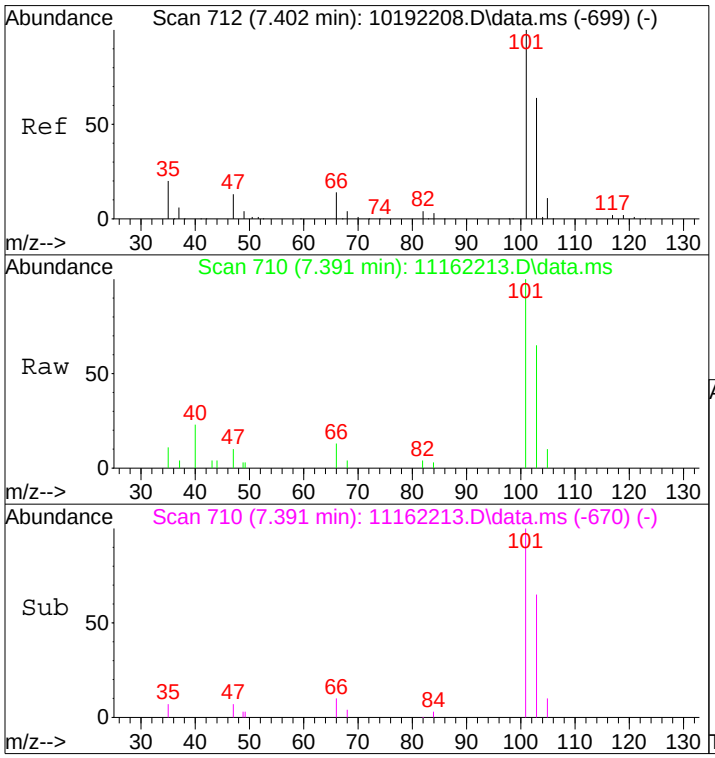


#13
Acetone
Concen: 8.28 ng
RT: 7.15 min Scan# 666
Delta R.T. -0.055 min
Lab File: 11162213.D
Acq: 16 Nov 2022 23:45

Tgt Ion: 58 Resp: 70397

Ion	Ratio	Lower	Upper
58	100		
43	365.5	298.4	358.4#

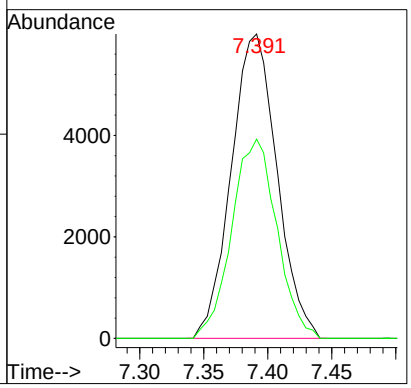


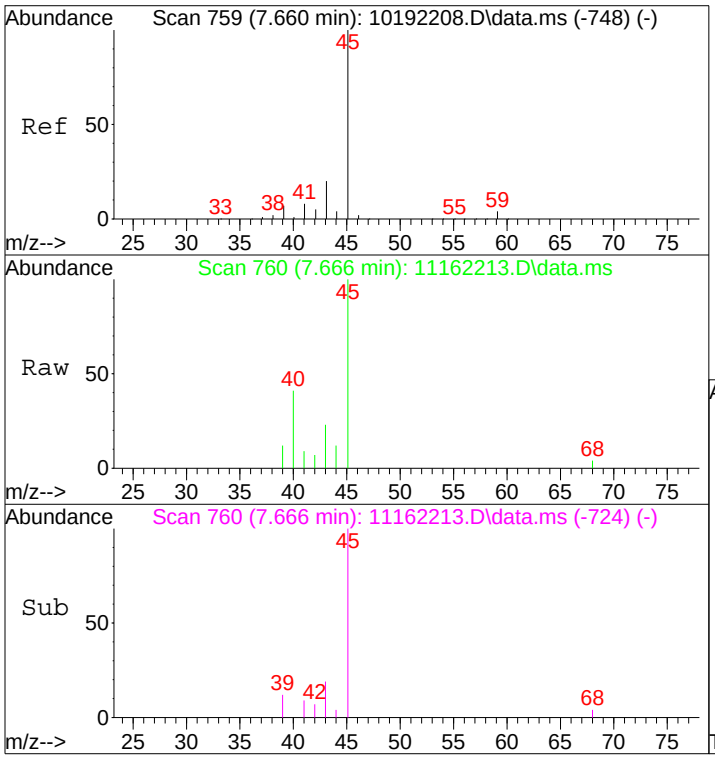


#14
Trichlorofluoromethane
Concen: 0.78 ng
RT: 7.39 min Scan# 710
Delta R.T. -0.027 min
Lab File: 11162213.D
Acq: 16 Nov 2022 23:45

Tgt Ion:101 Resp: 14917

Ion	Ratio	Lower	Upper
101	100		
103	64.4	44.4	84.4

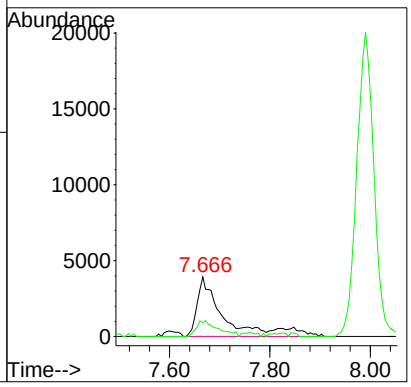


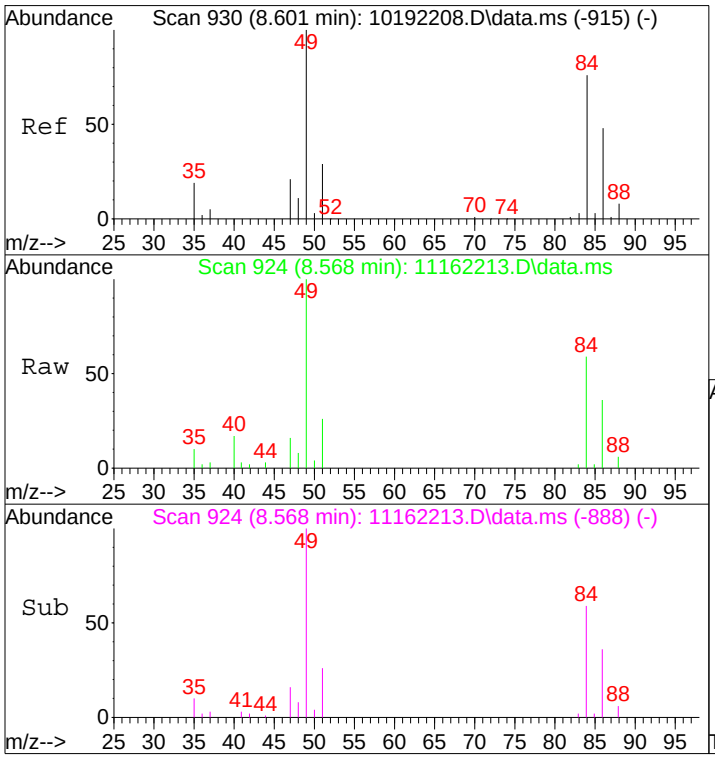


#15
2-Propanol (Isopropanol)
Concen: 0.57 ng
RT: 7.67 min Scan# 760
Delta R.T. -0.049 min
Lab File: 11162213.D
Acq: 16 Nov 2022 23:45

Tgt Ion: 45 Resp: 14712

Ion	Ratio	Lower	Upper
45	100		
43	20.9	0.3	40.3

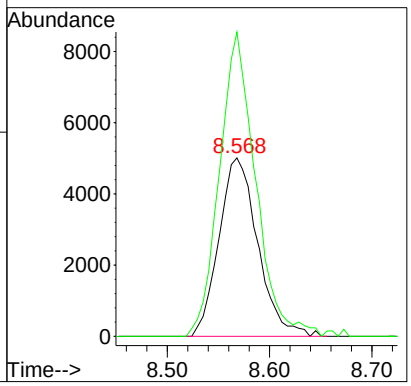


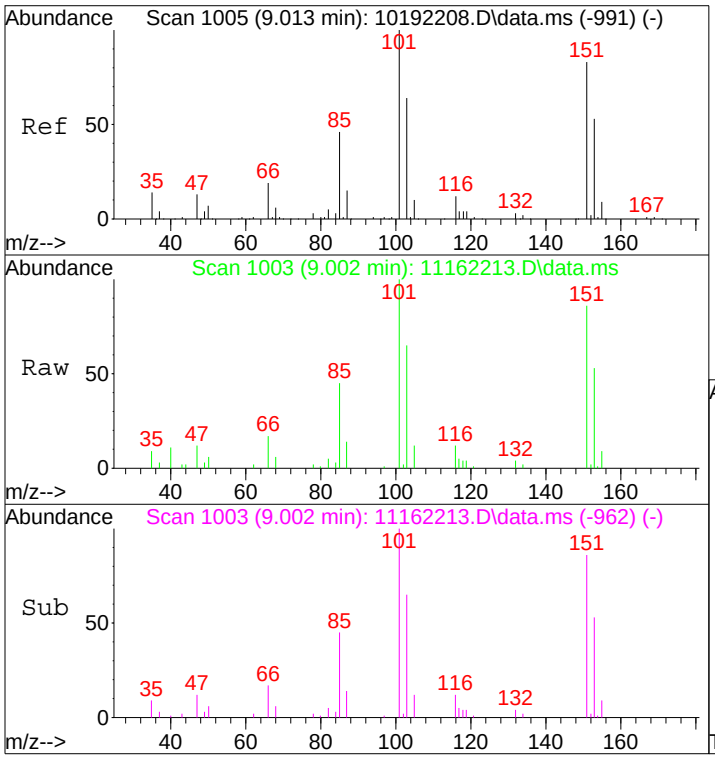


#19
Methylene Chloride
Concen: 1.25 ng
RT: 8.57 min Scan# 924
Delta R.T. -0.049 min
Lab File: 11162213.D
Acq: 16 Nov 2022 23:45

Tgt Ion: 84 Resp: 13221

Ion	Ratio	Lower	Upper
84	100		
49	158.5	107.3	157.3#

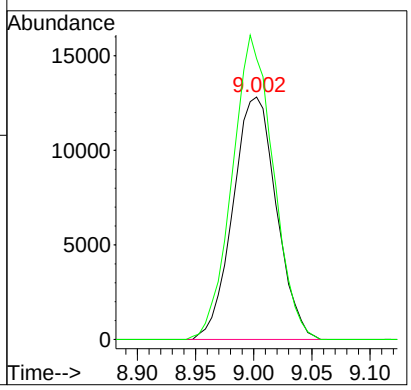


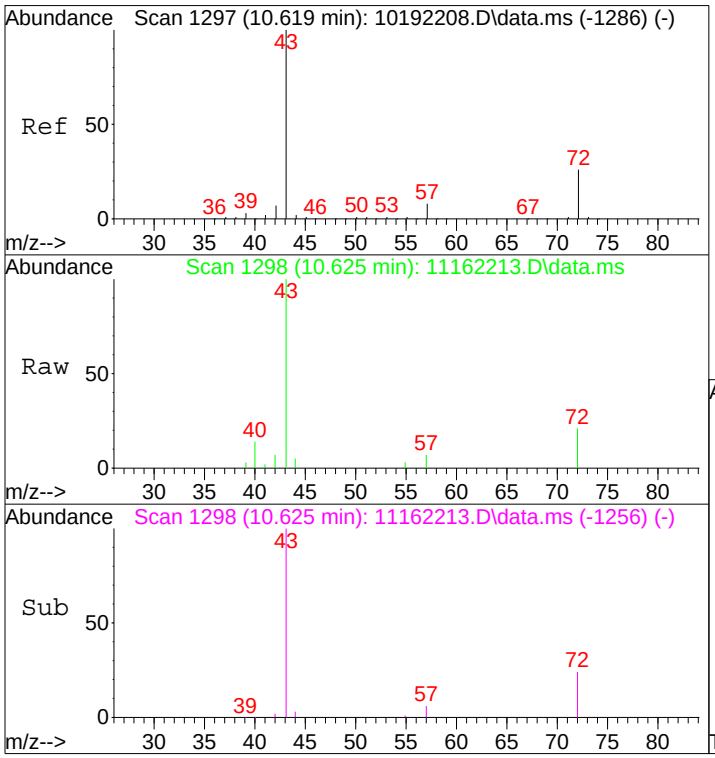


#21
Trichlorotrifluoroethane
Concen: 3.67 ng
RT: 9.00 min Scan# 1003
Delta R.T. -0.022 min
Lab File: 11162213.D
Acq: 16 Nov 2022 23:45

Tgt Ion:151 Resp: 33340

Ion	Ratio	Lower	Upper
151	100		
101	119.0	102.2	142.2

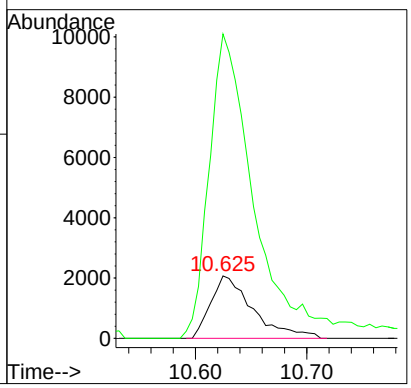


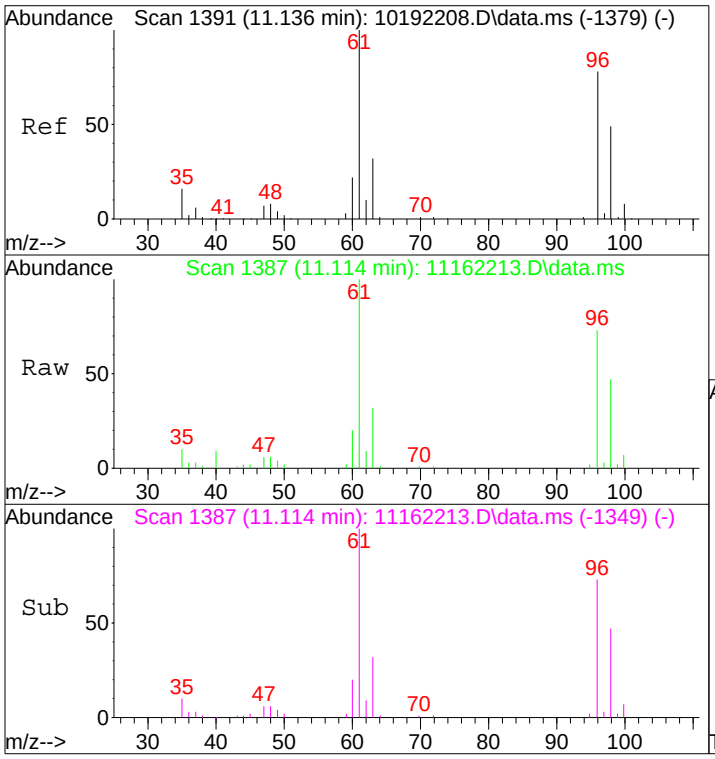


#27
2-Butanone (MEK)
Concen: 0.74 ng
RT: 10.62 min Scan# 1298
Delta R.T. -0.016 min
Lab File: 11162213.D
Acq: 16 Nov 2022 23:45

Tgt Ion: 72 Resp: 5465

Ion	Ratio	Lower	Upper
72	100		
43	542.8	365.7	405.7#

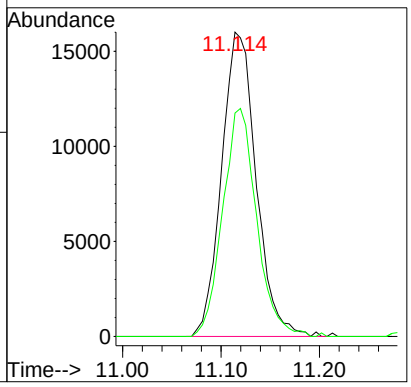


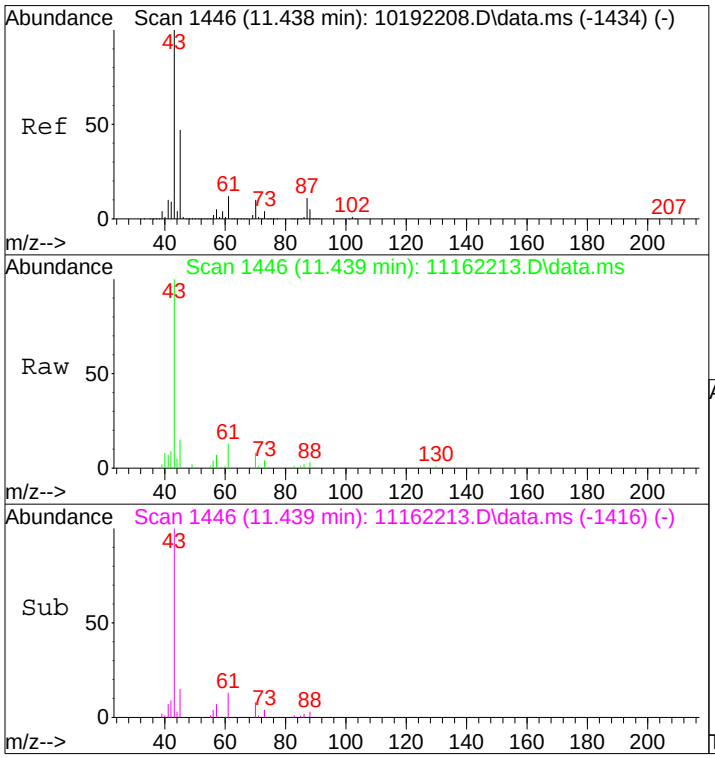


#28
cis-1,2-Dichloroethene
Concen: 2.78 ng
RT: 11.11 min Scan# 1387
Delta R.T. -0.038 min
Lab File: 11162213.D
Acq: 16 Nov 2022 23:45

Tgt Ion: 61 Resp: 39061

Ion	Ratio	Lower	Upper
61	100		
96	73.6	58.3	98.3

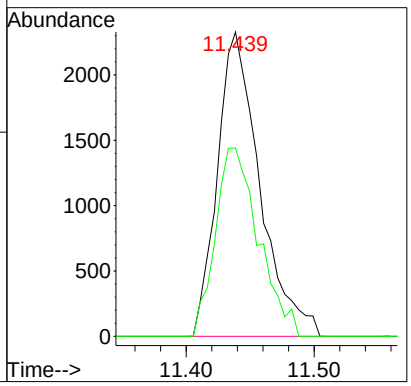


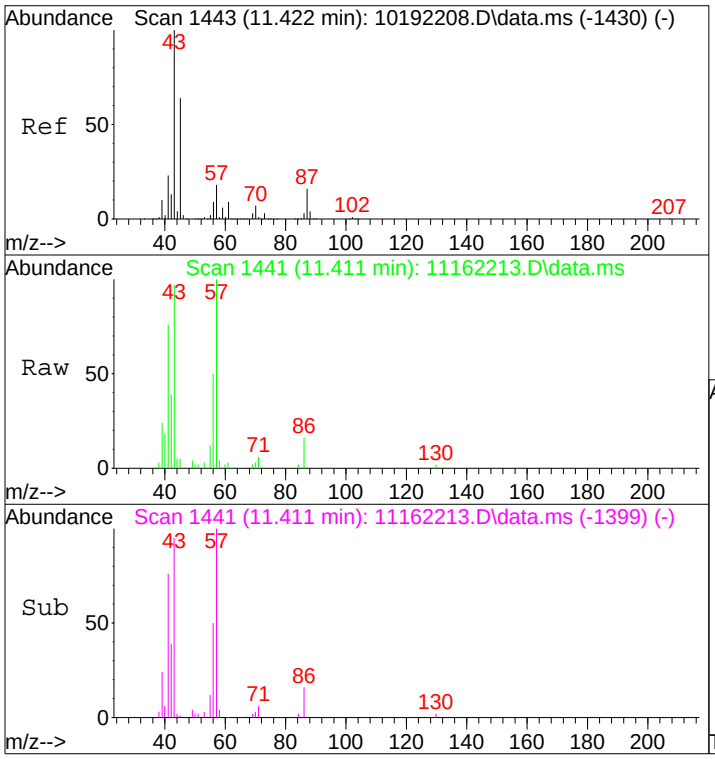


#30
Ethyl Acetate
Concen: 1.08 ng
RT: 11.44 min Scan# 1446
Delta R.T. -0.033 min
Lab File: 11162213.D
Acq: 16 Nov 2022 23:45

Tgt Ion: 61 Resp: 5365

Ion	Ratio	Lower	Upper
61	100		
70	62.9	60.3	100.3

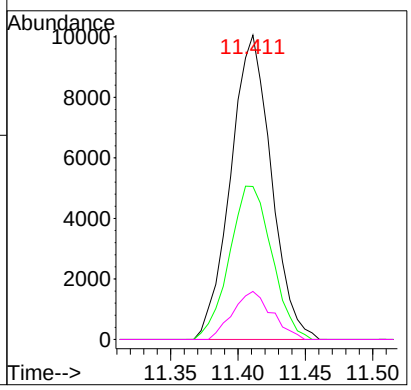


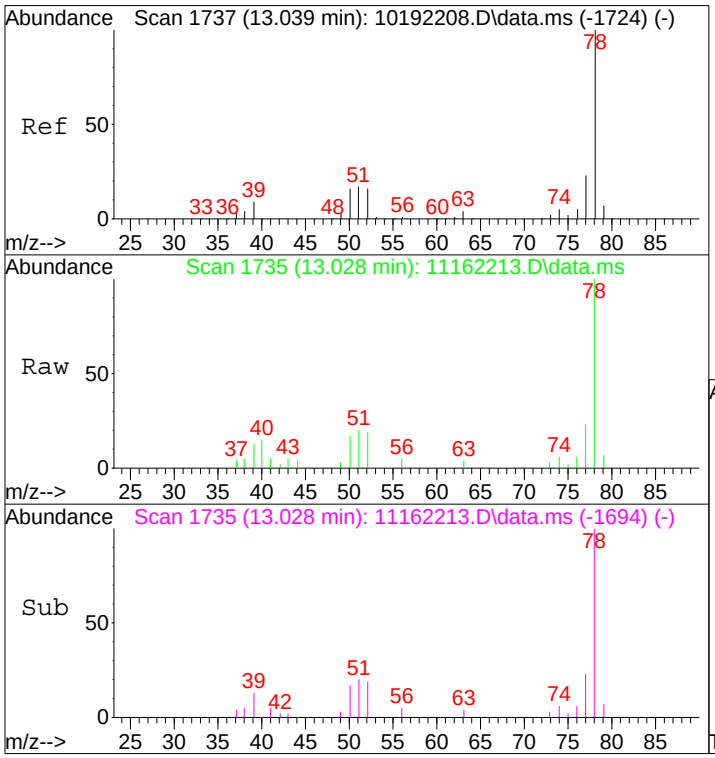


#31
n-Hexane
Concen: 0.98 ng
RT: 11.41 min Scan# 1441
Delta R.T. -0.016 min
Lab File: 11162213.D
Acq: 16 Nov 2022 23:45

Tgt Ion: 57 Resp: 21070

Ion	Ratio	Lower	Upper
57	100		
56	52.6	40.0	60.0
86	15.2	15.4	23.2#

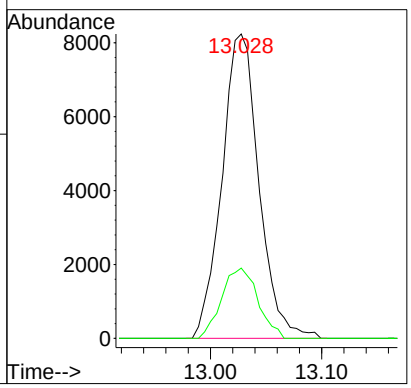


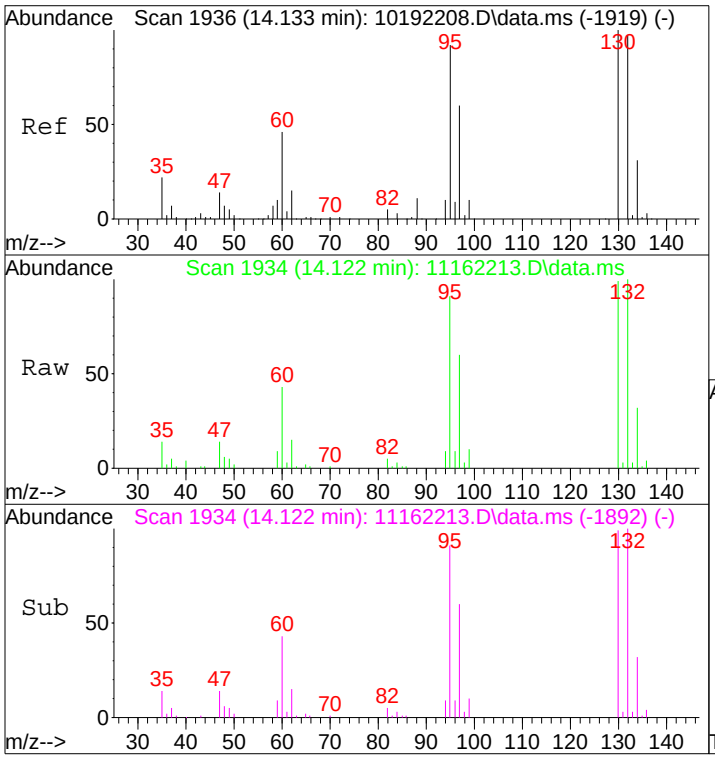


#41
Benzene
Concen: 0.46 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.022 min
Lab File: 11162213.D
Acq: 16 Nov 2022 23:45

Tgt Ion: 78 Resp: 19026

Ion	Ratio	Lower	Upper
78	100		
77	22.6	3.5	43.5

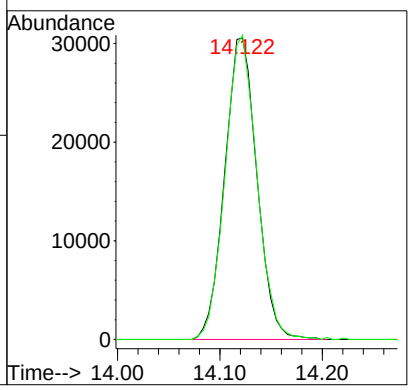


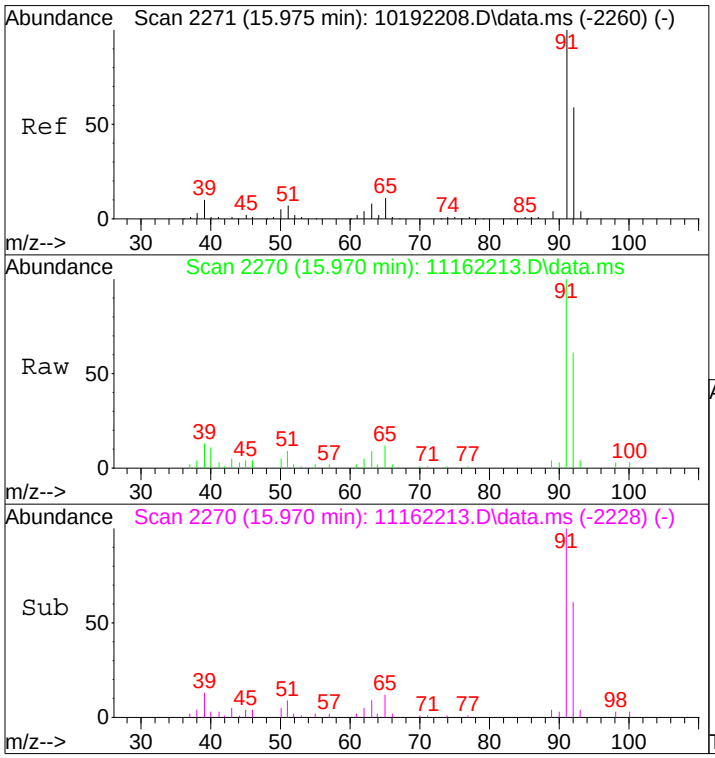


#47
Trichloroethene
Concen: 5.75 ng
RT: 14.12 min Scan# 1934
Delta R.T. -0.016 min
Lab File: 11162213.D
Acq: 16 Nov 2022 23:45

Tgt Ion:130 Resp: 67044

Ion	Ratio	Lower	Upper
130	100		
132	99.3	77.0	117.0

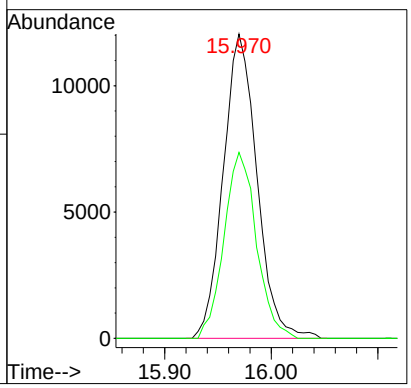


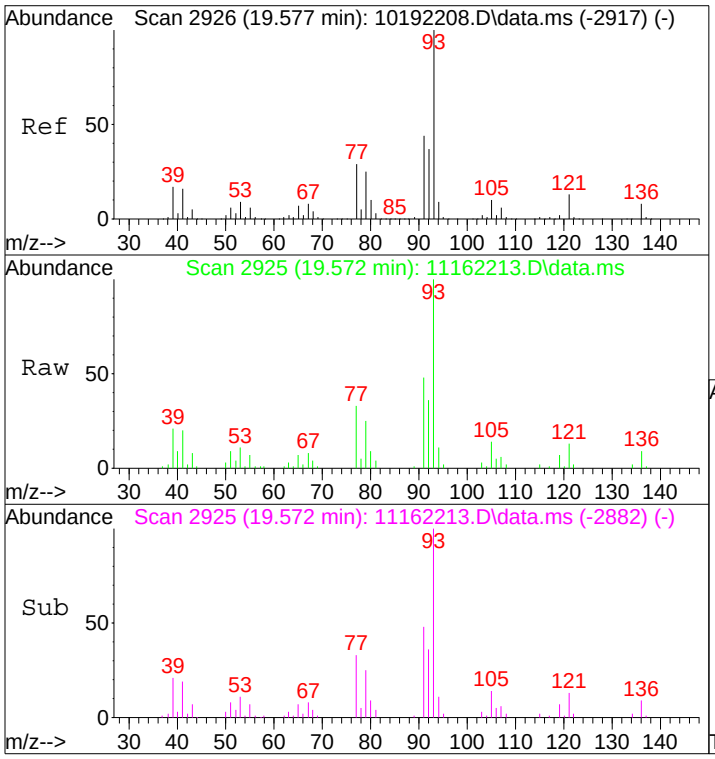


#58
Toluene
Concen: 0.59 ng
RT: 15.97 min Scan# 2270
Delta R.T. -0.016 min
Lab File: 11162213.D
Acq: 16 Nov 2022 23:45

Tgt Ion: 91 Resp: 26487

Ion	Ratio	Lower	Upper
91	100		
92	58.8	38.8	78.8

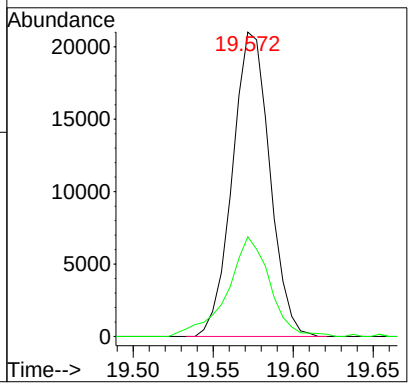




#75
alpha-Pinene
Concen: 1.46 ng
RT: 19.57 min Scan# 2925
Delta R.T. -0.011 min
Lab File: 11162213.D
Acq: 16 Nov 2022 23:45

Tgt Ion: 93 Resp: 34163

Ion	Ratio	Lower	Upper
93	100		
77	37.1	11.1	51.1



Data File : I:\MS16\DATA\2022 11\16\11162214.D Vial: 4
Acq On : 17 Nov 2022 00:19 Operator: WA
Sample : P2205014-004 (1000mL) Inst : GCMS-16
Misc : S35-11092201

Quant Time: Nov 17 04:52:37 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

11/17/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	122395	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	13.42	114	551186	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.72	54	111623	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	201920	12.336	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.72%				
57) Toluene-d8 (SS2)	15.87	98	615101	12.504	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.00%				
73) Bromofluorobenzene (SS3)	19.10	174	198789	12.823	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.56%				
Target Compounds							Qvalue
2) Propene	4.19	42	16959	1.176	ng	#	91
3) Dichlorodifluoromethan...	4.35	85	44683	2.116	ng		99
4) Chloromethane	4.64	50	5055	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	926	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.44	54	450	N.D.			
8) Bromomethane	5.78	94	249	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.47	45	113850	13.651	ng		100
11) Acetonitrile	6.74	41	5035	N.D.			
12) Acrolein	6.95	56	2351	N.D.			
13) Acetone	7.15	58	69674	8.426	ng	#	62
14) Trichlorofluoromethane	7.39	101	26698	1.433	ng		99
15) 2-Propanol (Isopropanol)	7.66	45	32997	1.324	ng		89
16) Acrylonitrile	7.91	53	169	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.61	59	465	N.D.			
19) Methylene Chloride	8.57	84	2759	N.D.			
20) 3-Chloro-1-propene (Al...	8.66	41	964	N.D.			
21) Trichlorotrifluoroethane	9.01	151	14236	1.611	ng		99
22) Carbon Disulfide	8.84	76	94486	2.591	ng		98
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. d			
27) 2-Butanone (MEK)	10.61	72	12437	1.739	ng	#	42
28) cis-1,2-Dichloroethene	11.12	61	1976	N.D.			
29) Diisopropyl Ether	11.41	87	1201	N.D.			
30) Ethyl Acetate	11.43	61	17728	3.667	ng		86
31) n-Hexane	11.41	57	95443	4.547	ng		96
32) Chloroform	11.47	83	1408	N.D.			
34) Tetrahydrofuran (THF)	11.89	72	10887	1.570	ng	#	61
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.27	62	1161	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	13.03	78	32049	0.784	ng		99
42) Carbon Tetrachloride	13.19	117	5539	N.D.			
43) Cyclohexane	13.32	84	6792	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	14.12	130	4913	N.D.			
48) 1,4-Dioxane	14.14	88	228	N.D.			
49) 2,2,4-Trimethylpentane...	14.19	57	13443	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Data File : I:\MS16\DATA\2022 11\16\11162214.D Vial: 4
Acq On : 17 Nov 2022 00:19 Operator: WA
Sample : P2205014-004 (1000mL) Inst : GCMS-16
Misc : S35-11092201

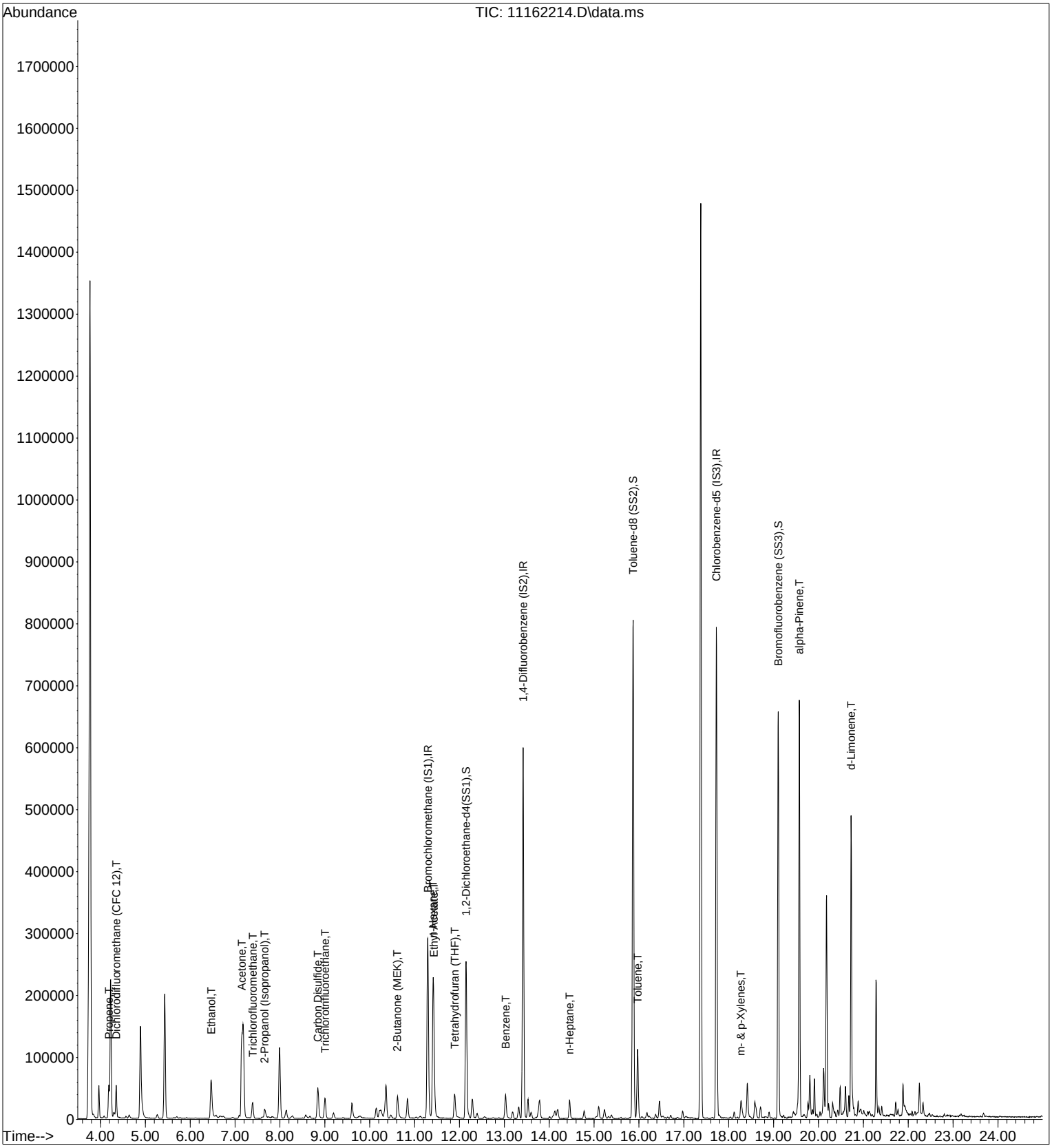
Quant Time: Nov 17 04:52:37 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.45	71	6553	0.550 ng	#	81
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	15.04	58	578	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	15.97	91	88879	1.953 ng		99
59) 2-Hexanone	16.22	43	4096	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.86	43	2694	N.D.		
63) n-Octane	16.97	57	2346	N.D.		
64) Tetrachloroethene	17.11	166	247	N.D.		
65) Chlorobenzene	17.80	112	189	N.D.		
66) Ethylbenzene	18.12	91	8347	N.D.		
67) m- & p-Xylenes	18.27	91	22509	0.542 ng		99
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.61	104	7699	N.D.		
70) o-Xylene	18.70	91	8385	N.D.		
71) n-Nonane	18.90	43	4443	N.D.		
72) 1,1,2,2-Tetrachloroethane	18.72	83	229	N.D.		
74) Cumene	19.23	105	924	N.D.		
75) alpha-Pinene	19.57	93	253929	10.639 ng		96
76) n-Propylbenzene	19.68	91	3450	N.D.		
77) 3-Ethyltoluene	0.00	105	0	N.D.		
78) 4-Ethyltoluene	19.80	105	4732	N.D.		
79) 1,3,5-Trimethylbenzene	19.87	105	2562	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D.		
82) 1,2,4-Trimethylbenzene	20.23	105	9185	N.D.		
83) n-Decane	20.17	58	644	No Calib	#	
84) Benzyl Chloride	20.35	91	498	N.D.		
85) 1,3-Dichlorobenzene	20.43	146	1758	N.D.		
86) 1,4-Dichlorobenzene	20.43	146	1758	N.D.		
87) sec-Butylbenzene	20.46	105	590	N.D.		
88) 4-Isopropyltoluene (p-...	20.60	119	22467	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	20.73	68	101569	6.337 ng		93
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	21.40	58	105	No Calib	#	
94) 1,2,4-Trichlorobenzene	22.24	180	515	N.D.		
95) Naphthalene	22.34	128	3357	N.D.		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	18.17	55	606	No Calib	#	
99) tert-Butylbenzene	20.23	119	1825	N.D.		
100) n-Butylbenzene	20.95	91	3167	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:\MS16\DATA\2022 11\16\11162214.D Vial: 4
Acq On : 17 Nov 2022 00:19 Operator: WA
Sample : P2205014-004 (1000mL) Inst : GCMS-16
Misc : S35-11092201

Quant Time: Nov 17 04:52:37 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 11\16\11162214.D Vial: 4
Acq On : 17 Nov 2022 00:19 Operator: WA
Sample : P2205014-004 (1000mL) Inst : GCMS-16
Misc : S35-11092201

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Response via : Initial Calibration
DataAcq Meth:TO15.M

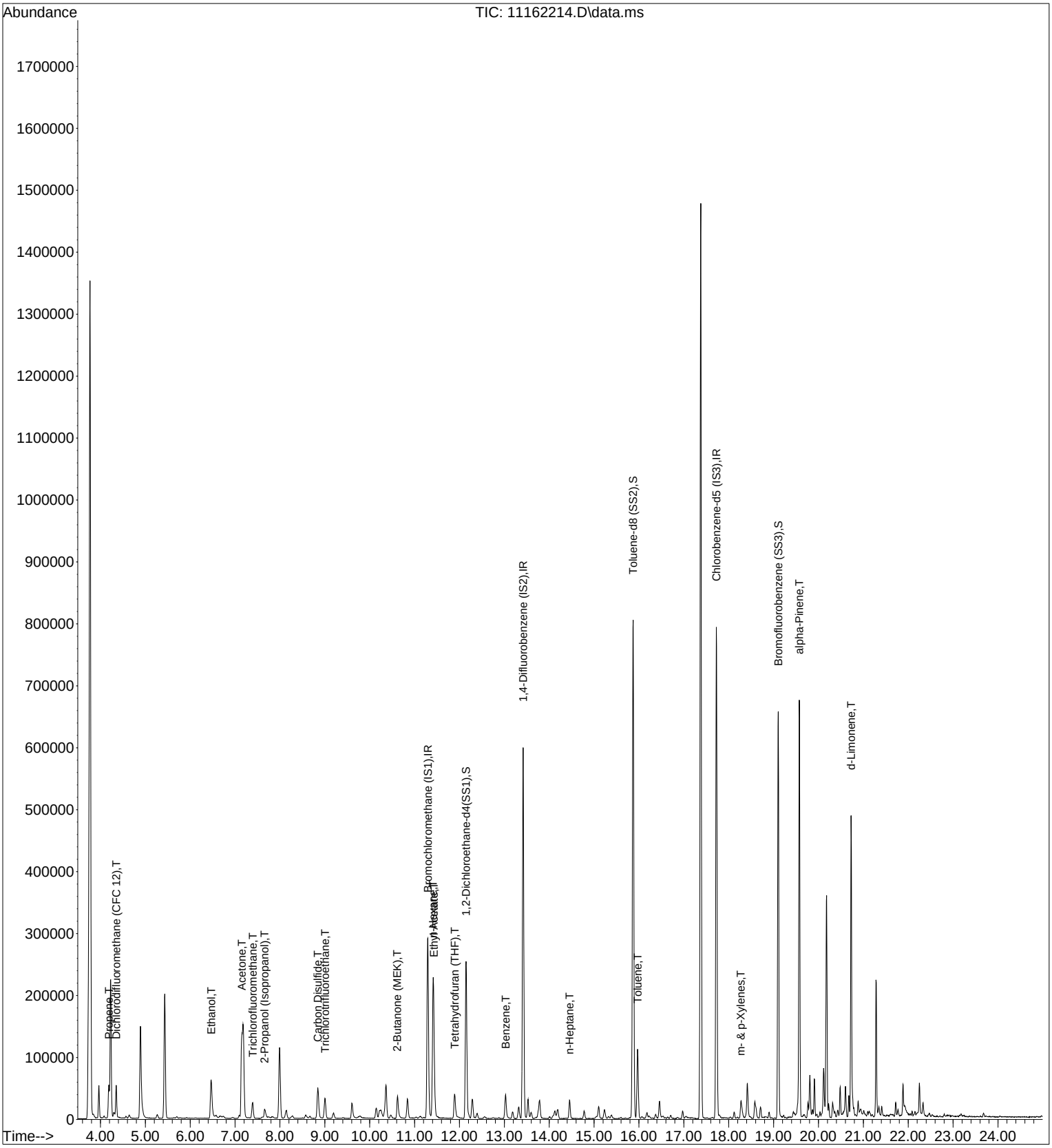
WA 11/17/22

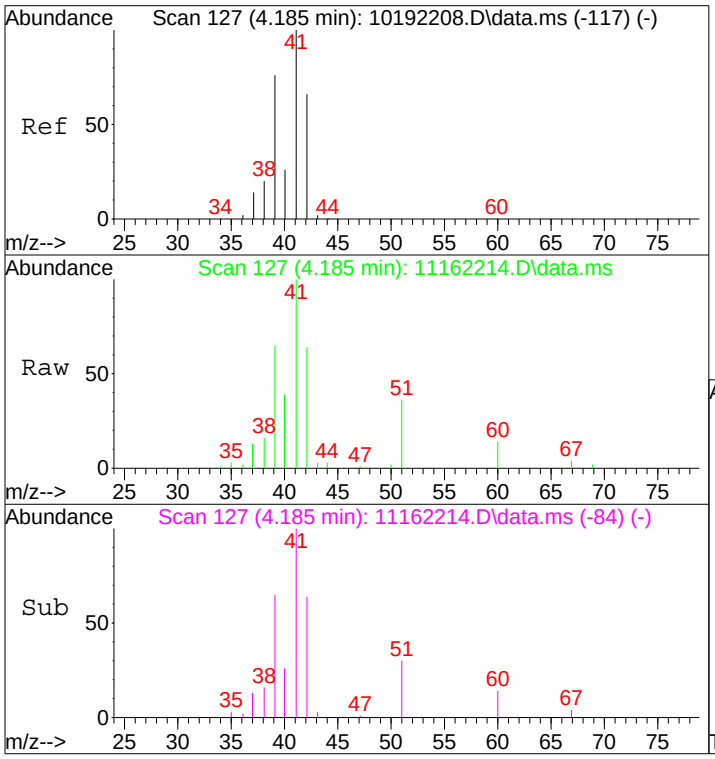
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	122395	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	13.42	114	551186	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.72	54	111623	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	201920	12.336	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.72%				
57) Toluene-d8 (SS2)	15.87	98	615101	12.504	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.00%				
73) Bromofluorobenzene (SS3)	19.10	174	198789	12.823	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.56%				
Target Compounds							Qvalue
2) Propene	4.19	42	16959	1.176	ng	#	91
3) Dichlorodifluoromethan...	4.35	85	44683	2.116	ng		99
10) Ethanol	6.47	45	113850	13.651	ng		100
13) Acetone	7.15	58	69674	8.426	ng	#	62
14) Trichlorofluoromethane	7.39	101	26698	1.433	ng		99
15) 2-Propanol (Isopropanol)	7.66	45	32997	1.324	ng		89
21) Trichlorotrifluoroethane	9.01	151	14236	1.611	ng		99
22) Carbon Disulfide	8.84	76	94486	2.591	ng		98
27) 2-Butanone (MEK)	10.61	72	12437	1.739	ng	#	42
30) Ethyl Acetate	11.43	61	17728	3.667	ng		86
31) n-Hexane	11.41	57	95443	4.547	ng		96
34) Tetrahydrofuran (THF)	11.89	72	10887	1.570	ng	#	61
41) Benzene	13.03	78	32049	0.784	ng		99
51) n-Heptane	14.45	71	6553	0.550	ng	#	81
58) Toluene	15.97	91	88879	1.953	ng		99
67) m- & p-Xylenes	18.27	91	22509	0.542	ng		99
75) alpha-Pinene	19.57	93	253929	10.639	ng		96
91) d-Limonene	20.73	68	101569	6.337	ng		93

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

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DataAcq Meth:TO15.M

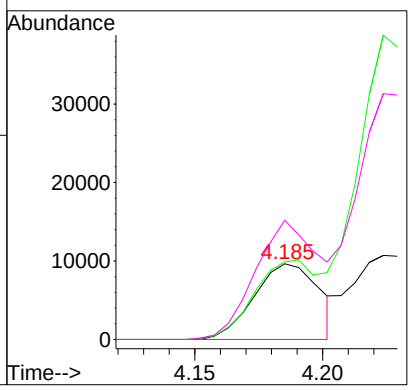


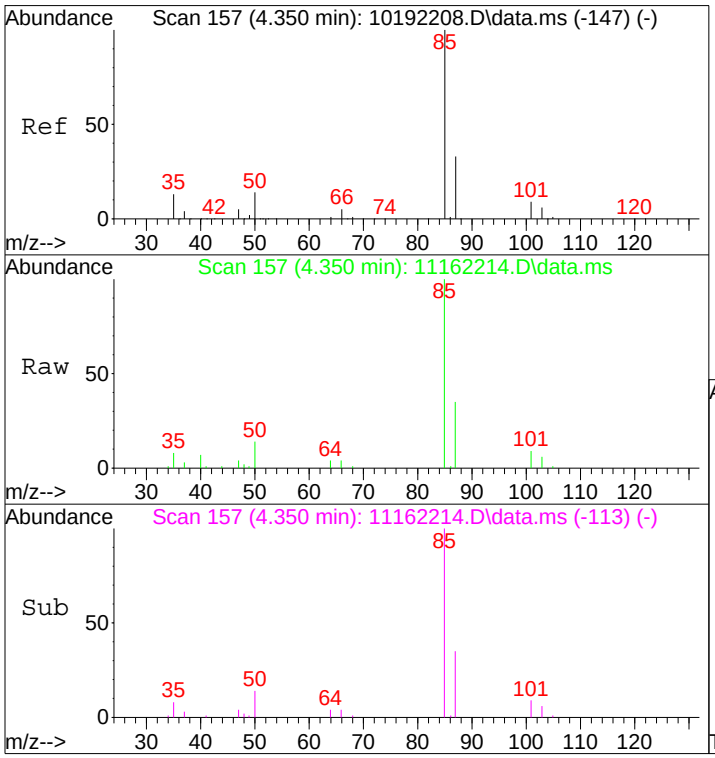


#2
Propene
Concen: 1.18 ng
RT: 4.19 min Scan# 127
Delta R.T. -0.011 min
Lab File: 11162214.D
Acq: 17 Nov 2022 00:19

Tgt Ion: 42 Resp: 16959

Ion	Ratio	Lower	Upper
42	100		
39	95.4	95.9	135.9#
41	153.9	132.4	172.4

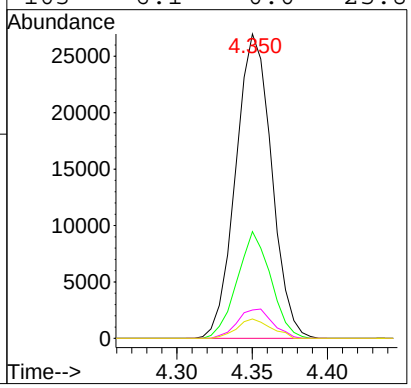


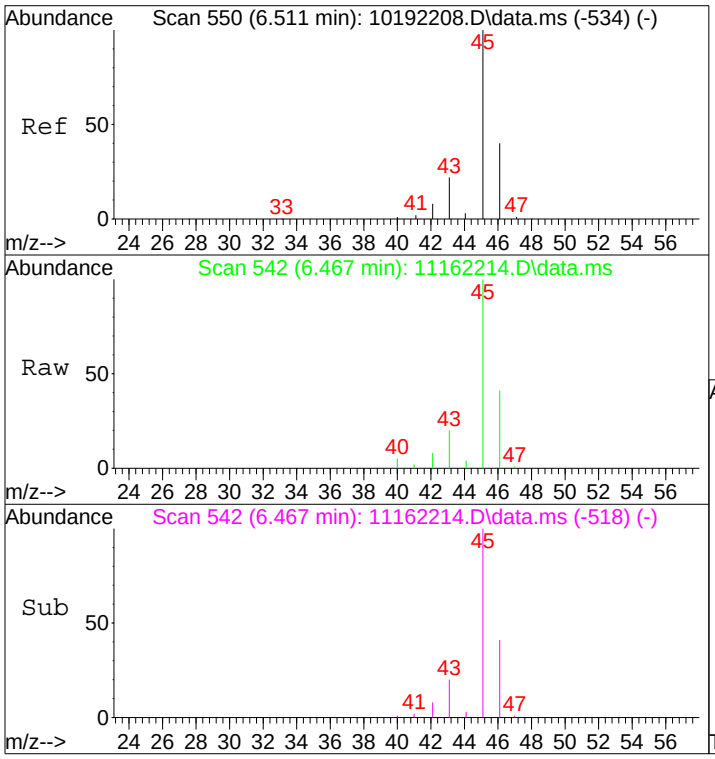


#3
Dichlorodifluoromethane (CFC 12)
Concen: 2.12 ng
RT: 4.35 min Scan# 157
Delta R.T. -0.005 min
Lab File: 11162214.D
Acq: 17 Nov 2022 00:19

Tgt Ion: 85 Resp: 44683

Ion	Ratio	Lower	Upper
85	100		
87	33.0	12.7	52.7
101	9.5	0.0	29.1
103	6.1	0.0	25.8

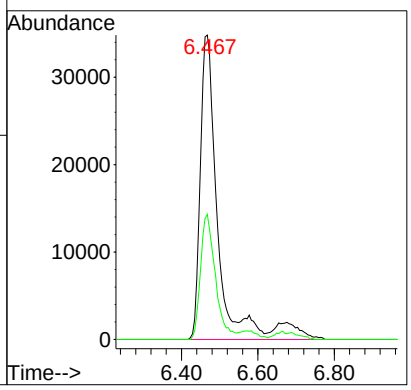


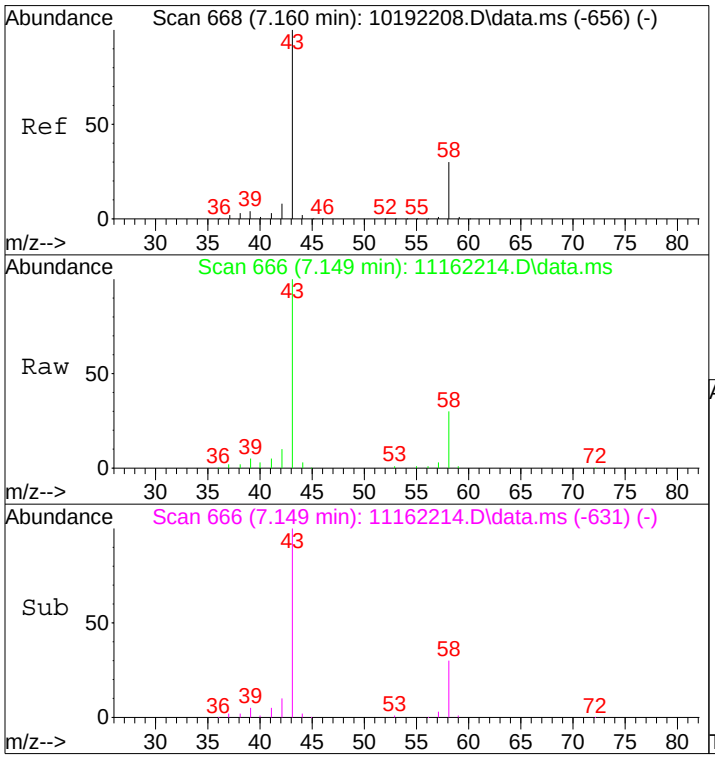


#10
Ethanol
Concen: 13.65 ng
RT: 6.47 min Scan# 542
Delta R.T. -0.116 min
Lab File: 11162214.D
Acq: 17 Nov 2022 00:19

Tgt Ion: 45 Resp: 113850

Ion	Ratio	Lower	Upper
45	100		
46	40.1	20.0	60.0

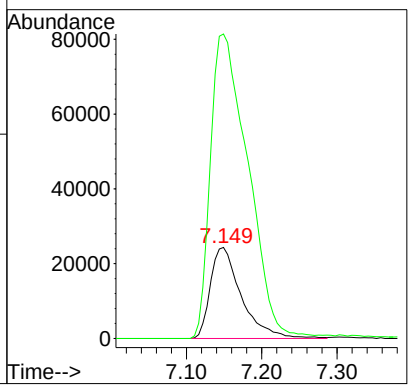


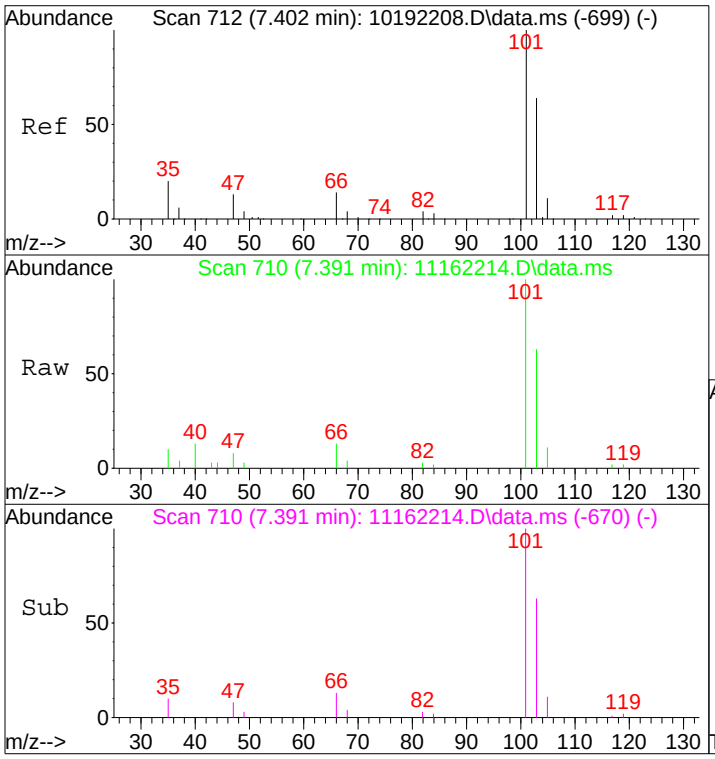


#13
Acetone
Concen: 8.43 ng
RT: 7.15 min Scan# 666
Delta R.T. -0.055 min
Lab File: 11162214.D
Acq: 17 Nov 2022 00:19

Tgt Ion: 58 Resp: 69674

Ion	Ratio	Lower	Upper
58	100		
43	407.5	298.4	358.4#

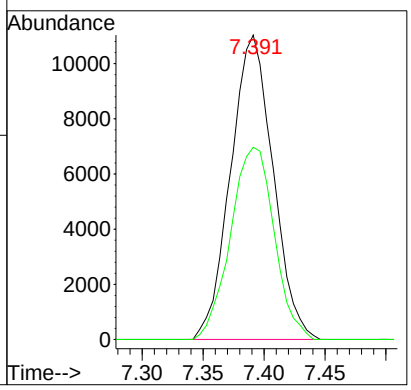


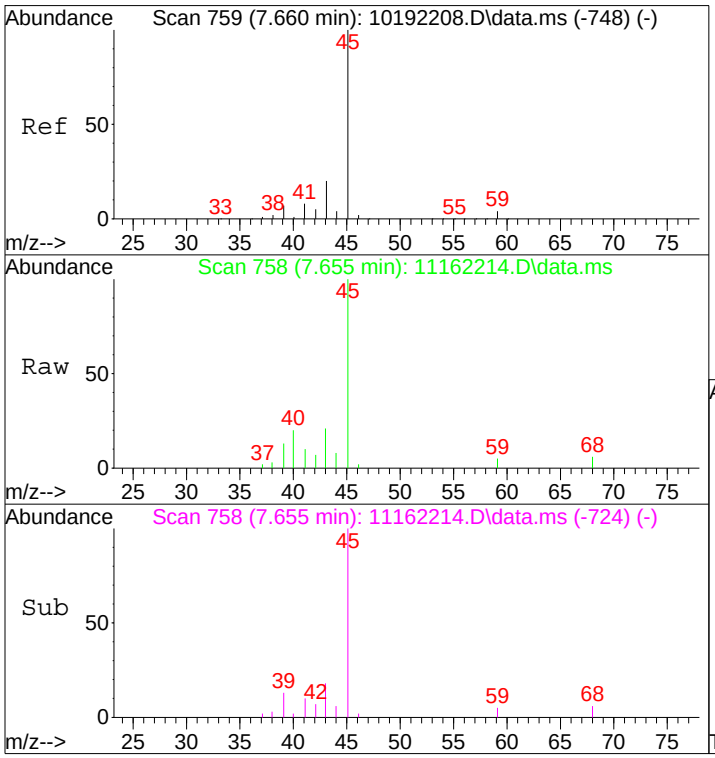


#14
Trichlorofluoromethane
Concen: 1.43 ng
RT: 7.39 min Scan# 710
Delta R.T. -0.027 min
Lab File: 11162214.D
Acq: 17 Nov 2022 00:19

Tgt Ion:101 Resp: 26698

Ion	Ratio	Lower	Upper
101	100		
103	64.9	44.4	84.4

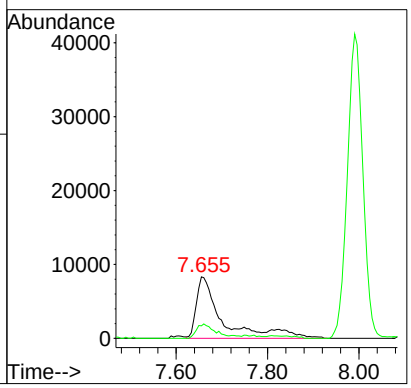


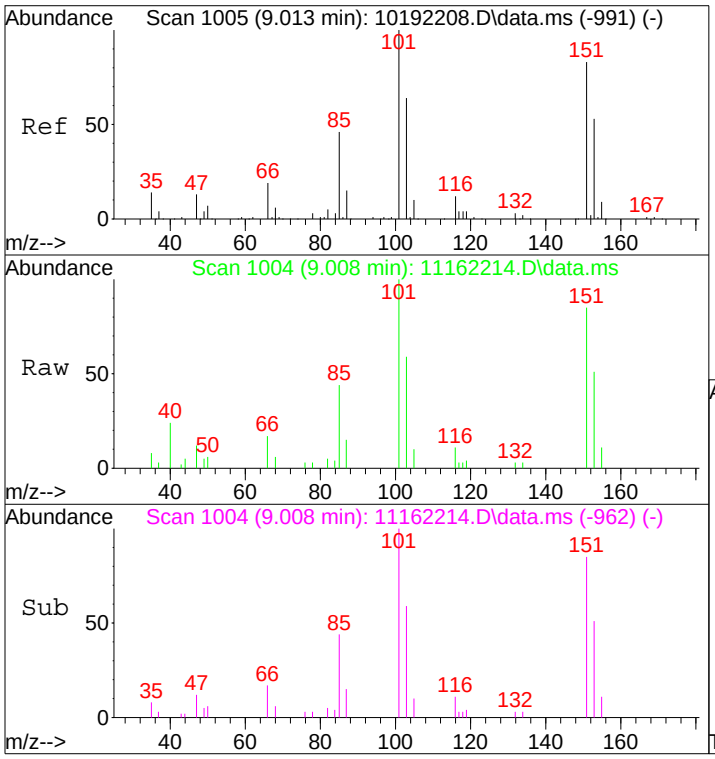


#15
2-Propanol (Isopropanol)
Concen: 1.32 ng
RT: 7.66 min Scan# 758
Delta R.T. -0.060 min
Lab File: 11162214.D
Acq: 17 Nov 2022 00:19

Tgt Ion: 45 Resp: 32997

Ion	Ratio	Lower	Upper
45	100		
43	25.4	0.3	40.3

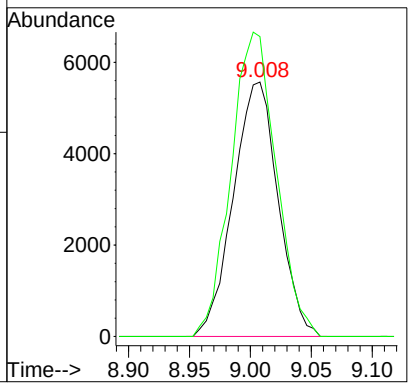


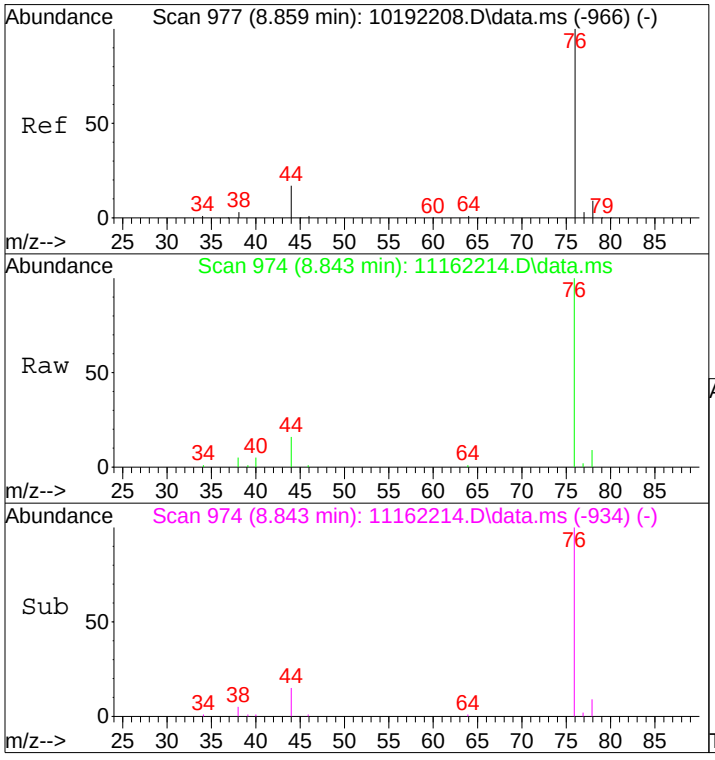


#21
Trichlorotrifluoroethane
Concen: 1.61 ng
RT: 9.01 min Scan# 1004
Delta R.T. -0.016 min
Lab File: 11162214.D
Acq: 17 Nov 2022 00:19

Tgt Ion:151 Resp: 14236

Ion	Ratio	Lower	Upper
151	100		
101	120.6	102.2	142.2

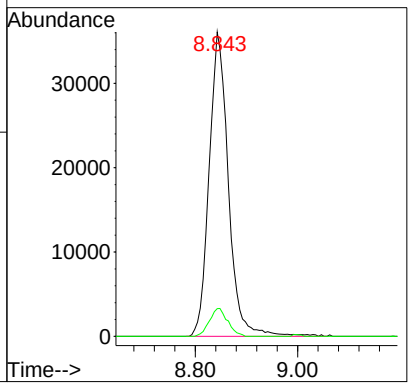


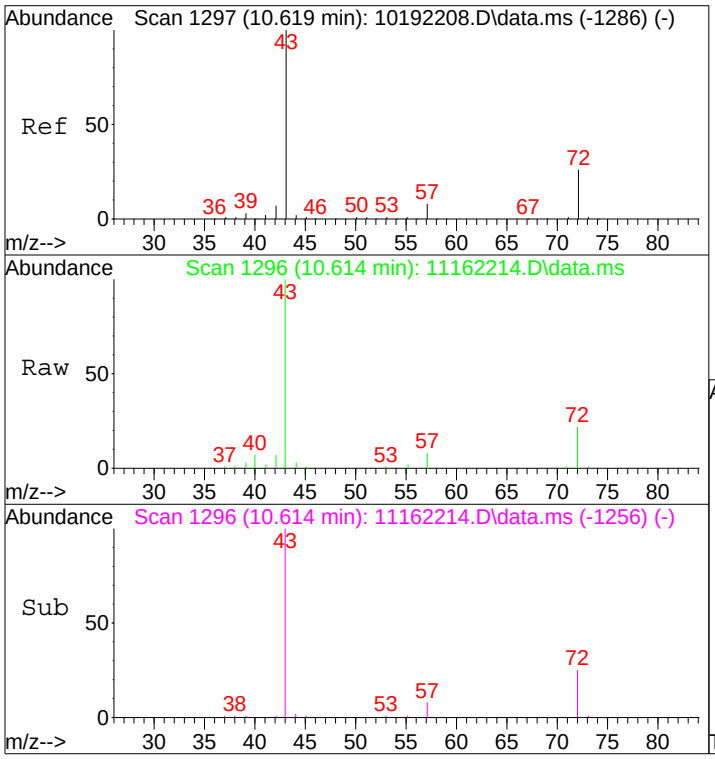


#22
Carbon Disulfide
Concen: 2.59 ng
RT: 8.84 min Scan# 974
Delta R.T. -0.027 min
Lab File: 11162214.D
Acq: 17 Nov 2022 00:19

Tgt Ion: 76 Resp: 94486

Ion	Ratio	Lower	Upper
76	100		
78	8.8	0.0	29.3

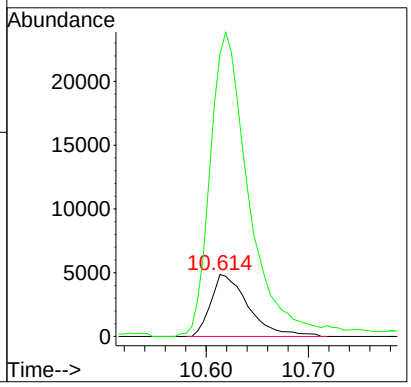


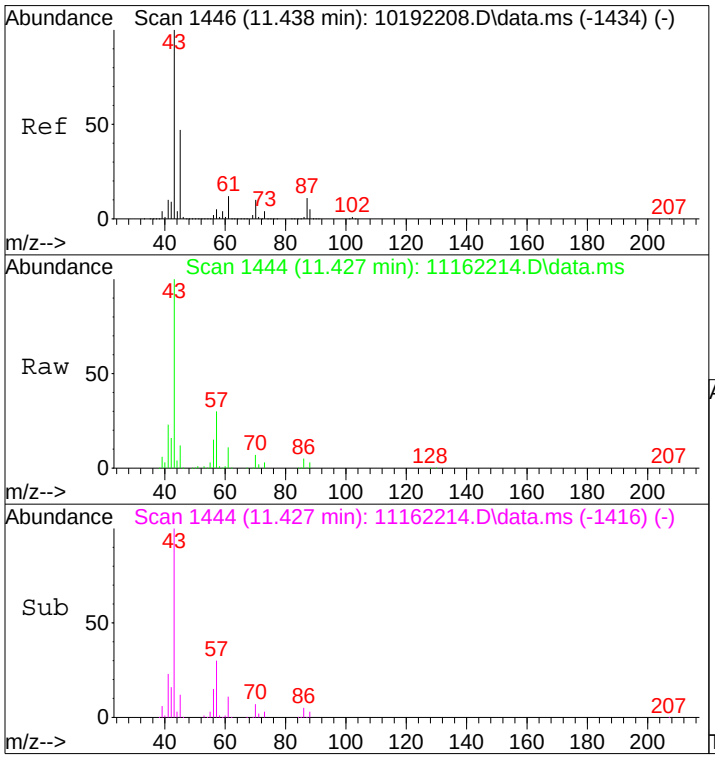


#27
2-Butanone (MEK)
Concen: 1.74 ng
RT: 10.61 min Scan# 1296
Delta R.T. -0.027 min
Lab File: 11162214.D
Acq: 17 Nov 2022 00:19

Tgt Ion: 72 Resp: 12437

Ion	Ratio	Lower	Upper
72	100		
43	520.5	365.7	405.7#

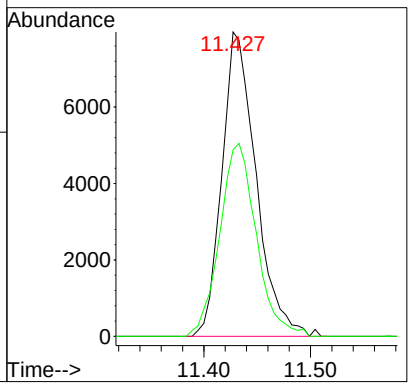


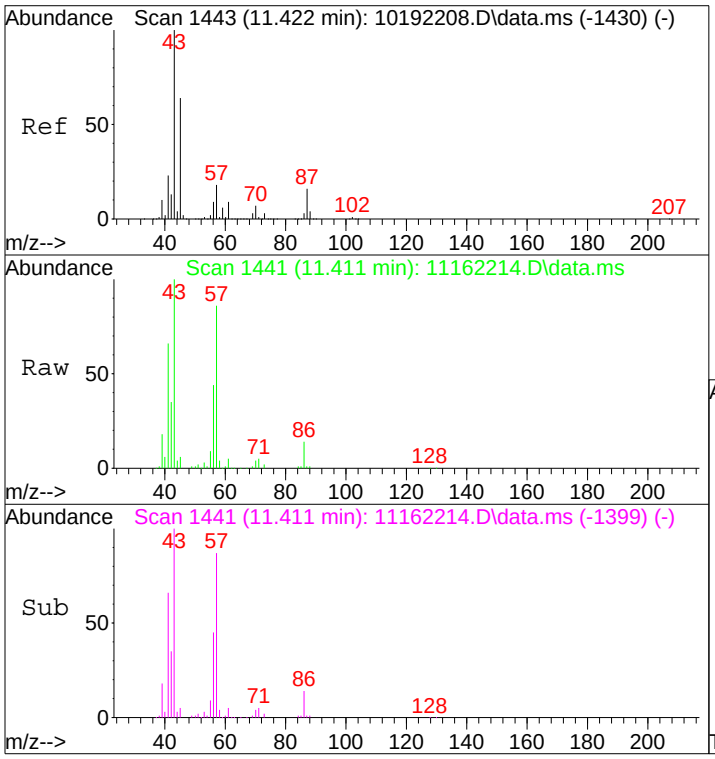


#30
Ethyl Acetate
Concen: 3.67 ng
RT: 11.43 min Scan# 1444
Delta R.T. -0.044 min
Lab File: 11162214.D
Acq: 17 Nov 2022 00:19

Tgt Ion: 61 Resp: 17728

Ion	Ratio	Lower	Upper
61	100		
70	67.9	60.3	100.3

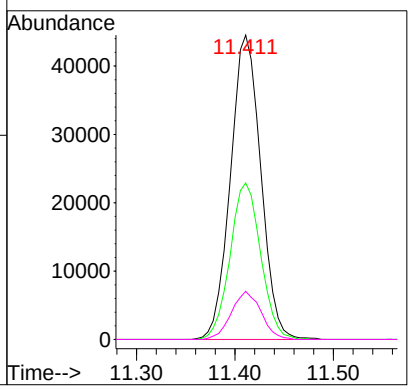


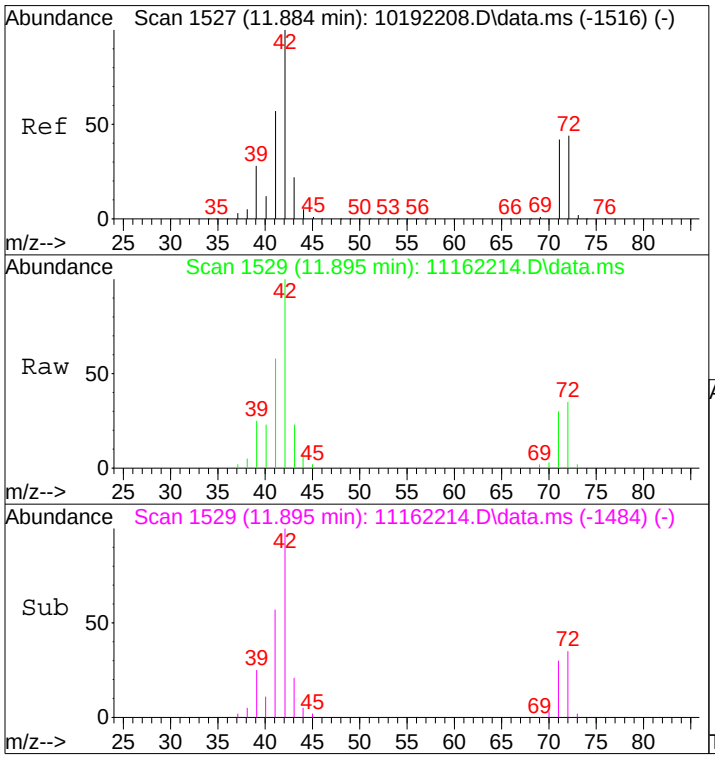


#31
n-Hexane
Concen: 4.55 ng
RT: 11.41 min Scan# 1441
Delta R.T. -0.016 min
Lab File: 11162214.D
Acq: 17 Nov 2022 00:19

Tgt Ion: 57 Resp: 95443

Ion	Ratio	Lower	Upper
57	100		
56	51.9	40.0	60.0
86	15.5	15.4	23.2

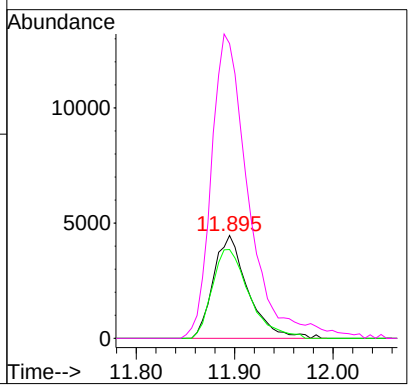


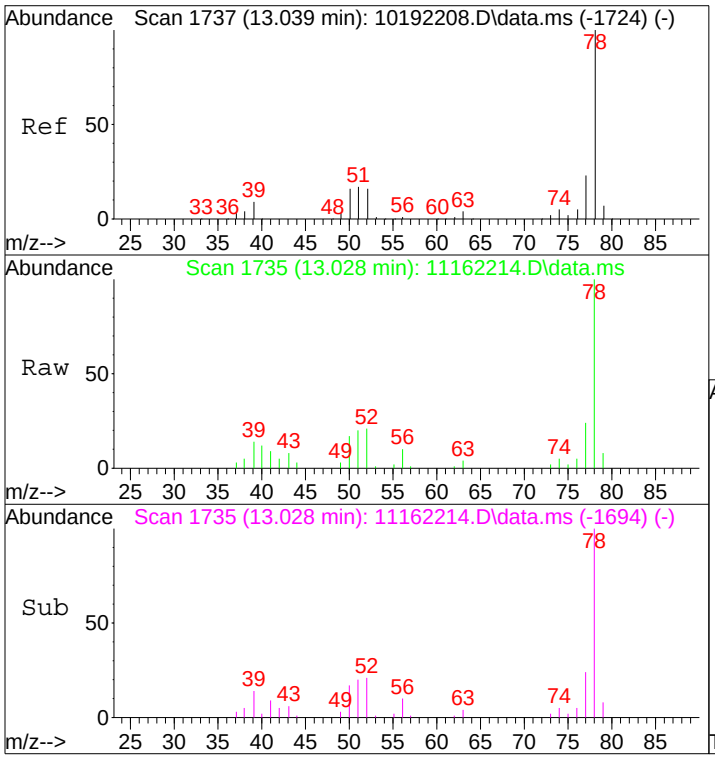


#34
Tetrahydrofuran (THF)
Concen: 1.57 ng
RT: 11.89 min Scan# 1529
Delta R.T. 0.000 min
Lab File: 11162214.D
Acq: 17 Nov 2022 00:19

Tgt Ion: 72 Resp: 10887

Ion	Ratio	Lower	Upper
72	100		
71	92.6	74.7	114.7
42	320.9	212.0	252.0#

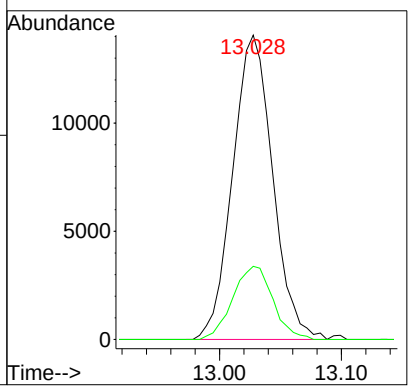


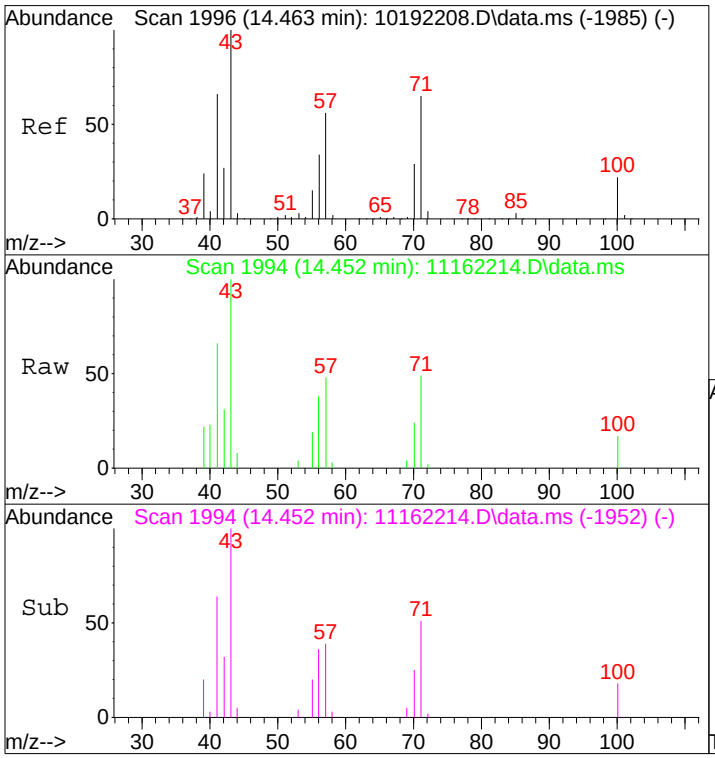


#41
Benzene
Concen: 0.78 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.022 min
Lab File: 11162214.D
Acq: 17 Nov 2022 00:19

Tgt Ion: 78 Resp: 32049

Ion	Ratio	Lower	Upper
78	100		
77	24.2	3.5	43.5

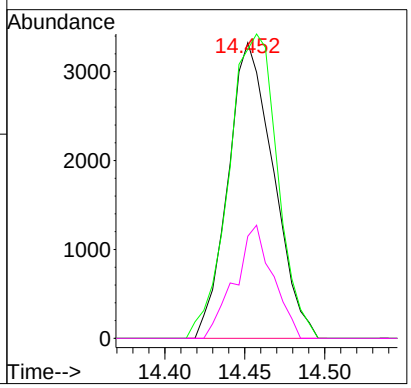


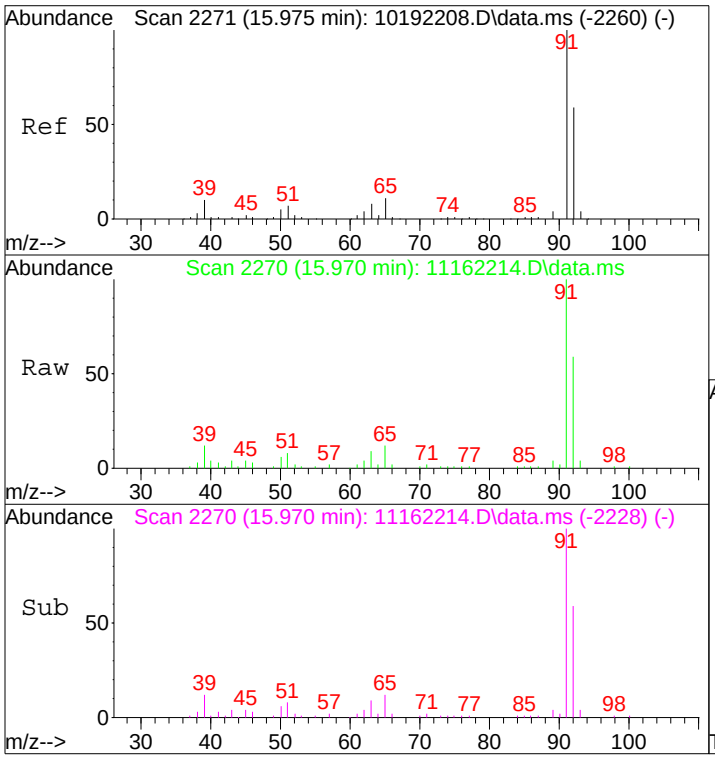


#51
n-Heptane
Concen: 0.55 ng
RT: 14.45 min Scan# 1994
Delta R.T. -0.016 min
Lab File: 11162214.D
Acq: 17 Nov 2022 00:19

Tgt Ion: 71 Resp: 6553

Ion	Ratio	Lower	Upper
71	100		
57	110.5	67.0	107.0#
100	32.0	13.9	53.9

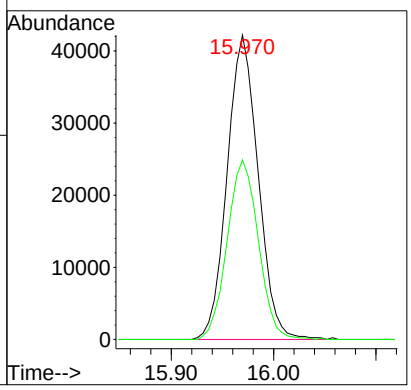


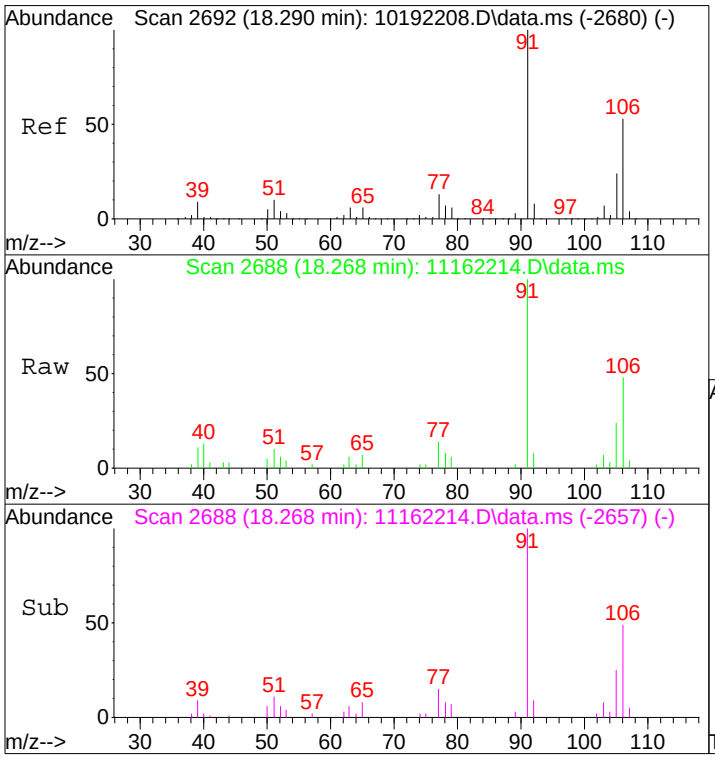


#58
Toluene
Concen: 1.95 ng
RT: 15.97 min Scan# 2270
Delta R.T. -0.016 min
Lab File: 11162214.D
Acq: 17 Nov 2022 00:19

Tgt Ion: 91 Resp: 88879

Ion	Ratio	Lower	Upper
91	100		
92	59.4	38.8	78.8

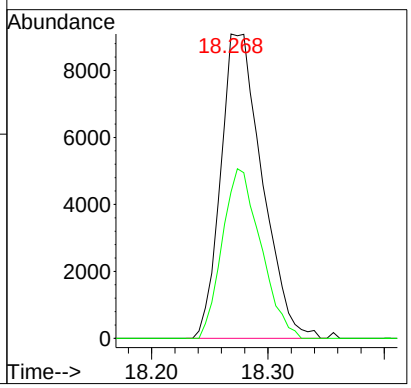


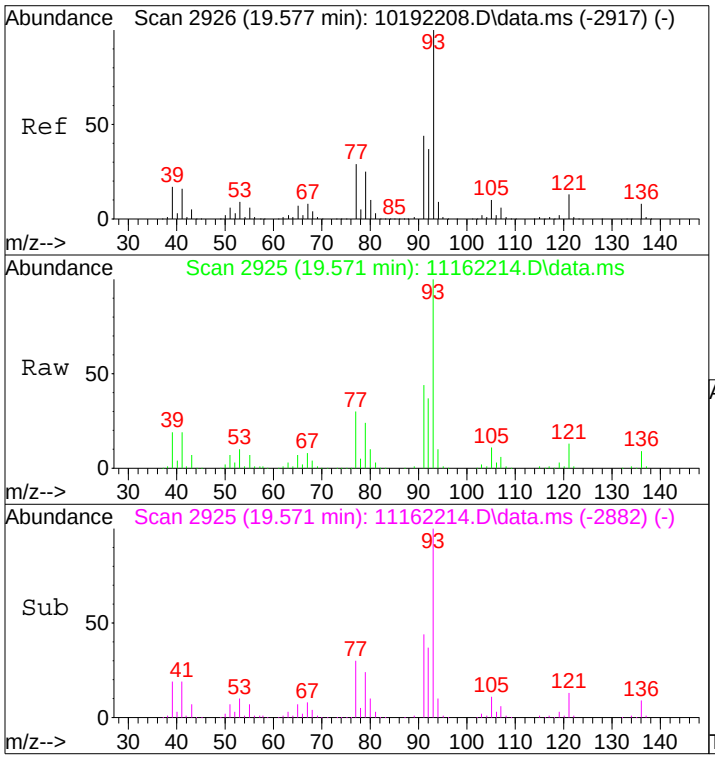


#67
m- & p-Xylenes
Concen: 0.54 ng
RT: 18.27 min Scan# 2688
Delta R.T. -0.027 min
Lab File: 11162214.D
Acq: 17 Nov 2022 00:19

Tgt Ion: 91 Resp: 22509

Ion	Ratio	Lower	Upper
91	100		
106	51.7	32.4	72.4

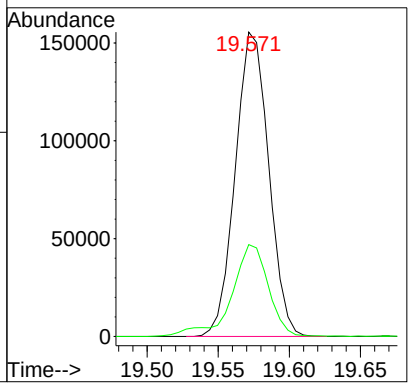


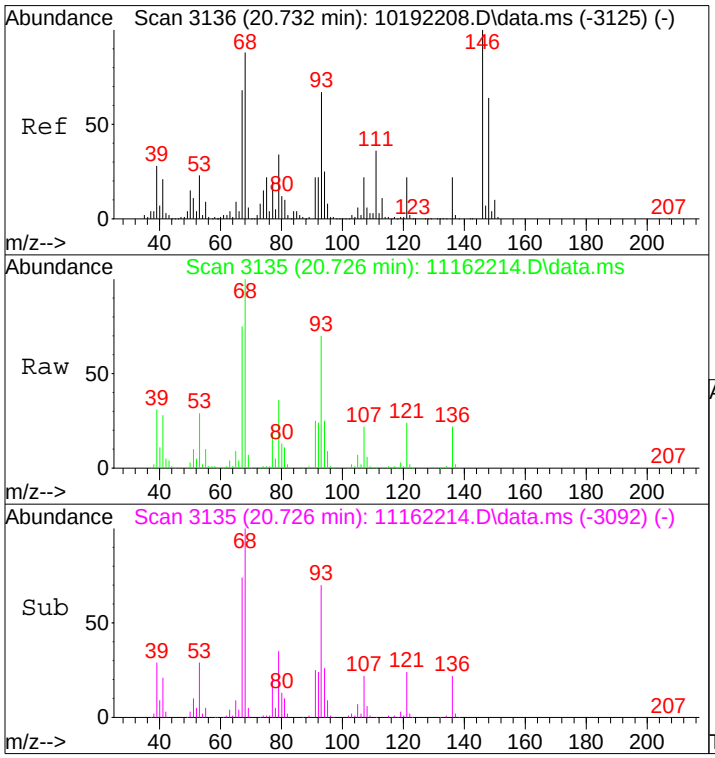


#75
alpha-Pinene
Concen: 10.64 ng
RT: 19.57 min Scan# 2925
Delta R.T. -0.011 min
Lab File: 11162214.D
Acq: 17 Nov 2022 00:19

Tgt Ion: 93 Resp: 253929

Ion	Ratio	Lower	Upper
93	100		
77	33.3	11.1	51.1

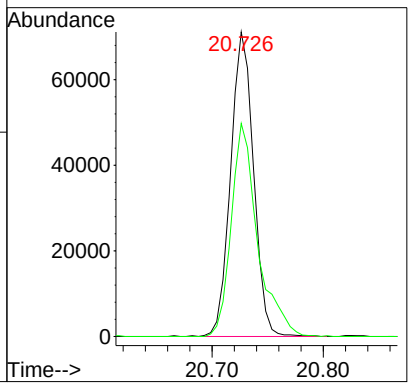




#91
d-Limonene
Concen: 6.34 ng
RT: 20.73 min Scan# 3135
Delta R.T. -0.011 min
Lab File: 11162214.D
Acq: 17 Nov 2022 00:19

Tgt Ion: 68 Resp: 101569

Ion	Ratio	Lower	Upper
68	100		
93	80.5	54.6	94.6



Data File : I:\MS16\DATA\2022 11\16\11162203.D Vial: 2
Acq On : 16 Nov 2022 18:06 Operator: WA
Sample : MB R16111622_1000mL Inst : GCMS-16
Misc : S35-11092201

11/16/22

Quant Time: Nov 16 19:38:00 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.29	130	136788	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	13.42	114	608892	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.72	54	118872	12.500	ng	-0.01
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.15	65	222433	12.159	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.28%			
57) Toluene-d8 (SS2)	15.87	98	675079	12.886	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.12%			
73) Bromofluorobenzene (SS3)	19.10	174	212159	12.850	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.80%			

Target Compounds						Qvalue
2) Propene	4.23	42	316	N.D.		
3) Dichlorodifluoromethan...	0.00	85	0	N.D.		
4) Chloromethane	0.00	50	0	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	6.51	45	1564	0.168	ng	72
11) Acetonitrile	6.78	41	969	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) Acetone	7.22	58	1221	0.132	ng	90
14) Trichlorofluoromethane	0.00	101	0	N.D.		
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D.		
16) Acrylonitrile	7.94	53	564	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	0.00	84	0	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	8.88	76	357	N.D.		
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	13.03	78	342	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	0.00	84	0	N.D.	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:\MS16\DATA\2022 11\16\11162203.D Vial: 2
Acq On : 16 Nov 2022 18:06 Operator: WA
Sample : MB R16111622_1000mL Inst : GCMS-16
Misc : S35-11092201

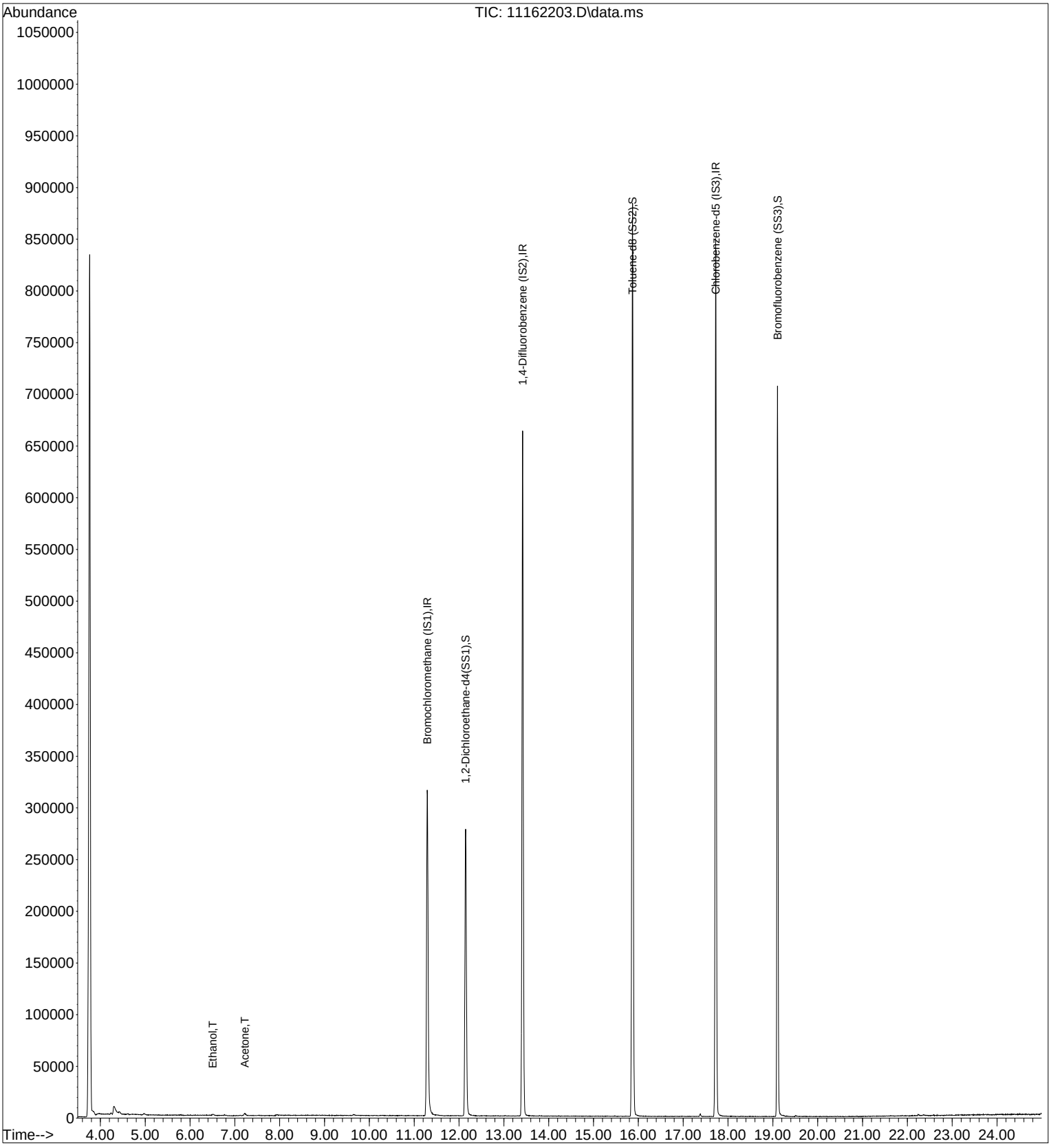
Quant Time: Nov 16 19:38:00 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

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	15.97	91	317	N.D.		
59) 2-Hexanone	0.00	43	0	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	0.00	166	0	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	0.00	91	0	N.D.		
67) m- & p-Xylenes	18.30	91	212	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	0.00	91	0	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	0.00	105	0	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	19.69	91	123	N.D.		
77) 3-Ethyltoluene	0.00	105	0	N.D.		
78) 4-Ethyltoluene	0.00	105	0	N.D.		
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D.		
82) 1,2,4-Trimethylbenzene	0.00	105	0	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	20.45	146	328	N.D.		
86) 1,4-Dichlorobenzene	20.45	146	328	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D.		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
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	22.24	180	775	N.D.		
95) Naphthalene	22.37	128	1362	N.D.		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	0.00	119	0	N.D.		
100) n-Butylbenzene	20.97	91	102	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:\MS16\DATA\2022 11\16\11162203.D Vial: 2
Acq On : 16 Nov 2022 18:06 Operator: WA
Sample : MB R16111622_1000mL Inst : GCMS-16
Misc : S35-11092201

Quant Time: Nov 16 19:38:00 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Data File : I:\MS16\DATA\2022 11\16\11162208.D Vial: 2
Acq On : 16 Nov 2022 20:55 Operator: WA
Sample : LCS R16111622 25ng Inst : GCMS-16
Misc : S35-11092201/S35-10172204 (11/16)

Quant Time: Nov 17 03:42:10 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 11/17/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.31	130	139423	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.42	114	615504	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.73	54	132059	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.16	65	232934	12.493	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.92%				
57) Toluene-d8 (SS2)	15.87	98	694164	11.927	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.44%				
73) Bromofluorobenzene (SS3)	19.10	174	251943	13.736	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.92%				
Target Compounds							Qvalue
2) Propene	4.19	42	555086	33.779	ng		94
3) Dichlorodifluoromethan...	4.34	85	590477	24.542	ng		99
4) Chloromethane	4.64	50	461348	27.887	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	284160	19.224	ng		99
6) Vinyl Chloride	5.07	62	381743	20.104	ng		99
7) 1,3-Butadiene	5.34	54	342657	25.102	ng		97
8) Bromomethane	5.79	94	215582	20.903	ng		98
9) Chloroethane	6.12	64	204340	25.162	ng		98
10) Ethanol	6.51	45	1095371	115.295	ng		99
11) Acetonitrile	6.75	41	586677	23.188	ng		99
12) Acrolein	6.94	56	391657	49.269	ng		99
13) Acetone	7.15	58	1157656	122.904	ng		98
14) Trichlorofluoromethane	7.40	101	516133	24.325	ng		100
15) 2-Propanol (Isopropanol)	7.66	45	1496064	52.692	ng		96
16) Acrylonitrile	7.92	53	910180	57.192	ng		99
17) 1,1-Dichloroethene	8.37	96	283380	25.105	ng		94
18) 2-Methyl-2-Propanol (t...	8.53	59	1381287	51.955	ng		97
19) Methylene Chloride	8.60	84	284837	24.261	ng	#	77
20) 3-Chloro-1-propene (Al...	8.75	41	487369	29.932	ng		87
21) Trichlorotrifluoroethane	9.01	151	257431	25.577	ng		97
22) Carbon Disulfide	8.85	76	1962865	47.248	ng		100
23) trans-1,2-Dichloroethene	9.87	61	433317	27.962	ng		94
24) 1,1-Dichloroethane	10.12	63	528413	26.945	ng		100
25) Methyl tert-Butyl Ether	10.21	73	859483	24.001	ng		92
26) Vinyl Acetate	10.37	86	323382	111.799	ng	#	39
27) 2-Butanone (MEK)	10.61	72	401165	49.235	ng	#	51
28) cis-1,2-Dichloroethene	11.13	61	420394	27.024	ng		95
29) Diisopropyl Ether	11.43	87	587515	42.923	ng	#	75
30) Ethyl Acetate	11.43	61	408299	74.137	ng		85
31) n-Hexane	11.42	57	625669	26.165	ng		98
32) Chloroform	11.48	83	512790	24.111	ng		100
34) Tetrahydrofuran (THF)	11.88	72	368695	46.671	ng	#	68
35) Ethyl tert-Butyl Ether	12.02	87	743733	47.010	ng	#	83
36) 1,2-Dichloroethane	12.27	62	410039	25.237	ng		100
38) 1,1,1-Trichloroethane	12.55	97	478549	25.444	ng		100
39) Isopropyl Acetate	13.67	61	753	No Calib		#	
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.03	78	1137809	24.930	ng		99
42) Carbon Tetrachloride	13.19	117	398987	25.360	ng		97
43) Cyclohexane	13.32	84	964084	47.223	ng		86
44) tert-Amyl Methyl Ether	13.67	73	1687277	49.010	ng		94
45) 1,2-Dichloropropane	13.88	63	311872	27.409	ng		100
46) Bromodichloromethane	14.07	83	418111	25.536	ng		100
47) Trichloroethene	14.13	130	345252	26.548	ng		98
48) 1,4-Dioxane	14.10	88	236408	24.809	ng		89
49) 2,2,4-Trimethylpentane...	14.19	57	1474206	28.573	ng		94
50) Methyl Methacrylate	14.33	100	272359	48.321	ng		98

Data File : I:\MS16\DATA\2022 11\16\11162208.D Vial: 2
Acq On : 16 Nov 2022 20:55 Operator: WA
Sample : LCS R16111622 25ng Inst : GCMS-16
Misc : S35-11092201/S35-10172204 (11/16)

Quant Time: Nov 17 03:42:10 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

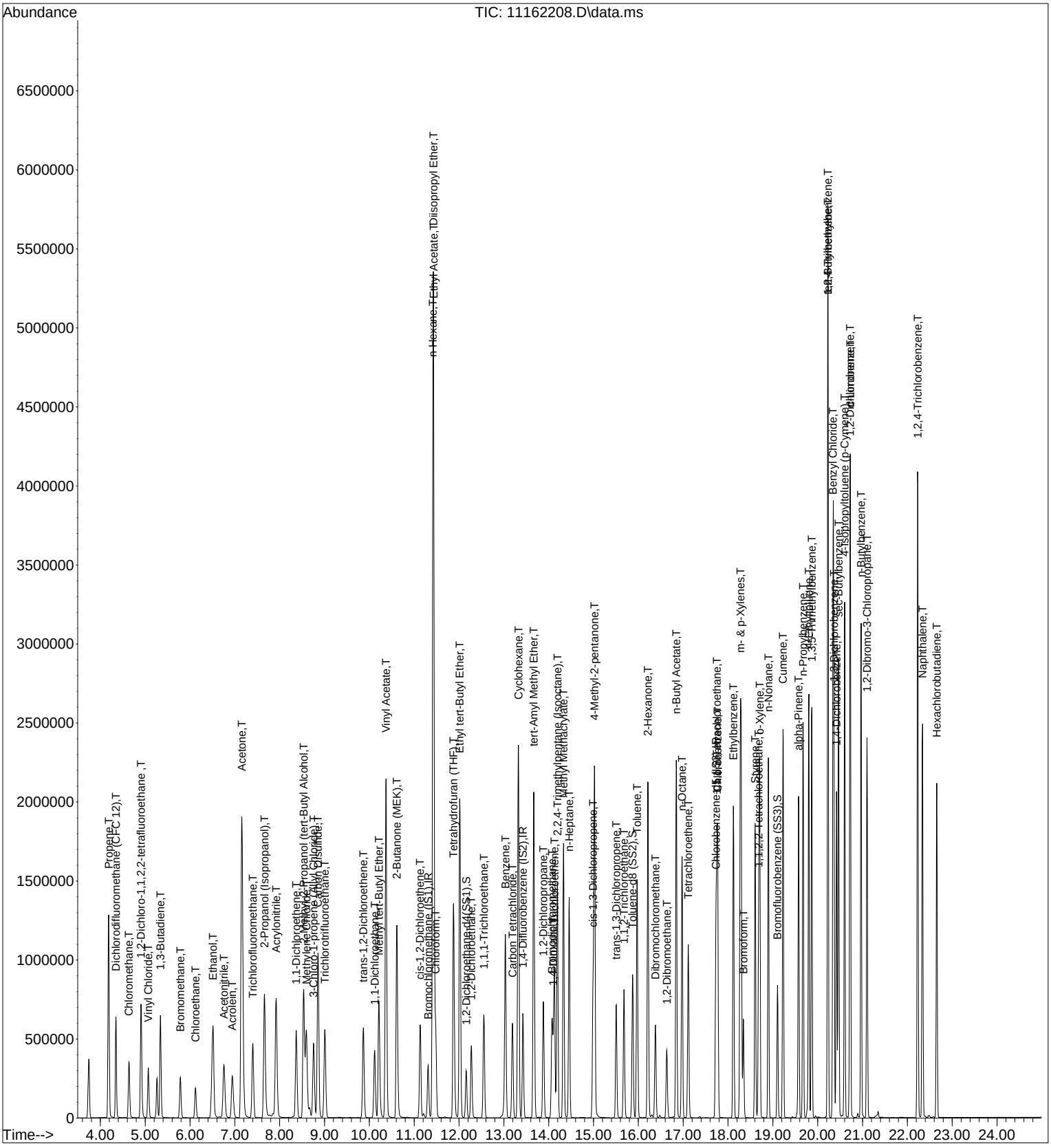
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.46	71	327549	24.608 ng	88
52) cis-1,3-Dichloropropene	14.99	75	484111	28.476 ng	100
53) 4-Methyl-2-pentanone	15.02	58	642859	58.713 ng	86
54) trans-1,3-Dichloropropene	15.51	75	437743	26.862 ng	100
55) 1,1,2-Trichloroethane	15.68	97	296615	26.811 ng	99
58) Toluene	15.97	91	1239916	23.024 ng	99
59) 2-Hexanone	16.21	43	1739873	61.863 ng	93
60) Dibromochloromethane	16.38	129	377324	26.576 ng	100
61) 1,2-Dibromoethane	16.64	107	353699	27.227 ng	100
62) n-Butyl Acetate	16.84	43	1950440	62.908 ng	96
63) n-Octane	16.98	57	325866	28.051 ng	83
64) Tetrachloroethene	17.11	166	365067	26.191 ng	99
65) Chlorobenzene	17.77	112	905307	25.461 ng	98
66) Ethylbenzene	18.12	91	1494427	24.777 ng	99
67) m- & p-Xylenes	18.28	91	2374198	48.293 ng	99
68) Bromoform	18.35	173	321689	27.935 ng	100
69) Styrene	18.60	104	949402	27.218 ng	99
70) o-Xylene	18.71	91	1233545	25.633 ng	99
71) n-Nonane	18.90	43	868177	31.869 ng	89
72) 1,1,2,2-Tetrachloroethane	18.68	83	583132	27.334 ng	99
74) Cumene	19.23	105	1645492	25.488 ng	97
75) alpha-Pinene	19.57	93	786646	27.858 ng	99
76) n-Propylbenzene	19.68	91	1969390	26.316 ng	99
77) 3-Ethyltoluene	20.35	105	1004	No Calib #	
78) 4-Ethyltoluene	19.80	105	1659416	27.247 ng	97
79) 1,3,5-Trimethylbenzene	19.87	105	1385909	25.685 ng	96
80) alpha-Methylstyrene	20.46	118	6514	No Calib #	
81) 2-Ethyltoluene	20.35	105	1004	No Calib #	
82) 1,2,4-Trimethylbenzene	20.23	105	1502934	26.801 ng	96
83) n-Decane	20.23	58	70811	No Calib	
84) Benzyl Chloride	20.34	91	2326665	67.863 ng	99
85) 1,3-Dichlorobenzene	20.36	146	869937	29.159 ng	100
86) 1,4-Dichlorobenzene	20.42	146	859732	29.823 ng	100
87) sec-Butylbenzene	20.47	105	1955805	27.285 ng	99
88) 4-Isopropyltoluene (p-...	20.60	119	1810715	28.436 ng	98
89) 1,2,3-Trimethylbenzene	20.35	105	1004	No Calib #	
90) 1,2-Dichlorobenzene	20.72	146	845553	28.419 ng	100
91) d-Limonene	20.73	68	553151	29.172 ng	92
92) 1,2-Dibromo-3-Chloropr...	21.10	157	673960	58.804 ng	97
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	22.23	180	1309097	60.995 ng	99
95) Naphthalene	22.34	128	2038691	38.362 ng	100
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	22.66	225	390410	30.442 ng	100
98) Cyclohexanone	18.13	55	402	No Calib #	
99) tert-Butylbenzene	20.23	119	1584228	27.989 ng	99
100) n-Butylbenzene	20.97	91	1577072	29.320 ng	99
101) 1,1,1,2-Tetrachloroethane	17.75	131	340840	24.517 ng	98

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

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 11\16\11162208.D Vial: 2
Acq On : 16 Nov 2022 20:55 Operator: WA
Sample : LCS R16111622 25ng Inst : GCMS-16
Misc : S35-11092201/S35-10172204 (11/16)

Quant Time: Nov 17 03:42:10 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Data File : I:\MS16\DATA\2022 11\16\11162209.D Vial: 2
Acq On : 16 Nov 2022 21:29 Operator: WA
Sample : LCSD R16111622 25ng Inst : GCMS-16
Misc : S35-11092201/S35-10172204 (11/16)

11/17/22

Quant Time: Nov 17 03:42:12 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.31	130	167170	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.42	114	734108	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.73	54	149446	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.16	65	268542	12.012	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.08%				
57) Toluene-d8 (SS2)	15.87	98	816060	12.390	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.12%				
73) Bromofluorobenzene (SS3)	19.10	174	282456	13.608	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.88%				
Target Compounds							Qvalue
2) Propene	4.19	42	664539	33.728	ng		93
3) Dichlorodifluoromethan...	4.34	85	729356	25.283	ng		99
4) Chloromethane	4.64	50	580692	29.275	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	368402	20.787	ng		100
6) Vinyl Chloride	5.07	62	492224	21.620	ng		99
7) 1,3-Butadiene	5.34	54	419364	25.622	ng		96
8) Bromomethane	5.79	94	266363	21.540	ng		98
9) Chloroethane	6.12	64	242263	24.880	ng		98
10) Ethanol	6.51	45	1273837	111.825	ng		99
11) Acetonitrile	6.75	41	683236	22.522	ng		98
12) Acrolein	6.94	56	508470	53.347	ng		99
13) Acetone	7.15	58	1450332	128.419	ng		98
14) Trichlorofluoromethane	7.40	101	627065	24.648	ng		100
15) 2-Propanol (Isopropanol)	7.66	45	1896149	55.698	ng		95
16) Acrylonitrile	7.92	53	1084717	56.846	ng		98
17) 1,1-Dichloroethene	8.37	96	346286	25.586	ng		96
18) 2-Methyl-2-Propanol (t...	8.53	59	1629429	51.116	ng		97
19) Methylene Chloride	8.60	84	347098	24.657	ng		81
20) 3-Chloro-1-propene (Al...	8.75	41	572123	29.305	ng		89
21) Trichlorotrifluoroethane	9.01	151	313967	26.016	ng		96
22) Carbon Disulfide	8.85	76	2356913	47.317	ng		100
23) trans-1,2-Dichloroethene	9.87	61	521698	28.077	ng		95
24) 1,1-Dichloroethane	10.12	63	630683	26.822	ng		99
25) Methyl tert-Butyl Ether	10.21	73	1027609	23.933	ng		93
26) Vinyl Acetate	10.37	86	380987	109.852	ng	#	50
27) 2-Butanone (MEK)	10.61	72	475117	48.633	ng	#	60
28) cis-1,2-Dichloroethene	11.13	61	498187	26.709	ng		96
29) Diisopropyl Ether	11.42	87	689184	41.993	ng	#	83
30) Ethyl Acetate	11.43	61	476553	72.168	ng		86
31) n-Hexane	11.42	57	727826	25.385	ng		97
32) Chloroform	11.48	83	601490	23.588	ng		99
34) Tetrahydrofuran (THF)	11.88	72	436982	46.134	ng	#	73
35) Ethyl tert-Butyl Ether	12.02	87	873448	46.045	ng	#	84
36) 1,2-Dichloroethane	12.27	62	472879	24.274	ng		100
38) 1,1,1-Trichloroethane	12.55	97	559887	24.959	ng		99
39) Isopropyl Acetate	13.67	61	988	No Calib		#	
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.03	78	1332569	24.480	ng		99
42) Carbon Tetrachloride	13.19	117	464090	24.732	ng		97
43) Cyclohexane	13.32	84	1134177	46.579	ng		86
44) tert-Amyl Methyl Ether	13.67	73	1956665	47.653	ng		96
45) 1,2-Dichloropropane	13.88	63	364045	26.825	ng		100
46) Bromodichloromethane	14.07	83	489829	25.082	ng		100
47) Trichloroethene	14.13	130	405654	26.153	ng		98
48) 1,4-Dioxane	14.10	88	280900	24.715	ng		90
49) 2,2,4-Trimethylpentane...	14.19	57	1706534	27.732	ng		93
50) Methyl Methacrylate	14.33	100	319106	47.468	ng		98

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 11\16\11162209.D Vial: 2
Acq On : 16 Nov 2022 21:29 Operator: WA
Sample : LCSD R16111622 25ng Inst : GCMS-16
Misc : S35-11092201/S35-10172204 (11/16)

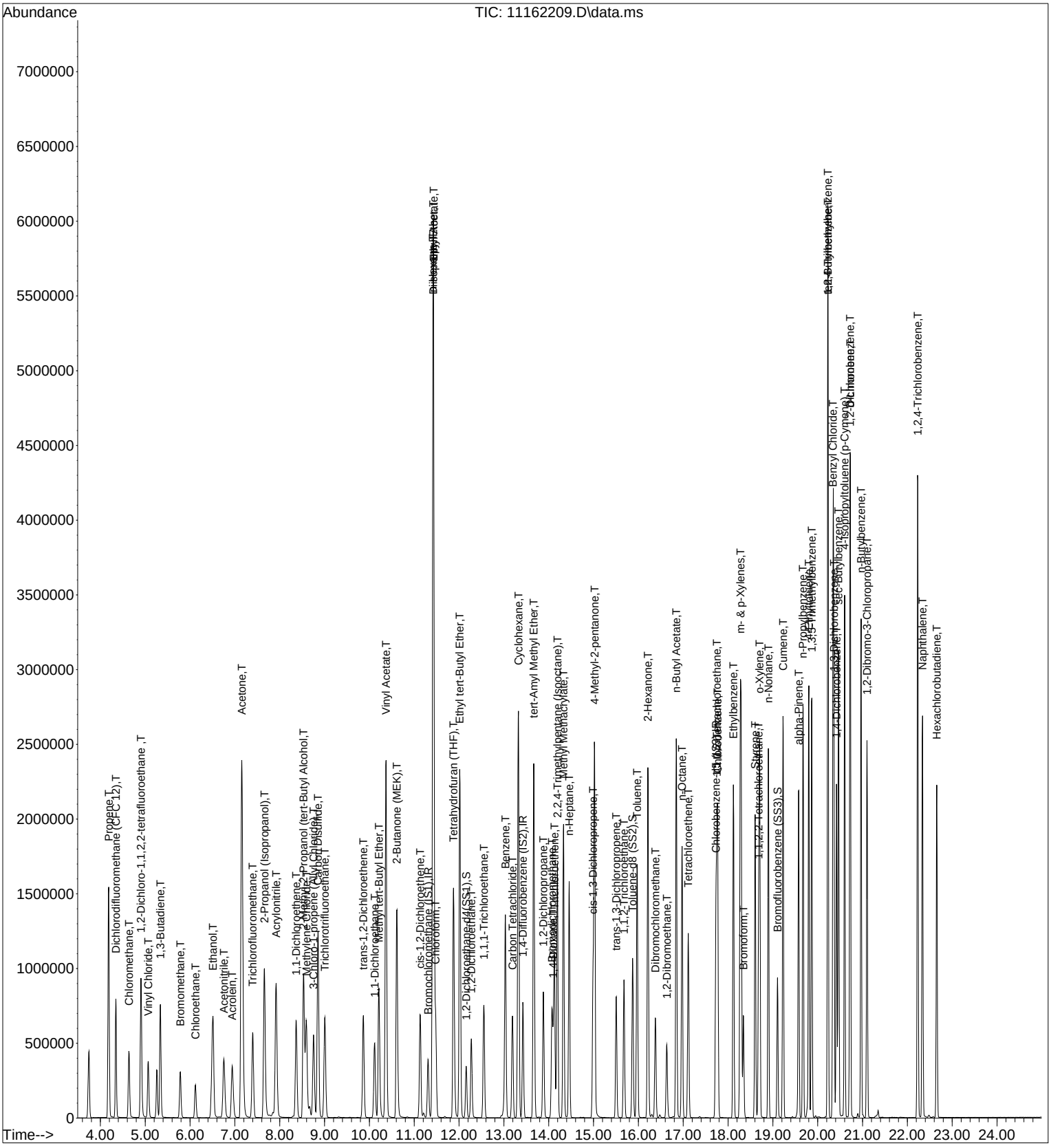
Quant Time: Nov 17 03:42:12 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.46	71	380102	23.942 ng	88
52) cis-1,3-Dichloropropene	14.99	75	564255	27.828 ng	100
53) 4-Methyl-2-pentanone	15.02	58	732150	56.065 ng	90
54) trans-1,3-Dichloropropene	15.51	75	505871	26.028 ng	100
55) 1,1,2-Trichloroethane	15.68	97	344085	26.077 ng	99
58) Toluene	15.97	91	1420788	23.313 ng	99
59) 2-Hexanone	16.21	43	1909604	59.999 ng	95
60) Dibromochloromethane	16.38	129	434712	27.055 ng	100
61) 1,2-Dibromoethane	16.63	107	405896	27.609 ng	100
62) n-Butyl Acetate	16.84	43	2179061	62.105 ng	97
63) n-Octane	16.98	57	366134	27.850 ng	85
64) Tetrachloroethene	17.11	166	417169	26.447 ng	99
65) Chlorobenzene	17.77	112	1027785	25.543 ng	99
66) Ethylbenzene	18.12	91	1695122	24.834 ng	99
67) m- & p-Xylenes	18.28	91	2650747	47.645 ng	99
68) Bromoform	18.35	173	364963	28.006 ng	100
69) Styrene	18.60	104	1062632	26.920 ng	99
70) o-Xylene	18.70	91	1359545	24.965 ng	99
71) n-Nonane	18.90	43	941095	30.526 ng	91
72) 1,1,2,2-Tetrachloroethane	18.68	83	644615	26.701 ng	100
74) Cumene	19.22	105	1823354	24.957 ng	97
75) alpha-Pinene	19.58	93	869298	27.204 ng	98
76) n-Propylbenzene	19.67	91	2157134	25.471 ng	99
77) 3-Ethyltoluene	20.34	105	742	No Calib #	
78) 4-Ethyltoluene	19.80	105	1819084	26.394 ng	97
79) 1,3,5-Trimethylbenzene	19.87	105	1512639	24.772 ng	97
80) alpha-Methylstyrene	20.47	118	6723	No Calib #	
81) 2-Ethyltoluene	20.34	105	760	No Calib #	
82) 1,2,4-Trimethylbenzene	20.23	105	1632546	25.725 ng	97
83) n-Decane	20.23	58	75060	No Calib	
84) Benzyl Chloride	20.34	91	2525689	65.097 ng	99
85) 1,3-Dichlorobenzene	20.36	146	946685	28.040 ng	99
86) 1,4-Dichlorobenzene	20.42	146	933017	28.600 ng	100
87) sec-Butylbenzene	20.46	105	2096926	25.851 ng	99
88) 4-Isopropyltoluene (p-...	20.60	119	1950131	27.063 ng	98
89) 1,2,3-Trimethylbenzene	20.34	105	760	No Calib #	
90) 1,2-Dichlorobenzene	20.72	146	914582	27.163 ng	100
91) d-Limonene	20.73	68	588850	27.442 ng	93
92) 1,2-Dibromo-3-Chloropr...	21.10	157	718816	55.421 ng	96
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	22.23	180	1399310	57.613 ng	100
95) Naphthalene	22.34	128	2177502	36.207 ng	100
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	22.66	225	413363	28.481 ng	100
98) Cyclohexanone	18.13	55	463	No Calib #	
99) tert-Butylbenzene	20.23	119	1712863	26.741 ng	99
100) n-Butylbenzene	20.97	91	1687140	27.717 ng	99
101) 1,1,1,2-Tetrachloroethane	17.75	131	386541	24.570 ng	99

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

Data File : I:\MS16\DATA\2022 11\16\11162209.D Vial: 2
Acq On : 16 Nov 2022 21:29 Operator: WA
Sample : LCSD R16111622 25ng Inst : GCMS-16
Misc : S35-11092201/S35-10172204 (11/16)

Quant Time: Nov 17 03:42:12 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 11\16\11162212.D Vial: 7
Acq On : 16 Nov 2022 23:11 Operator: WA
Sample : P2205014-002dup (30mL) Inst : GCMS-16
Misc : S35-11092201

Quant Time: Nov 17 04:50:44 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 11/17/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.29	130	128124	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	13.42	114	557929	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.72	54	110264	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.14	65	208310	12.157	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.28%				
57) Toluene-d8 (SS2)	15.87	98	616942	12.696	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.60%				
73) Bromofluorobenzene (SS3)	19.10	174	195545	12.769	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.16%				
Target Compounds							Qvalue
2) Propene	4.21	42	459	N.D.			
3) Dichlorodifluoromethan...	4.36	85	1104	N.D.			
4) Chloromethane	4.64	50	391	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	5.06	62	36779	2.108	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	6.50	45	1727	N.D.			
11) Acetonitrile	6.77	41	290	N.D.			
12) Acrolein	0.00	56	0	N.D.			
13) Acetone	7.19	58	4174	0.482	ng		93
14) Trichlorofluoromethane	7.39	101	463	N.D.			
15) 2-Propanol (Isopropanol)	7.73	45	51	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	8.35	96	6668	0.643	ng		95
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	8.56	84	154935	14.360	ng	#	77
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	8.99	151	401702	43.430	ng		97
22) Carbon Disulfide	8.85	76	481	N.D.			
23) trans-1,2-Dichloroethene	9.85	61	1789	N.D.			
24) 1,1-Dichloroethane	10.10	63	1992	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)	10.66	72	1774	N.D.			
28) cis-1,2-Dichloroethene	11.11	61	533998	37.354	ng		95
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	11.41	61	118	N.D.			
31) n-Hexane	11.40	57	324	N.D.			
32) Chloroform	11.45	83	2996	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	12.27	62	8780	0.588	ng		100
38) 1,1,1-Trichloroethane	12.55	97	170	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.03	78	1897	N.D.			
42) Carbon Tetrachloride	13.18	117	1018	N.D.			
43) Cyclohexane	13.32	84	677	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	14.12	130	986023	83.644	ng		97
48) 1,4-Dioxane	14.14	88	284	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:\MS16\DATA\2022 11\16\11162212.D Vial: 7
Acq On : 16 Nov 2022 23:11 Operator: WA
Sample : P2205014-002dup (30mL) Inst : GCMS-16
Misc : S35-11092201

Quant Time: Nov 17 04:50:44 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

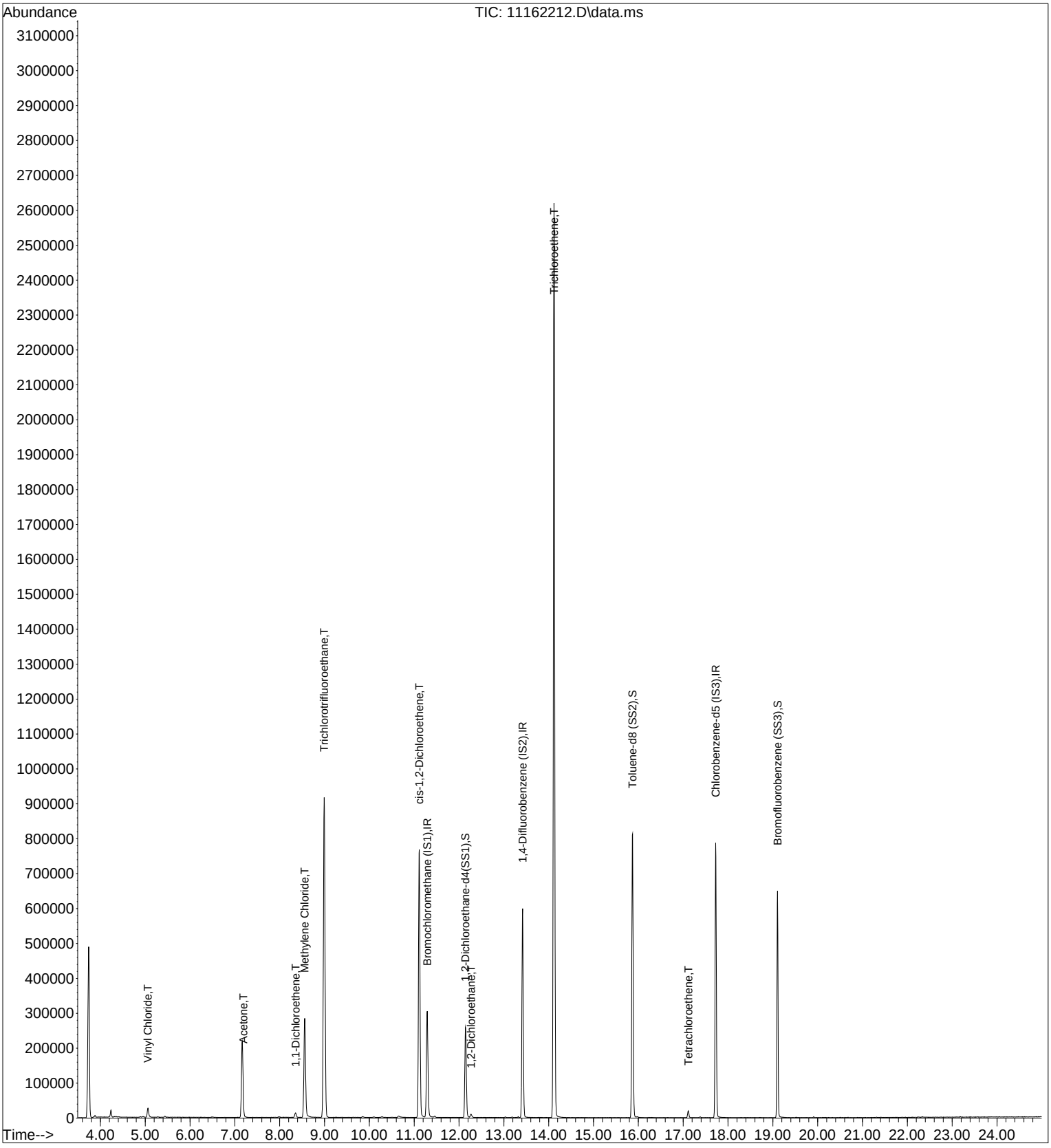
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.97	91	2207	N.D.	
59) 2-Hexanone	16.27	43	567	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	17.12	166	7329	0.630 ng	94
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	0.00	91	0	N.D.	
67) m- & p-Xylenes	18.28	91	453	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	18.71	91	272	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	0.00	105	0	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	0.00	91	0	N.D.	
77) 3-Ethyltoluene	20.24	105	257	No Calib	#
78) 4-Ethyltoluene	0.00	105	0	N.D.	
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	20.24	105	257	No Calib	#
82) 1,2,4-Trimethylbenzene	20.24	105	257	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	20.44	146	136	N.D.	
86) 1,4-Dichlorobenzene	20.44	146	136	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D.	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.	
89) 1,2,3-Trimethylbenzene	20.24	105	257	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	22.24	180	380	N.D.	
95) Naphthalene	22.35	128	1372	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	0.00	119	0	N.D.	
100) n-Butylbenzene	0.00	91	0	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:\MS16\DATA\2022 11\16\11162212.D Vial: 7
Acq On : 16 Nov 2022 23:11 Operator: WA
Sample : P2205014-002dup (30mL) Inst : GCMS-16
Misc : S35-11092201

Quant Time: Nov 17 04:50:44 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 11\16\11162212.D Vial: 7
Acq On : 16 Nov 2022 23:11 Operator: WA
Sample : P2205014-002dup (30mL) Inst : GCMS-16
Misc : S35-11092201

11/17/22

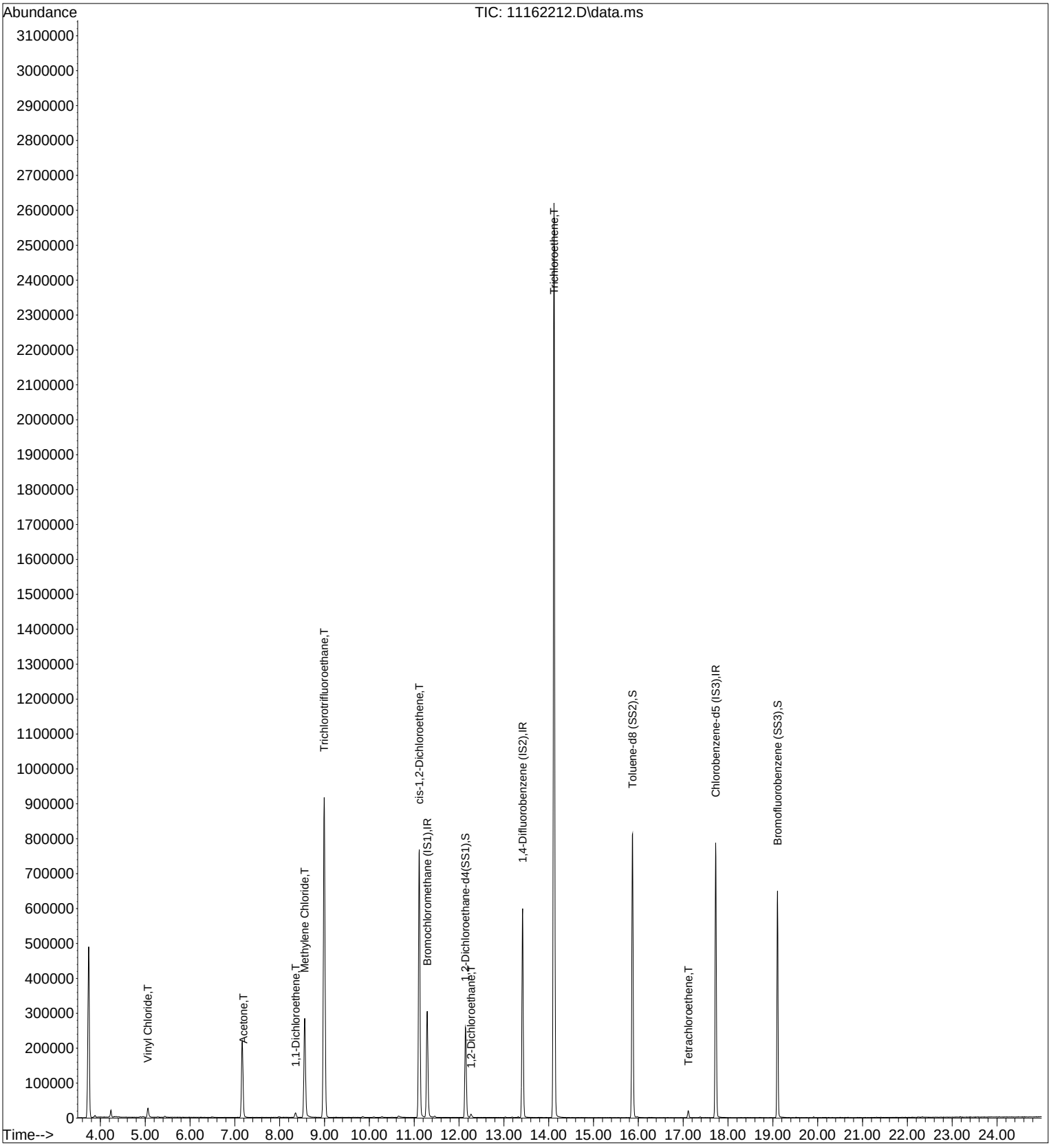
Quant Time: Nov 17 04:50:44 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

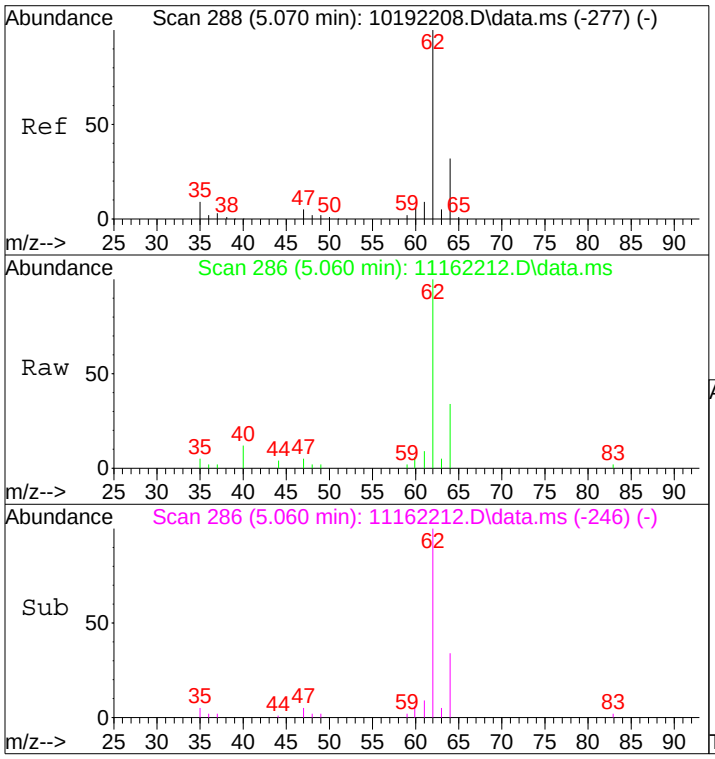
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.29	130	128124	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	13.42	114	557929	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.72	54	110264	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.14	65	208310	12.157	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.28%				
57) Toluene-d8 (SS2)	15.87	98	616942	12.696	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.60%				
73) Bromofluorobenzene (SS3)	19.10	174	195545	12.769	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.16%				
Target Compounds							Qvalue
6) Vinyl Chloride	5.06	62	36779	2.108	ng		99
13) Acetone	7.19	58	4174	0.482	ng		93
17) 1,1-Dichloroethene	8.35	96	6668	0.643	ng		95
19) Methylene Chloride	8.56	84	154935	14.360	ng	#	77
21) Trichlorotrifluoroethane	8.99	151	401702	43.430	ng		97
28) cis-1,2-Dichloroethene	11.11	61	533998	37.354	ng		95
36) 1,2-Dichloroethane	12.27	62	8780	0.588	ng		100
47) Trichloroethene	14.12	130	986023	83.644	ng		97
64) Tetrachloroethene	17.12	166	7329	0.630	ng		94

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

Data File : I:\MS16\DATA\2022 11\16\11162212.D Vial: 7
Acq On : 16 Nov 2022 23:11 Operator: WA
Sample : P2205014-002dup (30mL) Inst : GCMS-16
Misc : S35-11092201

Quant Time: Nov 17 04:50:44 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

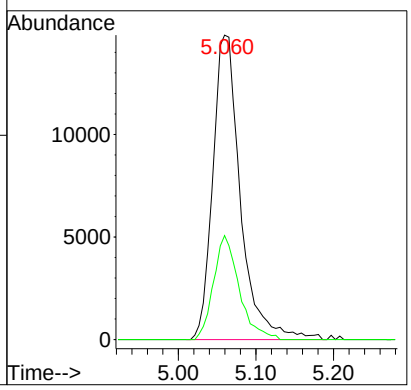


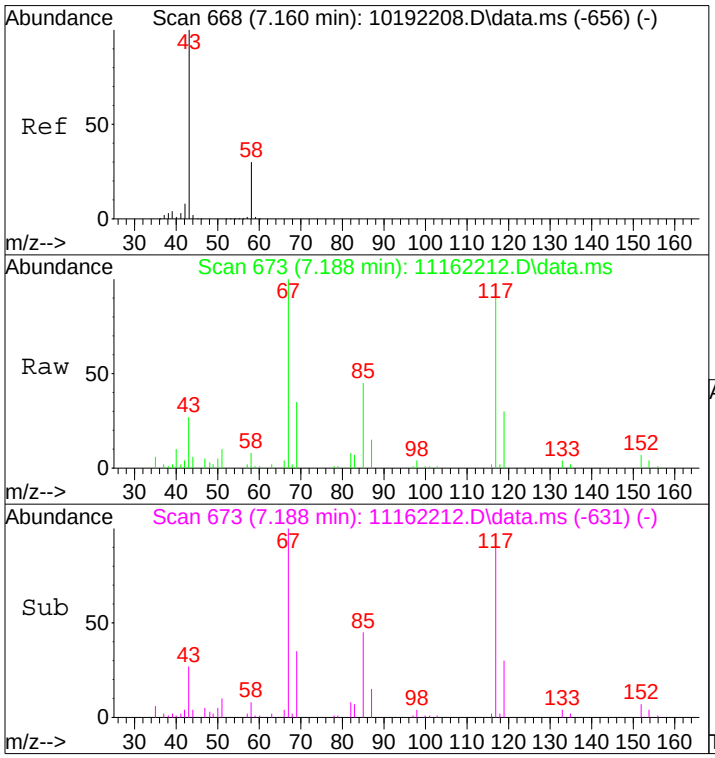


#6
Vinyl Chloride
Concen: 2.11 ng
RT: 5.06 min Scan# 286
Delta R.T. -0.027 min
Lab File: 11162212.D
Acq: 16 Nov 2022 23:11

Tgt Ion: 62 Resp: 36779

Ion	Ratio	Lower	Upper
62	100		
64	31.6	11.9	51.9

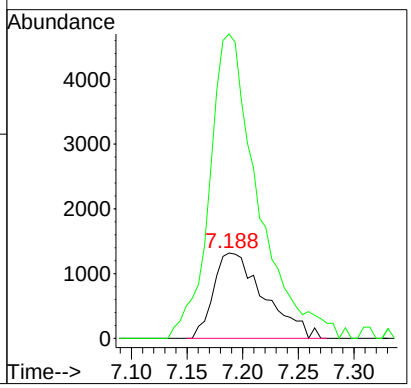


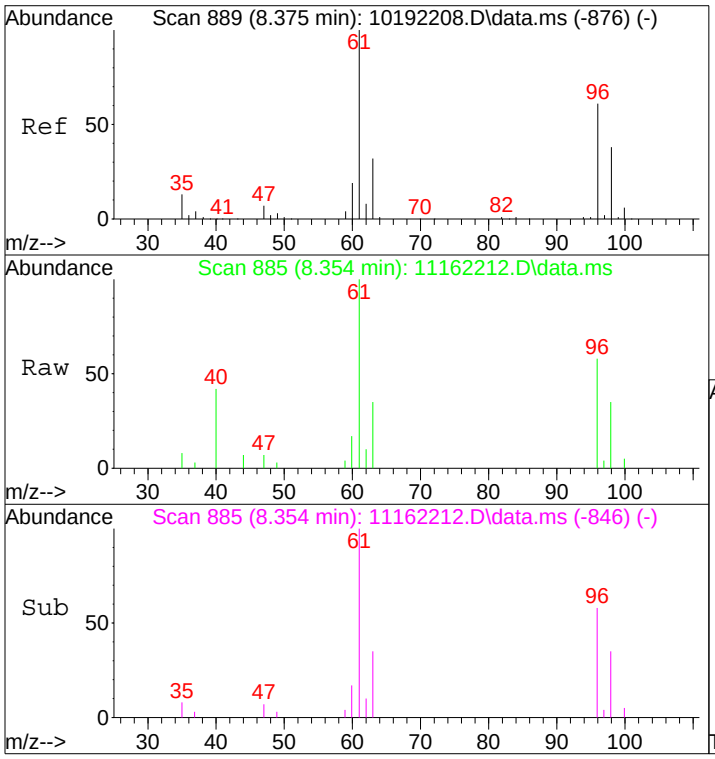


#13
Acetone
Concen: 0.48 ng
RT: 7.19 min Scan# 673
Delta R.T. -0.016 min
Lab File: 11162212.D
Acq: 16 Nov 2022 23:11

Tgt Ion: 58 Resp: 4174

Ion	Ratio	Lower	Upper
58	100		
43	342.4	298.4	358.4

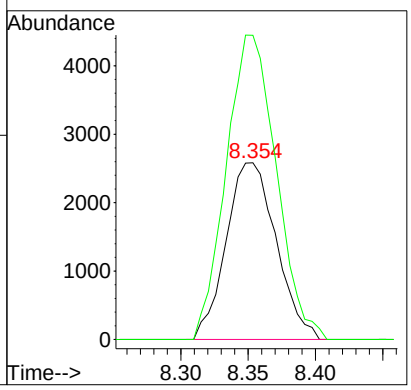


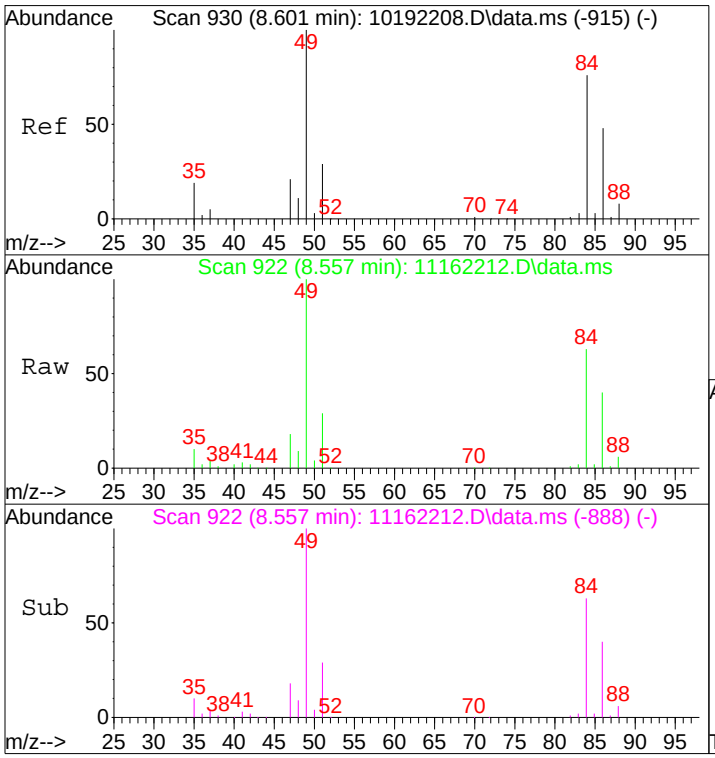


#17
1,1-Dichloroethene
Concen: 0.64 ng
RT: 8.35 min Scan# 885
Delta R.T. -0.033 min
Lab File: 11162212.D
Acq: 16 Nov 2022 23:11

Tgt Ion: 96 Resp: 6668

Ion	Ratio	Lower	Upper
96	100		
61	172.3	145.2	185.2

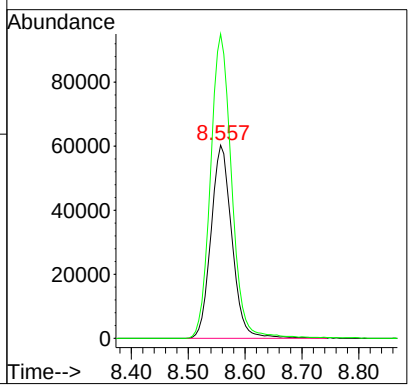


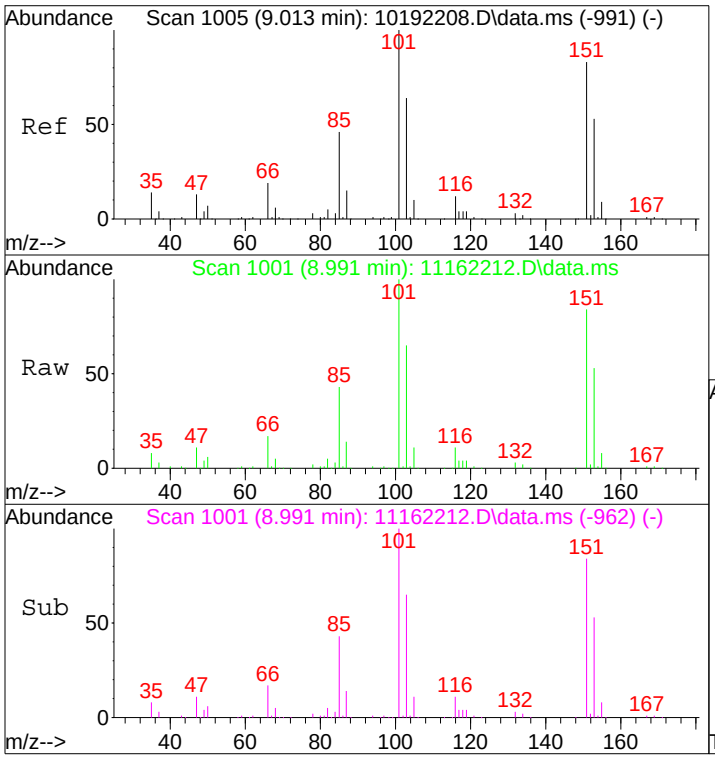


#19
Methylene Chloride
Concen: 14.36 ng
RT: 8.56 min Scan# 922
Delta R.T. -0.060 min
Lab File: 11162212.D
Acq: 16 Nov 2022 23:11

Tgt Ion: 84 Resp: 154935

Ion	Ratio	Lower	Upper
84	100		
49	158.9	107.3	157.3#

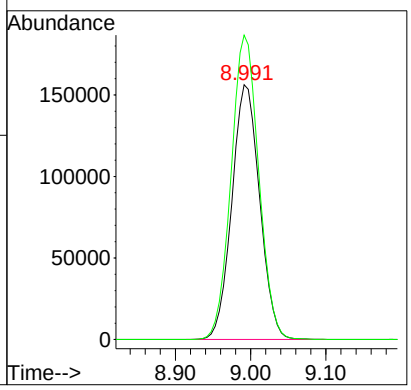


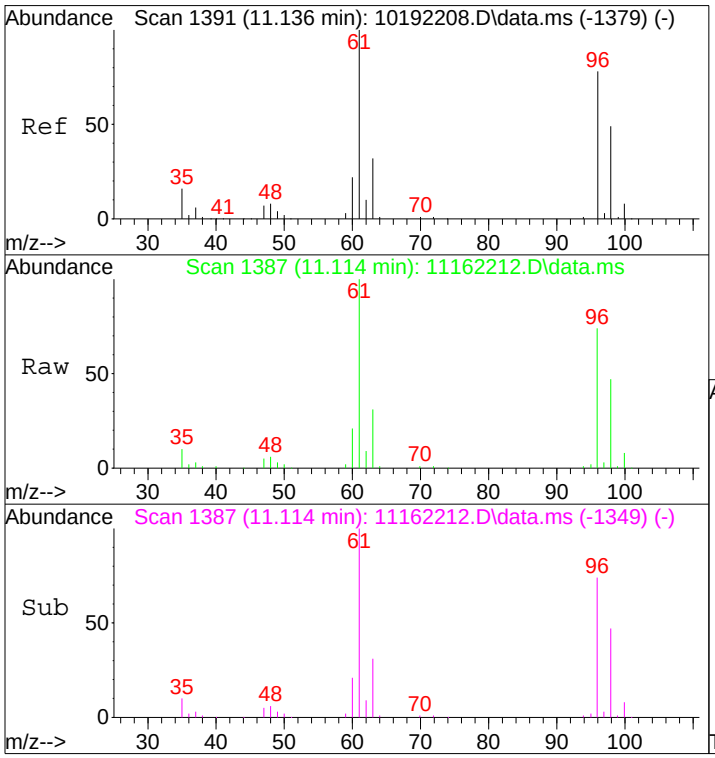


#21
Trichlorotrifluoroethane
Concen: 43.43 ng
RT: 8.99 min Scan# 1001
Delta R.T. -0.033 min
Lab File: 11162212.D
Acq: 16 Nov 2022 23:11

Tgt Ion:151 Resp: 401702

Ion	Ratio	Lower	Upper
151	100		
101	118.7	102.2	142.2

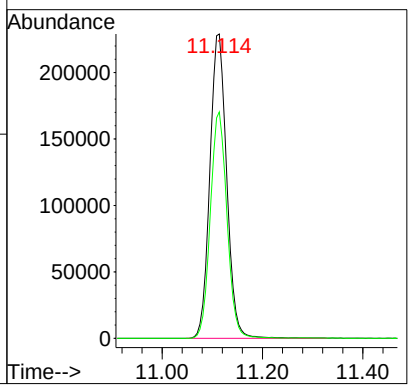


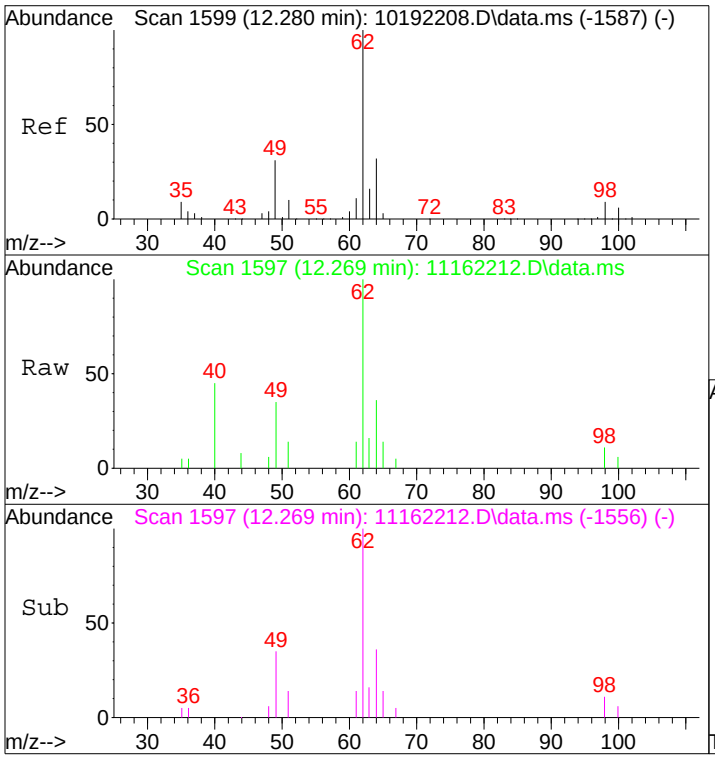


#28
cis-1,2-Dichloroethene
Concen: 37.35 ng
RT: 11.11 min Scan# 1387
Delta R.T. -0.038 min
Lab File: 11162212.D
Acq: 16 Nov 2022 23:11

Tgt Ion: 61 Resp: 533998

Ion	Ratio	Lower	Upper
61	100		
96	73.6	58.3	98.3

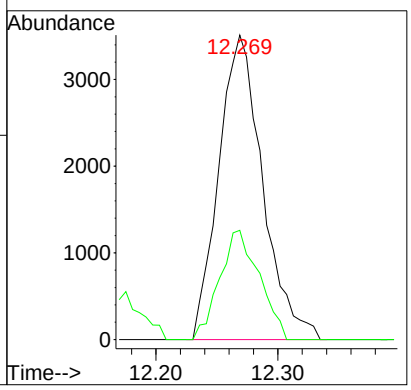


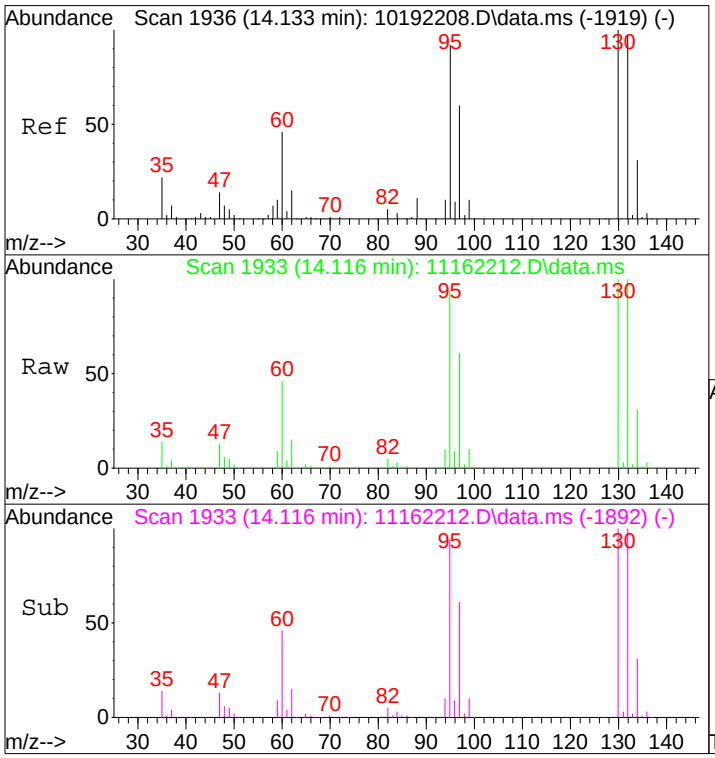


#36
1,2-Dichloroethane
Concen: 0.59 ng
RT: 12.27 min Scan# 1597
Delta R.T. -0.022 min
Lab File: 11162212.D
Acq: 16 Nov 2022 23:11

Tgt Ion: 62 Resp: 8780

Ion	Ratio	Lower	Upper
62	100		
64	32.4	12.2	52.2

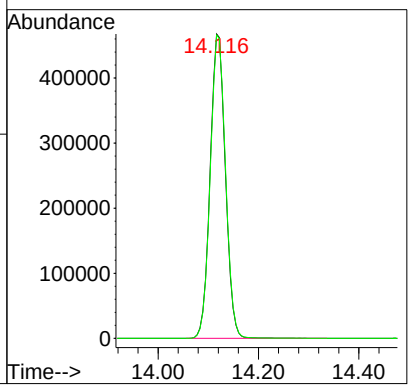


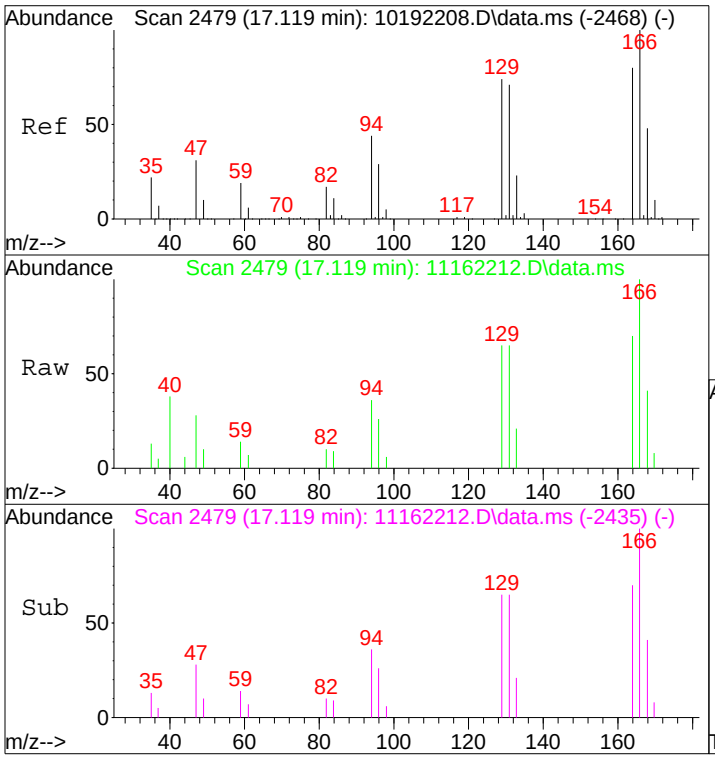


#47
Trichloroethene
Concen: 83.64 ng
RT: 14.12 min Scan# 1933
Delta R.T. -0.022 min
Lab File: 11162212.D
Acq: 16 Nov 2022 23:11

Tgt Ion:130 Resp: 986023

Ion	Ratio	Lower	Upper
130	100		
132	99.9	77.0	117.0

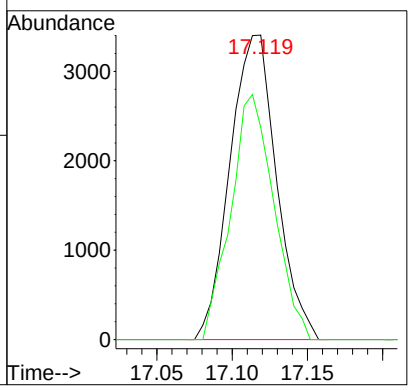




#64
Tetrachloroethene
Concen: 0.63 ng
RT: 17.12 min Scan# 2479
Delta R.T. -0.005 min
Lab File: 11162212.D
Acq: 16 Nov 2022 23:11

Tgt Ion:166 Resp: 7329

Ion	Ratio	Lower	Upper
166	100		
164	74.5	59.4	99.4



01160063

Method Path : I:\MS16\METHODS\
Method File : R16101922.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Oct 19 13:14:51 2022
Response Via : Initial Calibration

Calibration Files
0.1 =10192202.D 0.2 =10192205.D 0.5 =10192212.D 1.0 =10192206.D 5.0 =10192207.D 25 =10192208.D 50 =10192209.D
100 =10192210.D

		Compound	0.1	0.2	0.5	1.0	5.0	25	50	100	Avg	%RSD
1)	IR	Bromochloromethane...	----------				ISTD	----------				
2)	T	Propene	1.397	1.530	1.236	1.468	1.556	1.385	1.486	1.728	1.473	9.78
3)	T	Dichlorodifluo...	2.303	2.195	2.281	2.427	2.050	1.987	1.980	2.034	2.157	7.79
4)	T	Chloromethane	1.691	1.587	1.815	1.882	1.385	1.413	1.224	0.868	1.483	22.55
5)	T	1,2-Dichloro-1...	1.371	1.295	1.410	1.455	1.243	1.218	1.240	1.370	1.325	6.65
6)	T	Vinyl Chloride	1.597	1.708	1.854	1.974	1.721	1.607	1.562	1.596	1.702	8.56
7)	T	1,3-Butadiene	0.989	1.042	1.183	1.389	1.246	1.307	1.292	1.344	1.224	11.69
8)	T	Bromomethane	0.872	0.938	0.982	1.106	0.908	0.877	0.854	0.860	0.925	9.23
9)	T	Chloroethane	0.735	0.728	0.726	0.809	0.745	0.641	0.700	0.742	0.728	6.46
10)	T	Ethanol	0.838	0.783	1.003	0.934	0.790	0.827	0.810	0.830	0.852	9.00
11)	T	Acetonitrile	2.927	2.344	2.500	2.455	2.074	2.025	1.925	1.897	2.268	15.63
12)	T	Acrolein	0.715	0.699	0.772	0.795	0.675	0.704	0.675	0.667	0.713	6.61
13)	T	Acetone	0.866	0.795	0.829	0.879	0.784	0.858	0.840	0.905	0.844	4.88
14)	T	Trichlorofluor...	1.918	2.000	1.950	2.101	1.811	1.821	1.797	1.821	1.902	5.76
15)	T	2-Propanol (Is...	3.140	2.764	2.973	3.054	2.097	2.449	2.131	1.756	2.546	20.19
16)	T	Acrylonitrile	1.384	1.412	1.441	1.511	1.375	1.482	1.401	1.409	1.427	3.35
17)	T	1,1-Dichloroet...	0.991	1.069	1.011	1.120	0.952	0.978	0.973	1.002	1.012	5.50
18)	T	2-Methyl-2-Pro...	2.712	2.551	2.684	2.943	2.212	2.699	2.195	1.074	2.384	24.66
19)	T	Methylene Chlo...	1.060	1.100	1.028	1.126	0.999	1.063	1.024	1.021	1.053	4.13
20)	T	3-Chloro-1-pro...	1.536	1.479	1.429	1.421	1.408	1.536	1.442	1.427	1.460	3.53
21)	T	Trichlorotrifl...	0.857	0.903	0.900	1.018	0.871	0.898	0.878	0.894	0.902	5.48
22)	T	Carbon Disulfide	3.791	3.712	3.561	3.904	3.477	3.769	3.730	3.853	3.725	3.84
23)	T	trans-1,2-Dich...	1.274	1.401	1.402	1.524	1.407	1.394	1.342	1.371	1.389	5.06
24)	T	1,1-Dichloroet...	1.797	1.810	1.789	1.980	1.711	1.707	1.635	1.637	1.758	6.41
25)	T	Methyl tert-Bu...	3.339	2.938	3.220	3.576	3.159	3.311	3.227	2.915	3.211	6.71
26)	T	Vinyl Acetate			0.196	0.219	0.228	0.297	0.297	0.319	0.259	19.74
27)	T	2-Butanone (MEK)	0.523	0.594	0.715	0.791	0.726	0.829	0.813	0.854	0.731	16.12
28)	T	cis-1,2-Dichlo...	1.395	1.399	1.404	1.540	1.360	1.382	1.332	1.345	1.395	4.61
29)	T	Diisopropyl Ether	1.035	0.939	1.042	1.187	1.106	1.487	1.618	1.403	1.227	20.01
30)	T	Ethyl Acetate	0.337	0.403	0.426	0.480	0.466	0.623	0.662	0.552	0.494	22.50
31)	T	n-Hexane	1.901	1.985	1.926	2.129	1.969	2.448	2.471	2.322	2.144	11.07
32)	T	Chloroform	1.953	1.889	1.808	2.077	1.861	1.941	1.876	1.850	1.907	4.38
33)	S	1,2-Dichloroet...	1.702	1.696	1.704	1.711	1.708	1.721	1.602	1.529	1.672	4.12
34)	T	Tetrahydrofura...	0.678	0.687	0.699	0.753	0.655	0.723	0.717	0.753	0.708	4.93
35)	T	Ethyl tert-But...	1.215	1.171	1.253	1.400	1.306	1.543	1.607	1.852	1.418	16.48
36)	T	1,2-Dichloroet...	1.462	1.511	1.416	1.639	1.433	1.457	1.363	1.372	1.457	6.05
37)	IR	1,4-Difluorobenzen...	----------				ISTD	----------				
38)	T	1,1,1-Trichlor...	0.378	0.364	0.378	0.403	0.368	0.380	0.388	0.398	0.382	3.57
39)	T	Isopropyl Acetate									0.000	-1.00
40)	T	1-Butanol									0.000	-1.00
41)	T	Benzene	0.919	0.886	0.890	0.967	0.878	0.936	0.949	0.991	0.927	4.41
42)	T	Carbon Tetrach...	0.296	0.292	0.308	0.346	0.310	0.325	0.330	0.350	0.320	6.81

10/19/22

Method Path : I:\MS16\METHODS\
Method File : R16101922.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

43)	T	Cyclohexane	0.397	0.391	0.375	0.412	0.375	0.414	0.443	0.511	0.415	10.80
44)	T	tert-Amyl Meth...	0.637	0.588	0.611	0.669	0.646	0.751	0.806	0.884	0.699	14.89
45)	T	1,2-Dichloropr...	0.228	0.238	0.220	0.252	0.222	0.231	0.227	0.232	0.231	4.33
46)	T	Bromodichlorom...	0.320	0.325	0.315	0.352	0.315	0.334	0.339	0.360	0.333	5.10
47)	T	Trichloroethene	0.243	0.247	0.244	0.272	0.245	0.268	0.280	0.315	0.264	9.47
48)	T	1,4-Dioxane	0.163	0.181	0.179	0.195	0.181	0.203	0.210	0.236	0.194	11.75
49)	T	2,2,4-Trimethy...	1.152	1.002	0.993	1.111	0.990	1.037	1.024	1.074	1.048	5.67
50)	T	Methyl Methacr...			0.093	0.101	0.099	0.123	0.128	0.143	0.114	17.28
51)	T	n-Heptane	0.264	0.246	0.252	0.277	0.252	0.282	0.283	0.305	0.270	7.41
52)	T	cis-1,3-Dichlo...	0.268	0.270	0.318	0.371	0.345	0.386	0.394	0.410	0.345	15.94
53)	T	4-Methyl-2-pen...	0.181	0.175	0.199	0.226	0.216	0.248	0.256	0.278	0.222	16.50
54)	T	trans-1,3-Dich...			0.270	0.308	0.315	0.355	0.362	0.375	0.331	12.03
55)	T	1,1,2-Trichlor...	0.196	0.214	0.210	0.242	0.214	0.233	0.237	0.251	0.225	8.44
56)	IR	Chlorobenzene-d5 (...	----------ISTD----------									
57)	S	Toluene-d8 (SS2)	5.491	5.468	5.557	5.619	5.432	5.599	5.537	5.370	5.509	1.54
58)	T	Toluene	4.871	4.584	5.014	5.448	4.738	5.250	5.300	5.575	5.097	6.90
59)	T	2-Hexanone	2.287	2.025	2.618	2.818	2.628	2.918	2.968	3.036	2.662	13.27
60)	T	Dibromochlorom...	1.130	1.174	1.272	1.398	1.269	1.465	1.479	1.565	1.344	11.61
61)	T	1,2-Dibromoethane	1.038	1.039	1.149	1.324	1.194	1.346	1.348	1.398	1.230	11.72
62)	T	n-Butyl Acetate	2.284	2.397	2.755	3.137	2.907	3.279	3.319	3.400	2.935	14.51
63)	T	n-Octane	1.164	1.034	1.018	1.146	1.007	1.112	1.115	1.200	1.100	6.55
64)	T	Tetrachloroethene	1.165	1.121	1.223	1.405	1.217	1.364	1.437	1.622	1.319	12.74
65)	T	Chlorobenzene	2.942	3.077	3.206	3.529	3.102	3.381	3.578	4.109	3.366	11.13
66)	T	Ethylbenzene	5.034	4.924	5.373	5.879	5.330	6.077	6.281	6.776	5.709	11.39
67)	T	m- & p-Xylenes	4.224	3.990	4.068	4.651	4.234	5.022	5.336	5.702	4.653	13.70
68)	T	Bromoform	0.843	0.883	0.961	1.092	1.042	1.235	1.269	1.395	1.090	17.99
69)	T	Styrene	2.504	2.613	2.902	3.292	3.161	3.800	3.899	4.241	3.302	19.08
70)	T	o-Xylene	3.900	3.801	4.117	4.640	4.272	4.950	5.128	5.632	4.555	14.18
71)	T	n-Nonane	2.647	2.573	2.341	2.699	2.467	2.614	2.603	2.684	2.579	4.66
72)	T	1,1,2,2-Tetrac...	1.670	1.764	1.773	2.110	1.899	2.225	2.257	2.456	2.019	14.01
73)	S	Bromofluoroben...	1.654	1.645	1.683	1.688	1.715	1.854	1.831	1.819	1.736	4.89
74)	T	Cumene	5.529	5.325	5.495	6.070	5.684	6.653	6.904	7.229	6.111	11.89
75)	T	alpha-Pinene	2.116	2.030	2.137	2.445	2.553	3.102	3.291	3.708	2.673	23.30
76)	T	n-Propylbenzene	6.149	6.490	6.340	7.057	6.751	7.866	8.036	7.980	7.084	10.95
77)	T	3-Ethyltoluene									0.000	-1.00
78)	T	4-Ethyltoluene	4.473	4.989	4.909	5.650	5.485	6.641	6.875	7.096	5.765	17.18
79)	T	1,3,5-Trimethy...	4.656	4.573	4.353	4.864	4.780	5.629	5.820	6.185	5.107	13.17
80)	T	alpha-Methylst...									0.000	-1.00
81)	T	2-Ethyltoluene									0.000	-1.00
82)	T	1,2,4-Trimethy...	4.031	4.297	4.293	4.874	4.880	6.504	7.228	6.357	5.308	22.82
83)	T	n-Decane									0.000	-1.00
84)	T	Benzyl Chloride			1.825	1.972	2.632	4.011	4.614	4.417	3.245	38.60
85)	T	1,3-Dichlorobe...	1.992	2.166	2.357	2.636	2.648	3.302	3.597	3.895	2.824	24.62
86)	T	1,4-Dichlorobe...	2.142	2.227	2.516	2.674	2.586	3.048	3.160	3.477	2.729	17.03
87)	T	sec-Butylbenzene	5.586	6.051	5.721	6.597	6.771	7.817	7.974	7.762	6.785	14.28
88)	T	4-Isopropyltol...	4.950	5.226	5.044	5.798	5.825	6.982	7.195	7.198	6.027	16.00
89)	T	1,2,3-Trimethy...									0.000	-1.00
90)	T	1,2-Dichlorobe...	2.055	2.232	2.319	2.514	2.586	3.309	3.701	3.815	2.816	24.51
91)	T	d-Limonene	1.371	1.531	1.469	1.672	1.800	2.108	2.253	2.153	1.795	18.92
92)	T	1,2-Dibromo-3-...			0.810	0.882	0.929	1.177	1.269	1.442	1.085	22.99
93)	T	n-Undecane									0.000	-1.00
94)	T	1,2,4-Trichlor...			1.651	1.648	1.608	2.071	2.487	2.725	2.032	23.73

01160064

Method Path : I:\MS16\METHODS\
Method File : R16101922.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

95)	T	Naphthalene	3.092	4.971	4.511	4.776	5.621	5.912	6.328	5.030	21.33
96)	T	n-Dodecane								0.000	-1.00
97)	T	Hexachlorobuta...	0.999	1.091	0.969	1.076	1.009	1.262	1.461	1.844	1.214	24.96
98)	T	Cyclohexanone								0.000	-1.00
99)	T	tert-Butylbenzene	4.150	4.551	4.264	4.899	4.905	6.536	7.221	6.334	5.358	21.78
100)	T	n-Butylbenzene	3.870	4.309	4.462	5.008	5.072	5.879	5.989	6.142	5.091	16.67
101)	T	1,1,1,2-Tetrac...	1.224	1.095	1.204	1.372	1.193	1.339	1.432	1.668	1.316	13.65

(#) = Out of Range

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID: | 40ng/L Std. ID:
4ng/L Std. ID: S35-10172210 | 200ng/L Std. ID: S35-10172201
20ng/L Std. ID: S35-10172209 | 1000ng/L Std. ID:

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	20	200	200	200
	Source Std.		Primary Working Standards					Injection (L):	0.025	0.050	0.0250	0.050	0.25	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	1.06	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
Chloromethane	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
Freon-114	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
Vinyl Chloride	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
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	1.03	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
Ethanol	3.45	3450	690	138.0	69.0	13.80	3.45		0.345	0.690	1.725	3.45	17.25	86.25	172.5	345
Acetonitrile	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
Acrolein	1.93	1930	386	77.2	38.6	7.72	1.93		0.193	0.386	0.965	1.93	9.65	48.25	96.5	193
Acetone	5.27	5270	1054	210.8	105.4	21.08	5.27		0.527	1.054	2.635	5.27	26.35	131.75	263.5	527
Trichlorofluoromethane	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
Isopropanol	2.05	2050	410	82.0	41.0	8.20	2.05		0.205	0.410	1.025	2.05	10.25	51.25	102.5	205
Acrylonitrile	2.05	2050	410	82.0	41.0	8.20	2.05		0.205	0.410	1.025	2.05	10.25	51.25	102.5	205
1,1-Dichloroethene	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
tert-Butanol	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
Methylene 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
Allyl 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
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	2.13	2130	426	85.2	42.6	8.52	2.13		0.213	0.426	1.065	2.13	10.65	53.25	106.5	213
trans-1,2-Dichloroethene	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
1,1-Dichloroethane	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 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	2.80	2800	560	112.0	56.0	11.20	2.80		0.280	0.560	1.400	2.80	14.00	70.00	140.0	280
2-Butanone	2.09	2090	418	83.6	41.8	8.36	2.09		0.209	0.418	1.045	2.09	10.45	52.25	104.5	209
cis-1,2-Dichloroethene	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
Diisopropyl Ether	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
Ethyl Acetate	4.22	4220	844	168.8	84.4	16.88	4.22		0.422	0.844	2.110	4.22	21.10	105.50	211.0	422
n-Hexane	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
Chloroform	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
Tetrahydrofuran	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
Ethyl tert-Butyl Ether	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
1,2-Dichloroethane	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
1,1,1-Trichloroethane	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
Benzene	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
Carbon Tetrachloride	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
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	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
1,2-Dichloropropane	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
Bromodichloromethane	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
Trichloroethene	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
1,4-Dioxane	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
Isooctane	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
Methyl Methacrylate	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
n-Heptane	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

01160066

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID:
4ng/L Std. ID: S35-10172210
20ng/L Std. ID: S35-10172209
40ng/L Std. ID:
200ng/L Std. ID: S35-10172201
1000ng/L Std. ID:

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	20	200	200	200
	Source Std.		Primary Working Standards					Injection (L):	0.025	0.050	0.0250	0.050	0.25	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	1.08	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
4-Methyl-2-pentanone	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
trans-1,3-Dichloropropene	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
1,1,2-Trichloroethane	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
Toluene	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
2-Hexanone	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
Dibromochloromethane	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
1,2-Dibromoethane	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-Butyl Acetate	2.05	2050	410	82.0	41.0	8.20	2.05		0.205	0.410	1.025	2.05	10.25	51.25	102.5	205
n-Octane	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
Tetrachloroethene	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
Chlorobenzene	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
Ethylbenzene	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
m-&p-Xylene	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
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	1.06	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
o-Xylene	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
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	1.06	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
Cumene	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
alpha-Pinene	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-Propylbenzene	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
4-Ethyltoluene	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
1,3,5-Trimethylbenzene	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
1,2,4-Trimethylbenzene	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
Benzyl Chloride	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
1,3-Dichlorobenzene	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-Dichlorobenzene	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
sec-Butylbenzene	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
p-Isopropyltoluene	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
1,2-Dichlorobenzene	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
d-Limonene	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
1,2-Dibromo-3-chloropropane	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
1,2,4-Trichlorobenzene	2.09	2090	418	83.6	41.8	8.36	2.09		0.209	0.418	1.045	2.09	10.45	52.25	104.5	209
Naphthalene	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
Hexachloro-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
tert-Butylbenzene	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
n-Butylbenzene	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
1,1,1,2-Tetrachloroethane	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

CAL 09 007

Calibration Status Report GCMS-16

Method : I:\MS16\METHODS\R16101922.M (RTE Integrator)
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	0.1	0	13	I:\MS16\DATA\2022_10\19\10192202.D
2	0.2	0	13	I:\MS16\DATA\2022_10\19\10192205.D
3	0.5	1	13	I:\MS16\DATA\2022_10\19\10192212.D
4	1.0	1	13	I:\MS16\DATA\2022_10\19\10192206.D
5	5.0	5	13	I:\MS16\DATA\2022_10\19\10192207.D
6	25	26	13	I:\MS16\DATA\2022_10\19\10192208.D
7	50	53	13	I:\MS16\DATA\2022_10\19\10192209.D
8	100	105	13	I:\MS16\DATA\2022_10\19\10192210.D

10/19/22

#	ID	Update Time	Quant Time	Acquisition Time
1	0.1	Oct 19 13:11 2022	Oct 19 10:14 2022	19 Oct 2022 5:36
2	0.2	Oct 19 13:12 2022	Oct 19 10:18 2022	19 Oct 2022 7:33
3	0.5	Oct 19 13:12 2022	Oct 19 13:12 2022	19 Oct 2022 11:32
4	1.0	Oct 19 13:13 2022	Oct 19 10:21 2022	19 Oct 2022 8:08
5	5.0	Oct 19 13:13 2022	Oct 19 10:22 2022	19 Oct 2022 8:41
6	25	Oct 19 13:14 2022	Oct 19 10:23 2022	19 Oct 2022 9:15
7	50	Oct 19 13:14 2022	Oct 19 10:25 2022	19 Oct 2022 9:49
8	100	Oct 19 13:14 2022	Oct 19 10:53 2022	19 Oct 2022 10:23

R16101922.M Wed Oct 19 15:10:40 2022

Data File : I:\MS16\DATA\2022 10\19\10192202.D Vial: 13
Acq On : 19 Oct 2022 5:36 Operator: WA
Sample : 0.1ng R16101922 ICAL Std Inst : GCMS-16
Misc : S35-08012201/S35-10172210 (11/16)

Quant Time: Oct 19 10:14:21 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 10:03:07 2022 10/19/22
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.29	130	155637	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.42	114	708257	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	147975	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	264965	12.782	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.24%				
57) Toluene-d8 (SS2)	15.87	98	812476	14.242	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.92%				
73) Bromofluorobenzene (SS3)	19.10	174	244784	11.483	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.84%				
Target Compounds							Qvalue
2) Propene	4.21	42	1827	0.085	ng	#	91
3) Dichlorodifluoromethan...	4.37	85	3039	0.117	ng	#	92
4) Chloromethane	4.66	50	2168	0.095	ng		89
5) 1,2-Dichloro-1,1,2,2-t...	4.92	135	1775	0.108	ng		90
6) Vinyl Chloride	5.08	62	2008	0.083	ng		99
7) 1,3-Butadiene	5.36	54	1305	0.065	ng	#	68
8) Bromomethane	5.79	94	1108	0.103	ng	#	78
9) Chloroethane	6.13	64	942	0.099	ng		65
10) Ethanol	6.49	45	3598	0.284	ng		84
11) Acetonitrile	6.74	41	3316	0.101	ng	#	68
12) Acrolein	6.96	56	1719	0.173	ng		94
13) Acetone	7.18	58	5683	0.472	ng	#	82
14) Trichlorofluoromethane	7.41	101	2483	0.103	ng		97
15) 2-Propanol (Isopropanol)	7.69	45	8015	0.216	ng		92
16) Acrylonitrile	7.91	53	3532	0.174	ng		98
17) 1,1-Dichloroethene	8.36	96	1332	0.109	ng		88
18) 2-Methyl-2-Propanol (t...	8.61	59	7124	0.224	ng		76
19) Methylene Chloride	8.58	84	1399	0.109	ng		83
20) 3-Chloro-1-propene (Al...	8.75	41	2027	0.091	ng		80
21) Trichlorotrifluoroethane	9.00	151	1152	0.092	ng		88
22) Carbon Disulfide	8.85	76	10053	0.221	ng		97
23) trans-1,2-Dichloroethene	9.85	61	1713	0.094	ng		92
24) 1,1-Dichloroethane	10.10	63	2394	0.104	ng		94
25) Methyl tert-Butyl Ether	10.26	73	4448	0.116	ng		95
26) Vinyl Acetate	10.38	86	192	0.061	ng	#	1
27) 2-Butanone (MEK)	10.65	72	1362	0.156	ng	#	52
28) cis-1,2-Dichloroethene	11.11	61	1841	0.095	ng		98
29) Diisopropyl Ether	11.44	87	2731	0.207	ng	#	74
30) Ethyl Acetate	11.46	61	1773	0.264	ng		92
31) n-Hexane	11.42	57	2485	0.088	ng	#	93
32) Chloroform	11.46	83	2578	0.114	ng		94
34) Tetrahydrofuran (THF)	11.93	72	1723	0.204	ng	#	79
35) Ethyl tert-Butyl Ether	12.04	87	3206	0.189	ng	#	85
36) 1,2-Dichloroethane	12.27	62	1966	0.104	ng		93
38) 1,1,1-Trichloroethane	12.54	97	2251	0.102	ng		98
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.03	78	5571	0.108	ng		96
42) Carbon Tetrachloride	13.19	117	1742	0.090	ng		98
43) Cyclohexane	13.32	84	4718	0.212	ng		96
44) tert-Amyl Methyl Ether	13.69	73	7653	0.193	ng		92
45) 1,2-Dichloropropane	13.89	63	1356	0.097	ng		100
46) Bromodichloromethane	14.07	83	1939	0.103	ng		90
47) Trichloroethene	14.13	130	1445	0.080	ng		94
48) 1,4-Dioxane	14.15	88	981	0.092	ng		93
49) 2,2,4-Trimethylpentane...	14.19	57	7049	0.106	ng		94
50) Methyl Methacrylate	14.35	100	662	0.103	ng	#	41

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\19\10192202.D Vial: 13
Acq On : 19 Oct 2022 5:36 Operator: WA
Sample : 0.1ng R16101922 ICAL Std Inst : GCMS-16
Misc : S35-08012201/S35-10172210 (11/16)

Quant Time: Oct 19 10:14:21 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 10:03:07 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

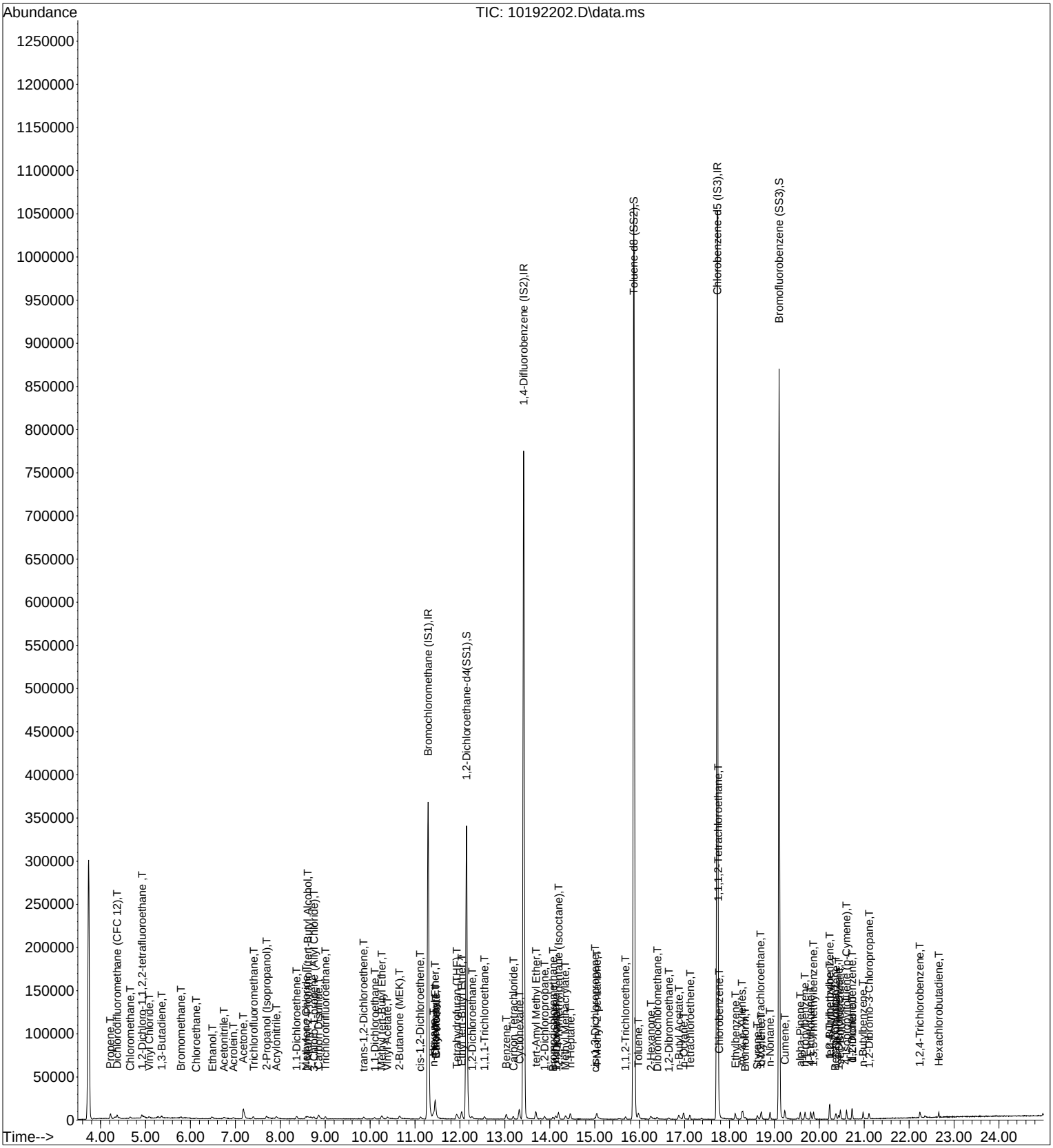
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.46	71	1587	0.109 ng		94
52) cis-1,3-Dichloropropene	15.01	75	1642	0.082 ng		69
53) 4-Methyl-2-pentanone	15.05	58	2208	0.155 ng	#	61
54) trans-1,3-Dichloropropene	0.00	75	0	N.D. d		
55) 1,1,2-Trichloroethane	15.68	97	1177	0.090 ng		91
58) Toluene	15.97	91	6054	0.117 ng		97
59) 2-Hexanone	16.25	43	5739	0.171 ng		75
60) Dibromochloromethane	16.39	129	1445	0.097 ng		99
61) 1,2-Dibromoethane	16.65	107	1278	0.096 ng		97
62) n-Butyl Acetate	16.88	43	5543	0.150 ng		94
63) n-Octane	16.98	57	1475	0.117 ng	#	80
64) Tetrachloroethene	17.12	166	1462	0.092 ng		93
65) Chlorobenzene	17.77	112	3692	0.103 ng		90
66) Ethylbenzene	18.13	91	6257	0.107 ng		94
67) m- & p-Xylenes	18.28	91	10502	0.225 ng		90
68) Bromoform	18.35	173	1068	0.080 ng		83
69) Styrene	18.62	104	3142	0.092 ng		92
70) o-Xylene	18.71	91	4894	0.105 ng		94
71) n-Nonane	18.90	43	3322	0.101 ng		84
72) 1,1,2,2-Tetrachloroethane	18.69	83	2096	0.100 ng		97
74) Cumene	19.23	105	7003	0.113 ng		92
75) alpha-Pinene	19.58	93	2730	0.094 ng		92
76) n-Propylbenzene	19.68	91	7789	0.110 ng		93
77) 3-Ethyltoluene	0.00	105	0	N.D.		
78) 4-Ethyltoluene	19.81	105	5772	0.097 ng		95
79) 1,3,5-Trimethylbenzene	19.87	105	5843	0.114 ng		87
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D.		
82) 1,2,4-Trimethylbenzene	20.23	105	5011	0.094 ng		96
83) n-Decane	0.00	58	0	N.D. d		
84) Benzyl Chloride	20.35	91	3105	0.083 ng		76
85) 1,3-Dichlorobenzene	20.37	146	2499	0.080 ng		92
86) 1,4-Dichlorobenzene	20.43	146	2688	0.087 ng		94
87) sec-Butylbenzene	20.47	105	7010	0.102 ng		95
88) 4-Isopropyltoluene (p-...	20.61	119	6212	0.103 ng		96
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
90) 1,2-Dichlorobenzene	20.73	146	2603	0.087 ng		100
91) d-Limonene	20.73	68	1737	0.086 ng		89
92) 1,2-Dibromo-3-Chloropr...	21.11	157	1737	0.151 ng	#	59
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.24	180	2738	0.122 ng		97
95) Naphthalene	0.00	128	0	N.D. d		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	22.66	225	1254	0.078 ng		95
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	20.23	119	5208	0.098 ng		99
100) n-Butylbenzene	20.97	91	4902	0.095 ng		94
101) 1,1,1,2-Tetrachloroethane	17.75	131	1536	0.110 ng		96

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

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\19\10192202.D Vial: 13
Acq On : 19 Oct 2022 5:36 Operator: WA
Sample : 0.1ng R16101922 ICAL Std Inst : GCMS-16
Misc : S35-08012201/S35-10172210 (11/16)

Quant Time: Oct 19 10:14:21 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 10:03:07 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Data File : I:\MS16\DATA\2022 10\19\10192205.D Vial: 13
Acq On : 19 Oct 2022 7:33 Operator: WA
Sample : 0.2ng R16101922 ICAL Std Inst : GCMS-16
Misc : S35-08012201/S35-10172210 (11/16)

Quant Time: Oct 19 10:18:30 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 10:03:07 2022 10/19/22
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	151043	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.42	114	688181	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	143497	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	256178	12.734	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.84%				
57) Toluene-d8 (SS2)	15.87	98	784587	14.182	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.44%				
73) Bromofluorobenzene (SS3)	19.11	174	236038	11.418	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.36%				
Target Compounds							Qvalue
2) Propene	4.21	42	3882	0.185	ng		90
3) Dichlorodifluoromethan...	4.37	85	5622	0.223	ng		95
4) Chloromethane	4.66	50	3951	0.178	ng		97
5) 1,2-Dichloro-1,1,2,2-t...	4.92	135	3256	0.204	ng		95
6) Vinyl Chloride	5.08	62	4170	0.177	ng		99
7) 1,3-Butadiene	5.35	54	2670	0.137	ng	#	85
8) Bromomethane	5.79	94	2312	0.222	ng		99
9) Chloroethane	6.14	64	1811	0.197	ng		85
10) Ethanol	6.48	45	6531	0.531	ng		92
11) Acetonitrile	6.75	41	5154	0.162	ng		89
12) Acrolein	6.95	56	3258	0.339	ng		96
13) Acetone	7.17	58	10124	0.867	ng	#	82
14) Trichlorofluoromethane	7.40	101	5027	0.215	ng		94
15) 2-Propanol (Isopropanol)	7.68	45	13694	0.381	ng		89
16) Acrylonitrile	7.91	53	6996	0.354	ng		95
17) 1,1-Dichloroethene	8.37	96	2791	0.236	ng		93
18) 2-Methyl-2-Propanol (t...	8.59	59	13009	0.422	ng		87
19) Methylene Chloride	8.58	84	2818	0.227	ng		94
20) 3-Chloro-1-propene (Al...	8.75	41	3789	0.175	ng		84
21) Trichlorotrifluoroethane	9.01	151	2358	0.195	ng		97
22) Carbon Disulfide	8.85	76	19106	0.433	ng		97
23) trans-1,2-Dichloroethene	9.86	61	3656	0.207	ng		89
24) 1,1-Dichloroethane	10.10	63	4680	0.209	ng		97
25) Methyl tert-Butyl Ether	10.25	73	7598	0.204	ng		96
26) Vinyl Acetate	10.38	86	831	0.274	ng	#	1
27) 2-Butanone (MEK)	10.64	72	3000	0.355	ng	#	77
28) cis-1,2-Dichloroethene	11.13	61	3585	0.191	ng		99
29) Diisopropyl Ether	11.44	87	4813	0.376	ng	#	58
30) Ethyl Acetate	11.44	61	4113	0.632	ng		95
31) n-Hexane	11.42	57	5037	0.184	ng		98
32) Chloroform	11.46	83	4839	0.221	ng		100
34) Tetrahydrofuran (THF)	11.92	72	3389	0.413	ng	#	91
35) Ethyl tert-Butyl Ether	12.04	87	6001	0.365	ng		93
36) 1,2-Dichloroethane	12.27	62	3944	0.215	ng		97
38) 1,1,1-Trichloroethane	12.55	97	4203	0.196	ng		96
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.03	78	10444	0.208	ng		99
42) Carbon Tetrachloride	13.19	117	3345	0.178	ng		96
43) Cyclohexane	13.32	84	9036	0.417	ng		98
44) tert-Amyl Methyl Ether	13.68	73	13737	0.357	ng		95
45) 1,2-Dichloropropane	13.89	63	2748	0.202	ng		94
46) Bromodichloromethane	14.07	83	3832	0.210	ng		100
47) Trichloroethene	14.12	130	2855	0.164	ng		100
48) 1,4-Dioxane	14.14	88	2110	0.204	ng		91
49) 2,2,4-Trimethylpentane...	14.19	57	11918	0.184	ng		93
50) Methyl Methacrylate	14.34	100	1718	0.275	ng	#	68

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\19\10192205.D Vial: 13
Acq On : 19 Oct 2022 7:33 Operator: WA
Sample : 0.2ng R16101922 ICAL Std Inst : GCMS-16
Misc : S35-08012201/S35-10172210 (11/16)

Quant Time: Oct 19 10:18:30 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 10:03:07 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

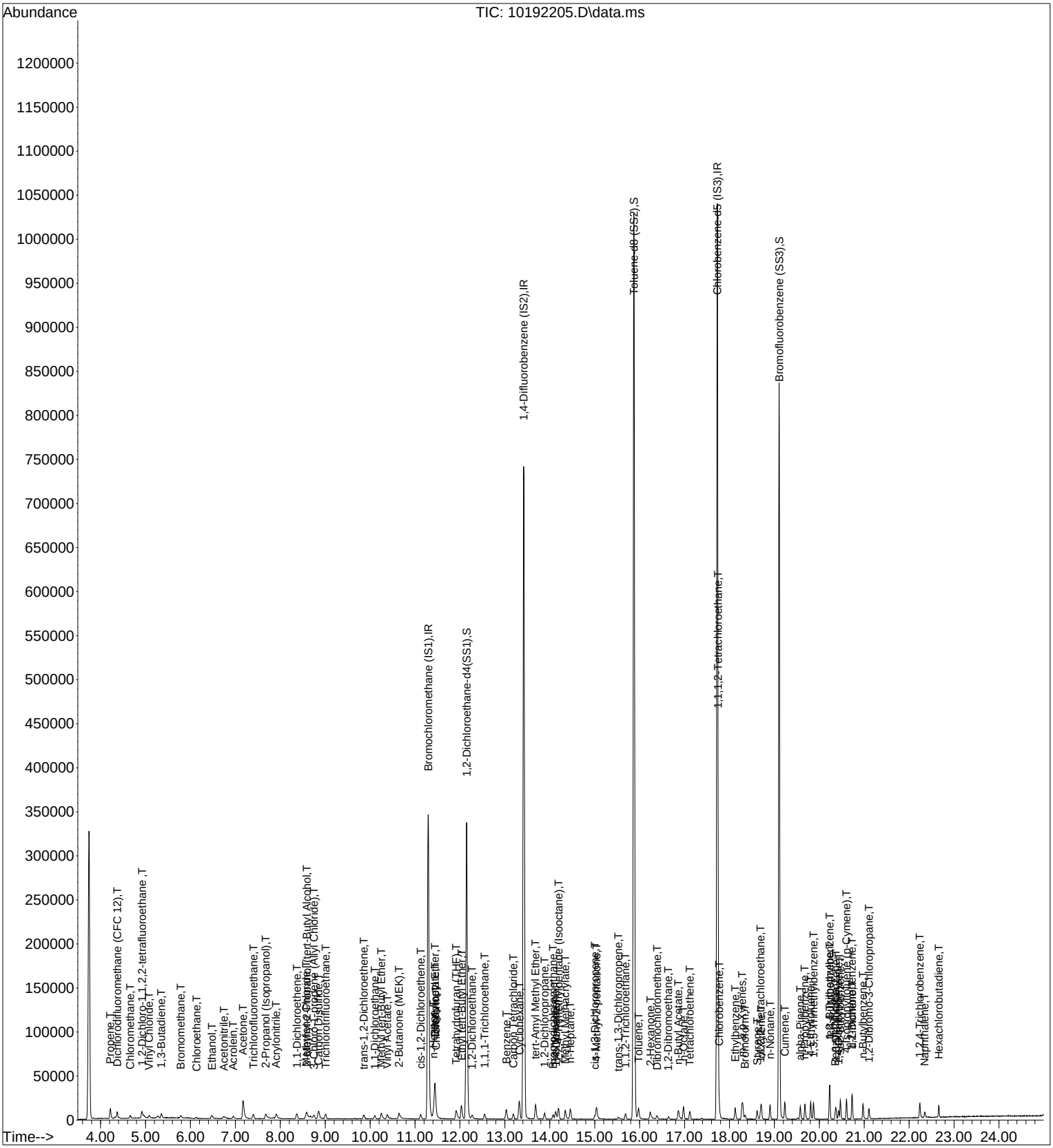
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.46	71	2877	0.203	ng		97
52) cis-1,3-Dichloropropene	15.00	75	3208	0.165	ng		96
53) 4-Methyl-2-pentanone	15.04	58	4138	0.299	ng	#	70
54) trans-1,3-Dichloropropene	15.52	75	1922	0.098	ng		95
55) 1,1,2-Trichloroethane	15.68	97	2492	0.197	ng		100
58) Toluene	15.98	91	11051	0.221	ng		97
59) 2-Hexanone	16.24	43	9856	0.302	ng		92
60) Dibromochloromethane	16.39	129	2910	0.202	ng		97
61) 1,2-Dibromoethane	16.64	107	2482	0.192	ng		99
62) n-Butyl Acetate	16.86	43	11281	0.314	ng		98
63) n-Octane	16.98	57	2541	0.207	ng		93
64) Tetrachloroethene	17.12	166	2728	0.178	ng		97
65) Chlorobenzene	17.77	112	7488	0.215	ng		94
66) Ethylbenzene	18.13	91	11871	0.209	ng		95
67) m- & p-Xylenes	18.28	91	19239	0.425	ng		94
68) Bromoform	18.35	173	2169	0.167	ng		96
69) Styrene	18.62	104	6359	0.193	ng		98
70) o-Xylene	18.71	91	9250	0.205	ng		94
71) n-Nonane	18.91	43	6263	0.196	ng		91
72) 1,1,2,2-Tetrachloroethane	18.69	83	4292	0.212	ng		98
74) Cumene	19.23	105	13082	0.217	ng		99
75) alpha-Pinene	19.58	93	5081	0.181	ng		79
76) n-Propylbenzene	19.68	91	15945	0.233	ng		96
77) 3-Ethyltoluene	0.00	105	0	N.D.			
78) 4-Ethyltoluene	19.81	105	12485	0.216	ng		96
79) 1,3,5-Trimethylbenzene	19.87	105	11129	0.224	ng		95
80) alpha-Methylstyrene	0.00	118	0	N.D.			
81) 2-Ethyltoluene	0.00	105	0	N.D.			
82) 1,2,4-Trimethylbenzene	20.23	105	10360	0.201	ng		98
83) n-Decane	0.00	58	0	N.D.	d		
84) Benzyl Chloride	20.35	91	5391	0.148	ng		88
85) 1,3-Dichlorobenzene	20.37	146	5272	0.175	ng		97
86) 1,4-Dichlorobenzene	20.43	146	5419	0.182	ng		100
87) sec-Butylbenzene	20.47	105	14726	0.222	ng		95
88) 4-Isopropyltoluene (p-...	20.61	119	12718	0.217	ng		97
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.			
90) 1,2-Dichlorobenzene	20.73	146	5483	0.188	ng		98
91) d-Limonene	20.73	68	3761	0.191	ng		91
92) 1,2-Dibromo-3-Chloropr...	21.11	157	3311	0.297	ng	#	70
93) n-Undecane	0.00	58	0	N.D.			
94) 1,2,4-Trichlorobenzene	22.24	180	5827	0.268	ng		99
95) Naphthalene	22.34	128	7810	0.130	ng		91
96) n-Dodecane	0.00	58	0	N.D.			
97) Hexachlorobutadiene	22.66	225	2656	0.171	ng		100
98) Cyclohexanone	0.00	55	0	N.D.			
99) tert-Butylbenzene	20.23	119	11077	0.214	ng		98
100) n-Butylbenzene	20.97	91	10585	0.211	ng	#	94
101) 1,1,1,2-Tetrachloroethane	17.75	131	2665	0.197	ng		94

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

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\19\10192205.D Vial: 13
Acq On : 19 Oct 2022 7:33 Operator: WA
Sample : 0.2ng R16101922 ICAL Std Inst : GCMS-16
Misc : S35-08012201/S35-10172210 (11/16)

Quant Time: Oct 19 10:18:30 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 10:03:07 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Data File : I:\MS16\DATA\2022 10\19\10192212.D Vial: 14
Acq On : 19 Oct 2022 11:32 Operator: WA
Sample : 0.5ng R16101922 ICAL Std Inst : GCMS-16
Misc : S35-08012201/S35-10172209 (11/16)

Quant Time: Oct 19 13:12:35 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:12:09 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

10/19/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	161586	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.42	114	736969	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	150985	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	275328	13.170	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.36%				
57) Toluene-d8 (SS2)	15.87	98	839012	12.670	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.36%				
73) Bromofluorobenzene (SS3)	19.11	174	254106	12.119	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.96%				
Target Compounds							Qvalue
2) Propene	4.21	42	8388	0.462	ng		96
3) Dichlorodifluoromethan...	4.37	85	15631	0.605	ng		100
4) Chloromethane	4.66	50	12084	0.697	ng		95
5) 1,2-Dichloro-1,1,2,2-t...	4.92	135	9475	0.592	ng		99
6) Vinyl Chloride	5.08	62	12103	0.590	ng		98
7) 1,3-Butadiene	5.35	54	8106	0.549	ng		91
8) Bromomethane	5.79	94	6471	0.573	ng		97
9) Chloroethane	6.13	64	4831	0.532	ng		98
10) Ethanol	6.47	45	22369	2.189	ng		97
11) Acetonitrile	6.74	41	14707	0.527	ng		89
12) Acrolein	6.95	56	9635	1.105	ng		97
13) Acetone	7.17	58	28223	2.714	ng		93
14) Trichlorofluoromethane	7.40	101	13105	0.563	ng		99
15) 2-Propanol (Isopropanol)	7.66	45	39393	1.277	ng		90
16) Acrylonitrile	7.91	53	19090	1.089	ng		100
17) 1,1-Dichloroethene	8.36	96	7056	0.567	ng		98
18) 2-Methyl-2-Propanol (t...	8.56	59	36599	1.269	ng		93
19) Methylene Chloride	8.57	84	7043	0.543	ng		95
20) 3-Chloro-1-propene (Al...	8.75	41	9791	0.554	ng		94
21) Trichlorotrifluoroethane	9.01	151	6283	0.569	ng		97
22) Carbon Disulfide	8.85	76	49021	1.071	ng		100
23) trans-1,2-Dichloroethene	9.85	61	9784	0.570	ng		100
24) 1,1-Dichloroethane	10.11	63	12370	0.553	ng		99
25) Methyl tert-Butyl Ether	10.24	73	22267	0.551	ng		96
26) Vinyl Acetate	10.38	86	3539	1.309	ng	#	54
27) 2-Butanone (MEK)	10.63	72	9662	1.054	ng		94
28) cis-1,2-Dichloroethene	11.13	61	9619	0.543	ng		100
29) Diisopropyl Ether	11.43	87	14275	0.913	ng	#	79
30) Ethyl Acetate	11.44	61	11632	1.862	ng		96
31) n-Hexane	11.42	57	13073	0.476	ng		99
32) Chloroform	11.46	83	12384	0.511	ng		98
34) Tetrahydrofuran (THF)	11.91	72	9219	1.042	ng		96
35) Ethyl tert-Butyl Ether	12.03	87	17164	0.950	ng		94
36) 1,2-Dichloroethane	12.27	62	9887	0.547	ng		99
38) 1,1,1-Trichloroethane	12.55	97	11690	0.532	ng		99
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.03	78	28066	0.519	ng		99
42) Carbon Tetrachloride	13.19	117	9449	0.505	ng		97
43) Cyclohexane	13.32	84	23245	0.960	ng		99
44) tert-Amyl Methyl Ether	13.68	73	38199	0.934	ng		97
45) 1,2-Dichloropropane	13.89	63	6814	0.502	ng		99
46) Bromodichloromethane	14.07	83	9923	0.508	ng		100
47) Trichloroethene	14.13	130	7543	0.486	ng		98
48) 1,4-Dioxane	14.13	88	5579	0.489	ng		98
49) 2,2,4-Trimethylpentane...	14.19	57	31606	0.515	ng		95
50) Methyl Methacrylate	14.34	100	5784	0.974	ng		92

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\19\10192212.D Vial: 14
Acq On : 19 Oct 2022 11:32 Operator: WA
Sample : 0.5ng R16101922 ICAL Std Inst : GCMS-16
Misc : S35-08012201/S35-10172209 (11/16)

Quant Time: Oct 19 13:12:35 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:12:09 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

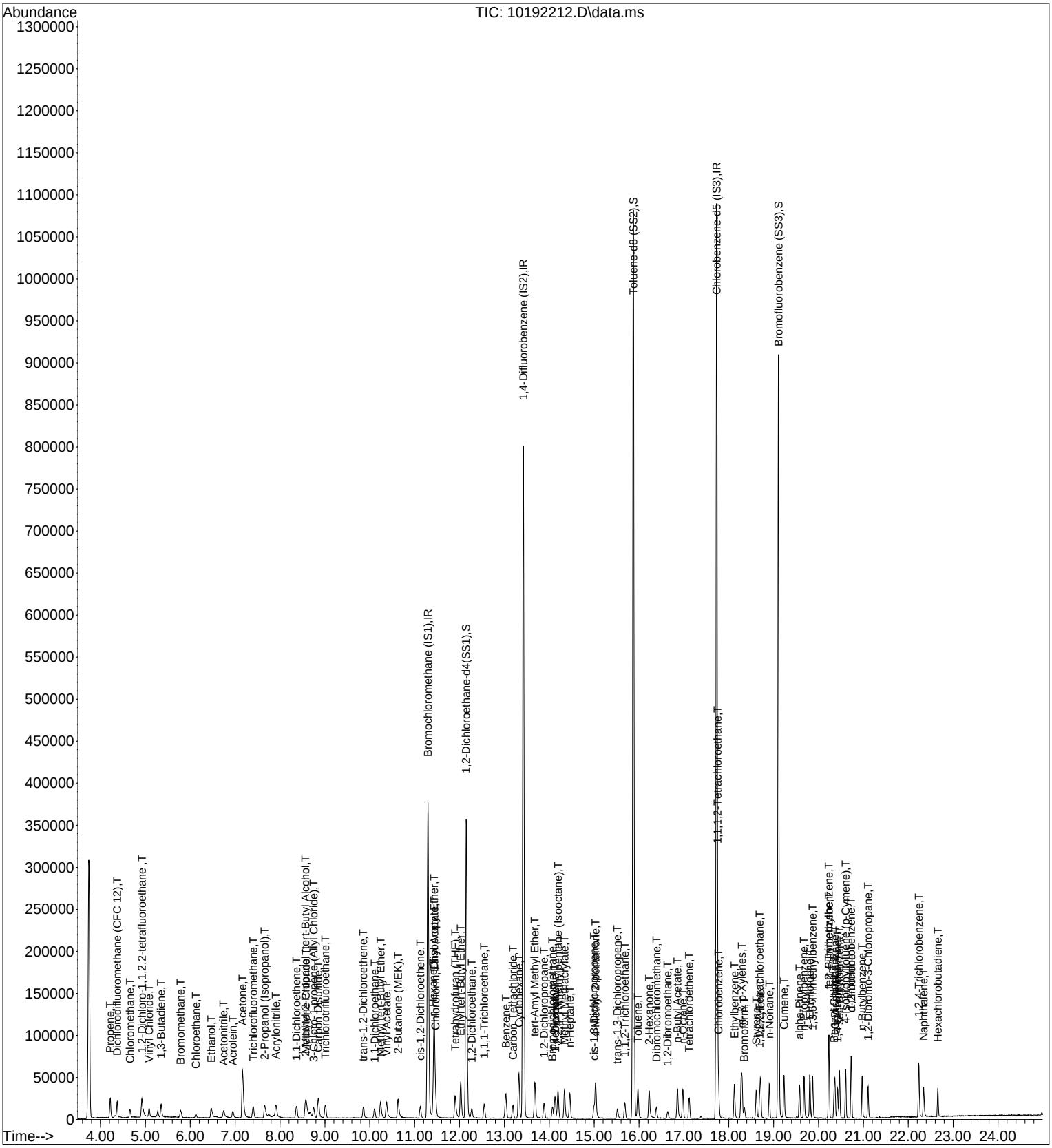
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.46	71	7885	0.500 ng		100
52) cis-1,3-Dichloropropene	15.00	75	10131	0.499 ng		99
53) 4-Methyl-2-pentanone	15.03	58	12618	0.969 ng		86
54) trans-1,3-Dichloropropene	15.52	75	8131	0.461 ng		100
55) 1,1,2-Trichloroethane	15.68	97	6554	0.488 ng		97
58) Toluene	15.98	91	31798	0.525 ng		96
59) 2-Hexanone	16.23	43	33518	1.067 ng		90
60) Dibromochloromethane	16.39	129	8295	0.517 ng		98
61) 1,2-Dibromoethane	16.64	107	7219	0.491 ng		98
62) n-Butyl Acetate	16.86	43	34112	0.974 ng		98
63) n-Octane	16.98	57	6579	0.501 ng		95
64) Tetrachloroethene	17.12	166	7832	0.493 ng		99
65) Chlorobenzene	17.77	112	20526	0.509 ng		98
66) Ethylbenzene	18.13	91	34070	0.499 ng		97
67) m- & p-Xylenes	18.29	91	51592	0.922 ng		96
68) Bromoform	18.35	173	6210	0.477 ng		99
69) Styrene	18.61	104	18581	0.471 ng		97
70) o-Xylene	18.71	91	26356	0.482 ng		96
71) n-Nonane	18.91	43	14987	0.482 ng		93
72) 1,1,2,2-Tetrachloroethane	18.69	83	11353	0.467 ng		98
74) Cumene	19.23	105	35509	0.485 ng		99
75) alpha-Pinene	19.58	93	14066	0.434 ng		77
76) n-Propylbenzene	19.68	91	40967	0.483 ng		98
77) 3-Ethyltoluene	0.00	105	0	N.D.		
78) 4-Ethyltoluene	19.81	105	32313	0.467 ng		100
79) 1,3,5-Trimethylbenzene	19.87	105	27866	0.454 ng		96
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D.		
82) 1,2,4-Trimethylbenzene	20.23	105	27223	0.426 ng		98
83) n-Decane	20.23	58	1522	No Calib	#	
84) Benzyl Chloride	20.35	91	23370	0.727 ng		91
85) 1,3-Dichlorobenzene	20.37	146	15086	0.449 ng		100
86) 1,4-Dichlorobenzene	20.42	146	16110	0.500 ng		93
87) sec-Butylbenzene	20.47	105	36622	0.449 ng		94
88) 4-Isopropyltoluene (p-...	20.61	119	32289	0.445 ng		96
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
90) 1,2-Dichlorobenzene	20.73	146	14985	0.446 ng		99
91) d-Limonene	20.73	68	9495	0.440 ng		90
92) 1,2-Dibromo-3-Chloropr...	21.11	157	10276	0.869 ng	#	79
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.23	180	20834	0.984 ng		99
95) Naphthalene	22.34	128	33023	0.575 ng		99
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	22.66	225	6203	0.423 ng		98
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	20.23	119	27294	0.423 ng		99
100) n-Butylbenzene	20.97	91	28831	0.473 ng		95
101) 1,1,1,2-Tetrachloroethane	17.75	131	7708	0.488 ng		98

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

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\19\10192212.D Vial: 14
Acq On : 19 Oct 2022 11:32 Operator: WA
Sample : 0.5ng R16101922 ICAL Std Inst : GCMS-16
Misc : S35-08012201/S35-10172209 (11/16)

Quant Time: Oct 19 13:12:35 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:12:09 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\19\10192206.D Vial: 14
Acq On : 19 Oct 2022 8:08 Operator: WA
Sample : 1.0ng R16101922 ICAL Std Inst : GCMS-16
Misc : S35-08012201/S35-10172209 (11/16)

Quant Time: Oct 19 10:21:48 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) VOA 10/19/22
QLast Update : Wed Oct 19 10:03:07 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	147541	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.42	114	681095	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	137255	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	252462	12.847	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.80%				
57) Toluene-d8 (SS2)	15.87	98	771257	14.575	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 116.64%				
73) Bromofluorobenzene (SS3)	19.11	174	231657	11.716	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.76%				
Target Compounds							Qvalue
2) Propene	4.20	42	18191	0.888	ng		98
3) Dichlorodifluoromethan...	4.36	85	30363	1.233	ng		99
4) Chloromethane	4.64	50	22880	1.053	ng		97
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	17858	1.144	ng		98
6) Vinyl Chloride	5.07	62	23537	1.025	ng		99
7) 1,3-Butadiene	5.34	54	17373	0.915	ng		95
8) Bromomethane	5.77	94	13321	1.309	ng		100
9) Chloroethane	6.11	64	9835	1.095	ng		99
10) Ethanol	6.46	45	38016	3.166	ng		96
11) Acetonitrile	6.73	41	26368	0.851	ng		97
12) Acrolein	6.93	56	18107	1.927	ng		99
13) Acetone	7.14	58	54701	4.796	ng		90
14) Trichlorofluoromethane	7.39	101	25792	1.131	ng		100
15) 2-Propanol (Isopropanol)	7.64	45	73899	2.104	ng		93
16) Acrylonitrile	7.90	53	36558	1.896	ng		99
17) 1,1-Dichloroethene	8.36	96	14273	1.233	ng		99
18) 2-Methyl-2-Propanol (t...	8.53	59	73289	2.432	ng		94
19) Methylene Chloride	8.57	84	14093	1.163	ng		90
20) 3-Chloro-1-propene (Al...	8.74	41	17783	0.842	ng		99
21) Trichlorotrifluoroethane	9.00	151	12977	1.098	ng		98
22) Carbon Disulfide	8.84	76	98151	2.277	ng		100
23) trans-1,2-Dichloroethene	9.85	61	19429	1.124	ng		100
24) 1,1-Dichloroethane	10.10	63	25007	1.144	ng		99
25) Methyl tert-Butyl Ether	10.22	73	45163	1.242	ng		100
26) Vinyl Acetate	10.37	86	7236	2.440	ng	#	63
27) 2-Butanone (MEK)	10.62	72	19501	2.362	ng	#	88
28) cis-1,2-Dichloroethene	11.13	61	19268	1.051	ng		100
29) Diisopropyl Ether	11.43	87	29690	2.373	ng	#	79
30) Ethyl Acetate	11.43	61	23923	3.764	ng		95
31) n-Hexane	11.41	57	26381	0.984	ng		99
32) Chloroform	11.47	83	25984	1.212	ng		100
34) Tetrahydrofuran (THF)	11.89	72	18127	2.263	ng		96
35) Ethyl tert-Butyl Ether	12.02	87	35039	2.179	ng		93
36) 1,2-Dichloroethane	12.27	62	20891	1.166	ng		99
38) 1,1,1-Trichloroethane	12.55	97	23053	1.084	ng		98
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.03	78	56361	1.133	ng		99
42) Carbon Tetrachloride	13.19	117	19581	1.054	ng		100
43) Cyclohexane	13.32	84	47098	2.199	ng		98
44) tert-Amyl Methyl Ether	13.67	73	77283	2.032	ng		96
45) 1,2-Dichloropropane	13.88	63	14393	1.066	ng		99
46) Bromodichloromethane	14.07	83	20508	1.135	ng		98
47) Trichloroethene	14.13	130	15582	0.902	ng		97
48) 1,4-Dioxane	14.11	88	11281	1.100	ng		100
49) 2,2,4-Trimethylpentane...	14.19	57	65376	1.021	ng		96
50) Methyl Methacrylate	14.34	100	11670	1.886	ng		90

Data File : I:\MS16\DATA\2022 10\19\10192206.D Vial: 14
Acq On : 19 Oct 2022 8:08 Operator: WA
Sample : 1.0ng R16101922 ICAL Std Inst : GCMS-16
Misc : S35-08012201/S35-10172209 (11/16)

Quant Time: Oct 19 10:21:48 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 10:03:07 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

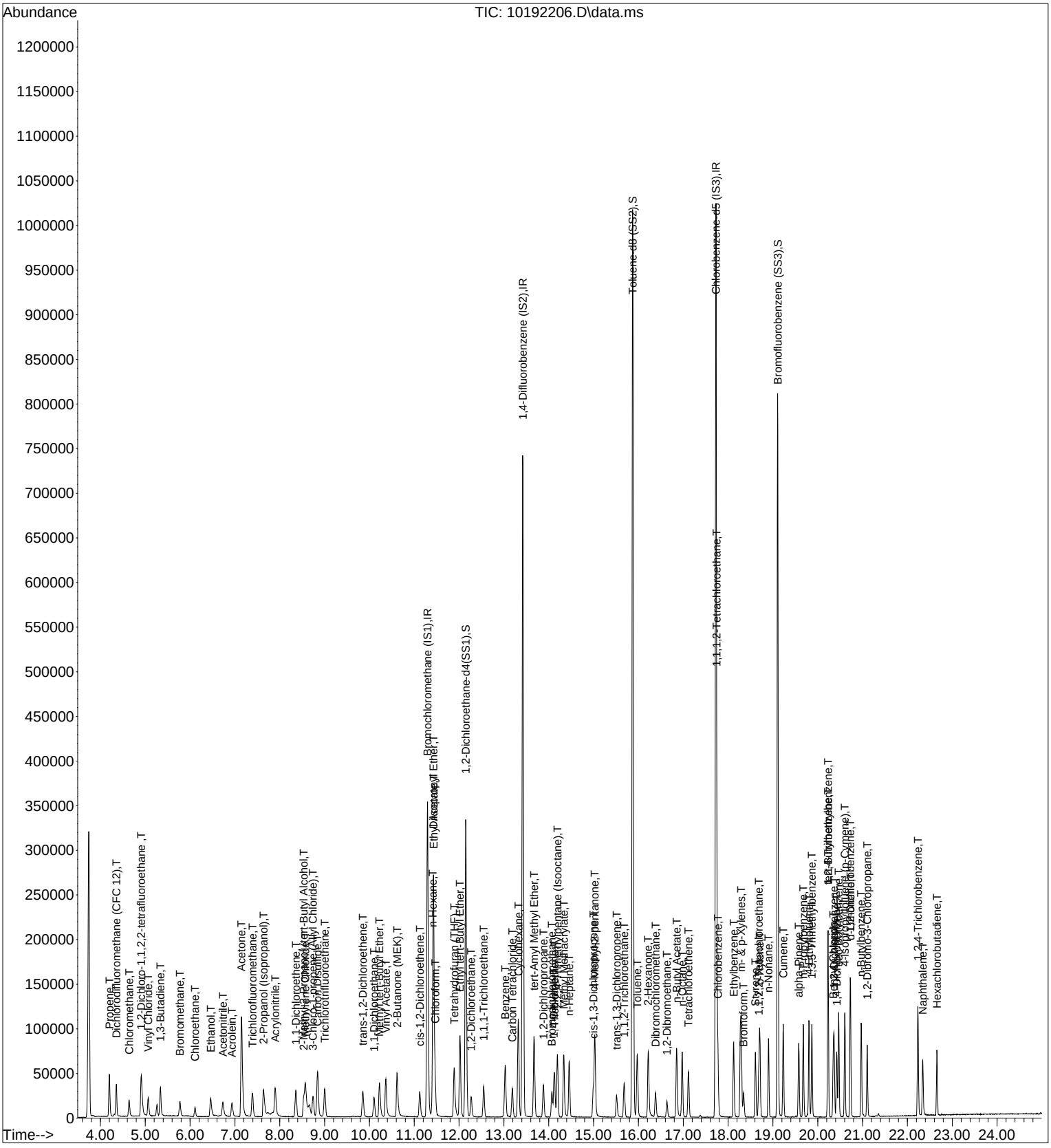
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.46	71	16009	1.140	ng		98
52) cis-1,3-Dichloropropene	15.00	75	21830	1.137	ng		97
53) 4-Methyl-2-pentanone	15.02	58	26495	1.936	ng		89
54) trans-1,3-Dichloropropene	15.51	75	17131	0.883	ng		98
55) 1,1,2-Trichloroethane	15.68	97	13974	1.117	ng		99
58) Toluene	15.98	91	62811	1.311	ng		99
59) 2-Hexanone	16.22	43	65609	2.102	ng		93
60) Dibromochloromethane	16.38	129	16575	1.202	ng		100
61) 1,2-Dibromoethane	16.64	107	15122	1.222	ng		99
62) n-Butyl Acetate	16.86	43	70603	2.056	ng		97
63) n-Octane	16.98	57	13465	1.148	ng		93
64) Tetrachloroethene	17.12	166	16352	1.113	ng		100
65) Chlorobenzene	17.77	112	41077	1.231	ng		99
66) Ethylbenzene	18.13	91	67784	1.247	ng		98
67) m- & p-Xylenes	18.29	91	107245	2.479	ng		96
68) Bromoform	18.35	173	12827	1.033	ng		99
69) Styrene	18.61	104	38320	1.213	ng		99
70) o-Xylene	18.71	91	54001	1.251	ng		96
71) n-Nonane	18.90	43	31414	1.029	ng		93
72) 1,1,2,2-Tetrachloroethane	18.69	83	24561	1.266	ng		100
74) Cumene	19.23	105	71311	1.237	ng		99
75) alpha-Pinene	19.58	93	29268	1.092	ng		87
76) n-Propylbenzene	19.68	91	82915	1.265	ng		97
77) 3-Ethyltoluene	0.00	105	0	N.D.			
78) 4-Ethyltoluene	19.80	105	67619	1.226	ng		99
79) 1,3,5-Trimethylbenzene	19.87	105	56609	1.190	ng		98
80) alpha-Methylstyrene	20.47	118	178	No Calib		#	
81) 2-Ethyltoluene	0.00	105	0	N.D.			
82) 1,2,4-Trimethylbenzene	20.23	105	56192	1.140	ng		98
83) n-Decane	0.00	58	0	N.D.	d		
84) Benzyl Chloride	20.35	91	45908	1.316	ng		96
85) 1,3-Dichlorobenzene	20.36	146	30677	1.063	ng		100
86) 1,4-Dichlorobenzene	20.42	146	31123	1.091	ng		99
87) sec-Butylbenzene	20.47	105	76789	1.208	ng		97
88) 4-Isopropyltoluene (p-...	20.61	119	67483	1.203	ng		98
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.			
90) 1,2-Dichlorobenzene	20.73	146	29535	1.061	ng		98
91) d-Limonene	20.73	68	19645	1.045	ng		96
92) 1,2-Dibromo-3-Chloropr...	21.11	157	20330	1.907	ng	#	76
93) n-Undecane	0.00	58	0	N.D.			
94) 1,2,4-Trichlorobenzene	22.23	180	37811	1.821	ng		99
95) Naphthalene	22.34	128	54482	0.944	ng		100
96) n-Dodecane	0.00	58	0	N.D.			
97) Hexachlorobutadiene	22.66	225	12521	0.840	ng		98
98) Cyclohexanone	0.00	55	0	N.D.			
99) tert-Butylbenzene	20.23	119	57020	1.153	ng		100
100) n-Butylbenzene	20.97	91	58838	1.227	ng		96
101) 1,1,1,2-Tetrachloroethane	17.75	131	15974	1.236	ng		97

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

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\19\10192206.D Vial: 14
Acq On : 19 Oct 2022 8:08 Operator: WA
Sample : 1.0ng R16101922 ICAL Std Inst : GCMS-16
Misc : S35-08012201/S35-10172209 (11/16)

Quant Time: Oct 19 10:21:48 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 10:03:07 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\19\10192207.D Vial: 14
Acq On : 19 Oct 2022 8:41 Operator: WA
Sample : 5.0ng R16101922 ICAL Std Inst : GCMS-16
Misc : S35-08012201/S35-10172209 (11/16)

Quant Time: Oct 19 10:22:54 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 10:03:07 2022 10/19/22
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.31	130	149025	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.43	114	678139	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	143611	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	254486	12.821	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.56%				
57) Toluene-d8 (SS2)	15.88	98	780050	14.089	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.72%				
73) Bromofluorobenzene (SS3)	19.11	174	246289	11.904	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.20%				
Target Compounds							Qvalue
2) Propene	4.19	42	97397	4.705	ng		99
3) Dichlorodifluoromethan...	4.35	85	129524	5.207	ng		100
4) Chloromethane	4.64	50	85052	3.876	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	77030	4.885	ng		99
6) Vinyl Chloride	5.07	62	103635	4.470	ng		100
7) 1,3-Butadiene	5.33	54	78709	4.104	ng		98
8) Bromomethane	5.78	94	55235	5.375	ng		99
9) Chloroethane	6.12	64	45717	5.037	ng		100
10) Ethanol	6.47	45	162463	13.395	ng		100
11) Acetonitrile	6.74	41	112526	3.594	ng		100
12) Acrolein	6.93	56	77658	8.182	ng		99
13) Acetone	7.15	58	246295	21.380	ng		92
14) Trichlorofluoromethane	7.40	101	112241	4.873	ng		100
15) 2-Propanol (Isopropanol)	7.64	45	256262	7.223	ng		96
16) Acrylonitrile	7.91	53	168076	8.630	ng		99
17) 1,1-Dichloroethene	8.36	96	61289	5.243	ng		96
18) 2-Methyl-2-Propanol (t...	8.52	59	278212	9.141	ng		97
19) Methylene Chloride	8.58	84	63104	5.157	ng		95
20) 3-Chloro-1-propene (Al...	8.75	41	88964	4.170	ng		96
21) Trichlorotrifluoroethane	9.01	151	56064	4.698	ng		99
22) Carbon Disulfide	8.85	76	441528	10.143	ng		100
23) trans-1,2-Dichloroethene	9.86	61	90552	5.186	ng		97
24) 1,1-Dichloroethane	10.11	63	109159	4.942	ng		100
25) Methyl tert-Butyl Ether	10.22	73	201497	5.488	ng		100
26) Vinyl Acetate	10.37	86	38083	12.715	ng	#	77
27) 2-Butanone (MEK)	10.61	72	90392	10.839	ng	#	90
28) cis-1,2-Dichloroethene	11.13	61	85942	4.640	ng		99
29) Diisopropyl Ether	11.43	87	139830	11.064	ng	#	79
30) Ethyl Acetate	11.43	61	117175	18.252	ng		95
31) n-Hexane	11.42	57	123229	4.551	ng		99
32) Chloroform	11.47	83	117575	5.430	ng		99
34) Tetrahydrofuran (THF)	11.88	72	79683	9.850	ng		94
35) Ethyl tert-Butyl Ether	12.02	87	165022	10.161	ng		94
36) 1,2-Dichloroethane	12.27	62	92270	5.100	ng		100
38) 1,1,1-Trichloroethane	12.55	97	104806	4.948	ng		99
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.03	78	254792	5.143	ng		100
42) Carbon Tetrachloride	13.19	117	87343	4.724	ng		100
43) Cyclohexane	13.32	84	213486	10.010	ng		98
44) tert-Amyl Methyl Ether	13.67	73	371557	9.810	ng		98
45) 1,2-Dichloropropane	13.89	63	63096	4.695	ng		98
46) Bromodichloromethane	14.07	83	91478	5.084	ng		100
47) Trichloroethene	14.13	130	69826	4.059	ng		99
48) 1,4-Dioxane	14.11	88	52073	5.101	ng		99
49) 2,2,4-Trimethylpentane...	14.19	57	289927	4.546	ng		97
50) Methyl Methacrylate	14.33	100	57103	9.268	ng		92

Data File : I:\MS16\DATA\2022 10\19\10192207.D Vial: 14
Acq On : 19 Oct 2022 8:41 Operator: WA
Sample : 5.0ng R16101922 ICAL Std Inst : GCMS-16
Misc : S35-08012201/S35-10172209 (11/16)

Quant Time: Oct 19 10:22:54 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 10:03:07 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

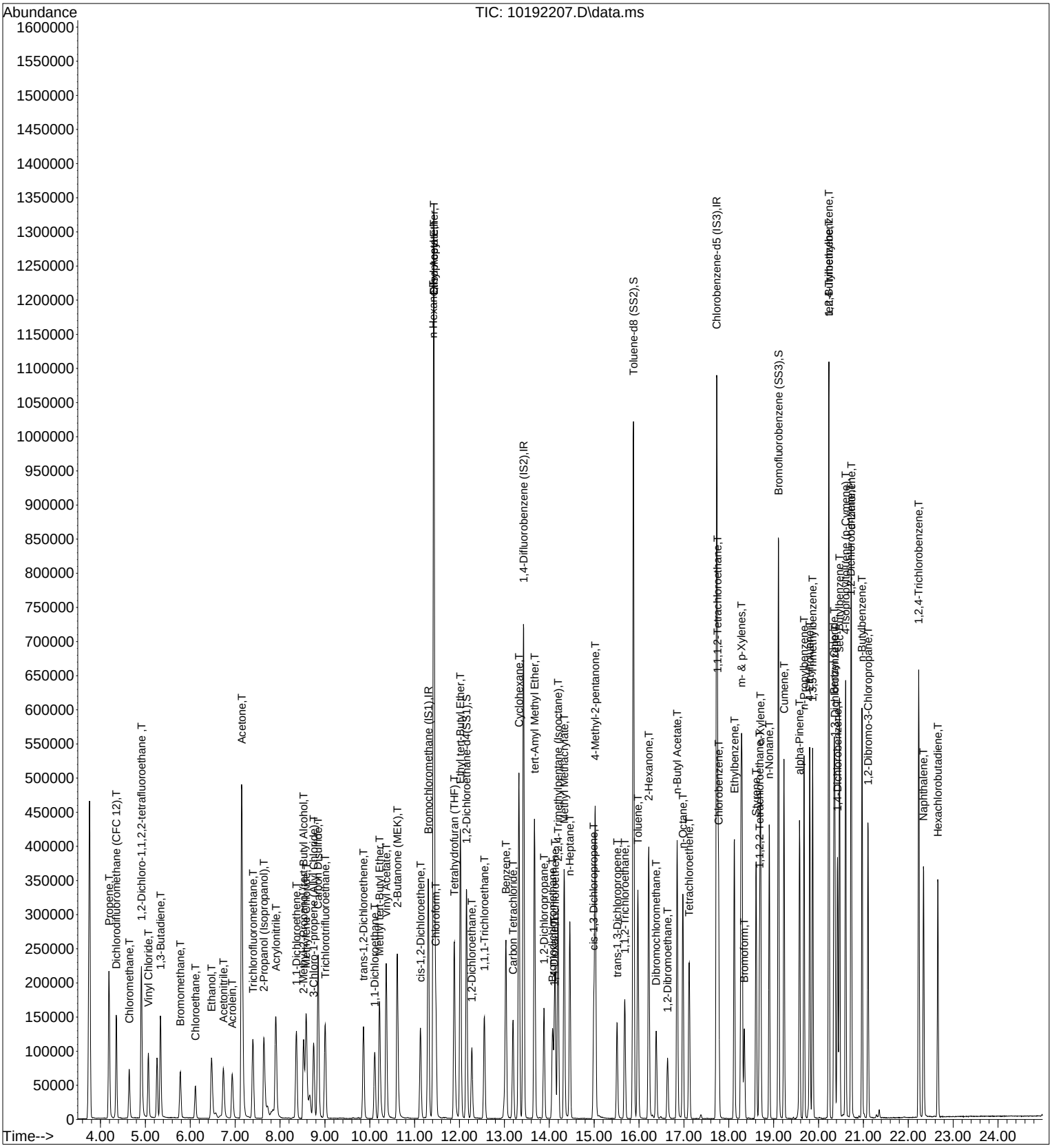
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.46	71	72530	5.187 ng	98
52) cis-1,3-Dichloropropene	14.99	75	101123	5.290 ng	100
53) 4-Methyl-2-pentanone	15.02	58	125786	9.230 ng	92
54) trans-1,3-Dichloropropene	15.51	75	87118	4.510 ng	99
55) 1,1,2-Trichloroethane	15.68	97	61667	4.950 ng	98
58) Toluene	15.98	91	285770	5.702 ng	99
59) 2-Hexanone	16.22	43	319983	9.799 ng	96
60) Dibromochloromethane	16.38	129	78716	5.454 ng	99
61) 1,2-Dibromoethane	16.64	107	71351	5.510 ng	99
62) n-Butyl Acetate	16.85	43	342298	9.527 ng	97
63) n-Octane	16.98	57	61906	5.046 ng	95
64) Tetrachloroethene	17.12	166	74114	4.820 ng	99
65) Chlorobenzene	17.77	112	188856	5.408 ng	100
66) Ethylbenzene	18.13	91	321479	5.652 ng	99
67) m- & p-Xylenes	18.28	91	510816	11.287 ng	99
68) Bromoform	18.35	173	64037	4.927 ng	100
69) Styrene	18.61	104	192498	5.824 ng	99
70) o-Xylene	18.71	91	260138	5.760 ng	98
71) n-Nonane	18.90	43	150202	4.702 ng	94
72) 1,1,2,2-Tetrachloroethane	18.69	83	115611	5.698 ng	99
74) Cumene	19.23	105	349342	5.790 ng	99
75) alpha-Pinene	19.58	93	159881	5.702 ng	94
76) n-Propylbenzene	19.68	91	414926	6.049 ng	98
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.80	105	343451	5.950 ng	99
79) 1,3,5-Trimethylbenzene	19.87	105	291061	5.847 ng	98
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.23	105	294327	5.706 ng	99
83) n-Decane	0.00	58	0	N.D. d	
84) Benzyl Chloride	20.35	91	320534	8.785 ng	96
85) 1,3-Dichlorobenzene	20.36	146	161224	5.338 ng	100
86) 1,4-Dichlorobenzene	20.42	146	157492	5.279 ng	100
87) sec-Butylbenzene	20.47	105	412299	6.199 ng	98
88) 4-Isopropyltoluene (p-...	20.61	119	354685	6.045 ng	98
89) 1,2,3-Trimethylbenzene	20.36	105	598	No Calib #	
90) 1,2-Dichlorobenzene	20.72	146	158934	5.459 ng	99
91) d-Limonene	20.73	68	110657	5.625 ng	96
92) 1,2-Dibromo-3-Chloropr...	21.11	157	112091	10.050 ng	86
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	22.23	180	193048	8.884 ng	99
95) Naphthalene	22.34	128	301811	5.001 ng	100
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	22.66	225	61437	3.942 ng	99
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.23	119	298683	5.775 ng	99
100) n-Butylbenzene	20.97	91	311752	6.211 ng	99
101) 1,1,1,2-Tetrachloroethane	17.75	131	72640	5.371 ng	99

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

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\19\10192207.D Vial: 14
Acq On : 19 Oct 2022 8:41 Operator: WA
Sample : 5.0ng R16101922 ICAL Std Inst : GCMS-16
Misc : S35-08012201/S35-10172209 (11/16)

Quant Time: Oct 19 10:22:54 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 10:03:07 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\19\10192208.D Vial: 2
Acq On : 19 Oct 2022 9:15 Operator: WA
Sample : 25ng R16101922 ICAL Std Inst : GCMS-16
Misc : S35-08012201/S35-10172201 (11/16)

Quant Time: Oct 19 10:23:29 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 10:03:07 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

10/19/22

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.32	130	174366	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	13.43	114	798658	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	168632	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.16	65	300156	12.924	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.36%			
57) Toluene-d8 (SS2)	15.88	98	944097	14.522	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 116.16%			
73) Bromofluorobenzene (SS3)	19.11	174	312611	12.868	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.96%			
Target Compounds						Qvalue
2) Propene	4.19	42	507160	20.941	ng	100
3) Dichlorodifluoromethan...	4.35	85	734360	25.231	ng	100
4) Chloromethane	4.64	50	507565	19.770	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	441850	23.948	ng	100
6) Vinyl Chloride	5.07	62	566036	20.866	ng	100
7) 1,3-Butadiene	5.34	54	483008	21.524	ng	100
8) Bromomethane	5.79	94	311819	25.933	ng	100
9) Chloroethane	6.13	64	230161	21.674	ng	100
10) Ethanol	6.51	45	994445	70.077	ng	100
11) Acetonitrile	6.76	41	642682	17.544	ng	100
12) Acrolein	6.95	56	473588	42.644	ng	100
13) Acetone	7.16	58	1576809	116.984	ng	100
14) Trichlorofluoromethane	7.40	101	660530	24.509	ng	100
15) 2-Propanol (Isopropanol)	7.66	45	1750652	42.176	ng	100
16) Acrylonitrile	7.92	53	1059381	46.489	ng	100
17) 1,1-Dichloroethene	8.38	96	368430	26.935	ng	100
18) 2-Methyl-2-Propanol (t...	8.53	59	1985654	55.762	ng	100
19) Methylene Chloride	8.60	84	392907	27.440	ng	100
20) 3-Chloro-1-propene (Al...	8.76	41	567948	22.751	ng	100
21) Trichlorotrifluoroethane	9.01	151	338049	24.212	ng	100
22) Carbon Disulfide	8.86	76	2799763	54.970	ng	100
23) trans-1,2-Dichloroethene	9.87	61	525207	25.709	ng	100
24) 1,1-Dichloroethane	10.12	63	636850	24.642	ng	100
25) Methyl tert-Butyl Ether	10.22	73	1235291	28.753	ng	100
26) Vinyl Acetate	10.38	86	290370	82.861	ng	100
27) 2-Butanone (MEK)	10.62	72	604295	61.931	ng	100
28) cis-1,2-Dichloroethene	11.14	61	510699	23.567	ng	100
29) Diisopropyl Ether	11.43	87	1099468	74.353	ng	100
30) Ethyl Acetate	11.44	61	916384	121.997	ng	100
31) n-Hexane	11.42	57	896468	28.296	ng	100
32) Chloroform	11.48	83	717440	28.320	ng	100
34) Tetrahydrofuran (THF)	11.88	72	514135	54.319	ng	100
35) Ethyl tert-Butyl Ether	12.02	87	1141084	60.052	ng	100
36) 1,2-Dichloroethane	12.28	62	548890	25.931	ng	100
38) 1,1,1-Trichloroethane	12.56	97	636603	25.521	ng	100
39) Isopropyl Acetate	0.00	61	0	N.D.	d	
40) 1-Butanol	0.00	56	0	N.D.		
41) Benzene	13.04	78	1599567	27.414	ng	100
42) Carbon Tetrachloride	13.20	117	539248	24.764	ng	100
43) Cyclohexane	13.33	84	1389812	55.330	ng	100
44) tert-Amyl Methyl Ether	13.67	73	2544561	57.046	ng	100
45) 1,2-Dichloropropane	13.89	63	387492	24.484	ng	100
46) Bromodichloromethane	14.08	83	570977	26.945	ng	100
47) Trichloroethene	14.13	130	449104	22.168	ng	100
48) 1,4-Dioxane	14.10	88	343519	28.573	ng	100
49) 2,2,4-Trimethylpentane...	14.20	57	1789638	23.826	ng	100
50) Methyl Methacrylate	14.34	100	416419	57.386	ng	100

Data File : I:\MS16\DATA\2022 10\19\10192208.D Vial: 2
Acq On : 19 Oct 2022 9:15 Operator: WA
Sample : 25ng R16101922 ICAL Std Inst : GCMS-16
Misc : S35-08012201/S35-10172201 (11/16)

Quant Time: Oct 19 10:23:29 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 10:03:07 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

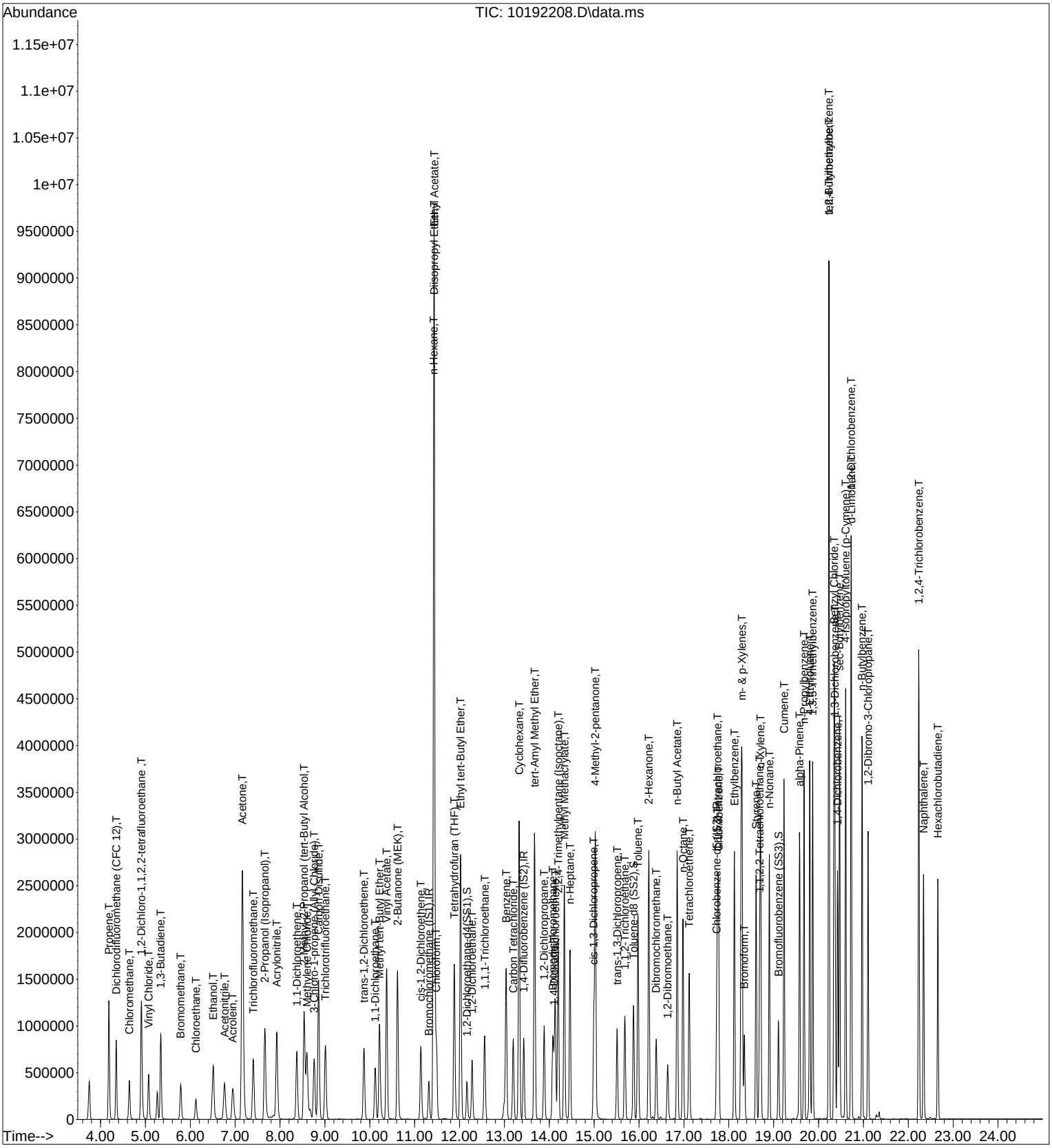
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.46	71	478049	29.030 ng	100
52) cis-1,3-Dichloropropene	14.99	75	665907	29.576 ng	100
53) 4-Methyl-2-pentanone	15.02	58	852684	53.128 ng	100
54) trans-1,3-Dichloropropene	15.51	75	578816	25.441 ng	100
55) 1,1,2-Trichloroethane	15.68	97	394840	26.910 ng	100
58) Toluene	15.98	91	1859076	31.588 ng	100
59) 2-Hexanone	16.22	43	2086072	54.402 ng	100
60) Dibromochloromethane	16.38	129	533652	31.489 ng	100
61) 1,2-Dibromoethane	16.63	107	472071	31.047 ng	100
62) n-Butyl Acetate	16.85	43	2266989	53.734 ng	100
63) n-Octane	16.98	57	401148	27.849 ng	100
64) Tetrachloroethene	17.12	166	487743	27.012 ng	100
65) Chlorobenzene	17.77	112	1208722	29.477 ng	100
66) Ethylbenzene	18.13	91	2152001	32.223 ng	100
67) m- & p-Xylenes	18.29	91	3556742	66.928 ng	100
68) Bromoform	18.35	173	445546	29.196 ng	100
69) Styrene	18.61	104	1358479	35.002 ng	100
70) o-Xylene	18.71	91	1769735	33.371 ng	100
71) n-Nonane	18.91	43	934601	24.914 ng	100
72) 1,1,2,2-Tetrachloroethane	18.69	83	795470	33.386 ng	100
74) Cumene	19.23	105	2400883	33.890 ng	100
75) alpha-Pinene	19.58	93	1140495	34.642 ng	100
76) n-Propylbenzene	19.68	91	2838669	35.241 ng	100
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.80	105	2441508	36.022 ng	100
79) 1,3,5-Trimethylbenzene	19.87	105	2012226	34.426 ng	100
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.23	105	2303276	38.027 ng	100
83) n-Decane	0.00	58	0	N.D. d	
84) Benzyl Chloride	20.35	91	2867999	66.941 ng	100
85) 1,3-Dichlorobenzene	20.36	146	1180459	33.283 ng	100
86) 1,4-Dichlorobenzene	20.42	146	1089552	31.100 ng	100
87) sec-Butylbenzene	20.47	105	2794554	35.781 ng	100
88) 4-Isopropyltoluene (p-...	20.61	119	2496105	36.230 ng	100
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	20.73	146	1193953	34.923 ng	100
91) d-Limonene	20.73	68	760753	32.935 ng	100
92) 1,2-Dibromo-3-Chloropr...	21.11	157	833679	63.658 ng	100
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	22.23	180	1459707	57.207 ng	100
95) Naphthalene	22.34	128	2085512	29.427 ng	100
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	22.66	225	451320	24.659 ng	100
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.23	119	2336791	38.475 ng	100
100) n-Butylbenzene	20.97	91	2121687	35.998 ng	100
101) 1,1,1,2-Tetrachloroethane	17.75	131	478774	30.151 ng	100

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

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\19\10192208.D Vial: 2
Acq On : 19 Oct 2022 9:15 Operator: WA
Sample : 25ng R16101922 ICAL Std Inst : GCMS-16
Misc : S35-08012201/S35-10172201 (11/16)

Quant Time: Oct 19 10:23:29 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 10:03:07 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\19\10192209.D Vial: 2
Acq On : 19 Oct 2022 9:49 Operator: WA
Sample : 50ng R16101922 ICAL Std Inst : GCMS-16
Misc : S35-08012201/S35-10172201(11/16)

Quant Time: Oct 19 10:25:58 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) VOA 10/19/22
QLast Update : Wed Oct 19 10:24:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.32	130	198335	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.43	114	879733	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	183981	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.17	65	317727	12.027	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.24%				
57) Toluene-d8 (SS2)	15.88	98	1018705	14.362	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 114.88%				
73) Bromofluorobenzene (SS3)	19.11	174	336905	12.711	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.68%				
Target Compounds							Qvalue
2) Propene	4.19	42	1237546	44.924	ng		99
3) Dichlorodifluoromethan...	4.35	85	1665255	50.301	ng		99
4) Chloromethane	4.65	50	1000090	34.247	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.92	135	1023286	48.759	ng		99
6) Vinyl Chloride	5.08	62	1251199	40.550	ng		100
7) 1,3-Butadiene	5.35	54	1086423	42.563	ng		98
8) Bromomethane	5.80	94	691226	50.540	ng		99
9) Chloroethane	6.13	64	572222	47.374	ng		100
10) Ethanol	6.54	45	2217415	137.374	ng		100
11) Acetonitrile	6.79	41	1389401	33.344	ng		98
12) Acrolein	6.96	56	1033909	81.847	ng		100
13) Acetone	7.18	58	3512045	229.071	ng		96
14) Trichlorofluoromethane	7.41	101	1482960	48.375	ng		100
15) 2-Propanol (Isopropanol)	7.69	45	3466283	73.415	ng		99
16) Acrylonitrile	7.95	53	2278374	87.900	ng		100
17) 1,1-Dichloroethene	8.38	96	833756	53.588	ng		95
18) 2-Methyl-2-Propanol (t...	8.56	59	3674401	90.716	ng		99
19) Methylene Chloride	8.61	84	860729	52.848	ng		95
20) 3-Chloro-1-propene (Al...	8.77	41	1212667	42.706	ng		97
21) Trichlorotrifluoroethane	9.02	151	752413	47.378	ng		99
22) Carbon Disulfide	8.86	76	6303286	108.802	ng		100
23) trans-1,2-Dichloroethene	9.88	61	1150219	49.499	ng		98
24) 1,1-Dichloroethane	10.13	63	1387983	47.216	ng		100
25) Methyl tert-Butyl Ether	10.22	73	2739382	56.057	ng		99
26) Vinyl Acetate	10.38	86	658985	165.324	ng	#	93
27) 2-Butanone (MEK)	10.62	72	1347475	121.407	ng		95
28) cis-1,2-Dichloroethene	11.15	61	1120452	45.456	ng		96
29) Diisopropyl Ether	11.44	87	2721663	161.814	ng	#	74
30) Ethyl Acetate	11.45	61	2215474	259.299	ng		96
31) n-Hexane	11.42	57	2058412	57.121	ng		99
32) Chloroform	11.50	83	1577548	54.747	ng		100
34) Tetrahydrofuran (THF)	11.89	72	1160201	107.763	ng		95
35) Ethyl tert-Butyl Ether	12.03	87	2702582	125.041	ng		96
36) 1,2-Dichloroethane	12.29	62	1167811	48.503	ng		100
38) 1,1,1-Trichloroethane	12.56	97	1432190	52.124	ng		99
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	13.04	78	3572426	55.583	ng		100
42) Carbon Tetrachloride	13.20	117	1207663	50.348	ng		100
43) Cyclohexane	13.33	84	3271560	118.241	ng		98
44) tert-Amyl Methyl Ether	13.68	73	6009765	122.314	ng		99
45) 1,2-Dichloropropane	13.89	63	838624	48.105	ng		100
46) Bromodichloromethane	14.08	83	1278052	54.754	ng		100
47) Trichloroethene	14.13	130	1032989	46.291	ng		100
48) 1,4-Dioxane	14.11	88	784628	59.248	ng		98
49) 2,2,4-Trimethylpentane...	14.20	57	3890053	47.017	ng		99
50) Methyl Methacrylate	14.34	100	955311	119.518	ng		97

Data File : I:\MS16\DATA\2022 10\19\10192209.D Vial: 2
Acq On : 19 Oct 2022 9:49 Operator: WA
Sample : 50ng R16101922 ICAL Std Inst : GCMS-16
Misc : S35-08012201/S35-10172201(11/16)

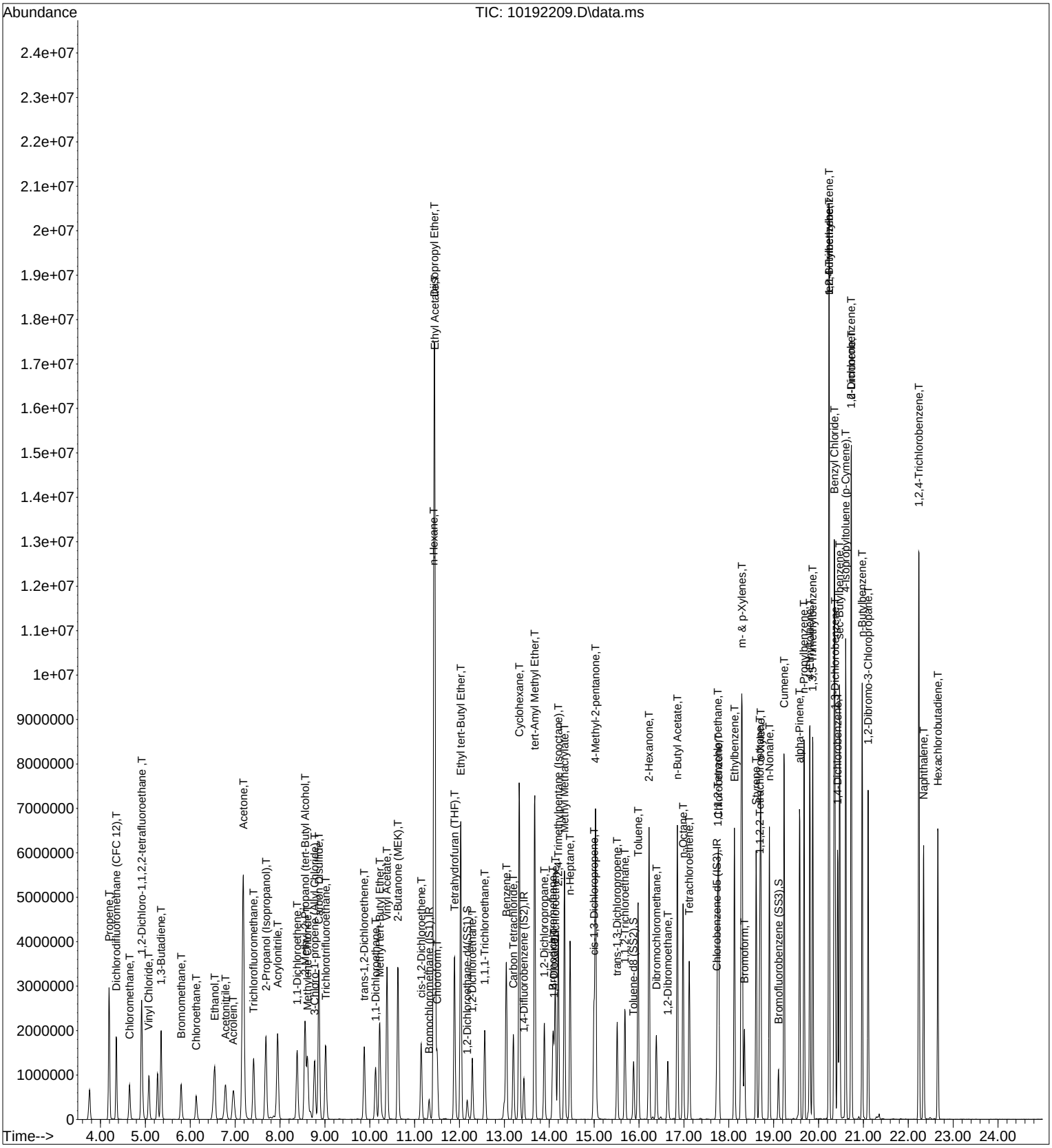
Quant Time: Oct 19 10:25:58 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 10:24:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.46	71	1053967	58.104	ng	98
52) cis-1,3-Dichloropropene	15.00	75	1495560	60.304	ng	100
53) 4-Methyl-2-pentanone	15.03	58	1935166	109.462	ng	96
54) trans-1,3-Dichloropropene	15.51	75	1299903	51.869	ng	100
55) 1,1,2-Trichloroethane	15.68	97	884563	54.731	ng	100
58) Toluene	15.98	91	4095344	63.780	ng	100
59) 2-Hexanone	16.22	43	4630344	110.679	ng	99
60) Dibromochloromethane	16.39	129	1175442	63.573	ng	100
61) 1,2-Dibromoethane	16.64	107	1031484	62.179	ng	100
62) n-Butyl Acetate	16.86	43	5007630	108.792	ng	99
63) n-Octane	16.98	57	877888	55.861	ng	98
64) Tetrachloroethene	17.12	166	1120783	56.893	ng	99
65) Chlorobenzene	17.77	112	2791442	62.396	ng	100
66) Ethylbenzene	18.13	91	4853429	66.610	ng	99
67) m- & p-Xylenes	18.29	91	8246661	142.234	ng	100
68) Bromoform	18.35	173	999621	60.039	ng	100
69) Styrene	18.61	104	3041798	71.835	ng	100
70) o-Xylene	18.71	91	4000505	69.141	ng	100
71) n-Nonane	18.91	43	2030753	49.618	ng	97
72) 1,1,2,2-Tetrachloroethane	18.69	83	1760845	67.736	ng	99
74) Cumene	19.23	105	5436162	70.334	ng	99
75) alpha-Pinene	19.58	93	2639695	73.489	ng	99
76) n-Propylbenzene	19.68	91	6327837	72.004	ng	99
77) 3-Ethyltoluene	0.00	105	0	N.D.	d	
78) 4-Ethyltoluene	19.81	105	5514790	74.577	ng	99
79) 1,3,5-Trimethylbenzene	19.87	105	4539716	71.187	ng	100
80) alpha-Methylstyrene	0.00	118	0	N.D.	d	
81) 2-Ethyltoluene	0.00	105	0	N.D.	d	
82) 1,2,4-Trimethylbenzene	20.24	105	5585325	84.520	ng	100
83) n-Decane	0.00	58	0	N.D.	d	
84) Benzyl Chloride	20.35	91	7198212	153.993	ng	99
85) 1,3-Dichlorobenzene	20.37	146	2805732	72.507	ng	100
86) 1,4-Dichlorobenzene	20.42	146	2464807	64.485	ng	100
87) sec-Butylbenzene	20.47	105	6220137	72.996	ng	99
88) 4-Isopropyltoluene (p-...	20.61	119	5612925	74.673	ng	99
89) 1,2,3-Trimethylbenzene	20.35	105	1305	No Calib	#	
90) 1,2-Dichlorobenzene	20.73	146	2914257	78.130	ng	100
91) d-Limonene	20.73	68	1774476	70.413	ng	97
92) 1,2-Dibromo-3-Chloropr...	21.11	157	1960958	137.243	ng	96
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.24	180	3825111	137.403	ng	100
95) Naphthalene	22.34	128	4786192	61.900	ng	100
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	22.66	225	1139332	57.056	ng	100
98) Cyclohexanone	0.00	55	0	N.D.	d	
99) tert-Butylbenzene	20.24	119	5632723	85.004	ng	99
100) n-Butylbenzene	20.97	91	4715758	73.336	ng	99
101) 1,1,1,2-Tetrachloroethane	17.76	131	1116886	64.468	ng	100

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

Data File : I:\MS16\DATA\2022 10\19\10192209.D Vial: 2
Acq On : 19 Oct 2022 9:49 Operator: WA
Sample : 50ng R16101922 ICAL Std Inst : GCMS-16
Misc : S35-08012201/S35-10172201(11/16)

Quant Time: Oct 19 10:25:58 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 10:24:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\19\10192210.D Vial: 2
Acq On : 19 Oct 2022 10:23 Operator: WA
Sample : 100ng R16101922 ICAL Std Inst : GCMS-16
Misc : S35-08012201/S35-10172201(11/16)

Quant Time: Oct 19 10:53:42 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 10:29:11 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

10/19/22

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.33	130	216072	12.500	ng		0.01
37) 1,4-Difluorobenzene (IS2)	13.44	114	960082	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.73	54	199871	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.18	65	330320	11.724	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.76%				
57) Toluene-d8 (SS2)	15.88	98	1073306	12.208	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.68%				
73) Bromofluorobenzene (SS3)	19.11	174	363553	13.189	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.52%				
Target Compounds							Qvalue
2) Propene	4.20	42	3137083	133.742	ng		98
3) Dichlorodifluoromethan...	4.36	85	3727319	108.199	ng		99
4) Chloromethane	4.65	50	1546174	63.468	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.92	135	2463078	116.968	ng		99
6) Vinyl Chloride	5.09	62	2786021	101.669	ng		100
7) 1,3-Butadiene	5.36	54	2462164	127.850	ng		97
8) Bromomethane	5.81	94	1515496	100.043	ng		99
9) Chloroethane	6.14	64	1321897	109.827	ng		100
10) Ethanol	6.58	45	4949115	364.862	ng		100
11) Acetonitrile	6.81	41	2984211	78.653	ng		98
12) Acrolein	6.97	56	2224091	190.407	ng		99
13) Acetone	7.20	58	8242944	603.671	ng		87
14) Trichlorofluoromethane	7.42	101	3274245	105.438	ng		100
15) 2-Propanol (Isopropanol)	7.72	45	6222455	145.320	ng		100
16) Acrylonitrile	7.97	53	4992449	214.175	ng		100
17) 1,1-Dichloroethene	8.39	96	1871183	113.063	ng		92
18) 2-Methyl-2-Propanol (t...	8.57	59	3916652	94.547	ng		99
19) Methylene Chloride	8.62	84	1871247	108.220	ng		93
20) 3-Chloro-1-propene (Al...	8.78	41	2614064	111.277	ng		96
21) Trichlorotrifluoroethane	9.02	151	1669541	113.770	ng		97
22) Carbon Disulfide	8.87	76	14186246	234.816	ng		99
23) trans-1,2-Dichloroethene	9.88	61	2559716	112.029	ng		95
24) 1,1-Dichloroethane	10.14	63	3027585	100.415	ng		100
25) Methyl tert-Butyl Ether	10.22	73	5391469	98.797	ng		99
26) Vinyl Acetate	10.39	86	1545327	462.013	ng	#	82
27) 2-Butanone (MEK)	10.64	72	3083867	259.087	ng	#	89
28) cis-1,2-Dichloroethene	11.15	61	2464965	103.819	ng		94
29) Diisopropyl Ether	11.44	87	5142077	251.594	ng	#	51
30) Ethyl Acetate	11.47	61	4029473	492.577	ng		90
31) n-Hexane	11.43	57	4214561	116.233	ng		100
32) Chloroform	11.52	83	3389385	104.334	ng		99
34) Tetrahydrofuran (THF)	11.89	72	2656996	227.802	ng		92
35) Ethyl tert-Butyl Ether	12.03	87	6788331	294.590	ng	#	88
36) 1,2-Dichloroethane	12.29	62	2560589	105.654	ng		100
38) 1,1,1-Trichloroethane	12.57	97	3209982	113.140	ng		98
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	13.05	78	8142491	117.011	ng		100
42) Carbon Tetrachloride	13.20	117	2799083	116.438	ng		99
43) Cyclohexane	13.34	84	8236583	270.476	ng		94
44) tert-Amyl Methyl Ether	13.68	73	14399651	281.271	ng		96
45) 1,2-Dichloropropane	13.90	63	1869399	105.834	ng		100
46) Bromodichloromethane	14.08	83	2959289	117.728	ng		100
47) Trichloroethene	14.14	130	2536370	128.877	ng		100
48) 1,4-Dioxane	14.11	88	1920448	133.336	ng		95
49) 2,2,4-Trimethylpentane...	14.20	57	8908297	111.930	ng		97
50) Methyl Methacrylate	14.35	100	2326964	319.804	ng		93

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\19\10192210.D Vial: 2
Acq On : 19 Oct 2022 10:23 Operator: WA
Sample : 100ng R16101922 ICAL Std Inst : GCMS-16
Misc : S35-08012201/S35-10172201(11/16)

Quant Time: Oct 19 10:53:42 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 10:29:11 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

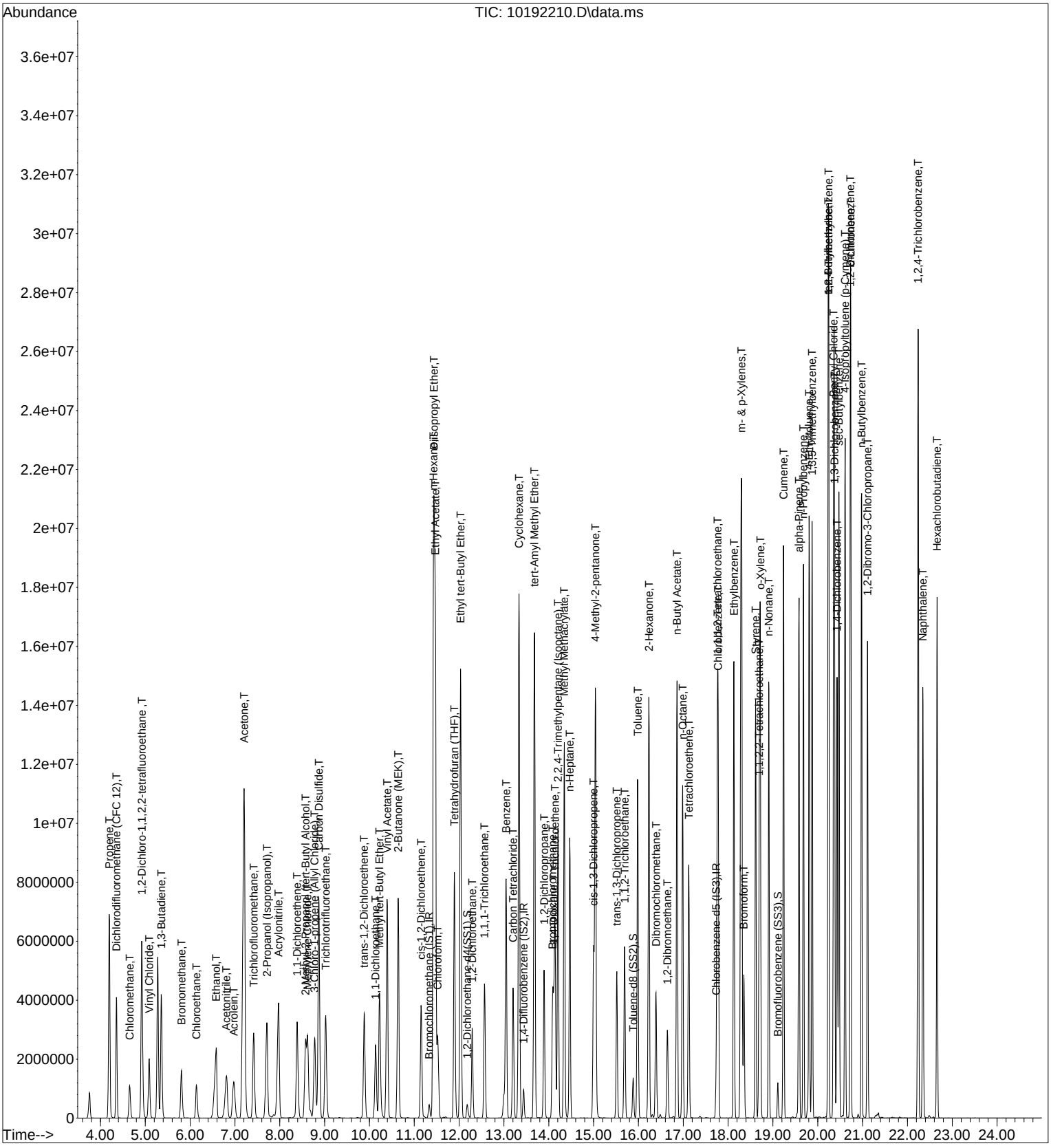
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.47	71	2484750	123.346	ng	97
52) cis-1,3-Dichloropropene	15.00	75	3401946	132.321	ng	99
53) 4-Methyl-2-pentanone	15.04	58	4588184	280.739	ng	87
54) trans-1,3-Dichloropropene	15.52	75	2935640	133.328	ng	100
55) 1,1,2-Trichloroethane	15.69	97	2047205	118.822	ng	98
58) Toluene	15.99	91	9360667	118.572	ng	99
59) 2-Hexanone	16.23	43	10291730	253.436	ng	94
60) Dibromochloromethane	16.39	129	2703147	130.734	ng	100
61) 1,2-Dibromoethane	16.65	107	2325192	121.931	ng	100
62) n-Butyl Acetate	16.86	43	11145416	246.510	ng	94
63) n-Octane	16.99	57	2053568	119.918	ng	95
64) Tetrachloroethene	17.12	166	2749799	135.386	ng	100
65) Chlorobenzene	17.78	112	6964536	134.947	ng	99
66) Ethylbenzene	18.13	91	11375654	129.414	ng	97
67) m- & p-Xylenes	18.30	91	19145974	267.252	ng	97
68) Bromoform	18.35	173	2387236	144.468	ng	100
69) Styrene	18.61	104	7188776	143.713	ng	100
70) o-Xylene	18.72	91	9546109	136.738	ng	98
71) n-Nonane	18.91	43	4548714	111.318	ng	91
72) 1,1,2,2-Tetrachloroethane	18.69	83	4162589	133.504	ng	99
74) Cumene	19.24	105	12368047	131.189	ng	95
75) alpha-Pinene	19.58	93	6462020	159.406	ng	98
76) n-Propylbenzene	19.68	91	13652630	123.981	ng	94
77) 3-Ethyltoluene	0.00	105	0	N.D.	d	
78) 4-Ethyltoluene	19.81	105	12367047	139.961	ng	95
79) 1,3,5-Trimethylbenzene	19.87	105	10482780	133.302	ng	97
80) alpha-Methylstyrene	0.00	118	0	N.D.	d	
81) 2-Ethyltoluene	0.00	105	0	N.D.	d	
82) 1,2,4-Trimethylbenzene	20.24	105	10672245	130.059	ng	99
83) n-Decane	0.00	58	0	N.D.	d	
84) Benzyl Chloride	20.35	91	14972744	388.305	ng	91
85) 1,3-Dichlorobenzene	20.37	146	6602021	157.505	ng	99
86) 1,4-Dichlorobenzene	20.43	146	5892451	144.268	ng	99
87) sec-Butylbenzene	20.47	105	13155166	124.344	ng	93
88) 4-Isopropyltoluene (p-...	20.61	119	12199706	130.863	ng	94
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d	
90) 1,2-Dichlorobenzene	20.73	146	6527045	154.810	ng	99
91) d-Limonene	20.74	68	3683435	132.733	ng	92
92) 1,2-Dibromo-3-Chloropr...	21.11	157	4842288	331.885	ng	86
93) n-Undecane	0.00	58	0	N.D.	d	
94) 1,2,4-Trichlorobenzene	22.24	180	9107129	353.009	ng	99
95) Naphthalene	22.34	128	11129549	154.928	ng	98
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	22.66	225	3125639	173.835	ng	99
98) Cyclohexanone	0.00	55	0	N.D.	d	
99) tert-Butylbenzene	20.24	119	10735078	129.191	ng	98
100) n-Butylbenzene	20.98	91	10509105	134.488	ng	95
101) 1,1,1,2-Tetrachloroethane	17.76	131	2826580	140.611	ng	99

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

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\19\10192210.D Vial: 2
Acq On : 19 Oct 2022 10:23 Operator: WA
Sample : 100ng R16101922 ICAL Std Inst : GCMS-16
Misc : S35-08012201/S35-10172201(11/16)

Quant Time: Oct 19 10:53:42 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 10:29:11 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



ALS Environmental

LCS Acceptance Criteria

10/19/22

LCS R16101922_25ng_ICV

	RT
Bromochloromethane (IS1)	11.32
1,4-Difluorobenzene (IS2)	13.43
Chlorobenzene-d5 (IS3)	17.73

Datafile: 10192214.D
Instrument: MS-16
Date: ##########

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	24.440	26.5	92	56-128	ok	70-130	ok	57-136	ok
75-71-8	Dichlorodifluoromethane	24.463	26.5	92	71-112	ok	70-130	ok	59-128	ok
74-87-3	Chloromethane	22.689	25.8	88	53-126	ok	70-130	ok	59-132	ok
76-14-2	Freon 114	23.341	25.8	90	62-121	ok	70-130	ok	63-121	ok
75-01-4	Vinyl Chloride	23.502	25.5	92	63-123	ok	70-130	ok	64-127	ok
106-99-0	1,3-Butadiene	27.401	26.5	103	63-135	ok	70-130	ok	66-134	ok
74-83-9	Bromomethane	24.686	25.8	96	71-112	ok	70-130	ok	63-134	ok
75-00-3	Chloroethane	22.811	26.0	88	66-117	ok	70-130	ok	63-127	ok
64-17-5	Ethanol	99.133	88.3	112	57-117	ok	70-130	ok	59-125	ok
75-05-8	Acetonitrile	19.285	22.8	85	59-131	ok	70-130	ok	63-132	ok
107-02-8	Acrolein	44.330	48.5	91	71-123	ok	70-130	ok	62-126	ok
67-64-1	Acetone	122.664	133	92	60-117	ok	70-130	ok	58-128	ok
75-69-4	Trichlorofluoromethane	24.283	26.3	92	71-114	ok	70-130	ok	62-126	ok
67-63-0	Isopropanol	46.260	51.5	90	61-124	ok	70-130	ok	52-125	ok
107-13-1	Acrylonitrile	48.459	51.5	94	65-130	ok	70-130	ok	71-137	ok
75-35-4	1,1-Dichloroethene	25.007	27.0	93	74-114	ok	70-130	ok	61-133	ok
75-65-0	tert-Butanol	51.998	53.3	98	56-135	ok	70-130	ok	24-150	ok
75-09-2	Methylene Chloride	25.215	26.5	95	75-112	ok	70-130	ok	62-115	ok
107-05-1	Allyl Chloride	23.568	26.8	88	57-127	ok	70-130	ok	71-131	ok
76-13-1	Trichlorotrifluoroethane	25.455	27.0	94	73-114	ok	70-130	ok	66-126	ok
75-15-0	Carbon Disulfide	49.057	53.3	92	70-113	ok	70-130	ok	57-134	ok
156-60-5	trans-1,2-Dichloroethene	25.039	27.0	93	76-119	ok	70-130	ok	67-124	ok
75-34-3	1,1-Dichloroethane	24.755	27.0	92	70-114	ok	70-130	ok	68-126	ok
1634-04-4	Methyl tert-Butyl Ether	25.074	26.8	94	72-118	ok	70-130	ok	66-126	ok
108-05-4	Vinyl Acetate	118.637	70.5	168	56-137	FAIL	70-130	FAIL	56-139	FAIL
78-93-3	2-Butanone	53.970	52.3	103	74-121	ok	70-130	ok	67-130	ok
156-59-2	cis-1,2-Dichloroethene	24.513	26.8	91	73-117	ok	70-130	ok	70-121	ok
108-20-3	Diisopropyl Ether	53.194	52.5	101	58-124	ok	70-130	ok	70-117	ok
141-78-6	Ethyl Acetate	76.022	107	71	59-161	ok	70-130	ok	65-128	ok
110-54-3	n-Hexane	25.198	26.5	95	55-130	ok	70-130	ok	63-120	ok
67-66-3	Chloroform	24.864	26.5	94	71-114	ok	70-130	ok	68-123	ok
109-99-9	Tetrahydrofuran	49.995	51.5	97	73-114	ok	70-130	ok	64-123	ok
637-92-3	Ethyl tert-Butyl Ether	51.562	53.5	96	76-119	ok	70-130	ok	61-130	ok
107-06-2	1,2-Dichloroethane	24.586	27.0	91	71-119	ok	70-130	ok	65-128	ok
71-55-6	1,1,1-Trichloroethane	24.853	26.3	94	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	25.687	27.0	95	72-113	ok	70-130	ok	69-119	ok
56-23-5	Carbon Tetrachloride	24.143	25.8	94	67-123	ok	70-130	ok	68-132	ok
110-82-7	Cyclohexane	48.580	52.8	92	70-119	ok	70-130	ok	70-117	ok
994-05-8	tert-Amyl Methyl Ether	50.868	53.5	95	74-120	ok	70-130	ok	62-133	ok
78-87-5	1,2-Dichloropropane	24.461	26.5	92	70-118	ok	70-130	ok	69-123	ok
75-27-4	Bromodichloromethane	25.190	27.0	93	74-119	ok	70-130	ok	72-128	ok
79-01-6	Trichloroethene	25.652	26.5	97	74-115	ok	70-130	ok	71-123	ok
123-91-1	1,4-Dioxane	26.113	26.5	99	77-124	ok	70-130	ok	71-122	ok
540-84-1	Isooctane	23.991	27.0	89	65-120	ok	70-130	ok	68-121	ok
80-62-6	Methyl Methacrylate	51.278	53.3	96	78-126	ok	70-130	ok	70-128	ok
142-82-5	n-Heptane	25.086	26.5	95	70-119	ok	70-130	ok	69-123	ok
10061-01-5	cis-1,3-Dichloropropene	27.880	27.0	103	81-126	ok	70-130	ok	70-128	ok
108-10-1	4-Methyl-2-pentanone	53.491	54.0	99	73-129	ok	70-130	ok	67-130	ok

ALS Environmental

LCS Acceptance Criteria

LCS R16101922_25ng_ICV

	RT
Bromochloromethane (IS1)	11.32
1,4-Difluorobenzene (IS2)	13.43
Chlorobenzene-d5 (IS3)	17.73

Datafile: 10192214.D
Instrument: MS-16
Date: #########

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	25.335	25.8	98	80-127	ok	70-130	ok	75-133	ok
79-00-5	1,1,2-Trichloroethane	25.854	26.5	98	78-117	ok	70-130	ok	73-119	ok
108-88-3	Toluene	25.976	26.5	98	70-118	ok	70-130	ok	66-119	ok
591-78-6	2-Hexanone	53.599	53.3	101	74-132	ok	70-130	ok	62-128	ok
124-48-1	Dibromochloromethane	27.761	27.0	103	69-137	ok	70-130	ok	70-130	ok
106-93-4	1,2-Dibromoethane	27.059	26.0	104	76-128	ok	70-130	ok	74-122	ok
123-86-4	Butyl Acetate	53.582	51.3	104	75-134	ok	70-130	ok	65-134	ok
111-65-9	n-Octane	25.195	26.8	94	68-120	ok	70-130	ok	69-121	ok
127-18-4	Tetrachloroethene	27.037	26.5	102	63-130	ok	70-130	ok	66-124	ok
108-90-7	Chlorobenzene	25.445	26.5	96	70-118	ok	70-130	ok	70-119	ok
100-41-4	Ethylbenzene	26.919	26.3	102	71-123	ok	70-130	ok	70-124	ok
179601-23-1	m- & p-Xylene	53.978	52.5	103	67-127	ok	70-130	ok	61-134	ok
75-25-2	Bromoform	28.781	26.8	107	65-149	ok	70-130	ok	66-139	ok
100-42-5	Styrene	27.860	26.5	105	76-132	ok	70-130	ok	73-127	ok
95-47-6	o-Xylene	27.431	26.5	104	69-124	ok	70-130	ok	67-125	ok
111-84-2	n-Nonane	25.154	26.5	95	64-127	ok	70-130	ok	63-128	ok
79-34-5	1,1,2,2-Tetrachloroethane	27.703	26.5	105	69-128	ok	70-130	ok	65-127	ok
98-82-8	Cumene	27.379	26.5	103	69-125	ok	70-130	ok	68-124	ok
80-56-8	alpha-Pinene	28.775	27.3	105	68-129	ok	70-130	ok	62-136	ok
103-65-1	n-Propylbenzene	27.652	26.8	103	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	28.902	27.0	107	69-127	ok	70-130	ok	67-129	ok
108-67-8	1,3,5-Trimethylbenzene	27.774	26.3	106	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	29.661	26.0	114	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	55.198	52.5	105	73-145	ok	70-130	ok	50-147	ok
541-73-1	1,3-Dichlorobenzene	27.046	26.3	103	67-136	ok	70-130	ok	65-130	ok
106-46-7	1,4-Dichlorobenzene	25.047	26.5	95	63-134	ok	70-130	ok	60-131	ok
135-98-8	sec-Butylbenzene	28.117	26.3	107	68-130	ok	70-130	ok	68-125	ok
99-87-6	p-Isopropyltoluene	28.116	26.3	107	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	27.639	26.5	104	64-139	ok	70-130	ok	63-129	ok
5989-27-5	d-Limonene	28.944	26.3	110	63-137	ok	70-130	ok	65-136	ok
96-12-8	1,2-Dibromo-3-Chloropropane	51.177	52.0	98	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	38.552	51.5	75	62-154	ok	70-130	ok	55-142	ok
91-20-3	Naphthalene	19.416	27.0	72	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	25.455	26.3	97	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	29.923	26.3	114	61-140	ok	70-130	ok	65-124	ok
104-51-8	n-Butylbenzene	27.964	26.3	106	70-131	ok	70-130	ok	66-130	ok

Data File : I:\MS16\DATA\2022 10\19\10192214.D Vial: 15
Acq On : 19 Oct 2022 12:52 Operator: WA
Sample : LCS R16101922 25ng ICV Inst : GCMS-16
Misc : S35-08012201/S35-09262204 (10/26)

Quant Time: Oct 19 13:24:06 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) VOA 10/19/22
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.32	130	184382	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.43	114	831882	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	167607	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.16	65	305733	12.399	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.20%				
57) Toluene-d8 (SS2)	15.88	98	964415	13.056	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.48%				
73) Bromofluorobenzene (SS3)	19.11	174	314902	13.528	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.24%				
Target Compounds							Qvalue
2) Propene	4.18	42	531121	24.440	ng		99
3) Dichlorodifluoromethan...	4.34	85	778351	24.463	ng		100
4) Chloromethane	4.64	50	496380	22.689	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	456268	23.341	ng		100
6) Vinyl Chloride	5.07	62	590171	23.502	ng		100
7) 1,3-Butadiene	5.33	54	494657	27.401	ng		98
8) Bromomethane	5.78	94	336697	24.686	ng		99
9) Chloroethane	6.12	64	244988	22.811	ng		100
10) Ethanol	6.52	45	1245521	99.133	ng		100
11) Acetonitrile	6.76	41	645253	19.285	ng		98
12) Acrolein	6.95	56	466031	44.330	ng		100
13) Acetone	7.16	58	1527968	122.664	ng		97
14) Trichlorofluoromethane	7.40	101	681407	24.283	ng		100
15) 2-Propanol (Isopropanol)	7.67	45	1736986	46.260	ng		100
16) Acrylonitrile	7.92	53	1019895	48.459	ng		100
17) 1,1-Dichloroethene	8.37	96	373289	25.007	ng		98
18) 2-Methyl-2-Propanol (t...	8.54	59	1828210	51.998	ng		100
19) Methylene Chloride	8.60	84	391502	25.215	ng		97
20) 3-Chloro-1-propene (Al...	8.75	41	507492	23.568	ng		98
21) Trichlorotrifluoroethane	9.01	151	338820	25.455	ng		100
22) Carbon Disulfide	8.85	76	2695182	49.057	ng		100
23) trans-1,2-Dichloroethene	9.87	61	513147	25.039	ng		99
24) 1,1-Dichloroethane	10.12	63	641995	24.755	ng		100
25) Methyl tert-Butyl Ether	10.22	73	1187450	25.074	ng		99
26) Vinyl Acetate	10.38	86	453819	118.637	ng	#	95
27) 2-Butanone (MEK)	10.62	72	581545	53.970	ng		97
28) cis-1,2-Dichloroethene	11.14	61	504310	24.513	ng		98
29) Diisopropyl Ether	11.43	87	962882	53.194	ng	#	67
30) Ethyl Acetate	11.43	61	553690	76.022	ng		99
31) n-Hexane	11.42	57	796836	25.198	ng		100
32) Chloroform	11.48	83	699323	24.864	ng		99
34) Tetrahydrofuran (THF)	11.88	72	522309	49.995	ng		97
35) Ethyl tert-Butyl Ether	12.02	87	1078806	51.562	ng		98
36) 1,2-Dichloroethane	12.28	62	528286	24.586	ng		99
38) 1,1,1-Trichloroethane	12.55	97	631769	24.853	ng		99
39) Isopropyl Acetate	13.67	61	1067	No Calib		#	
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.04	78	1584500	25.687	ng		100
42) Carbon Tetrachloride	13.19	117	513381	24.143	ng		100
43) Cyclohexane	13.32	84	1340455	48.580	ng		99
44) tert-Amyl Methyl Ether	13.67	73	2366859	50.868	ng		99
45) 1,2-Dichloropropane	13.89	63	376176	24.461	ng		100
46) Bromodichloromethane	14.07	83	557454	25.190	ng		100
47) Trichloroethene	14.13	130	450886	25.652	ng		100
48) 1,4-Dioxane	14.10	88	336311	26.113	ng		99
49) 2,2,4-Trimethylpentane...	14.20	57	1672920	23.991	ng		100
50) Methyl Methacrylate	14.33	100	390632	51.278	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 10\19\10192214.D Vial: 15
Acq On : 19 Oct 2022 12:52 Operator: WA
Sample : LCS R16101922 25ng ICV Inst : GCMS-16
Misc : S35-08012201/S35-09262204 (10/26)

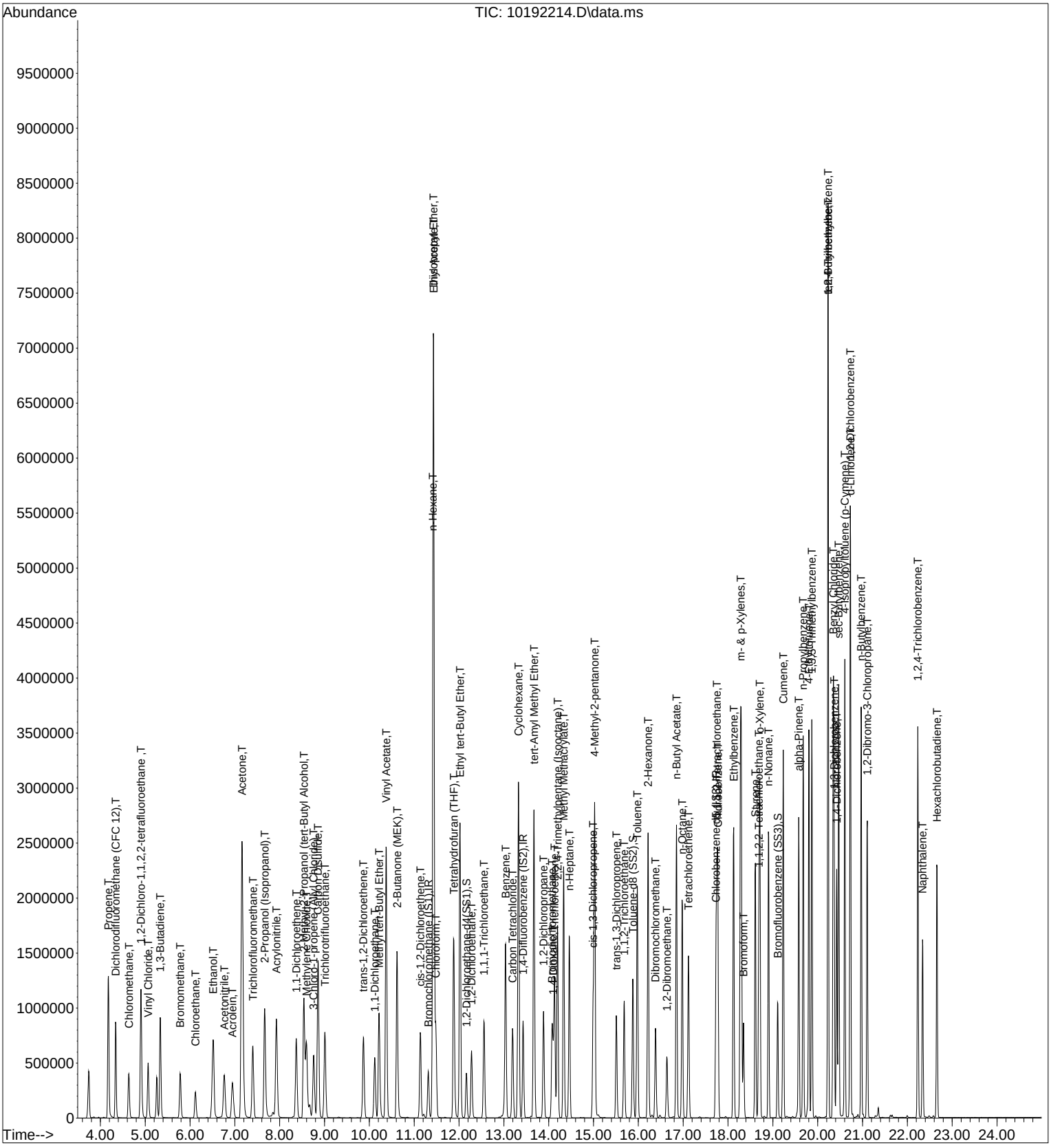
Quant Time: Oct 19 13:24:06 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.46	71	451311	25.086 ng		99
52) cis-1,3-Dichloropropene	14.99	75	640611	27.880 ng		99
53) 4-Methyl-2-pentanone	15.02	58	791572	53.491 ng		99
54) trans-1,3-Dichloropropene	15.51	75	557988	25.335 ng		100
55) 1,1,2-Trichloroethane	15.68	97	386590	25.854 ng		100
58) Toluene	15.98	91	1775418	25.976 ng		100
59) 2-Hexanone	16.22	43	1913226	53.599 ng		100
60) Dibromochloromethane	16.38	129	500246	27.761 ng		100
61) 1,2-Dibromoethane	16.64	107	446142	27.059 ng		100
62) n-Butyl Acetate	16.85	43	2108480	53.582 ng		100
63) n-Octane	16.98	57	371486	25.195 ng		99
64) Tetrachloroethene	17.12	166	478302	27.037 ng		100
65) Chlorobenzene	17.77	112	1148288	25.445 ng		100
66) Ethylbenzene	18.13	91	2060692	26.919 ng		100
67) m- & p-Xylenes	18.28	91	3368068	53.978 ng		100
68) Bromoform	18.35	173	420646	28.781 ng		100
69) Styrene	18.61	104	1233404	27.860 ng		100
70) o-Xylene	18.71	91	1675380	27.431 ng		100
71) n-Nonane	18.90	43	869705	25.154 ng		100
72) 1,1,2,2-Tetrachloroethane	18.69	83	750079	27.703 ng		99
74) Cumene	19.23	105	2243408	27.379 ng		99
75) alpha-Pinene	19.58	93	1031237	28.775 ng		99
76) n-Propylbenzene	19.68	91	2626418	27.652 ng		100
77) 3-Ethyltoluene	20.34	105	115	No Calib	#	
78) 4-Ethyltoluene	19.80	105	2234019	28.902 ng		100
79) 1,3,5-Trimethylbenzene	19.87	105	1902046	27.774 ng		100
80) alpha-Methylstyrene	20.47	118	8447	No Calib	#	
81) 2-Ethyltoluene	20.34	105	115	No Calib	#	
82) 1,2,4-Trimethylbenzene	20.23	105	2111061	29.661 ng		100
83) n-Decane	20.23	58	78383	No Calib		
84) Benzyl Chloride	20.35	91	2401867	55.198 ng		100
85) 1,3-Dichlorobenzene	20.37	146	1024098	27.046 ng		100
86) 1,4-Dichlorobenzene	20.42	146	916430	25.047 ng		100
87) sec-Butylbenzene	20.47	105	2557922	28.117 ng		100
88) 4-Isopropyltoluene (p-...	20.61	119	2272266	28.116 ng		100
89) 1,2,3-Trimethylbenzene	20.34	105	115	No Calib	#	
90) 1,2-Dichlorobenzene	20.73	146	1043701	27.639 ng		100
91) d-Limonene	20.73	68	696568	28.944 ng		99
92) 1,2-Dibromo-3-Chloropr...	21.11	157	744431	51.177 ng		100
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.23	180	1050153	38.552 ng		100
95) Naphthalene	22.34	128	1309552	19.416 ng		100
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	22.66	225	414340	25.455 ng		99
98) Cyclohexanone	18.21	55	240	No Calib	#	
99) tert-Butylbenzene	20.23	119	2149548	29.923 ng		100
100) n-Butylbenzene	20.97	91	1909047	27.964 ng		100
101) 1,1,1,2-Tetrachloroethane	17.75	131	457410	25.924 ng		100

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

Data File : I:\MS16\DATA\2022 10\19\10192214.D Vial: 15
Acq On : 19 Oct 2022 12:52 Operator: WA
Sample : LCS R16101922 25ng ICV Inst : GCMS-16
Misc : S35-08012201/S35-09262204 (10/26)

Quant Time: Oct 19 13:24:06 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M



01160098

Data File : I:\MS16\DATA\2022 11\16\11162201.D Vial: 2
Acq On : 16 Nov 2022 16:58 Operator: WA
Sample : CCV R16111622 25ng Inst : GCMS-16
Misc : S35-11092201/S35-11022206 (12/2)

Quant Time: Nov 16 19:37:12 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

11/16/22

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	98	-0.02
2	T	Propene	1.473	1.974	-34.0#	140	0.00
3	T	Dichlorodifluoromethane (CF	2.157	2.039	5.5	101	0.00
4	T	Chloromethane	1.483	1.633	-10.1	113	-0.01
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.325	1.055	20.4	85	-0.01
6	T	Vinyl Chloride	1.702	1.510	11.3	92	-0.02
7	T	1,3-Butadiene	1.224	1.314	-7.4	99	-0.02
8	T	Bromomethane	0.925	0.781	15.6	87	-0.02
9	T	Chloroethane	0.728	0.759	-4.3	116	-0.02
10	T	Ethanol	0.852	0.978	-14.8	116	-0.07
11	T	Acetonitrile	2.268	2.192	3.4	106	-0.05
12	T	Acrolein	0.713	0.682	4.3	95	-0.03
13	T	Acetone	0.844	0.769	8.9	88	-0.04
14	T	Trichlorofluoromethane	1.902	1.705	10.4	92	-0.02
15	T	2-Propanol (Isopropanol)	2.546	2.219	12.8	89	-0.05
16	T	Acrylonitrile	1.427	1.451	-1.7	96	-0.05
17	T	1,1-Dichloroethene	1.012	0.941	7.0	94	-0.02
18	T	2-Methyl-2-Propanol (tert-B	2.384	2.066	13.3	75	-0.04
19	T	Methylene Chloride	1.053	0.968	8.1	89	-0.02
20	T	3-Chloro-1-propene (Allyl C	1.460	1.728	-18.4	110	-0.02
21	T	Trichlorotrifluoroethane	0.902	0.873	3.2	95	-0.01
22	T	Carbon Disulfide	3.725	3.381	9.2	88	-0.01
23	T	trans-1,2-Dichloroethene	1.389	1.441	-3.7	101	-0.02
24	T	1,1-Dichloroethane	1.758	1.725	1.9	99	-0.02
25	T	Methyl tert-Butyl Ether	3.211	2.940	8.4	87	-0.01
26	T	Vinyl Acetate	0.259	0.243	6.2	80	-0.02
27	T	2-Butanone (MEK)	0.731	0.689	5.7	81	-0.03
28	T	cis-1,2-Dichloroethene	1.395	1.410	-1.1	100	-0.02
29	T	Diisopropyl Ether	1.227	0.999	18.6	66	-0.01
30	T	Ethyl Acetate	0.494	0.488	1.2	77	-0.04
31	T	n-Hexane	2.144	2.094	2.3	84	-0.01
32	T	Chloroform	1.907	1.688	11.5	85	-0.04
33	S	1,2-Dichloroethane-d4(SS1)	1.672	1.597	4.5	91	-0.02
34	T	Tetrahydrofuran (THF)	0.708	0.625	11.7	85	-0.02
35	T	Ethyl tert-Butyl Ether	1.418	1.255	11.5	80	-0.01
36	T	1,2-Dichloroethane	1.457	1.305	10.4	88	-0.02
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	93	-0.01
38	T	1,1,1-Trichloroethane	0.382	0.366	4.2	90	-0.01
39	T	Isopropyl Acetate	0.000	0.000	0.0	0#	-0.01
40	T	1-Butanol	0.000	0.000	0.0	0#	-0.06
41	T	Benzene	0.927	0.842	9.2	84	-0.02
42	T	Carbon Tetrachloride	0.320	0.320	0.0	92	-0.01
43	T	Cyclohexane	0.415	0.376	9.4	84	-0.01
44	T	tert-Amyl Methyl Ether	0.699	0.651	6.9	81	-0.02
45	T	1,2-Dichloropropane	0.231	0.238	-3.0	96	-0.02
46	T	Bromodichloromethane	0.333	0.314	5.7	88	-0.01
47	T	Trichloroethene	0.264	0.259	1.9	90	-0.01
48	T	1,4-Dioxane	0.194	0.188	3.1	86	-0.01
49	T	2,2,4-Trimethylpentane (Iso	1.048	1.122	-7.1	101	-0.01
50	T	Methyl Methacrylate	0.114	0.102	10.5	77	-0.02
51	T	n-Heptane	0.270	0.251	7.0	83	-0.01
52	T	cis-1,3-Dichloropropene	0.345	0.350	-1.4	84	0.00
53	T	4-Methyl-2-pentanone	0.222	0.240	-8.1	90	-0.02
54	T	trans-1,3-Dichloropropene	0.331	0.321	3.0	84	-0.01
55	T	1,1,2-Trichloroethane	0.225	0.220	2.2	88	-0.02

01160099

Data File : I:\MS16\DATA\2022 11\16\11162201.D Vial: 2
Acq On : 16 Nov 2022 16:58 Operator: WA
Sample : CCV R16111622 25ng Inst : GCMS-16
Misc : S35-11092201/S35-11022206 (12/2)

Quant Time: Nov 16 19:37:12 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
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 : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	90	0.00
57	S	Toluene-d8 (SS2)	5.509	5.457	0.9	88	-0.01
58	T	Toluene	5.097	4.500	11.7	77	-0.01
59	T	2-Hexanone	2.662	3.065	-15.1	94	-0.02
60	T	Dibromochloromethane	1.344	1.377	-2.5	85	-0.01
61	T	1,2-Dibromoethane	1.230	1.267	-3.0	85	-0.01
62	T	n-Butyl Acetate	2.935	3.517	-19.8	96	-0.01
63	T	n-Octane	1.100	1.174	-6.7	95	-0.01
64	T	Tetrachloroethene	1.319	1.318	0.1	87	-0.01
65	T	Chlorobenzene	3.366	3.174	5.7	84	-0.01
66	T	Ethylbenzene	5.709	5.360	6.1	79	-0.01
67	T	m- & p-Xylenes	4.653	4.171	10.4	75	-0.01
68	T	Bromoform	1.090	1.165	-6.9	85	0.00
69	T	Styrene	3.302	3.264	1.2	77	-0.01
70	T	o-Xylene	4.555	4.287	5.9	78	-0.01
71	T	n-Nonane	2.579	3.002	-16.4	103	0.00
72	T	1,1,2,2-Tetrachloroethane	2.019	2.021	-0.1	82	-0.01
73	S	Bromofluorobenzene (SS3)	1.736	1.897	-9.3	92	0.00
74	T	Cumene	6.111	5.797	5.1	78	0.00
75	T	alpha-Pinene	2.673	2.801	-4.8	81	0.00
76	T	n-Propylbenzene	7.084	6.808	3.9	78	0.00
77	T	3-Ethyltoluene	0.000	0.000	0.0	0#	0.00
78	T	4-Ethyltoluene	5.765	5.637	2.2	76	0.00
79	T	1,3,5-Trimethylbenzene	5.107	4.772	6.6	76	0.00
80	T	alpha-Methylstyrene	0.000	0.000	0.0	0#	0.00
81	T	2-Ethyltoluene	0.000	0.000	0.0	0#	0.00
82	T	1,2,4-Trimethylbenzene	5.308	5.117	3.6	71	-0.02
83	T	n-Decane	0.000	0.000	0.0	0#	0.00
84	T	Benzyl Chloride	3.245	3.391	-4.5	76	-0.01
85	T	1,3-Dichlorobenzene	2.824	2.695	4.6	73	-0.01
86	T	1,4-Dichlorobenzene	2.729	2.566	6.0	76	0.00
87	T	sec-Butylbenzene	6.785	6.782	0.0	78	0.00
88	T	4-Isopropyltoluene (p-Cymen	6.027	6.273	-4.1	81	-0.01
89	T	1,2,3-Trimethylbenzene	0.000	0.000	0.0	0#	0.00
90	T	1,2-Dichlorobenzene	2.816	2.726	3.2	74	0.00
91	T	d-Limonene	1.795	1.960	-9.2	84	-0.01
92	T	1,2-Dibromo-3-Chloropropane	1.085	1.088	-0.3	83	-0.01
93	T	n-Undecane	0.000	0.000	0.0	0#	-21.51#
94	T	1,2,4-Trichlorobenzene	2.032	1.807	11.1	78	0.00
95	T	Naphthalene	5.030	4.855	3.5	78	0.00
96	T	n-Dodecane	0.000	0.000	0.0	0#	-22.59#
97	T	Hexachlorobutadiene	1.214	1.309	-7.8	93	0.00
98	T	Cyclohexanone	0.000	0.000	0.0	0#	0.01
99	T	tert-Butylbenzene	5.358	5.423	-1.2	75	0.00
100	T	n-Butylbenzene	5.091	5.166	-1.5	79	-0.01
101	T	1,1,1,2-Tetrachloroethane	1.316	1.252	4.9	84	-0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Data File : I:\MS16\DATA\2022 11\16\11162201.D Vial: 2
Acq On : 16 Nov 2022 16:58 Operator: WA
Sample : CCV R16111622 25ng Inst : GCMS-16
Misc : S35-11092201/S35-11022206 (12/2)

Quant Time: Nov 16 19:37:12 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) 11/16/22
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.31	130	170898	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.43	114	743574	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.73	54	151604	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.16	65	272947	11.943	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.52%				
57) Toluene-d8 (SS2)	15.87	98	827332	12.383	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.04%				
73) Bromofluorobenzene (SS3)	19.10	174	287658	13.662	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.28%				
Target Compounds							Qvalue
2) Propene	4.19	42	708563	35.178	ng		94
3) Dichlorodifluoromethan...	4.35	85	738772	25.051	ng		99
4) Chloromethane	4.64	50	575003	28.356	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	375153	20.706	ng		99
6) Vinyl Chloride	5.07	62	521374	22.401	ng		100
7) 1,3-Butadiene	5.34	54	476067	28.452	ng		99
8) Bromomethane	5.79	94	272449	21.552	ng		99
9) Chloroethane	6.13	64	267065	26.829	ng		97
10) Ethanol	6.51	45	1153549	99.057	ng		99
11) Acetonitrile	6.76	41	681798	21.985	ng		100
12) Acrolein	6.95	56	450025	46.185	ng		98
13) Acetone	7.16	58	1385127	119.970	ng		97
14) Trichlorofluoromethane	7.40	101	605965	23.299	ng		99
15) 2-Propanol (Isopropanol)	7.66	45	1554634	44.670	ng		95
16) Acrylonitrile	7.92	53	1016984	52.134	ng		98
17) 1,1-Dichloroethene	8.37	96	347437	25.111	ng		95
18) 2-Methyl-2-Propanol (t...	8.53	59	1489977	45.722	ng		97
19) Methylene Chloride	8.60	84	350551	24.359	ng		81
20) 3-Chloro-1-propene (Al...	8.76	41	626003	31.366	ng		88
21) Trichlorotrifluoroethane	9.01	151	322423	26.134	ng		96
22) Carbon Disulfide	8.86	76	2461469	48.338	ng		100
23) trans-1,2-Dichloroethene	9.87	61	531969	28.005	ng		95
24) 1,1-Dichloroethane	10.12	63	630967	26.249	ng		100
25) Methyl tert-Butyl Ether	10.21	73	1075230	24.496	ng		93
26) Vinyl Acetate	10.37	86	232976	65.710	ng	#	52
27) 2-Butanone (MEK)	10.61	72	491909	49.253	ng	#	61
28) cis-1,2-Dichloroethene	11.14	61	510976	26.797	ng		95
29) Diisopropyl Ether	11.43	87	723644	43.131	ng	#	42
30) Ethyl Acetate	11.43	61	703892	104.270	ng		85
31) n-Hexane	11.42	57	751551	25.641	ng		98
32) Chloroform	11.48	83	611581	23.460	ng		100
34) Tetrahydrofuran (THF)	11.88	72	435749	45.000	ng	#	73
35) Ethyl tert-Butyl Ether	12.02	87	909297	46.889	ng	#	84
36) 1,2-Dichloroethane	12.27	62	481644	24.184	ng		100
38) 1,1,1-Trichloroethane	12.55	97	570741	25.119	ng		99
39) Isopropyl Acetate	13.67	61	1097	No Calib		#	
40) 1-Butanol	12.63	56	571	No Calib		#	
41) Benzene	13.03	78	1339618	24.296	ng		99
42) Carbon Tetrachloride	13.19	117	495496	26.070	ng		97
43) Cyclohexane	13.32	84	1172802	47.552	ng		87
44) tert-Amyl Methyl Ether	13.67	73	2052029	49.339	ng		96
45) 1,2-Dichloropropane	13.88	63	371147	27.000	ng		99
46) Bromodichloromethane	14.07	83	499806	25.268	ng		100
47) Trichloroethene	14.13	130	404668	25.757	ng		98
48) 1,4-Dioxane	14.10	88	296355	25.743	ng		91
49) 2,2,4-Trimethylpentane...	14.19	57	1801556	28.904	ng		93
50) Methyl Methacrylate	14.33	100	322540	47.368	ng		98

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2022 11\16\11162201.D Vial: 2
Acq On : 16 Nov 2022 16:58 Operator: WA
Sample : CCV R16111622 25ng Inst : GCMS-16
Misc : S35-11092201/S35-11022206 (12/2)

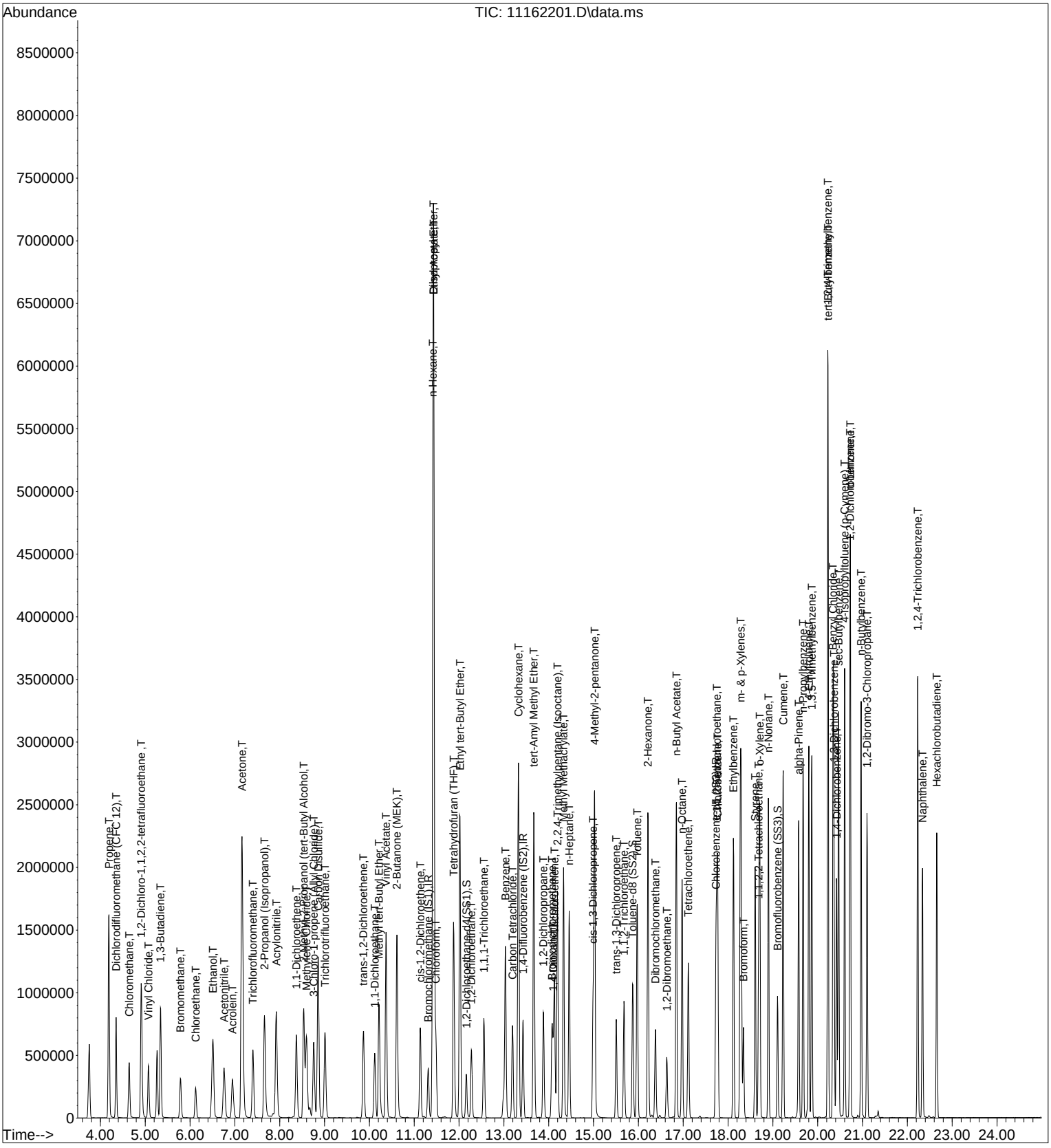
Quant Time: Nov 16 19:37:12 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.46	71	394903	24.558	ng		88
52) cis-1,3-Dichloropropene	14.99	75	562628	27.394	ng		100
53) 4-Methyl-2-pentanone	15.02	58	768283	58.083	ng		89
54) trans-1,3-Dichloropropene	15.51	75	486828	24.729	ng		100
55) 1,1,2-Trichloroethane	15.68	97	346140	25.898	ng		99
58) Toluene	15.98	91	1432706	23.174	ng		98
59) 2-Hexanone	16.21	43	1970147	61.020	ng		95
60) Dibromochloromethane	16.38	129	451046	27.672	ng		99
61) 1,2-Dibromoethane	16.63	107	399599	26.794	ng		99
62) n-Butyl Acetate	16.85	43	2186169	61.421	ng		97
63) n-Octane	16.98	57	381045	28.572	ng		85
64) Tetrachloroethene	17.11	166	423750	26.481	ng		99
65) Chlorobenzene	17.77	112	1020280	24.995	ng		98
66) Ethylbenzene	18.12	91	1706298	24.642	ng		99
67) m- & p-Xylenes	18.28	91	2655981	47.059	ng		99
68) Bromoform	18.35	173	377865	28.583	ng		100
69) Styrene	18.60	104	1049024	26.197	ng		98
70) o-Xylene	18.71	91	1377718	24.938	ng		99
71) n-Nonane	18.90	43	964691	30.846	ng		91
72) 1,1,2,2-Tetrachloroethane	18.68	83	649435	26.517	ng		99
74) Cumene	19.23	105	1880888	25.378	ng		97
75) alpha-Pinene	19.58	93	925760	28.558	ng		99
76) n-Propylbenzene	19.68	91	2208765	25.710	ng		99
77) 3-Ethyltoluene	20.35	105	635	No Calib		#	
78) 4-Ethyltoluene	19.80	105	1863066	26.647	ng		98
79) 1,3,5-Trimethylbenzene	19.87	105	1533707	24.760	ng		97
80) alpha-Methylstyrene	20.46	118	7032	No Calib		#	
81) 2-Ethyltoluene	20.35	105	635	No Calib		#	
82) 1,2,4-Trimethylbenzene	20.23	105	1629184	25.307	ng		96
83) n-Decane	20.23	58	76377	No Calib			
84) Benzyl Chloride	20.34	91	2179439	55.373	ng		99
85) 1,3-Dichlorobenzene	20.36	146	866149	25.289	ng		100
86) 1,4-Dichlorobenzene	20.42	146	824699	24.919	ng		99
87) sec-Butylbenzene	20.47	105	2179672	26.488	ng		99
88) 4-Isopropyltoluene (p-...	20.60	119	2016064	27.579	ng		98
89) 1,2,3-Trimethylbenzene	20.35	105	635	No Calib		#	
90) 1,2-Dichlorobenzene	20.72	146	884454	25.895	ng		100
91) d-Limonene	20.73	68	636023	29.218	ng		93
92) 1,2-Dibromo-3-Chloropr...	21.10	157	692512	52.633	ng		96
93) n-Undecane	0.00	58	0	N.D.			
94) 1,2,4-Trichlorobenzene	22.23	180	1145293	46.483	ng		99
95) Naphthalene	22.34	128	1619257	26.541	ng		100
96) n-Dodecane	0.00	58	0	N.D.			
97) Hexachlorobutadiene	22.66	225	420714	28.575	ng		100
98) Cyclohexanone	18.19	55	103	No Calib		#	
99) tert-Butylbenzene	20.23	119	1743028	26.825	ng		99
100) n-Butylbenzene	20.97	91	1676002	27.142	ng		99
101) 1,1,1,2-Tetrachloroethane	17.75	131	402494	25.219	ng		99

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

Data File : I:\MS16\DATA\2022 11\16\11162201.D Vial: 2
Acq On : 16 Nov 2022 16:58 Operator: WA
Sample : CCV R16111622 25ng Inst : GCMS-16
Misc : S35-11092201/S35-11022206 (12/2)

Quant Time: Nov 16 19:37:12 2022
Quant Method : I:\MS16\METHODS\R16101922.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 19 13:14:51 2022
Response via : Initial Calibration
DataAcq Meth:TO15.M

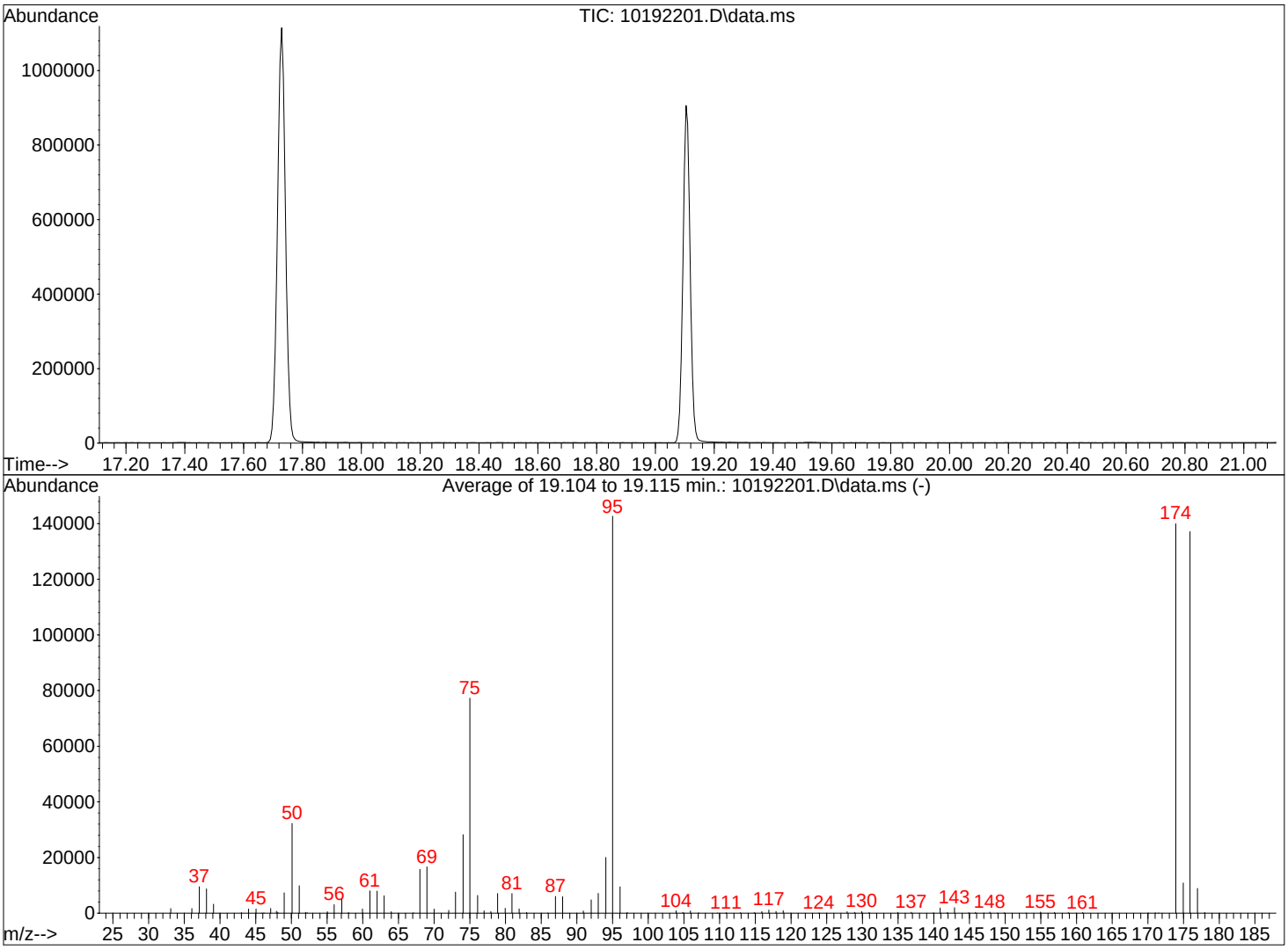


01160103

Data Path : I:\MS16\DATA\2022 10\19\
Data File : 10192201.D
Acq On : 19 Oct 2022 5:02
Operator : WA
Sample : 12.5ng BFB Std
Misc : S35-08012201
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS16\METHODS\R16101922.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Sat Aug 20 09:01:46 2022



AutoFind: Scans 2840, 2841, 2842; Background Corrected with Scan 2832

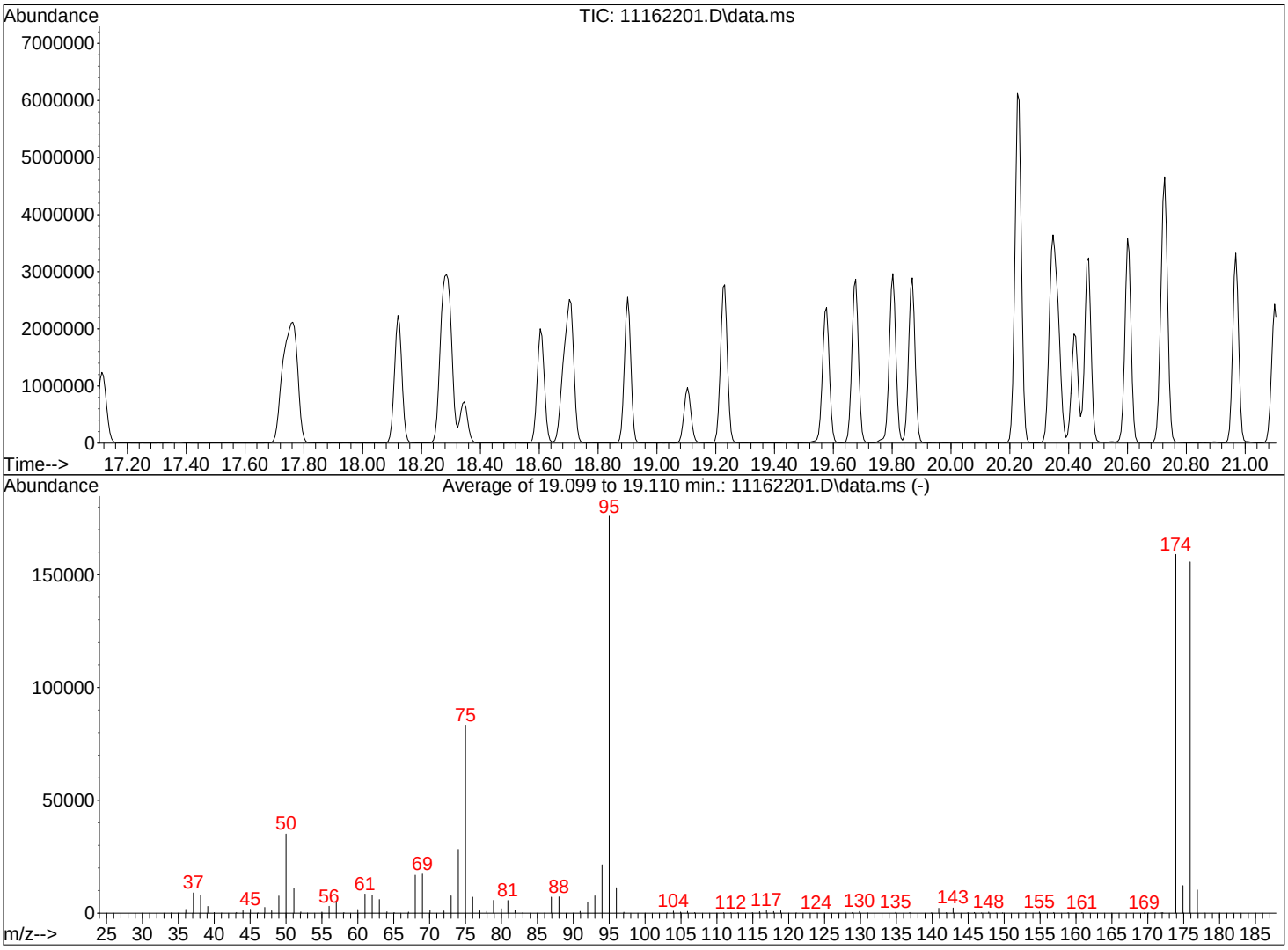
10/19/22

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	22.6	32283	PASS
75	95	30	66	54.2	77285	PASS
95	95	100	100	100.0	142680	PASS
96	95	5	9	6.7	9525	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	98.1	139955	PASS
175	174	4	9	7.8	10872	PASS
176	174	93	101	98.0	137117	PASS
177	176	5	9	6.5	8917	PASS

Data Path : I:\MS16\DATA\2022 11\16\
Data File : 11162201.D
Acq On : 16 Nov 2022 16:58
Operator : WA
Sample : CCV R16111622 25ng
Misc : S35-11092201/S35-11022206 (12/2)
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS16\METHODS\R16101922.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Oct 19 13:14:51 2022



AutoFind: Scans 2839, 2840, 2841; Background Corrected with Scan 2831

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	19.9	35040	PASS
75	95	30	66	47.3	83304	PASS
95	95	100	100	100.0	175979	PASS
96	95	5	9	6.4	11243	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	90.3	158997	PASS
175	174	4	9	7.7	12191	PASS
176	174	93	101	97.9	155669	PASS
177	176	5	9	6.6	10252	PASS

11/16/22

Injection Log

01160105

Directory: I:\MS16\DATA\2022_10\19\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	*Comment*
1	10/19/22 5:02	10192201.D	12.5ng BFB Std	S35-08012202	WA	2	*Passed*
2	10/19/22 5:36	10192202.D	0.1ng R16101922 ICAL Std	S35-08012202/S35-10172210 (11/16)	WA	13	***R16101922.M***
4	10/19/22 6:59	10192204.D	x0.5ng R16101922 ICAL Stdx-rerun	S35-08012202/S35-10172210 (11/16)	WA	13	
5	10/19/22 7:33	10192205.D	0.2ng R16101922 ICAL Std	S35-08012202/S35-10172210 (11/16)	WA	13	
6	10/19/22 8:08	10192206.D	1.0ng R16101922 ICAL Std	S35-08012202/S35-10172209 (11/16)	WA	14	
7	10/19/22 8:41	10192207.D	5.0ng R16101922 ICAL Std	S35-08012202/S35-10172209 (11/16)	WA	14	
8	10/19/22 9:15	10192208.D	25ng R16101922 ICAL Std	S35-08012202/S35-10172201 (11/16)	WA	2	
10	10/19/22 9:49	10192209.D	50ng R16101922 ICAL Std	S35-08012202/S35-10172201(11/16)	WA	2	
11	10/19/22 10:23	10192210.D	100ng R16101922 ICAL Std	S35-08012202/S35-10172201(11/16)	WA	2	
12	10/19/22 10:57	10192211.D	Blank	S35-08012202	WA	2	
13	10/19/22 11:32	10192212.D	0.5ng R16101922 ICAL Std	S35-08012202/S35-10172209 (11/16)	WA	14	
15	10/19/22 12:07	10192213.D	ICV R16101922_25ng	S35-08012202/S35-09262203 (10/26)	WA	2	*not used*
16	10/19/22 12:52	10192214.D	LCS R16101922_25ng_ICV	S35-08012202/S35-09262204 (10/26)	WA	15	*Passed*
	R16101922.M: good for low level compounds ranges from 0.1ng --> 100ng; except: vinyl acetate from 2.5ng --> 500ng,						
	Me-methacrylate, Benzyl-Cl, 1,2-DBCP and 1,2,4-TCB from 1.0ng --> 200ng and Naphthalene from 0.2ng --> 100ng						

10/27/22

Injection Log

01160106

Directory: I:\MS16\DATA\2022_11\16\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	*Comment*
1	11/16/22 16:58	11162201.D	CCV R16111622_25ng	S35-11092201/S35-11022206 (12/2)	WA	2	*Passed*
2	11/16/22 17:32	11162202.D	CCV C16111622_5ng	S35-11092201/S35-11152202 (12/15)	WA	16	*Passed*
3	11/16/22 18:06	11162203.D	MB R16111622_1000mL	S35-11092201	WA	2	*Passed*
4	11/16/22 18:40	11162204.D	P2205056-001 (1000mL)	S35-11092201	WA	9	
5	11/16/22 19:14	11162205.D	P2205056-002 (1000mL)	S35-11092201	WA	13	
6	11/16/22 19:48	11162206.D	P2205056-003 (1000mL)	S35-11092201	WA	14	
7	11/16/22 20:21	11162207.D	P2205056-004 (1000mL)	S35-11092201	WA	15	
8	11/16/22 20:55	11162208.D	LCS R16111622_25ng	S35-11092201/S35-10172204 (11/16)	WA	2	*Passed*
9	11/16/22 21:29	11162209.D	LCSD R16111622_25ng	S35-11092201/S35-10172204 (11/16)	WA	2	*Passed*
10	11/16/22 22:03	11162210.D	P2205014-001 (30mL)	S35-11092201	WA	8	
11	11/16/22 22:37	11162211.D	P2205014-002 (30mL)	S35-11092201	WA	6	
12	11/16/22 23:11	11162212.D	P2205014-002dup (30mL)	S35-11092201	WA	7	*Passed*
13	11/16/22 23:45	11162213.D	P2205014-003 (1000mL)	S35-11092201	WA	3	
14	11/17/22 0:19	11162214.D	P2205014-004 (1000mL)	S35-11092201	WA	4	
15	11/17/22 0:53	11162215.D	system	S35-11092201	WA	2	
16	11/17/22 1:26	11162216.D	P2205125-001 (1000mL)	S35-11092201	WA	1	
17	11/17/22 2:00	11162217.D	P2205125-002 (1000mL)	S35-11092201	WA	10	
18	11/17/22 2:34	11162218.D	P2205125-003 (1000mL)	S35-11092201	WA	5	
19	11/17/22 3:07	11162219.D	P2205125-004 (1000mL)	S35-11092201	WA	7	
20	11/17/22 4:05	11162220.D	system	S35-11092201	WA	2	
21	11/17/22 4:39	11162221.D	P2205083-009 (100mL)	S35-11092201	WA	11	
22	11/17/22 5:12	11162222.D	P2205083-010 (50mL)	S35-11092201	WA	12	*not used*
23	11/17/22 5:47	11162223.D	P2205083-010dil (15mL)	S35-11092201	WA	12	*not used*
24	11/17/22 6:21	11162224.D	P2205083-009dil (15mL)	S35-11092201	WA	11	
25	11/17/22 6:55	11162225.D	P2205083-010 (450mL)	S35-11092201	WA	12	*over diluted*
26	11/17/22 7:42	11162226.D	P2205083-012 (120mL)	S35-11092201	WA	4	
27	11/17/22 8:16	11162227.D	P2205083-010 (1000mL) pf2	S35-11092201	WA	12	
28	11/17/22 8:50	11162228.D	P2205083-011 (1000mL)	S35-11092201	WA	3	
29	11/17/22 9:24	11162229.D	P2205083-013 (1000mL)	S35-11092201	WA	5	
30	11/17/22 9:57	11162230.D	P2205083-014 (1000mL)	S35-11092201	WA	6	
31	11/17/22 10:32	11162231.D	P2205083-011dil (200mL)	S35-11092201	WA	3	
32	11/17/22 11:06	11162232.D	P2205083-015 (120mL)	S35-11092201	WA	7	
33	11/17/22 11:40	11162233.D	P2205083-016 (225mL)	S35-11092201	WA	8	
34	11/17/22 12:13	11162234.D	System	S35-11092201	WA	2	
	CCV : Propene out high						
	LCS : ethanol out high; LCSD : out high, within 130%						WA 11/18/22

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.

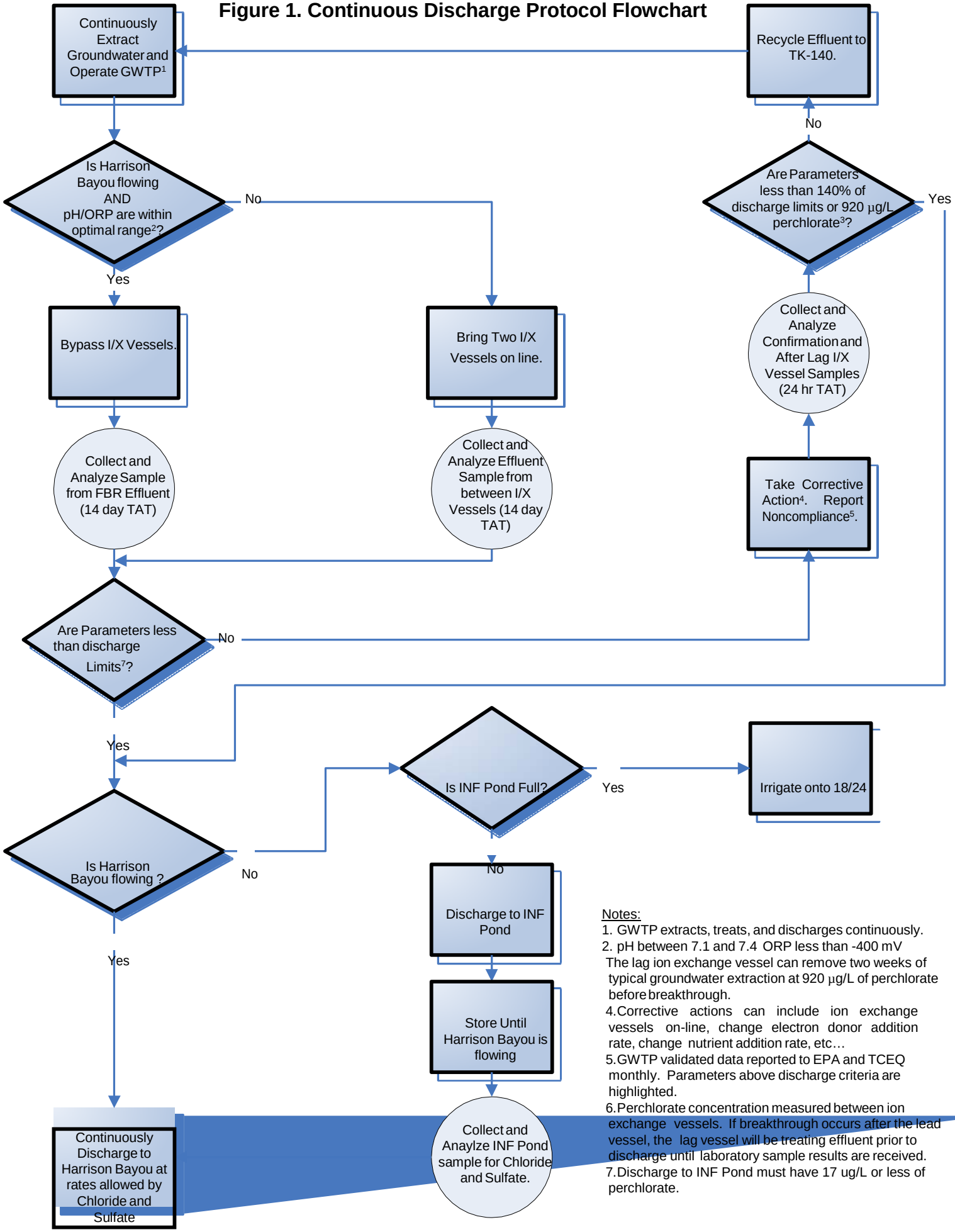
As soon as flow in Harrison Bayou returns, stored GWTP effluent from the INF Pond will be discharged. As with direct discharges from the GWTP to Harrison Bayou, the allowable flowrate of effluent from the INF Pond is calculated based upon the chloride and sulfate concentrations in the pond and the flow 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 - October 2022
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)	Mol Weight	Air Stripper		GWTP Ambient Air		Downwind		Mole Fraction Air Stripper	Mole Fraction GWTP Ambient Air	Mole Fraction Downwind
		µg/m^3	µg/m^3	µg/m^3			µg/m^3			g/mole	mol/m^3		mol/m^3		mol/m^3				
1,1-Dichloroethane	75-34-3	4,000	4,047	0.85	U	PASS	0.63	U	PASS	98.96	2.22312E-07	U	8.58933E-09	U	6.36621E-09	U	0.3%	0.8%	0.6%
1,1-Dichloroethene	75-35-4	210	714	0.87	U	PASS	0.64	U	PASS	96.94	2.99154E-07		8.97462E-09	U	6.60202E-09	U	0.4%	0.9%	0.7%
1,2-Dichloroethane	107-06-2	160	162	0.85	U	PASS	0.63	U	PASS	98.96	2.62732E-07		8.58933E-09	U	6.36621E-09	U	0.3%	0.8%	0.6%
Acetone	67-64-1	5,900	NA	**13**		PASS	**9.9**		PASS	58.08	3.78788E-06	U	2.23829E-07		1.70455E-07		5.0%	21.8%	17.4%
Benzene	71-43-2	170	575	0.81	U	PASS	**0.93**		PASS	78.11	2.68852E-07	U	1.037E-08	U	1.19063E-08		0.4%	1.0%	1.2%
Carbon disulfide	75-15-0	30	NA	1.8	U	PASS	**3.1**		PASS	76.139	6.17292E-07	U	2.3641E-08	U	4.0715E-08		0.8%	2.3%	4.1%
Chloroform	67-66-3	100	98	0.87	U	PASS	0.64	U	PASS	119.38	1.92662E-07	U	7.28765E-09	U	5.36103E-09	U	0.3%	0.7%	0.5%
cis-1,2-Dichloroethene	156-59-2	7,900	NA	**4.5**		PASS	0.61	U	PASS	96.95	1.65034E-05		4.64157E-08		6.2919E-09	U	21.6%	4.5%	0.6%
Methylene chloride	75-09-2	3,600	12,158	**2.0**		PASS	0.61	U	PASS	84.93	7.18239E-06		2.35488E-08		7.18239E-09	U	9.4%	2.3%	0.7%
Tetrachloroethene	127-18-4	2,000	6,782	0.84	U	PASS	0.61	U	PASS	165.83	1.62817E-07		5.06543E-09	U	3.67847E-09	U	0.2%	0.5%	0.4%
trans-1,2-Dichloroethene	156-60-5	7,900	NA	0.85	U	PASS	0.63	U	PASS	96.95	2.26921E-07	U	8.76741E-09	U	6.49819E-09	U	0.3%	0.9%	0.7%
Trichloroethene	79-01-6	540	537	**9.3**		PASS	0.61	U	PASS	131.39	2.73993E-05		7.07816E-08		4.64267E-09	U	35.9%	6.9%	0.5%
Vinyl chloride	75-01-4	20,000	66,460	0.84	U	PASS	0.61	U	PASS	62.498	1.60005E-06		1.34404E-08	U	9.76031E-09	U	2.1%	1.3%	1.0%
n-Hexane	110-54-3	5,300	6,336	**2**		PASS	**5.4**		PASS	86.07	2.55606E-07	U	1.85895E-08		6.27396E-08		0.3%	1.8%	6.4%
Styrene	100-42-5	110	21,725	0.81	U	PASS	0.59	U	PASS	104.15	2.01632E-07	U	7.77724E-09	U	5.66491E-09	U	0.3%	0.8%	0.6%
Toluene	108-88-3	640	15,074	**0.95**		PASS	**2.3**		PASS	92.14	2.38767E-07	U	1.03104E-08		2.4962E-08		0.3%	1.0%	2.5%
Ethylbenzene	100-41-4	740	86,844	0.84	U	PASS	0.61	U	PASS	106.17	2.0722E-07	U	7.91203E-09	U	5.74564E-09	U	0.3%	0.8%	0.6%
m,p-Xylenes	179601-23-1	180	7,382	1.8	U	PASS	1.3	U	PASS	106.17	4.42697E-07	U	1.69544E-08	U	1.22448E-08	U	0.6%	1.6%	1.2%
o-Xylene	95-47-6	1,600	7,382	0.84	U	PASS	0.61	U	PASS	106.17	2.0722E-07	U	7.91203E-09	U	5.74564E-09	U	0.3%	0.8%	0.6%
1,3-Dichlorobenzene	541-73-1	720	NA	0.84	U	PASS	0.61	U	PASS	147	1.4966E-07	U	5.71429E-09	U	4.14966E-09	U	0.2%	0.6%	0.4%
Propene (C3H6)	115-07-1	Asphyxiant	Asphyxiant	0.84	UJ	NA	**1.4**	**J**	NA	42.08	5.22814E-07		1.9962E-08		3.327E-08		0.7%	1.9%	3.4%
Dichlorodifluoromethane (CFC 12)	75-71-8	50,000	49,452	**2.4**		PASS	**2.5**		PASS	120.91	1.81954E-07	U	1.98495E-08		2.06765E-08		0.2%	1.9%	2.1%
Ethanol	64-17-5	18,800	NA	**18**	**J**	PASS	**16**	**J**	PASS	46.068	4.55848E-06	U	3.90727E-07		3.47313E-07		6.0%	38.0%	35.4%
Trichlorofluoromethane (CFC 11)	75-69-4	28,000	56,184	**1.3**		PASS	**1.7**		PASS	137.37	1.60151E-07	U	9.46349E-09		1.23753E-08		0.2%	0.9%	1.3%
Trichlorotrifluoroethane (CFC 113)	76-13-1	38,000	NA	**5.9**		PASS	**1.9**		PASS	187.38	1.01398E-05		3.14868E-08		1.01398E-08		13.3%	3.1%	1.0%
alpha-Pinene	80-56-8	60	3,499	**2.3**		PASS	**13**		PASS	136.24	1.6882E-07	U	1.6882E-08		9.54198E-08		0.2%	1.6%	9.7%
d-Limonene	5989-27-5	1,100	NA	0.81	U	PASS	**7.5**		PASS	136.24	1.5414E-07	U	5.94539E-09	U	5.50499E-08		0.2%	0.6%	5.6%
											7.6315E-05		1.02879E-06		9.81322E-07		100%	100%	100%

Notes:

(1) Sample collected over an 8-hour period on October 31, 2022, between 06:30 AM and 02:30 PM

(2) Sample collected over a 24-hour period beginning on October 31 2022, at 07:00 AM and ending on November 1, 2022 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).

PID ambient air at GWTP

(4) Conversion Factor from PID to µg/m^3

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

UJ - esimtated non-detect due to quality control issues

J - Estimated value between the detection limit and limit of quantitation and/or due to quality contol issues

Appendix G Table 2. Emission Stack Air Data - October 2022
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	22	U	1.80E-04	U	1.17E-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	**29**		4.75E-04		3.09E-04		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	**26**		4.26E-04		2.77E-04		5	PASS	40	ACGIH List	30 TAC 106.533(f)(1)(A)(ii)	2,000	14	2.9	PASS
Acetone	67-64-1	220	U	1.80E-03	U	1.17E-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	21	U	1.72E-04	U	1.12E-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	47	U	3.85E-04	U	2.50E-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	23	U	1.89E-04	U	1.23E-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	**1,600**		2.62E-02		1.71E-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	**610**		1.00E-02		6.50E-03		5	PASS	26	106.262 List	30 TAC 106.533(f)(1)(A)(ii)	2,000	14	1.9	PASS
Tetrachloroethene	127-18-4	**27**		4.43E-04		2.88E-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	22	U	1.80E-04	U	1.17E-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	**3,600**		5.90E-02		3.84E-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	**100**		1.64E-03		1.07E-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	22	U	1.80E-04	U	1.17E-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	21	U	1.72E-04	U	1.12E-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	22	U	1.80E-04	U	1.17E-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	22	U	1.80E-04	U	1.17E-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	47	U	3.85E-04	U	2.50E-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	22	U	1.80E-04	U	1.17E-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	22	U	1.80E-04	U	1.17E-04	U	5	PASS	(5)	--	30 TAC 106.533(f)(1)(A)(i)	2,000	14	1.0	PASS
Propene (C3H6)	115-07-1	22	UJ	3.61E-04		2.34E-04		5	PASS	(5)	--	30 TAC 106.533(f)(1)(A)(i)	2,000	14	6.0	PASS
Dichlorodifluoromethane (CFC 12)	75-71-8	22	U	1.80E-04	U	1.17E-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	210	U	1.72E-03	U	1.12E-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	22	U	1.80E-04	U	1.17E-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	**1,900**		3.12E-02		2.02E-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	23	U	1.89E-04	U	1.23E-04	U	5	PASS	(5)	--	30 TAC 106.533(f)(1)(A)(i)	2,000	14	1.0	PASS
d-Limonene	5989-27-5	21	U	1.72E-04	U	1.12E-04	U	5	PASS	(5)	--	30 TAC 106.533(f)(1)(A)(i)	2,000	14	1.0	PASS
	TOTAL			0.137												

Notes:
(1) Sample collected on October 31, 2022. 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 30TAC 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~~
UJ - esimtated non-detect due to quality control issues

Appendix G Table 3. PID Readings - 4th Quarter 2022
Longhorn Army Ammunition Plant
Groundwater Treatment Plant

Date	Time	Location	Air Flow Rate at Blower	Instrument ID	Person Collecting	PID Reading	Weather Conditions
10/3/2022	8:00	Outside GWTP Office	2563 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm	Clear 56°F
10/3/2022	8:00	Downwind	2563 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm	Clear 56°F
10/3/2022	8:00	Stripper	2563 ACFM	MiniRAE 3000	Scott Beesinger	Max. 22.1 ppm Steady State 6.8 ppm	Clear 56°F
10/3/2022	14:00	Outside GWTP Office	2384 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 84°F
10/3/2022	14:00	Downwind	2384 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 84°F
10/3/2022	14:00	Stripper	2384 ACFM	MiniRAE 3000	Kennie Moore	Max. 24.5 ppm Steady State 7.4 ppm	Clear 84°F
10/6/2022	7:30	Outside GWTP Office	2452 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm	Clear 54°F
10/6/2022	7:30	Downwind	2452 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm	Clear 54°F
10/6/2022	7:30	Stripper	2452 ACFM	MiniRAE 3000	Scott Beesinger	Max. 21.6 ppm Steady State 5.6 ppm	Clear 54°F
10/6/2022	9:00	Outside GWTP Office	2310 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 56°F
10/6/2022	9:00	Downwind	2310 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 56°F
10/6/2022	9:00	Stripper	2310 ACFM	MiniRAE 3000	Kennie Moore	Max. 23.6 ppm Steady State 6.2 ppm	Clear 56°F
10/10/2022	8:00	Outside GWTP Office	2562 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 61°F
10/10/2022	8:00	Downwind	2562 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 61°F
10/10/2022	8:00	Stripper	2562 ACFM	MiniRAE 3000	Kennie Moore	Max. 22.1 ppm Steady State 6.1 ppm	Clear 61°F
10/10/2022	14:00	Outside GWTP Office	2347 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 86°F
10/10/2022	14:00	Downwind	2347 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 86°F
10/10/2022	14:00	Stripper	2347 ACFM	MiniRAE 3000	Kennie Moore	Max. 24.2 ppm Steady State 6.9 ppm	Clear 86°F
10/13/2022	7:30	Outside GWTP Office	2426 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm	Clear 52°F
10/13/2022	7:30	Downwind	2426 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm	Clear 52°F
10/13/2022	7:30	Stripper	2426 ACFM	MiniRAE 3000	Scott Beesinger	Max. 22.6 ppm Steady State 6.1 ppm	Clear 52°F
10/13/2022	9:00	Outside GWTP Office	2379 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 67°F
10/13/2022	9:00	Downwind	2379 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 67°F
10/13/2022	9:00	Stripper	2379 ACFM	MiniRAE 3000	Kennie Moore	Max. 23.7 ppm Steady State 6.6 ppm	Clear 67°F
10/17/2022	8:00	Outside GWTP Office	2495 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm	Clear 63°F
10/17/2022	8:00	Downwind	2495 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm	Clear 63°F
10/17/2022	8:00	Stripper	2495 ACFM	MiniRAE 3000	Scott Beesinger	Max. 23.8 ppm Steady State 7.1 ppm	Clear 63°F
10/17/2022	14:00	Outside GWTP Office	2289 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 72°F
10/17/2022	14:00	Downwind	2289 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 72°F
10/17/2022	14:00	Stripper	2289 ACFM	MiniRAE 3000	Kennie Moore	Max. 21.1 ppm Steady State 5.7 ppm	Clear 72°F
10/20/2022	7:30	Outside GWTP Office	2503 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm	Clear 40°F
10/20/2022	7:30	Downwind	2503 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm	Clear 40°F
10/20/2022	7:30	Stripper	2503 ACFM	MiniRAE 3000	Scott Beesinger	Max. 21.6 ppm Steady State 5.9 ppm	Clear 40°F
10/20/2022	9:00	Outside GWTP Office	2361 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 50°F
10/20/2022	9:00	Downwind	2361 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 50°F
10/20/2022	9:00	Stripper	2361 ACFM	MiniRAE 3000	Kennie Moore	Max. 22.9 ppm Steady State 6.5 ppm	Clear 50°F
10/24/2022	8:00	Outside GWTP Office	2499 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm	Clear 72°F
10/24/2022	8:00	Downwind	2499 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm	Clear 72°F

Appendix G Table 3. PID Readings - 4th Quarter 2022
Longhorn Army Ammunition Plant
Groundwater Treatment Plant

10/24/2022	8:00	Stripper	2499 ACFM	MiniRAE 3000	Scott Beesinger	Max. 22.7 ppm	Steady State 6.5 ppm	Clear 72°F
10/24/2022	14:00	Outside GWTP Office	2385 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm		Clear 77°F
10/24/2022	14:00	Downwind	2385 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm		Clear 77°F
10/24/2022	14:00	Stripper	2385 ACFM	MiniRAE 3000	Kennie Moore	Max. 24.9 ppm	Steady State 7.2 ppm	Clear 77°F
10/27/2022	7:30	Outside GWTP Office	2502 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm		Clear 39°F
10/27/2022	7:30	Downwind	2502 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm		Clear 39°F
10/27/2022	7:30	Stripper	2502 ACFM	MiniRAE 3000	Scott Beesinger	Max. 22.0 ppm	Steady State 6.0 ppm	Clear 39°F
10/27/2022	9:00	Outside GWTP Office	2310 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm		Clear 49°F
10/27/2022	9:00	Downwind	2310 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm		Clear 49°F
10/27/2022	9:00	Stripper	2310 ACFM	MiniRAE 3000	Kennie Moore	Max. 23.2 ppm	Steady State 6.3 ppm	Clear 49°F
10/31/2022	8:00	Outside GWTP Office	2474 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm		Clear 52°F
10/31/2022	8:00	Downwind	2474 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm		Clear 52°F
10/31/2022	8:00	Stripper	2474 ACFM	MiniRAE 3000	Scott Beesinger	Max. 23.8 ppm	Steady State 6.7 ppm	Clear 52°F
10/31/2022	14:00	Outside GWTP Office	2383 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm		Clear 76°F
10/31/2022	14:00	Downwind	2383 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm		Clear 76°F
10/31/2022	14:00	Stripper	2383 ACFM	MiniRAE 3000	Kennie Moore	Max. 21.6 ppm	Steady State 6.1 ppm	Clear 76°F
11/3/2022	7:30	Outside GWTP Office	2562 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm		Clear 59°F
11/3/2022	7:30	Downwind	2562 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm		Clear 59°F
11/3/2022	7:30	Stripper	2562 ACFM	MiniRAE 3000	Kennie Moore	Max. 22.6 ppm	Steady State 6.1 ppm	Clear 59°F
11/3/2022	9:00	Outside GWTP Office	2349 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm		Clear 61°F
11/3/2022	9:00	Downwind	2349 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm		Clear 61°F
11/3/2022	9:00	Stripper	2349 ACFM	MiniRAE 3000	Kennie Moore	Max. 21.8 ppm	Steady State 5.2 ppm	Clear 61°F
11/7/2022	8:00	Outside GWTP Office	2568 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm		Cloudy 69°F
11/7/2022	8:00	Downwind	2568 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm		Cloudy 69°F
11/7/2022	8:00	Stripper	2568 ACFM	MiniRAE 3000	Kennie Moore	Max. 23.8 ppm	Steady State 6.7 ppm	Cloudy 69°F
11/7/2022	14:00	Outside GWTP Office	2386 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm		Cloudy 80°F
11/7/2022	14:00	Downwind	2386 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm		Cloudy 80°F
11/7/2022	14:00	Stripper	2386 ACFM	MiniRAE 3000	Kennie Moore	Max. 21.6 ppm	Steady State 6.1 ppm	Cloudy 80°F
11/10/2022	7:30	Outside GWTP Office	2436 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm		Clear 61°F
11/10/2022	7:30	Downwind	2436 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm		Clear 61°F
11/10/2022	7:30	Stripper	2436 ACFM	MiniRAE 3000	Kennie Moore	Max. 23.3 ppm	Steady State 6.7 ppm	Clear 61°F
11/10/2022	9:00	Outside GWTP Office	2361 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm		Clear 63°F
11/10/2022	9:00	Downwind	2361 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm		Clear 63°F
11/10/2022	9:00	Stripper	2361 ACFM	MiniRAE 3000	Kennie Moore	Max. 22.1 ppm	Steady State 5.3 ppm	Clear 63°F
11/14/2022	8:00	Outside GWTP Office	2502 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm		Cloudy 38°F
11/14/2022	8:00	Downwind	2502 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm		Cloudy 38°F
11/14/2022	8:00	Stripper	2502 ACFM	MiniRAE 3000	Scott Beesinger	Max. 23.3 ppm	Steady State 6.4 ppm	Cloudy 38°F
11/14/2022	14:00	Outside GWTP Office	2321 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm		Rain 46°F
11/14/2022	14:00	Downwind	2321 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm		Rain 46°F
11/14/2022	14:00	Stripper	2321 ACFM	MiniRAE 3000	Kennie Moore	Max. 21.5 ppm	Steady State 5.8 ppm	Rain 46°F

Appendix G Table 3. PID Readings - 4th Quarter 2022
Longhorn Army Ammunition Plant
Groundwater Treatment Plant

12/1/2022	8:00	Outside GWTP Office	2564 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Cloudy 40°F
12/1/2022	8:00	Downwind	2564 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Cloudy 40°F
12/1/2022	8:00	Stripper	2564 ACFM	MiniRAE 3000	Kennie Moore	Max. 22.9 ppm Steady State 6.3 ppm	Cloudy 40°F
12/1/2022	14:00	Outside GWTP Office	2256 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Cloudy 57°F
12/1/2022	14:00	Downwind	2256 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Cloudy 57°F
12/1/2022	14:00	Stripper	2256 ACFM	MiniRAE 3000	Kennie Moore	Max. 21.3 ppm Steady State 5.2 ppm	Cloudy 57°F
12/7/2022	8:00	Outside GWTP Office	2562 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 71°F
12/7/2022	8:00	Downwind	2562 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 71°F
12/7/2022	8:00	Stripper	2562 ACFM	MiniRAE 3000	Kennie Moore	Max. 22.6 ppm Steady State 6.1 ppm	Clear 71°F
12/7/2022	14:00	Outside GWTP Office	2269 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 82°F
12/7/2022	14:00	Downwind	2269 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 82°F
12/7/2022	14:00	Stripper	2269 ACFM	MiniRAE 3000	Kennie Moore	Max. 21.4 ppm Steady State 5.3 ppm	Clear 82°F
12/21/2022	9:00	Outside GWTP Office	2362 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 35°F
12/21/2022	9:00	Downwind	2362 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 35°F
12/21/2022	9:00	Stripper	2362 ACFM	MiniRAE 3000	Kennie Moore	Max. 22.3 ppm Steady State 5.9 ppm	Clear 35°F
8/29/2022	8:00	Stripper	2503 ACFM	MiniRAE 3000	Scott Beesinger	Max. 22.7 ppm Steady State 5.6 ppm	Clear 78°F
8/29/2022	14:00	Outside GWTP Office	2316 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Cloudy 84°F
8/29/2022	14:00	Downwind	2316 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Cloudy 84°F
8/29/2022	14:00	Stripper	2316 ACFM	MiniRAE 3000	Kennie Moore	Max. 24.5 ppm Steady State 6.7 ppm	Cloudy 84°F
9/1/2022	7:00	Outside GWTP Office	2510 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm	Cloudy 76°F
9/1/2022	7:00	Downwind	2510 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm	Cloudy 76°F
9/1/2022	7:00	Stripper	2510 ACFM	MiniRAE 3000	Scott Beesinger	Max. 21.7 ppm Steady State 5.5 ppm	Cloudy 76°F
9/1/2022	9:00	Outside GWTP Office	2463 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Cloudy 83°F
9/1/2022	9:00	Downwind	2463 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Cloudy 83°F
9/1/2022	9:00	Stripper	2463 ACFM	MiniRAE 3000	Kennie Moore	Max. 20.9 ppm Steady State 5.0 ppm	Cloudy 83°F
9/6/2022	8:00	Outside GWTP Office	2516 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm	Clear 73°F
9/6/2022	8:00	Downwind	2516 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm	Clear 73°F
9/6/2022	8:00	Stripper	2516 ACFM	MiniRAE 3000	Scott Beesinger	Max. 23.2 ppm Steady State 6.3 ppm	Clear 73°F
9/6/2022	14:00	Outside GWTP Office	2403 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 90°F
9/6/2022	14:00	Downwind	2403 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 90°F
9/6/2022	14:00	Stripper	2403 ACFM	MiniRAE 3000	Kennie Moore	Max. 22.4 ppm Steady State 5.3 ppm	Clear 90°F
9/8/2022	7:00	Outside GWTP Office	2455 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm	Clear 69°F
9/8/2022	7:00	Downwind	2455 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm	Clear 69°F
9/8/2022	7:00	Stripper	2455 ACFM	MiniRAE 3000	Scott Beesinger	Max. 24.7 ppm Steady State 7.1 ppm	Clear 69°F
9/8/2022	9:00	Outside GWTP Office	2300 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 74°F
9/8/2022	9:00	Downwind	2300 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 74°F
9/8/2022	9:00	Stripper	2300 ACFM	MiniRAE 3000	Kennie Moore	Max. 22.9 ppm Steady State 6.4 ppm	Clear 74°F
9/12/2022	8:00	Outside GWTP Office	2464 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm	Clear 68°F
9/12/2022	8:00	Downwind	2464 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm	Clear 68°F

Appendix G Table 3. PID Readings - 4th Quarter 2022
Longhorn Army Ammunition Plant
Groundwater Treatment Plant

9/12/2022	8:00	Stripper	2464 ACFM	MiniRAE 3000	Scott Beesinger	Max. 21.1 ppm	Steady State 5.3 ppm	Clear 68°F
9/12/2022	14:00	Outside GWTP Office	2362 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm		Clear 82°F
9/12/2022	14:00	Downwind	2362 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm		Clear 82°F
9/12/2022	14:00	Stripper	2362 ACFM	MiniRAE 3000	Kennie Moore	Max. 23.3 ppm	Steady State 6.1 ppm	Clear 82°F
9/19/2022	8:00	Outside GWTP Office	2418 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm		Clear 73°F
9/19/2022	8:00	Downwind	2418 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm		Clear 73°F
9/19/2022	8:00	Stripper	2418 ACFM	MiniRAE 3000	Scott Beesinger	Max. 22.4 ppm	Steady State 5.6 ppm	Clear 73°F
9/19/2022	14:00	Outside GWTP Office	2322 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm		Clear 92°F
9/19/2022	14:00	Downwind	2322 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm		Clear 92°F
9/19/2022	14:00	Stripper	2322 ACFM	MiniRAE 3000	Kennie Moore	Max. 24.7 ppm	Steady State 6.9 ppm	Clear 92°F
9/22/2022	7:00	Outside GWTP Office	2467 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm		Clear 66°F
9/22/2022	7:00	Downwind	2467 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm		Clear 66°F
9/22/2022	7:00	Stripper	2467 ACFM	MiniRAE 3000	Scott Beesinger	Max. 22.8 ppm	Steady State 6.3 ppm	Clear 66°F
9/22/2022	9:30	Outside GWTP Office	2297 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm		Clear 75°F
9/22/2022	9:30	Downwind	2297 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm		Clear 75°F
9/22/2022	9:30	Stripper	2297 ACFM	MiniRAE 3000	Kennie Moore	Max. 26.7 ppm	Steady State 6.9 ppm	Clear 75°F
9/26/2022	8:00	Outside GWTP Office	2475 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm		Clear 65°F
9/26/2022	8:00	Downwind	2475 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm		Clear 65°F
9/26/2022	8:00	Stripper	2475 ACFM	MiniRAE 3000	Scott Beesinger	Max. 23.9 ppm	Steady State 6.9 ppm	Clear 65°F
9/26/2022	14:00	Outside GWTP Office	2326 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm		Clear 85°F
9/26/2022	14:00	Downwind	2326 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm		Clear 85°F
9/26/2022	14:00	Stripper	2326 ACFM	MiniRAE 3000	Kennie Moore	Max. 21.6 ppm	Steady State 5.7 ppm	Clear 85°F
9/29/2022	7:30	Outside GWTP Office	2454 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm		Clear 61°F
9/29/2022	7:30	Downwind	2454 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm		Clear 61°F
9/29/2022	7:30	Stripper	2454 ACFM	MiniRAE 3000	Scott Beesinger	Max. 22.4 ppm	Steady State 6.1 ppm	Clear 61°F
9/29/2022	10:00	Outside GWTP Office	2372 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm		Clear 65°F
9/29/2022	10:00	Downwind	2372 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm		Clear 65°F
9/29/2022	10:00	Stripper	2372 ACFM	MiniRAE 3000	Kennie Moore	Max. 23.9 ppm	Steady State 6.8 ppm	Clear 65°F

EQUIPMENT CALIBRATION DAILY LOG

Date: 10/3/22

Project Number: NW013121.0150

Project Name: LHAAP-GWTP

Recorded By: Scott Beasinger

PID

Model: Mini RAE 3000

Equipment ID #:

Built: 11/8 [illegible] mav

	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 Value: TO ZERO SB	Time: Initials: Value:	Time: Initials: Value:
Second Point Calibration	Vapor conc. (ppm)	100 ppm (Isobutylene)	12/28/23	JCB-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					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 (Auto)	pH	4.01			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:	
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)	58.7			Value:	Value:	Value:
	Turbidity (NTU)	100			Value:	Value:	Value:

Additional Remarks:

01160124

EQUIPMENT CALIBRATION DAILY LOG

Date: 10/6/22

Project Number: NW01312.0150

Project Name: LHAAP-GWTP

Recorded By: Scott Beasinger

PID

Model: Mini RAE 3000 Built: 11/8 [illegible]

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: 0645 Initials: SB	Time: Initials:	Time: Initials:
Second Point Calibration	Vapor conc. (ppm)	100 ppm (isobutylene)	12/28/23	JCB-250n 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					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)
First Point Calibration (Auto)					Time: Initials:	Time: Initials:	Time: 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:	
Second Point Calibration	pH	9.00			Value:	Value:	Value:
	Conductivity (mS/cm)	99.7			Value:	Value:	Value:
	Turbidity (NTU)	100			Value:	Value:	Value:
Third Point Calibration	pH	9.00			Value:	Value:	Value:
	Conductivity (mS/cm)	52.7			Value:	Value:	Value:
	Turbidity (NTU)	100			Value:	Value:	Value:

Additional Remarks:

EQUIPMENT CALIBRATION DAILY LOG

Date: 10/10/22

Project Number: NW01312.0150

Project Name: LHAAP-GWTP

Recorded By: Scott Beasinger

PID

Model: Mini RAE 3000

Equipment ID #: Built: 11/8 [illegible] mfd

	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	Time: Initials:	Time: Initials:
Second Point Calibration	Vapor conc. (ppm)	100 ppm (isobutylene)	12/28/23	JCB-250 100-20	Value: TO ZERO 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	O_2 (%)				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)	8.9-9.1 (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)	58.7			Value:	Value:	Value:
	Turbidity (NTU)	100			Value:	Value:	Value:

Additional Remarks:

EQUIPMENT CALIBRATION DAILY LOG

Date: 10/13/22

Project Number: NW013121.0150

Project Name: LHAAP-GWTP

Recorded By: Scott Beasinger

PID

Model: Mini RAE 3000 Built: 11/8 ~~1995~~ mav

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: 0620 Initials: SB	Time: Initials:	Time: Initials:
Second Point Calibration	Vapor conc. (ppm)	100 ppm (isobutylene)	12/28/23	JCB-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: 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 (4 units)	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:	Value:	Value:
Second Point Calibration	pH	9.86			Value:	Value:	Value:
	Conductivity (mS/cm)	58.7			Value:	Value:	Value:
	Turbidity (NTU)	100			Value:	Value:	Value:
Third Point Calibration	pH	4.16			Value:	Value:	Value:
	Conductivity (mS/cm)	52.7			Value:	Value:	Value:
	Turbidity (NTU)	100			Value:	Value:	Value:

Additional Remarks:

EQUIPMENT CALIBRATION DAILY LOG

Date: 10/17/22

Project Number: NW013121.0150

Project Name: LHAAP-GWTP

Recorded By: Scott Beasinger

PID

Model: Mini RAE 3000

Equipment ID #:

Bulb: 11.8 ~~10.6~~ eV

	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: 0615 Initials: SB	Time: Initials:	Time: Initials:
Second Point Calibration	Vapor conc. (ppm)	100 ppm (isobutylene)	12/28/23	JCB-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: 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 (4 only)	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	Value:	Value:	Value:
Second Pt. Calibration	pH	9.86			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)	52.7			Value:	Value:	Value:
	Turbidity (NTU)	100			Value:	Value:	Value:

Additional Parameters:

EQUIPMENT CALIBRATION DAILY LOG

Date: 10/20/22

Project Number: NW01312.0150

Project Name: LHAAP-GWTP

Recorded By: Scott Beggs, NGAR

PID

Model: Mini RAE 3000

Equipment ID #: Batt: 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: 0640 Initials: SB	Time: Initials:	Time: Initials:
Second Point Calibration	Vapor conc. (ppm)	100 ppm (isobutylene)	12/28/23	JCB-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					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 (Auto)	pH	4.00			Value:	Value:	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:	
Second Point Calibration	pH	6.86			Value:	Value:	Value:
	Conductivity (mS/cm)	53.7			Value:	Value:	Value:
	Turbidity (NTU)	100			Value:	Value:	Value:
Third Point Calibration	pH	9.18			Value:	Value:	Value:
	Conductivity (mS/cm)	52.7			Value:	Value:	Value:
	Turbidity (NTU)	100			Value:	Value:	Value:

Additional Remarks:

01160129

EQUIPMENT CALIBRATION DAILY LOG

Date: 10/24/22

Project Number: NW01312.0150

Project Name: LHAAP-GWTP

Recorded By: Scott Beggs/NGR

PID

Model: Mini RAE 3000

Equipment ID #: [illegible]

Bulb: 11.8 eV

	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: 0635 Initials: SB	Time: Initials:	Time: Initials:
Second Point Calibration	Vapor conc. (ppm)	100 ppm (isobutylene)	12/28/23	JCB-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)
					Time:	Time:	Time:
					Initials:	Initials:	Initials:
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 point only)	Additional Calib./Check (if necessary)
					Time:	Time:	Time:
					Initials:	Initials:	Initials:
First Point Calibration (Auto)	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:
Second Pt. Calibration (Manual)	pH	9.86			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)	52.7			Value:	Value:	Value:
	Turbidity (NTU)	100			Value:	Value:	Value:

Additional Remarks:

EQUIPMENT CALIBRATION DAILY LOG

Date: 10/27/22

Project Number: NWO 312.0150

Project Name: LHAAP-GWTP

Recorded By: Scott Beasinger

PID

Model: Mini RAE 3000

Equipment ID #: Bulb: 11.8 ~~10.6~~ ev

	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	Time: Initials:	Time: Initials:
Second Point Calibration	Vapor conc. (ppm)	100 ppm (Isobutylene)	12/28/23	JCB-250 100-20	Value: TO ZERO SB 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: Initials:	Time: Initials:	Time: Initials:
	O_2 (%)				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: Initials:	Time: Initials:	Time: Initials:
First Point Calibration (Auto)	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:	
Second Pt. 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)	52.7			Value:	Value:	Value:
	Turbidity (NTU)	100			Value:	Value:	Value:

Additional Remarks:

EQUIPMENT CALIBRATION DAILY LOG

Date: 10/31/22
Project Number: NW01312.0150
Project Name: LHAAP-GWTP
Recorded By: Kennia Moore

PID

Model: MiNi RAE 3000
Equipment ID #: Bulk: 10.6 eV

	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: KM Value: TO ZERO KM	Time: Initials: Value:	Time: Initials: Value:
Second Point Calibration	Vapor conc. (ppm)	100 ppm (Isobutylene)	12/28/23	SCB-250-100-20	Value: KM	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 point only)	Additional Calib./Check (if necessary)
First Point Calibration (Auto)	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)	8.3-9.1 (ambient air)	NA	NA	Value:	Value:	Value:
Second Point Calibration	pH	6.86			Value:	Value:	Value:
	Conductivity (mS/cm)	53.7			Value:	Value:	Value:
	Turbidity (NTU)	100			Value:	Value:	Value:
Third Point Calibration	pH	9.18			Value:	Value:	Value:
	Conductivity (mS/cm)	53.7			Value:	Value:	Value:
	Turbidity (NTU)	100			Value:	Value:	Value:

Additional Remarks:

EQUIPMENT CALIBRATION DAILY LOG

Date: 11/3/22

Project Number: NW01312.0150

Project Name: LHAAP - GWTP

Recorded By: Kennia Moora

PID

Model: MiniRAE 3000

Equipment ID #:

Built: 11.8 eV

	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: KM Value: TO ZERO KM	Time: Initials: Value:	Time: Initials: Value:
Second Point Calibration	Vapor conc. (ppm)	100 ppm (isobutylene)	12/28/23	SCB-250-100-20	Value: KM	Value:	Value:

COMB. GAS/O_2 METER

Model:

Equipment ID #:

	Parameter	Standard	Exp. Date	Lot #	Morning Calibration	Evening Check	Additional Calib./Check (if necessary)
					Time: Initials:	Time: Initials:	Time: Initials:
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 point only)	Additional Calib./Check (if necessary)
					Time: Initials:	Time: Initials:	Time: Initials:
First Point Calibration (Yearly)	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:
Second Point Calibration	pH	9.86			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)	53.7			Value:	Value:	Value:
	Turbidity (NTU)	100			Value:	Value:	Value:

Additional Remarks:

EQUIPMENT CALIBRATION DAILY LOG

Date: 11/7/22

Project Number: NW01312.0150

Project Name: LHAAP-GWTP

Recorded By: Kennia Moora

PID

Model: MiNi RAE 3000 Built: 11.8

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: 0625 Initials: KM Value: TO ZARO KM	Time: Initials: Value:	Time: Initials: Value:
Second Point Calibration	Vapor conc. (ppm)	100 ppm (Isobutylene)	12/28/23	SCB-250-100-20	Value: KM	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: Initials:	Time: Initials:	Time: 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: Initials:	Time: Initials:	Time: Initials:
First Point Calibration (Auto)	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:	
Second Point Calibration	pH	6.86			Value:	Value	Value
	Conductivity (mS/cm)	53.7			Value:	Value:	Value:
	Turbidity (NTU)	100			Value:	Value:	Value:
Third Point Calibration	pH	9.18			Value:	Value:	Value:
	Conductivity (mS/cm)	53.7			Value:	Value:	Value:
	Turbidity (NTU)	100			Value:	Value:	Value:

Additional Remarks:

EQUIPMENT CALIBRATION DAILY LOG

Date: 11/10/22

Project Number: NW01312.0150

Project Name: LHAAP - GWTP

Recorded By: Kendra Moore

PID

Model: MINI RAE 3000 Built: 11/8

Equipment ID #:

	Parameter	Standard	Exp. Date	Lot #	Morning Calibration	Evening Check	Additional Calib./Check (if necessary)
First Point Calibration					Time: 0630	Time:	Time:
	Vapor conc. (ppm)	0.0 (ambient air)	NA	NA	Initials: KM	Initials:	Initials:
Second Point Calibration					Value: TO ZERO KM	Value:	Value:
	Vapor conc. (ppm)	100 ppm (Isobutylene)	12/28/23	SCB-250-100-20	Value: KM	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					Time:	Time:	Time:
	O2 (%)				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 point only)	Additional Calib./Check (if necessary)
First Point Calibration (Check)					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)	8.3-9.1 (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)	52.7			Value:	Value:	Value:
	Turbidity (NTU)	100			Value:	Value:	Value:

Additional Remarks:

01160135

EQUIPMENT CALIBRATION DAILY LOG

Date: 11/4/22

Project Number: NWO 1312.0150

Project Name: LHAAP-GWTP

Recorded By: Scott Beasinger

PID

Model: Mini RAE 3000

Equipment ID #:

Built: 11/8 [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	JCB-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					Time: Initials:	Time: Initials:	Time: Initials:
	O2 (%)				Value:	Value:	Value:
	% or % 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 (Auto)					Time: Initials:	Time: Initials:	Time: Initials:
	pH	4.00			Value:	Value:	Value:
	Conductivity (mS/cm)	4.49			Value:	Value:	Value:
	Turbidity (NTU)	0			Value:	Value:	Value:
	DO (mg/L)	8.9-9.1 (ambient air)	NA	NA	Value:	Value:	
Second Point Calibration	pH	9.86			Value:	Value:	Value:
	Conductivity (mS/cm)	99.7			Value:	Value:	Value:
	Turbidity (NTU)	100			Value:	Value:	Value:
Third Point Calibration	pH	9.18			Value:	Value:	Value:
	Conductivity (mS/cm)	52.7			Value:	Value:	Value:
	Turbidity (NTU)	100			Value:	Value:	Value:

Additional Remarks:

EQUIPMENT CALIBRATION DAILY LOG

Date: 11/28/22

Project Number: NW013121.0150

Project Name: LHAAP-GWTP

Recorded By: Scott Beasinger

PID

Model: MiniRAE 3000

Equipment ID #:

Bulb: 10.6 eV

	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	JCB-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: 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 (Auto)	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)	8.3-9.1 (ambient air)	NA	NA	Value:	Value:	Value:
Second Point Calibration (Auto)	pH	9.86			Value:	Value:	Value:
	Conductivity (mS/cm)	53.7			Value:	Value:	Value:
	Turbidity (NTU)	100			Value:	Value:	Value:
Third Point Calibration	pH	9.18			Value:	Value:	Value:
	Conductivity (mS/cm)	52.7			Value:	Value:	Value:
	Turbidity (NTU)	100			Value:	Value:	Value:

Additional Remarks:

01160137

EQUIPMENT CALIBRATION DAILY LOG

Date: 12/1/22

Project Number: NW01312.0150

Project Name: LHAAP-GWTP

Recorded By: Scott BEESINGER

PID

Model: Mini RAE 3000 Built: 11.8 mev

Equipment ID #:

	Parameter	Standard	Exp. Date	Lot #	Morning Calibration	Evening Check	Additional Calib./Check (if necessary)
First Point Calibration					Time: 0635	Time:	Time:
					Initials: SB	Initials:	Initials:
	Vapor conc. (ppm)	0.0 (ambient air)	NA	NA	Value: TO ZERO SB	Value:	Value:
Second Point Calibration	Vapor conc. (ppm)	100 ppm (isobutylene)	12/28/23	JCB-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					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 (Auto)	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:
Second Point Calibration	pH	9.88			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)	52.7			Value:	Value:	Value:
	Turbidity (NTU)	100			Value:	Value:	Value:

Additional Remarks:

01160138

EQUIPMENT CALIBRATION DAILY LOG

Date: 12/7/22

Project Number: NW01312.0150

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	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	JCB-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: 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 (Auto)	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)	8.3-8.1 (ambient air)	NA	NA	Value:	Value:	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	9.96			Value:	Value:	Value:
	Conductivity (mS/cm)	52.7			Value:	Value:	Value:
	Turbidity (NTU)	100			Value:	Value:	Value:

Additional Remarks:

EQUIPMENT CALIBRATION DAILY LOG

Date: 12/12/22

Project Number: NW013I2.0150

Project Name: LHAAP-GWTP

Recorded By: Scott Beasinger

PID

Model: Mini RAE 3000 Built: 11/8

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	JCB-250 100-20	Value: TO ZERO 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 point only)	Additional Calib./Check (if necessary)
First Point Calibration (Auto)	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	Value:	Value:	
Second Point Calibration	pH	6.86			Value:	Value:	Value:
	Conductivity (mS/cm)	99.7			Value:	Value:	Value:
	Turbidity (NTU)	100			Value:	Value:	Value:
Third Point Calibration	pH	9.18			Value:	Value:	Value:
	Conductivity (mS/cm)	52.7			Value:	Value:	Value:
	Turbidity (NTU)	100			Value:	Value:	Value:

Additional Remarks:

EQUIPMENT CALIBRATION DAILY LOG

Date: 12/21/22

Project Number: NW01312.0150

Project Name: LHAAP-GWTP

Recorded By: Scott Beggs/NGR

PID

Model: MiniRAE 3000 Built: 11/8

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: 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	JCB-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: Initials:	Time: Initials:	Time: 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)
First Point Calibration (Daily)					Time: Initials:	Time: Initials:	Time: Initials:
	pH	4.00			Value:	Value:	Value:
	Conductivity (mS/cm)	4.49			Value:	Value:	Value:
	Turbidity (NTU)	0			Value:	Value:	Value:
	DO (mg/L)	8.9-9.1 (ambient air)	NA	NA	Value:	Value:	Value:
Second Point Calibration	pH	9.86			Value:	Value:	Value:
	Conductivity (mS/cm)	58.7			Value:	Value:	Value:
	Turbidity (NTU)	100			Value:	Value:	Value:
Third Point Calibration	pH	9.86			Value:	Value:	Value:
	Conductivity (mS/cm)	58.7			Value:	Value:	Value:
	Turbidity (NTU)	100			Value:	Value:	Value:

Additional Remarks: