# LONGHORN ARMY AMMUNITION PLANT KARNACK, TEXAS

# ADMINISTRATIVE RECORD

**Volume 28**

**2021**

**Bate Stamp Numbers**
**01057182 – 01059143**

**Prepared for**

**Department of the Army**
**Longhorn Army Ammunition Plant**

**1976–2021**

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

VOLUME 28

2021

A. Title: (Cont.) Report – Appendix F Level IV Labs to Quarterly Evaluation Report, 2nd Quarter (April–June) 2021, Groundwater Treatment Plant, Longhorn Army Ammunition Plant, Karnack, Texas, September 2021
Author(s): Bhate Environmental Associates, Inc.
Recipient: U.S. Army Corps of Engineers
Date: September 21, 2021
Bate Stamp: 01057182 – 01059143

# Insight Report

Printed at 4/28/2021 12:55:35 PM

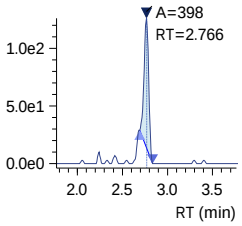
## 20210420_019

Sample ID: EQ2100213-02
Date Acquired: 4/20/2021 1:33:32 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210420\Before\20210420_019.lcd
Vial: 30 | Inj. Volume: 25.0000uL | Tray: 4

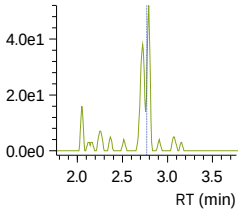
Perchlorate

Conc 0.08358
R#1 5.83 (0.00)

Q 99.00>83.00 (-) 1.26e2



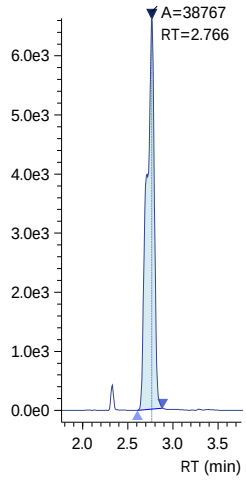

R1 101.00>85.00 (-) 5.20e1




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 6.64e3



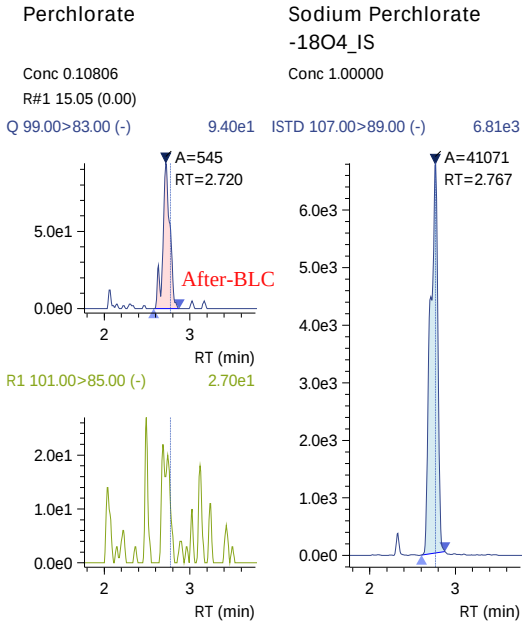
# Insight Report

Printed at 4/28/2021 12:53:14 PM

## 20210420_020

Sample ID: EQ2100213-03
Date Acquired: 4/20/2021 1:41:26 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210420\20210420_020.lcd
Vial: 31 | Inj. Volume: 25.0000uL | Tray: 4

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | M | 2.720 | 545 | 41071 | 1 | 0.10806 | ng/mL | ---- | 15.05 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.767 | 41071 | 41071 | 1 | 1.00000 | ng/mL | ---- | ---- |



# Insight Report

Printed at 4/28/2021 12:55:35 PM

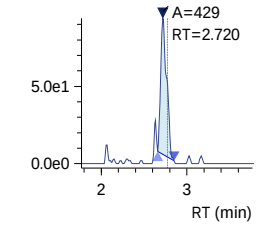
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Sample ID: EQ2100213-03
Date Acquired: 4/20/2021 1:41:26 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210420\Before\20210420_020.lcd
Vial: 31 | Inj. Volume: 25.0000uL | Tray: 4

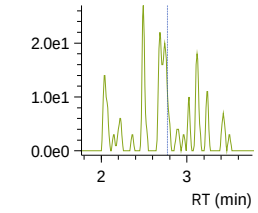
Perchlorate

Conc 0.08514
R#1 11.49 (0.00)

Q 99.00>83.00 (-) 9.40e1



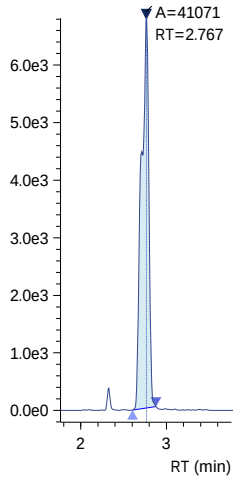

R1 101.00>85.00 (-) 2.70e1




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 6.81e3



# Insight Report

Printed at 4/28/2021 12:53:14 PM

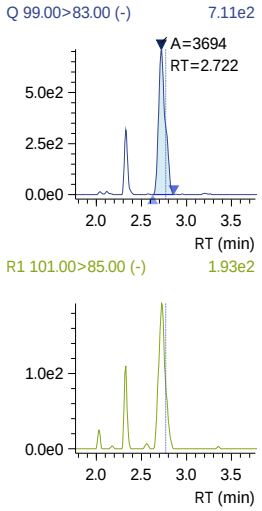
## 20210420_021

Sample ID: E2100409-001
Date Acquired: 4/20/2021 1:49:19 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210420\20210420_021.lcd
Vial: 32 | Inj. Volume: 25.0000uL | Tray: 4

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.722 | 3694 | 20576 | 1 | 1.46325 | ng/mL | ---- | 25.68 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.723 | 20576 | 20576 | 1 | 1.00000 | ng/mL | ---- | ---- |

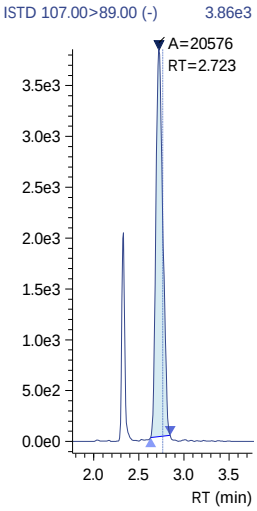
Perchlorate

Conc 1.46325
R#1 25.68 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report

Printed at 4/28/2021 12:55:35 PM

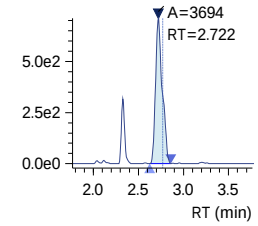
## 20210420_021

Sample ID: E2100409-001
Date Acquired: 4/20/2021 1:49:19 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210420\Before\20210420_021.lcd
Vial: 32 | Inj. Volume: 25.0000uL | Tray: 4

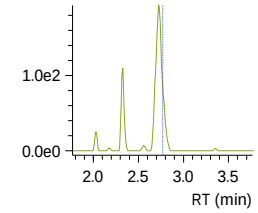
Perchlorate

Conc 1.46325
R#1 25.68 (0.00)

Q 99.00>83.00 (-) 7.11e2



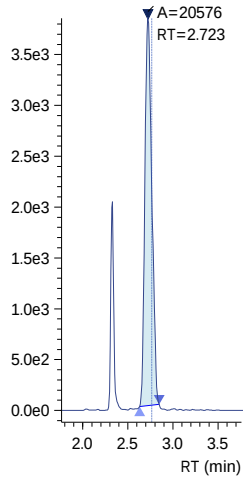

R1 101.00>85.00 (-) 1.93e2




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 3.86e3



# Insight Report

Printed at 4/28/2021 12:53:14 PM

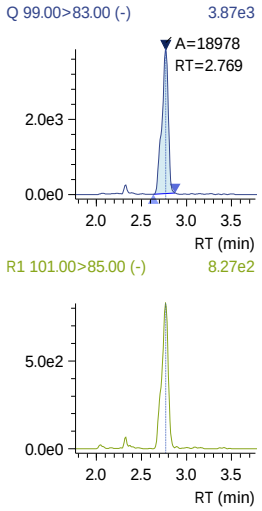
## 20210420_028

Sample ID: PERCHLORATE7
Date Acquired: 4/20/2021 2:44:35 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210420\20210420_028.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.769 | 18978 | 16630 | 1 | 9.30200 | ng/mL | 10.0000 | 21.40 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.769 | 16630 | 16630 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

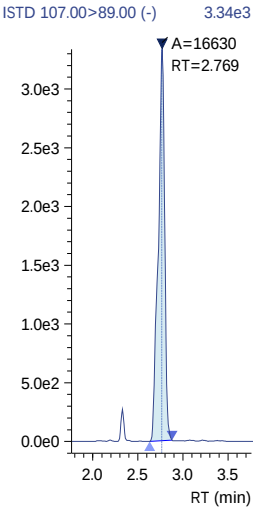
Perchlorate

Conc 9.30200
R#1 21.40 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report

Printed at 4/28/2021 12:55:35 PM

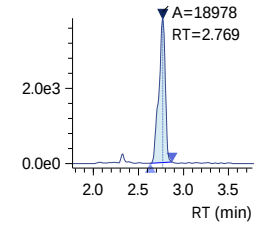
## 20210420_028

Sample ID: PERCHLORATE7
Date Acquired: 4/20/2021 2:44:35 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210420\Before\20210420_028.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

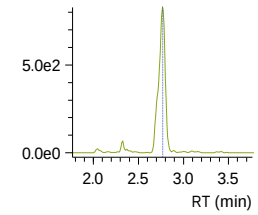
Perchlorate

Conc 9.30200
R#1 21.40 (0.00)

Q 99.00>83.00 (-) 3.87e3



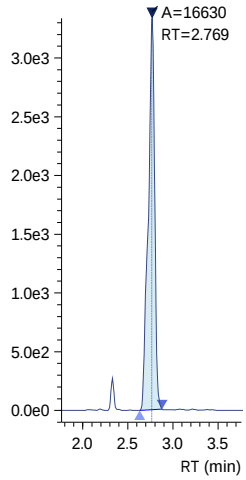

R1 101.00>85.00 (-) 8.27e2




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 3.34e3



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# WorkOrder: HS21040697

## Longhorn GW Treatment Plant Monthly Influent Samples

## Bhate Environmental Associates, Inc.

Marcia Olive
445 Union Blvd Ste 129
Lakewood CO 80228

**08-May-2021**

ALS Environmental
ALS Group USA, Corp
10450 Stancliff Road, Suite 210
Houston, TX 77099
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**F :** +1 281 530 5887
**www.alsglobal.com**

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  - Dates Report
  - QC
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  - Certifications
  - Sample Tracking Record
  - SampleReceiptCheckList
  - COC
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HS21040697 Wet Chem Raw Data (Cr6_W_7196_DOD)

HS21040697 - Sub Perch Level IV (E2100410)

- CoverLetter
- Certificate of Analysis
- Chain of Custody
- Preparation Sheets
- Analytical Results
- Accuracy and Precision
- Initial Calibration
- Chromatogram

# HS21040697 Longhorn GW Treatment Plant Monthly Influent Samples Final

ALS WO# HS21040697

10450 Stancliff Rd. Suite 210
Houston, TX 77099
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April 29, 2021

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

Work Order: **HS21040697**

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

Dear Marcia Olive,

ALS Environmental received 1 sample(s) on Apr 14, 2021 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**
RJ Modashia
Project Manager

**ALS Houston, US** Date: 29-Apr-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Monthly Influent Samples
**Work Order:** HS21040697

## SAMPLE SUMMARY

| Lab Samp ID | Client Sample ID | Matrix | TagNo | Collection Date | Date Received | Hold |
|---|---|---|---|---|---|---|
| HS21040697-01 | LH18/24-SP140_041321 | Water | | 13-Apr-2021 14:00 | 14-Apr-2021 09:45 | ☐ |

**ALS Houston, US** Date: 29-Apr-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Monthly Influent Samples
**Work Order:** HS21040697

**CASE NARRATIVE**

## Work Order Comments

- The analysis for Perchlorate was subcontracted to ALS Salt Lake City, UT. Final report attached.

## Metals by Method SW6020A

### Batch ID: 165094

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

## WetChemistry by Method SW7196

### Batch ID: R382089

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

**ALS Houston, US** Date: 29-Apr-21

Client: Bhate Environmental Associates, Inc.
**ANALYTICAL REPORT**
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder:HS21040697
Sample ID: LH18/24-SP140_041321
Lab ID:HS21040697-01
Collection Date: 13-Apr-2021 14:00
Matrix:Water

| ANALYSES | RESULT | QUAL | DL | LOD | LOQ | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|---|---|---|---|---|---|---|---|
| **METALS BY ICPMS BY SW6020A** | | **Method:SW6020A** | | | | Prep:SW3010A / 26-Apr-2021 | | Analyst: JHD |
| Selenium | 0.00250 | U | 0.00110 | 0.00250 | 0.00500 | mg/L | 1 | 29-Apr-2021 11:33 |
| Silver | 0.000500 | U | 0.000200 | 0.000500 | 0.00500 | mg/L | 1 | 29-Apr-2021 11:33 |
| **HEXAVALENT CHROMIUM BY SW7196A** | | **Method:SW7196** | | | | | | Analyst: KVL |
| Chromium, Hexavalent | 0.0100 | U | 0.00600 | 0.0100 | 0.0100 | mg/L | 1 | 14-Apr-2021 13:50 |
| **SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)** | | **Method:NA** | | | | | | Analyst: GR |
| Subcontract Analysis | See Attached | | 0 | 0 | | NA | 1 | 28-Apr-2021 17:51 |

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:** HS21040697

**Batch ID:** 165094 **Start Date:** 26 Apr 2021 10:00 **End Date:** 26 Apr 2021 14:00
**Method:** WATER - SW3010A **Prep Code:** 3010A

| Sample ID | Container | Sample Wt/Vol | Final Volume | Prep Factor | |
|---|---|---|---|---|---|
| HS21040697-01 | | 10 (mL) | 10 (mL) | 1 | 120 plastic HNO3 |

**ALS Houston, US** Date: 29-Apr-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Monthly Influent Samples
**WorkOrder:** HS21040697

**DATES REPORT**

| Sample ID | Client Samp ID | Collection Date | Leachate Date | Prep Date | Analysis Date | DF |
|---|---|---|---|---|---|---|
| **Batch ID:** 165094 ( 0 ) | **Test Name :** METALS BY ICPMS BY SW6020A | | | | **Matrix:** Water | |
| HS21040697-01 | LH18/24-SP140_041321 | 13 Apr 2021 14:00 | | 26 Apr 2021 14:00 | 29 Apr 2021 11:33 | 1 |
| **Batch ID:** R382089 ( 0 ) | **Test Name :** HEXAVALENT CHROMIUM BY SW7196A | | | | **Matrix:** Water | |
| HS21040697-01 | LH18/24-SP140_041321 | 13 Apr 2021 14:00 | | | 14 Apr 2021 13:50 | 1 |
| **Batch ID:** R382615 ( 0 ) | **Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850) | | | | **Matrix:** Water | |
| HS21040697-01 | LH18/24-SP140_041321 | 13 Apr 2021 14:00 | | | 28 Apr 2021 17:51 | 1 |

**ALS Houston, US** Date: 29-Apr-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Monthly Influent Samples
**WorkOrder:** HS21040697

**QC BATCH REPORT**

**Batch ID: 165094 ( 0 )** **Instrument: ICPMS06** **Method: METALS BY ICPMS BY SW6020A**

**MBLK** Sample ID: **MBLK-165094** Units: **mg/L** Analysis Date: **29-Apr-2021 11:17**
Client ID: Run ID: **ICPMS06_382670** SeqNo: **6067531** PrepDate: **26-Apr-2021** 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-165094** Units: **mg/L** Analysis Date: **29-Apr-2021 11:19**
Client ID: Run ID: **ICPMS06_382670** SeqNo: **6067532** PrepDate: **26-Apr-2021** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Selenium | 0.04772 | 0.00500 | 0.05 | 0 | 95.4 | 80 - 120 | | | | |
| Silver | 0.05109 | 0.00500 | 0.05 | 0 | 102 | 85 - 116 | | | | |

**MS** Sample ID: **HS21040694-01MS** Units: **mg/L** Analysis Date: **29-Apr-2021 11:25**
Client ID: Run ID: **ICPMS06_382670** SeqNo: **6067535** PrepDate: **26-Apr-2021** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Selenium | 0.04683 | 0.00500 | 0.05 | 0.000217 | 93.2 | 80 - 120 | | | | |
| Silver | 0.04769 | 0.00500 | 0.05 | 0.00002 | 95.3 | 85 - 116 | | | | |

**MSD** Sample ID: **HS21040694-01MSD** Units: **mg/L** Analysis Date: **29-Apr-2021 11:29**
Client ID: Run ID: **ICPMS06_382670** SeqNo: **6067537** PrepDate: **26-Apr-2021** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Selenium | 0.05196 | 0.00500 | 0.05 | 0.000217 | 103 | 80 - 120 | 0.04683 | 10.4 | 20 | |
| Silver | 0.04921 | 0.00500 | 0.05 | 0.00002 | 98.4 | 85 - 116 | 0.04769 | 3.15 | 20 | |

**PDS** Sample ID: **HS21040694-01PDS** Units: **mg/L** Analysis Date: **29-Apr-2021 11:31**
Client ID: Run ID: **ICPMS06_382670** SeqNo: **6067538** PrepDate: **26-Apr-2021** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Silver | 0.1141 | 0.00500 | 0.1 | 0.00002 | 114 | 80 - 120 | | | | |

**ALS Houston, US** Date: 29-Apr-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Monthly Influent Samples
**WorkOrder:** HS21040697

**QC BATCH REPORT**

**Batch ID: 165094 ( 0 )** **Instrument: ICPMS06** **Method: METALS BY ICPMS BY SW6020A**

**SD** Sample ID: **HS21040694-01SD** Units: **mg/L** Analysis Date: **29-Apr-2021 11:23**
Client ID: Run ID: **ICPMS06_382670** SeqNo: **6067534** PrepDate: **26-Apr-2021** 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 | | | | | 0.000217 | 0 | 10 | U |
| Silver | 0.00250 | 0.0250 | | | | | 0.00002 | 0 | 10 | U |

**The following samples were analyzed in this batch:** HS21040697-01

**ALS Houston, US** Date: 29-Apr-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Monthly Influent Samples
**WorkOrder:** HS21040697

**QC BATCH REPORT**

**Batch ID: R382089 ( 0 )** **Instrument: UV-2450** **Method: HEXAVALENT CHROMIUM BY SW7196A**

**MBLK** Sample ID: **MBLK-R382089** Units: **mg/L** Analysis Date: **14-Apr-2021 13:45**
Client ID: Run ID: **UV-2450_382089** SeqNo: **6053868** PrepDate: DF: **1**

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

**LCS** Sample ID: **LCS-R382089** Units: **mg/L** Analysis Date: **14-Apr-2021 13:45**
Client ID: Run ID: **UV-2450_382089** SeqNo: **6053867** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Chromium, Hexavalent | 0.263 | 0.0100 | 0.25 | 0 | 105 | 90 - 111 | | | | |

**MS** Sample ID: **HS21040697-01MS** Units: **mg/L** Analysis Date: **14-Apr-2021 13:51**
Client ID: **LH18/24-SP140_041321** Run ID: **UV-2450_382089** SeqNo: **6053870** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Chromium, Hexavalent | 0.256 | 0.0100 | 0.25 | -0.001 | 103 | 90 - 111 | | | | |

**MSD** Sample ID: **HS21040697-01MSD** Units: **mg/L** Analysis Date: **14-Apr-2021 13:52**
Client ID: **LH18/24-SP140_041321** Run ID: **UV-2450_382089** SeqNo: **6053869** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Chromium, Hexavalent | 0.246 | 0.0100 | 0.25 | -0.001 | 98.8 | 90 - 111 | 0.256 | 3.98 | 20 | |

**The following samples were analyzed in this batch:** HS21040697-01

**ALS Houston, US** Date: 29-Apr-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Monthly Influent Samples
**WorkOrder:** **HS21040697**

**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 | 21-022-0 | 26-Mar-2022 |
| California | 2919, 2020-2021 | 30-Apr-2021 |
| Dept of Defense | PJLA L20-507-R2 | 22-Dec-2021 |
| Florida | E87611-30-07/01/2020 | 30-Jun-2021 |
| Illinois | 2000322020-4 | 09-May-2021 |
| Kansas | E-10352 2020-2021 | 31-Jul-2021 |
| Kentucky | 123043, 2020-2021 | 30-Apr-2021 |
| Louisiana | 03087, 2020-2021 | 30-Jun-2021 |
| North Carolina | 624-2021 | 31-Dec-2021 |
| North Dakota | R-193 2020-2021 | 30-Apr-2021 |
| Oklahoma | 2020-165 | 31-Aug-2021 |
| Texas | T104704231-20-26 | 30-Apr-2021 |
| Texas | T104704231-21-27 | 30-Apr-2022 |

**ALS Houston, US** Date: 29-Apr-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Monthly Influent Samples
**Work Order:** HS21040697

**SAMPLE TRACKING**

| Lab Samp ID | Client Sample ID | Action | Date | Person | New Location |
|---|---|---|---|---|---|
| HS21040697-01 | LH18/24-SP140_041321 | Login | 4/14/2021 1:06:01 PM | JRM | Disposed |
| HS21040697-01 | LH18/24-SP140_041321 | Login | 4/14/2021 1:06:01 PM | JRM | Sub |
| HS21040697-01 | LH18/24-SP140_041321 | Login | 4/14/2021 1:06:01 PM | JRM | WET365 |

**ALS Houston, US** Date: 29-Apr-21

## Sample Receipt Checklist

**Work Order ID:** HS21040697 **Date/Time Received:** 14-Apr-2021 09:45

**Client Name:** Bhate Environmental **Received by:** Jared R. Makan

| **Completed By:** | /S/ Jared R. Makan | 14-Apr-2021 13:13 | **Reviewed by:** | /S/ RJ Modashia | 14-Apr-2021 15:12 |
|---|---|---|---|---|---|
| | 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 ☐ | |
| 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): | 0.6°C UC/C | IR31 |
| Cooler(s)/Kit(s): | 46995 | |
| Date/Time sample(s) sent to storage: | 04/14/2021 13:15 | |

| | | | |
|---|---|---|---|
| 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: RJ Modashia



**Project:** BHATE
LONGHORN ARMY AMMN. PLANT (LHAAP)
GROUNDWATER TREATMENT PLANT (GWTP)
KARNACK, TEXAS

**Project No.** NWO1312.0150.0 16.0001

**Job:** GROUNDWATER TREATMENT PLANT MONTHLY INFLUENT SAMPLES

**Prepared By:** Scott Beesinger

**P.O. Number**

| Field Sample I.D. | Sample Matrix | Date / Time | MS / MSD | No. OF CONTAINERS | Analyses: SILVER & SELENIUM | HEXAVALENT CHROMIUM | PERCHLORATE | Remarks (Preservatives, etc.) | Lab I.D.# |
|---|---|---|---|---|---|---|---|---|---|
| LH18/24-SP140_041321 | Water | 04/13/21 / 14:00 | | 1 | X | | | HNO3 | |
| LH18/24-SP140_041321 | Water | 04/13/21 / 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 | 04/13/21 | 14:30 | Pauls Main | 4-14-21 | 9:45 | | | | | | |

**For Lab Use Only**

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

Remarks:

**HS21040697**

Bhate Environmental Associates, Inc.
Longhorn GW Treatment Plant Monthly Influent Sam

4.6 4.9 5 0.6 C R3 1 CF

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

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

46995

**CUSTODY SEAL**

Date: 4/13/21 Time: 1730
Name: Scott Beesinger
Company: Bonatt

Seal Broken By:
Date: 04/14/21

46995

Must Deliver Next Business Day
Time and Tempature Sensitive!

46995

ORIGIN ID:SGRA (903) 930-6193
SCOTT BEESINGER
APTIM ENVIRONMENTAL & INFRASTRUCTURE
1203-B EAST GRAND AVE
PHB 202
MARSHALL, TX 75670
UNITED STATES US

SHIP DATE: 24MAR21
ACTWGT: 1.00 LB MAN
CAD: 0221247/CAFE3409
DIMS: 26x14x14 IN

TO CLIENT SERVICES
ALS LABORATORY GROUP
10450 STANCLIFF ROAD
SUITE 210
HOUSTON TX 77099
(281) 530-5656
REF: LHAAP-50-B077339-CG

RMA:

FedEx Express

FedEx
TRK# 0221 9473 0841 5565

WED - 14 APR AA
PRIORITY OVERNIGHT

AB SGRA

77099
TX-US
IAH

April 28, 2021 Service Request No:E2100410

RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Suite 210
Houston, TX 77099-4338

**Laboratory Results for: HS21040697**

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory April 14, 2021
For your reference, these analyses have been assigned our service request number **E2100410.**

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.

Respectfully submitted,

**ALS Group USA, Corp. dba ALS Environmental**



Corey Grandits
Project Manager

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 Houston | **Service Request No.:** | E2100410 |
| **Project:** | HS21040697 | **Date Received:** | 04/14/21 |
| **Sample Matrix:** | W | | |

## 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 04/14/21.

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:**

EQ2100213: 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 and DLCS recoveries are within QC limits.

DoD certification is held for the method/matrix/analytes provided in this report.

*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:**E2100410
**Project:** HS21040697

## SAMPLE CROSS-REFERENCE

| SAMPLE # | CLIENT SAMPLE ID | DATE | TIME |
|---|---|---|---|
| E2100410-001 | LH18/24-SP140_041321 | 4/13/2021 | 1400 |

# Service Request Summary

**Folder #:** **E2100410**
Client Name: ALS Environmental - US
Project Name: HS21040697
Project Number:

**Report To:** RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Houston, TX 77099-4338
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number: 281-530-5887
E-mail: rj.modashia@alsglobal.com

Project Chemist: Corey Grandits
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 04/14/21
Internal Due Date: 4/28/2021
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS21040697
EDD: No EDD Specified

1 125 mL-Plastic Bottle Plastic
**Location:** EHRMS-WIC 3B
**Pressure Gas:**

| Lab Samp No. | Client Samp No | Matrix | Collected | HOUSTON ClO4 DOD/6850 |
|---|---|---|---|---|
| E2100410-001 | LH18/24-SP140_041321 | Ground Water | 04/13/21 1400 | **IV** |

# Service Request Summary

**Folder #:** **E2100410**
Client Name: ALS Environmental - US
Project Name: HS21040697
Project Number:

**Report To:** RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Houston, TX 77099-4338
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number: 281-530-5887
E-mail: rj.modashia@alsglobal.com

Project Chemist: Corey Grandits
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 04/14/21
Internal Due Date: 4/28/2021
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS21040697
EDD: No EDD Specified

1 125 mL-Plastic Bottle Plastic
**Location:** EHRMS-WIC 3B
**Pressure Gas:**

## Test Comments:

| Group | Test/Method | Samples | Comments |
|---|---|---|---|
| Semivoa GCMS | ClO4 DOD/6850 | 1 | Level II due 4/28,IV due 5/5 |

# 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 | Internal standard not within the specified limits. See case narrative. |
| 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. |
| 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. |

# Data Qualifiers

## Lab Standard

| | |
|---|---|
| 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 |
|---|---|---|
| American Association for Laboratory Accreditation | 2897.01 2020 | 11/30/2021 |
| Arizona Department of Health Services | AZ0793-2020 | 5/27/2021 |
| Arkansas Department of Environmental Quality | 21-022-0 | 3/26/2022 |
| California Department of Health Services | 2919-2020 | 4/30/2021 |
| Department of Defense | A2LA 2897.01 | 11/30/2021 |
| Florida Department of Health | E87611-2020 | 6/30/2021 |
| Hawaii Department of Health | 2020 | 4/30/2021 |
| Illinois Environmental Protection Agency | 2000322020-4 | 5/9/2021 |
| Kansas Department of Health and Environment | E-10352-2020 | 7/31/2021 |
| Louisiana Department of Environmental Quality | 03087-2020 | 6/30/2021 |
| Louisiana Department of Health and Hospitals | LA028-2021 | 12/31/2021 |
| Maine Department of Health and Human Services | 2020016 | 6/5/2022 |
| Maryland Department of the Environment | 343-2020 | 6/30/2021 |
| Michigan Depratment of Environmental Quality | 9971-2020 | 4/30/2021 |
| Nebraska Department of Health and Human Services | NE-OS-25-13 (2020) | 4/30/2021 |
| Nevada Department of Concervation and Natural Resources | TX026932021-1 | 7/31/2021 |
| New Jersey Department of Environmental Protection | TX008 | 6/30/2021 |
| Oklahoma Department of Environmental Quality | 2020-123 | 8/31/2021 |
| Pennsylvania Department of Environmental Protection | 014 | 6/30/2021 |
| Tennessee Department of Environment and Concervation | 04016-2020 | 4/30/2021 |
| Texas Commision on Environmental Quality | T104704231-20-26 | 4/30/2021 |
| United States Department of Agriculture | P330-19-00299 | 10/10/2022 |



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: 15933**

**SUBCONTRACT TO:**

ALS Environmental
10450 Stancliff RoadSuite 210
Houston, TX 77084

**Phone:** +1 281 530 5656

**CUSTOMER INFORMATION:**

| | |
|---|---|
| **Company:** | ALS Houston |
| **Contact:** | RJ Modashia |
| **Address:** | 10450 Stancliff Rd, Ste 210 |
| **Phone:** | +1 281 530 5656 |
| **Email:** | RJ.Modashia@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:** | HS21040697 |
| **TSR:** | Sonia West |

| | LAB SAMPLE ID | CLIENT SAMPLE ID | MATRIX | COLLECT DATE |
|---|---|---|---|---|
| | ANALYSIS REQUESTED | | | DUE DATE |
| **1.** | **HS21040697-01** | **LH18/24-SP140_041321** | **Water** | **13 Apr 2021 14:00** |
| | Provide Level II and Level IV reports in separate pdf | | | 28 Apr 2021 |

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

**QC Level:** DOD IV (DoD Data Package)

Relinquished By: J. Mycenn Date/Time: 4/14/21 14:15

Received By: [illegible] Date/Time: 4/14/21 1414

Cooler ID(s): Temperature(s):

ALS Environmental

# Cooler Receipt Form

Project Chemist: CA

Client/Project: ALS-H

Thermometer ID: IR31

Date/Time Received: 9/14/21 Initials: CA

Date/Time Logged in: 9/14/21 Initials: CA

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 | | 9/14/21 | 1915 | CA | 3.9 | ☑ |
| | | | | | | ☐ |
| | | | | | | ☐ |
| | | | | | | ☐ |

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#:** 377530 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
**Team:** Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 4/15/21 11:50

| # | Lab Code | Client ID | B# | Method /Test | pH | Cl | Matrix | Amt. Ext. | Sample Description |
|---|---|---|---|---|---|---|---|---|---|
| 1 | E2100409-001 | LH18/24-SP650_041321_BIX | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 2 | E2100410-001 | LH18/24-SP140_041321 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 3 | E2100411-001 | LH18/24-SP650_041321_BIX | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 4 | E2100412-001 | 16WW44-210412 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 5 | E2100412-002 | 16WW38-210412 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 6 | E2100412-003 | 16WW37-210412 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 7 | E2100412-004 | 16WW14-210412 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 8 | E2100412-005 | 16WW34-210412 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 9 | E2100412-006 | 16WW34-210412-FD | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 10 | E2100412-007 | 16WW33-210412 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 11 | E2100412-008 | 16WW32-210412 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 12 | E2100412-009 | 16WW31-210412 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 13 | E2100412-010 | 16WW46-210412 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 14 | EQ2100213-01 | MB | | 6850/ClO4 DOD | | | Liquid | 10mL | |
| 15 | EQ2100213-02 | LCS | | 6850/ClO4 DOD | | | Liquid | 10mL | |
| 16 | EQ2100213-03 | DLCS | | 6850/ClO4 DOD | | | Liquid | 10mL | |
| 17 | R2103214-010 | 45MI20088 | .14 | 6850/ClO4 DOD | | | Water | 10mL | |
| 18 | R2103214-011 | 45MI30028 | .06 | 6850/ClO4 DOD | | | Water | 10mL | |
| 19 | R2103214-013 | 45MI30025 | .06 | 6850/ClO4 DOD | | | Water | 10mL | |
| 20 | R2103380-002 | 45MI30022 | .05 | 6850/ClO4 DOD | | | Water | 10mL | |
| 21 | R2103380-003 | 45MI30023 | .05 | 6850/ClO4 DOD | | | Water | 10mL | |
| 22 | R2103380-004 | 45MI30027 | .05 | 6850/ClO4 DOD | | | Water | 10mL | |
| 23 | R2103380-005 | 45MI30026 | .05 | 6850/ClO4 DOD | | | Water | 10mL | |

## Spiking Solutions

Name: Perchlorate Intermediate Stock1 Inventory ID 214035 Logbook Ref: Perchlorate Expires On: 05/23/2021

EQ2100213-02 1.00µL EQ2100213-03 1.00µL

Name: Perchlorate Internal Standard 1ug/mL Inventory ID 214820 Logbook Ref: Perchlorate Internal Standard Expires On: 07/03/2021

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| E2100409-001 | 100.00µL | E2100410-001 | 100.00µL | E2100411-001 | 100.00µL | E2100412-001 | 100.00µL | E2100412-002 | 100.00µL | E2100412-003 | 100.00µL |
| E2100412-004 | 100.00µL | E2100412-005 | 100.00µL | E2100412-006 | 100.00µL | E2100412-007 | 100.00µL | E2100412-008 | 100.00µL | E2100412-009 | 100.00µL |
| E2100412-010 | 100.00µL | EQ2100213-01 | 100.00µL | EQ2100213-02 | 100.00µL | EQ2100213-03 | 100.00µL | R2103214-010 | 100.00µL | R2103214-011 | 100.00µL |
| R2103214-013 | 100.00µL | R2103380-002 | 100.00µL | R2103380-003 | 100.00µL | R2103380-004 | 100.00µL | R2103380-005 | 100.00µL | | |

# *Preparation Information Benchsheet*

**Prep Run#:** 377530 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
**Team:** Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 4/15/21 11:50

## Preparation Steps

Step: Preparation
Started: 4/15/21 11:50
Finished: 4/15/21 13:00
By: GRIVERA
Comments

Comments: _____

Reviewed By: GR Date: 4/15/21

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:** | E2100410 |
| **Project:** | HS21040697 | **Date Collected:** | 4/13/21 1400 |
| **Sample Matrix:** | Ground Water | **Date Received:** | 4/14/21 |
| **Sample Name:** | LH18/24-SP140_041321 | **Units:** | µg/L |
| **Lab Code:** | E2100410-001 | **Basis:** | As Received |

**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 | **9760** | | 50.0 | 25.0 | 12.5 | 500 | 4/15/21 | 4/26/21 15:24 | 377530 | 721476 | |

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

| | | | |
|---|---|---|---|
| **Client:** | ALS Environmental - US | **Service Request:** | E2100410 |
| **Project:** | HS21040697 | **Date Collected:** | NA |
| **Sample Matrix:** | Ground Water | **Date Received:** | NA |
| **Sample Name:** | Method Blank | **Units:** | µg/L |
| **Lab Code:** | EQ2100213-01 | **Basis:** | As Received |

**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 | 4/15/21 | 4/20/21 13:25 | 377530 | 721439 | |

# 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:** HS21040697
**Sample Matrix:** Ground Water

**Service Request:** E2100410
**Date Analyzed:** 4/20/21

## 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:** As Received

**Extraction Lot:** 377530

| | Lab Control Sample EQ2100213-02 | | | Duplicate Lab Control Sample EQ2100213-03 | | | | |
|---|---|---|---|---|---|---|---|---|
| **Analyte Name** | **Result** | **Spike Amount** | **% Rec** | **Result** | **Spike Amount** | **% Rec** | **% Rec Limits** | **RPD** | **RPD Limit** |
| Perchlorate | 0.117 | 0.100 | 117 | 0.108 | 0.100 | 108 | 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:** | E2100410 |
| **Project:** | HS21040697 | **Date Collected:** | NA |
| **Sample Matrix:** | Ground Water | **Date Received:** | NA |
| **Sample Name:** | Lab Control Sample | **Units:** | µg/L |
| **Lab Code:** | EQ2100213-02 | **Basis:** | As Received |

**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 | **0.117** | | 0.100 | 0.0500 | 0.0250 | 1 | 4/15/21 | 4/20/21 13:33 | 377530 | 721439 | |

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

| | | | |
|---|---|---|---|
| **Client:** | ALS Environmental - US | **Service Request:** | E2100410 |
| **Project:** | HS21040697 | **Date Collected:** | NA |
| **Sample Matrix:** | Ground Water | **Date Received:** | NA |
| **Sample Name:** | Duplicate Lab Control Sample | **Units:** | µg/L |
| **Lab Code:** | EQ2100213-03 | **Basis:** | As Received |

**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 | **0.108** | | 0.100 | 0.0500 | 0.0250 | 1 | 4/15/21 | 4/20/21 13:41 | 377530 | 721439 | |

# HS21040697 - ME - ICP_W_DOD

ALS WO# HS21040697

## Form 11 - INTERNAL STANDARD ASSOCIATION

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Monthly Influent Samples
**WorkOrder:** HS21040697

Instrument:ICPMS06

| Mass | Analyte | Assoc Int Standard 1 | Assoc Int Standard 2 | Mode |
|---|---|---|---|---|
| 9 | Beryllium | Lithium | | Ar |
| 11 | Boron | Lithium | | Ar |
| 23 | Sodium | Germanium | | ArHe |
| 24 | Magnesium | Germanium | | ArHe |
| 27 | Aluminum | Germanium | | ArHe |
| 39 | Potassium | Germanium | | ArHe |
| 44 | Calcium | Germanium | | Ar |
| 47 | Titanium | Germanium | | Ar |
| 51 | Vanadium | Germanium | | ArHe |
| 52 | Chromium | Germanium | | ArHe |
| 55 | Manganese | Germanium | | ArHe |
| 56 | Iron | Germanium | | ArHe |
| 59 | Cobalt | Germanium | | ArHe |
| 60 | Nickel | Germanium | | ArHe |
| 63 | Copper | Germanium | | ArHe |
| 66 | Zinc | Germanium | | ArHe |
| 75 | Arsenic | Germanium | | ArHe |
| 82 | Selenium | Germanium | | Ar |
| 88 | Strontium | Indium | | Ar |
| 95 | Molybdenum | Indium | | Ar |
| 105 | Palladium | Germanium | | Ar |
| 107 | Silver | Indium | | Ar |
| 114 | Cadmium | Indium | | Ar |
| 118 | Tin | Indium | | Ar |
| 121 | Antimony | Germanium | | ArHe |
| 137 | Barium | Indium | | Ar |
| 205 | Thallium | Bismuth | | Ar |
| 208 | Lead | Bismuth | | Ar |

# FORM 12 - PREPARATION LOG

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Monthly Influent Samples
**WorkOrder:** HS21040697
Start Date: 26-Apr-2021 10:00 End Date: 26-Apr-2021 14:00

Batch ID: 165094
Prep Code: 3010A
Method: SW3010A
Technician:

| SampID | ClientID | Matrix | Init Wt | Init Vol | FinalVol (mL) | PrepFac |
|---|---|---|---|---|---|---|
| HS21040694-01MS | | | | 10 | 10 | 1 |
| HS21040694-01MSD | | | | 10 | 10 | 1 |
| HS21040694-01PDS | | | | 10 | 10 | 1 |
| HS21040694-01SD | | | | 10 | 10 | 1 |
| HS21040697-01 | LH18/24-SP140_041321 | Water | | 10 | 10 | 1 |
| LCS-165094 | | | | 10 | 10 | 1 |
| MBLK-165094 | | | | 10 | 10 | 1 |

## FORM 13 - ANALYSIS RUN LOG

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

**Project:** Longhorn GW Treatment Plant Monthly Influent Samples

**WorkOrder:** HS21040697

Start Date: 29-Apr-2021 End Date: 29-Apr-2021

Run ID:ICPMS06_382670

Instrument:ICPMS06

Method:

| Sample No. | D/F | Time | FileID | Analytes |
|---|---|---|---|---|
| ICPMS06_382670_Tune | 1 | 29-Apr-2021 00:00 | ICPMS06_382670_Tune_1 | |
| CAL BLK | 1 | 29-Apr-2021 10:24 | 011CALB.d_6067439 | AG SE |
| 2/10/200 | 1 | 29-Apr-2021 10:26 | 012CALS.d_6067440 | AG SE |
| 5/25/500 | 1 | 29-Apr-2021 10:28 | 013CALS.d_6067441 | AG SE |
| 10/50/100 | 1 | 29-Apr-2021 10:30 | 014CALS.d_6067442 | AG SE |
| 100/500/10K | 1 | 29-Apr-2021 10:32 | 015CALS.d_6067443 | AG SE |
| 200/1000/20K | 1 | 29-Apr-2021 10:34 | 016CALS.d_6067444 | AG SE |
| ICV | 1 | 29-Apr-2021 10:42 | 018_ICV.d_6067446 | AG SE |
| ICB | 1 | 29-Apr-2021 10:44 | 019_ICB.d_6067447 | AG SE |
| LLICV2 | 1 | 29-Apr-2021 10:46 | 020LCV2.d_6067448 | AG SE |
| LLICV5 | 1 | 29-Apr-2021 10:48 | 021LCV5.d_6067449 | AG SE |
| ICSA | 1 | 29-Apr-2021 10:53 | 023ICSA.d_6067451 | AG SE |
| ICSAB | 1 | 29-Apr-2021 10:55 | 024ICSB.d_6067452 | AG SE |
| CCV 1 | 1 | 29-Apr-2021 11:13 | 026_CCV.d_6067529 | AG SE |
| CCB 1 | 1 | 29-Apr-2021 11:15 | 027_CCB.d_6067530 | AG SE |
| MBLK-165094 | 1 | 29-Apr-2021 11:17 | 028SMPL.d_6067531 | AG SE |
| LCS-165094 | 1 | 29-Apr-2021 11:19 | 029SMPL.d_6067532 | AG SE |
| ZZZZZZSD | 5 | 29-Apr-2021 11:23 | 031SMPL.d_6067534 | AG SE |
| ZZZZZZMS | 1 | 29-Apr-2021 11:25 | 032SMPL.d_6067535 | AG SE |
| ZZZZZZMSD | 1 | 29-Apr-2021 11:29 | 034SMPL.d_6067537 | AG SE |
| ZZZZZZPDS | 1 | 29-Apr-2021 11:31 | 035SMPL.d_6067538 | AG |
| LH18/24-SP140_041321 | 1 | 29-Apr-2021 11:33 | 036SMPL.d_6067539 | AG SE |
| CCV 2 | 1 | 29-Apr-2021 11:37 | 038_CCV.d_6067541 | AG SE |
| CCB 2 | 1 | 29-Apr-2021 11:39 | 039_CCB.d_6067542 | AG SE |
| CCV 3 | 1 | 29-Apr-2021 12:02 | 050_CCV.d_6067553 | AG SE |
| CCB 3 | 1 | 29-Apr-2021 12:04 | 051_CCB.d_6067554 | AG SE |
| CCV 4 | 1 | 29-Apr-2021 15:23 | 136_CCV.d_6067886 | AG SE |
| CCB 4 | 1 | 29-Apr-2021 15:25 | 137_CCB.d_6067887 | AG SE |
| ZZZZZZMSD | 1 | 29-Apr-2021 15:43 | 145SMPL.d_6067888 | |
| CCV 5 | 1 | 29-Apr-2021 15:48 | 147_CCV.d_6067890 | AG SE |
| CCB 5 | 1 | 29-Apr-2021 15:50 | 148_CCB.d_6067891 | AG SE |

## Form 2 - Initial and Continuing Calibration Verification

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Monthly Influent Samples
**WorkOrder:** HS21040697

Run ID: ICPMS06_382670
Instrument: ICPMS06
Method: SW6020A

| ICV | Date: 29-Apr-2021 10:42 | | Seq: 6067446 | ICV | Units: ug/L |
|---|---|---|---|---|---|
| **Analyte** | **True** | **Found** | **%R** | **Control Limits** | **Flag** |
| Selenium | 100 | 95.225 | 95 | 90-110 | |
| Silver | 100 | 100.335 | 100 | 90-110 | |

| CCV1 | Date: 29-Apr-2021 11:13 | | Seq: 6067529 | CCV | Units: ug/L |
|---|---|---|---|---|---|
| **Analyte** | **True** | **Found** | **%R** | **Control Limits** | **Flag** |
| Selenium | 100 | 96.676 | 97 | 90-110 | |
| Silver | 100 | 97.807 | 98 | 90-110 | |

| CCV2 | Date: 29-Apr-2021 11:37 | | Seq: 6067541 | CCV | Units: ug/L |
|---|---|---|---|---|---|
| **Analyte** | **True** | **Found** | **%R** | **Control Limits** | **Flag** |
| Selenium | 100 | 96.429 | 96 | 90-110 | |
| Silver | 100 | 99.819 | 100 | 90-110 | |

| CCV3 | Date: 29-Apr-2021 12:02 | | Seq: 6067553 | CCV | Units: ug/L |
|---|---|---|---|---|---|
| **Analyte** | **True** | **Found** | **%R** | **Control Limits** | **Flag** |
| Selenium | 100 | 95.77 | 96 | 90-110 | |
| Silver | 100 | 100.298 | 100 | 90-110 | |

| CCV4 | Date: 29-Apr-2021 15:23 | | Seq: 6067886 | CCV | Units: ug/L |
|---|---|---|---|---|---|
| **Analyte** | **True** | **Found** | **%R** | **Control Limits** | **Flag** |
| Selenium | 100 | 88.327 | 88 | 90-110 | S |
| Silver | 100 | 93.939 | 94 | 90-110 | |

| CCV5 | Date: 29-Apr-2021 15:48 | | Seq: 6067890 | CCV | Units: ug/L |
|---|---|---|---|---|---|
| **Analyte** | **True** | **Found** | **%R** | **Control Limits** | **Flag** |
| Selenium | 100 | 89.043 | 89 | 90-110 | S |
| Silver | 100 | 95.749 | 96 | 90-110 | |

## Form 3 - BLANKS

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Monthly Influent Samples
**WorkOrder:** HS21040697

Run ID: ICPMS06_382670
Instrument: ICPMS06
Method: SW6020A

| ICB | Date: 29-Apr-2021 10:44 | | Seq: 6067447 | | ICB | Units: ug/L |
|---|---|---|---|---|---|---|
| **Analyte** | **Result** | **MDL** | **Report Limit** | **Qual** | | |
| Selenium | 5 | 1.1 | 5 | U | | |
| Silver | 5 | 0.2 | 5 | U | | |
| CCB1 | Date: 29-Apr-2021 11:15 | | Seq: 6067530 | | CCB | Units: ug/L |
| **Analyte** | **Result** | **MDL** | **Report Limit** | **Qual** | | |
| Selenium | 2 | 1.1 | 2 | U | | |
| Silver | 2 | 0.2 | 2 | U | | |
| MBLK-165094 | Date: 29-Apr-2021 11:17 | | Seq: 6067531 | | MBLK | Units: ug/L |
| **Analyte** | **Result** | **MDL** | **Report Limit** | **Qual** | | |
| Selenium | 5 | 1.1 | 5 | U | | |
| Silver | 5 | 0.2 | 5 | U | | |
| CCB2 | Date: 29-Apr-2021 11:39 | | Seq: 6067542 | | CCB | Units: ug/L |
| **Analyte** | **Result** | **MDL** | **Report Limit** | **Qual** | | |
| Selenium | 2 | 1.1 | 2 | U | | |
| Silver | 2 | 0.2 | 2 | U | | |
| CCB3 | Date: 29-Apr-2021 12:04 | | Seq: 6067554 | | CCB | Units: ug/L |
| **Analyte** | **Result** | **MDL** | **Report Limit** | **Qual** | | |
| Selenium | 2 | 1.1 | 2 | U | | |
| Silver | 2 | 0.2 | 2 | U | | |
| CCB4 | Date: 29-Apr-2021 15:25 | | Seq: 6067887 | | CCB | Units: ug/L |
| **Analyte** | **Result** | **MDL** | **Report Limit** | **Qual** | | |
| Selenium | 2 | 1.1 | 2 | U | | |
| Silver | 2 | 0.2 | 2 | U | | |
| CCB5 | Date: 29-Apr-2021 15:50 | | Seq: 6067891 | | CCB | Units: ug/L |
| **Analyte** | **Result** | **MDL** | **Report Limit** | **Qual** | | |
| Selenium | 2 | 1.1 | 2 | U | | |
| Silver | 2 | 0.2 | 2 | U | | |

## Form 4 - ICP Interference Check Sample

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Monthly Influent Samples
**WorkOrder:** HS21040697

Run ID: ICPMS06_382670
Instrument: ICPMS06
Method: SW6020A

| ICSA | Date: 29-Apr-2021 10:53 | Seq: 6067451 | ICSA | Units: ug/L |
|---|---|---|---|---|
| **Analyte** | **True** | **Found** | **%R** | |
| Selenium | | 0.176 | 0 | |
| Silver | | 0.292 | 0 | |

| ICSAB | Date: 29-Apr-2021 10:55 | Seq: 6067452 | ICSAB | Units: ug/L |
|---|---|---|---|---|
| **Analyte** | **True** | **Found** | **%R** | |
| Selenium | 100 | 104.9 | 105 | |
| Silver | 100 | 97.69 | 97.7 | |

## Form 5A - Matrix Spike/Matrix Spike Duplicate Recovery

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Monthly Influent Samples
**WorkOrder:** HS21040697

Date Analyzed: 29-Apr-2021 11:29
Date Extracted: 26-Apr-2021 14:00
Units: ug/L

Matrix Spike: HS21040694-01MS
Client Sample ID:

Analysis Method: SW6020A

| Analyte | Sample Result | MS Result | Spike Amount | % Rec | MSD Result | Spike Amount | % Rec | % Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|
| Selenium | 5.000 | 46.83 | 50.00 | 93.2 | 51.96 | 50.00 | 103 | 80-120 | 10.4 | 20 |
| Silver | 5.000 | 47.69 | 50.00 | 95.3 | 49.21 | 50.00 | 98.4 | 85-116 | 3.15 | 20 |

**Form 5B - Post Digest Sample Recovery**

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Monthly Influent Samples
**WorkOrder:** HS21040697

Date Analyzed: 29-Apr-2021 11:31
Date Extracted: 26-Apr-2021 14:00
Units: ug/L

Lab Sample ID: HS21040694-01PDS
Client Sample ID:

Analysis Method: SW6020A

| Analyte | Sample Result | PDS Result | Spike Amount | % Rec | % Rec Limits |
|---|---|---|---|---|---|
| Silver | 0 | 114.1 | 100 | 114 | 80-120 |

**Form 7 - Laboratory Control Sample**

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

**Project:** Longhorn GW Treatment Plant Monthly Influent Samples

**WorkOrder:** HS21040697

Date Analyzed: 29-Apr-2021 11:19

Date Extracted: 26-Apr-2021 14:00

Units: ug/L

Lab Sample ID: LCS-165094

Analysis Method: SW6020A

| Analyte | Spike Amount | LCS Result | % Rec | % Rec Limits |
|---|---|---|---|---|
| Selenium | 50 | 47.72 | 95 | 80-120 |
| Silver | 50 | 51.09 | 102 | 85-116 |

## Form 8 - ICP Serial Dilutions

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Monthly Influent Samples
**WorkOrder:** HS21040697

Date Analyzed: 29-Apr-2021 11:23
Date Extracted: 26-Apr-2021 14:00
Units: ug/L

Lab Sample ID: HS21040694-01SD
Client Sample ID:

Analysis Method: SW6020A

| Analyte | Sample Result | C | SD Result | C | RPD | Q |
|---|---|---|---|---|---|---|
| Selenium | 0 | U | 0 | U | 0 | |
| Silver | 0 | U | 0 | U | 0 | |

# Initial Calibration Verification (ICV) Report

**Sample Table**

| | |
|---|---|
| Sample Name | ICCV |
| Data File Name | 160_ICV.d |
| Data Path Name | C:\Agilent\ICPMH\1\DATA\042921A.b |
| Acq Date Time | 2021-04-29T16:20:27-05:00 |
| Sample Type | ICV |
| Dilution | 1 |
| Comment | |
| ISTD Ref File Name | 153CALB.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 | 114.904 | 0.947 | 2199621 | 0.79 | 100 | 114.9 | 90 | 110 | ICV Main CR1 Failed |
| Be | 9 | 1 | No Gas | 104.037 | 2.128 | 475335 | 1.10 | 100 | 104.0 | 90 | 110 | |
| V | 51 | 2 | He | 100.256 | 0.903 | 641658 | 0.92 | 100 | 100.3 | 90 | 110 | |
| Cr | 52 | 2 | He | 99.695 | 0.976 | 768652 | 1.01 | 100 | 99.7 | 90 | 110 | |
| Fe | 56 | 2 | He | 9284.438 | 0.959 | 63599467 | 0.88 | 10000 | 92.8 | 90 | 110 | |
| Se | 78 | 2 | He | 104.135 | 2.608 | 8564 | 2.42 | 100 | 104.1 | 90 | 110 | |
| As | 75 | 2 | He | 102.232 | 1.132 | 98420 | 1.04 | 100 | 102.2 | 90 | 110 | |
| Ca | 44 | 2 | He | 9164.039 | 0.826 | 334917 | 0.84 | 10000 | 91.6 | 90 | 110 | |
| Na | 23 | 2 | He | 9305.177 | 1.067 | 11225485 | 1.18 | 10000 | 93.1 | 90 | 110 | |
| Mg | 24 | 2 | He | 9343.832 | 2.064 | 6241224 | 1.92 | 10000 | 93.4 | 90 | 110 | |
| K | 39 | 2 | He | 9242.755 | 1.467 | 6271162 | 1.65 | 10000 | 92.4 | 90 | 110 | |
| Mn | 55 | 2 | He | 98.774 | 0.356 | 527541 | 0.31 | 100 | 98.8 | 90 | 110 | |
| Co | 59 | 2 | He | 106.113 | 1.076 | 1219262 | 1.01 | 100 | 106.1 | 90 | 110 | |
| Ni | 60 | 2 | He | 105.499 | 1.660 | 286552 | 1.72 | 100 | 105.5 | 90 | 110 | |
| Cu | 63 | 2 | He | 101.794 | 0.967 | 766586 | 1.16 | 100 | 101.8 | 90 | 110 | |
| Zn | 66 | 2 | He | 104.644 | 0.548 | 142994 | 0.68 | 100 | 104.6 | 90 | 110 | |
| Al | 27 | 2 | He | 102.982 | 0.384 | 35198 | 0.29 | 100 | 103.0 | 90 | 110 | |
| B | 11 | 1 | No Gas | 523.363 | 2.030 | 1529361 | 1.02 | 500 | 104.7 | 90 | 110 | |
| Al | 27 | 1 | No Gas | 103.343 | 0.442 | 1943864 | 0.69 | 100 | 103.3 | 90 | 110 | |
| Si | 28 | 1 | No Gas | 570.692 | 0.469 | 5200143 | 0.09 | 500 | 114.1 | 90 | 110 | ICV Main CR1 Failed |
| Ag | 107 | 1 | No Gas | 104.057 | 1.589 | 2088401 | 0.66 | 100 | 104.1 | 90 | 110 | |
| Cd | 111 | 1 | No Gas | 104.442 | 1.415 | 414777 | 0.98 | 100 | 104.4 | 90 | 110 | |
| Sr | 88 | 1 | No Gas | 103.610 | 1.134 | 3751658 | 1.17 | 100 | 103.6 | 90 | 110 | |
| Mo | 95 | 1 | No Gas | 98.187 | 1.296 | 737437 | 0.77 | 100 | 98.2 | 90 | 110 | |
| Sn | 118 | 1 | No Gas | 101.155 | 1.494 | 1319302 | 0.95 | 100 | 101.2 | 90 | 110 | |
| Sb | 121 | 1 | No Gas | 107.324 | 1.629 | 1899494 | 1.37 | 100 | 107.3 | 90 | 110 | |
| Ba | 137 | 1 | No Gas | 100.494 | 1.227 | 640514 | 0.52 | 100 | 100.5 | 90 | 110 | |
| Tl | 205 | 1 | No Gas | 109.870 | 1.090 | 4879738 | 1.04 | 100 | 109.9 | 90 | 110 | |
| Tl | 203 | 1 | No Gas | 106.770 | 1.562 | 2007344 | 1.40 | 100 | 106.8 | 90 | 110 | |
| Pb | 208 | 1 | No Gas | 103.274 | 1.695 | 6286481 | 1.41 | 100 | 103.3 | 90 | 110 | |
| U | 238 | 1 | No Gas | 101.156 | 1.730 | 6456373 | 2.06 | 100 | 101.2 | 90 | 110 | |
| Ca | 43 | 2 | He | 9212.081 | 1.650 | 19451 | 1.46 | 10000 | 92.1 | 90 | 110 | |
| Sb | 121 | 2 | He | 110.266 | 0.323 | 776969 | 0.36 | 100 | 110.3 | 90 | 110 | ICV Main CR1 Failed |
| Ti | 47 | 2 | He | 101.692 | 2.343 | 22415 | 2.23 | 100 | 101.7 | 90 | 110 | |
| Cu | 63 | 1 | No Gas | 103.293 | 1.098 | 1457287 | 1.33 | 100 | 103.3 | 90 | 110 | |
| Se | 82 | 1 | No Gas | 103.170 | 4.271 | 22722 | 4.60 | 100 | 103.2 | 90 | 110 | |

**QC ISTD Table**

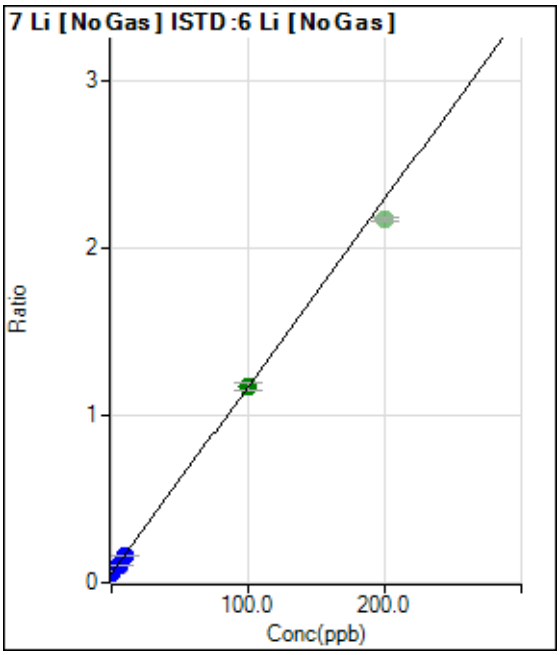
| Name | Mass | Tune Step | Tune Mode | CPS | %RSD | Ref CPS | %Rec | %QC Low | %QC High | QC Flag |
|---|---|---|---|---|---|---|---|---|---|---|
| Li | 6 | 1 | No Gas | 1713197 | 1.24 | 1907901 | 89.79 | 70 | 120 | |
| Ge | 72 | 2 | He | 826961 | 0.20 | 864753 | 95.63 | 70 | 120 | |
| Ge | 72 | 1 | No Gas | 3139675 | 0.36 | 3267211 | 96.10 | 70 | 120 | |
| In | 115 | 1 | No Gas | 3942887 | 1.64 | 4167158 | 94.62 | 70 | 120 | |
| Bi | 209 | 1 | No Gas | 4084385 | 0.37 | 4358540 | 93.71 | 70 | 120 | |

Calibration for 160_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\042921A.b\
Analysis File: 042921A.batch.bin
DA Date-Time: 4/29/2021 8:43:13 PM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

| Level | Standard Data File | Sample Name | Acq. Date-Time |
|---|---|---|---|
| 1 | 153CALB.d | CAL BLK | 4/29/2021 4:06:52 PM |
| 2 | 154CALS.d | 2/10/200 | 4/29/2021 4:08:51 PM |
| 3 | 155CALS.d | 5/25/500 | 4/29/2021 4:10:49 PM |
| 4 | 156CALS.d | 10/50/100 | 4/29/2021 4:12:49 PM |
| 5 | 157CALS.d | 100/500/10K | 4/29/2021 4:14:47 PM |
| 6 | 158CALS.d | 200/1000/20K | 4/29/2021 4:16:39 PM |

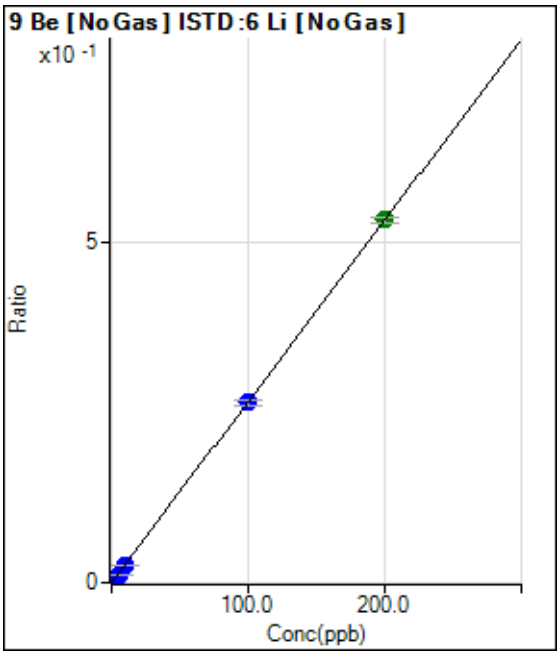
Calibration for 160_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 105191.24 | 0.0552 | P | 2.4 |
| 2 | ☐ | 2.000 | 1.843 | 148043.15 | 0.0758 | P | 3.2 |
| 3 | ☐ | 5.000 | 4.591 | 201733.79 | 0.1065 | P | 0.7 |
| 4 | ☐ | 10.000 | 9.588 | 300300.98 | 0.1624 | P | 2.7 |
| 5 | ☐ | 100.000 | 100.065 | 2017325.02 | 1.1741 | A | 4.5 |
| 6 | ☑ | 200.000 | | 3693165.78 | 2.1694 | A | 1.1 |

y = 0.0112 * x + 0.0552
R = 1.0000
DL = 0.3503
BEC = 4.932

Weight: <None>
Min Conc: <None>

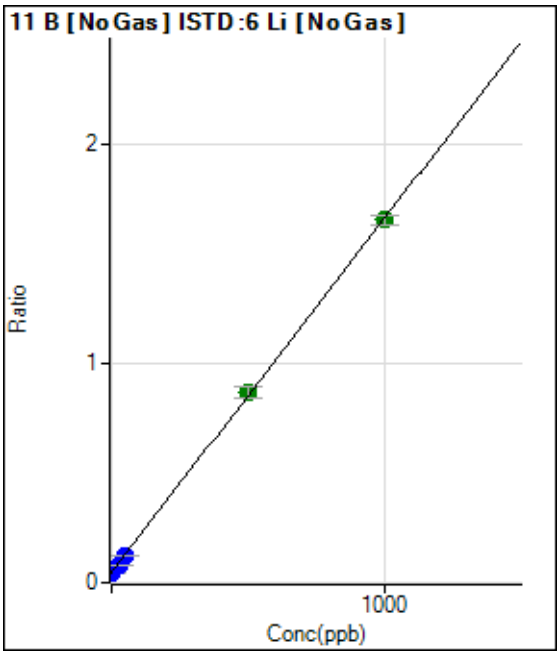



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 15.00 | 0.0000 | P | 32.7 |
| 2 | ☐ | 2.000 | 1.782 | 9306.48 | 0.0048 | P | 0.8 |
| 3 | ☐ | 5.000 | 4.628 | 23397.85 | 0.0124 | P | 2.3 |
| 4 | ☐ | 10.000 | 9.491 | 46830.93 | 0.0253 | P | 2.9 |
| 5 | ☐ | 100.000 | 99.333 | 455375.92 | 0.2650 | P | 3.3 |
| 6 | ☐ | 200.000 | 200.370 | 909818.40 | 0.5344 | A | 1.6 |

y = 0.0027 * x + 7.8450E-006
R = 1.0000
DL = 0.002882
BEC = 0.002941

Weight: <None>
Min Conc: <None>

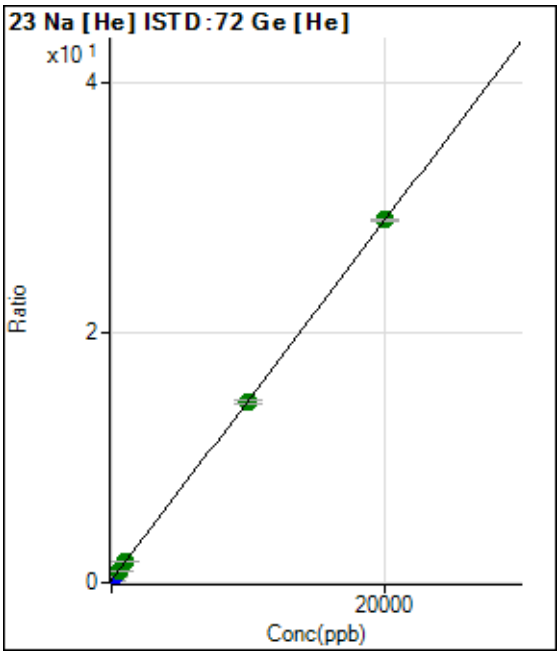
Calibration for 160_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 90926.79 | 0.0477 | P | 1.9 |
| 2 | ☐ | 10.000 | 7.889 | 118054.55 | 0.0604 | P | 3.1 |
| 3 | ☐ | 25.000 | 21.495 | 156050.35 | 0.0824 | P | 1.8 |
| 4 | ☐ | 50.000 | 46.760 | 227822.84 | 0.1232 | P | 2.7 |
| 5 | ☐ | 500.000 | 509.167 | 1494150.13 | 0.8699 | A | 6.1 |
| 6 | ☐ | 1000.000 | 995.687 | 2818333.60 | 1.6555 | A | 2.9 |

y = 0.0016 * x + 0.0477
R = 0.9999
DL = 1.727
BEC = 29.52

Weight: <None>
Min Conc: <None>

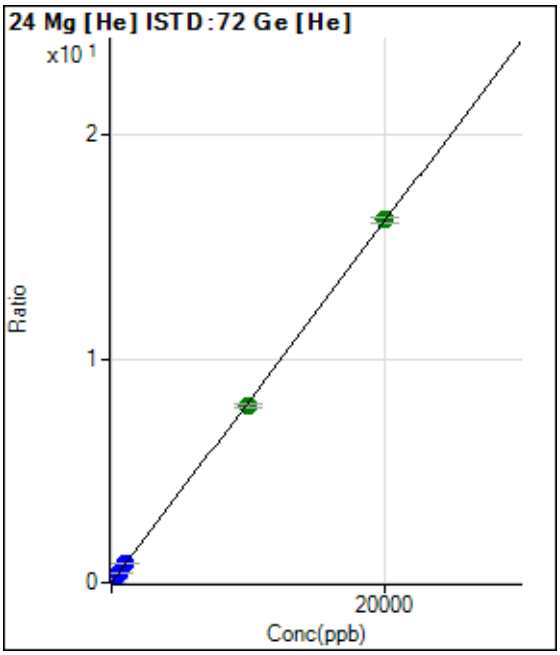



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 164665.20 | 0.1904 | P | 1.1 |
| 2 | ☐ | 200.000 | 192.980 | 413392.66 | 0.4680 | P | 1.0 |
| 3 | ☐ | 500.000 | 492.370 | 782177.33 | 0.8986 | A | 2.0 |
| 4 | ☐ | 1000.000 | 1010.027 | 1393992.58 | 1.6432 | A | 0.5 |
| 5 | ☐ | 10000.00 | 9912.872 | 11953441.07 | 14.4483 | A | 1.5 |
| 6 | ☐ | 20000.00 | 20043.32 | 23233512.15 | 29.0192 | A | 0.6 |

y = 0.0014 * x + 0.1904
R = 1.0000
DL = 4.192
BEC = 132.4

Weight: <None>
Min Conc: <None>

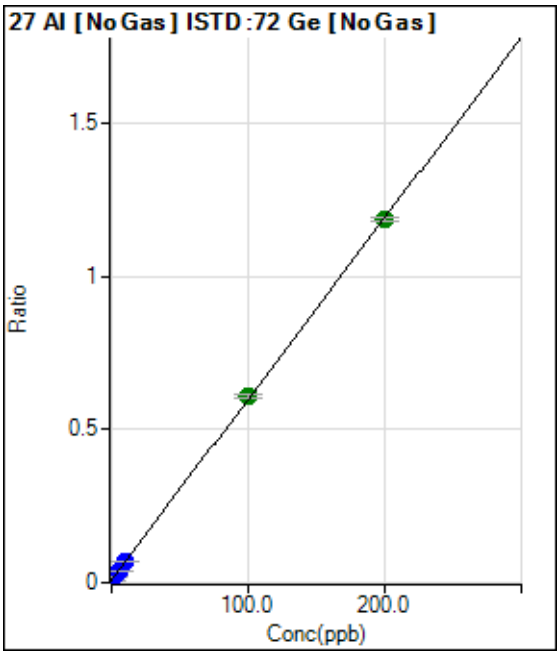
Calibration for 160_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 290.01 | 0.0003 | P | 10.3 |
| 2 | ☐ | 200.000 | 200.163 | 143105.78 | 0.1620 | P | 2.6 |
| 3 | ☐ | 500.000 | 500.998 | 352519.19 | 0.4050 | P | 0.7 |
| 4 | ☐ | 1000.000 | 1032.083 | 707476.71 | 0.8339 | P | 0.5 |
| 5 | ☐ | 10000.00 | 9824.442 | 6565244.07 | 7.9355 | A | 1.8 |
| 6 | ☐ | 20000.00 | 20086.14 | 12989482.72 | 16.2239 | A | 1.7 |

y = 8.0770E-004 * x + 3.3536E-004
R = 0.9999
DL = 0.1286
BEC = 0.4152

Weight: <None>
Min Conc: <None>

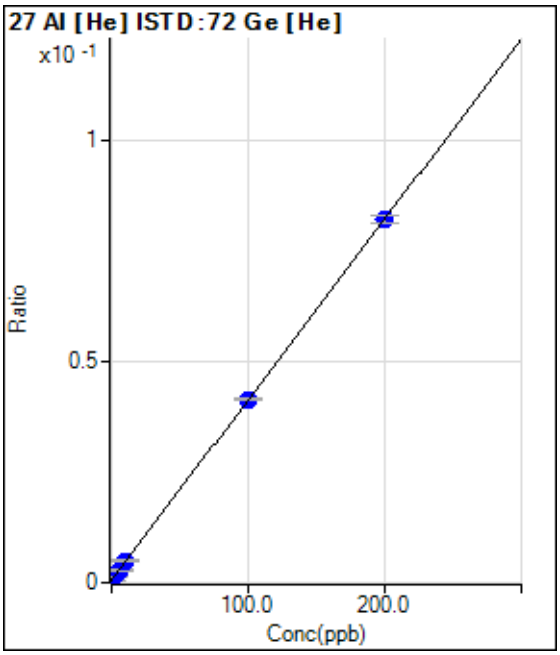



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 28395.94 | 0.0087 | P | 2.3 |
| 2 | ☐ | 2.000 | 2.056 | 68424.54 | 0.0208 | P | 3.2 |
| 3 | ☐ | 5.000 | 4.947 | 123848.03 | 0.0379 | P | 3.0 |
| 4 | ☐ | 10.000 | 9.961 | 216825.19 | 0.0675 | P | 1.3 |
| 5 | ☐ | 100.000 | 101.748 | 1881845.23 | 0.6097 | A | 1.4 |
| 6 | ☐ | 200.000 | 199.129 | 3559122.34 | 1.1849 | A | 1.1 |

y = 0.0059 * x + 0.0087
R = 0.9999
DL = 0.1032
BEC = 1.471

Weight: <None>
Min Conc: <None>

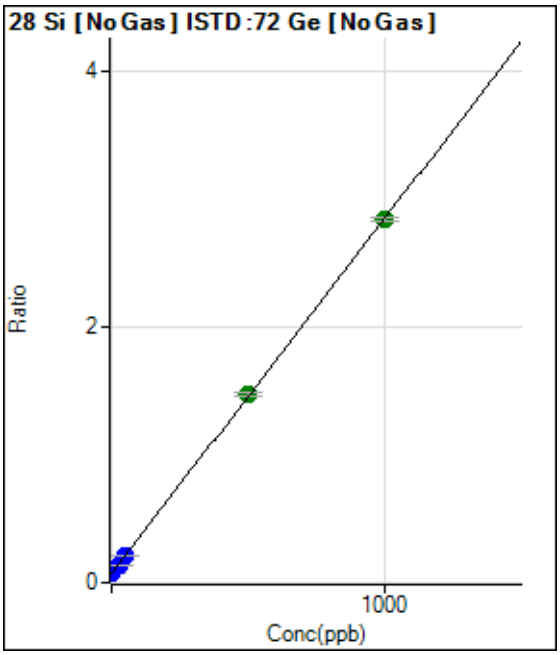
Calibration for 160_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 490.02 | 0.0006 | P | 9.2 |
| 2 | ☐ | 2.000 | 2.230 | 1303.42 | 0.0015 | P | 8.8 |
| 3 | ☐ | 5.000 | 5.317 | 2380.26 | 0.0027 | P | 13.0 |
| 4 | ☐ | 10.000 | 10.743 | 4197.36 | 0.0049 | P | 8.7 |
| 5 | ☐ | 100.000 | 100.229 | 34289.46 | 0.0414 | P | 1.0 |
| 6 | ☐ | 200.000 | 199.838 | 65701.93 | 0.0821 | P | 2.0 |

y = 4.0781E-004 * x + 5.6661E-004
R = 1.0000
DL = 0.3842
BEC = 1.389

Weight: <None>
Min Conc: <None>

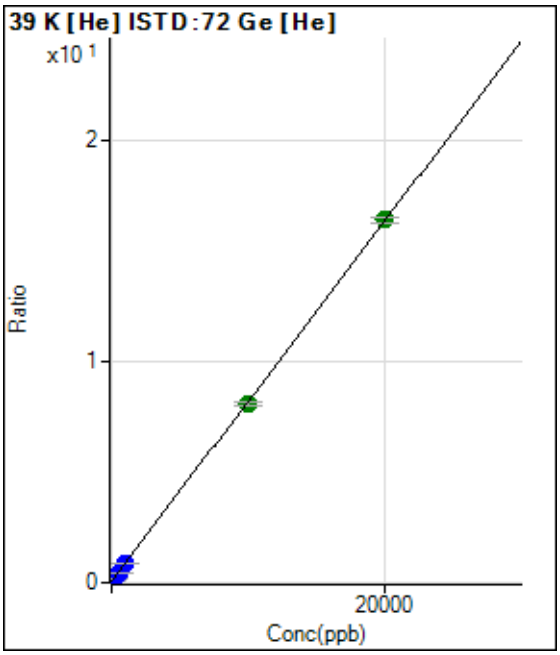



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 232112.00 | 0.0710 | P | 0.2 |
| 2 | ☐ | 10.000 | 10.230 | 326599.45 | 0.0995 | P | 2.8 |
| 3 | ☐ | 25.000 | 24.343 | 452794.68 | 0.1387 | P | 2.1 |
| 4 | ☐ | 50.000 | 51.151 | 684258.35 | 0.2131 | P | 1.5 |
| 5 | ☐ | 500.000 | 506.387 | 4560696.18 | 1.4777 | A | 1.4 |
| 6 | ☐ | 1000.000 | 996.763 | 8530300.50 | 2.8398 | A | 1.1 |

y = 0.0028 * x + 0.0710
R = 1.0000
DL = 0.1661
BEC = 25.58

Weight: <None>
Min Conc: <None>

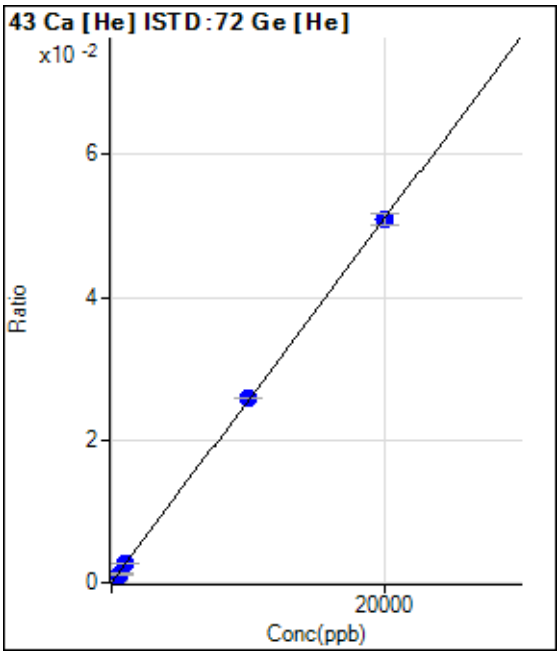
Calibration for 160_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 50408.80 | 0.0583 | P | 2.7 |
| 2 | ☐ | 200.000 | 190.537 | 188526.47 | 0.2134 | P | 1.5 |
| 3 | ☐ | 500.000 | 486.334 | 395392.95 | 0.4542 | P | 1.2 |
| 4 | ☐ | 1000.000 | 1001.900 | 741439.91 | 0.8740 | P | 0.8 |
| 5 | ☐ | 10000.00 | 9837.224 | 6674543.03 | 8.0672 | A | 2.0 |
| 6 | ☐ | 20000.00 | 20081.72 | 13136821.47 | 16.4077 | A | 1.5 |

y = 8.1414E-004 * x + 0.0583
R = 1.0000
DL = 5.846
BEC = 71.61

Weight: <None>
Min Conc: <None>

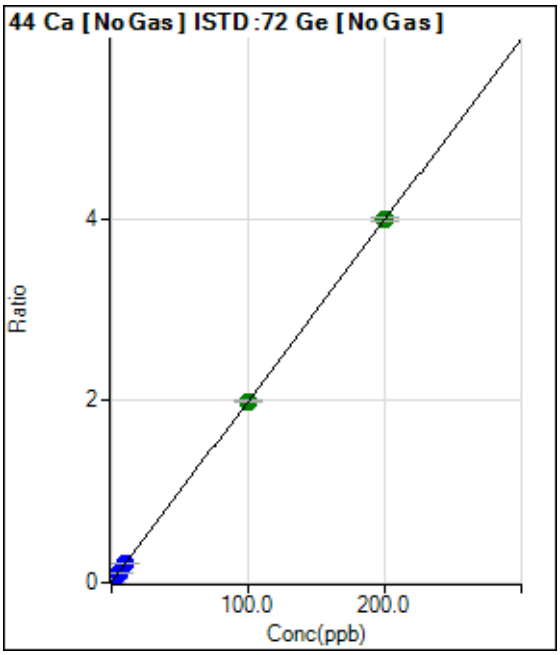



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 23.33 | 0.0000 | P | 24.1 |
| 2 | ☐ | 200.000 | 164.143 | 393.35 | 0.0004 | P | 18.6 |
| 3 | ☐ | 500.000 | 454.996 | 1033.40 | 0.0012 | P | 9.9 |
| 4 | ☐ | 1000.000 | 1018.683 | 2226.88 | 0.0026 | P | 3.6 |
| 5 | ☐ | 10000.00 | 10144.00 | 21426.96 | 0.0259 | P | 0.6 |
| 6 | ☐ | 20000.00 | 19928.54 | 40713.82 | 0.0509 | P | 3.2 |

y = 2.5504E-006 * x + 2.6957E-005
R = 1.0000
DL = 7.639
BEC = 10.57

Weight: <None>
Min Conc: <None>

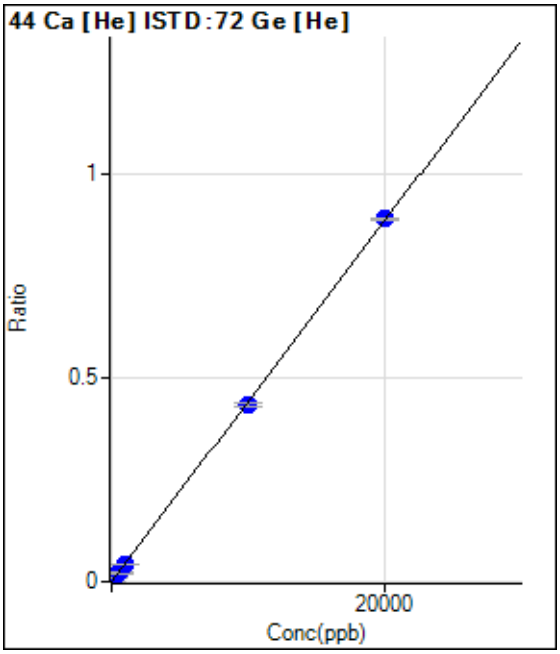
Calibration for 160_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 17875.22 | 0.0055 | P | 1.7 |
| 2 | ☐ | 2.000 | 1.944 | 145112.09 | 0.0442 | P | 1.3 |
| 3 | ☐ | 5.000 | 4.820 | 331184.75 | 0.1014 | P | 3.3 |
| 4 | ☐ | 10.000 | 9.956 | 653947.63 | 0.2037 | P | 1.3 |
| 5 | ☐ | 100.000 | 99.872 | 6153834.07 | 1.9938 | A | 0.4 |
| 6 | ☐ | 200.000 | 200.071 | 11981501.49 | 3.9887 | A | 0.9 |

y = 0.0199 * x + 0.0055
R = 1.0000
DL = 0.01391
BEC = 0.2748

Weight: <None>
Min Conc: <None>

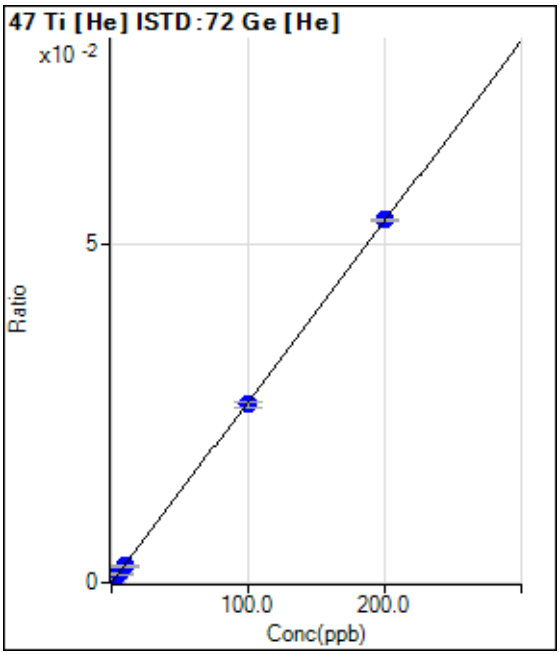



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 226.67 | 0.0003 | P | 14.7 |
| 2 | ☐ | 200.000 | 197.735 | 7945.77 | 0.0090 | P | 3.0 |
| 3 | ☐ | 500.000 | 475.534 | 18509.37 | 0.0213 | P | 1.1 |
| 4 | ☐ | 1000.000 | 987.971 | 37240.72 | 0.0439 | P | 1.9 |
| 5 | ☐ | 10000.00 | 9780.689 | 357611.62 | 0.4322 | P | 1.9 |
| 6 | ☐ | 20000.00 | 20110.89 | 711352.02 | 0.8885 | P | 0.4 |

y = 4.4166E-005 * x + 2.6227E-004
R = 0.9999
DL = 2.619
BEC = 5.938

Weight: <None>
Min Conc: <None>

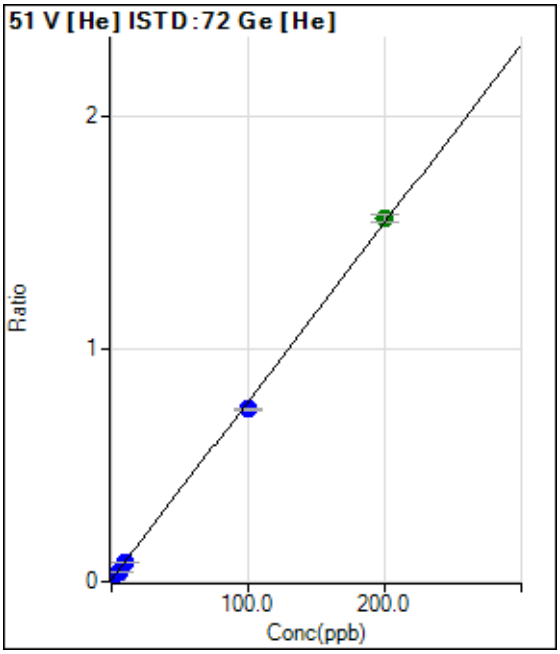
Calibration for 160_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 16.67 | 0.0000 | P | 173.2 |
| 2 | ☐ | 2.000 | 1.756 | 430.01 | 0.0005 | P | 20.8 |
| 3 | ☐ | 5.000 | 4.787 | 1126.73 | 0.0013 | P | 6.1 |
| 4 | ☐ | 10.000 | 9.205 | 2096.87 | 0.0025 | P | 8.1 |
| 5 | ☐ | 100.000 | 98.497 | 21720.83 | 0.0263 | P | 3.0 |
| 6 | ☐ | 200.000 | 200.799 | 42837.09 | 0.0535 | P | 0.8 |

y = 2.6636E-004 * x + 1.9354E-005
R = 1.0000
DL = 0.3776
BEC = 0.07266

Weight: <None>
Min Conc: <None>

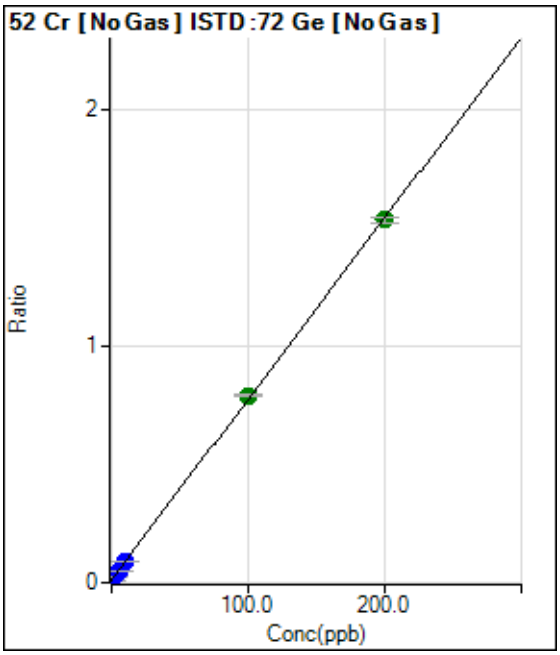



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 7301.98 | 0.0084 | P | 3.2 |
| 2 | ☐ | 2.000 | 1.840 | 19902.30 | 0.0225 | P | 2.3 |
| 3 | ☐ | 5.000 | 4.677 | 38513.97 | 0.0442 | P | 1.1 |
| 4 | ☐ | 10.000 | 9.496 | 68832.86 | 0.0811 | P | 1.4 |
| 5 | ☐ | 100.000 | 95.511 | 611923.80 | 0.7396 | P | 0.6 |
| 6 | ☐ | 200.000 | 202.279 | 1246490.54 | 1.5569 | A | 2.2 |

y = 0.0077 * x + 0.0084
R = 0.9997
DL = 0.1045
BEC = 1.103

Weight: <None>
Min Conc: <None>

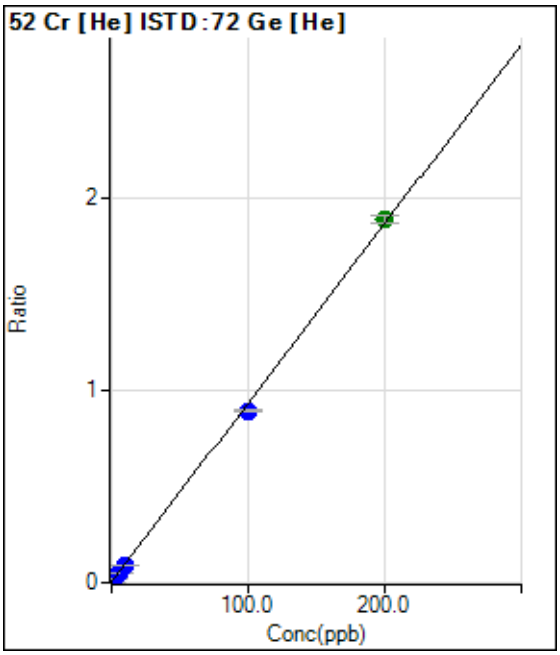
Calibration for 160_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 38835.25 | 0.0119 | P | 2.1 |
| 2 | ☐ | 2.000 | 1.959 | 88266.87 | 0.0269 | P | 3.3 |
| 3 | ☐ | 5.000 | 4.820 | 159233.71 | 0.0488 | P | 3.0 |
| 4 | ☐ | 10.000 | 9.926 | 281951.72 | 0.0878 | P | 2.8 |
| 5 | ☐ | 100.000 | 101.754 | 2439749.91 | 0.7905 | A | 1.0 |
| 6 | ☐ | 200.000 | 199.131 | 4612390.97 | 1.5355 | A | 1.3 |

y = 0.0077 * x + 0.0119
R = 0.9999
DL = 0.0966
BEC = 1.554

Weight: <None>
Min Conc: <None>

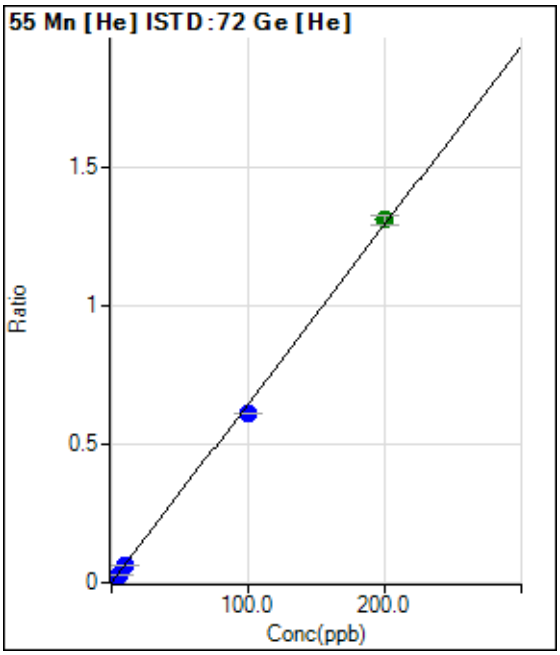



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 2740.34 | 0.0032 | P | 5.5 |
| 2 | ☐ | 2.000 | 1.858 | 18045.45 | 0.0204 | P | 5.5 |
| 3 | ☐ | 5.000 | 4.678 | 40597.12 | 0.0466 | P | 3.3 |
| 4 | ☐ | 10.000 | 9.666 | 78876.60 | 0.0930 | P | 2.8 |
| 5 | ☐ | 100.000 | 95.635 | 737843.01 | 0.8918 | P | 0.5 |
| 6 | ☐ | 200.000 | 202.209 | 1506768.10 | 1.8820 | A | 2.1 |

y = 0.0093 * x + 0.0032
R = 0.9997
DL = 0.05578
BEC = 0.3411

Weight: <None>
Min Conc: <None>

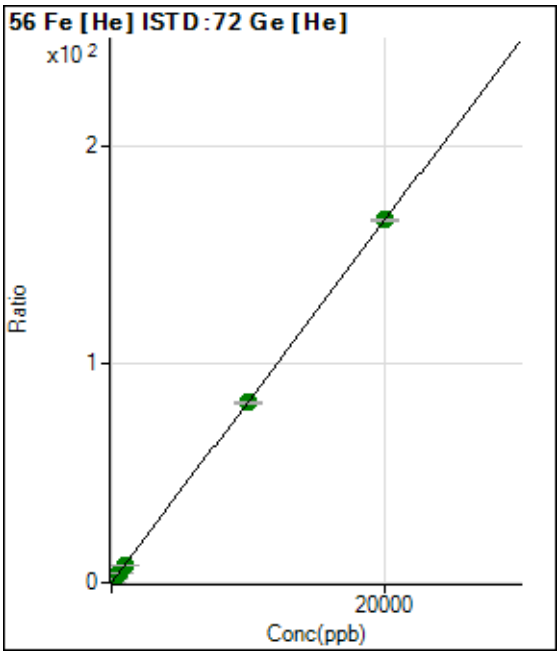
Calibration for 160_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 306.67 | 0.0004 | P | 36.8 |
| 2 | ☐ | 2.000 | 1.844 | 10824.46 | 0.0123 | P | 2.8 |
| 3 | ☐ | 5.000 | 4.573 | 26001.81 | 0.0299 | P | 0.6 |
| 4 | ☐ | 10.000 | 9.634 | 53056.56 | 0.0625 | P | 1.4 |
| 5 | ☐ | 100.000 | 94.413 | 504544.77 | 0.6098 | P | 0.7 |
| 6 | ☐ | 200.000 | 202.824 | 1048489.57 | 1.3096 | A | 2.6 |

y = 0.0065 * x + 3.5513E-004
R = 0.9995
DL = 0.06067
BEC = 0.05502

Weight: <None>
Min Conc: <None>

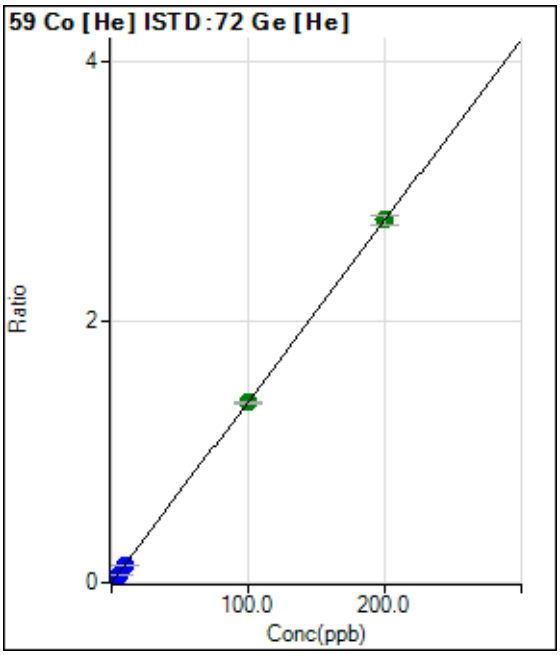



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 7518.86 | 0.0087 | P | 1.7 |
| 2 | ☐ | 200.000 | 198.403 | 1459206.60 | 1.6520 | A | 1.1 |
| 3 | ☐ | 500.000 | 492.344 | 3557110.78 | 4.0866 | A | 0.6 |
| 4 | ☐ | 1000.000 | 998.848 | 7025907.60 | 8.2817 | A | 0.3 |
| 5 | ☐ | 10000.00 | 9929.652 | 68054520.65 | 82.2519 | A | 0.4 |
| 6 | ☐ | 20000.00 | 20035.43 | 132868438.0 | 165.954 | A | 0.6 |

y = 0.0083 * x + 0.0087
R = 1.0000
DL = 0.05416
BEC = 1.05

Weight: <None>
Min Conc: <None>

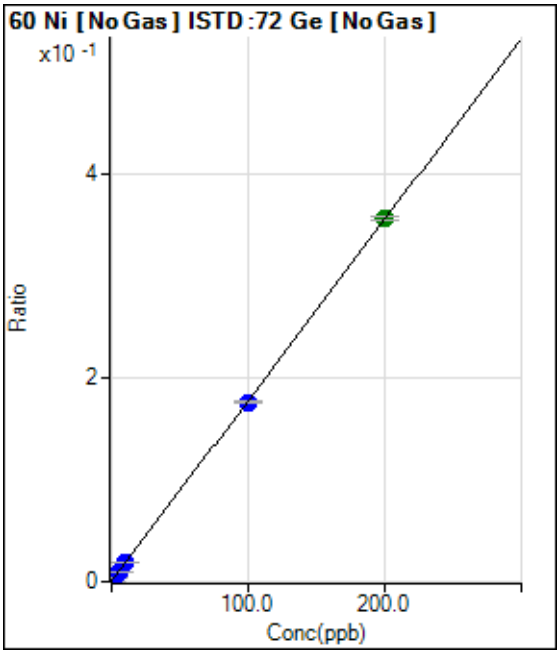
Calibration for 160_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 50.00 | 0.0001 | P | 39.5 |
| 2 | ☐ | 2.000 | 1.837 | 22592.40 | 0.0256 | P | 0.2 |
| 3 | ☐ | 5.000 | 4.658 | 56383.15 | 0.0648 | P | 0.5 |
| 4 | ☐ | 10.000 | 9.576 | 112924.99 | 0.1331 | P | 0.8 |
| 5 | ☐ | 100.000 | 99.310 | 1141609.75 | 1.3799 | A | 1.6 |
| 6 | ☐ | 200.000 | 200.376 | 2228944.60 | 2.7841 | A | 2.6 |

y = 0.0139 * x + 5.7748E-005
R = 1.0000
DL = 0.004924
BEC = 0.004156

Weight: <None>
Min Conc: <None>

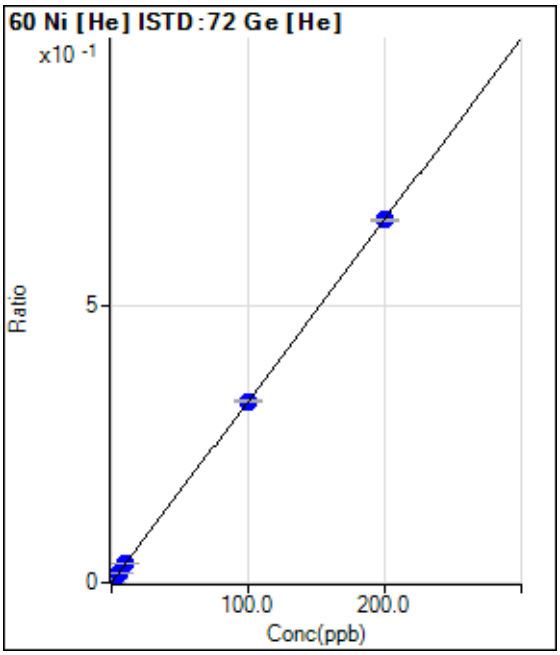



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 1170.07 | 0.0004 | P | 13.9 |
| 2 | ☐ | 2.000 | 1.933 | 12442.47 | 0.0038 | P | 2.8 |
| 3 | ☐ | 5.000 | 4.783 | 28890.94 | 0.0088 | P | 2.6 |
| 4 | ☐ | 10.000 | 10.110 | 58763.55 | 0.0183 | P | 2.0 |
| 5 | ☐ | 100.000 | 99.168 | 544439.51 | 0.1764 | P | 0.7 |
| 6 | ☐ | 200.000 | 200.417 | 1069834.05 | 0.3561 | A | 1.1 |

y = 0.0018 * x + 3.5807E-004
R = 1.0000
DL = 0.08413
BEC = 0.2017

Weight: <None>
Min Conc: <None>

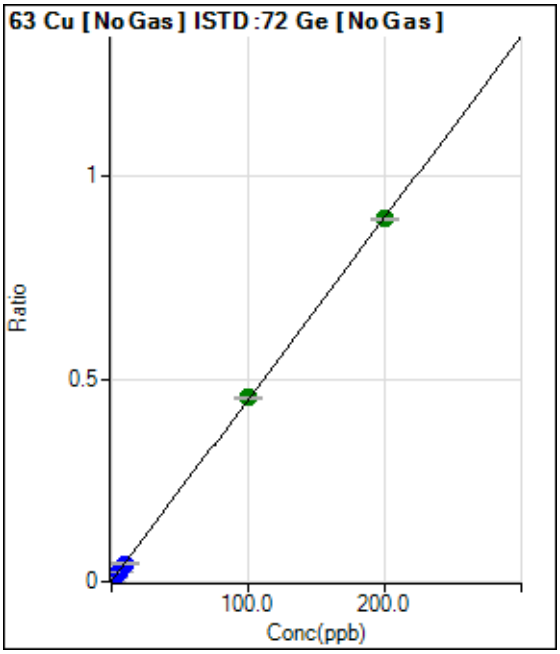
Calibration for 160_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 176.67 | 0.0002 | P | 30.5 |
| 2 | ☐ | 2.000 | 1.878 | 5624.62 | 0.0064 | P | 2.5 |
| 3 | ☐ | 5.000 | 4.999 | 14461.28 | 0.0166 | P | 1.3 |
| 4 | ☐ | 10.000 | 10.096 | 28286.40 | 0.0333 | P | 1.4 |
| 5 | ☐ | 100.000 | 100.085 | 271987.69 | 0.3287 | P | 1.1 |
| 6 | ☐ | 200.000 | 199.954 | 525672.60 | 0.6566 | P | 0.6 |

y = 0.0033 * x + 2.0406E-004
R = 1.0000
DL = 0.05693
BEC = 0.06216

Weight: <None>
Min Conc: <None>

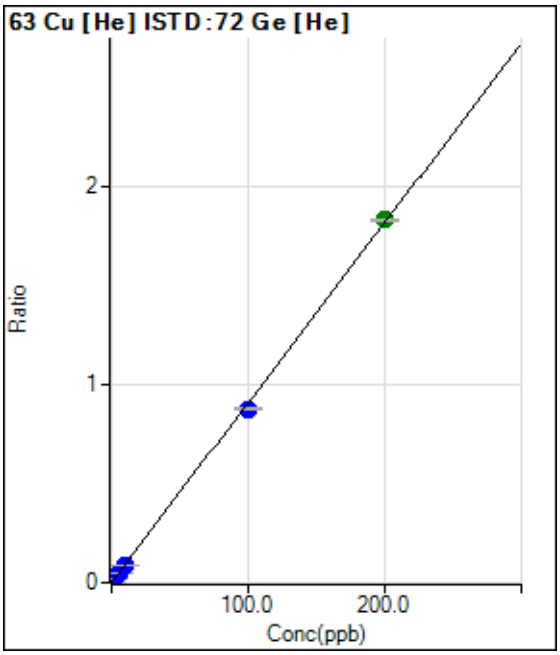



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 3520.53 | 0.0011 | P | 2.5 |
| 2 | ☐ | 2.000 | 1.823 | 30374.23 | 0.0092 | P | 1.8 |
| 3 | ☐ | 5.000 | 4.674 | 71940.02 | 0.0220 | P | 2.5 |
| 4 | ☐ | 10.000 | 9.734 | 143561.85 | 0.0447 | P | 1.8 |
| 5 | ☐ | 100.000 | 101.153 | 1402952.38 | 0.4545 | A | 0.6 |
| 6 | ☐ | 200.000 | 199.447 | 2689140.38 | 0.8952 | A | 0.3 |

y = 0.0045 * x + 0.0011
R = 1.0000
DL = 0.01784
BEC = 0.2403

Weight: <None>
Min Conc: <None>

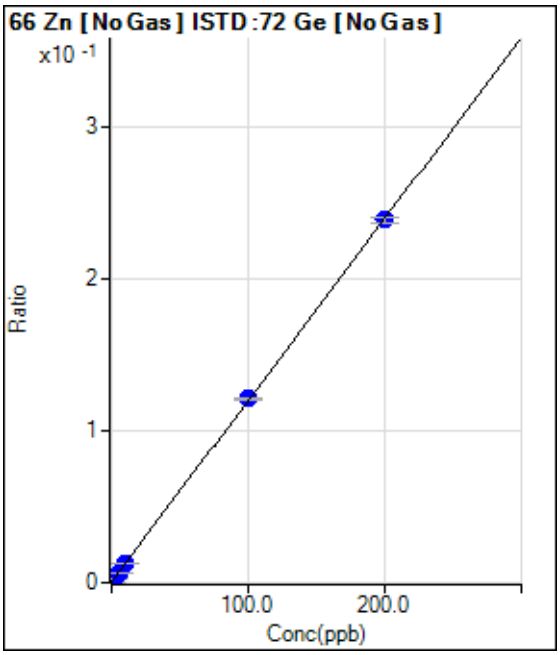
Calibration for 160_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 1546.79 | 0.0018 | P | 15.4 |
| 2 | ☐ | 2.000 | 1.835 | 16310.01 | 0.0185 | P | 0.7 |
| 3 | ☐ | 5.000 | 4.761 | 39220.17 | 0.0451 | P | 1.5 |
| 4 | ☐ | 10.000 | 9.850 | 77463.39 | 0.0913 | P | 1.1 |
| 5 | ☐ | 100.000 | 96.539 | 727440.93 | 0.8792 | P | 0.4 |
| 6 | ☐ | 200.000 | 201.746 | 1469545.86 | 1.8354 | A | 0.7 |

y = 0.0091 * x + 0.0018
R = 0.9998
DL = 0.09073
BEC = 0.1969

Weight: <None>
Min Conc: <None>

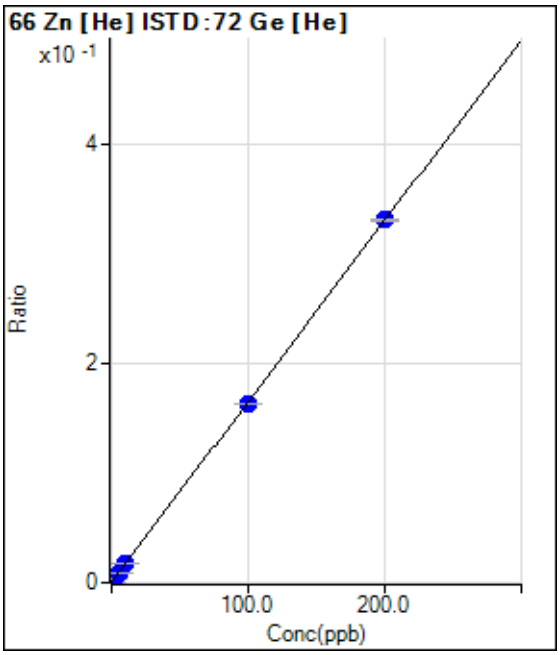



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 1490.11 | 0.0005 | P | 5.3 |
| 2 | ☐ | 2.000 | 1.986 | 9286.69 | 0.0028 | P | 2.1 |
| 3 | ☐ | 5.000 | 4.791 | 20165.32 | 0.0062 | P | 2.7 |
| 4 | ☐ | 10.000 | 10.074 | 40056.05 | 0.0125 | P | 3.8 |
| 5 | ☐ | 100.000 | 100.932 | 373201.79 | 0.1209 | P | 1.2 |
| 6 | ☐ | 200.000 | 199.536 | 716624.44 | 0.2386 | P | 1.9 |

y = 0.0012 * x + 4.5600E-004
R = 1.0000
DL = 0.0608
BEC = 0.3821

Weight: <None>
Min Conc: <None>

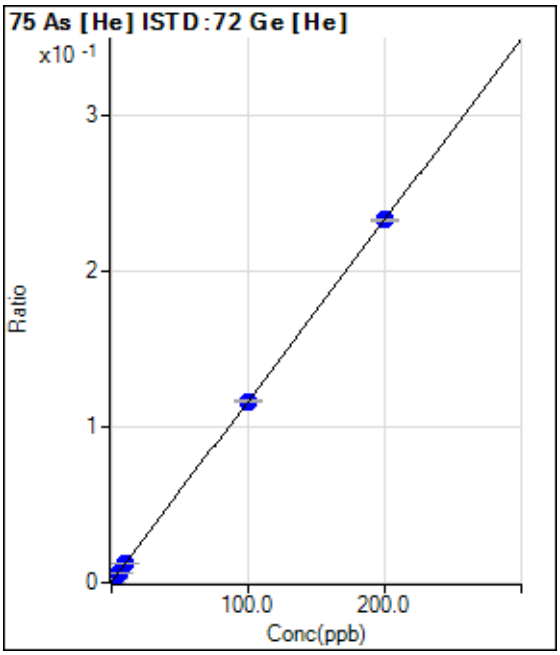
Calibration for 160_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 560.02 | 0.0006 | P | 19.3 |
| 2 | ☐ | 2.000 | 1.805 | 3197.11 | 0.0036 | P | 3.2 |
| 3 | ☐ | 5.000 | 4.825 | 7478.86 | 0.0086 | P | 2.3 |
| 4 | ☐ | 10.000 | 10.160 | 14738.13 | 0.0174 | P | 2.5 |
| 5 | ☐ | 100.000 | 98.810 | 135118.06 | 0.1633 | P | 0.6 |
| 6 | ☐ | 200.000 | 200.593 | 264905.10 | 0.3309 | P | 0.8 |

y = 0.0016 * x + 6.4806E-004
R = 1.0000
DL = 0.2281
BEC = 0.3937

Weight: <None>
Min Conc: <None>

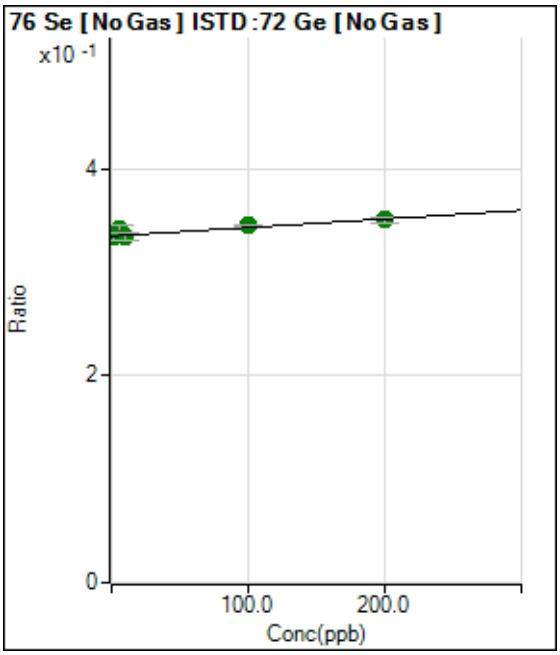



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 338.90 | 0.0004 | P | 12.7 |
| 2 | ☐ | 2.000 | 1.934 | 2327.99 | 0.0026 | P | 2.2 |
| 3 | ☐ | 5.000 | 4.865 | 5254.38 | 0.0060 | P | 4.6 |
| 4 | ☐ | 10.000 | 9.967 | 10143.86 | 0.0120 | P | 1.8 |
| 5 | ☐ | 100.000 | 99.918 | 96249.25 | 0.1163 | P | 0.8 |
| 6 | ☐ | 200.000 | 200.047 | 186155.32 | 0.2325 | P | 0.6 |

y = 0.0012 * x + 3.9172E-004
R = 1.0000
DL = 0.1289
BEC = 0.3376

Weight: <None>
Min Conc: <None>

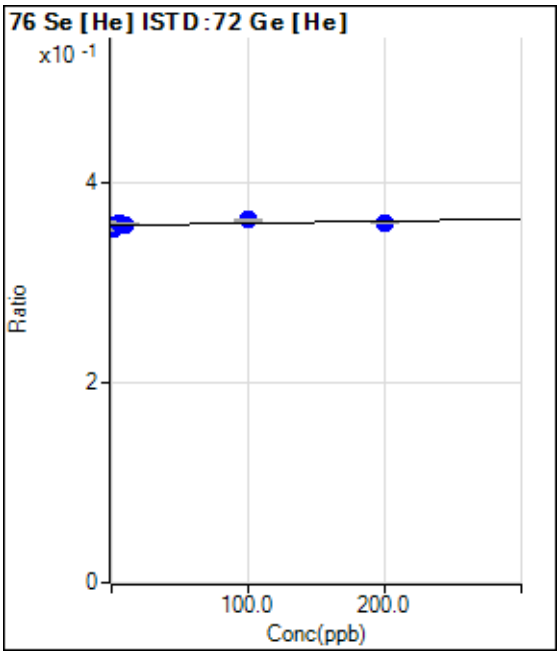
Calibration for 160_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 1094516.88 | 0.3350 | A | 0.7 |
| 2 | ☐ | 2.000 | -2.519 | 1099594.57 | 0.3348 | A | 1.9 |
| 3 | ☐ | 5.000 | 77.132 | 1114840.50 | 0.3414 | A | 2.2 |
| 4 | ☐ | 10.000 | -7.750 | 1073444.91 | 0.3344 | A | 2.0 |
| 5 | ☐ | 100.000 | 122.453 | 1065349.10 | 0.3452 | A | 0.6 |
| 6 | ☐ | 200.000 | 187.903 | 1053040.04 | 0.3506 | A | 1.7 |

y = 8.2957E-005 * x + 0.3350
R = 0.9154
DL = 89.88
BEC = 4038

Weight: <None>
Min Conc: <None>

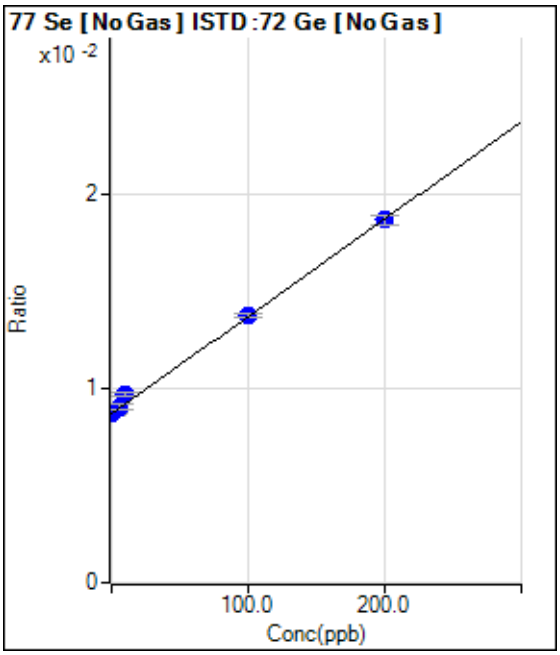



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 309713.33 | 0.3582 | P | 1.0 |
| 2 | ☐ | 2.000 | -211.112 | 312426.85 | 0.3537 | P | 0.3 |
| 3 | ☐ | 5.000 | 135.491 | 314253.76 | 0.3610 | P | 0.3 |
| 4 | ☐ | 10.000 | 39.824 | 304557.71 | 0.3590 | P | 0.4 |
| 5 | ☐ | 100.000 | 255.092 | 300796.49 | 0.3636 | P | 0.6 |
| 6 | ☐ | 200.000 | 119.832 | 288783.86 | 0.3607 | P | 0.6 |

y = 2.1165E-005 * x + 0.3582
R = 0.4991
DL = 501.6
BEC = 1.692E+04

Weight: <None>
Min Conc: <None>

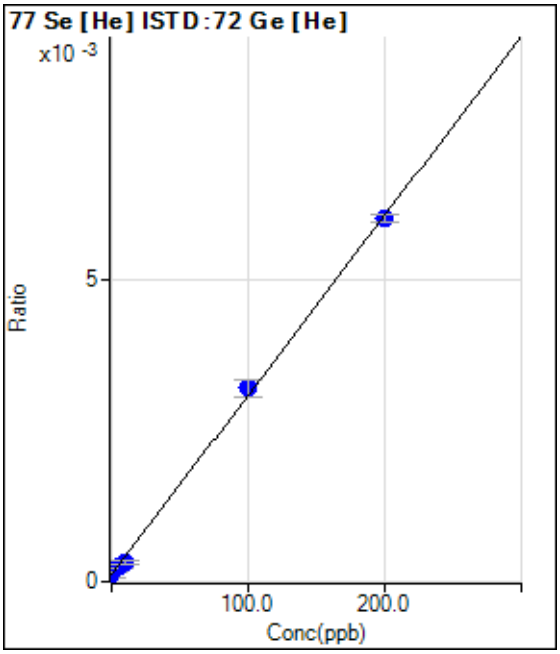
Calibration for 160_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 28440.33 | 0.0087 | P | 3.2 |
| 2 | ☐ | 2.000 | 1.496 | 28834.52 | 0.0088 | P | 2.4 |
| 3 | ☐ | 5.000 | 6.838 | 29536.08 | 0.0090 | P | 3.3 |
| 4 | ☐ | 10.000 | 20.694 | 31273.31 | 0.0097 | P | 1.9 |
| 5 | ☐ | 100.000 | 100.681 | 42437.08 | 0.0137 | P | 1.4 |
| 6 | ☐ | 200.000 | 199.084 | 56103.41 | 0.0187 | P | 2.6 |

y = 5.0108E-005 * x + 0.0087
R = 0.9987
DL = 16.49
BEC = 173.7

Weight: <None>
Min Conc: <None>

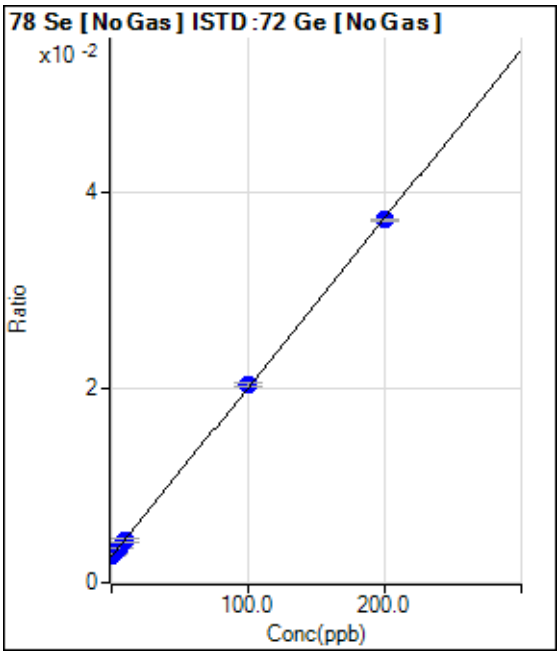



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 100.00 | 0.0001 | P | 65.0 |
| 2 | ☐ | 2.000 | 2.211 | 160.00 | 0.0002 | P | 26.9 |
| 3 | ☐ | 5.000 | 5.011 | 230.00 | 0.0003 | P | 26.5 |
| 4 | ☐ | 10.000 | 6.962 | 273.34 | 0.0003 | P | 13.0 |
| 5 | ☐ | 100.000 | 103.884 | 2650.31 | 0.0032 | P | 9.0 |
| 6 | ☐ | 200.000 | 198.208 | 4807.63 | 0.0060 | P | 2.2 |

y = 2.9712E-005 * x + 1.1536E-004
R = 0.9996
DL = 7.574
BEC = 3.882

Weight: <None>
Min Conc: <None>

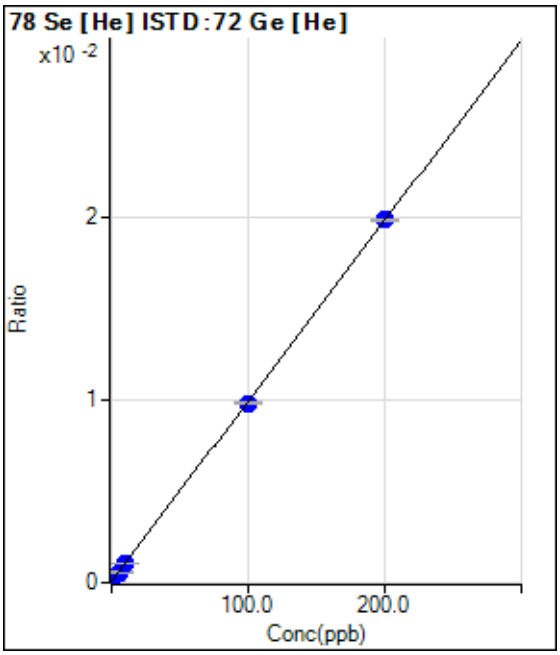
Calibration for 160_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 8823.05 | 0.0027 | P | 2.3 |
| 2 | ☐ | 2.000 | 1.942 | 9973.85 | 0.0030 | P | 2.5 |
| 3 | ☐ | 5.000 | 5.157 | 11738.65 | 0.0036 | P | 1.9 |
| 4 | ☐ | 10.000 | 9.484 | 13944.09 | 0.0043 | P | 4.8 |
| 5 | ☐ | 100.000 | 101.651 | 62692.42 | 0.0203 | P | 1.1 |
| 6 | ☐ | 200.000 | 199.197 | 111777.87 | 0.0372 | P | 0.6 |

y = 1.7326E-004 * x + 0.0027
R = 0.9999
DL = 1.061
BEC = 15.59

Weight: <None>
Min Conc: <None>

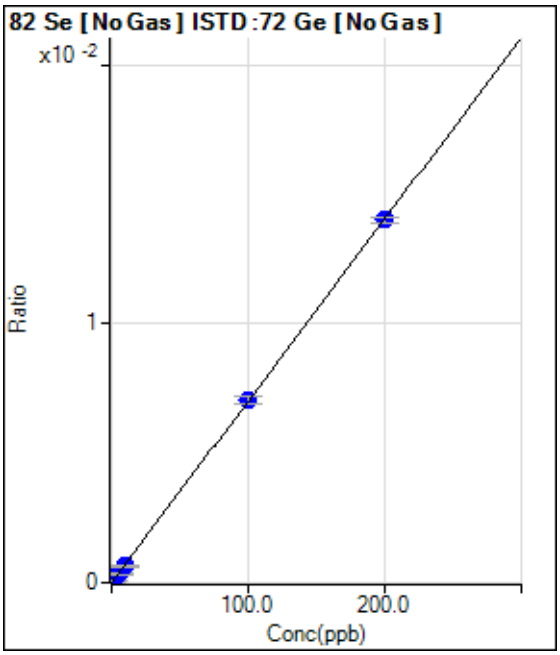



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 72.00 | 0.0001 | P | 15.9 |
| 2 | ☐ | 2.000 | 2.001 | 248.00 | 0.0003 | P | 8.0 |
| 3 | ☐ | 5.000 | 4.801 | 484.68 | 0.0006 | P | 14.4 |
| 4 | ☐ | 10.000 | 10.092 | 915.37 | 0.0011 | P | 2.9 |
| 5 | ☐ | 100.000 | 98.914 | 8142.47 | 0.0098 | P | 0.4 |
| 6 | ☐ | 200.000 | 200.543 | 15906.72 | 0.0199 | P | 0.6 |

y = 9.8652E-005 * x + 8.3298E-005
R = 1.0000
DL = 0.4018
BEC = 0.8444

Weight: <None>
Min Conc: <None>

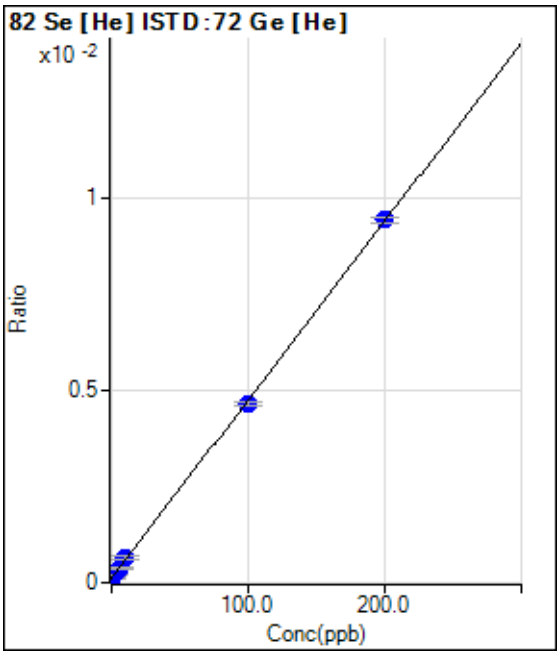
Calibration for 160_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | -11.80 | 0.0000 | P | -832.5 |
| 2 | ☐ | 2.000 | 1.504 | 334.17 | 0.0001 | P | 7.8 |
| 3 | ☐ | 5.000 | 4.797 | 1091.12 | 0.0003 | P | 19.6 |
| 4 | ☐ | 10.000 | 9.181 | 2057.75 | 0.0006 | P | 4.4 |
| 5 | ☐ | 100.000 | 100.668 | 21793.32 | 0.0071 | P | 3.5 |
| 6 | ☐ | 200.000 | 199.717 | 42086.26 | 0.0140 | P | 1.4 |

y = 7.0177E-005 * x - 3.7316E-006
R = 1.0000
DL = 1.328
BEC = -0.05317

Weight: <None>
Min Conc: <None>

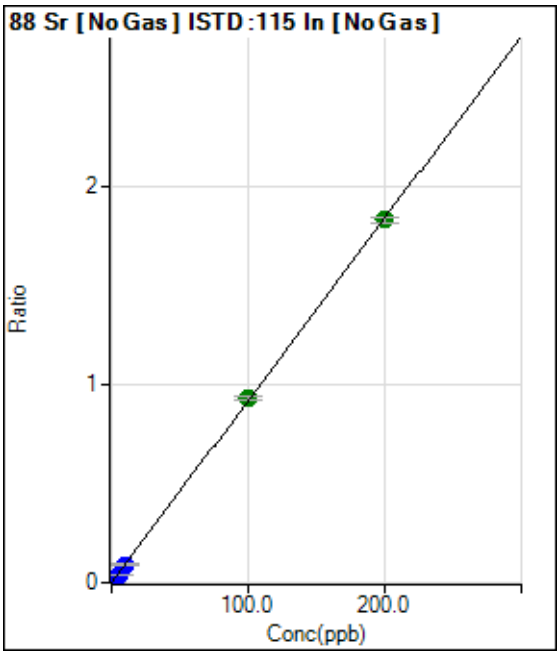



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 100.00 | 0.0001 | P | 35.0 |
| 2 | ☐ | 2.000 | 2.229 | 193.34 | 0.0002 | P | 31.0 |
| 3 | ☐ | 5.000 | 5.529 | 323.34 | 0.0004 | P | 20.8 |
| 4 | ☐ | 10.000 | 11.683 | 556.69 | 0.0007 | P | 10.9 |
| 5 | ☐ | 100.000 | 97.923 | 3843.97 | 0.0046 | P | 2.3 |
| 6 | ☐ | 200.000 | 200.939 | 7535.57 | 0.0094 | P | 1.5 |

y = 4.6265E-005 * x + 1.1574E-004
R = 0.9999
DL = 2.63
BEC = 2.502

Weight: <None>
Min Conc: <None>

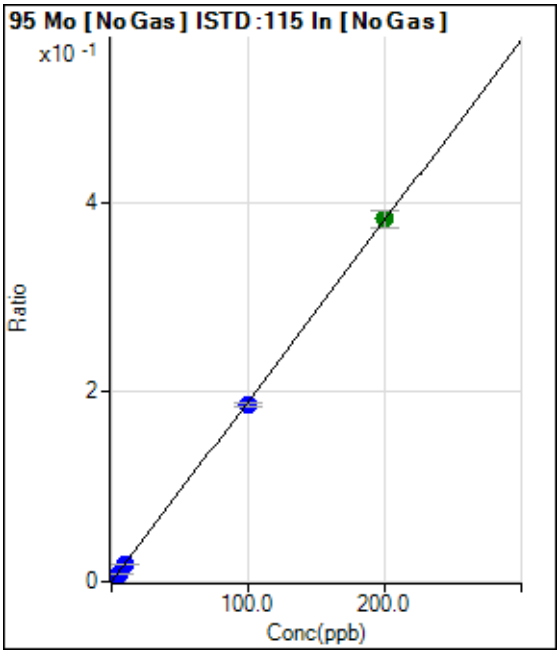
Calibration for 160_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 1043.39 | 0.0003 | P | 18.9 |
| 2 | ☐ | 2.000 | 1.912 | 74245.43 | 0.0178 | P | 2.8 |
| 3 | ☐ | 5.000 | 4.645 | 179633.45 | 0.0429 | P | 1.4 |
| 4 | ☐ | 10.000 | 9.909 | 366348.25 | 0.0912 | P | 2.7 |
| 5 | ☐ | 100.000 | 101.567 | 3620307.24 | 0.9328 | A | 2.6 |
| 6 | ☐ | 200.000 | 199.231 | 6953015.73 | 1.8296 | A | 1.7 |

y = 0.0092 * x + 2.5063E-004
R = 1.0000
DL = 0.01545
BEC = 0.0273

Weight: <None>
Min Conc: <None>

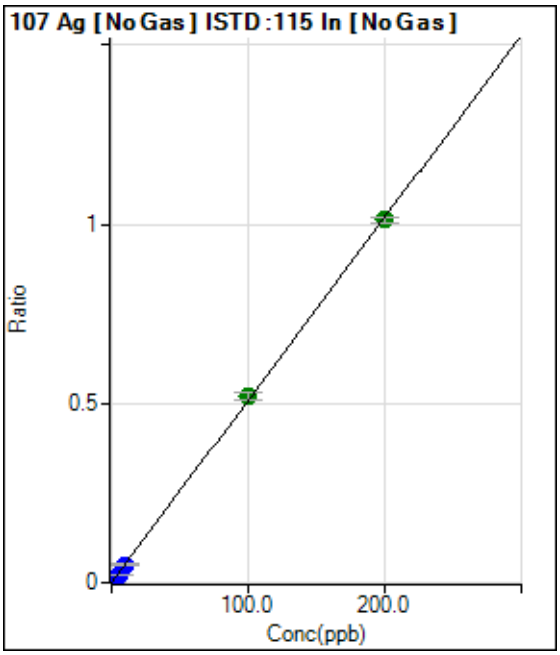



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 70.00 | 0.0000 | P | 23.3 |
| 2 | ☐ | 2.000 | 1.850 | 14761.77 | 0.0035 | P | 1.9 |
| 3 | ☐ | 5.000 | 4.567 | 36493.75 | 0.0087 | P | 1.1 |
| 4 | ☐ | 10.000 | 9.627 | 73703.10 | 0.0184 | P | 2.9 |
| 5 | ☐ | 100.000 | 98.231 | 726322.54 | 0.1871 | P | 2.0 |
| 6 | ☐ | 200.000 | 200.915 | 1454166.75 | 0.3827 | A | 4.6 |

y = 0.0019 * x + 1.6765E-005
R = 0.9999
DL = 0.006164
BEC = 0.008801

Weight: <None>
Min Conc: <None>

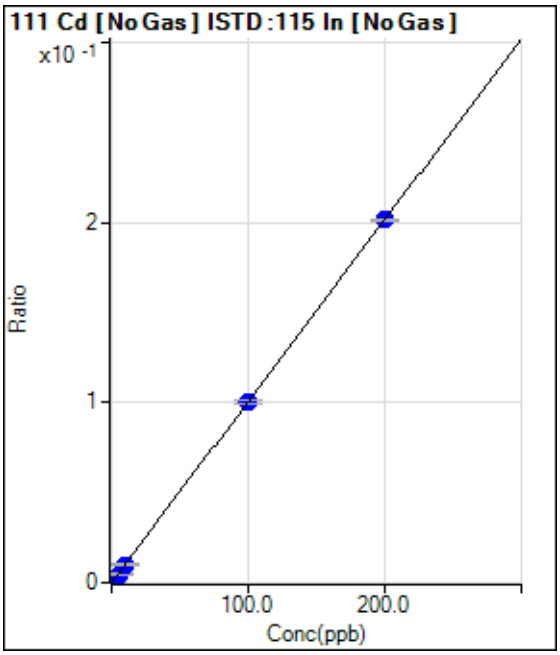
Calibration for 160_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 333.34 | 0.0001 | P | 8.7 |
| 2 | ☐ | 2.000 | 1.885 | 40341.70 | 0.0097 | P | 1.1 |
| 3 | ☐ | 5.000 | 4.651 | 99455.36 | 0.0238 | P | 2.0 |
| 4 | ☐ | 10.000 | 9.920 | 203108.79 | 0.0506 | P | 2.1 |
| 5 | ☐ | 100.000 | 102.347 | 2022303.15 | 0.5210 | A | 3.4 |
| 6 | ☐ | 200.000 | 198.841 | 3846851.92 | 1.0122 | A | 1.6 |

y = 0.0051 * x + 8.0047E-005
R = 0.9999
DL = 0.004096
BEC = 0.01573

Weight: <None>
Min Conc: <None>

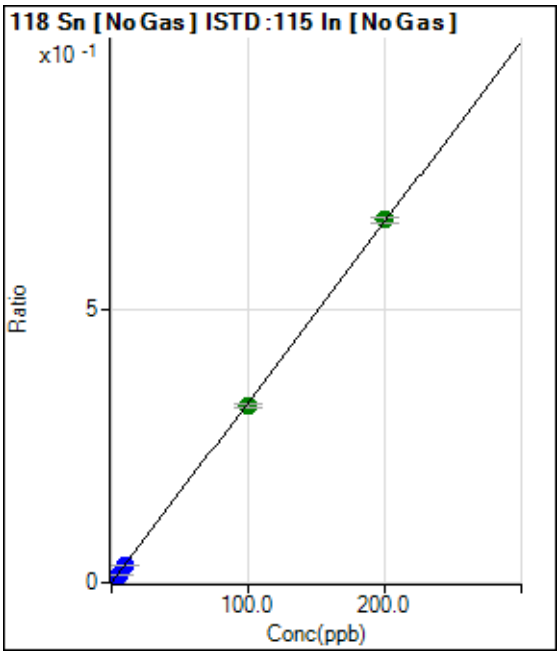



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 10.00 | 0.0000 | P | 100.8 |
| 2 | ☐ | 2.000 | 1.967 | 8269.40 | 0.0020 | P | 1.9 |
| 3 | ☐ | 5.000 | 4.758 | 20078.99 | 0.0048 | P | 1.8 |
| 4 | ☐ | 10.000 | 9.989 | 40419.01 | 0.0101 | P | 2.1 |
| 5 | ☐ | 100.000 | 99.761 | 390034.73 | 0.1005 | P | 1.9 |
| 6 | ☐ | 200.000 | 200.127 | 766198.84 | 0.2016 | P | 0.8 |

y = 0.0010 * x + 2.4030E-006
R = 1.0000
DL = 0.007214
BEC = 0.002386

Weight: <None>
Min Conc: <None>

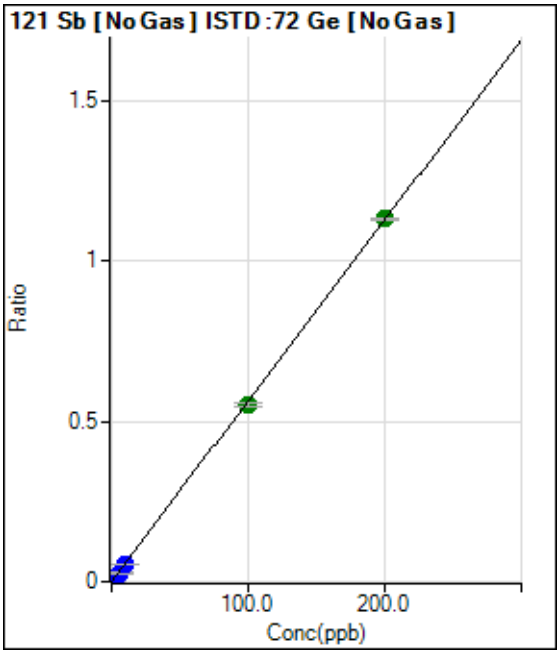
Calibration for 160_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 1716.82 | 0.0004 | P | 5.3 |
| 2 | ☐ | 2.000 | 1.855 | 27275.27 | 0.0065 | P | 3.0 |
| 3 | ☐ | 5.000 | 4.464 | 63490.21 | 0.0152 | P | 2.5 |
| 4 | ☐ | 10.000 | 9.455 | 127127.53 | 0.0317 | P | 1.8 |
| 5 | ☐ | 100.000 | 97.932 | 1257642.48 | 0.3240 | A | 1.7 |
| 6 | ☐ | 200.000 | 201.076 | 2526573.55 | 0.6648 | A | 1.4 |

y = 0.0033 * x + 4.1202E-004
R = 0.9999
DL = 0.01995
BEC = 0.1247

Weight: <None>
Min Conc: <None>

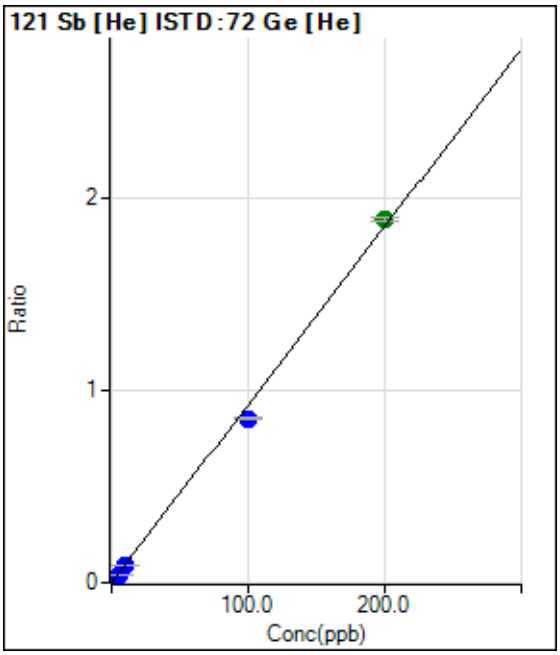



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 2676.99 | 0.0008 | P | 5.0 |
| 2 | ☐ | 2.000 | 1.873 | 37320.11 | 0.0114 | P | 2.0 |
| 3 | ☐ | 5.000 | 4.600 | 87238.93 | 0.0267 | P | 2.7 |
| 4 | ☐ | 10.000 | 9.435 | 173124.75 | 0.0539 | P | 3.3 |
| 5 | ☐ | 100.000 | 98.261 | 1709870.39 | 0.5540 | A | 1.9 |
| 6 | ☐ | 200.000 | 200.909 | 3399897.45 | 1.1319 | A | 0.8 |

y = 0.0056 * x + 8.1928E-004
R = 0.9999
DL = 0.0218
BEC = 0.1455

Weight: <None>
Min Conc: <None>

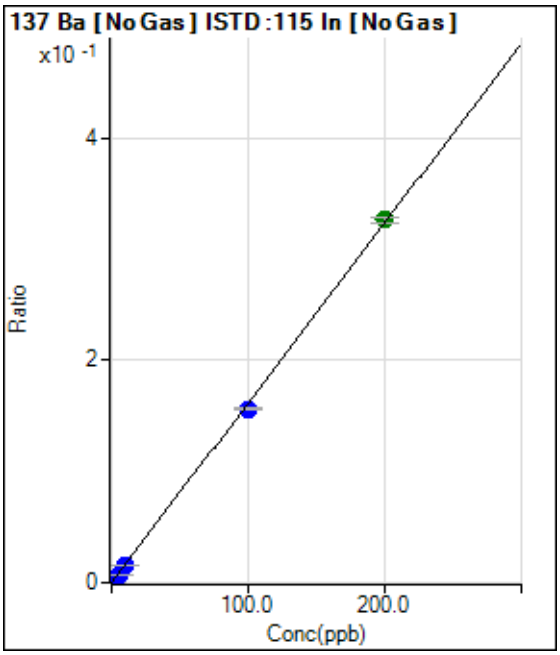
Calibration for 160_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 1070.06 | 0.0012 | P | 3.2 |
| 2 | ☐ | 2.000 | 1.800 | 15763.06 | 0.0178 | P | 0.9 |
| 3 | ☐ | 5.000 | 4.502 | 37229.87 | 0.0428 | P | 2.1 |
| 4 | ☐ | 10.000 | 9.254 | 73478.65 | 0.0866 | P | 1.9 |
| 5 | ☐ | 100.000 | 92.235 | 705081.76 | 0.8522 | P | 1.6 |
| 6 | ☐ | 200.000 | 203.934 | 1507441.02 | 1.8828 | A | 1.1 |

y = 0.0092 * x + 0.0012
R = 0.9990
DL = 0.01294
BEC = 0.1341

Weight: <None>
Min Conc: <None>

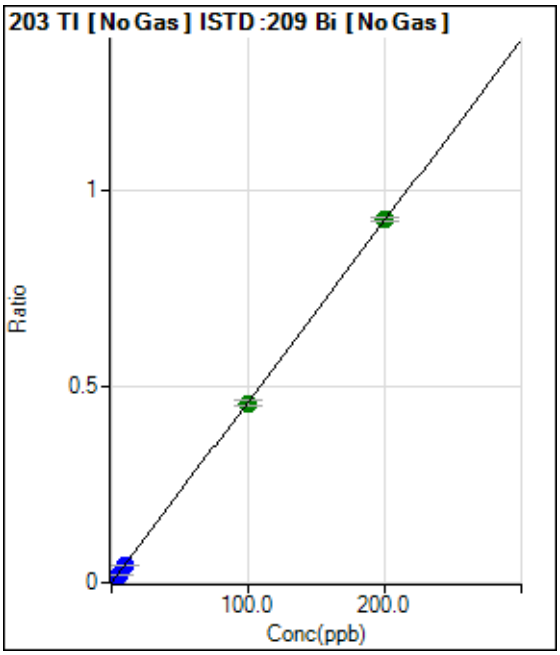



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 180.01 | 0.0000 | P | 4.4 |
| 2 | ☐ | 2.000 | 1.857 | 12693.05 | 0.0030 | P | 4.0 |
| 3 | ☐ | 5.000 | 4.527 | 30820.34 | 0.0074 | P | 0.9 |
| 4 | ☐ | 10.000 | 9.584 | 62380.07 | 0.0155 | P | 2.6 |
| 5 | ☐ | 100.000 | 96.358 | 604650.62 | 0.1558 | P | 1.3 |
| 6 | ☐ | 200.000 | 201.855 | 1240100.16 | 0.3263 | A | 1.8 |

y = 0.0016 * x + 4.3182E-005
R = 0.9998
DL = 0.003511
BEC = 0.02672

Weight: <None>
Min Conc: <None>

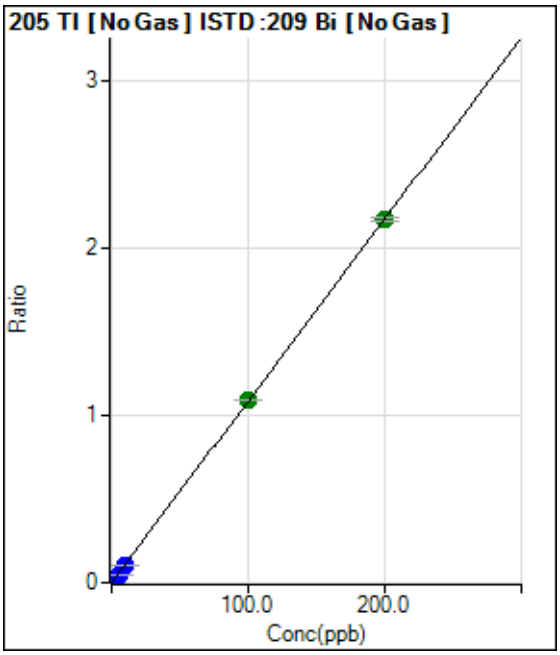
Calibration for 160_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 90.00 | 0.0000 | P | 29.9 |
| 2 | ☐ | 2.000 | 1.742 | 35036.03 | 0.0080 | P | 2.2 |
| 3 | ☐ | 5.000 | 4.435 | 87555.42 | 0.0204 | P | 1.8 |
| 4 | ☐ | 10.000 | 9.147 | 176920.28 | 0.0421 | P | 2.5 |
| 5 | ☐ | 100.000 | 99.049 | 1877335.29 | 0.4559 | A | 2.9 |
| 6 | ☐ | 200.000 | 200.535 | 3643292.86 | 0.9231 | A | 1.0 |

y = 0.0046 * x + 2.0665E-005
R = 1.0000
DL = 0.004022
BEC = 0.004489

Weight: <None>
Min Conc: <None>

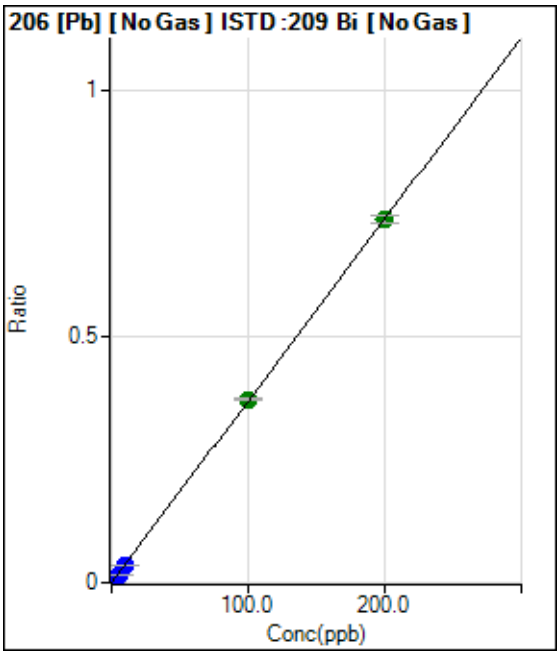



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 166.67 | 0.0000 | P | 42.1 |
| 2 | ☐ | 2.000 | 1.780 | 84511.68 | 0.0194 | P | 1.2 |
| 3 | ☐ | 5.000 | 4.410 | 205645.34 | 0.0480 | P | 0.6 |
| 4 | ☐ | 10.000 | 9.224 | 421407.21 | 0.1003 | P | 1.8 |
| 5 | ☐ | 100.000 | 100.693 | 4508608.37 | 1.0950 | A | 0.4 |
| 6 | ☐ | 200.000 | 199.709 | 8571090.50 | 2.1716 | A | 1.2 |

y = 0.0109 * x + 3.8127E-005
R = 1.0000
DL = 0.004424
BEC = 0.003506

Weight: <None>
Min Conc: <None>

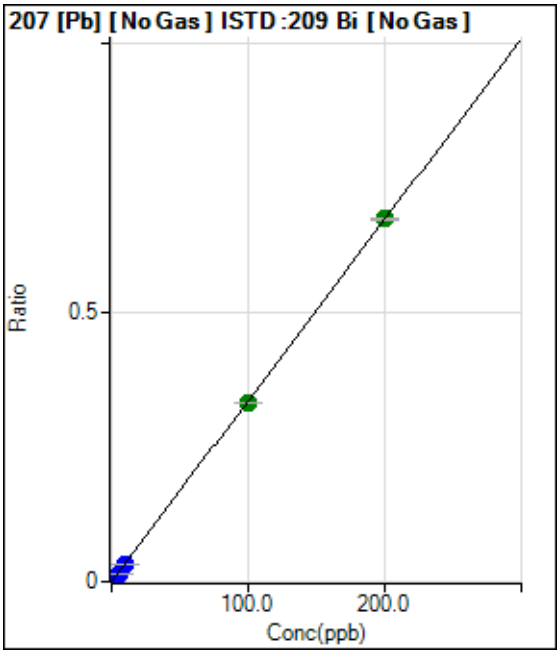
Calibration for 160_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 216.67 | 0.0000 | P | 9.8 |
| 2 | ☐ | 2.000 | 1.825 | 29508.62 | 0.0068 | P | 3.8 |
| 3 | ☐ | 5.000 | 4.408 | 69771.90 | 0.0163 | P | 2.5 |
| 4 | ☐ | 10.000 | 9.275 | 143707.65 | 0.0342 | P | 1.8 |
| 5 | ☐ | 100.000 | 100.686 | 1527338.15 | 0.3709 | A | 0.9 |
| 6 | ☐ | 200.000 | 199.710 | 2903598.92 | 0.7357 | A | 2.1 |

y = 0.0037 * x + 4.9652E-005
R = 1.0000
DL = 0.00396
BEC = 0.01348

Weight: <None>
Min Conc: <None>

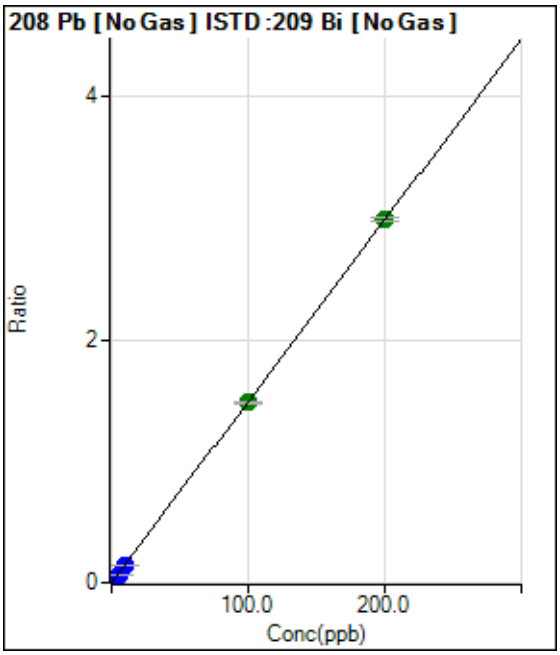



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 173.34 | 0.0000 | P | 26.7 |
| 2 | ☐ | 2.000 | 1.797 | 26495.15 | 0.0061 | P | 2.8 |
| 3 | ☐ | 5.000 | 4.484 | 64741.44 | 0.0151 | P | 2.7 |
| 4 | ☐ | 10.000 | 9.195 | 129989.63 | 0.0310 | P | 2.9 |
| 5 | ☐ | 100.000 | 98.976 | 1370171.12 | 0.3327 | A | 0.2 |
| 6 | ☐ | 200.000 | 200.567 | 2661188.09 | 0.6742 | A | 0.7 |

y = 0.0034 * x + 3.9659E-005
R = 1.0000
DL = 0.00944
BEC = 0.0118

Weight: <None>
Min Conc: <None>

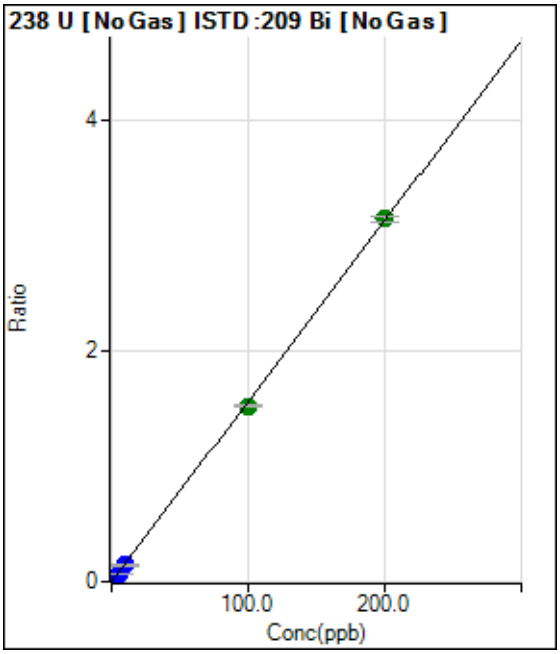
Calibration for 160_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 816.69 | 0.0002 | P | 8.4 |
| 2 | ☐ | 2.000 | 1.824 | 119298.17 | 0.0274 | P | 2.6 |
| 3 | ☐ | 5.000 | 4.498 | 287981.14 | 0.0672 | P | 1.3 |
| 4 | ☐ | 10.000 | 9.339 | 585338.30 | 0.1394 | P | 1.9 |
| 5 | ☐ | 100.000 | 99.603 | 6112375.27 | 1.4845 | A | 1.1 |
| 6 | ☐ | 200.000 | 200.246 | 11778588.58 | 2.9843 | A | 1.2 |

y = 0.0149 * x + 1.8753E-004
R = 1.0000
DL = 0.003178
BEC = 0.01258

Weight: <None>
Min Conc: <None>

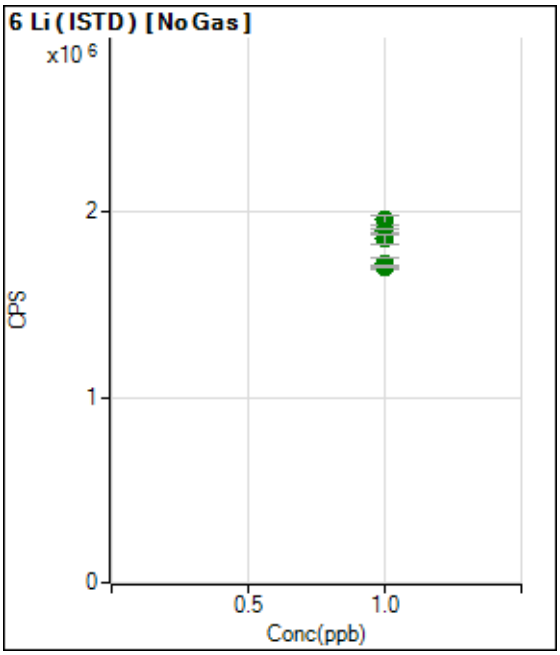



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 50.00 | 0.0000 | P | 18.1 |
| 2 | ☐ | 2.000 | 1.751 | 119318.69 | 0.0274 | P | 1.6 |
| 3 | ☐ | 5.000 | 4.352 | 291358.01 | 0.0680 | P | 2.7 |
| 4 | ☐ | 10.000 | 9.121 | 598651.61 | 0.1425 | P | 2.3 |
| 5 | ☐ | 100.000 | 97.606 | 6279683.45 | 1.5252 | A | 2.2 |
| 6 | ☐ | 200.000 | 201.260 | 12412404.82 | 3.1449 | A | 1.3 |

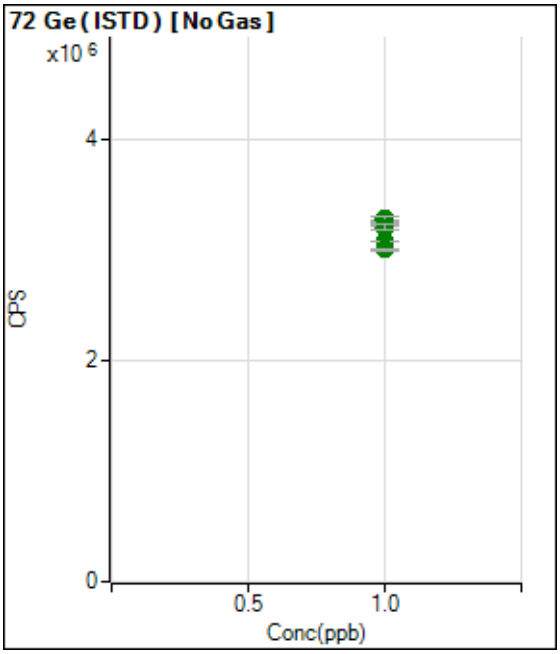
y = 0.0156 * x + 1.1446E-005
R = 0.9999
DL = 0.0003987
BEC = 0.0007325

Weight: <None>
Min Conc: <None>

Calibration for 160_ICV.d

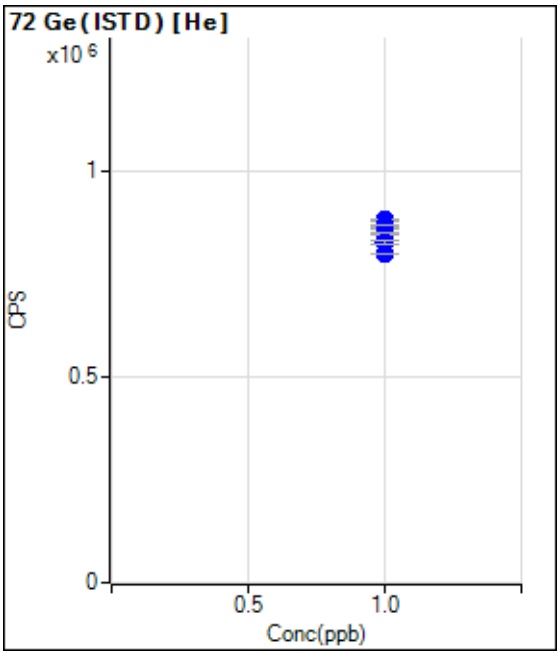



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 1.000 | | 1907901.16 | | A | 2.0 |
| 2 | ☐ | 1.000 | | 1955336.77 | | A | 2.7 |
| 3 | ☐ | 1.000 | | 1894483.28 | | A | 1.0 |
| 4 | ☐ | 1.000 | | 1850496.02 | | A | 2.9 |
| 5 | ☐ | 1.000 | | 1719992.91 | | A | 3.4 |
| 6 | ☐ | 1.000 | | 1702474.70 | | A | 0.6 |

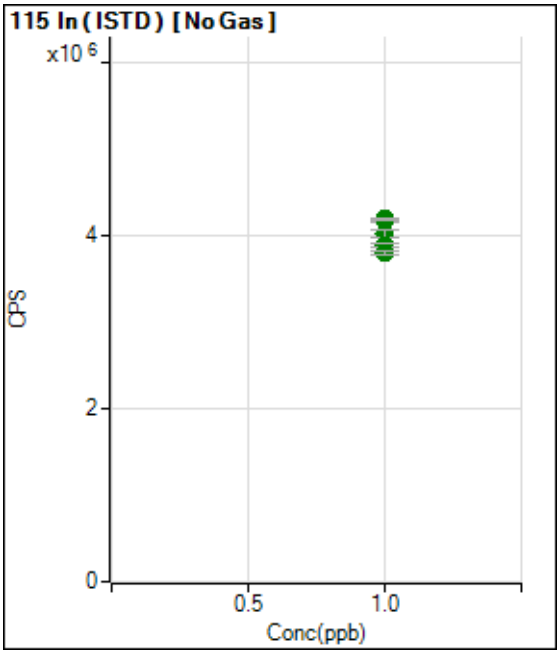



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 1.000 | | 3267211.10 | | A | 0.7 |
| 2 | ☐ | 1.000 | | 3284988.08 | | A | 1.9 |
| 3 | ☐ | 1.000 | | 3266639.22 | | A | 2.6 |
| 4 | ☐ | 1.000 | | 3211011.41 | | A | 1.5 |
| 5 | ☐ | 1.000 | | 3086468.29 | | A | 0.2 |
| 6 | ☐ | 1.000 | | 3003884.44 | | A | 1.0 |

Calibration for 160_ICV.d

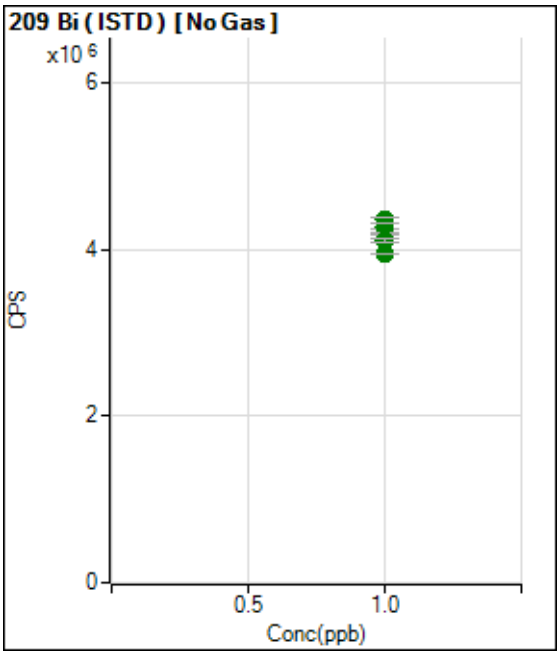



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 1.000 | | 864752.56 | | P | 0.6 |
| 2 | ☐ | 1.000 | | 883337.85 | | P | 0.5 |
| 3 | ☐ | 1.000 | | 870444.62 | | P | 0.2 |
| 4 | ☐ | 1.000 | | 848357.36 | | P | 0.4 |
| 5 | ☐ | 1.000 | | 827393.95 | | P | 0.9 |
| 6 | ☐ | 1.000 | | 800639.93 | | P | 0.4 |




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 1.000 | | 4167158.09 | | A | 1.3 |
| 2 | ☐ | 1.000 | | 4169212.87 | | A | 0.3 |
| 3 | ☐ | 1.000 | | 4187102.01 | | A | 0.8 |
| 4 | ☐ | 1.000 | | 4016957.13 | | A | 1.9 |
| 5 | ☐ | 1.000 | | 3881625.86 | | A | 0.9 |
| 6 | ☐ | 1.000 | | 3800942.18 | | A | 1.4 |

Calibration for 160_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 1.000 | | 4358540.14 | | A | 1.9 |
| 2 | ☐ | 1.000 | | 4359254.94 | | A | 1.8 |
| 3 | ☐ | 1.000 | | 4284856.19 | | A | 1.5 |
| 4 | ☐ | 1.000 | | 4200408.69 | | A | 0.7 |
| 5 | ☐ | 1.000 | | 4117737.54 | | A | 0.9 |
| 6 | ☐ | 1.000 | | 3946908.38 | | A | 0.3 |

# Initial Calibration Verification (ICV) Report

**Sample Table**

| | |
|---|---|
| Sample Name | ICV |
| Data File Name | 018_ICV.d |
| Data Path Name | C:\Agilent\ICPMH\1\DATA\042921A.b |
| Acq Date Time | 2021-04-29T10:42:12-05:00 |
| Sample Type | ICV |
| Dilution | 1 |
| Comment | |
| ISTD Ref File Name | 011CALB.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 | 106.650 | 1.350 | 2527762 | 1.41 | 100 | 106.6 | 90 | 110 | |
| Be | 9 | 1 | No Gas | 98.150 | 0.571 | 562129 | 0.53 | 100 | 98.2 | 90 | 110 | |
| V | 51 | 2 | He | 94.364 | 0.939 | 727998 | 0.26 | 100 | 94.4 | 90 | 110 | |
| Cr | 52 | 2 | He | 94.384 | 1.362 | 870222 | 0.42 | 100 | 94.4 | 90 | 110 | |
| Fe | 56 | 2 | He | 9527.594 | 2.042 | 77665942 | 1.16 | 10000 | 95.3 | 90 | 110 | |
| Se | 78 | 2 | He | 95.225 | 1.861 | 10126 | 1.37 | 100 | 95.2 | 90 | 110 | |
| As | 75 | 2 | He | 96.297 | 0.607 | 114403 | 0.95 | 100 | 96.3 | 90 | 110 | |
| Ca | 44 | 2 | He | 9255.692 | 1.366 | 427677 | 0.91 | 10000 | 92.6 | 90 | 110 | |
| Na | 23 | 2 | He | 9511.071 | 2.565 | 13257460 | 1.69 | 10000 | 95.1 | 90 | 110 | |
| Mg | 24 | 2 | He | 9590.180 | 0.746 | 7594047 | 0.23 | 10000 | 95.9 | 90 | 110 | |
| K | 39 | 2 | He | 9563.960 | 1.508 | 7899558 | 0.79 | 10000 | 95.6 | 90 | 110 | |
| Mn | 55 | 2 | He | 93.568 | 0.365 | 605751 | 0.67 | 100 | 93.6 | 90 | 110 | |
| Co | 59 | 2 | He | 101.616 | 3.792 | 1348605 | 2.86 | 100 | 101.6 | 90 | 110 | |
| Ni | 60 | 2 | He | 99.835 | 1.092 | 322062 | 0.28 | 100 | 99.8 | 90 | 110 | |
| Cu | 63 | 2 | He | 95.342 | 0.803 | 853815 | 0.24 | 100 | 95.3 | 90 | 110 | |
| Zn | 66 | 2 | He | 98.711 | 2.222 | 162092 | 1.25 | 100 | 98.7 | 90 | 110 | |
| Al | 27 | 2 | He | 112.292 | 1.492 | 50034 | 2.12 | 100 | 112.3 | 90 | 110 | ICV Main CR1 Failed |
| B | 11 | 1 | No Gas | 498.512 | 0.798 | 1693873 | 0.64 | 500 | 99.7 | 90 | 110 | |
| Al | 27 | 1 | No Gas | 115.336 | 1.060 | 2482749 | 1.00 | 100 | 115.3 | 90 | 110 | ICV Main CR1 Failed |
| Si | 28 | 1 | No Gas | 562.559 | 1.048 | 6031700 | 0.47 | 500 | 112.5 | 90 | 110 | ICV Main CR1 Failed |
| Ag | 107 | 1 | No Gas | 100.335 | 1.331 | 2219387 | 0.61 | 100 | 100.3 | 90 | 110 | |
| Cd | 111 | 1 | No Gas | 98.465 | 1.789 | 435223 | 1.06 | 100 | 98.5 | 90 | 110 | |
| Sr | 88 | 1 | No Gas | 98.567 | 1.168 | 3966068 | 0.85 | 100 | 98.6 | 90 | 110 | |
| Mo | 95 | 1 | No Gas | 98.565 | 1.061 | 787915 | 0.51 | 100 | 98.6 | 90 | 110 | |
| Sn | 118 | 1 | No Gas | 97.797 | 3.661 | 1381153 | 3.08 | 100 | 97.8 | 90 | 110 | |
| Sb | 121 | 1 | No Gas | 101.482 | 1.402 | 1962334 | 1.13 | 100 | 101.5 | 90 | 110 | |
| Ba | 137 | 1 | No Gas | 98.083 | 1.284 | 676231 | 0.66 | 100 | 98.1 | 90 | 110 | |
| Tl | 205 | 1 | No Gas | 102.542 | 1.972 | 4705924 | 0.87 | 100 | 102.5 | 90 | 110 | |
| Tl | 203 | 1 | No Gas | 102.075 | 3.758 | 1955727 | 2.66 | 100 | 102.1 | 90 | 110 | |
| Pb | 208 | 1 | No Gas | 98.610 | 1.672 | 6505406 | 0.92 | 100 | 98.6 | 90 | 110 | |
| U | 238 | 1 | No Gas | 95.817 | 2.693 | 6596318 | 2.23 | 100 | 95.8 | 90 | 110 | |
| Ca | 43 | 2 | He | 9580.037 | 1.090 | 25277 | 0.36 | 10000 | 95.8 | 90 | 110 | |
| Sb | 121 | 2 | He | 99.621 | 0.369 | 846442 | 0.72 | 100 | 99.6 | 90 | 110 | |
| Ti | 47 | 2 | He | 98.080 | 2.096 | 26396 | 3.02 | 100 | 98.1 | 90 | 110 | |
| Cu | 63 | 1 | No Gas | 101.962 | 0.562 | 1618619 | 1.03 | 100 | 102.0 | 90 | 110 | |
| Se | 82 | 1 | No Gas | 95.752 | 5.207 | 24602 | 4.66 | 100 | 95.8 | 90 | 110 | |

**QC ISTD Table**

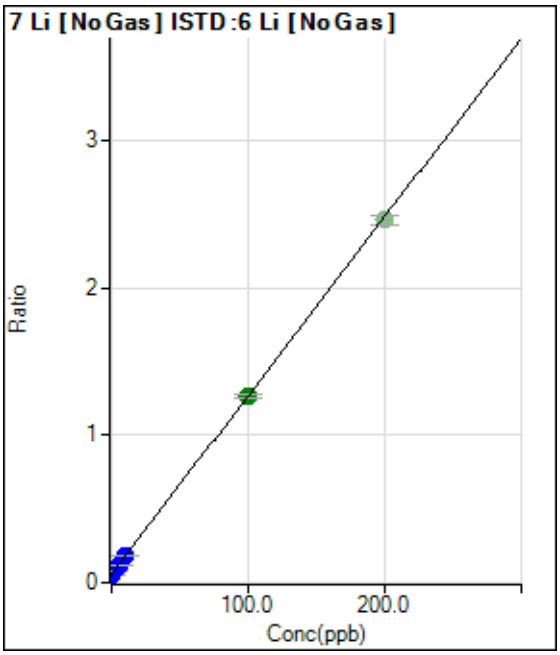
| Name | Mass | Tune Step | Tune Mode | CPS | %RSD | Ref CPS | %Rec | %QC Low | %QC High | QC Flag |
|---|---|---|---|---|---|---|---|---|---|---|
| Li | 6 | 1 | No Gas | 1883758 | 0.59 | 1995440 | 94.40 | 70 | 120 | |
| Ge | 72 | 2 | He | 927903 | 0.96 | 920161 | 100.84 | 70 | 120 | |
| Ge | 72 | 1 | No Gas | 3284607 | 0.59 | 3333391 | 98.54 | 70 | 120 | |
| In | 115 | 1 | No Gas | 4027678 | 0.77 | 4159869 | 96.82 | 70 | 120 | |
| Bi | 209 | 1 | No Gas | 4146791 | 1.11 | 4267334 | 97.18 | 70 | 120 | |

Calibration for 018_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\042921A.b\
Analysis File: 042921A.batch.bin
DA Date-Time: 4/29/2021 8:43:13 PM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

| Level | Standard Data File | Sample Name | Acq. Date-Time |
|---|---|---|---|
| 1 | 011CALB.d | CAL BLK | 4/29/2021 10:24:56 AM |
| 2 | 012CALS.d | 2/10/200 | 4/29/2021 10:26:55 AM |
| 3 | 013CALS.d | 5/25/500 | 4/29/2021 10:28:55 AM |
| 4 | 014CALS.d | 10/50/100 | 4/29/2021 10:30:53 AM |
| 5 | 015CALS.d | 100/500/10K | 4/29/2021 10:32:52 AM |
| 6 | 016CALS.d | 200/1000/20K | 4/29/2021 10:34:45 AM |

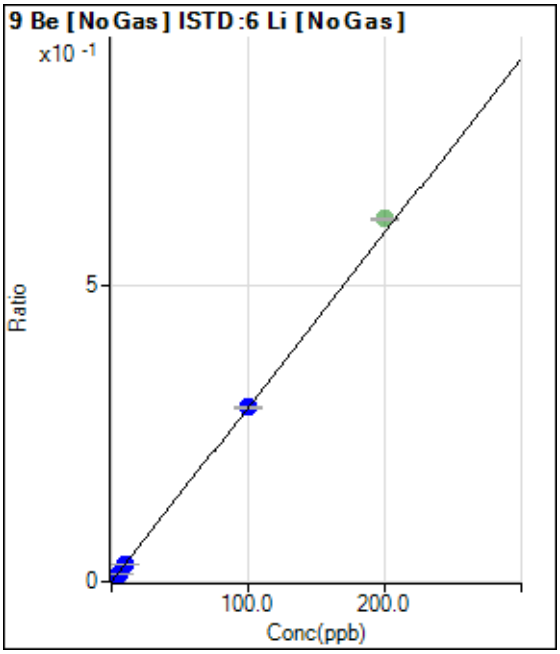
Calibration for 018_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 115868.81 | 0.0581 | P | 0.6 |
| 2 | ☐ | 2.000 | 2.007 | 162168.08 | 0.0824 | P | 1.6 |
| 3 | ☐ | 5.000 | 4.950 | 232899.10 | 0.1180 | P | 0.8 |
| 4 | ☐ | 10.000 | 9.943 | 349179.67 | 0.1785 | P | 2.0 |
| 5 | ☐ | 100.000 | 100.008 | 2453931.37 | 1.2694 | A | 2.4 |
| 6 | ☑ | 200.000 | | 4584328.99 | 2.4618 | A | 2.4 |

y = 0.0121 * x + 0.0581
R = 1.0000
DL = 0.08802
BEC = 4.794

Weight: <None>
Min Conc: <None>

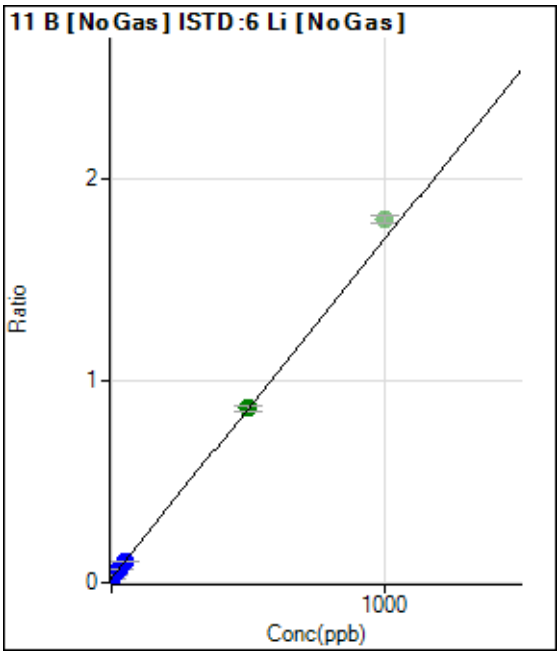



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 33.33 | 0.0000 | P | 23.3 |
| 2 | ☐ | 2.000 | 2.017 | 11718.29 | 0.0060 | P | 4.9 |
| 3 | ☐ | 5.000 | 4.872 | 28343.57 | 0.0144 | P | 1.6 |
| 4 | ☐ | 10.000 | 9.940 | 57294.31 | 0.0293 | P | 2.3 |
| 5 | ☐ | 100.000 | 100.012 | 569468.17 | 0.2946 | P | 1.6 |
| 6 | ☑ | 200.000 | | 1141650.43 | 0.6129 | A | 0.9 |

y = 0.0029 * x + 1.6719E-005
R = 1.0000
DL = 0.003969
BEC = 0.005677

Weight: <None>
Min Conc: <None>

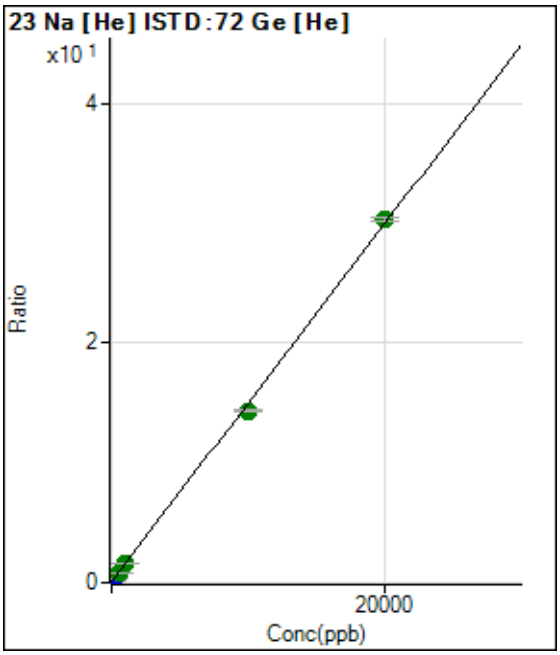
Calibration for 018_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 46693.99 | 0.0234 | P | 1.8 |
| 2 | ☐ | 10.000 | 8.879 | 75410.95 | 0.0383 | P | 2.5 |
| 3 | ☐ | 25.000 | 23.182 | 123004.86 | 0.0623 | P | 0.5 |
| 4 | ☐ | 50.000 | 48.609 | 205460.51 | 0.1051 | P | 3.4 |
| 5 | ☐ | 500.000 | 500.252 | 1669753.36 | 0.8637 | A | 3.8 |
| 6 | ☑ | 1000.000 | | 3351765.78 | 1.7998 | A | 2.2 |

y = 0.0017 * x + 0.0234
R = 1.0000
DL = 0.7445
BEC = 13.93

Weight: <None>
Min Conc: <None>

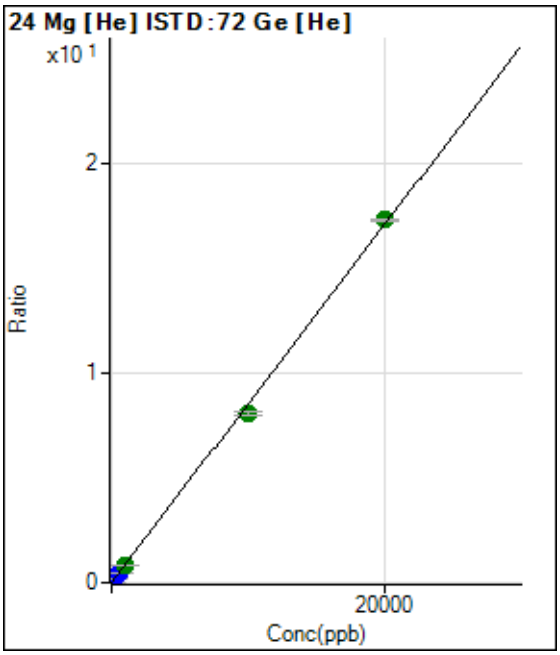



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 74739.64 | 0.0812 | P | 1.1 |
| 2 | ☐ | 200.000 | 204.337 | 354372.41 | 0.3865 | P | 0.7 |
| 3 | ☐ | 500.000 | 501.944 | 770140.64 | 0.8311 | A | 0.8 |
| 4 | ☐ | 1000.000 | 1014.725 | 1474997.90 | 1.5971 | A | 1.5 |
| 5 | ☐ | 10000.00 | 9537.000 | 13153804.39 | 14.3284 | A | 0.8 |
| 6 | ☐ | 20000.00 | 20230.67 | 26920207.10 | 30.3036 | A | 1.1 |

y = 0.0015 * x + 0.0812
R = 0.9996
DL = 1.723
BEC = 54.37

Weight: <None>
Min Conc: <None>

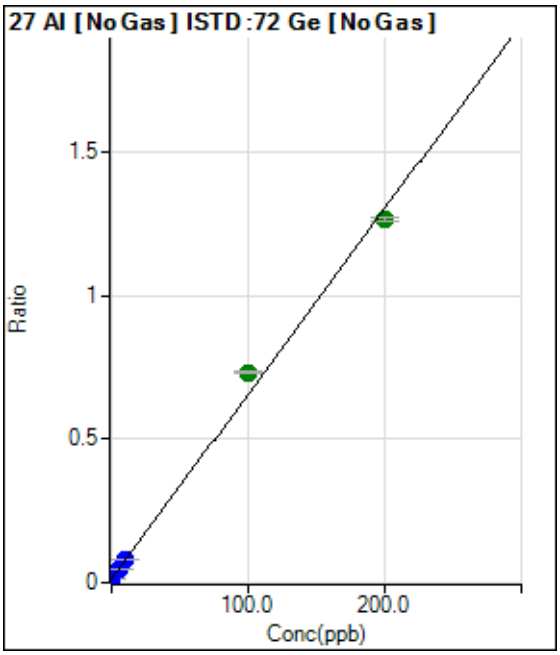
Calibration for 018_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 1213.41 | 0.0013 | P | 8.8 |
| 2 | ☐ | 200.000 | 205.436 | 161942.20 | 0.1766 | P | 0.4 |
| 3 | ☐ | 500.000 | 508.927 | 403618.78 | 0.4356 | P | 0.4 |
| 4 | ☐ | 1000.000 | 1005.570 | 793716.52 | 0.8594 | A | 1.8 |
| 5 | ☐ | 10000.00 | 9450.881 | 7404225.31 | 8.0656 | A | 1.4 |
| 6 | ☐ | 20000.00 | 20274.00 | 15369412.69 | 17.3008 | A | 0.6 |

y = 8.5329E-004 * x + 0.0013
R = 0.9995
DL = 0.4069
BEC = 1.546

Weight: <None>
Min Conc: <None>

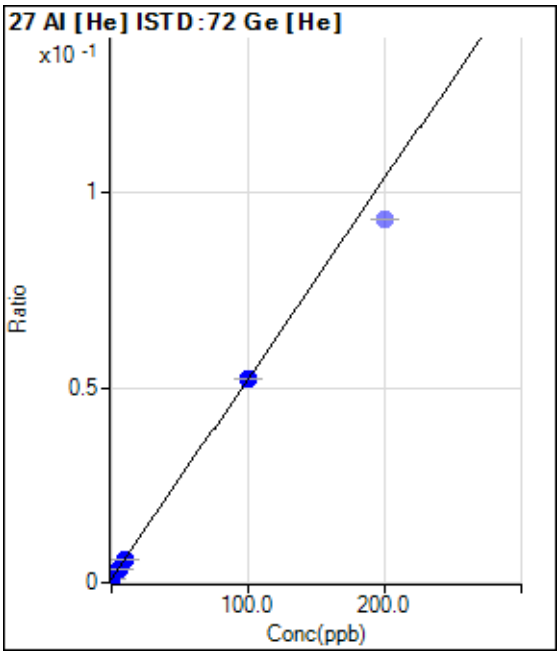



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 41930.13 | 0.0126 | P | 2.0 |
| 2 | ☐ | 2.000 | 3.344 | 114703.11 | 0.0341 | P | 2.1 |
| 3 | ☐ | 5.000 | 5.713 | 163707.36 | 0.0494 | P | 0.3 |
| 4 | ☐ | 10.000 | 10.079 | 258341.99 | 0.0775 | P | 1.1 |
| 5 | ☐ | 100.000 | 111.682 | 2429645.07 | 0.7323 | A | 1.5 |
| 6 | ☐ | 200.000 | 194.124 | 4091167.33 | 1.2636 | A | 1.0 |

y = 0.0064 * x + 0.0126
R = 0.9976
DL = 0.1182
BEC = 1.952

Weight: <None>
Min Conc: <None>

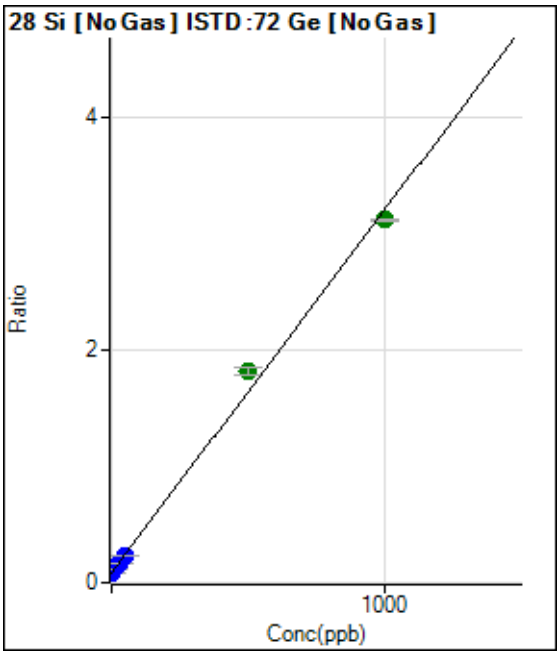
Calibration for 018_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 903.38 | 0.0010 | P | 5.8 |
| 2 | ☐ | 2.000 | 2.888 | 2260.22 | 0.0025 | P | 5.9 |
| 3 | ☐ | 5.000 | 5.136 | 3353.81 | 0.0036 | P | 2.6 |
| 4 | ☐ | 10.000 | 9.284 | 5311.11 | 0.0057 | P | 1.4 |
| 5 | ☐ | 100.000 | 100.047 | 48076.41 | 0.0524 | P | 0.6 |
| 6 | ☑ | 200.000 | | 82735.07 | 0.0931 | P | 0.1 |

y = 5.1362E-004 * x + 9.8150E-004
R = 0.9999
DL = 0.3307
BEC = 1.911

Weight: <None>
Min Conc: <None>

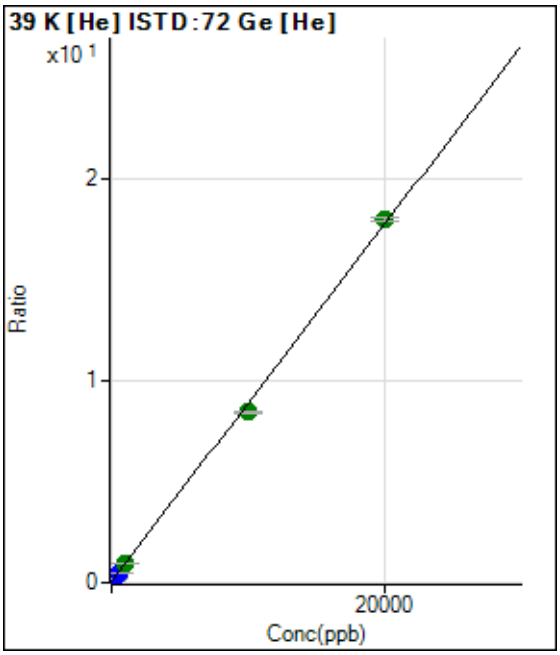



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 281615.80 | 0.0845 | P | 1.1 |
| 2 | ☐ | 10.000 | 8.797 | 376040.01 | 0.1119 | P | 2.2 |
| 3 | ☐ | 25.000 | 24.330 | 531033.01 | 0.1602 | P | 2.0 |
| 4 | ☐ | 50.000 | 49.005 | 789961.97 | 0.2371 | P | 1.0 |
| 5 | ☐ | 500.000 | 553.842 | 6002410.12 | 1.8093 | A | 3.7 |
| 6 | ☐ | 1000.000 | 973.158 | 10086732.56 | 3.1151 | A | 0.4 |

y = 0.0031 * x + 0.0845
R = 0.9979
DL = 0.8684
BEC = 27.13

Weight: <None>
Min Conc: <None>

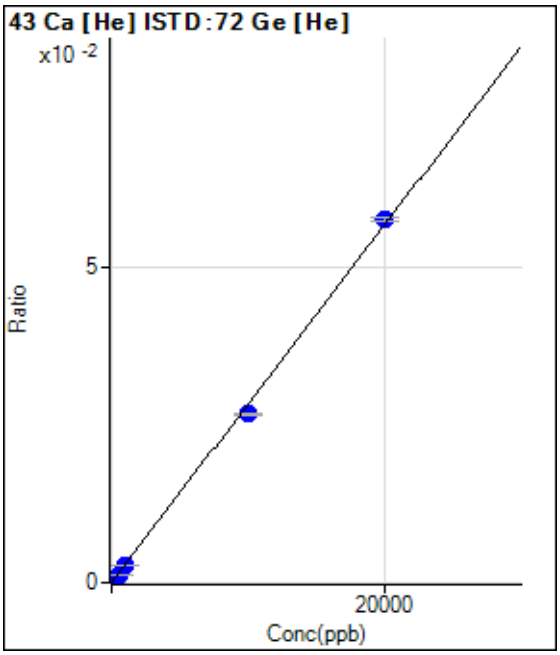
Calibration for 018_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 53216.14 | 0.0578 | P | 0.8 |
| 2 | ☐ | 200.000 | 196.659 | 212468.30 | 0.2317 | P | 0.7 |
| 3 | ☐ | 500.000 | 494.265 | 458537.49 | 0.4949 | P | 0.7 |
| 4 | ☐ | 1000.000 | 1012.544 | 880249.91 | 0.9531 | A | 1.6 |
| 5 | ☐ | 10000.00 | 9494.610 | 7759296.97 | 8.4527 | A | 1.5 |
| 6 | ☐ | 20000.00 | 20252.24 | 15958539.76 | 17.9644 | A | 1.2 |

y = 8.8418E-004 * x + 0.0578
R = 0.9995
DL = 1.487
BEC = 65.41

Weight: <None>
Min Conc: <None>

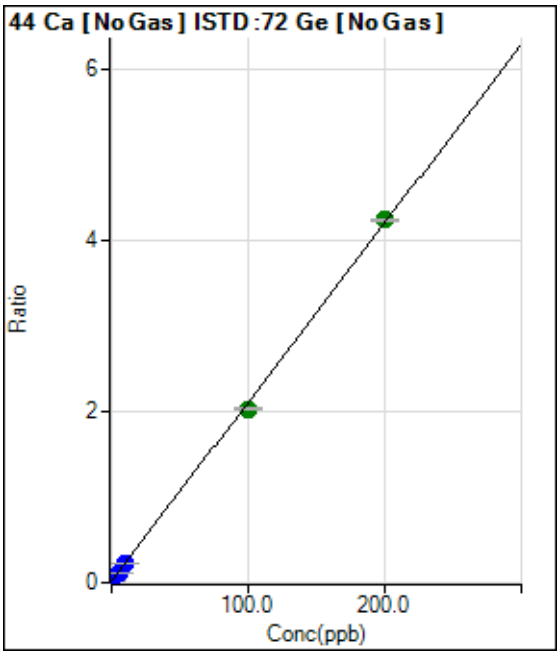



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 36.67 | 0.0000 | P | 15.4 |
| 2 | ☐ | 200.000 | 204.905 | 570.03 | 0.0006 | P | 8.0 |
| 3 | ☐ | 500.000 | 440.753 | 1196.74 | 0.0013 | P | 4.5 |
| 4 | ☐ | 1000.000 | 943.141 | 2510.27 | 0.0027 | P | 2.1 |
| 5 | ☐ | 10000.00 | 9430.310 | 24622.31 | 0.0268 | P | 1.3 |
| 6 | ☐ | 20000.00 | 20289.12 | 51218.80 | 0.0577 | P | 1.1 |

y = 2.8395E-006 * x + 3.9832E-005
R = 0.9994
DL = 6.472
BEC = 14.03

Weight: <None>
Min Conc: <None>

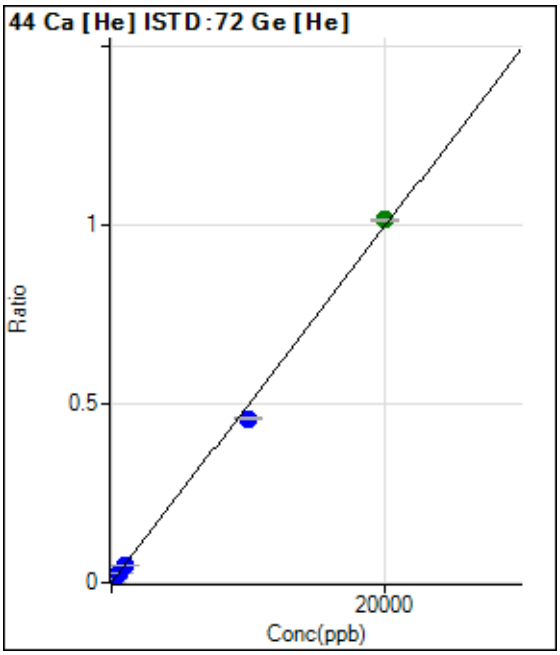
Calibration for 018_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 61741.76 | 0.0185 | P | 0.8 |
| 2 | ☐ | 2.000 | 1.958 | 200103.90 | 0.0595 | P | 2.0 |
| 3 | ☐ | 5.000 | 4.939 | 404115.10 | 0.1219 | P | 1.3 |
| 4 | ☐ | 10.000 | 9.878 | 750989.36 | 0.2254 | P | 0.4 |
| 5 | ☐ | 100.000 | 96.161 | 6742689.90 | 2.0323 | A | 0.8 |
| 6 | ☐ | 200.000 | 201.928 | 13751892.30 | 4.2472 | A | 0.6 |

y = 0.0209 * x + 0.0185
R = 0.9997
DL = 0.02093
BEC = 0.8845

Weight: <None>
Min Conc: <None>

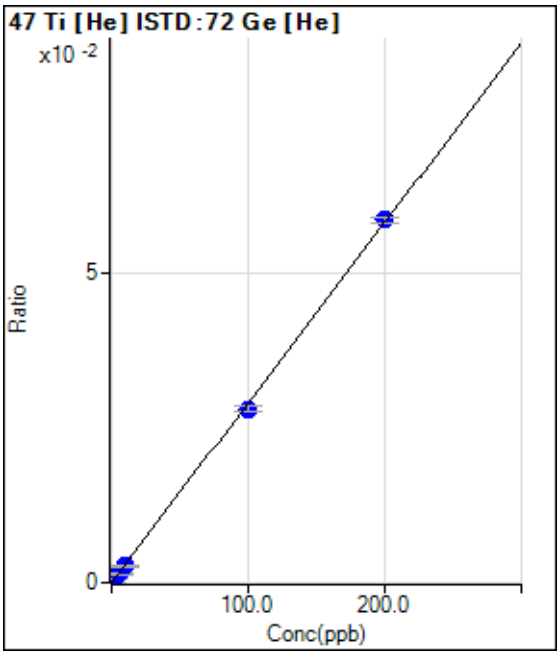



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 850.04 | 0.0009 | P | 2.4 |
| 2 | ☐ | 200.000 | 199.106 | 9920.40 | 0.0108 | P | 2.4 |
| 3 | ☐ | 500.000 | 474.015 | 22685.59 | 0.0245 | P | 0.8 |
| 4 | ☐ | 1000.000 | 949.015 | 44412.15 | 0.0481 | P | 2.5 |
| 5 | ☐ | 10000.00 | 9226.545 | 421768.12 | 0.4595 | P | 2.0 |
| 6 | ☐ | 20000.00 | 20389.93 | 901111.57 | 1.0143 | A | 0.5 |

y = 4.9701E-005 * x + 9.2369E-004
R = 0.9990
DL = 1.327
BEC = 18.59

Weight: <None>
Min Conc: <None>

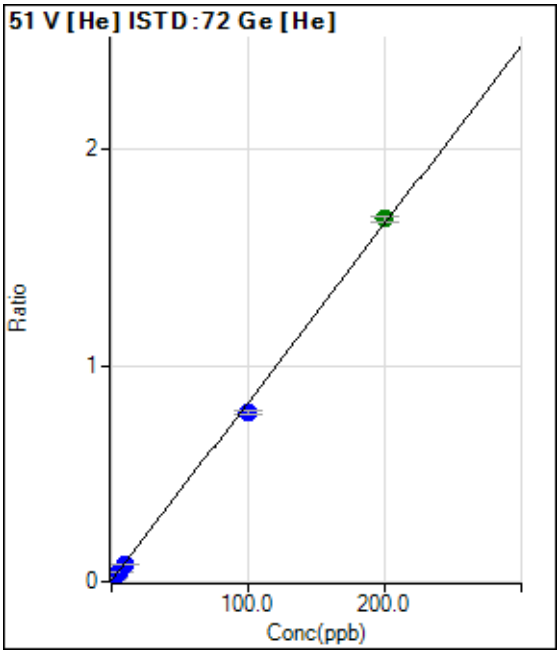
Calibration for 018_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 13.33 | 0.0000 | P | 43.8 |
| 2 | ☐ | 2.000 | 2.020 | 550.02 | 0.0006 | P | 14.4 |
| 3 | ☐ | 5.000 | 4.904 | 1330.09 | 0.0014 | P | 7.7 |
| 4 | ☐ | 10.000 | 9.369 | 2520.28 | 0.0027 | P | 8.6 |
| 5 | ☐ | 100.000 | 96.643 | 25724.47 | 0.0280 | P | 2.7 |
| 6 | ☐ | 200.000 | 201.712 | 51951.87 | 0.0585 | P | 1.3 |

y = 2.8985E-004 * x + 1.4509E-005
R = 0.9998
DL = 0.06574
BEC = 0.05006

Weight: <None>
Min Conc: <None>

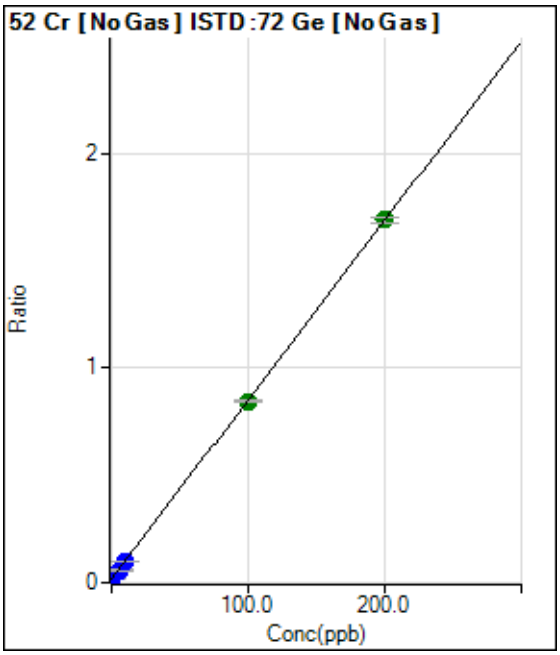



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 4814.20 | 0.0052 | P | 1.8 |
| 2 | ☐ | 2.000 | 1.854 | 18841.84 | 0.0205 | P | 0.6 |
| 3 | ☐ | 5.000 | 4.618 | 40191.01 | 0.0434 | P | 1.4 |
| 4 | ☐ | 10.000 | 9.476 | 77112.02 | 0.0835 | P | 1.3 |
| 5 | ☐ | 100.000 | 94.359 | 720203.67 | 0.7846 | P | 1.4 |
| 6 | ☐ | 200.000 | 202.858 | 1493015.91 | 1.6807 | A | 1.3 |

y = 0.0083 * x + 0.0052
R = 0.9995
DL = 0.03412
BEC = 0.6335

Weight: <None>
Min Conc: <None>

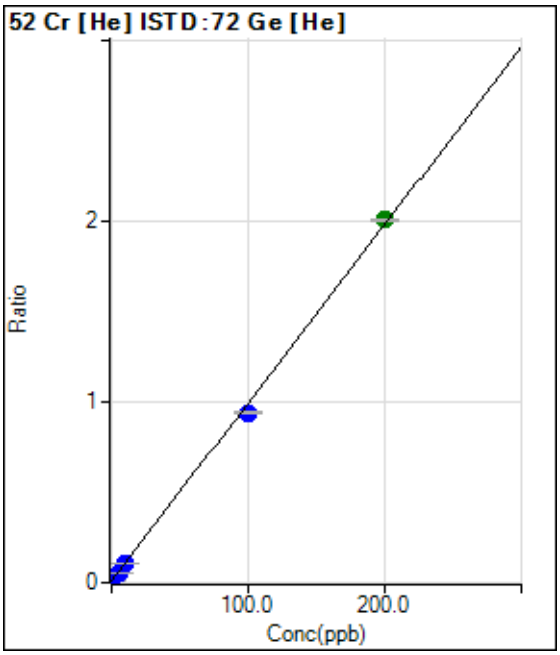
Calibration for 018_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 57855.50 | 0.0174 | P | 3.3 |
| 2 | ☐ | 2.000 | 1.809 | 109159.01 | 0.0325 | P | 2.0 |
| 3 | ☐ | 5.000 | 4.898 | 193147.12 | 0.0583 | P | 1.7 |
| 4 | ☐ | 10.000 | 9.809 | 330930.62 | 0.0993 | P | 0.6 |
| 5 | ☐ | 100.000 | 99.210 | 2807877.25 | 0.8463 | A | 1.1 |
| 6 | ☐ | 200.000 | 200.409 | 5477531.79 | 1.6919 | A | 1.7 |

y = 0.0084 * x + 0.0174
R = 1.0000
DL = 0.2051
BEC = 2.077

Weight: <None>
Min Conc: <None>

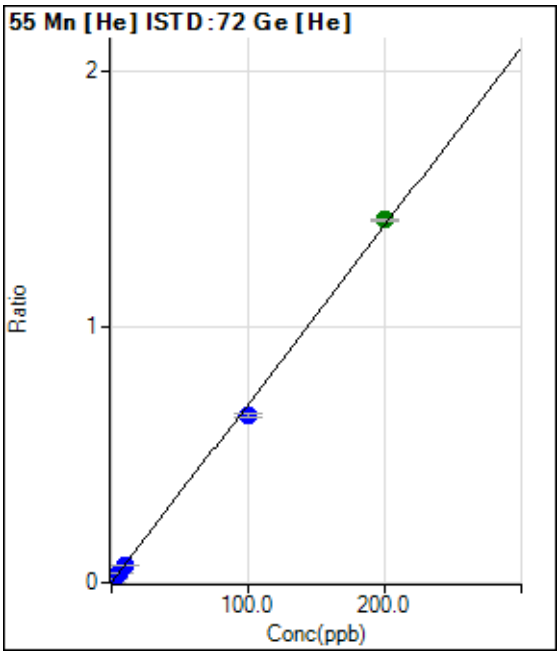



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 8886.36 | 0.0097 | P | 4.1 |
| 2 | ☐ | 2.000 | 1.922 | 26185.35 | 0.0286 | P | 2.0 |
| 3 | ☐ | 5.000 | 4.653 | 51349.67 | 0.0554 | P | 2.0 |
| 4 | ☐ | 10.000 | 9.620 | 96310.59 | 0.1043 | P | 1.0 |
| 5 | ☐ | 100.000 | 94.374 | 860868.24 | 0.9378 | P | 1.7 |
| 6 | ☐ | 200.000 | 202.842 | 1780865.75 | 2.0046 | A | 0.6 |

y = 0.0098 * x + 0.0097
R = 0.9995
DL = 0.1208
BEC = 0.9821

Weight: <None>
Min Conc: <None>

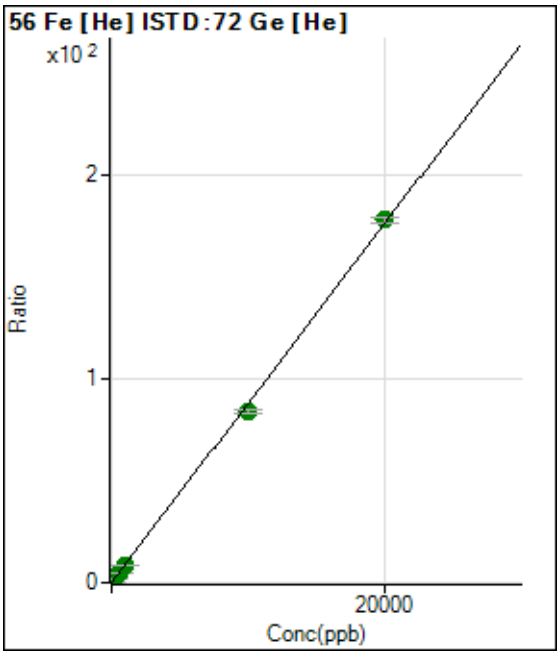
Calibration for 018_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 650.03 | 0.0007 | P | 5.8 |
| 2 | ☐ | 2.000 | 2.254 | 15055.21 | 0.0164 | P | 3.2 |
| 3 | ☐ | 5.000 | 4.979 | 32813.04 | 0.0354 | P | 0.3 |
| 4 | ☐ | 10.000 | 9.636 | 62680.25 | 0.0679 | P | 2.0 |
| 5 | ☐ | 100.000 | 93.441 | 598440.00 | 0.6519 | P | 1.8 |
| 6 | ☐ | 200.000 | 203.296 | 1259365.81 | 1.4176 | A | 0.2 |

y = 0.0070 * x + 7.0656E-004
R = 0.9992
DL = 0.01762
BEC = 0.1014

Weight: <None>
Min Conc: <None>

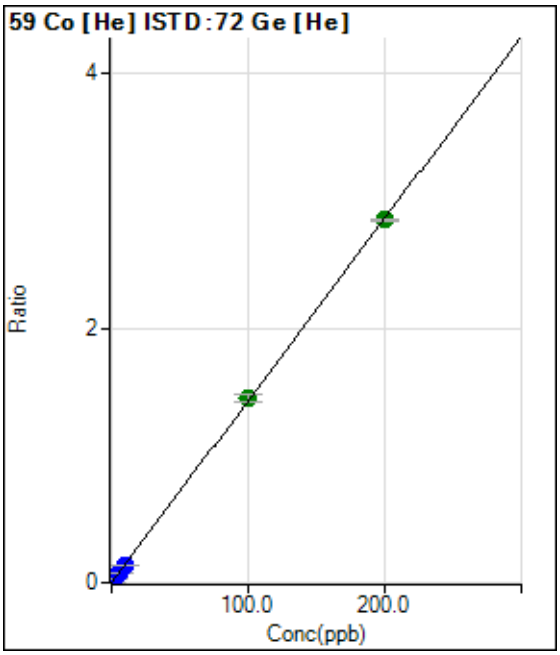



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 20148.48 | 0.0219 | P | 2.7 |
| 2 | ☐ | 200.000 | 206.857 | 1686115.08 | 1.8389 | A | 1.0 |
| 3 | ☐ | 500.000 | 502.195 | 4107683.27 | 4.4331 | A | 1.1 |
| 4 | ☐ | 1000.000 | 995.873 | 8099478.84 | 8.7695 | A | 0.4 |
| 5 | ☐ | 10000.00 | 9561.225 | 77103470.52 | 84.0063 | A | 2.8 |
| 6 | ☐ | 20000.00 | 20219.47 | 157795860.9 | 177.626 | A | 1.5 |

y = 0.0088 * x + 0.0219
R = 0.9997
DL = 0.2036
BEC = 2.493

Weight: <None>
Min Conc: <None>

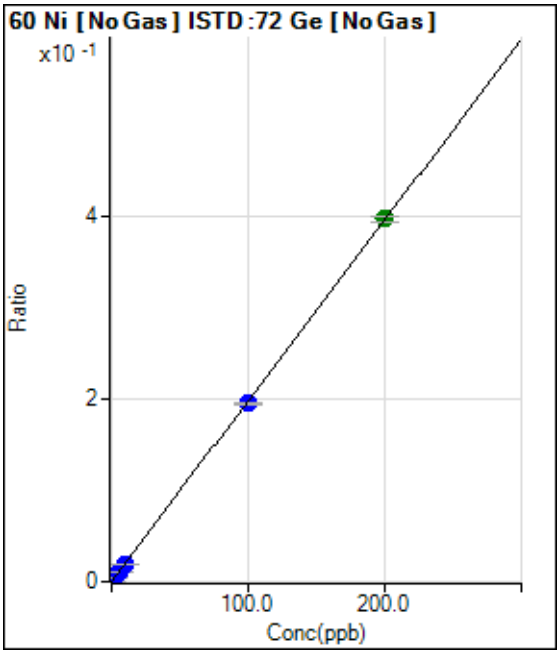
Calibration for 018_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 126.67 | 0.0001 | P | 71.2 |
| 2 | ☐ | 2.000 | 1.988 | 26205.56 | 0.0286 | P | 3.0 |
| 3 | ☐ | 5.000 | 4.930 | 65470.32 | 0.0707 | P | 0.5 |
| 4 | ☐ | 10.000 | 9.932 | 131355.87 | 0.1422 | P | 0.3 |
| 5 | ☐ | 100.000 | 101.290 | 1329875.84 | 1.4491 | A | 3.7 |
| 6 | ☐ | 200.000 | 199.360 | 2533701.73 | 2.8519 | A | 0.8 |

y = 0.0143 * x + 1.3792E-004
R = 1.0000
DL = 0.0206
BEC = 0.009642

Weight: <None>
Min Conc: <None>

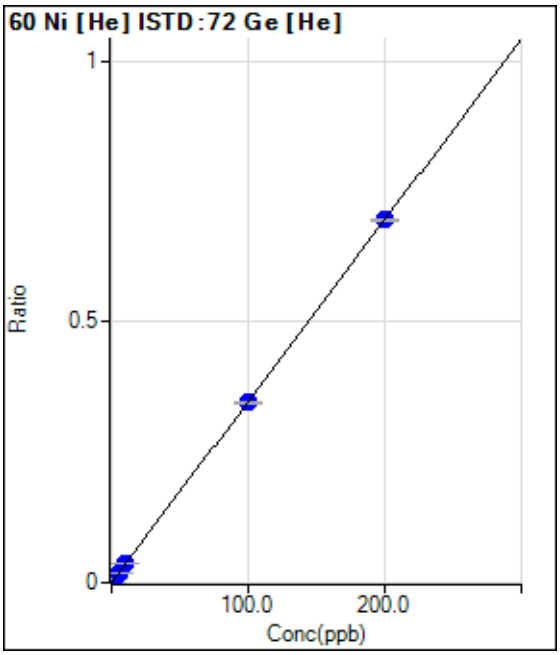



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 563.35 | 0.0002 | P | 21.3 |
| 2 | ☐ | 2.000 | 1.975 | 13697.10 | 0.0041 | P | 2.6 |
| 3 | ☐ | 5.000 | 4.989 | 33254.23 | 0.0100 | P | 1.0 |
| 4 | ☐ | 10.000 | 9.964 | 66217.45 | 0.0199 | P | 1.1 |
| 5 | ☐ | 100.000 | 98.514 | 646947.22 | 0.1950 | P | 1.7 |
| 6 | ☐ | 200.000 | 200.745 | 1286151.36 | 0.3972 | A | 1.5 |

y = 0.0020 * x + 1.6912E-004
R = 1.0000
DL = 0.05456
BEC = 0.08552

Weight: <None>
Min Conc: <None>

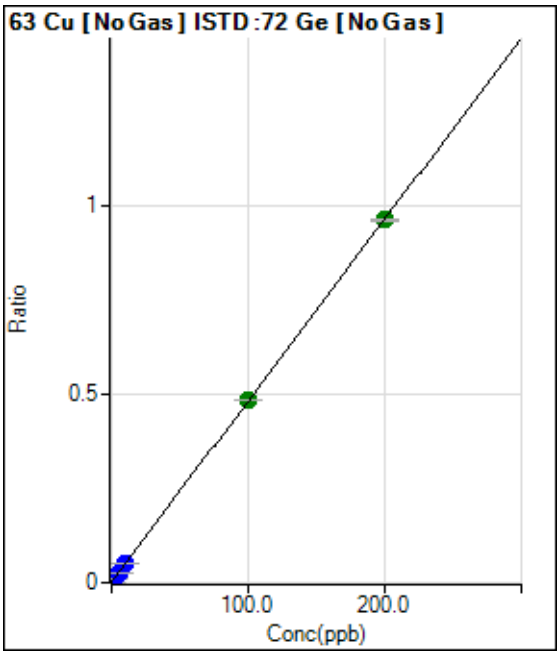
Calibration for 018_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 226.67 | 0.0002 | P | 44.0 |
| 2 | ☐ | 2.000 | 2.055 | 6771.80 | 0.0074 | P | 4.2 |
| 3 | ☐ | 5.000 | 5.045 | 16470.22 | 0.0178 | P | 2.9 |
| 4 | ☐ | 10.000 | 10.260 | 33147.36 | 0.0359 | P | 2.1 |
| 5 | ☐ | 100.000 | 99.557 | 317750.12 | 0.3461 | P | 1.4 |
| 6 | ☐ | 200.000 | 200.207 | 618157.46 | 0.6958 | P | 0.6 |

y = 0.0035 * x + 2.4669E-004
R = 1.0000
DL = 0.09378
BEC = 0.071

Weight: <None>
Min Conc: <None>

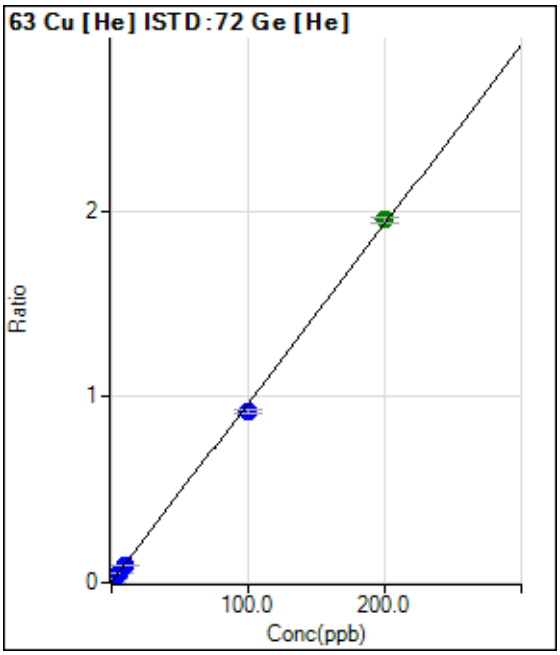



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 4814.26 | 0.0014 | P | 2.6 |
| 2 | ☐ | 2.000 | 2.021 | 37582.35 | 0.0112 | P | 3.7 |
| 3 | ☐ | 5.000 | 5.099 | 86218.97 | 0.0260 | P | 0.7 |
| 4 | ☐ | 10.000 | 10.034 | 165919.85 | 0.0498 | P | 1.6 |
| 5 | ☐ | 100.000 | 100.392 | 1609818.83 | 0.4852 | A | 0.8 |
| 6 | ☐ | 200.000 | 199.799 | 3122035.79 | 0.9642 | A | 0.3 |

y = 0.0048 * x + 0.0014
R = 1.0000
DL = 0.02379
BEC = 0.2997

Weight: <None>
Min Conc: <None>

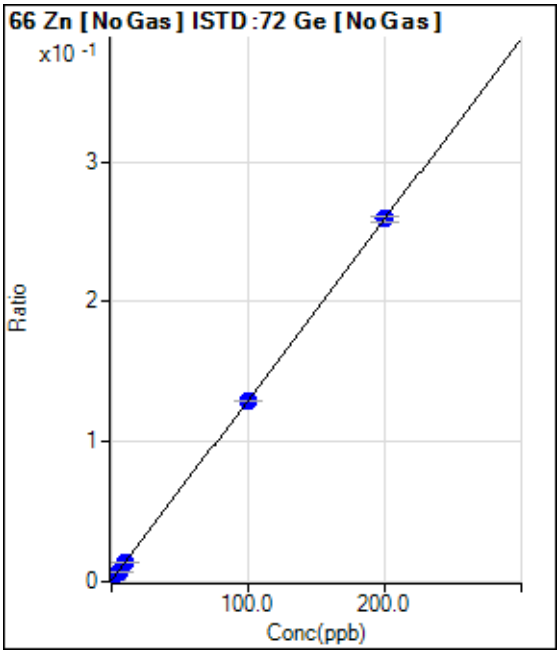
Calibration for 018_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 2296.90 | 0.0025 | P | 11.2 |
| 2 | ☐ | 2.000 | 1.944 | 19450.87 | 0.0212 | P | 2.7 |
| 3 | ☐ | 5.000 | 4.853 | 45593.33 | 0.0492 | P | 2.9 |
| 4 | ☐ | 10.000 | 9.743 | 88919.15 | 0.0963 | P | 0.2 |
| 5 | ☐ | 100.000 | 95.209 | 843510.82 | 0.9189 | P | 1.8 |
| 6 | ☐ | 200.000 | 202.413 | 1733025.13 | 1.9508 | A | 1.5 |

y = 0.0096 * x + 0.0025
R = 0.9996
DL = 0.08734
BEC = 0.2593

Weight: <None>
Min Conc: <None>

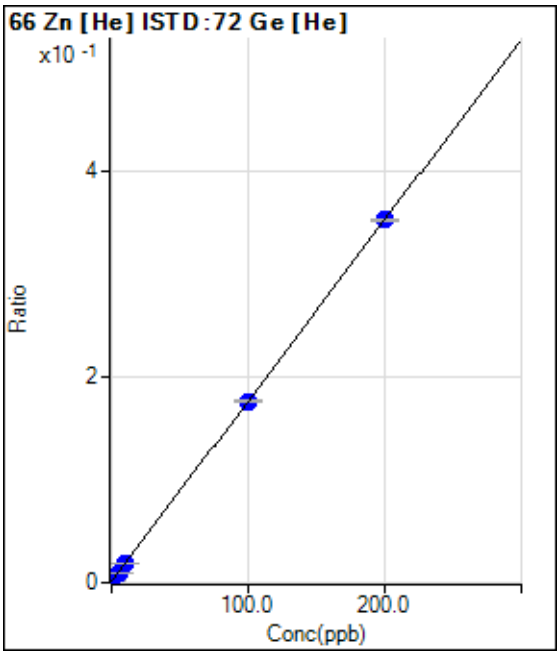



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 2827.03 | 0.0008 | P | 4.7 |
| 2 | ☐ | 2.000 | 2.046 | 11718.53 | 0.0035 | P | 2.1 |
| 3 | ☐ | 5.000 | 5.029 | 24305.33 | 0.0073 | P | 1.4 |
| 4 | ☐ | 10.000 | 9.969 | 45663.65 | 0.0137 | P | 1.2 |
| 5 | ☐ | 100.000 | 99.411 | 428186.94 | 0.1291 | P | 0.8 |
| 6 | ☐ | 200.000 | 200.295 | 839072.90 | 0.2592 | P | 1.3 |

y = 0.0013 * x + 8.4792E-004
R = 1.0000
DL = 0.09229
BEC = 0.6574

Weight: <None>
Min Conc: <None>

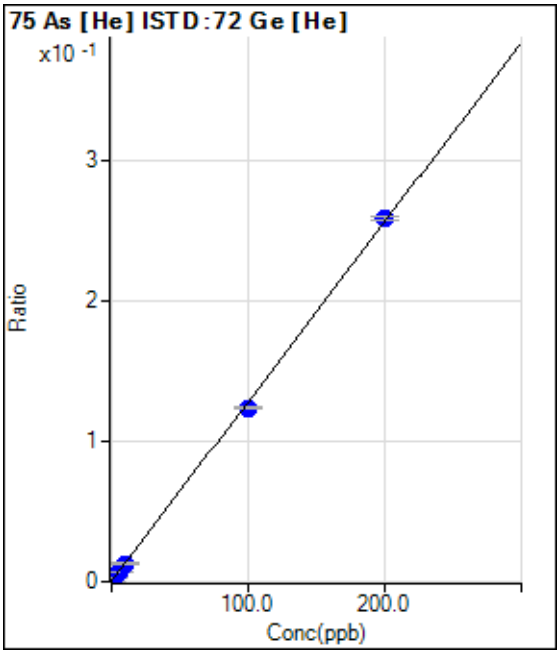
Calibration for 018_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 916.72 | 0.0010 | P | 4.0 |
| 2 | ☐ | 2.000 | 2.223 | 4500.84 | 0.0049 | P | 4.1 |
| 3 | ☐ | 5.000 | 5.044 | 9146.54 | 0.0099 | P | 4.6 |
| 4 | ☐ | 10.000 | 9.877 | 16974.26 | 0.0184 | P | 1.2 |
| 5 | ☐ | 100.000 | 99.638 | 161886.96 | 0.1763 | P | 0.8 |
| 6 | ☐ | 200.000 | 200.184 | 313849.16 | 0.3533 | P | 0.3 |

y = 0.0018 * x + 9.9612E-004
R = 1.0000
DL = 0.06828
BEC = 0.566

Weight: <None>
Min Conc: <None>

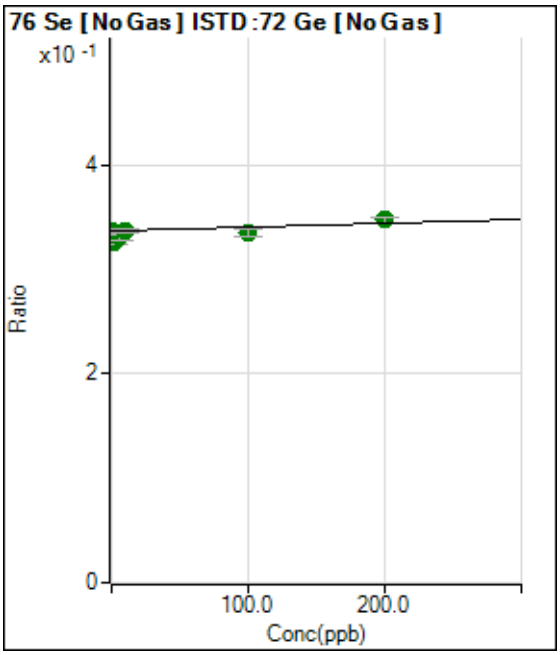



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 271.12 | 0.0003 | P | 8.6 |
| 2 | ☐ | 2.000 | 2.036 | 2654.72 | 0.0029 | P | 3.1 |
| 3 | ☐ | 5.000 | 4.963 | 6145.87 | 0.0066 | P | 3.5 |
| 4 | ☐ | 10.000 | 9.917 | 11972.01 | 0.0130 | P | 1.6 |
| 5 | ☐ | 100.000 | 96.340 | 113236.24 | 0.1233 | P | 0.9 |
| 6 | ☐ | 200.000 | 201.835 | 229278.66 | 0.2581 | P | 1.1 |

y = 0.0013 * x + 2.9452E-004
R = 0.9998
DL = 0.05931
BEC = 0.2306

Weight: <None>
Min Conc: <None>

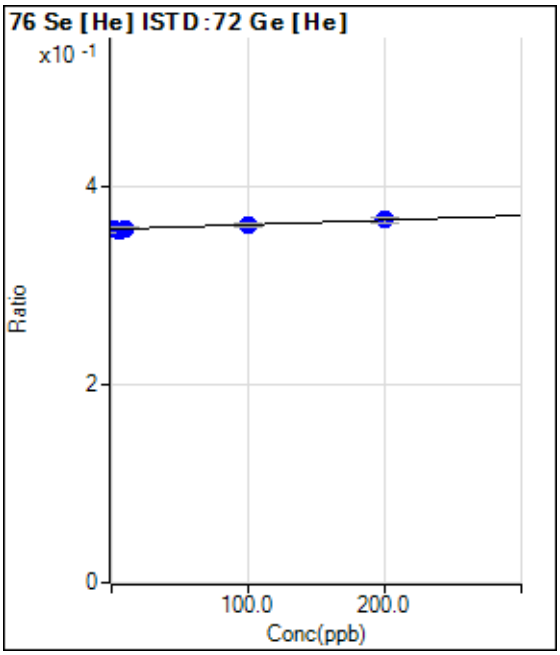
Calibration for 018_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 1124152.95 | 0.3372 | A | 0.1 |
| 2 | ☐ | 2.000 | -274.995 | 1099505.19 | 0.3271 | A | 1.2 |
| 3 | ☐ | 5.000 | -171.280 | 1096703.55 | 0.3309 | A | 1.9 |
| 4 | ☐ | 10.000 | -4.622 | 1123112.17 | 0.3371 | A | 1.3 |
| 5 | ☐ | 100.000 | -54.675 | 1112169.31 | 0.3352 | A | 2.4 |
| 6 | ☐ | 200.000 | 285.246 | 1125800.11 | 0.3477 | A | 1.5 |

y = 3.6828E-005 * x + 0.3372
R = 0.7941
DL = 17.04
BEC = 9157

Weight: <None>
Min Conc: <None>

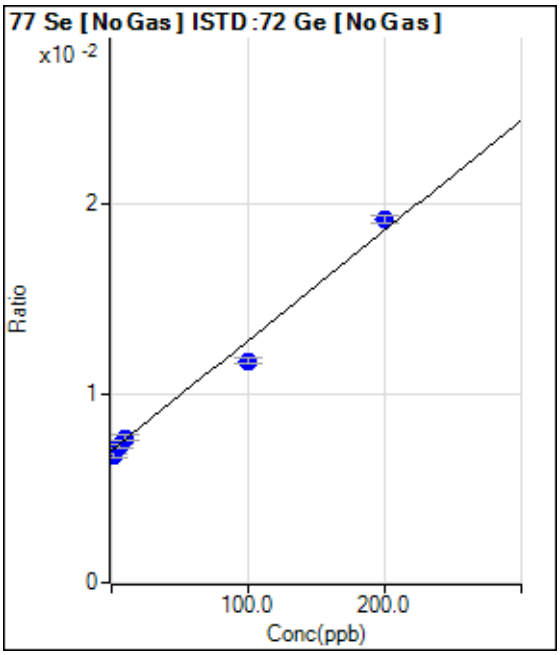



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 328492.08 | 0.3570 | P | 0.2 |
| 2 | ☐ | 2.000 | -3.727 | 327183.98 | 0.3568 | P | 0.1 |
| 3 | ☐ | 5.000 | -20.059 | 329958.32 | 0.3561 | P | 1.2 |
| 4 | ☐ | 10.000 | 25.608 | 330815.82 | 0.3582 | P | 0.3 |
| 5 | ☐ | 100.000 | 93.319 | 331664.81 | 0.3613 | P | 1.1 |
| 6 | ☐ | 200.000 | 203.244 | 325423.87 | 0.3663 | P | 1.7 |

y = 4.5939E-005 * x + 0.3570
R = 0.9879
DL = 53.64
BEC = 7771

Weight: <None>
Min Conc: <None>

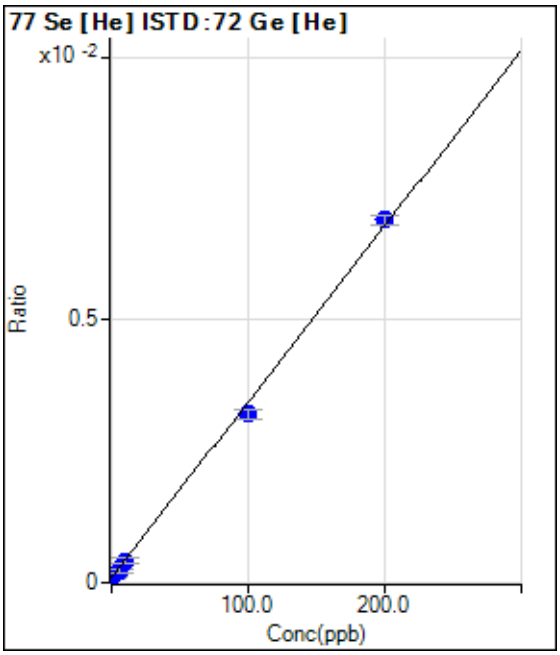
Calibration for 018_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 23303.85 | 0.0070 | P | 1.6 |
| 2 | ☐ | 2.000 | -4.728 | 22572.52 | 0.0067 | P | 2.9 |
| 3 | ☐ | 5.000 | 4.020 | 23941.57 | 0.0072 | P | 2.5 |
| 4 | ☐ | 10.000 | 11.566 | 25534.54 | 0.0077 | P | 2.9 |
| 5 | ☐ | 100.000 | 81.271 | 38882.96 | 0.0117 | P | 2.3 |
| 6 | ☐ | 200.000 | 209.378 | 62069.52 | 0.0192 | P | 2.0 |

y = 5.8179E-005 * x + 0.0070
R = 0.9940
DL = 5.779
BEC = 120.2

Weight: <None>
Min Conc: <None>

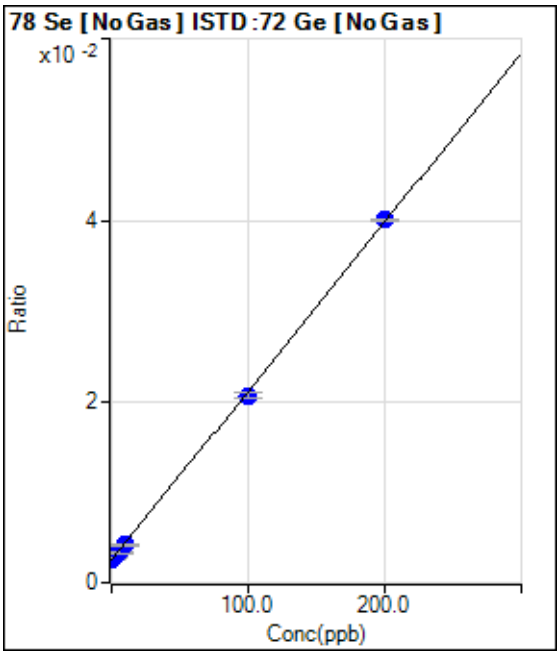



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 86.67 | 0.0001 | P | 56.9 |
| 2 | ☐ | 2.000 | 1.639 | 136.67 | 0.0001 | P | 65.4 |
| 3 | ☐ | 5.000 | 4.078 | 213.34 | 0.0002 | P | 31.2 |
| 4 | ☐ | 10.000 | 9.277 | 373.35 | 0.0004 | P | 27.2 |
| 5 | ☐ | 100.000 | 93.047 | 2947.05 | 0.0032 | P | 5.4 |
| 6 | ☐ | 200.000 | 203.539 | 6134.86 | 0.0069 | P | 2.8 |

y = 3.3469E-005 * x + 9.4109E-005
R = 0.9992
DL = 4.799
BEC = 2.812

Weight: <None>
Min Conc: <None>

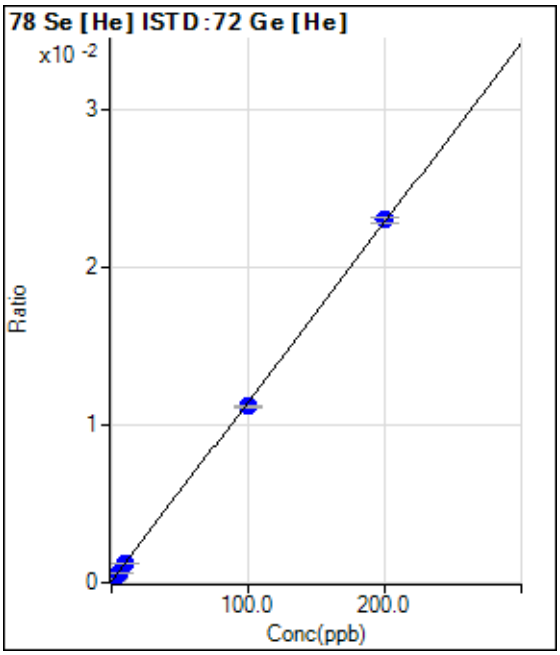
Calibration for 018_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 8349.38 | 0.0025 | P | 2.5 |
| 2 | ☐ | 2.000 | 1.023 | 9059.86 | 0.0027 | P | 1.9 |
| 3 | ☐ | 5.000 | 4.250 | 10927.96 | 0.0033 | P | 1.8 |
| 4 | ☐ | 10.000 | 8.903 | 13880.69 | 0.0042 | P | 2.4 |
| 5 | ☐ | 100.000 | 97.475 | 68647.77 | 0.0207 | P | 2.4 |
| 6 | ☐ | 200.000 | 201.346 | 129737.55 | 0.0401 | P | 0.7 |

y = 1.8657E-004 * x + 0.0025
R = 0.9999
DL = 0.9956
BEC = 13.42

Weight: <None>
Min Conc: <None>

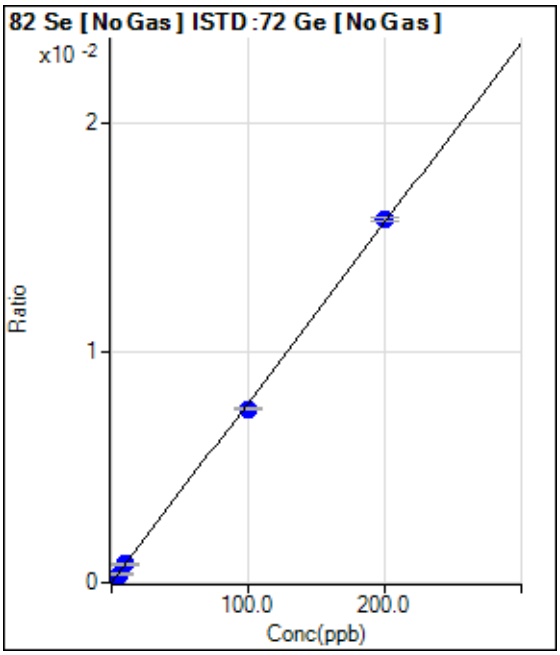



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 80.67 | 0.0001 | P | 15.6 |
| 2 | ☐ | 2.000 | 1.858 | 274.00 | 0.0003 | P | 3.0 |
| 3 | ☐ | 5.000 | 4.836 | 590.68 | 0.0006 | P | 1.9 |
| 4 | ☐ | 10.000 | 9.646 | 1094.05 | 0.0012 | P | 3.8 |
| 5 | ☐ | 100.000 | 97.278 | 10231.90 | 0.0111 | P | 1.9 |
| 6 | ☐ | 200.000 | 201.384 | 20417.45 | 0.0230 | P | 1.7 |

y = 1.1369E-004 * x + 8.7632E-005
R = 0.9999
DL = 0.3601
BEC = 0.7708

Weight: <None>
Min Conc: <None>

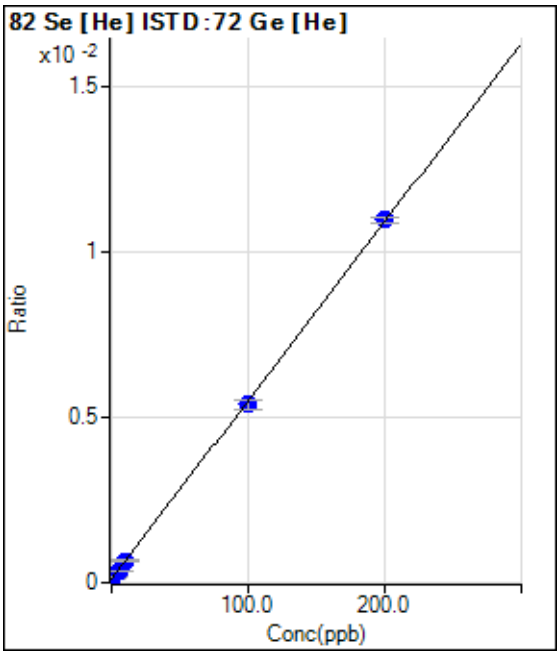
Calibration for 018_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | -95.46 | 0.0000 | P | -182.2 |
| 2 | ☐ | 2.000 | 1.949 | 418.59 | 0.0001 | P | 17.1 |
| 3 | ☐ | 5.000 | 4.776 | 1148.20 | 0.0003 | P | 13.8 |
| 4 | ☐ | 10.000 | 10.437 | 2635.50 | 0.0008 | P | 10.4 |
| 5 | ☐ | 100.000 | 96.536 | 25059.48 | 0.0076 | P | 0.5 |
| 6 | ☐ | 200.000 | 201.716 | 51201.50 | 0.0158 | P | 1.3 |

y = 7.8539E-005 * x - 2.8682E-005
R = 0.9998
DL = 1.996
BEC = -0.3652

Weight: <None>
Min Conc: <None>

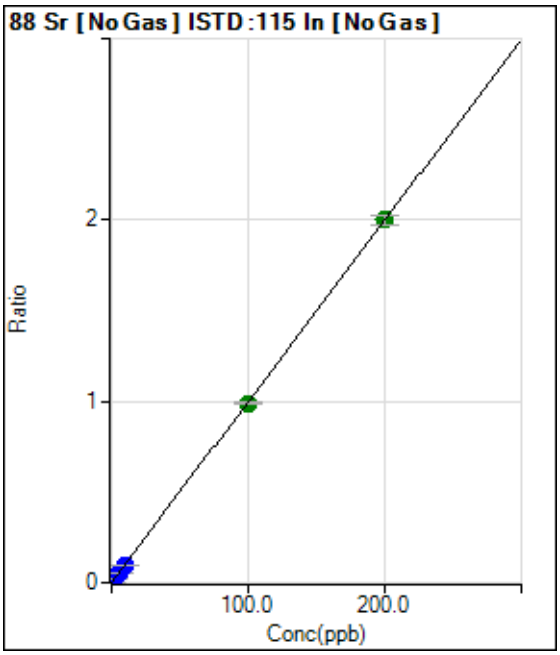



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 103.33 | 0.0001 | P | 19.7 |
| 2 | ☐ | 2.000 | 1.758 | 190.00 | 0.0002 | P | 26.3 |
| 3 | ☐ | 5.000 | 4.582 | 333.34 | 0.0004 | P | 7.1 |
| 4 | ☐ | 10.000 | 10.138 | 610.02 | 0.0007 | P | 10.9 |
| 5 | ☐ | 100.000 | 97.737 | 4951.01 | 0.0054 | P | 6.1 |
| 6 | ☐ | 200.000 | 201.137 | 9757.02 | 0.0110 | P | 1.9 |

y = 5.4049E-005 * x + 1.1224E-004
R = 0.9999
DL = 1.228
BEC = 2.077

Weight: <None>
Min Conc: <None>

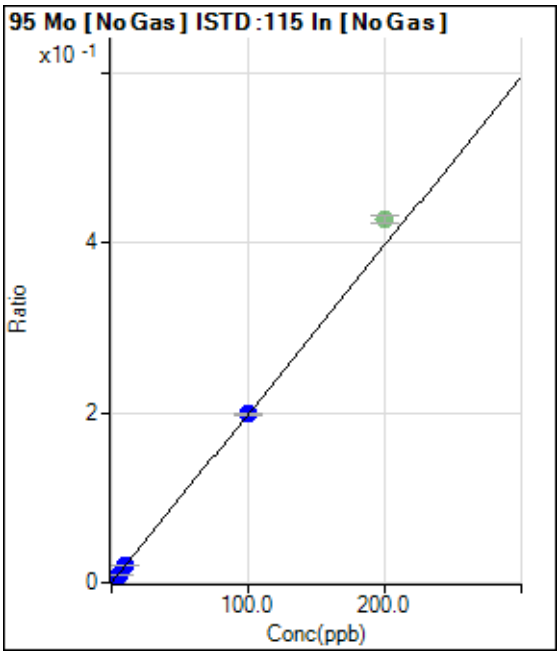
Calibration for 018_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 1700.15 | 0.0004 | P | 10.7 |
| 2 | ☐ | 2.000 | 1.992 | 84495.65 | 0.0203 | P | 2.7 |
| 3 | ☐ | 5.000 | 4.784 | 200947.74 | 0.0482 | P | 1.3 |
| 4 | ☐ | 10.000 | 9.662 | 403174.63 | 0.0969 | P | 0.7 |
| 5 | ☐ | 100.000 | 99.283 | 4000975.98 | 0.9919 | A | 1.3 |
| 6 | ☐ | 200.000 | 200.381 | 7944664.67 | 2.0015 | A | 2.4 |

y = 0.0100 * x + 4.0890E-004
R = 1.0000
DL = 0.01319
BEC = 0.04095

Weight: <None>
Min Conc: <None>

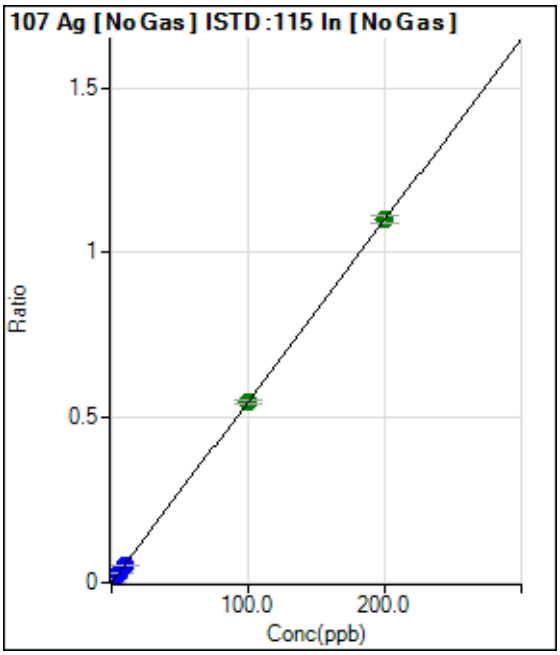



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 133.33 | 0.0000 | P | 26.3 |
| 2 | ☐ | 2.000 | 1.963 | 16343.57 | 0.0039 | P | 0.9 |
| 3 | ☐ | 5.000 | 4.905 | 40729.12 | 0.0098 | P | 0.9 |
| 4 | ☐ | 10.000 | 9.954 | 82326.92 | 0.0198 | P | 0.1 |
| 5 | ☐ | 100.000 | 100.010 | 800673.19 | 0.1985 | P | 1.2 |
| 6 | ☑ | 200.000 | | 1695397.06 | 0.4271 | A | 2.2 |

y = 0.0020 * x + 3.2036E-005
R = 1.0000
DL = 0.01271
BEC = 0.01614

Weight: <None>
Min Conc: <None>

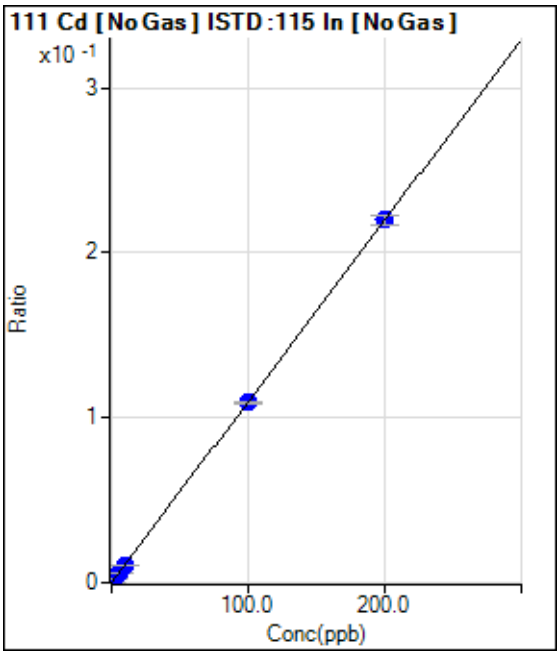
Calibration for 018_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 566.70 | 0.0001 | P | 17.9 |
| 2 | ☐ | 2.000 | 1.942 | 44943.29 | 0.0108 | P | 1.4 |
| 3 | ☐ | 5.000 | 4.810 | 110707.13 | 0.0265 | P | 2.2 |
| 4 | ☐ | 10.000 | 9.723 | 222709.32 | 0.0535 | P | 1.1 |
| 5 | ☐ | 100.000 | 99.705 | 2209048.04 | 0.5476 | A | 2.1 |
| 6 | ☐ | 200.000 | 200.167 | 4363384.00 | 1.0992 | A | 2.1 |

y = 0.0055 * x + 1.3646E-004
R = 1.0000
DL = 0.01337
BEC = 0.02485

Weight: <None>
Min Conc: <None>

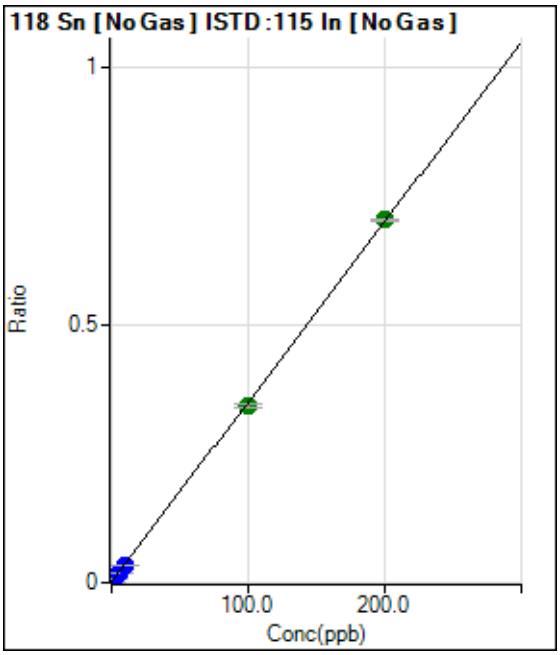



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 26.67 | 0.0000 | P | 57.2 |
| 2 | ☐ | 2.000 | 1.927 | 8826.45 | 0.0021 | P | 4.8 |
| 3 | ☐ | 5.000 | 4.971 | 22780.00 | 0.0055 | P | 1.4 |
| 4 | ☐ | 10.000 | 9.931 | 45371.60 | 0.0109 | P | 1.4 |
| 5 | ☐ | 100.000 | 99.292 | 439576.67 | 0.1090 | P | 1.9 |
| 6 | ☐ | 200.000 | 200.359 | 872832.56 | 0.2199 | P | 2.3 |

y = 0.0011 * x + 6.3904E-006
R = 1.0000
DL = 0.009997
BEC = 0.005823

Weight: <None>
Min Conc: <None>

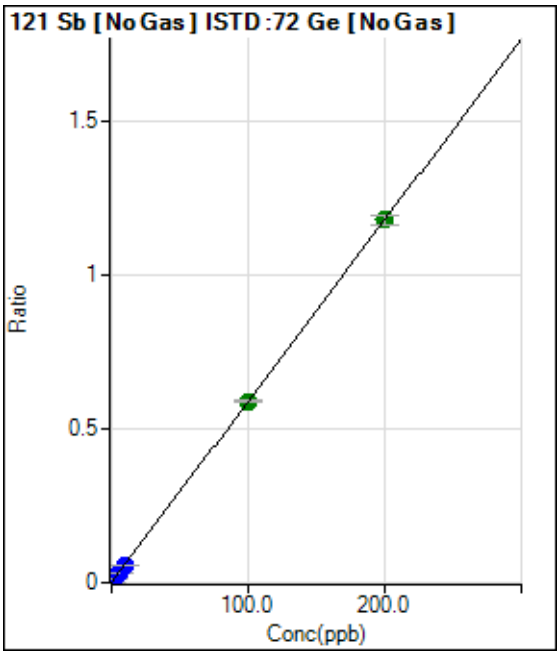
Calibration for 018_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 5407.87 | 0.0013 | P | 9.8 |
| 2 | ☐ | 2.000 | 1.779 | 31274.23 | 0.0075 | P | 3.5 |
| 3 | ☐ | 5.000 | 4.522 | 71306.27 | 0.0171 | P | 1.9 |
| 4 | ☐ | 10.000 | 9.334 | 141088.38 | 0.0339 | P | 1.4 |
| 5 | ☐ | 100.000 | 97.671 | 1381822.59 | 0.3425 | A | 2.0 |
| 6 | ☐ | 200.000 | 201.212 | 2795917.56 | 0.7043 | A | 0.2 |

y = 0.0035 * x + 0.0013
R = 0.9999
DL = 0.1099
BEC = 0.3726

Weight: <None>
Min Conc: <None>

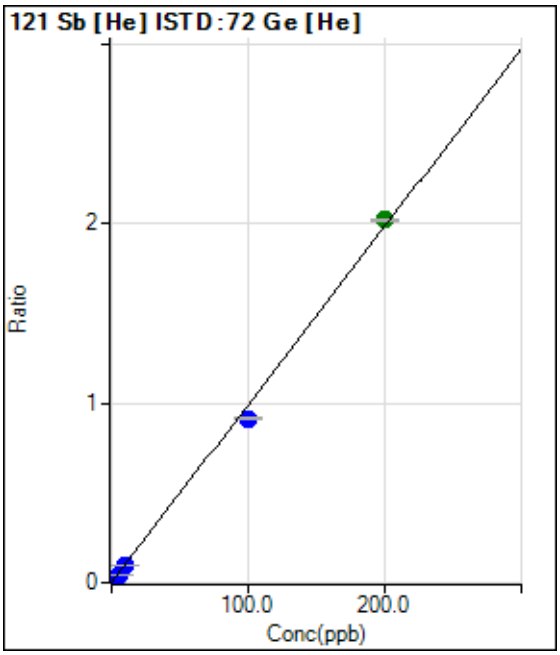



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 3007.07 | 0.0009 | P | 9.9 |
| 2 | ☐ | 2.000 | 1.890 | 40372.40 | 0.0120 | P | 3.7 |
| 3 | ☐ | 5.000 | 4.875 | 97954.13 | 0.0296 | P | 2.0 |
| 4 | ☐ | 10.000 | 9.642 | 191863.68 | 0.0576 | P | 0.6 |
| 5 | ☐ | 100.000 | 99.704 | 1947503.93 | 0.5870 | A | 1.1 |
| 6 | ☐ | 200.000 | 200.170 | 3812239.84 | 1.1776 | A | 2.5 |

y = 0.0059 * x + 9.0251E-004
R = 1.0000
DL = 0.0456
BEC = 0.1535

Weight: <None>
Min Conc: <None>

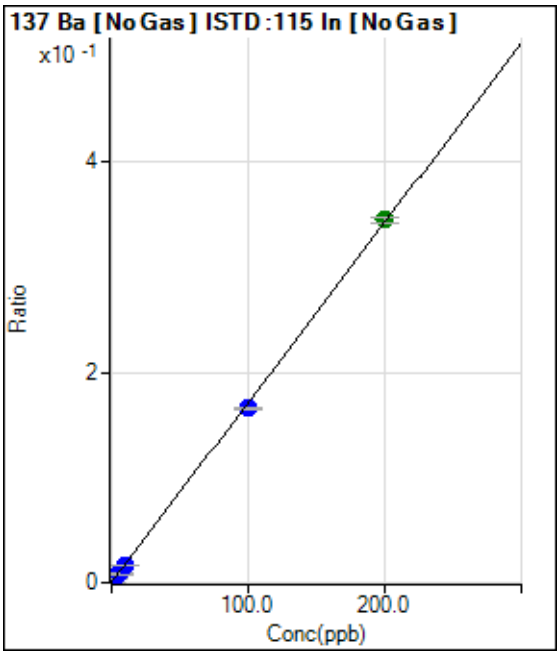
Calibration for 018_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 1130.07 | 0.0012 | P | 5.2 |
| 2 | ☐ | 2.000 | 1.867 | 18079.41 | 0.0197 | P | 0.9 |
| 3 | ☐ | 5.000 | 4.657 | 43877.03 | 0.0473 | P | 2.1 |
| 4 | ☐ | 10.000 | 9.428 | 87356.74 | 0.0946 | P | 1.9 |
| 5 | ☐ | 100.000 | 92.318 | 840303.30 | 0.9155 | P | 2.3 |
| 6 | ☐ | 200.000 | 203.879 | 1794774.76 | 2.0203 | A | 0.8 |

y = 0.0099 * x + 0.0012
R = 0.9990
DL = 0.0192
BEC = 0.124

Weight: <None>
Min Conc: <None>

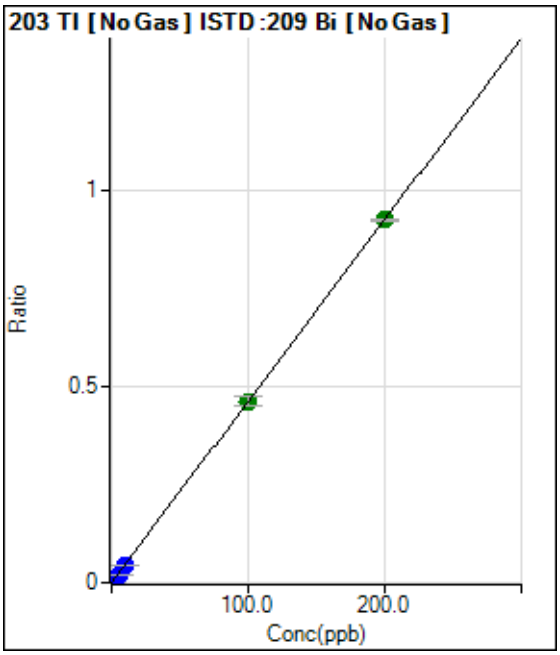



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 1423.44 | 0.0003 | P | 13.1 |
| 2 | ☐ | 2.000 | 1.888 | 14845.41 | 0.0036 | P | 3.8 |
| 3 | ☐ | 5.000 | 4.678 | 34753.51 | 0.0083 | P | 2.8 |
| 4 | ☐ | 10.000 | 9.508 | 69013.32 | 0.0166 | P | 0.4 |
| 5 | ☐ | 100.000 | 96.782 | 668327.83 | 0.1657 | P | 1.6 |
| 6 | ☐ | 200.000 | 201.643 | 1368831.70 | 0.3448 | A | 1.5 |

y = 0.0017 * x + 3.4184E-004
R = 0.9998
DL = 0.07882
BEC = 0.2001

Weight: <None>
Min Conc: <None>

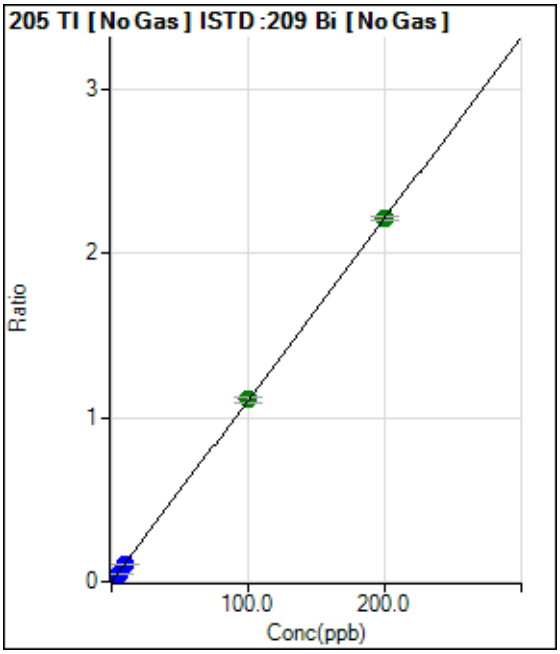
Calibration for 018_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 440.02 | 0.0001 | P | 12.3 |
| 2 | ☐ | 2.000 | 1.790 | 36232.93 | 0.0084 | P | 4.4 |
| 3 | ☐ | 5.000 | 4.514 | 91399.56 | 0.0210 | P | 2.4 |
| 4 | ☐ | 10.000 | 9.235 | 183859.94 | 0.0428 | P | 2.0 |
| 5 | ☐ | 100.000 | 100.072 | 1950483.98 | 0.4625 | A | 4.7 |
| 6 | ☐ | 200.000 | 200.017 | 3754627.65 | 0.9243 | A | 0.8 |

y = 0.0046 * x + 1.0297E-004
R = 1.0000
DL = 0.008197
BEC = 0.02229

Weight: <None>
Min Conc: <None>

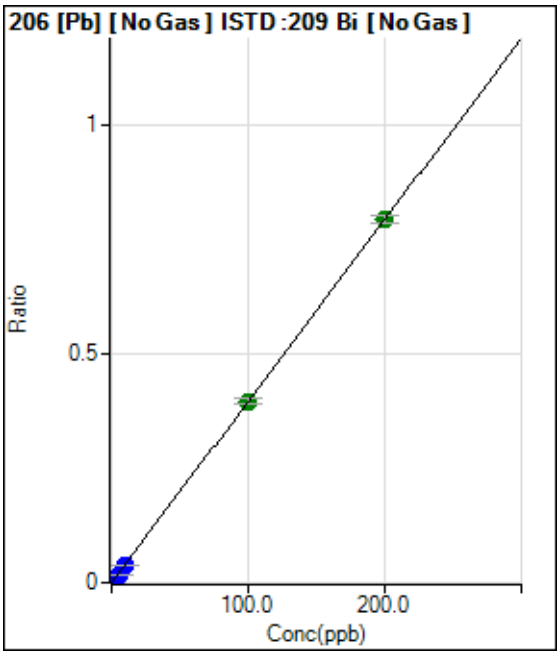



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 953.39 | 0.0002 | P | 17.2 |
| 2 | ☐ | 2.000 | 1.793 | 86804.42 | 0.0201 | P | 1.7 |
| 3 | ☐ | 5.000 | 4.504 | 218322.44 | 0.0501 | P | 1.2 |
| 4 | ☐ | 10.000 | 9.229 | 439983.35 | 0.1024 | P | 2.3 |
| 5 | ☐ | 100.000 | 100.251 | 4679204.51 | 1.1096 | A | 3.6 |
| 6 | ☐ | 200.000 | 199.928 | 8988443.41 | 2.2127 | A | 0.9 |

y = 0.0111 * x + 2.2289E-004
R = 1.0000
DL = 0.01038
BEC = 0.02014

Weight: <None>
Min Conc: <None>

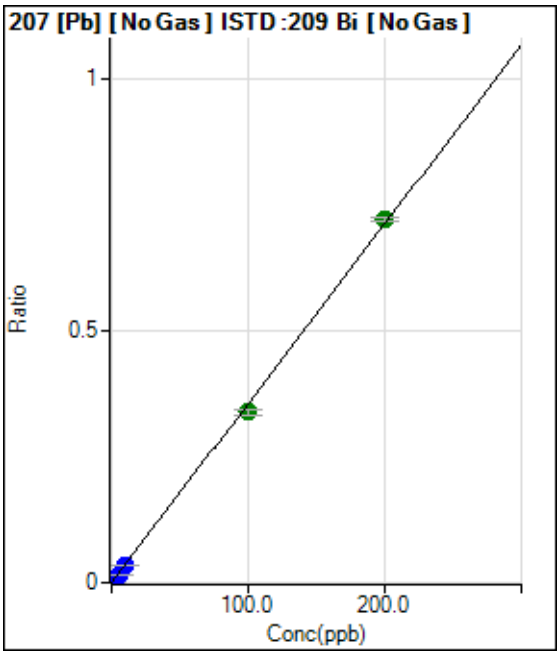
Calibration for 018_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 646.70 | 0.0002 | P | 1.1 |
| 2 | ☐ | 2.000 | 1.836 | 32131.63 | 0.0074 | P | 1.7 |
| 3 | ☐ | 5.000 | 4.521 | 78785.13 | 0.0181 | P | 3.4 |
| 4 | ☐ | 10.000 | 9.355 | 160000.29 | 0.0372 | P | 2.1 |
| 5 | ☐ | 100.000 | 100.008 | 1671884.82 | 0.3965 | A | 3.4 |
| 6 | ☐ | 200.000 | 200.042 | 3220622.56 | 0.7929 | A | 2.0 |

y = 0.0040 * x + 1.5156E-004
R = 1.0000
DL = 0.001304
BEC = 0.03825

Weight: <None>
Min Conc: <None>

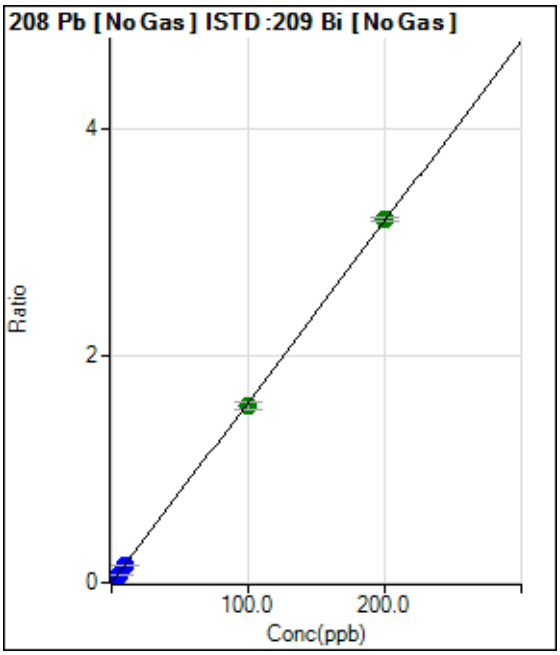



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 476.69 | 0.0001 | P | 14.1 |
| 2 | ☐ | 2.000 | 1.857 | 29110.95 | 0.0067 | P | 2.0 |
| 3 | ☐ | 5.000 | 4.584 | 71709.50 | 0.0164 | P | 2.0 |
| 4 | ☐ | 10.000 | 9.468 | 145438.86 | 0.0338 | P | 4.0 |
| 5 | ☐ | 100.000 | 95.197 | 1430813.21 | 0.3393 | A | 3.5 |
| 6 | ☐ | 200.000 | 202.440 | 2930008.71 | 0.7213 | A | 1.2 |

y = 0.0036 * x + 1.1173E-004
R = 0.9996
DL = 0.01323
BEC = 0.03136

Weight: <None>
Min Conc: <None>

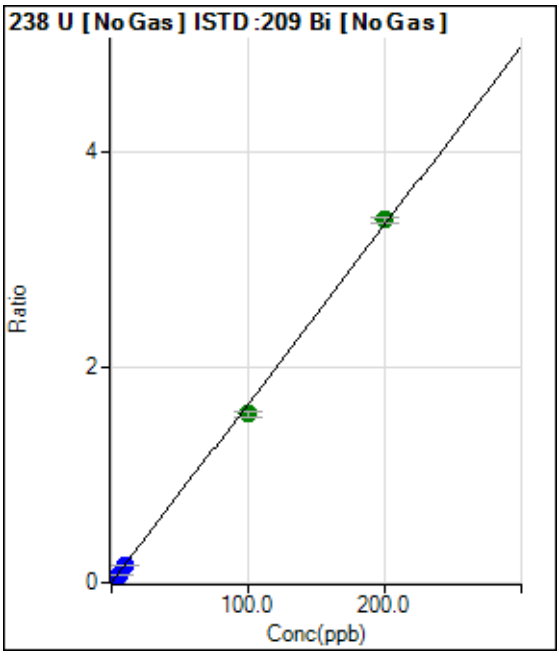
Calibration for 018_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 2326.80 | 0.0005 | P | 9.2 |
| 2 | ☐ | 2.000 | 1.862 | 130474.64 | 0.0302 | P | 1.4 |
| 3 | ☐ | 5.000 | 4.625 | 323194.26 | 0.0741 | P | 1.2 |
| 4 | ☐ | 10.000 | 9.477 | 650284.54 | 0.1513 | P | 2.3 |
| 5 | ☐ | 100.000 | 98.163 | 6586063.19 | 1.5618 | A | 3.8 |
| 6 | ☐ | 200.000 | 200.956 | 12985486.99 | 3.1968 | A | 1.0 |

y = 0.0159 * x + 5.4584E-004
R = 0.9999
DL = 0.009522
BEC = 0.03432

Weight: <None>
Min Conc: <None>

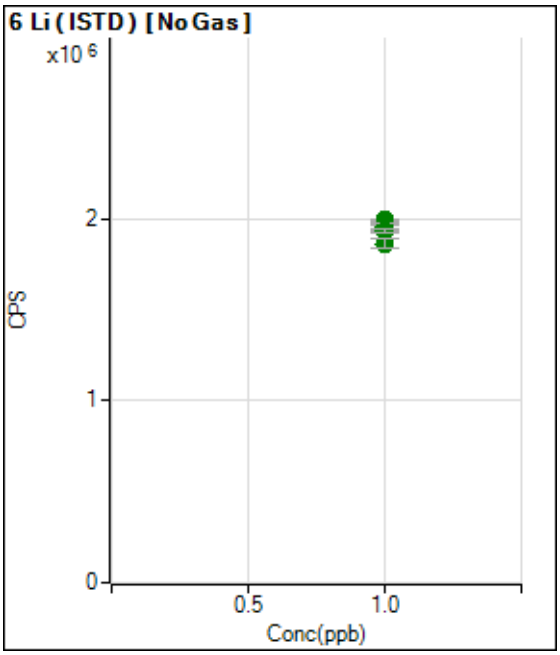



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 170.00 | 0.0000 | P | 29.1 |
| 2 | ☐ | 2.000 | 1.846 | 132788.30 | 0.0307 | P | 2.7 |
| 3 | ☐ | 5.000 | 4.505 | 326373.37 | 0.0748 | P | 2.7 |
| 4 | ☐ | 10.000 | 9.307 | 664414.75 | 0.1546 | P | 1.9 |
| 5 | ☐ | 100.000 | 94.310 | 6603387.82 | 1.5659 | A | 3.2 |
| 6 | ☐ | 200.000 | 202.893 | 13683410.63 | 3.3687 | A | 1.6 |

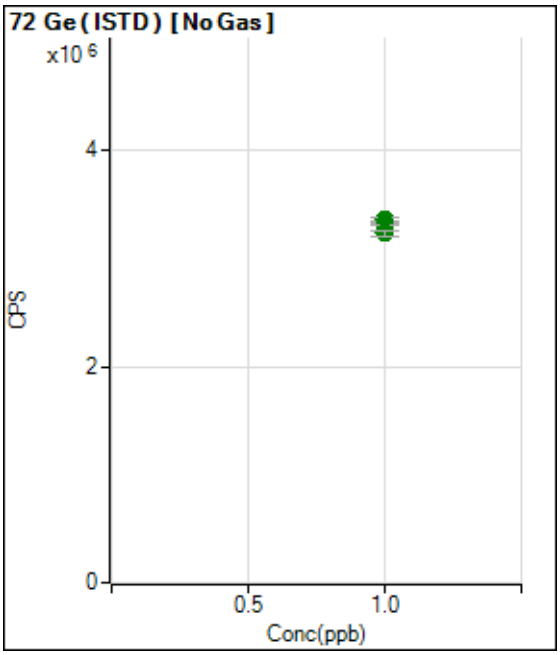
y = 0.0166 * x + 4.0001E-005
R = 0.9995
DL = 0.002103
BEC = 0.002409

Weight: <None>
Min Conc: <None>

Calibration for 018_ICV.d

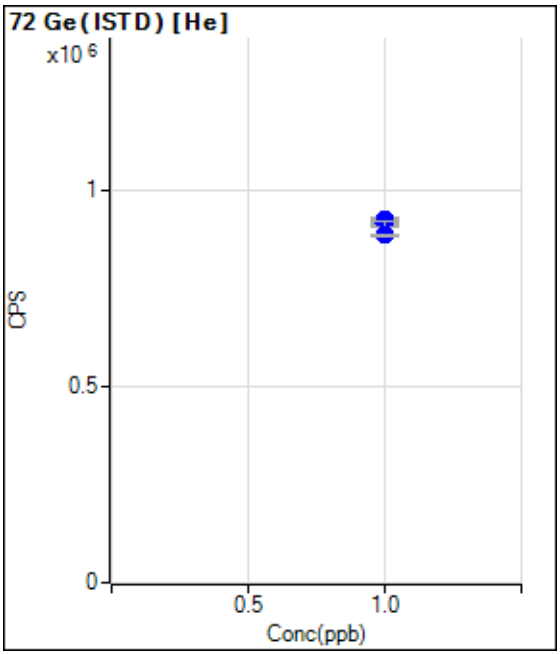



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 1.000 | | 1995440.31 | | A | 0.9 |
| 2 | ☐ | 1.000 | | 1969075.66 | | A | 3.0 |
| 3 | ☐ | 1.000 | | 1973143.92 | | A | 0.9 |
| 4 | ☐ | 1.000 | | 1956600.88 | | A | 1.8 |
| 5 | ☐ | 1.000 | | 1933434.36 | | A | 1.4 |
| 6 | ☐ | 1.000 | | 1863053.18 | | A | 2.8 |

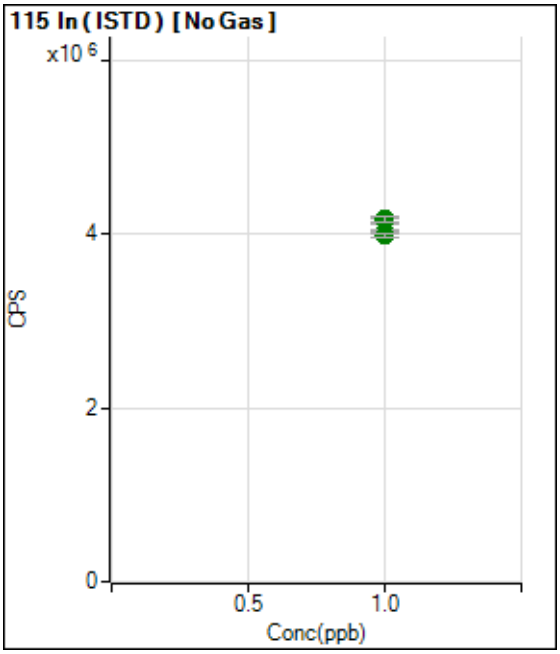



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 1.000 | | 3333390.79 | | A | 0.7 |
| 2 | ☐ | 1.000 | | 3361519.12 | | A | 1.0 |
| 3 | ☐ | 1.000 | | 3313955.26 | | A | 0.3 |
| 4 | ☐ | 1.000 | | 3331951.41 | | A | 0.4 |
| 5 | ☐ | 1.000 | | 3317758.49 | | A | 0.3 |
| 6 | ☐ | 1.000 | | 3237910.27 | | A | 1.5 |

Calibration for 018_ICV.d

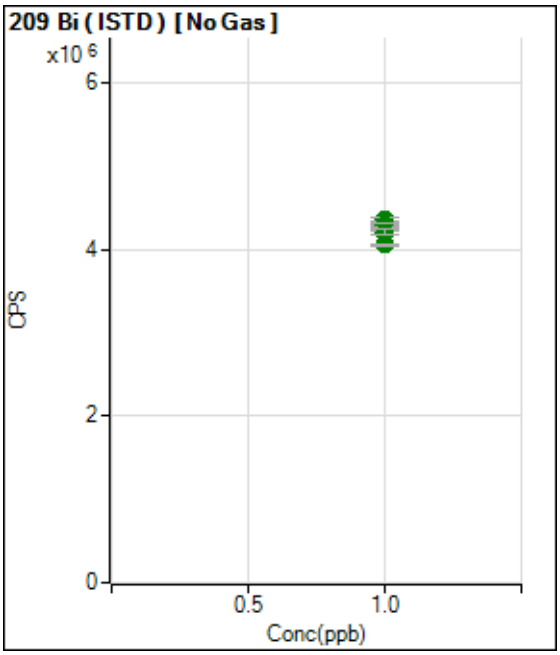



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 1.000 | | 920160.82 | | P | 0.7 |
| 2 | ☐ | 1.000 | | 916926.89 | | P | 0.2 |
| 3 | ☐ | 1.000 | | 926648.22 | | P | 0.9 |
| 4 | ☐ | 1.000 | | 923611.50 | | P | 0.8 |
| 5 | ☐ | 1.000 | | 918100.46 | | P | 1.6 |
| 6 | ☐ | 1.000 | | 888384.28 | | P | 0.6 |




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 1.000 | | 4159868.71 | | A | 1.9 |
| 2 | ☐ | 1.000 | | 4161758.35 | | A | 1.1 |
| 3 | ☐ | 1.000 | | 4170687.38 | | A | 1.5 |
| 4 | ☐ | 1.000 | | 4161085.43 | | A | 1.4 |
| 5 | ☐ | 1.000 | | 4033780.99 | | A | 0.8 |
| 6 | ☐ | 1.000 | | 3970034.18 | | A | 1.1 |

Calibration for 018_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 1.000 | | 4267333.90 | | A | 2.1 |
| 2 | ☐ | 1.000 | | 4326817.12 | | A | 0.8 |
| 3 | ☐ | 1.000 | | 4361451.71 | | A | 1.0 |
| 4 | ☐ | 1.000 | | 4299414.21 | | A | 1.6 |
| 5 | ☐ | 1.000 | | 4218719.31 | | A | 1.9 |
| 6 | ☐ | 1.000 | | 4062259.00 | | A | 0.8 |

# Calibration Blank Report

**Sample Table**

| | |
|---|---|
| Sample Name | CAL BLK |
| Data File Name | 011CALB.d |
| Data Path Name | C:\Agilent\ICPMH\1\DATA\042921A.b |
| Acq Date Time | 2021-04-29T10:24:56-05:00 |
| Sample Type | CalBlk |
| Level | 1 |
| Dilution | 1 |
| Comment | |

**QC Analyte Table**

| Name | Mass | Tune Step | Tune Mode | CPS | %RSD |
|---|---|---|---|---|---|
| Li | 7 | 1 | No Gas | 115869 | 0.00 |
| Be | 9 | 1 | No Gas | 33 | 68.74 |
| V | 51 | 2 | He | 4814 | 0.02 |
| Cr | 52 | 2 | He | 8886 | 0.04 |
| Fe | 56 | 2 | He | 20148 | 0.01 |
| Se | 78 | 2 | He | 81 | 19.76 |
| As | 75 | 2 | He | 271 | 3.43 |
| Ca | 44 | 2 | He | 850 | 0.37 |
| Na | 23 | 2 | He | 74740 | 0.00 |
| Mg | 24 | 2 | He | 1213 | 0.69 |
| K | 39 | 2 | He | 53216 | 0.00 |
| Mn | 55 | 2 | He | 650 | 0.82 |
| Co | 59 | 2 | He | 127 | 55.86 |
| Ni | 60 | 2 | He | 227 | 19.20 |
| Cu | 63 | 2 | He | 2297 | 0.48 |
| Zn | 66 | 2 | He | 917 | 0.50 |
| Al | 27 | 2 | He | 903 | 0.72 |
| B | 11 | 1 | No Gas | 46694 | 0.00 |
| Al | 27 | 1 | No Gas | 41930 | 0.01 |
| Si | 28 | 1 | No Gas | 281616 | 0.00 |
| Ag | 107 | 1 | No Gas | 567 | 2.96 |
| Cd | 111 | 1 | No Gas | 27 | 214.81 |
| Sr | 88 | 1 | No Gas | 1700 | 0.60 |
| Mo | 95 | 1 | No Gas | 133 | 19.75 |
| Sn | 118 | 1 | No Gas | 5408 | 0.15 |
| Sb | 121 | 1 | No Gas | 3007 | 0.31 |
| Ba | 137 | 1 | No Gas | 1423 | 1.00 |
| Tl | 205 | 1 | No Gas | 953 | 2.00 |
| Tl | 203 | 1 | No Gas | 440 | 3.14 |
| Pb | 208 | 1 | No Gas | 2327 | 0.32 |
| U | 238 | 1 | No Gas | 170 | 15.86 |
| Ca | 43 | 2 | He | 37 | 42.94 |
| Sb | 121 | 2 | He | 1130 | 0.51 |
| Ti | 47 | 2 | He | 13 | 324.76 |
| Cu | 63 | 1 | No Gas | 4814 | 0.07 |

**QC ISTD Table**

| Name | Mass | Tune Step | Tune Mode | CPS | %RSD |
|---|---|---|---|---|---|

# Calibration Blank Report

| | | | | | |
|---|---|---|---|---|---|
| Li | 6 | 1 | No Gas | 1995440 | 0.85 |
| Ge | 72 | 2 | He | 920161 | 0.73 |
| Ge | 72 | 1 | No Gas | 3333391 | 0.73 |
| In | 115 | 1 | No Gas | 4159869 | 1.85 |

# Calibration Blank Report

| Name | Mass | Tune Step | Tune Mode | CPS | %RSD |
|---|---|---|---|---|---|
| Bi | 209 | 1 | No Gas | 4267334 | 2.13 |

# Calibration Standard Report

**Sample Table**

| | |
|---|---|
| Sample Name | 2/10/200 |
| Data File Name | 012CALS.d |
| Data Path Name | C:\Agilent\ICPMH\1\DATA\042921A.b |
| Acq Date Time | 2021-04-29T10:26:55-05:00 |
| Sample Type | CalStd |
| Level | 2 |
| Dilution | 1 |
| Comment | |
| ISTD Ref File Name | 011CALB.d |
| ISTD Pass/Fail | Pass |

**QC Analyte Table**

| Name | Mass | Tune Step | Tune Mode | CPS | %RSD |
|---|---|---|---|---|---|
| Be | 9 | 1 | No Gas | 11718 | 0.02 |
| V | 51 | 2 | He | 18842 | 0.00 |
| Cr | 52 | 2 | He | 26185 | 0.01 |
| Fe | 56 | 2 | He | 1686115 | 0.00 |
| Se | 78 | 2 | He | 274 | 1.16 |
| As | 75 | 2 | He | 2655 | 0.12 |
| Ca | 44 | 2 | He | 9920 | 0.02 |
| Na | 23 | 2 | He | 354372 | 0.00 |
| Mg | 24 | 2 | He | 161942 | 0.00 |
| K | 39 | 2 | He | 212468 | 0.00 |
| Mn | 55 | 2 | He | 15055 | 0.02 |
| Co | 59 | 2 | He | 26206 | 0.01 |
| Ni | 60 | 2 | He | 6772 | 0.06 |
| Cu | 63 | 2 | He | 19451 | 0.02 |
| Zn | 66 | 2 | He | 4501 | 0.09 |
| Al | 27 | 2 | He | 2260 | 0.27 |
| B | 11 | 1 | No Gas | 75411 | 0.00 |
| Al | 27 | 1 | No Gas | 114703 | 0.00 |
| Si | 28 | 1 | No Gas | 376040 | 0.00 |
| Ag | 107 | 1 | No Gas | 44943 | 0.00 |
| Cd | 111 | 1 | No Gas | 8826 | 0.04 |
| Sr | 88 | 1 | No Gas | 84496 | 0.00 |
| Mo | 95 | 1 | No Gas | 16344 | 0.01 |
| Sn | 118 | 1 | No Gas | 31274 | 0.01 |
| Sb | 121 | 1 | No Gas | 40372 | 0.01 |
| Ba | 137 | 1 | No Gas | 14845 | 0.02 |
| Tl | 205 | 1 | No Gas | 86804 | 0.00 |
| Tl | 203 | 1 | No Gas | 36233 | 0.01 |
| Pb | 208 | 1 | No Gas | 130475 | 0.00 |
| U | 238 | 1 | No Gas | 132788 | 0.00 |
| Ca | 43 | 2 | He | 570 | 1.41 |
| Sb | 121 | 2 | He | 18079 | 0.00 |
| Cu | 63 | 1 | No Gas | 37582 | 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 | 1969076 | 3.00 | 1995440 | 98.68 | 70 | 120 | |
| Ge | 72 | 2 | He | 916927 | 0.22 | 920161 | 99.65 | 70 | 120 | |
| Ge | 72 | 1 | No Gas | 3361519 | 1.02 | 3333391 | 100.84 | 70 | 120 | |

# Calibration Standard Report

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| In | 115 | 1 | No Gas | 4161758 | 1.12 | 4159869 | 100.05 | 70 | 120 | |
| Bi | 209 | 1 | No Gas | 4326817 | 0.77 | 4267334 | 101.39 | 70 | 120 | |

# Calibration Standard Report

**Sample Table**

| | |
|---|---|
| Sample Name | 5/25/500 |
| Data File Name | 013CALS.d |
| Data Path Name | C:\Agilent\ICPMH\1\DATA\042921A.b |
| Acq Date Time | 2021-04-29T10:28:55-05:00 |
| Sample Type | CalStd |
| Level | 3 |
| Dilution | 1 |
| Comment | |
| ISTD Ref File Name | 011CALB.d |
| ISTD Pass/Fail | Pass |

**QC Analyte Table**

| Name | Mass | Tune Step | Tune Mode | CPS | %RSD |
|---|---|---|---|---|---|
| Be | 9 | 1 | No Gas | 28344 | 0.01 |
| V | 51 | 2 | He | 40191 | 0.00 |
| Cr | 52 | 2 | He | 51350 | 0.00 |
| Fe | 56 | 2 | He | 4107683 | 0.00 |
| Se | 78 | 2 | He | 591 | 0.46 |
| As | 75 | 2 | He | 6146 | 0.05 |
| Ca | 44 | 2 | He | 22686 | 0.00 |
| Na | 23 | 2 | He | 770141 | 0.00 |
| Mg | 24 | 2 | He | 403619 | 0.00 |
| K | 39 | 2 | He | 458537 | 0.00 |
| Mn | 55 | 2 | He | 32813 | 0.00 |
| Co | 59 | 2 | He | 65470 | 0.00 |
| Ni | 60 | 2 | He | 16470 | 0.02 |
| Cu | 63 | 2 | He | 45593 | 0.00 |
| Zn | 66 | 2 | He | 9147 | 0.04 |
| Al | 27 | 2 | He | 3354 | 0.09 |
| B | 11 | 1 | No Gas | 123005 | 0.00 |
| Al | 27 | 1 | No Gas | 163707 | 0.00 |
| Si | 28 | 1 | No Gas | 531033 | 0.00 |
| Ag | 107 | 1 | No Gas | 110707 | 0.00 |
| Cd | 111 | 1 | No Gas | 22780 | 0.01 |
| Sr | 88 | 1 | No Gas | 200948 | 0.00 |
| Mo | 95 | 1 | No Gas | 40729 | 0.00 |
| Sn | 118 | 1 | No Gas | 71306 | 0.00 |
| Sb | 121 | 1 | No Gas | 97954 | 0.00 |
| Ba | 137 | 1 | No Gas | 34754 | 0.01 |
| Tl | 205 | 1 | No Gas | 218322 | 0.00 |
| Tl | 203 | 1 | No Gas | 91400 | 0.00 |
| Pb | 208 | 1 | No Gas | 323194 | 0.00 |
| U | 238 | 1 | No Gas | 326373 | 0.00 |
| Ca | 43 | 2 | He | 1197 | 0.40 |
| Sb | 121 | 2 | He | 43877 | 0.01 |
| Cu | 63 | 1 | No Gas | 86219 | 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 | 1973144 | 0.92 | 1995440 | 98.88 | 70 | 120 | |
| Ge | 72 | 2 | He | 926648 | 0.89 | 920161 | 100.71 | 70 | 120 | |
| Ge | 72 | 1 | No Gas | 3313955 | 0.34 | 3333391 | 99.42 | 70 | 120 | |

# Calibration Standard Report

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| In | 115 | 1 | No Gas | 4170687 | 1.48 | 4159869 | 100.26 | 70 | 120 | |
| Bi | 209 | 1 | No Gas | 4361452 | 0.99 | 4267334 | 102.21 | 70 | 120 | |

# Calibration Standard Report

**Sample Table**

| | |
|---|---|
| Sample Name | 10/50/100 |
| Data File Name | 014CALS.d |
| Data Path Name | C:\Agilent\ICPMH\1\DATA\042921A.b |
| Acq Date Time | 2021-04-29T10:30:53-05:00 |
| Sample Type | CalStd |
| Level | 4 |
| Dilution | 1 |
| Comment | |
| ISTD Ref File Name | 011CALB.d |
| ISTD Pass/Fail | Pass |

**QC Analyte Table**

| Name | Mass | Tune Step | Tune Mode | CPS | %RSD |
|---|---|---|---|---|---|
| Be | 9 | 1 | No Gas | 57294 | 0.00 |
| V | 51 | 2 | He | 77112 | 0.00 |
| Cr | 52 | 2 | He | 96311 | 0.00 |
| Fe | 56 | 2 | He | 8099479 | 0.00 |
| Se | 78 | 2 | He | 1094 | 0.42 |
| As | 75 | 2 | He | 11972 | 0.02 |
| Ca | 44 | 2 | He | 44412 | 0.00 |
| Na | 23 | 2 | He | 1474998 | 0.00 |
| Mg | 24 | 2 | He | 793717 | 0.00 |
| K | 39 | 2 | He | 880250 | 0.00 |
| Mn | 55 | 2 | He | 62680 | 0.00 |
| Co | 59 | 2 | He | 131356 | 0.00 |
| Ni | 60 | 2 | He | 33147 | 0.00 |
| Cu | 63 | 2 | He | 88919 | 0.00 |
| Zn | 66 | 2 | He | 16974 | 0.01 |
| Al | 27 | 2 | He | 5311 | 0.04 |
| B | 11 | 1 | No Gas | 205461 | 0.00 |
| Al | 27 | 1 | No Gas | 258342 | 0.00 |
| Si | 28 | 1 | No Gas | 789962 | 0.00 |
| Ag | 107 | 1 | No Gas | 222709 | 0.00 |
| Cd | 111 | 1 | No Gas | 45372 | 0.00 |
| Sr | 88 | 1 | No Gas | 403175 | 0.00 |
| Mo | 95 | 1 | No Gas | 82327 | 0.00 |
| Sn | 118 | 1 | No Gas | 141088 | 0.00 |
| Sb | 121 | 1 | No Gas | 191864 | 0.00 |
| Ba | 137 | 1 | No Gas | 69013 | 0.00 |
| Tl | 205 | 1 | No Gas | 439983 | 0.00 |
| Tl | 203 | 1 | No Gas | 183860 | 0.00 |
| Pb | 208 | 1 | No Gas | 650285 | 0.00 |
| U | 238 | 1 | No Gas | 664415 | 0.00 |
| Ca | 43 | 2 | He | 2510 | 0.09 |
| Sb | 121 | 2 | He | 87357 | 0.00 |
| Cu | 63 | 1 | No Gas | 165920 | 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 | 1956601 | 1.78 | 1995440 | 98.05 | 70 | 120 | |
| Ge | 72 | 2 | He | 923611 | 0.82 | 920161 | 100.38 | 70 | 120 | |
| Ge | 72 | 1 | No Gas | 3331951 | 0.43 | 3333391 | 99.96 | 70 | 120 | |

# Calibration Standard Report

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| In | 115 | 1 | No Gas | 4161085 | 1.36 | 4159869 | 100.03 | 70 | 120 | |
| Bi | 209 | 1 | No Gas | 4299414 | 1.55 | 4267334 | 100.75 | 70 | 120 | |

# Calibration Standard Report

**Sample Table**

| | |
|---|---|
| Sample Name | 100/500/10K |
| Data File Name | 015CALS.d |
| Data Path Name | C:\Agilent\ICPMH\1\DATA\042921A.b |
| Acq Date Time | 2021-04-29T10:32:52-05:00 |
| Sample Type | CalStd |
| Level | 5 |
| Dilution | 1 |
| Comment | |
| ISTD Ref File Name | 011CALB.d |
| ISTD Pass/Fail | Pass |

**QC Analyte Table**

| Name | Mass | Tune Step | Tune Mode | CPS | %RSD |
|---|---|---|---|---|---|
| Be | 9 | 1 | No Gas | 569468 | 0.00 |
| V | 51 | 2 | He | 720204 | 0.00 |
| Cr | 52 | 2 | He | 860868 | 0.00 |
| Fe | 56 | 2 | He | 77103471 | 0.00 |
| Se | 78 | 2 | He | 10232 | 0.00 |
| As | 75 | 2 | He | 113236 | 0.00 |
| Ca | 44 | 2 | He | 421768 | 0.00 |
| Na | 23 | 2 | He | 13153804 | 0.00 |
| Mg | 24 | 2 | He | 7404225 | 0.00 |
| K | 39 | 2 | He | 7759297 | 0.00 |
| Mn | 55 | 2 | He | 598440 | 0.00 |
| Co | 59 | 2 | He | 1329876 | 0.00 |
| Ni | 60 | 2 | He | 317750 | 0.00 |
| Cu | 63 | 2 | He | 843511 | 0.00 |
| Zn | 66 | 2 | He | 161887 | 0.00 |
| Al | 27 | 2 | He | 48076 | 0.00 |
| B | 11 | 1 | No Gas | 1669753 | 0.00 |
| Al | 27 | 1 | No Gas | 2429645 | 0.00 |
| Si | 28 | 1 | No Gas | 6002410 | 0.00 |
| Ag | 107 | 1 | No Gas | 2209048 | 0.00 |
| Cd | 111 | 1 | No Gas | 439577 | 0.00 |
| Sr | 88 | 1 | No Gas | 4000976 | 0.00 |
| Mo | 95 | 1 | No Gas | 800673 | 0.00 |
| Sn | 118 | 1 | No Gas | 1381823 | 0.00 |
| Sb | 121 | 1 | No Gas | 1947504 | 0.00 |
| Ba | 137 | 1 | No Gas | 668328 | 0.00 |
| Tl | 205 | 1 | No Gas | 4679205 | 0.00 |
| Tl | 203 | 1 | No Gas | 1950484 | 0.00 |
| Pb | 208 | 1 | No Gas | 6586063 | 0.00 |
| U | 238 | 1 | No Gas | 6603388 | 0.00 |
| Ca | 43 | 2 | He | 24622 | 0.01 |
| Sb | 121 | 2 | He | 840303 | 0.00 |
| Cu | 63 | 1 | No Gas | 1609819 | 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 | 1933434 | 1.40 | 1995440 | 96.89 | 70 | 120 | |
| Ge | 72 | 2 | He | 918100 | 1.57 | 920161 | 99.78 | 70 | 120 | |
| Ge | 72 | 1 | No Gas | 3317758 | 0.28 | 3333391 | 99.53 | 70 | 120 | |

# Calibration Standard Report

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| In | 115 | 1 | No Gas | 4033781 | 0.84 | 4159869 | 96.97 | 70 | 120 | |
| Bi | 209 | 1 | No Gas | 4218719 | 1.94 | 4267334 | 98.86 | 70 | 120 | |

# Calibration Standard Report

**Sample Table**

| | |
|---|---|
| Sample Name | 200/1000/20K |
| Data File Name | 016CALS.d |
| Data Path Name | C:\Agilent\ICPMH\1\DATA\042921A.b |
| Acq Date Time | 2021-04-29T10:34:45-05:00 |
| Sample Type | CalStd |
| Level | 6 |
| Dilution | 1 |
| Comment | |
| ISTD Ref File Name | 011CALB.d |
| ISTD Pass/Fail | Pass |

**QC Analyte Table**

| Name | Mass | Tune Step | Tune Mode | CPS | %RSD |
|---|---|---|---|---|---|
| Be | 9 | 1 | No Gas | 1141650 | 0.00 |
| V | 51 | 2 | He | 1493016 | 0.00 |
| Cr | 52 | 2 | He | 1780866 | 0.00 |
| Fe | 56 | 2 | He | 157795861 | 0.00 |
| Se | 78 | 2 | He | 20417 | 0.01 |
| As | 75 | 2 | He | 229279 | 0.00 |
| Ca | 44 | 2 | He | 901112 | 0.00 |
| Na | 23 | 2 | He | 26920207 | 0.00 |
| Mg | 24 | 2 | He | 15369413 | 0.00 |
| K | 39 | 2 | He | 15958540 | 0.00 |
| Mn | 55 | 2 | He | 1259366 | 0.00 |
| Co | 59 | 2 | He | 2533702 | 0.00 |
| Ni | 60 | 2 | He | 618157 | 0.00 |
| Cu | 63 | 2 | He | 1733025 | 0.00 |
| Zn | 66 | 2 | He | 313849 | 0.00 |
| Al | 27 | 2 | He | 82735 | 0.00 |
| B | 11 | 1 | No Gas | 3351766 | 0.00 |
| Al | 27 | 1 | No Gas | 4091167 | 0.00 |
| Si | 28 | 1 | No Gas | 10086733 | 0.00 |
| Ag | 107 | 1 | No Gas | 4363384 | 0.00 |
| Cd | 111 | 1 | No Gas | 872833 | 0.00 |
| Sr | 88 | 1 | No Gas | 7944665 | 0.00 |
| Mo | 95 | 1 | No Gas | 1695397 | 0.00 |
| Sn | 118 | 1 | No Gas | 2795918 | 0.00 |
| Sb | 121 | 1 | No Gas | 3812240 | 0.00 |
| Ba | 137 | 1 | No Gas | 1368832 | 0.00 |
| Tl | 205 | 1 | No Gas | 8988443 | 0.00 |
| Tl | 203 | 1 | No Gas | 3754628 | 0.00 |
| Pb | 208 | 1 | No Gas | 12985487 | 0.00 |
| U | 238 | 1 | No Gas | 13683411 | 0.00 |
| Ca | 43 | 2 | He | 51219 | 0.00 |
| Sb | 121 | 2 | He | 1794775 | 0.00 |
| Cu | 63 | 1 | No Gas | 3122036 | 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 | 1863053 | 2.83 | 1995440 | 93.37 | 70 | 120 | |
| Ge | 72 | 2 | He | 888384 | 0.62 | 920161 | 96.55 | 70 | 120 | |
| Ge | 72 | 1 | No Gas | 3237910 | 1.50 | 3333391 | 97.14 | 70 | 120 | |

# Calibration Standard Report

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| In | 115 | 1 | No Gas | 3970034 | 1.10 | 4159869 | 95.44 | 70 | 120 | |
| Bi | 209 | 1 | No Gas | 4062259 | 0.76 | 4267334 | 95.19 | 70 | 120 | |

# Initial Calibration Blank (ICB) Report

**Sample Table**

| | |
|---|---|
| Sample Name | ICB |
| Data File Name | 019_ICB.d |
| Data Path Name | C:\Agilent\ICPMH\1\DATA\042921A.b |
| Acq Date Time | 2021-04-29T10:44:05-05:00 |
| Sample Type | ICB |
| Dilution | 1 |
| Comment | |
| ISTD Ref File Name | 011CALB.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 | 0.012 | 579.3 | 117314 | 1.4 | 0.5 | |
| Be | 9 | 1 | No Gas | 0.003 | 60.0 | 53 | 21.7 | 0.5 | |
| V | 51 | 2 | He | -0.044 | -44.1 | 4521 | 3.2 | 2.5 | |
| Cr | 52 | 2 | He | -0.164 | -15.8 | 7472 | 2.8 | 2.5 | |
| Fe | 56 | 2 | He | 3.595 | 2.6 | 49641 | 2.0 | 100 | |
| Se | 78 | 2 | He | 0.063 | 96.3 | 88 | 6.8 | 1 | |
| As | 75 | 2 | He | -0.004 | -258.7 | 269 | 4.0 | 2.5 | |
| Ca | 44 | 2 | He | 5.408 | 31.1 | 1107 | 6.5 | 100 | |
| Na | 23 | 2 | He | 13.398 | 5.5 | 93975 | 0.6 | 100 | |
| Mg | 24 | 2 | He | 0.420 | 42.9 | 1557 | 8.9 | 100 | |
| K | 39 | 2 | He | 3.310 | 16.3 | 56405 | 1.1 | 100 | |
| Mn | 55 | 2 | He | 1.488 | 3.8 | 10284 | 3.4 | 2.5 | |
| Co | 59 | 2 | He | 0.004 | 57.0 | 183 | 17.5 | 2.5 | |
| Ni | 60 | 2 | He | 0.088 | 12.5 | 513 | 7.4 | 2.5 | |
| Cu | 63 | 2 | He | 0.032 | 100.0 | 2607 | 11.0 | 1 | |
| Zn | 66 | 2 | He | 0.493 | 16.8 | 1730 | 7.6 | 2.5 | |
| Al | 27 | 2 | He | 1.025 | 23.5 | 1400 | 8.4 | 5 | |
| B | 11 | 1 | No Gas | 13.016 | 10.7 | 91186 | 4.3 | 0.5 | ICB Main CR1 Failed |
| Al | 27 | 1 | No Gas | 1.177 | 5.5 | 66275 | 2.6 | 5 | |
| Si | 28 | 1 | No Gas | 0.801 | 25.9 | 285862 | 1.1 | 10 | |
| Ag | 107 | 1 | No Gas | 0.013 | 19.5 | 860 | 6.2 | 2.5 | |
| Cd | 111 | 1 | No Gas | 0.006 | 44.1 | 53 | 21.7 | 1 | |
| Sr | 88 | 1 | No Gas | 0.031 | 9.1 | 2977 | 3.4 | 2.5 | |
| Mo | 95 | 1 | No Gas | 0.186 | 34.4 | 1663 | 31.0 | 2.5 | |
| Sn | 118 | 1 | No Gas | 0.200 | 58.2 | 8312 | 19.6 | 5 | |
| Sb | 121 | 1 | No Gas | 0.117 | 6.2 | 5224 | 2.9 | 2.5 | |
| Ba | 137 | 1 | No Gas | -0.122 | -7.3 | 553 | 11.8 | 2.5 | |
| Tl | 205 | 1 | No Gas | 1.333 | 43.6 | 65095 | 44.0 | 1 | ICB Main CR1 Failed |
| Tl | 203 | 1 | No Gas | 1.324 | 40.1 | 27027 | 40.5 | 1 | ICB Main CR1 Failed |
| Pb | 208 | 1 | No Gas | 0.022 | 16.7 | 3877 | 7.7 | 2.5 | |
| U | 238 | 1 | No Gas | 0.022 | 26.4 | 1730 | 24.8 | 2.5 | |
| Ca | 43 | 2 | He | 8.736 | 114.8 | 60 | 44.1 | 100 | |
| Sb | 121 | 2 | He | 0.125 | 7.7 | 2197 | 3.2 | 2.5 | |
| Ti | 47 | 2 | He | -0.013 | -286.4 | 10 | 100.0 | 2.5 | |
| Se | 82 | 1 | No Gas | 0.297 | 75.1 | -18 | -324.5 | 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 | 2015181 | 0.99 | 1995440 | 100.99 | 70 | 120 | |
| Ge | 72 | 2 | He | 928288 | 0.49 | 920161 | 100.88 | 70 | 120 | |
| Ge | 72 | 1 | No Gas | 3286723 | 0.57 | 3333391 | 98.60 | 70 | 120 | |
| In | 115 | 1 | No Gas | 4156078 | 0.72 | 4159869 | 99.91 | 70 | 120 | |
| Bi | 209 | 1 | No Gas | 4331673 | 1.17 | 4267334 | 101.51 | 70 | 120 | |

# Sample Report

**Sample Table**

| | |
|---|---|
| Sample Name | LLICV2 |
| Data File Name | 020LCV2.d |
| Data Path Name | C:\Agilent\ICPMH\1\DATA\042921A.b |
| Acq Date Time | 2021-04-29T10:46:04-05:00 |
| Sample Type | LLCCV2 |
| Dilution | 1 |
| Comment | |
| ISTD Ref FileName | 011CALB.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 | 1.934 | 1.934 | 1.73 | 162546 | 0.00 | 2 | |
| Be | 9 | 1 | No Gas | 1.955 | 1.955 | 3.22 | 11540 | 0.02 | 2 | |
| V | 51 | 2 | He | 1.849 | 1.849 | 0.67 | 19091 | 0.01 | 2 | |
| Cr | 52 | 2 | He | 1.742 | 1.742 | 2.06 | 24946 | 0.01 | 2 | |
| Fe | 56 | 2 | He | 210.652 | 210.652 | 0.68 | 1743249 | 0.01 | 200 | |
| Se | 78 | 2 | He | 1.919 | 1.919 | 13.56 | 285 | 0.67 | 2 | |
| As | 75 | 2 | He | 1.818 | 1.818 | 3.61 | 2437 | 0.07 | 2 | |
| Ca | 44 | 2 | He | 198.101 | 198.101 | 4.57 | 10027 | 1.98 | 200 | |
| Na | 23 | 2 | He | 204.446 | 204.446 | 0.95 | 360005 | 0.06 | 200 | |
| Mg | 24 | 2 | He | 206.493 | 206.493 | 1.49 | 165287 | 0.12 | 200 | |
| K | 39 | 2 | He | 199.369 | 199.369 | 0.11 | 217986 | 0.09 | 200 | |
| Mn | 55 | 2 | He | 2.260 | 2.260 | 1.49 | 15325 | 0.01 | 2 | |
| Co | 59 | 2 | He | 1.995 | 1.995 | 1.88 | 26700 | 0.01 | 2 | |
| Ni | 60 | 2 | He | 2.114 | 2.114 | 0.95 | 7069 | 0.03 | 2 | |
| Cu | 63 | 2 | He | 1.953 | 1.953 | 4.48 | 19825 | 0.01 | 2 | |
| Zn | 66 | 2 | He | 2.205 | 2.205 | 1.87 | 4541 | 0.05 | 2 | |
| Al | 27 | 2 | He | 2.948 | 2.948 | 8.15 | 2324 | 0.13 | 2 | NewName Main CR1 Failed |
| B | 11 | 1 | No Gas | 14.886 | 14.886 | 3.13 | 96708 | 0.02 | 10 | NewName Main CR1 Failed |
| Al | 27 | 1 | No Gas | 3.421 | 3.421 | 1.39 | 116992 | 0.00 | 2 | NewName Main CR1 Failed |
| Si | 28 | 1 | No Gas | 9.924 | 9.924 | 27.97 | 389662 | 0.00 | 10 | |
| Ag | 107 | 1 | No Gas | 1.937 | 1.937 | 1.57 | 44826 | 0.00 | 2 | |
| Cd | 111 | 1 | No Gas | 2.064 | 2.064 | 3.75 | 9454 | 0.02 | 2 | |
| Sr | 88 | 1 | No Gas | 2.001 | 2.001 | 3.68 | 84824 | 0.00 | 2 | |
| Mo | 95 | 1 | No Gas | 2.012 | 2.012 | 2.51 | 16751 | 0.01 | 2 | |
| Sn | 118 | 1 | No Gas | 1.854 | 1.854 | 2.14 | 32370 | 0.01 | 2 | |
| Sb | 121 | 1 | No Gas | 1.922 | 1.922 | 3.40 | 41205 | 0.00 | 2 | |
| Ba | 137 | 1 | No Gas | 1.847 | 1.847 | 3.19 | 14552 | 0.01 | 2 | |
| Tl | 205 | 1 | No Gas | 1.837 | 1.837 | 0.93 | 89077 | 0.00 | 2 | |
| Tl | 203 | 1 | No Gas | 1.844 | 1.844 | 2.43 | 37363 | 0.00 | 2 | |
| Pb | 208 | 1 | No Gas | 1.896 | 1.896 | 1.49 | 133083 | 0.00 | 2 | |
| U | 238 | 1 | No Gas | 1.844 | 1.844 | 2.63 | 132822 | 0.00 | 2 | |
| Ca | 43 | 2 | He | 177.618 | 177.618 | 10.75 | 507 | 35.05 | 200 | |
| Sb | 121 | 2 | He | 1.995 | 1.995 | 1.22 | 18133 | 0.01 | 2 | |
| Ti | 47 | 2 | He | 1.938 | 1.938 | 14.42 | 537 | 0.36 | 200 | |
| Cu | 63 | 1 | No Gas | 1.984 | 1.984 | 3.42 | 37178 | 0.01 | 2 | |
| Se | 82 | 1 | No Gas | 1.980 | 1.980 | 12.22 | 428 | 0.46 | 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 | 1998202 | 1.39 | 1995440 | 100.14 | 70 | 120 | |
| Ge | 72 | 2 | He | 931113 | 0.16 | 920161 | 101.19 | 70 | 120 | |
| Ge | 72 | 1 | No Gas | 3378572 | 1.09 | 3333391 | 101.36 | 70 | 120 | |
| In | 115 | 1 | No Gas | 4162216 | 2.20 | 4159869 | 100.06 | 70 | 120 | |
| Bi | 209 | 1 | No Gas | 4334301 | 0.94 | 4267334 | 101.57 | 70 | 120 | |

# Sample Report

**Sample Table**

| | |
|---|---|
| Sample Name | LLICV5 |
| Data File Name | 021LCV5.d |
| Data Path Name | C:\Agilent\ICPMH\1\DATA\042921A.b |
| Acq Date Time | 2021-04-29T10:48:03-05:00 |
| Sample Type | LLCCV5 |
| Dilution | 1 |
| Comment | |
| ISTD Ref FileName | 011CALB.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 | 4.870 | 4.870 | 3.79 | 232226 | 0.00 | 5 | |
| Be | 9 | 1 | No Gas | 4.930 | 4.930 | 2.42 | 28926 | 0.02 | 5 | |
| V | 51 | 2 | He | 4.629 | 4.629 | 1.17 | 40480 | 0.01 | 5 | |
| Cr | 52 | 2 | He | 4.579 | 4.579 | 3.99 | 50928 | 0.01 | 5 | |
| Fe | 56 | 2 | He | 502.038 | 502.038 | 0.49 | 4127172 | 0.01 | 500 | |
| Se | 78 | 2 | He | 4.801 | 4.801 | 8.16 | 590 | 0.81 | 5 | |
| As | 75 | 2 | He | 4.896 | 4.896 | 3.42 | 6097 | 0.08 | 5 | |
| Ca | 44 | 2 | He | 465.400 | 465.400 | 2.32 | 22402 | 2.08 | 500 | |
| Na | 23 | 2 | He | 517.521 | 517.521 | 2.19 | 795700 | 0.07 | 500 | |
| Mg | 24 | 2 | He | 512.246 | 512.246 | 1.00 | 408277 | 0.13 | 500 | |
| K | 39 | 2 | He | 495.054 | 495.054 | 1.37 | 461489 | 0.11 | 500 | |
| Mn | 55 | 2 | He | 4.918 | 4.918 | 1.44 | 32576 | 0.02 | 5 | |
| Co | 59 | 2 | He | 5.017 | 5.017 | 2.01 | 66961 | 0.01 | 5 | |
| Ni | 60 | 2 | He | 5.060 | 5.060 | 2.93 | 16600 | 0.03 | 5 | |
| Cu | 63 | 2 | He | 4.877 | 4.877 | 1.03 | 46041 | 0.01 | 5 | |
| Zn | 66 | 2 | He | 5.036 | 5.036 | 3.27 | 9180 | 0.05 | 5 | |
| Al | 27 | 2 | He | 5.353 | 5.353 | 7.15 | 3474 | 0.15 | 5 | |
| B | 11 | 1 | No Gas | 27.942 | 27.942 | 1.76 | 139990 | 0.02 | 25 | |
| Al | 27 | 1 | No Gas | 5.782 | 5.782 | 3.34 | 167473 | 0.00 | 5 | |
| Si | 28 | 1 | No Gas | 23.392 | 23.392 | 1.21 | 528719 | 0.00 | 25 | |
| Ag | 107 | 1 | No Gas | 4.844 | 4.844 | 1.24 | 112076 | 0.00 | 5 | |
| Cd | 111 | 1 | No Gas | 4.878 | 4.878 | 2.13 | 22466 | 0.02 | 5 | |
| Sr | 88 | 1 | No Gas | 4.864 | 4.864 | 0.85 | 205323 | 0.00 | 5 | |
| Mo | 95 | 1 | No Gas | 4.980 | 4.980 | 1.71 | 41558 | 0.01 | 5 | |
| Sn | 118 | 1 | No Gas | 4.625 | 4.625 | 1.15 | 73193 | 0.01 | 5 | |
| Sb | 121 | 1 | No Gas | 4.729 | 4.729 | 2.01 | 96433 | 0.00 | 5 | |
| Ba | 137 | 1 | No Gas | 4.862 | 4.862 | 2.92 | 36248 | 0.01 | 5 | |
| Tl | 205 | 1 | No Gas | 4.603 | 4.603 | 0.96 | 221221 | 0.00 | 5 | |
| Tl | 203 | 1 | No Gas | 4.553 | 4.553 | 1.29 | 91394 | 0.00 | 5 | |
| Pb | 208 | 1 | No Gas | 4.695 | 4.695 | 0.75 | 325251 | 0.00 | 5 | |
| U | 238 | 1 | No Gas | 4.631 | 4.631 | 0.96 | 332617 | 0.00 | 5 | |
| Ca | 43 | 2 | He | 496.370 | 496.370 | 8.24 | 1350 | 36.77 | 500 | |
| Sb | 121 | 2 | He | 5.116 | 5.116 | 3.80 | 44710 | 0.01 | 5 | |
| Ti | 47 | 2 | He | 4.704 | 4.704 | 12.38 | 1283 | 0.37 | 5 | |
| Cu | 63 | 1 | No Gas | 5.072 | 5.072 | 2.45 | 86977 | 0.01 | 5 | |
| Se | 82 | 1 | No Gas | 4.873 | 4.873 | 15.63 | 1191 | 0.41 | 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 | 1990516 | 1.61 | 1995440 | 99.75 | 70 | 120 | |
| Ge | 72 | 2 | He | 931292 | 0.58 | 920161 | 101.21 | 70 | 120 | |
| Ge | 72 | 1 | No Gas | 3360728 | 1.46 | 3333391 | 100.82 | 70 | 120 | |

# Sample Report

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| In | 115 | 1 | No Gas | 4192012 | 1.14 | 4159869 | 100.77 | 70 | 120 | |
| Bi | 209 | 1 | No Gas | 4323706 | 0.77 | 4267334 | 101.32 | 70 | 120 | |

# Interference Check Solution A (ICS-A) Report

**Sample Table**

| | |
|---|---|
| Sample Name | ICSA |
| Data File Name | 023ICSA.d |
| Data Path Name | C:\Agilent\ICPMH\1\DATA\042921A.b |
| Acq Date Time | 2021-04-29T10:53:01-05:00 |
| Sample Type | ICSA |
| Dilution | 1 |
| Comment | |
| ISTD Ref File Name | 011CALB.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 | 0.764 | 18.2 | 130370 | 2.6 | 0 | ICSA Main CR1 Failed |
| Be | 9 | 1 | No Gas | 0.000 | 830.6 | 33 | 22.9 | 0 | ICSA Main CR1 Failed |
| V | 51 | 2 | He | 0.001 | 2031.1 | 4643 | 3.7 | 0 | ICSA Main CR1 Failed |
| Cr | 52 | 2 | He | 1.941 | 3.1 | 25471 | 2.5 | 0 | ICSA Main CR1 Failed |
| Fe | 56 | 2 | He | 101872.984 | 1.1 | 792678708 | 0.7 | 0 | |
| Se | 78 | 2 | He | 0.176 | 81.6 | 95 | 14.9 | 0 | ICSA Main CR1 Failed |
| As | 75 | 2 | He | 0.137 | 7.5 | 416 | 3.2 | 0 | ICSA Main CR1 Failed |
| Ca | 44 | 2 | He | 100716.805 | 0.4 | 4435125 | 0.9 | 0 | |
| Na | 23 | 2 | He | 104091.870 | 0.4 | 137821275 | 0.4 | 0 | |
| Mg | 24 | 2 | He | 103616.125 | 0.6 | 78323276 | 0.9 | 0 | |
| K | 39 | 2 | He | 104358.546 | 0.2 | 81789804 | 0.7 | 0 | |
| Mn | 55 | 2 | He | 0.411 | 12.0 | 3167 | 10.0 | 0 | ICSA Main CR1 Failed |
| Co | 59 | 2 | He | 0.091 | 8.1 | 1273 | 7.3 | 0 | ICSA Main CR1 Failed |
| Ni | 60 | 2 | He | 0.201 | 0.6 | 837 | 0.7 | 0 | ICSA Main CR1 Failed |
| Cu | 63 | 2 | He | 0.335 | 18.5 | 5071 | 10.8 | 0 | ICSA Main CR1 Failed |
| Zn | 66 | 2 | He | 1.423 | 3.7 | 3100 | 2.8 | 0 | ICSA Main CR1 Failed |
| Al | 27 | 2 | He | 92043.776 | 0.8 | 41878986 | 0.8 | 0 | |
| B | 11 | 1 | No Gas | 1.840 | 14.0 | 51342 | 0.7 | 0 | |
| Al | 27 | 1 | No Gas | 96644.708 | 0.3 | 1959466051 | 1.0 | 0 | |
| Si | 28 | 1 | No Gas | 24.261 | 2.5 | 503464 | 1.8 | 0 | |
| Ag | 107 | 1 | No Gas | 0.292 | 0.6 | 6565 | 2.0 | 0 | ICSA Main CR1 Failed |
| Cd | 111 | 1 | No Gas | 1.788 | 3.8 | 7416 | 3.7 | 0 | ICSA Main CR1 Failed |
| Sr | 88 | 1 | No Gas | 1.147 | 4.0 | 44658 | 1.6 | 0 | ICSA Main CR1 Failed |
| Mo | 95 | 1 | No Gas | 2170.875 | 2.6 | 16226573 | 1.5 | 0 | |
| Sn | 118 | 1 | No Gas | 0.197 | 1.3 | 7499 | 2.7 | 0 | ICSA Main CR1 Failed |
| Sb | 121 | 1 | No Gas | 0.073 | 6.0 | 4191 | 2.8 | 0 | ICSA Main CR1 Failed |
| Ba | 137 | 1 | No Gas | 0.647 | 4.4 | 5451 | 4.5 | 0 | ICSA Main CR1 Failed |
| Tl | 205 | 1 | No Gas | 0.002 | 228.3 | 910 | 18.0 | 0 | ICSA Main CR1 Failed |
| Tl | 203 | 1 | No Gas | 0.001 | 363.8 | 410 | 17.1 | 0 | ICSA Main CR1 Failed |
| Pb | 208 | 1 | No Gas | 0.090 | 3.4 | 7458 | 2.0 | 0 | ICSA Main CR1 Failed |
| U | 238 | 1 | No Gas | 0.003 | 20.7 | 317 | 9.1 | 0 | ICSA Main CR1 Failed |
| Ca | 43 | 2 | He | 99040.958 | 0.7 | 249159 | 0.6 | 0 | |
| Sb | 121 | 2 | He | 0.090 | 3.8 | 1820 | 1.5 | 0 | ICSA Main CR1 Failed |
| Ti | 47 | 2 | He | 2095.460 | 0.4 | 538041 | 0.3 | 0 | |
| Se | 82 | 1 | No Gas | -0.360 | -46.0 | -179 | -22.6 | 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 | 1938221 | 0.97 | 1995440 | 97.13 | 70 | 120 | |
| Ge | 72 | 2 | He | 885844 | 0.46 | 920161 | 96.27 | 70 | 120 | |
| Ge | 72 | 1 | No Gas | 3145937 | 0.96 | 3333391 | 94.38 | 70 | 120 | |
| In | 115 | 1 | No Gas | 3767722 | 2.37 | 4159869 | 90.57 | 70 | 120 | |
| Bi | 209 | 1 | No Gas | 3783269 | 1.78 | 4267334 | 88.66 | 70 | 120 | |

# Interference Check Solution AB (ICS-AB) Report

**Sample Table**

| | |
|---|---|
| Sample Name | ICSAB |
| Data File Name | 024ICSB.d |
| Data Path Name | C:\Agilent\ICPMH\1\DATA\042921A.b |
| Acq Date Time | 2021-04-29T10:55:05-05:00 |
| Sample Type | ICSB |
| Dilution | 1 |
| Comment | |
| ISTD Ref File Name | 011CALB.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 | 99.062 | 2.706 | 2413240 | 1.59 | 100 | 99.1 | 180 | 120 | ICSB Main CR1 Failed |
| Be | 9 | 1 | No Gas | 98.608 | 1.190 | 560542 | 1.52 | 100 | 98.6 | 80 | 120 | |
| V | 51 | 2 | He | 98.687 | 0.949 | 738869 | 0.33 | 100 | 98.7 | 80 | 120 | |
| Cr | 52 | 2 | He | 99.378 | 1.414 | 889035 | 0.92 | 100 | 99.4 | 80 | 120 | |
| Fe | 56 | 2 | He | 109626.311 | 1.122 | 867358120 | 0.65 | 100 | 109626.3 | 80 | 120 | ICSB Main CR1 Failed |
| Se | 78 | 2 | He | 104.851 | 1.454 | 10816 | 1.23 | 100 | 104.9 | 80 | 120 | |
| As | 75 | 2 | He | 103.123 | 1.086 | 118905 | 0.44 | 100 | 103.1 | 80 | 120 | |
| Ca | 44 | 2 | He | 109133.343 | 2.046 | 4886116 | 1.46 | 100 | 109133.3 | 80 | 120 | |
| Na | 23 | 2 | He | 111072.393 | 0.878 | 149530744 | 0.52 | 100 | 111072.4 | 80 | 120 | ICSB Main CR1 Failed |
| Mg | 24 | 2 | He | 111916.104 | 0.638 | 86019359 | 0.75 | 100 | 111916.1 | 80 | 120 | |
| K | 39 | 2 | He | 113295.092 | 0.629 | 90284002 | 1.02 | 100 | 113295.1 | 80 | 120 | |
| Mn | 55 | 2 | He | 97.833 | 1.382 | 614795 | 1.06 | 100 | 97.8 | 80 | 120 | |
| Co | 59 | 2 | He | 101.485 | 0.928 | 1307784 | 1.22 | 100 | 101.5 | 80 | 120 | |
| Ni | 60 | 2 | He | 98.742 | 0.758 | 309245 | 1.15 | 100 | 98.7 | 80 | 120 | |
| Cu | 63 | 2 | He | 94.942 | 1.057 | 825386 | 0.93 | 100 | 94.9 | 80 | 120 | |
| Zn | 66 | 2 | He | 101.295 | 0.442 | 161464 | 0.44 | 100 | 101.3 | 80 | 120 | |
| Al | 27 | 2 | He | 90168.386 | 0.661 | 41715939 | 0.57 | 100 | 90168.4 | 80 | 120 | ICSB Main CR1 Failed |
| B | 11 | 1 | No Gas | 528.922 | 2.012 | 1759847 | 1.62 | 100 | 528.9 | 80 | 120 | |
| Al | 27 | 1 | No Gas | 94628.604 | 0.739 | 1964590691 | 1.42 | 100 | 94628.6 | 80 | 120 | ICSB Main CR1 Failed |
| Si | 28 | 1 | No Gas | 521.293 | 3.011 | 5500292 | 1.23 | 100 | 521.3 | 80 | 120 | |
| Ag | 107 | 1 | No Gas | 97.693 | 0.668 | 2081193 | 0.88 | 100 | 97.7 | 80 | 120 | |
| Cd | 111 | 1 | No Gas | 100.865 | 1.077 | 429369 | 0.81 | 100 | 100.9 | 80 | 120 | |
| Sr | 88 | 1 | No Gas | 104.576 | 1.040 | 4052498 | 1.75 | 100 | 104.6 | 80 | 120 | |
| Mo | 95 | 1 | No Gas | 2194.153 | 0.690 | 16888987 | 0.61 | 100 | 2194.2 | 80 | 120 | ICSB Main CR1 Failed |
| Sn | 118 | 1 | No Gas | 100.855 | 1.842 | 1371629 | 1.40 | 100 | 100.9 | 80 | 120 | |
| Sb | 121 | 1 | No Gas | 100.927 | 1.383 | 1913980 | 1.25 | 100 | 100.9 | 80 | 120 | |
| Ba | 137 | 1 | No Gas | 99.622 | 0.161 | 661467 | 0.87 | 100 | 99.6 | 80 | 120 | |
| Tl | 205 | 1 | No Gas | 102.810 | 2.735 | 4324230 | 2.02 | 100 | 102.8 | 80 | 120 | |
| Tl | 203 | 1 | No Gas | 102.342 | 1.217 | 1797483 | 0.70 | 100 | 102.3 | 80 | 120 | |
| Pb | 208 | 1 | No Gas | 103.005 | 1.812 | 6227664 | 0.41 | 100 | 103.0 | 80 | 120 | |
| U | 238 | 1 | No Gas | 104.891 | 1.008 | 6618374 | 0.56 | 100 | 104.9 | 80 | 120 | |
| Ca | 43 | 2 | He | 108212.797 | 1.388 | 276802 | 0.99 | 100 | 108212.8 | 80 | 120 | |
| Sb | 121 | 2 | He | 101.290 | 0.566 | 835432 | 0.61 | 100 | 101.3 | 80 | 120 | |
| Ti | 47 | 2 | He | 2155.316 | 0.613 | 562717 | 0.21 | 100 | 2155.3 | 80 | 120 | ICSB Main CR1 Failed |
| Cu | 63 | 1 | No Gas | 100.157 | 0.628 | 1559411 | 1.37 | 100 | 100.2 | 80 | 120 | |
| Se | 82 | 1 | No Gas | 102.596 | 1.280 | 25863 | 1.11 | 100 | 102.6 | 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 | 1930121 | 1.21 | 1995440 | 96.73 | 70 | 120 | |
| Ge | 72 | 2 | He | 900756 | 0.66 | 920161 | 97.89 | 70 | 120 | |
| Ge | 72 | 1 | No Gas | 3221582 | 1.90 | 3333391 | 96.65 | 70 | 120 | |
| In | 115 | 1 | No Gas | 3878743 | 0.71 | 4159869 | 93.24 | 70 | 120 | |
| Bi | 209 | 1 | No Gas | 3800697 | 1.56 | 4267334 | 89.06 | 70 | 120 | |

# Continuing Calibration Verification (CCV) Report

**Sample Table**

| | |
|---|---|
| Sample Name | CCV |
| Data File Name | 026_CCV.d |
| Data Path Name | C:\Agilent\ICPMH\1\DATA\042921A.b |
| Acq Date Time | 2021-04-29T11:13:50-05:00 |
| Sample Type | CCV |
| Dilution | 1 |
| Comment | |
| ISTD Ref File Name | 011CALB.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 | 101.712 | 3.076 | 2520991 | 2.63 | 100 | 101.7 | 90 | 110 | |
| Be | 9 | 1 | No Gas | 97.217 | 1.423 | 562871 | 1.08 | 100 | 97.2 | 90 | 110 | |
| V | 51 | 2 | He | 93.390 | 0.290 | 758225 | 0.57 | 100 | 93.4 | 90 | 110 | |
| Cr | 52 | 2 | He | 93.628 | 1.330 | 908458 | 0.48 | 100 | 93.6 | 90 | 110 | |
| Fe | 56 | 2 | He | 9524.627 | 1.971 | 81702407 | 1.36 | 10000 | 95.2 | 90 | 110 | |
| Se | 78 | 2 | He | 96.676 | 1.351 | 10816 | 0.89 | 100 | 96.7 | 90 | 110 | |
| As | 75 | 2 | He | 94.366 | 1.108 | 117969 | 0.43 | 100 | 94.4 | 90 | 110 | |
| Ca | 44 | 2 | He | 9117.701 | 1.064 | 443339 | 0.47 | 10000 | 91.2 | 90 | 110 | |
| Na | 23 | 2 | He | 9503.348 | 2.099 | 13940052 | 1.61 | 10000 | 95.0 | 90 | 110 | |
| Mg | 24 | 2 | He | 9419.486 | 0.336 | 7849172 | 1.02 | 10000 | 94.2 | 90 | 110 | |
| K | 39 | 2 | He | 9451.164 | 1.721 | 8216489 | 2.51 | 10000 | 94.5 | 90 | 110 | |
| Mn | 55 | 2 | He | 93.165 | 1.397 | 634632 | 0.55 | 100 | 93.2 | 90 | 110 | |
| Co | 59 | 2 | He | 100.211 | 2.066 | 1399632 | 1.20 | 100 | 100.2 | 90 | 110 | |
| Ni | 60 | 2 | He | 98.093 | 0.794 | 332995 | 0.29 | 100 | 98.1 | 90 | 110 | |
| Cu | 63 | 2 | He | 93.582 | 0.807 | 881910 | 0.42 | 100 | 93.6 | 90 | 110 | |
| Zn | 66 | 2 | He | 96.804 | 1.119 | 167309 | 1.35 | 100 | 96.8 | 90 | 110 | |
| Al | 27 | 2 | He | 100.515 | 1.649 | 51362 | 0.76 | 100 | 100.5 | 90 | 110 | |
| B | 11 | 1 | No Gas | 492.711 | 2.079 | 1672973 | 1.64 | 500 | 98.5 | 90 | 110 | |
| Al | 27 | 1 | No Gas | 110.107 | 0.867 | 2545587 | 0.32 | 100 | 110.1 | 90 | 110 | CCV Main CR1-2 Failed |
| Si | 28 | 1 | No Gas | 532.004 | 1.435 | 6137599 | 0.85 | 5000 | 10.6 | 90 | 110 | CCV Main CR1-2 Failed |
| Ag | 107 | 1 | No Gas | 97.807 | 0.699 | 2286897 | 0.84 | 100 | 97.8 | 90 | 110 | |
| Cd | 111 | 1 | No Gas | 96.755 | 2.080 | 452030 | 1.41 | 100 | 96.8 | 90 | 110 | |
| Sr | 88 | 1 | No Gas | 100.279 | 3.274 | 4264322 | 2.58 | 100 | 100.3 | 90 | 110 | |
| Mo | 95 | 1 | No Gas | 99.113 | 0.959 | 837470 | 1.15 | 100 | 99.1 | 90 | 110 | |
| Sn | 118 | 1 | No Gas | 97.466 | 0.407 | 1455220 | 1.56 | 100 | 97.5 | 90 | 110 | |
| Sb | 121 | 1 | No Gas | 97.532 | 2.241 | 2023970 | 1.58 | 100 | 97.5 | 90 | 110 | |
| Ba | 137 | 1 | No Gas | 95.607 | 0.480 | 696817 | 1.26 | 100 | 95.6 | 90 | 110 | |
| Tl | 205 | 1 | No Gas | 99.286 | 2.576 | 4756925 | 1.76 | 100 | 99.3 | 90 | 110 | |
| Tl | 203 | 1 | No Gas | 98.227 | 2.417 | 1965182 | 2.06 | 100 | 98.2 | 90 | 110 | |
| Pb | 208 | 1 | No Gas | 95.715 | 2.155 | 6592458 | 1.83 | 100 | 95.7 | 90 | 110 | |
| U | 238 | 1 | No Gas | 94.129 | 1.496 | 6765907 | 1.75 | 100 | 94.1 | 90 | 110 | |
| Ca | 43 | 2 | He | 9266.802 | 2.285 | 25734 | 3.09 | 10000 | 92.7 | 90 | 110 | |
| Sb | 121 | 2 | He | 98.283 | 1.195 | 878694 | 0.39 | 100 | 98.3 | 90 | 110 | |
| Ti | 47 | 2 | He | 95.268 | 1.799 | 26973 | 1.10 | 100 | 95.3 | 90 | 110 | |
| Cu | 63 | 1 | No Gas | 99.701 | 2.375 | 1698610 | 2.32 | 100 | 99.7 | 90 | 110 | |
| Se | 82 | 1 | No Gas | 93.777 | 4.734 | 25854 | 3.90 | 100 | 93.8 | 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 | 1965912 | 0.48 | 1995440 | 98.52 | 70 | 120 | |
| Ge | 72 | 2 | He | 976401 | 0.86 | 920161 | 106.11 | 70 | 120 | |
| Ge | 72 | 1 | No Gas | 3525009 | 0.86 | 3333391 | 105.75 | 70 | 120 | |
| In | 115 | 1 | No Gas | 4257306 | 1.23 | 4159869 | 102.34 | 70 | 120 | |
| Bi | 209 | 1 | No Gas | 4329540 | 1.82 | 4267334 | 101.46 | 70 | 120 | |

# Continuing Calibration Blank (CCB) Report

**Sample Table**

| | |
|---|---|
| Sample Name | CCB |
| Data File Name | 027_CCB.d |
| Data Path Name | C:\Agilent\ICPMH\1\DATA\042921A.b |
| Acq Date Time | 2021-04-29T11:15:43-05:00 |
| Sample Type | CCB |
| Dilution | 1 |
| Comment | |
| ISTD Ref File Name | 011CALB.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 | 0.153 | 55.5 | 125536 | 1.0 | 0.5 | |
| Be | 9 | 1 | No Gas | 0.005 | 23.4 | 68 | 11.2 | 0.5 | |
| V | 51 | 2 | He | 0.063 | 32.0 | 5726 | 5.7 | 2.5 | |
| Cr | 52 | 2 | He | -0.267 | -3.7 | 6999 | 1.7 | 2.5 | |
| Fe | 56 | 2 | He | 7.082 | 3.4 | 83682 | 0.9 | 100 | |
| Se | 78 | 2 | He | 0.024 | 351.8 | 90 | 12.4 | 2 | |
| As | 75 | 2 | He | -0.021 | -48.3 | 267 | 2.2 | 2.5 | |
| Ca | 44 | 2 | He | 8.224 | 32.4 | 1327 | 10.8 | 100 | |
| Na | 23 | 2 | He | -3.693 | -40.2 | 75323 | 0.9 | 100 | |
| Mg | 24 | 2 | He | 0.055 | 348.2 | 1357 | 9.2 | 100 | |
| K | 39 | 2 | He | 2.254 | 131.0 | 59508 | 1.6 | 100 | |
| Mn | 55 | 2 | He | 0.004 | 296.1 | 727 | 8.3 | 2.5 | |
| Co | 59 | 2 | He | 0.004 | 94.2 | 193 | 26.5 | 2.5 | |
| Ni | 60 | 2 | He | -0.005 | -239.8 | 230 | 19.9 | 2.5 | |
| Cu | 63 | 2 | He | -0.063 | -25.8 | 1880 | 9.6 | 2 | |
| Zn | 66 | 2 | He | -0.113 | -40.5 | 793 | 10.7 | 2.5 | |
| Al | 27 | 2 | He | 3.393 | 6.7 | 2710 | 2.9 | 5 | |
| B | 11 | 1 | No Gas | 7.928 | 6.1 | 76949 | 2.8 | 0.5 | CCB Main CR1 Failed |
| Al | 27 | 1 | No Gas | 3.923 | 2.9 | 133571 | 2.3 | 5 | |
| Si | 28 | 1 | No Gas | -2.035 | -21.3 | 275621 | 0.5 | 10 | |
| Ag | 107 | 1 | No Gas | 0.012 | 31.1 | 883 | 10.7 | 2.5 | |
| Cd | 111 | 1 | No Gas | 0.004 | 110.0 | 47 | 44.6 | 1 | |
| Sr | 88 | 1 | No Gas | 0.071 | 6.4 | 4878 | 4.5 | 2.5 | |
| Mo | 95 | 1 | No Gas | 0.212 | 27.9 | 1977 | 25.3 | 2.5 | |
| Sn | 118 | 1 | No Gas | 0.032 | 119.0 | 6168 | 8.7 | 5 | |
| Sb | 121 | 1 | No Gas | 0.084 | 27.0 | 4914 | 8.2 | 2.5 | |
| Ba | 137 | 1 | No Gas | -0.128 | -14.6 | 540 | 26.1 | 2.5 | |
| Tl | 205 | 1 | No Gas | 1.470 | 42.7 | 72702 | 42.1 | 1 | CCB Main CR1 Failed |
| Tl | 203 | 1 | No Gas | 1.456 | 42.8 | 30101 | 42.1 | 1 | CCB Main CR1 Failed |
| Pb | 208 | 1 | No Gas | 0.013 | 2.3 | 3330 | 0.9 | 2.5 | |
| U | 238 | 1 | No Gas | 0.021 | 36.1 | 1734 | 32.3 | 2.5 | |
| Ca | 43 | 2 | He | 7.113 | 278.2 | 60 | 92.8 | 100 | |
| Sb | 121 | 2 | He | 0.081 | 28.5 | 1954 | 8.5 | 2.5 | |
| Ti | 47 | 2 | He | 0.064 | 162.4 | 33 | 91.7 | 2.5 | |
| Cu | 63 | 1 | No Gas | -0.046 | -52.7 | 4304 | 8.4 | 2.5 | |
| Se | 82 | 1 | No Gas | 0.368 | 139.2 | 2 | 7109.1 | 2 | |

**QC ISTD Table**

| Name | Mass | Tune Step | Tune Mode | CPS | %RSD | Ref CPS | %Rec | %QC Low | %QC High | QC Flag |
|---|---|---|---|---|---|---|---|---|---|---|
| Li | 6 | 1 | No Gas | 2095597 | 0.74 | 1995440 | 105.02 | 70 | 120 | |
| Ge | 72 | 2 | He | 995470 | 2.82 | 920161 | 108.18 | 70 | 120 | |
| Ge | 72 | 1 | No Gas | 3527726 | 1.24 | 3333391 | 105.83 | 70 | 120 | |
| In | 115 | 1 | No Gas | 4367462 | 0.70 | 4159869 | 104.99 | 70 | 120 | |
| Bi | 209 | 1 | No Gas | 4407848 | 0.41 | 4267334 | 103.29 | 70 | 120 | |

# Sample Report

**Sample Table**

| | |
|---|---|
| Sample Name | MBLK-165094 |
| Data File Name | 028SMPL.d |
| Data Path Name | C:\Agilent\ICPMH\1\DATA\042921A.b |
| Acq Date Time | 2021-04-29T11:17:42-05:00 |
| Sample Type | Sample |
| Dilution | 1 |
| Comment | DOD TW 165094 |
| ISTD Ref FileName | 011CALB.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 | 0.113 | 0.113 | 74.43 | 124834 | 0.00 | 2000 | |
| Be | 9 | 1 | No Gas | -0.002 | -0.002 | -55.09 | 23 | -0.01 | 2000 | |
| V | 51 | 2 | He | 0.282 | 0.282 | 5.32 | 7730 | 0.00 | 2000 | |
| Cr | 52 | 2 | He | -0.244 | -0.244 | -8.11 | 7425 | 0.00 | 2000 | |
| Fe | 56 | 2 | He | 2.129 | 2.129 | 7.29 | 41507 | 0.01 | 200000 | |
| Se | 78 | 2 | He | -0.088 | -0.088 | -120.58 | 79 | -0.11 | 2000 | |
| As | 75 | 2 | He | 0.034 | 0.034 | 38.87 | 346 | 0.01 | 2000 | |
| Ca | 44 | 2 | He | 1.643 | 1.643 | 119.16 | 1030 | 0.16 | 200000 | |
| Na | 23 | 2 | He | 3.584 | 3.584 | 29.43 | 88546 | 0.00 | 200000 | |
| Mg | 24 | 2 | He | 6.478 | 6.478 | 6.00 | 6999 | 0.09 | 200000 | |
| K | 39 | 2 | He | -0.531 | -0.531 | -330.46 | 58661 | 0.00 | 200000 | |
| Mn | 55 | 2 | He | 0.874 | 0.874 | 4.28 | 6952 | 0.01 | 2000 | |
| Co | 59 | 2 | He | -0.002 | -0.002 | -22.67 | 107 | 0.00 | 2000 | |
| Ni | 60 | 2 | He | 0.065 | 0.065 | 1.34 | 483 | 0.01 | 2000 | |
| Cu | 63 | 2 | He | -0.023 | -0.023 | -44.53 | 2327 | 0.00 | 2000 | |
| Zn | 66 | 2 | He | 0.358 | 0.358 | 37.41 | 1660 | 0.02 | 2000 | |
| Al | 27 | 2 | He | 3.084 | 3.084 | 17.35 | 2620 | 0.12 | 2000 | |
| B | 11 | 1 | No Gas | 1.129 | 1.129 | 30.43 | 53134 | 0.00 | 2000 | |
| Al | 27 | 1 | No Gas | 3.700 | 3.700 | 3.26 | 127749 | 0.00 | 2000 | |
| Si | 28 | 1 | No Gas | 12.346 | 12.346 | 7.31 | 431100 | 0.00 | 2000 | |
| Ag | 107 | 1 | No Gas | -0.002 | -0.002 | -167.40 | 563 | 0.00 | 2000 | |
| Cd | 111 | 1 | No Gas | 0.001 | 0.001 | 298.35 | 33 | 0.00 | 2000 | |
| Sr | 88 | 1 | No Gas | 0.035 | 0.035 | 6.68 | 3344 | 0.00 | 2000 | |
| Mo | 95 | 1 | No Gas | 0.074 | 0.074 | 1.46 | 790 | 0.01 | 2000 | |
| Sn | 118 | 1 | No Gas | -0.080 | -0.080 | -36.10 | 4524 | 0.00 | 2000 | |
| Sb | 121 | 1 | No Gas | -0.017 | -0.017 | -77.46 | 2804 | 0.00 | 2000 | |
| Ba | 137 | 1 | No Gas | -0.093 | -0.093 | -11.49 | 810 | -0.01 | 2000 | |
| Tl | 205 | 1 | No Gas | 0.022 | 0.022 | 56.62 | 2070 | 0.00 | 2000 | |
| Tl | 203 | 1 | No Gas | 0.016 | 0.016 | 39.95 | 803 | 0.00 | 2000 | |
| Pb | 208 | 1 | No Gas | -0.001 | -0.001 | -913.94 | 2410 | 0.00 | 2000 | |
| U | 238 | 1 | No Gas | 0.001 | 0.001 | 17.78 | 290 | 0.00 | 2000 | |
| Ca | 43 | 2 | He | 5.500 | 5.500 | 189.89 | 57 | 9.71 | 200000 | |
| Sb | 121 | 2 | He | 0.020 | 0.020 | 65.87 | 1443 | 0.00 | 2000 | |
| Ti | 47 | 2 | He | 0.018 | 0.018 | 378.47 | 20 | 0.09 | 2000 | |
| Cu | 63 | 1 | No Gas | -0.014 | -0.014 | -104.19 | 4828 | 0.00 | 2000 | |
| Zn | 66 | 1 | No Gas | 0.335 | 0.335 | 26.89 | 4497 | 0.01 | 2000 | |
| Se | 82 | 1 | No Gas | -0.130 | -0.130 | -603.65 | -136 | 0.10 | 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 | 2101112 | 2.48 | 1995440 | 105.30 | 70 | 120 | |
| Ge | 72 | 2 | He | 1022995 | 2.40 | 920161 | 111.18 | 70 | 120 | |

# Sample Report

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Ge | 72 | 1 | No Gas | 3507919 | 2.29 | 3333391 | 105.24 | 70 | 120 | |
| In | 115 | 1 | No Gas | 4424081 | 1.62 | 4159869 | 106.35 | 70 | 120 | |
| Bi | 209 | 1 | No Gas | 4485800 | 0.31 | 4267334 | 105.12 | 70 | 120 | |

# Sample Report

**Sample Table**

| | |
|---|---|
| Sample Name | LCS-165094 |
| Data File Name | 029SMPL.d |
| Data Path Name | C:\Agilent\ICPMH\1\DATA\042921A.b |
| Acq Date Time | 2021-04-29T11:19:42-05:00 |
| Sample Type | Sample |
| Dilution | 1 |
| Comment | DOD TW 165094 |
| ISTD Ref FileName | 011CALB.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 | 0.147 | 0.147 | 24.78 | 124743 | 0.00 | 2000 | |
| Be | 9 | 1 | No Gas | 47.566 | 47.566 | 1.27 | 292040 | 0.02 | 2000 | |
| V | 51 | 2 | He | 45.963 | 45.963 | 1.05 | 391495 | 0.01 | 2000 | |
| Cr | 52 | 2 | He | 46.034 | 46.034 | 1.89 | 470356 | 0.01 | 2000 | |
| Fe | 56 | 2 | He | 4715.859 | 4715.859 | 1.31 | 42159919 | 0.01 | 200000 | |
| Se | 78 | 2 | He | 47.715 | 47.715 | 2.73 | 5609 | 0.85 | 2000 | |
| As | 75 | 2 | He | 45.582 | 45.582 | 2.17 | 59522 | 0.08 | 2000 | |
| Ca | 44 | 2 | He | 4454.469 | 4454.469 | 0.81 | 226155 | 1.97 | 200000 | |
| Na | 23 | 2 | He | 4741.656 | 4741.656 | 0.59 | 7288700 | 0.07 | 200000 | |
| Mg | 24 | 2 | He | 4800.124 | 4800.124 | 0.26 | 4168183 | 0.12 | 200000 | |
| K | 39 | 2 | He | 4783.386 | 4783.386 | 1.63 | 4361542 | 0.11 | 200000 | |
| Mn | 55 | 2 | He | 45.582 | 45.582 | 0.76 | 323898 | 0.01 | 2000 | |
| Co | 59 | 2 | He | 47.613 | 47.613 | 1.40 | 692969 | 0.01 | 2000 | |
| Ni | 60 | 2 | He | 49.589 | 49.589 | 2.04 | 175503 | 0.03 | 2000 | |
| Cu | 63 | 2 | He | 47.608 | 47.608 | 0.44 | 468745 | 0.01 | 2000 | |
| Zn | 66 | 2 | He | 49.845 | 49.845 | 2.16 | 90239 | 0.06 | 2000 | |
| Al | 27 | 2 | He | 46.904 | 46.904 | 3.97 | 25500 | 0.18 | 2000 | |
| B | 11 | 1 | No Gas | -2.559 | -2.559 | -9.65 | 39815 | -0.01 | 2000 | |
| Al | 27 | 1 | No Gas | 55.511 | 55.511 | 1.99 | 1341441 | 0.00 | 2000 | |
| Si | 28 | 1 | No Gas | 42.471 | 42.471 | 1.82 | 785197 | 0.01 | 2000 | |
| Ag | 107 | 1 | No Gas | 51.088 | 51.088 | 3.13 | 1223765 | 0.00 | 2000 | |
| Cd | 111 | 1 | No Gas | 50.062 | 50.062 | 1.15 | 239628 | 0.02 | 2000 | |
| Sr | 88 | 1 | No Gas | 0.099 | 0.099 | 2.45 | 6105 | 0.00 | 2000 | |
| Mo | 95 | 1 | No Gas | 50.753 | 50.753 | 1.37 | 439378 | 0.01 | 2000 | |
| Sn | 118 | 1 | No Gas | -0.187 | -0.187 | -2.55 | 2827 | -0.01 | 2000 | |
| Sb | 121 | 1 | No Gas | 46.871 | 46.871 | 1.91 | 1001260 | 0.00 | 2000 | |
| Ba | 137 | 1 | No Gas | 47.943 | 47.943 | 2.28 | 358646 | 0.01 | 2000 | |
| Tl | 205 | 1 | No Gas | 48.457 | 48.457 | 4.80 | 2398230 | 0.00 | 2000 | |
| Tl | 203 | 1 | No Gas | 45.276 | 45.276 | 4.57 | 935733 | 0.00 | 2000 | |
| Pb | 208 | 1 | No Gas | 47.660 | 47.660 | 3.20 | 3392368 | 0.00 | 2000 | |
| U | 238 | 1 | No Gas | 0.000 | 0.000 | -285.11 | 160 | 0.00 | 2000 | |
| Ca | 43 | 2 | He | 4487.327 | 4487.327 | 4.76 | 13000 | 34.52 | 200000 | |
| Sb | 121 | 2 | He | 47.640 | 47.640 | 1.24 | 444418 | 0.01 | 2000 | |
| Ti | 47 | 2 | He | 47.696 | 47.696 | 3.43 | 14077 | 0.34 | 2000 | |
| Cu | 63 | 1 | No Gas | 48.937 | 48.937 | 2.25 | 859352 | 0.01 | 2000 | |
| Zn | 66 | 1 | No Gas | 50.201 | 50.201 | 2.54 | 237565 | 0.02 | 2000 | |
| Se | 82 | 1 | No Gas | 47.670 | 47.670 | 4.11 | 13458 | 0.35 | 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 | 2084699 | 1.58 | 1995440 | 104.47 | 70 | 120 | |
| Ge | 72 | 2 | He | 1017346 | 1.17 | 920161 | 110.56 | 70 | 120 | |
| Ge | 72 | 1 | No Gas | 3623168 | 2.29 | 3333391 | 108.69 | 70 | 120 | |
| In | 115 | 1 | No Gas | 4361447 | 1.27 | 4159869 | 104.85 | 70 | 120 | |

# Sample Report

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Bi | 209 | 1 | No Gas | 4475026 | 3.25 | 4267334 | 104.87 | 70 | 120 | |

# Sample Report

**Sample Table**

| | |
|---|---|
| Sample Name | HS21040694-01SD |
| Data File Name | 031SMPL.d |
| Data Path Name | C:\Agilent\ICPMH\1\DATA\042921A.b |
| Acq Date Time | 2021-04-29T11:23:40-05:00 |
| Sample Type | Sample |
| Dilution | 5 |
| Comment | DOD TW 165094 |
| ISTD Ref FileName | 011CALB.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 | 3.266 | 16.331 | 4.75 | 217322 | 0.00 | 2000 | |
| Be | 9 | 1 | No Gas | 0.001 | 0.006 | 120.87 | 45 | 0.00 | 2000 | |
| V | 51 | 2 | He | 0.568 | 2.839 | 5.61 | 10490 | 0.01 | 2000 | |
| Cr | 52 | 2 | He | 1.288 | 6.440 | 4.05 | 23614 | 0.01 | 2000 | |
| Fe | 56 | 2 | He | 48.493 | 242.466 | 5.05 | 473299 | 0.01 | 200000 | |
| Se | 78 | 2 | He | 0.023 | 0.113 | 265.51 | 95 | 0.02 | 2000 | |
| As | 75 | 2 | He | 0.237 | 1.185 | 20.24 | 631 | 0.04 | 2000 | |
| Ca | 44 | 2 | He | 1327.979 | 6639.897 | 4.09 | 70738 | 1.88 | 200000 | |
| Na | 23 | 2 | He | 89816.358 | 449081.791 | 2.71 | 141946915 | 0.06 | 200000 | |
| Mg | 24 | 2 | He | 1363.501 | 6817.507 | 3.71 | 1231364 | 0.11 | 200000 | |
| K | 39 | 2 | He | 304.336 | 1521.680 | 3.61 | 345635 | 0.09 | 200000 | |
| Mn | 55 | 2 | He | 12.018 | 60.091 | 3.07 | 89301 | 0.01 | 2000 | |
| Co | 59 | 2 | He | 0.245 | 1.225 | 4.41 | 3851 | 0.01 | 2000 | |
| Ni | 60 | 2 | He | 1.156 | 5.780 | 9.64 | 4501 | 0.03 | 2000 | |
| Cu | 63 | 2 | He | 0.250 | 1.252 | 11.08 | 5184 | 0.00 | 2000 | |
| Zn | 66 | 2 | He | 4.179 | 20.893 | 8.67 | 8820 | 0.05 | 2000 | |
| Al | 27 | 2 | He | 8.726 | 43.630 | 22.80 | 5780 | 0.15 | 2000 | |
| B | 11 | 1 | No Gas | 7.690 | 38.448 | 6.94 | 81038 | 0.01 | 2000 | |
| Al | 27 | 1 | No Gas | 9.410 | 47.051 | 17.07 | 265784 | 0.00 | 2000 | |
| Si | 28 | 1 | No Gas | 2355.722 | 11778.610 | 1.76 | 26951585 | 0.01 | 2000 | >LDR |
| Ag | 107 | 1 | No Gas | -0.007 | -0.035 | -68.13 | 427 | 0.00 | 2000 | |
| Cd | 111 | 1 | No Gas | 0.013 | 0.065 | 26.73 | 90 | 0.01 | 2000 | |
| Sr | 88 | 1 | No Gas | 38.715 | 193.575 | 1.24 | 1676482 | 0.00 | 2000 | |
| Mo | 95 | 1 | No Gas | 1.943 | 9.717 | 1.07 | 16844 | 0.01 | 2000 | |
| Sn | 118 | 1 | No Gas | -0.202 | -1.012 | -5.45 | 2577 | -0.01 | 2000 | |
| Sb | 121 | 1 | No Gas | 0.107 | 0.536 | 9.16 | 5565 | 0.00 | 2000 | |
| Ba | 137 | 1 | No Gas | 23.982 | 119.908 | 1.00 | 178957 | 0.01 | 2000 | |
| Tl | 205 | 1 | No Gas | 0.023 | 0.115 | 40.00 | 2077 | 0.00 | 2000 | |
| Tl | 203 | 1 | No Gas | 0.021 | 0.105 | 41.87 | 870 | 0.00 | 2000 | |
| Pb | 208 | 1 | No Gas | 0.000 | 0.000 | -2481.62 | 2370 | 0.00 | 2000 | |
| U | 238 | 1 | No Gas | 0.265 | 1.326 | 3.08 | 19326 | 0.00 | 2000 | |
| Ca | 43 | 2 | He | 1325.121 | 6625.606 | 5.13 | 4024 | 32.93 | 200000 | |
| Sb | 121 | 2 | He | 0.120 | 0.601 | 20.55 | 2464 | 0.00 | 2000 | |
| Ti | 47 | 2 | He | 0.223 | 1.114 | 56.98 | 83 | 0.27 | 2000 | |
| Cu | 63 | 1 | No Gas | 0.509 | 2.544 | 2.39 | 14154 | 0.00 | 2000 | |
| Zn | 66 | 1 | No Gas | 4.465 | 22.324 | 2.88 | 23992 | 0.02 | 2000 | |
| Se | 82 | 1 | No Gas | -0.145 | -0.723 | -384.09 | -146 | 0.10 | 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 | 2232114 | 1.95 | 1995440 | 111.86 | 70 | 120 | |
| Ge | 72 | 2 | He | 1057898 | 3.27 | 920161 | 114.97 | 70 | 120 | |
| Ge | 72 | 1 | No Gas | 3632700 | 1.90 | 3333391 | 108.98 | 70 | 120 | |
| In | 115 | 1 | No Gas | 4332138 | 1.47 | 4159869 | 104.14 | 70 | 120 | |

# Sample Report

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Bi | 209 | 1 | No Gas | 4350236 | 2.15 | 4267334 | 101.94 | 70 | 120 | |

# Sample Report

**Sample Table**

| | |
|---|---|
| Sample Name | HS21040694-01MS |
| Data File Name | 032SMPL.d |
| Data Path Name | C:\Agilent\ICPMH\1\DATA\042921A.b |
| Acq Date Time | 2021-04-29T11:25:41-05:00 |
| Sample Type | Sample |
| Dilution | 1 |
| Comment | DOD TW 165094 |
| ISTD Ref FileName | 011CALB.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 | 14.035 | 14.035 | 1.87 | 484545 | 0.00 | 2000 | |
| Be | 9 | 1 | No Gas | 48.809 | 48.809 | 1.87 | 306852 | 0.02 | 2000 | |
| V | 51 | 2 | He | 47.484 | 47.484 | 0.31 | 409799 | 0.01 | 2000 | |
| Cr | 52 | 2 | He | 53.213 | 53.213 | 1.43 | 549611 | 0.01 | 2000 | |
| Fe | 56 | 2 | He | 4835.839 | 4835.839 | 1.21 | 43823049 | 0.01 | 200000 | |
| Se | 78 | 2 | He | 46.826 | 46.826 | 1.22 | 5580 | 0.84 | 2000 | |
| As | 75 | 2 | He | 47.333 | 47.333 | 1.36 | 62645 | 0.08 | 2000 | |
| Ca | 44 | 2 | He | 11178.525 | 11178.525 | 0.56 | 573842 | 1.95 | 200000 | |
| Na | 23 | 2 | He | 444688.089 | 444688.089 | 0.34 | 685097190 | 0.06 | 200000 | >LDR |
| Mg | 24 | 2 | He | 11642.154 | 11642.154 | 1.07 | 10244915 | 0.11 | 200000 | |
| K | 39 | 2 | He | 6464.367 | 6464.367 | 1.01 | 5953357 | 0.11 | 200000 | |
| Mn | 55 | 2 | He | 103.966 | 103.966 | 0.98 | 747897 | 0.01 | 2000 | |
| Co | 59 | 2 | He | 47.645 | 47.645 | 1.07 | 702929 | 0.01 | 2000 | |
| Ni | 60 | 2 | He | 53.021 | 53.021 | 1.07 | 190207 | 0.03 | 2000 | |
| Cu | 63 | 2 | He | 46.999 | 46.999 | 0.96 | 469054 | 0.01 | 2000 | |
| Zn | 66 | 2 | He | 71.525 | 71.525 | 1.45 | 130819 | 0.05 | 2000 | |
| Al | 27 | 2 | He | 83.009 | 83.009 | 0.54 | 44976 | 0.18 | 2000 | |
| B | 11 | 1 | No Gas | 43.809 | 43.809 | 1.55 | 207027 | 0.02 | 2000 | |
| Al | 27 | 1 | No Gas | 94.760 | 94.760 | 6.33 | 2194171 | 0.00 | 2000 | |
| Si | 28 | 1 | No Gas | 11872.274 | 11872.274 | 1.40 | 130564461 | 0.01 | 2000 | >LDR |
| Ag | 107 | 1 | No Gas | 47.688 | 47.688 | 2.65 | 1085815 | 0.00 | 2000 | |
| Cd | 111 | 1 | No Gas | 50.357 | 50.357 | 1.09 | 229058 | 0.02 | 2000 | |
| Sr | 88 | 1 | No Gas | 182.080 | 182.080 | 0.81 | 7537514 | 0.00 | 2000 | |
| Mo | 95 | 1 | No Gas | 61.038 | 61.038 | 0.34 | 502172 | 0.01 | 2000 | |
| Sn | 118 | 1 | No Gas | -0.131 | -0.131 | -15.62 | 3501 | 0.00 | 2000 | |
| Sb | 121 | 1 | No Gas | 46.476 | 46.476 | 2.01 | 965650 | 0.00 | 2000 | |
| Ba | 137 | 1 | No Gas | 170.695 | 170.695 | 1.92 | 1210000 | 0.01 | 2000 | |
| Tl | 205 | 1 | No Gas | 49.841 | 49.841 | 1.54 | 2201365 | 0.00 | 2000 | |
| Tl | 203 | 1 | No Gas | 45.566 | 45.566 | 3.14 | 840250 | 0.01 | 2000 | |
| Pb | 208 | 1 | No Gas | 48.856 | 48.856 | 2.14 | 3102126 | 0.00 | 2000 | |
| U | 238 | 1 | No Gas | 1.392 | 1.392 | 2.05 | 92391 | 0.00 | 2000 | |
| Ca | 43 | 2 | He | 11594.335 | 11594.335 | 2.09 | 33989 | 34.11 | 200000 | |
| Sb | 121 | 2 | He | 46.935 | 46.935 | 0.99 | 443837 | 0.01 | 2000 | |
| Ti | 47 | 2 | He | 49.909 | 49.909 | 4.17 | 14932 | 0.33 | 2000 | |
| Cu | 63 | 1 | No Gas | 50.919 | 50.919 | 1.00 | 869668 | 0.01 | 2000 | |
| Zn | 66 | 1 | No Gas | 74.208 | 74.208 | 0.76 | 340236 | 0.02 | 2000 | |
| Se | 82 | 1 | No Gas | 49.682 | 49.682 | 4.49 | 13644 | 0.36 | 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 | 2134588 | 1.17 | 1995440 | 106.97 | 70 | 120 | |
| Ge | 72 | 2 | He | 1031161 | 0.15 | 920161 | 112.06 | 70 | 120 | |
| Ge | 72 | 1 | No Gas | 3524094 | 2.59 | 3333391 | 105.72 | 70 | 120 | |
| In | 115 | 1 | No Gas | 4144736 | 1.74 | 4159869 | 99.64 | 70 | 120 | |
| Bi | 209 | 1 | No Gas | 3990141 | 1.57 | 4267334 | 93.50 | 70 | 120 | |

# Sample Report

**Sample Table**

| | |
|---|---|
| Sample Name | HS21040694-01MSD |
| Data File Name | 034SMPL.d |
| Data Path Name | C:\Agilent\ICPMH\1\DATA\042921A.b |
| Acq Date Time | 2021-04-29T11:29:38-05:00 |
| Sample Type | Sample |
| Dilution | 1 |
| Comment | DOD TW 165094 |
| ISTD Ref FileName | 011CALB.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 | 14.825 | 14.825 | 1.31 | 497428 | 0.00 | 2000 | |
| Be | 9 | 1 | No Gas | 52.045 | 52.045 | 1.09 | 322378 | 0.02 | 2000 | |
| V | 51 | 2 | He | 52.698 | 52.698 | 2.63 | 427260 | 0.01 | 2000 | |
| Cr | 52 | 2 | He | 59.305 | 59.305 | 2.00 | 575180 | 0.01 | 2000 | |
| Fe | 56 | 2 | He | 5300.517 | 5300.517 | 1.40 | 45193233 | 0.01 | 200000 | |
| Se | 78 | 2 | He | 51.960 | 51.960 | 4.60 | 5813 | 0.89 | 2000 | |
| As | 75 | 2 | He | 52.355 | 52.355 | 3.09 | 65147 | 0.08 | 2000 | |
| Ca | 44 | 2 | He | 12356.029 | 12356.029 | 2.76 | 596557 | 2.07 | 200000 | |
| Na | 23 | 2 | He | 491107.235 | 491107.235 | 2.30 | 711768123 | 0.07 | 200000 | >LDR |
| Mg | 24 | 2 | He | 12768.259 | 12768.259 | 2.35 | 10569817 | 0.12 | 200000 | |
| K | 39 | 2 | He | 7100.427 | 7100.427 | 1.63 | 6146669 | 0.12 | 200000 | |
| Mn | 55 | 2 | He | 114.551 | 114.551 | 2.31 | 775129 | 0.01 | 2000 | |
| Co | 59 | 2 | He | 52.584 | 52.584 | 1.01 | 729950 | 0.01 | 2000 | |
| Ni | 60 | 2 | He | 58.444 | 58.444 | 1.87 | 197228 | 0.03 | 2000 | |
| Cu | 63 | 2 | He | 51.422 | 51.422 | 2.03 | 482565 | 0.01 | 2000 | |
| Zn | 66 | 2 | He | 75.951 | 75.951 | 2.29 | 130631 | 0.06 | 2000 | |
| Al | 27 | 2 | He | 93.570 | 93.570 | 1.42 | 47578 | 0.20 | 2000 | |
| B | 11 | 1 | No Gas | 46.669 | 46.669 | 3.26 | 214061 | 0.02 | 2000 | |
| Al | 27 | 1 | No Gas | 109.983 | 109.983 | 7.91 | 2463213 | 0.00 | 2000 | |
| Si | 28 | 1 | No Gas | 12835.026 | 12835.026 | 0.78 | 136823711 | 0.01 | 2000 | >LDR |
| Ag | 107 | 1 | No Gas | 49.214 | 49.214 | 1.23 | 1105707 | 0.00 | 2000 | |
| Cd | 111 | 1 | No Gas | 52.894 | 52.894 | 1.33 | 237409 | 0.02 | 2000 | |
| Sr | 88 | 1 | No Gas | 195.078 | 195.078 | 0.08 | 7968514 | 0.00 | 2000 | |
| Mo | 95 | 1 | No Gas | 65.428 | 65.428 | 0.59 | 531103 | 0.01 | 2000 | |
| Sn | 118 | 1 | No Gas | -0.132 | -0.132 | -3.53 | 3437 | 0.00 | 2000 | |
| Sb | 121 | 1 | No Gas | 50.468 | 50.468 | 0.53 | 1016427 | 0.00 | 2000 | |
| Ba | 137 | 1 | No Gas | 180.476 | 180.476 | 0.55 | 1262268 | 0.01 | 2000 | |
| Tl | 205 | 1 | No Gas | 51.341 | 51.341 | 2.95 | 2266983 | 0.00 | 2000 | |
| Tl | 203 | 1 | No Gas | 47.391 | 47.391 | 3.40 | 873693 | 0.01 | 2000 | |
| Pb | 208 | 1 | No Gas | 50.710 | 50.710 | 2.99 | 3218838 | 0.00 | 2000 | |
| U | 238 | 1 | No Gas | 1.439 | 1.439 | 2.02 | 95484 | 0.00 | 2000 | |
| Ca | 43 | 2 | He | 12606.553 | 12606.553 | 1.54 | 34774 | 36.25 | 200000 | |
| Sb | 121 | 2 | He | 51.992 | 51.992 | 2.02 | 462420 | 0.01 | 2000 | |
| Ti | 47 | 2 | He | 54.570 | 54.570 | 3.10 | 15355 | 0.36 | 2000 | |
| Cu | 63 | 1 | No Gas | 54.122 | 54.122 | 0.45 | 895817 | 0.01 | 2000 | |
| Zn | 66 | 1 | No Gas | 78.008 | 78.008 | 0.05 | 346553 | 0.02 | 2000 | |
| Se | 82 | 1 | No Gas | 51.955 | 51.955 | 3.79 | 13844 | 0.38 | 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 | 2103122 | 0.62 | 1995440 | 105.40 | 70 | 120 | |
| Ge | 72 | 2 | He | 970377 | 2.29 | 920161 | 105.46 | 70 | 120 | |
| Ge | 72 | 1 | No Gas | 3415813 | 0.97 | 3333391 | 102.47 | 70 | 120 | |
| In | 115 | 1 | No Gas | 4089499 | 0.77 | 4159869 | 98.31 | 70 | 120 | |
| Bi | 209 | 1 | No Gas | 3989994 | 2.43 | 4267334 | 93.50 | 70 | 120 | |

# Sample Report

**Sample Table**

| | |
|---|---|
| Sample Name | HS21040694-01PDS |
| Data File Name | 035SMPL.d |
| Data Path Name | C:\Agilent\ICPMH\1\DATA\042921A.b |
| Acq Date Time | 2021-04-29T11:31:38-05:00 |
| Sample Type | Sample |
| Dilution | 1 |
| Comment | DOD TW 165094 |
| ISTD Ref FileName | 011CALB.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 | 13.208 | 13.208 | 2.49 | 456037 | 0.00 | 2000 | |
| Be | 9 | 1 | No Gas | 118.776 | 118.776 | 1.63 | 735002 | 0.02 | 2000 | |
| V | 51 | 2 | He | 129.977 | 129.977 | 2.00 | 1000413 | 0.01 | 2000 | |
| Cr | 52 | 2 | He | 133.381 | 133.381 | 0.88 | 1225443 | 0.01 | 2000 | |
| Fe | 56 | 2 | He | 12368.039 | 12368.039 | 1.64 | 100760412 | 0.01 | 200000 | |
| Se | 78 | 2 | He | 123.063 | 123.063 | 3.35 | 13055 | 0.94 | 2000 | |
| As | 75 | 2 | He | 124.166 | 124.166 | 1.10 | 147340 | 0.08 | 2000 | |
| Ca | 44 | 2 | He | 19086.320 | 19086.320 | 2.56 | 880411 | 2.17 | 200000 | |
| Na | 23 | 2 | He | 469272.593 | 469272.593 | 1.06 | 650179590 | 0.07 | 200000 | >LDR |
| Mg | 24 | 2 | He | 19602.518 | 19602.518 | 1.70 | 15511130 | 0.13 | 200000 | |
| K | 39 | 2 | He | 14307.842 | 14307.842 | 0.48 | 11785209 | 0.12 | 200000 | |
| Mn | 55 | 2 | He | 185.492 | 185.492 | 2.03 | 1199441 | 0.02 | 2000 | |
| Co | 59 | 2 | He | 128.665 | 128.665 | 1.58 | 1706855 | 0.01 | 2000 | |
| Ni | 60 | 2 | He | 130.521 | 130.521 | 1.27 | 420736 | 0.03 | 2000 | |
| Cu | 63 | 2 | He | 126.218 | 126.218 | 1.27 | 1128918 | 0.01 | 2000 | |
| Zn | 66 | 2 | He | 146.565 | 146.565 | 0.52 | 240111 | 0.06 | 2000 | |
| Al | 27 | 2 | He | 152.655 | 152.655 | 1.80 | 73614 | 0.21 | 2000 | |
| B | 11 | 1 | No Gas | 41.031 | 41.031 | 0.49 | 194015 | 0.02 | 2000 | |
| Al | 27 | 1 | No Gas | 171.251 | 171.251 | 6.00 | 3752432 | 0.00 | 2000 | |
| Si | 28 | 1 | No Gas | 11778.400 | 11778.400 | 1.43 | 123609985 | 0.01 | 2000 | >LDR |
| Ag | 107 | 1 | No Gas | 114.062 | 114.062 | 2.12 | 2519459 | 0.00 | 2000 | |
| Cd | 111 | 1 | No Gas | 120.991 | 120.991 | 1.39 | 534071 | 0.02 | 2000 | |
| Sr | 88 | 1 | No Gas | 177.535 | 177.535 | 1.91 | 7132046 | 0.00 | 2000 | |
| Mo | 95 | 1 | No Gas | 143.390 | 143.390 | 2.78 | 1144478 | 0.01 | 2000 | |
| Sn | 118 | 1 | No Gas | -0.128 | -0.128 | -18.38 | 3441 | 0.00 | 2000 | |
| Sb | 121 | 1 | No Gas | 117.514 | 117.514 | 1.59 | 2325503 | 0.01 | 2000 | |
| Ba | 137 | 1 | No Gas | 242.480 | 242.480 | 2.27 | 1667328 | 0.01 | 2000 | |
| Tl | 205 | 1 | No Gas | 129.673 | 129.673 | 1.79 | 5526640 | 0.00 | 2000 | |
| Tl | 203 | 1 | No Gas | 130.445 | 130.445 | 1.03 | 2321406 | 0.01 | 2000 | |
| Pb | 208 | 1 | No Gas | 123.439 | 123.439 | 2.19 | 7562312 | 0.00 | 2000 | |
| U | 238 | 1 | No Gas | 1.340 | 1.340 | 2.15 | 85800 | 0.00 | 2000 | |
| Ca | 43 | 2 | He | 19224.891 | 19224.891 | 2.37 | 50653 | 37.95 | 200000 | |
| Sb | 121 | 2 | He | 129.975 | 129.975 | 1.59 | 1103274 | 0.01 | 2000 | |
| Ti | 47 | 2 | He | 127.911 | 127.911 | 1.41 | 34397 | 0.37 | 2000 | |
| Cu | 63 | 1 | No Gas | 128.466 | 128.466 | 1.78 | 2086196 | 0.01 | 2000 | |
| Zn | 66 | 1 | No Gas | 145.757 | 145.757 | 0.87 | 634874 | 0.02 | 2000 | |
| Se | 82 | 1 | No Gas | 119.757 | 119.757 | 3.38 | 31528 | 0.38 | 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 | 2101614 | 2.79 | 1995440 | 105.32 | 70 | 120 | |
| Ge | 72 | 2 | He | 927331 | 0.79 | 920161 | 100.78 | 70 | 120 | |
| Ge | 72 | 1 | No Gas | 3362043 | 0.30 | 3333391 | 100.86 | 70 | 120 | |
| In | 115 | 1 | No Gas | 4022428 | 1.52 | 4159869 | 96.70 | 70 | 120 | |
| Bi | 209 | 1 | No Gas | 3850930 | 0.64 | 4267334 | 90.24 | 70 | 120 | |

# Sample Report

**Sample Table**

| | |
|---|---|
| Sample Name | HS21040697-01 |
| Data File Name | 036SMPL.d |
| Data Path Name | C:\Agilent\ICPMH\1\DATA\042921A.b |
| Acq Date Time | 2021-04-29T11:33:34-05:00 |
| Sample Type | Sample |
| Dilution | 1 |
| Comment | DOD TW 165094 |
| ISTD Ref FileName | 011CALB.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 | 14.949 | 14.949 | 1.13 | 513381 | 0.00 | 2000 | |
| Be | 9 | 1 | No Gas | 0.063 | 0.063 | 4.19 | 437 | 0.01 | 2000 | |
| V | 51 | 2 | He | 0.787 | 0.787 | 4.60 | 12056 | 0.01 | 2000 | |
| Cr | 52 | 2 | He | 1.319 | 1.319 | 2.10 | 23253 | 0.01 | 2000 | |
| Fe | 56 | 2 | He | 207.420 | 207.420 | 2.78 | 1894879 | 0.01 | 200000 | |
| Se | 78 | 2 | He | 0.450 | 0.450 | 31.27 | 143 | 0.32 | 2000 | |
| As | 75 | 2 | He | 0.785 | 0.785 | 5.76 | 1333 | 0.06 | 2000 | |
| Ca | 44 | 2 | He | 18263.493 | 18263.493 | 2.24 | 933672 | 1.96 | 200000 | |
| Na | 23 | 2 | He | 217051.965 | 217051.965 | 1.90 | 333286002 | 0.07 | 200000 | >LDR |
| Mg | 24 | 2 | He | 15897.305 | 15897.305 | 1.38 | 13941280 | 0.11 | 200000 | |
| K | 39 | 2 | He | 1457.045 | 1457.045 | 3.10 | 1383125 | 0.11 | 200000 | |
| Mn | 55 | 2 | He | 103.475 | 103.475 | 1.29 | 741839 | 0.01 | 2000 | |
| Co | 59 | 2 | He | 2.370 | 2.370 | 3.59 | 34982 | 0.01 | 2000 | |
| Ni | 60 | 2 | He | 6.175 | 6.175 | 3.36 | 22295 | 0.03 | 2000 | |
| Cu | 63 | 2 | He | 3.061 | 3.061 | 1.26 | 32847 | 0.01 | 2000 | |
| Zn | 66 | 2 | He | 23.200 | 23.200 | 3.47 | 42975 | 0.05 | 2000 | |
| Al | 27 | 2 | He | 81.143 | 81.143 | 2.45 | 43852 | 0.19 | 2000 | |
| B | 11 | 1 | No Gas | 47.082 | 47.082 | 0.90 | 221081 | 0.02 | 2000 | |
| Al | 27 | 1 | No Gas | 90.473 | 90.473 | 16.66 | 2122642 | 0.00 | 2000 | |
| Si | 28 | 1 | No Gas | 13714.249 | 13714.249 | 0.72 | 152670051 | 0.01 | 2000 | >LDR |
| Ag | 107 | 1 | No Gas | 0.005 | 0.005 | 115.81 | 687 | 0.00 | 2000 | |
| Cd | 111 | 1 | No Gas | 0.096 | 0.096 | 8.72 | 470 | 0.02 | 2000 | |
| Sr | 88 | 1 | No Gas | 376.261 | 376.261 | 0.60 | 15749071 | 0.00 | 2000 | |
| Mo | 95 | 1 | No Gas | 2.964 | 2.964 | 6.56 | 24787 | 0.01 | 2000 | |
| Sn | 118 | 1 | No Gas | -0.177 | -0.177 | -7.96 | 2867 | -0.01 | 2000 | |
| Sb | 121 | 1 | No Gas | 1.957 | 1.957 | 15.11 | 44213 | 0.00 | 2000 | |
| Ba | 137 | 1 | No Gas | 283.994 | 283.994 | 2.38 | 2034817 | 0.01 | 2000 | |
| Tl | 205 | 1 | No Gas | 0.203 | 0.203 | 28.09 | 10131 | 0.00 | 2000 | |
| Tl | 203 | 1 | No Gas | 0.202 | 0.202 | 27.33 | 4258 | 0.00 | 2000 | |
| Pb | 208 | 1 | No Gas | 0.092 | 0.092 | 7.28 | 8225 | 0.00 | 2000 | |
| U | 238 | 1 | No Gas | 0.485 | 0.485 | 2.79 | 33088 | 0.00 | 2000 | |
| Ca | 43 | 2 | He | 18510.202 | 18510.202 | 1.67 | 54053 | 34.24 | 200000 | |
| Sb | 121 | 2 | He | 1.463 | 1.463 | 3.10 | 15012 | 0.01 | 2000 | |
| Ti | 47 | 2 | He | 1.605 | 1.605 | 19.26 | 493 | 0.33 | 2000 | |
| Cu | 63 | 1 | No Gas | 3.765 | 3.765 | 2.42 | 69880 | 0.01 | 2000 | |
| Zn | 66 | 1 | No Gas | 23.964 | 23.964 | 0.48 | 113283 | 0.02 | 2000 | |
| Se | 82 | 1 | No Gas | 0.946 | 0.946 | 39.35 | 163 | 0.58 | 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 | 2157138 | 2.42 | 1995440 | 108.10 | 70 | 120 | |
| Ge | 72 | 2 | He | 1027774 | 1.40 | 920161 | 111.70 | 70 | 120 | |
| Ge | 72 | 1 | No Gas | 3567359 | 1.26 | 3333391 | 107.02 | 70 | 120 | |
| In | 115 | 1 | No Gas | 4191067 | 1.10 | 4159869 | 100.75 | 70 | 120 | |
| Bi | 209 | 1 | No Gas | 4093004 | 3.45 | 4267334 | 95.91 | 70 | 120 | |

# Continuing Calibration Verification (CCV) Report

**Sample Table**

| | |
|---|---|
| Sample Name | CCV |
| Data File Name | 038_CCV.d |
| Data Path Name | C:\Agilent\ICPMH\1\DATA\042921A.b |
| Acq Date Time | 2021-04-29T11:37:33-05:00 |
| Sample Type | CCV |
| Dilution | 1 |
| Comment | |
| ISTD Ref File Name | 011CALB.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 | 101.399 | 1.664 | 2705560 | 0.82 | 100 | 101.4 | 90 | 110 | |
| Be | 9 | 1 | No Gas | 95.640 | 3.244 | 595877 | 1.33 | 100 | 95.6 | 90 | 110 | |
| V | 51 | 2 | He | 94.662 | 0.681 | 781207 | 1.26 | 100 | 94.7 | 90 | 110 | |
| Cr | 52 | 2 | He | 96.937 | 0.750 | 955849 | 1.25 | 100 | 96.9 | 90 | 110 | |
| Fe | 56 | 2 | He | 9460.618 | 1.165 | 82498129 | 0.78 | 10000 | 94.6 | 90 | 110 | |
| Se | 78 | 2 | He | 96.429 | 1.853 | 10968 | 2.04 | 100 | 96.4 | 90 | 110 | |
| As | 75 | 2 | He | 94.813 | 1.510 | 120481 | 0.61 | 100 | 94.8 | 90 | 110 | |
| Ca | 44 | 2 | He | 9254.135 | 1.716 | 457365 | 0.23 | 10000 | 92.5 | 90 | 110 | |
| Na | 23 | 2 | He | 9566.405 | 2.968 | 14261178 | 1.06 | 10000 | 95.7 | 90 | 110 | |
| Mg | 24 | 2 | He | 9578.768 | 1.452 | 8113074 | 0.64 | 10000 | 95.8 | 90 | 110 | |
| K | 39 | 2 | He | 9611.981 | 2.513 | 8490881 | 0.82 | 10000 | 96.1 | 90 | 110 | |
| Mn | 55 | 2 | He | 93.524 | 1.111 | 647634 | 1.00 | 100 | 93.5 | 90 | 110 | |
| Co | 59 | 2 | He | 99.850 | 0.983 | 1417768 | 0.95 | 100 | 99.8 | 90 | 110 | |
| Ni | 60 | 2 | He | 98.982 | 2.040 | 341524 | 0.19 | 100 | 99.0 | 90 | 110 | |
| Cu | 63 | 2 | He | 94.137 | 1.934 | 901696 | 0.54 | 100 | 94.1 | 90 | 110 | |
| Zn | 66 | 2 | He | 97.554 | 1.623 | 171368 | 0.51 | 100 | 97.6 | 90 | 110 | |
| Al | 27 | 2 | He | 99.819 | 1.364 | 51860 | 1.55 | 100 | 99.8 | 90 | 110 | |
| B | 11 | 1 | No Gas | 483.317 | 4.215 | 1766678 | 1.91 | 500 | 96.7 | 90 | 110 | |
| Al | 27 | 1 | No Gas | 115.250 | 0.719 | 2686007 | 0.69 | 100 | 115.2 | 90 | 110 | CCV Main CR1-2 Failed |
| Si | 28 | 1 | No Gas | 569.166 | 2.191 | 6603070 | 1.34 | 5000 | 11.4 | 90 | 110 | CCV Main CR1-2 Failed |
| Ag | 107 | 1 | No Gas | 99.819 | 2.146 | 2356960 | 0.75 | 100 | 99.8 | 90 | 110 | |
| Cd | 111 | 1 | No Gas | 97.335 | 2.312 | 459248 | 0.55 | 100 | 97.3 | 90 | 110 | |
| Sr | 88 | 1 | No Gas | 98.944 | 0.505 | 4250620 | 1.57 | 100 | 98.9 | 90 | 110 | |
| Mo | 95 | 1 | No Gas | 99.875 | 2.159 | 852233 | 0.76 | 100 | 99.9 | 90 | 110 | |
| Sn | 118 | 1 | No Gas | 97.082 | 2.340 | 1463659 | 0.58 | 100 | 97.1 | 90 | 110 | |
| Sb | 121 | 1 | No Gas | 99.675 | 1.529 | 2086718 | 0.82 | 100 | 99.7 | 90 | 110 | |
| Ba | 137 | 1 | No Gas | 96.354 | 2.367 | 709122 | 0.35 | 100 | 96.4 | 90 | 110 | |
| Tl | 205 | 1 | No Gas | 103.489 | 3.107 | 4858455 | 1.00 | 100 | 103.5 | 90 | 110 | |
| Tl | 203 | 1 | No Gas | 103.207 | 3.725 | 2023076 | 2.19 | 100 | 103.2 | 90 | 110 | |
| Pb | 208 | 1 | No Gas | 99.286 | 3.200 | 6700178 | 1.13 | 100 | 99.3 | 90 | 110 | |
| U | 238 | 1 | No Gas | 94.737 | 2.189 | 6672656 | 1.03 | 100 | 94.7 | 90 | 110 | |
| Ca | 43 | 2 | He | 9401.360 | 3.533 | 26529 | 2.40 | 10000 | 94.0 | 90 | 110 | |
| Sb | 121 | 2 | He | 98.036 | 1.969 | 890906 | 0.41 | 100 | 98.0 | 90 | 110 | |
| Ti | 47 | 2 | He | 95.886 | 2.402 | 27598 | 2.23 | 100 | 95.9 | 90 | 110 | |
| Cu | 63 | 1 | No Gas | 101.351 | 1.177 | 1742082 | 2.10 | 100 | 101.4 | 90 | 110 | |
| Se | 82 | 1 | No Gas | 96.779 | 1.860 | 26926 | 0.99 | 100 | 96.8 | 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 | 2116434 | 2.35 | 1995440 | 106.06 | 70 | 120 | |
| Ge | 72 | 2 | He | 992635 | 1.92 | 920161 | 107.88 | 70 | 120 | |
| Ge | 72 | 1 | No Gas | 3556198 | 0.98 | 3333391 | 106.68 | 70 | 120 | |
| In | 115 | 1 | No Gas | 4300313 | 2.06 | 4159869 | 103.38 | 70 | 120 | |
| Bi | 209 | 1 | No Gas | 4243326 | 2.16 | 4267334 | 99.44 | 70 | 120 | |

# Continuing Calibration Blank (CCB) Report

**Sample Table**

| | |
|---|---|
| Sample Name | CCB |
| Data File Name | 039_CCB.d |
| Data Path Name | C:\Agilent\ICPMH\1\DATA\042921A.b |
| Acq Date Time | 2021-04-29T11:39:25-05:00 |
| Sample Type | CCB |
| Dilution | 1 |
| Comment | |
| ISTD Ref File Name | 011CALB.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 | 0.222 | 28.3 | 131798 | 0.2 | 0.5 | |
| Be | 9 | 1 | No Gas | 0.006 | 16.3 | 77 | 7.5 | 0.5 | |
| V | 51 | 2 | He | 0.453 | 6.4 | 8745 | 0.4 | 2.5 | |
| Cr | 52 | 2 | He | -0.497 | -1.6 | 4651 | 3.7 | 2.5 | |
| Fe | 56 | 2 | He | 4.338 | 5.5 | 58465 | 1.5 | 100 | |
| Se | 78 | 2 | He | 0.154 | 109.8 | 103 | 20.0 | 2 | |
| As | 75 | 2 | He | 0.101 | 35.0 | 412 | 8.9 | 2.5 | |
| Ca | 44 | 2 | He | -0.220 | -1833.1 | 887 | 19.9 | 100 | |
| Na | 23 | 2 | He | 57.105 | 8.0 | 162237 | 1.7 | 100 | |
| Mg | 24 | 2 | He | 0.100 | 161.0 | 1370 | 11.5 | 100 | |
| K | 39 | 2 | He | 1.246 | 280.7 | 57410 | 3.0 | 100 | |
| Mn | 55 | 2 | He | -0.010 | -69.3 | 617 | 5.7 | 2.5 | |
| Co | 59 | 2 | He | 0.003 | 45.6 | 177 | 8.6 | 2.5 | |
| Ni | 60 | 2 | He | -0.020 | -15.5 | 173 | 6.7 | 2.5 | |
| Cu | 63 | 2 | He | -0.048 | -46.5 | 1984 | 8.1 | 2 | |
| Zn | 66 | 2 | He | -0.211 | -38.8 | 610 | 23.2 | 2.5 | |
| Al | 27 | 2 | He | 1.060 | 12.6 | 1487 | 2.5 | 5 | |
| B | 11 | 1 | No Gas | 5.563 | 17.0 | 71051 | 4.8 | 0.5 | CCB Main CR1 Failed |
| Al | 27 | 1 | No Gas | 1.566 | 1.0 | 79366 | 0.9 | 5 | |
| Si | 28 | 1 | No Gas | 0.176 | 144.5 | 297678 | 0.5 | 10 | |
| Ag | 107 | 1 | No Gas | 0.005 | 117.5 | 717 | 19.3 | 2.5 | |
| Cd | 111 | 1 | No Gas | 0.003 | 79.5 | 40 | 25.0 | 1 | |
| Sr | 88 | 1 | No Gas | 0.040 | 3.0 | 3531 | 2.2 | 2.5 | |
| Mo | 95 | 1 | No Gas | 0.185 | 16.1 | 1740 | 14.5 | 2.5 | |
| Sn | 118 | 1 | No Gas | 0.017 | 248.7 | 5938 | 11.0 | 5 | |
| Sb | 121 | 1 | No Gas | 0.201 | 4.1 | 7292 | 1.8 | 2.5 | |
| Ba | 137 | 1 | No Gas | -0.135 | -4.3 | 483 | 9.3 | 2.5 | |
| Tl | 205 | 1 | No Gas | 1.460 | 44.5 | 69753 | 43.6 | 1 | CCB Main CR1 Failed |
| Tl | 203 | 1 | No Gas | 1.483 | 45.6 | 29614 | 44.6 | 1 | CCB Main CR1 Failed |
| Pb | 208 | 1 | No Gas | 0.003 | 88.6 | 2560 | 8.4 | 2.5 | |
| U | 238 | 1 | No Gas | 0.020 | 26.6 | 1573 | 23.4 | 2.5 | |
| Ca | 43 | 2 | He | 9.890 | 97.8 | 67 | 43.3 | 100 | |
| Sb | 121 | 2 | He | 0.215 | 10.0 | 3110 | 4.1 | 2.5 | |
| Ti | 47 | 2 | He | 0.115 | 37.4 | 47 | 24.7 | 2.5 | |
| Cu | 63 | 1 | No Gas | -0.025 | -84.8 | 4634 | 7.6 | 2.5 | |
| Se | 82 | 1 | No Gas | 0.420 | 48.4 | 15 | 369.9 | 2 | |

**QC ISTD Table**

| Name | Mass | Tune Step | Tune Mode | CPS | %RSD | Ref CPS | %Rec | %QC Low | %QC High | QC Flag |
|---|---|---|---|---|---|---|---|---|---|---|
| Li | 6 | 1 | No Gas | 2169855 | 1.18 | 1995440 | 108.74 | 70 | 120 | |
| Ge | 72 | 2 | He | 974901 | 2.56 | 920161 | 105.95 | 70 | 120 | |
| Ge | 72 | 1 | No Gas | 3501132 | 0.52 | 3333391 | 105.03 | 70 | 120 | |
| In | 115 | 1 | No Gas | 4359745 | 0.99 | 4159869 | 104.80 | 70 | 120 | |
| Bi | 209 | 1 | No Gas | 4260270 | 0.43 | 4267334 | 99.83 | 70 | 120 | |

# Continuing Calibration Verification (CCV) Report

**Sample Table**

| | |
|---|---|
| Sample Name | CCV |
| Data File Name | 050_CCV.d |
| Data Path Name | C:\Agilent\ICPMH\1\DATA\042921A.b |
| Acq Date Time | 2021-04-29T12:02:18-05:00 |
| Sample Type | CCV |
| Dilution | 1 |
| Comment | |
| ISTD Ref File Name | 011CALB.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 | 102.438 | 0.574 | 2463240 | 1.03 | 100 | 102.4 | 90 | 110 | |
| Be | 9 | 1 | No Gas | 98.318 | 1.102 | 552398 | 0.77 | 100 | 98.3 | 90 | 110 | |
| V | 51 | 2 | He | 95.247 | 0.919 | 727315 | 0.91 | 100 | 95.2 | 90 | 110 | |
| Cr | 52 | 2 | He | 94.564 | 1.267 | 863010 | 0.23 | 100 | 94.6 | 90 | 110 | |
| Fe | 56 | 2 | He | 9605.195 | 0.654 | 77509766 | 0.72 | 10000 | 96.1 | 90 | 110 | |
| Se | 78 | 2 | He | 95.770 | 2.643 | 10080 | 2.34 | 100 | 95.8 | 90 | 110 | |
| As | 75 | 2 | He | 96.345 | 0.412 | 113297 | 0.84 | 100 | 96.3 | 90 | 110 | |
| Ca | 44 | 2 | He | 9316.450 | 1.500 | 426112 | 1.37 | 10000 | 93.2 | 90 | 110 | |
| Na | 23 | 2 | He | 9825.399 | 1.866 | 13554266 | 0.81 | 10000 | 98.3 | 90 | 110 | |
| Mg | 24 | 2 | He | 9589.231 | 1.919 | 7515642 | 1.18 | 10000 | 95.9 | 90 | 110 | |
| K | 39 | 2 | He | 9717.184 | 1.672 | 7943493 | 0.71 | 10000 | 97.2 | 90 | 110 | |
| Mn | 55 | 2 | He | 94.165 | 1.547 | 603366 | 0.43 | 100 | 94.2 | 90 | 110 | |
| Co | 59 | 2 | He | 102.221 | 1.282 | 1343040 | 0.23 | 100 | 102.2 | 90 | 110 | |
| Ni | 60 | 2 | He | 101.031 | 2.031 | 322582 | 0.88 | 100 | 101.0 | 90 | 110 | |
| Cu | 63 | 2 | He | 96.215 | 0.752 | 852881 | 0.96 | 100 | 96.2 | 90 | 110 | |
| Zn | 66 | 2 | He | 98.351 | 1.111 | 159873 | 0.28 | 100 | 98.4 | 90 | 110 | |
| Al | 27 | 2 | He | 101.715 | 0.892 | 48883 | 0.72 | 100 | 101.7 | 90 | 110 | |
| B | 11 | 1 | No Gas | 511.356 | 1.139 | 1683275 | 1.07 | 500 | 102.3 | 90 | 110 | |
| Al | 27 | 1 | No Gas | 113.247 | 0.348 | 2482988 | 0.91 | 100 | 113.2 | 90 | 110 | CCV Main CR1-2 Failed |
| Si | 28 | 1 | No Gas | 558.715 | 0.734 | 6102033 | 1.58 | 5000 | 11.2 | 90 | 110 | CCV Main CR1-2 Failed |
| Ag | 107 | 1 | No Gas | 100.298 | 1.773 | 2244659 | 1.89 | 100 | 100.3 | 90 | 110 | |
| Cd | 111 | 1 | No Gas | 97.364 | 0.566 | 435423 | 0.75 | 100 | 97.4 | 90 | 110 | |
| Sr | 88 | 1 | No Gas | 100.162 | 1.701 | 4077394 | 1.62 | 100 | 100.2 | 90 | 110 | |
| Mo | 95 | 1 | No Gas | 99.155 | 0.500 | 801917 | 0.47 | 100 | 99.2 | 90 | 110 | |
| Sn | 118 | 1 | No Gas | 96.667 | 2.283 | 1381380 | 2.21 | 100 | 96.7 | 90 | 110 | |
| Sb | 121 | 1 | No Gas | 100.662 | 1.234 | 1982161 | 2.09 | 100 | 100.7 | 90 | 110 | |
| Ba | 137 | 1 | No Gas | 96.437 | 0.383 | 672709 | 0.31 | 100 | 96.4 | 90 | 110 | |
| Tl | 205 | 1 | No Gas | 100.602 | 2.380 | 4602253 | 0.43 | 100 | 100.6 | 90 | 110 | |
| Tl | 203 | 1 | No Gas | 100.435 | 3.048 | 1918261 | 1.04 | 100 | 100.4 | 90 | 110 | |
| Pb | 208 | 1 | No Gas | 99.074 | 1.628 | 6515684 | 0.66 | 100 | 99.1 | 90 | 110 | |
| U | 238 | 1 | No Gas | 95.305 | 2.083 | 6540681 | 1.39 | 100 | 95.3 | 90 | 110 | |
| Ca | 43 | 2 | He | 9305.374 | 2.470 | 24305 | 2.64 | 10000 | 93.1 | 90 | 110 | |
| Sb | 121 | 2 | He | 100.919 | 0.969 | 848723 | 0.77 | 100 | 100.9 | 90 | 110 | |
| Ti | 47 | 2 | He | 97.501 | 2.259 | 25971 | 2.81 | 100 | 97.5 | 90 | 110 | |
| Cu | 63 | 1 | No Gas | 102.634 | 3.551 | 1658504 | 2.47 | 100 | 102.6 | 90 | 110 | |
| Se | 82 | 1 | No Gas | 95.147 | 2.567 | 24895 | 2.44 | 100 | 95.1 | 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 | 1907751 | 0.83 | 1995440 | 95.61 | 70 | 120 | |
| Ge | 72 | 2 | He | 918481 | 1.14 | 920161 | 99.82 | 70 | 120 | |
| Ge | 72 | 1 | No Gas | 3344495 | 1.10 | 3333391 | 100.33 | 70 | 120 | |
| In | 115 | 1 | No Gas | 4074691 | 0.21 | 4159869 | 97.95 | 70 | 120 | |
| Bi | 209 | 1 | No Gas | 4134429 | 2.20 | 4267334 | 96.89 | 70 | 120 | |

# Continuing Calibration Blank (CCB) Report

**Sample Table**

| | |
|---|---|
| Sample Name | CCB |
| Data File Name | 051_CCB.d |
| Data Path Name | C:\Agilent\ICPMH\1\DATA\042921A.b |
| Acq Date Time | 2021-04-29T12:04:11-05:00 |
| Sample Type | CCB |
| Dilution | 1 |
| Comment | |
| ISTD Ref File Name | 011CALB.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 | 0.120 | 70.5 | 122303 | 0.7 | 0.5 | |
| Be | 9 | 1 | No Gas | 0.007 | 41.0 | 78 | 22.4 | 0.5 | |
| V | 51 | 2 | He | -0.141 | -14.1 | 3824 | 3.3 | 2.5 | |
| Cr | 52 | 2 | He | -0.552 | -1.5 | 3977 | 1.5 | 2.5 | |
| Fe | 56 | 2 | He | 4.255 | 4.0 | 55731 | 2.2 | 100 | |
| Se | 78 | 2 | He | 0.028 | 463.2 | 85 | 15.6 | 2 | |
| As | 75 | 2 | He | -0.036 | -3.1 | 233 | 1.4 | 2.5 | |
| Ca | 44 | 2 | He | -3.105 | -55.6 | 723 | 11.2 | 100 | |
| Na | 23 | 2 | He | 57.378 | 2.1 | 156964 | 1.1 | 100 | |
| Mg | 24 | 2 | He | -0.187 | -25.6 | 1090 | 4.0 | 100 | |
| K | 39 | 2 | He | 2.741 | 21.1 | 56660 | 1.2 | 100 | |
| Mn | 55 | 2 | He | -0.022 | -28.1 | 523 | 7.2 | 2.5 | |
| Co | 59 | 2 | He | 0.004 | 115.4 | 187 | 35.7 | 2.5 | |
| Ni | 60 | 2 | He | -0.012 | -142.5 | 193 | 28.5 | 2.5 | |
| Cu | 63 | 2 | He | -0.049 | -19.7 | 1904 | 5.6 | 2 | |
| Zn | 66 | 2 | He | -0.199 | -11.2 | 607 | 5.8 | 2.5 | |
| Al | 27 | 2 | He | 1.173 | 22.8 | 1490 | 9.7 | 5 | |
| B | 11 | 1 | No Gas | 15.819 | 10.1 | 102667 | 4.3 | 0.5 | CCB Main CR1 Failed |
| Al | 27 | 1 | No Gas | 1.482 | 7.9 | 76500 | 1.7 | 5 | |
| Si | 28 | 1 | No Gas | -0.369 | -61.9 | 288194 | 1.1 | 10 | |
| Ag | 107 | 1 | No Gas | 0.009 | 23.0 | 787 | 5.1 | 2.5 | |
| Cd | 111 | 1 | No Gas | 0.005 | 78.3 | 50 | 34.6 | 1 | |
| Sr | 88 | 1 | No Gas | 0.036 | 5.8 | 3264 | 3.2 | 2.5 | |
| Mo | 95 | 1 | No Gas | 0.170 | 37.4 | 1573 | 33.2 | 2.5 | |
| Sn | 118 | 1 | No Gas | 0.037 | 149.5 | 6095 | 12.5 | 5 | |
| Sb | 121 | 1 | No Gas | 0.243 | 7.4 | 8063 | 6.0 | 2.5 | |
| Ba | 137 | 1 | No Gas | -0.138 | -8.2 | 453 | 17.1 | 2.5 | |
| Tl | 205 | 1 | No Gas | 1.481 | 43.2 | 71290 | 44.1 | 1 | CCB Main CR1 Failed |
| Tl | 203 | 1 | No Gas | 1.493 | 44.1 | 30039 | 44.9 | 1 | CCB Main CR1 Failed |
| Pb | 208 | 1 | No Gas | 0.004 | 87.6 | 2593 | 9.6 | 2.5 | |
| U | 238 | 1 | No Gas | 0.023 | 34.7 | 1834 | 32.8 | 2.5 | |
| Ca | 43 | 2 | He | 2.237 | 353.6 | 43 | 48.0 | 100 | |
| Sb | 121 | 2 | He | 0.225 | 8.9 | 3094 | 6.6 | 2.5 | |
| Ti | 47 | 2 | He | -0.013 | -3.0 | 10 | 0.0 | 2.5 | |
| Cu | 63 | 1 | No Gas | -0.027 | -100.2 | 4541 | 10.2 | 2.5 | |
| Se | 82 | 1 | No Gas | -0.571 | -40.1 | -254 | -22.4 | 2 | |

**QC ISTD Table**

| Name | Mass | Tune Step | Tune Mode | CPS | %RSD | Ref CPS | %Rec | %QC Low | %QC High | QC Flag |
|---|---|---|---|---|---|---|---|---|---|---|
| Li | 6 | 1 | No Gas | 2055272 | 1.34 | 1995440 | 103.00 | 70 | 120 | |
| Ge | 72 | 2 | He | 940285 | 1.08 | 920161 | 102.19 | 70 | 120 | |
| Ge | 72 | 1 | No Gas | 3458858 | 1.94 | 3333391 | 103.76 | 70 | 120 | |
| In | 115 | 1 | No Gas | 4264375 | 1.04 | 4159869 | 102.51 | 70 | 120 | |
| Bi | 209 | 1 | No Gas | 4271969 | 1.51 | 4267334 | 100.11 | 70 | 120 | |

# Continuing Calibration Verification (CCV) Report

**Sample Table**

| | |
|---|---|
| Sample Name | CCV |
| Data File Name | 136_CCV.d |
| Data Path Name | C:\Agilent\ICPMH\1\DATA\042921A.b |
| Acq Date Time | 2021-04-29T15:23:38-05:00 |
| Sample Type | CCV |
| Dilution | 1 |
| Comment | |
| ISTD Ref File Name | 011CALB.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 | 107.612 | 1.313 | 2426842 | 0.82 | 100 | 107.6 | 90 | 110 | |
| Be | 9 | 1 | No Gas | 92.338 | 1.404 | 487634 | 0.99 | 100 | 92.3 | 90 | 110 | |
| V | 51 | 2 | He | 93.050 | 1.477 | 671805 | 0.64 | 100 | 93.0 | 90 | 110 | |
| Cr | 52 | 2 | He | 93.326 | 1.862 | 805275 | 0.72 | 100 | 93.3 | 90 | 110 | |
| Fe | 56 | 2 | He | 10071.838 | 0.552 | 76837172 | 0.77 | 10000 | 100.7 | 90 | 110 | |
| Se | 78 | 2 | He | 88.327 | 2.119 | 8795 | 1.89 | 100 | 88.3 | 90 | 110 | CCV Main CR1-2 Failed |
| As | 75 | 2 | He | 92.088 | 1.869 | 102378 | 0.99 | 100 | 92.1 | 90 | 110 | |
| Ca | 44 | 2 | He | 9455.214 | 1.690 | 408816 | 1.10 | 10000 | 94.6 | 90 | 110 | |
| Na | 23 | 2 | He | 10614.716 | 2.159 | 13837587 | 1.03 | 10000 | 106.1 | 90 | 110 | |
| Mg | 24 | 2 | He | 10266.485 | 1.378 | 7607142 | 0.29 | 10000 | 102.7 | 90 | 110 | |
| K | 39 | 2 | He | 9867.383 | 0.228 | 7626080 | 1.33 | 10000 | 98.7 | 90 | 110 | |
| Mn | 55 | 2 | He | 90.865 | 1.463 | 550455 | 0.35 | 100 | 90.9 | 90 | 110 | |
| Co | 59 | 2 | He | 100.423 | 0.386 | 1247469 | 0.73 | 100 | 100.4 | 90 | 110 | |
| Ni | 60 | 2 | He | 98.171 | 1.463 | 296363 | 1.01 | 100 | 98.2 | 90 | 110 | |
| Cu | 63 | 2 | He | 93.731 | 1.433 | 785498 | 0.68 | 100 | 93.7 | 90 | 110 | |
| Zn | 66 | 2 | He | 95.058 | 0.763 | 146124 | 1.45 | 100 | 95.1 | 90 | 110 | |
| Al | 27 | 2 | He | 86.201 | 2.653 | 39293 | 2.15 | 100 | 86.2 | 90 | 110 | CCV Main CR1-2 Failed |
| B | 11 | 1 | No Gas | 565.653 | 0.905 | 1745704 | 0.74 | 500 | 113.1 | 90 | 110 | CCV Main CR1-2 Failed |
| Al | 27 | 1 | No Gas | 100.073 | 1.648 | 2127997 | 0.80 | 100 | 100.1 | 90 | 110 | |
| Si | 28 | 1 | No Gas | 529.106 | 2.129 | 5606136 | 1.21 | 5000 | 10.6 | 90 | 110 | CCV Main CR1-2 Failed |
| Ag | 107 | 1 | No Gas | 93.939 | 1.448 | 2077239 | 0.40 | 100 | 93.9 | 90 | 110 | |
| Cd | 111 | 1 | No Gas | 94.064 | 0.933 | 415659 | 0.62 | 100 | 94.1 | 90 | 110 | |
| Sr | 88 | 1 | No Gas | 99.628 | 0.774 | 4007520 | 0.82 | 100 | 99.6 | 90 | 110 | |
| Mo | 95 | 1 | No Gas | 99.549 | 1.342 | 795501 | 0.56 | 100 | 99.5 | 90 | 110 | |
| Sn | 118 | 1 | No Gas | 100.296 | 1.216 | 1415969 | 0.60 | 100 | 100.3 | 90 | 110 | |
| Sb | 121 | 1 | No Gas | 100.233 | 2.135 | 1909762 | 1.13 | 100 | 100.2 | 90 | 110 | |
| Ba | 137 | 1 | No Gas | 94.188 | 1.369 | 649264 | 1.61 | 100 | 94.2 | 90 | 110 | |
| Tl | 205 | 1 | No Gas | 102.476 | 1.806 | 4666938 | 0.95 | 100 | 102.5 | 90 | 110 | |
| Tl | 203 | 1 | No Gas | 101.262 | 2.590 | 1925470 | 1.75 | 100 | 101.3 | 90 | 110 | |
| Pb | 208 | 1 | No Gas | 96.179 | 1.494 | 6296476 | 0.64 | 100 | 96.2 | 90 | 110 | |
| U | 238 | 1 | No Gas | 99.824 | 1.138 | 6819660 | 0.40 | 100 | 99.8 | 90 | 110 | |
| Ca | 43 | 2 | He | 9661.714 | 1.569 | 23854 | 0.59 | 10000 | 96.6 | 90 | 110 | |
| Sb | 121 | 2 | He | 99.011 | 2.252 | 787143 | 1.13 | 100 | 99.0 | 90 | 110 | |
| Ti | 47 | 2 | He | 100.083 | 2.883 | 25197 | 1.76 | 100 | 100.1 | 90 | 110 | |
| Cu | 63 | 1 | No Gas | 95.847 | 1.105 | 1499616 | 1.41 | 100 | 95.8 | 90 | 110 | |
| Se | 82 | 1 | No Gas | 89.990 | 1.929 | 22781 | 1.43 | 100 | 90.0 | 90 | 110 | CCV Main CR1-2 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 | 1793132 | 0.46 | 1995440 | 89.86 | 70 | 120 | |
| Ge | 72 | 2 | He | 868328 | 1.11 | 920161 | 94.37 | 70 | 120 | |
| Ge | 72 | 1 | No Gas | 3236738 | 1.00 | 3333391 | 97.10 | 70 | 120 | |
| In | 115 | 1 | No Gas | 4026548 | 1.43 | 4159869 | 96.80 | 70 | 120 | |
| Bi | 209 | 1 | No Gas | 4114910 | 0.91 | 4267334 | 96.43 | 70 | 120 | |

# Continuing Calibration Blank (CCB) Report

**Sample Table**

| | |
|---|---|
| Sample Name | CCB |
| Data File Name | 137_CCB.d |
| Data Path Name | C:\Agilent\ICPMH\1\DATA\042921A.b |
| Acq Date Time | 2021-04-29T15:25:31-05:00 |
| Sample Type | CCB |
| Dilution | 1 |
| Comment | |
| ISTD Ref File Name | 011CALB.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 | -0.188 | -17.9 | 106209 | 1.5 | 0.5 | |
| Be | 9 | 1 | No Gas | 0.004 | 133.4 | 57 | 58.7 | 0.5 | |
| V | 51 | 2 | He | 0.131 | 12.8 | 5500 | 2.2 | 2.5 | |
| Cr | 52 | 2 | He | -0.596 | -6.1 | 3307 | 9.6 | 2.5 | |
| Fe | 56 | 2 | He | 2.632 | 5.5 | 39186 | 2.6 | 100 | |
| Se | 78 | 2 | He | 0.011 | 615.8 | 77 | 8.3 | 2 | |
| As | 75 | 2 | He | 0.060 | 86.9 | 323 | 17.9 | 2.5 | |
| Ca | 44 | 2 | He | -7.875 | -26.6 | 463 | 19.6 | 100 | |
| Na | 23 | 2 | He | 122.678 | 0.7 | 230244 | 0.5 | 100 | CCB Main CR1 Failed |
| Mg | 24 | 2 | He | -0.599 | -7.3 | 703 | 4.3 | 100 | |
| K | 39 | 2 | He | 4.482 | 29.7 | 53795 | 1.6 | 100 | |
| Mn | 55 | 2 | He | -0.024 | -13.6 | 470 | 4.3 | 2.5 | |
| Co | 59 | 2 | He | 0.001 | 188.1 | 133 | 18.9 | 2.5 | |
| Ni | 60 | 2 | He | -0.038 | -9.0 | 100 | 10.0 | 2.5 | |
| Cu | 63 | 2 | He | -0.096 | -21.1 | 1370 | 12.0 | 2 | |
| Zn | 66 | 2 | He | -0.277 | -9.3 | 443 | 9.1 | 2.5 | |
| Al | 27 | 2 | He | 0.162 | 118.8 | 927 | 9.1 | 5 | |
| B | 11 | 1 | No Gas | 44.242 | 3.7 | 185971 | 3.2 | 0.5 | CCB Main CR1 Failed |
| Al | 27 | 1 | No Gas | 0.286 | 3.5 | 47187 | 0.6 | 5 | |
| Si | 28 | 1 | No Gas | -0.879 | -1.2 | 267444 | 0.2 | 10 | |
| Ag | 107 | 1 | No Gas | 0.007 | 11.5 | 713 | 2.9 | 2.5 | |
| Cd | 111 | 1 | No Gas | 0.008 | 136.2 | 63 | 81.0 | 1 | |
| Sr | 88 | 1 | No Gas | 0.010 | 70.0 | 2054 | 14.3 | 2.5 | |
| Mo | 95 | 1 | No Gas | 0.206 | 38.7 | 1780 | 36.5 | 2.5 | |
| Sn | 118 | 1 | No Gas | 0.037 | 182.5 | 5788 | 17.2 | 5 | |
| Sb | 121 | 1 | No Gas | 0.085 | 45.9 | 4578 | 16.2 | 2.5 | |
| Ba | 137 | 1 | No Gas | -0.154 | -4.4 | 320 | 14.3 | 2.5 | |
| Tl | 205 | 1 | No Gas | 0.902 | 41.5 | 43131 | 41.5 | 1 | |
| Tl | 203 | 1 | No Gas | 0.928 | 42.3 | 18552 | 42.4 | 1 | |
| Pb | 208 | 1 | No Gas | -0.008 | -19.6 | 1763 | 5.6 | 2.5 | |
| U | 238 | 1 | No Gas | 0.025 | 40.6 | 1947 | 38.2 | 2.5 | |
| Ca | 43 | 2 | He | 2.170 | 326.0 | 40 | 43.3 | 100 | |
| Sb | 121 | 2 | He | 0.085 | 18.7 | 1743 | 7.1 | 2.5 | |
| Ti | 47 | 2 | He | 0.043 | 194.3 | 23 | 89.2 | 2.5 | |
| Cu | 63 | 1 | No Gas | 0.153 | 2.3 | 7139 | 0.7 | 2.5 | |
| Se | 82 | 1 | No Gas | -0.307 | -133.1 | -173 | -60.7 | 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 | 1903075 | 0.92 | 1995440 | 95.37 | 70 | 120 | |
| Ge | 72 | 2 | He | 870525 | 0.34 | 920161 | 94.61 | 70 | 120 | |
| Ge | 72 | 1 | No Gas | 3271815 | 0.13 | 3333391 | 98.15 | 70 | 120 | |
| In | 115 | 1 | No Gas | 4041475 | 0.58 | 4159869 | 97.15 | 70 | 120 | |
| Bi | 209 | 1 | No Gas | 4218435 | 1.62 | 4267334 | 98.85 | 70 | 120 | |

# Sample Report

**Sample Table**

| | |
|---|---|
| Sample Name | HS21040694-01MSD |
| Data File Name | 145SMPL.d |
| Data Path Name | C:\Agilent\ICPMH\1\DATA\042921A.b |
| Acq Date Time | 2021-04-29T15:43:26-05:00 |
| Sample Type | Sample |
| Dilution | 1 |
| Comment | DOD TW 165094 |
| ISTD Ref FileName | 011CALB.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 | 12.514 | 12.514 | 1.97 | 365094 | 0.00 | 2000 | |
| Be | 9 | 1 | No Gas | 46.320 | 46.320 | 2.06 | 238652 | 0.02 | 2000 | |
| V | 51 | 2 | He | 47.757 | 47.757 | 0.84 | 331315 | 0.01 | 2000 | |
| Cr | 52 | 2 | He | 53.943 | 53.943 | 1.26 | 447774 | 0.01 | 2000 | |
| Fe | 56 | 2 | He | 4872.497 | 4872.497 | 0.57 | 35497460 | 0.01 | 200000 | |
| Se | 78 | 2 | He | 44.592 | 44.592 | 4.22 | 4274 | 1.04 | 2000 | |
| As | 75 | 2 | He | 46.843 | 46.843 | 0.99 | 49846 | 0.09 | 2000 | |
| Ca | 44 | 2 | He | 10954.794 | 10954.794 | 0.13 | 452121 | 2.42 | 200000 | |
| Na | 23 | 2 | He | 461622.419 | 461622.419 | 0.55 | 571770605 | 0.08 | 200000 | >LDR |
| Mg | 24 | 2 | He | 11764.964 | 11764.964 | 0.99 | 8322915 | 0.14 | 200000 | |
| K | 39 | 2 | He | 6353.886 | 6353.886 | 0.53 | 4705391 | 0.14 | 200000 | |
| Mn | 55 | 2 | He | 103.777 | 103.777 | 0.63 | 600175 | 0.02 | 2000 | |
| Co | 59 | 2 | He | 48.605 | 48.605 | 1.12 | 576463 | 0.01 | 2000 | |
| Ni | 60 | 2 | He | 54.059 | 54.059 | 0.47 | 155911 | 0.03 | 2000 | |
| Cu | 63 | 2 | He | 48.171 | 48.171 | 1.37 | 386438 | 0.01 | 2000 | |
| Zn | 66 | 2 | He | 73.084 | 73.084 | 0.35 | 107450 | 0.07 | 2000 | |
| Al | 27 | 2 | He | 77.573 | 77.573 | 1.30 | 33845 | 0.23 | 2000 | |
| B | 11 | 1 | No Gas | 70.403 | 70.403 | 2.05 | 247807 | 0.03 | 2000 | |
| Al | 27 | 1 | No Gas | 92.610 | 92.610 | 4.99 | 1878278 | 0.00 | 2000 | |
| Si | 28 | 1 | No Gas | 10839.261 | 10839.261 | 2.85 | 104302522 | 0.01 | 2000 | >LDR |
| Ag | 107 | 1 | No Gas | 44.375 | 44.375 | 0.94 | 921273 | 0.00 | 2000 | |
| Cd | 111 | 1 | No Gas | 48.096 | 48.096 | 0.43 | 199487 | 0.02 | 2000 | |
| Sr | 88 | 1 | No Gas | 174.852 | 174.852 | 1.30 | 6599867 | 0.00 | 2000 | |
| Mo | 95 | 1 | No Gas | 58.359 | 58.359 | 2.14 | 437750 | 0.01 | 2000 | |
| Sn | 118 | 1 | No Gas | -0.157 | -0.157 | -1.00 | 2844 | -0.01 | 2000 | |
| Sb | 121 | 1 | No Gas | 47.370 | 47.370 | 1.23 | 861174 | 0.01 | 2000 | |
| Ba | 137 | 1 | No Gas | 165.095 | 165.095 | 2.02 | 1067076 | 0.02 | 2000 | |
| Tl | 205 | 1 | No Gas | 47.549 | 47.549 | 2.66 | 2014889 | 0.00 | 2000 | |
| Tl | 203 | 1 | No Gas | 43.364 | 43.364 | 1.64 | 767345 | 0.01 | 2000 | |
| Pb | 208 | 1 | No Gas | 47.273 | 47.273 | 1.51 | 2880104 | 0.00 | 2000 | |
| U | 238 | 1 | No Gas | 1.305 | 1.305 | 2.09 | 83105 | 0.00 | 2000 | |
| Ca | 43 | 2 | He | 11186.087 | 11186.087 | 0.99 | 26366 | 42.43 | 200000 | |
| Sb | 121 | 2 | He | 49.225 | 49.225 | 0.84 | 374170 | 0.01 | 2000 | |
| Ti | 47 | 2 | He | 48.819 | 48.819 | 4.80 | 11739 | 0.42 | 2000 | |
| Cu | 63 | 1 | No Gas | 50.483 | 50.483 | 1.90 | 754319 | 0.01 | 2000 | |
| Zn | 66 | 1 | No Gas | 72.331 | 72.331 | 3.09 | 290132 | 0.02 | 2000 | |
| Se | 82 | 1 | No Gas | 47.870 | 47.870 | 2.56 | 11500 | 0.42 | 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 | 1749478 | 1.01 | 1995440 | 87.67 | 70 | 120 | |
| Ge | 72 | 2 | He | 829002 | 1.10 | 920161 | 90.09 | 70 | 120 | |
| Ge | 72 | 1 | No Gas | 3082970 | 1.37 | 3333391 | 92.49 | 70 | 120 | |
| In | 115 | 1 | No Gas | 3778895 | 0.33 | 4159869 | 90.84 | 70 | 120 | |
| Bi | 209 | 1 | No Gas | 3828173 | 1.22 | 4267334 | 89.71 | 70 | 120 | |

# Continuing Calibration Verification (CCV) Report

**Sample Table**

| | |
|---|---|
| Sample Name | CCV |
| Data File Name | 147_CCV.d |
| Data Path Name | C:\Agilent\ICPMH\1\DATA\042921A.b |
| Acq Date Time | 2021-04-29T15:48:35-05:00 |
| Sample Type | CCV |
| Dilution | 1 |
| Comment | |
| ISTD Ref File Name | 011CALB.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 | 106.429 | 3.212 | 2339525 | 1.32 | 100 | 106.4 | 90 | 110 | |
| Be | 9 | 1 | No Gas | 93.721 | 2.438 | 482262 | 1.40 | 100 | 93.7 | 90 | 110 | |
| V | 51 | 2 | He | 92.120 | 0.967 | 661174 | 0.31 | 100 | 92.1 | 90 | 110 | |
| Cr | 52 | 2 | He | 91.967 | 0.734 | 788988 | 0.47 | 100 | 92.0 | 90 | 110 | |
| Fe | 56 | 2 | He | 9982.842 | 1.183 | 75698444 | 0.13 | 10000 | 99.8 | 90 | 110 | |
| Se | 78 | 2 | He | 89.043 | 4.048 | 8812 | 3.81 | 100 | 89.0 | 90 | 110 | CCV Main CR1-2 Failed |
| As | 75 | 2 | He | 91.992 | 0.497 | 101676 | 1.60 | 100 | 92.0 | 90 | 110 | |
| Ca | 44 | 2 | He | 9433.116 | 0.843 | 405442 | 0.74 | 10000 | 94.3 | 90 | 110 | |
| Na | 23 | 2 | He | 10482.385 | 1.098 | 13585251 | 0.21 | 10000 | 104.8 | 90 | 110 | |
| Mg | 24 | 2 | He | 10115.048 | 1.154 | 7450220 | 0.14 | 10000 | 101.2 | 90 | 110 | |
| K | 39 | 2 | He | 9895.025 | 1.294 | 7600721 | 0.40 | 10000 | 99.0 | 90 | 110 | |
| Mn | 55 | 2 | He | 90.623 | 1.596 | 545702 | 0.49 | 100 | 90.6 | 90 | 110 | |
| Co | 59 | 2 | He | 99.234 | 1.767 | 1225194 | 0.63 | 100 | 99.2 | 90 | 110 | |
| Ni | 60 | 2 | He | 98.471 | 1.937 | 295470 | 0.94 | 100 | 98.5 | 90 | 110 | |
| Cu | 63 | 2 | He | 93.928 | 1.510 | 782431 | 0.78 | 100 | 93.9 | 90 | 110 | |
| Zn | 66 | 2 | He | 95.684 | 1.249 | 146187 | 0.14 | 100 | 95.7 | 90 | 110 | |
| Al | 27 | 2 | He | 83.271 | 0.562 | 37762 | 0.89 | 100 | 83.3 | 90 | 110 | CCV Main CR1-2 Failed |
| B | 11 | 1 | No Gas | 555.217 | 2.593 | 1670226 | 0.83 | 500 | 111.0 | 90 | 110 | CCV Main CR1-2 Failed |
| Al | 27 | 1 | No Gas | 96.763 | 0.681 | 2076235 | 1.63 | 100 | 96.8 | 90 | 110 | |
| Si | 28 | 1 | No Gas | 531.150 | 0.862 | 5673565 | 0.35 | 5000 | 10.6 | 90 | 110 | CCV Main CR1-2 Failed |
| Ag | 107 | 1 | No Gas | 95.749 | 2.023 | 2121765 | 1.44 | 100 | 95.7 | 90 | 110 | |
| Cd | 111 | 1 | No Gas | 94.327 | 0.420 | 417725 | 0.89 | 100 | 94.3 | 90 | 110 | |
| Sr | 88 | 1 | No Gas | 101.365 | 2.040 | 4085965 | 1.89 | 100 | 101.4 | 90 | 110 | |
| Mo | 95 | 1 | No Gas | 100.109 | 0.337 | 801723 | 0.40 | 100 | 100.1 | 90 | 110 | |
| Sn | 118 | 1 | No Gas | 98.769 | 1.738 | 1397504 | 1.61 | 100 | 98.8 | 90 | 110 | |
| Sb | 121 | 1 | No Gas | 100.172 | 2.444 | 1924440 | 1.96 | 100 | 100.2 | 90 | 110 | |
| Ba | 137 | 1 | No Gas | 93.535 | 0.760 | 646125 | 0.58 | 100 | 93.5 | 90 | 110 | |
| Tl | 205 | 1 | No Gas | 101.587 | 1.068 | 4630114 | 0.39 | 100 | 101.6 | 90 | 110 | |
| Tl | 203 | 1 | No Gas | 102.941 | 0.139 | 1959208 | 1.23 | 100 | 102.9 | 90 | 110 | |
| Pb | 208 | 1 | No Gas | 96.479 | 3.273 | 6320033 | 2.32 | 100 | 96.5 | 90 | 110 | |
| U | 238 | 1 | No Gas | 101.705 | 0.977 | 6953593 | 0.87 | 100 | 101.7 | 90 | 110 | |
| Ca | 43 | 2 | He | 9466.852 | 1.620 | 23237 | 1.96 | 10000 | 94.7 | 90 | 110 | |
| Sb | 121 | 2 | He | 99.391 | 1.459 | 785482 | 0.54 | 100 | 99.4 | 90 | 110 | |
| Ti | 47 | 2 | He | 98.898 | 4.791 | 24746 | 3.66 | 100 | 98.9 | 90 | 110 | |
| Cu | 63 | 1 | No Gas | 95.145 | 1.026 | 1500866 | 0.33 | 100 | 95.1 | 90 | 110 | |
| Se | 82 | 1 | No Gas | 91.561 | 3.071 | 23370 | 2.14 | 100 | 91.6 | 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 | 1747596 | 1.96 | 1995440 | 87.58 | 70 | 120 | |
| Ge | 72 | 2 | He | 863133 | 1.13 | 920161 | 93.80 | 70 | 120 | |
| Ge | 72 | 1 | No Gas | 3263437 | 0.96 | 3333391 | 97.90 | 70 | 120 | |
| In | 115 | 1 | No Gas | 4034919 | 0.58 | 4159869 | 97.00 | 70 | 120 | |
| Bi | 209 | 1 | No Gas | 4118053 | 1.13 | 4267334 | 96.50 | 70 | 120 | |

# Continuing Calibration Blank (CCB) Report

**Sample Table**

| | |
|---|---|
| Sample Name | CCB |
| Data File Name | 148_CCB.d |
| Data Path Name | C:\Agilent\ICPMH\1\DATA\042921A.b |
| Acq Date Time | 2021-04-29T15:50:28-05:00 |
| Sample Type | CCB |
| Dilution | 1 |
| Comment | |
| ISTD Ref File Name | 011CALB.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 | -0.223 | -38.4 | 104537 | 0.6 | 0.5 | |
| Be | 9 | 1 | No Gas | 0.018 | 32.4 | 132 | 24.7 | 0.5 | |
| V | 51 | 2 | He | 0.135 | 13.1 | 5516 | 2.0 | 2.5 | |
| Cr | 52 | 2 | He | -0.650 | -4.7 | 2840 | 9.2 | 2.5 | |
| Fe | 56 | 2 | He | 2.827 | 7.5 | 40634 | 4.2 | 100 | |
| Se | 78 | 2 | He | 0.045 | 214.3 | 81 | 11.7 | 2 | |
| As | 75 | 2 | He | 0.095 | 1.7 | 361 | 0.5 | 2.5 | |
| Ca | 44 | 2 | He | -7.254 | -26.9 | 490 | 17.7 | 100 | |
| Na | 23 | 2 | He | 102.486 | 1.0 | 203753 | 0.1 | 100 | CCB Main CR1 Failed |
| Mg | 24 | 2 | He | -0.486 | -35.2 | 787 | 16.5 | 100 | |
| K | 39 | 2 | He | 3.148 | 46.9 | 52707 | 1.6 | 100 | |
| Mn | 55 | 2 | He | -0.022 | -28.8 | 480 | 7.5 | 2.5 | |
| Co | 59 | 2 | He | 0.001 | 304.6 | 127 | 16.4 | 2.5 | |
| Ni | 60 | 2 | He | -0.026 | -42.0 | 137 | 23.5 | 2.5 | |
| Cu | 63 | 2 | He | -0.087 | -19.5 | 1440 | 9.3 | 2 | |
| Zn | 66 | 2 | He | -0.350 | -8.8 | 330 | 13.9 | 2.5 | |
| Al | 27 | 2 | He | 0.269 | 83.3 | 973 | 9.9 | 5 | |
| B | 11 | 1 | No Gas | 32.402 | 6.0 | 146880 | 2.9 | 0.5 | CCB Main CR1 Failed |
| Al | 27 | 1 | No Gas | 0.323 | 29.3 | 47909 | 3.6 | 5 | |
| Si | 28 | 1 | No Gas | -0.723 | -45.6 | 268791 | 0.9 | 10 | |
| Ag | 107 | 1 | No Gas | 0.006 | 36.7 | 687 | 6.6 | 2.5 | |
| Cd | 111 | 1 | No Gas | 0.002 | 282.5 | 33 | 62.4 | 1 | |
| Sr | 88 | 1 | No Gas | 0.011 | 17.0 | 2097 | 2.9 | 2.5 | |
| Mo | 95 | 1 | No Gas | 0.236 | 42.5 | 2030 | 38.7 | 2.5 | |
| Sn | 118 | 1 | No Gas | 0.080 | 98.1 | 6428 | 16.3 | 5 | |
| Sb | 121 | 1 | No Gas | 0.203 | 2.4 | 6855 | 1.6 | 2.5 | |
| Ba | 137 | 1 | No Gas | -0.160 | -3.2 | 280 | 12.4 | 2.5 | |
| Tl | 205 | 1 | No Gas | 0.937 | 44.4 | 45171 | 43.8 | 1 | |
| Tl | 203 | 1 | No Gas | 0.929 | 43.5 | 18753 | 42.9 | 1 | |
| Pb | 208 | 1 | No Gas | -0.002 | -254.4 | 2170 | 19.3 | 2.5 | |
| U | 238 | 1 | No Gas | 0.027 | 37.3 | 2080 | 34.4 | 2.5 | |
| Ca | 43 | 2 | He | -1.875 | -431.0 | 30 | 66.7 | 100 | |
| Sb | 121 | 2 | He | 0.173 | 13.8 | 2447 | 8.1 | 2.5 | |
| Ti | 47 | 2 | He | 0.043 | 215.7 | 23 | 99.0 | 2.5 | |
| Cu | 63 | 1 | No Gas | -0.004 | -210.3 | 4661 | 2.4 | 2.5 | |
| Se | 82 | 1 | No Gas | -0.190 | -319.2 | -142 | -109.4 | 2 | |

**QC ISTD Table**

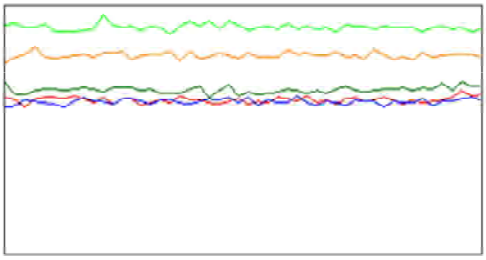
| Name | Mass | Tune Step | Tune Mode | CPS | %RSD | Ref CPS | %Rec | %QC Low | %QC High | QC Flag |
|---|---|---|---|---|---|---|---|---|---|---|
| Li | 6 | 1 | No Gas | 1887914 | 1.33 | 1995440 | 94.61 | 70 | 120 | |
| Ge | 72 | 2 | He | 869552 | 0.54 | 920161 | 94.50 | 70 | 120 | |
| Ge | 72 | 1 | No Gas | 3268917 | 0.57 | 3333391 | 98.07 | 70 | 120 | |
| In | 115 | 1 | No Gas | 4069332 | 1.03 | 4159869 | 97.82 | 70 | 120 | |
| Bi | 209 | 1 | No Gas | 4263781 | 0.84 | 4267334 | 99.92 | 70 | 120 | |

# Tune Check Report

| | |
|---|---|
| **Operator Name** | ALSHS NoUser |
| **Acq/Data Batch** | C:\Agilent\ICPMH\1\DATA\042921A.b |
| **Acq. Date-Time** | 4/29/2021 9:57:44 AM |
| **Report Comment** | --- |
| **Instrument Name** | G8421A SG18523544 |

**[No Gas]**

**Sensitivity**



| | |
|---|---|
| Sampling Period [sec] | 0.514 |
| Integration Time [sec] | 0.1 |

| Mass | Range | Count | Resp [cps/ug/l] | Resp (Required) [cps/ug/l] | Resp (Flag) |
|---|---|---|---|---|---|
| 9 | 10000 | 6217 | 62165.12 | | |
| 24 | 20000 | 18337 | 183365.58 | | |
| 59 | 50000 | 30713 | 307129.06 | | |
| 115 | 50000 | 40147 | 401468.36 | | |
| 208 | 50000 | 33170 | 331704.08 | | |

| Mass | Resp Ratio | Resp Ratio (Required) | Resp Ratio (Flag) |
|---|---|---|---|
| 9 | | - | |
| 24 | | - | |
| 59 | | - | |
| 115 | | - | |
| 208 | | - | |

| Mass | RSD% | RSD% (Required) | RSD% (Flag) |
|---|---|---|---|
| 9 | 2.122 | 5.000 | |
| 24 | 1.554 | 5.000 | |
| 59 | 1.868 | 5.000 | |
| 115 | 1.533 | 5.000 | |
| 208 | 1.962 | 5.000 | |

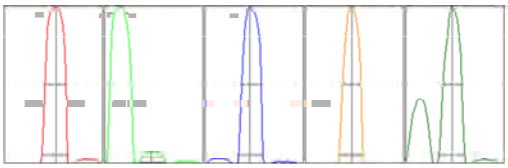
| Mass | Background | Background (Required) | Background (Flag) |
|---|---|---|---|
| 9 | 0.700 | | |
| 24 | 1.300 | | |
| 59 | 0.100 | | |
| 115 | 0.400 | | |
| 208 | 0.600 | | |

**Oxide/Doubly Charged Ratio**

| | |
|---|---|
| Oxide | 156 / 140 0.836 % |
| Doubly Charged | 70 / 140 0.744 % |

# 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 | 6297.41 | 9.10 | 8.90 - 9.10 | |
| 24 | 18291.86 | 23.95 | 23.90 - 24.10 | |
| 59 | 31499.72 | 58.90 | 58.90 - 59.10 | |
| 115 | 40424.06 | 114.95 | 114.90 - 115.10 | |
| 208 | 33930.24 | 207.95 | 207.90 - 208.10 | |

| Mass | W-50% | W-5% | W-5% (Required) | W-5% (Flag) |
|---|---|---|---|---|
| 9 | 0.65 | 0.781 | | |
| 24 | 0.66 | 0.788 | | |
| 59 | 0.60 | 0.738 | | |
| 115 | 0.56 | 0.732 | | |
| 208 | 0.58 | 0.780 | | |

### Tune Parameters

#### Plasma Parameters

| | | | | | |
|---|---|---|---|---|---|
| Plasma Mode | --- | Nebulizer Gas | 0.47 L/min | Dilution Gas | 0.55 L/min |
| RF Power | 1600 W | Option Gas | --- | Auxiliary Gas | 0.90 L/min |
| RF Matching | 1.80 V | Nebulizer Pump | 0.10 rps | Plasma Gas | 15.0 L/min |
| Sample Depth | 8.0 mm | S/C Temp | 2 °C | | |

#### Lens Parameters

| | | | | | |
|---|---|---|---|---|---|
| Extract 1 | 0.0 V | Omega Lens | 10.0 V | Deflect | 14.0 V |
| Extract 2 | -195.0 V | Cell Entrance | -30 V | Plate Bias | -45 V |
| Omega Bias | -90 V | Cell Exit | -50 V | | |

#### Cell Parameters

| | | | | | |
|---|---|---|---|---|---|
| Use Gas | No | 3rd Gas Flow | --- | Energy Discrimination | 5.0 V |
| He Flow | 0.0 mL/min | OctP Bias | -8.0 V | | |
| H2 Flow | --- | OctP RF | 200 V | | |

#### QP Parameters

| | | | | | |
|---|---|---|---|---|---|
| Mass Gain | 135 | Axis Gain | 1.0001 | QP Bias | -3.0 V |
| Mass Offset | 125 | Axis Offset | 0.14 | | |

### Hardware Settings

#### Torch

| | | | |
|---|---|---|---|
| Torch H | 1.3 mm | Torch V | -0.6 mm |

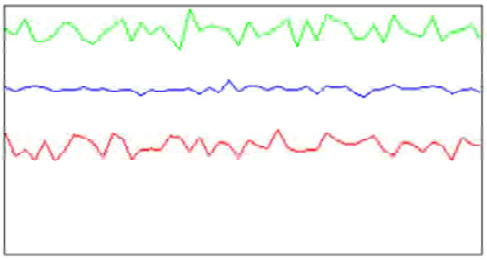
#### EM

| | | | | | |
|---|---|---|---|---|---|
| Discriminator | 4.6 mV | Analog HV | 2541 V | Pulse HV | 1281 V |

**[He]**

# Tune Check Report

**Sensitivity**



Sampling Period [sec] 0.306
Integration Time [sec] 0.1

| Mass | Range | Count | Resp [cps/ug/l] | Resp (Required) [cps/ug/l] | Resp (Flag) |
|---|---|---|---|---|---|
| 9 | 500 | 218 | 2177.97 | | |
| 24 | 1000 | 901 | 9014.90 | | |
| 59 | 20000 | 13281 | 132811.14 | | |

| Mass | Resp Ratio | Resp Ratio (Required) | Resp Ratio (Flag) |
|---|---|---|---|
| 9 | | - | |
| 24 | | - | |
| 59 | | - | |

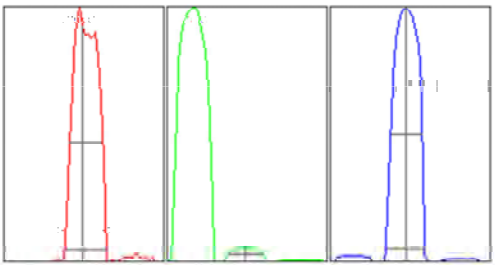
| Mass | RSD% | RSD% (Required) | RSD% (Flag) |
|---|---|---|---|
| 9 | 7.311 | 5.000 | Fail |
| 24 | 4.259 | 5.000 | |
| 59 | 1.885 | 5.000 | |

| Mass | Background | Background (Required) | Background (Flag) |
|---|---|---|---|
| 9 | 0.000 | | |
| 24 | 0.100 | | |
| 59 | 0.100 | | |

**Oxide/Doubly Charged Ratio**

Oxide 156 / 140 0.440 %
Doubly Charged 70 / 140 0.805 %

**Resolution/Axis**



Integration Time [sec] 0.1
Acquisition Time [sec] 22.24
Y Axis Linear

| Mass | Peak Height | Axis | Axis (Required) | Axis (Flag) |
|---|---|---|---|---|
| 9 | 207.27 | 9.00 | 8.90 - 9.10 | |
| 24 | 899.82 | 24.00 | 23.90 - 24.10 | |
| 59 | 13464.79 | 58.95 | 58.90 - 59.10 | |

| Mass | W-50% | W-5% | W-5% (Required) | W-5% (Flag) |
|---|---|---|---|---|
| 9 | 0.63 | 0.784 | | |
| 24 | 0.66 | 0.788 | | |

# Tune Check Report

| Mass | W-50% | W-5% | W-5% (Required) | W-5% (Flag) |
|---|---|---|---|---|
| 59 | 0.60 | 0.736 | | |

## Tune Parameters

### Plasma Parameters

| | | | | | |
|---|---|---|---|---|---|
| Plasma Mode | --- | Nebulizer Gas | 0.47 L/min | Dilution Gas | 0.55 L/min |
| RF Power | 1600 W | Option Gas | --- | Auxiliary Gas | 0.90 L/min |
| RF Matching | 1.80 V | Nebulizer Pump | 0.10 rps | Plasma Gas | 15.0 L/min |
| Sample Depth | 8.0 mm | S/C Temp | 2 °C | | |

### Lens Parameters

| | | | | | |
|---|---|---|---|---|---|
| Extract 1 | 0.0 V | Omega Lens | 10.0 V | Deflect | 0.2 V |
| Extract 2 | -195.0 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 | 4.2 mL/min | OctP Bias | -18.0 V | | |
| H2 Flow | --- | OctP RF | 200 V | | |

### QP Parameters

| | | | | | |
|---|---|---|---|---|---|
| Mass Gain | 135 | Axis Gain | 1.0001 | QP Bias | -15.0 V |
| Mass Offset | 125 | Axis Offset | 0.14 | | |

## Hardware Settings

### Torch

| | | | |
|---|---|---|---|
| Torch H | 1.3 mm | Torch V | -0.6 mm |

### EM

| | | | | | |
|---|---|---|---|---|---|
| Discriminator | 4.6 mV | Analog HV | 2541 V | Pulse HV | 1281 V |

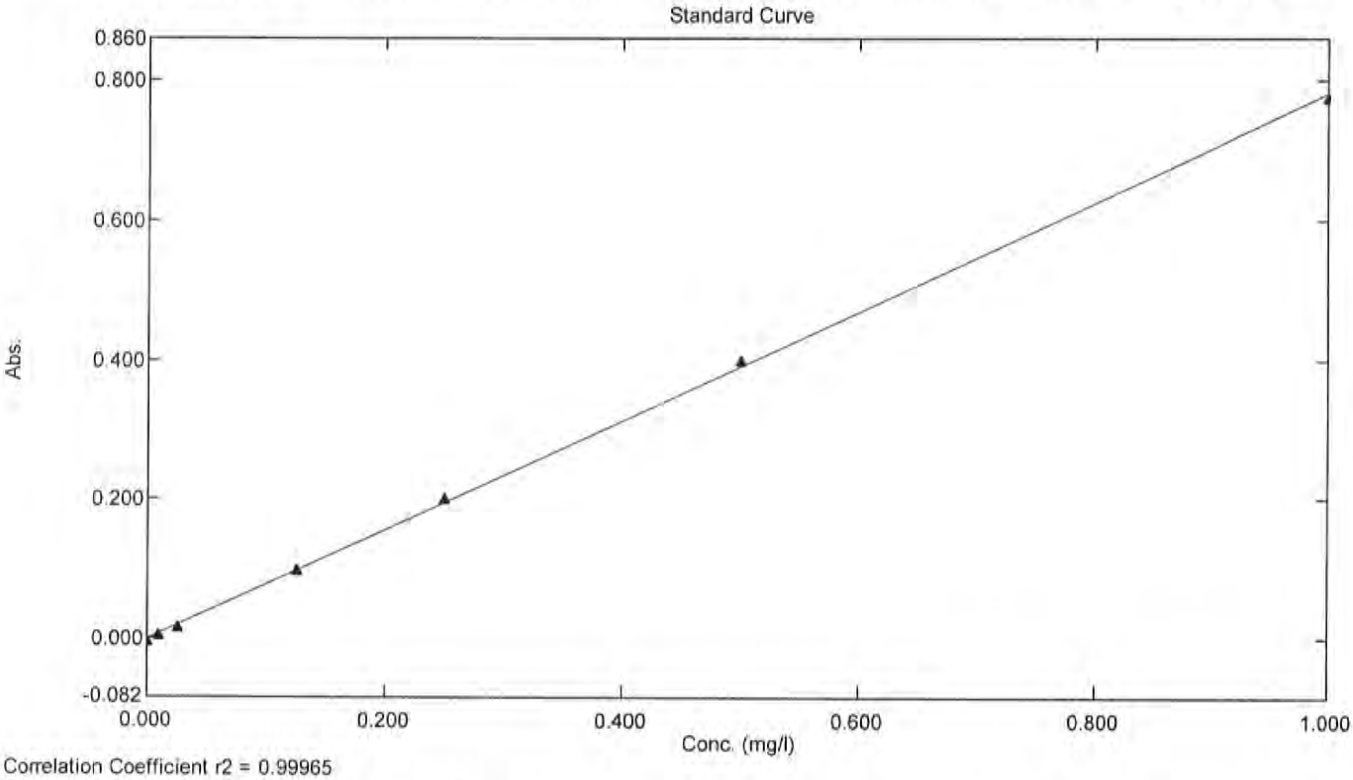
# HS21040697 Wet Chem Raw Data (Cr6_W_7196_DOD)

ALS WO# HS21040697

# Standard Table Report

05/07/2021 04:31:28 PM

File Name: C:\Program Files (x86)\Shimadzu\UVProbe\Data\CR6+_UNKNOWN\2021\04142021CR6_W.pho




Correlation Coefficient r2 = 0.99965

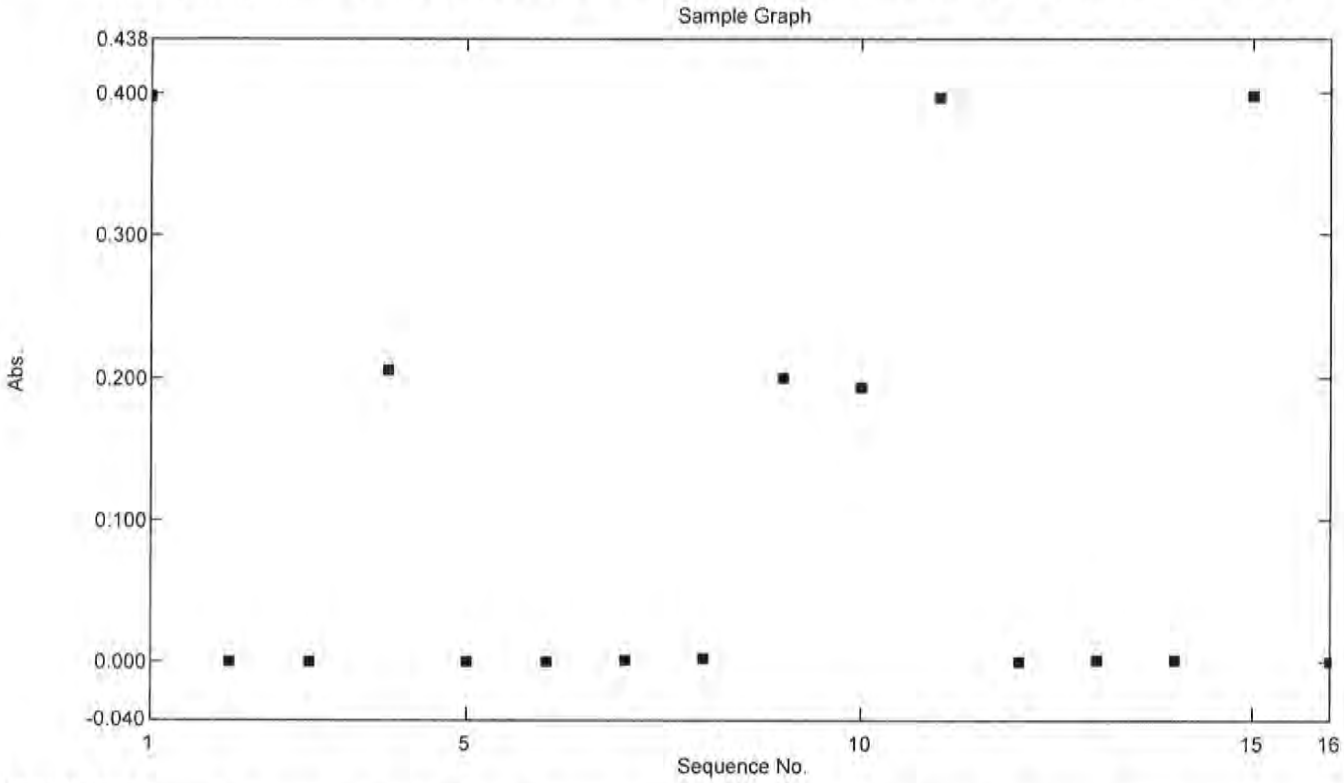
Standard Table

| | Sample ID | Type | Ex | Conc | WL540.0 | Wgt.Factor | Comments |
|---|---|---|---|---|---|---|---|
| 1 | STD1 | Standard | | 0.000 | -0.003 | 1.000 | |
| 2 | STD2 | Standard | | 0.010 | 0.005 | 1.000 | |
| 3 | STD3 | Standard | | 0.025 | 0.017 | 1.000 | |
| 4 | STD4 | Standard | | 0.125 | 0.098 | 1.000 | |
| 5 | STD5 | Standard | | 0.250 | 0.201 | 1.000 | |
| 6 | STD6 | Standard | | 0.500 | 0.400 | 1.000 | |
| 7 | STD7 | Standard | | 1.000 | 0.776 | 1.000 | |
| 8 | | | | | | | |

# Sample Table Report

05/07/2021 04:31:19 PM

File Name: C:\Program Files (x86)\Shimadzu\UVProbe\Data\CR6+_UNKNOWN\2021\04142021CR6_W.pho




Sample Table

| | Sample ID | Type | Ex | Date | Time | Conc | WL540.0 | Comments |
|---|---|---|---|---|---|---|---|---|
| 1 | CCV | Unknown | | 04/14/2021 | 01:48:31 PM | 0.509 | 0.398 | 316131104 WC-14 |
| 2 | CCB | Unknown | | 04/14/2021 | 01:48:57 PM | 0.000 | 0.000 | 316130206 WC-13 |
| 3 | MBLK | Unknown | | 04/14/2021 | 01:49:03 PM | -0.000 | -0.000 | 315010710 WC-13 |
| 4 | LCS | Unknown | | 04/14/2021 | 01:49:14 PM | 0.263 | 0.206 | 316131105 WC-14 |
| 5 | HS21040694.01 | Unknown | | 04/14/2021 | 01:49:44 PM | 0.001 | 0.000 | SAMP-BKG=TOT Al |
| 6 | HS21040694.01BKG | Unknown | | 04/14/2021 | 01:50:11 PM | -0.000 | -0.000 | 0.001 |
| 7 | HS21040697.01 | Unknown | | 04/14/2021 | 01:50:40 PM | 0.002 | 0.002 | -0.001 |
| 8 | HS21040697.01BKG | Unknown | | 04/14/2021 | 01:51:14 PM | 0.003 | 0.003 | |
| 9 | HS21040697.01MS | Unknown | | 04/14/2021 | 01:51:44 PM | 0.256 | 0.200 | |
| 10 | HS21040697.01MSD | Unknown | | 04/14/2021 | 01:52:07 PM | 0.246 | 0.193 | |
| 11 | CCV2 | Unknown | | 04/14/2021 | 01:52:17 PM | 0.508 | 0.397 | |
| 12 | CCB2 | Unknown | | 04/14/2021 | 01:52:27 PM | 0.000 | 0.000 | |
| 13 | HS21040703.01 | Unknown | | 04/14/2021 | 03:15:06 PM | 0.002 | 0.001 | 0.001 |
| 14 | HS21040703.01BKG | Unknown | | 04/14/2021 | 03:15:43 PM | 0.001 | 0.001 | |
| 15 | CCV3 | Unknown | | 04/14/2021 | 03:16:04 PM | 0.509 | 0.398 | |
| 16 | CCB3 | Unknown | | 04/14/2021 | 03:16:15 PM | 0.000 | 0.000 | |
| 17 | | | | | | | | |

# HS21040697 - Sub Perch Level IV (E2100410)

ALS WO# HS21040697

May 7, 2021 Service Request No:E2100410

RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Suite 210
Houston, TX 77099-4338

**Laboratory Results for: HS21040697**

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory April 14, 2021
For your reference, these analyses have been assigned our service request number **E2100410.**

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.

Respectfully submitted,

**ALS Group USA, Corp. dba ALS Environmental**

Corey Grandits
Project Manager

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 Houston | **Service Request No.:** | E2100410 |
| **Project:** | HS21040697 | **Date Received:** | 04/14/21 |
| **Sample Matrix:** | W | | |

## 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 04/14/21.

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:**

EQ2100213: 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 and DLCS recoveries are within QC limits.

DoD certification is held for the method/matrix/analytes provided in this report.

*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:**E2100410
**Project:** HS21040697

## SAMPLE CROSS-REFERENCE

| SAMPLE # | CLIENT SAMPLE ID | DATE | TIME |
|---|---|---|---|
| E2100410-001 | LH18/24-SP140_041321 | 4/13/2021 | 1400 |

# Service Request Summary

**Folder #:** **E2100410**
Client Name: ALS Environmental - US
Project Name: HS21040697
Project Number:

**Report To:** RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Houston, TX 77099-4338
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number: 281-530-5887
E-mail: rj.modashia@alsglobal.com

Project Chemist: Corey Grandits
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 04/14/21
Internal Due Date: 4/28/2021
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS21040697
EDD: No EDD Specified

1 125 mL-Plastic Bottle Plastic
**Location:** EHRMS-WIC 3B
**Pressure Gas:**

| Lab Samp No. | Client Samp No | Matrix | Collected | HOUSTON<br>ClO4 DOD/6850 |
|---|---|---|---|---|
| E2100410-001 | LH18/24-SP140_041321 | Ground Water | 04/13/21 1400 | **IV** |

# Service Request Summary

**Folder #:** **E2100410**
Client Name: ALS Environmental - US
Project Name: HS21040697
Project Number:

**Report To:** RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Houston, TX 77099-4338
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number: 281-530-5887
E-mail: rj.modashia@alsglobal.com

Project Chemist: Corey Grandits
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 04/14/21
Internal Due Date: 4/28/2021
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS21040697
EDD: No EDD Specified

1 125 mL-Plastic Bottle Plastic
**Location:** EHRMS-WIC 3B
**Pressure Gas:**

## Test Comments:

| Group | Test/Method | Samples | Comments |
|---|---|---|---|
| Semivoa GCMS | ClO4 DOD/6850 | 1 | Level II due 4/28,IV due 5/5 |

# 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 | Internal standard not within the specified limits. See case narrative. |
| 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. |
| 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. |

# Data Qualifiers

## Lab Standard

| | |
|---|---|
| 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 |
|---|---|---|
| American Association for Laboratory Accreditation | 2897.01 2020 | 11/30/2021 |
| Arizona Department of Health Services | AZ0793-2020 | 5/27/2021 |
| Arkansas Department of Environmental Quality | 21-022-0 | 3/26/2022 |
| California Department of Health Services | 2919-2020 | 4/30/2021 |
| Department of Defense | A2LA 2897.01 | 11/30/2021 |
| Florida Department of Health | E87611-2020 | 6/30/2021 |
| Hawaii Department of Health | 2020 | 4/30/2021 |
| Illinois Environmental Protection Agency | 2000322020-4 | 5/9/2021 |
| Kansas Department of Health and Environment | E-10352-2020 | 7/31/2021 |
| Louisiana Department of Environmental Quality | 03087-2020 | 6/30/2021 |
| Louisiana Department of Health and Hospitals | LA028-2021 | 12/31/2021 |
| Maine Department of Health and Human Services | 2020016 | 6/5/2022 |
| Maryland Department of the Environment | 343-2020 | 6/30/2021 |
| Michigan Depratment of Environmental Quality | 9971-2020 | 4/30/2021 |
| Nebraska Department of Health and Human Services | NE-OS-25-13 (2020) | 4/30/2021 |
| Nevada Department of Concervation and Natural Resources | TX026932021-1 | 7/31/2021 |
| New Jersey Department of Environmental Protection | TX008 | 6/30/2021 |
| Oklahoma Department of Environmental Quality | 2020-123 | 8/31/2021 |
| Pennsylvania Department of Environmental Protection | 014 | 6/30/2021 |
| Tennessee Department of Environment and Concervation | 04016-2020 | 4/30/2021 |
| Texas Commision on Environmental Quality | T104704231-20-26 | 4/30/2021 |
| United States Department of Agriculture | P330-19-00299 | 10/10/2022 |



ALS

# 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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**www.alsglobal.com**

# Subcontract Chain of Custody

**SAMPLING STATE:** **Dept of Defense** **COC ID: 15933**

**SUBCONTRACT TO:**

ALS Environmental
10450 Stancliff RoadSuite 210
Houston, TX 77084

**Phone:** +1 281 530 5656

**CUSTOMER INFORMATION:**

| | |
|---|---|
| **Company:** | ALS Houston |
| **Contact:** | RJ Modashia |
| **Address:** | 10450 Stancliff Rd, Ste 210 |
| **Phone:** | +1 281 530 5656 |
| **Email:** | RJ.Modashia@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:** | HS21040697 |
| **TSR:** | Sonia West |

| | LAB SAMPLE ID | CLIENT SAMPLE ID | MATRIX | COLLECT DATE |
|---|---|---|---|---|
| | ANALYSIS REQUESTED | | | DUE DATE |
| **1.** | **HS21040697-01** | **LH18/24-SP140_041321** | **Water** | **13 Apr 2021 14:00** |
| | Provide Level II and Level IV reports in separate pdf | | | 28 Apr 2021 |

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

**QC Level:** DOD IV (DoD Data Package)

Relinquished By: J. Mycenn Date/Time: 4/14/21 14:15

Received By: [illegible] Date/Time: 4/14/21 1414

Cooler ID(s): Temperature(s):

ALS Environmental

# Cooler Receipt Form

Project Chemist: CA

Client/Project: ALS-11

Thermometer ID: IR31

Date/Time Received: 9/14/21 Initials: CA

Date/Time Logged in: 9/14/21 Initials: CA

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 | | 9/14/21 | 1915 | CA | 3.9 | ☑ |
| | | | | | | ☐ |
| | | | | | | ☐ |
| | | | | | | ☐ |

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#:** 377530 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
**Team:** Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 4/15/21 11:50

| # | Lab Code | Client ID | B# | Method /Test | pH | Cl | Matrix | Amt. Ext. | Sample Description |
|---|---|---|---|---|---|---|---|---|---|
| 1 | E2100409-001 | LH18/24-SP650_041321_BIX | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 2 | E2100410-001 | LH18/24-SP140_041321 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 3 | E2100411-001 | LH18/24-SP650_041321_BIX | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 4 | E2100412-001 | 16WW44-210412 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 5 | E2100412-002 | 16WW38-210412 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 6 | E2100412-003 | 16WW37-210412 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 7 | E2100412-004 | 16WW14-210412 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 8 | E2100412-005 | 16WW34-210412 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 9 | E2100412-006 | 16WW34-210412-FD | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 10 | E2100412-007 | 16WW33-210412 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 11 | E2100412-008 | 16WW32-210412 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 12 | E2100412-009 | 16WW31-210412 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 13 | E2100412-010 | 16WW46-210412 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 14 | EQ2100213-01 | MB | | 6850/ClO4 DOD | | | Liquid | 10mL | |
| 15 | EQ2100213-02 | LCS | | 6850/ClO4 DOD | | | Liquid | 10mL | |
| 16 | EQ2100213-03 | DLCS | | 6850/ClO4 DOD | | | Liquid | 10mL | |
| 17 | R2103214-010 | 45MI20088 | .14 | 6850/ClO4 DOD | | | Water | 10mL | |
| 18 | R2103214-011 | 45MI30028 | .06 | 6850/ClO4 DOD | | | Water | 10mL | |
| 19 | R2103214-013 | 45MI30025 | .06 | 6850/ClO4 DOD | | | Water | 10mL | |
| 20 | R2103380-002 | 45MI30022 | .05 | 6850/ClO4 DOD | | | Water | 10mL | |
| 21 | R2103380-003 | 45MI30023 | .05 | 6850/ClO4 DOD | | | Water | 10mL | |
| 22 | R2103380-004 | 45MI30027 | .05 | 6850/ClO4 DOD | | | Water | 10mL | |
| 23 | R2103380-005 | 45MI30026 | .05 | 6850/ClO4 DOD | | | Water | 10mL | |

## Spiking Solutions

Name: Perchlorate Intermediate Stock1 Inventory ID 214035 Logbook Ref: Perchlorate Expires On: 05/23/2021

EQ2100213-02 1.00µL EQ2100213-03 1.00µL

Name: Perchlorate Internal Standard 1ug/mL Inventory ID 214820 Logbook Ref: Perchlorate Internal Standard Expires On: 07/03/2021

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| E2100409-001 | 100.00µL | E2100410-001 | 100.00µL | E2100411-001 | 100.00µL | E2100412-001 | 100.00µL | E2100412-002 | 100.00µL | E2100412-003 | 100.00µL |
| E2100412-004 | 100.00µL | E2100412-005 | 100.00µL | E2100412-006 | 100.00µL | E2100412-007 | 100.00µL | E2100412-008 | 100.00µL | E2100412-009 | 100.00µL |
| E2100412-010 | 100.00µL | EQ2100213-01 | 100.00µL | EQ2100213-02 | 100.00µL | EQ2100213-03 | 100.00µL | R2103214-010 | 100.00µL | R2103214-011 | 100.00µL |
| R2103214-013 | 100.00µL | R2103380-002 | 100.00µL | R2103380-003 | 100.00µL | R2103380-004 | 100.00µL | R2103380-005 | 100.00µL | | |

# *Preparation Information Benchsheet*

**Prep Run#:** 377530 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
**Team:** Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 4/15/21 11:50

## Preparation Steps

Step: Preparation
Started: 4/15/21 11:50
Finished: 4/15/21 13:00
By: GRIVERA
Comments

Comments: _____

Reviewed By: GR Date: 4/15/21

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:** | E2100410 |
| **Project:** | HS21040697 | **Date Collected:** | 4/13/21 1400 |
| **Sample Matrix:** | Ground Water | **Date Received:** | 4/14/21 |
| **Sample Name:** | LH18/24-SP140_041321 | **Units:** | µg/L |
| **Lab Code:** | E2100410-001 | **Basis:** | As Received |

**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 | **9760** | | 50.0 | 25.0 | 12.5 | 500 | 4/15/21 | 4/26/21 15:24 | 377530 | 721476 | |

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

| | | | |
|---|---|---|---|
| **Client:** | ALS Environmental - US | **Service Request:** | E2100410 |
| **Project:** | HS21040697 | **Date Collected:** | NA |
| **Sample Matrix:** | Ground Water | **Date Received:** | NA |
| **Sample Name:** | Method Blank | **Units:** | µg/L |
| **Lab Code:** | EQ2100213-01 | **Basis:** | As Received |

**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 | 4/15/21 | 4/20/21 13:25 | 377530 | 721439 | |

# 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:** HS21040697
**Sample Matrix:** Ground Water

**Service Request:** E2100410
**Date Analyzed:** 4/20/21

## 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:** As Received

**Extraction Lot:** 377530

| | Lab Control Sample EQ2100213-02 | | | Duplicate Lab Control Sample EQ2100213-03 | | | | |
|---|---|---|---|---|---|---|---|---|
| **Analyte Name** | **Result** | **Spike Amount** | **% Rec** | **Result** | **Spike Amount** | **% Rec** | **% Rec Limits** | **RPD** | **RPD Limit** |
| Perchlorate | 0.117 | 0.100 | 117 | 0.108 | 0.100 | 108 | 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:** | E2100410 |
| **Project:** | HS21040697 | **Date Collected:** | NA |
| **Sample Matrix:** | Ground Water | **Date Received:** | NA |
| **Sample Name:** | Lab Control Sample | **Units:** | µg/L |
| **Lab Code:** | EQ2100213-02 | **Basis:** | As Received |

**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 | **0.117** | | 0.100 | 0.0500 | 0.0250 | 1 | 4/15/21 | 4/20/21 13:33 | 377530 | 721439 | |

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

| | | | |
|---|---|---|---|
| **Client:** | ALS Environmental - US | **Service Request:** | E2100410 |
| **Project:** | HS21040697 | **Date Collected:** | NA |
| **Sample Matrix:** | Ground Water | **Date Received:** | NA |
| **Sample Name:** | Duplicate Lab Control Sample | **Units:** | µg/L |
| **Lab Code:** | EQ2100213-03 | **Basis:** | As Received |

**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 | **0.108** | | 0.100 | 0.0500 | 0.0250 | 1 | 4/15/21 | 4/20/21 13:41 | 377530 | 721439 | |

# 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

**20210413**

**1st Review:** Grivera
**2nd Review:** Kneir

ALS Environmental

**Injection Log**
**LCMS01 -Shimadzu 8050**

**ICAL Date:** 4/13/2021
**Cal. Std. xp:** 5/20/2021
**ICAL ID:** **EC2100018**

**Mobile Phases** **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

| | | | File Name | Acquisition Method | Dilution | R | Comments | Date/Time |
|---|---|---|---|---|---|---|---|---|
| 1 | PERCHLORATE1 | | 20210413_008 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-05 | 4/13/2021 10:15 |
| 2 | PERCHLORATE2 | | 20210413_009 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-06 | 4/13/2021 10:23 |
| 3 | PERCHLORATE3 | | 20210413_010 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-07 | 4/13/2021 10:31 |
| 4 | PERCHLORATE4 | | 20210413_011 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-08 | 4/13/2021 10:39 |
| 5 | PERCHLORATE5 | | 20210413_012 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-09 | 4/13/2021 10:47 |
| 6 | PERCHLORATE6 | | 20210413_013 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-01 | 4/13/2021 10:54 |
| 7 | PERCHLORATE7 | | 20210413_014 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/13/2021 11:02 |
| 8 | PERCHLORATE8 | | 20210413_015 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-03 | 4/13/2021 11:10 |
| 9 | PERCHLORATE9 | | 20210413_016 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-04 | 4/13/2021 11:18 |
| 10 | PERCHLORATE10 | | 20210413_017 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-05 | 4/13/2021 11:26 |
| 11 | PERCHLORATEICV | | 20210413_018 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-06 | 4/13/2021 11:58 |
| 12 | ICS | | 20210413_019 | Perchlorate6850b.lcm | 1x | ☒ | | 4/13/2021 12:24 |
| 13 | LODV | | 20210413_020 | Perchlorate6850b.lcm | 1x | ☒ | | 4/13/2021 12:31 |
| 14 | PERCHLORATE7 | | 20210413_021 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/13/2021 12:39 |
| 15 | EQ2100193-01-DNU | | 20210413_022 | Perchlorate6850b.lcm | 1x | ☒ | INST failed high | 4/13/2021 12:47 |
| 16 | EQ2100193-02 | | 20210413_023 | Perchlorate6850b.lcm | 1x | ☒ | | 4/13/2021 12:55 |
| 17 | EQ2100193-03 | | 20210413_024 | Perchlorate6850b.lcm | 1x | ☒ | | 4/13/2021 13:27 |
| 18 | EQ2100193-01-DNU | | 20210413_025 | Perchlorate6850b.lcm | 1x | ☒ | INST failed high | 4/13/2021 13:35 |
| 19 | EQ2100193-04 | | 20210413_026 | Perchlorate6850b.lcm | 1x | ☒ | | 4/13/2021 13:43 |
| 20 | EQ2100193-05 | | 20210413_027 | Perchlorate6850b.lcm | 1x | ☒ | | 4/13/2021 13:51 |
| 21 | E2100329-001 | | 20210413_028 | Perchlorate6850b.lcm | 1x | ☒ | | 4/13/2021 13:59 |
| 22 | E2100330-001DNU | | 20210413_029 | Perchlorate6850b.lcm | 1x | ☒ | need 100X dilution | 4/13/2021 14:07 |
| 23 | E2100331-001 | | 20210413_030 | Perchlorate6850b.lcm | 1x | ☒ | | 4/13/2021 14:15 |
| 24 | E2100368-001 | | 20210413_031 | Perchlorate6850b.lcm | 1x | ☒ | | 4/13/2021 14:23 |
| 25 | E2100369-001DNU | | 20210413_032 | Perchlorate6850b.lcm | 1x | ☒ | need 10X dilution | 4/13/2021 14:31 |
| 26 | PERCHLORATE7 | | 20210413_033 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/13/2021 14:39 |
| 27 | E2100369-002 | | 20210413_034 | Perchlorate6850b.lcm | 1x | ☒ | | 4/13/2021 15:03 |
| 28 | E2100369-003 | | 20210413_035 | Perchlorate6850b.lcm | 1x | ☒ | | 4/13/2021 15:11 |
| 29 | E2100369-004 | | 20210413_036 | Perchlorate6850b.lcm | 1x | ☒ | | 4/13/2021 15:18 |
| 30 | E2100330-001X100 | | 20210413_037 | Perchlorate6850b.lcm | 100x | ☒ | | 4/13/2021 15:26 |
| 31 | E2100369-001X10 | | 20210413_038 | Perchlorate6850b.lcm | 10x | ☒ | | 4/13/2021 15:34 |
| 32 | E2100369-005DNU | | 20210413_039 | Perchlorate6850b.lcm | 1x | ☒ | need 10X dilution | 4/13/2021 15:42 |
| 33 | E2100369-006DNU | | 20210413_040 | Perchlorate6850b.lcm | 1x | ☒ | need 20X dilution | 4/13/2021 15:50 |
| 34 | E2100369-007DNU | | 20210413_041 | Perchlorate6850b.lcm | 1x | ☒ | need 20X dilution | 4/13/2021 15:58 |
| 35 | E2100369-008DNU | | 20210413_042 | Perchlorate6850b.lcm | 1x | ☒ | reanalyze: possible carryover | 4/13/2021 16:06 |
| 36 | E2100369-009DNU | | 20210413_043 | Perchlorate6850b.lcm | 1x | ☒ | need 5000X dilution | 4/13/2021 16:14 |
| 37 | PERCHLORATE7 | | 20210413_044 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/13/2021 16:38 |
| 38 | E2100369-008DNU | | 20210413_045 | Perchlorate6850b.lcm | 1x | ☒ | | 4/13/2021 16:46 |
| 39 | E2100369-005X10 | | 20210413_046 | Perchlorate6850b.lcm | 10x | ☒ | | 4/13/2021 16:54 |
| 40 | E2100369-006X20 | | 20210413_047 | Perchlorate6850b.lcm | 20x | ☒ | | 4/13/2021 17:02 |
| 41 | E2100369-007X20 | | 20210413_048 | Perchlorate6850b.lcm | 20x | ☒ | | 4/13/2021 17:10 |
| 42 | E2100369-009X5000 | | 20210413_049 | Perchlorate6850b.lcm | 5000x | ☒ | | 4/13/2021 17:17 |
| 43 | EQ2100193-01 | | 20210413_050 | Perchlorate6850b.lcm | 1x | ☒ | | 4/13/2021 17:25 |
| 44 | PERCHLORATE7 | | 20210413_051 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/13/2021 17:33 |
| 45 | | | | | | | | |
| 46 | | | | | | | | |

# *Initial Calibration - Detailed Report*

**Calibration ID:** EC2100018 **Instrument ID:** E-LCMS-01
**Column Name:** 1

| # | Lab Code | Sample Name | File Location | Aquisition Date |
|---|---|---|---|---|
| 01 | EC2100018-01 | PERCHLORATE1 | 20210413_008 | 04/13/2021 10:15 |
| 02 | EC2100018-02 | PERCHLORATE2 | 20210413_009 | 04/13/2021 10:23 |
| 03 | EC2100018-03 | PERCHLORATE3 | 20210413_010 | 04/13/2021 10:31 |
| 04 | EC2100018-04 | PERCHLORATE4 | 20210413_011 | 04/13/2021 10:39 |
| 05 | EC2100018-05 | PERCHLORATE5 | 20210413_012 | 04/13/2021 10:47 |
| 06 | EC2100018-06 | PERCHLORATE6 | 20210413_013 | 04/13/2021 10:54 |
| 07 | EC2100018-07 | PERCHLORATE7 | 20210413_014 | 04/13/2021 11:02 |
| 08 | EC2100018-08 | PERCHLORATE8 | 20210413_015 | 04/13/2021 11:10 |
| 09 | EC2100018-09 | PERCHLORATE9 | 20210413_016 | 04/13/2021 11:18 |
| 10 | EC2100018-10 | PERCHLORATE10 | 20210413_017 | 04/13/2021 11:26 |

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

**Perchlorate** **Average RF** **RSD = 9.714** **Average RF = 0.1227**

| # | Amount | RF | # | Amount | RF | # | Amount | RF | # | Amount | RF |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 | 0.1000 | 0.154 | 02 | 0.5000 | 0.1219 | 03 | 0.7000 | 0.1209 | 04 | 1.0000 | 0.1214 |
| 05 | 2.0000 | 0.1284 | 06 | 5.0000 | 0.1206 | 07 | 10.0000 | 0.1183 | 08 | 20.0000 | 0.114 |
| 09 | 30.0000 | 0.1156 | 10 | 50.0000 | 0.112 | | | | | | |

**Analyte**

**Perchlorate**

| # | Amount | Calculated Conc | %D | # | Amount | Calculated Conc | %D | # | Amount | Calculated Conc | %D |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 | 0.1000 | 0.125 | 25.5 | 02 | 0.5000 | 0.497 | -0.6 | 03 | 0.7000 | 0.690 | -1.5 |
| 04 | 1.0000 | 0.989 | -1.1 | 05 | 2.0000 | 2.09 | 4.6 | 06 | 5.0000 | 4.91 | -1.7 |
| 07 | 10.0000 | 9.64 | -3.6 | 08 | 20.0000 | 18.6 | -7.1 | 09 | 30.0000 | 28.3 | -5.8 |
| 10 | 50.0000 | 45.7 | -8.7 | | | | | | | | |

# *Initial Calibration Verification Summary Report*

| | | | |
|---|---|---|---|
| **Calibration ID:** | EC2100018 | **Instrument ID:** | E-LCMS-01 |
| **Datafile ID:** | 20210413_018 | **Column Name:** | 1 |

| Analyte | Lab Code | Type | Curve Fit | True Value | Calc Conc | Units | Result | Criteria |
|---|---|---|---|---|---|---|---|---|
| Perchlorate | EC2100018-11 | T | Average RF | 10 | 9.478 | ng/mL | -5.2 | <= 15 |

# Insight Report

Printed at 4/14/2021 8:51:54 AM

Method File: I:\LCMS01\DATA\20210413\20210413.lcm
Project File: I:\LCMS01\DATA\20210413\20210413.damlp

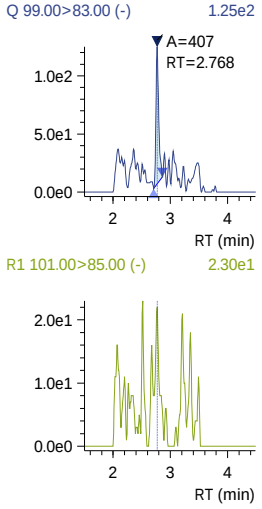
## 20210413_008

Sample ID: PERCHLORATE1
Date Acquired: 4/13/2021 10:15:23 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210413\20210413_008.lcd
Vial: 22 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.768 | 407 | 26435 | 1 | 0.12534 | ng/mL | 0.1000 | 11.97 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.762 | 26435 | 26435 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

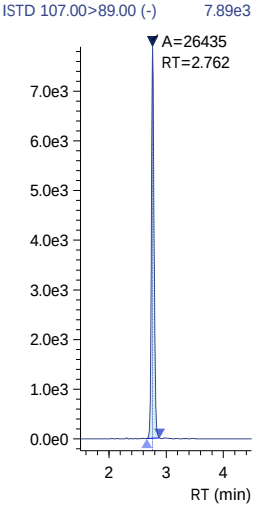
Perchlorate

Conc 0.12534
R#1 11.97 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report

Printed at 4/14/2021 8:55:34 AM

Method File: I:\LCMS01\DATA\20210413\Before\20210413.lcm

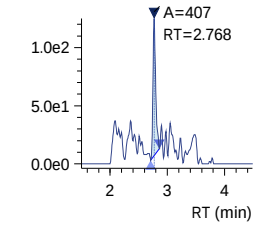
## 20210413_008

Sample ID: PERCHLORATE1
Date Acquired: 4/13/2021 10:15:23 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210413\Before\20210413_008.lcd
Vial: 22 | Inj. Volume: 25.0000uL | Tray: 1

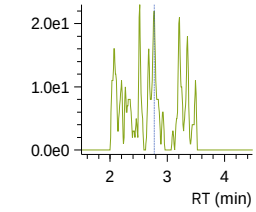
Perchlorate

Conc 0.12722
R#1 11.97 (0.00)

Q 99.00>83.00 (-) 1.25e2



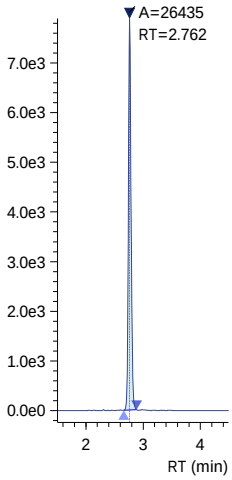

R1 101.00>85.00 (-) 2.30e1




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 7.89e3



# Insight Report

Printed at 4/14/2021 8:51:54 AM

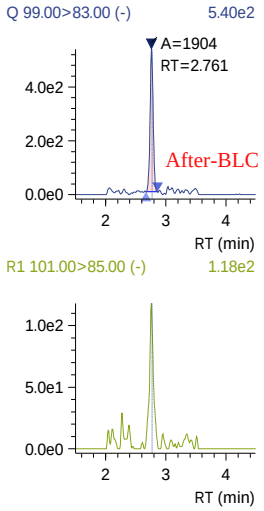
## 20210413_009

Sample ID: PERCHLORATE2
Date Acquired: 4/13/2021 10:23:19 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210413\20210413_009.lcd
Vial: 23 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | M | 2.761 | 1904 | 31237 | 1 | 0.49684 | ng/mL | 0.5000 | 21.42 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.758 | 31237 | 31237 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

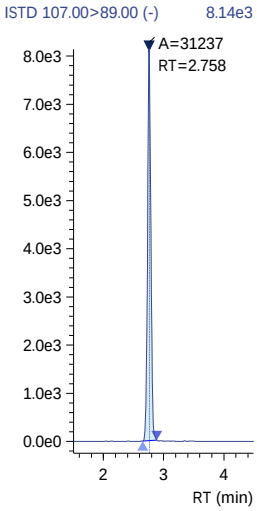
Perchlorate

Conc 0.49684
R#1 21.42 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report

Printed at 4/14/2021 8:55:34 AM

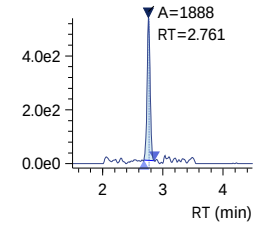
## 20210413_009

Sample ID: PERCHLORATE2
Date Acquired: 4/13/2021 10:23:19 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210413\Before\20210413_009.lcd
Vial: 23 | Inj. Volume: 25.0000uL | Tray: 1

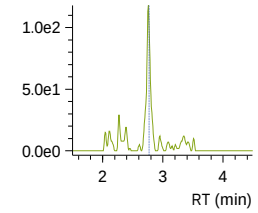
Perchlorate

Conc 0.50005
R#1 20.15 (0.00)

Q 99.00>83.00 (-) 5.40e2



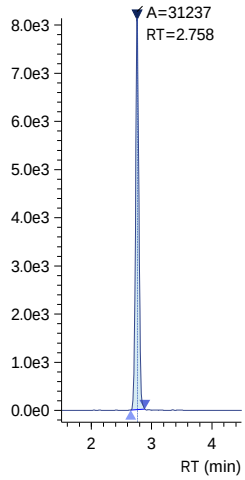

R1 101.00>85.00 (-) 1.18e2




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 8.14e3



# Insight Report

Printed at 4/14/2021 8:51:54 AM

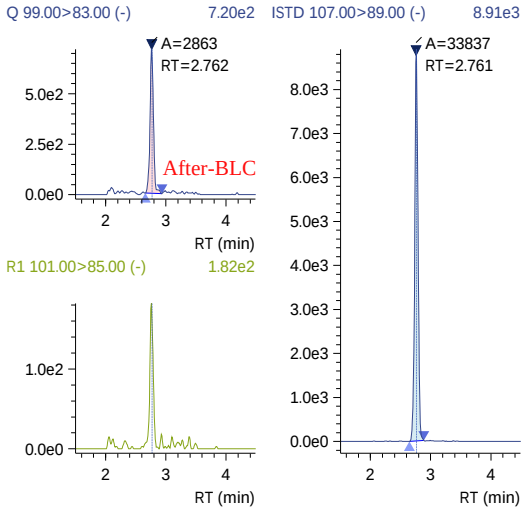
## 20210413_010

Sample ID: PERCHLORATE3
Date Acquired: 4/13/2021 10:31:12 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210413\20210413_010.lcd
Vial: 24 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | M | 2.762 | 2863 | 33837 | 1 | 0.68967 | ng/mL | 0.7000 | 23.86 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.761 | 33837 | 33837 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

Perchlorate

Conc 0.68967
R#1 23.86 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000

Before

# Insight Report

Printed at 4/14/2021 8:55:34 AM

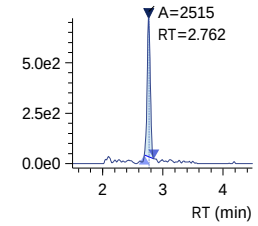
## 20210413_010

Sample ID: PERCHLORATE3
Date Acquired: 4/13/2021 10:31:12 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210413\Before\20210413_010.lcd
Vial: 24 | Inj. Volume: 25.0000uL | Tray: 1

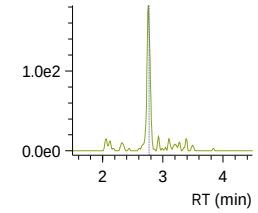
Perchlorate

Conc 0.61492
R#1 25.48 (0.00)

Q 99.00>83.00 (-) 7.20e2



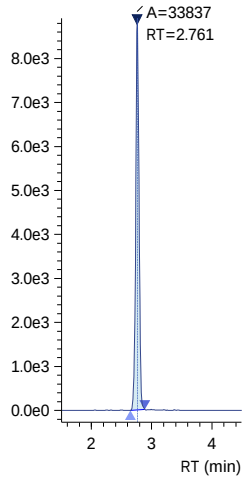

R1 101.00>85.00 (-) 1.82e2




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 8.91e3



# Insight Report

Printed at 4/14/2021 8:51:54 AM

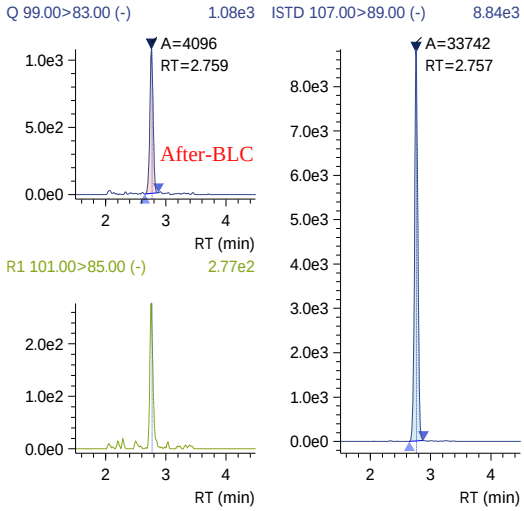
## 20210413_011

Sample ID: PERCHLORATE4
Date Acquired: 4/13/2021 10:39:04 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210413\20210413_011.lcd
Vial: 25 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | M | 2.759 | 4096 | 33742 | 1 | 0.98947 | ng/mL | 1.0000 | 25.61 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.757 | 33742 | 33742 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

Perchlorate

Conc 0.98947
R#1 25.61 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000

# Insight Report

Printed at 4/14/2021 8:55:34 AM

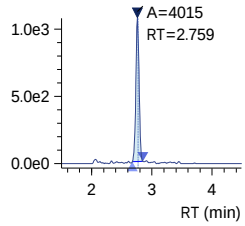
## 20210413_011

Sample ID: PERCHLORATE4
Date Acquired: 4/13/2021 10:39:04 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210413\Before\20210413_011.lcd
Vial: 25 | Inj. Volume: 25.0000uL | Tray: 1

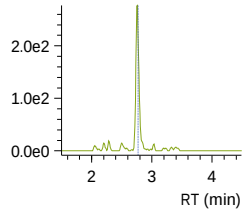
Perchlorate

Conc 0.98444
R#1 25.21 (0.00)

Q 99.00>83.00 (-) 1.08e3



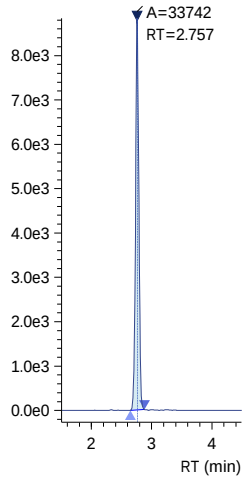

R1 101.00>85.00 (-) 2.77e2




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 8.84e3



# Insight Report

Printed at 4/14/2021 8:51:54 AM

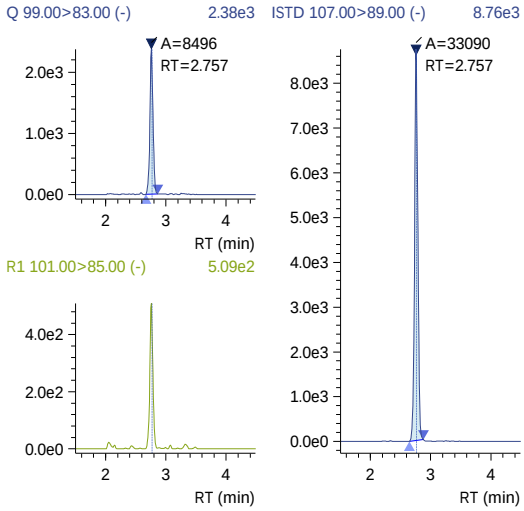
## 20210413_012

Sample ID: PERCHLORATE5
Date Acquired: 4/13/2021 10:47:01 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210413\20210413_012.lcd
Vial: 26 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.757 | 8496 | 33090 | 1 | 2.09273 | ng/mL | 2.0000 | 22.06 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.757 | 33090 | 33090 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

Perchlorate

Conc 2.09273
R#1 22.06 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000

# Insight Report

Printed at 4/14/2021 8:55:34 AM

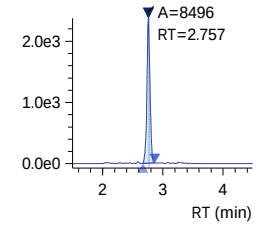
## 20210413_012

Sample ID: PERCHLORATE5
Date Acquired: 4/13/2021 10:47:01 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210413\Before\20210413_012.lcd
Vial: 26 | Inj. Volume: 25.0000uL | Tray: 1

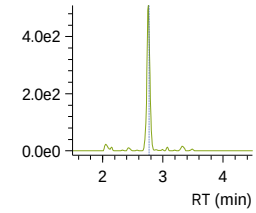
Perchlorate

Conc 2.12410
R#1 22.06 (0.00)

Q 99.00>83.00 (-) 2.38e3



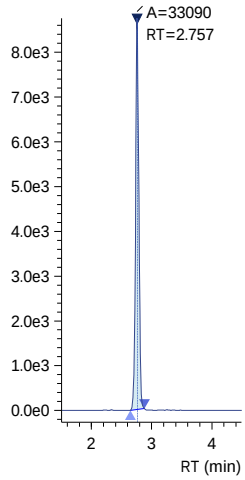

R1 101.00>85.00 (-) 5.09e2




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 8.76e3



# Insight Report

Printed at 4/14/2021 8:51:54 AM

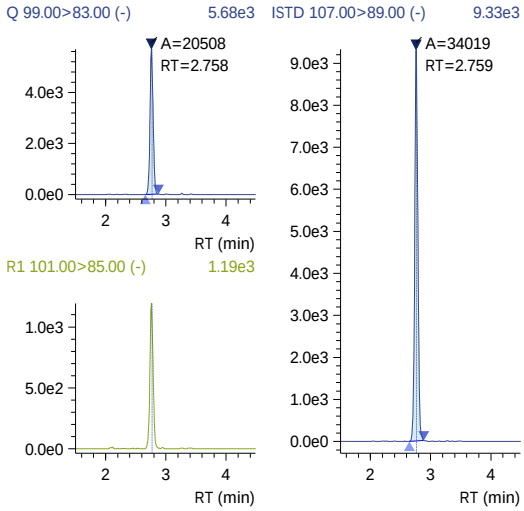
## 20210413_013

Sample ID: PERCHLORATE6
Date Acquired: 4/13/2021 10:54:54 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210413\20210413_013.lcd
Vial: 27 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.758 | 20508 | 34019 | 1 | 4.91382 | ng/mL | 5.0000 | 20.99 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.759 | 34019 | 34019 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

Perchlorate

Conc 4.91382
R#1 20.99 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000

# Insight Report

Printed at 4/14/2021 8:55:34 AM

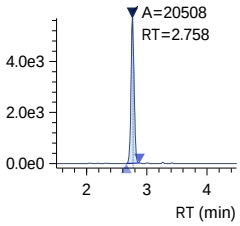
## 20210413_013

Sample ID: PERCHLORATE6
Date Acquired: 4/13/2021 10:54:54 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210413\Before\20210413_013.lcd
Vial: 27 | Inj. Volume: 25.0000uL | Tray: 1

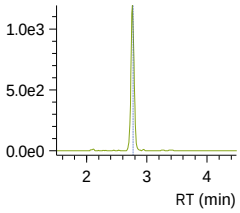
Perchlorate

Conc 4.98748
R#1 20.99 (0.00)

Q 99.00>83.00 (-) 5.68e3



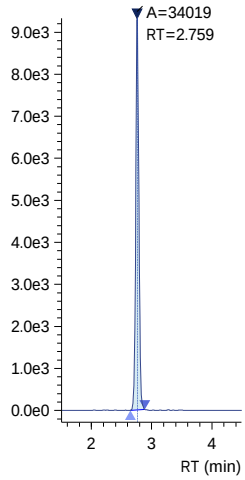

R1 101.00>85.00 (-) 1.19e3




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 9.33e3



# Insight Report

Printed at 4/14/2021 8:51:54 AM

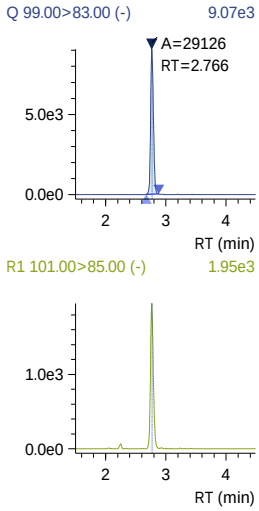
## 20210413_014

Sample ID: PERCHLORATE7
Date Acquired: 4/13/2021 11:02:49 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210413\20210413_014.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.766 | 29126 | 24621 | 1 | 9.64243 | ng/mL | 10.0000 | 22.37 |
| Sodium Perchlorate-18O4_IS | Auto | 2.765 | 24621 | 24621 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

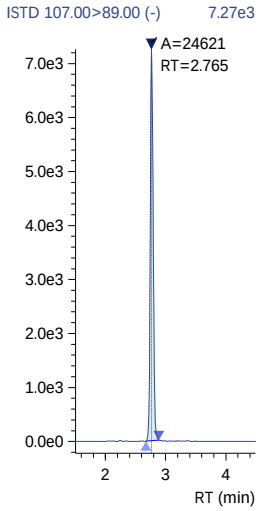
Perchlorate

Conc 9.64243
R#1 22.37 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



Before

# Insight Report

Printed at 4/14/2021 8:55:34 AM

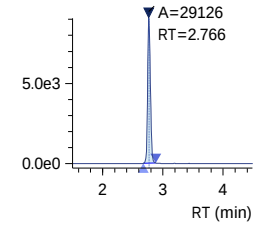
## 20210413_014

Sample ID: PERCHLORATE7
Date Acquired: 4/13/2021 11:02:49 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210413\Before\20210413_014.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

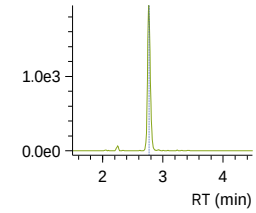
Perchlorate

Conc 9.78696
R#1 22.37 (0.00)

Q 99.00>83.00 (-) 9.07e3



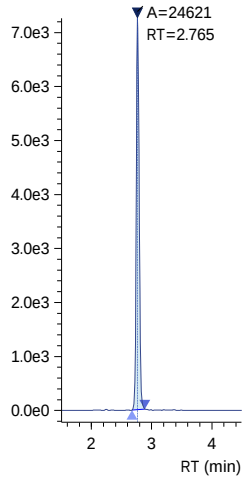

R1 101.00>85.00 (-) 1.95e3




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 7.27e3



# Insight Report

Printed at 4/14/2021 8:51:54 AM

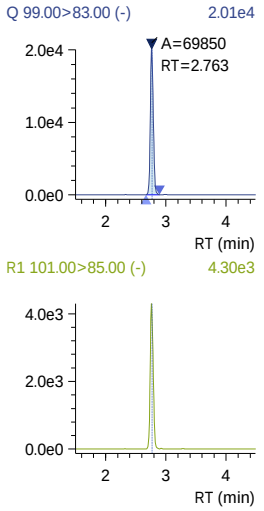
## 20210413_015

Sample ID: PERCHLORATE8
Date Acquired: 4/13/2021 11:10:43 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210413\20210413_015.lcd
Vial: 28 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.763 | 69850 | 30625 | 1 | 18.59082 | ng/mL | 20.0000 | 21.49 |
| Sodium Perchlorate-18O4_IS | Auto | 2.761 | 30625 | 30625 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

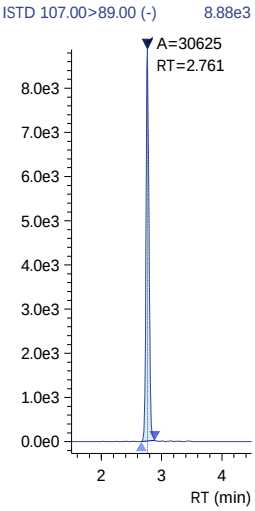
Perchlorate

Conc 18.59082
R#1 21.49 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report

Printed at 4/14/2021 8:55:34 AM

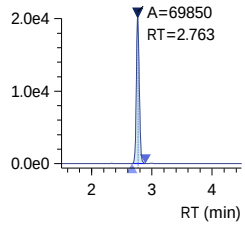
## 20210413_015

Sample ID: PERCHLORATE8
Date Acquired: 4/13/2021 11:10:43 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210413\Before\20210413_015.lcd
Vial: 28 | Inj. Volume: 25.0000uL | Tray: 1

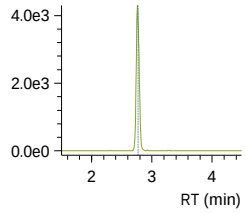
Perchlorate

Conc 18.86948
R#1 21.49 (0.00)

Q 99.00>83.00 (-) 2.01e4



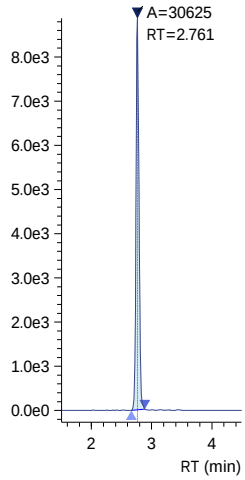

R1 101.00>85.00 (-) 4.30e3




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 8.88e3



# Insight Report

Printed at 4/14/2021 8:51:54 AM

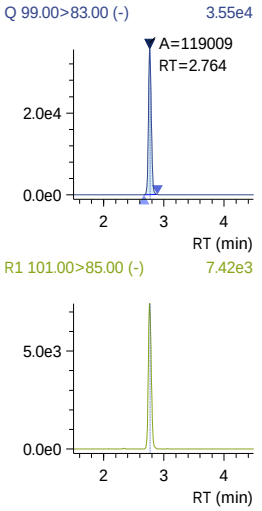
## 20210413_016

Sample ID: PERCHLORATE9
Date Acquired: 4/13/2021 11:18:37 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210413\20210413_016.lcd
Vial: 29 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.764 | 119009 | 34325 | 1 | 28.26043 | ng/mL | 30.0000 | 21.59 |
| Sodium Perchlorate-18O4_IS | Auto | 2.763 | 34325 | 34325 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

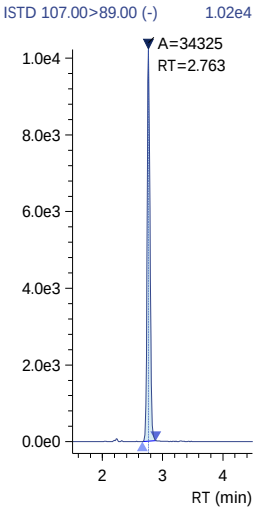
Perchlorate

Conc 28.26043
R#1 21.59 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report

Printed at 4/14/2021 8:55:34 AM

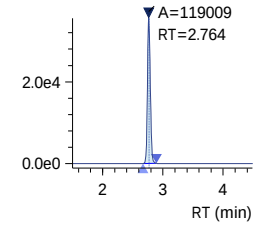
## 20210413_016

Sample ID: PERCHLORATE9
Date Acquired: 4/13/2021 11:18:37 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210413\Before\20210413_016.lcd
Vial: 29 | Inj. Volume: 25.0000uL | Tray: 1

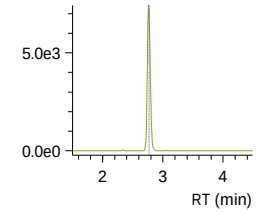
Perchlorate

Conc 28.68402
R#1 21.59 (0.00)

Q 99.00>83.00 (-) 3.55e4



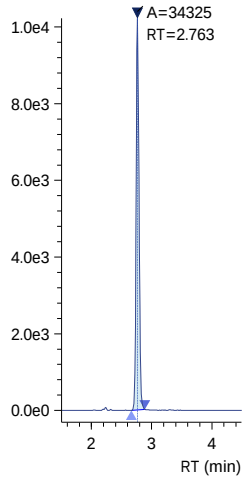

R1 101.00>85.00 (-) 7.42e3




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.02e4



# Insight Report

Printed at 4/14/2021 8:51:54 AM

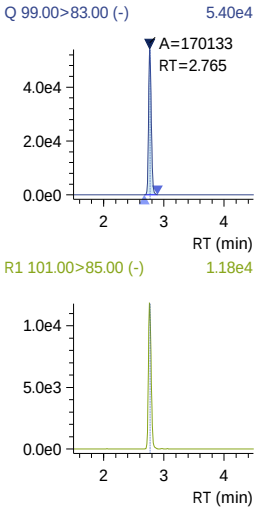
## 20210413_017

Sample ID: PERCHLORATE10
Date Acquired: 4/13/2021 11:26:31 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210413\20210413_017.lcd
Vial: 30 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.765 | 170133 | 30370 | 1 | 45.66271 | ng/mL | 50.0000 | 22.95 |
| Sodium Perchlorate-18O4_IS | Auto | 2.763 | 30370 | 30370 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

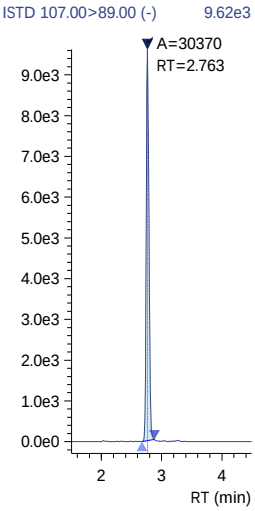
Perchlorate

Conc 45.66271
R#1 22.95 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report

Printed at 4/14/2021 8:55:34 AM

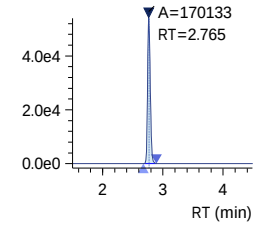
## 20210413_017

Sample ID: PERCHLORATE10
Date Acquired: 4/13/2021 11:26:31 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210413\Before\20210413_017.lcd
Vial: 30 | Inj. Volume: 25.0000uL | Tray: 1

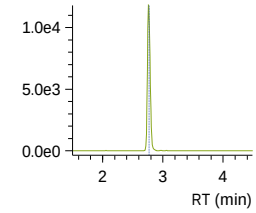
Perchlorate

Conc 46.34714
R#1 22.95 (0.00)

Q 99.00>83.00 (-) 5.40e4



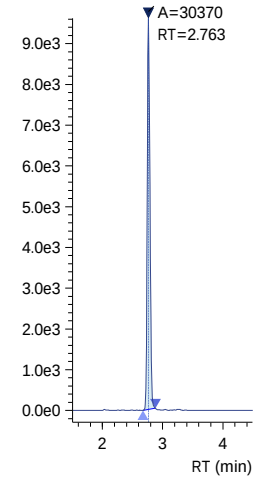

R1 101.00>85.00 (-) 1.18e4




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 9.62e3



# Insight Report

Printed at 4/14/2021 8:51:54 AM

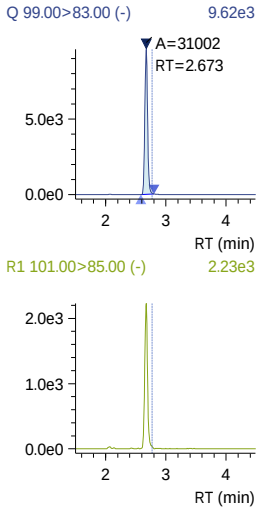
## 20210413_018

Sample ID: PERCHLORATEICV
Date Acquired: 4/13/2021 11:58:42 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210413\20210413_018.lcd
Vial: 31 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.673 | 31002 | 26657 | 1 | 9.47985 | ng/mL | 10.0000 | 23.51 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.672 | 26657 | 26657 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

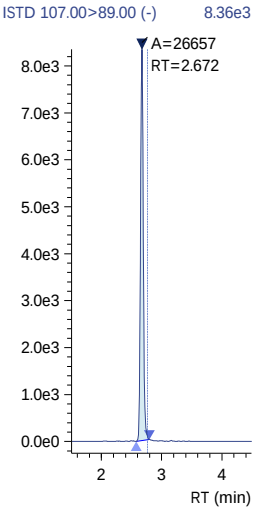
Perchlorate

Conc 9.47985
R#1 23.51 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report

Printed at 4/14/2021 8:55:34 AM

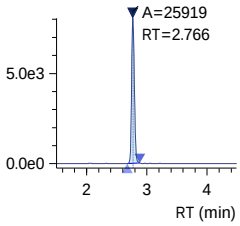
## 20210413_018

Sample ID: PERCHLORATEICV
Date Acquired: 4/13/2021 11:34:26 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210413\Before\20210413_018.lcd
Vial: 31 | Inj. Volume: 25.0000uL | Tray: 1

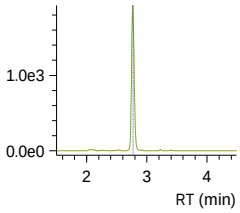
Perchlorate

Conc 8.37906
R#1 24.46 (0.00)

Q 99.00>83.00 (-) 8.06e3



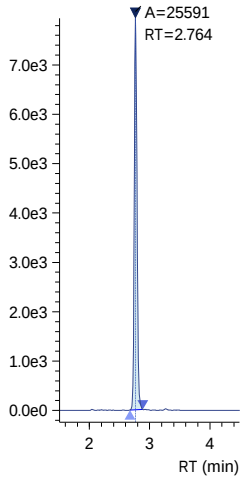

R1 101.00>85.00 (-) 1.93e3




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 7.95e3



**20210426**

**1st Review:** Grivera
**2nd Review:** Kneir

**Injection Log**
**LCMS01 -Shimadzu 8050**

**ICAL Date:** 4/26/2021
**Cal. Std. xp:** 5/20/2021
**ICAL ID:** **EC2100021**

**Mobile Phases** **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

| | | | File Name | Acquisition Method | Dilution | R | Comments | Date/Time |
|---|---|---|---|---|---|---|---|---|
| 1 | PERCHLORATE1 | | 20210426_016 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-05 | 4/26/2021 12:22 |
| 2 | PERCHLORATE2 | | 20210426_017 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-06 | 4/26/2021 12:30 |
| 3 | PERCHLORATE3 | | 20210426_018 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-07 | 4/26/2021 12:38 |
| 4 | PERCHLORATE4 | | 20210426_019 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-08 | 4/26/2021 12:46 |
| 5 | PERCHLORATE5 | | 20210426_020 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-09 | 4/26/2021 12:54 |
| 6 | PERCHLORATE6 | | 20210426_021 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-01 | 4/26/2021 13:02 |
| 7 | PERCHLORATE7 | | 20210426_022 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/26/2021 13:10 |
| 8 | PERCHLORATE8 | | 20210426_023 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-03 | 4/26/2021 13:18 |
| 9 | PERCHLORATE9 | | 20210426_024 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-04 | 4/26/2021 13:26 |
| 10 | PERCHLORATE10 | | 20210426_025 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-05 | 4/26/2021 13:33 |
| 11 | PERCHLORATEICV | | 20210426_026 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-06 | 4/26/2021 14:13 |
| 12 | ICS | | 20210426_027 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 14:21 |
| 13 | LODV | | 20210426_028 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 14:29 |
| 14 | PERCHLORATE7 | | 20210426_029 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/26/2021 14:37 |
| 15 | R2103214-010DNU | | 20210426_030 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 14:45 |
| 16 | E2100411-001DNU | | 20210426_031 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 14:52 |
| 17 | E2100412-001DNU | | 20210426_032 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 15:00 |
| 18 | E2100412-003X10DNU | | 20210426_033 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 15:08 |
| 19 | E2100412-010X10DNU | | 20210426_034 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 15:16 |
| 20 | E2100410-001X500 | | 20210426_035 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 15:24 |
| 21 | PERCHLORATE7 | | 20210426_036 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/26/2021 15:32 |
| 22 | IB | | 20210426_053 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 17:55 |
| 23 | IB | | 20210426_054 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 18:02 |
| 24 | IB | | 20210426_055 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 18:10 |
| 25 | PERCHLORATE7 | | 20210426_056 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/26/2021 18:18 |
| 26 | E2100402-001X1000DNU | | 20210426_057 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 18:26 |
| 27 | E2100402-002X1000 | | 20210426_058 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 18:34 |
| 28 | E2100402-003X1000 | | 20210426_059 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 18:42 |
| 29 | E2100402-004X1000DNU | | 20210426_060 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 18:50 |
| 30 | E2100402-005X1000 | | 20210426_061 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 18:58 |
| 31 | PERCHLORATE7 | | 20210426_062 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/26/2021 19:06 |
| 32 | IB | | 20210426_063 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 19:14 |
| 33 | IB | | 20210426_064 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 19:21 |
| 34 | IB | | 20210426_065 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 19:29 |
| 35 | PERCHLORATE7 | | 20210426_066 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/26/2021 19:37 |
| 36 | EQ2100238-01 | | 20210426_067 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 19:45 |
| 37 | EQ2100238-02 | | 20210426_068 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 19:53 |
| 38 | EQ2100238-03 | | 20210426_069 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 20:01 |
| 39 | R2103213-001 | | 20210426_070 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 20:09 |
| 40 | R2103213-002DNU | | 20210426_071 | Perchlorate6850b.lcm | 1x | ☒ | DNU: INST failed | 4/26/2021 20:17 |
| 41 | R2103213-004 | | 20210426_072 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 20:24 |
| 42 | R2103213-005 | | 20210426_073 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 20:32 |
| 43 | R2103213-006 | | 20210426_074 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 20:40 |
| 44 | R2103213-007DNU | | 20210426_075 | Perchlorate6850b.lcm | 1x | ☒ | DNU: INST failed | 4/26/2021 20:48 |
| 45 | R2103213-008 | | 20210426_076 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 20:56 |
| 46 | PERCHLORATE7 | | 20210426_077 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/26/2021 21:04 |
| 47 | R2103213-009DNU | | 20210426_078 | Perchlorate6850b.lcm | 1x | ☒ | DNU: INST failed | 4/26/2021 21:12 |
| 48 | R2103213-010 | | 20210426_079 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 21:19 |
| 49 | R2103379-002 | | 20210426_080 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 21:27 |
| 50 | R2103379-003 | | 20210426_081 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 21:35 |
| 51 | R2103379-004 | | 20210426_082 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 21:43 |
| 52 | R2103379-005 | | 20210426_083 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 21:51 |
| 53 | E2100439-014 | | 20210426_084 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 21:59 |
| 54 | PERCHLORATE7 | | 20210426_085 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/26/2021 22:07 |

# *Initial Calibration - Detailed Report*

**Calibration ID:** EC2100021 **Instrument ID:** E-LCMS-01
**Column Name:** 1

| # | Lab Code | Sample Name | File Location | Aquisition Date |
|---|---|---|---|---|
| 01 | EC2100021-01 | PERCHLORATE1 | 20210426_016 | 04/26/2021 12:22 |
| 02 | EC2100021-02 | PERCHLORATE2 | 20210426_017 | 04/26/2021 12:30 |
| 03 | EC2100021-03 | PERCHLORATE3 | 20210426_018 | 04/26/2021 12:38 |
| 04 | EC2100021-04 | PERCHLORATE4 | 20210426_019 | 04/26/2021 12:46 |
| 05 | EC2100021-05 | PERCHLORATE5 | 20210426_020 | 04/26/2021 12:54 |
| 06 | EC2100021-06 | PERCHLORATE6 | 20210426_021 | 04/26/2021 13:02 |
| 07 | EC2100021-07 | PERCHLORATE7 | 20210426_022 | 04/26/2021 13:10 |
| 08 | EC2100021-08 | PERCHLORATE8 | 20210426_023 | 04/26/2021 13:18 |
| 09 | EC2100021-09 | PERCHLORATE9 | 20210426_024 | 04/26/2021 13:26 |
| 10 | EC2100021-10 | PERCHLORATE10 | 20210426_025 | 04/26/2021 13:33 |

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

**Perchlorate** **Average RF** **RSD = 9.452** **Average RF = 0.1156**

| # | Amount | RF | # | Amount | RF | # | Amount | RF | # | Amount | RF |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 | 0.1000 | 0.1325 | 02 | 0.5000 | 0.1326 | 03 | 0.7000 | 0.1213 | 04 | 1.0000 | 0.1151 |
| 05 | 2.0000 | 0.1186 | 06 | 5.0000 | 0.1159 | 07 | 10.0000 | 0.1079 | 08 | 20.0000 | 0.1043 |
| 09 | 30.0000 | 0.1034 | 10 | 50.0000 | 0.1046 | | | | | | |

**Analyte**

**Perchlorate**

| # | Amount | Calculated Conc | %D | # | Amount | Calculated Conc | %D | # | Amount | Calculated Conc | %D |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 | 0.1000 | 0.115 | 14.6 | 02 | 0.5000 | 0.574 | 14.7 | 03 | 0.7000 | 0.734 | 4.9 |
| 04 | 1.0000 | 0.995 | -0.5 | 05 | 2.0000 | 2.05 | 2.6 | 06 | 5.0000 | 5.01 | 0.2 |
| 07 | 10.0000 | 9.33 | -6.7 | 08 | 20.0000 | 18.0 | -9.8 | 09 | 30.0000 | 26.8 | -10.5 |
| 10 | 50.0000 | 45.2 | -9.5 | | | | | | | | |

# *Initial Calibration Verification Summary Report*

| | | | |
|---|---|---|---|
| **Calibration ID:** | EC2100021 | **Instrument ID:** | E-LCMS-01 |
| **Datafile ID:** | 20210426_026 | **Column Name:** | 1 |

| Analyte | Lab Code | Type | Curve Fit | True Value | Calc Conc | Units | Result | Criteria |
|---|---|---|---|---|---|---|---|---|
| Perchlorate | EC2100021-11 | T | Average RF | 10 | 9.660 | ng/mL | -3.4 | <= 15 |

# Insight Report

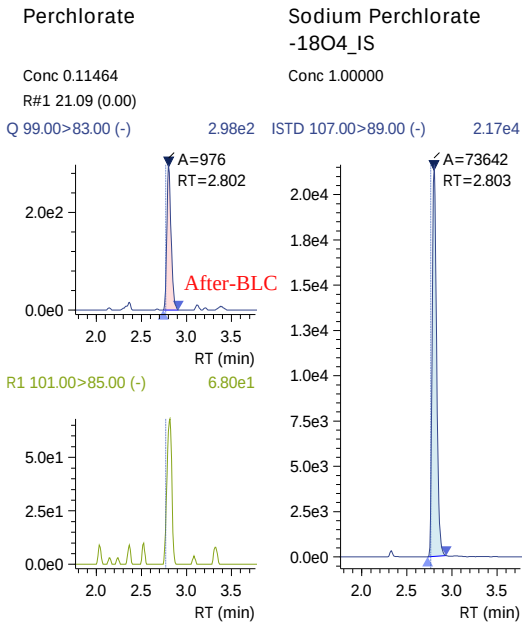
Printed at 4/26/2021 3:02:17 PM

Method File: I:\LCMS01\DATA\20210426\20210426.lcm
Project File: I:\LCMS01\DATA\20210426\20210426-ICAL.damlp

## 20210426_016

Sample ID: PERCHLORATE1
Date Acquired: 4/26/2021 12:22:41 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210426\20210426_016.lcd
Vial: 22 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | M | 2.802 | 976 | 73642 | 1 | 0.11464 | ng/mL | 0.1000 | 21.09 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.803 | 73642 | 73642 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |



# Insight Report



Method File: I:\LCMS01\METHODS\Perchlorate6850c_divert.lcm

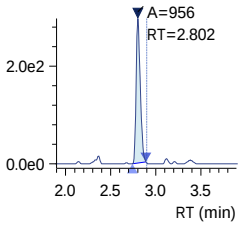
## 20210426_016

Sample ID: PERCHLORATE1
Date Acquired: 4/26/2021 12:22:41 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210426\Before\20210426_016.lcd
Vial: 22 | Inj. Volume: 25.0000uL | Tray: 1

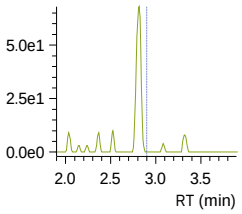
Perchlorate

Conc 0.00000
R#1 21.23 (0.00)

Q 99.00>83.00 (-) 2.98e2



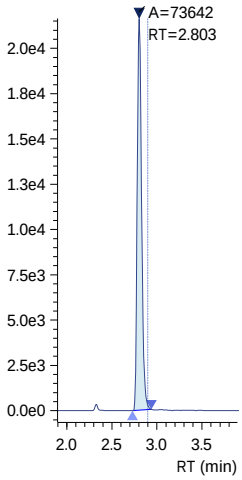

R1 101.00>85.00 (-) 6.80e1




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 2.17e4



# Insight Report

Printed at 4/26/2021 3:02:17 PM

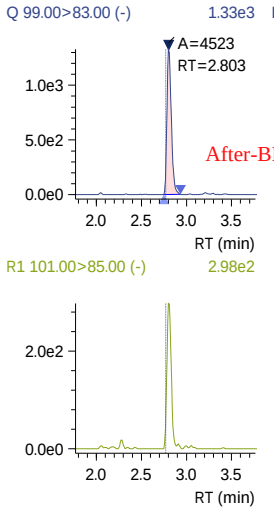
## 20210426_017

Sample ID: PERCHLORATE2
Date Acquired: 4/26/2021 12:30:37 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210426\20210426_017.lcd
Vial: 23 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | M | 2.803 | 4523 | 68212 | 1 | 0.57348 | ng/mL | 0.5000 | 22.48 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.802 | 68212 | 68212 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

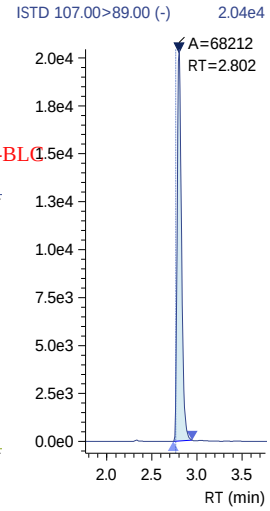
Perchlorate

Conc 0.57348
R#1 22.48 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000




After-BLC

# Insight Report

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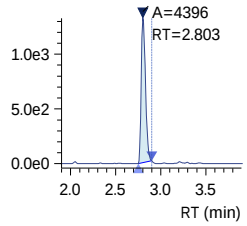
## 20210426_017

Sample ID: PERCHLORATE2
Date Acquired: 4/26/2021 12:30:37 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210426\Before\20210426_017.lcd
Vial: 23 | Inj. Volume: 25.0000uL | Tray: 1

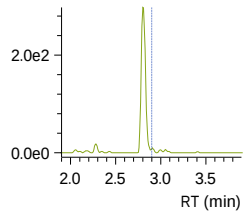
Perchlorate

Conc 0.00000
R#1 22.46 (0.00)

Q 99.00>83.00 (-) 1.33e3



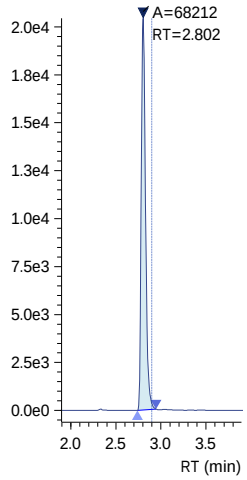

R1 101.00>85.00 (-) 2.98e2




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 2.04e4



# Insight Report

Printed at 4/26/2021 3:02:17 PM

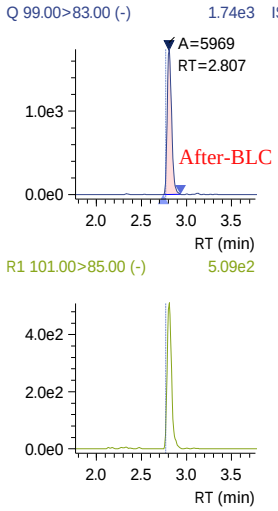
## 20210426_018

Sample ID: PERCHLORATE3
Date Acquired: 4/26/2021 12:38:30 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210426\20210426_018.lcd
Vial: 24 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | M | 2.807 | 5969 | 70321 | 1 | 0.73414 | ng/mL | 0.7000 | 29.09 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.806 | 70321 | 70321 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

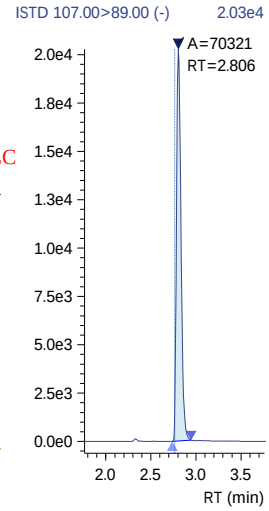
Perchlorate

Conc 0.73414
R#1 29.09 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report



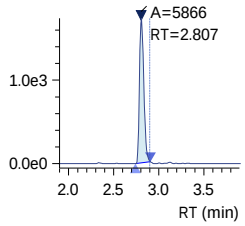
## 20210426_018

Sample ID: PERCHLORATE3
Date Acquired: 4/26/2021 12:38:30 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210426\Before\20210426_018.lcd
Vial: 24 | Inj. Volume: 25.0000uL | Tray: 1

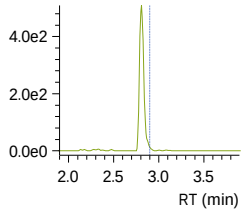
Perchlorate

Conc 0.00000
R#1 29.07 (0.00)

Q 99.00>83.00 (-) 1.74e3



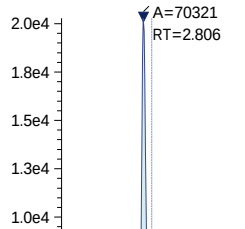

R1 101.00>85.00 (-) 5.09e2




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 2.03e4



# Insight Report

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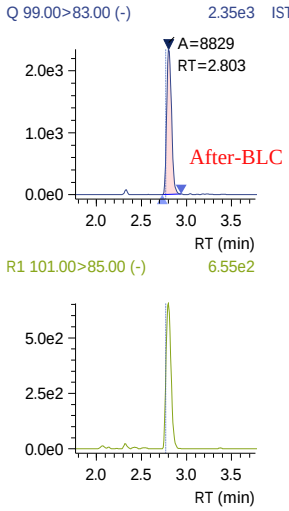
## 20210426_019

Sample ID: PERCHLORATE4
Date Acquired: 4/26/2021 12:46:27 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210426\20210426_019.lcd
Vial: 25 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | M | 2.803 | 8829 | 76726 | 1 | 0.99528 | ng/mL | 1.0000 | 28.10 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.802 | 76726 | 76726 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

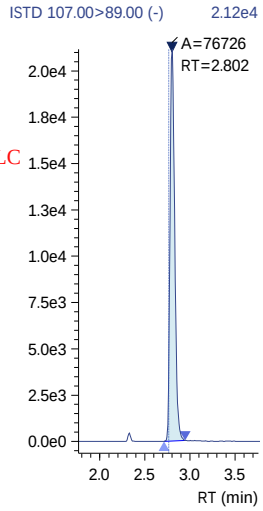
Perchlorate

Conc 0.99528
R#1 28.10 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report

Printed at 4/27/2021 3:42:43 PM

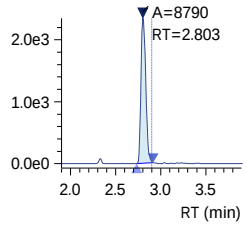
## 20210426_019

Sample ID: PERCHLORATE4
Date Acquired: 4/26/2021 12:46:27 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210426\Before\20210426_019.lcd
Vial: 25 | Inj. Volume: 25.0000uL | Tray: 1

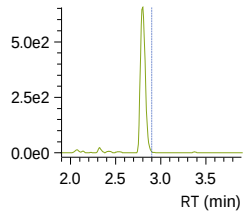
Perchlorate

Conc 0.00000
R#1 28.09 (0.00)

Q 99.00>83.00 (-) 2.35e3



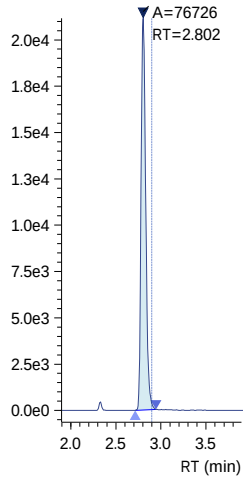

R1 101.00>85.00 (-) 6.55e2




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 2.12e4



# Insight Report

Printed at 4/26/2021 3:02:17 PM

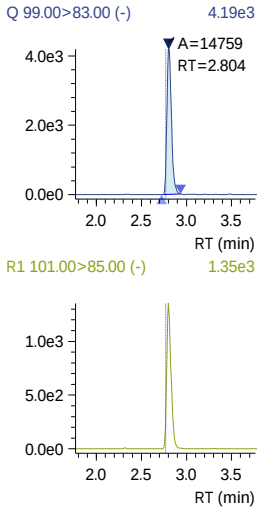
## 20210426_020

Sample ID: PERCHLORATE5
Date Acquired: 4/26/2021 12:54:23 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210426\20210426_020.lcd
Vial: 26 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.804 | 14759 | 62213 | 1 | 2.05194 | ng/mL | 2.0000 | 32.17 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.803 | 62213 | 62213 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

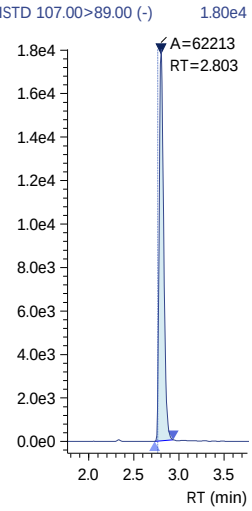
Perchlorate

Conc 2.05194
R#1 32.17 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report

Printed at 4/27/2021 3:42:43 PM

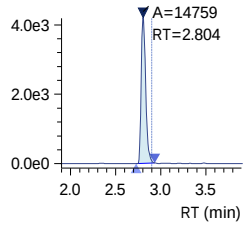
## 20210426_020

Sample ID: PERCHLORATE5
Date Acquired: 4/26/2021 12:54:23 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210426\Before\20210426_020.lcd
Vial: 26 | Inj. Volume: 25.0000uL | Tray: 1

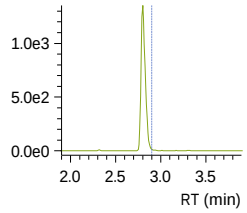
Perchlorate

Conc 0.00000
R#1 32.17 (0.00)

Q 99.00>83.00 (-) 4.19e3



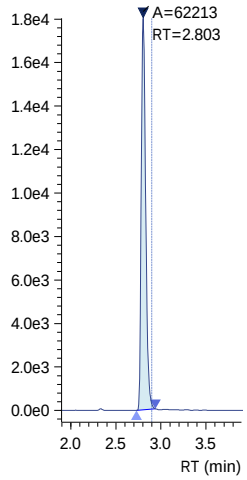

R1 101.00>85.00 (-) 1.35e3




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.80e4



# Insight Report

Printed at 4/26/2021 3:02:17 PM

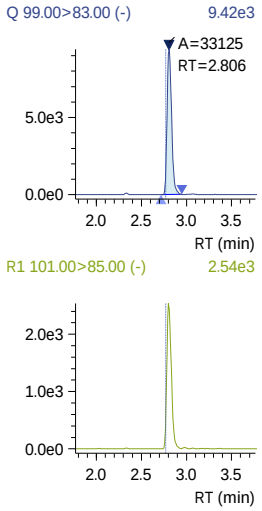
## 20210426_021

Sample ID: PERCHLORATE6
Date Acquired: 4/26/2021 1:02:15 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210426\20210426_021.lcd
Vial: 27 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.806 | 33125 | 57185 | 1 | 5.01041 | ng/mL | 5.0000 | 27.68 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.804 | 57185 | 57185 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

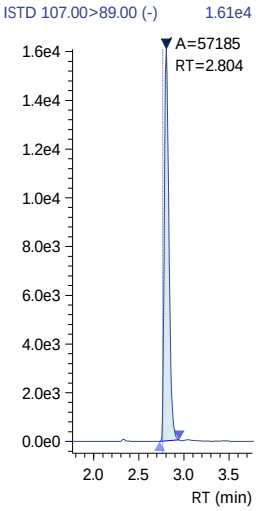
Perchlorate

Conc 5.01041
R#1 27.68 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report

Printed at 4/27/2021 3:42:43 PM

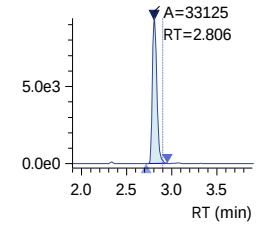
## 20210426_021

Sample ID: PERCHLORATE6
Date Acquired: 4/26/2021 1:02:15 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210426\Before\20210426_021.lcd
Vial: 27 | Inj. Volume: 25.0000uL | Tray: 1

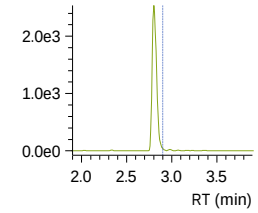
Perchlorate

Conc 0.00000
R#1 27.68 (0.00)

Q 99.00>83.00 (-) 9.42e3



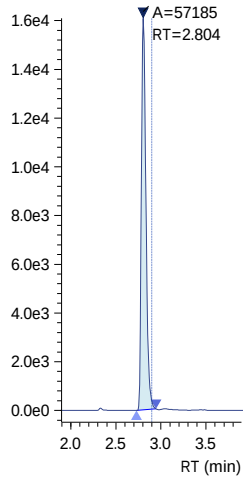

R1 101.00>85.00 (-) 2.54e3




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.61e4



# Insight Report

Printed at 4/26/2021 3:02:17 PM

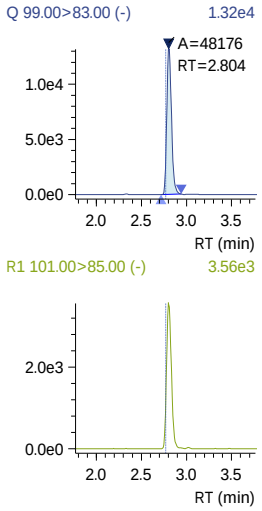
## 20210426_022

Sample ID: PERCHLORATE7
Date Acquired: 4/26/2021 1:10:10 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210426\20210426_022.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.804 | 48176 | 44644 | 1 | 9.33399 | ng/mL | 10.0000 | 27.13 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.802 | 44644 | 44644 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

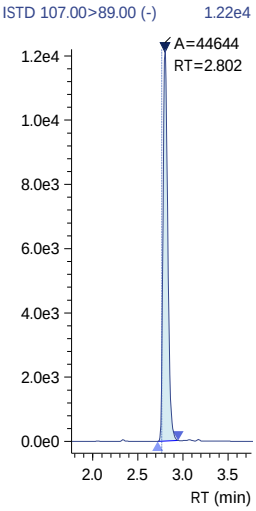
Perchlorate

Conc 9.33399
R#1 27.13 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report

Printed at 4/27/2021 3:42:43 PM

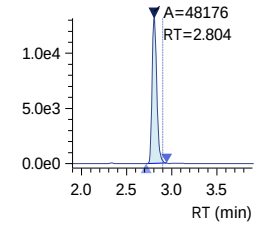
## 20210426_022

Sample ID: PERCHLORATE7
Date Acquired: 4/26/2021 1:10:10 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210426\Before\20210426_022.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

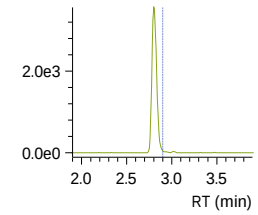
Perchlorate

Conc 0.00000
R#1 27.13 (0.00)

Q 99.00>83.00 (-) 1.32e4



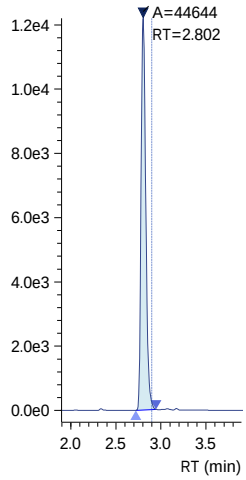

R1 101.00>85.00 (-) 3.56e3




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.22e4



# Insight Report

Printed at 4/26/2021 3:02:17 PM

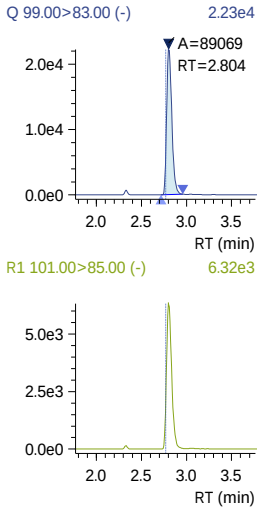
## 20210426_023

Sample ID: PERCHLORATE8
Date Acquired: 4/26/2021 1:18:05 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210426\20210426_023.lcd
Vial: 28 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.804 | 89069 | 42717 | 1 | 18.03548 | ng/mL | 20.0000 | 28.43 |
| Sodium Perchlorate-18O4_IS | Auto | 2.803 | 42717 | 42717 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

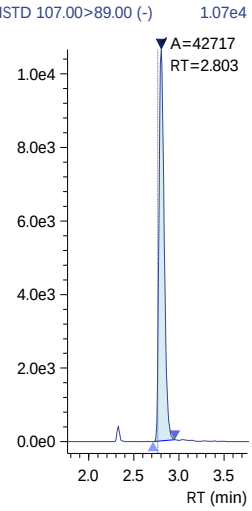
Perchlorate

Conc 18.03548
R#1 28.43 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report

Printed at 4/27/2021 3:42:43 PM

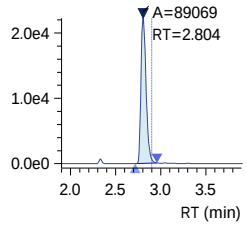
## 20210426_023

Sample ID: PERCHLORATE8
Date Acquired: 4/26/2021 1:18:05 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210426\Before\20210426_023.lcd
Vial: 28 | Inj. Volume: 25.0000uL | Tray: 1

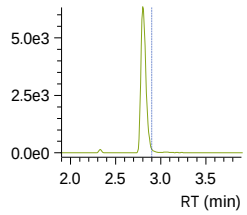
Perchlorate

Conc 0.00000
R#1 28.43 (0.00)

Q 99.00>83.00 (-) 2.23e4



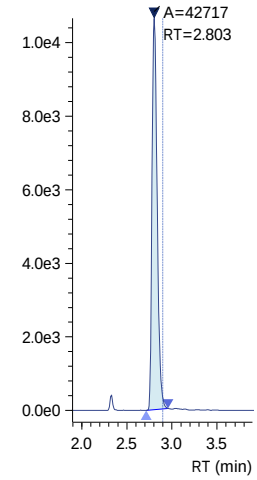

R1 101.00>85.00 (-) 6.32e3




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.07e4



# Insight Report

Printed at 4/26/2021 3:02:17 PM

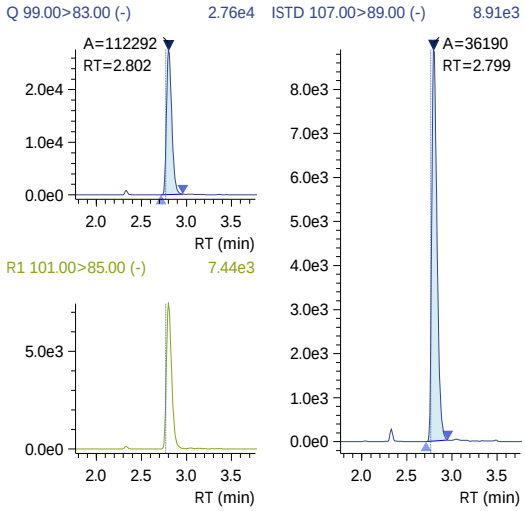
## 20210426_024

Sample ID: PERCHLORATE9
Date Acquired: 4/26/2021 1:26:01 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210426\20210426_024.lcd
Vial: 29 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.802 | 112292 | 36190 | 1 | 26.83895 | ng/mL | 30.0000 | 26.92 |
| Sodium Perchlorate-18O4_IS | Auto | 2.799 | 36190 | 36190 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

Perchlorate

Conc 26.83895
R#1 26.92 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000

# Insight Report

Printed at 4/27/2021 3:42:43 PM

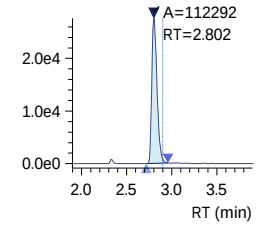
## 20210426_024

Sample ID: PERCHLORATE9
Date Acquired: 4/26/2021 1:26:01 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210426\Before\20210426_024.lcd
Vial: 29 | Inj. Volume: 25.0000uL | Tray: 1

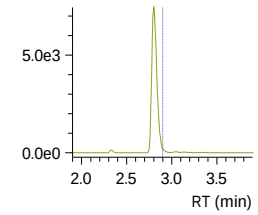
Perchlorate

Conc 0.00000
R#1 26.92 (0.00)

Q 99.00>83.00 (-) 2.76e4



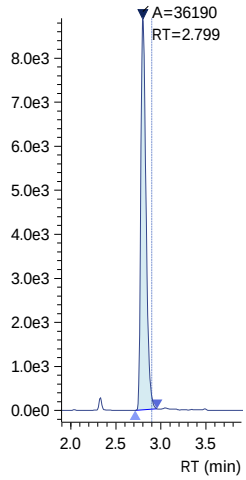

R1 101.00>85.00 (-) 7.44e3




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 8.91e3



# Insight Report

Printed at 4/26/2021 3:02:17 PM

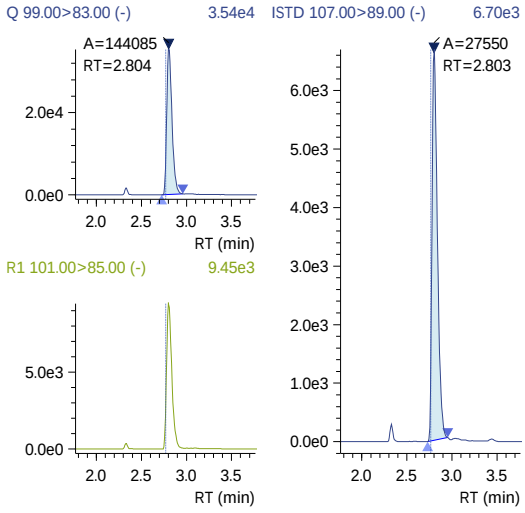
## 20210426_025

Sample ID: PERCHLORATE10
Date Acquired: 4/26/2021 1:33:56 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210426\20210426_025.lcd
Vial: 30 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.804 | 144085 | 27550 | 1 | 45.23802 | ng/mL | 50.0000 | 26.75 |
| Sodium Perchlorate-18O4_IS | Auto | 2.803 | 27550 | 27550 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

Perchlorate

Conc 45.23802
R#1 26.75 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000

# Insight Report

Printed at 4/27/2021 3:42:43 PM

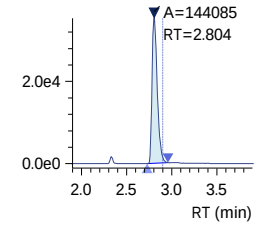
## 20210426_025

Sample ID: PERCHLORATE10
Date Acquired: 4/26/2021 1:33:56 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210426\Before\20210426_025.lcd
Vial: 30 | Inj. Volume: 25.0000uL | Tray: 1

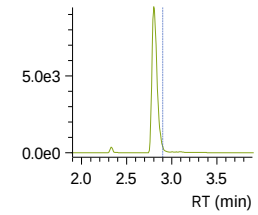
Perchlorate

Conc 0.00000
R#1 26.75 (0.00)

Q 99.00>83.00 (-) 3.54e4



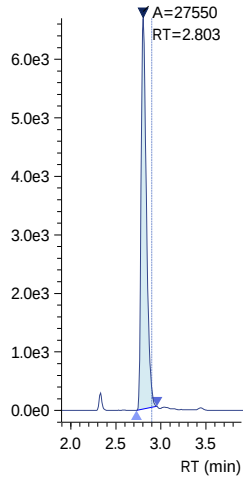

R1 101.00>85.00 (-) 9.45e3




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 6.70e3



# Insight Report

Printed at 4/26/2021 3:02:17 PM

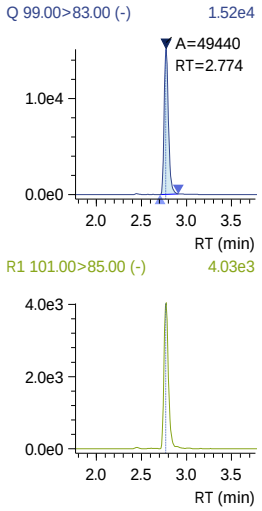
## 20210426_026

Sample ID: PERCHLORATEICV
Date Acquired: 4/26/2021 2:13:31 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210426\20210426_026.lcd
Vial: 31 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.774 | 49440 | 44268 | 1 | 9.66014 | ng/mL | 10.0000 | 27.34 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.772 | 44268 | 44268 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

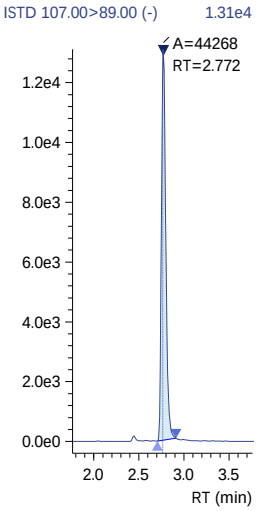
Perchlorate

Conc 9.66014
R#1 27.34 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report



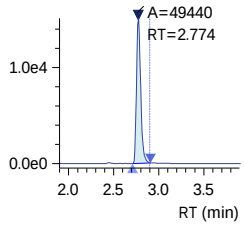
## 20210426_026

Sample ID: PERCHLORATEICV
Date Acquired: 4/26/2021 2:13:31 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210426\Before\20210426_026.lcd
Vial: 31 | Inj. Volume: 25.0000uL | Tray: 1

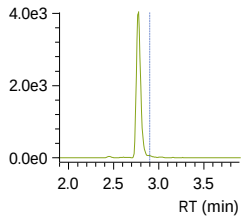
Perchlorate

Conc 0.00000
R#1 27.34 (0.00)

Q 99.00>83.00 (-) 1.52e4



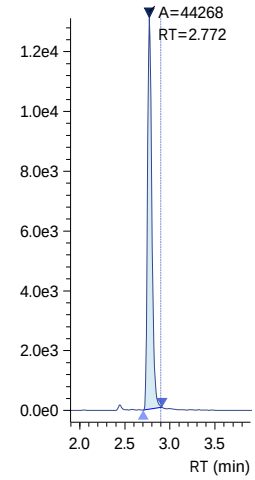

R1 101.00>85.00 (-) 4.03e3




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.31e4



# 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

**20210420**

**1st Review:** Grivera
**2nd Review:** Kneir

**Injection Log**
**LCMS01 -Shimadzu 8050**

**ICAL Date:** 4/13/2021
**Cal. Std. xp:** 5/20/2021
**ICAL ID:** **EC2100018**

**Mobile Phases** **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

| | | | File Name | Acquisition Method | Dilution | R | Comments | Date/Time |
|---|---|---|---|---|---|---|---|---|
| 1 | null | | 20210420_001 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 10:09 |
| 2 | null | | 20210420_002 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 10:14 |
| 3 | null | | 20210420_002~1 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 10:20 |
| 4 | IB | | 20210420_003 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 10:25 |
| 5 | IB | | 20210420_004 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 10:33 |
| 6 | ICS | | 20210420_005 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 10:41 |
| 7 | LODV | | 20210420_006 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 10:49 |
| 8 | PERCHLORATE7 | | 20210420_007 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/20/2021 10:57 |
| 9 | EQ2100212-01 | | 20210420_008 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 11:05 |
| 10 | EQ2100212-02 | | 20210420_009 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 11:13 |
| 11 | EQ2100212-03 | | 20210420_010 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 11:21 |
| 12 | EQ2100212-04 | | 20210420_011 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 11:28 |
| 13 | EQ2100212-05 | | 20210420_012 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 11:36 |
| 14 | EQ2100212-06 | | 20210420_013 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 12:18 |
| 15 | EQ2100212-07 | | 20210420_014 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 12:26 |
| 16 | E2100389-001 | | 20210420_015 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 12:34 |
| 17 | E2100389-004 | | 20210420_016 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 12:42 |
| 18 | PERCHLORATE7 | | 20210420_017 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/20/2021 12:50 |
| 19 | EQ2100213-01 | | 20210420_018 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 13:25 |
| 20 | EQ2100213-02 | | 20210420_019 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 13:33 |
| 21 | EQ2100213-03 | | 20210420_020 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 13:41 |
| 22 | E2100409-001 | | 20210420_021 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 13:49 |
| 23 | E2100410-001DNU | | 20210420_022 | Perchlorate6850b.lcm | 1x | ☒ | over ICAL range | 4/20/2021 13:57 |
| 24 | E2100411-001DNU | | 20210420_023 | Perchlorate6850b.lcm | 1x | ☒ | RR-carryover | 4/20/2021 14:05 |
| 25 | E2100412-001 | | 20210420_024 | Perchlorate6850b.lcm | 1x | ☒ | RR-carryover | 4/20/2021 14:13 |
| 26 | E2100412-002 | | 20210420_025 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 14:20 |
| 27 | E2100412-003DNU | | 20210420_026 | Perchlorate6850b.lcm | 1x | ☒ | DNU: INST failed | 4/20/2021 14:28 |
| 28 | E2100412-004 | | 20210420_027 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 14:36 |
| 29 | PERCHLORATE7 | | 20210420_028 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/20/2021 14:44 |
| 30 | E2100412-005 | | 20210420_029 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 14:52 |
| 31 | E2100412-006 | | 20210420_030 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 15:00 |
| 32 | E2100412-007 | | 20210420_031 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 15:08 |
| 33 | E2100412-008 | | 20210420_032 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 15:16 |
| 34 | E2100412-009 | | 20210420_033 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 15:23 |
| 35 | E2100412-010DNU | | 20210420_034 | Perchlorate6850b.lcm | 1x | ☒ | DNU: INST failed | 4/20/2021 15:31 |
| 36 | R2103214-010DNU | | 20210420_035 | Perchlorate6850b.lcm | 1x | ☒ | DNU: INST failed | 4/20/2021 15:39 |
| 37 | R2103214-011 | | 20210420_036 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 15:47 |
| 38 | R2103214-013 | | 20210420_037 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 15:55 |
| 39 | PERCHLORATE7 | | 20210420_038 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/20/2021 16:03 |
| 40 | R2103380-002 | | 20210420_039 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 16:11 |
| 41 | R2103380-003 | | 20210420_040 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 16:19 |
| 42 | R2103380-004 | | 20210420_041 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 16:26 |
| 43 | R2103380-005 | | 20210420_042 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 16:34 |
| 44 | PERCHLORATE7 | | 20210420_043 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/20/2021 16:42 |
| 45 | | | | | | | | |

**20210426**

**1st Review:** Grivera
**2nd Review:** Kneir

**Injection Log**
**LCMS01 -Shimadzu 8050**

**ICAL Date:** 4/26/2021
**Cal. Std. xp:** 5/20/2021
**ICAL ID:** **EC2100021**

**Mobile Phases** **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

| | | | File Name | Acquisition Method | Dilution | R | Comments | Date/Time |
|---|---|---|---|---|---|---|---|---|
| 1 | PERCHLORATE1 | | 20210426_016 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-05 | 4/26/2021 12:22 |
| 2 | PERCHLORATE2 | | 20210426_017 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-06 | 4/26/2021 12:30 |
| 3 | PERCHLORATE3 | | 20210426_018 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-07 | 4/26/2021 12:38 |
| 4 | PERCHLORATE4 | | 20210426_019 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-08 | 4/26/2021 12:46 |
| 5 | PERCHLORATE5 | | 20210426_020 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-09 | 4/26/2021 12:54 |
| 6 | PERCHLORATE6 | | 20210426_021 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-01 | 4/26/2021 13:02 |
| 7 | PERCHLORATE7 | | 20210426_022 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/26/2021 13:10 |
| 8 | PERCHLORATE8 | | 20210426_023 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-03 | 4/26/2021 13:18 |
| 9 | PERCHLORATE9 | | 20210426_024 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-04 | 4/26/2021 13:26 |
| 10 | PERCHLORATE10 | | 20210426_025 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-05 | 4/26/2021 13:33 |
| 11 | PERCHLORATEICV | | 20210426_026 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-06 | 4/26/2021 14:13 |
| 12 | ICS | | 20210426_027 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 14:21 |
| 13 | LODV | | 20210426_028 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 14:29 |
| 14 | PERCHLORATE7 | | 20210426_029 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/26/2021 14:37 |
| 15 | R2103214-010DNU | | 20210426_030 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 14:45 |
| 16 | E2100411-001DNU | | 20210426_031 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 14:52 |
| 17 | E2100412-001DNU | | 20210426_032 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 15:00 |
| 18 | E2100412-003X10DNU | | 20210426_033 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 15:08 |
| 19 | E2100412-010X10DNU | | 20210426_034 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 15:16 |
| 20 | E2100410-001X500 | | 20210426_035 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 15:24 |
| 21 | PERCHLORATE7 | | 20210426_036 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/26/2021 15:32 |
| 22 | IB | | 20210426_053 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 17:55 |
| 23 | IB | | 20210426_054 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 18:02 |
| 24 | IB | | 20210426_055 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 18:10 |
| 25 | PERCHLORATE7 | | 20210426_056 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/26/2021 18:18 |
| 26 | E2100402-001X1000DNU | | 20210426_057 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 18:26 |
| 27 | E2100402-002X1000 | | 20210426_058 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 18:34 |
| 28 | E2100402-003X1000 | | 20210426_059 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 18:42 |
| 29 | E2100402-004X1000DNU | | 20210426_060 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 18:50 |
| 30 | E2100402-005X1000 | | 20210426_061 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 18:58 |
| 31 | PERCHLORATE7 | | 20210426_062 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/26/2021 19:06 |
| 32 | IB | | 20210426_063 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 19:14 |
| 33 | IB | | 20210426_064 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 19:21 |
| 34 | IB | | 20210426_065 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 19:29 |
| 35 | PERCHLORATE7 | | 20210426_066 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/26/2021 19:37 |
| 36 | EQ2100238-01 | | 20210426_067 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 19:45 |
| 37 | EQ2100238-02 | | 20210426_068 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 19:53 |
| 38 | EQ2100238-03 | | 20210426_069 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 20:01 |
| 39 | R2103213-001 | | 20210426_070 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 20:09 |
| 40 | R2103213-002DNU | | 20210426_071 | Perchlorate6850b.lcm | 1x | ☒ | DNU: INST failed | 4/26/2021 20:17 |
| 41 | R2103213-004 | | 20210426_072 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 20:24 |
| 42 | R2103213-005 | | 20210426_073 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 20:32 |
| 43 | R2103213-006 | | 20210426_074 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 20:40 |
| 44 | R2103213-007DNU | | 20210426_075 | Perchlorate6850b.lcm | 1x | ☒ | DNU: INST failed | 4/26/2021 20:48 |
| 45 | R2103213-008 | | 20210426_076 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 20:56 |
| 46 | PERCHLORATE7 | | 20210426_077 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/26/2021 21:04 |
| 47 | R2103213-009DNU | | 20210426_078 | Perchlorate6850b.lcm | 1x | ☒ | DNU: INST failed | 4/26/2021 21:12 |
| 48 | R2103213-010 | | 20210426_079 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 21:19 |
| 49 | R2103379-002 | | 20210426_080 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 21:27 |
| 50 | R2103379-003 | | 20210426_081 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 21:35 |
| 51 | R2103379-004 | | 20210426_082 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 21:43 |
| 52 | R2103379-005 | | 20210426_083 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 21:51 |
| 53 | E2100439-014 | | 20210426_084 | Perchlorate6850b.lcm | 1x | ☒ | | 4/26/2021 21:59 |
| 54 | PERCHLORATE7 | | 20210426_085 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/26/2021 22:07 |

**ALS Group USA, Corp. dba ALS Environmental**

QA/QC Report

**Client:** ALS Environmental - US
**Project:** HS21040697

**Service Request:** E2100410
**Date Analyzed:** 4/20/21

## 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\20210420\20210420_017

**Calibration Date:** 4/13/21
**Calibration ID:** EC2100018
**Analysis Lot:** 721439
**Units:** ng/mL

| Analyte Name | Expected | Result | Average RF | CCV RF | %D | %Drift | Criteria | Curve Fit |
|---|---|---|---|---|---|---|---|---|
| Perchlorate | 10.0 | 9.68 | 0.1227 | 0.1187 | -3.2 | NA | ± 15 % | Average RF |

**ALS Group USA, Corp. dba ALS Environmental**

QA/QC Report

**Client:** ALS Environmental - US
**Project:** HS21040697

**Service Request:** E2100410
**Date Analyzed:** 4/20/21

## 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\20210420\20210420_028

**Calibration Date:** 4/13/21
**Calibration ID:** EC2100018
**Analysis Lot:** 721439
**Units:** ng/mL

| Analyte Name | Expected | Result | Average RF | CCV RF | %D | %Drift | Criteria | Curve Fit |
|---|---|---|---|---|---|---|---|---|
| Perchlorate | 10.0 | 9.30 | 0.1227 | 0.1141 | -7.0 | NA | ± 15 % | Average RF |

**ALS Group USA, Corp. dba ALS Environmental**

QA/QC Report

**Client:** ALS Environmental - US
**Project:** HS21040697

**Service Request:** E2100410
**Date Analyzed:** 4/20/21

## 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\20210420\20210420_038

**Calibration Date:** 4/13/21
**Calibration ID:** EC2100018
**Analysis Lot:** 721439
**Units:** ng/mL

| Analyte Name | Expected | Result | Average RF | CCV RF | %D | %Drift | Criteria | Curve Fit |
|---|---|---|---|---|---|---|---|---|
| Perchlorate | 10.0 | 9.35 | 0.1227 | 0.1147 | -6.5 | NA | ± 15 % | Average RF |

**ALS Group USA, Corp. dba ALS Environmental**

QA/QC Report

**Client:** ALS Environmental - US
**Project:** HS21040697

**Service Request:** E2100410
**Date Analyzed:** 4/20/21

## 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\20210420\20210420_043

**Calibration Date:** 4/13/21
**Calibration ID:** EC2100018
**Analysis Lot:** 721439
**Units:** ng/mL

| Analyte Name | Expected | Result | Average RF | CCV RF | %D | %Drift | Criteria | Curve Fit |
|---|---|---|---|---|---|---|---|---|
| Perchlorate | 10.0 | 9.01 | 0.1227 | 0.1105 | -10.0 | NA | ± 15 % | Average RF |

**ALS Group USA, Corp. dba ALS Environmental**

QA/QC Report

**Client:** ALS Environmental - US
**Project:** HS21040697

**Service Request:** E2100410
**Date Analyzed:** 4/26/21

## 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\20210426\20210426_029

**Calibration Date:** 4/26/21
**Calibration ID:** EC2100021
**Analysis Lot:** 721476
**Units:** ng/mL

| Analyte Name | Expected | Result | Average RF | CCV RF | %D | %Drift | Criteria | Curve Fit |
|---|---|---|---|---|---|---|---|---|
| Perchlorate | 10.0 | 9.56 | 0.1156 | 0.1105 | -4.4 | NA | ± 15 % | Average RF |

**ALS Group USA, Corp. dba ALS Environmental**

QA/QC Report

**Client:** ALS Environmental - US
**Project:** HS21040697

**Service Request:** E2100410
**Date Analyzed:** 4/26/21

## 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\20210426\20210426_036

**Calibration Date:** 4/26/21
**Calibration ID:** EC2100021
**Analysis Lot:** 721476
**Units:** ng/mL

| Analyte Name | Expected | Result | Average RF | CCV RF | %D | %Drift | Criteria | Curve Fit |
|---|---|---|---|---|---|---|---|---|
| Perchlorate | 10.0 | 9.35 | 0.1156 | 0.1081 | -6.5 | NA | ± 15 % | Average RF |

**ALS Group USA, Corp. dba ALS Environmental**

QA/QC Report

| | | | |
|---|---|---|---|
| **Client:** | ALS Environmental - US | **Service Request:** | E2100410 |
| **Project:** | HS21040697 | **Date Analyzed:** | 4/20/21 12:50 |

**Internal Standard Area and RT Summary**
**Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry**

| | | | |
|---|---|---|---|
| **File ID:** | I:\LCMS01\DATA\20210420\20210420_017 | **Lab Code:** | EQ2100256-01 |
| **Instrument ID:** | E-LCMS-01 | **Analysis Lot:** | 721439 |
| **Analytical Method:** | 6850 | **Signal ID:** | 1 |

| | | Sodium Perchlorate-18O4 | |
|---|---|---|---|
| | | **Area** | **RT** |
| | **ICAL Average ==>** | 31,230 | 2.76 |
| | **Upper Limit ==>** | 46,845 | 4.76 |
| | **Lower Limit ==>** | 15,615 | 0.76 |
| ***Associated Analyses*** | | | |
| Continuing Calibration Verification | EQ2100256-01 | 22,784 | 2.80 |
| Method Blank | EQ2100213-01 | 28,932 | 2.70 |
| Lab Control Sample | EQ2100213-02 | 38,966 | 2.77 |
| Duplicate Lab Control Sample | EQ2100213-03 | 41,071 | 2.77 |

**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:** | E2100410 |
| **Project:** | HS21040697 | **Date Analyzed:** | 4/20/21 14:44 |

**Internal Standard Area and RT Summary**
**Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry**

| | | | |
|---|---|---|---|
| **File ID:** | I:\LCMS01\DATA\20210420\20210420_028 | **Lab Code:** | EQ2100256-02 |
| **Instrument ID:** | E-LCMS-01 | **Analysis Lot:** | 721439 |
| **Analytical Method:** | 6850 | **Signal ID:** | 1 |

| | | Sodium Perchlorate-18O4 | |
|---|---|---|---|
| | | **Area** | **RT** |
| | **ICAL Average ==>** | 31,230 | 2.76 |
| | **Upper Limit ==>** | 46,845 | 4.76 |
| | **Lower Limit ==>** | 15,615 | 0.76 |
| ***Associated Analyses*** | | | |
| Continuing Calibration Verification | EQ2100256-02 | 16,630 | 2.77 |

**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:** | E2100410 |
| **Project:** | HS21040697 | **Date Analyzed:** | 4/20/21 16:03 |

**Internal Standard Area and RT Summary**
**Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry**

| | | | |
|---|---|---|---|
| **File ID:** | I:\LCMS01\DATA\20210420\20210420_038 | **Lab Code:** | EQ2100256-03 |
| **Instrument ID:** | E-LCMS-01 | **Analysis Lot:** | 721439 |
| **Analytical Method:** | 6850 | **Signal ID:** | 1 |

| | | Sodium Perchlorate-18O4 | |
|---|---|---|---|
| | | **Area** | **RT** |
| | **ICAL Average ==>** | 31,230 | 2.76 |
| | **Upper Limit ==>** | 46,845 | 4.76 |
| | **Lower Limit ==>** | 15,615 | 0.76 |
| ***Associated Analyses*** | | | |
| Continuing Calibration Verification | EQ2100256-03 | 18,155 | 2.77 |

**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:** | E2100410 |
| **Project:** | HS21040697 | **Date Analyzed:** | 4/20/21 16:42 |

**Internal Standard Area and RT Summary**
**Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry**

| | | | |
|---|---|---|---|
| **File ID:** | I:\LCMS01\DATA\20210420\20210420_043 | **Lab Code:** | EQ2100256-04 |
| **Instrument ID:** | E-LCMS-01 | **Analysis Lot:** | 721439 |
| **Analytical Method:** | 6850 | **Signal ID:** | 1 |

| | | Sodium Perchlorate-18O4 | |
|---|---|---|---|
| | | **Area** | **RT** |
| | **ICAL Average ==>** | 31,230 | 2.76 |
| | **Upper Limit ==>** | 46,845 | 4.76 |
| | **Lower Limit ==>** | 15,615 | 0.76 |
| ***Associated Analyses*** | | | |
| Continuing Calibration Verification | EQ2100256-04 | 18,820 | 2.76 |

**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:** | E2100410 |
| **Project:** | HS21040697 | **Date Analyzed:** | 4/26/21 14:37 |

## Internal Standard Area and RT Summary
## Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

| | | | |
|---|---|---|---|
| **File ID:** | I:\LCMS01\DATA\20210426\20210426_029 | **Lab Code:** | EQ2100257-01 |
| **Instrument ID:** | E-LCMS-01 | **Analysis Lot:** | 721476 |
| **Analytical Method:** | 6850 | **Signal ID:** | 1 |

| | | Sodium Perchlorate-18O4 | |
|---|---|---|---|
| | | **Area** | **RT** |
| | **ICAL Average ==>** | 55,940 | 2.80 |
| | **Upper Limit ==>** | 83,910 | 4.80 |
| | **Lower Limit ==>** | 27,970 | 0.80 |
| ***Associated Analyses*** | | | |
| Continuing Calibration Verification | EQ2100257-01 | 44,211 | 2.81 |
| LH18/24-SP140_041321 | E2100410-001 | 28,333 | 2.80 |

**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:** | E2100410 |
| **Project:** | HS21040697 | **Date Analyzed:** | 4/26/21 15:32 |

**Internal Standard Area and RT Summary**
**Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry**

| | | | |
|---|---|---|---|
| **File ID:** | I:\LCMS01\DATA\20210426\20210426_036 | **Lab Code:** | EQ2100257-02 |
| **Instrument ID:** | E-LCMS-01 | **Analysis Lot:** | 721476 |
| **Analytical Method:** | 6850 | **Signal ID:** | 1 |

| | | Sodium Perchlorate-18O4 | |
|---|---|---|---|
| | | **Area** | **RT** |
| | **ICAL Average ==>** | 55,940 | 2.80 |
| | **Upper Limit ==>** | 83,910 | 4.80 |
| | **Lower Limit ==>** | 27,970 | 0.80 |
| ***Associated Analyses*** | | | |
| Continuing Calibration Verification | EQ2100257-02 | 35,911 | 2.80 |

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

# Insight Report

Printed at 4/20/2021 1:06:52 PM

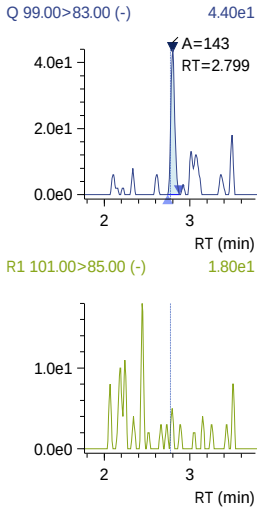
## 20210420_006

Sample ID: LODV
Date Acquired: 4/20/2021 10:49:33 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210420\20210420_006.lcd
Vial: 20 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.799 | 143 | 30510 | 1 | 0.03807 | ng/mL | ---- | 4.76 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.795 | 30510 | 30510 | 1 | 1.00000 | ng/mL | ---- | ---- |

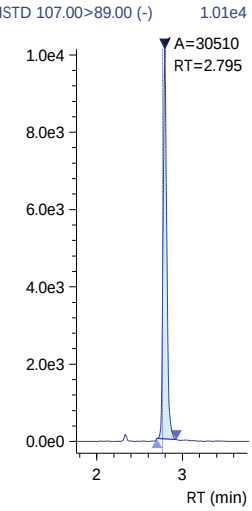
Perchlorate

Conc 0.03807
R#1 4.76 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report



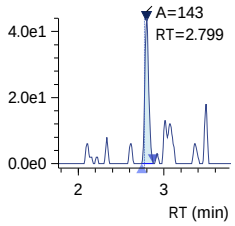
## 20210420_006

Sample ID: LODV
Date Acquired: 4/20/2021 10:49:33 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210420\Before\20210420_006.lcd
Vial: 20 | Inj. Volume: 25.0000uL | Tray: 1

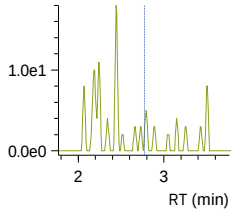
Perchlorate

Conc 0.03807
R#1 4.76 (0.00)

Q 99.00>83.00 (-) 4.40e1



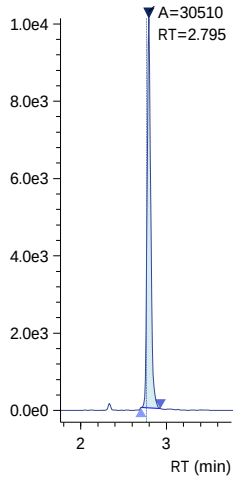

R1 101.00>85.00 (-) 1.80e1




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.01e4



# Insight Report

Printed at 4/20/2021 1:06:52 PM

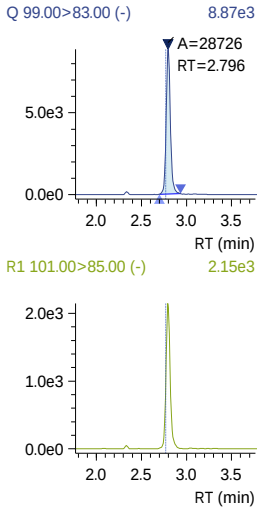
## 20210420_007

Sample ID: PERCHLORATE7
Date Acquired: 4/20/2021 10:57:25 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210420\20210420_007.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.796 | 28726 | 26585 | 1 | 8.80736 | ng/mL | 10.0000 | 24.43 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.795 | 26585 | 26585 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

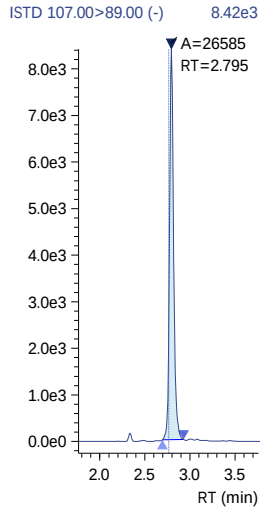
Perchlorate

Conc 8.80736
R#1 24.43 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report



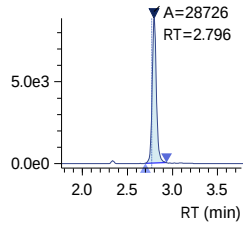
## 20210420_007

Sample ID: PERCHLORATE7
Date Acquired: 4/20/2021 10:57:25 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210420\Before\20210420_007.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

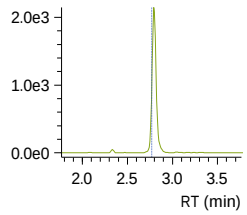
Perchlorate

Conc 8.80736
R#1 24.43 (0.00)

Q 99.00>83.00 (-) 8.87e3



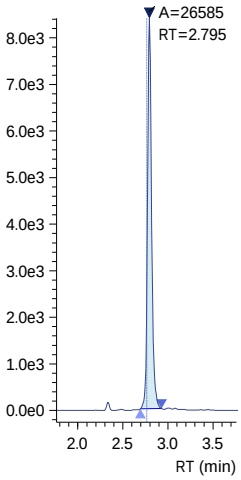

R1 101.00>85.00 (-) 2.15e3




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 8.42e3



# Insight Report

Printed at 4/20/2021 1:06:52 PM

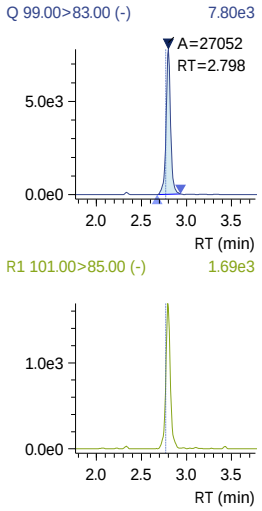
## 20210420_017

Sample ID: PERCHLORATE7
Date Acquired: 4/20/2021 12:50:30 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210420\20210420_017.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.798 | 27052 | 22784 | 1 | 9.67789 | ng/mL | 10.0000 | 22.48 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.796 | 22784 | 22784 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

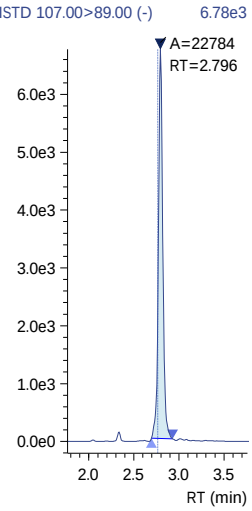
Perchlorate

Conc 9.67789
R#1 22.48 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report

Printed at 4/20/2021 1:08:25 PM

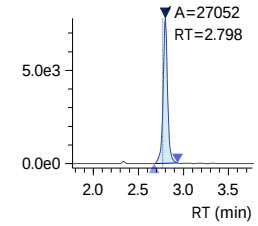
## 20210420_017

Sample ID: PERCHLORATE7
Date Acquired: 4/20/2021 12:50:30 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210420\Before\20210420_017.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

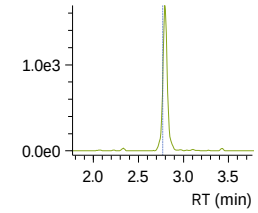
Perchlorate

Conc 9.67789
R#1 22.48 (0.00)

Q 99.00>83.00 (-) 7.80e3



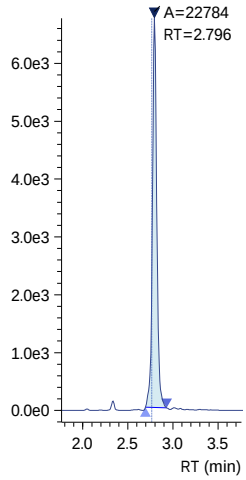

R1 101.00>85.00 (-) 1.69e3




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 6.78e3



# Insight Report

Printed at 4/28/2021 12:53:14 PM

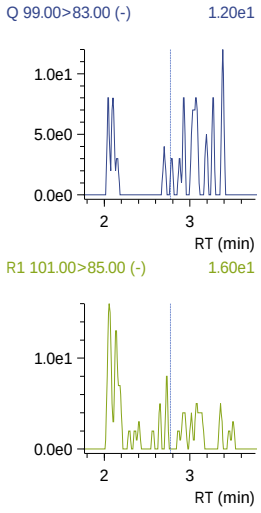
## 20210420_018

Sample ID: EQ2100213-01
Date Acquired: 4/20/2021 1:25:38 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210420\20210420_018.lcd
Vial: 29 | Inj. Volume: 25.0000uL | Tray: 4

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | ND(W/B) | ---- | ---- | 28932 | 1 | ---- | ng/mL | ---- | ---- |
| Sodium Perchlorate-18O4_IS | Auto | 2.695 | 28932 | 28932 | 1 | 1.00000 | ng/mL | ---- | ---- |

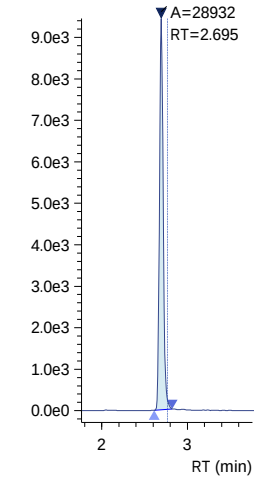
Perchlorate

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




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report



Method File: I:\LCMS01\DATA\20210420\Before\20210413.lcm

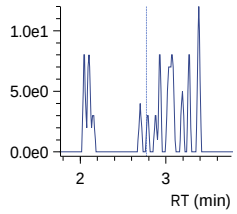
## 20210420_018

Sample ID: EQ2100213-01
Date Acquired: 4/20/2021 1:25:38 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210420\Before\20210420_018.lcd
Vial: 29 | Inj. Volume: 25.0000uL | Tray: 4

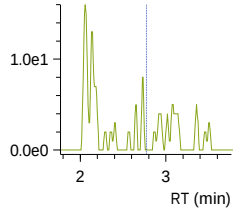
Perchlorate

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

Q 99.00>83.00 (-) 1.20e1



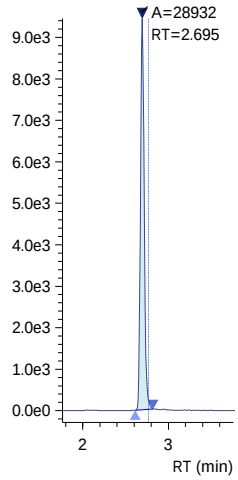

R1 101.00>85.00 (-) 1.60e1




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 9.46e3



# Insight Report

Printed at 4/28/2021 12:53:14 PM

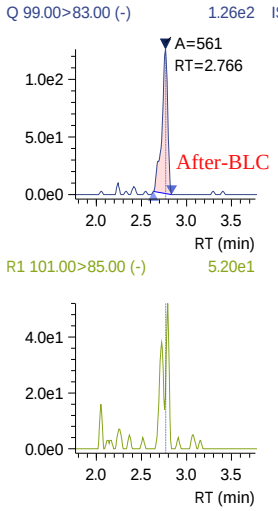
## 20210420_019

Sample ID: EQ2100213-02
Date Acquired: 4/20/2021 1:33:32 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210420\20210420_019.lcd
Vial: 30 | Inj. Volume: 25.0000uL | Tray: 4

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | M | 2.766 | 561 | 38966 | 1 | 0.11741 | ng/mL | ---- | 12.82 |
| Sodium Perchlorate-18O4 _IS | M | 2.766 | 38966 | 38966 | 1 | 1.00000 | ng/mL | ---- | ---- |

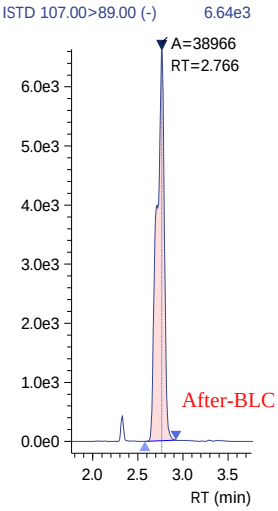
Perchlorate

Conc 0.11741
R#1 12.82 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report



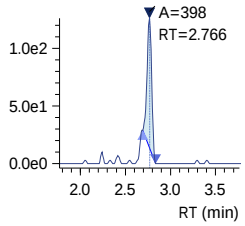
## 20210420_019

Sample ID: EQ2100213-02
Date Acquired: 4/20/2021 1:33:32 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210420\Before\20210420_019.lcd
Vial: 30 | Inj. Volume: 25.0000uL | Tray: 4

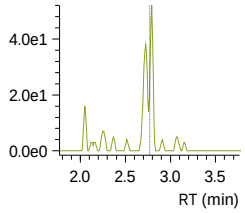
Perchlorate

Conc 0.08358
R#1 5.83 (0.00)

Q 99.00>83.00 (-) 1.26e2



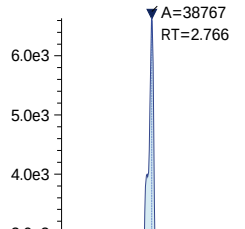

R1 101.00>85.00 (-) 5.20e1




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 6.64e3



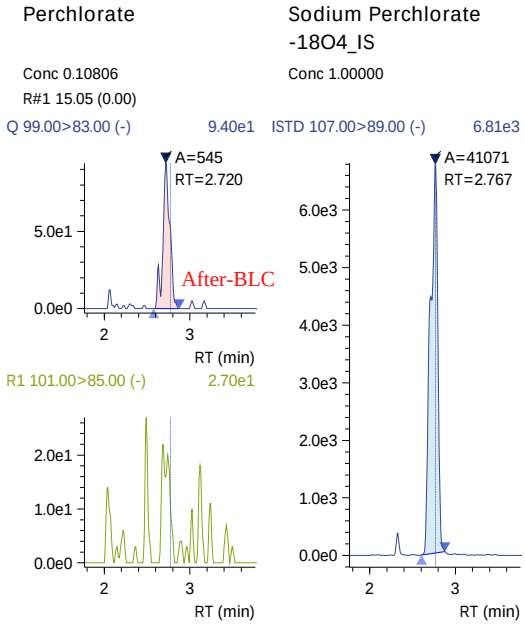
# Insight Report

Printed at 4/28/2021 12:53:14 PM

## 20210420_020

Sample ID: EQ2100213-03
Date Acquired: 4/20/2021 1:41:26 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210420\20210420_020.lcd
Vial: 31 | Inj. Volume: 25.0000uL | Tray: 4

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | M | 2.720 | 545 | 41071 | 1 | 0.10806 | ng/mL | ---- | 15.05 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.767 | 41071 | 41071 | 1 | 1.00000 | ng/mL | ---- | ---- |



# Insight Report



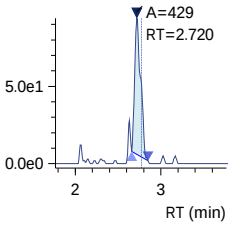
## 20210420_020

Sample ID: EQ2100213-03
Date Acquired: 4/20/2021 1:41:26 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210420\Before\20210420_020.lcd
Vial: 31 | Inj. Volume: 25.0000uL | Tray: 4

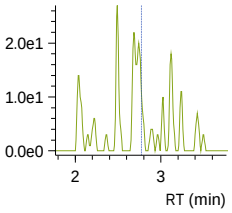
Perchlorate

Conc 0.08514
R#1 11.49 (0.00)

Q 99.00>83.00 (-) 9.40e1



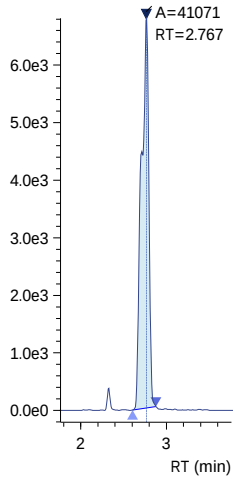

R1 101.00>85.00 (-) 2.70e1




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 6.81e3



# Insight Report

Printed at 4/28/2021 12:53:14 PM

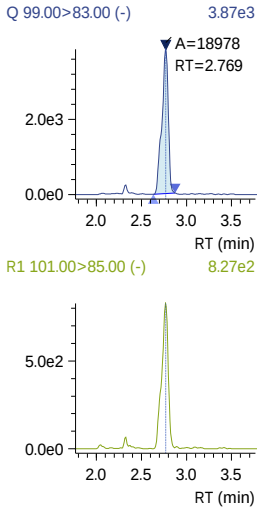
## 20210420_028

Sample ID: PERCHLORATE7
Date Acquired: 4/20/2021 2:44:35 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210420\20210420_028.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.769 | 18978 | 16630 | 1 | 9.30200 | ng/mL | 10.0000 | 21.40 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.769 | 16630 | 16630 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

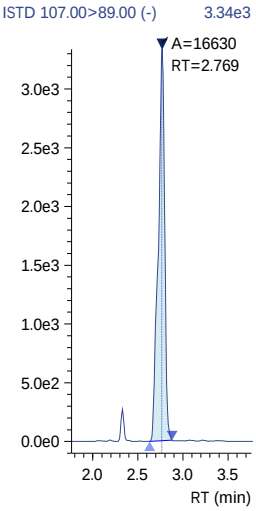
Perchlorate

Conc 9.30200
R#1 21.40 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report



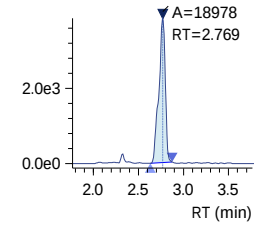
## 20210420_028

Sample ID: PERCHLORATE7
Date Acquired: 4/20/2021 2:44:35 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210420\Before\20210420_028.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

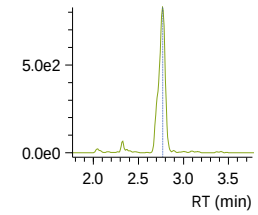
Perchlorate

Conc 9.30200
R#1 21.40 (0.00)

Q 99.00>83.00 (-) 3.87e3



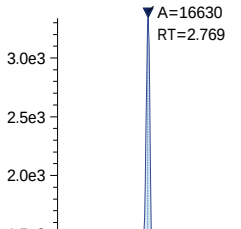

R1 101.00>85.00 (-) 8.27e2




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 3.34e3



# Insight Report

Printed at 4/27/2021 9:27:17 AM

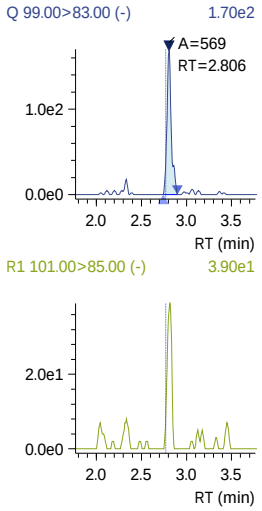
## 20210426_028

Sample ID: LODV
Date Acquired: 4/26/2021 2:29:19 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210426\20210426_028.lcd
Vial: 20 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.806 | 569 | 76083 | 1 | 0.06463 | ng/mL | ---- | 21.74 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.802 | 76083 | 76083 | 1 | 1.00000 | ng/mL | ---- | ---- |

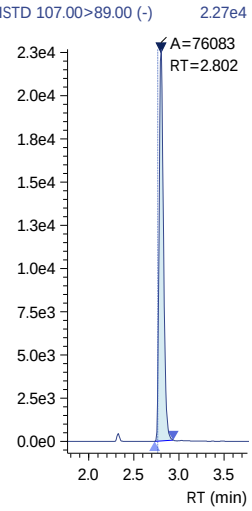
Perchlorate

Conc 0.06463
R#1 21.74 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report

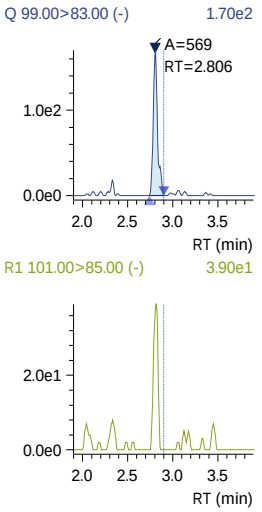
Printed at 4/27/2021 3:42:43 PM

## 20210426_028

Sample ID: LODV
Date Acquired: 4/26/2021 2:29:19 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210426\Before\20210426_028.lcd
Vial: 20 | Inj. Volume: 25.0000uL | Tray: 1

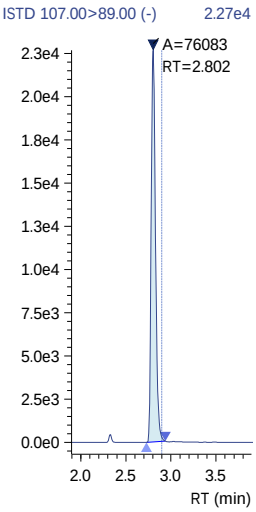
Perchlorate

Conc 0.00000
R#1 21.74 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report

Printed at 4/27/2021 9:27:17 AM

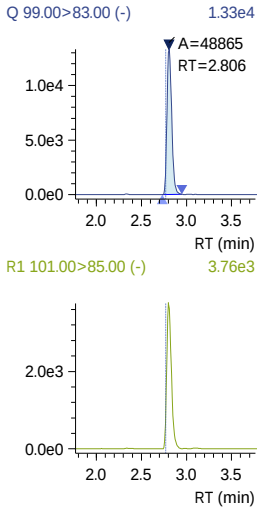
## 20210426_029

Sample ID: PERCHLORATE7
Date Acquired: 4/26/2021 2:37:15 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210426\20210426_029.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.806 | 48865 | 44211 | 1 | 9.56035 | ng/mL | 10.0000 | 28.86 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.805 | 44211 | 44211 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

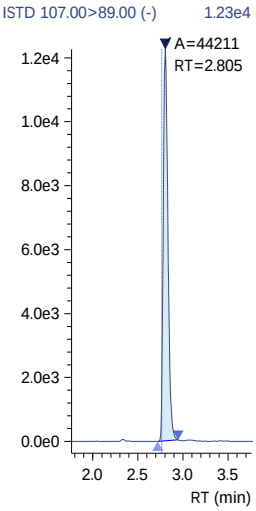
Perchlorate

Conc 9.56035
R#1 28.86 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report

Printed at 4/27/2021 3:42:43 PM

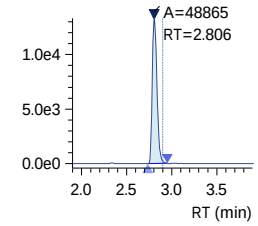
## 20210426_029

Sample ID: PERCHLORATE7
Date Acquired: 4/26/2021 2:37:15 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210426\Before\20210426_029.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

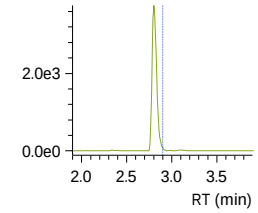
Perchlorate

Conc 0.00000
R#1 28.86 (0.00)

Q 99.00>83.00 (-) 1.33e4



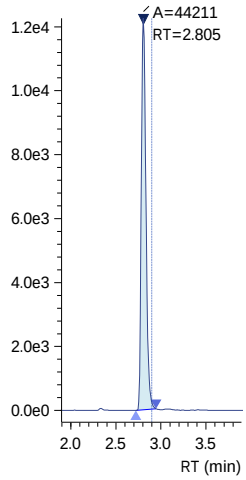

R1 101.00>85.00 (-) 3.76e3




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.23e4



# Insight Report

Printed at 5/6/2021 2:03:15 PM

Method File: I:\LCMS01\DATA\20210426\20210426.lcm
Project File: I:\LCMS01\DATA\20210426\20210426.damlp

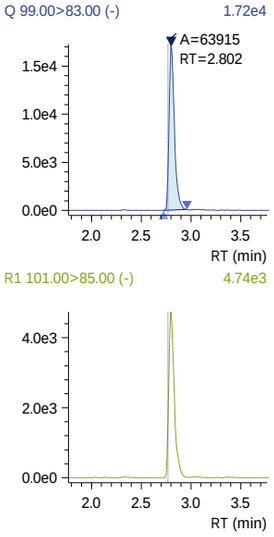
## 20210426_035

Sample ID: E2100410-001X500
Date Acquired: 4/26/2021 3:24:22 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210426\20210426_035.lcd
Vial: 33 | Inj. Volume: 25.0000uL | Tray: 4

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.802 | 63915 | 28333 | 1 | 19.51219 | ng/mL | ---- | 27.53 |
| Sodium Perchlorate-18O4_IS | M | 2.801 | 28333 | 28333 | 1 | 1.00000 | ng/mL | ---- | ---- |

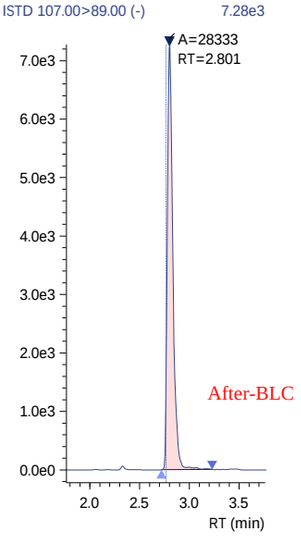
Perchlorate

Conc 19.51219
R#1 27.53 (0.00)




Sodium Perchlorate-18O4_IS

Conc 1.00000




After-BLC

# Insight Report

Printed at 5/6/2021 2:08:40 PM

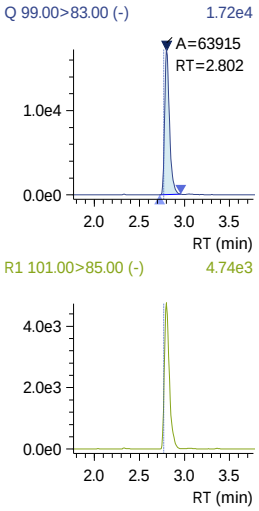
Method File: I:\LCMS01\DATA\20210426\Before\20210426.lcm

## 20210426_035

Sample ID: E2100410-001X500
Date Acquired: 4/26/2021 3:24:22 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210426\Before\20210426_035.lcd
Vial: 33 | Inj. Volume: 25.0000uL | Tray: 4

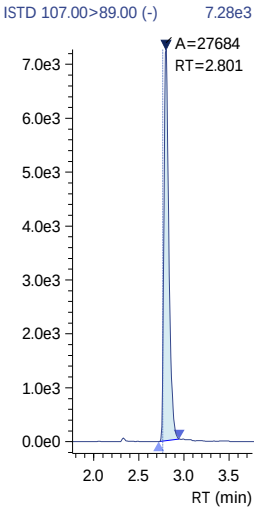
Perchlorate

Conc 20.12654
R#1 27.53 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report

Printed at 5/6/2021 2:03:15 PM

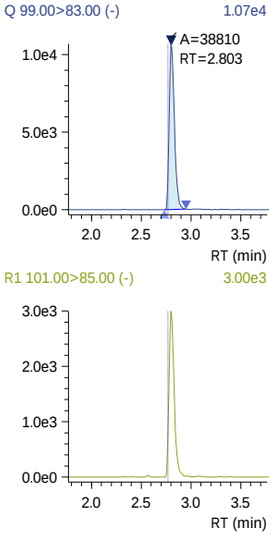
## 20210426_036

Sample ID: PERCHLORATE7
Date Acquired: 4/26/2021 3:32:14 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210426\20210426_036.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.803 | 38810 | 35911 | 1 | 9.34794 | ng/mL | 10.0000 | 28.03 |
| Sodium Perchlorate-18O4_IS | Auto | 2.801 | 35911 | 35911 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

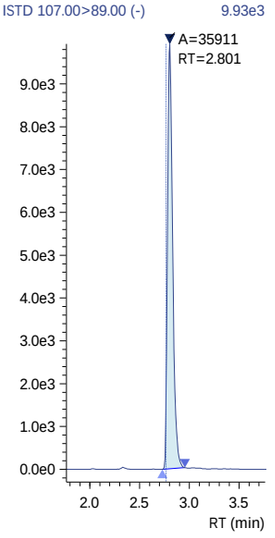
Perchlorate

Conc 9.34794
R#1 28.03 (0.00)




Sodium Perchlorate-18O4_IS

Conc 1.00000



# Insight Report

Printed at 5/6/2021 2:08:40 PM

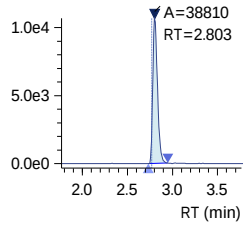
## 20210426_036

Sample ID: PERCHLORATE7
Date Acquired: 4/26/2021 3:32:14 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210426\Before\20210426_036.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

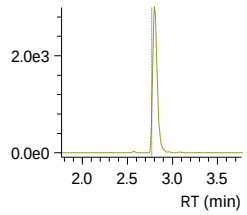
Perchlorate

Conc 9.42123
R#1 28.03 (0.00)

Q 99.00>83.00 (-) 1.07e4



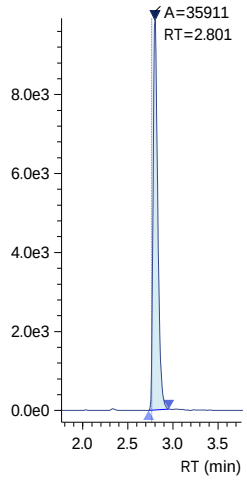

R1 101.00>85.00 (-) 3.00e3




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 9.93e3



10450 Stancliff Rd. Suite 210
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# WorkOrder: HS21040699

## Longhorn GW Treatment Plant Weekly Samples

## Bhate Environmental Associates, Inc.

Marcia Olive
445 Union Blvd Ste 129
Lakewood CO 80228

**04-May-2021**

ALS Environmental
ALS Group USA, Corp
10450 Stancliff Road, Suite 210
Houston, TX 77099
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**www.alsglobal.com**

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# HS21040699 Longhorn GW Treatment Plant Weekly Samples Final

ALS WO# HS21040699

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
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April 29, 2021

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

Work Order: **HS21040699**

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

Dear Marcia Olive,

ALS Environmental received 2 sample(s) on Apr 14, 2021 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**
RJ Modashia
Project Manager

**ALS Houston, US** Date: 29-Apr-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Weekly Samples
**Work Order:** HS21040699

## SAMPLE SUMMARY

| Lab Samp ID | Client Sample ID | Matrix | TagNo | Collection Date | Date Received | Hold |
|---|---|---|---|---|---|---|
| HS21040699-01 | LH18/24-SP650_041321 | Water | | 13-Apr-2021 14:00 | 14-Apr-2021 09:45 | ☐ |
| HS21040699-02 | LH18/24-SP650_041321_BIX | Water | | 13-Apr-2021 14:00 | 14-Apr-2021 09:45 | ☐ |

**ALS Houston, US** Date: 29-Apr-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Weekly Samples
**Work Order:** HS21040699

**CASE NARRATIVE**

## 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: R381969

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

## WetChemistry by Method E415.1

### Batch ID: R381888

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

## WetChemistry by Method E365.3

### Batch ID: R381657

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

**ALS Houston, US** Date: 29-Apr-21

Client: Bhate Environmental Associates, Inc.
**ANALYTICAL REPORT**
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder:HS21040699
Sample ID: LH18/24-SP650_041321
Lab ID:HS21040699-01
Collection Date: 13-Apr-2021 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: YP |
| **Nitrogen, Ammonia (As N)** | **3.9** | a | **0.10** | **0.20** | **0.20** | **mg/L** | 1 | 20-Apr-2021 14:37 |
| **ORTHO PHOSPHATE (PO4) AS P BY E365.3** | | **Method:E365.3** | | | | | | Analyst: MZD |
| **Phosphorus, Total Orthophosphate (As P)** | **1.81** | a | **0.100** | **0.250** | **0.250** | **mg/L** | 10 | 15-Apr-2021 11:50 |
| **TOTAL ORGANIC CARBON BY E415.1** | | **Method:E415.1** | | | | | | Analyst: MZD |
| **Organic Carbon, Total** | **4.13** | a | **0.500** | **0.500** | **1.00** | **mg/L** | 1 | 19-Apr-2021 11:48 |

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

**ALS Houston, US** Date: 29-Apr-21

Client: Bhate Environmental Associates, Inc.
**ANALYTICAL REPORT**
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder:HS21040699
Sample ID: LH18/24-SP650_041321_BIX
Lab ID:HS21040699-02
Collection Date: 13-Apr-2021 14:00
Matrix:Water

| ANALYSES | RESULT | QUAL | DL | LOD | LOQ | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|---|---|---|---|---|---|---|---|
| **SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)** | | **Method:NA** | | | | | | Analyst: GR |
| Subcontract Analysis | See Attached | | 0 | 0 | | NA | 1 | 29-Apr-2021 18:03 |

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

**ALS Houston, US** Date: 29-Apr-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Weekly Samples
**WorkOrder:** HS21040699

## DATES REPORT

| Sample ID | Client Samp ID | Collection Date | Leachate Date | Prep Date | Analysis Date | DF |
|---|---|---|---|---|---|---|
| **Batch ID:** R381657 ( 0 ) | **Test Name :** ORTHO PHOSPHATE (PO4) AS P BY E365.3 | | | | **Matrix:** Water | |
| HS21040699-01 | LH18/24-SP650_041321 | 13 Apr 2021 14:00 | | | 15 Apr 2021 11:50 | 10 |
| **Batch ID:** R381888 ( 0 ) | **Test Name :** TOTAL ORGANIC CARBON BY E415.1 | | | | **Matrix:** Water | |
| HS21040699-01 | LH18/24-SP650_041321 | 13 Apr 2021 14:00 | | | 19 Apr 2021 11:48 | 1 |
| **Batch ID:** R381969 ( 0 ) | **Test Name :** AMMONIA AS N BY E350.3(ISE) | | | | **Matrix:** Water | |
| HS21040699-01 | LH18/24-SP650_041321 | 13 Apr 2021 14:00 | | | 20 Apr 2021 14:37 | 1 |
| **Batch ID:** R382694 ( 0 ) | **Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850) | | | | **Matrix:** Water | |
| HS21040699-02 | LH18/24-SP650_041321_BIX | 13 Apr 2021 14:00 | | | 29 Apr 2021 18:03 | 1 |

**ALS Houston, US** Date: 29-Apr-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Weekly Samples
**WorkOrder:** HS21040699

**QC BATCH REPORT**

**Batch ID:** R381657 ( 0 ) **Instrument:** UV-2450 **Method:** ORTHO PHOSPHATE (PO4) AS P BY E365.3

**MBLK** Sample ID: **MBLK-R381657** Units: **mg/L** Analysis Date: **15-Apr-2021 11:50**
Client ID: Run ID: **UV-2450_381657** SeqNo: **6042820** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Phosphorus, Total Orthophosphate (As P) | 0.0250 | 0.0250 | | | | | | | | U |

**LCS** Sample ID: **LCS-R381657** Units: **mg/L** Analysis Date: **15-Apr-2021 11:50**
Client ID: Run ID: **UV-2450_381657** SeqNo: **6042819** 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) | 0.266 | 0.0250 | 0.25 | 0 | 106 | 85 - 115 | | | | |

**MS** Sample ID: **HS21040699-01MS** Units: **mg/L** Analysis Date: **15-Apr-2021 11:50**
Client ID: **LH18/24-SP650_041321** Run ID: **UV-2450_381657** SeqNo: **6042822** 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) | 4.42 | 0.250 | 2.5 | 1.81 | 104 | 80 - 120 | | | | |

**MSD** Sample ID: **HS21040699-01MSD** Units: **mg/L** Analysis Date: **15-Apr-2021 11:50**
Client ID: **LH18/24-SP650_041321** Run ID: **UV-2450_381657** SeqNo: **6042821** 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) | 4.41 | 0.250 | 2.5 | 1.81 | 104 | 80 - 120 | 4.42 | 0.227 | 20 | |

**The following samples were analyzed in this batch:** HS21040699-01

**ALS Houston, US** Date: 29-Apr-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Weekly Samples
**WorkOrder:** HS21040699

**QC BATCH REPORT**

**Batch ID: R381888 ( 0 )** **Instrument: TOC_04** **Method: TOTAL ORGANIC CARBON BY E415.1**

**MBLK** Sample ID: **MBLK-04192021** Units: **mg/L** Analysis Date: **19-Apr-2021 10:05**
Client ID: Run ID: **TOC_04_381888** SeqNo: **6048860** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Organic Carbon, Total | 0.500 | 1.00 | | | | | | | | U |

**LCS** Sample ID: **LCS-04192021** Units: **mg/L** Analysis Date: **19-Apr-2021 10:20**
Client ID: Run ID: **TOC_04_381888** SeqNo: **6048861** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Organic Carbon, Total | 9.003 | 1.00 | 10 | 0 | 90.0 | 85 - 115 | | | | |

**LCSD** Sample ID: **LCSD-04192021** Units: **mg/L** Analysis Date: **19-Apr-2021 10:36**
Client ID: Run ID: **TOC_04_381888** SeqNo: **6048862** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Organic Carbon, Total | 9.716 | 1.00 | 10 | 0 | 97.2 | 85 - 115 | 9.003 | 7.62 | 20 | |

**MS** Sample ID: **HS21040564-01MS** Units: **mg/L** Analysis Date: **19-Apr-2021 11:06**
Client ID: Run ID: **TOC_04_381888** SeqNo: **6048864** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Organic Carbon, Total | 26.47 | 1.00 | 10 | 15.88 | 106 | 80 - 120 | | | | |

**The following samples were analyzed in this batch:** HS21040699-01

**ALS Houston, US** Date: 29-Apr-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Weekly Samples
**WorkOrder:** HS21040699

**QC BATCH REPORT**

**Batch ID: R381969 ( 0 )** **Instrument: WetChem_HS** **Method: AMMONIA AS N BY E350.3(ISE)**

**MBLK** Sample ID: **MBLK-R381969** Units: **mg/L** Analysis Date: **20-Apr-2021 14:37**
Client ID: Run ID: **WetChem_HS_381969** SeqNo: **6050829** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Nitrogen, Ammonia (As N) | 0.20 | 0.20 | | | | | | | | U |

**LCS** Sample ID: **LCS-R381969** Units: **mg/L** Analysis Date: **20-Apr-2021 14:37**
Client ID: Run ID: **WetChem_HS_381969** SeqNo: **6050828** 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) | 9.786 | 0.20 | 10 | 0 | 97.9 | 80 - 120 | | | | |

**MS** Sample ID: **HS21040699-01MS** Units: **mg/L** Analysis Date: **20-Apr-2021 14:37**
Client ID: **LH18/24-SP650_041321** Run ID: **WetChem_HS_381969** SeqNo: **6050831** 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) | 12.96 | 0.20 | 10 | 3.89 | 90.6 | 80 - 120 | | | | |

**MSD** Sample ID: **HS21040699-01MSD** Units: **mg/L** Analysis Date: **20-Apr-2021 14:37**
Client ID: **LH18/24-SP650_041321** Run ID: **WetChem_HS_381969** SeqNo: **6050830** 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) | 13.12 | 0.20 | 10 | 3.89 | 92.2 | 80 - 120 | 12.96 | 1.23 | 20 | |

**The following samples were analyzed in this batch:** HS21040699-01

**ALS Houston, US** Date: 29-Apr-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Weekly Samples
**WorkOrder:** **HS21040699**

**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 | 21-022-0 | 26-Mar-2022 |
| California | 2919, 2020-2021 | 30-Apr-2021 |
| Dept of Defense | PJLA L20-507-R2 | 22-Dec-2021 |
| Florida | E87611-30-07/01/2020 | 30-Jun-2021 |
| Illinois | 2000322020-4 | 09-May-2021 |
| Kansas | E-10352 2020-2021 | 31-Jul-2021 |
| Kentucky | 123043, 2020-2021 | 30-Apr-2021 |
| Louisiana | 03087, 2020-2021 | 30-Jun-2021 |
| North Carolina | 624-2021 | 31-Dec-2021 |
| North Dakota | R-193 2020-2021 | 30-Apr-2021 |
| Oklahoma | 2020-165 | 31-Aug-2021 |
| Texas | T104704231-20-26 | 30-Apr-2021 |
| Texas | T104704231-21-27 | 30-Apr-2022 |

**ALS Houston, US** Date: 29-Apr-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Weekly Samples
**Work Order:** HS21040699

**SAMPLE TRACKING**

| Lab Samp ID | Client Sample ID | Action | Date | Person | New Location |
|---|---|---|---|---|---|
| HS21040699-01 | LH18/24-SP650_041321 | Login | 4/14/2021 1:18:48 PM | JRM | WET136 |
| HS21040699-01 | LH18/24-SP650_041321 | Login | 4/14/2021 1:18:48 PM | JRM | WET136 |
| HS21040699-01 | LH18/24-SP650_041321 | Login | 4/14/2021 1:18:48 PM | JRM | WET136 |
| HS21040699-02 | LH18/24-SP650_041321_BIX | Login | 4/14/2021 1:18:48 PM | JRM | Sub |

**ALS Houston, US** Date: 29-Apr-21

## Sample Receipt Checklist

**Work Order ID:** HS21040699 **Date/Time Received:** **14-Apr-2021 09:45**

**Client Name:** Bhate Environmental **Received by:** **Pablo Marinez**

| **Completed By:** | /S/ Jared R. Makan | 14-Apr-2021 13:20 | **Reviewed by:** | /S/ RJ Modashia | 14-Apr-2021 15:12 |
|---|---|---|---|---|---|
| | 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 ☐ | |
| 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): | 0.6°C UC/C | IR31 |
| Cooler(s)/Kit(s): | 46995 | |
| Date/Time sample(s) sent to storage: | 04/14/2021 13:25 | |

| | | | |
|---|---|---|---|
| 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: R.J Modashia

Page 1 of 1

| Project: BHATE<br>LONGHORN ARMY AMMN. PLANT (LHAAP)<br>GROUNDWATER TREATMENT PLANT (GWTP)<br>KARNACK, TEXAS | Project No.<br>NWO1312.0150.0<br>16.0001 |
|---|---|
| Job:<br>**GROUNDWATER TREATMENT PLANT WEEKLY SAMPLES** | |
| Prepared By:<br>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.# |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Analyses | | | | | | | | | | | |
| LH18/24-SP650_041321 | Water | 04/13/21 / 14:00 | | 3 | X | X | | | | | | | | | H2SO4 | |
| LH18/24-SP650_041321 | Water | 04/13/21 / 14:00 | | 1 | | | X | | | | | | | | NONE | |
| LH18/24--SP650_041321_BIX | Water | 04/13/21 / 14:00 | | 1 | | | | X | | | | | | | NONE | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |

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 | 04/13/21 | 14:30 | Pat Mann | 4-14-21 | 9:45 | | | | | | |

For Lab Use Only

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

Remarks:

**HS21040699**

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

46945 0.6C IR3 CF6

(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 5667

46995

CUSTODY SEAL

Date: 4/13/21 Time: 1230

Name: Scott Beesinger

Company: Bonatti

Received By:

Date: 04/14/21

46995 APR 14 2021

Must Deliver Next Business Day
Time and Tempature Sensitive!

46995

ORIGIN ID:SGRA (903) 930-6193
SCOTT BEESINGER
APTUI ENVIROMENTAL & INFASTRUCTURE
1203-D EAST GRAND AVE
PMB 202
MARSHALL, TX 75670
UNITED STATES US

SHIP DATE: 24MAR21
ACTWGT: 1.00 LB MAN
CAD: 0221247/CAFE3409
DIMS: 26x14x14 IN

TO CLIENT SERVICES
ALS LABORATORY GROUP
10450 STANCLIFF ROAD
SUITE 210
HOUSTON TX 77099
(281) 530-5656
REF: LRAAP - 50 - B077339 - CG

INV:

PO:

FedEx Express

FedEx
TRK# 9473 0841 5565

WED - 14 APR AA
PRIORITY OVERNIGHT

AB SGRA

77099
TX-US
IAH

April 29, 2021 Service Request No:E2100411

RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Suite 210
Houston, TX 77099-4338

**Laboratory Results for: HS21040699**

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory April 14, 2021
For your reference, these analyses have been assigned our service request number **E2100411.**

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.

Respectfully submitted,

**ALS Group USA, Corp. dba ALS Environmental**

Corey Grandits
Project Manager

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 Houston | **Service Request No.:** | E2100411 |
| **Project:** | HS21040699 | **Date Received:** | 04/14/21 |
| **Sample Matrix:** | W | | |

## 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 04/14/21.

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:**

EQ2100213: 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 and DLCS recoveries are within QC limits.

DoD certification is held for the method/matrix/analytes provided in this report.

*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:**E2100411
**Project:** HS21040699

## SAMPLE CROSS-REFERENCE

| SAMPLE # | CLIENT SAMPLE ID | DATE | TIME |
|---|---|---|---|
| E2100411-001 | LH18/24-SP650_041321_BIX | 4/13/2021 | 1400 |

# Service Request Summary

**Folder #:** **E2100411**
Client Name: ALS Environmental - US
Project Name: HS21040699
Project Number:

**Report To:** RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Houston, TX 77099-4338
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number: 281-530-5887
E-mail: rj.modashia@alsglobal.com

Project Chemist: Corey Grandits
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 04/14/21
Internal Due Date: 4/28/2021
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS21040699
EDD: No EDD Specified

1 125 mL-Plastic Bottle Plastic
**Location:** EHRMS-WIC 3B
**Pressure Gas:**

| Lab Samp No. | Client Samp No | Matrix | Collected | HOUSTON ClO4 DOD/6850 |
|---|---|---|---|---|
| E2100411-001 | LH18/24-SP650_041321_BIX | Ground Water | 04/13/21 1400 | **IV** |

# Service Request Summary

| | |
|---|---|
| **Folder #:** | **E2100411** |
| Client Name: | ALS Environmental - US |
| Project Name: | HS21040699 |
| Project Number: | |

| | |
|---|---|
| **Report To:** | RJ Modashia<br>ALS Laboratory Group<br>10450 Stancliff Road<br>Houston, TX 77099-4338<br>USA |
| Phone Number: | 281-530-5656 |
| Cell Number: | |
| Fax Number: | 281-530-5887 |
| E-mail: | rj.modashia@alsglobal.com |

| | |
|---|---|
| Project Chemist: | Corey Grandits |
| Originating Lab: | HOUSTON |
| Logged By: | CGRANDITS |
| Date Received: | 04/14/21 |
| Internal Due Date: | 4/28/2021 |
| QAP: | LAB QAP |
| Qualifier Set: | Lab Standard |
| Formset: | Lab Standard |
| Merged?: | Y |
| Report to MDL?: | Y |
| P.O. Number: | HS21040699 |
| EDD: | No EDD Specified |

1 125 mL-Plastic Bottle Plastic

**Location:** EHRMS-WIC 3B

**Pressure Gas:**

## Test Comments:

| Group | Test/Method | Samples | Comments |
|---|---|---|---|
| Semivoa GCMS | ClO4 DOD/6850 | 1 | Level II due 4/28,IV due 5/5 |

# 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 | Internal standard not within the specified limits. See case narrative. |
| 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. |
| 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. |

# Data Qualifiers

## Lab Standard

| | |
|---|---|
| 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 |
|---|---|---|
| American Association for Laboratory Accreditation | 2897.01 2020 | 11/30/2021 |
| Arizona Department of Health Services | AZ0793-2020 | 5/27/2021 |
| Arkansas Department of Environmental Quality | 21-022-0 | 3/26/2022 |
| California Department of Health Services | 2919-2020 | 4/30/2021 |
| Department of Defense | A2LA 2897.01 | 11/30/2021 |
| Florida Department of Health | E87611-2020 | 6/30/2021 |
| Hawaii Department of Health | 2020 | 4/30/2021 |
| Illinois Environmental Protection Agency | 2000322020-4 | 5/9/2021 |
| Kansas Department of Health and Environment | E-10352-2020 | 7/31/2021 |
| Louisiana Department of Environmental Quality | 03087-2020 | 6/30/2021 |
| Louisiana Department of Health and Hospitals | LA028-2021 | 12/31/2021 |
| Maine Department of Health and Human Services | 2020016 | 6/5/2022 |
| Maryland Department of the Environment | 343-2020 | 6/30/2021 |
| Michigan Depratment of Environmental Quality | 9971-2020 | 4/30/2021 |
| Nebraska Department of Health and Human Services | NE-OS-25-13 (2020) | 4/30/2021 |
| Nevada Department of Concervation and Natural Resources | TX026932021-1 | 7/31/2021 |
| New Jersey Department of Environmental Protection | TX008 | 6/30/2021 |
| Oklahoma Department of Environmental Quality | 2020-123 | 8/31/2021 |
| Pennsylvania Department of Environmental Protection | 014 | 6/30/2021 |
| Tennessee Department of Environment and Concervation | 04016-2020 | 4/30/2021 |
| Texas Commision on Environmental Quality | T104704231-20-26 | 4/30/2021 |
| United States Department of Agriculture | P330-19-00299 | 10/10/2022 |



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

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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:** **15936**

**SUBCONTRACT TO:**

ALS Environmental
10450 Stancliff RoadSuite 210
Houston, TX 77084

**Phone:** +1 281 530 5656

**CUSTOMER INFORMATION:**

| | |
|---|---|
| **Company:** | ALS Houston |
| **Contact:** | RJ Modashia |
| **Address:** | 10450 Stancliff Rd, Ste 210 |
| **Phone:** | +1 281 530 5656 |
| **Email:** | RJ.Modashia@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:** | HS21040699 |
| **TSR:** | Sonia West |

| | LAB SAMPLE ID | CLIENT SAMPLE ID | MATRIX | COLLECT DATE |
|---|---|---|---|---|
| | ANALYSIS REQUESTED | | | DUE DATE |
| **1.** | **HS21040699-02** | **LH18/24-SP650_041321_BIX** | **Water** | **13 Apr 2021 14:00** |
| | Provide Level II and Level IV reports in separate pdf | | | 28 Apr 2021 |

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

**QC Level:** DOD IV (DoD Data Package)

Relinquished By: J. Modashia Date/Time: 4/14/21 . 14:15

Received By: [illegible] Date/Time: 4/14/21 1415

Cooler ID(s): Temperature(s):

ALS Environmental

# Cooler Receipt Form

Project Chemist: CA

Client/Project: ALS-11

Thermometer ID: 1831

Date/Time Received: 9/11/21 Initials: CA

Date/Time Logged in: 9/11/21 Initials: CA

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 | | 9/11/21 | 1915 | CA | 3.9 | ☑ |
| | | | | | | ☐ |
| | | | | | | ☐ |
| | | | | | | ☐ |

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#:** 377530 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
**Team:** Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 4/15/21 11:50

| # | Lab Code | Client ID | B# | Method /Test | pH | Cl | Matrix | Amt. Ext. | Sample Description |
|---|---|---|---|---|---|---|---|---|---|
| 1 | E2100409-001 | LH18/24-SP650_041321_BIX | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 2 | E2100410-001 | LH18/24-SP140_041321 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 3 | E2100411-001 | LH18/24-SP650_041321_BIX | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 4 | E2100412-001 | 16WW44-210412 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 5 | E2100412-002 | 16WW38-210412 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 6 | E2100412-003 | 16WW37-210412 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 7 | E2100412-004 | 16WW14-210412 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 8 | E2100412-005 | 16WW34-210412 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 9 | E2100412-006 | 16WW34-210412-FD | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 10 | E2100412-007 | 16WW33-210412 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 11 | E2100412-008 | 16WW32-210412 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 12 | E2100412-009 | 16WW31-210412 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 13 | E2100412-010 | 16WW46-210412 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 14 | EQ2100213-01 | MB | | 6850/ClO4 DOD | | | Liquid | 10mL | |
| 15 | EQ2100213-02 | LCS | | 6850/ClO4 DOD | | | Liquid | 10mL | |
| 16 | EQ2100213-03 | DLCS | | 6850/ClO4 DOD | | | Liquid | 10mL | |
| 17 | R2103214-010 | 45MI20088 | .14 | 6850/ClO4 DOD | | | Water | 10mL | |
| 18 | R2103214-011 | 45MI30028 | .06 | 6850/ClO4 DOD | | | Water | 10mL | |
| 19 | R2103214-013 | 45MI30025 | .06 | 6850/ClO4 DOD | | | Water | 10mL | |
| 20 | R2103380-002 | 45MI30022 | .05 | 6850/ClO4 DOD | | | Water | 10mL | |
| 21 | R2103380-003 | 45MI30023 | .05 | 6850/ClO4 DOD | | | Water | 10mL | |
| 22 | R2103380-004 | 45MI30027 | .05 | 6850/ClO4 DOD | | | Water | 10mL | |
| 23 | R2103380-005 | 45MI30026 | .05 | 6850/ClO4 DOD | | | Water | 10mL | |

## Spiking Solutions

Name: Perchlorate Intermediate Stock1 Inventory ID 214035 Logbook Ref: Perchlorate Expires On: 05/23/2021

| | | | |
|---|---|---|---|
| EQ2100213-02 | 1.00µL | EQ2100213-03 | 1.00µL |

Name: Perchlorate Internal Standard 1ug/mL Inventory ID 214820 Logbook Ref: Perchlorate Internal Standard Expires On: 07/03/2021

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| E2100409-001 | 100.00µL | E2100410-001 | 100.00µL | E2100411-001 | 100.00µL | E2100412-001 | 100.00µL | E2100412-002 | 100.00µL | E2100412-003 | 100.00µL |
| E2100412-004 | 100.00µL | E2100412-005 | 100.00µL | E2100412-006 | 100.00µL | E2100412-007 | 100.00µL | E2100412-008 | 100.00µL | E2100412-009 | 100.00µL |
| E2100412-010 | 100.00µL | EQ2100213-01 | 100.00µL | EQ2100213-02 | 100.00µL | EQ2100213-03 | 100.00µL | R2103214-010 | 100.00µL | R2103214-011 | 100.00µL |
| R2103214-013 | 100.00µL | R2103380-002 | 100.00µL | R2103380-003 | 100.00µL | R2103380-004 | 100.00µL | R2103380-005 | 100.00µL | | |

# *Preparation Information Benchsheet*

**Prep Run#:** 377530 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
**Team:** Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 4/15/21 11:50

## Preparation Steps

Step: Preparation
Started: 4/15/21 11:50
Finished: 4/15/21 13:00
By: GRIVERA
Comments

Comments: _____

Reviewed By: _____ Date: _____

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:** | E2100411 |
| **Project:** | HS21040699 | **Date Collected:** | 4/13/21 1400 |
| **Sample Matrix:** | Ground Water | **Date Received:** | 4/14/21 |
| **Sample Name:** | LH18/24-SP650_041321_BIX | **Units:** | µg/L |
| **Lab Code:** | E2100411-001 | **Basis:** | As Received |

**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 | **1.33** | | 0.100 | 0.0500 | 0.0250 | 1 | 4/15/21 | 4/28/21 22:10 | 377530 | 721483 | |

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

| | | | |
|---|---|---|---|
| **Client:** | ALS Environmental - US | **Service Request:** | E2100411 |
| **Project:** | HS21040699 | **Date Collected:** | NA |
| **Sample Matrix:** | Ground Water | **Date Received:** | NA |
| **Sample Name:** | Method Blank | **Units:** | µg/L |
| **Lab Code:** | EQ2100213-01 | **Basis:** | As Received |

**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 | 4/15/21 | 4/20/21 13:25 | 377530 | 721439 | |

# 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:** HS21040699
**Sample Matrix:** Ground Water

**Service Request:** E2100411
**Date Analyzed:** 4/20/21

## 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:** As Received

**Extraction Lot:** 377530

| | Lab Control Sample EQ2100213-02 | | | Duplicate Lab Control Sample EQ2100213-03 | | | | |
|---|---|---|---|---|---|---|---|---|
| **Analyte Name** | **Result** | **Spike Amount** | **% Rec** | **Result** | **Spike Amount** | **% Rec** | **% Rec Limits** | **RPD** | **RPD Limit** |
| Perchlorate | 0.117 | 0.100 | 117 | 0.108 | 0.100 | 108 | 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:** | E2100411 |
| **Project:** | HS21040699 | **Date Collected:** | NA |
| **Sample Matrix:** | Ground Water | **Date Received:** | NA |
| **Sample Name:** | Lab Control Sample | **Units:** | µg/L |
| **Lab Code:** | EQ2100213-02 | **Basis:** | As Received |

**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 | **0.117** | | 0.100 | 0.0500 | 0.0250 | 1 | 4/15/21 | 4/20/21 13:33 | 377530 | 721439 | |

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

| | | | |
|---|---|---|---|
| **Client:** | ALS Environmental - US | **Service Request:** | E2100411 |
| **Project:** | HS21040699 | **Date Collected:** | NA |
| **Sample Matrix:** | Ground Water | **Date Received:** | NA |
| **Sample Name:** | Duplicate Lab Control Sample | **Units:** | µg/L |
| **Lab Code:** | EQ2100213-03 | **Basis:** | As Received |

**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 | **0.108** | | 0.100 | 0.0500 | 0.0250 | 1 | 4/15/21 | 4/20/21 13:41 | 377530 | 721439 | |

# HS21040699 Wet Chem Raw Data (TOC_W)

ALS WO# HS21040699

| | Type | Analysis | Sample Name | Sample ID | Origin | Result |
|---|---|---|---|---|---|---|
| 1 | Standard | NPOC | CAL | 3150171(01-07) | 02_25_2021_CAL.2021_02_ | |
| 2 | Unknown | NPOC | ICV | 315017108 | 02_25_2021_CAL.cal | NPOC:10.14mg/L |
| 3 | Unknown | NPOC | ICB | | 02_25_2021_CAL.cal | NPOC:-0.1140mg/L |
| 4 | Unknown | NPOC | CCV | 315017106 | 02_25_2021_CAL.cal | NPOC:25.02mg/L |
| 5 | Unknown | NPOC | CCB | | 02_25_2021_CAL.cal | NPOC:-0.07587mg/L |
| 6 | Unknown | NPOC | MBLK-02252021 | | 02_25_2021_CAL.cal | NPOC:-0.1214mg/L |
| 7 | Unknown | NPOC | LCS-02252021 | | 02_25_2021_CAL.cal | NPOC:10.15mg/L |
| 8 | Unknown | NPOC | LCSD02252021 | | 02_25_2021_CAL.cal | NPOC:10.16mg/L |
| 9 | Unknown | NPOC | HS21020689-01 | | 02_25_2021_CAL.cal | NPOC:22.48mg/L |
| 10 | Unknown | NPOC | HS21020689-02 | | 02_25_2021_CAL.cal | NPOC:17.34mg/L |
| 11 | Unknown | NPOC | HS21020689-02MS | | 02_25_2021_CAL.cal | NPOC:28.25mg/L |
| 12 | Unknown | NPOC | HS21020689-03 | | 02_25_2021_CAL.cal | NPOC:10.22mg/L |
| 13 | Unknown | NPOC | HS21020538-01 | | 02_25_2021_CAL.cal | NPOC:20.36mg/L |
| 14 | Unknown | NPOC | HS21020538-02 | | 02_25_2021_CAL.cal | NPOC:4.452mg/L |
| 15 | Unknown | NPOC | HS21020793-02DF10 | | 02_25_2021_CAL.cal | NPOC:17.50mg/L |
| 16 | Unknown | NPOC | CCV | | 02_25_2021_CAL.cal | NPOC:25.46mg/L |
| 17 | Unknown | NPOC | CCB | | 02_25_2021_CAL.cal | NPOC:0.08018mg/L |

| | Notes | Status | Date / Time | Vial |
|---|---|---|---|---|
| 1 | | Completed | 2/25/2021 1 | 1, 2, 3, 4, 5, |
| 2 | | Completed | 2/25/2021 1 | 8 |
| 3 | | Completed | 2/25/2021 1 | 9 |
| 4 | | Completed | 2/25/2021 1 | 10 |
| 5 | | Completed | 2/25/2021 1 | 11 |
| 6 | | Completed | 2/25/2021 1 | 12 |
| 7 | | Completed | 2/25/2021 1 | 13 |
| 8 | | Completed | 2/25/2021 1: | 14 |
| 9 | | Completed | 2/25/2021 1: | 15 |
| 10 | | Completed | 2/25/2021 1: | 16 |
| 11 | | Completed | 2/25/2021 1: | 17 |
| 12 | | Completed | 2/25/2021 2: | 18 |
| 13 | | Completed | 2/25/2021 2: | 19 |
| 14 | | Completed | 2/25/2021 2: | 20 |
| 15 | | Completed | 2/25/2021 2: | 21 |
| 16 | | Completed | 2/25/2021 3: | 22 |
| 17 | | Completed | 2/25/2021 3: | 23 |

# TOC-Control L Report

2021_02_25_001.tlx

**Instr.Information**

| | |
|---|---|
| Instrument Options | TOC/ASI/IC Unit/ |
| Catalyst | Regular Sensitivity |

**Cal. Curve**

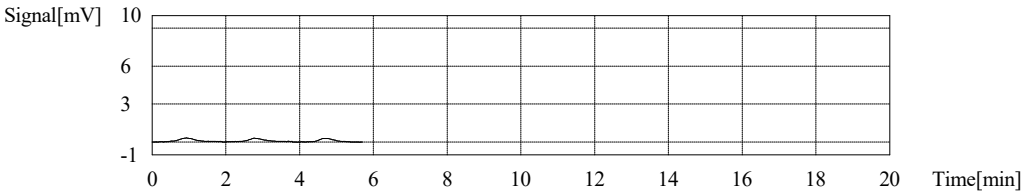
| | |
|---|---|
| Sample Name: | CAL |
| Sample ID: | 3150171(01-07) |
| Cal. Curve: | 02_25_2021_CAL.2021_02_25_09_13_02.cal |
| Status | Completed |

| Type | Anal. |
|---|---|
| Standard | NPOC |

Conc: 0.000mg/L

| No. | Area | Inj. Vol. | Aut. Dil. | Rem. | Ex. | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 0.7577 | 50uL | 1.000 | ******* | | 2/25/2021 9:21:39 AM |
| 2 | 0.6368 | 50uL | 1.000 | ******* | | 2/25/2021 9:23:47 AM |
| 3 | 0.6500 | 50uL | 1.000 | ******* | | 2/25/2021 9:25:55 AM |

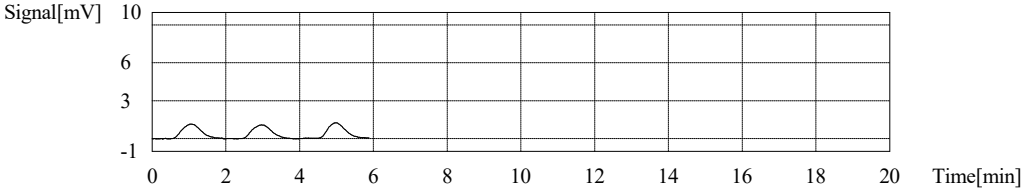
| | |
|---|---|
| Acid Add. | 0.000% |
| Sparge Gas Flow | 80mL/min |
| Sp. Time | 180.0sec |
| Mean Area | 0.6815 |




Conc: 1.000mg/L

| No. | Area | Inj. Vol. | Aut. Dil. | Rem. | Ex. | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 4.063 | 50uL | 1.000 | ******* | | 2/25/2021 9:34:44 AM |
| 2 | 3.946 | 50uL | 1.000 | ******* | | 2/25/2021 9:37:02 AM |
| 3 | 3.886 | 50uL | 1.000 | ******* | | 2/25/2021 9:39:10 AM |

| | |
|---|---|
| Acid Add. | 0.000% |
| Sparge Gas Flow | 80mL/min |
| Sp. Time | 180.0sec |
| Mean Area | 3.965 |



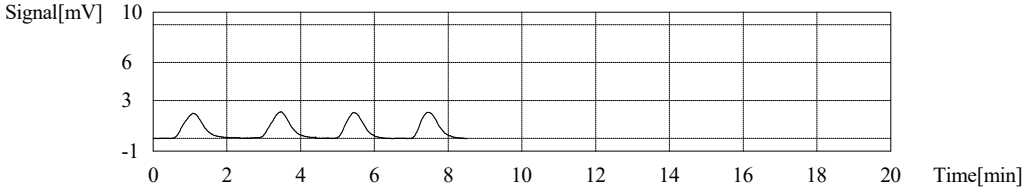

Conc: 2.000mg/L

| No. | Area | Inj. Vol. | Aut. Dil. | Rem. | Ex. | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 7.014 | 50uL | 1.000 | ******* | | 2/25/2021 9:48:25 AM |
| 2 | 6.976 | 50uL | 1.000 | ******* | | 2/25/2021 9:50:44 AM |
| 3 | 6.738 | 50uL | 1.000 | ******* | E | 2/25/2021 9:53:02 AM |
| 4 | 6.989 | 50uL | 1.000 | ******* | | 2/25/2021 9:55:18 AM |

# TOC-Control L Report



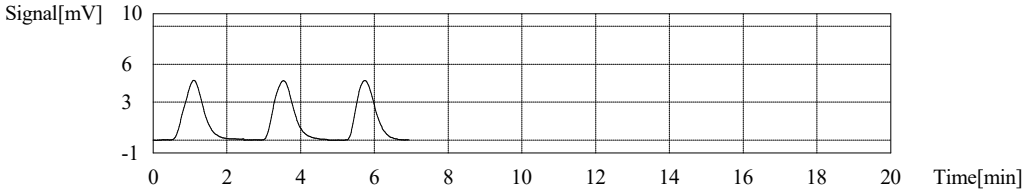
Acid Add. 0.000%
Sparge Gas Flow 80mL/min
Sp. Time 180.0sec
Mean Area 6.993




Conc: 5.000mg/L

| No. | Area | Inj. Vol. | Aut. Dil. | Rem. | Ex. | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 16.70 | 50uL | 1.000 | ******* | | 2/25/2021 10:04:35 AM |
| 2 | 16.99 | 50uL | 1.000 | ******* | | 2/25/2021 10:07:06 AM |
| 3 | 16.40 | 50uL | 1.000 | ******* | | 2/25/2021 10:09:32 AM |

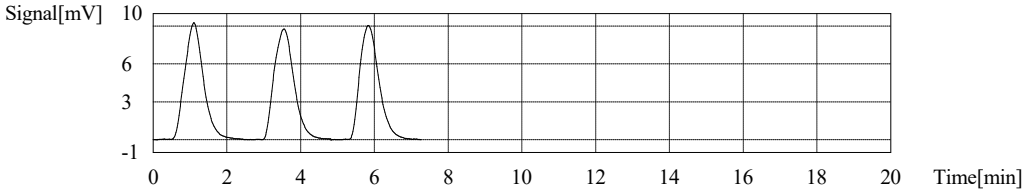
Acid Add. 0.000%
Sparge Gas Flow 80mL/min
Sp. Time 180.0sec
Mean Area 16.70




Conc: 10.00mg/L

| No. | Area | Inj. Vol. | Aut. Dil. | Rem. | Ex. | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 32.33 | 50uL | 1.000 | ******* | | 2/25/2021 10:18:54 AM |
| 2 | 32.41 | 50uL | 1.000 | ******* | | 2/25/2021 10:21:29 AM |
| 3 | 32.27 | 50uL | 1.000 | ******* | | 2/25/2021 10:24:10 AM |

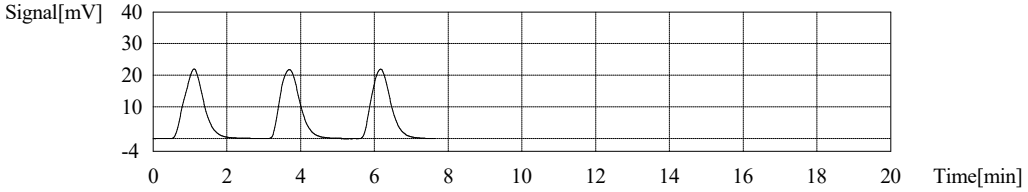
Acid Add. 0.000%
Sparge Gas Flow 80mL/min
Sp. Time 180.0sec
Mean Area 32.34




Conc: 25.00mg/L

| No. | Area | Inj. Vol. | Aut. Dil. | Rem. | Ex. | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 79.83 | 50uL | 1.000 | ******* | | 2/25/2021 10:33:42 AM |
| 2 | 80.51 | 50uL | 1.000 | ******* | | 2/25/2021 10:36:25 AM |
| 3 | 79.09 | 50uL | 1.000 | ******* | | 2/25/2021 10:39:12 AM |

Acid Add. 0.000%
Sparge Gas Flow 80mL/min
Sp. Time 180.0sec
Mean Area 79.81



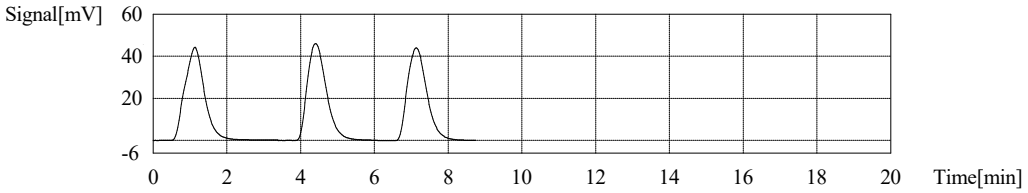

Conc: 50.00mg/L

| No. | Area | Inj. Vol. | Aut. Dil. | Rem. | Ex. | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 162.4 | 50uL | 1.000 | ******* | | 2/25/2021 10:49:29 AM |
| 2 | 163.8 | 50uL | 1.000 | ******* | | 2/25/2021 10:52:26 AM |
| 3 | 159.9 | 50uL | 1.000 | ******* | | 2/25/2021 10:55:21 AM |

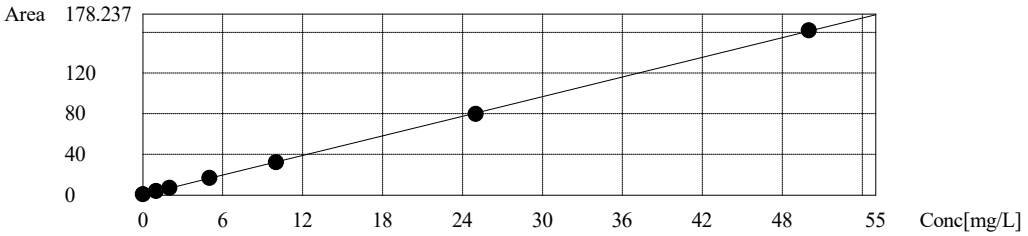
# TOC-Control L Report

2021_02_25_001.tlx

| | |
|---|---|
| Acid Add. | 0.000% |
| Sparge Gas Flow | 80mL/min |
| Sp. Time | 180.0sec |
| Mean Area | 162.0 |




| | |
|---|---|
| Slope: | 3.220 |
| Intercept | 0.4365 |
| r^2 | 0.9999 |
| r | 1.0000 |
| RSE(%) | N/A |
| Zero Shift | No |




**Sample**

| | |
|---|---|
| Sample Name: | ICV |
| Sample ID: | 315017108 |
| Origin: | 02_25_2021_CAL.cal |
| Status | Completed |
| Chk. Result | |

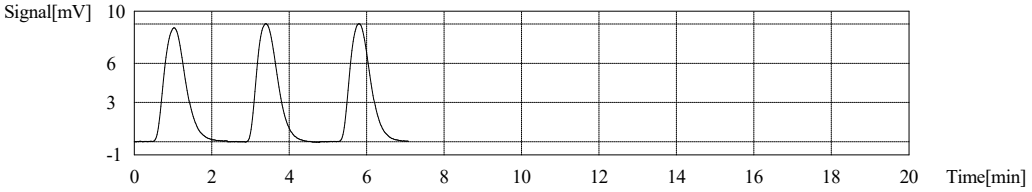
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:10.14mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 33.04 | 10.13mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 2/25/2021 11:32:06 AM |
| 2 | 33.24 | 10.19mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 2/25/2021 11:34:44 AM |
| 3 | 32.98 | 10.11mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 2/25/2021 11:37:17 AM |

| | |
|---|---|
| Mean Area | 33.09 |
| Mean Conc. | 10.14mg/L |




**Sample**

| | |
|---|---|
| Sample Name: | ICB |
| Sample ID: | |
| Origin: | 02_25_2021_CAL.cal |
| Status | Completed |
| Chk. Result | |

| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:-0.1140mg/L |

1. Det

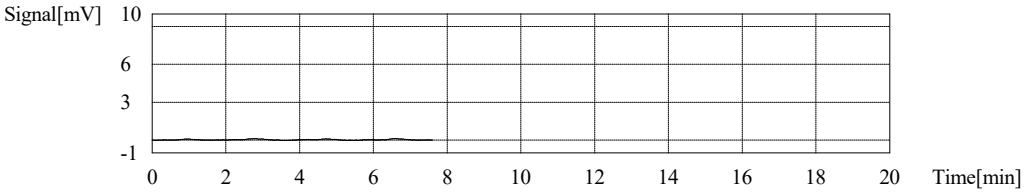
# TOC-Control L Report

2021_02_25_001.tlx

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 0.000 | -0.1356mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 2/25/2021 11:46:05 AM |
| 2 | 0.2080 | -0.07096mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 2/25/2021 11:48:13 AM |
| 3 | 0.000 | -0.1356mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 2/25/2021 11:50:20 AM |
| 4 | 0.2102 | -0.07028mg/L | 50uL | 1.000 | E | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 2/25/2021 11:52:27 AM |

Mean Area 0.06933
Mean Conc. -0.1140mg/L



| | Type | Analysis | Sample Name | Sample ID | Origin | Result | Notes | Status |
|---|---|---|---|---|---|---|---|---|
| 1 | Unknown | NPOC | CCV | 316131907 | 02_25_2021 | NPOC:23.7 | | Completed |
| 2 | Unknown | NPOC | CCB | | 02_25_2021 | NPOC:-0.01 | | Completed |
| 3 | Unknown | NPOC | MBLK-04192021 | | 02_25_2021 | NPOC:-0.10 | | Completed |
| 4 | Unknown | NPOC | LCS-04192021 | | 02_25_2021 | NPOC:9.00 | | Completed |
| 5 | Unknown | NPOC | LCSD-04192021 | TOC_W | 02_25_2021 | NPOC:9.71 | | Completed |
| 6 | Unknown | NPOC | HS21040564-01 | | 02_25_2021 | NPOC:15.8 | | Completed |
| 7 | Unknown | NPOC | HS21040564-01MS | | 02_25_2021 | NPOC:26.4 | | Completed |
| 8 | Unknown | NPOC | HS21040766-01 | | 02_25_2021 | NPOC:12.0 | | Completed |
| 9 | Unknown | NPOC | HS21040778-02 | | 02_25_2021 | NPOC:3.82 | | Completed |
| 10 | Unknown | NPOC | HS21040699-01 | | 02_25_2021 | NPOC:4.12 | | Completed |
| 11 | Unknown | NPOC | HS21040756-04 | | 02_25_2021 | NPOC:66.7 | | Completed |
| 12 | Unknown | NPOC | HS21040549-01 | | 02_25_2021 | NPOC:13.4 | | Completed |
| 13 | Unknown | NPOC | CCV | 316131907 | 02_25_2021 | NPOC:24.6 | | Completed |
| 14 | Unknown | NPOC | CCB | | 02_25_2021 | NPOC:-0.01 | | Completed |
| 15 | Unknown | NPOC | HS21040551-01 | TOC_W 531 | 02_25_2021 | NPOC:24.3 | | Completed |
| 16 | Unknown | NPOC | HS21040563-01 | | 02_25_2021 | NPOC:13.5 | | Completed |
| 17 | Unknown | NPOC | HS21040566-01 | | 02_25_2021 | NPOC:7.63 | | Completed |
| 18 | Unknown | NPOC | HS21040756-04DF10 | | 02_25_2021 | NPOC:6.79 | | Completed |
| 19 | Unknown | NPOC | CCV | 316131907 | 02_25_2021 | NPOC:24.3 | | Completed |
| 20 | Unknown | NPOC | CCB | | 02_25_2021 | NPOC:0.03 | | Completed |
| 21 | Unknown | NPOC | MBLK2-04192021 | | 02_25_2021 | NPOC:-0.06 | | Completed |
| 22 | Unknown | NPOC | LCS2-04192021 | | 02_25_2021 | NPOC:9.07 | | Completed |
| 23 | Unknown | NPOC | LCSD2-04192021 | TOC_W 531 | 02_25_2021 | NPOC:9.70 | | Completed |
| 24 | Unknown | NPOC | HS21040281-01 | | 02_25_2021 | NPOC:0.38 | | Completed |
| 25 | Unknown | NPOC | HS21040281-02 | | 02_25_2021 | NPOC:0.87 | | Completed |
| 26 | Unknown | NPOC | HS21040281-03 | | 02_25_2021 | NPOC:0.89 | | Completed |
| 27 | Unknown | NPOC | HS21040281-04 | | 02_25_2021 | NPOC:43.0 | | Completed |
| 28 | Unknown | NPOC | HS21040281-05 | | 02_25_2021 | NPOC:1.29 | | Completed |
| 29 | Unknown | NPOC | HS21040281-05MS | | 02_25_2021 | NPOC:11.3 | | Completed |
| 30 | Unknown | NPOC | HS21040281-06 | | 02_25_2021 | NPOC:0.79 | | Completed |
| 31 | Unknown | NPOC | CCV | 316131907 | 02_25_2021 | NPOC:23.9 | | Completed |
| 32 | Unknown | NPOC | CCB | | 02_25_2021 | NPOC:-0.06 | | Completed |
| 33 | Unknown | NPOC | HS21040281-06MS | | 02_25_2021 | NPOC:10.7 | | Completed |
| 34 | Unknown | NPOC | HS21040281-07 | | 02_25_2021 | NPOC:0.75 | | Completed |
| 35 | Unknown | NPOC | HS21040281-08 | | 02_25_2021 | NPOC:23.3 | | Completed |
| 36 | Unknown | NPOC | HS21040281-09 | | 02_25_2021 | NPOC:1.15 | | Completed |
| 37 | Unknown | NPOC | HS21040281-10 | | 02_25_2021 | NPOC:0.85 | | Completed |
| 38 | Unknown | NPOC | CCV | 316131907 | 02_25_2021 | NPOC:23.6 | | Completed |
| 39 | Unknown | NPOC | CCB | | 02_25_2021 | NPOC:-0.12 | | Completed |
| 40 | Unknown | NPOC | MBLK3-04192021 | | 02_25_2021 | NPOC:-0.13 | | Completed |
| 41 | Unknown | NPOC | LCS3-04192021 | | 02_25_2021 | NPOC:10.2 | | Completed |
| 42 | Unknown | NPOC | LCSD3-04192021 | TOC_W 531 | 02_25_2021 | NPOC:9.79 | | Completed |
| 43 | Unknown | NPOC | HS21040281-11 | | 02_25_2021 | NPOC:189. | | Completed |
| 44 | Unknown | NPOC | HS21040281-11MS | | 02_25_2021 | NPOC:194. | | Completed |
| 45 | Unknown | NPOC | HS21040284-29 | | 02_25_2021 | NPOC:1.75 | | Completed |
| 46 | Unknown | NPOC | HS21040284-30 | | 02_25_2021 | NPOC:0.05 | | Completed |
| 47 | Unknown | NPOC | HS21040284-31 | | 02_25_2021 | NPOC:0.05 | | Completed |
| 48 | Unknown | NPOC | HS21040284-32 | | 02_25_2021 | NPOC:0.05 | | Completed |
| 49 | Unknown | NPOC | HS21040299-67 | | 02_25_2021 | NPOC:1.04 | | Completed |
| 50 | Unknown | NPOC | CCV | 316131907 | 02_25_2021 | NPOC:23.7 | | Completed |
| 51 | Unknown | NPOC | CCB | | 02_25_2021 | NPOC:-0.13 | | Completed |
| 52 | Unknown | NPOC | HS21040299-68 | | 02_25_2021 | NPOC:1.97 | | Completed |
| 53 | Unknown | NPOC | HS21040300-01 | | 02_25_2021 | NPOC:2264 | | Completed |

| | Date / Time | Vial |
|---|---|---|
| 1 | 4/19/2021 9:39:48 A | 1 |
| 2 | 4/19/2021 9:52:50 A | 2 |
| 3 | 4/19/2021 10:05:52 | 3 |
| 4 | 4/19/2021 10:20:57 | 4 |
| 5 | 4/19/2021 10:36:29 | 5 |
| 6 | 4/19/2021 10:51:13 | 6 |
| 7 | 4/19/2021 11:06:17 | 7 |
| 8 | 4/19/2021 11:20:59 | 8 |
| 9 | 4/19/2021 11:34:32 | 9 |
| 10 | 4/19/2021 11:48:08 | 10 |
| 11 | 4/19/2021 12:03:36 | 11 |
| 12 | 4/19/2021 12:21:02 | 12 |
| 13 | 4/19/2021 12:36:49 | 13 |
| 14 | 4/19/2021 12:52:03 | 14 |
| 15 | 4/19/2021 1:07:14 P | 15 |
| 16 | 4/19/2021 2:08:21 P | 16 |
| 17 | 4/19/2021 2:22:42 P | 17 |
| 18 | 4/19/2021 2:37:14 P | 11 |
| 19 | 4/19/2021 2:53:40 P | 18 |
| 20 | 4/19/2021 3:08:51 P | 19 |
| 21 | 4/19/2021 3:27:11 P | 3 |
| 22 | 4/19/2021 3:42:00 P | 4 |
| 23 | 4/19/2021 3:57:03 P | 5 |
| 24 | 4/19/2021 4:12:22 P | 20 |
| 25 | 4/19/2021 4:27:26 P | 21 |
| 26 | 4/19/2021 4:42:34 P | 22 |
| 27 | 4/19/2021 4:57:50 P | 23 |
| 28 | 4/19/2021 5:13:16 P | 24 |
| 29 | 4/19/2021 5:27:30 P | 25 |
| 30 | 4/19/2021 5:40:35 P | 26 |
| 31 | 4/19/2021 6:00:08 P | 1 |
| 32 | 4/19/2021 6:13:11 P | 2 |
| 33 | 4/19/2021 6:27:43 P | 27 |
| 34 | 4/19/2021 6:42:59 P | 28 |
| 35 | 4/19/2021 6:57:15 P | 29 |
| 36 | 4/19/2021 7:12:29 P | 30 |
| 37 | 4/19/2021 7:27:41 P | 31 |
| 38 | 4/19/2021 7:43:20 P | 13 |
| 39 | 4/19/2021 7:58:33 P | 14 |
| 40 | 4/19/2021 8:11:43 P | 3 |
| 41 | 4/19/2021 8:26:54 P | 4 |
| 42 | 4/19/2021 8:41:44 P | 5 |
| 43 | 4/19/2021 8:57:02 P | 32 |
| 44 | 4/19/2021 9:12:23 P | 33 |
| 45 | 4/19/2021 9:25:45 P | 34 |
| 46 | 4/19/2021 9:40:59 P | 35 |
| 47 | 4/19/2021 9:56:09 P | 36 |
| 48 | 4/19/2021 10:11:20 | 37 |
| 49 | 4/19/2021 10:26:50 | 38 |
| 50 | 4/19/2021 10:42:46 | 18 |
| 51 | 4/19/2021 10:57:58 | 19 |
| 52 | 4/19/2021 11:11:50 | 39 |
| 53 | 4/19/2021 11:36:13 | 40 |

| | Type | Analysis | Sample Name | Sample ID | Origin | Result | Notes | Status |
|---|---|---|---|---|---|---|---|---|
| 54 | Unknown | NPOC | HS21040691-01 | | 02_25_2021 | NPOC:18.0 | | Completed |
| 55 | Unknown | NPOC | HS21040702-01 | | 02_25_2021 | NPOC:38.8 | | Completed |
| 56 | Unknown | NPOC | CCV | 316131907 | 02_25_2021 | NPOC:24.5 | | Completed |
| 57 | Unknown | NPOC | CCB | | 02_25_2021 | NPOC:0.16 | | Completed |
| 58 | Unknown | NPOC | MBLK4-04192021 | | 02_25_2021 | NPOC:0.09 | | Completed |
| 59 | Unknown | NPOC | LCS4-04192021 | | 02_25_2021 | NPOC:10.3 | | Completed |
| 60 | Unknown | NPOC | LCSD4-04192021 | TOC_W 531 | 02_25_2021 | NPOC:9.88 | | Completed |
| 61 | Unknown | NPOC | HS21040286-04 | | 02_25_2021 | NPOC:1.57 | | Completed |
| 62 | Unknown | NPOC | HS21040286-05 | | 02_25_2021 | NPOC:1.76 | | Completed |
| 63 | Unknown | NPOC | HS21040286-06 | | 02_25_2021 | NPOC:1.65 | | Completed |
| 64 | Unknown | NPOC | HS21040286-07 | | 02_25_2021 | NPOC:1.62 | | Completed |
| 65 | Unknown | NPOC | HS21040286-08 | | 02_25_2021 | NPOC:1.57 | | Completed |
| 66 | Unknown | NPOC | HS21040286-08MS | | 02_25_2021 | NPOC:11.5 | | Completed |
| 67 | Unknown | NPOC | HS21040286-09 | | 02_25_2021 | NPOC:1.72 | | Completed |
| 68 | Unknown | NPOC | CCV | 316131907 | 02_25_2021 | NPOC:23.8 | | Completed |
| 69 | Unknown | NPOC | CCB | | 02_25_2021 | NPOC:-0.04 | | Completed |

| | Date / Time | Vial |
|---|---|---|
| 54 | 4/19/2021 11:53:47 | 41 |
| 55 | 4/20/2021 12:08:05 | 42 |
| 56 | 4/20/2021 12:24:32 | 1 |
| 57 | 4/20/2021 12:37:36 | 2 |
| 58 | 4/20/2021 12:52:50 | 3 |
| 59 | 4/20/2021 1:07:48 A | 4 |
| 60 | 4/20/2021 1:23:12 A | 5 |
| 61 | 4/20/2021 1:36:32 A | 43 |
| 62 | 4/20/2021 1:52:09 A | 44 |
| 63 | 4/20/2021 2:07:31 A | 45 |
| 64 | 4/20/2021 2:23:45 A | 46 |
| 65 | 4/20/2021 2:39:20 A | 47 |
| 66 | 4/20/2021 2:54:05 A | 48 |
| 67 | 4/20/2021 3:07:27 A | 49 |
| 68 | 4/20/2021 3:23:07 A | 13 |
| 69 | 4/20/2021 3:38:17 A | 14 |

# TOC-Control L Report



**Instr.Information**

Instrument Options: TOC/ASI/IC Unit/
Catalyst: Regular Sensitivity

**Sample**

Sample Name: CCV
Sample ID: 316131907
Origin: 02_25_2021_CAL.cal
Status: Completed
Chk. Result

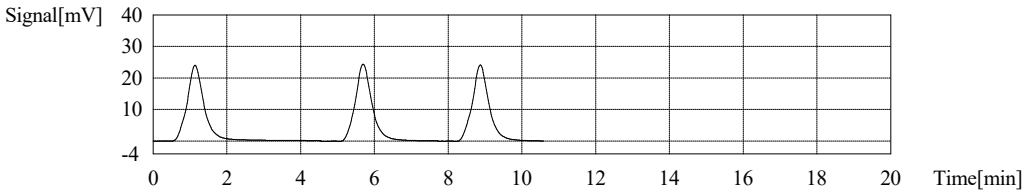
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:23.75mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 78.02 | 24.09mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/19/2021 9:33:16 AM |
| 2 | 77.02 | 23.78mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/19/2021 9:36:41 AM |
| 3 | 75.69 | 23.37mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/19/2021 9:39:48 AM |

Mean Area 76.91
Mean Conc. 23.75mg/L




**Sample**

Sample Name: CCB
Sample ID:
Origin: 02_25_2021_CAL.cal
Status: Completed
Chk. Result

| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:-0.01477mg/L |

1. Det

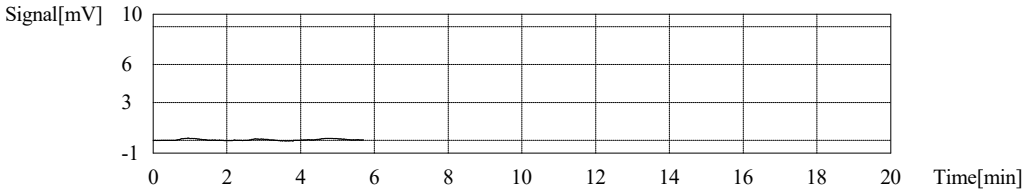
Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 0.4732 | 0.01140mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/19/2021 9:48:36 AM |
| 2 | 0.3518 | -0.02630mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/19/2021 9:50:43 AM |
| 3 | 0.3418 | -0.02941mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/19/2021 9:52:50 AM |

# TOC-Control L Report



Mean Area 0.3889
Mean Conc. -0.01477mg/L




**Sample**

Sample Name: MBLK-04192021
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

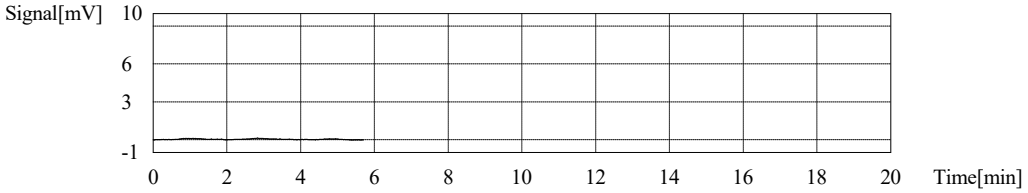
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:-0.1040mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 0.1737 | -0.08162mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/19/2021 10:01:38 AM |
| 2 | 0.1310 | -0.09488mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/19/2021 10:03:45 AM |
| 3 | 0.000 | -0.1356mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/19/2021 10:05:52 AM |

Mean Area 0.1016
Mean Conc. -0.1040mg/L




**Sample**

Sample Name: LCS-04192021
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:9.003mg/L |

1. Det

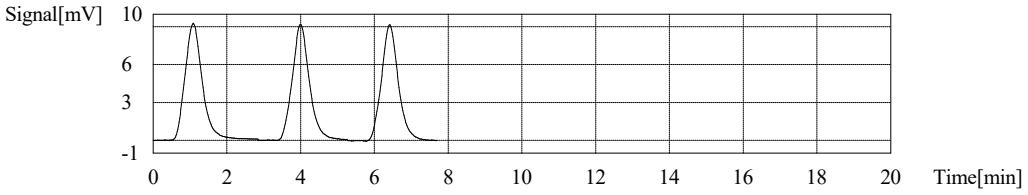
Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 29.77 | 9.110mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/19/2021 10:15:37 AM |
| 2 | 29.36 | 8.982mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/19/2021 10:18:17 AM |
| 3 | 29.15 | 8.917mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/19/2021 10:20:57 AM |

# TOC-Control L Report



Mean Area 29.43
Mean Conc. 9.003mg/L




**Sample**

Sample Name: LCSD-04192021
Sample ID: TOC_W
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

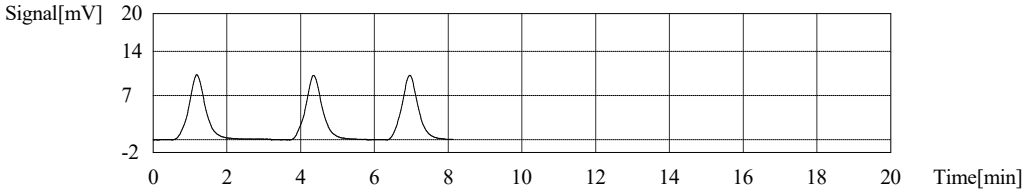
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:9.716mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 32.16 | 9.852mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/19/2021 10:31:03 AM |
| 2 | 31.78 | 9.734mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/19/2021 10:33:55 AM |
| 3 | 31.23 | 9.563mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/19/2021 10:36:29 AM |

Mean Area 31.72
Mean Conc. 9.716mg/L




**Sample**

Sample Name: HS21040564-01
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:15.88mg/L |

1. Det

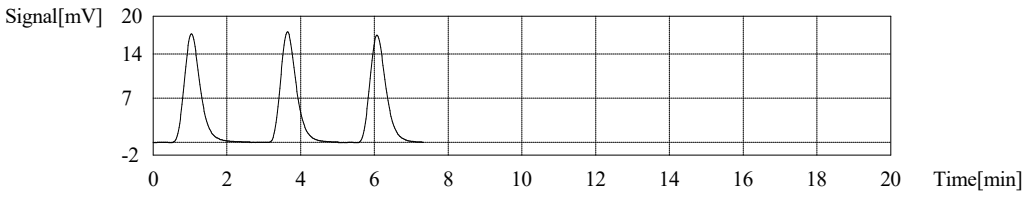
Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 51.47 | 15.85mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/19/2021 10:46:00 AM |
| 2 | 51.79 | 15.95mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/19/2021 10:48:39 AM |
| 3 | 51.47 | 15.85mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/19/2021 10:51:13 AM |

# TOC-Control L Report



Mean Area 51.58
Mean Conc. 15.88mg/L




**Sample**

Sample Name: HS21040564-01MS
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

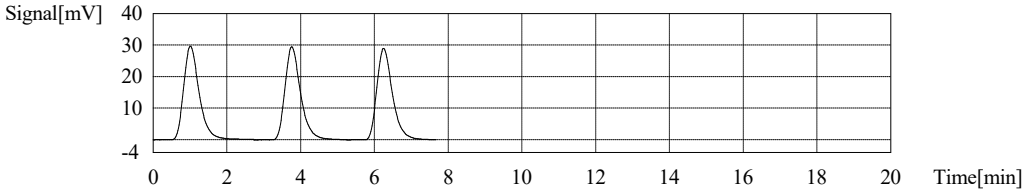
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:26.47mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 85.97 | 26.56mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/19/2021 11:00:51 AM |
| 2 | 86.18 | 26.63mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/19/2021 11:03:36 AM |
| 3 | 84.89 | 26.23mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/19/2021 11:06:17 AM |

Mean Area 85.68
Mean Conc. 26.47mg/L




**Sample**

Sample Name: HS21040699-01
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:4.126mg/L |

1. Det

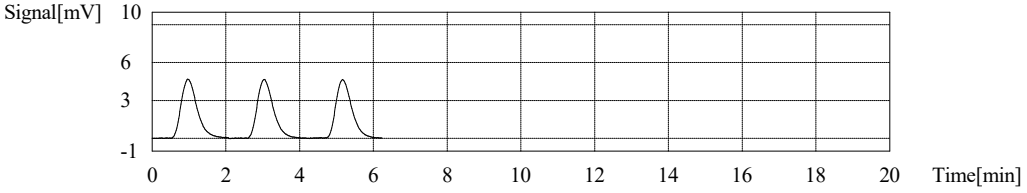
Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 13.74 | 4.132mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/19/2021 11:43:30 AM |
| 2 | 13.83 | 4.159mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/19/2021 11:45:53 AM |
| 3 | 13.60 | 4.088mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/19/2021 11:48:08 AM |

# TOC-Control L Report



Mean Area 13.72
Mean Conc. 4.126mg/L




**Sample**

Sample Name: CCV
Sample ID: 316131907
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

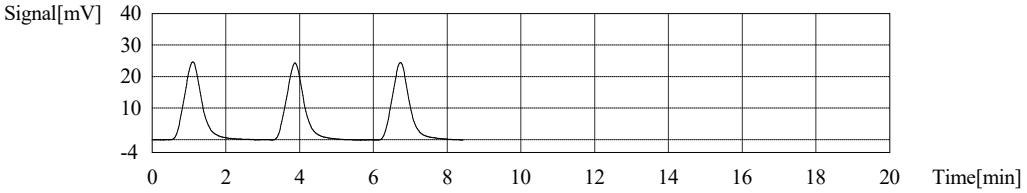
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:24.62mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 80.42 | 24.84mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/19/2021 12:30:38 PM |
| 2 | 80.01 | 24.71mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/19/2021 12:33:46 PM |
| 3 | 78.75 | 24.32mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/19/2021 12:36:49 PM |

Mean Area 79.73
Mean Conc. 24.62mg/L




**Sample**

Sample Name: CCB
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:-0.01476mg/L |

1. Det

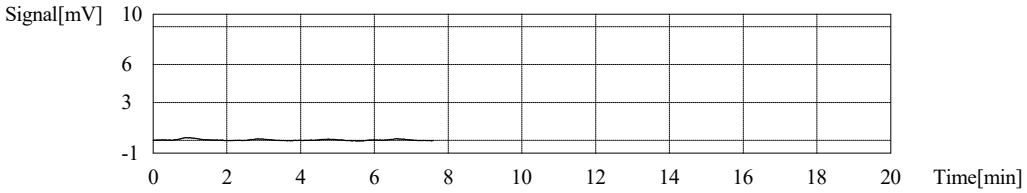
Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 0.5699 | 0.04143mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/19/2021 12:45:38 PM |
| 2 | 0.3287 | -0.03348mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/19/2021 12:47:46 PM |
| 3 | 0.000 | -0.1356mg/L | 50uL | 1.000 | E | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/19/2021 12:49:54 PM |
| 4 | 0.2683 | -0.05224mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/19/2021 12:52:03 PM |

# TOC-Control L Report

2021_04_19_001.tlx

| | |
|---|---|
| Mean Area | 0.3890 |
| Mean Conc. | -0.01476mg/L |



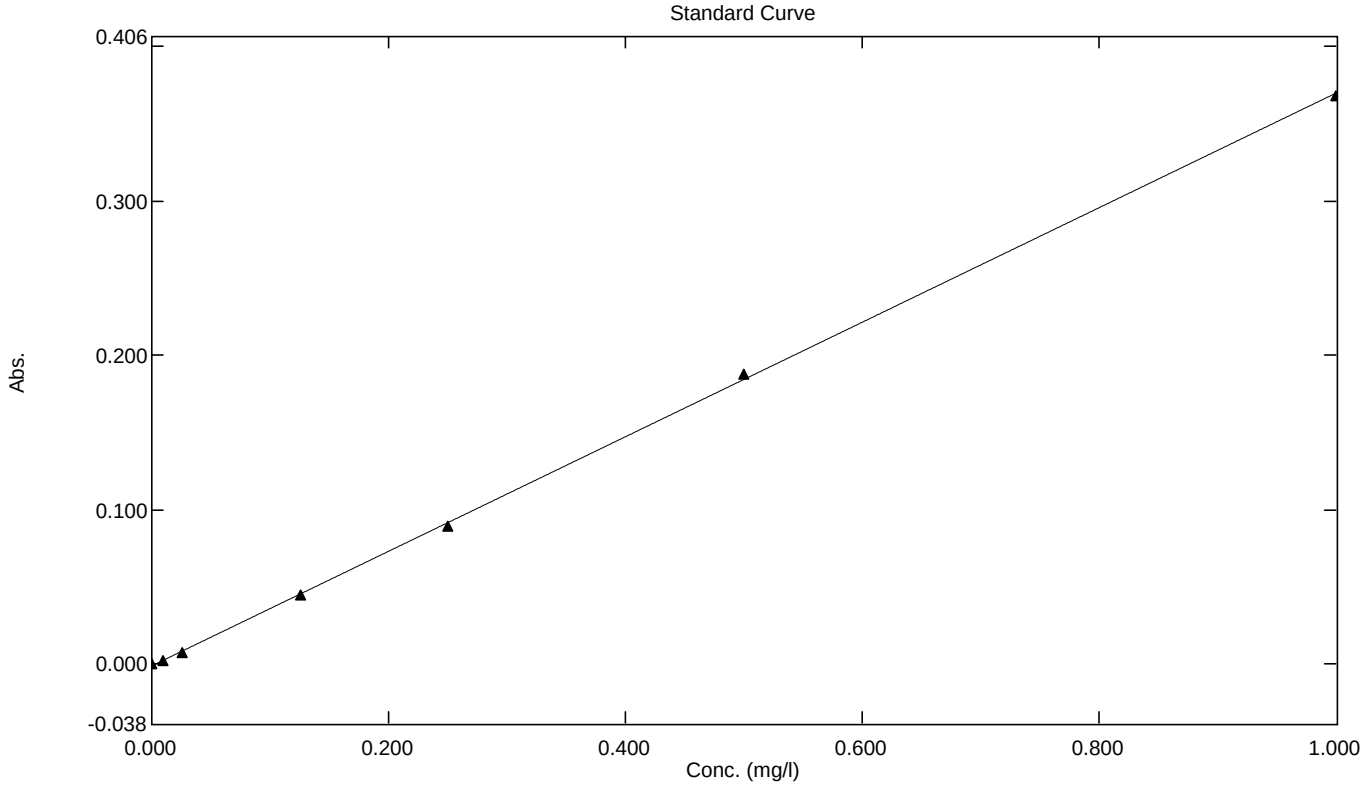
# HS21040699 Wet Chem Raw Data (P-ORTHO)

ALS WO# HS21040699

# Standard Table Report

05/04/2021 01:03:38 PM

File Name: C:\Program Files (x86)\Shimadzu\UVProbe\Data\O_PO4_UNKNOWN\2021\04152021_P_ORTHO_W.p



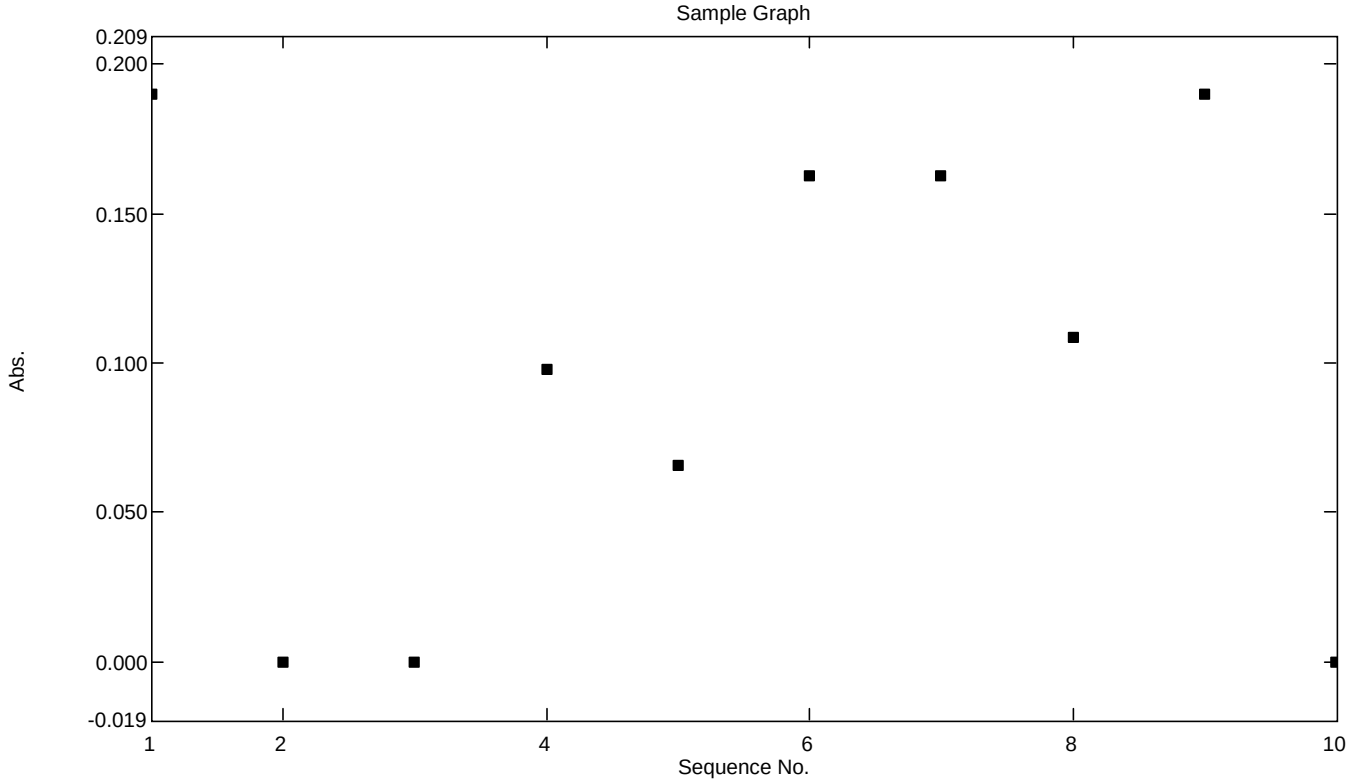

Standard Table

| | Sample ID | Type | Ex | Conc | WL650.0 | Wgt.Factor | Comments |
|---|---|---|---|---|---|---|---|
| 1 | STD1 | Standard | | 0.000 | -0.000 | 1.000 | |
| 2 | STD2 | Standard | | 0.010 | 0.002 | 1.000 | |
| 3 | STD3 | Standard | | 0.025 | 0.007 | 1.000 | |
| 4 | STD4 | Standard | | 0.125 | 0.044 | 1.000 | |
| 5 | STD5 | Standard | | 0.250 | 0.089 | 1.000 | |
| 6 | STD6 | Standard | | 0.500 | 0.188 | 1.000 | |
| 7 | STD7 | Standard | | 1.000 | 0.368 | 1.000 | |
| 8 | | | | | | | |

# Sample Table Report

05/04/2021 01:04:16 PM

File Name: C:\Program Files (x86)\Shimadzu\UVProbe\Data\O_PO4_UNKNOWN\2021\04152021_P_ORTHO_W.




Sample Table

| | Sample ID | Type | Ex | Date | Time | Conc | WL650. | Comments |
|---|---|---|---|---|---|---|---|---|
| 1 | CCV | Unknown | | 04/15/2021 | 11:50:20 AM | 0.516 | 0.190 | 316131610 WC-14 |
| 2 | CCB | Unknown | | 04/15/2021 | 11:50:30 AM | 0.002 | -0.000 | |
| 3 | MBLK | Unknown | | 04/15/2021 | 11:50:36 AM | 0.002 | -0.000 | |
| 4 | LCS | Unknown | | 04/15/2021 | 11:50:58 AM | 0.266 | 0.098 | 316131609 WC-14 |
| 5 | HS21040699.01 | Unknown | | 04/15/2021 | 11:51:21 AM | 0.181 | 0.066 | PF:10X |
| 6 | HS21040699.01MS | Unknown | | 04/15/2021 | 11:51:50 AM | 0.442 | 0.163 | PF:10X |
| 7 | HS21040699.01MS D | Unknown | | 04/15/2021 | 11:52:13 AM | 0.441 | 0.163 | PF:10X |
| 8 | HS21040705.01 | Unknown | | 04/15/2021 | 11:52:56 AM | 0.296 | 0.108 | PF:10X |
| 9 | CCV2 | Unknown | | 04/15/2021 | 11:53:11 AM | 0.515 | 0.190 | |
| 10 | CCB2 | Unknown | | 04/15/2021 | 11:53:21 AM | 0.003 | -0.000 | C-316132204 UV-11 |
| 11 | | | | | | | | |

# HS21040699 Wet Chem Raw Data (NIT-AMM_W- E350.3 - ISE)

ALS WO# HS21040699

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

NH-Amm_W_ISE/350.3

Logbook **31705**

# Ion Selective Electrode Logbook

| | | | |
|---|---|---|---|
| Analyst: YP | | | Date: 4/20/21 |
| Method: SM4500NH3-D/EPA 350.3 or SM4500 NH3 B-F | | | |
| Probe Calibration Date: 4/20/21 | Cal Std ID: 3161321 02-06 | | Probe ID: X01-11806 |
| Std Level | mV | Conc., mg/L: | Sodium Thiosulfate ID: |
| STD 1 (mg/L): 0.2 | 132.2 | 0.199 | Std Level / mV / Conc., mg/L: |
| STD 2 (mg/L): 1 | 95.1 | 1.002 | STD 4 (mg/L): 10 / 36.7 / 10.005 |
| STD 3 (mg/L): 5 | 54.7 | 5.001 | STD 5 (mg/L): 50 / -1.1 / 50.010 |
| LSC / MS Spike ID: 3100603523 | | | ICAL Date & Slope: -96.0Y-156.6 mV |
| ICV Cal STD ID: 3161321 01 | | | |
| DPD Reagent ID: 3100603420 | | | |

| WO # / SX # | Bottle # | Initial g or ml | Final Vol. ml | Dilution Factor | Initial Conc. mg/L | Final Conc. mg/L | Chlorine Check ( +/– ) | Comments |
|---|---|---|---|---|---|---|---|---|
| CCV | | 50ml | 50ml | | 10.106 | | | |
| CCB | | | | | 0.009 | | | |
| MBLK | | | | | 0.011 | | | |
| LCS | | | | | 9.786 | | | |
| HS2106 0699-01 | | | | | 3.890 | | | |
| 699-01MS | | | | | 12.955 | | | |
| 699-01MSD | | | | | 13.115 | | | |
| 620-01 | | | | | 0.0049 | | | |
| 620-01 | | 5ml | | 10X | 0.0020 | | | |
| 631-01 | | 50ml | | | 1.124 | | | |
| 631-01 | | 5ml | | 10X | 0.145 | | | |
| 853-01 | | 50ml | | | 0.315 | | | |
| CCV | | | | | 10.112 | | | |
| CCB | | | | | 0.012 | | | |
| | | | | | | | | YP 4/20/21 |

Batch ID: 381968 / 381969 | Reported By YP | Reviewed By: PD


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# HS21040699 - Sub Perch IV (E2100411)

ALS WO# HS21040699

April 29, 2021 Service Request No:E2100411

RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Suite 210
Houston, TX 77099-4338

**Laboratory Results for: HS21040699**

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory April 14, 2021
For your reference, these analyses have been assigned our service request number **E2100411.**

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.

Respectfully submitted,

**ALS Group USA, Corp. dba ALS Environmental**



Corey Grandits
Project Manager

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 Houston | **Service Request No.:** | E2100411 |
| **Project:** | HS21040699 | **Date Received:** | 04/14/21 |
| **Sample Matrix:** | W | | |

## 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 04/14/21.

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:**

EQ2100213: 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 and DLCS recoveries are within QC limits.

DoD certification is held for the method/matrix/analytes provided in this report.

*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:**E2100411
**Project:** HS21040699

## SAMPLE CROSS-REFERENCE

| SAMPLE # | CLIENT SAMPLE ID | DATE | TIME |
|---|---|---|---|
| E2100411-001 | LH18/24-SP650_041321_BIX | 4/13/2021 | 1400 |

# Service Request Summary

**Folder #:** **E2100411**
Client Name: ALS Environmental - US
Project Name: HS21040699
Project Number:

**Report To:** RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Houston, TX 77099-4338
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number: 281-530-5887
E-mail: rj.modashia@alsglobal.com

Project Chemist: Corey Grandits
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 04/14/21
Internal Due Date: 4/28/2021
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS21040699
EDD: No EDD Specified

1 125 mL-Plastic Bottle Plastic
**Location:** EHRMS-WIC 3B
**Pressure Gas:**

| Lab Samp No. | Client Samp No | Matrix | Collected | HOUSTON ClO4 DOD/6850 |
|---|---|---|---|---|
| E2100411-001 | LH18/24-SP650_041321_BIX | Ground Water | 04/13/21 1400 | **IV** |

# Service Request Summary

**Folder #:** **E2100411**
Client Name: ALS Environmental - US
Project Name: HS21040699
Project Number:

**Report To:** RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Houston, TX 77099-4338
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number: 281-530-5887
E-mail: rj.modashia@alsglobal.com

Project Chemist: Corey Grandits
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 04/14/21
Internal Due Date: 4/28/2021
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS21040699
EDD: No EDD Specified

1 125 mL-Plastic Bottle Plastic
**Location:** EHRMS-WIC 3B
**Pressure Gas:**

## Test Comments:

| Group | Test/Method | Samples | Comments |
|---|---|---|---|
| Semivoa GCMS | ClO4 DOD/6850 | 1 | Level II due 4/28,IV due 5/5 |

# 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 | Internal standard not within the specified limits. See case narrative. |
| 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. |
| 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. |

# Data Qualifiers

## Lab Standard

| | |
|---|---|
| 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 |
|---|---|---|
| American Association for Laboratory Accreditation | 2897.01 2020 | 11/30/2021 |
| Arizona Department of Health Services | AZ0793-2020 | 5/27/2021 |
| Arkansas Department of Environmental Quality | 21-022-0 | 3/26/2022 |
| California Department of Health Services | 2919-2020 | 4/30/2021 |
| Department of Defense | A2LA 2897.01 | 11/30/2021 |
| Florida Department of Health | E87611-2020 | 6/30/2021 |
| Hawaii Department of Health | 2020 | 4/30/2021 |
| Illinois Environmental Protection Agency | 2000322020-4 | 5/9/2021 |
| Kansas Department of Health and Environment | E-10352-2020 | 7/31/2021 |
| Louisiana Department of Environmental Quality | 03087-2020 | 6/30/2021 |
| Louisiana Department of Health and Hospitals | LA028-2021 | 12/31/2021 |
| Maine Department of Health and Human Services | 2020016 | 6/5/2022 |
| Maryland Department of the Environment | 343-2020 | 6/30/2021 |
| Michigan Depratment of Environmental Quality | 9971-2020 | 4/30/2021 |
| Nebraska Department of Health and Human Services | NE-OS-25-13 (2020) | 4/30/2021 |
| Nevada Department of Concervation and Natural Resources | TX026932021-1 | 7/31/2021 |
| New Jersey Department of Environmental Protection | TX008 | 6/30/2021 |
| Oklahoma Department of Environmental Quality | 2020-123 | 8/31/2021 |
| Pennsylvania Department of Environmental Protection | 014 | 6/30/2021 |
| Tennessee Department of Environment and Concervation | 04016-2020 | 4/30/2021 |
| Texas Commision on Environmental Quality | T104704231-20-26 | 4/30/2021 |
| United States Department of Agriculture | P330-19-00299 | 10/10/2022 |



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:** **15936**

**SUBCONTRACT TO:**

ALS Environmental
10450 Stancliff RoadSuite 210
Houston, TX 77084

**Phone:** +1 281 530 5656

**CUSTOMER INFORMATION:**

| | |
|---|---|
| **Company:** | ALS Houston |
| **Contact:** | RJ Modashia |
| **Address:** | 10450 Stancliff Rd, Ste 210 |
| **Phone:** | +1 281 530 5656 |
| **Email:** | RJ.Modashia@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:** | HS21040699 |
| **TSR:** | Sonia West |

| | LAB SAMPLE ID | CLIENT SAMPLE ID | MATRIX | COLLECT DATE |
|---|---|---|---|---|
| | ANALYSIS REQUESTED | | | DUE DATE |
| **1.** | **HS21040699-02** | **LH18/24-SP650_041321_BIX** | **Water** | **13 Apr 2021 14:00** |
| | Provide Level II and Level IV reports in separate pdf | | | 28 Apr 2021 |

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

**QC Level:** DOD IV (DoD Data Package)

Relinquished By: J. Modashia Date/Time: 4/14/21 . 14:15

Received By: [illegible] Date/Time: 4/14/21 1415

Cooler ID(s): Temperature(s):

ALS Environmental

# Cooler Receipt Form

Project Chemist: CA

Client/Project: ALS-H

Thermometer ID: IR31

Date/Time Received: 9/14/21 Initials: CA

Date/Time Logged in: 9/14/21 Initials: CA

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 | | 9/14/21 | 1915 | CA | 3.9 | ☑ |
| | | | | | | ☐ |
| | | | | | | ☐ |
| | | | | | | ☐ |

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#:** 377530 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
**Team:** Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 4/15/21 11:50

| # | Lab Code | Client ID | B# | Method /Test | pH | Cl | Matrix | Amt. Ext. | Sample Description |
|---|---|---|---|---|---|---|---|---|---|
| 1 | E2100409-001 | LH18/24-SP650_041321_BIX | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 2 | E2100410-001 | LH18/24-SP140_041321 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 3 | E2100411-001 | LH18/24-SP650_041321_BIX | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 4 | E2100412-001 | 16WW44-210412 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 5 | E2100412-002 | 16WW38-210412 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 6 | E2100412-003 | 16WW37-210412 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 7 | E2100412-004 | 16WW14-210412 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 8 | E2100412-005 | 16WW34-210412 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 9 | E2100412-006 | 16WW34-210412-FD | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 10 | E2100412-007 | 16WW33-210412 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 11 | E2100412-008 | 16WW32-210412 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 12 | E2100412-009 | 16WW31-210412 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 13 | E2100412-010 | 16WW46-210412 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 14 | EQ2100213-01 | MB | | 6850/ClO4 DOD | | | Liquid | 10mL | |
| 15 | EQ2100213-02 | LCS | | 6850/ClO4 DOD | | | Liquid | 10mL | |
| 16 | EQ2100213-03 | DLCS | | 6850/ClO4 DOD | | | Liquid | 10mL | |
| 17 | R2103214-010 | 45MI20088 | .14 | 6850/ClO4 DOD | | | Water | 10mL | |
| 18 | R2103214-011 | 45MI30028 | .06 | 6850/ClO4 DOD | | | Water | 10mL | |
| 19 | R2103214-013 | 45MI30025 | .06 | 6850/ClO4 DOD | | | Water | 10mL | |
| 20 | R2103380-002 | 45MI30022 | .05 | 6850/ClO4 DOD | | | Water | 10mL | |
| 21 | R2103380-003 | 45MI30023 | .05 | 6850/ClO4 DOD | | | Water | 10mL | |
| 22 | R2103380-004 | 45MI30027 | .05 | 6850/ClO4 DOD | | | Water | 10mL | |
| 23 | R2103380-005 | 45MI30026 | .05 | 6850/ClO4 DOD | | | Water | 10mL | |

## Spiking Solutions

Name: Perchlorate Intermediate Stock1 Inventory ID 214035 Logbook Ref: Perchlorate Expires On: 05/23/2021

EQ2100213-02 1.00µL EQ2100213-03 1.00µL

Name: Perchlorate Internal Standard 1ug/mL Inventory ID 214820 Logbook Ref: Perchlorate Internal Standard Expires On: 07/03/2021

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| E2100409-001 | 100.00µL | E2100410-001 | 100.00µL | E2100411-001 | 100.00µL | E2100412-001 | 100.00µL | E2100412-002 | 100.00µL | E2100412-003 | 100.00µL |
| E2100412-004 | 100.00µL | E2100412-005 | 100.00µL | E2100412-006 | 100.00µL | E2100412-007 | 100.00µL | E2100412-008 | 100.00µL | E2100412-009 | 100.00µL |
| E2100412-010 | 100.00µL | EQ2100213-01 | 100.00µL | EQ2100213-02 | 100.00µL | EQ2100213-03 | 100.00µL | R2103214-010 | 100.00µL | R2103214-011 | 100.00µL |
| R2103214-013 | 100.00µL | R2103380-002 | 100.00µL | R2103380-003 | 100.00µL | R2103380-004 | 100.00µL | R2103380-005 | 100.00µL | | |

# *Preparation Information Benchsheet*

**Prep Run#:** 377530 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
**Team:** Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 4/15/21 11:50

## Preparation Steps

Step: Preparation
Started: 4/15/21 11:50
Finished: 4/15/21 13:00
By: GRIVERA
Comments

Comments: _____

Reviewed By: _____ Date: _____

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:** | E2100411 |
| **Project:** | HS21040699 | **Date Collected:** | 4/13/21 1400 |
| **Sample Matrix:** | Ground Water | **Date Received:** | 4/14/21 |
| **Sample Name:** | LH18/24-SP650_041321_BIX | **Units:** | µg/L |
| **Lab Code:** | E2100411-001 | **Basis:** | As Received |

**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 | **1.33** | | 0.100 | 0.0500 | 0.0250 | 1 | 4/15/21 | 4/28/21 22:10 | 377530 | 721483 | |

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

| | | | |
|---|---|---|---|
| **Client:** | ALS Environmental - US | **Service Request:** | E2100411 |
| **Project:** | HS21040699 | **Date Collected:** | NA |
| **Sample Matrix:** | Ground Water | **Date Received:** | NA |
| **Sample Name:** | Method Blank | **Units:** | µg/L |
| **Lab Code:** | EQ2100213-01 | **Basis:** | As Received |

**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 | 4/15/21 | 4/20/21 13:25 | 377530 | 721439 | |

# 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:** HS21040699
**Sample Matrix:** Ground Water

**Service Request:** E2100411
**Date Analyzed:** 4/20/21

## 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:** As Received

**Extraction Lot:** 377530

| | Lab Control Sample EQ2100213-02 | | | Duplicate Lab Control Sample EQ2100213-03 | | | | |
|---|---|---|---|---|---|---|---|---|
| **Analyte Name** | **Result** | **Spike Amount** | **% Rec** | **Result** | **Spike Amount** | **% Rec** | **% Rec Limits** | **RPD** | **RPD Limit** |
| Perchlorate | 0.117 | 0.100 | 117 | 0.108 | 0.100 | 108 | 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:** | E2100411 |
| **Project:** | HS21040699 | **Date Collected:** | NA |
| **Sample Matrix:** | Ground Water | **Date Received:** | NA |
| **Sample Name:** | Lab Control Sample | **Units:** | µg/L |
| **Lab Code:** | EQ2100213-02 | **Basis:** | As Received |

**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 | **0.117** | | 0.100 | 0.0500 | 0.0250 | 1 | 4/15/21 | 4/20/21 13:33 | 377530 | 721439 | |

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

| | | | |
|---|---|---|---|
| **Client:** | ALS Environmental - US | **Service Request:** | E2100411 |
| **Project:** | HS21040699 | **Date Collected:** | NA |
| **Sample Matrix:** | Ground Water | **Date Received:** | NA |
| **Sample Name:** | Duplicate Lab Control Sample | **Units:** | µg/L |
| **Lab Code:** | EQ2100213-03 | **Basis:** | As Received |

**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 | **0.108** | | 0.100 | 0.0500 | 0.0250 | 1 | 4/15/21 | 4/20/21 13:41 | 377530 | 721439 | |

# 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

**20210413**

**1st Review:** Grivera
**2nd Review:** Kneir

ALS Environmental

**Injection Log**
**LCMS01 -Shimadzu 8050**

**ICAL Date:** 4/13/2021
**Cal. Std. xp:** 5/20/2021
**ICAL ID:** **EC2100018**

**Mobile Phases** **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

| | | | File Name | Acquisition Method | Dilution | R | Comments | Date/Time |
|---|---|---|---|---|---|---|---|---|
| 1 | PERCHLORATE1 | | 20210413_008 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-05 | 4/13/2021 10:15 |
| 2 | PERCHLORATE2 | | 20210413_009 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-06 | 4/13/2021 10:23 |
| 3 | PERCHLORATE3 | | 20210413_010 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-07 | 4/13/2021 10:31 |
| 4 | PERCHLORATE4 | | 20210413_011 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-08 | 4/13/2021 10:39 |
| 5 | PERCHLORATE5 | | 20210413_012 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-09 | 4/13/2021 10:47 |
| 6 | PERCHLORATE6 | | 20210413_013 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-01 | 4/13/2021 10:54 |
| 7 | PERCHLORATE7 | | 20210413_014 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/13/2021 11:02 |
| 8 | PERCHLORATE8 | | 20210413_015 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-03 | 4/13/2021 11:10 |
| 9 | PERCHLORATE9 | | 20210413_016 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-04 | 4/13/2021 11:18 |
| 10 | PERCHLORATE10 | | 20210413_017 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-05 | 4/13/2021 11:26 |
| 11 | PERCHLORATEICV | | 20210413_018 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-06 | 4/13/2021 11:58 |
| 12 | ICS | | 20210413_019 | Perchlorate6850b.lcm | 1x | ☒ | | 4/13/2021 12:24 |
| 13 | LODV | | 20210413_020 | Perchlorate6850b.lcm | 1x | ☒ | | 4/13/2021 12:31 |
| 14 | PERCHLORATE7 | | 20210413_021 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/13/2021 12:39 |
| 15 | EQ2100193-01-DNU | | 20210413_022 | Perchlorate6850b.lcm | 1x | ☒ | INST failed high | 4/13/2021 12:47 |
| 16 | EQ2100193-02 | | 20210413_023 | Perchlorate6850b.lcm | 1x | ☒ | | 4/13/2021 12:55 |
| 17 | EQ2100193-03 | | 20210413_024 | Perchlorate6850b.lcm | 1x | ☒ | | 4/13/2021 13:27 |
| 18 | EQ2100193-01-DNU | | 20210413_025 | Perchlorate6850b.lcm | 1x | ☒ | INST failed high | 4/13/2021 13:35 |
| 19 | EQ2100193-04 | | 20210413_026 | Perchlorate6850b.lcm | 1x | ☒ | | 4/13/2021 13:43 |
| 20 | EQ2100193-05 | | 20210413_027 | Perchlorate6850b.lcm | 1x | ☒ | | 4/13/2021 13:51 |
| 21 | E2100329-001 | | 20210413_028 | Perchlorate6850b.lcm | 1x | ☒ | | 4/13/2021 13:59 |
| 22 | E2100330-001DNU | | 20210413_029 | Perchlorate6850b.lcm | 1x | ☒ | need 100X dilution | 4/13/2021 14:07 |
| 23 | E2100331-001 | | 20210413_030 | Perchlorate6850b.lcm | 1x | ☒ | | 4/13/2021 14:15 |
| 24 | E2100368-001 | | 20210413_031 | Perchlorate6850b.lcm | 1x | ☒ | | 4/13/2021 14:23 |
| 25 | E2100369-001DNU | | 20210413_032 | Perchlorate6850b.lcm | 1x | ☒ | need 10X dilution | 4/13/2021 14:31 |
| 26 | PERCHLORATE7 | | 20210413_033 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/13/2021 14:39 |
| 27 | E2100369-002 | | 20210413_034 | Perchlorate6850b.lcm | 1x | ☒ | | 4/13/2021 15:03 |
| 28 | E2100369-003 | | 20210413_035 | Perchlorate6850b.lcm | 1x | ☒ | | 4/13/2021 15:11 |
| 29 | E2100369-004 | | 20210413_036 | Perchlorate6850b.lcm | 1x | ☒ | | 4/13/2021 15:18 |
| 30 | E2100330-001X100 | | 20210413_037 | Perchlorate6850b.lcm | 100x | ☒ | | 4/13/2021 15:26 |
| 31 | E2100369-001X10 | | 20210413_038 | Perchlorate6850b.lcm | 10x | ☒ | | 4/13/2021 15:34 |
| 32 | E2100369-005DNU | | 20210413_039 | Perchlorate6850b.lcm | 1x | ☒ | need 10X dilution | 4/13/2021 15:42 |
| 33 | E2100369-006DNU | | 20210413_040 | Perchlorate6850b.lcm | 1x | ☒ | need 20X dilution | 4/13/2021 15:50 |
| 34 | E2100369-007DNU | | 20210413_041 | Perchlorate6850b.lcm | 1x | ☒ | need 20X dilution | 4/13/2021 15:58 |
| 35 | E2100369-008DNU | | 20210413_042 | Perchlorate6850b.lcm | 1x | ☒ | reanalyze: possible carryover | 4/13/2021 16:06 |
| 36 | E2100369-009DNU | | 20210413_043 | Perchlorate6850b.lcm | 1x | ☒ | need 5000X dilution | 4/13/2021 16:14 |
| 37 | PERCHLORATE7 | | 20210413_044 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/13/2021 16:38 |
| 38 | E2100369-008DNU | | 20210413_045 | Perchlorate6850b.lcm | 1x | ☒ | | 4/13/2021 16:46 |
| 39 | E2100369-005X10 | | 20210413_046 | Perchlorate6850b.lcm | 10x | ☒ | | 4/13/2021 16:54 |
| 40 | E2100369-006X20 | | 20210413_047 | Perchlorate6850b.lcm | 20x | ☒ | | 4/13/2021 17:02 |
| 41 | E2100369-007X20 | | 20210413_048 | Perchlorate6850b.lcm | 20x | ☒ | | 4/13/2021 17:10 |
| 42 | E2100369-009X5000 | | 20210413_049 | Perchlorate6850b.lcm | 5000x | ☒ | | 4/13/2021 17:17 |
| 43 | EQ2100193-01 | | 20210413_050 | Perchlorate6850b.lcm | 1x | ☒ | | 4/13/2021 17:25 |
| 44 | PERCHLORATE7 | | 20210413_051 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/13/2021 17:33 |
| 45 | | | | | | | | |
| 46 | | | | | | | | |

# *Initial Calibration - Detailed Report*

**Calibration ID:** EC2100018 **Instrument ID:** E-LCMS-01
**Column Name:** 1

| # | Lab Code | Sample Name | File Location | Aquisition Date |
|---|---|---|---|---|
| 01 | EC2100018-01 | PERCHLORATE1 | 20210413_008 | 04/13/2021 10:15 |
| 02 | EC2100018-02 | PERCHLORATE2 | 20210413_009 | 04/13/2021 10:23 |
| 03 | EC2100018-03 | PERCHLORATE3 | 20210413_010 | 04/13/2021 10:31 |
| 04 | EC2100018-04 | PERCHLORATE4 | 20210413_011 | 04/13/2021 10:39 |
| 05 | EC2100018-05 | PERCHLORATE5 | 20210413_012 | 04/13/2021 10:47 |
| 06 | EC2100018-06 | PERCHLORATE6 | 20210413_013 | 04/13/2021 10:54 |
| 07 | EC2100018-07 | PERCHLORATE7 | 20210413_014 | 04/13/2021 11:02 |
| 08 | EC2100018-08 | PERCHLORATE8 | 20210413_015 | 04/13/2021 11:10 |
| 09 | EC2100018-09 | PERCHLORATE9 | 20210413_016 | 04/13/2021 11:18 |
| 10 | EC2100018-10 | PERCHLORATE10 | 20210413_017 | 04/13/2021 11:26 |

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

**Perchlorate** **Average RF** **RSD = 9.714** **Average RF = 0.1227**

| # | Amount | RF | # | Amount | RF | # | Amount | RF | # | Amount | RF |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 | 0.1000 | 0.154 | 02 | 0.5000 | 0.1219 | 03 | 0.7000 | 0.1209 | 04 | 1.0000 | 0.1214 |
| 05 | 2.0000 | 0.1284 | 06 | 5.0000 | 0.1206 | 07 | 10.0000 | 0.1183 | 08 | 20.0000 | 0.114 |
| 09 | 30.0000 | 0.1156 | 10 | 50.0000 | 0.112 | | | | | | |

**Analyte**

**Perchlorate**

| # | Amount | Calculated Conc | %D | # | Amount | Calculated Conc | %D | # | Amount | Calculated Conc | %D |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 | 0.1000 | 0.125 | 25.5 | 02 | 0.5000 | 0.497 | -0.6 | 03 | 0.7000 | 0.690 | -1.5 |
| 04 | 1.0000 | 0.989 | -1.1 | 05 | 2.0000 | 2.09 | 4.6 | 06 | 5.0000 | 4.91 | -1.7 |
| 07 | 10.0000 | 9.64 | -3.6 | 08 | 20.0000 | 18.6 | -7.1 | 09 | 30.0000 | 28.3 | -5.8 |
| 10 | 50.0000 | 45.7 | -8.7 | | | | | | | | |

# *Initial Calibration Verification Summary Report*

| | | | |
|---|---|---|---|
| **Calibration ID:** | EC2100018 | **Instrument ID:** | E-LCMS-01 |
| **Datafile ID:** | 20210413_018 | **Column Name:** | 1 |

| Analyte | Lab Code | Type | Curve Fit | True Value | Calc Conc | Units | Result | Criteria |
|---|---|---|---|---|---|---|---|---|
| Perchlorate | EC2100018-11 | T | Average RF | 10 | 9.478 | ng/mL | -5.2 | <= 15 |

# Insight Report

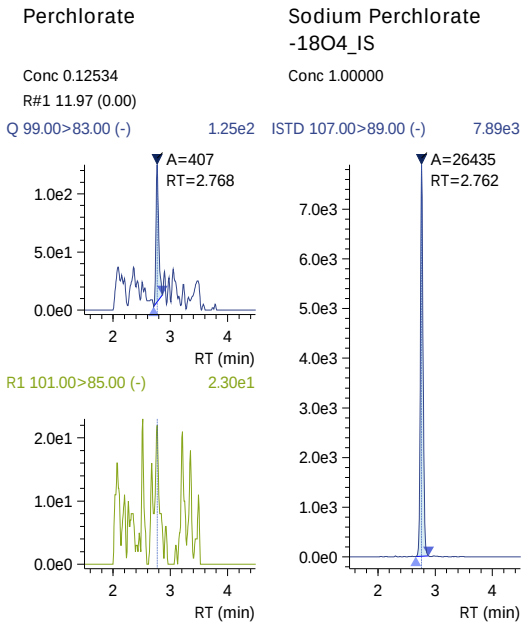
Printed at 4/14/2021 8:51:54 AM

Method File: I:\LCMS01\DATA\20210413\20210413.lcm
Project File: I:\LCMS01\DATA\20210413\20210413.damlp

## 20210413_008

Sample ID: PERCHLORATE1
Date Acquired: 4/13/2021 10:15:23 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210413\20210413_008.lcd
Vial: 22 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.768 | 407 | 26435 | 1 | 0.12534 | ng/mL | 0.1000 | 11.97 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.762 | 26435 | 26435 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |



# Insight Report

Printed at 4/14/2021 8:55:34 AM

Method File: I:\LCMS01\DATA\20210413\Before\20210413.lcm

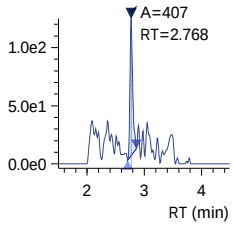
## 20210413_008

Sample ID: PERCHLORATE1
Date Acquired: 4/13/2021 10:15:23 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210413\Before\20210413_008.lcd
Vial: 22 | Inj. Volume: 25.0000uL | Tray: 1

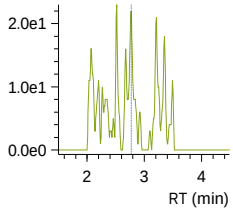
Perchlorate

Conc 0.12722
R#1 11.97 (0.00)

Q 99.00>83.00 (-) 1.25e2



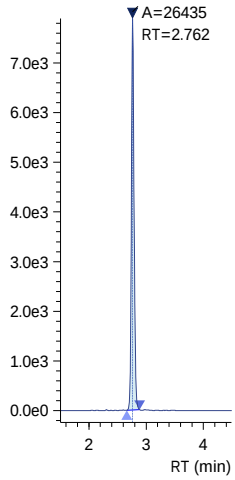

R1 101.00>85.00 (-) 2.30e1




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 7.89e3



# Insight Report

Printed at 4/14/2021 8:51:54 AM

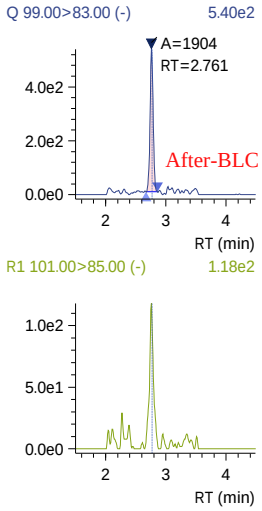
## 20210413_009

Sample ID: PERCHLORATE2
Date Acquired: 4/13/2021 10:23:19 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210413\20210413_009.lcd
Vial: 23 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | M | 2.761 | 1904 | 31237 | 1 | 0.49684 | ng/mL | 0.5000 | 21.42 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.758 | 31237 | 31237 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

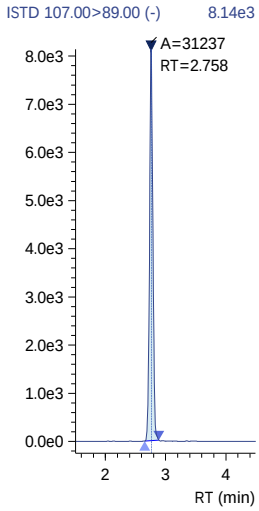
Perchlorate

Conc 0.49684
R#1 21.42 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report

Printed at 4/14/2021 8:55:34 AM

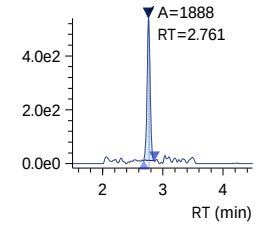
## 20210413_009

Sample ID: PERCHLORATE2
Date Acquired: 4/13/2021 10:23:19 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210413\Before\20210413_009.lcd
Vial: 23 | Inj. Volume: 25.0000uL | Tray: 1

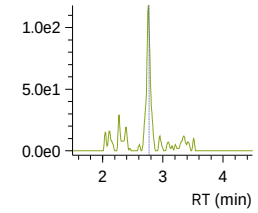
Perchlorate

Conc 0.50005
R#1 20.15 (0.00)

Q 99.00>83.00 (-) 5.40e2



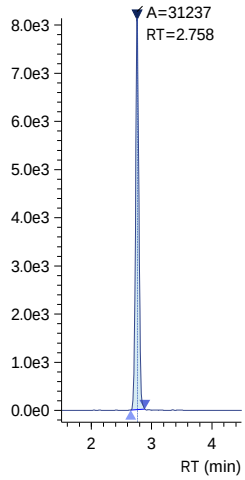

R1 101.00>85.00 (-) 1.18e2




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 8.14e3



# Insight Report

Printed at 4/14/2021 8:51:54 AM

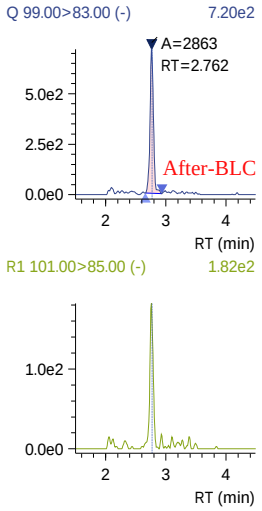
## 20210413_010

Sample ID: PERCHLORATE3
Date Acquired: 4/13/2021 10:31:12 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210413\20210413_010.lcd
Vial: 24 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | M | 2.762 | 2863 | 33837 | 1 | 0.68967 | ng/mL | 0.7000 | 23.86 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.761 | 33837 | 33837 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

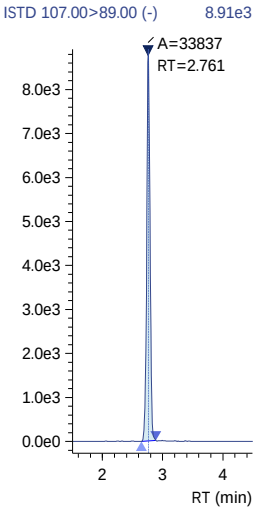
Perchlorate

Conc 0.68967
R#1 23.86 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report



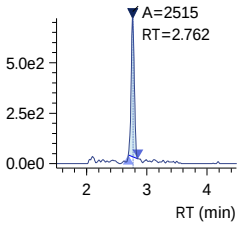
## 20210413_010

Sample ID: PERCHLORATE3
Date Acquired: 4/13/2021 10:31:12 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210413\Before\20210413_010.lcd
Vial: 24 | Inj. Volume: 25.0000uL | Tray: 1

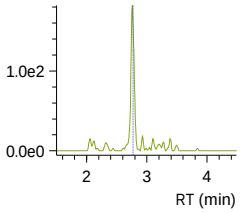
Perchlorate

Conc 0.61492
R#1 25.48 (0.00)

Q 99.00>83.00 (-) 7.20e2



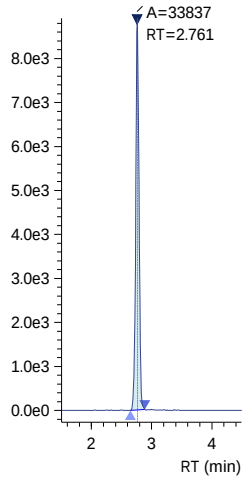

R1 101.00>85.00 (-) 1.82e2




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 8.91e3



# Insight Report

Printed at 4/14/2021 8:51:54 AM

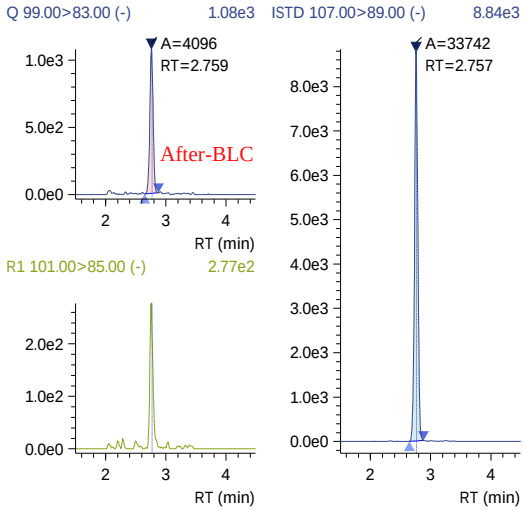
## 20210413_011

Sample ID: PERCHLORATE4
Date Acquired: 4/13/2021 10:39:04 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210413\20210413_011.lcd
Vial: 25 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | M | 2.759 | 4096 | 33742 | 1 | 0.98947 | ng/mL | 1.0000 | 25.61 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.757 | 33742 | 33742 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

Perchlorate

Conc 0.98947
R#1 25.61 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000

# Insight Report



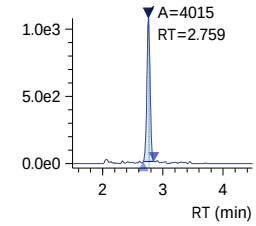
## 20210413_011

Sample ID: PERCHLORATE4
Date Acquired: 4/13/2021 10:39:04 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210413\Before\20210413_011.lcd
Vial: 25 | Inj. Volume: 25.0000uL | Tray: 1

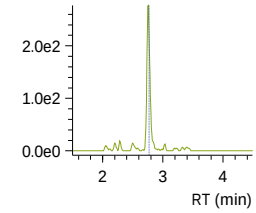
Perchlorate

Conc 0.98444
R#1 25.21 (0.00)

Q 99.00>83.00 (-) 1.08e3



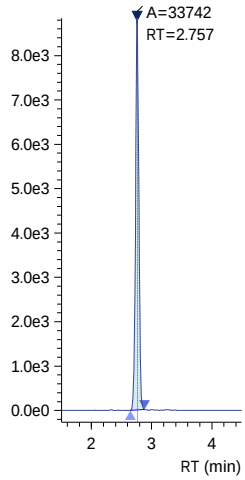

R1 101.00>85.00 (-) 2.77e2




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 8.84e3



# Insight Report

Printed at 4/14/2021 8:51:54 AM

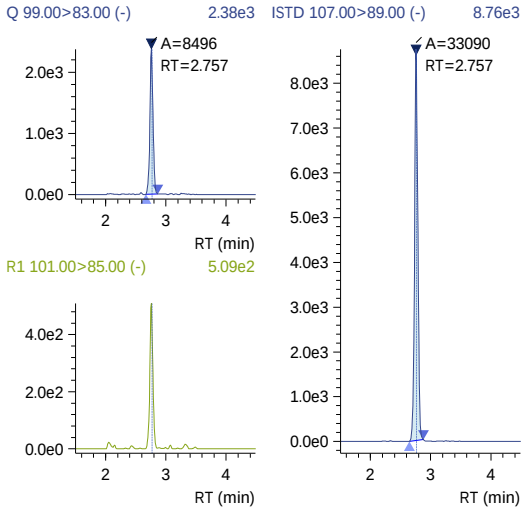
## 20210413_012

Sample ID: PERCHLORATE5
Date Acquired: 4/13/2021 10:47:01 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210413\20210413_012.lcd
Vial: 26 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.757 | 8496 | 33090 | 1 | 2.09273 | ng/mL | 2.0000 | 22.06 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.757 | 33090 | 33090 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

Perchlorate

Conc 2.09273
R#1 22.06 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000

# Insight Report

Printed at 4/14/2021 8:55:34 AM

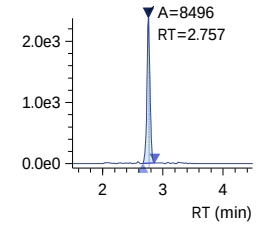
## 20210413_012

Sample ID: PERCHLORATE5
Date Acquired: 4/13/2021 10:47:01 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210413\Before\20210413_012.lcd
Vial: 26 | Inj. Volume: 25.0000uL | Tray: 1

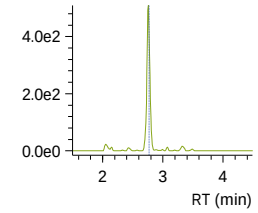
Perchlorate

Conc 2.12410
R#1 22.06 (0.00)

Q 99.00>83.00 (-) 2.38e3



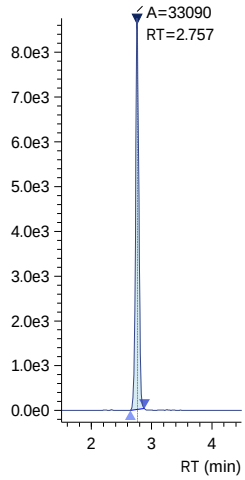

R1 101.00>85.00 (-) 5.09e2




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 8.76e3



# Insight Report

Printed at 4/14/2021 8:51:54 AM

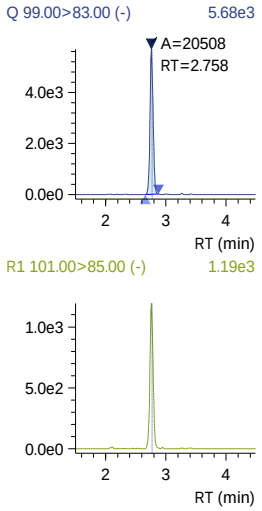
## 20210413_013

Sample ID: PERCHLORATE6
Date Acquired: 4/13/2021 10:54:54 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210413\20210413_013.lcd
Vial: 27 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.758 | 20508 | 34019 | 1 | 4.91382 | ng/mL | 5.0000 | 20.99 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.759 | 34019 | 34019 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

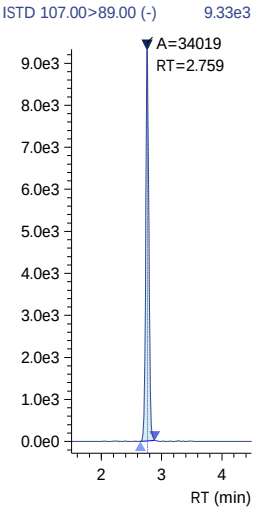
Perchlorate

Conc 4.91382
R#1 20.99 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report

Printed at 4/14/2021 8:55:34 AM

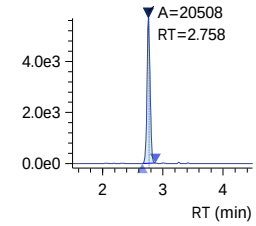
## 20210413_013

Sample ID: PERCHLORATE6
Date Acquired: 4/13/2021 10:54:54 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210413\Before\20210413_013.lcd
Vial: 27 | Inj. Volume: 25.0000uL | Tray: 1

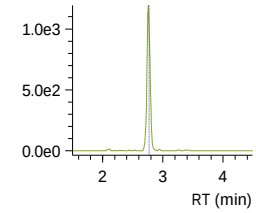
Perchlorate

Conc 4.98748
R#1 20.99 (0.00)

Q 99.00>83.00 (-) 5.68e3



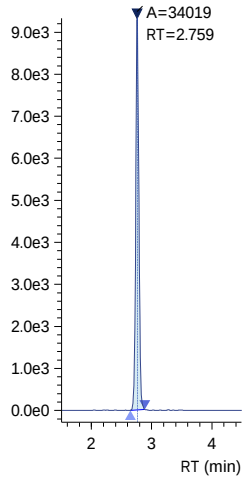

R1 101.00>85.00 (-) 1.19e3




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 9.33e3



# Insight Report

Printed at 4/14/2021 8:51:54 AM

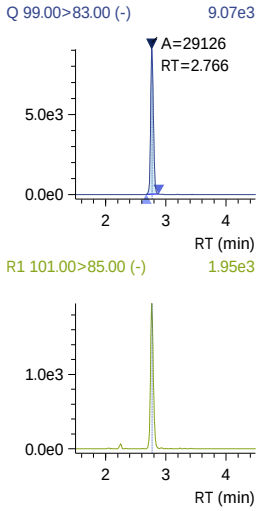
## 20210413_014

Sample ID: PERCHLORATE7
Date Acquired: 4/13/2021 11:02:49 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210413\20210413_014.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.766 | 29126 | 24621 | 1 | 9.64243 | ng/mL | 10.0000 | 22.37 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.765 | 24621 | 24621 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

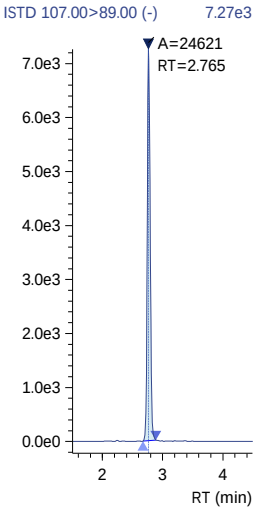
Perchlorate

Conc 9.64243
R#1 22.37 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report

Printed at 4/14/2021 8:55:34 AM

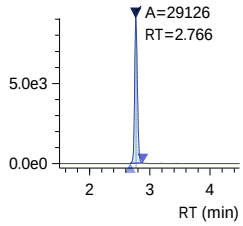
## 20210413_014

Sample ID: PERCHLORATE7
Date Acquired: 4/13/2021 11:02:49 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210413\Before\20210413_014.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

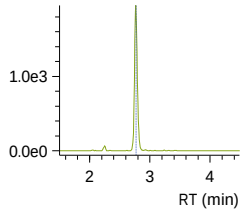
Perchlorate

Conc 9.78696
R#1 22.37 (0.00)

Q 99.00>83.00 (-) 9.07e3



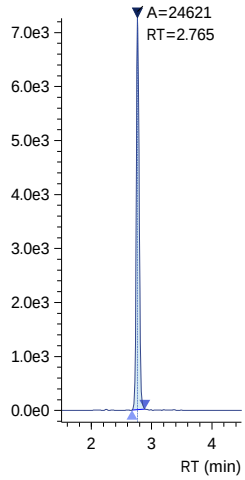

R1 101.00>85.00 (-) 1.95e3




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 7.27e3



# Insight Report

Printed at 4/14/2021 8:51:54 AM

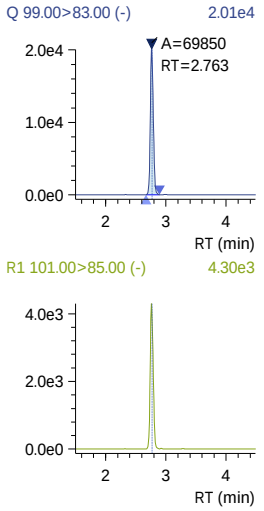
## 20210413_015

Sample ID: PERCHLORATE8
Date Acquired: 4/13/2021 11:10:43 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210413\20210413_015.lcd
Vial: 28 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.763 | 69850 | 30625 | 1 | 18.59082 | ng/mL | 20.0000 | 21.49 |
| Sodium Perchlorate-18O4_IS | Auto | 2.761 | 30625 | 30625 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

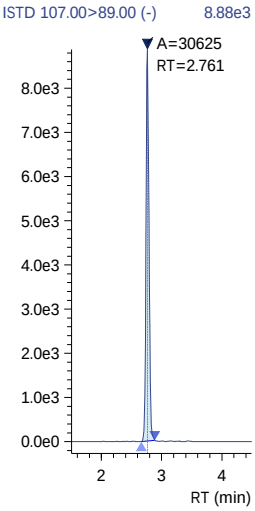
Perchlorate

Conc 18.59082
R#1 21.49 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report



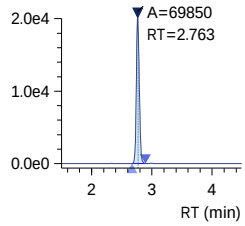
## 20210413_015

Sample ID: PERCHLORATE8
Date Acquired: 4/13/2021 11:10:43 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210413\Before\20210413_015.lcd
Vial: 28 | Inj. Volume: 25.0000uL | Tray: 1

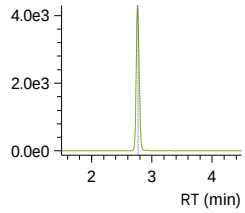
Perchlorate

Conc 18.86948
R#1 21.49 (0.00)

Q 99.00>83.00 (-) 2.01e4



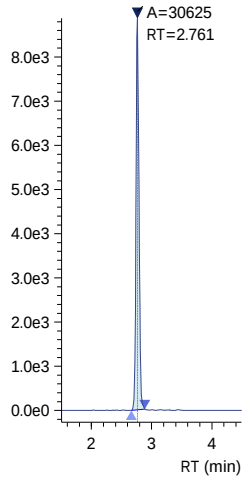

R1 101.00>85.00 (-) 4.30e3




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 8.88e3



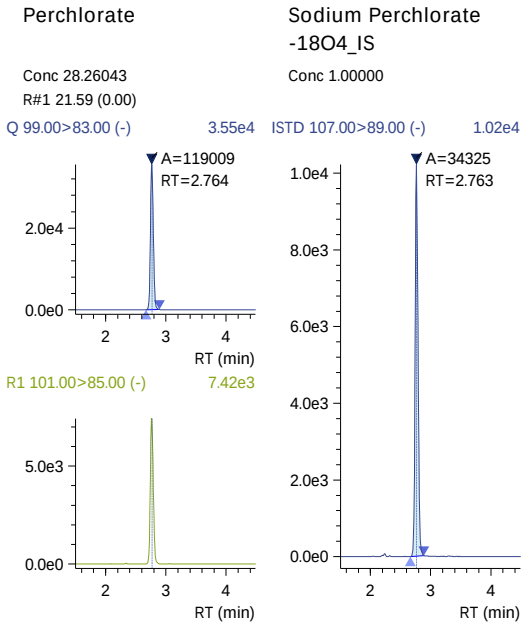
# Insight Report

Printed at 4/14/2021 8:51:54 AM

## 20210413_016

Sample ID: PERCHLORATE9
Date Acquired: 4/13/2021 11:18:37 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210413\20210413_016.lcd
Vial: 29 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.764 | 119009 | 34325 | 1 | 28.26043 | ng/mL | 30.0000 | 21.59 |
| Sodium Perchlorate-18O4_IS | Auto | 2.763 | 34325 | 34325 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |



# Insight Report

Printed at 4/14/2021 8:55:34 AM

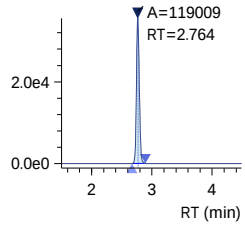
## 20210413_016

Sample ID: PERCHLORATE9
Date Acquired: 4/13/2021 11:18:37 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210413\Before\20210413_016.lcd
Vial: 29 | Inj. Volume: 25.0000uL | Tray: 1

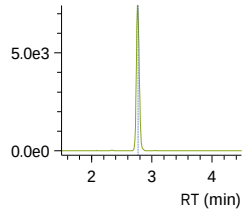
Perchlorate

Conc 28.68402
R#1 21.59 (0.00)

Q 99.00>83.00 (-) 3.55e4



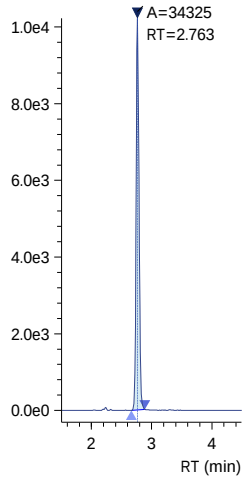

R1 101.00>85.00 (-) 7.42e3




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.02e4



# Insight Report

Printed at 4/14/2021 8:51:54 AM

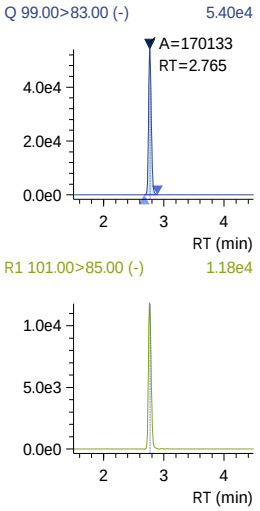
## 20210413_017

Sample ID: PERCHLORATE10
Date Acquired: 4/13/2021 11:26:31 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210413\20210413_017.lcd
Vial: 30 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.765 | 170133 | 30370 | 1 | 45.66271 | ng/mL | 50.0000 | 22.95 |
| Sodium Perchlorate-18O4_IS | Auto | 2.763 | 30370 | 30370 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

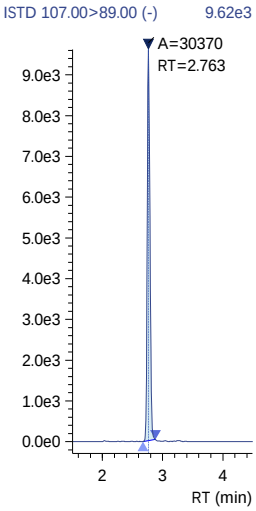
Perchlorate

Conc 45.66271
R#1 22.95 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report

Printed at 4/14/2021 8:55:34 AM

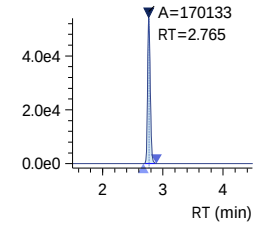
## 20210413_017

Sample ID: PERCHLORATE10
Date Acquired: 4/13/2021 11:26:31 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210413\Before\20210413_017.lcd
Vial: 30 | Inj. Volume: 25.0000uL | Tray: 1

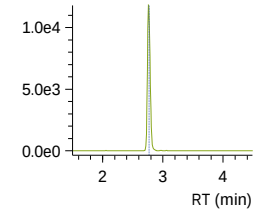
Perchlorate

Conc 46.34714
R#1 22.95 (0.00)

Q 99.00>83.00 (-) 5.40e4



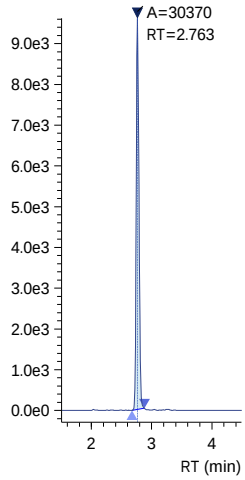

R1 101.00>85.00 (-) 1.18e4




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 9.62e3



# Insight Report

Printed at 4/14/2021 8:51:54 AM

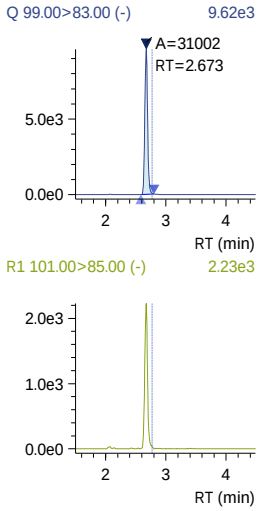
## 20210413_018

Sample ID: PERCHLORATEICV
Date Acquired: 4/13/2021 11:58:42 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210413\20210413_018.lcd
Vial: 31 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.673 | 31002 | 26657 | 1 | 9.47985 | ng/mL | 10.0000 | 23.51 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.672 | 26657 | 26657 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

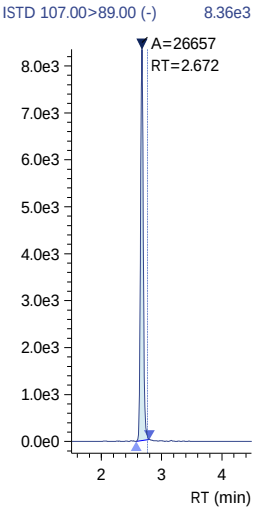
Perchlorate

Conc 9.47985
R#1 23.51 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report

Printed at 4/14/2021 8:55:34 AM

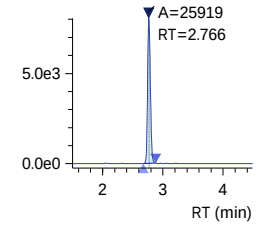
## 20210413_018

Sample ID: PERCHLORATEICV
Date Acquired: 4/13/2021 11:34:26 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210413\Before\20210413_018.lcd
Vial: 31 | Inj. Volume: 25.0000uL | Tray: 1

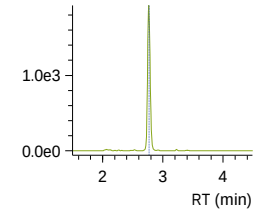
Perchlorate

Conc 8.37906
R#1 24.46 (0.00)

Q 99.00>83.00 (-) 8.06e3



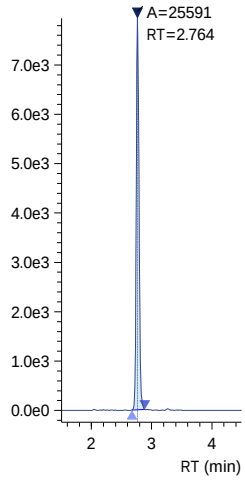

R1 101.00>85.00 (-) 1.93e3




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 7.95e3



**20210428**

ALS Environmental

**1st Review:** Grivera
**2nd Review:** Kneir

**Injection Log**
**LCMS01 -Shimadzu 8050**

**ICAL Date:** 4/28/2021
**Cal. Std. xp:** 5/20/2021
**ICAL ID:** **EC2100026**

**Mobile Phases** **A:** 0.75% Formic Acid/Water 3100809-07 **B:** MeOH 216350

| | | | File Name | Acquisition Method | Dilution | R | Comments | Date/Time |
|---|---|---|---|---|---|---|---|---|
| 1 | PERCHLORATE1 | | 20210428_044 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-05 | 4/28/2021 18:16 |
| 2 | PERCHLORATE2 | | 20210428_045 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-06 | 4/28/2021 18:25 |
| 3 | PERCHLORATE3 | | 20210428_046 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-07 | 4/28/2021 18:34 |
| 4 | PERCHLORATE4 | | 20210428_047 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-08 | 4/28/2021 18:44 |
| 5 | PERCHLORATE5 | | 20210428_048 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-09 | 4/28/2021 18:53 |
| 6 | PERCHLORATE6 | | 20210428_049 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-01 | 4/28/2021 19:03 |
| 7 | PERCHLORATE7 | | 20210428_050 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/28/2021 19:12 |
| 8 | PERCHLORATE8 | | 20210428_051 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-03 | 4/28/2021 19:22 |
| 9 | PERCHLORATE9 | | 20210428_052 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-04 | 4/28/2021 19:31 |
| 10 | PERCHLORATEICV | | 20210428_054 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-06 | 4/28/2021 19:50 |
| 11 | ICS | | 20210428_055 | Perchlorate6850b.lcm | 1x | ☒ | | 4/28/2021 19:59 |
| 12 | LODV | | 20210428_056 | Perchlorate6850b.lcm | 1x | ☒ | | 4/28/2021 20:08 |
| 13 | PERCHLORATE7 | | 20210428_057 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/28/2021 20:18 |
| 14 | EQ2100244-01 | | 20210428_058 | Perchlorate6850b.lcm | 1x | ☒ | | 4/28/2021 20:27 |
| 15 | EQ2100244-02 | | 20210428_059 | Perchlorate6850b.lcm | 1x | ☒ | | 4/28/2021 20:37 |
| 16 | EQ2100244-03 | | 20210428_060 | Perchlorate6850b.lcm | 1x | ☒ | | 4/28/2021 20:46 |
| 17 | E2100412-016X10 | | 20210428_061 | Perchlorate6850b.lcm | 10X | ☒ | | 4/28/2021 20:55 |
| 18 | E2100412-017X10 | | 20210428_062 | Perchlorate6850b.lcm | 10X | ☒ | | 4/28/2021 21:05 |
| 19 | E2100412-011X10DNU | | 20210428_063 | Perchlorate6850b.lcm | 10X | ☒ | DNU:Report 1X | 4/28/2021 21:14 |
| 20 | E2100412-012X10DNU | | 20210428_064 | Perchlorate6850b.lcm | 10X | ☒ | Bad injection: Reanalyze | 4/28/2021 21:24 |
| 21 | E2100412-013X10DNU | | 20210428_065 | Perchlorate6850b.lcm | 10X | ☒ | Over ICAL: Run 50X | 4/28/2021 21:33 |
| 22 | E2100412-014X10DNU | | 20210428_066 | Perchlorate6850b.lcm | 10X | ☒ | Bad injection: Reanalyze | 4/28/2021 21:42 |
| 23 | E2100412-015X10DNU | | 20210428_067 | Perchlorate6850b.lcm | 10X | ☒ | DNU:Report 1X | 4/28/2021 21:52 |
| 24 | PERCHLORATE7 | | 20210428_068 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/28/2021 22:01 |
| 25 | E2100411-001 | | 20210428_069 | Perchlorate6850b.lcm | 1x | ☒ | | 4/28/2021 22:10 |
| 26 | E2100412-003X10 | | 20210428_070 | Perchlorate6850b.lcm | 10X | ☒ | | 4/28/2021 22:20 |
| 27 | E2100412-010X10 | | 20210428_071 | Perchlorate6850b.lcm | 10X | ☒ | | 4/28/2021 22:29 |
| 28 | R2103214-010 | | 20210428_072 | Perchlorate6850b.lcm | 1x | ☒ | | 4/28/2021 22:38 |
| 29 | PERCHLORATE7 | | 20210428_073 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/28/2021 22:48 |
| 30 | E2100485-002X10 | | 20210428_074 | Perchlorate6850b.lcm | 10X | ☒ | | 4/28/2021 22:57 |
| 31 | E2100485-003X10 | | 20210428_075 | Perchlorate6850b.lcm | 10X | ☒ | | 4/28/2021 23:07 |
| 32 | E2100485-007X10 | | 20210428_076 | Perchlorate6850b.lcm | 10X | ☒ | | 4/28/2021 23:16 |
| 33 | E2100485-010X10 | | 20210428_077 | Perchlorate6850b.lcm | 10X | ☒ | | 4/28/2021 23:25 |
| 34 | EQ2100244-04X10DNU | | 20210428_078 | Perchlorate6850b.lcm | 10X | ☒ | DNU: report 1X | 4/28/2021 23:35 |
| 35 | EQ2100244-05X10DNU | | 20210428_079 | Perchlorate6850b.lcm | 10X | ☒ | DNU: report 1X | 4/28/2021 23:44 |
| 36 | PERCHLORATE7 | | 20210428_080 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/28/2021 23:54 |
| 37 | E2100485-001 | | 20210428_081 | Perchlorate6850b.lcm | 1x | ☒ | | 4/29/2021 0:03 |
| 38 | E2100485-004 | | 20210428_082 | Perchlorate6850b.lcm | 1x | ☒ | | 4/29/2021 0:12 |
| 39 | E2100485-005 | | 20210428_083 | Perchlorate6850b.lcm | 1x | ☒ | | 4/29/2021 0:22 |
| 40 | E2100485-006DNU | | 20210428_084 | Perchlorate6850b.lcm | 1x | ☒ | DNU: INST failed | 4/29/2021 0:31 |
| 41 | PERCHLORATE7 | | 20210428_085 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/29/2021 0:40 |
| 42 | E2100485-008 | | 20210428_086 | Perchlorate6850b.lcm | 1x | ☒ | | 4/29/2021 0:50 |
| 43 | E2100485-009 | | 20210428_087 | Perchlorate6850b.lcm | 1x | ☒ | | 4/29/2021 0:59 |
| 44 | E2100485-011 | | 20210428_088 | Perchlorate6850b.lcm | 1x | ☒ | | 4/29/2021 1:09 |
| 45 | E2100485-012DNU | | 20210428_089 | Perchlorate6850b.lcm | 1x | ☒ | DNU-low INST | 4/29/2021 1:18 |
| 46 | E2100485-013 | | 20210428_090 | Perchlorate6850b.lcm | 1x | ☒ | | 4/29/2021 1:27 |
| 47 | EQ2100244-04 | | 20210428_091 | Perchlorate6850b.lcm | 1x | ☒ | | 4/29/2021 1:37 |
| 48 | EQ2100244-05 | | 20210428_092 | Perchlorate6850b.lcm | 1x | ☒ | | 4/29/2021 1:46 |
| 49 | PERCHLORATE7 | | 20210428_093 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/29/2021 1:56 |
| 50 | | | | | | | | |
| 51 | | | | | | | | |

# *Initial Calibration - Detailed Report*

**Calibration ID:** EC2100026 **Instrument ID:** E-LCMS-01
**Column Name:** 1

| # | Lab Code | Sample Name | File Location | Aquisition Date |
|---|---|---|---|---|
| 01 | EC2100026-01 | PERCHLORATE1 | 20210428_044 | 04/28/2021 18:16 |
| 02 | EC2100026-02 | PERCHLORATE2 | 20210428_045 | 04/28/2021 18:25 |
| 03 | EC2100026-03 | PERCHLORATE3 | 20210428_046 | 04/28/2021 18:34 |
| 04 | EC2100026-04 | PERCHLORATE4 | 20210428_047 | 04/28/2021 18:44 |
| 05 | EC2100026-05 | PERCHLORATE5 | 20210428_048 | 04/28/2021 18:53 |
| 06 | EC2100026-06 | PERCHLORATE6 | 20210428_049 | 04/28/2021 19:03 |
| 07 | EC2100026-07 | PERCHLORATE7 | 20210428_050 | 04/28/2021 19:12 |
| 08 | EC2100026-08 | PERCHLORATE8 | 20210428_051 | 04/28/2021 19:22 |
| 10 | EC2100026-10 | PERCHLORATE9 | 20210428_052 | 04/28/2021 19:31 |

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

**Perchlorate** **Average RF** **RSD = 13.94** **Average RF = 0.1168**

| # | Amount | RF | # | Amount | RF | # | Amount | RF | # | Amount | RF |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 | 0.1000 | 0.1516 | 02 | 0.5000 | 0.1269 | 03 | 0.7000 | 0.1246 | 04 | 1.0000 | 0.1032 |
| 05 | 2.0000 | 0.1172 | 06 | 5.0000 | 0.1124 | 07 | 10.0000 | 0.1144 | 08 | 20.0000 | 0.09843 |
| 10 | 30.0000 | 0.1026 | | | | | | | | | |

**Analyte**

**Perchlorate**

| # | Amount | Calculated Conc | %D | # | Amount | Calculated Conc | %D | # | Amount | Calculated Conc | %D |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 | 0.1000 | 0.130 | 29.8 | 02 | 0.5000 | 0.543 | 8.6 | 03 | 0.7000 | 0.746 | 6.6 |
| 04 | 1.0000 | 0.883 | -11.7 | 05 | 2.0000 | 2.01 | 0.3 | 06 | 5.0000 | 4.81 | -3.8 |
| 07 | 10.0000 | 9.79 | -2.1 | 08 | 20.0000 | 16.9 | -15.7 | 10 | 30.0000 | 26.4 | -12.1 |

# *Initial Calibration Verification Summary Report*

| | | | |
|---|---|---|---|
| **Calibration ID:** | EC2100026 | **Instrument ID:** | E-LCMS-01 |
| **Datafile ID:** | 20210428_054 | **Column Name:** | 1 |

| Analyte | Lab Code | Type | Curve Fit | True Value | Calc Conc | Units | Result | Criteria |
|---|---|---|---|---|---|---|---|---|
| Perchlorate | EC2100026-09 | T | Average RF | 10 | 9.455 | ng/mL | -5.4 | <= 15 |

# Insight Report

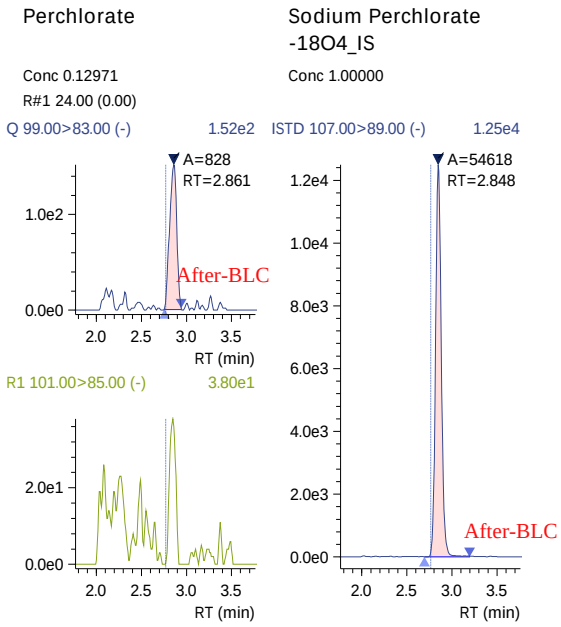
Printed at 4/29/2021 1:26:51 PM

Method File: I:\LCMS01\DATA\20210428\20210428.lcm
Project File: I:\LCMS01\DATA\20210428\20210428-ICAL.damlp

## 20210428_044

Sample ID: PERCHLORATE1
Date Acquired: 4/28/2021 6:16:06 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_044.lcd
Vial: 22 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | M | 2.861 | 828 | 54618 | 1 | 0.12971 | ng/mL | 0.1000 | 24.00 |
| Sodium Perchlorate-18O4 _IS | M | 2.848 | 54618 | 54618 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |



# Insight Report



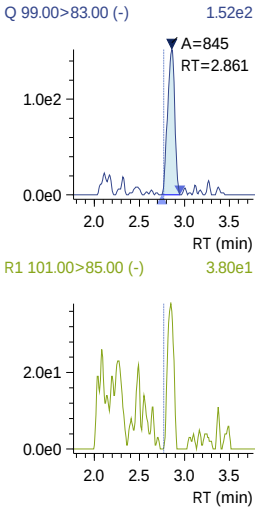
Method File: I:\LCMS01\DATA\20210428\Before\20210426.lcm

## 20210428_044

Sample ID: PERCHLORATE1
Date Acquired: 4/28/2021 6:16:06 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_044.lcd
Vial: 22 | Inj. Volume: 25.0000uL | Tray: 1

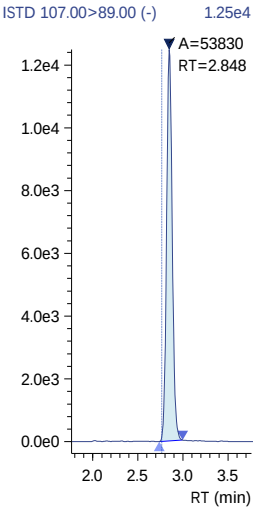
Perchlorate

Conc 0.13578
R#1 23.68 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



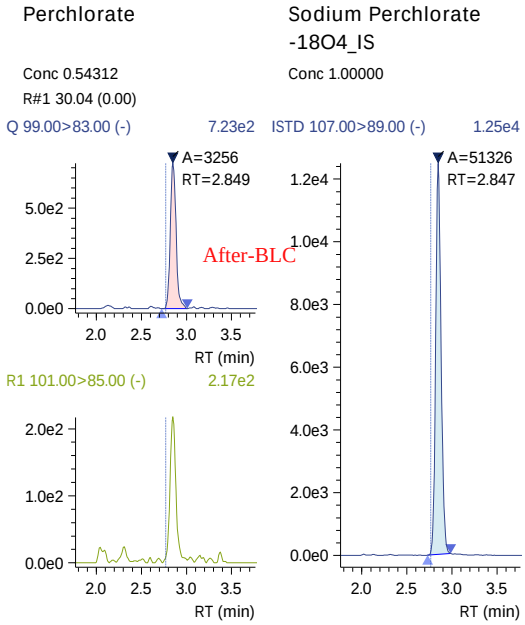
# Insight Report

Printed at 4/29/2021 1:26:51 PM

## 20210428_045

Sample ID: PERCHLORATE2
Date Acquired: 4/28/2021 6:25:33 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_045.lcd
Vial: 23 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | M | 2.849 | 3256 | 51326 | 1 | 0.54312 | ng/mL | 0.5000 | 30.04 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.847 | 51326 | 51326 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |



# Insight Report



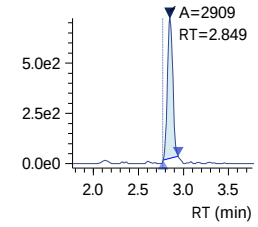
## 20210428_045

Sample ID: PERCHLORATE2
Date Acquired: 4/28/2021 6:25:33 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_045.lcd
Vial: 23 | Inj. Volume: 25.0000uL | Tray: 1

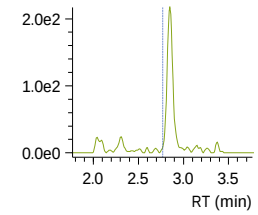
Perchlorate

Conc 0.49019
R#1 29.78 (0.00)

Q 99.00>83.00 (-) 7.23e2



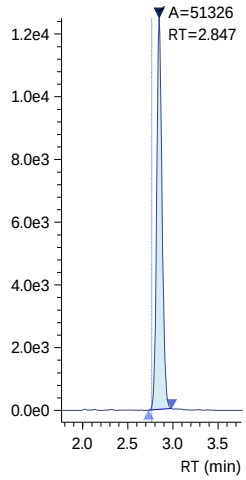

R1 101.00>85.00 (-) 2.17e2




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.25e4



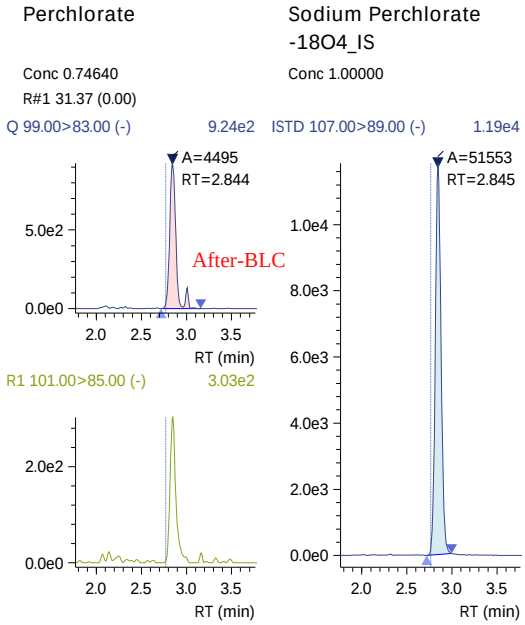
# Insight Report

Printed at 4/29/2021 1:26:51 PM

## 20210428_046

Sample ID: PERCHLORATE3
Date Acquired: 4/28/2021 6:34:56 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_046.lcd
Vial: 24 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | M | 2.844 | 4495 | 51553 | 1 | 0.74640 | ng/mL | 0.7000 | 31.37 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.845 | 51553 | 51553 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |



# Insight Report



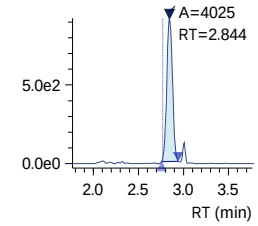
## 20210428_046

Sample ID: PERCHLORATE3
Date Acquired: 4/28/2021 6:34:56 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_046.lcd
Vial: 24 | Inj. Volume: 25.0000uL | Tray: 1

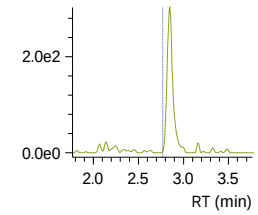
Perchlorate

Conc 0.67532
R#1 31.38 (0.00)

Q 99.00>83.00 (-) 9.24e2



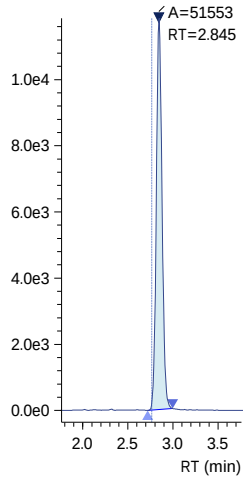

R1 101.00>85.00 (-) 3.03e2




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.19e4



# Insight Report

Printed at 4/29/2021 1:26:51 PM

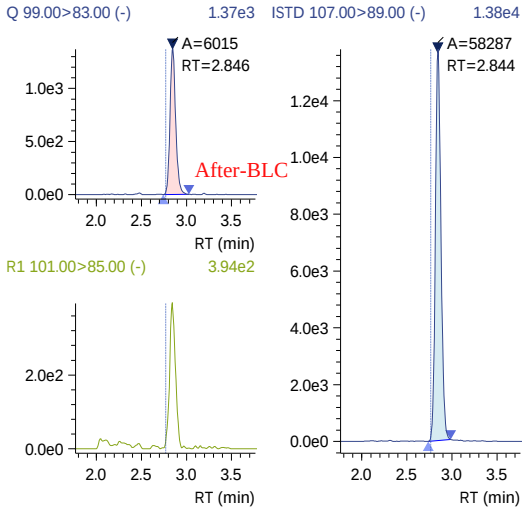
## 20210428_047

Sample ID: PERCHLORATE4
Date Acquired: 4/28/2021 6:44:22 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_047.lcd
Vial: 25 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | M | 2.846 | 6015 | 58287 | 1 | 0.88355 | ng/mL | 1.0000 | 28.62 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.844 | 58287 | 58287 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

Perchlorate

Conc 0.88355
R#1 28.62 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000

# Insight Report

Printed at 4/29/2021 1:28:28 PM

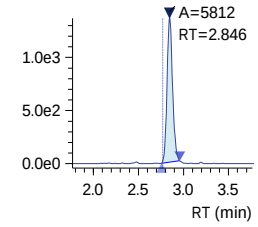
## 20210428_047

Sample ID: PERCHLORATE4
Date Acquired: 4/28/2021 6:44:22 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_047.lcd
Vial: 25 | Inj. Volume: 25.0000uL | Tray: 1

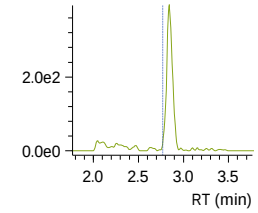
Perchlorate

Conc 0.86245
R#1 28.86 (0.00)

Q 99.00>83.00 (-) 1.37e3



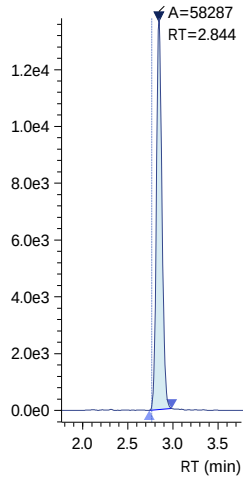

R1 101.00>85.00 (-) 3.94e2




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.38e4



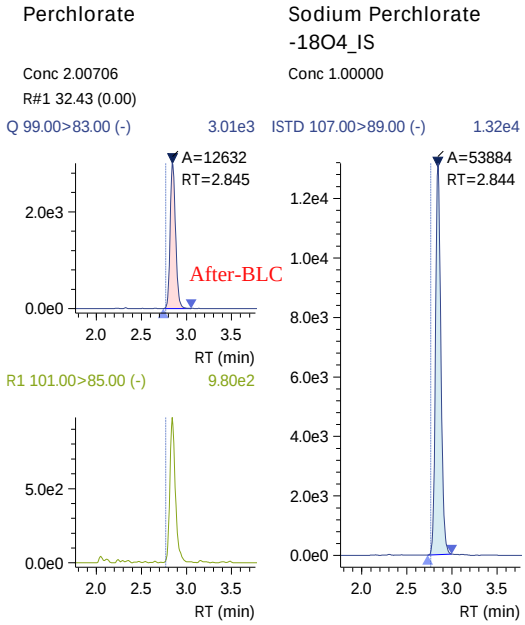
# Insight Report

Printed at 4/29/2021 1:26:51 PM

## 20210428_048

Sample ID: PERCHLORATE5
Date Acquired: 4/28/2021 6:53:45 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_048.lcd
Vial: 26 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | M | 2.845 | 12632 | 53884 | 1 | 2.00706 | ng/mL | 2.0000 | 32.43 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.844 | 53884 | 53884 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |



# Insight Report



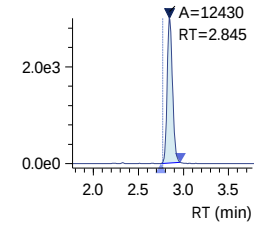
## 20210428_048

Sample ID: PERCHLORATE5
Date Acquired: 4/28/2021 6:53:45 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_048.lcd
Vial: 26 | Inj. Volume: 25.0000uL | Tray: 1

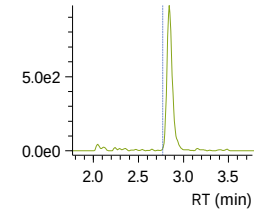
Perchlorate

Conc 1.99532
R#1 32.28 (0.00)

Q 99.00>83.00 (-) 3.01e3



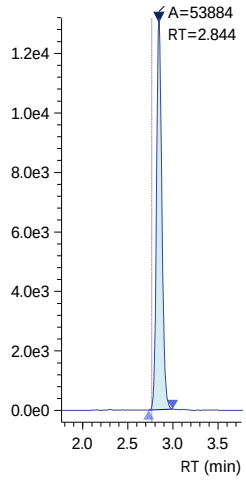

R1 101.00>85.00 (-) 9.80e2




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.32e4



# Insight Report

Printed at 4/29/2021 1:26:51 PM

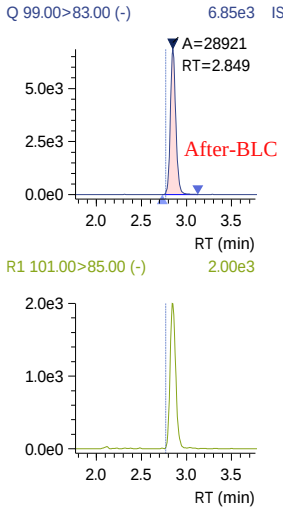
## 20210428_049

Sample ID: PERCHLORATE6
Date Acquired: 4/28/2021 7:03:12 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_049.lcd
Vial: 27 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | M | 2.849 | 28921 | 51456 | 1 | 4.81188 | ng/mL | 5.0000 | 30.04 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.846 | 51456 | 51456 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

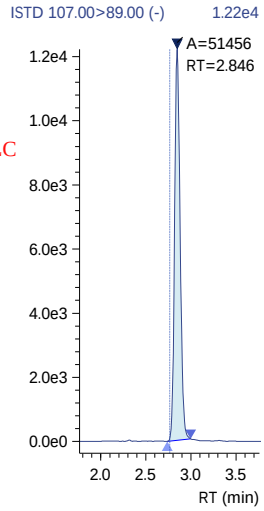
Perchlorate

Conc 4.81188
R#1 30.04 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report

Printed at 4/29/2021 1:28:28 PM

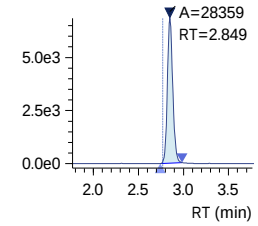
## 20210428_049

Sample ID: PERCHLORATE6
Date Acquired: 4/28/2021 7:03:12 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_049.lcd
Vial: 27 | Inj. Volume: 25.0000uL | Tray: 1

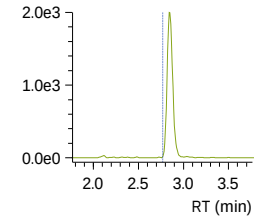
Perchlorate

Conc 4.76710
R#1 30.13 (0.00)

Q 99.00>83.00 (-) 6.85e3



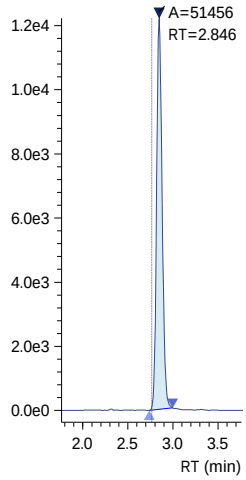

R1 101.00>85.00 (-) 2.00e3




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.22e4



# Insight Report

Printed at 4/29/2021 1:26:51 PM

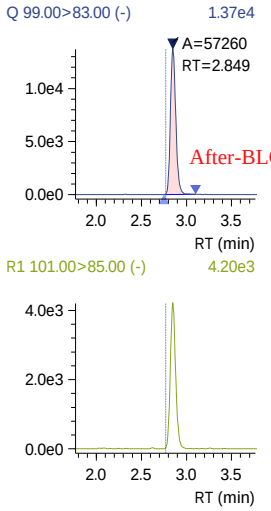
## 20210428_050

Sample ID: PERCHLORATE7
Date Acquired: 4/28/2021 7:12:36 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_050.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | M | 2.849 | 57260 | 50051 | 1 | 9.79458 | ng/mL | 10.0000 | 30.74 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.848 | 50051 | 50051 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

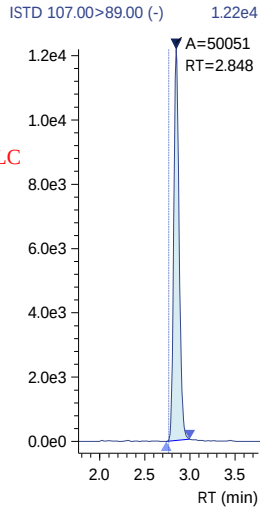
Perchlorate

Conc 9.79458
R#1 30.74 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report



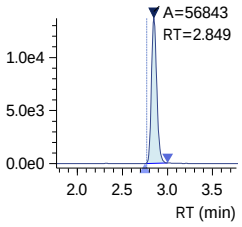
## 20210428_050

Sample ID: PERCHLORATE7
Date Acquired: 4/28/2021 7:12:36 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_050.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

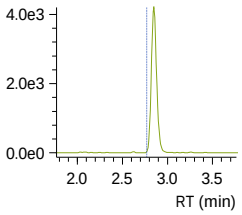
Perchlorate

Conc 9.82335
R#1 30.77 (0.00)

Q 99.00>83.00 (-) 1.37e4



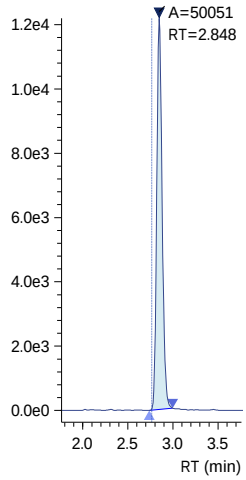

R1 101.00>85.00 (-) 4.20e3




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.22e4



# Insight Report

Printed at 4/29/2021 1:26:51 PM

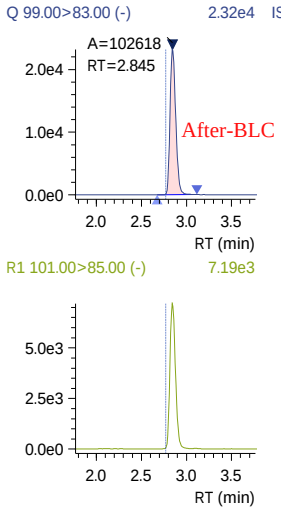
## 20210428_051

Sample ID: PERCHLORATE8
Date Acquired: 4/28/2021 7:22:01 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_051.lcd
Vial: 28 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | M | 2.845 | 102618 | 52128 | 1 | 16.85388 | ng/mL | 20.0000 | 30.96 |
| Sodium Perchlorate-18O4_IS | Auto | 2.844 | 52128 | 52128 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

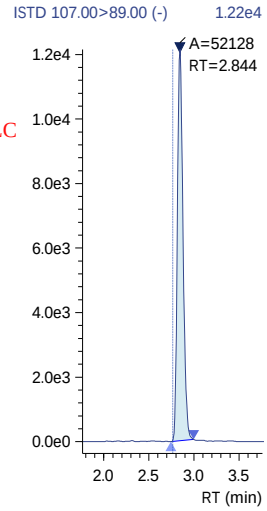
Perchlorate

Conc 16.85388
R#1 30.96 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report



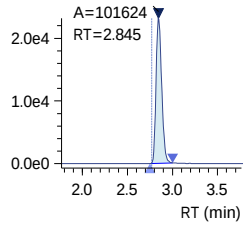
## 20210428_051

Sample ID: PERCHLORATE8
Date Acquired: 4/28/2021 7:22:01 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_051.lcd
Vial: 28 | Inj. Volume: 25.0000uL | Tray: 1

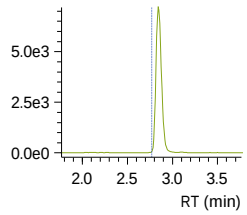
Perchlorate

Conc 16.86268
R#1 30.97 (0.00)

Q 99.00>83.00 (-) 2.32e4



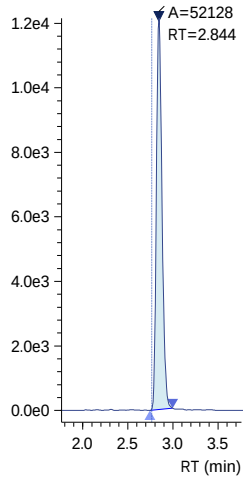

R1 101.00>85.00 (-) 7.19e3




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.22e4



# Insight Report

Printed at 4/29/2021 1:26:51 PM

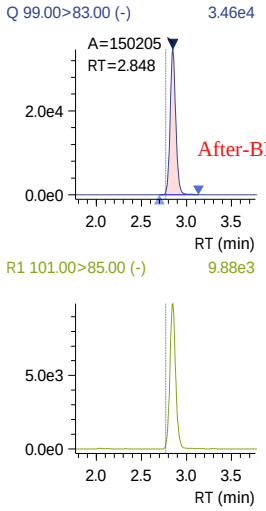
## 20210428_052

Sample ID: PERCHLORATE9
Date Acquired: 4/28/2021 7:31:24 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_052.lcd
Vial: 29 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | M | 2.848 | 150205 | 48780 | 1 | 26.36258 | ng/mL | 30.0000 | 29.04 |
| Sodium Perchlorate-18O4_IS | Auto | 2.846 | 48780 | 48780 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

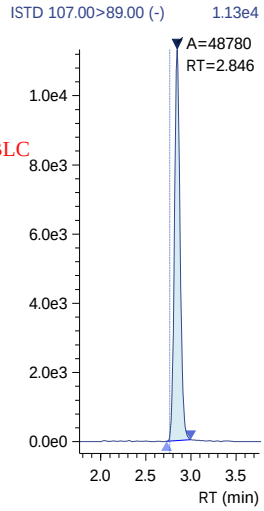
Perchlorate

Conc 26.36258
R#1 29.04 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report

Printed at 4/29/2021 1:28:28 PM

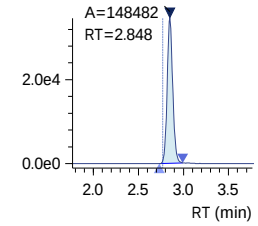
## 20210428_052

Sample ID: PERCHLORATE9
Date Acquired: 4/28/2021 7:31:24 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_052.lcd
Vial: 29 | Inj. Volume: 25.0000uL | Tray: 1

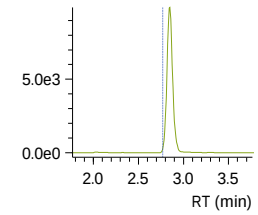
Perchlorate

Conc 26.32873
R#1 29.04 (0.00)

Q 99.00>83.00 (-) 3.46e4



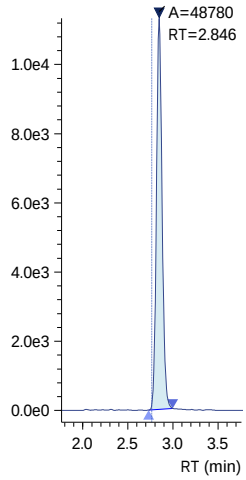

R1 101.00>85.00 (-) 9.88e3




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.13e4



# Insight Report

Printed at 4/29/2021 1:26:51 PM

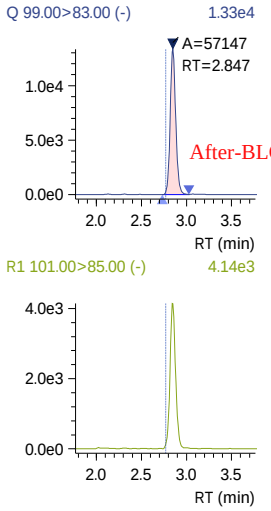
## 20210428_054

Sample ID: PERCHLORATEICV
Date Acquired: 4/28/2021 7:50:10 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_054.lcd
Vial: 31 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | M | 2.847 | 57147 | 51740 | 1 | 9.45615 | ng/mL | 10.0000 | 31.56 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.847 | 51740 | 51740 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

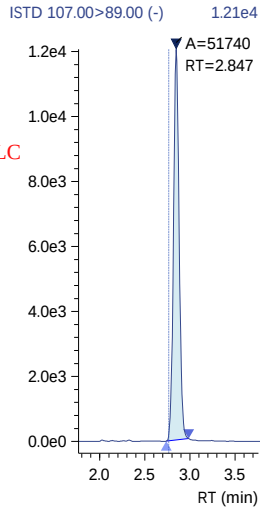
Perchlorate

Conc 9.45615
R#1 31.56 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report

Printed at 4/29/2021 1:28:28 PM

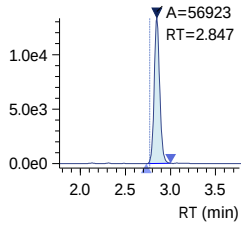
## 20210428_054

Sample ID: PERCHLORATEICV
Date Acquired: 4/28/2021 7:50:10 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_054.lcd
Vial: 31 | Inj. Volume: 25.0000uL | Tray: 1

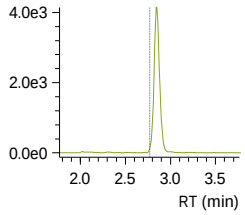
Perchlorate

Conc 9.51618
R#1 31.56 (0.00)

Q 99.00>83.00 (-) 1.33e4



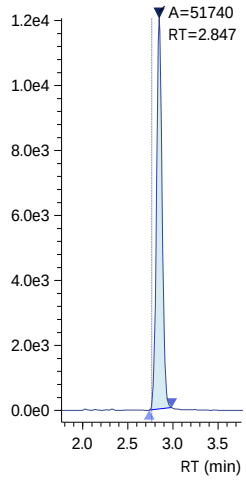

R1 101.00>85.00 (-) 4.14e3




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.21e4



# 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

**20210420**

**1st Review:** Grivera
**2nd Review:** Kneir

**Injection Log**
**LCMS01 -Shimadzu 8050**

**ICAL Date:** 4/13/2021
**Cal. Std. xp:** 5/20/2021
**ICAL ID:** **EC2100018**

**Mobile Phases** **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

| | | | File Name | Acquisition Method | Dilution | R | Comments | Date/Time |
|---|---|---|---|---|---|---|---|---|
| 1 | null | | 20210420_001 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 10:09 |
| 2 | null | | 20210420_002 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 10:14 |
| 3 | null | | 20210420_002~1 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 10:20 |
| 4 | IB | | 20210420_003 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 10:25 |
| 5 | IB | | 20210420_004 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 10:33 |
| 6 | ICS | | 20210420_005 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 10:41 |
| 7 | LODV | | 20210420_006 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 10:49 |
| 8 | PERCHLORATE7 | | 20210420_007 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/20/2021 10:57 |
| 9 | EQ2100212-01 | | 20210420_008 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 11:05 |
| 10 | EQ2100212-02 | | 20210420_009 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 11:13 |
| 11 | EQ2100212-03 | | 20210420_010 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 11:21 |
| 12 | EQ2100212-04 | | 20210420_011 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 11:28 |
| 13 | EQ2100212-05 | | 20210420_012 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 11:36 |
| 14 | EQ2100212-06 | | 20210420_013 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 12:18 |
| 15 | EQ2100212-07 | | 20210420_014 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 12:26 |
| 16 | E2100389-001 | | 20210420_015 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 12:34 |
| 17 | E2100389-004 | | 20210420_016 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 12:42 |
| 18 | PERCHLORATE7 | | 20210420_017 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/20/2021 12:50 |
| 19 | EQ2100213-01 | | 20210420_018 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 13:25 |
| 20 | EQ2100213-02 | | 20210420_019 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 13:33 |
| 21 | EQ2100213-03 | | 20210420_020 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 13:41 |
| 22 | E2100409-001 | | 20210420_021 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 13:49 |
| 23 | E2100410-001DNU | | 20210420_022 | Perchlorate6850b.lcm | 1x | ☒ | over ICAL range | 4/20/2021 13:57 |
| 24 | E2100411-001DNU | | 20210420_023 | Perchlorate6850b.lcm | 1x | ☒ | RR-carryover | 4/20/2021 14:05 |
| 25 | E2100412-001 | | 20210420_024 | Perchlorate6850b.lcm | 1x | ☒ | RR-carryover | 4/20/2021 14:13 |
| 26 | E2100412-002 | | 20210420_025 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 14:20 |
| 27 | E2100412-003DNU | | 20210420_026 | Perchlorate6850b.lcm | 1x | ☒ | DNU: INST failed | 4/20/2021 14:28 |
| 28 | E2100412-004 | | 20210420_027 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 14:36 |
| 29 | PERCHLORATE7 | | 20210420_028 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/20/2021 14:44 |
| 30 | E2100412-005 | | 20210420_029 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 14:52 |
| 31 | E2100412-006 | | 20210420_030 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 15:00 |
| 32 | E2100412-007 | | 20210420_031 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 15:08 |
| 33 | E2100412-008 | | 20210420_032 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 15:16 |
| 34 | E2100412-009 | | 20210420_033 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 15:23 |
| 35 | E2100412-010DNU | | 20210420_034 | Perchlorate6850b.lcm | 1x | ☒ | DNU: INST failed | 4/20/2021 15:31 |
| 36 | R2103214-010DNU | | 20210420_035 | Perchlorate6850b.lcm | 1x | ☒ | DNU: INST failed | 4/20/2021 15:39 |
| 37 | R2103214-011 | | 20210420_036 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 15:47 |
| 38 | R2103214-013 | | 20210420_037 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 15:55 |
| 39 | PERCHLORATE7 | | 20210420_038 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/20/2021 16:03 |
| 40 | R2103380-002 | | 20210420_039 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 16:11 |
| 41 | R2103380-003 | | 20210420_040 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 16:19 |
| 42 | R2103380-004 | | 20210420_041 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 16:26 |
| 43 | R2103380-005 | | 20210420_042 | Perchlorate6850b.lcm | 1x | ☒ | | 4/20/2021 16:34 |
| 44 | PERCHLORATE7 | | 20210420_043 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/20/2021 16:42 |
| 45 | | | | | | | | |

**20210428**

**1st Review:** Grivera
**2nd Review:** Kneir

ALS Environmental

**Injection Log**
**LCMS01 -Shimadzu 8050**

**ICAL Date:** 4/28/2021
**Cal. Std. xp:** 5/20/2021
**ICAL ID:** **EC2100026**

**Mobile Phases** **A:** 0.75% Formic Acid/Water 3100809-07 **B:** MeOH 216350

| | | | File Name | Acquisition Method | Dilution | R | Comments | Date/Time |
|---|---|---|---|---|---|---|---|---|
| 1 | PERCHLORATE1 | | 20210428_044 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-05 | 4/28/2021 18:16 |
| 2 | PERCHLORATE2 | | 20210428_045 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-06 | 4/28/2021 18:25 |
| 3 | PERCHLORATE3 | | 20210428_046 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-07 | 4/28/2021 18:34 |
| 4 | PERCHLORATE4 | | 20210428_047 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-08 | 4/28/2021 18:44 |
| 5 | PERCHLORATE5 | | 20210428_048 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-09 | 4/28/2021 18:53 |
| 6 | PERCHLORATE6 | | 20210428_049 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-01 | 4/28/2021 19:03 |
| 7 | PERCHLORATE7 | | 20210428_050 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/28/2021 19:12 |
| 8 | PERCHLORATE8 | | 20210428_051 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-03 | 4/28/2021 19:22 |
| 9 | PERCHLORATE9 | | 20210428_052 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-04 | 4/28/2021 19:31 |
| 10 | PERCHLORATEICV | | 20210428_054 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-06 | 4/28/2021 19:50 |
| 11 | ICS | | 20210428_055 | Perchlorate6850b.lcm | 1x | ☒ | | 4/28/2021 19:59 |
| 12 | LODV | | 20210428_056 | Perchlorate6850b.lcm | 1x | ☒ | | 4/28/2021 20:08 |
| 13 | PERCHLORATE7 | | 20210428_057 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/28/2021 20:18 |
| 14 | EQ2100244-01 | | 20210428_058 | Perchlorate6850b.lcm | 1x | ☒ | | 4/28/2021 20:27 |
| 15 | EQ2100244-02 | | 20210428_059 | Perchlorate6850b.lcm | 1x | ☒ | | 4/28/2021 20:37 |
| 16 | EQ2100244-03 | | 20210428_060 | Perchlorate6850b.lcm | 1x | ☒ | | 4/28/2021 20:46 |
| 17 | E2100412-016X10 | | 20210428_061 | Perchlorate6850b.lcm | 10X | ☒ | | 4/28/2021 20:55 |
| 18 | E2100412-017X10 | | 20210428_062 | Perchlorate6850b.lcm | 10X | ☒ | | 4/28/2021 21:05 |
| 19 | E2100412-011X10DNU | | 20210428_063 | Perchlorate6850b.lcm | 10X | ☒ | DNU:Report 1X | 4/28/2021 21:14 |
| 20 | E2100412-012X10DNU | | 20210428_064 | Perchlorate6850b.lcm | 10X | ☒ | Bad injection: Reanalyze | 4/28/2021 21:24 |
| 21 | E2100412-013X10DNU | | 20210428_065 | Perchlorate6850b.lcm | 10X | ☒ | Over ICAL: Run 50X | 4/28/2021 21:33 |
| 22 | E2100412-014X10DNU | | 20210428_066 | Perchlorate6850b.lcm | 10X | ☒ | Bad injection: Reanalyze | 4/28/2021 21:42 |
| 23 | E2100412-015X10DNU | | 20210428_067 | Perchlorate6850b.lcm | 10X | ☒ | DNU:Report 1X | 4/28/2021 21:52 |
| 24 | PERCHLORATE7 | | 20210428_068 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/28/2021 22:01 |
| 25 | E2100411-001 | | 20210428_069 | Perchlorate6850b.lcm | 1x | ☒ | | 4/28/2021 22:10 |
| 26 | E2100412-003X10 | | 20210428_070 | Perchlorate6850b.lcm | 10X | ☒ | | 4/28/2021 22:20 |
| 27 | E2100412-010X10 | | 20210428_071 | Perchlorate6850b.lcm | 10X | ☒ | | 4/28/2021 22:29 |
| 28 | R2103214-010 | | 20210428_072 | Perchlorate6850b.lcm | 1x | ☒ | | 4/28/2021 22:38 |
| 29 | PERCHLORATE7 | | 20210428_073 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/28/2021 22:48 |
| 30 | E2100485-002X10 | | 20210428_074 | Perchlorate6850b.lcm | 10X | ☒ | | 4/28/2021 22:57 |
| 31 | E2100485-003X10 | | 20210428_075 | Perchlorate6850b.lcm | 10X | ☒ | | 4/28/2021 23:07 |
| 32 | E2100485-007X10 | | 20210428_076 | Perchlorate6850b.lcm | 10X | ☒ | | 4/28/2021 23:16 |
| 33 | E2100485-010X10 | | 20210428_077 | Perchlorate6850b.lcm | 10X | ☒ | | 4/28/2021 23:25 |
| 34 | EQ2100244-04X10DNU | | 20210428_078 | Perchlorate6850b.lcm | 10X | ☒ | DNU: report 1X | 4/28/2021 23:35 |
| 35 | EQ2100244-05X10DNU | | 20210428_079 | Perchlorate6850b.lcm | 10X | ☒ | DNU: report 1X | 4/28/2021 23:44 |
| 36 | PERCHLORATE7 | | 20210428_080 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/28/2021 23:54 |
| 37 | E2100485-001 | | 20210428_081 | Perchlorate6850b.lcm | 1x | ☒ | | 4/29/2021 0:03 |
| 38 | E2100485-004 | | 20210428_082 | Perchlorate6850b.lcm | 1x | ☒ | | 4/29/2021 0:12 |
| 39 | E2100485-005 | | 20210428_083 | Perchlorate6850b.lcm | 1x | ☒ | | 4/29/2021 0:22 |
| 40 | E2100485-006DNU | | 20210428_084 | Perchlorate6850b.lcm | 1x | ☒ | DNU: INST failed | 4/29/2021 0:31 |
| 41 | PERCHLORATE7 | | 20210428_085 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/29/2021 0:40 |
| 42 | E2100485-008 | | 20210428_086 | Perchlorate6850b.lcm | 1x | ☒ | | 4/29/2021 0:50 |
| 43 | E2100485-009 | | 20210428_087 | Perchlorate6850b.lcm | 1x | ☒ | | 4/29/2021 0:59 |
| 44 | E2100485-011 | | 20210428_088 | Perchlorate6850b.lcm | 1x | ☒ | | 4/29/2021 1:09 |
| 45 | E2100485-012DNU | | 20210428_089 | Perchlorate6850b.lcm | 1x | ☒ | DNU-low INST | 4/29/2021 1:18 |
| 46 | E2100485-013 | | 20210428_090 | Perchlorate6850b.lcm | 1x | ☒ | | 4/29/2021 1:27 |
| 47 | EQ2100244-04 | | 20210428_091 | Perchlorate6850b.lcm | 1x | ☒ | | 4/29/2021 1:37 |
| 48 | EQ2100244-05 | | 20210428_092 | Perchlorate6850b.lcm | 1x | ☒ | | 4/29/2021 1:46 |
| 49 | PERCHLORATE7 | | 20210428_093 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/29/2021 1:56 |
| 50 | | | | | | | | |
| 51 | | | | | | | | |

**ALS Group USA, Corp. dba ALS Environmental**

QA/QC Report

**Client:** ALS Environmental - US
**Project:** HS21040699

**Service Request:** E2100411
**Date Analyzed:** 4/20/21

## 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\20210420\20210420_017

**Calibration Date:** 4/13/21
**Calibration ID:** EC2100018
**Analysis Lot:** 721439
**Units:** ng/mL

| Analyte Name | Expected | Result | Average RF | CCV RF | %D | %Drift | Criteria | Curve Fit |
|---|---|---|---|---|---|---|---|---|
| Perchlorate | 10.0 | 9.68 | 0.1227 | 0.1187 | -3.2 | NA | ± 15 % | Average RF |

**ALS Group USA, Corp. dba ALS Environmental**

QA/QC Report

**Client:** ALS Environmental - US
**Project:** HS21040699

**Service Request:** E2100411
**Date Analyzed:** 4/20/21

## 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\20210420\20210420_028

**Calibration Date:** 4/13/21
**Calibration ID:** EC2100018
**Analysis Lot:** 721439
**Units:** ng/mL

| Analyte Name | Expected | Result | Average RF | CCV RF | %D | %Drift | Criteria | Curve Fit |
|---|---|---|---|---|---|---|---|---|
| Perchlorate | 10.0 | 9.30 | 0.1227 | 0.1141 | -7.0 | NA | ± 15 % | Average RF |

**ALS Group USA, Corp. dba ALS Environmental**

QA/QC Report

**Client:** ALS Environmental - US
**Project:** HS21040699

**Service Request:** E2100411
**Date Analyzed:** 4/20/21

## 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\20210420\20210420_038

**Calibration Date:** 4/13/21
**Calibration ID:** EC2100018
**Analysis Lot:** 721439
**Units:** ng/mL

| Analyte Name | Expected | Result | Average RF | CCV RF | %D | %Drift | Criteria | Curve Fit |
|---|---|---|---|---|---|---|---|---|
| Perchlorate | 10.0 | 9.35 | 0.1227 | 0.1147 | -6.5 | NA | ± 15 % | Average RF |

**ALS Group USA, Corp. dba ALS Environmental**

QA/QC Report

**Client:** ALS Environmental - US
**Project:** HS21040699

**Service Request:** E2100411
**Date Analyzed:** 4/20/21

## 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\20210420\20210420_043

**Calibration Date:** 4/13/21
**Calibration ID:** EC2100018
**Analysis Lot:** 721439
**Units:** ng/mL

| Analyte Name | Expected | Result | Average RF | CCV RF | %D | %Drift | Criteria | Curve Fit |
|---|---|---|---|---|---|---|---|---|
| Perchlorate | 10.0 | 9.01 | 0.1227 | 0.1105 | -10.0 | NA | ± 15 % | Average RF |

**ALS Group USA, Corp. dba ALS Environmental**

QA/QC Report

**Client:** ALS Environmental - US
**Project:** HS21040699

**Service Request:** E2100411
**Date Analyzed:** 4/28/21

## 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\20210428\20210428_057

**Calibration Date:** 4/28/21
**Calibration ID:** EC2100026
**Analysis Lot:** 721483
**Units:** ng/mL

| Analyte Name | Expected | Result | Average RF | CCV RF | %D | %Drift | Criteria | Curve Fit |
|---|---|---|---|---|---|---|---|---|
| Perchlorate | 10.0 | 9.73 | 0.1168 | 0.1137 | -2.7 | NA | ± 15 % | Average RF |

**ALS Group USA, Corp. dba ALS Environmental**

QA/QC Report

**Client:** ALS Environmental - US
**Project:** HS21040699

**Service Request:** E2100411
**Date Analyzed:** 4/28/21

## 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\20210428\20210428_068

**Calibration Date:** 4/28/21
**Calibration ID:** EC2100026
**Analysis Lot:** 721483
**Units:** ng/mL

| Analyte Name | Expected | Result | Average RF | CCV RF | %D | %Drift | Criteria | Curve Fit |
|---|---|---|---|---|---|---|---|---|
| Perchlorate | 10.0 | 9.57 | 0.1168 | 0.1118 | -4.3 | NA | ± 15 % | Average RF |

**ALS Group USA, Corp. dba ALS Environmental**

QA/QC Report

**Client:** ALS Environmental - US
**Project:** HS21040699

**Service Request:** E2100411
**Date Analyzed:** 4/28/21

## 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\20210428\20210428_073

**Calibration Date:** 4/28/21
**Calibration ID:** EC2100026
**Analysis Lot:** 721483
**Units:** ng/mL

| Analyte Name | Expected | Result | Average RF | CCV RF | %D | %Drift | Criteria | Curve Fit |
|---|---|---|---|---|---|---|---|---|
| Perchlorate | 10.0 | 9.70 | 0.1168 | 0.1133 | -3.0 | NA | ± 15 % | Average RF |

**ALS Group USA, Corp. dba ALS Environmental**

QA/QC Report

**Client:** ALS Environmental - US
**Project:** HS21040699

**Service Request:** E2100411
**Date Analyzed:** 4/28/21

## 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\20210428\20210428_080

**Calibration Date:** 4/28/21
**Calibration ID:** EC2100026
**Analysis Lot:** 721483
**Units:** ng/mL

| Analyte Name | Expected | Result | Average RF | CCV RF | %D | %Drift | Criteria | Curve Fit |
|---|---|---|---|---|---|---|---|---|
| Perchlorate | 10.0 | 9.34 | 0.1168 | 0.1091 | -6.6 | NA | ± 15 % | Average RF |

**ALS Group USA, Corp. dba ALS Environmental**

QA/QC Report

**Client:** ALS Environmental - US
**Project:** HS21040699

**Service Request:** E2100411
**Date Analyzed:** 4/29/21

## 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\20210428\20210428_085

**Calibration Date:** 4/28/21
**Calibration ID:** EC2100026
**Analysis Lot:** 721483
**Units:** ng/mL

| Analyte Name | Expected | Result | Average RF | CCV RF | %D | %Drift | Criteria | Curve Fit |
|---|---|---|---|---|---|---|---|---|
| Perchlorate | 10.0 | 9.68 | 0.1168 | 0.1130 | -3.2 | NA | ± 15 % | Average RF |

**ALS Group USA, Corp. dba ALS Environmental**

QA/QC Report

**Client:** ALS Environmental - US
**Project:** HS21040699

**Service Request:** E2100411
**Date Analyzed:** 4/29/21

## 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\20210428\20210428_093

**Calibration Date:** 4/28/21
**Calibration ID:** EC2100026
**Analysis Lot:** 721483
**Units:** ng/mL

| Analyte Name | Expected | Result | Average RF | CCV RF | %D | %Drift | Criteria | Curve Fit |
|---|---|---|---|---|---|---|---|---|
| Perchlorate | 10.0 | 9.67 | 0.1168 | 0.1130 | -3.3 | NA | ± 15 % | Average RF |

**ALS Group USA, Corp. dba ALS Environmental**

QA/QC Report

| | | | |
|---|---|---|---|
| **Client:** | ALS Environmental - US | **Service Request:** | E2100411 |
| **Project:** | HS21040699 | **Date Analyzed:** | 4/20/21 12:50 |

## Internal Standard Area and RT Summary
## Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

| | | | |
|---|---|---|---|
| **File ID:** | I:\LCMS01\DATA\20210420\20210420_017 | **Lab Code:** | EQ2100256-01 |
| **Instrument ID:** | E-LCMS-01 | **Analysis Lot:** | 721439 |
| **Analytical Method:** | 6850 | **Signal ID:** | 1 |

| | | Sodium Perchlorate-18O4 | |
|---|---|---|---|
| | | **Area** | **RT** |
| | **ICAL Average ==>** | 31,230 | 2.76 |
| | **Upper Limit ==>** | 46,845 | 4.76 |
| | **Lower Limit ==>** | 15,615 | 0.76 |
| ***Associated Analyses*** | | | |
| Continuing Calibration Verification | EQ2100256-01 | 22,784 | 2.80 |
| Method Blank | EQ2100213-01 | 28,932 | 2.70 |
| Lab Control Sample | EQ2100213-02 | 38,966 | 2.77 |
| Duplicate Lab Control Sample | EQ2100213-03 | 41,071 | 2.77 |

**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:** | E2100411 |
| **Project:** | HS21040699 | **Date Analyzed:** | 4/20/21 14:44 |

**Internal Standard Area and RT Summary**
**Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry**

| | | | |
|---|---|---|---|
| **File ID:** | I:\LCMS01\DATA\20210420\20210420_028 | **Lab Code:** | EQ2100256-02 |
| **Instrument ID:** | E-LCMS-01 | **Analysis Lot:** | 721439 |
| **Analytical Method:** | 6850 | **Signal ID:** | 1 |

| | | Sodium Perchlorate-18O4 | |
|---|---|---|---|
| | | **Area** | **RT** |
| | **ICAL Average ==>** | 31,230 | 2.76 |
| | **Upper Limit ==>** | 46,845 | 4.76 |
| | **Lower Limit ==>** | 15,615 | 0.76 |
| ***Associated Analyses*** | | | |
| Continuing Calibration Verification | EQ2100256-02 | 16,630 | 2.77 |

**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:** | E2100411 |
| **Project:** | HS21040699 | **Date Analyzed:** | 4/20/21 16:03 |

**Internal Standard Area and RT Summary**

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

| | | | |
|---|---|---|---|
| **File ID:** | I:\LCMS01\DATA\20210420\20210420_038 | **Lab Code:** | EQ2100256-03 |
| **Instrument ID:** | E-LCMS-01 | **Analysis Lot:** | 721439 |
| **Analytical Method:** | 6850 | **Signal ID:** | 1 |

| | | Sodium Perchlorate-18O4 | |
|---|---|---|---|
| | | **Area** | **RT** |
| | **ICAL Average ==>** | 31,230 | 2.76 |
| | **Upper Limit ==>** | 46,845 | 4.76 |
| | **Lower Limit ==>** | 15,615 | 0.76 |
| ***Associated Analyses*** | | | |
| Continuing Calibration Verification | EQ2100256-03 | 18,155 | 2.77 |

**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:** | E2100411 |
| **Project:** | HS21040699 | **Date Analyzed:** | 4/20/21 16:42 |

**Internal Standard Area and RT Summary**
**Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry**

| | | | |
|---|---|---|---|
| **File ID:** | I:\LCMS01\DATA\20210420\20210420_043 | **Lab Code:** | EQ2100256-04 |
| **Instrument ID:** | E-LCMS-01 | **Analysis Lot:** | 721439 |
| **Analytical Method:** | 6850 | **Signal ID:** | 1 |

| | | Sodium Perchlorate-18O4 | |
|---|---|---|---|
| | | **Area** | **RT** |
| | **ICAL Average ==>** | 31,230 | 2.76 |
| | **Upper Limit ==>** | 46,845 | 4.76 |
| | **Lower Limit ==>** | 15,615 | 0.76 |
| ***Associated Analyses*** | | | |
| Continuing Calibration Verification | EQ2100256-04 | 18,820 | 2.76 |

**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:** | E2100411 |
| **Project:** | HS21040699 | **Date Analyzed:** | 4/28/21 20:18 |

**Internal Standard Area and RT Summary**

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

| | | | |
|---|---|---|---|
| **File ID:** | I:\LCMS01\DATA\20210428\20210428_057 | **Lab Code:** | EQ2100258-01 |
| **Instrument ID:** | E-LCMS-01 | **Analysis Lot:** | 721483 |
| **Analytical Method:** | 6850 | **Signal ID:** | 1 |

| | | Sodium Perchlorate-18O4 | |
|---|---|---|---|
| | | **Area** | **RT** |
| | **ICAL Average ==>** | 52,454 | 2.85 |
| | **Upper Limit ==>** | 78,681 | 4.85 |
| | **Lower Limit ==>** | 26,227 | 0.85 |
| ***Associated Analyses*** | | | |
| Continuing Calibration Verification | EQ2100258-01 | 54,358 | 2.85 |

**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:** | E2100411 |
| **Project:** | HS21040699 | **Date Analyzed:** | 4/28/21 22:01 |

**Internal Standard Area and RT Summary**
**Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry**

| | | | |
|---|---|---|---|
| **File ID:** | I:\LCMS01\DATA\20210428\20210428_068 | **Lab Code:** | EQ2100258-02 |
| **Instrument ID:** | E-LCMS-01 | **Analysis Lot:** | 721483 |
| **Analytical Method:** | 6850 | **Signal ID:** | 1 |

| | | Sodium Perchlorate-18O4 | |
|---|---|---|---|
| | | **Area** | **RT** |
| | **ICAL Average ==>** | 52,454 | 2.85 |
| | **Upper Limit ==>** | 78,681 | 4.85 |
| | **Lower Limit ==>** | 26,227 | 0.85 |
| ***Associated Analyses*** | | | |
| Continuing Calibration Verification | EQ2100258-02 | 49,259 | 2.85 |
| LH18/24-SP650_041321_BIX | E2100411-001 | 44,827 | 2.83 |

**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:** | E2100411 |
| **Project:** | HS21040699 | **Date Analyzed:** | 4/28/21 22:48 |

**Internal Standard Area and RT Summary**
**Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry**

| | | | |
|---|---|---|---|
| **File ID:** | I:\LCMS01\DATA\20210428\20210428_073 | **Lab Code:** | EQ2100258-03 |
| **Instrument ID:** | E-LCMS-01 | **Analysis Lot:** | 721483 |
| **Analytical Method:** | 6850 | **Signal ID:** | 1 |

| | | Sodium Perchlorate-18O4 | |
|---|---|---|---|
| | | **Area** | **RT** |
| | **ICAL Average ==>** | 52,454 | 2.85 |
| | **Upper Limit ==>** | 78,681 | 4.85 |
| | **Lower Limit ==>** | 26,227 | 0.85 |
| ***Associated Analyses*** | | | |
| Continuing Calibration Verification | EQ2100258-03 | 43,925 | 2.85 |

**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:** | E2100411 |
| **Project:** | HS21040699 | **Date Analyzed:** | 4/28/21 23:54 |

**Internal Standard Area and RT Summary**
**Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry**

| | | | |
|---|---|---|---|
| **File ID:** | I:\LCMS01\DATA\20210428\20210428_080 | **Lab Code:** | EQ2100258-04 |
| **Instrument ID:** | E-LCMS-01 | **Analysis Lot:** | 721483 |
| **Analytical Method:** | 6850 | **Signal ID:** | 1 |

| | | Sodium Perchlorate-18O4 | |
|---|---|---|---|
| | | **Area** | **RT** |
| | **ICAL Average ==>** | 52,454 | 2.85 |
| | **Upper Limit ==>** | 78,681 | 4.85 |
| | **Lower Limit ==>** | 26,227 | 0.85 |
| ***Associated Analyses*** | | | |
| Continuing Calibration Verification | EQ2100258-04 | 46,305 | 2.85 |

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

**ALS Group USA, Corp. dba ALS Environmental**

QA/QC Report

**Client:** ALS Environmental - US
**Project:** HS21040699

**Service Request:** E2100411
**Date Analyzed:** 4/29/21 00:40

## Internal Standard Area and RT Summary
## Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

**File ID:** I:\LCMS01\DATA\20210428\20210428_085
**Instrument ID:** E-LCMS-01
**Analytical Method:** 6850

**Lab Code:** EQ2100258-05
**Analysis Lot:** 721483
**Signal ID:** 1

| | | Sodium Perchlorate-18O4 | |
|---|---|---|---|
| | | **Area** | **RT** |
| | **ICAL Average ==>** | 52,454 | 2.85 |
| | **Upper Limit ==>** | 78,681 | 4.85 |
| | **Lower Limit ==>** | 26,227 | 0.85 |
| ***Associated Analyses*** | | | |
| Continuing Calibration Verification | EQ2100258-05 | 48,328 | 2.85 |

**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:** | E2100411 |
| **Project:** | HS21040699 | **Date Analyzed:** | 4/29/21 01:56 |

**Internal Standard Area and RT Summary**
**Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry**

| | | | |
|---|---|---|---|
| **File ID:** | I:\LCMS01\DATA\20210428\20210428_093 | **Lab Code:** | EQ2100258-06 |
| **Instrument ID:** | E-LCMS-01 | **Analysis Lot:** | 721483 |
| **Analytical Method:** | 6850 | **Signal ID:** | 1 |

| | | Sodium Perchlorate-18O4 | |
|---|---|---|---|
| | | **Area** | **RT** |
| | **ICAL Average ==>** | 52,454 | 2.85 |
| | **Upper Limit ==>** | 78,681 | 4.85 |
| | **Lower Limit ==>** | 26,227 | 0.85 |
| ***Associated Analyses*** | | | |
| Continuing Calibration Verification | EQ2100258-06 | 43,314 | 2.85 |

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

# Insight Report

Printed at 4/20/2021 1:06:52 PM

Method File: I:\LCMS01\DATA\20210420\20210413.lcm
Project File: I:\LCMS01\DATA\20210420\20210420.damlp

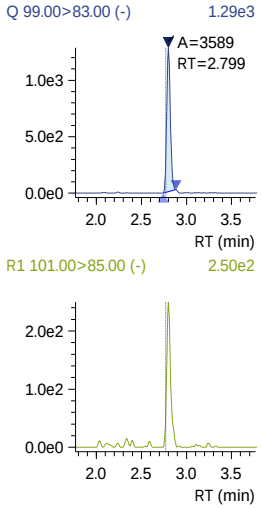
## 20210420_005

Sample ID: ICS
Date Acquired: 4/20/2021 10:41:36 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210420\20210420_005.lcd
Vial: 32 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.799 | 3589 | 27848 | 1 | 1.05048 | ng/mL | ---- | 19.50 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.798 | 27848 | 27848 | 1 | 1.00000 | ng/mL | ---- | ---- |

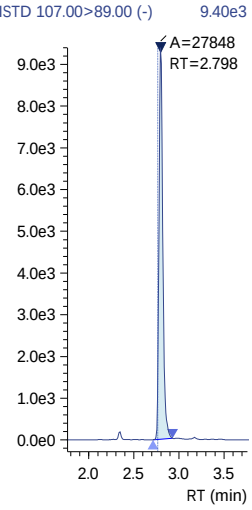
Perchlorate

Conc 1.05048
R#1 19.50 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report



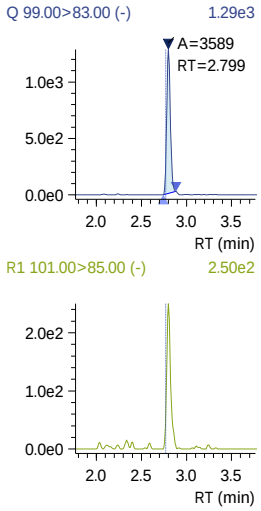
Method File: I:\LCMS01\DATA\20210420\Before\20210413.lcm

## 20210420_005

Sample ID: ICS
Date Acquired: 4/20/2021 10:41:36 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210420\Before\20210420_005.lcd
Vial: 32 | Inj. Volume: 25.0000uL | Tray: 1

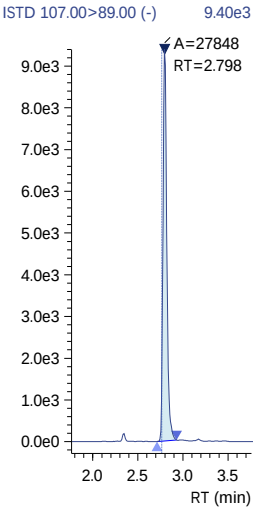
Perchlorate

Conc 1.05048
R#1 19.50 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report

Printed at 4/20/2021 1:06:52 PM

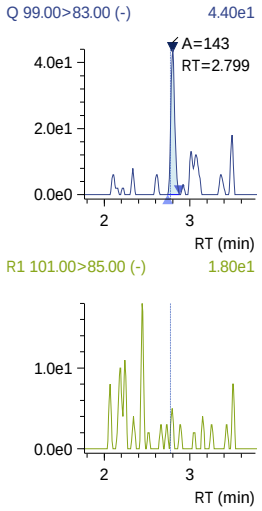
## 20210420_006

Sample ID: LODV
Date Acquired: 4/20/2021 10:49:33 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210420\20210420_006.lcd
Vial: 20 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.799 | 143 | 30510 | 1 | 0.03807 | ng/mL | ---- | 4.76 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.795 | 30510 | 30510 | 1 | 1.00000 | ng/mL | ---- | ---- |

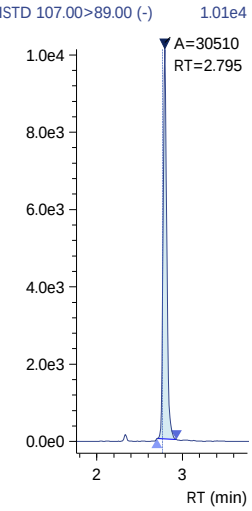
Perchlorate

Conc 0.03807
R#1 4.76 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report

Printed at 4/20/2021 1:08:25 PM

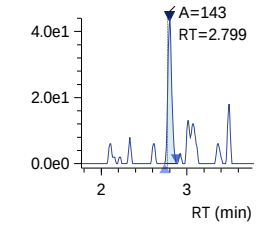
## 20210420_006

Sample ID: LODV
Date Acquired: 4/20/2021 10:49:33 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210420\Before\20210420_006.lcd
Vial: 20 | Inj. Volume: 25.0000uL | Tray: 1

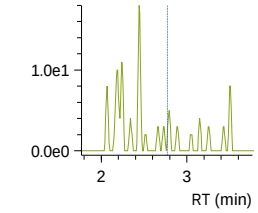
Perchlorate

Conc 0.03807
R#1 4.76 (0.00)

Q 99.00>83.00 (-) 4.40e1



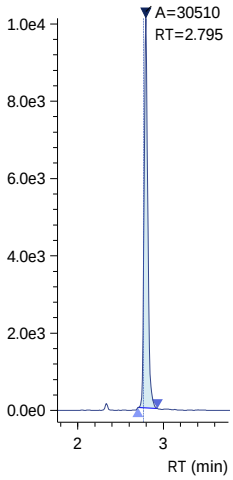

R1 101.00>85.00 (-) 1.80e1




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.01e4



# Insight Report

Printed at 4/20/2021 1:06:52 PM

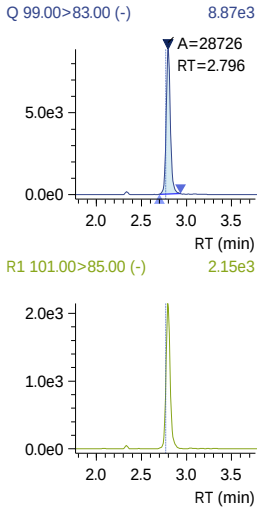
## 20210420_007

Sample ID: PERCHLORATE7
Date Acquired: 4/20/2021 10:57:25 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210420\20210420_007.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.796 | 28726 | 26585 | 1 | 8.80736 | ng/mL | 10.0000 | 24.43 |
| Sodium Perchlorate-18O4_IS | Auto | 2.795 | 26585 | 26585 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

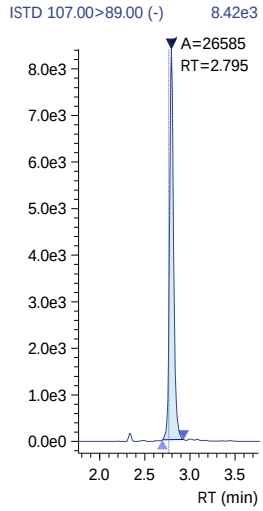
Perchlorate

Conc 8.80736
R#1 24.43 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report



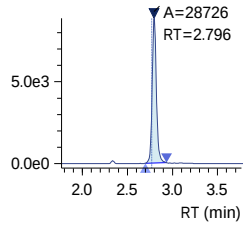
## 20210420_007

Sample ID: PERCHLORATE7
Date Acquired: 4/20/2021 10:57:25 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210420\Before\20210420_007.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

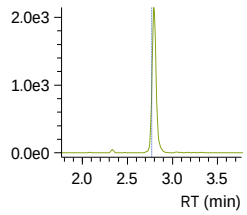
Perchlorate

Conc 8.80736
R#1 24.43 (0.00)

Q 99.00>83.00 (-) 8.87e3



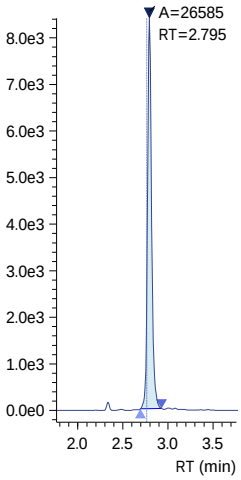

R1 101.00>85.00 (-) 2.15e3




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 8.42e3



# Insight Report

Printed at 4/20/2021 1:06:52 PM

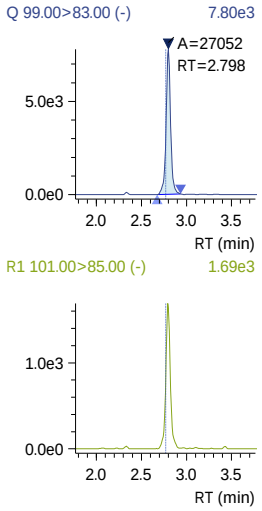
## 20210420_017

Sample ID: PERCHLORATE7
Date Acquired: 4/20/2021 12:50:30 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210420\20210420_017.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.798 | 27052 | 22784 | 1 | 9.67789 | ng/mL | 10.0000 | 22.48 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.796 | 22784 | 22784 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

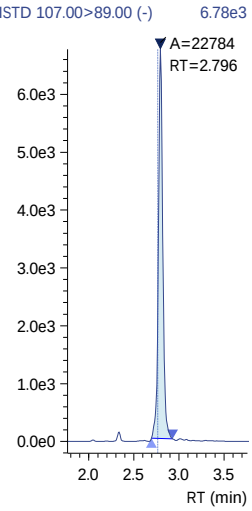
Perchlorate

Conc 9.67789
R#1 22.48 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report



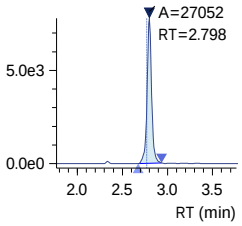
## 20210420_017

Sample ID: PERCHLORATE7
Date Acquired: 4/20/2021 12:50:30 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210420\Before\20210420_017.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

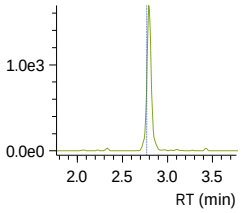
Perchlorate

Conc 9.67789
R#1 22.48 (0.00)

Q 99.00>83.00 (-) 7.80e3



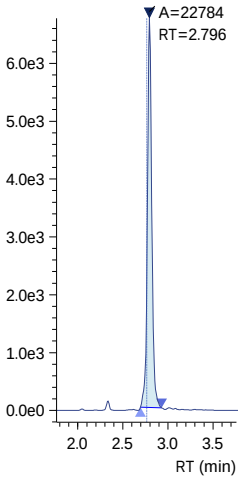

R1 101.00>85.00 (-) 1.69e3




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 6.78e3



# Insight Report

Printed at 4/28/2021 12:53:14 PM

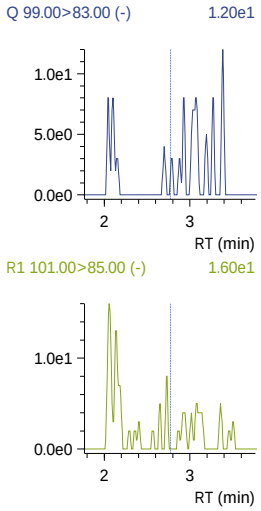
## 20210420_018

Sample ID: EQ2100213-01
Date Acquired: 4/20/2021 1:25:38 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210420\20210420_018.lcd
Vial: 29 | Inj. Volume: 25.0000uL | Tray: 4

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | ND(W/B) | ---- | ---- | 28932 | 1 | ---- | ng/mL | ---- | ---- |
| Sodium Perchlorate-18O4_IS | Auto | 2.695 | 28932 | 28932 | 1 | 1.00000 | ng/mL | ---- | ---- |

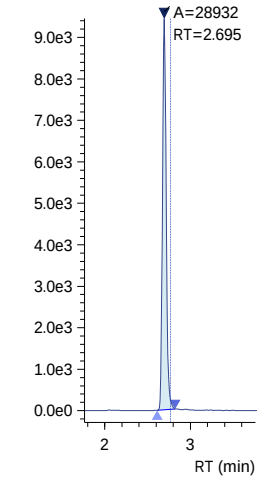
Perchlorate

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




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report

Printed at 4/28/2021 12:55:35 PM

Method File: I:\LCMS01\DATA\20210420\Before\20210413.lcm

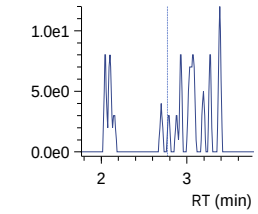
## 20210420_018

Sample ID: EQ2100213-01
Date Acquired: 4/20/2021 1:25:38 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210420\Before\20210420_018.lcd
Vial: 29 | Inj. Volume: 25.0000uL | Tray: 4

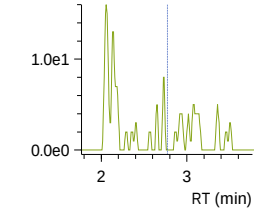
Perchlorate

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

Q 99.00>83.00 (-) 1.20e1



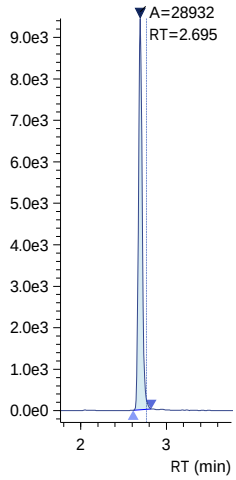

R1 101.00>85.00 (-) 1.60e1




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 9.46e3



# Insight Report

Printed at 4/28/2021 12:53:14 PM

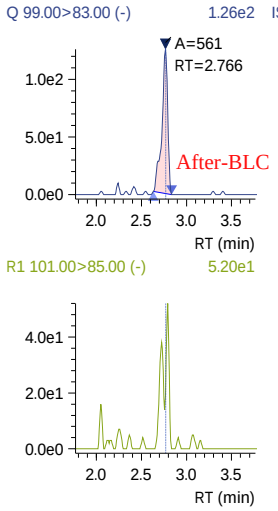
## 20210420_019

Sample ID: EQ2100213-02
Date Acquired: 4/20/2021 1:33:32 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210420\20210420_019.lcd
Vial: 30 | Inj. Volume: 25.0000uL | Tray: 4

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | M | 2.766 | 561 | 38966 | 1 | 0.11741 | ng/mL | ---- | 12.82 |
| Sodium Perchlorate-18O4 _IS | M | 2.766 | 38966 | 38966 | 1 | 1.00000 | ng/mL | ---- | ---- |

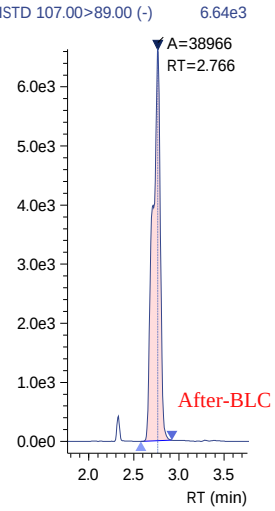
Perchlorate

Conc 0.11741
R#1 12.82 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report



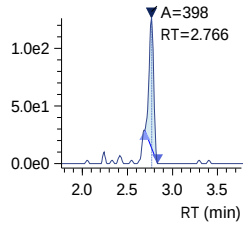
## 20210420_019

Sample ID: EQ2100213-02
Date Acquired: 4/20/2021 1:33:32 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210420\Before\20210420_019.lcd
Vial: 30 | Inj. Volume: 25.0000uL | Tray: 4

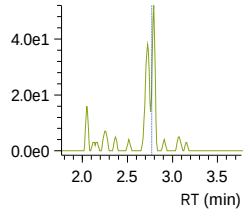
Perchlorate

Conc 0.08358
R#1 5.83 (0.00)

Q 99.00>83.00 (-) 1.26e2



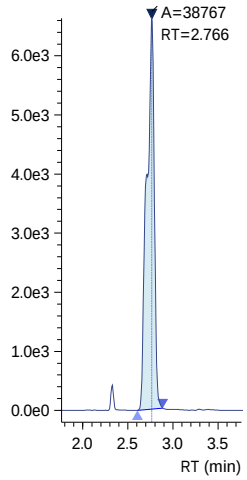

R1 101.00>85.00 (-) 5.20e1




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 6.64e3



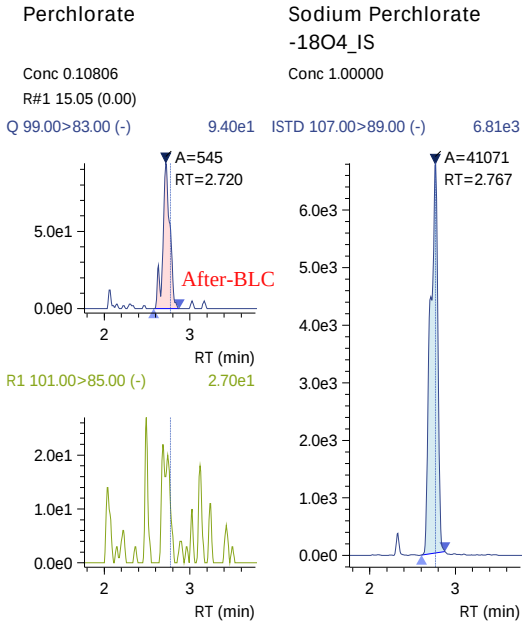
# Insight Report

Printed at 4/28/2021 12:53:14 PM

## 20210420_020

Sample ID: EQ2100213-03
Date Acquired: 4/20/2021 1:41:26 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210420\20210420_020.lcd
Vial: 31 | Inj. Volume: 25.0000uL | Tray: 4

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | M | 2.720 | 545 | 41071 | 1 | 0.10806 | ng/mL | ---- | 15.05 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.767 | 41071 | 41071 | 1 | 1.00000 | ng/mL | ---- | ---- |



# Insight Report

Printed at 4/28/2021 12:55:35 PM

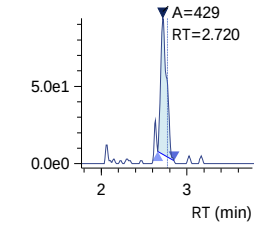
## 20210420_020

Sample ID: EQ2100213-03
Date Acquired: 4/20/2021 1:41:26 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210420\Before\20210420_020.lcd
Vial: 31 | Inj. Volume: 25.0000uL | Tray: 4

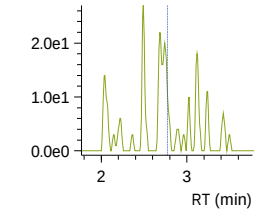
Perchlorate

Conc 0.08514
R#1 11.49 (0.00)

Q 99.00>83.00 (-) 9.40e1



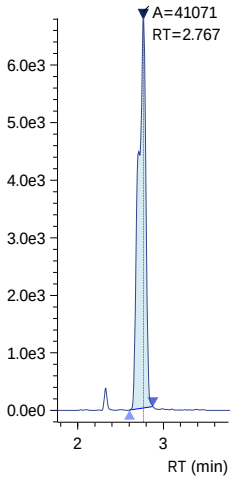

R1 101.00>85.00 (-) 2.70e1




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 6.81e3



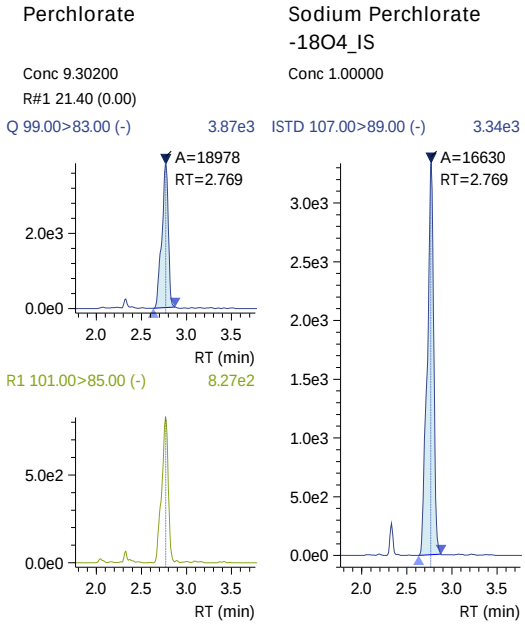
# Insight Report

Printed at 4/28/2021 12:53:14 PM

## 20210420_028

Sample ID: PERCHLORATE7
Date Acquired: 4/20/2021 2:44:35 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210420\20210420_028.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.769 | 18978 | 16630 | 1 | 9.30200 | ng/mL | 10.0000 | 21.40 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.769 | 16630 | 16630 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |



# Insight Report

Printed at 4/28/2021 12:55:35 PM

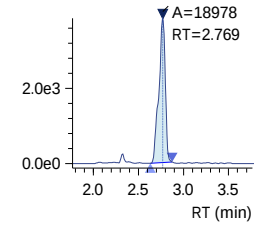
## 20210420_028

Sample ID: PERCHLORATE7
Date Acquired: 4/20/2021 2:44:35 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210420\Before\20210420_028.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

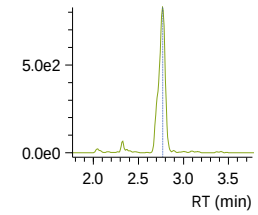
Perchlorate

Conc 9.30200
R#1 21.40 (0.00)

Q 99.00>83.00 (-) 3.87e3



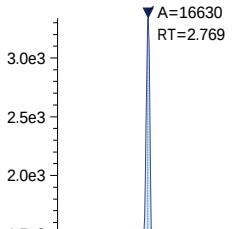

R1 101.00>85.00 (-) 8.27e2




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 3.34e3



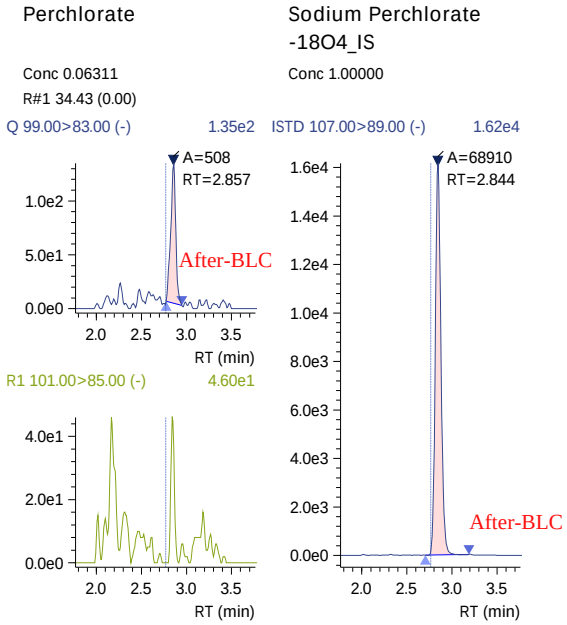
# Insight Report

Printed at 4/29/2021 1:32:13 PM

## 20210428_056

Sample ID: LODV
Date Acquired: 4/28/2021 8:08:56 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_056.lcd
Vial: 20 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | M | 2.857 | 508 | 68910 | 1 | 0.06311 | ng/mL | ---- | 34.43 |
| Sodium Perchlorate-18O4 _IS | M | 2.844 | 68910 | 68910 | 1 | 1.00000 | ng/mL | ---- | ---- |



# Insight Report

Printed at 4/29/2021 1:34:11 PM

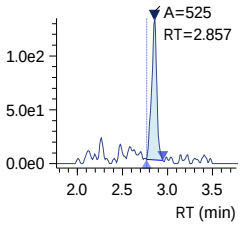
## 20210428_056

Sample ID: LODV
Date Acquired: 4/28/2021 8:08:56 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_056.lcd
Vial: 20 | Inj. Volume: 25.0000uL | Tray: 1

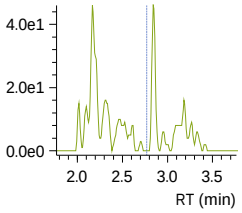
Perchlorate

Conc 0.06565
R#1 33.87 (0.00)

Q 99.00>83.00 (-) 1.35e2



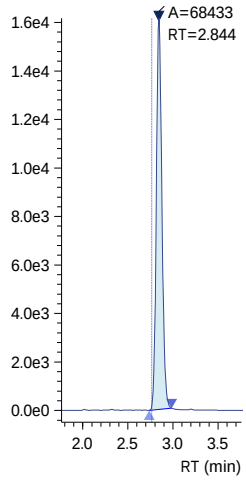

R1 101.00>85.00 (-) 4.60e1




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.62e4



# Insight Report

Printed at 4/29/2021 1:32:13 PM

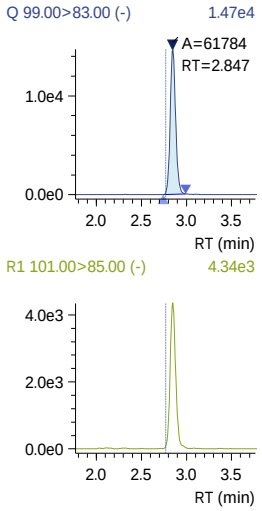
## 20210428_057

Sample ID: PERCHLORATE7
Date Acquired: 4/28/2021 8:18:20 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_057.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.847 | 61784 | 54358 | 1 | 9.73105 | ng/mL | 10.0000 | 29.51 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.846 | 54358 | 54358 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

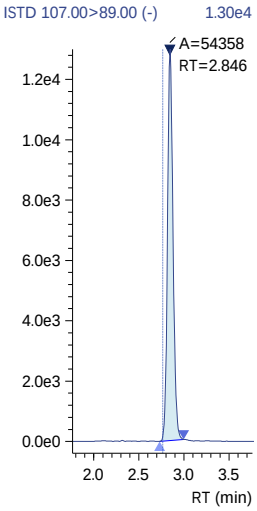
Perchlorate

Conc 9.73105
R#1 29.51 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report

Printed at 4/29/2021 1:34:11 PM

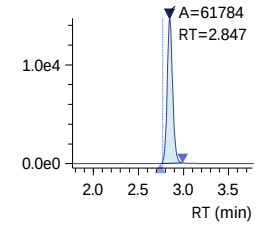
## 20210428_057

Sample ID: PERCHLORATE7
Date Acquired: 4/28/2021 8:18:20 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_057.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

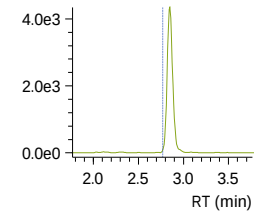
Perchlorate

Conc 9.73105
R#1 29.51 (0.00)

Q 99.00>83.00 (-) 1.47e4



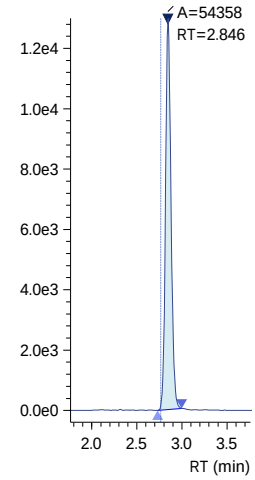

R1 101.00>85.00 (-) 4.34e3




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.30e4



# Insight Report

Printed at 4/29/2021 1:32:13 PM

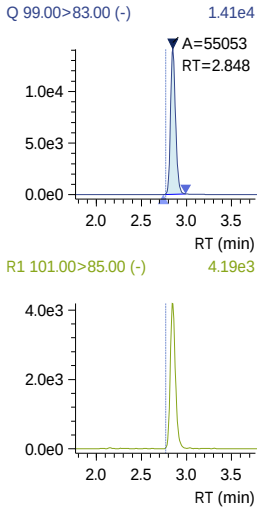
## 20210428_068

Sample ID: PERCHLORATE7
Date Acquired: 4/28/2021 10:01:30 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_068.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.848 | 55053 | 49259 | 1 | 9.56857 | ng/mL | 10.0000 | 30.43 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.847 | 49259 | 49259 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

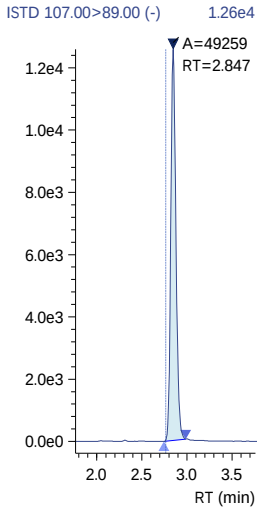
Perchlorate

Conc 9.56857
R#1 30.43 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report

Printed at 4/29/2021 1:34:11 PM

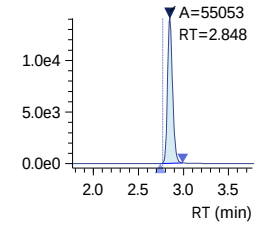
## 20210428_068

Sample ID: PERCHLORATE7
Date Acquired: 4/28/2021 10:01:30 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_068.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

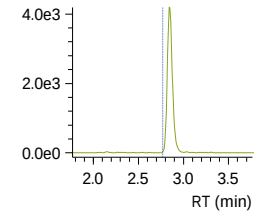
Perchlorate

Conc 9.56857
R#1 30.43 (0.00)

Q 99.00>83.00 (-) 1.41e4



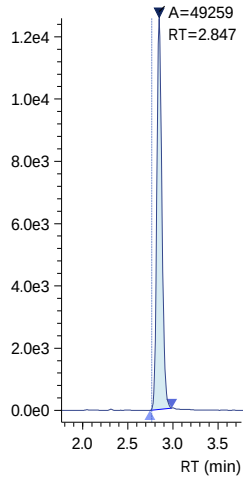

R1 101.00>85.00 (-) 4.19e3




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.26e4



# Insight Report

Printed at 4/29/2021 1:32:13 PM

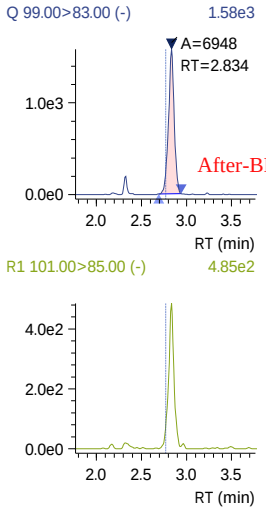
## 20210428_069

Sample ID: E2100411-001
Date Acquired: 4/28/2021 10:10:51 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_069.lcd
Vial: 51 | Inj. Volume: 25.0000uL | Tray: 5

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | M | 2.834 | 6948 | 44827 | 1 | 1.32694 | ng/mL | ---- | 30.40 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.833 | 44827 | 44827 | 1 | 1.00000 | ng/mL | ---- | ---- |

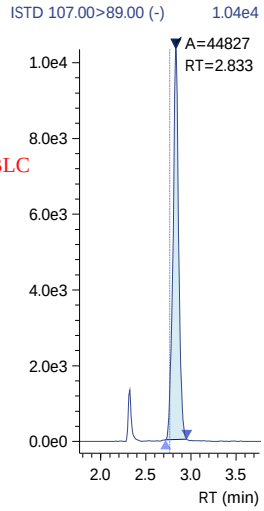
Perchlorate

Conc 1.32694
R#1 30.40 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report

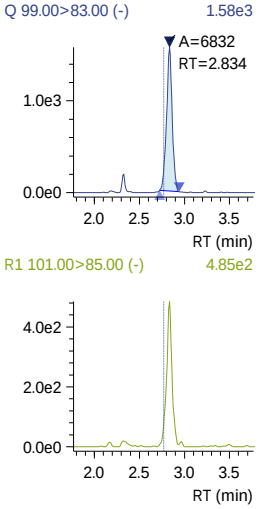
Printed at 4/29/2021 1:34:11 PM

## 20210428_069

Sample ID: E2100411-001
Date Acquired: 4/28/2021 10:10:51 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_069.lcd
Vial: 51 | Inj. Volume: 25.0000uL | Tray: 5

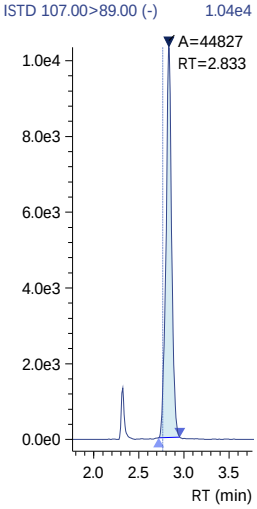
Perchlorate

Conc 1.30483
R#1 30.30 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report

Printed at 4/29/2021 1:32:13 PM

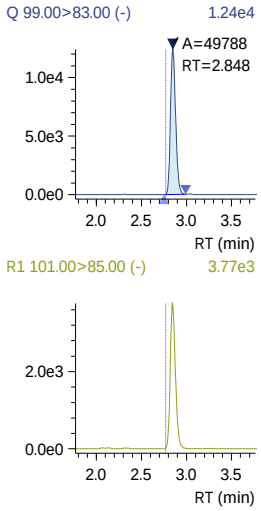
## 20210428_073

Sample ID: PERCHLORATE7
Date Acquired: 4/28/2021 10:48:21 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_073.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.848 | 49788 | 43925 | 1 | 9.70407 | ng/mL | 10.0000 | 31.09 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.846 | 43925 | 43925 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

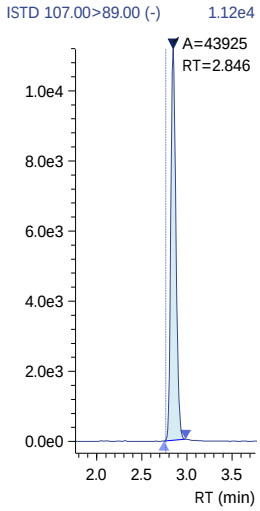
Perchlorate

Conc 9.70407
R#1 31.09 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report

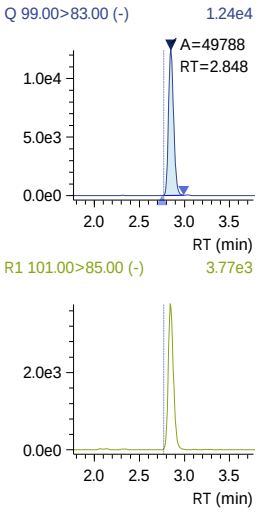
Printed at 4/29/2021 1:34:11 PM

## 20210428_073

Sample ID: PERCHLORATE7
Date Acquired: 4/28/2021 10:48:21 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_073.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

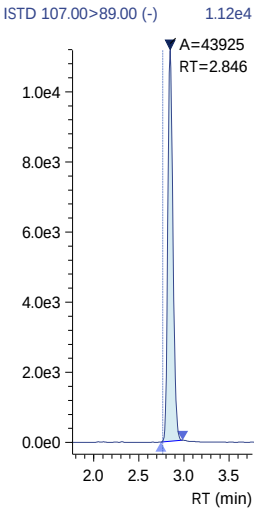
Perchlorate

Conc 9.70407
R#1 31.09 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



10450 Stancliff Rd. Suite 210
Houston, TX 77099
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# WorkOrder: HS21041083

## Longhorn GW Treatment Plant Weekly Samples

## Bhate Environmental Associates, Inc.

Marcia Olive
445 Union Blvd Ste 129
Lakewood CO 80228

**08-May-2021**

ALS Environmental
ALS Group USA, Corp
10450 Stancliff Road, Suite 210
Houston, TX 77099
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**F :** +1 281 530 5887
**www.alsglobal.com**

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  - LH18/24-SP650_042021_BIX
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  - SampleReceiptCheckList
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# HS21041083 Longhorn GW Treatment Plant Weekly Samples Final

ALS WO# HS21041083

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
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May 05, 2021

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

Work Order: **HS21041083**

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

Dear Marcia Olive,

ALS Environmental received 2 sample(s) on Apr 21, 2021 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**
RJ Modashia
Project Manager

**ALS Houston, US** Date: 05-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Weekly Samples
**Work Order:** HS21041083

## SAMPLE SUMMARY

| Lab Samp ID | Client Sample ID | Matrix | TagNo | Collection Date | Date Received | Hold |
|---|---|---|---|---|---|---|
| HS21041083-01 | LH18/24-SP650_042021 | Water | | 20-Apr-2021 14:00 | 21-Apr-2021 10:40 | ☐ |
| HS21041083-02 | LH18/24-SP650_042021_BIX | Water | | 20-Apr-2021 14:00 | 21-Apr-2021 10:40 | ☐ |

**ALS Houston, US** Date: 05-May-21

**Client:** Bhate Environmental Associates, Inc. **CASE NARRATIVE**
**Project:** Longhorn GW Treatment Plant Weekly Samples
**Work Order:** HS21041083

## Work Order Comments

• The analysis for Perchlorate was subcontracted our ALS Houston TX, High Resolution Lab. Final report attached.

## WetChemistry by Method E350.3

### Batch ID: R382936

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

## WetChemistry by Method E415.1

### Batch ID: R382511

#### Sample ID: HS21041176-01MS

• MS is for an unrelated sample

## WetChemistry by Method E365.3

### Batch ID: R382245

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

**ALS Houston, US** Date: 05-May-21

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Longhorn GW Treatment Plant Weekly Samples WorkOrder:HS21041083
Sample ID: LH18/24-SP650_042021 Lab ID:HS21041083-01
Collection Date: 20-Apr-2021 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: YP |
| **Nitrogen, Ammonia (As N)** | **0.23** | a | **0.10** | **0.20** | **0.20** | **mg/L** | 1 | 04-May-2021 12:50 |
| **ORTHO PHOSPHATE (PO4) AS P BY E365.3** | | **Method:E365.3** | | | | | | Analyst: MZD |
| **Phosphorus, Total Orthophosphate (As P)** | **0.0830** | a | **0.0100** | **0.0250** | **0.0250** | **mg/L** | 1 | 21-Apr-2021 10:10 |
| **TOTAL ORGANIC CARBON BY E415.1** | | **Method:E415.1** | | | | | | Analyst: MZD |
| **Organic Carbon, Total** | **8.29** | a | **0.500** | **0.500** | **1.00** | **mg/L** | 1 | 27-Apr-2021 23:57 |

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

**ALS Houston, US** Date: 05-May-21

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Longhorn GW Treatment Plant Weekly Samples WorkOrder:HS21041083
Sample ID: LH18/24-SP650_042021_BIX Lab ID:HS21041083-02
Collection Date: 20-Apr-2021 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 | 05-May-2021 16:22 |

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

**ALS Houston, US** Date: 05-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Weekly Samples
**WorkOrder:** HS21041083

## DATES REPORT

| Sample ID | Client Samp ID | Collection Date | Leachate Date | Prep Date | Analysis Date | DF |
|---|---|---|---|---|---|---|
| **Batch ID:** R382245 ( 0 ) | **Test Name :** ORTHO PHOSPHATE (PO4) AS P BY E365.3 | | | | **Matrix:** Water | |
| HS21041083-01 | LH18/24-SP650_042021 | 20 Apr 2021 14:00 | | | 21 Apr 2021 10:10 | 1 |
| **Batch ID:** R382511 ( 0 ) | **Test Name :** TOTAL ORGANIC CARBON BY E415.1 | | | | **Matrix:** Water | |
| HS21041083-01 | LH18/24-SP650_042021 | 20 Apr 2021 14:00 | | | 27 Apr 2021 23:57 | 1 |
| **Batch ID:** R382936 ( 0 ) | **Test Name :** AMMONIA AS N BY E350.3(ISE) | | | | **Matrix:** Water | |
| HS21041083-01 | LH18/24-SP650_042021 | 20 Apr 2021 14:00 | | | 04 May 2021 12:50 | 1 |
| **Batch ID:** R383059 ( 0 ) | **Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850) | | | | **Matrix:** Water | |
| HS21041083-02 | LH18/24-SP650_042021_BIX | 20 Apr 2021 14:00 | | | 05 May 2021 16:22 | 1 |

**ALS Houston, US** Date: 05-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Weekly Samples
**WorkOrder:** HS21041083

**QC BATCH REPORT**

**Batch ID:** R382245 ( 0 ) **Instrument:** UV-2450 **Method:** ORTHO PHOSPHATE (PO4) AS P BY E365.3

**MBLK** Sample ID: **MBLK-R382245** Units: **mg/L** Analysis Date: **21-Apr-2021 10:10**
Client ID: Run ID: **UV-2450_382245** SeqNo: **6057987** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Phosphorus, Total Orthophosphate (As P) | 0.0250 | 0.0250 | | | | | | | | U |

**LCS** Sample ID: **LCS-R382245** Units: **mg/L** Analysis Date: **21-Apr-2021 10:10**
Client ID: Run ID: **UV-2450_382245** SeqNo: **6057986** 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) | 0.258 | 0.0250 | 0.25 | 0 | 103 | 85 - 115 | | | | |

**LCSD** Sample ID: **LCSD-R382245** Units: **mg/L** Analysis Date: **21-Apr-2021 10:10**
Client ID: Run ID: **UV-2450_382245** SeqNo: **6057985** 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) | 0.264 | 0.0250 | 0.25 | 0 | 106 | 85 - 115 | 0.258 | 2.3 | 20 | |

**MS** Sample ID: **HS21040959-01MS** Units: **mg/L** Analysis Date: **21-Apr-2021 10:10**
Client ID: Run ID: **UV-2450_382245** SeqNo: **6058045** 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) | 0.315 | 0.0250 | 0.25 | 0.051 | 106 | 80 - 120 | | | | |

**MSD** Sample ID: **HS21040959-01MSD** Units: **mg/L** Analysis Date: **21-Apr-2021 10:10**
Client ID: Run ID: **UV-2450_382245** SeqNo: **6058044** 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) | 0.314 | 0.0250 | 0.25 | 0.051 | 105 | 80 - 120 | 0.315 | 0.318 | 20 | |

**The following samples were analyzed in this batch:** HS21041083-01

**ALS Houston, US** Date: 05-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Weekly Samples
**WorkOrder:** HS21041083

**QC BATCH REPORT**

**Batch ID: R382511 ( 0 )** **Instrument: TOC_04** **Method: TOTAL ORGANIC CARBON BY E415.1**

**MBLK** Sample ID: **MBLK2-04272021** Units: **mg/L** Analysis Date: **27-Apr-2021 21:51**
Client ID: Run ID: **TOC_04_382511** SeqNo: **6064148** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Organic Carbon, Total | 0.500 | 1.00 | | | | | | | | U |

**LCS** Sample ID: **LCS2-04272021** Units: **mg/L** Analysis Date: **27-Apr-2021 22:06**
Client ID: Run ID: **TOC_04_382511** SeqNo: **6064149** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Organic Carbon, Total | 9.037 | 1.00 | 10 | 0 | 90.4 | 85 - 115 | | | | |

**LCSD** Sample ID: **LCSD2-04272021** Units: **mg/L** Analysis Date: **27-Apr-2021 22:21**
Client ID: Run ID: **TOC_04_382511** SeqNo: **6064150** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Organic Carbon, Total | 9.866 | 1.00 | 10 | 0 | 98.7 | 85 - 115 | 9.037 | 8.77 | 20 | |

**MS** Sample ID: **HS21041176-01MS** Units: **mg/L** Analysis Date: **27-Apr-2021 23:26**
Client ID: Run ID: **TOC_04_382511** SeqNo: **6064152** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Organic Carbon, Total | 1049 | 1.00 | 10 | 1043 | 60.0 | 80 - 120 | | | | SEO |

**The following samples were analyzed in this batch:** HS21041083-01

**ALS Houston, US** Date: 05-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Weekly Samples
**WorkOrder:** HS21041083

**QC BATCH REPORT**

**Batch ID: R382936 ( 0 )** **Instrument: WetChem_HS** **Method: AMMONIA AS N BY E350.3(ISE)**

**MBLK** Sample ID: **MBLK-R382936** Units: **mg/L** Analysis Date: **04-May-2021 12:50**
Client ID: Run ID: **WetChem_HS_382936** SeqNo: **6074372** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Nitrogen, Ammonia (As N) | 0.20 | 0.20 | | | | | | | | U |

**LCS** Sample ID: **LCS-R382936** Units: **mg/L** Analysis Date: **04-May-2021 12:50**
Client ID: Run ID: **WetChem_HS_382936** SeqNo: **6074371** 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) | 10.71 | 0.20 | 10 | 0 | 107 | 80 - 120 | | | | |

**MS** Sample ID: **HS21041458-01MS** Units: **mg/L** Analysis Date: **04-May-2021 12:50**
Client ID: Run ID: **WetChem_HS_382936** SeqNo: **6074374** 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) | 10.12 | 0.20 | 10 | 0.687 | 94.4 | 80 - 120 | | | | |

**MSD** Sample ID: **HS21041458-01MSD** Units: **mg/L** Analysis Date: **04-May-2021 12:50**
Client ID: Run ID: **WetChem_HS_382936** SeqNo: **6074373** 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) | 9.781 | 0.20 | 10 | 0.687 | 90.9 | 80 - 120 | 10.12 | 3.45 | 20 | |

**The following samples were analyzed in this batch:** HS21041083-01

**ALS Houston, US** Date: 05-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Weekly Samples
**WorkOrder:** **HS21041083**

**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 | 21-022-0 | 26-Mar-2022 |
| Dept of Defense | PJLA L20-507-R2 | 22-Dec-2021 |
| Florida | E87611-30-07/01/2020 | 30-Jun-2021 |
| Illinois | 2000322020-4 | 09-May-2021 |
| Kansas | E-10352 2020-2021 | 31-Jul-2021 |
| Kentucky | 123043, 2021-2022 | 30-Apr-2022 |
| Louisiana | 03087, 2020-2021 | 30-Jun-2021 |
| North Carolina | 624-2021 | 31-Dec-2021 |
| Oklahoma | 2020-165 | 31-Aug-2021 |
| Texas | T104704231-21-27 | 30-Apr-2022 |

**ALS Houston, US** Date: 05-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Weekly Samples
**Work Order:** HS21041083

## SAMPLE TRACKING

| Lab Samp ID | Client Sample ID | Action | Date | Person | New Location |
|---|---|---|---|---|---|
| HS21041083-01 | LH18/24-SP650_042021 | Login | 4/21/2021 11:58:23 AM | PMG | WET257 |
| HS21041083-01 | LH18/24-SP650_042021 | Login | 4/21/2021 11:58:23 AM | PMG | WET257 |
| HS21041083-01 | LH18/24-SP650_042021 | Login | 4/21/2021 11:58:23 AM | PMG | WET257 |
| HS21041083-02 | LH18/24-SP650_042021_BIX | Login | 4/21/2021 11:58:23 AM | PMG | Sub |

**ALS Houston, US** Date: 05-May-21

## Sample Receipt Checklist

**Work Order ID:** HS21041083 **Date/Time Received:** **21-Apr-2021 10:40**

**Client Name:** Bhate Environmental **Received by:** **Pablo Marinez**

| **Completed By:** | /S/ Paresh M. Giga | 21-Apr-2021 11:59 | **Reviewed by:** | /S/ RJ Modashia | 21-Apr-2021 21:19 |
|---|---|---|---|---|---|
| | eSignature | Date/Time | | eSignature | Date/Time |

Matrices: **Water** 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: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): | 0.5C U/C | IR31 | |
| Cooler(s)/Kit(s): | 46873 | | |
| Date/Time sample(s) sent to storage: | 4/21/2021 12:10 | | |
| 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 (281) 530-5656 ATTN: R.J Modashia



**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**

HS21041083
Bhate Environmental Associates, Inc.
Longhorn GW Treatment Plant Weekly Samples

| Field Sample I.D. | Sample Matrix | Date / Time | MS / MSD | No. OF CONTAINERS | AMMONIA-N | TOTAL ORGANIC CARBON | ORTHO-PHOSPHATE | PERCHLORATE | Remarks (Preservatives, etc.) | Lab I.D.# |
|---|---|---|---|---|---|---|---|---|---|---|
| LH18/24-SP650_042021 | Water | 04/20/21 / 14:00 | | 3 | X | X | | | H2SO4 | |
| LH18/24-SP650_042021 | Water | 04/20/21 / 14:00 | | 1 | | | X | | NONE | |
| LH18/24-SP650_042021_BIX | Water | 04/20/21 / 14:00 | | 1 | | | | X | NONE | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

Analyses

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 | 04/20/21 | 14:30 | Paul M | 4/21 | 1040 | | | | | | |

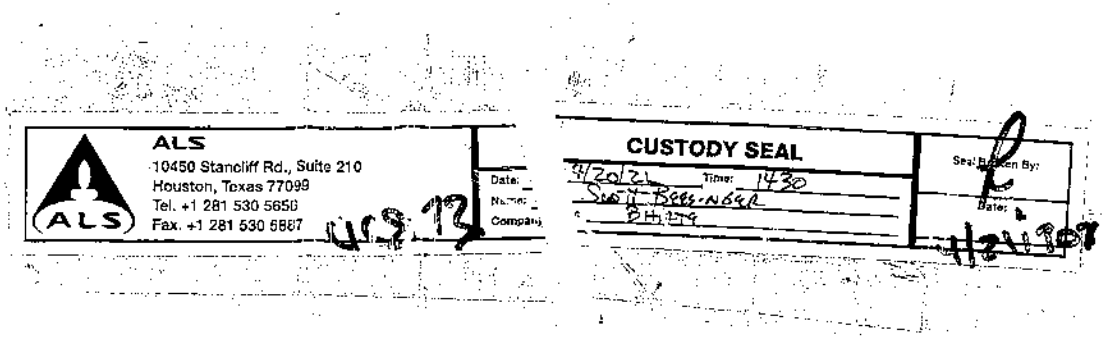
**For Lab Use Only**

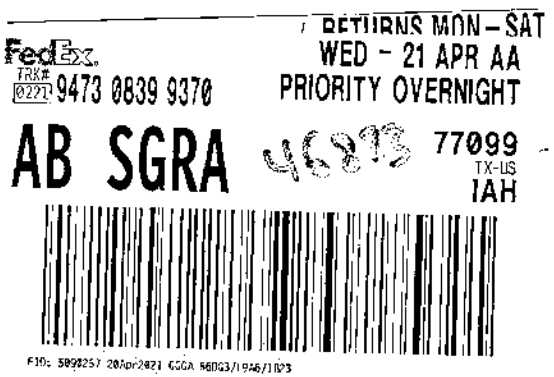
| Received At Lab By: | Date | Time | Airbill No. | Opened By: | Date | Time | Temp of Container | Seal No. | Condition |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |

Remarks:

46873 USC IR31 CFC

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


ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5667
Date:
Name:
Company:
CUSTODY SEAL
Time: 1430
Seal Broken By:
Date:


FedEx
TRK# 0221 9473 0839 9370
RETURNS MON – SAT
WED - 21 APR AA
PRIORITY OVERNIGHT
AB SGRA
77099
TX-US
IAH

May 05, 2021 Service Request No:E2100458

RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Suite 210
Houston, TX 77099-4338

**Laboratory Results for: HS21041083**

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory April 21, 2021
For your reference, these analyses have been assigned our service request number **E2100458.**

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.

Respectfully submitted,

**ALS Group USA, Corp. dba ALS Environmental**



Corey Grandits
Project Manager

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 Houston | **Service Request No.:** | E2100458 |
| **Project:** | HS21041083 | **Date Received:** | 04/21/21 |
| **Sample Matrix:** | W | | |

## 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 04/21/21.

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:**

EQ2100261: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in addition to a MS/MSD for this extraction batch. The MS/MSD was performed on an unrelated sample. The LCS/DLCS recoveries are within QC limits.

DoD certification is held for the method/matrix/analytes provided in this report.

*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:**E2100458
**Project:** HS21041083

## SAMPLE CROSS-REFERENCE

| SAMPLE # | CLIENT SAMPLE ID | DATE | TIME |
|---|---|---|---|
| E2100458-001 | LH18/24-SP650_042021_BIX | 4/20/2021 | 1400 |

# Service Request Summary

**Folder #:** **E2100458**
Client Name: ALS Environmental - US
Project Name: HS21041083
Project Number:

**Report To:** RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Houston, TX 77099-4338
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number: 281-530-5887
E-mail: rj.modashia@alsglobal.com

Project Chemist: Corey Grandits
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 04/21/21
Internal Due Date: 5/5/2021
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS21041083
EDD: No EDD Specified

1 125 mL-Plastic Bottle Plastic
**Location:** EHRMS-AirArch 1
**Pressure Gas:**

| Lab Samp No. | Client Samp No | Matrix | Collected | HOUSTON ClO4 DOD/6850 |
|---|---|---|---|---|
| E2100458-001 | LH18/24-SP650_042021_BIX | Ground Water | 04/20/21 1400 | **IV** |

# Service Request Summary

**Folder #:** **E2100458**
Client Name: ALS Environmental - US
Project Name: HS21041083
Project Number:

**Report To:** RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Houston, TX 77099-4338
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number: 281-530-5887
E-mail: rj.modashia@alsglobal.com

Project Chemist: Corey Grandits
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 04/21/21
Internal Due Date: 5/5/2021
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS21041083
EDD: No EDD Specified

1 125 mL-Plastic Bottle Plastic
**Location:** EHRMS-AirArch 1
**Pressure Gas:**

## Test Comments:

| Group | Test/Method | Samples | Comments |
|---|---|---|---|
| Semivoa GCMS | ClO4 DOD/6850 | 1 | Level II due 5/5, IV due 5/12 |

# 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 | Internal standard not within the specified limits. See case narrative. |
| 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. |
| 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. |

# Data Qualifiers

## Lab Standard

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

# ALS Laboratory Group

**Acronyms**

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

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

## State Certifications, Accreditations, and Licenses

| Agency | Number | Expire Date |
|---|---|---|
| American Association for Laboratory Accreditation | 2897.01 2020 | 11/30/2021 |
| Arizona Department of Health Services | AZ0793-2020 | 5/27/2021 |
| Arkansas Department of Environmental Quality | 21-022-0 | 3/26/2022 |
| Department of Defense | A2LA 2897.01 | 11/30/2021 |
| Florida Department of Health | E87611-2020 | 6/30/2021 |
| Hawaii Department of Health | 2021-2022 | 4/30/2022 |
| Illinois Environmental Protection Agency | 2000322020-4 | 5/9/2021 |
| Kansas Department of Health and Environment | E-10352-2020 | 7/31/2021 |
| Louisiana Department of Environmental Quality | 03087-2020 | 6/30/2021 |
| Louisiana Department of Health and Hospitals | LA028-2021 | 12/31/2021 |
| Maine Department of Health and Human Services | 2020016 | 6/5/2022 |
| Maryland Department of the Environment | 343-2020 | 6/30/2021 |
| Minnesota Department of Health | 2021671 | 12/31/2021 |
| Nevada Department of Concervation and Natural Resources | TX026932021-4 | 7/31/2021 |
| New Hampshire Environmental Laboratory Accreditation Program | 209421 | 4/24/2022 |
| New Jersey Department of Environmental Protection | TX008 | 6/30/2021 |
| Oklahoma Department of Environmental Quality | 2020-123 | 8/31/2021 |
| Pennsylvania Department of Environmental Protection | 014 | 6/30/2021 |
| Tennessee Department of Environment and Concervation | 04016-2021 | 4/30/2022 |
| United States Department of Agriculture | P330-19-00299 | 10/10/2022 |

# 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:** **15958**

**SUBCONTRACT TO:**

ALS Environmental
10450 Stancliff RoadSuite 210
Houston, TX 77084

**Phone:** +1 281 530 5656

**CUSTOMER INFORMATION:**

| | |
|---|---|
| **Company:** | ALS Houston |
| **Contact:** | RJ Modashia |
| **Address:** | 10450 Stancliff Rd, Ste 210 |
| **Phone:** | +1 281 530 5656 |
| **Email:** | RJ.Modashia@alsglobal.com |
| **Alternate Contact:** | |
| **Email:** | |

**INVOICE INFORMATION:**

| | |
|---|---|
| **Company:** | ALS Houston |
| **Contact:** | Accounts Payable |
| **Address:** | 10450 Stancliff Rd, Ste 210 |
| **Phone:** | +1 281 530 5656 |
| **Reference:** | HS21041083 |
| **TSR:** | Sonia West |

| | LAB SAMPLE ID | CLIENT SAMPLE ID | MATRIX | COLLECT DATE |
|---|---|---|---|---|
| | ANALYSIS REQUESTED | | | DUE DATE |
| **1.** | **HS21041083-02** | **LH18/24-SP650_042021_BIX** | **Water** | **20 Apr 2021 14:00** |
| | Provide Level II and Level IV reports in separate pdf | | | 05 May 2021 |

**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: 4/21/21 1440

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

# Cooler Receipt Form

ALS Environmental

Project Chemist CH

Client/Project ALS-HI

Thermometer ID IR31

Date/Time Received: 4/21/21 Initials: CH Date/Time Logged in: 4/21/21 Initials CH

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

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

3. Were custody seals on coolers? ○ Yes ✓ No If yes, how many and where?

Were they intact? ○ Yes ○ No ✓ N/A

Were they signed and dated? ○ Yes ○ No ✓ N/A

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

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

| Cooler Tracking Number | COC ID | Date Opened | Time Opened | Opened By | Temp. °C | Temp Blank? |
|---|---|---|---|---|---|---|
| NA | | 4/21/21 | 1440 | CH | 0.8 | ☒ |
| | | | | | | ☐ |
| | | | | | | ☐ |
| | | | | | | ☐ |

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#:** 378422 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
**Team:** Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 4/30/21 10:00

| # | Lab Code | Client ID | B# | Method /Test | pH | Cl | Matrix | Amt. Ext. | Sample Description |
|---|---|---|---|---|---|---|---|---|---|
| 1 | E2100458-001 | LH18/24-SP650_042021_BIX | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 2 | E2100459-001 | 16WW25-210420 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 3 | E2100459-002 | 16WW25-210420-FD | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 4 | E2100459-003 | 16WW26-210420 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 5 | E2100459-004 | 16WW29-210420 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 6 | E2100459-005 | 16WW29-210420-FD | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 7 | E2100459-006 | 16WW30-210420 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 8 | E2100459-007 | 16WW55-210420 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 9 | E2100459-008 | 16RW10-210420 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 10 | E2100459-009 | 16RW09-210420 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 11 | E2100459-010 | 16IW03-210420 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 12 | E2100486-001 | 43MW03 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 13 | E2100486-002 | 43MW03-DUP | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 14 | E2100486-003 | 43MW04 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 15 | E2100486-004 | 43MW05 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 16 | E2100486-005 | 43MW06 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 17 | E2100486-006 | EB041621 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 18 | E2100486-007 | 43MW01 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 19 | EQ2100261-01 | MB | | 6850/ClO4 DOD | | | Liquid | 10mL | |
| 20 | EQ2100261-02 | LCS | | 6850/ClO4 DOD | | | Liquid | 10mL | |
| 21 | EQ2100261-03 | DLCS | | 6850/ClO4 DOD | | | Liquid | 10mL | |
| 22 | EQ2100261-04 | 43MW01 MS | .01 | 6850/ClO4 DOD | | | Liquid | 10mL | |
| 23 | EQ2100261-05 | 43MW01 DMS | .01 | 6850/ClO4 DOD | | | Liquid | 10mL | |

**Spiking Solutions**

Name: Perchlorate Intermediate Stock1 Inventory ID 214035 Logbook Ref: Perchlorate Expires On: 05/23/2021

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| EQ2100261-02 | 1.00µL | EQ2100261-03 | 1.00µL | EQ2100261-04 | 1.00µL | EQ2100261-05 | 1.00µL |

Name: Perchlorate Internal Standard 1ug/mL Inventory ID 214820 Logbook Ref: Perchlorate Internal Standard Expires On: 07/03/2021

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| E2100458-001 | 100.00µL | E2100459-001 | 100.00µL | E2100459-002 | 100.00µL | E2100459-003 | 100.00µL | E2100459-004 | 100.00µL | E2100459-005 | 100.00µL |
| E2100459-006 | 100.00µL | E2100459-007 | 100.00µL | E2100459-008 | 100.00µL | E2100459-009 | 100.00µL | E2100459-010 | 100.00µL | E2100486-001 | 100.00µL |
| E2100486-002 | 100.00µL | E2100486-003 | 100.00µL | E2100486-004 | 100.00µL | E2100486-005 | 100.00µL | E2100486-006 | 100.00µL | E2100486-007 | 100.00µL |
| EQ2100261-01 | 100.00µL | EQ2100261-02 | 100.00µL | EQ2100261-03 | 100.00µL | EQ2100261-04 | 100.00µL | EQ2100261-05 | 100.00µL | | |

# *Preparation Information Benchsheet*

**Prep Run#:** 378422 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
**Team:** Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 4/30/21 10:00

## Preparation Steps

Step: Preparation
Started: 4/30/21 10:00
Finished: 4/30/21 12:00
By: KBROWN
Comments

Comments: _____

Reviewed By: KB Date: 4/30/21

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:** | E2100458 |
| **Project:** | HS21041083 | **Date Collected:** | 4/20/21 1400 |
| **Sample Matrix:** | Ground Water | **Date Received:** | 4/21/21 |
| **Sample Name:** | LH18/24-SP650_042021_BIX | **Units:** | µg/L |
| **Lab Code:** | E2100458-001 | **Basis:** | As Received |

**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 | **17.3** | | 0.100 | 0.0500 | 0.0250 | 1 | 4/30/21 | 4/30/21 15:51 | 378422 | 722059 | |

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

| | | | |
|---|---|---|---|
| **Client:** | ALS Environmental - US | **Service Request:** | E2100458 |
| **Project:** | HS21041083 | **Date Collected:** | NA |
| **Sample Matrix:** | Ground Water | **Date Received:** | NA |
| **Sample Name:** | Method Blank | **Units:** | µg/L |
| **Lab Code:** | EQ2100261-01 | **Basis:** | As Received |

**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 | 4/30/21 | 4/30/21 15:04 | 378422 | 722059 | |

# 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:** HS21041083
**Sample Matrix:** Ground Water

**Service Request:** E2100458
**Date Analyzed:** 4/30/21

## 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:** As Received

**Extraction Lot:** 378422

| | Lab Control Sample EQ2100261-02 | | | Duplicate Lab Control Sample EQ2100261-03 | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Analyte Name** | **Result** | **Spike Amount** | **% Rec** | **Result** | **Spike Amount** | **% Rec** | **% Rec Limits** | **RPD** | **RPD Limit** |
| Perchlorate | 0.104 | 0.100 | 104 | 0.109 | 0.100 | 109 | 84 - 119 | 5 | 15 |

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

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

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

| | | | |
|---|---|---|---|
| **Client:** | ALS Environmental - US | **Service Request:** | E2100458 |
| **Project:** | HS21041083 | **Date Collected:** | NA |
| **Sample Matrix:** | Ground Water | **Date Received:** | NA |
| **Sample Name:** | Lab Control Sample | **Units:** | µg/L |
| **Lab Code:** | EQ2100261-02 | **Basis:** | As Received |

**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 | **0.104** | | 0.100 | 0.0500 | 0.0250 | 1 | 4/30/21 | 4/30/21 15:13 | 378422 | 722059 | |

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

| | | | |
|---|---|---|---|
| **Client:** | ALS Environmental - US | **Service Request:** | E2100458 |
| **Project:** | HS21041083 | **Date Collected:** | NA |
| **Sample Matrix:** | Ground Water | **Date Received:** | NA |
| **Sample Name:** | Duplicate Lab Control Sample | **Units:** | µg/L |
| **Lab Code:** | EQ2100261-03 | **Basis:** | As Received |

**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 | 4/30/21 | 4/30/21 15:23 | 378422 | 722059 | |

# HS21041083 Wet Chem Raw Data (NIT-AMM_W- E350.3 - ISE)

ALS WO# HS21041083

NIT_AMM_W_ISE/350.3

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Logbook **31705**

# Ion Selective Electrode Logbook

| | | | | | |
|---|---|---|---|---|---|
| Analyst: YP | | | | Date: 5/4/21 11:00AM | |
| Method: SM4500NH3-D/EPA 350.3 or SM4500 NH3 B-F | | | | | |
| Probe Calibration Date: 5/4/21 | | Cal Std ID: 3161326602-06 | | Probe ID: X01-11806 | |
| Std Level | | mV | Conc., mg/L: | Sodium Thiosulfate ID: 3100604012 | |
| STD 1 (mg/L): | 0.2 | 134.3 | 0.200 | Std Level / mV / Conc., mg/L: | |
| STD 2 (mg/L): | 1 | 96.3 | 1.019 | STD 4 (mg/L): 10 | 36.1 | 10.098 |
| STD 3 (mg/L): | 5 | 53.8 | 5.012 | STD 5 (mg/L): 50 | -4.5 | 50.127 |
| LSC / MS Spike ID: | 3100603523 | | | ICAL Date & Slope: | | |
| ICV Cal STD ID: | 3161326601 | | | 98.9, 1.1, -58.3 mV | | |
| DPD Reagent ID: | 3100603420 | | | | | |

| WO # / SX # | Bottle # | Initial g or ml | Final Vol. ml | Dilution Factor | Initial Conc. mg/L | Final Conc. mg/L | Chlorine Check ( +/– ) | Comments |
|---|---|---|---|---|---|---|---|---|
| CcV | | 50ml | 50ml | | 9.178 | | | |
| CcB | | | | | 0.010 | | | |
| MBLK | | | | | 0.011 | | | |
| LCS | | | | | 10.711 | | | |
| HS2104108 3-01 | | | | | 0.233 | | -ve | |
| 458-01 | | | | | 0.687 | | | |
| 458-01 MS | | | | | 10.124 | | | |
| 458-01 MSD | | | | | 9.781 | | | |
| 395-01 | | | | | 0.102 | | +ve | Rechecked |
| 401-01 | | | | | 1.231 | | -ve | |
| 368-01 | | | | | 0.118 | | | |
| 368-02 | | | | | 0.183 | | | |
| CcV | | | | | 9.198 | | | |
| CcB | | | | | 0.012 | | | |

YP 5/4/21

| Batch ID: | Reported By | Reviewed By: |
|---|---|---|
| 382936 / 382937 | YP | MD |


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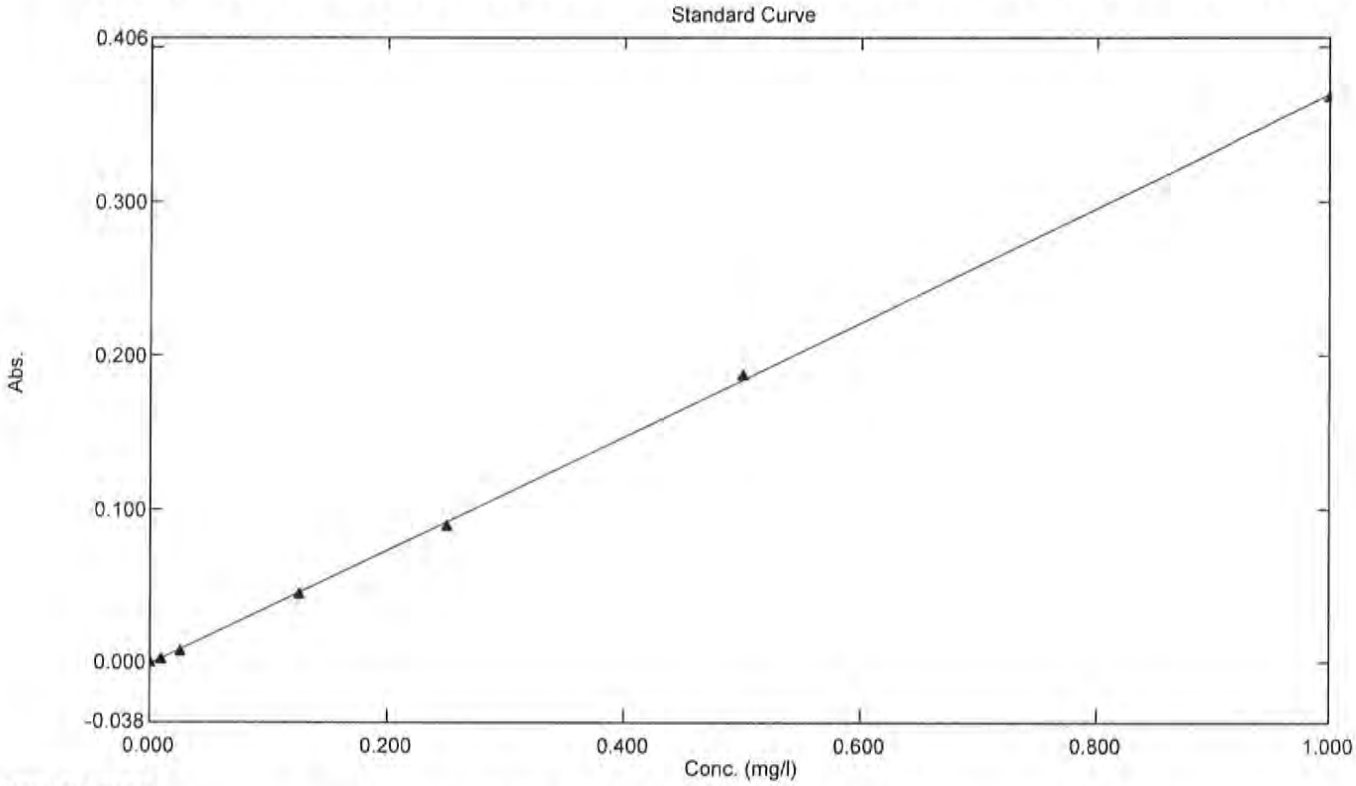
# HS21041083 Wet Chem Raw Data (P-ORTHO)

ALS WO# HS21041083

# Standard Table Report

05/07/2021 04:31:02 PM

File Name: C:\Program Files (x86)\Shimadzu\UVProbe\Data\O_PO4_UNKNOWN\2021\04212021_P_ORTHO_W.p



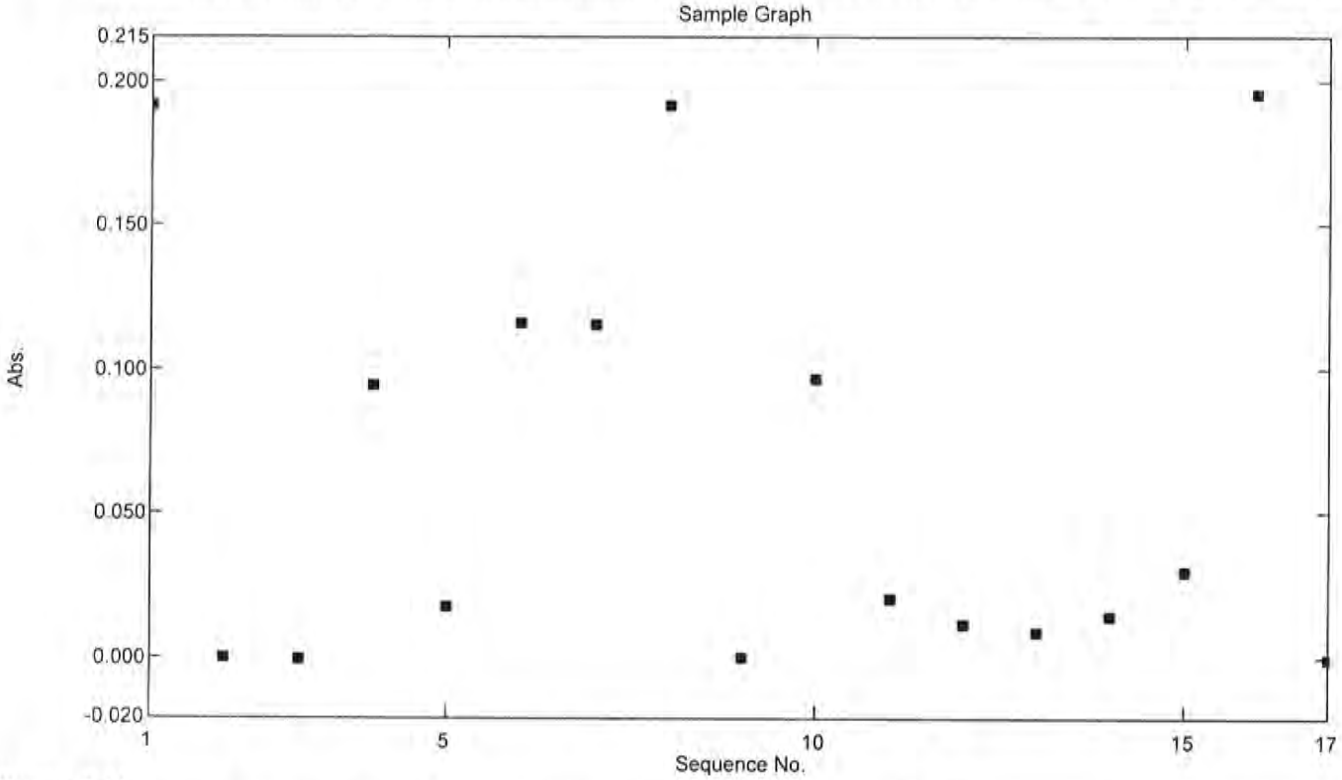

Standard Table

| | Sample ID | Type | Ex | Conc | WL650.0 | Wgt.Factor | Comments |
|---|---|---|---|---|---|---|---|
| 1 | STD1 | Standard | | 0.000 | -0.000 | 1.000 | |
| 2 | STD2 | Standard | | 0.010 | 0.002 | 1.000 | |
| 3 | STD3 | Standard | | 0.025 | 0.007 | 1.000 | |
| 4 | STD4 | Standard | | 0.125 | 0.044 | 1.000 | |
| 5 | STD5 | Standard | | 0.250 | 0.089 | 1.000 | |
| 6 | STD6 | Standard | | 0.500 | 0.188 | 1.000 | |
| 7 | STD7 | Standard | | 1.000 | 0.368 | 1.000 | |
| 8 | | | | | | | |

# Sample Table Report

05/07/2021 04:30:55 PM

File Name: C:\Program Files (x86)\Shimadzu\UVProbe\Data\O_PO4_UNKNOWN\2021\04212021_P_ORTHO_W.




Sample Table

| | Sample ID | Type | Ex | Date | Time | Conc | WL650. | Comments |
|---|---|---|---|---|---|---|---|---|
| 1 | CCV | Unknown | | 04/21/2021 | 10:10:05 AM | 0.519 | 0.191 | |
| 2 | CCB | Unknown | | 04/21/2021 | 10:10:17 AM | 0.003 | -0.000 | |
| 3 | MBLK | Unknown | | 04/21/2021 | 10:10:28 AM | 0.002 | -0.000 | |
| 4 | LCS | Unknown | | 04/21/2021 | 10:10:51 AM | 0.258 | 0.095 | |
| 5 | HS21040959.01 | Unknown | | 04/21/2021 | 10:11:22 AM | 0.051 | 0.018 | |
| 6 | HS21040959.01MS | Unknown | | 04/21/2021 | 10:11:44 AM | 0.315 | 0.116 | |
| 7 | HS21040959.01MS | Unknown | | 04/21/2021 | 10:12:03 AM | 0.314 | 0.115 | |
| 8 | CCV2 | Unknown | | 04/21/2021 | 10:12:13 AM | 0.519 | 0.191 | |
| 9 | CCB2 | Unknown | | 04/21/2021 | 10:12:25 AM | 0.004 | 0.000 | |
| 10 | LCSD | Unknown | | 04/21/2021 | 04:57:24 PM | 0.264 | 0.097 | 316131609 WC-14 |
| 11 | LOQ | Unknown | | 04/21/2021 | 04:57:43 PM | 0.057 | 0.020 | |
| 12 | HS21041095.01 | Unknown | | 04/21/2021 | 04:58:03 PM | 0.034 | 0.011 | |
| 13 | HS21041095.02 | Unknown | | 04/21/2021 | 04:58:21 PM | 0.027 | 0.009 | |
| 14 | HS21041095.03 | Unknown | | 04/21/2021 | 04:58:39 PM | 0.042 | 0.014 | |
| 15 | HS21041083.01 | Unknown | | 04/21/2021 | 04:59:17 PM | 0.083 | 0.030 | |
| 16 | CCV3 | Unknown | | 04/21/2021 | 04:59:30 PM | 0.531 | 0.196 | 316131610 WC-14 |
| 17 | CCB3 | Unknown | | 04/21/2021 | 04:59:41 PM | 0.001 | -0.001 | C-316132402 UV-11 |
| 18 | | | | | | | | |

# HS21041083 Wet Chem Raw Data (TOC_W)

ALS WO# HS21041083

| | Type | Analysis | Sample Name | Sample ID | Origin | Result |
|---|---|---|---|---|---|---|
| 1 | Standard | NPOC | CAL | 3150171(01-07) | 02_25_2021_CAL.2021_02_ | |
| 2 | Unknown | NPOC | ICV | 315017108 | 02_25_2021_CAL.cal | NPOC:10.14mg/L |
| 3 | Unknown | NPOC | ICB | | 02_25_2021_CAL.cal | NPOC:-0.1140mg/L |
| 4 | Unknown | NPOC | CCV | 315017106 | 02_25_2021_CAL.cal | NPOC:25.02mg/L |
| 5 | Unknown | NPOC | CCB | | 02_25_2021_CAL.cal | NPOC:-0.07587mg/L |
| 6 | Unknown | NPOC | MBLK-02252021 | | 02_25_2021_CAL.cal | NPOC:-0.1214mg/L |
| 7 | Unknown | NPOC | LCS-02252021 | | 02_25_2021_CAL.cal | NPOC:10.15mg/L |
| 8 | Unknown | NPOC | LCSD02252021 | | 02_25_2021_CAL.cal | NPOC:10.16mg/L |
| 9 | Unknown | NPOC | HS21020689-01 | | 02_25_2021_CAL.cal | NPOC:22.48mg/L |
| 10 | Unknown | NPOC | HS21020689-02 | | 02_25_2021_CAL.cal | NPOC:17.34mg/L |
| 11 | Unknown | NPOC | HS21020689-02MS | | 02_25_2021_CAL.cal | NPOC:28.25mg/L |
| 12 | Unknown | NPOC | HS21020689-03 | | 02_25_2021_CAL.cal | NPOC:10.22mg/L |
| 13 | Unknown | NPOC | HS21020538-01 | | 02_25_2021_CAL.cal | NPOC:20.36mg/L |
| 14 | Unknown | NPOC | HS21020538-02 | | 02_25_2021_CAL.cal | NPOC:4.452mg/L |
| 15 | Unknown | NPOC | HS21020793-02DF10 | | 02_25_2021_CAL.cal | NPOC:17.50mg/L |
| 16 | Unknown | NPOC | CCV | | 02_25_2021_CAL.cal | NPOC:25.46mg/L |
| 17 | Unknown | NPOC | CCB | | 02_25_2021_CAL.cal | NPOC:0.08018mg/L |

| | Notes | Status | Date / Time | Vial |
|---|---|---|---|---|
| 1 | | Completed | 2/25/2021 1 | 1, 2, 3, 4, 5, |
| 2 | | Completed | 2/25/2021 1 | 8 |
| 3 | | Completed | 2/25/2021 1 | 9 |
| 4 | | Completed | 2/25/2021 1 | 10 |
| 5 | | Completed | 2/25/2021 1 | 11 |
| 6 | | Completed | 2/25/2021 1 | 12 |
| 7 | | Completed | 2/25/2021 1 | 13 |
| 8 | | Completed | 2/25/2021 1: | 14 |
| 9 | | Completed | 2/25/2021 1: | 15 |
| 10 | | Completed | 2/25/2021 1: | 16 |
| 11 | | Completed | 2/25/2021 1: | 17 |
| 12 | | Completed | 2/25/2021 2: | 18 |
| 13 | | Completed | 2/25/2021 2: | 19 |
| 14 | | Completed | 2/25/2021 2: | 20 |
| 15 | | Completed | 2/25/2021 2: | 21 |
| 16 | | Completed | 2/25/2021 3: | 22 |
| 17 | | Completed | 2/25/2021 3: | 23 |

# TOC-Control L Report

2021_02_25_001.tlx

**Instr.Information**

| | |
|---|---|
| Instrument Options | TOC/ASI/IC Unit/ |
| Catalyst | Regular Sensitivity |

**Cal. Curve**

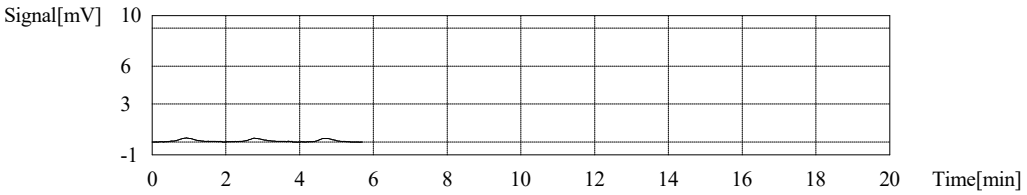
| | |
|---|---|
| Sample Name: | CAL |
| Sample ID: | 3150171(01-07) |
| Cal. Curve: | 02_25_2021_CAL.2021_02_25_09_13_02.cal |
| Status | Completed |

| Type | Anal. |
|---|---|
| Standard | NPOC |

Conc: 0.000mg/L

| No. | Area | Inj. Vol. | Aut. Dil. | Rem. | Ex. | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 0.7577 | 50uL | 1.000 | ******* | | 2/25/2021 9:21:39 AM |
| 2 | 0.6368 | 50uL | 1.000 | ******* | | 2/25/2021 9:23:47 AM |
| 3 | 0.6500 | 50uL | 1.000 | ******* | | 2/25/2021 9:25:55 AM |

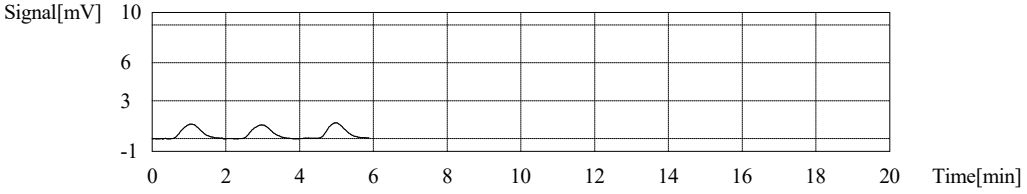
| | |
|---|---|
| Acid Add. | 0.000% |
| Sparge Gas Flow | 80mL/min |
| Sp. Time | 180.0sec |
| Mean Area | 0.6815 |




Conc: 1.000mg/L

| No. | Area | Inj. Vol. | Aut. Dil. | Rem. | Ex. | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 4.063 | 50uL | 1.000 | ******* | | 2/25/2021 9:34:44 AM |
| 2 | 3.946 | 50uL | 1.000 | ******* | | 2/25/2021 9:37:02 AM |
| 3 | 3.886 | 50uL | 1.000 | ******* | | 2/25/2021 9:39:10 AM |

| | |
|---|---|
| Acid Add. | 0.000% |
| Sparge Gas Flow | 80mL/min |
| Sp. Time | 180.0sec |
| Mean Area | 3.965 |



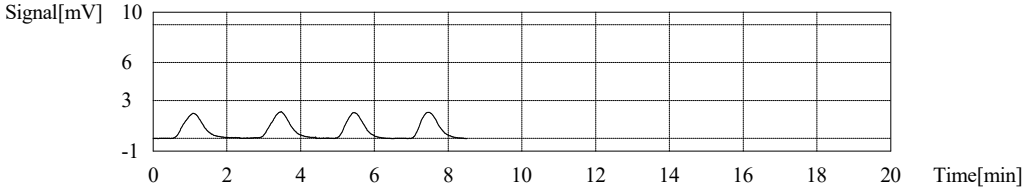

Conc: 2.000mg/L

| No. | Area | Inj. Vol. | Aut. Dil. | Rem. | Ex. | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 7.014 | 50uL | 1.000 | ******* | | 2/25/2021 9:48:25 AM |
| 2 | 6.976 | 50uL | 1.000 | ******* | | 2/25/2021 9:50:44 AM |
| 3 | 6.738 | 50uL | 1.000 | ******* | E | 2/25/2021 9:53:02 AM |
| 4 | 6.989 | 50uL | 1.000 | ******* | | 2/25/2021 9:55:18 AM |

# TOC-Control L Report

2021_02_25_001.tlx

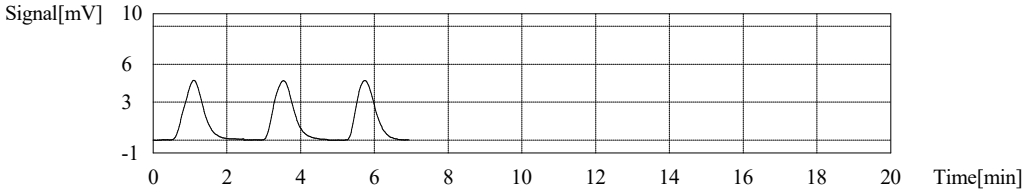
Acid Add. 0.000%
Sparge Gas Flow 80mL/min
Sp. Time 180.0sec
Mean Area 6.993




Conc: 5.000mg/L

| No. | Area | Inj. Vol. | Aut. Dil. | Rem. | Ex. | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 16.70 | 50uL | 1.000 | ******* | | 2/25/2021 10:04:35 AM |
| 2 | 16.99 | 50uL | 1.000 | ******* | | 2/25/2021 10:07:06 AM |
| 3 | 16.40 | 50uL | 1.000 | ******* | | 2/25/2021 10:09:32 AM |

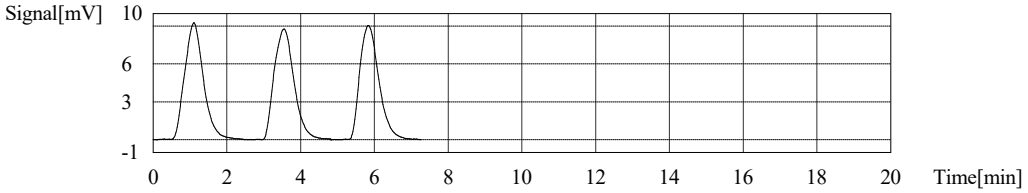
Acid Add. 0.000%
Sparge Gas Flow 80mL/min
Sp. Time 180.0sec
Mean Area 16.70




Conc: 10.00mg/L

| No. | Area | Inj. Vol. | Aut. Dil. | Rem. | Ex. | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 32.33 | 50uL | 1.000 | ******* | | 2/25/2021 10:18:54 AM |
| 2 | 32.41 | 50uL | 1.000 | ******* | | 2/25/2021 10:21:29 AM |
| 3 | 32.27 | 50uL | 1.000 | ******* | | 2/25/2021 10:24:10 AM |

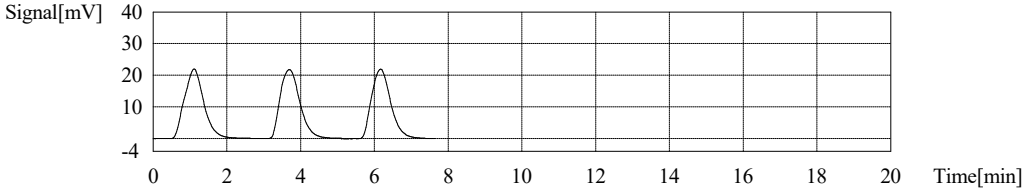
Acid Add. 0.000%
Sparge Gas Flow 80mL/min
Sp. Time 180.0sec
Mean Area 32.34




Conc: 25.00mg/L

| No. | Area | Inj. Vol. | Aut. Dil. | Rem. | Ex. | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 79.83 | 50uL | 1.000 | ******* | | 2/25/2021 10:33:42 AM |
| 2 | 80.51 | 50uL | 1.000 | ******* | | 2/25/2021 10:36:25 AM |
| 3 | 79.09 | 50uL | 1.000 | ******* | | 2/25/2021 10:39:12 AM |

Acid Add. 0.000%
Sparge Gas Flow 80mL/min
Sp. Time 180.0sec
Mean Area 79.81



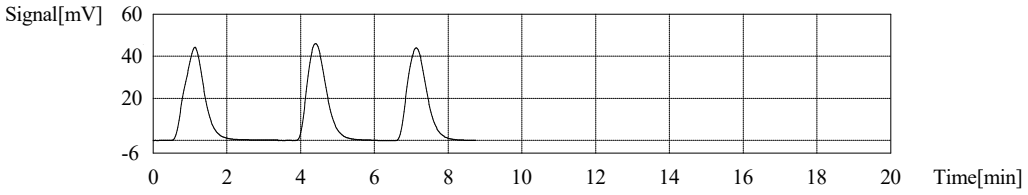

Conc: 50.00mg/L

| No. | Area | Inj. Vol. | Aut. Dil. | Rem. | Ex. | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 162.4 | 50uL | 1.000 | ******* | | 2/25/2021 10:49:29 AM |
| 2 | 163.8 | 50uL | 1.000 | ******* | | 2/25/2021 10:52:26 AM |
| 3 | 159.9 | 50uL | 1.000 | ******* | | 2/25/2021 10:55:21 AM |

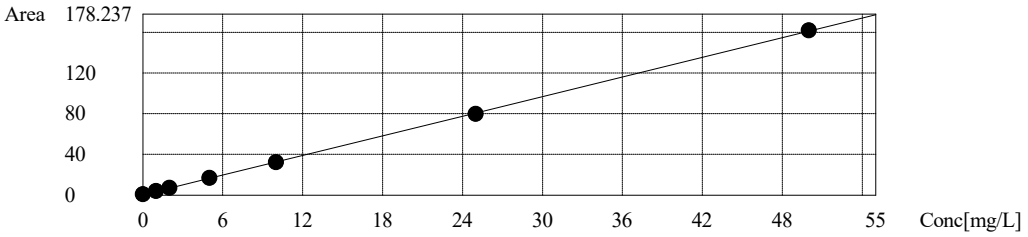
# TOC-Control L Report

2021_02_25_001.tlx

| | |
|---|---|
| Acid Add. | 0.000% |
| Sparge Gas Flow | 80mL/min |
| Sp. Time | 180.0sec |
| Mean Area | 162.0 |




| | |
|---|---|
| Slope: | 3.220 |
| Intercept | 0.4365 |
| r^2 | 0.9999 |
| r | 1.0000 |
| RSE(%) | N/A |
| Zero Shift | No |




**Sample**

| | |
|---|---|
| Sample Name: | ICV |
| Sample ID: | 315017108 |
| Origin: | 02_25_2021_CAL.cal |
| Status | Completed |
| Chk. Result | |

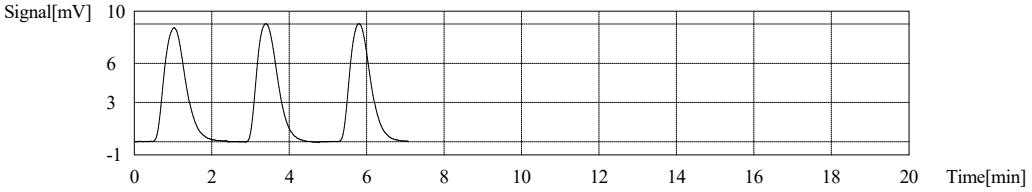
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:10.14mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 33.04 | 10.13mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 2/25/2021 11:32:06 AM |
| 2 | 33.24 | 10.19mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 2/25/2021 11:34:44 AM |
| 3 | 32.98 | 10.11mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 2/25/2021 11:37:17 AM |

| | |
|---|---|
| Mean Area | 33.09 |
| Mean Conc. | 10.14mg/L |




**Sample**

| | |
|---|---|
| Sample Name: | ICB |
| Sample ID: | |
| Origin: | 02_25_2021_CAL.cal |
| Status | Completed |
| Chk. Result | |

| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:-0.1140mg/L |

1. Det

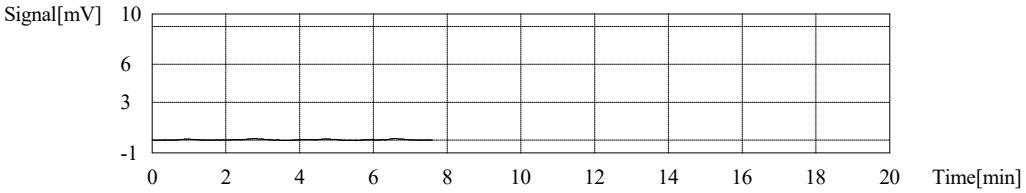
# TOC-Control L Report

2021_02_25_001.tlx

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 0.000 | -0.1356mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 2/25/2021 11:46:05 AM |
| 2 | 0.2080 | -0.07096mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 2/25/2021 11:48:13 AM |
| 3 | 0.000 | -0.1356mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 2/25/2021 11:50:20 AM |
| 4 | 0.2102 | -0.07028mg/L | 50uL | 1.000 | E | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 2/25/2021 11:52:27 AM |

Mean Area 0.06933
Mean Conc. -0.1140mg/L



| | Type | Analysis | Sample Name | Sample ID | Origin | Result | Notes |
|---|---|---|---|---|---|---|---|
| 1 | Unknown | NPOC | CCV | 316131907 | 02_25_2021 | NPOC:22.59mg/L | |
| 2 | Unknown | NPOC | CCB | | 02_25_2021 | NPOC:-0.09851mg/L | |
| 3 | Unknown | NPOC | MBLK-04272021 | | 02_25_2021 | NPOC:-0.1019mg/L | |
| 4 | Unknown | NPOC | LCS-04272021 | | 02_25_2021 | NPOC:9.152mg/L | |
| 5 | Unknown | NPOC | LCSD-04272021 | TOC_W 5310B | 02_25_2021 | NPOC:9.770mg/L | |
| 6 | Unknown | NPOC | HS21040695-13DF10 | | 02_25_2021 | NPOC:5.906mg/L | |
| 7 | Unknown | NPOC | HS21040705-01 | | 02_25_2021 | NPOC:2050mg/L | |
| 8 | Unknown | NPOC | HS21041110-01 | | 02_25_2021 | NPOC:16.81mg/L | |
| 9 | Unknown | NPOC | HS21041142-04 | | 02_25_2021 | NPOC:31.20mg/L | |
| 10 | Unknown | NPOC | HS21040859-07 | | 02_25_2021 | NPOC:4.707mg/L | |
| 11 | Unknown | NPOC | HS21040859-08 | | 02_25_2021 | NPOC:1.798mg/L | |
| 12 | Unknown | NPOC | HS21040859-08MS | | 02_25_2021 | NPOC:11.87mg/L | |
| 13 | Unknown | NPOC | CCV | 316131907 | 02_25_2021 | NPOC:24.93mg/L | |
| 14 | Unknown | NPOC | CCB | | 02_25_2021 | NPOC:0.06861mg/L | |
| 15 | Unknown | NPOC | HS21040859-09 | | 02_25_2021 | NPOC:1.487mg/L | |
| 16 | Unknown | NPOC | HS21040859-10 | | 02_25_2021 | NPOC:53.11mg/L | |
| 17 | Unknown | NPOC | HS21041109-02 | | 02_25_2021 | NPOC:0.7701mg/L | |
| 18 | Unknown | NPOC | HS21041103-01 | | 02_25_2021 | NPOC:21.33mg/L | |
| 19 | Unknown | NPOC | CCV | 316131907 | 02_25_2021 | NPOC:22.83mg/L | |
| 20 | Unknown | NPOC | CCB | | 02_25_2021 | NPOC:-0.02601mg/L | |
| 21 | Unknown | NPOC | MBLK2-04272021 | | 02_25_2021 | NPOC:-0.06956mg/L | |
| 22 | Unknown | NPOC | LCS2-04272021 | | 02_25_2021 | NPOC:9.037mg/L | |
| 23 | Unknown | NPOC | LCSD2-04272021 | TOC_W 5310B | 02_25_2021 | NPOC:9.866mg/L | |
| 24 | Unknown | NPOC | HS21041260-01 | | 02_25_2021 | NPOC:13.34mg/L | |
| 25 | Unknown | NPOC | HS21041389-01 | | 02_25_2021 | NPOC:-0.00900mg/L | |
| 26 | Unknown | NPOC | HS21041176-01DF100 | | 02_25_2021 | NPOC:1043mg/L | |
| 27 | Unknown | NPOC | HS21041176-01MS | | 02_25_2021 | NPOC:1049mg/L | |
| 28 | Unknown | NPOC | HS21041108-01 | | 02_25_2021 | NPOC:5.110mg/L | |
| 29 | Unknown | NPOC | HS21041083-01 | TOC-W | 02_25_2021 | NPOC:8.286mg/L | |
| 30 | Unknown | NPOC | HS21041168-01 | | 02_25_2021 | NPOC:12.24mg/L | |
| 31 | Unknown | NPOC | CCV | 316131907 | 02_25_2021 | NPOC:24.09mg/L | |
| 32 | Unknown | NPOC | CCB | | 02_25_2021 | NPOC:-0.02739mg/L | |

| | Status | Date / Time | Vial |
|---|---|---|---|
| 1 | Completed | 4/27/2021 4:30:18 PM | 1 |
| 2 | Completed | 4/27/2021 4:45:30 PM | 2 |
| 3 | Completed | 4/27/2021 4:58:29 PM | 3 |
| 4 | Completed | 4/27/2021 5:14:21 PM | 4 |
| 5 | Completed | 4/27/2021 5:29:19 PM | 5 |
| 6 | Completed | 4/27/2021 5:43:39 PM | 6 |
| 7 | Completed | 4/27/2021 6:10:54 PM | 7 |
| 8 | Completed | 4/27/2021 6:28:21 PM | 8 |
| 9 | Completed | 4/27/2021 6:44:10 PM | 9 |
| 10 | Completed | 4/27/2021 7:00:34 PM | 10 |
| 11 | Completed | 4/27/2021 7:16:04 PM | 11 |
| 12 | Completed | 4/27/2021 7:32:59 PM | 12 |
| 13 | Completed | 4/27/2021 7:53:45 PM | 13 |
| 14 | Completed | 4/27/2021 8:06:51 PM | 14 |
| 15 | Completed | 4/27/2021 8:22:18 PM | 15 |
| 16 | Completed | 4/27/2021 8:37:34 PM | 16 |
| 17 | Completed | 4/27/2021 8:52:48 PM | 17 |
| 18 | Completed | 4/27/2021 9:07:47 PM | 18 |
| 19 | Completed | 4/27/2021 9:23:28 PM | 1 |
| 20 | Completed | 4/27/2021 9:36:31 PM | 2 |
| 21 | Completed | 4/27/2021 9:51:41 PM | 3 |
| 22 | Completed | 4/27/2021 10:06:25 PM | 4 |
| 23 | Completed | 4/27/2021 10:21:34 PM | 5 |
| 24 | Completed | 4/27/2021 10:36:26 PM | 19 |
| 25 | Completed | 4/27/2021 10:51:35 PM | 20 |
| 26 | Completed | 4/27/2021 11:08:56 PM | 21 |
| 27 | Completed | 4/27/2021 11:26:20 PM | 22 |
| 28 | Completed | 4/27/2021 11:43:07 PM | 23 |
| 29 | Completed | 4/27/2021 11:57:00 PM | 24 |
| 30 | Completed | 4/28/2021 12:11:36 AM | 25 |
| 31 | Completed | 4/28/2021 12:27:34 AM | 13 |
| 32 | Completed | 4/28/2021 12:42:47 AM | 14 |

# TOC-Control L Report



**Instr.Information**

Instrument Options TOC/ASI/IC Unit/
Catalyst Regular Sensitivity

**Sample**

Sample Name: CCV
Sample ID: 316131907
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

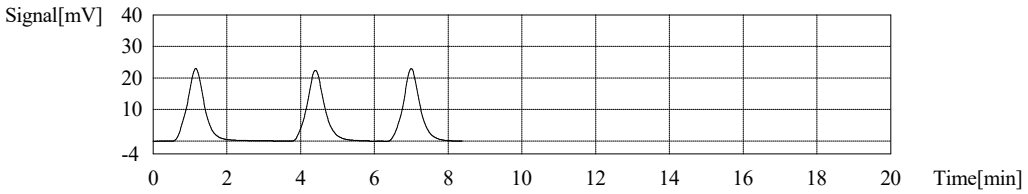
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:22.59mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 74.01 | 22.85mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 4:24:39 PM |
| 2 | 72.98 | 22.53mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 4:27:30 PM |
| 3 | 72.57 | 22.40mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 4:30:18 PM |

Mean Area 73.19
Mean Conc. 22.59mg/L




**Sample**

Sample Name: CCB
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:-0.09851mg/L |

1. Det

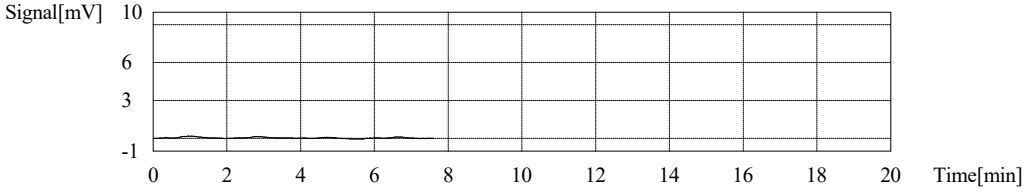
Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 0.4471 | 0.00329mg/L | 50uL | 1.000 | E | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 4:39:06 PM |
| 2 | 0.1800 | -0.07966mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 4:41:14 PM |
| 3 | 0.000 | -0.1356mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 4:43:22 PM |
| 4 | 0.1779 | -0.08031mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 4:45:30 PM |

# TOC-Control L Report



Mean Area 0.1193
Mean Conc. -0.09851mg/L




**Sample**

Sample Name: MBLK-04272021
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

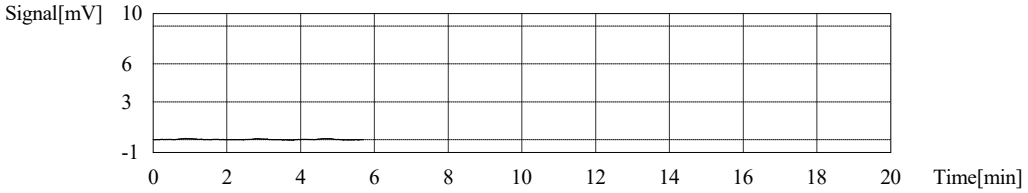
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:-0.1019mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 0.1506 | -0.08879mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 4:54:13 PM |
| 2 | 0.000 | -0.1356mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 4:56:21 PM |
| 3 | 0.1746 | -0.08134mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 4:58:29 PM |

Mean Area 0.1084
Mean Conc. -0.1019mg/L




**Sample**

Sample Name: LCS-04272021
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:9.152mg/L |

1. Det

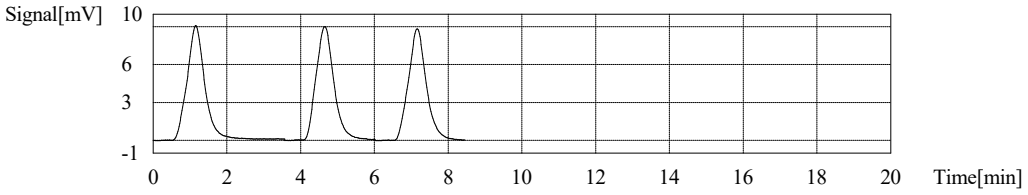
Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 30.29 | 9.271mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 5:08:57 PM |
| 2 | 29.82 | 9.125mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 5:11:40 PM |
| 3 | 29.61 | 9.060mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 5:14:21 PM |

# TOC-Control L Report



Mean Area 29.91
Mean Conc. 9.152mg/L




**Sample**

Sample Name: LCSD-04272021
Sample ID: TOC_W 5310B
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

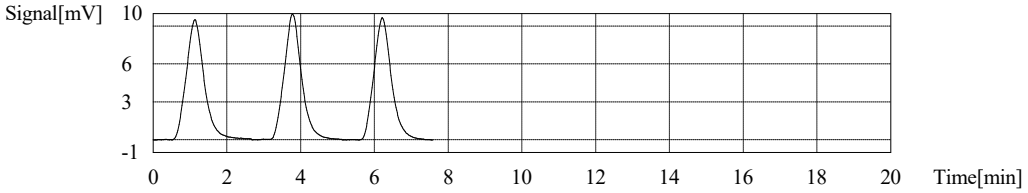
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:9.770mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 31.64 | 9.691mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 5:23:55 PM |
| 2 | 32.13 | 9.843mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 5:26:37 PM |
| 3 | 31.92 | 9.777mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 5:29:19 PM |

Mean Area 31.90
Mean Conc. 9.770mg/L




**Sample**

Sample Name: HS21040695-13DF10
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:5.906mg/L |

1. Det

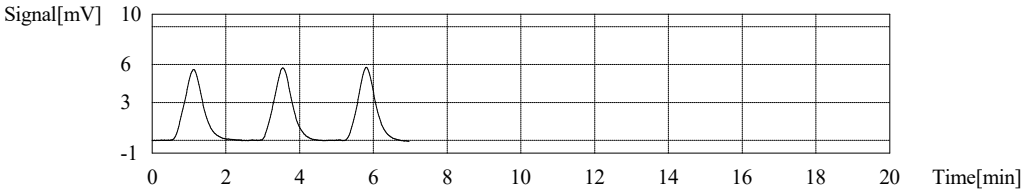
Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 19.27 | 5.849mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 5:38:38 PM |
| 2 | 19.67 | 5.973mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 5:41:08 PM |
| 3 | 19.42 | 5.895mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 5:43:39 PM |

# TOC-Control L Report



Mean Area 19.45
Mean Conc. 5.906mg/L




**Sample**

Sample Name: HS21040705-01
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

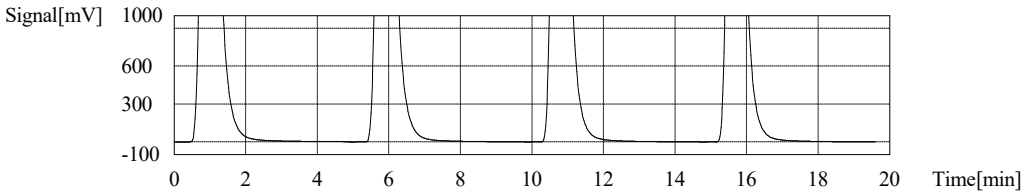
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:2050mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 6700 | 2081mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 5:55:27 PM |
| 2 | 6705 | 2082mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 6:00:36 PM |
| 3 | 6400 | 1987mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 6:05:45 PM |
| 4 | 6346 | 1971mg/L | 50uL | 1.000 | E | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 6:10:54 PM |

Mean Area 6602
Mean Conc. 2050mg/L




**Sample**

Sample Name: HS21041110-01
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:16.81mg/L |

1. Det

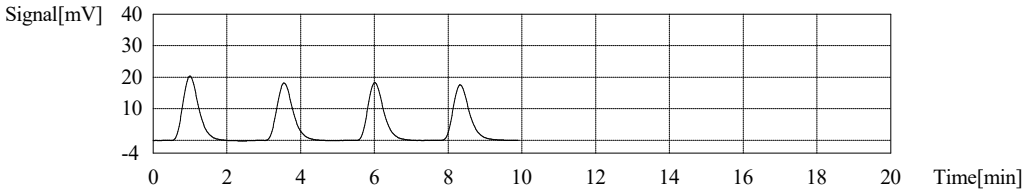
Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 60.76 | 18.73mg/L | 50uL | 1.000 | E | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 6:20:15 PM |
| 2 | 55.47 | 17.09mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 6:22:59 PM |
| 3 | 54.51 | 16.79mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 6:25:34 PM |
| 4 | 53.74 | 16.55mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 6:28:21 PM |

# TOC-Control L Report



Mean Area 54.57
Mean Conc. 16.81mg/L




**Sample**

Sample Name: HS21041142-04
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

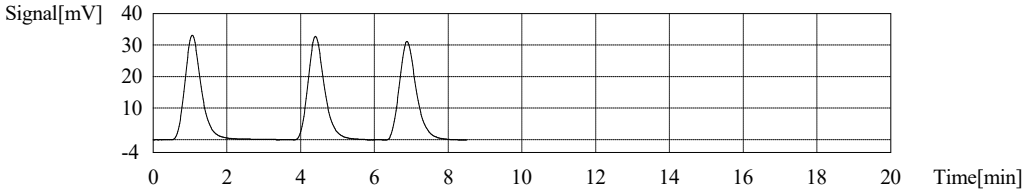
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:31.20mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 101.6 | 31.42mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 6:38:30 PM |
| 2 | 101.2 | 31.29mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 6:41:14 PM |
| 3 | 99.92 | 30.90mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 6:44:10 PM |

Mean Area 100.9
Mean Conc. 31.20mg/L




**Sample**

Sample Name: HS21040859-07
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:4.707mg/L |

1. Det

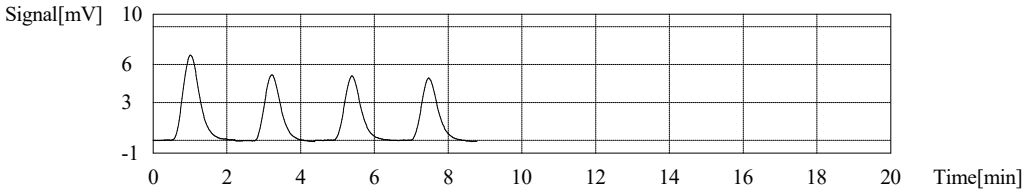
Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 20.92 | 6.361mg/L | 50uL | 1.000 | E | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 6:53:17 PM |
| 2 | 16.04 | 4.846mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 6:55:41 PM |
| 3 | 15.48 | 4.672mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 6:58:01 PM |
| 4 | 15.26 | 4.604mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 7:00:34 PM |

# TOC-Control L Report



Mean Area 15.59
Mean Conc. 4.707mg/L




**Sample**

Sample Name: HS21040859-08
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

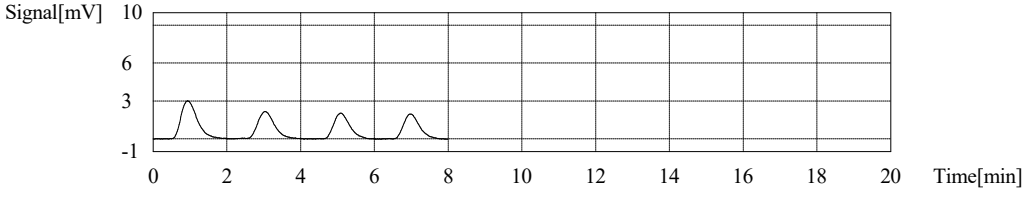
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:1.798mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 9.203 | 2.723mg/L | 50uL | 1.000 | E | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 7:09:26 PM |
| 2 | 6.699 | 1.945mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 7:11:44 PM |
| 3 | 6.011 | 1.731mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 7:13:52 PM |
| 4 | 5.972 | 1.719mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 7:16:04 PM |

Mean Area 6.227
Mean Conc. 1.798mg/L




**Sample**

Sample Name: HS21040859-08MS
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:11.87mg/L |

1. Det

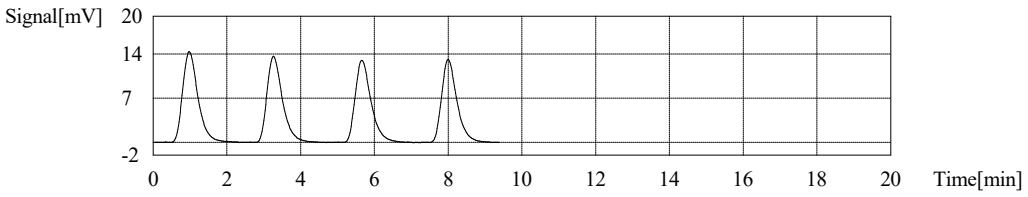
Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 41.23 | 12.67mg/L | 50uL | 1.000 | E | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 7:25:12 PM |
| 2 | 39.74 | 12.21mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 7:27:49 PM |
| 3 | 38.41 | 11.79mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 7:30:22 PM |
| 4 | 37.83 | 11.61mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 7:32:59 PM |

# TOC-Control L Report



Mean Area 38.66
Mean Conc. 11.87mg/L




**Sample**

Sample Name: CCV
Sample ID: 316131907
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

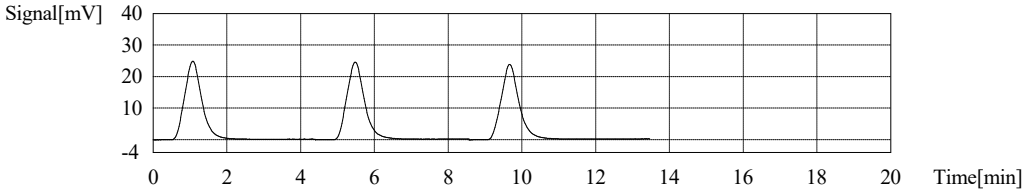
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:24.93mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 80.89 | 24.99mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 7:44:12 PM |
| 2 | 81.49 | 25.17mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 7:48:37 PM |
| 3 | 79.80 | 24.65mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 7:53:45 PM |

Mean Area 80.73
Mean Conc. 24.93mg/L




**Sample**

Sample Name: CCB
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:0.06861mg/L |

1. Det

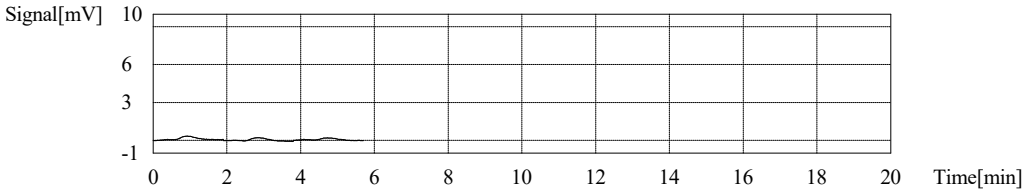
Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 0.6976 | 0.08109mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 8:02:34 PM |
| 2 | 0.7248 | 0.08953mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 8:04:43 PM |
| 3 | 0.5499 | 0.03522mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 8:06:51 PM |

# TOC-Control L Report



Mean Area 0.6574
Mean Conc. 0.06861mg/L




**Sample**

Sample Name: HS21040859-09
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

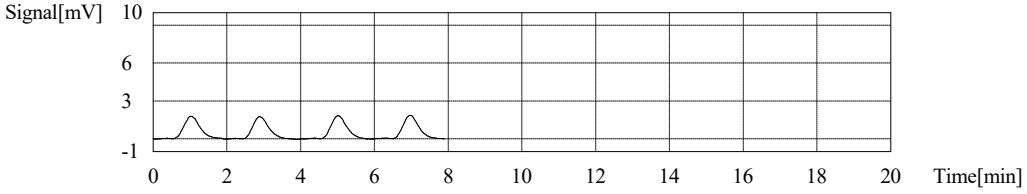
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:1.487mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 5.154 | 1.465mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 8:15:38 PM |
| 2 | 5.212 | 1.483mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 8:17:59 PM |
| 3 | 5.372 | 1.533mg/L | 50uL | 1.000 | E | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 8:20:09 PM |
| 4 | 5.310 | 1.514mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 8:22:18 PM |

Mean Area 5.225
Mean Conc. 1.487mg/L




**Sample**

Sample Name: HS21040859-10
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:53.11mg/L |

1. Det

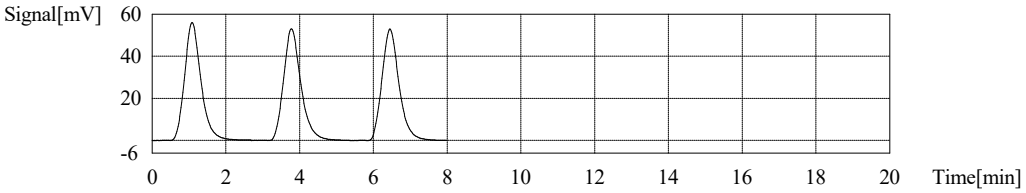
Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 172.2 | 53.34mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 8:31:48 PM |
| 2 | 172.7 | 53.50mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 8:34:44 PM |
| 3 | 169.5 | 52.50mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 8:37:34 PM |

# TOC-Control L Report



Mean Area 171.5
Mean Conc. 53.11mg/L




**Sample**

Sample Name: HS21041109-02
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

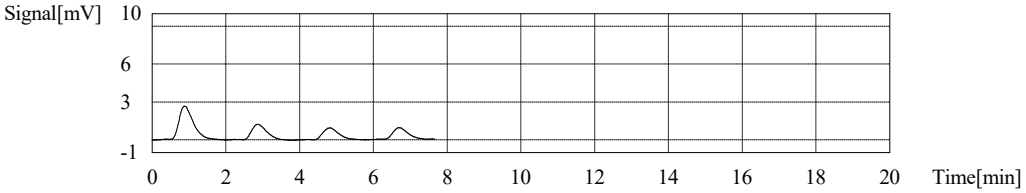
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:0.7701mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 7.058 | 2.056mg/L | 50uL | 1.000 | E | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 8:46:25 PM |
| 2 | 3.545 | 0.9654mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 8:48:34 PM |
| 3 | 2.699 | 0.7026mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 8:50:41 PM |
| 4 | 2.505 | 0.6424mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 8:52:48 PM |

Mean Area 2.916
Mean Conc. 0.7701mg/L




**Sample**

Sample Name: HS21041103-01
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:21.33mg/L |

1. Det

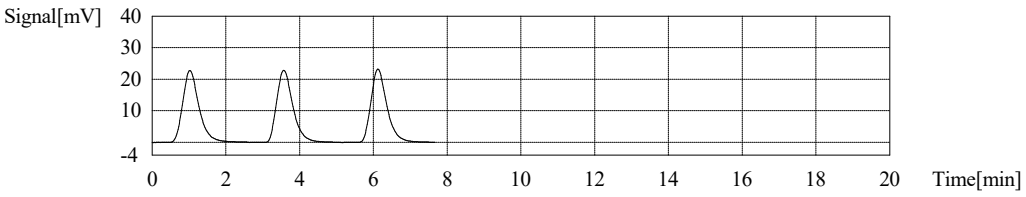
Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 68.74 | 21.21mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 9:02:11 PM |
| 2 | 69.36 | 21.40mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 9:04:58 PM |
| 3 | 69.25 | 21.37mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 9:07:47 PM |

# TOC-Control L Report



Mean Area 69.12
Mean Conc. 21.33mg/L




**Sample**

Sample Name: CCV
Sample ID: 316131907
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

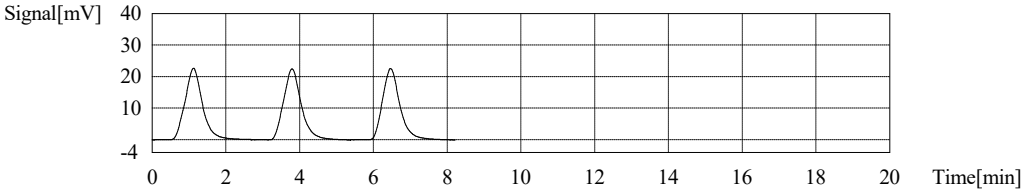
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:22.83mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 73.75 | 22.77mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 9:17:28 PM |
| 2 | 74.70 | 23.06mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 9:20:25 PM |
| 3 | 73.36 | 22.65mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 9:23:28 PM |

Mean Area 73.94
Mean Conc. 22.83mg/L




**Sample**

Sample Name: CCB
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:-0.02601mg/L |

1. Det

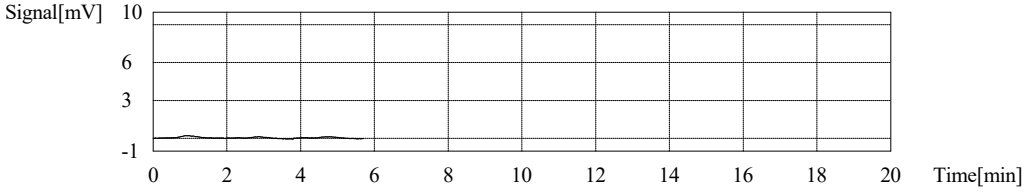
Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 0.4470 | 0.00326mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 9:32:16 PM |
| 2 | 0.3266 | -0.03413mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 9:34:23 PM |
| 3 | 0.2846 | -0.04717mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 9:36:31 PM |

# TOC-Control L Report



Mean Area 0.3527
Mean Conc. -0.02601mg/L




**Sample**

Sample Name: MBLK2-04272021
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

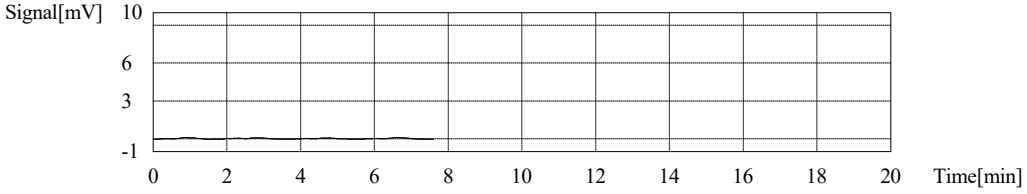
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:-0.06956mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 0.2590 | -0.05512mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 9:45:20 PM |
| 2 | 0.000 | -0.1356mg/L | 50uL | 1.000 | E | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 9:47:27 PM |
| 3 | 0.1115 | -0.1009mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 9:49:34 PM |
| 4 | 0.2671 | -0.05261mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 9:51:41 PM |

Mean Area 0.2125
Mean Conc. -0.06956mg/L




**Sample**

Sample Name: LCS2-04272021
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:9.037mg/L |

1. Det

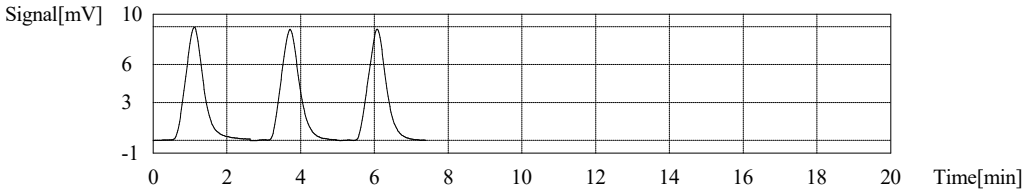
Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 29.72 | 9.094mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 10:01:08 PM |
| 2 | 29.51 | 9.029mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 10:03:44 PM |
| 3 | 29.38 | 8.989mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 10:06:25 PM |

# TOC-Control L Report



Mean Area 29.54
Mean Conc. 9.037mg/L




**Sample**

Sample Name: LCSD2-04272021
Sample ID: TOC_W 5310B
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

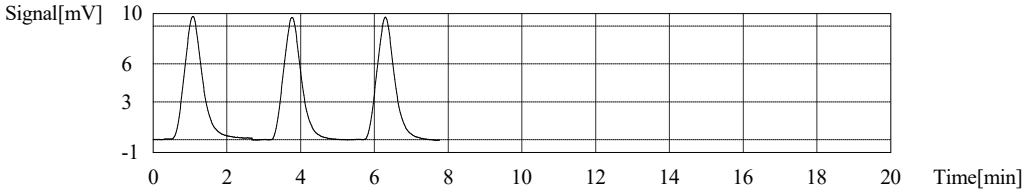
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:9.866mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 32.34 | 9.908mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 10:16:00 PM |
| 2 | 32.13 | 9.843mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 10:18:47 PM |
| 3 | 32.15 | 9.849mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 10:21:34 PM |

Mean Area 32.21
Mean Conc. 9.866mg/L




**Sample**

Sample Name: HS21041260-01
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:13.34mg/L |

1. Det

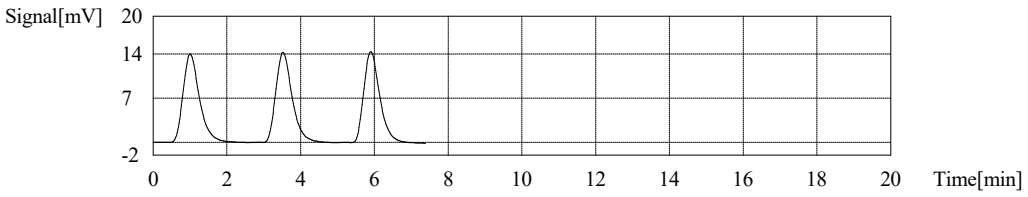
Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 43.08 | 13.24mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 10:31:07 PM |
| 2 | 43.69 | 13.43mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 10:33:44 PM |
| 3 | 43.43 | 13.35mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 10:36:26 PM |

# TOC-Control L Report



Mean Area 43.40
Mean Conc. 13.34mg/L




**Sample**

Sample Name: HS21041389-01
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

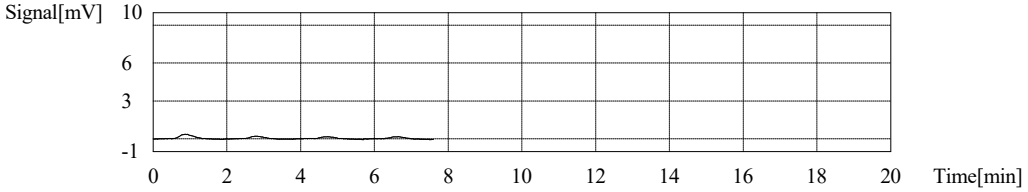
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:-0.00900mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 0.8706 | 0.1348mg/L | 50uL | 1.000 | E | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 10:45:14 PM |
| 2 | 0.4368 | 0.00009mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 10:47:21 PM |
| 3 | 0.3503 | -0.02677mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 10:49:28 PM |
| 4 | 0.4355 | -0.00031mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 10:51:35 PM |

Mean Area 0.4075
Mean Conc. -0.00900mg/L




**Sample**

Sample Name: HS21041176-01DF100
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:1043mg/L |

1. Det

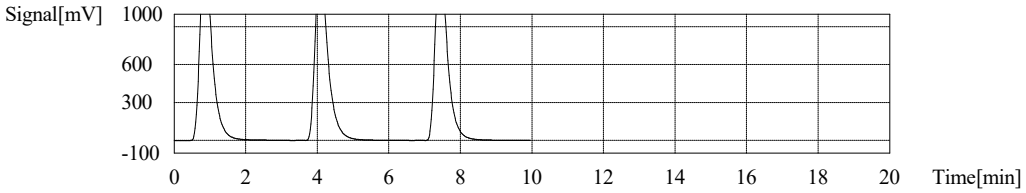
Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 3354 | 1041mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 11:01:39 PM |
| 2 | 3401 | 1056mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 11:05:16 PM |
| 3 | 3324 | 1032mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 11:08:56 PM |

# TOC-Control L Report



Mean Area 3360
Mean Conc. 1043mg/L




**Sample**

Sample Name: HS21041176-01MS
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

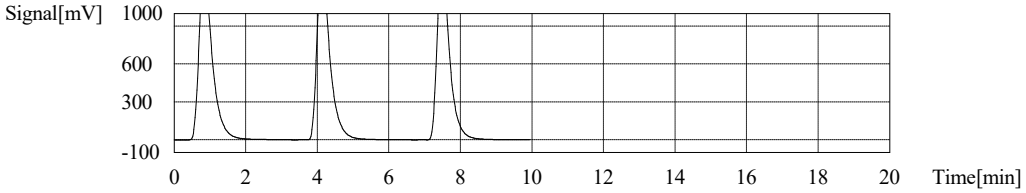
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:1049mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 3421 | 1062mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 11:19:08 PM |
| 2 | 3394 | 1054mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 11:22:45 PM |
| 3 | 3315 | 1029mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 11:26:20 PM |

Mean Area 3377
Mean Conc. 1049mg/L




**Sample**

Sample Name: HS21041108-01
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:5.110mg/L |

1. Det

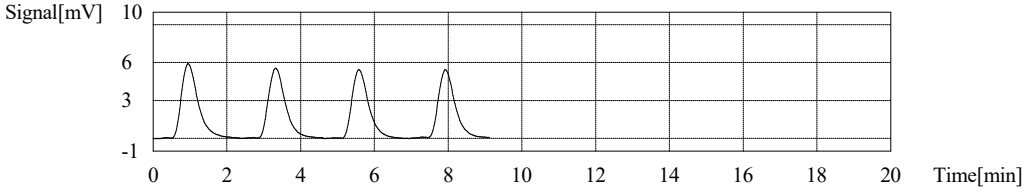
Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 18.38 | 5.573mg/L | 50uL | 1.000 | E | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 11:35:35 PM |
| 2 | 17.35 | 5.253mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 11:38:07 PM |
| 3 | 16.83 | 5.091mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 11:40:43 PM |
| 4 | 16.49 | 4.986mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 11:43:07 PM |

# TOC-Control L Report



Mean Area 16.89
Mean Conc. 5.110mg/L




**Sample**

Sample Name: HS21041083-01
Sample ID: TOC-W
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

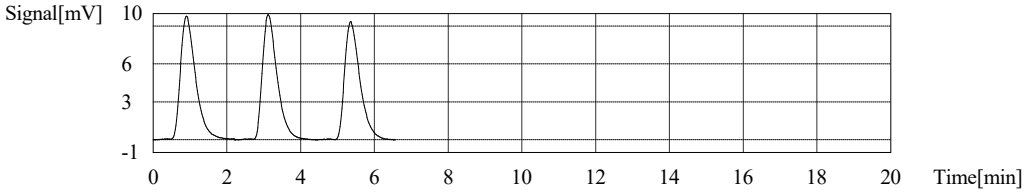
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:8.286mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 27.39 | 8.371mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 11:52:10 PM |
| 2 | 27.25 | 8.327mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 11:54:39 PM |
| 3 | 26.71 | 8.159mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/27/2021 11:57:00 PM |

Mean Area 27.12
Mean Conc. 8.286mg/L




**Sample**

Sample Name: HS21041168-01
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:12.24mg/L |

1. Det

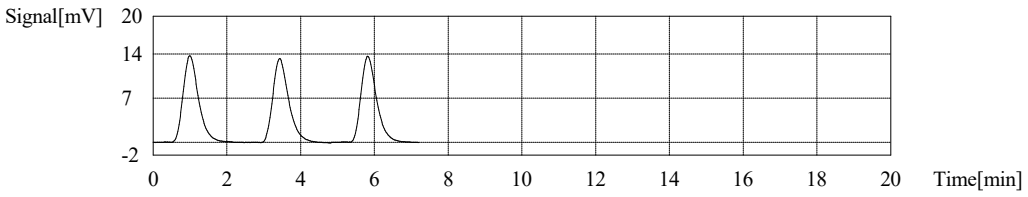
Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 39.90 | 12.26mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/28/2021 12:06:22 AM |
| 2 | 39.83 | 12.23mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/28/2021 12:08:59 AM |
| 3 | 39.80 | 12.22mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/28/2021 12:11:36 AM |

# TOC-Control L Report



Mean Area 39.84
Mean Conc. 12.24mg/L




**Sample**

Sample Name: CCV
Sample ID: 316131907
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

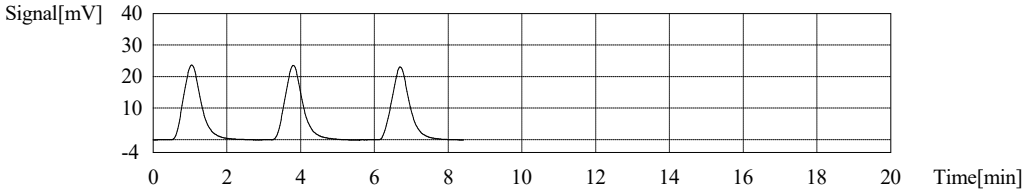
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:24.09mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 78.44 | 24.22mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/28/2021 12:21:23 AM |
| 2 | 78.71 | 24.31mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/28/2021 12:24:30 AM |
| 3 | 76.90 | 23.75mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/28/2021 12:27:34 AM |

Mean Area 78.02
Mean Conc. 24.09mg/L




**Sample**

Sample Name: CCB
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:-0.02739mg/L |

1. Det

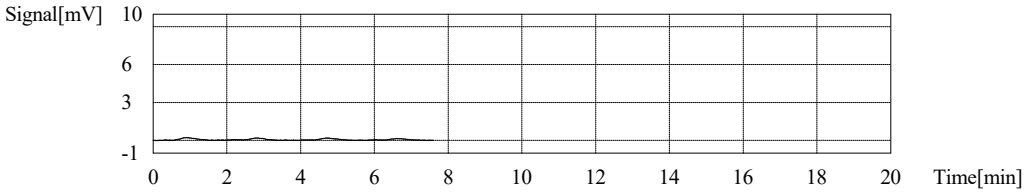
Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 0.5678 | 0.04078mg/L | 50uL | 1.000 | E | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/28/2021 12:36:23 AM |
| 2 | 0.3468 | -0.02786mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/28/2021 12:38:31 AM |
| 3 | 0.4038 | -0.01016mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/28/2021 12:40:39 AM |
| 4 | 0.2943 | -0.04416mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 4/28/2021 12:42:47 AM |

# TOC-Control L Report

2021_04_27_001.tlx

| | |
|---|---|
| Mean Area | 0.3483 |
| Mean Conc. | -0.02739mg/L |



# HS21041083 - Sub Perch Data IV (E2100458)

ALS WO# HS21041083

May 05, 2021 Service Request No:E2100458

RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Suite 210
Houston, TX 77099-4338

**Laboratory Results for: HS21041083**

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory April 21, 2021
For your reference, these analyses have been assigned our service request number **E2100458.**

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.

Respectfully submitted,

**ALS Group USA, Corp. dba ALS Environmental**



Corey Grandits
Project Manager

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 Houston | **Service Request No.:** | E2100458 |
| **Project:** | HS21041083 | **Date Received:** | 04/21/21 |
| **Sample Matrix:** | W | | |

## 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 04/21/21.

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:**

EQ2100261: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in addition to a MS/MSD for this extraction batch. The MS/MSD was performed on an unrelated sample. The LCS/DLCS recoveries are within QC limits.

DoD certification is held for the method/matrix/analytes provided in this report.

*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:**E2100458
**Project:** HS21041083

## SAMPLE CROSS-REFERENCE

| SAMPLE # | CLIENT SAMPLE ID | DATE | TIME |
|---|---|---|---|
| E2100458-001 | LH18/24-SP650_042021_BIX | 4/20/2021 | 1400 |

# Service Request Summary

**Folder #:** **E2100458**
Client Name: ALS Environmental - US
Project Name: HS21041083
Project Number:

**Report To:** RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Houston, TX 77099-4338
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number: 281-530-5887
E-mail: rj.modashia@alsglobal.com

Project Chemist: Corey Grandits
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 04/21/21
Internal Due Date: 5/5/2021
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS21041083
EDD: No EDD Specified

1 125 mL-Plastic Bottle Plastic
**Location:** EHRMS-AirArch 1
**Pressure Gas:**

| Lab Samp No. | Client Samp No | Matrix | Collected | HOUSTON ClO4 DOD/6850 |
|---|---|---|---|---|
| E2100458-001 | LH18/24-SP650_042021_BIX | Ground Water | 04/20/21 1400 | **IV** |

# Service Request Summary

**Folder #:** **E2100458**
Client Name: ALS Environmental - US
Project Name: HS21041083
Project Number:

**Report To:** RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Houston, TX 77099-4338
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number: 281-530-5887
E-mail: rj.modashia@alsglobal.com

Project Chemist: Corey Grandits
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 04/21/21
Internal Due Date: 5/5/2021
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS21041083
EDD: No EDD Specified

1 125 mL-Plastic Bottle Plastic
**Location:** EHRMS-AirArch 1
**Pressure Gas:**

## Test Comments:

| Group | Test/Method | Samples | Comments |
|---|---|---|---|
| Semivoa GCMS | ClO4 DOD/6850 | 1 | Level II due 5/5, IV due 5/12 |

# 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 | Internal standard not within the specified limits. See case narrative. |
| 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. |
| 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. |

# Data Qualifiers

## Lab Standard

| | |
|---|---|
| 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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## State Certifications, Accreditations, and Licenses

| Agency | Number | Expire Date |
|---|---|---|
| American Association for Laboratory Accreditation | 2897.01 2020 | 11/30/2021 |
| Arizona Department of Health Services | AZ0793-2020 | 5/27/2021 |
| Arkansas Department of Environmental Quality | 21-022-0 | 3/26/2022 |
| Department of Defense | A2LA 2897.01 | 11/30/2021 |
| Florida Department of Health | E87611-2020 | 6/30/2021 |
| Hawaii Department of Health | 2021-2022 | 4/30/2022 |
| Illinois Environmental Protection Agency | 2000322020-4 | 5/9/2021 |
| Kansas Department of Health and Environment | E-10352-2020 | 7/31/2021 |
| Louisiana Department of Environmental Quality | 03087-2020 | 6/30/2021 |
| Louisiana Department of Health and Hospitals | LA028-2021 | 12/31/2021 |
| Maine Department of Health and Human Services | 2020016 | 6/5/2022 |
| Maryland Department of the Environment | 343-2020 | 6/30/2021 |
| Minnesota Department of Health | 2021671 | 12/31/2021 |
| Nevada Department of Concervation and Natural Resources | TX026932021-4 | 7/31/2021 |
| New Hampshire Environmental Laboratory Accreditation Program | 209421 | 4/24/2022 |
| New Jersey Department of Environmental Protection | TX008 | 6/30/2021 |
| Oklahoma Department of Environmental Quality | 2020-123 | 8/31/2021 |
| Pennsylvania Department of Environmental Protection | 014 | 6/30/2021 |
| Tennessee Department of Environment and Concervation | 04016-2021 | 4/30/2022 |
| United States Department of Agriculture | P330-19-00299 | 10/10/2022 |

# 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

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:** **15958**

**SUBCONTRACT TO:**

ALS Environmental
10450 Stancliff RoadSuite 210
Houston, TX 77084

**Phone:** +1 281 530 5656

**CUSTOMER INFORMATION:**

| | |
|---|---|
| **Company:** | ALS Houston |
| **Contact:** | RJ Modashia |
| **Address:** | 10450 Stancliff Rd, Ste 210 |
| **Phone:** | +1 281 530 5656 |
| **Email:** | RJ.Modashia@alsglobal.com |
| **Alternate Contact:** | |
| **Email:** | |

**INVOICE INFORMATION:**

| | |
|---|---|
| **Company:** | ALS Houston |
| **Contact:** | Accounts Payable |
| **Address:** | 10450 Stancliff Rd, Ste 210 |
| **Phone:** | +1 281 530 5656 |
| **Reference:** | HS21041083 |
| **TSR:** | Sonia West |

| | LAB SAMPLE ID | CLIENT SAMPLE ID | MATRIX | COLLECT DATE |
|---|---|---|---|---|
| | ANALYSIS REQUESTED | | | DUE DATE |
| **1.** | **HS21041083-02** | **LH18/24-SP650_042021_BIX** | **Water** | **20 Apr 2021 14:00** |
| | Provide Level II and Level IV reports in separate pdf | | | 05 May 2021 |

**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: 4/21/21 1440

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

# Cooler Receipt Form

ALS Environmental

Project Chemist CH

Client/Project ALS-HI

Thermometer ID 1031

Date/Time Received: 4/21/21 Initials: CH Date/Time Logged in: 4/21/21 Initials CH

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

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

3. Were custody seals on coolers? ○ Yes ✓ No If yes, how many and where?

Were they intact? ○ Yes ○ No ✓ N/A

Were they signed and dated? ○ Yes ○ No ✓ N/A

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

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

| Cooler Tracking Number | COC ID | Date Opened | Time Opened | Opened By | Temp. °C | Temp Blank? |
|---|---|---|---|---|---|---|
| NA | | 4/21/21 | 1440 | CH | 0.8 | ☒ |
| | | | | | | ☐ |
| | | | | | | ☐ |
| | | | | | | ☐ |

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#:** 378422 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
**Team:** Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 4/30/21 10:00

| # | Lab Code | Client ID | B# | Method /Test | pH | Cl | Matrix | Amt. Ext. | Sample Description |
|---|---|---|---|---|---|---|---|---|---|
| 1 | E2100458-001 | LH18/24-SP650_042021_BIX | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 2 | E2100459-001 | 16WW25-210420 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 3 | E2100459-002 | 16WW25-210420-FD | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 4 | E2100459-003 | 16WW26-210420 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 5 | E2100459-004 | 16WW29-210420 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 6 | E2100459-005 | 16WW29-210420-FD | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 7 | E2100459-006 | 16WW30-210420 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 8 | E2100459-007 | 16WW55-210420 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 9 | E2100459-008 | 16RW10-210420 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 10 | E2100459-009 | 16RW09-210420 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 11 | E2100459-010 | 16IW03-210420 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 12 | E2100486-001 | 43MW03 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 13 | E2100486-002 | 43MW03-DUP | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 14 | E2100486-003 | 43MW04 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 15 | E2100486-004 | 43MW05 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 16 | E2100486-005 | 43MW06 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 17 | E2100486-006 | EB041621 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 18 | E2100486-007 | 43MW01 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 19 | EQ2100261-01 | MB | | 6850/ClO4 DOD | | | Liquid | 10mL | |
| 20 | EQ2100261-02 | LCS | | 6850/ClO4 DOD | | | Liquid | 10mL | |
| 21 | EQ2100261-03 | DLCS | | 6850/ClO4 DOD | | | Liquid | 10mL | |
| 22 | EQ2100261-04 | 43MW01 MS | .01 | 6850/ClO4 DOD | | | Liquid | 10mL | |
| 23 | EQ2100261-05 | 43MW01 DMS | .01 | 6850/ClO4 DOD | | | Liquid | 10mL | |

**Spiking Solutions**

Name: Perchlorate Intermediate Stock1 Inventory ID 214035 Logbook Ref: Perchlorate Expires On: 05/23/2021

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| EQ2100261-02 | 1.00µL | EQ2100261-03 | 1.00µL | EQ2100261-04 | 1.00µL | EQ2100261-05 | 1.00µL |

Name: Perchlorate Internal Standard 1ug/mL Inventory ID 214820 Logbook Ref: Perchlorate Internal Standard Expires On: 07/03/2021

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| E2100458-001 | 100.00µL | E2100459-001 | 100.00µL | E2100459-002 | 100.00µL | E2100459-003 | 100.00µL | E2100459-004 | 100.00µL | E2100459-005 | 100.00µL |
| E2100459-006 | 100.00µL | E2100459-007 | 100.00µL | E2100459-008 | 100.00µL | E2100459-009 | 100.00µL | E2100459-010 | 100.00µL | E2100486-001 | 100.00µL |
| E2100486-002 | 100.00µL | E2100486-003 | 100.00µL | E2100486-004 | 100.00µL | E2100486-005 | 100.00µL | E2100486-006 | 100.00µL | E2100486-007 | 100.00µL |
| EQ2100261-01 | 100.00µL | EQ2100261-02 | 100.00µL | EQ2100261-03 | 100.00µL | EQ2100261-04 | 100.00µL | EQ2100261-05 | 100.00µL | | |

# *Preparation Information Benchsheet*

**Prep Run#:** 378422 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
**Team:** Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 4/30/21 10:00

## Preparation Steps

Step: Preparation
Started: 4/30/21 10:00
Finished: 4/30/21 12:00
By: KBROWN
Comments

Comments: _____

Reviewed By: KB Date: 4/30/21

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:** | E2100458 |
| **Project:** | HS21041083 | **Date Collected:** | 4/20/21 1400 |
| **Sample Matrix:** | Ground Water | **Date Received:** | 4/21/21 |
| **Sample Name:** | LH18/24-SP650_042021_BIX | **Units:** | µg/L |
| **Lab Code:** | E2100458-001 | **Basis:** | As Received |

**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 | **17.3** | | 0.100 | 0.0500 | 0.0250 | 1 | 4/30/21 | 4/30/21 15:51 | 378422 | 722059 | |

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

| | | | |
|---|---|---|---|
| **Client:** | ALS Environmental - US | **Service Request:** | E2100458 |
| **Project:** | HS21041083 | **Date Collected:** | NA |
| **Sample Matrix:** | Ground Water | **Date Received:** | NA |
| **Sample Name:** | Method Blank | **Units:** | µg/L |
| **Lab Code:** | EQ2100261-01 | **Basis:** | As Received |

**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 | 4/30/21 | 4/30/21 15:04 | 378422 | 722059 | |

# 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:** | E2100458 |
| **Project:** | HS21041083 | **Date Analyzed:** | 4/30/21 |
| **Sample Matrix:** | Ground 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:** | As Received |
| | | **Extraction Lot:** | 378422 |

| | Lab Control Sample EQ2100261-02 | | | Duplicate Lab Control Sample EQ2100261-03 | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Analyte Name** | **Result** | **Spike Amount** | **% Rec** | **Result** | **Spike Amount** | **% Rec** | **% Rec Limits** | **RPD** | **RPD Limit** |
| Perchlorate | 0.104 | 0.100 | 104 | 0.109 | 0.100 | 109 | 84 - 119 | 5 | 15 |

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

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

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

| | | | |
|---|---|---|---|
| **Client:** | ALS Environmental - US | **Service Request:** | E2100458 |
| **Project:** | HS21041083 | **Date Collected:** | NA |
| **Sample Matrix:** | Ground Water | **Date Received:** | NA |
| **Sample Name:** | Lab Control Sample | **Units:** | µg/L |
| **Lab Code:** | EQ2100261-02 | **Basis:** | As Received |

**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 | **0.104** | | 0.100 | 0.0500 | 0.0250 | 1 | 4/30/21 | 4/30/21 15:13 | 378422 | 722059 | |

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

| | | | |
|---|---|---|---|
| **Client:** | ALS Environmental - US | **Service Request:** | E2100458 |
| **Project:** | HS21041083 | **Date Collected:** | NA |
| **Sample Matrix:** | Ground Water | **Date Received:** | NA |
| **Sample Name:** | Duplicate Lab Control Sample | **Units:** | µg/L |
| **Lab Code:** | EQ2100261-03 | **Basis:** | As Received |

**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 | 4/30/21 | 4/30/21 15:23 | 378422 | 722059 | |

# 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

**20210428**

**1st Review:** Grivera
**2nd Review:** Kneir

ALS Environmental

**Injection Log**
**LCMS01 -Shimadzu 8050**

**ICAL Date:** 4/28/2021
**Cal. Std. xp:** 5/20/2021
**ICAL ID:** **EC2100026**

**Mobile Phases** **A:** 0.75% Formic Acid/Water 3100809-07 **B:** MeOH 216350

| | | | File Name | Acquisition Method | Dilution | R | Comments | Date/Time |
|---|---|---|---|---|---|---|---|---|
| 1 | PERCHLORATE1 | | 20210428_044 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-05 | 4/28/2021 18:16 |
| 2 | PERCHLORATE2 | | 20210428_045 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-06 | 4/28/2021 18:25 |
| 3 | PERCHLORATE3 | | 20210428_046 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-07 | 4/28/2021 18:34 |
| 4 | PERCHLORATE4 | | 20210428_047 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-08 | 4/28/2021 18:44 |
| 5 | PERCHLORATE5 | | 20210428_048 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-09 | 4/28/2021 18:53 |
| 6 | PERCHLORATE6 | | 20210428_049 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-01 | 4/28/2021 19:03 |
| 7 | PERCHLORATE7 | | 20210428_050 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/28/2021 19:12 |
| 8 | PERCHLORATE8 | | 20210428_051 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-03 | 4/28/2021 19:22 |
| 9 | PERCHLORATE9 | | 20210428_052 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-04 | 4/28/2021 19:31 |
| 10 | PERCHLORATEICV | | 20210428_054 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-06 | 4/28/2021 19:50 |
| 11 | ICS | | 20210428_055 | Perchlorate6850b.lcm | 1x | ☒ | | 4/28/2021 19:59 |
| 12 | LODV | | 20210428_056 | Perchlorate6850b.lcm | 1x | ☒ | | 4/28/2021 20:08 |
| 13 | PERCHLORATE7 | | 20210428_057 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/28/2021 20:18 |
| 14 | EQ2100244-01 | | 20210428_058 | Perchlorate6850b.lcm | 1x | ☒ | | 4/28/2021 20:27 |
| 15 | EQ2100244-02 | | 20210428_059 | Perchlorate6850b.lcm | 1x | ☒ | | 4/28/2021 20:37 |
| 16 | EQ2100244-03 | | 20210428_060 | Perchlorate6850b.lcm | 1x | ☒ | | 4/28/2021 20:46 |
| 17 | E2100412-016X10 | | 20210428_061 | Perchlorate6850b.lcm | 10X | ☒ | | 4/28/2021 20:55 |
| 18 | E2100412-017X10 | | 20210428_062 | Perchlorate6850b.lcm | 10X | ☒ | | 4/28/2021 21:05 |
| 19 | E2100412-011X10DNU | | 20210428_063 | Perchlorate6850b.lcm | 10X | ☒ | DNU:Report 1X | 4/28/2021 21:14 |
| 20 | E2100412-012X10DNU | | 20210428_064 | Perchlorate6850b.lcm | 10X | ☒ | Bad injection: Reanalyze | 4/28/2021 21:24 |
| 21 | E2100412-013X10DNU | | 20210428_065 | Perchlorate6850b.lcm | 10X | ☒ | Over ICAL: Run 50X | 4/28/2021 21:33 |
| 22 | E2100412-014X10DNU | | 20210428_066 | Perchlorate6850b.lcm | 10X | ☒ | Bad injection: Reanalyze | 4/28/2021 21:42 |
| 23 | E2100412-015X10DNU | | 20210428_067 | Perchlorate6850b.lcm | 10X | ☒ | DNU:Report 1X | 4/28/2021 21:52 |
| 24 | PERCHLORATE7 | | 20210428_068 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/28/2021 22:01 |
| 25 | E2100411-001 | | 20210428_069 | Perchlorate6850b.lcm | 1x | ☒ | | 4/28/2021 22:10 |
| 26 | E2100412-003X10 | | 20210428_070 | Perchlorate6850b.lcm | 10X | ☒ | | 4/28/2021 22:20 |
| 27 | E2100412-010X10 | | 20210428_071 | Perchlorate6850b.lcm | 10X | ☒ | | 4/28/2021 22:29 |
| 28 | R2103214-010 | | 20210428_072 | Perchlorate6850b.lcm | 1x | ☒ | | 4/28/2021 22:38 |
| 29 | PERCHLORATE7 | | 20210428_073 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/28/2021 22:48 |
| 30 | E2100485-002X10 | | 20210428_074 | Perchlorate6850b.lcm | 10X | ☒ | | 4/28/2021 22:57 |
| 31 | E2100485-003X10 | | 20210428_075 | Perchlorate6850b.lcm | 10X | ☒ | | 4/28/2021 23:07 |
| 32 | E2100485-007X10 | | 20210428_076 | Perchlorate6850b.lcm | 10X | ☒ | | 4/28/2021 23:16 |
| 33 | E2100485-010X10 | | 20210428_077 | Perchlorate6850b.lcm | 10X | ☒ | | 4/28/2021 23:25 |
| 34 | EQ2100244-04X10DNU | | 20210428_078 | Perchlorate6850b.lcm | 10X | ☒ | DNU: report 1X | 4/28/2021 23:35 |
| 35 | EQ2100244-05X10DNU | | 20210428_079 | Perchlorate6850b.lcm | 10X | ☒ | DNU: report 1X | 4/28/2021 23:44 |
| 36 | PERCHLORATE7 | | 20210428_080 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/28/2021 23:54 |
| 37 | E2100485-001 | | 20210428_081 | Perchlorate6850b.lcm | 1x | ☒ | | 4/29/2021 0:03 |
| 38 | E2100485-004 | | 20210428_082 | Perchlorate6850b.lcm | 1x | ☒ | | 4/29/2021 0:12 |
| 39 | E2100485-005 | | 20210428_083 | Perchlorate6850b.lcm | 1x | ☒ | | 4/29/2021 0:22 |
| 40 | E2100485-006DNU | | 20210428_084 | Perchlorate6850b.lcm | 1x | ☒ | DNU: INST failed | 4/29/2021 0:31 |
| 41 | PERCHLORATE7 | | 20210428_085 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/29/2021 0:40 |
| 42 | E2100485-008 | | 20210428_086 | Perchlorate6850b.lcm | 1x | ☒ | | 4/29/2021 0:50 |
| 43 | E2100485-009 | | 20210428_087 | Perchlorate6850b.lcm | 1x | ☒ | | 4/29/2021 0:59 |
| 44 | E2100485-011 | | 20210428_088 | Perchlorate6850b.lcm | 1x | ☒ | | 4/29/2021 1:09 |
| 45 | E2100485-012DNU | | 20210428_089 | Perchlorate6850b.lcm | 1x | ☒ | DNU-low INST | 4/29/2021 1:18 |
| 46 | E2100485-013 | | 20210428_090 | Perchlorate6850b.lcm | 1x | ☒ | | 4/29/2021 1:27 |
| 47 | EQ2100244-04 | | 20210428_091 | Perchlorate6850b.lcm | 1x | ☒ | | 4/29/2021 1:37 |
| 48 | EQ2100244-05 | | 20210428_092 | Perchlorate6850b.lcm | 1x | ☒ | | 4/29/2021 1:46 |
| 49 | PERCHLORATE7 | | 20210428_093 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/29/2021 1:56 |
| 50 | | | | | | | | |
| 51 | | | | | | | | |

# *Initial Calibration - Detailed Report*

**Calibration ID:** EC2100026 **Instrument ID:** E-LCMS-01
**Column Name:** 1

| # | Lab Code | Sample Name | File Location | Aquisition Date |
|---|---|---|---|---|
| 01 | EC2100026-01 | PERCHLORATE1 | 20210428_044 | 04/28/2021 18:16 |
| 02 | EC2100026-02 | PERCHLORATE2 | 20210428_045 | 04/28/2021 18:25 |
| 03 | EC2100026-03 | PERCHLORATE3 | 20210428_046 | 04/28/2021 18:34 |
| 04 | EC2100026-04 | PERCHLORATE4 | 20210428_047 | 04/28/2021 18:44 |
| 05 | EC2100026-05 | PERCHLORATE5 | 20210428_048 | 04/28/2021 18:53 |
| 06 | EC2100026-06 | PERCHLORATE6 | 20210428_049 | 04/28/2021 19:03 |
| 07 | EC2100026-07 | PERCHLORATE7 | 20210428_050 | 04/28/2021 19:12 |
| 08 | EC2100026-08 | PERCHLORATE8 | 20210428_051 | 04/28/2021 19:22 |
| 10 | EC2100026-10 | PERCHLORATE9 | 20210428_052 | 04/28/2021 19:31 |

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

**Perchlorate** **Average RF** **RSD = 13.94** **Average RF = 0.1168**

| # | Amount | RF | # | Amount | RF | # | Amount | RF | # | Amount | RF |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 | 0.1000 | 0.1516 | 02 | 0.5000 | 0.1269 | 03 | 0.7000 | 0.1246 | 04 | 1.0000 | 0.1032 |
| 05 | 2.0000 | 0.1172 | 06 | 5.0000 | 0.1124 | 07 | 10.0000 | 0.1144 | 08 | 20.0000 | 0.09843 |
| 10 | 30.0000 | 0.1026 | | | | | | | | | |

**Analyte**

**Perchlorate**

| # | Amount | Calculated Conc | %D | # | Amount | Calculated Conc | %D | # | Amount | Calculated Conc | %D |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 | 0.1000 | 0.130 | 29.8 | 02 | 0.5000 | 0.543 | 8.6 | 03 | 0.7000 | 0.746 | 6.6 |
| 04 | 1.0000 | 0.883 | -11.7 | 05 | 2.0000 | 2.01 | 0.3 | 06 | 5.0000 | 4.81 | -3.8 |
| 07 | 10.0000 | 9.79 | -2.1 | 08 | 20.0000 | 16.9 | -15.7 | 10 | 30.0000 | 26.4 | -12.1 |

# *Initial Calibration Verification Summary Report*

| | | | |
|---|---|---|---|
| **Calibration ID:** | EC2100026 | **Instrument ID:** | E-LCMS-01 |
| **Datafile ID:** | 20210428_054 | **Column Name:** | 1 |

| Analyte | Lab Code | Type | Curve Fit | True Value | Calc Conc | Units | Result | Criteria |
|---|---|---|---|---|---|---|---|---|
| Perchlorate | EC2100026-09 | T | Average RF | 10 | 9.455 | ng/mL | -5.4 | <= 15 |

# Insight Report

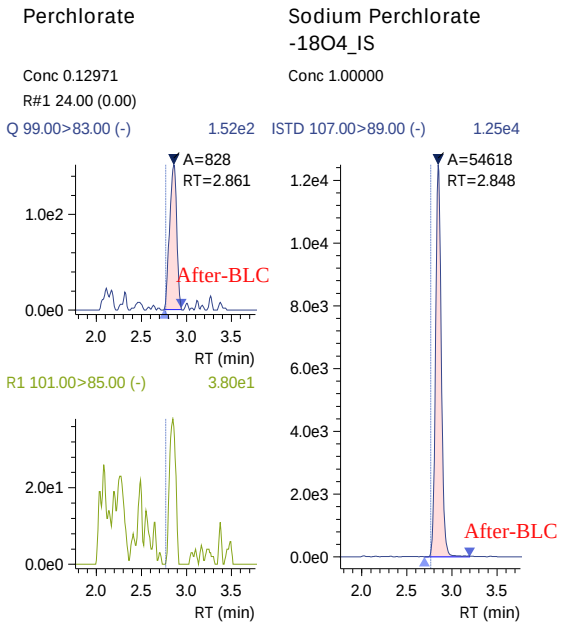
Printed at 4/29/2021 1:26:51 PM

Method File: I:\LCMS01\DATA\20210428\20210428.lcm
Project File: I:\LCMS01\DATA\20210428\20210428-ICAL.damlp

## 20210428_044

Sample ID: PERCHLORATE1
Date Acquired: 4/28/2021 6:16:06 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_044.lcd
Vial: 22 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | M | 2.861 | 828 | 54618 | 1 | 0.12971 | ng/mL | 0.1000 | 24.00 |
| Sodium Perchlorate-18O4 _IS | M | 2.848 | 54618 | 54618 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |



# Insight Report



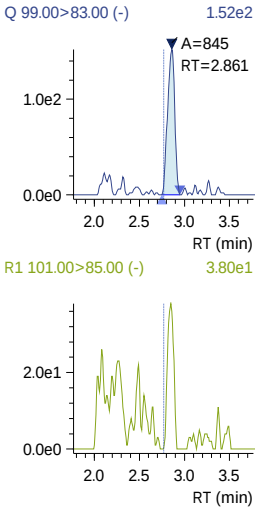
Method File: I:\LCMS01\DATA\20210428\Before\20210426.lcm

## 20210428_044

Sample ID: PERCHLORATE1
Date Acquired: 4/28/2021 6:16:06 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_044.lcd
Vial: 22 | Inj. Volume: 25.0000uL | Tray: 1

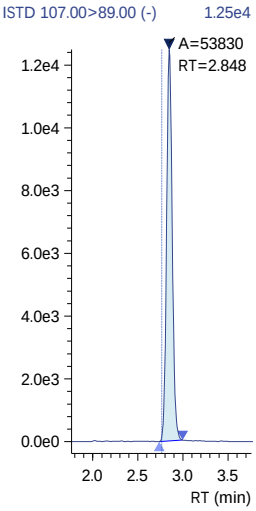
Perchlorate

Conc 0.13578
R#1 23.68 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



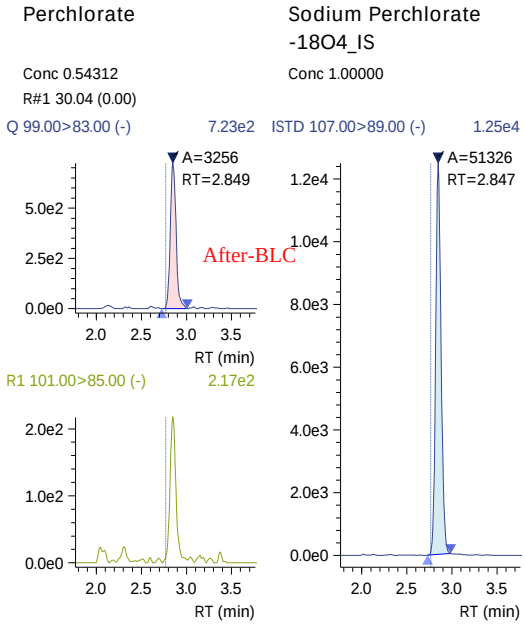
# Insight Report

Printed at 4/29/2021 1:26:51 PM

## 20210428_045

Sample ID: PERCHLORATE2
Date Acquired: 4/28/2021 6:25:33 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_045.lcd
Vial: 23 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | M | 2.849 | 3256 | 51326 | 1 | 0.54312 | ng/mL | 0.5000 | 30.04 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.847 | 51326 | 51326 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |



# Insight Report



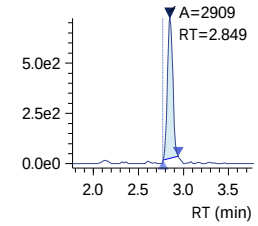
## 20210428_045

Sample ID: PERCHLORATE2
Date Acquired: 4/28/2021 6:25:33 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_045.lcd
Vial: 23 | Inj. Volume: 25.0000uL | Tray: 1

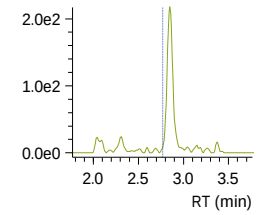
Perchlorate

Conc 0.49019
R#1 29.78 (0.00)

Q 99.00>83.00 (-) 7.23e2



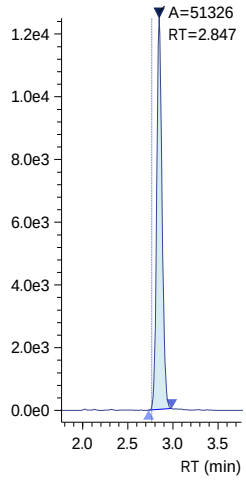

R1 101.00>85.00 (-) 2.17e2




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.25e4



# Insight Report

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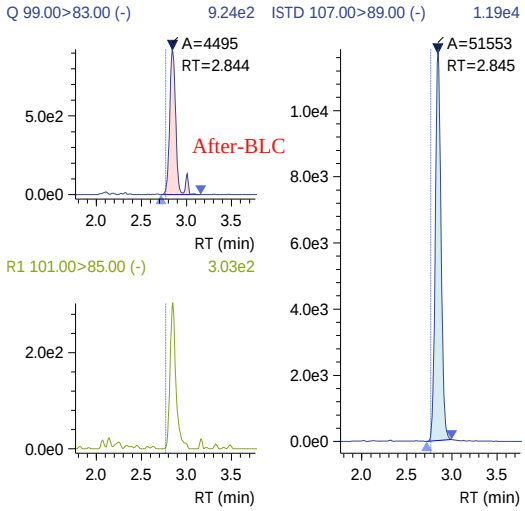
## 20210428_046

Sample ID: PERCHLORATE3
Date Acquired: 4/28/2021 6:34:56 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_046.lcd
Vial: 24 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | M | 2.844 | 4495 | 51553 | 1 | 0.74640 | ng/mL | 0.7000 | 31.37 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.845 | 51553 | 51553 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

Perchlorate

Conc 0.74640
R#1 31.37 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000

# Insight Report

Printed at 4/29/2021 1:28:28 PM

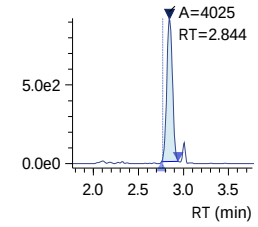
## 20210428_046

Sample ID: PERCHLORATE3
Date Acquired: 4/28/2021 6:34:56 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_046.lcd
Vial: 24 | Inj. Volume: 25.0000uL | Tray: 1

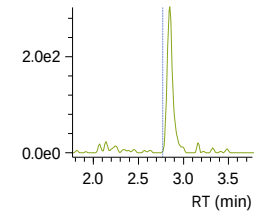
Perchlorate

Conc 0.67532
R#1 31.38 (0.00)

Q 99.00>83.00 (-) 9.24e2



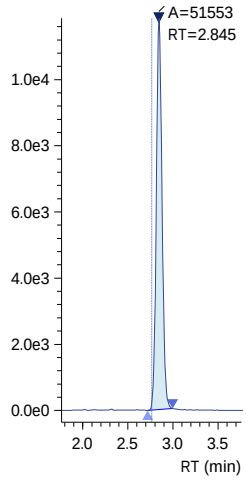

R1 101.00>85.00 (-) 3.03e2




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.19e4



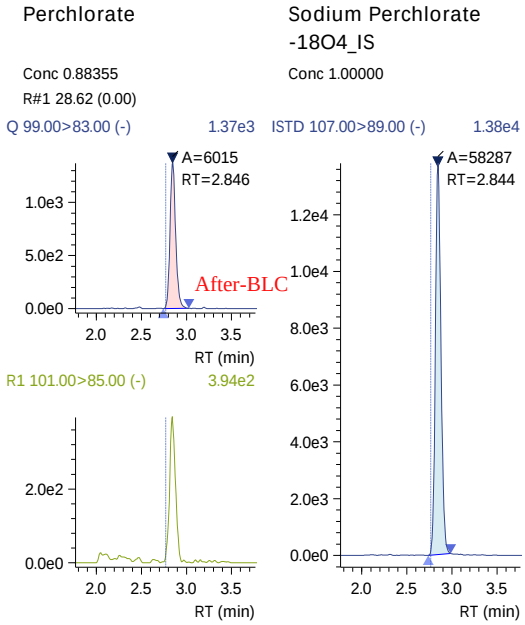
# Insight Report

Printed at 4/29/2021 1:26:51 PM

## 20210428_047

Sample ID: PERCHLORATE4
Date Acquired: 4/28/2021 6:44:22 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_047.lcd
Vial: 25 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | M | 2.846 | 6015 | 58287 | 1 | 0.88355 | ng/mL | 1.0000 | 28.62 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.844 | 58287 | 58287 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |



# Insight Report

Printed at 4/29/2021 1:28:28 PM

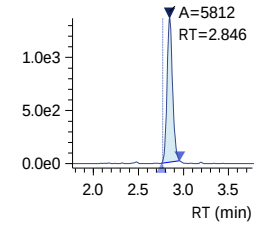
## 20210428_047

Sample ID: PERCHLORATE4
Date Acquired: 4/28/2021 6:44:22 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_047.lcd
Vial: 25 | Inj. Volume: 25.0000uL | Tray: 1

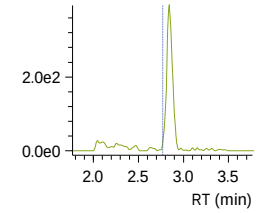
Perchlorate

Conc 0.86245
R#1 28.86 (0.00)

Q 99.00>83.00 (-) 1.37e3



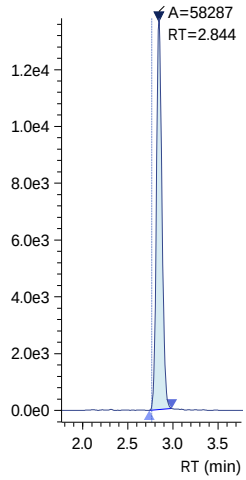

R1 101.00>85.00 (-) 3.94e2




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.38e4



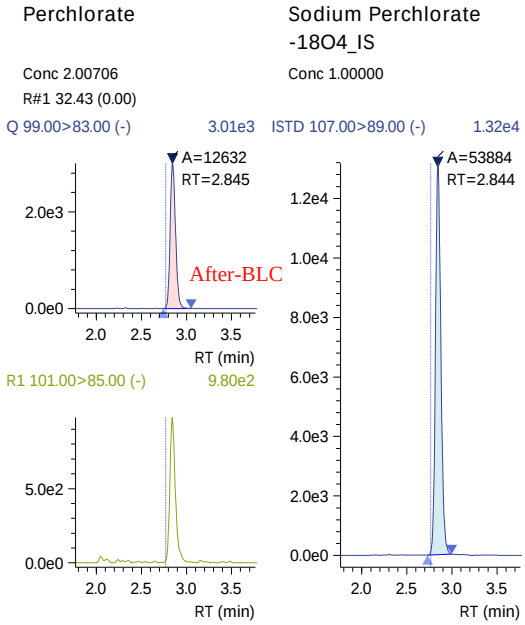
# Insight Report

Printed at 4/29/2021 1:26:51 PM

## 20210428_048

Sample ID: PERCHLORATE5
Date Acquired: 4/28/2021 6:53:45 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_048.lcd
Vial: 26 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | M | 2.845 | 12632 | 53884 | 1 | 2.00706 | ng/mL | 2.0000 | 32.43 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.844 | 53884 | 53884 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |



# Insight Report



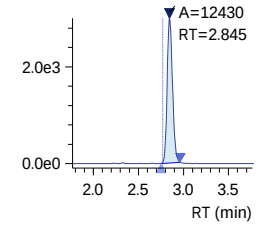
## 20210428_048

Sample ID: PERCHLORATE5
Date Acquired: 4/28/2021 6:53:45 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_048.lcd
Vial: 26 | Inj. Volume: 25.0000uL | Tray: 1

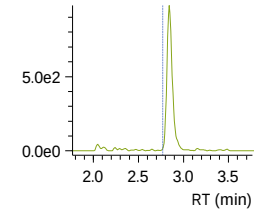
Perchlorate

Conc 1.99532
R#1 32.28 (0.00)

Q 99.00>83.00 (-) 3.01e3



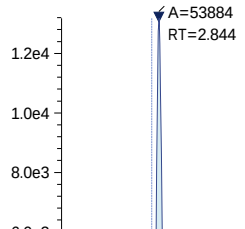

R1 101.00>85.00 (-) 9.80e2




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.32e4



# Insight Report

Printed at 4/29/2021 1:26:51 PM

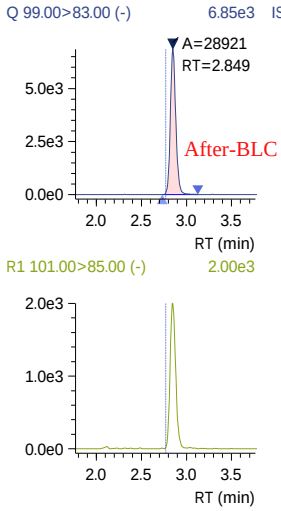
## 20210428_049

Sample ID: PERCHLORATE6
Date Acquired: 4/28/2021 7:03:12 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_049.lcd
Vial: 27 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | M | 2.849 | 28921 | 51456 | 1 | 4.81188 | ng/mL | 5.0000 | 30.04 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.846 | 51456 | 51456 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

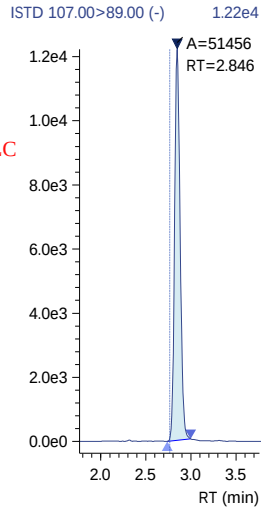
Perchlorate

Conc 4.81188
R#1 30.04 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report



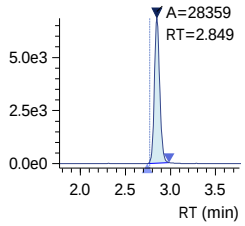
## 20210428_049

Sample ID: PERCHLORATE6
Date Acquired: 4/28/2021 7:03:12 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_049.lcd
Vial: 27 | Inj. Volume: 25.0000uL | Tray: 1

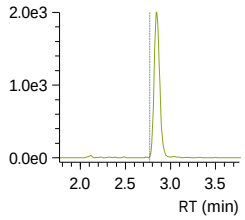
Perchlorate

Conc 4.76710
R#1 30.13 (0.00)

Q 99.00>83.00 (-) 6.85e3



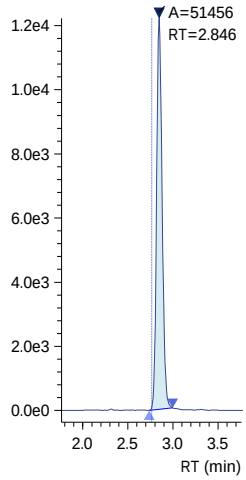

R1 101.00>85.00 (-) 2.00e3




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.22e4



# Insight Report

Printed at 4/29/2021 1:26:51 PM

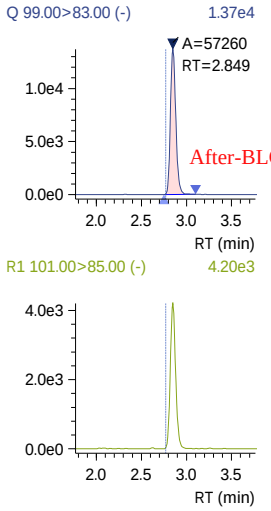
## 20210428_050

Sample ID: PERCHLORATE7
Date Acquired: 4/28/2021 7:12:36 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_050.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | M | 2.849 | 57260 | 50051 | 1 | 9.79458 | ng/mL | 10.0000 | 30.74 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.848 | 50051 | 50051 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

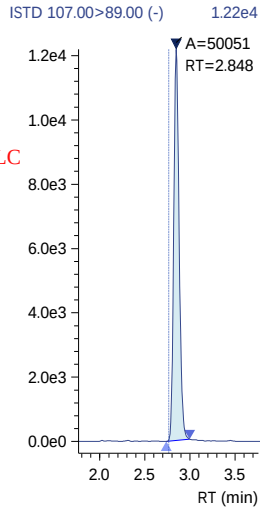
Perchlorate

Conc 9.79458
R#1 30.74 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report



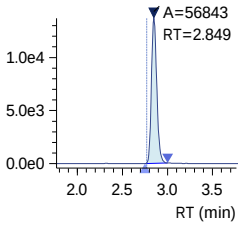
## 20210428_050

Sample ID: PERCHLORATE7
Date Acquired: 4/28/2021 7:12:36 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_050.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

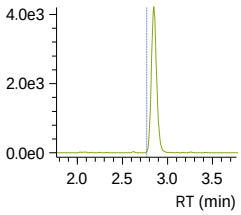
Perchlorate

Conc 9.82335
R#1 30.77 (0.00)

Q 99.00>83.00 (-) 1.37e4



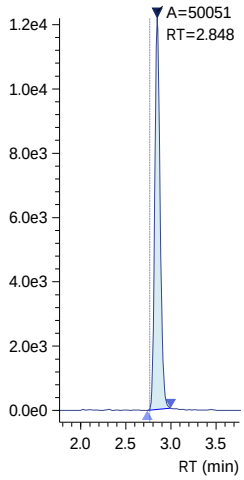

R1 101.00>85.00 (-) 4.20e3




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.22e4



# Insight Report

Printed at 4/29/2021 1:26:51 PM

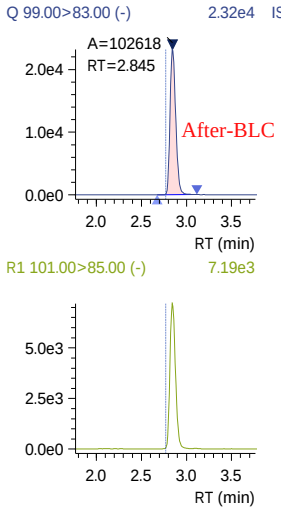
## 20210428_051

Sample ID: PERCHLORATE8
Date Acquired: 4/28/2021 7:22:01 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_051.lcd
Vial: 28 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | M | 2.845 | 102618 | 52128 | 1 | 16.85388 | ng/mL | 20.0000 | 30.96 |
| Sodium Perchlorate-18O4_IS | Auto | 2.844 | 52128 | 52128 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

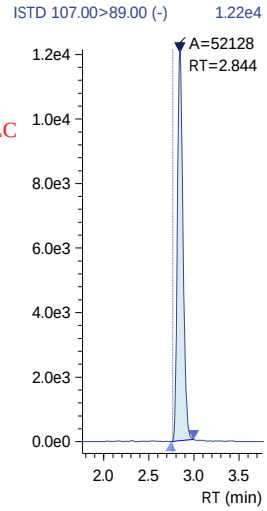
Perchlorate

Conc 16.85388
R#1 30.96 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report



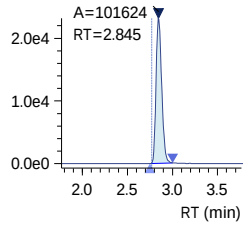
## 20210428_051

Sample ID: PERCHLORATE8
Date Acquired: 4/28/2021 7:22:01 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_051.lcd
Vial: 28 | Inj. Volume: 25.0000uL | Tray: 1

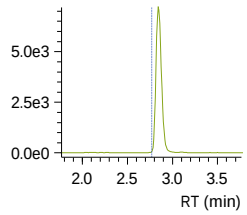
Perchlorate

Conc 16.86268
R#1 30.97 (0.00)

Q 99.00>83.00 (-) 2.32e4



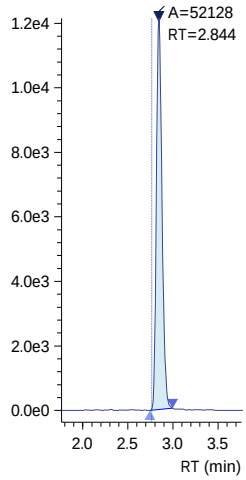

R1 101.00>85.00 (-) 7.19e3




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.22e4



# Insight Report

Printed at 4/29/2021 1:26:51 PM

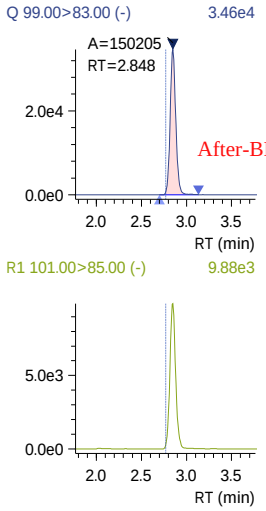
## 20210428_052

Sample ID: PERCHLORATE9
Date Acquired: 4/28/2021 7:31:24 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_052.lcd
Vial: 29 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | M | 2.848 | 150205 | 48780 | 1 | 26.36258 | ng/mL | 30.0000 | 29.04 |
| Sodium Perchlorate-18O4_IS | Auto | 2.846 | 48780 | 48780 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

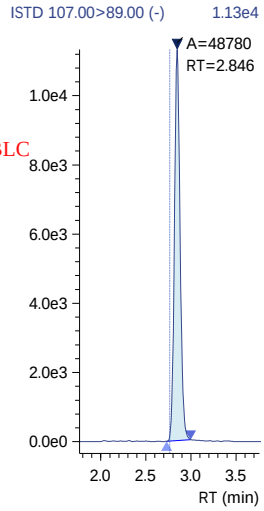
Perchlorate

Conc 26.36258
R#1 29.04 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report



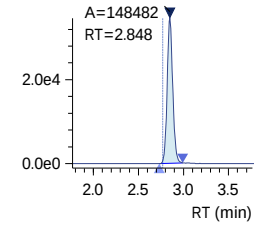
## 20210428_052

Sample ID: PERCHLORATE9
Date Acquired: 4/28/2021 7:31:24 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_052.lcd
Vial: 29 | Inj. Volume: 25.0000uL | Tray: 1

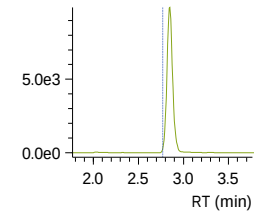
Perchlorate

Conc 26.32873
R#1 29.04 (0.00)

Q 99.00>83.00 (-) 3.46e4



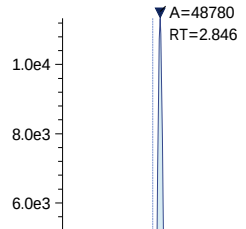

R1 101.00>85.00 (-) 9.88e3




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.13e4



# Insight Report

Printed at 4/29/2021 1:26:51 PM

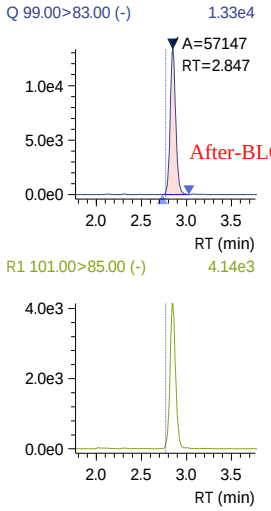
## 20210428_054

Sample ID: PERCHLORATEICV
Date Acquired: 4/28/2021 7:50:10 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_054.lcd
Vial: 31 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | M | 2.847 | 57147 | 51740 | 1 | 9.45615 | ng/mL | 10.0000 | 31.56 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.847 | 51740 | 51740 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

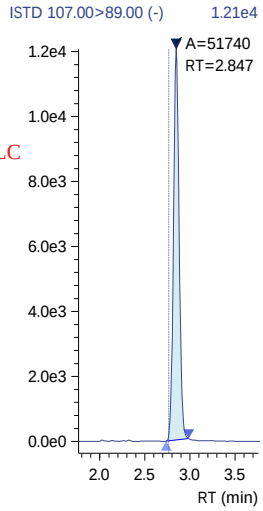
Perchlorate

Conc 9.45615
R#1 31.56 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report



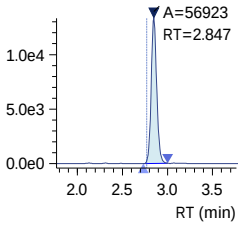
## 20210428_054

Sample ID: PERCHLORATEICV
Date Acquired: 4/28/2021 7:50:10 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_054.lcd
Vial: 31 | Inj. Volume: 25.0000uL | Tray: 1

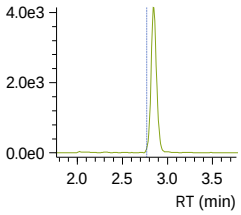
Perchlorate

Conc 9.51618
R#1 31.56 (0.00)

Q 99.00>83.00 (-) 1.33e4



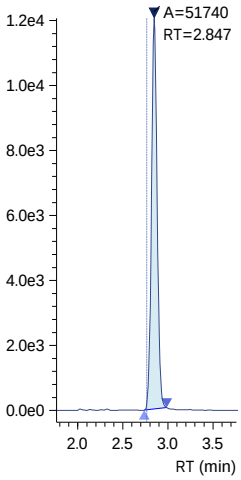

R1 101.00>85.00 (-) 4.14e3




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.21e4



# 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

**20210430**

**1st Review:** Grivera
**2nd Review:** Kneir

ALS Environmental

**Injection Log**
**LCMS01 -Shimadzu 8050**

**ICAL Date:** 4/28/2021
**Cal. Std. xp:** 5/20/2021
**ICAL ID:** **EC2100026**

**Mobile Phases** **A:** 0.75% Formic Acid/Water 3100809-07 **B:** MeOH 216350

| | | | File Name | Acquisition Method | Dilution | R | Comments | Date/Time |
|---|---|---|---|---|---|---|---|---|
| 1 | null | | 20210430_001 | Perchlorate6850b.lcm | 1x | ☒ | | 4/30/2021 13:53 |
| 2 | null | | 20210430_002 | Perchlorate6850b.lcm | 1x | ☒ | | 4/30/2021 14:04 |
| 3 | IB | | 20210430_003 | Perchlorate6850b.lcm | 1x | ☒ | | 4/30/2021 14:11 |
| 4 | IB | | 20210430_004 | Perchlorate6850b.lcm | 1x | ☒ | | 4/30/2021 14:21 |
| 5 | ICS | | 20210430_005 | Perchlorate6850b.lcm | 1x | ☒ | | 4/30/2021 14:30 |
| 6 | LODV | | 20210430_006 | Perchlorate6850b.lcm | 1x | ☒ | | 4/30/2021 14:39 |
| 7 | PERCHLORATE7 | | 20210430_007 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/30/2021 14:49 |
| 8 | EQ2100261-01 | | 20210430_008 | Perchlorate6850b.lcm | 1x | ☒ | | 4/30/2021 15:04 |
| 9 | EQ2100261-02 | | 20210430_009 | Perchlorate6850b.lcm | 1x | ☒ | | 4/30/2021 15:13 |
| 10 | EQ2100261-03 | | 20210430_010 | Perchlorate6850b.lcm | 1x | ☒ | | 4/30/2021 15:23 |
| 11 | EQ2100261-04 | | 20210430_011 | Perchlorate6850b.lcm | 1x | ☒ | | 4/30/2021 15:32 |
| 12 | EQ2100261-05 | | 20210430_012 | Perchlorate6850b.lcm | 1x | ☒ | | 4/30/2021 15:42 |
| 13 | E2100458-001 | | 20210430_013 | Perchlorate6850b.lcm | 1x | ☒ | | 4/30/2021 15:51 |
| 14 | E2100459-001DNU | | 20210430_014 | Perchlorate6850b.lcm | 1x | ☒ | DNU:INST failed | 4/30/2021 16:00 |
| 15 | E2100459-002DNU | | 20210430_015 | Perchlorate6850b.lcm | 1x | ☒ | DNU:INST failed | 4/30/2021 16:10 |
| 16 | E2100459-003 | | 20210430_016 | Perchlorate6850b.lcm | 1x | ☒ | | 4/30/2021 16:19 |
| 17 | E2100459-004 | | 20210430_017 | Perchlorate6850b.lcm | 1x | ☒ | | 4/30/2021 16:29 |
| 18 | PERCHLORATE7 | | 20210430_018 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/30/2021 16:38 |
| 19 | E2100459-005 | | 20210430_019 | Perchlorate6850b.lcm | 1x | ☒ | | 4/30/2021 16:47 |
| 20 | E2100459-006 | | 20210430_020 | Perchlorate6850b.lcm | 1x | ☒ | | 4/30/2021 16:57 |
| 21 | E2100459-007DNU | | 20210430_021 | Perchlorate6850b.lcm | 1x | ☒ | DNU:Over Ical Range | 4/30/2021 17:06 |
| 22 | E2100459-008DNU | | 20210430_022 | Perchlorate6850b.lcm | 1x | ☒ | DNU:Over Ical Range | 4/30/2021 17:16 |
| 23 | E2100459-009 | | 20210430_023 | Perchlorate6850b.lcm | 1x | ☒ | | 4/30/2021 17:25 |
| 24 | E2100459-010-DNU | | 20210430_024 | Perchlorate6850b.lcm | 1x | ☒ | DNU-INST failed | 4/30/2021 17:34 |
| 25 | E2100486-001 | | 20210430_025 | Perchlorate6850b.lcm | 1x | ☒ | | 4/30/2021 17:44 |
| 26 | E2100486-002 | | 20210430_026 | Perchlorate6850b.lcm | 1x | ☒ | | 4/30/2021 17:53 |
| 27 | E2100486-003 | | 20210430_027 | Perchlorate6850b.lcm | 1x | ☒ | | 4/30/2021 18:02 |
| 28 | PERCHLORATE7 | | 20210430_028 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/30/2021 18:12 |
| 29 | E2100486-004 | | 20210430_029 | Perchlorate6850b.lcm | 1x | ☒ | | 4/30/2021 18:21 |
| 30 | E2100486-005 | | 20210430_030 | Perchlorate6850b.lcm | 1x | ☒ | | 4/30/2021 18:31 |
| 31 | E2100486-006 | | 20210430_031 | Perchlorate6850b.lcm | 1x | ☒ | | 4/30/2021 18:40 |
| 32 | E2100486-007 | | 20210430_032 | Perchlorate6850b.lcm | 1x | ☒ | | 4/30/2021 18:49 |
| 33 | PERCHLORATE7 | | 20210430_033 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/30/2021 18:59 |
| 34 | EQ2100262-01 | | 20210430_034 | Perchlorate6850b.lcm | 1x | ☒ | | 4/30/2021 19:08 |
| 35 | EQ2100262-02 | | 20210430_035 | Perchlorate6850b.lcm | 1x | ☒ | | 4/30/2021 19:18 |
| 36 | EQ2100262-03 | | 20210430_036 | Perchlorate6850b.lcm | 1x | ☒ | | 4/30/2021 19:27 |
| 37 | EQ2100262-04DNU | | 20210430_037 | Perchlorate6850b.lcm | 1x | ☒ | DNU-INST failed | 4/30/2021 19:36 |
| 38 | EQ2100262-05DNU | | 20210430_038 | Perchlorate6850b.lcm | 1x | ☒ | DNU-INST failed | 4/30/2021 19:46 |
| 39 | E2100460-001 | | 20210430_039 | Perchlorate6850b.lcm | 1x | ☒ | | 4/30/2021 19:55 |
| 40 | E2100460-002 | | 20210430_040 | Perchlorate6850b.lcm | 1x | ☒ | | 4/30/2021 20:05 |
| 41 | E2100460-003 | | 20210430_041 | Perchlorate6850b.lcm | 1x | ☒ | | 4/30/2021 20:14 |
| 42 | E2100460-004 | | 20210430_042 | Perchlorate6850b.lcm | 1x | ☒ | | 4/30/2021 20:23 |
| 43 | E2100460-005 | | 20210430_043 | Perchlorate6850b.lcm | 1x | ☒ | | 4/30/2021 20:33 |
| 44 | PERCHLORATE7 | | 20210430_044 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/30/2021 20:42 |
| 45 | E2100460-006DNU | | 20210430_045 | Perchlorate6850b.lcm | 1x | ☒ | DNU-INST failed | 4/30/2021 20:52 |
| 46 | E2100460-007DNU | | 20210430_046 | Perchlorate6850b.lcm | 1x | ☒ | DNU-INST failed | 4/30/2021 21:01 |
| 47 | E2100460-008 | | 20210430_047 | Perchlorate6850b.lcm | 1x | ☒ | | 4/30/2021 21:10 |
| 48 | E2100461-001DNU | | 20210430_048 | Perchlorate6850b.lcm | 1x | ☒ | DNU-INST failed | 4/30/2021 21:20 |
| 49 | E2100461-002DNU | | 20210430_049 | Perchlorate6850b.lcm | 1x | ☒ | DNU-INST failed | 4/30/2021 21:29 |
| 50 | E2100461-003DNU | | 20210430_050 | Perchlorate6850b.lcm | 1x | ☒ | DNU-INST failed | 4/30/2021 21:38 |
| 51 | E2100461-004DNU | | 20210430_051 | Perchlorate6850b.lcm | 1x | ☒ | DNU-INST failed | 4/30/2021 21:48 |
| 52 | E2100464-001DNU | | 20210430_052 | Perchlorate6850b.lcm | 1x | ☒ | DNU-Over Ical Range | 4/30/2021 21:57 |
| 53 | E2100464-002 | | 20210430_053 | Perchlorate6850b.lcm | 1x | ☒ | | 4/30/2021 22:07 |
| 54 | E2100464-003DNU | | 20210430_054 | Perchlorate6850b.lcm | 1x | ☒ | DNU-INST failed | 4/30/2021 22:16 |
| 55 | PERCHLORATE7 | | 20210430_055 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/30/2021 22:25 |
| 56 | E2100464-004DNU | | 20210430_056 | Perchlorate6850b.lcm | 1x | ☒ | DNU-INST failed | 4/30/2021 22:35 |
| 57 | E2100464-005DNU | | 20210430_057 | Perchlorate6850b.lcm | 1x | ☒ | DNU-INST failed | 4/30/2021 22:44 |
| 58 | E2100464-006 | | 20210430_058 | Perchlorate6850b.lcm | 1x | ☒ | | 4/30/2021 22:53 |
| 59 | PERCHLORATE7 | | 20210430_059 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/30/2021 23:03 |
| 60 | | | | | | | | |

**ALS Group USA, Corp. dba ALS Environmental**

QA/QC Report

**Client:** ALS Environmental - US
**Project:** HS21041083

**Service Request:** E2100458
**Date Analyzed:** 4/30/21

## 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\20210430\20210430_007

**Calibration Date:** 4/28/21
**Calibration ID:** EC2100026
**Analysis Lot:** 722059
**Units:** ng/mL

| Analyte Name | Expected | Result | Average RF | CCV RF | %D | %Drift | Criteria | Curve Fit |
|---|---|---|---|---|---|---|---|---|
| Perchlorate | 10.0 | 9.34 | 0.1168 | 0.1091 | -6.6 | NA | ± 15 % | Average RF |

**ALS Group USA, Corp. dba ALS Environmental**

QA/QC Report

**Client:** ALS Environmental - US
**Project:** HS21041083

**Service Request:** E2100458
**Date Analyzed:** 4/30/21

## 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\20210430\20210430_018

**Calibration Date:** 4/28/21
**Calibration ID:** EC2100026
**Analysis Lot:** 722059
**Units:** ng/mL

| Analyte Name | Expected | Result | Average RF | CCV RF | %D | %Drift | Criteria | Curve Fit |
|---|---|---|---|---|---|---|---|---|
| Perchlorate | 10.0 | 9.85 | 0.1168 | 0.1151 | -1.5 | NA | ± 15 % | Average RF |

**ALS Group USA, Corp. dba ALS Environmental**

QA/QC Report

**Client:** ALS Environmental - US
**Project:** HS21041083

**Service Request:** E2100458
**Date Analyzed:** 4/30/21

## 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\20210430\20210430_028

**Calibration Date:** 4/28/21
**Calibration ID:** EC2100026
**Analysis Lot:** 722059
**Units:** ng/mL

| Analyte Name | Expected | Result | Average RF | CCV RF | %D | %Drift | Criteria | Curve Fit |
|---|---|---|---|---|---|---|---|---|
| Perchlorate | 10.0 | 9.92 | 0.1168 | 0.1158 | -0.9 | NA | ± 15 % | Average RF |

**ALS Group USA, Corp. dba ALS Environmental**

QA/QC Report

**Client:** ALS Environmental - US
**Project:** HS21041083

**Service Request:** E2100458
**Date Analyzed:** 4/30/21

## 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\20210430\20210430_033

**Calibration Date:** 4/28/21
**Calibration ID:** EC2100026
**Analysis Lot:** 722059
**Units:** ng/mL

| Analyte Name | Expected | Result | Average RF | CCV RF | %D | %Drift | Criteria | Curve Fit |
|---|---|---|---|---|---|---|---|---|
| Perchlorate | 10.0 | 9.83 | 0.1168 | 0.1149 | -1.7 | NA | ± 15 % | Average RF |

**ALS Group USA, Corp. dba ALS Environmental**

QA/QC Report

| | | | |
|---|---|---|---|
| **Client:** | ALS Environmental - US | **Service Request:** | E2100458 |
| **Project:** | HS21041083 | **Date Analyzed:** | 4/30/21 14:49 |

**Internal Standard Area and RT Summary**

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

| | | | |
|---|---|---|---|
| **File ID:** | I:\LCMS01\DATA\20210430\20210430_007 | **Lab Code:** | EQ2100269-01 |
| **Instrument ID:** | E-LCMS-01 | **Analysis Lot:** | 722059 |
| **Analytical Method:** | 6850 | **Signal ID:** | 1 |

| | | Sodium Perchlorate-18O4 | |
|---|---|---|---|
| | | **Area** | **RT** |
| | **ICAL Average ==>** | 52,454 | 2.85 |
| | **Upper Limit ==>** | 78,681 | 4.85 |
| | **Lower Limit ==>** | 26,227 | 0.85 |
| ***Associated Analyses*** | | | |
| Continuing Calibration Verification | EQ2100269-01 | 56,664 | 2.85 |
| Method Blank | EQ2100261-01 | 51,594 | 2.71 |
| Lab Control Sample | EQ2100261-02 | 54,515 | 2.85 |
| Duplicate Lab Control Sample | EQ2100261-03 | 53,357 | 2.84 |
| LH18/24-SP650_042021_BIX | E2100458-001 | 63,248 | 2.83 |

**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:** | E2100458 |
| **Project:** | HS21041083 | **Date Analyzed:** | 4/30/21 16:38 |

**Internal Standard Area and RT Summary**
**Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry**

| | | | |
|---|---|---|---|
| **File ID:** | I:\LCMS01\DATA\20210430\20210430_018 | **Lab Code:** | EQ2100269-02 |
| **Instrument ID:** | E-LCMS-01 | **Analysis Lot:** | 722059 |
| **Analytical Method:** | 6850 | **Signal ID:** | 1 |

| | | Sodium Perchlorate-18O4 | |
|---|---|---|---|
| | | **Area** | **RT** |
| | **ICAL Average ==>** | 52,454 | 2.85 |
| | **Upper Limit ==>** | 78,681 | 4.85 |
| | **Lower Limit ==>** | 26,227 | 0.85 |
| ***Associated Analyses*** | | | |
| Continuing Calibration Verification | EQ2100269-02 | 48,870 | 2.84 |

**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:** | E2100458 |
| **Project:** | HS21041083 | **Date Analyzed:** | 4/30/21 18:12 |

**Internal Standard Area and RT Summary**

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

| | | | |
|---|---|---|---|
| **File ID:** | I:\LCMS01\DATA\20210430\20210430_028 | **Lab Code:** | EQ2100269-03 |
| **Instrument ID:** | E-LCMS-01 | **Analysis Lot:** | 722059 |
| **Analytical Method:** | 6850 | **Signal ID:** | 1 |

| | | Sodium Perchlorate-18O4 | |
|---|---|---|---|
| | | **Area** | **RT** |
| | **ICAL Average ==>** | 52,454 | 2.85 |
| | **Upper Limit ==>** | 78,681 | 4.85 |
| | **Lower Limit ==>** | 26,227 | 0.85 |
| ***Associated Analyses*** | | | |
| Continuing Calibration Verification | EQ2100269-03 | 49,766 | 2.84 |

**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:** | E2100458 |
| **Project:** | HS21041083 | **Date Analyzed:** | 4/30/21 18:59 |

**Internal Standard Area and RT Summary**
**Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry**

| | | | |
|---|---|---|---|
| **File ID:** | I:\LCMS01\DATA\20210430\20210430_033 | **Lab Code:** | EQ2100269-04 |
| **Instrument ID:** | E-LCMS-01 | **Analysis Lot:** | 722059 |
| **Analytical Method:** | 6850 | **Signal ID:** | 1 |

| | | Sodium Perchlorate-18O4 | |
|---|---|---|---|
| | | **Area** | **RT** |
| | **ICAL Average ==>** | 52,454 | 2.85 |
| | **Upper Limit ==>** | 78,681 | 4.85 |
| | **Lower Limit ==>** | 26,227 | 0.85 |
| ***Associated Analyses*** | | | |
| Continuing Calibration Verification | EQ2100269-04 | 52,539 | 2.84 |

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

# Insight Report

Printed at 5/3/2021 9:29:52 AM

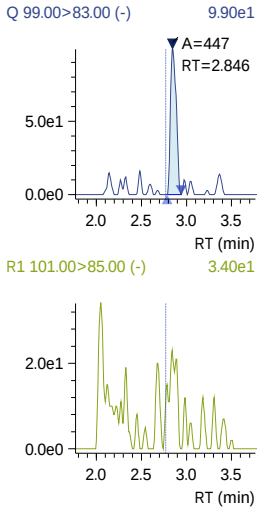
## 20210430_006

Sample ID: LODV
Date Acquired: 4/30/2021 2:39:54 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\20210430_006.lcd
Vial: 20 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.846 | 447 | 64733 | 1 | 0.05905 | ng/mL | ---- | 12.12 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.845 | 64733 | 64733 | 1 | 1.00000 | ng/mL | ---- | ---- |

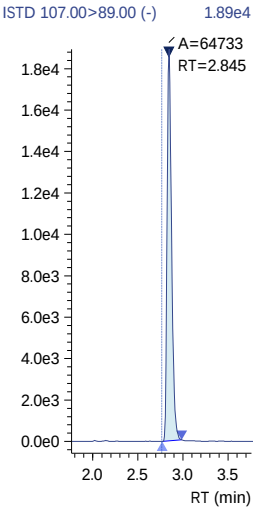
Perchlorate

Conc 0.05905
R#1 12.12 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report

Printed at 5/3/2021 9:31:38 AM

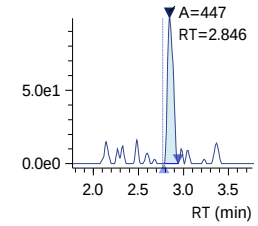
## 20210430_006

Sample ID: LODV
Date Acquired: 4/30/2021 2:39:54 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\Before\20210430_006.lcd
Vial: 20 | Inj. Volume: 25.0000uL | Tray: 1

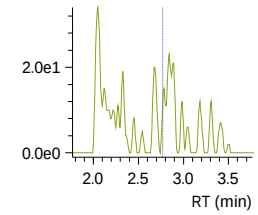
Perchlorate

Conc 0.05905
R#1 12.12 (0.00)

Q 99.00>83.00 (-) 9.90e1



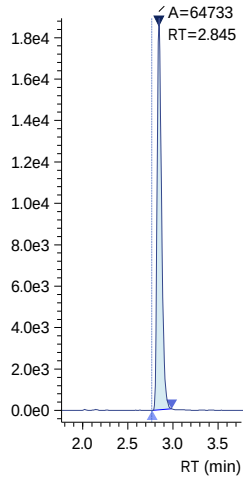

R1 101.00>85.00 (-) 3.40e1




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.89e4



# Insight Report

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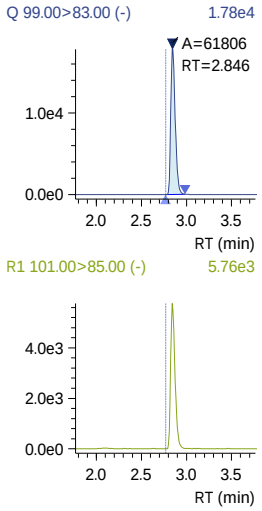
## 20210430_007

Sample ID: PERCHLORATE7
Date Acquired: 4/30/2021 2:49:18 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\20210430_007.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.846 | 61806 | 56664 | 1 | 9.33832 | ng/mL | 10.0000 | 32.34 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.845 | 56664 | 56664 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

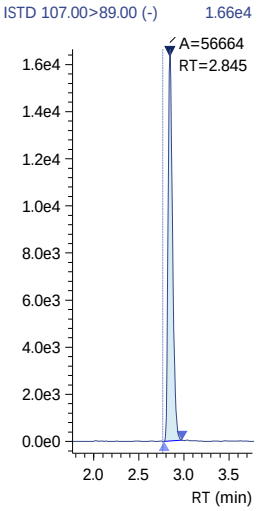
Perchlorate

Conc 9.33832
R#1 32.34 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report

Printed at 5/3/2021 9:31:38 AM

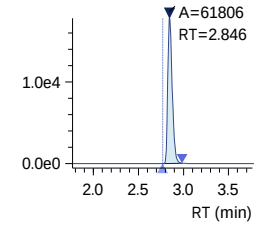
## 20210430_007

Sample ID: PERCHLORATE7
Date Acquired: 4/30/2021 2:49:18 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\Before\20210430_007.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

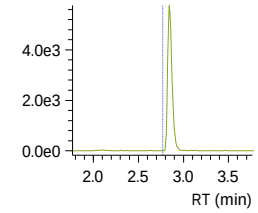
Perchlorate

Conc 9.33832
R#1 32.34 (0.00)

Q 99.00>83.00 (-) 1.78e4



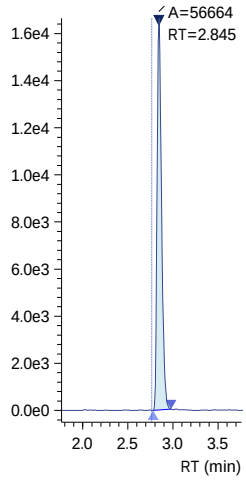

R1 101.00>85.00 (-) 5.76e3




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.66e4



# Insight Report

Printed at 5/3/2021 9:29:52 AM

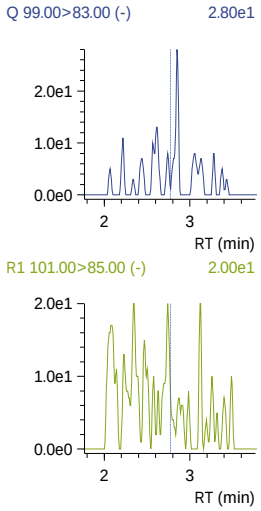
## 20210430_008

Sample ID: EQ2100261-01
Date Acquired: 4/30/2021 3:04:24 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\20210430_008.lcd
Vial: 16 | Inj. Volume: 25.0000uL | Tray: 2

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | ND(W/B) | ---- | ---- | 51594 | 1 | ---- | ng/mL | ---- | ---- |
| Sodium Perchlorate-18O4_IS | Auto | 2.707 | 51594 | 51594 | 1 | 1.00000 | ng/mL | ---- | ---- |

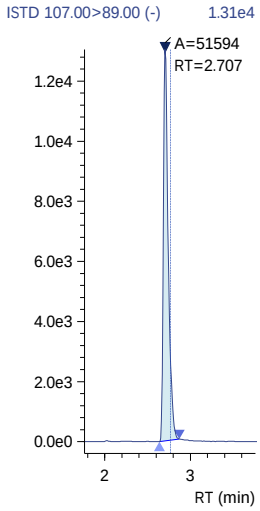
Perchlorate

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




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report



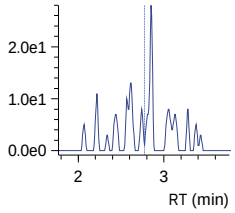
## 20210430_008

Sample ID: EQ2100261-01
Date Acquired: 4/30/2021 3:04:24 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\Before\20210430_008.lcd
Vial: 16 | Inj. Volume: 25.0000uL | Tray: 2

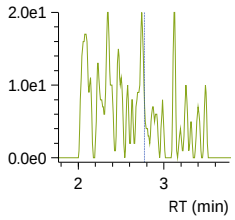
Perchlorate

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

Q 99.00>83.00 (-) 2.80e1



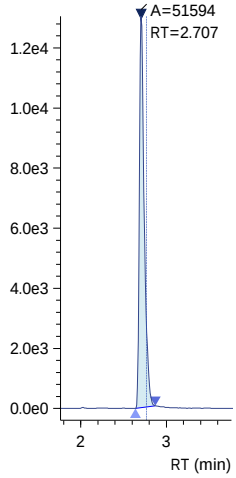

R1 101.00>85.00 (-) 2.00e1




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.31e4



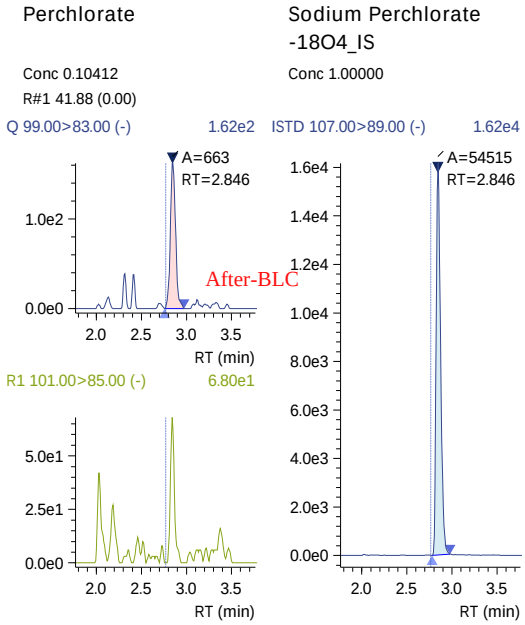
# Insight Report

Printed at 5/3/2021 9:29:52 AM

## 20210430_009

Sample ID: EQ2100261-02
Date Acquired: 4/30/2021 3:13:49 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\20210430_009.lcd
Vial: 17 | Inj. Volume: 25.0000uL | Tray: 2

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | M | 2.846 | 663 | 54515 | 1 | 0.10412 | ng/mL | ---- | 41.88 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.846 | 54515 | 54515 | 1 | 1.00000 | ng/mL | ---- | ---- |



# Insight Report

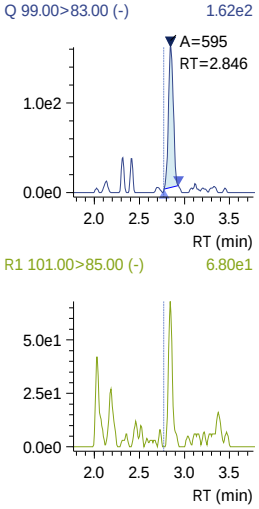
Printed at 5/3/2021 9:31:38 AM

## 20210430_009

Sample ID: EQ2100261-02
Date Acquired: 4/30/2021 3:13:49 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\Before\20210430_009.lcd
Vial: 17 | Inj. Volume: 25.0000uL | Tray: 2

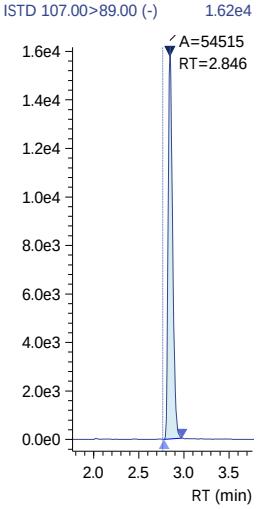
Perchlorate

Conc 0.09344
R#1 43.51 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report

Printed at 5/3/2021 9:29:52 AM

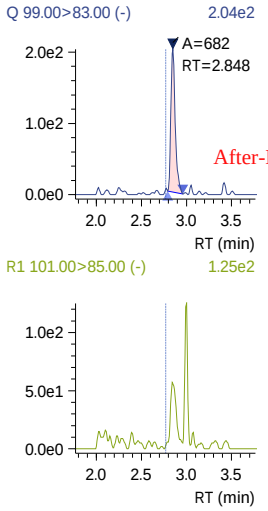
## 20210430_010

Sample ID: EQ2100261-03
Date Acquired: 4/30/2021 3:23:13 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\20210430_010.lcd
Vial: 18 | Inj. Volume: 25.0000uL | Tray: 2

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | M | 2.848 | 682 | 53357 | 1 | 0.10935 | ng/mL | ---- | 26.04 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.844 | 53357 | 53357 | 1 | 1.00000 | ng/mL | ---- | ---- |

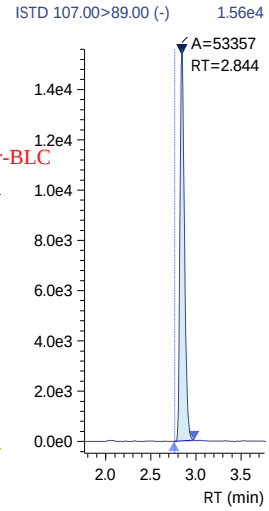
Perchlorate

Conc 0.10935
R#1 26.04 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report

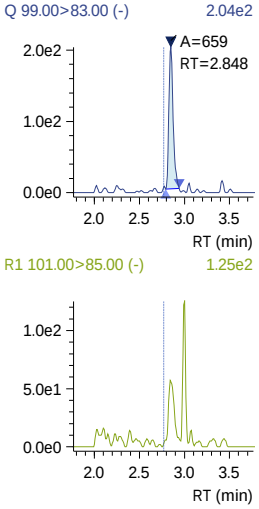
Printed at 5/3/2021 9:31:38 AM

## 20210430_010

Sample ID: EQ2100261-03
Date Acquired: 4/30/2021 3:23:13 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\Before\20210430_010.lcd
Vial: 18 | Inj. Volume: 25.0000uL | Tray: 2

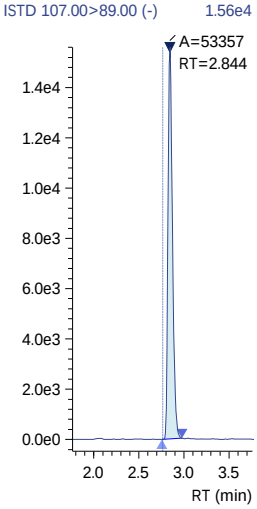
Perchlorate

Conc 0.10570
R#1 25.65 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report

Printed at 5/3/2021 9:29:52 AM

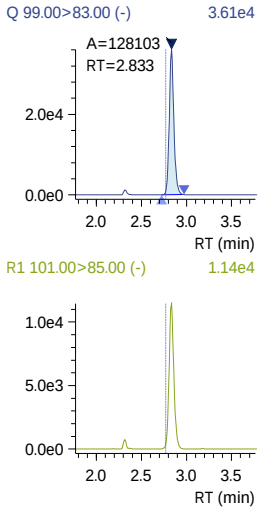
## 20210430_013

Sample ID: E2100458-001
Date Acquired: 4/30/2021 3:51:25 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\20210430_013.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 2

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.833 | 128103 | 63248 | 1 | 17.34028 | ng/mL | ---- | 31.74 |
| Sodium Perchlorate-18O4_IS | Auto | 2.832 | 63248 | 63248 | 1 | 1.00000 | ng/mL | ---- | ---- |

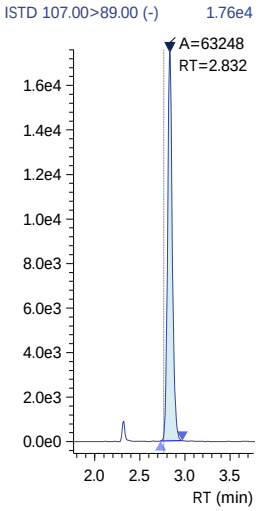
Perchlorate

Conc 17.34028
R#1 31.74 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report



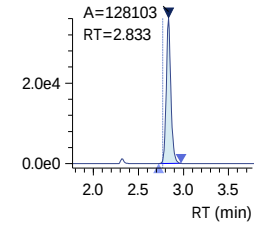
## 20210430_013

Sample ID: E2100458-001
Date Acquired: 4/30/2021 3:51:25 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\Before\20210430_013.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 2

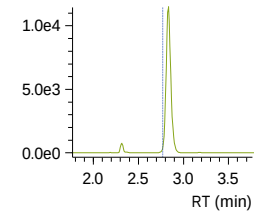
Perchlorate

Conc 17.34028
R#1 31.74 (0.00)

Q 99.00>83.00 (-) 3.61e4



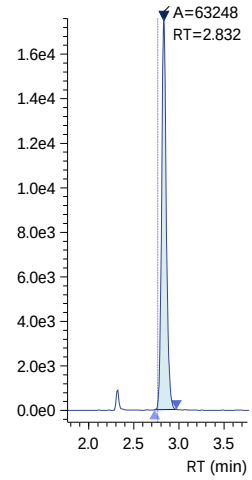

R1 101.00>85.00 (-) 1.14e4




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.76e4



# Insight Report

Printed at 5/3/2021 9:29:52 AM

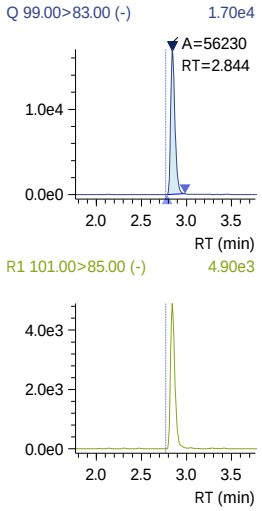
## 20210430_018

Sample ID: PERCHLORATE7
Date Acquired: 4/30/2021 4:38:26 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\20210430_018.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.844 | 56230 | 48870 | 1 | 9.85065 | ng/mL | 10.0000 | 28.81 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.844 | 48870 | 48870 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

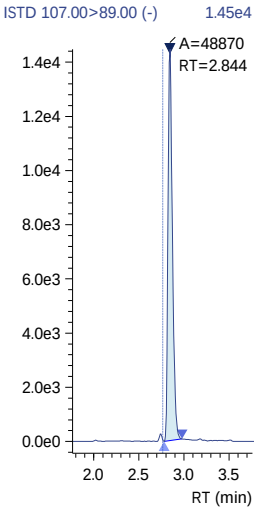
Perchlorate

Conc 9.85065
R#1 28.81 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report

Printed at 5/3/2021 9:31:38 AM

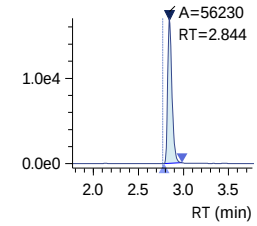
## 20210430_018

Sample ID: PERCHLORATE7
Date Acquired: 4/30/2021 4:38:26 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\Before\20210430_018.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

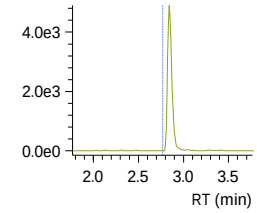
Perchlorate

Conc 9.85065
R#1 28.81 (0.00)

Q 99.00>83.00 (-) 1.70e4



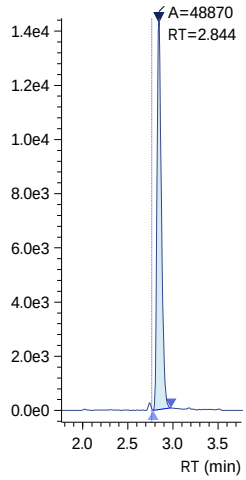

R1 101.00>85.00 (-) 4.90e3




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.45e4



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# WorkOrder: HS21041086

## Longhorn GW Treatment Plant Bi Weekly Samples

## Bhate Environmental Associates, Inc.

Marcia Olive
445 Union Blvd Ste 129
Lakewood CO 80228

**08-May-2021**

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# HS21041086 Longhorn GW Treatment Plant Bi Weekly Samples Final

ALS WO# HS21041086

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
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May 04, 2021

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

Work Order: **HS21041086**

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

Dear Marcia Olive,

ALS Environmental received 2 sample(s) on Apr 21, 2021 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**
RJ Modashia
Project Manager

**ALS Houston, US** Date: 04-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Bi Weekly Samples
**Work Order:** HS21041086

## SAMPLE SUMMARY

| Lab Samp ID | Client Sample ID | Matrix | TagNo | Collection Date | Date Received | Hold |
|---|---|---|---|---|---|---|
| HS21041086-01 | LH18/24-SP650_042021 | Water | | 20-Apr-2021 14:00 | 21-Apr-2021 10:40 | ☐ |
| HS21041086-02 | Trip Blank | Water | CG-121520-1076 | 20-Apr-2021 14:00 | 21-Apr-2021 10:40 | ☐ |

**ALS Houston, US** Date: 04-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Bi Weekly Samples
**Work Order:** HS21041086

**CASE NARRATIVE**

## GCMS Volatiles by Method SW8260

### Batch ID: R382131

#### Sample ID: CCV

- Dichlorodifluoromethane exceeded %D limits for CCV. Samples are ND for this compound.

## WetChemistry by Method SW9056

### Batch ID: R382840

#### Sample ID: HS21041595-02MSD

- MSD is for an unrelated sample (Chloride,Sulfate)

**ALS Houston, US** Date: 04-May-21

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Longhorn GW Treatment Plant Bi Weekly Samples WorkOrder:HS21041086
Sample ID: LH18/24-SP650_042021 Lab ID:HS21041086-01
Collection Date: 20-Apr-2021 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 | 21-Apr-2021 14:17 |
| 1,1,1-Trichloroethane | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| 1,1,2,2-Tetrachloroethane | 1.0 | U | 0.50 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| 1,1,2-Trichloroethane | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| 1,1-Dichloroethane | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| 1,1-Dichloroethene | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| 1,1-Dichloropropene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| 1,2,3-Trichlorobenzene | 1.0 | U | 0.40 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| 1,2,3-Trichloropropane | 1.0 | U | 0.50 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| 1,2,4-Trichlorobenzene | 1.0 | U | 0.50 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| 1,2,4-Trimethylbenzene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| 1,2-Dibromo-3-chloropropane | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| 1,2-Dibromoethane | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| 1,2-Dichlorobenzene | 1.0 | U | 0.50 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| 1,2-Dichloroethane | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| 1,2-Dichloropropane | 1.0 | U | 0.50 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| 1,3,5-Trimethylbenzene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| 1,3-Dichlorobenzene | 1.0 | U | 0.40 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| 1,3-Dichloropropane | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| 1,4-Dichlorobenzene | 1.0 | U | 0.40 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| 2,2-Dichloropropane | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| 2-Butanone | 1.0 | U | 0.50 | 1.0 | 2.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| 2-Chlorotoluene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| 2-Hexanone | 2.0 | U | 1.0 | 2.0 | 2.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| 4-Chlorotoluene | 1.0 | U | 0.40 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| 4-Isopropyltoluene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| 4-Methyl-2-pentanone | 2.0 | U | 0.70 | 2.0 | 2.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| Acetone | 2.0 | U | 0.40 | 2.0 | 2.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| Benzene | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| Bromobenzene | 1.0 | U | 0.40 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| Bromochloromethane | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| Bromodichloromethane | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| Bromoform | 1.0 | U | 0.40 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| Bromomethane | 1.0 | U | 0.40 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| Carbon disulfide | 2.0 | U | 0.60 | 2.0 | 2.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| Carbon tetrachloride | 1.0 | U | 0.50 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| Chlorobenzene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| Chloroethane | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| Chloroform | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 21-Apr-2021 14:17 |

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

**ALS Houston, US** Date: 04-May-21

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Longhorn GW Treatment Plant Bi Weekly Samples WorkOrder:HS21041086
Sample ID: LH18/24-SP650_042021 Lab ID:HS21041086-01
Collection Date: 20-Apr-2021 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 | 21-Apr-2021 14:17 |
| **cis-1,2-Dichloroethene** | **8.4** | | **0.20** | **0.50** | **1.0** | **ug/L** | 1 | 21-Apr-2021 14:17 |
| cis-1,3-Dichloropropene | 0.50 | U | 0.10 | 0.50 | 1.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| Dibromochloromethane | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| Dibromomethane | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| Dichlorodifluoromethane | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| Ethylbenzene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| Hexachlorobutadiene | 1.0 | U | 1.0 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| Isopropylbenzene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| m,p-Xylene | 1.0 | U | 0.50 | 1.0 | 2.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| Methylene chloride | 2.0 | U | 0.40 | 2.0 | 2.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| n-Butylbenzene | 1.0 | U | 0.40 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| n-Propylbenzene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| Naphthalene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| o-Xylene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| sec-Butylbenzene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| Styrene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| tert-Butylbenzene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| Tetrachloroethene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| Toluene | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| trans-1,2-Dichloroethene | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| trans-1,3-Dichloropropene | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| **Trichloroethene** | **2.7** | | **0.20** | **0.50** | **1.0** | **ug/L** | 1 | 21-Apr-2021 14:17 |
| Trichlorofluoromethane | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| Vinyl chloride | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 21-Apr-2021 14:17 |
| *Surr: 1,2-Dichloroethane-d4* | *99.8* | | | **0** | *81-118* | *%REC* | *1* | *21-Apr-2021 14:17* |
| *Surr: 4-Bromofluorobenzene* | *88.8* | | | **0** | *85-114* | *%REC* | *1* | *21-Apr-2021 14:17* |
| *Surr: Dibromofluoromethane* | *95.2* | | | **0** | *80-119* | *%REC* | *1* | *21-Apr-2021 14:17* |
| *Surr: Toluene-d8* | *106* | | | **0** | *89-112* | *%REC* | *1* | *21-Apr-2021 14:17* |
| **ANIONS BY SW9056A** | | **Method:SW9056** | | | | | | Analyst: YP |
| **Chloride** | **565** | | **4.00** | **10.0** | **10.0** | **mg/L** | 20 | 01-May-2021 00:07 |
| **Sulfate** | **27.7** | | **0.200** | **0.500** | **0.500** | **mg/L** | 1 | 30-Apr-2021 22:49 |

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

**ALS Houston, US** Date: 04-May-21

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Longhorn GW Treatment Plant Bi Weekly Samples WorkOrder:HS21041086
Sample ID: Trip Blank Lab ID:HS21041086-02
Collection Date: 20-Apr-2021 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 | 21-Apr-2021 13:56 |
| 1,1,1-Trichloroethane | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| 1,1,2,2-Tetrachloroethane | 1.0 | U | 0.50 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| 1,1,2-Trichloroethane | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| 1,1-Dichloroethane | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| 1,1-Dichloroethene | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| 1,1-Dichloropropene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| 1,2,3-Trichlorobenzene | 1.0 | U | 0.40 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| 1,2,3-Trichloropropane | 1.0 | U | 0.50 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| 1,2,4-Trichlorobenzene | 1.0 | U | 0.50 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| 1,2,4-Trimethylbenzene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| 1,2-Dibromo-3-chloropropane | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| 1,2-Dibromoethane | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| 1,2-Dichlorobenzene | 1.0 | U | 0.50 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| 1,2-Dichloroethane | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| 1,2-Dichloropropane | 1.0 | U | 0.50 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| 1,3,5-Trimethylbenzene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| 1,3-Dichlorobenzene | 1.0 | U | 0.40 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| 1,3-Dichloropropane | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| 1,4-Dichlorobenzene | 1.0 | U | 0.40 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| 2,2-Dichloropropane | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| 2-Butanone | 1.0 | U | 0.50 | 1.0 | 2.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| 2-Chlorotoluene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| 2-Hexanone | 2.0 | U | 1.0 | 2.0 | 2.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| 4-Chlorotoluene | 1.0 | U | 0.40 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| 4-Isopropyltoluene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| 4-Methyl-2-pentanone | 2.0 | U | 0.70 | 2.0 | 2.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| Acetone | 2.0 | U | 0.40 | 2.0 | 2.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| Benzene | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| Bromobenzene | 1.0 | U | 0.40 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| Bromochloromethane | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| Bromodichloromethane | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| Bromoform | 1.0 | U | 0.40 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| Bromomethane | 1.0 | U | 0.40 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| Carbon disulfide | 2.0 | U | 0.60 | 2.0 | 2.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| Carbon tetrachloride | 1.0 | U | 0.50 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| Chlorobenzene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| Chloroethane | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| Chloroform | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 21-Apr-2021 13:56 |

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

**ALS Houston, US** Date: 04-May-21

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Longhorn GW Treatment Plant Bi Weekly Samples WorkOrder:HS21041086
Sample ID: Trip Blank Lab ID:HS21041086-02
Collection Date: 20-Apr-2021 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 | 21-Apr-2021 13:56 |
| cis-1,2-Dichloroethene | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| cis-1,3-Dichloropropene | 0.50 | U | 0.10 | 0.50 | 1.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| Dibromochloromethane | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| Dibromomethane | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| Dichlorodifluoromethane | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| Ethylbenzene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| Hexachlorobutadiene | 1.0 | U | 1.0 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| Isopropylbenzene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| m,p-Xylene | 1.0 | U | 0.50 | 1.0 | 2.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| Methylene chloride | 2.0 | U | 0.40 | 2.0 | 2.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| n-Butylbenzene | 1.0 | U | 0.40 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| n-Propylbenzene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| Naphthalene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| o-Xylene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| sec-Butylbenzene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| Styrene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| tert-Butylbenzene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| Tetrachloroethene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| Toluene | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| trans-1,2-Dichloroethene | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| trans-1,3-Dichloropropene | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| Trichloroethene | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| Trichlorofluoromethane | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| Vinyl chloride | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 21-Apr-2021 13:56 |
| *Surr: 1,2-Dichloroethane-d4* | *99.1* | | | **0** | *81-118* | *%REC* | *1* | *21-Apr-2021 13:56* |
| *Surr: 4-Bromofluorobenzene* | *96.4* | | | **0** | *85-114* | *%REC* | *1* | *21-Apr-2021 13:56* |
| *Surr: Dibromofluoromethane* | *93.5* | | | **0** | *80-119* | *%REC* | *1* | *21-Apr-2021 13:56* |
| *Surr: Toluene-d8* | *105* | | | **0** | *89-112* | *%REC* | *1* | *21-Apr-2021 13:56* |

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

**ALS Houston, US** Date: 04-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Bi Weekly Samples
**WorkOrder:** HS21041086

**DATES REPORT**

| Sample ID | Client Samp ID | Collection Date | Leachate Date | Prep Date | Analysis Date | DF |
|---|---|---|---|---|---|---|
| **Batch ID:** R382131 ( 0 ) | **Test Name :** VOLATILES ORGANICS BY METHOD 8260C | | | | **Matrix:** Water | |
| HS21041086-01 | LH18/24-SP650_042021 | 20 Apr 2021 14:00 | | | 21 Apr 2021 14:17 | 1 |
| HS21041086-02 | Trip Blank | 20 Apr 2021 14:00 | | | 21 Apr 2021 13:56 | 1 |
| **Batch ID:** R382840 ( 0 ) | **Test Name :** ANIONS BY SW9056A | | | | **Matrix:** Water | |
| HS21041086-01 | LH18/24-SP650_042021 | 20 Apr 2021 14:00 | | | 30 Apr 2021 22:49 | 1 |
| HS21041086-01 | LH18/24-SP650_042021 | 20 Apr 2021 14:00 | | | 01 May 2021 00:07 | 20 |

**ALS Houston, US** Date: 04-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Bi Weekly Samples
**WorkOrder:** HS21041086

**QC BATCH REPORT**

**Batch ID:** R382131 ( 0 ) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

**MBLK** Sample ID: **VBLKW-210421** Units: **ug/L** Analysis Date: **21-Apr-2021 12:31**
Client ID: Run ID: **VOA6_382131** SeqNo: **6055198** 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 | 0.50 | 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: 04-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Bi Weekly Samples
**WorkOrder:** HS21041086

**QC BATCH REPORT**

**Batch ID:** R382131 ( 0 ) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

**MBLK** Sample ID: **VBLKW-210421** Units: **ug/L** Analysis Date: **21-Apr-2021 12:31**
Client ID: Run ID: **VOA6_382131** SeqNo: **6055198** 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* | *49.41* | *1.0* | *50* | *0* | *98.8* | *81 - 118* | | | | |
| *Surr: 4-Bromofluorobenzene* | *48.25* | *1.0* | *50* | *0* | *96.5* | *85 - 114* | | | | |
| *Surr: Dibromofluoromethane* | *45.74* | *1.0* | *50* | *0* | *91.5* | *80 - 119* | | | | |
| *Surr: Toluene-d8* | *53.59* | *1.0* | *50* | *0* | *107* | *89 - 112* | | | | |

**ALS Houston, US** Date: 04-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Bi Weekly Samples
**WorkOrder:** HS21041086

**QC BATCH REPORT**

**Batch ID:** R382131 ( 0 ) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

**LCS** Sample ID: **VLCSW-210421** Units: **ug/L** Analysis Date: **21-Apr-2021 11:49**
Client ID: Run ID: **VOA6_382131** SeqNo: **6055197** 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 | 18.58 | 1.0 | 20 | 0 | 92.9 | 78 - 124 | | | | |
| 1,1,1-Trichloroethane | 19.63 | 1.0 | 20 | 0 | 98.2 | 74 - 131 | | | | |
| 1,1,2,2-Tetrachloroethane | 21.65 | 1.0 | 20 | 0 | 108 | 71 - 121 | | | | |
| 1,1,2-Trichloroethane | 19.57 | 1.0 | 20 | 0 | 97.9 | 80 - 119 | | | | |
| 1,1-Dichloroethane | 22.91 | 1.0 | 20 | 0 | 115 | 77 - 125 | | | | |
| 1,1-Dichloroethene | 19.55 | 1.0 | 20 | 0 | 97.7 | 71 - 131 | | | | |
| 1,1-Dichloropropene | 18.46 | 1.0 | 20 | 0 | 92.3 | 78 - 125 | | | | |
| 1,2,3-Trichlorobenzene | 24.45 | 1.0 | 20 | 0 | 122 | 69 - 129 | | | | |
| 1,2,3-Trichloropropane | 23.26 | 1.0 | 20 | 0 | 116 | 73 - 122 | | | | |
| 1,2,4-Trichlorobenzene | 23.64 | 1.0 | 20 | 0 | 118 | 69 - 130 | | | | |
| 1,2,4-Trimethylbenzene | 21.23 | 1.0 | 20 | 0 | 106 | 76 - 124 | | | | |
| 1,2-Dibromo-3-chloropropane | 22.3 | 1.0 | 20 | 0 | 111 | 62 - 128 | | | | |
| 1,2-Dibromoethane | 20.59 | 1.0 | 20 | 0 | 103 | 77 - 121 | | | | |
| 1,2-Dichlorobenzene | 19.79 | 1.0 | 20 | 0 | 98.9 | 80 - 119 | | | | |
| 1,2-Dichloroethane | 19.59 | 1.0 | 20 | 0 | 98.0 | 73 - 128 | | | | |
| 1,2-Dichloropropane | 20.55 | 1.0 | 20 | 0 | 103 | 78 - 122 | | | | |
| 1,3,5-Trimethylbenzene | 20.05 | 1.0 | 20 | 0 | 100 | 75 - 124 | | | | |
| 1,3-Dichlorobenzene | 20.68 | 1.0 | 20 | 0 | 103 | 80 - 119 | | | | |
| 1,3-Dichloropropane | 20.65 | 1.0 | 20 | 0 | 103 | 80 - 119 | | | | |
| 1,4-Dichlorobenzene | 19.28 | 1.0 | 20 | 0 | 96.4 | 79 - 118 | | | | |
| 2,2-Dichloropropane | 19.99 | 1.0 | 20 | 0 | 100.0 | 60 - 139 | | | | |
| 2-Butanone | 42.24 | 2.0 | 40 | 0 | 106 | 56 - 143 | | | | |
| 2-Chlorotoluene | 23.32 | 1.0 | 20 | 0 | 117 | 79 - 122 | | | | |
| 2-Hexanone | 38.6 | 2.0 | 40 | 0 | 96.5 | 57 - 139 | | | | |
| 4-Chlorotoluene | 20.98 | 1.0 | 20 | 0 | 105 | 78 - 122 | | | | |
| 4-Isopropyltoluene | 19.73 | 1.0 | 20 | 0 | 98.6 | 77 - 127 | | | | |
| 4-Methyl-2-pentanone | 36.41 | 2.0 | 40 | 0 | 91.0 | 67 - 130 | | | | |
| Acetone | 40.58 | 2.0 | 40 | 0 | 101 | 39 - 160 | | | | |
| Benzene | 19.23 | 1.0 | 20 | 0 | 96.2 | 79 - 120 | | | | |
| Bromobenzene | 20.49 | 1.0 | 20 | 0 | 102 | 80 - 120 | | | | |
| Bromochloromethane | 21.23 | 1.0 | 20 | 0 | 106 | 78 - 123 | | | | |
| Bromodichloromethane | 20.2 | 1.0 | 20 | 0 | 101 | 79 - 125 | | | | |
| Bromoform | 18.37 | 1.0 | 20 | 0 | 91.9 | 66 - 130 | | | | |
| Bromomethane | 24.59 | 1.0 | 20 | 0 | 123 | 53 - 141 | | | | |

**ALS Houston, US** Date: 04-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Bi Weekly Samples
**WorkOrder:** HS21041086

**QC BATCH REPORT**

**Batch ID:** R382131 ( 0 ) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

**LCS** Sample ID: **VLCSW-210421** Units: **ug/L** Analysis Date: **21-Apr-2021 11:49**
Client ID: Run ID: **VOA6_382131** SeqNo: **6055197** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Carbon disulfide | 40.42 | 2.0 | 40 | 0 | 101 | 64 - 133 | | | | |
| Carbon tetrachloride | 17.52 | 1.0 | 20 | 0 | 87.6 | 72 - 136 | | | | |
| Chlorobenzene | 19.81 | 1.0 | 20 | 0 | 99.0 | 82 - 118 | | | | |
| Chloroethane | 21.64 | 1.0 | 20 | 0 | 108 | 60 - 138 | | | | |
| Chloroform | 20.79 | 1.0 | 20 | 0 | 104 | 79 - 124 | | | | |
| Chloromethane | 25.19 | 1.0 | 20 | 0 | 126 | 50 - 139 | | | | |
| cis-1,2-Dichloroethene | 20.09 | 1.0 | 20 | 0 | 100 | 78 - 123 | | | | |
| cis-1,3-Dichloropropene | 20.5 | 1.0 | 20 | 0 | 103 | 75 - 124 | | | | |
| Dibromochloromethane | 19.46 | 1.0 | 20 | 0 | 97.3 | 74 - 126 | | | | |
| Dibromomethane | 19.66 | 1.0 | 20 | 0 | 98.3 | 79 - 123 | | | | |
| Dichlorodifluoromethane | 25.22 | 1.0 | 20 | 0 | 126 | 32 - 152 | | | | |
| Ethylbenzene | 17.63 | 1.0 | 20 | 0 | 88.1 | 79 - 121 | | | | |
| Hexachlorobutadiene | 23.94 | 1.0 | 20 | 0 | 120 | 66 - 134 | | | | |
| Isopropylbenzene | 17.5 | 1.0 | 20 | 0 | 87.5 | 72 - 131 | | | | |
| m,p-Xylene | 35.56 | 2.0 | 40 | 0 | 88.9 | 80 - 121 | | | | |
| Methylene chloride | 21.99 | 2.0 | 20 | 0 | 110 | 74 - 124 | | | | |
| Naphthalene | 23.77 | 1.0 | 20 | 0 | 119 | 61 - 128 | | | | |
| n-Butylbenzene | 20.88 | 1.0 | 20 | 0 | 104 | 75 - 128 | | | | |
| n-Propylbenzene | 20.56 | 1.0 | 20 | 0 | 103 | 76 - 126 | | | | |
| o-Xylene | 17.77 | 1.0 | 20 | 0 | 88.9 | 78 - 122 | | | | |
| sec-Butylbenzene | 21.84 | 1.0 | 20 | 0 | 109 | 77 - 126 | | | | |
| Styrene | 19.1 | 1.0 | 20 | 0 | 95.5 | 78 - 123 | | | | |
| tert-Butylbenzene | 20.07 | 1.0 | 20 | 0 | 100 | 78 - 124 | | | | |
| Tetrachloroethene | 17.1 | 1.0 | 20 | 0 | 85.5 | 74 - 129 | | | | |
| Toluene | 19.01 | 1.0 | 20 | 0 | 95.1 | 80 - 121 | | | | |
| trans-1,2-Dichloroethene | 20.87 | 1.0 | 20 | 0 | 104 | 75 - 124 | | | | |
| trans-1,3-Dichloropropene | 21.34 | 1.0 | 20 | 0 | 107 | 73 - 127 | | | | |
| Trichloroethene | 19.76 | 1.0 | 20 | 0 | 98.8 | 79 - 123 | | | | |
| Trichlorofluoromethane | 17.4 | 1.0 | 20 | 0 | 87.0 | 65 - 141 | | | | |
| Vinyl chloride | 21.38 | 1.0 | 20 | 0 | 107 | 58 - 137 | | | | |
| *Surr: 1,2-Dichloroethane-d4* | *52.2* | *1.0* | *50* | *0* | *104* | *81 - 118* | | | | |
| *Surr: 4-Bromofluorobenzene* | *51.25* | *1.0* | *50* | *0* | *102* | *85 - 114* | | | | |
| *Surr: Dibromofluoromethane* | *50.15* | *1.0* | *50* | *0* | *100* | *80 - 119* | | | | |
| *Surr: Toluene-d8* | *50.97* | *1.0* | *50* | *0* | *102* | *89 - 112* | | | | |

**ALS Houston, US** Date: 04-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Bi Weekly Samples
**WorkOrder:** HS21041086

**QC BATCH REPORT**

**Batch ID:** R382131 ( 0 ) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

**MS** Sample ID: **HS21040967-02MS** Units: **ug/L** Analysis Date: **21-Apr-2021 14:59**
Client ID: Run ID: **VOA6_382131** SeqNo: **6055202** 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 | 18.24 | 1.0 | 20 | 0 | 91.2 | 78 - 124 | | | | |
| 1,1,1-Trichloroethane | 19.54 | 1.0 | 20 | 0 | 97.7 | 74 - 131 | | | | |
| 1,1,2,2-Tetrachloroethane | 20.82 | 1.0 | 20 | 0 | 104 | 71 - 121 | | | | |
| 1,1,2-Trichloroethane | 18.51 | 1.0 | 20 | 0 | 92.6 | 80 - 119 | | | | |
| 1,1-Dichloroethane | 20.3 | 1.0 | 20 | 0 | 101 | 77 - 125 | | | | |
| 1,1-Dichloroethene | 19.54 | 1.0 | 20 | 0 | 97.7 | 71 - 131 | | | | |
| 1,1-Dichloropropene | 19.79 | 1.0 | 20 | 0 | 99.0 | 78 - 125 | | | | |
| 1,2,3-Trichlorobenzene | 20.42 | 1.0 | 20 | 0 | 102 | 69 - 129 | | | | |
| 1,2,3-Trichloropropane | 21.54 | 1.0 | 20 | 0 | 108 | 73 - 122 | | | | |
| 1,2,4-Trichlorobenzene | 19.81 | 1.0 | 20 | 0 | 99.1 | 69 - 130 | | | | |
| 1,2,4-Trimethylbenzene | 21.28 | 1.0 | 20 | 0 | 106 | 76 - 124 | | | | |
| 1,2-Dibromo-3-chloropropane | 21.24 | 1.0 | 20 | 0 | 106 | 62 - 128 | | | | |
| 1,2-Dibromoethane | 19.69 | 1.0 | 20 | 0 | 98.5 | 77 - 121 | | | | |
| 1,2-Dichlorobenzene | 18.94 | 1.0 | 20 | 0 | 94.7 | 80 - 119 | | | | |
| 1,2-Dichloroethane | 18.23 | 1.0 | 20 | 0 | 91.2 | 73 - 128 | | | | |
| 1,2-Dichloropropane | 19.18 | 1.0 | 20 | 0 | 95.9 | 78 - 122 | | | | |
| 1,3,5-Trimethylbenzene | 21.05 | 1.0 | 20 | 0 | 105 | 75 - 124 | | | | |
| 1,3-Dichlorobenzene | 20.04 | 1.0 | 20 | 0 | 100 | 80 - 119 | | | | |
| 1,3-Dichloropropane | 19.49 | 1.0 | 20 | 0 | 97.4 | 80 - 119 | | | | |
| 1,4-Dichlorobenzene | 19.5 | 1.0 | 20 | 0 | 97.5 | 79 - 118 | | | | |
| 2,2-Dichloropropane | 19.24 | 1.0 | 20 | 0 | 96.2 | 60 - 139 | | | | |
| 2-Butanone | 32.25 | 2.0 | 40 | 0 | 80.6 | 56 - 143 | | | | |
| 2-Chlorotoluene | 24.07 | 1.0 | 20 | 0 | 120 | 79 - 122 | | | | |
| 2-Hexanone | 38.62 | 2.0 | 40 | 0 | 96.6 | 57 - 139 | | | | |
| 4-Chlorotoluene | 21.17 | 1.0 | 20 | 0 | 106 | 78 - 122 | | | | |
| 4-Isopropyltoluene | 20.95 | 1.0 | 20 | 0 | 105 | 77 - 127 | | | | |
| 4-Methyl-2-pentanone | 36.36 | 2.0 | 40 | 0 | 90.9 | 67 - 130 | | | | |
| Acetone | 31.25 | 2.0 | 40 | 0 | 78.1 | 39 - 160 | | | | |
| Benzene | 18.64 | 1.0 | 20 | 0 | 93.2 | 79 - 120 | | | | |
| Bromobenzene | 20.55 | 1.0 | 20 | 0 | 103 | 80 - 120 | | | | |
| Bromochloromethane | 18.64 | 1.0 | 20 | 0 | 93.2 | 78 - 123 | | | | |
| Bromodichloromethane | 18.45 | 1.0 | 20 | 0 | 92.2 | 79 - 125 | | | | |
| Bromoform | 17.76 | 1.0 | 20 | 0 | 88.8 | 66 - 130 | | | | |
| Bromomethane | 19.98 | 1.0 | 20 | 0 | 99.9 | 53 - 141 | | | | |

**ALS Houston, US** Date: 04-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Bi Weekly Samples
**WorkOrder:** HS21041086

**QC BATCH REPORT**

**Batch ID:** R382131 ( 0 ) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

**MS** Sample ID: **HS21040967-02MS** Units: **ug/L** Analysis Date: **21-Apr-2021 14:59**
Client ID: Run ID: **VOA6_382131** SeqNo: **6055202** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Carbon disulfide | 37.26 | 2.0 | 40 | 0 | 93.2 | 64 - 133 | | | | |
| Carbon tetrachloride | 19.03 | 1.0 | 20 | 0 | 95.1 | 72 - 136 | | | | |
| Chlorobenzene | 19.89 | 1.0 | 20 | 0 | 99.4 | 82 - 118 | | | | |
| Chloroethane | 16.67 | 1.0 | 20 | 0 | 83.3 | 60 - 138 | | | | |
| Chloroform | 18.77 | 1.0 | 20 | 0 | 93.8 | 79 - 124 | | | | |
| Chloromethane | 23.43 | 1.0 | 20 | 0 | 117 | 50 - 139 | | | | |
| cis-1,2-Dichloroethene | 18.51 | 1.0 | 20 | 0 | 92.5 | 78 - 123 | | | | |
| cis-1,3-Dichloropropene | 18.24 | 1.0 | 20 | 0 | 91.2 | 75 - 124 | | | | |
| Dibromochloromethane | 17.84 | 1.0 | 20 | 0 | 89.2 | 74 - 126 | | | | |
| Dibromomethane | 17.87 | 1.0 | 20 | 0 | 89.4 | 79 - 123 | | | | |
| Dichlorodifluoromethane | 27.3 | 1.0 | 20 | 0 | 137 | 32 - 152 | | | | |
| Ethylbenzene | 19.25 | 1.0 | 20 | 0 | 96.3 | 79 - 121 | | | | |
| Hexachlorobutadiene | 19.15 | 1.0 | 20 | 0 | 95.8 | 66 - 134 | | | | |
| Isopropylbenzene | 19.84 | 1.0 | 20 | 0 | 99.2 | 72 - 131 | | | | |
| m,p-Xylene | 38.76 | 2.0 | 40 | 0 | 96.9 | 80 - 121 | | | | |
| Methylene chloride | 19.32 | 2.0 | 20 | 0 | 96.6 | 74 - 124 | | | | |
| Naphthalene | 20.72 | 1.0 | 20 | 0 | 104 | 61 - 128 | | | | |
| n-Butylbenzene | 20.05 | 1.0 | 20 | 0 | 100 | 75 - 128 | | | | |
| n-Propylbenzene | 22.45 | 1.0 | 20 | 0 | 112 | 76 - 126 | | | | |
| o-Xylene | 19.24 | 1.0 | 20 | 0 | 96.2 | 78 - 122 | | | | |
| sec-Butylbenzene | 23.29 | 1.0 | 20 | 0 | 116 | 77 - 126 | | | | |
| Styrene | 19.31 | 1.0 | 20 | 0 | 96.6 | 78 - 123 | | | | |
| tert-Butylbenzene | 21.87 | 1.0 | 20 | 0 | 109 | 78 - 124 | | | | |
| Tetrachloroethene | 21.04 | 1.0 | 20 | 0 | 105 | 74 - 129 | | | | |
| Toluene | 19.43 | 1.0 | 20 | 0 | 97.1 | 80 - 121 | | | | |
| trans-1,2-Dichloroethene | 18.74 | 1.0 | 20 | 0 | 93.7 | 75 - 124 | | | | |
| trans-1,3-Dichloropropene | 18.7 | 1.0 | 20 | 0 | 93.5 | 73 - 127 | | | | |
| Trichloroethene | 19.79 | 1.0 | 20 | 0 | 99.0 | 79 - 123 | | | | |
| Trichlorofluoromethane | 19.5 | 1.0 | 20 | 0 | 97.5 | 65 - 141 | | | | |
| Vinyl chloride | 22.01 | 1.0 | 20 | 0 | 110 | 58 - 137 | | | | |
| *Surr: 1,2-Dichloroethane-d4* | *45.59* | *1.0* | *50* | *0* | *91.2* | *81 - 118* | | | | |
| *Surr: 4-Bromofluorobenzene* | *50.31* | *1.0* | *50* | *0* | *101* | *85 - 114* | | | | |
| *Surr: Dibromofluoromethane* | *45.15* | *1.0* | *50* | *0* | *90.3* | *80 - 119* | | | | |
| *Surr: Toluene-d8* | *51.73* | *1.0* | *50* | *0* | *103* | *89 - 112* | | | | |

**ALS Houston, US** Date: 04-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Bi Weekly Samples
**WorkOrder:** HS21041086

**QC BATCH REPORT**

**Batch ID: R382131 ( 0 )** **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

**MSD** Sample ID: **HS21040967-02MSD** Units: **ug/L** Analysis Date: **21-Apr-2021 15:20**
Client ID: Run ID: **VOA6_382131** SeqNo: **6055203** 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 | 18.24 | 1.0 | 20 | 0 | 91.2 | 78 - 124 | 18.24 | 0.0232 | 20 | |
| 1,1,1-Trichloroethane | 19.01 | 1.0 | 20 | 0 | 95.0 | 74 - 131 | 19.54 | 2.75 | 20 | |
| 1,1,2,2-Tetrachloroethane | 22.09 | 1.0 | 20 | 0 | 110 | 71 - 121 | 20.82 | 5.95 | 20 | |
| 1,1,2-Trichloroethane | 19.09 | 1.0 | 20 | 0 | 95.5 | 80 - 119 | 18.51 | 3.08 | 20 | |
| 1,1-Dichloroethane | 19.35 | 1.0 | 20 | 0 | 96.7 | 77 - 125 | 20.3 | 4.79 | 20 | |
| 1,1-Dichloroethene | 18.59 | 1.0 | 20 | 0 | 93.0 | 71 - 131 | 19.54 | 4.98 | 20 | |
| 1,1-Dichloropropene | 19.52 | 1.0 | 20 | 0 | 97.6 | 78 - 125 | 19.79 | 1.38 | 20 | |
| 1,2,3-Trichlorobenzene | 20.42 | 1.0 | 20 | 0 | 102 | 69 - 129 | 20.42 | 0.0316 | 20 | |
| 1,2,3-Trichloropropane | 21.52 | 1.0 | 20 | 0 | 108 | 73 - 122 | 21.54 | 0.103 | 20 | |
| 1,2,4-Trichlorobenzene | 20.5 | 1.0 | 20 | 0 | 103 | 69 - 130 | 19.81 | 3.43 | 20 | |
| 1,2,4-Trimethylbenzene | 21.38 | 1.0 | 20 | 0 | 107 | 76 - 124 | 21.28 | 0.461 | 20 | |
| 1,2-Dibromo-3-chloropropane | 20.42 | 1.0 | 20 | 0 | 102 | 62 - 128 | 21.24 | 3.92 | 20 | |
| 1,2-Dibromoethane | 19.87 | 1.0 | 20 | 0 | 99.3 | 77 - 121 | 19.69 | 0.89 | 20 | |
| 1,2-Dichlorobenzene | 19.43 | 1.0 | 20 | 0 | 97.1 | 80 - 119 | 18.94 | 2.53 | 20 | |
| 1,2-Dichloroethane | 18.06 | 1.0 | 20 | 0 | 90.3 | 73 - 128 | 18.23 | 0.961 | 20 | |
| 1,2-Dichloropropane | 18.45 | 1.0 | 20 | 0 | 92.3 | 78 - 122 | 19.18 | 3.88 | 20 | |
| 1,3,5-Trimethylbenzene | 20.97 | 1.0 | 20 | 0 | 105 | 75 - 124 | 21.05 | 0.369 | 20 | |
| 1,3-Dichlorobenzene | 20.53 | 1.0 | 20 | 0 | 103 | 80 - 119 | 20.04 | 2.42 | 20 | |
| 1,3-Dichloropropane | 20 | 1.0 | 20 | 0 | 100 | 80 - 119 | 19.49 | 2.62 | 20 | |
| 1,4-Dichlorobenzene | 19.09 | 1.0 | 20 | 0 | 95.5 | 79 - 118 | 19.5 | 2.11 | 20 | |
| 2,2-Dichloropropane | 18.03 | 1.0 | 20 | 0 | 90.2 | 60 - 139 | 19.24 | 6.48 | 20 | |
| 2-Butanone | 33.12 | 2.0 | 40 | 0 | 82.8 | 56 - 143 | 32.25 | 2.66 | 20 | |
| 2-Chlorotoluene | 23.84 | 1.0 | 20 | 0 | 119 | 79 - 122 | 24.07 | 0.945 | 20 | |
| 2-Hexanone | 37.2 | 2.0 | 40 | 0 | 93.0 | 57 - 139 | 38.62 | 3.76 | 20 | |
| 4-Chlorotoluene | 21.42 | 1.0 | 20 | 0 | 107 | 78 - 122 | 21.17 | 1.21 | 20 | |
| 4-Isopropyltoluene | 20.94 | 1.0 | 20 | 0 | 105 | 77 - 127 | 20.95 | 0.00766 | 20 | |
| 4-Methyl-2-pentanone | 35.27 | 2.0 | 40 | 0 | 88.2 | 67 - 130 | 36.36 | 3.05 | 20 | |
| Acetone | 28.34 | 2.0 | 40 | 0 | 70.9 | 39 - 160 | 31.25 | 9.75 | 20 | |
| Benzene | 18.31 | 1.0 | 20 | 0 | 91.6 | 79 - 120 | 18.64 | 1.79 | 20 | |
| Bromobenzene | 20.45 | 1.0 | 20 | 0 | 102 | 80 - 120 | 20.55 | 0.463 | 20 | |
| Bromochloromethane | 18.17 | 1.0 | 20 | 0 | 90.9 | 78 - 123 | 18.64 | 2.55 | 20 | |
| Bromodichloromethane | 18.42 | 1.0 | 20 | 0 | 92.1 | 79 - 125 | 18.45 | 0.175 | 20 | |
| Bromoform | 17.19 | 1.0 | 20 | 0 | 86.0 | 66 - 130 | 17.76 | 3.25 | 20 | |
| Bromomethane | 20.23 | 1.0 | 20 | 0 | 101 | 53 - 141 | 19.98 | 1.26 | 20 | |

**ALS Houston, US** Date: 04-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Bi Weekly Samples
**WorkOrder:** HS21041086

**QC BATCH REPORT**

**Batch ID:** R382131 ( 0 ) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

**MSD** Sample ID: **HS21040967-02MSD** Units: **ug/L** Analysis Date: **21-Apr-2021 15:20**
Client ID: Run ID: **VOA6_382131** SeqNo: **6055203** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | RPD %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Carbon disulfide | 35.19 | 2.0 | 40 | 0 | 88.0 | 64 - 133 | 37.26 | 5.71 | 20 | |
| Carbon tetrachloride | 18.74 | 1.0 | 20 | 0 | 93.7 | 72 - 136 | 19.03 | 1.52 | 20 | |
| Chlorobenzene | 19.19 | 1.0 | 20 | 0 | 95.9 | 82 - 118 | 19.89 | 3.58 | 20 | |
| Chloroethane | 19.68 | 1.0 | 20 | 0 | 98.4 | 60 - 138 | 16.67 | 16.6 | 20 | |
| Chloroform | 17.89 | 1.0 | 20 | 0 | 89.4 | 79 - 124 | 18.77 | 4.8 | 20 | |
| Chloromethane | 21.6 | 1.0 | 20 | 0 | 108 | 50 - 139 | 23.43 | 8.13 | 20 | |
| cis-1,2-Dichloroethene | 17.76 | 1.0 | 20 | 0 | 88.8 | 78 - 123 | 18.51 | 4.12 | 20 | |
| cis-1,3-Dichloropropene | 18.3 | 1.0 | 20 | 0 | 91.5 | 75 - 124 | 18.24 | 0.323 | 20 | |
| Dibromochloromethane | 18.76 | 1.0 | 20 | 0 | 93.8 | 74 - 126 | 17.84 | 5.01 | 20 | |
| Dibromomethane | 18.18 | 1.0 | 20 | 0 | 90.9 | 79 - 123 | 17.87 | 1.68 | 20 | |
| Dichlorodifluoromethane | 25.41 | 1.0 | 20 | 0 | 127 | 32 - 152 | 27.3 | 7.21 | 20 | |
| Ethylbenzene | 19.17 | 1.0 | 20 | 0 | 95.9 | 79 - 121 | 19.25 | 0.423 | 20 | |
| Hexachlorobutadiene | 20.03 | 1.0 | 20 | 0 | 100 | 66 - 134 | 19.15 | 4.5 | 20 | |
| Isopropylbenzene | 18.86 | 1.0 | 20 | 0 | 94.3 | 72 - 131 | 19.84 | 5.07 | 20 | |
| m,p-Xylene | 37.71 | 2.0 | 40 | 0 | 94.3 | 80 - 121 | 38.76 | 2.75 | 20 | |
| Methylene chloride | 18.86 | 2.0 | 20 | 0 | 94.3 | 74 - 124 | 19.32 | 2.45 | 20 | |
| Naphthalene | 23.5 | 1.0 | 20 | 0 | 118 | 61 - 128 | 20.72 | 12.6 | 20 | |
| n-Butylbenzene | 20.9 | 1.0 | 20 | 0 | 105 | 75 - 128 | 20.05 | 4.18 | 20 | |
| n-Propylbenzene | 22.52 | 1.0 | 20 | 0 | 113 | 76 - 126 | 22.45 | 0.327 | 20 | |
| o-Xylene | 17.8 | 1.0 | 20 | 0 | 89.0 | 78 - 122 | 19.24 | 7.81 | 20 | |
| sec-Butylbenzene | 23.7 | 1.0 | 20 | 0 | 119 | 77 - 126 | 23.29 | 1.76 | 20 | |
| Styrene | 18.9 | 1.0 | 20 | 0 | 94.5 | 78 - 123 | 19.31 | 2.15 | 20 | |
| tert-Butylbenzene | 22 | 1.0 | 20 | 0 | 110 | 78 - 124 | 21.87 | 0.584 | 20 | |
| Tetrachloroethene | 19.93 | 1.0 | 20 | 0 | 99.6 | 74 - 129 | 21.04 | 5.43 | 20 | |
| Toluene | 19.08 | 1.0 | 20 | 0 | 95.4 | 80 - 121 | 19.43 | 1.79 | 20 | |
| trans-1,2-Dichloroethene | 17.97 | 1.0 | 20 | 0 | 89.8 | 75 - 124 | 18.74 | 4.21 | 20 | |
| trans-1,3-Dichloropropene | 19.24 | 1.0 | 20 | 0 | 96.2 | 73 - 127 | 18.7 | 2.85 | 20 | |
| Trichloroethene | 19.27 | 1.0 | 20 | 0 | 96.3 | 79 - 123 | 19.79 | 2.7 | 20 | |
| Trichlorofluoromethane | 18.45 | 1.0 | 20 | 0 | 92.2 | 65 - 141 | 19.5 | 5.51 | 20 | |
| Vinyl chloride | 19.97 | 1.0 | 20 | 0 | 99.9 | 58 - 137 | 22.01 | 9.7 | 20 | |
| *Surr: 1,2-Dichloroethane-d4* | *47.06* | *1.0* | *50* | *0* | *94.1* | *81 - 118* | *45.59* | *3.17* | *20* | |
| *Surr: 4-Bromofluorobenzene* | *49.96* | *1.0* | *50* | *0* | *99.9* | *85 - 114* | *50.31* | *0.704* | *20* | |
| *Surr: Dibromofluoromethane* | *45.75* | *1.0* | *50* | *0* | *91.5* | *80 - 119* | *45.15* | *1.31* | *20* | |
| *Surr: Toluene-d8* | *53.03* | *1.0* | *50* | *0* | *106* | *89 - 112* | *51.73* | *2.48* | *20* | |

**ALS Houston, US** Date: 04-May-21

| | |
|---|---|
| **Client:** | Bhate Environmental Associates, Inc. |
| **Project:** | Longhorn GW Treatment Plant Bi Weekly Samples |
| **WorkOrder:** | HS21041086 |

**QC BATCH REPORT**

| | | | | | |
|---|---|---|---|---|---|
| **Batch ID:** | **R382131 ( 0 )** | **Instrument:** | **VOA6** | **Method:** | **VOLATILES ORGANICS BY METHOD 8260C** |

**The following samples were analyzed in this batch:** HS21041086-01 HS21041086-02

**ALS Houston, US** Date: 04-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Bi Weekly Samples
**WorkOrder:** HS21041086

**QC BATCH REPORT**

**Batch ID: R382840 ( 0 )** **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

**MBLK** Sample ID: **MBLK-** Units: **mg/L** Analysis Date: **01-May-2021 08:23**
Client ID: Run ID: **ICS-Integrion_382840** SeqNo: **6071997** 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: **01-May-2021 08:41**
Client ID: Run ID: **ICS-Integrion_382840** SeqNo: **6071998** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 19.36 | 0.500 | 20 | 0 | 96.8 | 80 - 120 | | | | |
| Sulfate | 19.12 | 0.500 | 20 | 0 | 95.6 | 80 - 120 | | | | |

**MS** Sample ID: **HS21041595-02MS** Units: **mg/L** Analysis Date: **30-Apr-2021 13:47**
Client ID: Run ID: **ICS-Integrion_382840** SeqNo: **6072007** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 215.8 | 0.500 | 10 | 206.4 | 93.6 | 80 - 120 | | | | EO |
| Sulfate | 294.5 | 0.500 | 10 | 285 | 95.1 | 80 - 120 | | | | EO |

**MSD** Sample ID: **HS21041595-02MSD** Units: **mg/L** Analysis Date: **30-Apr-2021 14:06**
Client ID: Run ID: **ICS-Integrion_382840** SeqNo: **6072033** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 219.6 | 0.500 | 10 | 206.4 | 131 | 80 - 120 | 215.8 | 1.73 | 20 | SEO |
| Sulfate | 298.2 | 0.500 | 10 | 285 | 132 | 80 - 120 | 294.5 | 1.25 | 20 | SEO |

**The following samples were analyzed in this batch:** HS21041086-01

**ALS Houston, US** Date: 04-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Bi Weekly Samples
**WorkOrder:** **HS21041086**

**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 | 21-022-0 | 26-Mar-2022 |
| Dept of Defense | PJLA L20-507-R2 | 22-Dec-2021 |
| Florida | E87611-30-07/01/2020 | 30-Jun-2021 |
| Illinois | 2000322020-4 | 09-May-2021 |
| Kansas | E-10352 2020-2021 | 31-Jul-2021 |
| Kentucky | 123043, 2021-2022 | 30-Apr-2022 |
| Louisiana | 03087, 2020-2021 | 30-Jun-2021 |
| North Carolina | 624-2021 | 31-Dec-2021 |
| Oklahoma | 2020-165 | 31-Aug-2021 |
| Texas | T104704231-21-27 | 30-Apr-2022 |

**ALS Houston, US** Date: 04-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Bi Weekly Samples
**Work Order:** HS21041086

**SAMPLE TRACKING**

| Lab Samp ID | Client Sample ID | Action | Date | Person | New Location |
|---|---|---|---|---|---|
| HS21041086-01 | LH18/24-SP650_042021 | Login | 4/21/2021 12:09:25 PM | PMG | WET157 |
| HS21041086-01 | LH18/24-SP650_042021 | Login | 4/21/2021 12:09:25 PM | PMG | VOA106 |
| HS21041086-02 | Trip Blank | Login | 4/21/2021 12:09:25 PM | PMG | VOA106 |

**ALS Houston, US** Date: 04-May-21

## Sample Receipt Checklist

**Work Order ID:** HS21041086 **Date/Time Received:** 21-Apr-2021 10:40

**Client Name:** Bhate Environmental **Received by:** Pablo Marinez

| | | | | | |
|---|---|---|---|---|---|
| **Completed By:** | /S/ Paresh M. Giga | 21-Apr-2021 12:10 | **Reviewed by:** | /S/ RJ Modashia | 21-Apr-2021 21:21 |
| | eSignature | Date/Time | | eSignature | Date/Time |

Matrices: **Water** 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: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): | 0.5C U/C | IR31 | | |
| Cooler(s)/Kit(s): | 46873 | | | |
| Date/Time sample(s) sent to storage: | 4/21/2021 12:15 | | | |
| 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: R.J. Modashia



**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**

HS21041086
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_042021 | Water | 04/20/21 / 14:00 | | 3 | 3 | | HCL | |
| LH18/24-SP650_042021 | Water | 04/20/21 / 14:00 | | 1 | | 1 | NONE | |
| Trip Blank | Water | 04/20/21 | | 2 | 2 | | HCL | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

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

| Relinquished By: | Date | Time | Received By: | Date | Time | Relinquished By: | Date | Time | Received By: | Date | Time |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Scott Beesinger | 04/20/21 | 14:30 | Patti Ma | 4/21/21 | 10:14 | | | | | | |

**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:\I-ces\Forms\Chain of Custody - BiWeekly

46873 0 SC (R31 CF

ALS
10450 Stancliff d., Suite 210
Houston Texas 7099
Tel. +1 1 530 5656
Fax. +1 281 530 5887

Date:
Name:
Company

CUSTODY SEAL
4/20/21 Time: 143
Sue + Bees.N.ier
Broty

Seal Broken By:
Date:

FedEx
TRK# 0221 9473 0839 9370

RETURNS MON-SAT
WED - 21 APR AA
PRIORITY OVERNIGHT

AB SGRA

77099
TX-US
IAH

FID: 5090257 20Apr2021 GGGA 560G3/F9A6/1B23

# HS21041086 8260_W_DOD Raw Data

ALS WO# HS21041086

# MSVOA06 -Logbook

**Batch:** 44312 **Analyst:** Presenta Cabascango

**Date:** 04-02-2021 **Reviewer:**

**Method:** 8260 **Laboratory:** Houston

**Comments:**

| # | Samp ID | Type | Analyzed | DF | Init Wt/Vol | Final Vol | File ID | Matrix | Status | pH |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | BFB | TUNE | 04-02-2021 10:32 am | 1.00 | 50 mL | 50 mL | X040201.D | Liquid | Y | NA |
| 2 | VSTD000.25 | ICAL1 | 04-02-2021 10:53 am | 1.00 | 50 mL | 50 mL | X040202.D | Liquid | Y | NA |
| 3 | VSTD000.5 | ICAL2 | 04-02-2021 11:35 am | 1.00 | 50 mL | 50 mL | X040203.D | Liquid | Y | NA |
| 4 | VSTD001 | ICAL3 | 04-02-2021 11:56 am | 1.00 | 50 mL | 50 mL | X040204.D | Liquid | Y | NA |
| 5 | VSTD002 | ICAL4 | 04-02-2021 12:17 pm | 1.00 | 50 mL | 50 mL | X040205.D | Liquid | Y | NA |
| 6 | VSTD005 | ICAL5 | 04-02-2021 12:38 pm | 1.00 | 50 mL | 50 mL | X040206.D | Liquid | Y | NA |
| 7 | VSTD020 | ICAL6 | 04-02-2021 12:59 pm | 1.00 | 50 mL | 50 mL | X040207.D | Liquid | Y | NA |
| 8 | VSTD050 | ICAL7 | 04-02-2021 01:20 pm | 1.00 | 50 mL | 50 mL | X040208.D | Liquid | Y | NA |
| 9 | VSTD100 | ICAL8 | 04-02-2021 01:41 pm | 1.00 | 50 mL | 50 mL | X040209.D | Liquid | Y | NA |
| 10 | VSTD150 | ICAL9 | 04-02-2021 02:02 pm | 1.00 | 50 mL | 50 mL | X040210.D | Liquid | Y | NA |
| 11 | VSTD200 | ICAL | 04-02-2021 02:23 pm | 1.00 | 50 mL | 50 mL | X040211.D | Liquid | Y | NA |
| 12 | BLANK | SAMP | 04-02-2021 02:44 pm | 1.00 | 50 mL | 50 mL | X040212.D | Liquid | Y | NA |
| 13 | CCV | SAMP | 04-02-2021 03:05 pm | 1.00 | 50 mL | 50 mL | X040213.D | Liquid | Y | NA |
| 14 | CCV | CCV | 04-02-2021 03:26 pm | 1.00 | 50 mL | 50 mL | X040214.D | Liquid | Y | NA |
| 15 | CCB | SAMP | 04-02-2021 03:47 pm | 1.00 | 50 mL | 50 mL | X040215.D | Liquid | Y | NA |
| 16 | VLCSW-210402 | LCS | 04-02-2021 04:08 pm | 1.00 | 50 mL | 50 mL | X040216.D | Liquid | Y | NA |
| 17 | BLANK | SAMP | 04-02-2021 04:29 pm | 1.00 | 50 mL | 50 mL | X040217.D | Liquid | Y | NA |
| 18 | BLANK | SAMP | 04-02-2021 04:50 pm | 1.00 | 50 mL | 50 mL | X040218.D | Liquid | Y | NA |
| 19 | VBLKW-210402 | MBLK | 04-02-2021 05:11 pm | 1.00 | 50 mL | 50 mL | X040219.D | Liquid | Y | NA |
| 20 | HS21031390-28 | SAMP | 04-02-2021 05:32 pm | 1.00 | 50 mL | 50 mL | X040220.D | Liquid | Y | NA |
| 21 | HS21031390-01 | SAMP | 04-02-2021 05:53 pm | 1.00 | 50 mL | 50 mL | X040221.D | Liquid | Y | NA |
| 22 | HS21031390-02 | SAMP | 04-02-2021 06:14 pm | 1.00 | 50 mL | 50 mL | X040222.D | Liquid | Y | NA |
| 23 | HS21031390-08 | SAMP | 04-02-2021 06:35 pm | 1.00 | 50 mL | 50 mL | X040223.D | Liquid | Y | NA |
| 24 | HS21031390-14 | SAMP | 04-02-2021 06:56 pm | 1.00 | 50 mL | 50 mL | X040224.D | Liquid | Y | NA |
| 25 | HS21031390-06 | SAMP | 04-02-2021 07:17 pm | 10.00 | 5 mL | 50 mL | X040225.D | Liquid | Y | NA |
| 26 | HS21031390-09 | SAMP | 04-02-2021 07:38 pm | 5.00 | 10 mL | 50 mL | X040226.D | Liquid | Y | NA |
| 27 | HS21031390-28MS | MS | 04-02-2021 07:59 pm | 1.00 | 50 mL | 50 mL | X040227.D | Liquid | Y | NA |
| 28 | HS21031390-28MSD | MSD | 04-02-2021 08:20 pm | 1.00 | 50 mL | 50 mL | X040228.D | Liquid | Y | NA |
| 29 | HS21031390-06 | SAMP | 04-02-2021 08:41 pm | 100.0( | 500 µL | 50 mL | X040229.D | Liquid | Y | NA |
| 30 | HS21031390-09 | SAMP | 04-02-2021 09:03 pm | 25.00 | 2 mL | 50 mL | X040230.D | Liquid | Y | NA |
| 31 | HS21031318-29 | SAMP | 04-02-2021 09:24 pm | 1.00 | 50 mL | 50 mL | X040231.D | Liquid | Y | NA |
| 32 | HS21040032-03 | SAMP | 04-02-2021 09:45 pm | 1.00 | 50 mL | 50 mL | X040232.D | Liquid | Y | NA |
| 33 | BFB | TUNE | 04-02-2021 10:06 pm | 1.00 | 50 mL | 50 mL | Y040201.D | Liquid | Y | NA |
| 34 | CCV | CCV | 04-02-2021 10:27 pm | 1.00 | 50 mL | 50 mL | Y040202a.D | Liquid | Y | NA |
| 35 | CCV | CCV | 04-02-2021 10:48 pm | 1.00 | 50 mL | 50 mL | Y040203.D | Liquid | Y | NA |
| 36 | CCB | SAMP | 04-02-2021 11:09 pm | 1.00 | 50 mL | 50 mL | Y040204.D | Liquid | Y | NA |
| 37 | VLCSW-210402 | LCS | 04-02-2021 11:30 pm | 1.00 | 50 mL | 50 mL | Y040205.D | Liquid | Y | NA |
| 38 | BLANK | SAMP | 04-02-2021 11:51 pm | 1.00 | 50 mL | 50 mL | Y040206.D | Liquid | Y | NA |
| 39 | VBLKW-210402 | MBLK | 04-03-2021 12:12 am | 1.00 | 50 mL | 50 mL | Y040207.D | Liquid | Y | NA |
| 40 | HS21031399-49 | SAMP | 04-03-2021 12:33 am | 1.00 | 50 mL | 50 mL | Y040208.D | Liquid | Y | NA |
| 41 | HS21031390-31 | SAMP | 04-03-2021 12:54 am | 1.00 | 50 mL | 50 mL | Y040209.D | Liquid | Y | NA |

# MSVOA06 -Logbook

| # | Samp ID | Type | Analyzed | DF | Init Wt/Vol | Final Vol | File ID | Matrix | Status | pH |
|---|---|---|---|---|---|---|---|---|---|---|
| 42 | HS21031390-33 | SAMP | 04-03-2021 01:15 am | 1.00 | 50 mL | 50 mL | Y040210.D | Liquid | Y | NA |
| 43 | HS21031390-31MS | MS | 04-03-2021 01:36 am | 1.00 | 50 mL | 50 mL | Y040211.D | Liquid | Y | NA |
| 44 | HS21031390-31MSD | MSD | 04-03-2021 01:57 am | 1.00 | 50 mL | 50 mL | Y040212.D | Liquid | Y | NA |
| 45 | BLANK | SAMP | 04-03-2021 02:18 am | 1.00 | 50 mL | 50 mL | Y040213.D | Liquid | Y | NA |
| 46 | BLANK | SAMP | 04-03-2021 02:39 am | 1.00 | 50 mL | 50 mL | Y040214.D | Liquid | Y | NA |
| 47 | HS21031399-38 | SAMP | 04-03-2021 03:00 am | 1.00 | 50 mL | 50 mL | Y040215.D | Liquid | Y | NA |
| 48 | HS21031399-39 | SAMP | 04-03-2021 03:21 am | 1.00 | 50 mL | 50 mL | Y040216.D | Liquid | Y | NA |
| 49 | HS21031399-41 | SAMP | 04-03-2021 03:43 am | 1.00 | 50 mL | 50 mL | Y040217.D | Liquid | Y | NA |
| 50 | HS21031399-42 | SAMP | 04-03-2021 04:04 am | 1.00 | 50 mL | 50 mL | Y040218.D | Liquid | Y | NA |
| 51 | HS21031399-43 | SAMP | 04-03-2021 04:25 am | 1.00 | 50 mL | 50 mL | Y040219.D | Liquid | Y | NA |
| 52 | HS21031399-44 | SAMP | 04-03-2021 04:46 am | 1.00 | 50 mL | 50 mL | Y040220.D | Liquid | Y | NA |
| 53 | HS21031399-45 | SAMP | 04-03-2021 05:07 am | 1.00 | 50 mL | 50 mL | Y040221.D | Liquid | Y | NA |
| 54 | HS21031399-46 | SAMP | 04-03-2021 05:28 am | 1.00 | 50 mL | 50 mL | Y040222.D | Liquid | Y | NA |
| 55 | HS21031565-01 | SAMP | 04-03-2021 05:49 am | 1.00 | 50 mL | 50 mL | Y040223.D | Liquid | Y | NA |
| 56 | HS21031565-05 | SAMP | 04-03-2021 06:10 am | 1.00 | 50 mL | 50 mL | Y040224.D | Liquid | Y | NA |
| 57 | HS21031565-06 | SAMP | 04-03-2021 06:31 am | 1.00 | 50 mL | 50 mL | Y040225.D | Liquid | Y | NA |
| 58 | HS21031565-07 | SAMP | 04-03-2021 06:52 am | 1.00 | 50 mL | 50 mL | Y040226.D | Liquid | Y | NA |
| 59 | HS21031565-08 | SAMP | 04-03-2021 07:13 am | 1.00 | 50 mL | 50 mL | Y040227.D | Liquid | Y | NA |
| 60 | HS21031565-11 | SAMP | 04-03-2021 07:35 am | 1.00 | 50 mL | 50 mL | Y040228.D | Liquid | Y | NA |
| 61 | HS21031565-14 | SAMP | 04-03-2021 07:56 am | 1.00 | 50 mL | 50 mL | Y040229.D | Liquid | Y | NA |
| 62 | HS21031565-15 | SAMP | 04-03-2021 08:17 am | 1.00 | 50 mL | 50 mL | Y040230.D | Liquid | Y | NA |
| 63 | HS21031390-32 | SAMP | 04-03-2021 08:38 am | 1.00 | 50 mL | 50 mL | Y040231.D | Liquid | Y | NA |
| 64 | BLANJ | SAMP | 04-03-2021 08:59 am | 1.00 | 50 mL | 50 mL | Y040240.D | Liquid | Y | NA |

# FORM 3
## WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: ALS LABORATORY GROUP  Contract:

Lab Code: ALS-HS  Case No.:  SAS No.:  SDG No.: HS21041086

Matrix Spike - Sample No.: ICV

| COMPOUND | SPIKE ADDED (ug/L) | SAMPLE AMOUNT () | % REC # | QC. LIMITS REC. |
|---|---|---|---|---|
| cis-1,3-Dichloropropene | 50.00 | 48.85 | 98 | 80-120 |
| trans-1,3-Dichloroprope | 50.00 | 51.51 | 103 | 80-120 |
| 1,3-Dichlorobenzene | 50.00 | 49.54 | 99 | 80-120 |
| 2,2-Dichloropropane | 50.00 | 47.30 | 95 | 80-120 |
| 1,1-Dichloropropene | 50.00 | 47.08 | 94 | 80-120 |
| Dibromomethane | 50.00 | 47.64 | 95 | 80-120 |
| 1,2-Dibromoethane | 50.00 | 51.71 | 103 | 80-120 |
| trans-1,2-Dichloroethen | 50.00 | 48.47 | 97 | 80-120 |
| 1,1,1,2-Tetrachloroetha | 50.00 | 48.41 | 97 | 80-120 |
| 1,1,1-Trichloroethane | 50.00 | 49.62 | 99 | 80-120 |
| 1,1,2,2-Tetrachloroetha | 50.00 | 48.55 | 97 | 80-120 |
| 1,1,2-Trichloroethane | 50.00 | 48.15 | 96 | 80-120 |
| 1,1-Dichloroethane | 50.00 | 48.94 | 98 | 80-120 |
| 1,1-Dichloroethene | 50.00 | 46.21 | 92 | 80-120 |
| Trichloroethene | 50.00 | 50.43 | 101 | 80-120 |
| 1,2,3-Trichlorobenzene | 50.00 | 57.23 | 114 | 80-120 |
| Trichlorofluoromethane | 50.00 | 44.00 | 88 | 80-120 |
| 1,2,4-Trichlorobenzene | 50.00 | 57.48 | 115 | 80-120 |
| 1,2,4-Trimethylbenzene | 50.00 | 50.07 | 100 | 80-120 |
| Tetrachloroethene | 50.00 | 48.57 | 97 | 80-120 |
| 1,2-Dichlorobenzene | 50.00 | 48.20 | 96 | 80-120 |
| 1,2-Dichloroethane | 50.00 | 47.48 | 95 | 80-120 |
| 1,2-Dichloropropane | 50.00 | 48.02 | 96 | 80-120 |
| 1,3,5-Trimethylbenzene | 50.00 | 49.71 | 99 | 80-120 |
| 1,3-Dichloropropane | 50.00 | 49.92 | 100 | 80-120 |
| 1,4-Dichlorobenzene | 50.00 | 47.54 | 95 | 80-120 |
| Toluene | 50.00 | 47.80 | 96 | 80-120 |
| 2-Butanone | 100.00 | 98.91 | 99 | 80-120 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

_____

FORM III VOA

# FORM 3
## WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: ALS LABORATORY GROUP  Contract:

Lab Code: ALS-HS  Case No.:  SAS No.:  SDG No.: HS21041086

Matrix Spike - Sample No.: ICV

| COMPOUND | SPIKE ADDED (ug/L) | SAMPLE AMOUNT () | % REC # | QC. LIMITS REC. |
|---|---|---|---|---|
| 2-Chlorotoluene | 50.00 | 50.66 | 101 | 80-120 |
| 2-Hexanone | 100.00 | 97.04 | 97 | 80-120 |
| 4-Chlorotoluene | 50.00 | 48.75 | 98 | 80-120 |
| tert-Butylbenzene | 50.00 | 49.95 | 100 | 80-120 |
| 4-Methyl-2-Pentanone | 100.00 | 97.81 | 98 | 80-120 |
| Acetone | 100.00 | 105.49 | 105 | 80-120 |
| Benzene | 50.00 | 47.13 | 94 | 80-120 |
| Bromobenzene | 50.00 | 46.83 | 94 | 80-120 |
| Bromochloromethane | 50.00 | 49.41 | 99 | 80-120 |
| Bromodichloromethane | 50.00 | 48.53 | 97 | 80-120 |
| Bromoform | 50.00 | 46.98 | 94 | 80-120 |
| Bromomethane | 50.00 | 54.60 | 109 | 80-120 |
| Carbon Disulfide | 100.00 | 96.28 | 96 | 80-120 |
| Carbon Tetrachloride | 50.00 | 48.11 | 96 | 80-120 |
| Chlorobenzene | 50.00 | 46.17 | 92 | 80-120 |
| Chloroethane | 50.00 | 45.43 | 91 | 80-120 |
| Chloroform | 50.00 | 46.67 | 93 | 80-120 |
| Chloromethane | 50.00 | 50.17 | 100 | 80-120 |
| cis-1,2-Dichloroethene | 50.00 | 46.33 | 93 | 80-120 |
| Dibromochloromethane | 50.00 | 50.10 | 100 | 80-120 |
| Dichlorodifluoromethane | 50.00 | 50.80 | 102 | 80-120 |
| Ethylbenzene | 50.00 | 47.36 | 95 | 80-120 |
| Hexachlorobutadiene | 50.00 | 56.97 | 114 | 80-120 |
| Isopropylbenzene | 50.00 | 47.61 | 95 | 80-120 |
| m,p-Xylenes | 100.00 | 97.83 | 98 | 80-120 |
| Methylene Chloride | 50.00 | 45.57 | 91 | 80-120 |
| n-Butylbenzene | 50.00 | 53.89 | 108 | 80-120 |
| n-Propylbenzene | 50.00 | 50.37 | 101 | 80-120 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

_____

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041086

Matrix Spike - Sample No.: ICV

| COMPOUND | SPIKE ADDED (ug/L) | SAMPLE AMOUNT () | % REC # | QC. LIMITS REC. |
|---|---|---|---|---|
| Naphthalene | 50.00 | 59.95 | 120 | 80-120 |
| o-Xylene | 50.00 | 47.73 | 95 | 80-120 |
| sec-Butylbenzene | 50.00 | 53.52 | 107 | 80-120 |
| Styrene | 50.00 | 45.13 | 90 | 80-120 |
| Vinyl Chloride | 50.00 | 46.17 | 92 | 80-120 |
| 1,2,3-Trichloropropane | 50.00 | 48.09 | 96 | 80-120 |
| p-Isopropyltoluene | 50.00 | 52.42 | 105 | 80-120 |
| 1,2-Dibromo-3-Chloropro | 50.00 | 50.11 | 100 | 80-120 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

_____

FORM III VOA

# FORM 5
## VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
## BROMOFLUOROBENZENE (BFB)

Lab Name: ALS LABORATORY GROUP  Contract:

Lab Code: ALS-HS  Case No.:  SAS No.:  SDG No.: HS21041086

Lab File ID: X040201  BFB Injection Date: 04/02/21

Instrument ID: VOA6  BFB Injection Time: 1032

GC Column: DB624  ID: 0.25 (mm)  Heated Purge: (Y/N) N

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15.0 - 40.0% of mass 95 | 22.5 |
| 75 | 30.0 - 60.0% of mass 95 | 53.3 |
| 95 | Base Peak, 100% relative abundance | 100.0 |
| 96 | 5.0 - 9.0% of mass 95 | 6.5 |
| 173 | Less than 2.0% of mass 174 | 1.1 ( 1.3)1 |
| 174 | Greater than 50.0% of mass 95 | 83.8 |
| 175 | 5.0 - 9.0% of mass 174 | 6.3 ( 7.6)1 |
| 176 | 95.0 - 101.0% of mass 174 | 81.4 ( 97.1)1 |
| 177 | 5.0 - 9.0% of mass 176 | 4.4 ( 5.4)2 |

1-Value is % mass 174  2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 01 | VSTD000.25 | VSTD000.25 | X040202 | 04/02/21 | 1053 |
| 02 | VSTD000.5 | VSTD000.5 | X040203 | 04/02/21 | 1135 |
| 03 | VSTD001 | VSTD001 | X040204 | 04/02/21 | 1156 |
| 04 | VSTD002 | VSTD002 | X040205 | 04/02/21 | 1217 |
| 05 | VSTD005 | VSTD005 | X040206 | 04/02/21 | 1238 |
| 06 | VSTD020 | VSTD020 | X040207 | 04/02/21 | 1259 |
| 07 | VSTD050 | VSTD050 | X040208 | 04/02/21 | 1320 |
| 08 | VSTD100 | VSTD100 | X040209 | 04/02/21 | 1341 |
| 09 | VSTD150 | VSTD150 | X040210 | 04/02/21 | 1402 |
| 10 | VSTD200 | VSTD200 | X040211 | 04/02/21 | 1423 |
| 11 | ICV | ICV | X040214 | 04/02/21 | 1526 |
| 12 | | | | | |
| 13 | | | | | |
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| 22 | | | | | |



FORM V VOA

# FORM 6
## VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS LABORATORY GROUP  Contract:

Lab Code: ALS-HS  Case No.:  SAS No.:  SDG No.: HS21041086

Instrument ID: VOA6  Calibration Date(s): 04/02/21 04/02/21

Column: DB624  ID: 0.18 (mm)  Calibration Time(s): 1053 1423

LAB FILE ID:  RF0.25: X040202  RF0.5: X040203  RF1: X040204
RF2: X040205  RF5: X040206  RF20: X040207

| COMPOUND | RF0.25 | RF0.5 | RF1 | RF2 | RF5 | RF20 |
|---|---|---|---|---|---|---|
| cis-1,3-Dichloropropene | | 0.611 | 0.598 | 0.571 | 0.590 | 0.548 |
| trans-1,3-Dichloropropene | | 0.517 | 0.492 | 0.468 | 0.474 | 0.466 |
| 1,3-Dichlorobenzene | | 1.502 | 1.736 | 1.452 | 1.485 | 1.256 |
| 2,2-Dichloropropane | | 0.916 | 1.086 | 0.935 | 0.906 | 0.758 |
| 1,1-Dichloropropene | | 0.543 | 0.501 | 0.512 | 0.458 | 0.402 |
| Dibromomethane | | 0.286 | 0.291 | 0.214 | 0.247 | 0.228 |
| 1,2-Dibromoethane | | 0.370 | 0.328 | 0.322 | 0.362 | 0.311 |
| trans-1,2-Dichloroethene | | 0.453 | 0.559 | 0.506 | 0.509 | 0.446 |
| 1,1,1,2-Tetrachloroethane | | 0.446 | 0.434 | 0.354 | 0.344 | 0.292 |
| 1,1,1-Trichloroethane | | 0.828 | 1.026 | 0.864 | 0.886 | 0.766 |
| 1,1,2,2-Tetrachloroethane | | 0.946 | 0.991 | 0.882 | 0.881 | 0.764 |
| 1,1,2-Trichloroethane | | 0.276 | 0.355 | 0.300 | 0.320 | 0.251 |
| 1,1-Dichloroethane | | 1.027 | 0.916 | 0.805 | 0.947 | 0.879 |
| 1,1-Dichloroethene | | 0.748 | 0.754 | 0.752 | 0.776 | 0.659 |
| Trichloroethene | | 0.263 | 0.401 | 0.364 | 0.376 | 0.308 |
| 1,2,3-Trichlorobenzene | | 129 | 340 | 989 | 3180 | 14313 |
| Trichlorofluoromethane | | 1.637 | 1.782 | 1.590 | 1.451 | 1.285 |
| 1,2,4-Trichlorobenzene | | 587 | 999 | 2030 | 7143 | 30279 |
| 1,2,4-Trimethylbenzene | | 2.563 | 2.788 | 2.727 | 2.571 | 2.165 |
| Tetrachloroethene | | 0.287 | 0.349 | 0.318 | 0.302 | 0.242 |
| 1,2-Dichlorobenzene | | 1.526 | 1.585 | 1.284 | 1.381 | 1.210 |
| 1,2-Dichloroethane | | 0.560 | 0.634 | 0.506 | 0.530 | 0.475 |
| 1,2-Dichloropropane | | 0.366 | 0.428 | 0.336 | 0.353 | 0.311 |
| 1,3,5-Trimethylbenzene | | 3.057 | 2.816 | 2.548 | 2.520 | 2.075 |
| 1,3-Dichloropropane | | 0.554 | 0.646 | 0.553 | 0.596 | 0.480 |
| 1,4-Dichlorobenzene | | 1.897 | 1.894 | 1.620 | 1.598 | 1.310 |
| Toluene | | 1.730 | 1.763 | 1.521 | 1.491 | 1.234 |
| 2-Butanone | | 0.157 | 0.179 | 0.144 | 0.173 | 0.178 |
| 2-Chlorotoluene | | 5215 | 10702 | 18225 | 48629 | 181169 |
| 2-Hexanone | | 1566 | 3776 | 7121 | 18023 | 70194 |
| 4-Chlorotoluene | | 2.704 | 3.192 | 2.653 | 2.552 | 2.255 |
| tert-Butylbenzene | | 4655 | 9533 | 17971 | 44435 | 165790 |
| 4-Methyl-2-Pentanone | | 0.244 | 0.321 | 0.315 | 0.296 | 0.269 |
| Acetone | | 3461 | 5059 | 7678 | 13893 | 51773 |
| Benzene | | 1.557 | 1.547 | 1.342 | 1.283 | 1.158 |
| Bromobenzene | | 0.938 | 1.044 | 0.955 | 0.900 | 0.731 |
| Bromochloromethane | | 0.298 | 0.277 | 0.269 | 0.316 | 0.296 |
| Bromodichloromethane | | 0.538 | 0.573 | 0.489 | 0.492 | 0.458 |
| Bromoform | | 696 | 1463 | 3160 | 10258 | 41512 |
| Bromomethane | | 2683 | 5913 | 9724 | 26104 | 90493 |
| Carbon Disulfide | | 1.497 | 1.596 | 1.417 | 1.385 | 1.210 |
| Carbon Tetrachloride | | 0.473 | 0.534 | 0.410 | 0.428 | 0.373 |
| Chlorobenzene | | 5017 | 10928 | 17493 | 44198 | 175855 |
| Chloroethane | | 0.673 | 0.578 | 0.568 | 0.623 | 0.550 |

# FORM 6
## VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS LABORATORY GROUP  Contract:

Lab Code: ALS-HS  Case No.:  SAS No.:  SDG No.: HS2104108

Instrument ID: VOA6  Calibration Date(s): 04/02/21 04/02/21

Column: DB624  ID: 0.18 (mm)  Calibration Time(s): 1053 1423

LAB FILE ID: RF0.25: X040202 RF0.5: X040203 RF1: X040204
RF2: X040205 RF5: X040206 RF20: X040207

| COMPOUND | RF0.25 | RF0.5 | RF1 | RF2 | RF5 | RF20 |
|---|---|---|---|---|---|---|
| Chloroform | | 0.972 | 1.222 | 1.190 | 1.100 | 0.991 |
| Chloromethane | | 1979 | 4001 | 7064 | 18363 | 65135 |
| cis-1,2-Dichloroethene | | 0.588 | 0.711 | 0.624 | 0.604 | 0.542 |
| Dibromochloromethane | | 0.387 | 0.407 | 0.404 | 0.393 | 0.335 |
| Dichlorodifluoromethane | | 1570 | 3510 | 6450 | 14213 | 52690 |
| Ethylbenzene | | 0.674 | 0.587 | 0.521 | 0.539 | 0.417 |
| Hexachlorobutadiene | | 341 | 903 | 2237 | 5720 | 18261 |
| Isopropylbenzene | | 1.569 | 1.835 | 1.580 | 1.496 | 1.234 |
| m,p-Xylenes | | 0.703 | 0.711 | 0.599 | 0.625 | 0.541 |
| Methylene Chloride | | 2167 | 4155 | 7271 | 17205 | 63925 |
| n-Butylbenzene | | 2.281 | 2.369 | 2.274 | 2.283 | 1.821 |
| n-Propylbenzene | | 3.749 | 4.657 | 4.026 | 3.853 | 2.939 |
| Naphthalene | | 712 | 1196 | 3114 | 9895 | 40800 |
| o-Xylene | | 0.714 | 0.714 | 0.648 | 0.648 | 0.514 |
| sec-Butylbenzene | | 6410 | 14391 | 24043 | 61667 | 229551 |
| Styrene | | 3816 | 8571 | 15017 | 41908 | 184136 |
| Vinyl Chloride | | 0.844 | 0.943 | 0.758 | 0.756 | 0.736 |
| 1,2,3-Trichloropropane | | 0.773 | 0.785 | 0.702 | 0.692 | 0.576 |
| p-Isopropyltoluene | | 2.416 | 2.732 | 2.558 | 2.466 | 2.013 |
| 1,2-Dibromo-3-Chloropropane | | 0.056 | 0.064 | 0.063 | 0.048 | 0.050 |
| 1,2-Dichloroethane-d4 | | 2323 | 4438 | 7506 | 20809 | 80475 |
| Dibromofluoromethane | | 1934 | 3862 | 6870 | 17824 | 68668 |
| Toluene-d8 | | 6330 | 12313 | 22274 | 56112 | 218999 |
| 4-Bromofluorobenzene | | 2889 | 4647 | 7732 | 19193 | 81621 |

FORM VI VOA

# FORM 6
## VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS2104108

Instrument ID: VOA6 Calibration Date(s): 04/02/21 04/02/21

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1053 1423

LAB FILE ID: RF50: X040208 RF100: X040209 RF150: X040210
RF200: X040211

| COMPOUND | RF50 | RF100 | RF150 | RF200 |
|---|---|---|---|---|
| cis-1,3-Dichloropropene | 0.577 | 0.599 | 0.587 | 0.586 |
| trans-1,3-Dichloropropene | 0.504 | 0.518 | 0.532 | 0.522 |
| 1,3-Dichlorobenzene | 1.372 | 1.446 | 1.409 | 1.374 |
| 2,2-Dichloropropane | 0.844 | 0.918 | 0.921 | 0.941 |
| 1,1-Dichloropropene | 0.449 | 0.461 | 0.450 | 0.447 |
| Dibromomethane | 0.237 | 0.245 | 0.235 | 0.236 |
| 1,2-Dibromoethane | 0.341 | 0.351 | 0.355 | 0.354 |
| trans-1,2-Dichloroethene | 0.485 | 0.526 | 0.536 | 0.565 |
| 1,1,1,2-Tetrachloroethane | 0.352 | 0.367 | 0.372 | 0.376 |
| 1,1,1-Trichloroethane | 0.899 | 0.960 | 0.951 | 0.964 |
| 1,1,2,2-Tetrachloroethane | 0.760 | 0.797 | 0.771 | 0.716 |
| 1,1,2-Trichloroethane | 0.265 | 0.281 | 0.281 | 0.284 |
| 1,1-Dichloroethane | 0.839 | 0.947 | 0.987 | 1.005 |
| 1,1-Dichloroethene | 0.668 | 0.684 | 0.663 | 0.702 |
| Trichloroethene | 0.345 | 0.350 | 0.337 | 0.337 |
| 1,2,3-Trichlorobenzene | 52490 | 117190 | 195277 | 281184 |
| Trichlorofluoromethane | 1.310 | 1.307 | 1.274 | 1.278 |
| 1,2,4-Trichlorobenzene | 103358 | 232584 | 381873 | 545632 |
| 1,2,4-Trimethylbenzene | 2.453 | 2.615 | 2.610 | 2.602 |
| Tetrachloroethene | 0.282 | 0.313 | 0.311 | 0.313 |
| 1,2-Dichlorobenzene | 1.265 | 1.382 | 1.336 | 1.392 |
| 1,2-Dichloroethane | 0.517 | 0.525 | 0.513 | 0.503 |
| 1,2-Dichloropropane | 0.329 | 0.336 | 0.332 | 0.335 |
| 1,3,5-Trimethylbenzene | 2.551 | 2.869 | 2.834 | 2.847 |
| 1,3-Dichloropropane | 0.525 | 0.549 | 0.548 | 0.547 |
| 1,4-Dichlorobenzene | 1.387 | 1.462 | 1.467 | 1.402 |
| Toluene | 1.437 | 1.578 | 1.573 | 1.656 |
| 2-Butanone | 0.168 | 0.177 | 0.189 | 0.181 |
| 2-Chlorotoluene | 650376 | 1462425 | 2338020 | 3358028 |
| 2-Hexanone | 226441 | 532674 | 900210 | 1242339 |
| 4-Chlorotoluene | 2.548 | 2.898 | 2.866 | 2.870 |
| tert-Butylbenzene | 651644 | 1479946 | 2477004 | 3439191 |
| 4-Methyl-2-Pentanone | 0.299 | 0.315 | 0.326 | 0.327 |
| Acetone | 120767 | 244755 | 407837 | 582209 |
| Benzene | 1.243 | 1.292 | 1.250 | 1.247 |
| Bromobenzene | 0.779 | 0.821 | 0.792 | 0.797 |
| Bromochloromethane | 0.300 | 0.310 | 0.305 | 0.313 |
| Bromodichloromethane | 0.485 | 0.502 | 0.484 | 0.491 |
| Bromoform | 138380 | 319806 | 537877 | 767647 |
| Bromomethane | 247329 | 554247 | 938790 | |
| Carbon Disulfide | 1.236 | 1.327 | 1.376 | 1.472 |
| Carbon Tetrachloride | 0.449 | 0.470 | 0.464 | 0.460 |
| Chlorobenzene | 563393 | 1339959 | 2237237 | 3183866 |
| Chloroethane | 0.552 | 0.494 | 0.464 | 0.503 |

# FORM 6
## VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS LABORATORY GROUP  Contract:

Lab Code: ALS-HS  Case No.:  SAS No.:  SDG No.: HS2104108

Instrument ID: VOA6  Calibration Date(s): 04/02/21 04/02/21

Column: DB624  ID: 0.18 (mm)  Calibration Time(s): 1053 1423

LAB FILE ID:  RF50: X040208  RF100: X040209  RF150: X040210
RF200: X040211

| COMPOUND | RF50 | RF100 | RF150 | RF200 |
|---|---|---|---|---|
| Chloroform | 1.044 | 1.107 | 1.055 | 1.092 |
| Chloromethane | 185744 | 419280 | 667172 | 907287 |
| cis-1,2-Dichloroethene | 0.580 | 0.612 | 0.608 | 0.631 |
| Dibromochloromethane | 0.378 | 0.397 | 0.407 | 0.405 |
| Dichlorodifluoromethane | 160699 | 387079 | 621536 | 916685 |
| Ethylbenzene | 0.509 | 0.530 | 0.519 | 0.521 |
| Hexachlorobutadiene | 81563 | 187520 | 305917 | 429774 |
| Isopropylbenzene | 1.565 | 1.701 | 1.692 | 1.726 |
| m,p-Xylenes | 0.674 | 0.727 | 0.747 | 0.773 |
| Methylene Chloride | 173954 | 420832 | 703062 | 1013494 |
| n-Butylbenzene | 2.457 | 2.722 | 2.645 | 2.750 |
| n-Propylbenzene | 3.678 | 3.844 | 3.709 | 3.686 |
| Naphthalene | 141575 | 310567 | 520608 | 749188 |
| o-Xylene | 0.621 | 0.665 | 0.678 | 0.713 |
| sec-Butylbenzene | 916729 | 2181632 | | |
| Styrene | 627903 | 1538607 | 2637559 | 3858242 |
| Vinyl Chloride | 0.712 | 0.681 | 0.664 | 0.652 |
| 1,2,3-Trichloropropane | 0.635 | 0.657 | 0.610 | 0.610 |
| p-Isopropyltoluene | 2.525 | 2.768 | 2.671 | 2.646 |
| 1,2-Dibromo-3-Chloropropane | 0.052 | 0.051 | 0.054 | 0.052 |
| 1,2-Dichloroethane-d4 | 243778 | 568806 | 919399 | 1266674 |
| Dibromofluoromethane | 201590 | 476731 | 758989 | 1061294 |
| Toluene-d8 | 658700 | 1733824 | 2714142 | 3949224 |
| 4-Bromofluorobenzene | 267013 | 624362 | 1011725 | 1473828 |

FORM VI VOA

# FORM 6
## VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS LABORATORY GROUP  Contract:

Lab Code: ALS-HS  Case No.:  SAS No.:  SDG No.: HS2104108

Instrument ID: VOA6  Calibration Date(s): 04/02/21 04/02/21

Column: DB624  ID: 0.18 (mm)  Calibration Time(s): 1053 1423

| COMPOUND | CURVE | COEFFICENTS A0 | A1 | A2 | %RSD OR R^2 | MAX %RSD OR R^2 |
|---|---|---|---|---|---|---|
| cis-1,3-Dichloropropene | AVRG | | 0.58520519 | | 3.152 | 15.000 |
| trans-1,3-Dichloropropene | AVRG | | 0.49915698 | | 5.030 | 15.000 |
| 1,3-Dichlorobenzene | AVRG | | 1.44813613 | | 9.040 | 15.000 |
| 2,2-Dichloropropane | AVRG | | 0.91405893 | | 9.504 | 15.000 |
| 1,1-Dichloropropene | AVRG | | 0.46917580 | | 9.014 | 15.000 |
| Dibromomethane | AVRG | | 0.24653572 | | 10.433 | 15.000 |
| 1,2-Dibromoethane | AVRG | | 0.34372934 | | 5.743 | 15.000 |
| trans-1,2-Dichloroethene | AVRG | | 0.50953350 | | 8.299 | 15.000 |
| 1,1,1,2-Tetrachloroethane | AVRG | | 0.37102268 | | 12.551 | 15.000 |
| 1,1,1-Trichloroethane | AVRG | | 0.90484867 | | 8.784 | 15.000 |
| 1,1,2,2-Tetrachloroethane | AVRG | | 0.83418422 | | 11.296 | 15.000 |
| 1,1,2-Trichloroethane | AVRG | | 0.29044925 | | 10.722 | 15.000 |
| 1,1-Dichloroethane | AVRG | | 0.92815456 | | 8.120 | 15.000 |
| 1,1-Dichloroethene | AVRG | | 0.71193342 | | 6.418 | 15.000 |
| Trichloroethene | AVRG | | 0.34228157 | | 11.637 | 15.000 |
| 1,2,3-Trichlorobenzene | LINR | 2.456e-002 | 5.68414421 | | 0.9997690 | 0.9900000 |
| Trichlorofluoromethane | AVRG | | 1.43491906 | | 13.285 | 15.000 |
| 1,2,4-Trichlorobenzene | LINR | 1.064e-002 | 2.92570541 | | 0.9999122 | 0.9900000 |
| 1,2,4-Trimethylbenzene | AVRG | | 2.56609512 | | 6.957 | 15.000 |
| Tetrachloroethene | AVRG | | 0.30180986 | | 9.756 | 15.000 |
| 1,2-Dichlorobenzene | AVRG | | 1.37352217 | | 8.786 | 15.000 |
| 1,2-Dichloroethane | AVRG | | 0.52923847 | | 8.569 | 15.000 |
| 1,2-Dichloropropane | AVRG | | 0.34746320 | | 9.746 | 15.000 |
| 1,3,5-Trimethylbenzene | AVRG | | 2.67975715 | | 10.826 | 15.000 |
| 1,3-Dichloropropane | AVRG | | 0.55524978 | | 8.209 | 15.000 |
| 1,4-Dichlorobenzene | AVRG | | 1.55975685 | | 13.707 | 15.000 |
| Toluene | AVRG | | 1.55369092 | | 10.350 | 15.000 |
| 2-Butanone | AVRG | | 0.17188136 | | 8.043 | 15.000 |
| 2-Chlorotoluene | LINR | -3.16e-004 | 0.47619041 | | 0.9996583 | 0.9900000 |
| 2-Hexanone | LINR | 5.774e-002 | 4.70883716 | | 0.9992788 | 0.9900000 |
| 4-Chlorotoluene | AVRG | | 2.72651892 | | 9.851 | 15.000 |
| tert-Butylbenzene | LINR | 1.442e-002 | 0.45914509 | | 0.9994260 | 0.9900000 |
| 4-Methyl-2-Pentanone | AVRG | | 0.30135668 | | 9.309 | 15.000 |
| Acetone | LINR | -8.92e-002 | 6.30997186 | | 0.9981749 | 0.9900000 |
| Benzene | AVRG | | 1.32442622 | | 10.422 | 15.000 |
| Bromobenzene | AVRG | | 0.86189203 | | 11.857 | 15.000 |
| Bromochloromethane | AVRG | | 0.29822245 | | 5.347 | 15.000 |
| Bromodichloromethane | AVRG | | 0.50136209 | | 6.797 | 15.000 |
| Bromoform | LINR | 4.08e-002 | 3.84770696 | | 0.9988231 | 0.9900000 |
| Bromomethane | LINR | -3.75e-003 | 1.40365124 | | 0.9992972 | 0.9900000 |
| Carbon Disulfide | AVRG | | 1.39065583 | | 8.875 | 15.000 |
| Carbon Tetrachloride | AVRG | | 0.45111664 | | 10.005 | 15.000 |
| Chlorobenzene | LINR | 3.548e-002 | 0.92786401 | | 0.9987986 | 0.9900000 |
| Chloroethane | AVRG | | 0.55618809 | | 11.716 | 15.000 |

# FORM 6
## VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS LABORATORY GROUP  Contract:

Lab Code: ALS-HS  Case No.:  SAS No.:  SDG No.: HS2104108

Instrument ID: VOA6  Calibration Date(s): 04/02/21 04/02/21

Column: DB624  ID: 0.18 (mm)  Calibration Time(s): 1053 1423

| COMPOUND | CURVE | COEFFICENTS A0 | A1 | A2 | %RSD OR R^2 | MAX %RSD OR R^2 |
|---|---|---|---|---|---|---|
| Chloroform | AVRG | | 1.08583611 | | 7.606 | 15.000 |
| Chloromethane | LINR | -1.64e-002 | 1.95759673 | | 0.9998247 | 0.9900000 |
| cis-1,2-Dichloroethene | AVRG | | 0.61120734 | | 7.506 | 15.000 |
| Dibromochloromethane | AVRG | | 0.39032656 | | 5.891 | 15.000 |
| Dichlorodifluoromethane | LINR | 3.342e-002 | 1.98263895 | | 0.9976252 | 0.9900000 |
| Ethylbenzene | AVRG | | 0.53519726 | | 12.727 | 15.000 |
| Hexachlorobutadiene | LINR | 2.012e-002 | 3.67390387 | | 0.9990912 | 0.9900000 |
| Isopropylbenzene | AVRG | | 1.59986884 | | 10.758 | 15.000 |
| m,p-Xylenes | AVRG | | 0.67771190 | | 11.180 | 15.000 |
| Methylene Chloride | LINR | 2.966e-002 | 1.78818120 | | 0.9978871 | 0.9900000 |
| n-Butylbenzene | AVRG | | 2.40036584 | | 12.051 | 15.000 |
| n-Propylbenzene | AVRG | | 3.79338843 | | 11.677 | 15.000 |
| Naphthalene | LINR | 1.485e-002 | 2.14021732 | | 0.9998061 | 0.9900000 |
| o-Xylene | AVRG | | 0.65719452 | | 9.642 | 15.000 |
| sec-Butylbenzene | 2ORDR | 9.564e-004 | 0.37536023 | -1.01e-002 | 0.9987986 | 0.9900000 |
| Styrene | LINR | 6.725e-002 | 0.76975814 | | 0.9966097 | 0.9900000 |
| Vinyl Chloride | AVRG | | 0.74959896 | | 12.472 | 15.000 |
| 1,2,3-Trichloropropane | AVRG | | 0.67109213 | | 10.879 | 15.000 |
| p-Isopropyltoluene | AVRG | | 2.53288753 | | 9.002 | 15.000 |
| 1,2-Dibromo-3-Chloropropane | AVRG | | 5.439e-002 | | 10.437 | 15.000 |
| 1,2-Dichloroethane-d4 | LINR | 9.666e-003 | 1.40410549 | | 0.9998489 | 0.9900000 |
| Dibromofluoromethane | LINR | 8.656e-003 | 1.68407127 | | 0.9996746 | 0.9900000 |
| Toluene-d8 | LINR | 3.71e-002 | 0.74922718 | | 0.9979532 | 0.9900000 |
| 4-Bromofluorobenzene | LINR | 3.301e-002 | 2.01663185 | | 0.9986184 | 0.9900000 |

FORM VI VOA

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040201.D



Date : 02-APR-2021 10:32

Client ID: BFB

Instrument: voa6.i

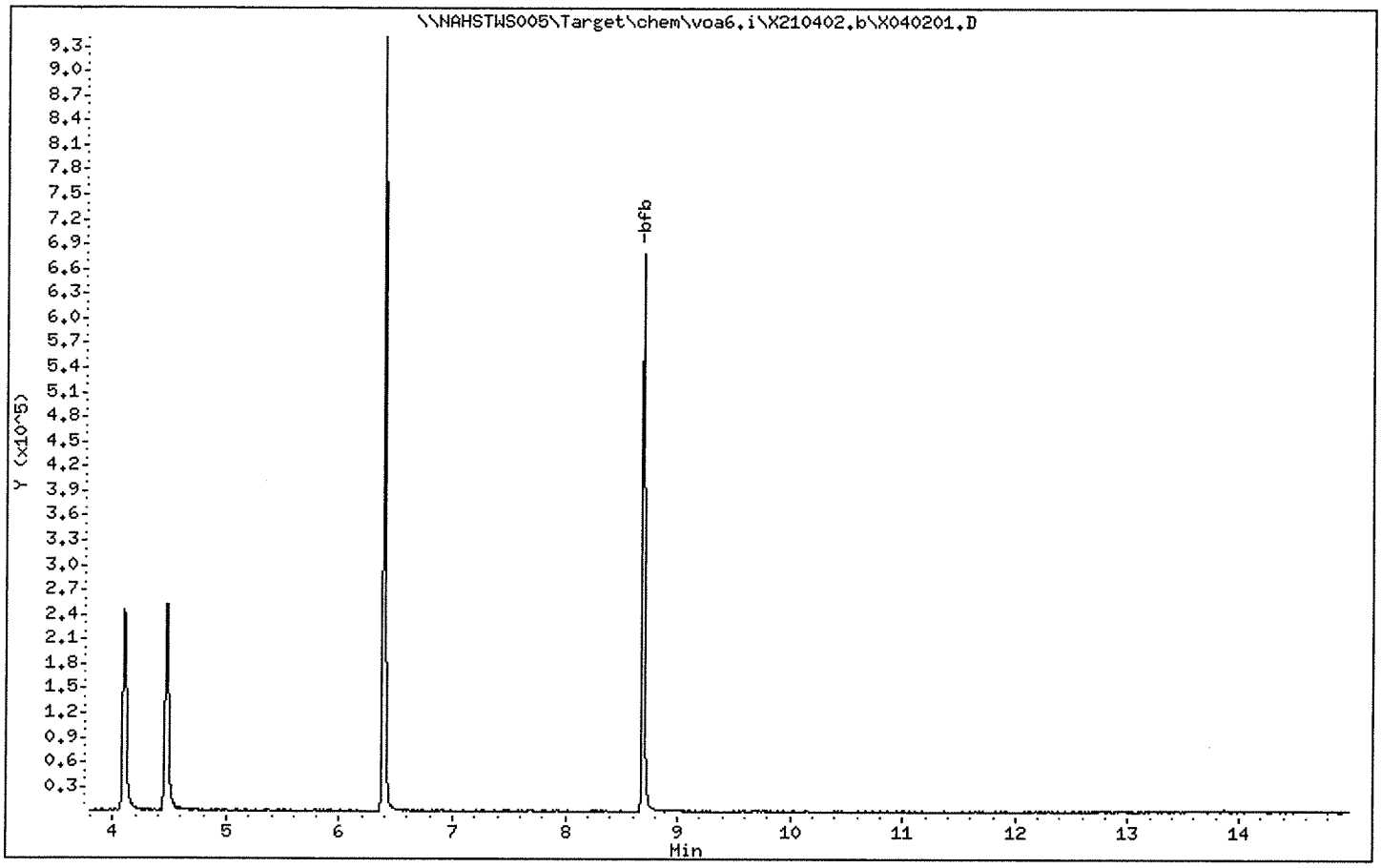
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040201.D



Date : 02-APR-2021 10:32

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

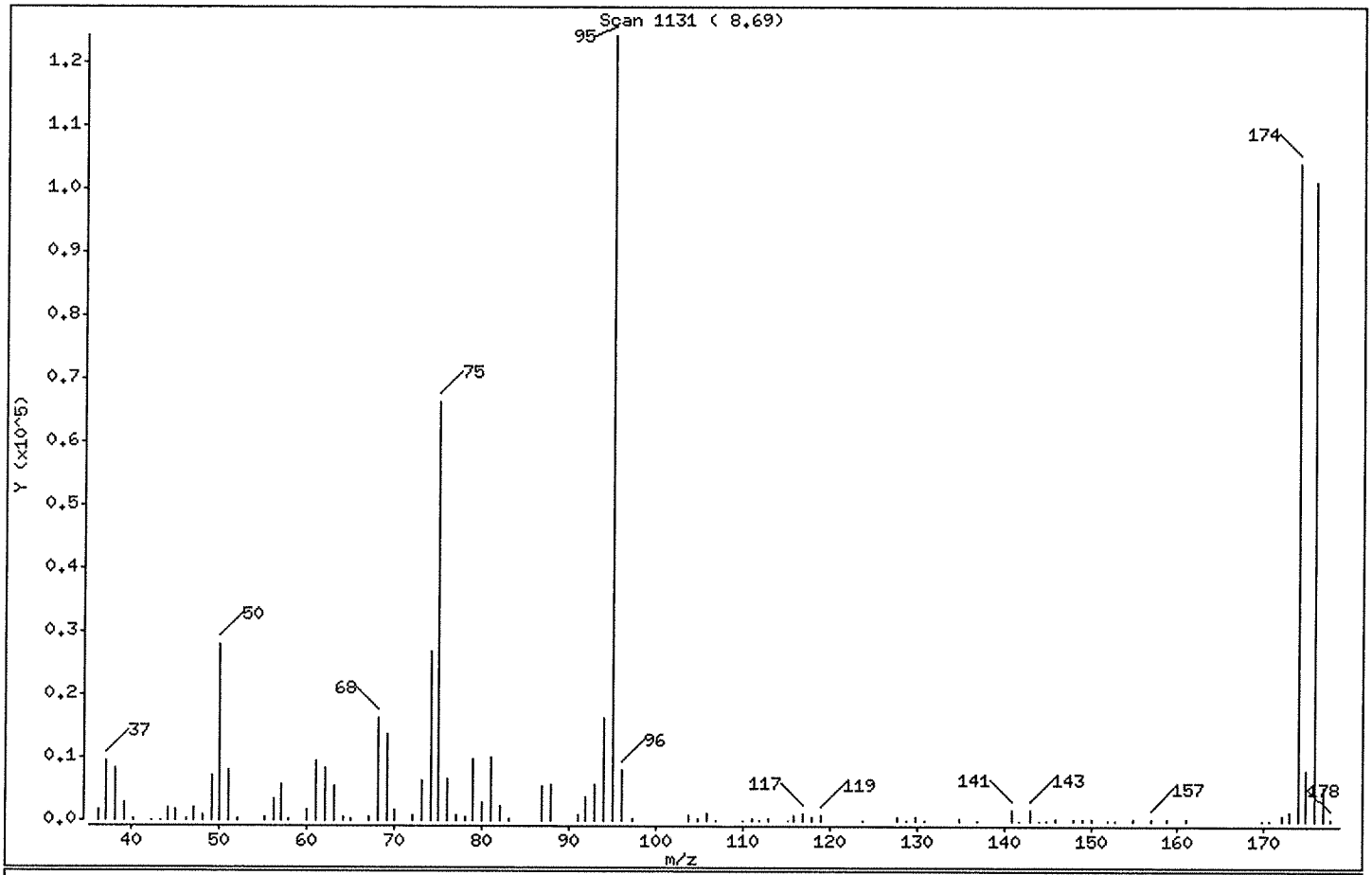
Volume Injected (uL): 2.0

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 | 22.51 |
| 75 | 30.00 - 60.00% of mass 95 | 53.31 |
| 96 | 5.00 - 9.00% of mass 95 | 6.51 |
| 173 | Less than 2.00% of mass 174 | 1.06 ( 1.26) |
| 174 | Greater than 50.00% of mass 95 | 83.79 |
| 175 | 5.00 - 9.00% of mass 174 | 6.34 ( 7.56) |
| 176 | 95.00 - 101.00% of mass 174 | 81.37 ( 97.11) |
| 177 | 5.00 - 9.00% of mass 176 | 4.40 ( 5.40) |

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040201.D



Date : 02-APR-2021 10:32

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: X040201.D
Spectrum: Scan 1131 ( 8.69)
Location of Maximum: 95.00
Number of points: 95

| m/z | Y | m/z | Y | m/z | Y | m/z | Y |
|---|---|---|---|---|---|---|---|
| 36.10 | 1732 | 64.00 | 599 | 95.00 | 124200 | 141.70 | 84 |
| 37.00 | 9290 | 65.00 | 153 | 96.00 | 8090 | 142.90 | 1576 |
| 38.00 | 8308 | 67.00 | 500 | 97.20 | 217 | 143.90 | 75 |
| 39.00 | 2929 | 68.00 | 16384 | 103.70 | 740 | 144.80 | 94 |
| 40.10 | 424 | 69.00 | 13717 | 104.80 | 164 | 145.90 | 148 |
| 42.20 | 74 | 70.00 | 1785 | 105.80 | 1029 | 147.90 | 250 |
| 43.20 | 72 | 72.10 | 777 | 106.90 | 112 | 148.90 | 155 |
| 44.00 | 2050 | 73.00 | 6328 | 109.90 | 136 | 150.00 | 286 |
| 45.00 | 1795 | 74.00 | 26912 | 111.00 | 268 | 151.80 | 52 |
| 46.10 | 242 | 75.00 | 66216 | 111.90 | 85 | 152.70 | 124 |
| 47.00 | 1874 | 76.00 | 6620 | 112.90 | 237 | 154.80 | 284 |
| 48.00 | 988 | 77.10 | 800 | 115.10 | 59 | 156.80 | 312 |
| 49.00 | 7094 | 78.10 | 446 | 115.80 | 811 | 158.80 | 260 |
| 50.00 | 27952 | 78.90 | 9818 | 116.90 | 1154 | 161.00 | 258 |
| 51.00 | 7947 | 79.90 | 2794 | 117.80 | 635 | 169.80 | 139 |
| 51.90 | 391 | 80.90 | 10133 | 118.90 | 930 | 170.60 | 140 |
| 55.20 | 631 | 82.00 | 2269 | 123.70 | 57 | 172.20 | 893 |
| 56.10 | 3391 | 83.00 | 193 | 127.70 | 679 | 172.90 | 1311 |
| 57.00 | 5690 | 86.90 | 5298 | 128.70 | 113 | 173.90 | 104064 |
| 57.90 | 400 | 87.90 | 5776 | 129.70 | 519 | 174.90 | 7871 |
| 59.90 | 1604 | 90.90 | 805 | 130.80 | 68 | 175.90 | 101056 |
| 61.00 | 9323 | 91.90 | 3707 | 134.80 | 220 | 176.90 | 5459 |
| 62.00 | 8245 | 92.90 | 5610 | 136.80 | 123 | 177.80 | 373 |
| 63.00 | 5418 | 94.00 | 16192 | 140.90 | 1678 | | |

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040202.D Page 1
Report Date: 14-Apr-2021 12:06

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040202.D
Lab Smp Id: VSTD000.25 Client Smp ID: VSTD000.25
Inj Date : 02-APR-2021 10:53
Operator : PC Inst ID: voa6.i
Smp Info : VSTD000.25;VSTD000.25;1;1;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\8260W.m
Meth Date : 14-Apr-2021 12:06 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 14:23 Cal File: X040211.D
Als bottle: 2 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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 | 4.182 | 4.182 | (1.000) | 311555 | 50.0000 | |
| * | 36 1,4-Difluorobenzene | 114 | 4.963 | 4.963 | (1.000) | 505232 | 50.0000 | |
| * | 47 Chlorobenzene-d5 | 117 | 7.671 | 7.671 | (1.000) | 450629 | 50.0000 | |
| * | 70 1,4-Dichlorobenzene-d4 | 152 | 9.662 | 9.662 | (1.000) | 197083 | 50.0000 | |
| $ | 30 Dibromofluoromethane | 113 | 4.103 | 4.103 | (0.981) | 968 | 0.25000 | 0.69(aM) |
| $ | 35 1,2-Dichloroethane-d4 | 65 | 4.476 | 4.476 | (1.070) | 1238 | 0.25000 | 0.76(TaM) |
| $ | 48 Toluene-d8 | 98 | 6.396 | 6.396 | (0.834) | 4819 | 0.25000 | 2.25(a) |
| $ | 69 4-Bromofluorobenzene | 95 | 8.695 | 8.695 | (1.134) | 3592 | 0.25000 | 2.45(a) |
| | 60 1,1,1,2-Tetrachloroethane | 131 | 7.771 | 7.771 | (1.013) | 1020 | 0.25000 | 0.30(a) |
| | 31 1,1,1-Trichloroethane | 97 | 4.075 | 4.075 | (0.974) | 1165 | 0.25000 | 0.20(a) |
| | 68 1,1,2,2-Tetrachloroethane | 83 | 8.838 | 8.838 | (0.915) | 1175 | 0.25000 | 0.35(aM) |
| | 53 1,1,2-Trichloroethane | 83 | 6.840 | 6.840 | (0.892) | 995 | 0.25000 | 0.38(a) |
| | 22 1,1-Dichloroethane | 63 | 2.936 | 2.936 | (0.702) | 2053 | 0.25000 | 0.35(aM) |
| | 11 1,1-Dichloroethene | 96 | 1.904 | 1.904 | (0.455) | 1567 | 0.25000 | 0.35(aM) |
| | 32 1,1-Dichloropropene | 75 | 4.275 | 4.275 | (0.861) | 1486 | 0.25000 | 0.31(aM) |
| | 71 1,2,3-Trichloropropane | 75 | 8.867 | 8.867 | (0.918) | 809 | 0.25000 | 0.30(a) |
| | 90 1,2,4-Trichlorobenzene | 180 | 11.410 | 11.410 | (1.181) | 217 | 0.25000 | 0.69(aM) |
| | 79 1,2,4-Trimethylbenzene | 105 | 9.383 | 9.383 | (0.971) | 3018 | 0.25000 | 0.29(a) |
| | 57 1,2-Dibromoethane | 107 | 7.262 | 7.262 | (0.947) | 1258 | 0.25000 | 0.40(a) |
| | 88 1,2-Dichlorobenzene | 146 | 10.006 | 10.006 | (1.036) | 1278 | 0.25000 | 0.23(a) |
| | 33 1,2-Dichloroethane | 62 | 4.562 | 4.562 | (0.919) | 1597 | 0.25000 | 0.29(a) |
| | 42 1,2-Dichloropropane | 63 | 5.450 | 5.450 | (1.098) | 1245 | 0.25000 | 0.35(aM) |

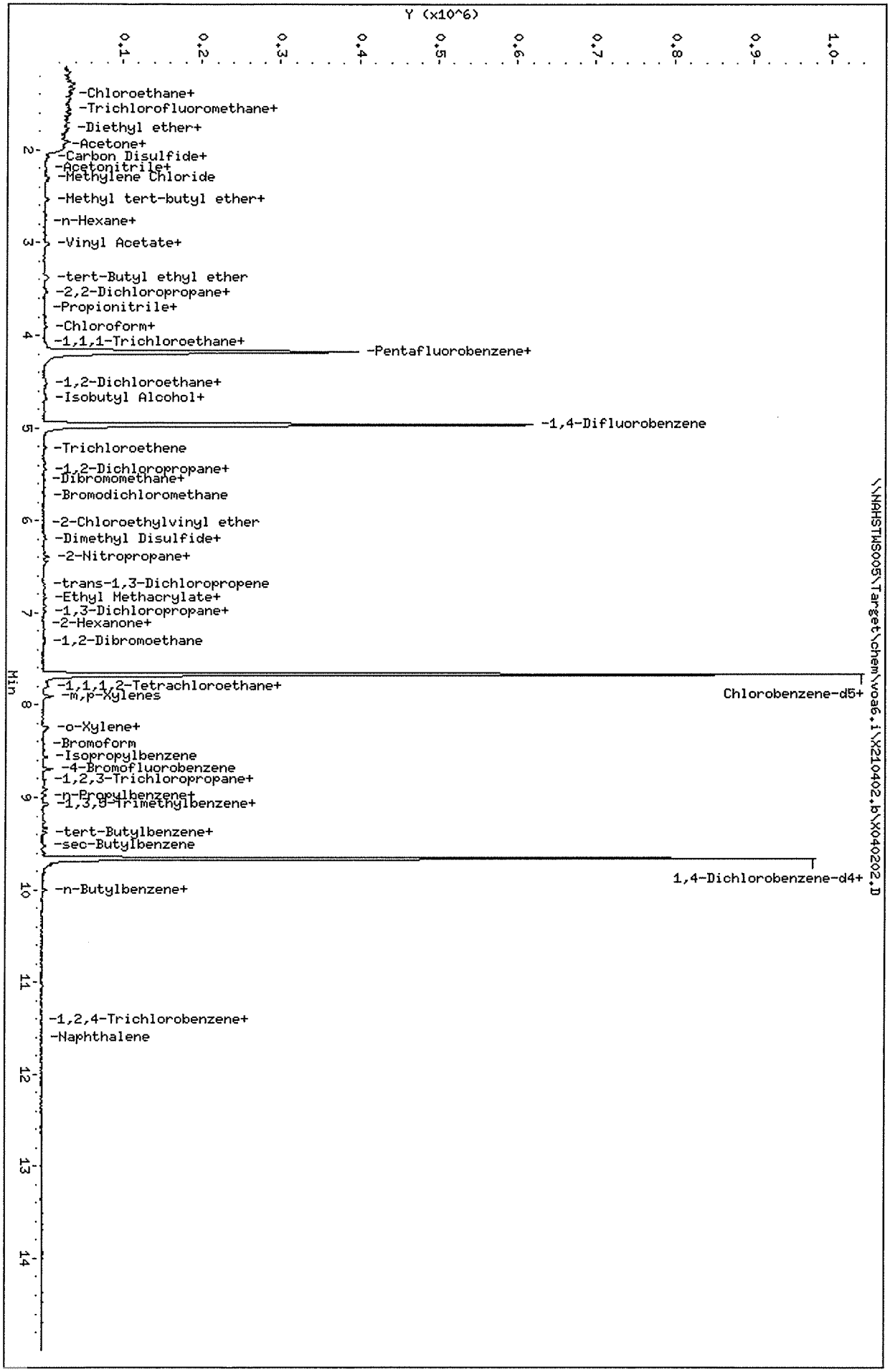
| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|---|
| 75 | 1,3,5-Trimethylbenzene | 105 | 9.075 | 9.075 | (0.939) | 3425 | 0.25000 | 0.32(a) |
| 83 | 1,3-Dichlorobenzene | 146 | 9.605 | 9.605 | (0.994) | 1316 | 0.25000 | 0.23(a) |
| 54 | 1,3-Dichloropropane | 76 | 6.983 | 6.983 | (0.910) | 1498 | 0.25000 | 0.29(a) |
| 84 | 1,4-Dichlorobenzene | 146 | 9.683 | 9.683 | (1.002) | 2103 | 0.25000 | 0.34(a) |
| 26 | 2,2-Dichloropropane | 77 | 3.516 | 3.516 | (0.841) | 1255 | 0.25000 | 0.22(aM) |
| 24 | 2-Butanone | 43 | 3.623 | 3.623 | (0.866) | 526 | 0.50000 | 0.49(aM) |
| 76 | 2-Chlorotoluene | 91 | 8.981 | 8.981 | (0.930) | 2725 | 0.25000 | 0.31(a) |
| 52 | 2-Hexanone | 43 | 7.119 | 7.119 | (0.928) | 791 | 0.50000 | 3.30(Ta) |
| 77 | 4-Chlorotoluene | 91 | 9.082 | 9.082 | (0.940) | 2618 | 0.25000 | 0.24(a) |
| 82 | p-Isopropyltoluene | 119 | 9.655 | 9.655 | (0.999) | 2684 | 0.25000 | 0.26(a) |
| 45 | 4-Methyl-2-Pentanone | 43 | 6.338 | 6.338 | (0.826) | 1687 | 0.50000 | 0.62(aM) |
| 10 | Acetone | 43 | 1.983 | 1.983 | (0.474) | 3928 | 0.50000 | (a) |
| 37 | Benzene | 78 | 4.526 | 4.526 | (0.912) | 3943 | 0.25000 | 0.29(a) |
| 74 | Bromobenzene | 156 | 8.810 | 8.810 | (0.912) | 1120 | 0.25000 | 0.32(a) |
| 29 | Bromochloromethane | 128 | 3.788 | 3.788 | (0.906) | 448 | 0.25000 | 0.24(aM) |
| 39 | Bromodichloromethane | 83 | 5.729 | 5.729 | (1.154) | 1400 | 0.25000 | 0.27(aM) |
| 66 | Bromoform | 173 | 8.416 | 8.416 | (1.097) | 286 | 0.25000 | 2.16(aM) |
| 6 | Bromomethane | 94 | 1.346 | 1.346 | (0.322) | 1613 | 0.25000 | 0.17(aM) |
| 19 | Carbon Disulfide | 76 | 2.069 | 2.069 | (0.495) | 5638 | 0.50000 | 0.65(a) |
| 34 | Carbon Tetrachloride | 117 | 4.261 | 4.261 | (0.859) | 2083 | 0.25000 | 0.45(a) |
| 59 | Chlorobenzene | 112 | 7.692 | 7.692 | (1.003) | 3199 | 0.25000 | 2.10(a) |
| 7 | Chloroethane | 64 | 1.389 | 1.389 | (0.332) | 1580 | 0.25000 | 0.45(aM) |
| 28 | Chloroform | 83 | 3.910 | 3.910 | (0.935) | 1916 | 0.25000 | 0.28(a) |
| 3 | Chloromethane | 50 | 1.073 | 1.073 | (0.257) | 1314 | 0.25000 | (aM) |
| 27 | cis-1,2-Dichloroethene | 96 | 3.530 | 3.530 | (0.844) | 893 | 0.25000 | 0.23(aM) |
| 46 | cis-1,3-Dichloropropene | 75 | 6.166 | 6.166 | (1.242) | 1627 | 0.25000 | 0.27(aM) |
| 55 | Dibromochloromethane | 129 | 7.184 | 7.184 | (0.937) | 1273 | 0.25000 | 0.36(a) |
| 44 | Dibromomethane | 93 | 5.558 | 5.558 | (1.120) | 991 | 0.25000 | 0.39(a) |
| 2 | Dichlorodifluoromethane | 85 | 0.966 | 0.966 | (0.231) | 875 | 0.25000 | 1.94(aM) |
| 61 | Ethylbenzene | 106 | 7.800 | 7.800 | (1.017) | 1453 | 0.25000 | 0.30(a) |
| 91 | Hexachlorobutadiene | 225 | 11.481 | 11.481 | (1.188) | 297 | 0.25000 | 1.28(aM) |
| 67 | Isopropylbenzene | 105 | 8.566 | 8.566 | (1.117) | 3890 | 0.25000 | 0.26(a) |
| 62 | m,p-Xylenes | 106 | 7.907 | 7.907 | (1.031) | 2740 | 0.50000 | 0.44(a) |
| 17 | Methylene Chloride | 84 | 2.305 | 2.305 | (0.551) | 2054 | 0.25000 | 2.07(aM) |
| 87 | n-Butylbenzene | 91 | 10.006 | 10.006 | (1.036) | 2335 | 0.25000 | 0.24(a) |
| 73 | n-Propylbenzene | 91 | 8.924 | 8.924 | (0.924) | 3594 | 0.25000 | 0.24(a) |
| 92 | Naphthalene | 128 | 11.546 | 11.546 | (1.195) | 101 | 0.25000 | 0.79(aM) |
| 63 | o-Xylene | 106 | 8.244 | 8.244 | (1.075) | 1559 | 0.25000 | 0.26(a) |
| 81 | sec-Butylbenzene | 105 | 9.519 | 9.519 | (0.985) | 2687 | 0.25000 | 0.30(a) |
| 64 | Styrene | 104 | 8.272 | 8.272 | (1.078) | 2337 | 0.25000 | 3.56(a) |
| 78 | tert-Butylbenzene | 119 | 9.340 | 9.340 | (0.967) | 2337 | 0.25000 | 0.99(a) |
| 56 | Tetrachloroethene | 164 | 6.926 | 6.926 | (0.903) | 529 | 0.25000 | 0.19(aM) |
| 50 | Toluene | 91 | 6.446 | 6.446 | (0.840) | 3818 | 0.25000 | 0.27(a) |
| 20 | trans-1,2-Dichloroethene | 96 | 2.528 | 2.528 | (0.604) | 928 | 0.25000 | 0.29(Ta) |
| 51 | trans-1,3-Dichloropropene | 75 | 6.696 | 6.696 | (1.349) | 1368 | 0.25000 | 0.27(a) |
| 38 | Trichloroethene | 130 | 5.221 | 5.221 | (1.052) | 988 | 0.25000 | 0.28(aM) |
| 8 | Trichlorofluoromethane | 101 | 1.553 | 1.553 | (0.371) | 2725 | 0.25000 | 0.30(a) |
| 5 | Vinyl Chloride | 62 | 1.145 | 1.145 | (0.274) | 1614 | 0.25000 | 0.34(aM) |

## QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

QC Flag Legend

M - Compound response manually integrated.




Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040202.D
Date : 02-APR-2021 10:53
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

\\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040202.D

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040203.D Page 1
Report Date: 14-Apr-2021 12:07

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040203.D
Lab Smp Id: VSTD000.5 Client Smp ID: VSTD000.5
Inj Date : 02-APR-2021 11:35
Operator : PC Inst ID: voa6.i
Smp Info : VSTD000.5;VSTD000.5;1;2;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\8260W.m
Meth Date : 14-Apr-2021 12:07 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 10:53 Cal File: X040202.D
Als bottle: 4 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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 |

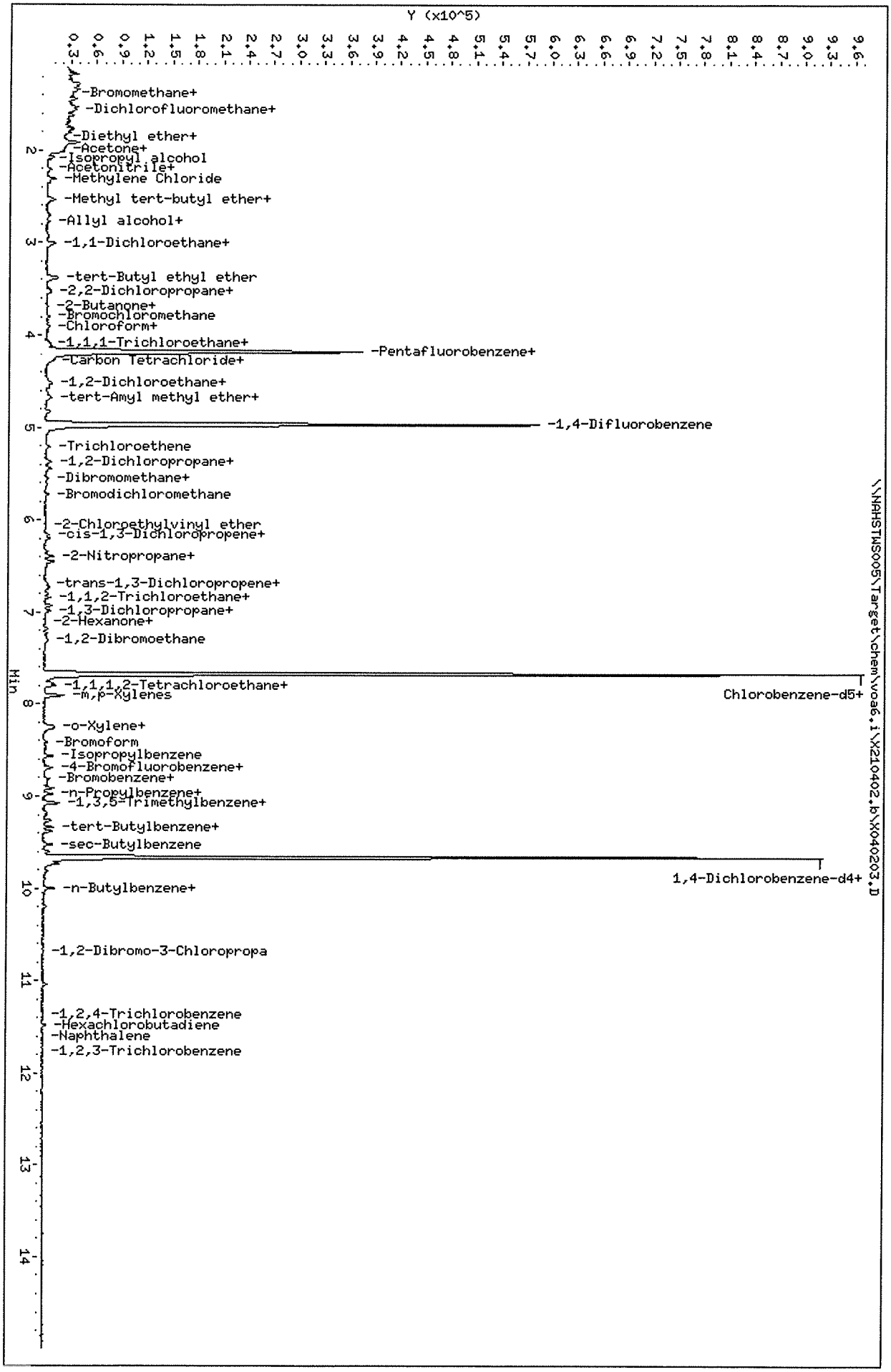
| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|
| * 1 Pentafluorobenzene | 168 | 4.182 | 4.182 | (1.000) | 292480 | 50.0000 | |
| * 36 1,4-Difluorobenzene | 114 | 4.970 | 4.970 | (1.000) | 476531 | 50.0000 | |
| * 47 Chlorobenzene-d5 | 117 | 7.671 | 7.671 | (1.000) | 420545 | 50.0000 | |
| * 70 1,4-Dichlorobenzene-d4 | 152 | 9.662 | 9.662 | (1.000) | 191809 | 50.0000 | |
| $ 30 Dibromofluoromethane | 113 | 4.118 | 4.118 | (0.985) | 1934 | 0.50000 | 0.98(a) |
| $ 35 1,2-Dichloroethane-d4 | 65 | 4.476 | 4.476 | (1.070) | 2323 | 0.50000 | 1.04(Ta) |
| $ 48 Toluene-d8 | 98 | 6.389 | 6.389 | (0.833) | 6330 | 0.50000 | 2.41(Ta) |
| $ 69 4-Bromofluorobenzene | 95 | 8.695 | 8.695 | (1.134) | 2889 | 0.50000 | 2.34(a) |
| 60 1,1,1,2-Tetrachloroethane | 131 | 7.778 | 7.778 | (1.014) | 1878 | 0.50000 | 0.60(a) |
| 31 1,1,1-Trichloroethane | 97 | 4.082 | 4.082 | (0.976) | 2422 | 0.50000 | 0.45(a) |
| 68 1,1,2,2-Tetrachloroethane | 83 | 8.845 | 8.845 | (0.915) | 1814 | 0.50000 | 0.56(aM) |
| 53 1,1,2-Trichloroethane | 83 | 6.847 | 6.847 | (0.893) | 1162 | 0.50000 | 0.47(a) |
| 22 1,1-Dichloroethane | 63 | 2.914 | 2.914 | (0.697) | 3004 | 0.50000 | 0.55(Ta) |
| 11 1,1-Dichloroethene | 96 | 1.926 | 1.926 | (0.461) | 2188 | 0.50000 | 0.52(aM) |
| 32 1,1-Dichloropropene | 75 | 4.283 | 4.283 | (0.862) | 2586 | 0.50000 | 0.57(aM) |
| 93 1,2,3-Trichlorobenzene | 180 | 11.768 | 11.768 | (1.218) | 129 | 0.50000 | 1.41(aM) |
| 71 1,2,3-Trichloropropane | 75 | 8.867 | 8.867 | (0.918) | 1482 | 0.50000 | 0.57(aM) |
| 90 1,2,4-Trichlorobenzene | 180 | 11.374 | 11.374 | (1.177) | 587 | 0.50000 | 0.97(aM) |
| 79 1,2,4-Trimethylbenzene | 105 | 9.383 | 9.383 | (0.971) | 4917 | 0.50000 | 0.49(a) |
| 89 1,2-Dibromo-3-Chloropropane | 155 | 10.679 | 10.679 | (1.105) | 107 | 0.50000 | 0.51(aM) |
| 57 1,2-Dibromoethane | 107 | 7.262 | 7.262 | (0.947) | 1554 | 0.50000 | 0.53(a) |
| 88 1,2-Dichlorobenzene | 146 | 9.992 | 9.992 | (1.034) | 2928 | 0.50000 | 0.55(a) |

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040203.D Page 2
Report Date: 14-Apr-2021 12:07

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|---|
| 33 | 1,2-Dichloroethane | 62 | 4.562 | 4.562 | (0.918) | 2669 | 0.50000 | 0.52(aM) |
| 42 | 1,2-Dichloropropane | 63 | 5.443 | 5.443 | (1.095) | 1742 | 0.50000 | 0.52(aM) |
| 75 | 1,3,5-Trimethylbenzene | 105 | 9.067 | 9.067 | (0.938) | 5864 | 0.50000 | 0.57(a) |
| 83 | 1,3-Dichlorobenzene | 146 | 9.605 | 9.605 | (0.994) | 2882 | 0.50000 | 0.51(a) |
| 54 | 1,3-Dichloropropane | 76 | 6.983 | 6.983 | (0.910) | 2329 | 0.50000 | 0.49(a) |
| 84 | 1,4-Dichlorobenzene | 146 | 9.683 | 9.683 | (1.002) | 3639 | 0.50000 | 0.60(aM) |
| 26 | 2,2-Dichloropropane | 77 | 3.509 | 3.509 | (0.839) | 2680 | 0.50000 | 0.50(a) |
| 24 | 2-Butanone | 43 | 3.616 | 3.616 | (0.865) | 917 | 1.00000 | 0.91(aM) |
| 76 | 2-Chlorotoluene | 91 | 8.974 | 8.974 | (0.929) | 5215 | 0.50000 | 0.63(a) |
| 52 | 2-Hexanone | 43 | 7.112 | 7.112 | (0.927) | 1566 | 1.00000 | 3.76(a) |
| 77 | 4-Chlorotoluene | 91 | 9.082 | 9.082 | (0.940) | 5187 | 0.50000 | 0.49(a) |
| 82 | p-Isopropyltoluene | 119 | 9.648 | 9.648 | (0.999) | 4635 | 0.50000 | 0.47(a) |
| 45 | 4-Methyl-2-Pentanone | 43 | 6.338 | 6.338 | (0.826) | 2057 | 1.00000 | 0.81(a) |
| 10 | Acetone | 43 | 1.983 | 1.983 | (0.474) | 3461 | 1.00000 | (a) |
| 37 | Benzene | 78 | 4.519 | 4.519 | (0.909) | 7419 | 0.50000 | 0.58(a) |
| 74 | Bromobenzene | 156 | 8.802 | 8.802 | (0.911) | 1800 | 0.50000 | 0.54(a) |
| 29 | Bromochloromethane | 128 | 3.795 | 3.795 | (0.908) | 872 | 0.50000 | 0.49(a) |
| 39 | Bromodichloromethane | 83 | 5.730 | 5.730 | (1.153) | 2564 | 0.50000 | 0.53(aM) |
| 66 | Bromoform | 173 | 8.416 | 8.416 | (1.097) | 696 | 0.50000 | 2.35(aM) |
| 6 | Bromomethane | 94 | 1.339 | 1.339 | (0.320) | 2683 | 0.50000 | 0.45(aM) |
| 19 | Carbon Disulfide | 76 | 2.069 | 2.069 | (0.495) | 8755 | 1.00000 | 1.07(a) |
| 34 | Carbon Tetrachloride | 117 | 4.275 | 4.275 | (0.860) | 2256 | 0.50000 | 0.52(a) |
| 59 | Chlorobenzene | 112 | 7.692 | 7.692 | (1.003) | 5017 | 0.50000 | 2.32(a) |
| 7 | Chloroethane | 64 | 1.410 | 1.410 | (0.337) | 1969 | 0.50000 | 0.60(aMH) |
| 28 | Chloroform | 83 | 3.917 | 3.917 | (0.937) | 2842 | 0.50000 | 0.44(a) |
| 3 | Chloromethane | 50 | 1.081 | 1.081 | (0.258) | 1979 | 0.50000 | (aM) |
| 27 | cis-1,2-Dichloroethene | 96 | 3.545 | 3.545 | (0.848) | 1721 | 0.50000 | 0.48(a) |
| 46 | cis-1,3-Dichloropropene | 75 | 6.166 | 6.166 | (1.241) | 2912 | 0.50000 | 0.52(a) |
| 55 | Dibromochloromethane | 129 | 7.176 | 7.176 | (0.936) | 1628 | 0.50000 | 0.49(a) |
| 44 | Dibromomethane | 93 | 5.558 | 5.558 | (1.118) | 1365 | 0.50000 | 0.58(a) |
| 2 | Dichlorodifluoromethane | 85 | 0.973 | 0.973 | (0.233) | 1570 | 0.50000 | 2.20(aM) |
| 61 | Ethylbenzene | 106 | 7.800 | 7.800 | (1.017) | 2833 | 0.50000 | 0.62(aM) |
| 91 | Hexachlorobutadiene | 225 | 11.489 | 11.489 | (1.189) | 341 | 0.50000 | 1.33(aM) |
| 67 | Isopropylbenzene | 105 | 8.559 | 8.559 | (1.116) | 6599 | 0.50000 | 0.49(a) |
| 62 | m,p-Xylenes | 106 | 7.907 | 7.907 | (1.031) | 5913 | 1.00000 | 1.03(a) |
| 17 | Methylene Chloride | 84 | 2.306 | 2.306 | (0.551) | 2167 | 0.50000 | 2.14(aM) |
| 87 | n-Butylbenzene | 91 | 9.999 | 9.999 | (1.035) | 4376 | 0.50000 | 0.47(a) |
| 73 | n-Propylbenzene | 91 | 8.917 | 8.917 | (0.923) | 7191 | 0.50000 | 0.49(a) |
| 92 | Naphthalene | 128 | 11.603 | 11.603 | (1.201) | 712 | 0.50000 | 1.13(a) |
| 63 | o-Xylene | 106 | 8.244 | 8.244 | (1.075) | 3002 | 0.50000 | 0.54(a) |
| 81 | sec-Butylbenzene | 105 | 9.519 | 9.519 | (0.985) | 6410 | 0.50000 | 0.67(a) |
| 64 | Styrene | 104 | 8.265 | 8.265 | (1.078) | 3816 | 0.50000 | 3.71(a) |
| 78 | tert-Butylbenzene | 119 | 9.340 | 9.340 | (0.967) | 4655 | 0.50000 | 1.27(a) |
| 56 | Tetrachloroethene | 164 | 6.933 | 6.933 | (0.904) | 1206 | 0.50000 | 0.47(a) |
| 50 | Toluene | 91 | 6.446 | 6.446 | (0.840) | 7275 | 0.50000 | 0.55(a) |
| 20 | trans-1,2-Dichloroethene | 96 | 2.535 | 2.535 | (0.606) | 1325 | 0.50000 | 0.44(a) |
| 51 | trans-1,3-Dichloropropene | 75 | 6.689 | 6.689 | (1.346) | 2463 | 0.50000 | 0.51(a) |
| 38 | Trichloroethene | 130 | 5.214 | 5.214 | (1.049) | 1254 | 0.50000 | 0.38(a) |
| 8 | Trichlorofluoromethane | 101 | 1.561 | 1.561 | (0.373) | 4789 | 0.50000 | 0.57(aM) |
| 5 | Vinyl Chloride | 62 | 1.145 | 1.145 | (0.274) | 2470 | 0.50000 | 0.56(a) |

QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

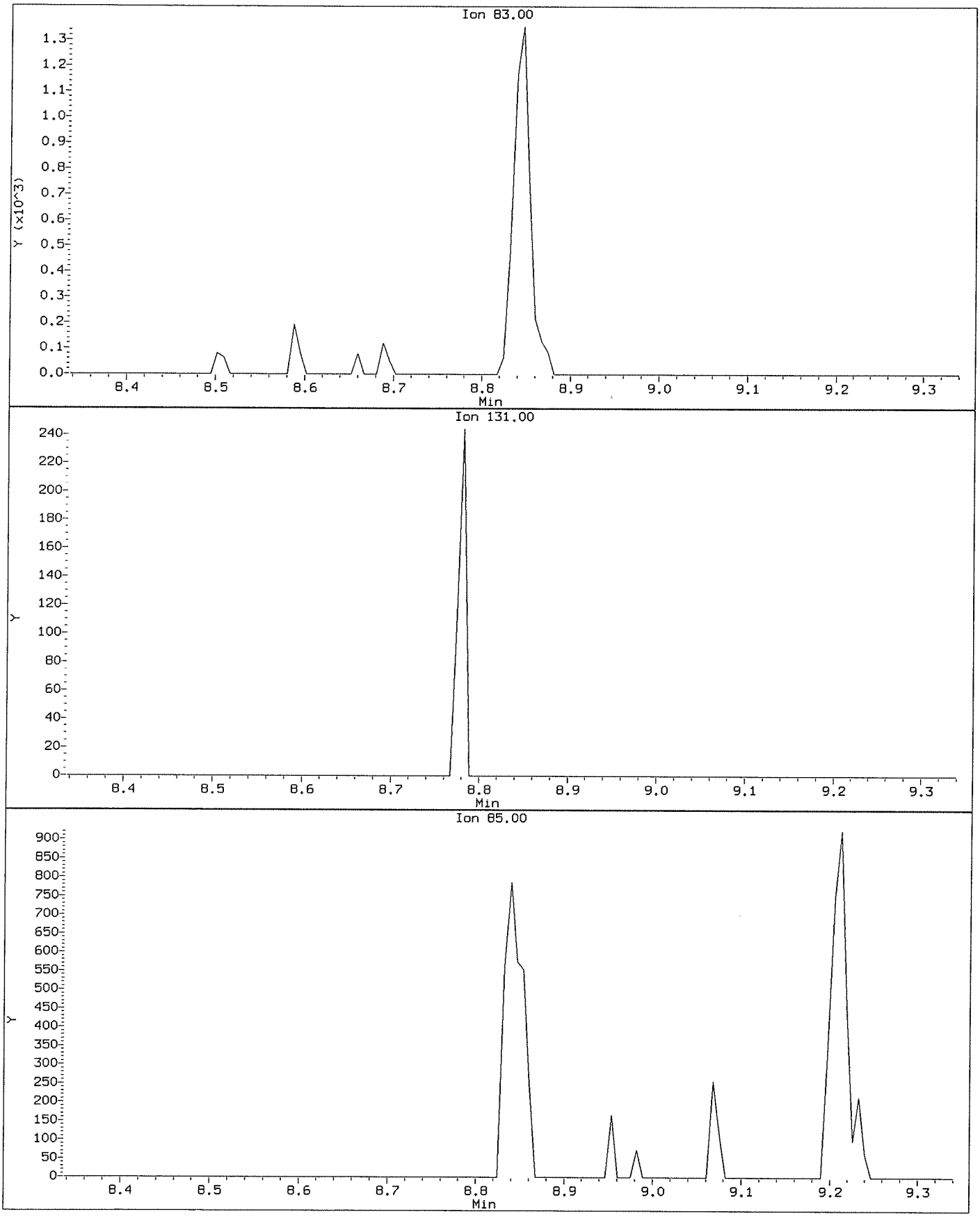



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Sample Info: VSTD000.5;VSTD000.5;1;2;;
Purge Volume: 5.0
Column phase: DB624

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

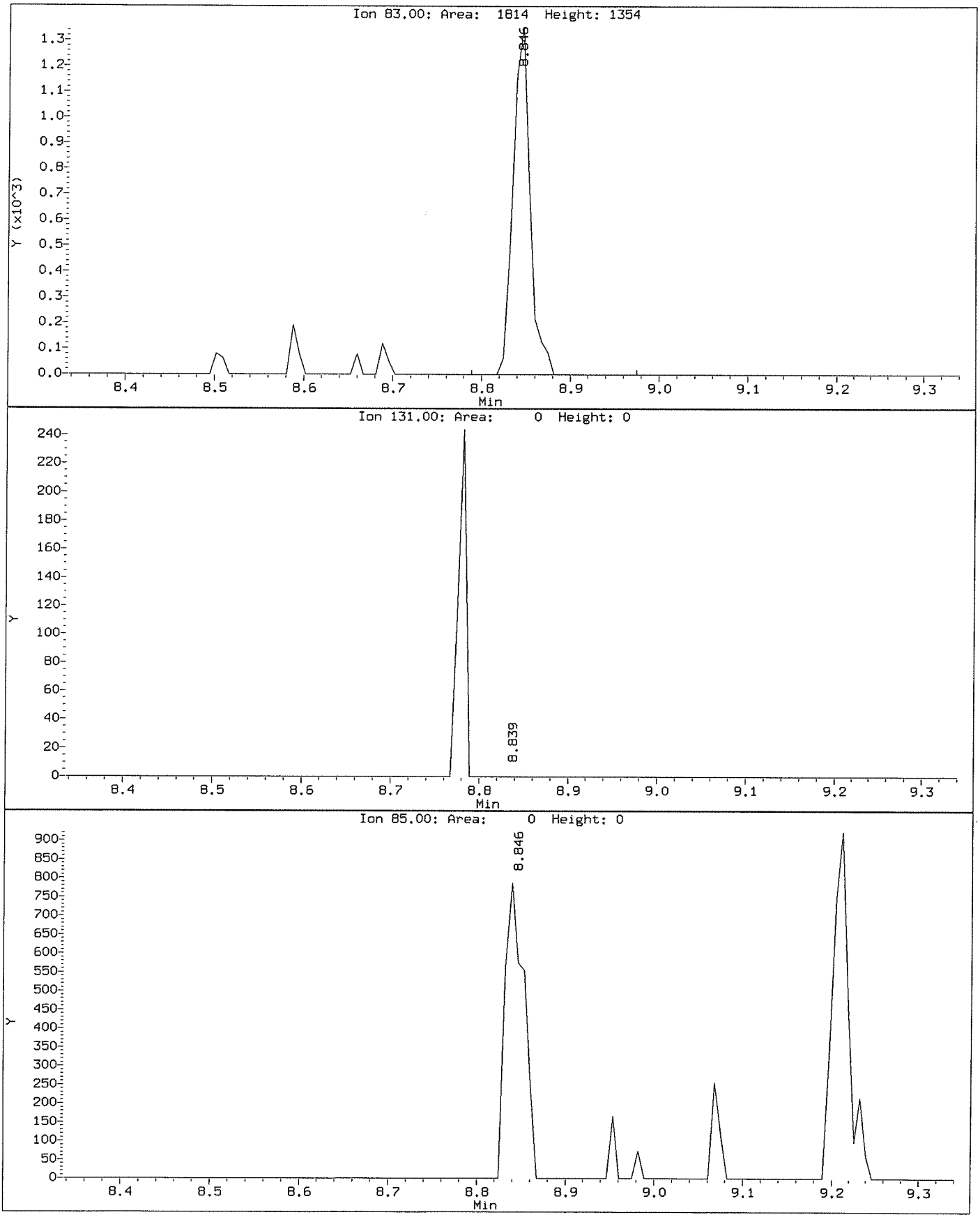
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Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,1,2,2-Tetrachloroethane
CAS Number: 79-34-5



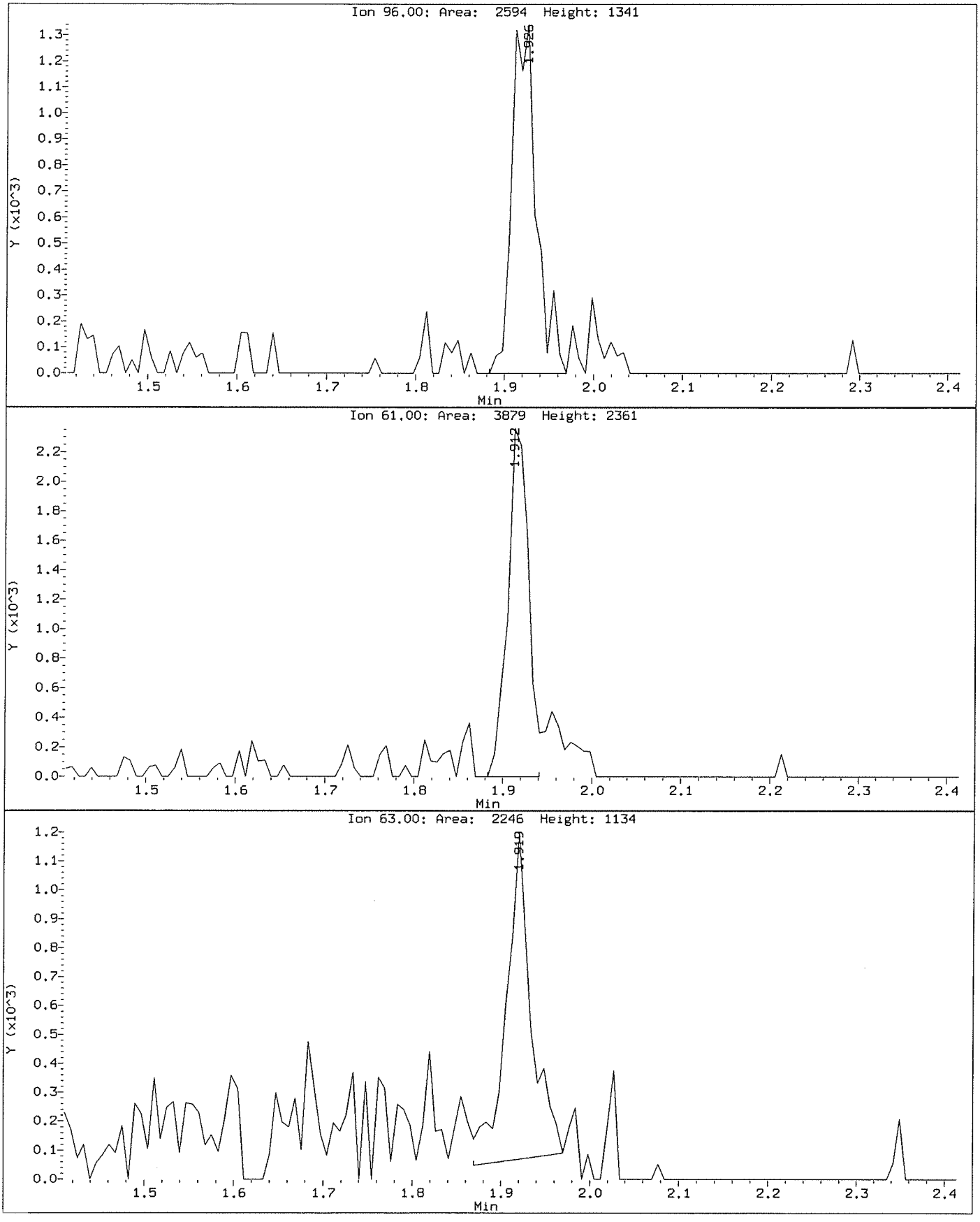
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Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,1,2,2-Tetrachloroethane
CAS Number: 79-34-5



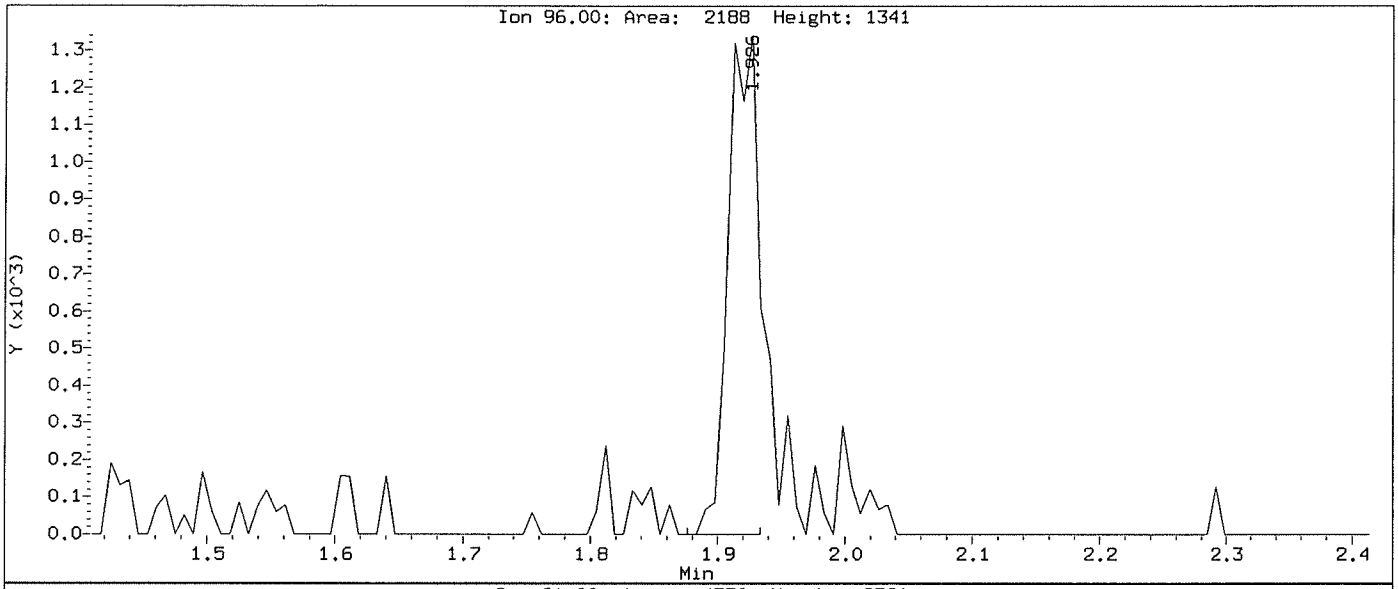
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Instrument: voa6.i
Client Sample ID: VSTD000.5

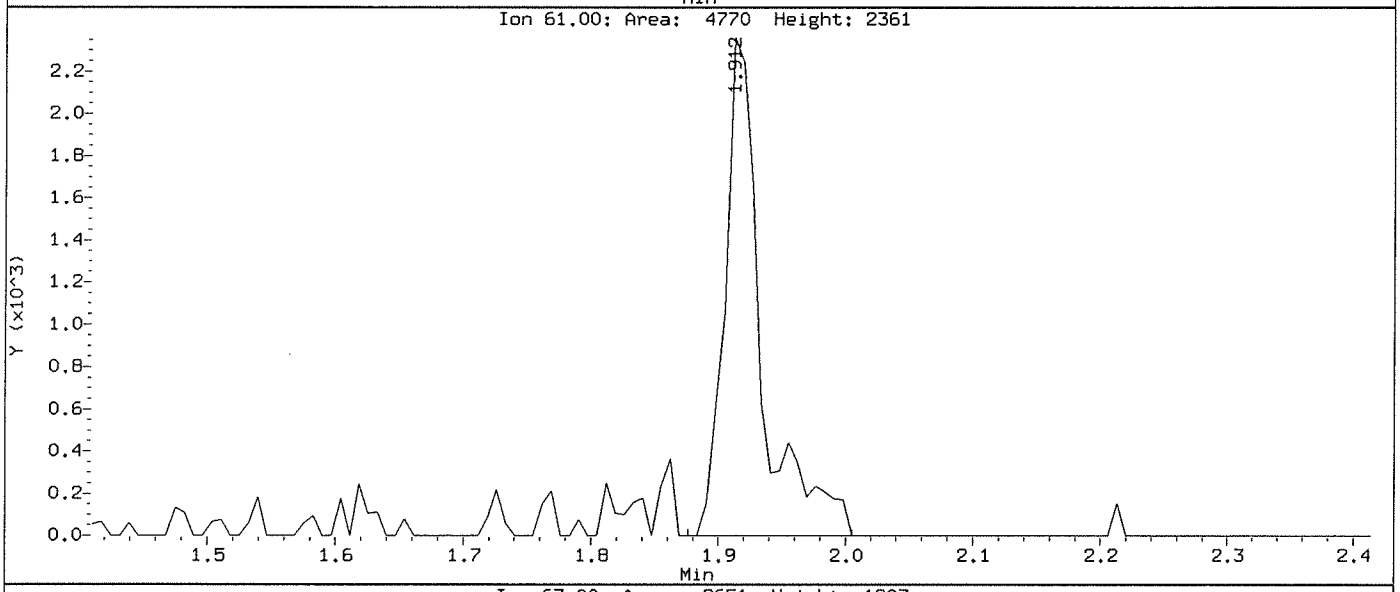
Compound: 1,1-Dichloroethene
CAS Number: 75-35-4

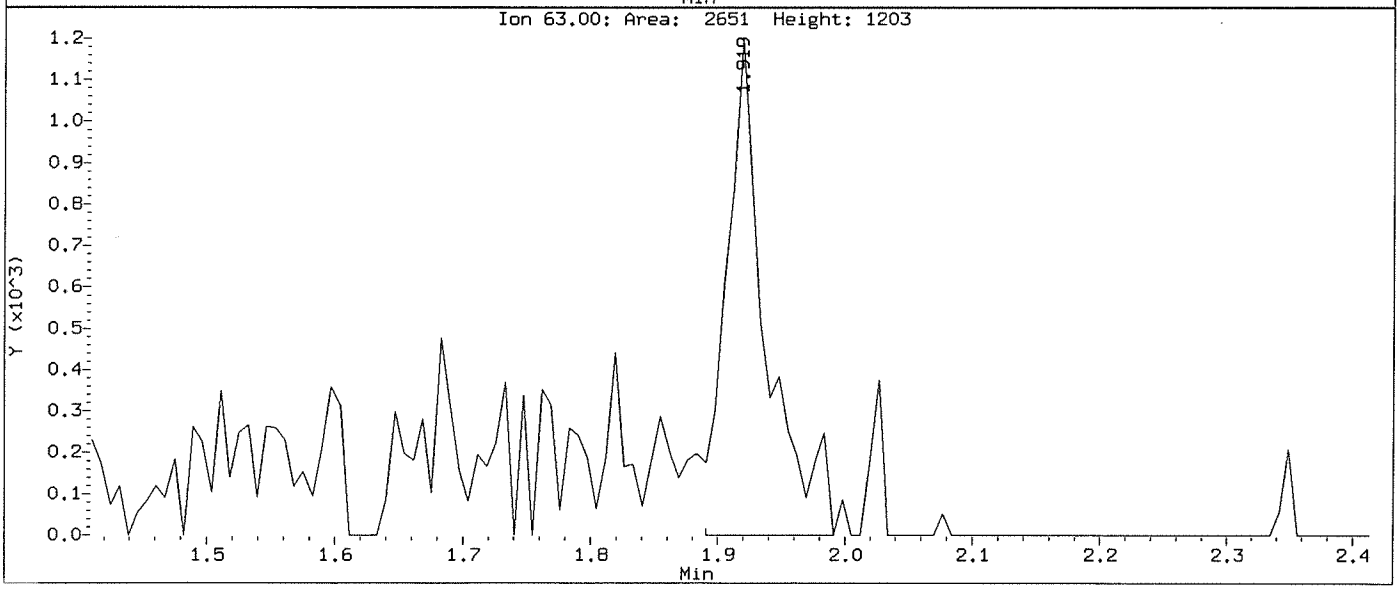


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Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,1-Dichloroethene
CAS Number: 75-35-4

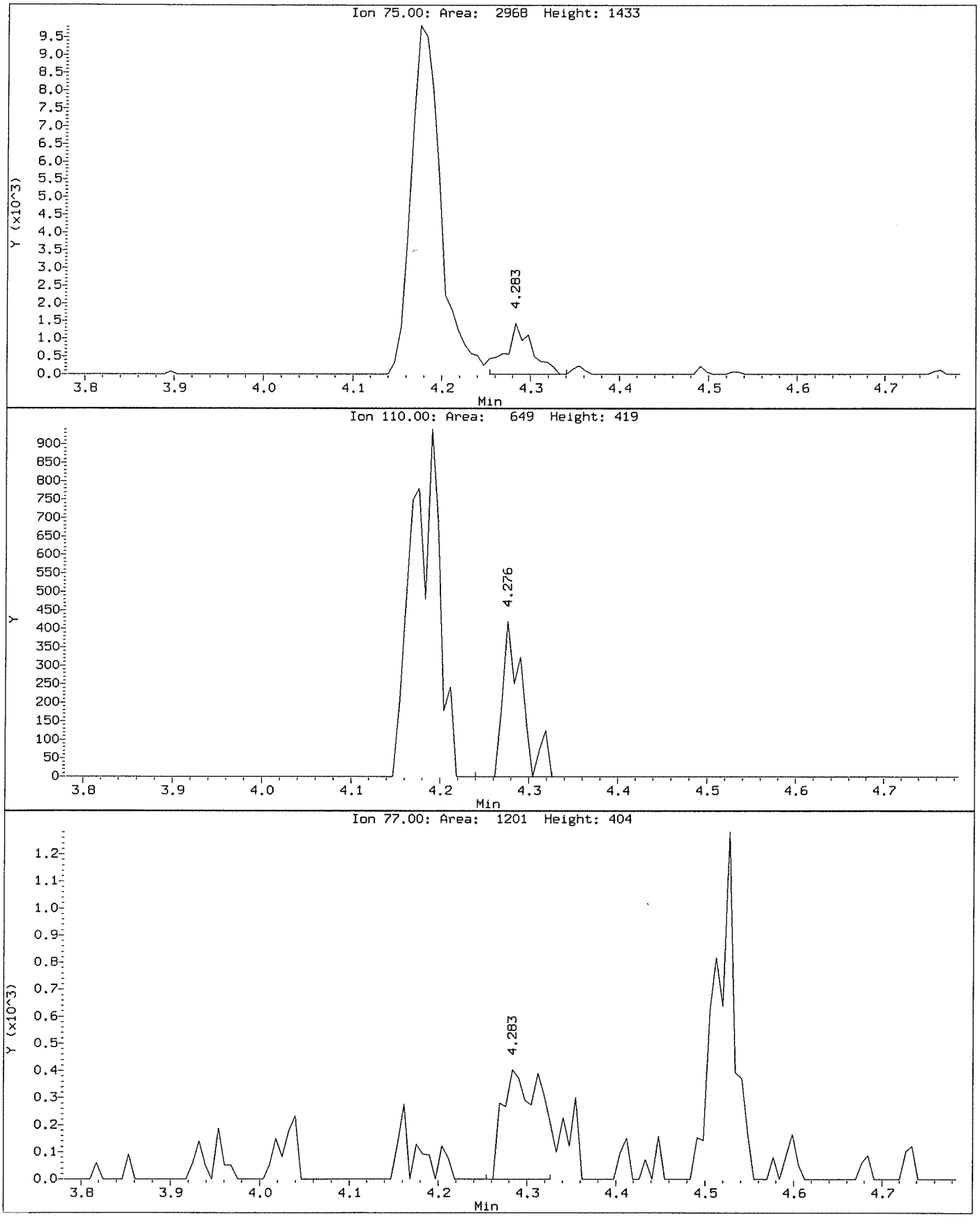


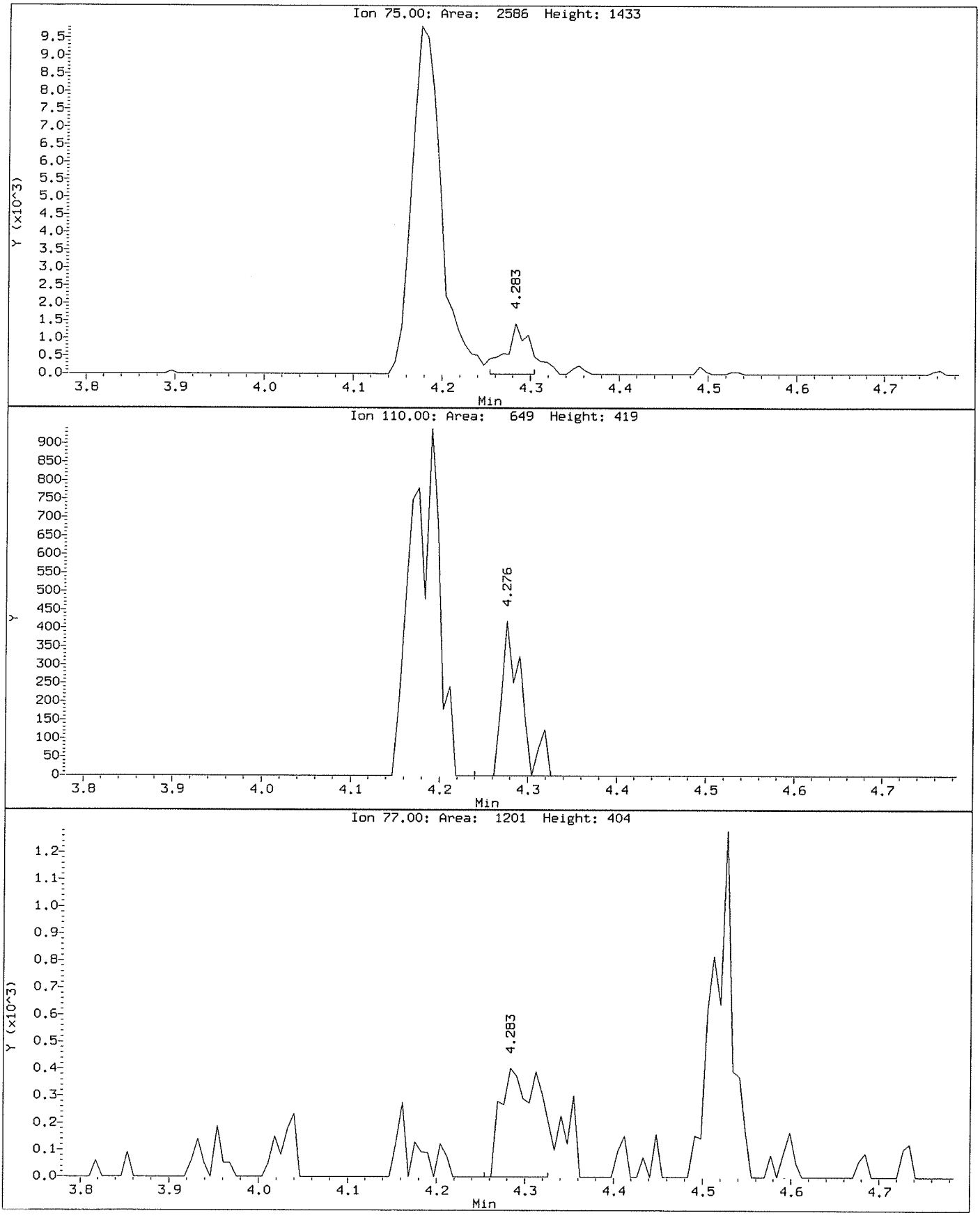
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Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,1-Dichloropropene
CAS Number: 563-58-6



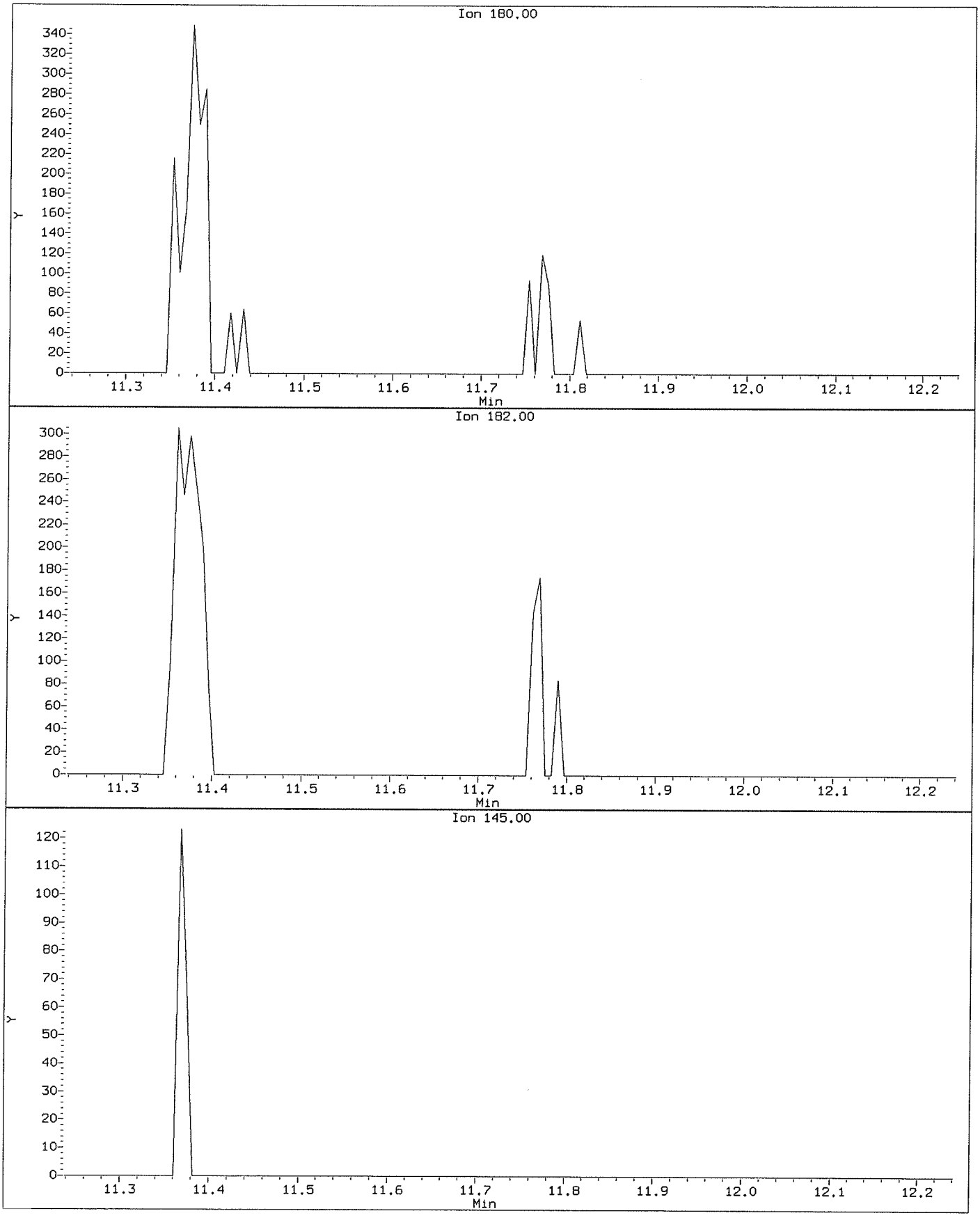
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Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,1-Dichloropropene
CAS Number: 563-58-6



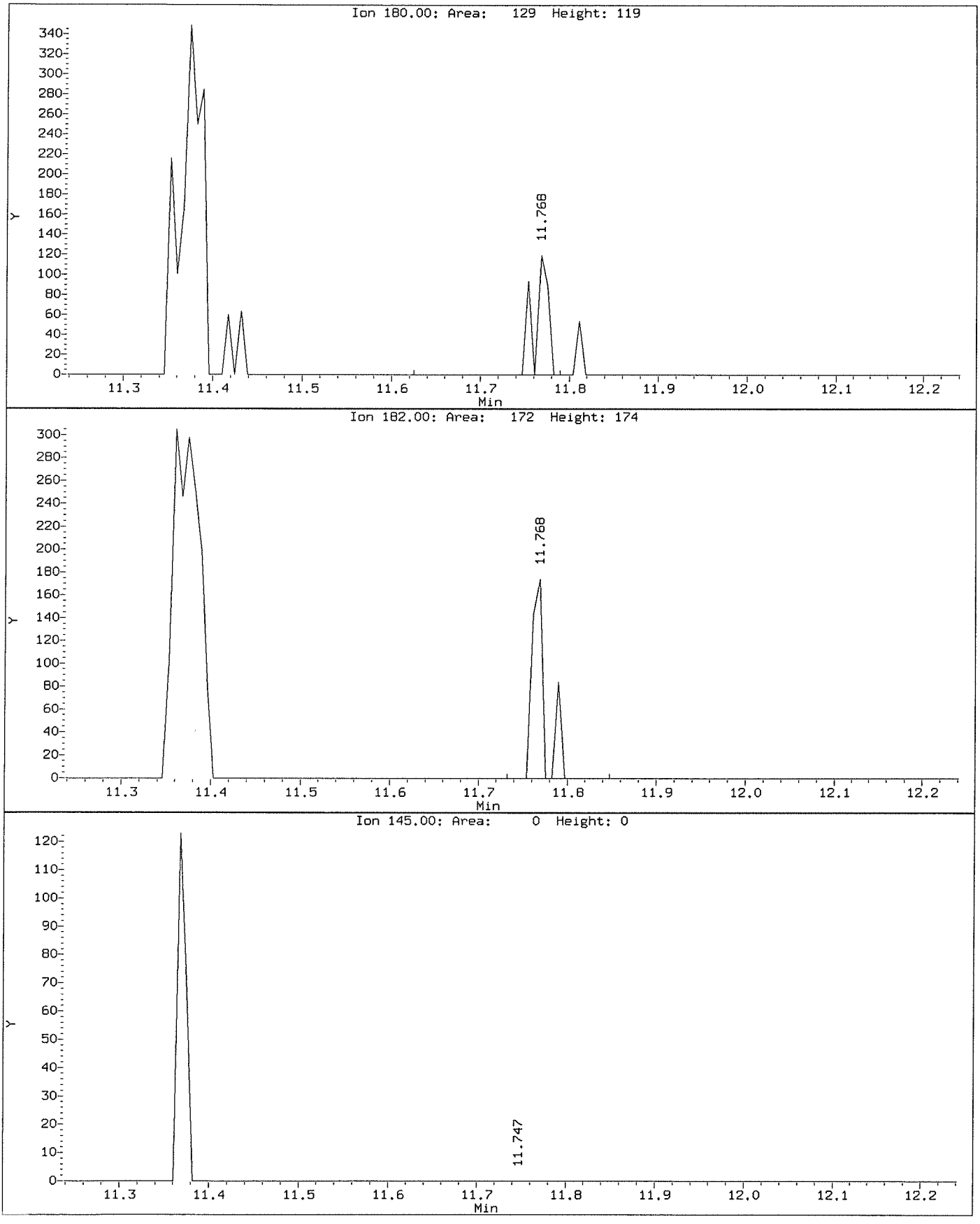
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Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,2,3-Trichlorobenzene
CAS Number: 87-61-6



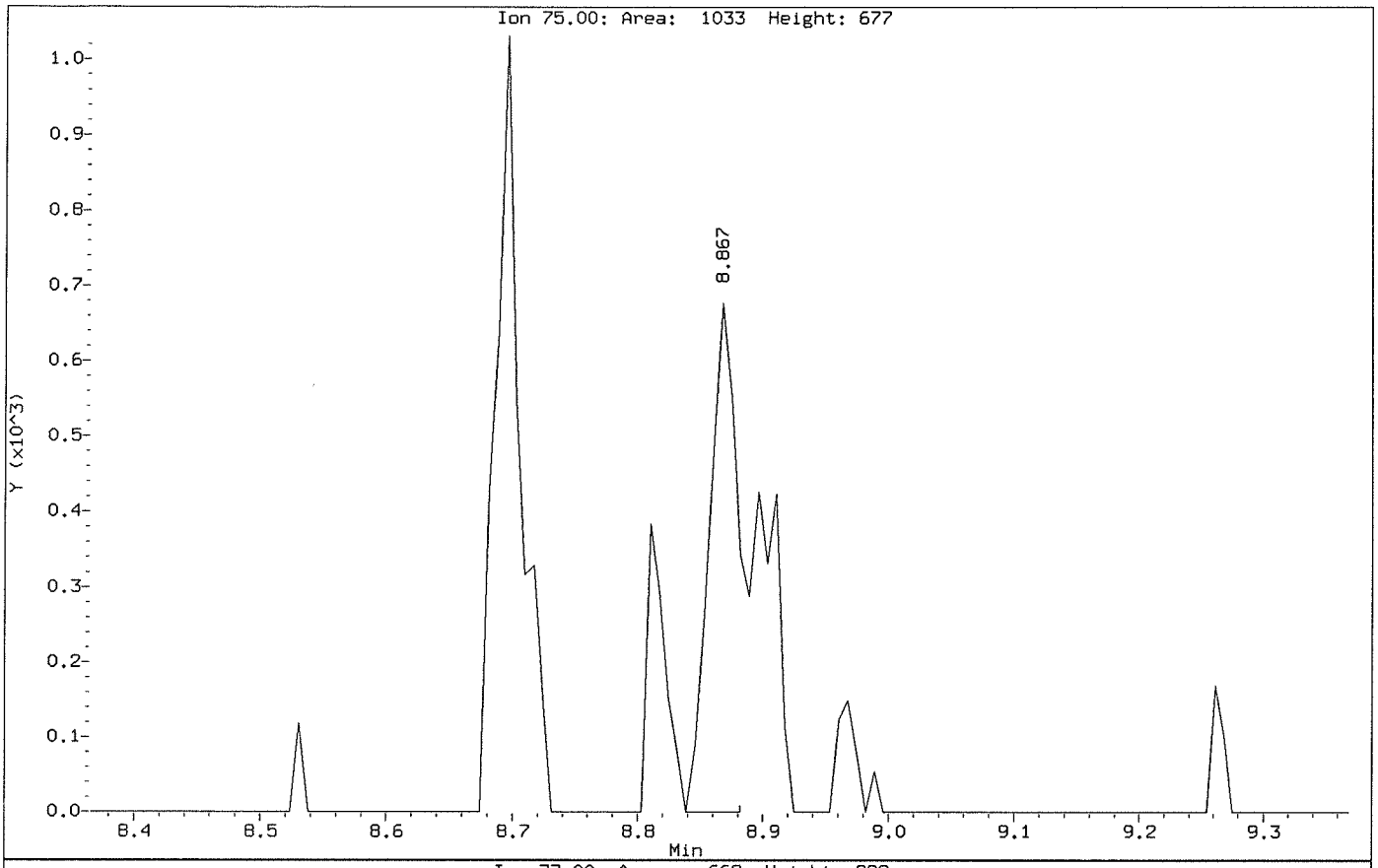
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Injection Date: 02-APR-2021 11:35
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Client Sample ID: VSTD000.5

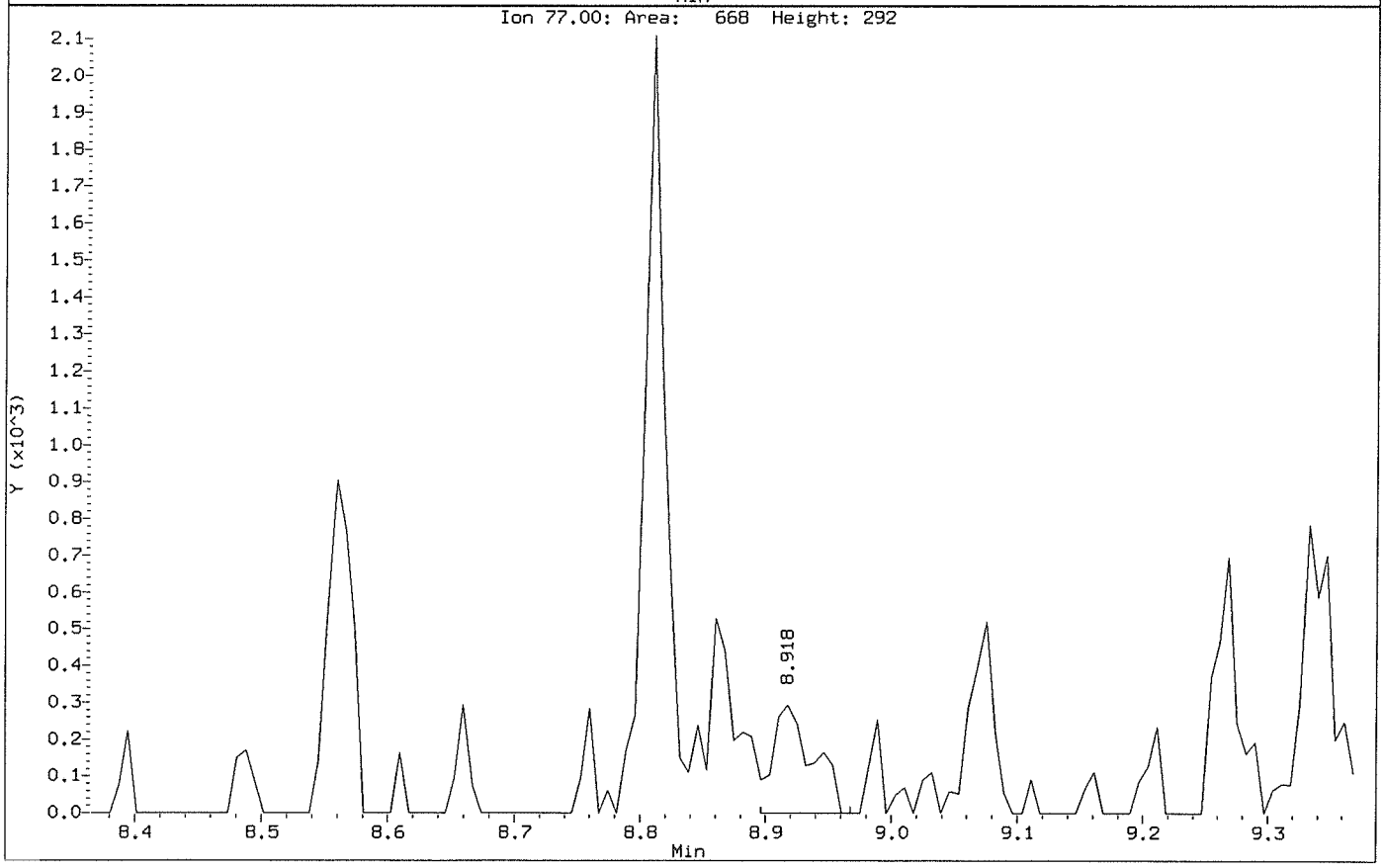
Compound: 1,2,3-Trichlorobenzene
CAS Number: 87-61-6



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Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

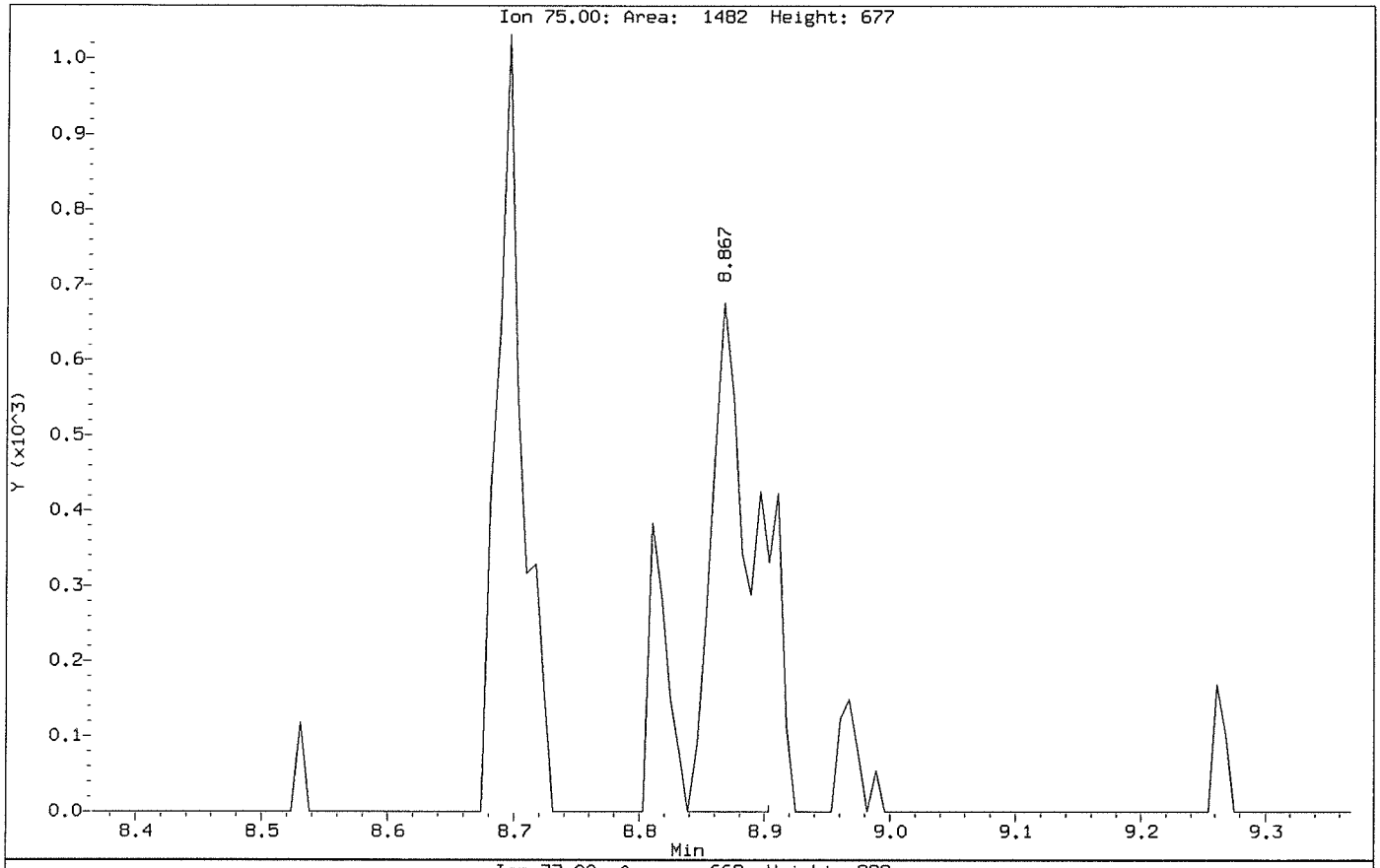
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4

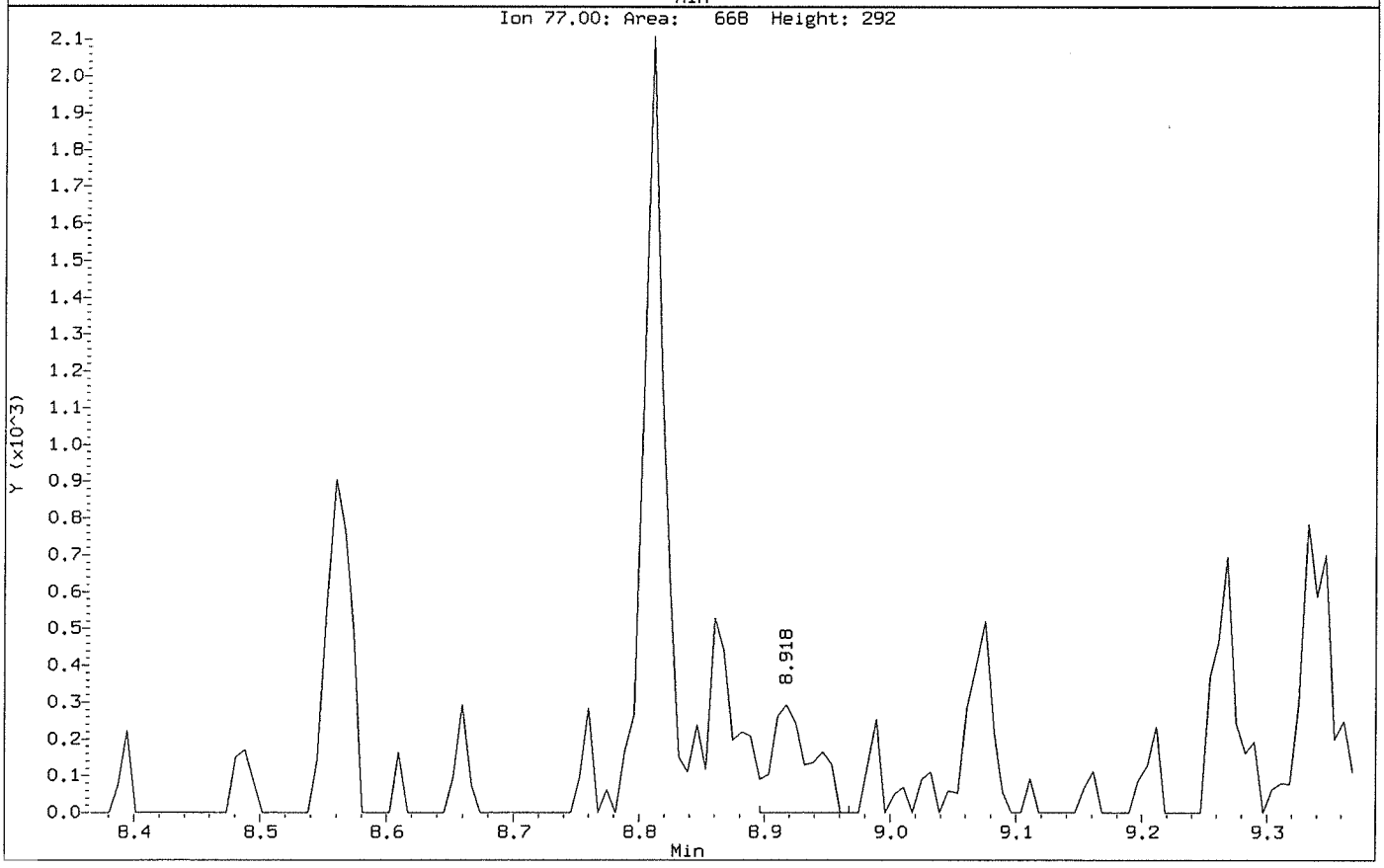


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Instrument: voa6.i
Client Sample ID: VSTD000.5

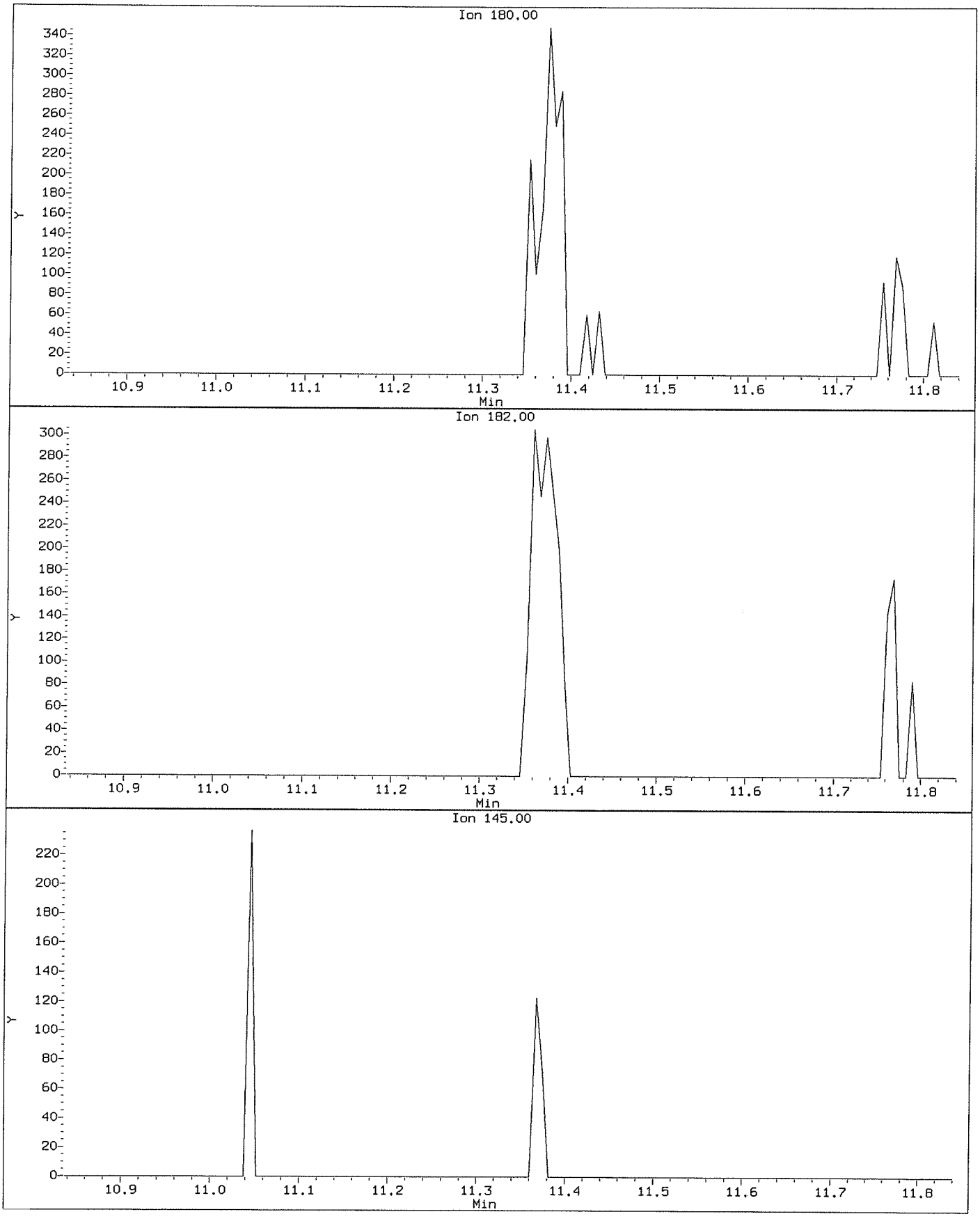
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



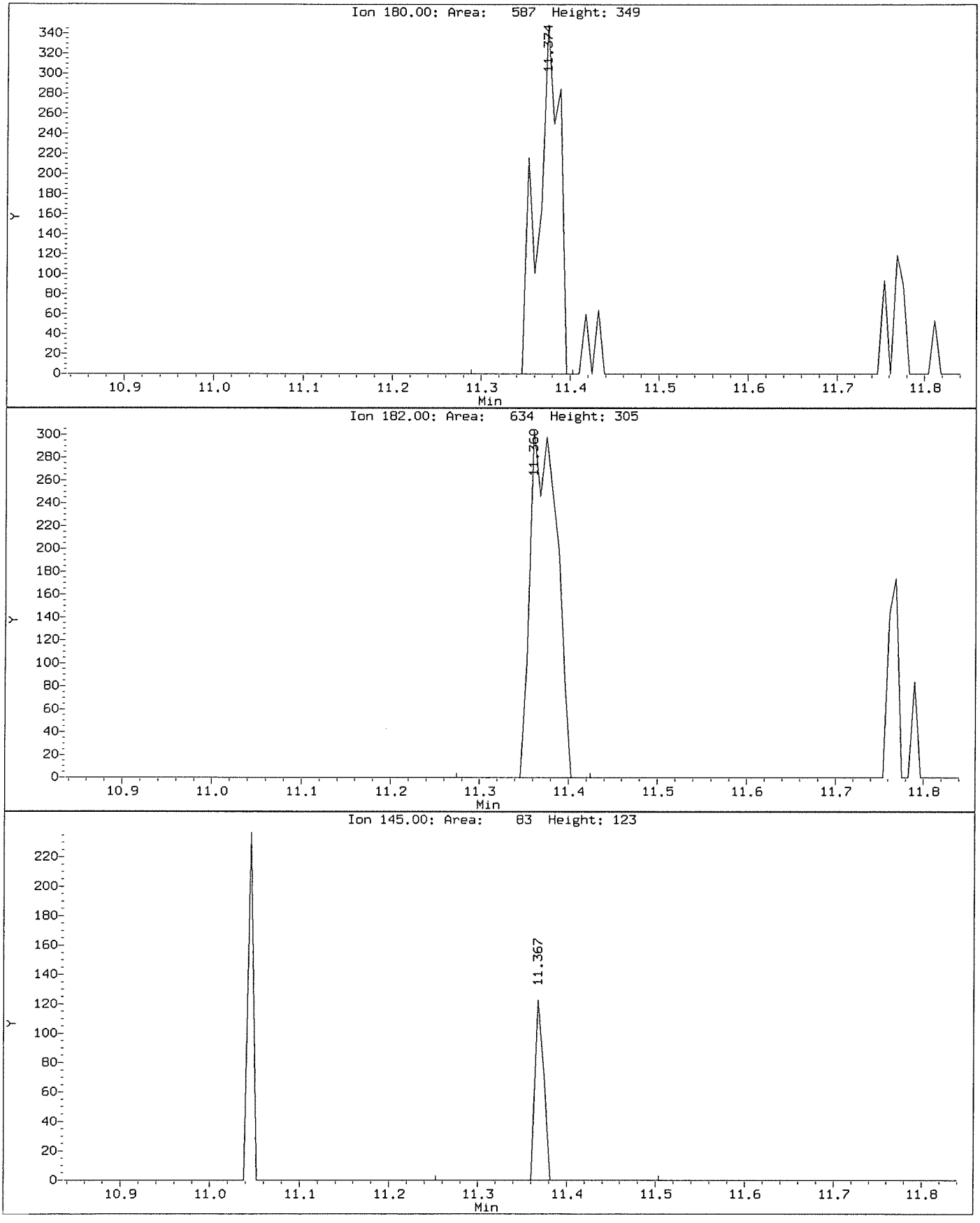
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Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1



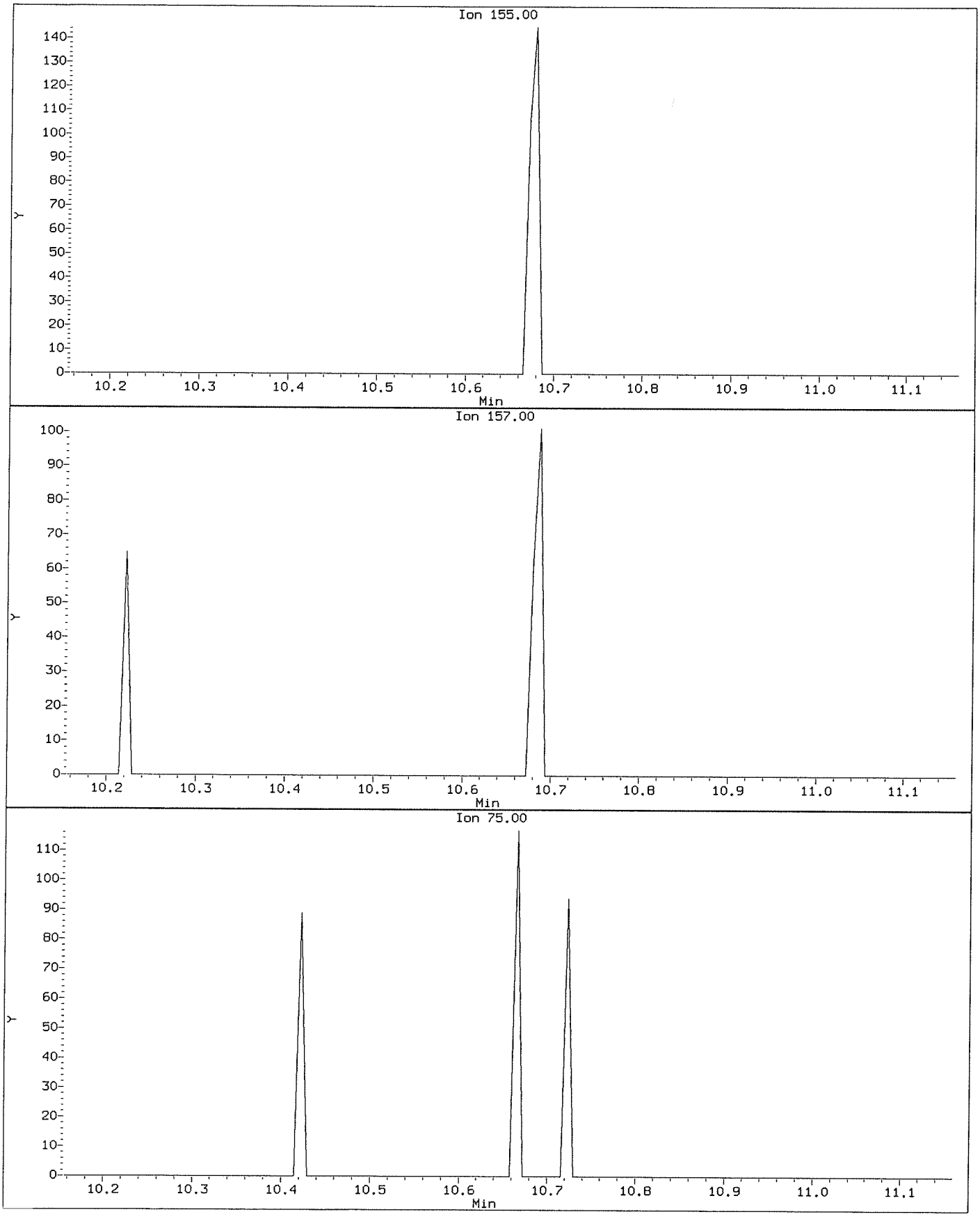
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Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1



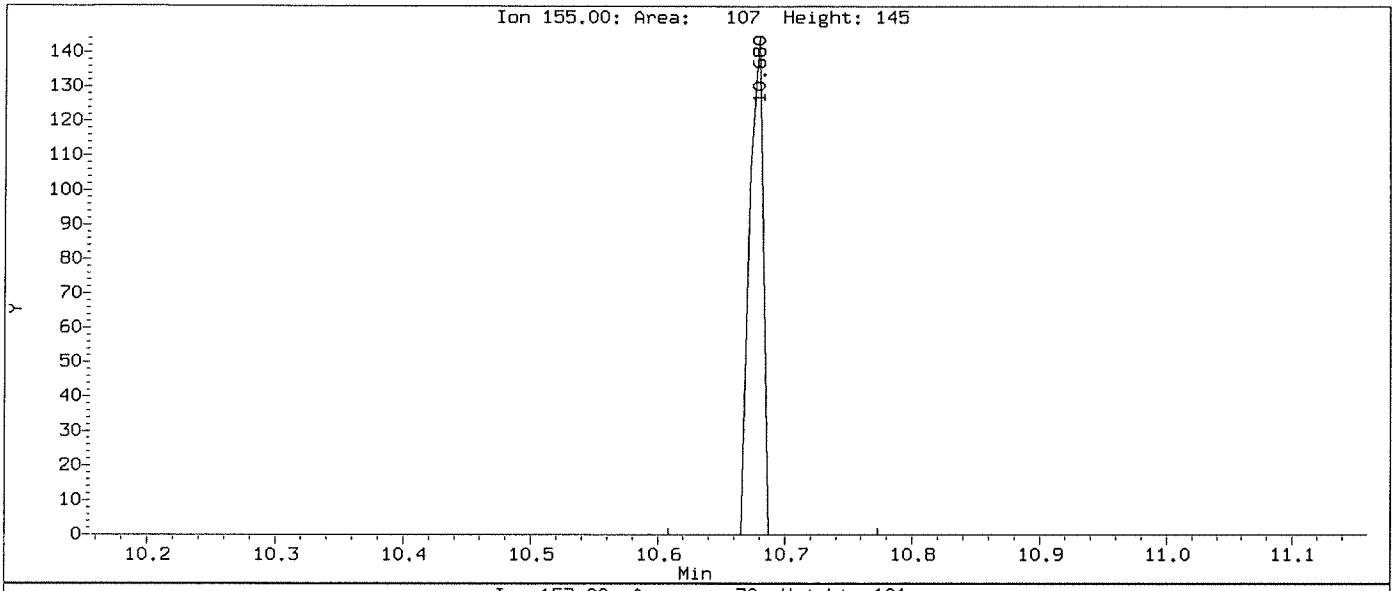
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Client Sample ID: VSTD000.5

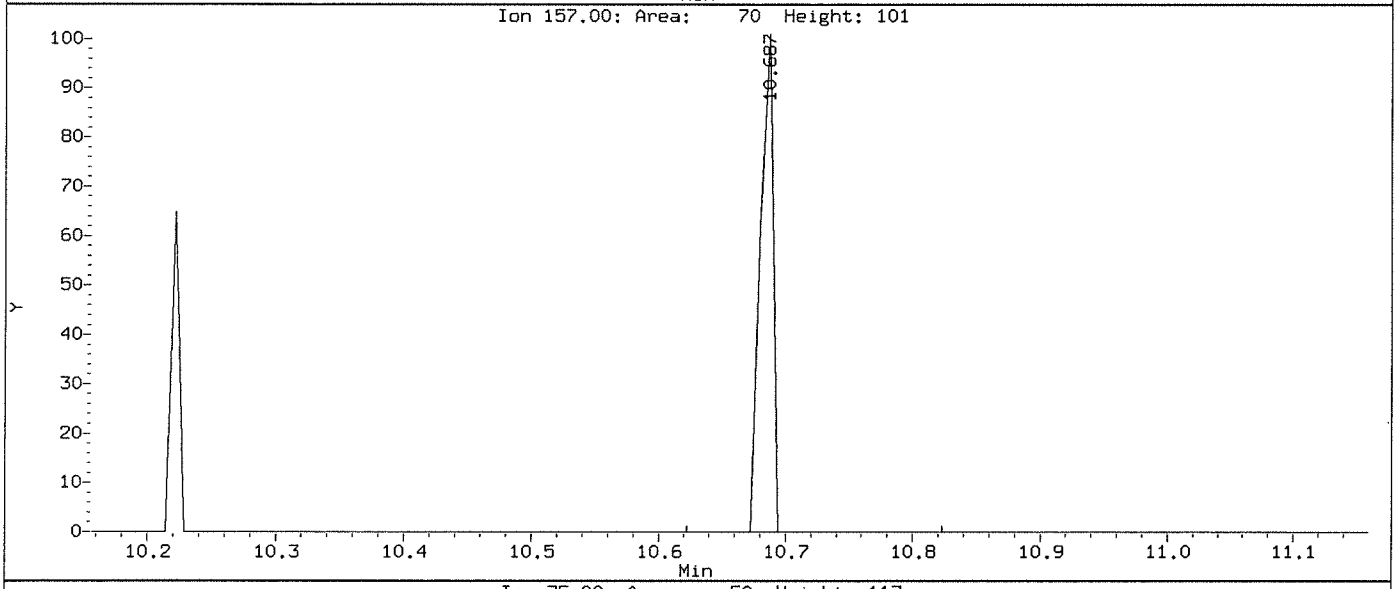
Compound: 1,2-Dibromo-3-Chloropropane
CAS Number: 96-12-8

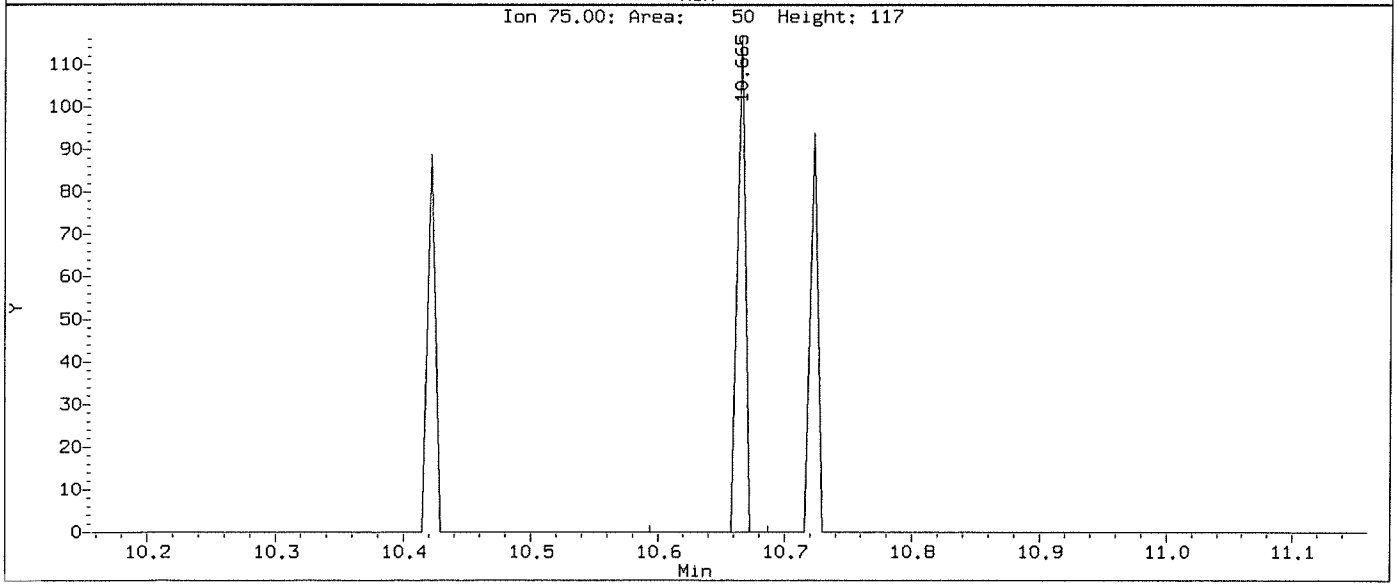


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Injection Date: 02-APR-2021 11:35
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Client Sample ID: VSTD000.5

Compound: 1,2-Dibromo-3-Chloropropane
CAS Number: 96-12-8

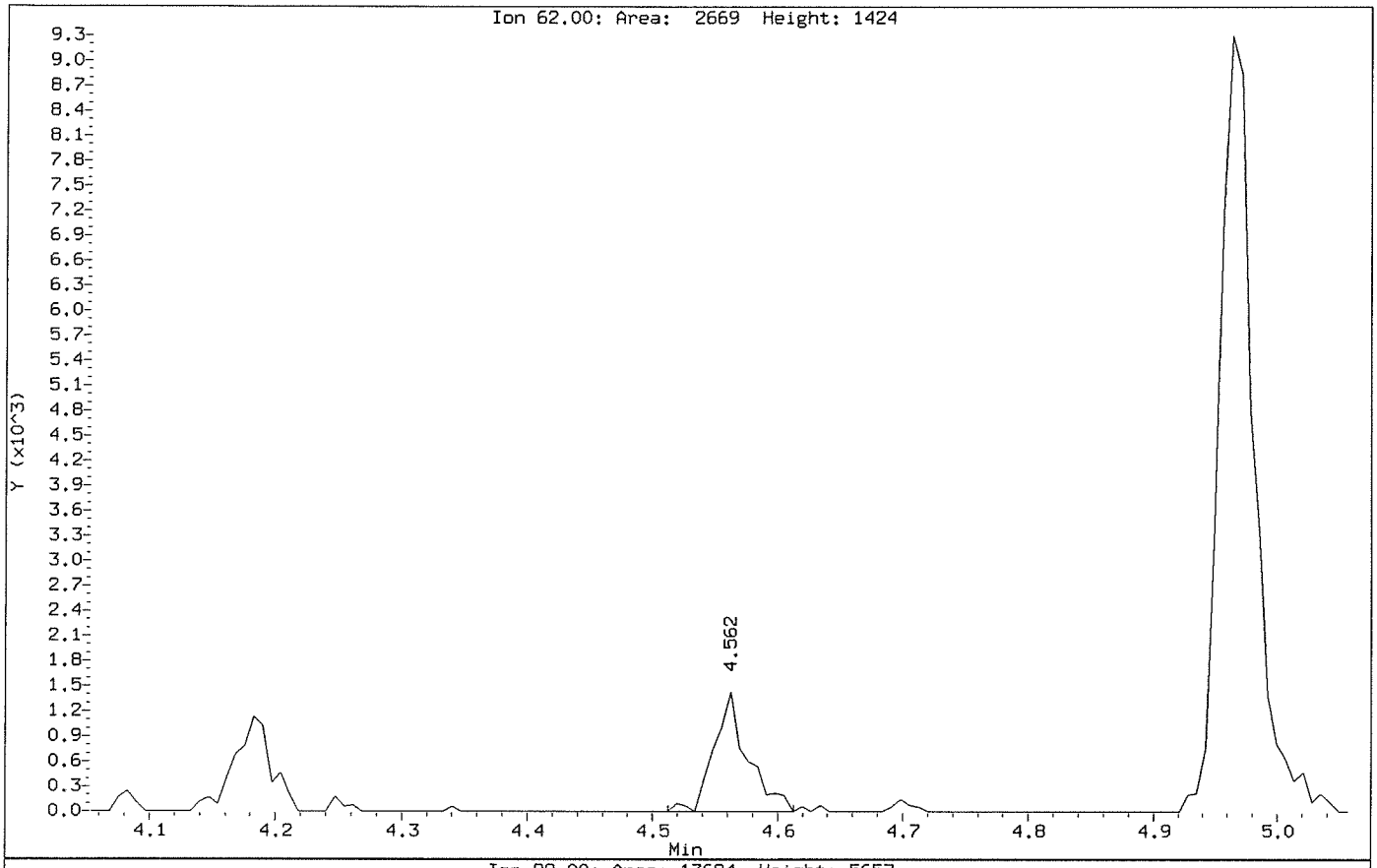


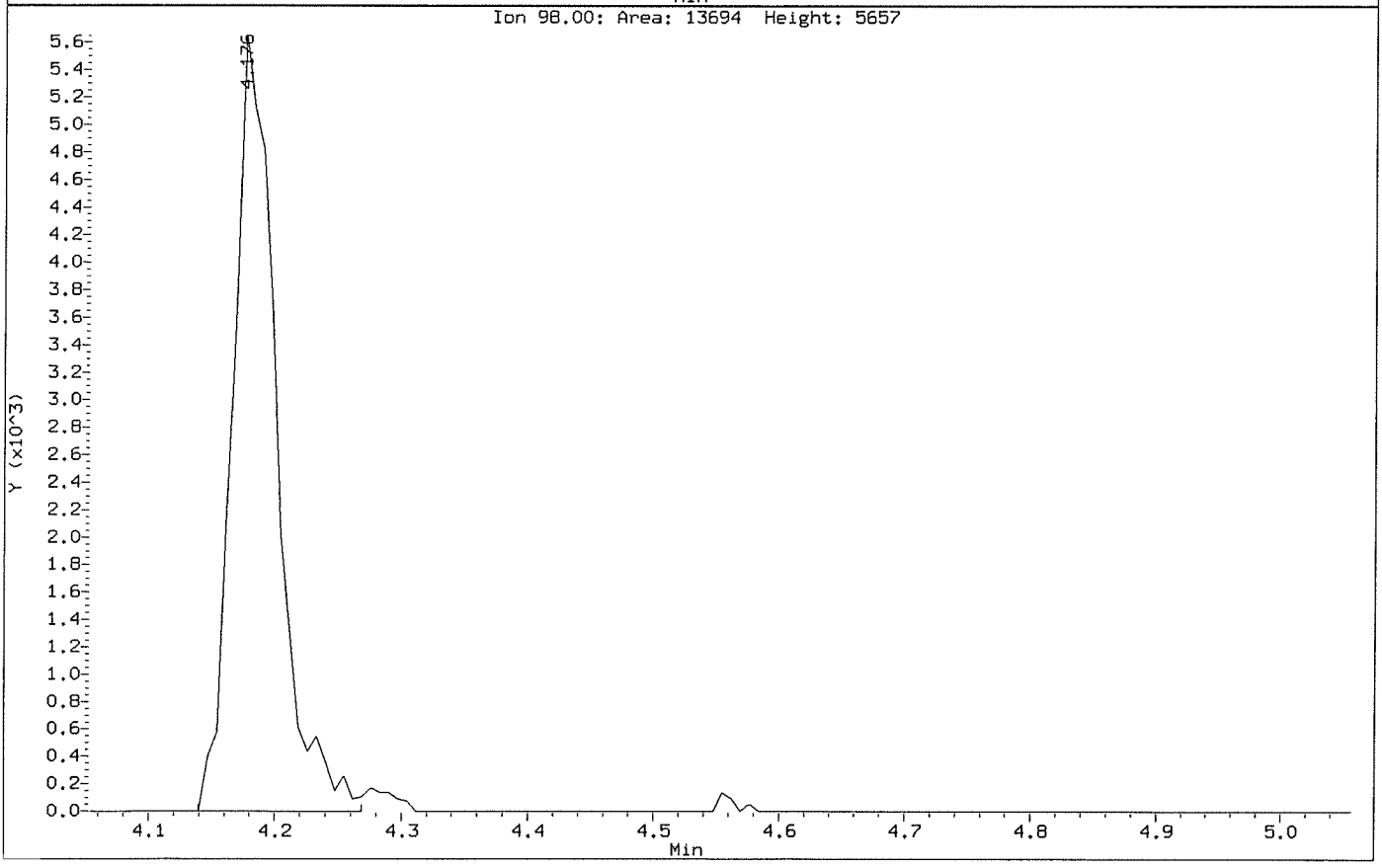



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Client Sample ID: VSTD000.5

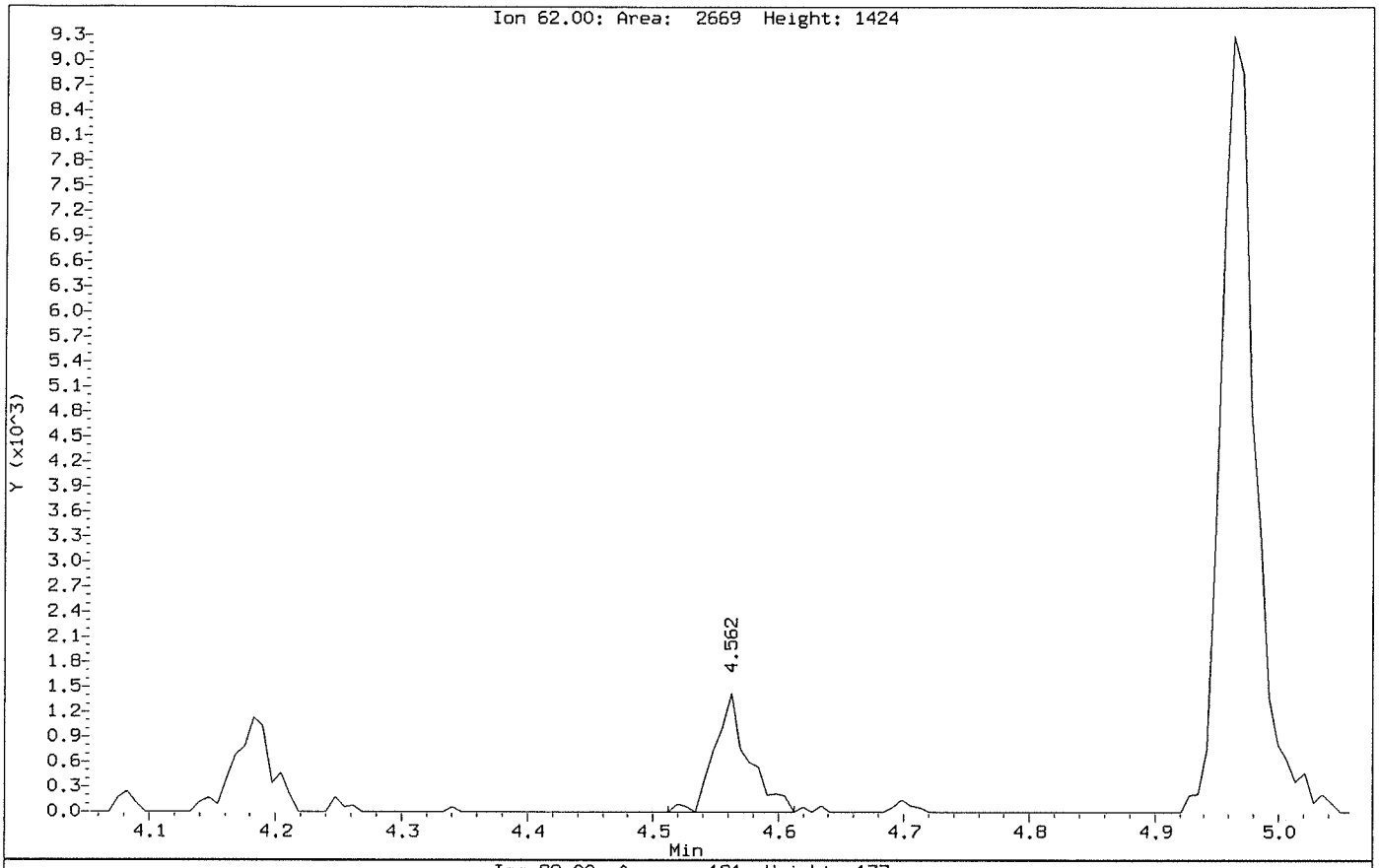
Compound: 1,2-Dichloroethane
CAS Number: 107-06-2

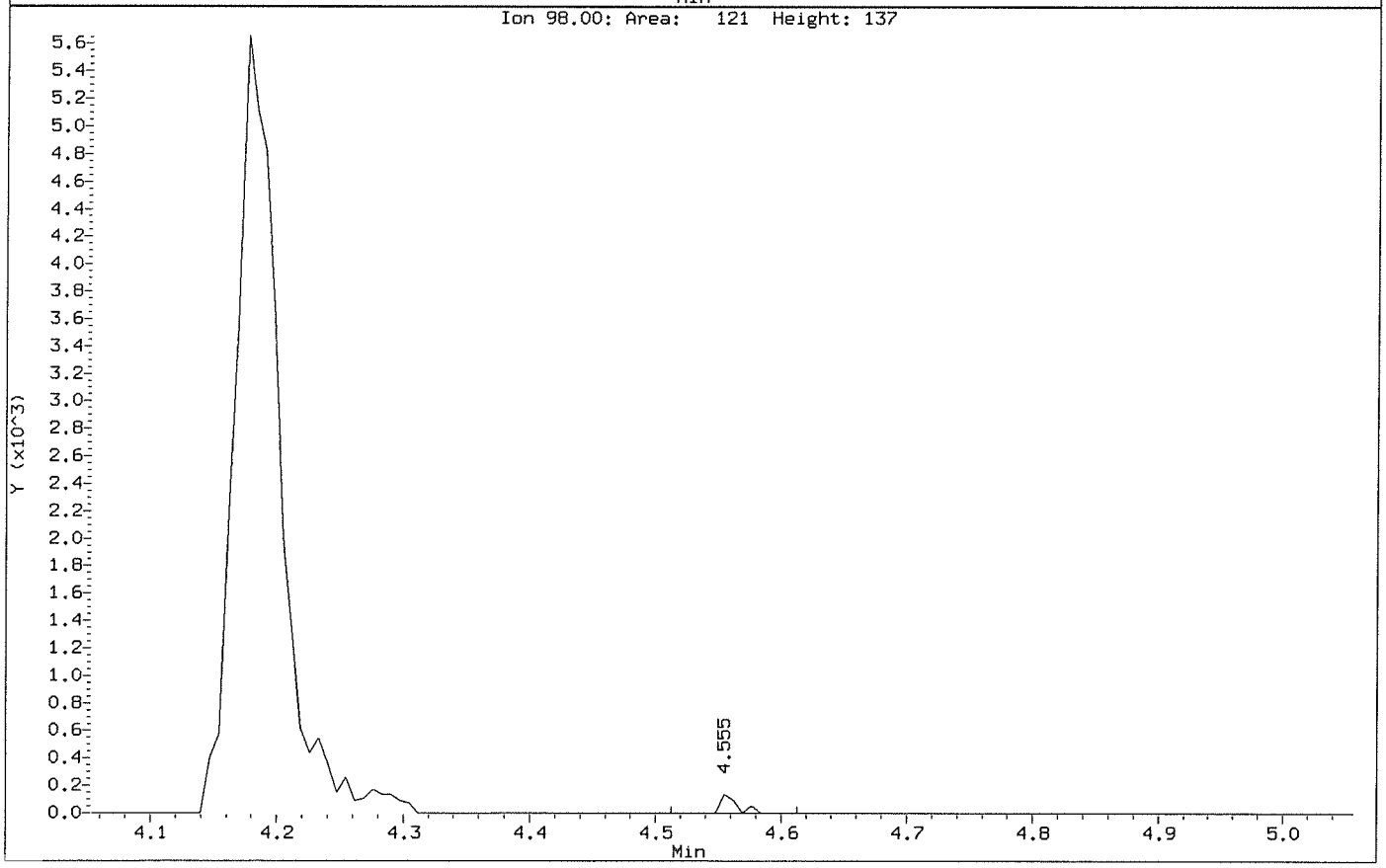


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Client Sample ID: VSTD000.5

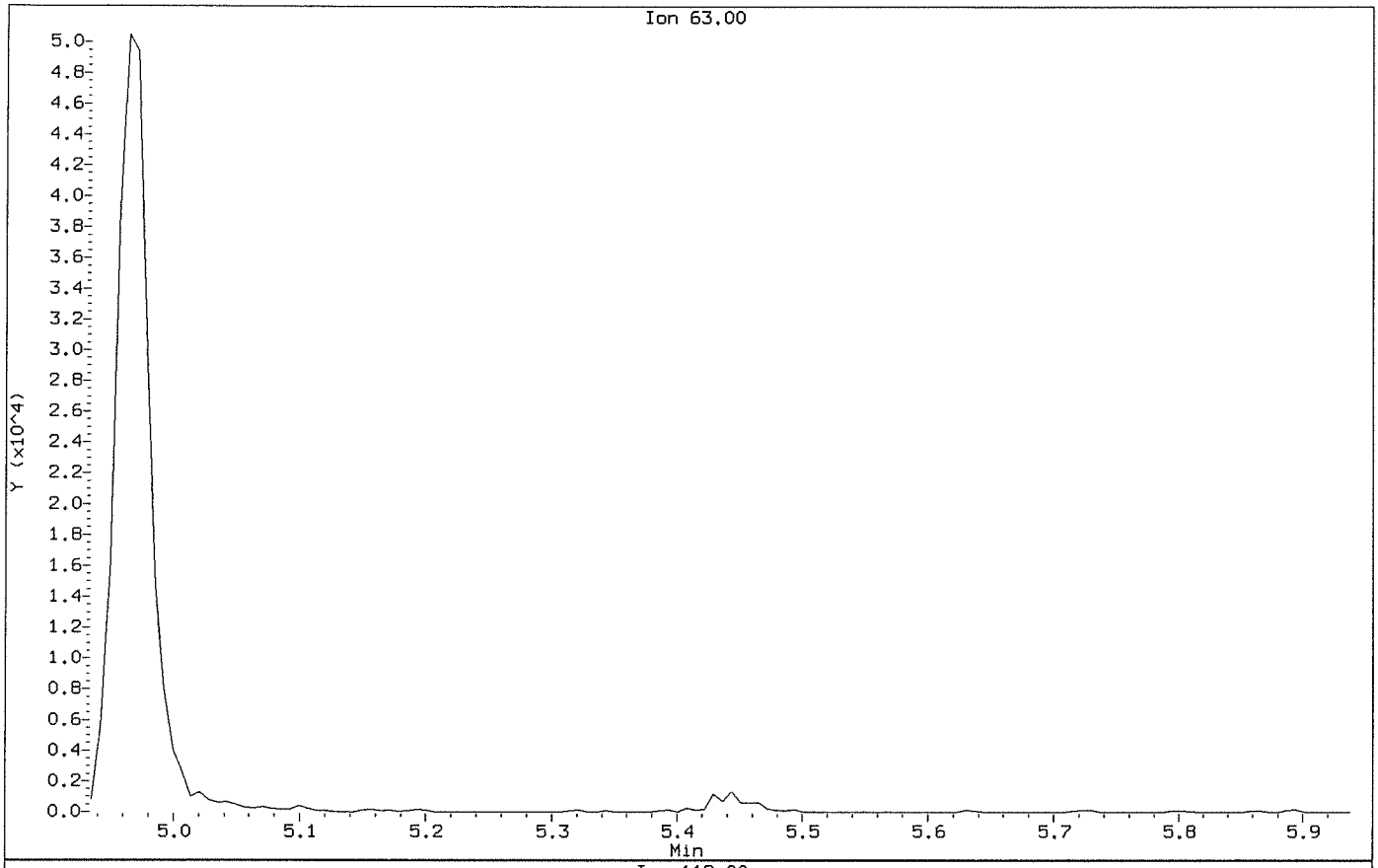
Compound: 1,2-Dichloroethane
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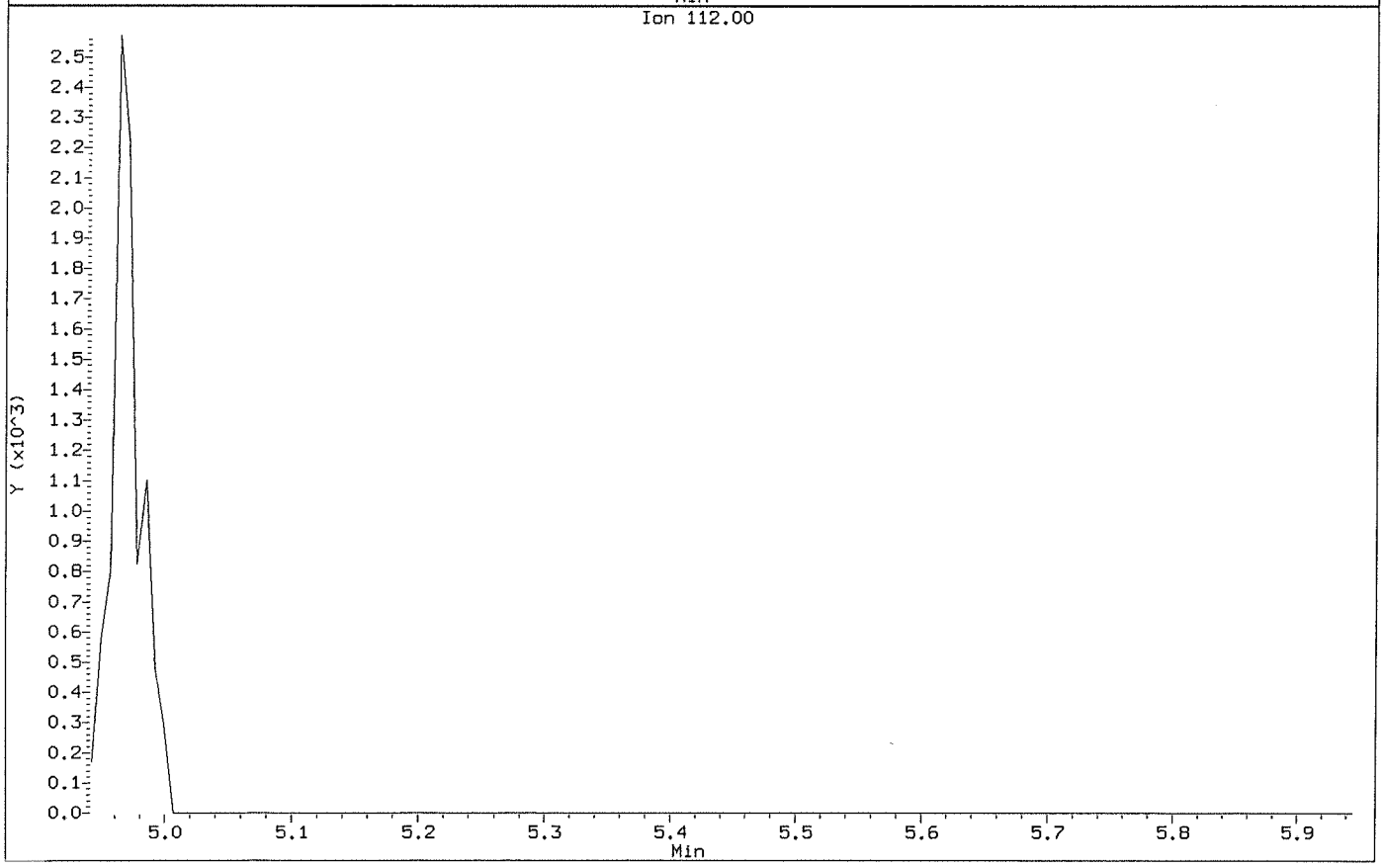


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Client Sample ID: VSTD000.5

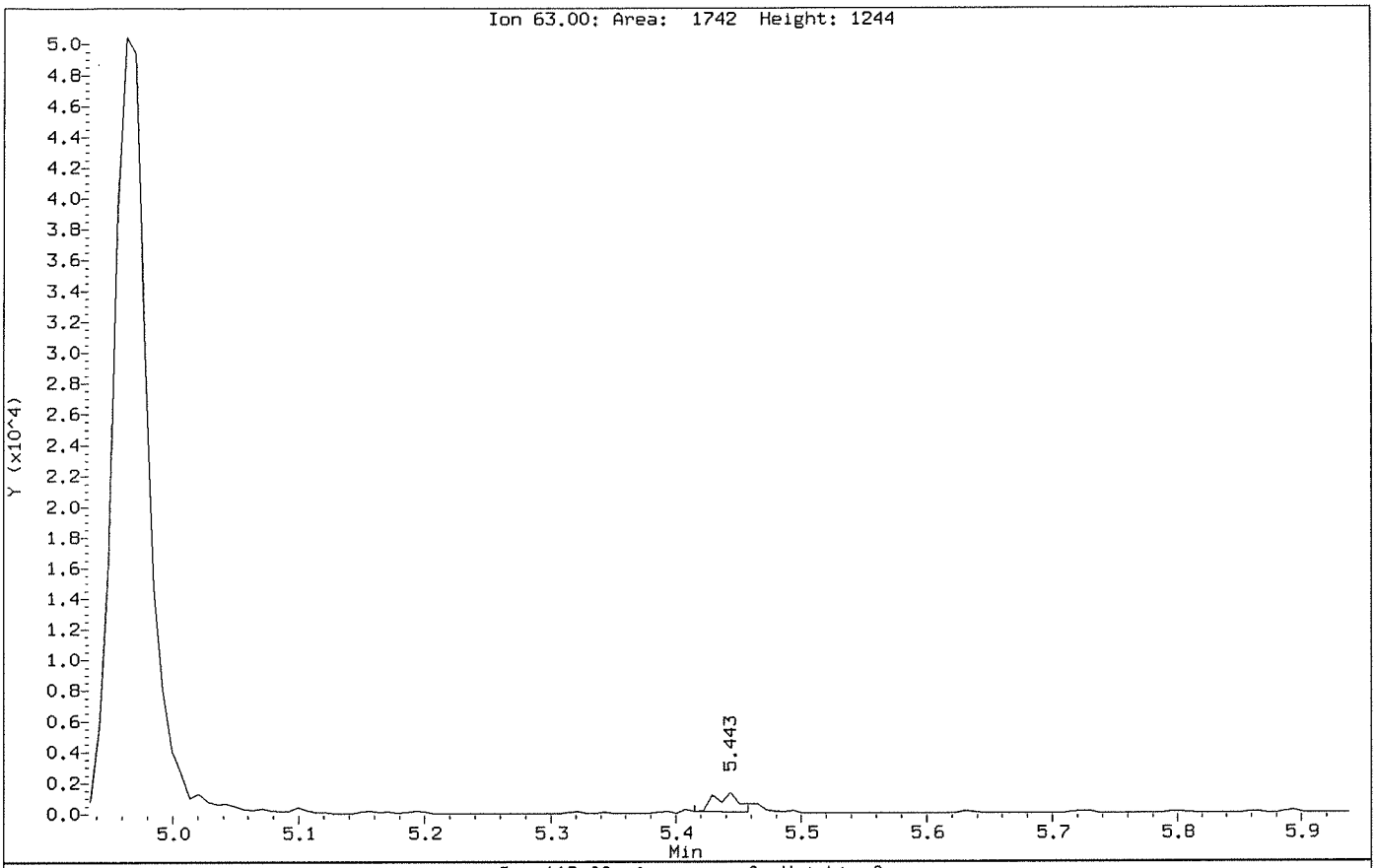
Compound: 1,2-Dichloropropane
CAS Number: 78-87-5

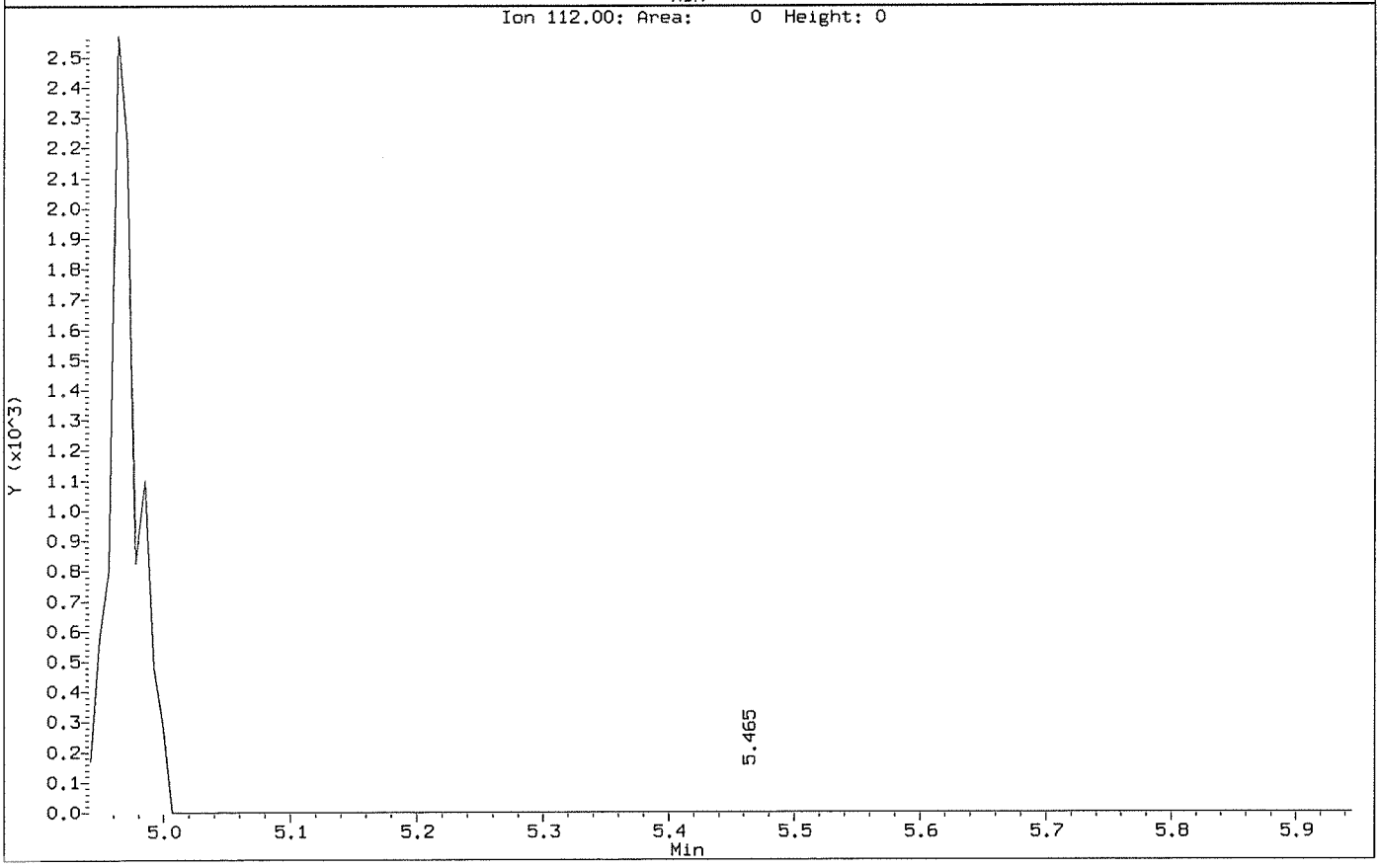


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Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

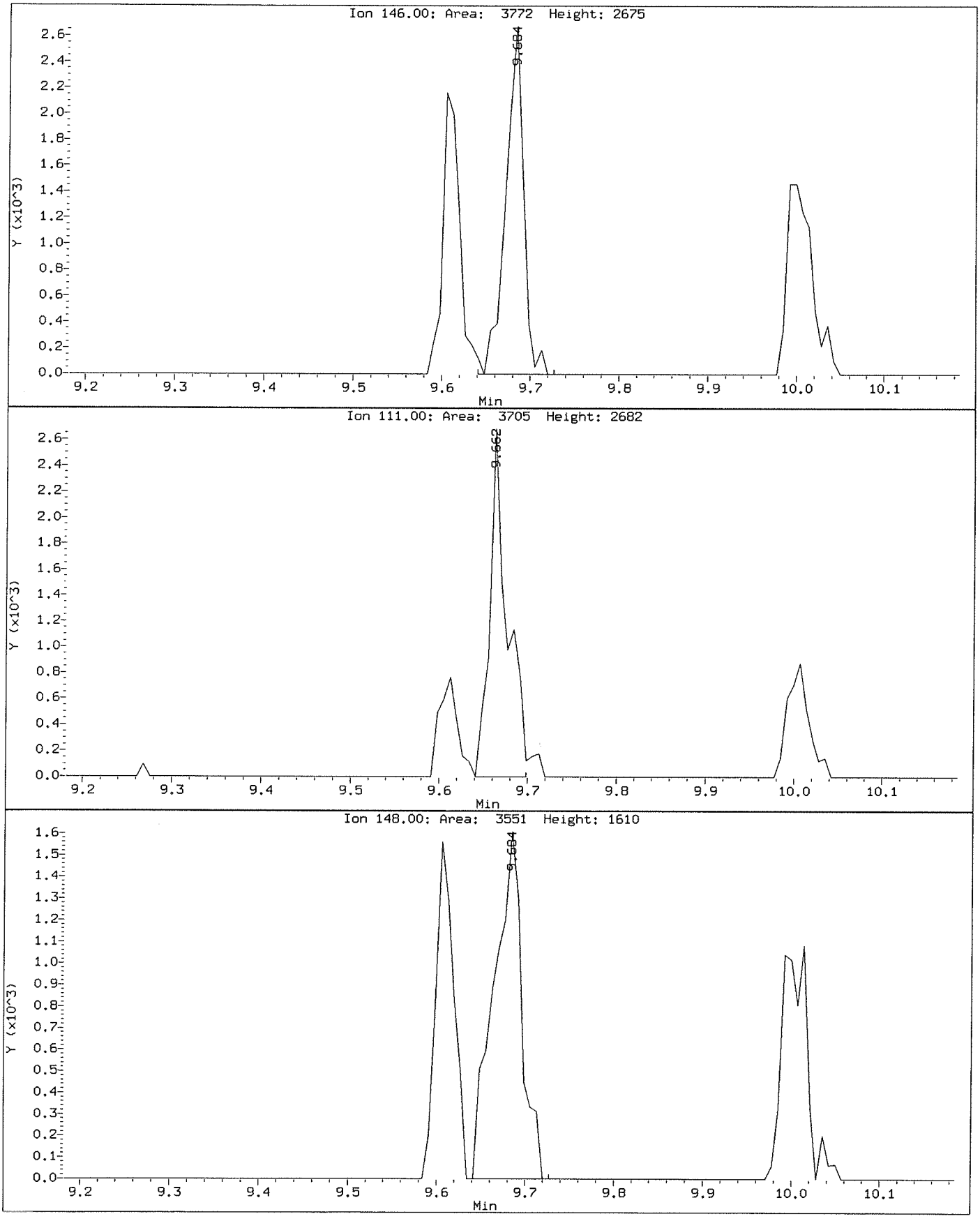
Compound: 1,2-Dichloropropane
CAS Number: 78-87-5



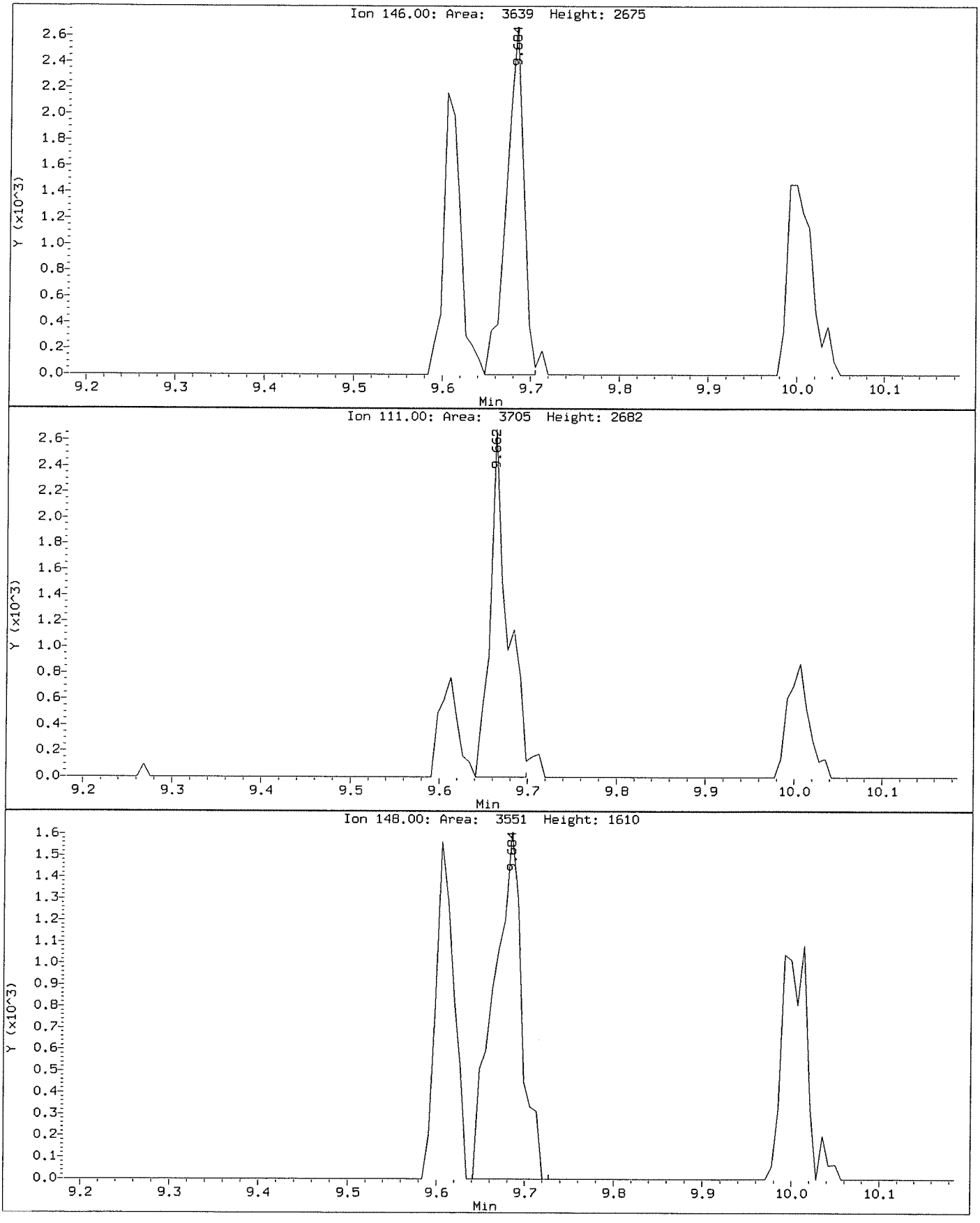
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Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,4-Dichlorobenzene
CAS Number: 106-46-7



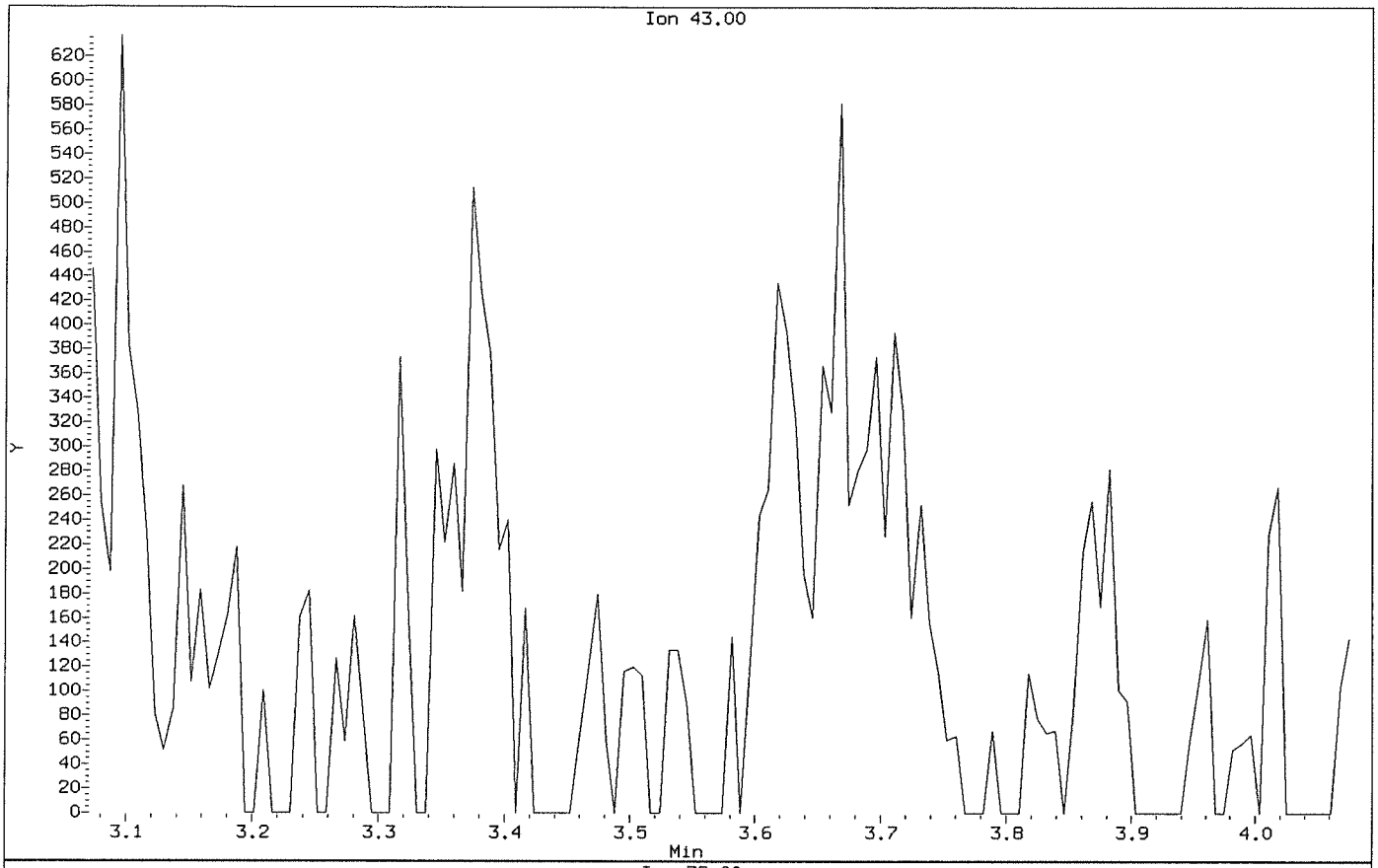
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Instrument: voa6.i
Client Sample ID: VSTD000.5

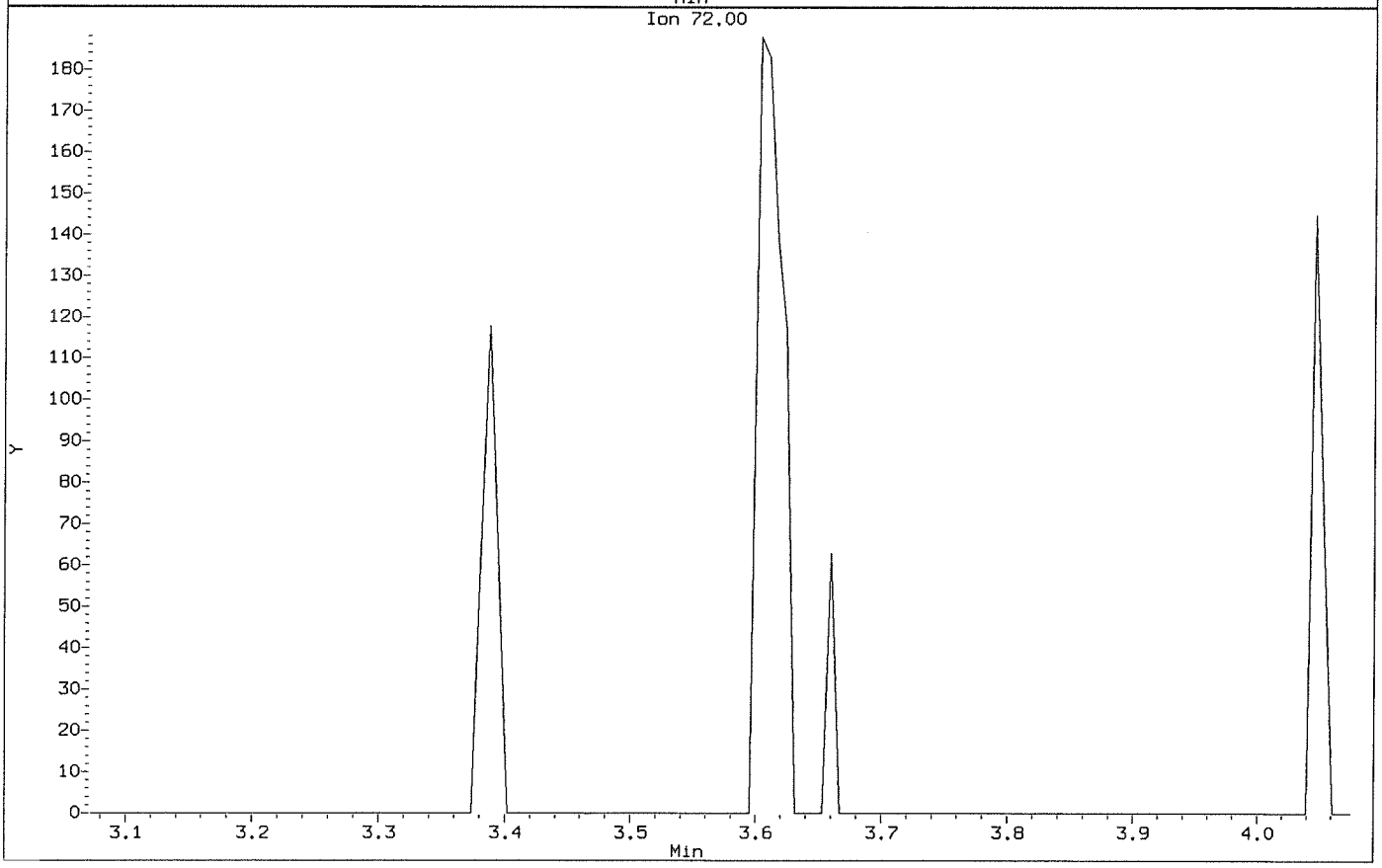
Compound: 1,4-Dichlorobenzene
CAS Number: 106-46-7



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before\X040203.D
Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

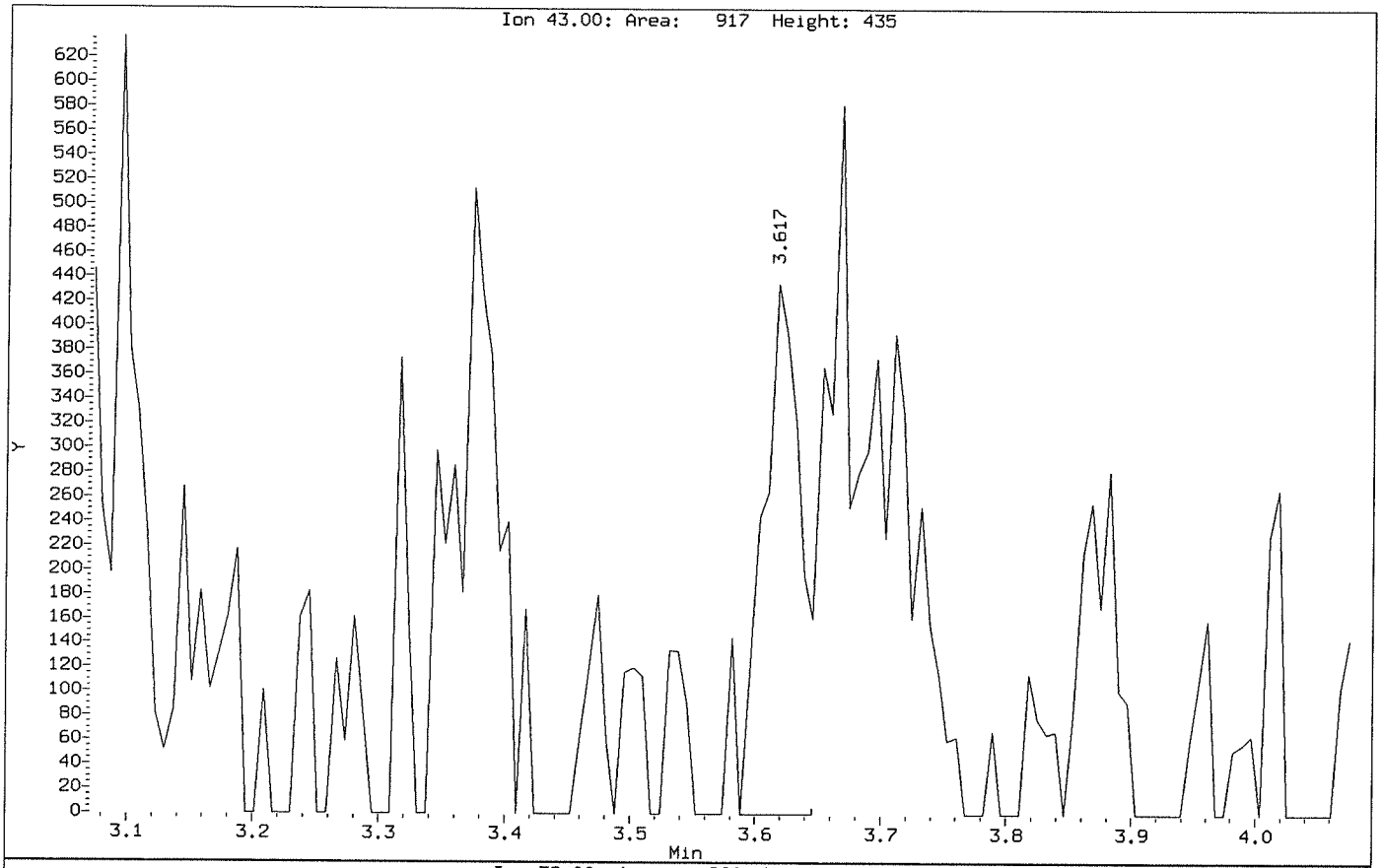
Compound: 2-Butanone
CAS Number: 78-93-3

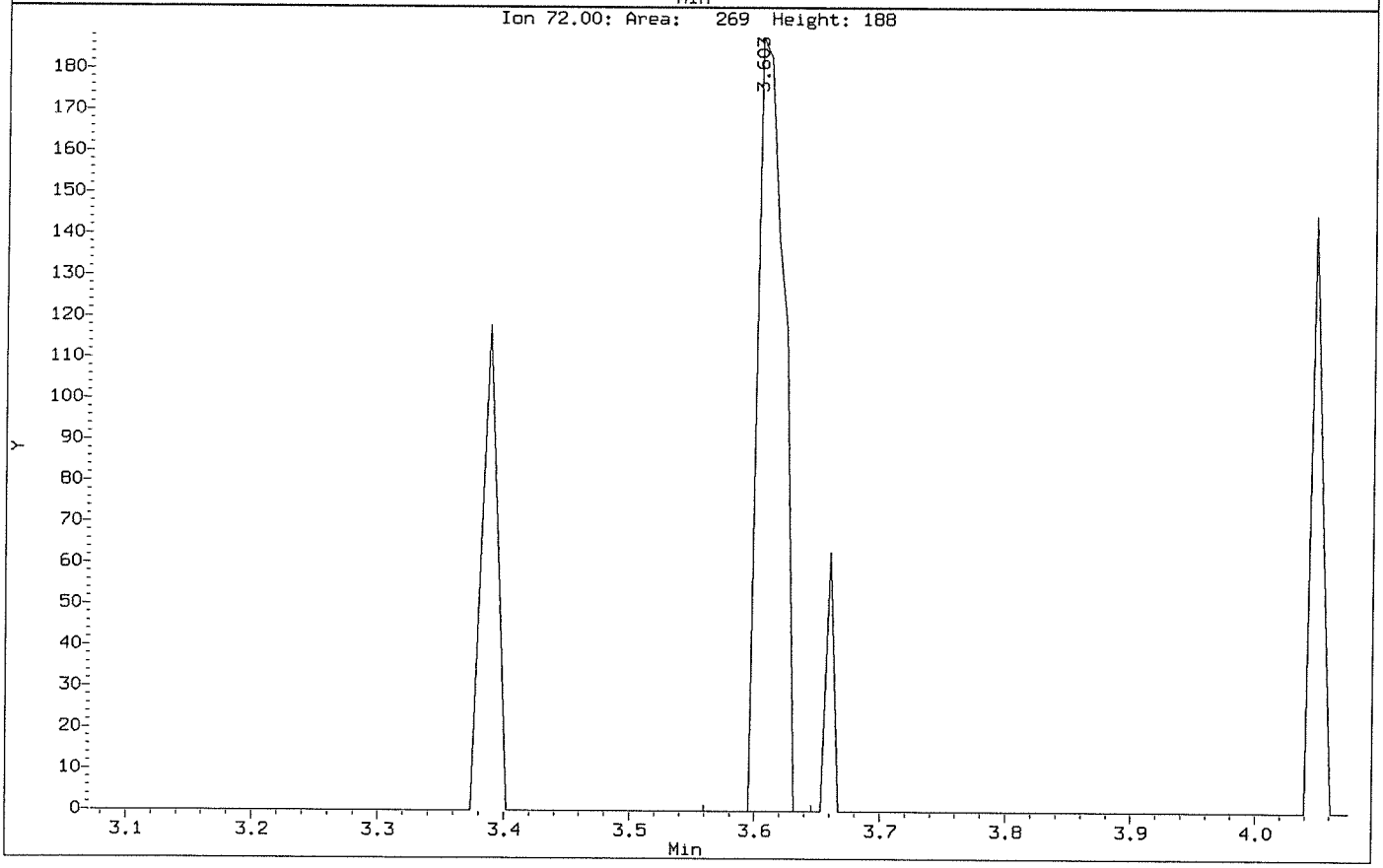


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Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

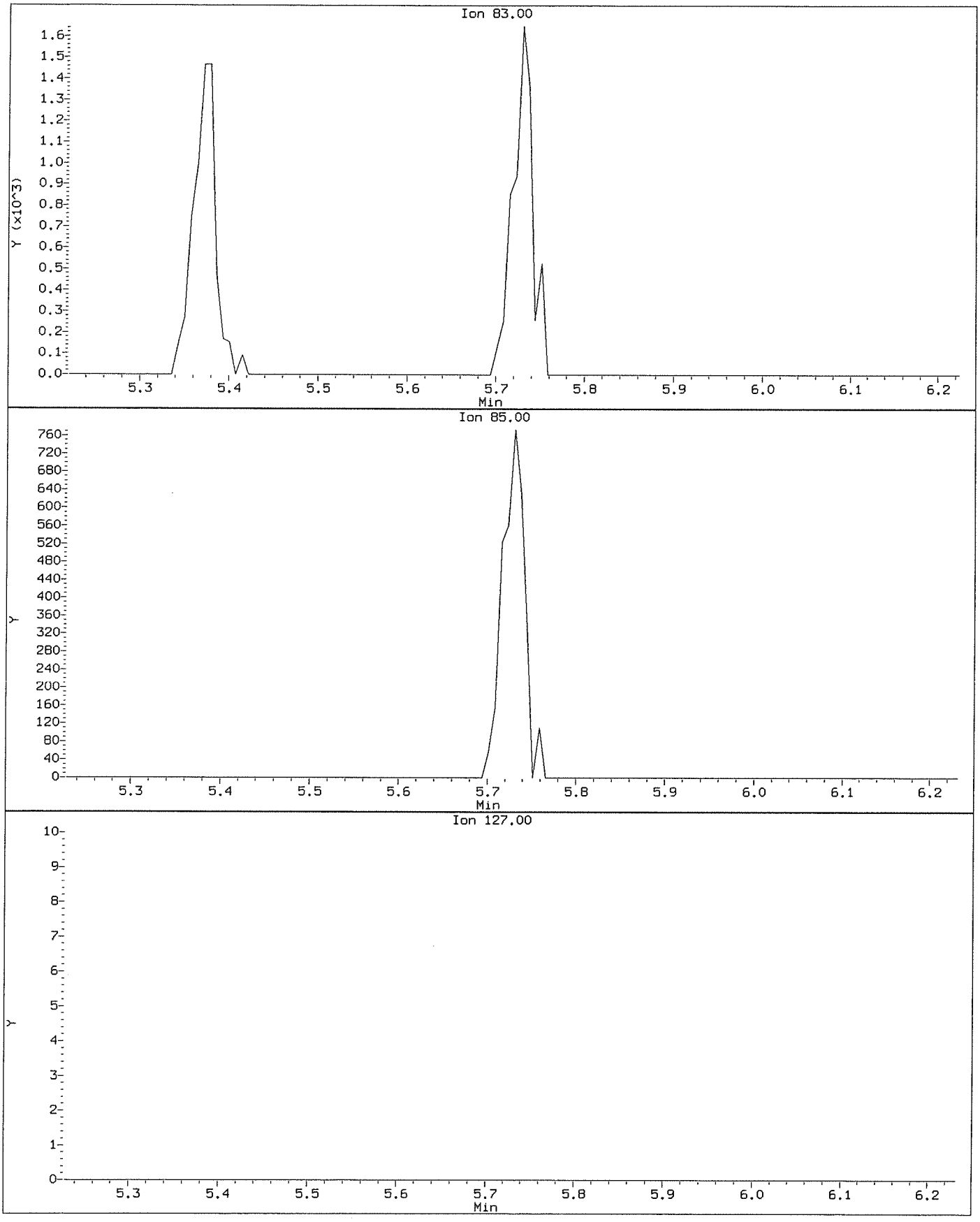
Compound: 2-Butanone
CAS Number: 78-93-3



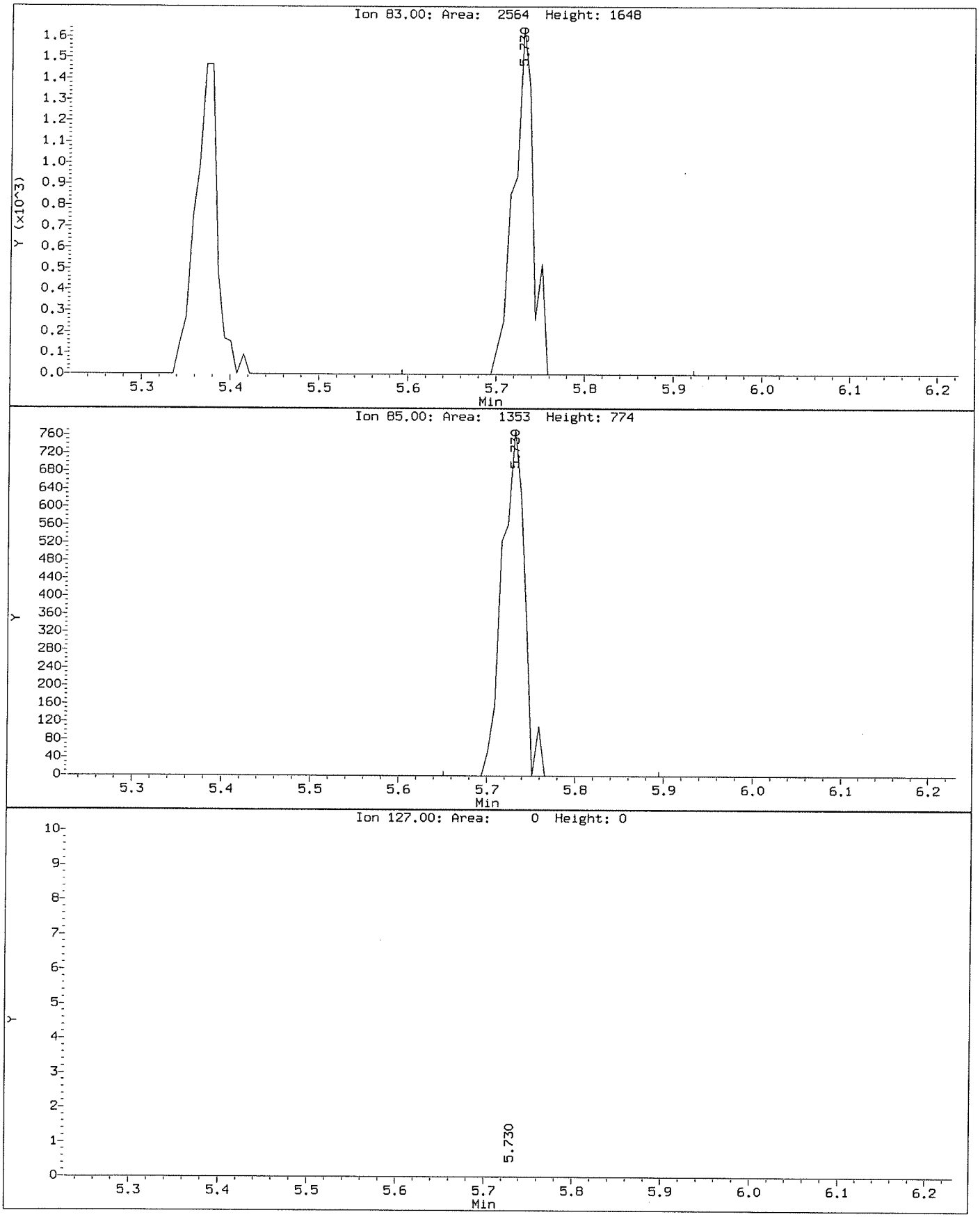
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Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Bromodichloromethane
CAS Number: 75-27-4



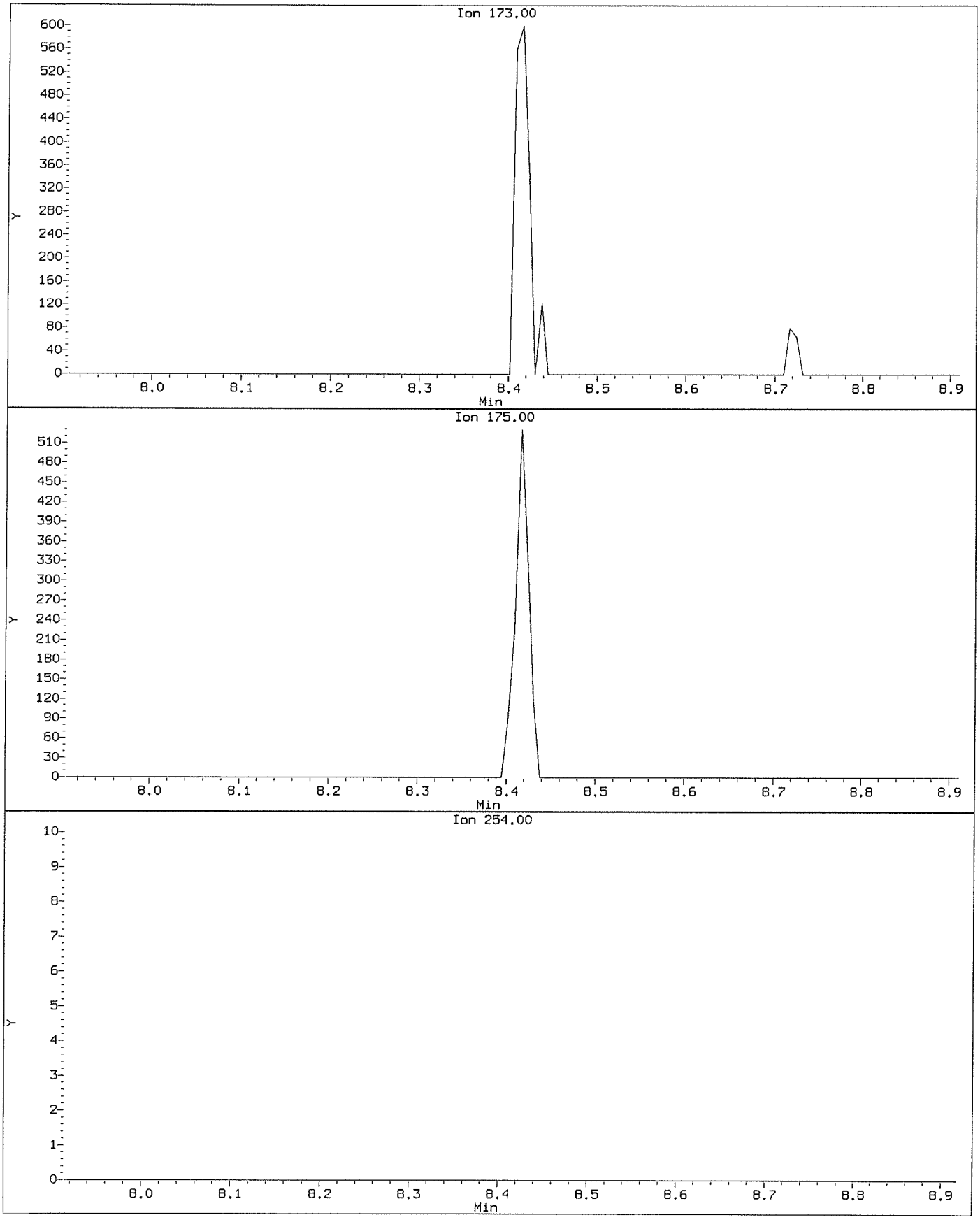
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Compound: Bromodichloromethane
CAS Number: 75-27-4



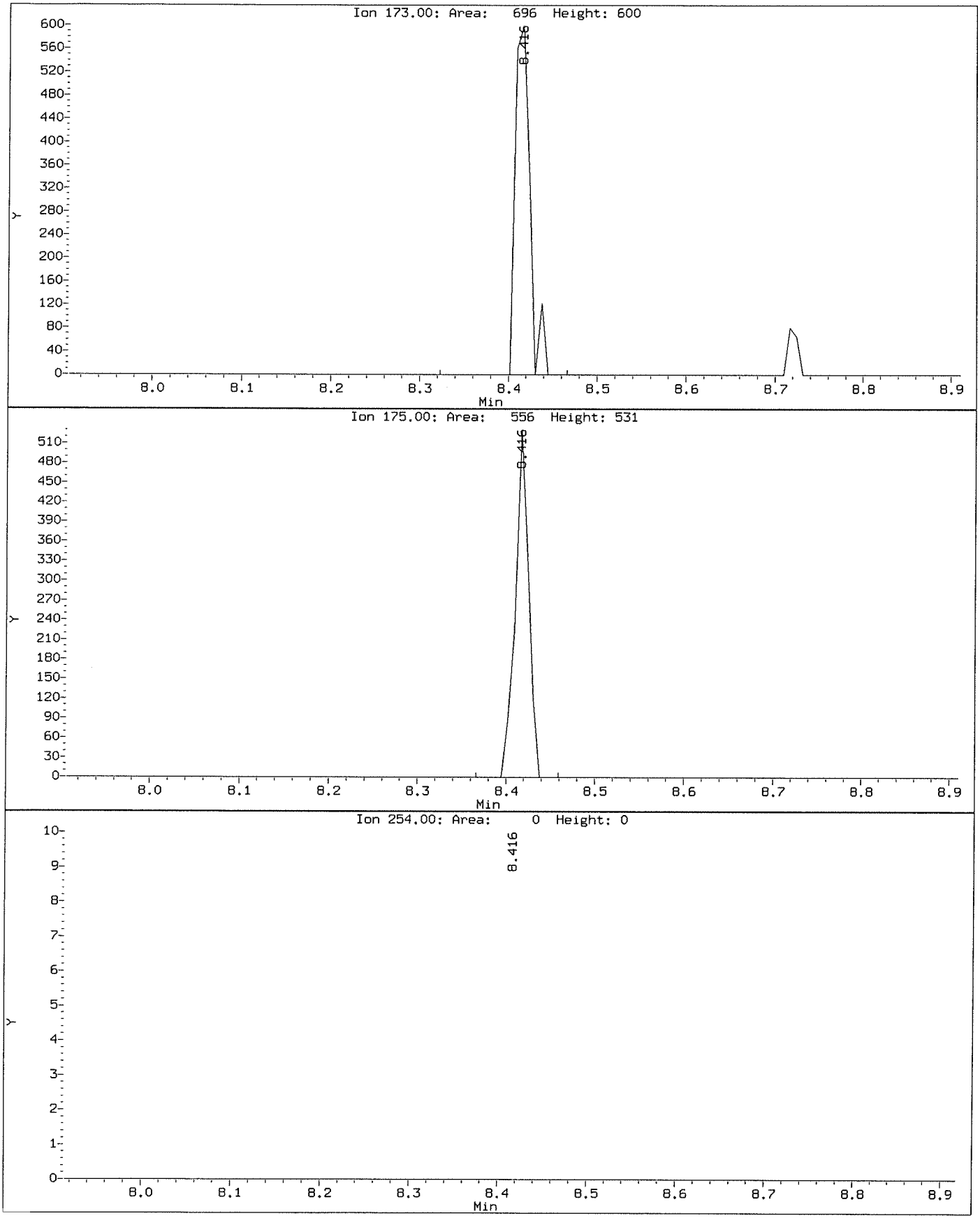
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Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Bromoform
CAS Number: 75-25-2



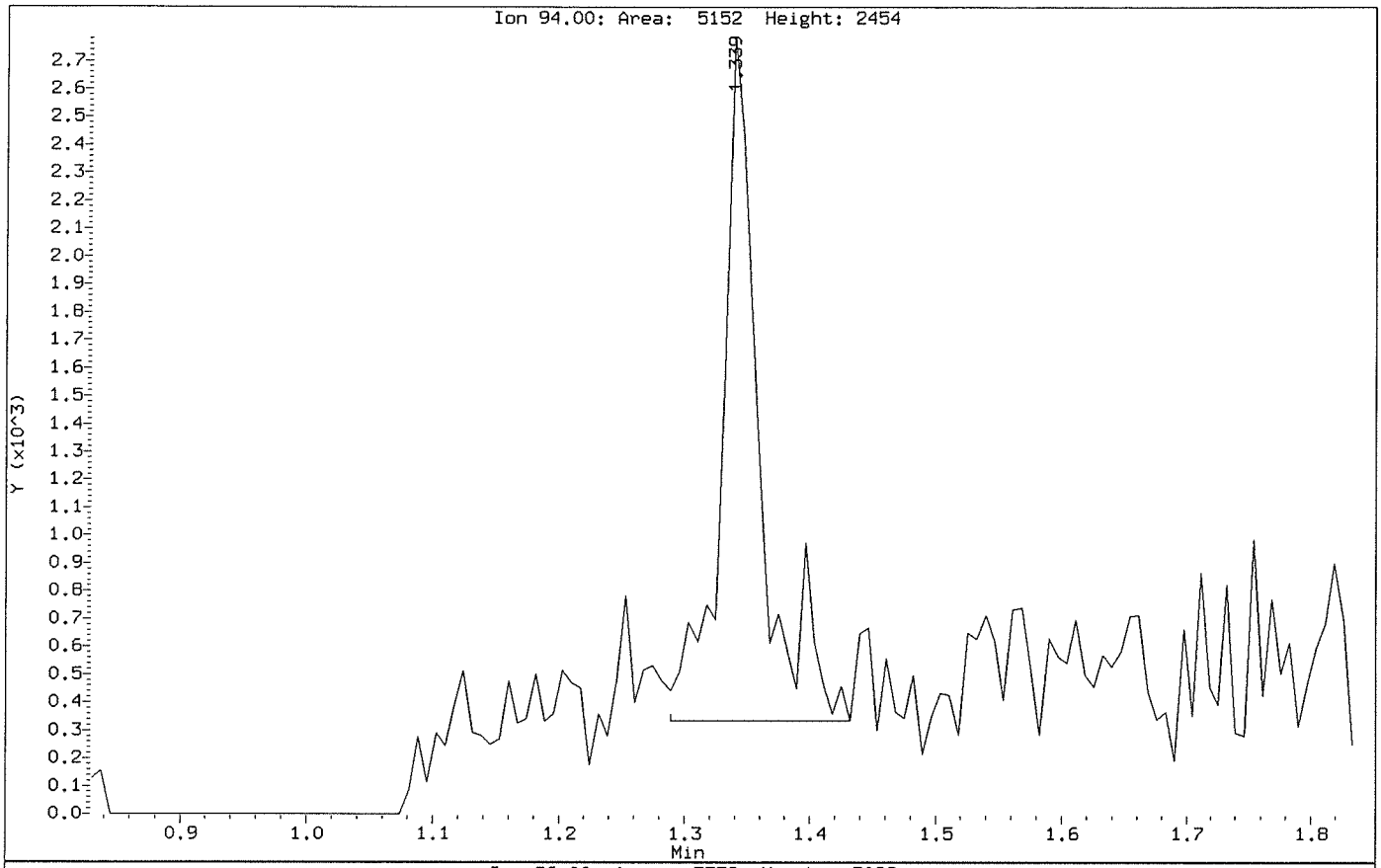
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Client Sample ID: VSTD000.5

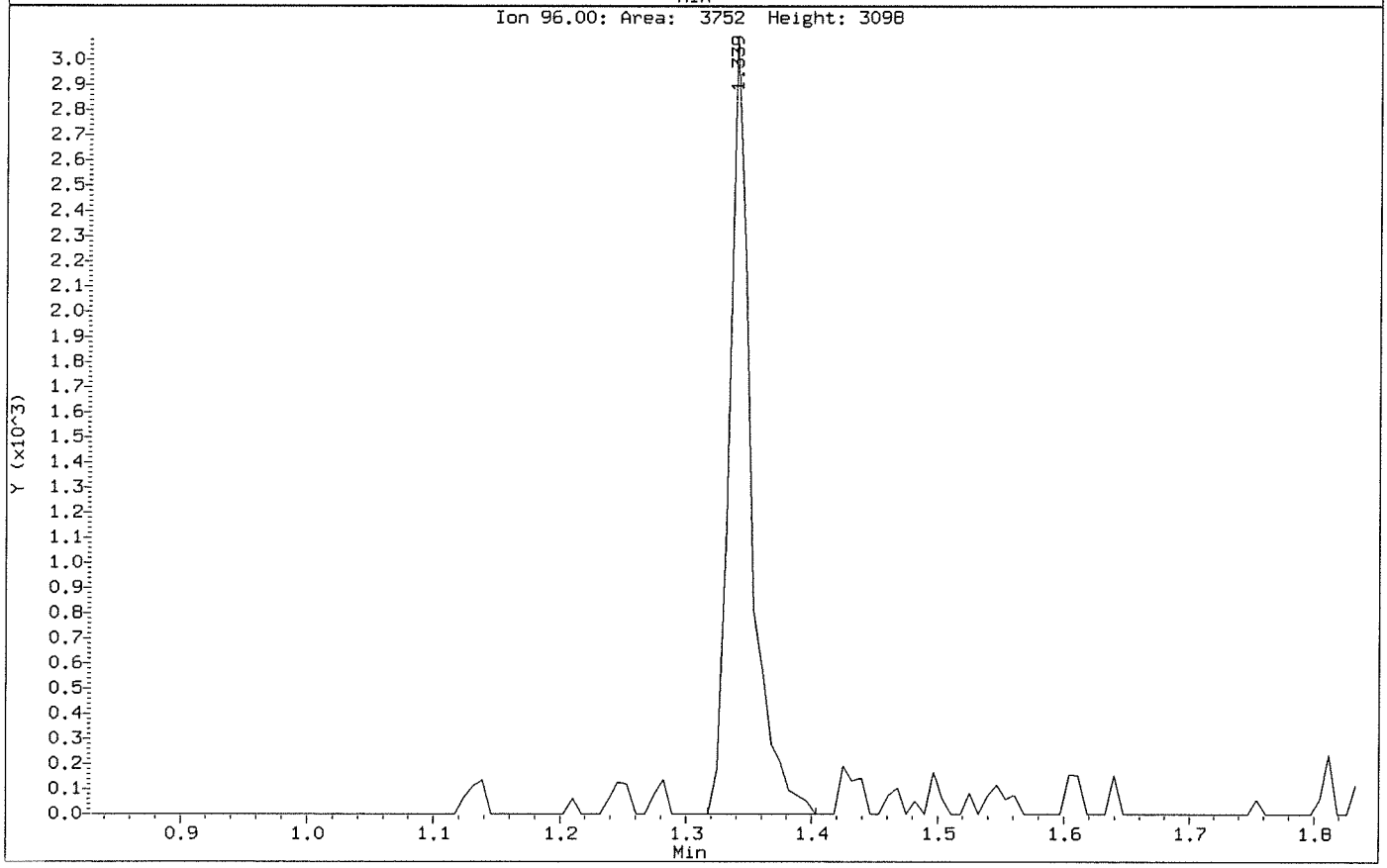
Compound: Bromoform
CAS Number: 75-25-2



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before\X040203.D
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Instrument: voa6.i
Client Sample ID: VSTD000.5

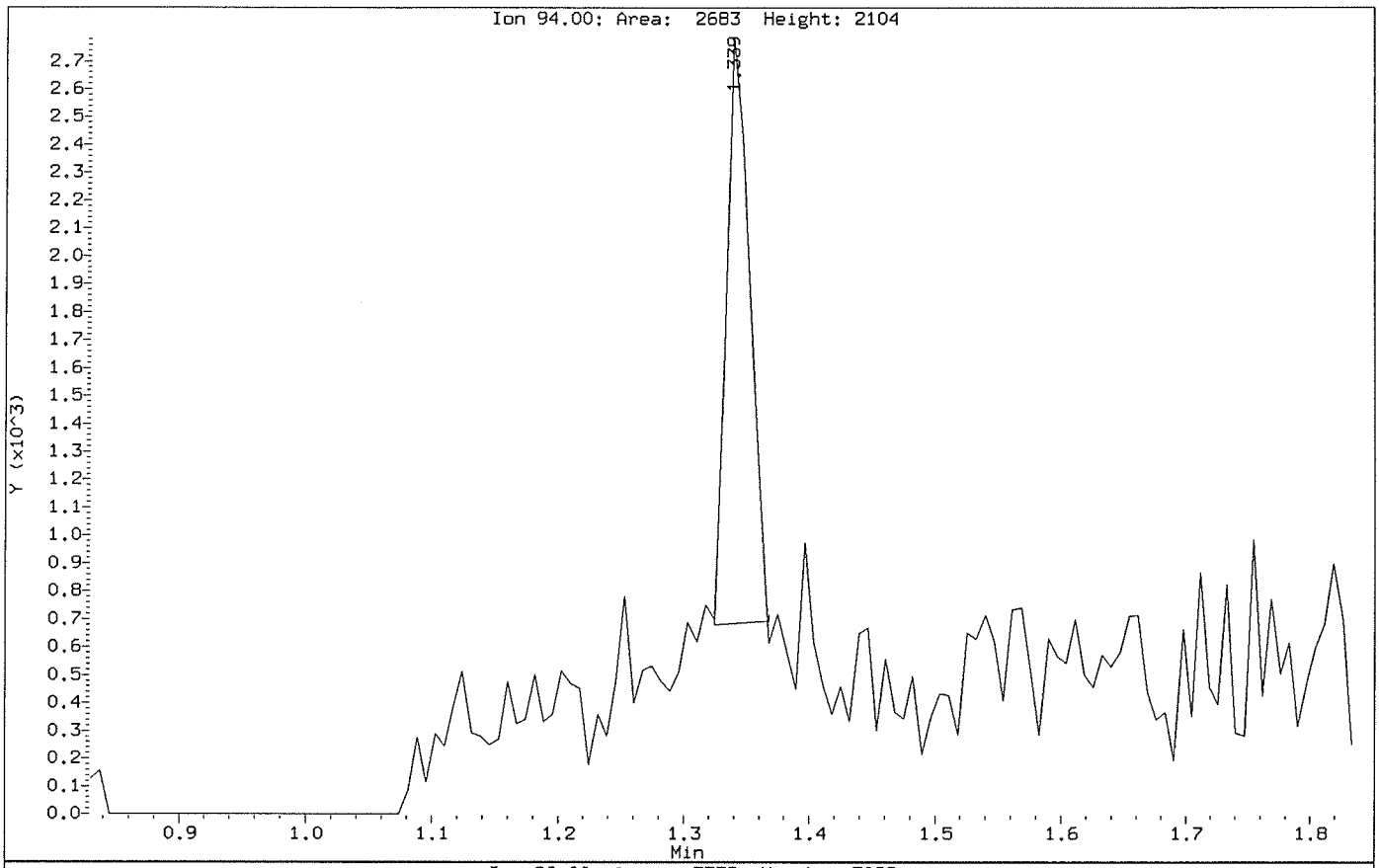
Compound: Bromomethane
CAS Number: 74-83-9

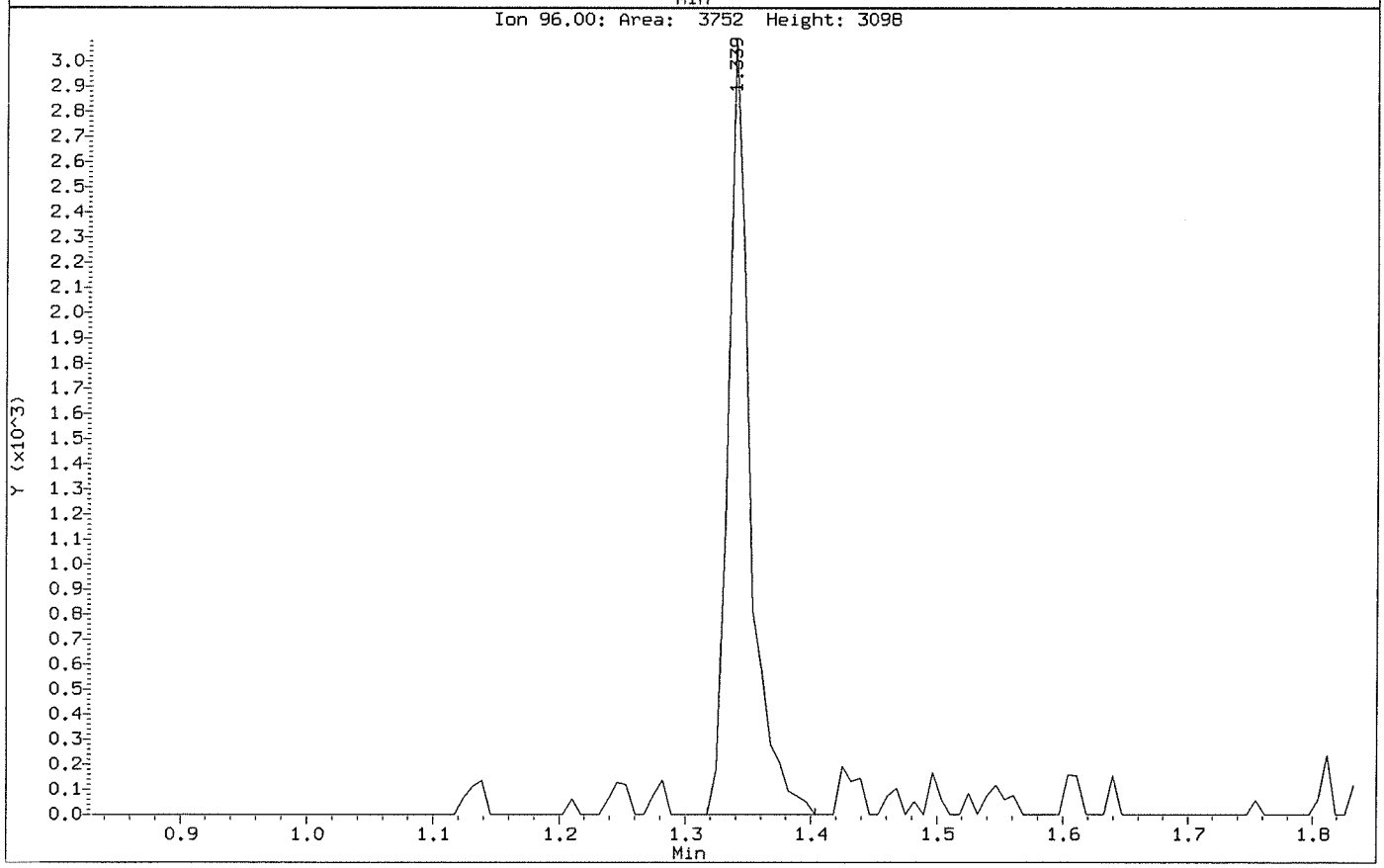


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040203.D
Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

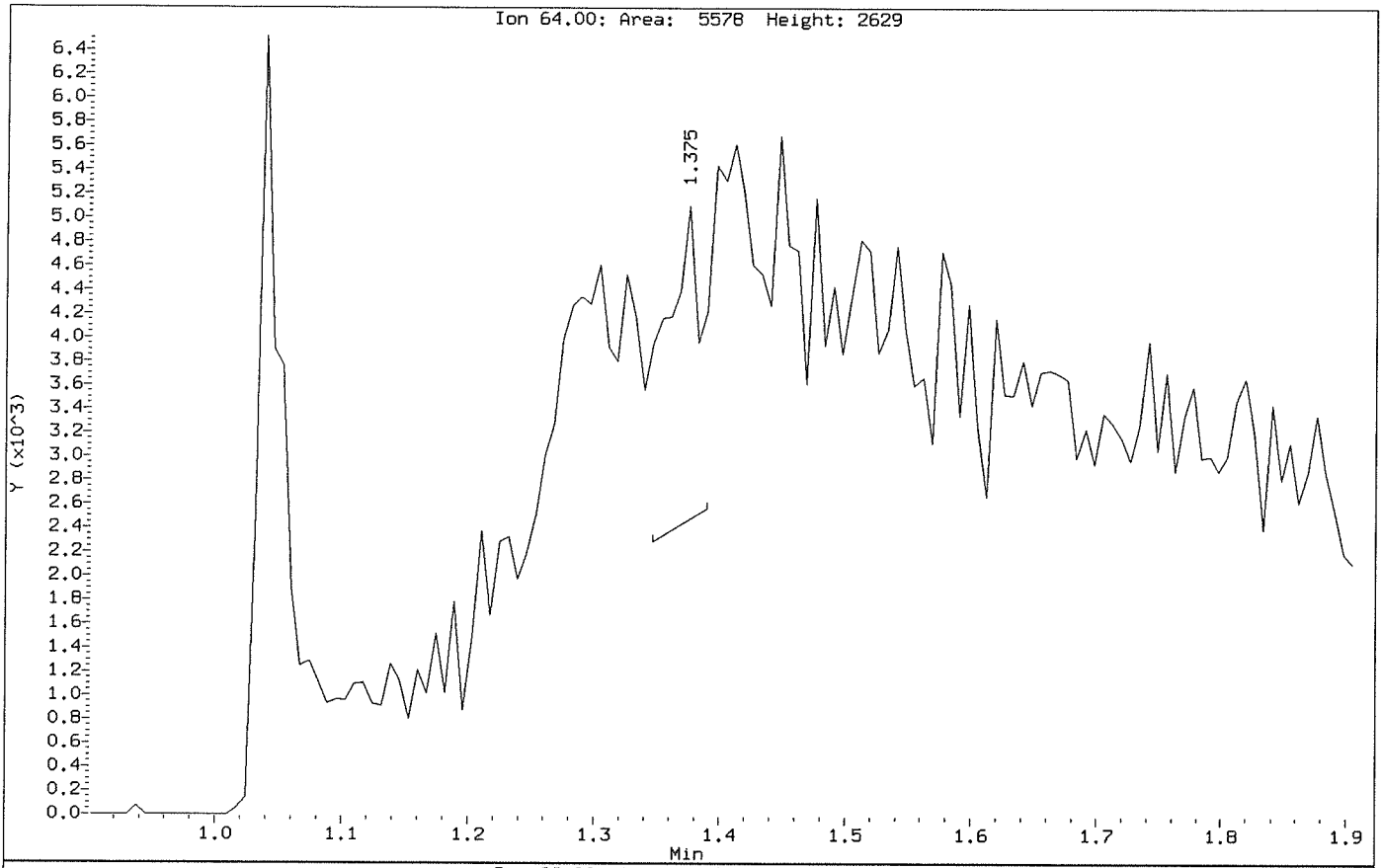
Compound: Bromomethane
CAS Number: 74-83-9

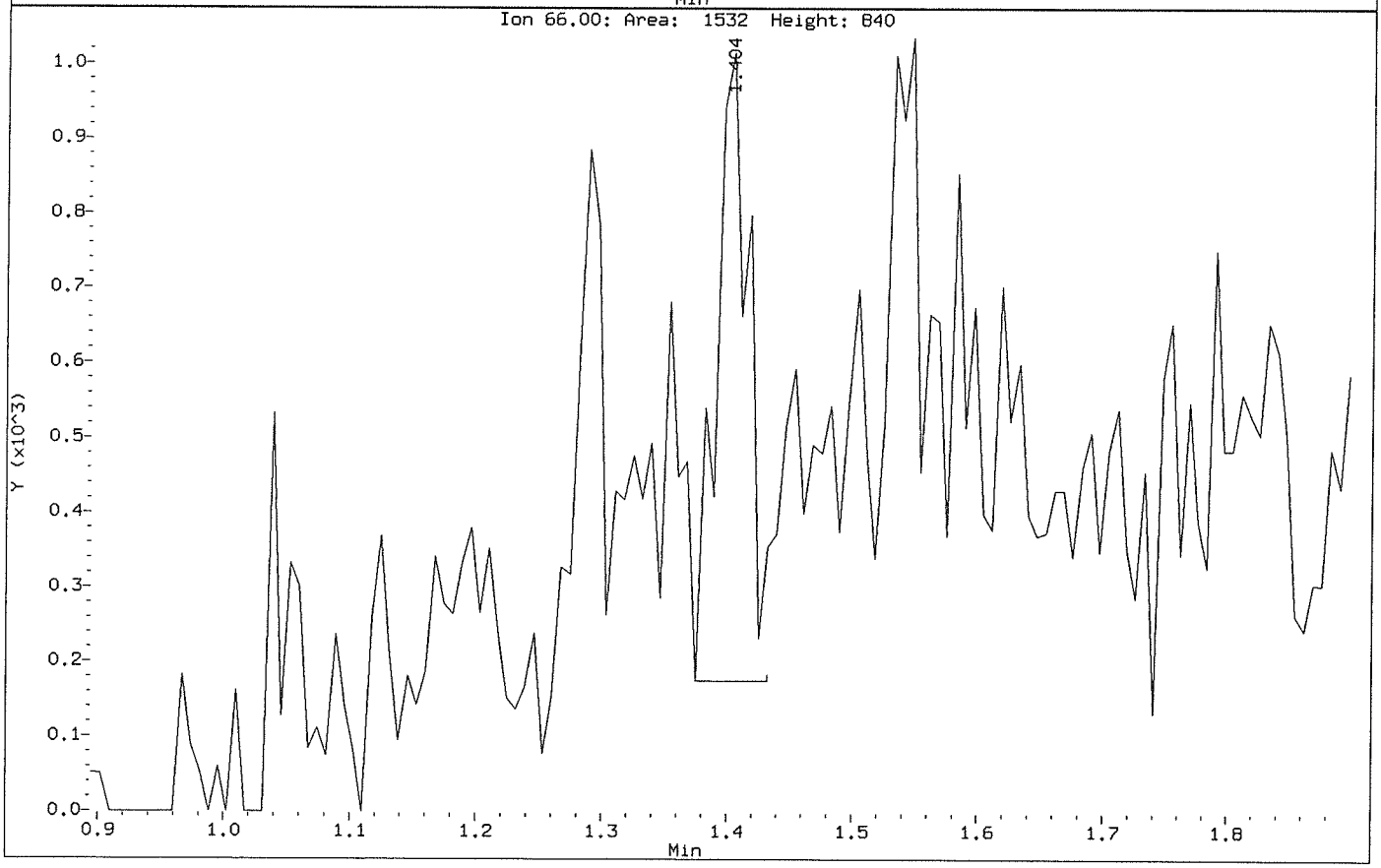


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before\X040203.D
Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

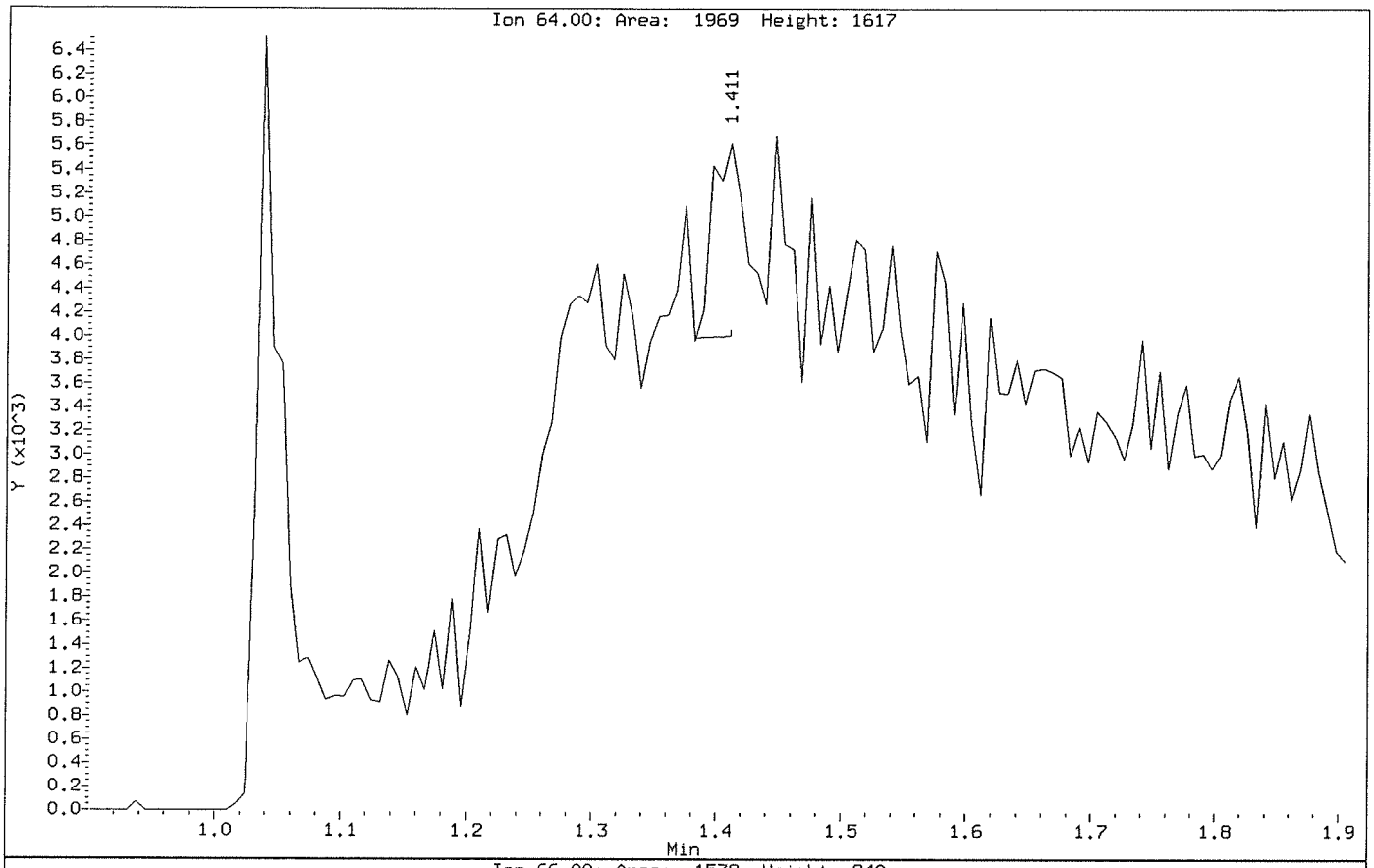
Compound: Chloroethane
CAS Number: 75-00-3

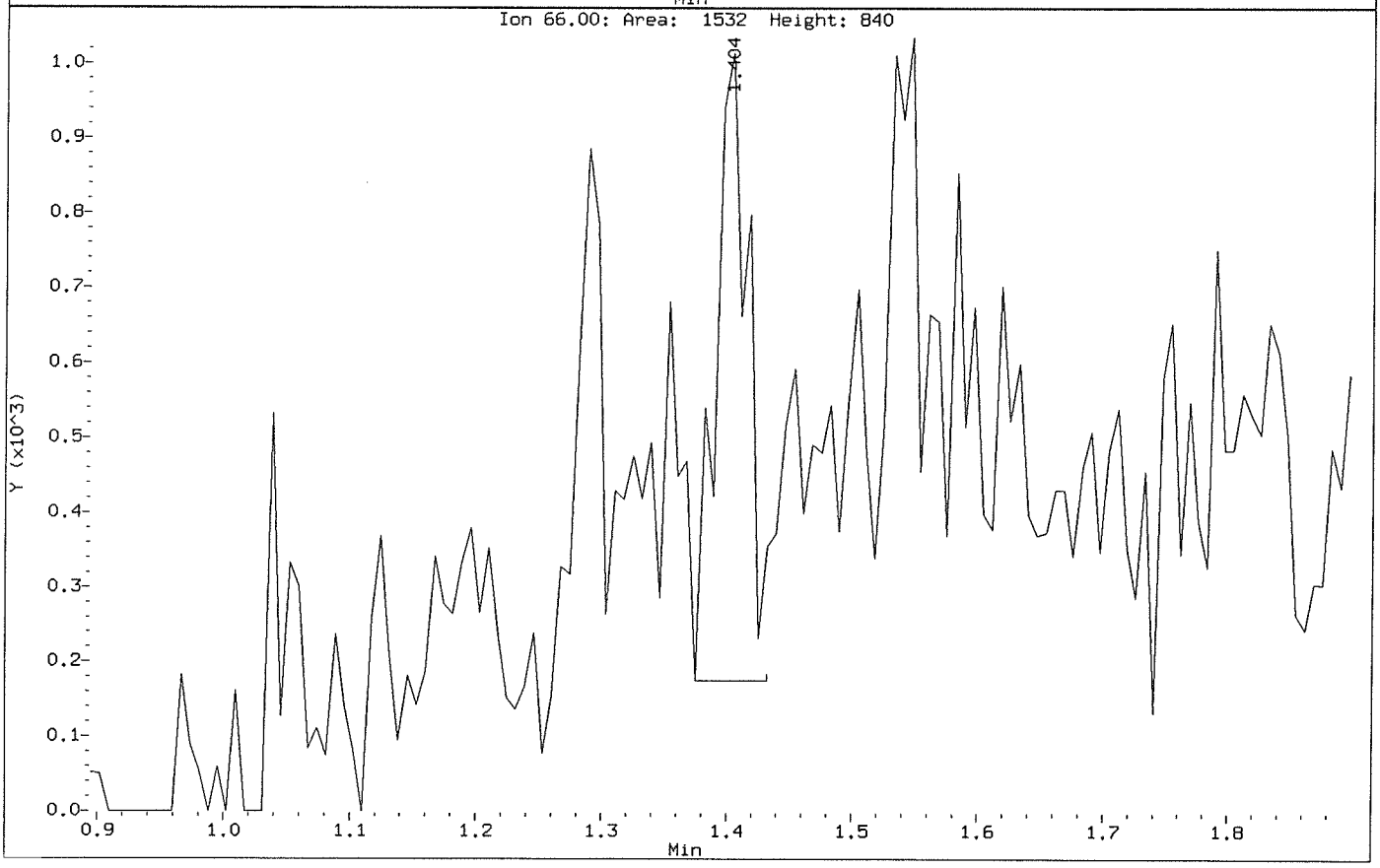


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040203.D
Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

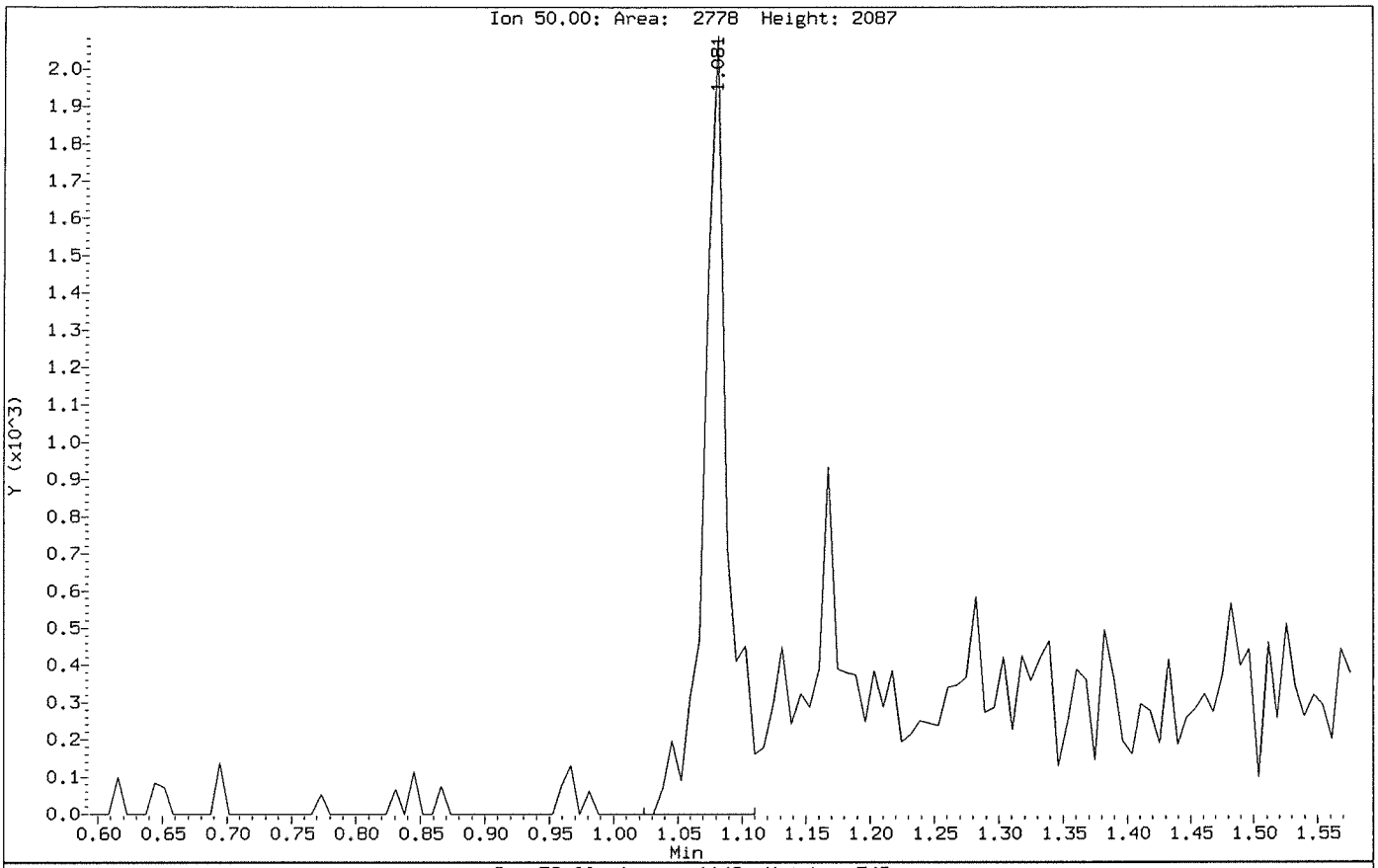
Compound: Chloroethane
CAS Number: 75-00-3

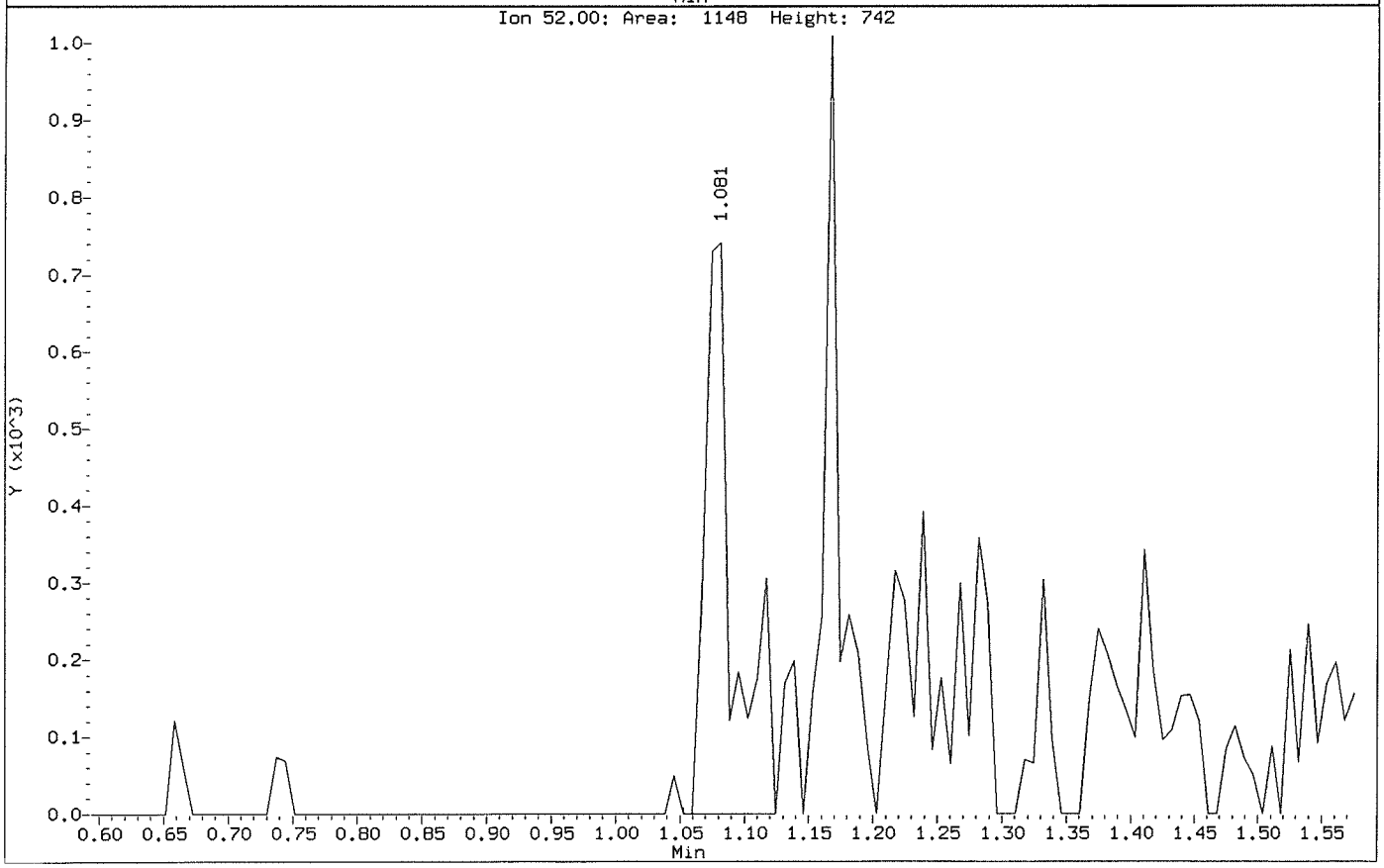


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before\X040203.D
Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

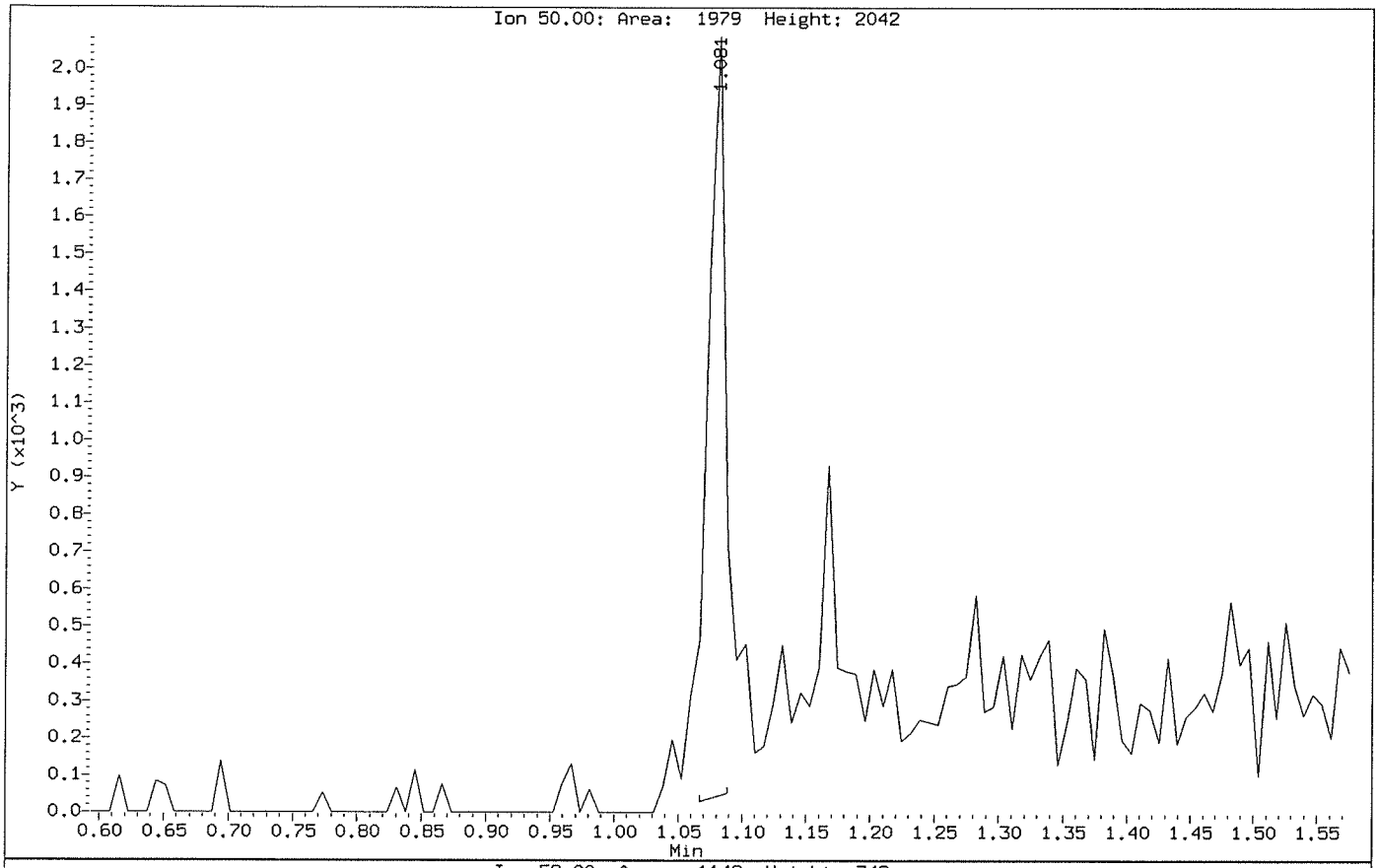
Compound: Chloromethane
CAS Number: 74-87-3

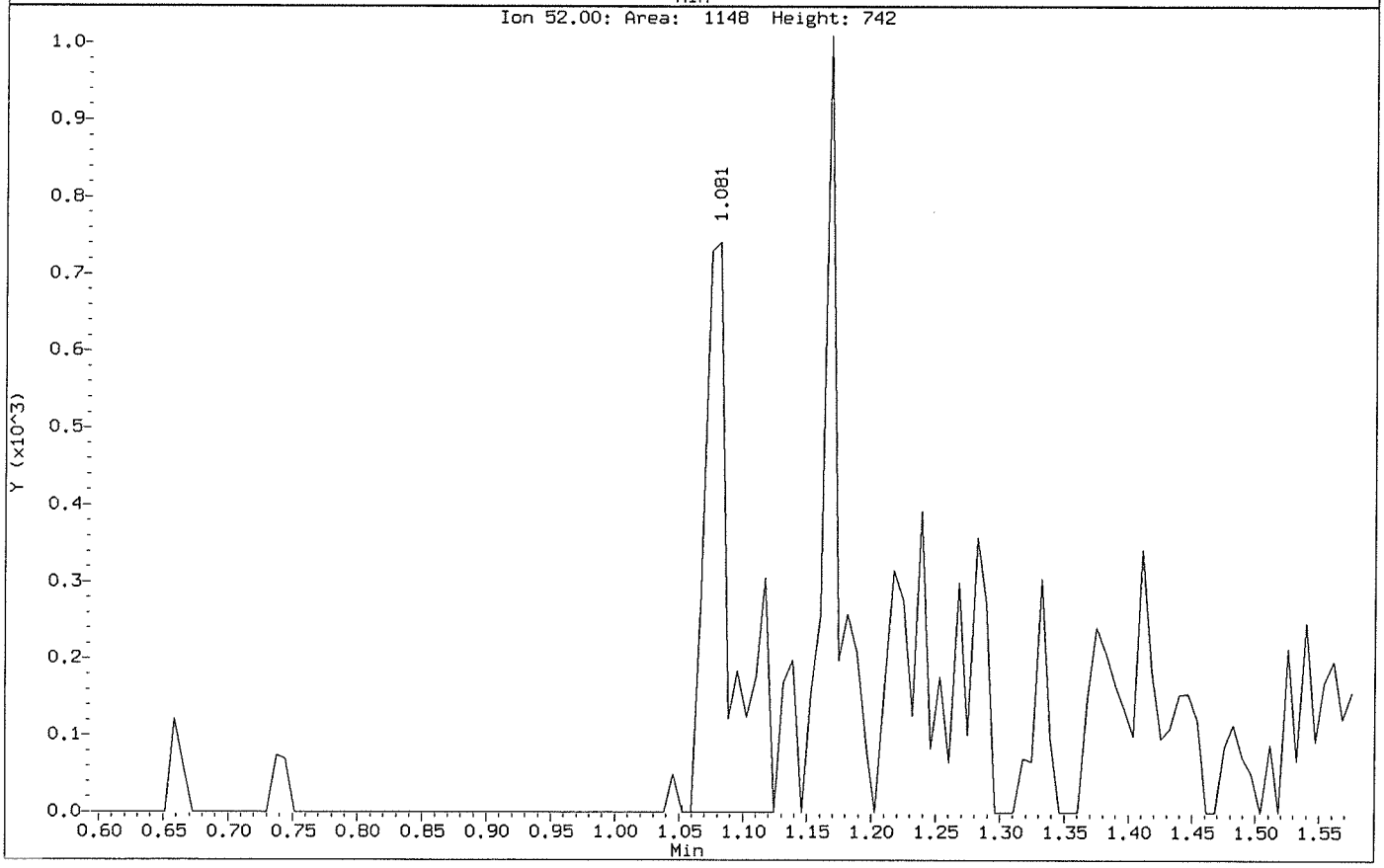


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040203.D
Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

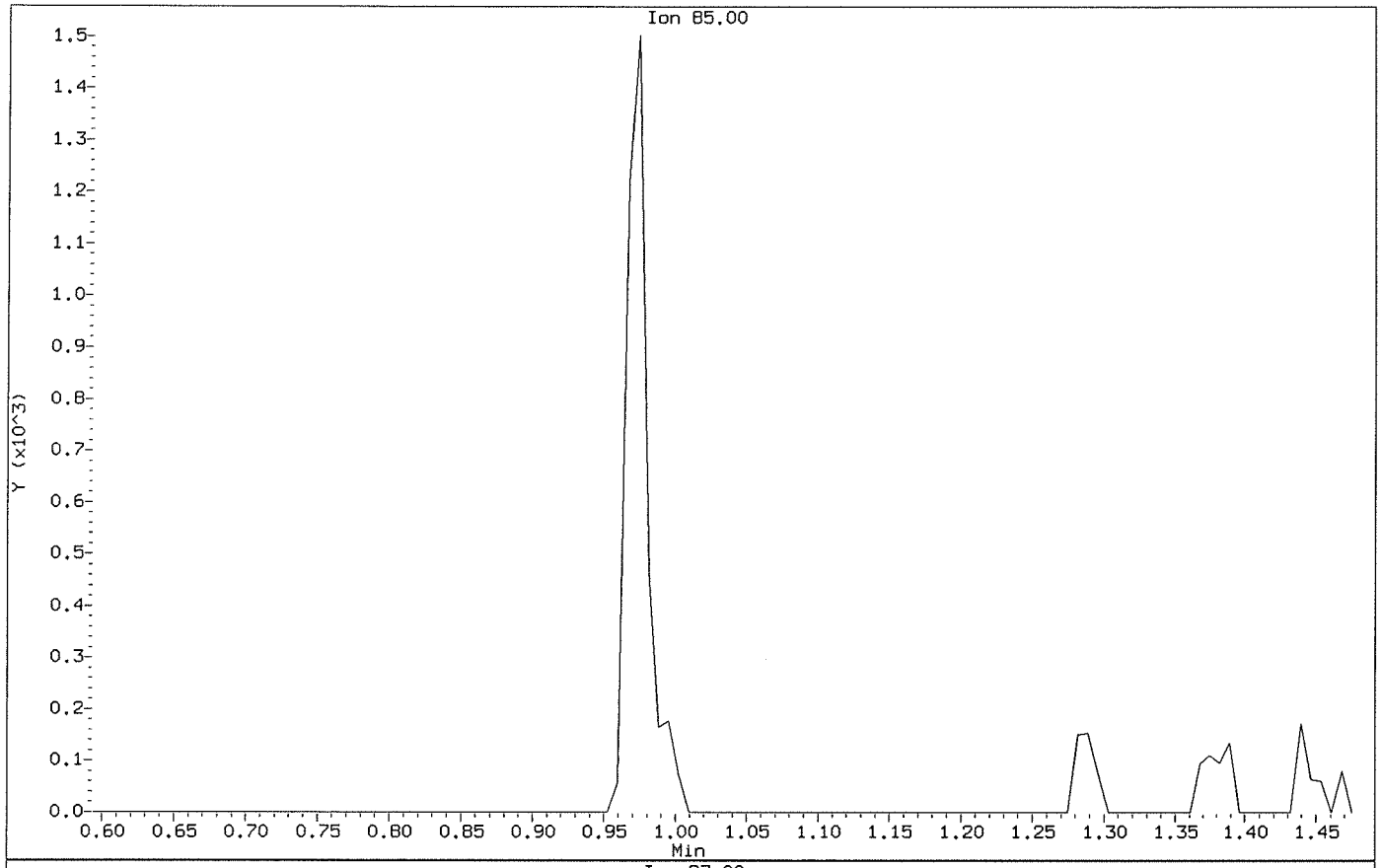
Compound: Chloromethane
CAS Number: 74-87-3

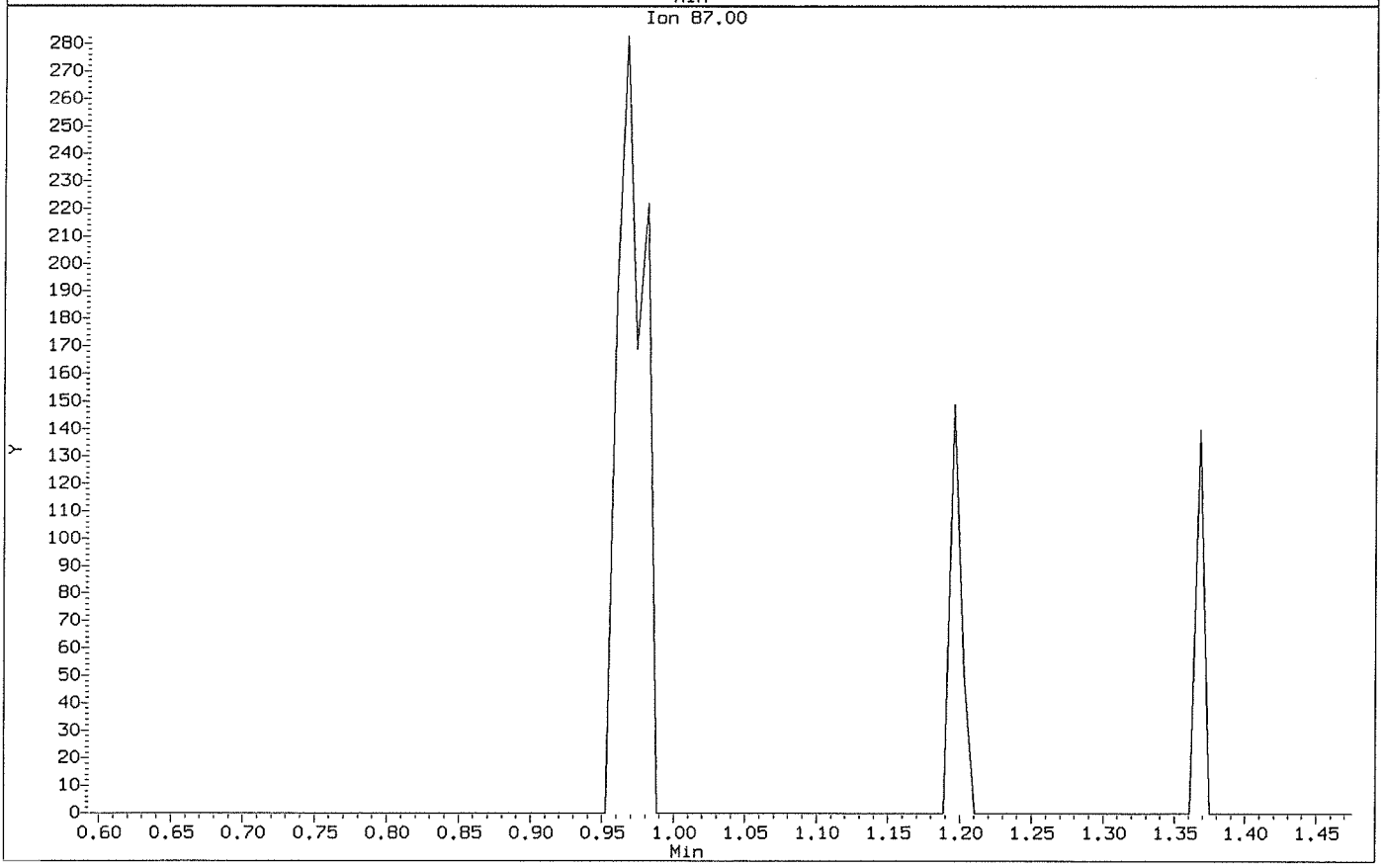


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Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

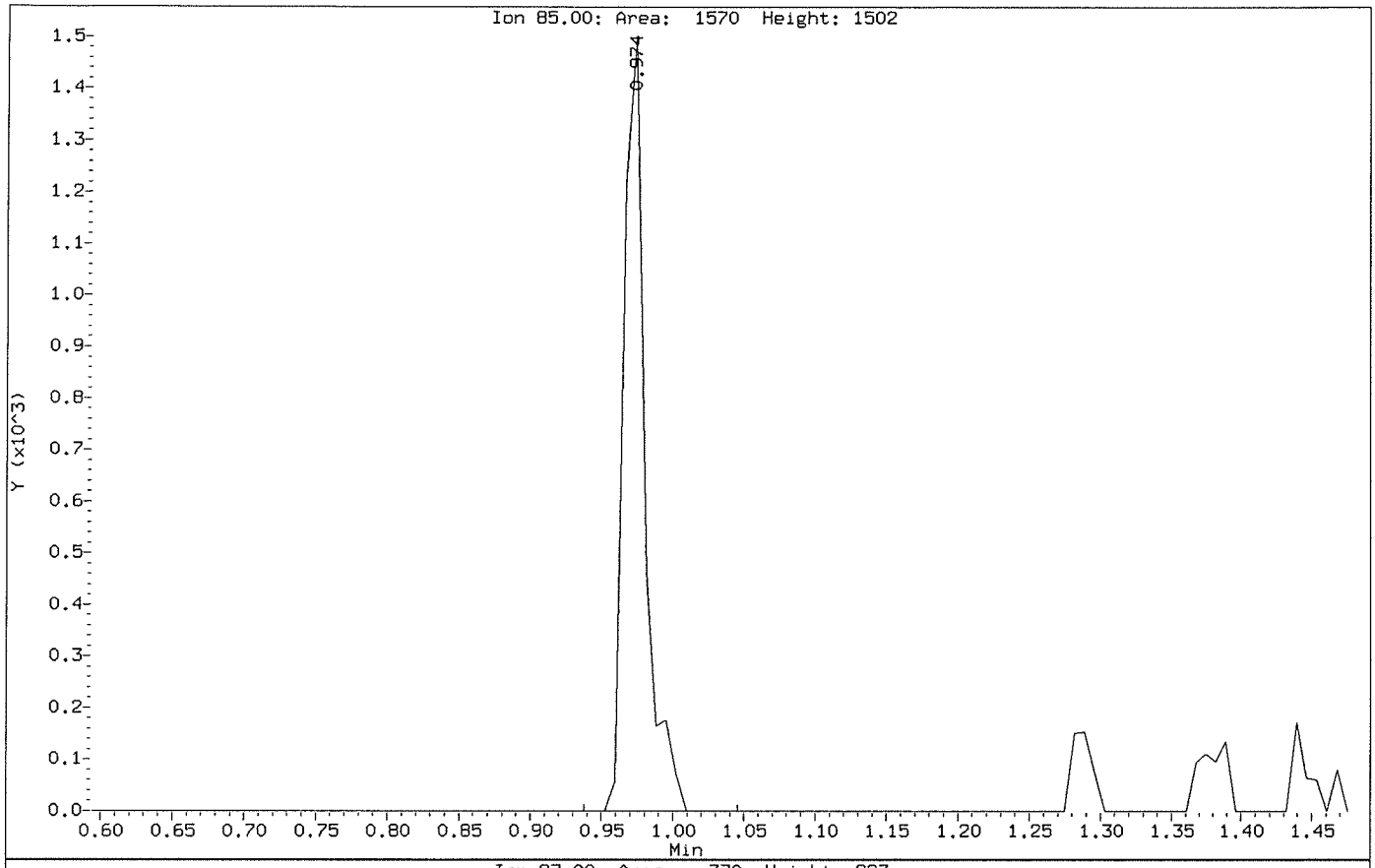
Compound: Dichlorodifluoromethane
CAS Number: 75-71-8

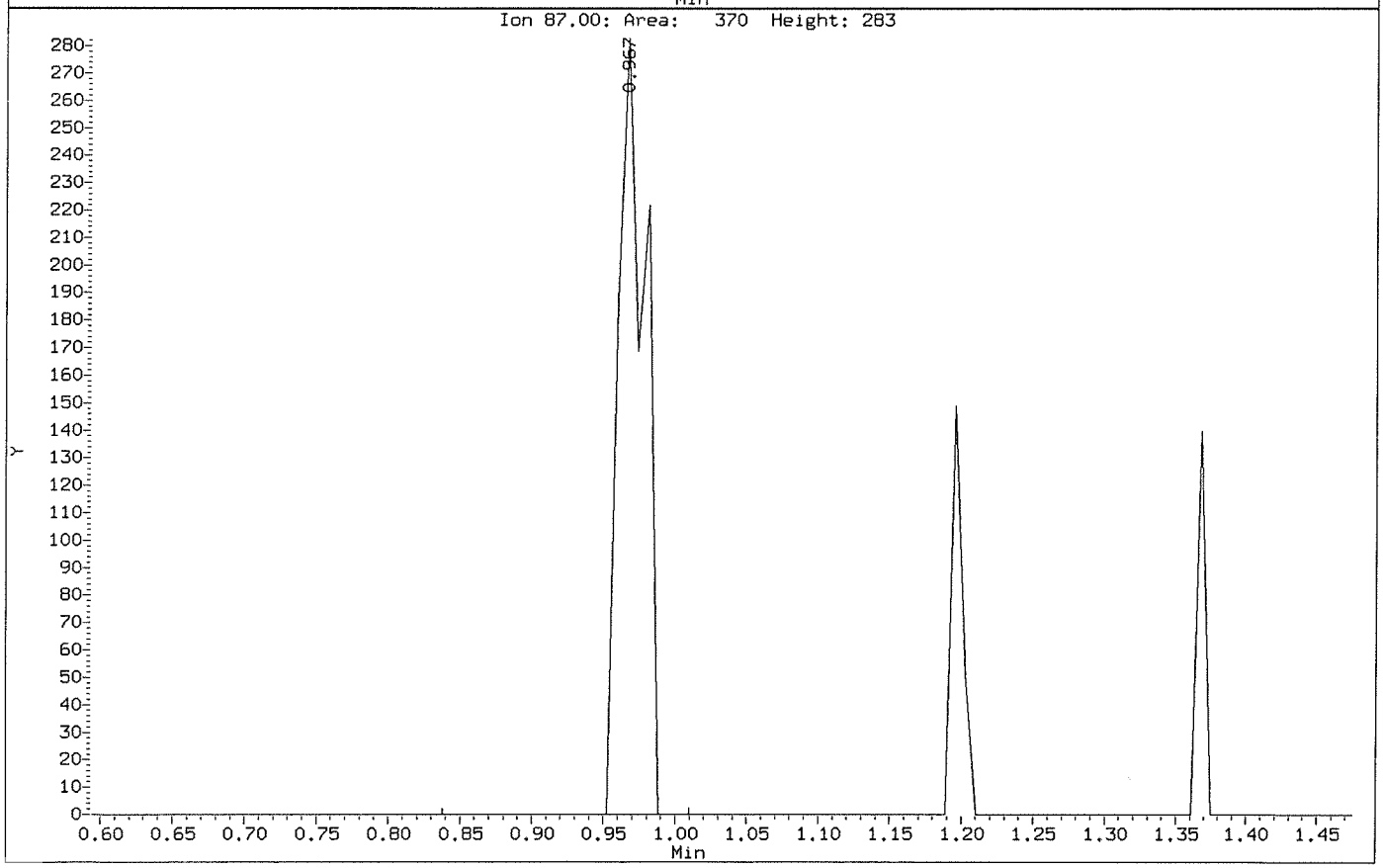


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Instrument: voa6.i
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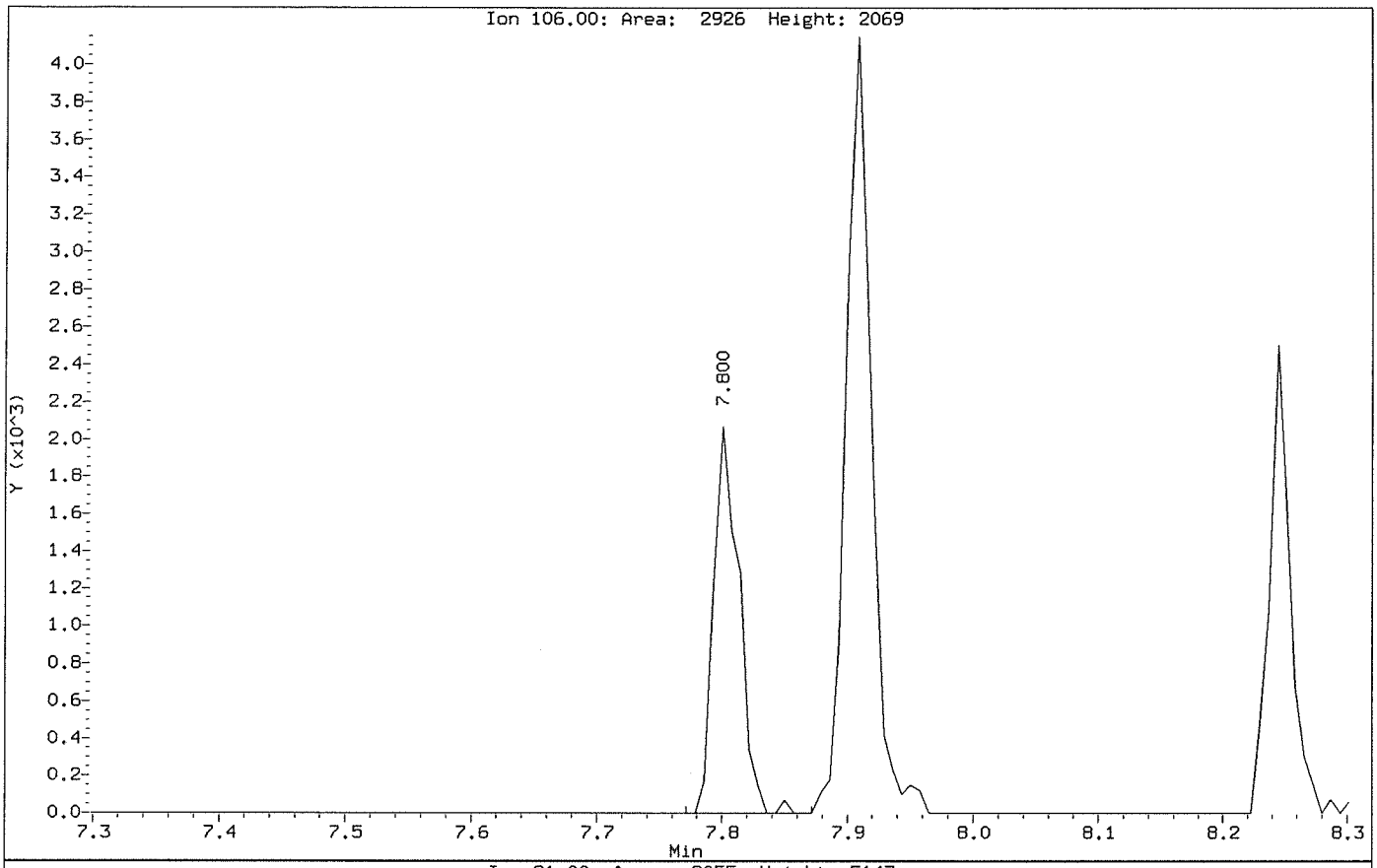
Compound: Dichlorodifluoromethane
CAS Number: 75-71-8

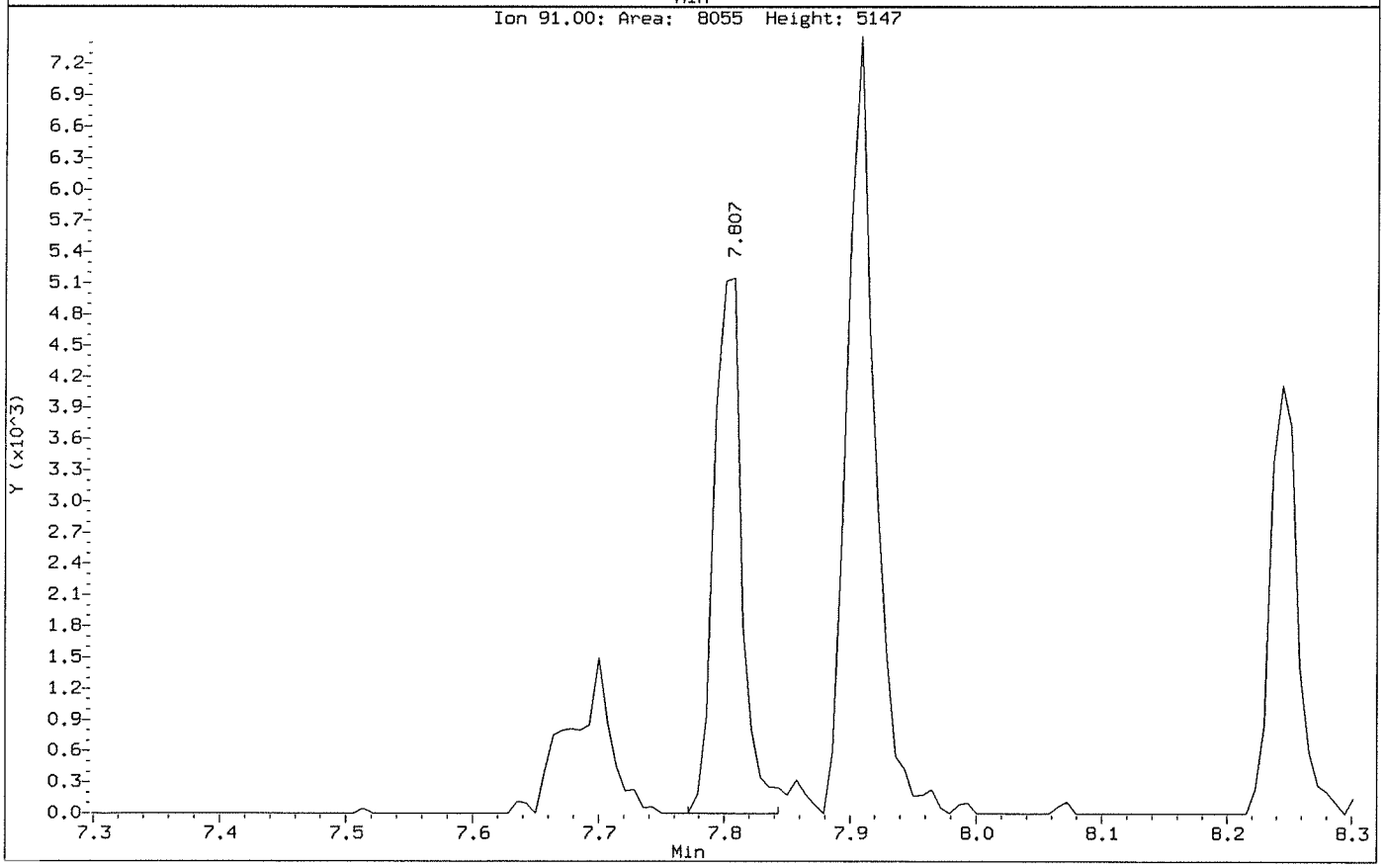


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Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

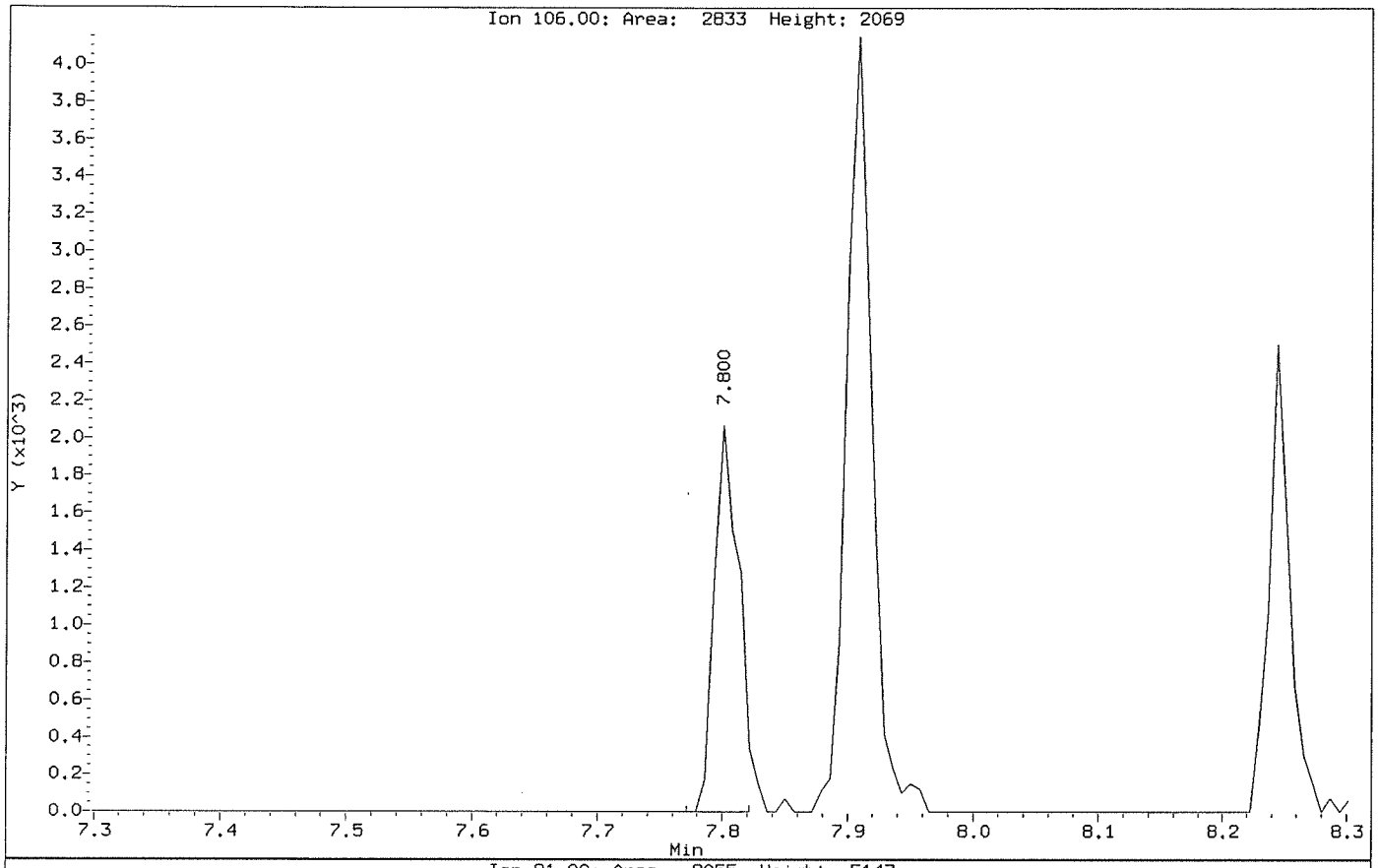
Compound: Ethylbenzene
CAS Number: 100-41-4

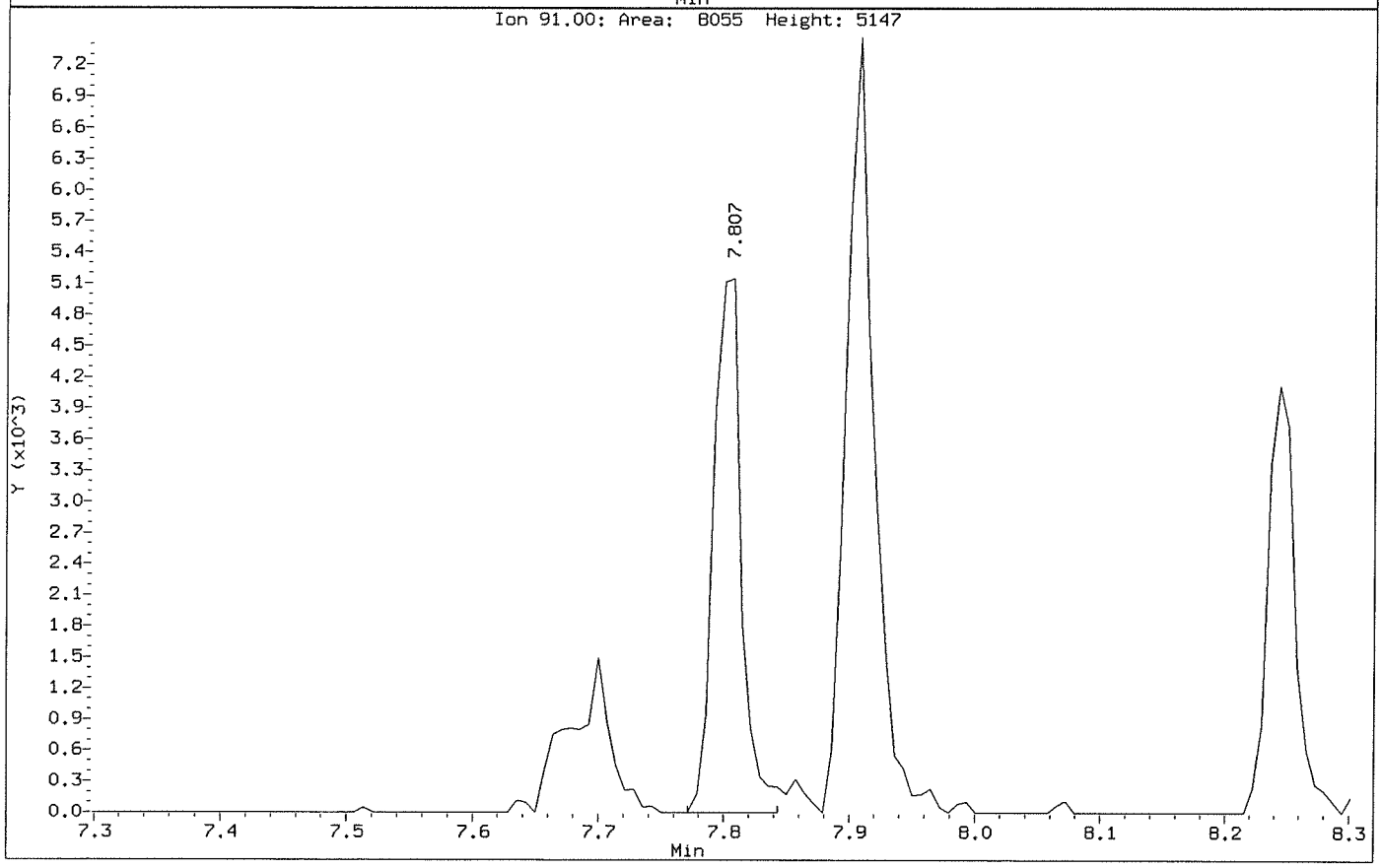


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Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

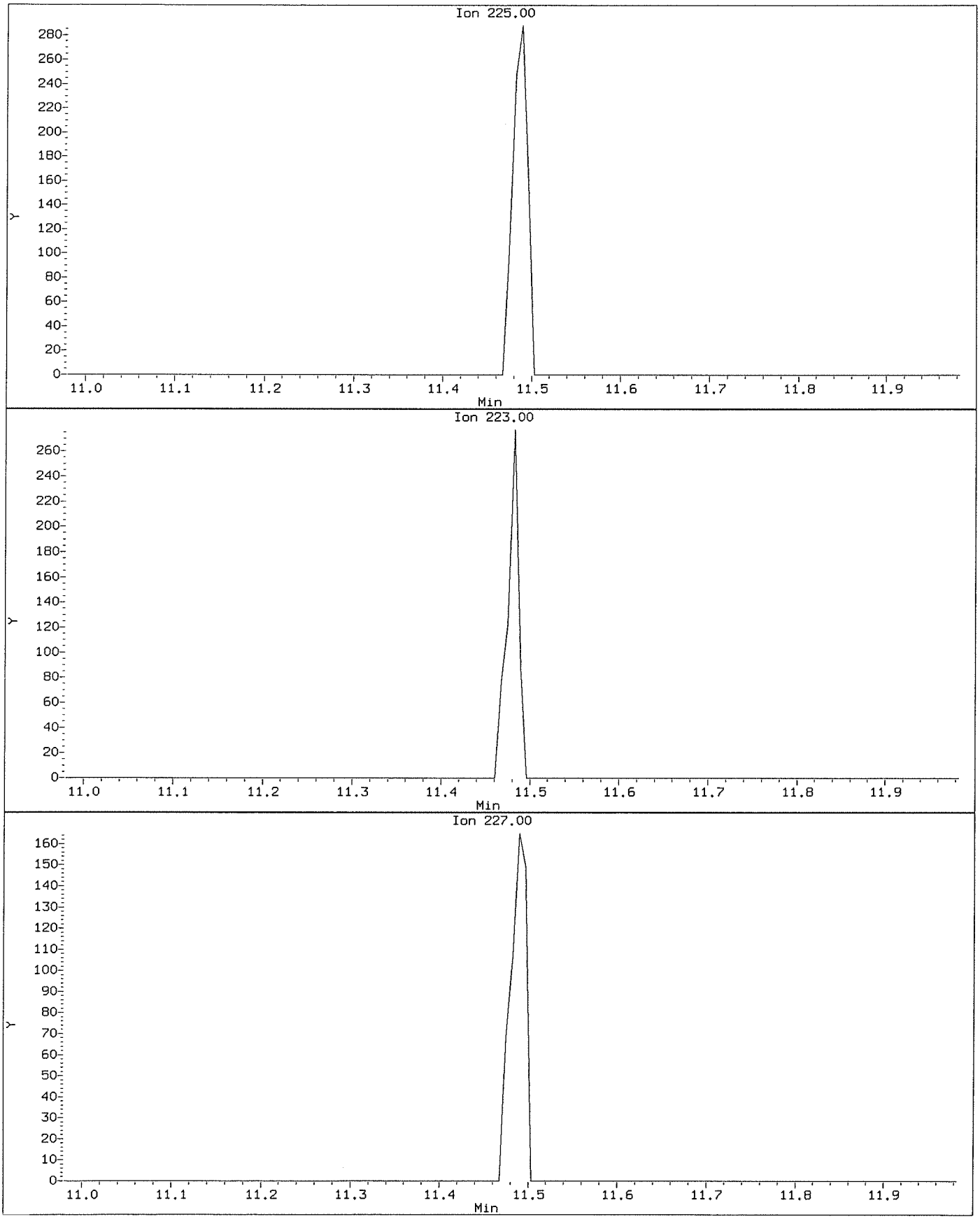
Compound: Ethylbenzene
CAS Number: 100-41-4



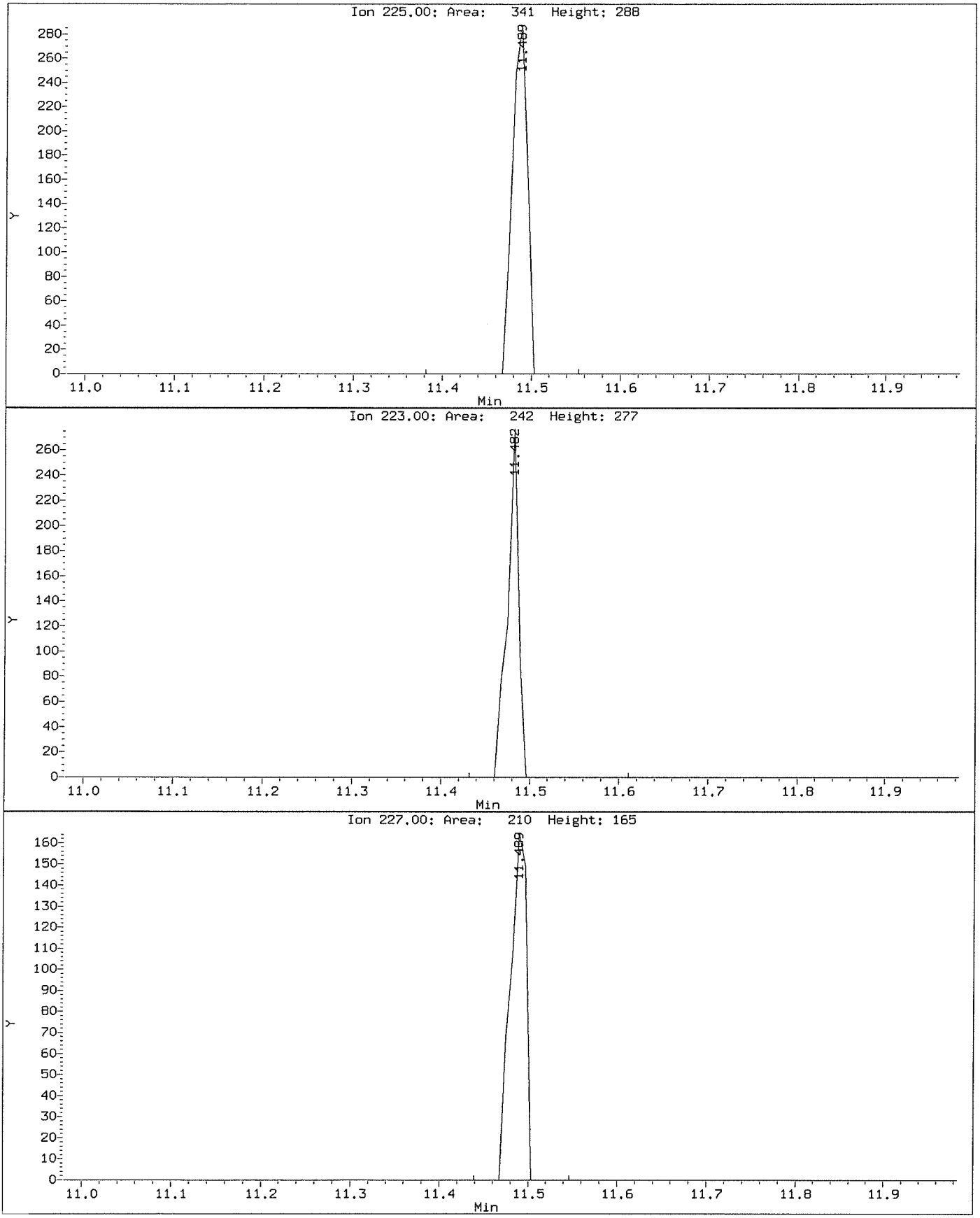
Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before\X040203.D
Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Hexachlorobutadiene
CAS Number: 87-68-3



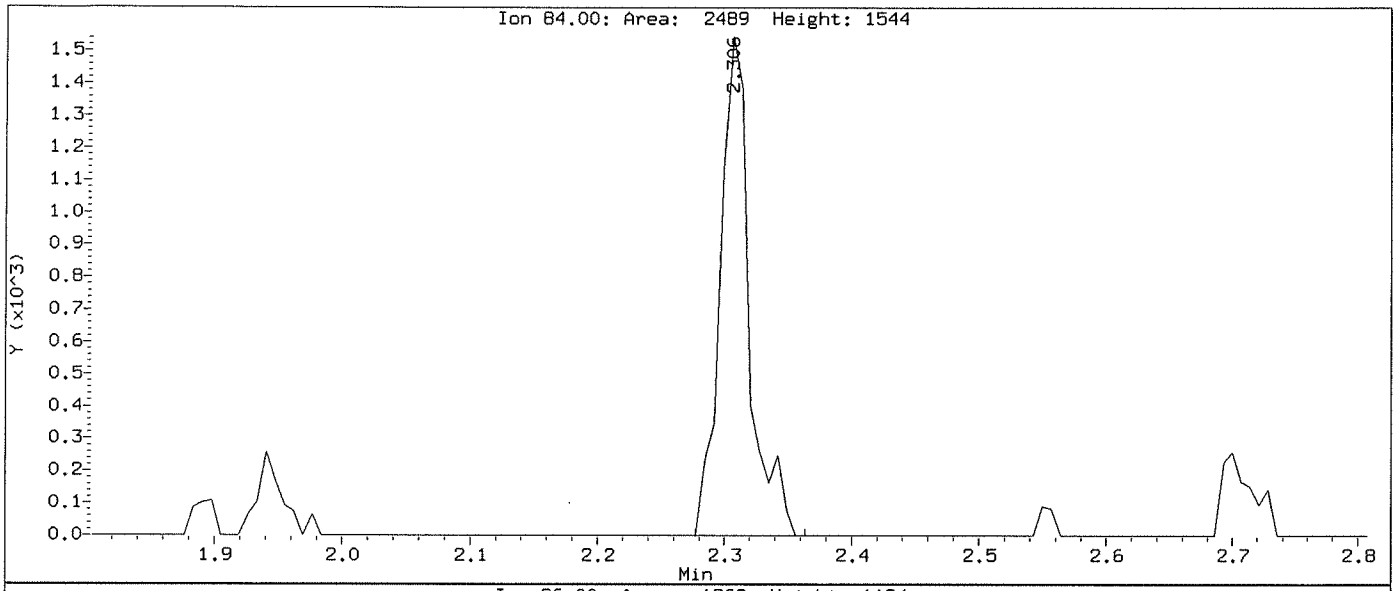
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Instrument: voa6.i
Client Sample ID: VSTD000.5

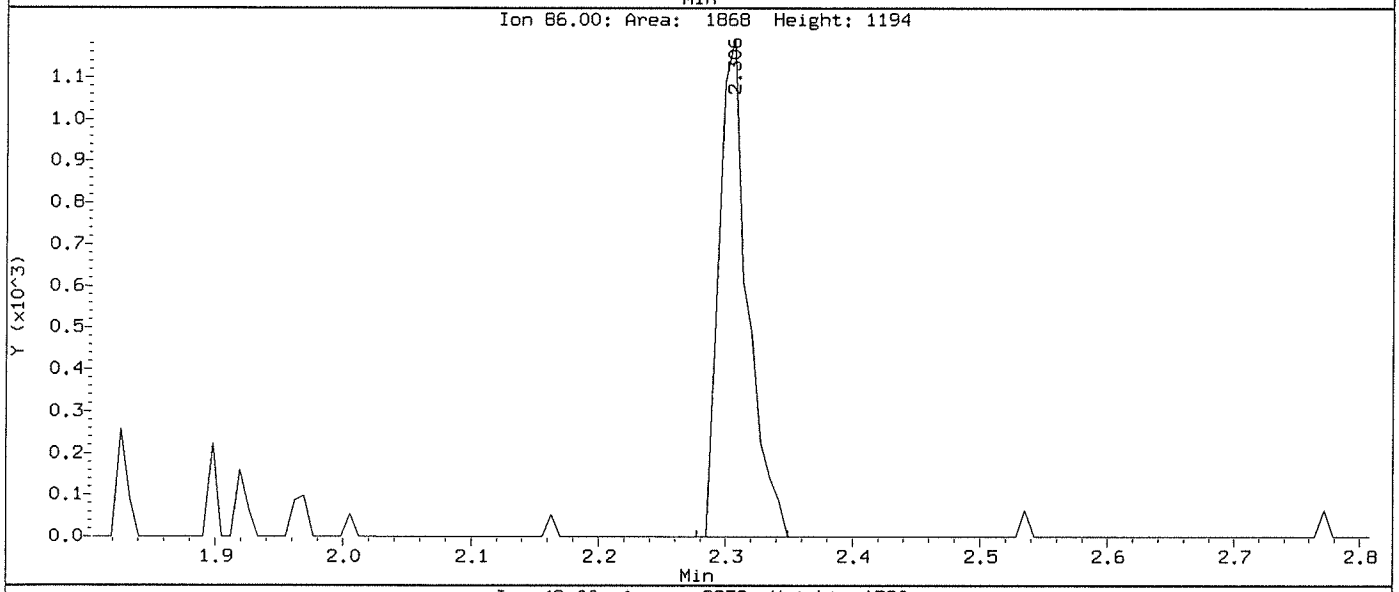
Compound: Hexachlorobutadiene
CAS Number: 87-68-3

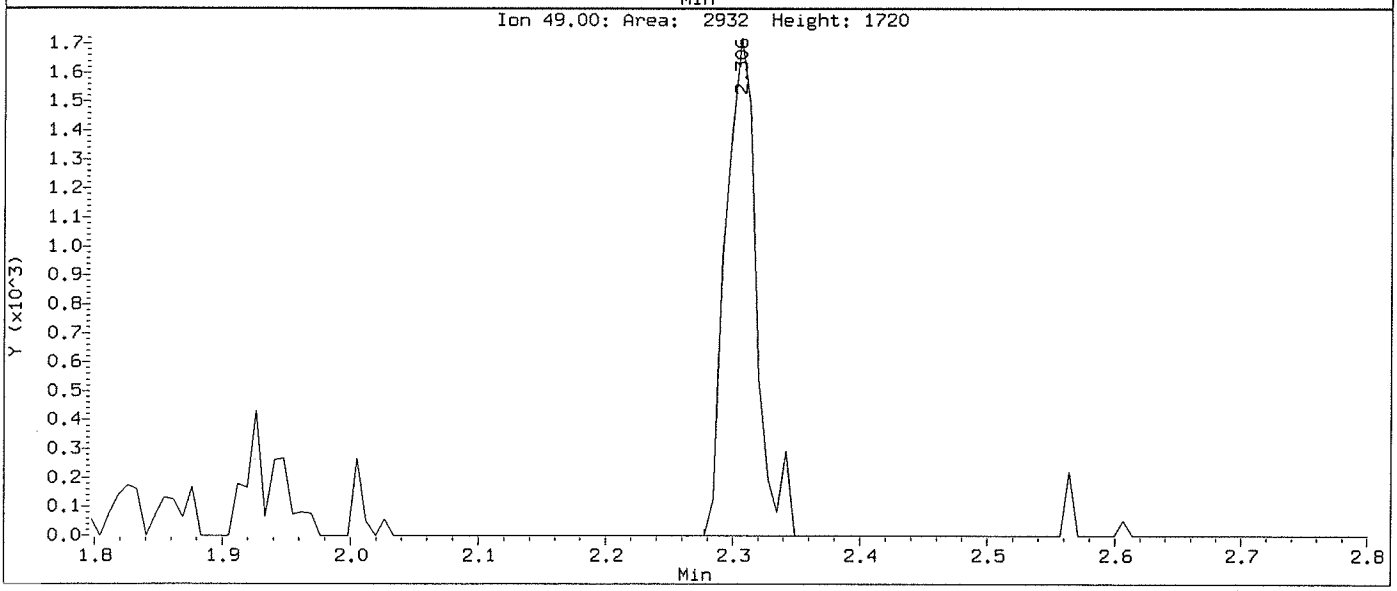


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before\X040203.D
Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Methylene Chloride
CAS Number: 75-09-2

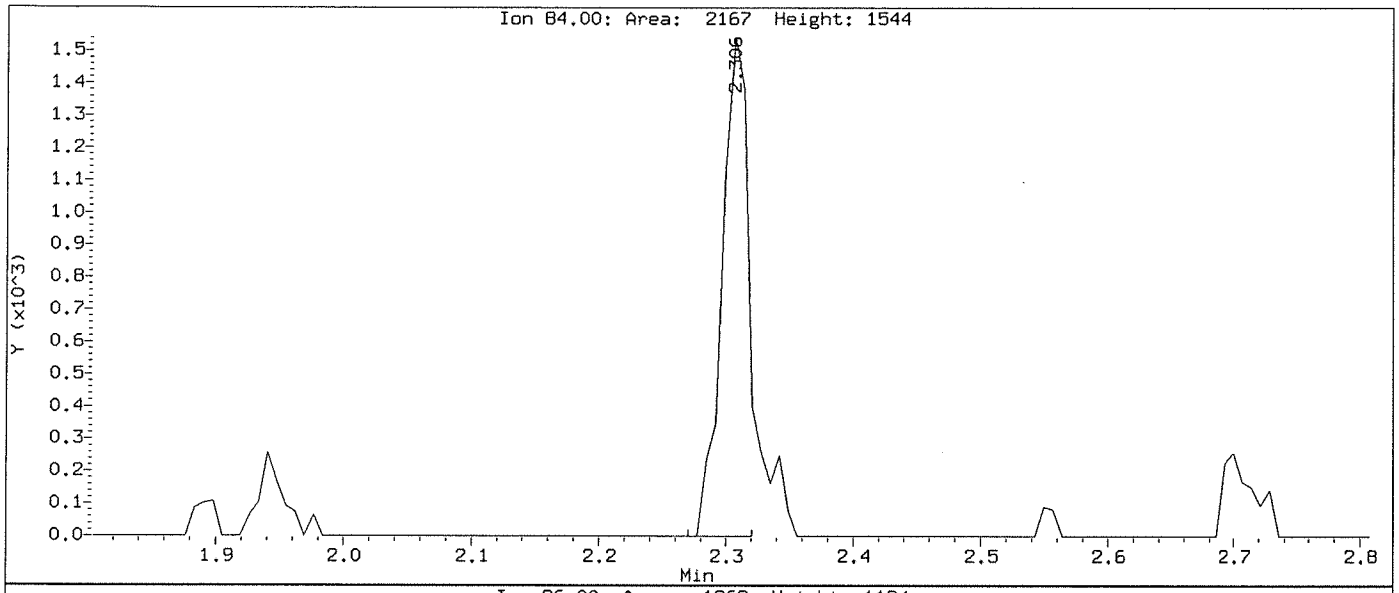


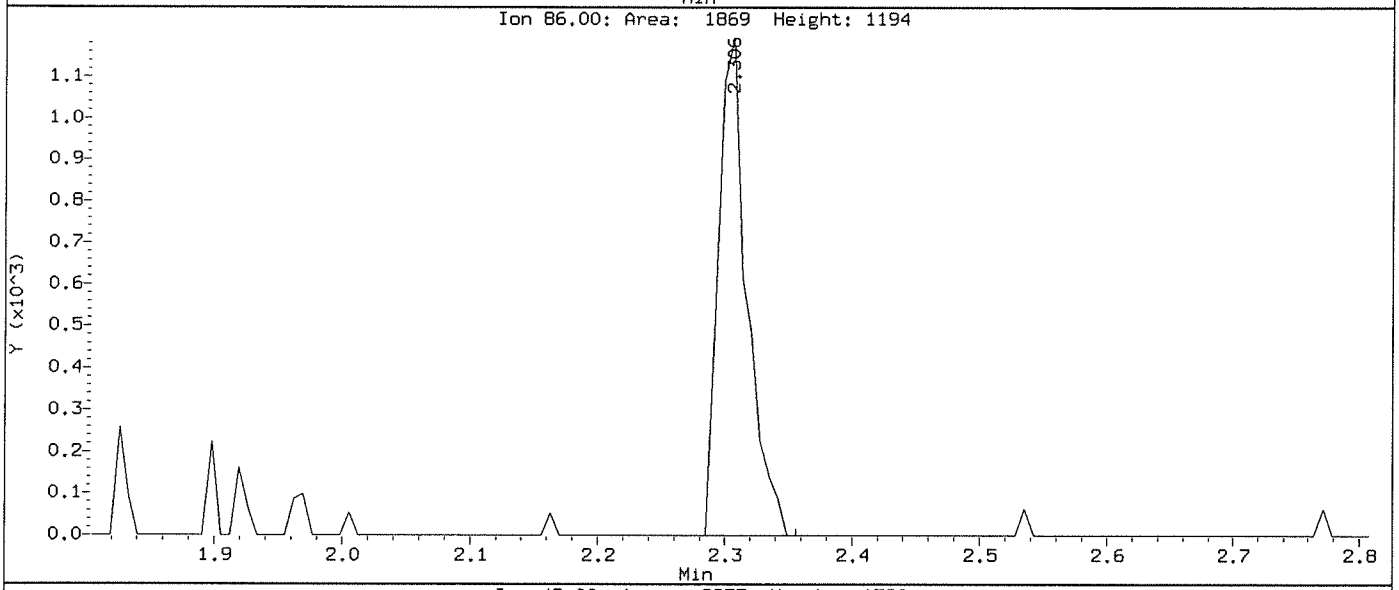



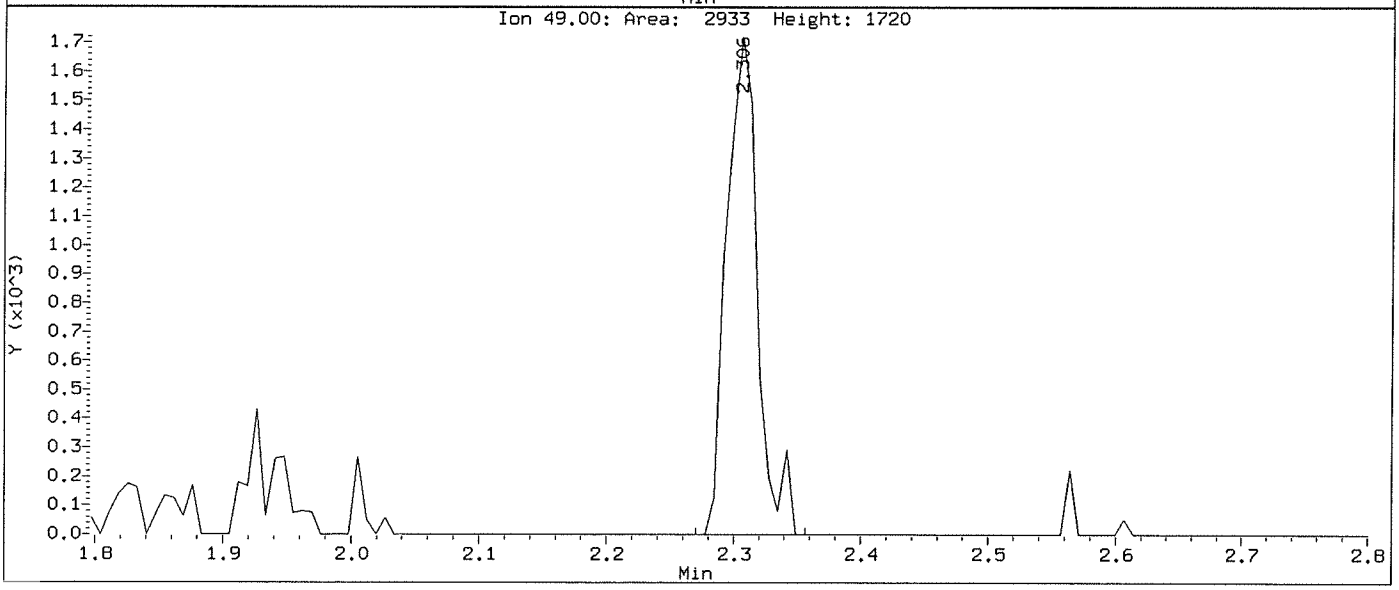



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040203.D
Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Methylene Chloride
CAS Number: 75-09-2

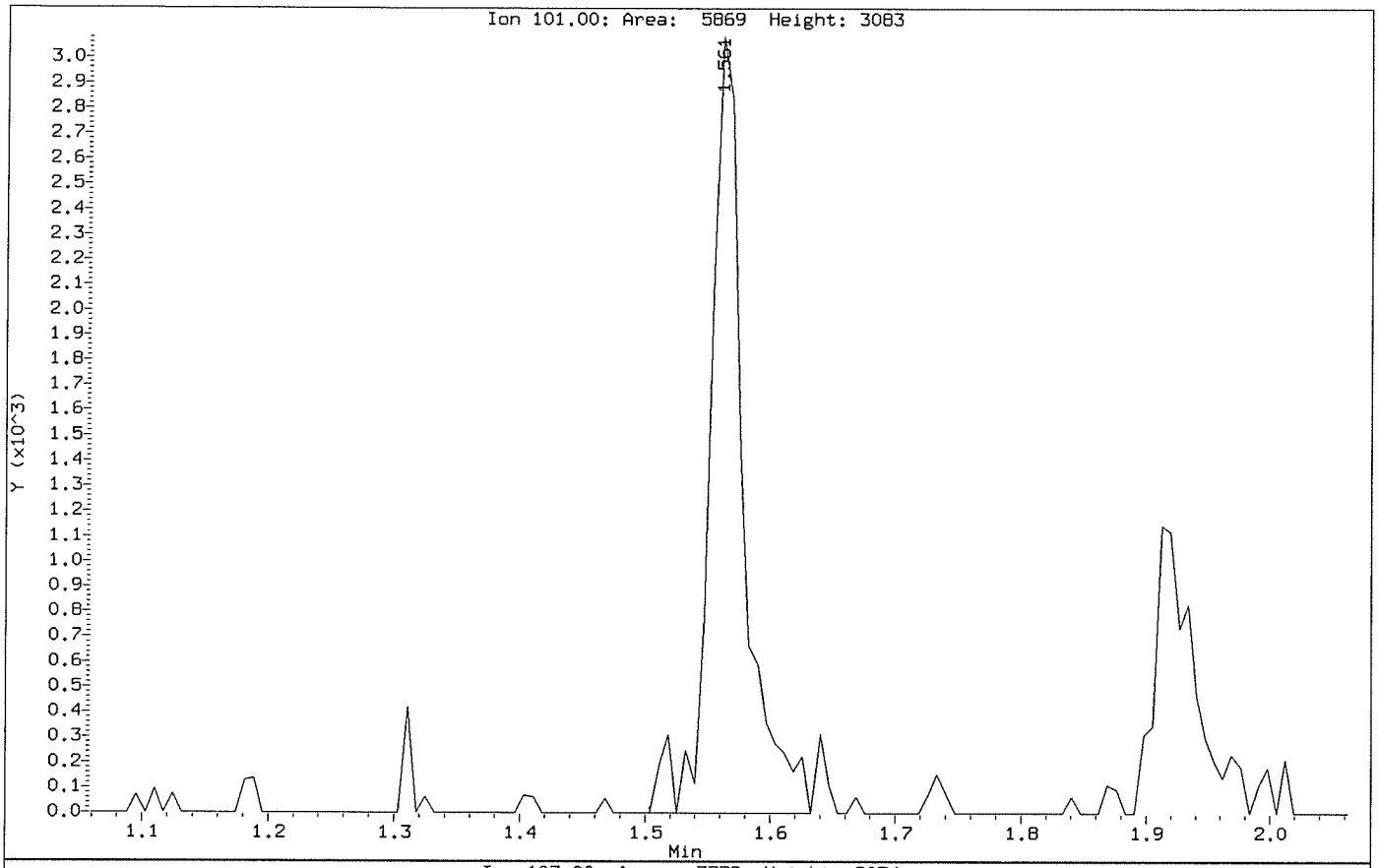


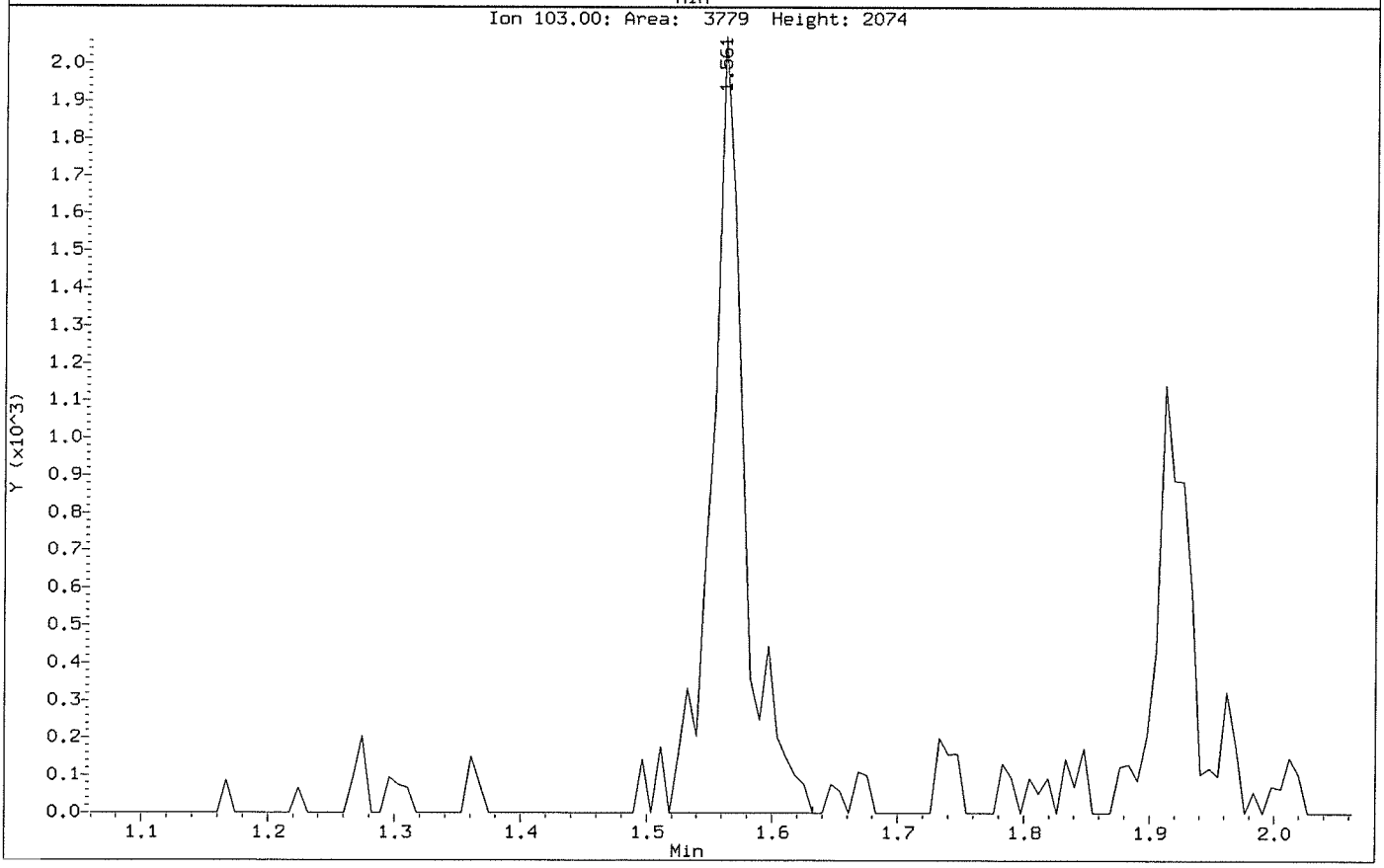



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before\X040203.D
Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

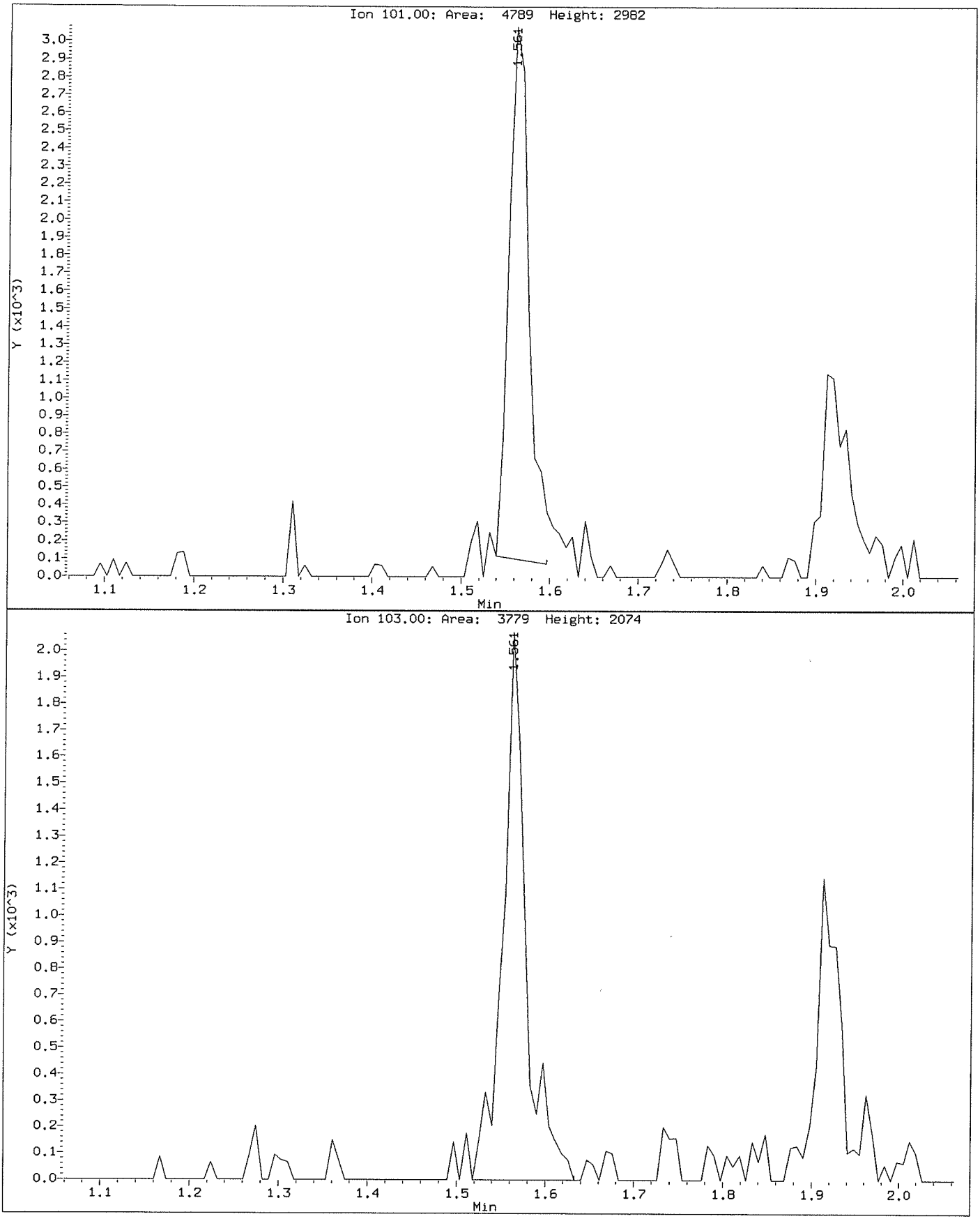
Compound: Trichlorofluoromethane
CAS Number: 75-69-4



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040203.D
Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Trichlorofluoromethane
CAS Number: 75-69-4



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040204.D
Lab Smp Id: VSTD001 Client Smp ID: VSTD001
Inj Date : 02-APR-2021 11:56
Operator : PC Inst ID: voa6.i
Smp Info : VSTD001;VSTD001;1;3;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\8260W.m
Meth Date : 14-Apr-2021 12:07 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 11:35 Cal File: X040203.D
Als bottle: 5 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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 |

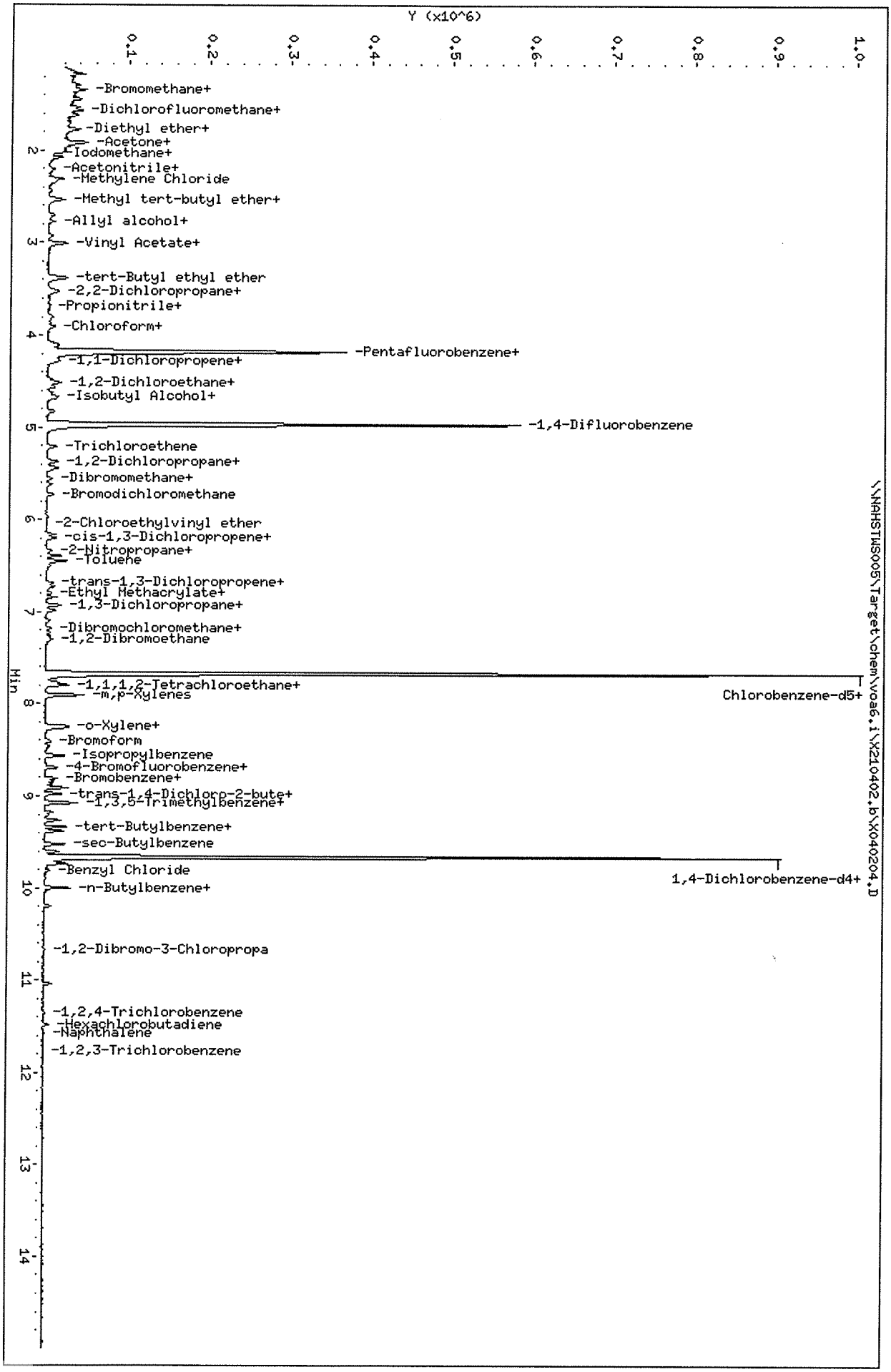
| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|
| * 1 Pentafluorobenzene | 168 | 4.182 | 4.182 | (1.000) | 278422 | 50.0000 | |
| * 36 1,4-Difluorobenzene | 114 | 4.963 | 4.963 | (1.000) | 467952 | 50.0000 | |
| * 47 Chlorobenzene-d5 | 117 | 7.671 | 7.671 | (1.000) | 425730 | 50.0000 | |
| * 70 1,4-Dichlorobenzene-d4 | 152 | 9.662 | 9.662 | (1.000) | 185938 | 50.0000 | |
| $ 30 Dibromofluoromethane | 113 | 4.103 | 4.103 | (0.981) | 3862 | 1.00000 | 1.60(a) |
| $ 35 1,2-Dichloroethane-d4 | 65 | 4.476 | 4.476 | (1.070) | 4438 | 1.00000 | 1.60(a) |
| $ 48 Toluene-d8 | 98 | 6.388 | 6.388 | (0.833) | 12313 | 1.00000 | 2.93(a) |
| $ 69 4-Bromofluorobenzene | 95 | 8.695 | 8.695 | (1.134) | 4647 | 1.00000 | 2.75(a) |
| 60 1,1,1,2-Tetrachloroethane | 131 | 7.771 | 7.771 | (1.013) | 3697 | 1.00000 | 1.17(a) |
| 31 1,1,1-Trichloroethane | 97 | 4.089 | 4.089 | (0.978) | 5714 | 1.00000 | 1.13(a) |
| 68 1,1,2,2-Tetrachloroethane | 83 | 8.838 | 8.838 | (0.915) | 3684 | 1.00000 | 1.18(aM) |
| 53 1,1,2-Trichloroethane | 83 | 6.840 | 6.840 | (0.892) | 3024 | 1.00000 | 1.22(a) |
| 22 1,1-Dichloroethane | 63 | 2.929 | 2.929 | (0.700) | 5104 | 1.00000 | 0.98(a) |
| 11 1,1-Dichloroethene | 96 | 1.919 | 1.919 | (0.459) | 4199 | 1.00000 | 1.05(aM) |
| 32 1,1-Dichloropropene | 75 | 4.283 | 4.283 | (0.863) | 4690 | 1.00000 | 1.06(a) |
| 93 1,2,3-Trichlorobenzene | 180 | 11.746 | 11.746 | (1.216) | 340 | 1.00000 | 1.74(aM) |
| 71 1,2,3-Trichloropropane | 75 | 8.867 | 8.867 | (0.918) | 2918 | 1.00000 | 1.16(aM) |
| 90 1,2,4-Trichlorobenzene | 180 | 11.345 | 11.345 | (1.174) | 999 | 1.00000 | 1.31(aM) |
| 79 1,2,4-Trimethylbenzene | 105 | 9.383 | 9.383 | (0.971) | 10370 | 1.00000 | 1.08(a) |
| 89 1,2-Dibromo-3-Chloropropane | 155 | 10.665 | 10.665 | (1.104) | 237 | 1.00000 | 1.17(aM) |
| 57 1,2-Dibromoethane | 107 | 7.270 | 7.270 | (0.948) | 2792 | 1.00000 | 0.95(a) |
| 88 1,2-Dichlorobenzene | 146 | 9.999 | 9.999 | (1.035) | 5894 | 1.00000 | 1.15(a) |

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040204.D Page 2
Report Date: 14-Apr-2021 12:07

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|---|
| 33 | 1,2-Dichloroethane | 62 | 4.562 | 4.562 | (0.919) | 5931 | 1.00000 | 1.19 (aM) |
| 42 | 1,2-Dichloropropane | 63 | 5.436 | 5.436 | (1.095) | 4009 | 1.00000 | 1.23 (aM) |
| 75 | 1,3,5-Trimethylbenzene | 105 | 9.067 | 9.067 | (0.938) | 10474 | 1.00000 | 1.05 (a) |
| 83 | 1,3-Dichlorobenzene | 146 | 9.612 | 9.612 | (0.995) | 6457 | 1.00000 | 1.19 (a) |
| 54 | 1,3-Dichloropropane | 76 | 6.990 | 6.990 | (0.911) | 5500 | 1.00000 | 1.16 (a) |
| 84 | 1,4-Dichlorobenzene | 146 | 9.683 | 9.683 | (1.002) | 7042 | 1.00000 | 1.21 (a) |
| 26 | 2,2-Dichloropropane | 77 | 3.509 | 3.509 | (0.839) | 6050 | 1.00000 | 1.18 (a) |
| 24 | 2-Butanone | 43 | 3.609 | 3.609 | (0.863) | 1990 | 2.00000 | 2.07 (aM) |
| 76 | 2-Chlorotoluene | 91 | 8.974 | 8.974 | (0.929) | 10702 | 1.00000 | 1.35 (a) |
| 52 | 2-Hexanone | 43 | 7.098 | 7.098 | (0.925) | 3776 | 2.00000 | 4.97 (aM) |
| 77 | 4-Chlorotoluene | 91 | 9.075 | 9.075 | (0.939) | 11870 | 1.00000 | 1.17 (a) |
| 82 | p-Isopropyltoluene | 119 | 9.648 | 9.648 | (0.999) | 10160 | 1.00000 | 1.07 (a) |
| 45 | 4-Methyl-2-Pentanone | 43 | 6.338 | 6.338 | (0.826) | 5462 | 2.00000 | 2.12 (a) |
| 10 | Acetone | 43 | 1.983 | 1.983 | (0.474) | 5059 | 2.00000 | 1.27 (a) |
| 37 | Benzene | 78 | 4.512 | 4.512 | (0.909) | 14479 | 1.00000 | 1.16 (a) |
| 74 | Bromobenzene | 156 | 8.810 | 8.810 | (0.912) | 3881 | 1.00000 | 1.21 (a) |
| 29 | Bromochloromethane | 128 | 3.788 | 3.788 | (0.906) | 1542 | 1.00000 | 0.92 (a) |
| 39 | Bromodichloromethane | 83 | 5.737 | 5.737 | (1.156) | 5366 | 1.00000 | 1.14 (aM) |
| 66 | Bromoform | 173 | 8.408 | 8.408 | (1.096) | 1463 | 1.00000 | 2.70 (Ta) |
| 6 | Bromomethane | 94 | 1.339 | 1.339 | (0.320) | 5913 | 1.00000 | 1.30 (aM) |
| 19 | Carbon Disulfide | 76 | 2.069 | 2.069 | (0.495) | 17779 | 2.00000 | 2.29 (aM) |
| 34 | Carbon Tetrachloride | 117 | 4.261 | 4.261 | (0.859) | 4997 | 1.00000 | 1.18 (a) |
| 59 | Chlorobenzene | 112 | 7.692 | 7.692 | (1.003) | 10928 | 1.00000 | 2.96 (a) |
| 7 | Chloroethane | 64 | 1.403 | 1.403 | (0.336) | 3221 | 1.00000 | 1.04 (aM) |
| 28 | Chloroform | 83 | 3.903 | 3.903 | (0.933) | 6802 | 1.00000 | 1.12 (a) |
| 3 | Chloromethane | 50 | 1.074 | 1.074 | (0.257) | 4001 | 1.00000 | 0.58 (aM) |
| 27 | cis-1,2-Dichloroethene | 96 | 3.538 | 3.538 | (0.846) | 3959 | 1.00000 | 1.16 (a) |
| 46 | cis-1,3-Dichloropropene | 75 | 6.159 | 6.159 | (1.241) | 5594 | 1.00000 | 1.02 (a) |
| 55 | Dibromochloromethane | 129 | 7.184 | 7.184 | (0.937) | 3464 | 1.00000 | 1.04 (a) |
| 44 | Dibromomethane | 93 | 5.558 | 5.558 | (1.120) | 2720 | 1.00000 | 1.17 (a) |
| 2 | Dichlorodifluoromethane | 85 | 0.973 | 0.973 | (0.233) | 3510 | 1.00000 | 2.92 (a) |
| 61 | Ethylbenzene | 106 | 7.800 | 7.800 | (1.017) | 4998 | 1.00000 | 1.09 (a) |
| 91 | Hexachlorobutadiene | 225 | 11.481 | 11.481 | (1.188) | 903 | 1.00000 | 1.89 (aM) |
| 67 | Isopropylbenzene | 105 | 8.566 | 8.566 | (1.117) | 15623 | 1.00000 | 1.14 (a) |
| 62 | m,p-Xylenes | 106 | 7.900 | 7.900 | (1.030) | 12113 | 2.00000 | 2.09 (a) |
| 17 | Methylene Chloride | 84 | 2.298 | 2.298 | (0.550) | 4155 | 1.00000 | 2.81 (aM) |
| 87 | n-Butylbenzene | 91 | 9.999 | 9.999 | (1.035) | 8809 | 1.00000 | 0.98 (a) |
| 73 | n-Propylbenzene | 91 | 8.917 | 8.917 | (0.923) | 17317 | 1.00000 | 1.22 (a) |
| 92 | Naphthalene | 128 | 11.575 | 11.575 | (1.198) | 1196 | 1.00000 | 1.43 (aM) |
| 63 | o-Xylene | 106 | 8.244 | 8.244 | (1.075) | 6080 | 1.00000 | 1.08 (a) |
| 81 | sec-Butylbenzene | 105 | 9.519 | 9.519 | (0.985) | 14391 | 1.00000 | 1.49 (a) |
| 64 | Styrene | 104 | 8.265 | 8.265 | (1.078) | 8571 | 1.00000 | 4.13 (a) |
| 78 | tert-Butylbenzene | 119 | 9.332 | 9.332 | (0.966) | 9533 | 1.00000 | 1.89 (a) |
| 56 | Tetrachloroethene | 164 | 6.933 | 6.933 | (0.904) | 2969 | 1.00000 | 1.15 (a) |
| 50 | Toluene | 91 | 6.446 | 6.446 | (0.840) | 15008 | 1.00000 | 1.13 (a) |
| 20 | trans-1,2-Dichloroethene | 96 | 2.535 | 2.535 | (0.606) | 3113 | 1.00000 | 1.09 (a) |
| 51 | trans-1,3-Dichloropropene | 75 | 6.682 | 6.682 | (1.346) | 4602 | 1.00000 | 0.98 (a) |
| 38 | Trichloroethene | 130 | 5.207 | 5.207 | (1.049) | 3757 | 1.00000 | 1.17 (aM) |
| 8 | Trichlorofluoromethane | 101 | 1.561 | 1.561 | (0.373) | 9924 | 1.00000 | 1.24 (aM) |
| 5 | Vinyl Chloride | 62 | 1.145 | 1.145 | (0.274) | 5253 | 1.00000 | 1.25 (aM) |

QC Flag Legend

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

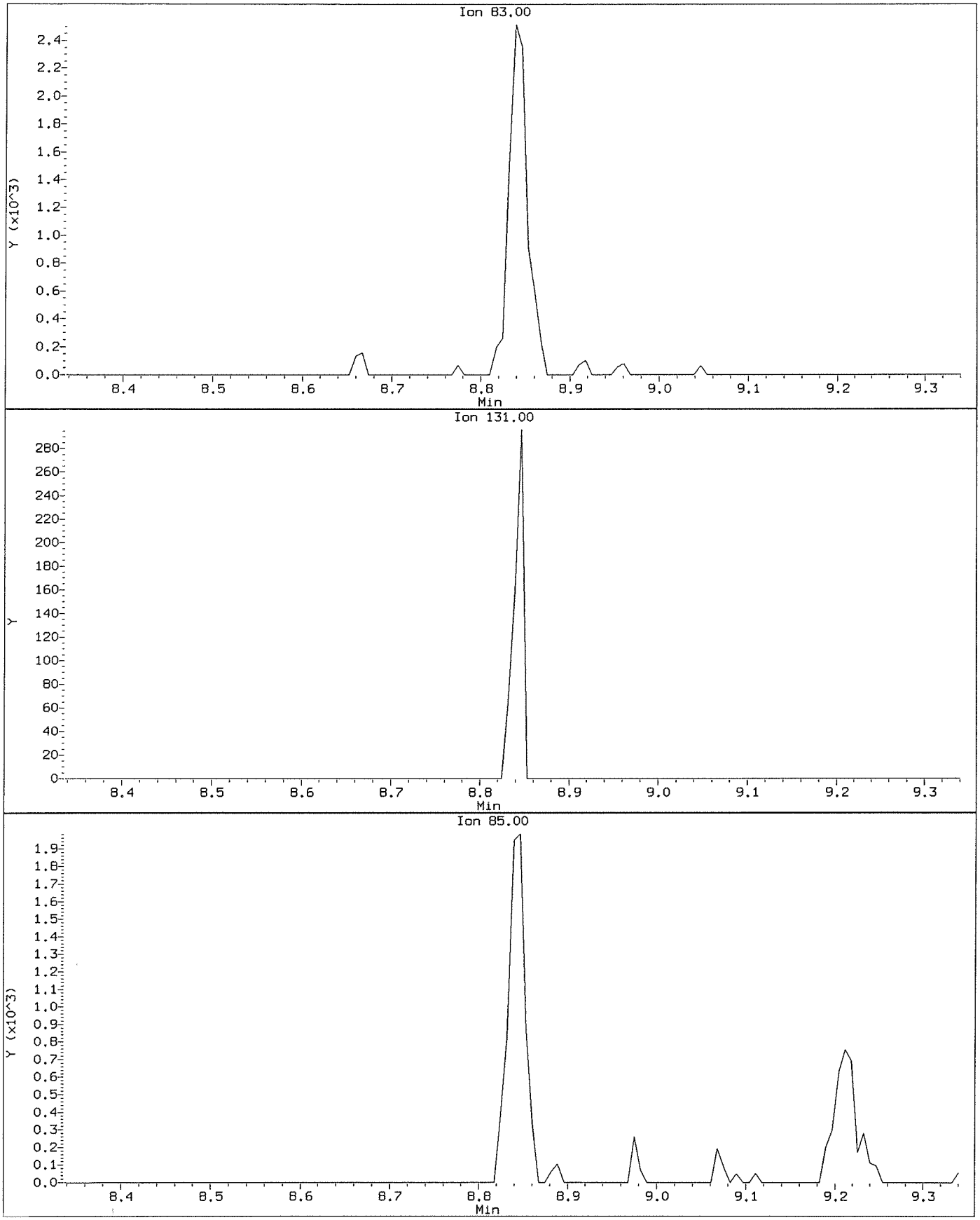



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040204.D
Date : 02-APR-2021 11:56
Client ID: VSTD001
Sample Info: VSTD001;VSTD001;1;3;;
Purge Volume: 5.0
Column phase: DB624

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

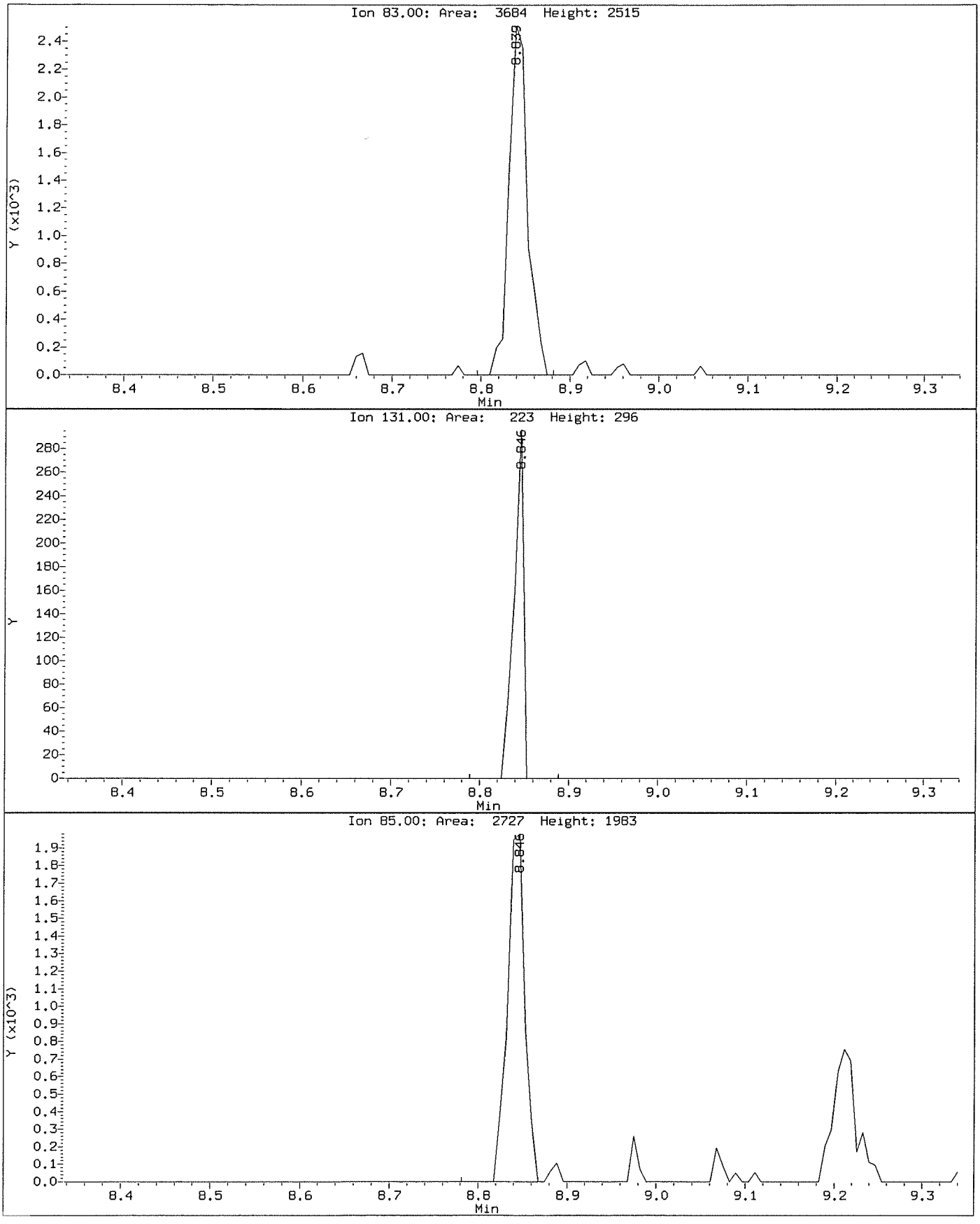
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Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,1,2,2-Tetrachloroethane
CAS Number: 79-34-5



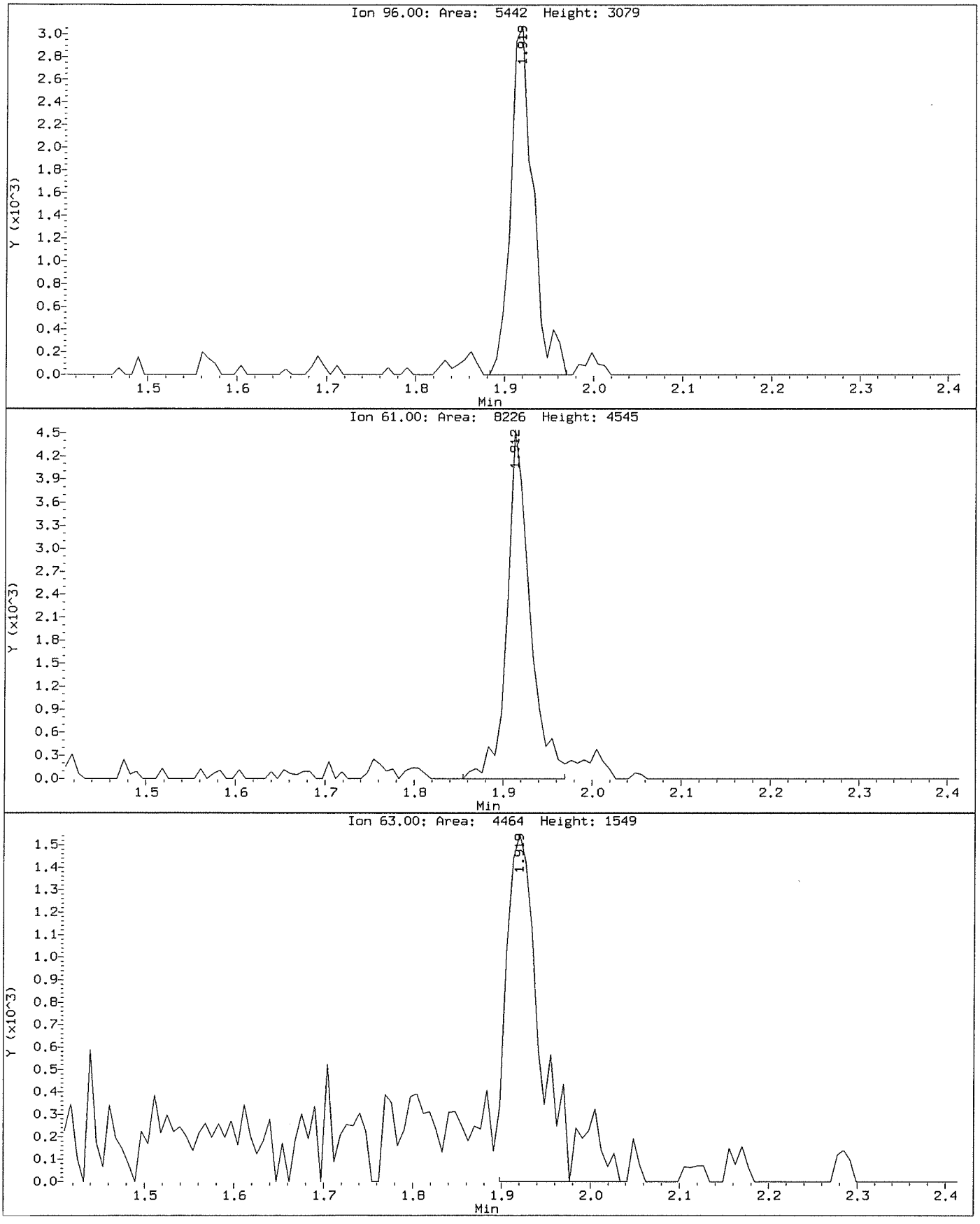
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Client Sample ID: VSTD001

Compound: 1,1,2,2-Tetrachloroethane
CAS Number: 79-34-5



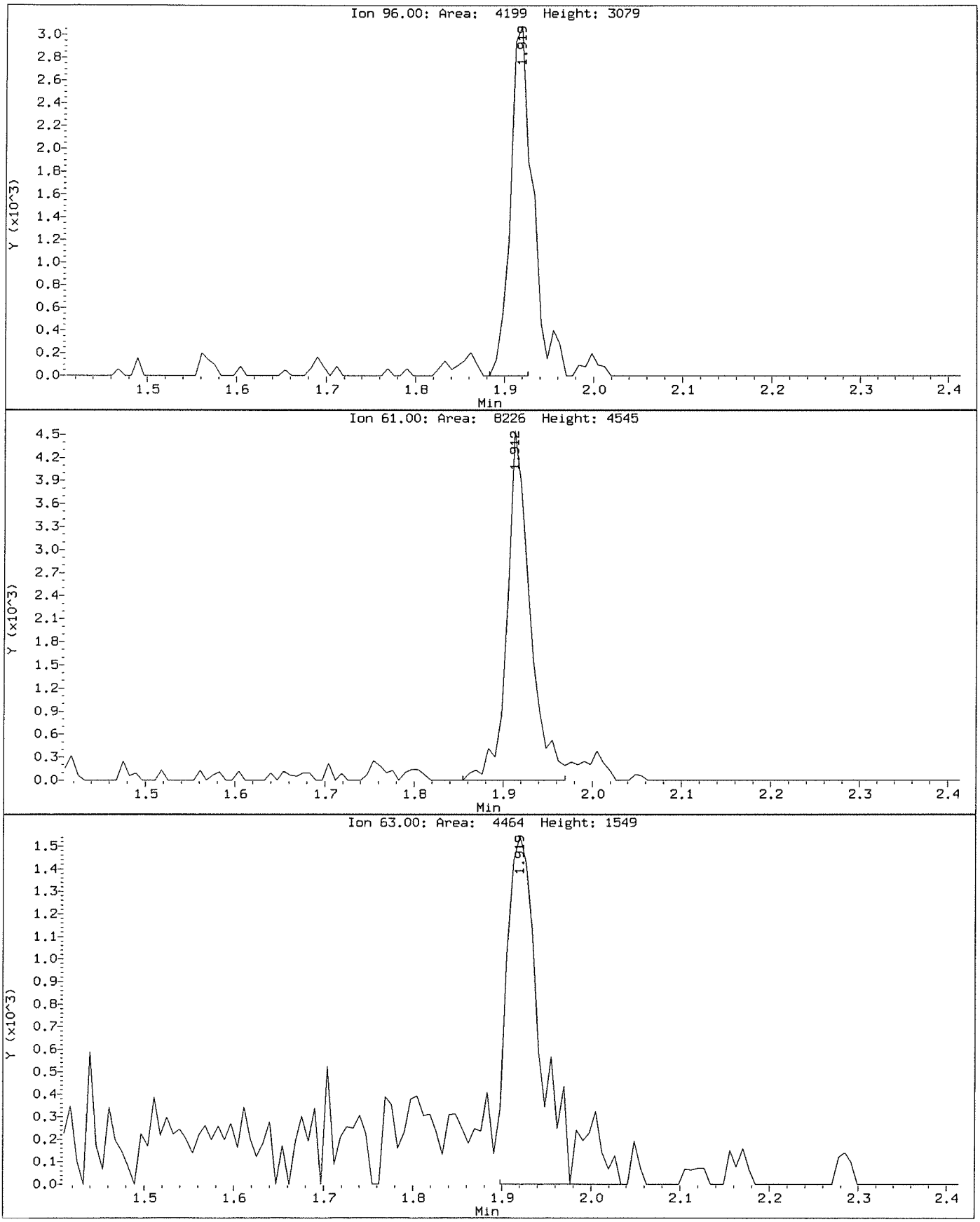
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Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,1-Dichloroethene
CAS Number: 75-35-4



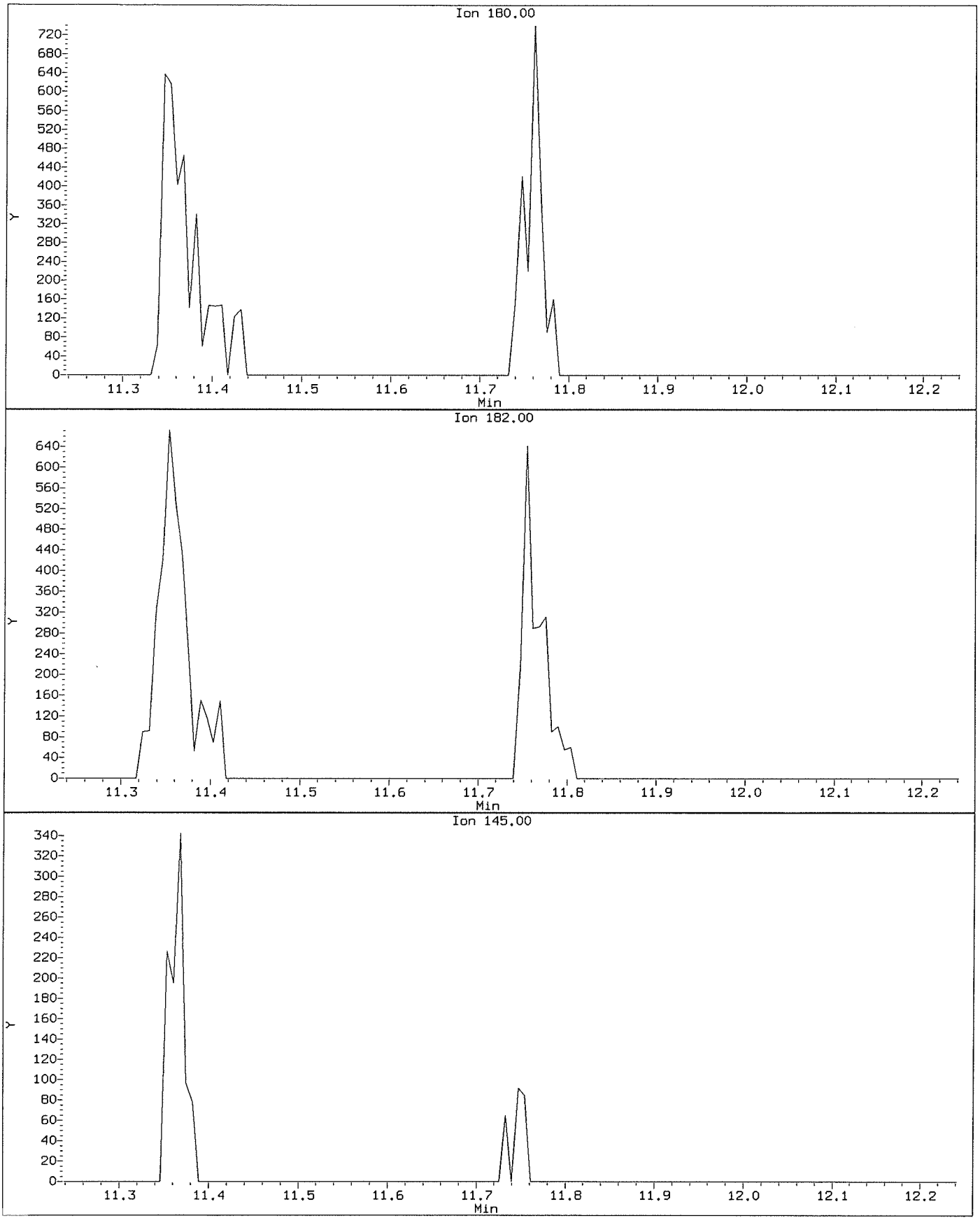
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Client Sample ID: VSTD001

Compound: 1,1-Dichloroethene
CAS Number: 75-35-4



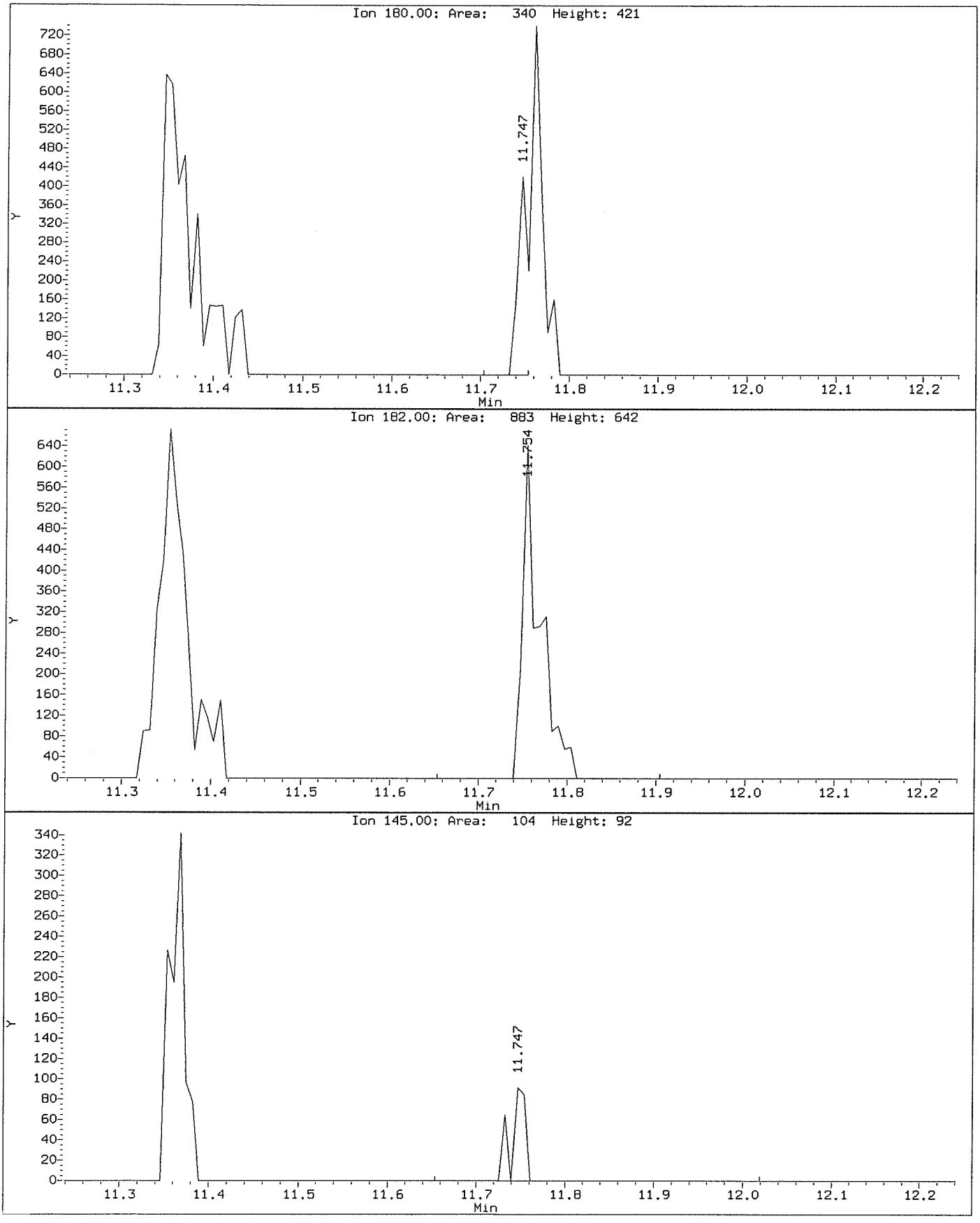
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Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,2,3-Trichlorobenzene
CAS Number: 87-61-6



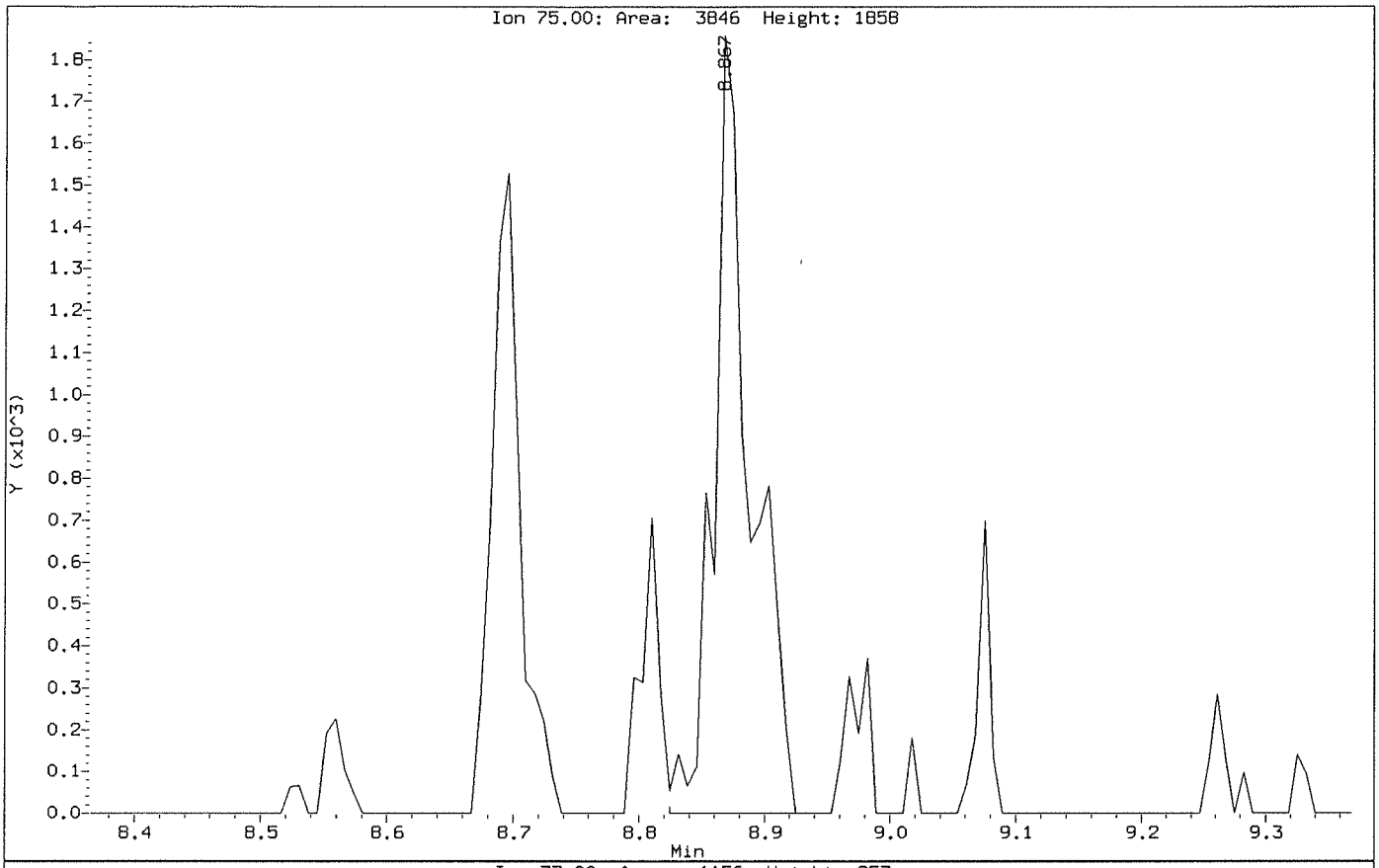
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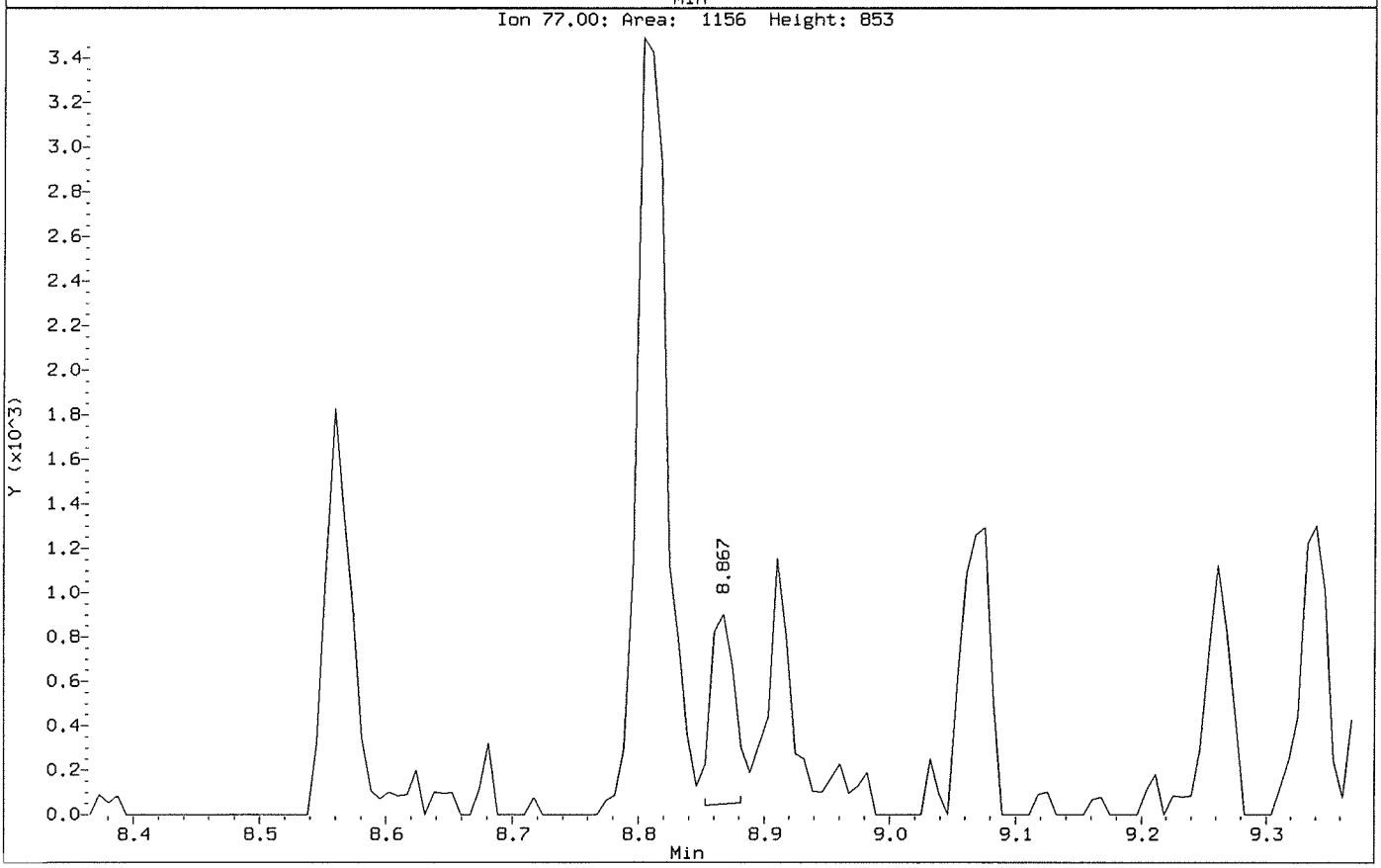
Compound: 1,2,3-Trichlorobenzene
CAS Number: 87-61-6



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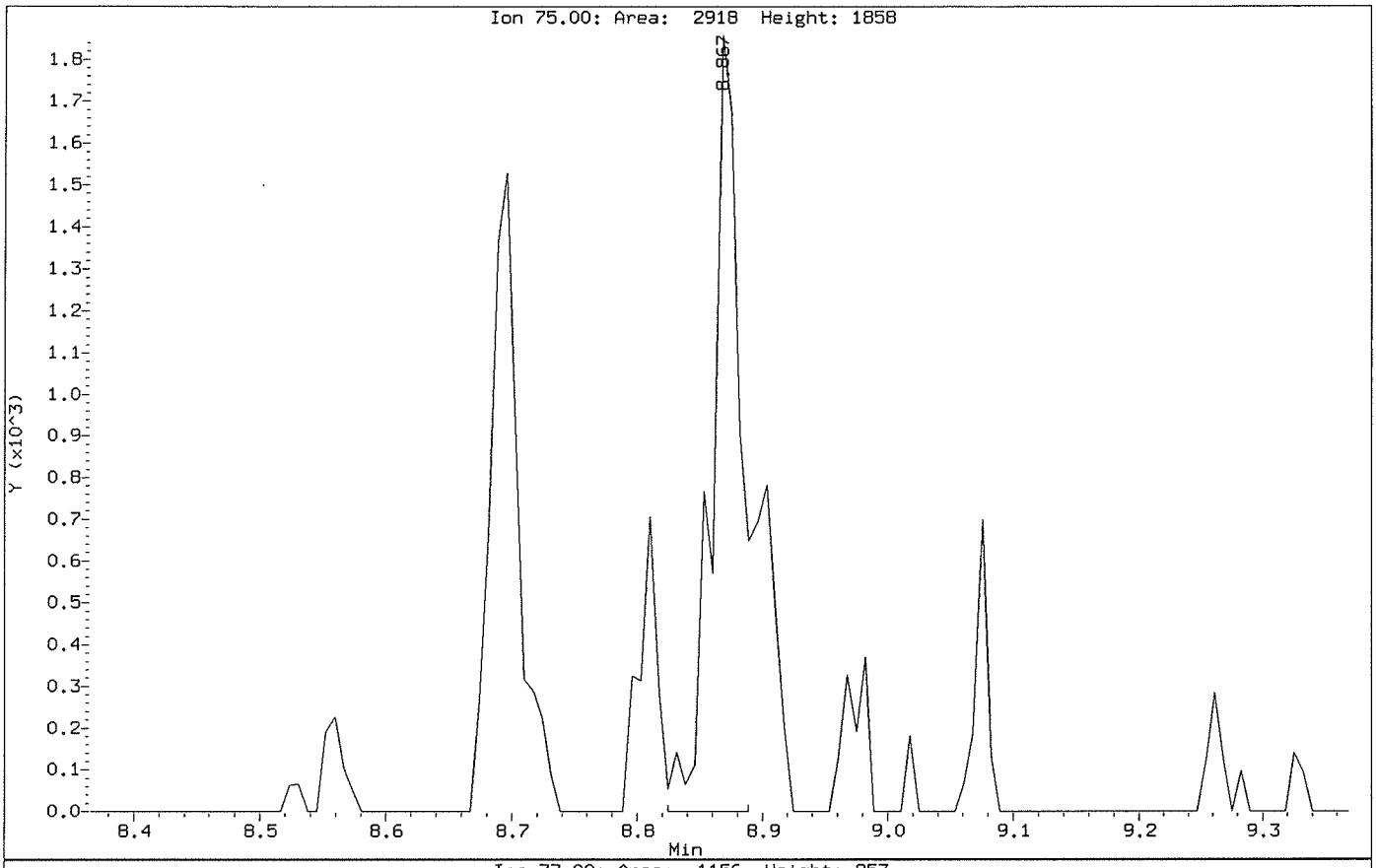
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CAS Number: 96-18-4

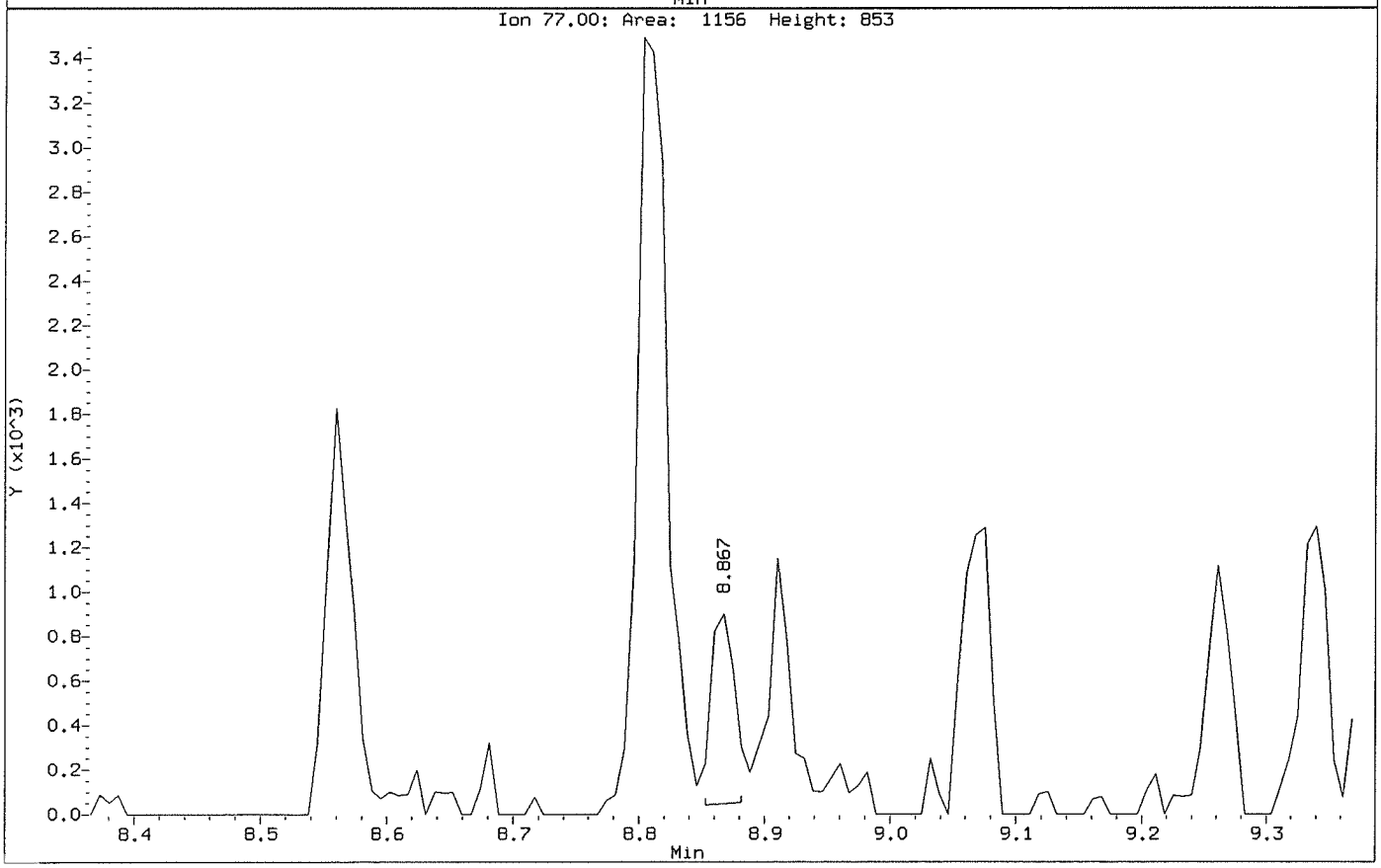


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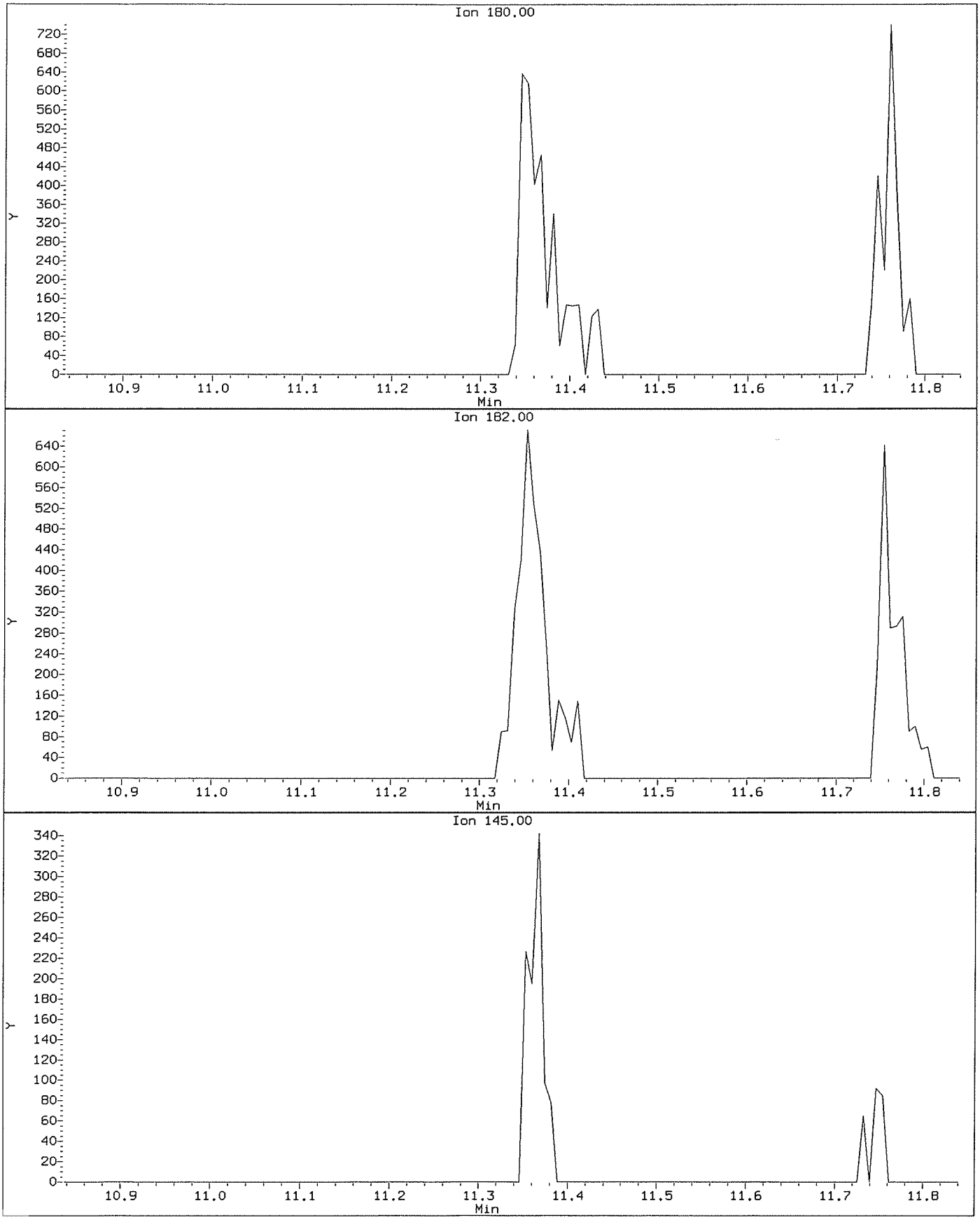
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CAS Number: 96-18-4



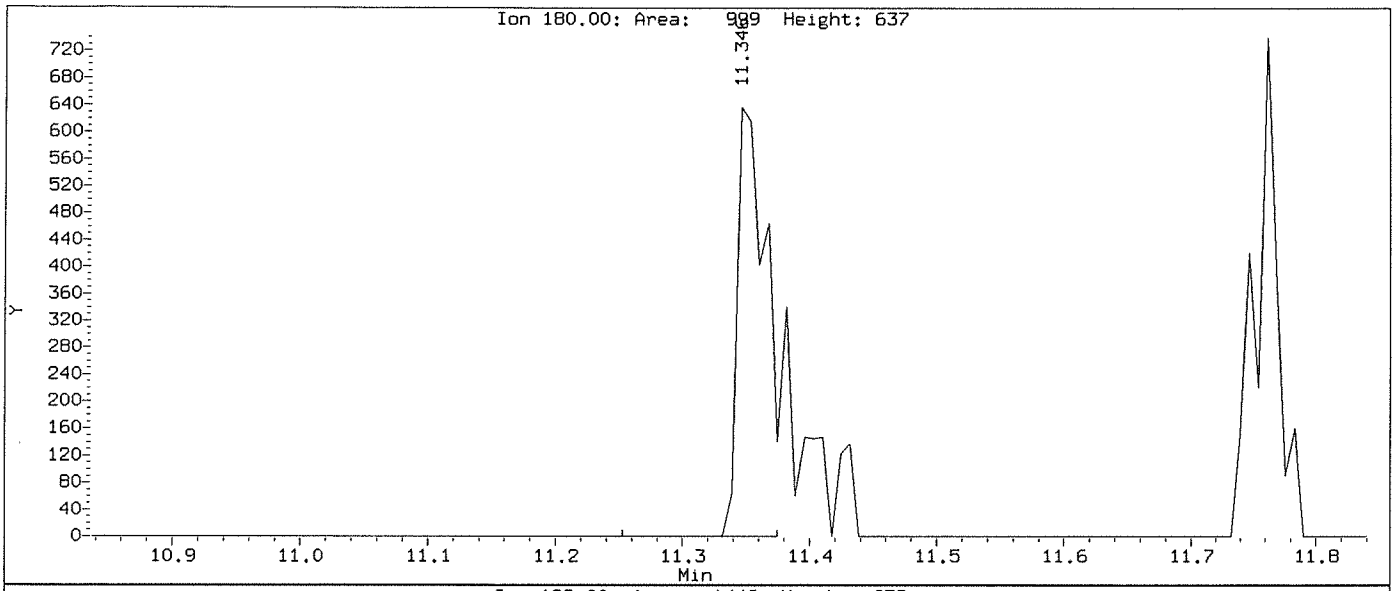
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Client Sample ID: VSTD001

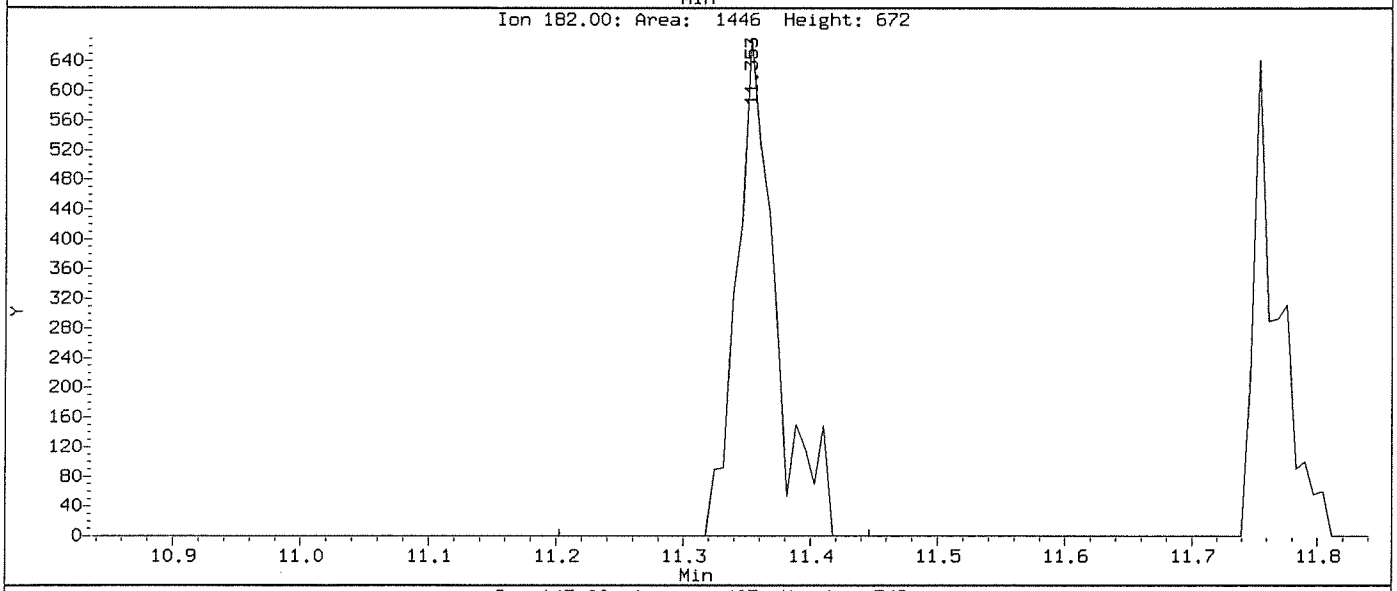
Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1

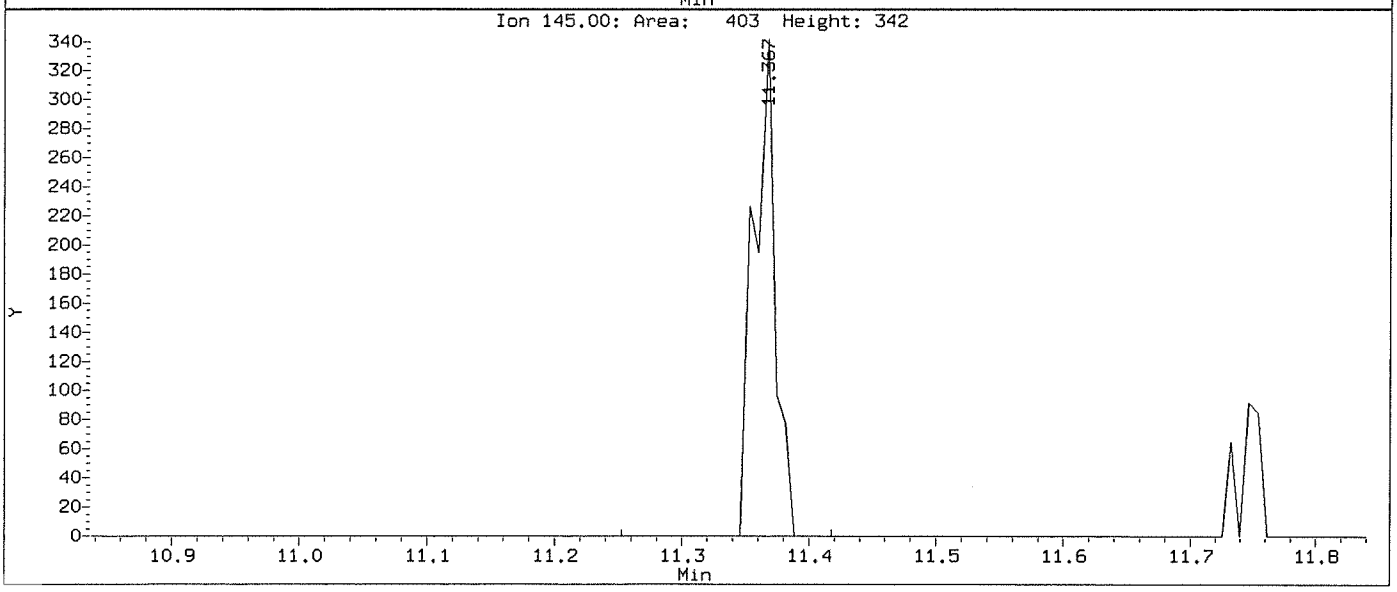


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Client Sample ID: VSTD001

Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1

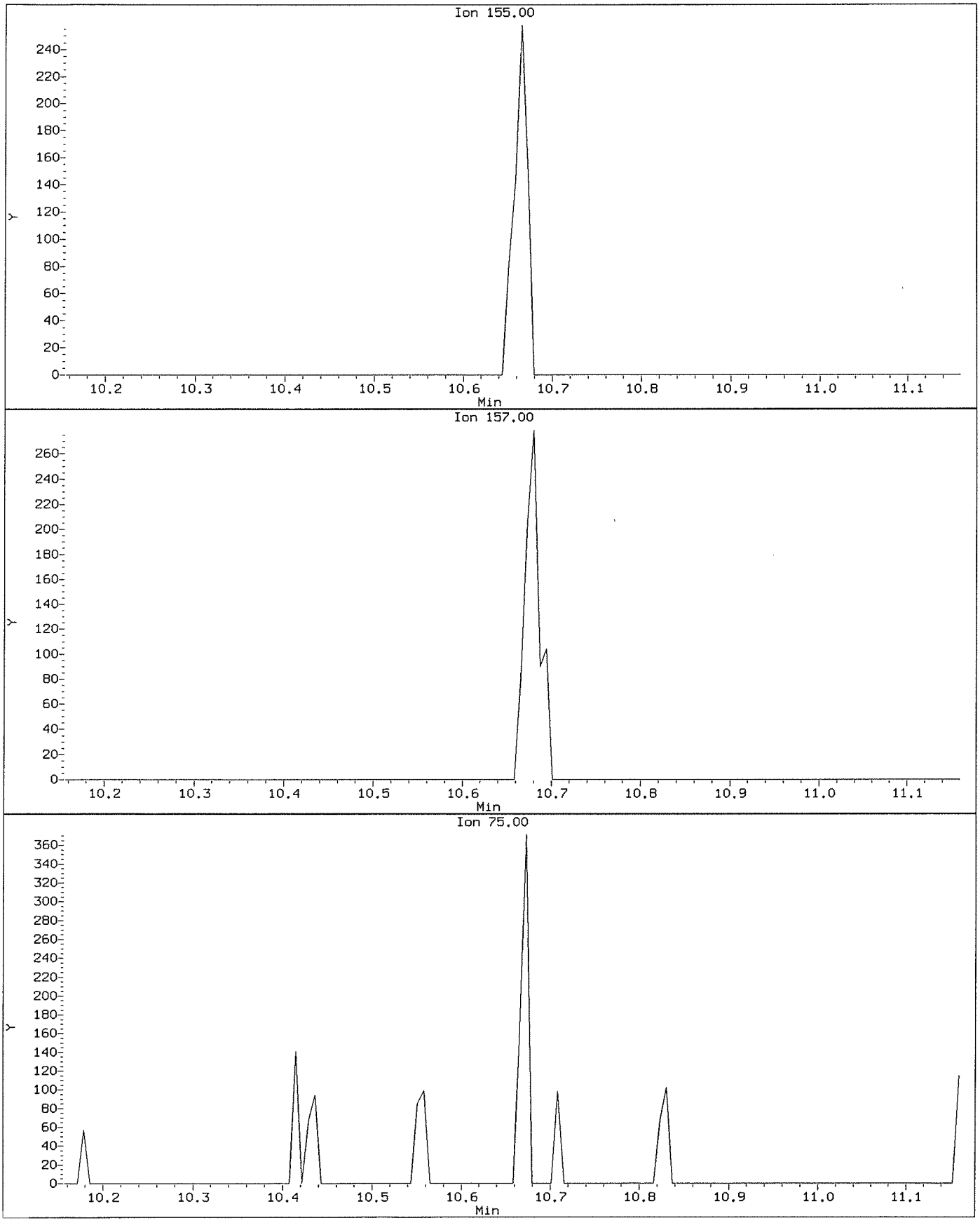


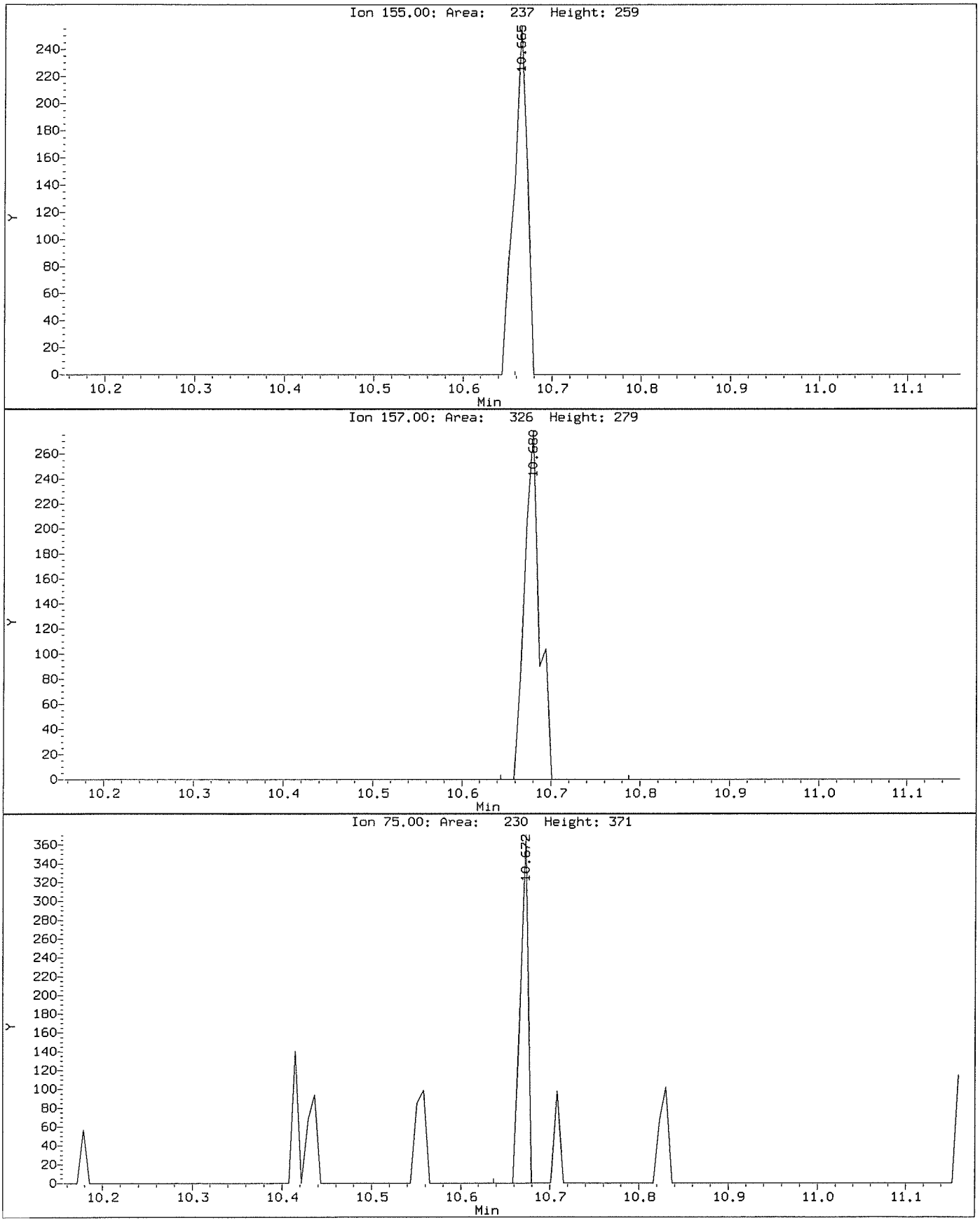
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Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,2-Dibromo-3-Chloropropane
CAS Number: 96-12-8



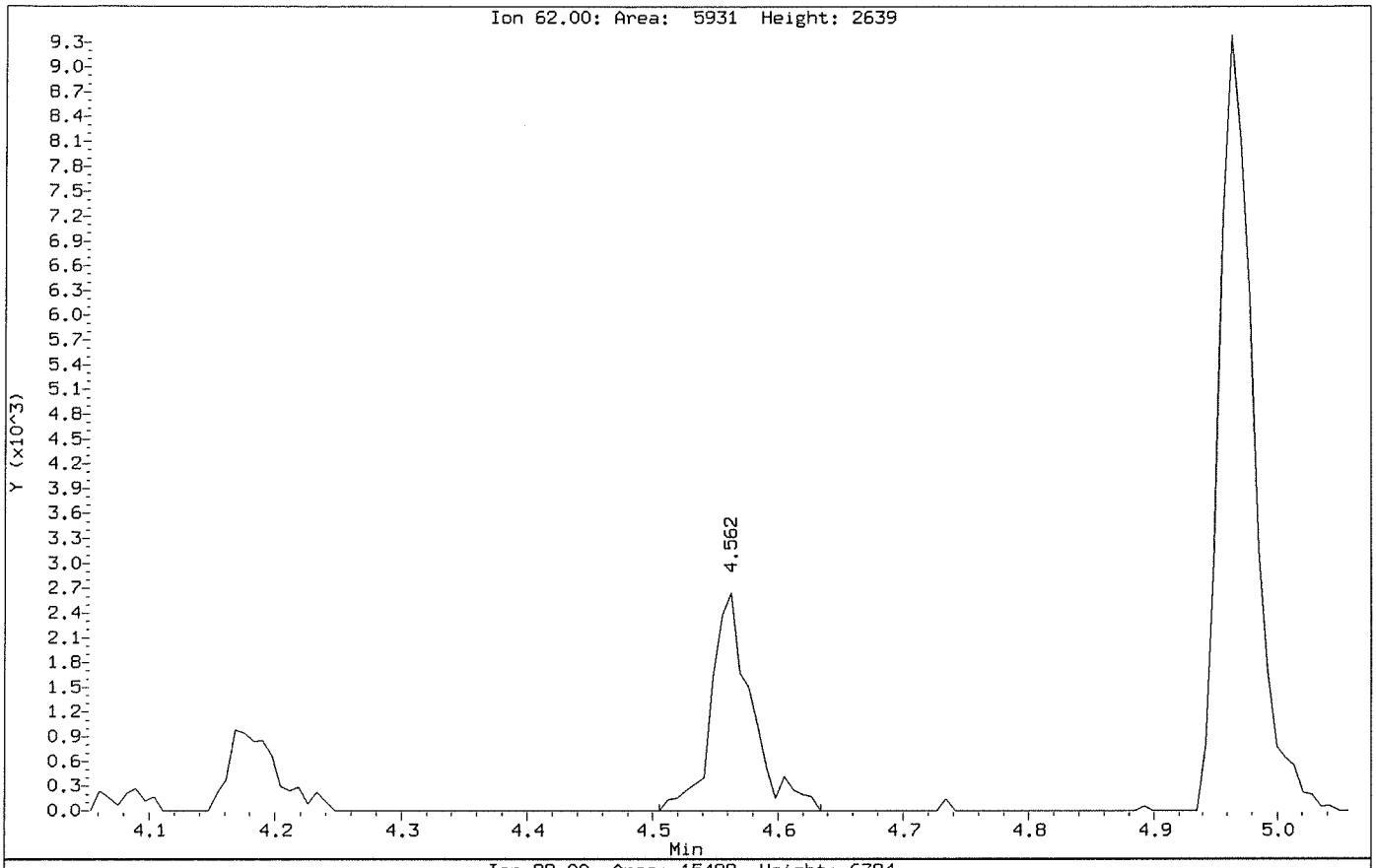
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Client Sample ID: VSTD001

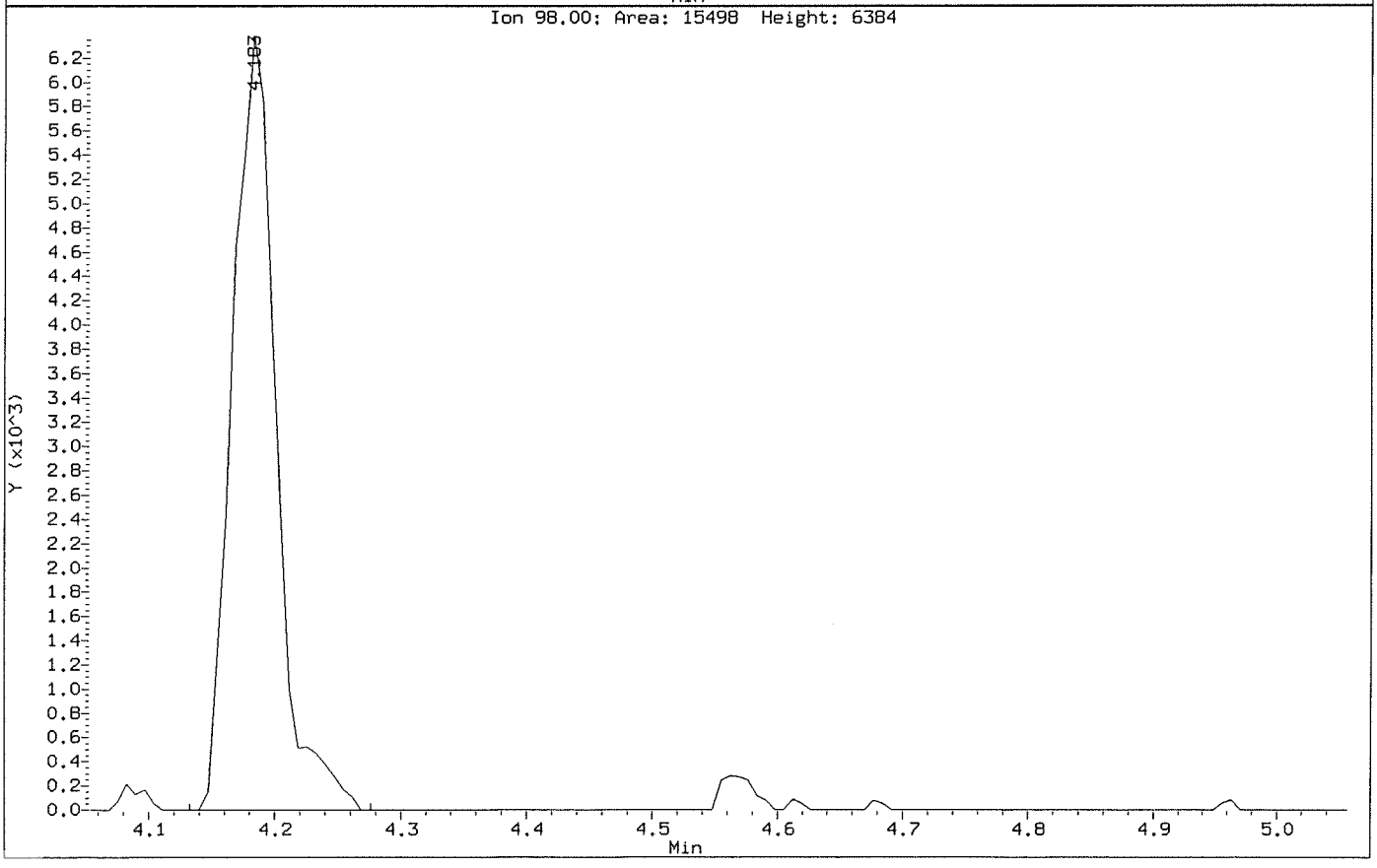
Compound: 1,2-Dibromo-3-Chloropropane
CAS Number: 96-12-8



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before\X040204.D
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Client Sample ID: VSTD001

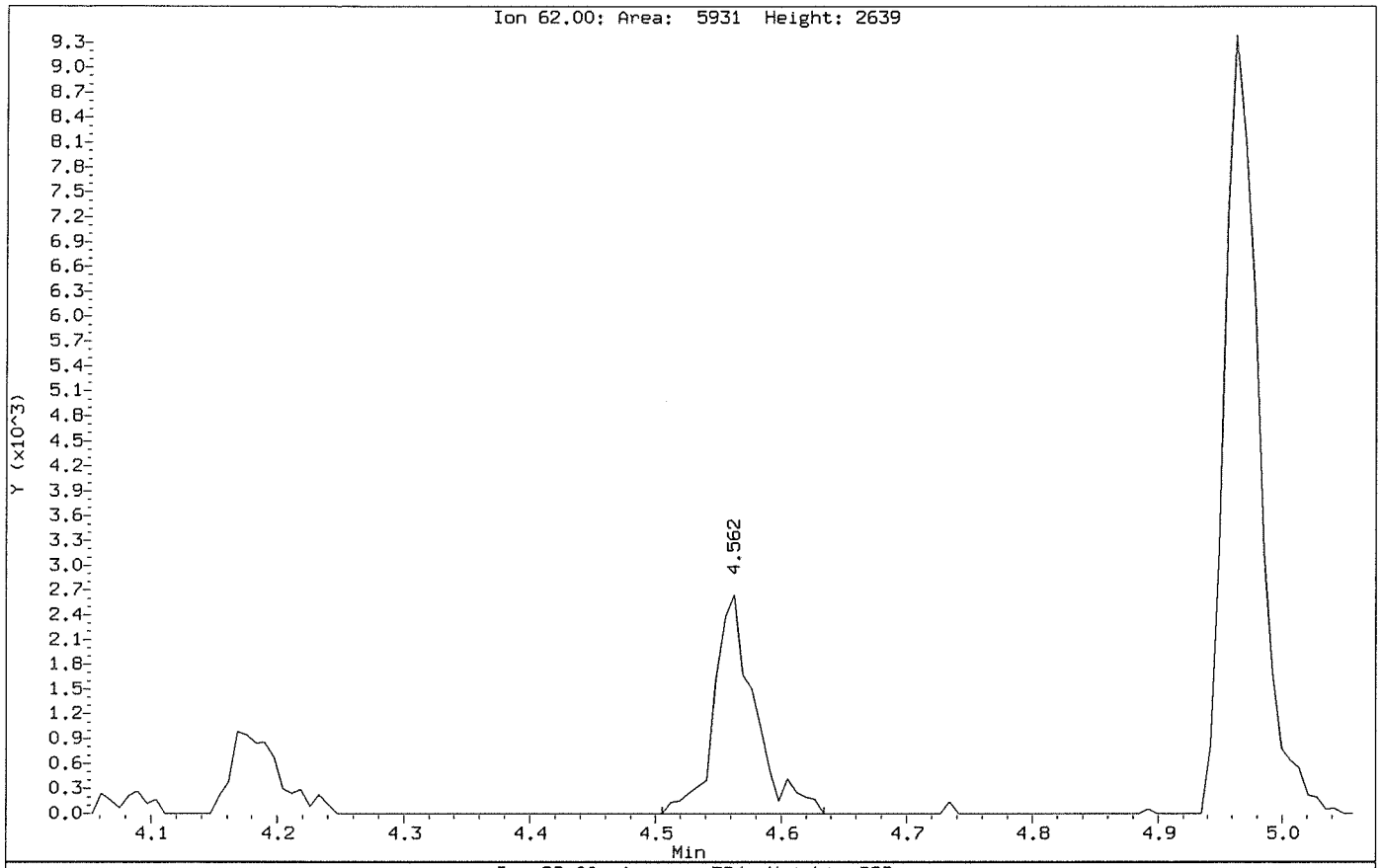
Compound: 1,2-Dichloroethane
CAS Number: 107-06-2

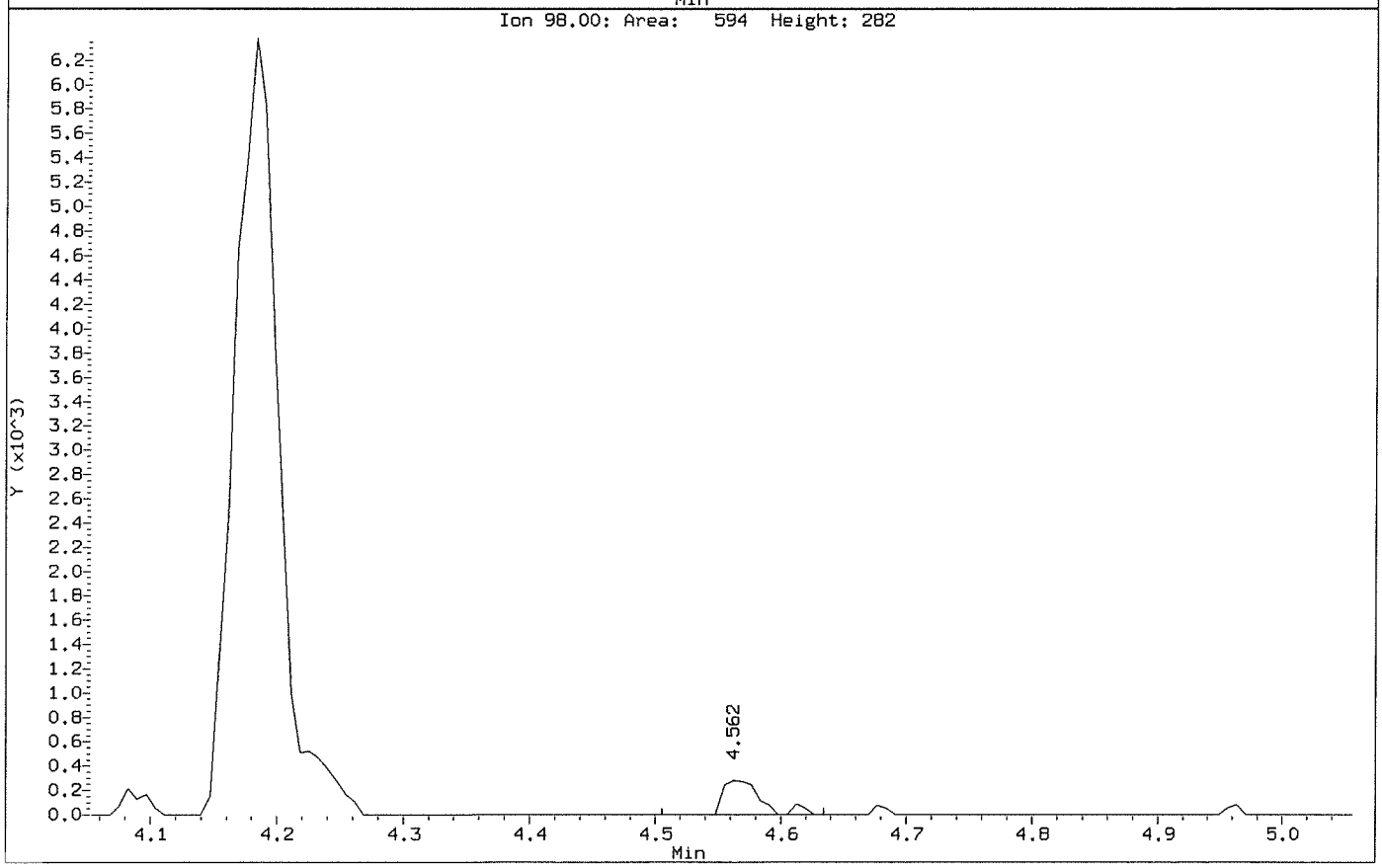


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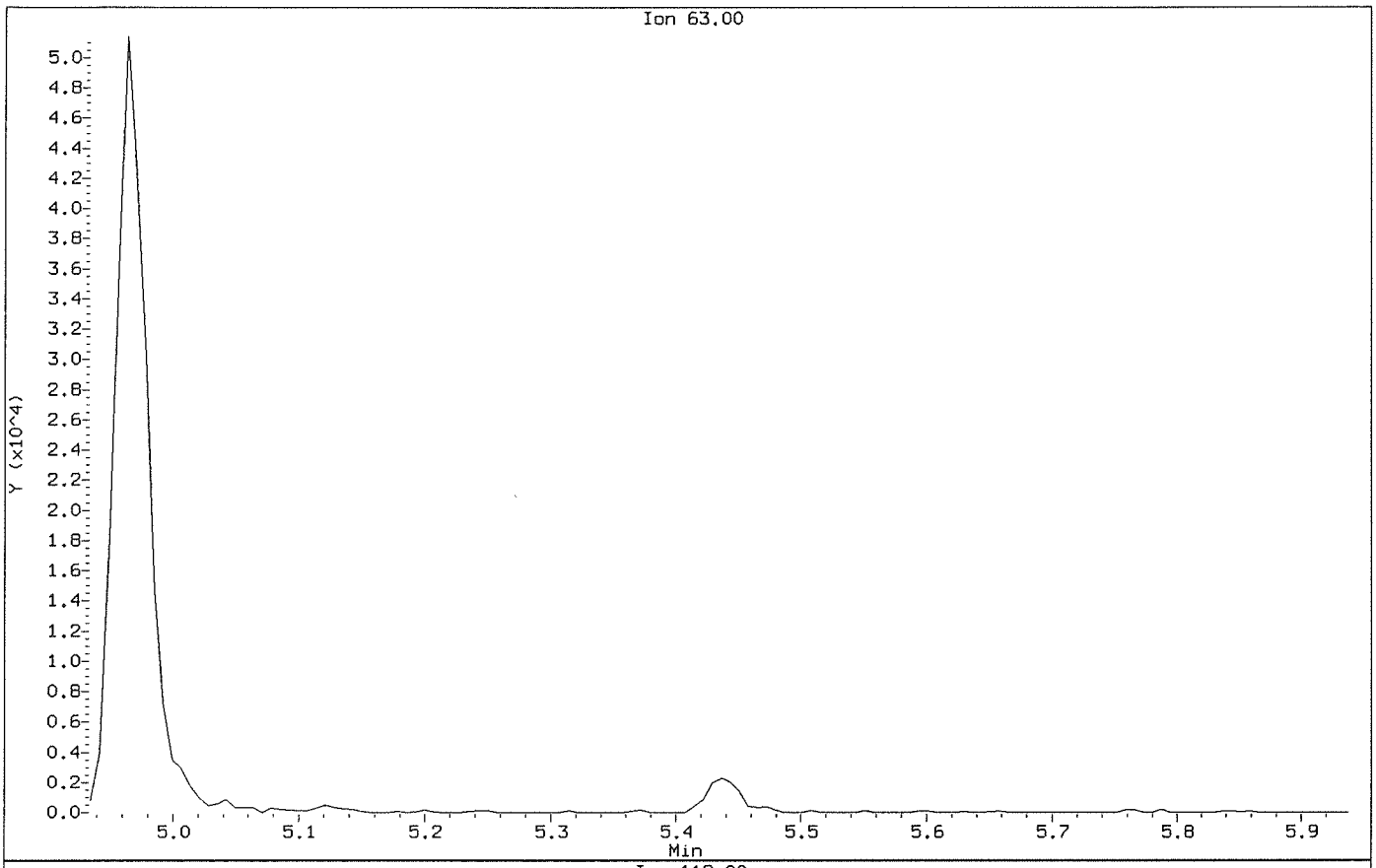
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CAS Number: 107-06-2

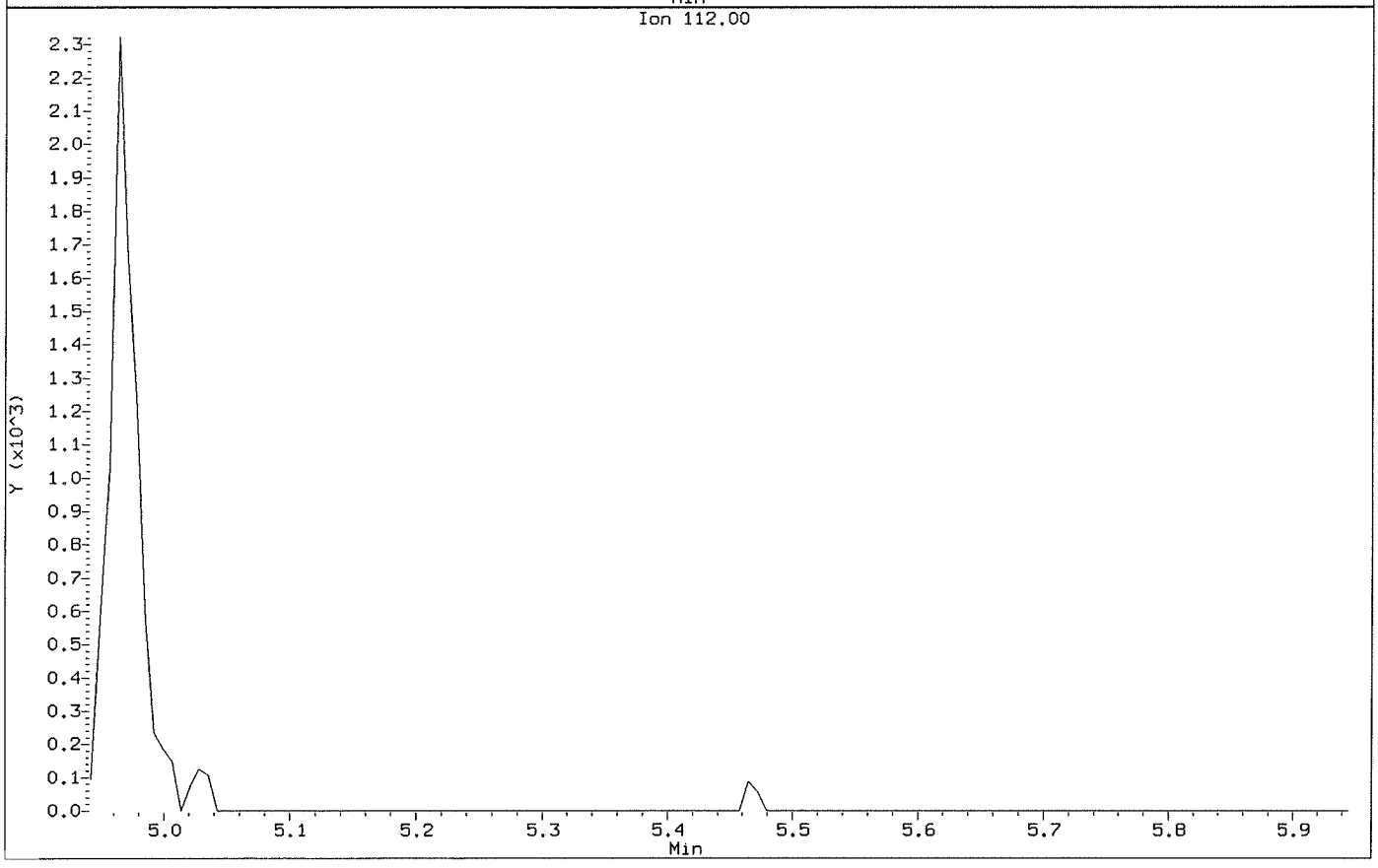


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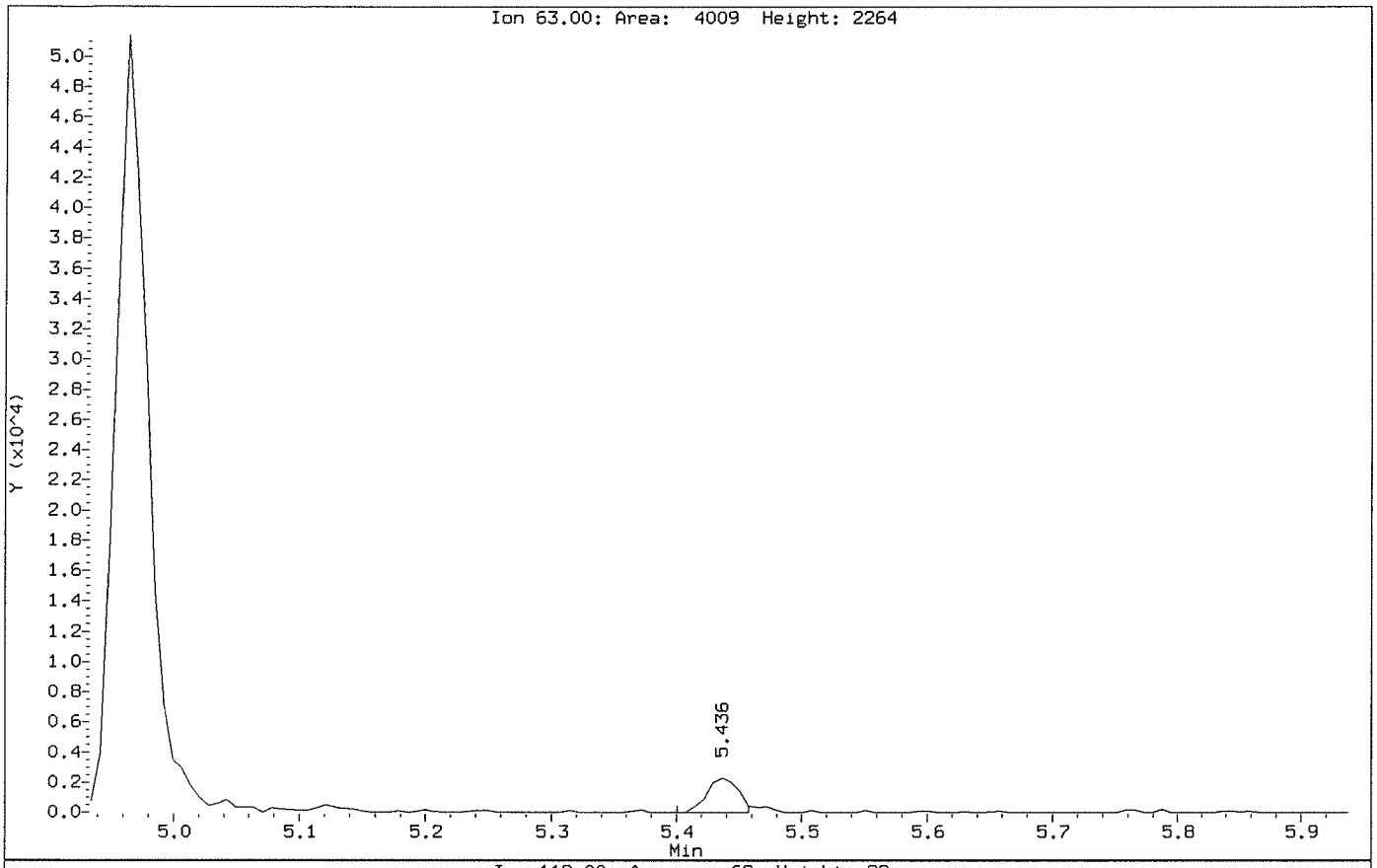
Compound: 1,2-Dichloropropane
CAS Number: 78-87-5

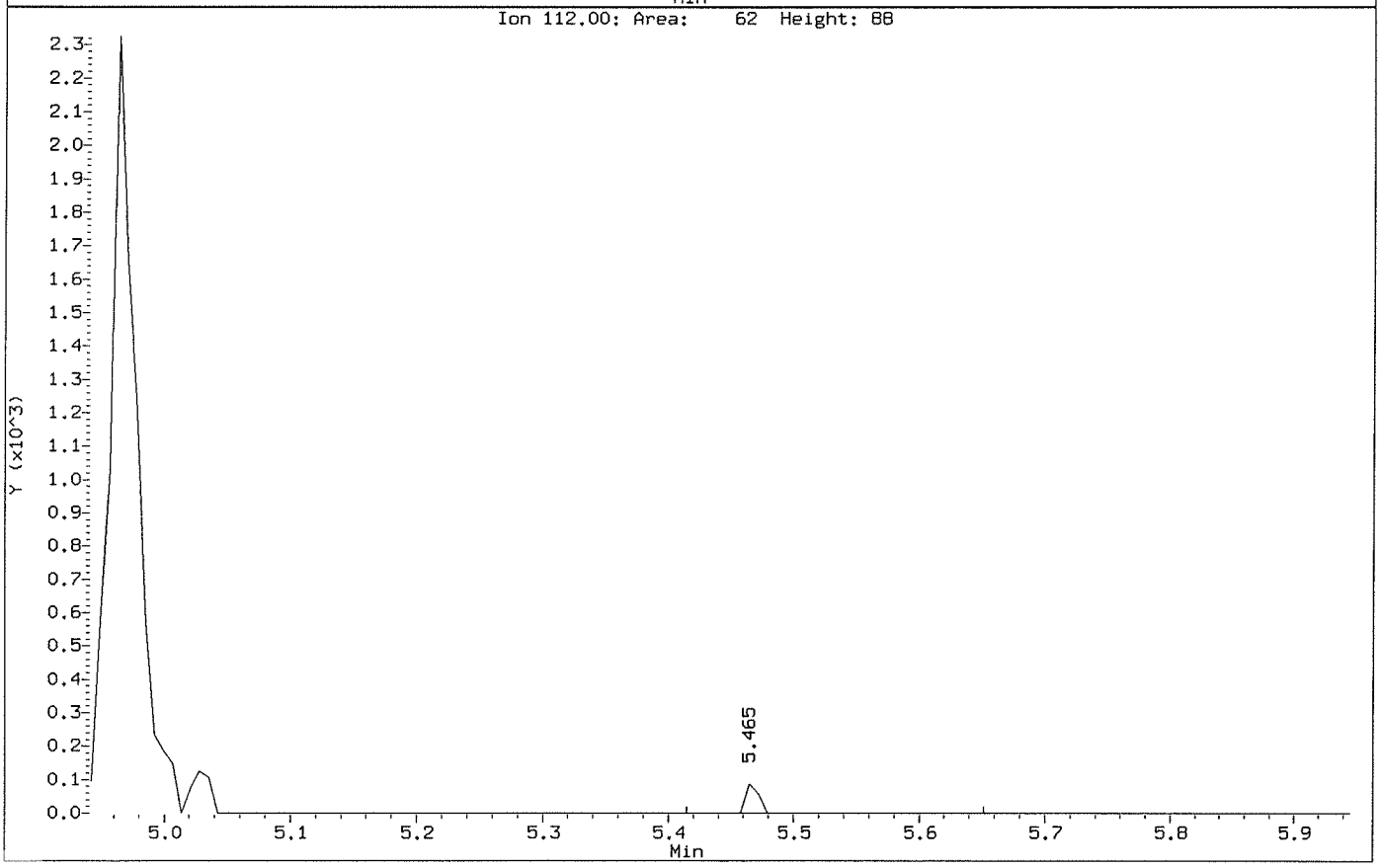


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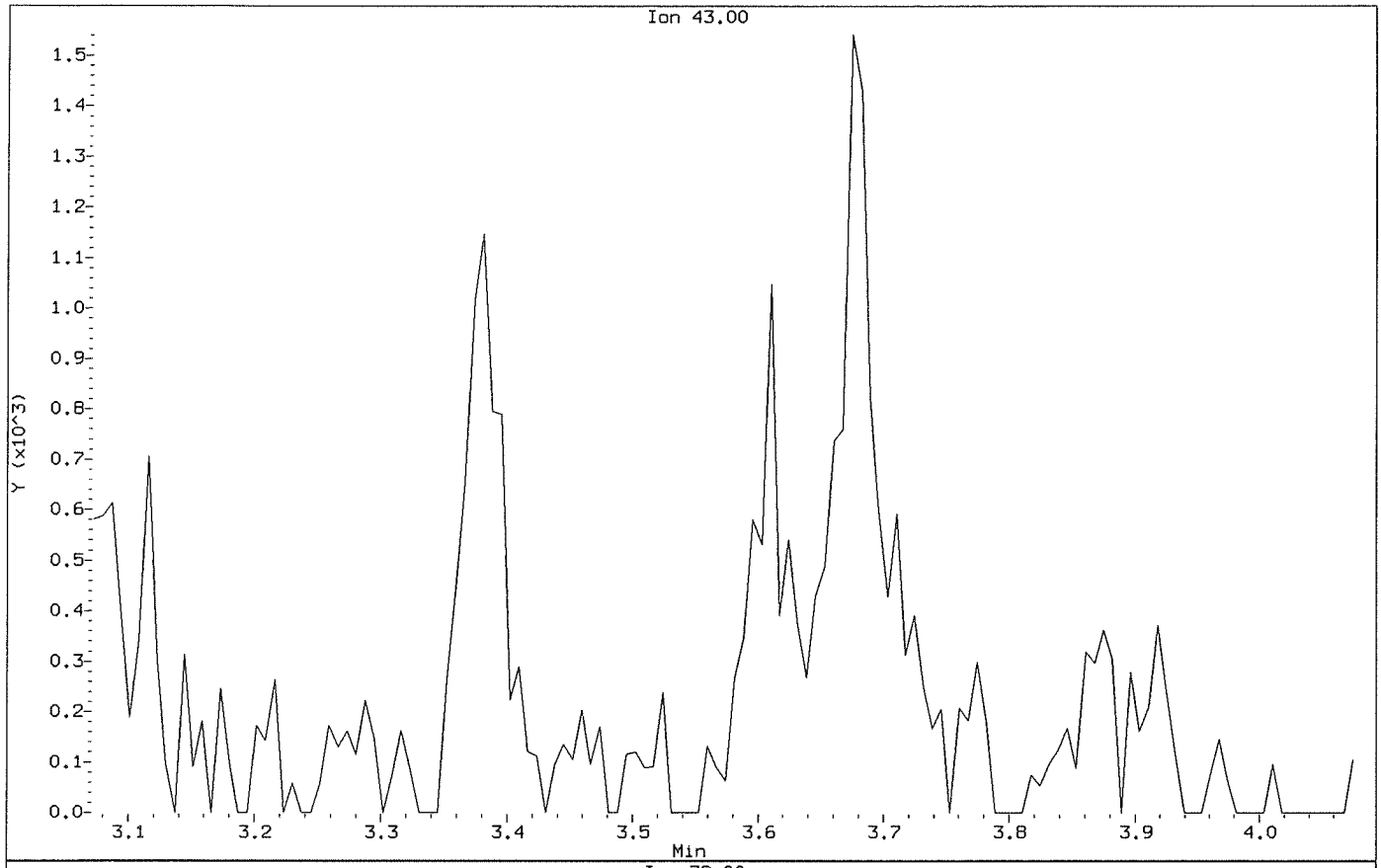
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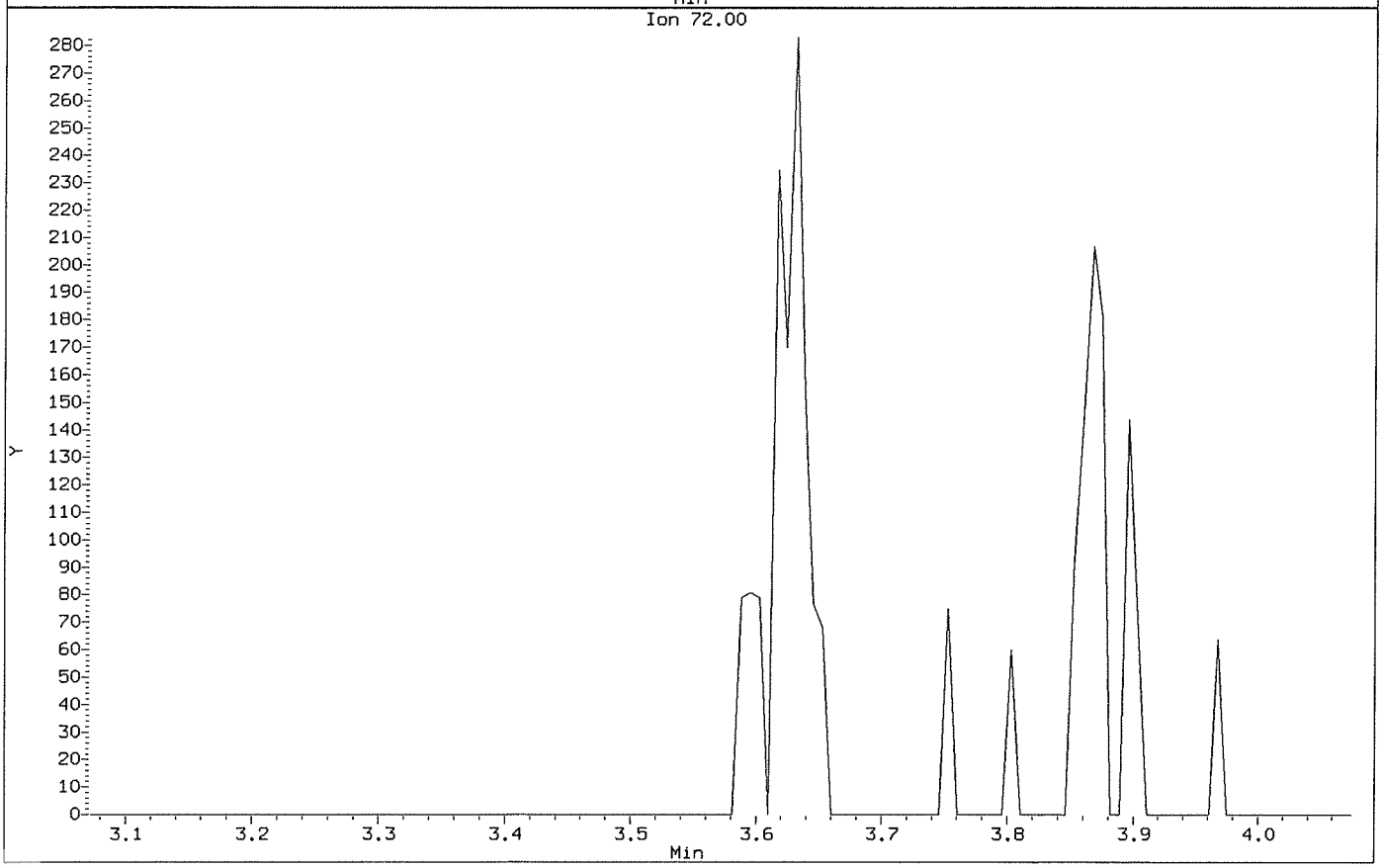


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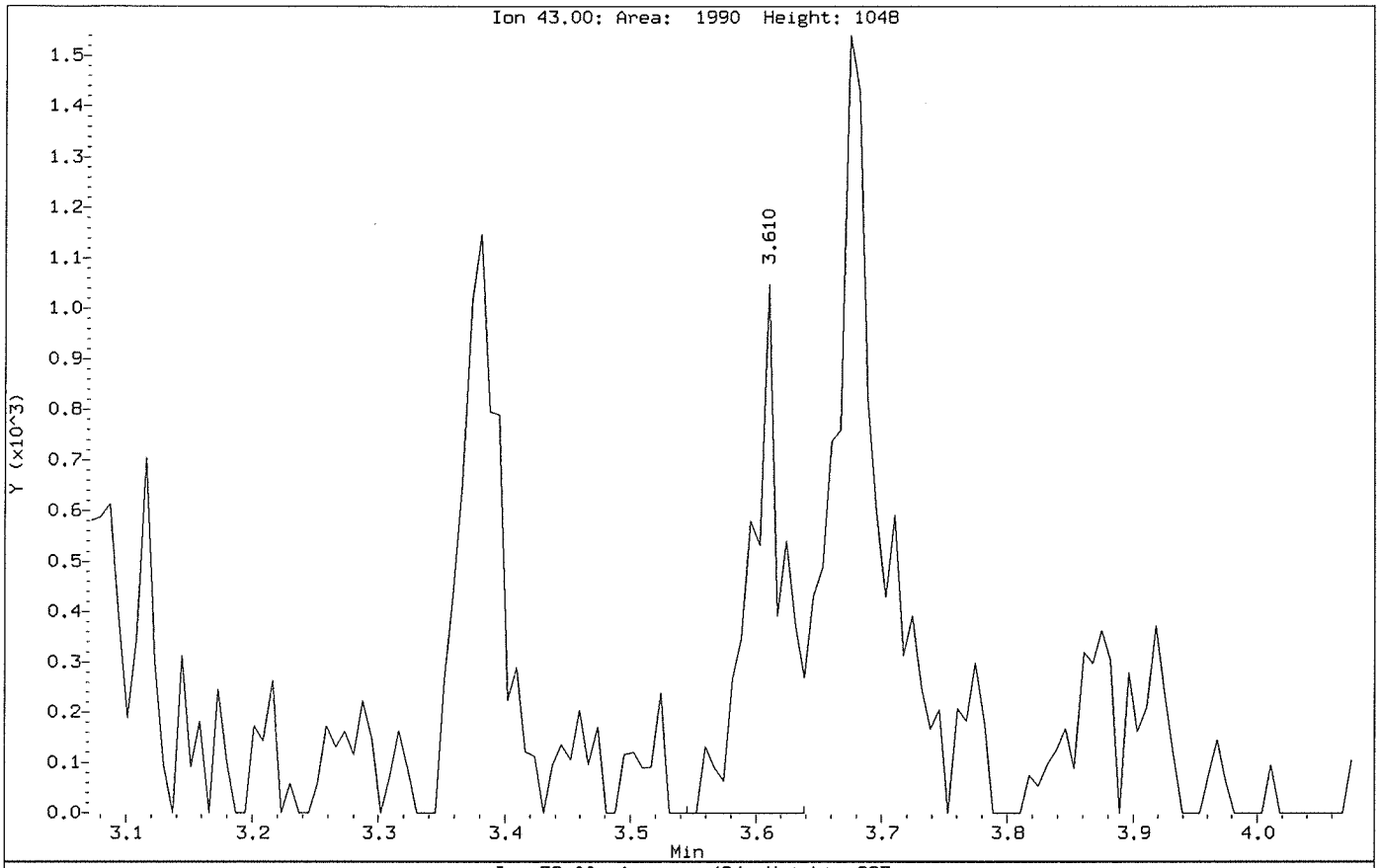
Compound: 2-Butanone
CAS Number: 78-93-3

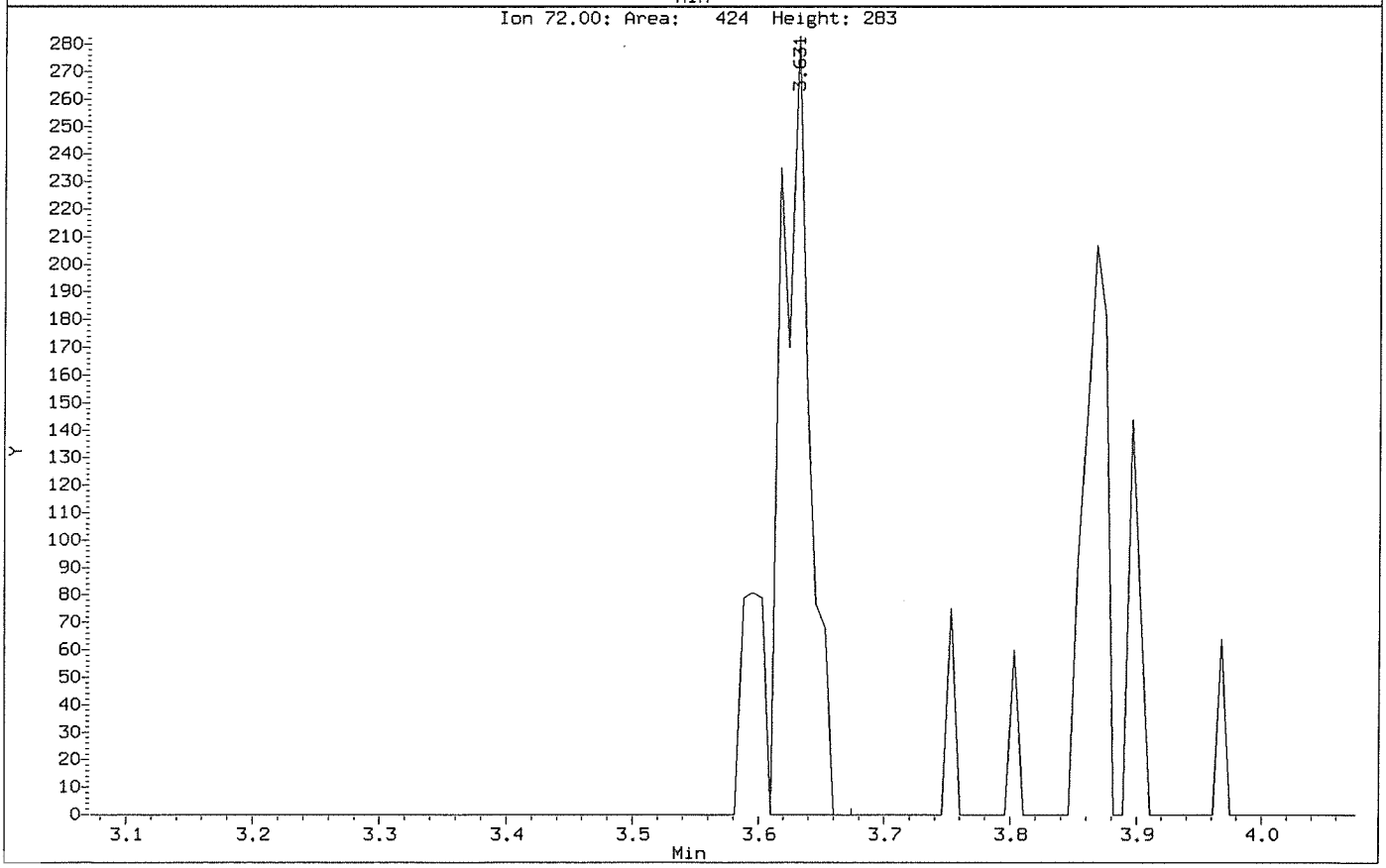


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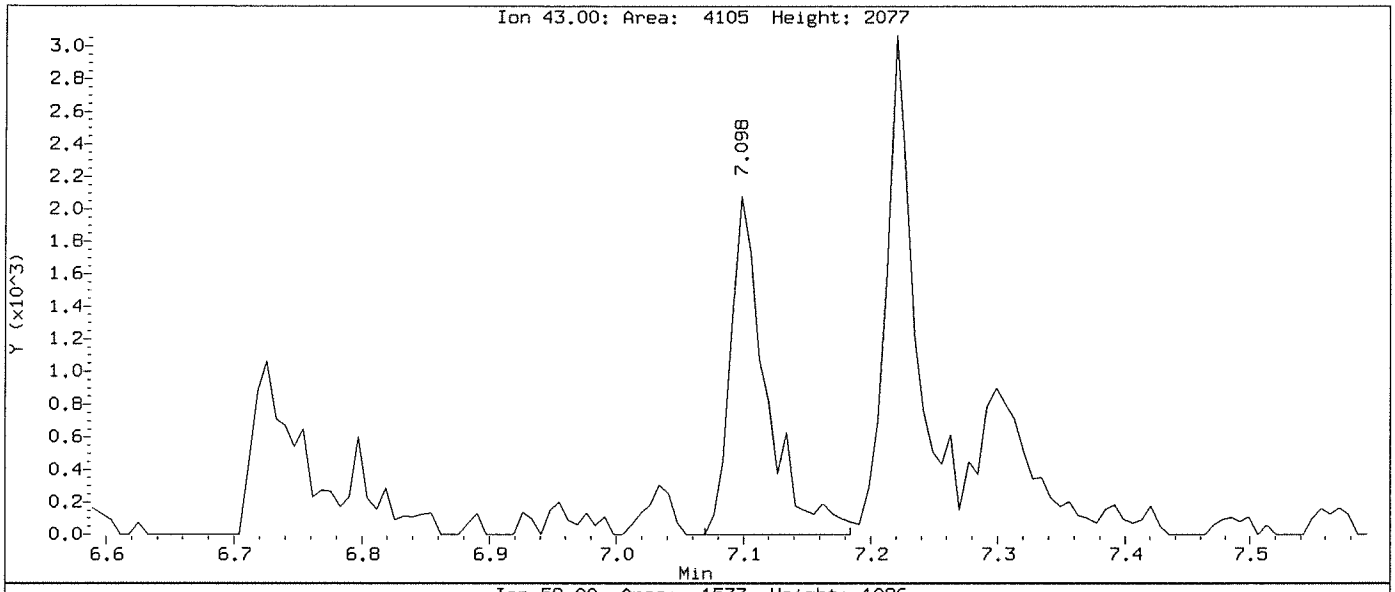
Compound: 2-Butanone
CAS Number: 78-93-3

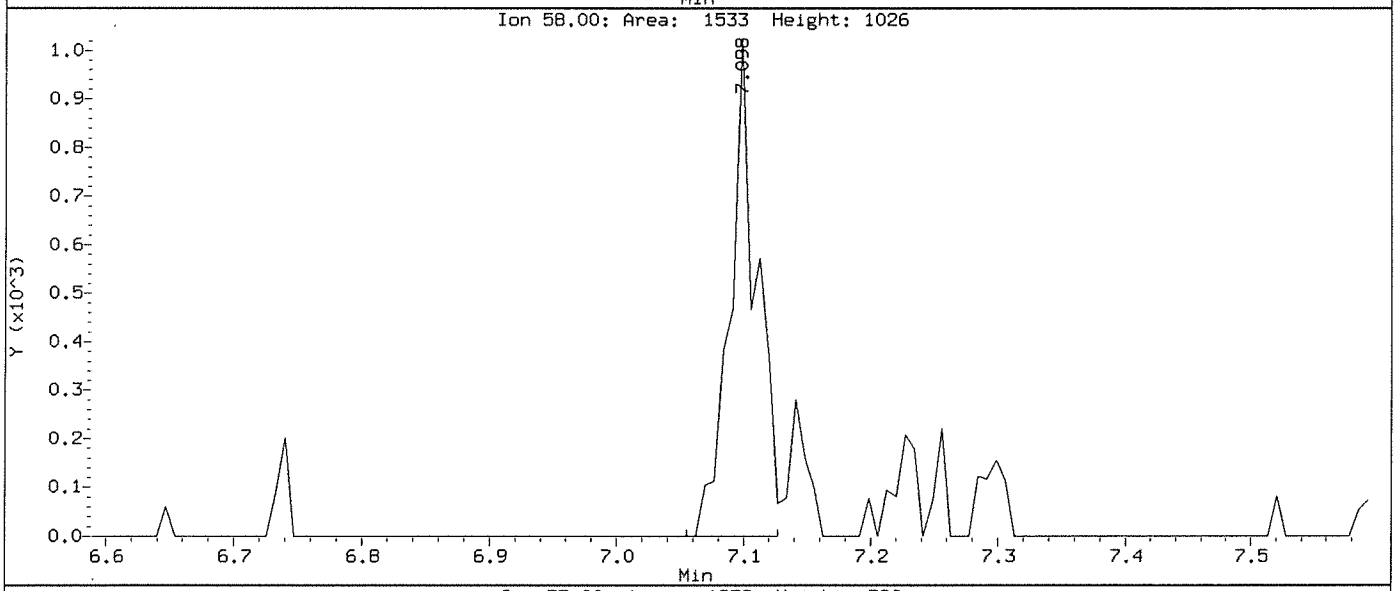


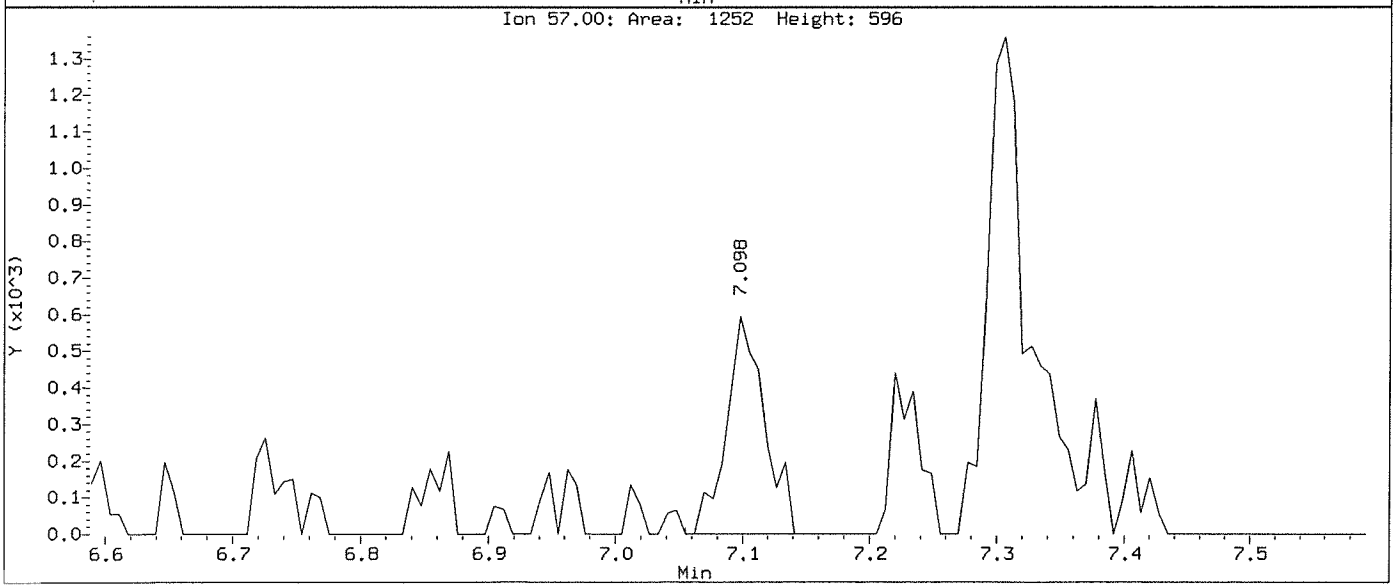



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Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 2-Hexanone
CAS Number: 591-78-6

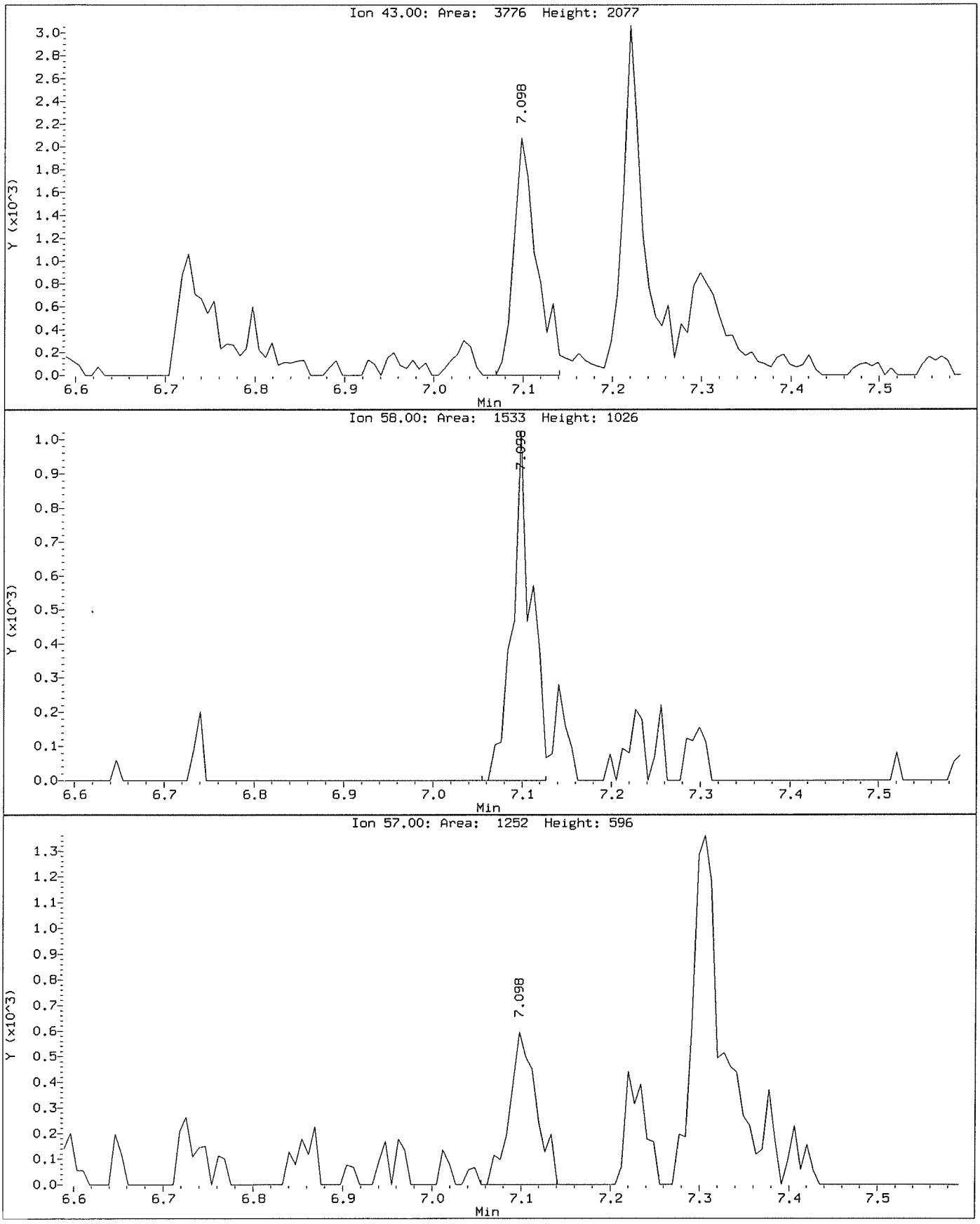


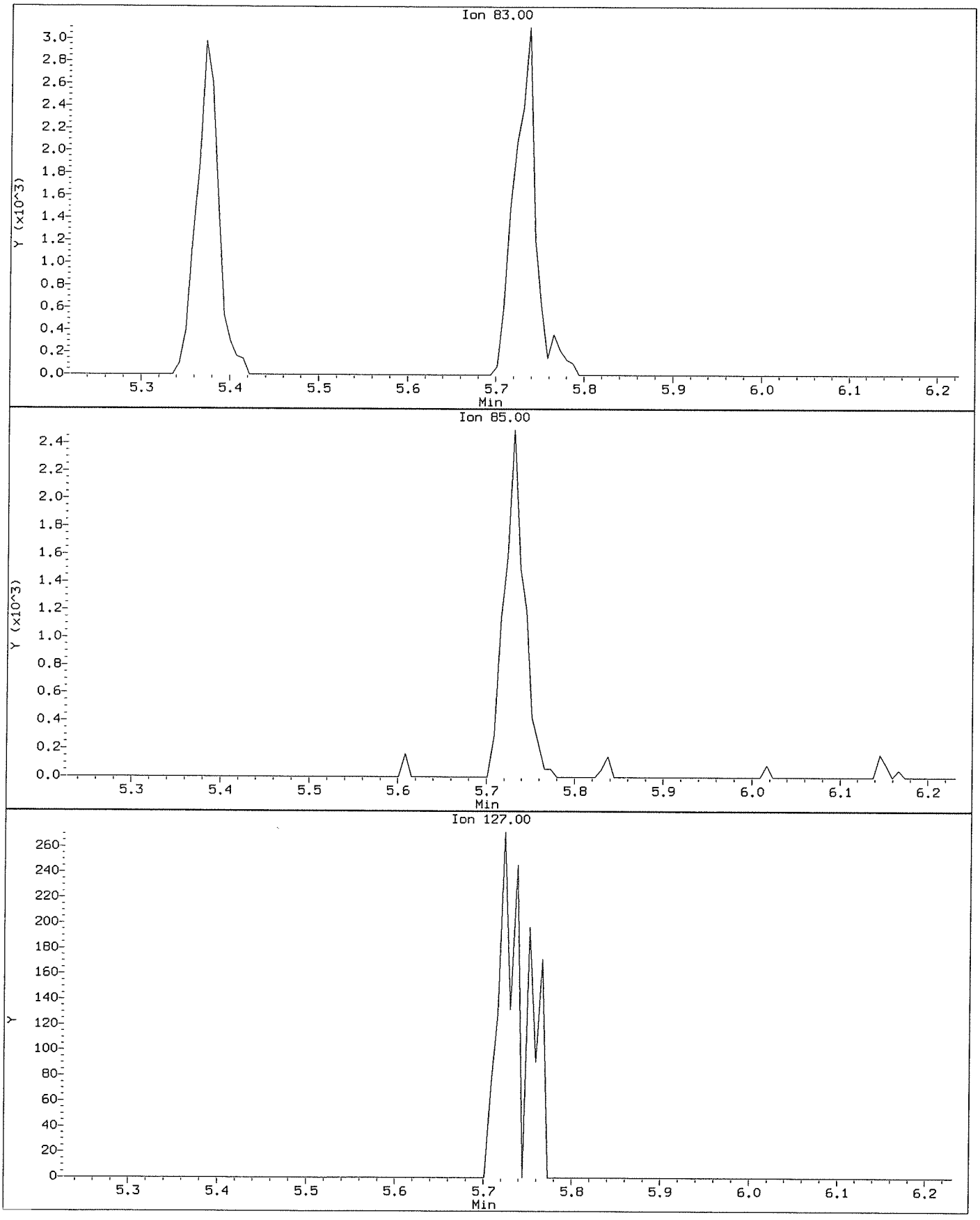
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Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 2-Hexanone
CAS Number: 591-78-6



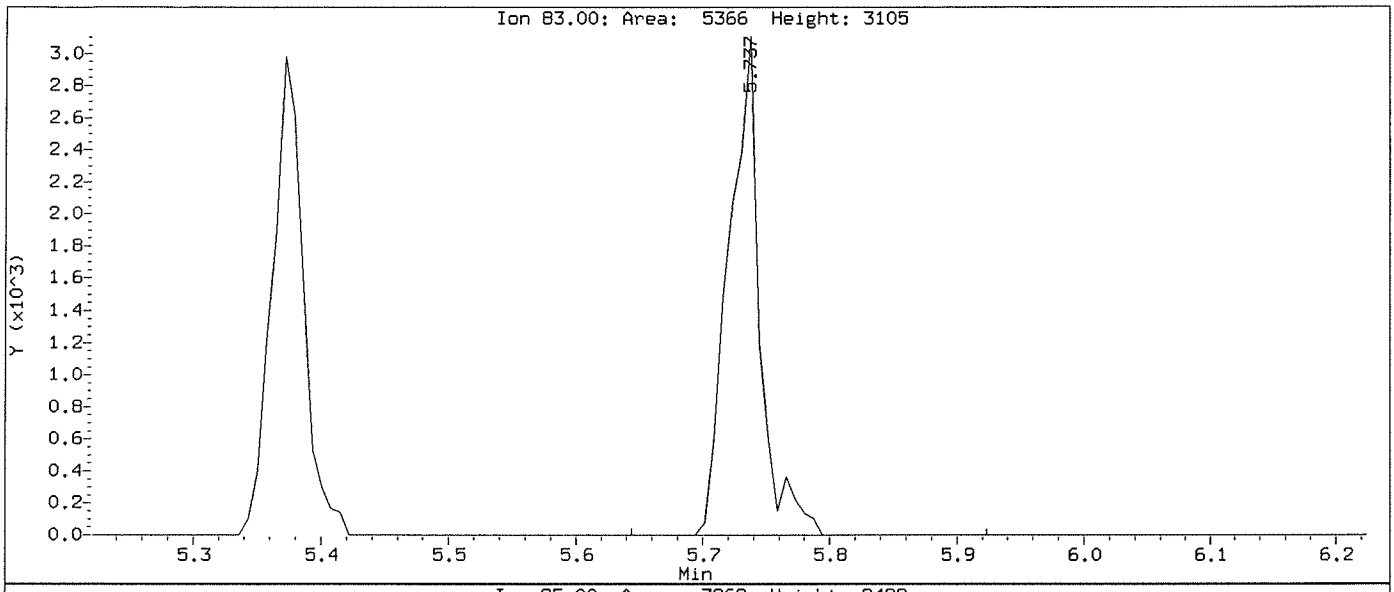
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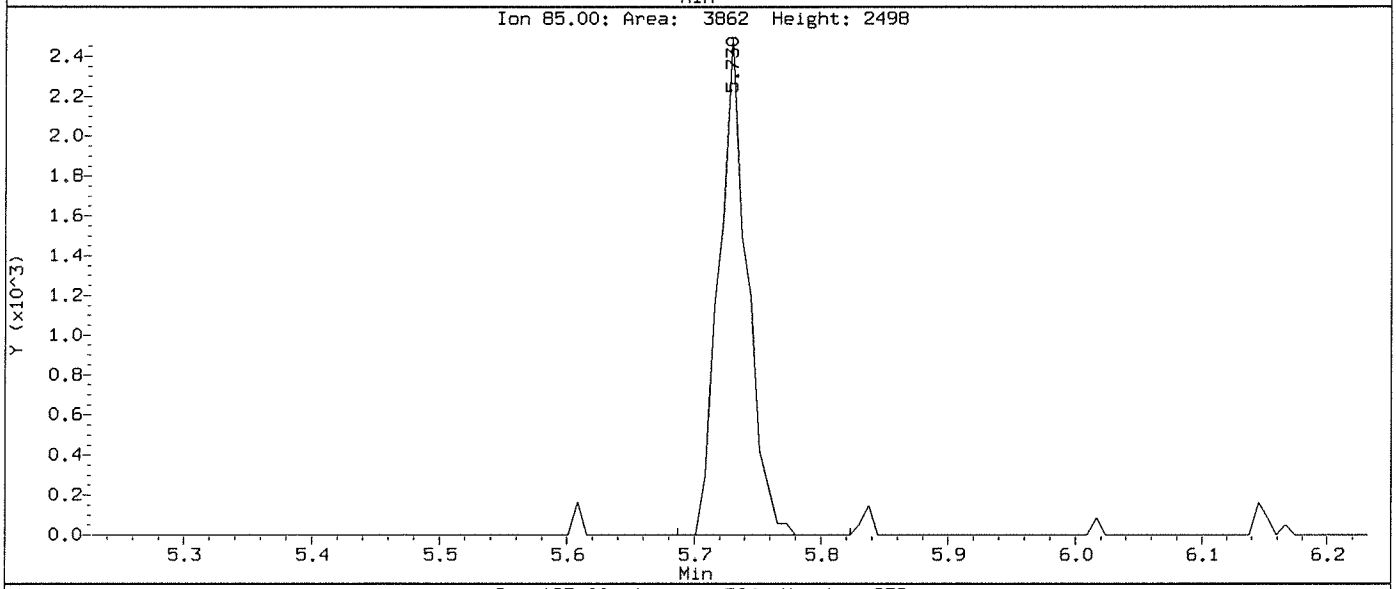
Compound: Bromodichloromethane
CAS Number: 75-27-4

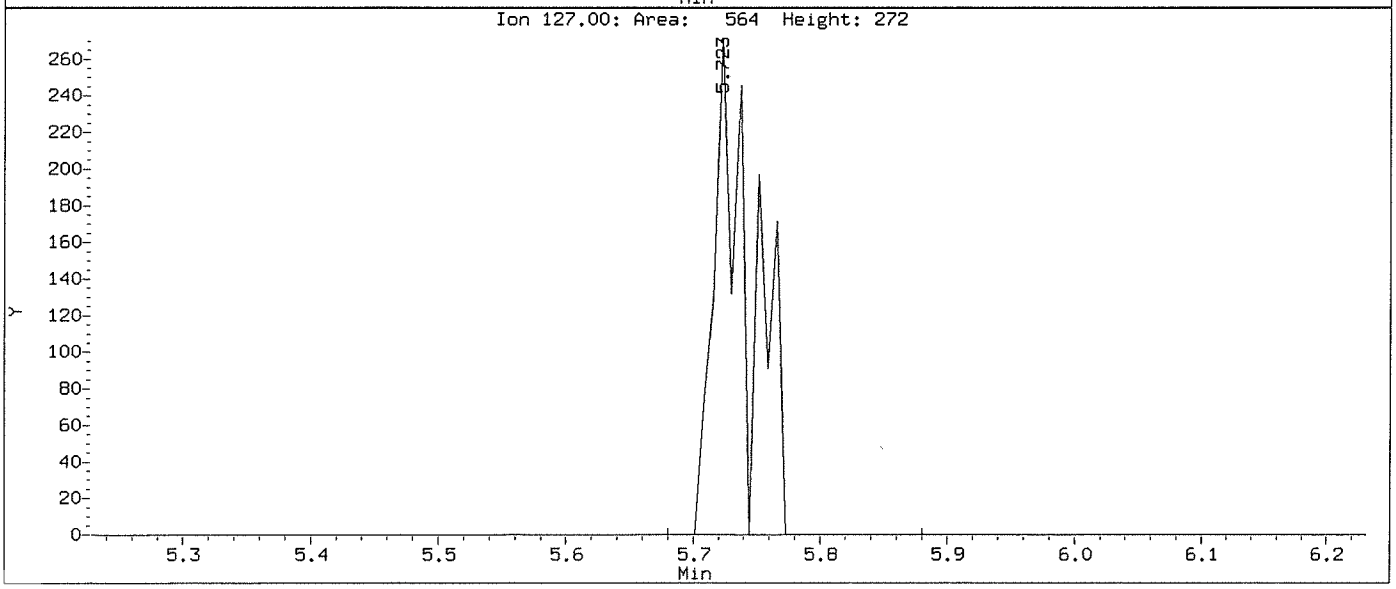


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Compound: Bromodichloromethane
CAS Number: 75-27-4

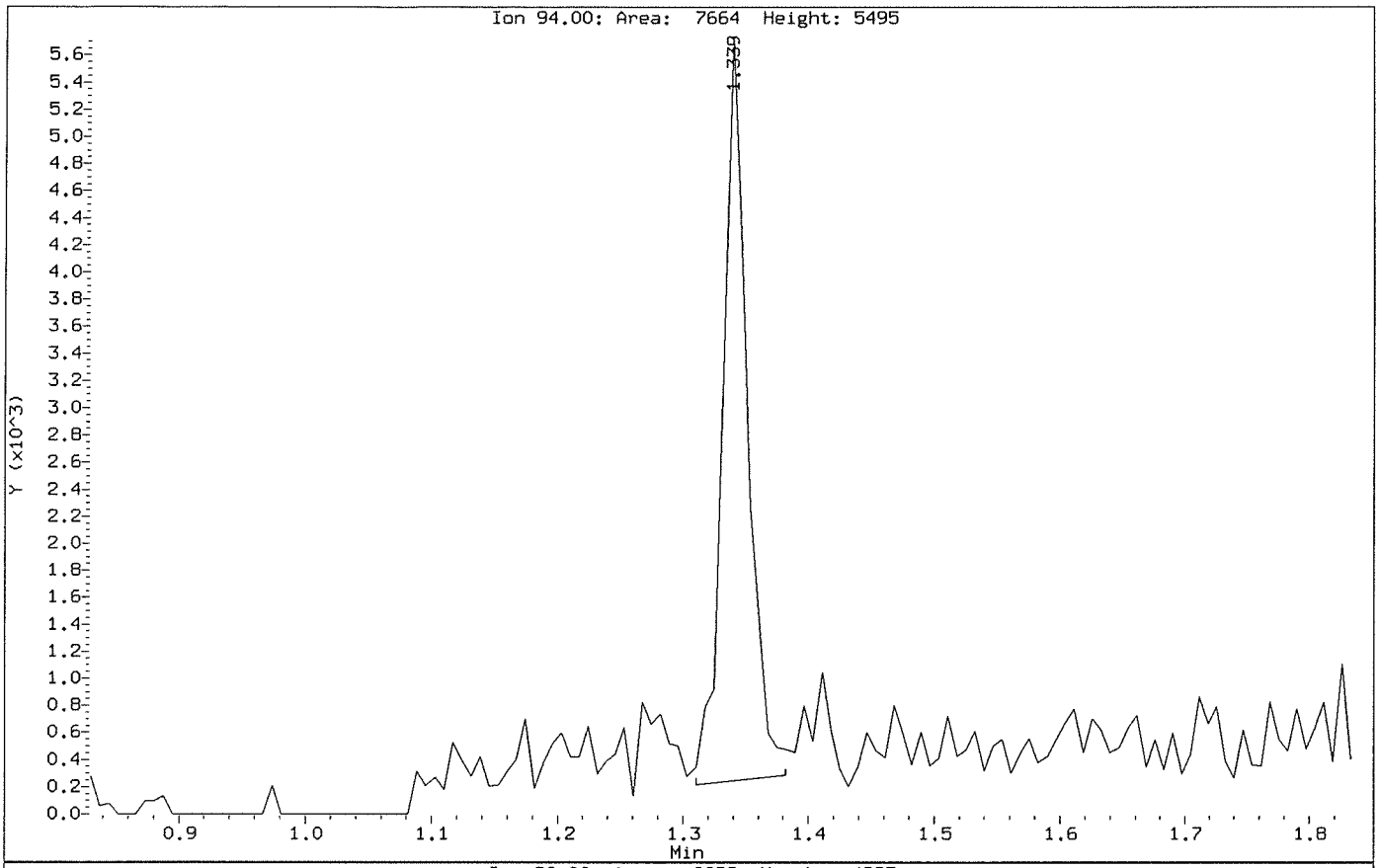


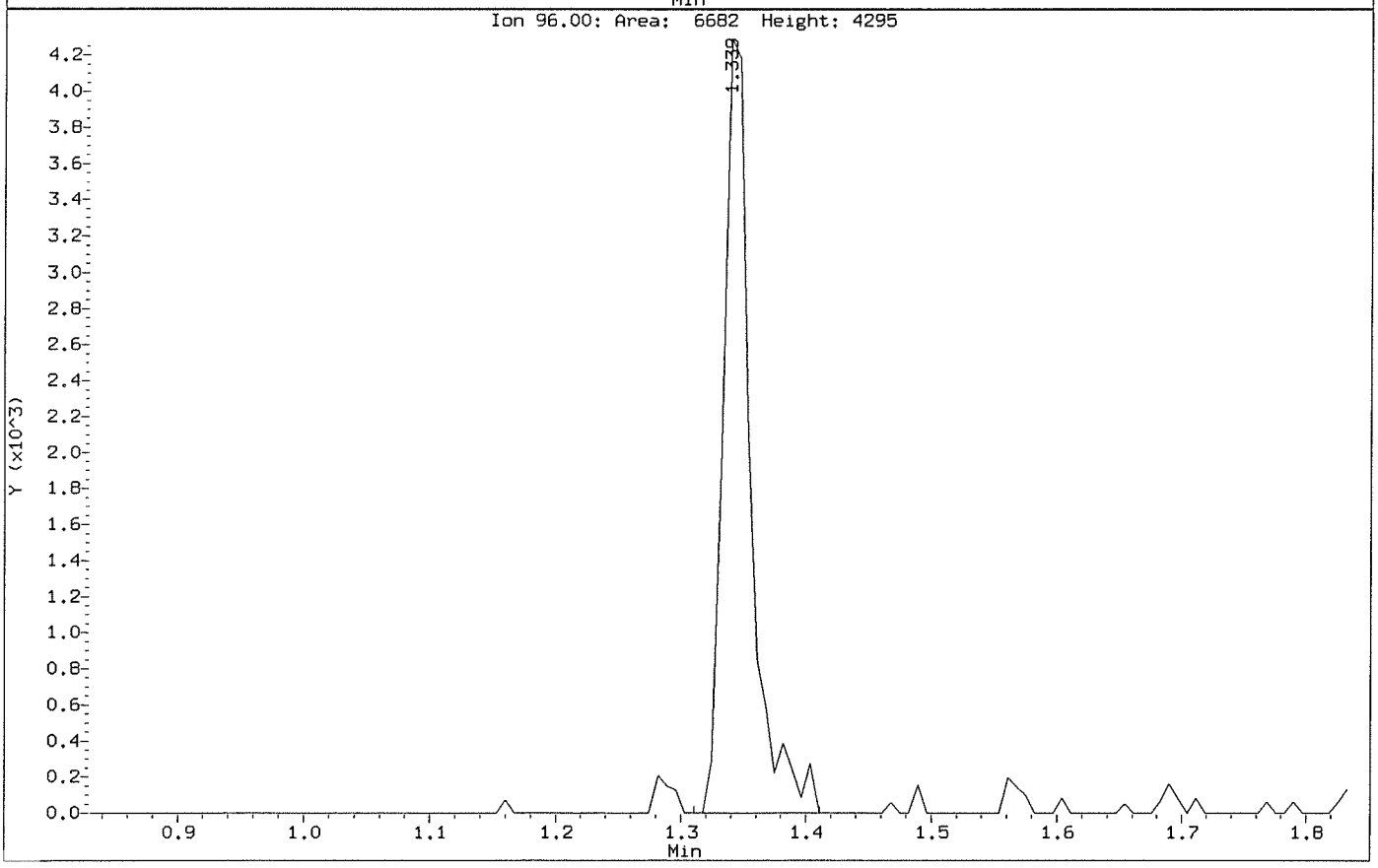



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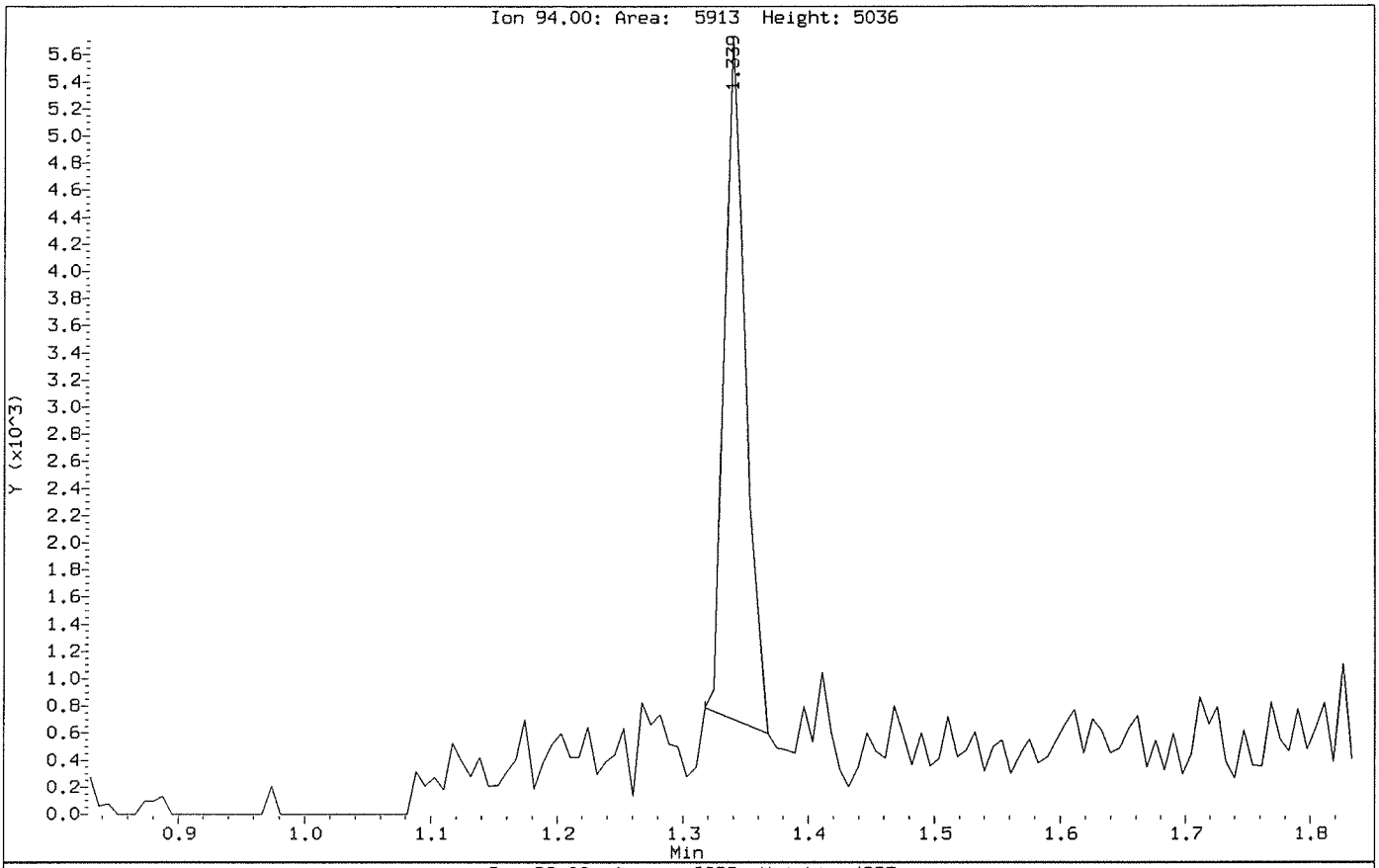
Compound: Bromomethane
CAS Number: 74-83-9

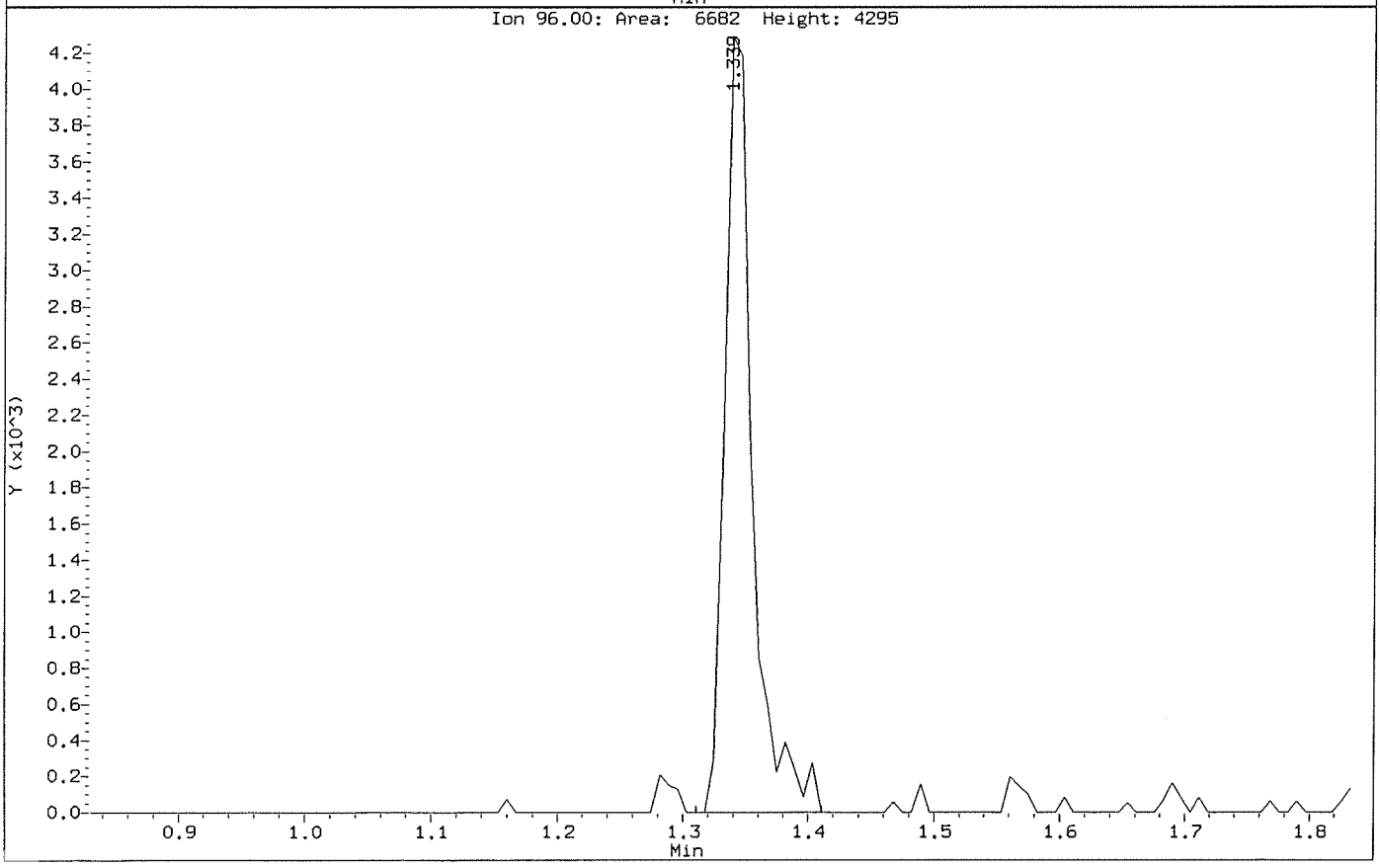


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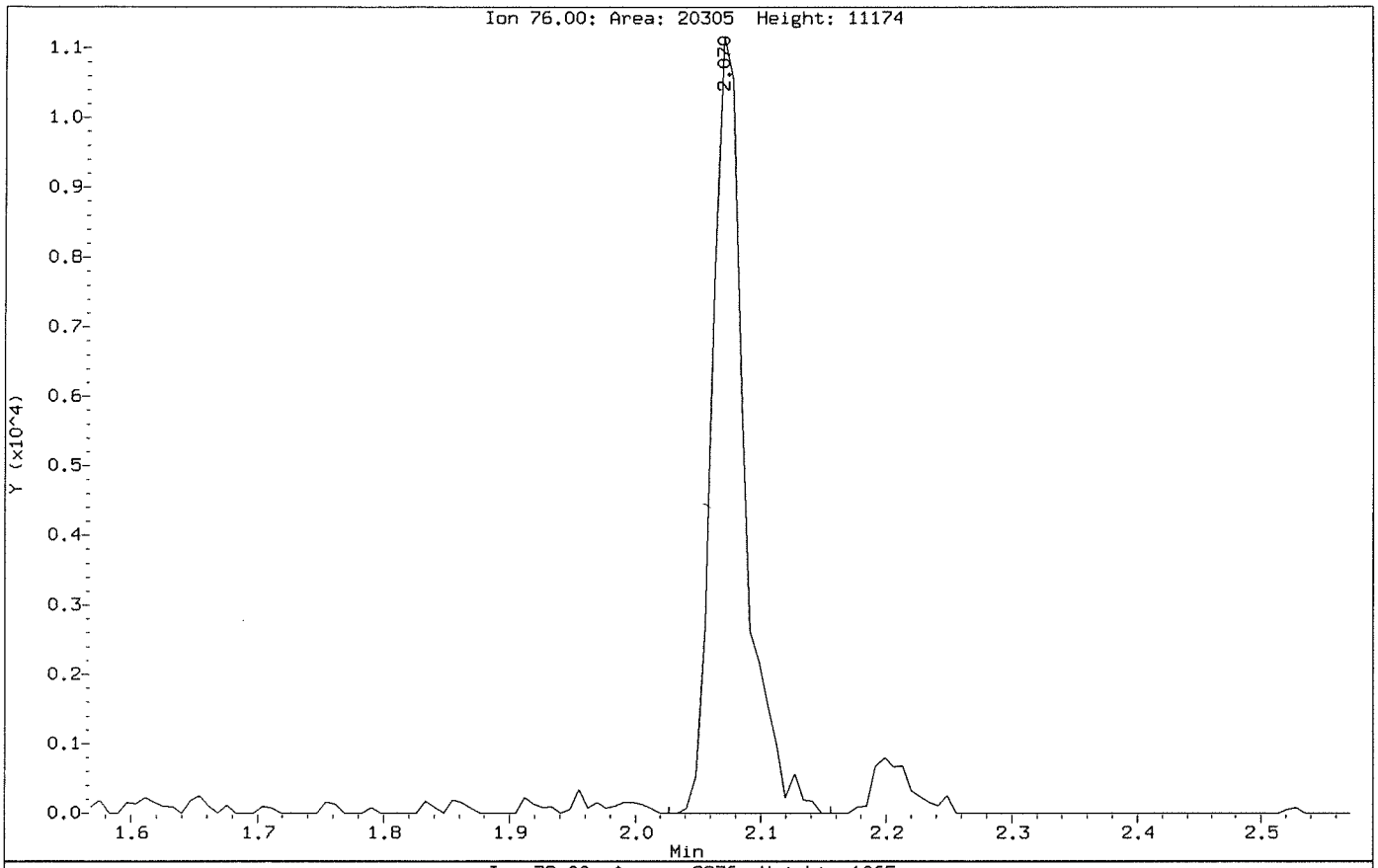
Compound: Bromomethane
CAS Number: 74-83-9

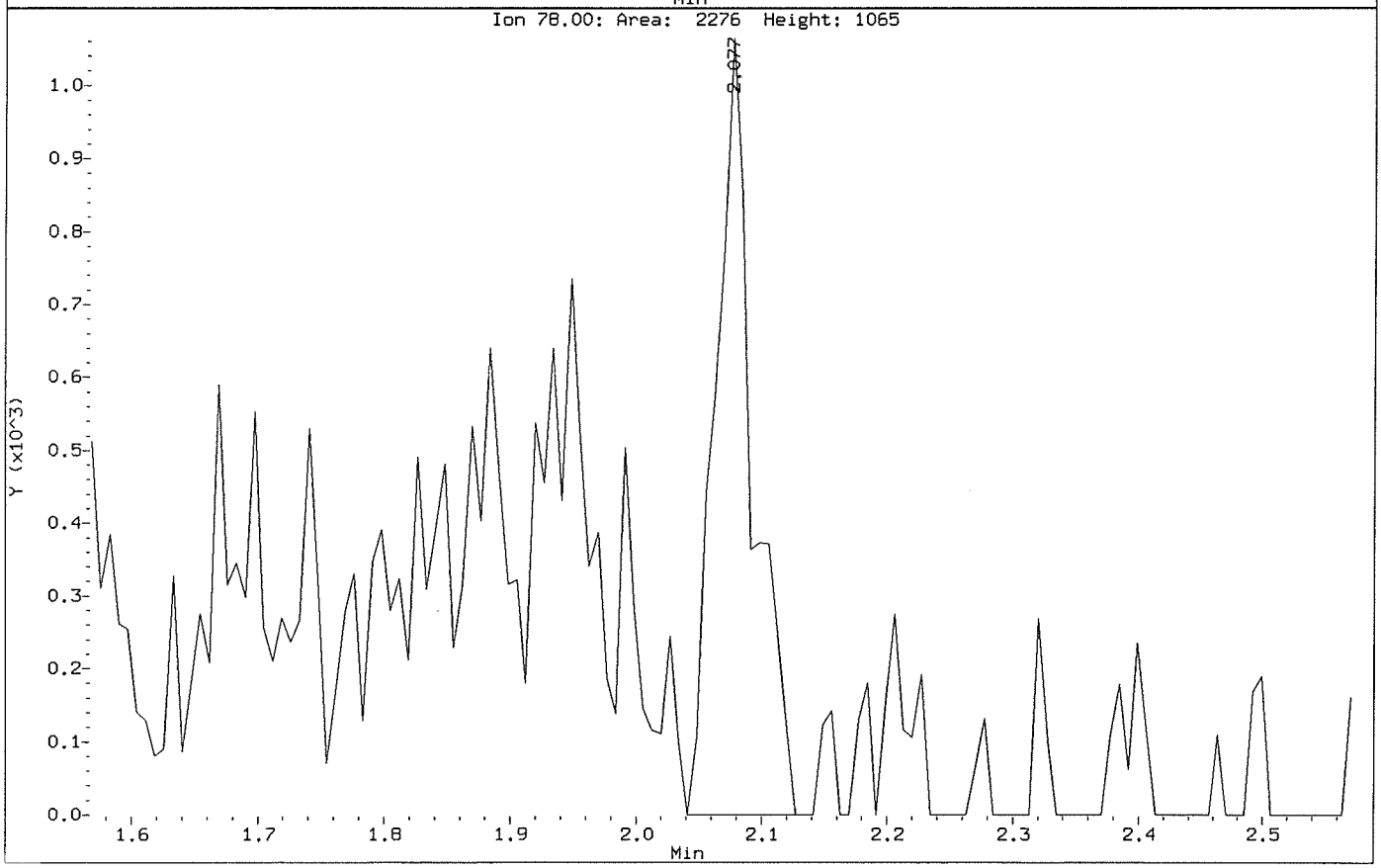


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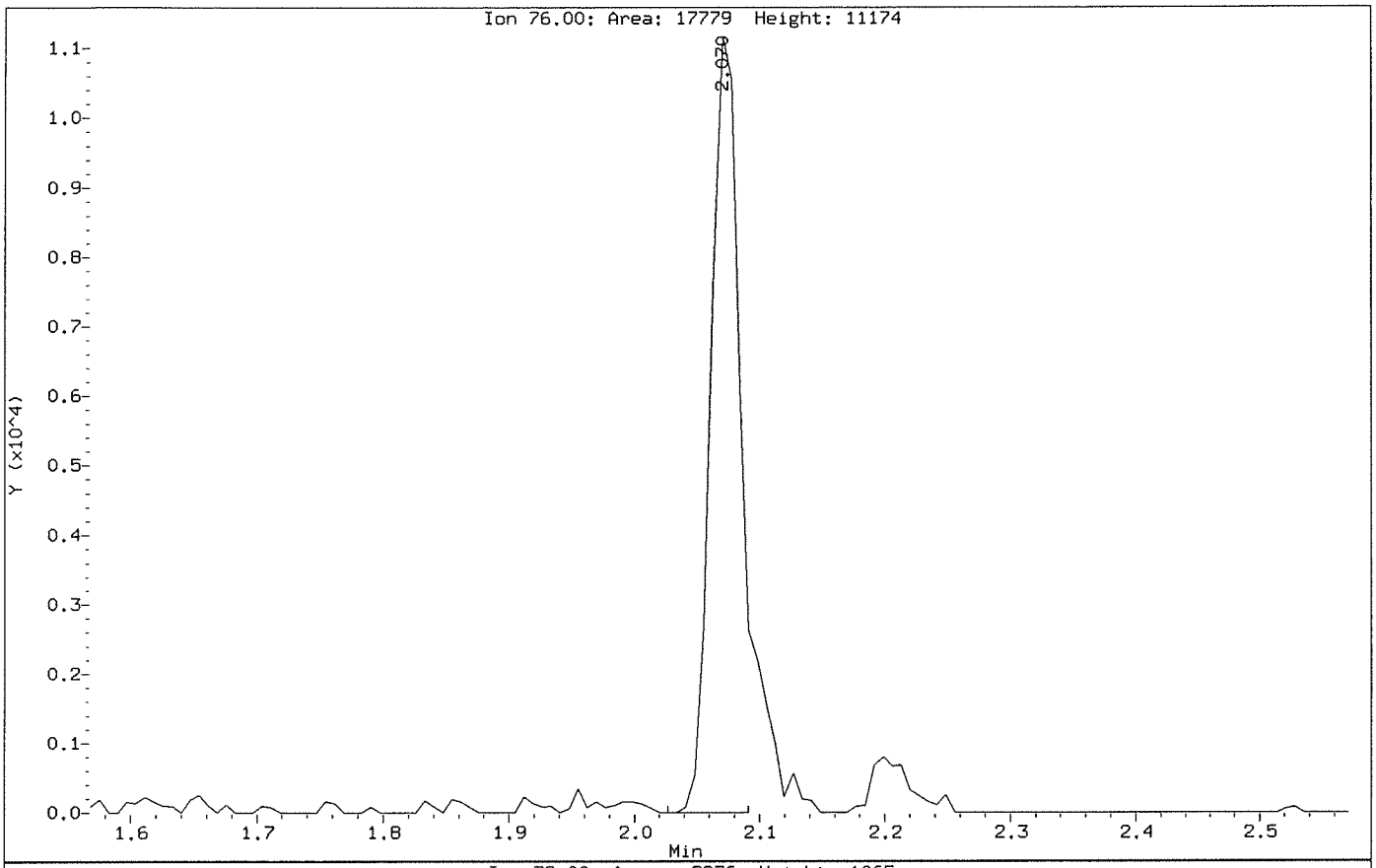
Compound: Carbon Disulfide
CAS Number: 75-15-0

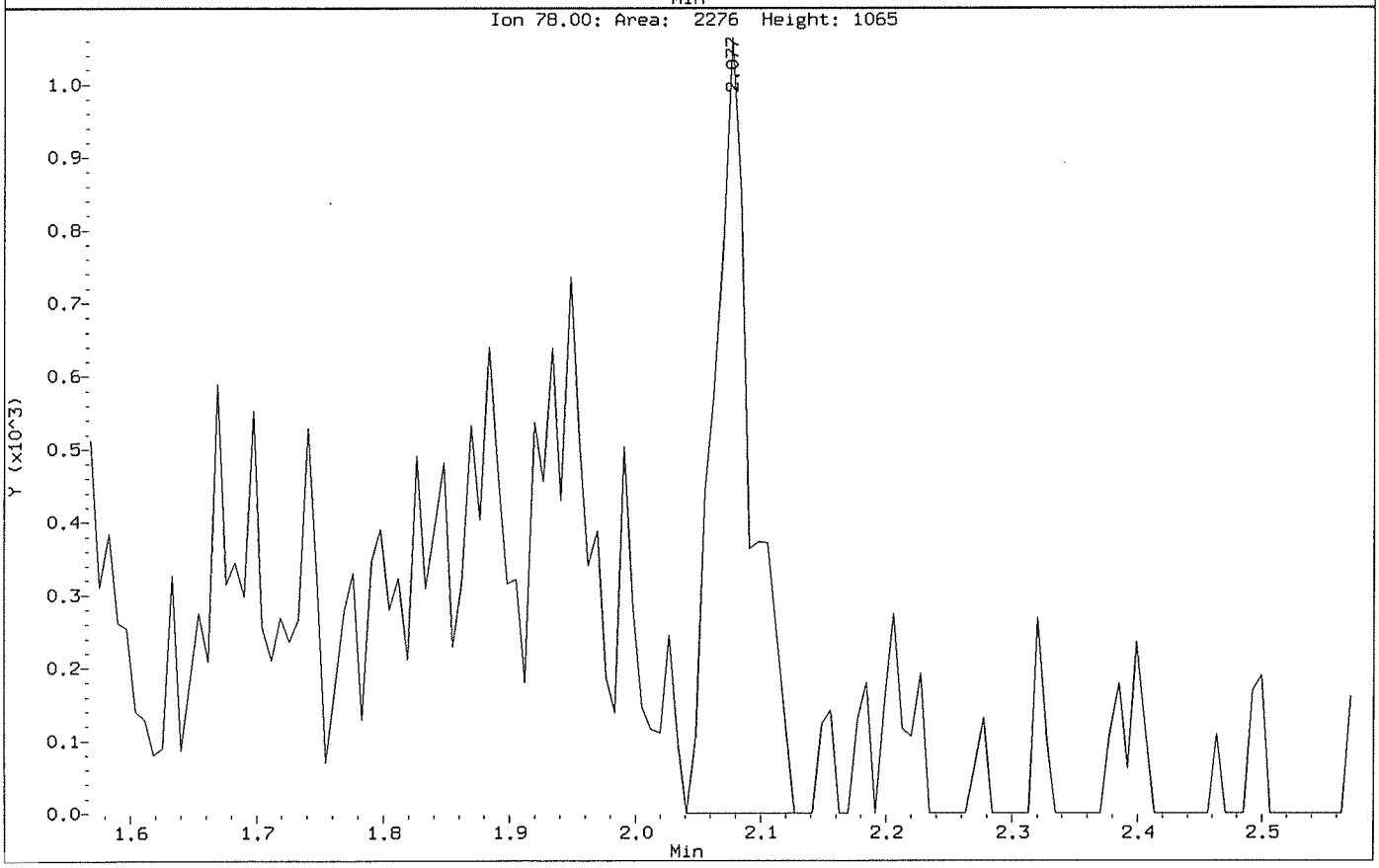


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040204.D
Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

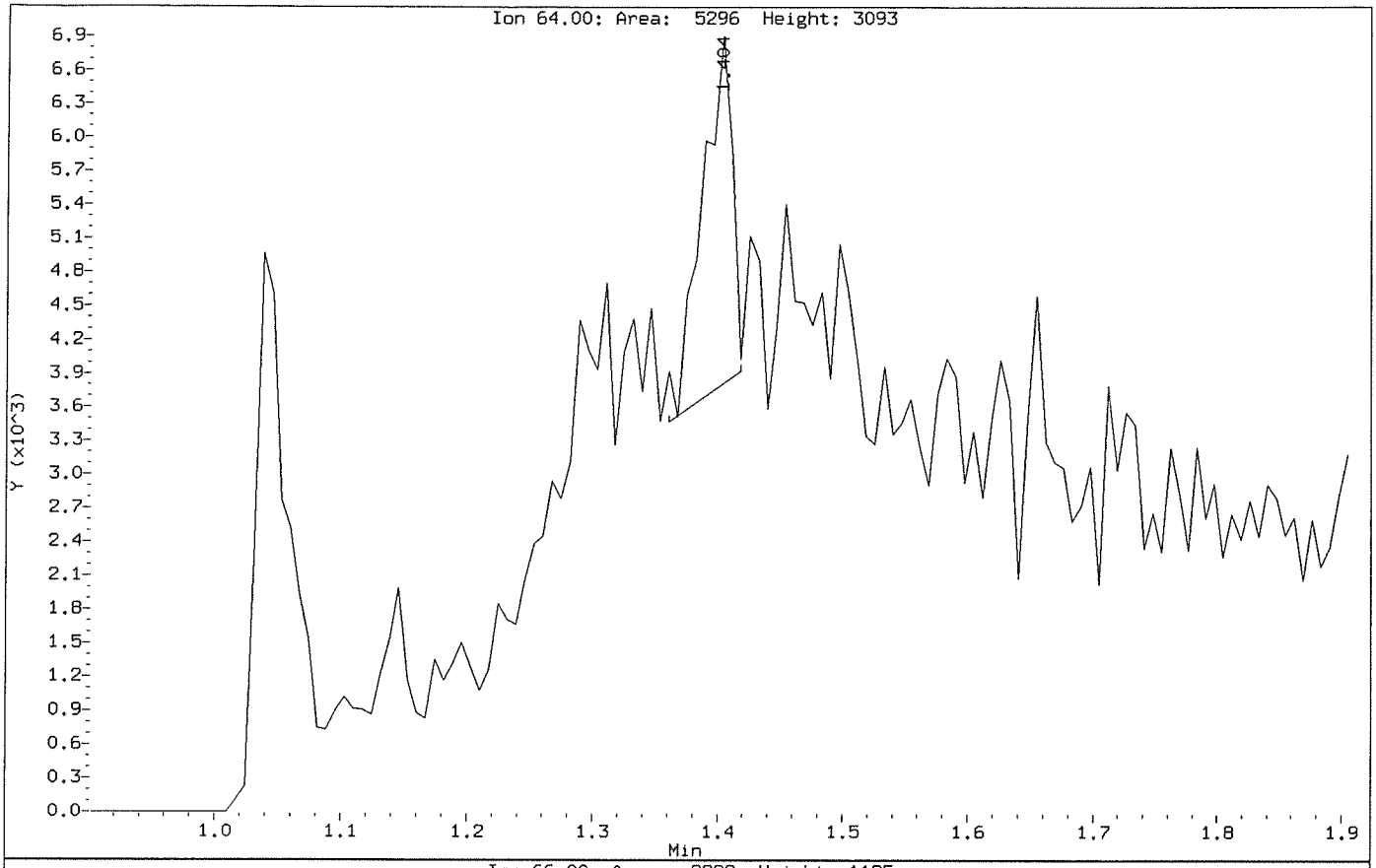
Compound: Carbon Disulfide
CAS Number: 75-15-0

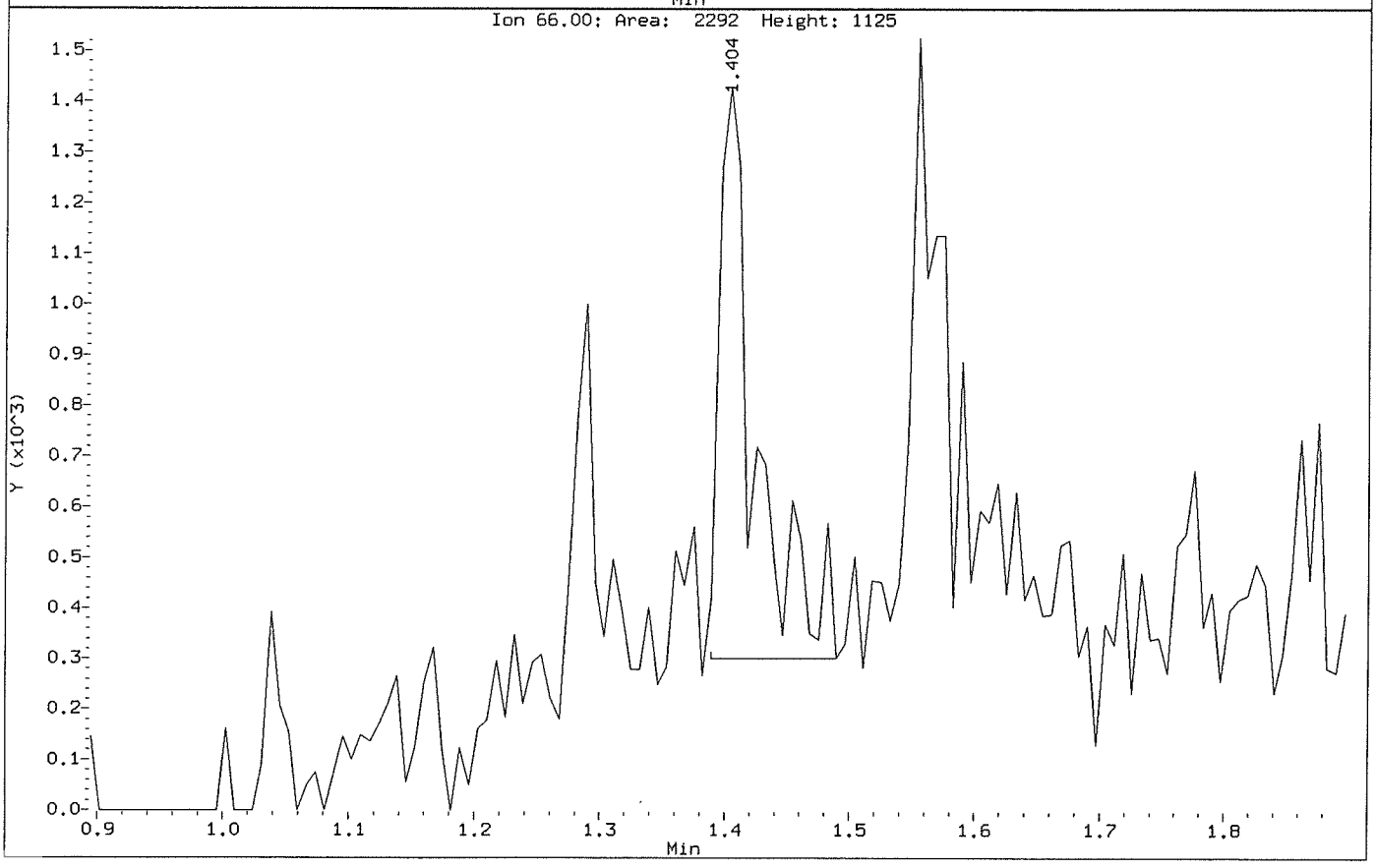


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Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

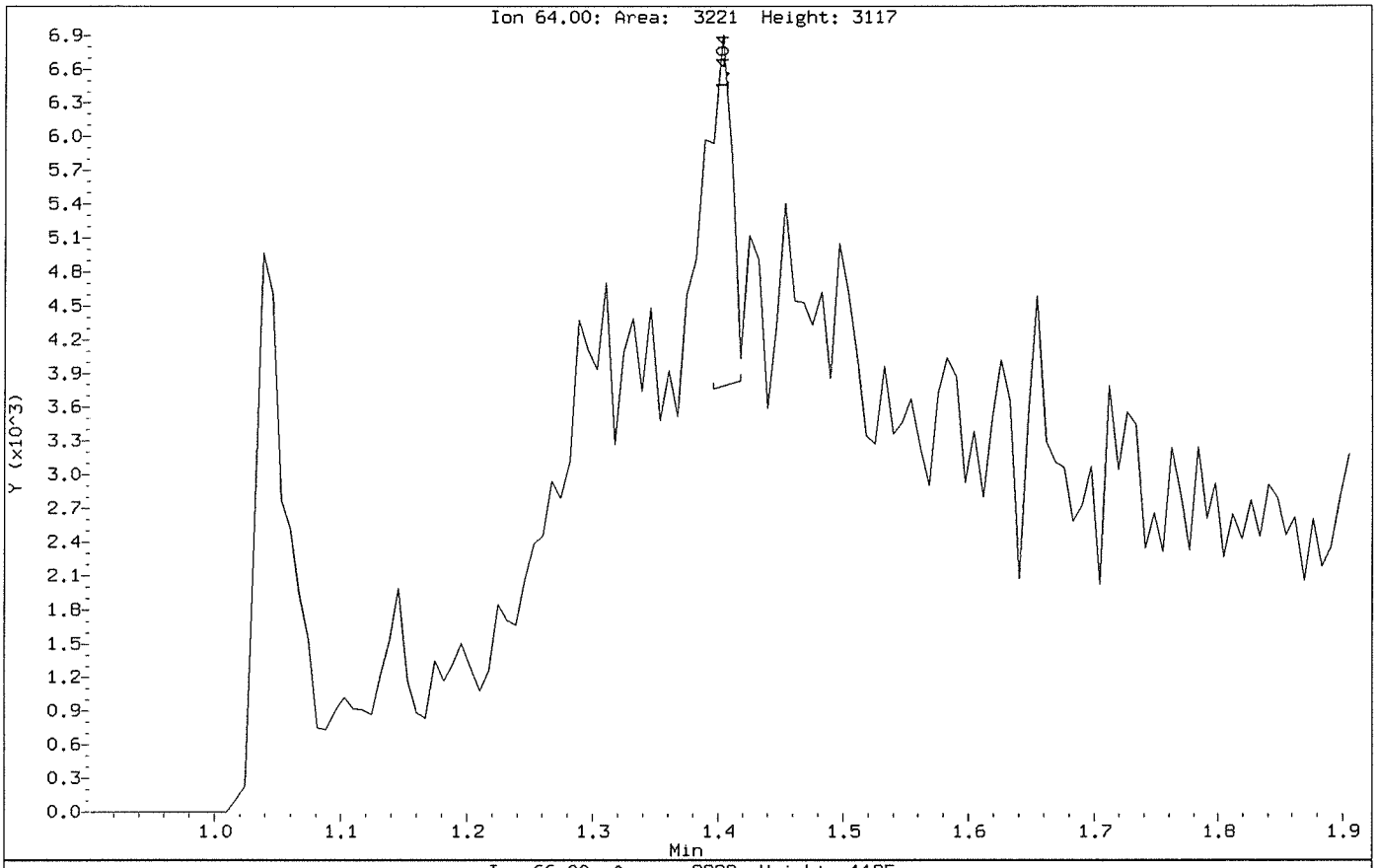
Compound: Chloroethane
CAS Number: 75-00-3

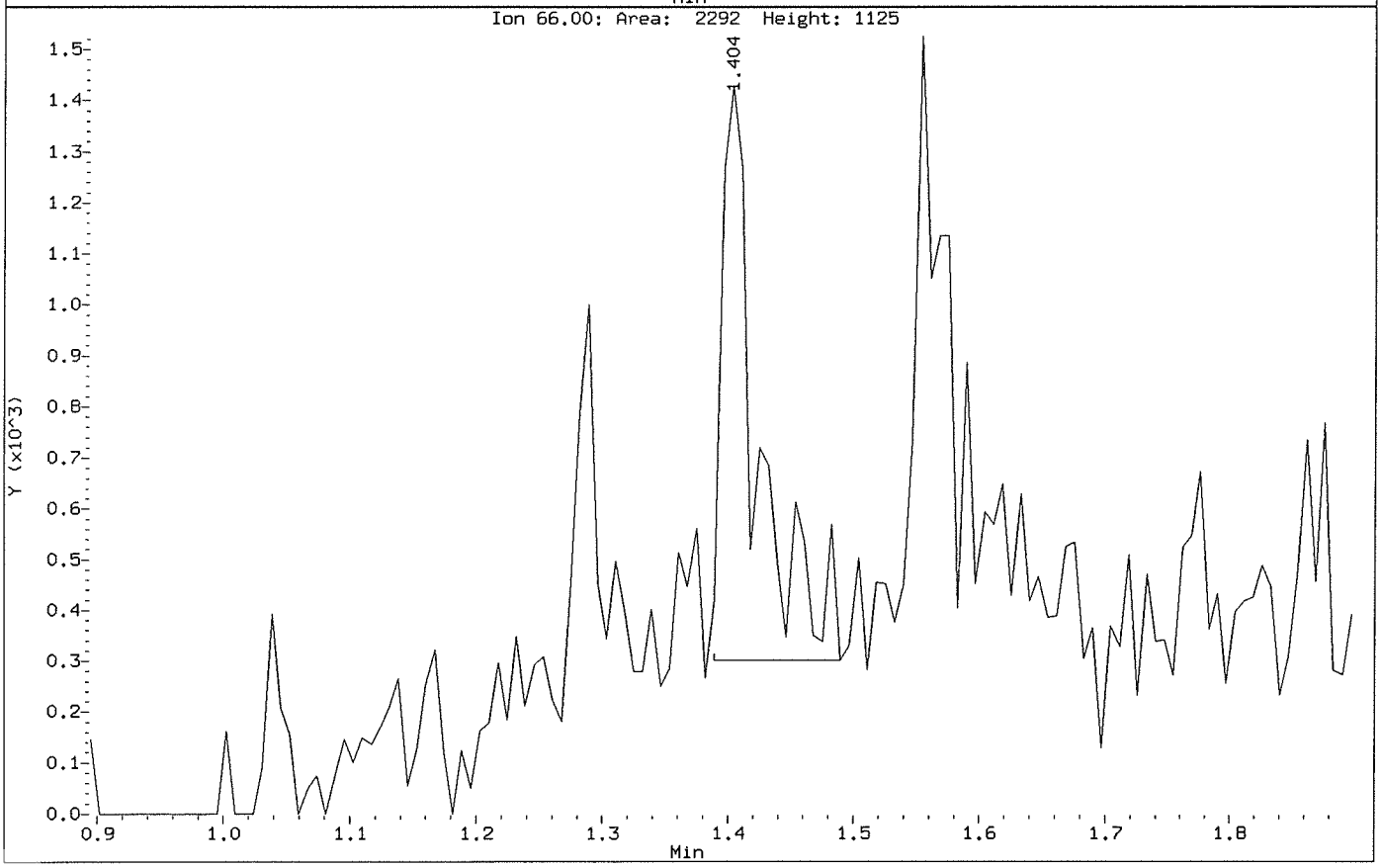


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Injection Date: 02-APR-2021 11:56
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Client Sample ID: VSTD001

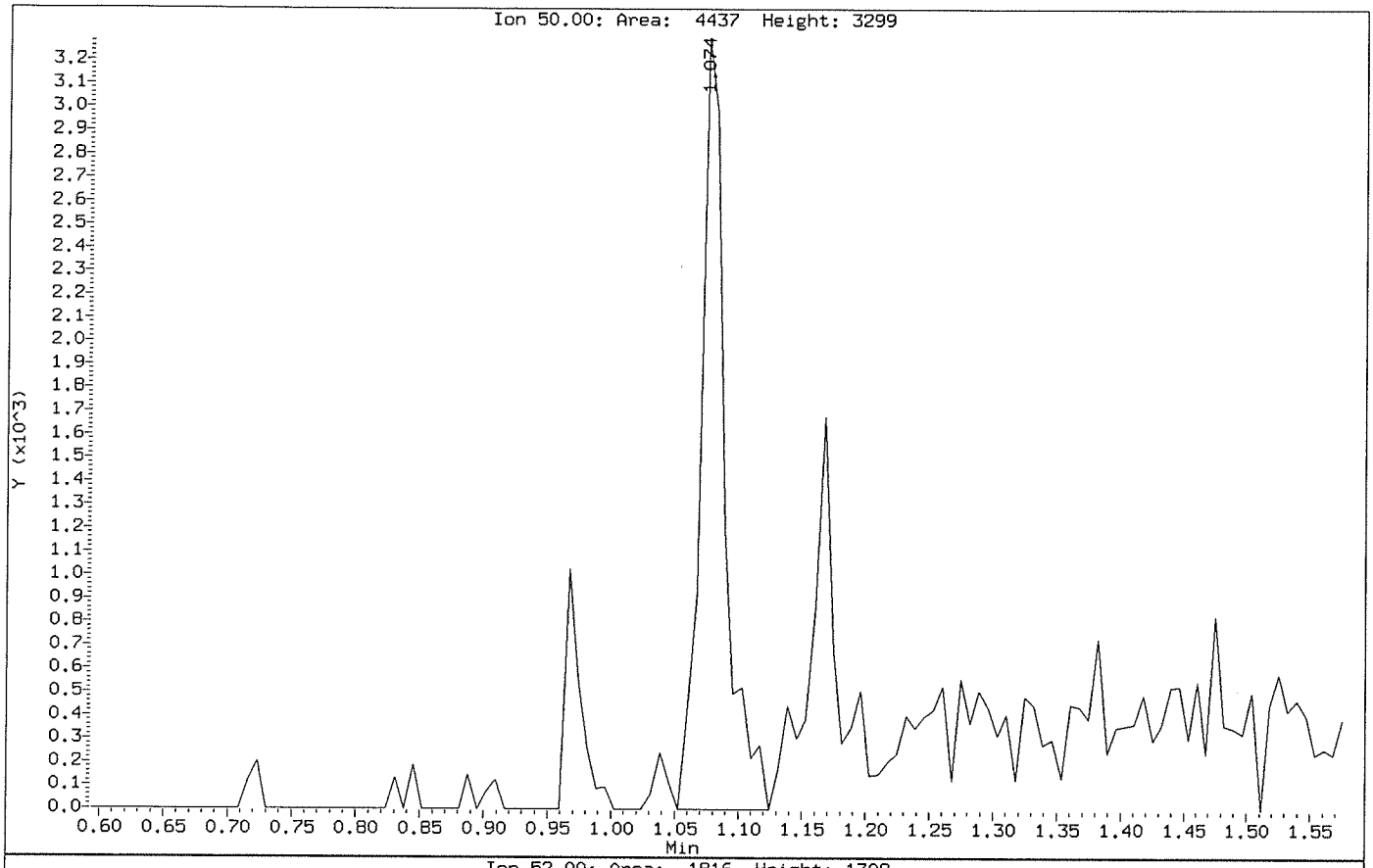
Compound: Chloroethane
CAS Number: 75-00-3

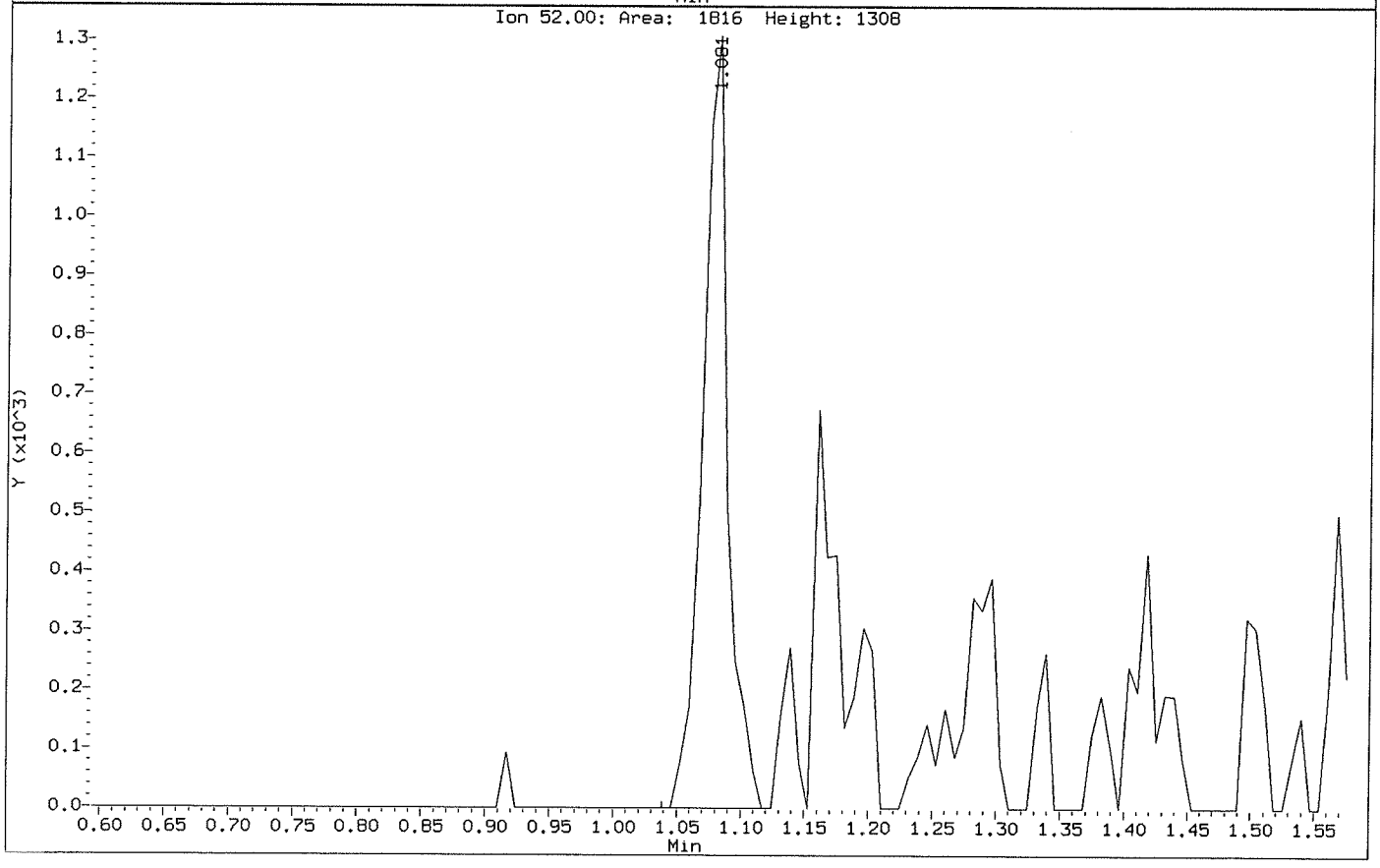


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Client Sample ID: VSTD001

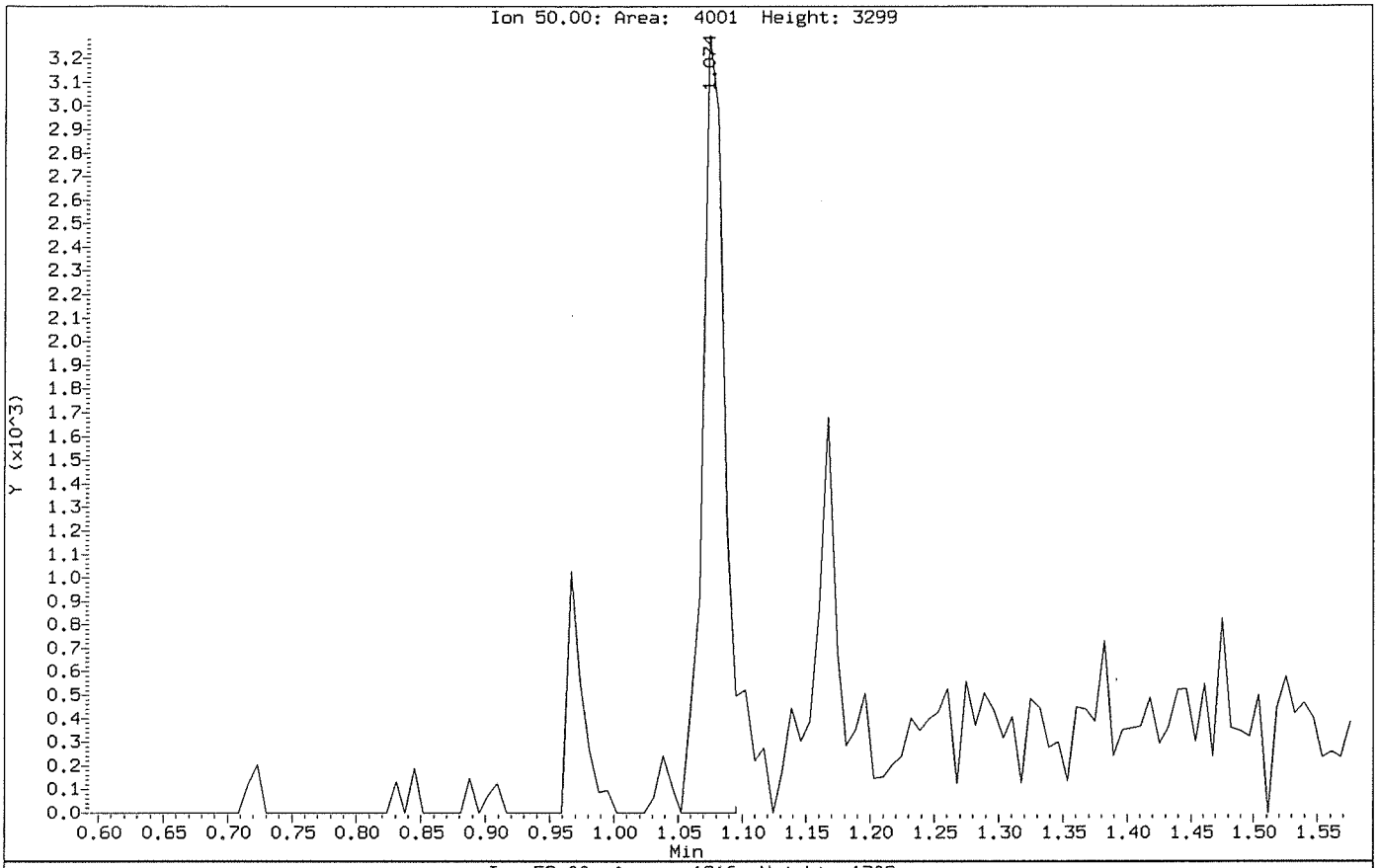
Compound: Chloromethane
CAS Number: 74-87-3

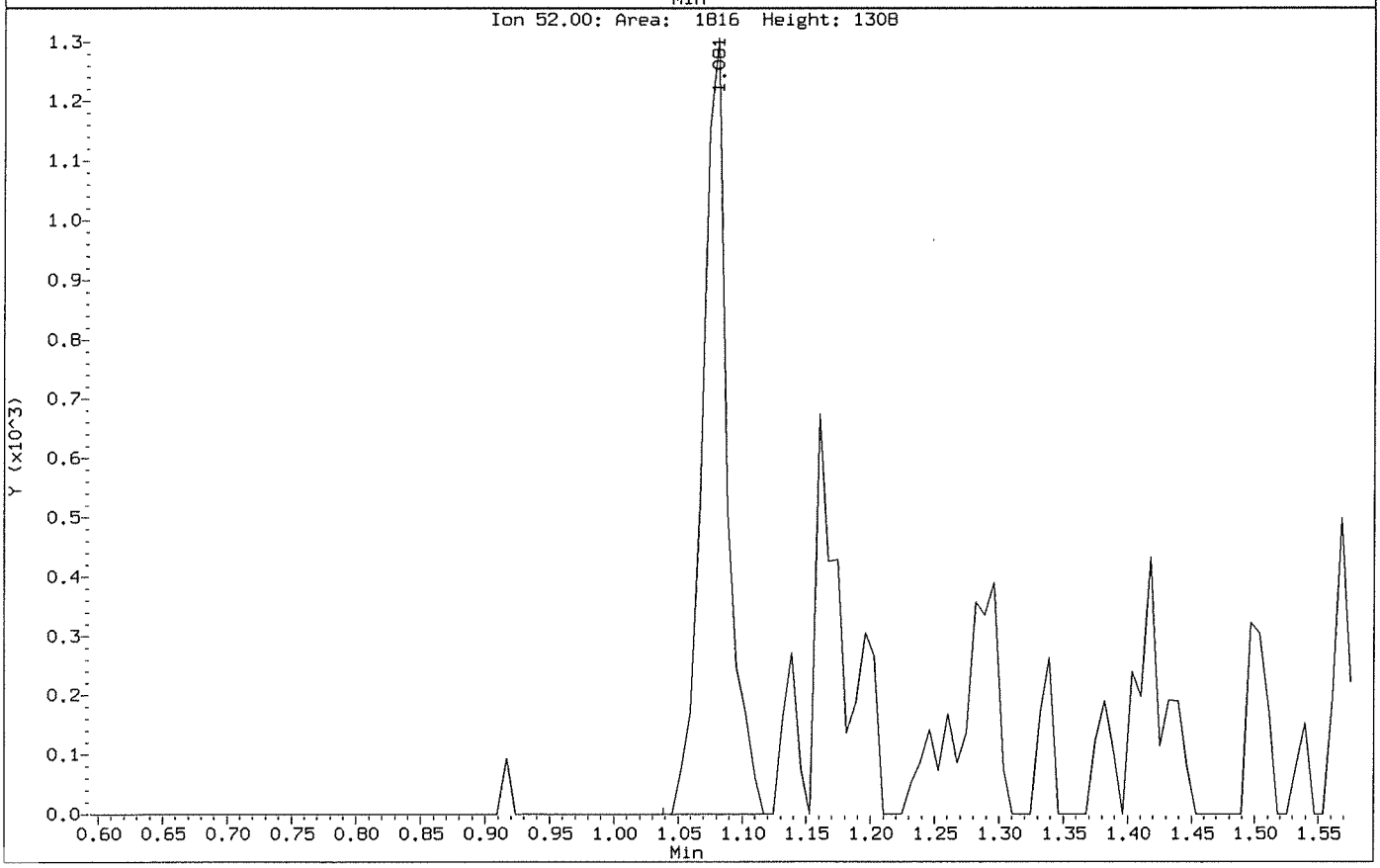


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Instrument: voa6.i
Client Sample ID: VSTD001

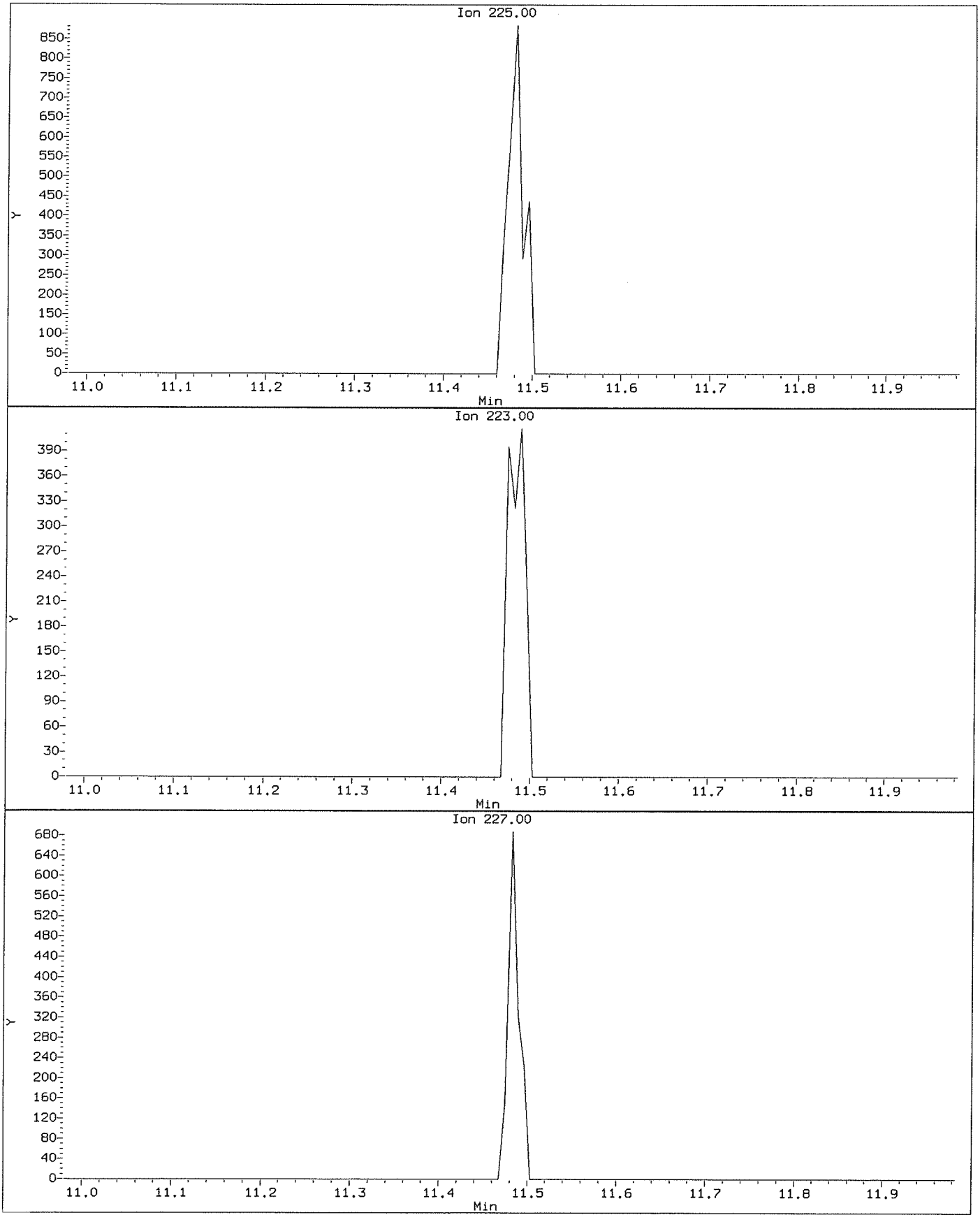
Compound: Chloromethane
CAS Number: 74-87-3



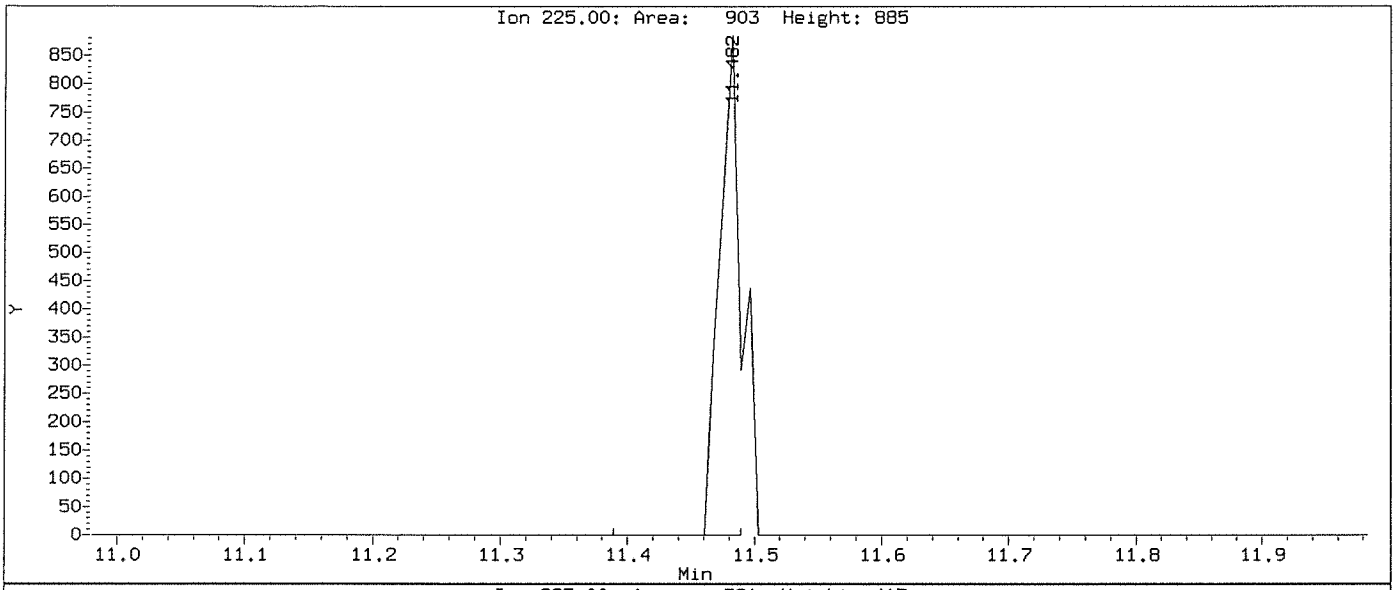
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Instrument: voa6.i
Client Sample ID: VSTD001

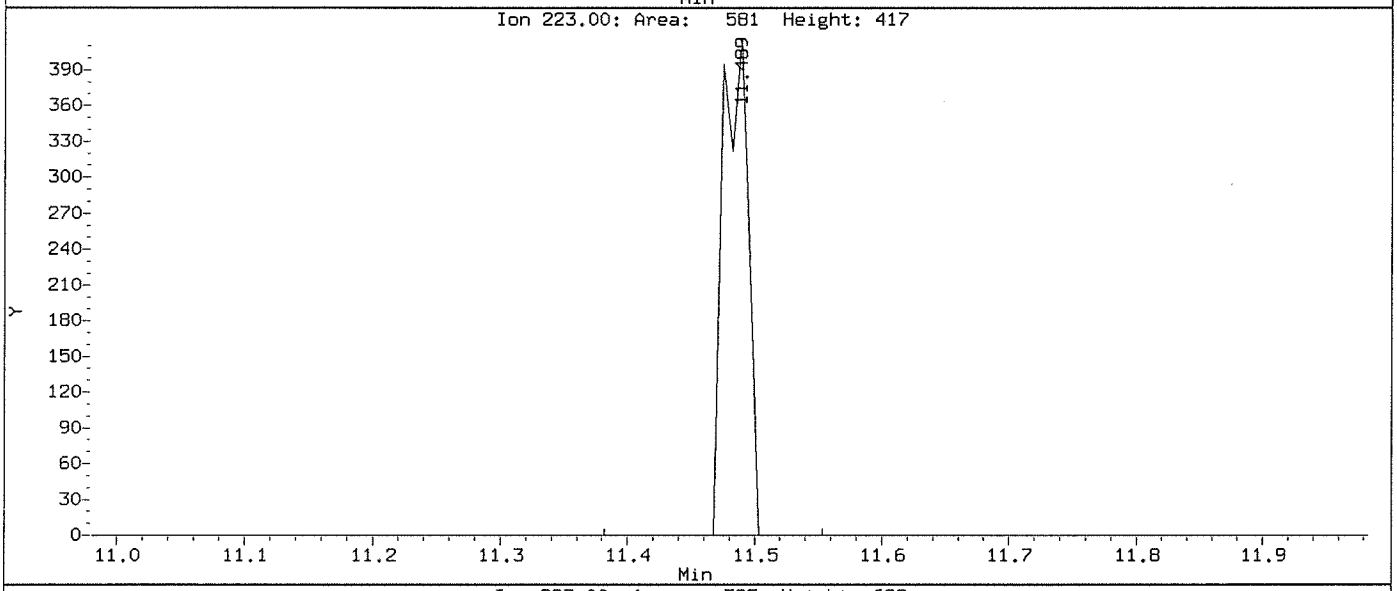
Compound: Hexachlorobutadiene
CAS Number: 87-68-3

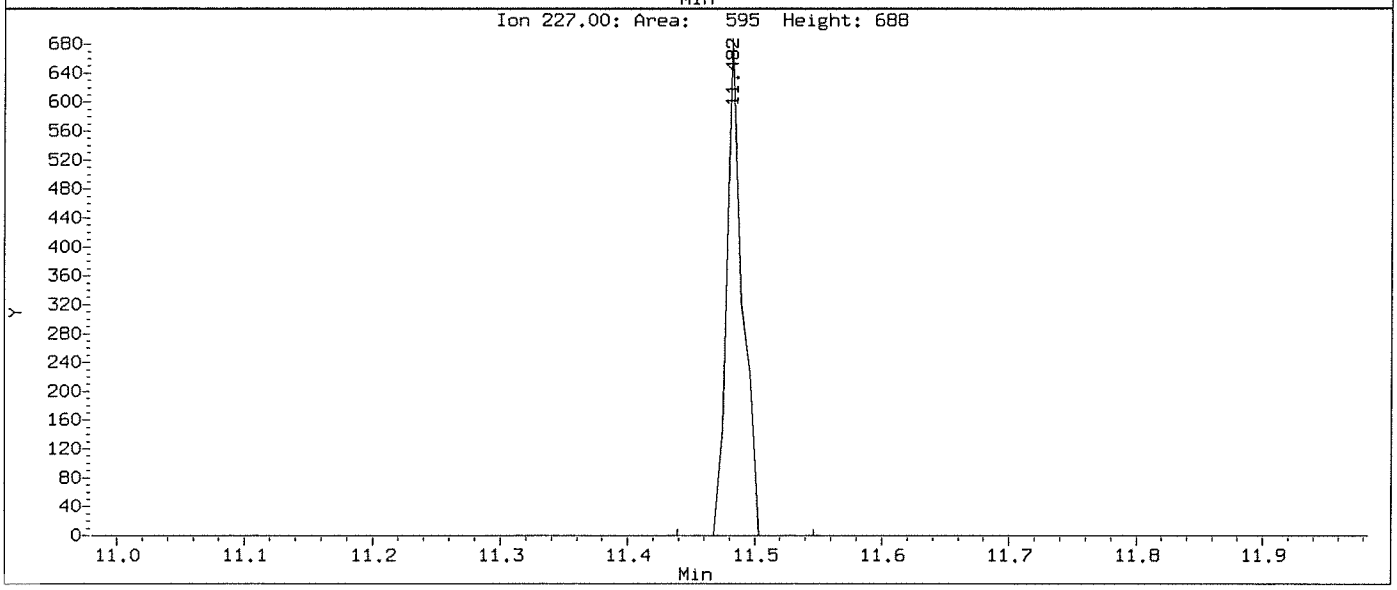


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040204.D
Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Hexachlorobutadiene
CAS Number: 87-68-3

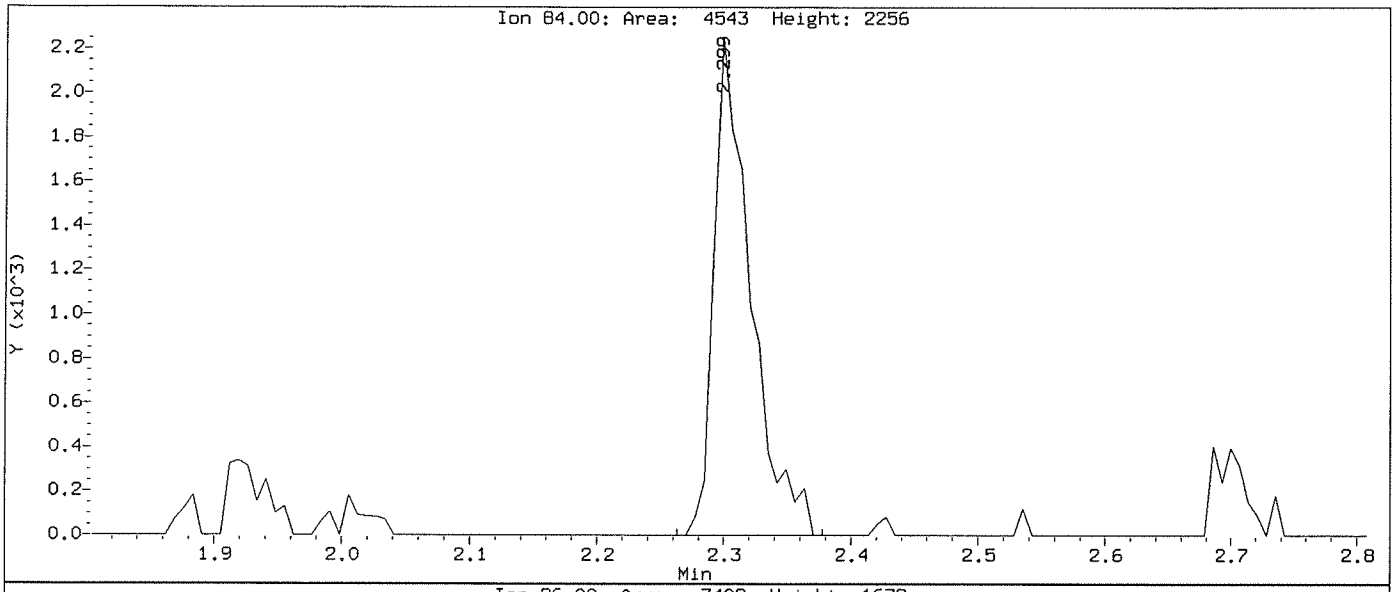


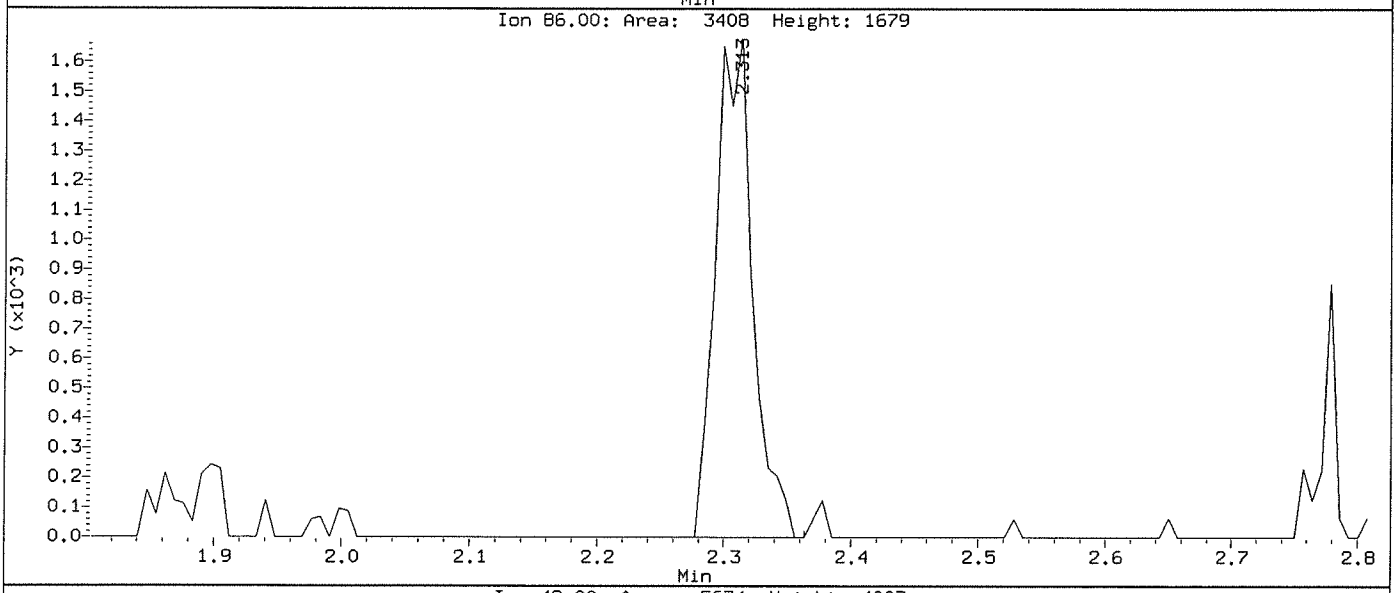



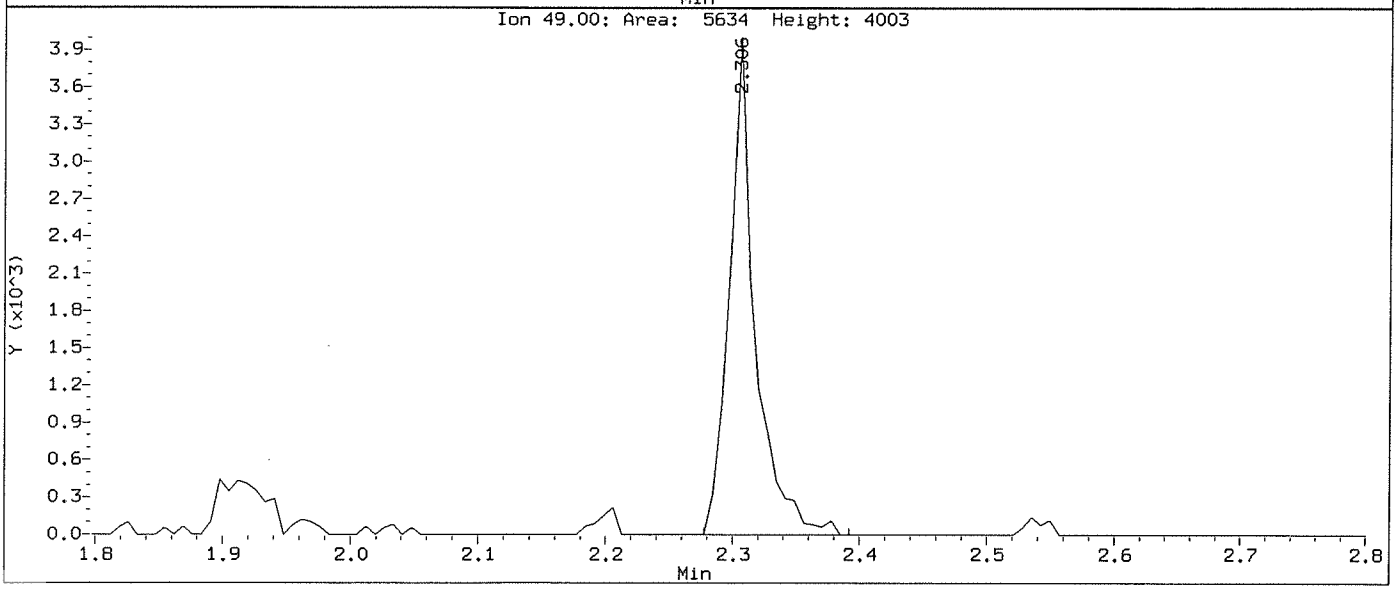



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before\X040204.D
Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Methylene Chloride
CAS Number: 75-09-2

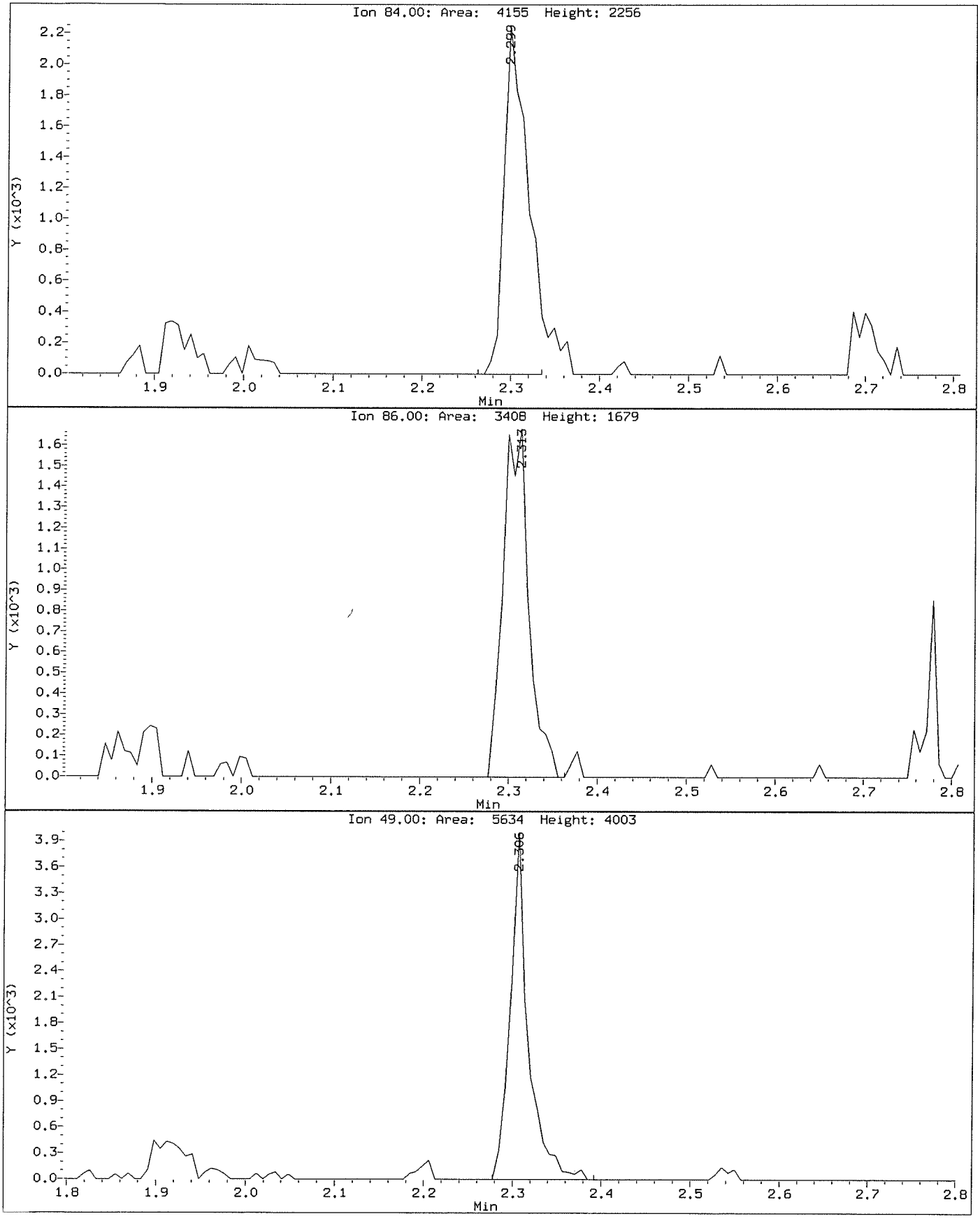


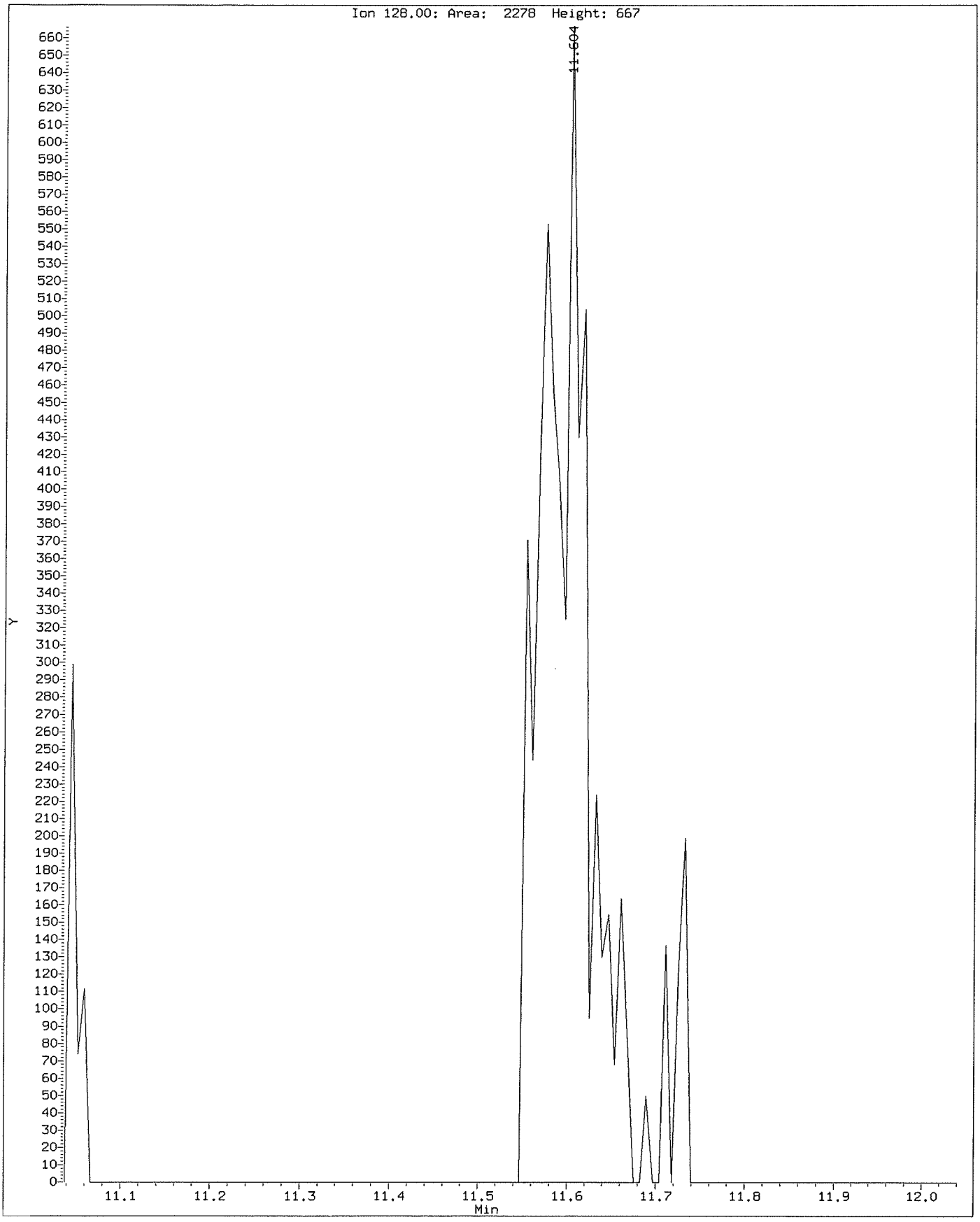
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Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Methylene Chloride
CAS Number: 75-09-2



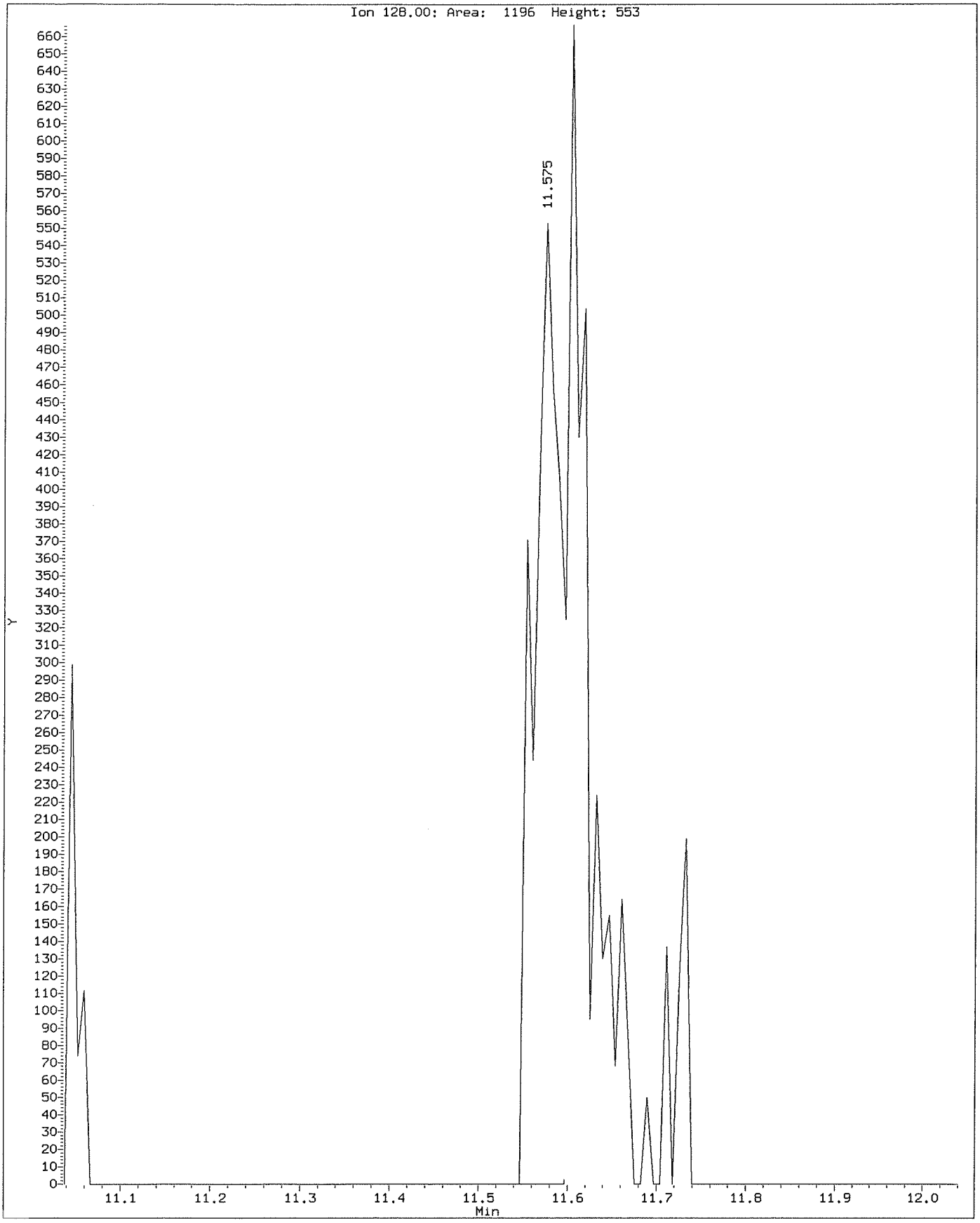
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Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Naphthalene
CAS Number: 91-20-3



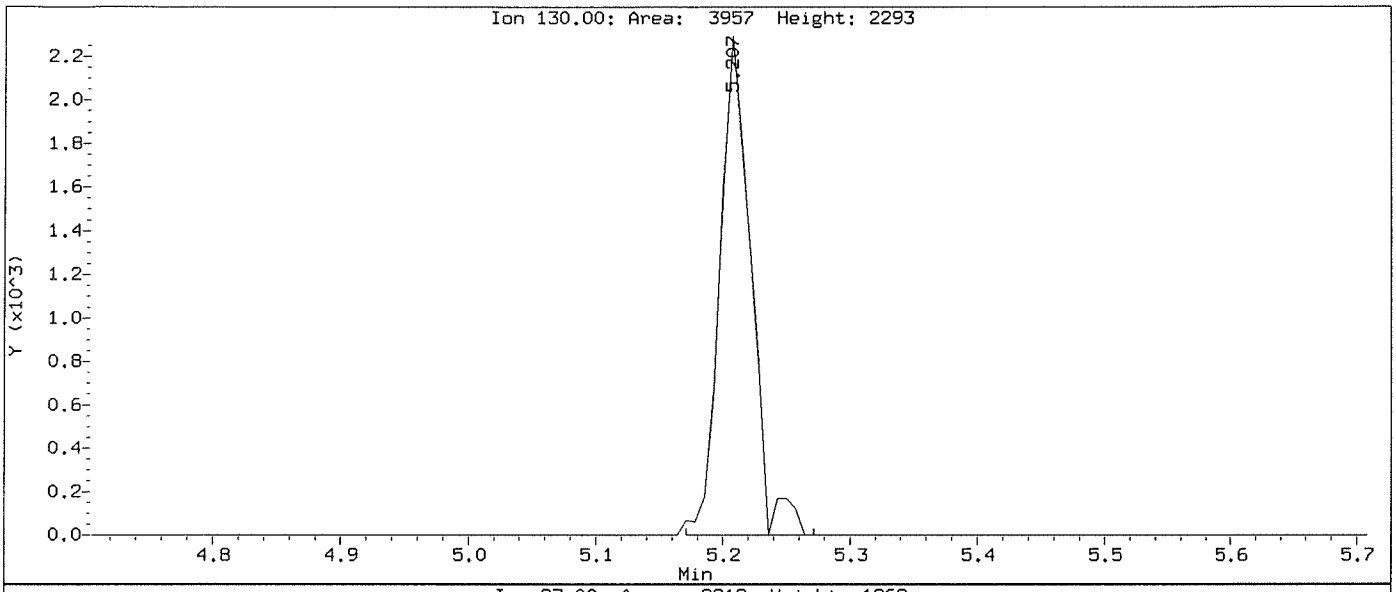
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Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

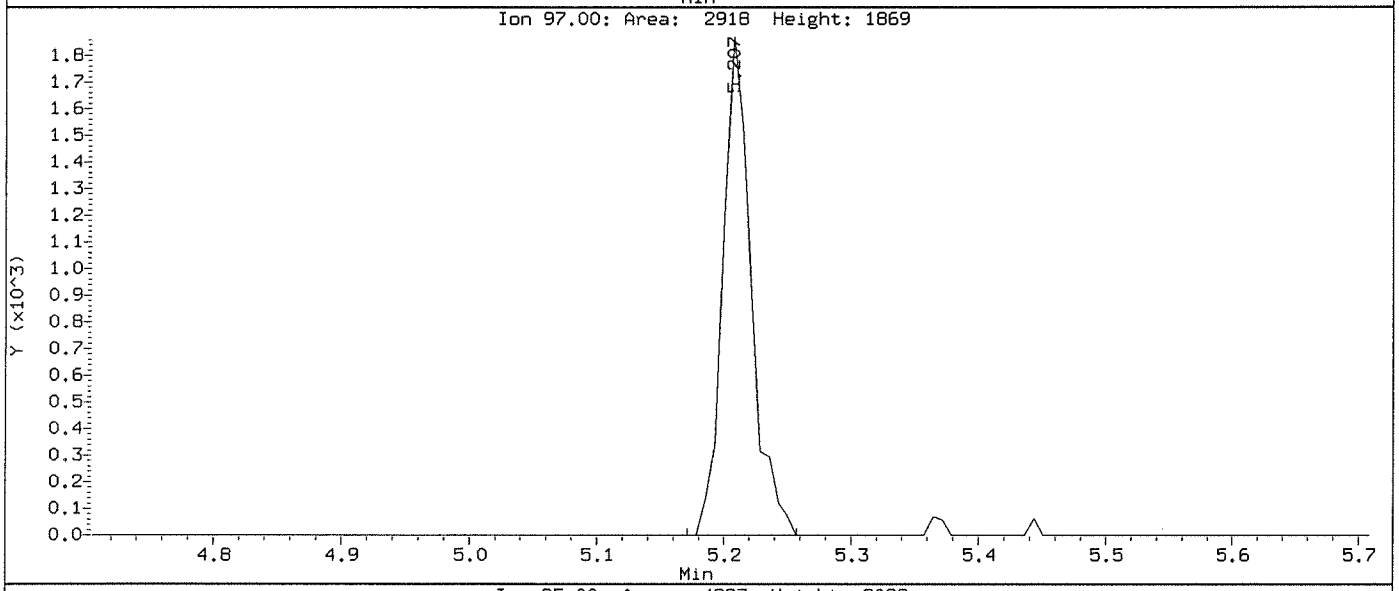
Compound: Naphthalene
CAS Number: 91-20-3

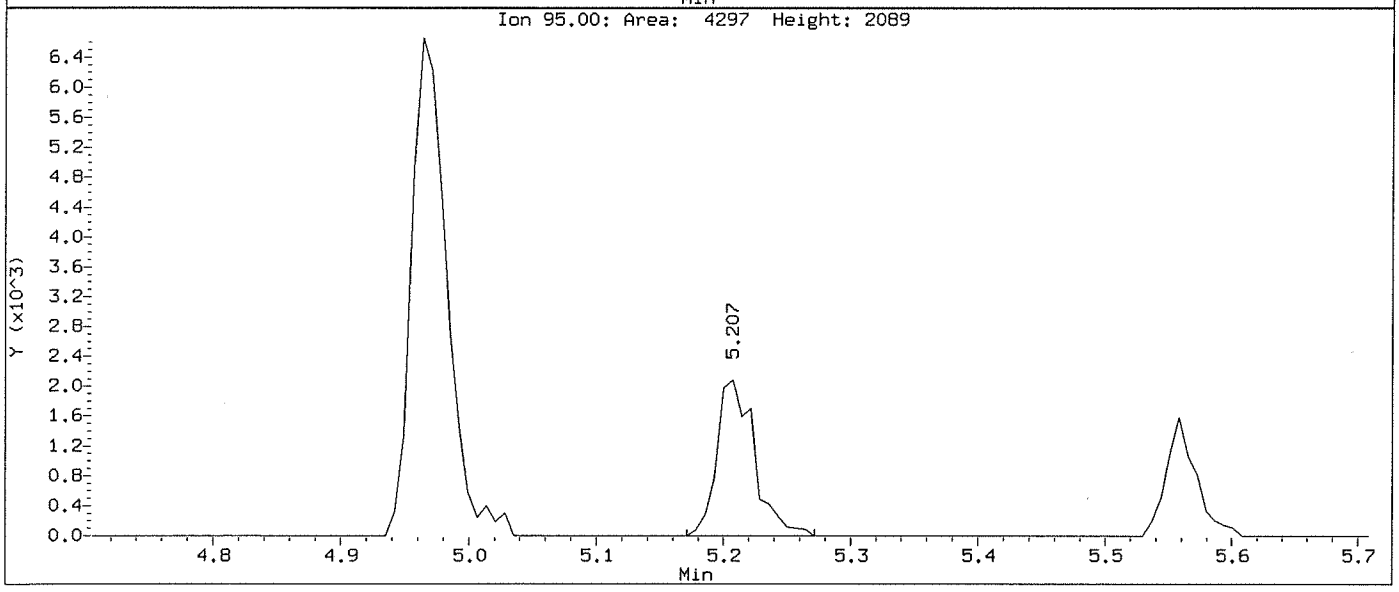


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before\X040204.D
Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Trichloroethene
CAS Number: 79-01-6

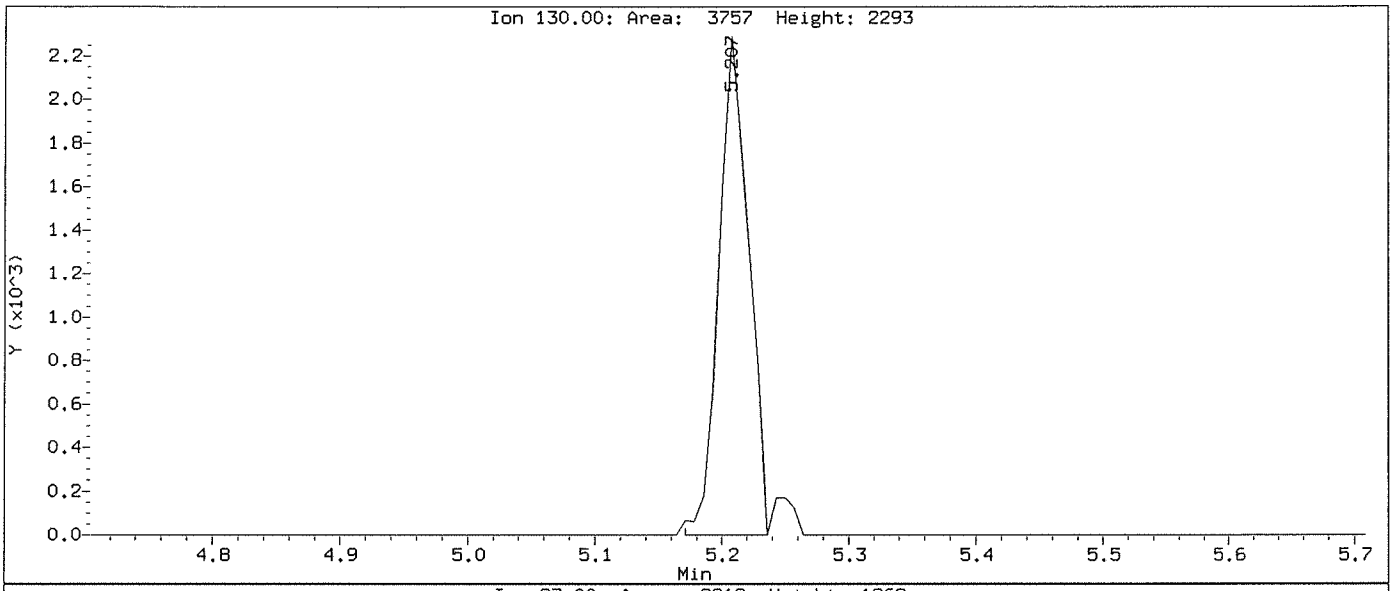


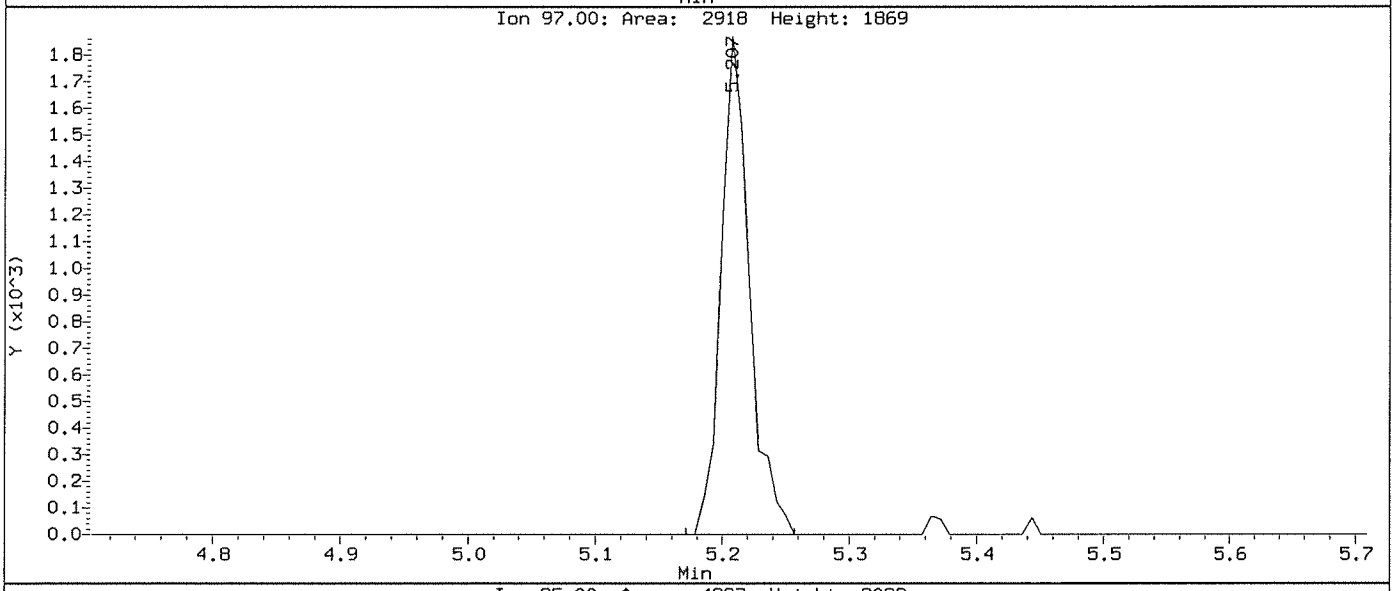



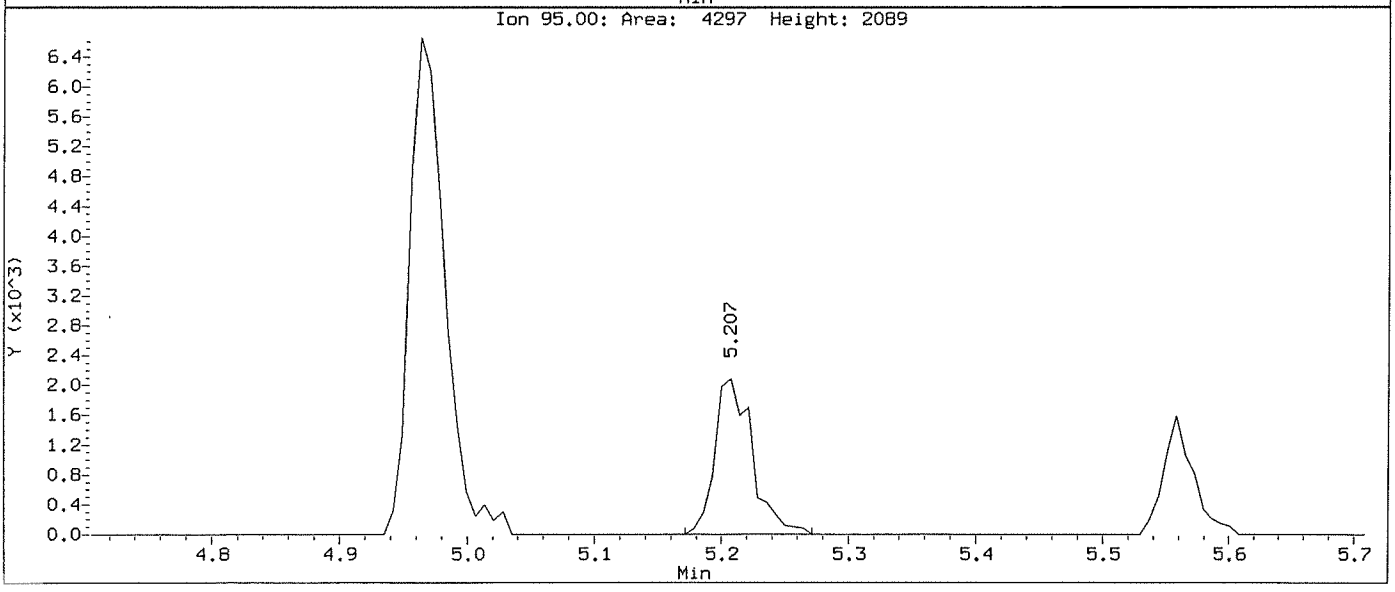



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040204.D
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Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Trichloroethene
CAS Number: 79-01-6

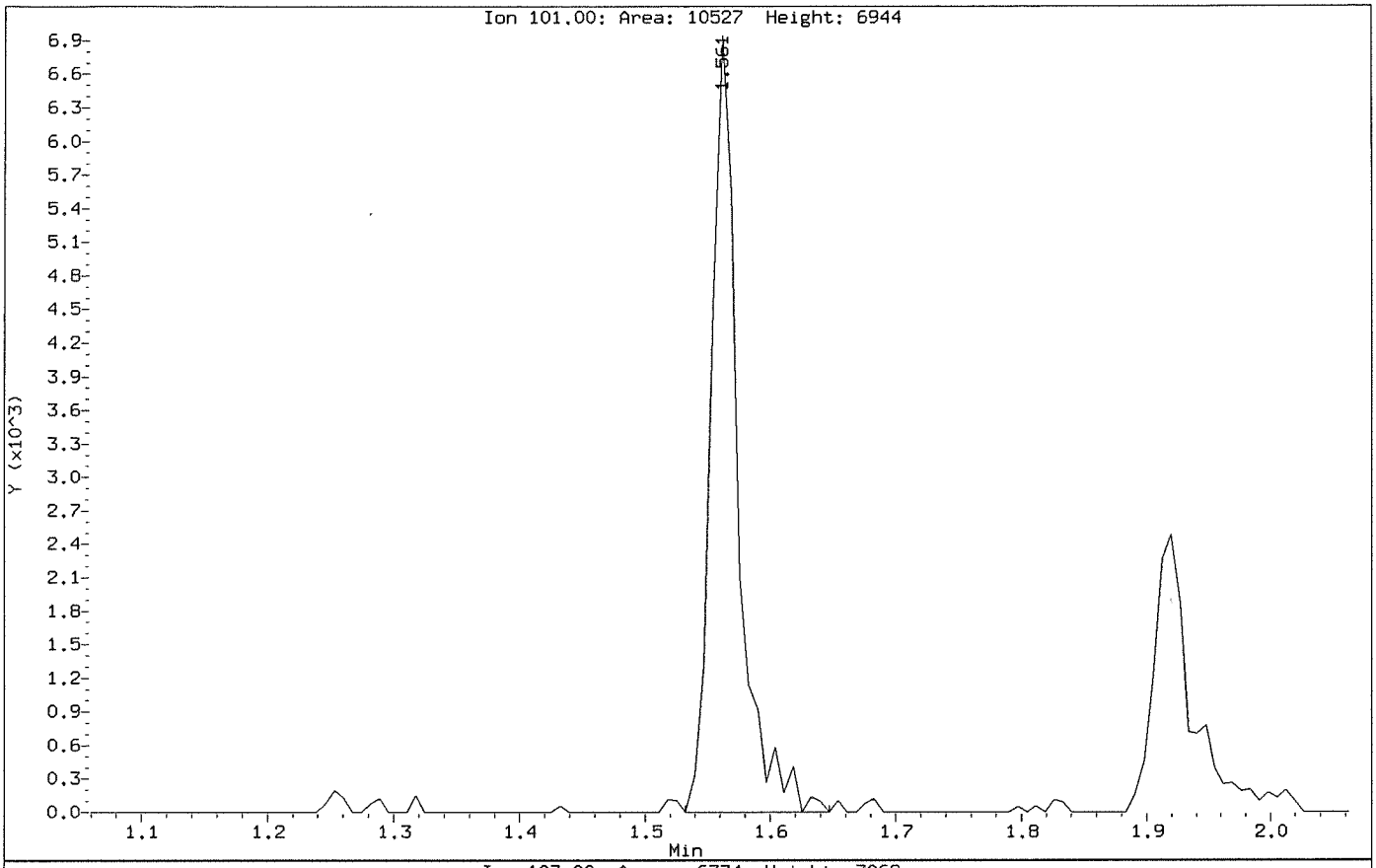


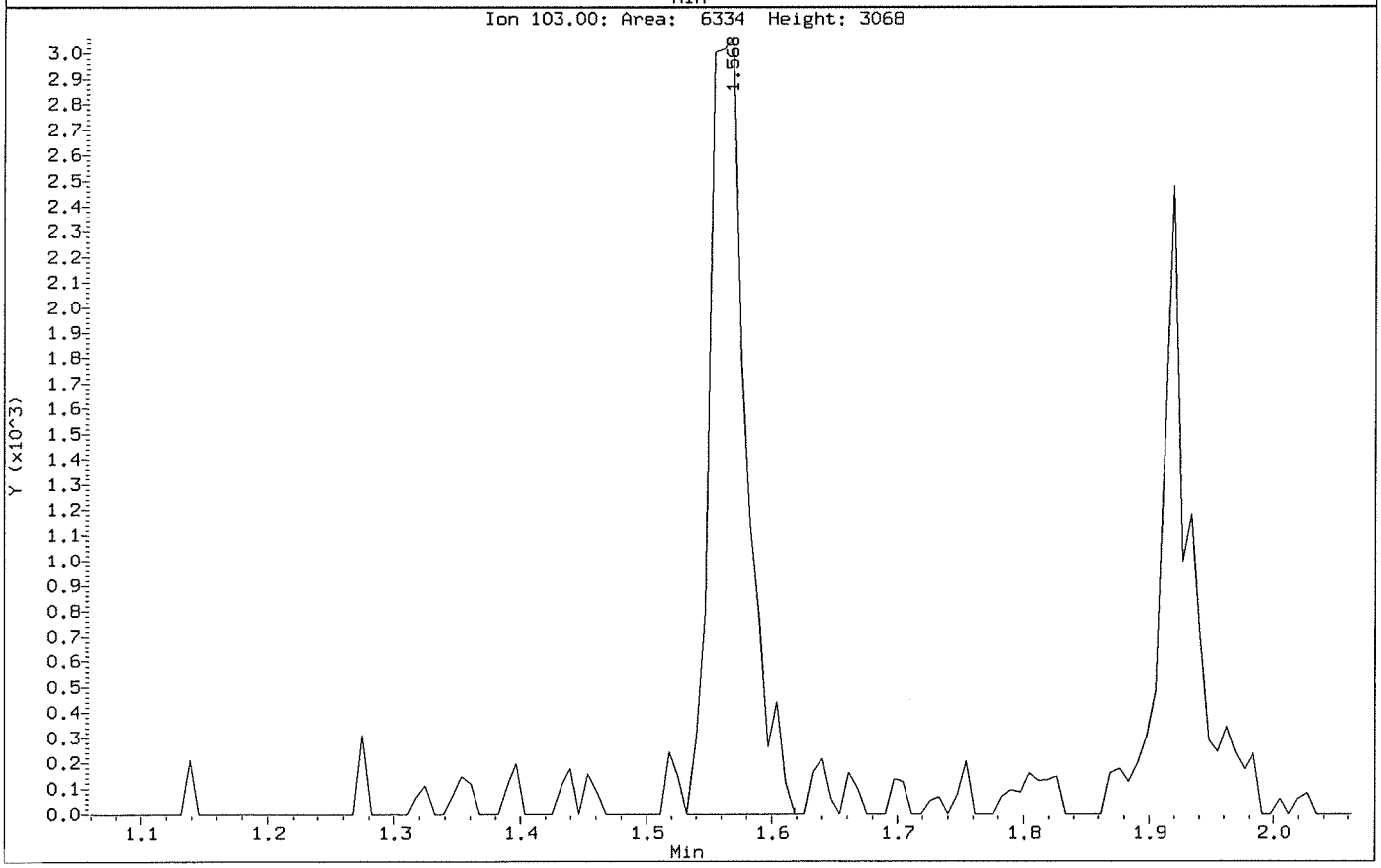



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Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

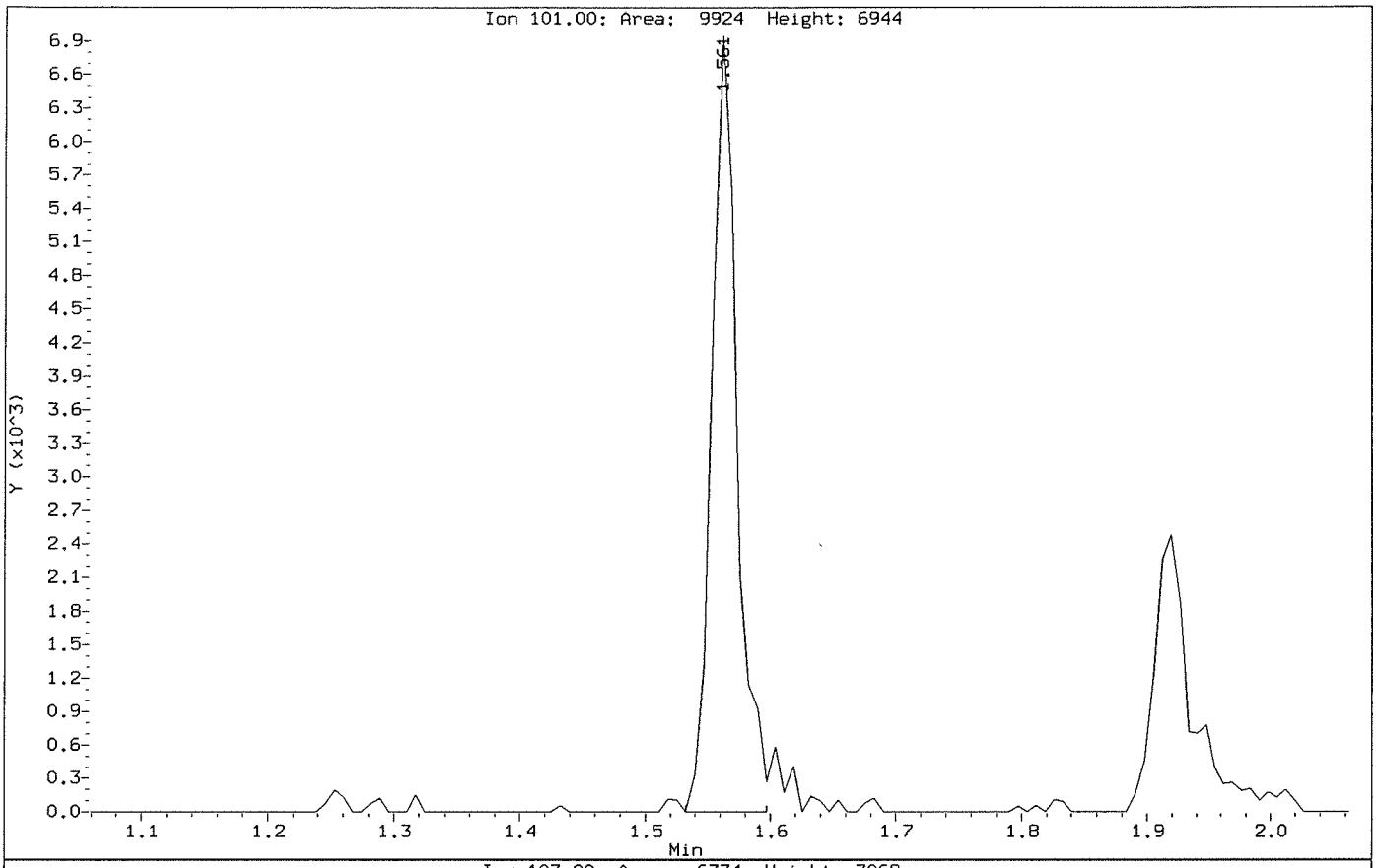
Compound: Trichlorofluoromethane
CAS Number: 75-69-4

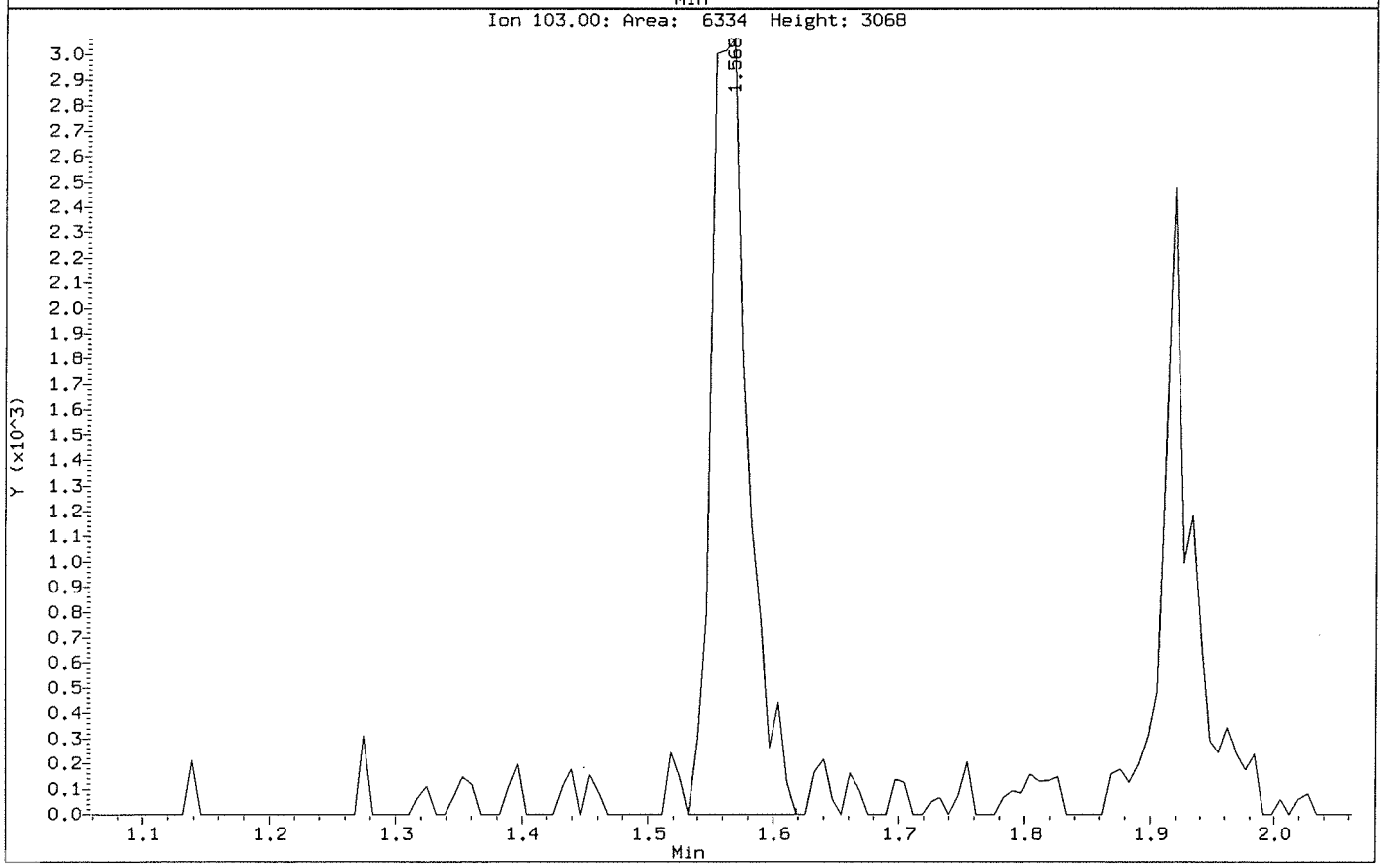


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Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

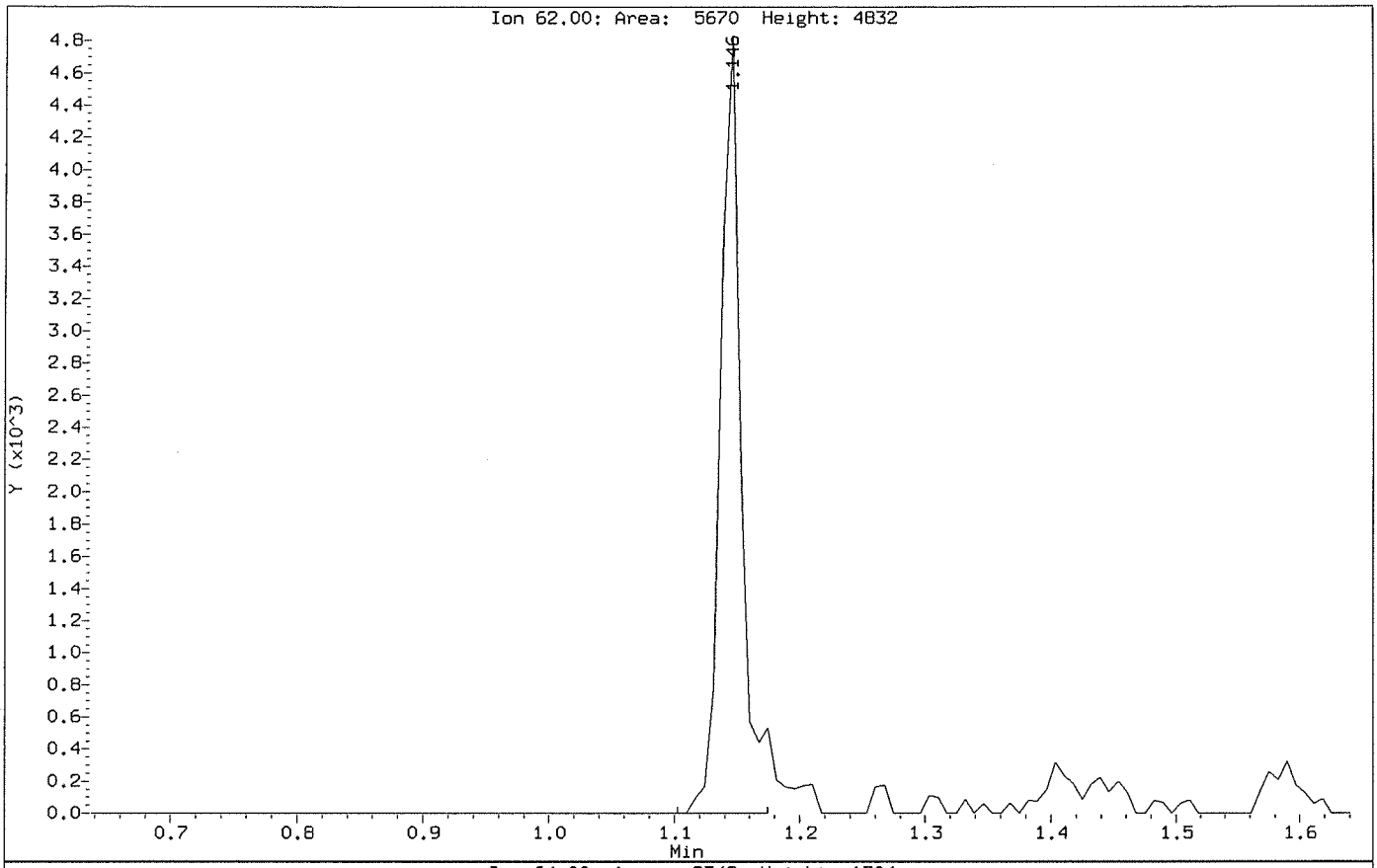
Compound: Trichlorofluoromethane
CAS Number: 75-69-4

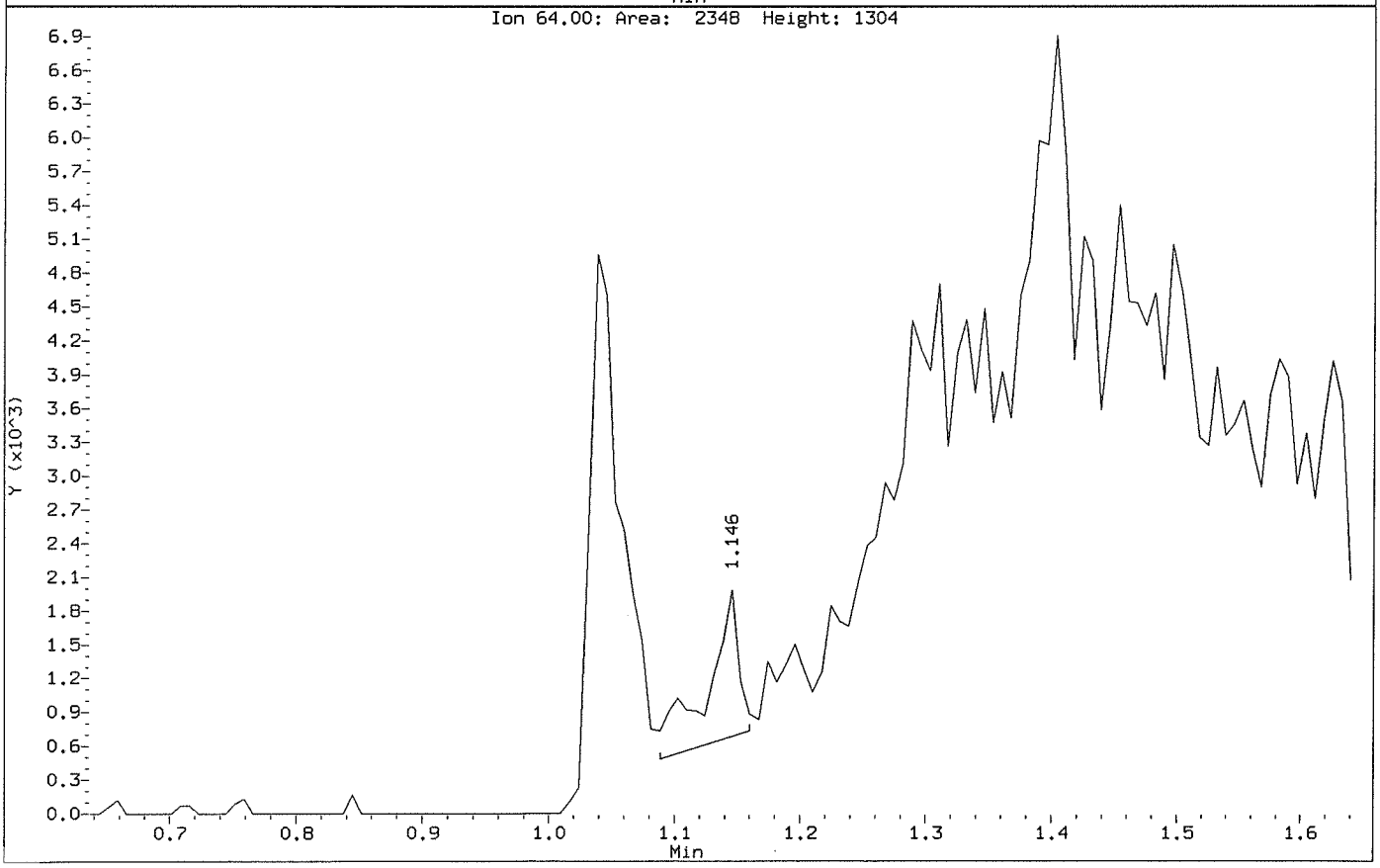


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before\X040204.D
Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

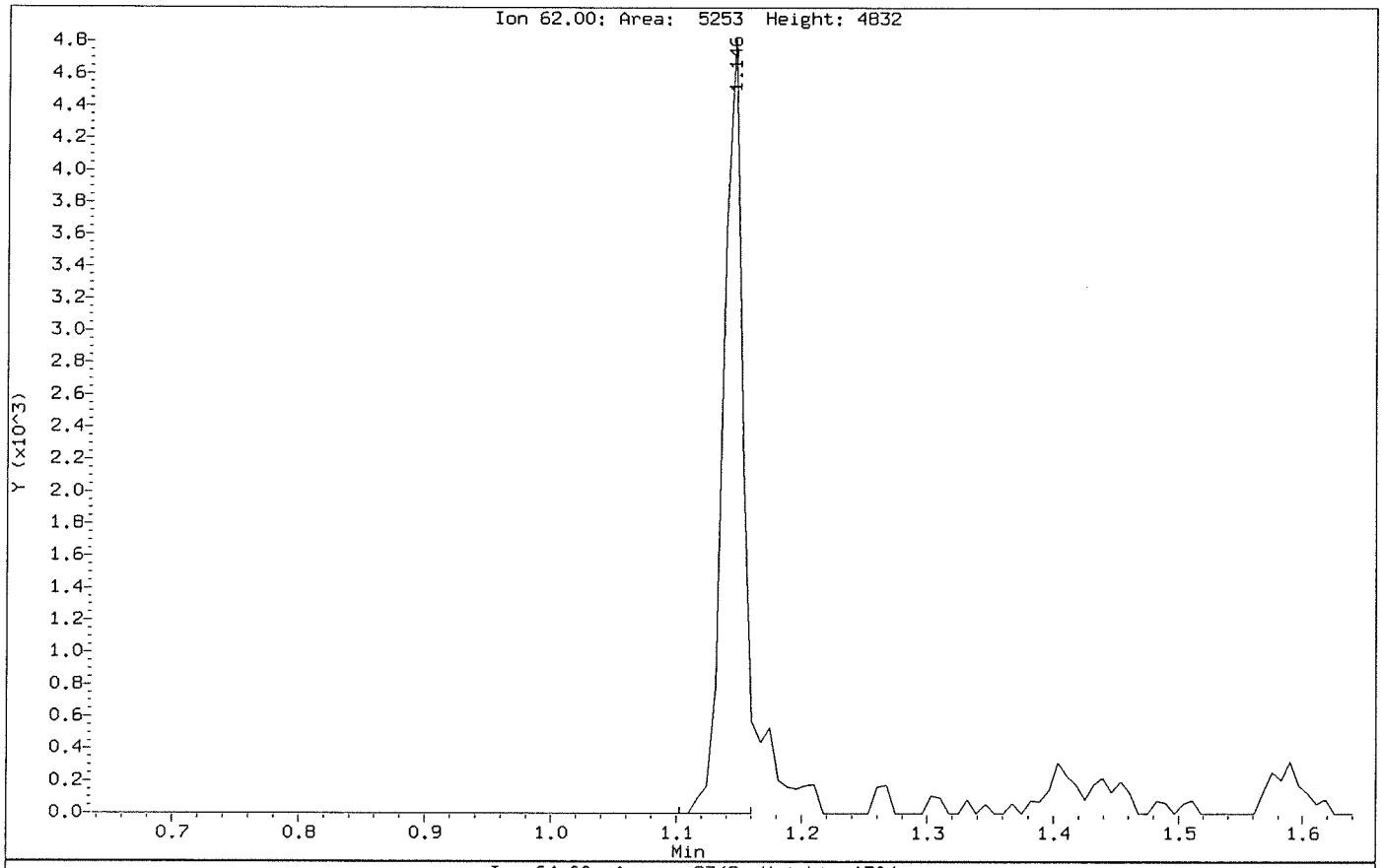
Compound: Vinyl Chloride
CAS Number: 75-01-4

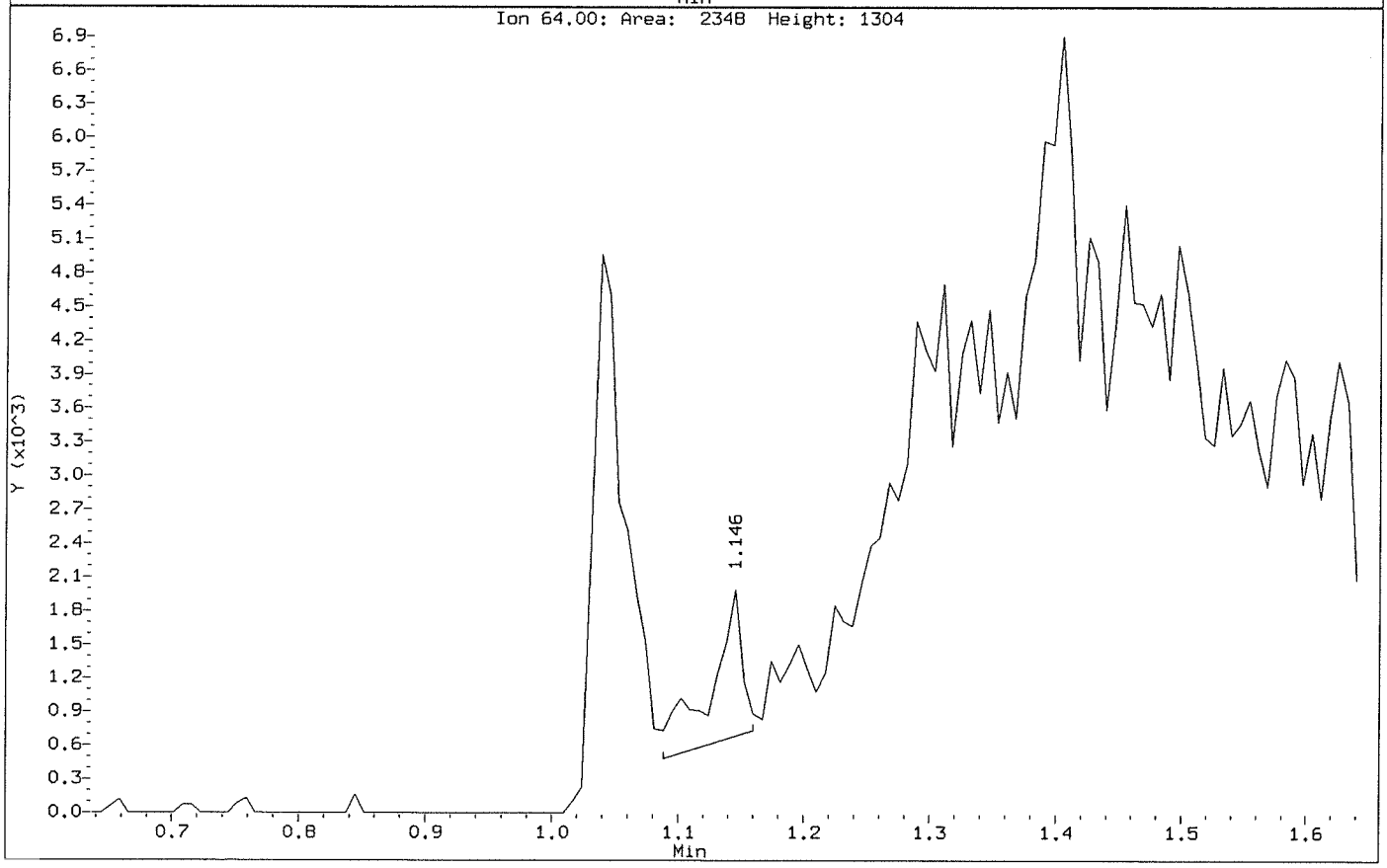


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040204.D
Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Vinyl Chloride
CAS Number: 75-01-4



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040205.D
Lab Smp Id: VSTD002 Client Smp ID: VSTD002
Inj Date : 02-APR-2021 12:17
Operator : PC Inst ID: voa6.i
Smp Info : VSTD002;VSTD002;1;4;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\8260W.m
Meth Date : 14-Apr-2021 12:07 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 11:56 Cal File: X040204.D
Als bottle: 6 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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 |

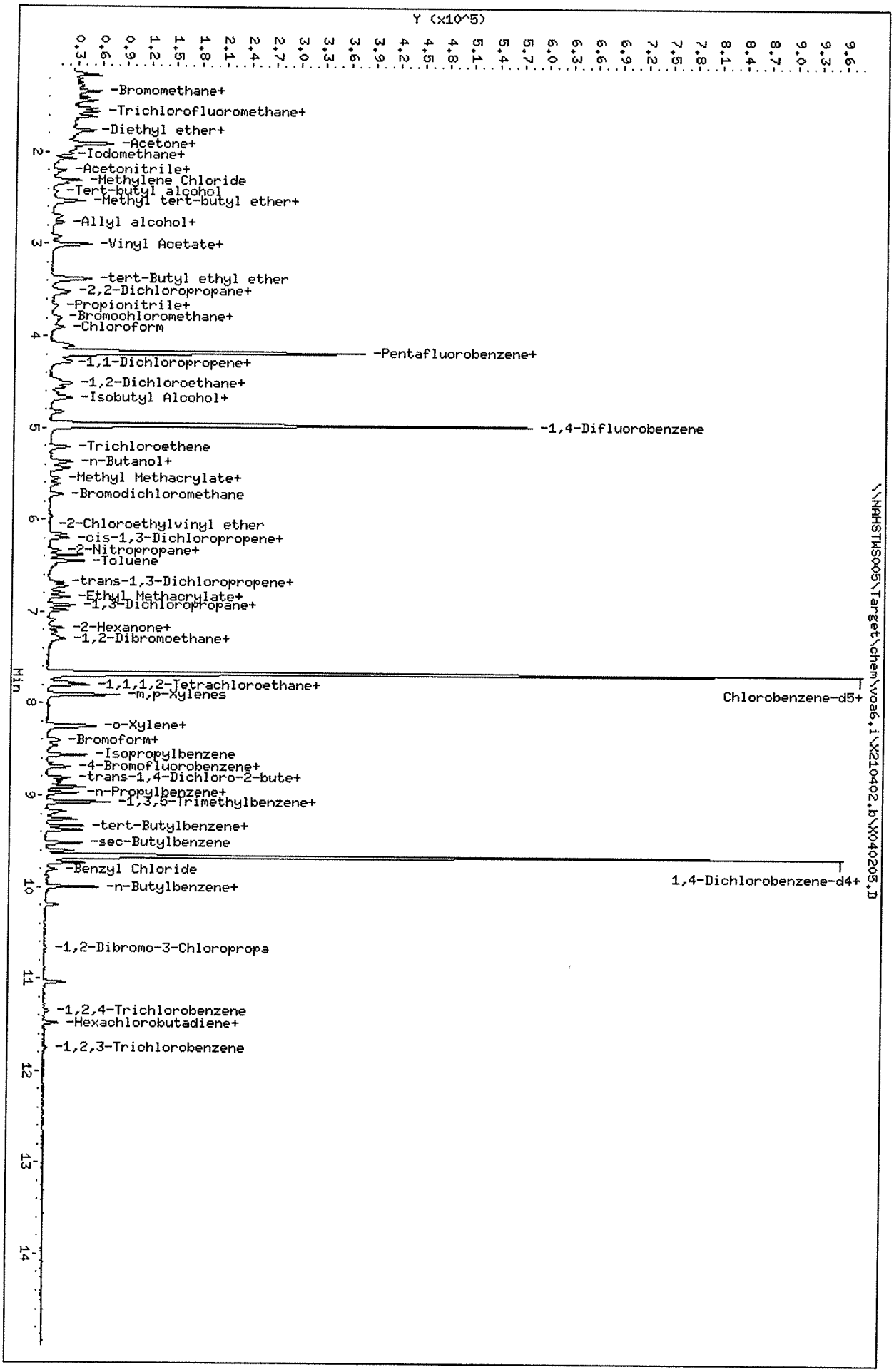
| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|
| * 1 Pentafluorobenzene | 168 | 4.182 | 4.182 | (1.000) | 278535 | 50.0000 | |
| * 36 1,4-Difluorobenzene | 114 | 4.970 | 4.970 | (1.000) | 469682 | 50.0000 | |
| * 47 Chlorobenzene-d5 | 117 | 7.670 | 7.670 | (1.000) | 424642 | 50.0000 | |
| * 70 1,4-Dichlorobenzene-d4 | 152 | 9.662 | 9.662 | (1.000) | 187429 | 50.0000 | |
| $ 30 Dibromofluoromethane | 113 | 4.103 | 4.103 | (0.981) | 6870 | 2.00000 | 2.50(a) |
| $ 35 1,2-Dichloroethane-d4 | 65 | 4.476 | 4.476 | (1.070) | 7506 | 2.00000 | 2.37(a) |
| $ 48 Toluene-d8 | 98 | 6.388 | 6.388 | (0.833) | 22274 | 2.00000 | 3.81(a) |
| $ 69 4-Bromofluorobenzene | 95 | 8.695 | 8.695 | (1.134) | 7732 | 2.00000 | 3.48(a) |
| 60 1,1,1,2-Tetrachloroethane | 131 | 7.778 | 7.778 | (1.014) | 6017 | 2.00000 | 1.90(a) |
| 31 1,1,1-Trichloroethane | 97 | 4.089 | 4.089 | (0.978) | 9621 | 2.00000 | 1.90(a) |
| 68 1,1,2,2-Tetrachloroethane | 83 | 8.838 | 8.838 | (0.915) | 6611 | 2.00000 | 2.11(aM) |
| 53 1,1,2-Trichloroethane | 83 | 6.840 | 6.840 | (0.892) | 5102 | 2.00000 | 2.06(a) |
| 22 1,1-Dichloroethane | 63 | 2.929 | 2.929 | (0.700) | 8974 | 2.00000 | 1.73(a) |
| 11 1,1-Dichloroethene | 96 | 1.911 | 1.911 | (0.457) | 8383 | 2.00000 | 2.11(aM) |
| 32 1,1-Dichloropropene | 75 | 4.289 | 4.289 | (0.863) | 9624 | 2.00000 | 2.18(a) |
| 93 1,2,3-Trichlorobenzene | 180 | 11.746 | 11.746 | (1.216) | 989 | 2.00000 | 2.72(aM) |
| 71 1,2,3-Trichloropropane | 75 | 8.867 | 8.867 | (0.918) | 5266 | 2.00000 | 2.09(aM) |
| 90 1,2,4-Trichlorobenzene | 180 | 11.352 | 11.352 | (1.175) | 2030 | 2.00000 | 2.11(aM) |
| 79 1,2,4-Trimethylbenzene | 105 | 9.382 | 9.382 | (0.971) | 20446 | 2.00000 | 2.12(a) |
| 89 1,2-Dibromo-3-Chloropropane | 155 | 10.672 | 10.672 | (1.105) | 476 | 2.00000 | 2.33(aM) |
| 57 1,2-Dibromoethane | 107 | 7.262 | 7.262 | (0.947) | 5463 | 2.00000 | 1.87(a) |
| 88 1,2-Dichlorobenzene | 146 | 9.998 | 9.998 | (1.035) | 9626 | 2.00000 | 1.86(a) |

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040205.D Page 2
Report Date: 14-Apr-2021 12:07

| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|
| 33 1,2-Dichloroethane | 62 | 4.562 | 4.562 | (0.918) | 9508 | 2.00000 | 1.91(aM) |
| 42 1,2-Dichloropropane | 63 | 5.436 | 5.436 | (1.094) | 6318 | 2.00000 | 1.93(aM) |
| 75 1,3,5-Trimethylbenzene | 105 | 9.067 | 9.067 | (0.938) | 19106 | 2.00000 | 1.90(a) |
| 83 1,3-Dichlorobenzene | 146 | 9.604 | 9.604 | (0.994) | 10887 | 2.00000 | 2.00(a) |
| 54 1,3-Dichloropropane | 76 | 6.983 | 6.983 | (0.910) | 9391 | 2.00000 | 1.99(a) |
| 84 1,4-Dichlorobenzene | 146 | 9.683 | 9.683 | (1.002) | 12147 | 2.00000 | 2.07(a) |
| 26 2,2-Dichloropropane | 77 | 3.509 | 3.509 | (0.839) | 10421 | 2.00000 | 2.04(a) |
| 24 2-Butanone | 43 | 3.602 | 3.602 | (0.861) | 3208 | 4.00000 | 3.35(aM) |
| 76 2-Chlorotoluene | 91 | 8.974 | 8.974 | (0.929) | 18225 | 2.00000 | 2.29(a) |
| 52 2-Hexanone | 43 | 7.097 | 7.097 | (0.925) | 7121 | 4.00000 | 6.83 |
| 77 4-Chlorotoluene | 91 | 9.074 | 9.074 | (0.939) | 19889 | 2.00000 | 1.94(a) |
| 82 p-Isopropyltoluene | 119 | 9.647 | 9.647 | (0.999) | 19181 | 2.00000 | 2.02(a) |
| 45 4-Methyl-2-Pentanone | 43 | 6.331 | 6.331 | (0.825) | 10701 | 4.00000 | 4.18(a) |
| 10 Acetone | 43 | 1.976 | 1.976 | (0.473) | 7678 | 4.00000 | 4.23(a) |
| 37 Benzene | 78 | 4.519 | 4.519 | (0.909) | 25214 | 2.00000 | 2.02(a) |
| 74 Bromobenzene | 156 | 8.809 | 8.809 | (0.912) | 7157 | 2.00000 | 2.21(a) |
| 29 Bromochloromethane | 128 | 3.795 | 3.795 | (0.908) | 2997 | 2.00000 | 1.80(a) |
| 39 Bromodichloromethane | 83 | 5.722 | 5.722 | (1.151) | 9180 | 2.00000 | 1.94(a) |
| 66 Bromoform | 173 | 8.415 | 8.415 | (1.097) | 3160 | 2.00000 | 3.47(Ta) |
| 6 Bromomethane | 94 | 1.338 | 1.338 | (0.320) | 9724 | 2.00000 | 2.26(aM) |
| 19 Carbon Disulfide | 76 | 2.076 | 2.076 | (0.496) | 31568 | 4.00000 | 4.07(a) |
| 34 Carbon Tetrachloride | 117 | 4.261 | 4.261 | (0.857) | 7702 | 2.00000 | 1.81(a) |
| 59 Chlorobenzene | 112 | 7.692 | 7.692 | (1.003) | 17493 | 2.00000 | 3.68(a) |
| 7 Chloroethane | 64 | 1.403 | 1.403 | (0.336) | 6331 | 2.00000 | 2.04(aM) |
| 28 Chloroform | 83 | 3.910 | 3.910 | (0.935) | 13259 | 2.00000 | 2.19(a) |
| 3 Chloromethane | 50 | 1.080 | 1.080 | (0.258) | 7064 | 2.00000 | 1.66(aM) |
| 27 cis-1,2-Dichloroethene | 96 | 3.530 | 3.530 | (0.844) | 6948 | 2.00000 | 2.04(a) |
| 46 cis-1,3-Dichloropropene | 75 | 6.159 | 6.159 | (1.239) | 10724 | 2.00000 | 1.95(a) |
| 55 Dibromochloromethane | 129 | 7.176 | 7.176 | (0.936) | 6867 | 2.00000 | 2.07(a) |
| 44 Dibromomethane | 93 | 5.557 | 5.557 | (1.118) | 4023 | 2.00000 | 1.73(a) |
| 2 Dichlorodifluoromethane | 85 | 0.973 | 0.973 | (0.233) | 6450 | 2.00000 | 3.96(a) |
| 61 Ethylbenzene | 106 | 7.799 | 7.799 | (1.017) | 8850 | 2.00000 | 1.94(a) |
| 91 Hexachlorobutadiene | 225 | 11.488 | 11.488 | (1.189) | 2237 | 2.00000 | 3.19(a) |
| 67 Isopropylbenzene | 105 | 8.559 | 8.559 | (1.116) | 26830 | 2.00000 | 1.97(a) |
| 62 m,p-Xylenes | 106 | 7.907 | 7.907 | (1.031) | 20338 | 4.00000 | 3.53(a) |
| 17 Methylene Chloride | 84 | 2.305 | 2.305 | (0.551) | 7271 | 2.00000 | 3.81(a) |
| 87 n-Butylbenzene | 91 | 9.998 | 9.998 | (1.035) | 17052 | 2.00000 | 1.89(a) |
| 73 n-Propylbenzene | 91 | 8.910 | 8.910 | (0.922) | 30182 | 2.00000 | 2.12(a) |
| 92 Naphthalene | 128 | 11.560 | 11.560 | (1.196) | 3114 | 2.00000 | 2.52(aM) |
| 63 o-Xylene | 106 | 8.243 | 8.243 | (1.075) | 11012 | 2.00000 | 1.97(a) |
| 81 sec-Butylbenzene | 105 | 9.519 | 9.519 | (0.985) | 24043 | 2.00000 | 2.44(a) |
| 64 Styrene | 104 | 8.265 | 8.265 | (1.078) | 15017 | 2.00000 | 4.72(a) |
| 78 tert-Butylbenzene | 119 | 9.339 | 9.339 | (0.967) | 17971 | 2.00000 | 2.92(a) |
| 56 Tetrachloroethene | 164 | 6.933 | 6.933 | (0.904) | 5396 | 2.00000 | 2.10(a) |
| 50 Toluene | 91 | 6.453 | 6.453 | (0.841) | 25834 | 2.00000 | 1.95(a) |
| 20 trans-1,2-Dichloroethene | 96 | 2.535 | 2.535 | (0.606) | 5643 | 2.00000 | 1.98(a) |
| 51 trans-1,3-Dichloropropene | 75 | 6.682 | 6.682 | (1.344) | 8794 | 2.00000 | 1.87(a) |
| 38 Trichloroethene | 130 | 5.206 | 5.206 | (1.048) | 6830 | 2.00000 | 2.12(a) |
| 8 Trichlorofluoromethane | 101 | 1.560 | 1.560 | (0.373) | 17711 | 2.00000 | 2.21(a) |
| 5 Vinyl Chloride | 62 | 1.145 | 1.145 | (0.274) | 8442 | 2.00000 | 2.02(aM) |

QC Flag Legend

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

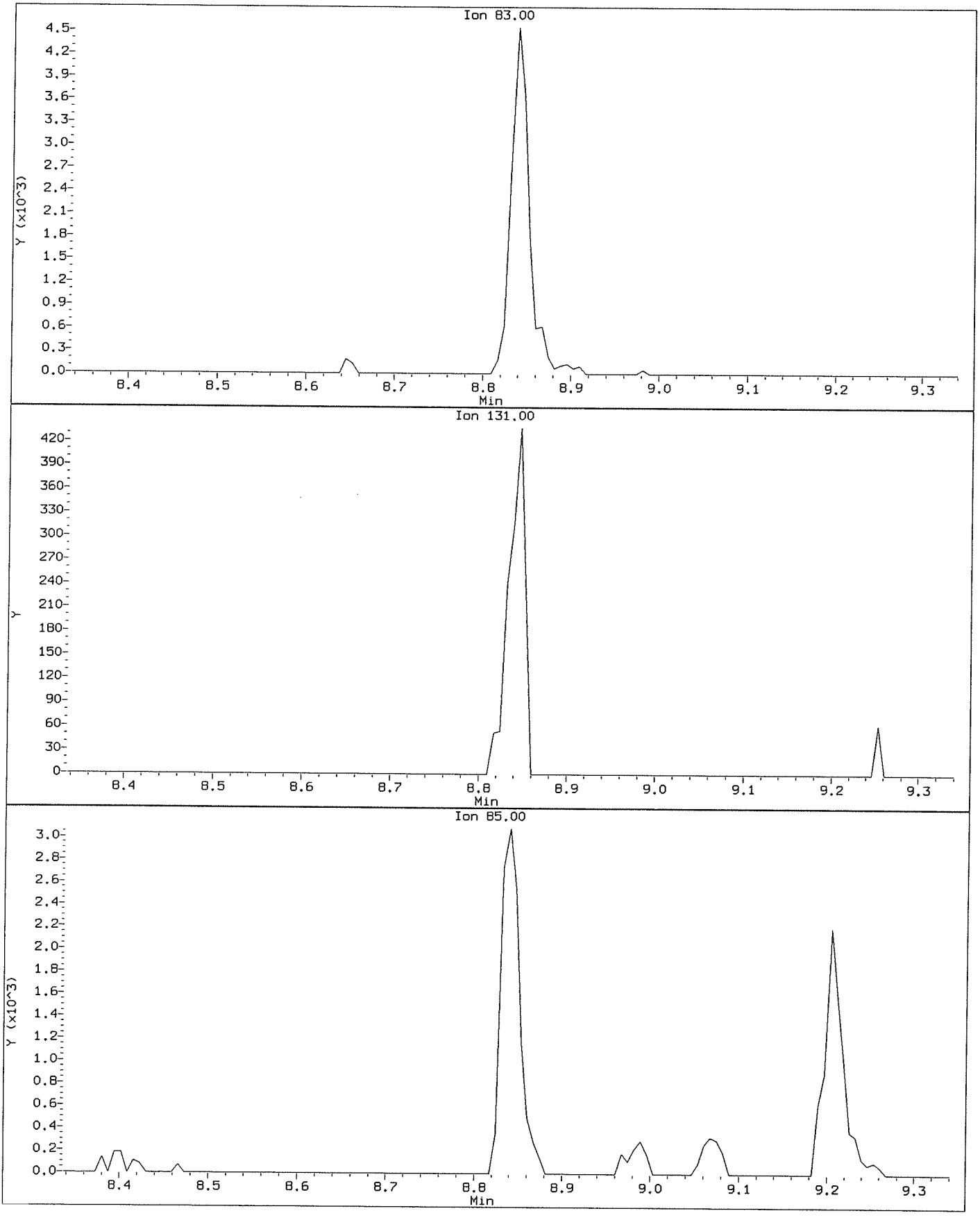



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Client ID: VSTD002
Sample Info: VSTD002;VSTD002;1;4;;
Purge Volume: 5.0
Column phase: DB624

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

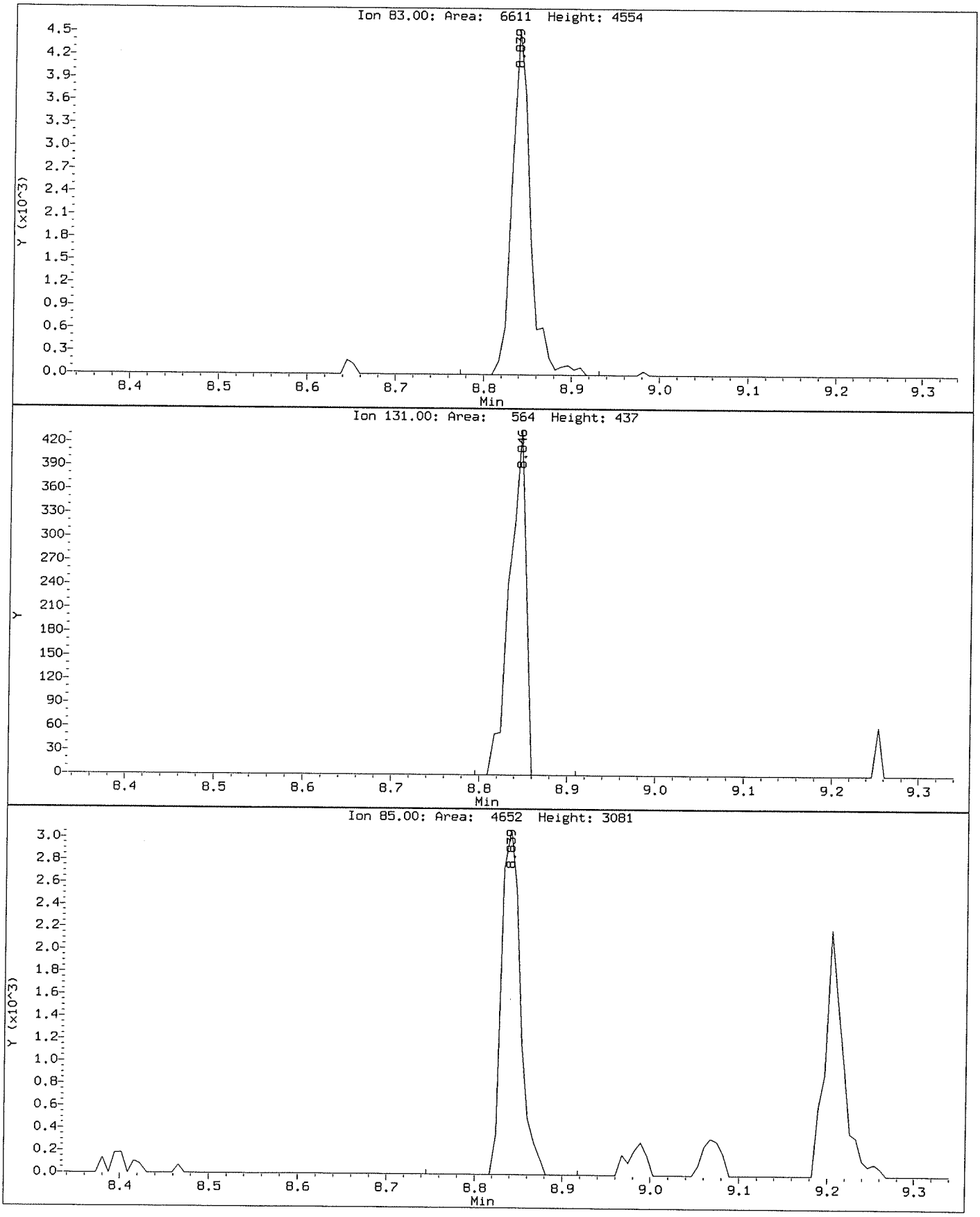
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Client Sample ID: VSTD002

Compound: 1,1,2,2-Tetrachloroethane
CAS Number: 79-34-5



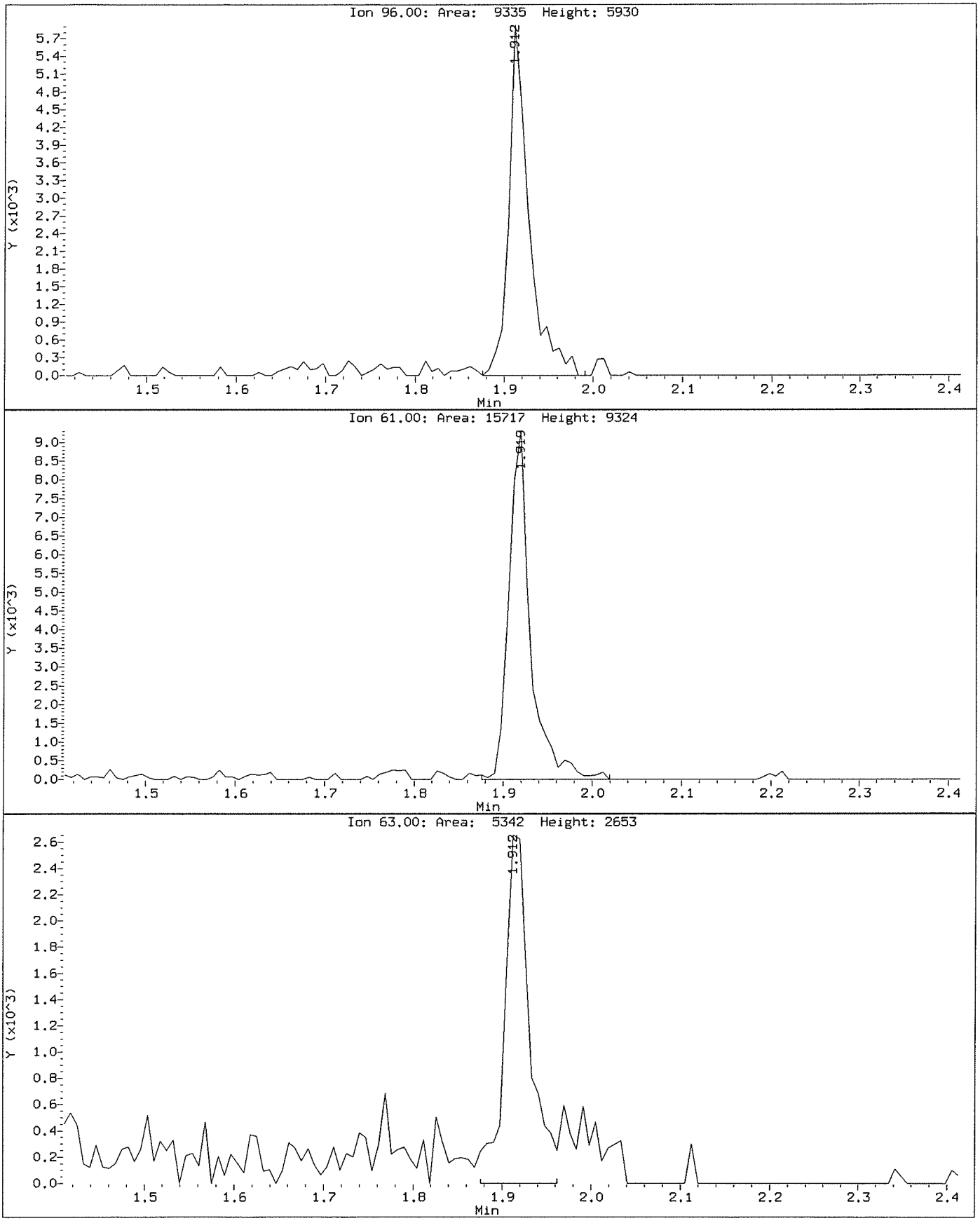
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Compound: 1,1,2,2-Tetrachloroethane
CAS Number: 79-34-5



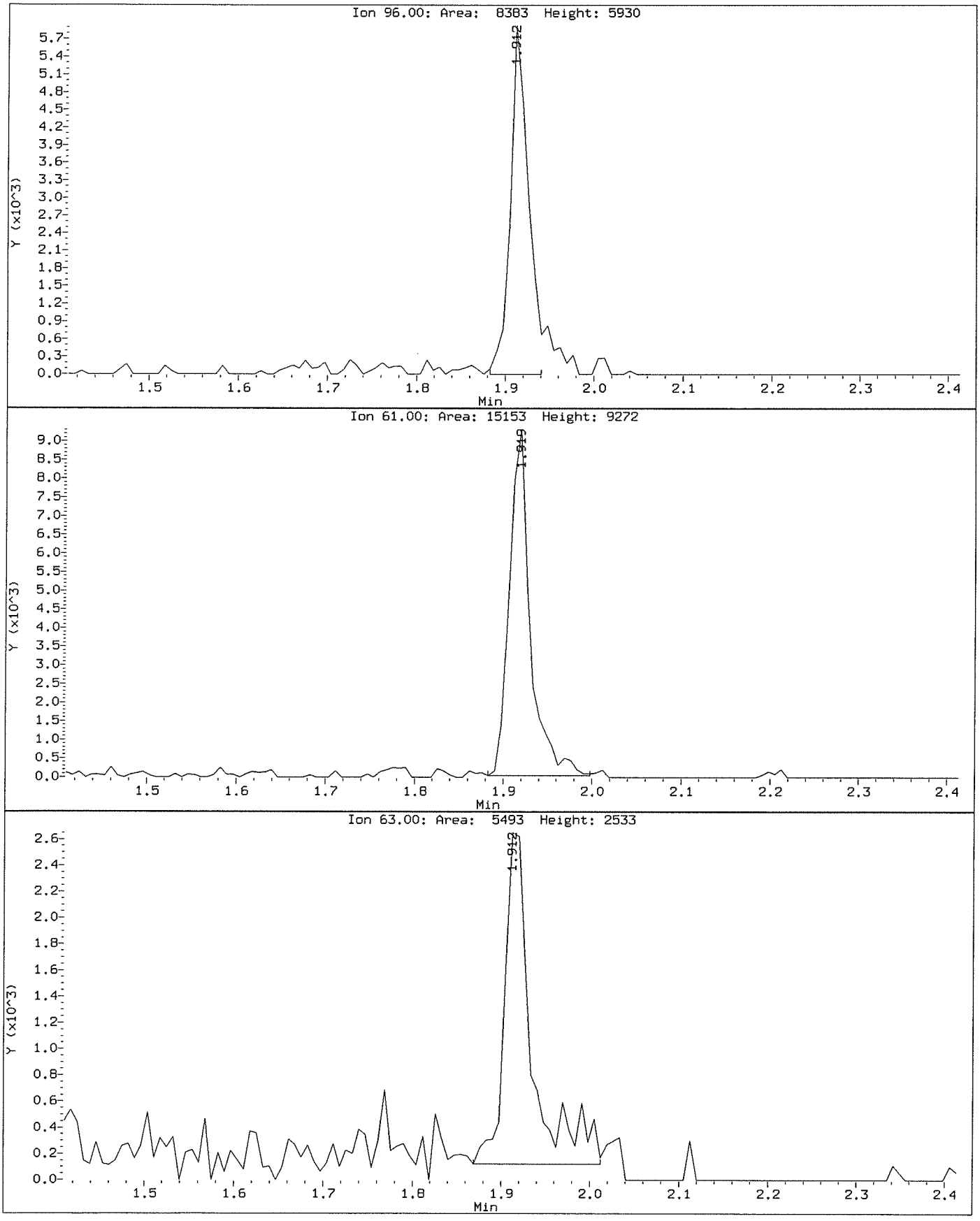
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Client Sample ID: VSTD002

Compound: 1,1-Dichloroethene
CAS Number: 75-35-4



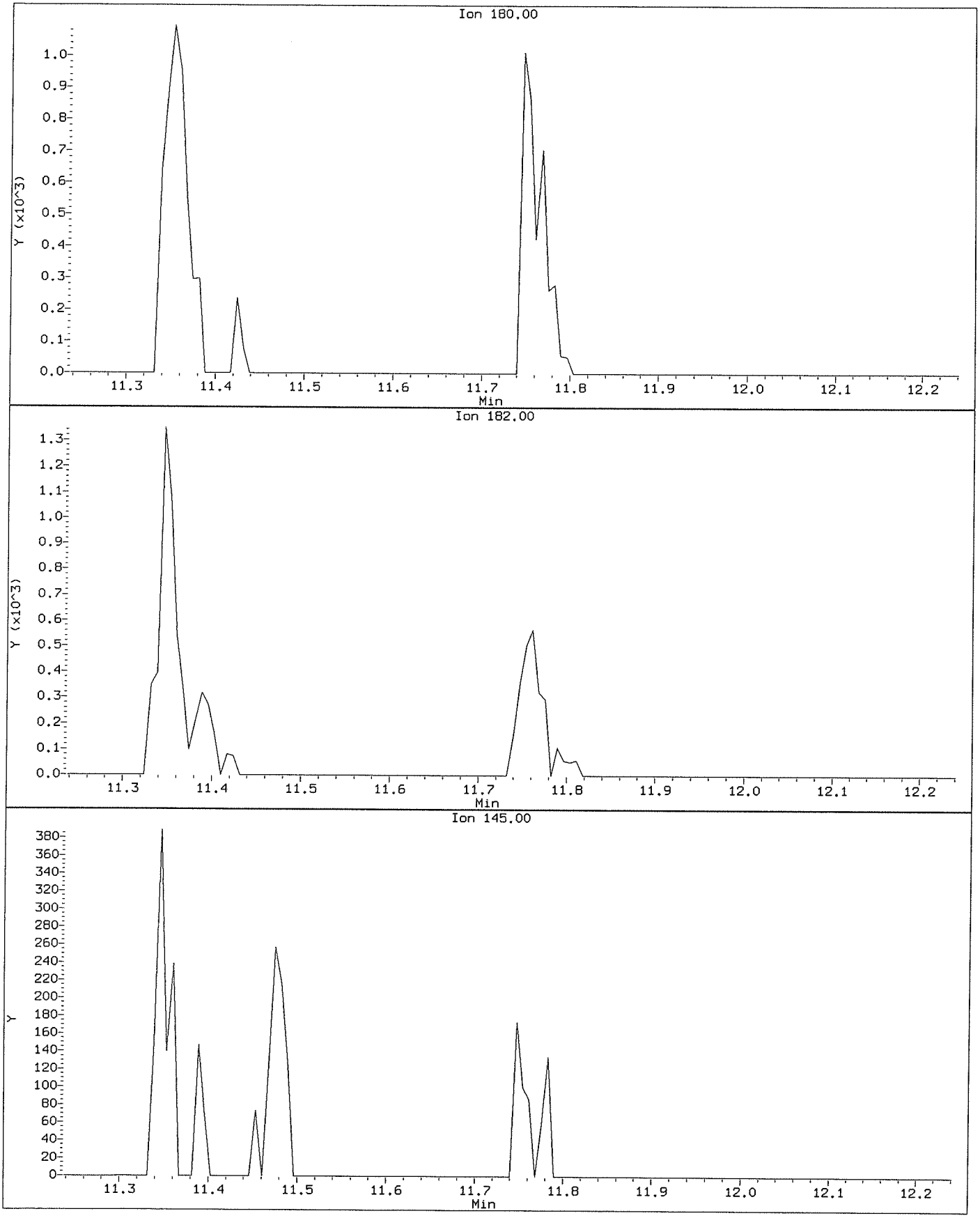
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Instrument: voa6.i
Client Sample ID: VSTD002

Compound: 1,1-Dichloroethene
CAS Number: 75-35-4



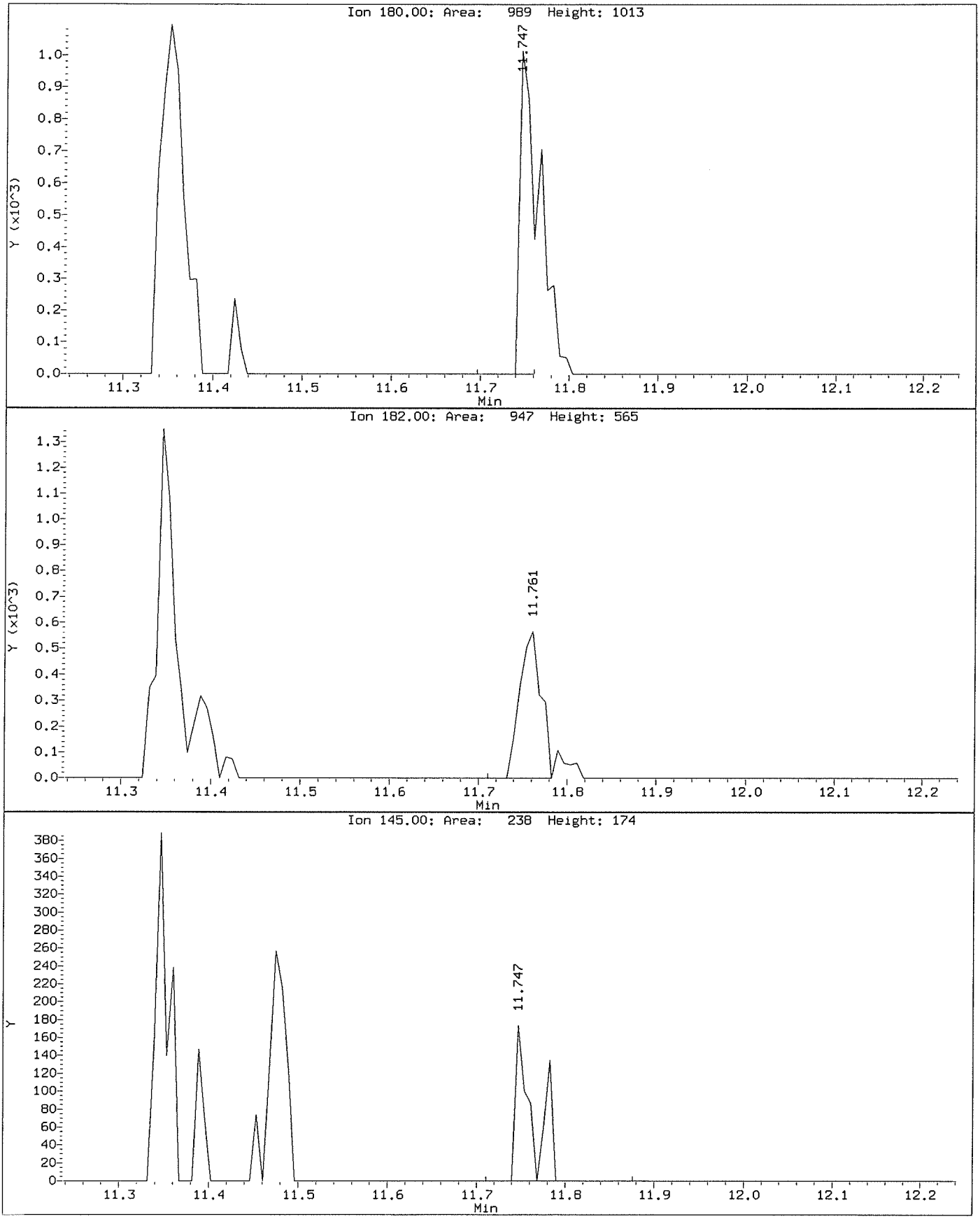
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Instrument: voa6.i
Client Sample ID: VSTD002

Compound: 1,2,3-Trichlorobenzene
CAS Number: 87-61-6



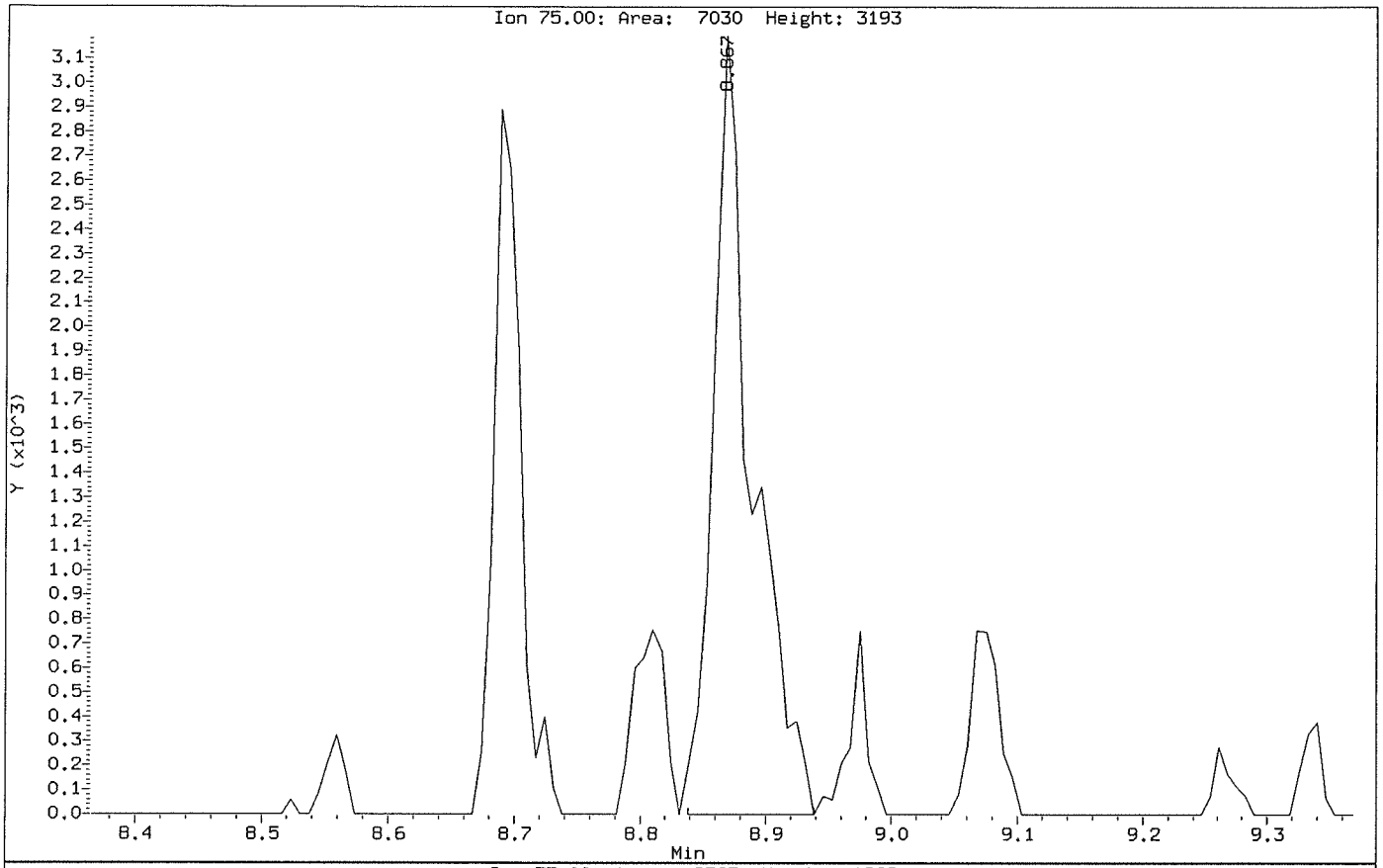
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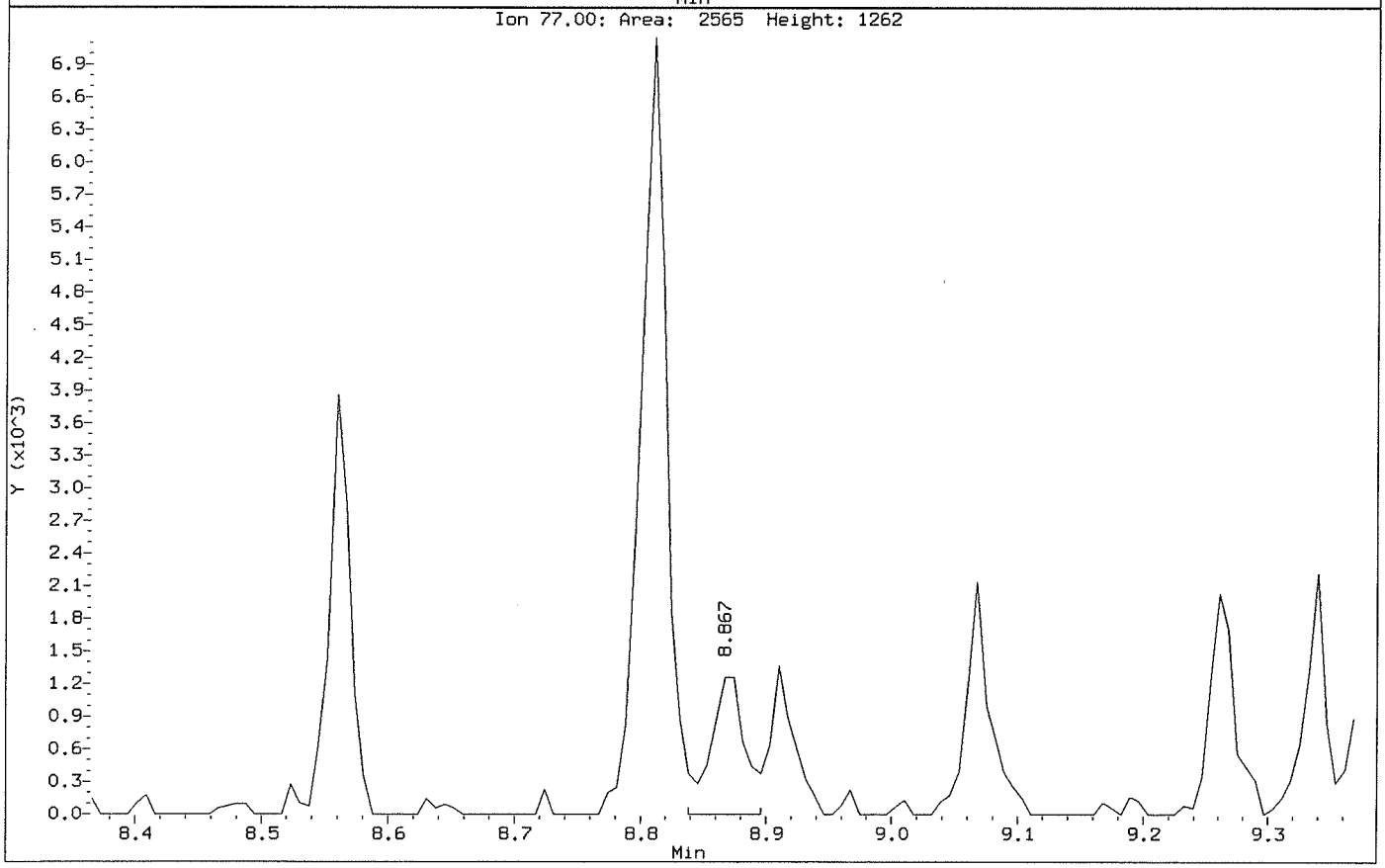
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CAS Number: 87-61-6



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Instrument: voa6.i
Client Sample ID: VSTD002

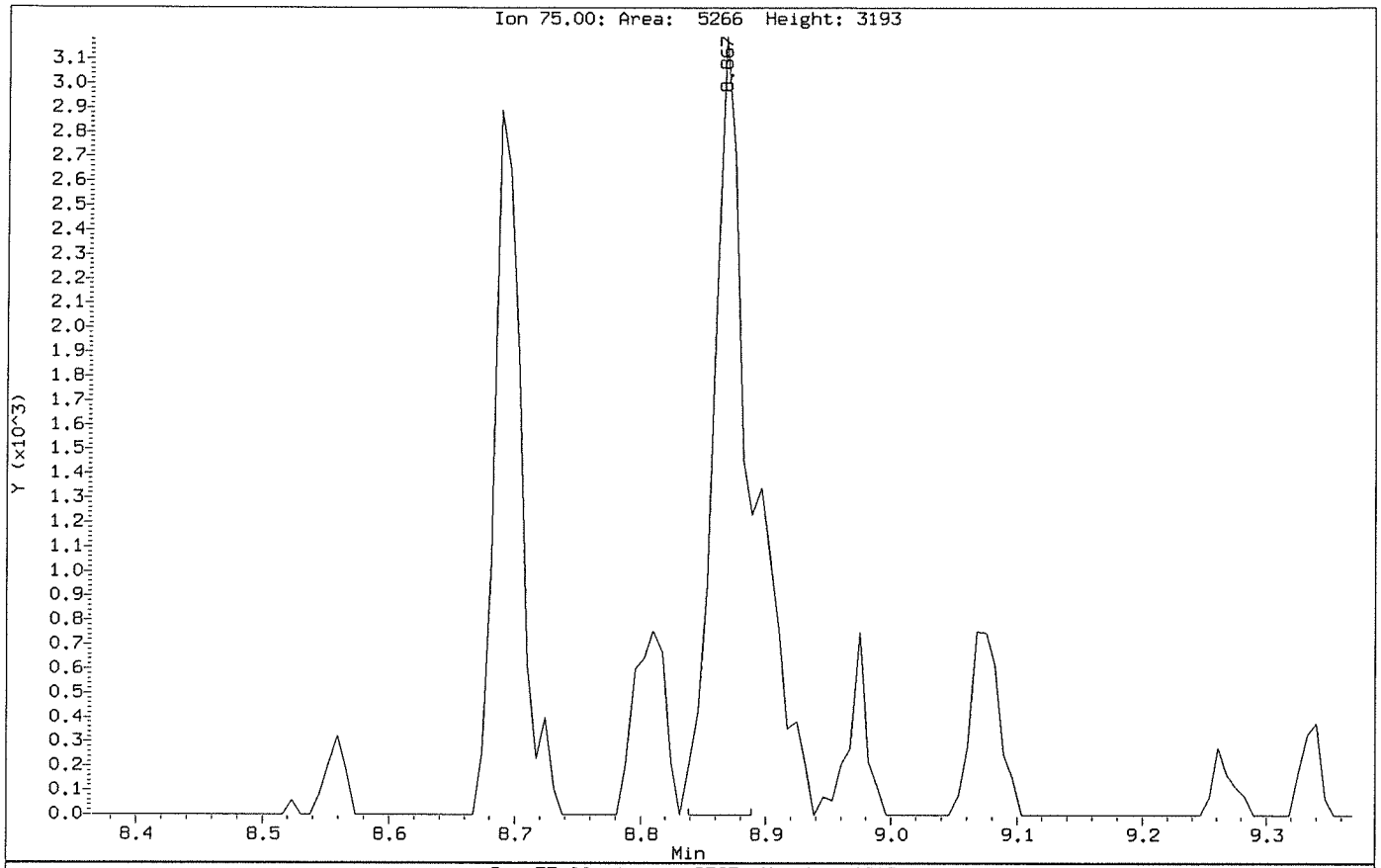
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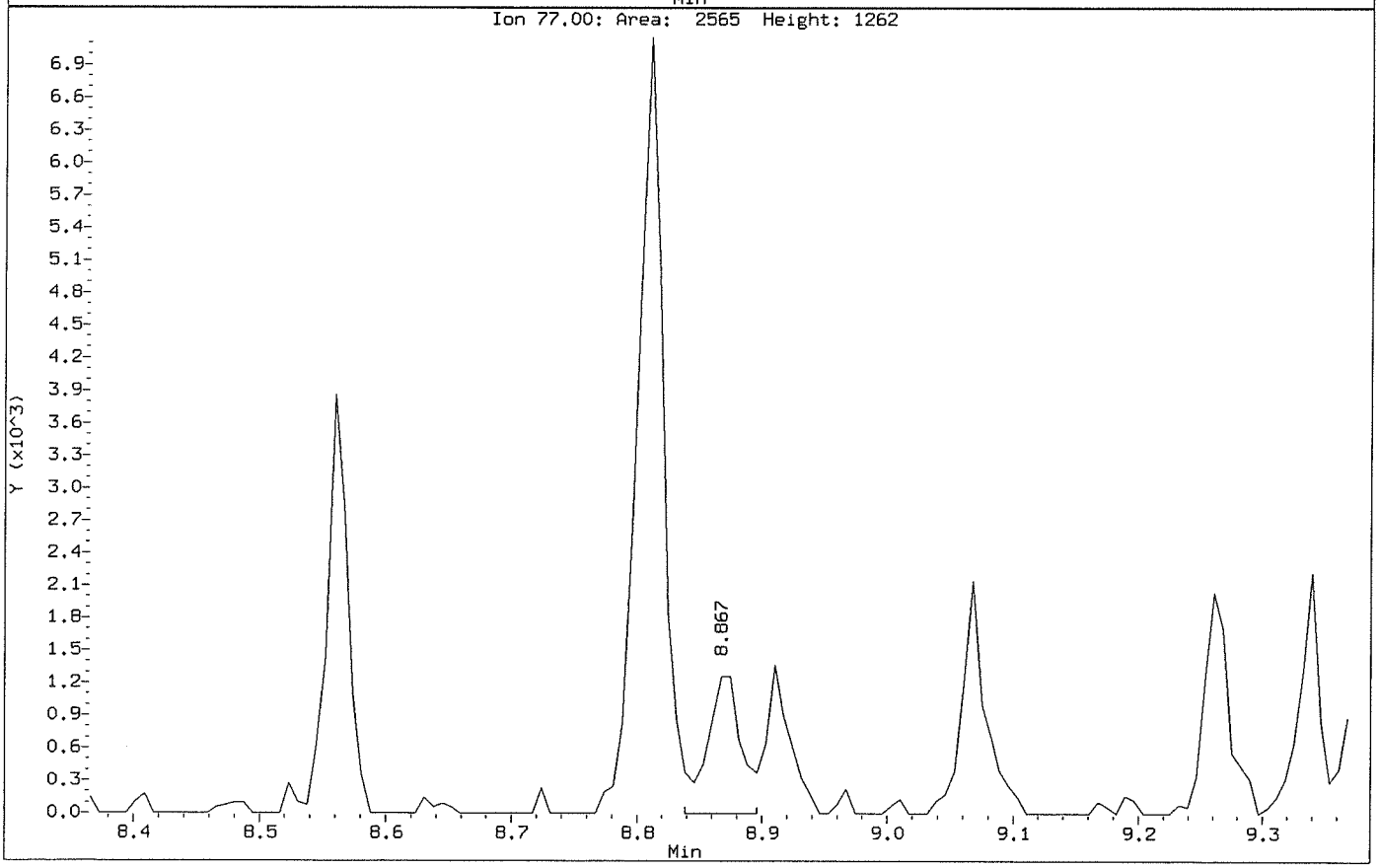


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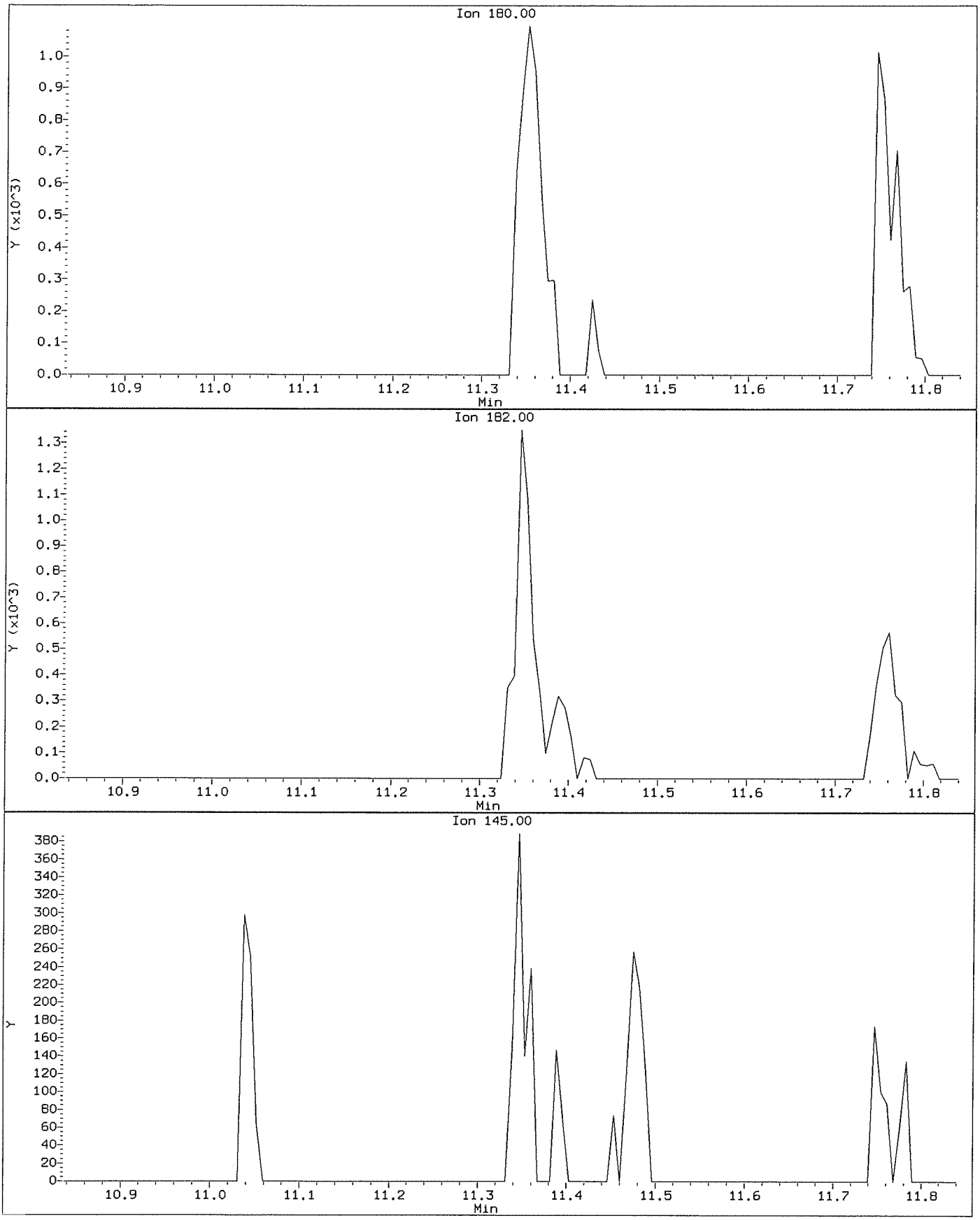
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CAS Number: 96-18-4



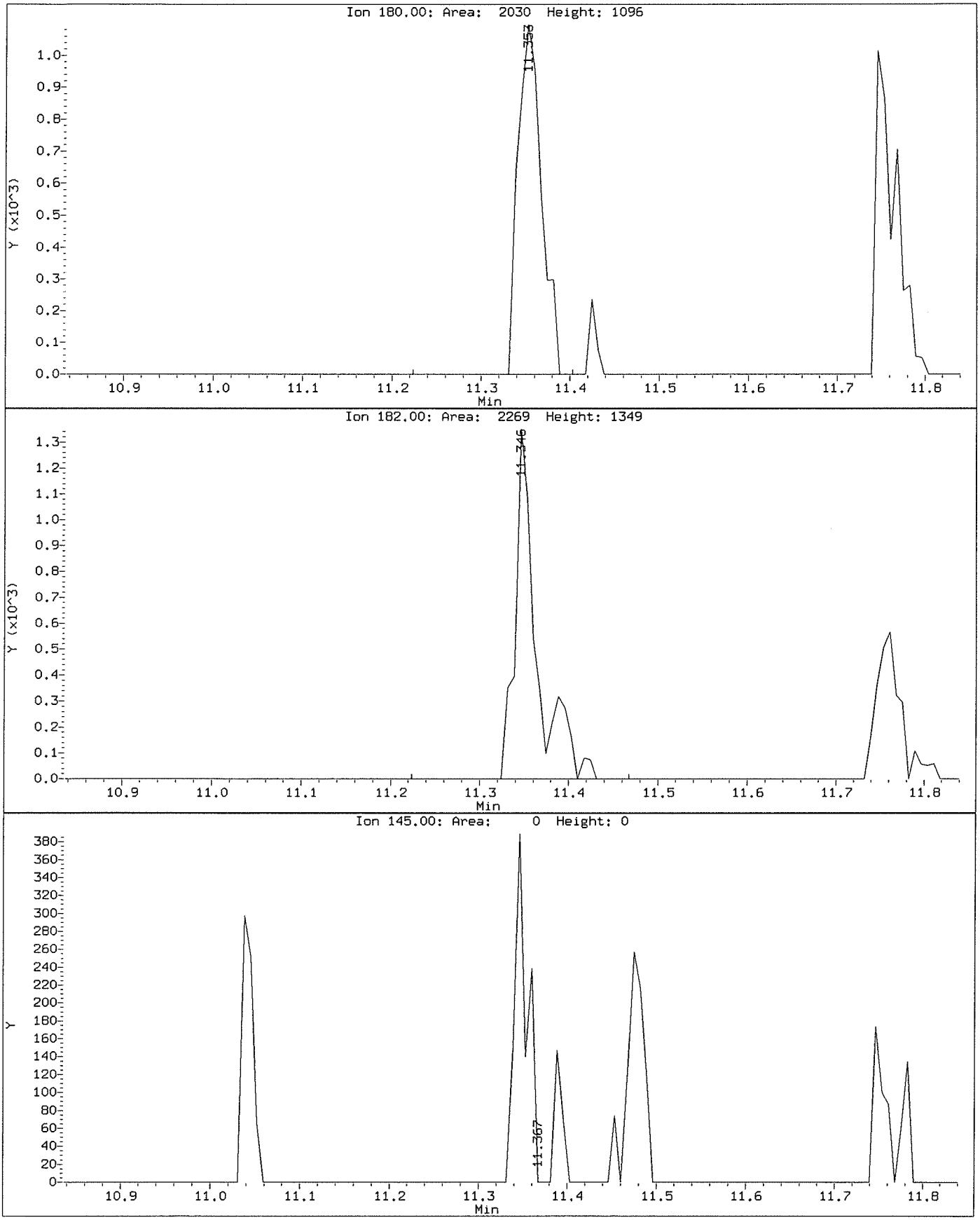
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Instrument: voa6.i
Client Sample ID: VSTD002

Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1



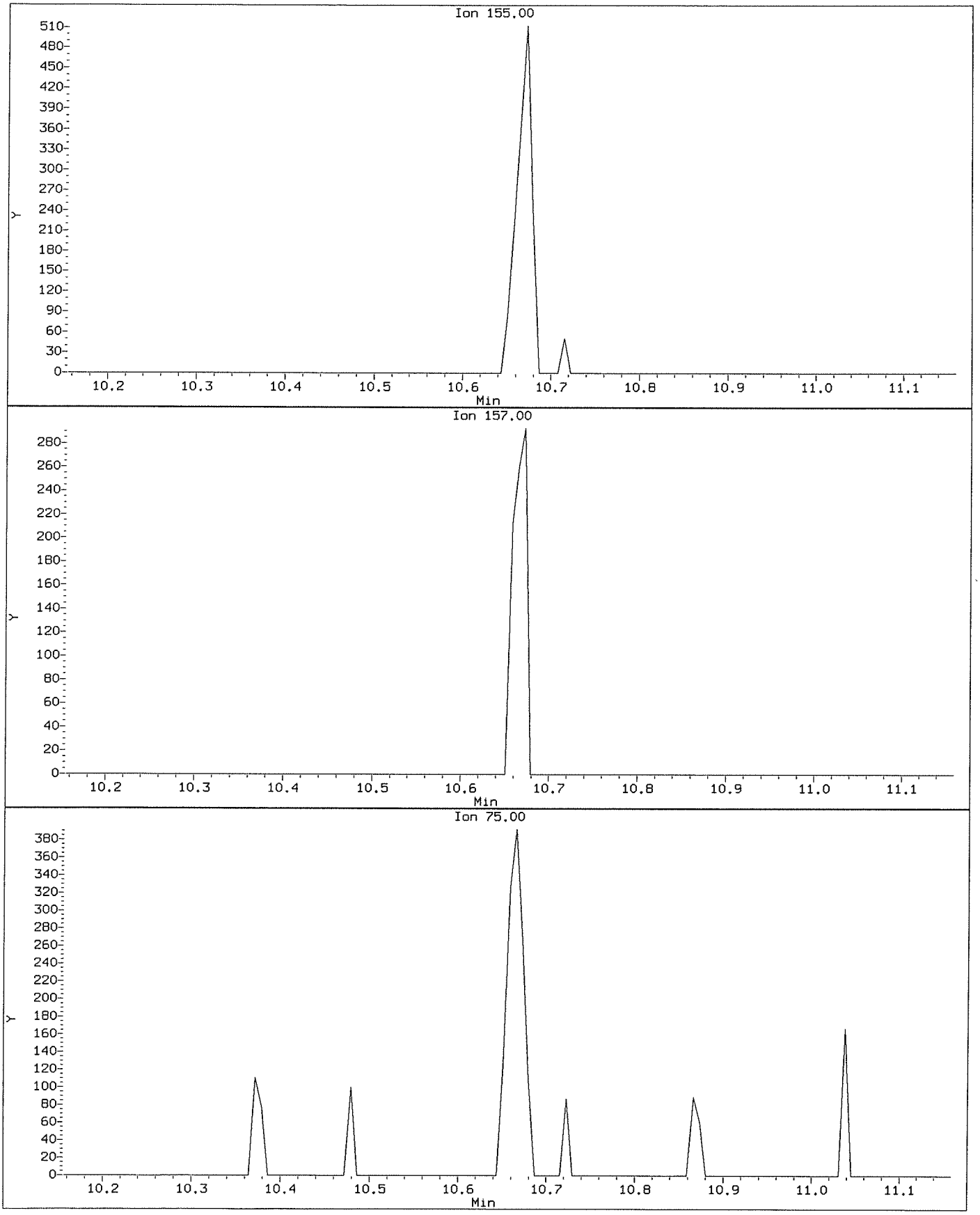
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Client Sample ID: VSTD002

Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1



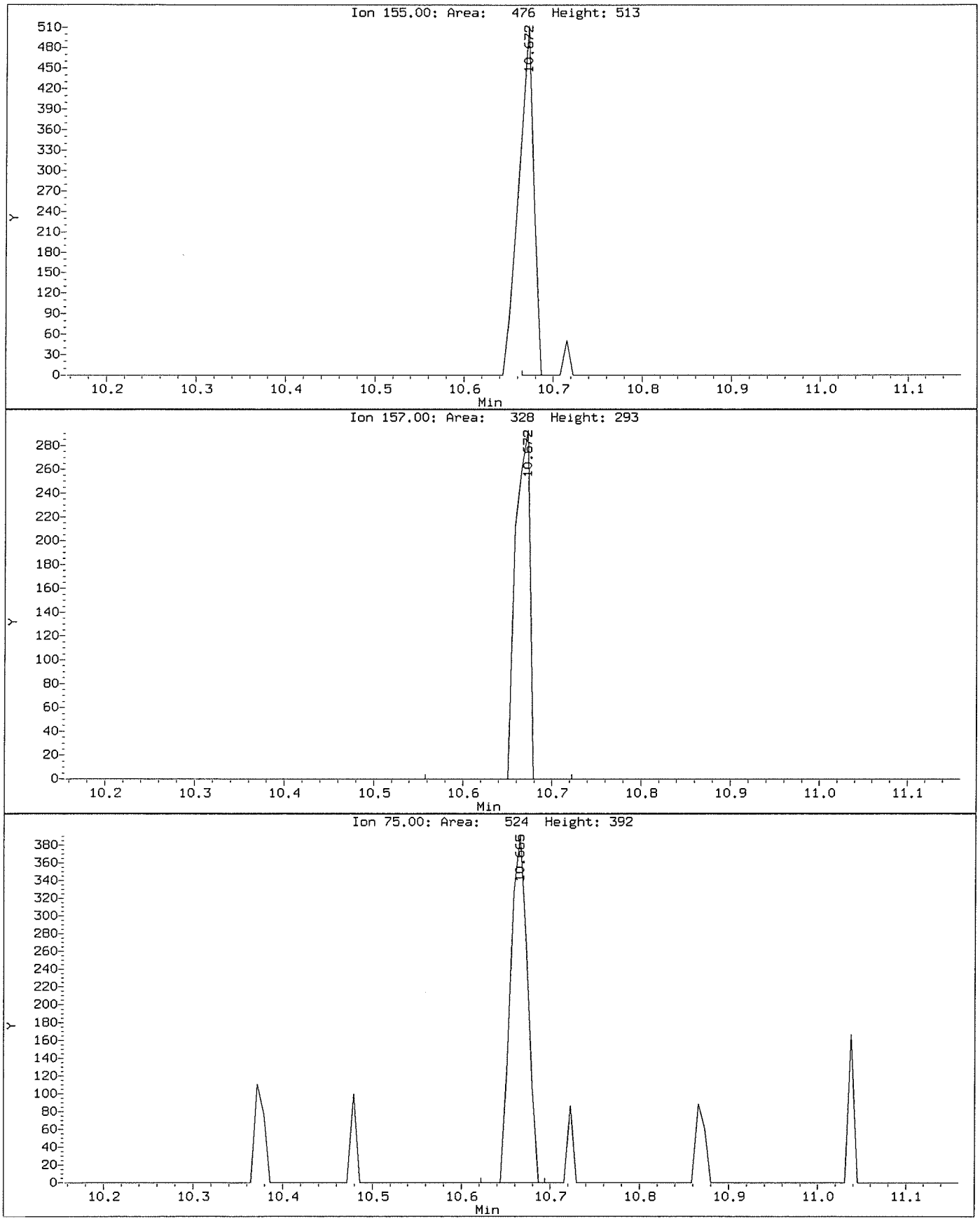
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Injection Date: 02-APR-2021 12:17
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: 1,2-Dibromo-3-Chloropropane
CAS Number: 96-12-8



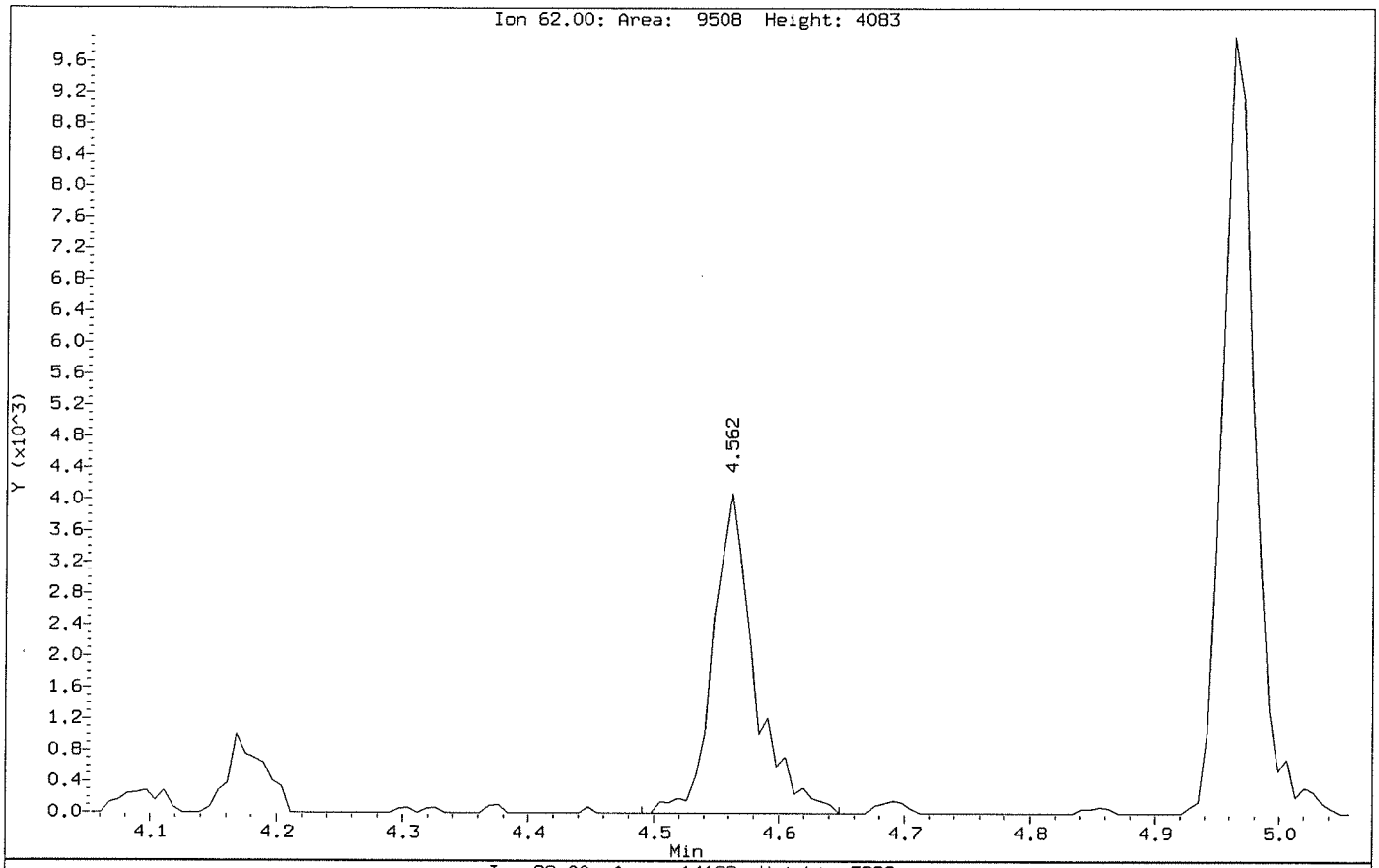
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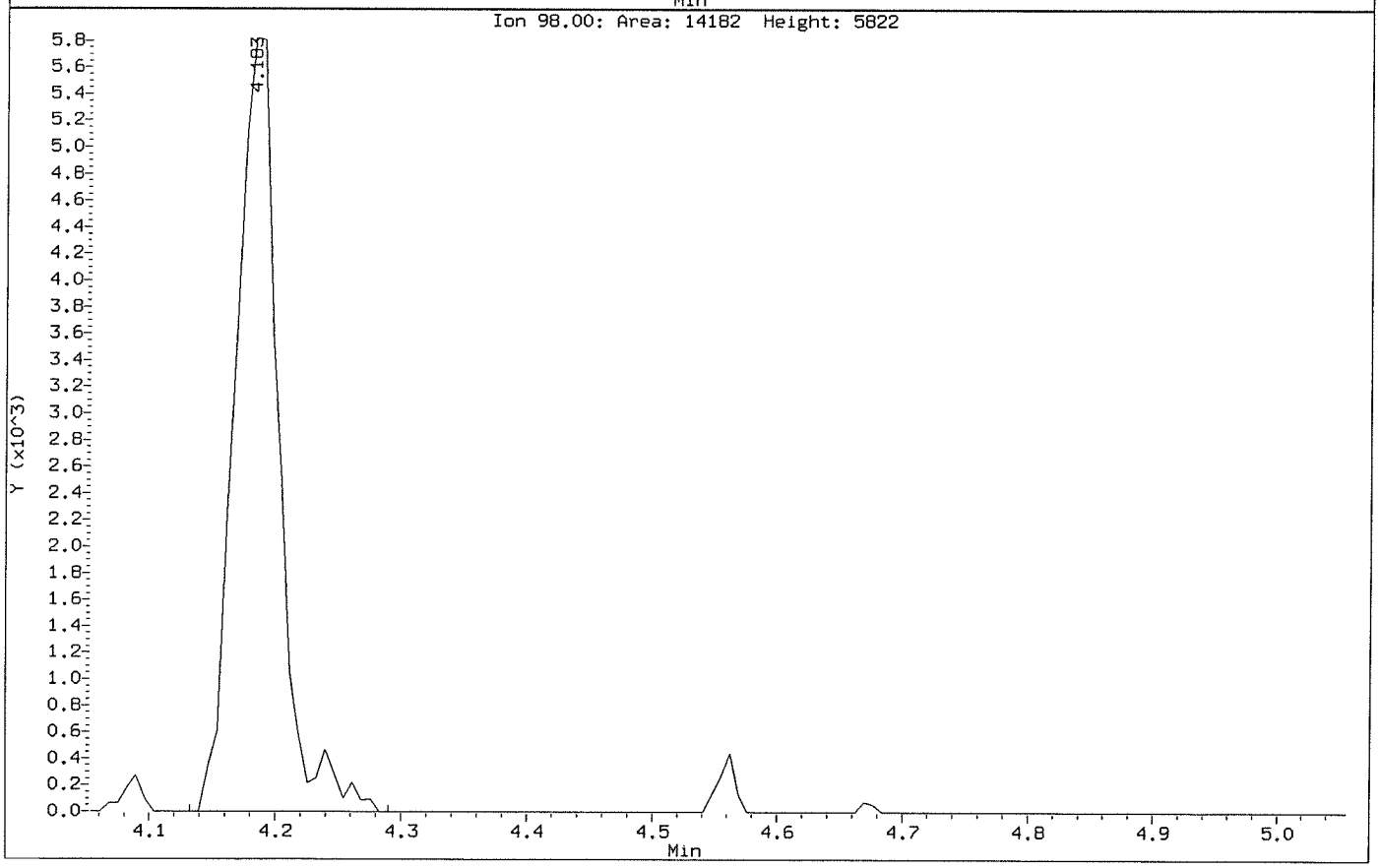
Compound: 1,2-Dibromo-3-Chloropropane
CAS Number: 96-12-8



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Injection Date: 02-APR-2021 12:17
Instrument: voa6.i
Client Sample ID: VSTD002

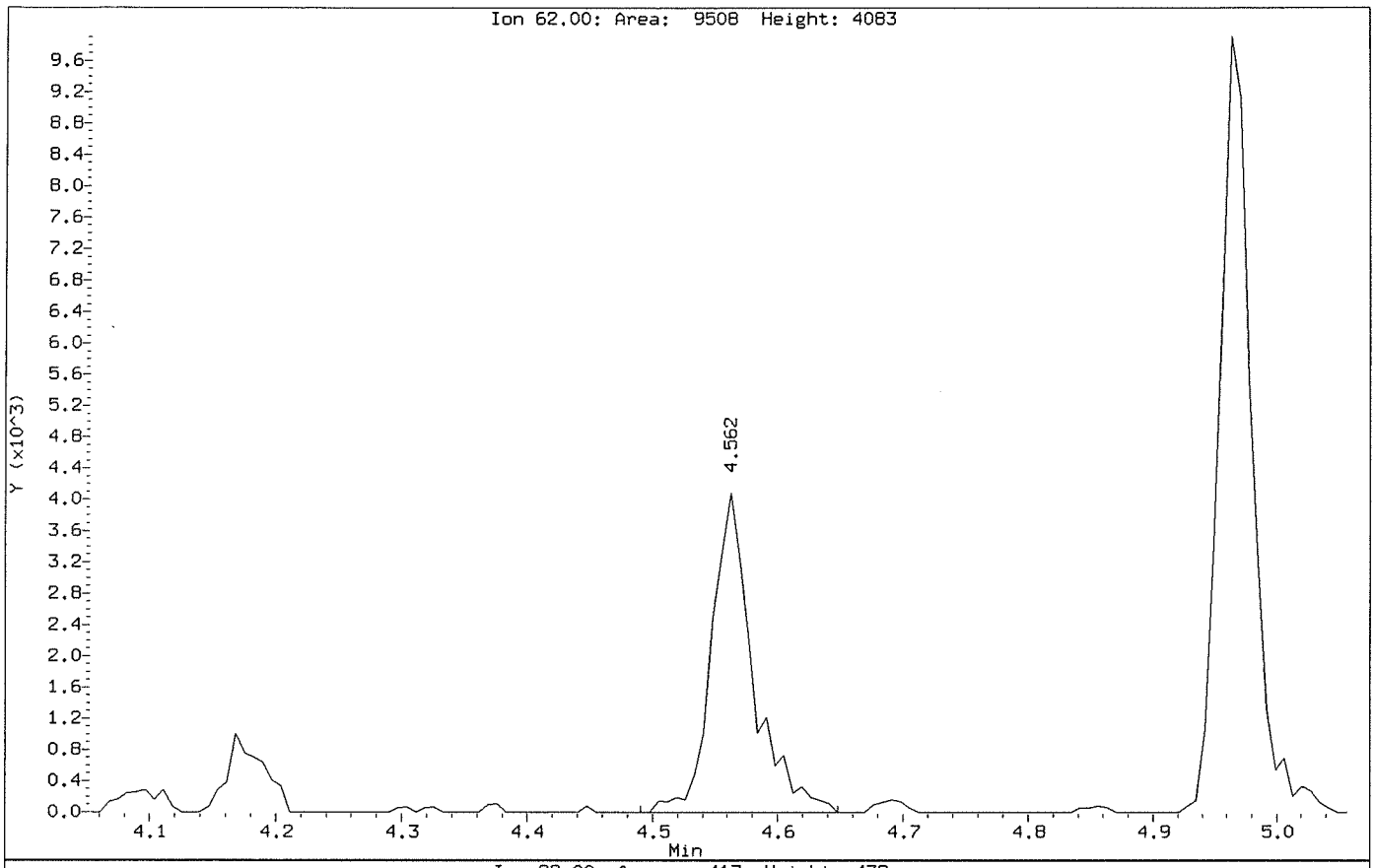
Compound: 1,2-Dichloroethane
CAS Number: 107-06-2

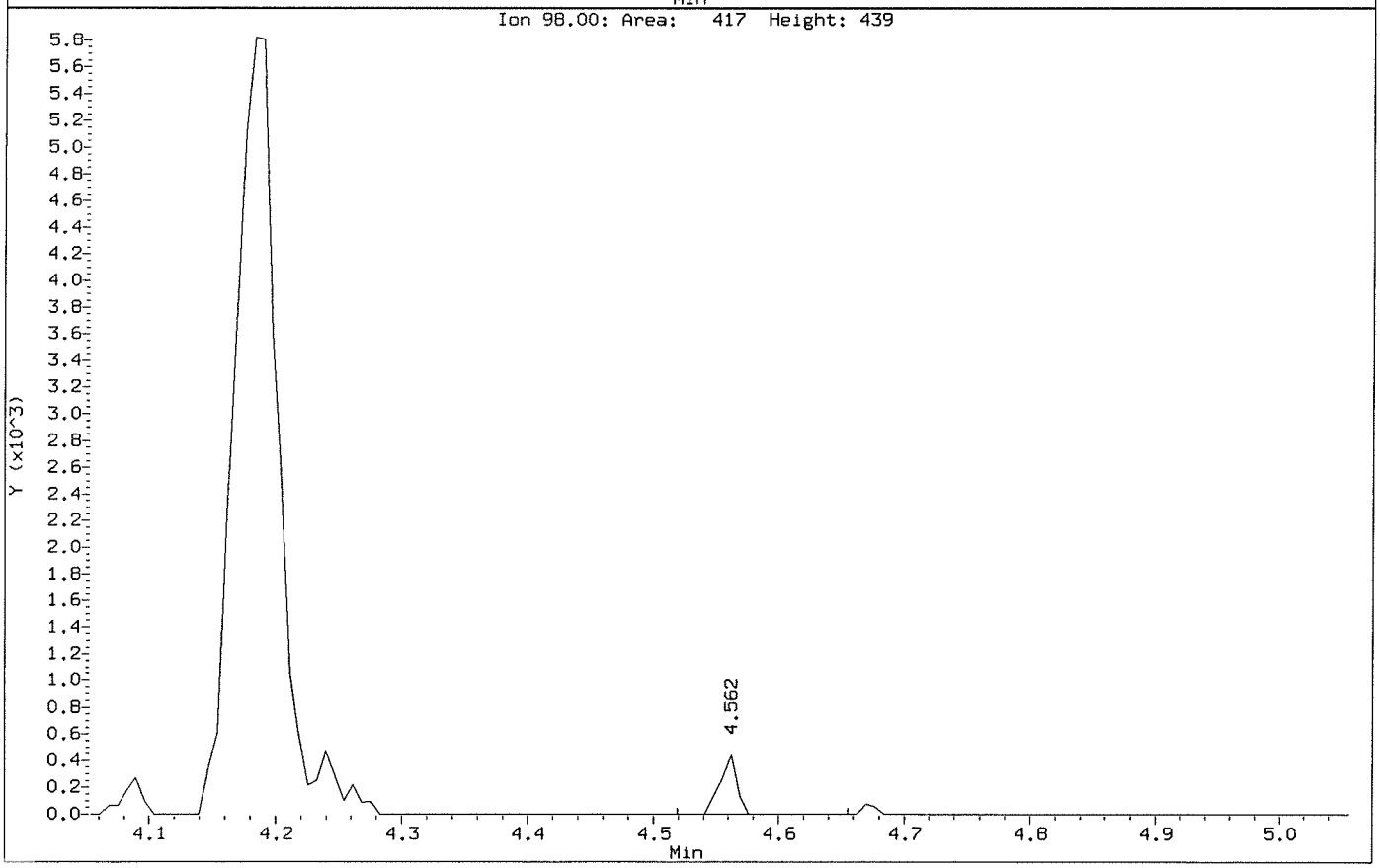


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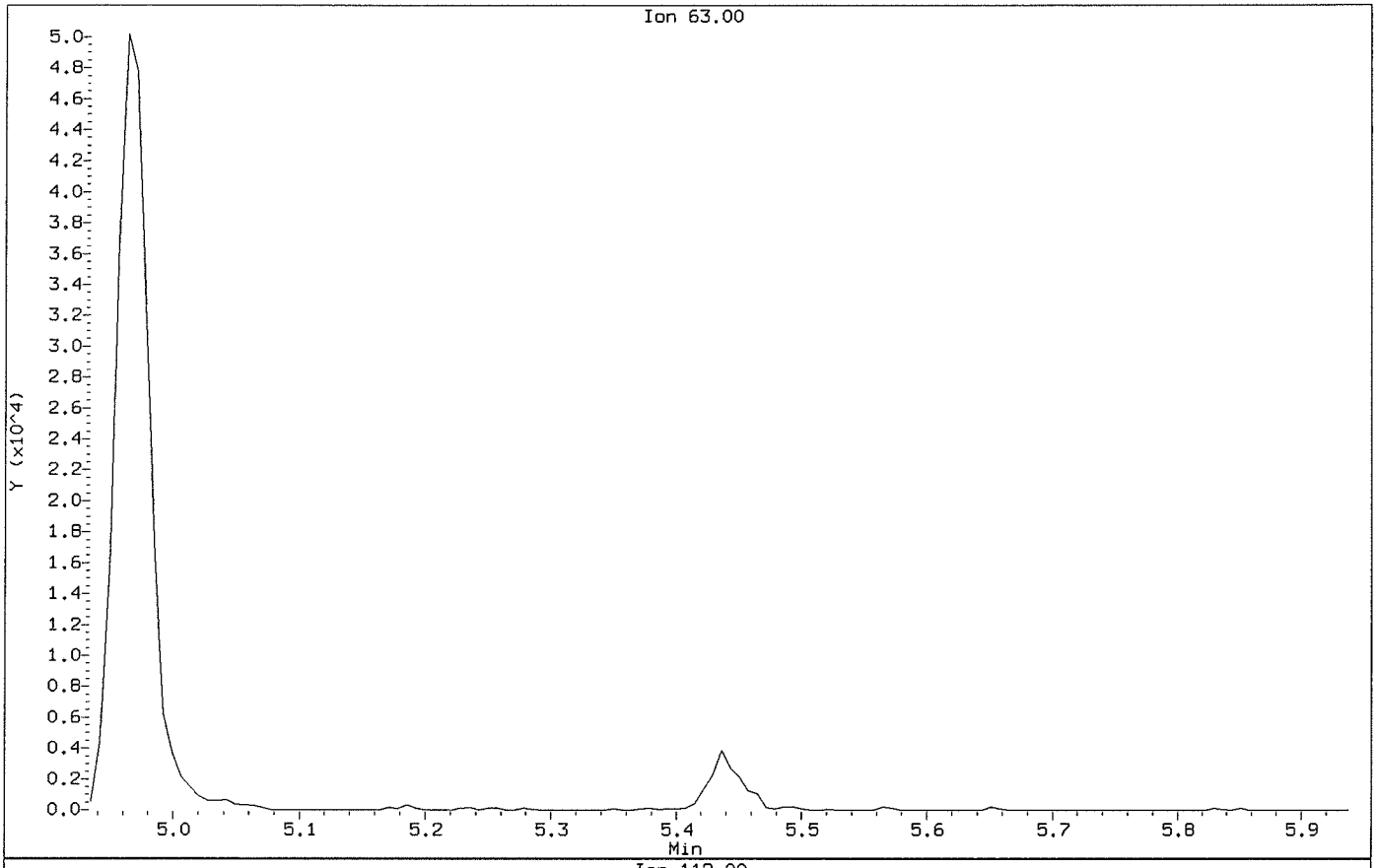
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CAS Number: 107-06-2

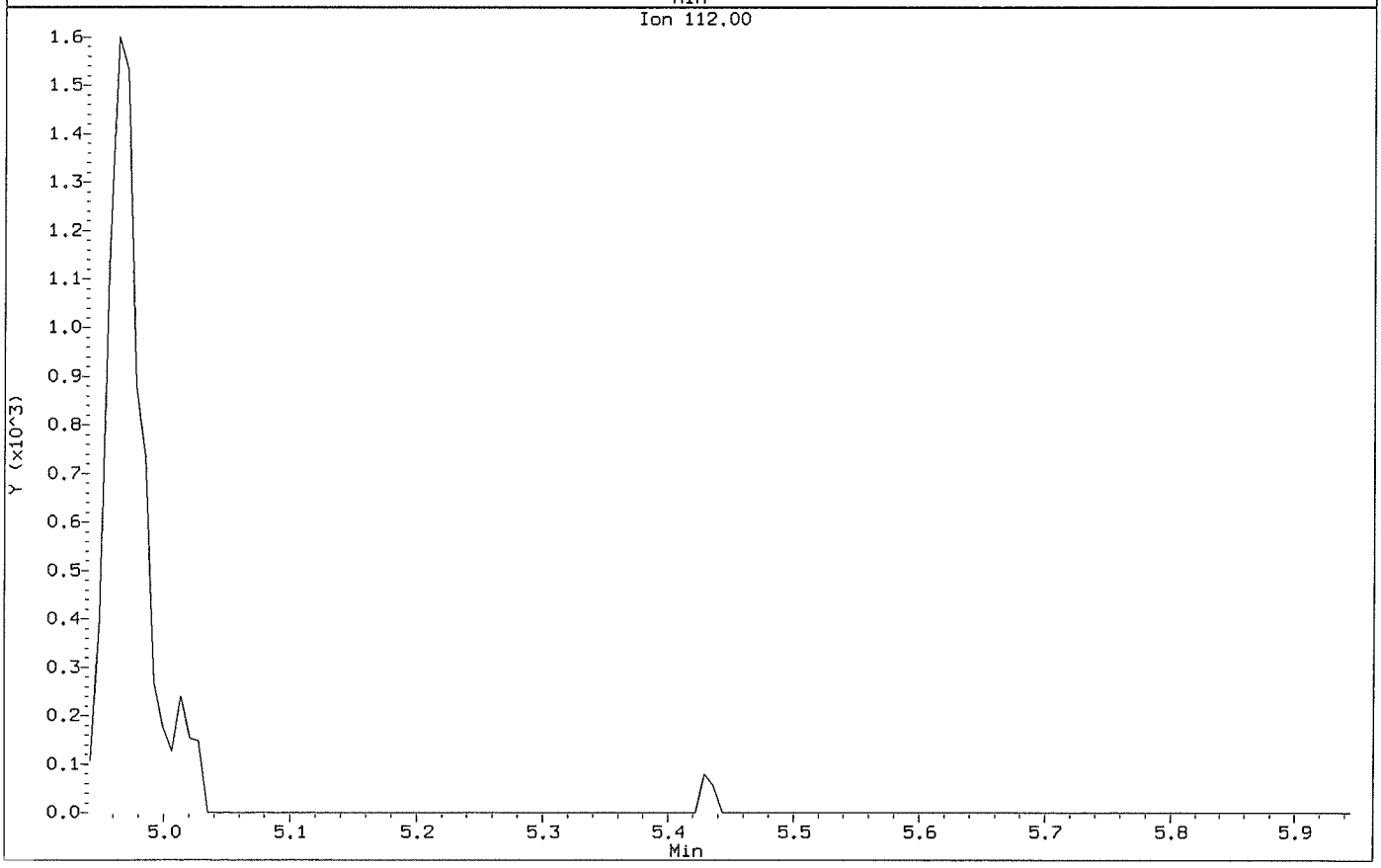


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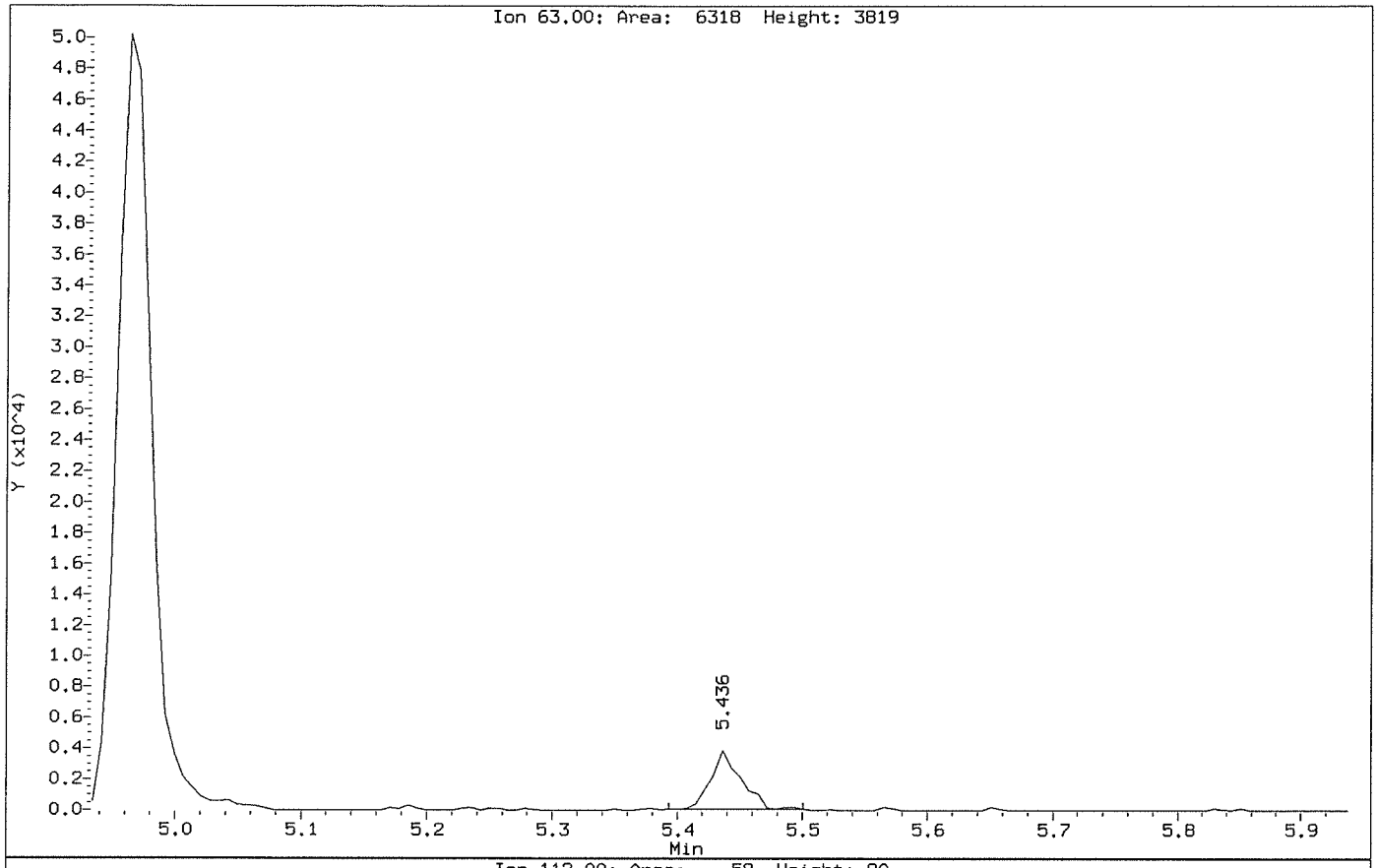
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CAS Number: 78-87-5

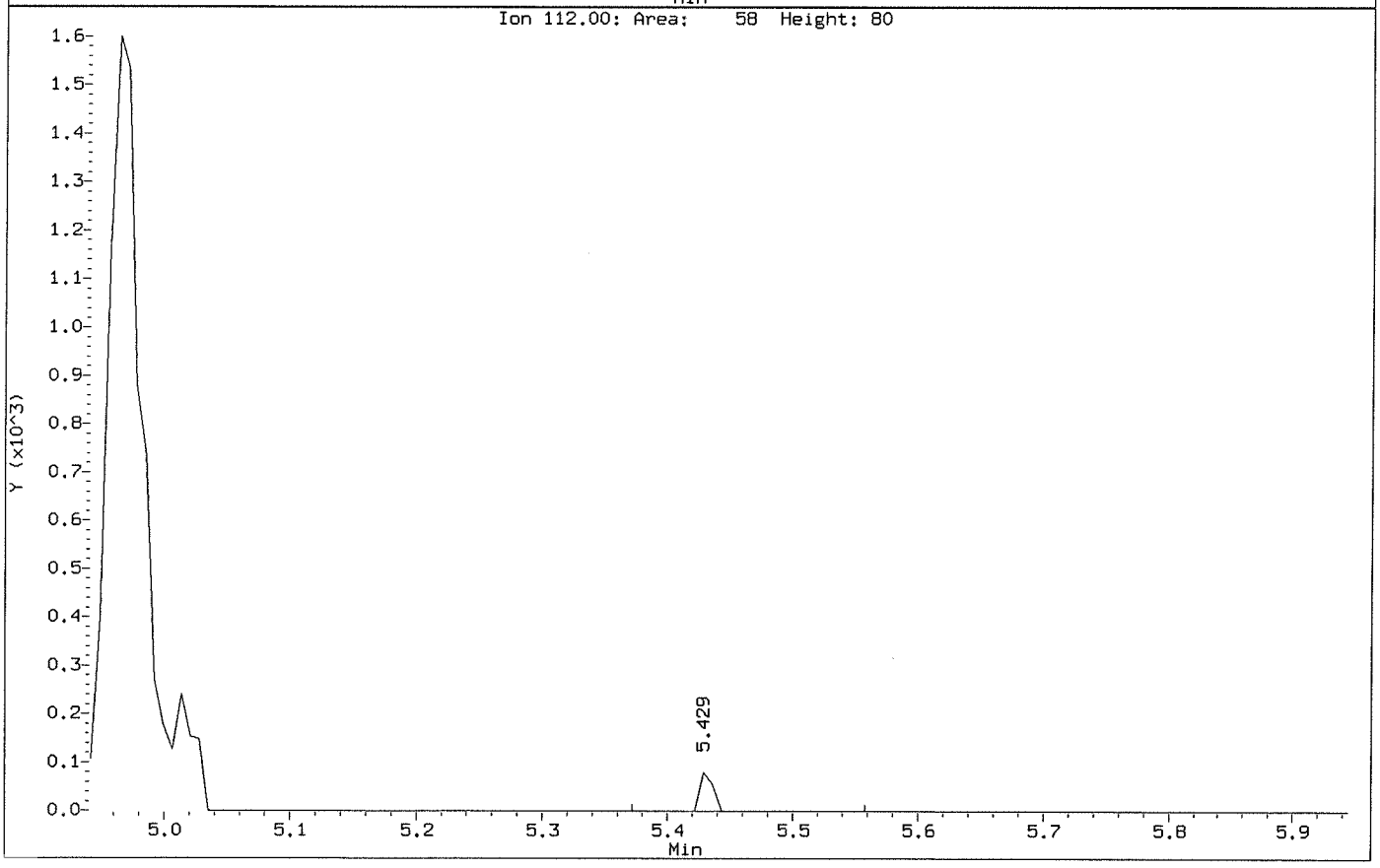


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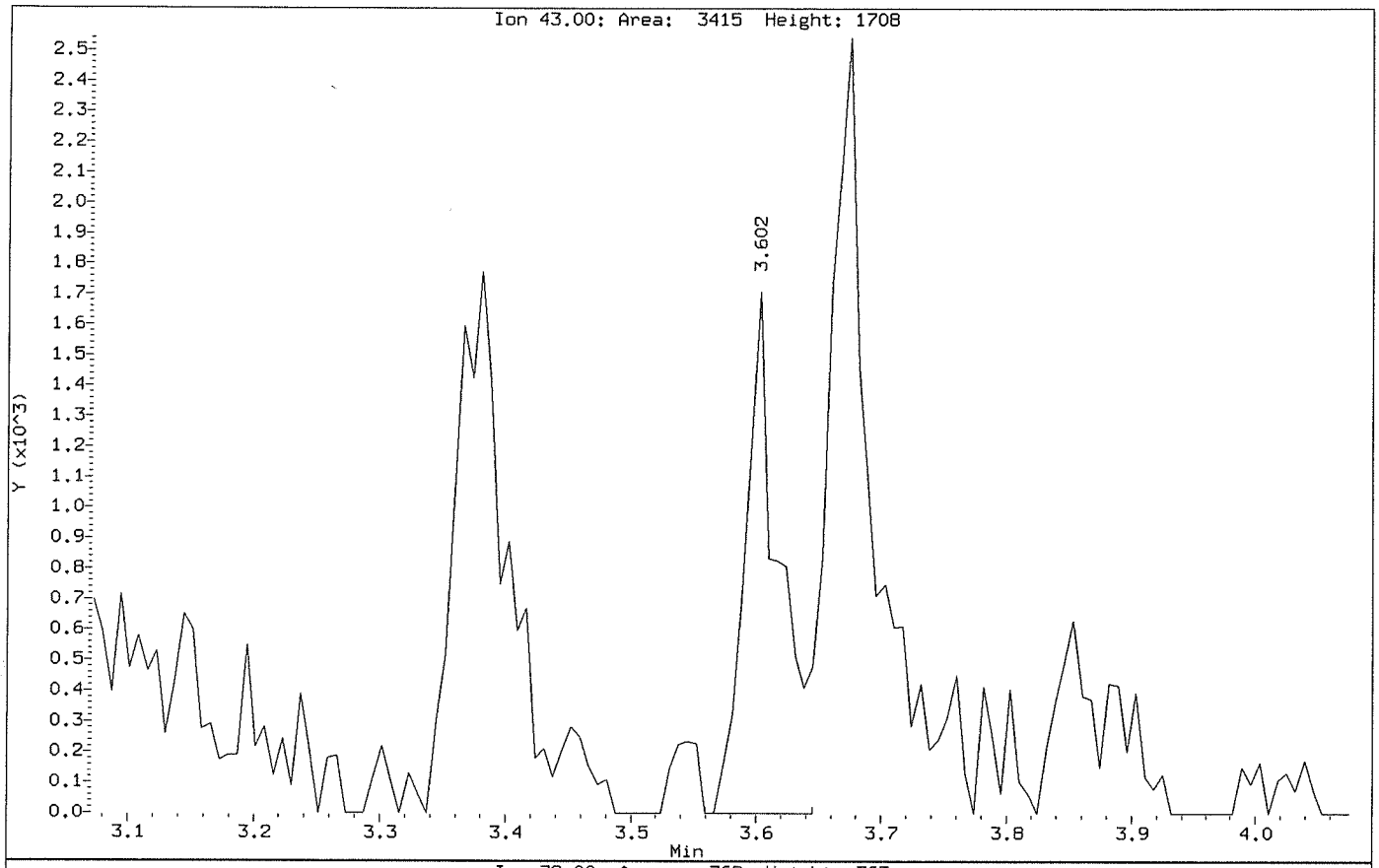
Compound: 1,2-Dichloropropane
CAS Number: 78-87-5

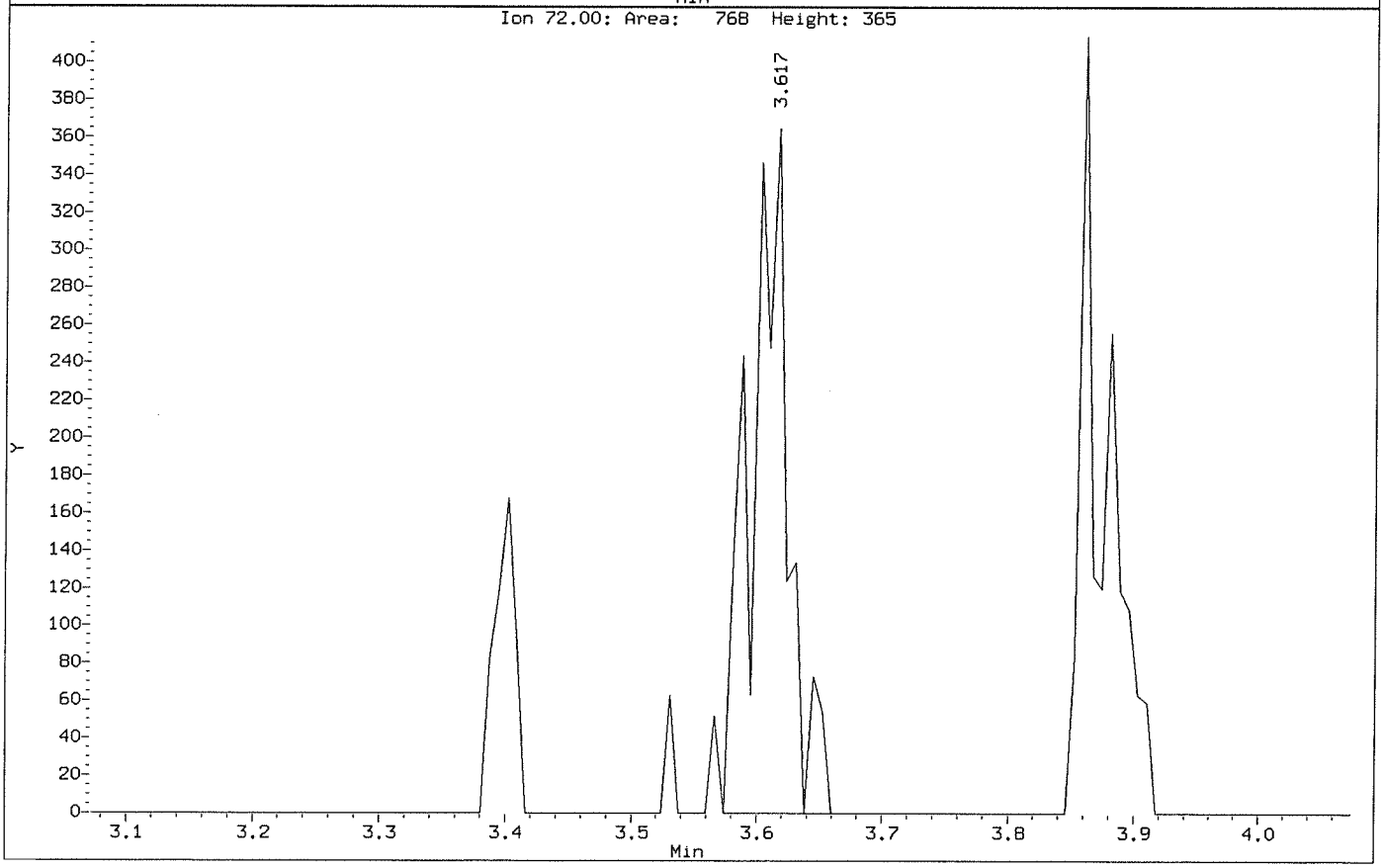


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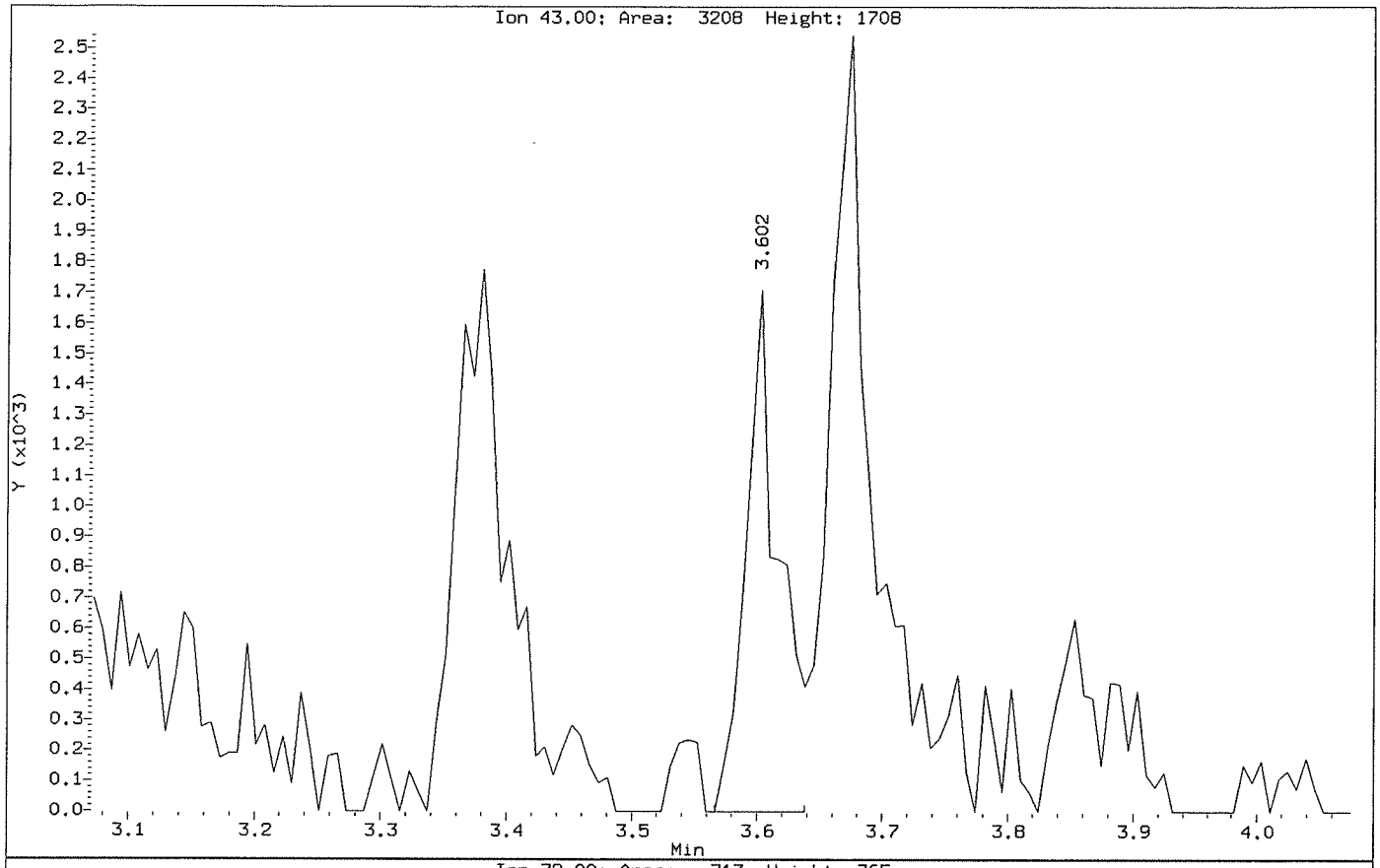
Compound: 2-Butanone
CAS Number: 78-93-3

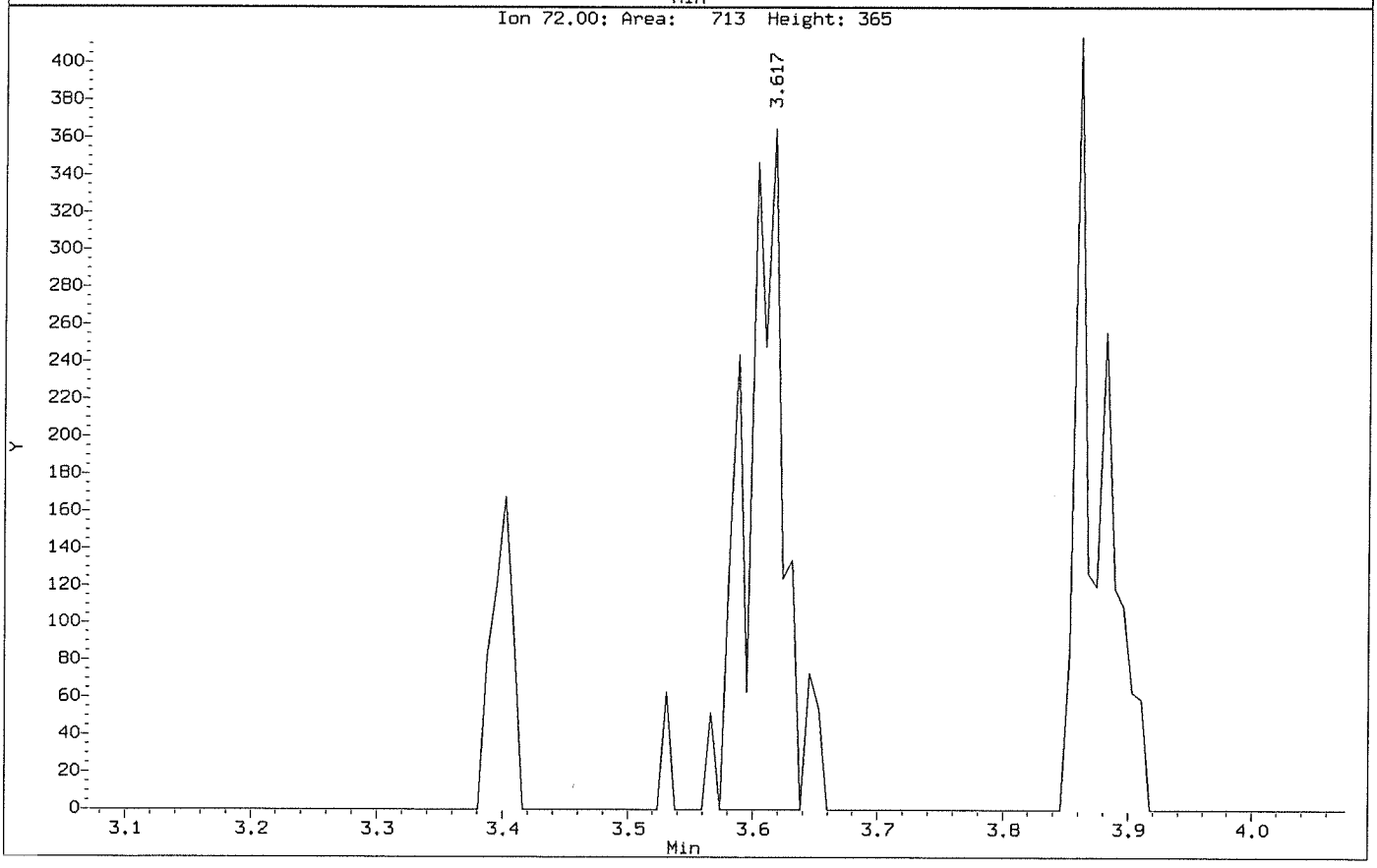


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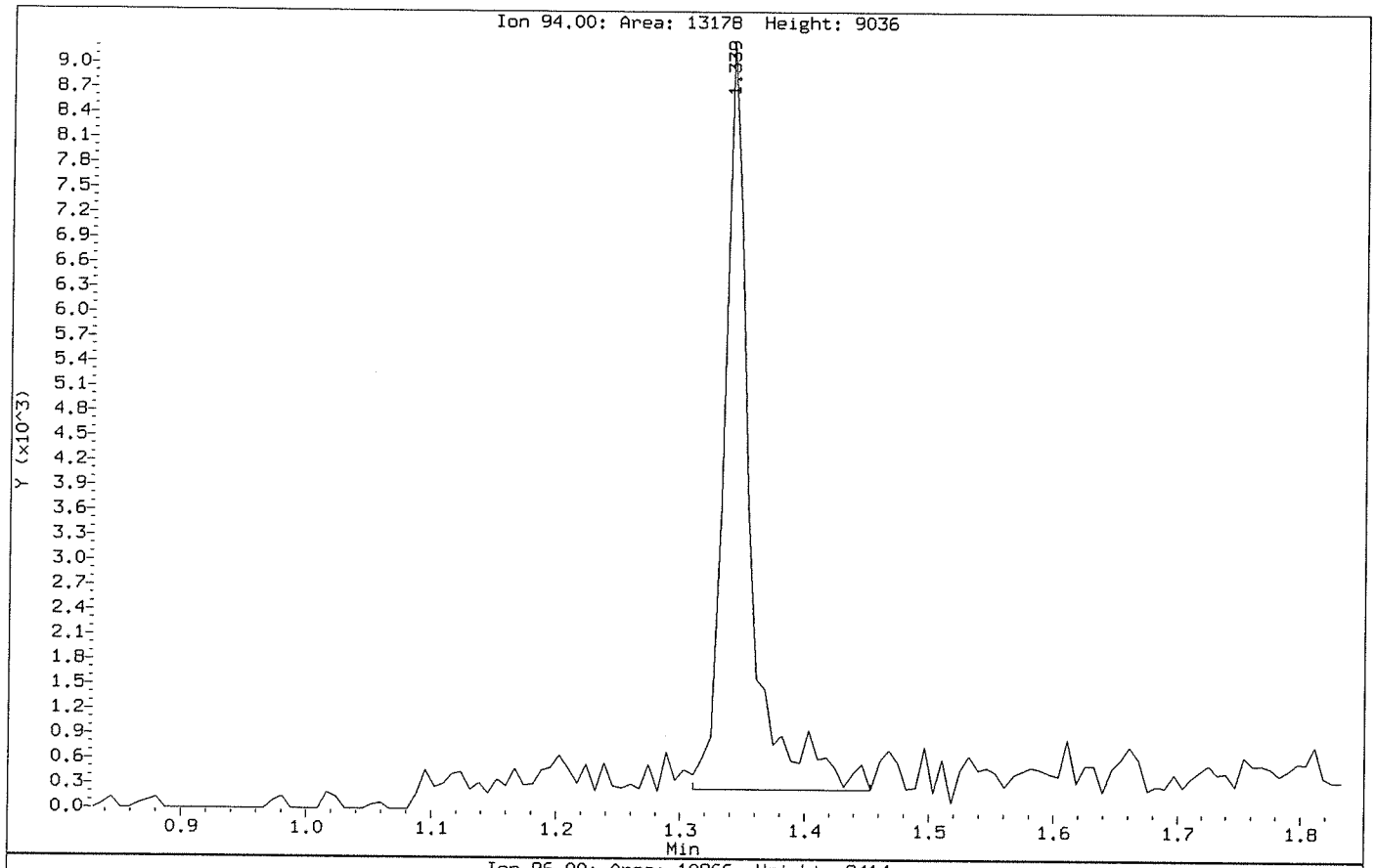
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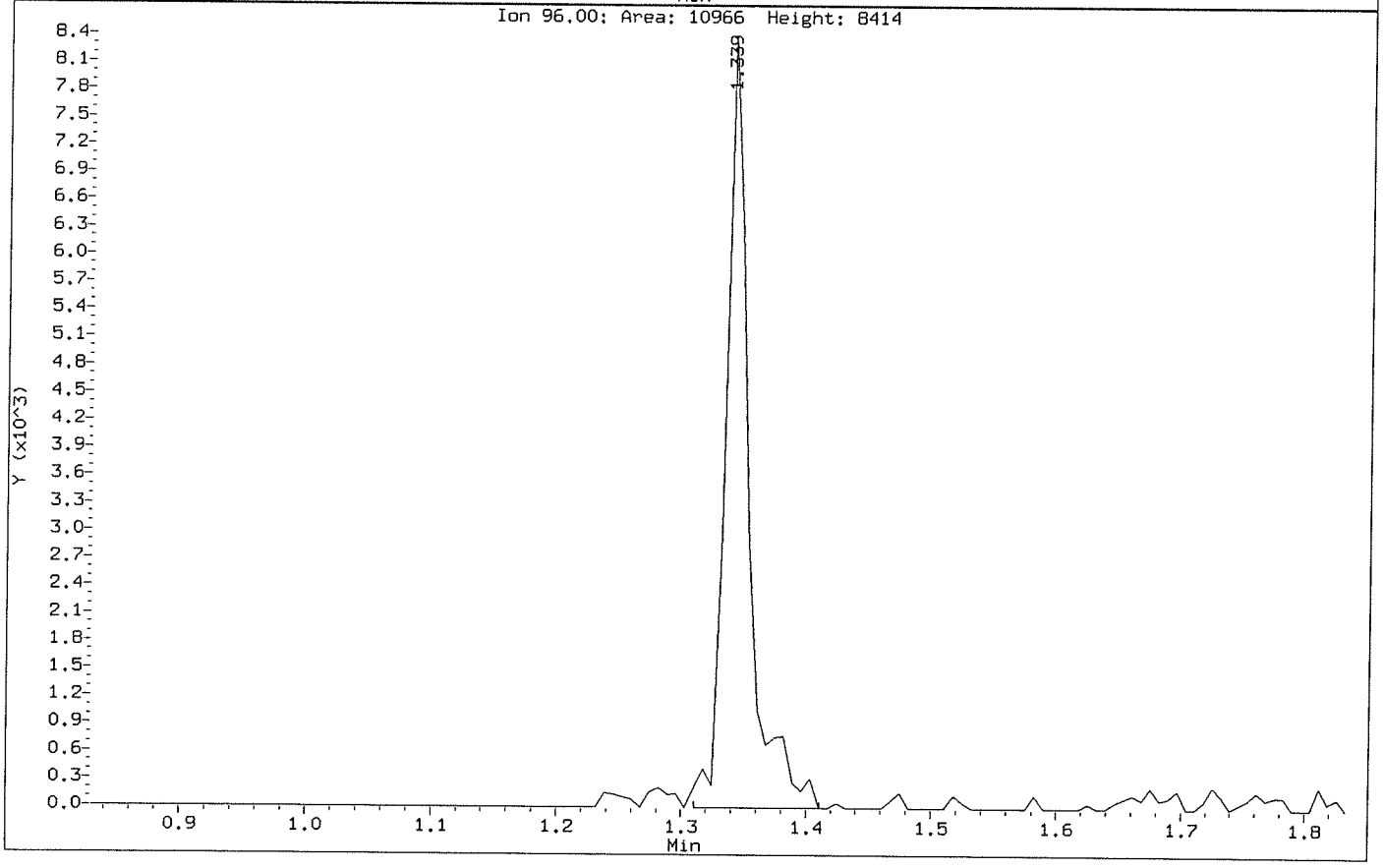


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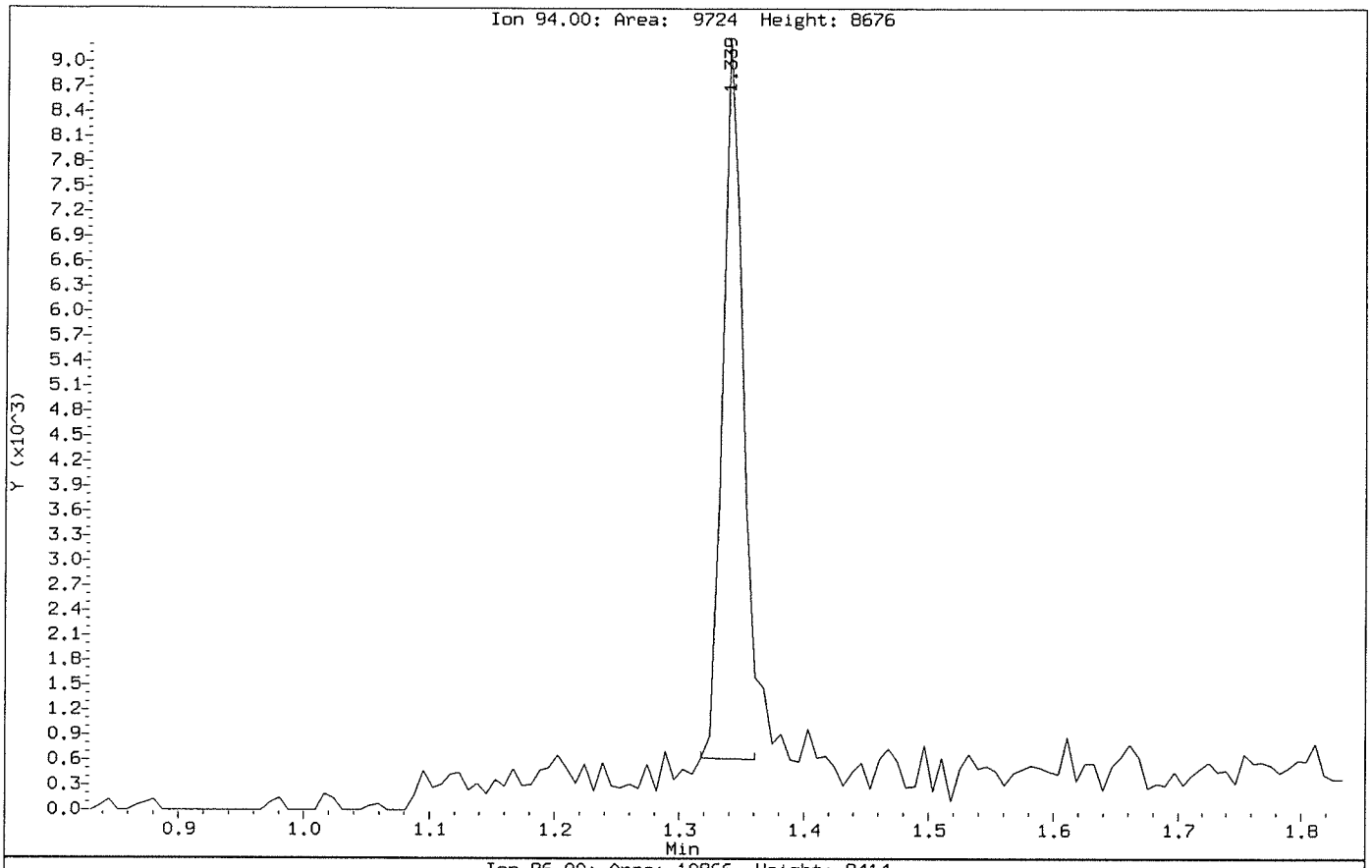
Compound: Bromomethane
CAS Number: 74-83-9

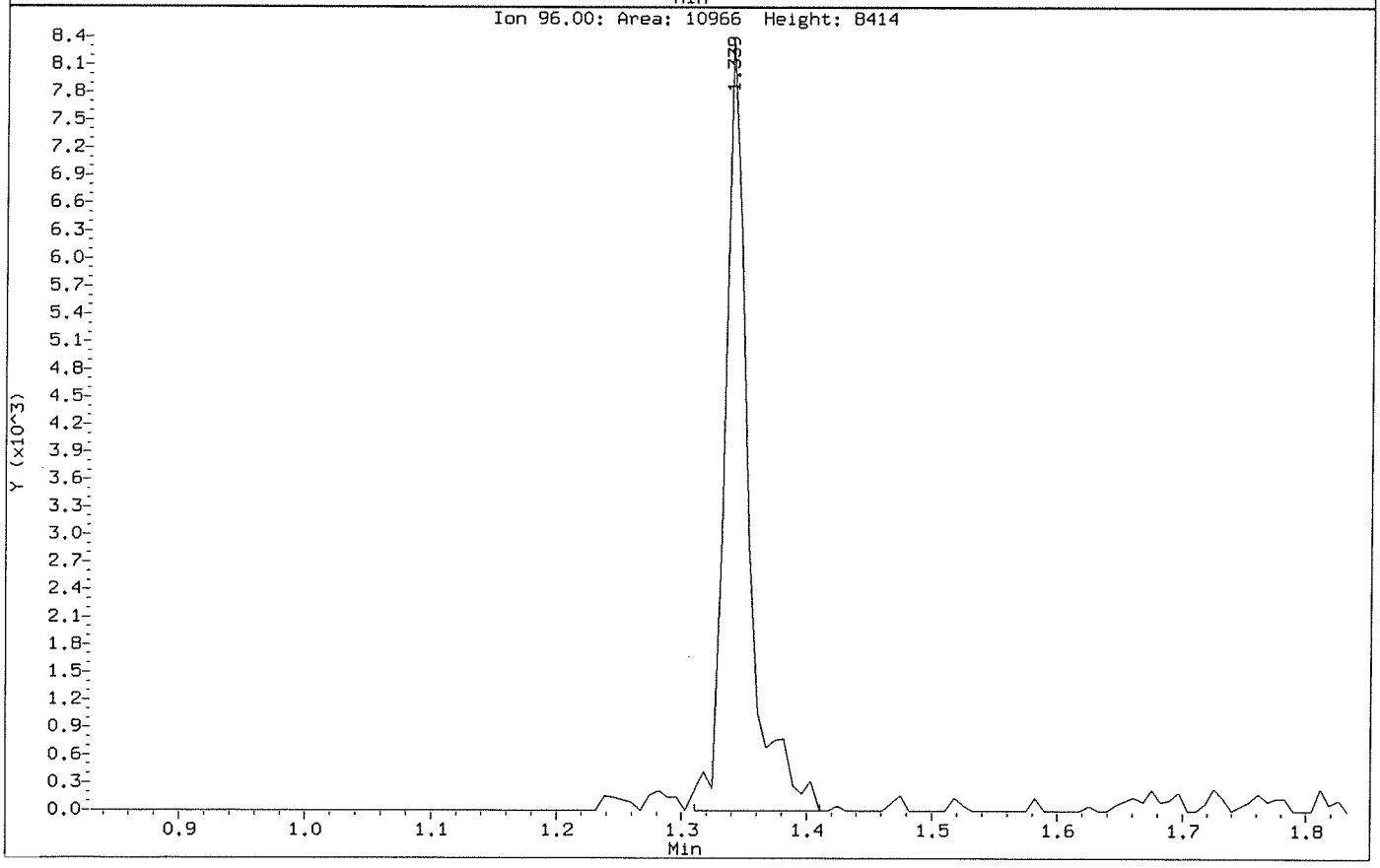


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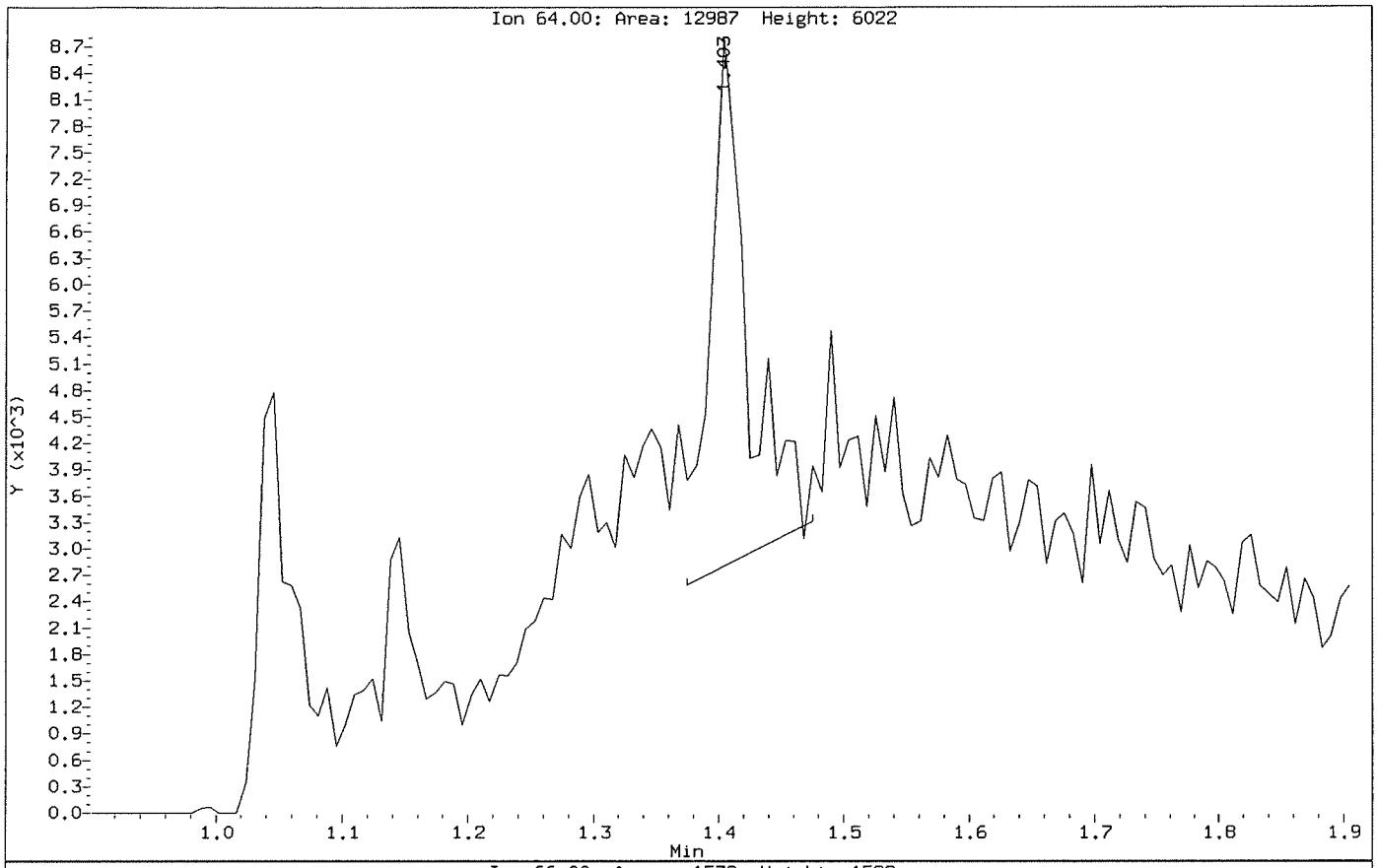
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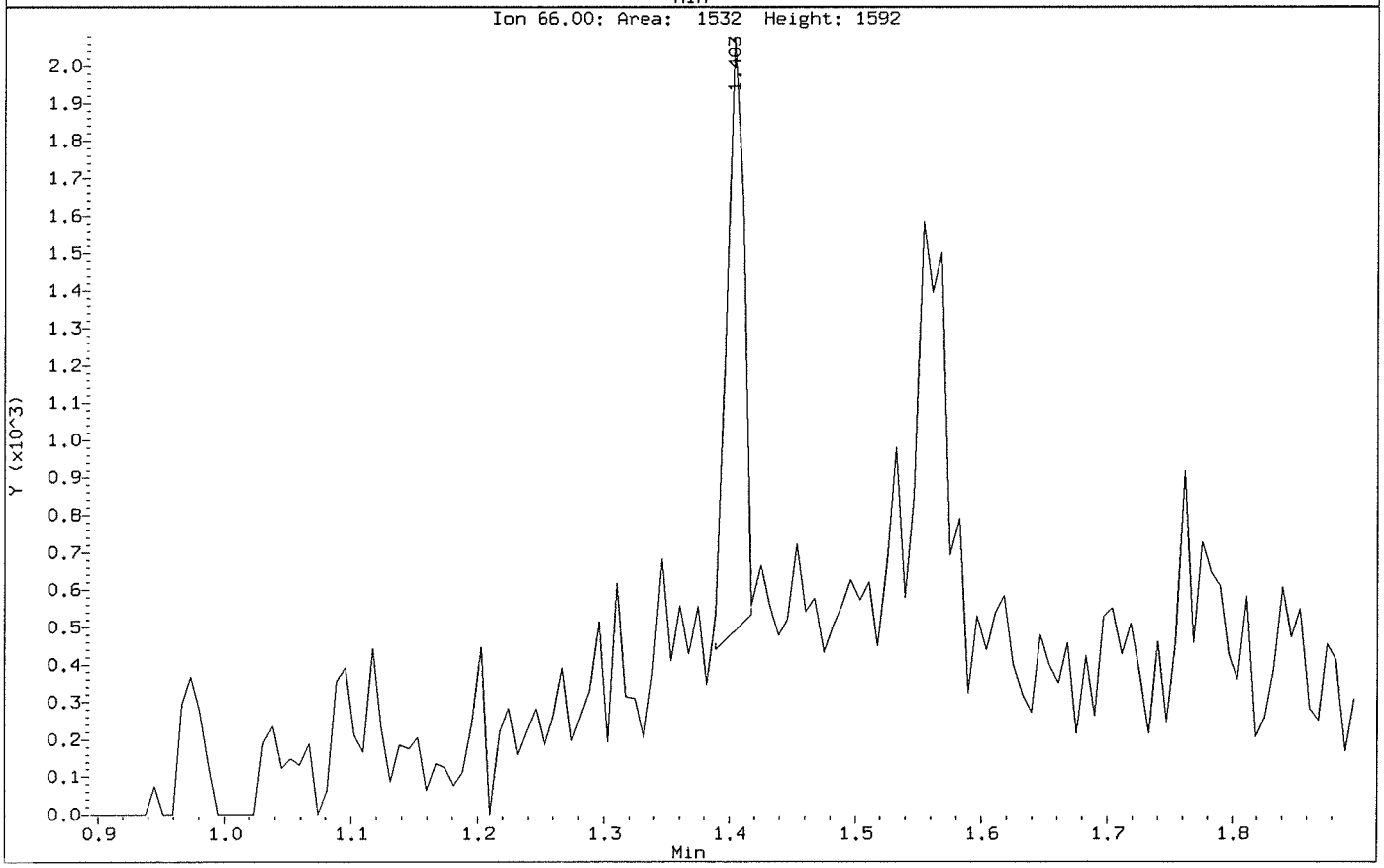


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Instrument: voa6.i
Client Sample ID: VSTD002

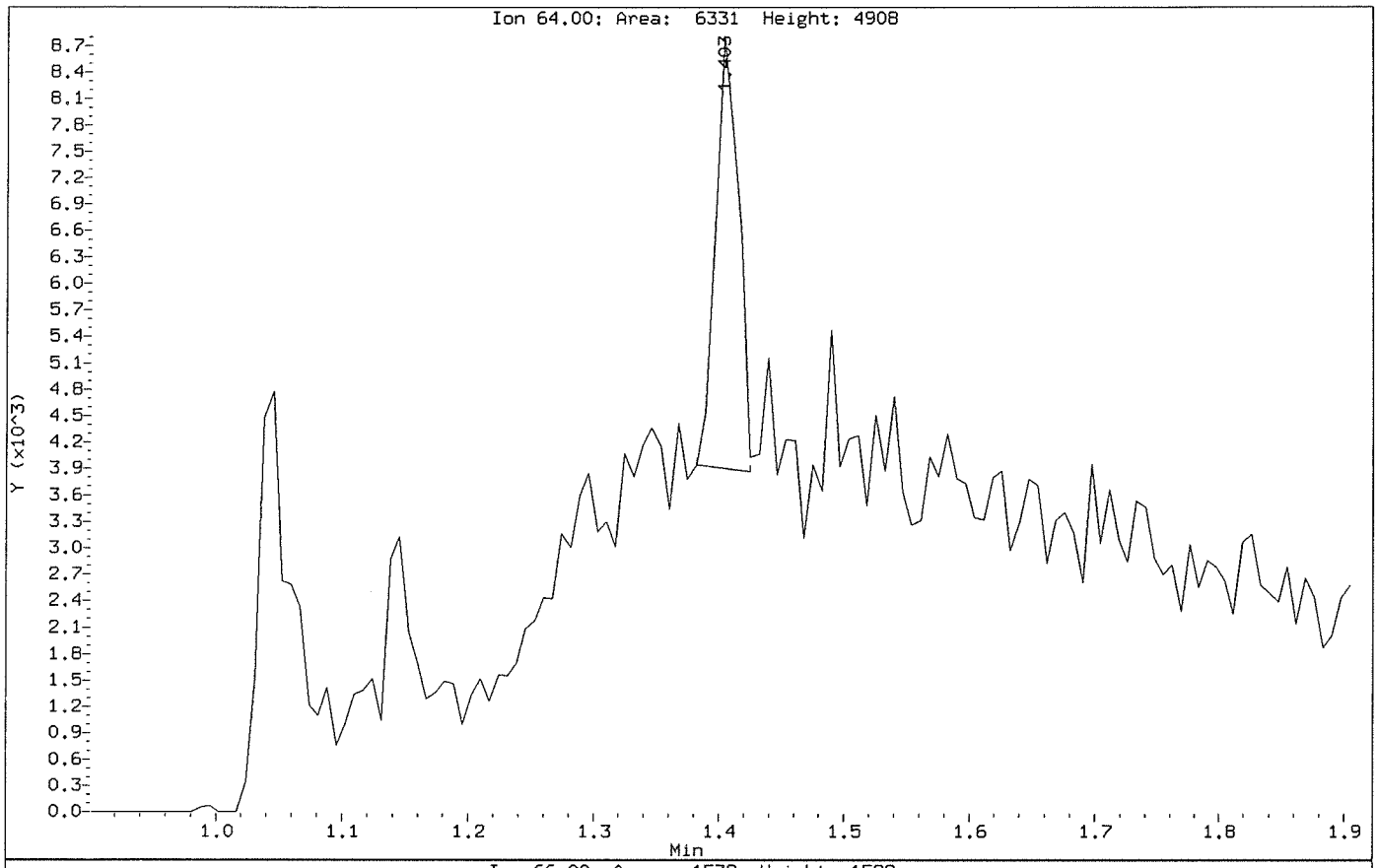
Compound: Chloroethane
CAS Number: 75-00-3

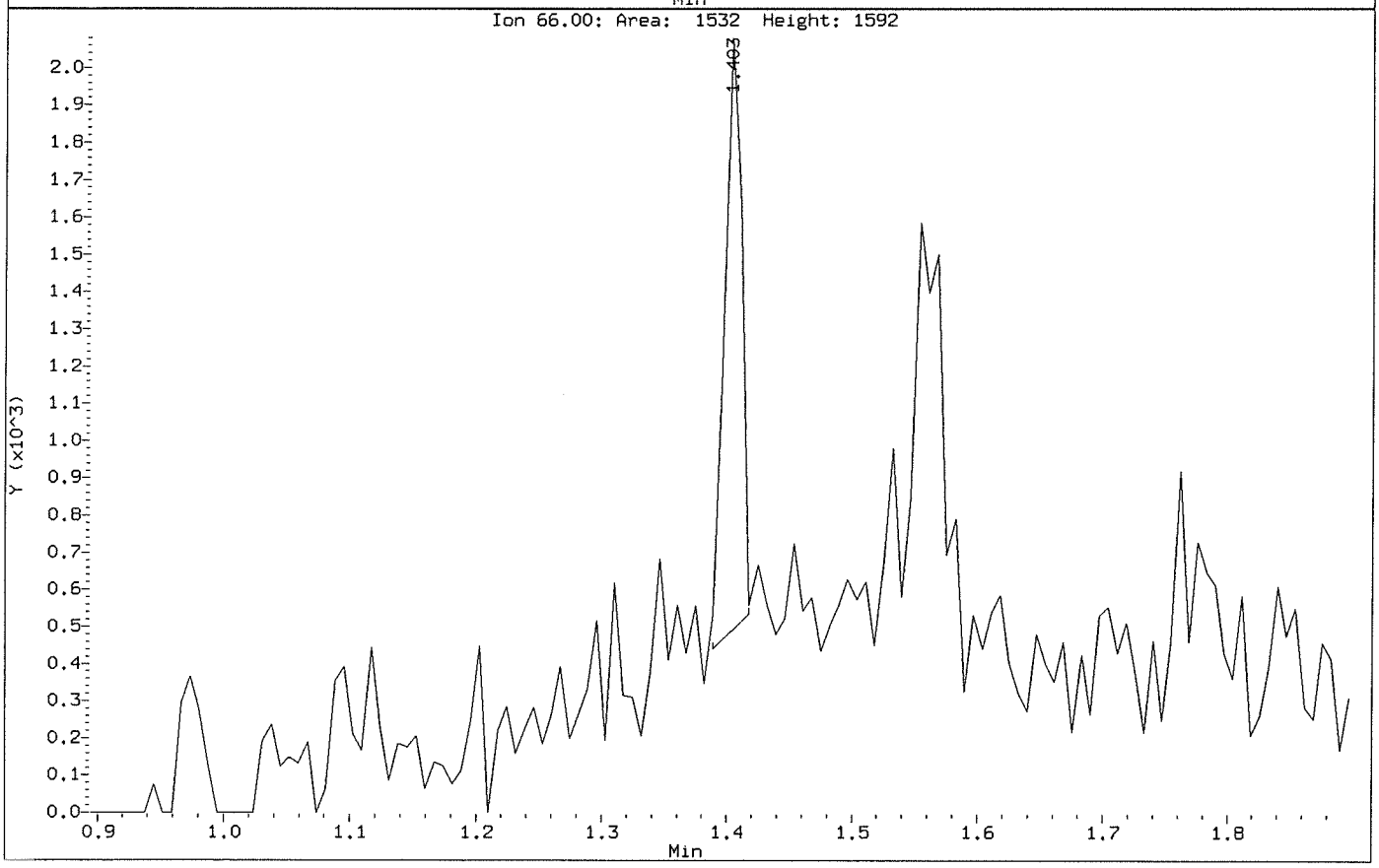


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Injection Date: 02-APR-2021 12:17
Instrument: voa6.i
Client Sample ID: VSTD002

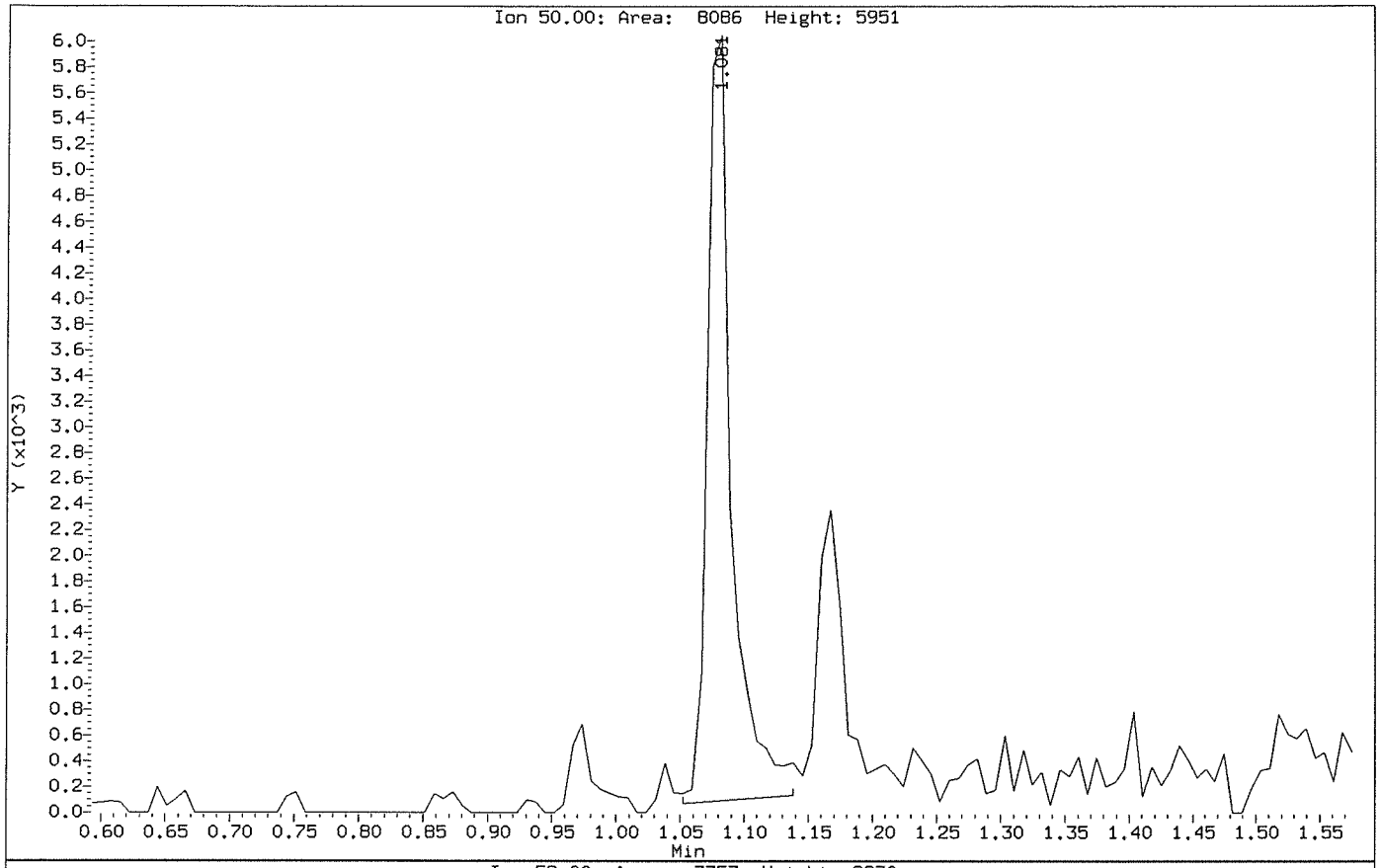
Compound: Chloroethane
CAS Number: 75-00-3

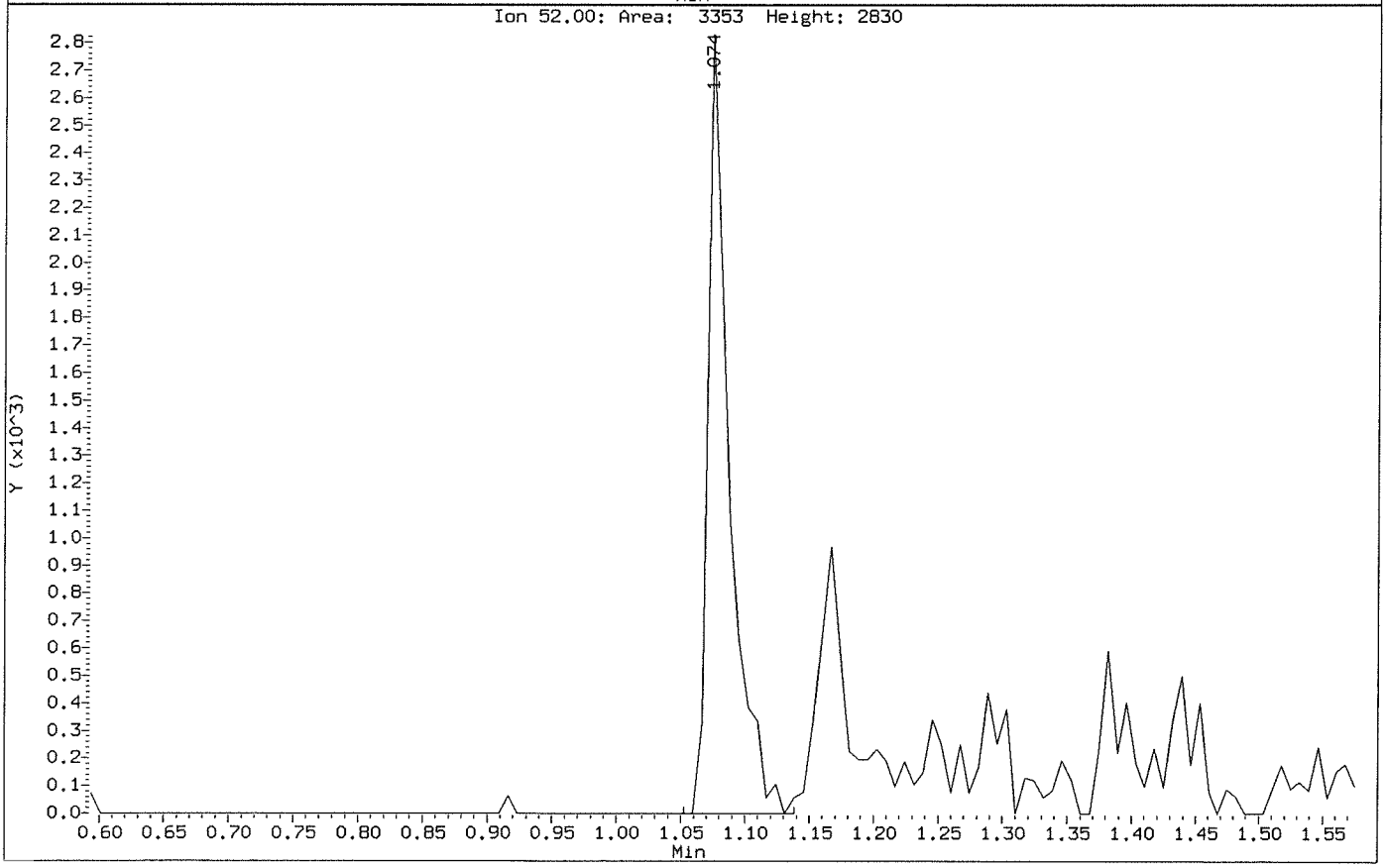


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Instrument: voa6.i
Client Sample ID: VSTD002

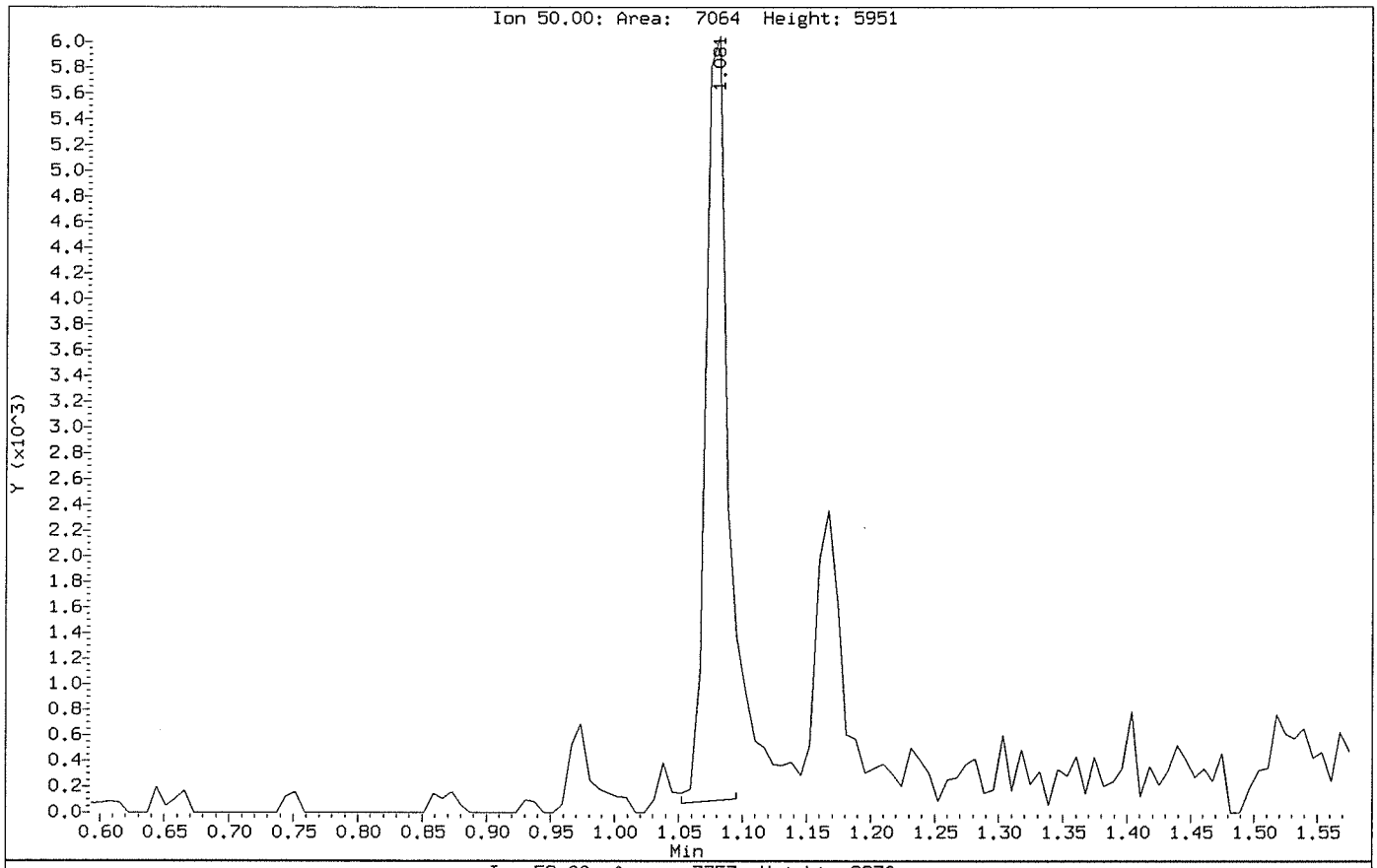
Compound: Chloromethane
CAS Number: 74-87-3

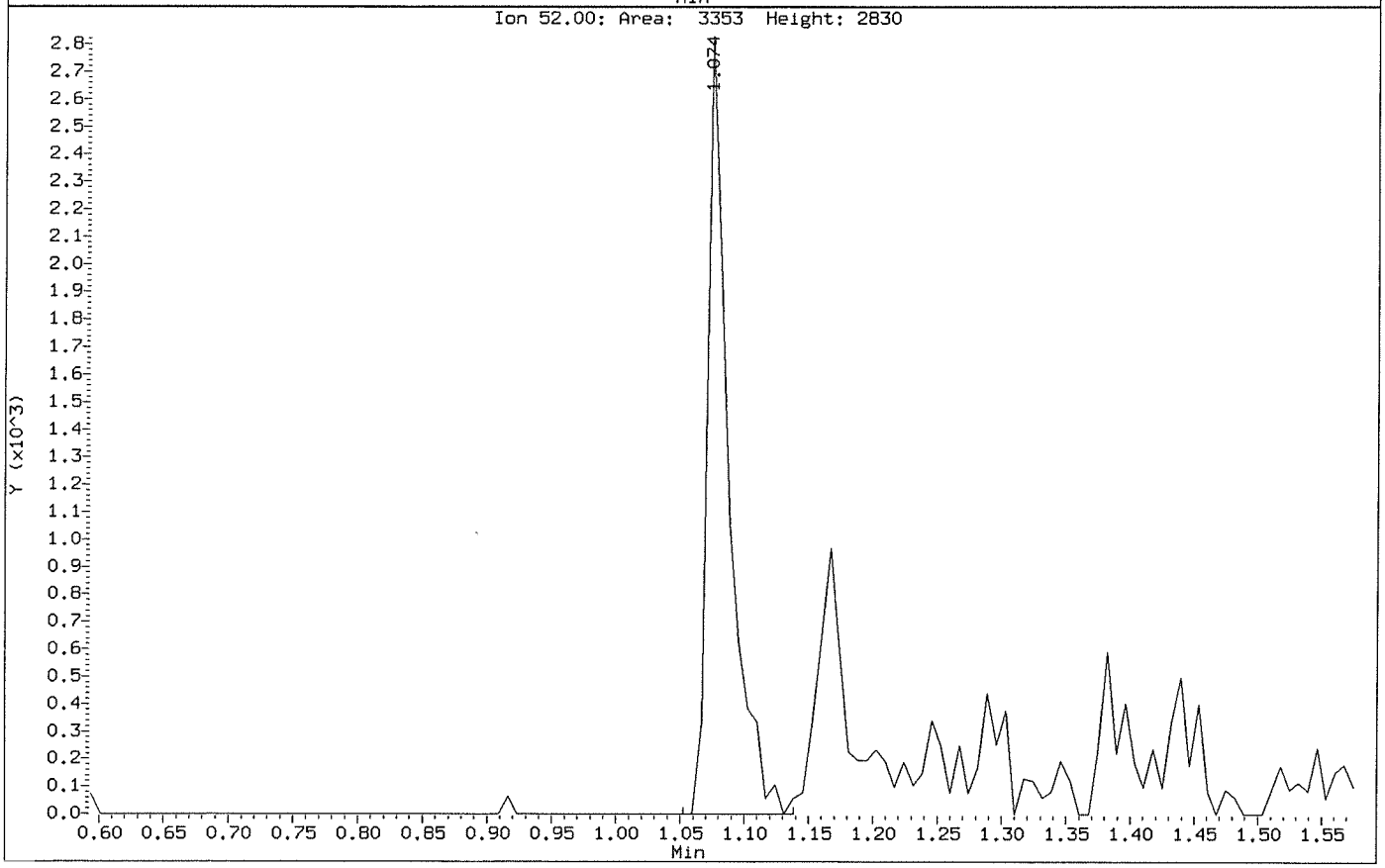


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Injection Date: 02-APR-2021 12:17
Instrument: voa6.i
Client Sample ID: VSTD002

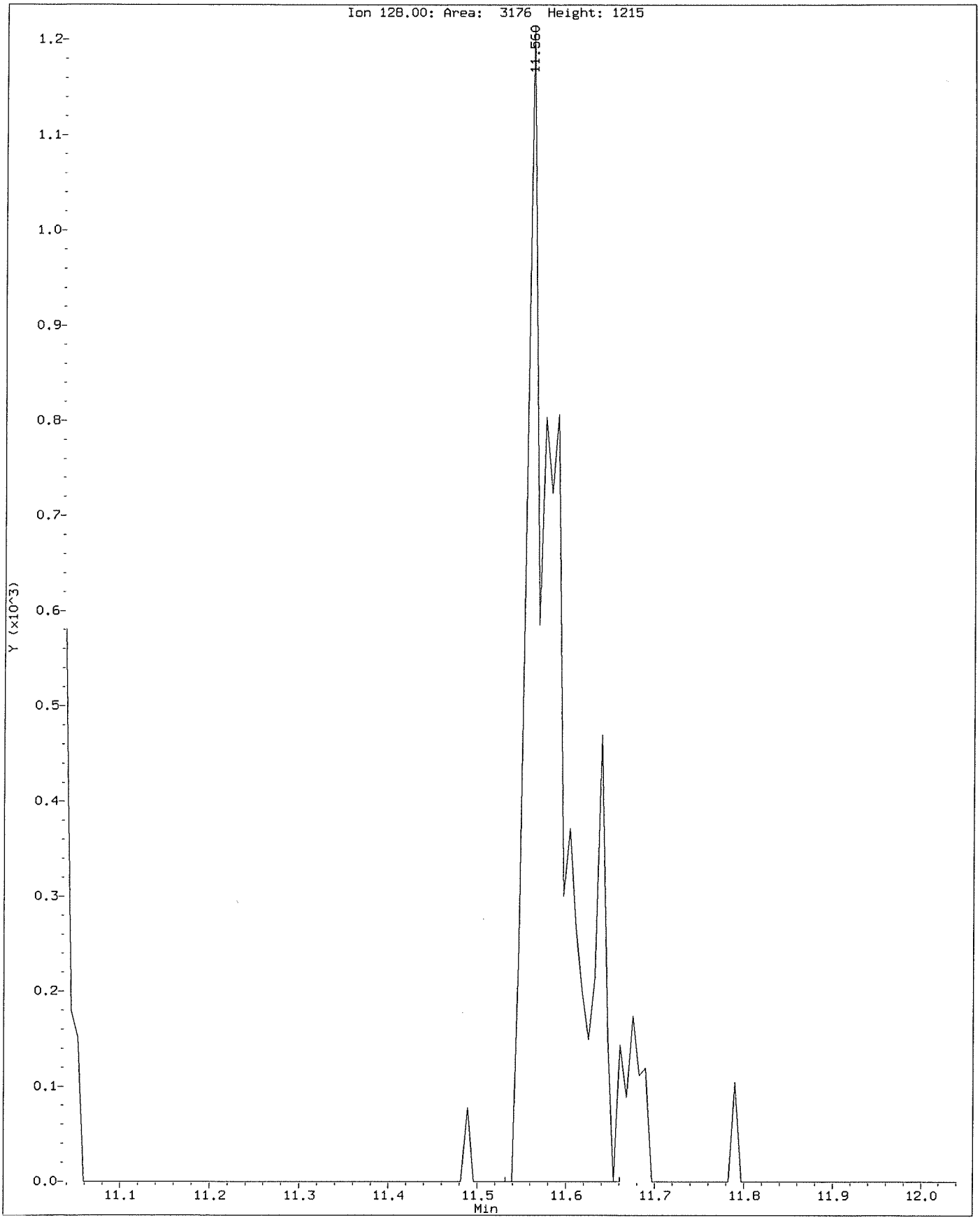
Compound: Chloromethane
CAS Number: 74-87-3



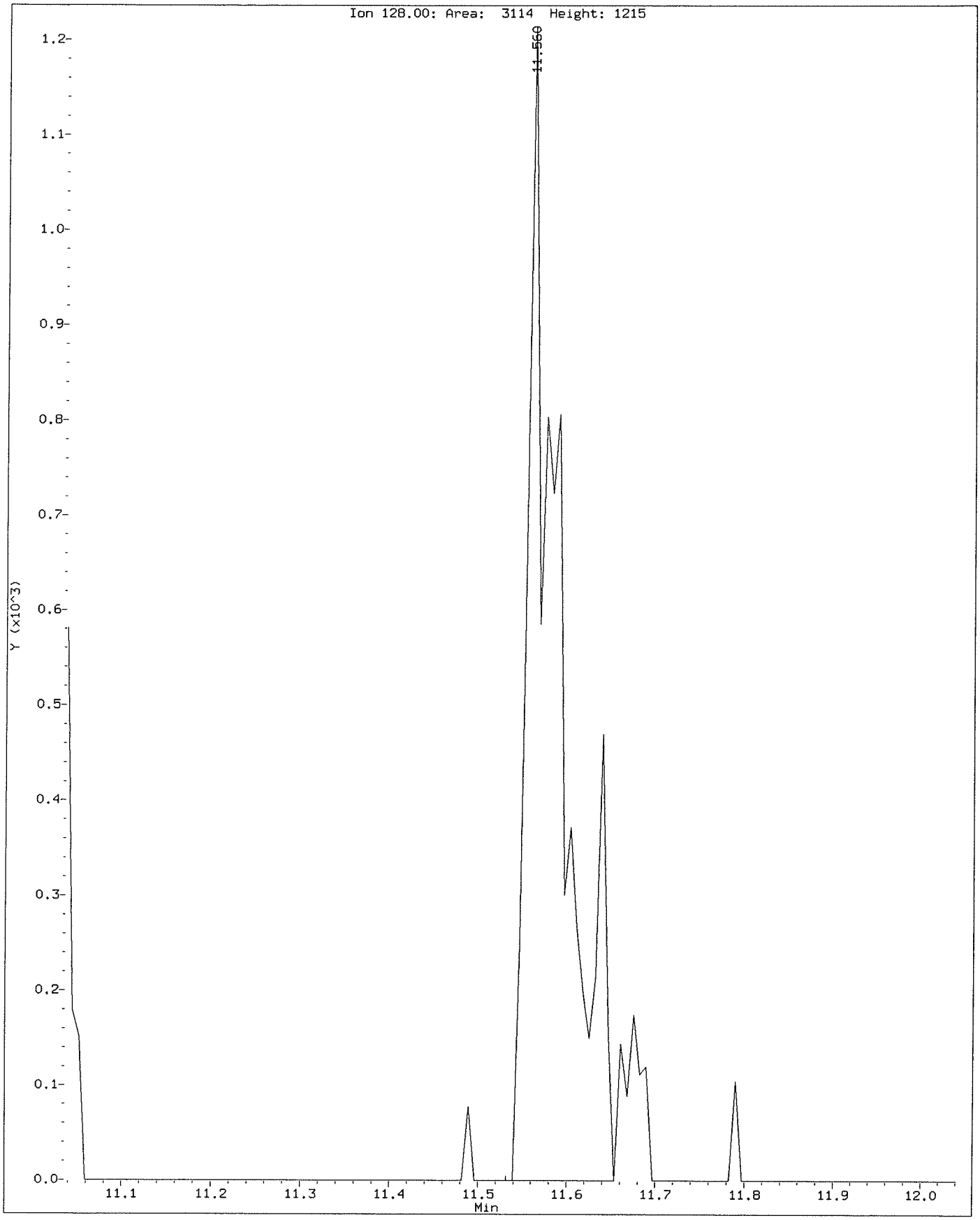
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Instrument: voa6.i
Client Sample ID: VSTD002

Compound: Naphthalene
CAS Number: 91-20-3



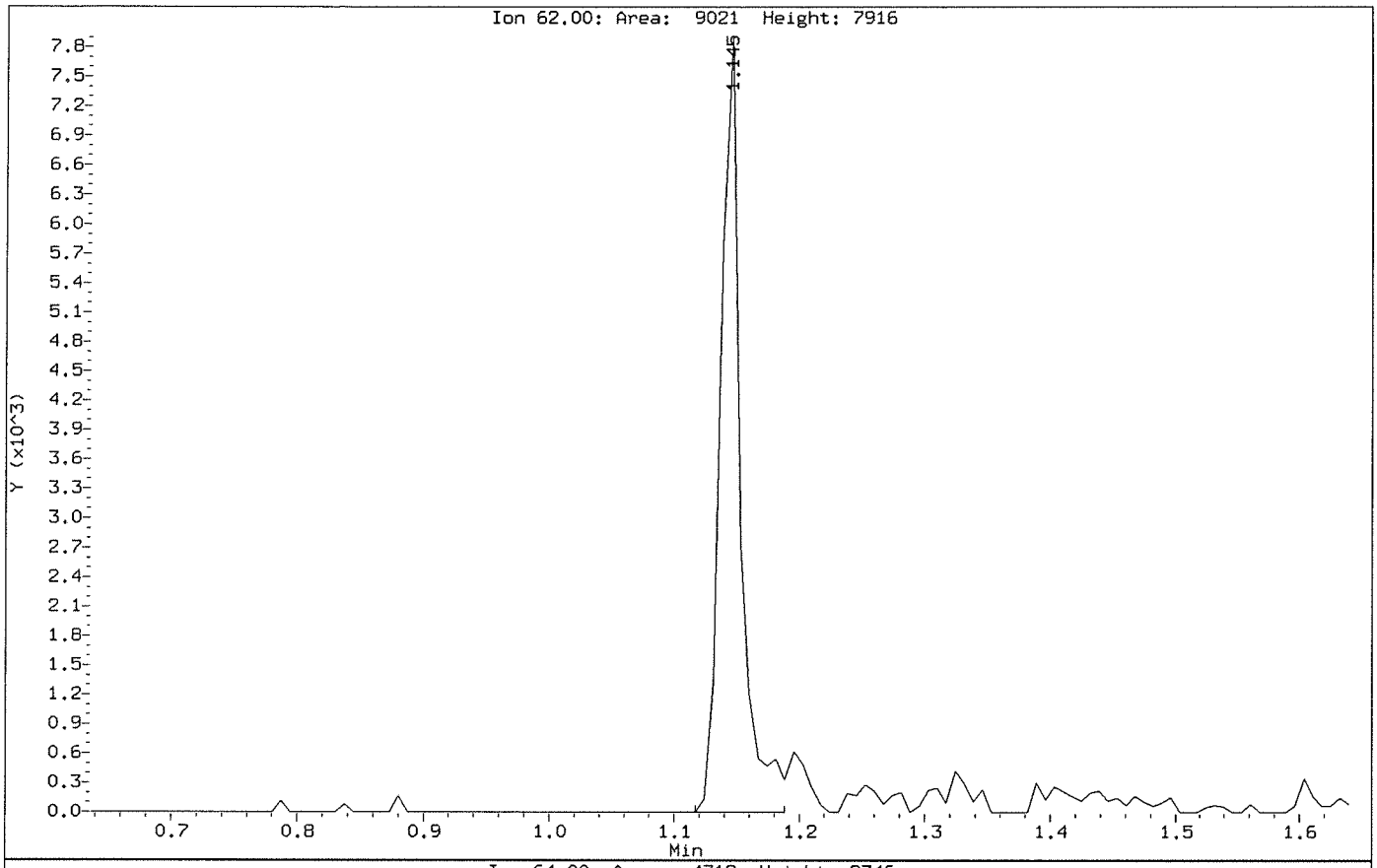
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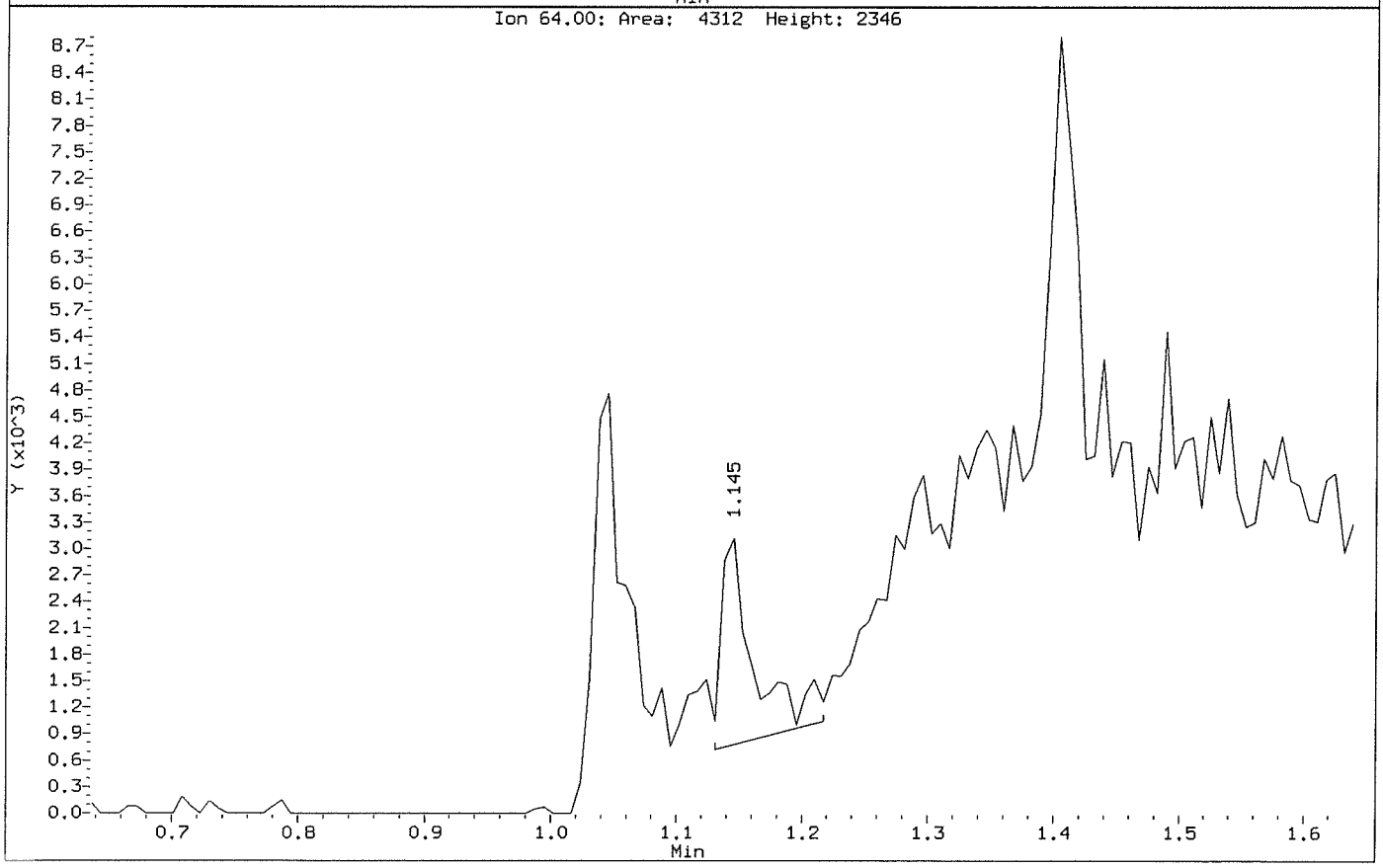
Compound: Naphthalene
CAS Number: 91-20-3



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before\X040205.D
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Instrument: voa6.i
Client Sample ID: VSTD002

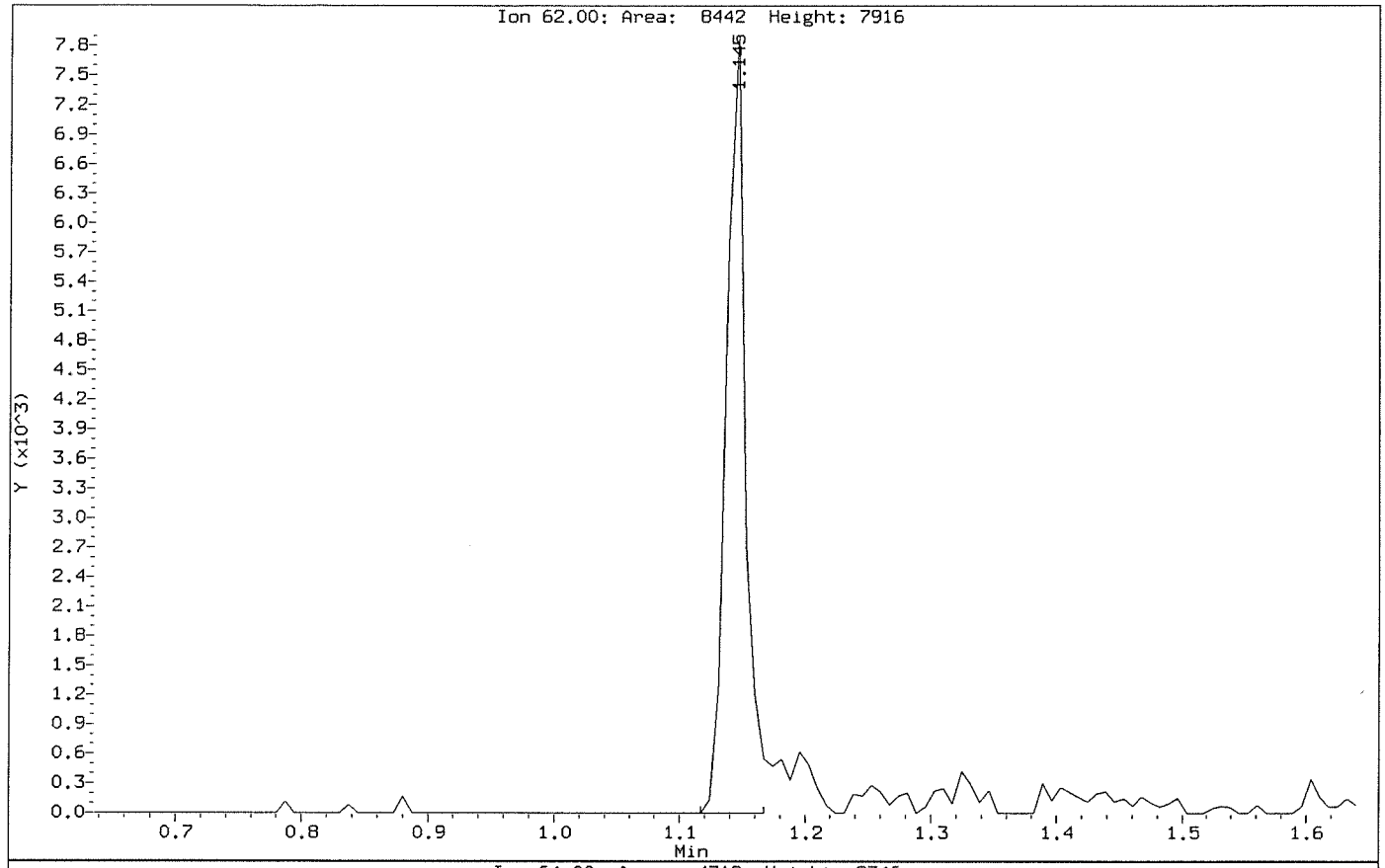
Compound: Vinyl Chloride
CAS Number: 75-01-4

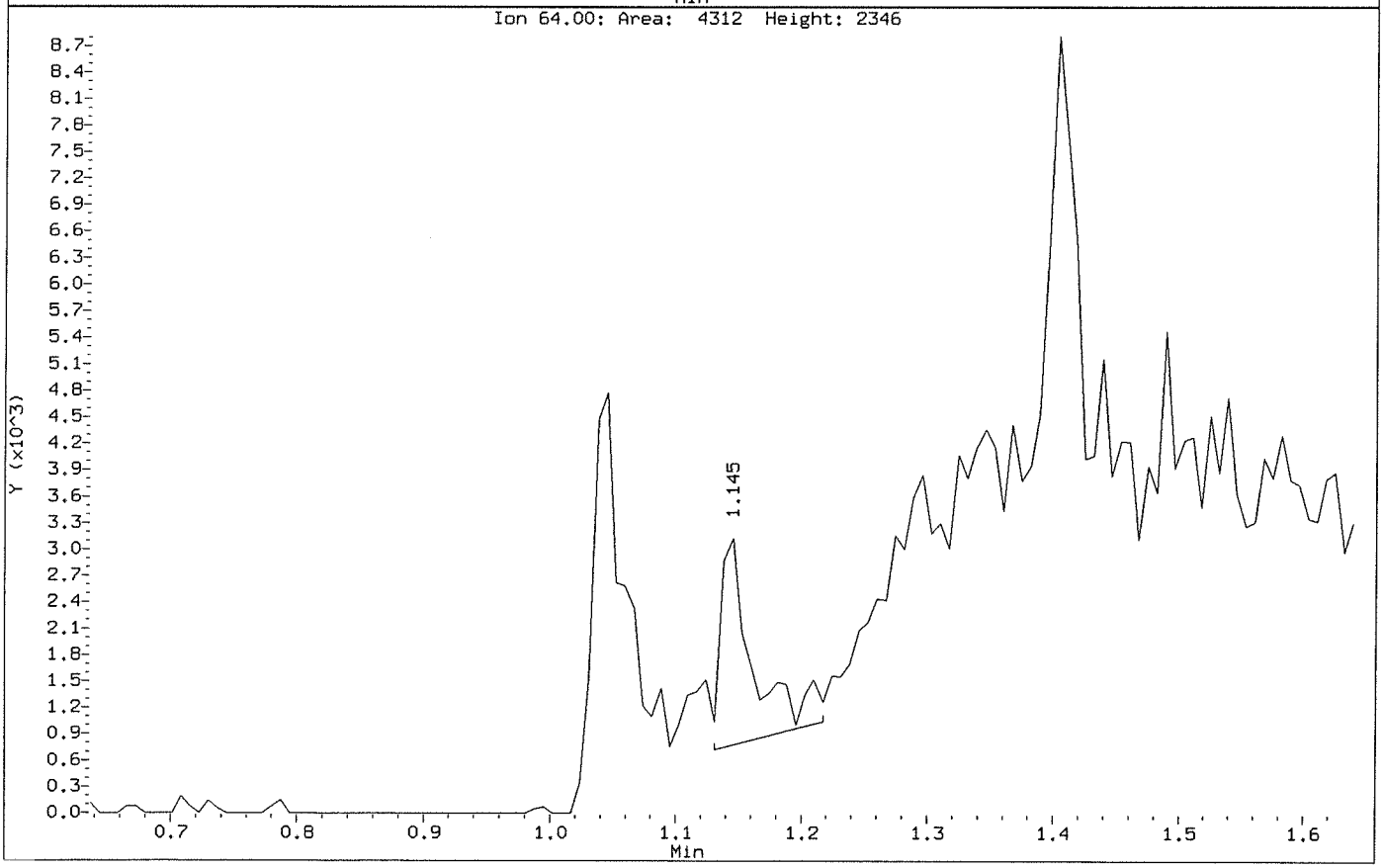


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040205.D
Injection Date: 02-APR-2021 12:17
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: Vinyl Chloride
CAS Number: 75-01-4



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040206.D
Lab Smp Id: VSTD005 Client Smp ID: VSTD005
Inj Date : 02-APR-2021 12:38
Operator : PC Inst ID: voa6.i
Smp Info : VSTD005;VSTD005;1;5;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\8260W.m
Meth Date : 14-Apr-2021 12:07 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 12:17 Cal File: X040205.D
Als bottle: 7 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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 |

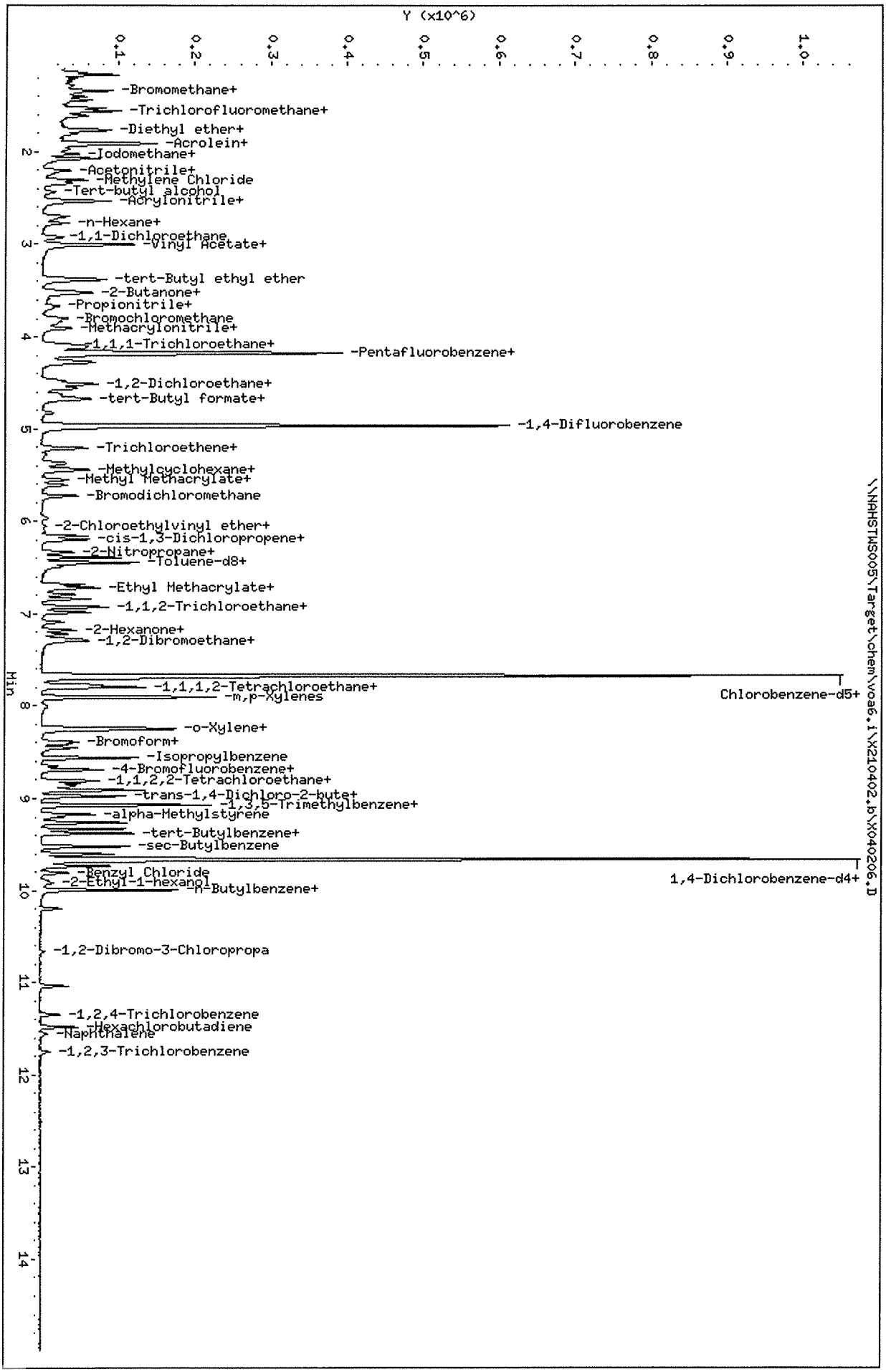
| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|---|
| * | 1 Pentafluorobenzene | 168 | 4.182 | 4.182 | (1.000) | 291823 | 50.0000 | |
| * | 36 1,4-Difluorobenzene | 114 | 4.963 | 4.963 | (1.000) | 482057 | 50.0000 | |
| * | 47 Chlorobenzene-d5 | 117 | 7.671 | 7.671 | (1.000) | 440939 | 50.0000 | |
| * | 70 1,4-Dichlorobenzene-d4 | 152 | 9.662 | 9.662 | (1.000) | 205433 | 50.0000 | |
| $ | 30 Dibromofluoromethane | 113 | 4.103 | 4.103 | (0.981) | 17824 | 5.00000 | 5.57 |
| $ | 35 1,2-Dichloroethane-d4 | 65 | 4.476 | 4.476 | (1.070) | 20809 | 5.00000 | 5.48 |
| $ | 48 Toluene-d8 | 98 | 6.388 | 6.388 | (0.833) | 56112 | 5.00000 | 6.62 |
| $ | 69 4-Bromofluorobenzene | 95 | 8.688 | 8.688 | (1.133) | 19193 | 5.00000 | 6.03 |
| | 60 1,1,1,2-Tetrachloroethane | 131 | 7.771 | 7.771 | (1.013) | 15164 | 5.00000 | 4.63(a) |
| | 31 1,1,1-Trichloroethane | 97 | 4.082 | 4.082 | (0.976) | 25845 | 5.00000 | 4.89(a) |
| | 68 1,1,2,2-Tetrachloroethane | 83 | 8.838 | 8.838 | (0.915) | 18095 | 5.00000 | 5.27 |
| | 53 1,1,2-Trichloroethane | 83 | 6.840 | 6.840 | (0.892) | 14112 | 5.00000 | 5.50 |
| | 22 1,1-Dichloroethane | 63 | 2.922 | 2.922 | (0.699) | 27634 | 5.00000 | 5.10 |
| | 11 1,1-Dichloroethene | 96 | 1.912 | 1.912 | (0.457) | 22632 | 5.00000 | 5.44 |
| | 32 1,1-Dichloropropene | 75 | 4.275 | 4.275 | (0.861) | 22071 | 5.00000 | 4.87(a) |
| | 93 1,2,3-Trichlorobenzene | 180 | 11.746 | 11.746 | (1.216) | 3180 | 5.00000 | 5.62(MH) |
| | 71 1,2,3-Trichloropropane | 75 | 8.867 | 8.867 | (0.918) | 14216 | 5.00000 | 5.15(M) |
| | 90 1,2,4-Trichlorobenzene | 180 | 11.345 | 11.345 | (1.174) | 7143 | 5.00000 | 5.61(M) |
| | 79 1,2,4-Trimethylbenzene | 105 | 9.383 | 9.383 | (0.971) | 52824 | 5.00000 | 5.01 |
| | 89 1,2-Dibromo-3-Chloropropane | 155 | 10.658 | 10.658 | (1.103) | 984 | 5.00000 | 4.40(aM) |
| | 57 1,2-Dibromoethane | 107 | 7.262 | 7.262 | (0.947) | 15977 | 5.00000 | 5.27 |
| | 88 1,2-Dichlorobenzene | 146 | 9.991 | 9.991 | (1.034) | 28370 | 5.00000 | 5.02 |

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040206.D Page 2
Report Date: 14-Apr-2021 12:07

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|---|
| 33 | 1,2-Dichloroethane | 62 | 4.562 | 4.562 | (0.919) | 25538 | 5.00000 | 5.00 |
| 42 | 1,2-Dichloropropane | 63 | 5.436 | 5.436 | (1.095) | 17013 | 5.00000 | 5.07(M) |
| 75 | 1,3,5-Trimethylbenzene | 105 | 9.067 | 9.067 | (0.938) | 51759 | 5.00000 | 4.70(a) |
| 83 | 1,3-Dichlorobenzene | 146 | 9.605 | 9.605 | (0.994) | 30504 | 5.00000 | 5.12 |
| 54 | 1,3-Dichloropropane | 76 | 6.983 | 6.983 | (0.910) | 26268 | 5.00000 | 5.36 |
| 84 | 1,4-Dichlorobenzene | 146 | 9.683 | 9.683 | (1.002) | 32837 | 5.00000 | 5.12 |
| 26 | 2,2-Dichloropropane | 77 | 3.516 | 3.516 | (0.841) | 26445 | 5.00000 | 4.95(a) |
| 24 | 2-Butanone | 43 | 3.588 | 3.588 | (0.858) | 10099 | 10.0000 | 10.06 |
| 76 | 2-Chlorotoluene | 91 | 8.974 | 8.974 | (0.929) | 48629 | 5.00000 | 5.62 |
| 52 | 2-Hexanone | 43 | 7.090 | 7.090 | (0.924) | 18023 | 10.0000 | 12.51 |
| 77 | 4-Chlorotoluene | 91 | 9.067 | 9.067 | (0.938) | 52427 | 5.00000 | 4.68(a) |
| 82 | p-Isopropyltoluene | 119 | 9.648 | 9.648 | (0.999) | 50664 | 5.00000 | 4.86(a) |
| 45 | 4-Methyl-2-Pentanone | 43 | 6.331 | 6.331 | (0.825) | 26117 | 10.0000 | 9.82 |
| 10 | Acetone | 43 | 1.976 | 1.976 | (0.473) | 13893 | 10.0000 | 10.55 |
| 37 | Benzene | 78 | 4.512 | 4.512 | (0.909) | 61868 | 5.00000 | 4.84(a) |
| 74 | Bromobenzene | 156 | 8.810 | 8.810 | (0.912) | 18481 | 5.00000 | 5.21 |
| 29 | Bromochloromethane | 128 | 3.803 | 3.803 | (0.909) | 9227 | 5.00000 | 5.30 |
| 39 | Bromodichloromethane | 83 | 5.729 | 5.729 | (1.154) | 23726 | 5.00000 | 4.90(a) |
| 66 | Bromoform | 173 | 8.416 | 8.416 | (1.097) | 10258 | 5.00000 | 6.51(T) |
| 6 | Bromomethane | 94 | 1.339 | 1.339 | (0.320) | 26104 | 5.00000 | 6.09 |
| 19 | Carbon Disulfide | 76 | 2.069 | 2.069 | (0.495) | 80845 | 10.0000 | 9.96 |
| 34 | Carbon Tetrachloride | 117 | 4.268 | 4.268 | (0.860) | 20622 | 5.00000 | 4.74(a) |
| 59 | Chlorobenzene | 112 | 7.692 | 7.692 | (1.003) | 44198 | 5.00000 | 6.42 |
| 7 | Chloroethane | 64 | 1.403 | 1.403 | (0.336) | 18174 | 5.00000 | 5.59(M) |
| 28 | Chloroform | 83 | 3.910 | 3.910 | (0.935) | 32090 | 5.00000 | 5.06 |
| 3 | Chloromethane | 50 | 1.081 | 1.081 | (0.258) | 18363 | 5.00000 | 5.33 |
| 27 | cis-1,2-Dichloroethene | 96 | 3.530 | 3.530 | (0.844) | 17639 | 5.00000 | 4.94(a) |
| 46 | cis-1,3-Dichloropropene | 75 | 6.159 | 6.159 | (1.241) | 28459 | 5.00000 | 5.04 |
| 55 | Dibromochloromethane | 129 | 7.176 | 7.176 | (0.936) | 17339 | 5.00000 | 5.03 |
| 44 | Dibromomethane | 93 | 5.558 | 5.558 | (1.120) | 11926 | 5.00000 | 5.01 |
| 2 | Dichlorodifluoromethane | 85 | 0.973 | 0.973 | (0.233) | 14213 | 5.00000 | 6.49 |
| 61 | Ethylbenzene | 106 | 7.800 | 7.800 | (1.017) | 23767 | 5.00000 | 5.03 |
| 91 | Hexachlorobutadiene | 225 | 11.481 | 11.481 | (1.188) | 5720 | 5.00000 | 6.12(M) |
| 67 | Isopropylbenzene | 105 | 8.559 | 8.559 | (1.116) | 65962 | 5.00000 | 4.67(a) |
| 62 | m,p-Xylenes | 106 | 7.907 | 7.907 | (1.031) | 55105 | 10.0000 | 9.22 |
| 17 | Methylene Chloride | 84 | 2.306 | 2.306 | (0.551) | 17205 | 5.00000 | 6.75 |
| 87 | n-Butylbenzene | 91 | 9.991 | 9.991 | (1.034) | 46904 | 5.00000 | 4.75(a) |
| 73 | n-Propylbenzene | 91 | 8.910 | 8.910 | (0.922) | 79153 | 5.00000 | 5.07 |
| 92 | Naphthalene | 128 | 11.553 | 11.553 | (1.196) | 9895 | 5.00000 | 5.89(M) |
| 63 | o-Xylene | 106 | 8.244 | 8.244 | (1.075) | 28594 | 5.00000 | 4.93(a) |
| 81 | sec-Butylbenzene | 105 | 9.519 | 9.519 | (0.985) | 61667 | 5.00000 | 5.63 |
| 64 | Styrene | 104 | 8.258 | 8.258 | (1.077) | 41908 | 5.00000 | 7.02 |
| 78 | tert-Butylbenzene | 119 | 9.340 | 9.340 | (0.967) | 44435 | 5.00000 | 5.68 |
| 56 | Tetrachloroethene | 164 | 6.926 | 6.926 | (0.903) | 13320 | 5.00000 | 5.00 |
| 50 | Toluene | 91 | 6.446 | 6.446 | (0.840) | 65734 | 5.00000 | 4.79(a) |
| 20 | trans-1,2-Dichloroethene | 96 | 2.535 | 2.535 | (0.606) | 14854 | 5.00000 | 4.99(a) |
| 51 | trans-1,3-Dichloropropene | 75 | 6.682 | 6.682 | (1.346) | 22837 | 5.00000 | 4.74(a) |
| 38 | Trichloroethene | 130 | 5.207 | 5.207 | (1.049) | 18140 | 5.00000 | 5.49 |
| 8 | Trichlorofluoromethane | 101 | 1.561 | 1.561 | (0.373) | 42341 | 5.00000 | 5.05 |
| 5 | Vinyl Chloride | 62 | 1.145 | 1.145 | (0.274) | 22066 | 5.00000 | 5.04(M) |

QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

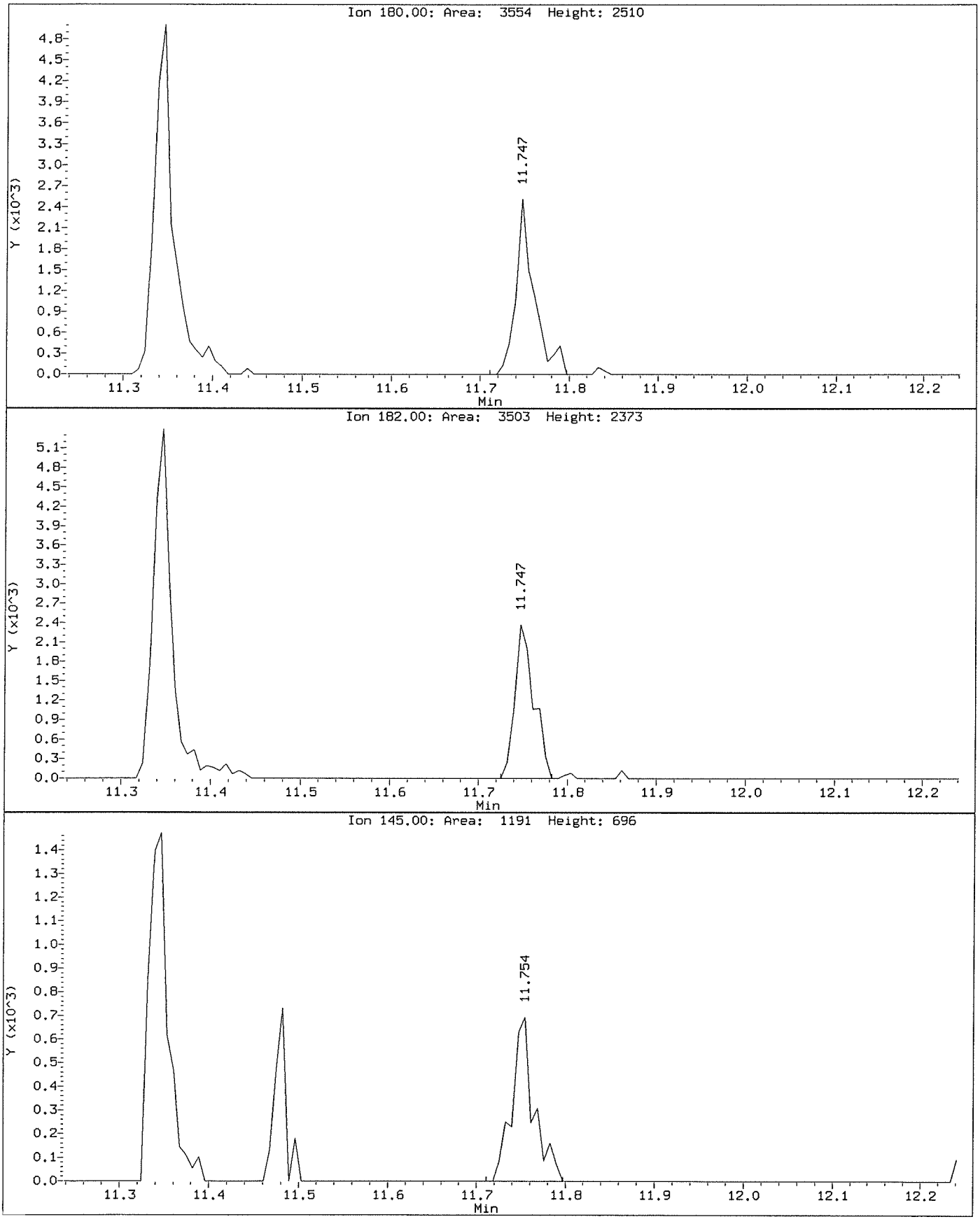



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040206.D
Date : 02-APR-2021 12:38
Client ID: VSTD005
Sample Info: VSTD005;VSTD005;1;5;;
Purge Volume: 5.0
Column phase: DB624

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

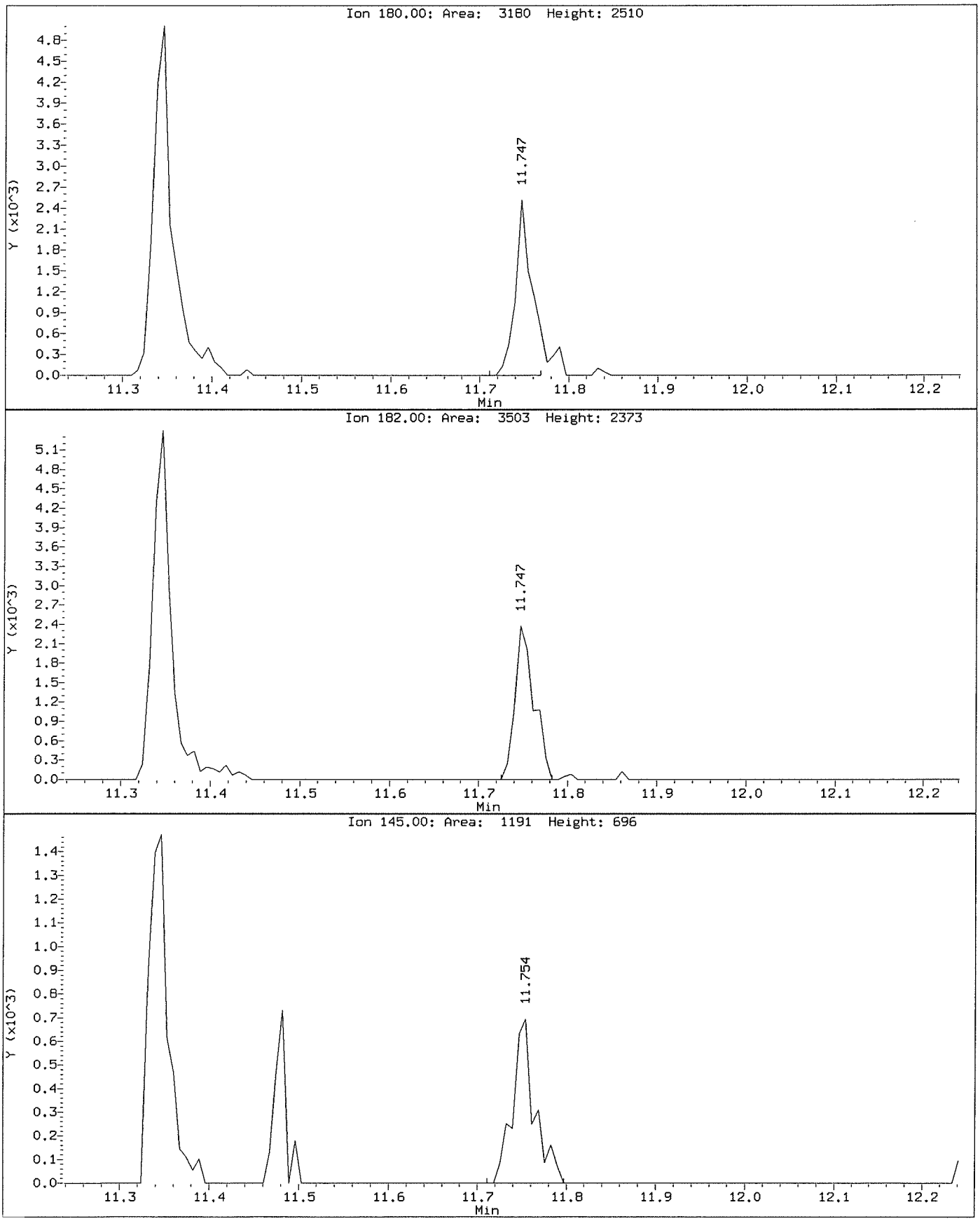
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Injection Date: 02-APR-2021 12:38
Instrument: voa6.i
Client Sample ID: VSTD005

Compound: 1,2,3-Trichlorobenzene
CAS Number: 87-61-6



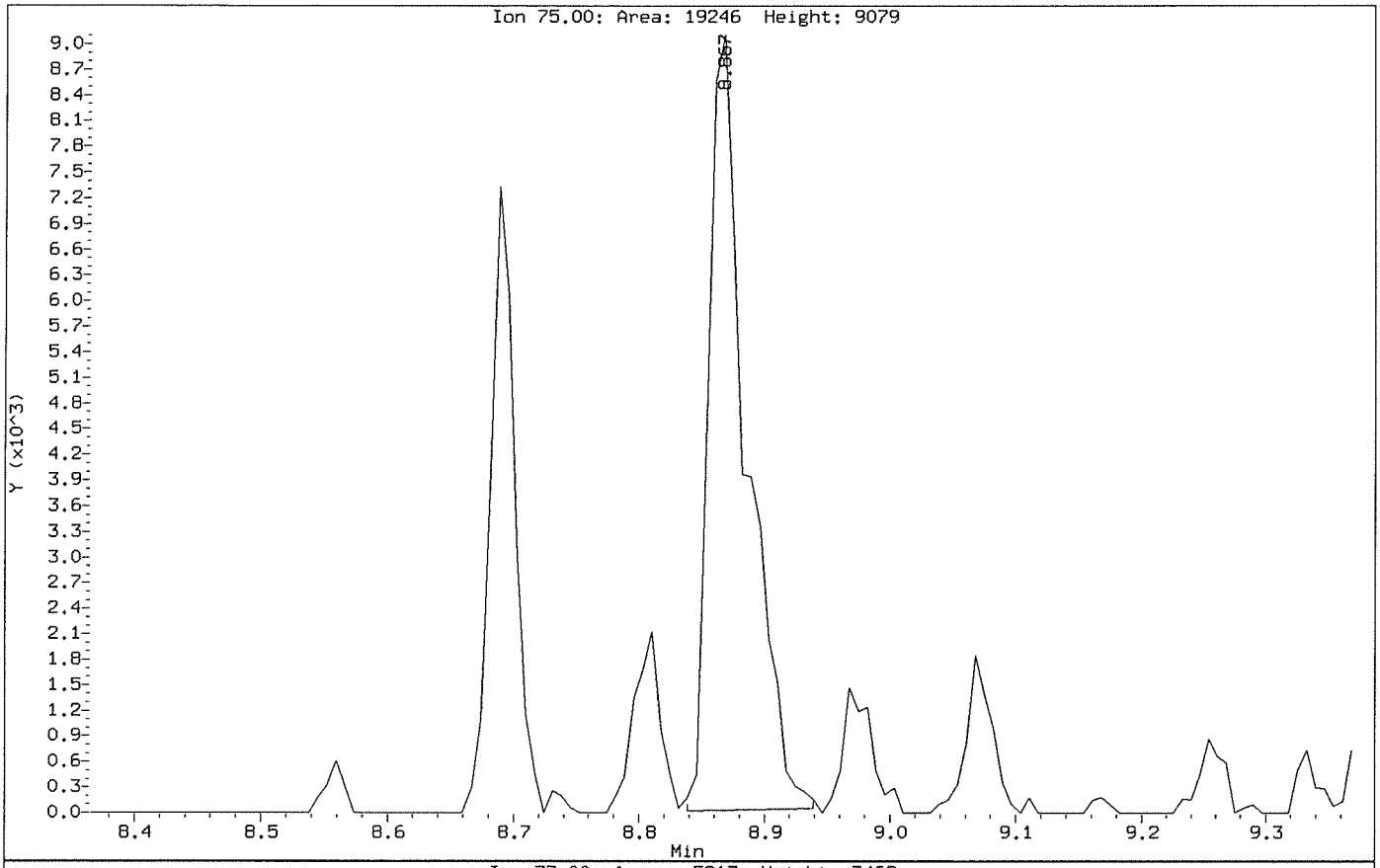
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Injection Date: 02-APR-2021 12:38
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Client Sample ID: VSTD005

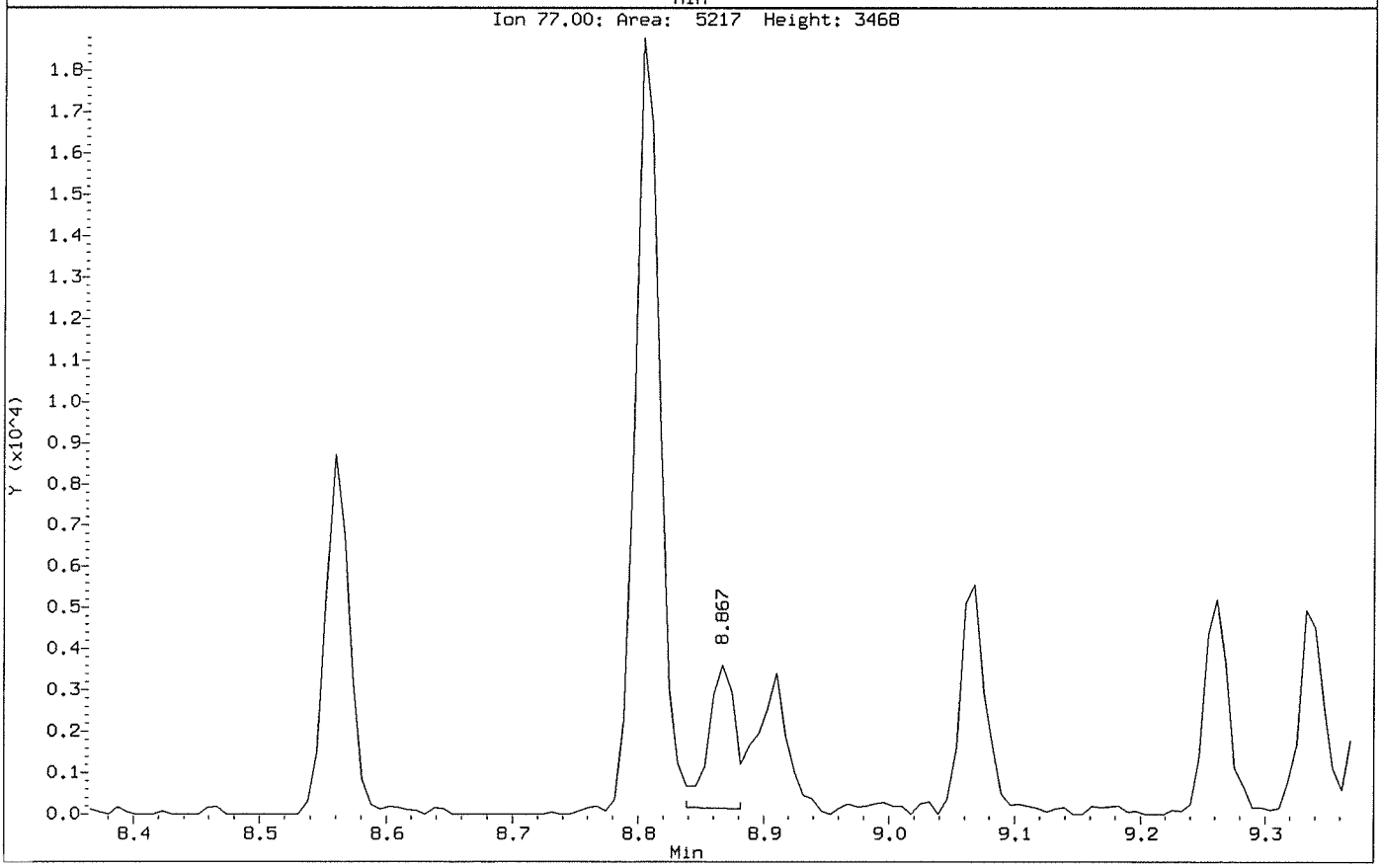
Compound: 1,2,3-Trichlorobenzene
CAS Number: 87-61-6



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before\X040206.D
Injection Date: 02-APR-2021 12:38
Instrument: voa6.i
Client Sample ID: VSTD005

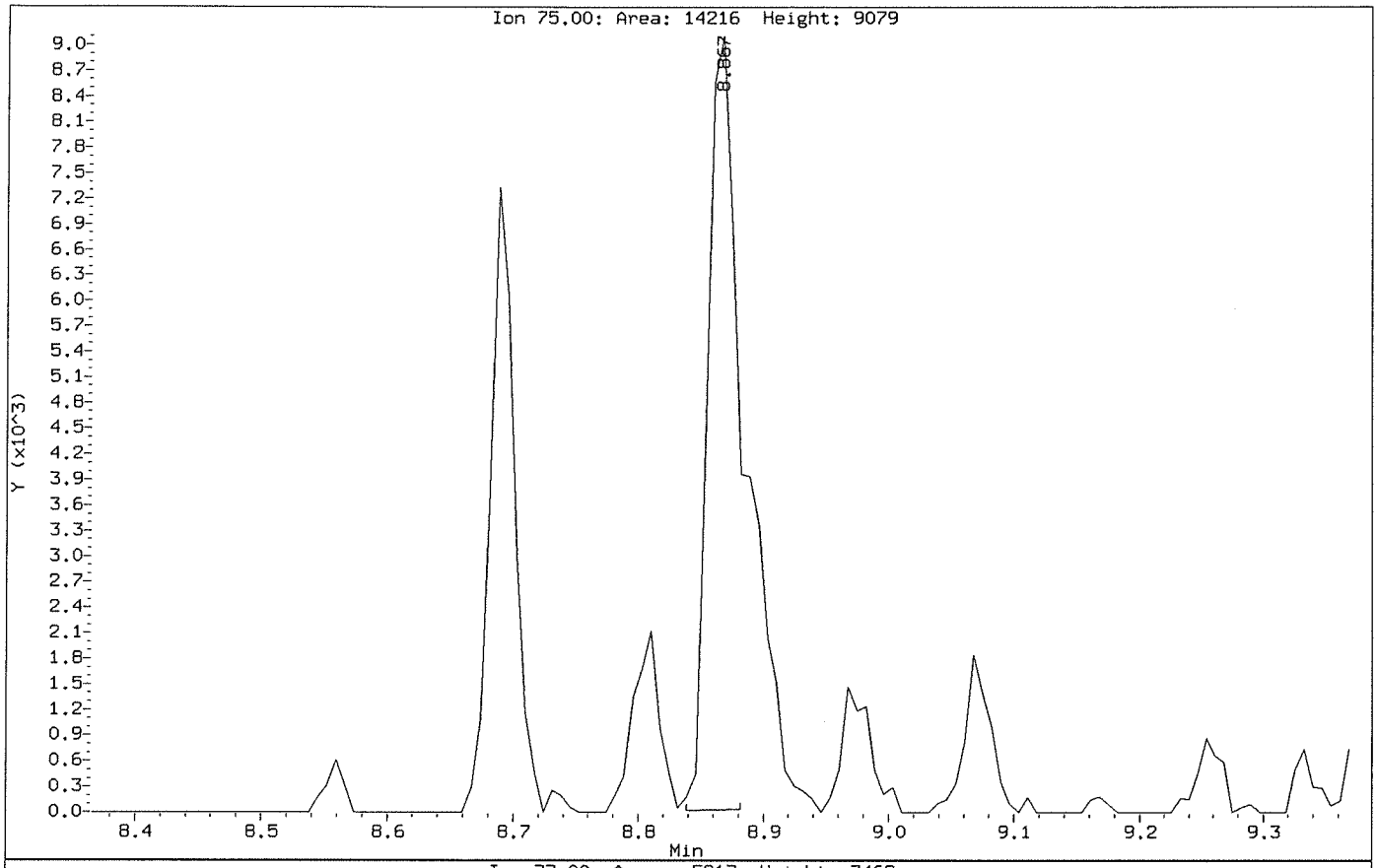
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4

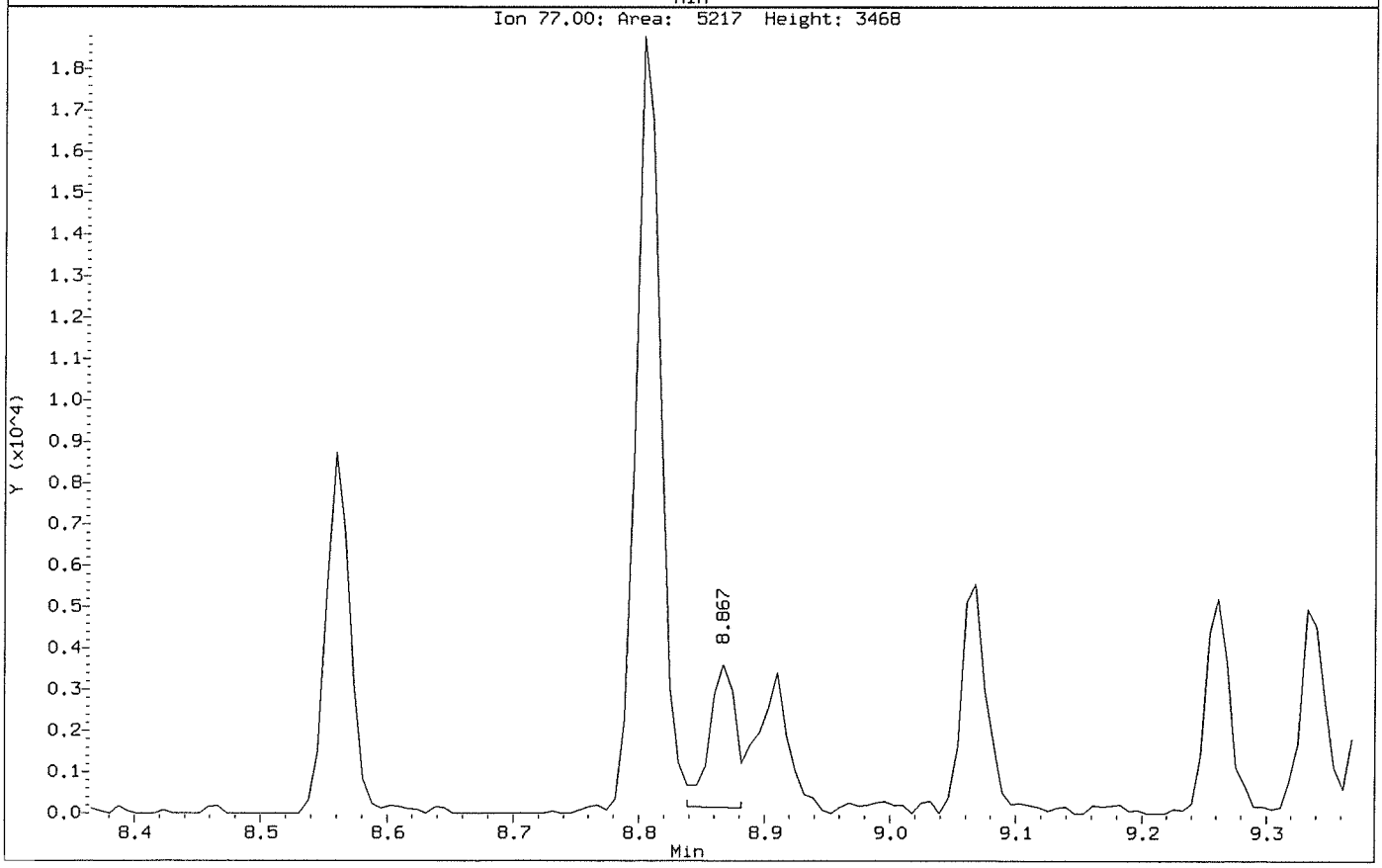


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040206.D
Injection Date: 02-APR-2021 12:38
Instrument: voa6.i
Client Sample ID: VSTD005

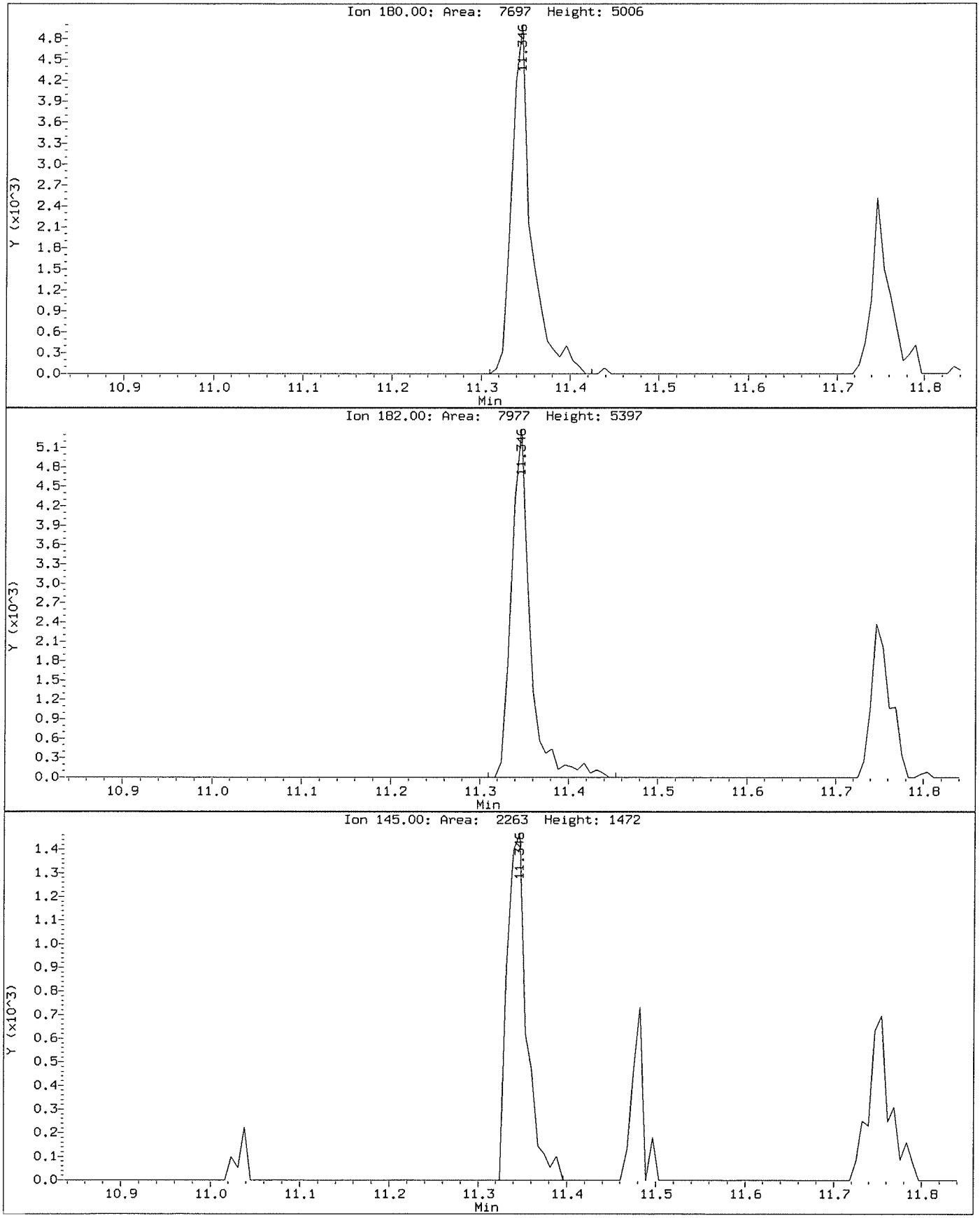
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



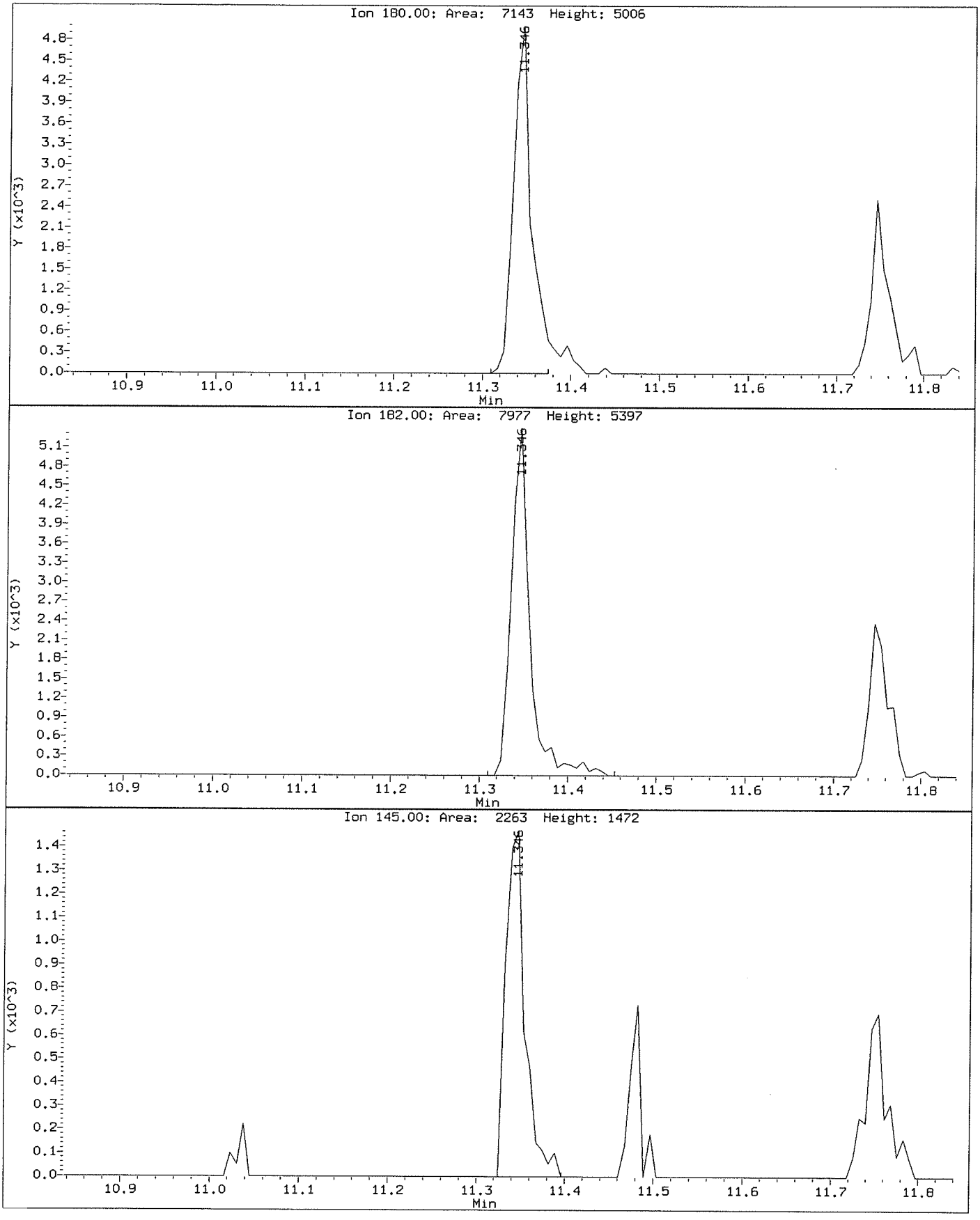
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Injection Date: 02-APR-2021 12:38
Instrument: voa6.i
Client Sample ID: VSTD005

Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1



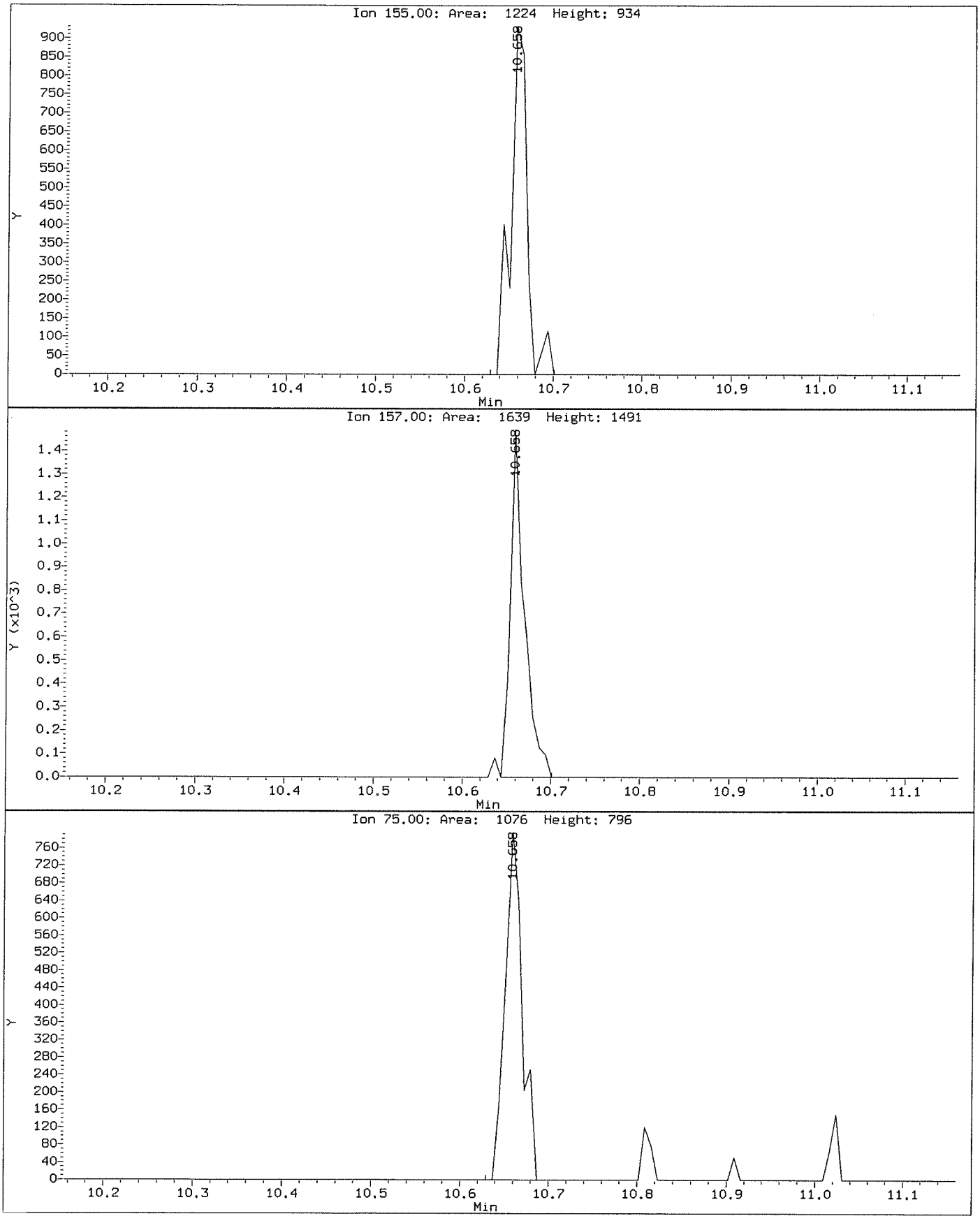
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Injection Date: 02-APR-2021 12:38
Instrument: voa6.i
Client Sample ID: VSTD005

Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1



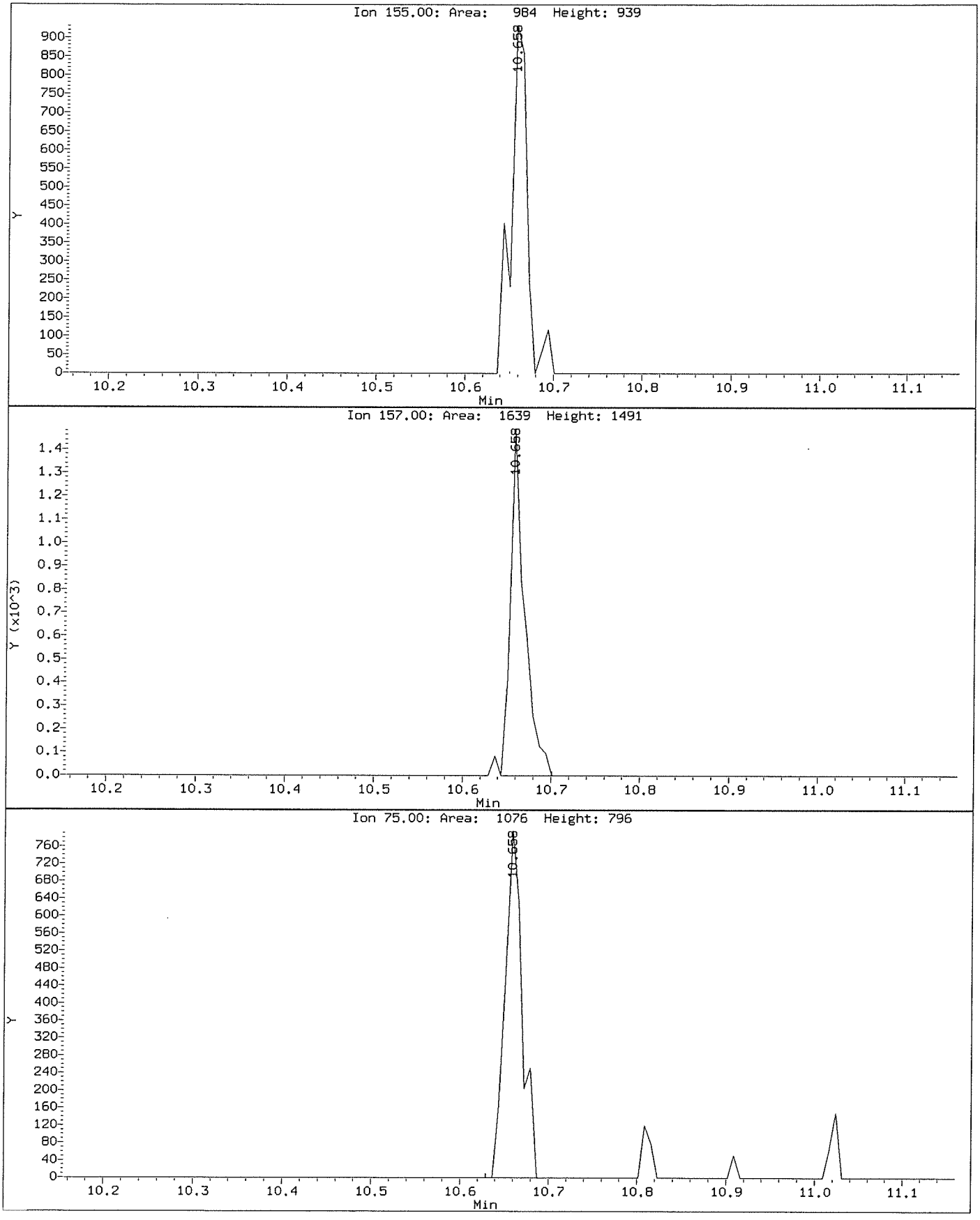
Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before\X040206.D
Injection Date: 02-APR-2021 12:38
Instrument: voa6.i
Client Sample ID: VSTD005

Compound: 1,2-Dibromo-3-Chloropropane
CAS Number: 96-12-8



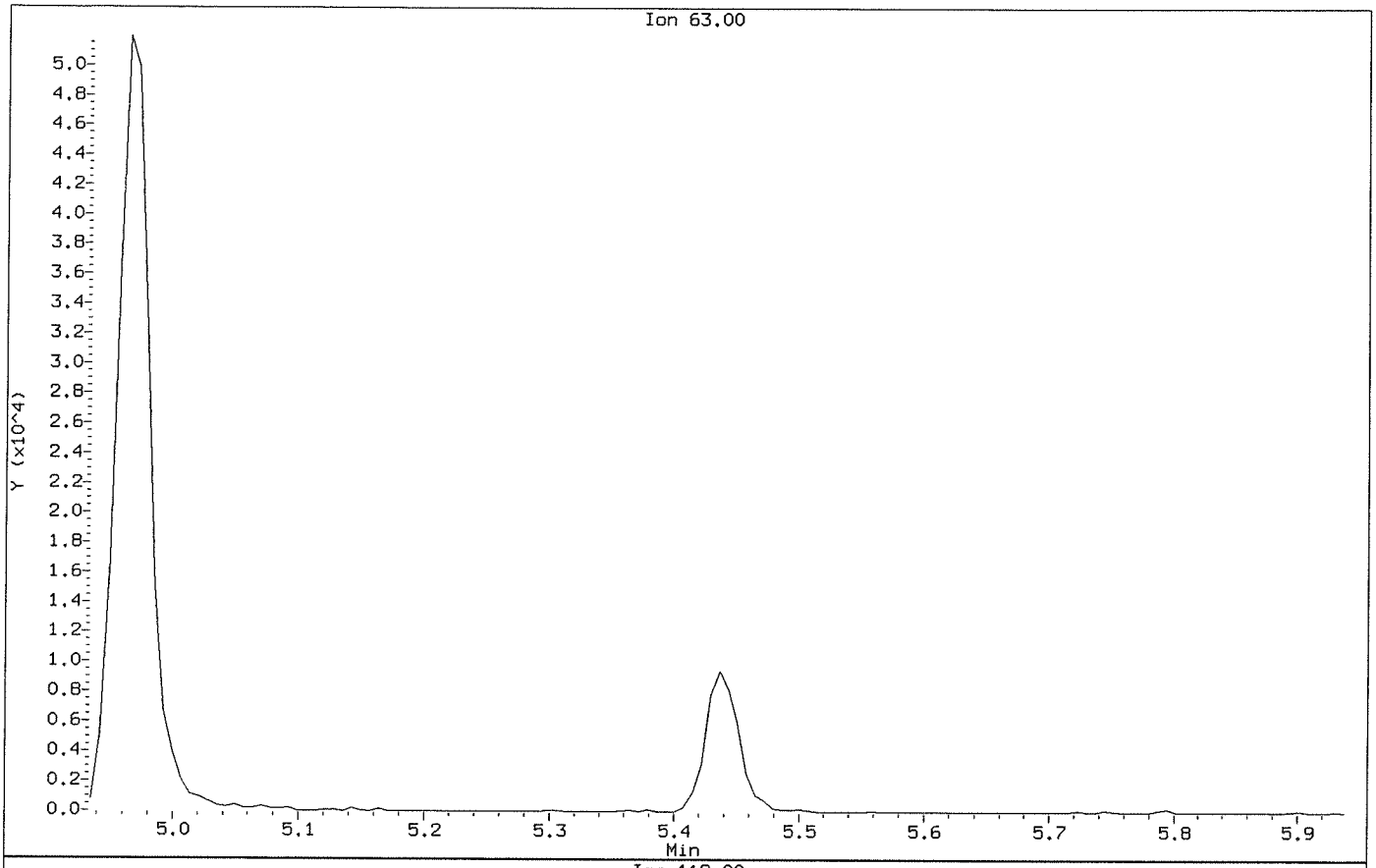
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Instrument: voa6.i
Client Sample ID: VSTD005

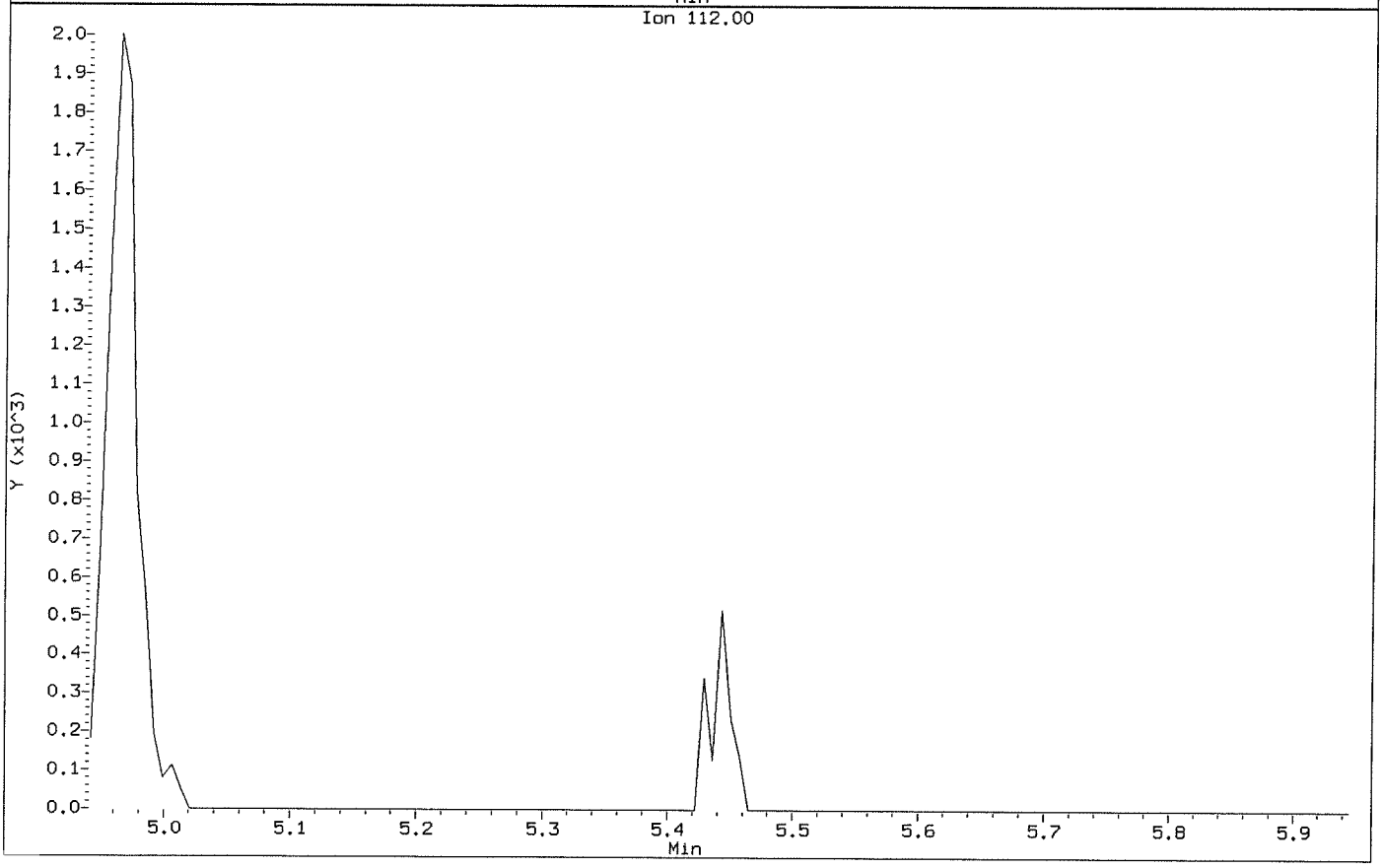
Compound: 1,2-Dibromo-3-Chloropropane
CAS Number: 96-12-8



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Injection Date: 02-APR-2021 12:38
Instrument: voa6.i
Client Sample ID: VSTD005

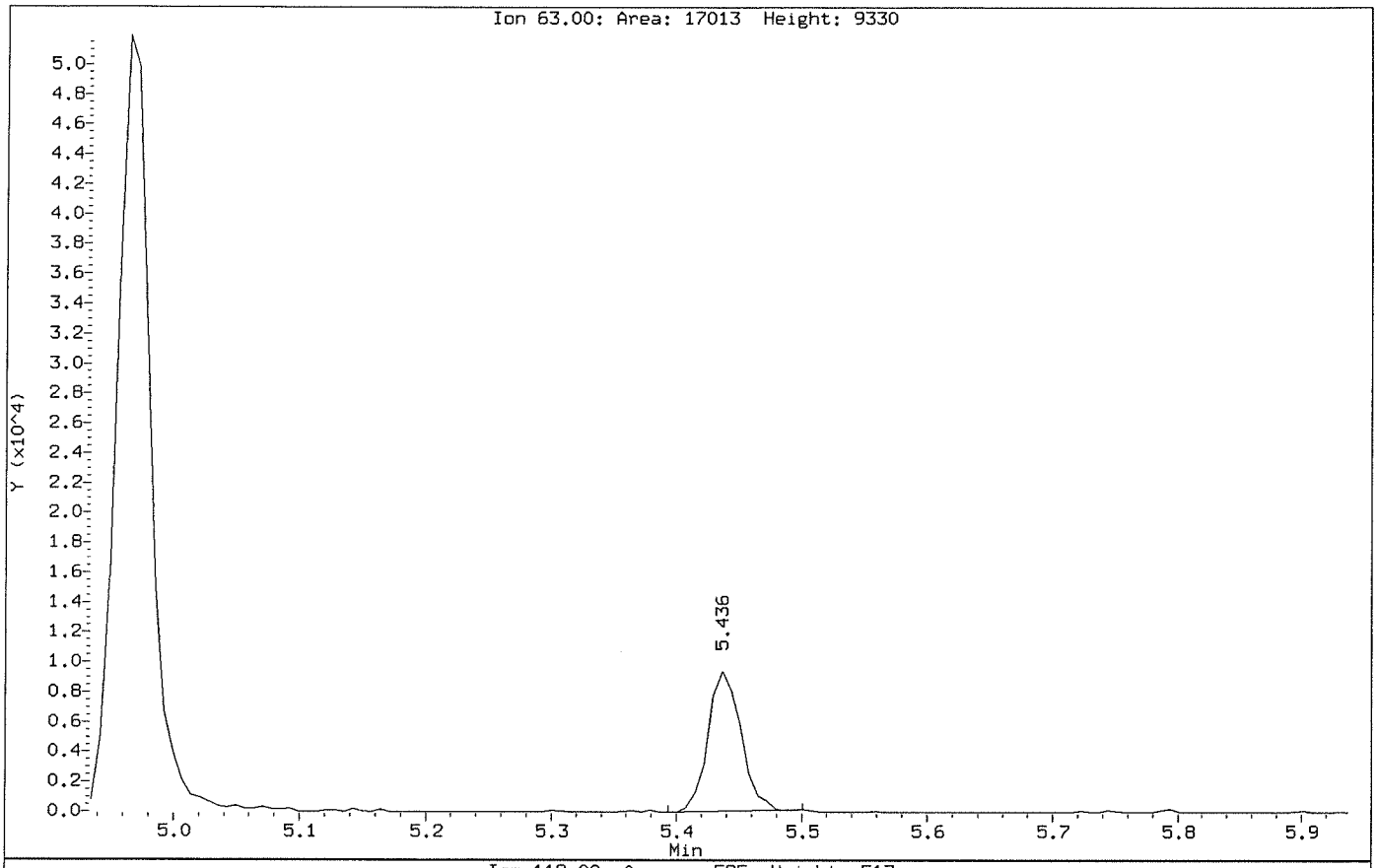
Compound: 1,2-Dichloropropane
CAS Number: 78-87-5

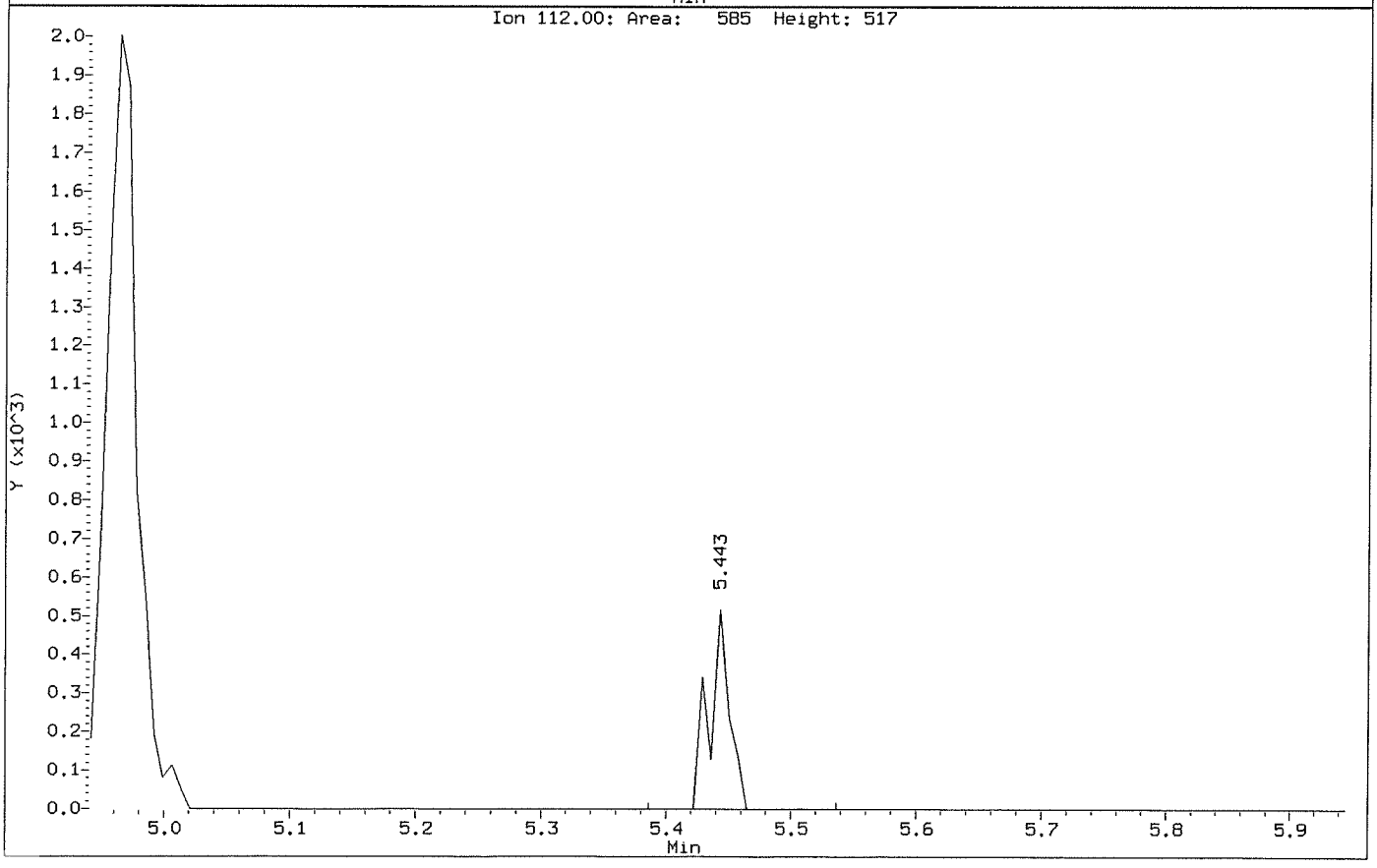


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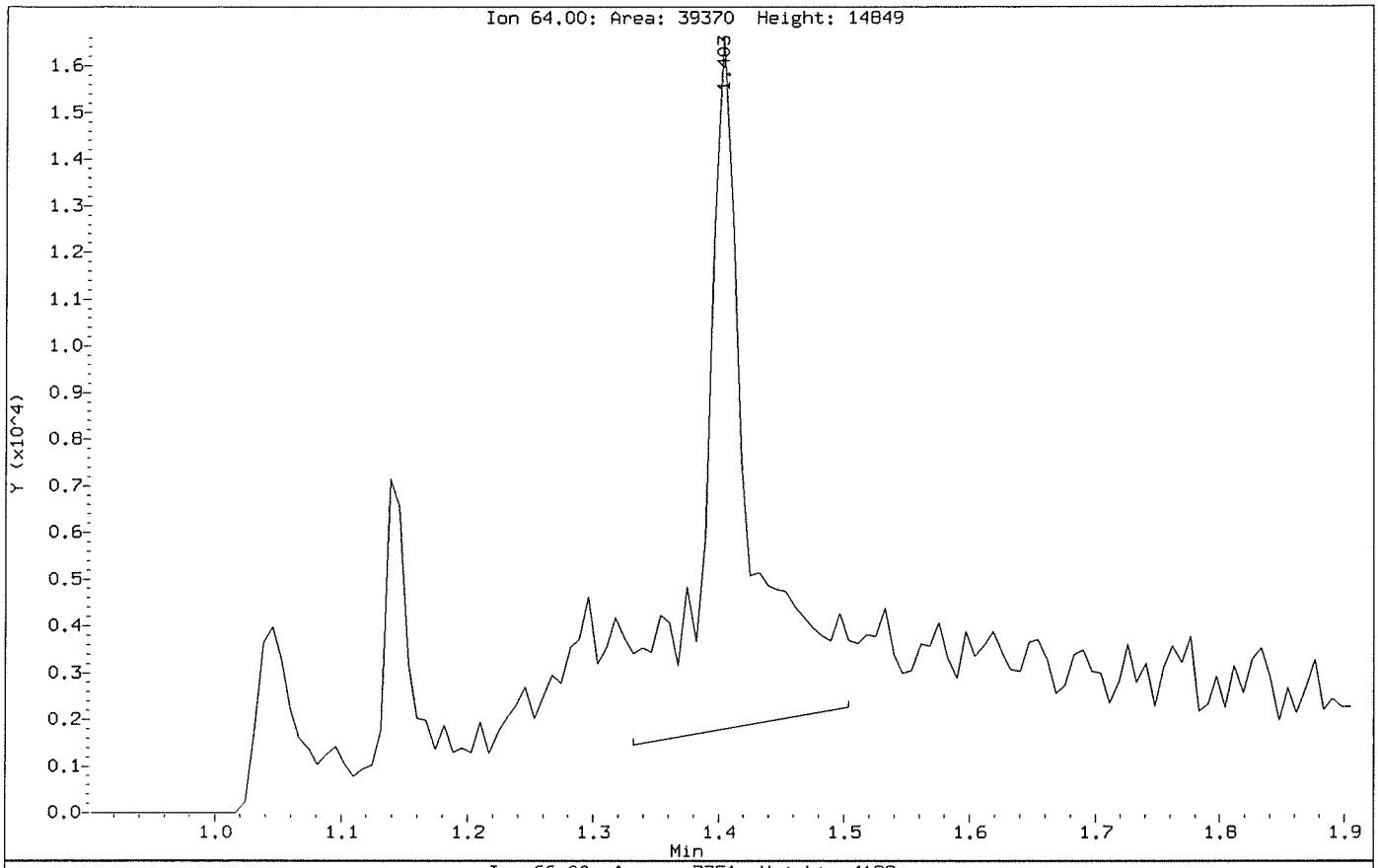
Compound: 1,2-Dichloropropane
CAS Number: 78-87-5

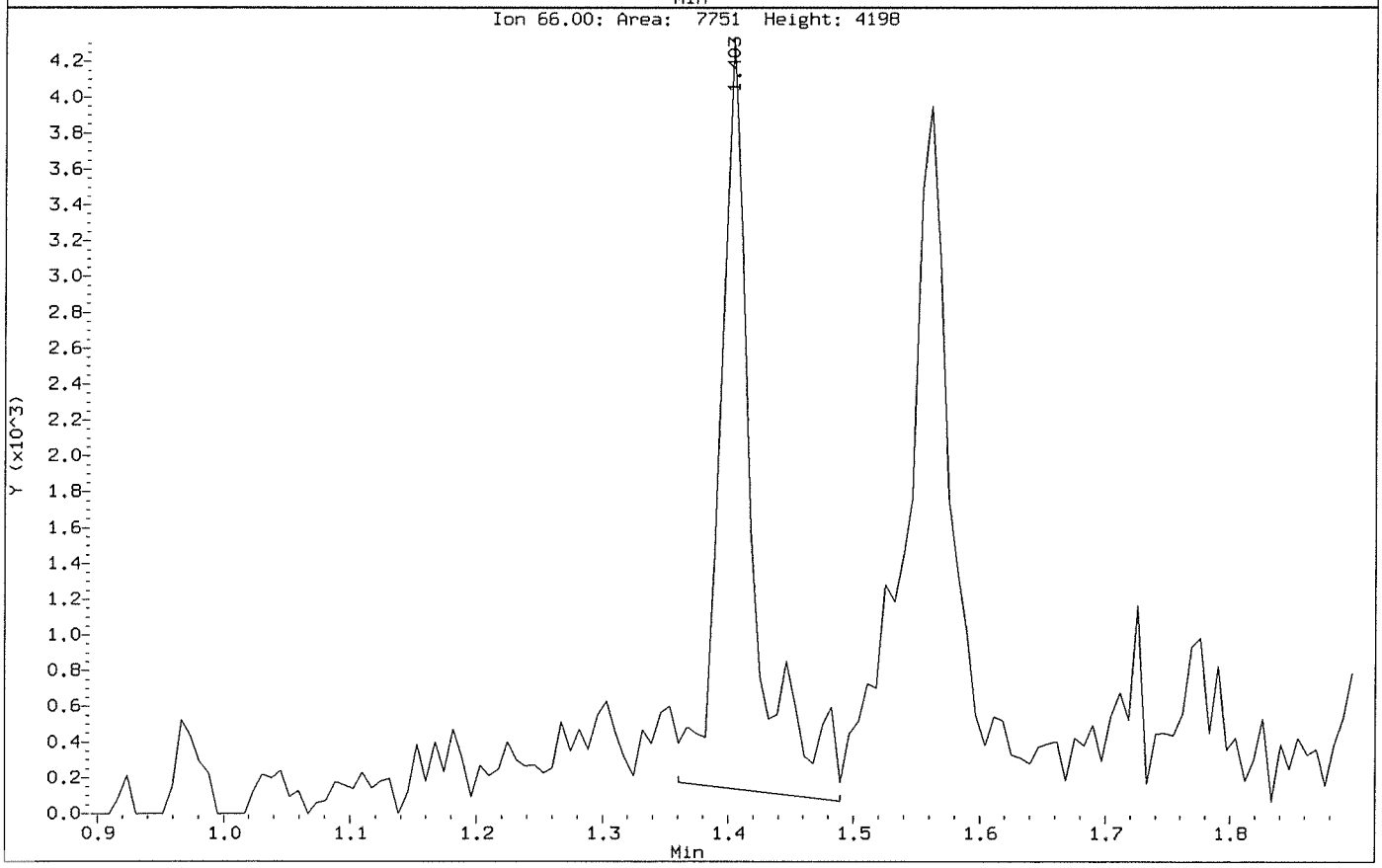


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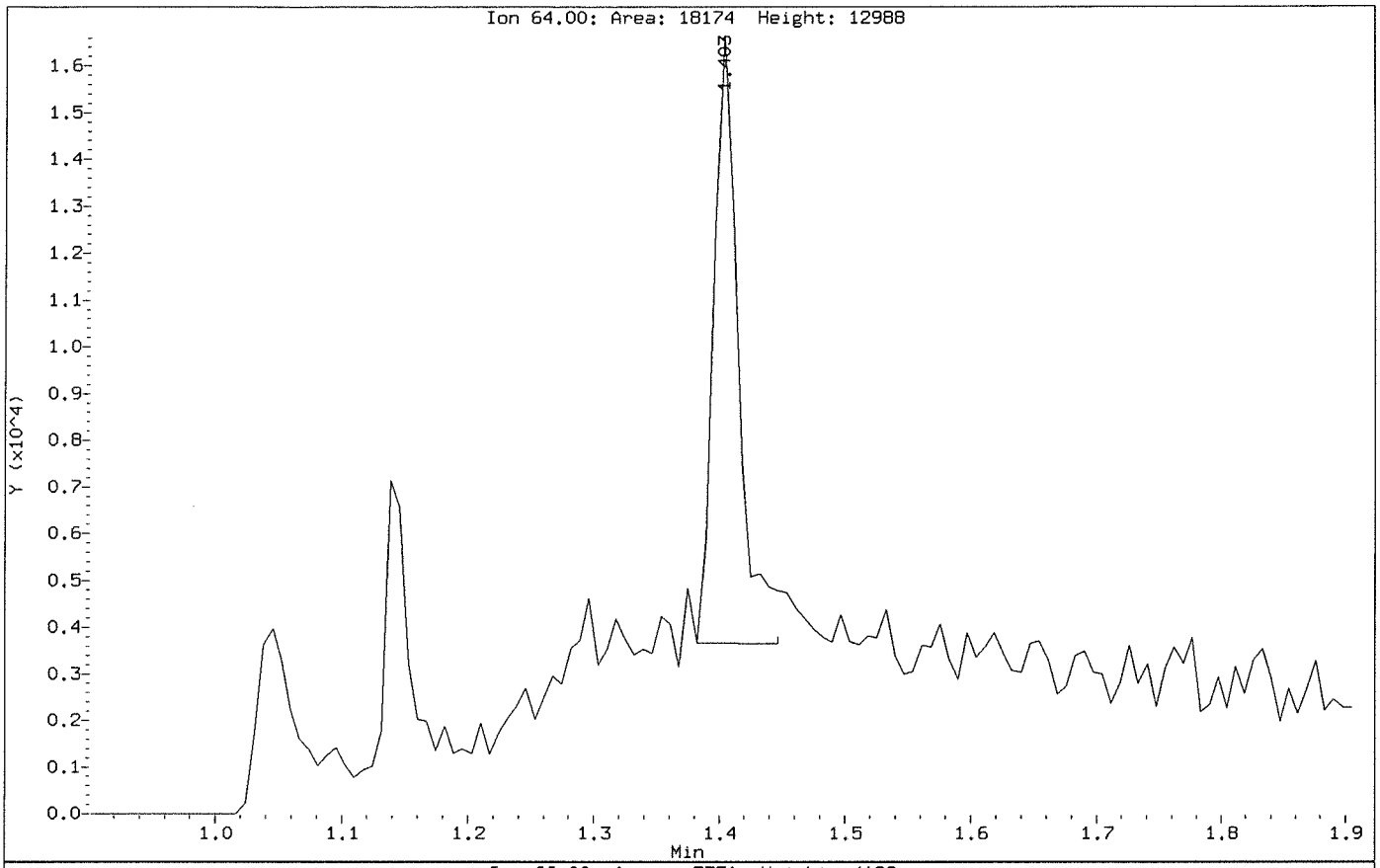
Compound: Chloroethane
CAS Number: 75-00-3

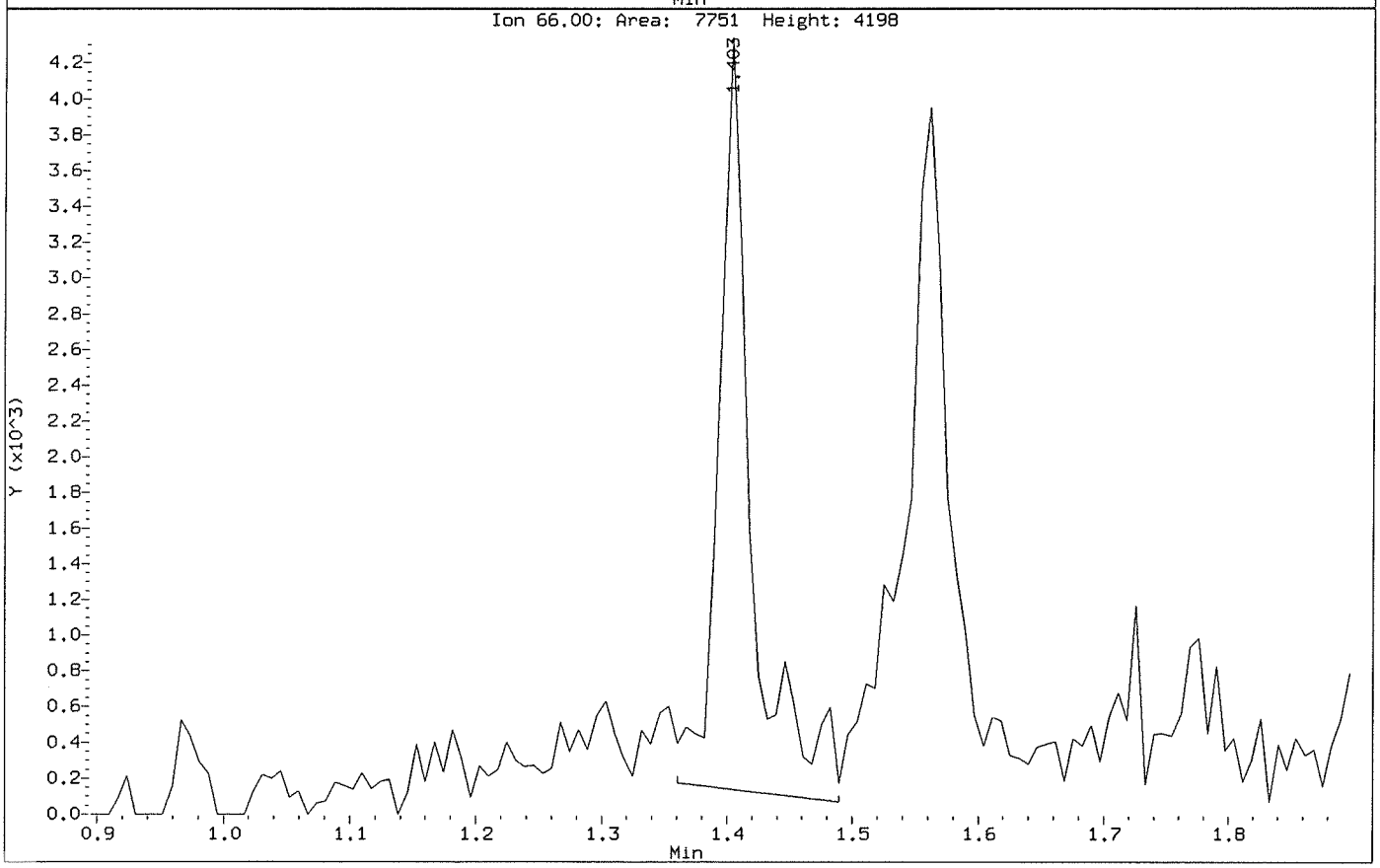


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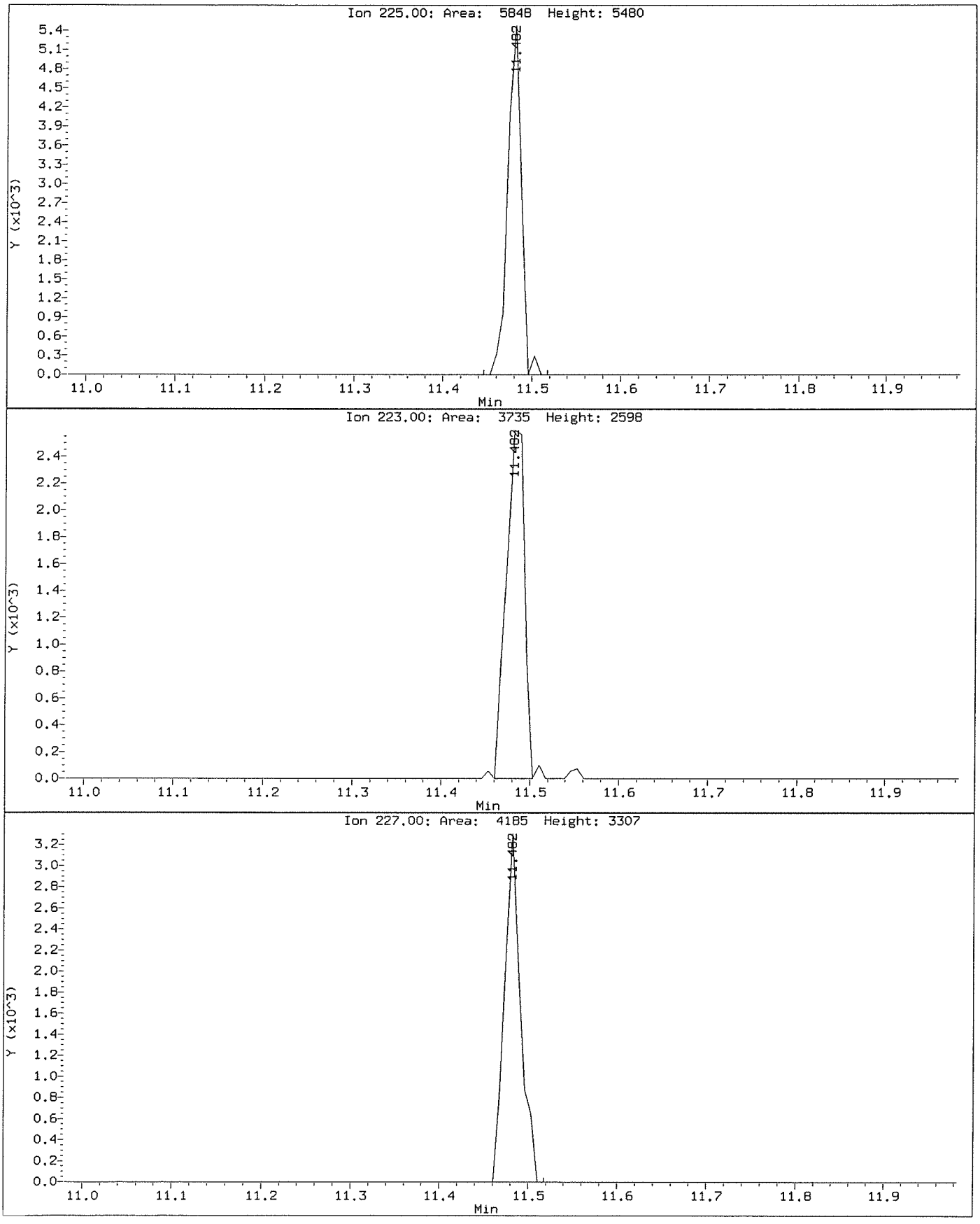
Compound: Chloroethane
CAS Number: 75-00-3



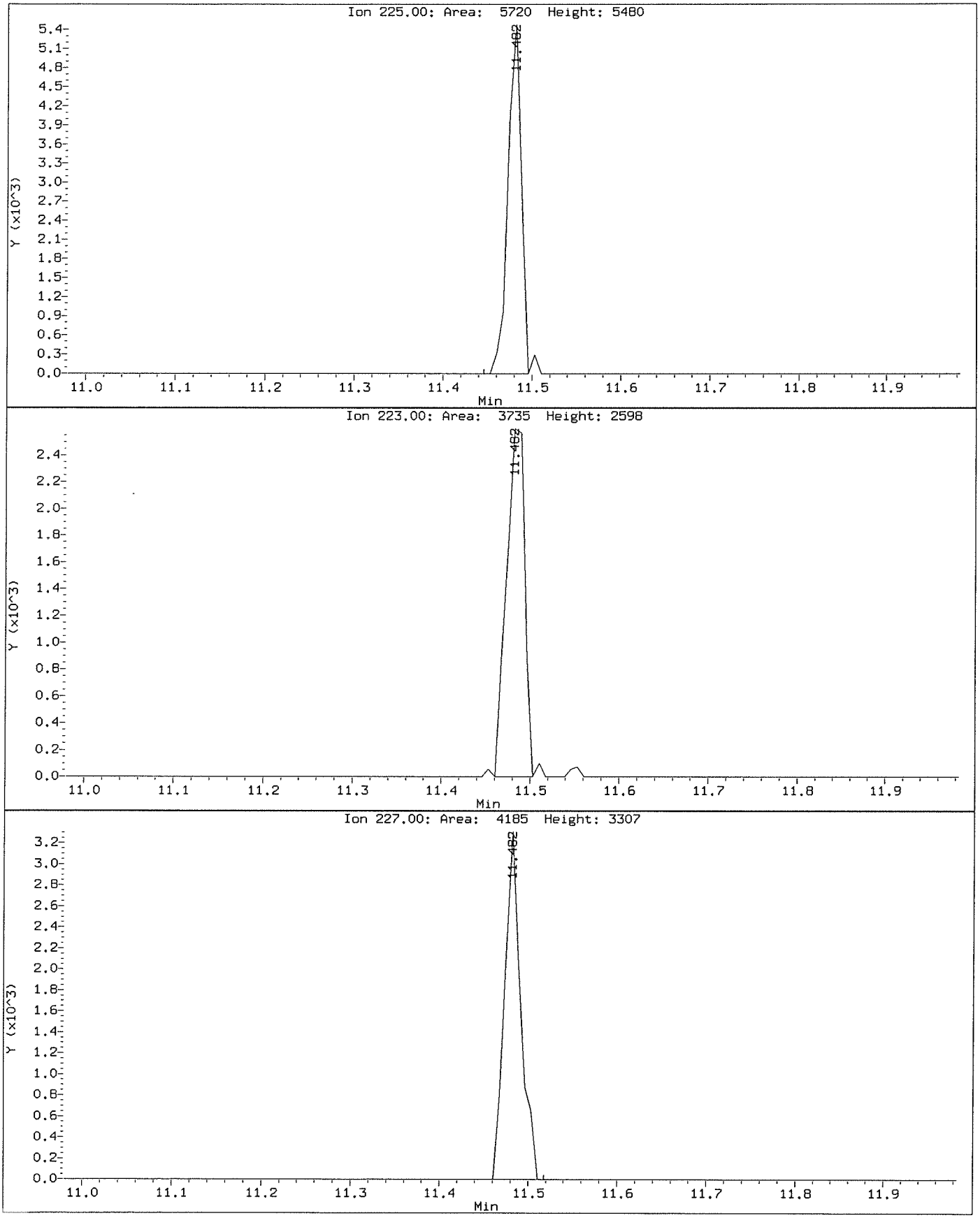
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Instrument: voa6.i
Client Sample ID: VSTD005

Compound: Hexachlorobutadiene
CAS Number: 87-68-3



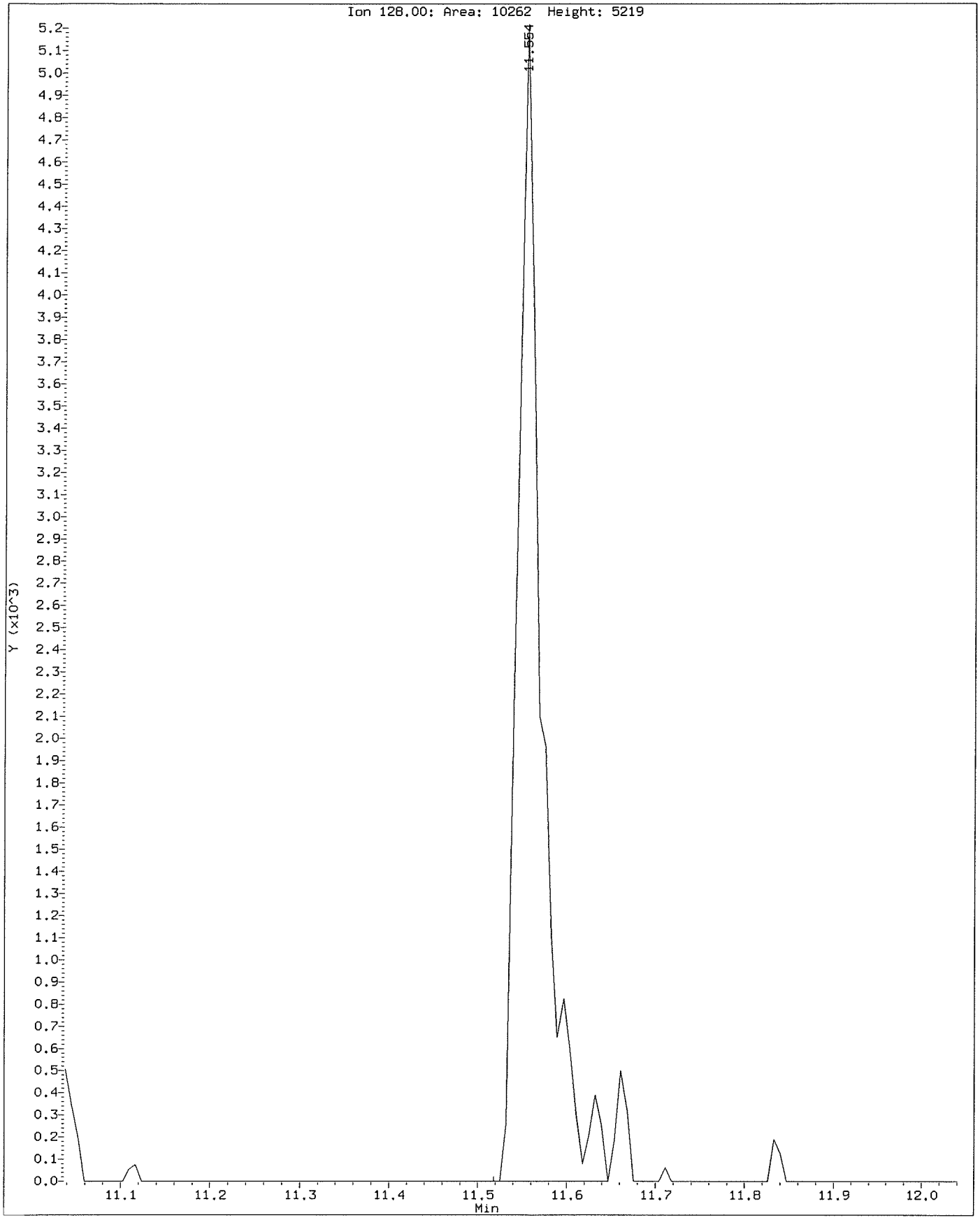
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Client Sample ID: VSTD005

Compound: Hexachlorobutadiene
CAS Number: 87-68-3



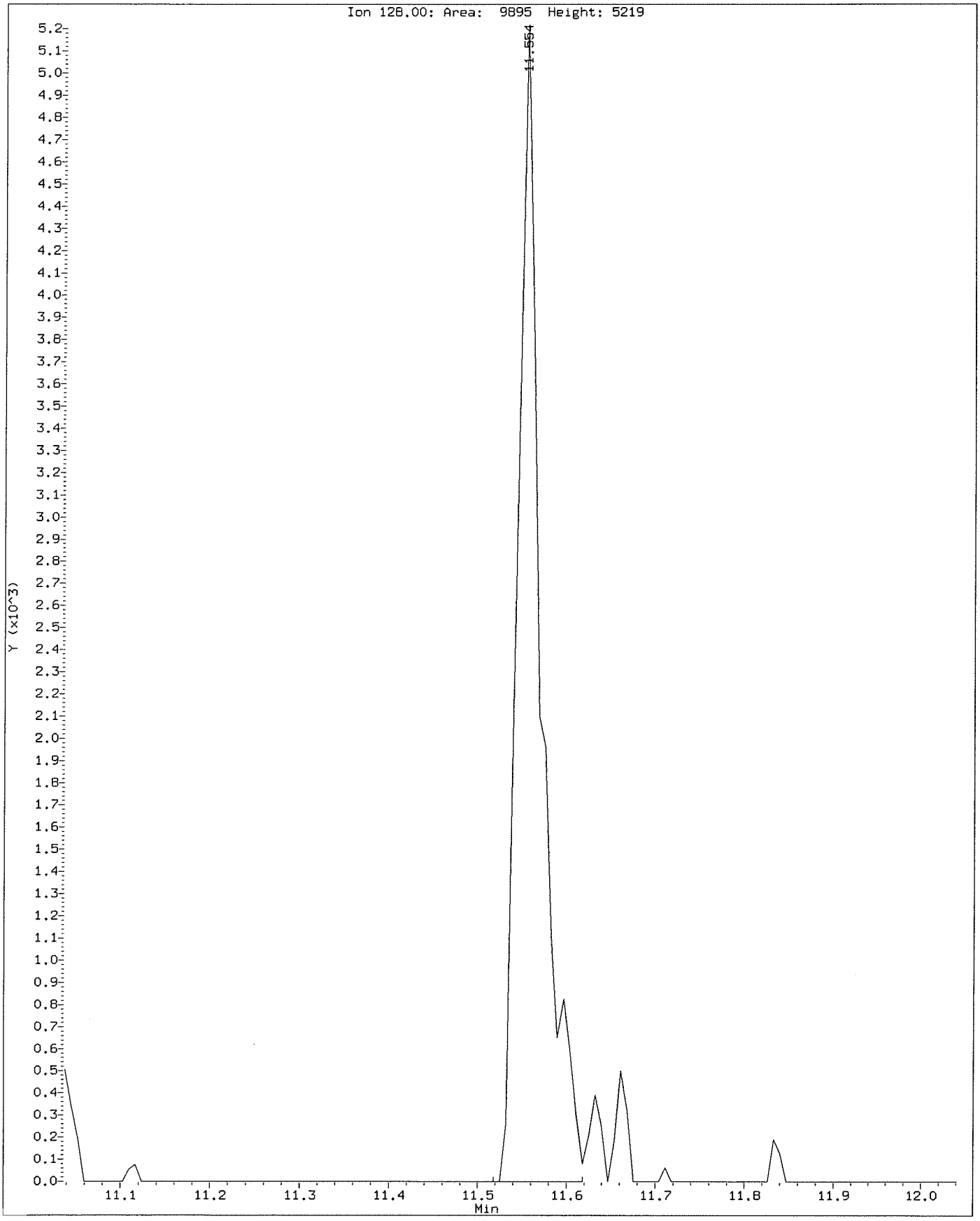
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Instrument: voa6.i
Client Sample ID: VSTD005

Compound: Naphthalene
CAS Number: 91-20-3



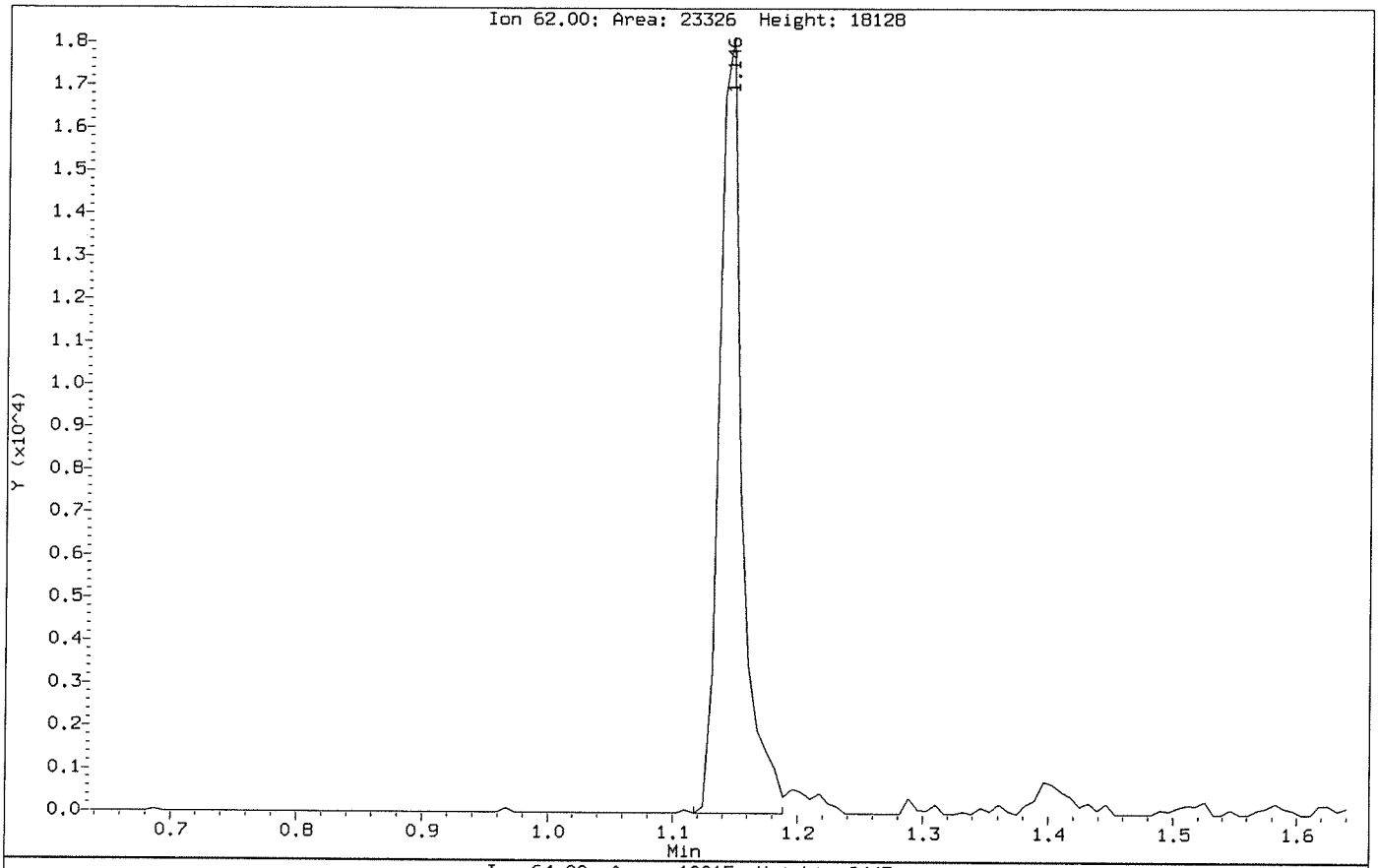
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Client Sample ID: VSTD005

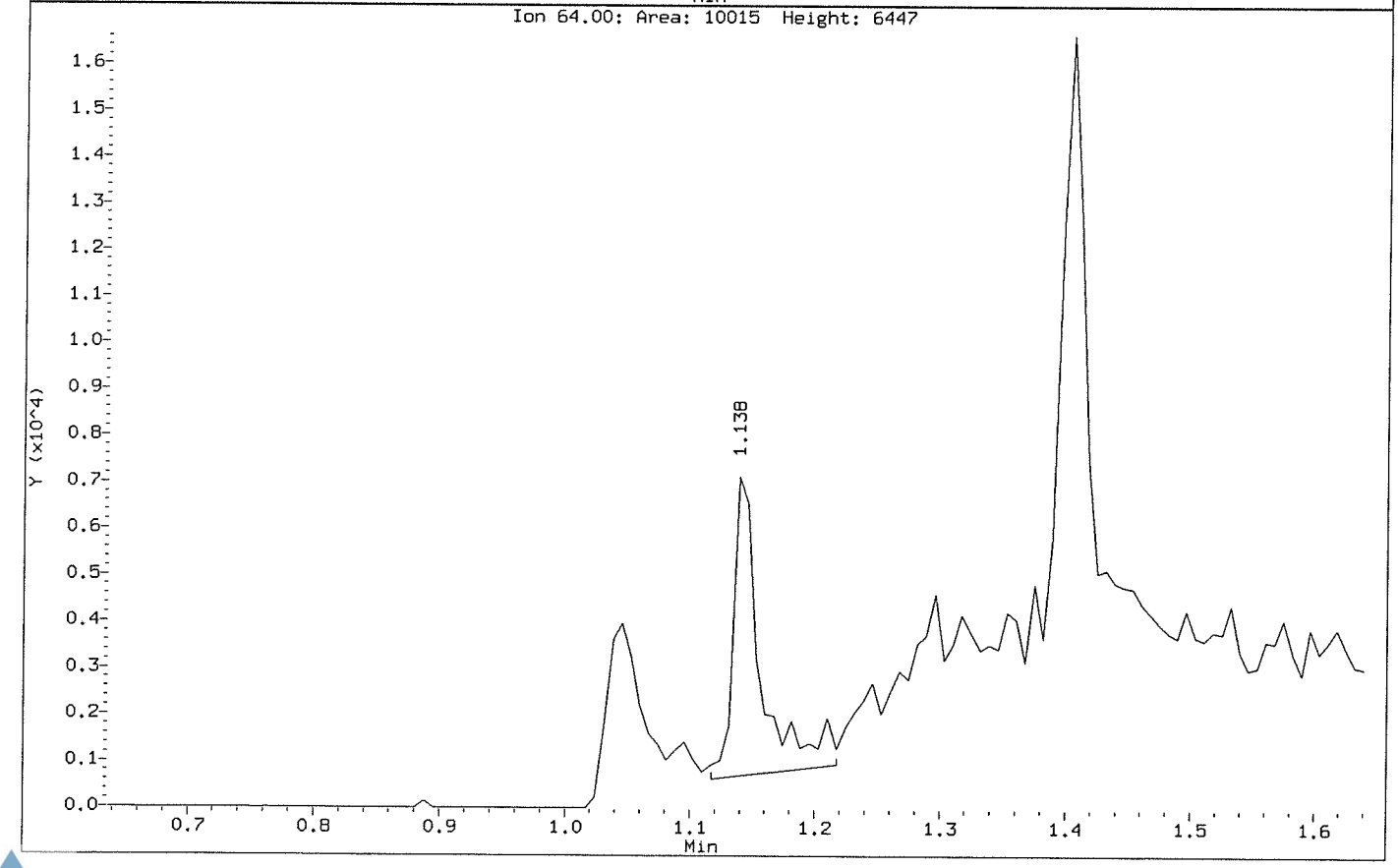
Compound: Naphthalene
CAS Number: 91-20-3



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before\X040206.D
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Instrument: voa6.i
Client Sample ID: VSTD005

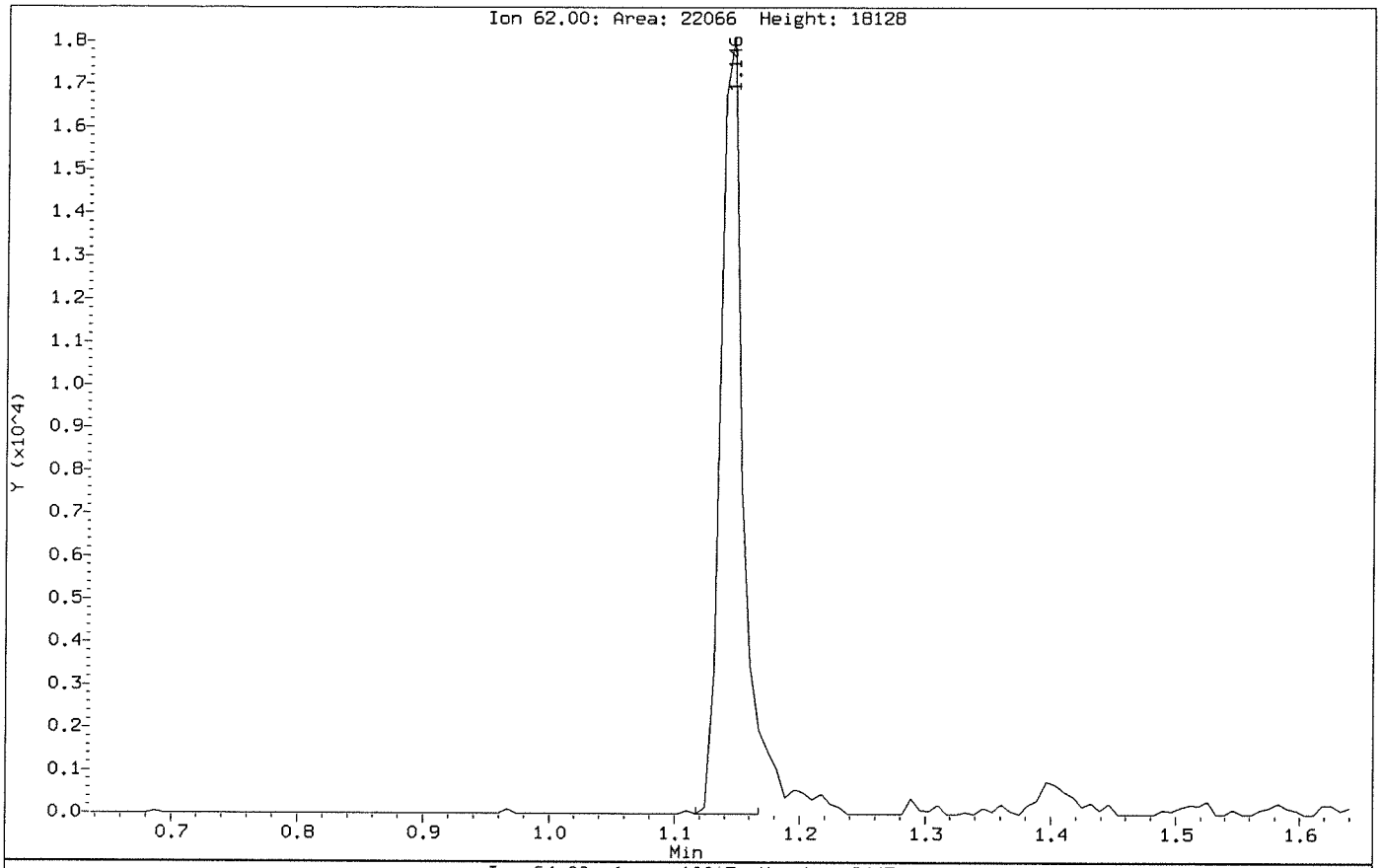
Compound: Vinyl Chloride
CAS Number: 75-01-4

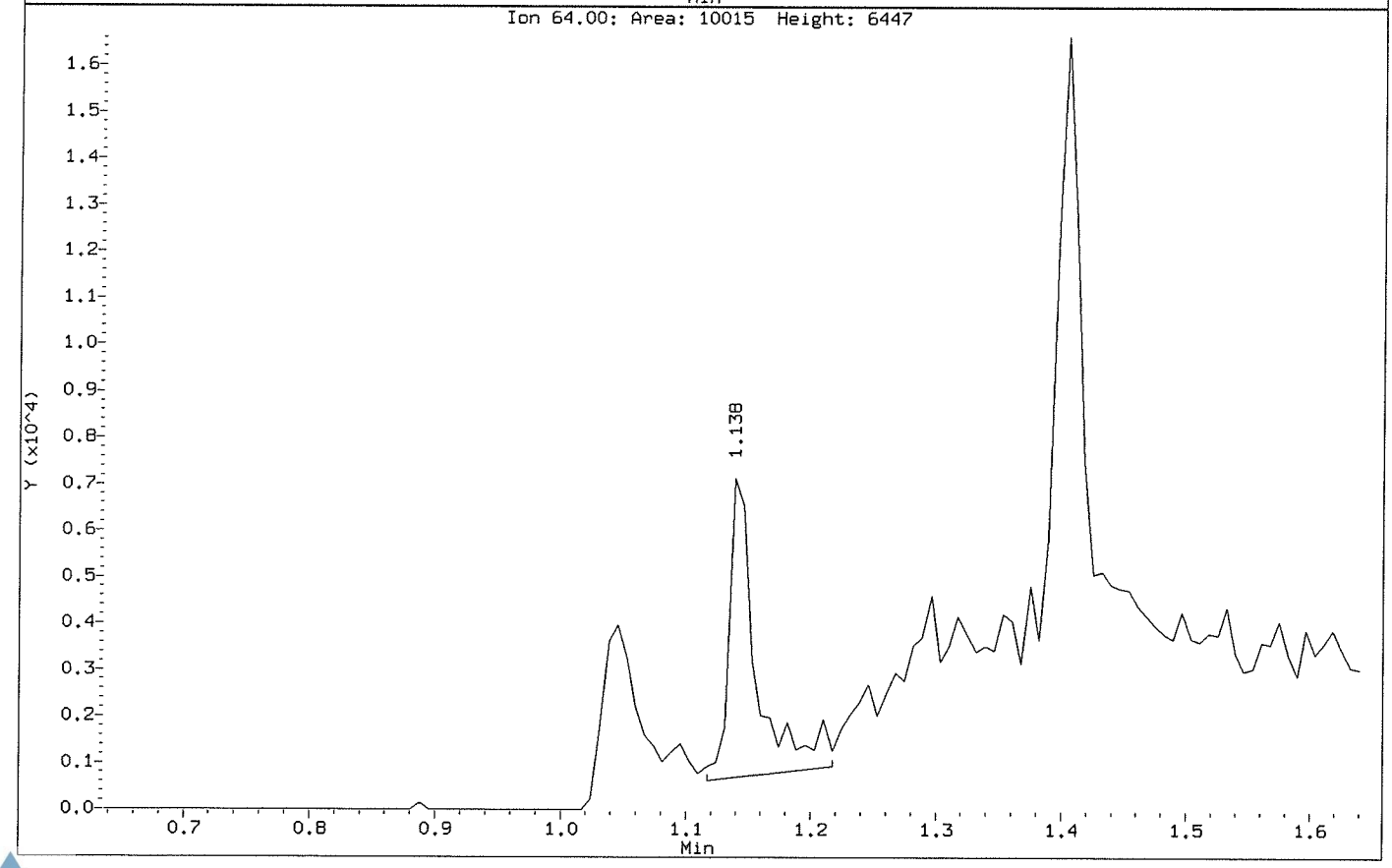


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040206.D
Injection Date: 02-APR-2021 12:38
Instrument: voa6.i
Client Sample ID: VSTD005

Compound: Vinyl Chloride
CAS Number: 75-01-4



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040207.D
Lab Smp Id: VSTD020 Client Smp ID: VSTD020
Inj Date : 02-APR-2021 12:59
Operator : PC Inst ID: voa6.i
Smp Info : VSTD020;VSTD020;1;6;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\8260W.m
Meth Date : 14-Apr-2021 12:07 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 12:38 Cal File: X040206.D
Als bottle: 8 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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 |

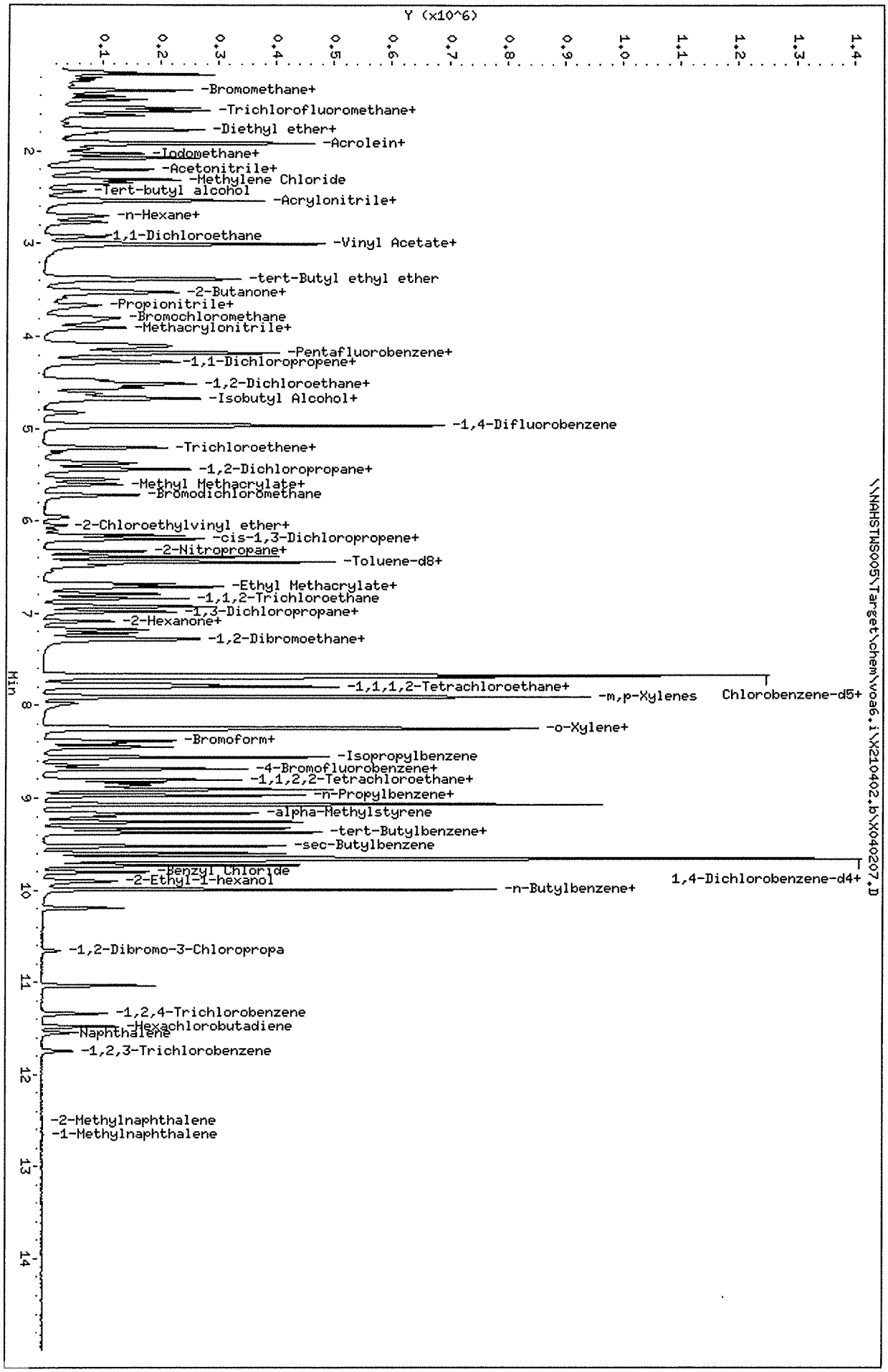
| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|
| * 1 Pentafluorobenzene | 168 | 4.182 | 4.182 | (1.000) | 303845 | 50.0000 | |
| * 36 1,4-Difluorobenzene | 114 | 4.963 | 4.963 | (1.000) | 500849 | 50.0000 | |
| * 47 Chlorobenzene-d5 | 117 | 7.670 | 7.670 | (1.000) | 505360 | 50.0000 | |
| * 70 1,4-Dichlorobenzene-d4 | 152 | 9.662 | 9.662 | (1.000) | 244406 | 50.0000 | |
| $ 30 Dibromofluoromethane | 113 | 4.103 | 4.103 | (0.981) | 68668 | 20.0000 | 19.46 |
| $ 35 1,2-Dichloroethane-d4 | 65 | 4.476 | 4.476 | (1.070) | 80475 | 20.0000 | 19.07 |
| $ 48 Toluene-d8 | 98 | 6.388 | 6.388 | (0.833) | 218999 | 20.0000 | 18.08 |
| $ 69 4-Bromofluorobenzene | 95 | 8.688 | 8.688 | (1.133) | 81621 | 20.0000 | 17.93 |
| 60 1,1,1,2-Tetrachloroethane | 131 | 7.778 | 7.778 | (1.014) | 59057 | 20.0000 | 15.74 |
| 31 1,1,1-Trichloroethane | 97 | 4.089 | 4.089 | (0.978) | 93144 | 20.0000 | 16.93 |
| 68 1,1,2,2-Tetrachloroethane | 83 | 8.838 | 8.838 | (0.915) | 74660 | 20.0000 | 18.30 |
| 53 1,1,2-Trichloroethane | 83 | 6.840 | 6.840 | (0.892) | 50828 | 20.0000 | 17.31 |
| 22 1,1-Dichloroethane | 63 | 2.921 | 2.921 | (0.699) | 106820 | 20.0000 | 18.93 |
| 11 1,1-Dichloroethene | 96 | 1.919 | 1.919 | (0.459) | 80105 | 20.0000 | 18.51 |
| 32 1,1-Dichloropropene | 75 | 4.282 | 4.282 | (0.863) | 80443 | 20.0000 | 17.11 |
| 93 1,2,3-Trichlorobenzene | 180 | 11.746 | 11.746 | (1.216) | 14313 | 20.0000 | 17.87(H) |
| 71 1,2,3-Trichloropropane | 75 | 8.867 | 8.867 | (0.918) | 56313 | 20.0000 | 17.16(M) |
| 90 1,2,4-Trichlorobenzene | 180 | 11.338 | 11.338 | (1.173) | 30279 | 20.0000 | 18.65 |
| 79 1,2,4-Trimethylbenzene | 105 | 9.375 | 9.375 | (0.970) | 211618 | 20.0000 | 16.87 |
| 89 1,2-Dibromo-3-Chloropropane | 155 | 10.657 | 10.657 | (1.103) | 4913 | 20.0000 | 18.47 |
| 57 1,2-Dibromoethane | 107 | 7.262 | 7.262 | (0.947) | 62872 | 20.0000 | 18.09 |
| 88 1,2-Dichlorobenzene | 146 | 9.991 | 9.991 | (1.034) | 118277 | 20.0000 | 17.61 |

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040207.D Page 2
Report Date: 14-Apr-2021 12:07

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|---|
| 33 | 1,2-Dichloroethane | 62 | 4.555 | 4.555 | (0.918) | 95203 | 20.0000 | 17.95 |
| 42 | 1,2-Dichloropropane | 63 | 5.436 | 5.436 | (1.095) | 62390 | 20.0000 | 17.92 |
| 75 | 1,3,5-Trimethylbenzene | 105 | 9.067 | 9.067 | (0.938) | 202880 | 20.0000 | 15.48 |
| 83 | 1,3-Dichlorobenzene | 146 | 9.605 | 9.605 | (0.994) | 122816 | 20.0000 | 17.35 |
| 54 | 1,3-Dichloropropane | 76 | 6.983 | 6.983 | (0.910) | 97006 | 20.0000 | 17.28 |
| 84 | 1,4-Dichlorobenzene | 146 | 9.683 | 9.683 | (1.002) | 128066 | 20.0000 | 16.79 |
| 26 | 2,2-Dichloropropane | 77 | 3.509 | 3.509 | (0.839) | 92115 | 20.0000 | 16.58 |
| 24 | 2-Butanone | 43 | 3.588 | 3.588 | (0.858) | 43391 | 40.0000 | 41.54 |
| 76 | 2-Chlorotoluene | 91 | 8.974 | 8.974 | (0.929) | 181169 | 20.0000 | 17.63 |
| 52 | 2-Hexanone | 43 | 7.090 | 7.090 | (0.924) | 70194 | 40.0000 | 35.58 |
| 77 | 4-Chlorotoluene | 91 | 9.067 | 9.067 | (0.938) | 220427 | 20.0000 | 16.53 |
| 82 | p-Isopropyltoluene | 119 | 9.647 | 9.647 | (0.999) | 196775 | 20.0000 | 15.89 |
| 45 | 4-Methyl-2-Pentanone | 43 | 6.324 | 6.324 | (0.824) | 108861 | 40.0000 | 35.74 |
| 10 | Acetone | 43 | 1.976 | 1.976 | (0.473) | 51773 | 40.0000 | 49.29 |
| 37 | Benzene | 78 | 4.512 | 4.512 | (0.909) | 232017 | 20.0000 | 17.48 |
| 74 | Bromobenzene | 156 | 8.802 | 8.802 | (0.911) | 71498 | 20.0000 | 16.97 |
| 29 | Bromochloromethane | 128 | 3.795 | 3.795 | (0.908) | 35942 | 20.0000 | 19.83 |
| 39 | Bromodichloromethane | 83 | 5.722 | 5.722 | (1.153) | 91854 | 20.0000 | 18.28 |
| 66 | Bromoform | 173 | 8.408 | 8.408 | (1.096) | 41512 | 20.0000 | 17.84 |
| 6 | Bromomethane | 94 | 1.338 | 1.338 | (0.320) | 90493 | 20.0000 | 20.71 |
| 19 | Carbon Disulfide | 76 | 2.069 | 2.069 | (0.495) | 294062 | 40.0000 | 34.79 |
| 34 | Carbon Tetrachloride | 117 | 4.261 | 4.261 | (0.859) | 74697 | 20.0000 | 16.53 |
| 59 | Chlorobenzene | 112 | 7.692 | 7.692 | (1.003) | 175855 | 20.0000 | 17.91 |
| 7 | Chloroethane | 64 | 1.403 | 1.403 | (0.336) | 66802 | 20.0000 | 19.76(M) |
| 28 | Chloroform | 83 | 3.910 | 3.910 | (0.935) | 120493 | 20.0000 | 18.26 |
| 3 | Chloromethane | 50 | 1.080 | 1.080 | (0.258) | 65135 | 20.0000 | 20.16 |
| 27 | cis-1,2-Dichloroethene | 96 | 3.530 | 3.530 | (0.844) | 65903 | 20.0000 | 17.74 |
| 46 | cis-1,3-Dichloropropene | 75 | 6.152 | 6.152 | (1.240) | 109730 | 20.0000 | 18.71 |
| 55 | Dibromochloromethane | 129 | 7.176 | 7.176 | (0.936) | 67732 | 20.0000 | 17.16 |
| 44 | Dibromomethane | 93 | 5.550 | 5.550 | (1.118) | 45583 | 20.0000 | 18.45 |
| 2 | Dichlorodifluoromethane | 85 | 0.973 | 0.973 | (0.233) | 52690 | 20.0000 | 18.86 |
| 61 | Ethylbenzene | 106 | 7.799 | 7.799 | (1.017) | 84392 | 20.0000 | 15.60 |
| 91 | Hexachlorobutadiene | 225 | 11.481 | 11.481 | (1.188) | 18261 | 20.0000 | 14.73 |
| 67 | Isopropylbenzene | 105 | 8.559 | 8.559 | (1.116) | 249504 | 20.0000 | 15.42 |
| 62 | m,p-Xylenes | 106 | 7.907 | 7.907 | (1.031) | 218583 | 40.0000 | 31.91 |
| 17 | Methylene Chloride | 84 | 2.305 | 2.305 | (0.551) | 63925 | 20.0000 | 20.29 |
| 87 | n-Butylbenzene | 91 | 9.991 | 9.991 | (1.034) | 178024 | 20.0000 | 15.17 |
| 73 | n-Propylbenzene | 91 | 8.910 | 8.910 | (0.922) | 287314 | 20.0000 | 15.49 |
| 92 | Naphthalene | 128 | 11.546 | 11.546 | (1.195) | 40800 | 20.0000 | 18.60 |
| 63 | o-Xylene | 106 | 8.244 | 8.244 | (1.075) | 103808 | 20.0000 | 15.62 |
| 81 | sec-Butylbenzene | 105 | 9.519 | 9.519 | (0.985) | 229551 | 20.0000 | 17.23(M) |
| 64 | Styrene | 104 | 8.258 | 8.258 | (1.077) | 184136 | 20.0000 | 17.38 |
| 78 | tert-Butylbenzene | 119 | 9.339 | 9.339 | (0.967) | 165790 | 20.0000 | 16.29 |
| 56 | Tetrachloroethene | 164 | 6.926 | 6.926 | (0.903) | 48973 | 20.0000 | 16.05 |
| 50 | Toluene | 91 | 6.446 | 6.446 | (0.840) | 249510 | 20.0000 | 15.88 |
| 20 | trans-1,2-Dichloroethene | 96 | 2.535 | 2.535 | (0.606) | 54266 | 20.0000 | 17.52 |
| 51 | trans-1,3-Dichloropropene | 75 | 6.682 | 6.682 | (1.346) | 93424 | 20.0000 | 18.68 |
| 38 | Trichloroethene | 130 | 5.206 | 5.206 | (1.049) | 61652 | 20.0000 | 17.98 |
| 8 | Trichlorofluoromethane | 101 | 1.560 | 1.560 | (0.373) | 156171 | 20.0000 | 17.90 |
| 5 | Vinyl Chloride | 62 | 1.145 | 1.145 | (0.274) | 89514 | 20.0000 | 19.65 |

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

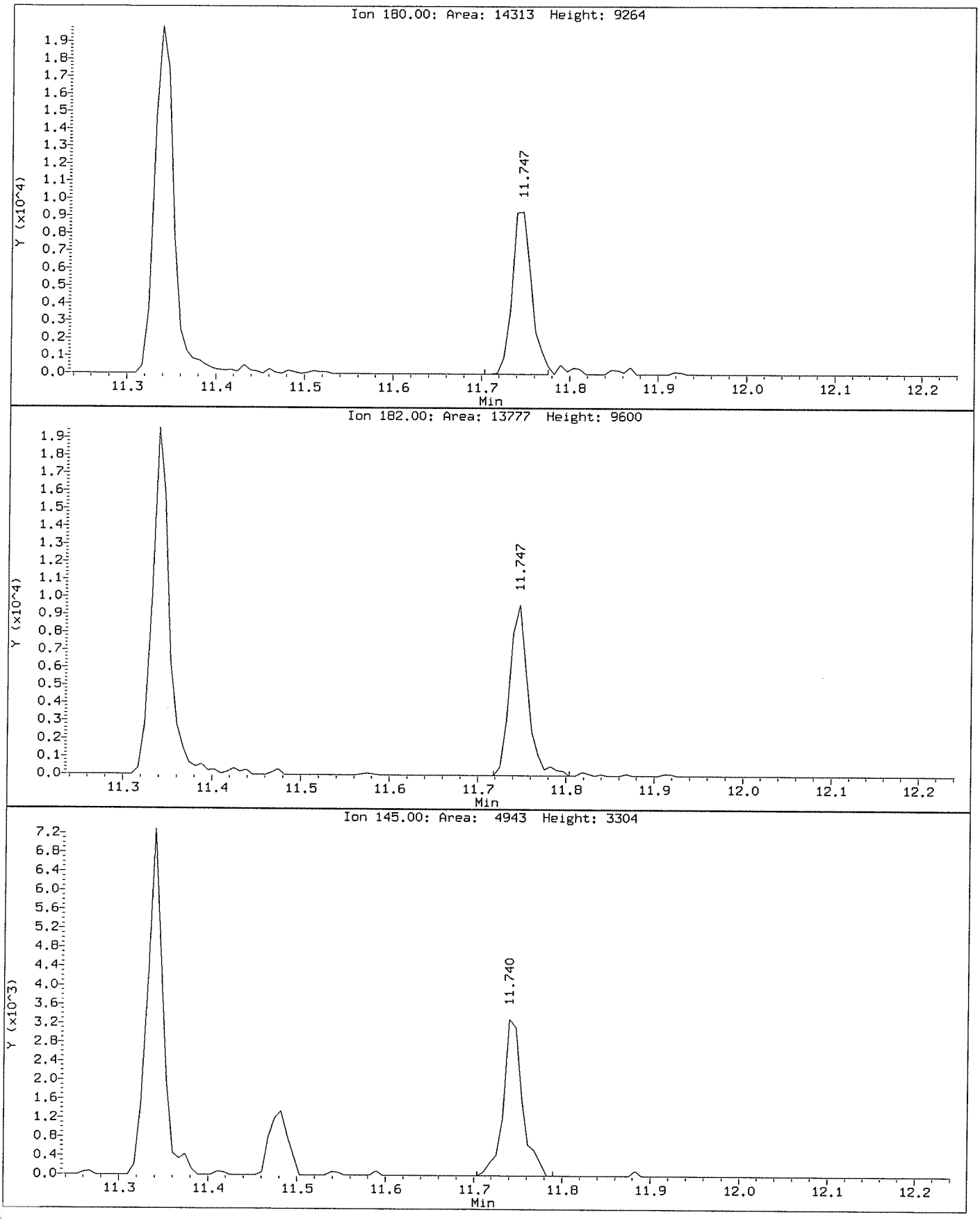



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040207.D
Date : 02-APR-2021 12:59
Client ID: VSTD020
Sample Info: VSTD020;VSTD020;1;6;;
Purge Volume: 5.0
Column phase: DB624

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

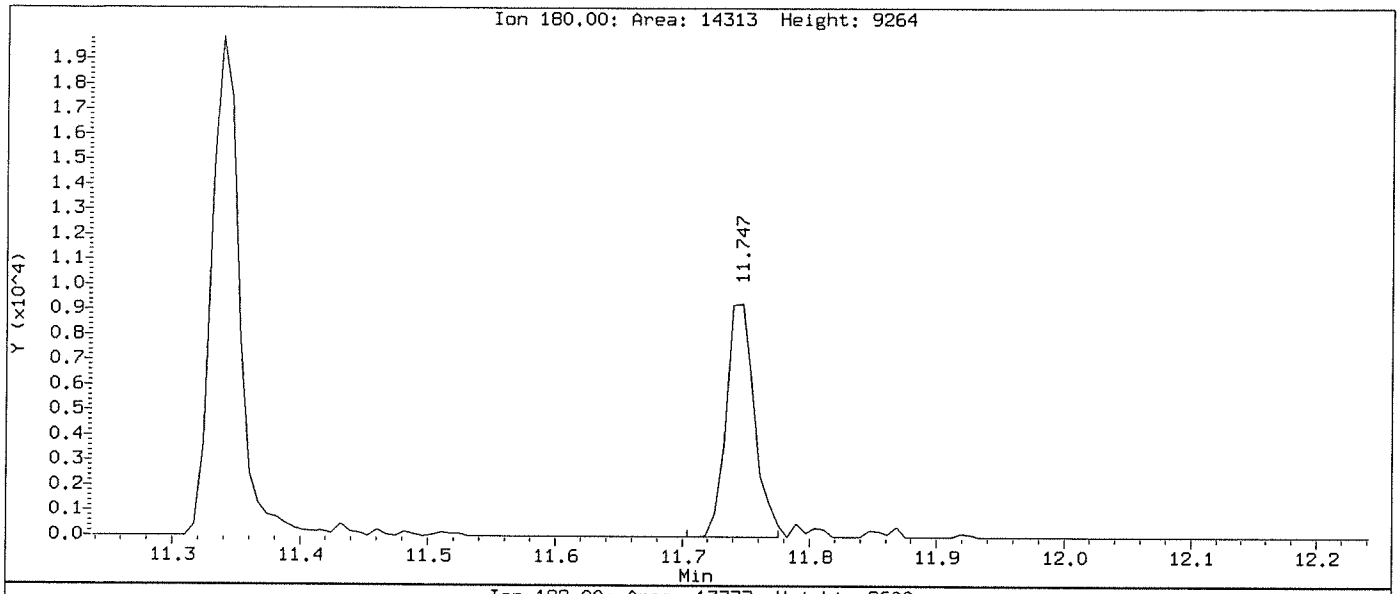
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Injection Date: 02-APR-2021 12:59
Instrument: voa6.i
Client Sample ID: VSTD020

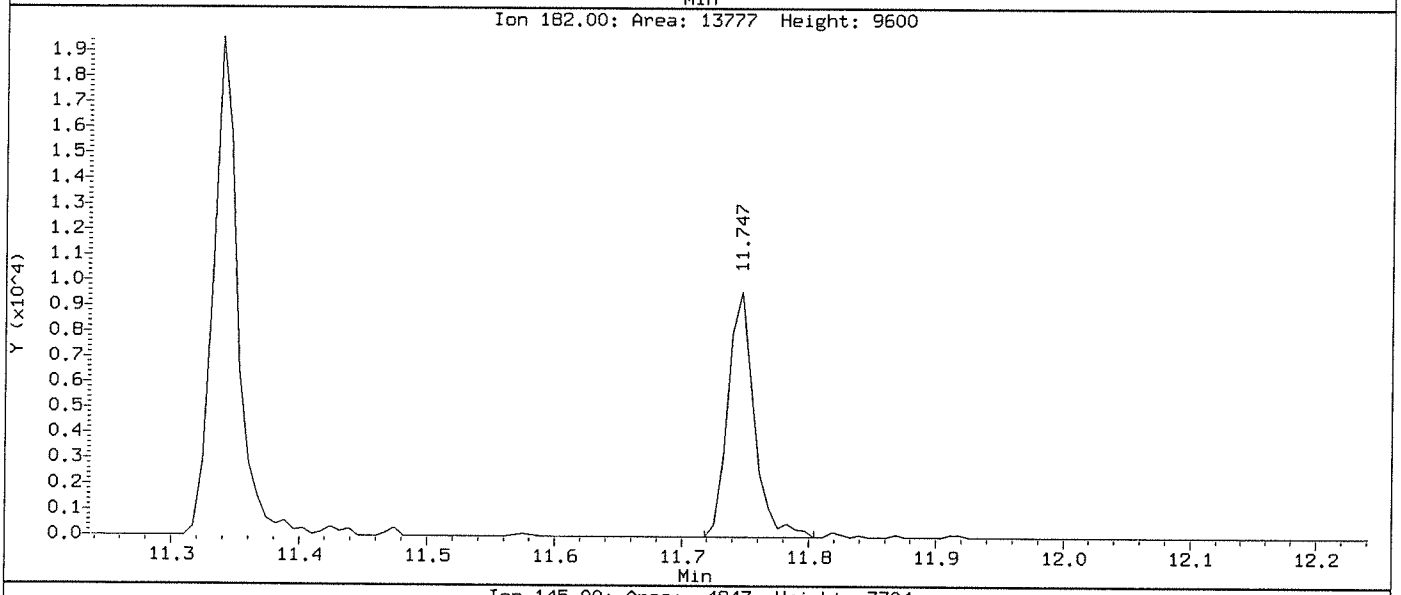
Compound: 1,2,3-Trichlorobenzene
CAS Number: 87-61-6

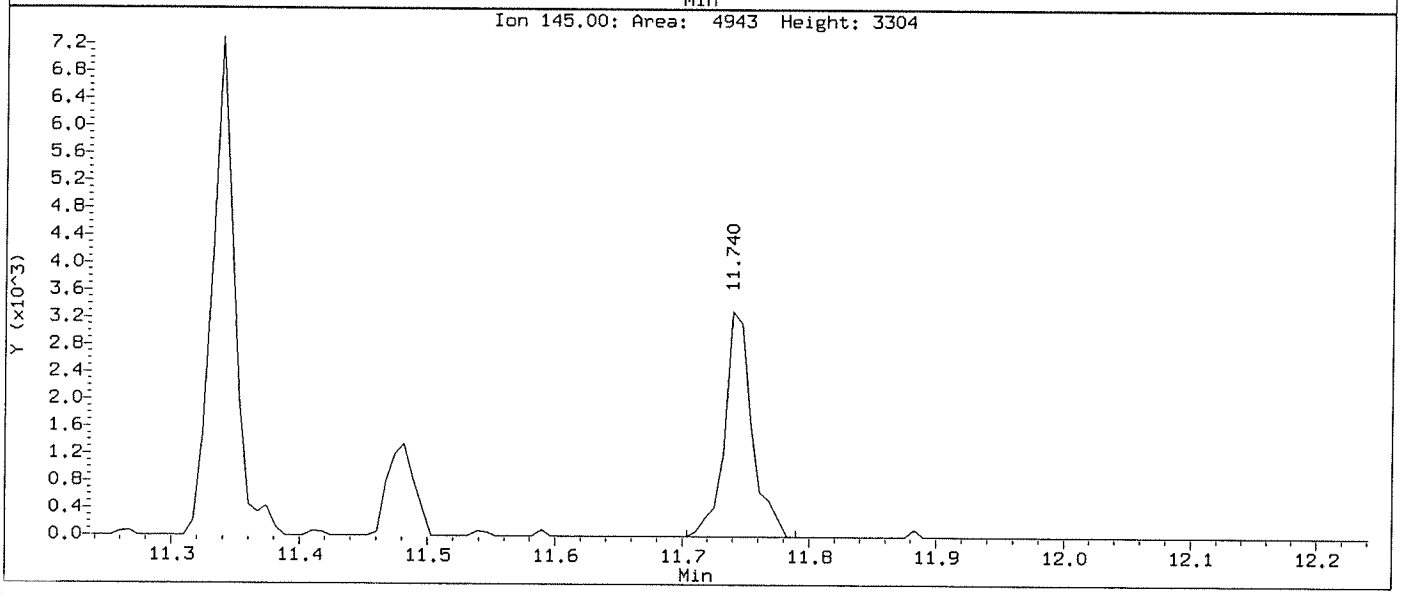


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Injection Date: 02-APR-2021 12:59
Instrument: voa6.i
Client Sample ID: VSTD020

Compound: 1,2,3-Trichlorobenzene
CAS Number: 87-61-6

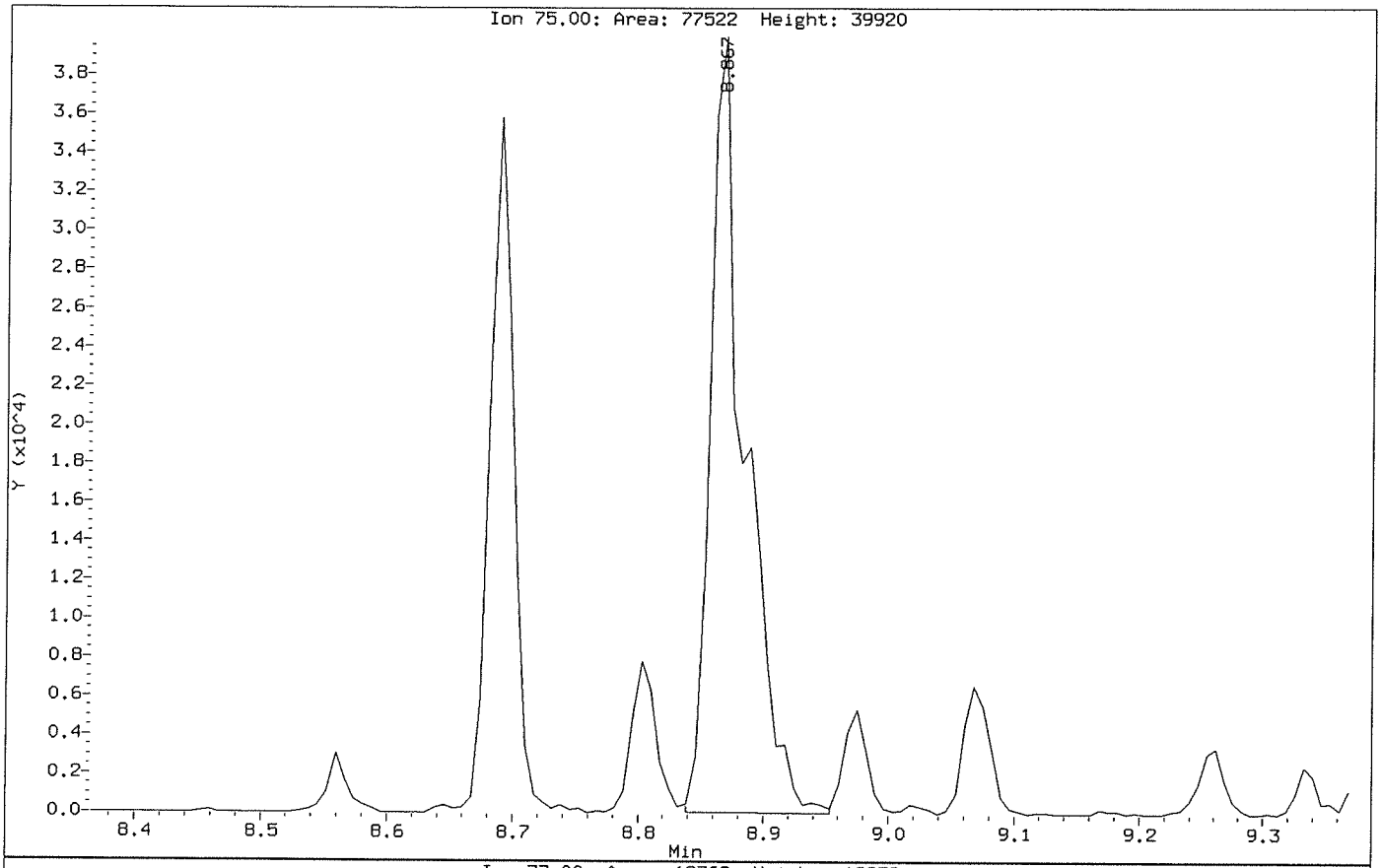


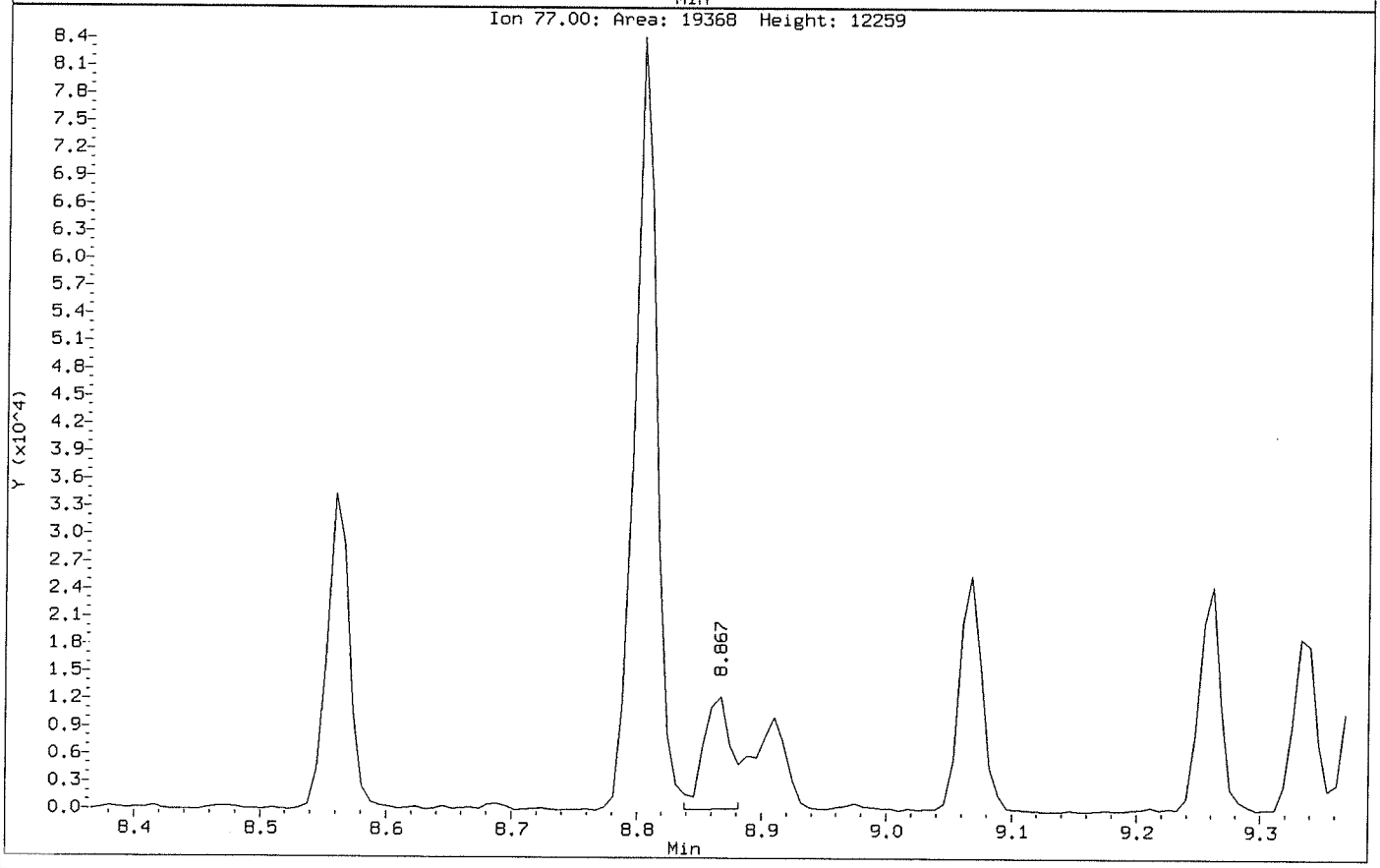



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before\X040207.D
Injection Date: 02-APR-2021 12:59
Instrument: voa6.i
Client Sample ID: VSTD020

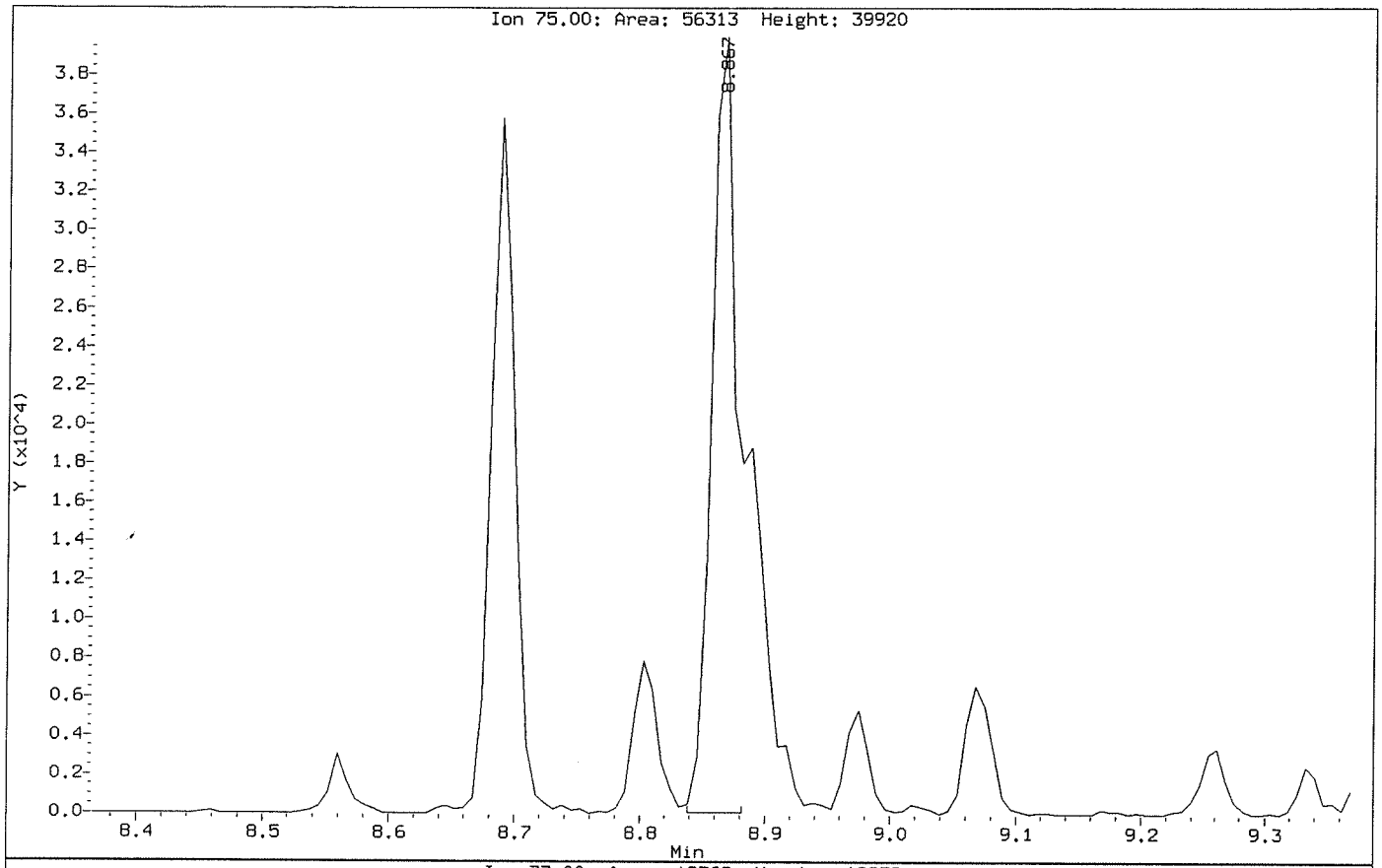
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4

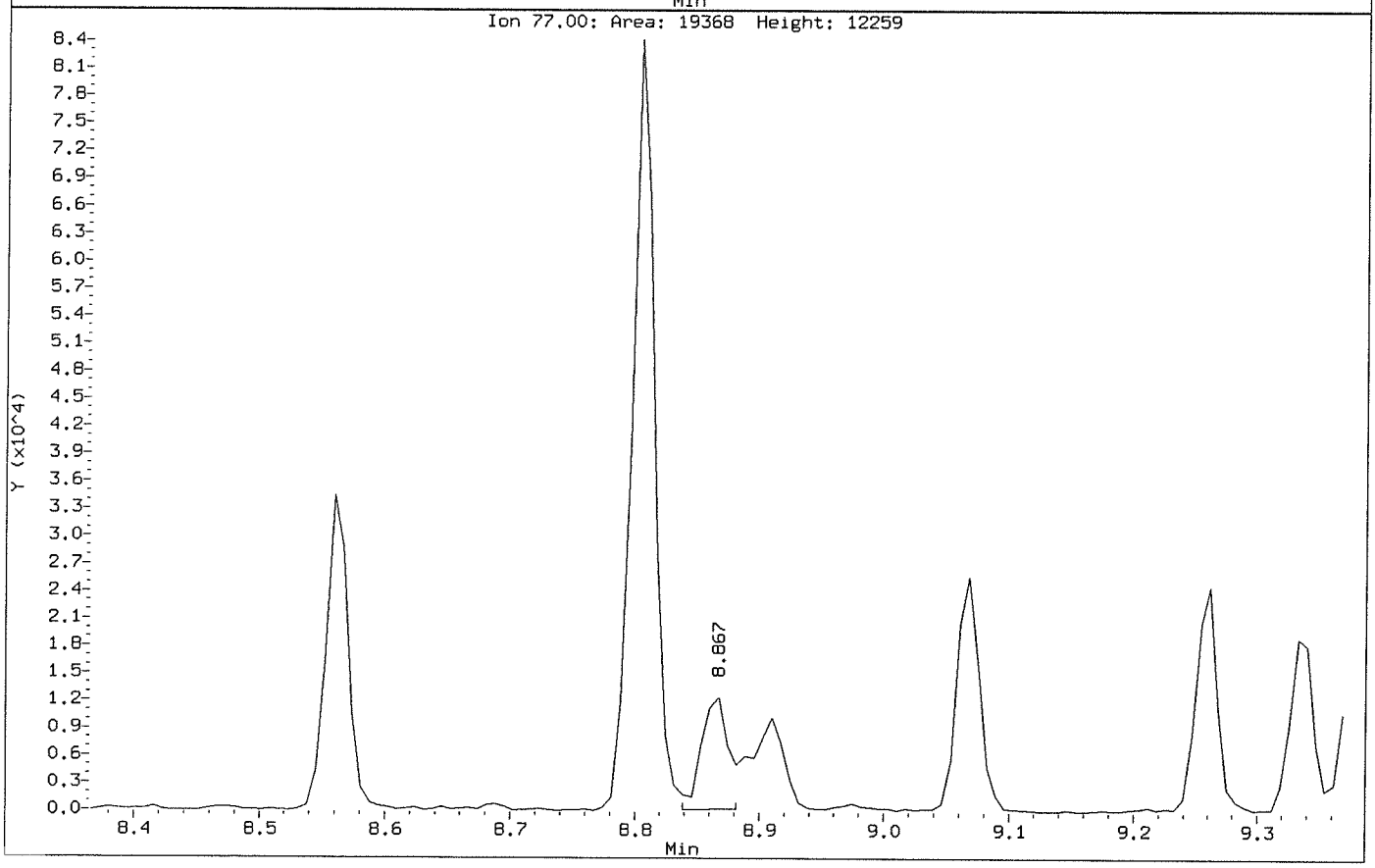


Data File: \\NAHSTW5005\Target\chem\voa6.i\X210402.b\X040207.D
Injection Date: 02-APR-2021 12:59
Instrument: voa6.i
Client Sample ID: VSTD020

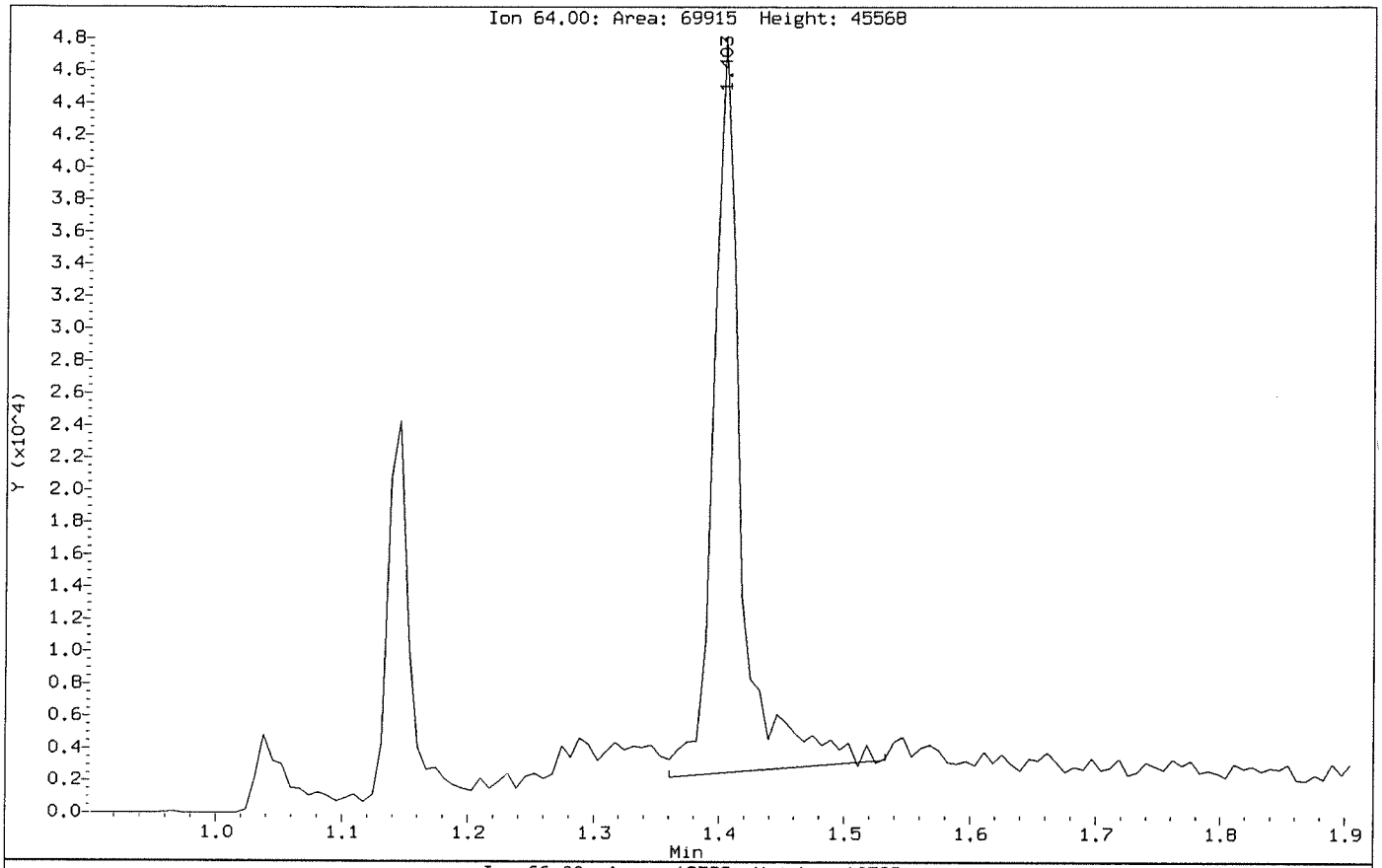
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4

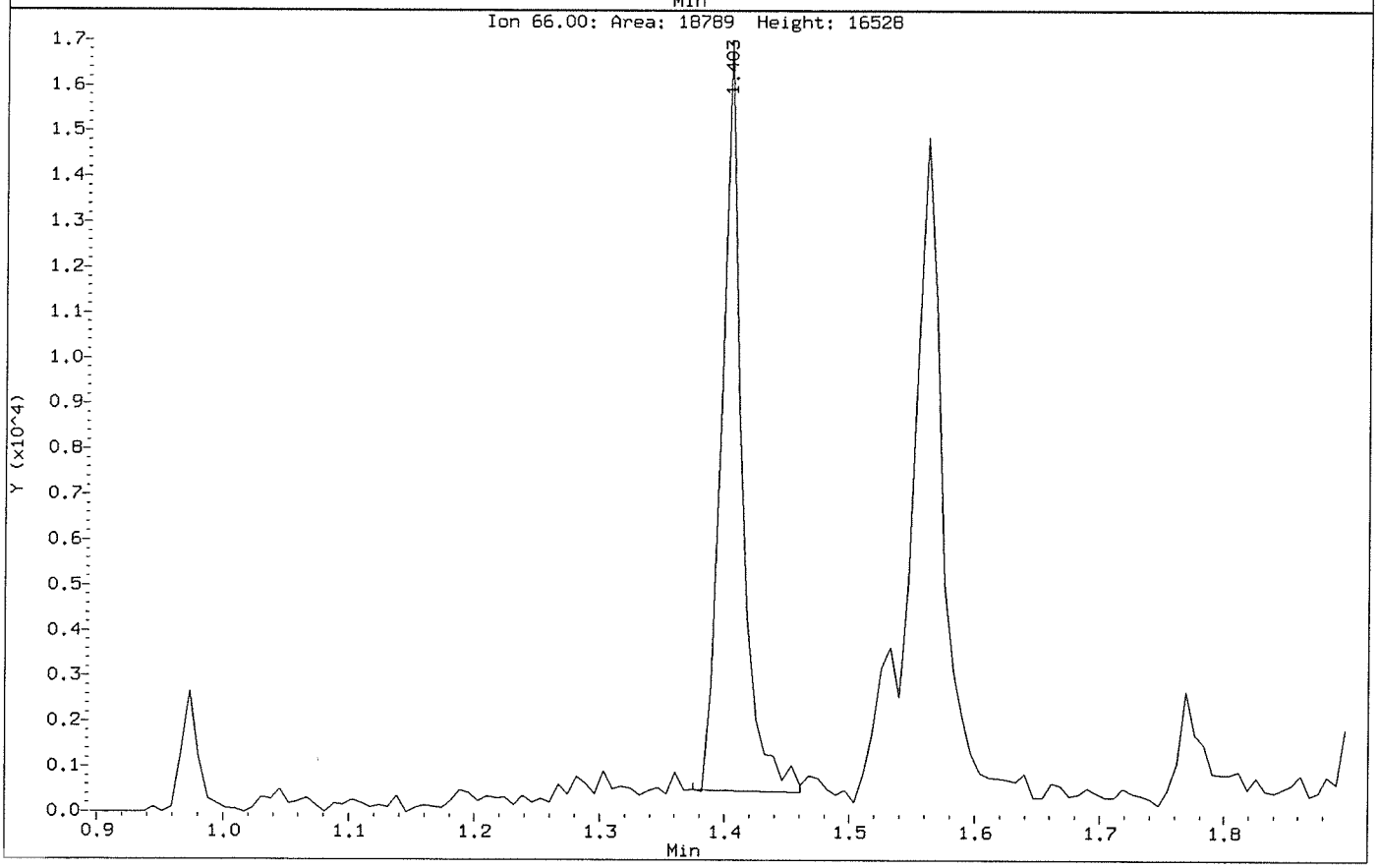


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Instrument: voa6.i
Client Sample ID: VSTD020

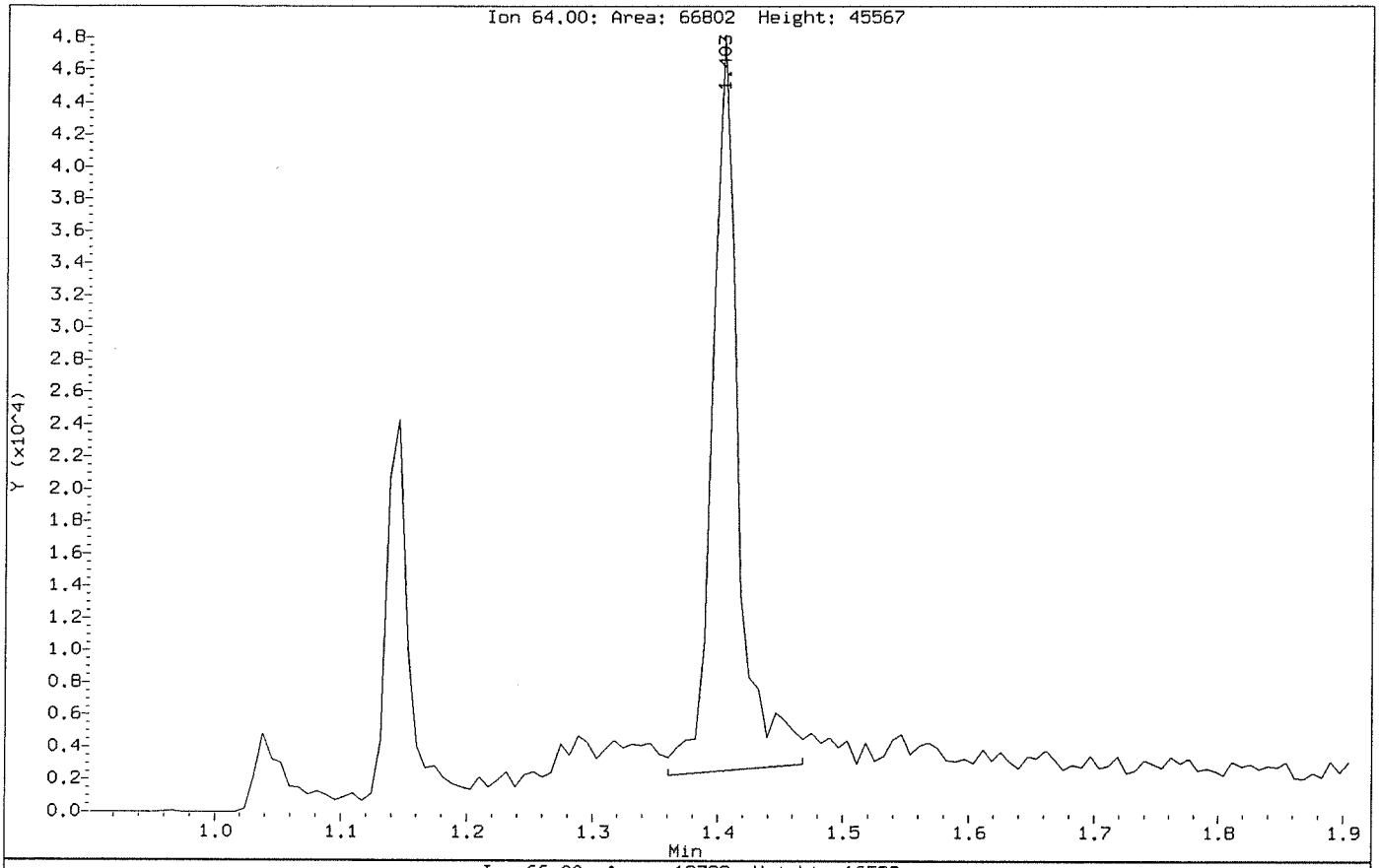
Compound: Chloroethane
CAS Number: 75-00-3

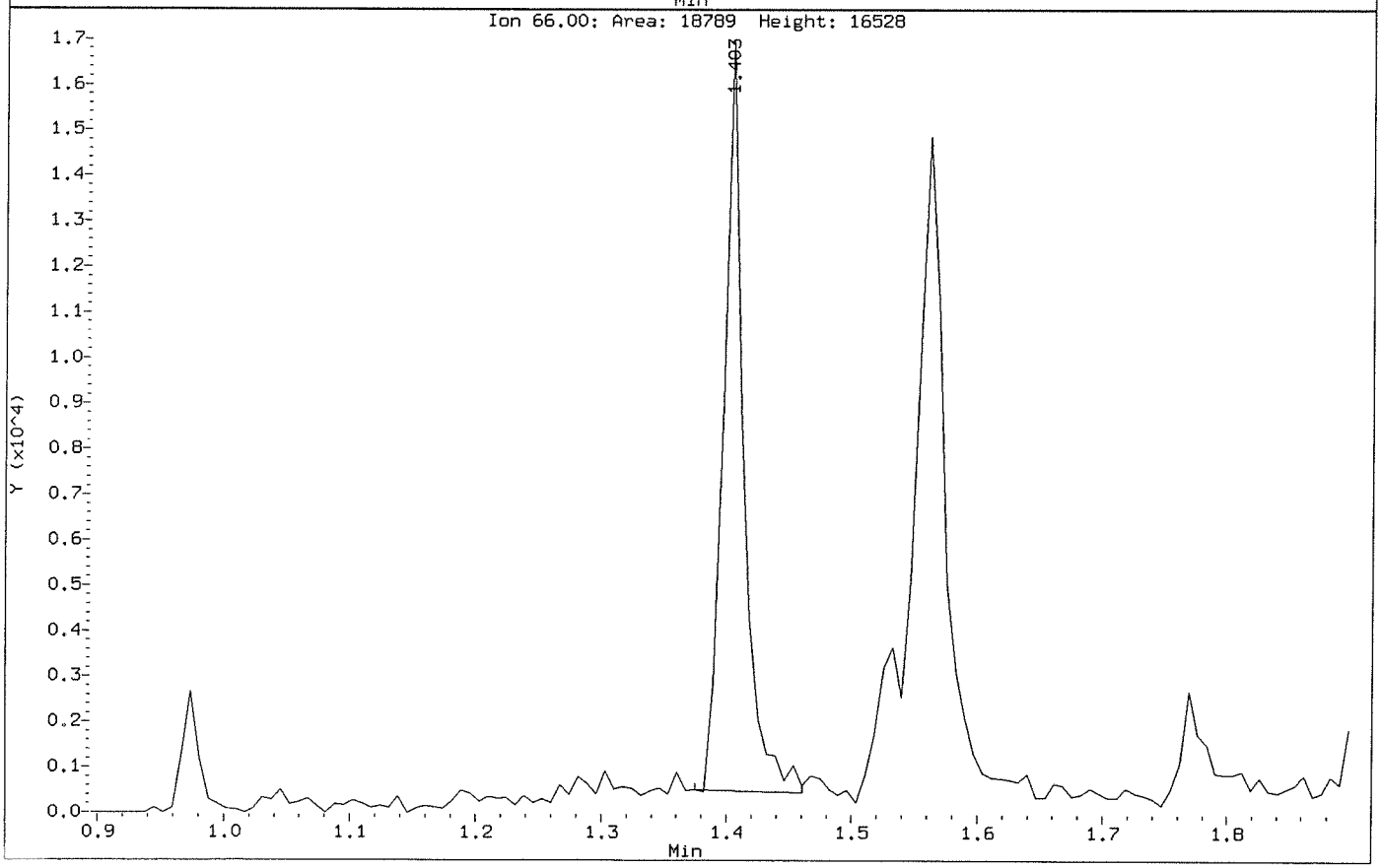


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040207.D
Injection Date: 02-APR-2021 12:59
Instrument: voa6.i
Client Sample ID: VSTD020

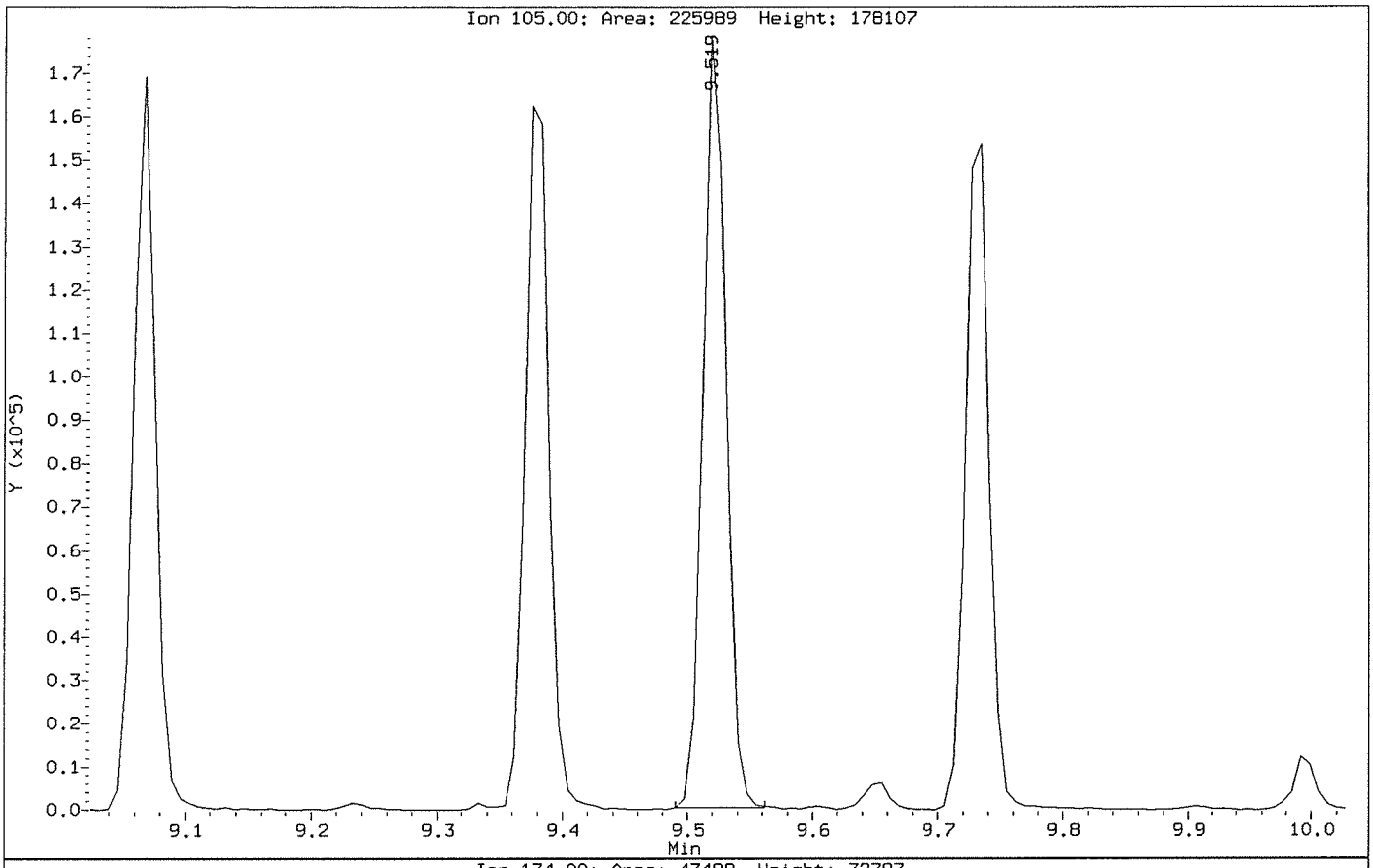
Compound: Chloroethane
CAS Number: 75-00-3

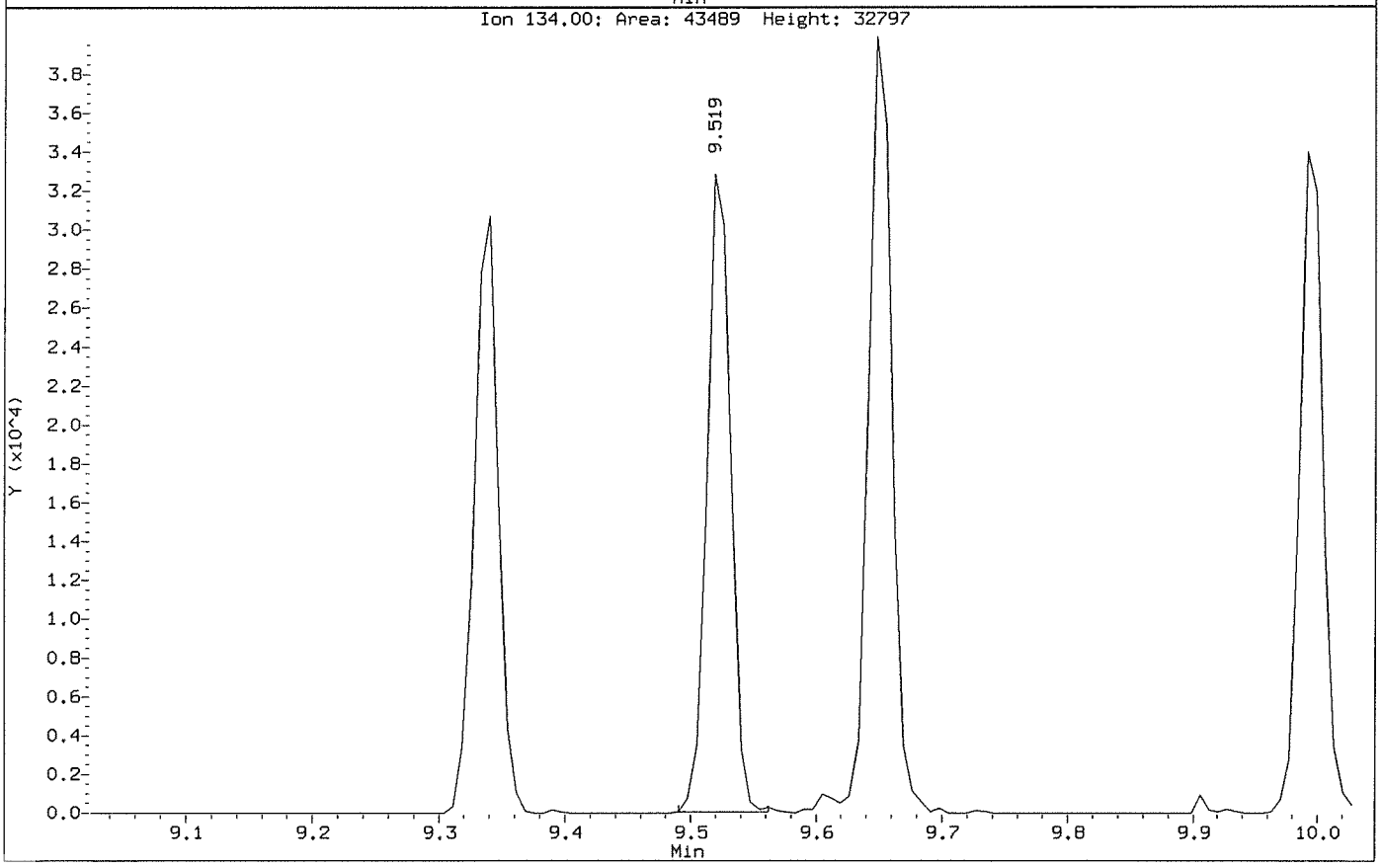


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before\X040207.D
Injection Date: 02-APR-2021 12:59
Instrument: voa6.i
Client Sample ID: VSTD020

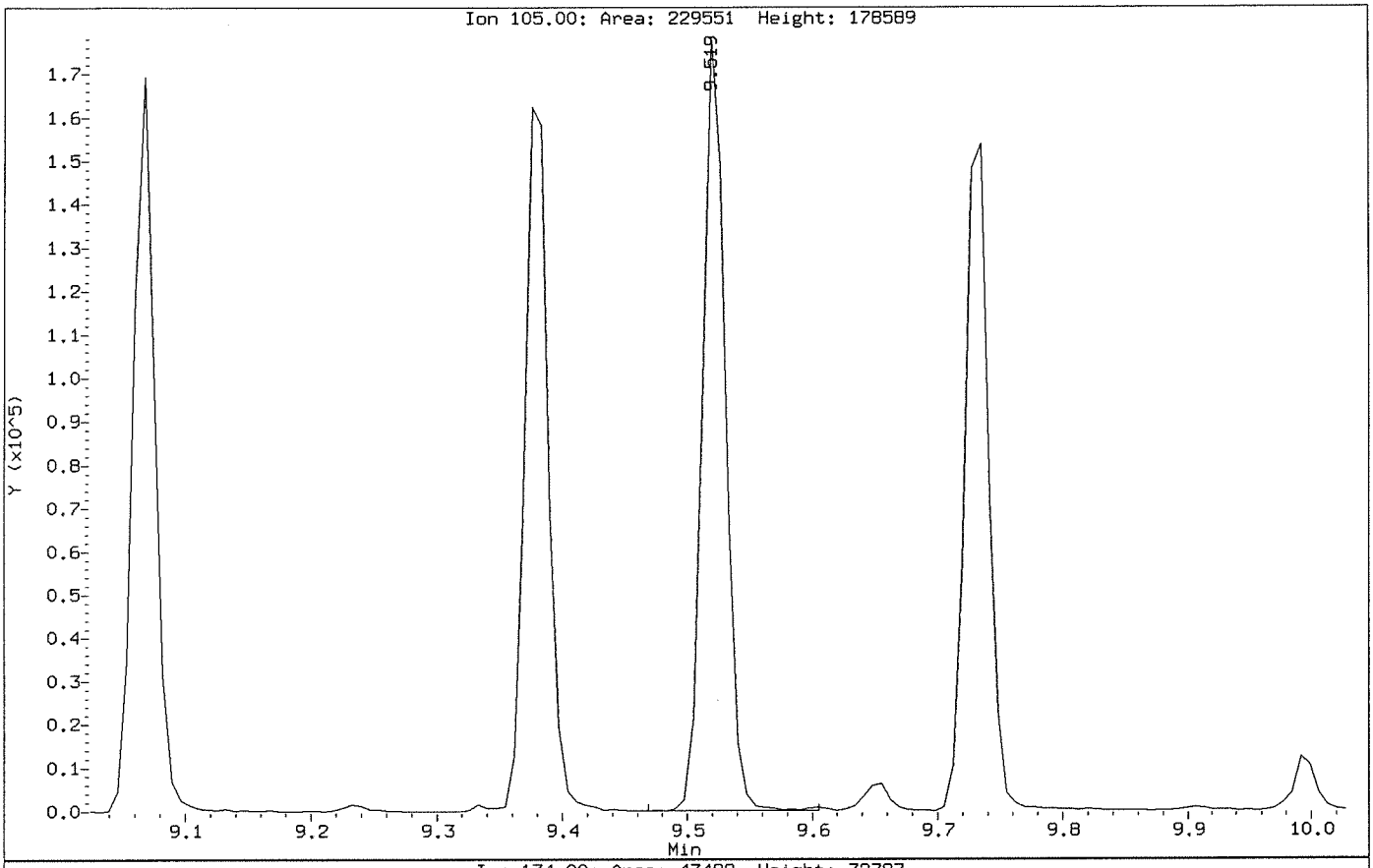
Compound: sec-Butylbenzene
CAS Number: 135-98-8

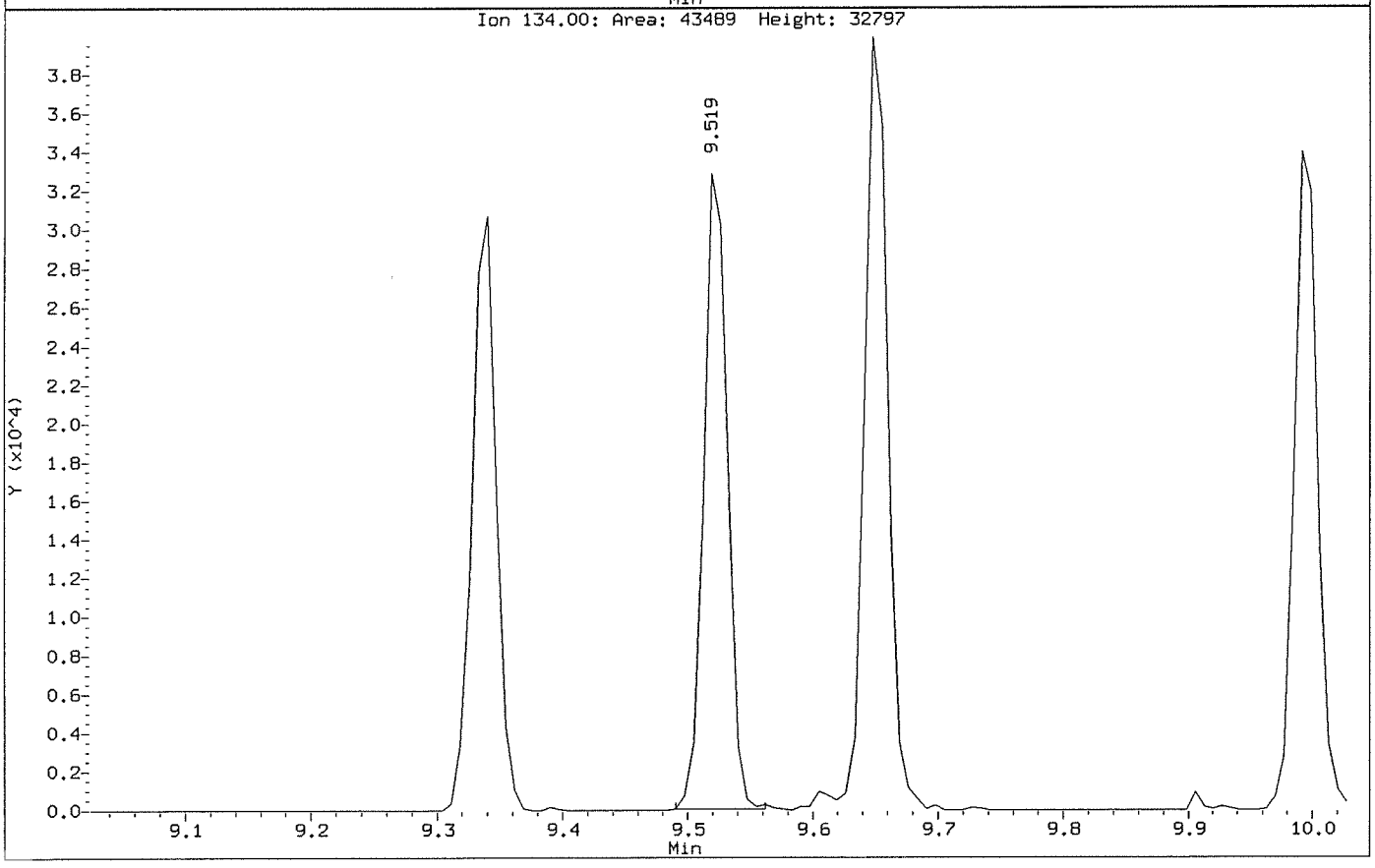


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040207.D
Injection Date: 02-APR-2021 12:59
Instrument: voa6.i
Client Sample ID: VSTD020

Compound: sec-Butylbenzene
CAS Number: 135-98-8



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040208.D
Lab Smp Id: VSTD050 Client Smp ID: VSTD050
Inj Date : 02-APR-2021 13:20
Operator : PC Inst ID: voa6.i
Smp Info : VSTD050;VSTD050;1;7;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\8260W.m
Meth Date : 14-Apr-2021 12:07 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 12:59 Cal File: X040207.D
Als bottle: 9 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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 |

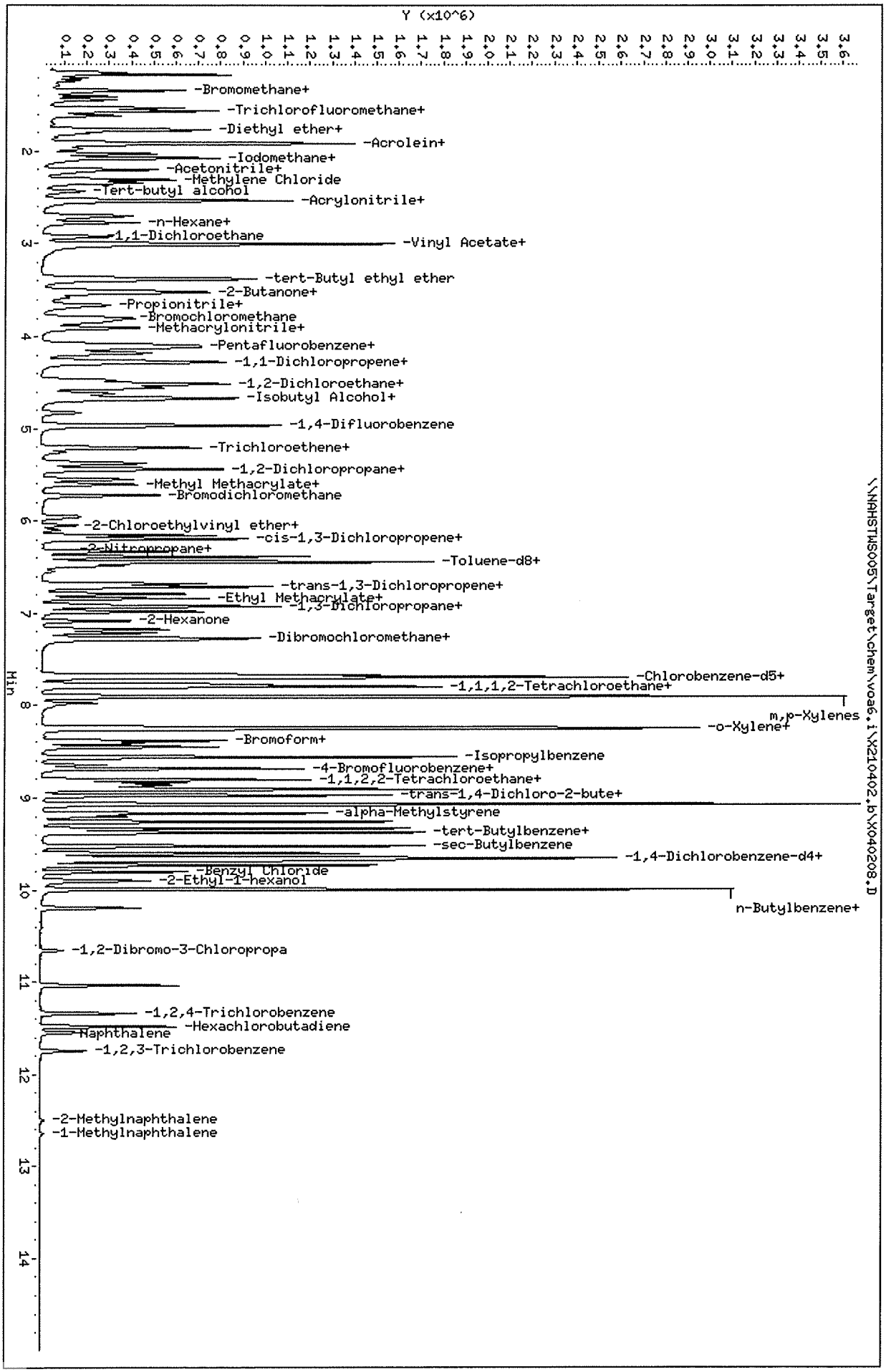
| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|---|
| * | 1 Pentafluorobenzene | 168 | 4.182 | 4.182 | (1.000) | 359684 | 50.0000 | |
| * | 36 1,4-Difluorobenzene | 114 | 4.963 | 4.963 | (1.000) | 598485 | 50.0000 | |
| * | 47 Chlorobenzene-d5 | 117 | 7.671 | 7.671 | (1.000) | 588191 | 50.0000 | |
| * | 70 1,4-Dichlorobenzene-d4 | 152 | 9.662 | 9.662 | (1.000) | 309539 | 50.0000 | |
| $ | 30 Dibromofluoromethane | 113 | 4.096 | 4.096 | (0.979) | 201590 | 50.0000 | 47.62 |
| $ | 35 1,2-Dichloroethane-d4 | 65 | 4.476 | 4.476 | (1.070) | 243778 | 50.0000 | 48.06 |
| $ | 48 Toluene-d8 | 98 | 6.388 | 6.388 | (0.833) | 658700 | 50.0000 | 43.80 |
| $ | 69 4-Bromofluorobenzene | 95 | 8.688 | 8.688 | (1.133) | 267013 | 50.0000 | 47.42 |
| | 60 1,1,1,2-Tetrachloroethane | 131 | 7.778 | 7.778 | (1.014) | 206973 | 50.0000 | 47.42 |
| | 31 1,1,1-Trichloroethane | 97 | 4.089 | 4.089 | (0.978) | 323366 | 50.0000 | 49.67 |
| | 68 1,1,2,2-Tetrachloroethane | 83 | 8.838 | 8.838 | (0.915) | 235293 | 50.0000 | 45.56 |
| | 53 1,1,2-Trichloroethane | 83 | 6.840 | 6.840 | (0.892) | 155825 | 50.0000 | 45.60 |
| | 22 1,1-Dichloroethane | 63 | 2.921 | 2.921 | (0.699) | 301783 | 50.0000 | 45.19 |
| | 11 1,1-Dichloroethene | 96 | 1.911 | 1.911 | (0.457) | 240341 | 50.0000 | 46.92 |
| | 32 1,1-Dichloropropene | 75 | 4.282 | 4.282 | (0.863) | 268882 | 50.0000 | 47.87 |
| | 93 1,2,3-Trichlorobenzene | 180 | 11.746 | 11.746 | (1.216) | 52490 | 50.0000 | 49.42(H) |
| | 71 1,2,3-Trichloropropane | 75 | 8.860 | 8.860 | (0.917) | 196436 | 50.0000 | 47.28(M) |
| | 90 1,2,4-Trichlorobenzene | 180 | 11.338 | 11.338 | (1.173) | 103358 | 50.0000 | 49.37 |
| | 79 1,2,4-Trimethylbenzene | 105 | 9.383 | 9.383 | (0.971) | 759321 | 50.0000 | 47.79 |
| | 89 1,2-Dibromo-3-Chloropropane | 155 | 10.658 | 10.658 | (1.103) | 15961 | 50.0000 | 47.40 |
| | 57 1,2-Dibromoethane | 107 | 7.262 | 7.262 | (0.947) | 200503 | 50.0000 | 49.58 |
| | 88 1,2-Dichlorobenzene | 146 | 9.991 | 9.991 | (1.034) | 391711 | 50.0000 | 46.06 |

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040208.D Page 2
Report Date: 14-Apr-2021 12:07

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|---|
| 33 | 1,2-Dichloroethane | 62 | 4.555 | 4.555 | (0.918) | 309702 | 50.0000 | 48.88 |
| 42 | 1,2-Dichloropropane | 63 | 5.436 | 5.436 | (1.095) | 196914 | 50.0000 | 47.34 |
| 75 | 1,3,5-Trimethylbenzene | 105 | 9.067 | 9.067 | (0.938) | 789779 | 50.0000 | 47.60 |
| 83 | 1,3-Dichlorobenzene | 146 | 9.605 | 9.605 | (0.994) | 424596 | 50.0000 | 47.36 |
| 54 | 1,3-Dichloropropane | 76 | 6.983 | 6.983 | (0.910) | 308859 | 50.0000 | 47.28 |
| 84 | 1,4-Dichlorobenzene | 146 | 9.683 | 9.683 | (1.002) | 429308 | 50.0000 | 44.45 |
| 26 | 2,2-Dichloropropane | 77 | 3.509 | 3.509 | (0.839) | 303503 | 50.0000 | 46.15 |
| 24 | 2-Butanone | 43 | 3.580 | 3.580 | (0.856) | 121094 | 100.000 | 97.93 |
| 76 | 2-Chlorotoluene | 91 | 8.974 | 8.974 | (0.929) | 650376 | 50.0000 | 50.01 |
| 52 | 2-Hexanone | 43 | 7.083 | 7.083 | (0.923) | 226441 | 100.000 | 93.52 |
| 77 | 4-Chlorotoluene | 91 | 9.067 | 9.067 | (0.938) | 788734 | 50.0000 | 46.72 |
| 82 | p-Isopropyltoluene | 119 | 9.648 | 9.648 | (0.999) | 781650 | 50.0000 | 49.84 |
| 45 | 4-Methyl-2-Pentanone | 43 | 6.324 | 6.324 | (0.824) | 351323 | 100.000 | 99.10 |
| 10 | Acetone | 43 | 1.976 | 1.976 | (0.473) | 120767 | 100.000 | 101.46 |
| 37 | Benzene | 78 | 4.512 | 4.512 | (0.909) | 744015 | 50.0000 | 46.93 |
| 74 | Bromobenzene | 156 | 8.802 | 8.802 | (0.911) | 241177 | 50.0000 | 45.19 |
| 29 | Bromochloromethane | 128 | 3.795 | 3.795 | (0.908) | 108002 | 50.0000 | 50.34 |
| 39 | Bromodichloromethane | 83 | 5.722 | 5.722 | (1.153) | 290150 | 50.0000 | 48.34 |
| 66 | Bromoform | 173 | 8.408 | 8.408 | (1.096) | 138380 | 50.0000 | 47.30 |
| 6 | Bromomethane | 94 | 1.338 | 1.338 | (0.320) | 247329 | 50.0000 | 48.07 |
| 19 | Carbon Disulfide | 76 | 2.069 | 2.069 | (0.495) | 888972 | 100.000 | 88.86 |
| 34 | Carbon Tetrachloride | 117 | 4.268 | 4.268 | (0.860) | 268785 | 50.0000 | 49.77 |
| 59 | Chlorobenzene | 112 | 7.692 | 7.692 | (1.003) | 563393 | 50.0000 | 46.21 |
| 7 | Chloroethane | 64 | 1.403 | 1.403 | (0.336) | 198610 | 50.0000 | 49.63 |
| 28 | Chloroform | 83 | 3.910 | 3.910 | (0.935) | 375547 | 50.0000 | 48.07 |
| 3 | Chloromethane | 50 | 1.081 | 1.081 | (0.258) | 185744 | 50.0000 | 49.72 |
| 27 | cis-1,2-Dichloroethene | 96 | 3.530 | 3.530 | (0.844) | 208514 | 50.0000 | 47.42 |
| 46 | cis-1,3-Dichloropropene | 75 | 6.152 | 6.152 | (1.240) | 345467 | 50.0000 | 49.31 |
| 55 | Dibromochloromethane | 129 | 7.176 | 7.176 | (0.936) | 222208 | 50.0000 | 48.39 |
| 44 | Dibromomethane | 93 | 5.550 | 5.550 | (1.118) | 141630 | 50.0000 | 47.99 |
| 2 | Dichlorodifluoromethane | 85 | 0.973 | 0.973 | (0.233) | 160699 | 50.0000 | 45.96 |
| 61 | Ethylbenzene | 106 | 7.799 | 7.799 | (1.017) | 299171 | 50.0000 | 47.51 |
| 91 | Hexachlorobutadiene | 225 | 11.481 | 11.481 | (1.188) | 81563 | 50.0000 | 49.40 |
| 67 | Isopropylbenzene | 105 | 8.559 | 8.559 | (1.116) | 920776 | 50.0000 | 48.92 |
| 62 | m,p-Xylenes | 106 | 7.900 | 7.900 | (1.030) | 792507 | 100.000 | 99.40 |
| 17 | Methylene Chloride | 84 | 2.305 | 2.305 | (0.551) | 173954 | 50.0000 | 44.72 |
| 87 | n-Butylbenzene | 91 | 9.991 | 9.991 | (1.034) | 760541 | 50.0000 | 51.17 |
| 73 | n-Propylbenzene | 91 | 8.910 | 8.910 | (0.922) | 1138343 | 50.0000 | 48.47 |
| 92 | Naphthalene | 128 | 11.539 | 11.539 | (1.194) | 141575 | 50.0000 | 49.68 |
| 63 | o-Xylene | 106 | 8.244 | 8.244 | (1.075) | 365247 | 50.0000 | 47.24 |
| 81 | sec-Butylbenzene | 105 | 9.519 | 9.519 | (0.985) | 916729 | 50.0000 | 51.21 |
| 64 | Styrene | 104 | 8.258 | 8.258 | (1.077) | 627903 | 50.0000 | 44.44 |
| 78 | tert-Butylbenzene | 119 | 9.332 | 9.332 | (0.966) | 651644 | 50.0000 | 49.05 |
| 56 | Tetrachloroethene | 164 | 6.926 | 6.926 | (0.903) | 165972 | 50.0000 | 46.74 |
| 50 | Toluene | 91 | 6.446 | 6.446 | (0.840) | 845299 | 50.0000 | 46.24 |
| 20 | trans-1,2-Dichloroethene | 96 | 2.527 | 2.527 | (0.604) | 174385 | 50.0000 | 47.57 |
| 51 | trans-1,3-Dichloropropene | 75 | 6.682 | 6.682 | (1.346) | 301383 | 50.0000 | 50.44 |
| 38 | Trichloroethene | 130 | 5.206 | 5.206 | (1.049) | 206412 | 50.0000 | 50.38 |
| 8 | Trichlorofluoromethane | 101 | 1.560 | 1.560 | (0.373) | 471106 | 50.0000 | 45.63 |
| 5 | Vinyl Chloride | 62 | 1.145 | 1.145 | (0.274) | 256013 | 50.0000 | 47.47 |

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

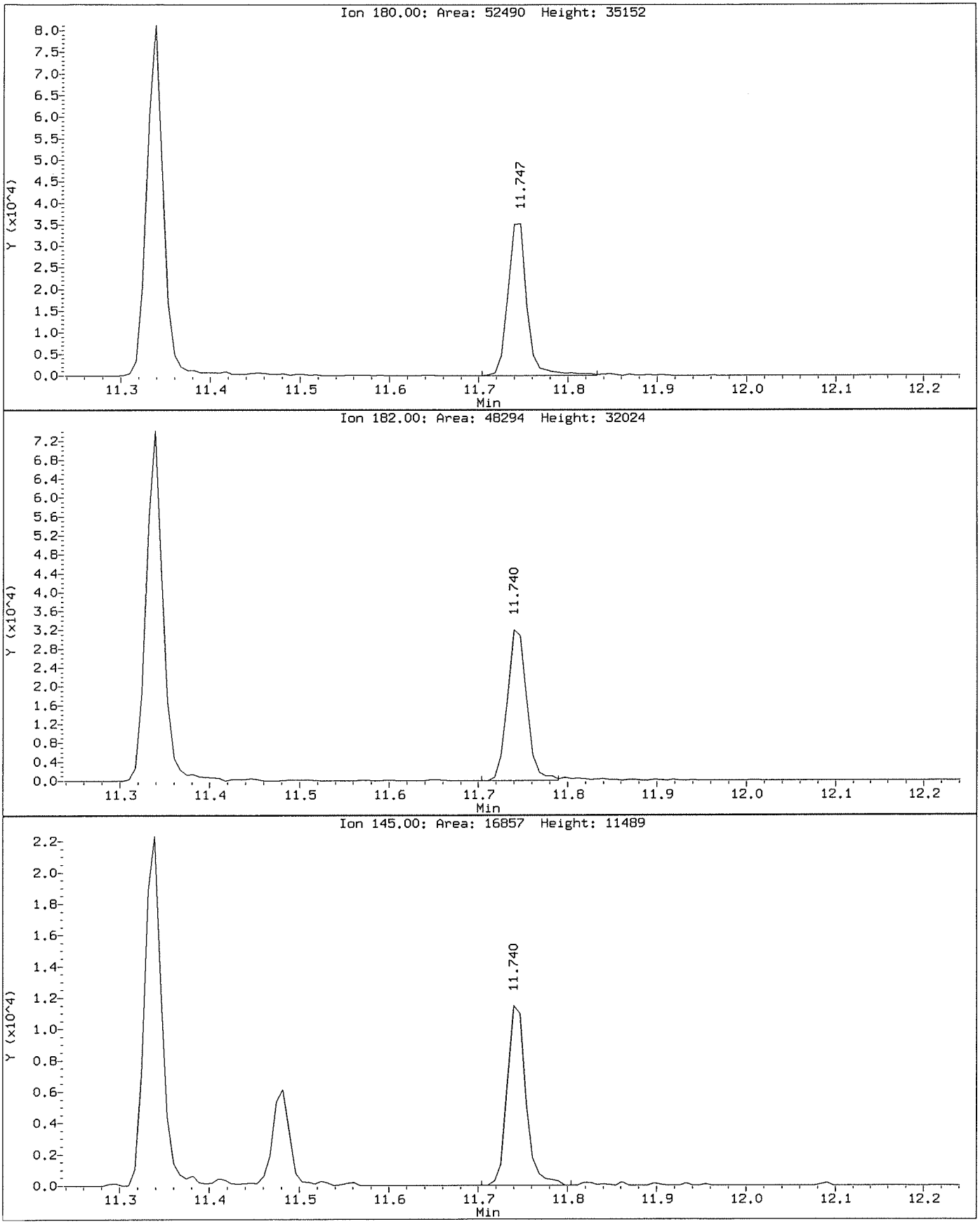



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040208.D
Date : 02-APR-2021 13:20
Client ID: VSTD050
Sample Info: VSTD050;VSTD050;1;7;;
Purge Volume: 5.0
Column phase: DB624

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

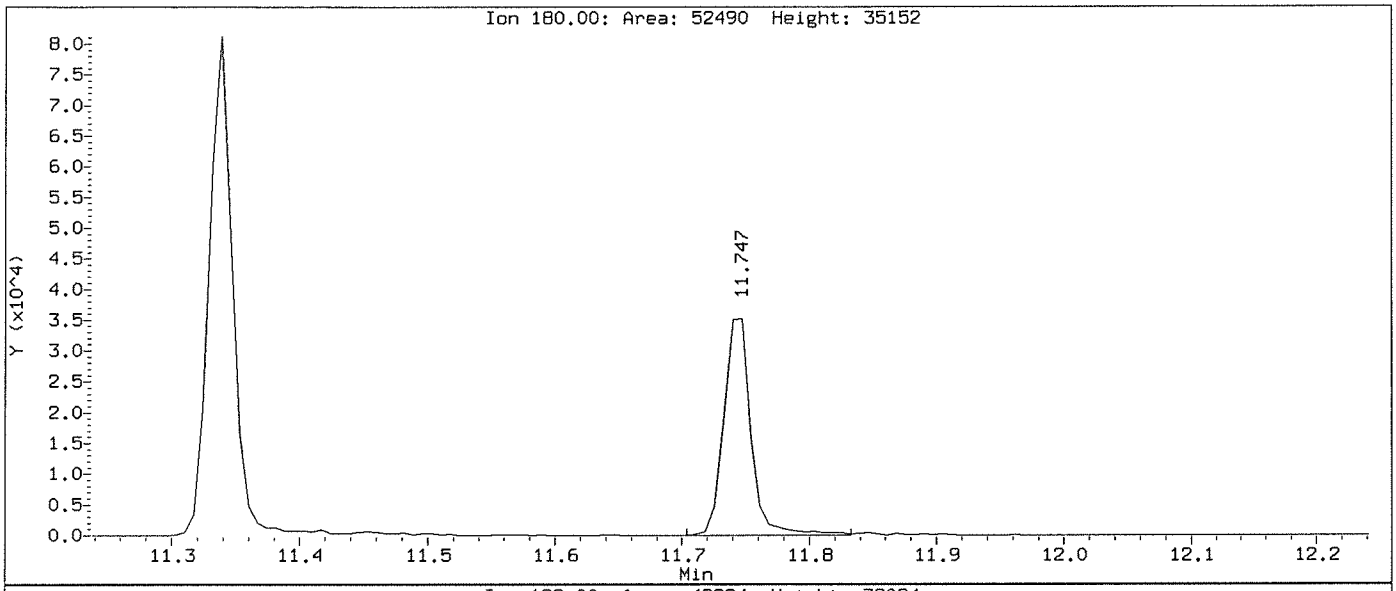
Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before\X040208.D
Injection Date: 02-APR-2021 13:20
Instrument: voa6.i
Client Sample ID: VSTD050

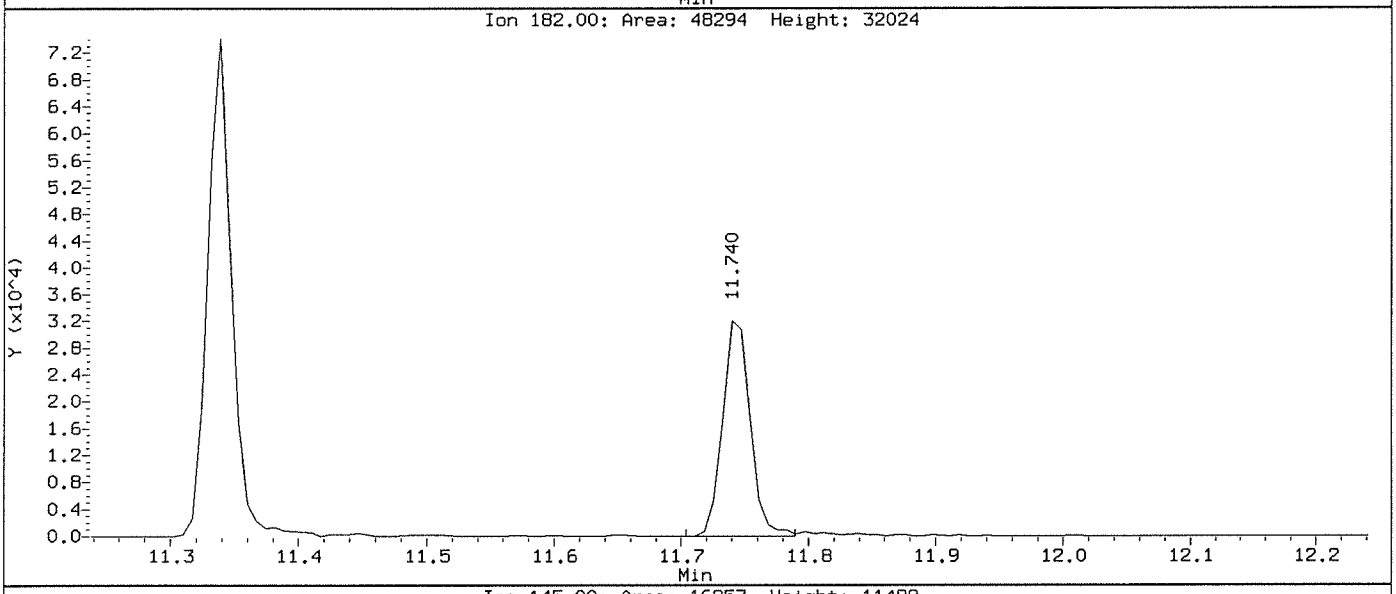
Compound: 1,2,3-Trichlorobenzene
CAS Number: 87-61-6

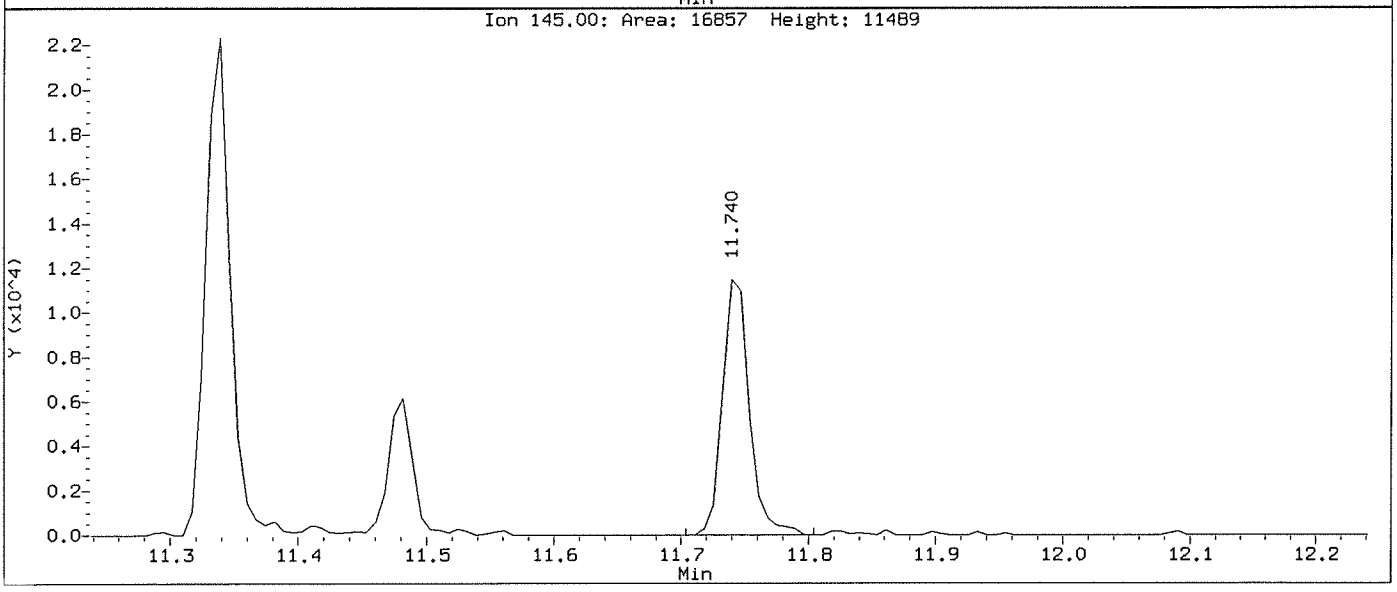


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040208.D
Injection Date: 02-APR-2021 13:20
Instrument: voa6.i
Client Sample ID: VSTD050

Compound: 1,2,3-Trichlorobenzene
CAS Number: 87-61-6

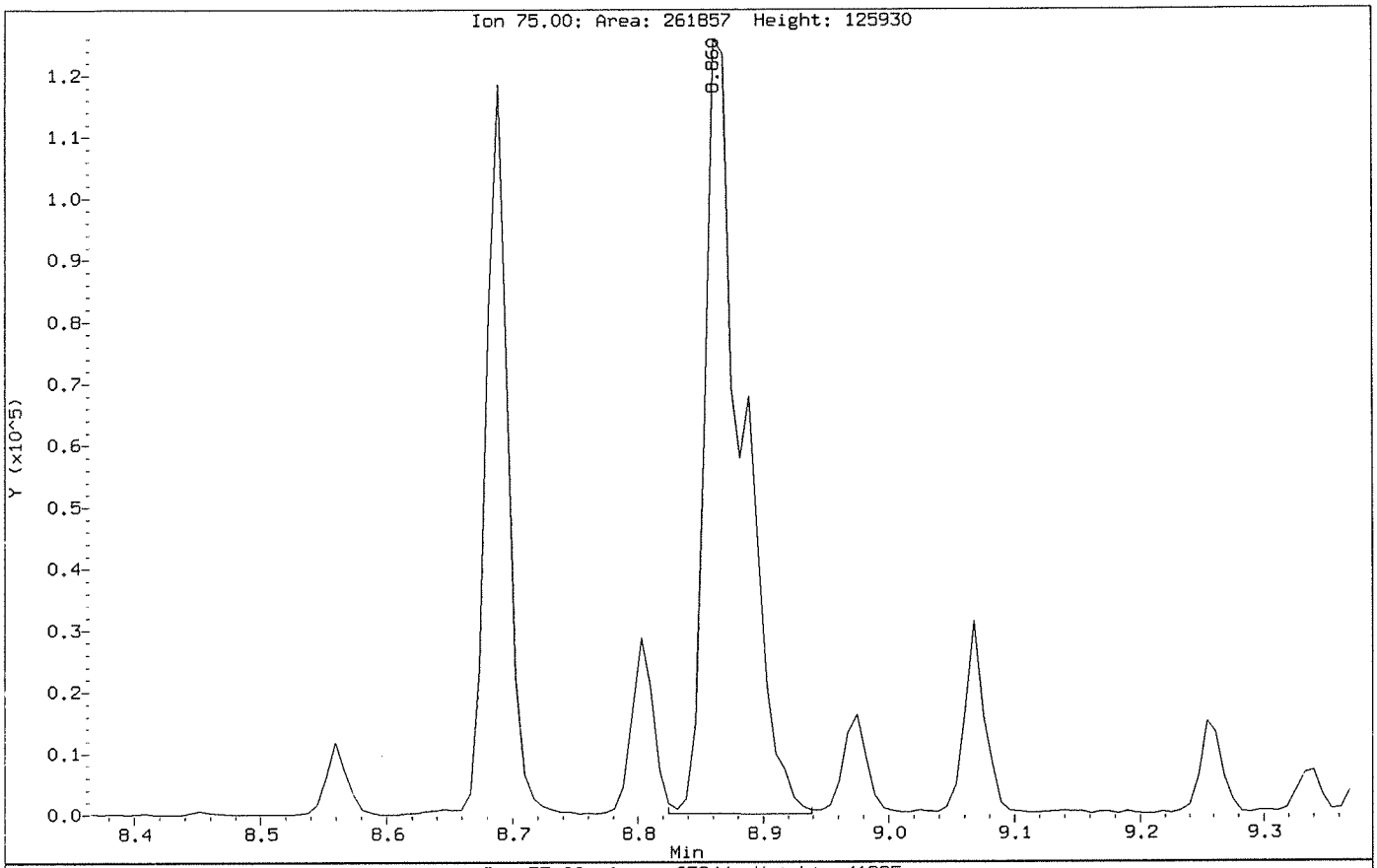


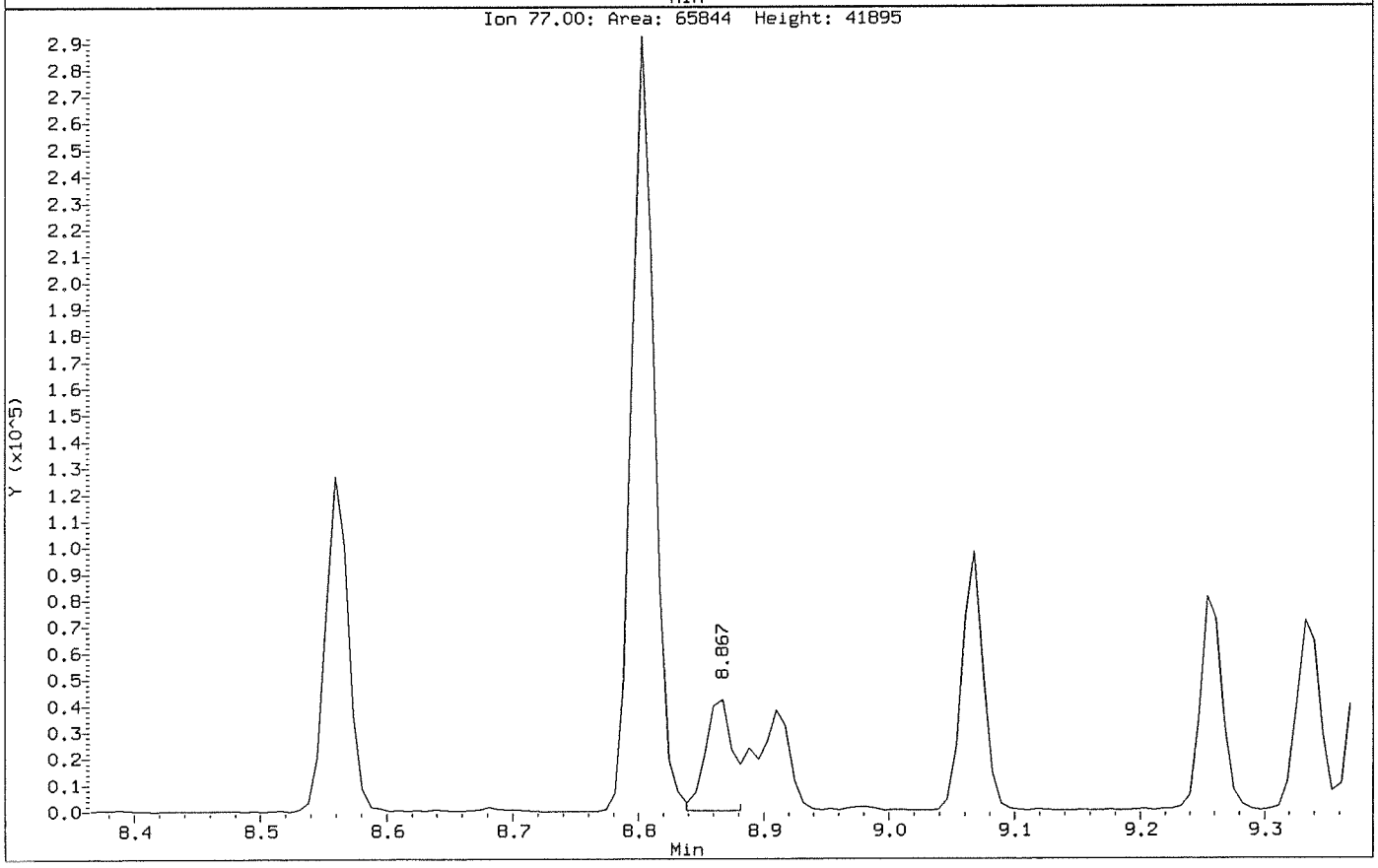



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before\X040208.D
Injection Date: 02-APR-2021 13:20
Instrument: voa6.i
Client Sample ID: VSTD050

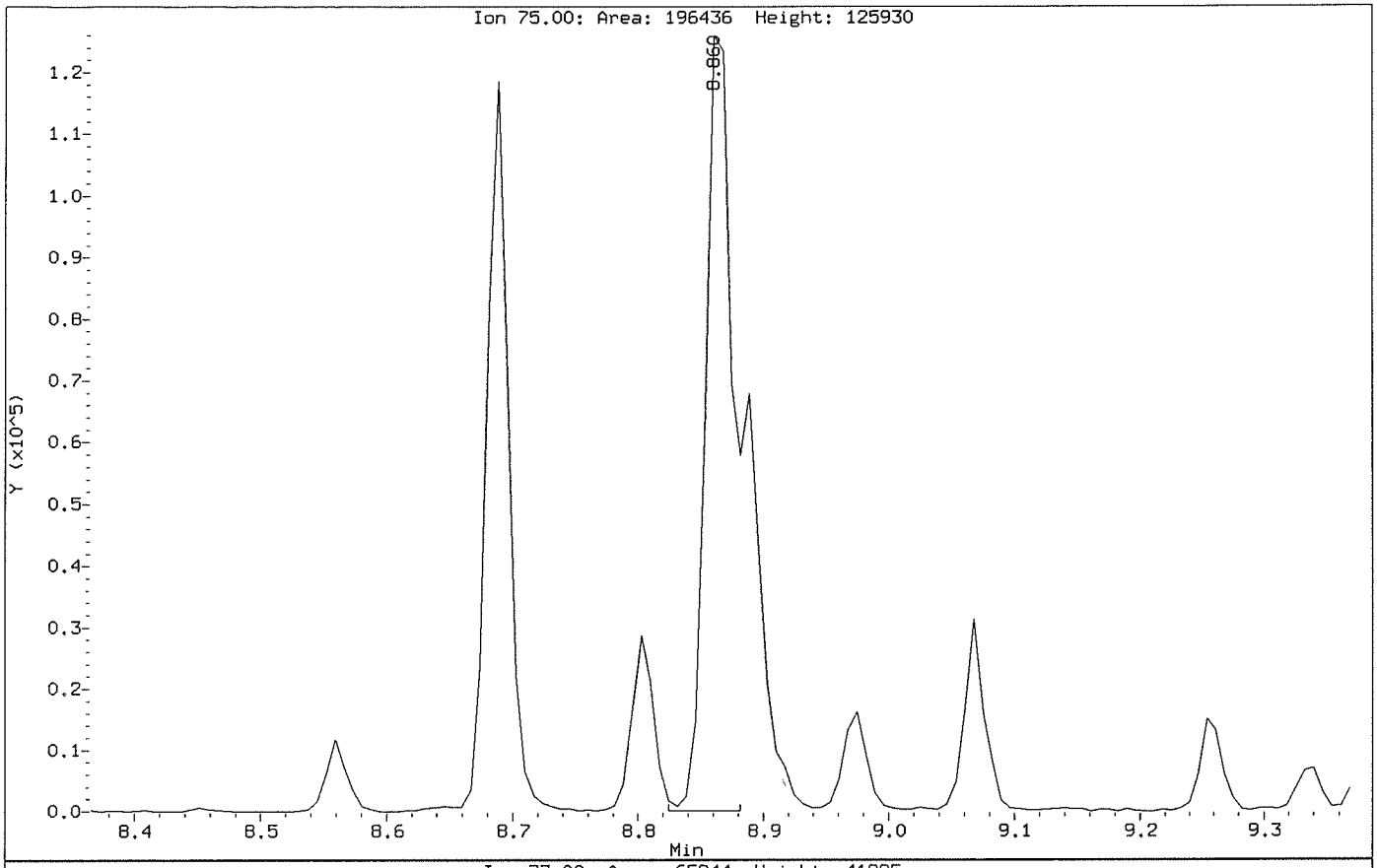
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4

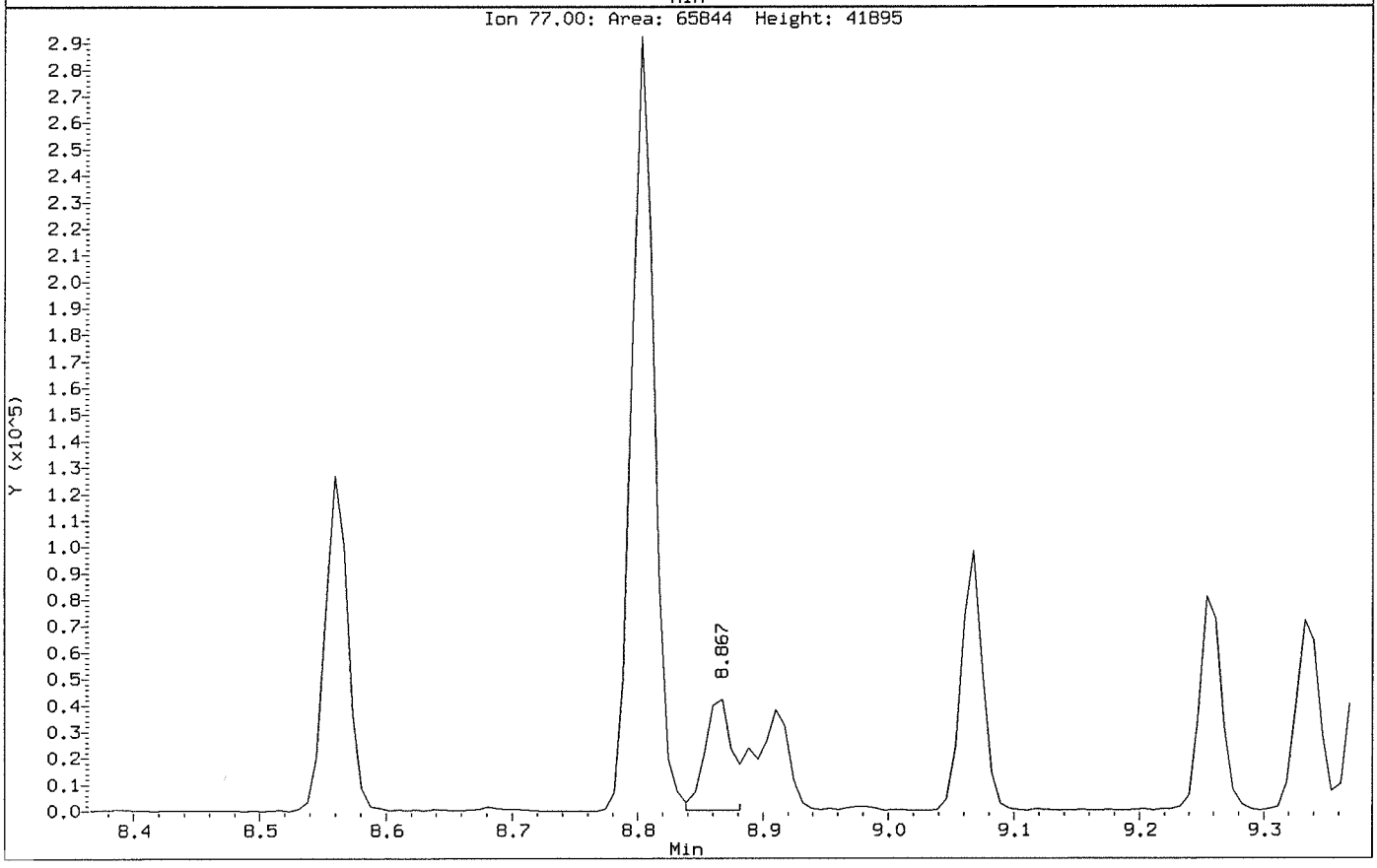


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040208.D
Injection Date: 02-APR-2021 13:20
Instrument: voa6.i
Client Sample ID: VSTD050

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040209.D
Lab Smp Id: VSTD100 Client Smp ID: VSTD100
Inj Date : 02-APR-2021 13:41
Operator : PC Inst ID: voa6.i
Smp Info : VSTD100;VSTD100;1;8;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\8260W.m
Meth Date : 14-Apr-2021 12:07 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 10 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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 |

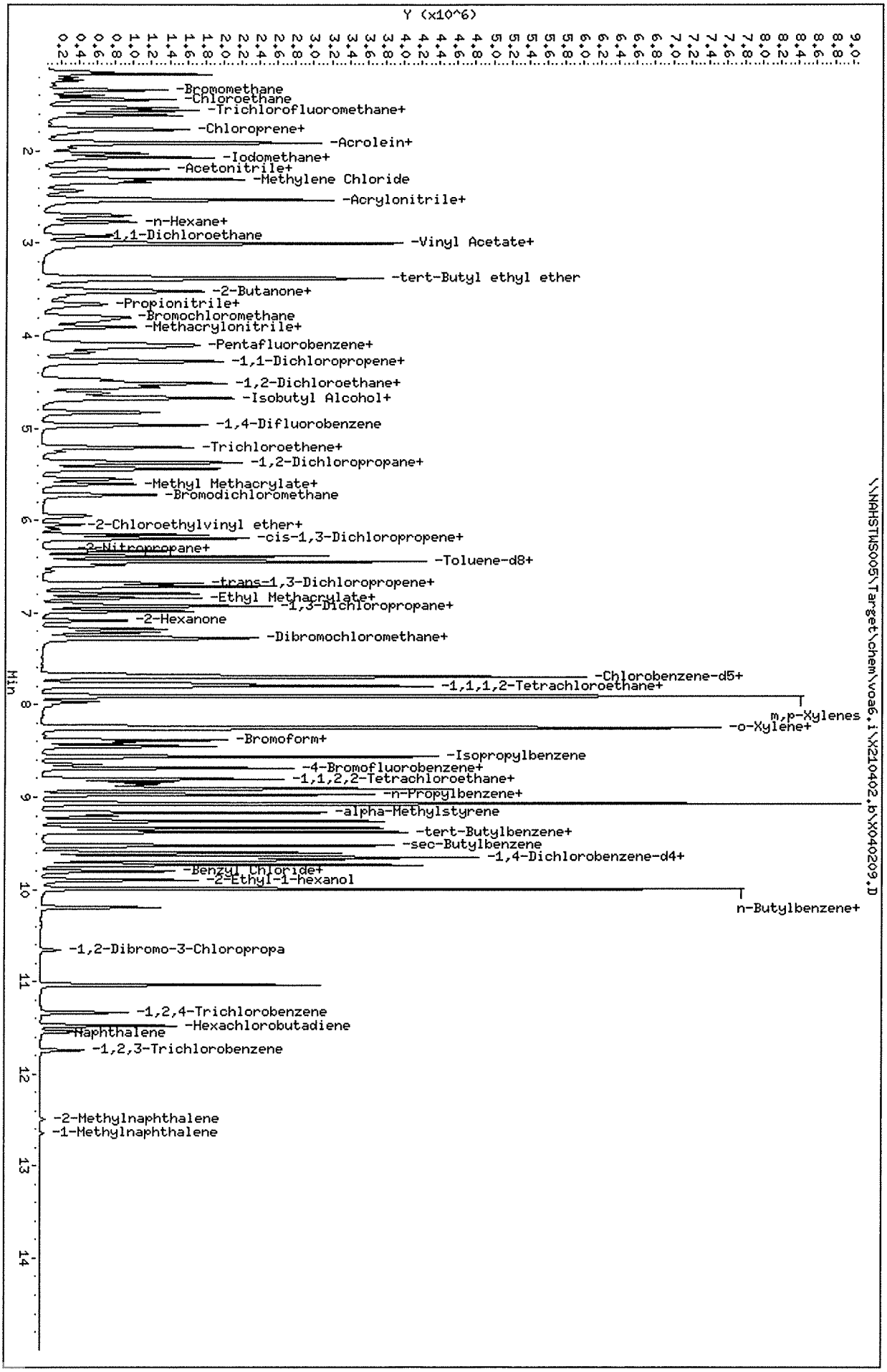
| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|---|
| * | 1 Pentafluorobenzene | 168 | 4.182 | 4.182 | (1.000) | 397825 | 50.0000 | |
| * | 36 1,4-Difluorobenzene | 114 | 4.963 | 4.963 | (1.000) | 683502 | 50.0000 | |
| * | 47 Chlorobenzene-d5 | 117 | 7.670 | 7.670 | (1.000) | 652649 | 50.0000 | |
| * | 70 1,4-Dichlorobenzene-d4 | 152 | 9.662 | 9.662 | (1.000) | 339759 | 50.0000 | |
| $ | 30 Dibromofluoromethane | 113 | 4.096 | 4.096 | (0.979) | 476731 | 100.000 | 101.33 |
| $ | 35 1,2-Dichloroethane-d4 | 65 | 4.476 | 4.476 | (1.070) | 568806 | 100.000 | 100.86 |
| $ | 48 Toluene-d8 | 98 | 6.388 | 6.388 | (0.833) | 1733824 | 100.000 | 101.37 |
| $ | 69 4-Bromofluorobenzene | 95 | 8.688 | 8.688 | (1.133) | 624362 | 100.000 | 98.11 |
| | 60 1,1,1,2-Tetrachloroethane | 131 | 7.778 | 7.778 | (1.014) | 479283 | 100.000 | 98.96 |
| | 31 1,1,1-Trichloroethane | 97 | 4.082 | 4.082 | (0.976) | 764100 | 100.000 | 106.13 |
| | 68 1,1,2,2-Tetrachloroethane | 83 | 8.838 | 8.838 | (0.915) | 541783 | 100.000 | 95.57 |
| | 53 1,1,2-Trichloroethane | 83 | 6.840 | 6.840 | (0.892) | 366869 | 100.000 | 96.76 |
| | 22 1,1-Dichloroethane | 63 | 2.921 | 2.921 | (0.699) | 753749 | 100.000 | 102.06 |
| | 11 1,1-Dichloroethene | 96 | 1.911 | 1.911 | (0.457) | 544587 | 100.000 | 96.14 |
| | 32 1,1-Dichloropropene | 75 | 4.282 | 4.282 | (0.863) | 630066 | 100.000 | 98.23 |
| | 93 1,2,3-Trichlorobenzene | 180 | 11.746 | 11.746 | (1.216) | 117190 | 100.000 | 99.25 |
| | 71 1,2,3-Trichloropropane | 75 | 8.867 | 8.867 | (0.918) | 446697 | 100.000 | 97.95(M) |
| | 90 1,2,4-Trichlorobenzene | 180 | 11.338 | 11.338 | (1.173) | 232584 | 100.000 | 100.67 |
| | 79 1,2,4-Trimethylbenzene | 105 | 9.382 | 9.382 | (0.971) | 1776673 | 100.000 | 101.89 |
| | 89 1,2-Dibromo-3-Chloropropane | 155 | 10.657 | 10.657 | (1.103) | 34453 | 100.000 | 93.22 |
| | 57 1,2-Dibromoethane | 107 | 7.262 | 7.262 | (0.947) | 458409 | 100.000 | 102.17 |
| | 88 1,2-Dichlorobenzene | 146 | 9.991 | 9.991 | (1.034) | 938908 | 100.000 | 100.59 |

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040209.D Page 2
Report Date: 14-Apr-2021 12:07

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|---|
| 33 | 1,2-Dichloroethane | 62 | 4.555 | 4.555 | (0.918) | 718135 | 100.000 | 99.26 |
| 42 | 1,2-Dichloropropane | 63 | 5.436 | 5.436 | (1.095) | 459836 | 100.000 | 96.81 |
| 75 | 1,3,5-Trimethylbenzene | 105 | 9.067 | 9.067 | (0.938) | 1949272 | 100.000 | 107.04 |
| 83 | 1,3-Dichlorobenzene | 146 | 9.604 | 9.604 | (0.994) | 982824 | 100.000 | 99.87 |
| 54 | 1,3-Dichloropropane | 76 | 6.983 | 6.983 | (0.910) | 716413 | 100.000 | 98.84 |
| 84 | 1,4-Dichlorobenzene | 146 | 9.683 | 9.683 | (1.002) | 993655 | 100.000 | 93.75 |
| 26 | 2,2-Dichloropropane | 77 | 3.509 | 3.509 | (0.839) | 730316 | 100.000 | 100.41 |
| 24 | 2-Butanone | 43 | 3.580 | 3.580 | (0.856) | 281647 | 200.000 | 205.94(A) |
| 76 | 2-Chlorotoluene | 91 | 8.974 | 8.974 | (0.929) | 1462425 | 100.000 | 102.46 |
| 52 | 2-Hexanone | 43 | 7.083 | 7.083 | (0.923) | 532674 | 200.000 | 195.04 |
| 77 | 4-Chlorotoluene | 91 | 9.067 | 9.067 | (0.938) | 1969439 | 100.000 | 106.29 |
| 82 | p-Isopropyltoluene | 119 | 9.647 | 9.647 | (0.999) | 1880664 | 100.000 | 109.26 |
| 45 | 4-Methyl-2-Pentanone | 43 | 6.324 | 6.324 | (0.824) | 822135 | 200.000 | 209.00(A) |
| 10 | Acetone | 43 | 1.976 | 1.976 | (0.473) | 244755 | 200.000 | 189.64 |
| 37 | Benzene | 78 | 4.512 | 4.512 | (0.909) | 1766015 | 100.000 | 97.54 |
| 74 | Bromobenzene | 156 | 8.802 | 8.802 | (0.911) | 558017 | 100.000 | 95.27 |
| 29 | Bromochloromethane | 128 | 3.795 | 3.795 | (0.908) | 246372 | 100.000 | 103.83 |
| 39 | Bromodichloromethane | 83 | 5.722 | 5.722 | (1.153) | 685781 | 100.000 | 100.06 |
| 66 | Bromoform | 173 | 8.408 | 8.408 | (1.096) | 319806 | 100.000 | 96.31 |
| 6 | Bromomethane | 94 | 1.338 | 1.338 | (0.320) | 554247 | 100.000 | 97.59 |
| 19 | Carbon Disulfide | 76 | 2.069 | 2.069 | (0.495) | 2112156 | 200.000 | 190.89 |
| 34 | Carbon Tetrachloride | 117 | 4.268 | 4.268 | (0.860) | 642068 | 100.000 | 104.11 |
| 59 | Chlorobenzene | 112 | 7.692 | 7.692 | (1.003) | 1339959 | 100.000 | 97.02 |
| 7 | Chloroethane | 64 | 1.403 | 1.403 | (0.336) | 392927 | 100.000 | 88.79 |
| 28 | Chloroform | 83 | 3.910 | 3.910 | (0.935) | 880788 | 100.000 | 101.94 |
| 3 | Chloromethane | 50 | 1.073 | 1.073 | (0.257) | 419280 | 100.000 | 102.33 |
| 27 | cis-1,2-Dichloroethene | 96 | 3.523 | 3.523 | (0.842) | 487101 | 100.000 | 100.16 |
| 46 | cis-1,3-Dichloropropene | 75 | 6.152 | 6.152 | (1.240) | 818804 | 100.000 | 102.35 |
| 55 | Dibromochloromethane | 129 | 7.176 | 7.176 | (0.936) | 517830 | 100.000 | 101.63 |
| 44 | Dibromomethane | 93 | 5.550 | 5.550 | (1.118) | 334869 | 100.000 | 99.36 |
| 2 | Dichlorodifluoromethane | 85 | 0.973 | 0.973 | (0.233) | 387079 | 100.000 | 98.12 |
| 61 | Ethylbenzene | 106 | 7.799 | 7.799 | (1.017) | 691578 | 100.000 | 98.99 |
| 91 | Hexachlorobutadiene | 225 | 11.481 | 11.481 | (1.188) | 187520 | 100.000 | 102.39 |
| 67 | Isopropylbenzene | 105 | 8.559 | 8.559 | (1.116) | 2220518 | 100.000 | 106.33 |
| 62 | m,p-Xylenes | 106 | 7.907 | 7.907 | (1.031) | 1898668 | 200.000 | 214.63(A) |
| 17 | Methylene Chloride | 84 | 2.305 | 2.305 | (0.551) | 420832 | 100.000 | 96.06 |
| 87 | n-Butylbenzene | 91 | 9.991 | 9.991 | (1.034) | 1849392 | 100.000 | 113.38 |
| 73 | n-Propylbenzene | 91 | 8.910 | 8.910 | (0.922) | 2612395 | 100.000 | 101.34 |
| 92 | Naphthalene | 128 | 11.546 | 11.546 | (1.195) | 310567 | 100.000 | 98.55 |
| 63 | o-Xylene | 106 | 8.243 | 8.243 | (1.075) | 868184 | 100.000 | 101.20 |
| 81 | sec-Butylbenzene | 105 | 9.518 | 9.518 | (0.985) | 2181632 | 100.000 | 99.79 |
| 64 | Styrene | 104 | 8.258 | 8.258 | (1.077) | 1538607 | 100.000 | 94.09 |
| 78 | tert-Butylbenzene | 119 | 9.339 | 9.339 | (0.967) | 1479946 | 100.000 | 100.72 |
| 56 | Tetrachloroethene | 164 | 6.925 | 6.925 | (0.903) | 408051 | 100.000 | 103.57 |
| 50 | Toluene | 91 | 6.446 | 6.446 | (0.840) | 2059118 | 100.000 | 101.53 |
| 20 | trans-1,2-Dichloroethene | 96 | 2.527 | 2.527 | (0.604) | 418464 | 100.000 | 103.21 |
| 51 | trans-1,3-Dichloropropene | 75 | 6.682 | 6.682 | (1.346) | 707864 | 100.000 | 103.73 |
| 38 | Trichloroethene | 130 | 5.206 | 5.206 | (1.049) | 478548 | 100.000 | 102.27 |
| 8 | Trichlorofluoromethane | 101 | 1.560 | 1.560 | (0.373) | 1040295 | 100.000 | 91.11 |
| 5 | Vinyl Chloride | 62 | 1.145 | 1.145 | (0.274) | 541798 | 100.000 | 90.84 |

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.



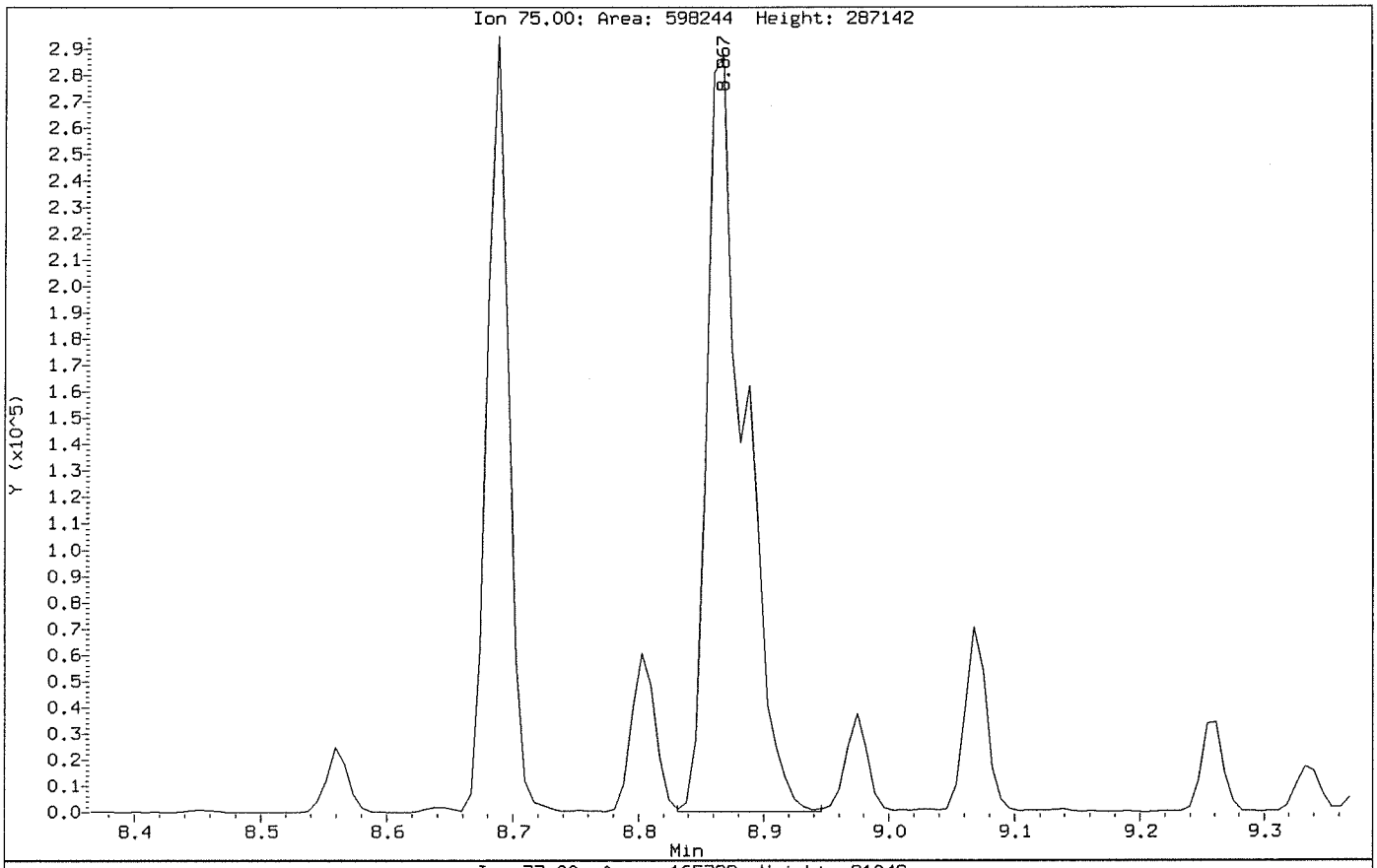

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Sample Info: VSTD100;VSTD100;1;8;;
Purge Volume: 5.0
Column phase: DB624

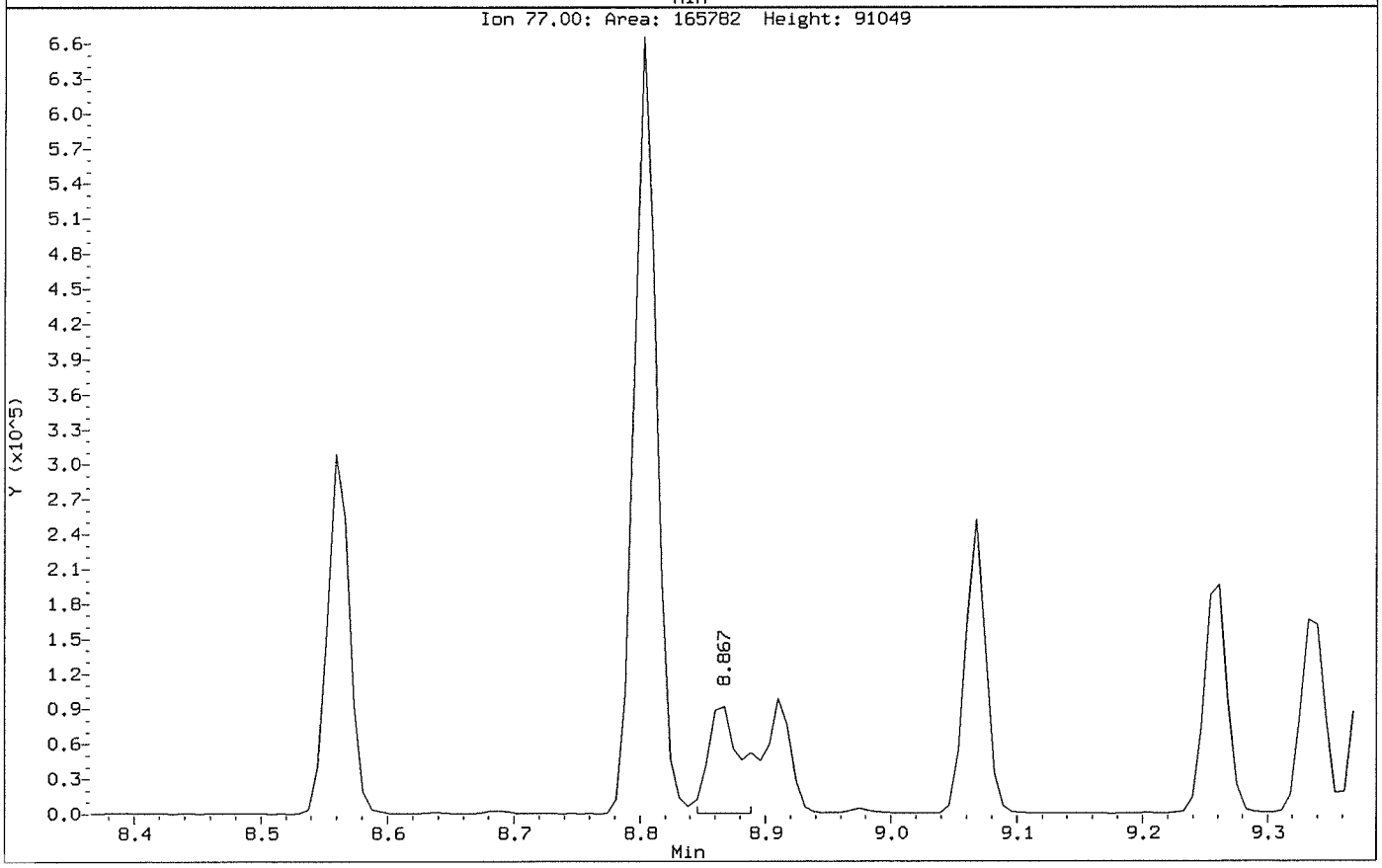
\\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040209.D

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before\X040209.D
Injection Date: 02-APR-2021 13:41
Instrument: voa6.i
Client Sample ID: VSTD100

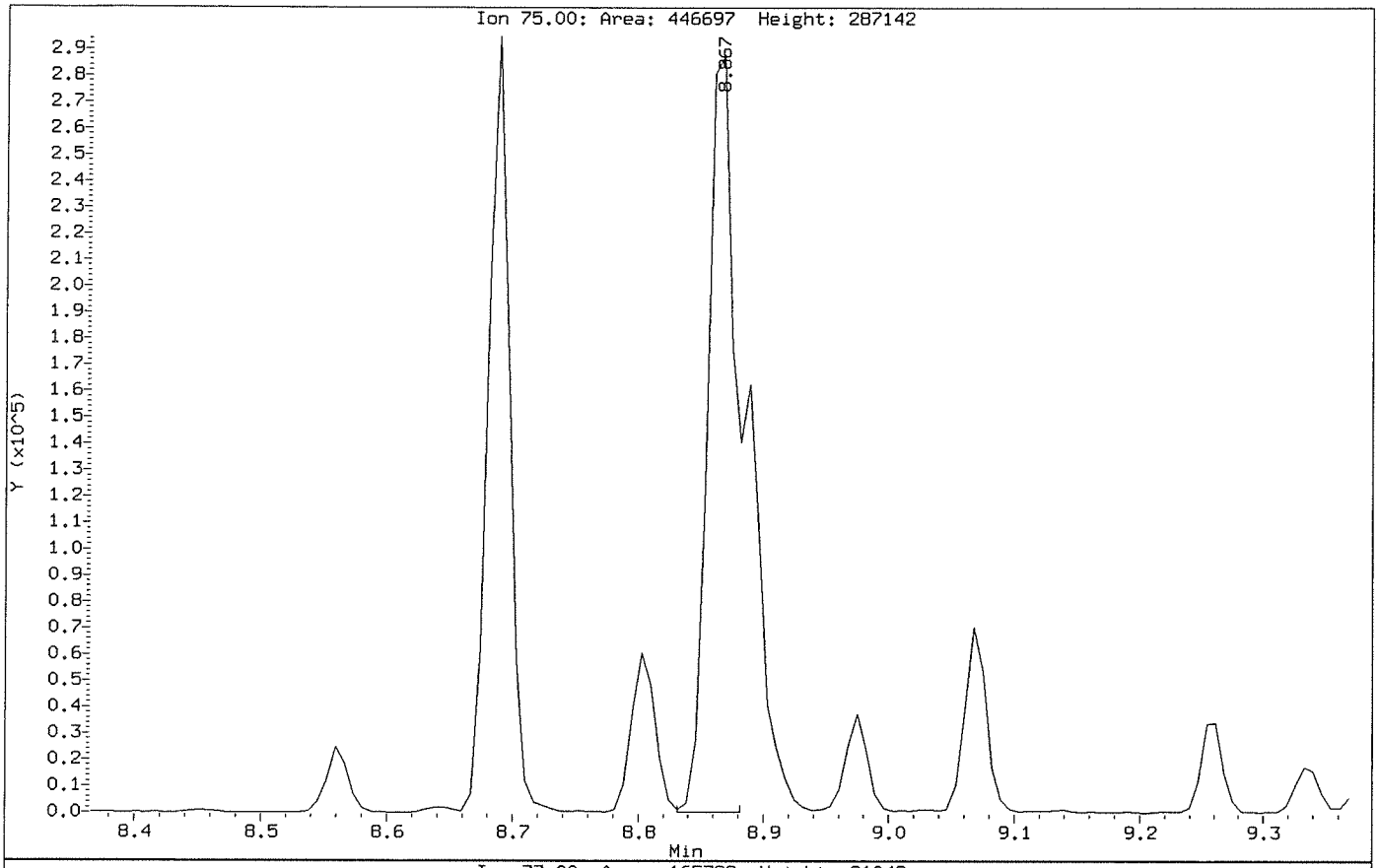
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4

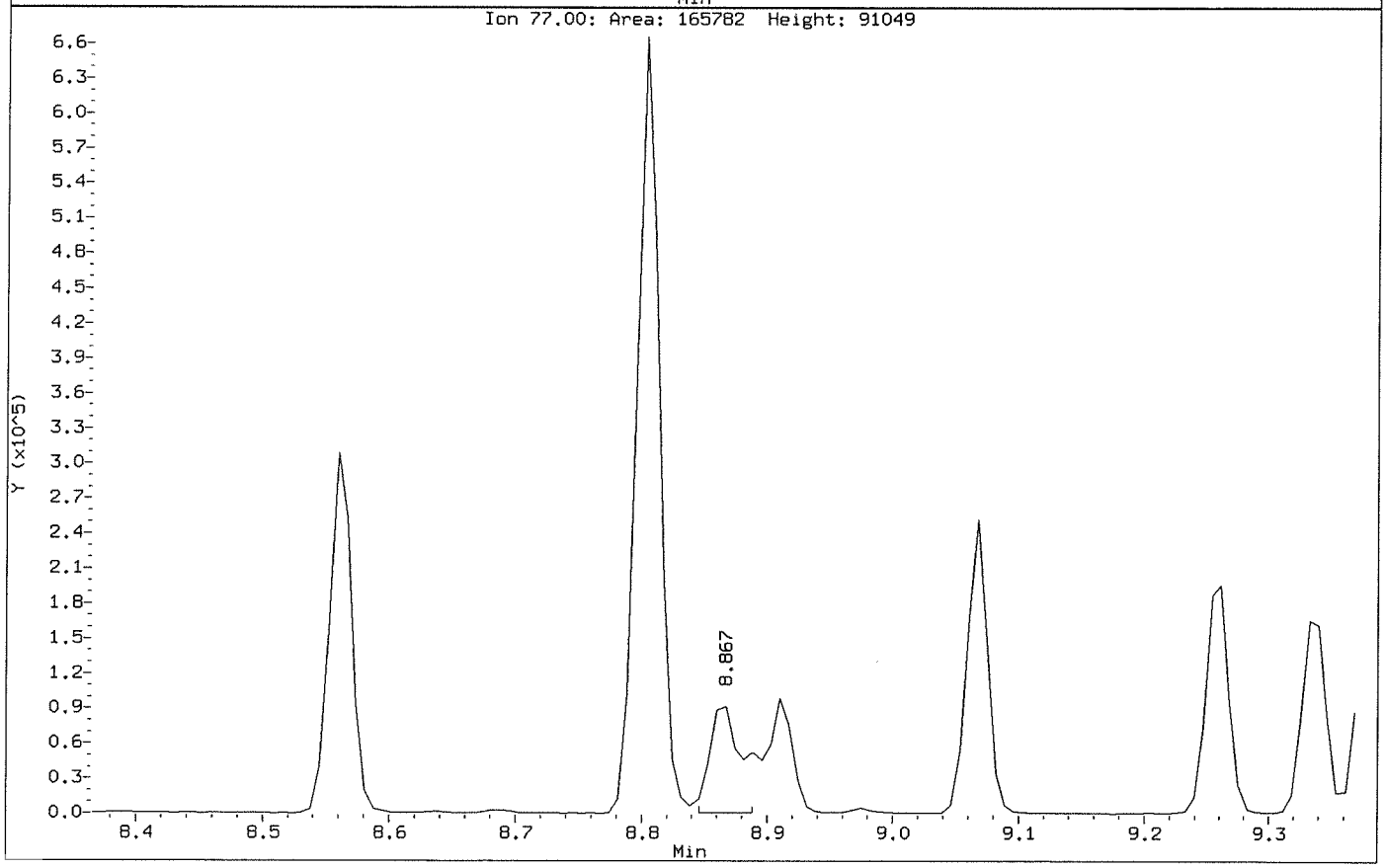


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040209.D
Injection Date: 02-APR-2021 13:41
Instrument: voa6.i
Client Sample ID: VSTD100

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040210.D
Lab Smp Id: VSTD150 Client Smp ID: VSTD150
Inj Date : 02-APR-2021 14:02
Operator : PC Inst ID: voa6.i
Smp Info : VSTD150;VSTD150;1;9;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\8260W.m
Meth Date : 14-Apr-2021 12:07 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:41 Cal File: X040209.D
Als bottle: 11 Calibration Sample, Level: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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 |

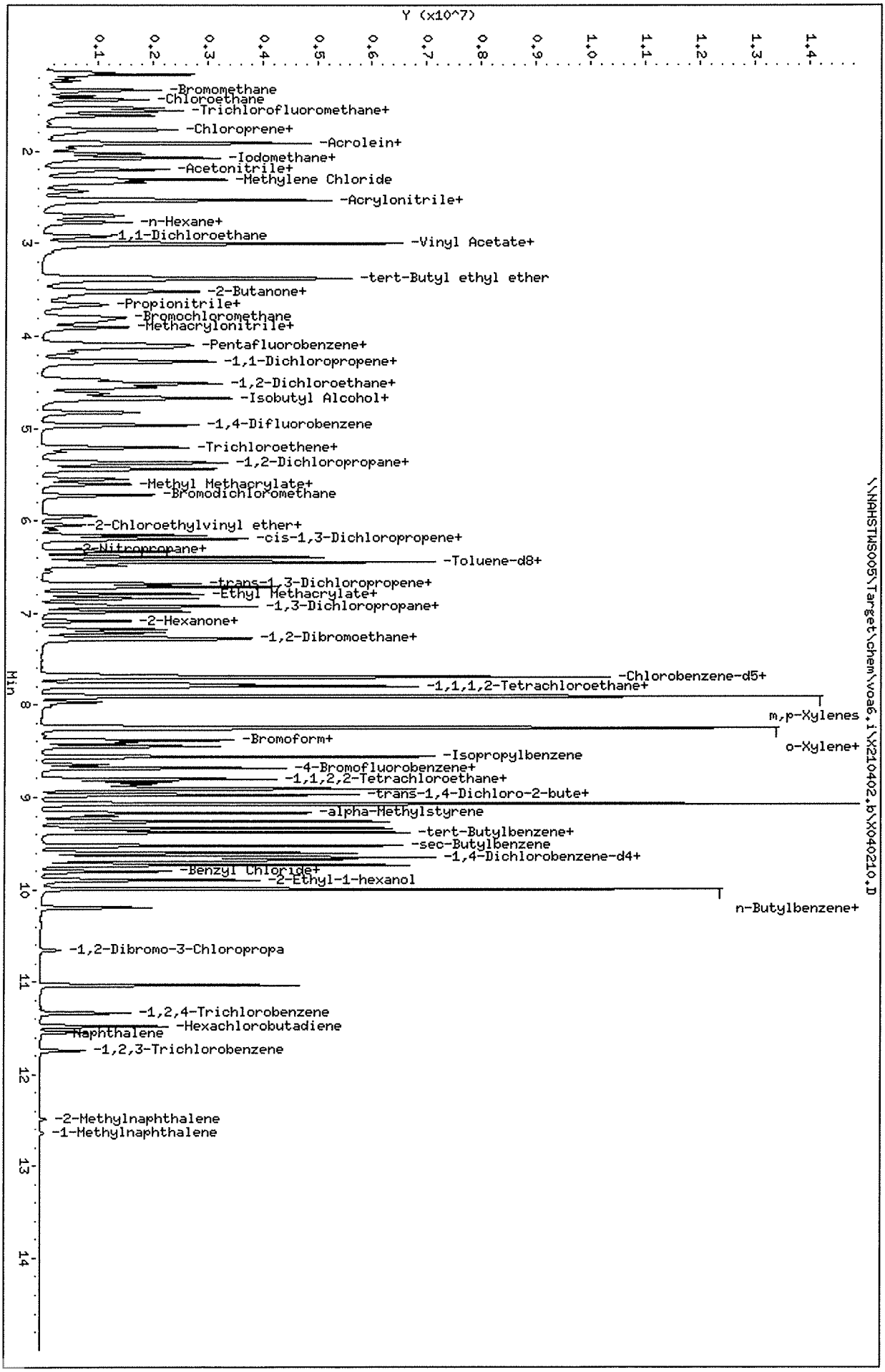
| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|---|
| * | 1 Pentafluorobenzene | 168 | 4.182 | 4.182 | (1.000) | 432906 | 50.0000 | |
| * | 36 1,4-Difluorobenzene | 114 | 4.963 | 4.963 | (1.000) | 745206 | 50.0000 | |
| * | 47 Chlorobenzene-d5 | 117 | 7.671 | 7.671 | (1.000) | 707197 | 50.0000 | |
| * | 70 1,4-Dichlorobenzene-d4 | 152 | 9.662 | 9.662 | (1.000) | 375287 | 50.0000 | |
| $ | 30 Dibromofluoromethane | 113 | 4.096 | 4.096 | (0.979) | 758989 | 150.000 | 148.06 |
| $ | 35 1,2-Dichloroethane-d4 | 65 | 4.469 | 4.469 | (1.068) | 919399 | 150.000 | 149.58 |
| $ | 48 Toluene-d8 | 98 | 6.388 | 6.388 | (0.833) | 2714142 | 150.000 | 145.62 |
| $ | 69 4-Bromofluorobenzene | 95 | 8.688 | 8.688 | (1.133) | 1011725 | 150.000 | 145.90 |
| | 60 1,1,1,2-Tetrachloroethane | 131 | 7.778 | 7.778 | (1.014) | 790441 | 150.000 | 150.62 |
| | 31 1,1,1-Trichloroethane | 97 | 4.082 | 4.082 | (0.976) | 1234717 | 150.000 | 157.60 |
| | 68 1,1,2,2-Tetrachloroethane | 83 | 8.838 | 8.838 | (0.915) | 868190 | 150.000 | 138.66 |
| | 53 1,1,2-Trichloroethane | 83 | 6.840 | 6.840 | (0.892) | 595658 | 150.000 | 144.99 |
| | 22 1,1-Dichloroethane | 63 | 2.922 | 2.922 | (0.699) | 1281616 | 150.000 | 159.48 |
| | 11 1,1-Dichloroethene | 96 | 1.912 | 1.912 | (0.457) | 861197 | 150.000 | 139.71 |
| | 32 1,1-Dichloropropene | 75 | 4.283 | 4.283 | (0.863) | 1006007 | 150.000 | 143.86 |
| | 93 1,2,3-Trichlorobenzene | 180 | 11.739 | 11.739 | (1.215) | 195277 | 150.000 | 149.11 |
| | 71 1,2,3-Trichloropropane | 75 | 8.867 | 8.867 | (0.918) | 687077 | 150.000 | 136.40(M) |
| | 90 1,2,4-Trichlorobenzene | 180 | 11.338 | 11.338 | (1.173) | 381873 | 150.000 | 149.38 |
| | 79 1,2,4-Trimethylbenzene | 105 | 9.383 | 9.383 | (0.971) | 2938093 | 150.000 | 152.54 |
| | 89 1,2-Dibromo-3-Chloropropane | 155 | 10.658 | 10.658 | (1.103) | 60599 | 150.000 | 148.44 |
| | 57 1,2-Dibromoethane | 107 | 7.262 | 7.262 | (0.947) | 752347 | 150.000 | 154.75 |
| | 88 1,2-Dichlorobenzene | 146 | 9.991 | 9.991 | (1.034) | 1503887 | 150.000 | 145.87 |

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040210.D Page 2
Report Date: 14-Apr-2021 12:07

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|---|
| 33 | 1,2-Dichloroethane | 62 | 4.555 | 4.555 | (0.918) | 1146217 | 150.000 | 145.31 |
| 42 | 1,2-Dichloropropane | 63 | 5.436 | 5.436 | (1.095) | 743370 | 150.000 | 143.54 |
| 75 | 1,3,5-Trimethylbenzene | 105 | 9.067 | 9.067 | (0.938) | 3190342 | 150.000 | 158.61 |
| 83 | 1,3-Dichlorobenzene | 146 | 9.605 | 9.605 | (0.994) | 1586842 | 150.000 | 145.99 |
| 54 | 1,3-Dichloropropane | 76 | 6.983 | 6.983 | (0.910) | 1162532 | 150.000 | 148.02 |
| 84 | 1,4-Dichlorobenzene | 146 | 9.683 | 9.683 | (1.002) | 1651188 | 150.000 | 141.04 |
| 26 | 2,2-Dichloropropane | 77 | 3.509 | 3.509 | (0.839) | 1196637 | 150.000 | 151.20 |
| 24 | 2-Butanone | 43 | 3.573 | 3.573 | (0.854) | 491349 | 300.000 | 330.17(A) |
| 76 | 2-Chlorotoluene | 91 | 8.974 | 8.974 | (0.929) | 2338020 | 150.000 | 148.31 |
| 52 | 2-Hexanone | 43 | 7.083 | 7.083 | (0.923) | 900210 | 300.000 | 302.58(A) |
| 77 | 4-Chlorotoluene | 91 | 9.067 | 9.067 | (0.938) | 3227321 | 150.000 | 157.70 |
| 82 | p-Isopropyltoluene | 119 | 9.648 | 9.648 | (0.999) | 3007466 | 150.000 | 158.19 |
| 45 | 4-Methyl-2-Pentanone | 43 | 6.324 | 6.324 | (0.824) | 1384425 | 300.000 | 324.80(A) |
| 10 | Acetone | 43 | 1.969 | 1.969 | (0.471) | 407837 | 300.000 | 292.76(A) |
| 37 | Benzene | 78 | 4.512 | 4.512 | (0.909) | 2794489 | 150.000 | 141.56 |
| 74 | Bromobenzene | 156 | 8.802 | 8.802 | (0.911) | 891203 | 150.000 | 137.76 |
| 29 | Bromochloromethane | 128 | 3.795 | 3.795 | (0.908) | 396528 | 150.000 | 153.57 |
| 39 | Bromodichloromethane | 83 | 5.722 | 5.722 | (1.153) | 1082579 | 150.000 | 144.87 |
| 66 | Bromoform | 173 | 8.408 | 8.408 | (1.096) | 537877 | 150.000 | 148.36 |
| 6 | Bromomethane | 94 | 1.331 | 1.331 | (0.318) | 938790 | 150.000 | 152.00 |
| 19 | Carbon Disulfide | 76 | 2.069 | 2.069 | (0.495) | 3573893 | 300.000 | 296.82(A) |
| 34 | Carbon Tetrachloride | 117 | 4.268 | 4.268 | (0.860) | 1036792 | 150.000 | 154.20 |
| 59 | Chlorobenzene | 112 | 7.692 | 7.692 | (1.003) | 2237237 | 150.000 | 148.54 |
| 7 | Chloroethane | 64 | 1.396 | 1.396 | (0.334) | 603127 | 150.000 | 125.24 |
| 28 | Chloroform | 83 | 3.910 | 3.910 | (0.935) | 1370564 | 150.000 | 145.78 |
| 3 | Chloromethane | 50 | 1.074 | 1.074 | (0.257) | 667172 | 150.000 | 150.02 |
| 27 | cis-1,2-Dichloroethene | 96 | 3.523 | 3.523 | (0.842) | 789545 | 150.000 | 149.19 |
| 46 | cis-1,3-Dichloropropene | 75 | 6.152 | 6.152 | (1.240) | 1312095 | 150.000 | 150.43 |
| 55 | Dibromochloromethane | 129 | 7.176 | 7.176 | (0.936) | 863970 | 150.000 | 156.49 |
| 44 | Dibromomethane | 93 | 5.550 | 5.550 | (1.118) | 524697 | 150.000 | 142.79 |
| 2 | Dichlorodifluoromethane | 85 | 0.973 | 0.973 | (0.233) | 621536 | 150.000 | 143.99 |
| 61 | Ethylbenzene | 106 | 7.800 | 7.800 | (1.017) | 1101538 | 150.000 | 145.51 |
| 91 | Hexachlorobutadiene | 225 | 11.481 | 11.481 | (1.188) | 305917 | 150.000 | 150.74 |
| 67 | Isopropylbenzene | 105 | 8.559 | 8.559 | (1.116) | 3589822 | 150.000 | 158.64 |
| 62 | m,p-Xylenes | 106 | 7.907 | 7.907 | (1.031) | 3169680 | 300.000 | 330.67(A) |
| 17 | Methylene Chloride | 84 | 2.298 | 2.298 | (0.550) | 703062 | 150.000 | 146.68 |
| 87 | n-Butylbenzene | 91 | 9.991 | 9.991 | (1.034) | 2978362 | 150.000 | 165.31 |
| 73 | n-Propylbenzene | 91 | 8.910 | 8.910 | (0.922) | 4176046 | 150.000 | 146.67 |
| 92 | Naphthalene | 128 | 11.539 | 11.539 | (1.194) | 520608 | 150.000 | 149.19 |
| 63 | o-Xylene | 106 | 8.244 | 8.244 | (1.075) | 1437616 | 150.000 | 154.66 |
| 81 | sec-Butylbenzene | 105 | 9.519 | 9.519 | (0.985) | 3533495 | 150.000 | 132.12 |
| 64 | Styrene | 104 | 8.258 | 8.258 | (1.077) | 2637559 | 150.000 | 146.90 |
| 78 | tert-Butylbenzene | 119 | 9.340 | 9.340 | (0.967) | 2477004 | 150.000 | 152.24 |
| 56 | Tetrachloroethene | 164 | 6.926 | 6.926 | (0.903) | 659039 | 150.000 | 154.38 |
| 50 | Toluene | 91 | 6.446 | 6.446 | (0.840) | 3338306 | 150.000 | 151.91 |
| 20 | trans-1,2-Dichloroethene | 96 | 2.528 | 2.528 | (0.604) | 695609 | 150.000 | 157.67 |
| 51 | trans-1,3-Dichloropropene | 75 | 6.682 | 6.682 | (1.346) | 1189690 | 150.000 | 159.91 |
| 38 | Trichloroethene | 130 | 5.207 | 5.207 | (1.049) | 752757 | 150.000 | 147.55 |
| 8 | Trichlorofluoromethane | 101 | 1.561 | 1.561 | (0.373) | 1654953 | 150.000 | 133.20 |
| 5 | Vinyl Chloride | 62 | 1.138 | 1.138 | (0.272) | 862204 | 150.000 | 132.84 |

QC Flag Legend

A - Target compound detected but, quantitated amount
exceeded maximum amount.
M - Compound response manually integrated.

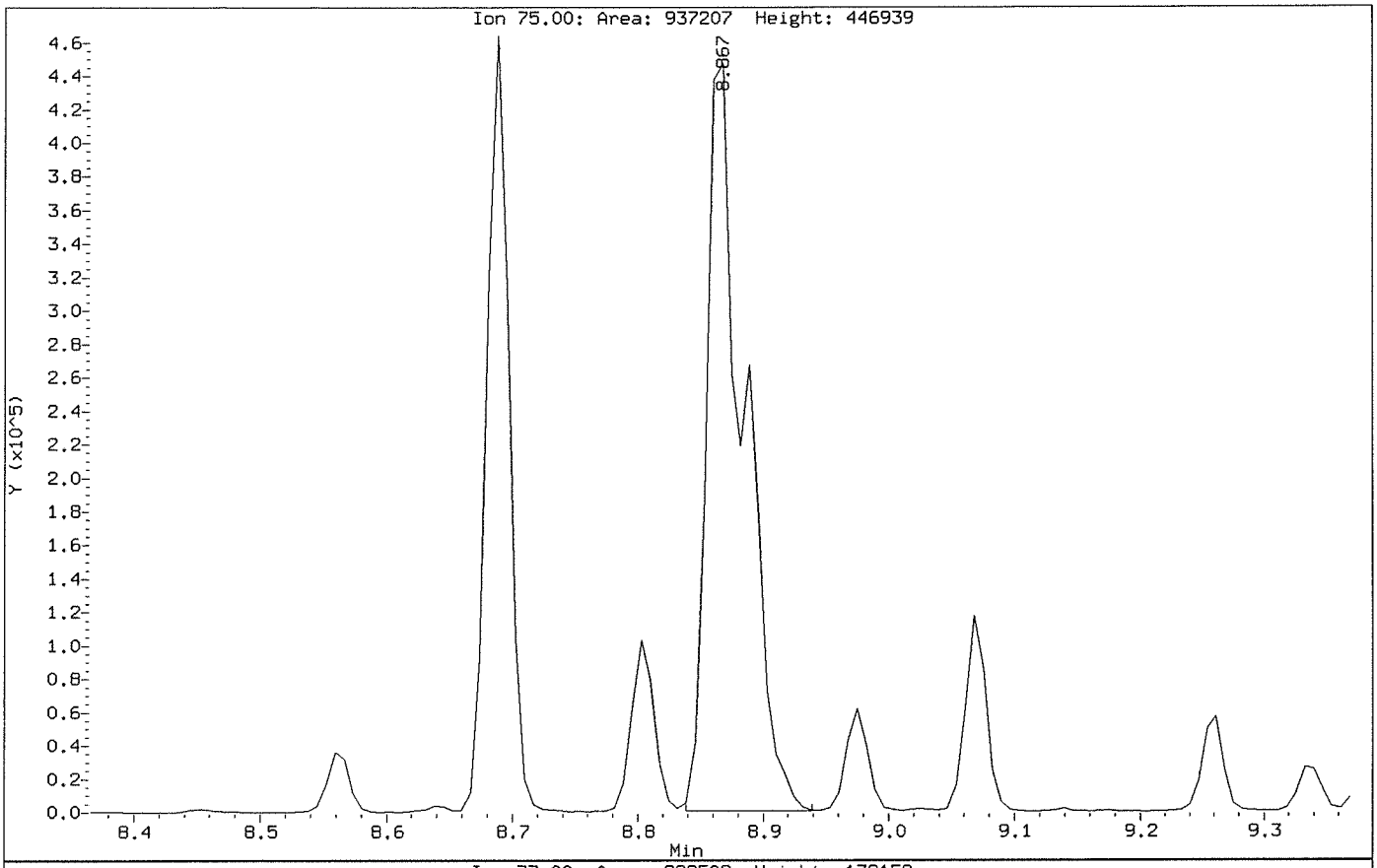


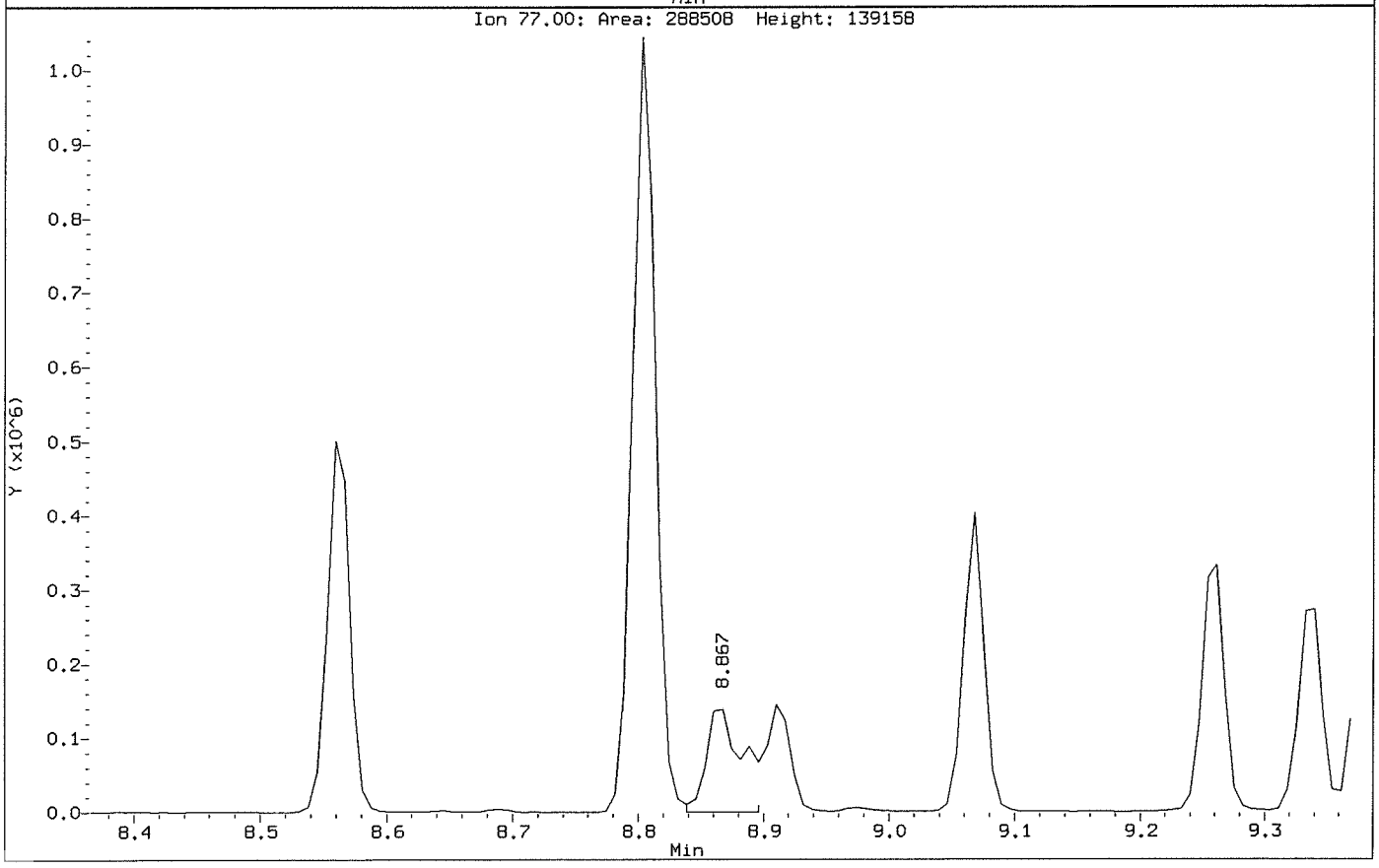

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Sample Info: VSTD150;VSTD150;1;9;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before\X040210.D
Injection Date: 02-APR-2021 14:02
Instrument: voa6.i
Client Sample ID: VSTD150

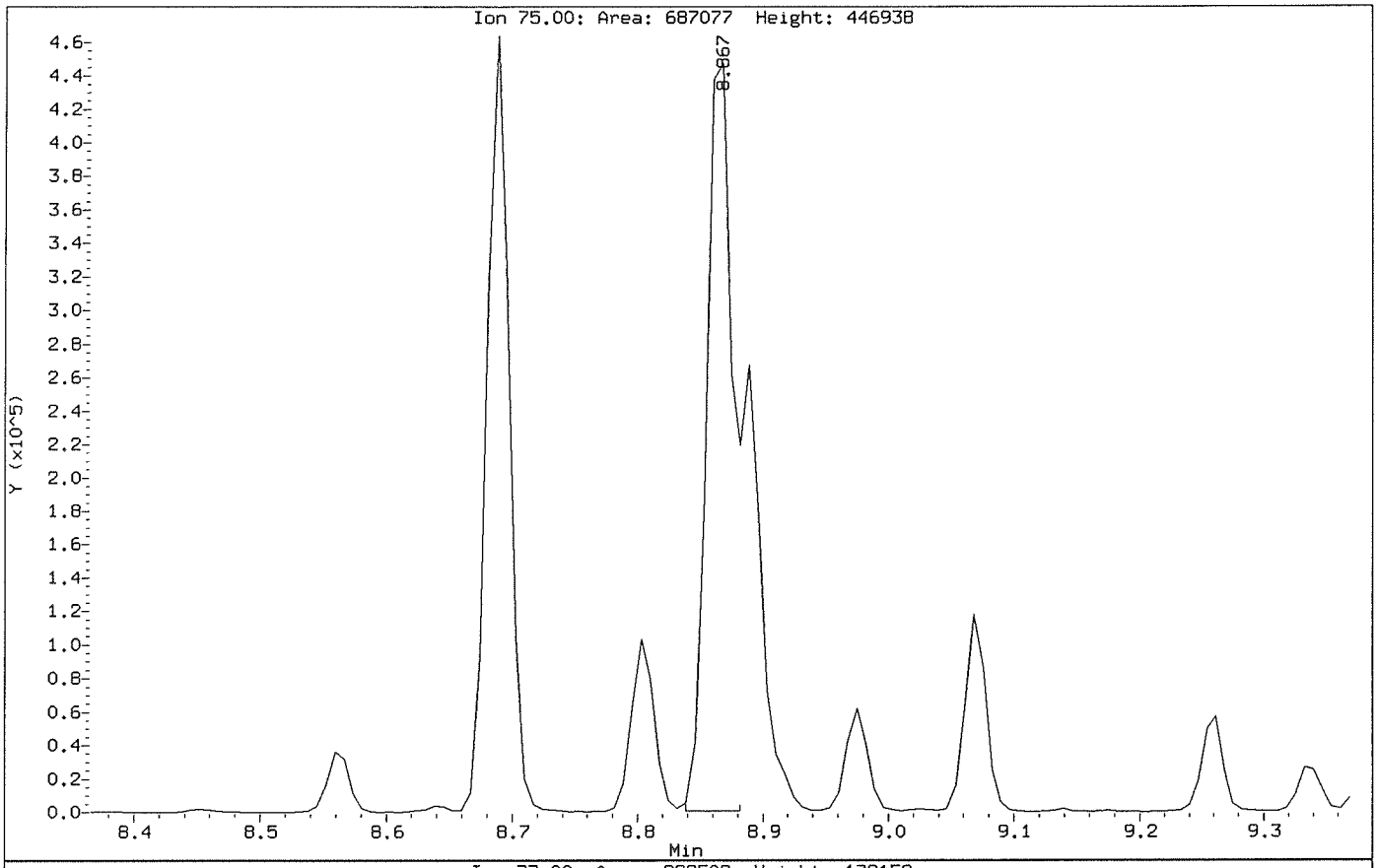
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4

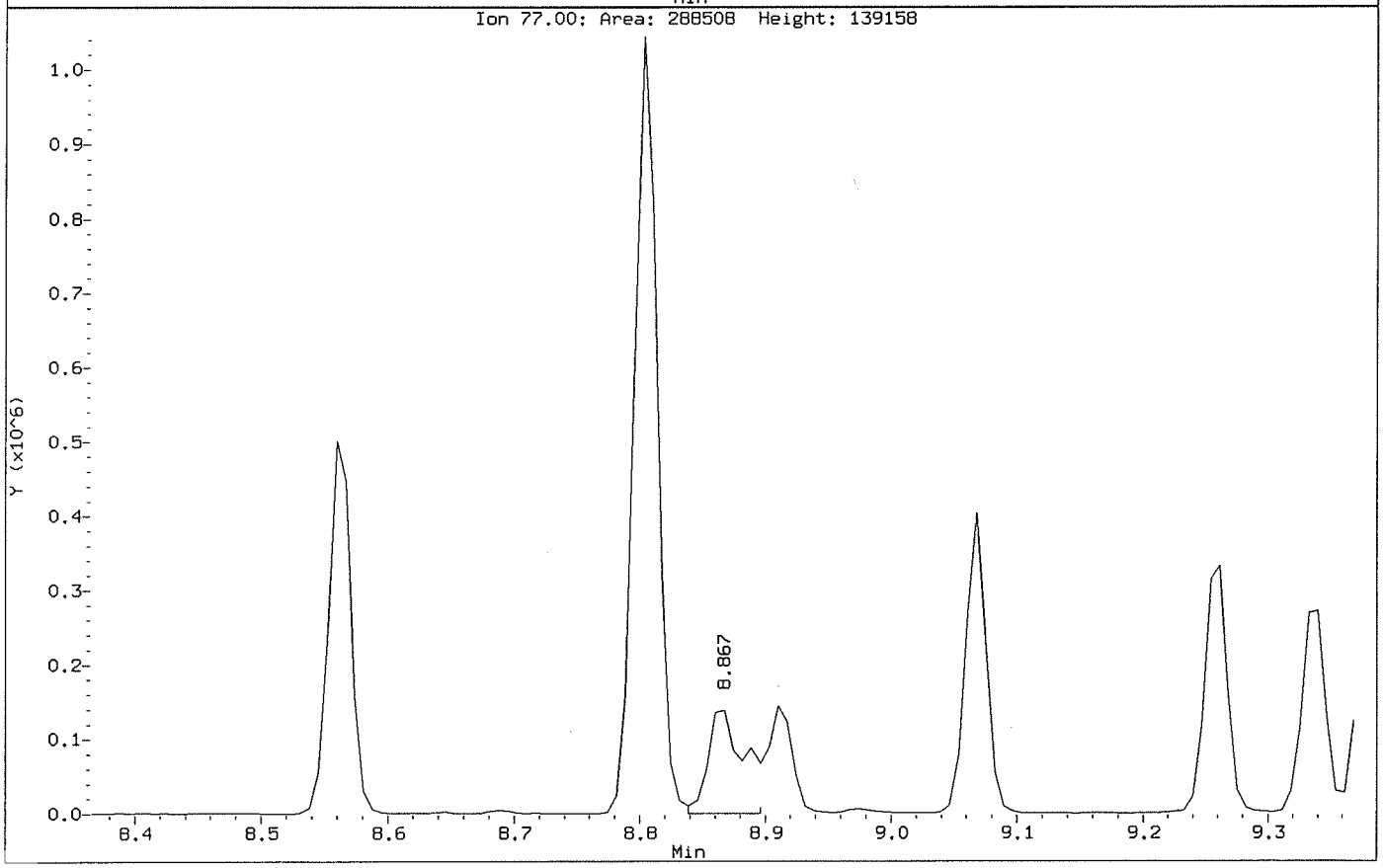


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040210.D
Injection Date: 02-APR-2021 14:02
Instrument: voa6.i
Client Sample ID: VSTD150

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040211.D
Lab Smp Id: VSTD200 Client Smp ID: VSTD200
Inj Date : 02-APR-2021 14:23
Operator : PC Inst ID: voa6.i
Smp Info : VSTD200;VSTD200;1;10;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\8260W.m
Meth Date : 14-Apr-2021 12:07 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 14:02 Cal File: X040210.D
Als bottle: 12 Calibration Sample, Level: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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 |

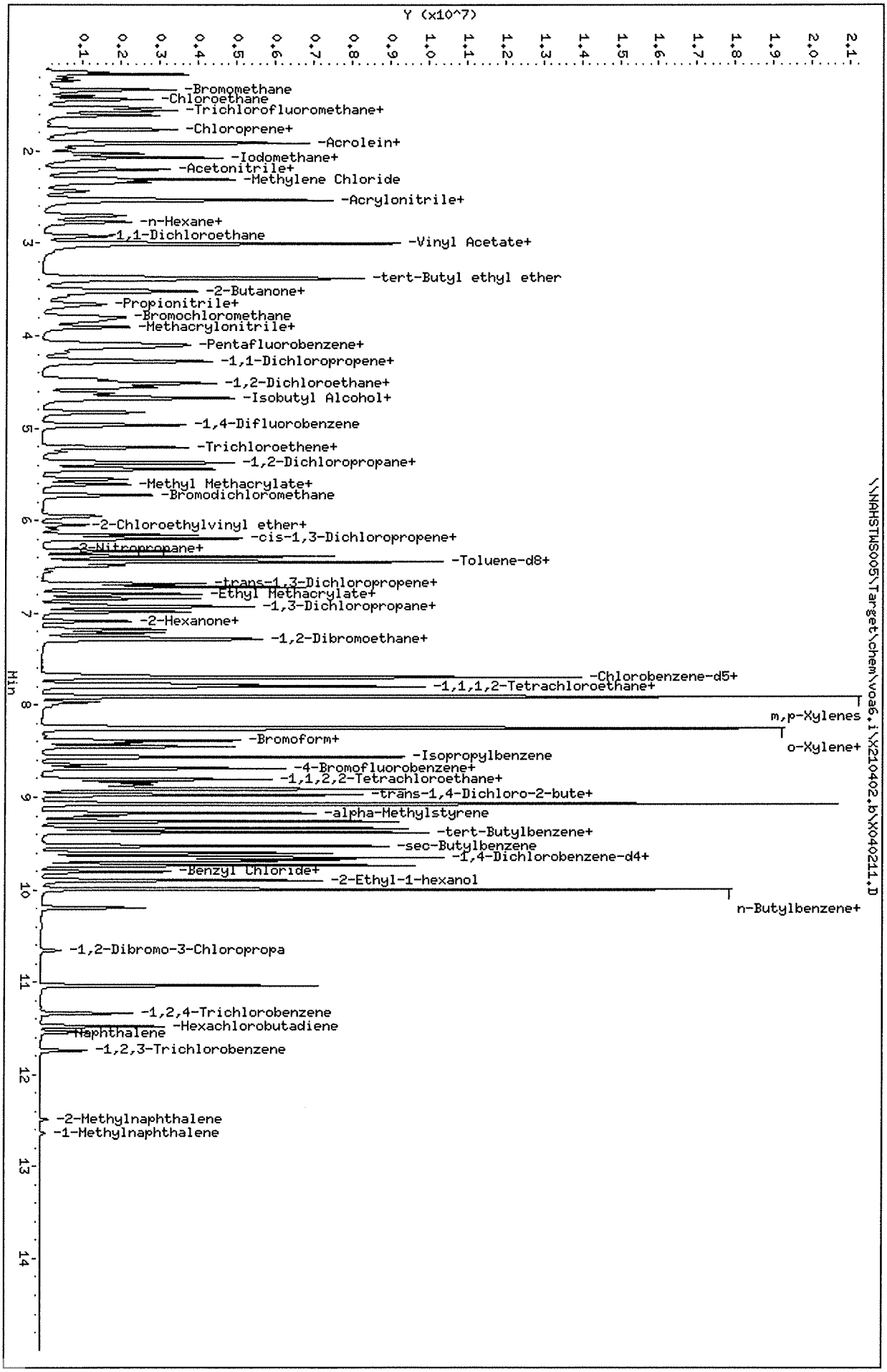
| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|---|
| * | 1 Pentafluorobenzene | 168 | 4.182 | 4.182 | (1.000) | 444815 | 50.0000 | |
| * | 36 1,4-Difluorobenzene | 114 | 4.970 | 4.970 | (1.000) | 788136 | 50.0000 | |
| * | 47 Chlorobenzene-d5 | 117 | 7.670 | 7.670 | (1.000) | 732576 | 50.0000 | |
| * | 70 1,4-Dichlorobenzene-d4 | 152 | 9.662 | 9.662 | (1.000) | 399401 | 50.0000 | |
| $ | 30 Dibromofluoromethane | 113 | 4.096 | 4.096 | (0.979) | 1061294 | 200.000 | 201.33(A) |
| $ | 35 1,2-Dichloroethane-d4 | 65 | 4.469 | 4.469 | (1.069) | 1266674 | 200.000 | 200.40(A) |
| $ | 48 Toluene-d8 | 98 | 6.388 | 6.388 | (0.833) | 3949224 | 200.000 | 203.80(A) |
| $ | 69 4-Bromofluorobenzene | 95 | 8.688 | 8.688 | (1.133) | 1473828 | 200.000 | 204.50(A) |
| | 60 1,1,1,2-Tetrachloroethane | 131 | 7.778 | 7.778 | (1.014) | 1103309 | 200.000 | 202.96(A) |
| | 31 1,1,1-Trichloroethane | 97 | 4.082 | 4.082 | (0.976) | 1714778 | 200.000 | 213.02(A) |
| | 68 1,1,2,2-Tetrachloroethane | 83 | 8.838 | 8.838 | (0.915) | 1144495 | 200.000 | 171.75 |
| | 53 1,1,2-Trichloroethane | 83 | 6.840 | 6.840 | (0.892) | 832139 | 200.000 | 195.54 |
| | 22 1,1-Dichloroethane | 63 | 2.921 | 2.921 | (0.699) | 1788541 | 200.000 | 216.60(A) |
| | 11 1,1-Dichloroethene | 96 | 1.911 | 1.911 | (0.457) | 1249794 | 200.000 | 197.32 |
| | 32 1,1-Dichloropropene | 75 | 4.282 | 4.282 | (0.862) | 1409104 | 200.000 | 190.53 |
| | 93 1,2,3-Trichlorobenzene | 180 | 11.739 | 11.739 | (1.215) | 281184 | 200.000 | 201.31(A) |
| | 71 1,2,3-Trichloropropane | 75 | 8.867 | 8.867 | (0.918) | 974292 | 200.000 | 181.74(M) |
| | 90 1,2,4-Trichlorobenzene | 180 | 11.338 | 11.338 | (1.173) | 545632 | 200.000 | 200.37(A) |
| | 79 1,2,4-Trimethylbenzene | 105 | 9.382 | 9.382 | (0.971) | 4157532 | 200.000 | 202.82(A) |
| | 89 1,2-Dibromo-3-Chloropropane | 155 | 10.657 | 10.657 | (1.103) | 83462 | 200.000 | 192.10 |
| | 57 1,2-Dibromoethane | 107 | 7.262 | 7.262 | (0.947) | 1038675 | 200.000 | 206.24(A) |
| | 88 1,2-Dichlorobenzene | 146 | 9.991 | 9.991 | (1.034) | 2224673 | 200.000 | 202.76(A) |

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040211.D Page 2
Report Date: 14-Apr-2021 12:07

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|---|
| 33 | 1,2-Dichloroethane | 62 | 4.555 | 4.555 | (0.916) | 1584950 | 200.000 | 189.99 |
| 42 | 1,2-Dichloropropane | 63 | 5.436 | 5.436 | (1.094) | 1055161 | 200.000 | 192.65 |
| 75 | 1,3,5-Trimethylbenzene | 105 | 9.067 | 9.067 | (0.938) | 4548590 | 200.000 | 212.49(A) |
| 83 | 1,3-Dichlorobenzene | 146 | 9.604 | 9.604 | (0.994) | 2194416 | 200.000 | 189.70 |
| 54 | 1,3-Dichloropropane | 76 | 6.983 | 6.983 | (0.910) | 1603166 | 200.000 | 197.06 |
| 84 | 1,4-Dichlorobenzene | 146 | 9.683 | 9.683 | (1.002) | 2240695 | 200.000 | 179.84 |
| 26 | 2,2-Dichloropropane | 77 | 3.509 | 3.509 | (0.839) | 1674653 | 200.000 | 205.94(A) |
| 24 | 2-Butanone | 43 | 3.573 | 3.573 | (0.854) | 645810 | 400.000 | 422.34(A) |
| 76 | 2-Chlorotoluene | 91 | 8.974 | 8.974 | (0.929) | 3358028 | 200.000 | 200.16(A) |
| 52 | 2-Hexanone | 43 | 7.090 | 7.090 | (0.924) | 1242339 | 400.000 | 402.16(A) |
| 77 | 4-Chlorotoluene | 91 | 9.067 | 9.067 | (0.938) | 4585059 | 200.000 | 210.52(A) |
| 82 | p-Isopropyltoluene | 119 | 9.655 | 9.655 | (0.999) | 4227083 | 200.000 | 208.92(A) |
| 45 | 4-Methyl-2-Pentanone | 43 | 6.331 | 6.331 | (0.825) | 1914337 | 400.000 | 433.56(A) |
| 10 | Acetone | 43 | 1.976 | 1.976 | (0.473) | 582209 | 400.000 | 408.48(A) |
| 37 | Benzene | 78 | 4.512 | 4.512 | (0.908) | 3932008 | 200.000 | 188.34 |
| 74 | Bromobenzene | 156 | 8.809 | 8.809 | (0.912) | 1274031 | 200.000 | 185.04 |
| 29 | Bromochloromethane | 128 | 3.795 | 3.795 | (0.908) | 556545 | 200.000 | 209.77(A) |
| 39 | Bromodichloromethane | 83 | 5.722 | 5.722 | (1.151) | 1547381 | 200.000 | 195.80 |
| 66 | Bromoform | 173 | 8.408 | 8.408 | (1.096) | 767647 | 200.000 | 203.63(A) |
| 6 | Bromomethane | 94 | 1.331 | 1.331 | (0.318) | 1480667 | 200.000 | 233.43(A) |
| 19 | Carbon Disulfide | 76 | 2.069 | 2.069 | (0.495) | 5238761 | 400.000 | 423.44(A) |
| 34 | Carbon Tetrachloride | 117 | 4.268 | 4.268 | (0.859) | 1448734 | 200.000 | 203.73(A) |
| 59 | Chlorobenzene | 112 | 7.692 | 7.692 | (1.003) | 3183866 | 200.000 | 203.40(A) |
| 7 | Chloroethane | 64 | 1.403 | 1.403 | (0.336) | 894908 | 200.000 | 180.86 |
| 28 | Chloroform | 83 | 3.910 | 3.910 | (0.935) | 1942548 | 200.000 | 201.09(A) |
| 3 | Chloromethane | 50 | 1.073 | 1.073 | (0.257) | 907287 | 200.000 | 198.82 |
| 27 | cis-1,2-Dichloroethene | 96 | 3.523 | 3.523 | (0.842) | 1123271 | 200.000 | 206.57(A) |
| 46 | cis-1,3-Dichloropropene | 75 | 6.159 | 6.159 | (1.239) | 1847509 | 200.000 | 200.28(A) |
| 55 | Dibromochloromethane | 129 | 7.176 | 7.176 | (0.936) | 1185863 | 200.000 | 207.35(A) |
| 44 | Dibromomethane | 93 | 5.550 | 5.550 | (1.117) | 745183 | 200.000 | 191.75 |
| 2 | Dichlorodifluoromethane | 85 | 0.973 | 0.973 | (0.233) | 916685 | 200.000 | 205.96(A) |
| 61 | Ethylbenzene | 106 | 7.799 | 7.799 | (1.017) | 1526562 | 200.000 | 194.67 |
| 91 | Hexachlorobutadiene | 225 | 11.481 | 11.481 | (1.188) | 429774 | 200.000 | 198.67 |
| 67 | Isopropylbenzene | 105 | 8.566 | 8.566 | (1.117) | 5058822 | 200.000 | 215.81(A) |
| 62 | m,p-Xylenes | 106 | 7.907 | 7.907 | (1.031) | 4529670 | 400.000 | 456.18(A) |
| 17 | Methylene Chloride | 84 | 2.305 | 2.305 | (0.551) | 1013494 | 200.000 | 205.19(A) |
| 87 | n-Butylbenzene | 91 | 9.991 | 9.991 | (1.034) | 4394030 | 200.000 | 229.16(A) |
| 73 | n-Propylbenzene | 91 | 8.917 | 8.917 | (0.923) | 5888594 | 200.000 | 194.33 |
| 92 | Naphthalene | 128 | 11.539 | 11.539 | (1.194) | 749188 | 200.000 | 201.47(A) |
| 63 | o-Xylene | 106 | 8.244 | 8.244 | (1.075) | 2088779 | 200.000 | 216.92(A) |
| 81 | sec-Butylbenzene | 105 | 9.526 | 9.526 | (0.986) | 4949811 | 200.000 | 155.30 |
| 64 | Styrene | 104 | 8.258 | 8.258 | (1.077) | 3858242 | 200.000 | 206.06(A) |
| 78 | tert-Butylbenzene | 119 | 9.339 | 9.339 | (0.967) | 3439191 | 200.000 | 198.40 |
| 56 | Tetrachloroethene | 164 | 6.933 | 6.933 | (0.904) | 918280 | 200.000 | 207.66(A) |
| 50 | Toluene | 91 | 6.446 | 6.446 | (0.840) | 4854239 | 200.000 | 213.24(A) |
| 20 | trans-1,2-Dichloroethene | 96 | 2.527 | 2.527 | (0.604) | 1005931 | 200.000 | 221.91(A) |
| 51 | trans-1,3-Dichloropropene | 75 | 6.682 | 6.682 | (1.344) | 1646048 | 200.000 | 209.20(A) |
| 38 | Trichloroethene | 130 | 5.206 | 5.206 | (1.048) | 1061444 | 200.000 | 196.73 |
| 8 | Trichlorofluoromethane | 101 | 1.560 | 1.560 | (0.373) | 2273233 | 200.000 | 178.07 |
| 5 | Vinyl Chloride | 62 | 1.138 | 1.138 | (0.272) | 1159290 | 200.000 | 173.84 |

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.

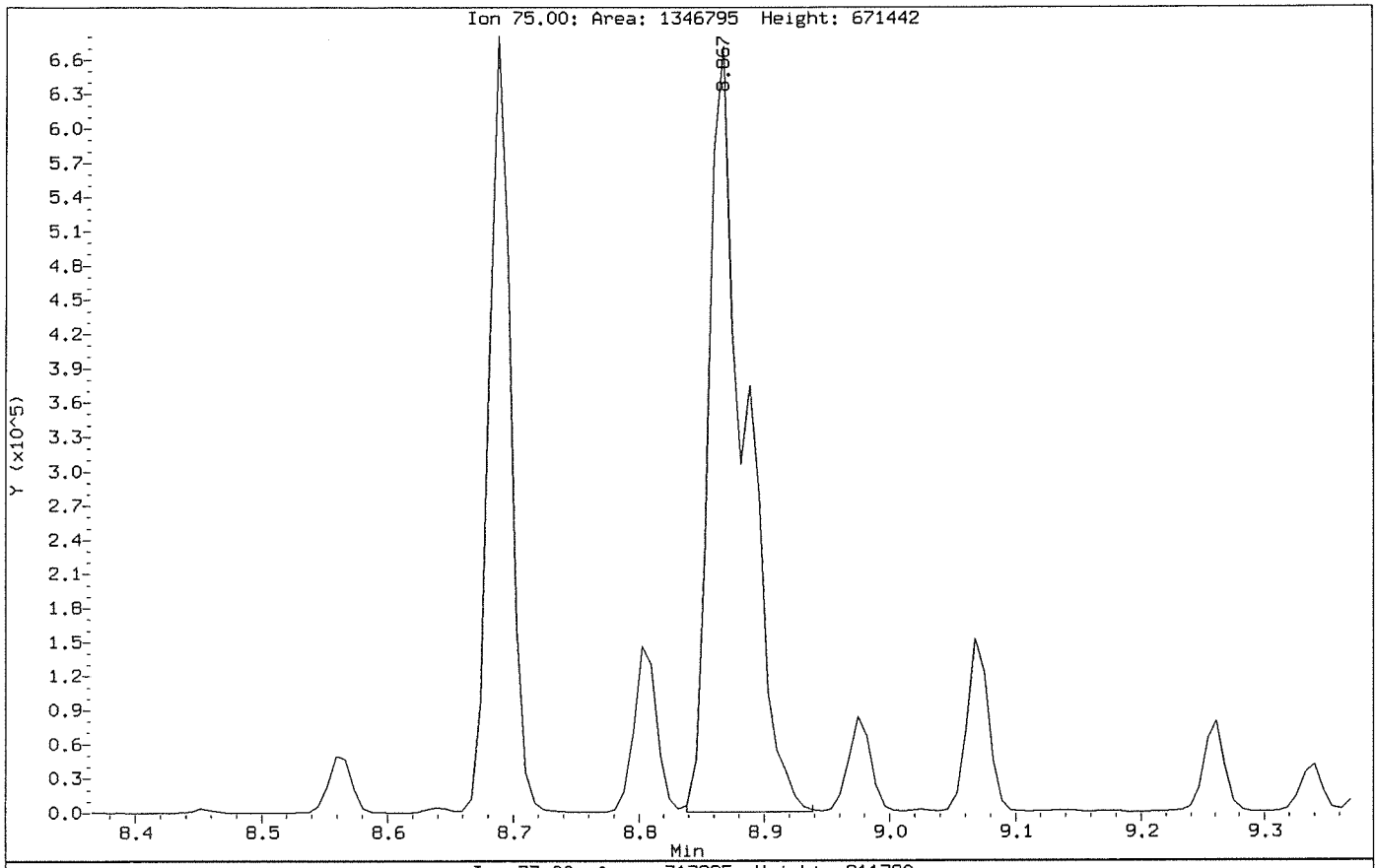


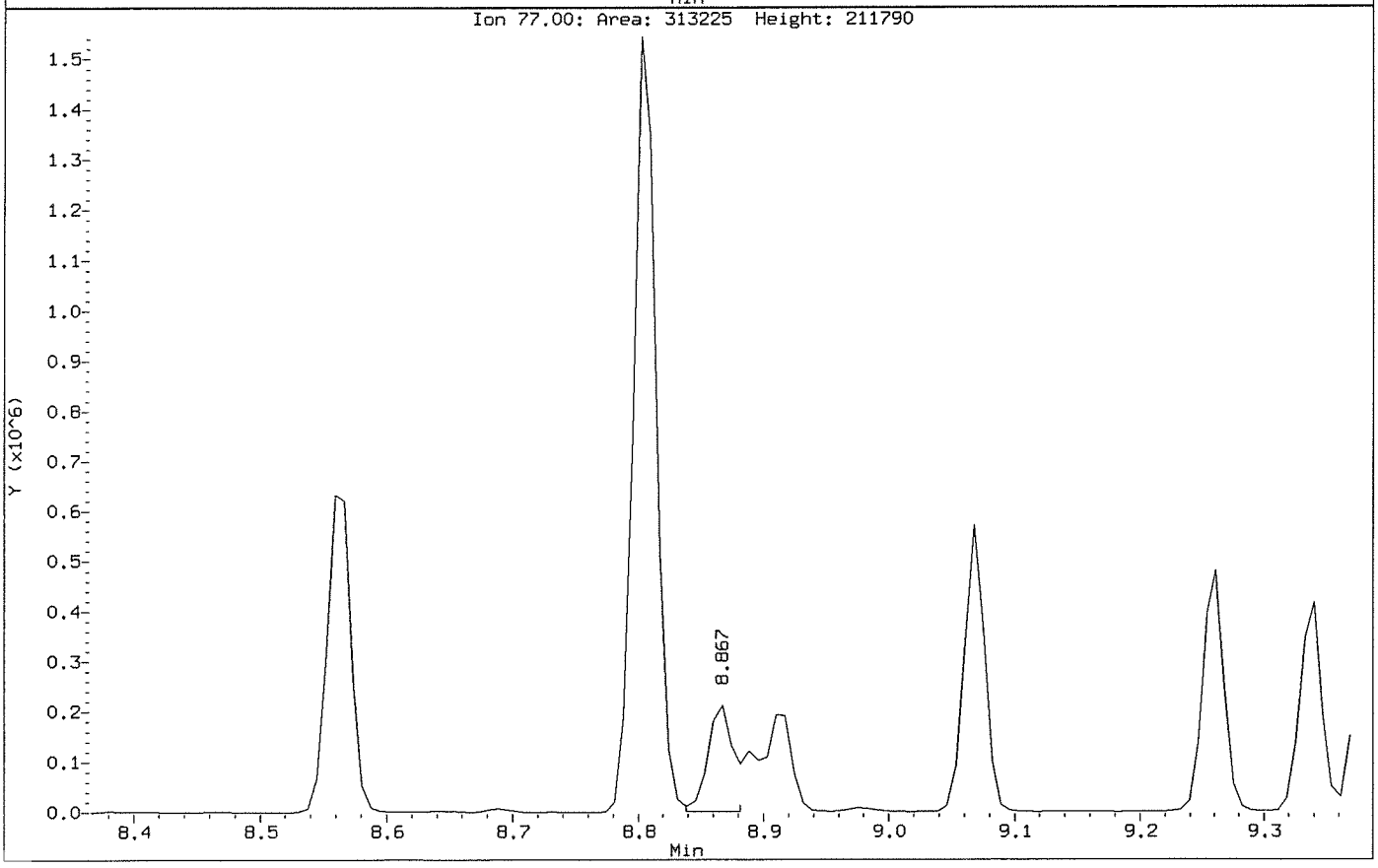

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040211.D
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Client ID: VSTD200
Sample Info: VSTD200;VSTD200;1;10;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before\X040211.D
Injection Date: 02-APR-2021 14:23
Instrument: voa6.i
Client Sample ID: VSTD200

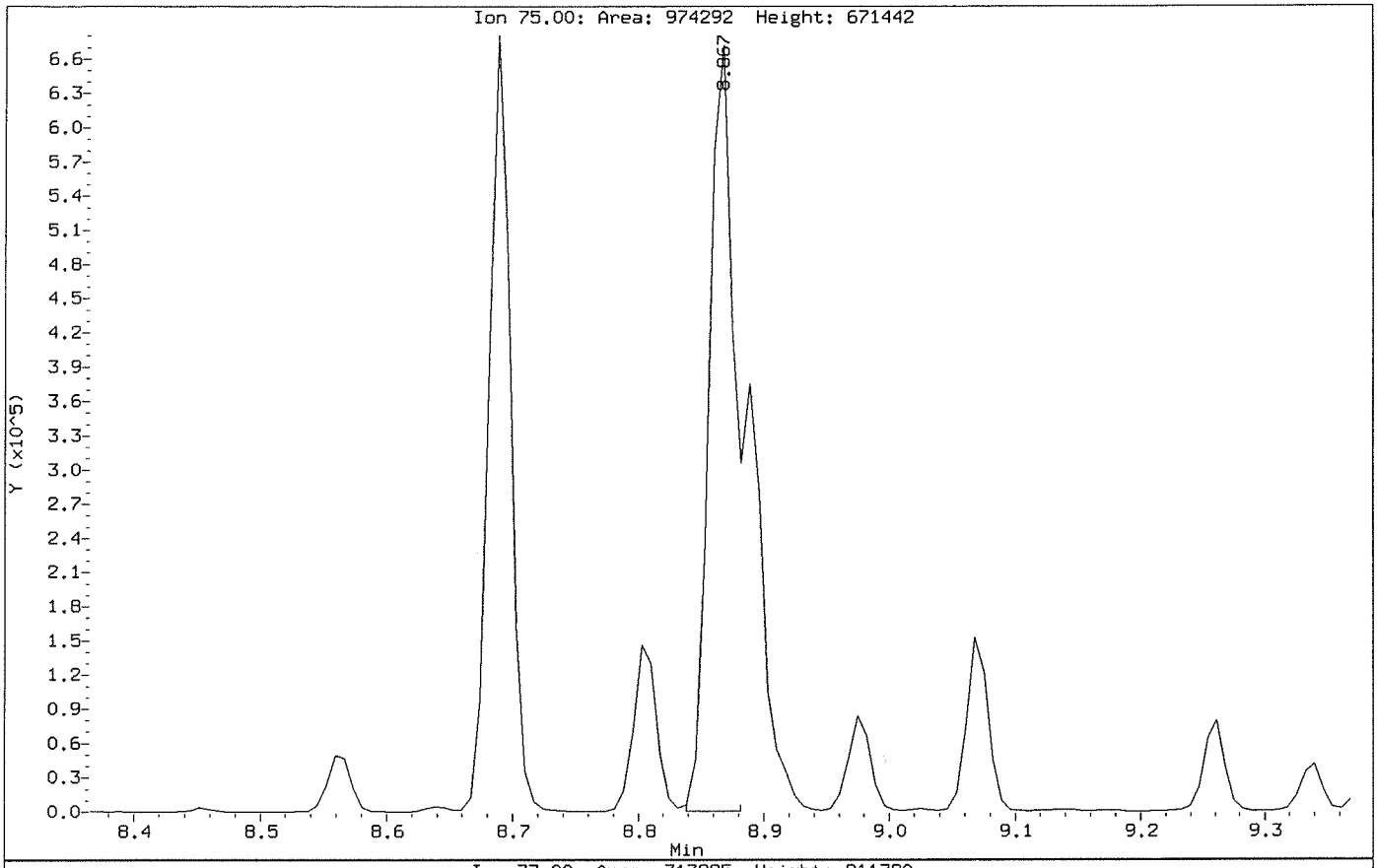
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4

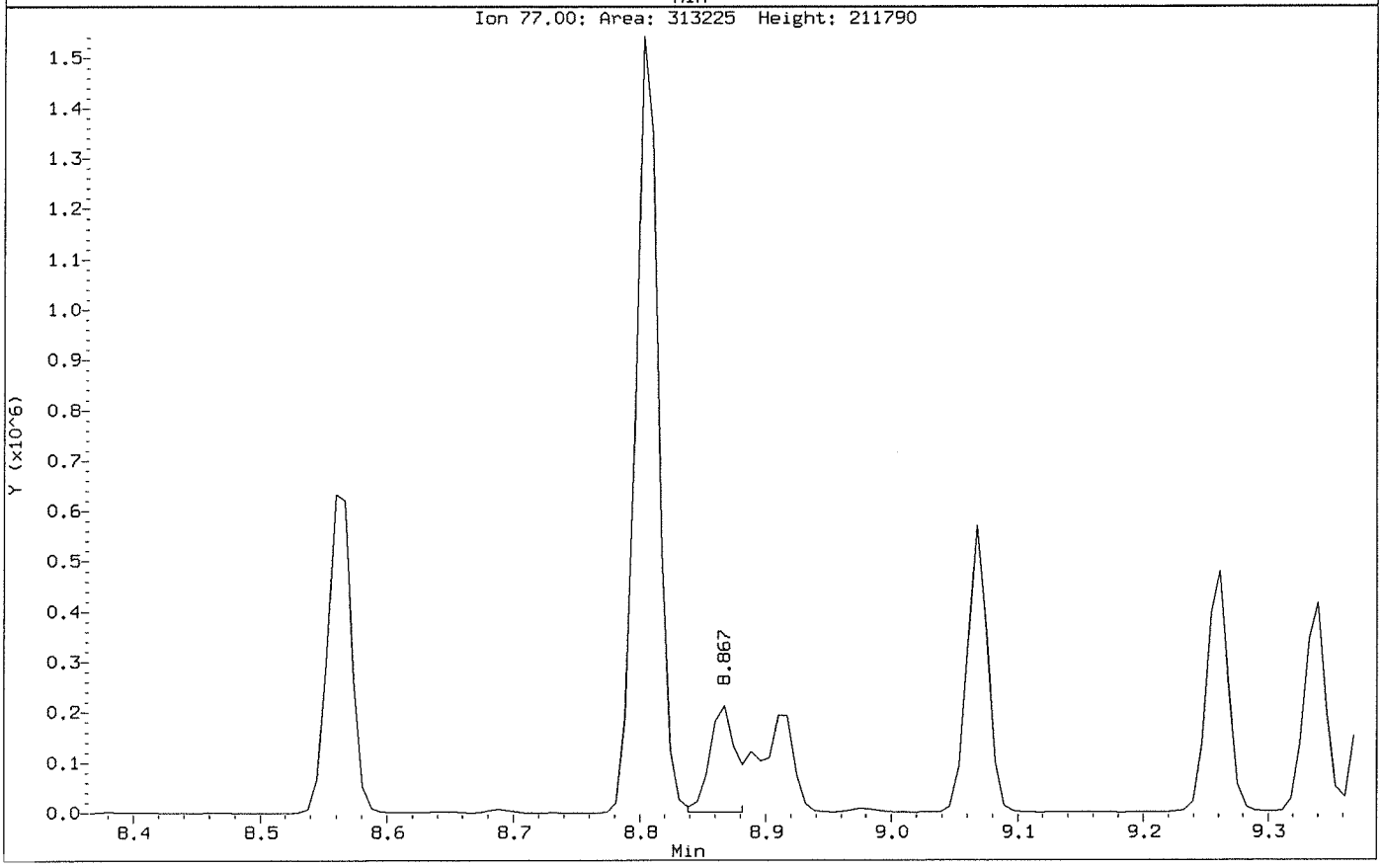


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040211.D
Injection Date: 02-APR-2021 14:23
Instrument: voa6.i
Client Sample ID: VSTD200

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040214.D Page 1
Report Date: 14-Apr-2021 12:07

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040214.D
Lab Smp Id: ICV Client Smp ID: ICV
Inj Date : 02-APR-2021 15:26
Operator : PC Inst ID: voa6.i
Smp Info : CCV;CCV;2;;ICV
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\8260W.m
Meth Date : 14-Apr-2021 12:07 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 14:23 Cal File: X040211.D
Als bottle: 15 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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 |

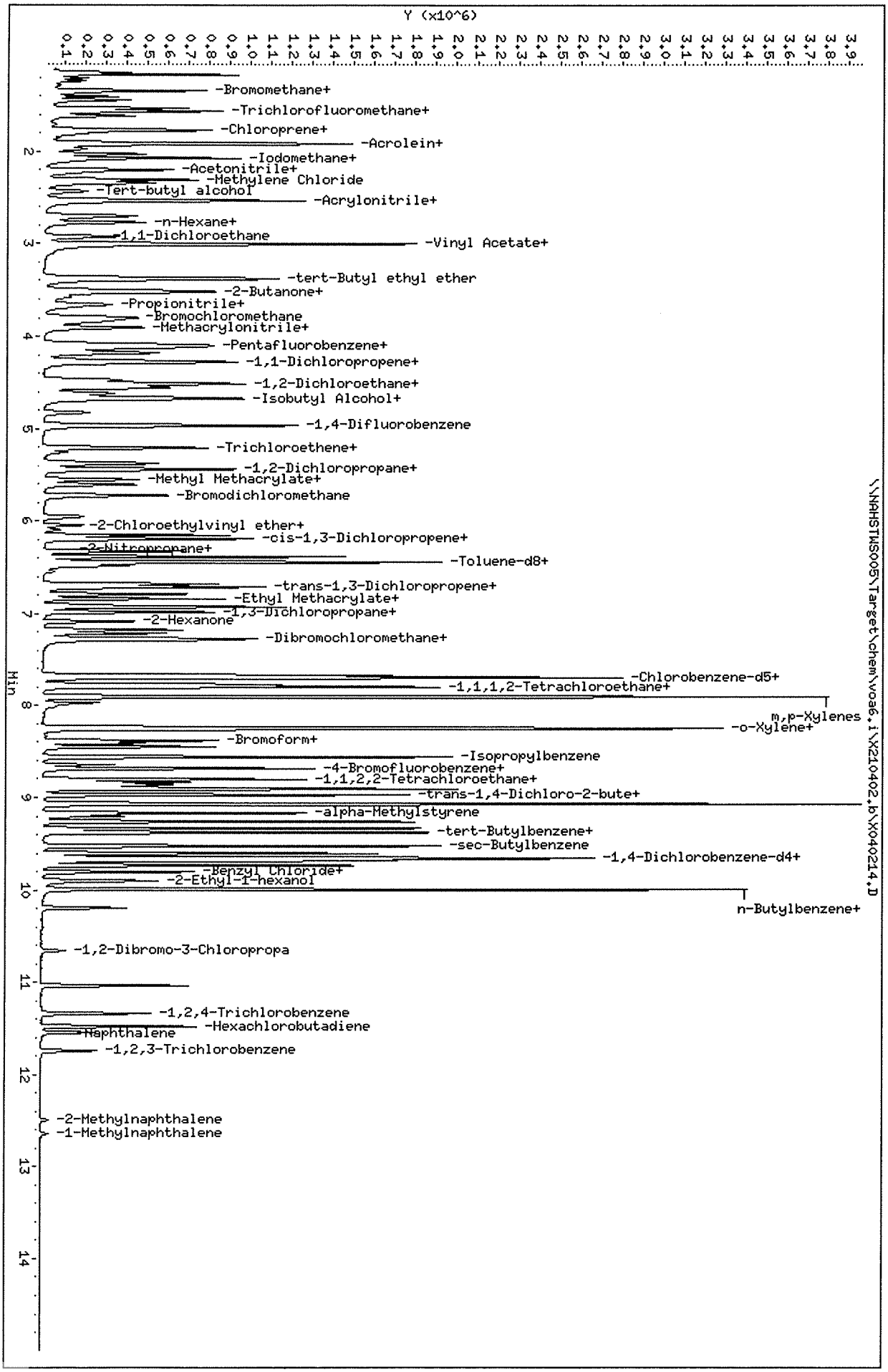
| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ug/l) | FINAL ( ug/l) |
|---|---|---|---|---|---|---|---|---|
| * | 1 Pentafluorobenzene | 168 | 4.182 | 4.182 | (1.000) | 403237 | 50.0000 | |
| * | 36 1,4-Difluorobenzene | 114 | 4.963 | 4.970 | (1.000) | 674704 | 50.0000 | |
| * | 47 Chlorobenzene-d5 | 117 | 7.670 | 7.670 | (1.000) | 639311 | 50.0000 | |
| * | 70 1,4-Dichlorobenzene-d4 | 152 | 9.662 | 9.662 | (1.000) | 322985 | 50.0000 | |
| $ | 30 Dibromofluoromethane | 113 | 4.096 | 4.096 | (0.979) | 233448 | 49.1812 | 49.18 |
| $ | 35 1,2-Dichloroethane-d4 | 65 | 4.469 | 4.469 | (1.069) | 278339 | 48.9433 | 48.94 |
| $ | 48 Toluene-d8 | 98 | 6.388 | 6.388 | (0.833) | 812891 | 49.4873 | 49.48 |
| $ | 69 4-Bromofluorobenzene | 95 | 8.688 | 8.688 | (1.133) | 292882 | 47.8435 | 47.84 |
| | 60 1,1,1,2-Tetrachloroethane | 131 | 7.771 | 7.778 | (1.013) | 229688 | 48.4168 | 48.41 |
| | 31 1,1,1-Trichloroethane | 97 | 4.082 | 4.082 | (0.976) | 362101 | 49.6208 | 49.62 |
| | 68 1,1,2,2-Tetrachloroethane | 83 | 8.838 | 8.838 | (0.915) | 261620 | 48.5508 | 48.55 |
| | 53 1,1,2-Trichloroethane | 83 | 6.840 | 6.840 | (0.892) | 178830 | 48.1535 | 48.15 |
| | 22 1,1-Dichloroethane | 63 | 2.921 | 2.921 | (0.699) | 366337 | 48.9407 | 48.94 |
| | 11 1,1-Dichloroethene | 96 | 1.919 | 1.911 | (0.459) | 265347 | 46.2152 | 46.21 |
| | 32 1,1-Dichloropropene | 75 | 4.282 | 4.282 | (0.863) | 298126 | 47.0892 | 47.08 |
| | 93 1,2,3-Trichlorobenzene | 180 | 11.746 | 11.739 | (1.216) | 63647 | 57.2335 | 57.23 |
| | 71 1,2,3-Trichloropropane | 75 | 8.867 | 8.867 | (0.918) | 208513 | 48.0993 | 48.09(M) |
| | 90 1,2,4-Trichlorobenzene | 180 | 11.338 | 11.338 | (1.173) | 125752 | 57.4873 | 57.48 |
| | 79 1,2,4-Trimethylbenzene | 105 | 9.382 | 9.382 | (0.971) | 829989 | 50.0711 | 50.07 |
| | 89 1,2-Dibromo-3-Chloropropane | 155 | 10.657 | 10.657 | (1.103) | 17607 | 50.1152 | 50.11 |
| | 57 1,2-Dibromoethane | 107 | 7.262 | 7.262 | (0.947) | 227270 | 51.7110 | 51.71 |
| | 88 1,2-Dichlorobenzene | 146 | 9.991 | 9.991 | (1.034) | 427668 | 48.2013 | 48.20 |

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040214.D Page 2
Report Date: 14-Apr-2021 12:07

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ug/l) | FINAL ( ug/l) |
|---|---|---|---|---|---|---|---|---|
| 33 | 1,2-Dichloroethane | 62 | 4.555 | 4.555 | (0.918) | 339122 | 47.4855 | 47.48 |
| 42 | 1,2-Dichloropropane | 63 | 5.436 | 5.436 | (1.095) | 225180 | 48.0261 | 48.02 |
| 75 | 1,3,5-Trimethylbenzene | 105 | 9.067 | 9.067 | (0.938) | 860516 | 49.7108 | 49.71 |
| 83 | 1,3-Dichlorobenzene | 146 | 9.604 | 9.604 | (0.994) | 463455 | 49.5434 | 49.54 |
| 54 | 1,3-Dichloropropane | 76 | 6.983 | 6.983 | (0.910) | 354415 | 49.9208 | 49.92 |
| 84 | 1,4-Dichlorobenzene | 146 | 9.683 | 9.683 | (1.002) | 479018 | 47.5426 | 47.54 |
| 26 | 2,2-Dichloropropane | 77 | 3.516 | 3.509 | (0.841) | 348707 | 47.3038 | 47.30 |
| 24 | 2-Butanone | 43 | 3.580 | 3.573 | (0.856) | 137119 | 98.9187 | 98.91 |
| 76 | 2-Chlorotoluene | 91 | 8.974 | 8.974 | (0.929) | 687490 | 50.6640 | 50.66 |
| 52 | 2-Hexanone | 43 | 7.083 | 7.090 | (0.923) | 255686 | 97.0498 | 97.04 |
| 77 | 4-Chlorotoluene | 91 | 9.067 | 9.067 | (0.938) | 858671 | 48.7535 | 48.75 |
| 82 | p-Isopropyltoluene | 119 | 9.647 | 9.655 | (0.999) | 857714 | 52.4221 | 52.42 |
| 45 | 4-Methyl-2-Pentanone | 43 | 6.324 | 6.331 | (0.824) | 376883 | 97.8101 | 97.81 |
| 10 | Acetone | 43 | 1.976 | 1.976 | (0.473) | 140540 | 105.499 | 105.49 |
| 37 | Benzene | 78 | 4.512 | 4.512 | (0.909) | 842450 | 47.1382 | 47.13 |
| 74 | Bromobenzene | 156 | 8.802 | 8.809 | (0.911) | 260738 | 46.8316 | 46.83 |
| 29 | Bromochloromethane | 128 | 3.795 | 3.795 | (0.908) | 118838 | 49.4111 | 49.41 |
| 39 | Bromodichloromethane | 83 | 5.722 | 5.722 | (1.153) | 328355 | 48.5343 | 48.53 |
| 66 | Bromoform | 173 | 8.408 | 8.408 | (1.096) | 149360 | 46.9861 | 46.98 |
| 6 | Bromomethane | 94 | 1.338 | 1.331 | (0.320) | 314834 | 54.6089 | 54.60 |
| 19 | Carbon Disulfide | 76 | 2.069 | 2.069 | (0.495) | 1079823 | 96.2814 | 96.28 |
| 34 | Carbon Tetrachloride | 117 | 4.268 | 4.268 | (0.860) | 292868 | 48.1105 | 48.11 |
| 59 | Chlorobenzene | 112 | 7.692 | 7.692 | (1.003) | 611852 | 46.1746 | 46.17 |
| 7 | Chloroethane | 64 | 1.403 | 1.403 | (0.336) | 203811 | 45.4376 | 45.43 |
| 28 | Chloroform | 83 | 3.910 | 3.910 | (0.935) | 408734 | 46.6752 | 46.67 |
| 3 | Chloromethane | 50 | 1.080 | 1.073 | (0.258) | 210094 | 50.1762 | 50.17 |
| 27 | cis-1,2-Dichloroethene | 96 | 3.530 | 3.523 | (0.844) | 228412 | 46.3383 | 46.33 |
| 46 | cis-1,3-Dichloropropene | 75 | 6.152 | 6.159 | (1.240) | 385775 | 48.8520 | 48.85 |
| 55 | Dibromochloromethane | 129 | 7.176 | 7.176 | (0.936) | 250044 | 50.1010 | 50.10 |
| 44 | Dibromomethane | 93 | 5.550 | 5.550 | (1.118) | 158513 | 47.6477 | 47.64 |
| 2 | Dichlorodifluoromethane | 85 | 0.973 | 0.973 | (0.233) | 199877 | 50.8089 | 50.80 |
| 61 | Ethylbenzene | 106 | 7.799 | 7.799 | (1.017) | 324142 | 47.3674 | 47.36 |
| 91 | Hexachlorobutadiene | 225 | 11.481 | 11.481 | (1.188) | 98407 | 56.9744 | 56.97 |
| 67 | Isopropylbenzene | 105 | 8.559 | 8.566 | (1.116) | 974095 | 47.6184 | 47.61 |
| 62 | m,p-Xylenes | 106 | 7.907 | 7.907 | (1.031) | 847768 | 97.8340 | 97.83 |
| 17 | Methylene Chloride | 84 | 2.305 | 2.305 | (0.551) | 198869 | 45.5779 | 45.57 |
| 87 | n-Butylbenzene | 91 | 9.991 | 9.991 | (1.034) | 835608 | 53.8906 | 53.89 |
| 73 | n-Propylbenzene | 91 | 8.910 | 8.917 | (0.922) | 1234483 | 50.3785 | 50.37 |
| 92 | Naphthalene | 128 | 11.538 | 11.539 | (1.194) | 178728 | 59.9582 | 59.95(M) |
| 63 | o-Xylene | 106 | 8.243 | 8.244 | (1.075) | 401147 | 47.7384 | 47.73 |
| 81 | sec-Butylbenzene | 105 | 9.519 | 9.526 | (0.985) | 1004067 | 53.5261 | 53.52 |
| 64 | Styrene | 104 | 8.258 | 8.258 | (1.077) | 693888 | 45.1363 | 45.13 |
| 78 | tert-Butylbenzene | 119 | 9.339 | 9.339 | (0.967) | 692638 | 49.9528 | 49.95 |
| 56 | Tetrachloroethene | 164 | 6.925 | 6.933 | (0.903) | 187444 | 48.5731 | 48.57 |
| 50 | Toluene | 91 | 6.446 | 6.446 | (0.840) | 949684 | 47.8049 | 47.80 |
| 20 | trans-1,2-Dichloroethene | 96 | 2.527 | 2.527 | (0.604) | 199194 | 48.4745 | 48.47 |
| 51 | trans-1,3-Dichloropropene | 75 | 6.682 | 6.682 | (1.346) | 346971 | 51.5125 | 51.51 |
| 38 | Trichloroethene | 130 | 5.206 | 5.206 | (1.049) | 232943 | 50.4339 | 50.43 |
| 8 | Trichlorofluoromethane | 101 | 1.560 | 1.560 | (0.373) | 509214 | 44.0030 | 44.00 |
| 5 | Vinyl Chloride | 62 | 1.145 | 1.138 | (0.274) | 279152 | 46.1765 | 46.17 |

QC Flag Legend

M - Compound response manually integrated.

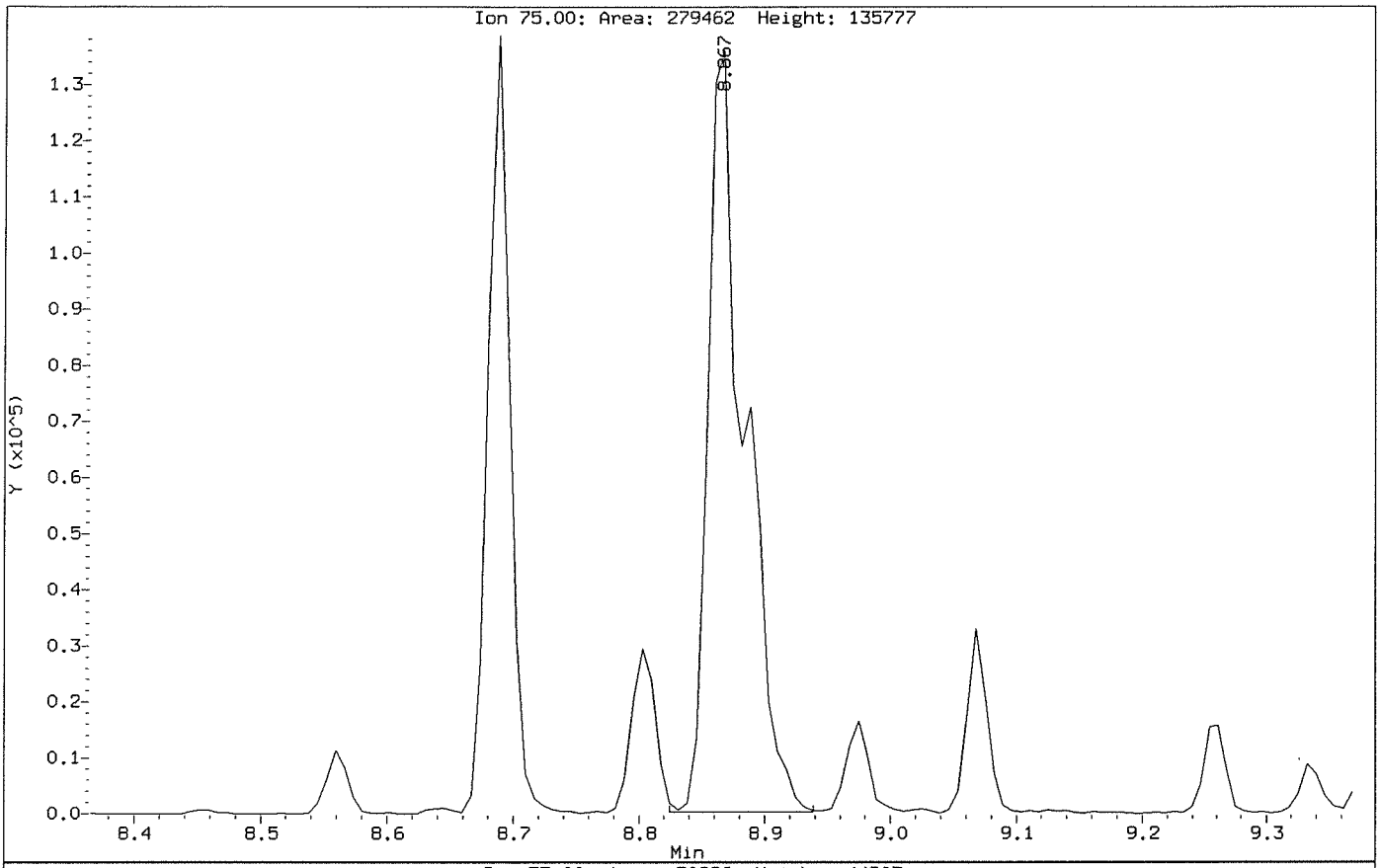


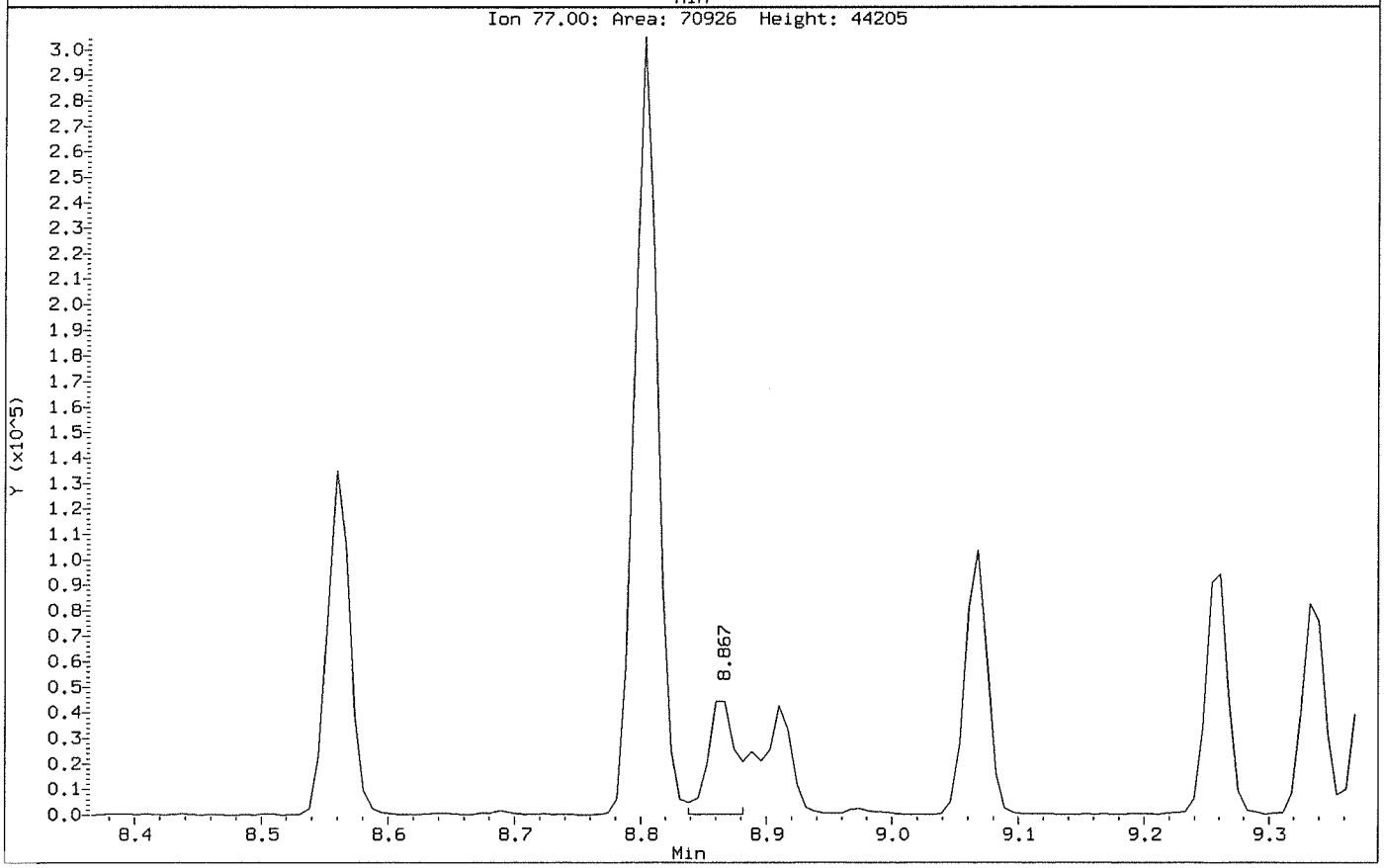

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040214.D
Date : 02-APR-2021 15:26
Client ID: ICV
Sample Info: CCV;CCV;2;;ICV
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before\X040214.D
Injection Date: 02-APR-2021 15:26
Instrument: voa6.i
Client Sample ID: ICV

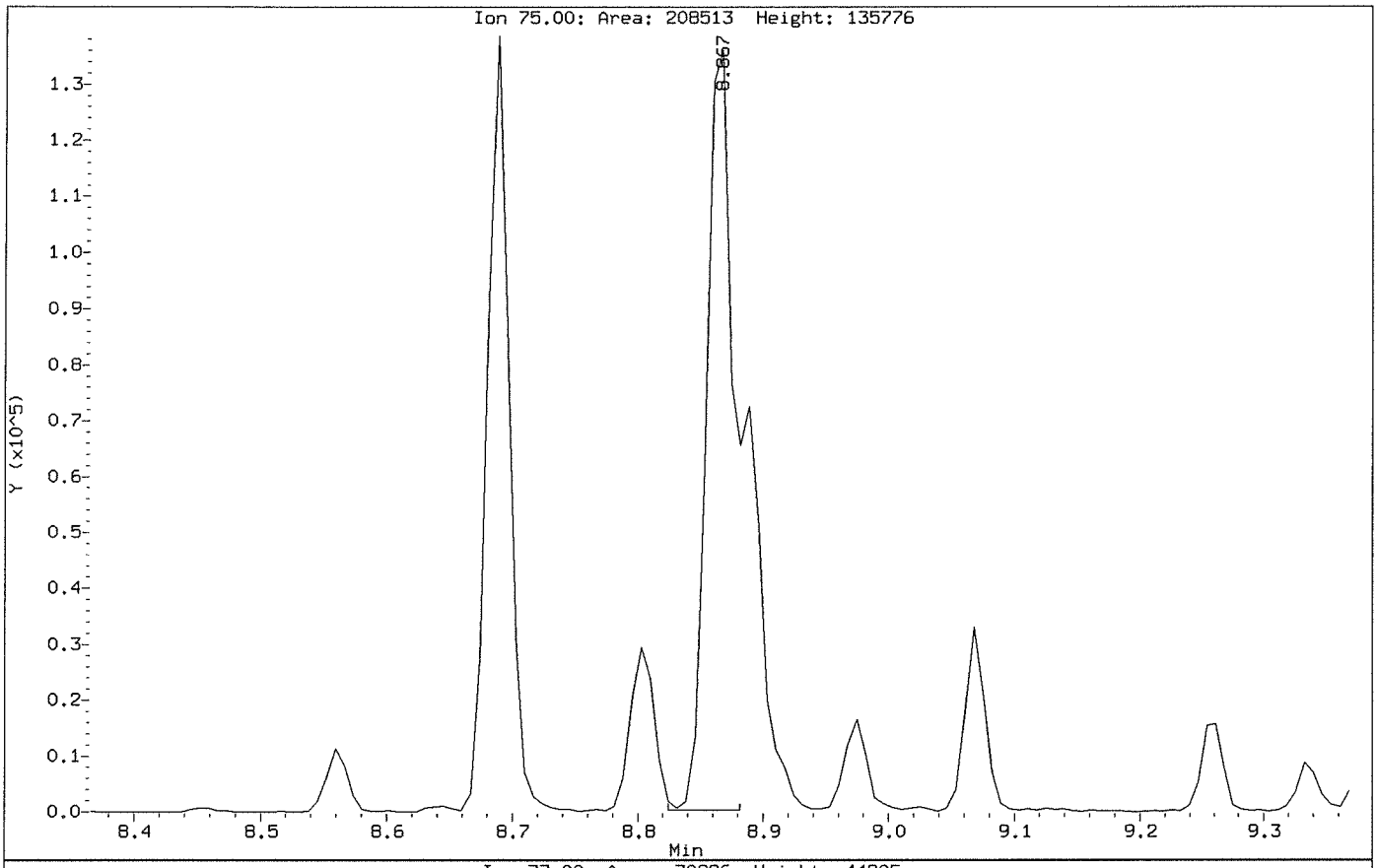
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4

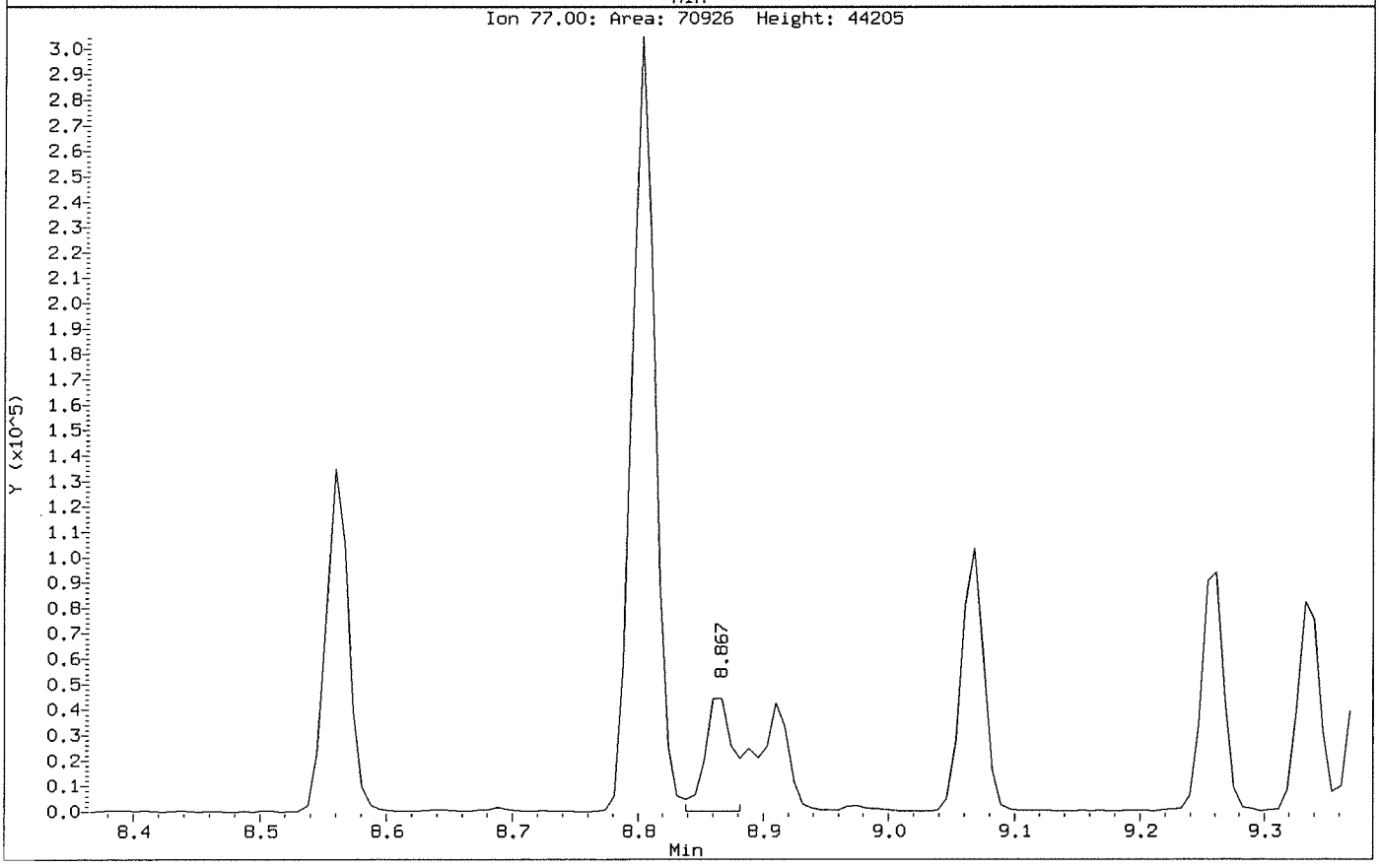


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040214.D
Injection Date: 02-APR-2021 15:26
Instrument: voa6.i
Client Sample ID: ICV

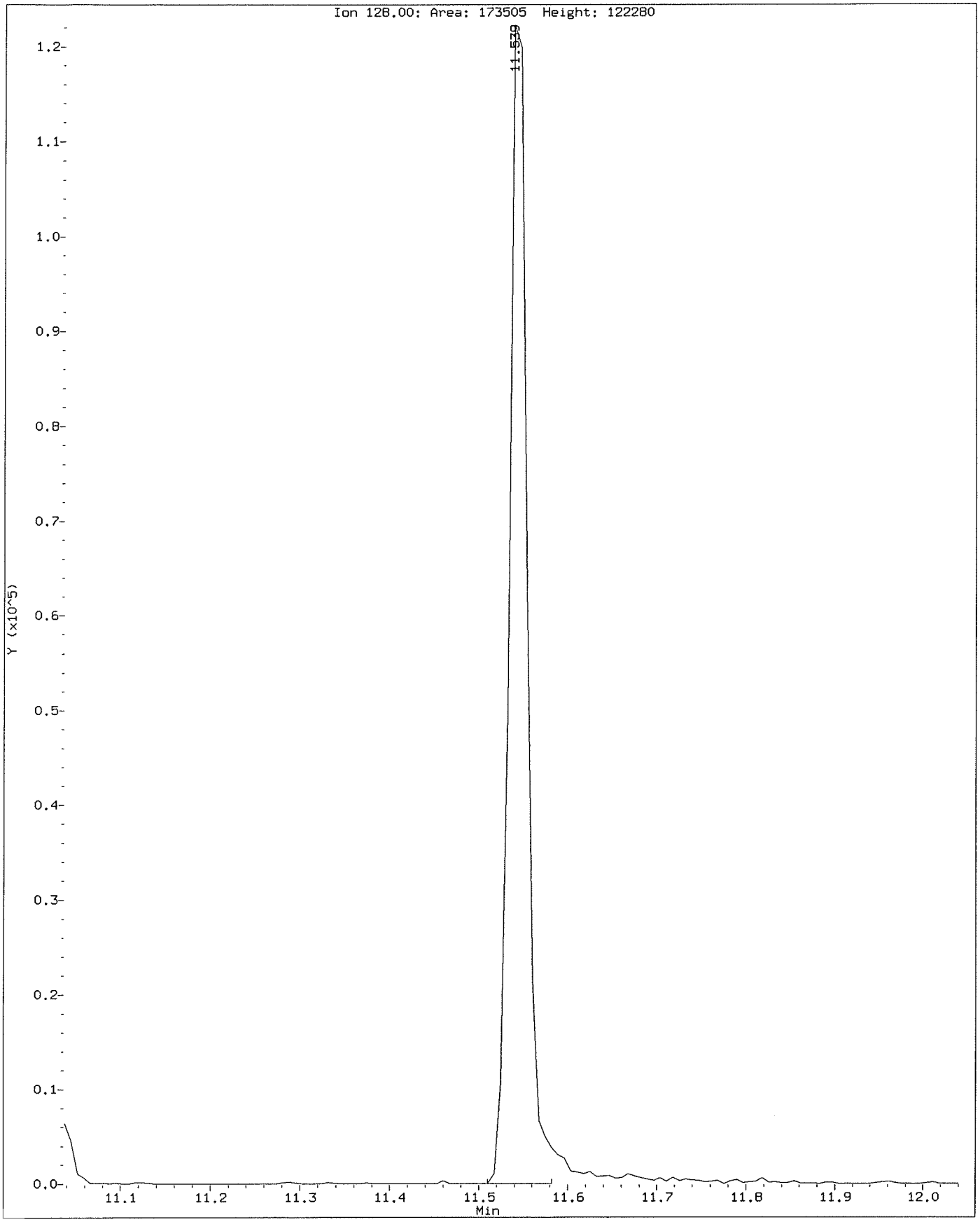
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



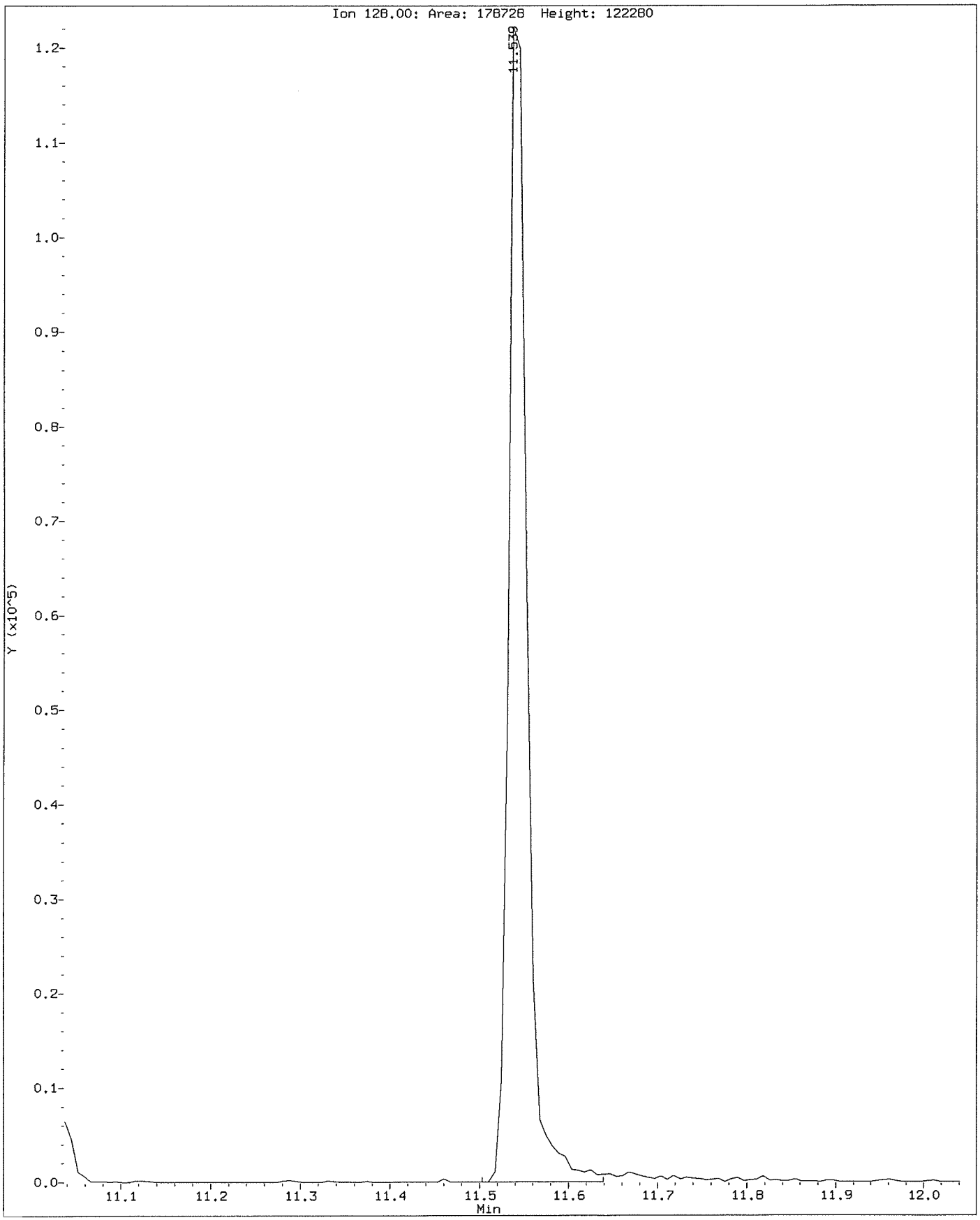
Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before\X040214.D
Injection Date: 02-APR-2021 15:26
Instrument: voa6.i
Client Sample ID: ICV

Compound: Naphthalene
CAS Number: 91-20-3



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040214.D
Injection Date: 02-APR-2021 15:26
Instrument: voa6.i
Client Sample ID: ICV

Compound: Naphthalene
CAS Number: 91-20-3



# MSVOA06 -Logbook

**Batch:** 44484 **Analyst:** Presenta Cabascango

**Date:** 04-21-2021 **Reviewer:**

**Method:** 8260 **Laboratory:** Houston

**Comments:**

| # | Samp ID | Type | Analyzed | DF | Init Wt/Vol | Final Vol | File ID | Matrix | Status | pH |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | BFB | TUNE | 04-21-2021 10:25 am | 1.00 | 50 mL | 50 mL | X042101.D | Liquid | Y | NA |
| 2 | CCV | CCV | 04-21-2021 10:46 am | 1.00 | 50 mL | 50 mL | X042102a.D | Liquid | Y | NA |
| 3 | CCV | CCV | 04-21-2021 11:07 am | 1.00 | 50 mL | 50 mL | X042103.D | Liquid | Y | NA |
| 4 | CCB | SAMP | 04-21-2021 11:28 am | 1.00 | 50 mL | 50 mL | X042104.D | Liquid | Y | NA |
| 5 | VLCSW-210421 | LCS | 04-21-2021 11:49 am | 1.00 | 50 mL | 50 mL | X042105.D | Liquid | Y | NA |
| 6 | BLANK | SAMP | 04-21-2021 12:10 pm | 1.00 | 50 mL | 50 mL | X042106.D | Liquid | Y | NA |
| 7 | VBLKW-210421 | MBLK | 04-21-2021 12:31 pm | 1.00 | 50 mL | 50 mL | X042107.D | Liquid | Y | NA |
| 8 | HS21040967-01 | SAMP | 04-21-2021 12:53 pm | 1.00 | 50 mL | 50 mL | X042108.D | Liquid | Y | NA |
| 9 | HS21040967-02 | SAMP | 04-21-2021 01:14 pm | 1.00 | 50 mL | 50 mL | X042109.D | Liquid | Y | NA |
| 10 | HS21040967-03 | SAMP | 04-21-2021 01:35 pm | 1.00 | 50 mL | 50 mL | X042110.D | Liquid | Y | NA |
| 11 | HS21041086-02 | SAMP | 04-21-2021 01:56 pm | 1.00 | 50 mL | 50 mL | X042111.D | Liquid | Y | NA |
| 12 | HS21041086-01 | SAMP | 04-21-2021 02:17 pm | 1.00 | 50 mL | 50 mL | X042112.D | Liquid | Y | NA |
| 13 | HS21041024-01 | SAMP | 04-21-2021 02:38 pm | 5.00 | 10 mL | 50 mL | X042113.D | Liquid | Y | NA |
| 14 | HS21040967-02MS | MS | 04-21-2021 02:59 pm | 1.00 | 50 mL | 50 mL | X042114.D | Liquid | Y | NA |
| 15 | HS21040967-02MSD | MSD | 04-21-2021 03:20 pm | 1.00 | 50 mL | 50 mL | X042115.D | Liquid | Y | NA |
| 16 | CCV-END | CCV | 04-21-2021 03:41 pm | 1.00 | 50 mL | 50 mL | X042116.D | Liquid | Y | NA |
| 17 | HS21041038-04 | SAMP | 04-21-2021 04:02 pm | 1.00 | 50 mL | 50 mL | X042117.D | Liquid | Y | NA |
| 18 | HS21040976-09 | SAMP | 04-21-2021 04:23 pm | 1.00 | 50 mL | 50 mL | X042118.D | Liquid | Y | NA |
| 19 | HS21040967-04 | SAMP | 04-21-2021 04:44 pm | 1.00 | 50 mL | 50 mL | X042119.D | Liquid | Y | NA |
| 20 | HS21040967-05 | SAMP | 04-21-2021 05:05 pm | 1.00 | 50 mL | 50 mL | X042120.D | Liquid | Y | NA |
| 21 | HS21040967-06 | SAMP | 04-21-2021 05:26 pm | 1.00 | 50 mL | 50 mL | X042121.D | Liquid | Y | NA |
| 22 | HS21040967-09 | SAMP | 04-21-2021 05:47 pm | 1.00 | 50 mL | 50 mL | X042122.D | Liquid | Y | NA |
| 23 | HS21040967-07 | SAMP | 04-21-2021 06:08 pm | 5.00 | 10 mL | 50 mL | X042123.D | Liquid | Y | NA |
| 24 | HS21040967-08 | SAMP | 04-21-2021 06:29 pm | 5.00 | 10 mL | 50 mL | X042124.D | Liquid | Y | NA |
| 25 | HS21041039-07 | SAMP | 04-21-2021 06:51 pm | 1.00 | 50 mL | 50 mL | X042125.D | Liquid | Y | NA |
| 26 | MBLK-164875 | MBLK | 04-21-2021 07:12 pm | 20.00 | 2.5 mL | 50 mL | X042126.D | Liquid | Y | NA |
| 27 | HS21040971-01 | SAMP | 04-21-2021 07:33 pm | 20.00 | 2.5 mL | 50 mL | X042127.D | Liquid | Y | NA |
| 28 | HS21040661-01 | SAMP | 04-21-2021 07:54 pm | 50.00 | 1 mL | 50 mL | X042128.D | Liquid | Y | NA |
| 29 | HS21040996-02 | SAMP | 04-21-2021 08:15 pm | 1.00 | 50 mL | 50 mL | X042129.D | Liquid | Y | NA |
| 30 | HS21040903-05 | SAMP | 04-21-2021 08:36 pm | 5.00 | 10 mL | 50 mL | X042130.D | Liquid | Y | NA |
| 31 | HS21040903-08 | SAMP | 04-21-2021 08:57 pm | 10.00 | 5 mL | 50 mL | X042131.D | Liquid | Y | NA |
| 32 | BLANK | SAMP | 04-21-2021 09:18 pm | 1.00 | 50 mL | 50 mL | X042140.D | Liquid | Y | NA |

# FORM 2
## WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: ALS LABORATORY GROUP  Contract:

Lab Code: ALS-HS  Case No.:  SAS No.:  SDG No.: HS21041086

| | CLIENT SAMPLE NO. | SMC1 (DCE) # | SMC2 # | SMC3 (TOL) # | OTHER # | TOT OUT |
|---|---|---|---|---|---|---|
| 01 | VLCSW-210421 | 104 | 100 | 102 | 102 | 0 |
| 02 | VBLKW-210421 | 99 | 91 | 107 | 96 | 0 |
| 03 | HS21041086-02 | 99 | 94 | 105 | 96 | 0 |
| 04 | HS21041086-01 | 100 | 95 | 106 | 89 | 0 |
| 05 | HS21040967-02MS | 91 | 90 | 103 | 101 | 0 |
| 06 | HS21040967-02MSD | 94 | 91 | 106 | 100 | 0 |
| 07 | | | | | | |
| 08 | | | | | | |
| 09 | | | | | | |
| 10 | | | | | | |
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| 26 | | | | | | |
| 27 | | | | | | |
| 28 | | | | | | |

| | | QC LIMITS |
|---|---|---|
| SMC1 (DCE) | = 1,2-Dichloroethane-d4 | ( 0-130) |
| SMC2 | = Dibromofluoromethane | ( 0-130) |
| SMC3 (TOL) | = Toluene-d8 | ( 0-130) |
| OTHER | = 4-Bromofluorobenzene | ( 0-130) |

# Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

FORM 4
VOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

VBLKW-210421

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041086

Lab File ID: X042107 Lab Sample ID: VBLKW-210421

Date Analyzed: 04/21/21 Time Analyzed: 1231

GC Column: DB624 ID: 0.18 (mm) Heated Purge: (Y/N) N

Instrument ID: VOA6

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

| | SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | TIME ANALYZED |
|---|---|---|---|---|
| 01 | VLCSW-210421 | VLCSW-210421 | X042105 | 1149 |
| 02 | HS21041086-02 | HS21041086-02 | X042111 | 1356 |
| 03 | HS21041086-01 | HS21041086-01 | X042112 | 1417 |
| 04 | HS21040967-02MS | HS21040967-02MS | X042114 | 1459 |
| 05 | HS21040967-02MSD | HS21040967-02MSD | X042115 | 1520 |
| 06 | | | | |
| 07 | | | | |
| 08 | | | | |
| 09 | | | | |
| 10 | | | | |
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| 30 | | | | |

COMMENTS:

# FORM 5
## VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
## BROMOFLUOROBENZENE (BFB)

Lab Name: ALS LABORATORY GROUP  Contract:

Lab Code: ALS-HS  Case No.:  SAS No.:  SDG No.: HS21041086

Lab File ID: X042101  BFB Injection Date: 04/21/21

Instrument ID: VOA6  BFB Injection Time: 1025

GC Column: DB624  ID: 0.25 (mm)  Heated Purge: (Y/N) N

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15.0 - 40.0% of mass 95 | 19.2 |
| 75 | 30.0 - 60.0% of mass 95 | 51.8 |
| 95 | Base Peak, 100% relative abundance | 100.0 |
| 96 | 5.0 - 9.0% of mass 95 | 5.9 |
| 173 | Less than 2.0% of mass 174 | 0.9 ( 1.0)1 |
| 174 | Greater than 50.0% of mass 95 | 93.4 |
| 175 | 5.0 - 9.0% of mass 174 | 5.8 ( 6.3)1 |
| 176 | 95.0 - 101.0% of mass 174 | 91.7 ( 98.2)1 |
| 177 | 5.0 - 9.0% of mass 176 | 6.4 ( 7.0)2 |

1-Value is % mass 174  2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 01 | CCV | CCV | X042103 | 04/21/21 | 1107 |
| 02 | VLCSW-210421 | VLCSW-210421 | X042105 | 04/21/21 | 1149 |
| 03 | VBLKW-210421 | VBLKW-210421 | X042107 | 04/21/21 | 1231 |
| 04 | HS21041086-02 | HS21041086-02 | X042111 | 04/21/21 | 1356 |
| 05 | HS21041086-01 | HS21041086-01 | X042112 | 04/21/21 | 1417 |
| 06 | HS21040967-02MS | HS21040967-02MS | X042114 | 04/21/21 | 1459 |
| 07 | HS21040967-02MSD | HS21040967-02MSD | X042115 | 04/21/21 | 1520 |
| 08 | CCV-END | CCV-END | X042116 | 04/21/21 | 1541 |
| 09 | | | | | |
| 10 | | | | | |
| 11 | | | | | |
| 12 | | | | | |
| 13 | | | | | |
| 14 | | | | | |
| 15 | | | | | |
| 16 | | | | | |
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| 19 | | | | | |
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| 21 | | | | | |
| 22 | | | | | |

# FORM 7B
## VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS LABORATORY GROUP  Contract:

Lab Code: ALS-HS  Case No.:  SAS No.:  SDG No.: HS21041086

Instrument ID: VOA6  Calibration Date: 04/21/21  Time: 1107

Lab File ID: X042103  Init. Calib. Date(s): 04/02/21  04/02/21

Init. Calib. Times: 1053  1423

GC Column: DB624  ID: 0.18 (mm)

| COMPOUND | RRF or AMOUNT | RRF50.000 or AMOUNT | CCAL RRF50.000 | MIN RRF | %D or %DRIFT | MAX %D or %DRIFT | CURV TYPE |
|---|---|---|---|---|---|---|---|
| cis-1,3-Dichloropropene | 0.5850000 | 0.6436621 | 0.6436621 | 0.2 | -10.03 | 20.00 | AVRG |
| trans-1,3-Dichloropropene | 0.4990000 | 0.5424431 | 0.5424431 | 0.1 | -8.71 | 20.00 | AVRG |
| 1,3-Dichlorobenzene | 1.4480000 | 1.4393954 | 1.4393954 | 0.6 | 0.59 | 20.00 | AVRG |
| 2,2-Dichloropropane | 0.9140000 | 0.9476347 | 0.9476347 | 0.1 | -3.68 | 20.00 | AVRG |
| 1,1-Dichloropropene | 0.4690000 | 0.4753954 | 0.4753954 | 0.1 | -1.36 | 20.00 | AVRG |
| Dibromomethane | 0.2460000 | 0.2524311 | 0.2524311 | 0.1 | -2.61 | 20.00 | AVRG |
| 1,2-Dibromoethane | 0.3440000 | 0.3727160 | 0.3727160 | 0.1 | -8.35 | 20.00 | AVRG |
| trans-1,2-Dichloroethene | 0.5090000 | 0.5235071 | 0.5235071 | 0.1 | -2.85 | 20.00 | AVRG |
| 1,1,1,2-Tetrachloroethane | 0.3710000 | 0.3618437 | 0.3618437 | 0.1 | 2.47 | 20.00 | AVRG |
| 1,1,1-Trichloroethane | 0.9050000 | 0.9589335 | 0.9589335 | 0.1 | -5.96 | 20.00 | AVRG |
| 1,1,2,2-Tetrachloroethane | 0.8340000 | 0.9171186 | 0.9171186 | 0.3 | -9.97 | 20.00 | AVRG |
| 1,1,2-Trichloroethane | 0.2900000 | 0.2947146 | 0.2947146 | 0.1 | -1.62 | 20.00 | AVRG |
| 1,1-Dichloroethane | 0.9280000 | 0.9982826 | 0.9982826 | 0.2 | -7.57 | 20.00 | AVRG |
| 1,1-Dichloroethene | 0.7120000 | 0.6403660 | 0.6403660 | 0.1 | 10.06 | 20.00 | AVRG |
| Trichloroethene | 0.3420000 | 0.3471574 | 0.3471574 | 0.2 | -1.51 | 20.00 | AVRG |
| 1,2,3-Trichlorobenzene | 47.420361 | 50.000000 | 0.1625304 | 0.01 | 5.16 | 20.00 | LINR |
| Trichlorofluoromethane | 1.4350000 | 1.2035061 | 1.2035061 | 0.1 | 16.13 | 20.00 | AVRG |
| 1,2,4-Trichlorobenzene | 47.330916 | 50.000000 | 0.3199143 | 0.1 | 5.34 | 20.00 | LINR |
| 1,2,4-Trimethylbenzene | 2.5660000 | 2.6098489 | 2.6098489 | 0.1 | -1.71 | 20.00 | AVRG |
| Tetrachloroethene | 0.3020000 | 0.2779863 | 0.2779863 | 0.2 | 7.95 | 20.00 | AVRG |
| 1,2-Dichlorobenzene | 1.3730000 | 1.3188285 | 1.3188285 | 0.4 | 3.94 | 20.00 | AVRG |
| 1,2-Dichloroethane | 0.5290000 | 0.5276228 | 0.5276228 | 0.1 | 0.26 | 20.00 | AVRG |
| 1,2-Dichloropropane | 0.3470000 | 0.3715705 | 0.3715705 | 0.1 | -7.08 | 20.00 | AVRG |
| 1,3,5-Trimethylbenzene | 2.6800000 | 2.6139500 | 2.6139500 | 0.1 | 2.46 | 20.00 | AVRG |
| 1,3-Dichloropropane | 0.5550000 | 0.6075990 | 0.6075990 | 0.1 | -9.48 | 20.00 | AVRG |
| 1,4-Dichlorobenzene | 1.5600000 | 1.4505572 | 1.4505572 | 0.4 | 7.02 | 20.00 | AVRG |
| Toluene | 1.5540000 | 1.5344888 | 1.5344888 | 0.4 | 1.26 | 20.00 | AVRG |
| 2-Butanone | 0.1720000 | 0.2005419 | 0.2005419 | 0.1 | -16.59 | 20.00 | AVRG |
| 2-Chlorotoluene | 55.595662 | 50.000000 | 2.3356827 | 0.1 | -11.19 | 20.00 | LINR |
| 2-Hexanone | 100.64365 | 100.00000 | 0.2076020 | 0.1 | -0.64 | 20.00 | LINR |
| 4-Chlorotoluene | 2.7260000 | 2.8268663 | 2.8268663 | 0.1 | -3.70 | 20.00 | AVRG |
| tert-Butylbenzene | 48.168916 | 50.000000 | 2.0667841 | 0.1 | 3.66 | 20.00 | LINR |
| 4-Methyl-2-Pentanone | 0.3010000 | 0.3269682 | 0.3269682 | 0.1 | -8.63 | 20.00 | AVRG |
| Acetone | 91.001738 | 100.00000 | 0.1512900 | 0.1 | 9.00 | 20.00 | LINR |
| Benzene | 1.3240000 | 1.3544086 | 1.3544086 | 0.5 | -2.30 | 20.00 | AVRG |
| Bromobenzene | 0.8620000 | 0.8405656 | 0.8405656 | 0.1 | 2.49 | 20.00 | AVRG |
| Bromochloromethane | 0.2980000 | 0.3141746 | 0.3141746 | 0.1 | -5.43 | 20.00 | AVRG |
| Bromodichloromethane | 0.5010000 | 0.5229831 | 0.5229831 | 0.2 | -4.39 | 20.00 | AVRG |
| Bromoform | 47.752312 | 50.000000 | 0.2376090 | 0.1 | 4.50 | 20.00 | LINR |
| Bromomethane | 48.657467 | 50.000000 | 0.6959671 | 0.1 | 2.68 | 20.00 | LINR |
| Carbon Disulfide | 1.3910000 | 1.4571991 | 1.4571991 | 0.1 | -4.76 | 20.00 | AVRG |
| Carbon Tetrachloride | 0.4510000 | 0.4405757 | 0.4405757 | 0.1 | 2.31 | 20.00 | AVRG |

# FORM 7B
## VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS LABORATORY GROUP  Contract:

Lab Code: ALS-HS  Case No.:  SAS No.:  SDG No.: HS2104108

Instrument ID: VOA6  Calibration Date: 04/21/21  Time: 1107

Lab File ID: X042103  Init. Calib. Date(s): 04/02/21  04/02/21

Init. Calib. Times:  1053  1423

GC Column: DB624  ID: 0.18 (mm)

| COMPOUND | RRF or AMOUNT | RRF50.000 or AMOUNT | CCAL RRF50.000 | MIN RRF | %D or %DRIFT | MAX %D or %DRIFT | CURV TYPE | |
|---|---|---|---|---|---|---|---|---|
| Chlorobenzene | 48.396712 | 50.000000 | 1.0049469 | 0.5 | 3.21 | 20.00 | LINR | |
| Chloroethane | 0.5560000 | 0.4714499 | 0.4714499 | 0.1 | 15.21 | 20.00 | AVRG | |
| Chloroform | 1.0860000 | 1.1550122 | 1.1550122 | 0.2 | -6.35 | 20.00 | AVRG | |
| Chloromethane | 59.073583 | 50.000000 | 0.6119202 | 0.1 | -18.15 | 20.00 | LINR | |
| cis-1,2-Dichloroethene | 0.6110000 | 0.6475751 | 0.6475751 | 0.1 | -5.99 | 20.00 | AVRG | |
| Dibromochloromethane | 0.3900000 | 0.4010961 | 0.4010961 | 0.1 | -2.84 | 20.00 | AVRG | |
| Dichlorodifluoromethane | 60.727790 | 50.000000 | 0.5957386 | 0.1 | -21.46 | 20.00 | LINR | <- |
| Ethylbenzene | 0.5350000 | 0.5020045 | 0.5020045 | 0.1 | 6.17 | 20.00 | AVRG | |
| Hexachlorobutadiene | 46.537968 | 50.000000 | 0.2478657 | 0.1 | 6.92 | 20.00 | LINR | |
| Isopropylbenzene | 1.6000000 | 1.5040475 | 1.5040475 | 0.1 | 6.00 | 20.00 | AVRG | |
| m,p-Xylenes | 0.6780000 | 0.6589767 | 0.6589767 | 0.1 | 2.80 | 20.00 | AVRG | |
| Methylene Chloride | 50.726941 | 50.000000 | 0.5507716 | 0.1 | -1.45 | 20.00 | LINR | |
| n-Butylbenzene | 2.4000000 | 2.3718078 | 2.3718078 | 0.5 | 1.17 | 20.00 | AVRG | |
| n-Propylbenzene | 3.7930000 | 3.8265343 | 3.8265343 | 0.1 | -0.88 | 20.00 | AVRG | |
| Naphthalene | 51.579378 | 50.000000 | 0.4750645 | 0.2 | -3.16 | 20.00 | LINR | |
| o-Xylene | 0.6570000 | 0.6260025 | 0.6260025 | 0.3 | 4.72 | 20.00 | AVRG | |
| sec-Butylbenzene | 50.357300 | 50.000000 | 2.9073714 | 0.1 | -0.71 | 20.00 | 2RDR | |
| Styrene | 45.329217 | 50.000000 | 1.0903814 | 0.3 | 9.34 | 20.00 | LINR | |
| Vinyl Chloride | 0.7500000 | 0.7258076 | 0.7258076 | 0.1 | 3.22 | 20.00 | AVRG | |
| 1,2,3-Trichloropropane | 0.6710000 | 0.7633674 | 0.7633674 | 0.1 | -13.76 | 20.00 | AVRG | |
| p-Isopropyltoluene | 2.5330000 | 2.4579032 | 2.4579032 | 0.1 | 2.96 | 20.00 | AVRG | |
| 1,2-Dibromo-3-Chloropropane | 5.4e-002 | 5.89e-002 | 5.89e-002 | 0.05 | -9.07 | 20.00 | AVRG | |
| 1,2-Dichloroethane-d4 | 54.427172 | 50.000000 | 0.7683732 | 0.1 | -8.85 | 20.00 | LINR | |
| Dibromofluoromethane | 52.198470 | 50.000000 | 0.6147679 | 0.1 | -4.40 | 20.00 | LINR | |
| Toluene-d8 | 50.491540 | 50.000000 | 1.2983181 | 0.1 | -0.98 | 20.00 | LINR | |
| 4-Bromofluorobenzene | 53.995656 | 50.000000 | 0.5191355 | 0.1 | -7.99 | 20.00 | LINR | |

# FORM 7B
## VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS LABORATORY GROUP  Contract:

Lab Code: ALS-HS  Case No.:  SAS No.:  SDG No.: HS21041086

Instrument ID: VOA6  Calibration Date: 04/21/21  Time: 1541

Lab File ID: X042116  Init. Calib. Date(s): 04/02/21  04/02/21

Init. Calib. Times: 1053  1423

GC Column: DB624  ID: 0.18 (mm)

| COMPOUND | RRF or AMOUNT | RRF50.000 or AMOUNT | CCAL RRF50.000 | MIN RRF | %D or %DRIFT | MAX %D or %DRIFT | CURV TYPE |
|---|---|---|---|---|---|---|---|
| cis-1,3-Dichloropropene | 0.5850000 | 0.6387997 | 0.6387997 | 0.2 | -9.20 | 50.00 | AVRG |
| trans-1,3-Dichloropropene | 0.4990000 | 0.5502382 | 0.5502382 | 0.1 | -10.27 | 50.00 | AVRG |
| 1,3-Dichlorobenzene | 1.4480000 | 1.5141267 | 1.5141267 | 0.6 | -4.57 | 50.00 | AVRG |
| 2,2-Dichloropropane | 0.9140000 | 0.9510472 | 0.9510472 | 0.1 | -4.05 | 50.00 | AVRG |
| 1,1-Dichloropropene | 0.4690000 | 0.4939367 | 0.4939367 | 0.1 | -5.32 | 50.00 | AVRG |
| Dibromomethane | 0.2460000 | 0.2533665 | 0.2533665 | 0.1 | -2.99 | 50.00 | AVRG |
| 1,2-Dibromoethane | 0.3440000 | 0.3659242 | 0.3659242 | 0.1 | -6.37 | 50.00 | AVRG |
| trans-1,2-Dichloroethene | 0.5090000 | 0.5457249 | 0.5457249 | 0.1 | -7.22 | 50.00 | AVRG |
| 1,1,1,2-Tetrachloroethane | 0.3710000 | 0.3728237 | 0.3728237 | 0.1 | -0.49 | 50.00 | AVRG |
| 1,1,1-Trichloroethane | 0.9050000 | 1.0431411 | 1.0431411 | 0.1 | -15.26 | 50.00 | AVRG |
| 1,1,2,2-Tetrachloroethane | 0.8340000 | 0.8826718 | 0.8826718 | 0.3 | -5.84 | 50.00 | AVRG |
| 1,1,2-Trichloroethane | 0.2900000 | 0.3001183 | 0.3001183 | 0.1 | -3.49 | 50.00 | AVRG |
| 1,1-Dichloroethane | 0.9280000 | 1.0102447 | 1.0102447 | 0.2 | -8.86 | 50.00 | AVRG |
| 1,1-Dichloroethene | 0.7120000 | 0.7056834 | 0.7056834 | 0.1 | 0.89 | 50.00 | AVRG |
| Trichloroethene | 0.3420000 | 0.3593212 | 0.3593212 | 0.2 | -5.06 | 50.00 | AVRG |
| 1,2,3-Trichlorobenzene | 49.628868 | 50.000000 | 0.1703012 | 0.01 | 0.74 | 50.00 | LINR |
| Trichlorofluoromethane | 1.4350000 | 1.3545254 | 1.3545254 | 0.1 | 5.61 | 50.00 | AVRG |
| 1,2,4-Trichlorobenzene | 49.547214 | 50.000000 | 0.3350648 | 0.1 | 0.90 | 50.00 | LINR |
| 1,2,4-Trimethylbenzene | 2.5660000 | 2.8024818 | 2.8024818 | 0.1 | -9.22 | 50.00 | AVRG |
| Tetrachloroethene | 0.3020000 | 0.2949437 | 0.2949437 | 0.2 | 2.34 | 50.00 | AVRG |
| 1,2-Dichlorobenzene | 1.3730000 | 1.3691335 | 1.3691335 | 0.4 | 0.28 | 50.00 | AVRG |
| 1,2-Dichloroethane | 0.5290000 | 0.5393459 | 0.5393459 | 0.1 | -1.96 | 50.00 | AVRG |
| 1,2-Dichloropropane | 0.3470000 | 0.3795785 | 0.3795785 | 0.1 | -9.39 | 50.00 | AVRG |
| 1,3,5-Trimethylbenzene | 2.6800000 | 2.9401493 | 2.9401493 | 0.1 | -9.71 | 50.00 | AVRG |
| 1,3-Dichloropropane | 0.5550000 | 0.6124660 | 0.6124660 | 0.1 | -10.35 | 50.00 | AVRG |
| 1,4-Dichlorobenzene | 1.5600000 | 1.5447074 | 1.5447074 | 0.4 | 0.98 | 50.00 | AVRG |
| Toluene | 1.5540000 | 1.5879157 | 1.5879157 | 0.4 | -2.18 | 50.00 | AVRG |
| 2-Butanone | 0.1720000 | 0.1818303 | 0.1818303 | 0.1 | -5.72 | 50.00 | AVRG |
| 2-Chlorotoluene | 60.766008 | 50.000000 | 2.5528373 | 0.1 | -21.53 | 50.00 | LINR |
| 2-Hexanone | 103.26400 | 100.00000 | 0.2131668 | 0.1 | -3.26 | 50.00 | LINR |
| 4-Chlorotoluene | 2.7260000 | 3.0234120 | 3.0234120 | 0.1 | -10.91 | 50.00 | AVRG |
| tert-Butylbenzene | 55.855680 | 50.000000 | 2.4016135 | 0.1 | -11.71 | 50.00 | LINR |
| 4-Methyl-2-Pentanone | 0.3010000 | 0.3306389 | 0.3306389 | 0.1 | -9.85 | 50.00 | AVRG |
| Acetone | 85.764697 | 100.00000 | 0.1429903 | 0.1 | 14.24 | 50.00 | LINR |
| Benzene | 1.3240000 | 1.4003566 | 1.4003566 | 0.5 | -5.77 | 50.00 | AVRG |
| Bromobenzene | 0.8620000 | 0.8853490 | 0.8853490 | 0.1 | -2.71 | 50.00 | AVRG |
| Bromochloromethane | 0.2980000 | 0.3279605 | 0.3279605 | 0.1 | -10.05 | 50.00 | AVRG |
| Bromodichloromethane | 0.5010000 | 0.5410514 | 0.5410514 | 0.2 | -7.99 | 50.00 | AVRG |
| Bromoform | 46.003387 | 50.000000 | 0.2285183 | 0.1 | 7.99 | 50.00 | LINR |
| Bromomethane | 52.536311 | 50.000000 | 0.7512350 | 0.1 | -5.07 | 50.00 | LINR |
| Carbon Disulfide | 1.3910000 | 1.4916757 | 1.4916757 | 0.1 | -7.24 | 50.00 | AVRG |
| Carbon Tetrachloride | 0.4510000 | 0.4659457 | 0.4659457 | 0.1 | -3.31 | 50.00 | AVRG |

# FORM 7B
## VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS LABORATORY GROUP  Contract:

Lab Code: ALS-HS  Case No.:  SAS No.:  SDG No.: HS2104108

Instrument ID: VOA6  Calibration Date: 04/21/21  Time: 1541

Lab File ID: X042116  Init. Calib. Date(s): 04/02/21  04/02/21

Init. Calib. Times:  1053  1423

GC Column: DB624  ID: 0.18 (mm)

| COMPOUND | RRF or AMOUNT | RRF50.000 or AMOUNT | CCAL RRF50.000 | MIN RRF | %D or %DRIFT | MAX %D or %DRIFT | CURV TYPE |
|---|---|---|---|---|---|---|---|
| Chlorobenzene | 49.560361 | 50.000000 | 1.0300292 | 0.5 | 0.88 | 50.00 | LINR |
| Chloroethane | 0.5560000 | 0.7376435 | 0.7376435 | 0.1 | -32.67 | 50.00 | AVRG |
| Chloroform | 1.0860000 | 1.2052540 | 1.2052540 | 0.2 | -10.98 | 50.00 | AVRG |
| Chloromethane | 62.185481 | 50.000000 | 0.6437132 | 0.1 | -24.37 | 50.00 | LINR |
| cis-1,2-Dichloroethene | 0.6110000 | 0.6548296 | 0.6548296 | 0.1 | -7.17 | 50.00 | AVRG |
| Dibromochloromethane | 0.3900000 | 0.3983428 | 0.3983428 | 0.1 | -2.14 | 50.00 | AVRG |
| Dichlorodifluoromethane | 63.754228 | 50.000000 | 0.6262680 | 0.1 | -27.51 | 50.00 | LINR |
| Ethylbenzene | 0.5350000 | 0.5405244 | 0.5405244 | 0.1 | -1.03 | 50.00 | AVRG |
| Hexachlorobutadiene | 49.050496 | 50.000000 | 0.2615434 | 0.1 | 1.90 | 50.00 | LINR |
| Isopropylbenzene | 1.6000000 | 1.6791631 | 1.6791631 | 0.1 | -4.95 | 50.00 | AVRG |
| m,p-Xylenes | 0.6780000 | 0.6985791 | 0.6985791 | 0.1 | -3.04 | 50.00 | AVRG |
| Methylene Chloride | 50.764119 | 50.000000 | 0.5511874 | 0.1 | -1.53 | 50.00 | LINR |
| n-Butylbenzene | 2.4000000 | 2.6926688 | 2.6926688 | 0.5 | -12.19 | 50.00 | AVRG |
| n-Propylbenzene | 3.7930000 | 4.3354080 | 4.3354080 | 0.1 | -14.30 | 50.00 | AVRG |
| Naphthalene | 52.010881 | 50.000000 | 0.4790969 | 0.2 | -4.02 | 50.00 | LINR |
| o-Xylene | 0.6570000 | 0.6665720 | 0.6665720 | 0.3 | -1.46 | 50.00 | AVRG |
| sec-Butylbenzene | 57.304610 | 50.000000 | 3.3522495 | 0.1 | -14.61 | 50.00 | 2RDR |
| Styrene | 46.814332 | 50.000000 | 1.1289679 | 0.3 | 6.37 | 50.00 | LINR |
| Vinyl Chloride | 0.7500000 | 0.7974152 | 0.7974152 | 0.1 | -6.32 | 50.00 | AVRG |
| 1,2,3-Trichloropropane | 0.6710000 | 0.7357238 | 0.7357238 | 0.1 | -9.64 | 50.00 | AVRG |
| p-Isopropyltoluene | 2.5330000 | 2.8267208 | 2.8267208 | 0.1 | -11.60 | 50.00 | AVRG |
| 1,2-Dibromo-3-Chloropropane | 5.4e-002 | 6.08e-002 | 6.08e-002 | 0.05 | -12.59 | 50.00 | AVRG |
| 1,2-Dichloroethane-d4 | 56.674886 | 50.000000 | 0.8003895 | 0.1 | -13.35 | 50.00 | LINR |
| Dibromofluoromethane | 54.722010 | 50.000000 | 0.6447375 | 0.1 | -9.44 | 50.00 | LINR |
| Toluene-d8 | 52.662865 | 50.000000 | 1.3562799 | 0.1 | -5.32 | 50.00 | LINR |
| 4-Bromofluorobenzene | 55.653426 | 50.000000 | 0.5355764 | 0.1 | -11.31 | 50.00 | LINR |



FORM VII VOA

# FORM 8
## VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ALS LABORATORY GROUP  Contract:

Lab Code: ALS-HS  Case No.:  SAS No.:  SDG No.: HS21041086

Lab File ID (Standard): X042103  Date Analyzed: 04/21/21

Instrument ID: VOA6  Time Analyzed: 1107

GC Column: DB624  ID: 0.18 (mm)  Heated Purge: (Y/N) N

| | | IS1(CBZ) AREA | # | RT | # | IS2(DFB) AREA | # | RT | # | IS3(DCB) AREA | # | RT | # |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 12 HOUR STD | 663245 | | 7.67 | | 708019 | | 4.97 | | 322352 | | 9.66 | |
| | UPPER LIMIT | 1326490 | | 8.17 | | 1416038 | | 5.47 | | 644704 | | 10.16 | |
| | LOWER LIMIT | 331623 | | 7.17 | | 354010 | | 4.47 | | 161176 | | 9.16 | |
| | CLIENT SAMPLE NO. | | | | | | | | | | | | |
| 01 | VLCSW-210421 | 612404 | | 7.67 | | 621356 | | 4.96 | | 274039 | | 9.66 | |
| 02 | VBLKW-210421 | 612083 | | 7.67 | | 682643 | | 4.96 | | 271614 | | 9.66 | |
| 03 | HS21041086-02 | 599598 | | 7.67 | | 680614 | | 4.97 | | 264821 | | 9.66 | |
| 04 | HS21041086-01 | 596007 | | 7.67 | | 659455 | | 4.96 | | 240668 | | 9.66 | |
| 05 | HS21040967-02MS | 682144 | | 7.67 | | 728323 | | 4.96 | | 307075 | | 9.66 | |
| 06 | HS21040967-02MSD | 689404 | | 7.67 | | 738524 | | 4.96 | | 302172 | | 9.66 | |
| 07 | | | | | | | | | | | | | |
| 08 | | | | | | | | | | | | | |
| 09 | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | |
| 17 | | | | | | | | | | | | | |
| 18 | | | | | | | | | | | | | |
| 19 | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | |

IS1 (CBZ) = Chlorobenzene-d5
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (DCB) = 1,4-Dichlorobenzene-d4

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 values outside QC limits with an asterisk.
* Values outside of QC limits.



FORM VIII VOA

# FORM 8
## VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ALS LABORATORY GROUP  Contract:

Lab Code: ALS-HS  Case No.:  SAS No.:  SDG No.: HS21041086

Lab File ID (Standard): X042103  Date Analyzed: 04/21/21

Instrument ID: VOA6  Time Analyzed: 1107

GC Column: DB624  ID: 0.18 (mm)  Heated Purge: (Y/N) N

| | CLIENT SAMPLE NO. | IS4 AREA # | RT # | AREA # | RT # | AREA # | RT # |
|---|---|---|---|---|---|---|---|
| | 12 HOUR STD | 412258 | 4.18 | | | | |
| | UPPER LIMIT | 824516 | 4.68 | | | | |
| | LOWER LIMIT | 206129 | 3.68 | | | | |
| 01 | VLCSW-210421 | 363280 | 4.18 | | | | |
| 02 | VBLKW-210421 | 426527 | 4.18 | | | | |
| 03 | HS21041086-02 | 419389 | 4.18 | | | | |
| 04 | HS21041086-01 | 410531 | 4.18 | | | | |
| 05 | HS21040967-02MS | 448248 | 4.18 | | | | |
| 06 | HS21040967-02MSD | 459558 | 4.18 | | | | |
| 07 | | | | | | | |
| 08 | | | | | | | |
| 09 | | | | | | | |
| 10 | | | | | | | |
| 11 | | | | | | | |
| 12 | | | | | | | |
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| 14 | | | | | | | |
| 15 | | | | | | | |
| 16 | | | | | | | |
| 17 | | | | | | | |
| 18 | | | | | | | |
| 19 | | | | | | | |
| 20 | | | | | | | |

IS4 = Pentafluorobenzene

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 values outside QC limits with an asterisk.
* Values outside of QC limits.



FORM VIII VOA

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210421.b\X042101.D



Date : 21-APR-2021 10:25

Client ID: BFB

Instrument: voa6.i

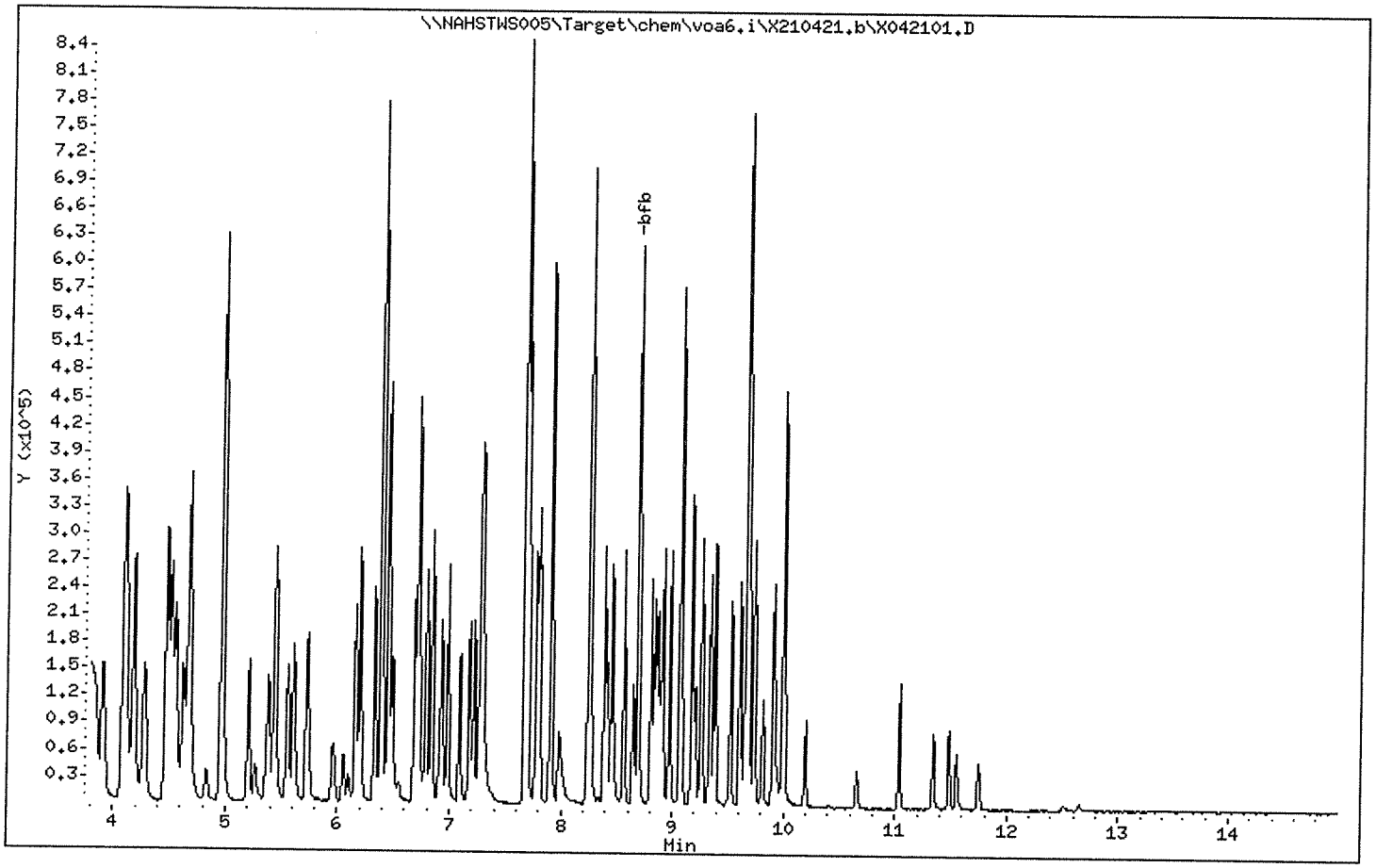
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210421.b\X042101.D



Date : 21-APR-2021 10:25

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

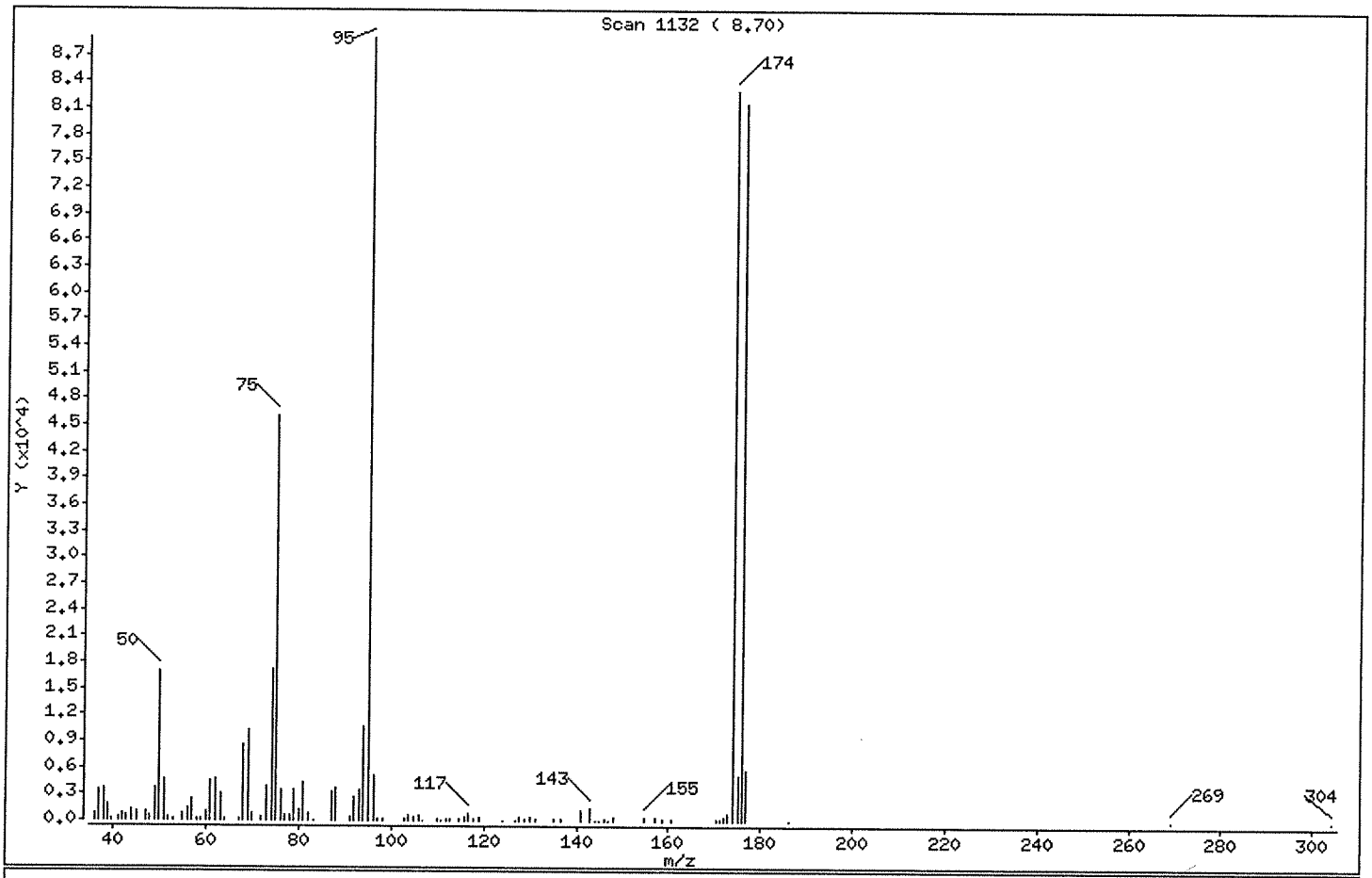
Volume Injected (uL): 2.0

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 | 19.15 |
| 75 | 30.00 - 60.00% of mass 95 | 51.82 |
| 96 | 5.00 - 9.00% of mass 95 | 5.86 |
| 173 | Less than 2.00% of mass 174 | 0.90 ( 0.96) |
| 174 | Greater than 50.00% of mass 95 | 93.44 |
| 175 | 5.00 - 9.00% of mass 174 | 5.85 ( 6.26) |
| 176 | 95.00 - 101.00% of mass 174 | 91.74 ( 98.18) |
| 177 | 5.00 - 9.00% of mass 176 | 6.45 ( 7.03) |

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210421.b\X042101.D



Date : 21-APR-2021 10:25

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: X042101.D
Spectrum: Scan 1132 ( 8.70)
Location of Maximum: 95.00
Number of points: 97

| m/z | Y | m/z | Y | m/z | Y | m/z | Y |
|---|---|---|---|---|---|---|---|
| 35.90 | 791 | 63.00 | 3154 | 96.10 | 5213 | 140.90 | 1215 |
| 37.00 | 3551 | 64.00 | 235 | 96.90 | 180 | 142.90 | 1463 |
| 38.00 | 3681 | 67.10 | 218 | 98.00 | 288 | 144.10 | 86 |
| 39.00 | 1796 | 68.00 | 8574 | 102.90 | 125 | 145.10 | 82 |
| 39.80 | 226 | 69.00 | 10182 | 103.80 | 547 | 145.90 | 108 |
| 41.10 | 474 | 69.90 | 768 | 105.00 | 318 | 146.70 | 67 |
| 42.10 | 719 | 71.80 | 510 | 105.90 | 543 | 147.90 | 339 |
| 42.90 | 550 | 73.00 | 3971 | 106.80 | 74 | 154.80 | 384 |
| 44.10 | 1258 | 74.00 | 17192 | 109.80 | 168 | 156.90 | 382 |
| 45.00 | 1025 | 75.00 | 46128 | 110.90 | 101 | 158.70 | 120 |
| 47.00 | 924 | 76.00 | 3543 | 111.90 | 149 | 160.80 | 162 |
| 48.00 | 673 | 76.90 | 692 | 112.80 | 135 | 170.30 | 164 |
| 49.00 | 3741 | 78.00 | 555 | 114.80 | 190 | 171.20 | 163 |
| 50.00 | 17048 | 78.90 | 3542 | 115.80 | 368 | 172.20 | 432 |
| 51.00 | 4695 | 79.90 | 1163 | 116.80 | 916 | 172.80 | 801 |
| 51.90 | 311 | 80.90 | 4247 | 117.80 | 299 | 173.90 | 83168 |
| 53.00 | 161 | 82.00 | 861 | 118.90 | 457 | 175.00 | 5206 |
| 55.10 | 743 | 83.10 | 64 | 124.00 | 93 | 175.90 | 81656 |
| 56.00 | 1476 | 87.00 | 3245 | 126.80 | 53 | 176.90 | 5741 |
| 57.00 | 2535 | 88.00 | 3587 | 127.80 | 362 | 186.00 | 52 |
| 58.00 | 277 | 90.90 | 351 | 128.90 | 103 | 269.10 | 56 |
| 59.00 | 262 | 92.00 | 2690 | 129.80 | 376 | 304.60 | 56 |
| 59.90 | 995 | 93.00 | 3415 | 131.10 | 180 | | |
| 61.00 | 4483 | 94.00 | 10699 | 135.00 | 199 | | |
| 62.00 | 4752 | 95.00 | 89008 | 136.70 | 221 | | |

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210421.b\X042103.D Page 1
Report Date: 30-Apr-2021 15:46

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210421.b\X042103.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 21-APR-2021 11:07
Operator : PC Inst ID: voa6.i
Smp Info : CCV;CCV;2;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210421.b\8260W.m
Meth Date : 30-Apr-2021 15:46 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 3 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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 |

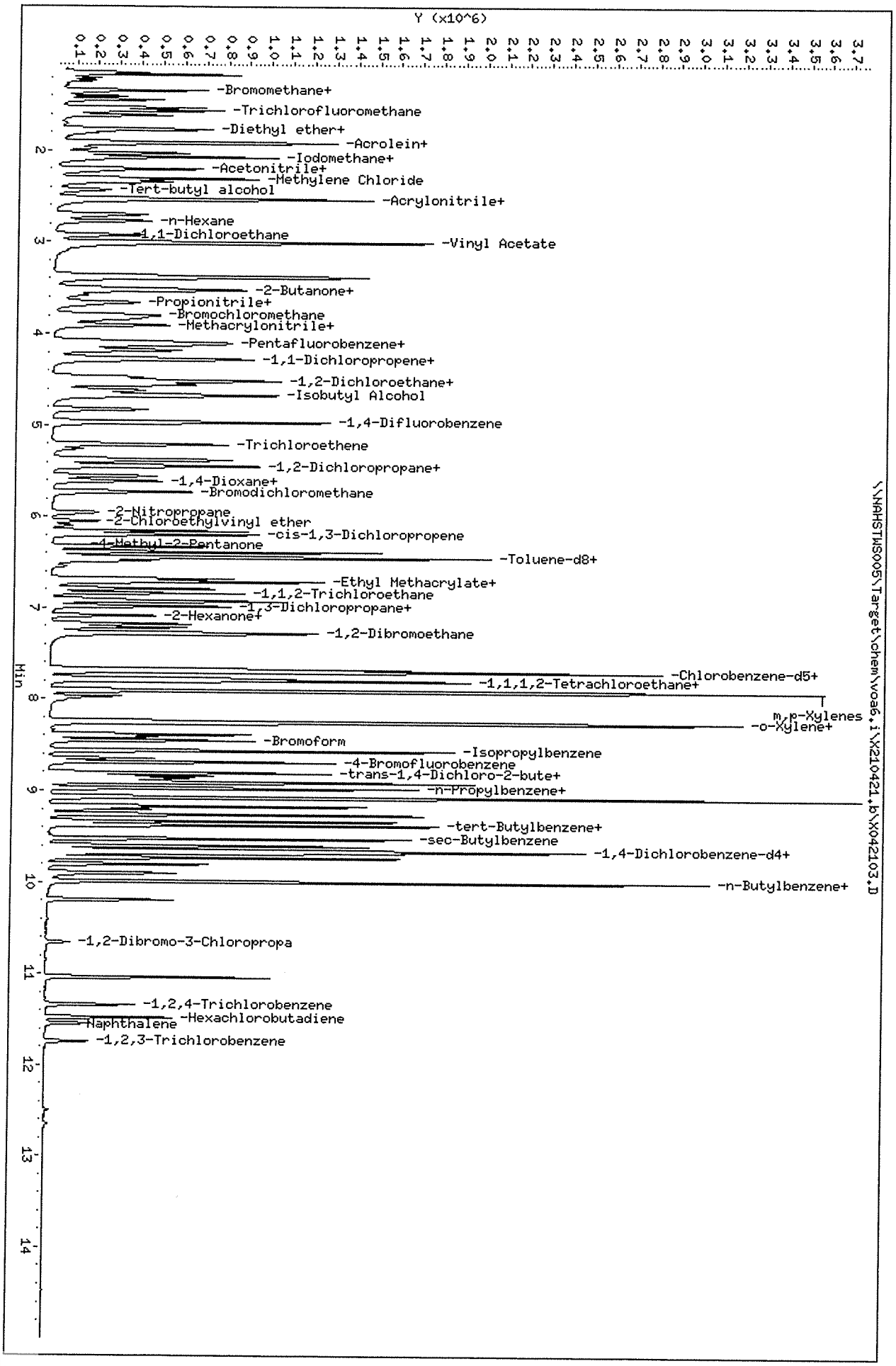
| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|
| * 1 Pentafluorobenzene | 168 | 4.182 | 4.182 | (1.000) | 412258 | 50.0000 | |
| * 36 1,4-Difluorobenzene | 114 | 4.970 | 4.970 | (1.000) | 708019 | 50.0000 | |
| * 47 Chlorobenzene-d5 | 117 | 7.670 | 7.670 | (1.000) | 663245 | 50.0000 | |
| * 70 1,4-Dichlorobenzene-d4 | 152 | 9.662 | 9.662 | (1.000) | 322352 | 50.0000 | |
| $ 30 Dibromofluoromethane | 113 | 4.103 | 4.103 | (0.981) | 253443 | 50.0000 | 52.19 |
| $ 35 1,2-Dichloroethane-d4 | 65 | 4.476 | 4.476 | (1.070) | 316768 | 50.0000 | 54.42 |
| $ 48 Toluene-d8 | 98 | 6.388 | 6.388 | (0.833) | 861103 | 50.0000 | 50.49 |
| $ 69 4-Bromofluorobenzene | 95 | 8.688 | 8.688 | (1.133) | 344314 | 50.0000 | 53.99 |
| 60 1,1,1,2-Tetrachloroethane | 131 | 7.778 | 7.778 | (1.014) | 239991 | 50.0000 | 48.76 |
| 31 1,1,1-Trichloroethane | 97 | 4.082 | 4.082 | (0.976) | 395328 | 50.0000 | 52.98 |
| 68 1,1,2,2-Tetrachloroethane | 83 | 8.838 | 8.838 | (0.915) | 295635 | 50.0000 | 54.97 |
| 53 1,1,2-Trichloroethane | 83 | 6.840 | 6.840 | (0.892) | 195468 | 50.0000 | 50.73 |
| 22 1,1-Dichloroethane | 63 | 2.921 | 2.921 | (0.699) | 411550 | 50.0000 | 53.77 |
| 11 1,1-Dichloroethene | 96 | 1.911 | 1.911 | (0.457) | 263996 | 50.0000 | 44.97 |
| 32 1,1-Dichloropropene | 75 | 4.282 | 4.282 | (0.862) | 336589 | 50.0000 | 50.66 |
| 93 1,2,3-Trichlorobenzene | 180 | 11.746 | 11.746 | (1.216) | 52392 | 50.0000 | 47.42 |
| 71 1,2,3-Trichloropropane | 75 | 8.867 | 8.867 | (0.918) | 246073 | 50.0000 | 56.87(M) |
| 90 1,2,4-Trichlorobenzene | 180 | 11.338 | 11.338 | (1.173) | 103125 | 50.0000 | 47.33 |
| 79 1,2,4-Trimethylbenzene | 105 | 9.375 | 9.375 | (0.970) | 841290 | 50.0000 | 50.85 |
| 89 1,2-Dibromo-3-Chloropropane | 155 | 10.657 | 10.657 | (1.103) | 18994 | 50.0000 | 54.16 |
| 57 1,2-Dibromoethane | 107 | 7.262 | 7.262 | (0.947) | 247202 | 50.0000 | 54.21 |
| 88 1,2-Dichlorobenzene | 146 | 9.991 | 9.991 | (1.034) | 425127 | 50.0000 | 48.00 |

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210421.b\X042103.D Page 2
Report Date: 30-Apr-2021 15:46

| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|
| 33 1,2-Dichloroethane | 62 | 4.555 | 4.555 | (0.916) | 373567 | 50.0000 | 49.84 |
| 42 1,2-Dichloropropane | 63 | 5.436 | 5.436 | (1.094) | 263079 | 50.0000 | 53.46 |
| 75 1,3,5-Trimethylbenzene | 105 | 9.067 | 9.067 | (0.938) | 842612 | 50.0000 | 48.77 |
| 83 1,3-Dichlorobenzene | 146 | 9.604 | 9.604 | (0.994) | 463992 | 50.0000 | 49.69 |
| 54 1,3-Dichloropropane | 76 | 6.983 | 6.983 | (0.910) | 402987 | 50.0000 | 54.71 |
| 84 1,4-Dichlorobenzene | 146 | 9.683 | 9.683 | (1.002) | 467590 | 50.0000 | 46.49 |
| 26 2,2-Dichloropropane | 77 | 3.509 | 3.509 | (0.839) | 390670 | 50.0000 | 51.83 |
| 24 2-Butanone | 43 | 3.580 | 3.580 | (0.856) | 165350 | 100.000 | 116.67 |
| 76 2-Chlorotoluene | 91 | 8.974 | 8.974 | (0.929) | 752912 | 50.0000 | 55.59 |
| 52 2-Hexanone | 43 | 7.090 | 7.090 | (0.924) | 275382 | 100.000 | 100.64 |
| 77 4-Chlorotoluene | 91 | 9.067 | 9.067 | (0.938) | 911246 | 50.0000 | 51.84 |
| 82 p-Isopropyltoluene | 119 | 9.647 | 9.647 | (0.999) | 792310 | 50.0000 | 48.51 |
| 45 4-Methyl-2-Pentanone | 43 | 6.324 | 6.324 | (0.824) | 433720 | 100.000 | 108.49 |
| 10 Acetone | 43 | 1.976 | 1.976 | (0.473) | 124741 | 100.000 | 91.00 |
| 37 Benzene | 78 | 4.512 | 4.512 | (0.908) | 958947 | 50.0000 | 51.13 |
| 74 Bromobenzene | 156 | 8.802 | 8.802 | (0.911) | 270958 | 50.0000 | 48.76 |
| 29 Bromochloromethane | 128 | 3.795 | 3.795 | (0.908) | 129521 | 50.0000 | 52.67 |
| 39 Bromodichloromethane | 83 | 5.729 | 5.729 | (1.153) | 370282 | 50.0000 | 52.15 |
| 66 Bromoform | 173 | 8.408 | 8.408 | (1.096) | 157593 | 50.0000 | 47.75 |
| 6 Bromomethane | 94 | 1.338 | 1.338 | (0.320) | 286918 | 50.0000 | 48.65 |
| 19 Carbon Disulfide | 76 | 2.069 | 2.069 | (0.495) | 1201484 | 100.000 | 104.78 |
| 34 Carbon Tetrachloride | 117 | 4.268 | 4.268 | (0.859) | 311936 | 50.0000 | 48.83 |
| 59 Chlorobenzene | 112 | 7.692 | 7.692 | (1.003) | 666526 | 50.0000 | 48.39 |
| 7 Chloroethane | 64 | 1.403 | 1.403 | (0.336) | 194359 | 50.0000 | 42.38 |
| 28 Chloroform | 83 | 3.910 | 3.910 | (0.935) | 476163 | 50.0000 | 53.18 |
| 3 Chloromethane | 50 | 1.080 | 1.080 | (0.258) | 252269 | 50.0000 | 59.07 |
| 27 cis-1,2-Dichloroethene | 96 | 3.530 | 3.530 | (0.844) | 266968 | 50.0000 | 52.97 |
| 46 cis-1,3-Dichloropropene | 75 | 6.152 | 6.152 | (1.238) | 455725 | 50.0000 | 54.99 |
| 55 Dibromochloromethane | 129 | 7.176 | 7.176 | (0.936) | 266025 | 50.0000 | 51.37 |
| 44 Dibromomethane | 93 | 5.550 | 5.550 | (1.117) | 178726 | 50.0000 | 51.19 |
| 2 Dichlorodifluoromethane | 85 | 0.973 | 0.973 | (0.233) | 245598 | 50.0000 | 60.72 |
| 61 Ethylbenzene | 106 | 7.799 | 7.799 | (1.017) | 332952 | 50.0000 | 46.89 |
| 91 Hexachlorobutadiene | 225 | 11.481 | 11.481 | (1.188) | 79900 | 50.0000 | 46.53 |
| 67 Isopropylbenzene | 105 | 8.559 | 8.559 | (1.116) | 997552 | 50.0000 | 47.00 |
| 62 m,p-Xylenes | 106 | 7.907 | 7.907 | (1.031) | 874126 | 100.000 | 97.23 |
| 17 Methylene Chloride | 84 | 2.305 | 2.305 | (0.551) | 227060 | 50.0000 | 50.72 |
| 87 n-Butylbenzene | 91 | 9.991 | 9.991 | (1.034) | 764557 | 50.0000 | 49.40 |
| 73 n-Propylbenzene | 91 | 8.910 | 8.910 | (0.922) | 1233491 | 50.0000 | 50.43 |
| 92 Naphthalene | 128 | 11.546 | 11.546 | (1.195) | 153138 | 50.0000 | 51.57 |
| 63 o-Xylene | 106 | 8.244 | 8.244 | (1.075) | 415193 | 50.0000 | 47.62 |
| 81 sec-Butylbenzene | 105 | 9.519 | 9.519 | (0.985) | 937197 | 50.0000 | 50.35 |
| 64 Styrene | 104 | 8.258 | 8.258 | (1.077) | 723190 | 50.0000 | 45.32 |
| 78 tert-Butylbenzene | 119 | 9.339 | 9.339 | (0.967) | 666232 | 50.0000 | 48.16 |
| 56 Tetrachloroethene | 164 | 6.926 | 6.926 | (0.903) | 184373 | 50.0000 | 46.05 |
| 50 Toluene | 91 | 6.446 | 6.446 | (0.840) | 1017742 | 50.0000 | 49.38 |
| 20 trans-1,2-Dichloroethene | 96 | 2.527 | 2.527 | (0.604) | 215820 | 50.0000 | 51.37 |
| 51 trans-1,3-Dichloropropene | 75 | 6.682 | 6.682 | (1.344) | 384060 | 50.0000 | 54.33 |
| 38 Trichloroethene | 130 | 5.206 | 5.206 | (1.048) | 245794 | 50.0000 | 50.71 |
| 8 Trichlorofluoromethane | 101 | 1.560 | 1.560 | (0.373) | 496155 | 50.0000 | 41.93 |
| 5 Vinyl Chloride | 62 | 1.145 | 1.145 | (0.274) | 299220 | 50.0000 | 48.41 |

QC Flag Legend

M - Compound response manually integrated.

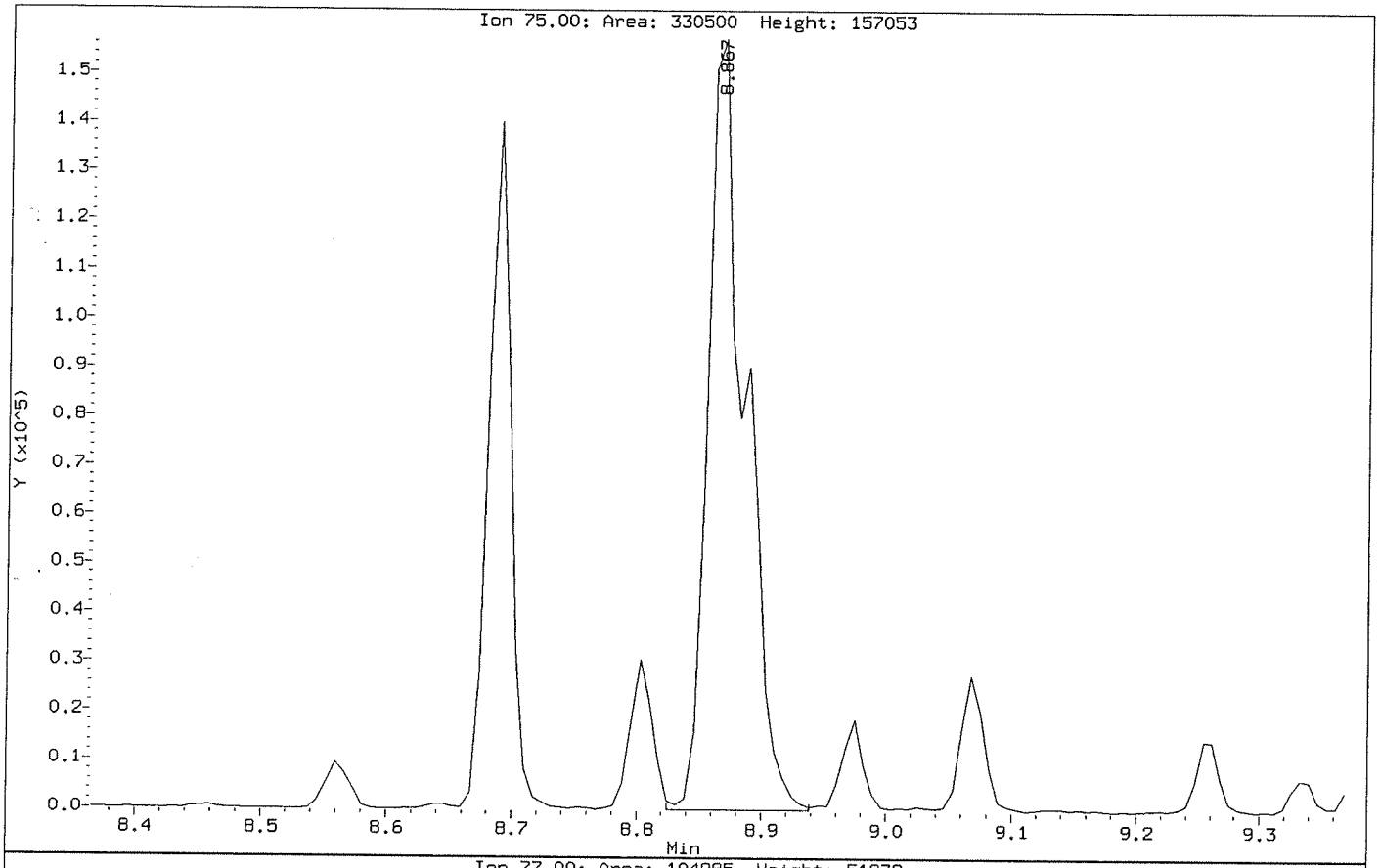


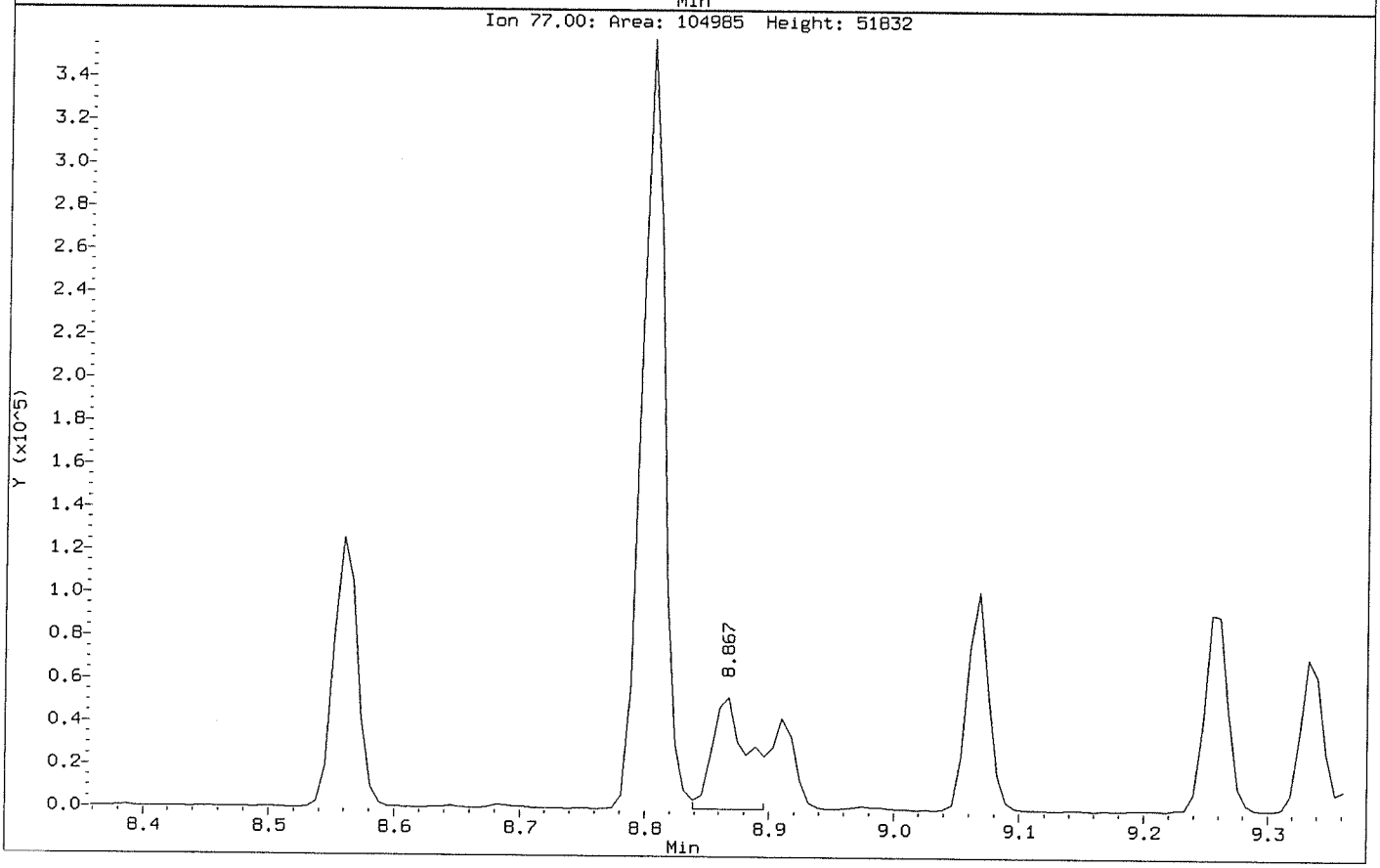

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Sample Info: CCV;CCV;2;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210421.b\Before\X042103.D
Injection Date: 21-APR-2021 11:07
Instrument: voa6.i
Client Sample ID: CCV

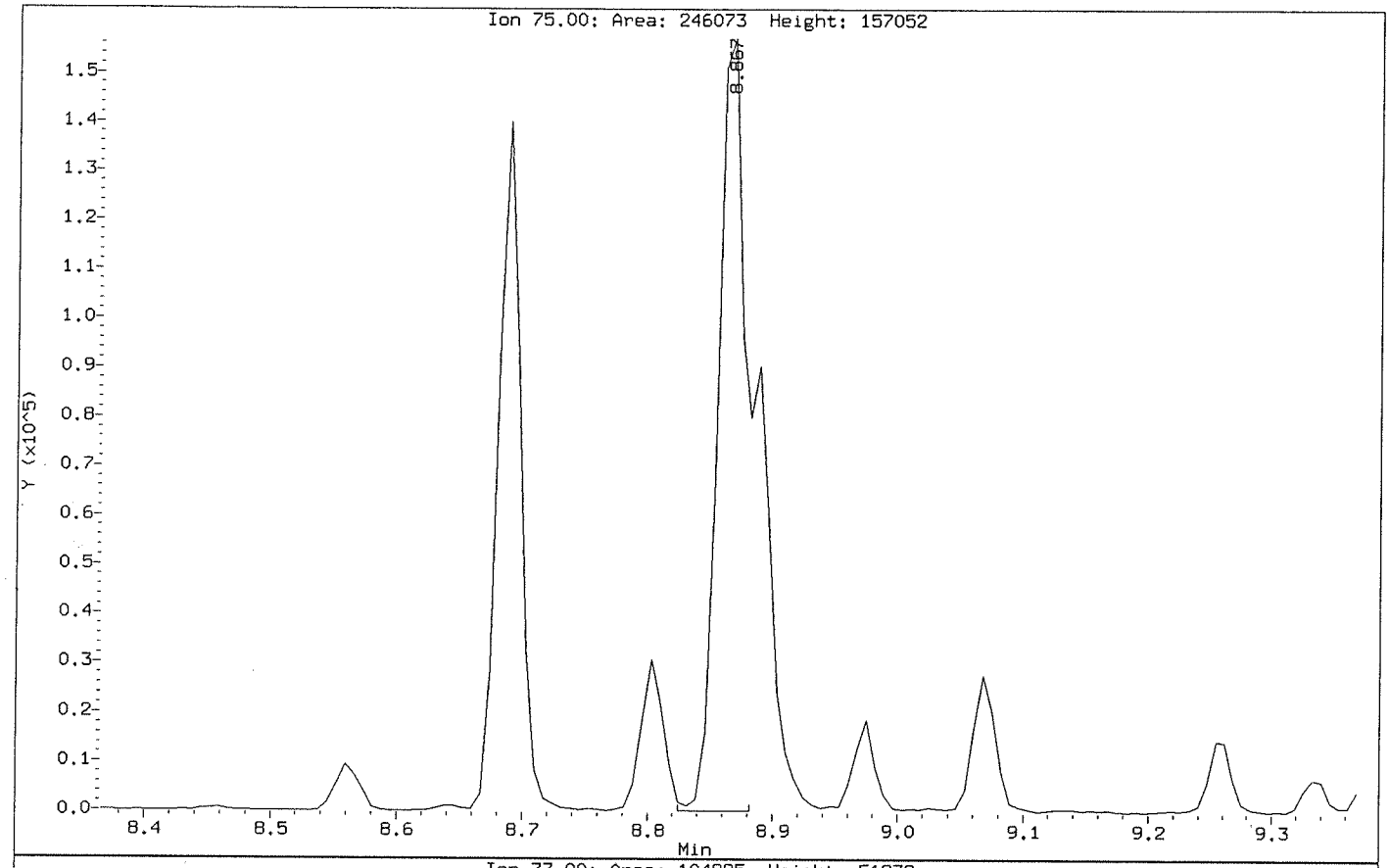
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4

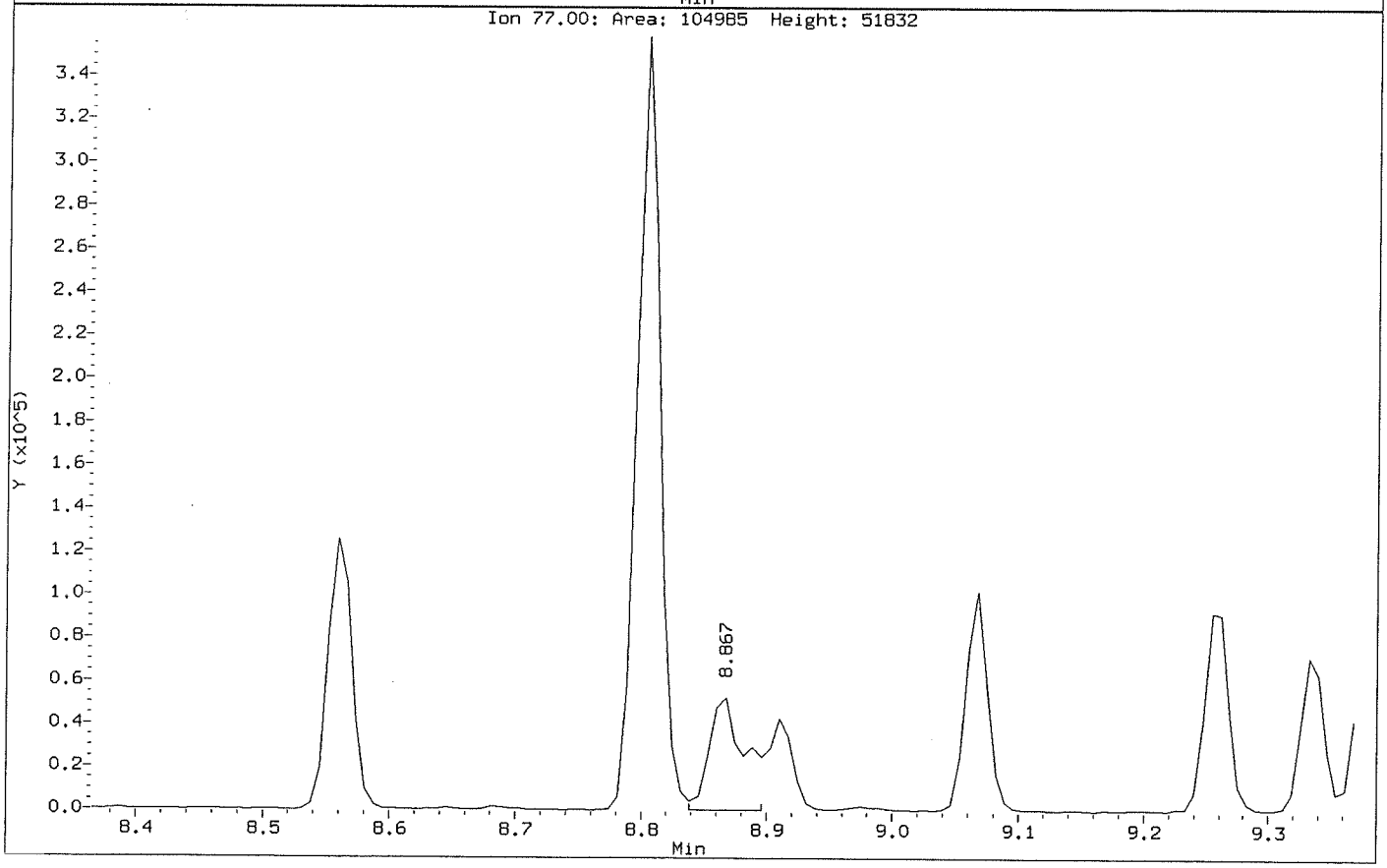


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210421.b\X042103.D
Injection Date: 21-APR-2021 11:07
Instrument: voa6.i
Client Sample ID: CCV

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210421.b\X042105.D Page 1
Report Date: 30-Apr-2021 15:39

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210421.b\X042105.D
Lab Smp Id: VLCSW-210421 Client Smp ID: VLCSW-210421
Inj Date : 21-APR-2021 11:49
Operator : PC Inst ID: voa6.i
Smp Info : VLCSW-210421;VLCSW-210421;3;;LCS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210421.b\8260W.m
Meth Date : 30-Apr-2021 15:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 5 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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 |

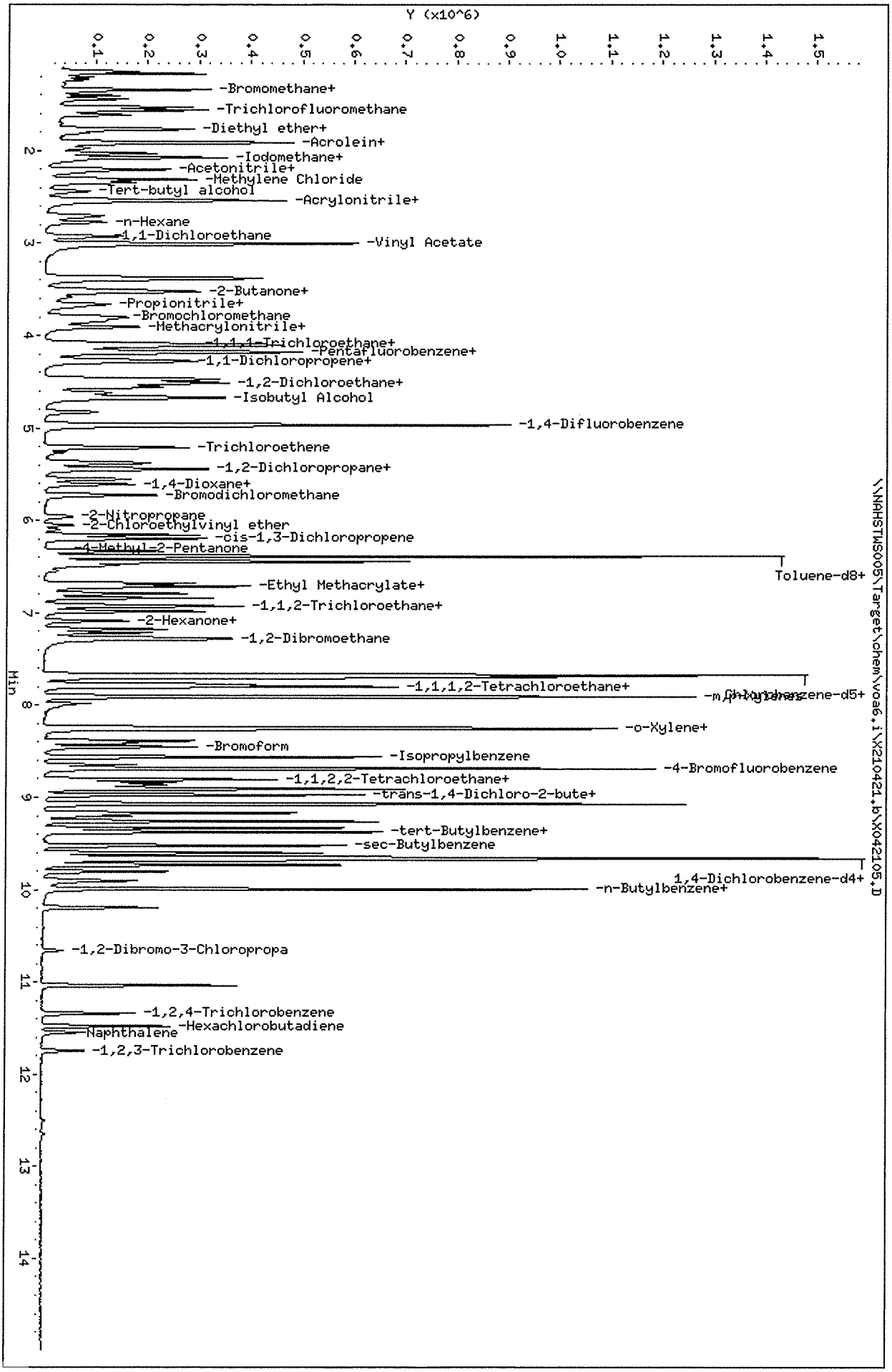
| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ug/l) | CONCENTRATIONS FINAL ( ug/l) |
|---|---|---|---|---|---|---|---|
| * 1 Pentafluorobenzene | 168 | 4.182 | 4.182 | (1.000) | 363280 | 50.0000 | |
| * 36 1,4-Difluorobenzene | 114 | 4.963 | 4.970 | (1.000) | 621356 | 50.0000 | |
| * 47 Chlorobenzene-d5 | 117 | 7.670 | 7.670 | (1.000) | 612404 | 50.0000 | |
| * 70 1,4-Dichlorobenzene-d4 | 152 | 9.662 | 9.662 | (1.000) | 274039 | 50.0000 | |
| $ 30 Dibromofluoromethane | 113 | 4.103 | 4.103 | (0.981) | 214507 | 50.1527 | 50.15 |
| $ 35 1,2-Dichloroethane-d4 | 65 | 4.476 | 4.476 | (1.070) | 267611 | 52.2002 | 52.20 |
| $ 48 Toluene-d8 | 98 | 6.388 | 6.388 | (0.833) | 802893 | 50.9685 | 50.96 |
| $ 69 4-Bromofluorobenzene | 95 | 8.688 | 8.688 | (1.133) | 301238 | 51.2489 | 51.24 |
| 60 1,1,1,2-Tetrachloroethane | 131 | 7.778 | 7.778 | (1.014) | 84413 | 18.5755 | 18.57 |
| 31 1,1,1-Trichloroethane | 97 | 4.082 | 4.082 | (0.976) | 129062 | 19.6314 | 19.63 |
| 68 1,1,2,2-Tetrachloroethane | 83 | 8.838 | 8.838 | (0.915) | 98980 | 21.6493 | 21.64 |
| 53 1,1,2-Trichloroethane | 83 | 6.840 | 6.840 | (0.892) | 69632 | 19.5736 | 19.57 |
| 22 1,1-Dichloroethane | 63 | 2.921 | 2.921 | (0.699) | 154509 | 22.9119 | 22.91 |
| 11 1,1-Dichloroethene | 96 | 1.911 | 1.911 | (0.457) | 101108 | 19.5468 | 19.54 |
| 32 1,1-Dichloropropene | 75 | 4.282 | 4.282 | (0.863) | 107618 | 18.4578 | 18.45 |
| 93 1,2,3-Trichlorobenzene | 180 | 11.746 | 11.746 | (1.216) | 22393 | 24.4519 | 24.45 |
| 71 1,2,3-Trichloropropane | 75 | 8.867 | 8.867 | (0.918) | 85565 | 23.2633 | 23.26(M) |
| 90 1,2,4-Trichlorobenzene | 180 | 11.338 | 11.338 | (1.173) | 43296 | 23.6441 | 23.64 |
| 79 1,2,4-Trimethylbenzene | 105 | 9.375 | 9.375 | (0.970) | 298551 | 21.2277 | 21.22 |
| 89 1,2-Dibromo-3-Chloropropane | 155 | 10.657 | 10.657 | (1.103) | 6646 | 22.2954 | 22.29 |
| 57 1,2-Dibromoethane | 107 | 7.262 | 7.262 | (0.947) | 86702 | 20.5942 | 20.59 |
| 88 1,2-Dichlorobenzene | 146 | 9.991 | 9.991 | (1.034) | 148973 | 19.7893 | 19.78 |

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210421.b\X042105.D Page 2
Report Date: 30-Apr-2021 15:39

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ug/l) | FINAL ( ug/l) |
|---|---|---|---|---|---|---|---|---|
| 33 | 1,2-Dichloroethane | 62 | 4.562 | 4.555 | (0.919) | 128845 | 19.5905 | 19.59 |
| 42 | 1,2-Dichloropropane | 63 | 5.436 | 5.436 | (1.095) | 88715 | 20.5455 | 20.54 |
| 75 | 1,3,5-Trimethylbenzene | 105 | 9.067 | 9.067 | (0.938) | 294547 | 20.0547 | 20.05 |
| 83 | 1,3-Dichlorobenzene | 146 | 9.605 | 9.604 | (0.994) | 164100 | 20.6755 | 20.67 |
| 54 | 1,3-Dichloropropane | 76 | 6.983 | 6.983 | (0.910) | 140469 | 20.6549 | 20.65 |
| 84 | 1,4-Dichlorobenzene | 146 | 9.683 | 9.683 | (1.002) | 164792 | 19.2769 | 19.27 |
| 26 | 2,2-Dichloropropane | 77 | 3.509 | 3.509 | (0.839) | 132787 | 19.9945 | 19.99 |
| 24 | 2-Butanone | 43 | 3.580 | 3.580 | (0.856) | 52745 | 42.2358 | 42.23 |
| 76 | 2-Chlorotoluene | 91 | 8.974 | 8.974 | (0.929) | 268546 | 23.3164 | 23.31 |
| 52 | 2-Hexanone | 43 | 7.090 | 7.090 | (0.924) | 92895 | 38.6012 | 38.60 |
| 77 | 4-Chlorotoluene | 91 | 9.067 | 9.067 | (0.938) | 313586 | 20.9848 | 20.98 |
| 82 | p-Isopropyltoluene | 119 | 9.647 | 9.647 | (0.999) | 273868 | 19.7280 | 19.72 |
| 45 | 4-Methyl-2-Pentanone | 43 | 6.324 | 6.324 | (0.824) | 134383 | 36.4079 | 36.40 |
| 10 | Acetone | 43 | 1.976 | 1.976 | (0.473) | 51868 | 40.5841 | 40.58 |
| 37 | Benzene | 78 | 4.512 | 4.512 | (0.909) | 316574 | 19.2343 | 19.23 |
| 74 | Bromobenzene | 156 | 8.802 | 8.802 | (0.911) | 96802 | 20.4922 | 20.49 |
| 29 | Bromochloromethane | 128 | 3.795 | 3.795 | (0.908) | 46001 | 21.2303 | 21.23 |
| 39 | Bromodichloromethane | 83 | 5.722 | 5.729 | (1.153) | 125855 | 20.1999 | 20.19 |
| 66 | Bromoform | 173 | 8.408 | 8.408 | (1.096) | 51987 | 18.3714 | 18.37 |
| 6 | Bromomethane | 94 | 1.338 | 1.338 | (0.320) | 128241 | 24.5878 | 24.58 |
| 19 | Carbon Disulfide | 76 | 2.069 | 2.069 | (0.495) | 408452 | 40.4250 | 40.42 |
| 34 | Carbon Tetrachloride | 117 | 4.268 | 4.268 | (0.860) | 98219 | 17.5201 | 17.52 |
| 59 | Chlorobenzene | 112 | 7.692 | 7.692 | (1.003) | 238066 | 19.8089 | 19.80 |
| 7 | Chloroethane | 64 | 1.403 | 1.403 | (0.336) | 87440 | 21.6380 | 21.63 |
| 28 | Chloroform | 83 | 3.910 | 3.910 | (0.935) | 164033 | 20.7920 | 20.79 |
| 3 | Chloromethane | 50 | 1.073 | 1.080 | (0.257) | 96555 | 25.1941 | 25.19 |
| 27 | cis-1,2-Dichloroethene | 96 | 3.530 | 3.530 | (0.844) | 89226 | 20.0924 | 20.09 |
| 46 | cis-1,3-Dichloropropene | 75 | 6.152 | 6.152 | (1.240) | 149118 | 20.5046 | 20.50 |
| 55 | Dibromochloromethane | 129 | 7.176 | 7.176 | (0.936) | 93044 | 19.4622 | 19.46 |
| 44 | Dibromomethane | 93 | 5.550 | 5.550 | (1.118) | 60221 | 19.6561 | 19.65 |
| 2 | Dichlorodifluoromethane | 85 | 0.973 | 0.973 | (0.233) | 86306 | 25.2223 | 25.22 |
| 61 | Ethylbenzene | 106 | 7.799 | 7.799 | (1.017) | 115551 | 17.6275 | 17.62 |
| 91 | Hexachlorobutadiene | 225 | 11.481 | 11.481 | (1.188) | 34209 | 23.9374 | 23.93 |
| 67 | Isopropylbenzene | 105 | 8.559 | 8.559 | (1.116) | 342873 | 17.4977 | 17.49 |
| 62 | m,p-Xylenes | 106 | 7.907 | 7.907 | (1.031) | 295138 | 35.5559 | 35.55 |
| 17 | Methylene Chloride | 84 | 2.305 | 2.305 | (0.551) | 83320 | 21.9894 | 21.98 |
| 87 | n-Butylbenzene | 91 | 9.991 | 9.991 | (1.034) | 274691 | 20.8797 | 20.87 |
| 73 | n-Propylbenzene | 91 | 8.910 | 8.910 | (0.922) | 427522 | 20.5631 | 20.56 |
| 92 | Naphthalene | 128 | 11.546 | 11.546 | (1.195) | 58970 | 23.7698 | 23.76 |
| 63 | o-Xylene | 106 | 8.244 | 8.244 | (1.075) | 143042 | 17.7706 | 17.77 |
| 81 | sec-Butylbenzene | 105 | 9.519 | 9.519 | (0.985) | 328797 | 21.8412 | 21.84 |
| 64 | Styrene | 104 | 8.258 | 8.258 | (1.077) | 250377 | 19.0982 | 19.09 |
| 78 | tert-Butylbenzene | 119 | 9.339 | 9.339 | (0.967) | 230931 | 20.0672 | 20.06 |
| 56 | Tetrachloroethene | 164 | 6.926 | 6.926 | (0.903) | 63226 | 17.1039 | 17.10 |
| 50 | Toluene | 91 | 6.446 | 6.446 | (0.840) | 361849 | 19.0149 | 19.01 |
| 20 | trans-1,2-Dichloroethene | 96 | 2.527 | 2.527 | (0.604) | 77278 | 20.8743 | 20.87 |
| 51 | trans-1,3-Dichloropropene | 75 | 6.682 | 6.682 | (1.346) | 132353 | 21.3366 | 21.33 |
| 38 | Trichloroethene | 130 | 5.206 | 5.206 | (1.049) | 84033 | 19.7559 | 19.75 |
| 8 | Trichlorofluoromethane | 101 | 1.560 | 1.560 | (0.373) | 181429 | 17.4023 | 17.40 |
| 5 | Vinyl Chloride | 62 | 1.145 | 1.145 | (0.274) | 116435 | 21.3788 | 21.37 |

QC Flag Legend

M - Compound response manually integrated.

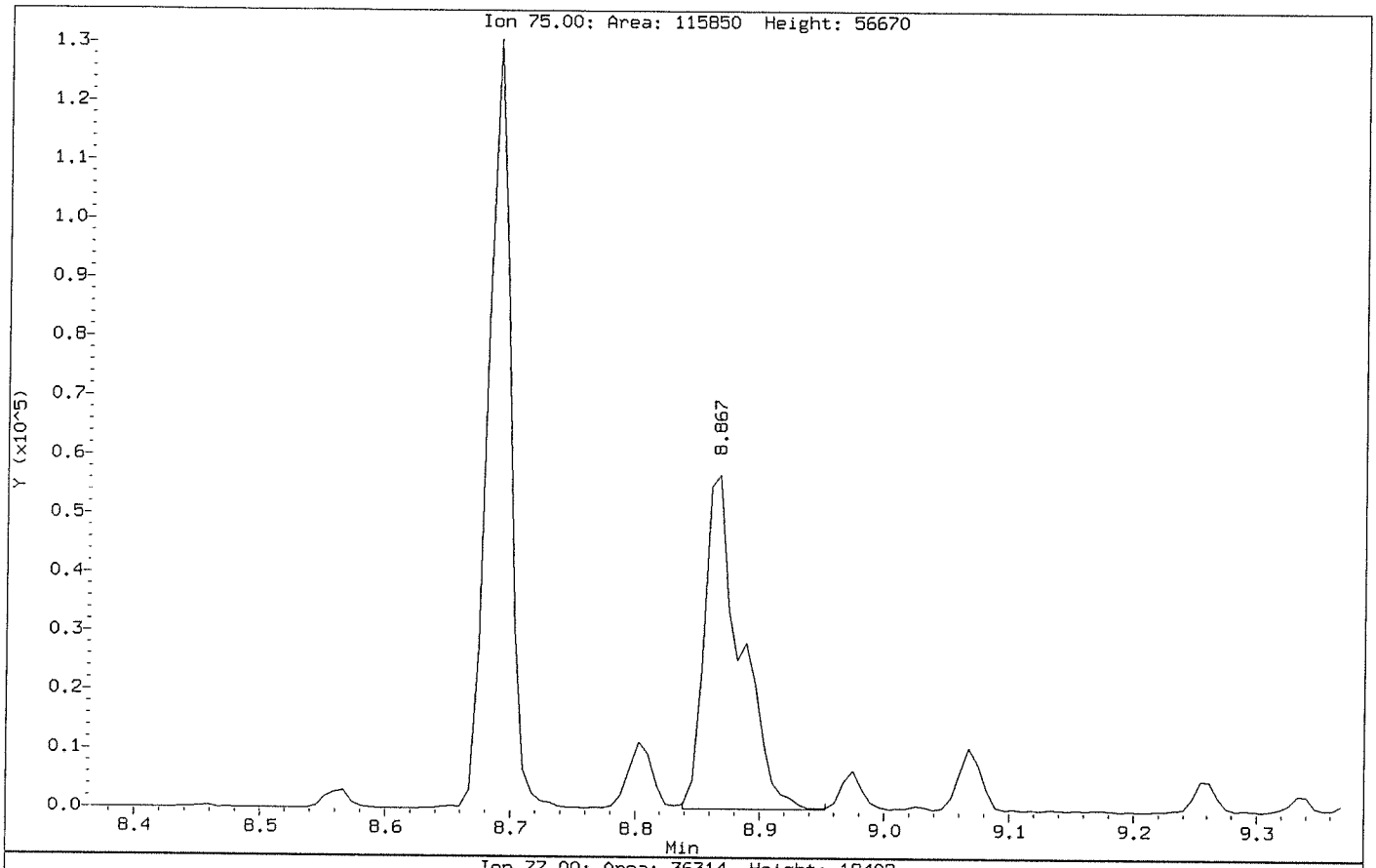


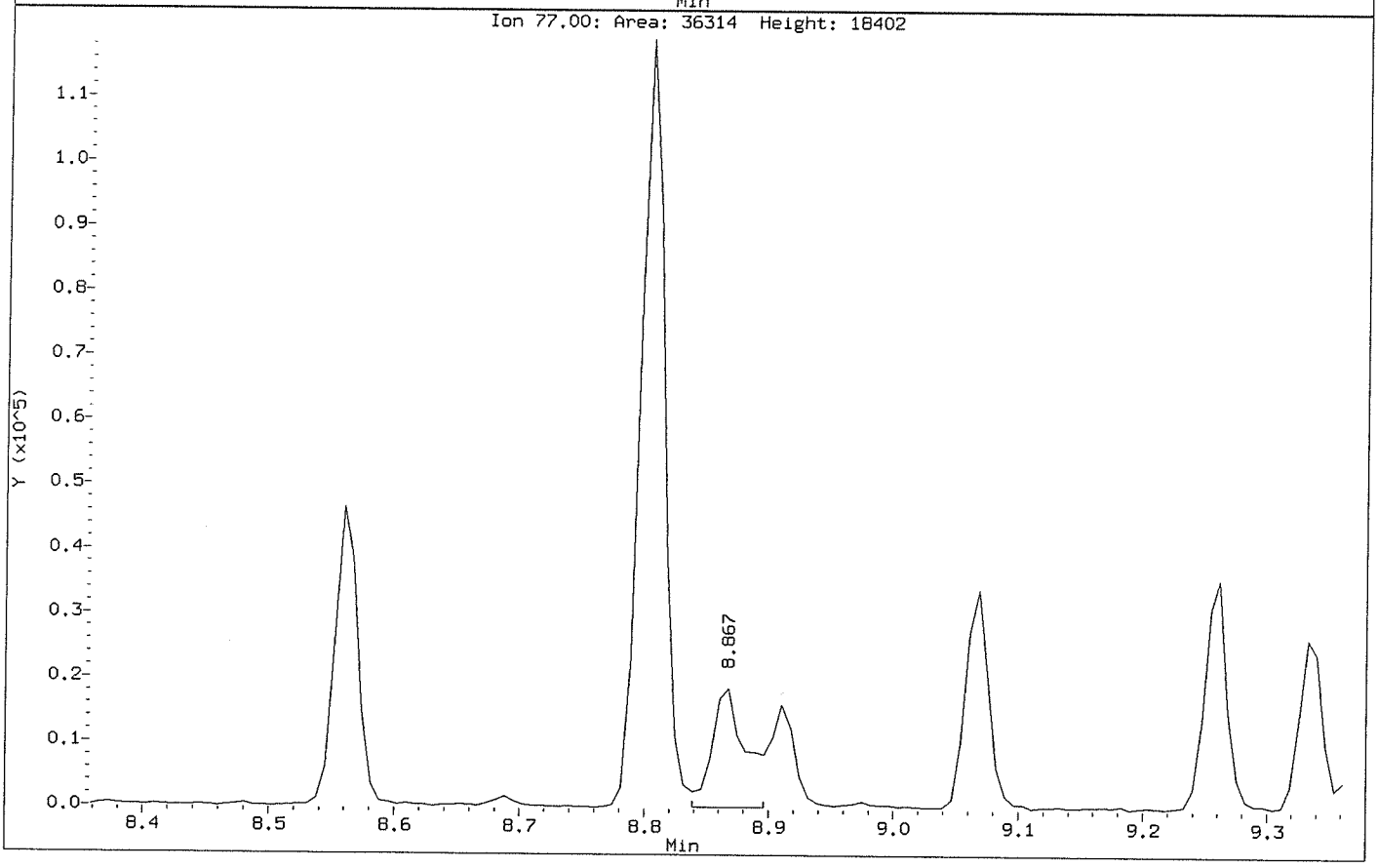

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Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210421.b\Before\X042105.D
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Instrument: voa6.i
Client Sample ID: VLCSW-210421

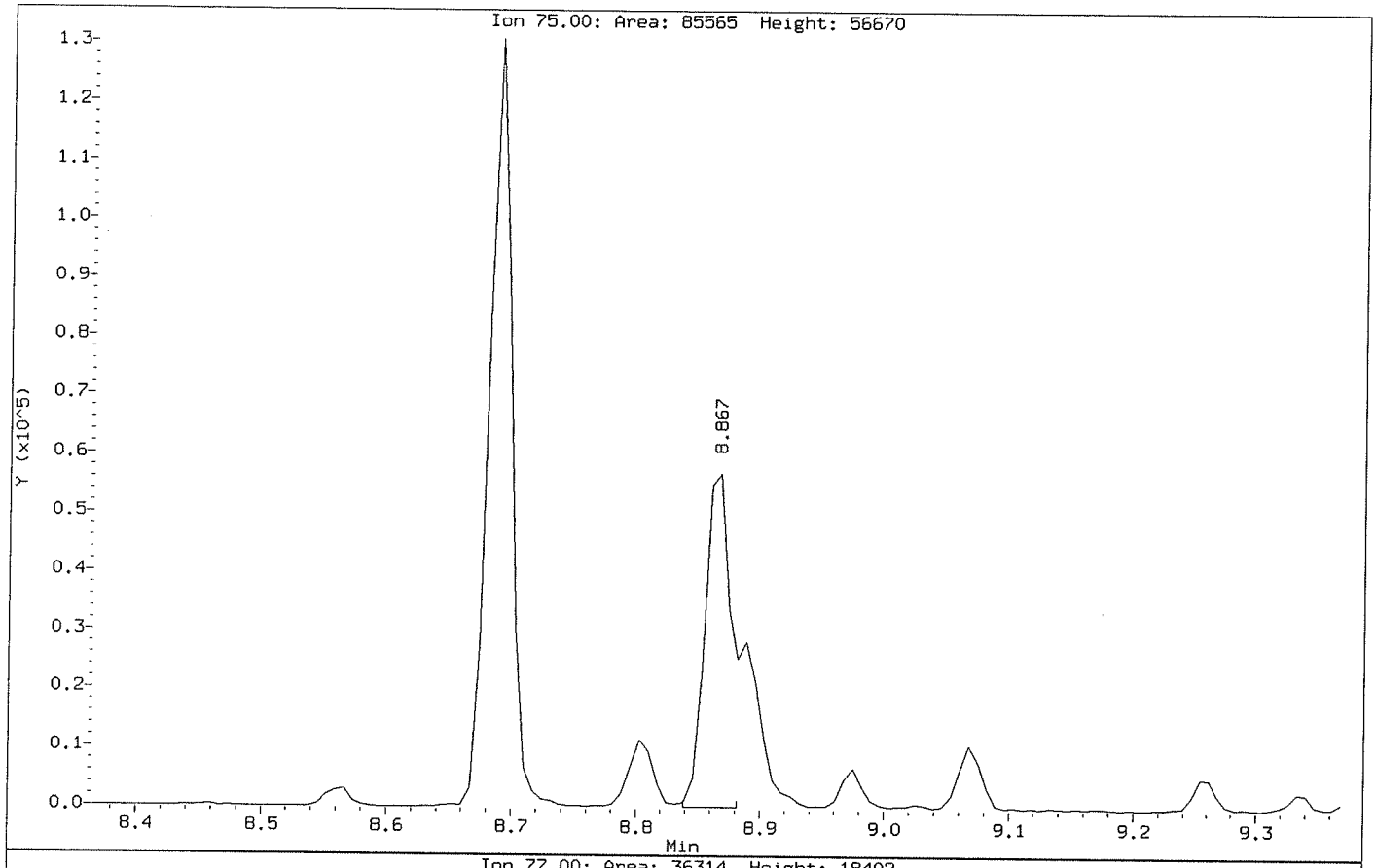
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4

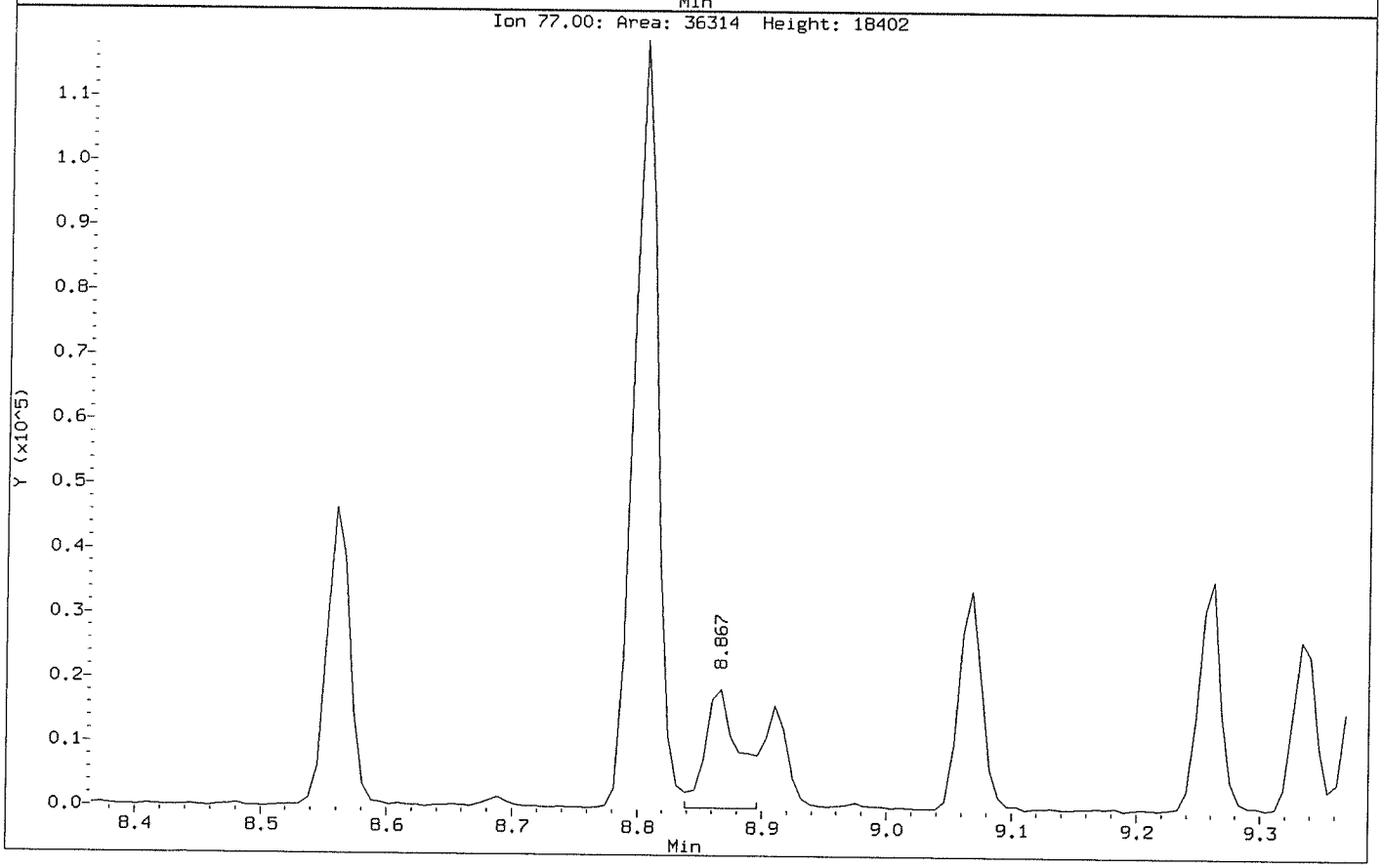


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210421.b\X042105.D
Injection Date: 21-APR-2021 11:49
Instrument: voa6.i
Client Sample ID: VLCSW-210421

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210421.b\X042107.D
Lab Smp Id: VBLKW-210421 Client Smp ID: VBLKW-210421
Inj Date : 21-APR-2021 12:31
Operator : PC Inst ID: voa6.i
Smp Info : VBLKW-210421;VBLKW-210421;3;;BLANK
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210421.b\8260W.m
Meth Date : 30-Apr-2021 15:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 7 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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

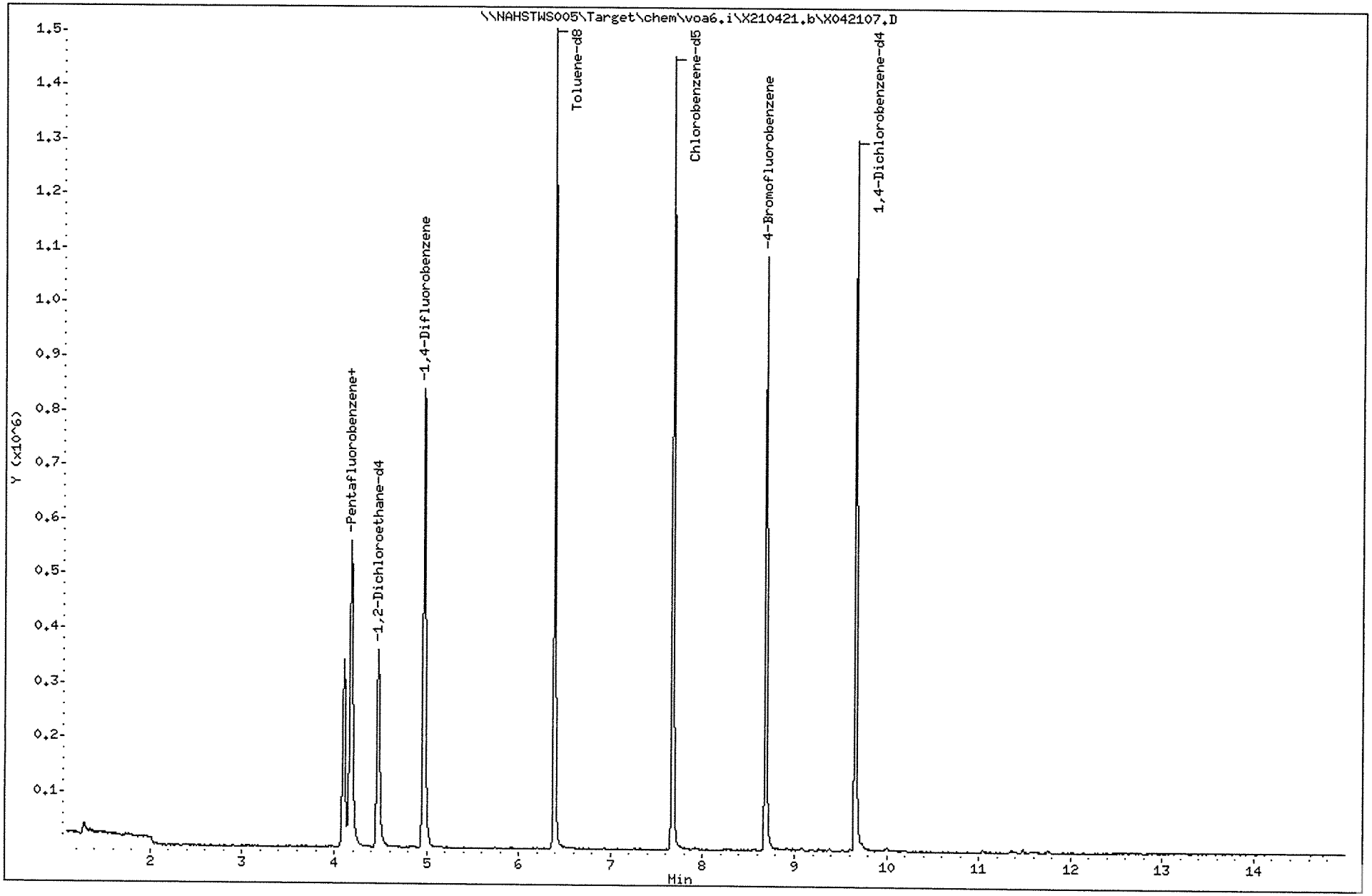
| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 5.000 | ng unit correction factor |
| Vo | 5.000 | sample purged |
| Cpnd Variable | | Local Compound Variable |

| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ug/l) | FINAL ( ug/l) |
|---|---|---|---|---|---|---|---|
| * 1 Pentafluorobenzene | 168 | 4.182 | 4.182 | (1.000) | 426527 | 50.0000 | |
| * 36 1,4-Difluorobenzene | 114 | 4.963 | 4.970 | (1.000) | 682643 | 50.0000 | |
| * 47 Chlorobenzene-d5 | 117 | 7.670 | 7.670 | (1.000) | 612083 | 50.0000 | |
| * 70 1,4-Dichlorobenzene-d4 | 152 | 9.662 | 9.662 | (1.000) | 271614 | 50.0000 | |
| $ 30 Dibromofluoromethane | 113 | 4.103 | 4.103 | (0.981) | 229524 | 45.7447 | 45.74 |
| $ 35 1,2-Dichloroethane-d4 | 65 | 4.469 | 4.476 | (1.069) | 297272 | 49.4135 | 49.41 |
| $ 48 Toluene-d8 | 98 | 6.388 | 6.388 | (0.833) | 845304 | 53.5900 | 53.58 |
| $ 69 4-Bromofluorobenzene | 95 | 8.688 | 8.688 | (1.133) | 282849 | 48.2456 | 48.24 |

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210421.b\X042107.D
Date : 21-APR-2021 12:31
Client ID: VBLKW-210421
Sample Info: VBLKW-210421;VBLKW-210421;3;;BLANK
Purge Volume: 5.0
Column phase: DB624



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



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210421.b\X042111.D
Lab Smp Id: HS21041086-02 Client Smp ID: HS21041086-02
Inj Date : 21-APR-2021 13:56
Operator : PC Inst ID: voa6.i
Smp Info : HS21041086-02;HS21041086-02;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210421.b\8260W.m
Meth Date : 30-Apr-2021 15:51 Qin.Xu Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 11
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7066

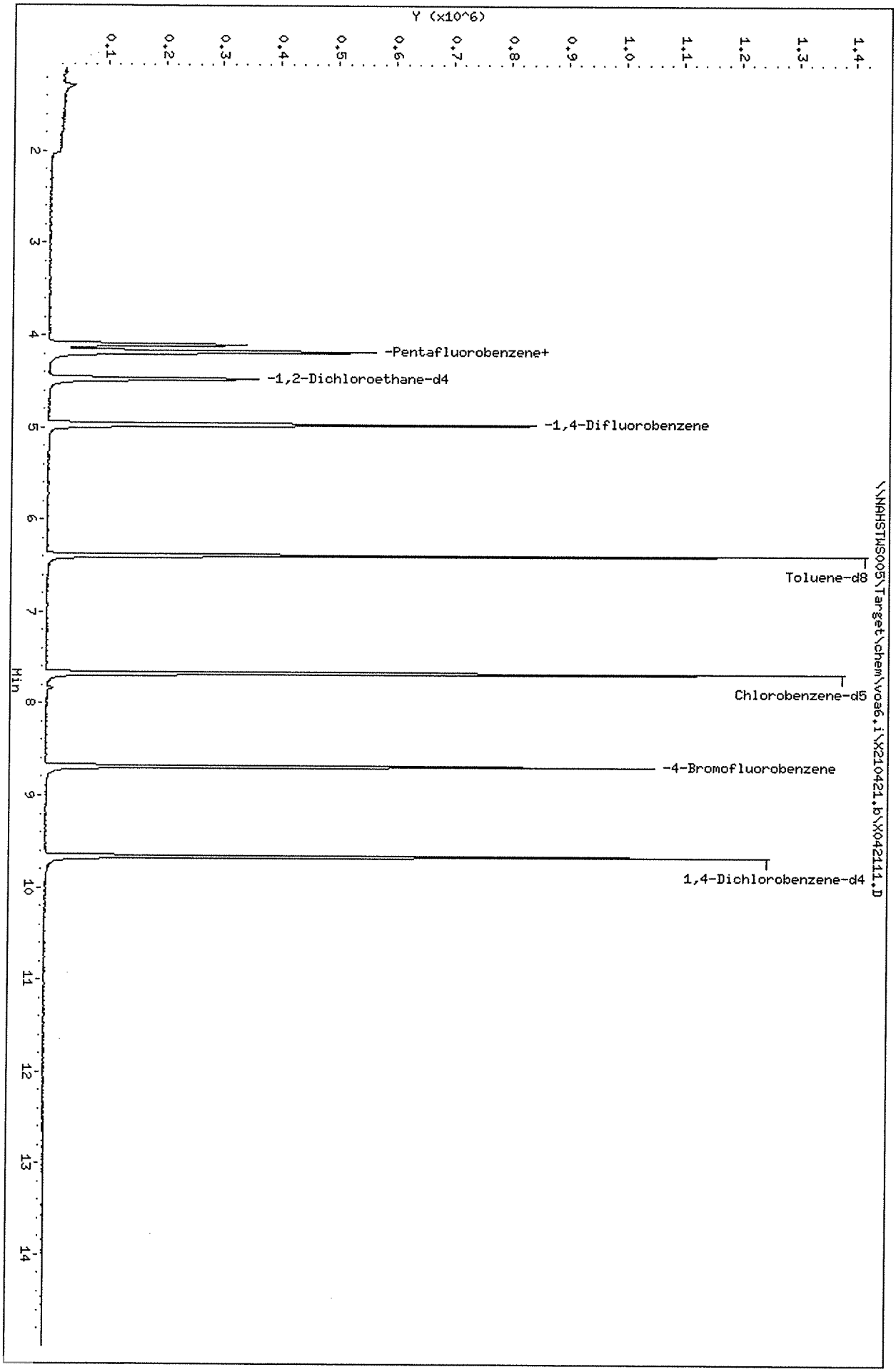
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

| 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) | CONCENTRATIONS FINAL ( ug/l) |
|---|---|---|---|---|---|---|---|
| * 1 Pentafluorobenzene | 168 | 4.182 | 4.182 | (1.000) | 419389 | 50.0000 | |
| * 36 1,4-Difluorobenzene | 114 | 4.970 | 4.970 | (1.000) | 680614 | 50.0000 | |
| * 47 Chlorobenzene-d5 | 117 | 7.670 | 7.670 | (1.000) | 599598 | 50.0000 | |
| * 70 1,4-Dichlorobenzene-d4 | 152 | 9.662 | 9.662 | (1.000) | 264821 | 50.0000 | |
| $ 30 Dibromofluoromethane | 113 | 4.103 | 4.103 | (0.981) | 230731 | 46.7582 | 46.75 |
| $ 35 1,2-Dichloroethane-d4 | 65 | 4.476 | 4.476 | (1.070) | 293021 | 49.5347 | 49.53 |
| $ 48 Toluene-d8 | 98 | 6.388 | 6.388 | (0.833) | 810258 | 52.4776 | 52.47 |
| $ 69 4-Bromofluorobenzene | 95 | 8.688 | 8.688 | (1.133) | 276719 | 48.1849 | 48.18 |

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210421.b\X042111.D
Date : 21-APR-2021 13:56
Client ID: HS21041086-02
Sample Info: HS21041086-02;HS21041086-02;;;
Purge Volume: 5.0
Column phase: DB624

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210421.b\X042112.D Page 1
Report Date: 30-Apr-2021 15:51

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210421.b\X042112.D
Lab Smp Id: HS21041086-01 Client Smp ID: HS21041086-01
Inj Date : 21-APR-2021 14:17
Operator : PC Inst ID: voa6.i
Smp Info : HS21041086-01;HS21041086-01;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210421.b\8260W.m
Meth Date : 30-Apr-2021 15:51 Qin.Xu Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 12
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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 | 4.182 | 4.182 | (1.000) | 410531 | 50.0000 | |
| * 36 1,4-Difluorobenzene | 114 | 4.963 | 4.970 | (1.000) | 659455 | 50.0000 | |
| * 47 Chlorobenzene-d5 | 117 | 7.671 | 7.670 | (1.000) | 596007 | 50.0000 | |
| * 70 1,4-Dichlorobenzene-d4 | 152 | 9.662 | 9.662 | (1.000) | 240668 | 50.0000 | |
| $ 30 Dibromofluoromethane | 113 | 4.103 | 4.103 | (0.981) | 229995 | 47.6068 | 47.60 |
| $ 35 1,2-Dichloroethane-d4 | 65 | 4.476 | 4.476 | (1.070) | 288972 | 49.9007 | 49.90 |
| $ 48 Toluene-d8 | 98 | 6.388 | 6.388 | (0.833) | 812684 | 52.9351 | 52.93 |
| $ 69 4-Bromofluorobenzene | 95 | 8.688 | 8.688 | (1.133) | 252596 | 44.3842 | 44.38 |
| 27 cis-1,2-Dichloroethene | 96 | 3.530 | 3.530 | (0.844) | 42363 | 8.44155 | 8.44 |
| 38 Trichloroethene | 130 | 5.214 | 5.206 | (1.051) | 12005 | 2.65928 | 2.65(a) |

QC Flag Legend

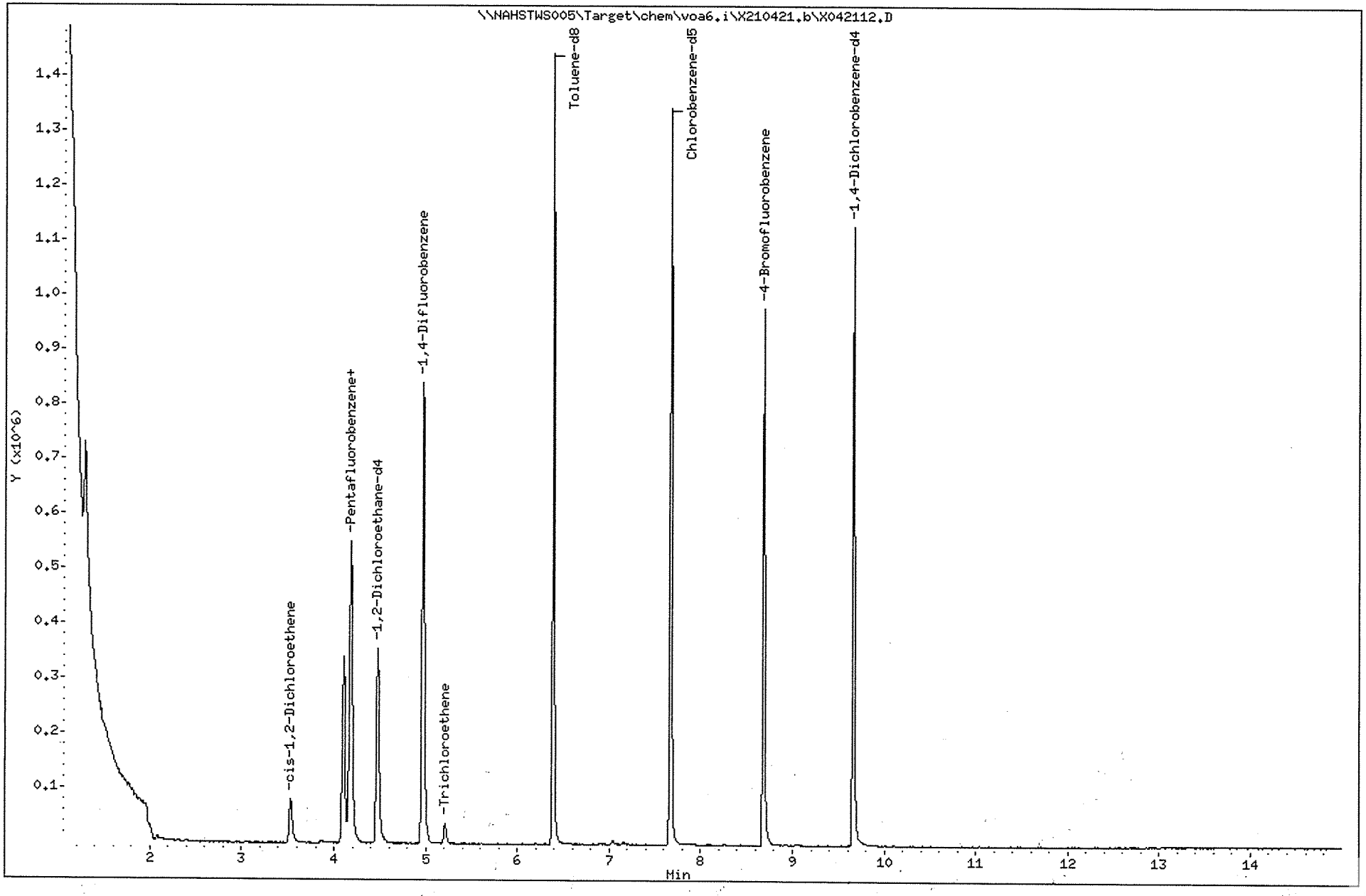
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210421.b\X042112.D
Date : 21-APR-2021 14:17
Client ID: HS21041086-01
Sample Info: HS21041086-01;HS21041086-01;;;
Purge Volume: 5.0
Column phase: DB624



Instrument: voa6.i

Operator: PC
Column diameter: 0.18



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210421.b\X042112.D



Date : 21-APR-2021 14:17

Client ID: HS21041086-01

Instrument: voa6.i

Sample Info: HS21041086-01;HS21041086-01;;;

Purge Volume: 5.0

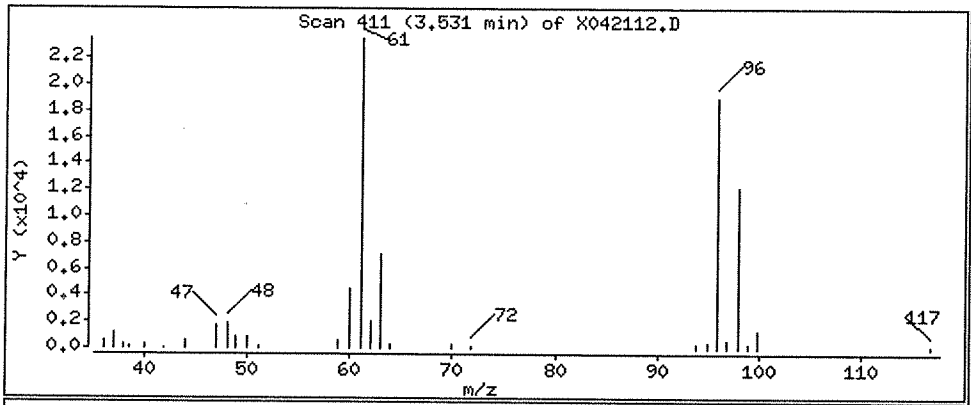
Operator: PC

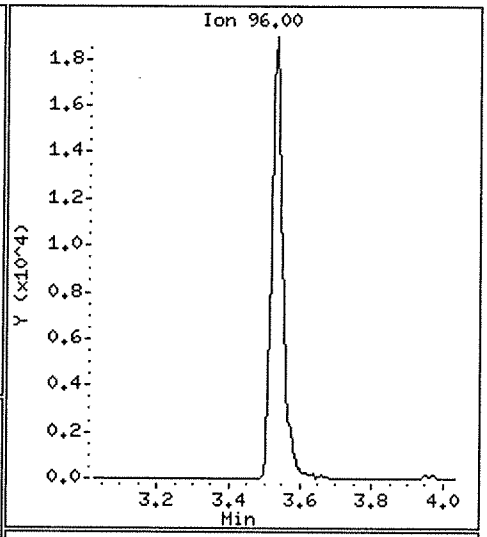
Column phase: DB624

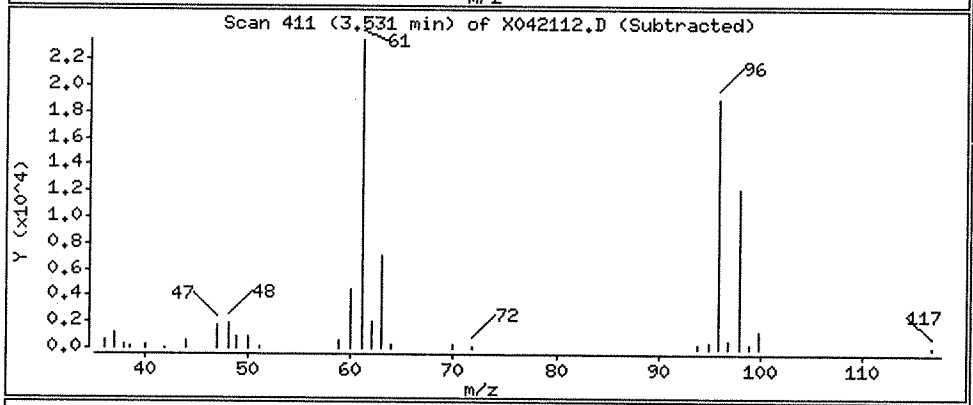
Column diameter: 0.18

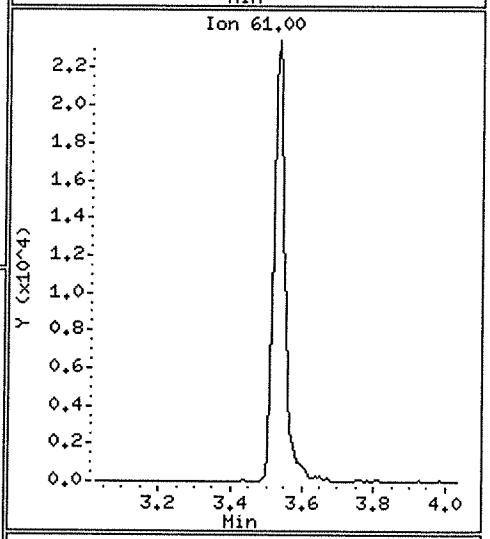
27 cis-1,2-Dichloroethene

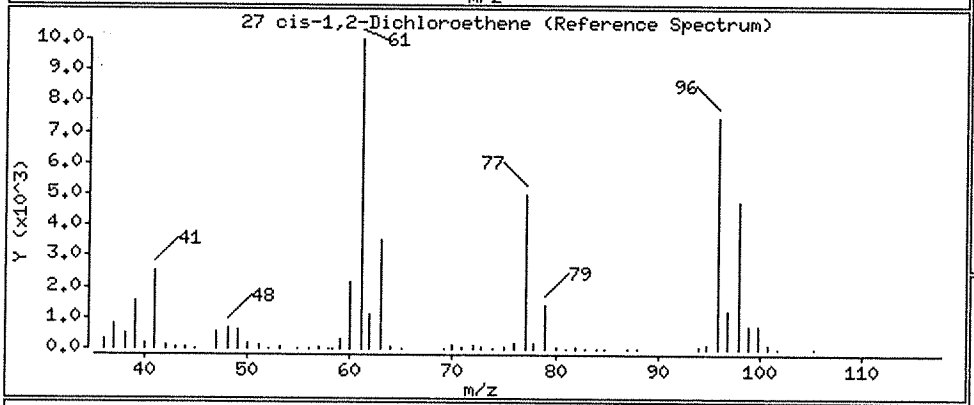
Concentration: 8.44 ug/l

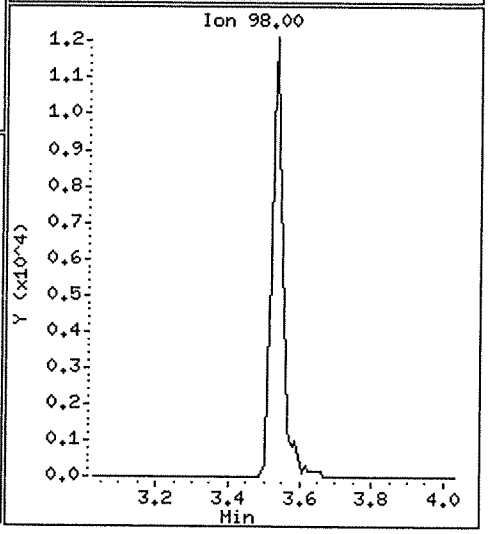


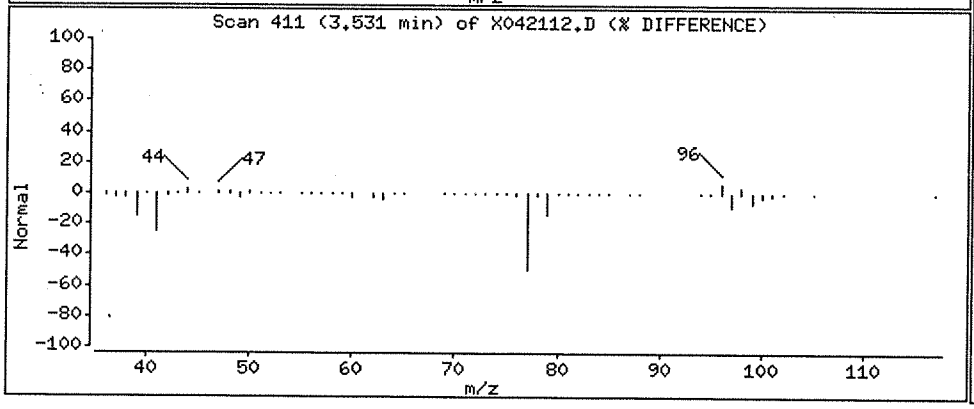



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210421.b\X042112.D



Date : 21-APR-2021 14:17

Client ID: HS21041086-01

Instrument: voa6.i

Sample Info: HS21041086-01;HS21041086-01;;;

Purge Volume: 5.0

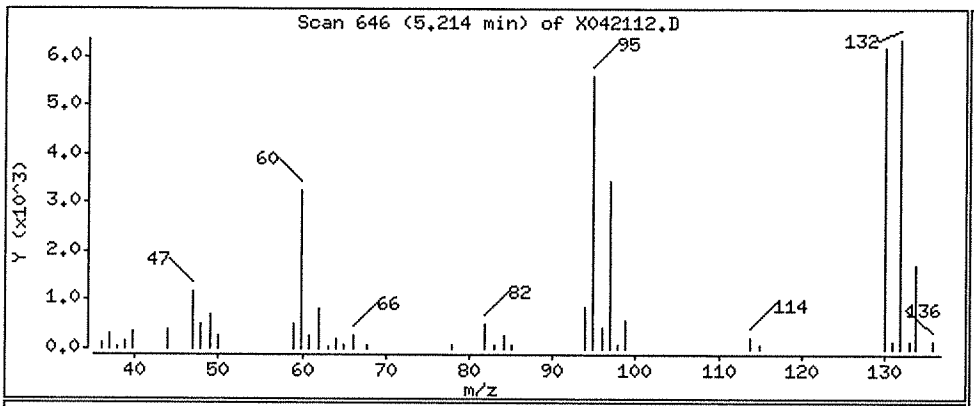
Operator: PC

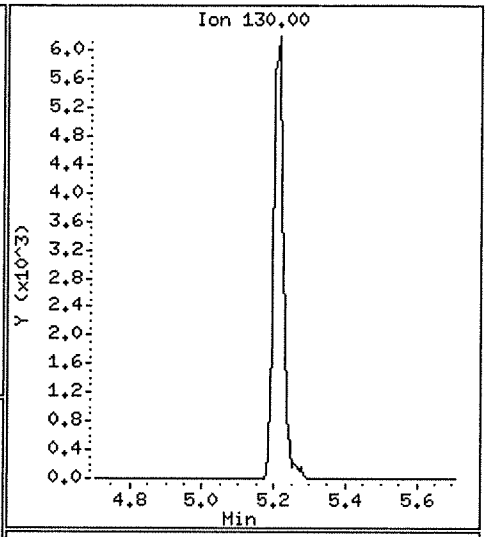
Column phase: DB624

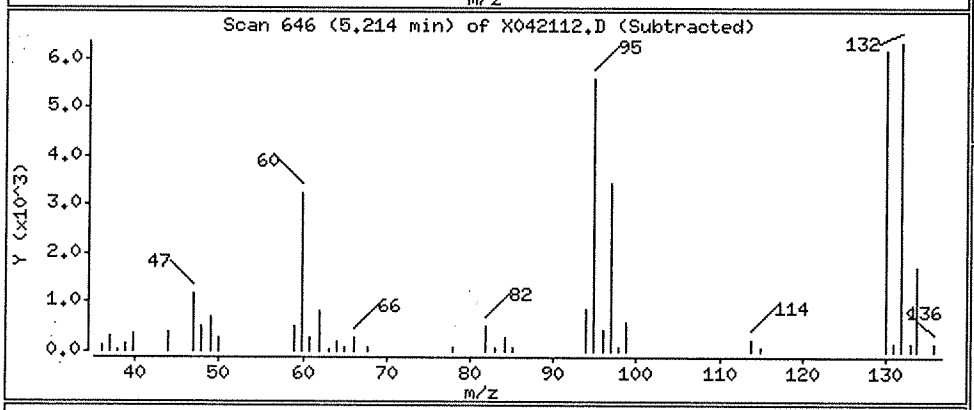
Column diameter: 0.18

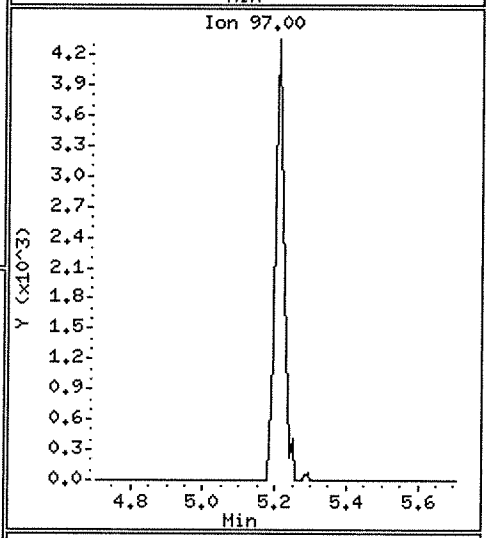
38 Trichloroethene

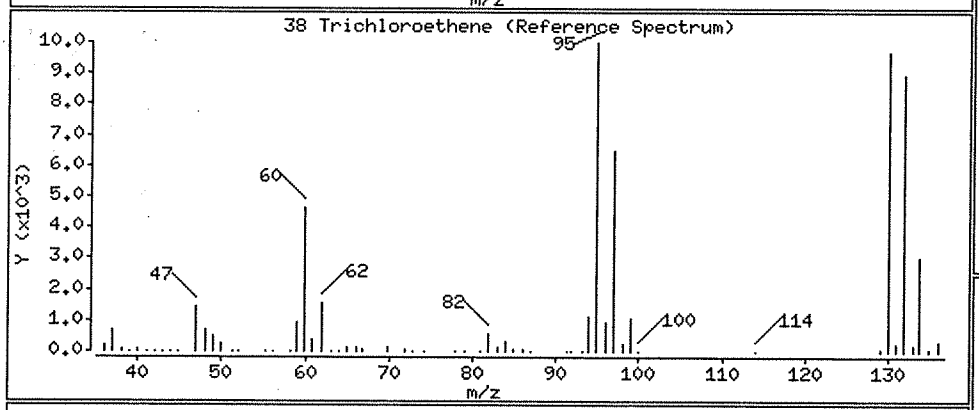
Concentration: 2.65 ug/l

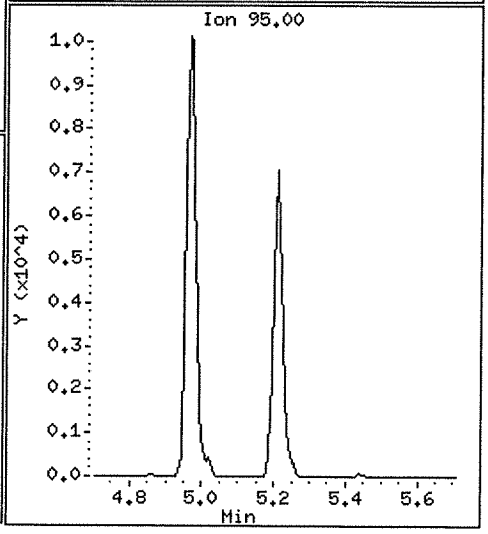


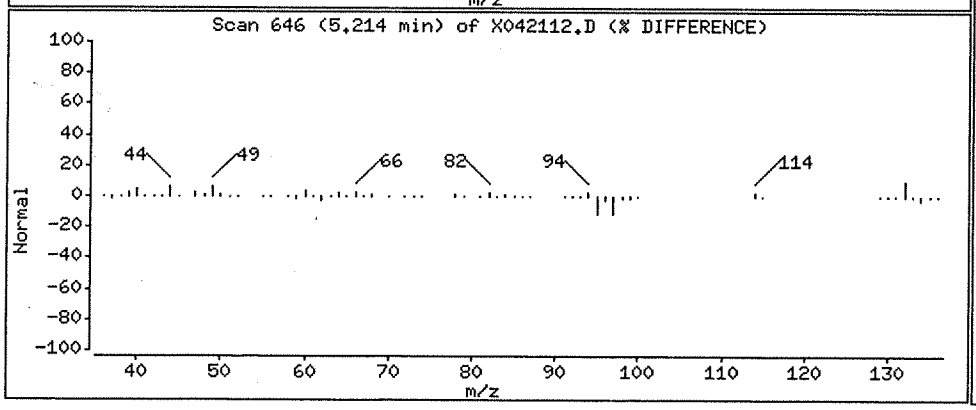



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210421.b\X042114.D
Lab Smp Id: HS21040967-02MS Client Smp ID: HS21040967-02MS
Inj Date : 21-APR-2021 14:59
Operator : PC Inst ID: voa6.i
Smp Info : HS21040967-02MS;HS21040967-02MS;3;;MS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210421.b\8260W.m
Meth Date : 30-Apr-2021 15:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 14 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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 |

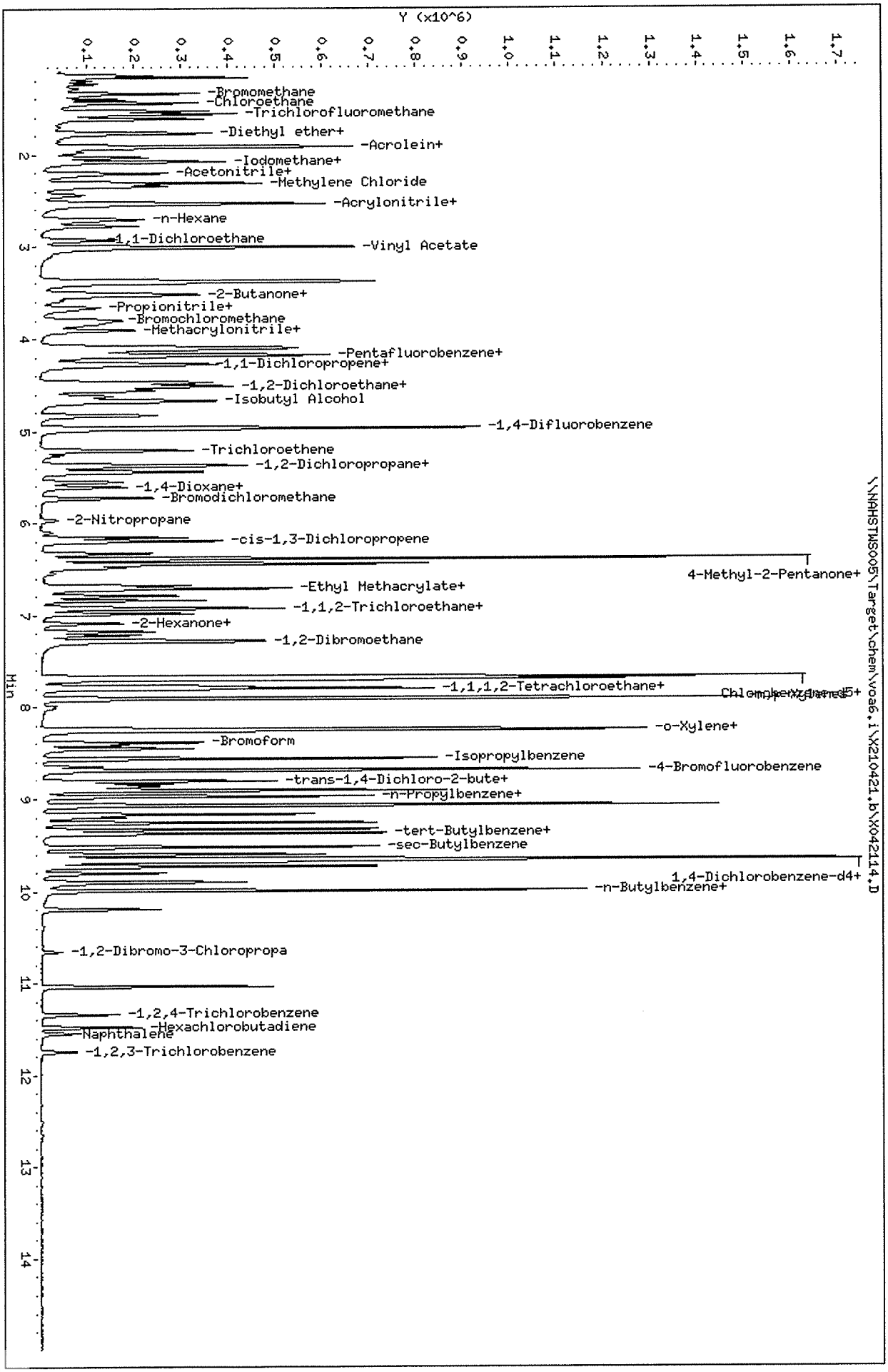
| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ug/l) | FINAL ( ug/l) |
|---|---|---|---|---|---|---|---|
| * 1 Pentafluorobenzene | 168 | 4.182 | 4.182 | (1.000) | 448248 | 50.0000 | |
| * 36 1,4-Difluorobenzene | 114 | 4.963 | 4.970 | (1.000) | 728323 | 50.0000 | |
| * 47 Chlorobenzene-d5 | 117 | 7.671 | 7.670 | (1.000) | 682144 | 50.0000 | |
| * 70 1,4-Dichlorobenzene-d4 | 152 | 9.662 | 9.662 | (1.000) | 307075 | 50.0000 | |
| $ 30 Dibromofluoromethane | 113 | 4.103 | 4.103 | (0.981) | 238043 | 45.1493 | 45.14 |
| $ 35 1,2-Dichloroethane-d4 | 65 | 4.476 | 4.476 | (1.070) | 288006 | 45.5913 | 45.59 |
| $ 48 Toluene-d8 | 98 | 6.388 | 6.388 | (0.833) | 908243 | 51.7328 | 51.73 |
| $ 69 4-Bromofluorobenzene | 95 | 8.688 | 8.688 | (1.133) | 329183 | 50.3088 | 50.30 |
| 60 1,1,1,2-Tetrachloroethane | 131 | 7.778 | 7.778 | (1.014) | 92332 | 18.2409 | 18.24 |
| 31 1,1,1-Trichloroethane | 97 | 4.089 | 4.082 | (0.978) | 158483 | 19.5370 | 19.53 |
| 68 1,1,2,2-Tetrachloroethane | 83 | 8.838 | 8.838 | (0.915) | 106646 | 20.8165 | 20.81 |
| 53 1,1,2-Trichloroethane | 83 | 6.840 | 6.840 | (0.892) | 73363 | 18.5140 | 18.51 |
| 22 1,1-Dichloroethane | 63 | 2.921 | 2.921 | (0.699) | 168879 | 20.2958 | 20.29 |
| 11 1,1-Dichloroethene | 96 | 1.911 | 1.911 | (0.457) | 124726 | 19.5420 | 19.54 |
| 32 1,1-Dichloropropene | 75 | 4.282 | 4.282 | (0.863) | 135251 | 19.7902 | 19.79 |
| 93 1,2,3-Trichlorobenzene | 180 | 11.746 | 11.746 | (1.216) | 20739 | 20.4226 | 20.42 |
| 71 1,2,3-Trichloropropane | 75 | 8.867 | 8.867 | (0.918) | 88787 | 21.5423 | 21.54(M) |
| 90 1,2,4-Trichlorobenzene | 180 | 11.338 | 11.338 | (1.173) | 40473 | 19.8128 | 19.81 |
| 79 1,2,4-Trimethylbenzene | 105 | 9.383 | 9.375 | (0.971) | 335414 | 21.2831 | 21.28 |
| 89 1,2-Dibromo-3-Chloropropane | 155 | 10.658 | 10.657 | (1.103) | 7095 | 21.2410 | 21.24 |
| 57 1,2-Dibromoethane | 107 | 7.262 | 7.262 | (0.947) | 92349 | 19.6929 | 19.69 |
| 88 1,2-Dichlorobenzene | 146 | 9.991 | 9.991 | (1.034) | 159791 | 18.9427 | 18.94 |

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210421.b\X042114.D Page 2
Report Date: 30-Apr-2021 15:39

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ug/l) | FINAL ( ug/l) |
|---|---|---|---|---|---|---|---|---|
| 33 | 1,2-Dichloroethane | 62 | 4.562 | 4.555 | (0.919) | 140572 | 18.2345 | 18.23 |
| 42 | 1,2-Dichloropropane | 63 | 5.436 | 5.436 | (1.095) | 97091 | 19.1830 | 19.18 |
| 75 | 1,3,5-Trimethylbenzene | 105 | 9.067 | 9.067 | (0.938) | 346398 | 21.0477 | 21.04 |
| 83 | 1,3-Dichlorobenzene | 146 | 9.605 | 9.604 | (0.994) | 178246 | 20.0418 | 20.04 |
| 54 | 1,3-Dichloropropane | 76 | 6.983 | 6.983 | (0.910) | 147606 | 19.4854 | 19.48 |
| 84 | 1,4-Dichlorobenzene | 146 | 9.683 | 9.683 | (1.002) | 186773 | 19.4977 | 19.49 |
| 26 | 2,2-Dichloropropane | 77 | 3.509 | 3.509 | (0.839) | 157685 | 19.2428 | 19.24 |
| 24 | 2-Butanone | 43 | 3.588 | 3.580 | (0.858) | 49697 | 32.2517 | 32.25 |
| 76 | 2-Chlorotoluene | 91 | 8.974 | 8.974 | (0.929) | 310620 | 24.0686 | 24.06 |
| 52 | 2-Hexanone | 43 | 7.090 | 7.090 | (0.924) | 103536 | 38.6227 | 38.62 |
| 77 | 4-Chlorotoluene | 91 | 9.067 | 9.067 | (0.938) | 354447 | 21.1674 | 21.16 |
| 82 | p-Isopropyltoluene | 119 | 9.648 | 9.647 | (0.999) | 325829 | 20.9459 | 20.94 |
| 45 | 4-Methyl-2-Pentanone | 43 | 6.324 | 6.324 | (0.824) | 149499 | 36.3623 | 36.36 |
| 10 | Acetone | 43 | 1.976 | 1.976 | (0.473) | 50734 | 31.2472 | 31.24 |
| 37 | Benzene | 78 | 4.512 | 4.512 | (0.909) | 359617 | 18.6405 | 18.64 |
| 74 | Bromobenzene | 156 | 8.802 | 8.802 | (0.911) | 108770 | 20.5486 | 20.54 |
| 29 | Bromochloromethane | 128 | 3.795 | 3.795 | (0.908) | 49835 | 18.6400 | 18.63 |
| 39 | Bromodichloromethane | 83 | 5.729 | 5.729 | (1.154) | 134736 | 18.4492 | 18.44 |
| 66 | Bromoform | 173 | 8.408 | 8.408 | (1.096) | 55740 | 17.7602 | 17.76 |
| 6 | Bromomethane | 94 | 1.338 | 1.338 | (0.320) | 128799 | 19.9789 | 19.97 |
| 19 | Carbon Disulfide | 76 | 2.069 | 2.069 | (0.495) | 464553 | 37.2621 | 37.26 |
| 34 | Carbon Tetrachloride | 117 | 4.268 | 4.268 | (0.860) | 125038 | 19.0283 | 19.02 |
| 59 | Chlorobenzene | 112 | 7.692 | 7.692 | (1.003) | 266315 | 19.8863 | 19.88 |
| 7 | Chloroethane | 64 | 1.403 | 1.403 | (0.336) | 83101 | 16.6662 | 16.66(M) |
| 28 | Chloroform | 83 | 3.910 | 3.910 | (0.935) | 182678 | 18.7661 | 18.76 |
| 3 | Chloromethane | 50 | 1.081 | 1.080 | (0.258) | 111043 | 23.4264 | 23.42 |
| 27 | cis-1,2-Dichloroethene | 96 | 3.530 | 3.530 | (0.844) | 101409 | 18.5072 | 18.50 |
| 46 | cis-1,3-Dichloropropene | 75 | 6.152 | 6.152 | (1.240) | 155458 | 18.2369 | 18.23 |
| 55 | Dibromochloromethane | 129 | 7.176 | 7.176 | (0.936) | 95014 | 17.8424 | 17.84 |
| 44 | Dibromomethane | 93 | 5.550 | 5.550 | (1.118) | 64190 | 17.8745 | 17.87 |
| 2 | Dichlorodifluoromethane | 85 | 0.973 | 0.973 | (0.233) | 115907 | 27.3044 | 27.30 |
| 61 | Ethylbenzene | 106 | 7.799 | 7.799 | (1.017) | 140584 | 19.2538 | 19.25 |
| 91 | Hexachlorobutadiene | 225 | 11.481 | 11.481 | (1.188) | 30334 | 19.1523 | 19.15 |
| 67 | Isopropylbenzene | 105 | 8.559 | 8.559 | (1.116) | 432958 | 19.8361 | 19.83 |
| 62 | m,p-Xylenes | 106 | 7.907 | 7.907 | (1.031) | 358391 | 38.7620 | 38.76 |
| 17 | Methylene Chloride | 84 | 2.305 | 2.305 | (0.551) | 89440 | 19.3230 | 19.32 |
| 87 | n-Butylbenzene | 91 | 9.991 | 9.991 | (1.034) | 295556 | 20.0488 | 20.04 |
| 73 | n-Propylbenzene | 91 | 8.910 | 8.910 | (0.922) | 522942 | 22.4467 | 22.44 |
| 92 | Naphthalene | 128 | 11.546 | 11.546 | (1.195) | 57337 | 20.7234 | 20.72 |
| 63 | o-Xylene | 106 | 8.244 | 8.244 | (1.075) | 172545 | 19.2443 | 19.24 |
| 81 | sec-Butylbenzene | 105 | 9.519 | 9.519 | (0.985) | 393822 | 23.2895 | 23.28 |
| 64 | Styrene | 104 | 8.258 | 8.258 | (1.077) | 282698 | 19.3131 | 19.31 |
| 78 | tert-Butylbenzene | 119 | 9.332 | 9.339 | (0.966) | 282875 | 21.8693 | 21.86 |
| 56 | Tetrachloroethene | 164 | 6.926 | 6.926 | (0.903) | 86631 | 21.0394 | 21.03 |
| 50 | Toluene | 91 | 6.446 | 6.446 | (0.840) | 411849 | 19.4298 | 19.42 |
| 20 | trans-1,2-Dichloroethene | 96 | 2.527 | 2.527 | (0.604) | 85610 | 18.7415 | 18.74 |
| 51 | trans-1,3-Dichloropropene | 75 | 6.682 | 6.682 | (1.346) | 135992 | 18.7035 | 18.70 |
| 38 | Trichloroethene | 130 | 5.206 | 5.206 | (1.049) | 98682 | 19.7925 | 19.79 |
| 8 | Trichlorofluoromethane | 101 | 1.560 | 1.560 | (0.373) | 250796 | 19.4960 | 19.49 |
| 5 | Vinyl Chloride | 62 | 1.145 | 1.145 | (0.274) | 147883 | 22.0060 | 22.00 |

QC Flag Legend

M - Compound response manually integrated.

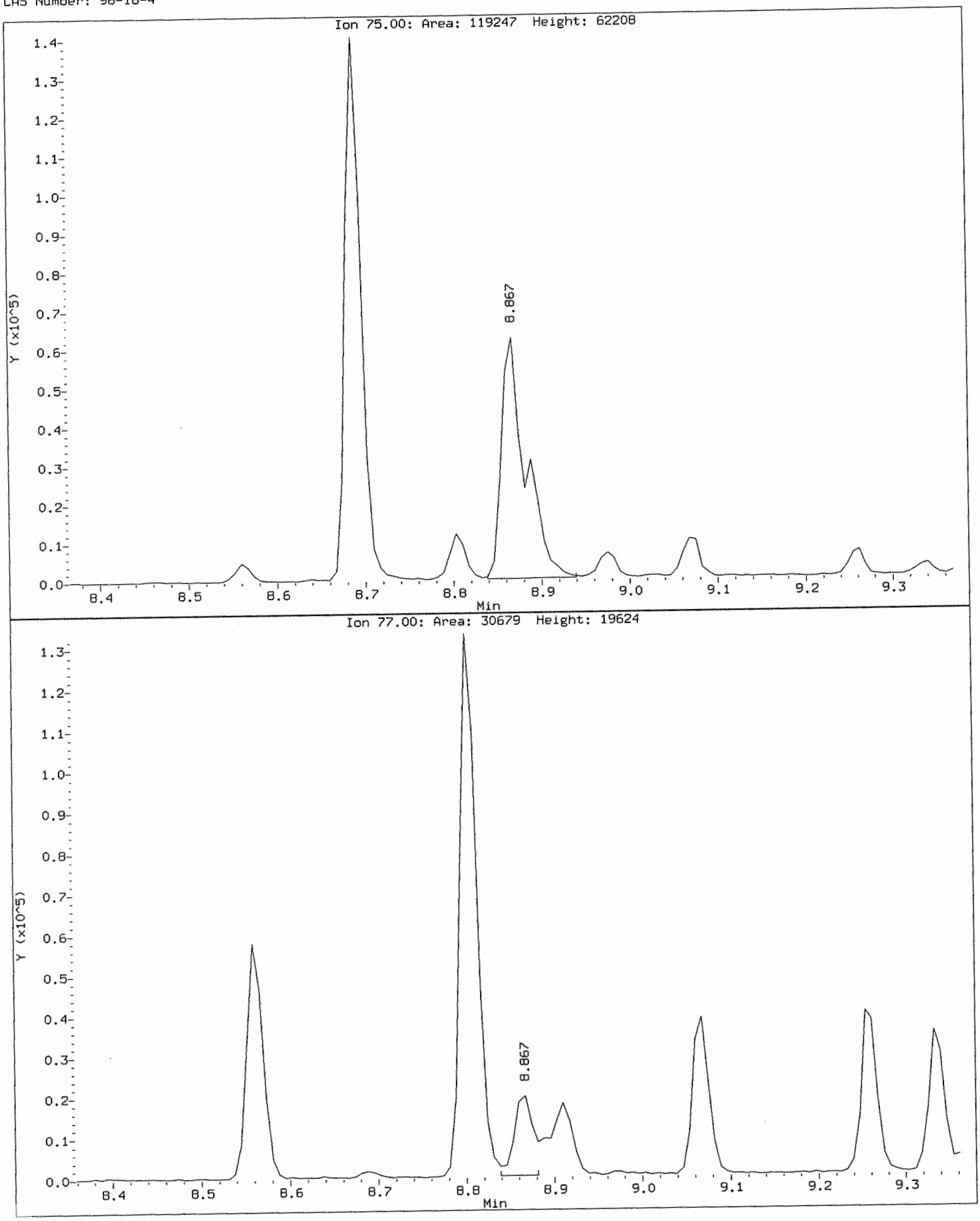



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Date : 21-APR-2021 14:59
Client ID: HS21040967-02MS
Sample Info: HS21040967-02MS;HS21040967-02MS;3;;MS
Purge Volume: 5.0
Column phase: DB624

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

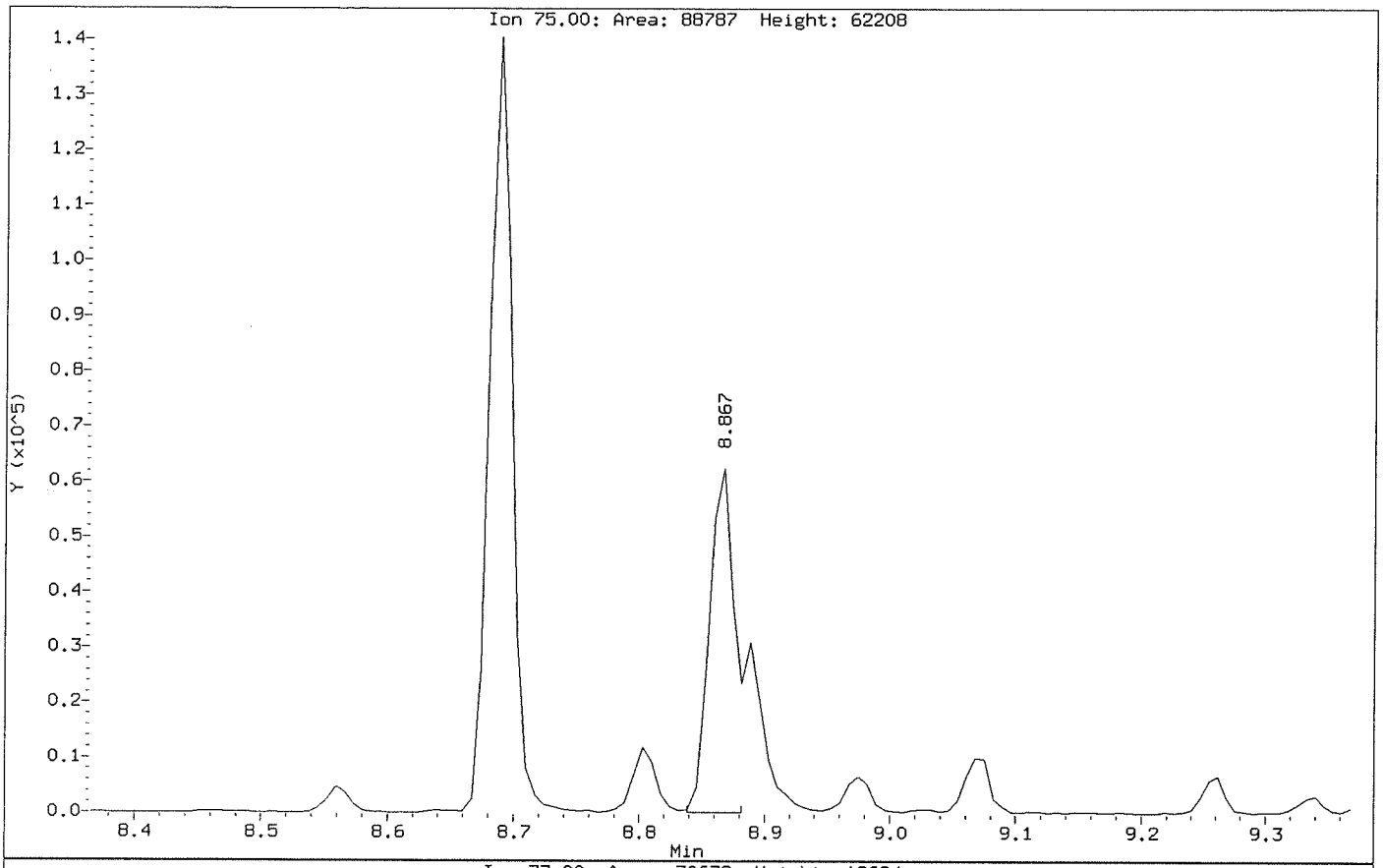
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Injection Date: 21-APR-2021 14:59
Instrument: voa6.i
Client Sample ID: HS21040967-02MS

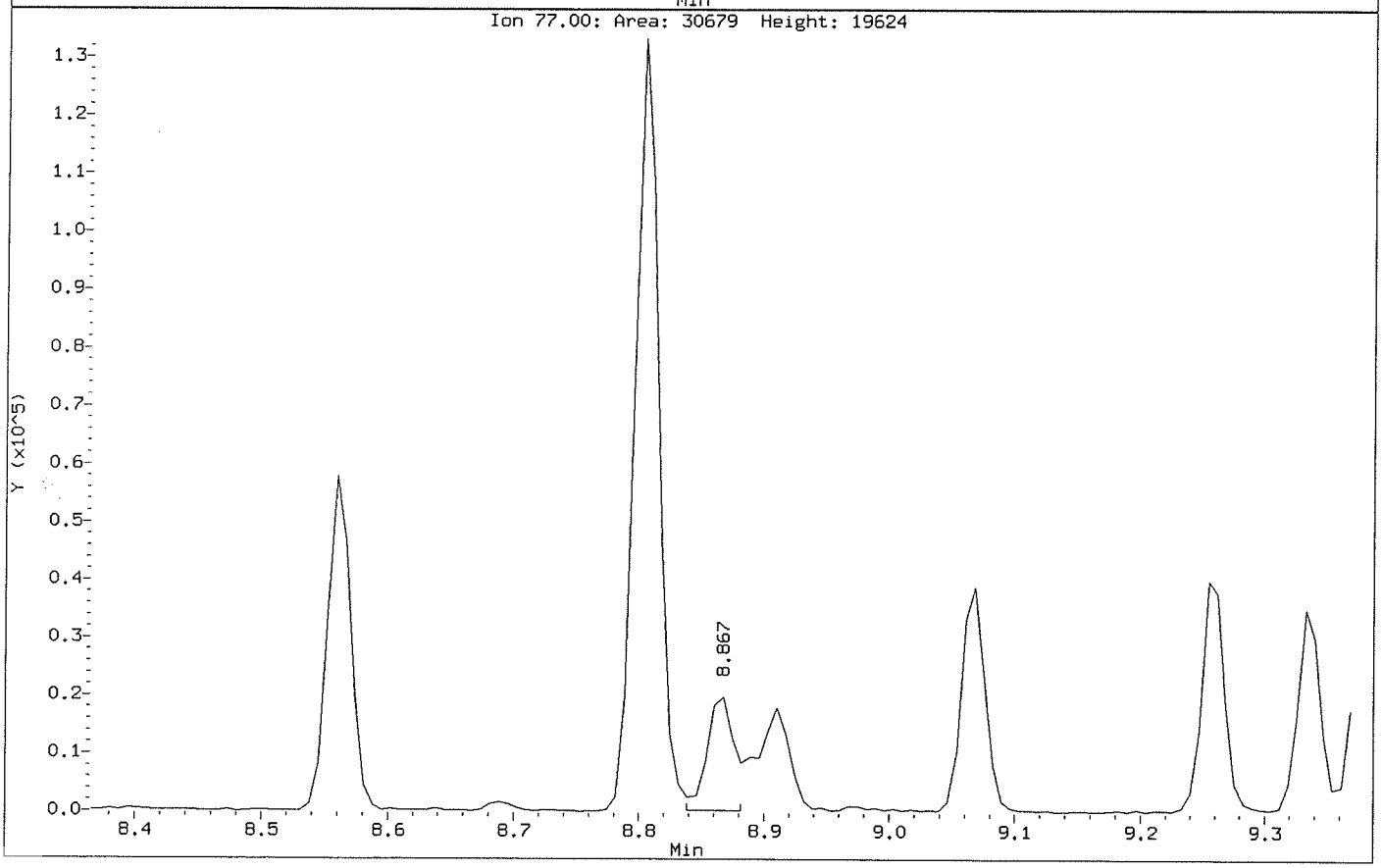
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210421.b\X042114.D
Injection Date: 21-APR-2021 14:59
Instrument: voa6.i
Client Sample ID: HS21040967-02MS

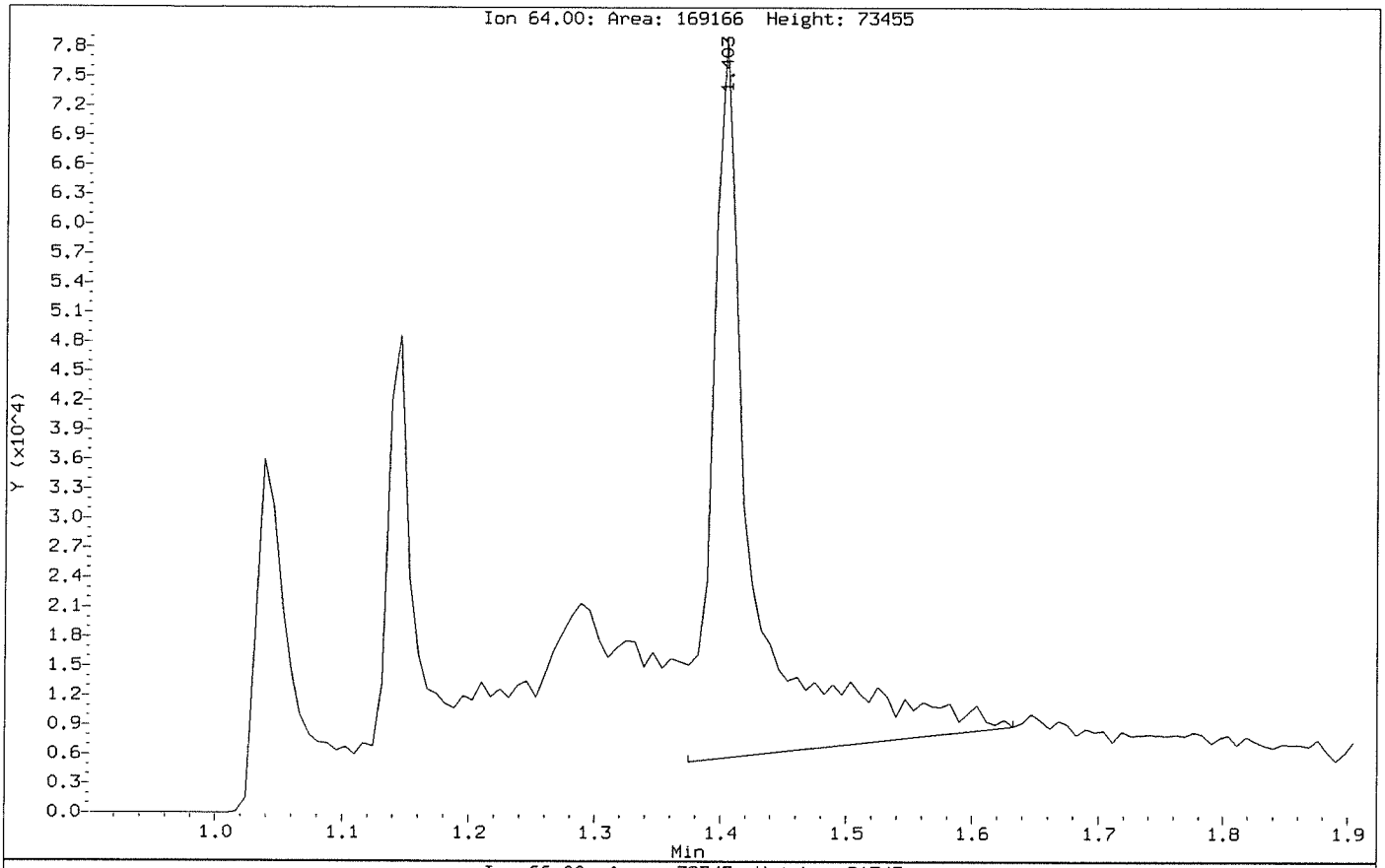
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4

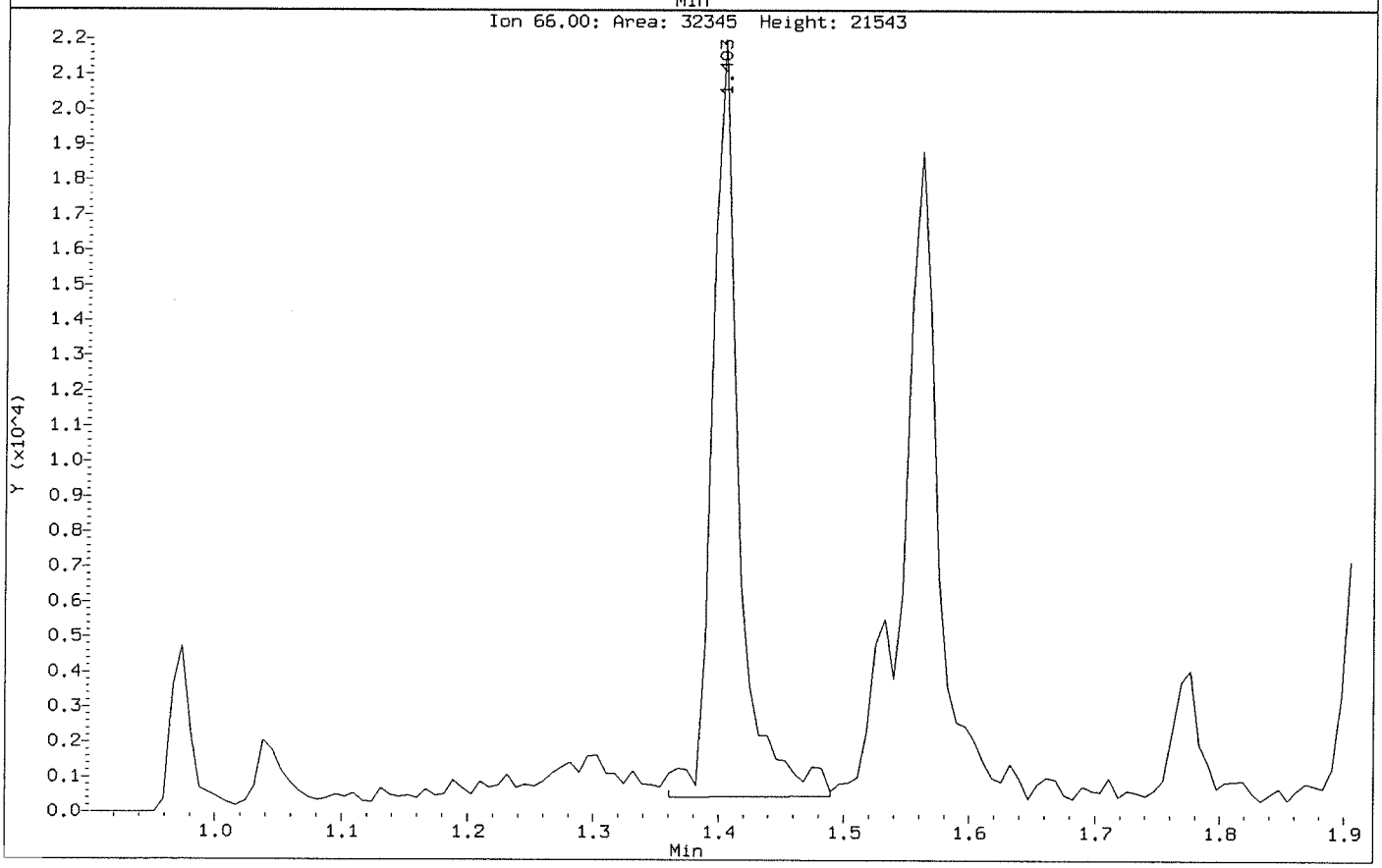


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210421.b\Before\X042114.D
Injection Date: 21-APR-2021 14:59
Instrument: voa6.i
Client Sample ID: HS21040967-02MS

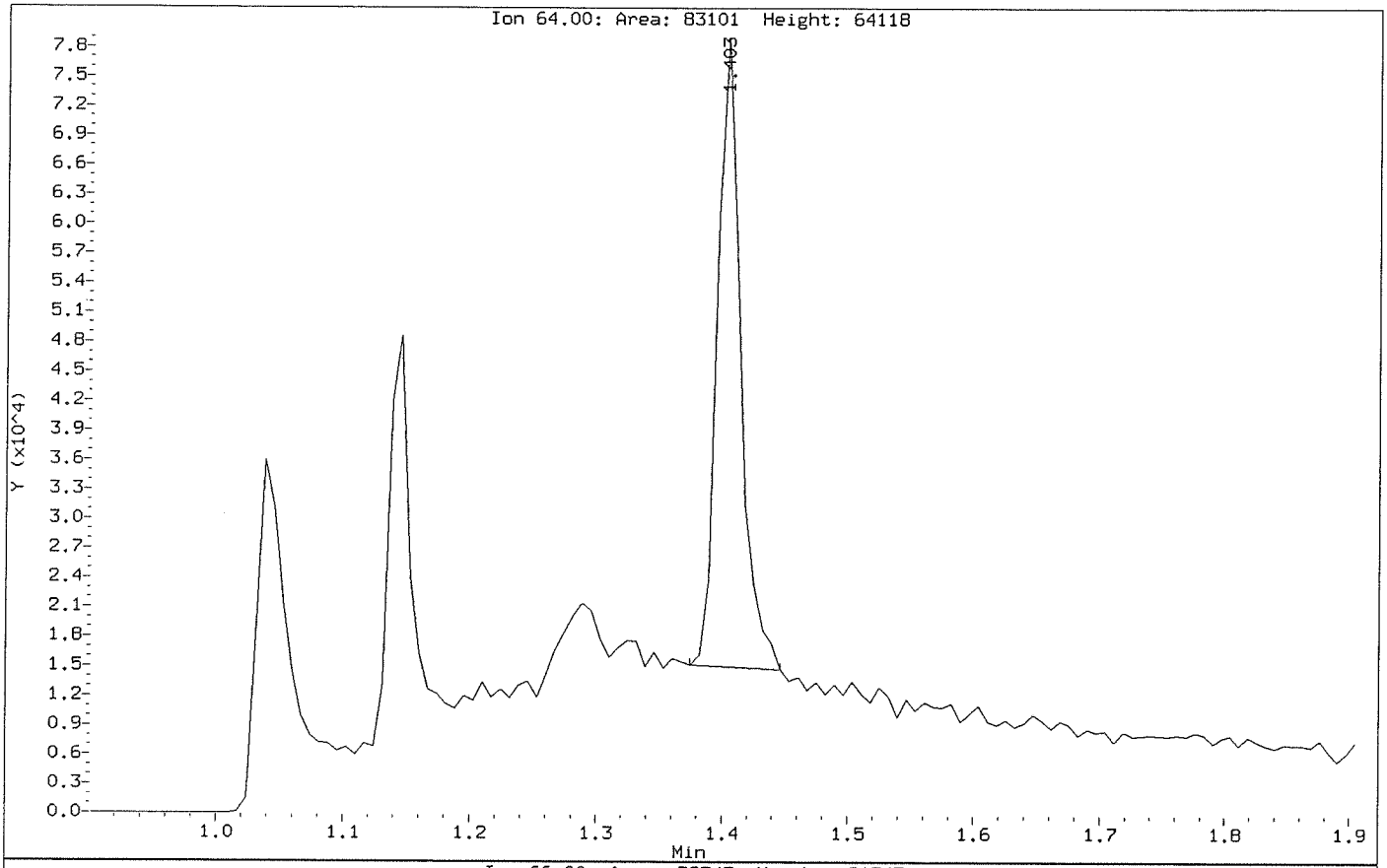
Compound: Chloroethane
CAS Number: 75-00-3

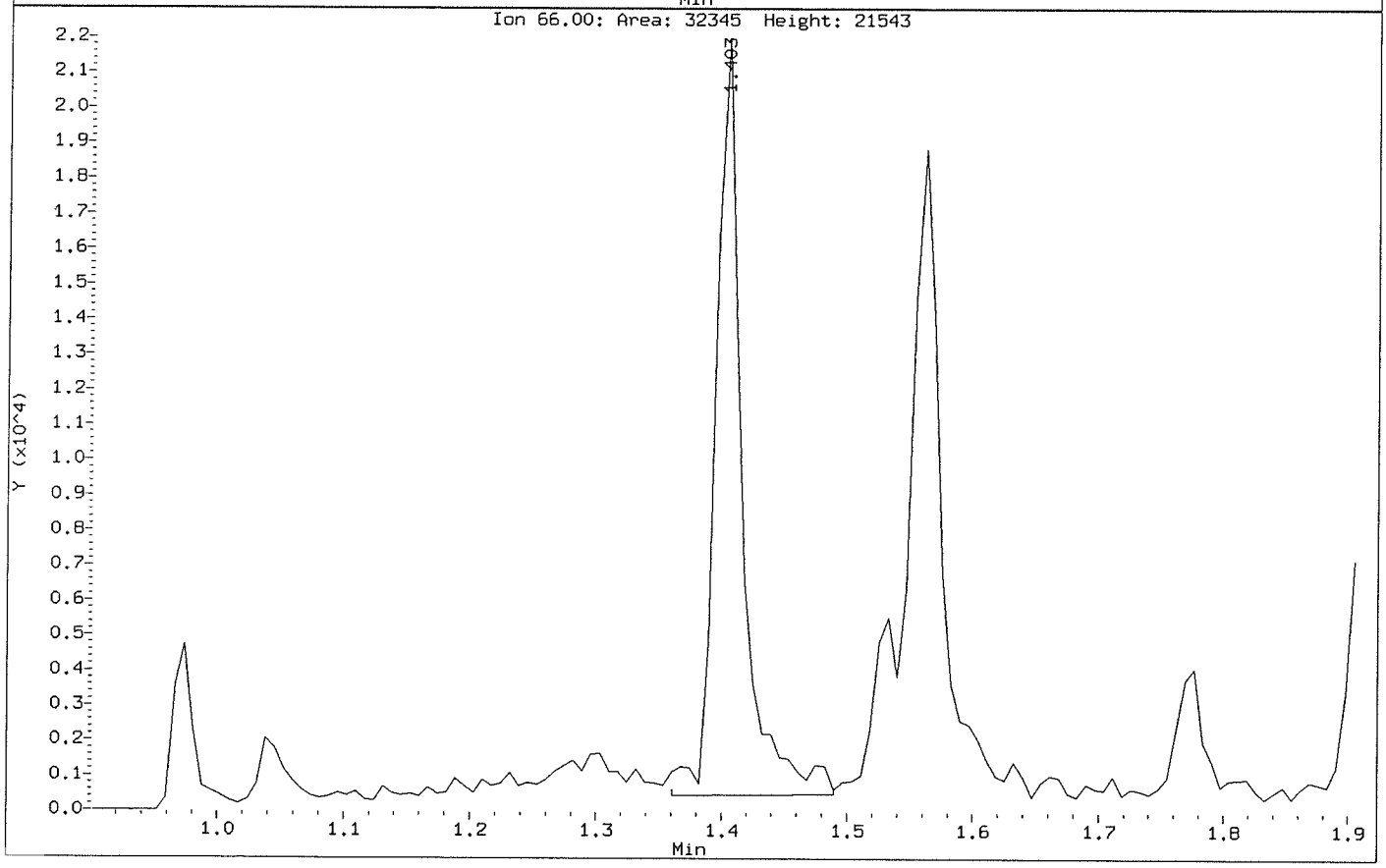


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210421.b\X042114.D
Injection Date: 21-APR-2021 14:59
Instrument: voa6.i
Client Sample ID: HS21040967-02MS

Compound: Chloroethane
CAS Number: 75-00-3



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210421.b\X042115.D
Lab Smp Id: HS21040967-02MSD Client Smp ID: HS21040967-02MSD
Inj Date : 21-APR-2021 15:20
Operator : PC Inst ID: voa6.i
Smp Info : HS21040967-02MSD;HS21040967-02MSD;3;;MSD
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210421.b\8260W.m
Meth Date : 30-Apr-2021 15:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 14 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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 |

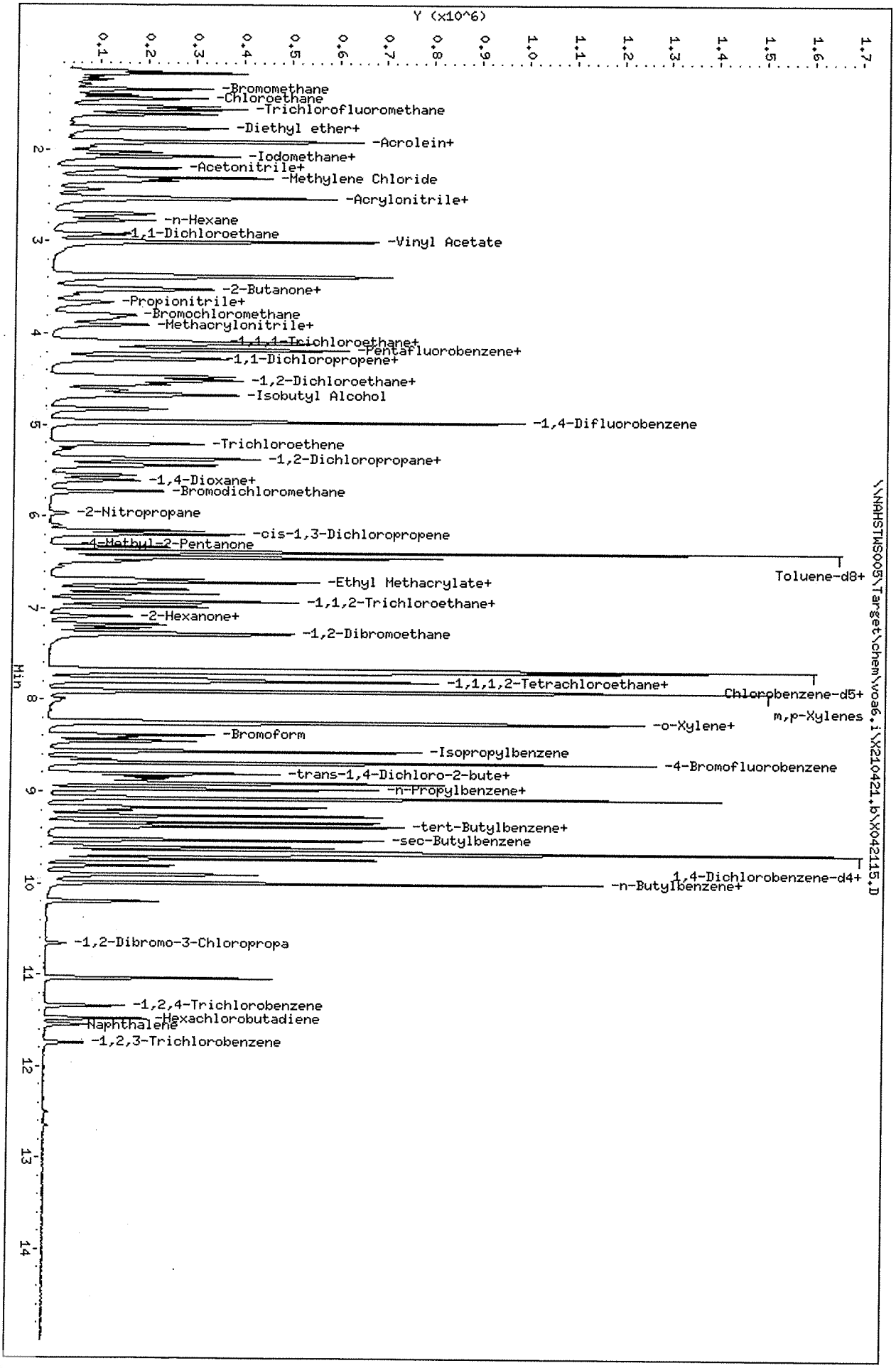
| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ug/l) | FINAL ( ug/l) |
|---|---|---|---|---|---|---|---|
| * 1 Pentafluorobenzene | 168 | 4.182 | 4.182 | (1.000) | 459558 | 50.0000 | |
| * 36 1,4-Difluorobenzene | 114 | 4.963 | 4.970 | (1.000) | 738524 | 50.0000 | |
| * 47 Chlorobenzene-d5 | 117 | 7.671 | 7.670 | (1.000) | 689404 | 50.0000 | |
| * 70 1,4-Dichlorobenzene-d4 | 152 | 9.662 | 9.662 | (1.000) | 302172 | 50.0000 | |
| $ 30 Dibromofluoromethane | 113 | 4.103 | 4.103 | (0.981) | 247301 | 45.7451 | 45.74 |
| $ 35 1,2-Dichloroethane-d4 | 65 | 4.469 | 4.476 | (1.069) | 304879 | 47.0588 | 47.05 |
| $ 48 Toluene-d8 | 98 | 6.388 | 6.388 | (0.833) | 941831 | 53.0327 | 53.03 |
| $ 69 4-Bromofluorobenzene | 95 | 8.688 | 8.688 | (1.133) | 330274 | 49.9560 | 49.95 |
| 60 1,1,1,2-Tetrachloroethane | 131 | 7.771 | 7.778 | (1.013) | 93293 | 18.2366 | 18.23 |
| 31 1,1,1-Trichloroethane | 97 | 4.082 | 4.082 | (0.976) | 158070 | 19.0065 | 19.00 |
| 68 1,1,2,2-Tetrachloroethane | 83 | 8.838 | 8.838 | (0.915) | 111375 | 22.0923 | 22.09 |
| 53 1,1,2-Trichloroethane | 83 | 6.840 | 6.840 | (0.892) | 76461 | 19.0926 | 19.09 |
| 22 1,1-Dichloroethane | 63 | 2.922 | 2.921 | (0.699) | 165047 | 19.3472 | 19.34 |
| 11 1,1-Dichloroethene | 96 | 1.919 | 1.911 | (0.459) | 121659 | 18.5924 | 18.59 |
| 32 1,1-Dichloropropene | 75 | 4.282 | 4.282 | (0.863) | 135267 | 19.5192 | 19.51 |
| 93 1,2,3-Trichlorobenzene | 180 | 11.746 | 11.746 | (1.216) | 20401 | 20.4162 | 20.41 |
| 71 1,2,3-Trichloropropane | 75 | 8.867 | 8.867 | (0.918) | 87279 | 21.5201 | 21.52(M) |
| 90 1,2,4-Trichlorobenzene | 180 | 11.338 | 11.338 | (1.173) | 41253 | 20.5033 | 20.50 |
| 79 1,2,4-Trimethylbenzene | 105 | 9.375 | 9.375 | (0.970) | 331585 | 21.3815 | 21.38 |
| 89 1,2-Dibromo-3-Chloropropane | 155 | 10.658 | 10.657 | (1.103) | 6713 | 20.4235 | 20.42 |
| 57 1,2-Dibromoethane | 107 | 7.262 | 7.262 | (0.947) | 94166 | 19.8689 | 19.86 |
| 88 1,2-Dichlorobenzene | 146 | 9.991 | 9.991 | (1.034) | 161264 | 19.4275 | 19.42 |

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210421.b\X042115.D Page 2
Report Date: 30-Apr-2021 15:39

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ug/l) | CONCENTRATIONS FINAL ( ug/l) |
|---|---|---|---|---|---|---|---|---|
| 33 | 1,2-Dichloroethane | 62 | 4.555 | 4.555 | (0.918) | 141177 | 18.0600 | 18.06 |
| 42 | 1,2-Dichloropropane | 63 | 5.436 | 5.436 | (1.095) | 94702 | 18.4525 | 18.45 |
| 75 | 1,3,5-Trimethylbenzene | 105 | 9.067 | 9.067 | (0.938) | 339612 | 20.9702 | 20.97 |
| 83 | 1,3-Dichlorobenzene | 146 | 9.605 | 9.604 | (0.994) | 179696 | 20.5326 | 20.53 |
| 54 | 1,3-Dichloropropane | 76 | 6.983 | 6.983 | (0.910) | 153143 | 20.0035 | 20.00 |
| 84 | 1,4-Dichlorobenzene | 146 | 9.683 | 9.683 | (1.002) | 179952 | 19.0904 | 19.09 |
| 26 | 2,2-Dichloropropane | 77 | 3.516 | 3.509 | (0.841) | 151514 | 18.0347 | 18.03 |
| 24 | 2-Butanone | 43 | 3.581 | 3.580 | (0.856) | 52322 | 33.1196 | 33.11 |
| 76 | 2-Chlorotoluene | 91 | 8.974 | 8.974 | (0.929) | 302786 | 23.8421 | 23.84 |
| 52 | 2-Hexanone | 43 | 7.090 | 7.090 | (0.924) | 100464 | 37.1972 | 37.19 |
| 77 | 4-Chlorotoluene | 91 | 9.067 | 9.067 | (0.938) | 353016 | 21.4241 | 21.42 |
| 82 | p-Isopropyltoluene | 119 | 9.648 | 9.647 | (0.999) | 320602 | 20.9443 | 20.94 |
| 45 | 4-Methyl-2-Pentanone | 43 | 6.324 | 6.324 | (0.824) | 146549 | 35.2694 | 35.26 |
| 10 | Acetone | 43 | 1.976 | 1.976 | (0.473) | 47781 | 28.3411 | 28.34 |
| 37 | Benzene | 78 | 4.512 | 4.512 | (0.909) | 358195 | 18.3104 | 18.31 |
| 74 | Bromobenzene | 156 | 8.810 | 8.802 | (0.912) | 106539 | 20.4537 | 20.45 |
| 29 | Bromochloromethane | 128 | 3.795 | 3.795 | (0.908) | 49807 | 18.1710 | 18.17 |
| 39 | Bromodichloromethane | 83 | 5.722 | 5.729 | (1.153) | 136384 | 18.4169 | 18.41 |
| 66 | Bromoform | 173 | 8.408 | 8.408 | (1.096) | 54298 | 17.1922 | 17.19 |
| 6 | Bromomethane | 94 | 1.338 | 1.338 | (0.320) | 133705 | 20.2318 | 20.23 |
| 19 | Carbon Disulfide | 76 | 2.069 | 2.069 | (0.495) | 449839 | 35.1939 | 35.19 |
| 34 | Carbon Tetrachloride | 117 | 4.268 | 4.268 | (0.860) | 124876 | 18.7411 | 18.74 |
| 59 | Chlorobenzene | 112 | 7.692 | 7.692 | (1.003) | 258768 | 19.1877 | 19.18 |
| 7 | Chloroethane | 64 | 1.403 | 1.403 | (0.336) | 100612 | 19.6815 | 19.68 |
| 28 | Chloroform | 83 | 3.910 | 3.910 | (0.935) | 178502 | 17.8858 | 17.88 |
| 3 | Chloromethane | 50 | 1.073 | 1.080 | (0.257) | 105250 | 21.5958 | 21.59 |
| 27 | cis-1,2-Dichloroethene | 96 | 3.530 | 3.530 | (0.844) | 99770 | 17.7599 | 17.75 |
| 46 | cis-1,3-Dichloropropene | 75 | 6.152 | 6.152 | (1.240) | 158146 | 18.2960 | 18.29 |
| 55 | Dibromochloromethane | 129 | 7.176 | 7.176 | (0.936) | 100964 | 18.7601 | 18.76 |
| 44 | Dibromomethane | 93 | 5.550 | 5.550 | (1.118) | 66192 | 18.1774 | 18.17 |
| 2 | Dichlorodifluoromethane | 85 | 0.973 | 0.973 | (0.233) | 110027 | 25.4052 | 25.40 |
| 61 | Ethylbenzene | 106 | 7.800 | 7.799 | (1.017) | 141480 | 19.1724 | 19.17 |
| 91 | Hexachlorobutadiene | 225 | 11.481 | 11.481 | (1.188) | 31301 | 20.0346 | 20.03 |
| 67 | Isopropylbenzene | 105 | 8.559 | 8.559 | (1.116) | 415933 | 18.8554 | 18.85 |
| 62 | m,p-Xylenes | 106 | 7.900 | 7.907 | (1.030) | 352373 | 37.7098 | 37.70 |
| 17 | Methylene Chloride | 84 | 2.305 | 2.305 | (0.551) | 89294 | 18.8555 | 18.85 |
| 87 | n-Butylbenzene | 91 | 9.991 | 9.991 | (1.034) | 303256 | 20.9049 | 20.90 |
| 73 | n-Propylbenzene | 91 | 8.910 | 8.910 | (0.922) | 516278 | 22.5202 | 22.52 |
| 92 | Naphthalene | 128 | 11.546 | 11.546 | (1.195) | 64271 | 23.5032 | 23.50 |
| 63 | o-Xylene | 106 | 8.244 | 8.244 | (1.075) | 161282 | 17.7987 | 17.79 |
| 81 | sec-Butylbenzene | 105 | 9.519 | 9.519 | (0.985) | 394672 | 23.7021 | 23.70 |
| 64 | Styrene | 104 | 8.258 | 8.258 | (1.077) | 278338 | 18.9017 | 18.90 |
| 78 | tert-Butylbenzene | 119 | 9.340 | 9.339 | (0.967) | 280043 | 21.9972 | 21.99 |
| 56 | Tetrachloroethene | 164 | 6.926 | 6.926 | (0.903) | 82926 | 19.9275 | 19.92 |
| 50 | Toluene | 91 | 6.446 | 6.446 | (0.840) | 408832 | 19.0843 | 19.08 |
| 20 | trans-1,2-Dichloroethene | 96 | 2.528 | 2.527 | (0.604) | 84154 | 17.9693 | 17.96 |
| 51 | trans-1,3-Dichloropropene | 75 | 6.682 | 6.682 | (1.346) | 141877 | 19.2433 | 19.24 |
| 38 | Trichloroethene | 130 | 5.207 | 5.206 | (1.049) | 97402 | 19.2659 | 19.26 |
| 8 | Trichlorofluoromethane | 101 | 1.561 | 1.560 | (0.373) | 243329 | 18.4500 | 18.44 |
| 5 | Vinyl Chloride | 62 | 1.145 | 1.145 | (0.274) | 137590 | 19.9704 | 19.97 |

QC Flag Legend

M - Compound response manually integrated.

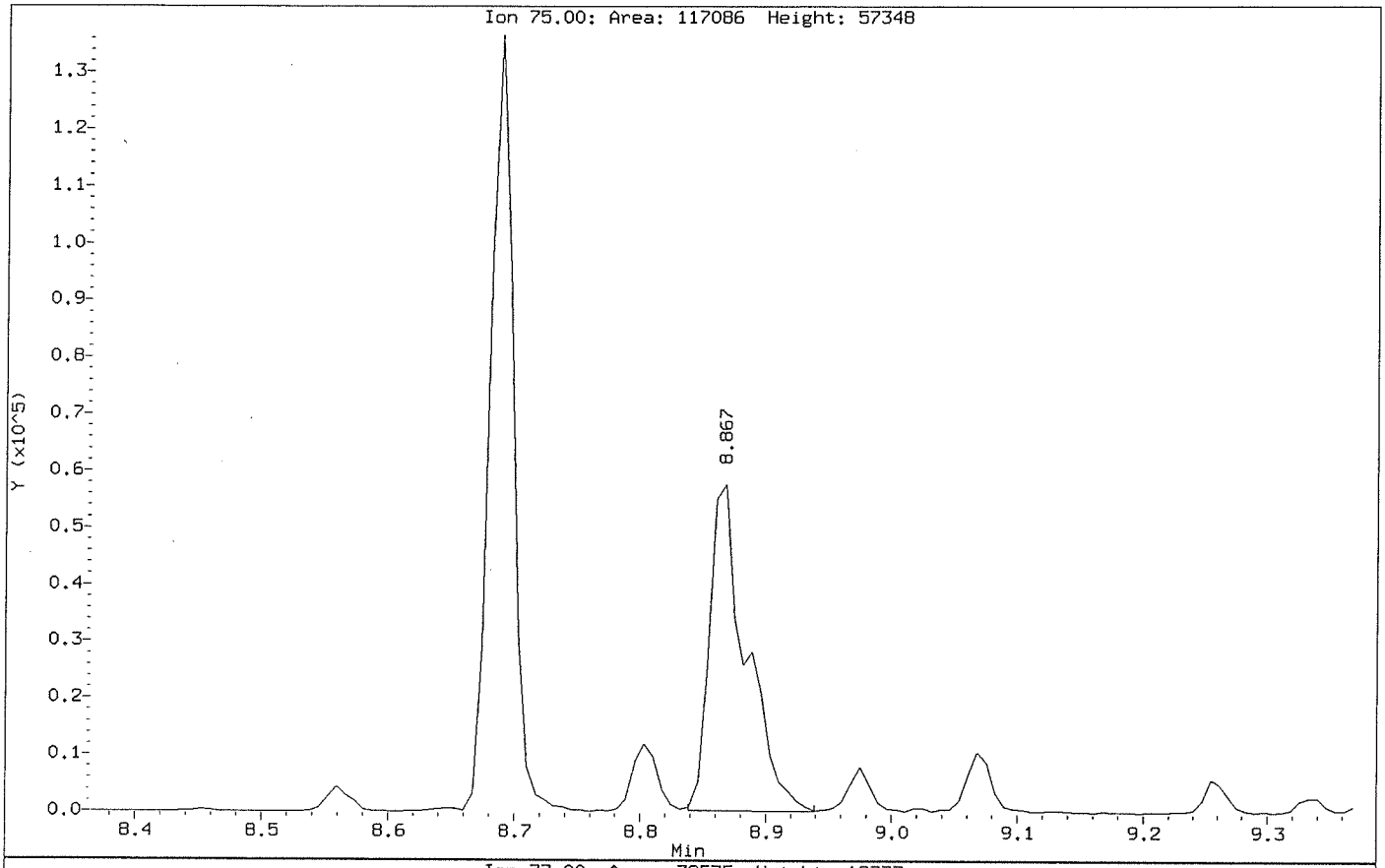


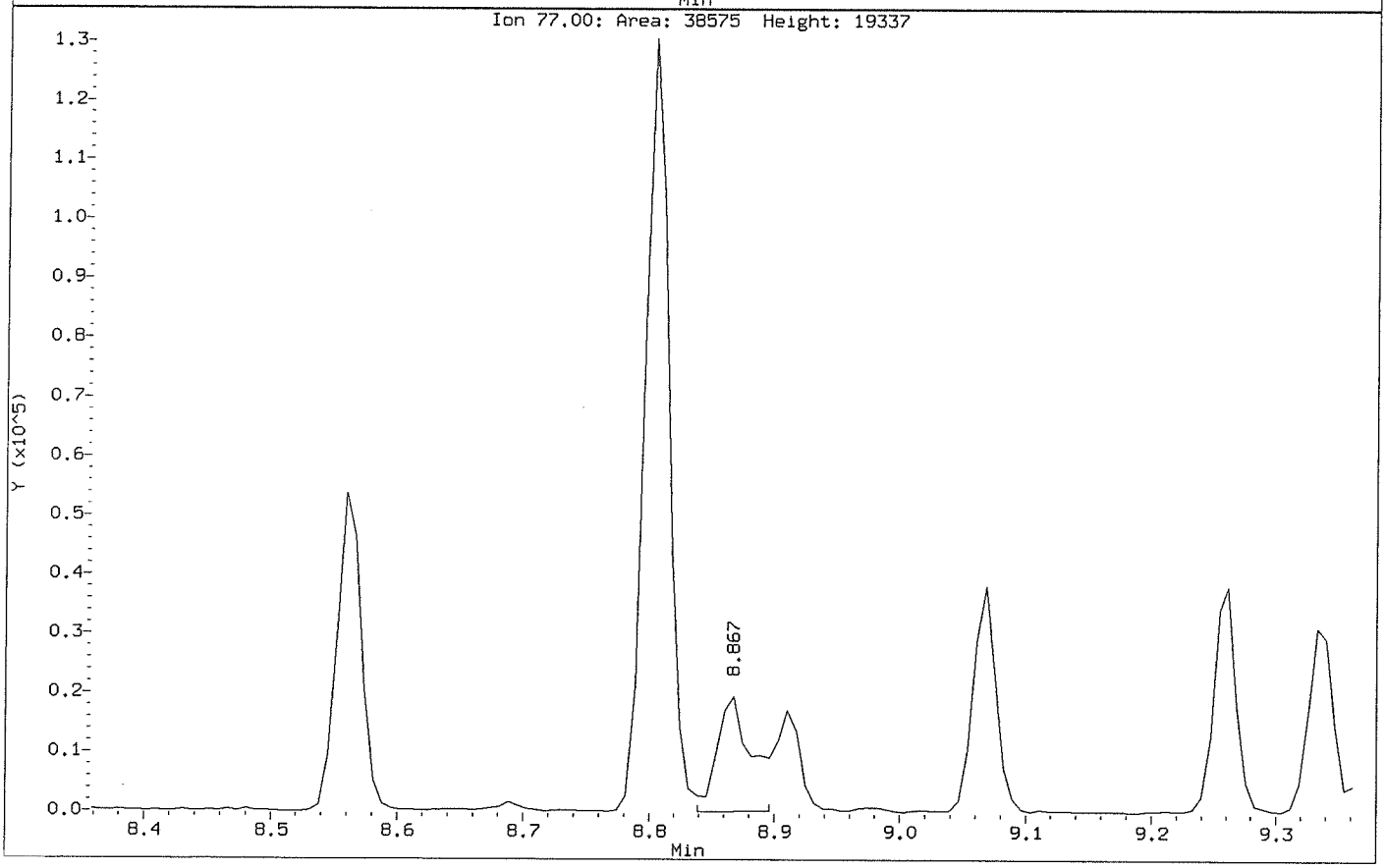

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Date : 21-APR-2021 15:20
Client ID: HS21040967-02MSD
Sample Info: HS21040967-02MSD;HS21040967-02MSD;3;;MSD
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210421.b\Before\X042115.D
Injection Date: 21-APR-2021 15:20
Instrument: voa6.i
Client Sample ID: HS21040967-02MSD

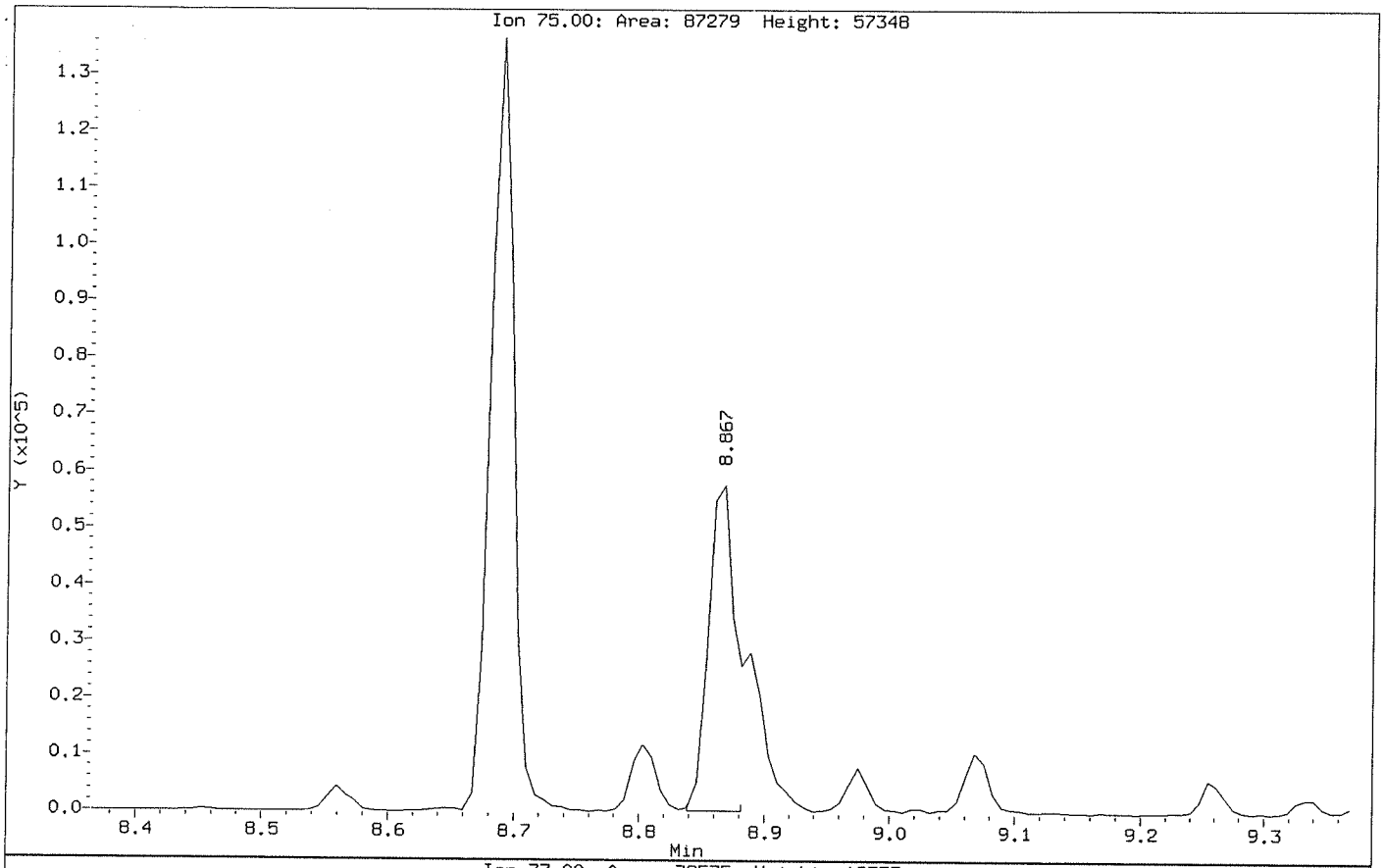
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4

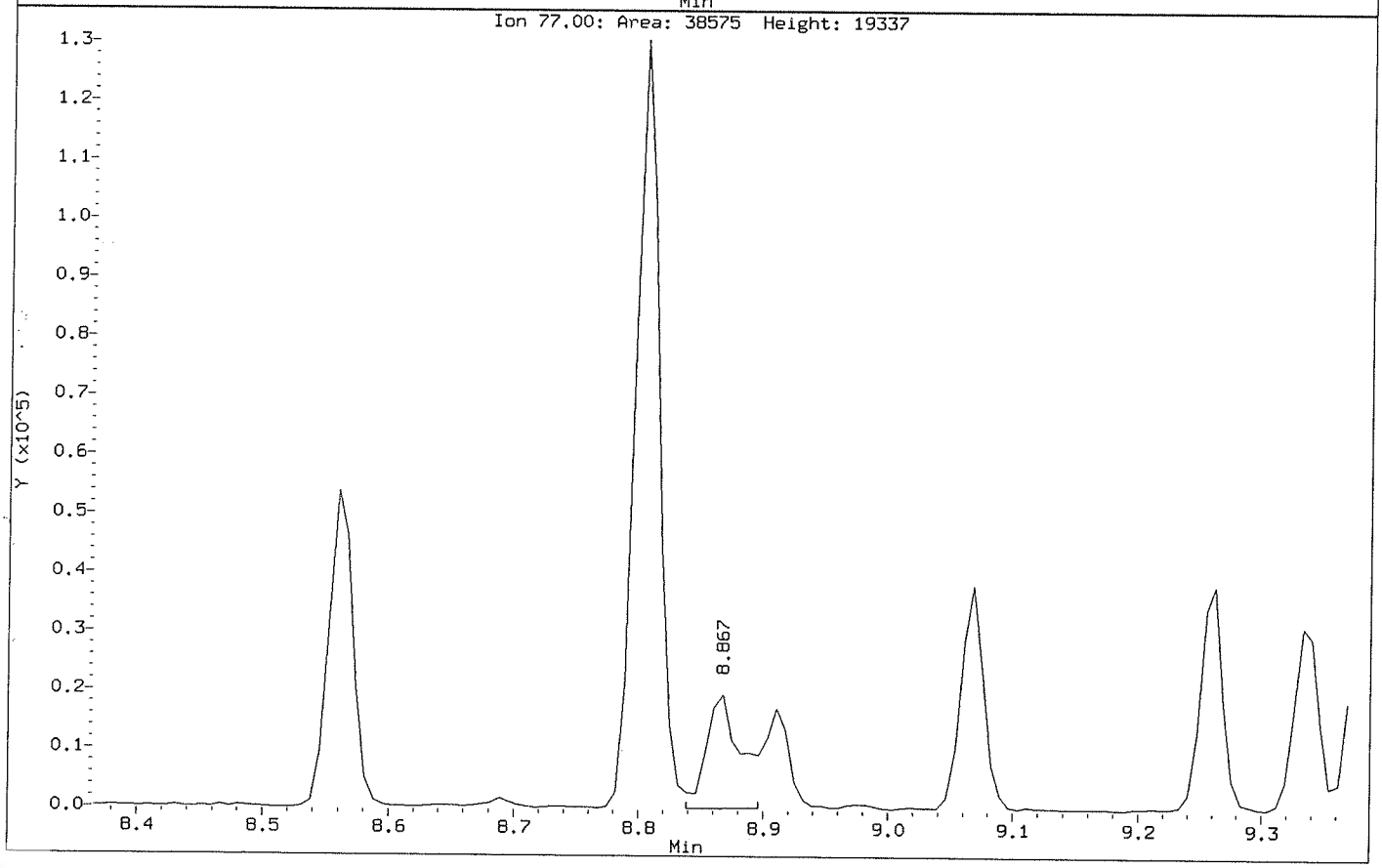


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210421.b\X042115.D
Injection Date: 21-APR-2021 15:20
Instrument: voa6.i
Client Sample ID: HS21040967-02MSD

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210421.b\X042116.D
Lab Smp Id: CCV-END Client Smp ID: CCV-END
Inj Date : 21-APR-2021 15:41
Operator : PC Inst ID: voa6.i
Smp Info : CCV-END;CCV-END;2;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210421.b\8260W.m
Meth Date : 30-Apr-2021 15:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 15 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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 |

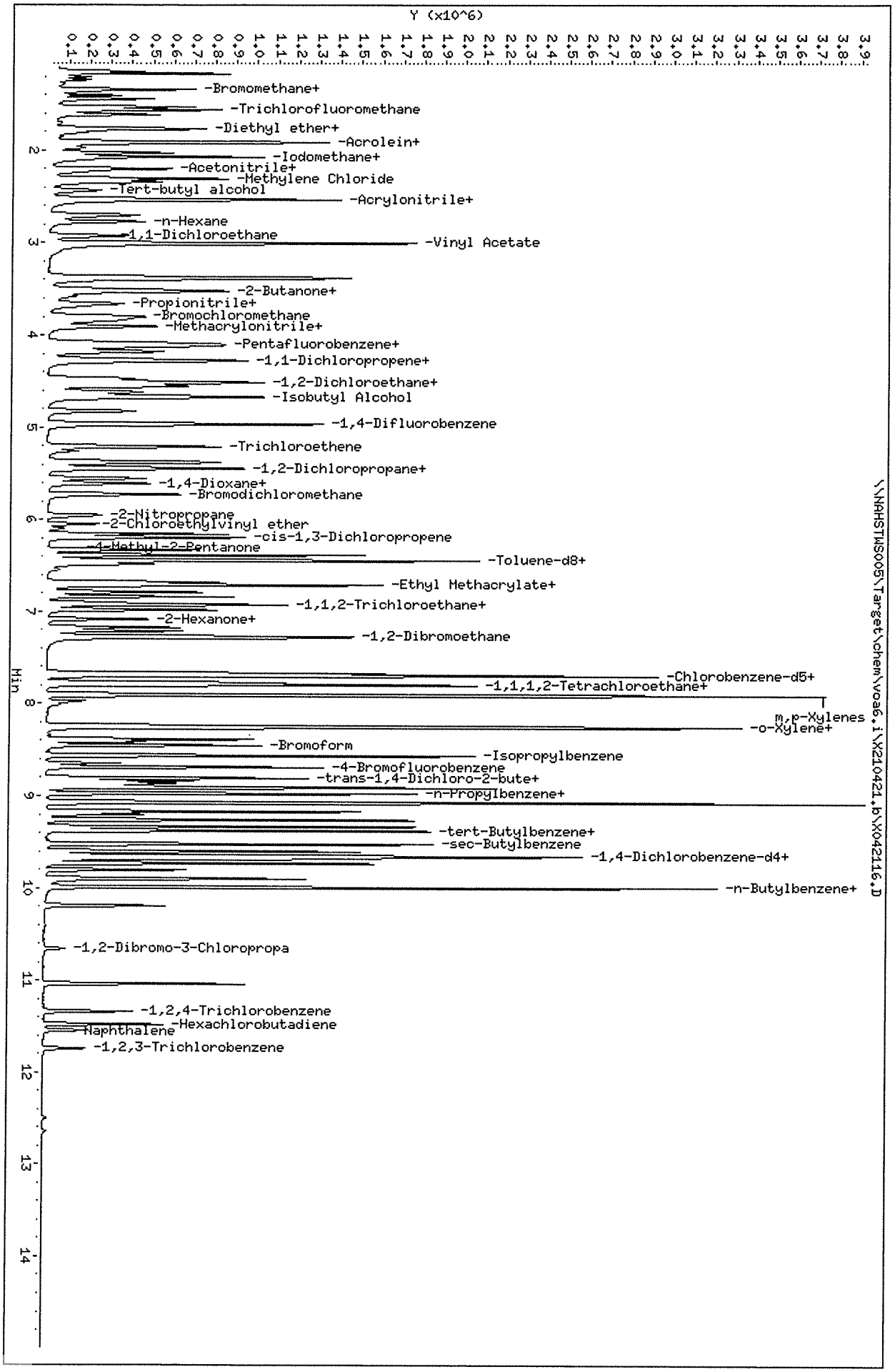
| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|---|
| * | 1 Pentafluorobenzene | 168 | 4.182 | 4.182 | (1.000) | 386638 | 50.0000 | |
| * | 36 1,4-Difluorobenzene | 114 | 4.970 | 4.970 | (1.000) | 685434 | 50.0000 | |
| * | 47 Chlorobenzene-d5 | 117 | 7.670 | 7.670 | (1.000) | 644106 | 50.0000 | |
| * | 70 1,4-Dichlorobenzene-d4 | 152 | 9.662 | 9.662 | (1.000) | 305911 | 50.0000 | |
| $ | 30 Dibromofluoromethane | 113 | 4.103 | 4.103 | (0.981) | 249280 | 50.0000 | 54.72 |
| $ | 35 1,2-Dichloroethane-d4 | 65 | 4.476 | 4.476 | (1.070) | 309461 | 50.0000 | 56.67 |
| $ | 48 Toluene-d8 | 98 | 6.388 | 6.388 | (0.833) | 873588 | 50.0000 | 52.66 |
| $ | 69 4-Bromofluorobenzene | 95 | 8.688 | 8.688 | (1.133) | 344968 | 50.0000 | 55.65 |
| | 60 1,1,1,2-Tetrachloroethane | 131 | 7.778 | 7.778 | (1.014) | 240138 | 50.0000 | 50.24 |
| | 31 1,1,1-Trichloroethane | 97 | 4.089 | 4.089 | (0.978) | 403318 | 50.0000 | 57.64 |
| | 68 1,1,2,2-Tetrachloroethane | 83 | 8.838 | 8.838 | (0.915) | 270019 | 50.0000 | 52.90 |
| | 53 1,1,2-Trichloroethane | 83 | 6.840 | 6.840 | (0.892) | 193308 | 50.0000 | 51.66 |
| | 22 1,1-Dichloroethane | 63 | 2.921 | 2.921 | (0.699) | 390599 | 50.0000 | 54.42 |
| | 11 1,1-Dichloroethene | 96 | 1.911 | 1.911 | (0.457) | 272844 | 50.0000 | 49.56 |
| | 32 1,1-Dichloropropene | 75 | 4.282 | 4.282 | (0.862) | 338561 | 50.0000 | 52.63 |
| | 93 1,2,3-Trichlorobenzene | 180 | 11.746 | 11.746 | (1.216) | 52097 | 50.0000 | 49.62 |
| | 71 1,2,3-Trichloropropane | 75 | 8.867 | 8.867 | (0.918) | 225066 | 50.0000 | 54.81(M) |
| | 90 1,2,4-Trichlorobenzene | 180 | 11.338 | 11.338 | (1.173) | 102500 | 50.0000 | 49.54 |
| | 79 1,2,4-Trimethylbenzene | 105 | 9.382 | 9.382 | (0.971) | 857310 | 50.0000 | 54.60 |
| | 89 1,2-Dibromo-3-Chloropropane | 155 | 10.657 | 10.657 | (1.103) | 18587 | 50.0000 | 55.85 |
| | 57 1,2-Dibromoethane | 107 | 7.262 | 7.262 | (0.947) | 235694 | 50.0000 | 53.22 |
| | 88 1,2-Dichlorobenzene | 146 | 9.991 | 9.991 | (1.034) | 418833 | 50.0000 | 49.84 |

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210421.b\X042116.D Page 2
Report Date: 30-Apr-2021 15:39

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|---|
| 33 | 1,2-Dichloroethane | 62 | 4.555 | 4.555 | (0.916) | 369686 | 50.0000 | 50.95 |
| 42 | 1,2-Dichloropropane | 63 | 5.436 | 5.436 | (1.094) | 260176 | 50.0000 | 54.62 |
| 75 | 1,3,5-Trimethylbenzene | 105 | 9.067 | 9.067 | (0.938) | 899424 | 50.0000 | 54.85 |
| 83 | 1,3-Dichlorobenzene | 146 | 9.604 | 9.604 | (0.994) | 463188 | 50.0000 | 52.27 |
| 54 | 1,3-Dichloropropane | 76 | 6.983 | 6.983 | (0.910) | 394493 | 50.0000 | 55.15 |
| 84 | 1,4-Dichlorobenzene | 146 | 9.683 | 9.683 | (1.002) | 472543 | 50.0000 | 49.51 |
| 26 | 2,2-Dichloropropane | 77 | 3.509 | 3.509 | (0.839) | 367711 | 50.0000 | 52.02 |
| 24 | 2-Butanone | 43 | 3.580 | 3.580 | (0.856) | 140605 | 100.000 | 105.78 |
| 76 | 2-Chlorotoluene | 91 | 8.974 | 8.974 | (0.929) | 780941 | 50.0000 | 60.76 |
| 52 | 2-Hexanone | 43 | 7.083 | 7.083 | (0.923) | 274604 | 100.000 | 103.26 |
| 77 | 4-Chlorotoluene | 91 | 9.067 | 9.067 | (0.938) | 924895 | 50.0000 | 55.44 |
| 82 | p-Isopropyltoluene | 119 | 9.647 | 9.647 | (0.999) | 864725 | 50.0000 | 55.80 |
| 45 | 4-Methyl-2-Pentanone | 43 | 6.324 | 6.324 | (0.824) | 425933 | 100.000 | 109.71 |
| 10 | Acetone | 43 | 1.976 | 1.976 | (0.473) | 110571 | 100.000 | 85.76 |
| 37 | Benzene | 78 | 4.512 | 4.512 | (0.908) | 959852 | 50.0000 | 52.86 |
| 74 | Bromobenzene | 156 | 8.802 | 8.802 | (0.911) | 270838 | 50.0000 | 51.36 |
| 29 | Bromochloromethane | 128 | 3.795 | 3.795 | (0.908) | 126802 | 50.0000 | 54.98 |
| 39 | Bromodichloromethane | 83 | 5.722 | 5.722 | (1.151) | 370855 | 50.0000 | 53.95 |
| 66 | Bromoform | 173 | 8.408 | 8.408 | (1.096) | 147190 | 50.0000 | 46.00 |
| 6 | Bromomethane | 94 | 1.338 | 1.338 | (0.320) | 290456 | 50.0000 | 52.53 |
| 19 | Carbon Disulfide | 76 | 2.069 | 2.069 | (0.495) | 1153477 | 100.000 | 107.26 |
| 34 | Carbon Tetrachloride | 117 | 4.268 | 4.268 | (0.859) | 319375 | 50.0000 | 51.64 |
| 59 | Chlorobenzene | 112 | 7.692 | 7.692 | (1.003) | 663448 | 50.0000 | 49.56 |
| 7 | Chloroethane | 64 | 1.403 | 1.403 | (0.336) | 285201 | 50.0000 | 66.31 |
| 28 | Chloroform | 83 | 3.910 | 3.910 | (0.935) | 465997 | 50.0000 | 55.49 |
| 3 | Chloromethane | 50 | 1.080 | 1.080 | (0.258) | 248884 | 50.0000 | 62.18 |
| 27 | cis-1,2-Dichloroethene | 96 | 3.530 | 3.530 | (0.844) | 253182 | 50.0000 | 53.56 |
| 46 | cis-1,3-Dichloropropene | 75 | 6.152 | 6.152 | (1.238) | 437855 | 50.0000 | 54.57 |
| 55 | Dibromochloromethane | 129 | 7.176 | 7.176 | (0.936) | 256575 | 50.0000 | 51.02 |
| 44 | Dibromomethane | 93 | 5.550 | 5.550 | (1.117) | 173666 | 50.0000 | 51.38 |
| 2 | Dichlorodifluoromethane | 85 | 0.973 | 0.973 | (0.233) | 242139 | 50.0000 | 63.75 |
| 61 | Ethylbenzene | 106 | 7.799 | 7.799 | (1.017) | 348155 | 50.0000 | 50.49 |
| 91 | Hexachlorobutadiene | 225 | 11.481 | 11.481 | (1.188) | 80009 | 50.0000 | 49.05 |
| 67 | Isopropylbenzene | 105 | 8.559 | 8.559 | (1.116) | 1081559 | 50.0000 | 52.47 |
| 62 | m,p-Xylenes | 106 | 7.907 | 7.907 | (1.031) | 899918 | 100.000 | 103.07 |
| 17 | Methylene Chloride | 84 | 2.305 | 2.305 | (0.551) | 213110 | 50.0000 | 50.76 |
| 87 | n-Butylbenzene | 91 | 9.991 | 9.991 | (1.034) | 823717 | 50.0000 | 56.08 |
| 73 | n-Propylbenzene | 91 | 8.910 | 8.910 | (0.922) | 1326249 | 50.0000 | 57.14 |
| 92 | Naphthalene | 128 | 11.546 | 11.546 | (1.195) | 146561 | 50.0000 | 52.01 |
| 63 | o-Xylene | 106 | 8.243 | 8.243 | (1.075) | 429343 | 50.0000 | 50.71 |
| 81 | sec-Butylbenzene | 105 | 9.519 | 9.519 | (0.985) | 1025490 | 50.0000 | 57.30 |
| 64 | Styrene | 104 | 8.258 | 8.258 | (1.077) | 727175 | 50.0000 | 46.81 |
| 78 | tert-Butylbenzene | 119 | 9.339 | 9.339 | (0.967) | 734680 | 50.0000 | 55.85 |
| 56 | Tetrachloroethene | 164 | 6.925 | 6.925 | (0.903) | 189975 | 50.0000 | 48.86 |
| 50 | Toluene | 91 | 6.446 | 6.446 | (0.840) | 1022786 | 50.0000 | 51.10 |
| 20 | trans-1,2-Dichloroethene | 96 | 2.527 | 2.527 | (0.604) | 210998 | 50.0000 | 53.55 |
| 51 | trans-1,3-Dichloropropene | 75 | 6.682 | 6.682 | (1.344) | 377152 | 50.0000 | 55.11 |
| 38 | Trichloroethene | 130 | 5.206 | 5.206 | (1.048) | 246291 | 50.0000 | 52.48 |
| 8 | Trichlorofluoromethane | 101 | 1.560 | 1.560 | (0.373) | 523711 | 50.0000 | 47.19 |
| 5 | Vinyl Chloride | 62 | 1.145 | 1.145 | (0.274) | 308311 | 50.0000 | 53.18 |

QC Flag Legend

M - Compound response manually integrated.

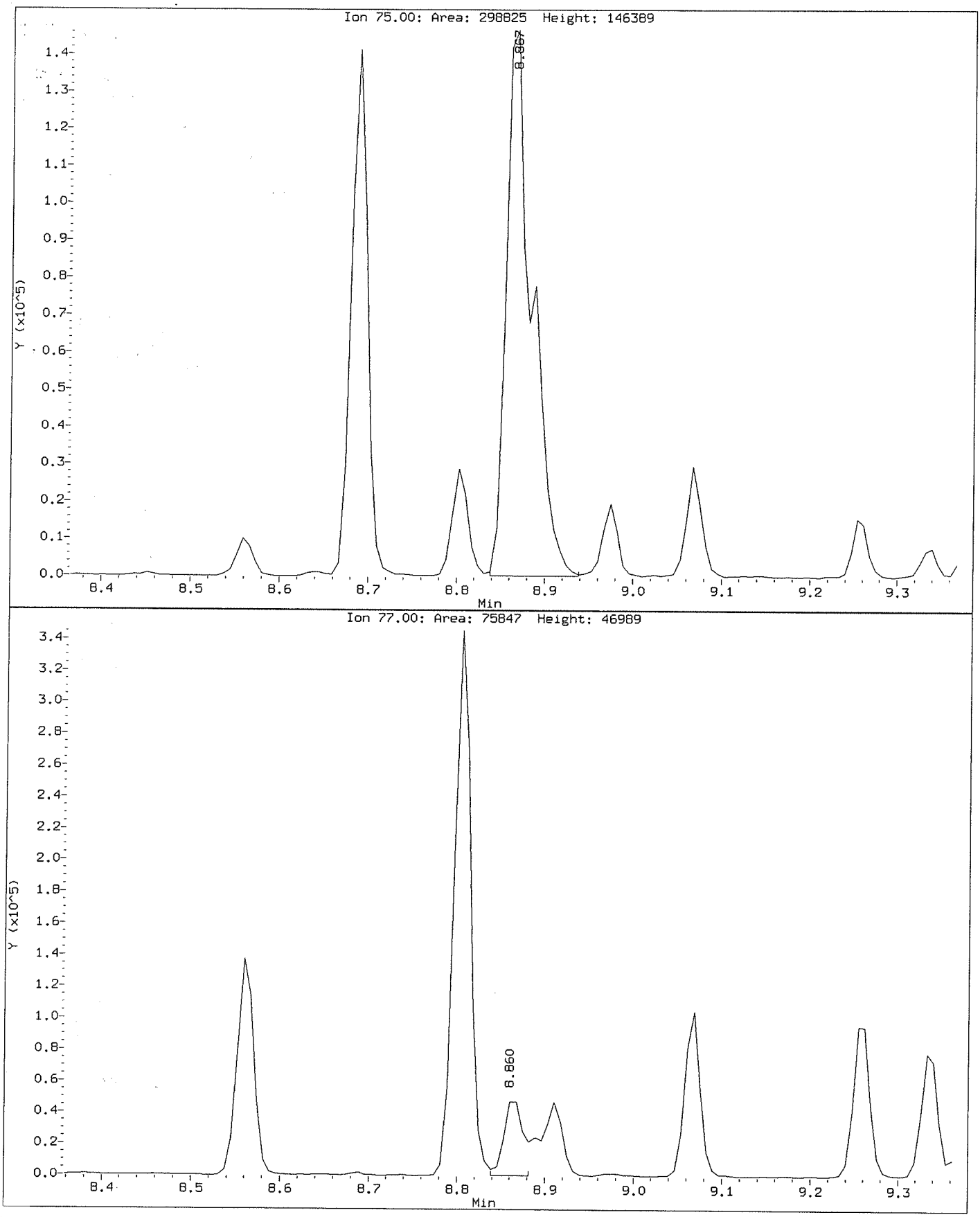



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Client ID: CCV-END
Sample Info: CCV-END;CCV-END;2;;
Purge Volume: 5.0
Column phase: DB624

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

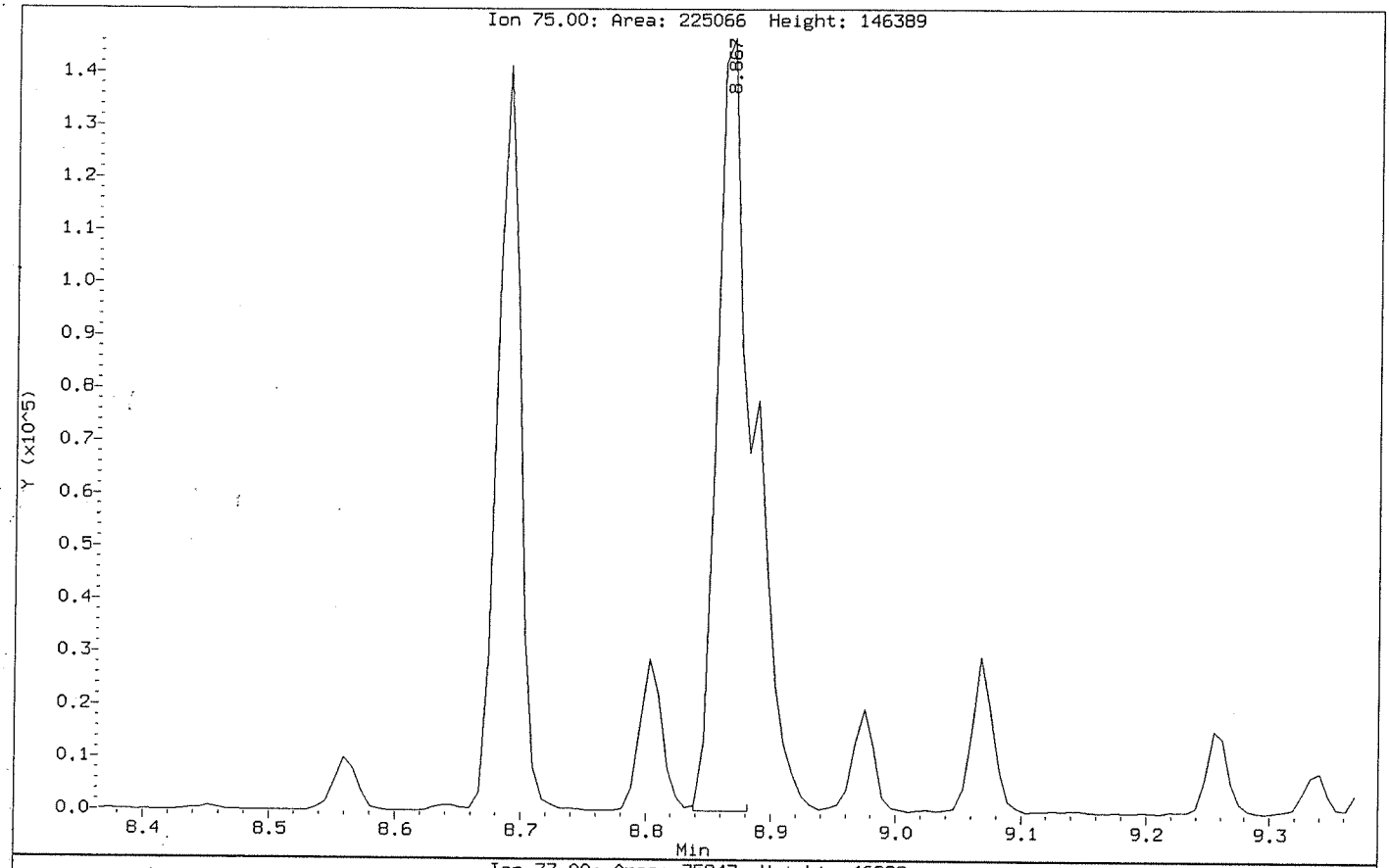
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Instrument: voa6.i
Client Sample ID: CCV-END

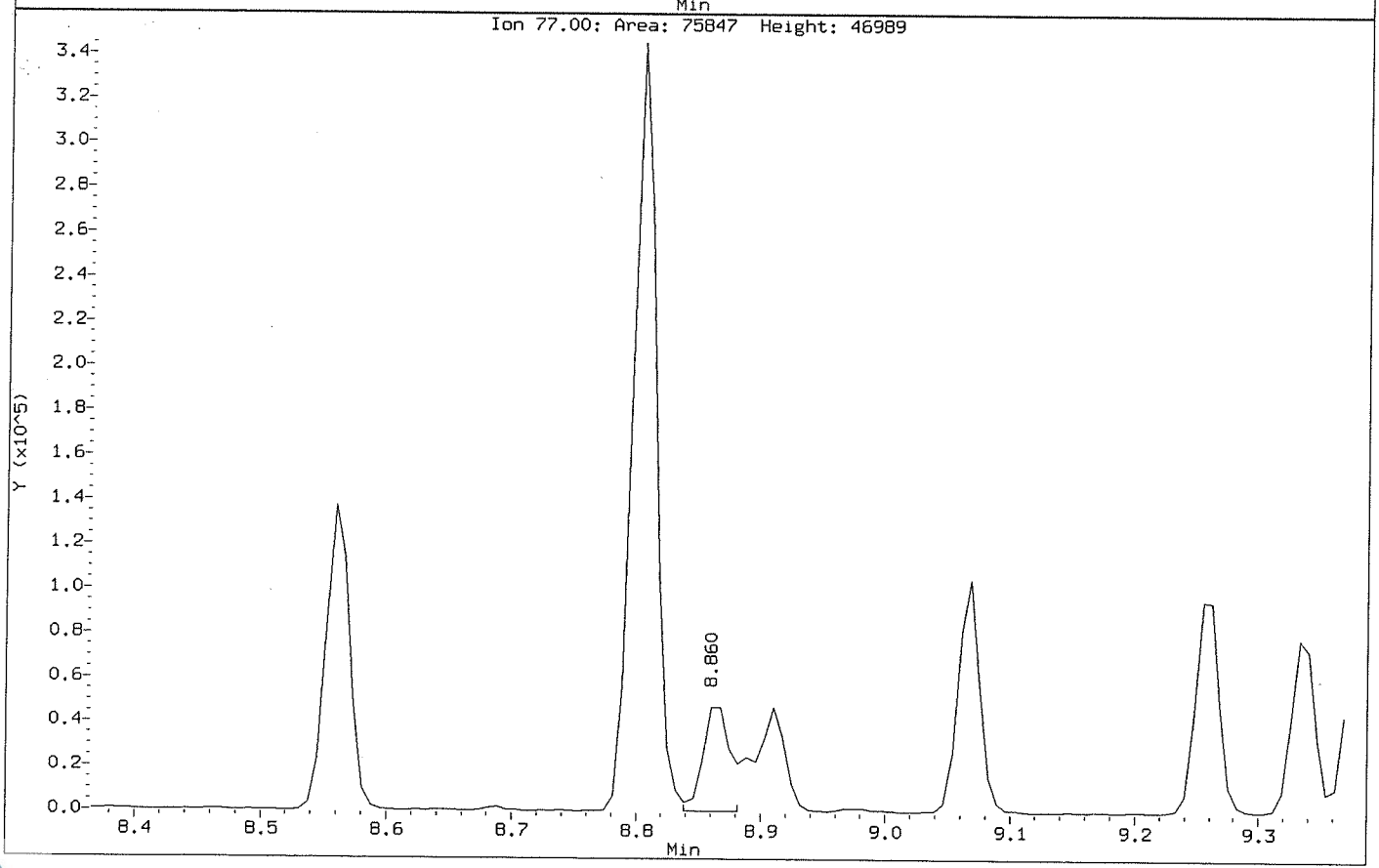
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



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Injection Date: 21-APR-2021 15:41
Instrument: voa6.i
Client Sample ID: CCV-END

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4

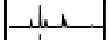
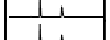
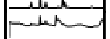
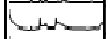
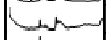
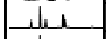


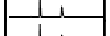
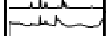
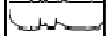
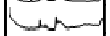
# HS21041086 Wet Chem Raw Data (9056_anions_W)

ALS WO# HS21041086

Sequence: 043021
Last Update Operator: alshs.nouser

| CD | Name | Comment | Type | Position | Dilution | Level | Instrument Method | Processing Method |
|---|---|---|---|---|---|---|---|---|
|  | STD1 | | Calibration | BE1 | 1.00 | 1 | Anions Program 06022020.1 | Anions Processing Method |
|  | STD2 | | Calibration | BE2 | 1.00 | 2 | Anions Program 06022020.1 | Anions Processing Method |
|  | STD3 | | Calibration | BE3 | 1.00 | 3 | Anions Program 06022020.1 | Anions Processing Method |
|  | STD4 | | Calibration | BE4 | 1.00 | 4 | Anions Program 06022020.1 | Anions Processing Method |
|  | STD5 | | Calibration | BE5 | 1.00 | 5 | Anions Program 06022020.1 | Anions Processing Method |
|  | STD6 | | Calibration | BE6 | 1.00 | 6 | Anions Program 06022020.1 | Anions Processing Method |
|  | ICV | | Unknown | BE7 | 1.00 | | Anions Program 06022020.1 | Anions Processing Method |
|  | ICB | | Unknown | BE8 | 1.00 | | Anions Program 06022020.1 | Anions Processing Method |
|  | CCV | | Unknown | R1 | 1.00 | | Anions Program 06022020.1 | Anions Processing Method |
|  | CCB | | Unknown | R4 | 1.00 | | Anions Program 06022020.1 | Anions Processing Method |
|  | HS21041595-02 | | Unknown | RA4 | 1.00 | | Anions Program 06022020.1 | Anions Processing Method |
|  | HS21041595-02MS | | Unknown | RA5 | 1.00 | | Anions Program 06022020.1 | Anions Processing Method |
|  | HS21041595-02MSD | | Unknown | RA6 | 1.00 | | Anions Program 06022020.1 | Anions Processing Method |
|  | CCV1 | | Unknown | R3 | 1.00 | | Anions Program 06022020.1 | Anions Processing Method |
|  | CCB | | Unknown | R8 | 1.00 | | Anions Program 06022020.1 | Anions Processing Method |
|  | CCV | | Unknown | R1 | 1.00 | | Anions Program 06022020.1 | Anions Processing Method |
|  | CCB | | Unknown | R4 | 1.00 | | Anions Program 06022020.1 | Anions Processing Method |
|  | HS21041086-01 | | Unknown | RC3 | 1.00 | | Anions Program 06022020.1 | Anions Processing Method |
|  | CCV1 | | Unknown | R3 | 1.00 | | Anions Program 06022020.1 | Anions Processing Method |
|  | CCB | | Unknown | R6 | 1.00 | | Anions Program 06022020.1 | Anions Processing Method |
|  | HS21041086-01DF20 | | Unknown | RC4 | 20.00 | | Anions Program 06022020.1 | Anions Processing Method |
|  | CCV | | Unknown | R1 | 1.00 | | Anions Program 06022020.1 | Anions Processing Method |
|  | CCB | | Unknown | R4 | 1.00 | | Anions Program 06022020.1 | Anions Processing Method |
|  | CCV1 | | Unknown | R3 | 1.00 | | Anions Program 06022020.1 | Anions Processing Method |
|  | CCB | | Unknown | R8 | 1.00 | | Anions Program 06022020.1 | Anions Processing Method |
|  | MBLK- | | Unknown | R5 | 1.00 | | Anions Program 06022020.1 | Anions Processing Method |
|  | LCS- | | Unknown | R2 | 1.00 | | Anions Program 06022020.1 | Anions Processing Method |
|  | CCV | | Unknown | R1 | 1.00 | | Anions Program 06022020.1 | Anions Processing Method |
|  | CCB | | Unknown | R4 | 1.00 | | Anions Program 06022020.1 | Anions Processing Method |

Sequence: 043021
Last Update Operator: alshs.nouser

| CD | Name | Volume | Status | Inject Time |
|---|---|---|---|---|
|  | STD1 | 5.0 | Finished | 4/20/2021 9:54:11 AM -05:00 |
|  | STD2 | 5.0 | Finished | 4/20/2021 10:12:33 AM -05:00 |
|  | STD3 | 5.0 | Finished | 4/20/2021 10:30:56 AM -05:00 |
|  | STD4 | 5.0 | Finished | 4/20/2021 10:49:20 AM -05:00 |
|  | STD5 | 5.0 | Finished | 4/20/2021 11:07:48 AM -05:00 |
|  | STD6 | 5.0 | Finished | 4/20/2021 11:28:05 AM -05:00 |
|  | ICV | 5.0 | Finished | 4/20/2021 11:46:31 AM -05:00 |
|  | ICB | 5.0 | Finished | 4/20/2021 12:25:13 PM -05:00 |
|  | CCV | 5.0 | Finished | 4/30/2021 11:19:48 AM -05:00 |
|  | CCB | 5.0 | Finished | 4/30/2021 11:38:13 AM -05:00 |
|  | HS21041595-02 | 5.0 | Finished | 4/30/2021 1:29:07 PM -05:00 |
|  | HS21041595-02MS | 5.0 | Finished | 4/30/2021 1:47:31 PM -05:00 |
|  | HS21041595-02MSD | 5.0 | Finished | 4/30/2021 2:06:02 PM -05:00 |
|  | CCV1 | 5.0 | Finished | 4/30/2021 3:03:55 PM -05:00 |
|  | CCB | 5.0 | Finished | 4/30/2021 3:42:37 PM -05:00 |
|  | CCV | 5.0 | Finished | 4/30/2021 7:17:04 PM -05:00 |
|  | CCB | 5.0 | Finished | 4/30/2021 7:35:30 PM -05:00 |
|  | HS21041086-01 | 5.0 | Finished | 4/30/2021 10:49:49 PM -05:00 |
|  | CCV1 | 5.0 | Finished | 4/30/2021 11:10:08 PM -05:00 |
|  | CCB | 5.0 | Finished | 4/30/2021 11:48:52 PM -05:00 |
|  | HS21041086-01DF20 | 5.0 | Finished | 5/1/2021 12:07:45 AM -05:00 |
|  | CCV | 5.0 | Finished | 5/1/2021 3:21:07 AM -05:00 |
|  | CCB | 5.0 | Finished | 5/1/2021 3:59:52 AM -05:00 |
|  | CCV1 | 5.0 | Finished | 5/1/2021 7:27:37 AM -05:00 |
|  | CCB | 5.0 | Finished | 5/1/2021 7:46:01 AM -05:00 |
|  | MBLK- | 5.0 | Finished | 5/1/2021 8:23:11 AM -05:00 |
|  | LCS- | 5.0 | Finished | 5/1/2021 8:41:35 AM -05:00 |
|  | CCV | 5.0 | Finished | 5/1/2021 10:51:13 AM -05:00 |
|  | CCB | 5.0 | Finished | 5/1/2021 11:28:25 AM -05:00 |

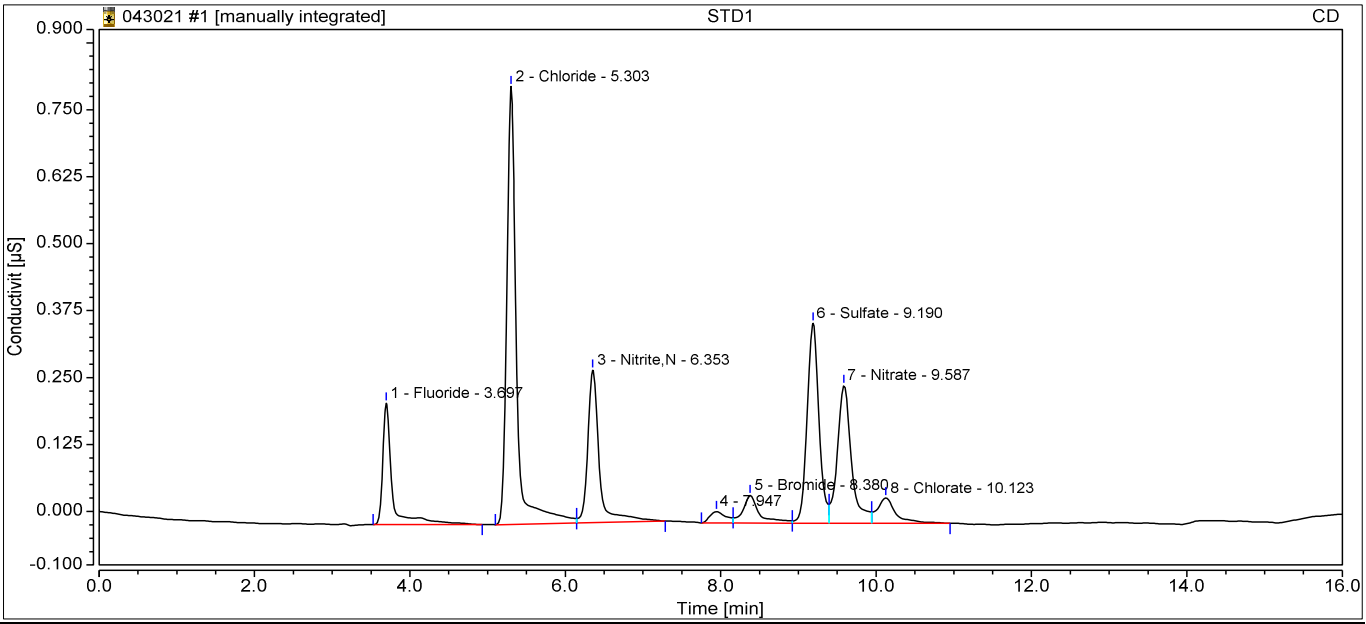
Sequence: 043021
Injection #6: STD6

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/* | *Area* | *6* | *18.7874* | *0.99804* | *0.0037* | *0.3228* | *0.0000* |
| 2 | Chloride | Lin, WithOffset, 1/ | Area | 6 | 4.4845 | 0.99989 | 0.0060 | 0.2088 | 0.0000 |
| 3 | Nitrite,N | Lin, WithOffset, 1/ | Area | 6 | 23.2258 | 0.99660 | 0.0167 | 0.4015 | 0.0000 |
| 5 | Bromide | Lin, WithOffset, 1/ | Area | 6 | 13.6081 | 0.99885 | 0.0031 | 0.0812 | 0.0000 |
| 6 | Sulfate | Lin, WithOffset, 1/ | Area | 6 | 4.6885 | 0.99989 | -0.0143 | 0.1515 | 0.0000 |
| 7 | Nitrate | Lin, WithOffset, 1/ | Area | 6 | 5.2526 | 0.99986 | -0.0011 | 0.5393 | 0.0000 |
| 8 | Chlorate | Lin, WithOffset, 1/ | Area | 6 | 20.9413 | 0.99684 | 0.0071 | 0.0945 | 0.0000 |
| 11 | Phosphate | Lin, WithOffset, 1/ | Area | 5 | 9.6125 | 0.99905 | -0.0521 | 0.2007 | 0.0000 |
| **Maximum** | | | | | **23.2258** | 0.99989 | | | |
| **Minimum** | | | | | 4.4845 | **0.99660** | | | |

| | | | |
|---|---|---|---|
| *1 STD1* | | | |
| *Sample Name:* | **STD1** | *Injection Volume:* | **5.00** |
| *Vial Number:* | **BE1** | *Channel:* | **CD** |
| *Sample Type:* | **Calibration Standard** | *Wavelength:* | **210** |
| *Control Program:* | **Anions Program 06022020.1** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **Anions Processing Method** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **04/20/2021 09:54** | *Sample Weight:* | **1.0000** |

Run Time:



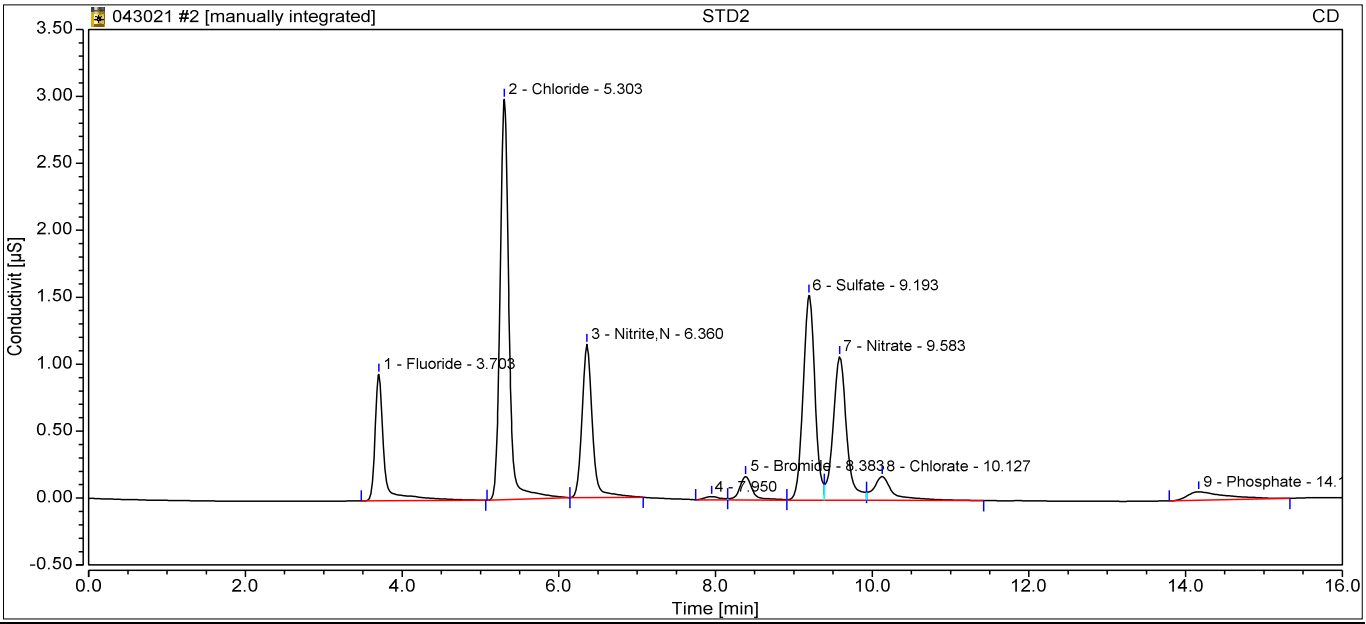

**Integration Results**

| No. | Retention min | Peak Name | Peak Type | Area µS*min | Amount ppm | Concentration ppm | Dilution |
|---|---|---|---|---|---|---|---|
| 1 | 3.70 | Fluoride | BMB | 0.032 | 0.0880 | 0.0880 | 1.0000 |
| 2 | 5.30 | Chloride | BM * | 0.118 | 0.5381 | 0.5381 | 1.0000 |
| 3 | 6.35 | Nitrite,N | MB* | 0.049 | 0.0802 | 0.0802 | 1.0000 |
| 5 | 8.38 | Bromide | M | 0.013 | 0.1188 | 0.1188 | 1.0000 |
| 6 | 9.19 | Sulfate | M | 0.066 | 0.5285 | 0.5285 | 1.0000 |
| 7 | 9.59 | Nitrate | M | 0.054 | 0.1022 | 0.1022 | 1.0000 |
| 8 | 10.12 | Chlorate | MB | 0.013 | 0.0640 | 0.0640 | 1.0000 |
| n.a. | n.a. | Phosphate | n.a. | n.a. | n.a. | n.a. | 1.0000 |
| **Total:** | | | **0.000** | **0.345** | | **1.52** | |

2 STD2

| | | | |
|---|---|---|---|
| *Sample Name:* | **STD2** | *Injection Volume:* | **5.00** |
| *Vial Number:* | **BE2** | *Channel:* | **CD** |
| *Sample Type:* | **Calibration Standard** | *Wavelength:* | **210** |
| *Control Program:* | **Anions Program 06022020.1** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **Anions Processing Method** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **04/20/2021 10:12** | *Sample Weight:* | **1.0000** |

Run Time:



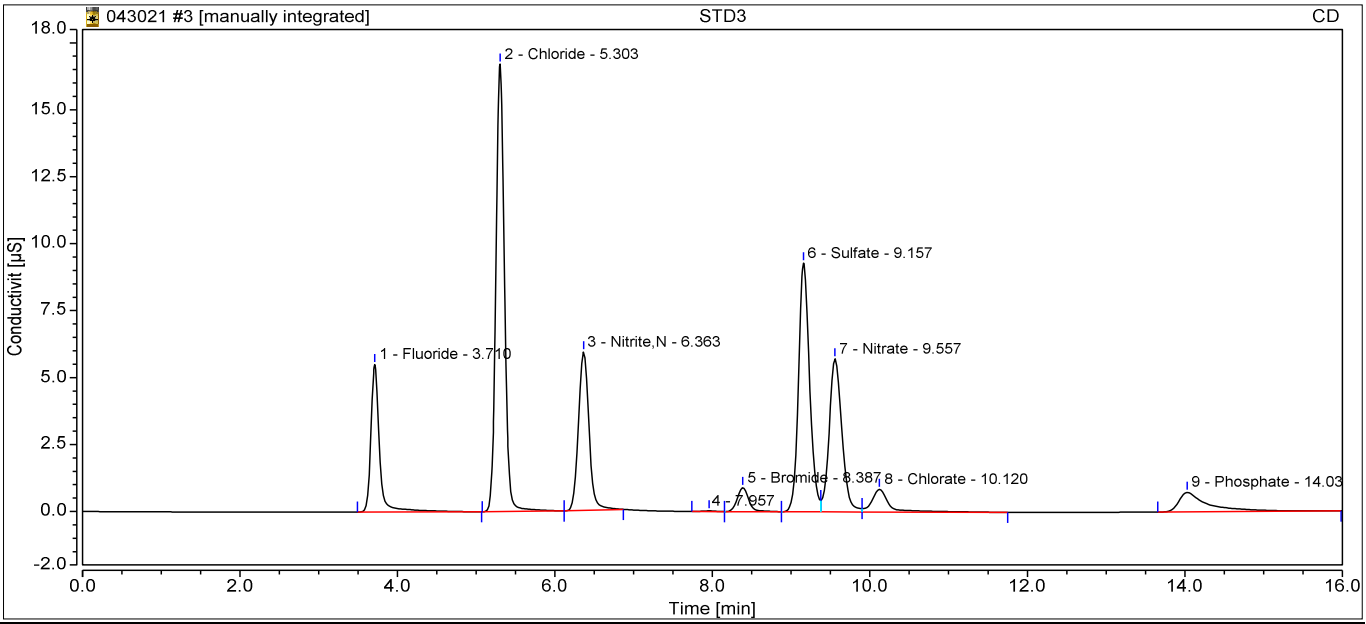

**Integration Results**

| No. | Retention min | Peak Name | Peak Type | Area µS*min | Amount ppm | Concentration ppm | Dilution |
|---|---|---|---|---|---|---|---|
| 1 | 3.70 | Fluoride | BMB | 0.129 | 0.3886 | 0.3886 | 1.0000 |
| 2 | 5.30 | Chloride | BMb* | 0.393 | 1.8537 | 1.8537 | 1.0000 |
| 3 | 6.36 | Nitrite,N | bMB* | 0.176 | 0.3975 | 0.3975 | 1.0000 |
| 5 | 8.38 | Bromide | M | 0.033 | 0.3714 | 0.3714 | 1.0000 |
| 6 | 9.19 | Sulfate | M | 0.266 | 1.8512 | 1.8512 | 1.0000 |
| 7 | 9.58 | Nitrate | M | 0.213 | 0.3976 | 0.3976 | 1.0000 |
| 8 | 10.13 | Chlorate | MB | 0.052 | 0.4776 | 0.4776 | 1.0000 |
| 9 | 14.17 | Phosphate | BMB | 0.036 | 0.4401 | 0.4401 | 1.0000 |
| **Total:** | | | **0.000** | **1.300** | | **6.18** | |

*3 STD3*

| | | | |
|---|---|---|---|
| *Sample Name:* | **STD3** | *Injection Volume:* | **5.00** |
| *Vial Number:* | **BE3** | *Channel:* | **CD** |
| *Sample Type:* | **Calibration Standard** | *Wavelength:* | **210** |
| *Control Program:* | **Anions Program 06022020.1** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **Anions Processing Method** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **04/20/2021 10:30** | *Sample Weight:* | **1.0000** |

Run Time:



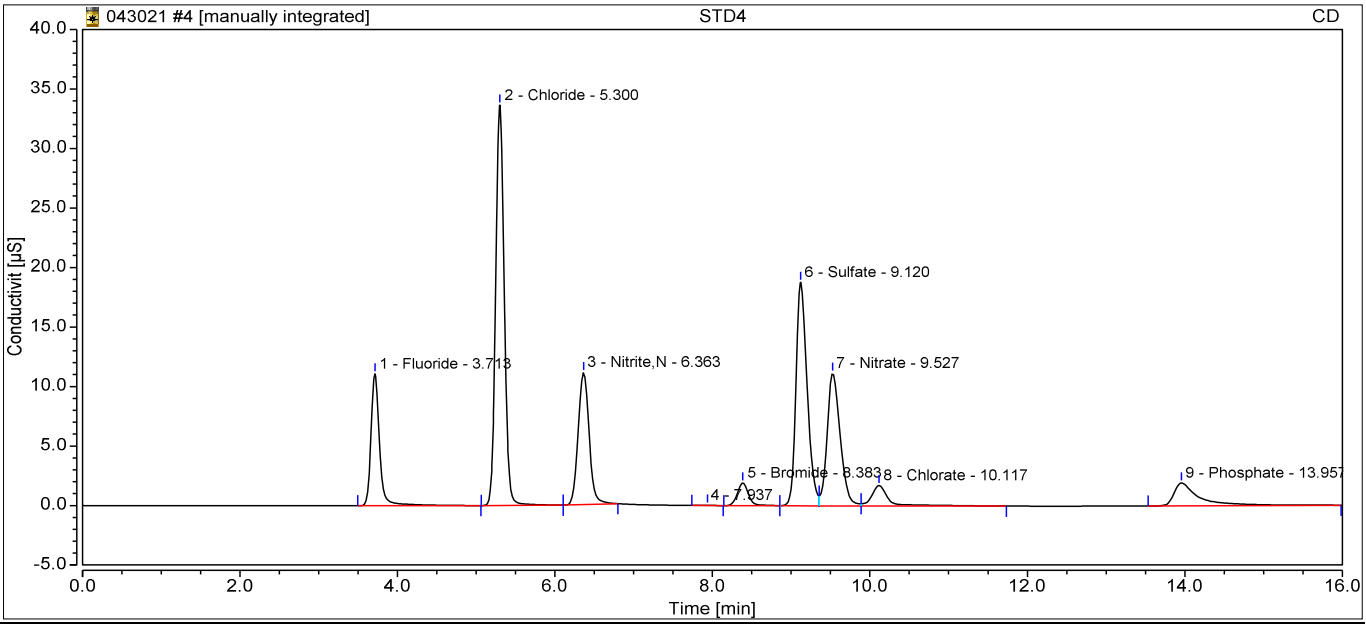

**Integration Results**

| No. | Retention min | Peak Name | Peak Type | Area µS*min | Amount ppm | Concentration ppm | Dilution |
|---|---|---|---|---|---|---|---|
| 1 | 3.71 | Fluoride | BMB | 0.701 | 2.1586 | 2.1586 | 1.0000 |
| 2 | 5.30 | Chloride | BMb* | 2.082 | 9.9444 | 9.9444 | 1.0000 |
| 3 | 6.36 | Nitrite,N | bMB* | 0.918 | 2.2461 | 2.2461 | 1.0000 |
| 5 | 8.39 | Bromide | M | 0.152 | 1.8301 | 1.8301 | 1.0000 |
| 6 | 9.16 | Sulfate | M | 1.509 | 10.0487 | 10.0487 | 1.0000 |
| 7 | 9.56 | Nitrate | M | 1.072 | 1.9895 | 1.9895 | 1.0000 |
| 8 | 10.12 | Chlorate | MB | 0.216 | 2.2126 | 2.2126 | 1.0000 |
| 9 | 14.03 | Phosphate | BMB | 0.322 | 1.8648 | 1.8648 | 1.0000 |
| **Total:** | | | **0.000** | **6.971** | | **32.29** | |

*4 STD4*

| | | | |
|---|---|---|---|
| *Sample Name:* | **STD4** | *Injection Volume:* | **5.00** |
| *Vial Number:* | **BE4** | *Channel:* | **CD** |
| *Sample Type:* | **Calibration Standard** | *Wavelength:* | **210** |
| *Control Program:* | **Anions Program 06022020.1** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **Anions Processing Method** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **04/20/2021 10:49** | *Sample Weight:* | **1.0000** |

Run Time:

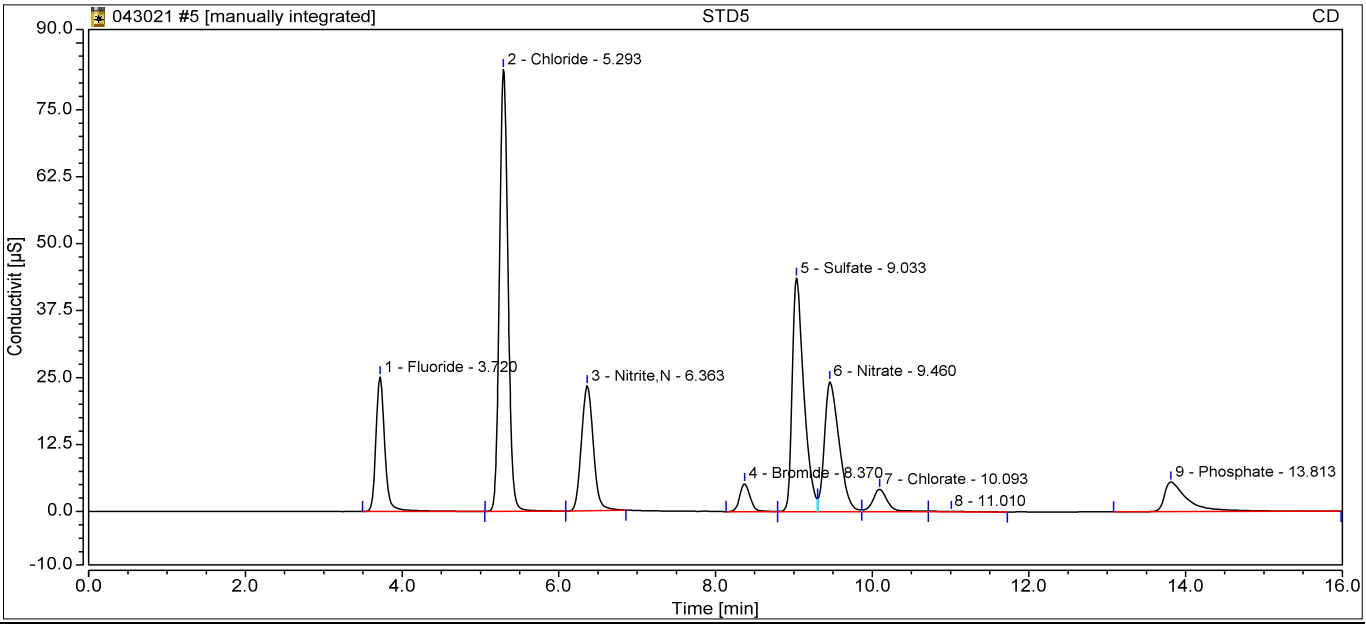



**Integration Results**

| No. | Retention min | Peak Name | Peak Type | Area µS*min | Amount ppm | Concentration ppm | Dilution |
|---|---|---|---|---|---|---|---|
| 1 | 3.71 | Fluoride | BMB | 1.403 | 4.3336 | 4.3336 | 1.0000 |
| 2 | 5.30 | Chloride | BMb* | 4.203 | 20.1063 | 20.1063 | 1.0000 |
| 3 | 6.36 | Nitrite,N | bMB* | 1.787 | 4.4092 | 4.4092 | 1.0000 |
| 5 | 8.38 | Bromide | BM | 0.313 | 3.8179 | 3.8179 | 1.0000 |
| 6 | 9.12 | Sulfate | M | 3.063 | 20.3070 | 20.3070 | 1.0000 |
| 7 | 9.53 | Nitrate | M | 2.148 | 3.9846 | 3.9846 | 1.0000 |
| 8 | 10.12 | Chlorate | MB | 0.424 | 4.4085 | 4.4085 | 1.0000 |
| 9 | 13.96 | Phosphate | BMB | 0.719 | 3.8422 | 3.8422 | 1.0000 |
| **Total:** | | | **0.000** | **14.060** | | **65.21** | |

| | | | |
|---|---|---|---|
| *5 STD5* | | | |
| *Sample Name:* | **STD5** | *Injection Volume:* | **5.00** |
| *Vial Number:* | **BE5** | *Channel:* | **CD** |
| *Sample Type:* | **Calibration Standard** | *Wavelength:* | **210** |
| *Control Program:* | **Anions Program 06022020.1** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **Anions Processing Method** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **04/20/2021 11:07** | *Sample Weight:* | **1.0000** |

Run Time:

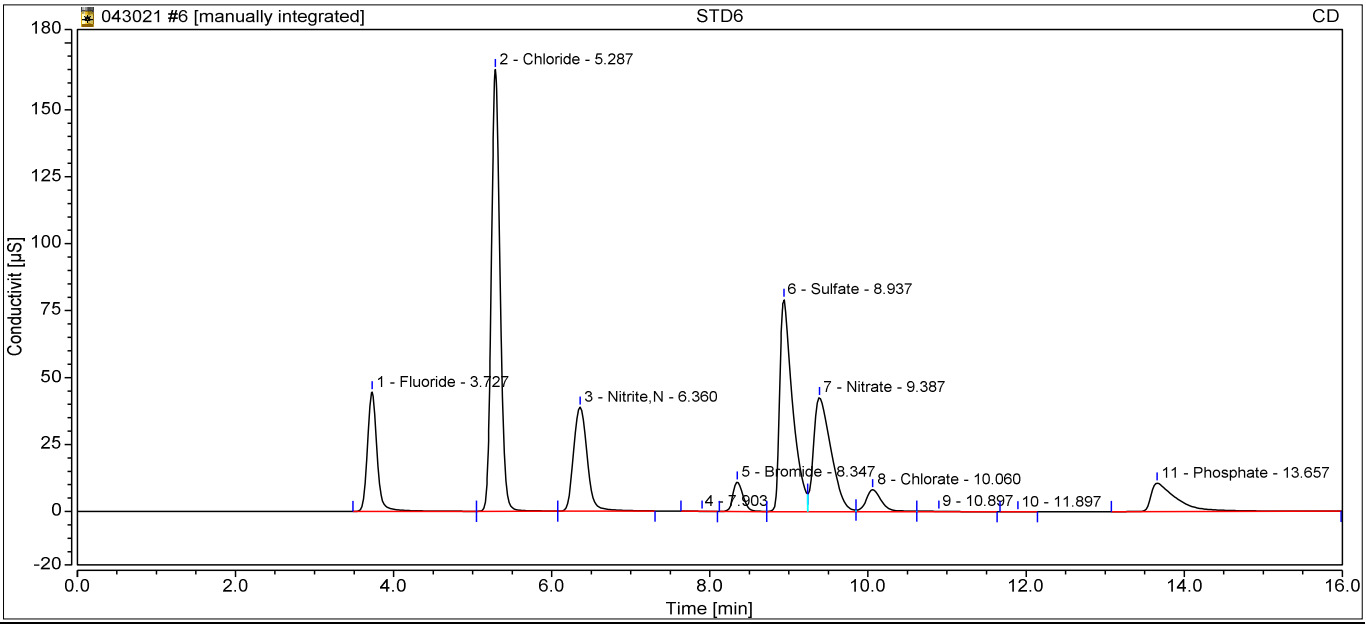



**Integration Results**

| No. | Retention min | Peak Name | Peak Type | Area µS*min | Amount ppm | Concentration ppm | Dilution |
|---|---|---|---|---|---|---|---|
| 1 | 3.72 | Fluoride | BMB | 3.290 | 10.1807 | 10.1807 | 1.0000 |
| 2 | 5.29 | Chloride | BMb* | 10.372 | 49.6551 | 49.6551 | 1.0000 |
| 3 | 6.36 | Nitrite,N | bMB* | 4.114 | 10.2053 | 10.2053 | 1.0000 |
| 4 | 8.37 | Bromide | BM | 0.808 | 9.9156 | 9.9156 | 1.0000 |
| 5 | 9.03 | Sulfate | M | 7.557 | 49.9615 | 49.9615 | 1.0000 |
| 6 | 9.46 | Nitrate | M | 5.301 | 9.8318 | 9.8318 | 1.0000 |
| 7 | 10.09 | Chlorate | M | 0.936 | 9.8243 | 9.8243 | 1.0000 |
| 9 | 13.81 | Phosphate | BMB | 1.932 | 9.8822 | 9.8822 | 1.0000 |
| **Total:** | | | **0.000** | **34.310** | | **159.46** | |

| | | | |
|---|---|---|---|
| *6 STD6* | | | |
| *Sample Name:* | **STD6** | *Injection Volume:* | **5.00** |
| *Vial Number:* | **BE6** | *Channel:* | **CD** |
| *Sample Type:* | **Calibration Standard** | *Wavelength:* | **210** |
| *Control Program:* | **Anions Program 06022020.1** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **Anions Processing Method** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **04/20/2021 11:28** | *Sample Weight:* | **1.0000** |

Run Time:



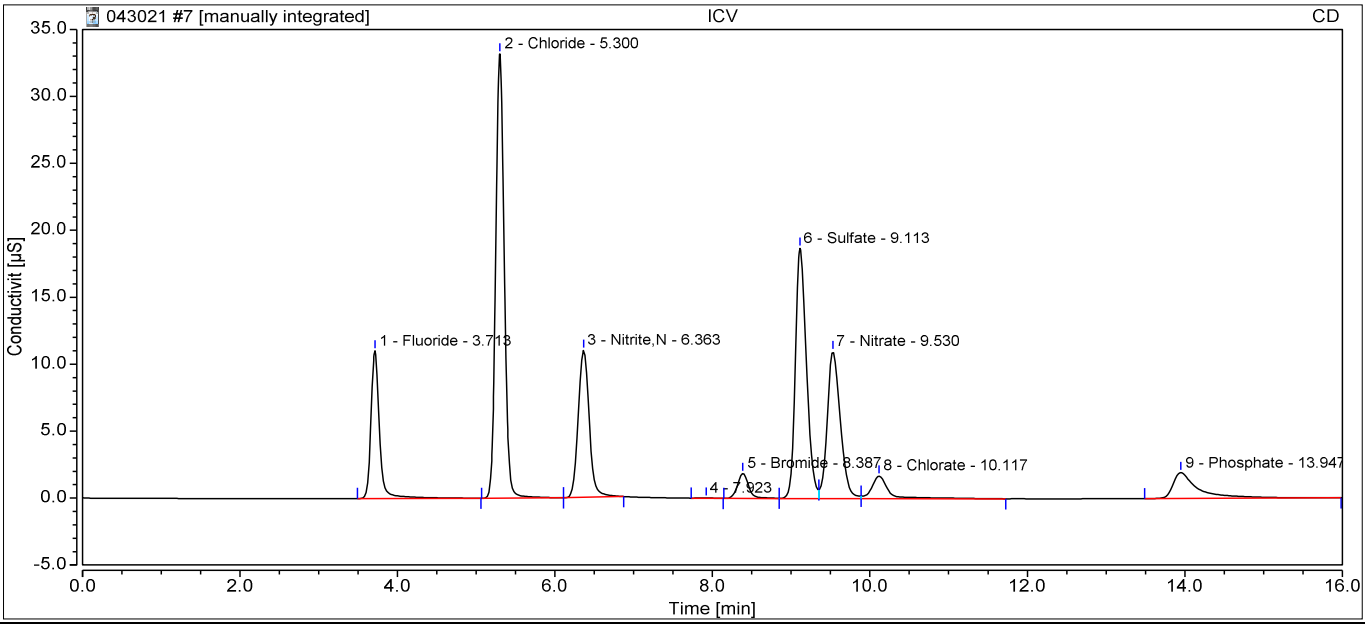

**Integration Results**

| No. | Retention min | Peak Name | Peak Type | Area µS*min | Amount ppm | Concentration ppm | Dilution |
|---|---|---|---|---|---|---|---|
| 1 | 3.73 | Fluoride | BMB | 6.250 | 19.3505 | 19.3505 | 1.0000 |
| 2 | 5.29 | Chloride | BMb* | 20.966 | 100.4024 | 100.4024 | 1.0000 |
| 3 | 6.36 | Nitrite,N | bMB* | 7.710 | 19.1617 | 19.1617 | 1.0000 |
| 5 | 8.35 | Bromide | BM | 1.662 | 20.4462 | 20.4462 | 1.0000 |
| 6 | 8.94 | Sulfate | M | 15.110 | 99.8032 | 99.8032 | 1.0000 |
| 7 | 9.39 | Nitrate | M | 10.889 | 20.1943 | 20.1943 | 1.0000 |
| 8 | 10.06 | Chlorate | M | 1.852 | 19.5130 | 19.5130 | 1.0000 |
| 11 | 13.66 | Phosphate | BMB | 4.037 | 20.3707 | 20.3707 | 1.0000 |
| **Total:** | | | **0.000** | **68.477** | | **319.24** | |

7 ICV

| | | | |
|---|---|---|---|
| *Sample Name:* | **ICV** | *Injection Volume:* | **5.00** |
| *Vial Number:* | **BE7** | *Channel:* | **CD** |
| *Sample Type:* | **Unknown** | *Wavelength:* | **210** |
| *Control Program:* | **Anions Program 06022020.1** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **Anions Processing Method** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **04/20/2021 11:46** | *Sample Weight:* | **1.0000** |

Run Time:



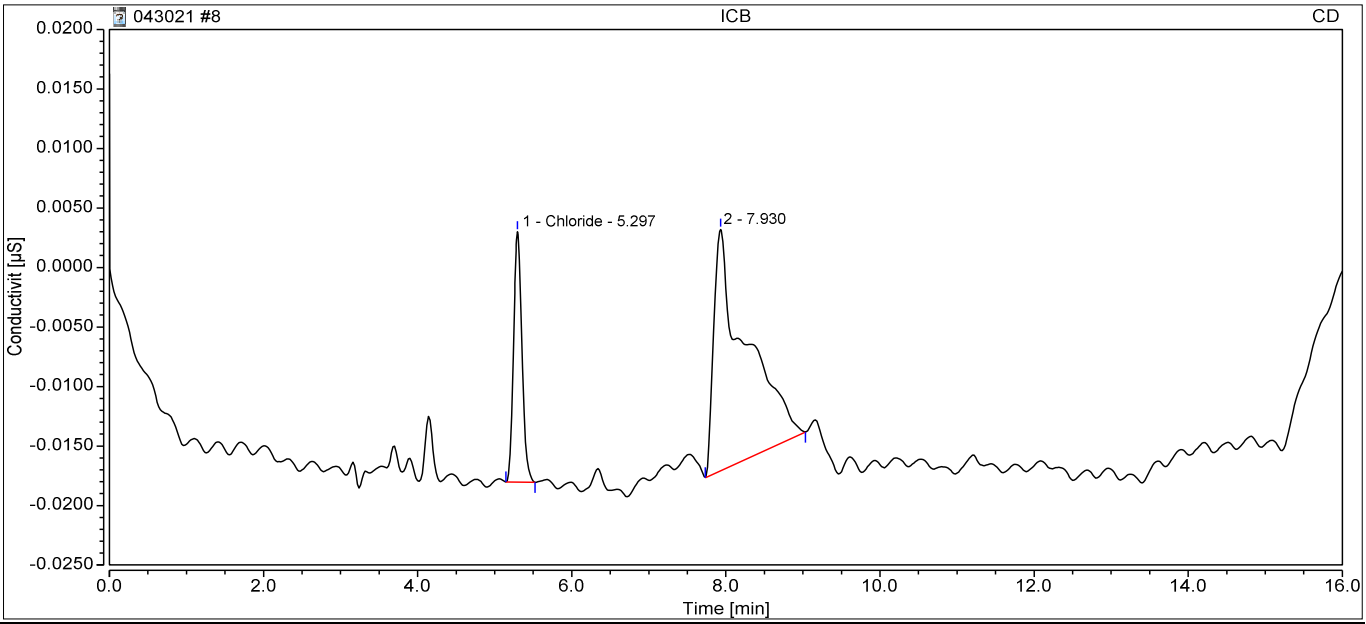

**Integration Results**

| No. | Retention min | Peak Name | Peak Type | Area µS*min | Amount ppm | Concentration ppm | Dilution |
|---|---|---|---|---|---|---|---|
| 1 | 3.71 | Fluoride | BMB | 1.384 | 4.2770 | 4.2770 | 1.0000 |
| 2 | 5.30 | Chloride | BMb* | 4.144 | 19.8205 | 19.8205 | 1.0000 |
| 3 | 6.36 | Nitrite,N | bMB* | 1.777 | 4.3839 | 4.3839 | 1.0000 |
| 5 | 8.39 | Bromide | BM | 0.309 | 3.7640 | 3.7640 | 1.0000 |
| 6 | 9.11 | Sulfate | M | 3.024 | 20.0510 | 20.0510 | 1.0000 |
| 7 | 9.53 | Nitrate | M | 2.119 | 3.9305 | 3.9305 | 1.0000 |
| 8 | 10.12 | Chlorate | MB | 0.422 | 4.3868 | 4.3868 | 1.0000 |
| 9 | 13.95 | Phosphate | BMB | 0.725 | 3.8706 | 3.8706 | 1.0000 |
| **Total:** | | | **0.000** | **13.903** | | **64.48** | |

*8 ICB*

| | | | |
|---|---|---|---|
| *Sample Name:* | **ICB** | *Injection Volume:* | **5.00** |
| *Vial Number:* | **BE8** | *Channel:* | **CD** |
| *Sample Type:* | **Unknown** | *Wavelength:* | **210** |
| *Control Program:* | **Anions Program 06022020.1** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **Anions Processing Method** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **04/20/2021 12:25** | *Sample Weight:* | **1.0000** |

Run Time:



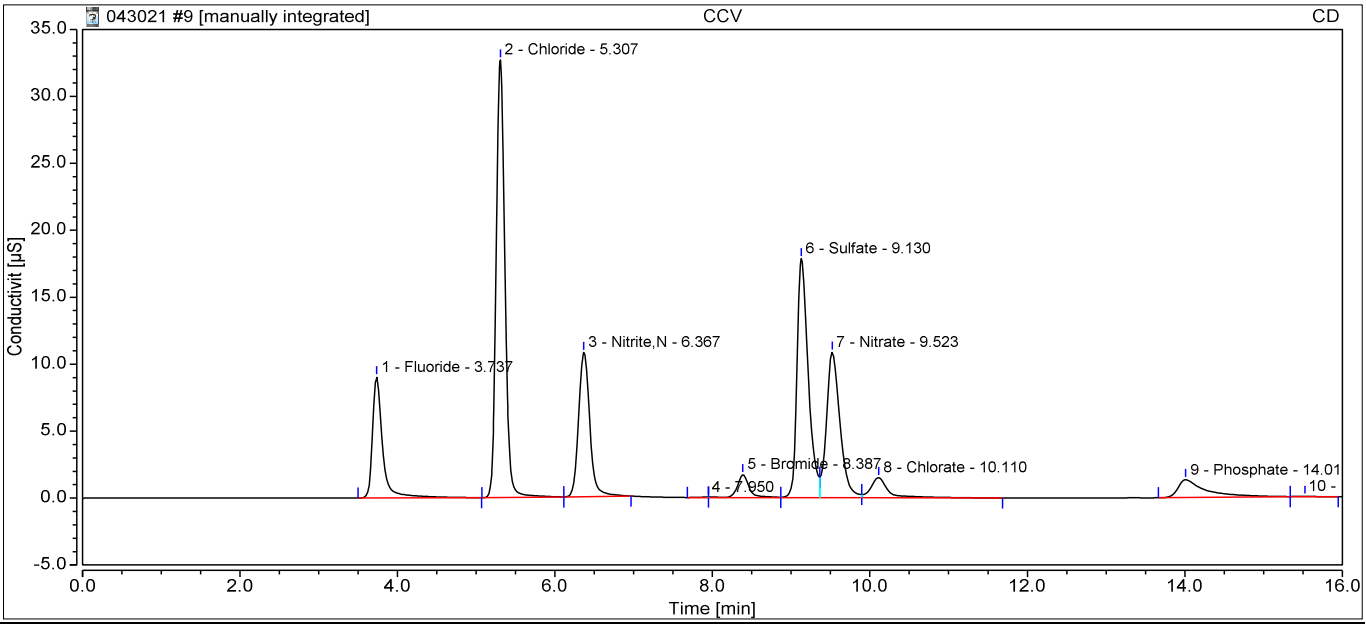

**Integration Results**

| 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 | 5.30 | Chloride | BMB | 0.003 | 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. | Bromide | 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. | 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** | | **0.00** | |

*9 CCV*

| | | | |
|---|---|---|---|
| *Sample Name:* | **CCV** | *Injection Volume:* | **5.00** |
| *Vial Number:* | **R1** | *Channel:* | **CD** |
| *Sample Type:* | **Unknown** | *Wavelength:* | **210** |
| *Control Program:* | **Anions Program 06022020.1** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **Anions Processing Method** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **04/30/2021 11:19** | *Sample Weight:* | **1.0000** |

Run Time:



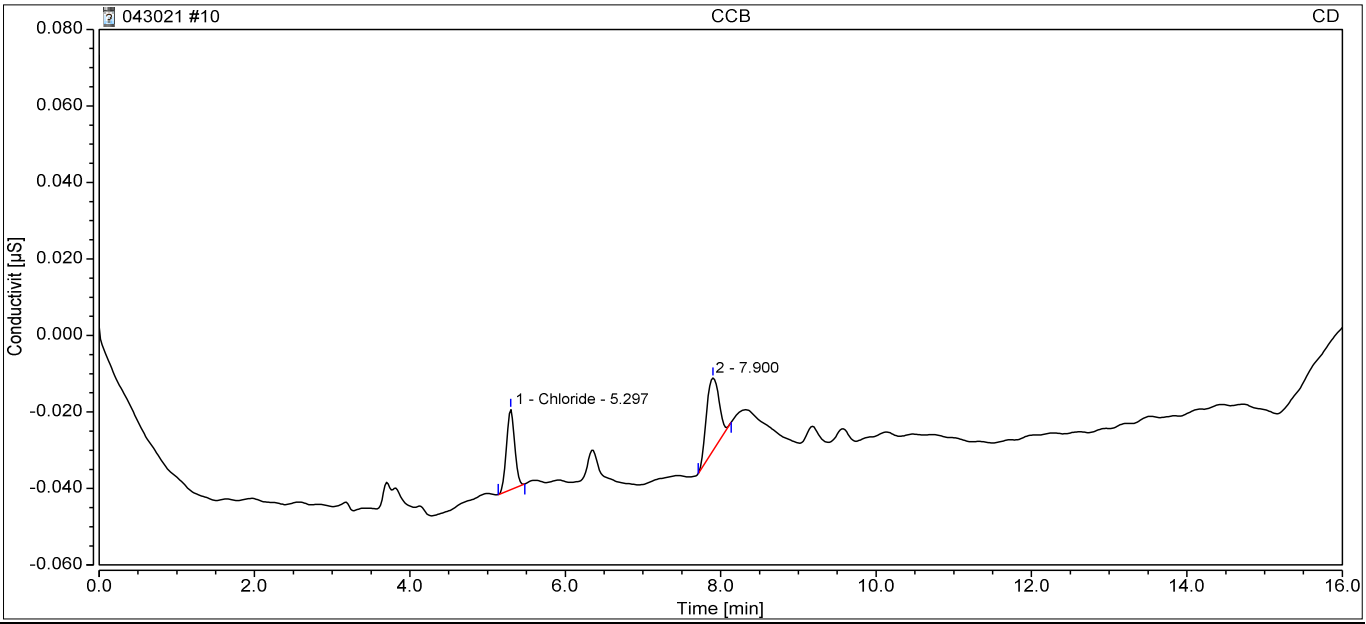

**Integration Results**

| No. | Retention min | Peak Name | Peak Type | Area µS*min | Amount ppm | Concentration ppm | Dilution |
|---|---|---|---|---|---|---|---|
| 1 | 3.74 | Fluoride | BMB | 1.350 | 4.1710 | 4.1710 | 1.0000 |
| 2 | 5.31 | Chloride | BMb* | 4.172 | 19.9569 | 19.9569 | 1.0000 |
| 3 | 6.37 | Nitrite,N | bMB* | 1.774 | 4.3771 | 4.3771 | 1.0000 |
| 5 | 8.39 | Bromide | M * | 0.298 | 3.6345 | 3.6345 | 1.0000 |
| 6 | 9.13 | Sulfate | M | 2.940 | 19.4920 | 19.4920 | 1.0000 |
| 7 | 9.52 | Nitrate | M | 2.163 | 4.0135 | 4.0135 | 1.0000 |
| 8 | 10.11 | Chlorate | MB | 0.391 | 4.0597 | 4.0597 | 1.0000 |
| 9 | 14.01 | Phosphate | BMB | 0.548 | 2.9890 | 2.9890 | 1.0000 |
| **Total:** | | | **0.000** | **13.636** | | **62.69** | |

*10 CCB*

| | | | |
|---|---|---|---|
| *Sample Name:* | **CCB** | *Injection Volume:* | **5.00** |
| *Vial Number:* | **R4** | *Channel:* | **CD** |
| *Sample Type:* | **Unknown** | *Wavelength:* | **210** |
| *Control Program:* | **Anions Program 06022020.1** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **Anions Processing Method** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **04/30/2021 11:38** | *Sample Weight:* | **1.0000** |

Run Time:



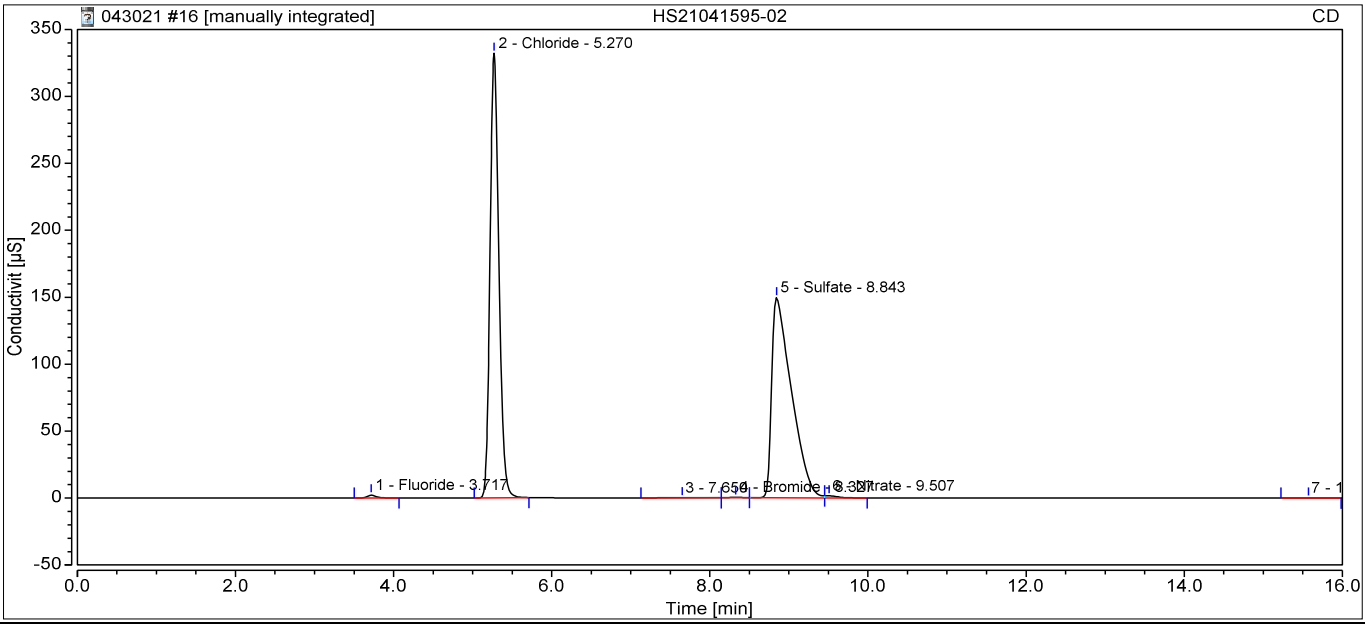

**Integration Results**

| 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 | 5.30 | Chloride | BMB | 0.003 | 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. | Bromide | 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. | 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** | | **0.00** | |

16 HS21041595-02

| | | | |
|---|---|---|---|
| *Sample Name:* | **HS21041595-02** | *Injection Volume:* | **5.00** |
| *Vial Number:* | **RA4** | *Channel:* | **CD** |
| *Sample Type:* | **Unknown** | *Wavelength:* | **210** |
| *Control Program:* | **Anions Program 06022020.1** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **Anions Processing Method** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **04/30/2021 13:29** | *Sample Weight:* | **1.0000** |

Run Time:



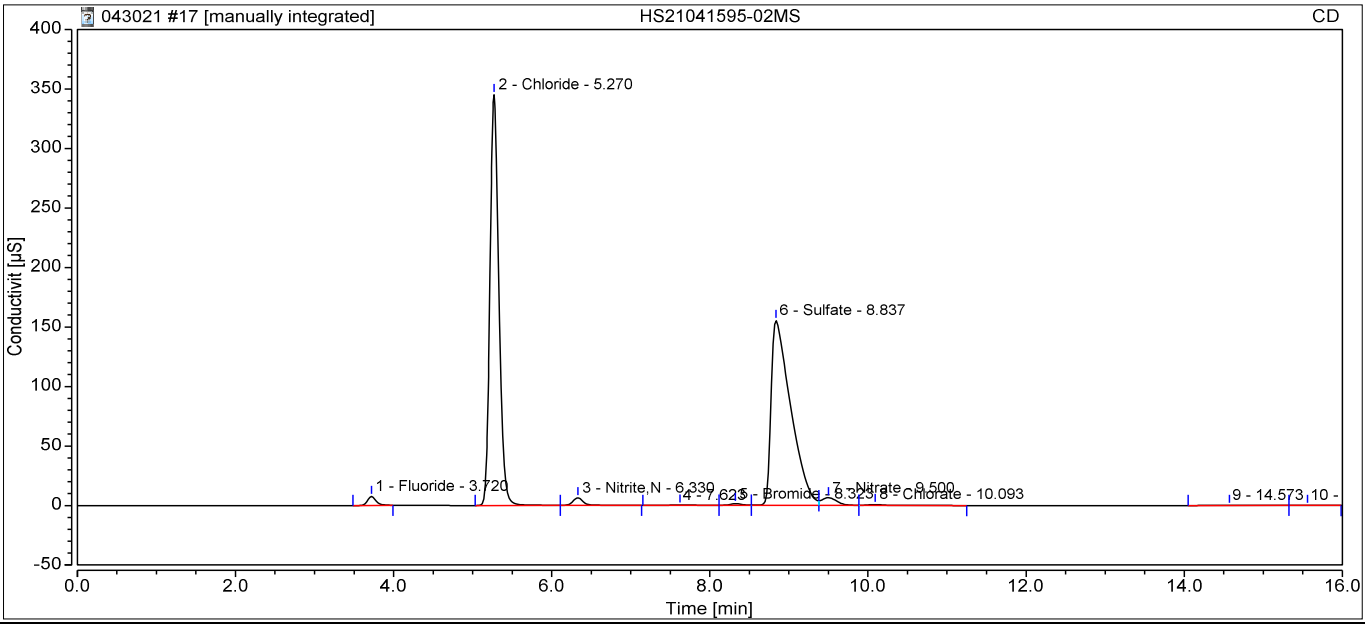

**Integration Results**

| No. | Retention min | Peak Name | Peak Type | Area µS*min | Amount ppm | Concentration ppm | Dilution |
|---|---|---|---|---|---|---|---|
| 1 | 3.72 | Fluoride | BMB* | 0.291 | 0.8913 | 0.8913 | 1.0000 |
| 2 | 5.27 | Chloride | BMB* | 43.097 | 206.4146 | 206.4146 | 1.0000 |
| n.a. | n.a. | Nitrite,N | n.a. | n.a. | n.a. | n.a. | 1.0000 |
| 4 | 8.33 | Bromide | bM * | 0.071 | 0.8359 | 0.8359 | 1.0000 |
| 5 | 8.84 | Sulfate | M * | 43.170 | 284.9607 | 284.9607 | 1.0000 |
| 6 | 9.51 | Nitrate | MB* | 0.285 | 0.5300 | 0.5300 | 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** | **86.914** | | **493.63** | |

17 *HS21041595-02MS*

| | | | |
|---|---|---|---|
| *Sample Name:* | **HS21041595-02MS** | *Injection Volume:* | **5.00** |
| *Vial Number:* | **RA5** | *Channel:* | **CD** |
| *Sample Type:* | **Unknown** | *Wavelength:* | **210** |
| *Control Program:* | **Anions Program 06022020.1** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **Anions Processing Method** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **04/30/2021 13:47** | *Sample Weight:* | **1.0000** |

Run Time:



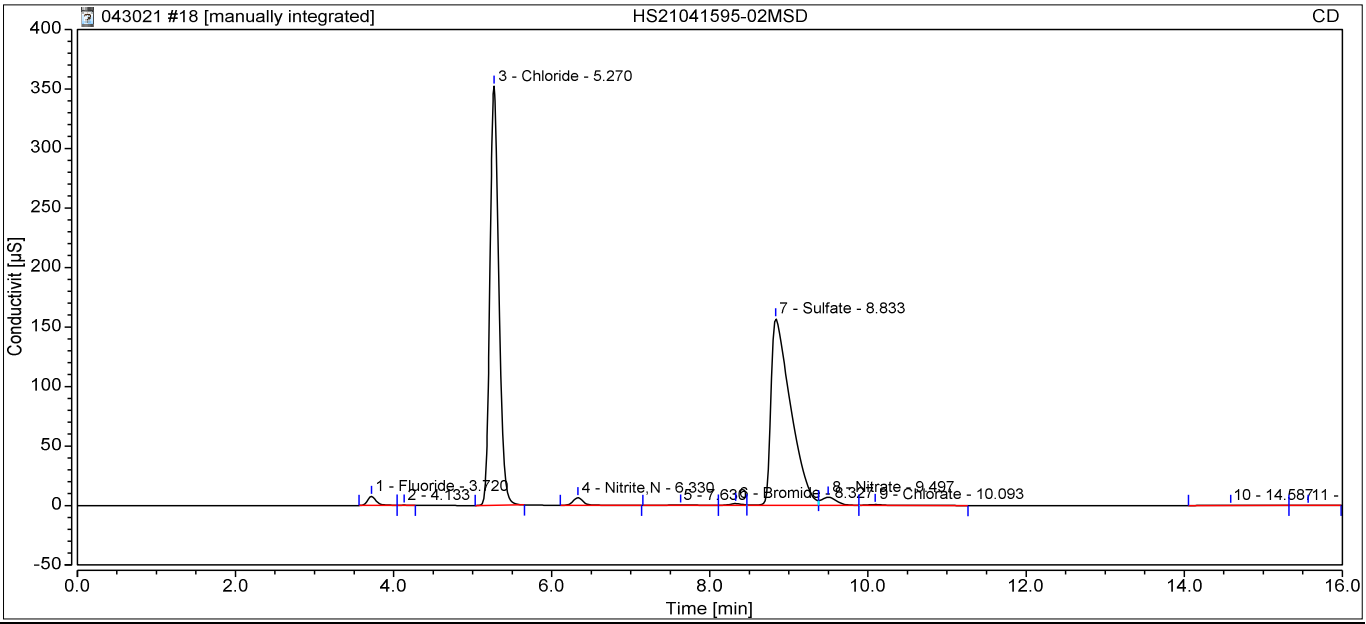

**Integration Results**

| No. | Retention min | Peak Name | Peak Type | Area µS*min | Amount ppm | Concentration ppm | Dilution |
|---|---|---|---|---|---|---|---|
| 1 | 3.72 | Fluoride | BMB* | 0.939 | 2.8977 | 2.8977 | 1.0000 |
| 2 | 5.27 | Chloride | BMB | 45.053 | 215.7797 | 215.7797 | 1.0000 |
| 3 | 6.33 | Nitrite,N | BMB | 0.957 | 2.3417 | 2.3417 | 1.0000 |
| 5 | 8.32 | Bromide | BM | 0.228 | 2.7716 | 2.7716 | 1.0000 |
| 6 | 8.84 | Sulfate | M | 44.611 | 294.4713 | 294.4713 | 1.0000 |
| 7 | 9.50 | Nitrate | M | 1.445 | 2.6820 | 2.6820 | 1.0000 |
| 8 | 10.09 | Chlorate | MB | 0.177 | 1.7983 | 1.7983 | 1.0000 |
| n.a. | n.a. | Phosphate | n.a. | n.a. | n.a. | n.a. | 1.0000 |
| **Total:** | | | **0.000** | **93.410** | | **522.74** | |

*18 HS21041595-02MSD*

| | | | |
|---|---|---|---|
| *Sample Name:* | **HS21041595-02MSD** | *Injection Volume:* | **5.00** |
| *Vial Number:* | **RA6** | *Channel:* | **CD** |
| *Sample Type:* | **Unknown** | *Wavelength:* | **210** |
| *Control Program:* | **Anions Program 06022020.1** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **Anions Processing Method** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **04/30/2021 14:06** | *Sample Weight:* | **1.0000** |

Run Time:



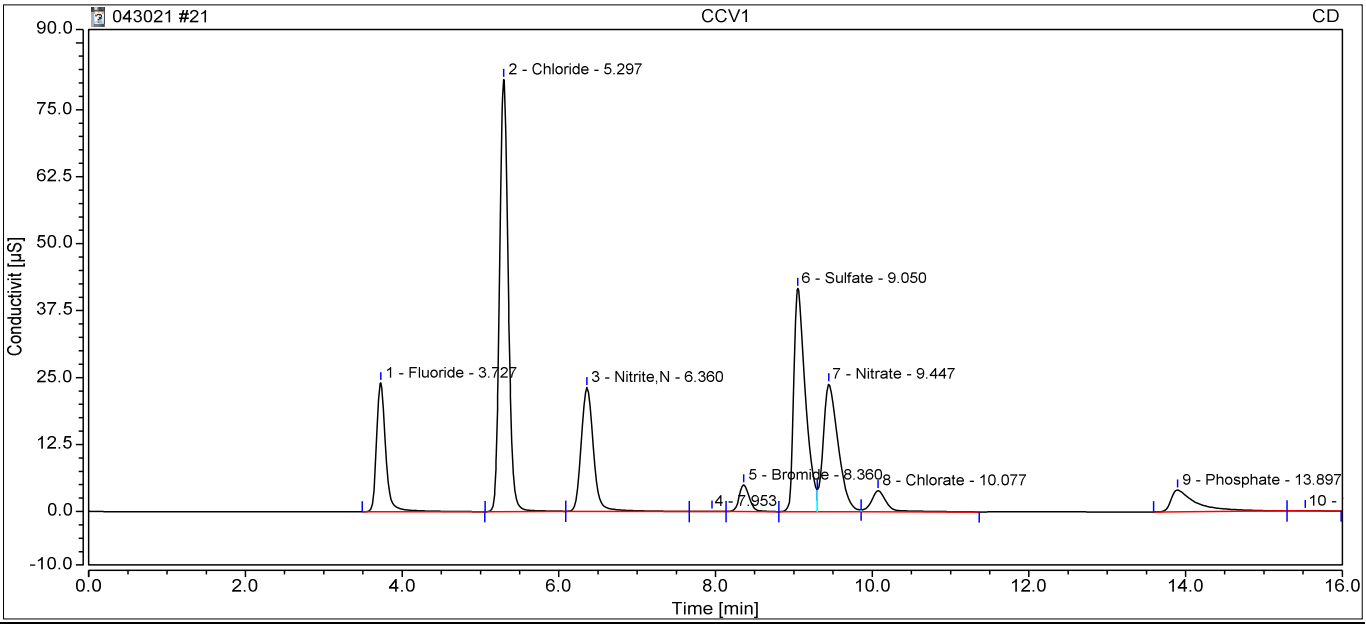

**Integration Results**

| No. | Retention min | Peak Name | Peak Type | Area µS*min | Amount ppm | Concentration ppm | Dilution |
|---|---|---|---|---|---|---|---|
| 1 | 3.72 | Fluoride | BMB | 0.965 | 2.9784 | 2.9784 | 1.0000 |
| 3 | 5.27 | Chloride | BMB* | 45.840 | 219.5498 | 219.5498 | 1.0000 |
| 4 | 6.33 | Nitrite,N | BMB | 0.967 | 2.3681 | 2.3681 | 1.0000 |
| 6 | 8.33 | Bromide | BM * | 0.241 | 2.9288 | 2.9288 | 1.0000 |
| 7 | 8.83 | Sulfate | M * | 45.171 | 298.1674 | 298.1674 | 1.0000 |
| 8 | 9.50 | Nitrate | M | 1.529 | 2.8369 | 2.8369 | 1.0000 |
| 9 | 10.09 | Chlorate | MB | 0.181 | 1.8365 | 1.8365 | 1.0000 |
| n.a. | n.a. | Phosphate | n.a. | n.a. | n.a. | n.a. | 1.0000 |
| **Total:** | | | **0.000** | **94.894** | | **530.67** | |

*21 CCV1*

| | | | |
|---|---|---|---|
| *Sample Name:* | **CCV1** | *Injection Volume:* | **5.00** |
| *Vial Number:* | **R3** | *Channel:* | **CD** |
| *Sample Type:* | **Unknown** | *Wavelength:* | **210** |
| *Control Program:* | **Anions Program 06022020.1** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **Anions Processing Method** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **04/30/2021 15:03** | *Sample Weight:* | **1.0000** |

Run Time:



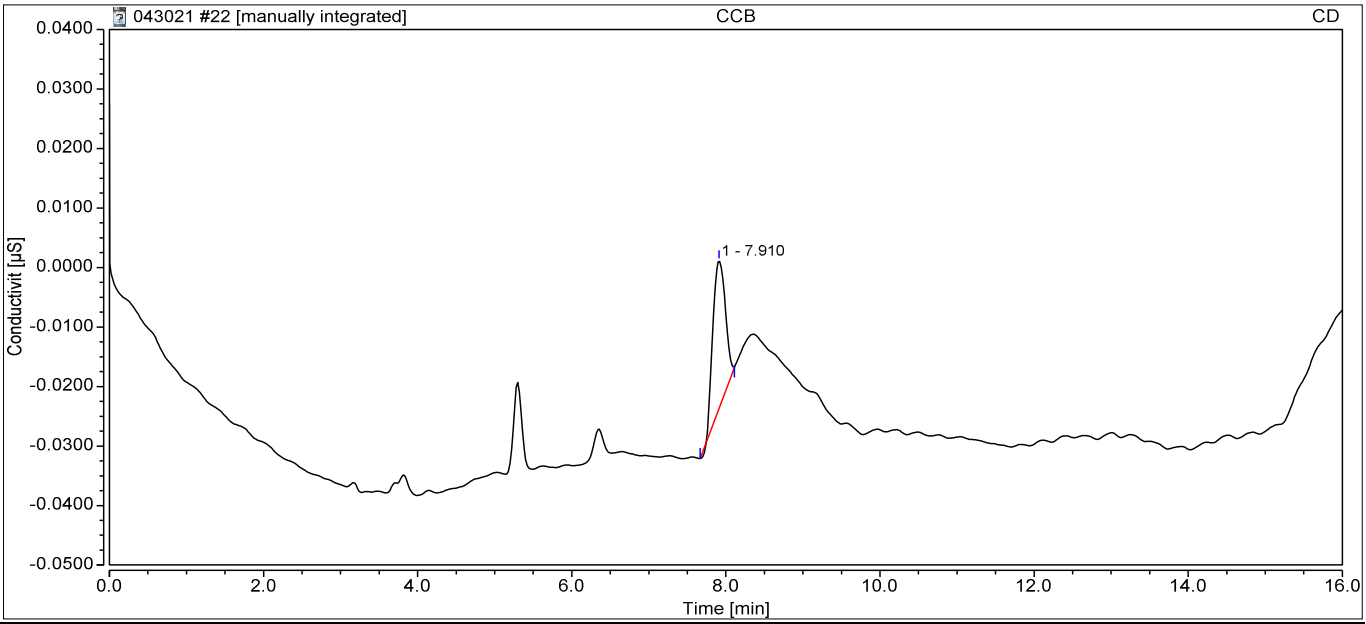

**Integration Results**

| No. | Retention min | Peak Name | Peak Type | Area µS*min | Amount ppm | Concentration ppm | Dilution |
|---|---|---|---|---|---|---|---|
| 1 | 3.73 | Fluoride | BMB | 3.282 | 10.1554 | 10.1554 | 1.0000 |
| 2 | 5.30 | Chloride | BMB | 10.329 | 49.4475 | 49.4475 | 1.0000 |
| 3 | 6.36 | Nitrite,N | BMB | 4.202 | 10.4238 | 10.4238 | 1.0000 |
| 5 | 8.36 | Bromide | MB | 0.758 | 9.3004 | 9.3004 | 1.0000 |
| 6 | 9.05 | Sulfate | BM | 7.276 | 48.1039 | 48.1039 | 1.0000 |
| 7 | 9.45 | Nitrate | M | 5.298 | 9.8267 | 9.8267 | 1.0000 |
| 8 | 10.08 | Chlorate | MB | 0.906 | 9.5101 | 9.5101 | 1.0000 |
| 9 | 13.90 | Phosphate | BMB | 1.523 | 7.8454 | 7.8454 | 1.0000 |
| **Total:** | | | **0.000** | **33.573** | | **154.61** | |

*22 CCB*

| | | | |
|---|---|---|---|
| *Sample Name:* | **CCB** | *Injection Volume:* | **5.00** |
| *Vial Number:* | **R8** | *Channel:* | **CD** |
| *Sample Type:* | **Unknown** | *Wavelength:* | **210** |
| *Control Program:* | **Anions Program 06022020.1** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **Anions Processing Method** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **04/30/2021 15:42** | *Sample Weight:* | **1.0000** |

Run Time:



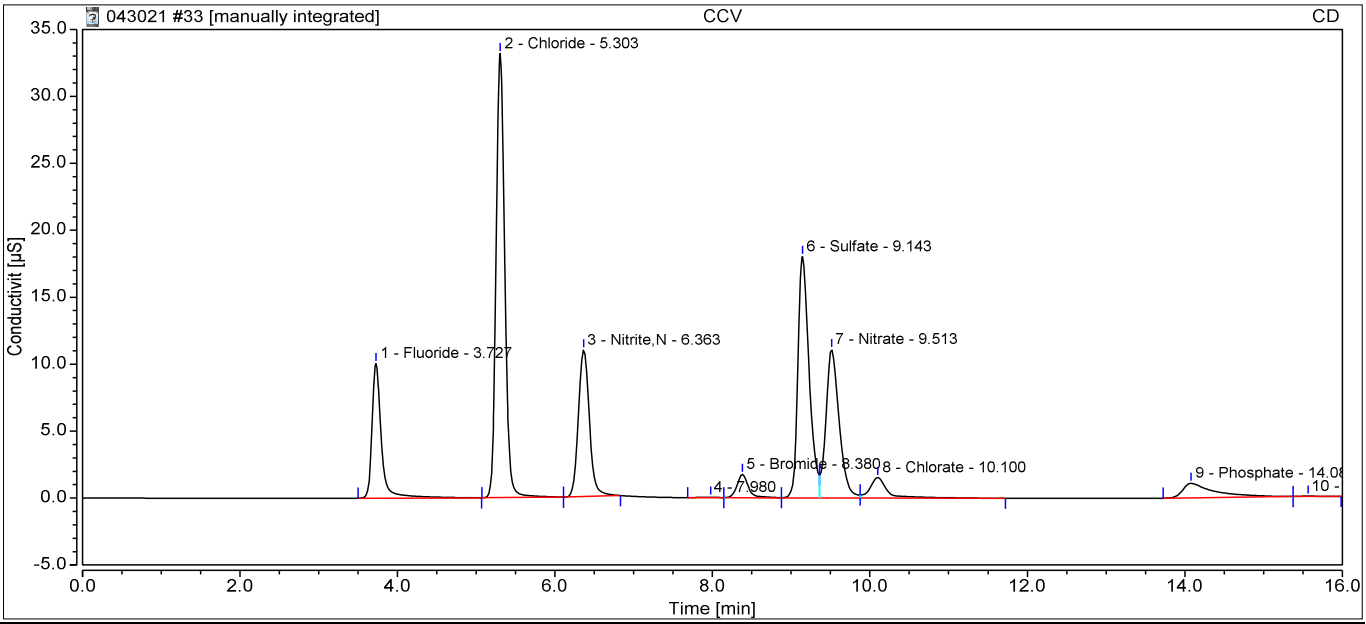

**Integration Results**

| 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. | Bromide | 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. | 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** | |

*33 CCV*

| | | | |
|---|---|---|---|
| *Sample Name:* | **CCV** | *Injection Volume:* | **5.00** |
| *Vial Number:* | **R1** | *Channel:* | **CD** |
| *Sample Type:* | **Unknown** | *Wavelength:* | **210** |
| *Control Program:* | **Anions Program 06022020.1** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **Anions Processing Method** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **04/30/2021 19:17** | *Sample Weight:* | **1.0000** |

Run Time:



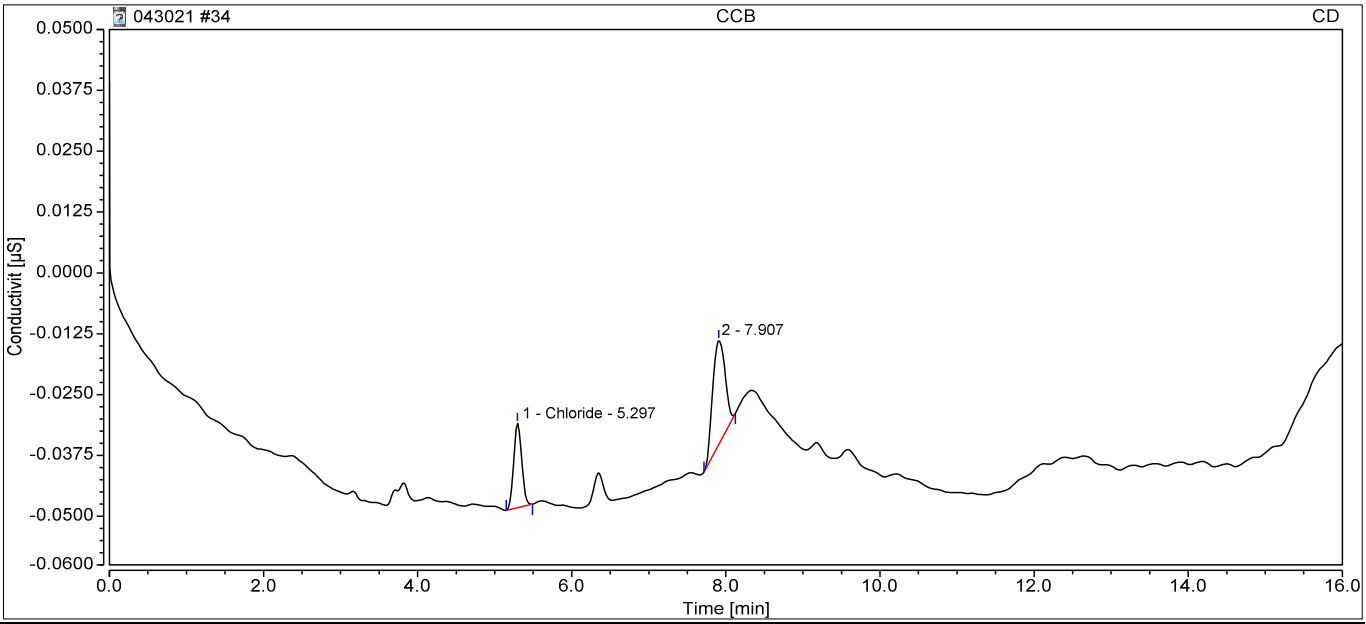

**Integration Results**

| No. | Retention min | Peak Name | Peak Type | Area µS*min | Amount ppm | Concentration ppm | Dilution |
|---|---|---|---|---|---|---|---|
| 1 | 3.73 | Fluoride | BMB | 1.383 | 4.2718 | 4.2718 | 1.0000 |
| 2 | 5.30 | Chloride | BMb* | 4.210 | 20.1400 | 20.1400 | 1.0000 |
| 3 | 6.36 | Nitrite,N | bMB* | 1.773 | 4.3744 | 4.3744 | 1.0000 |
| 5 | 8.38 | Bromide | M | 0.295 | 3.6004 | 3.6004 | 1.0000 |
| 6 | 9.14 | Sulfate | M | 2.973 | 19.7147 | 19.7147 | 1.0000 |
| 7 | 9.51 | Nitrate | M | 2.172 | 4.0304 | 4.0304 | 1.0000 |
| 8 | 10.10 | Chlorate | MB | 0.402 | 4.1750 | 4.1750 | 1.0000 |
| 9 | 14.08 | Phosphate | BMB | 0.508 | 2.7907 | 2.7907 | 1.0000 |
| **Total:** | | | **0.000** | **13.717** | | **63.10** | |

*34 CCB*

| | | | |
|---|---|---|---|
| *Sample Name:* | **CCB** | *Injection Volume:* | **5.00** |
| *Vial Number:* | **R4** | *Channel:* | **CD** |
| *Sample Type:* | **Unknown** | *Wavelength:* | **210** |
| *Control Program:* | **Anions Program 06022020.1** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **Anions Processing Method** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **04/30/2021 19:35** | *Sample Weight:* | **1.0000** |

Run Time:



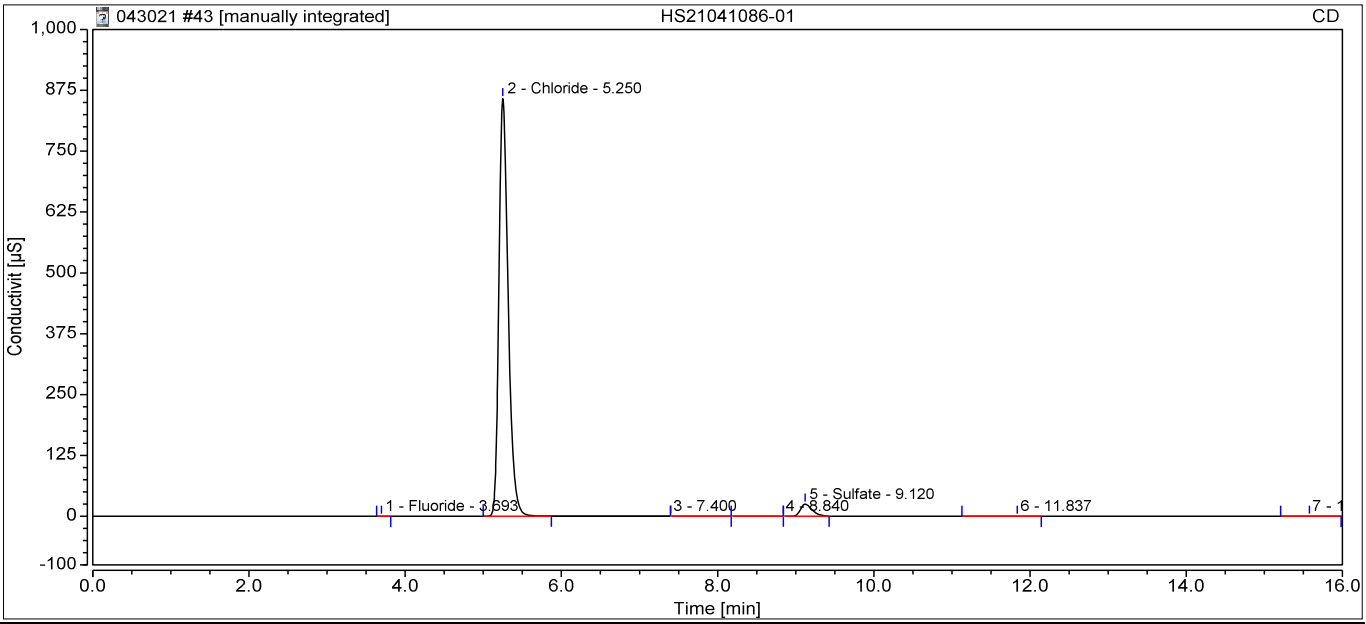

**Integration Results**

| No. | Retention min | Peak Name | Peak Type | Area µS*min | Amount ppm | Concentration ppm | Dilution |
|---|---|---|---|---|---|---|---|
| n.a. | n.a. | Fluoride | n.a. | n.a. | n.a. | n.a. | 1.0000 |
| 1 | 5.30 | Chloride | BMB | 0.002 | 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. | Bromide | 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. | 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** | **0.002** | | **0.00** | |

*43 HS21041086-01*

| | | | |
|---|---|---|---|
| *Sample Name:* | **HS21041086-01** | *Injection Volume:* | **5.00** |
| *Vial Number:* | **RC3** | *Channel:* | **CD** |
| *Sample Type:* | **Unknown** | *Wavelength:* | **210** |
| *Control Program:* | **Anions Program 06022020.1** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **Anions Processing Method** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **04/30/2021 22:49** | *Sample Weight:* | **1.0000** |

Run Time:



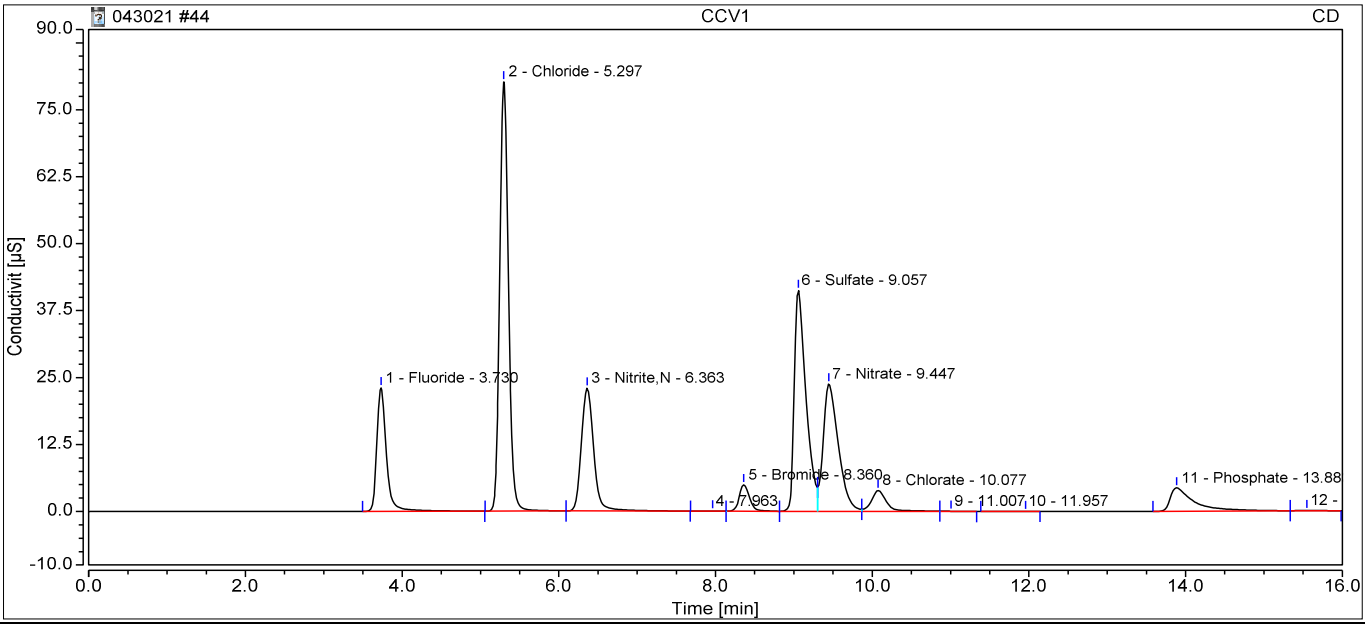

**Integration Results**

| No. | Retention min | Peak Name | Peak Type | Area µS*min | Amount ppm | Concentration ppm | Dilution |
|---|---|---|---|---|---|---|---|
| 1 | 3.69 | Fluoride | BMB | 0.010 | 0.0183 | 0.0183 | 1.0000 |
| 2 | 5.25 | Chloride | BM * | 117.610 | 563.3391 | 563.3391 | 1.0000 |
| n.a. | n.a. | Nitrite,N | 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 |
| 5 | 9.12 | Sulfate | MB* | 4.186 | 27.7142 | 27.7142 | 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** | **121.805** | | **591.07** | |

*44 CCV1*

| | | | |
|---|---|---|---|
| *Sample Name:* | **CCV1** | *Injection Volume:* | **5.00** |
| *Vial Number:* | **R3** | *Channel:* | **CD** |
| *Sample Type:* | **Unknown** | *Wavelength:* | **210** |
| *Control Program:* | **Anions Program 06022020.1** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **Anions Processing Method** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **04/30/2021 23:10** | *Sample Weight:* | **1.0000** |

Run Time:



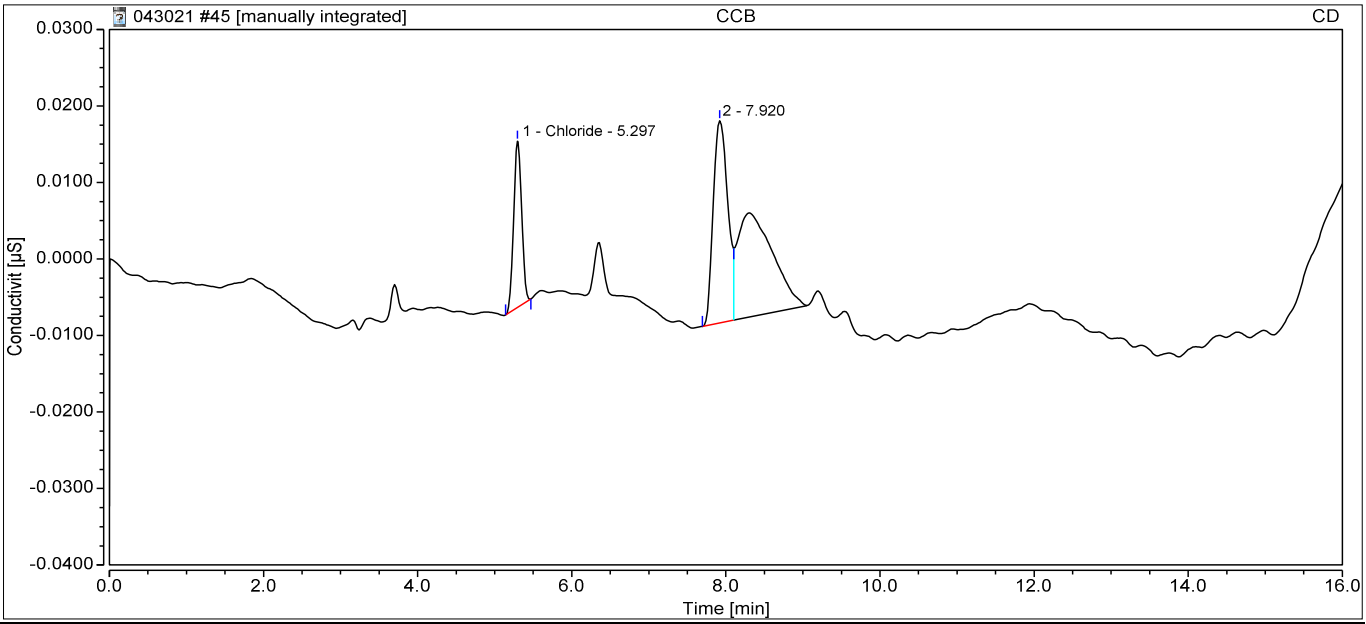

**Integration Results**

| No. | Retention min | Peak Name | Peak Type | Area µS*min | Amount ppm | Concentration ppm | Dilution |
|---|---|---|---|---|---|---|---|
| 1 | 3.73 | Fluoride | BMB | 3.271 | 10.1227 | 10.1227 | 1.0000 |
| 2 | 5.30 | Chloride | BMB | 10.295 | 49.2881 | 49.2881 | 1.0000 |
| 3 | 6.36 | Nitrite,N | BMB | 4.198 | 10.4155 | 10.4155 | 1.0000 |
| 5 | 8.36 | Bromide | MB | 0.752 | 9.2330 | 9.2330 | 1.0000 |
| 6 | 9.06 | Sulfate | BM | 7.208 | 47.6596 | 47.6596 | 1.0000 |
| 7 | 9.45 | Nitrate | M | 5.339 | 9.9014 | 9.9014 | 1.0000 |
| 8 | 10.08 | Chlorate | M | 0.887 | 9.3007 | 9.3007 | 1.0000 |
| 11 | 13.88 | Phosphate | BMB | 1.560 | 8.0321 | 8.0321 | 1.0000 |
| **Total:** | | | **0.000** | **33.511** | | **153.95** | |

*45 CCB*

| | | | |
|---|---|---|---|
| *Sample Name:* | **CCB** | *Injection Volume:* | **5.00** |
| *Vial Number:* | **R6** | *Channel:* | **CD** |
| *Sample Type:* | **Unknown** | *Wavelength:* | **210** |
| *Control Program:* | **Anions Program 06022020.1** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **Anions Processing Method** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **04/30/2021 23:48** | *Sample Weight:* | **1.0000** |

Run Time:



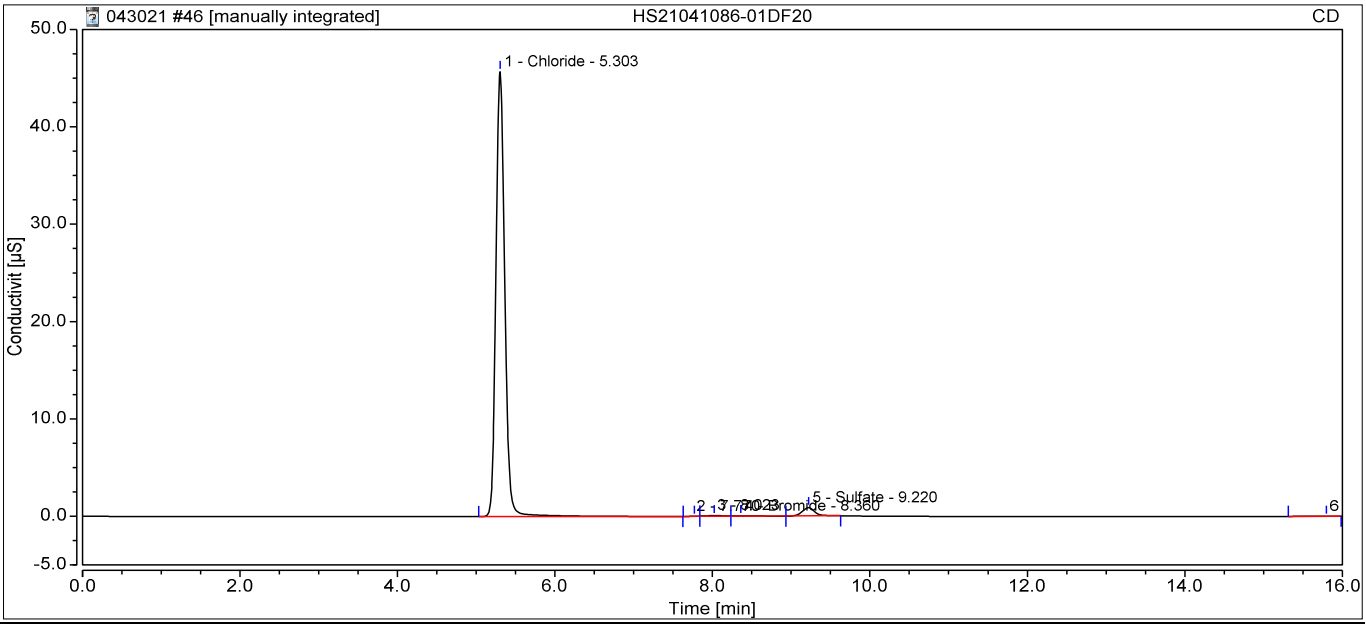

**Integration Results**

| 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 | 5.30 | Chloride | BMB | 0.003 | 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. | Bromide | 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. | 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** | | **0.00** | |

*46 HS21041086-01DF20*

| | | | |
|---|---|---|---|
| *Sample Name:* | **HS21041086-01DF20** | *Injection Volume:* | **5.00** |
| *Vial Number:* | **RC4** | *Channel:* | **CD** |
| *Sample Type:* | **Unknown** | *Wavelength:* | **210** |
| *Control Program:* | **Anions Program 06022020.1** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **Anions Processing Method** | *Dilution Factor:* | **20.0000** |
| *Recording Time:* | **05/01/2021 00:07** | *Sample Weight:* | **1.0000** |

Run Time:



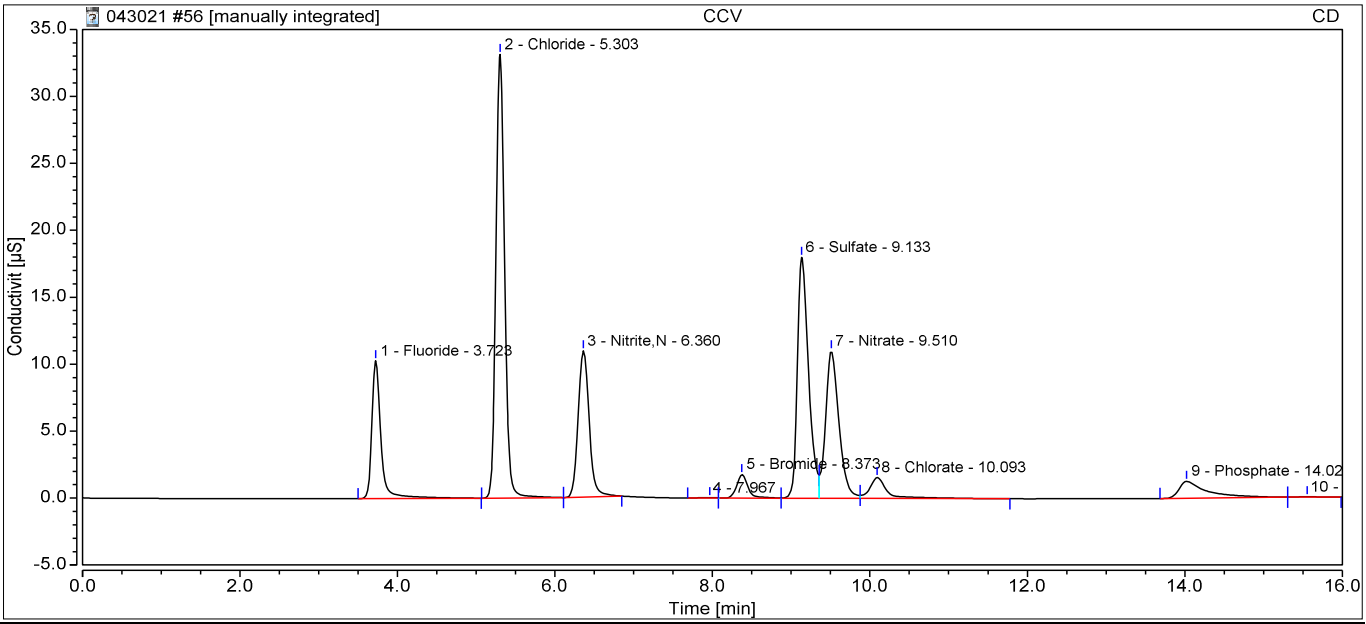

**Integration Results**

| 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. | 20.0000 |
| 1 | 5.30 | Chloride | BMB | 5.903 | 28.2457 | 564.9132 | 20.0000 |
| n.a. | n.a. | Nitrite,N | n.a. | n.a. | n.a. | n.a. | 20.0000 |
| 4 | 8.36 | Bromide | M * | 0.008 | 0.0669 | 1.3370 | 20.0000 |
| 5 | 9.22 | Sulfate | MB* | 0.155 | 1.1172 | 22.3445 | 20.0000 |
| n.a. | n.a. | Nitrate | n.a. | n.a. | n.a. | n.a. | 20.0000 |
| n.a. | n.a. | Chlorate | n.a. | n.a. | n.a. | n.a. | 20.0000 |
| n.a. | n.a. | Phosphate | n.a. | n.a. | n.a. | n.a. | 20.0000 |
| **Total:** | | | **0.000** | **6.066** | | **588.59** | |

*56 CCV*

| | | | |
|---|---|---|---|
| *Sample Name:* | **CCV** | *Injection Volume:* | **5.00** |
| *Vial Number:* | **R1** | *Channel:* | **CD** |
| *Sample Type:* | **Unknown** | *Wavelength:* | **210** |
| *Control Program:* | **Anions Program 06022020.1** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **Anions Processing Method** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **05/01/2021 03:21** | *Sample Weight:* | **1.0000** |

Run Time:



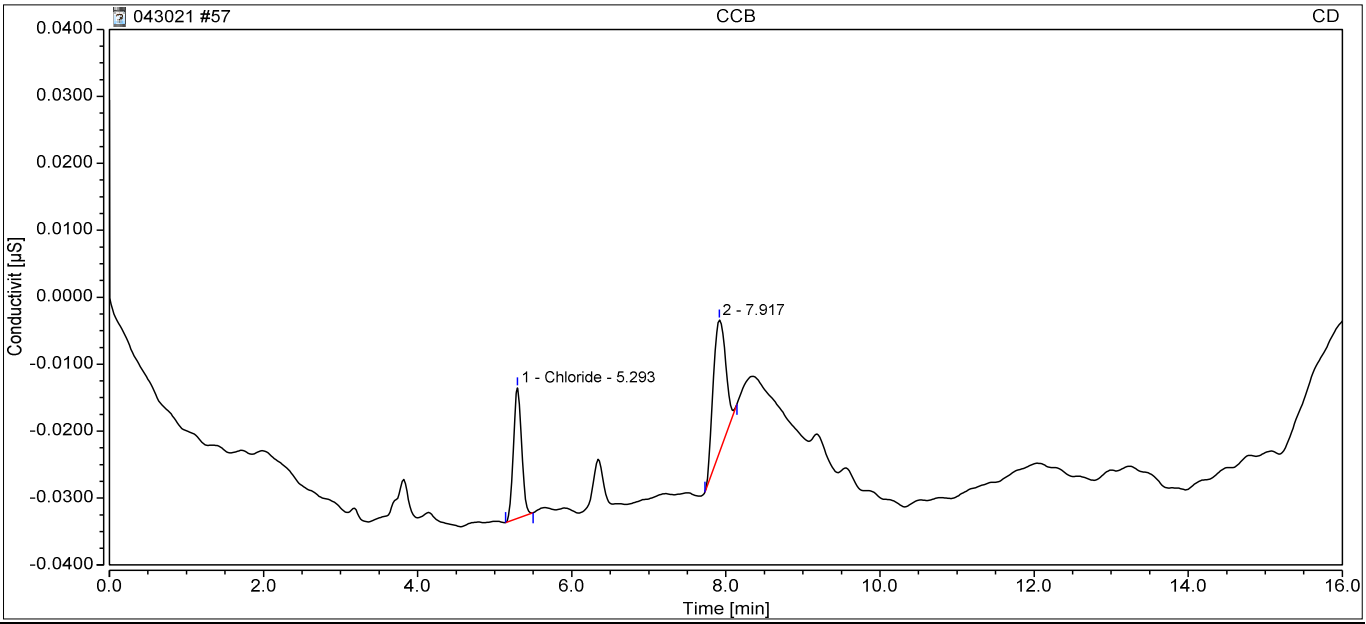

**Integration Results**

| No. | Retention min | Peak Name | Peak Type | Area µS*min | Amount ppm | Concentration ppm | Dilution |
|---|---|---|---|---|---|---|---|
| 1 | 3.72 | Fluoride | BMB | 1.376 | 4.2518 | 4.2518 | 1.0000 |
| 2 | 5.30 | Chloride | BMb* | 4.207 | 20.1242 | 20.1242 | 1.0000 |
| 3 | 6.36 | Nitrite,N | bMB* | 1.767 | 4.3590 | 4.3590 | 1.0000 |
| 5 | 8.37 | Bromide | M * | 0.295 | 3.6032 | 3.6032 | 1.0000 |
| 6 | 9.13 | Sulfate | M | 2.960 | 19.6252 | 19.6252 | 1.0000 |
| 7 | 9.51 | Nitrate | M | 2.171 | 4.0271 | 4.0271 | 1.0000 |
| 8 | 10.09 | Chlorate | MB | 0.411 | 4.2761 | 4.2761 | 1.0000 |
| 9 | 14.02 | Phosphate | BMB | 0.522 | 2.8598 | 2.8598 | 1.0000 |
| **Total:** | | | **0.000** | **13.709** | | **63.13** | |

*57 CCB*

| | | | |
|---|---|---|---|
| *Sample Name:* | **CCB** | *Injection Volume:* | **5.00** |
| *Vial Number:* | **R4** | *Channel:* | **CD** |
| *Sample Type:* | **Unknown** | *Wavelength:* | **210** |
| *Control Program:* | **Anions Program 06022020.1** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **Anions Processing Method** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **05/01/2021 03:59** | *Sample Weight:* | **1.0000** |

Run Time:



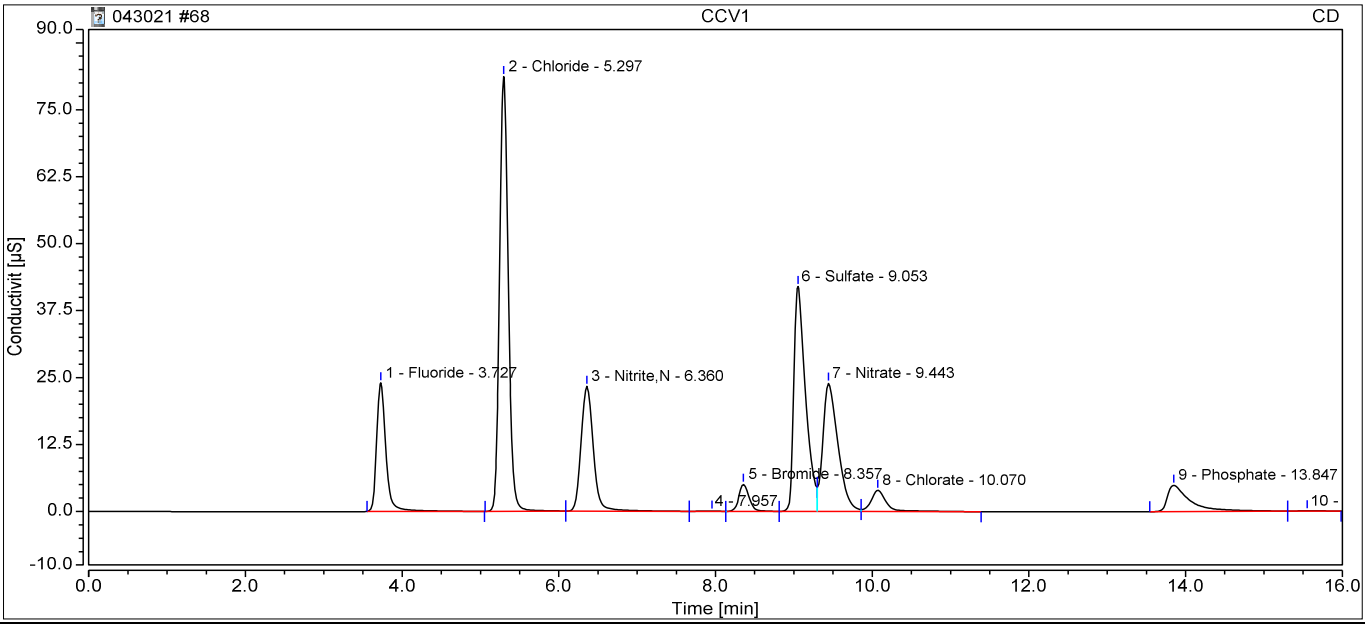

**Integration Results**

| 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 | 5.29 | Chloride | BMB | 0.002 | 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. | Bromide | 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. | 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** | **0.002** | | **0.00** | |

*68 CCV1*

| | | | |
|---|---|---|---|
| *Sample Name:* | **CCV1** | *Injection Volume:* | **5.00** |
| *Vial Number:* | **R3** | *Channel:* | **CD** |
| *Sample Type:* | **Unknown** | *Wavelength:* | **210** |
| *Control Program:* | **Anions Program 06022020.1** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **Anions Processing Method** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **05/01/2021 07:27** | *Sample Weight:* | **1.0000** |

Run Time:



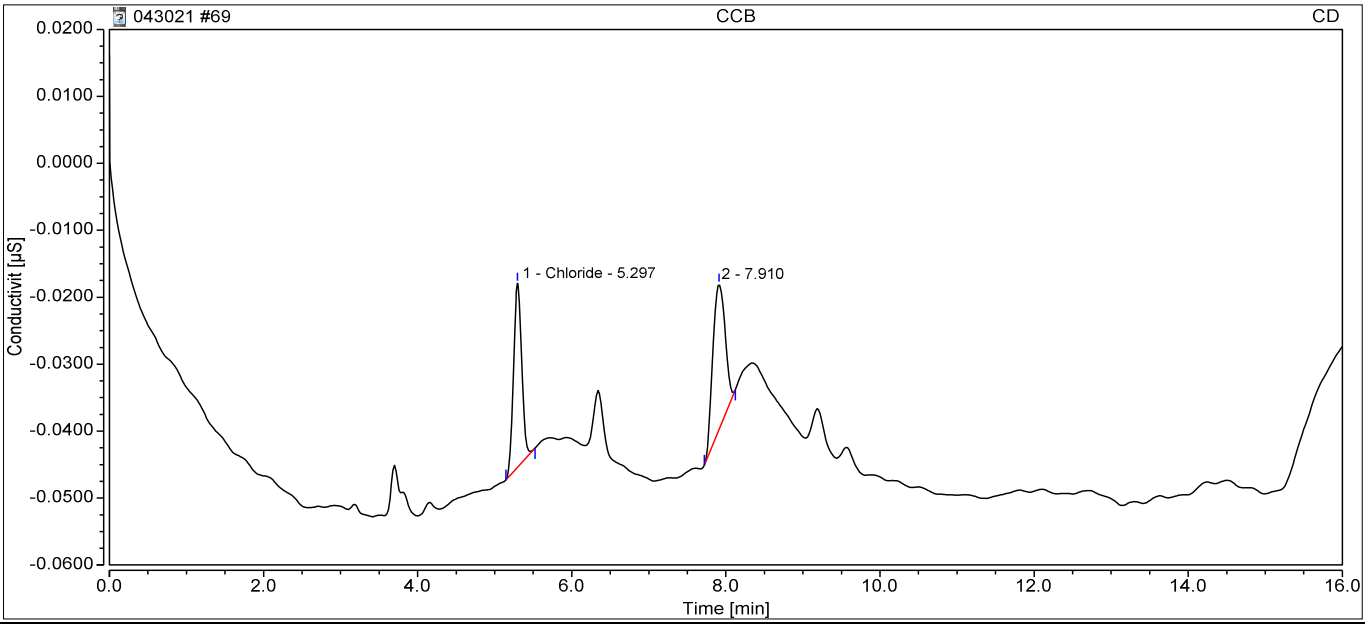

**Integration Results**

| No. | Retention min | Peak Name | Peak Type | Area µS*min | Amount ppm | Concentration ppm | Dilution |
|---|---|---|---|---|---|---|---|
| 1 | 3.73 | Fluoride | BMB | 3.277 | 10.1390 | 10.1390 | 1.0000 |
| 2 | 5.30 | Chloride | BMB | 10.424 | 49.9025 | 49.9025 | 1.0000 |
| 3 | 6.36 | Nitrite,N | BMB | 4.235 | 10.5071 | 10.5071 | 1.0000 |
| 5 | 8.36 | Bromide | MB | 0.768 | 9.4294 | 9.4294 | 1.0000 |
| 6 | 9.05 | Sulfate | BM | 7.330 | 48.4626 | 48.4626 | 1.0000 |
| 7 | 9.44 | Nitrate | M | 5.383 | 9.9830 | 9.9830 | 1.0000 |
| 8 | 10.07 | Chlorate | MB | 0.921 | 9.6659 | 9.6659 | 1.0000 |
| 9 | 13.85 | Phosphate | BMB | 1.639 | 8.4236 | 8.4236 | 1.0000 |
| **Total:** | | | **0.000** | **33.976** | | **156.51** | |

*69 CCB*

| | | | |
|---|---|---|---|
| *Sample Name:* | **CCB** | *Injection Volume:* | **5.00** |
| *Vial Number:* | **R8** | *Channel:* | **CD** |
| *Sample Type:* | **Unknown** | *Wavelength:* | **210** |
| *Control Program:* | **Anions Program 06022020.1** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **Anions Processing Method** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **05/01/2021 07:46** | *Sample Weight:* | **1.0000** |

Run Time:



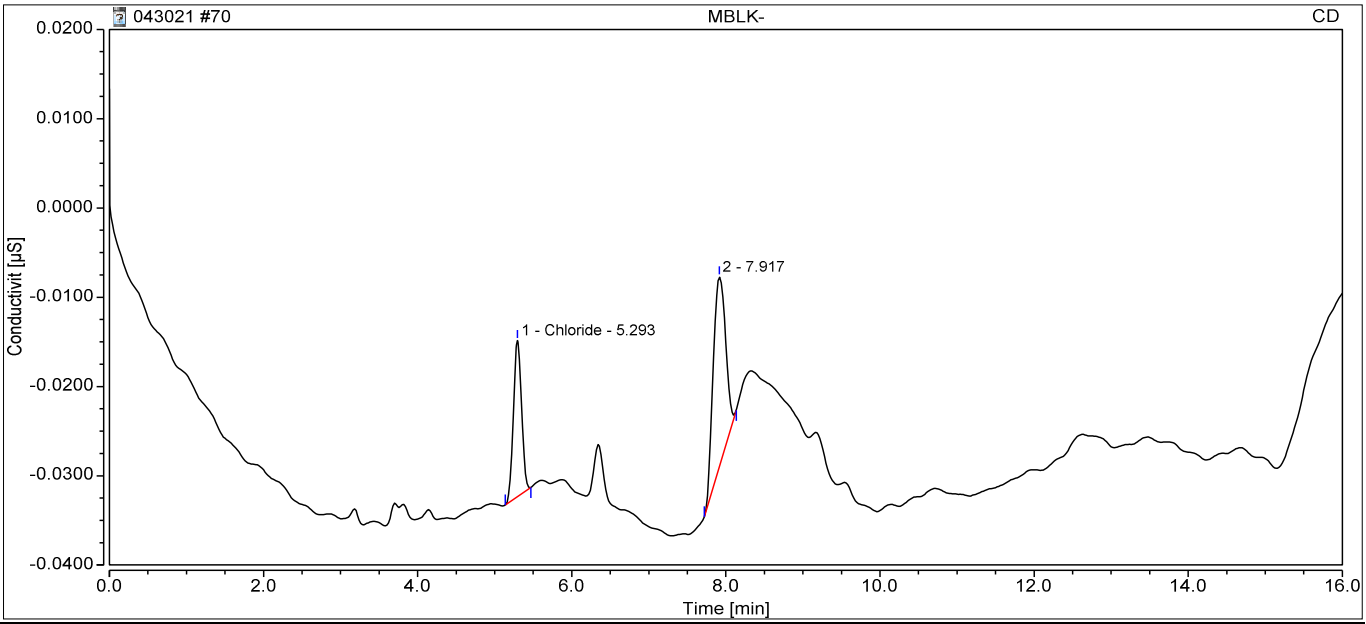

**Integration Results**

| 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 | 5.30 | Chloride | BMB | 0.003 | 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. | Bromide | 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. | 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** | | **0.00** | |

*70 MBLK-*

| | | | |
|---|---|---|---|
| *Sample Name:* | **MBLK-** | *Injection Volume:* | **5.00** |
| *Vial Number:* | **R5** | *Channel:* | **CD** |
| *Sample Type:* | **Unknown** | *Wavelength:* | **210** |
| *Control Program:* | **Anions Program 06022020.1** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **Anions Processing Method** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **05/01/2021 08:23** | *Sample Weight:* | **1.0000** |

Run Time:



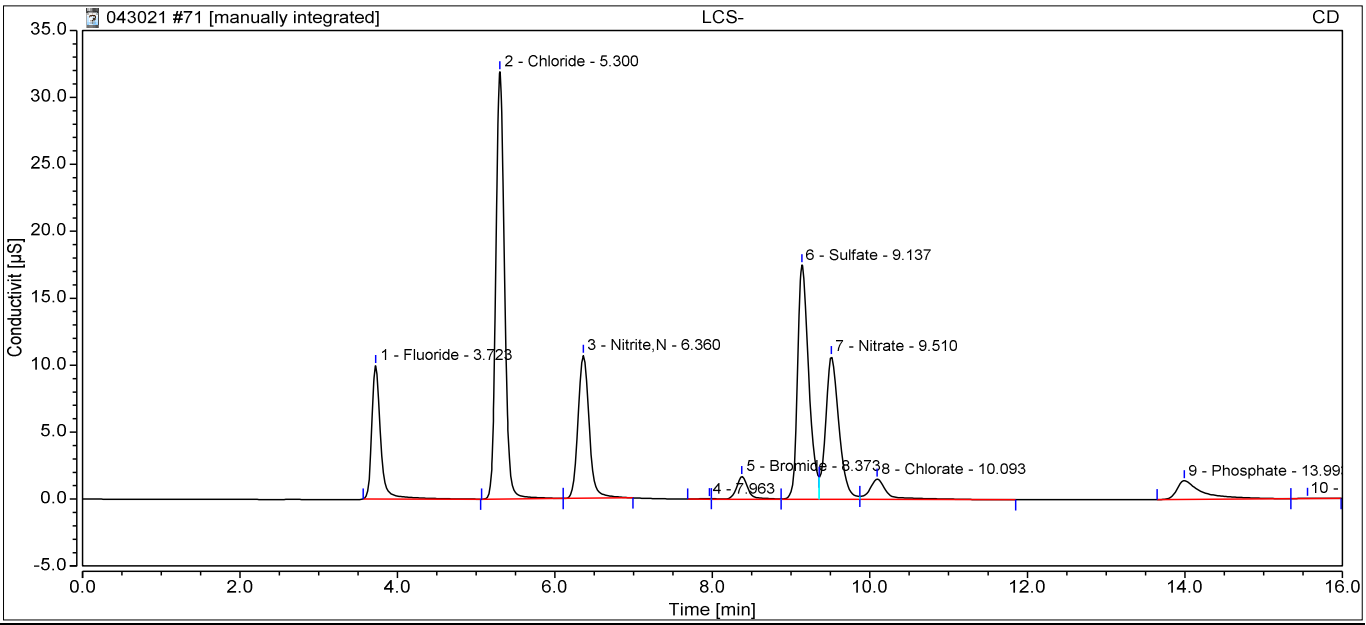

**Integration Results**

| 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 | 5.29 | Chloride | BMB | 0.002 | 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. | Bromide | 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. | 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** | **0.002** | | **0.00** | |

*71 LCS-*

| | | | |
|---|---|---|---|
| *Sample Name:* | **LCS-** | *Injection Volume:* | **5.00** |
| *Vial Number:* | **R2** | *Channel:* | **CD** |
| *Sample Type:* | **Unknown** | *Wavelength:* | **210** |
| *Control Program:* | **Anions Program 06022020.1** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **Anions Processing Method** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **05/01/2021 08:41** | *Sample Weight:* | **1.0000** |

Run Time:



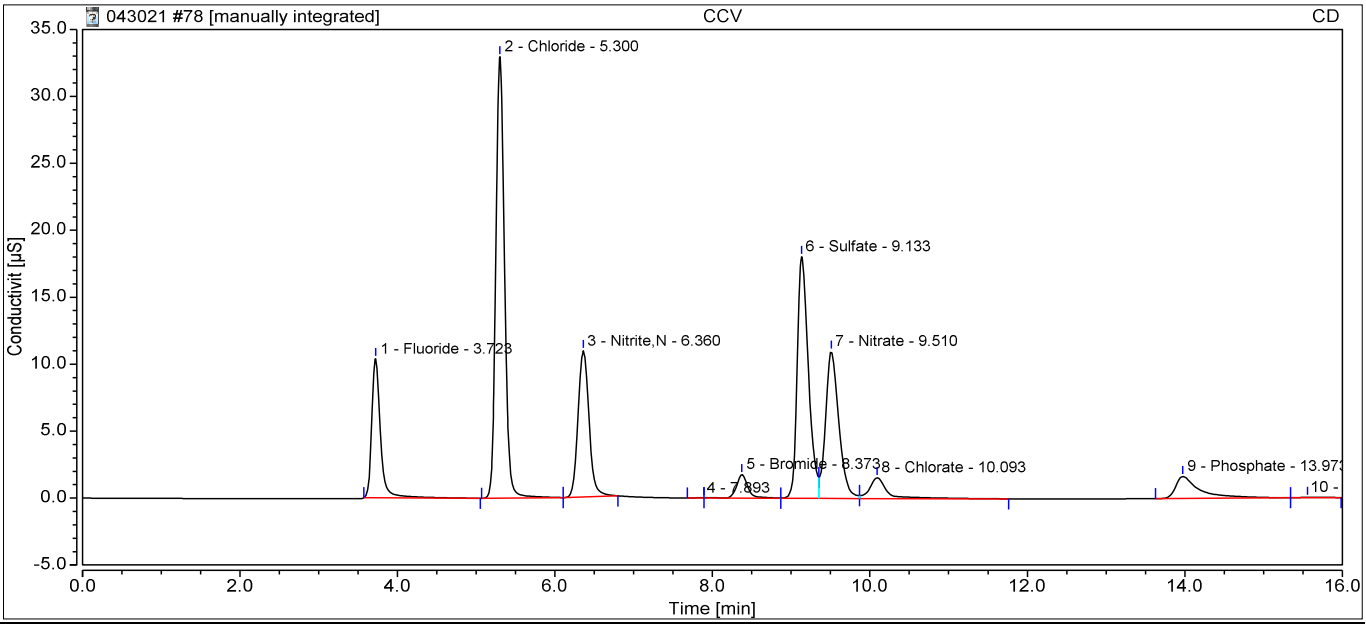

**Integration Results**

| No. | Retention min | Peak Name | Peak Type | Area µS*min | Amount ppm | Concentration ppm | Dilution |
|---|---|---|---|---|---|---|---|
| 1 | 3.72 | Fluoride | BMB | 1.309 | 4.0428 | 4.0428 | 1.0000 |
| 2 | 5.30 | Chloride | BMb* | 4.048 | 19.3627 | 19.3627 | 1.0000 |
| 3 | 6.36 | Nitrite,N | bMB* | 1.749 | 4.3154 | 4.3154 | 1.0000 |
| 5 | 8.37 | Bromide | M * | 0.289 | 3.5282 | 3.5282 | 1.0000 |
| 6 | 9.14 | Sulfate | M * | 2.884 | 19.1235 | 19.1235 | 1.0000 |
| 7 | 9.51 | Nitrate | M * | 2.100 | 3.8953 | 3.8953 | 1.0000 |
| 8 | 10.09 | Chlorate | MB* | 0.403 | 4.1856 | 4.1856 | 1.0000 |
| 9 | 13.99 | Phosphate | BMB | 0.520 | 2.8487 | 2.8487 | 1.0000 |
| **Total:** | | | **0.000** | **13.302** | | **61.30** | |

*78 CCV*

| | | | |
|---|---|---|---|
| *Sample Name:* | **CCV** | *Injection Volume:* | **5.00** |
| *Vial Number:* | **R1** | *Channel:* | **CD** |
| *Sample Type:* | **Unknown** | *Wavelength:* | **210** |
| *Control Program:* | **Anions Program 06022020.1** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **Anions Processing Method** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **05/01/2021 10:51** | *Sample Weight:* | **1.0000** |

Run Time:



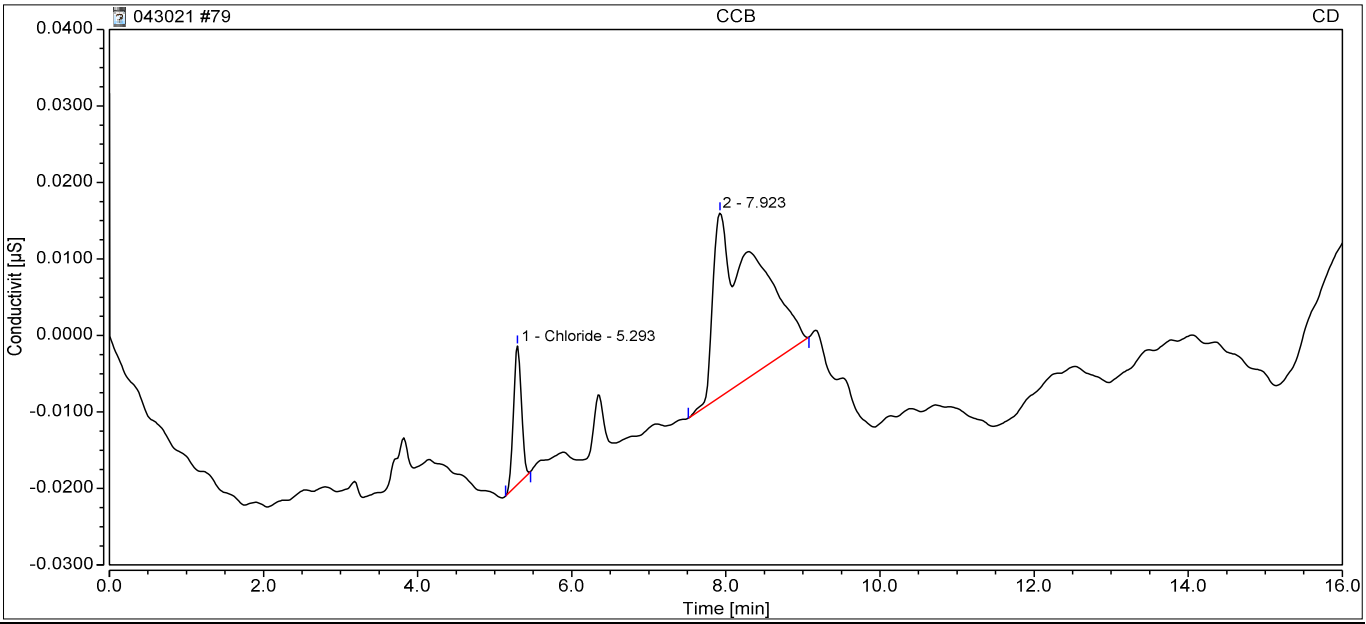

**Integration Results**

| No. | Retention min | Peak Name | Peak Type | Area µS*min | Amount ppm | Concentration ppm | Dilution |
|---|---|---|---|---|---|---|---|
| 1 | 3.72 | Fluoride | BMB | 1.336 | 4.1284 | 4.1284 | 1.0000 |
| 2 | 5.30 | Chloride | BMb* | 4.184 | 20.0144 | 20.0144 | 1.0000 |
| 3 | 6.36 | Nitrite,N | bMB* | 1.765 | 4.3542 | 4.3542 | 1.0000 |
| 5 | 8.37 | Bromide | M * | 0.300 | 3.6607 | 3.6607 | 1.0000 |
| 6 | 9.13 | Sulfate | M | 2.969 | 19.6828 | 19.6828 | 1.0000 |
| 7 | 9.51 | Nitrate | M | 2.154 | 3.9960 | 3.9960 | 1.0000 |
| 8 | 10.09 | Chlorate | MB | 0.404 | 4.1946 | 4.1946 | 1.0000 |
| 9 | 13.97 | Phosphate | BMB | 0.589 | 3.1913 | 3.1913 | 1.0000 |
| **Total:** | | | **0.000** | **13.700** | | **63.22** | |

*79 CCB*

| | | | |
|---|---|---|---|
| *Sample Name:* | **CCB** | *Injection Volume:* | **5.00** |
| *Vial Number:* | **R4** | *Channel:* | **CD** |
| *Sample Type:* | **Unknown** | *Wavelength:* | **210** |
| *Control Program:* | **Anions Program 06022020.1** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **Anions Processing Method** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **05/01/2021 11:28** | *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 | 5.29 | Chloride | BMB | 0.002 | 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. | Bromide | 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. | 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** | **0.002** | | **0.00** | |

10450 Stancliff Rd. Suite 210
Houston, TX 77099
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# WorkOrder: HS21041458

## Longhorn GW Treatment Plant Weekly Samples

## Bhate Environmental Associates, Inc.

Marcia Olive
445 Union Blvd Ste 129
Lakewood CO 80228

**21-May-2021**

ALS Environmental
ALS Group USA, Corp
10450 Stancliff Road, Suite 210
Houston, TX 77099
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**F :** +1 281 530 5887
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# HS21041458 Longhorn GW Treatment Plant Weekly Samples Final

ALS WO# HS21041458

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
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May 18, 2021

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

Work Order: **HS21041458**

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

Dear Marcia Olive,

ALS Environmental received 2 sample(s) on Apr 28, 2021 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**
RJ Modashia
Project Manager

**ALS Houston, US** Date: 18-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Weekly Samples
**Work Order:** HS21041458

## SAMPLE SUMMARY

| Lab Samp ID | Client Sample ID | Matrix | TagNo | Collection Date | Date Received | Hold |
|---|---|---|---|---|---|---|
| HS21041458-01 | LH18/24-SP650_042721 | Water | | 27-Apr-2021 14:00 | 28-Apr-2021 10:10 | ☐ |
| HS21041458-02 | LH18/24-SP650_042721_BIX | Water | | 27-Apr-2021 14:00 | 28-Apr-2021 10:10 | ☐ |

**ALS Houston, US** Date: 18-May-21

**Client:** Bhate Environmental Associates, Inc. **CASE NARRATIVE**
**Project:** Longhorn GW Treatment Plant Weekly Samples
**Work Order:** HS21041458

## 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: R383417

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

## WetChemistry by Method E350.3

### Batch ID: R382936

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

## WetChemistry by Method E365.3

### Batch ID: R382715

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

**ALS Houston, US** Date: 18-May-21

Client: Bhate Environmental Associates, Inc.
**ANALYTICAL REPORT**
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder:HS21041458
Sample ID: LH18/24-SP650_042721
Lab ID:HS21041458-01
Collection Date: 27-Apr-2021 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: YP |
| **Nitrogen, Ammonia (As N)** | **0.69** | a | **0.10** | **0.20** | **0.20** | **mg/L** | 1 | 04-May-2021 12:50 |
| **ORTHO PHOSPHATE (PO4) AS P BY E365.3** | | **Method:E365.3** | | | | | | Analyst: KVL |
| **Phosphorus, Total Orthophosphate (As P)** | **0.0310** | a | **0.0100** | **0.0250** | **0.0250** | **mg/L** | 1 | 29-Apr-2021 09:42 |
| **TOTAL ORGANIC CARBON BY E415.1** | | **Method:E415.1** | | | | | | Analyst: JAC |
| **Organic Carbon, Total** | **2.06** | a | **0.500** | **0.500** | **1.00** | **mg/L** | 1 | 11-May-2021 18:43 |

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

**ALS Houston, US** Date: 18-May-21

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

Project: Longhorn GW Treatment Plant Weekly Samples WorkOrder:HS21041458

Sample ID: LH18/24-SP650_042721_BIX Lab ID:HS21041458-02

Collection Date: 27-Apr-2021 14:00 Matrix:Water

| ANALYSES | RESULT | QUAL | DL | LOD | LOQ | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|---|---|---|---|---|---|---|---|
| **SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)** | | **Method:NA** | | | | | | Analyst: GR |
| Subcontract Analysis | See Attached | | 0 | 0 | | NA | 1 | 18-May-2021 16:44 |

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

**ALS Houston, US** Date: 18-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Weekly Samples
**WorkOrder:** HS21041458

**DATES REPORT**

| Sample ID | Client Samp ID | Collection Date | Leachate Date | Prep Date | Analysis Date | DF |
|---|---|---|---|---|---|---|
| **Batch ID:** R382715 ( 0 ) | **Test Name :** ORTHO PHOSPHATE (PO4) AS P BY E365.3 | | | | **Matrix:** Water | |
| HS21041458-01 | LH18/24-SP650_042721 | 27 Apr 2021 14:00 | | | 29 Apr 2021 09:42 | 1 |
| **Batch ID:** R382936 ( 0 ) | **Test Name :** AMMONIA AS N BY E350.3(ISE) | | | | **Matrix:** Water | |
| HS21041458-01 | LH18/24-SP650_042721 | 27 Apr 2021 14:00 | | | 04 May 2021 12:50 | 1 |
| **Batch ID:** R383417 ( 0 ) | **Test Name :** TOTAL ORGANIC CARBON BY E415.1 | | | | **Matrix:** Water | |
| HS21041458-01 | LH18/24-SP650_042721 | 27 Apr 2021 14:00 | | | 11 May 2021 18:43 | 1 |
| **Batch ID:** R383879 ( 0 ) | **Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850) | | | | **Matrix:** Water | |
| HS21041458-02 | LH18/24-SP650_042721_BIX | 27 Apr 2021 14:00 | | | 18 May 2021 16:44 | 1 |

**ALS Houston, US** Date: 18-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Weekly Samples
**WorkOrder:** HS21041458

**QC BATCH REPORT**

**Batch ID:** R382715 ( 0 ) **Instrument:** UV-2450 **Method:** ORTHO PHOSPHATE (PO4) AS P BY E365.3

**MBLK** Sample ID: **MBLK-R382715** Units: **mg/L** Analysis Date: **29-Apr-2021 09:30**
Client ID: Run ID: **UV-2450_382715** SeqNo: **6068587** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Phosphorus, Total Orthophosphate (As P) | 0.0250 | 0.0250 | | | | | | | | U |

**LCS** Sample ID: **LCS-R382715** Units: **mg/L** Analysis Date: **29-Apr-2021 09:30**
Client ID: Run ID: **UV-2450_382715** SeqNo: **6068586** 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) | 0.252 | 0.0250 | 0.25 | 0 | 101 | 85 - 115 | | | | |

**MS** Sample ID: **HS21041458-01MS** Units: **mg/L** Analysis Date: **29-Apr-2021 09:42**
Client ID: **LH18/24-SP650_042721** Run ID: **UV-2450_382715** SeqNo: **6068589** 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) | 0.3 | 0.0250 | 0.25 | 0.031 | 108 | 80 - 120 | | | | |

**MSD** Sample ID: **HS21041458-01MSD** Units: **mg/L** Analysis Date: **29-Apr-2021 09:43**
Client ID: **LH18/24-SP650_042721** Run ID: **UV-2450_382715** SeqNo: **6068588** 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) | 0.298 | 0.0250 | 0.25 | 0.031 | 107 | 80 - 120 | 0.3 | 0.669 | 20 | |

**The following samples were analyzed in this batch:** HS21041458-01

**ALS Houston, US** Date: 18-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Weekly Samples
**WorkOrder:** HS21041458

**QC BATCH REPORT**

**Batch ID: R382936 ( 0 )** **Instrument: WetChem_HS** **Method: AMMONIA AS N BY E350.3(ISE)**

**MBLK** Sample ID: **MBLK-R382936** Units: **mg/L** Analysis Date: **04-May-2021 12:50**
Client ID: Run ID: **WetChem_HS_382936** SeqNo: **6074372** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Nitrogen, Ammonia (As N) | 0.20 | 0.20 | | | | | | | | U |

**LCS** Sample ID: **LCS-R382936** Units: **mg/L** Analysis Date: **04-May-2021 12:50**
Client ID: Run ID: **WetChem_HS_382936** SeqNo: **6074371** 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) | 10.71 | 0.20 | 10 | 0 | 107 | 80 - 120 | | | | |

**MS** Sample ID: **HS21041458-01MS** Units: **mg/L** Analysis Date: **04-May-2021 12:50**
Client ID: **LH18/24-SP650_042721** Run ID: **WetChem_HS_382936** SeqNo: **6074374** 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) | 10.12 | 0.20 | 10 | 0.687 | 94.4 | 80 - 120 | | | | |

**MSD** Sample ID: **HS21041458-01MSD** Units: **mg/L** Analysis Date: **04-May-2021 12:50**
Client ID: **LH18/24-SP650_042721** Run ID: **WetChem_HS_382936** SeqNo: **6074373** 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) | 9.781 | 0.20 | 10 | 0.687 | 90.9 | 80 - 120 | 10.12 | 3.45 | 20 | |

**The following samples were analyzed in this batch:** HS21041458-01

**ALS Houston, US** Date: 18-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Weekly Samples
**WorkOrder:** HS21041458

**QC BATCH REPORT**

**Batch ID: R383417 ( 0 )** **Instrument: TOC_04** **Method: TOTAL ORGANIC CARBON BY E415.1**

**MBLK** Sample ID: **MBLK-05112021** Units: **mg/L** Analysis Date: **11-May-2021 18:03**
Client ID: Run ID: **TOC_04_383417** SeqNo: **6086375** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Organic Carbon, Total | 0.500 | 1.00 | | | | | | | | U |

**LCS** Sample ID: **LCS-05112021** Units: **mg/L** Analysis Date: **11-May-2021 18:17**
Client ID: Run ID: **TOC_04_383417** SeqNo: **6086376** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Organic Carbon, Total | 10.39 | 1.00 | 10 | 0 | 104 | 85 - 115 | | | | |

**LCSD** Sample ID: **LCSD-05112021** Units: **mg/L** Analysis Date: **11-May-2021 18:32**
Client ID: Run ID: **TOC_04_383417** SeqNo: **6086377** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Organic Carbon, Total | 10.29 | 1.00 | 10 | 0 | 103 | 85 - 115 | 10.39 | 0.967 | 20 | |

**MS** Sample ID: **HS21050457-01MS** Units: **mg/L** Analysis Date: **11-May-2021 19:24**
Client ID: Run ID: **TOC_04_383417** SeqNo: **6086381** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Organic Carbon, Total | 22.51 | 1.00 | 10 | 11.59 | 109 | 80 - 120 | | | | |

**The following samples were analyzed in this batch:** HS21041458-01

**ALS Houston, US** Date: 18-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Weekly Samples
**WorkOrder:** **HS21041458**

**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 | 21-022-0 | 26-Mar-2022 |
| Dept of Defense | PJLA L20-507-R2 | 22-Dec-2021 |
| Florida | E87611-30-07/01/2020 | 30-Jun-2021 |
| Kansas | E-10352 2020-2021 | 31-Jul-2021 |
| Kentucky | 123043, 2021-2022 | 30-Apr-2022 |
| Louisiana | 03087, 2020-2021 | 30-Jun-2021 |
| North Carolina | 624-2021 | 31-Dec-2021 |
| Oklahoma | 2020-165 | 31-Aug-2021 |
| Texas | T104704231-21-27 | 30-Apr-2022 |

**ALS Houston, US** Date: 18-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Weekly Samples
**Work Order:** HS21041458

## SAMPLE TRACKING

| Lab Samp ID | Client Sample ID | Action | Date | Person | New Location |
|---|---|---|---|---|---|
| HS21041458-01 | LH18/24-SP650_042721 | Login | 4/28/2021 11:18:18 AM | PMG | WET342 |
| HS21041458-01 | LH18/24-SP650_042721 | Login | 4/28/2021 11:18:18 AM | PMG | WET342 |
| HS21041458-01 | LH18/24-SP650_042721 | Login | 4/28/2021 11:18:18 AM | PMG | WET342 |
| HS21041458-02 | LH18/24-SP650_042721_BIX | Login | 4/28/2021 11:18:18 AM | PMG | Sub |

**ALS Houston, US** Date: 18-May-21

## Sample Receipt Checklist

**Work Order ID:** HS21041458 **Date/Time Received:** **28-Apr-2021 10:10**

**Client Name:** Bhate Environmental **Received by:** **Pablo Marinez**

| **Completed By:** | /S/ Paresh M. Giga | 28-Apr-2021 11:21 | **Reviewed by:** | /S/ RJ Modashia | 28-Apr-2021 15:57 |
|---|---|---|---|---|---|
| | eSignature | Date/Time | | eSignature | Date/Time |

Matrices: **Water** 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: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): | 0.8C U/c | IR31 | |
| Cooler(s)/Kit(s): | 46453 | | |
| Date/Time sample(s) sent to storage: | 4/28/2021 11:30 | | |
| 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: R.J Modashia

Page 1 of 1

Project: BHATE
LONGHORN ARMY AMMN. PLANT (LHAAP)
GROUNDWATER TREATMENT PLANT (GWTP)
KARNACK, TEXAS

Project No.
NWO1312.0150.0
16.0001

Job:
**GROUNDWATER TREATMENT PLANT WEEKLY SAMPLES**

Prepared By:
Scott Beesinger

P.O. Number

HS21041458

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_042721 | Water | 04/27/21 / 14:00 | | 3 | X | X | | | H2SO4 | |
| LH18/24-SP650_042721 | Water | 04/27/21 / 14:00 | | 1 | | | X | | NONE | |
| LH18/24–SP650_042721_BIX | Water | 04/27/21 / 14:00 | | 1 | | | | X | NONE | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

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 | 04/27/21 | 14:30 | Rob Mann | 4-28-21 | 1031 | | | | | | |

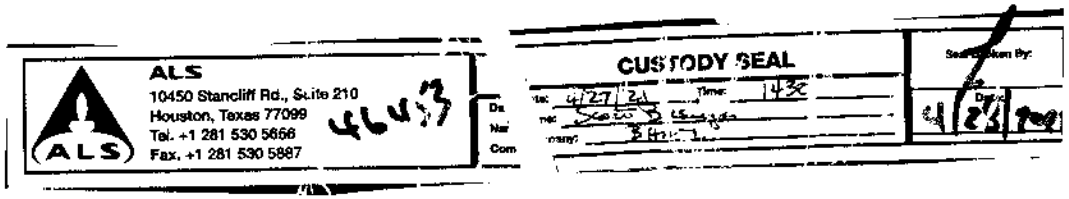
For Lab Use Only

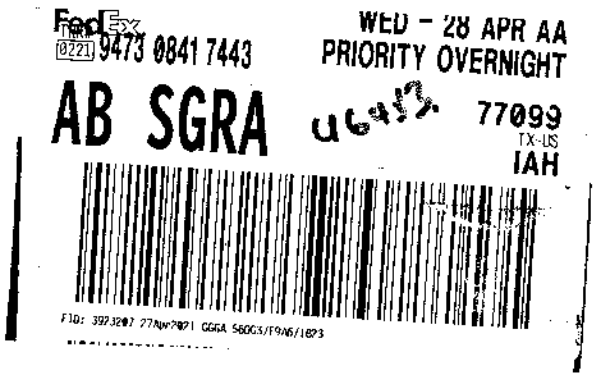
| Received At Lab By: | Date | Time | Airbill No. | Opened By: | Date | Time | Temp of Container | Seal No. | Condition |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |

Remarks:

46453 0.8℃ IR31 cfc

(Word) S:\U-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


FedEx
9473 0841 7443
WED - 28 APR AA
PRIORITY OVERNIGHT
AB SGRA
77099
TX-US
IAH

May 18, 2021 Service Request No:E2100493

RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Suite 210
Houston, TX 77099-4338

**Laboratory Results for: HS21041458**

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory April 28, 2021
For your reference, these analyses have been assigned our service request number **E2100493.**

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.

Respectfully submitted,

**ALS Group USA, Corp. dba ALS Environmental**



Corey Grandits
Project Manager

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 Houston | **Service Request No.:** | E2100493 |
| **Project:** | HS21041458 | **Date Received:** | 04/28/21 |
| **Sample Matrix:** | W | | |

## 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

Six sample was received for analysis at ALS Environmental in Houston on 04/28/21.

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:**

EQ2100263: 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 and DLCS recoveries are within QC limits.

DoD certification is held for the method/matrix/analytes provided in this report.

*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:**E2100493
**Project:** HS21041458

## SAMPLE CROSS-REFERENCE

| SAMPLE # | CLIENT SAMPLE ID | DATE | TIME |
|---|---|---|---|
| E2100493-001 | LH18/24-SP650_042721_BIX | 4/27/2021 | 1400 |

# Service Request Summary

**Folder #:** **E2100493**
Client Name: ALS Environmental - US
Project Name: HS21041458
Project Number:

**Report To:** RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Houston, TX 77099-4338
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number: 281-530-5887
E-mail: rj.modashia@alsglobal.com

Project Chemist: Corey Grandits
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 04/28/21
Internal Due Date: 5/12/2021
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS21041458
EDD: No EDD Specified

1 120 mL-Plastic Bottle Natural WM Unpreserved
**Location:** EHRMS-WIC 10D
**Pressure Gas:**

| Lab Samp No. | Client Samp No | Matrix | Collected | HOUSTON ClO4 DOD/6850 |
|---|---|---|---|---|
| E2100493-001 | LH18/24-SP650_042721_BIX | Surface Water | 04/27/21 1400 | **IV** |

# Service Request Summary

**Folder #:** **E2100493**
Client Name: ALS Environmental - US
Project Name: HS21041458
Project Number:

**Report To:** RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Houston, TX 77099-4338
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number: 281-530-5887
E-mail: rj.modashia@alsglobal.com

Project Chemist: Corey Grandits
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 04/28/21
Internal Due Date: 5/12/2021
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS21041458
EDD: No EDD Specified

1 120 mL-Plastic Bottle Natural WM Unpreserved
**Location:** EHRMS-WIC 10D
**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 | Internal standard not within the specified limits. See case narrative. |
| 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. |
| 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. |

# Data Qualifiers

## Lab Standard

| | |
|---|---|
| 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 |
|---|---|---|
| American Association for Laboratory Accreditation | 2897.01 2020 | 11/30/2021 |
| Arizona Department of Health Services | AZ0793-2020 | 5/27/2021 |
| Arkansas Department of Environmental Quality | 21-022-0 | 3/26/2022 |
| Department of Defense | A2LA 2897.01 | 11/30/2021 |
| Florida Department of Health | E87611-2020 | 6/30/2021 |
| Hawaii Department of Health | 2021-2022 | 4/30/2022 |
| Kansas Department of Health and Environment | E-10352-2020 | 7/31/2021 |
| Louisiana Department of Environmental Quality | 03087-2020 | 6/30/2021 |
| Louisiana Department of Health and Hospitals | LA028-2021 | 12/31/2021 |
| Maine Department of Health and Human Services | 2020016 | 6/5/2022 |
| Maryland Department of the Environment | 343-2020 | 6/30/2021 |
| Minnesota Department of Health | 2021671 | 12/31/2021 |
| Nevada Department of Concervation and Natural Resources | TX026932021-4 | 7/31/2021 |
| New Hampshire Environmental Laboratory Accreditation Program | 209421 | 4/24/2022 |
| New Jersey Department of Environmental Protection | TX008 | 6/30/2021 |
| Oklahoma Department of Environmental Quality | 2020-123 | 8/31/2021 |
| Pennsylvania Department of Environmental Protection | 014 | 6/30/2021 |
| Tennessee Department of Environment and Concervation | 04016-2021 | 4/30/2022 |
| United States Department of Agriculture | P330-19-00299 | 10/10/2022 |

# 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

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:** **15992**

**SUBCONTRACT TO:**

ALS Environmental
10450 Stancliff RoadSuite 210
Houston, TX 77084

**Phone:** +1 281 530 5656

**CUSTOMER INFORMATION:**

| | |
|---|---|
| **Company:** | ALS Houston |
| **Contact:** | RJ Modashia |
| **Address:** | 10450 Stancliff Rd, Ste 210 |
| **Phone:** | +1 281 530 5656 |
| **Email:** | RJ.Modashia@alsglobal.com |
| **Alternate Contact:** | |
| **Email:** | |

**INVOICE INFORMATION:**

| | |
|---|---|
| **Company:** | ALS Houston |
| **Contact:** | Accounts Payable |
| **Address:** | 10450 Stancliff Rd, Ste 210 |
| **Phone:** | +1 281 530 5656 |
| **Reference:** | HS21041458 |
| **TSR:** | Sonia West |

| | LAB SAMPLE ID | CLIENT SAMPLE ID | MATRIX | COLLECT DATE |
|---|---|---|---|---|
| | ANALYSIS REQUESTED | | | DUE DATE |
| **1.** | **HS21041458-02** | **LH18/24-SP650_042721_BIX** | **Water** | **27 Apr 2021 14:00** |
| | Provide Level II and Level IV reports in separate pdf | | | 12 May 2021 |

**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: 4/28/21 1904

Cooler ID(s): _____ Temperature(s): 1.0

ALS Environmental

# Cooler Receipt Form

Project Chemist CA

Client/Project ALS-HI

Thermometer ID IR31

Date/Time Received: 4/28/21 Initials: CA

Date/Time Logged in: 4/28/21 Initials CA

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

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

3. Were custody seals on coolers? ○ Yes ✓ No

Were they intact? ○ Yes ○ No ✓ N/A

Were they signed and dated? ○ Yes ○ No ✓ N/A

If yes, how many and where?

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

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

| Cooler Tracking Number | COC ID | Date Opened | Time Opened | Opened By | Temp. °C | Temp Blank? |
|---|---|---|---|---|---|---|
| NA | | 4/28/21 | 1404 | CA | 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:

HS-HRMSCoolerReceipt R1.0

ALS Environmental - Houston HRMS

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#:** 378427 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
**Team:** Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 4/30/21 12:06

| # | Lab Code | Client ID | B# | Method /Test | pH | Cl | Matrix | Amt. Ext. | Sample Description |
|---|---|---|---|---|---|---|---|---|---|
| 1 | E2100470-001 | 16WW40-210421 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 2 | E2100470-002 | 16WW12-210421 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 3 | E2100492-001 | HBW7_042721 | .01 | 6850/ClO4 DOD | | | Surface Water | 10mL | |
| 4 | E2100492-002 | HBW10_042721 | .01 | 6850/ClO4 DOD | | | Surface Water | 10mL | |
| 5 | E2100492-003 | HBW10_042721_a | .01 | 6850/ClO4 DOD | | | Surface Water | 10mL | |
| 6 | E2100492-004 | HBW1_042721 | .01 | 6850/ClO4 DOD | | | Surface Water | 10mL | |
| 7 | E2100492-005 | GPW1_042721 | .01 | 6850/ClO4 DOD | | | Surface Water | 10mL | |
| 8 | E2100492-006 | GPW3_042721 | .01 | 6850/ClO4 DOD | | | Surface Water | 10mL | |
| 9 | E2100493-001 | LH18/24-SP650_042721_BIX | .01 | 6850/ClO4 DOD | | | Surface Water | 10mL | |
| 10 | E2100529-001 | 16WW27-210422 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 11 | E2100529-002 | 16WW43-210422 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 12 | E2100529-003 | 16WW23-210422 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 13 | E2100529-004 | 16WW24-210422 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 14 | E2100529-005 | 16IW09-210422 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 15 | E2100529-006 | 16WW49-210422 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 16 | E2100529-007 | 16WW48-210422 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 17 | EQ2100263-01 | MB | | 6850/ClO4 DOD | | | Liquid | 10mL | |
| 18 | EQ2100263-02 | LCS | | 6850/ClO4 DOD | | | Liquid | 10mL | |
| 19 | EQ2100263-03 | DLCS | | 6850/ClO4 DOD | | | Liquid | 10mL | |

## Spiking Solutions

Name: Perchlorate Intermediate Stock1 Inventory ID 214035 Logbook Ref: Perchlorate Expires On: 05/23/2021

EQ2100263-02 1.00µL EQ2100263-03 1.00µL

Name: Perchlorate Internal Standard 1ug/mL Inventory ID 214820 Logbook Ref: Perchlorate Internal Standard Expires On: 07/03/2021

E2100470-001 100.00µL E2100470-002 100.00µL E2100492-001 100.00µL E2100492-002 100.00µL E2100492-003 100.00µL E2100492-004 100.00µL
E2100492-005 100.00µL E2100492-006 100.00µL E2100493-001 100.00µL E2100529-001 100.00µL E2100529-002 100.00µL E2100529-003 100.00µL
E2100529-004 100.00µL E2100529-005 100.00µL E2100529-006 100.00µL E2100529-007 100.00µL EQ2100263-01 100.00µL EQ2100263-02 100.00µL
EQ2100263-03 100.00µL

# *Preparation Information Benchsheet*

**Prep Run#:** 378427 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
**Team:** Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 4/30/21 12:06

## Preparation Steps

Step: Preparation
Started: 4/30/21 12:06
Finished: 4/30/21 14:30
By: KBROWN
Comments

Comments: _____

Reviewed By: KB Date: 4/30/21

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:** | E2100493 |
| **Project:** | HS21041458 | **Date Collected:** | 4/27/21 1400 |
| **Sample Matrix:** | Surface Water | **Date Received:** | 4/28/21 |
| **Sample Name:** | LH18/24-SP650_042721_BIX | **Units:** | µg/L |
| **Lab Code:** | E2100493-001 | **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 | **9.27** | | 4.00 | 2.00 | 1.00 | 40 | 4/30/21 | 5/18/21 15:36 | 378427 | 723959 | |

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

| | | | |
|---|---|---|---|
| **Client:** | ALS Environmental - US | **Service Request:** | E2100493 |
| **Project:** | HS21041458 | **Date Collected:** | NA |
| **Sample Matrix:** | Surface Water | **Date Received:** | NA |
| **Sample Name:** | Method Blank | **Units:** | µg/L |
| **Lab Code:** | EQ2100263-01 | **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 | 4/30/21 | 5/1/21 16:22 | 378427 | 722220 | |

# 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:** HS21041458
**Sample Matrix:** Surface Water

**Service Request:** E2100493
**Date Analyzed:** 5/ 1/21

## 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:** 378427

| | Lab Control Sample EQ2100263-02 | | | Duplicate Lab Control Sample EQ2100263-03 | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Analyte Name** | **Result** | **Spike Amount** | **% Rec** | **Result** | **Spike Amount** | **% Rec** | **% Rec Limits** | **RPD** | **RPD Limit** |
| Perchlorate | 0.0981 | 0.100 | 98 | 0.112 | 0.100 | 112 | 84 - 119 | 13 | 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:** | E2100493 |
| **Project:** | HS21041458 | **Date Collected:** | NA |
| **Sample Matrix:** | Surface Water | **Date Received:** | NA |
| **Sample Name:** | Lab Control Sample | **Units:** | µg/L |
| **Lab Code:** | EQ2100263-02 | **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 | **0.0981** | J | 0.100 | 0.0500 | 0.0250 | 1 | 4/30/21 | 5/1/21 16:31 | 378427 | 722220 | |

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

| | | | |
|---|---|---|---|
| **Client:** | ALS Environmental - US | **Service Request:** | E2100493 |
| **Project:** | HS21041458 | **Date Collected:** | NA |
| **Sample Matrix:** | Surface Water | **Date Received:** | NA |
| **Sample Name:** | Duplicate Lab Control Sample | **Units:** | µg/L |
| **Lab Code:** | EQ2100263-03 | **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 | 4/30/21 | 5/1/21 16:40 | 378427 | 722220 | |

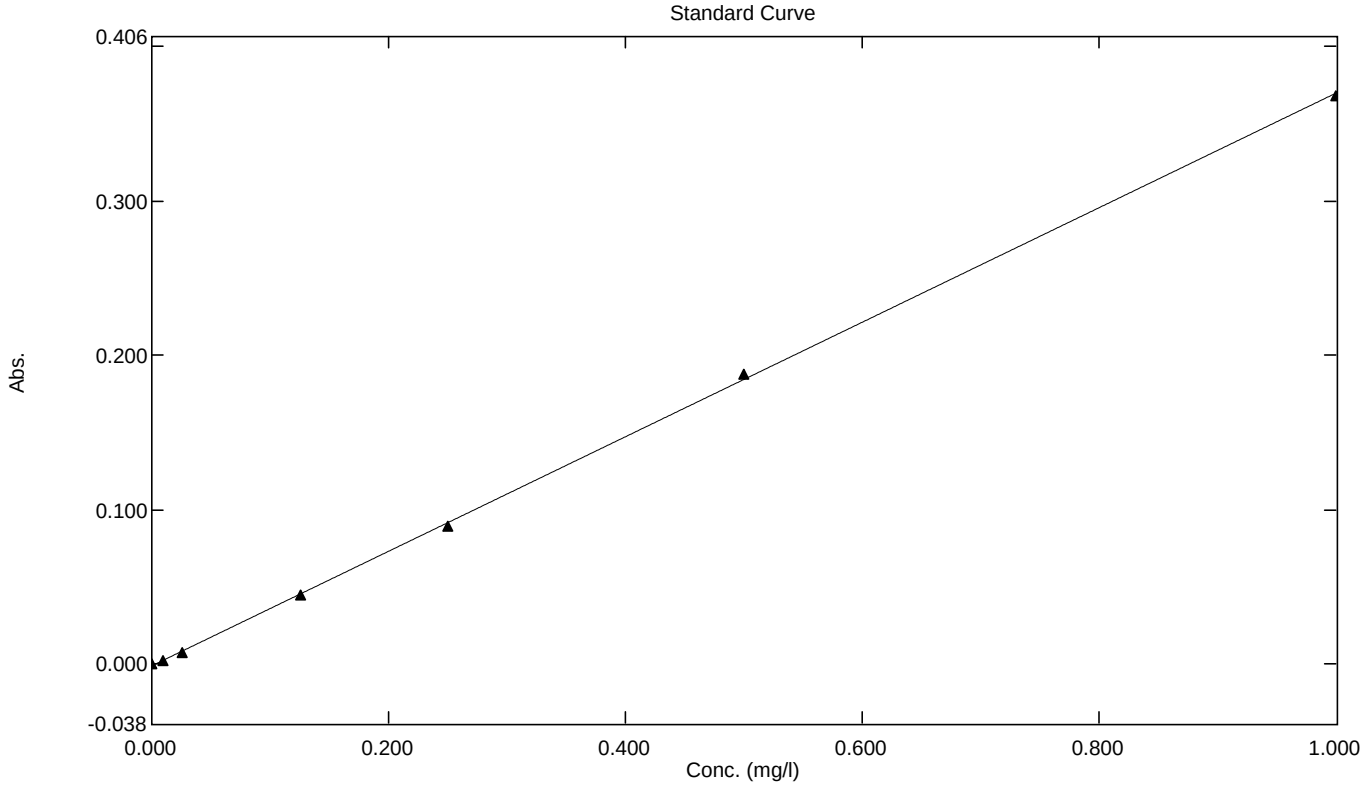
# HS21041458 Wet Chem Raw Data (P-ORTHO)

ALS WO# HS21041458

# Standard Table Report

05/21/2021 04:02:31 PM

File Name: C:\Program Files (x86)\Shimadzu\UVProbe\Data\O_PO4_UNKNOWN\2021\04292021_P_ORTHO_W.p



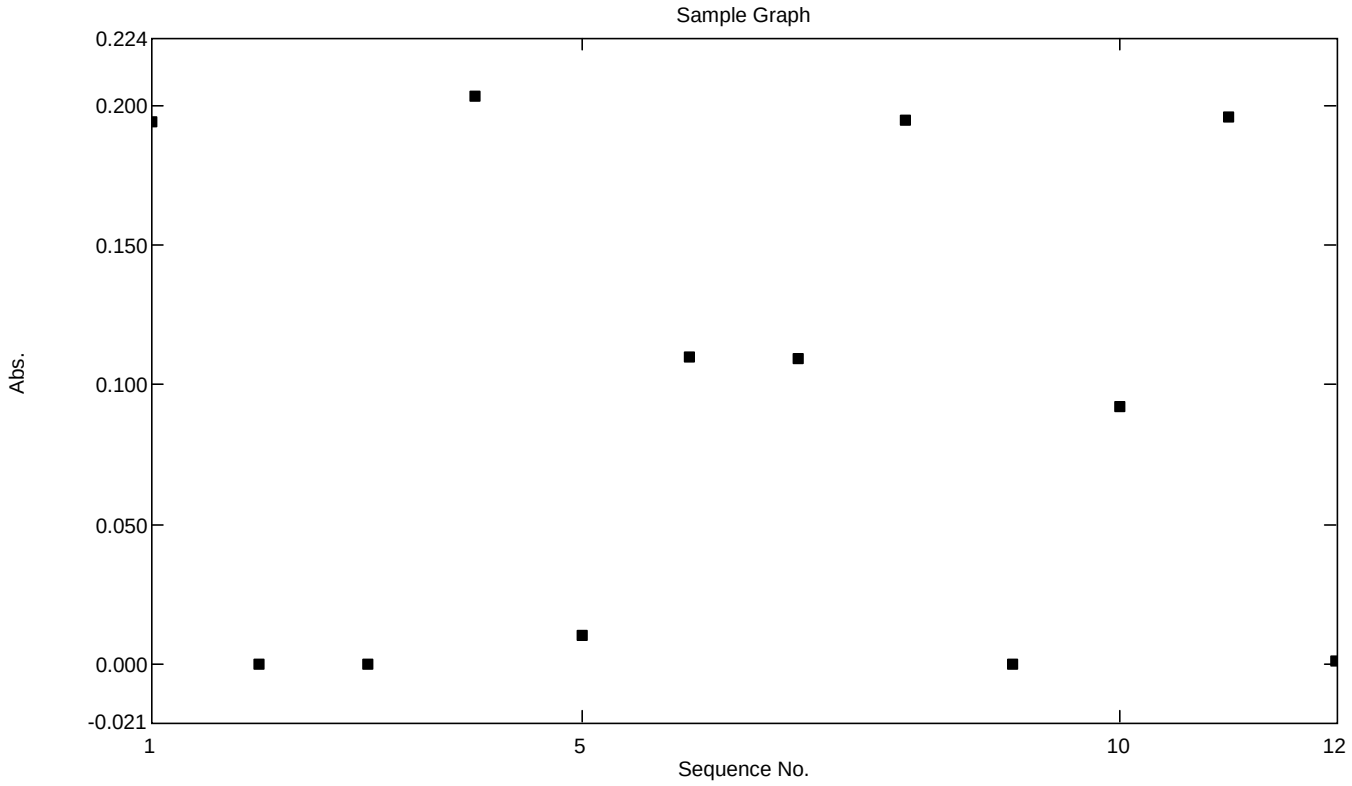

Standard Table

| | Sample ID | Type | Ex | Conc | WL650.0 | Wgt.Factor | Comments |
|---|---|---|---|---|---|---|---|
| 1 | STD1 | Standard | | 0.000 | -0.000 | 1.000 | |
| 2 | STD2 | Standard | | 0.010 | 0.002 | 1.000 | |
| 3 | STD3 | Standard | | 0.025 | 0.007 | 1.000 | |
| 4 | STD4 | Standard | | 0.125 | 0.044 | 1.000 | |
| 5 | STD5 | Standard | | 0.250 | 0.089 | 1.000 | |
| 6 | STD6 | Standard | | 0.500 | 0.188 | 1.000 | |
| 7 | STD7 | Standard | | 1.000 | 0.368 | 1.000 | |
| 8 | | | | | | | |

# Sample Table Report

05/21/2021 04:02:53 PM

File Name: C:\Program Files (x86)\Shimadzu\UVProbe\Data\O_PO4_UNKNOWN\2021\04292021_P_ORTHO_W.




Sample Table

| | Sample ID | Type | Ex | Date | Time | Conc | WL650. | Comments |
|---|---|---|---|---|---|---|---|---|
| 1 | CCV | Unknown | | 04/29/2021 | 09:41:18 AM | 0.527 | 0.194 | |
| 2 | CCB | Unknown | | 04/29/2021 | 09:41:29 AM | 0.003 | -0.000 | |
| 3 | MBLK | Unknown | | 04/29/2021 | 09:41:36 AM | 0.003 | -0.000 | |
| 4 | LCS | Unknown | | 04/29/2021 | 09:41:55 AM | 0.552 | 0.204 | |
| 5 | HS21041458.01 | Unknown | | 04/29/2021 | 09:42:29 AM | 0.031 | 0.010 | |
| 6 | HS21041458.01MS | Unknown | | 04/29/2021 | 09:42:59 AM | 0.300 | 0.110 | |
| 7 | HS21041458.01MS D | Unknown | | 04/29/2021 | 09:43:23 AM | 0.298 | 0.109 | |
| 8 | CCV2 | Unknown | | 04/29/2021 | 09:43:35 AM | 0.528 | 0.195 | |
| 9 | CCB2 | Unknown | | 04/29/2021 | 09:43:45 AM | 0.003 | 0.000 | |
| 10 | LCS2 | Unknown | | 04/29/2021 | 12:18:14 PM | 0.252 | 0.092 | 316132803 UV-11 |
| 11 | CCV3 | Unknown | | 04/29/2021 | 12:19:02 PM | 0.531 | 0.196 | 316131610 WC-14 |
| 12 | CCB3 | Unknown | | 04/29/2021 | 12:19:44 PM | 0.007 | 0.001 | 316131609 WC-14 LCS |
| 13 | | | | | | | | |

# HS21041458 Wet Chem Raw Data (TOC_W 9060)

ALS WO# HS21041458

| | Type | Analysis | Sample Name | Sample ID | Origin | Result |
|---|---|---|---|---|---|---|
| 1 | Standard | NPOC | CAL | 3150171(01-07) | 02_25_2021_CAL.2021_02_ | |
| 2 | Unknown | NPOC | ICV | 315017108 | 02_25_2021_CAL.cal | NPOC:10.14mg/L |
| 3 | Unknown | NPOC | ICB | | 02_25_2021_CAL.cal | NPOC:-0.1140mg/L |
| 4 | Unknown | NPOC | CCV | 315017106 | 02_25_2021_CAL.cal | NPOC:25.02mg/L |
| 5 | Unknown | NPOC | CCB | | 02_25_2021_CAL.cal | NPOC:-0.07587mg/L |
| 6 | Unknown | NPOC | MBLK-02252021 | | 02_25_2021_CAL.cal | NPOC:-0.1214mg/L |
| 7 | Unknown | NPOC | LCS-02252021 | | 02_25_2021_CAL.cal | NPOC:10.15mg/L |
| 8 | Unknown | NPOC | LCSD02252021 | | 02_25_2021_CAL.cal | NPOC:10.16mg/L |
| 9 | Unknown | NPOC | HS21020689-01 | | 02_25_2021_CAL.cal | NPOC:22.48mg/L |
| 10 | Unknown | NPOC | HS21020689-02 | | 02_25_2021_CAL.cal | NPOC:17.34mg/L |
| 11 | Unknown | NPOC | HS21020689-02MS | | 02_25_2021_CAL.cal | NPOC:28.25mg/L |
| 12 | Unknown | NPOC | HS21020689-03 | | 02_25_2021_CAL.cal | NPOC:10.22mg/L |
| 13 | Unknown | NPOC | HS21020538-01 | | 02_25_2021_CAL.cal | NPOC:20.36mg/L |
| 14 | Unknown | NPOC | HS21020538-02 | | 02_25_2021_CAL.cal | NPOC:4.452mg/L |
| 15 | Unknown | NPOC | HS21020793-02DF10 | | 02_25_2021_CAL.cal | NPOC:17.50mg/L |
| 16 | Unknown | NPOC | CCV | | 02_25_2021_CAL.cal | NPOC:25.46mg/L |
| 17 | Unknown | NPOC | CCB | | 02_25_2021_CAL.cal | NPOC:0.08018mg/L |

| | Notes | Status | Date / Time | Vial |
|---|---|---|---|---|
| 1 | | Completed | 2/25/2021 1 | 1, 2, 3, 4, 5, |
| 2 | | Completed | 2/25/2021 1 | 8 |
| 3 | | Completed | 2/25/2021 1 | 9 |
| 4 | | Completed | 2/25/2021 1 | 10 |
| 5 | | Completed | 2/25/2021 1 | 11 |
| 6 | | Completed | 2/25/2021 1 | 12 |
| 7 | | Completed | 2/25/2021 1 | 13 |
| 8 | | Completed | 2/25/2021 1: | 14 |
| 9 | | Completed | 2/25/2021 1: | 15 |
| 10 | | Completed | 2/25/2021 1: | 16 |
| 11 | | Completed | 2/25/2021 1: | 17 |
| 12 | | Completed | 2/25/2021 2: | 18 |
| 13 | | Completed | 2/25/2021 2: | 19 |
| 14 | | Completed | 2/25/2021 2: | 20 |
| 15 | | Completed | 2/25/2021 2: | 21 |
| 16 | | Completed | 2/25/2021 3: | 22 |
| 17 | | Completed | 2/25/2021 3: | 23 |

# TOC-Control L Report

2021_02_25_001.tlx

**Instr.Information**

| | |
|---|---|
| Instrument Options | TOC/ASI/IC Unit/ |
| Catalyst | Regular Sensitivity |

**Cal. Curve**

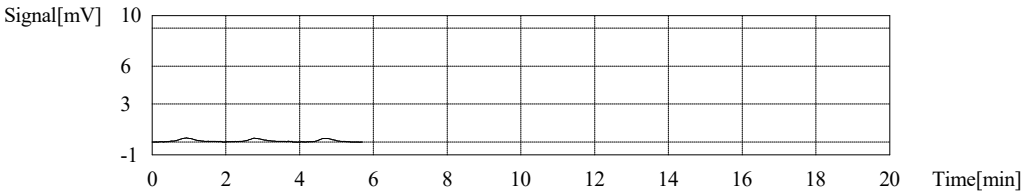
| | |
|---|---|
| Sample Name: | CAL |
| Sample ID: | 3150171(01-07) |
| Cal. Curve: | 02_25_2021_CAL.2021_02_25_09_13_02.cal |
| Status | Completed |

| Type | Anal. |
|---|---|
| Standard | NPOC |

Conc: 0.000mg/L

| No. | Area | Inj. Vol. | Aut. Dil. | Rem. | Ex. | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 0.7577 | 50uL | 1.000 | ******* | | 2/25/2021 9:21:39 AM |
| 2 | 0.6368 | 50uL | 1.000 | ******* | | 2/25/2021 9:23:47 AM |
| 3 | 0.6500 | 50uL | 1.000 | ******* | | 2/25/2021 9:25:55 AM |

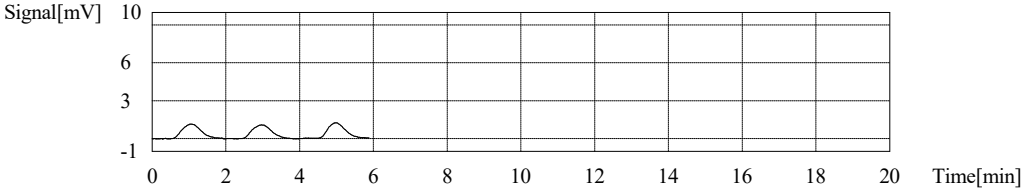
| | |
|---|---|
| Acid Add. | 0.000% |
| Sparge Gas Flow | 80mL/min |
| Sp. Time | 180.0sec |
| Mean Area | 0.6815 |




Conc: 1.000mg/L

| No. | Area | Inj. Vol. | Aut. Dil. | Rem. | Ex. | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 4.063 | 50uL | 1.000 | ******* | | 2/25/2021 9:34:44 AM |
| 2 | 3.946 | 50uL | 1.000 | ******* | | 2/25/2021 9:37:02 AM |
| 3 | 3.886 | 50uL | 1.000 | ******* | | 2/25/2021 9:39:10 AM |

| | |
|---|---|
| Acid Add. | 0.000% |
| Sparge Gas Flow | 80mL/min |
| Sp. Time | 180.0sec |
| Mean Area | 3.965 |



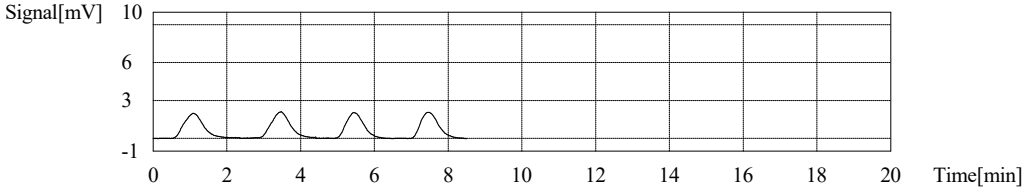

Conc: 2.000mg/L

| No. | Area | Inj. Vol. | Aut. Dil. | Rem. | Ex. | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 7.014 | 50uL | 1.000 | ******* | | 2/25/2021 9:48:25 AM |
| 2 | 6.976 | 50uL | 1.000 | ******* | | 2/25/2021 9:50:44 AM |
| 3 | 6.738 | 50uL | 1.000 | ******* | E | 2/25/2021 9:53:02 AM |
| 4 | 6.989 | 50uL | 1.000 | ******* | | 2/25/2021 9:55:18 AM |

# TOC-Control L Report



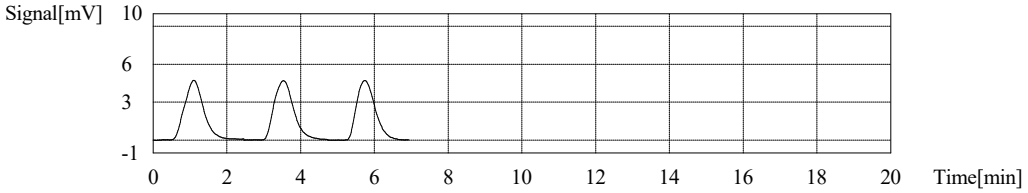
Acid Add. 0.000%
Sparge Gas Flow 80mL/min
Sp. Time 180.0sec
Mean Area 6.993




Conc: 5.000mg/L

| No. | Area | Inj. Vol. | Aut. Dil. | Rem. | Ex. | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 16.70 | 50uL | 1.000 | ******* | | 2/25/2021 10:04:35 AM |
| 2 | 16.99 | 50uL | 1.000 | ******* | | 2/25/2021 10:07:06 AM |
| 3 | 16.40 | 50uL | 1.000 | ******* | | 2/25/2021 10:09:32 AM |

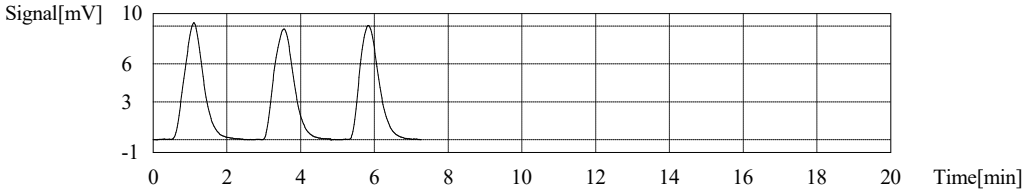
Acid Add. 0.000%
Sparge Gas Flow 80mL/min
Sp. Time 180.0sec
Mean Area 16.70




Conc: 10.00mg/L

| No. | Area | Inj. Vol. | Aut. Dil. | Rem. | Ex. | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 32.33 | 50uL | 1.000 | ******* | | 2/25/2021 10:18:54 AM |
| 2 | 32.41 | 50uL | 1.000 | ******* | | 2/25/2021 10:21:29 AM |
| 3 | 32.27 | 50uL | 1.000 | ******* | | 2/25/2021 10:24:10 AM |

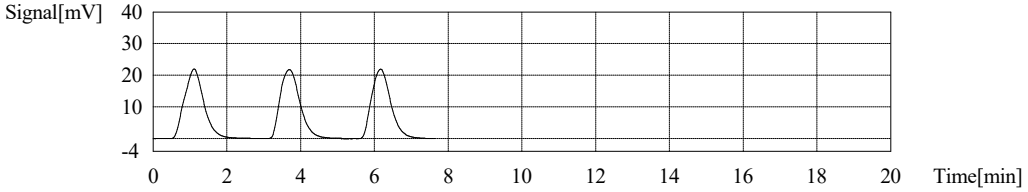
Acid Add. 0.000%
Sparge Gas Flow 80mL/min
Sp. Time 180.0sec
Mean Area 32.34




Conc: 25.00mg/L

| No. | Area | Inj. Vol. | Aut. Dil. | Rem. | Ex. | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 79.83 | 50uL | 1.000 | ******* | | 2/25/2021 10:33:42 AM |
| 2 | 80.51 | 50uL | 1.000 | ******* | | 2/25/2021 10:36:25 AM |
| 3 | 79.09 | 50uL | 1.000 | ******* | | 2/25/2021 10:39:12 AM |

Acid Add. 0.000%
Sparge Gas Flow 80mL/min
Sp. Time 180.0sec
Mean Area 79.81



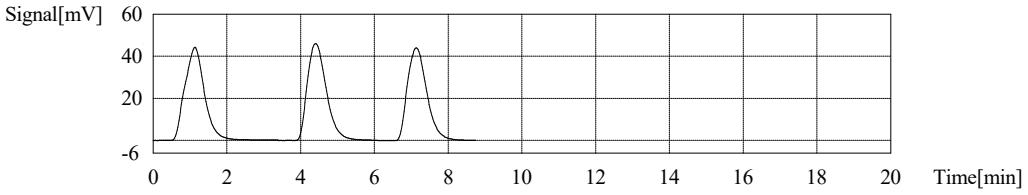

Conc: 50.00mg/L

| No. | Area | Inj. Vol. | Aut. Dil. | Rem. | Ex. | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 162.4 | 50uL | 1.000 | ******* | | 2/25/2021 10:49:29 AM |
| 2 | 163.8 | 50uL | 1.000 | ******* | | 2/25/2021 10:52:26 AM |
| 3 | 159.9 | 50uL | 1.000 | ******* | | 2/25/2021 10:55:21 AM |

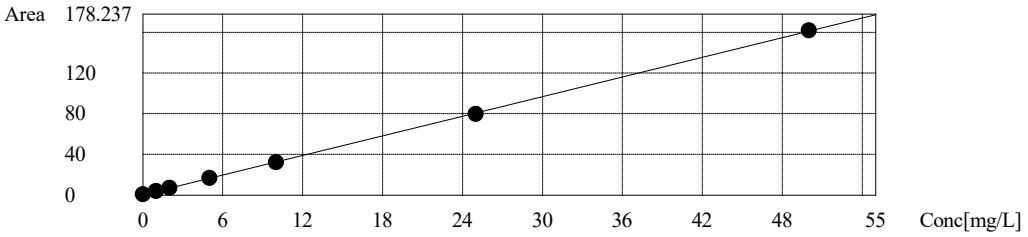
# TOC-Control L Report

2021_02_25_001.tlx

| | |
|---|---|
| Acid Add. | 0.000% |
| Sparge Gas Flow | 80mL/min |
| Sp. Time | 180.0sec |
| Mean Area | 162.0 |




| | |
|---|---|
| Slope: | 3.220 |
| Intercept | 0.4365 |
| r^2 | 0.9999 |
| r | 1.0000 |
| RSE(%) | N/A |
| Zero Shift | No |




**Sample**

| | |
|---|---|
| Sample Name: | ICV |
| Sample ID: | 315017108 |
| Origin: | 02_25_2021_CAL.cal |
| Status | Completed |
| Chk. Result | |

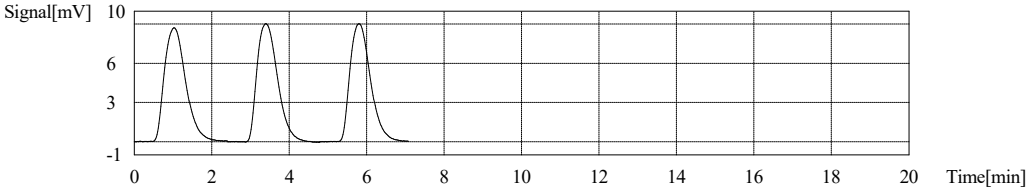
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:10.14mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 33.04 | 10.13mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 2/25/2021 11:32:06 AM |
| 2 | 33.24 | 10.19mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 2/25/2021 11:34:44 AM |
| 3 | 32.98 | 10.11mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 2/25/2021 11:37:17 AM |

| | |
|---|---|
| Mean Area | 33.09 |
| Mean Conc. | 10.14mg/L |




**Sample**

| | |
|---|---|
| Sample Name: | ICB |
| Sample ID: | |
| Origin: | 02_25_2021_CAL.cal |
| Status | Completed |
| Chk. Result | |

| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:-0.1140mg/L |

1. Det

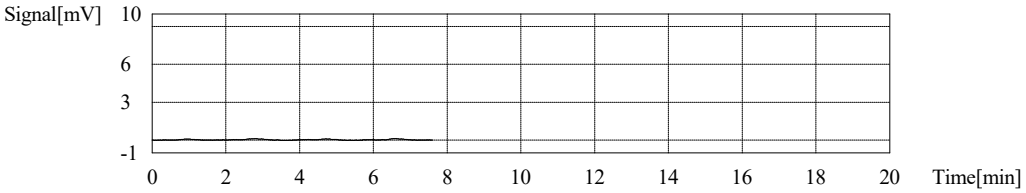
# TOC-Control L Report

2021_02_25_001.tlx

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 0.000 | -0.1356mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 2/25/2021 11:46:05 AM |
| 2 | 0.2080 | -0.07096mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 2/25/2021 11:48:13 AM |
| 3 | 0.000 | -0.1356mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 2/25/2021 11:50:20 AM |
| 4 | 0.2102 | -0.07028mg/L | 50uL | 1.000 | E | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 2/25/2021 11:52:27 AM |

Mean Area 0.06933
Mean Conc. -0.1140mg/L



| | Type | Analysis | Sample Name | Sample ID | Origin | Result | Notes | Status |
|---|---|---|---|---|---|---|---|---|
| 1 | Unknown | NPOC | CCV | | 02_25_2021 | NPOC:25.87mg/L | | Completed |
| 2 | Unknown | NPOC | CCB | | 02_25_2021 | NPOC:-0.02305mg/L | | Completed |
| 3 | Unknown | NPOC | MBLK-05112021 | TOC_W | 02_25_2021 | NPOC:-0.05878mg/L | | Completed |
| 4 | Unknown | NPOC | LCS-05112021 | | 02_25_2021 | NPOC:10.39mg/L | | Completed |
| 5 | Unknown | NPOC | LCSD-05112021 | | 02_25_2021 | NPOC:10.29mg/L | | Completed |
| 6 | Unknown | NPOC | HS21041458-01 | | 05_10_2021 | NPOC:2.062mg/L | | Completed |
| 7 | Unknown | NPOC | HS21041478-01 | | 05_10_2021 | NPOC:3.829mg/L | | Completed |
| 8 | Unknown | NPOC | HS21050457-01 | | 05_10_2021 | NPOC:11.59mg/L | | Completed |
| 9 | Unknown | NPOC | HS21050457-01MS | | 05_10_2021 | NPOC:22.51mg/L | | Completed |
| 10 | Unknown | NPOC | HS21050457-02 | | 05_10_2021 | NPOC:6.030mg/L | | Completed |
| 11 | Unknown | NPOC | HS21050457-03 | | 05_10_2021 | NPOC:26.89mg/L | | Completed |
| 12 | Unknown | NPOC | HS21041549-01 | | 05_10_2021 | NPOC:11.52mg/L | | Completed |
| 13 | Unknown | NPOC | CCV | | 02_25_2021 | NPOC:25.93mg/L | | Completed |
| 14 | Unknown | NPOC | CCB | | 02_25_2021 | NPOC:0.01218mg/L | | Completed |
| 15 | Unknown | NPOC | HS21041557-01 | | 05_10_2021 | NPOC:1.833mg/L | | Completed |
| 16 | Unknown | NPOC | HS21041557-02 | | 05_10_2021 | NPOC:2.548mg/L | | Completed |
| 17 | Unknown | NPOC | HS21041557-03 | | 05_10_2021 | NPOC:1.818mg/L | | Completed |
| 18 | Unknown | NPOC | HS21041557-04 | | 05_10_2021 | NPOC:2.528mg/L | | Completed |
| 19 | Unknown | NPOC | CCV | | 02_25_2021 | NPOC:25.62mg/L | | Completed |
| 20 | Unknown | NPOC | CCB | | 02_25_2021 | NPOC:-0.02342mg/L | | Completed |
| 21 | Unknown | NPOC | MBLK2-05112021 | TOC_W | 02_25_2021 | NPOC:-0.06471mg/L | | Completed |
| 22 | Unknown | NPOC | LCS2-05112021 | TOC_W 531 | 02_25_2021 | NPOC:10.33mg/L | | Completed |
| 23 | Unknown | NPOC | LCSD2-05112021 | | 02_25_2021 | NPOC:10.14mg/L | | Completed |
| 24 | Unknown | NPOC | HS21041557-05 | | 05_10_2021 | NPOC:1.763mg/L | | Completed |
| 25 | Unknown | NPOC | HS21041557-05MS | | 05_10_2021 | NPOC:12.08mg/L | | Completed |
| 26 | Unknown | NPOC | HS21041557-06 | | 05_10_2021 | NPOC:1.611mg/L | | Completed |
| 27 | Unknown | NPOC | HS21041557-07 | | 05_10_2021 | NPOC:1.793mg/L | | Completed |
| 28 | Unknown | NPOC | HS21050236-01 | | 05_10_2021 | NPOC:10.21mg/L | | Completed |
| 29 | Unknown | NPOC | HS21050236-02 | | 05_10_2021 | NPOC:6.176mg/L | | Completed |
| 30 | Unknown | NPOC | HS21050456-01 | | 05_10_2021 | NPOC:9.703mg/L | | Completed |
| 31 | Unknown | NPOC | CCV | | 02_25_2021 | NPOC:25.42mg/L | | Completed |
| 32 | Unknown | NPOC | CCB | | 02_25_2021 | NPOC:-0.08745mg/L | | Completed |
| 33 | Unknown | NPOC | HS21050177-01 | | 05_10_2021 | NPOC:2.245mg/L | | Completed |
| 34 | Unknown | NPOC | HS21041464-02DF20 | | 05_10_2021 | NPOC:17.49mg/L | | Completed |
| 35 | Unknown | NPOC | HS21041464-03DF20 | | 05_10_2021 | NPOC:19.49mg/L | | Completed |
| 36 | Unknown | NPOC | HS21050168-01 | | 05_10_2021 | NPOC:8.567mg/L | | Completed |
| 37 | Unknown | NPOC | CCV | | 02_25_2021 | NPOC:26.16mg/L | | Completed |
| 38 | Unknown | NPOC | CCB | | 02_25_2021 | NPOC:0.1126mg/L | | Completed |
| 39 | Unknown | NPOC | MBLK2-05112021 | TOC_W 531 | 02_25_2021 | NPOC:0.00752mg/L | | Completed |
| 40 | Unknown | NPOC | LCS2-05112021 | | 02_25_2021 | NPOC:10.40mg/L | | Completed |
| 41 | Unknown | NPOC | LCSD2-05112021 | | 02_25_2021 | NPOC:10.25mg/L | | Completed |
| 42 | Unknown | NPOC | HS21050174-01 | | 05_10_2021 | NPOC:14.96mg/L | | Completed |
| 43 | Unknown | NPOC | HS21050174-01MS | | 05_10_2021 | NPOC:25.46mg/L | | Completed |
| 44 | Unknown | NPOC | HS21050186-01 | | 05_10_2021 | NPOC:9.723mg/L | | Completed |
| 45 | Unknown | NPOC | HS21050252-04 | | 05_10_2021 | NPOC:2.944mg/L | | Completed |
| 46 | Unknown | NPOC | HS21050252-06 | | 05_10_2021 | NPOC:9.353mg/L | | Completed |
| 47 | Unknown | NPOC | HS21050252-08 | | 05_10_2021 | NPOC:8.242mg/L | | Completed |
| 48 | Unknown | NPOC | HS21050252-10 | | 05_10_2021 | NPOC:15.16mg/L | | Completed |
| 49 | Unknown | NPOC | CCV | | 02_25_2021 | NPOC:25.53mg/L | | Completed |
| 50 | Unknown | NPOC | CCB | | 02_25_2021 | NPOC:-0.03303mg/L | | Completed |
| 51 | Unknown | NPOC | HS21050252-12 | | 05_10_2021 | NPOC:15.75mg/L | | Completed |
| 52 | Unknown | NPOC | HS21050252-14 | | 05_10_2021 | NPOC:11.32mg/L | | Completed |
| 53 | Unknown | NPOC | HS21050252-16 | | 05_10_2021 | NPOC:7.025mg/L | | Completed |

| | Date / Time | Vial |
|---|---|---|
| 1 | 5/11/2021 5:37:02 | 1 |
| 2 | 5/11/2021 5:50:06 | 2 |
| 3 | 5/11/2021 6:03:10 | 3 |
| 4 | 5/11/2021 6:17:39 | 4 |
| 5 | 5/11/2021 6:32:03 | 5 |
| 6 | 5/11/2021 6:43:38 | 6 |
| 7 | 5/11/2021 6:57:52 | 7 |
| 8 | 5/11/2021 7:09:42 | 8 |
| 9 | 5/11/2021 7:24:29 | 9 |
| 10 | 5/11/2021 7:38:59 | 10 |
| 11 | 5/11/2021 7:51:00 | 11 |
| 12 | 5/11/2021 8:05:37 | 12 |
| 13 | 5/11/2021 8:20:57 | 1 |
| 14 | 5/11/2021 8:36:10 | 2 |
| 15 | 5/11/2021 8:46:55 | 13 |
| 16 | 5/11/2021 9:01:00 | 14 |
| 17 | 5/11/2021 9:15:19 | 15 |
| 18 | 5/11/2021 9:29:37 | 16 |
| 19 | 5/11/2021 9:47:56 | 17 |
| 20 | 5/11/2021 10:03:0 | 18 |
| 21 | 5/11/2021 10:16:0 | 3 |
| 22 | 5/11/2021 10:30:3 | 4 |
| 23 | 5/11/2021 10:45:0 | 5 |
| 24 | 5/11/2021 10:56:0 | 19 |
| 25 | 5/11/2021 11:10:2 | 20 |
| 26 | 5/11/2021 11:25:1 | 21 |
| 27 | 5/11/2021 11:39:2 | 22 |
| 28 | 5/11/2021 11:54:0 | 23 |
| 29 | 5/12/2021 12:08:3 | 24 |
| 30 | 5/12/2021 12:20:1 | 25 |
| 31 | 5/12/2021 12:38:2 | 17 |
| 32 | 5/12/2021 12:53:3 | 18 |
| 33 | 5/12/2021 1:07:25 | 26 |
| 34 | 5/12/2021 1:22:02 | 27 |
| 35 | 5/12/2021 1:33:51 | 28 |
| 36 | 5/12/2021 1:45:42 | 29 |
| 37 | 5/12/2021 2:03:59 | 30 |
| 38 | 5/12/2021 2:19:06 | 31 |
| 39 | 5/12/2021 2:34:30 | 3 |
| 40 | 5/12/2021 2:49:12 | 4 |
| 41 | 5/12/2021 3:06:07 | 5 |
| 42 | 5/12/2021 3:17:16 | 32 |
| 43 | 5/12/2021 3:29:17 | 33 |
| 44 | 5/12/2021 3:44:22 | 34 |
| 45 | 5/12/2021 3:58:53 | 35 |
| 46 | 5/12/2021 4:10:38 | 36 |
| 47 | 5/12/2021 4:22:05 | 37 |
| 48 | 5/12/2021 4:33:51 | 38 |
| 49 | 5/12/2021 4:49:27 | 30 |
| 50 | 5/12/2021 5:02:32 | 31 |
| 51 | 5/12/2021 5:14:05 | 39 |
| 52 | 5/12/2021 5:25:43 | 40 |
| 53 | 5/12/2021 5:40:03 | 41 |

| | Type | Analysis | Sample Name | Sample ID | Origin | Result | Notes | Status |
|---|---|---|---|---|---|---|---|---|
| 54 | Unknown | NPOC | HS21050252-18 | | 05_10_2021 | NPOC:4.206mg/L | | Completed |
| 55 | Unknown | NPOC | CCV | | 02_25_2021 | NPOC:25.35mg/L | | Completed |
| 56 | Unknown | NPOC | CCB | | 02_25_2021 | NPOC:-0.06789mg/L | | Completed |

| | Date / Time | Vial |
|---|---|---|
| 54 | 5/12/2021 5:54:30 | 42 |
| 55 | 5/12/2021 6:09:45 | 30 |
| 56 | 5/12/2021 6:24:56 | 31 |

# TOC-Control L Report



**Instr.Information**

Instrument Options TOC/ASI/IC Unit/
Catalyst Regular Sensitivity

**Sample**

Sample Name: CCV
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

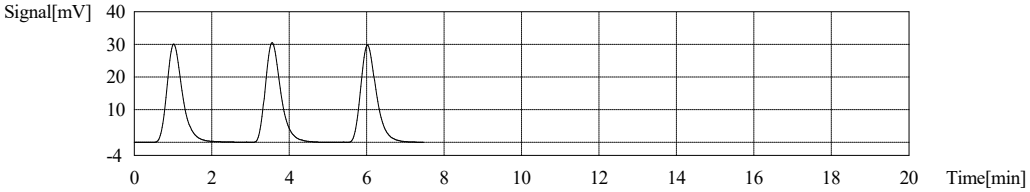
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:25.87mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 83.40 | 25.77mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 5/11/2021 5:31:39 PM |
| 2 | 84.43 | 26.08mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 5/11/2021 5:34:21 PM |
| 3 | 83.34 | 25.75mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 5/11/2021 5:37:02 PM |

Mean Area 83.72
Mean Conc. 25.87mg/L




**Sample**

Sample Name: CCB
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:-0.02305mg/L |

1. Det

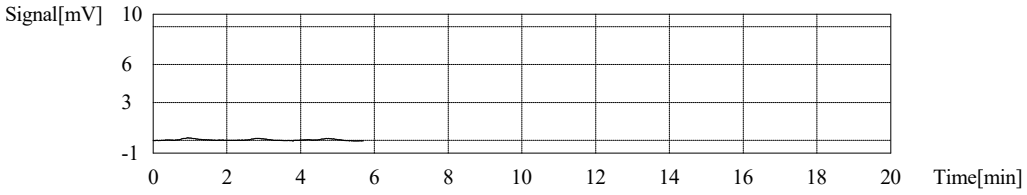
Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 0.4459 | 0.00292mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 5/11/2021 5:45:50 PM |
| 2 | 0.3323 | -0.03236mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 5/11/2021 5:47:58 PM |
| 3 | 0.3086 | -0.03972mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 5/11/2021 5:50:06 PM |

# TOC-Control L Report



Mean Area 0.3623
Mean Conc. -0.02305mg/L




**Sample**

Sample Name: MBLK-05112021
Sample ID: TOC_W
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

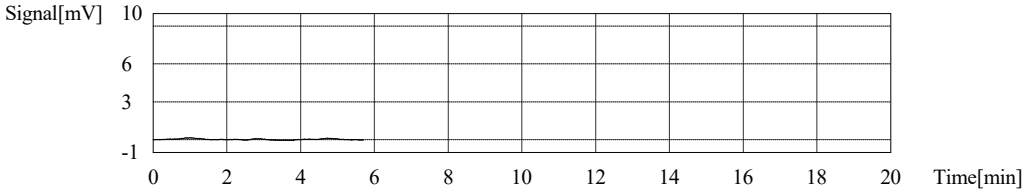
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:-0.05878mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 0.3135 | -0.03820mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 5/11/2021 5:58:54 PM |
| 2 | 0.2208 | -0.06699mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 5/11/2021 6:01:02 PM |
| 3 | 0.2074 | -0.07115mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 5/11/2021 6:03:10 PM |

Mean Area 0.2472
Mean Conc. -0.05878mg/L




**Sample**

Sample Name: LCS-05112021
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:10.39mg/L |

1. Det

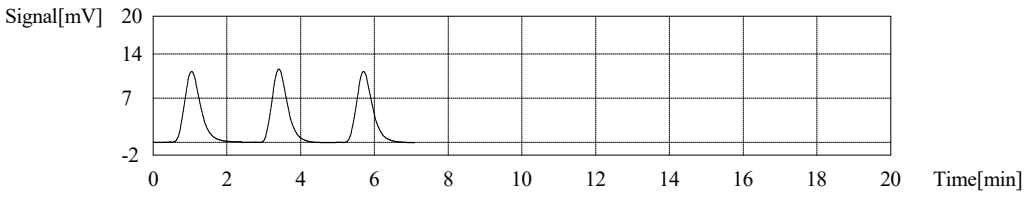
Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 33.70 | 10.33mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 5/11/2021 6:12:28 PM |
| 2 | 34.08 | 10.45mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 5/11/2021 6:14:59 PM |
| 3 | 33.88 | 10.39mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 5/11/2021 6:17:39 PM |

# TOC-Control L Report



Mean Area 33.89
Mean Conc. 10.39mg/L




**Sample**

Sample Name: LCSD-05112021
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

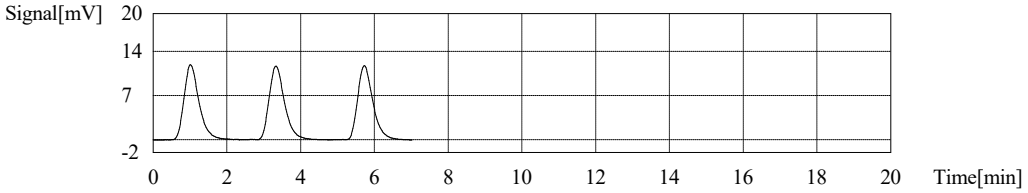
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:10.29mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 33.44 | 10.25mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 5/11/2021 6:26:52 PM |
| 2 | 33.74 | 10.34mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 5/11/2021 6:29:32 PM |
| 3 | 33.49 | 10.27mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 5/11/2021 6:32:03 PM |

Mean Area 33.56
Mean Conc. 10.29mg/L




**Sample**

Sample Name: HS21041458-01
Sample ID:
Origin: 05_10_2021A_CAL.cal
Status Completed
Chk. Result

| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:2.062mg/L |

1. Det

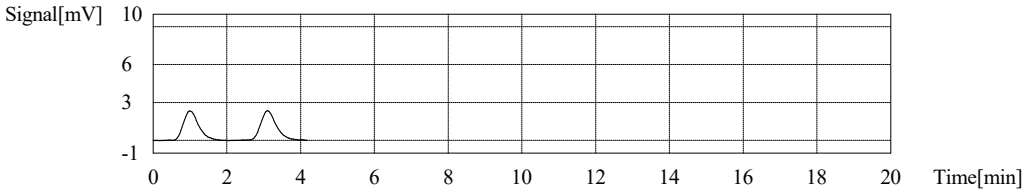
Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 6.887 | 2.070mg/L | 50uL | 1.000 | | 05_10_2021A_CAL.2021_05_10_17_37_49.cal | 5/11/2021 6:40:35 PM |
| 2 | 6.834 | 2.054mg/L | 50uL | 1.000 | | 05_10_2021A_CAL.2021_05_10_17_37_49.cal | 5/11/2021 6:43:38 PM |

# TOC-Control L Report



Mean Area 6.861
Mean Conc. 2.062mg/L




**Sample**

Sample Name: HS21050457-01
Sample ID:
Origin: 05_10_2021A_CAL.cal
Status Completed
Chk. Result

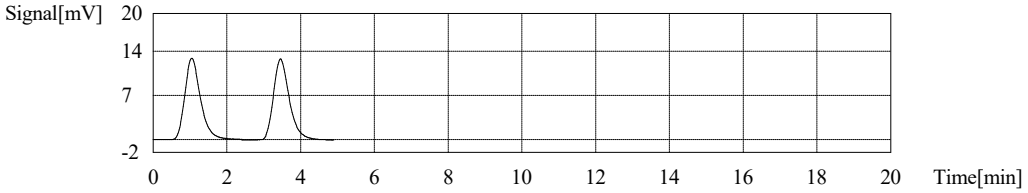
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:11.59mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 38.49 | 11.57mg/L | 50uL | 1.000 | | 05_10_2021A_CAL.2021_05_10_17_37_49.cal | 5/11/2021 7:06:35 PM |
| 2 | 38.65 | 11.62mg/L | 50uL | 1.000 | | 05_10_2021A_CAL.2021_05_10_17_37_49.cal | 5/11/2021 7:09:42 PM |

Mean Area 38.57
Mean Conc. 11.59mg/L




**Sample**

Sample Name: HS21050457-01MS
Sample ID:
Origin: 05_10_2021A_CAL.cal
Status Completed
Chk. Result

| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:22.51mg/L |

1. Det

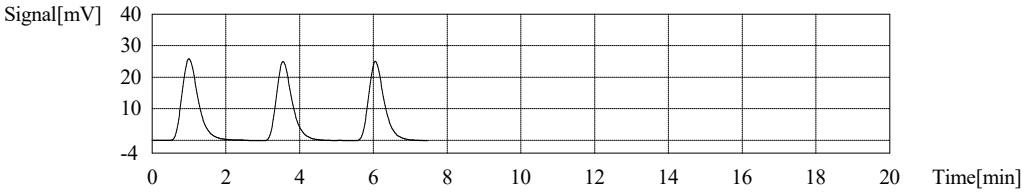
Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 79.90 | 24.01mg/L | 50uL | 1.000 | E | 05_10_2021A_CAL.2021_05_10_17_37_49.cal | 5/11/2021 7:18:35 PM |
| 2 | 75.40 | 22.66mg/L | 50uL | 1.000 | | 05_10_2021A_CAL.2021_05_10_17_37_49.cal | 5/11/2021 7:21:33 PM |
| 3 | 74.39 | 22.36mg/L | 50uL | 1.000 | | 05_10_2021A_CAL.2021_05_10_17_37_49.cal | 5/11/2021 7:24:29 PM |

# TOC-Control L Report



Mean Area 74.90
Mean Conc. 22.51mg/L




**Sample**

Sample Name: CCV
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

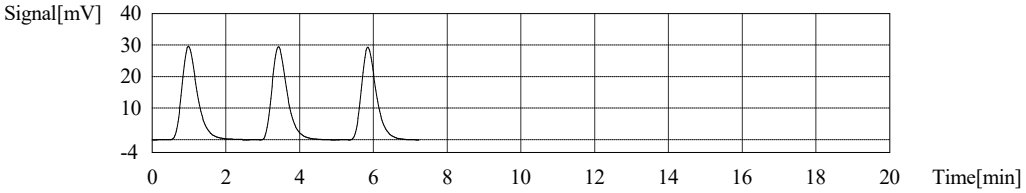
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:25.93mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 85.34 | 26.37mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 5/11/2021 8:15:40 PM |
| 2 | 84.20 | 26.01mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 5/11/2021 8:18:20 PM |
| 3 | 82.26 | 25.41mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 5/11/2021 8:20:57 PM |

Mean Area 83.93
Mean Conc. 25.93mg/L




**Sample**

Sample Name: CCB
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:0.01218mg/L |

1. Det

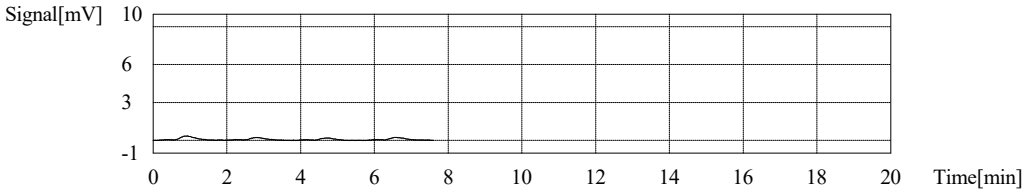
Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 0.8223 | 0.1198mg/L | 50uL | 1.000 | E | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 5/11/2021 8:29:46 PM |
| 2 | 0.4499 | 0.00416mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 5/11/2021 8:31:54 PM |
| 3 | 0.4588 | 0.00693mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 5/11/2021 8:34:02 PM |
| 4 | 0.5185 | 0.02547mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 5/11/2021 8:36:10 PM |

# TOC-Control L Report

2021_05_11_002.tlx

| | |
|---|---|
| Mean Area | 0.4757 |
| Mean Conc. | 0.01218mg/L |



# HS21041458 Wet Chem Raw Data (NIT-AMM_W- E350.3 - ISE)

ALS WO# HS21041458

NIT_Amm_W_ISE/350.3

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Logbook **31705**

# Ion Selective Electrode Logbook

Analyst: YP

Date: 5/4/21 11:00AM

Method: SM4500NH3-D/EPA 350.3 or SM4500 NH3 B-F

Probe Calibration Date: 5/4/21

Cal Std ID: 3161326602-06

Probe ID: X01-11806

| Std Level | | mV | Conc., mg/L: |
|---|---|---|---|
| STD 1 (mg/L): | 0.2 | 134.3 | 0.200 |
| STD 2 (mg/L): | 1 | 96.3 | 1.019 |
| STD 3 (mg/L): | 5 | 53.8 | 5.012 |

LSC / MS Spike ID: 3100603523

ICV Cal STD ID: 3161326601

DPD Reagent ID: 3100603420

Sodium Thiosulfate ID: 3100604012

| Std Level | mV | Conc., mg/L: |
|---|---|---|
| STD 4 (mg/L): 10 | 36.1 | 10.098 |
| STD 5 (mg/L): 50 | -4.5 | 50.127 |

ICAL Date & Slope: 98.9,1.1 -58.3 mV

| WO # / SX # | Bottle # | Initial g or ml | Final Vol. ml | Dilution Factor | Initial Conc. mg/L | Final Conc. mg/L | Chlorine Check ( +/– ) | Comments |
|---|---|---|---|---|---|---|---|---|
| CcV | | 50ml | 50ml | | 9.178 | | | |
| CcB | | | | | 0.010 | | | |
| MBLK | | | | | 0.011 | | | |
| LCS | | | | | 10.711 | | | |
| HS2104083-01 | | | | | 0.233 | | -ve | |
| 458-01 | | | | | 0.687 | | | |
| 458-01MS | | | | | 10.124 | | | |
| 458-01MSD | | | | | 9.784 | | | |
| 395-01 | | | | | 0.102 | | +ve | Rechecked |
| 401-01 | | | | | 1.231 | | -ve | |
| 368-01 | | | | | 0.118 | | | |
| 368-02 | | | | | 0.183 | | | |
| CcV | | | | | 9.198 | | | |
| CcB | | | | | 0.012 | | | |

YP 5/4/21

Batch ID: 382936 / 382937

Reported By YP

Reviewed By: MD



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# HS21041458 - Sub Perch IV (E2100493)

ALS WO# HS21041458

May 18, 2021 Service Request No:E2100493

RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Suite 210
Houston, TX 77099-4338

**Laboratory Results for: HS21041458**

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory April 28, 2021
For your reference, these analyses have been assigned our service request number **E2100493.**

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.

Respectfully submitted,

**ALS Group USA, Corp. dba ALS Environmental**



Corey Grandits
Project Manager

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 Houston | **Service Request No.:** | E2100493 |
| **Project:** | HS21041458 | **Date Received:** | 04/28/21 |
| **Sample Matrix:** | W | | |

## 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

Six sample was received for analysis at ALS Environmental in Houston on 04/28/21.

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:**

EQ2100263: 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 and DLCS recoveries are within QC limits.

DoD certification is held for the method/matrix/analytes provided in this report.

*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:**E2100493
**Project:** HS21041458

## SAMPLE CROSS-REFERENCE

| SAMPLE # | CLIENT SAMPLE ID | DATE | TIME |
|---|---|---|---|
| E2100493-001 | LH18/24-SP650_042721_BIX | 4/27/2021 | 1400 |

# Service Request Summary

**Folder #:** **E2100493**
Client Name: ALS Environmental - US
Project Name: HS21041458
Project Number:

**Report To:** RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Houston, TX 77099-4338
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number: 281-530-5887
E-mail: rj.modashia@alsglobal.com

Project Chemist: Corey Grandits
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 04/28/21
Internal Due Date: 5/12/2021
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS21041458
EDD: No EDD Specified

1 120 mL-Plastic Bottle Natural WM Unpreserved
**Location:** EHRMS-WIC 10D
**Pressure Gas:**

| Lab Samp No. | Client Samp No | Matrix | Collected | HOUSTON ClO4 DOD/6850 |
|---|---|---|---|---|
| E2100493-001 | LH18/24-SP650_042721_BIX | Surface Water | 04/27/21 1400 | IV |

# Service Request Summary

**Folder #:** **E2100493**
Client Name: ALS Environmental - US
Project Name: HS21041458
Project Number:

**Report To:** RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Houston, TX 77099-4338
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number: 281-530-5887
E-mail: rj.modashia@alsglobal.com

Project Chemist: Corey Grandits
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 04/28/21
Internal Due Date: 5/12/2021
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS21041458
EDD: No EDD Specified

1 120 mL-Plastic Bottle Natural WM Unpreserved
**Location:** EHRMS-WIC 10D
**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 | Internal standard not within the specified limits. See case narrative. |
| 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. |
| 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. |

# Data Qualifiers

## Lab Standard

| | |
|---|---|
| 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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## State Certifications, Accreditations, and Licenses

| Agency | Number | Expire Date |
|---|---|---|
| American Association for Laboratory Accreditation | 2897.01 2020 | 11/30/2021 |
| Arizona Department of Health Services | AZ0793-2020 | 5/27/2021 |
| Arkansas Department of Environmental Quality | 21-022-0 | 3/26/2022 |
| Department of Defense | A2LA 2897.01 | 11/30/2021 |
| Florida Department of Health | E87611-2020 | 6/30/2021 |
| Hawaii Department of Health | 2021-2022 | 4/30/2022 |
| Kansas Department of Health and Environment | E-10352-2020 | 7/31/2021 |
| Louisiana Department of Environmental Quality | 03087-2020 | 6/30/2021 |
| Louisiana Department of Health and Hospitals | LA028-2021 | 12/31/2021 |
| Maine Department of Health and Human Services | 2020016 | 6/5/2022 |
| Maryland Department of the Environment | 343-2020 | 6/30/2021 |
| Minnesota Department of Health | 2021671 | 12/31/2021 |
| Nevada Department of Concervation and Natural Resources | TX026932021-4 | 7/31/2021 |
| New Hampshire Environmental Laboratory Accreditation Program | 209421 | 4/24/2022 |
| New Jersey Department of Environmental Protection | TX008 | 6/30/2021 |
| Oklahoma Department of Environmental Quality | 2020-123 | 8/31/2021 |
| Pennsylvania Department of Environmental Protection | 014 | 6/30/2021 |
| Tennessee Department of Environment and Concervation | 04016-2021 | 4/30/2022 |
| United States Department of Agriculture | P330-19-00299 | 10/10/2022 |

# Chain of Custody

**ALS Environmental - Houston HRMS**
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Houston, TX 77099
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**F:** +1 281 530 5887
**www.alsglobal.com**

# Subcontract Chain of Custody

**SAMPLING STATE:** **Dept of Defense** **COC ID:** **15992**

**SUBCONTRACT TO:**

ALS Environmental
10450 Stancliff RoadSuite 210
Houston, TX 77084

**Phone:** +1 281 530 5656

**CUSTOMER INFORMATION:**

**Company:** ALS Houston
**Contact:** RJ Modashia
**Address:** 10450 Stancliff Rd, Ste 210
**Phone:** +1 281 530 5656
**Email:** RJ.Modashia@alsglobal.com
**Alternate Contact:**
**Email:**

**INVOICE INFORMATION:**

**Company:** ALS Houston
**Contact:** Accounts Payable
**Address:** 10450 Stancliff Rd, Ste 210
**Phone:** +1 281 530 5656
**Reference:** HS21041458
**TSR:** Sonia West

| | LAB SAMPLE ID | CLIENT SAMPLE ID | MATRIX | COLLECT DATE |
|---|---|---|---|---|
| | ANALYSIS REQUESTED | | | DUE DATE |
| 1. | **HS21041458-02** | **LH18/24-SP650_042721_BIX** | **Water** | **27 Apr 2021 14:00** |
| | Provide Level II and Level IV reports in separate pdf | | | 12 May 2021 |

**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: 4/28/21 1400

Cooler ID(s): _____ Temperature(s): 1.0

ALS Environmental

# Cooler Receipt Form

Project Chemist CA

Client/Project ALS-HI

Thermometer ID IR31

Date/Time Received: 4/28/21 Initials: CA Date/Time Logged in: 4/28/21 Initials CA

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

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

3. Were custody seals on coolers? ○ Yes ✓ No

If yes, how many and where?

Were they intact? ○ Yes ○ No ✓ N/A

Were they signed and dated? ○ Yes ○ No ✓ N/A

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

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

| Cooler Tracking Number | COC ID | Date Opened | Time Opened | Opened By | Temp. °C | Temp Blank? |
|---|---|---|---|---|---|---|
| NA | | 4/28/21 | 1404 | CA | 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:

HS-HRMSCoolerReceipt R1.0

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**www.alsglobal.com**

# SAMPLE ACCEPTANCE POLICY

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

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

- ✓ Intact on outside of cooler, signed and dated

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

The following is required on each COC:

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

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

**Sample Integrity (mandatory):**

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

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

**Temperature Requirement (varies by sample matrix):**

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

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

# Preparation Information Benchsheets

**ALS Environmental - Houston 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#:** 378427 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
**Team:** Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 4/30/21 12:06

| # | Lab Code | Client ID | B# | Method /Test | pH | Cl | Matrix | Amt. Ext. | Sample Description |
|---|---|---|---|---|---|---|---|---|---|
| 1 | E2100470-001 | 16WW40-210421 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 2 | E2100470-002 | 16WW12-210421 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 3 | E2100492-001 | HBW7_042721 | .01 | 6850/ClO4 DOD | | | Surface Water | 10mL | |
| 4 | E2100492-002 | HBW10_042721 | .01 | 6850/ClO4 DOD | | | Surface Water | 10mL | |
| 5 | E2100492-003 | HBW10_042721_a | .01 | 6850/ClO4 DOD | | | Surface Water | 10mL | |
| 6 | E2100492-004 | HBW1_042721 | .01 | 6850/ClO4 DOD | | | Surface Water | 10mL | |
| 7 | E2100492-005 | GPW1_042721 | .01 | 6850/ClO4 DOD | | | Surface Water | 10mL | |
| 8 | E2100492-006 | GPW3_042721 | .01 | 6850/ClO4 DOD | | | Surface Water | 10mL | |
| 9 | E2100493-001 | LH18/24-SP650_042721_BIX | .01 | 6850/ClO4 DOD | | | Surface Water | 10mL | |
| 10 | E2100529-001 | 16WW27-210422 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 11 | E2100529-002 | 16WW43-210422 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 12 | E2100529-003 | 16WW23-210422 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 13 | E2100529-004 | 16WW24-210422 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 14 | E2100529-005 | 16IW09-210422 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 15 | E2100529-006 | 16WW49-210422 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 16 | E2100529-007 | 16WW48-210422 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 17 | EQ2100263-01 | MB | | 6850/ClO4 DOD | | | Liquid | 10mL | |
| 18 | EQ2100263-02 | LCS | | 6850/ClO4 DOD | | | Liquid | 10mL | |
| 19 | EQ2100263-03 | DLCS | | 6850/ClO4 DOD | | | Liquid | 10mL | |

## Spiking Solutions

Name: Perchlorate Intermediate Stock1 Inventory ID 214035 Logbook Ref: Perchlorate Expires On: 05/23/2021

EQ2100263-02 1.00µL EQ2100263-03 1.00µL

Name: Perchlorate Internal Standard 1ug/mL Inventory ID 214820 Logbook Ref: Perchlorate Internal Standard Expires On: 07/03/2021

E2100470-001 100.00µL E2100470-002 100.00µL E2100492-001 100.00µL E2100492-002 100.00µL E2100492-003 100.00µL E2100492-004 100.00µL
E2100492-005 100.00µL E2100492-006 100.00µL E2100493-001 100.00µL E2100529-001 100.00µL E2100529-002 100.00µL E2100529-003 100.00µL
E2100529-004 100.00µL E2100529-005 100.00µL E2100529-006 100.00µL E2100529-007 100.00µL EQ2100263-01 100.00µL EQ2100263-02 100.00µL
EQ2100263-03 100.00µL

# *Preparation Information Benchsheet*

**Prep Run#:** 378427 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
**Team:** Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 4/30/21 12:06

## Preparation Steps

Step: Preparation
Started: 4/30/21 12:06
Finished: 4/30/21 14:30
By: KBROWN
Comments

Comments: _____

Reviewed By: KB Date: 4/30/21

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:** | E2100493 |
| **Project:** | HS21041458 | **Date Collected:** | 4/27/21 1400 |
| **Sample Matrix:** | Surface Water | **Date Received:** | 4/28/21 |
| **Sample Name:** | LH18/24-SP650_042721_BIX | **Units:** | µg/L |
| **Lab Code:** | E2100493-001 | **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 | **9.27** | | 4.00 | 2.00 | 1.00 | 40 | 4/30/21 | 5/18/21 15:36 | 378427 | 723959 | |

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

| | | | |
|---|---|---|---|
| **Client:** | ALS Environmental - US | **Service Request:** | E2100493 |
| **Project:** | HS21041458 | **Date Collected:** | NA |
| **Sample Matrix:** | Surface Water | **Date Received:** | NA |
| **Sample Name:** | Method Blank | **Units:** | µg/L |
| **Lab Code:** | EQ2100263-01 | **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 | 4/30/21 | 5/1/21 16:22 | 378427 | 722220 | |

# 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:** HS21041458
**Sample Matrix:** Surface Water

**Service Request:** E2100493
**Date Analyzed:** 5/ 1/21

## 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:** 378427

| | Lab Control Sample EQ2100263-02 | | | Duplicate Lab Control Sample EQ2100263-03 | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Analyte Name** | **Result** | **Spike Amount** | **% Rec** | **Result** | **Spike Amount** | **% Rec** | **% Rec Limits** | **RPD** | **RPD Limit** |
| Perchlorate | 0.0981 | 0.100 | 98 | 0.112 | 0.100 | 112 | 84 - 119 | 13 | 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:** | E2100493 |
| **Project:** | HS21041458 | **Date Collected:** | NA |
| **Sample Matrix:** | Surface Water | **Date Received:** | NA |
| **Sample Name:** | Lab Control Sample | **Units:** | µg/L |
| **Lab Code:** | EQ2100263-02 | **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 | **0.0981** | J | 0.100 | 0.0500 | 0.0250 | 1 | 4/30/21 | 5/1/21 16:31 | 378427 | 722220 | |

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

| | | | |
|---|---|---|---|
| **Client:** | ALS Environmental - US | **Service Request:** | E2100493 |
| **Project:** | HS21041458 | **Date Collected:** | NA |
| **Sample Matrix:** | Surface Water | **Date Received:** | NA |
| **Sample Name:** | Duplicate Lab Control Sample | **Units:** | µg/L |
| **Lab Code:** | EQ2100263-03 | **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 | 4/30/21 | 5/1/21 16:40 | 378427 | 722220 | |

# 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

**20210428**

ALS Environmental

**ICAL Date:** 4/28/2021
**Cal. Std. xp:** 5/20/2021
**ICAL ID:** **EC2100026**

**1st Review:** Grivera
**2nd Review:** Kneir

**Injection Log**
**LCMS01 -Shimadzu 8050**

**Mobile Phases** **A:** 0.75% Formic Acid/Water 3100809-07 **B:** MeOH 216350

| | | | File Name | Acquisition Method | Dilution | R | Comments | Date/Time |
|---|---|---|---|---|---|---|---|---|
| 1 | PERCHLORATE1 | | 20210428_044 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-05 | 4/28/2021 18:16 |
| 2 | PERCHLORATE2 | | 20210428_045 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-06 | 4/28/2021 18:25 |
| 3 | PERCHLORATE3 | | 20210428_046 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-07 | 4/28/2021 18:34 |
| 4 | PERCHLORATE4 | | 20210428_047 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-08 | 4/28/2021 18:44 |
| 5 | PERCHLORATE5 | | 20210428_048 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-09 | 4/28/2021 18:53 |
| 6 | PERCHLORATE6 | | 20210428_049 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-01 | 4/28/2021 19:03 |
| 7 | PERCHLORATE7 | | 20210428_050 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/28/2021 19:12 |
| 8 | PERCHLORATE8 | | 20210428_051 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-03 | 4/28/2021 19:22 |
| 9 | PERCHLORATE9 | | 20210428_052 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-04 | 4/28/2021 19:31 |
| 10 | PERCHLORATEICV | | 20210428_054 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-06 | 4/28/2021 19:50 |
| 11 | ICS | | 20210428_055 | Perchlorate6850b.lcm | 1x | ☒ | | 4/28/2021 19:59 |
| 12 | LODV | | 20210428_056 | Perchlorate6850b.lcm | 1x | ☒ | | 4/28/2021 20:08 |
| 13 | PERCHLORATE7 | | 20210428_057 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/28/2021 20:18 |
| 14 | EQ2100244-01 | | 20210428_058 | Perchlorate6850b.lcm | 1x | ☒ | | 4/28/2021 20:27 |
| 15 | EQ2100244-02 | | 20210428_059 | Perchlorate6850b.lcm | 1x | ☒ | | 4/28/2021 20:37 |
| 16 | EQ2100244-03 | | 20210428_060 | Perchlorate6850b.lcm | 1x | ☒ | | 4/28/2021 20:46 |
| 17 | E2100412-016X10 | | 20210428_061 | Perchlorate6850b.lcm | 10X | ☒ | | 4/28/2021 20:55 |
| 18 | E2100412-017X10 | | 20210428_062 | Perchlorate6850b.lcm | 10X | ☒ | | 4/28/2021 21:05 |
| 19 | E2100412-011X10DNU | | 20210428_063 | Perchlorate6850b.lcm | 10X | ☒ | DNU:Report 1X | 4/28/2021 21:14 |
| 20 | E2100412-012X10DNU | | 20210428_064 | Perchlorate6850b.lcm | 10X | ☒ | Bad injection: Reanalyze | 4/28/2021 21:24 |
| 21 | E2100412-013X10DNU | | 20210428_065 | Perchlorate6850b.lcm | 10X | ☒ | Over ICAL: Run 50X | 4/28/2021 21:33 |
| 22 | E2100412-014X10DNU | | 20210428_066 | Perchlorate6850b.lcm | 10X | ☒ | Bad injection: Reanalyze | 4/28/2021 21:42 |
| 23 | E2100412-015X10DNU | | 20210428_067 | Perchlorate6850b.lcm | 10X | ☒ | DNU:Report 1X | 4/28/2021 21:52 |
| 24 | PERCHLORATE7 | | 20210428_068 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/28/2021 22:01 |
| 25 | E2100411-001 | | 20210428_069 | Perchlorate6850b.lcm | 1x | ☒ | | 4/28/2021 22:10 |
| 26 | E2100412-003X10 | | 20210428_070 | Perchlorate6850b.lcm | 10X | ☒ | | 4/28/2021 22:20 |
| 27 | E2100412-010X10 | | 20210428_071 | Perchlorate6850b.lcm | 10X | ☒ | | 4/28/2021 22:29 |
| 28 | R2103214-010 | | 20210428_072 | Perchlorate6850b.lcm | 1x | ☒ | | 4/28/2021 22:38 |
| 29 | PERCHLORATE7 | | 20210428_073 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/28/2021 22:48 |
| 30 | E2100485-002X10 | | 20210428_074 | Perchlorate6850b.lcm | 10X | ☒ | | 4/28/2021 22:57 |
| 31 | E2100485-003X10 | | 20210428_075 | Perchlorate6850b.lcm | 10X | ☒ | | 4/28/2021 23:07 |
| 32 | E2100485-007X10 | | 20210428_076 | Perchlorate6850b.lcm | 10X | ☒ | | 4/28/2021 23:16 |
| 33 | E2100485-010X10 | | 20210428_077 | Perchlorate6850b.lcm | 10X | ☒ | | 4/28/2021 23:25 |
| 34 | EQ2100244-04X10DNU | | 20210428_078 | Perchlorate6850b.lcm | 10X | ☒ | DNU: report 1X | 4/28/2021 23:35 |
| 35 | EQ2100244-05X10DNU | | 20210428_079 | Perchlorate6850b.lcm | 10X | ☒ | DNU: report 1X | 4/28/2021 23:44 |
| 36 | PERCHLORATE7 | | 20210428_080 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/28/2021 23:54 |
| 37 | E2100485-001 | | 20210428_081 | Perchlorate6850b.lcm | 1x | ☒ | | 4/29/2021 0:03 |
| 38 | E2100485-004 | | 20210428_082 | Perchlorate6850b.lcm | 1x | ☒ | | 4/29/2021 0:12 |
| 39 | E2100485-005 | | 20210428_083 | Perchlorate6850b.lcm | 1x | ☒ | | 4/29/2021 0:22 |
| 40 | E2100485-006DNU | | 20210428_084 | Perchlorate6850b.lcm | 1x | ☒ | DNU: INST failed | 4/29/2021 0:31 |
| 41 | PERCHLORATE7 | | 20210428_085 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/29/2021 0:40 |
| 42 | E2100485-008 | | 20210428_086 | Perchlorate6850b.lcm | 1x | ☒ | | 4/29/2021 0:50 |
| 43 | E2100485-009 | | 20210428_087 | Perchlorate6850b.lcm | 1x | ☒ | | 4/29/2021 0:59 |
| 44 | E2100485-011 | | 20210428_088 | Perchlorate6850b.lcm | 1x | ☒ | | 4/29/2021 1:09 |
| 45 | E2100485-012DNU | | 20210428_089 | Perchlorate6850b.lcm | 1x | ☒ | DNU-low INST | 4/29/2021 1:18 |
| 46 | E2100485-013 | | 20210428_090 | Perchlorate6850b.lcm | 1x | ☒ | | 4/29/2021 1:27 |
| 47 | EQ2100244-04 | | 20210428_091 | Perchlorate6850b.lcm | 1x | ☒ | | 4/29/2021 1:37 |
| 48 | EQ2100244-05 | | 20210428_092 | Perchlorate6850b.lcm | 1x | ☒ | | 4/29/2021 1:46 |
| 49 | PERCHLORATE7 | | 20210428_093 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 4/29/2021 1:56 |
| 50 | | | | | | | | |
| 51 | | | | | | | | |

# *Initial Calibration - Detailed Report*

**Calibration ID:** EC2100026 **Instrument ID:** E-LCMS-01
**Column Name:** 1

| # | Lab Code | Sample Name | File Location | Aquisition Date |
|---|---|---|---|---|
| 01 | EC2100026-01 | PERCHLORATE1 | 20210428_044 | 04/28/2021 18:16 |
| 02 | EC2100026-02 | PERCHLORATE2 | 20210428_045 | 04/28/2021 18:25 |
| 03 | EC2100026-03 | PERCHLORATE3 | 20210428_046 | 04/28/2021 18:34 |
| 04 | EC2100026-04 | PERCHLORATE4 | 20210428_047 | 04/28/2021 18:44 |
| 05 | EC2100026-05 | PERCHLORATE5 | 20210428_048 | 04/28/2021 18:53 |
| 06 | EC2100026-06 | PERCHLORATE6 | 20210428_049 | 04/28/2021 19:03 |
| 07 | EC2100026-07 | PERCHLORATE7 | 20210428_050 | 04/28/2021 19:12 |
| 08 | EC2100026-08 | PERCHLORATE8 | 20210428_051 | 04/28/2021 19:22 |
| 10 | EC2100026-10 | PERCHLORATE9 | 20210428_052 | 04/28/2021 19:31 |

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

**Perchlorate** **Average RF** **RSD = 13.94** **Average RF = 0.1168**

| # | Amount | RF | # | Amount | RF | # | Amount | RF | # | Amount | RF |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 | 0.1000 | 0.1516 | 02 | 0.5000 | 0.1269 | 03 | 0.7000 | 0.1246 | 04 | 1.0000 | 0.1032 |
| 05 | 2.0000 | 0.1172 | 06 | 5.0000 | 0.1124 | 07 | 10.0000 | 0.1144 | 08 | 20.0000 | 0.09843 |
| 10 | 30.0000 | 0.1026 | | | | | | | | | |

**Analyte**

**Perchlorate**

| # | Amount | Calculated Conc | %D | # | Amount | Calculated Conc | %D | # | Amount | Calculated Conc | %D |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 | 0.1000 | 0.130 | 29.8 | 02 | 0.5000 | 0.543 | 8.6 | 03 | 0.7000 | 0.746 | 6.6 |
| 04 | 1.0000 | 0.883 | -11.7 | 05 | 2.0000 | 2.01 | 0.3 | 06 | 5.0000 | 4.81 | -3.8 |
| 07 | 10.0000 | 9.79 | -2.1 | 08 | 20.0000 | 16.9 | -15.7 | 10 | 30.0000 | 26.4 | -12.1 |

# *Initial Calibration Verification Summary Report*

| | | | |
|---|---|---|---|
| **Calibration ID:** | EC2100026 | **Instrument ID:** | E-LCMS-01 |
| **Datafile ID:** | 20210428_054 | **Column Name:** | 1 |

| Analyte | Lab Code | Type | Curve Fit | True Value | Calc Conc | Units | Result | Criteria |
|---|---|---|---|---|---|---|---|---|
| Perchlorate | EC2100026-09 | T | Average RF | 10 | 9.455 | ng/mL | -5.4 | <= 15 |

# Insight Report

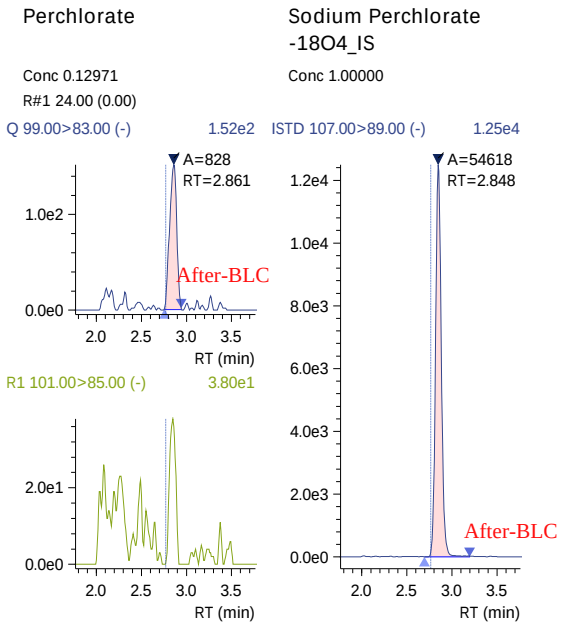
Printed at 4/29/2021 1:26:51 PM

Method File: I:\LCMS01\DATA\20210428\20210428.lcm
Project File: I:\LCMS01\DATA\20210428\20210428-ICAL.damlp

## 20210428_044

Sample ID: PERCHLORATE1
Date Acquired: 4/28/2021 6:16:06 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_044.lcd
Vial: 22 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | M | 2.861 | 828 | 54618 | 1 | 0.12971 | ng/mL | 0.1000 | 24.00 |
| Sodium Perchlorate-18O4 _IS | M | 2.848 | 54618 | 54618 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |



# Insight Report



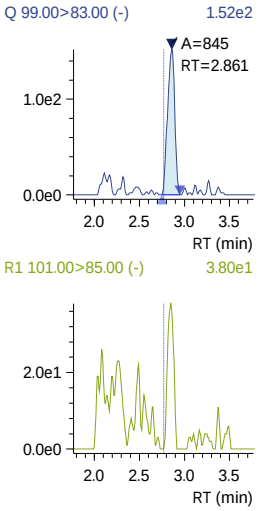
Method File: I:\LCMS01\DATA\20210428\Before\20210426.lcm

## 20210428_044

Sample ID: PERCHLORATE1
Date Acquired: 4/28/2021 6:16:06 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_044.lcd
Vial: 22 | Inj. Volume: 25.0000uL | Tray: 1

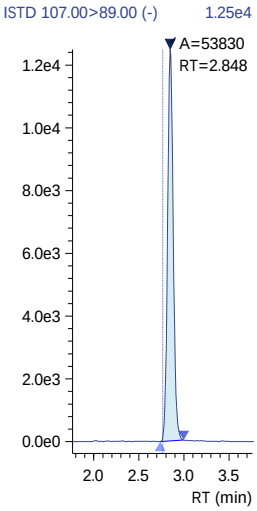
Perchlorate

Conc 0.13578
R#1 23.68 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



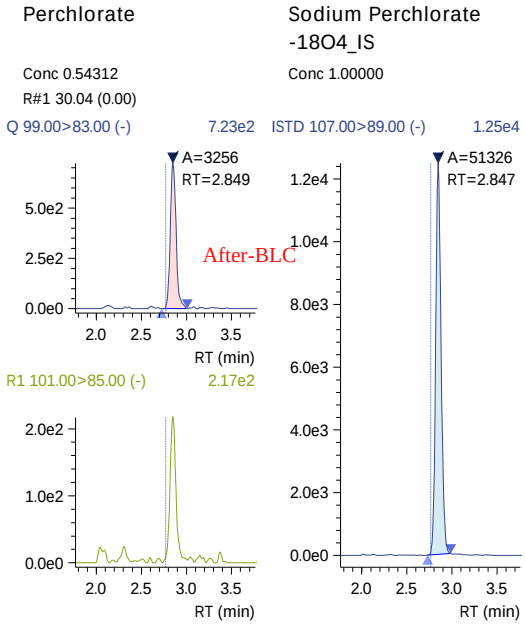
# Insight Report

Printed at 4/29/2021 1:26:51 PM

## 20210428_045

Sample ID: PERCHLORATE2
Date Acquired: 4/28/2021 6:25:33 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_045.lcd
Vial: 23 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | M | 2.849 | 3256 | 51326 | 1 | 0.54312 | ng/mL | 0.5000 | 30.04 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.847 | 51326 | 51326 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |



# Insight Report



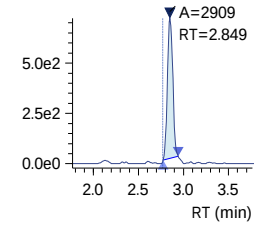
## 20210428_045

Sample ID: PERCHLORATE2
Date Acquired: 4/28/2021 6:25:33 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_045.lcd
Vial: 23 | Inj. Volume: 25.0000uL | Tray: 1

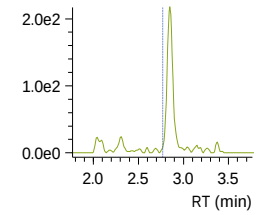
Perchlorate

Conc 0.49019
R#1 29.78 (0.00)

Q 99.00>83.00 (-) 7.23e2



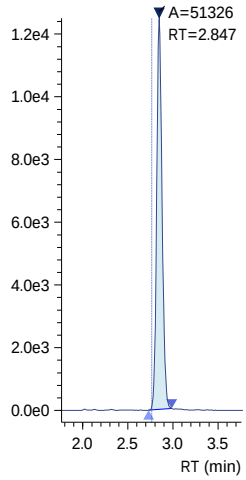

R1 101.00>85.00 (-) 2.17e2




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.25e4



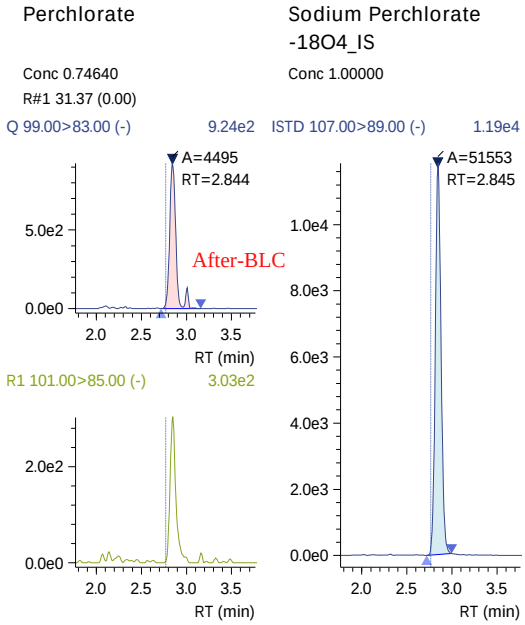
# Insight Report

Printed at 4/29/2021 1:26:51 PM

## 20210428_046

Sample ID: PERCHLORATE3
Date Acquired: 4/28/2021 6:34:56 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_046.lcd
Vial: 24 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | M | 2.844 | 4495 | 51553 | 1 | 0.74640 | ng/mL | 0.7000 | 31.37 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.845 | 51553 | 51553 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |



# Insight Report



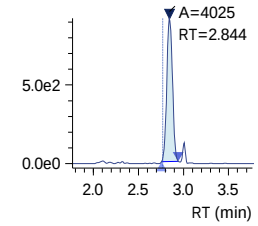
## 20210428_046

Sample ID: PERCHLORATE3
Date Acquired: 4/28/2021 6:34:56 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_046.lcd
Vial: 24 | Inj. Volume: 25.0000uL | Tray: 1

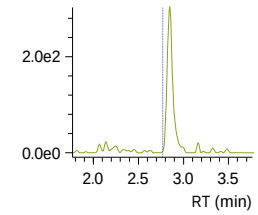
Perchlorate

Conc 0.67532
R#1 31.38 (0.00)

Q 99.00>83.00 (-) 9.24e2



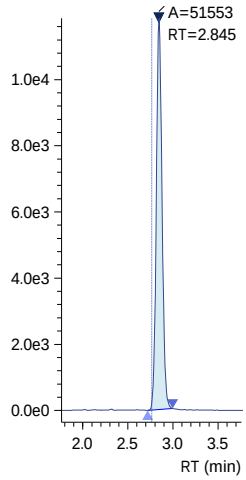

R1 101.00>85.00 (-) 3.03e2




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.19e4



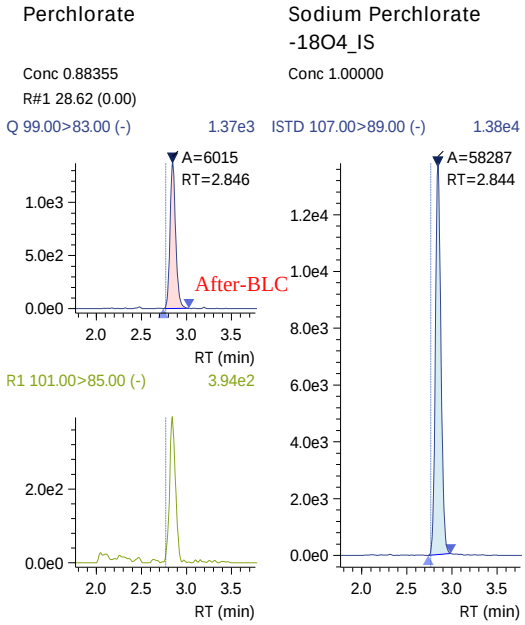
# Insight Report

Printed at 4/29/2021 1:26:51 PM

## 20210428_047

Sample ID: PERCHLORATE4
Date Acquired: 4/28/2021 6:44:22 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_047.lcd
Vial: 25 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | M | 2.846 | 6015 | 58287 | 1 | 0.88355 | ng/mL | 1.0000 | 28.62 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.844 | 58287 | 58287 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |



# Insight Report



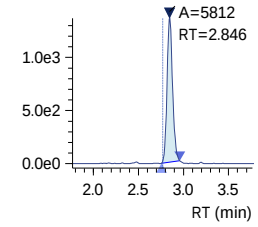
## 20210428_047

Sample ID: PERCHLORATE4
Date Acquired: 4/28/2021 6:44:22 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_047.lcd
Vial: 25 | Inj. Volume: 25.0000uL | Tray: 1

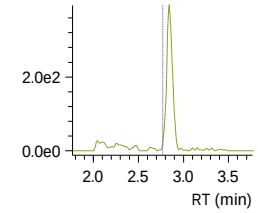
Perchlorate

Conc 0.86245
R#1 28.86 (0.00)

Q 99.00>83.00 (-) 1.37e3



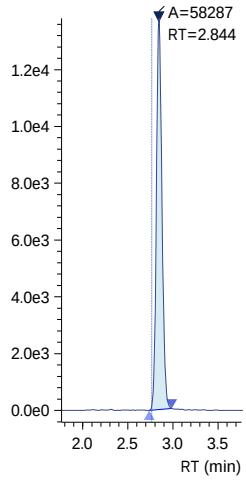

R1 101.00>85.00 (-) 3.94e2




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.38e4



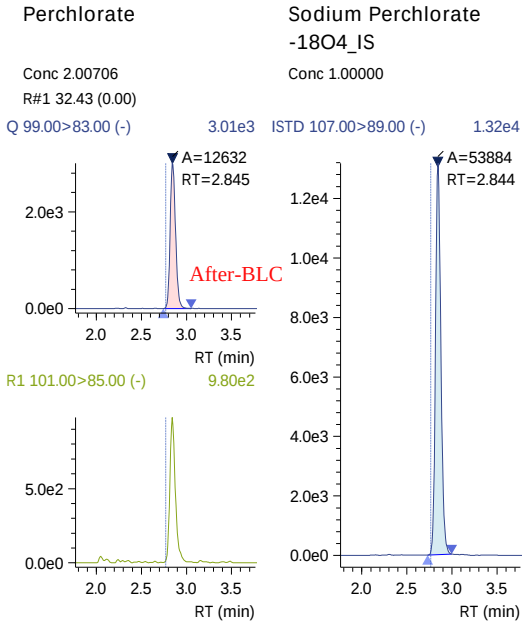
# Insight Report

Printed at 4/29/2021 1:26:51 PM

## 20210428_048

Sample ID: PERCHLORATE5
Date Acquired: 4/28/2021 6:53:45 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_048.lcd
Vial: 26 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | M | 2.845 | 12632 | 53884 | 1 | 2.00706 | ng/mL | 2.0000 | 32.43 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.844 | 53884 | 53884 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |



# Insight Report



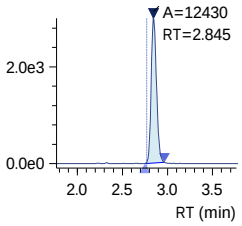
## 20210428_048

Sample ID: PERCHLORATE5
Date Acquired: 4/28/2021 6:53:45 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_048.lcd
Vial: 26 | Inj. Volume: 25.0000uL | Tray: 1

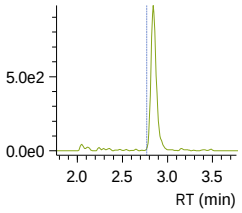
Perchlorate

Conc 1.99532
R#1 32.28 (0.00)

Q 99.00>83.00 (-) 3.01e3



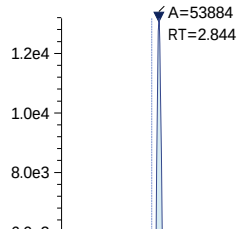

R1 101.00>85.00 (-) 9.80e2




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.32e4



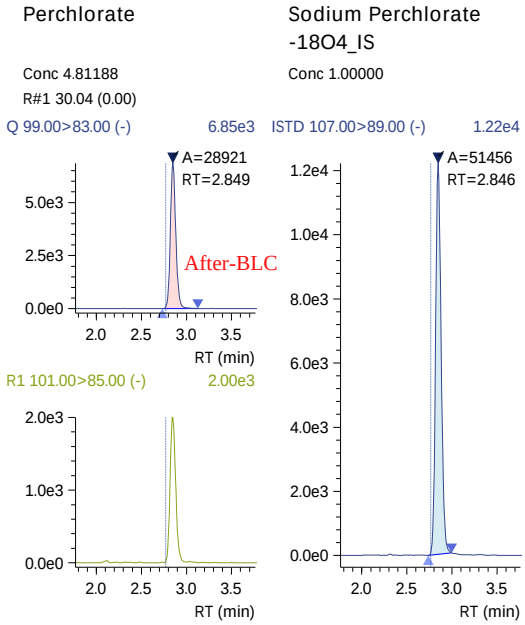
# Insight Report

Printed at 4/29/2021 1:26:51 PM

## 20210428_049

Sample ID: PERCHLORATE6
Date Acquired: 4/28/2021 7:03:12 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_049.lcd
Vial: 27 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | M | 2.849 | 28921 | 51456 | 1 | 4.81188 | ng/mL | 5.0000 | 30.04 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.846 | 51456 | 51456 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |



# Insight Report



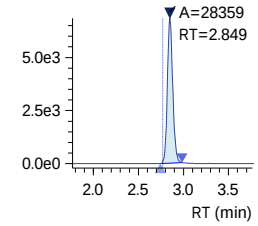
## 20210428_049

Sample ID: PERCHLORATE6
Date Acquired: 4/28/2021 7:03:12 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_049.lcd
Vial: 27 | Inj. Volume: 25.0000uL | Tray: 1

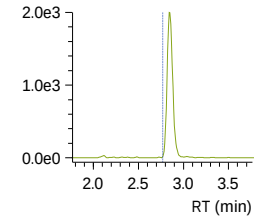
Perchlorate

Conc 4.76710
R#1 30.13 (0.00)

Q 99.00>83.00 (-) 6.85e3



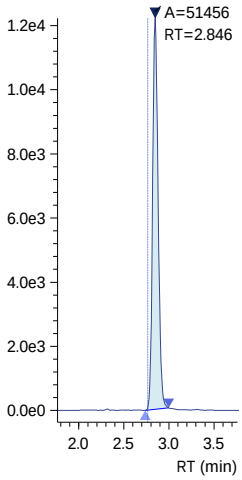

R1 101.00>85.00 (-) 2.00e3




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.22e4



# Insight Report

Printed at 4/29/2021 1:26:51 PM

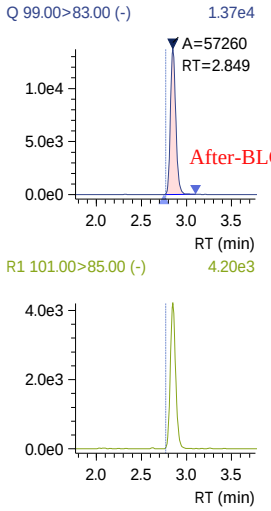
## 20210428_050

Sample ID: PERCHLORATE7
Date Acquired: 4/28/2021 7:12:36 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_050.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | M | 2.849 | 57260 | 50051 | 1 | 9.79458 | ng/mL | 10.0000 | 30.74 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.848 | 50051 | 50051 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

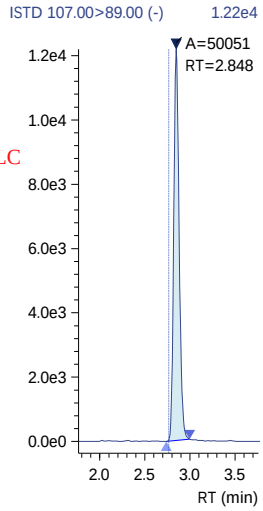
Perchlorate

Conc 9.79458
R#1 30.74 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report



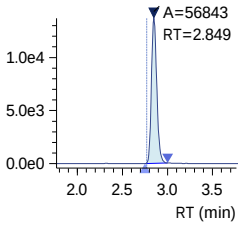
## 20210428_050

Sample ID: PERCHLORATE7
Date Acquired: 4/28/2021 7:12:36 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_050.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

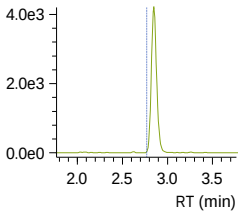
Perchlorate

Conc 9.82335
R#1 30.77 (0.00)

Q 99.00>83.00 (-) 1.37e4



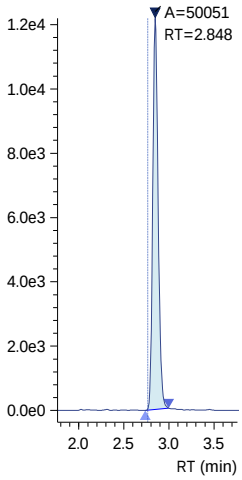

R1 101.00>85.00 (-) 4.20e3




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.22e4



# Insight Report

Printed at 4/29/2021 1:26:51 PM

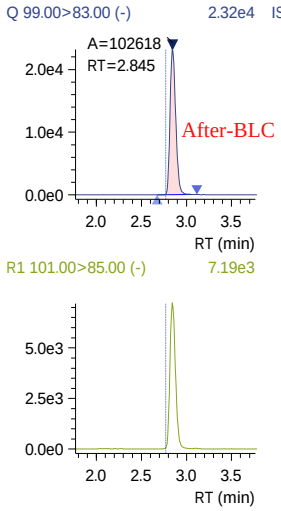
## 20210428_051

Sample ID: PERCHLORATE8
Date Acquired: 4/28/2021 7:22:01 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_051.lcd
Vial: 28 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | M | 2.845 | 102618 | 52128 | 1 | 16.85388 | ng/mL | 20.0000 | 30.96 |
| Sodium Perchlorate-18O4_IS | Auto | 2.844 | 52128 | 52128 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

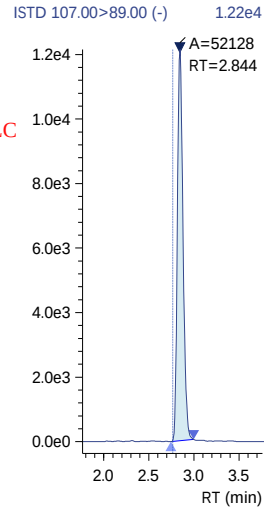
Perchlorate

Conc 16.85388
R#1 30.96 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report



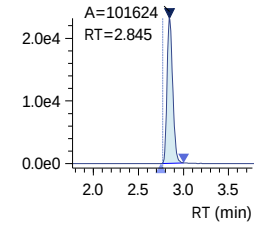
## 20210428_051

Sample ID: PERCHLORATE8
Date Acquired: 4/28/2021 7:22:01 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_051.lcd
Vial: 28 | Inj. Volume: 25.0000uL | Tray: 1

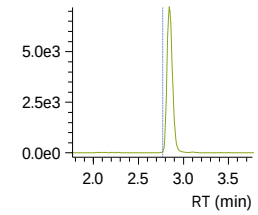
Perchlorate

Conc 16.86268
R#1 30.97 (0.00)

Q 99.00>83.00 (-) 2.32e4



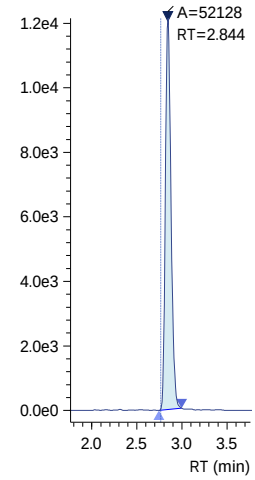

R1 101.00>85.00 (-) 7.19e3




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.22e4



# Insight Report

Printed at 4/29/2021 1:26:51 PM

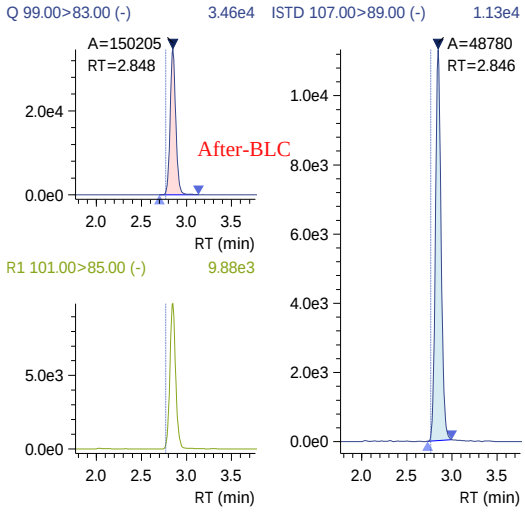
## 20210428_052

Sample ID: PERCHLORATE9
Date Acquired: 4/28/2021 7:31:24 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_052.lcd
Vial: 29 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | M | 2.848 | 150205 | 48780 | 1 | 26.36258 | ng/mL | 30.0000 | 29.04 |
| Sodium Perchlorate-18O4_IS | Auto | 2.846 | 48780 | 48780 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

Perchlorate

Conc 26.36258
R#1 29.04 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000

# Insight Report



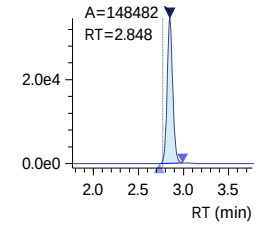
## 20210428_052

Sample ID: PERCHLORATE9
Date Acquired: 4/28/2021 7:31:24 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_052.lcd
Vial: 29 | Inj. Volume: 25.0000uL | Tray: 1

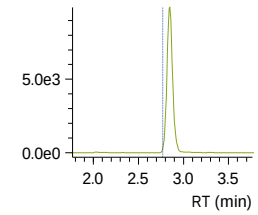
Perchlorate

Conc 26.32873
R#1 29.04 (0.00)

Q 99.00>83.00 (-) 3.46e4



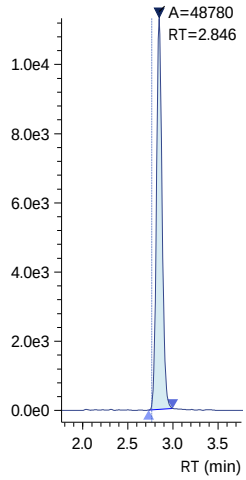

R1 101.00>85.00 (-) 9.88e3




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.13e4



# Insight Report

Printed at 4/29/2021 1:26:51 PM

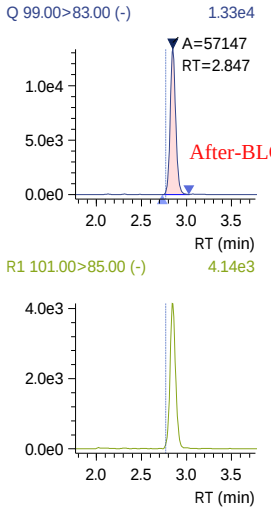
## 20210428_054

Sample ID: PERCHLORATEICV
Date Acquired: 4/28/2021 7:50:10 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_054.lcd
Vial: 31 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | M | 2.847 | 57147 | 51740 | 1 | 9.45615 | ng/mL | 10.0000 | 31.56 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.847 | 51740 | 51740 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

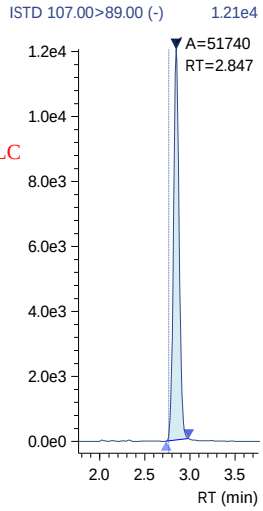
Perchlorate

Conc 9.45615
R#1 31.56 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report

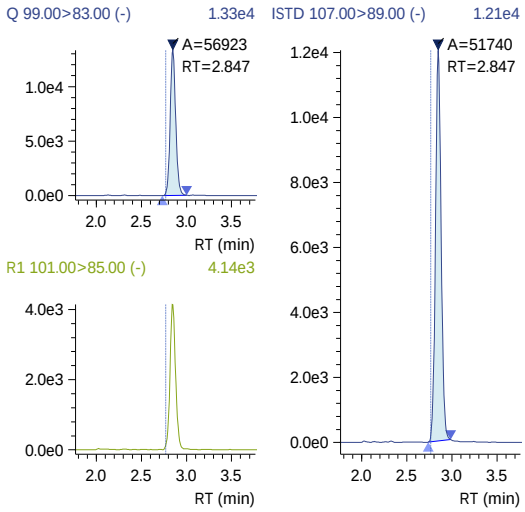


## 20210428_054

Sample ID: PERCHLORATEICV
Date Acquired: 4/28/2021 7:50:10 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_054.lcd
Vial: 31 | Inj. Volume: 25.0000uL | Tray: 1

Perchlorate

Conc 9.51618
R#1 31.56 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000

**20210518**

**1st Review:** Grivera
**2nd Review:** Kneir

**Injection Log**
**LCMS01 -Shimadzu 8050**

**ICAL Date:** 5/18/2021
**Cal. Std. xp:** 5/20/2021
**ICAL ID:** **EC2100031**

**Mobile Phases** **A:** 0.75% Formic Acid/Water 3100809-07 **B:** MeOH 216350

| | | | File Name | Acquisition Method | Dilution | R | Comments | Date/Time |
|---|---|---|---|---|---|---|---|---|
| 1 | PERCHLORATE1 | | 20210518_011 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-05 | 5/18/2021 11:48 |
| 2 | PERCHLORATE2 | | 20210518_012 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-06 | 5/18/2021 11:57 |
| 3 | PERCHLORATE3 | | 20210518_013 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-07 | 5/18/2021 12:05 |
| 4 | PERCHLORATE4 | | 20210518_014 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-08 | 5/18/2021 12:14 |
| 5 | PERCHLORATE5 | | 20210518_015 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-09 | 5/18/2021 12:22 |
| 6 | PERCHLORATE6 | | 20210518_016 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-01 | 5/18/2021 12:30 |
| 7 | PERCHLORATE7 | | 20210518_010 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 5/18/2021 10:48 |
| 8 | PERCHLORATE8 | | 20210518_017 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-03 | 5/18/2021 12:39 |
| 9 | PERCHLORATE9 | | 20210518_018 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-04 | 5/18/2021 12:47 |
| 10 | PERCHLORATE10 | | 20210518_019 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-05 | 5/18/2021 12:56 |
| 11 | PERCHLORATEICV | | 20210518_020 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-06 | 5/18/2021 13:04 |
| 12 | ICS | | 20210518_021 | Perchlorate6850b.lcm | 1x | ☒ | | 5/18/2021 13:12 |
| 13 | LODV | | 20210518_022 | Perchlorate6850b.lcm | 1x | ☒ | | 5/18/2021 13:21 |
| 14 | PERCHLORATE7 | | 20210518_023 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 5/18/2021 13:29 |
| 15 | E2100493-001x10 | | 20210518_024 | Perchlorate6850b.lcm | 10X | ☒ | DNU-INST failed | 5/18/2021 13:38 |
| 16 | PERCHLORATE7 | | 20210518_025 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 5/18/2021 13:46 |
| 17 | EQ2100297-01 | | 20210518_026 | Perchlorate6850b.lcm | 1x | ☒ | | 5/18/2021 14:20 |
| 18 | EQ2100297-02 | | 20210518_027 | Perchlorate6850b.lcm | 1x | ☒ | | 5/18/2021 14:29 |
| 19 | EQ2100297-03 | | 20210518_028 | Perchlorate6850b.lcm | 1x | ☒ | | 5/18/2021 14:37 |
| 20 | E2100496-002X10 | | 20210518_029 | Perchlorate6850b.lcm | 10X | ☒ | | 5/18/2021 14:45 |
| 21 | E2100493-001x20 | | 20210518_030 | Perchlorate6850b.lcm | 20X | ☒ | DNU-INST failed | 5/18/2021 14:54 |
| 22 | PERCHLORATE7 | | 20210518_031 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 5/18/2021 15:02 |
| 23 | E2100493-001x40 | | 20210518_032 | Perchlorate6850b.lcm | 40X | ☒ | | 5/18/2021 15:36 |
| 24 | PERCHLORATE7 | | 20210518_033 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 5/18/2021 15:44 |
| 25 | | | | | | | | |
| 26 | | | | | | | | |
| 27 | | | | | | | | |

# *Initial Calibration - Detailed Report*

**Calibration ID:** EC2100031 **Instrument ID:** E-LCMS-01
**Column Name:** 1

| # | Lab Code | Sample Name | File Location | Aquisition Date |
|---|---|---|---|---|
| 01 | EC2100031-01 | PERCHLORATE7 | 20210518_010 | 05/18/2021 10:48 |
| 02 | EC2100031-02 | PERCHLORATE1 | 20210518_011 | 05/18/2021 11:48 |
| 03 | EC2100031-03 | PERCHLORATE2 | 20210518_012 | 05/18/2021 11:57 |
| 11 | EC2100031-11 | PERCHLORATE3 | 20210518_013 | 05/18/2021 12:05 |
| 04 | EC2100031-04 | PERCHLORATE4 | 20210518_014 | 05/18/2021 12:14 |
| 05 | EC2100031-05 | PERCHLORATE5 | 20210518_015 | 05/18/2021 12:22 |
| 06 | EC2100031-06 | PERCHLORATE6 | 20210518_016 | 05/18/2021 12:30 |
| 07 | EC2100031-07 | PERCHLORATE8 | 20210518_017 | 05/18/2021 12:39 |
| 08 | EC2100031-08 | PERCHLORATE9 | 20210518_018 | 05/18/2021 12:47 |
| 09 | EC2100031-09 | PERCHLORATE10 | 20210518_019 | 05/18/2021 12:56 |

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

**Perchlorate** **Average RF** **RSD = 8.249** **Average RF = 0.1137**

| # | Amount | RF | # | Amount | RF | # | Amount | RF | # | Amount | RF |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 | 10.0000 | 0.1063 | 02 | 0.1000 | 0.1298 | 03 | 0.5000 | 0.1214 | 04 | 1.0000 | 0.1096 |
| 05 | 2.0000 | 0.1181 | 06 | 5.0000 | 0.1158 | 07 | 20.0000 | 0.1073 | 08 | 30.0000 | 0.1057 |
| 09 | 50.0000 | 0.1002 | 11 | 0.7000 | 0.1233 | | | | | | |

**Analyte**

**Perchlorate**

| # | Amount | Calculated Conc | %D | # | Amount | Calculated Conc | %D | # | Amount | Calculated Conc | %D |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 | 10.0000 | 9.34 | -6.6 | 02 | 0.1000 | 0.114 | 14.1 | 03 | 0.5000 | 0.534 | 6.7 |
| 04 | 1.0000 | 0.963 | -3.7 | 05 | 2.0000 | 2.08 | 3.9 | 06 | 5.0000 | 5.09 | 1.8 |
| 07 | 20.0000 | 18.9 | -5.7 | 08 | 30.0000 | 27.9 | -7.0 | 09 | 50.0000 | 44.1 | -11.9 |
| 11 | 0.7000 | 0.759 | 8.4 | | | | | | | | |

# *Initial Calibration Verification Summary Report*

| | | | |
|---|---|---|---|
| **Calibration ID:** | EC2100031 | **Instrument ID:** | E-LCMS-01 |
| **Datafile ID:** | 20210518_020 | **Column Name:** | 1 |

| Analyte | Lab Code | Type | Curve Fit | True Value | Calc Conc | Units | Result | Criteria |
|---|---|---|---|---|---|---|---|---|
| Perchlorate | EC2100031-10 | T | Average RF | 10 | 10.127 | ng/mL | 1.3 | <= 15 |

# Insight Report

Printed at 5/18/2021 3:37:42 PM

Method File: I:\LCMS01\DATA\20210518\20210518.lcm
Project File: I:\LCMS01\DATA\20210518\20210518.damlp

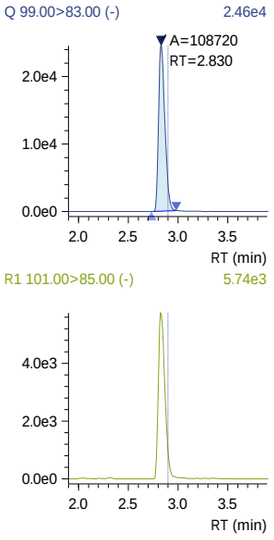
## 20210518_010

Sample ID: PERCHLORATE7
Date Acquired: 5/18/2021 10:48:22 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\20210518_010.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.830 | 108720 | 102309 | 1 | 9.34321 | ng/mL | 10.0000 | 23.44 |
| Sodium Perchlorate-18O4_IS | Auto | 2.829 | 102309 | 102309 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

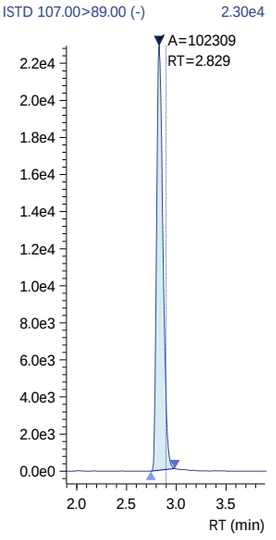
Perchlorate

Conc 9.34321
R#1 23.44 (0.00)




Sodium Perchlorate-18O4_IS

Conc 1.00000



# Insight Report



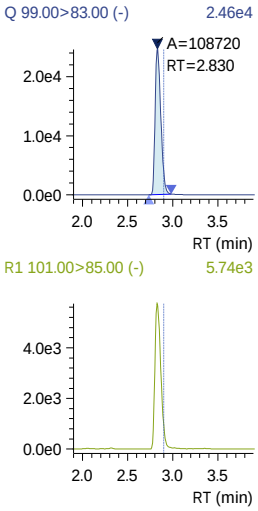
Method File: I:\LCMS01\DATA\20210518\20210517.lcm

## 20210518_010

Sample ID: PERCHLORATE7
Date Acquired: 5/18/2021 10:48:22 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\Before\20210518_010.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

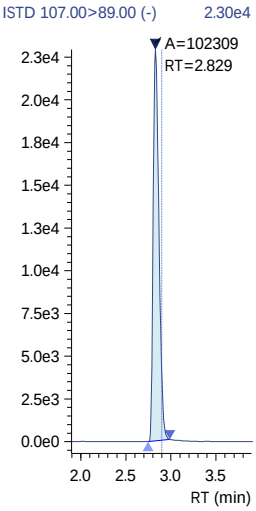
Perchlorate

Conc 10.06452
R#1 23.44 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report

Printed at 5/18/2021 3:37:42 PM

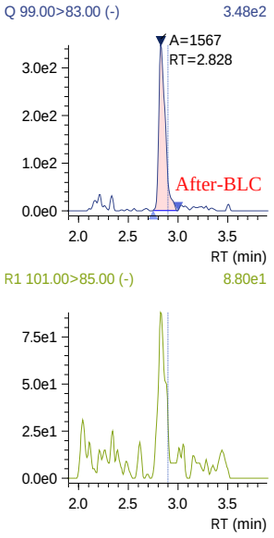
## 20210518_011

Sample ID: PERCHLORATE1
Date Acquired: 5/18/2021 11:48:54 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\20210518_011.lcd
Vial: 22 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | M | 2.828 | 1567 | 120716 | 1 | 0.11410 | ng/mL | 0.1000 | 23.68 |
| Sodium Perchlorate-18O4_IS | Auto | 2.831 | 120716 | 120716 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

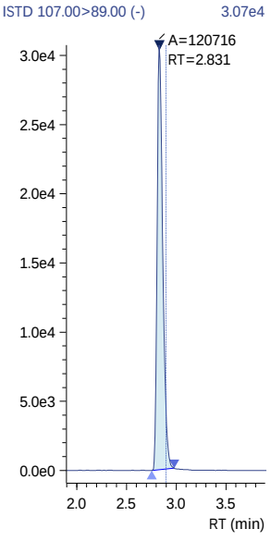
Perchlorate

Conc 0.11410
R#1 23.68 (0.00)




Sodium Perchlorate-18O4_IS

Conc 1.00000



# Insight Report



Method File: I:\LCMS01\DATA\20210518\20210517.lcm

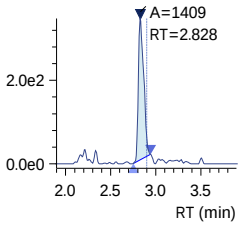
## 20210518_011

Sample ID: PERCHLORATE1
Date Acquired: 5/18/2021 11:48:54 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\Before\20210518_011.lcd
Vial: 22 | Inj. Volume: 25.0000uL | Tray: 1

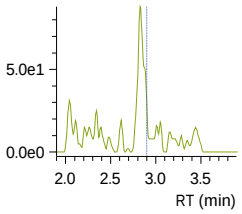
Perchlorate

Conc 0.11051
R#1 24.63 (0.00)

Q 99.00>83.00 (-) 3.48e2



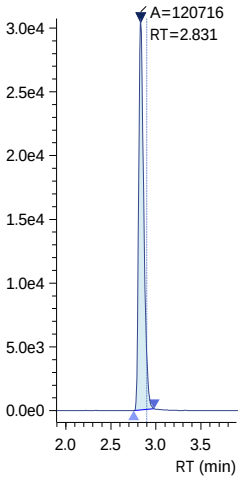

R1 101.00>85.00 (-) 8.80e1




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 3.07e4



# Insight Report

Printed at 5/18/2021 3:37:42 PM

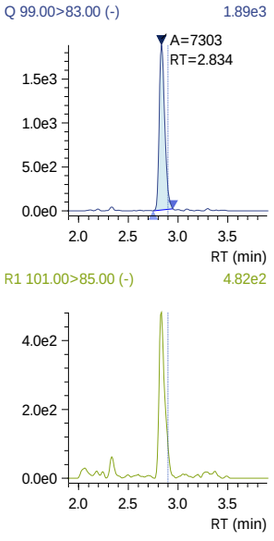
## 20210518_012

Sample ID: PERCHLORATE2
Date Acquired: 5/18/2021 11:57:16 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\20210518_012.lcd
Vial: 23 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.834 | 7303 | 120339 | 1 | 0.53356 | ng/mL | 0.5000 | 25.44 |
| Sodium Perchlorate-18O4_IS | Auto | 2.832 | 120339 | 120339 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

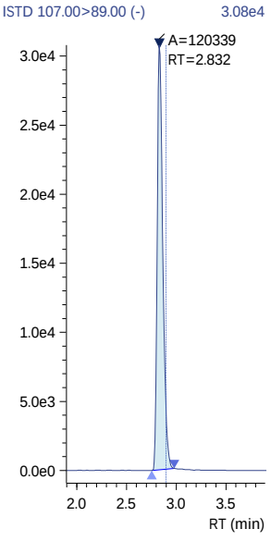
Perchlorate

Conc 0.53356
R#1 25.44 (0.00)




Sodium Perchlorate-18O4_IS

Conc 1.00000



# Insight Report

Printed at 5/18/2021 3:39:08 PM

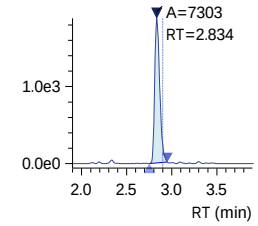
## 20210518_012

Sample ID: PERCHLORATE2
Date Acquired: 5/18/2021 11:57:16 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\Before\20210518_012.lcd
Vial: 23 | Inj. Volume: 25.0000uL | Tray: 1

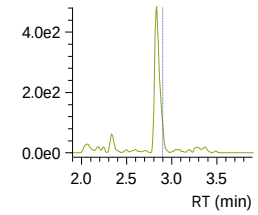
Perchlorate

Conc 0.57475
R#1 25.44 (0.00)

Q 99.00>83.00 (-) 1.89e3



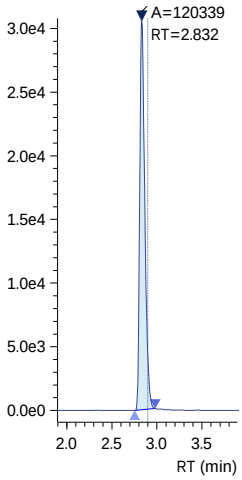

R1 101.00>85.00 (-) 4.82e2




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 3.08e4



# Insight Report

Printed at 5/18/2021 3:37:42 PM

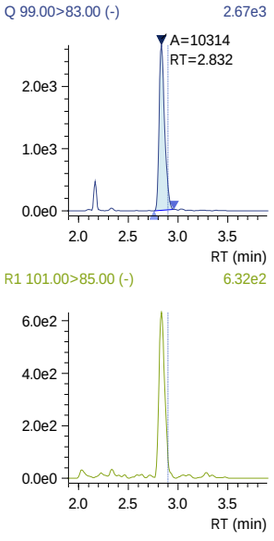
## 20210518_013

Sample ID: PERCHLORATE3
Date Acquired: 5/18/2021 12:05:40 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\20210518_013.lcd
Vial: 24 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.832 | 10314 | 119516 | 1 | 0.75874 | ng/mL | 0.7000 | 23.66 |
| Sodium Perchlorate-18O4_IS | Auto | 2.831 | 119516 | 119516 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

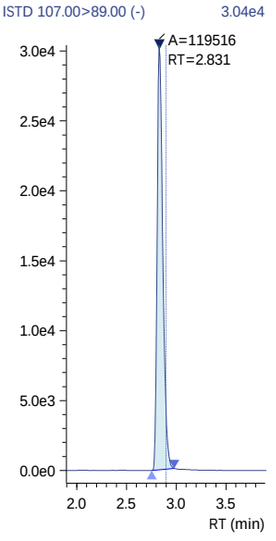
Perchlorate

Conc 0.75874
R#1 23.66 (0.00)




Sodium Perchlorate-18O4_IS

Conc 1.00000



# Insight Report

Printed at 5/18/2021 3:39:08 PM

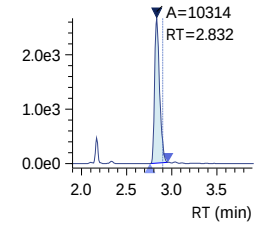
## 20210518_013

Sample ID: PERCHLORATE3
Date Acquired: 5/18/2021 12:05:40 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\Before\20210518_013.lcd
Vial: 24 | Inj. Volume: 25.0000uL | Tray: 1

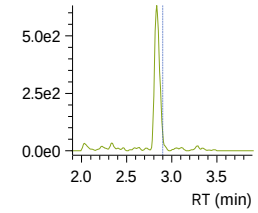
Perchlorate

Conc 0.81732
R#1 23.66 (0.00)

Q 99.00>83.00 (-) 2.67e3



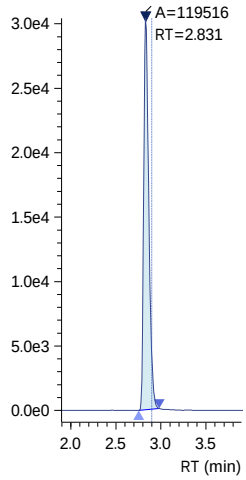

R1 101.00>85.00 (-) 6.32e2




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 3.04e4



# Insight Report



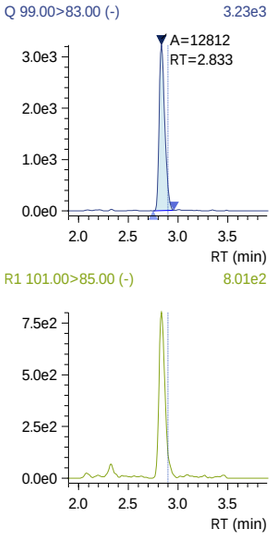
## 20210518_014

Sample ID: PERCHLORATE4
Date Acquired: 5/18/2021 12:14:05 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\20210518_014.lcd
Vial: 25 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.833 | 12812 | 116935 | 1 | 0.96333 | ng/mL | 1.0000 | 24.92 |
| Sodium Perchlorate-18O4_IS | Auto | 2.832 | 116935 | 116935 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

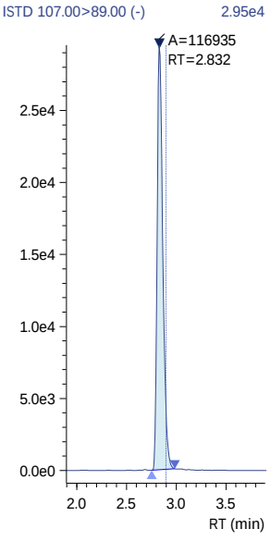
Perchlorate

Conc 0.96333
R#1 24.92 (0.00)




Sodium Perchlorate-18O4_IS

Conc 1.00000



# Insight Report



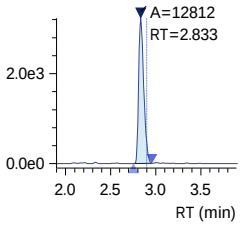
## 20210518_014

Sample ID: PERCHLORATE4
Date Acquired: 5/18/2021 12:14:05 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\Before\20210518_014.lcd
Vial: 25 | Inj. Volume: 25.0000uL | Tray: 1

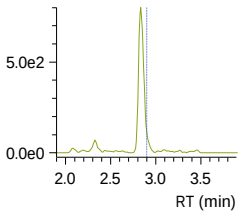
Perchlorate

Conc 1.03770
R#1 24.92 (0.00)

Q 99.00>83.00 (-) 3.23e3



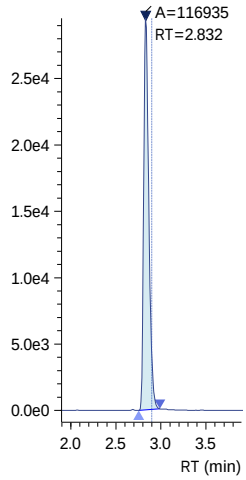

R1 101.00>85.00 (-) 8.01e2




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 2.95e4



# Insight Report

Printed at 5/18/2021 3:37:42 PM

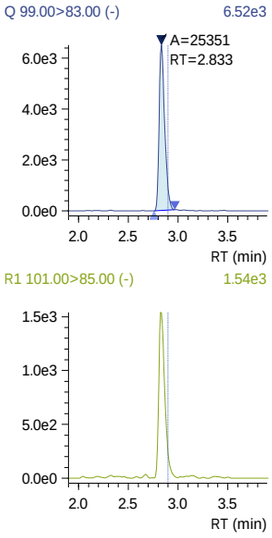
## 20210518_015

Sample ID: PERCHLORATE5
Date Acquired: 5/18/2021 12:22:27 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\20210518_015.lcd
Vial: 26 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.833 | 25351 | 107307 | 1 | 2.07712 | ng/mL | 2.0000 | 24.74 |
| Sodium Perchlorate-18O4_IS | Auto | 2.832 | 107307 | 107307 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

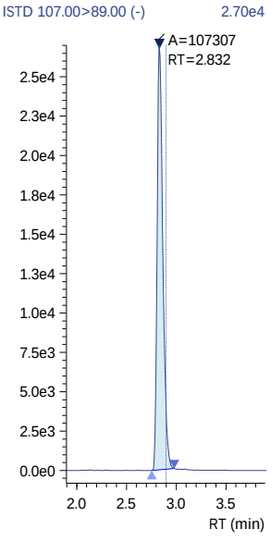
Perchlorate

Conc 2.07712
R#1 24.74 (0.00)




Sodium Perchlorate-18O4_IS

Conc 1.00000



# Insight Report

Printed at 5/18/2021 3:39:08 PM

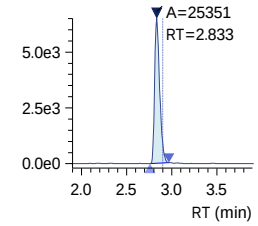
## 20210518_015

Sample ID: PERCHLORATE5
Date Acquired: 5/18/2021 12:22:27 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\Before\20210518_015.lcd
Vial: 26 | Inj. Volume: 25.0000uL | Tray: 1

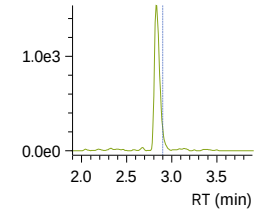
Perchlorate

Conc 2.23747
R#1 24.74 (0.00)

Q 99.00>83.00 (-) 6.52e3



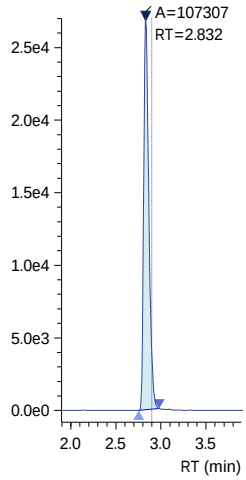

R1 101.00>85.00 (-) 1.54e3




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 2.70e4



# Insight Report

Printed at 5/18/2021 3:37:42 PM

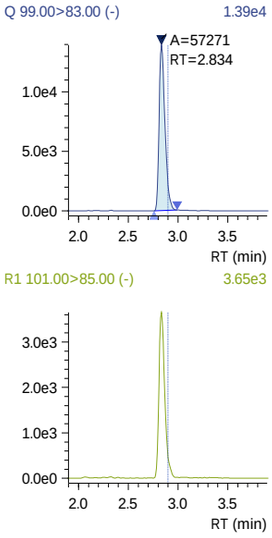
## 20210518_016

Sample ID: PERCHLORATE6
Date Acquired: 5/18/2021 12:30:51 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\20210518_016.lcd
Vial: 27 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.834 | 57271 | 98954 | 1 | 5.08869 | ng/mL | 5.0000 | 26.19 |
| Sodium Perchlorate-18O4_IS | Auto | 2.832 | 98954 | 98954 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

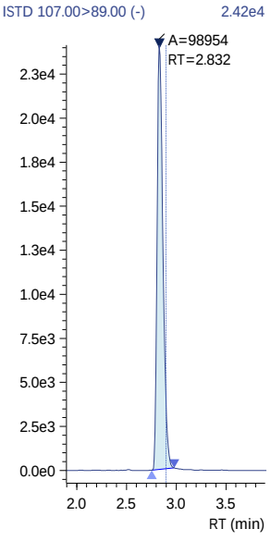
Perchlorate

Conc 5.08869
R#1 26.19 (0.00)




Sodium Perchlorate-18O4_IS

Conc 1.00000



# Insight Report



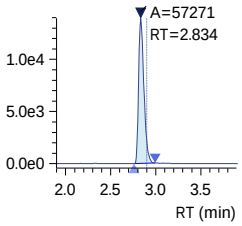
## 20210518_016

Sample ID: PERCHLORATE6
Date Acquired: 5/18/2021 12:30:51 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\Before\20210518_016.lcd
Vial: 27 | Inj. Volume: 25.0000uL | Tray: 1

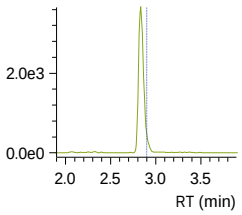
Perchlorate

Conc 5.48154
R#1 26.19 (0.00)

Q 99.00>83.00 (-) 1.39e4



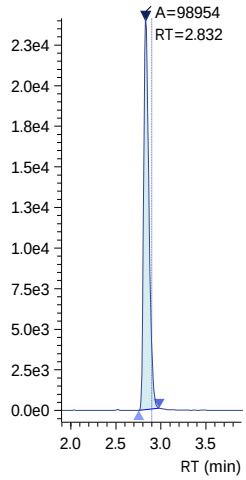

R1 101.00>85.00 (-) 3.65e3




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 2.42e4



# Insight Report

Printed at 5/18/2021 3:37:42 PM

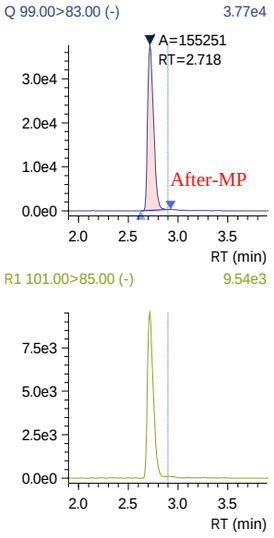
## 20210518_017

Sample ID: PERCHLORATE8
Date Acquired: 5/18/2021 12:39:23 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\20210518_017.lcd
Vial: 28 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | M | 2.718 | 155251 | 72375 | 1 | 18.86025 | ng/mL | 20.0000 | 25.33 |
| Sodium Perchlorate-18O4_IS | M | 2.715 | 72375 | 72375 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

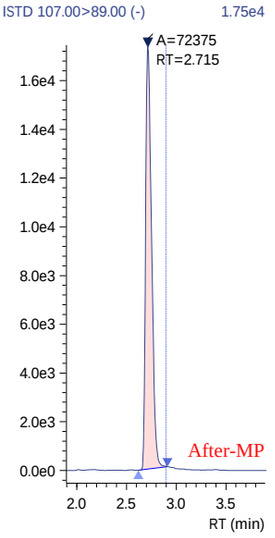
Perchlorate

Conc 18.86025
R#1 25.33 (0.00)




Sodium Perchlorate-18O4_IS

Conc 1.00000



# Insight Report

Printed at 5/18/2021 3:39:08 PM

## 20210518_017

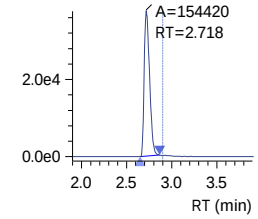
Sample ID: PERCHLORATE8
Date Acquired: 5/18/2021 12:39:23 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\Before\20210518_017.lcd
Vial: 28 | Inj. Volume: 25.0000uL | Tray: 1

Perchlorate

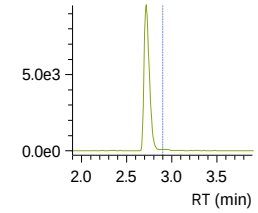
Conc ----

R#1 ---- (0.00)

Q 99.00>83.00 (-) 3.77e4



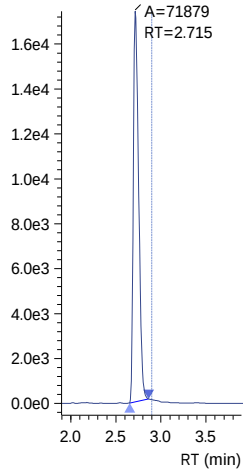

R1 101.00>85.00 (-) 9.54e3




Sodium Perchlorate -18O4_IS

Conc ----

ISTD 107.00>89.00 (-) 1.75e4



# Insight Report

Printed at 5/18/2021 3:37:42 PM

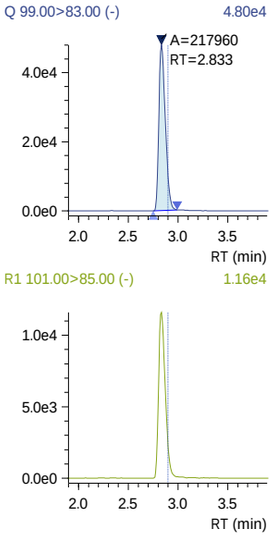
## 20210518_018

Sample ID: PERCHLORATE9
Date Acquired: 5/18/2021 12:47:45 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\20210518_018.lcd
Vial: 29 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.833 | 217960 | 68713 | 1 | 27.88967 | ng/mL | 30.0000 | 24.77 |
| Sodium Perchlorate-18O4_IS | Auto | 2.832 | 68713 | 68713 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

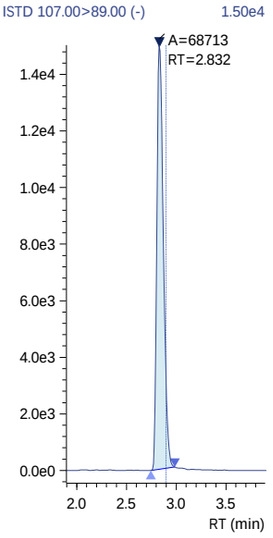
Perchlorate

Conc 27.88967
R#1 24.77 (0.00)




Sodium Perchlorate-18O4_IS

Conc 1.00000



# Insight Report

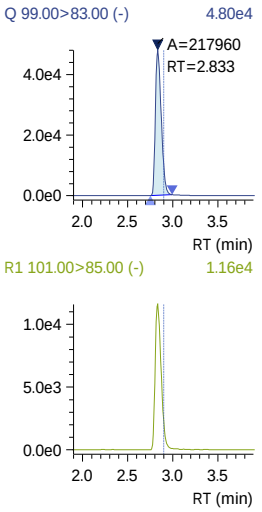
Printed at 5/18/2021 3:39:08 PM

## 20210518_018

Sample ID: PERCHLORATE9
Date Acquired: 5/18/2021 12:47:45 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\Before\20210518_018.lcd
Vial: 29 | Inj. Volume: 25.0000uL | Tray: 1

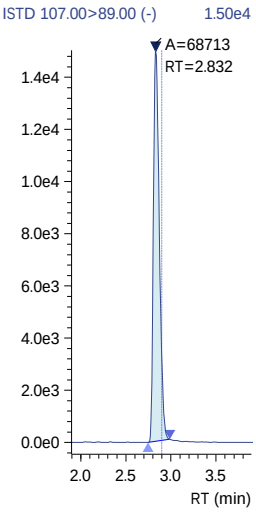
Perchlorate

Conc 30.04281
R#1 24.77 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report

Printed at 5/18/2021 3:37:42 PM

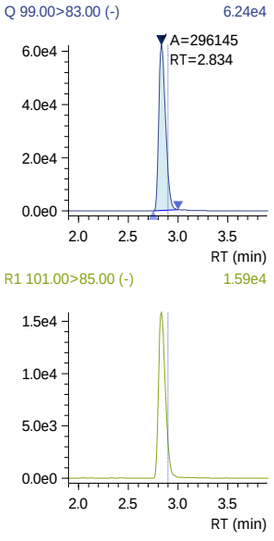
## 20210518_019

Sample ID: PERCHLORATE10
Date Acquired: 5/18/2021 12:56:08 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\20210518_019.lcd
Vial: 30 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.834 | 296145 | 59084 | 1 | 44.06970 | ng/mL | 50.0000 | 25.42 |
| Sodium Perchlorate-18O4_IS | Auto | 2.833 | 59084 | 59084 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

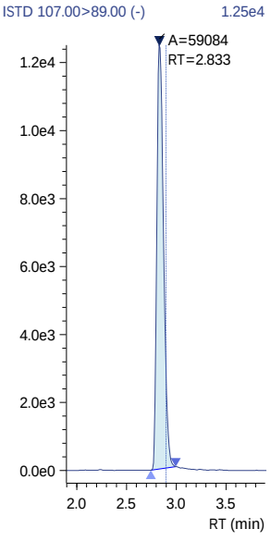
Perchlorate

Conc 44.06970
R#1 25.42 (0.00)




Sodium Perchlorate-18O4_IS

Conc 1.00000



# Insight Report



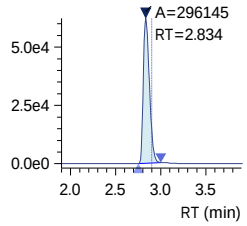
## 20210518_019

Sample ID: PERCHLORATE10
Date Acquired: 5/18/2021 12:56:08 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\Before\20210518_019.lcd
Vial: 30 | Inj. Volume: 25.0000uL | Tray: 1

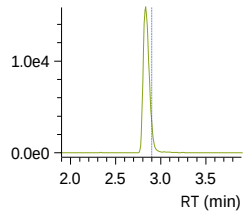
Perchlorate

Conc 47.47197
R#1 25.42 (0.00)

Q 99.00>83.00 (-) 6.24e4



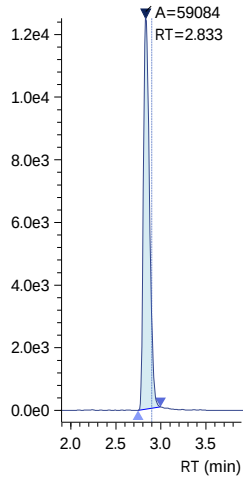

R1 101.00>85.00 (-) 1.59e4




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.25e4



# Insight Report

Printed at 5/18/2021 3:37:42 PM

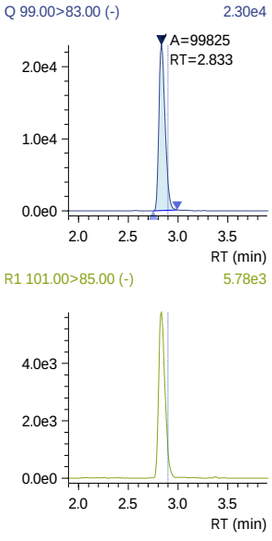
## 20210518_020

Sample ID: PERCHLORATEICV
Date Acquired: 5/18/2021 1:04:33 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\20210518_020.lcd
Vial: 31 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.833 | 99825 | 86662 | 1 | 10.12781 | ng/mL | 10.0000 | 25.77 |
| Sodium Perchlorate-18O4_IS | Auto | 2.831 | 86662 | 86662 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

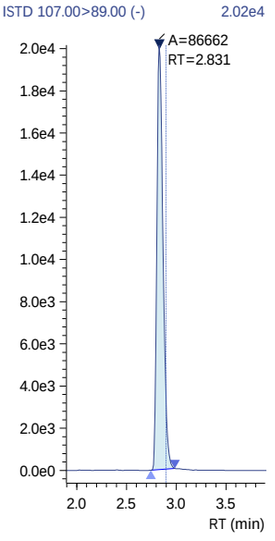
Perchlorate

Conc 10.12781
R#1 25.77 (0.00)




Sodium Perchlorate-18O4_IS

Conc 1.00000



# Insight Report



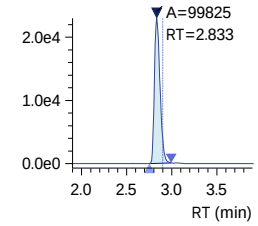
## 20210518_020

Sample ID: PERCHLORATEICV
Date Acquired: 5/18/2021 1:04:33 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\Before\20210518_020.lcd
Vial: 31 | Inj. Volume: 25.0000uL | Tray: 1

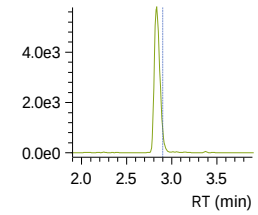
Perchlorate

Conc 10.90969
R#1 25.77 (0.00)

Q 99.00>83.00 (-) 2.30e4



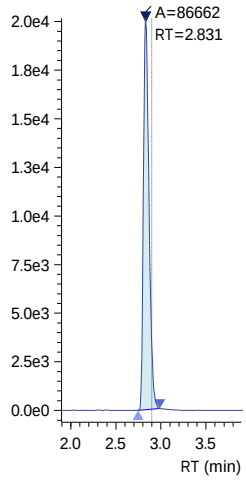

R1 101.00>85.00 (-) 5.78e3




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 2.02e4



# 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

**20210501**

**1st Review:** Grivera
**2nd Review:** Kneir

ALS Environmental

**Injection Log**
**LCMS01 -Shimadzu 8050**

**ICAL Date:** 4/28/2021
**Cal. Std. xp:** 5/20/2021
**ICAL ID:** **EC2100026**

**Mobile Phases** **A:** 0.75% Formic Acid/Water 3100809-07 **B:** MeOH 216350

| | | | File Name | Acquisition Method | Dilution | R | Comments | Date/Time |
|---|---|---|---|---|---|---|---|---|
| 1 | null | | 20210501_001 | Perchlorate6850b.lcm | 1x | ☒ | | 5/1/2021 12:07 |
| 2 | null | | 20210501_002 | Perchlorate6850b.lcm | 1x | ☒ | | 5/1/2021 12:13 |
| 3 | IB | | 20210501_003 | Perchlorate6850b.lcm | 1x | ☒ | | 5/1/2021 12:19 |
| 4 | IB | | 20210501_004 | Perchlorate6850b.lcm | 1x | ☒ | | 5/1/2021 12:29 |
| 5 | ICS | | 20210501_005 | Perchlorate6850b.lcm | 1x | ☒ | | 5/1/2021 12:38 |
| 6 | LODV | | 20210501_006 | Perchlorate6850b.lcm | 1x | ☒ | | 5/1/2021 12:48 |
| 7 | PERCHLORATE7 | | 20210501_007 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 5/1/2021 13:04 |
| 8 | E2100459-001X5 | | 20210501_008 | Perchlorate6850b.lcm | 5x | ☒ | | 5/1/2021 13:14 |
| 9 | E2100459-002X5 | | 20210501_009 | Perchlorate6850b.lcm | 5x | ☒ | | 5/1/2021 13:23 |
| 10 | E2100459-007X10 | | 20210501_010 | Perchlorate6850b.lcm | 10x | ☒ | | 5/1/2021 13:32 |
| 11 | E2100459-008X2 | | 20210501_011 | Perchlorate6850b.lcm | 2x | ☒ | | 5/1/2021 13:42 |
| 12 | E2100459-010X10 | | 20210501_012 | Perchlorate6850b.lcm | 10x | ☒ | | 5/1/2021 13:51 |
| 13 | PERCHLORATE7 | | 20210501_013 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 5/1/2021 14:01 |
| 14 | EQ2100262-04X5 | | 20210501_014 | Perchlorate6850b.lcm | 5x | ☒ | | 5/1/2021 14:10 |
| 15 | EQ2100262-05X5 | | 20210501_015 | Perchlorate6850b.lcm | 5x | ☒ | | 5/1/2021 14:19 |
| 16 | E2100460-006X2 | | 20210501_016 | Perchlorate6850b.lcm | 2x | ☒ | | 5/1/2021 14:29 |
| 17 | E2100460-007X2DNU | | 20210501_017 | Perchlorate6850b.lcm | 2x | ☒ | DNU:INST failed | 5/1/2021 14:38 |
| 18 | E2100461-001X5 | | 20210501_018 | Perchlorate6850b.lcm | 5x | ☒ | 3100809-02 | 5/1/2021 14:48 |
| 19 | E2100461-002X5 | | 20210501_019 | Perchlorate6850b.lcm | 5x | ☒ | | 5/1/2021 14:57 |
| 20 | E2100461-003X5 | | 20210501_020 | Perchlorate6850b.lcm | 5x | ☒ | | 5/1/2021 15:06 |
| 21 | E2100461-004X5 | | 20210501_021 | Perchlorate6850b.lcm | 5x | ☒ | | 5/1/2021 15:16 |
| 22 | E2100464-001X2 | | 20210501_022 | Perchlorate6850b.lcm | 2x | ☒ | | 5/1/2021 15:25 |
| 23 | E2100464-003X2 | | 20210501_023 | Perchlorate6850b.lcm | 2x | ☒ | | 5/1/2021 15:35 |
| 24 | PERCHLORATE7 | | 20210501_024 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 5/1/2021 15:44 |
| 25 | E2100464-004X2 | | 20210501_025 | Perchlorate6850b.lcm | 2x | ☒ | | 5/1/2021 15:53 |
| 26 | E2100464-005X2 | | 20210501_026 | Perchlorate6850b.lcm | 2x | ☒ | | 5/1/2021 16:03 |
| 27 | PERCHLORATE7 | | 20210501_027 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 5/1/2021 16:12 |
| 28 | EQ2100263-01 | | 20210501_028 | Perchlorate6850b.lcm | 1x | ☒ | | 5/1/2021 16:22 |
| 29 | EQ2100263-02 | | 20210501_029 | Perchlorate6850b.lcm | 1x | ☒ | | 5/1/2021 16:31 |
| 30 | EQ2100263-03 | | 20210501_030 | Perchlorate6850b.lcm | 1x | ☒ | | 5/1/2021 16:40 |
| 31 | E2100469-001 | | 20210501_031 | Perchlorate6850b.lcm | 1x | ☒ | | 5/1/2021 16:50 |
| 32 | E2100469-002DNU | | 20210501_032 | Perchlorate6850b.lcm | 1x | ☒ | DNU:INST failed | 5/1/2021 16:59 |
| 33 | E2100469-003 | | 20210501_033 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 5/1/2021 17:09 |
| 34 | E2100469-004 | | 20210501_034 | Perchlorate6850b.lcm | 1x | ☒ | | 5/1/2021 17:18 |
| 35 | E2100469-005 | | 20210501_035 | Perchlorate6850b.lcm | 1x | ☒ | | 5/1/2021 17:27 |
| 36 | E2100469-006 | | 20210501_036 | Perchlorate6850b.lcm | 1x | ☒ | | 5/1/2021 17:37 |
| 37 | E2100469-007DNU | | 20210501_037 | Perchlorate6850b.lcm | 1x | ☒ | DNU-Over ICAL range | 5/1/2021 17:46 |
| 38 | PERCHLORATE7 | | 20210501_038 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 5/1/2021 17:56 |
| 39 | E2100470-001DNU | | 20210501_039 | Perchlorate6850b.lcm | 1x | ☒ | DNU:INST failed | 5/1/2021 18:05 |
| 40 | E2100470-002DNU | | 20210501_040 | Perchlorate6850b.lcm | 1x | ☒ | DNU-Over ICAL range | 5/1/2021 18:14 |
| 41 | E2100492-001-DNU | | 20210501_041 | Perchlorate6850b.lcm | 1x | ☒ | | 5/1/2021 18:24 |
| 42 | E2100492-002-DNU | | 20210501_042 | Perchlorate6850b.lcm | 1x | ☒ | | 5/1/2021 18:33 |
| 43 | E2100492-003-DNU | | 20210501_043 | Perchlorate6850b.lcm | 1x | ☒ | | 5/1/2021 18:43 |
| 44 | E2100492-004-DNU | | 20210501_044 | Perchlorate6850b.lcm | 1x | ☒ | | 5/1/2021 18:52 |
| 45 | E2100492-005-DNU | | 20210501_045 | Perchlorate6850b.lcm | 1x | ☒ | | 5/1/2021 19:01 |
| 46 | E2100492-006-DNU | | 20210501_046 | Perchlorate6850b.lcm | 1x | ☒ | | 5/1/2021 19:11 |
| 47 | E2100493-001-DNU | | 20210501_047 | Perchlorate6850b.lcm | 1x | ☒ | | 5/1/2021 19:20 |
| 48 | PERCHLORATE7 | | 20210501_048 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 5/1/2021 19:30 |
| 49 | | | | | | | | |

**20210518**

**1st Review:** Grivera
**2nd Review:** Kneir

ALS Environmental

**Injection Log**
**LCMS01 -Shimadzu 8050**

**ICAL Date:** 5/18/2021
**Cal. Std. xp:** 5/20/2021
**ICAL ID:** **EC2100031**

**Mobile Phases** **A:** 0.75% Formic Acid/Water 3100809-07 **B:** MeOH 216350

| | | | File Name | Acquisition Method | Dilution | R | Comments | Date/Time |
|---|---|---|---|---|---|---|---|---|
| 1 | PERCHLORATE1 | | 20210518_011 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-05 | 5/18/2021 11:48 |
| 2 | PERCHLORATE2 | | 20210518_012 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-06 | 5/18/2021 11:57 |
| 3 | PERCHLORATE3 | | 20210518_013 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-07 | 5/18/2021 12:05 |
| 4 | PERCHLORATE4 | | 20210518_014 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-08 | 5/18/2021 12:14 |
| 5 | PERCHLORATE5 | | 20210518_015 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-09 | 5/18/2021 12:22 |
| 6 | PERCHLORATE6 | | 20210518_016 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-01 | 5/18/2021 12:30 |
| 7 | PERCHLORATE7 | | 20210518_010 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 5/18/2021 10:48 |
| 8 | PERCHLORATE8 | | 20210518_017 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-03 | 5/18/2021 12:39 |
| 9 | PERCHLORATE9 | | 20210518_018 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-04 | 5/18/2021 12:47 |
| 10 | PERCHLORATE10 | | 20210518_019 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-05 | 5/18/2021 12:56 |
| 11 | PERCHLORATEICV | | 20210518_020 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-06 | 5/18/2021 13:04 |
| 12 | ICS | | 20210518_021 | Perchlorate6850b.lcm | 1x | ☒ | | 5/18/2021 13:12 |
| 13 | LODV | | 20210518_022 | Perchlorate6850b.lcm | 1x | ☒ | | 5/18/2021 13:21 |
| 14 | PERCHLORATE7 | | 20210518_023 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 5/18/2021 13:29 |
| 15 | E2100493-001x10 | | 20210518_024 | Perchlorate6850b.lcm | 10X | ☒ | DNU-INST failed | 5/18/2021 13:38 |
| 16 | PERCHLORATE7 | | 20210518_025 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 5/18/2021 13:46 |
| 17 | EQ2100297-01 | | 20210518_026 | Perchlorate6850b.lcm | 1x | ☒ | | 5/18/2021 14:20 |
| 18 | EQ2100297-02 | | 20210518_027 | Perchlorate6850b.lcm | 1x | ☒ | | 5/18/2021 14:29 |
| 19 | EQ2100297-03 | | 20210518_028 | Perchlorate6850b.lcm | 1x | ☒ | | 5/18/2021 14:37 |
| 20 | E2100496-002X10 | | 20210518_029 | Perchlorate6850b.lcm | 10X | ☒ | | 5/18/2021 14:45 |
| 21 | E2100493-001x20 | | 20210518_030 | Perchlorate6850b.lcm | 20X | ☒ | DNU-INST failed | 5/18/2021 14:54 |
| 22 | PERCHLORATE7 | | 20210518_031 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 5/18/2021 15:02 |
| 23 | E2100493-001x40 | | 20210518_032 | Perchlorate6850b.lcm | 40X | ☒ | | 5/18/2021 15:36 |
| 24 | PERCHLORATE7 | | 20210518_033 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 5/18/2021 15:44 |
| 25 | | | | | | | | |
| 26 | | | | | | | | |
| 27 | | | | | | | | |

**ALS Group USA, Corp. dba ALS Environmental**

QA/QC Report

**Client:** ALS Environmental - US
**Project:** HS21041458

**Service Request:** E2100493
**Date Analyzed:** 5/ 1/21

## 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\20210501\20210501_007

**Calibration Date:** 4/28/21
**Calibration ID:** EC2100026
**Analysis Lot:** 722220
**Units:** ng/mL

| Analyte Name | Expected | Result | Average RF | CCV RF | %D | %Drift | Criteria | Curve Fit |
|---|---|---|---|---|---|---|---|---|
| Perchlorate | 10.0 | 9.87 | 0.1168 | 0.1153 | -1.3 | NA | ± 15 % | Average RF |

**ALS Group USA, Corp. dba ALS Environmental**

QA/QC Report

**Client:** ALS Environmental - US
**Project:** HS21041458

**Service Request:** E2100493
**Date Analyzed:** 5/ 1/21

## 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\20210501\20210501_013

**Calibration Date:** 4/28/21
**Calibration ID:** EC2100026
**Analysis Lot:** 722220
**Units:** ng/mL

| Analyte Name | Expected | Result | Average RF | CCV RF | %D | %Drift | Criteria | Curve Fit |
|---|---|---|---|---|---|---|---|---|
| Perchlorate | 10.0 | 9.23 | 0.1168 | 0.1079 | -7.7 | NA | ± 15 % | Average RF |

**ALS Group USA, Corp. dba ALS Environmental**

QA/QC Report

**Client:** ALS Environmental - US
**Project:** HS21041458

**Service Request:** E2100493
**Date Analyzed:** 5/ 1/21

## 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\20210501\20210501_024

**Calibration Date:** 4/28/21
**Calibration ID:** EC2100026
**Analysis Lot:** 722220
**Units:** ng/mL

| Analyte Name | Expected | Result | Average RF | CCV RF | %D | %Drift | Criteria | Curve Fit |
|---|---|---|---|---|---|---|---|---|
| Perchlorate | 10.0 | 9.49 | 0.1168 | 0.1109 | -5.1 | NA | ± 15 % | Average RF |

**ALS Group USA, Corp. dba ALS Environmental**

QA/QC Report

**Client:** ALS Environmental - US
**Project:** HS21041458

**Service Request:** E2100493
**Date Analyzed:** 5/ 1/21

## 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\20210501\20210501_027

**Calibration Date:** 4/28/21
**Calibration ID:** EC2100026
**Analysis Lot:** 722220
**Units:** ng/mL

| Analyte Name | Expected | Result | Average RF | CCV RF | %D | %Drift | Criteria | Curve Fit |
|---|---|---|---|---|---|---|---|---|
| Perchlorate | 10.0 | 9.12 | 0.1168 | 0.1065 | -8.8 | NA | ± 15 % | Average RF |

**ALS Group USA, Corp. dba ALS Environmental**

QA/QC Report

**Client:** ALS Environmental - US
**Project:** HS21041458

**Service Request:** E2100493
**Date Analyzed:** 5/ 1/21

## 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\20210501\20210501_038

**Calibration Date:** 4/28/21
**Calibration ID:** EC2100026
**Analysis Lot:** 722220
**Units:** ng/mL

| Analyte Name | Expected | Result | Average RF | CCV RF | %D | %Drift | Criteria | Curve Fit |
|---|---|---|---|---|---|---|---|---|
| Perchlorate | 10.0 | 9.74 | 0.1168 | 0.1138 | -2.6 | NA | ± 15 % | Average RF |

**ALS Group USA, Corp. dba ALS Environmental**

QA/QC Report

**Client:** ALS Environmental - US
**Project:** HS21041458

**Service Request:** E2100493
**Date Analyzed:** 5/18/21

## 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\20210518\20210518_031

**Calibration Date:** 5/18/21
**Calibration ID:** EC2100031
**Analysis Lot:** 723959
**Units:** ng/mL

| Analyte Name | Expected | Result | Average RF | CCV RF | %D | %Drift | Criteria | Curve Fit |
|---|---|---|---|---|---|---|---|---|
| Perchlorate | 10.0 | 9.43 | 0.1137 | 0.1073 | -5.7 | NA | ± 15 % | Average RF |

**ALS Group USA, Corp. dba ALS Environmental**

QA/QC Report

**Client:** ALS Environmental - US
**Project:** HS21041458

**Service Request:** E2100493
**Date Analyzed:** 5/18/21

## 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\20210518\20210518_033

**Calibration Date:** 5/18/21
**Calibration ID:** EC2100031
**Analysis Lot:** 723959
**Units:** ng/mL

| Analyte Name | Expected | Result | Average RF | CCV RF | %D | %Drift | Criteria | Curve Fit |
|---|---|---|---|---|---|---|---|---|
| Perchlorate | 10.0 | 9.75 | 0.1137 | 0.1109 | -2.5 | NA | ± 15 % | Average RF |

**ALS Group USA, Corp. dba ALS Environmental**

QA/QC Report

| | | | |
|---|---|---|---|
| **Client:** | ALS Environmental - US | **Service Request:** | E2100493 |
| **Project:** | HS21041458 | **Date Analyzed:** | 5/1/21 13:04 |

**Internal Standard Area and RT Summary**
**Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry**

| | | | |
|---|---|---|---|
| **File ID:** | I:\LCMS01\DATA\20210501\20210501_007 | **Lab Code:** | EQ2100272-01 |
| **Instrument ID:** | E-LCMS-01 | **Analysis Lot:** | 722220 |
| **Analytical Method:** | 6850 | **Signal ID:** | 1 |

| | | Sodium Perchlorate-18O4 | |
|---|---|---|---|
| | | **Area** | **RT** |
| | **ICAL Average ==>** | 52,454 | 2.85 |
| | **Upper Limit ==>** | 78,681 | 4.85 |
| | **Lower Limit ==>** | 26,227 | 0.85 |
| ***Associated Analyses*** | | | |
| Continuing Calibration Verification | EQ2100272-01 | 51,400 | 2.71 |

**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:** | E2100493 |
| **Project:** | HS21041458 | **Date Analyzed:** | 5/1/21 14:01 |

**Internal Standard Area and RT Summary**
**Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry**

| | | | |
|---|---|---|---|
| **File ID:** | I:\LCMS01\DATA\20210501\20210501_013 | **Lab Code:** | EQ2100272-02 |
| **Instrument ID:** | E-LCMS-01 | **Analysis Lot:** | 722220 |
| **Analytical Method:** | 6850 | **Signal ID:** | 1 |

| | | Sodium Perchlorate-18O4 | |
|---|---|---|---|
| | | **Area** | **RT** |
| | **ICAL Average ==>** | 52,454 | 2.85 |
| | **Upper Limit ==>** | 78,681 | 4.85 |
| | **Lower Limit ==>** | 26,227 | 0.85 |
| ***Associated Analyses*** | | | |
| Continuing Calibration Verification | EQ2100272-02 | 46,369 | 2.84 |

**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:** | E2100493 |
| **Project:** | HS21041458 | **Date Analyzed:** | 5/1/21 15:44 |

**Internal Standard Area and RT Summary**
**Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry**

| | | | |
|---|---|---|---|
| **File ID:** | I:\LCMS01\DATA\20210501\20210501_024 | **Lab Code:** | EQ2100272-03 |
| **Instrument ID:** | E-LCMS-01 | **Analysis Lot:** | 722220 |
| **Analytical Method:** | 6850 | **Signal ID:** | 1 |

| | | Sodium Perchlorate-18O4 | |
|---|---|---|---|
| | | **Area** | **RT** |
| | **ICAL Average ==>** | 52,454 | 2.85 |
| | **Upper Limit ==>** | 78,681 | 4.85 |
| | **Lower Limit ==>** | 26,227 | 0.85 |
| ***Associated Analyses*** | | | |
| Continuing Calibration Verification | EQ2100272-03 | 45,961 | 2.85 |

**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:** | E2100493 |
| **Project:** | HS21041458 | **Date Analyzed:** | 5/1/21 16:12 |

**Internal Standard Area and RT Summary**
**Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry**

| | | | |
|---|---|---|---|
| **File ID:** | I:\LCMS01\DATA\20210501\20210501_027 | **Lab Code:** | EQ2100272-04 |
| **Instrument ID:** | E-LCMS-01 | **Analysis Lot:** | 722220 |
| **Analytical Method:** | 6850 | **Signal ID:** | 1 |

| | | Sodium Perchlorate-18O4 | |
|---|---|---|---|
| | | **Area** | **RT** |
| | **ICAL Average ==>** | 52,454 | 2.85 |
| | **Upper Limit ==>** | 78,681 | 4.85 |
| | **Lower Limit ==>** | 26,227 | 0.85 |
| ***Associated Analyses*** | | | |
| Continuing Calibration Verification | EQ2100272-04 | 41,773 | 2.85 |
| Method Blank | EQ2100263-01 | 41,356 | 2.85 |
| Lab Control Sample | EQ2100263-02 | 49,611 | 2.85 |
| Duplicate Lab Control Sample | EQ2100263-03 | 46,859 | 2.85 |

**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:** | E2100493 |
| **Project:** | HS21041458 | **Date Analyzed:** | 5/1/21 17:56 |

**Internal Standard Area and RT Summary**
**Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry**

| | | | |
|---|---|---|---|
| **File ID:** | I:\LCMS01\DATA\20210501\20210501_038 | **Lab Code:** | EQ2100272-05 |
| **Instrument ID:** | E-LCMS-01 | **Analysis Lot:** | 722220 |
| **Analytical Method:** | 6850 | **Signal ID:** | 1 |

| | | Sodium Perchlorate-18O4 | |
|---|---|---|---|
| | | **Area** | **RT** |
| | **ICAL Average ==>** | 52,454 | 2.85 |
| | **Upper Limit ==>** | 78,681 | 4.85 |
| | **Lower Limit ==>** | 26,227 | 0.85 |
| ***Associated Analyses*** | | | |
| Continuing Calibration Verification | EQ2100272-05 | 42,418 | 2.85 |

**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:** | E2100493 |
| **Project:** | HS21041458 | **Date Analyzed:** | 5/18/21 15:02 |

**Internal Standard Area and RT Summary**
**Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry**

| | | | |
|---|---|---|---|
| **File ID:** | I:\LCMS01\DATA\20210518\20210518_031 | **Lab Code:** | EQ2100305-01 |
| **Instrument ID:** | E-LCMS-01 | **Analysis Lot:** | 723959 |
| **Analytical Method:** | 6850 | **Signal ID:** | 1 |

| | | Sodium Perchlorate-18O4 | |
|---|---|---|---|
| | | **Area** | **RT** |
| | **ICAL Average ==>** | 98,625 | 2.82 |
| | **Upper Limit ==>** | 147,938 | 4.82 |
| | **Lower Limit ==>** | 49,313 | 0.82 |
| ***Associated Analyses*** | | | |
| Continuing Calibration Verification | EQ2100305-01 | 75,702 | 2.77 |
| LH18/24-SP650_042721_BIX | E2100493-001 | 127,697 | 2.70 |

**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:** | E2100493 |
| **Project:** | HS21041458 | **Date Analyzed:** | 5/18/21 15:44 |

**Internal Standard Area and RT Summary**
**Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry**

| | | | |
|---|---|---|---|
| **File ID:** | I:\LCMS01\DATA\20210518\20210518_033 | **Lab Code:** | EQ2100305-02 |
| **Instrument ID:** | E-LCMS-01 | **Analysis Lot:** | 723959 |
| **Analytical Method:** | 6850 | **Signal ID:** | 1 |

| | | Sodium Perchlorate-18O4 | |
|---|---|---|---|
| | | **Area** | **RT** |
| | **ICAL Average ==>** | 98,625 | 2.82 |
| | **Upper Limit ==>** | 147,938 | 4.82 |
| | **Lower Limit ==>** | 49,313 | 0.82 |
| ***Associated Analyses*** | | | |
| Continuing Calibration Verification | EQ2100305-02 | 86,285 | 2.83 |

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

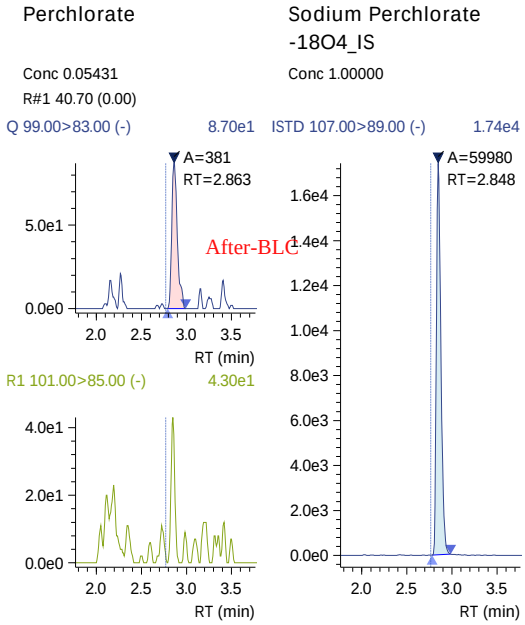
# Insight Report

Printed at 5/3/2021 9:25:34 AM

## 20210501_006

Sample ID: LODV
Date Acquired: 5/1/2021 12:48:08 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\20210501_006.lcd
Vial: 20 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | M | 2.863 | 381 | 59980 | 1 | 0.05431 | ng/mL | ---- | 40.70 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.848 | 59980 | 59980 | 1 | 1.00000 | ng/mL | ---- | ---- |



# Insight Report



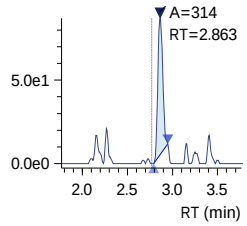
## 20210501_006

Sample ID: LODV
Date Acquired: 5/1/2021 12:48:08 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\Before\20210501_006.lcd
Vial: 20 | Inj. Volume: 25.0000uL | Tray: 1

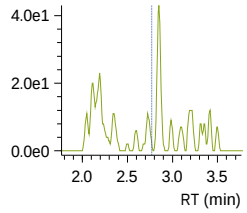
Perchlorate

Conc 0.04482
R#1 46.91 (0.00)

Q 99.00>83.00 (-) 8.70e1



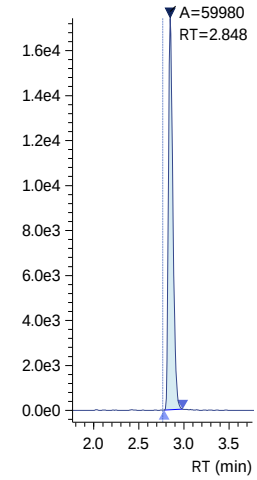

R1 101.00>85.00 (-) 4.30e1




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.74e4



# Insight Report

Printed at 5/3/2021 9:25:34 AM

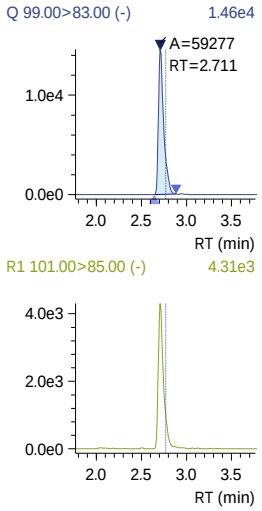
## 20210501_007

Sample ID: PERCHLORATE7
Date Acquired: 5/1/2021 1:04:45 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\20210501_007.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.711 | 59277 | 51400 | 1 | 9.87331 | ng/mL | 10.0000 | 29.40 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.710 | 51400 | 51400 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

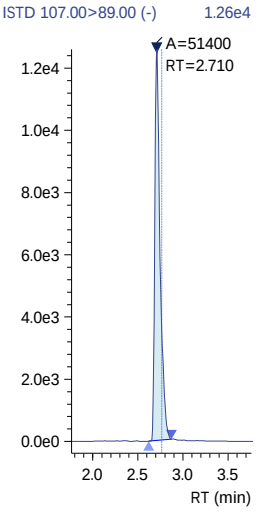
Perchlorate

Conc 9.87331
R#1 29.40 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report

Printed at 5/3/2021 9:27:25 AM

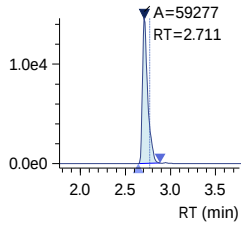
## 20210501_007

Sample ID: PERCHLORATE7
Date Acquired: 5/1/2021 1:04:45 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\Before\20210501_007.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

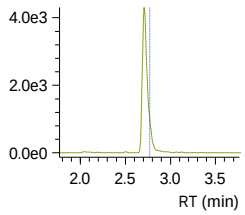
Perchlorate

Conc 9.87331
R#1 29.40 (0.00)

Q 99.00>83.00 (-) 1.46e4



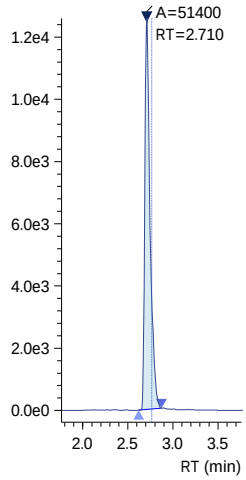

R1 101.00>85.00 (-) 4.31e3




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.26e4



# Insight Report

Printed at 5/3/2021 9:25:34 AM

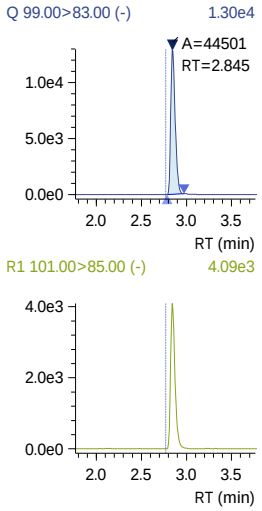
## 20210501_027

Sample ID: PERCHLORATE7
Date Acquired: 5/1/2021 4:12:45 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\20210501_027.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.845 | 44501 | 41773 | 1 | 9.12063 | ng/mL | 10.0000 | 31.50 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.845 | 41773 | 41773 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

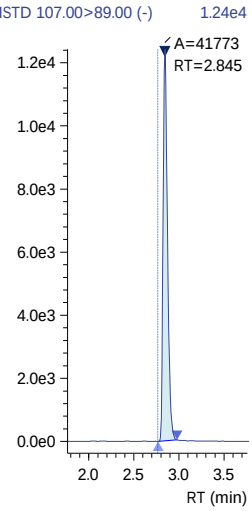
Perchlorate

Conc 9.12063
R#1 31.50 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report

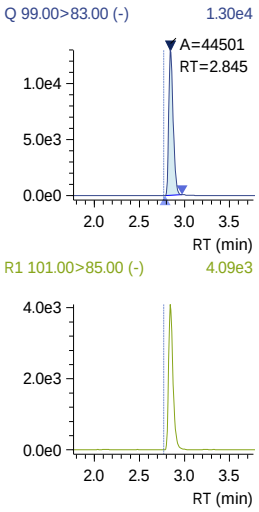
Printed at 5/3/2021 9:27:25 AM

## 20210501_027

Sample ID: PERCHLORATE7
Date Acquired: 5/1/2021 4:12:45 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\Before\20210501_027.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

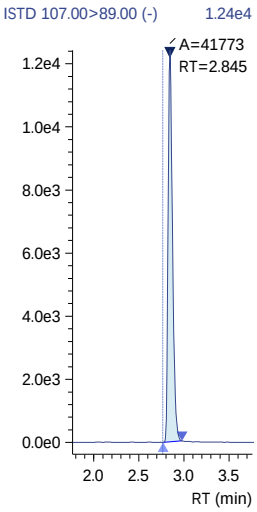
Perchlorate

Conc 9.12063
R#1 31.50 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report

Printed at 5/3/2021 9:25:34 AM

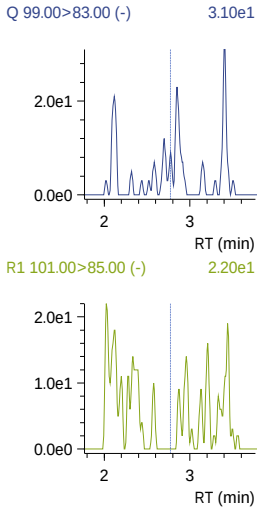
## 20210501_028

Sample ID: EQ2100263-01
Date Acquired: 5/1/2021 4:22:07 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\20210501_028.lcd
Vial: 1 | Inj. Volume: 25.0000uL | Tray: 4

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | ND(W/B) | ---- | ---- | 41356 | 1 | ---- | ng/mL | ---- | ---- |
| Sodium Perchlorate-18O4_IS | Auto | 2.847 | 41356 | 41356 | 1 | 1.00000 | ng/mL | ---- | ---- |

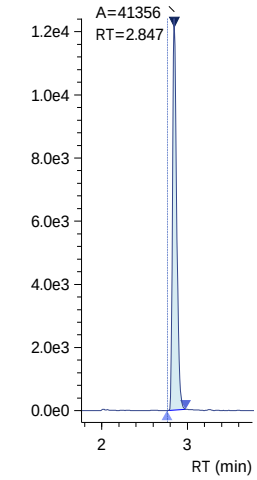
Perchlorate

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




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report



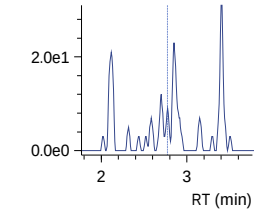
## 20210501_028

Sample ID: EQ2100263-01
Date Acquired: 5/1/2021 4:22:07 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\Before\20210501_028.lcd
Vial: 1 | Inj. Volume: 25.0000uL | Tray: 4

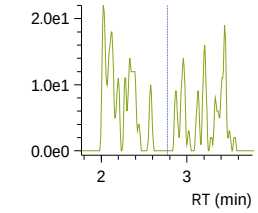
Perchlorate

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

Q 99.00>83.00 (-) 3.10e1



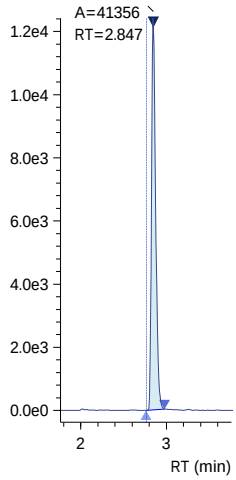

R1 101.00>85.00 (-) 2.20e1




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.24e4



# Insight Report

Printed at 5/3/2021 9:25:34 AM

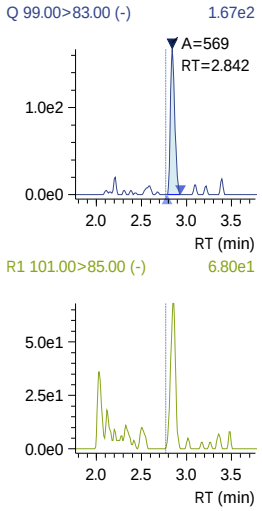
## 20210501_029

Sample ID: EQ2100263-02
Date Acquired: 5/1/2021 4:31:31 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\20210501_029.lcd
Vial: 2 | Inj. Volume: 25.0000uL | Tray: 4

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.842 | 569 | 49611 | 1 | 0.09811 | ng/mL | ---- | 35.15 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.845 | 49611 | 49611 | 1 | 1.00000 | ng/mL | ---- | ---- |

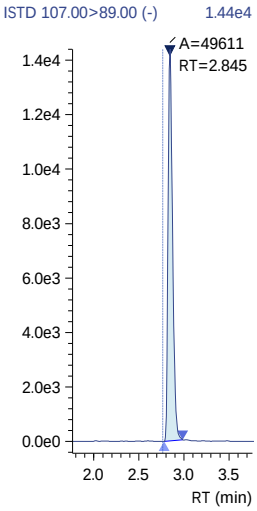
Perchlorate

Conc 0.09811
R#1 35.15 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report

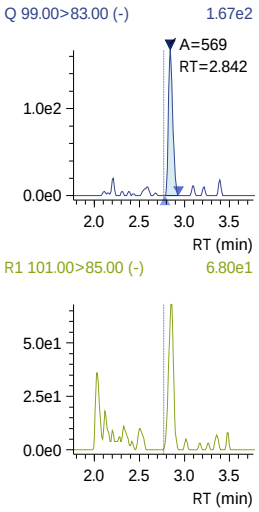
Printed at 5/3/2021 9:27:25 AM

## 20210501_029

Sample ID: EQ2100263-02
Date Acquired: 5/1/2021 4:31:31 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\Before\20210501_029.lcd
Vial: 2 | Inj. Volume: 25.0000uL | Tray: 4

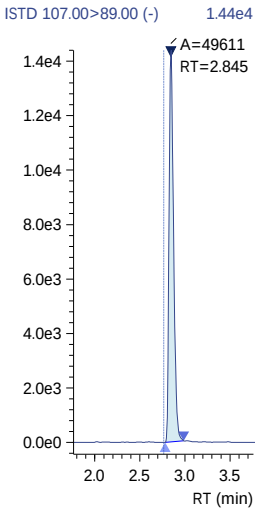
Perchlorate

Conc 0.09811
R#1 35.15 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report

Printed at 5/3/2021 9:25:34 AM

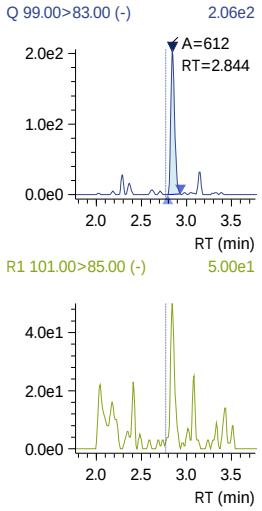
## 20210501_030

Sample ID: EQ2100263-03
Date Acquired: 5/1/2021 4:40:55 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\20210501_030.lcd
Vial: 3 | Inj. Volume: 25.0000uL | Tray: 4

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.844 | 612 | 46859 | 1 | 0.11182 | ng/mL | ---- | 22.77 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.846 | 46859 | 46859 | 1 | 1.00000 | ng/mL | ---- | ---- |

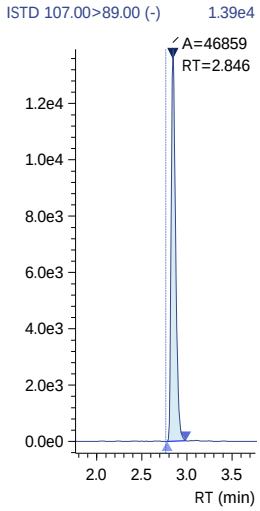
Perchlorate

Conc 0.11182
R#1 22.77 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report

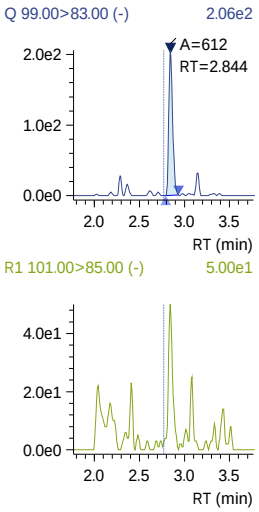
Printed at 5/3/2021 9:27:25 AM

## 20210501_030

Sample ID: EQ2100263-03
Date Acquired: 5/1/2021 4:40:55 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\Before\20210501_030.lcd
Vial: 3 | Inj. Volume: 25.0000uL | Tray: 4

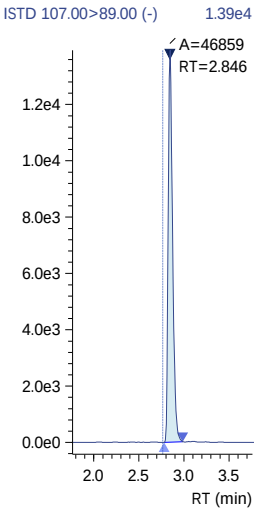
Perchlorate

Conc 0.11182
R#1 22.77 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report

Printed at 5/3/2021 9:25:34 AM

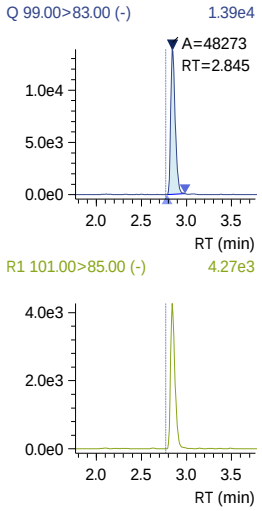
## 20210501_038

Sample ID: PERCHLORATE7
Date Acquired: 5/1/2021 5:56:08 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\20210501_038.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.845 | 48273 | 42418 | 1 | 9.74304 | ng/mL | 10.0000 | 30.66 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.845 | 42418 | 42418 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

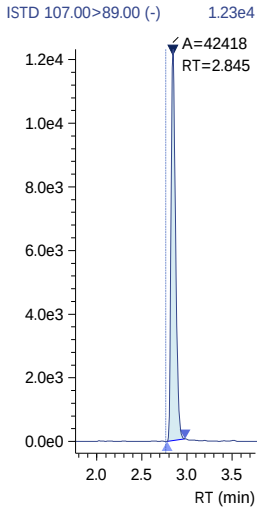
Perchlorate

Conc 9.74304
R#1 30.66 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report

Printed at 5/3/2021 9:27:25 AM

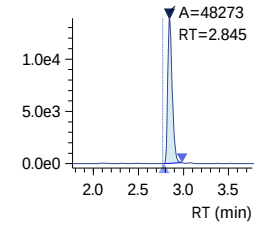
## 20210501_038

Sample ID: PERCHLORATE7
Date Acquired: 5/1/2021 5:56:08 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\Before\20210501_038.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

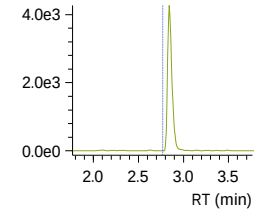
Perchlorate

Conc 9.74304
R#1 30.66 (0.00)

Q 99.00>83.00 (-) 1.39e4



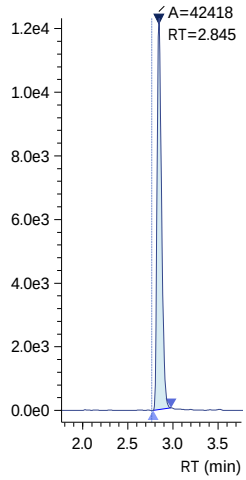

R1 101.00>85.00 (-) 4.27e3




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.23e4



# Insight Report

Printed at 5/18/2021 3:37:42 PM

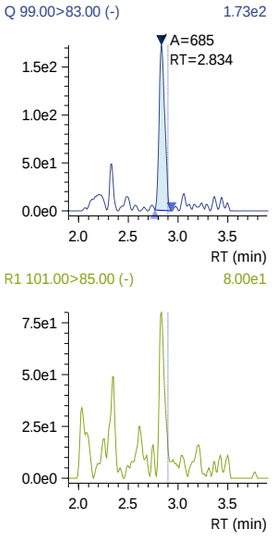
## 20210518_022

Sample ID: LODV
Date Acquired: 5/18/2021 1:21:19 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\20210518_022.lcd
Vial: 20 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.834 | 685 | 127264 | 1 | 0.04731 | ng/mL | ---- | 42.94 |
| Sodium Perchlorate-18O4_IS | Auto | 2.829 | 127264 | 127264 | 1 | 1.00000 | ng/mL | ---- | ---- |

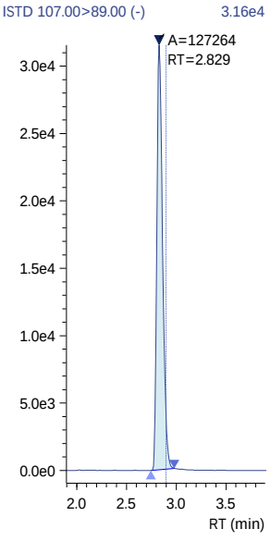
Perchlorate

Conc 0.04731
R#1 42.94 (0.00)




Sodium Perchlorate-18O4_IS

Conc 1.00000



# Insight Report

Printed at 5/18/2021 3:39:08 PM

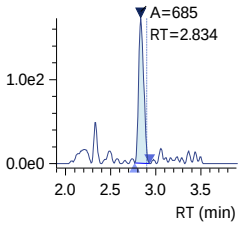
## 20210518_022

Sample ID: LODV
Date Acquired: 5/18/2021 1:21:19 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\Before\20210518_022.lcd
Vial: 20 | Inj. Volume: 25.0000uL | Tray: 1

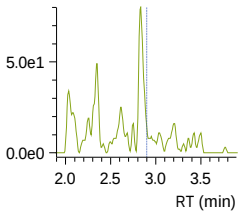
Perchlorate

Conc 0.05096
R#1 42.94 (0.00)

Q 99.00>83.00 (-) 1.73e2



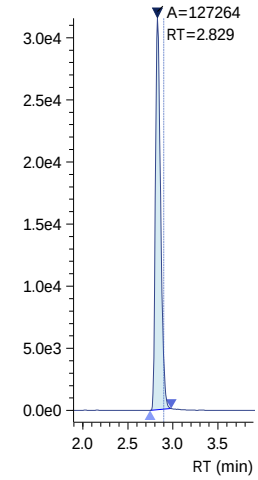

R1 101.00>85.00 (-) 8.00e1




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 3.16e4



# Insight Report

Printed at 5/18/2021 3:37:42 PM

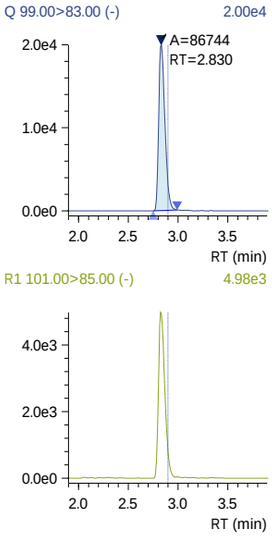
## 20210518_023

Sample ID: PERCHLORATE7
Date Acquired: 5/18/2021 1:29:43 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\20210518_023.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.830 | 86744 | 83213 | 1 | 9.16544 | ng/mL | 10.0000 | 25.12 |
| Sodium Perchlorate-18O4_IS | Auto | 2.829 | 83213 | 83213 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

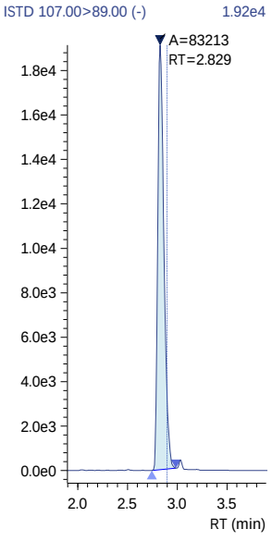
Perchlorate

Conc 9.16544
R#1 25.12 (0.00)




Sodium Perchlorate-18O4_IS

Conc 1.00000



# Insight Report

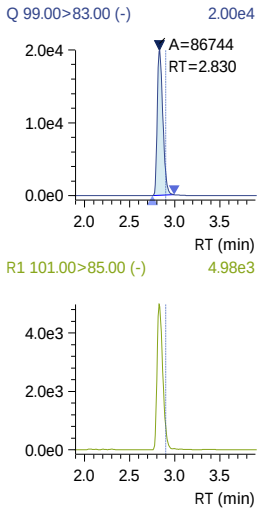


## 20210518_023

Sample ID: PERCHLORATE7
Date Acquired: 5/18/2021 1:29:43 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\Before\20210518_023.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

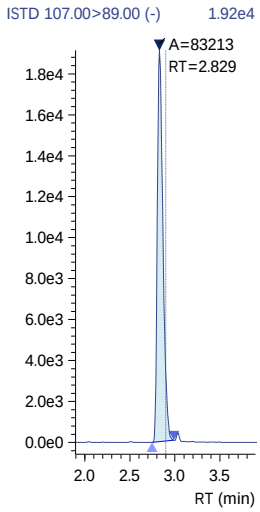
Perchlorate

Conc 9.87303
R#1 25.12 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report

Printed at 5/18/2021 3:37:42 PM

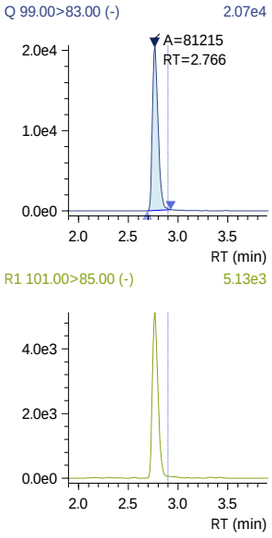
## 20210518_031

Sample ID: PERCHLORATE7
Date Acquired: 5/18/2021 3:02:42 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\20210518_031.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.766 | 81215 | 75702 | 1 | 9.43254 | ng/mL | 10.0000 | 24.81 |
| Sodium Perchlorate-18O4_IS | Auto | 2.765 | 75702 | 75702 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

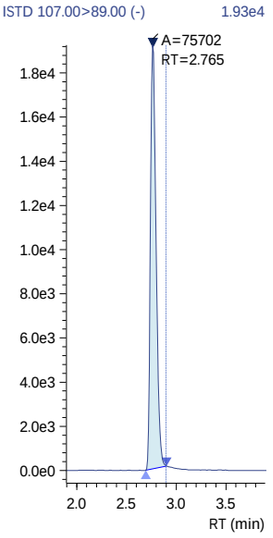
Perchlorate

Conc 9.43254
R#1 24.81 (0.00)




Sodium Perchlorate-18O4_IS

Conc 1.00000



# Insight Report

Printed at 5/18/2021 3:39:08 PM

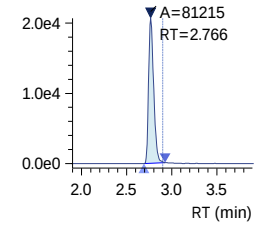
## 20210518_031

Sample ID: PERCHLORATE7
Date Acquired: 5/18/2021 3:02:42 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\Before\20210518_031.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

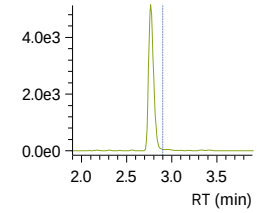
Perchlorate

Conc 10.16075
R#1 24.81 (0.00)

Q 99.00>83.00 (-) 2.07e4



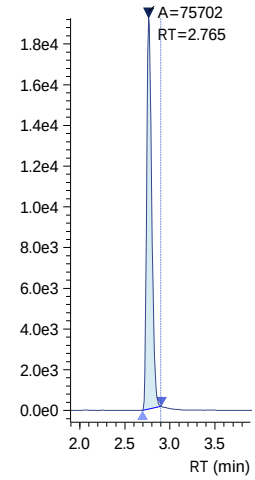

R1 101.00>85.00 (-) 5.13e3




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.93e4



# Insight Report

Printed at 5/18/2021 3:50:23 PM

Method File: I:\LCMS01\DATA\20210518\20210518.lcm
Project File: I:\LCMS01\DATA\20210518\20210518.damlp

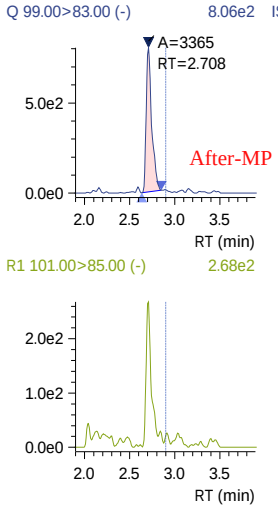
## 20210518_032

Sample ID: E2100493-001x40
Date Acquired: 5/18/2021 3:36:19 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\20210518_032.lcd
Vial: 37 | Inj. Volume: 25.0000uL | Tray: 4

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | M | 2.708 | 3365 | 127697 | 1 | 0.23167 | ng/mL | ---- | 33.24 |
| Sodium Perchlorate-18O4_IS | M | 2.704 | 127697 | 127697 | 1 | 1.00000 | ng/mL | ---- | ---- |

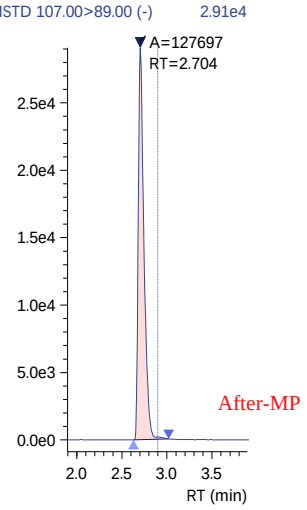
Perchlorate

Conc 0.23167
R#1 33.24 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report



Method File: I:\LCMS01\DATA\20210518\20210517.lcm

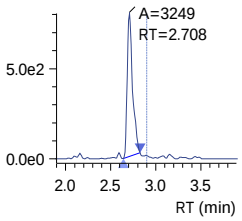
## 20210518_032

Sample ID: E2100493-001x40
Date Acquired: 5/18/2021 3:36:19 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\Before\20210518_032.lcd
Vial: 37 | Inj. Volume: 25.0000uL | Tray: 4

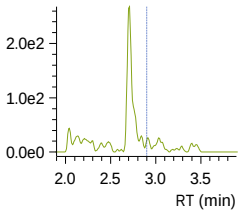
Perchlorate

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

Q 99.00>83.00 (-) 8.06e2



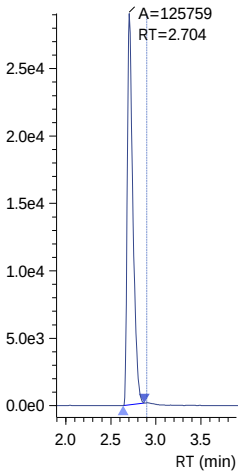

R1 101.00>85.00 (-) 2.68e2




Sodium Perchlorate -18O4_IS

Conc ----

ISTD 107.00>89.00 (-) 2.91e4



# Insight Report

Printed at 5/18/2021 3:50:23 PM

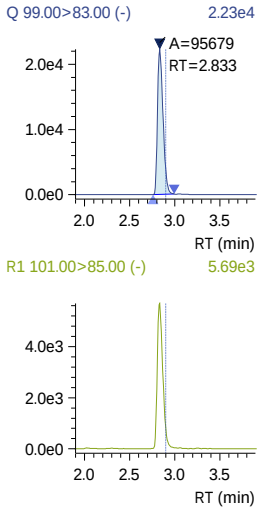
## 20210518_033

Sample ID: PERCHLORATE7
Date Acquired: 5/18/2021 3:44:42 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\20210518_033.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.833 | 95679 | 86285 | 1 | 9.74950 | ng/mL | 10.0000 | 26.19 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.832 | 86285 | 86285 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

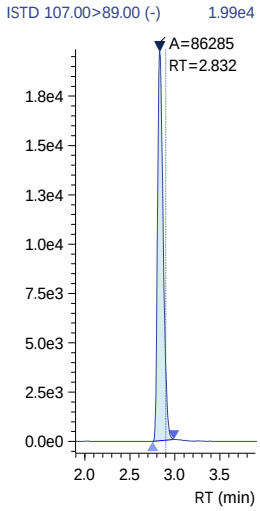
Perchlorate

Conc 9.74950
R#1 26.19 (0.00)




Sodium Perchlorate -18O4_IS

Conc 1.00000



# Insight Report

Printed at 5/18/2021 3:51:17 PM

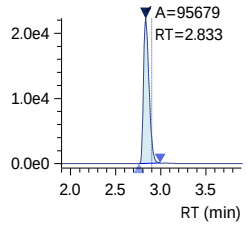
## 20210518_033

Sample ID: PERCHLORATE7
Date Acquired: 5/18/2021 3:44:42 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\Before\20210518_033.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

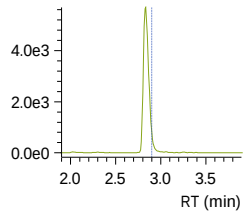
Perchlorate

Conc 10.38020
R#1 26.19 (0.00)

Q 99.00>83.00 (-) 2.23e4



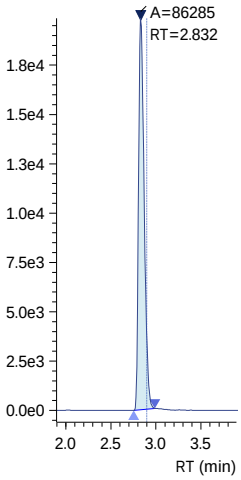

R1 101.00>85.00 (-) 5.69e3




Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.99e4



10450 Stancliff Rd. Suite 210
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# WorkOrder: HS21050177

## Longhorn GW Treatment Plant Weekly Samples

## Bhate Environmental Associates, Inc.

Marcia Olive
445 Union Blvd Ste 129
Lakewood CO 80228

**25-May-2021**

ALS Environmental
ALS Group USA, Corp
10450 Stancliff Road, Suite 210
Houston, TX 77099
**T :** +1 281 530 5656
**F :** +1 281 530 5887
**www.alsglobal.com**

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  - LH18/24-SP650_050421_BIX
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  - Acronyms
  - Certifications
  - Sample Tracking Record
  - SampleReceiptCheckList
  - COC
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Chromatogram

# HS21050177 Longhorn GW Treatment Plant Weekly Samples Final

ALS WO# HS21050177

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

May 19, 2021

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

Work Order: **HS21050177**

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

Dear Marcia Olive,

ALS Environmental received 2 sample(s) on May 05, 2021 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**
Ragen Giga
Project Manager

**ALS Houston, US** Date: 19-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Weekly Samples
**Work Order:** HS21050177

## SAMPLE SUMMARY

| Lab Samp ID | Client Sample ID | Matrix | TagNo | Collection Date | Date Received | Hold |
|---|---|---|---|---|---|---|
| HS21050177-01 | LH18/24-SP650_050421 | Water | | 04-May-2021 14:00 | 05-May-2021 11:10 | ☐ |
| HS21050177-02 | LH18/24-SP650_050421_BIX | Water | | 04-May-2021 14:00 | 05-May-2021 11:10 | ☐ |

**ALS Houston, US** Date: 19-May-21

**Client:** Bhate Environmental Associates, Inc. **CASE NARRATIVE**
**Project:** Longhorn GW Treatment Plant Weekly Samples
**Work Order:** HS21050177

## 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: R383843

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

## WetChemistry by Method E365.3

### Batch ID: R383463

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

## WetChemistry by Method E415.1

### Batch ID: R383419

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

**ALS Houston, US** Date: 19-May-21

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
Sample ID: LH18/24-SP650_050421
Collection Date: 04-May-2021 14:00

**ANALYTICAL REPORT**
WorkOrder:HS21050177
Lab ID:HS21050177-01
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)** | **24** | a | **0.10** | **0.20** | **0.20** | **mg/L** | 1 | 17-May-2021 15:00 |
| **ORTHO PHOSPHATE (PO4) AS P BY E365.3** | | **Method:E365.3** | | | | | | Analyst: KVL |
| **Phosphorus, Total Orthophosphate (As P)** | **5.51** | a | **0.100** | **0.250** | **0.250** | **mg/L** | 10 | 05-May-2021 13:09 |
| **TOTAL ORGANIC CARBON BY E415.1** | | **Method:E415.1** | | | | | | Analyst: JAC |
| **Organic Carbon, Total** | **2.24** | a | **0.500** | **0.500** | **1.00** | **mg/L** | 1 | 12-May-2021 01:07 |

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

**ALS Houston, US** Date: 19-May-21

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
Sample ID: LH18/24-SP650_050421_BIX
Collection Date: 04-May-2021 14:00

**ANALYTICAL REPORT**
WorkOrder:HS21050177
Lab ID:HS21050177-02
Matrix:Water

| ANALYSES | RESULT | QUAL | DL | LOD | LOQ | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|---|---|---|---|---|---|---|---|
| **SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)** | | **Method:NA** | | | | | | Analyst: GR |
| Subcontract Analysis | See Attached | | 0 | 0 | | NA | 1 | 19-May-2021 16:18 |

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

**ALS Houston, US** Date: 19-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Weekly Samples
**WorkOrder:** HS21050177

**DATES REPORT**

| Sample ID | Client Samp ID | Collection Date | Leachate Date | Prep Date | Analysis Date | DF |
|---|---|---|---|---|---|---|
| **Batch ID:** R383419 ( 0 ) | **Test Name :** TOTAL ORGANIC CARBON BY E415.1 | | | | **Matrix:** Water | |
| HS21050177-01 | LH18/24-SP650_050421 | 04 May 2021 14:00 | | | 12 May 2021 01:07 | 1 |
| **Batch ID:** R383463 ( 0 ) | **Test Name :** ORTHO PHOSPHATE (PO4) AS P BY E365.3 | | | | **Matrix:** Water | |
| HS21050177-01 | LH18/24-SP650_050421 | 04 May 2021 14:00 | | | 05 May 2021 13:09 | 10 |
| **Batch ID:** R383843 ( 0 ) | **Test Name :** AMMONIA AS N BY E350.3(ISE) | | | | **Matrix:** Water | |
| HS21050177-01 | LH18/24-SP650_050421 | 04 May 2021 14:00 | | | 17 May 2021 15:00 | 1 |
| **Batch ID:** R383960 ( 0 ) | **Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850) | | | | **Matrix:** Water | |
| HS21050177-02 | LH18/24-SP650_050421_BIX | 04 May 2021 14:00 | | | 19 May 2021 16:18 | 1 |

**ALS Houston, US** Date: 19-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Weekly Samples
**WorkOrder:** HS21050177

**QC BATCH REPORT**

**Batch ID: R383419 ( 0 )** **Instrument: TOC_04** **Method: TOTAL ORGANIC CARBON BY E415.1**

**MBLK** Sample ID: **MBLK2-05112021** Units: **mg/L** Analysis Date: **11-May-2021 22:16**
Client ID: Run ID: **TOC_04_383419** SeqNo: **6086459** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Organic Carbon, Total | 0.500 | 1.00 | | | | | | | | U |

**LCS** Sample ID: **LCS2-05112021** Units: **mg/L** Analysis Date: **11-May-2021 22:30**
Client ID: Run ID: **TOC_04_383419** SeqNo: **6086460** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Organic Carbon, Total | 10.33 | 1.00 | 10 | 0 | 103 | 85 - 115 | | | | |

**MS** Sample ID: **HS21041557-05MS** Units: **mg/L** Analysis Date: **11-May-2021 23:10**
Client ID: Run ID: **TOC_04_383419** SeqNo: **6086462** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Organic Carbon, Total | 12.08 | 1.00 | 10 | 1.763 | 103 | 80 - 120 | | | | |

**The following samples were analyzed in this batch:** HS21050177-01

**ALS Houston, US** Date: 19-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Weekly Samples
**WorkOrder:** HS21050177

**QC BATCH REPORT**

**Batch ID:** R383463 ( 0 ) **Instrument:** UV-2450 **Method:** ORTHO PHOSPHATE (PO4) AS P BY E365.3

**MBLK** Sample ID: **MBLK-R383463** Units: **mg/L** Analysis Date: **05-May-2021 12:00**
Client ID: Run ID: **UV-2450_383463** SeqNo: **6087290** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Phosphorus, Total Orthophosphate (As P) | 0.0250 | 0.0250 | | | | | | | | U |

**LCS** Sample ID: **LCS-R383463** Units: **mg/L** Analysis Date: **05-May-2021 12:00**
Client ID: Run ID: **UV-2450_383463** SeqNo: **6087289** 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) | 0.266 | 0.0250 | 0.25 | 0 | 106 | 85 - 115 | | | | |

**MS** Sample ID: **HS21050166-01MS** Units: **mg/L** Analysis Date: **05-May-2021 12:18**
Client ID: Run ID: **UV-2450_383463** SeqNo: **6087296** 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) | 0.311 | 0.0250 | 0.25 | 0.046 | 106 | 80 - 120 | | | | |

**MSD** Sample ID: **HS21050166-01MSD** Units: **mg/L** Analysis Date: **05-May-2021 12:18**
Client ID: Run ID: **UV-2450_383463** SeqNo: **6087295** 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) | 0.314 | 0.0250 | 0.25 | 0.046 | 107 | 80 - 120 | 0.311 | 0.96 | 20 | |

**The following samples were analyzed in this batch:** HS21050177-01

**ALS Houston, US** Date: 19-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Weekly Samples
**WorkOrder:** HS21050177

**QC BATCH REPORT**

**Batch ID: R383843 ( 0 )** **Instrument: WetChem_HS** **Method: AMMONIA AS N BY E350.3(ISE)**

**MBLK** Sample ID: **MBLK-R383843** Units: **mg/L** Analysis Date: **17-May-2021 15:00**
Client ID: Run ID: **WetChem_HS_383843** SeqNo: **6097172** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Nitrogen, Ammonia (As N) | 0.20 | 0.20 | | | | | | | | U |

**LCS** Sample ID: **LCS-R383843** Units: **mg/L** Analysis Date: **17-May-2021 15:00**
Client ID: Run ID: **WetChem_HS_383843** SeqNo: **6097171** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Nitrogen, Ammonia (As N) | 11.3 | 0.20 | 10 | 0 | 113 | 80 - 120 | | | | |

**MS** Sample ID: **HS21041643-01MS** Units: **mg/L** Analysis Date: **17-May-2021 15:00**
Client ID: Run ID: **WetChem_HS_383843** SeqNo: **6097176** 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) | 10.2 | 0.20 | 10 | 0.04 | 102 | 80 - 120 | | | | |

**MSD** Sample ID: **HS21041643-01MSD** Units: **mg/L** Analysis Date: **17-May-2021 15:00**
Client ID: Run ID: **WetChem_HS_383843** SeqNo: **6097175** 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) | 10.26 | 0.20 | 10 | 0.04 | 102 | 80 - 120 | 10.2 | 0.577 | 20 | |

**The following samples were analyzed in this batch:** HS21050177-01

**ALS Houston, US** Date: 19-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Weekly Samples
**WorkOrder:** **HS21050177**

**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 | 21-022-0 | 26-Mar-2022 |
| Dept of Defense | PJLA L20-507-R2 | 22-Dec-2021 |
| Florida | E87611-30-07/01/2020 | 30-Jun-2021 |
| Kansas | E-10352 2020-2021 | 31-Jul-2021 |
| Kentucky | 123043, 2021-2022 | 30-Apr-2022 |
| Louisiana | 03087, 2020-2021 | 30-Jun-2021 |
| North Carolina | 624-2021 | 31-Dec-2021 |
| Oklahoma | 2020-165 | 31-Aug-2021 |
| Texas | T104704231-21-27 | 30-Apr-2022 |

**ALS Houston, US** Date: 19-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Weekly Samples
**Work Order:** HS21050177

**SAMPLE TRACKING**

| Lab Samp ID | Client Sample ID | Action | Date | Person | New Location |
|---|---|---|---|---|---|
| HS21050177-01 | LH18/24-SP650_050421 | Login | 5/5/2021 12:34:09 PM | PJM | WET068 |
| HS21050177-01 | LH18/24-SP650_050421 | Login | 5/5/2021 12:34:09 PM | PJM | WET068 |
| HS21050177-01 | LH18/24-SP650_050421 | Login | 5/5/2021 12:34:09 PM | PJM | WET068 |
| HS21050177-02 | LH18/24-SP650_050421_BIX | Login | 5/5/2021 12:34:09 PM | PJM | Sub |

**ALS Houston, US** Date: 19-May-21

## Sample Receipt Checklist

**Work Order ID:** HS21050177 **Date/Time Received:** **05-May-2021 11:10**

**Client Name:** Bhate Environmental **Received by:** **Pablo Marinez**

**Completed By:** */S/ Pablo Marinez* (eSignature) 05-May-2021 12:35 (Date/Time) **Reviewed by:** */S/ Ragen Giga* (eSignature) 05-May-2021 17:40 (Date/Time)

Matrices: **WATER** 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): | 0.9°C UC/C | IR 31 | |
| Cooler(s)/Kit(s): | 46324 | | |
| Date/Time sample(s) sent to storage: | 5/5/21 12:40 | | |
| 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: R.J Modashia

Page 1 of 1

**Project:** BHATE
LONGHORN ARMY AMMN. PLANT (LHAAP)
GROUNDWATER TREATMENT PLANT (GWTP)
KARNACK, TEXAS

**Project No.** NWO1312.0150.0 16.0001

**Job:** GROUNDWATER TREATMENT PLANT WEEKLY SAMPLES

**Prepared By:** Scott Beesinger

**P.O. Number**

**HS21050177**

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_050421 | Water | 05/04/21 / 14:00 | | 3 | X | X | | | H2SO4 | |
| LH18/24-SP650_050421 | Water | 05/04/21 / 14:00 | | 1 | | | X | | NONE | |
| LH18/24-SP650_050421_BIX | Water | 05/04/21 / 14:00 | | 1 | | | | X | NONE | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

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

| Relinquished By: | Date | Time | Received By: | Date | Time | Relinquished By: | Date | Time | Received By: | Date | Time |
|---|---|---|---|---|---|---|---|---|---|---|---|
| David Beesinger | 05/04/21 | 14:30 | Patti Marcum | 5 5 21 | 16:10 | | | | | | |

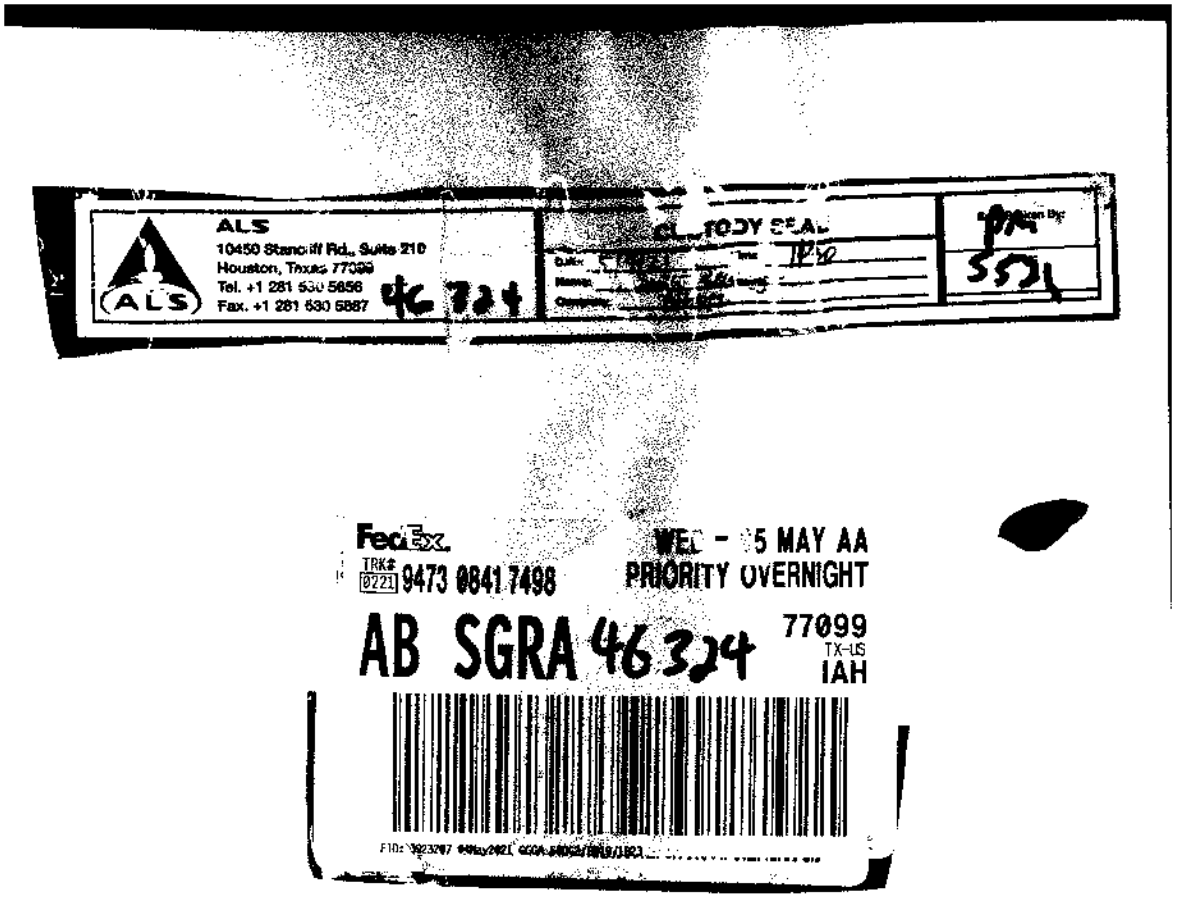
**For Lab Use Only**

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

Remarks:

46324 0.4C IR31 CFC

(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

46324

CUSTODY SEAL

5521

FedEx
TRK# 9473 0841 7498
0221

WE - 5 MAY AA
PRIORITY OVERNIGHT

AB SGRA 46324

77099
TX-US
IAH

May 19, 2021 Service Request No:E2100526

RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Suite 210
Houston, TX 77099-4338

**Laboratory Results for: HS21050177**

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory May 05, 2021
For your reference, these analyses have been assigned our service request number **E2100526.**

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.

Respectfully submitted,

**ALS Group USA, Corp. dba ALS Environmental**



Corey Grandits
Project Manager

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 Houston | **Service Request No.:** | E2100526 |
| **Project:** | HS21050177 | **Date Received:** | 05/05/21 |
| **Sample Matrix:** | W | | |

## 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 05/05/21.

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:**

EQ2100298: 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 and DLCS recoveries are within QC limits.

DoD certification is held for the method/matrix/analytes provided in this report.

*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:**E2100526
**Project:** HS21050177

## SAMPLE CROSS-REFERENCE

| SAMPLE # | CLIENT SAMPLE ID | DATE | TIME |
|---|---|---|---|
| E2100526-001 | LH18/24-SP650_050421_BIX | 5/4/2021 | 1400 |

# Service Request Summary

**Folder #:** **E2100526**
Client Name: ALS Environmental - US
Project Name: HS21050177
Project Number:

**Report To:** RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Houston, TX 77099-4338
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number: 281-530-5887
E-mail: rj.modashia@alsglobal.com

Project Chemist: Corey Grandits
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 05/05/21
Internal Due Date: 5/19/2021
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS21050177
EDD: No EDD Specified

1 125 mL-Plastic Bottle Plastic
**Location:** EHRMS-WIC 10E
**Pressure Gas:**

| Lab Samp No. | Client Samp No | Matrix | Collected | HOUSTON ClO4 DOD/6850 |
|---|---|---|---|---|
| E2100526-001 | LH18/24-SP650_050421_BIX | Ground Water | 05/04/21 1400 | **IV** |

# Service Request Summary

**Folder #:** **E2100526**
Client Name: ALS Environmental - US
Project Name: HS21050177
Project Number:

**Report To:** RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Houston, TX 77099-4338
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number: 281-530-5887
E-mail: rj.modashia@alsglobal.com

Project Chemist: Corey Grandits
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 05/05/21
Internal Due Date: 5/19/2021
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS21050177
EDD: No EDD Specified

1 125 mL-Plastic Bottle Plastic
**Location:** EHRMS-WIC 10E
**Pressure Gas:**

## Test Comments:

| Group | Test/Method | Samples | Comments |
|---|---|---|---|
| Semivoa GCMS | ClO4 DOD/6850 | 1 | Level II due 5/19,IV due 5/26 |

# 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 | Internal standard not within the specified limits. See case narrative. |
| 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. |
| 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. |

# Data Qualifiers

## Lab Standard

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

# ALS Laboratory Group

**Acronyms**

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

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

## State Certifications, Accreditations, and Licenses

| Agency | Number | Expire Date |
|---|---|---|
| American Association for Laboratory Accreditation | 2897.01 2020 | 11/30/2021 |
| Arizona Department of Health Services | AZ0793-2020 | 5/27/2021 |
| Arkansas Department of Environmental Quality | 21-022-0 | 3/26/2022 |
| Department of Defense | A2LA 2897.01 | 11/30/2021 |
| Florida Department of Health | E87611-2020 | 6/30/2021 |
| Hawaii Department of Health | 2021-2022 | 4/30/2022 |
| Kansas Department of Health and Environment | E-10352-2020 | 7/31/2021 |
| Louisiana Department of Environmental Quality | 03087-2020 | 6/30/2021 |
| Louisiana Department of Health and Hospitals | LA028-2021 | 12/31/2021 |
| Maine Department of Health and Human Services | 2020016 | 6/5/2022 |
| Maryland Department of the Environment | 343-2020 | 6/30/2021 |
| Minnesota Department of Health | 2021671 | 12/31/2021 |
| Nevada Department of Concervation and Natural Resources | TX026932021-4 | 7/31/2021 |
| New Hampshire Environmental Laboratory Accreditation Program | 209421 | 4/24/2022 |
| New Jersey Department of Environmental Protection | TX008 | 6/30/2021 |
| Oklahoma Department of Environmental Quality | 2020-123 | 8/31/2021 |
| Pennsylvania Department of Environmental Protection | 014 | 6/30/2021 |
| Tennessee Department of Environment and Concervation | 04016-2021 | 4/30/2022 |
| United States Department of Agriculture | P330-19-00299 | 10/10/2022 |

# 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

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:** **16052**

**SUBCONTRACT TO:**

ALS Environmental
10450 Stancliff RoadSuite 210
Houston, TX 77084

**Phone:** +1 281 530 5656

**CUSTOMER INFORMATION:**

| | |
|---|---|
| **Company:** | ALS Houston |
| **Contact:** | RJ Modashia |
| **Address:** | 10450 Stancliff Rd, Ste 210 |
| **Phone:** | +1 281 530 5656 |
| **Email:** | RJ.Modashia@alsglobal.com |
| **Alternate Contact:** | |
| **Email:** | |

**INVOICE INFORMATION:**

| | |
|---|---|
| **Company:** | ALS Houston |
| **Contact:** | Accounts Payable |
| **Address:** | 10450 Stancliff Rd, Ste 210 |
| **Phone:** | +1 281 530 5656 |
| **Reference:** | HS21050177 |
| **TSR:** | Sonia West |

| | LAB SAMPLE ID | CLIENT SAMPLE ID | MATRIX | COLLECT DATE |
|---|---|---|---|---|
| | ANALYSIS REQUESTED | | | DUE DATE |
| **1.** | **HS21050177-02** | **LH18/24-SP650_050421_BIX** | **Water** | **04 May 2021 14:00** |
| | Provide Level II and Level IV reports in separate pdf | | | 19 May 2021 |

**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: 5/5/21 1247

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

# Cooler Receipt Form

ALS Environmental

Project Chemist CG

Client/Project ALS-H

Thermometer ID IR31

Date/Time Received: 5/5/21 Initials: CG Date/Time Logged in: 5/5/21 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 If yes, how many and where?

Were they intact? ○ Yes ○ No ✓ N/A

Were they signed and dated? ○ Yes ○ No ✓ N/A

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

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

| Cooler Tracking Number | COC ID | Date Opened | Time Opened | Opened By | Temp. °C | Temp Blank? |
|---|---|---|---|---|---|---|
| NA | | 5/5/21 | 1247 | 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#:** 379504 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
**Team:** Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 5/17/21 10:50

| # | Lab Code | Client ID | B# | Method /Test | pH | Cl | Matrix | Amt. Ext. | Sample Description |
|---|---|---|---|---|---|---|---|---|---|
| 1 | E2100526-001 | LH18/24-SP650_050421_BIX | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 2 | E2100553-001 | LH18/24-SP650_051121_BIX | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 3 | E2100554-001 | LH18/24-SP140_051121 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 4 | E2100555-001 | LH18/24-SP650_051121_BIX | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 5 | EQ2100298-01 | MB | | 6850/ClO4 DOD | | | Liquid | 10mL | |
| 6 | EQ2100298-02 | LCS | | 6850/ClO4 DOD | | | Liquid | 10mL | |
| 7 | EQ2100298-03 | DLCS | | 6850/ClO4 DOD | | | Liquid | 10mL | |

## Spiking Solutions

Name: Perchlorate Intermediate Stock1 Inventory ID 214035 Logbook Ref: Perchlorate Expires On: 05/23/2021

EQ2100298-02 1.00µL EQ2100298-03 1.00µL

Name: Perchlorate Internal Standard 1ug/mL Inventory ID 214820 Logbook Ref: Perchlorate Internal Standard Expires On: 07/03/2021

E2100526-001 100.00µL E2100553-001 100.00µL E2100554-001 100.00µL E2100555-001 100.00µL EQ2100298-01 100.00µL EQ2100298-02 100.00µL
EQ2100298-03 100.00µL

## Preparation Steps

Step: Preparation
Started: 5/17/21 10:50
Finished: 5/17/21 11:30
By: GRIVERA
Comments

Comments: _____

Reviewed By: GR Date: 5/17/21

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:** | E2100526 |
| **Project:** | HS21050177 | **Date Collected:** | 5/ 4/21 1400 |
| **Sample Matrix:** | Ground Water | **Date Received:** | 5/ 5/21 |
| **Sample Name:** | LH18/24-SP650_050421_BIX | **Units:** | µg/L |
| **Lab Code:** | E2100526-001 | **Basis:** | As Received |

**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 | **1.04** | J | 2.00 | 1.00 | 0.500 | 20 | 5/17/21 | 5/19/21 10:25 | 379504 | 724049 | |

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

| | | | |
|---|---|---|---|
| **Client:** | ALS Environmental - US | **Service Request:** | E2100526 |
| **Project:** | HS21050177 | **Date Collected:** | NA |
| **Sample Matrix:** | Ground Water | **Date Received:** | NA |
| **Sample Name:** | Method Blank | **Units:** | µg/L |
| **Lab Code:** | EQ2100298-01 | **Basis:** | As Received |

**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 | 5/17/21 | 5/18/21 16:56 | 379504 | 724053 | |

# 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:** HS21050177
**Sample Matrix:** Ground Water

**Service Request:** E2100526
**Date Analyzed:** 5/19/21

## 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:** As Received

**Extraction Lot:** 379504

| | Lab Control Sample EQ2100298-02 | | | Duplicate Lab Control Sample EQ2100298-03 | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Analyte Name** | **Result** | **Spike Amount** | **% Rec** | **Result** | **Spike Amount** | **% Rec** | **% Rec Limits** | **RPD** | **RPD Limit** |
| Perchlorate | 0.102 | 0.100 | 102 | 0.106 | 0.100 | 106 | 84 - 119 | 4 | 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:** | E2100526 |
| **Project:** | HS21050177 | **Date Collected:** | NA |
| **Sample Matrix:** | Ground Water | **Date Received:** | NA |
| **Sample Name:** | Lab Control Sample | **Units:** | µg/L |
| **Lab Code:** | EQ2100298-02 | **Basis:** | As Received |

**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 | **0.102** | | 0.100 | 0.0500 | 0.0250 | 1 | 5/17/21 | 5/19/21 10:50 | 379504 | 724049 | |

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

| | | | |
|---|---|---|---|
| **Client:** | ALS Environmental - US | **Service Request:** | E2100526 |
| **Project:** | HS21050177 | **Date Collected:** | NA |
| **Sample Matrix:** | Ground Water | **Date Received:** | NA |
| **Sample Name:** | Duplicate Lab Control Sample | **Units:** | µg/L |
| **Lab Code:** | EQ2100298-03 | **Basis:** | As Received |

**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 | 5/17/21 | 5/19/21 10:59 | 379504 | 724049 | |

# HS21050177 Wet Chem Raw Data (TOC_W)

ALS WO# HS21050177

| | Type | Analysis | Sample Name | Sample ID | Origin | Result |
|---|---|---|---|---|---|---|
| 1 | Standard | NPOC | CAL | 3150171(01-07) | 02_25_2021_CAL.2021_02_ | |
| 2 | Unknown | NPOC | ICV | 315017108 | 02_25_2021_CAL.cal | NPOC:10.14mg/L |
| 3 | Unknown | NPOC | ICB | | 02_25_2021_CAL.cal | NPOC:-0.1140mg/L |
| 4 | Unknown | NPOC | CCV | 315017106 | 02_25_2021_CAL.cal | NPOC:25.02mg/L |
| 5 | Unknown | NPOC | CCB | | 02_25_2021_CAL.cal | NPOC:-0.07587mg/L |
| 6 | Unknown | NPOC | MBLK-02252021 | | 02_25_2021_CAL.cal | NPOC:-0.1214mg/L |
| 7 | Unknown | NPOC | LCS-02252021 | | 02_25_2021_CAL.cal | NPOC:10.15mg/L |
| 8 | Unknown | NPOC | LCSD02252021 | | 02_25_2021_CAL.cal | NPOC:10.16mg/L |
| 9 | Unknown | NPOC | HS21020689-01 | | 02_25_2021_CAL.cal | NPOC:22.48mg/L |
| 10 | Unknown | NPOC | HS21020689-02 | | 02_25_2021_CAL.cal | NPOC:17.34mg/L |
| 11 | Unknown | NPOC | HS21020689-02MS | | 02_25_2021_CAL.cal | NPOC:28.25mg/L |
| 12 | Unknown | NPOC | HS21020689-03 | | 02_25_2021_CAL.cal | NPOC:10.22mg/L |
| 13 | Unknown | NPOC | HS21020538-01 | | 02_25_2021_CAL.cal | NPOC:20.36mg/L |
| 14 | Unknown | NPOC | HS21020538-02 | | 02_25_2021_CAL.cal | NPOC:4.452mg/L |
| 15 | Unknown | NPOC | HS21020793-02DF10 | | 02_25_2021_CAL.cal | NPOC:17.50mg/L |
| 16 | Unknown | NPOC | CCV | | 02_25_2021_CAL.cal | NPOC:25.46mg/L |
| 17 | Unknown | NPOC | CCB | | 02_25_2021_CAL.cal | NPOC:0.08018mg/L |

| | Notes | Status | Date / Time | Vial |
|---|---|---|---|---|
| 1 | | Completed | 2/25/2021 1 | 1, 2, 3, 4, 5, |
| 2 | | Completed | 2/25/2021 1 | 8 |
| 3 | | Completed | 2/25/2021 1 | 9 |
| 4 | | Completed | 2/25/2021 1 | 10 |
| 5 | | Completed | 2/25/2021 1 | 11 |
| 6 | | Completed | 2/25/2021 1 | 12 |
| 7 | | Completed | 2/25/2021 1 | 13 |
| 8 | | Completed | 2/25/2021 1: | 14 |
| 9 | | Completed | 2/25/2021 1: | 15 |
| 10 | | Completed | 2/25/2021 1: | 16 |
| 11 | | Completed | 2/25/2021 1: | 17 |
| 12 | | Completed | 2/25/2021 2: | 18 |
| 13 | | Completed | 2/25/2021 2: | 19 |
| 14 | | Completed | 2/25/2021 2: | 20 |
| 15 | | Completed | 2/25/2021 2: | 21 |
| 16 | | Completed | 2/25/2021 3: | 22 |
| 17 | | Completed | 2/25/2021 3: | 23 |

# TOC-Control L Report

2021_02_25_001.tlx

**Instr.Information**

| | |
|---|---|
| Instrument Options | TOC/ASI/IC Unit/ |
| Catalyst | Regular Sensitivity |

**Cal. Curve**

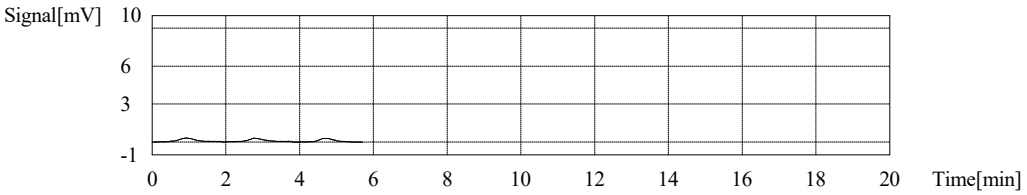
| | |
|---|---|
| Sample Name: | CAL |
| Sample ID: | 3150171(01-07) |
| Cal. Curve: | 02_25_2021_CAL.2021_02_25_09_13_02.cal |
| Status | Completed |

| Type | Anal. |
|---|---|
| Standard | NPOC |

Conc: 0.000mg/L

| No. | Area | Inj. Vol. | Aut. Dil. | Rem. | Ex. | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 0.7577 | 50uL | 1.000 | ******* | | 2/25/2021 9:21:39 AM |
| 2 | 0.6368 | 50uL | 1.000 | ******* | | 2/25/2021 9:23:47 AM |
| 3 | 0.6500 | 50uL | 1.000 | ******* | | 2/25/2021 9:25:55 AM |

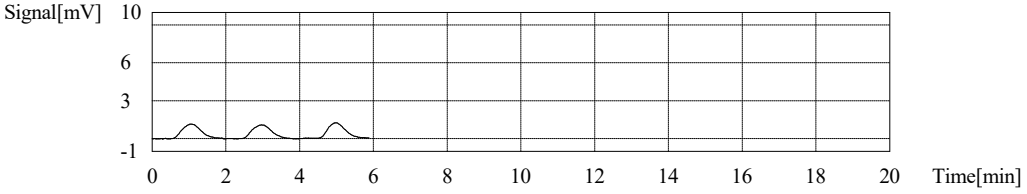
| | |
|---|---|
| Acid Add. | 0.000% |
| Sparge Gas Flow | 80mL/min |
| Sp. Time | 180.0sec |
| Mean Area | 0.6815 |




Conc: 1.000mg/L

| No. | Area | Inj. Vol. | Aut. Dil. | Rem. | Ex. | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 4.063 | 50uL | 1.000 | ******* | | 2/25/2021 9:34:44 AM |
| 2 | 3.946 | 50uL | 1.000 | ******* | | 2/25/2021 9:37:02 AM |
| 3 | 3.886 | 50uL | 1.000 | ******* | | 2/25/2021 9:39:10 AM |

| | |
|---|---|
| Acid Add. | 0.000% |
| Sparge Gas Flow | 80mL/min |
| Sp. Time | 180.0sec |
| Mean Area | 3.965 |



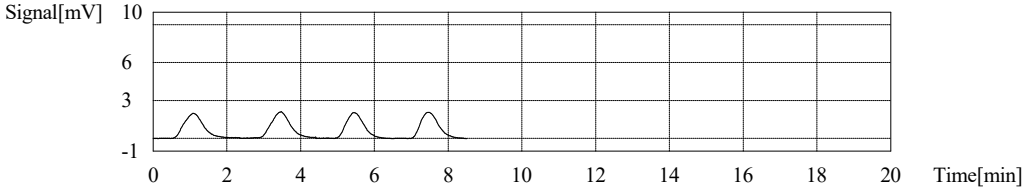

Conc: 2.000mg/L

| No. | Area | Inj. Vol. | Aut. Dil. | Rem. | Ex. | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 7.014 | 50uL | 1.000 | ******* | | 2/25/2021 9:48:25 AM |
| 2 | 6.976 | 50uL | 1.000 | ******* | | 2/25/2021 9:50:44 AM |
| 3 | 6.738 | 50uL | 1.000 | ******* | E | 2/25/2021 9:53:02 AM |
| 4 | 6.989 | 50uL | 1.000 | ******* | | 2/25/2021 9:55:18 AM |

# TOC-Control L Report



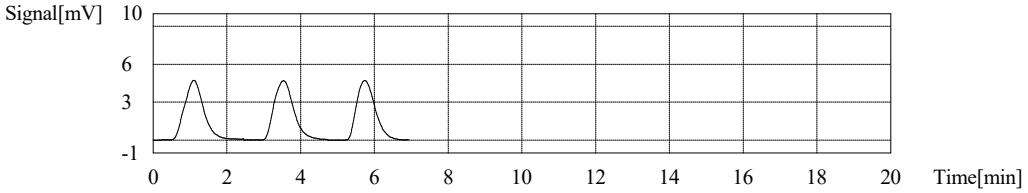
Acid Add. 0.000%
Sparge Gas Flow 80mL/min
Sp. Time 180.0sec
Mean Area 6.993




Conc: 5.000mg/L

| No. | Area | Inj. Vol. | Aut. Dil. | Rem. | Ex. | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 16.70 | 50uL | 1.000 | ******* | | 2/25/2021 10:04:35 AM |
| 2 | 16.99 | 50uL | 1.000 | ******* | | 2/25/2021 10:07:06 AM |
| 3 | 16.40 | 50uL | 1.000 | ******* | | 2/25/2021 10:09:32 AM |

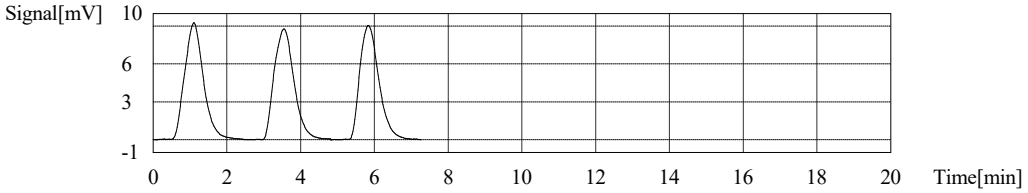
Acid Add. 0.000%
Sparge Gas Flow 80mL/min
Sp. Time 180.0sec
Mean Area 16.70




Conc: 10.00mg/L

| No. | Area | Inj. Vol. | Aut. Dil. | Rem. | Ex. | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 32.33 | 50uL | 1.000 | ******* | | 2/25/2021 10:18:54 AM |
| 2 | 32.41 | 50uL | 1.000 | ******* | | 2/25/2021 10:21:29 AM |
| 3 | 32.27 | 50uL | 1.000 | ******* | | 2/25/2021 10:24:10 AM |

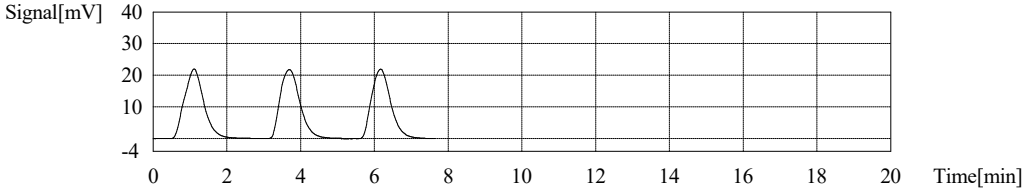
Acid Add. 0.000%
Sparge Gas Flow 80mL/min
Sp. Time 180.0sec
Mean Area 32.34




Conc: 25.00mg/L

| No. | Area | Inj. Vol. | Aut. Dil. | Rem. | Ex. | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 79.83 | 50uL | 1.000 | ******* | | 2/25/2021 10:33:42 AM |
| 2 | 80.51 | 50uL | 1.000 | ******* | | 2/25/2021 10:36:25 AM |
| 3 | 79.09 | 50uL | 1.000 | ******* | | 2/25/2021 10:39:12 AM |

Acid Add. 0.000%
Sparge Gas Flow 80mL/min
Sp. Time 180.0sec
Mean Area 79.81



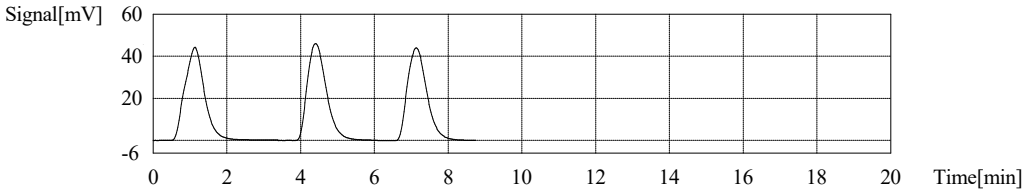

Conc: 50.00mg/L

| No. | Area | Inj. Vol. | Aut. Dil. | Rem. | Ex. | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 162.4 | 50uL | 1.000 | ******* | | 2/25/2021 10:49:29 AM |
| 2 | 163.8 | 50uL | 1.000 | ******* | | 2/25/2021 10:52:26 AM |
| 3 | 159.9 | 50uL | 1.000 | ******* | | 2/25/2021 10:55:21 AM |

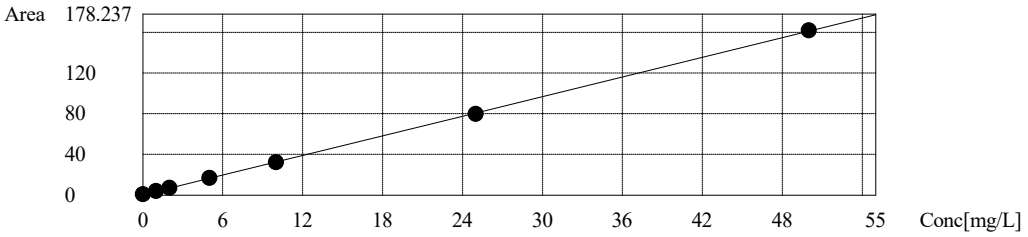
# TOC-Control L Report

2021_02_25_001.tlx

| | |
|---|---|
| Acid Add. | 0.000% |
| Sparge Gas Flow | 80mL/min |
| Sp. Time | 180.0sec |
| Mean Area | 162.0 |




| | |
|---|---|
| Slope: | 3.220 |
| Intercept | 0.4365 |
| r^2 | 0.9999 |
| r | 1.0000 |
| RSE(%) | N/A |
| Zero Shift | No |




**Sample**

| | |
|---|---|
| Sample Name: | ICV |
| Sample ID: | 315017108 |
| Origin: | 02_25_2021_CAL.cal |
| Status | Completed |
| Chk. Result | |

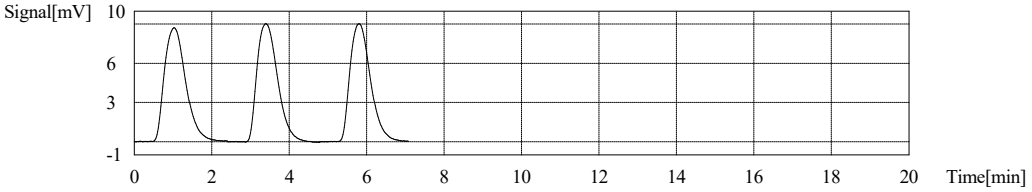
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:10.14mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 33.04 | 10.13mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 2/25/2021 11:32:06 AM |
| 2 | 33.24 | 10.19mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 2/25/2021 11:34:44 AM |
| 3 | 32.98 | 10.11mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 2/25/2021 11:37:17 AM |

| | |
|---|---|
| Mean Area | 33.09 |
| Mean Conc. | 10.14mg/L |




**Sample**

| | |
|---|---|
| Sample Name: | ICB |
| Sample ID: | |
| Origin: | 02_25_2021_CAL.cal |
| Status | Completed |
| Chk. Result | |

| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:-0.1140mg/L |

1. Det

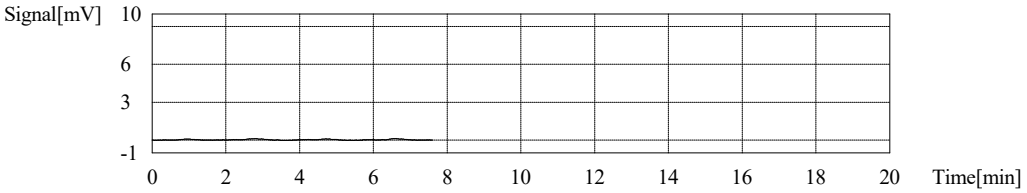
# TOC-Control L Report

2021_02_25_001.tlx

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 0.000 | -0.1356mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 2/25/2021 11:46:05 AM |
| 2 | 0.2080 | -0.07096mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 2/25/2021 11:48:13 AM |
| 3 | 0.000 | -0.1356mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 2/25/2021 11:50:20 AM |
| 4 | 0.2102 | -0.07028mg/L | 50uL | 1.000 | E | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 2/25/2021 11:52:27 AM |

Mean Area 0.06933
Mean Conc. -0.1140mg/L



| | Type | Analysis | Sample Name | Sample ID | Origin | Result | Notes | Status |
|---|---|---|---|---|---|---|---|---|
| 1 | Unknown | NPOC | CCV | | 02_25_2021 | NPOC:25.87mg/L | | Completed |
| 2 | Unknown | NPOC | CCB | | 02_25_2021 | NPOC:-0.02305mg/L | | Completed |
| 3 | Unknown | NPOC | MBLK-05112021 | TOC_W | 02_25_2021 | NPOC:-0.05878mg/L | | Completed |
| 4 | Unknown | NPOC | LCS-05112021 | | 02_25_2021 | NPOC:10.39mg/L | | Completed |
| 5 | Unknown | NPOC | LCSD-05112021 | | 02_25_2021 | NPOC:10.29mg/L | | Completed |
| 6 | Unknown | NPOC | HS21041458-01 | | 05_10_2021 | NPOC:2.062mg/L | | Completed |
| 7 | Unknown | NPOC | HS21041478-01 | | 05_10_2021 | NPOC:3.829mg/L | | Completed |
| 8 | Unknown | NPOC | HS21050457-01 | | 05_10_2021 | NPOC:11.59mg/L | | Completed |
| 9 | Unknown | NPOC | HS21050457-01MS | | 05_10_2021 | NPOC:22.51mg/L | | Completed |
| 10 | Unknown | NPOC | HS21050457-02 | | 05_10_2021 | NPOC:6.030mg/L | | Completed |
| 11 | Unknown | NPOC | HS21050457-03 | | 05_10_2021 | NPOC:26.89mg/L | | Completed |
| 12 | Unknown | NPOC | HS21041549-01 | | 05_10_2021 | NPOC:11.52mg/L | | Completed |
| 13 | Unknown | NPOC | CCV | | 02_25_2021 | NPOC:25.93mg/L | | Completed |
| 14 | Unknown | NPOC | CCB | | 02_25_2021 | NPOC:0.01218mg/L | | Completed |
| 15 | Unknown | NPOC | HS21041557-01 | | 05_10_2021 | NPOC:1.833mg/L | | Completed |
| 16 | Unknown | NPOC | HS21041557-02 | | 05_10_2021 | NPOC:2.548mg/L | | Completed |
| 17 | Unknown | NPOC | HS21041557-03 | | 05_10_2021 | NPOC:1.818mg/L | | Completed |
| 18 | Unknown | NPOC | HS21041557-04 | | 05_10_2021 | NPOC:2.528mg/L | | Completed |
| 19 | Unknown | NPOC | CCV | | 02_25_2021 | NPOC:25.62mg/L | | Completed |
| 20 | Unknown | NPOC | CCB | | 02_25_2021 | NPOC:-0.02342mg/L | | Completed |
| 21 | Unknown | NPOC | MBLK2-05112021 | TOC_W | 02_25_2021 | NPOC:-0.06471mg/L | | Completed |
| 22 | Unknown | NPOC | LCS2-05112021 | TOC_W 531 | 02_25_2021 | NPOC:10.33mg/L | | Completed |
| 23 | Unknown | NPOC | LCSD2-05112021 | | 02_25_2021 | NPOC:10.14mg/L | | Completed |
| 24 | Unknown | NPOC | HS21041557-05 | | 05_10_2021 | NPOC:1.763mg/L | | Completed |
| 25 | Unknown | NPOC | HS21041557-05MS | | 05_10_2021 | NPOC:12.08mg/L | | Completed |
| 26 | Unknown | NPOC | HS21041557-06 | | 05_10_2021 | NPOC:1.611mg/L | | Completed |
| 27 | Unknown | NPOC | HS21041557-07 | | 05_10_2021 | NPOC:1.793mg/L | | Completed |
| 28 | Unknown | NPOC | HS21050236-01 | | 05_10_2021 | NPOC:10.21mg/L | | Completed |
| 29 | Unknown | NPOC | HS21050236-02 | | 05_10_2021 | NPOC:6.176mg/L | | Completed |
| 30 | Unknown | NPOC | HS21050456-01 | | 05_10_2021 | NPOC:9.703mg/L | | Completed |
| 31 | Unknown | NPOC | CCV | | 02_25_2021 | NPOC:25.42mg/L | | Completed |
| 32 | Unknown | NPOC | CCB | | 02_25_2021 | NPOC:-0.08745mg/L | | Completed |
| 33 | Unknown | NPOC | HS21050177-01 | | 05_10_2021 | NPOC:2.245mg/L | | Completed |
| 34 | Unknown | NPOC | HS21041464-02DF20 | | 05_10_2021 | NPOC:17.49mg/L | | Completed |
| 35 | Unknown | NPOC | HS21041464-03DF20 | | 05_10_2021 | NPOC:19.49mg/L | | Completed |
| 36 | Unknown | NPOC | HS21050168-01 | | 05_10_2021 | NPOC:8.567mg/L | | Completed |
| 37 | Unknown | NPOC | CCV | | 02_25_2021 | NPOC:26.16mg/L | | Completed |
| 38 | Unknown | NPOC | CCB | | 02_25_2021 | NPOC:0.1126mg/L | | Completed |
| 39 | Unknown | NPOC | MBLK2-05112021 | TOC_W 531 | 02_25_2021 | NPOC:0.00752mg/L | | Completed |
| 40 | Unknown | NPOC | LCS2-05112021 | | 02_25_2021 | NPOC:10.40mg/L | | Completed |
| 41 | Unknown | NPOC | LCSD2-05112021 | | 02_25_2021 | NPOC:10.25mg/L | | Completed |
| 42 | Unknown | NPOC | HS21050174-01 | | 05_10_2021 | NPOC:14.96mg/L | | Completed |
| 43 | Unknown | NPOC | HS21050174-01MS | | 05_10_2021 | NPOC:25.46mg/L | | Completed |
| 44 | Unknown | NPOC | HS21050186-01 | | 05_10_2021 | NPOC:9.723mg/L | | Completed |
| 45 | Unknown | NPOC | HS21050252-04 | | 05_10_2021 | NPOC:2.944mg/L | | Completed |
| 46 | Unknown | NPOC | HS21050252-06 | | 05_10_2021 | NPOC:9.353mg/L | | Completed |
| 47 | Unknown | NPOC | HS21050252-08 | | 05_10_2021 | NPOC:8.242mg/L | | Completed |
| 48 | Unknown | NPOC | HS21050252-10 | | 05_10_2021 | NPOC:15.16mg/L | | Completed |
| 49 | Unknown | NPOC | CCV | | 02_25_2021 | NPOC:25.53mg/L | | Completed |
| 50 | Unknown | NPOC | CCB | | 02_25_2021 | NPOC:-0.03303mg/L | | Completed |
| 51 | Unknown | NPOC | HS21050252-12 | | 05_10_2021 | NPOC:15.75mg/L | | Completed |
| 52 | Unknown | NPOC | HS21050252-14 | | 05_10_2021 | NPOC:11.32mg/L | | Completed |
| 53 | Unknown | NPOC | HS21050252-16 | | 05_10_2021 | NPOC:7.025mg/L | | Completed |

| | Date / Time | Vial |
|---|---|---|
| 1 | 5/11/2021 5:37:02 | 1 |
| 2 | 5/11/2021 5:50:06 | 2 |
| 3 | 5/11/2021 6:03:10 | 3 |
| 4 | 5/11/2021 6:17:39 | 4 |
| 5 | 5/11/2021 6:32:03 | 5 |
| 6 | 5/11/2021 6:43:38 | 6 |
| 7 | 5/11/2021 6:57:52 | 7 |
| 8 | 5/11/2021 7:09:42 | 8 |
| 9 | 5/11/2021 7:24:29 | 9 |
| 10 | 5/11/2021 7:38:59 | 10 |
| 11 | 5/11/2021 7:51:00 | 11 |
| 12 | 5/11/2021 8:05:37 | 12 |
| 13 | 5/11/2021 8:20:57 | 1 |
| 14 | 5/11/2021 8:36:10 | 2 |
| 15 | 5/11/2021 8:46:55 | 13 |
| 16 | 5/11/2021 9:01:00 | 14 |
| 17 | 5/11/2021 9:15:19 | 15 |
| 18 | 5/11/2021 9:29:37 | 16 |
| 19 | 5/11/2021 9:47:56 | 17 |
| 20 | 5/11/2021 10:03:0 | 18 |
| 21 | 5/11/2021 10:16:0 | 3 |
| 22 | 5/11/2021 10:30:3 | 4 |
| 23 | 5/11/2021 10:45:0 | 5 |
| 24 | 5/11/2021 10:56:0 | 19 |
| 25 | 5/11/2021 11:10:2 | 20 |
| 26 | 5/11/2021 11:25:1 | 21 |
| 27 | 5/11/2021 11:39:2 | 22 |
| 28 | 5/11/2021 11:54:0 | 23 |
| 29 | 5/12/2021 12:08:3 | 24 |
| 30 | 5/12/2021 12:20:1 | 25 |
| 31 | 5/12/2021 12:38:2 | 17 |
| 32 | 5/12/2021 12:53:3 | 18 |
| 33 | 5/12/2021 1:07:25 | 26 |
| 34 | 5/12/2021 1:22:02 | 27 |
| 35 | 5/12/2021 1:33:51 | 28 |
| 36 | 5/12/2021 1:45:42 | 29 |
| 37 | 5/12/2021 2:03:59 | 30 |
| 38 | 5/12/2021 2:19:06 | 31 |
| 39 | 5/12/2021 2:34:30 | 3 |
| 40 | 5/12/2021 2:49:12 | 4 |
| 41 | 5/12/2021 3:06:07 | 5 |
| 42 | 5/12/2021 3:17:16 | 32 |
| 43 | 5/12/2021 3:29:17 | 33 |
| 44 | 5/12/2021 3:44:22 | 34 |
| 45 | 5/12/2021 3:58:53 | 35 |
| 46 | 5/12/2021 4:10:38 | 36 |
| 47 | 5/12/2021 4:22:05 | 37 |
| 48 | 5/12/2021 4:33:51 | 38 |
| 49 | 5/12/2021 4:49:27 | 30 |
| 50 | 5/12/2021 5:02:32 | 31 |
| 51 | 5/12/2021 5:14:05 | 39 |
| 52 | 5/12/2021 5:25:43 | 40 |
| 53 | 5/12/2021 5:40:03 | 41 |

| | Type | Analysis | Sample Name | Sample ID | Origin | Result | Notes | Status |
|---|---|---|---|---|---|---|---|---|
| 54 | Unknown | NPOC | HS21050252-18 | | 05_10_2021 | NPOC:4.206mg/L | | Completed |
| 55 | Unknown | NPOC | CCV | | 02_25_2021 | NPOC:25.35mg/L | | Completed |
| 56 | Unknown | NPOC | CCB | | 02_25_2021 | NPOC:-0.06789mg/L | | Completed |

| | Date / Time | Vial |
|---|---|---|
| 54 | 5/12/2021 5:54:30 | 42 |
| 55 | 5/12/2021 6:09:45 | 30 |
| 56 | 5/12/2021 6:24:56 | 31 |

# TOC-Control L Report



**Instr.Information**

Instrument Options TOC/ASI/IC Unit/
Catalyst Regular Sensitivity

**Sample**

Sample Name: CCV
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

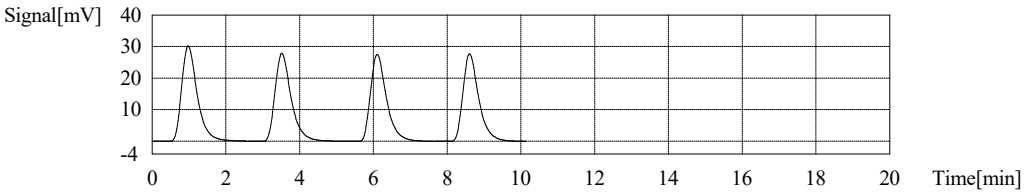
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:25.62mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 87.81 | 27.13mg/L | 50uL | 1.000 | E | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 5/11/2021 9:39:36 PM |
| 2 | 84.38 | 26.07mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 5/11/2021 9:42:27 PM |
| 3 | 82.54 | 25.50mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 5/11/2021 9:45:11 PM |
| 4 | 81.91 | 25.30mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 5/11/2021 9:47:56 PM |

Mean Area 82.94
Mean Conc. 25.62mg/L




**Sample**

Sample Name: CCB
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:-0.02342mg/L |

1. Det

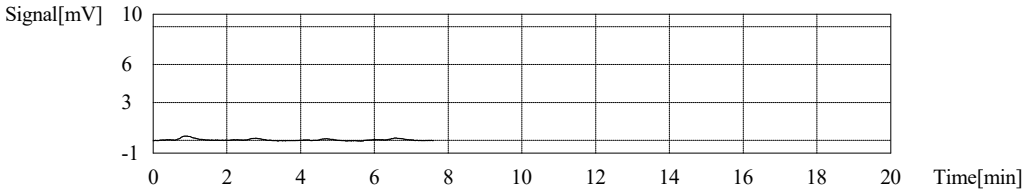
Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 0.7762 | 0.1055mg/L | 50uL | 1.000 | E | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 5/11/2021 9:56:39 PM |
| 2 | 0.3638 | -0.02258mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 5/11/2021 9:58:47 PM |
| 3 | 0.3223 | -0.03547mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 5/11/2021 10:00:55 PM |
| 4 | 0.3972 | -0.01221mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 5/11/2021 10:03:03 PM |

# TOC-Control L Report



Mean Area 0.3611
Mean Conc. -0.02342mg/L




**Sample**

Sample Name: MBLK2-05112021
Sample ID: TOC_W
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

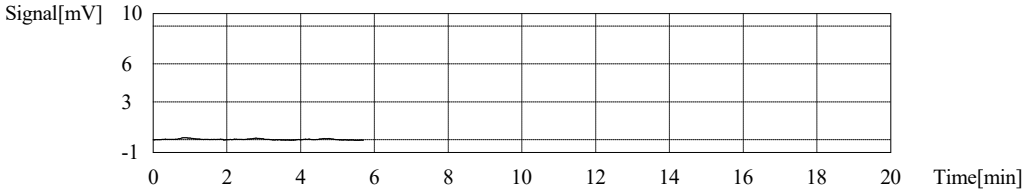
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:-0.06471mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 0.2808 | -0.04835mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 5/11/2021 10:11:53 PM |
| 2 | 0.2326 | -0.06332mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 5/11/2021 10:14:01 PM |
| 3 | 0.1710 | -0.08245mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 5/11/2021 10:16:08 PM |

Mean Area 0.2281
Mean Conc. -0.06471mg/L




**Sample**

Sample Name: LCS2-05112021
Sample ID: TOC_W 5310B
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:10.33mg/L |

1. Det

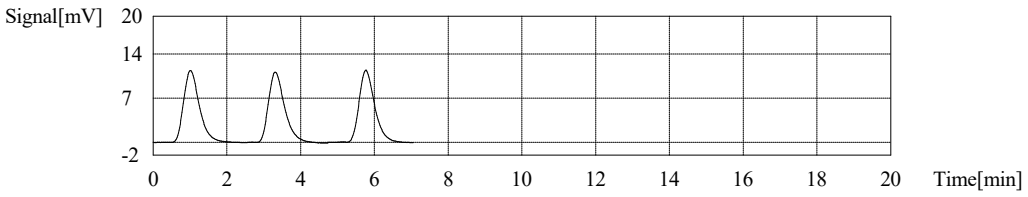
Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 33.82 | 10.37mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 5/11/2021 10:25:22 PM |
| 2 | 33.83 | 10.37mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 5/11/2021 10:28:00 PM |
| 3 | 33.44 | 10.25mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 5/11/2021 10:30:34 PM |

# TOC-Control L Report



Mean Area 33.70
Mean Conc. 10.33mg/L




**Sample**

Sample Name: LCSD2-05112021
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

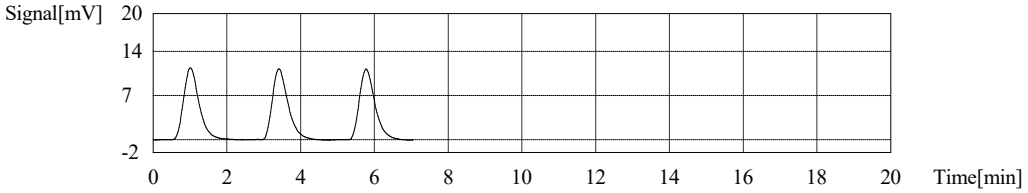
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:10.14mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 33.24 | 10.19mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 5/11/2021 10:39:55 PM |
| 2 | 33.21 | 10.18mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 5/11/2021 10:42:29 PM |
| 3 | 32.84 | 10.06mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 5/11/2021 10:45:00 PM |

Mean Area 33.10
Mean Conc. 10.14mg/L




**Sample**

Sample Name: HS21041557-05
Sample ID:
Origin: 05_10_2021A_CAL.cal
Status Completed
Chk. Result

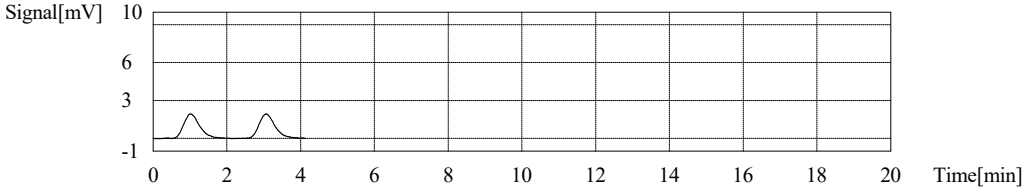
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:1.763mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 5.924 | 1.780mg/L | 50uL | 1.000 | | 05_10_2021A_CAL.2021_05_10_17_37_49.cal | 5/11/2021 10:52:56 PM |
| 2 | 5.811 | 1.746mg/L | 50uL | 1.000 | | 05_10_2021A_CAL.2021_05_10_17_37_49.cal | 5/11/2021 10:56:00 PM |

Mean Area 5.867
Mean Conc. 1.763mg/L




**Sample**

Sample Name: HS21041557-05MS
Sample ID:
Origin: 05_10_2021A_CAL.cal
Status Completed
Chk. Result

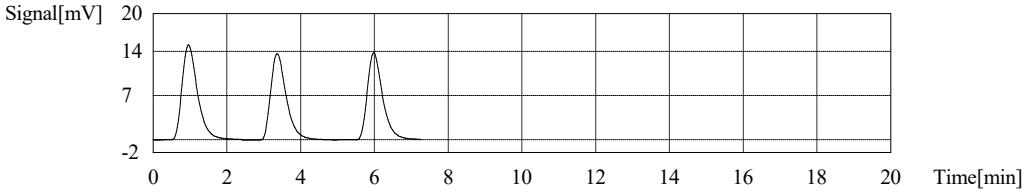
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:12.08mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 44.19 | 13.28mg/L | 50uL | 1.000 | E | 05_10_2021A_CAL.2021_05_10_17_37_49.cal | 5/11/2021 11:04:28 PM |
| 2 | 40.64 | 12.21mg/L | 50uL | 1.000 | | 05_10_2021A_CAL.2021_05_10_17_37_49.cal | 5/11/2021 11:07:40 PM |
| 3 | 39.76 | 11.95mg/L | 50uL | 1.000 | | 05_10_2021A_CAL.2021_05_10_17_37_49.cal | 5/11/2021 11:10:20 PM |

Mean Area 40.20
Mean Conc. 12.08mg/L




**Sample**

Sample Name: CCV
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:25.42mg/L |

1. Det

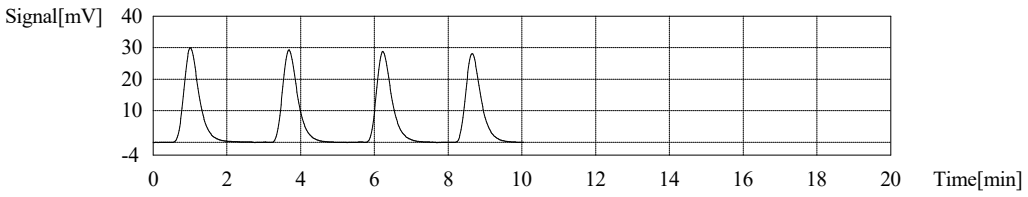
Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 85.50 | 26.42mg/L | 50uL | 1.000 | E | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 5/12/2021 12:30:20 AM |
| 2 | 83.91 | 25.92mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 5/12/2021 12:33:10 AM |
| 3 | 81.98 | 25.32mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 5/12/2021 12:35:49 AM |
| 4 | 81.00 | 25.02mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 5/12/2021 12:38:26 AM |

# TOC-Control L Report



Mean Area 82.30
Mean Conc. 25.42mg/L




**Sample**

Sample Name: CCB
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

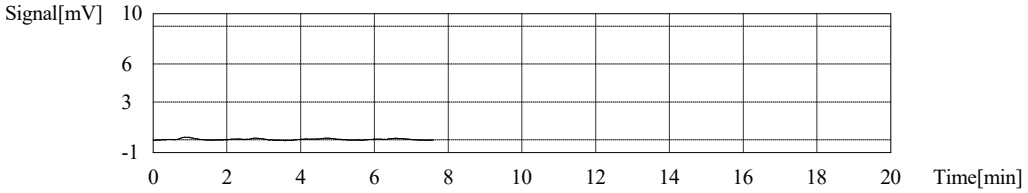
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:-0.08745mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 0.4725 | 0.01118mg/L | 50uL | 1.000 | E | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 5/12/2021 12:47:09 AM |
| 2 | 0.1988 | -0.07382mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 5/12/2021 12:49:18 AM |
| 3 | 0.000 | -0.1356mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 5/12/2021 12:51:26 AM |
| 4 | 0.2659 | -0.05298mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 5/12/2021 12:53:34 AM |

Mean Area 0.1549
Mean Conc. -0.08745mg/L




**Sample**

Sample Name: HS21050177-01
Sample ID:
Origin: 05_10_2021A_CAL.cal
Status Completed
Chk. Result

| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:2.245mg/L |

1. Det

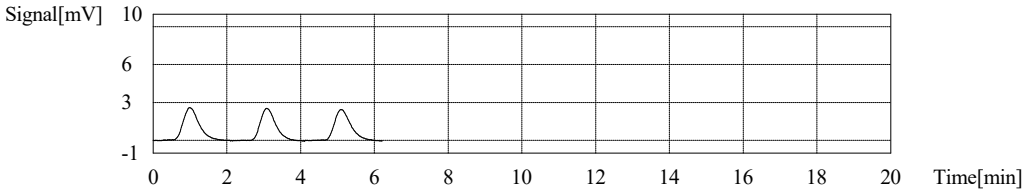
Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 7.648 | 2.299mg/L | 50uL | 1.000 | E | 05_10_2021A_CAL.2021_05_10_17_37_49.cal | 5/12/2021 1:01:24 AM |
| 2 | 7.416 | 2.229mg/L | 50uL | 1.000 | | 05_10_2021A_CAL.2021_05_10_17_37_49.cal | 5/12/2021 1:04:21 AM |
| 3 | 7.525 | 2.262mg/L | 50uL | 1.000 | | 05_10_2021A_CAL.2021_05_10_17_37_49.cal | 5/12/2021 1:07:25 AM |

# TOC-Control L Report



Mean Area 7.471
Mean Conc. 2.245mg/L




**Sample**

Sample Name: CCV
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

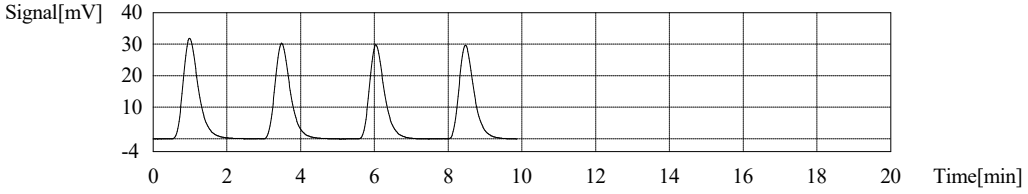
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:26.16mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 91.49 | 28.28mg/L | 50uL | 1.000 | E | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 5/12/2021 1:55:52 AM |
| 2 | 87.37 | 27.00mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 5/12/2021 1:58:42 AM |
| 3 | 83.22 | 25.71mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 5/12/2021 2:01:22 AM |
| 4 | 83.38 | 25.76mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 5/12/2021 2:03:59 AM |

Mean Area 84.66
Mean Conc. 26.16mg/L




**Sample**

Sample Name: CCB
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:0.1126mg/L |

1. Det

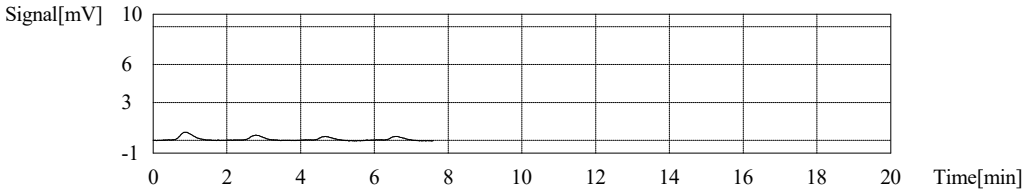
Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 1.478 | 0.3234mg/L | 50uL | 1.000 | E | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 5/12/2021 2:12:43 AM |
| 2 | 0.9204 | 0.1503mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 5/12/2021 2:14:50 AM |
| 3 | 0.7470 | 0.09643mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 5/12/2021 2:16:58 AM |
| 4 | 0.7300 | 0.09115mg/L | 50uL | 1.000 | | 02_25_2021_CAL.2021_02_25_09_13_02.cal | 5/12/2021 2:19:06 AM |

# TOC-Control L Report

2021_05_11_002.tlx

| | |
|---|---|
| Mean Area | 0.7991 |
| Mean Conc. | 0.1126mg/L |



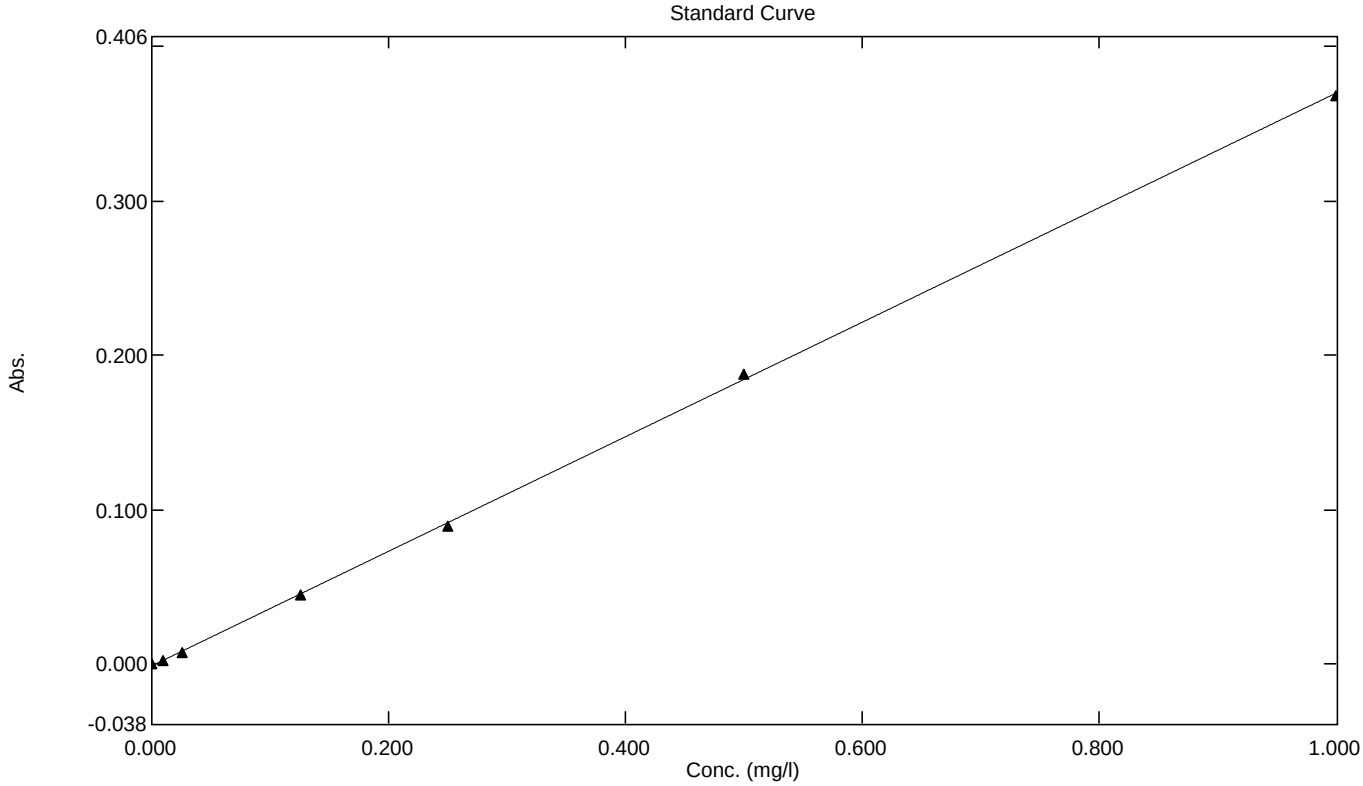
# HS21050177 Wet Chem Raw Data (P-ORTHO)

ALS WO# HS21050177

# Standard Table Report

05/25/2021 11:23:32 AM

File Name: C:\Program Files (x86)\Shimadzu\UVProbe\Data\O_PO4_UNKNOWN\2021\05052021_P_ORTHO_W.p



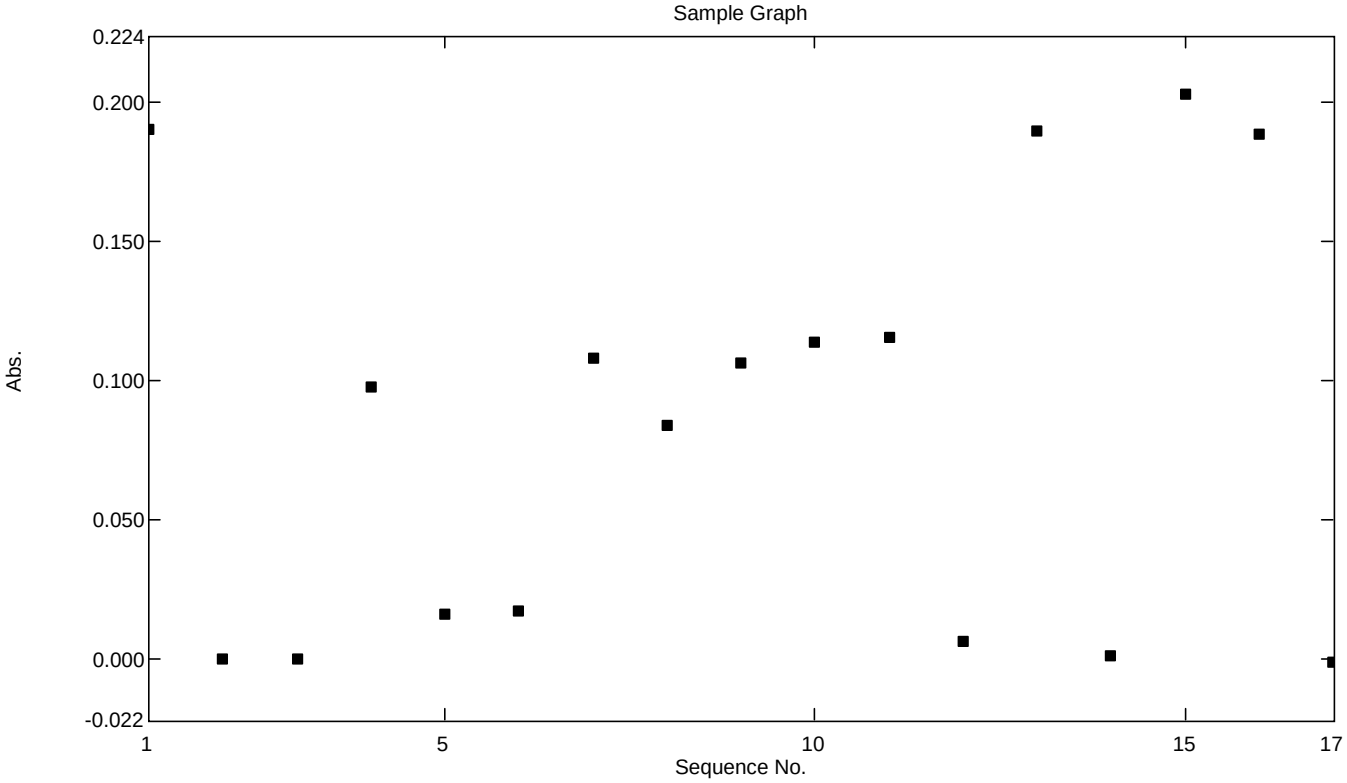

Standard Table

| | Sample ID | Type | Ex | Conc | WL650.0 | Wgt.Factor | Comments |
|---|---|---|---|---|---|---|---|
| 1 | STD1 | Standard | | 0.000 | -0.000 | 1.000 | |
| 2 | STD2 | Standard | | 0.010 | 0.002 | 1.000 | |
| 3 | STD3 | Standard | | 0.025 | 0.007 | 1.000 | |
| 4 | STD4 | Standard | | 0.125 | 0.044 | 1.000 | |
| 5 | STD5 | Standard | | 0.250 | 0.089 | 1.000 | |
| 6 | STD6 | Standard | | 0.500 | 0.188 | 1.000 | |
| 7 | STD7 | Standard | | 1.000 | 0.368 | 1.000 | |
| 8 | | | | | | | |

# Sample Table Report

05/25/2021 11:22:40 AM

File Name: C:\Program Files (x86)\Shimadzu\UVProbe\Data\O_PO4_UNKNOWN\2021\05052021_P_ORTHO_W.




Sample Table

| | Sample ID | Type | Ex | Date | Time | Conc | WL650. | Comments |
|---|---|---|---|---|---|---|---|---|
| 1 | CCV | Unknown | | 05/05/2021 | 12:10:35 PM | 0.517 | 0.190 | 316133106 WC-14 |
| 2 | CCB | Unknown | | 05/05/2021 | 12:10:46 PM | 0.003 | -0.000 | 316133204 UV-11 |
| 3 | MBLK | Unknown | | 05/05/2021 | 12:10:51 PM | 0.002 | -0.000 | |
| 4 | LCS | Unknown | | 05/05/2021 | 12:11:11 PM | 0.266 | 0.097 | 316133107 WC-14 |
| 5 | HS21050166.01 | Unknown | | 05/05/2021 | 12:11:54 PM | 0.046 | 0.016 | |
| 6 | HS21050166.03 | Unknown | | 05/05/2021 | 12:14:01 PM | 0.050 | 0.017 | |
| 7 | HS21050166.04 | Unknown | | 05/05/2021 | 12:15:04 PM | 0.294 | 0.108 | DF-5X |
| 8 | HS21050166.05 | Unknown | | 05/05/2021 | 12:16:07 PM | 0.229 | 0.084 | DF-5X |
| 9 | HS21050166.06 | Unknown | | 05/05/2021 | 12:16:53 PM | 0.290 | 0.106 | DF-5X |
| 10 | HS21050166.01MS | Unknown | | 05/05/2021 | 12:18:04 PM | 0.311 | 0.114 | |
| 11 | HS21050166.01MS D | Unknown | | 05/05/2021 | 12:18:42 PM | 0.314 | 0.115 | |
| 12 | HS21050166.02 | Unknown | | 05/05/2021 | 12:23:38 PM | 0.020 | 0.006 | |
| 13 | CCV2 | Unknown | | 05/05/2021 | 12:23:49 PM | 0.515 | 0.190 | |
| 14 | CCB2 | Unknown | | 05/05/2021 | 12:24:01 PM | 0.006 | 0.001 | |
| 15 | HS21050177.01 | Unknown | | 05/05/2021 | 01:09:11 PM | 0.551 | 0.203 | DF-10X |
| 16 | CCV3 | Unknown | | 05/05/2021 | 01:09:23 PM | 0.512 | 0.189 | |
| 17 | CCB3 | Unknown | | 05/05/2021 | 01:09:37 PM | -0.001 | -0.001 | |
| 18 | | | | | | | | |

# HS21050177 Wet Chem Raw Data (NIT-AMM_W- E350.3 - ISE)

ALS WO# HS21050177

NIT- AMN-W- ISE /350.3

Logbook **31705**

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

# Ion Selective Electrode Logbook

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Analyst: MD | | | | | Date: 5/17/21 3:00PM | | |
| Method: SM4500NH3-D/EPA 350.3 or SM4500 NH3 B-F | | | | | | | |
| Probe Calibration Date: 5/17/21 | | Cal Std ID: 316/337 (05-09) | | | Probe ID: X01-11806 | | |
| Std Level | | mV | Conc., mg/L: | | Sodium Thiosulfate ID: | | |
| STD 1 (mg/L): | 0.2 | 137.5 | 0.200 | | Std Level | mV | Conc., mg/L: |
| STD 2 (mg/L): | 1 | 99.2 | 1.000 | | STD 4 (mg/L): 10 | 39.6 | 9992 |
| STD 3 (mg/L): | 5 | 57.6 | 4.998 | | STD 5 (mg/L): 50 | -7.3 | 49936 |
| LSC / MS Spike ID: 3100603523 | | | | | ICAL Date & Slope: 99.1-2/-59 mV | | |
| ICV Cal STD ID: 316/33704 | | | | | | | |
| DPD Reagent ID: 3100603420 | | | | | | | |

| WO # / SX # | Bottle # | Initial g or ml | Final Vol. ml | Dilution Factor | Initial Conc. mg/L | Final Conc. mg/L | Chlorine Check ( +/- ) | Comments |
|---|---|---|---|---|---|---|---|---|
| ICV | | 50ml | 50ml | | 10.553 | | | |
| CCB | | | | | 0.012 | | | |
| MBLK | | | | | 0.013 | | | |
| LCS | | | | | 11.299 | | | |
| MS2104643-01 | | | | | 0.040 | | -ve | |
| 1643-01 MS | | | | | 10.200 | | | |
| 1643-01 MSD | | | | | 10.259 | | | |
| MS2105032 3-01 | | | | | 0.510 | | -ve | |
| 555-01 | | | | | 21.781 | | -ve | |
| 177-01 | | | | | ~~0.234~~ | 24165 | -ve | MD 5/17/21 |
| 490-01 | | | | | 0.201 | | -ve | |
| CCV | | | | | 10.010 | | | |
| CCB | | | | | 0.014 | | | |
| | | | | | | | | MD 5/17/21 |

Batch ID: 383768 / 383843 | Reported By: MD | Reviewed By: YP


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# HS21050177 - Sub Perch IV (E2100526)

ALS WO# HS21050177

May 19, 2021 Service Request No:E2100526

RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Suite 210
Houston, TX 77099-4338

**Laboratory Results for: HS21050177**

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory May 05, 2021
For your reference, these analyses have been assigned our service request number **E2100526.**

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.

Respectfully submitted,

**ALS Group USA, Corp. dba ALS Environmental**



Corey Grandits
Project Manager

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 Houston | **Service Request No.:** | E2100526 |
| **Project:** | HS21050177 | **Date Received:** | 05/05/21 |
| **Sample Matrix:** | W | | |

## 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 05/05/21.

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:**

EQ2100298: 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 and DLCS recoveries are within QC limits.

DoD certification is held for the method/matrix/analytes provided in this report.

*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:**E2100526
**Project:** HS21050177

## SAMPLE CROSS-REFERENCE

| SAMPLE # | CLIENT SAMPLE ID | DATE | TIME |
|---|---|---|---|
| E2100526-001 | LH18/24-SP650_050421_BIX | 5/4/2021 | 1400 |

# Service Request Summary

**Folder #:** **E2100526**
Client Name: ALS Environmental - US
Project Name: HS21050177
Project Number:

**Report To:** RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Houston, TX 77099-4338
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number: 281-530-5887
E-mail: rj.modashia@alsglobal.com

Project Chemist: Corey Grandits
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 05/05/21
Internal Due Date: 5/19/2021
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS21050177
EDD: No EDD Specified

1 125 mL-Plastic Bottle Plastic
**Location:** EHRMS-WIC 10E
**Pressure Gas:**

| Lab Samp No. | Client Samp No | Matrix | Collected | HOUSTON ClO4 DOD/6850 |
|---|---|---|---|---|
| E2100526-001 | LH18/24-SP650_050421_BIX | Ground Water | 05/04/21 1400 | **IV** |

# Service Request Summary

**Folder #:** **E2100526**
Client Name: ALS Environmental - US
Project Name: HS21050177
Project Number:

**Report To:** RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Houston, TX 77099-4338
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number: 281-530-5887
E-mail: rj.modashia@alsglobal.com

Project Chemist: Corey Grandits
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 05/05/21
Internal Due Date: 5/19/2021
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS21050177
EDD: No EDD Specified

1 125 mL-Plastic Bottle Plastic
**Location:** EHRMS-WIC 10E
**Pressure Gas:**

## Test Comments:

| Group | Test/Method | Samples | Comments |
|---|---|---|---|
| Semivoa GCMS | ClO4 DOD/6850 | 1 | Level II due 5/19,IV due 5/26 |

# 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 | Internal standard not within the specified limits. See case narrative. |
| 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. |
| 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. |

# Data Qualifiers

## Lab Standard

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

# ALS Laboratory Group

**Acronyms**

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

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

## State Certifications, Accreditations, and Licenses

| Agency | Number | Expire Date |
|---|---|---|
| American Association for Laboratory Accreditation | 2897.01 2020 | 11/30/2021 |
| Arizona Department of Health Services | AZ0793-2020 | 5/27/2021 |
| Arkansas Department of Environmental Quality | 21-022-0 | 3/26/2022 |
| Department of Defense | A2LA 2897.01 | 11/30/2021 |
| Florida Department of Health | E87611-2020 | 6/30/2021 |
| Hawaii Department of Health | 2021-2022 | 4/30/2022 |
| Kansas Department of Health and Environment | E-10352-2020 | 7/31/2021 |
| Louisiana Department of Environmental Quality | 03087-2020 | 6/30/2021 |
| Louisiana Department of Health and Hospitals | LA028-2021 | 12/31/2021 |
| Maine Department of Health and Human Services | 2020016 | 6/5/2022 |
| Maryland Department of the Environment | 343-2020 | 6/30/2021 |
| Minnesota Department of Health | 2021671 | 12/31/2021 |
| Nevada Department of Concervation and Natural Resources | TX026932021-4 | 7/31/2021 |
| New Hampshire Environmental Laboratory Accreditation Program | 209421 | 4/24/2022 |
| New Jersey Department of Environmental Protection | TX008 | 6/30/2021 |
| Oklahoma Department of Environmental Quality | 2020-123 | 8/31/2021 |
| Pennsylvania Department of Environmental Protection | 014 | 6/30/2021 |
| Tennessee Department of Environment and Concervation | 04016-2021 | 4/30/2022 |
| United States Department of Agriculture | P330-19-00299 | 10/10/2022 |

# Chain of Custody

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

# Subcontract Chain of Custody

**SAMPLING STATE:** **Dept of Defense** **COC ID:** **16052**

**SUBCONTRACT TO:**

ALS Environmental
10450 Stancliff RoadSuite 210
Houston, TX 77084

**Phone:** +1 281 530 5656

**CUSTOMER INFORMATION:**

| | |
|---|---|
| **Company:** | ALS Houston |
| **Contact:** | RJ Modashia |
| **Address:** | 10450 Stancliff Rd, Ste 210 |
| **Phone:** | +1 281 530 5656 |
| **Email:** | RJ.Modashia@alsglobal.com |
| **Alternate Contact:** | |
| **Email:** | |

**INVOICE INFORMATION:**

| | |
|---|---|
| **Company:** | ALS Houston |
| **Contact:** | Accounts Payable |
| **Address:** | 10450 Stancliff Rd, Ste 210 |
| **Phone:** | +1 281 530 5656 |
| **Reference:** | HS21050177 |
| **TSR:** | Sonia West |

| | LAB SAMPLE ID | CLIENT SAMPLE ID | MATRIX | COLLECT DATE |
|---|---|---|---|---|
| | ANALYSIS REQUESTED | | | DUE DATE |
| **1.** | **HS21050177-02** | **LH18/24-SP650_050421_BIX** | **Water** | **04 May 2021 14:00** |
| | Provide Level II and Level IV reports in separate pdf | | | 19 May 2021 |

**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: 5/5/21 1247

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

# Cooler Receipt Form

ALS Environmental

Project Chemist: CG

Client/Project: ALS-H

Thermometer ID: IR31

Date/Time Received: 5/5/21 Initials: CG Date/Time Logged in: 5/5/21 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 | | 5/5/21 | 1247 | 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#:** 379504 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
**Team:** Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 5/17/21 10:50

| # | Lab Code | Client ID | B# | Method /Test | pH | Cl | Matrix | Amt. Ext. | Sample Description |
|---|---|---|---|---|---|---|---|---|---|
| 1 | E2100526-001 | LH18/24-SP650_050421_BIX | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 2 | E2100553-001 | LH18/24-SP650_051121_BIX | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 3 | E2100554-001 | LH18/24-SP140_051121 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 4 | E2100555-001 | LH18/24-SP650_051121_BIX | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 5 | EQ2100298-01 | MB | | 6850/ClO4 DOD | | | Liquid | 10mL | |
| 6 | EQ2100298-02 | LCS | | 6850/ClO4 DOD | | | Liquid | 10mL | |
| 7 | EQ2100298-03 | DLCS | | 6850/ClO4 DOD | | | Liquid | 10mL | |

## Spiking Solutions

Name: Perchlorate Intermediate Stock1 Inventory ID 214035 Logbook Ref: Perchlorate Expires On: 05/23/2021

EQ2100298-02 1.00µL EQ2100298-03 1.00µL

Name: Perchlorate Internal Standard 1ug/mL Inventory ID 214820 Logbook Ref: Perchlorate Internal Standard Expires On: 07/03/2021

E2100526-001 100.00µL E2100553-001 100.00µL E2100554-001 100.00µL E2100555-001 100.00µL EQ2100298-01 100.00µL EQ2100298-02 100.00µL
EQ2100298-03 100.00µL

## Preparation Steps

Step: Preparation
Started: 5/17/21 10:50
Finished: 5/17/21 11:30
By: GRIVERA
Comments

Comments: _____

Reviewed By: GR Date: 5/17/21

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:** | E2100526 |
| **Project:** | HS21050177 | **Date Collected:** | 5/ 4/21 1400 |
| **Sample Matrix:** | Ground Water | **Date Received:** | 5/ 5/21 |
| **Sample Name:** | LH18/24-SP650_050421_BIX | **Units:** | µg/L |
| **Lab Code:** | E2100526-001 | **Basis:** | As Received |

**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 | **1.04** | J | 2.00 | 1.00 | 0.500 | 20 | 5/17/21 | 5/19/21 10:25 | 379504 | 724049 | |

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

| | | | |
|---|---|---|---|
| **Client:** | ALS Environmental - US | **Service Request:** | E2100526 |
| **Project:** | HS21050177 | **Date Collected:** | NA |
| **Sample Matrix:** | Ground Water | **Date Received:** | NA |
| **Sample Name:** | Method Blank | **Units:** | µg/L |
| **Lab Code:** | EQ2100298-01 | **Basis:** | As Received |

**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 | 5/17/21 | 5/18/21 16:56 | 379504 | 724053 | |

# 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:** HS21050177
**Sample Matrix:** Ground Water

**Service Request:** E2100526
**Date Analyzed:** 5/19/21

## 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:** As Received

**Extraction Lot:** 379504

| | Lab Control Sample EQ2100298-02 | | | Duplicate Lab Control Sample EQ2100298-03 | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Analyte Name** | **Result** | **Spike Amount** | **% Rec** | **Result** | **Spike Amount** | **% Rec** | **% Rec Limits** | **RPD** | **RPD Limit** |
| Perchlorate | 0.102 | 0.100 | 102 | 0.106 | 0.100 | 106 | 84 - 119 | 4 | 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:** | E2100526 |
| **Project:** | HS21050177 | **Date Collected:** | NA |
| **Sample Matrix:** | Ground Water | **Date Received:** | NA |
| **Sample Name:** | Lab Control Sample | **Units:** | µg/L |
| **Lab Code:** | EQ2100298-02 | **Basis:** | As Received |

**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 | **0.102** | | 0.100 | 0.0500 | 0.0250 | 1 | 5/17/21 | 5/19/21 10:50 | 379504 | 724049 | |

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

| | | | |
|---|---|---|---|
| **Client:** | ALS Environmental - US | **Service Request:** | E2100526 |
| **Project:** | HS21050177 | **Date Collected:** | NA |
| **Sample Matrix:** | Ground Water | **Date Received:** | NA |
| **Sample Name:** | Duplicate Lab Control Sample | **Units:** | µg/L |
| **Lab Code:** | EQ2100298-03 | **Basis:** | As Received |

**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 | 5/17/21 | 5/19/21 10:59 | 379504 | 724049 | |

# 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

**20210518**

**1st Review:** Grivera
**2nd Review:** Kneir

**Injection Log**
**LCMS01 -Shimadzu 8050**

**ICAL Date:** 5/18/2021
**Cal. Std. xp:** 5/20/2021
**ICAL ID:** **EC2100031**

**Mobile Phases** **A:** 0.75% Formic Acid/Water 3100809-07 **B:** MeOH 216350

| | | | File Name | Acquisition Method | Dilution | R | Comments | Date/Time |
|---|---|---|---|---|---|---|---|---|
| 1 | PERCHLORATE1 | | 20210518_011 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-05 | 5/18/2021 11:48 |
| 2 | PERCHLORATE2 | | 20210518_012 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-06 | 5/18/2021 11:57 |
| 3 | PERCHLORATE3 | | 20210518_013 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-07 | 5/18/2021 12:05 |
| 4 | PERCHLORATE4 | | 20210518_014 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-08 | 5/18/2021 12:14 |
| 5 | PERCHLORATE5 | | 20210518_015 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-09 | 5/18/2021 12:22 |
| 6 | PERCHLORATE6 | | 20210518_016 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-01 | 5/18/2021 12:30 |
| 7 | PERCHLORATE7 | | 20210518_010 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 5/18/2021 10:48 |
| 8 | PERCHLORATE8 | | 20210518_017 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-03 | 5/18/2021 12:39 |
| 9 | PERCHLORATE9 | | 20210518_018 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-04 | 5/18/2021 12:47 |
| 10 | PERCHLORATE10 | | 20210518_019 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-05 | 5/18/2021 12:56 |
| 11 | PERCHLORATEICV | | 20210518_020 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-06 | 5/18/2021 13:04 |
| 12 | ICS | | 20210518_021 | Perchlorate6850b.lcm | 1x | ☒ | | 5/18/2021 13:12 |
| 13 | LODV | | 20210518_022 | Perchlorate6850b.lcm | 1x | ☒ | | 5/18/2021 13:21 |
| 14 | PERCHLORATE7 | | 20210518_023 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 5/18/2021 13:29 |
| 15 | E2100493-001x10 | | 20210518_024 | Perchlorate6850b.lcm | 10X | ☒ | DNU-INST failed | 5/18/2021 13:38 |
| 16 | PERCHLORATE7 | | 20210518_025 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 5/18/2021 13:46 |
| 17 | EQ2100297-01 | | 20210518_026 | Perchlorate6850b.lcm | 1x | ☒ | | 5/18/2021 14:20 |
| 18 | EQ2100297-02 | | 20210518_027 | Perchlorate6850b.lcm | 1x | ☒ | | 5/18/2021 14:29 |
| 19 | EQ2100297-03 | | 20210518_028 | Perchlorate6850b.lcm | 1x | ☒ | | 5/18/2021 14:37 |
| 20 | E2100496-002X10 | | 20210518_029 | Perchlorate6850b.lcm | 10X | ☒ | | 5/18/2021 14:45 |
| 21 | E2100493-001x20 | | 20210518_030 | Perchlorate6850b.lcm | 20X | ☒ | DNU-INST failed | 5/18/2021 14:54 |
| 22 | PERCHLORATE7 | | 20210518_031 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 5/18/2021 15:02 |
| 23 | E2100493-001x40 | | 20210518_032 | Perchlorate6850b.lcm | 40X | ☒ | | 5/18/2021 15:36 |
| 24 | PERCHLORATE7 | | 20210518_033 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 5/18/2021 15:44 |
| 25 | EQ2100298-01 | | 20210518_034 | Perchlorate6850b.lcm | 1x | ☒ | | 5/18/2021 16:56 |
| 26 | EQ2100298-02 | | 20210518_035 | Perchlorate6850b.lcm | 1x | ☒ | | 5/18/2021 17:05 |
| 27 | EQ2100298-03RR | | 20210518_036 | Perchlorate6850b.lcm | 1x | ☒ | | 5/18/2021 17:13 |
| 28 | E2100526-001X5DNU | | 20210518_037 | Perchlorate6850b.lcm | 5x | ☒ | DNU-INST failed | 5/18/2021 17:21 |
| 29 | E2100553-001X10DNU | | 20210518_038 | Perchlorate6850b.lcm | 10x | ☒ | DNU-INST failed | 5/18/2021 17:30 |
| 30 | E2100554-001X200 | | 20210518_039 | Perchlorate6850b.lcm | 200x | ☒ | | 5/18/2021 17:38 |
| 31 | E2100555-001X5DNU | | 20210518_040 | Perchlorate6850b.lcm | 5x | ☒ | DNU-INST failed | 5/18/2021 17:47 |
| 32 | PERCHLORATE7 | | 20210518_041 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 5/18/2021 17:55 |
| 33 | | | | | | | | |

# *Initial Calibration - Detailed Report*

**Calibration ID:** EC2100031 **Instrument ID:** E-LCMS-01
**Column Name:** 1

| # | Lab Code | Sample Name | File Location | Aquisition Date |
|---|---|---|---|---|
| 01 | EC2100031-01 | PERCHLORATE7 | 20210518_010 | 05/18/2021 10:48 |
| 02 | EC2100031-02 | PERCHLORATE1 | 20210518_011 | 05/18/2021 11:48 |
| 03 | EC2100031-03 | PERCHLORATE2 | 20210518_012 | 05/18/2021 11:57 |
| 11 | EC2100031-11 | PERCHLORATE3 | 20210518_013 | 05/18/2021 12:05 |
| 04 | EC2100031-04 | PERCHLORATE4 | 20210518_014 | 05/18/2021 12:14 |
| 05 | EC2100031-05 | PERCHLORATE5 | 20210518_015 | 05/18/2021 12:22 |
| 06 | EC2100031-06 | PERCHLORATE6 | 20210518_016 | 05/18/2021 12:30 |
| 07 | EC2100031-07 | PERCHLORATE8 | 20210518_017 | 05/18/2021 12:39 |
| 08 | EC2100031-08 | PERCHLORATE9 | 20210518_018 | 05/18/2021 12:47 |
| 09 | EC2100031-09 | PERCHLORATE10 | 20210518_019 | 05/18/2021 12:56 |

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

**Perchlorate** **Average RF** **RSD = 8.249** **Average RF = 0.1137**

| # | Amount | RF | # | Amount | RF | # | Amount | RF | # | Amount | RF |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 | 10.0000 | 0.1063 | 02 | 0.1000 | 0.1298 | 03 | 0.5000 | 0.1214 | 04 | 1.0000 | 0.1096 |
| 05 | 2.0000 | 0.1181 | 06 | 5.0000 | 0.1158 | 07 | 20.0000 | 0.1073 | 08 | 30.0000 | 0.1057 |
| 09 | 50.0000 | 0.1002 | 11 | 0.7000 | 0.1233 | | | | | | |

**Analyte**

**Perchlorate**

| # | Amount | Calculated Conc | %D | # | Amount | Calculated Conc | %D | # | Amount | Calculated Conc | %D |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 | 10.0000 | 9.34 | -6.6 | 02 | 0.1000 | 0.114 | 14.1 | 03 | 0.5000 | 0.534 | 6.7 |
| 04 | 1.0000 | 0.963 | -3.7 | 05 | 2.0000 | 2.08 | 3.9 | 06 | 5.0000 | 5.09 | 1.8 |
| 07 | 20.0000 | 18.9 | -5.7 | 08 | 30.0000 | 27.9 | -7.0 | 09 | 50.0000 | 44.1 | -11.9 |
| 11 | 0.7000 | 0.759 | 8.4 | | | | | | | | |

# *Initial Calibration Verification Summary Report*

| | | | |
|---|---|---|---|
| **Calibration ID:** | EC2100031 | **Instrument ID:** | E-LCMS-01 |
| **Datafile ID:** | 20210518_020 | **Column Name:** | 1 |

| Analyte | Lab Code | Type | Curve Fit | True Value | Calc Conc | Units | Result | Criteria |
|---|---|---|---|---|---|---|---|---|
| Perchlorate | EC2100031-10 | T | Average RF | 10 | 10.127 | ng/mL | 1.3 | <= 15 |

# Insight Report

**Printed at 5/18/2021 3:37:42 PM**

Method File: I:\LCMS01\DATA\20210518\20210518.lcm
Project File: I:\LCMS01\DATA\20210518\20210518.damlp

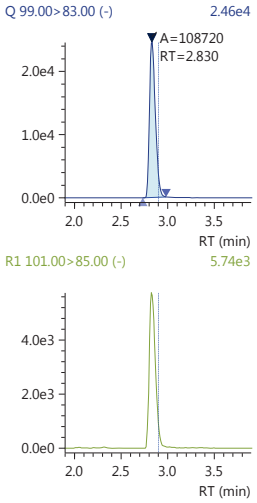
## 20210518_010

Sample ID: PERCHLORATE7
Date Acquired: 5/18/2021 10:48:22 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\20210518_010.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.830 | 108720 | 102309 | 1 | 9.34321 | ng/mL | 10.0000 | 23.44 |
| Sodium Perchlorate-18O4_IS | Auto | 2.829 | 102309 | 102309 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

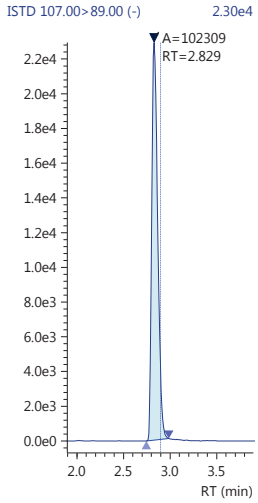
**Perchlorate**

Conc 9.34321
R#1 23.44 (0.00)




**Sodium Perchlorate-18O4_IS**

Conc 1.00000



# Insight Report

**Printed at 5/18/2021 4:03:21 PM**

Method File: I:\LCMS01\DATA\20210518\20210517.lcm

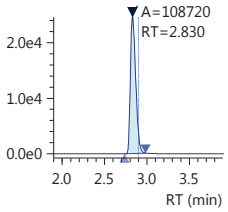
## 20210518_010

Sample ID: PERCHLORATE7
Date Acquired: 5/18/2021 10:48:22 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\Before\20210518_010.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

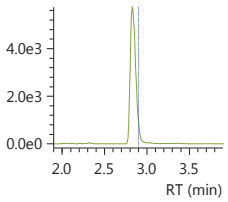
**Perchlorate**

Conc 10.06452
R#1 23.44 (0.00)

Q 99.00>83.00 (-) 2.46e4



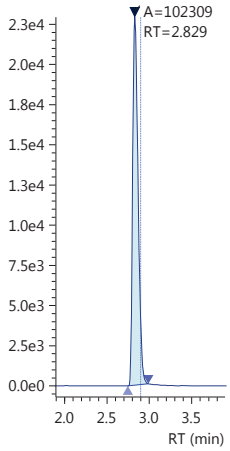

R1 101.00>85.00 (-) 5.74e3




**Sodium Perchlorate -18O4_IS**

Conc 1.00000

ISTD 107.00>89.00 (-) 2.30e4



# Insight Report

**Printed at 5/18/2021 3:37:42 PM**

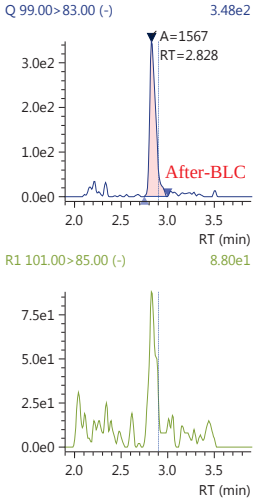
## 20210518_011

Sample ID: PERCHLORATE1
Date Acquired: 5/18/2021 11:48:54 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\20210518_011.lcd
Vial: 22 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | M | 2.828 | 1567 | 120716 | 1 | 0.11410 | ng/mL | 0.1000 | 23.68 |
| Sodium Perchlorate-18O4_IS | Auto | 2.831 | 120716 | 120716 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

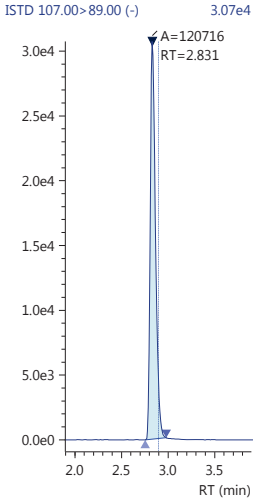
**Perchlorate**

Conc 0.11410
R#1 23.68 (0.00)




**Sodium Perchlorate-18O4_IS**

Conc 1.00000



# Insight Report

**Printed at 5/18/2021 3:39:08 PM**

Method File: I:\LCMS01\DATA\20210518\20210517.lcm

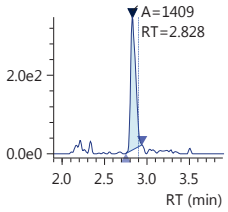
## 20210518_011

Sample ID: PERCHLORATE1
Date Acquired: 5/18/2021 11:48:54 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\Before\20210518_011.lcd
Vial: 22 | Inj. Volume: 25.0000uL | Tray: 1

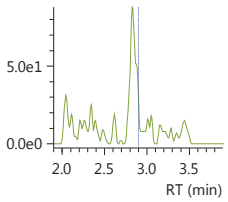
**Perchlorate**

Conc 0.11051
R#1 24.63 (0.00)

Q 99.00>83.00 (-) 3.48e2



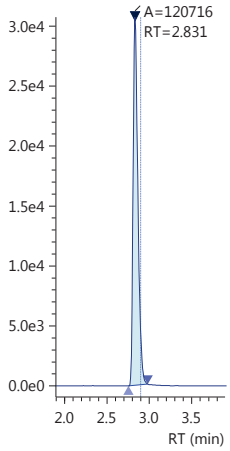

R1 101.00>85.00 (-) 8.80e1




**Sodium Perchlorate -18O4_IS**

Conc 1.00000

ISTD 107.00>89.00 (-) 3.07e4



# Insight Report

**Printed at 5/18/2021 3:37:42 PM**

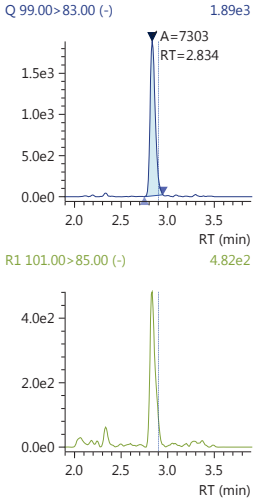
## 20210518_012

Sample ID: PERCHLORATE2
Date Acquired: 5/18/2021 11:57:16 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\20210518_012.lcd
Vial: 23 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.834 | 7303 | 120339 | 1 | 0.53356 | ng/mL | 0.5000 | 25.44 |
| Sodium Perchlorate-18O4_IS | Auto | 2.832 | 120339 | 120339 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

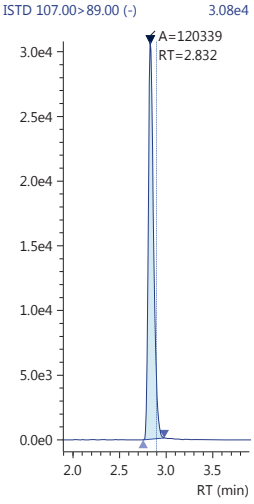
**Perchlorate**

Conc 0.53356
R#1 25.44 (0.00)




**Sodium Perchlorate-18O4_IS**

Conc 1.00000



# Insight Report

**Printed at 5/18/2021 3:39:08 PM**

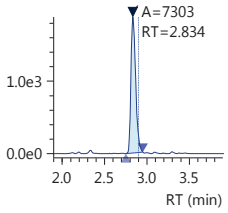
## 20210518_012

Sample ID: PERCHLORATE2
Date Acquired: 5/18/2021 11:57:16 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\Before\20210518_012.lcd
Vial: 23 | Inj. Volume: 25.0000uL | Tray: 1

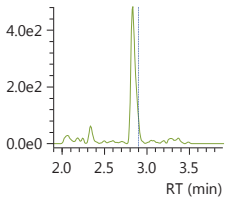
**Perchlorate**

Conc 0.57475
R#1 25.44 (0.00)

Q 99.00>83.00 (-) 1.89e3



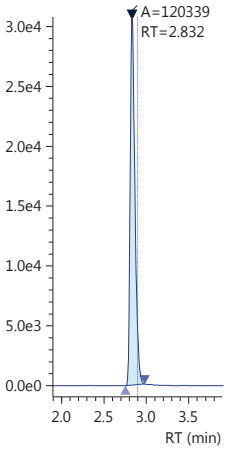

R1 101.00>85.00 (-) 4.82e2




**Sodium Perchlorate -18O4_IS**

Conc 1.00000

ISTD 107.00>89.00 (-) 3.08e4



# Insight Report

**Printed at 5/18/2021 3:37:42 PM**

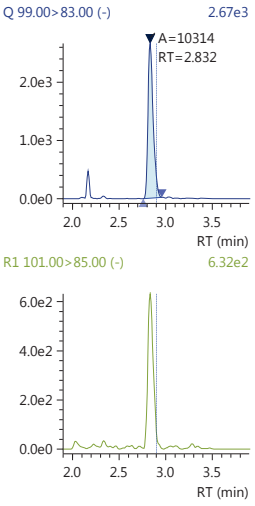
## 20210518_013

Sample ID: PERCHLORATE3
Date Acquired: 5/18/2021 12:05:40 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\20210518_013.lcd
Vial: 24 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.832 | 10314 | 119516 | 1 | 0.75874 | ng/mL | 0.7000 | 23.66 |
| Sodium Perchlorate-18O4_IS | Auto | 2.831 | 119516 | 119516 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

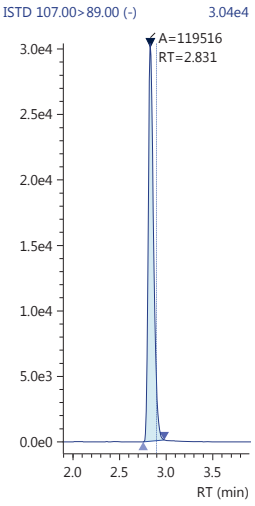
**Perchlorate**

Conc 0.75874
R#1 23.66 (0.00)




**Sodium Perchlorate-18O4_IS**

Conc 1.00000



# Insight Report

**Printed at 5/18/2021 3:39:08 PM**

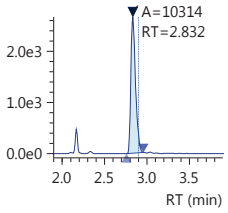
## 20210518_013

Sample ID: PERCHLORATE3
Date Acquired: 5/18/2021 12:05:40 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\Before\20210518_013.lcd
Vial: 24 | Inj. Volume: 25.0000uL | Tray: 1

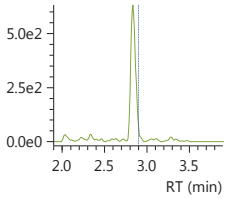
**Perchlorate**

Conc 0.81732
R#1 23.66 (0.00)

Q 99.00>83.00 (-) 2.67e3



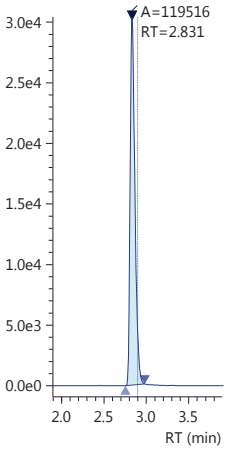

R1 101.00>85.00 (-) 6.32e2




**Sodium Perchlorate -18O4_IS**

Conc 1.00000

ISTD 107.00>89.00 (-) 3.04e4



# Insight Report

**Printed at 5/18/2021 3:37:42 PM**

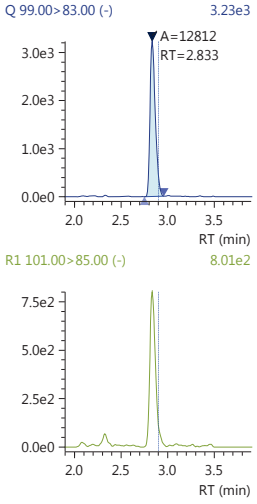
## 20210518_014

Sample ID: PERCHLORATE4
Date Acquired: 5/18/2021 12:14:05 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\20210518_014.lcd
Vial: 25 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.833 | 12812 | 116935 | 1 | 0.96333 | ng/mL | 1.0000 | 24.92 |
| Sodium Perchlorate-18O4_IS | Auto | 2.832 | 116935 | 116935 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

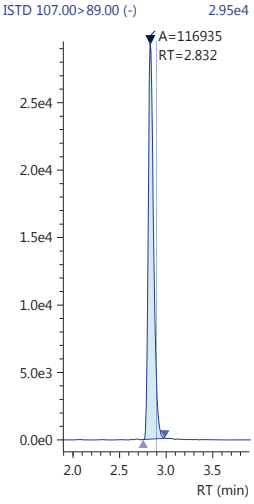
**Perchlorate**

Conc 0.96333
R#1 24.92 (0.00)




**Sodium Perchlorate-18O4_IS**

Conc 1.00000



# Insight Report

**Printed at 5/18/2021 3:39:08 PM**

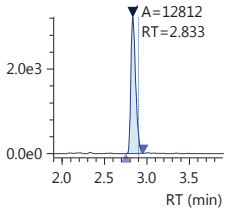
## 20210518_014

Sample ID: PERCHLORATE4
Date Acquired: 5/18/2021 12:14:05 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\Before\20210518_014.lcd
Vial: 25 | Inj. Volume: 25.0000uL | Tray: 1

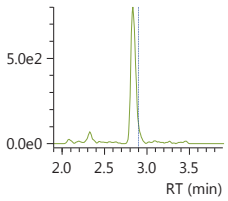
**Perchlorate**

Conc 1.03770
R#1 24.92 (0.00)

Q 99.00>83.00 (-) 3.23e3



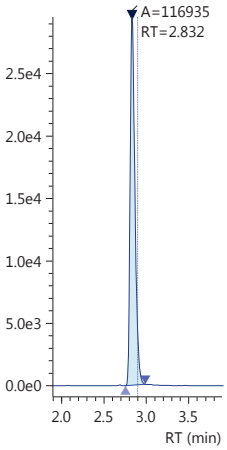

R1 101.00>85.00 (-) 8.01e2




**Sodium Perchlorate -18O4_IS**

Conc 1.00000

ISTD 107.00>89.00 (-) 2.95e4



# Insight Report

**Printed at 5/18/2021 3:37:42 PM**

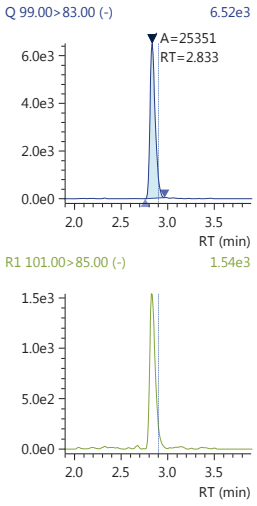
## 20210518_015

Sample ID: PERCHLORATE5
Date Acquired: 5/18/2021 12:22:27 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\20210518_015.lcd
Vial: 26 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.833 | 25351 | 107307 | 1 | 2.07712 | ng/mL | 2.0000 | 24.74 |
| Sodium Perchlorate-18O4_IS | Auto | 2.832 | 107307 | 107307 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

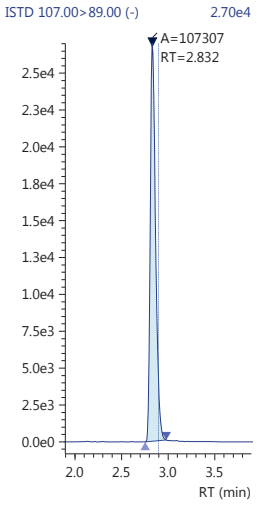
**Perchlorate**

Conc 2.07712
R#1 24.74 (0.00)




**Sodium Perchlorate-18O4_IS**

Conc 1.00000



# Insight Report

**Printed at 5/18/2021 3:39:08 PM**

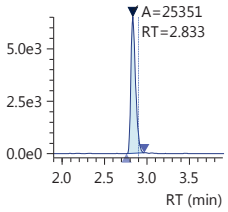
## 20210518_015

Sample ID: PERCHLORATE5
Date Acquired: 5/18/2021 12:22:27 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\Before\20210518_015.lcd
Vial: 26 | Inj. Volume: 25.0000uL | Tray: 1

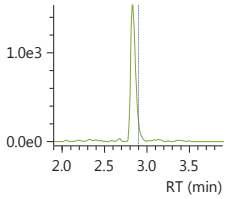
**Perchlorate**

Conc 2.23747
R#1 24.74 (0.00)

Q 99.00>83.00 (-) 6.52e3



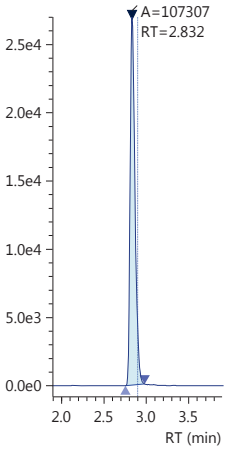

R1 101.00>85.00 (-) 1.54e3




**Sodium Perchlorate -18O4_IS**

Conc 1.00000

ISTD 107.00>89.00 (-) 2.70e4



# Insight Report

**Printed at 5/18/2021 3:37:42 PM**

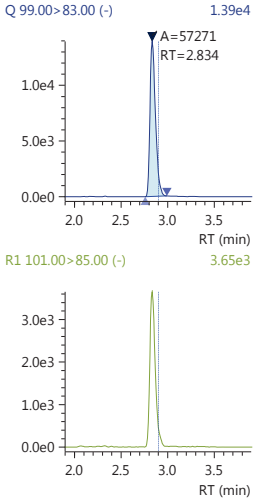
## 20210518_016

Sample ID: PERCHLORATE6
Date Acquired: 5/18/2021 12:30:51 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\20210518_016.lcd
Vial: 27 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.834 | 57271 | 98954 | 1 | 5.08869 | ng/mL | 5.0000 | 26.19 |
| Sodium Perchlorate-18O4_IS | Auto | 2.832 | 98954 | 98954 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

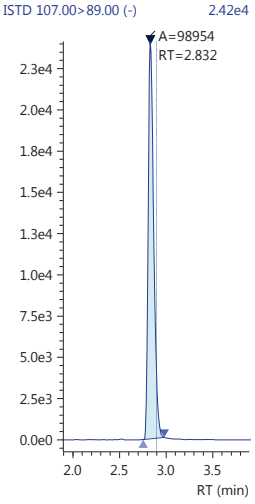
**Perchlorate**

Conc 5.08869
R#1 26.19 (0.00)




**Sodium Perchlorate-18O4_IS**

Conc 1.00000



# Insight Report

**Printed at 5/18/2021 3:39:08 PM**

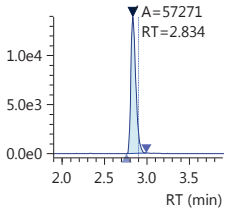
## 20210518_016

Sample ID: PERCHLORATE6
Date Acquired: 5/18/2021 12:30:51 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\Before\20210518_016.lcd
Vial: 27 | Inj. Volume: 25.0000uL | Tray: 1

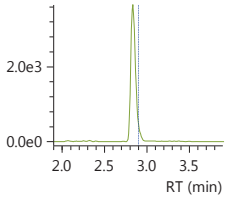
**Perchlorate**

Conc 5.48154
R#1 26.19 (0.00)

Q 99.00>83.00 (-) 1.39e4



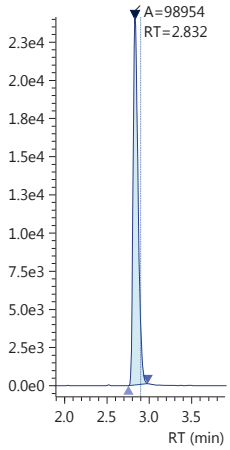

R1 101.00>85.00 (-) 3.65e3




**Sodium Perchlorate -18O4_IS**

Conc 1.00000

ISTD 107.00>89.00 (-) 2.42e4



# Insight Report

**Printed at 5/18/2021 3:37:42 PM**

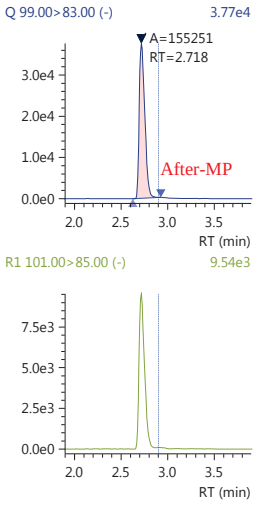
## 20210518_017

Sample ID: PERCHLORATE8
Date Acquired: 5/18/2021 12:39:23 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\20210518_017.lcd
Vial: 28 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | M | 2.718 | 155251 | 72375 | 1 | 18.86025 | ng/mL | 20.0000 | 25.33 |
| Sodium Perchlorate-18O4_IS | M | 2.715 | 72375 | 72375 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

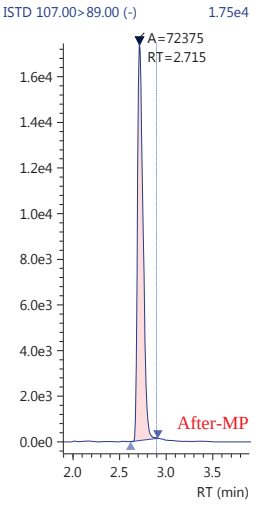
**Perchlorate**

Conc 18.86025
R#1 25.33 (0.00)




**Sodium Perchlorate-18O4_IS**

Conc 1.00000



# Insight Report

**Printed at 5/18/2021 3:39:08 PM**

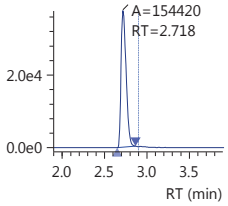
## 20210518_017

Sample ID: PERCHLORATE8
Date Acquired: 5/18/2021 12:39:23 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\Before\20210518_017.lcd
Vial: 28 | Inj. Volume: 25.0000uL | Tray: 1

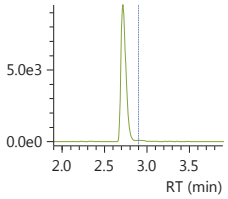
**Perchlorate**

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

Q 99.00>83.00 (-) 3.77e4



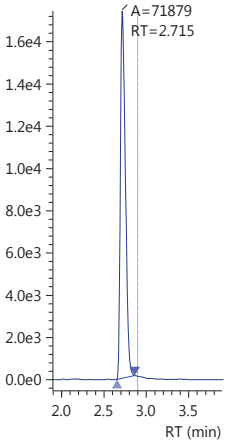

R1 101.00>85.00 (-) 9.54e3




**Sodium Perchlorate -18O4_IS**

Conc ----

ISTD 107.00>89.00 (-) 1.75e4



# Insight Report

Printed at 5/18/2021 3:37:42 PM

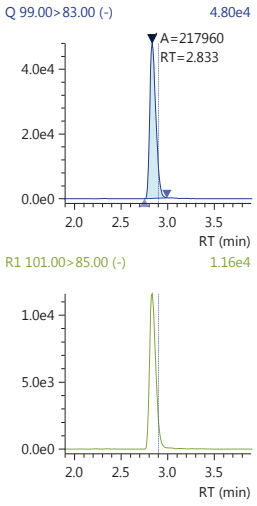
## 20210518_018

Sample ID: PERCHLORATE9
Date Acquired: 5/18/2021 12:47:45 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\20210518_018.lcd
Vial: 29 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.833 | 217960 | 68713 | 1 | 27.88967 | ng/mL | 30.0000 | 24.77 |
| Sodium Perchlorate-18O4_IS | Auto | 2.832 | 68713 | 68713 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

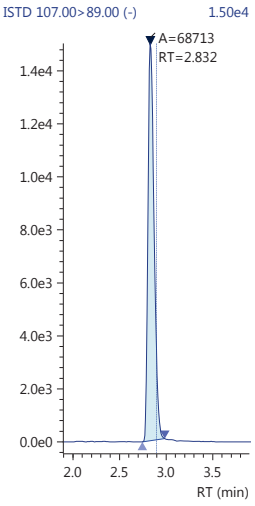
**Perchlorate**

Conc 27.88967
R#1 24.77 (0.00)




**Sodium Perchlorate-18O4_IS**

Conc 1.00000



# Insight Report

**Printed at 5/18/2021 3:39:08 PM**

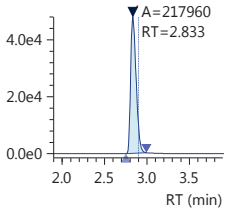
## 20210518_018

Sample ID: PERCHLORATE9
Date Acquired: 5/18/2021 12:47:45 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\Before\20210518_018.lcd
Vial: 29 | Inj. Volume: 25.0000uL | Tray: 1

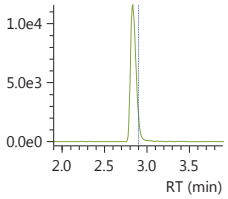
**Perchlorate**

Conc 30.04281
R#1 24.77 (0.00)

Q 99.00>83.00 (-) 4.80e4



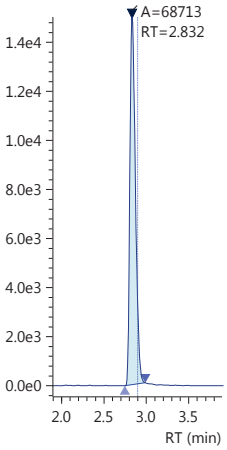

R1 101.00>85.00 (-) 1.16e4




**Sodium Perchlorate -18O4_IS**

Conc 1.00000

ISTD 107.00>89.00 (-) 1.50e4



# Insight Report

**Printed at 5/18/2021 3:37:42 PM**

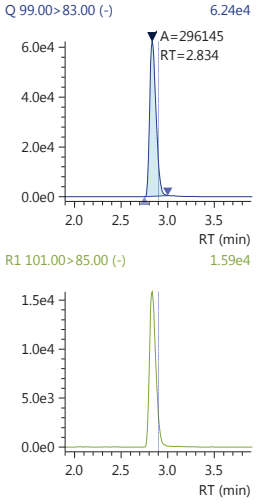
## 20210518_019

Sample ID: PERCHLORATE10
Date Acquired: 5/18/2021 12:56:08 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\20210518_019.lcd
Vial: 30 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.834 | 296145 | 59084 | 1 | 44.06970 | ng/mL | 50.0000 | 25.42 |
| Sodium Perchlorate-18O4_IS | Auto | 2.833 | 59084 | 59084 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

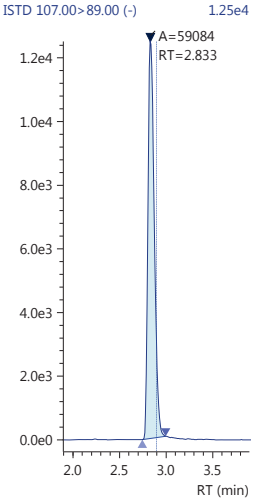
**Perchlorate**

Conc 44.06970
R#1 25.42 (0.00)




**Sodium Perchlorate-18O4_IS**

Conc 1.00000



# Insight Report

Printed at 5/18/2021 3:39:08 PM

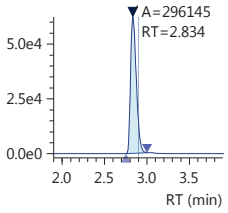
## 20210518_019

Sample ID: PERCHLORATE10
Date Acquired: 5/18/2021 12:56:08 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\Before\20210518_019.lcd
Vial: 30 | Inj. Volume: 25.0000uL | Tray: 1

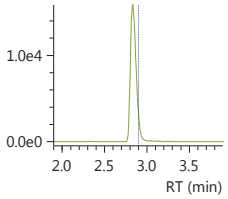
**Perchlorate**

Conc 47.47197
R#1 25.42 (0.00)

Q 99.00>83.00 (-) 6.24e4



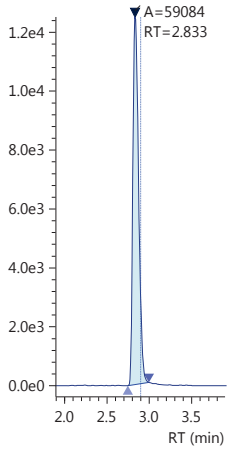

R1 101.00>85.00 (-) 1.59e4




**Sodium Perchlorate -18O4_IS**

Conc 1.00000

ISTD 107.00>89.00 (-) 1.25e4



# Insight Report

**Printed at 5/18/2021 3:37:42 PM**

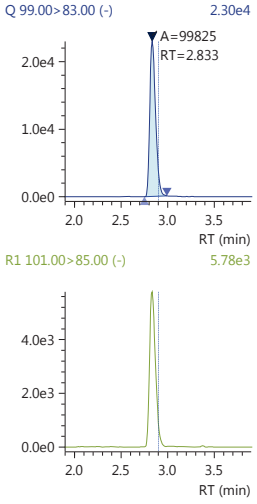
## 20210518_020

Sample ID: PERCHLORATEICV
Date Acquired: 5/18/2021 1:04:33 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\20210518_020.lcd
Vial: 31 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.833 | 99825 | 86662 | 1 | 10.12781 | ng/mL | 10.0000 | 25.77 |
| Sodium Perchlorate-18O4_IS | Auto | 2.831 | 86662 | 86662 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

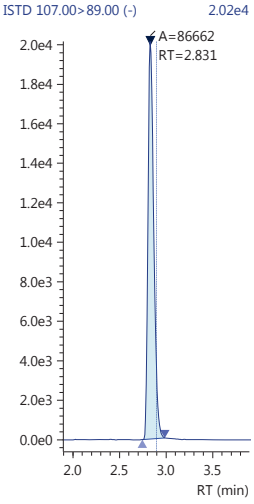
**Perchlorate**

Conc 10.12781
R#1 25.77 (0.00)




**Sodium Perchlorate-18O4_IS**

Conc 1.00000



# Insight Report

**Printed at 5/18/2021 3:39:08 PM**

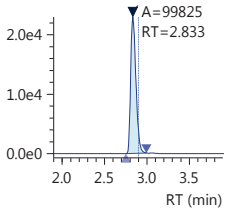
## 20210518_020

Sample ID: PERCHLORATEICV
Date Acquired: 5/18/2021 1:04:33 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\Before\20210518_020.lcd
Vial: 31 | Inj. Volume: 25.0000uL | Tray: 1

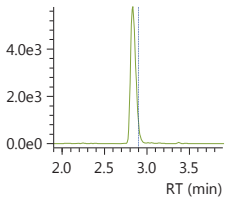
**Perchlorate**

Conc 10.90969
R#1 25.77 (0.00)

Q 99.00>83.00 (-) 2.30e4



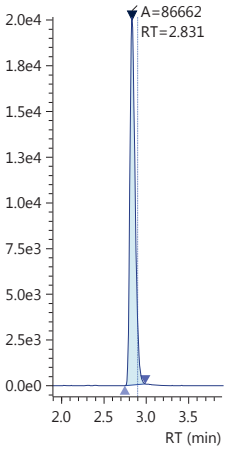

R1 101.00>85.00 (-) 5.78e3




**Sodium Perchlorate -18O4_IS**

Conc 1.00000

ISTD 107.00>89.00 (-) 2.02e4



# 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

**20210518**

**1st Review:** Grivera
**2nd Review:** Kneir

**Injection Log**
**LCMS01 -Shimadzu 8050**

**ICAL Date:** 5/18/2021
**Cal. Std. xp:** 5/20/2021
**ICAL ID:** **EC2100031**

**Mobile Phases** **A:** 0.75% Formic Acid/Water 3100809-07 **B:** MeOH 216350

| | | | File Name | Acquisition Method | Dilution | R | Comments | Date/Time |
|---|---|---|---|---|---|---|---|---|
| 1 | PERCHLORATE1 | | 20210518_011 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-05 | 5/18/2021 11:48 |
| 2 | PERCHLORATE2 | | 20210518_012 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-06 | 5/18/2021 11:57 |
| 3 | PERCHLORATE3 | | 20210518_013 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-07 | 5/18/2021 12:05 |
| 4 | PERCHLORATE4 | | 20210518_014 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-08 | 5/18/2021 12:14 |
| 5 | PERCHLORATE5 | | 20210518_015 | Perchlorate6850b.lcm | 1x | ☒ | 3100808-09 | 5/18/2021 12:22 |
| 6 | PERCHLORATE6 | | 20210518_016 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-01 | 5/18/2021 12:30 |
| 7 | PERCHLORATE7 | | 20210518_010 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 5/18/2021 10:48 |
| 8 | PERCHLORATE8 | | 20210518_017 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-03 | 5/18/2021 12:39 |
| 9 | PERCHLORATE9 | | 20210518_018 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-04 | 5/18/2021 12:47 |
| 10 | PERCHLORATE10 | | 20210518_019 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-05 | 5/18/2021 12:56 |
| 11 | PERCHLORATEICV | | 20210518_020 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-06 | 5/18/2021 13:04 |
| 12 | ICS | | 20210518_021 | Perchlorate6850b.lcm | 1x | ☒ | | 5/18/2021 13:12 |
| 13 | LODV | | 20210518_022 | Perchlorate6850b.lcm | 1x | ☒ | | 5/18/2021 13:21 |
| 14 | PERCHLORATE7 | | 20210518_023 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 5/18/2021 13:29 |
| 15 | E2100493-001x10 | | 20210518_024 | Perchlorate6850b.lcm | 10X | ☒ | DNU-INST failed | 5/18/2021 13:38 |
| 16 | PERCHLORATE7 | | 20210518_025 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 5/18/2021 13:46 |
| 17 | EQ2100297-01 | | 20210518_026 | Perchlorate6850b.lcm | 1x | ☒ | | 5/18/2021 14:20 |
| 18 | EQ2100297-02 | | 20210518_027 | Perchlorate6850b.lcm | 1x | ☒ | | 5/18/2021 14:29 |
| 19 | EQ2100297-03 | | 20210518_028 | Perchlorate6850b.lcm | 1x | ☒ | | 5/18/2021 14:37 |
| 20 | E2100496-002X10 | | 20210518_029 | Perchlorate6850b.lcm | 10X | ☒ | | 5/18/2021 14:45 |
| 21 | E2100493-001x20 | | 20210518_030 | Perchlorate6850b.lcm | 20X | ☒ | DNU-INST failed | 5/18/2021 14:54 |
| 22 | PERCHLORATE7 | | 20210518_031 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 5/18/2021 15:02 |
| 23 | E2100493-001x40 | | 20210518_032 | Perchlorate6850b.lcm | 40X | ☒ | | 5/18/2021 15:36 |
| 24 | PERCHLORATE7 | | 20210518_033 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 5/18/2021 15:44 |
| 25 | EQ2100298-01 | | 20210518_034 | Perchlorate6850b.lcm | 1x | ☒ | | 5/18/2021 16:56 |
| 26 | EQ2100298-02 | | 20210518_035 | Perchlorate6850b.lcm | 1x | ☒ | | 5/18/2021 17:05 |
| 27 | EQ2100298-03RR | | 20210518_036 | Perchlorate6850b.lcm | 1x | ☒ | | 5/18/2021 17:13 |
| 28 | E2100526-001X5DNU | | 20210518_037 | Perchlorate6850b.lcm | 5x | ☒ | DNU-INST failed | 5/18/2021 17:21 |
| 29 | E2100553-001X10DNU | | 20210518_038 | Perchlorate6850b.lcm | 10x | ☒ | DNU-INST failed | 5/18/2021 17:30 |
| 30 | E2100554-001X200 | | 20210518_039 | Perchlorate6850b.lcm | 200x | ☒ | | 5/18/2021 17:38 |
| 31 | E2100555-001X5DNU | | 20210518_040 | Perchlorate6850b.lcm | 5x | ☒ | DNU-INST failed | 5/18/2021 17:47 |
| 32 | PERCHLORATE7 | | 20210518_041 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 5/18/2021 17:55 |
| 33 | | | | | | | | |

**20210519**

**1st Review:** Grivera
**2nd Review:** Kneir

**Injection Log**
**LCMS01 -Shimadzu 8050**

**ICAL Date:** 5/18/2021
**Cal. Std. xp:** 5/20/2021
**ICAL ID:** **EC2100031**

**Mobile Phases** **A:** 0.75% Formic Acid/Water 3100809-07 **B:** MeOH 216350

| | | | File Name | Acquisition Method | Dilution | R | Comments | Date/Time |
|---|---|---|---|---|---|---|---|---|
| 1 | null | | 20210519_001 | Perchlorate6850b.lcm | 1x | ☒ | | 5/19/2021 9:03 |
| 2 | null | | 20210519_001~1 | Perchlorate6850b.lcm | 1x | ☒ | | 5/19/2021 9:06 |
| 3 | null | | 20210519_002 | Perchlorate6850b.lcm | 1x | ☒ | | 5/19/2021 9:11 |
| 4 | IB | | 20210519_003 | Perchlorate6850b.lcm | 1x | ☒ | | 5/19/2021 9:16 |
| 5 | IB | | 20210519_004 | Perchlorate6850b.lcm | 1x | ☒ | | 5/19/2021 9:18 |
| 6 | ICS | | 20210519_005 | Perchlorate6850b.lcm | 1x | ☒ | | 5/19/2021 9:26 |
| 7 | LODV | | 20210519_007 | Perchlorate6850b.lcm | 1x | ☒ | | 5/19/2021 10:09 |
| 8 | PERCHLORATE7 | | 20210519_008 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 5/19/2021 10:17 |
| 9 | E2100526-001X20 | | 20210519_009 | Perchlorate6850b.lcm | 20X | ☒ | | 5/19/2021 10:25 |
| 10 | E2100553-001X20 | | 20210519_010 | Perchlorate6850b.lcm | 20X | ☒ | | 5/19/2021 10:34 |
| 11 | E2100555-001X20 | | 20210519_011 | Perchlorate6850b.lcm | 20X | ☒ | | 5/19/2021 10:42 |
| 12 | EQ2100298-02 | | 20210519_012 | Perchlorate6850b.lcm | 1x | ☒ | | 5/19/2021 10:50 |
| 13 | EQ2100298-03 | | 20210519_013 | Perchlorate6850b.lcm | 1x | ☒ | | 5/19/2021 10:59 |
| 14 | PERCHLORATE7 | | 20210519_014 | Perchlorate6850b.lcm | 1x | ☒ | 3100809-02 | 5/19/2021 11:07 |
| 15 | | | | | | | | |
| 16 | | | | | | | | |
| 17 | | | | | | | | |
| 18 | | | | | | | | |
| 19 | | | | | | | | |
| 20 | | | | | | | | |
| 21 | | | | | | | | |
| 22 | | | | | | | | |
| 23 | | | | | | | | |

**ALS Group USA, Corp. dba ALS Environmental**

QA/QC Report

**Client:** ALS Environmental - US
**Project:** HS21050177

**Service Request:** E2100526
**Date Analyzed:** 5/19/21

## 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\20210519\20210519_008

**Calibration Date:** 5/18/21
**Calibration ID:** EC2100031
**Analysis Lot:** 724049
**Units:** ng/mL

| Analyte Name | Expected | Result | Average RF | CCV RF | %D | %Drift | Criteria | Curve Fit |
|---|---|---|---|---|---|---|---|---|
| Perchlorate | 10.0 | 9.32 | 0.1137 | 0.1060 | -6.8 | NA | ± 15 % | Average RF |

**ALS Group USA, Corp. dba ALS Environmental**

QA/QC Report

**Client:** ALS Environmental - US
**Project:** HS21050177

**Service Request:** E2100526
**Date Analyzed:** 5/19/21

## 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\20210519\20210519_014

**Calibration Date:** 5/18/21
**Calibration ID:** EC2100031
**Analysis Lot:** 724049
**Units:** ng/mL

| Analyte Name | Expected | Result | Average RF | CCV RF | %D | %Drift | Criteria | Curve Fit |
|---|---|---|---|---|---|---|---|---|
| Perchlorate | 10.0 | 9.38 | 0.1137 | 0.1067 | -6.2 | NA | ± 15 % | Average RF |

**ALS Group USA, Corp. dba ALS Environmental**

QA/QC Report

**Client:** ALS Environmental - US
**Project:** HS21050177

**Service Request:** E2100526
**Date Analyzed:** 5/18/21

## 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\20210518\20210518_033

**Calibration Date:** 5/18/21
**Calibration ID:** EC2100031
**Analysis Lot:** 724053
**Units:** ng/mL

| Analyte Name | Expected | Result | Average RF | CCV RF | %D | %Drift | Criteria | Curve Fit |
|---|---|---|---|---|---|---|---|---|
| Perchlorate | 10.0 | 9.75 | 0.1137 | 0.1109 | -2.5 | NA | ± 15 % | Average RF |

**ALS Group USA, Corp. dba ALS Environmental**

QA/QC Report

**Client:** ALS Environmental - US
**Project:** HS21050177

**Service Request:** E2100526
**Date Analyzed:** 5/18/21

## 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\20210518\20210518_041

**Calibration Date:** 5/18/21
**Calibration ID:** EC2100031
**Analysis Lot:** 724053
**Units:** ng/mL

| Analyte Name | Expected | Result | Average RF | CCV RF | %D | %Drift | Criteria | Curve Fit |
|---|---|---|---|---|---|---|---|---|
| Perchlorate | 10.0 | 9.46 | 0.1137 | 0.1076 | -5.4 | NA | ± 15 % | Average RF |

**ALS Group USA, Corp. dba ALS Environmental**

QA/QC Report

| | | | |
|---|---|---|---|
| **Client:** | ALS Environmental - US | **Service Request:** | E2100526 |
| **Project:** | HS21050177 | **Date Analyzed:** | 5/19/21 10:17 |

## Internal Standard Area and RT Summary
## Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

| | | | |
|---|---|---|---|
| **File ID:** | I:\LCMS01\DATA\20210519\20210519_008 | **Lab Code:** | EQ2100309-01 |
| **Instrument ID:** | E-LCMS-01 | **Analysis Lot:** | 724049 |
| **Analytical Method:** | 6850 | **Signal ID:** | 1 |

| | | Sodium Perchlorate-18O4 | |
|---|---|---|---|
| | | **Area** | **RT** |
| | **ICAL Average ==>** | 98,625 | 2.82 |
| | **Upper Limit ==>** | 147,938 | 4.82 |
| | **Lower Limit ==>** | 49,313 | 0.82 |
| ***Associated Analyses*** | | | |
| Continuing Calibration Verification | EQ2100309-01 | 107,470 | 2.84 |
| LH18/24-SP650_050421_BIX | E2100526-001 | 117,684 | 2.83 |
| Lab Control Sample | EQ2100298-02 | 130,750 | 2.83 |
| Duplicate Lab Control Sample | EQ2100298-03 | 126,073 | 2.83 |

**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:** | E2100526 |
| **Project:** | HS21050177 | **Date Analyzed:** | 5/19/21 11:07 |

**Internal Standard Area and RT Summary**
**Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry**

| | | | |
|---|---|---|---|
| **File ID:** | I:\LCMS01\DATA\20210519\20210519_014 | **Lab Code:** | EQ2100309-02 |
| **Instrument ID:** | E-LCMS-01 | **Analysis Lot:** | 724049 |
| **Analytical Method:** | 6850 | **Signal ID:** | 1 |

| | | Sodium Perchlorate-18O4 | |
|---|---|---|---|
| | | **Area** | **RT** |
| | **ICAL Average ==>** | 98,625 | 2.82 |
| | **Upper Limit ==>** | 147,938 | 4.82 |
| | **Lower Limit ==>** | 49,313 | 0.82 |
| ***Associated Analyses*** | | | |
| Continuing Calibration Verification | EQ2100309-02 | 92,600 | 2.83 |

**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:** | E2100526 |
| **Project:** | HS21050177 | **Date Analyzed:** | 5/18/21 15:44 |

**Internal Standard Area and RT Summary**
**Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry**

| | | | |
|---|---|---|---|
| **File ID:** | I:\LCMS01\DATA\20210518\20210518_033 | **Lab Code:** | EQ2100310-01 |
| **Instrument ID:** | E-LCMS-01 | **Analysis Lot:** | 724053 |
| **Analytical Method:** | 6850 | **Signal ID:** | 1 |

| | | Sodium Perchlorate-18O4 | |
|---|---|---|---|
| | | **Area** | **RT** |
| | **ICAL Average ==>** | 98,625 | 2.82 |
| | **Upper Limit ==>** | 147,938 | 4.82 |
| | **Lower Limit ==>** | 49,313 | 0.82 |
| ***Associated Analyses*** | | | |
| Continuing Calibration Verification | EQ2100310-01 | 86,285 | 2.83 |
| Method Blank | EQ2100298-01 | 108,736 | 2.70 |

**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:** | E2100526 |
| **Project:** | HS21050177 | **Date Analyzed:** | 5/18/21 17:55 |

**Internal Standard Area and RT Summary**
**Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry**

| | | | |
|---|---|---|---|
| **File ID:** | I:\LCMS01\DATA\20210518\20210518_041 | **Lab Code:** | EQ2100310-02 |
| **Instrument ID:** | E-LCMS-01 | **Analysis Lot:** | 724053 |
| **Analytical Method:** | 6850 | **Signal ID:** | 1 |

| | | Sodium Perchlorate-18O4 | |
|---|---|---|---|
| | | **Area** | **RT** |
| | **ICAL Average ==>** | 98,625 | 2.82 |
| | **Upper Limit ==>** | 147,938 | 4.82 |
| | **Lower Limit ==>** | 49,313 | 0.82 |
| ***Associated Analyses*** | | | |
| Continuing Calibration Verification | EQ2100310-02 | 80,095 | 2.83 |

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

# Insight Report

**Printed at 5/18/2021 3:37:42 PM**

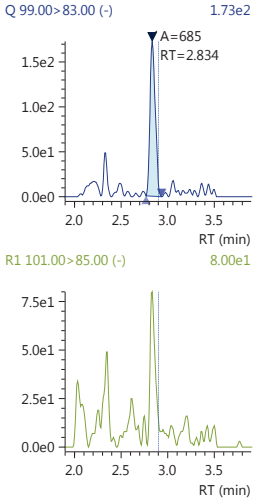
## 20210518_022

Sample ID: LODV
Date Acquired: 5/18/2021 1:21:19 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\20210518_022.lcd
Vial: 20 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.834 | 685 | 127264 | 1 | 0.04731 | ng/mL | ---- | 42.94 |
| Sodium Perchlorate-18O4_IS | Auto | 2.829 | 127264 | 127264 | 1 | 1.00000 | ng/mL | ---- | ---- |

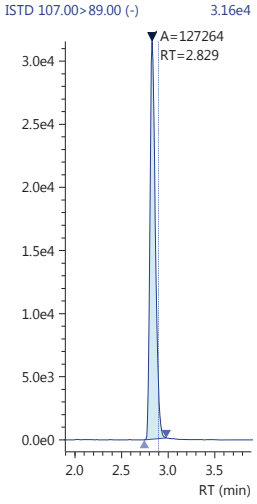
**Perchlorate**

Conc 0.04731
R#1 42.94 (0.00)




**Sodium Perchlorate-18O4_IS**

Conc 1.00000



# Insight Report

**Printed at 5/18/2021 3:39:08 PM**

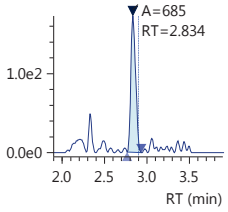
## 20210518_022

Sample ID: LODV
Date Acquired: 5/18/2021 1:21:19 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\Before\20210518_022.lcd
Vial: 20 | Inj. Volume: 25.0000uL | Tray: 1

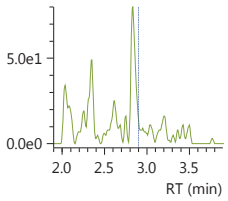
**Perchlorate**

Conc 0.05096
R#1 42.94 (0.00)

Q 99.00>83.00 (-) 1.73e2



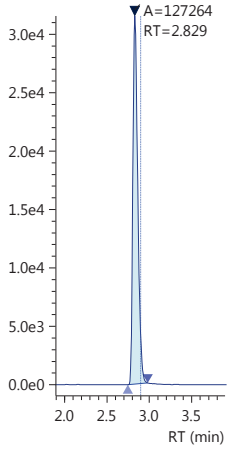

R1 101.00>85.00 (-) 8.00e1




**Sodium Perchlorate -18O4_IS**

Conc 1.00000

ISTD 107.00>89.00 (-) 3.16e4



# Insight Report

**Printed at 5/18/2021 3:37:42 PM**

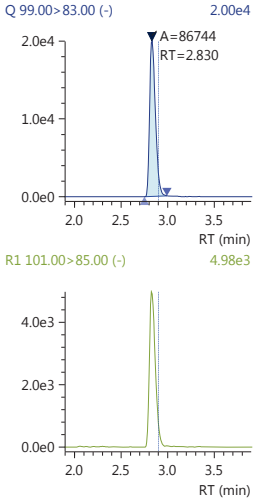
## 20210518_023

Sample ID: PERCHLORATE7
Date Acquired: 5/18/2021 1:29:43 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\20210518_023.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.830 | 86744 | 83213 | 1 | 9.16544 | ng/mL | 10.0000 | 25.12 |
| Sodium Perchlorate-18O4_IS | Auto | 2.829 | 83213 | 83213 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

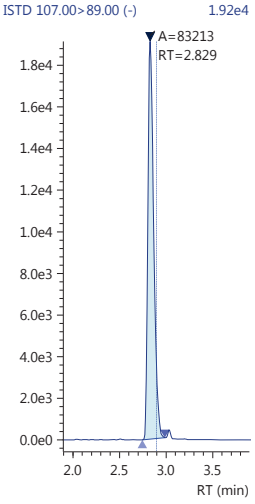
**Perchlorate**

Conc 9.16544
R#1 25.12 (0.00)




**Sodium Perchlorate-18O4_IS**

Conc 1.00000



# Insight Report

**Printed at 5/18/2021 3:39:08 PM**

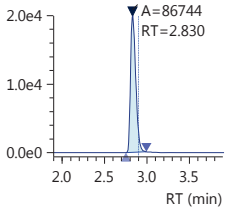
## 20210518_023

Sample ID: PERCHLORATE7
Date Acquired: 5/18/2021 1:29:43 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\Before\20210518_023.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

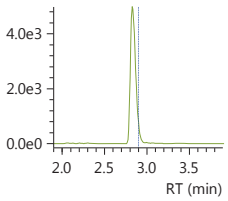
**Perchlorate**

Conc 9.87303
R#1 25.12 (0.00)

Q 99.00>83.00 (-) 2.00e4



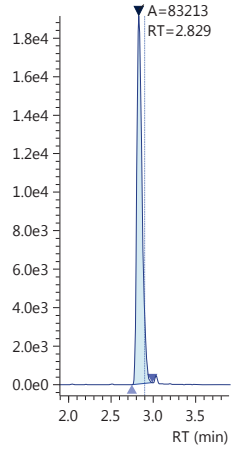

R1 101.00>85.00 (-) 4.98e3




**Sodium Perchlorate -18O4_IS**

Conc 1.00000

ISTD 107.00>89.00 (-) 1.92e4



# Insight Report

**Printed at 5/18/2021 3:50:23 PM**

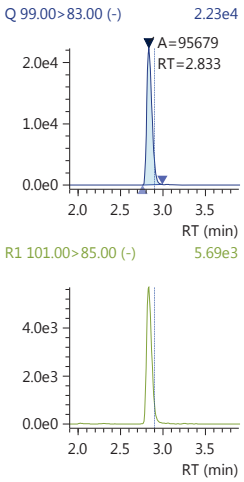
## 20210518_033

Sample ID: PERCHLORATE7
Date Acquired: 5/18/2021 3:44:42 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\20210518_033.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.833 | 95679 | 86285 | 1 | 9.74950 | ng/mL | 10.0000 | 26.19 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.832 | 86285 | 86285 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

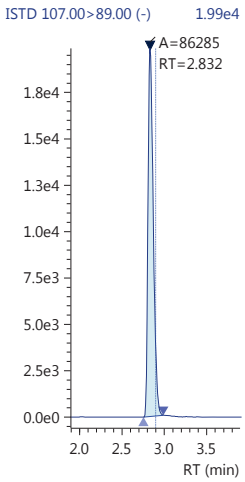
**Perchlorate**

Conc 9.74950
R#1 26.19 (0.00)




**Sodium Perchlorate -18O4_IS**

Conc 1.00000



# Insight Report

**Printed at 5/18/2021 3:51:17 PM**

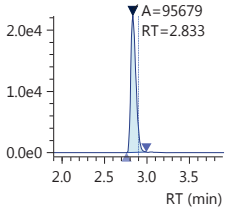
## 20210518_033

Sample ID: PERCHLORATE7
Date Acquired: 5/18/2021 3:44:42 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\Before\20210518_033.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

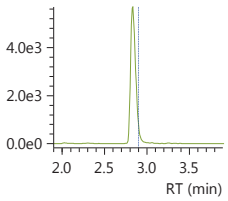
**Perchlorate**

Conc 10.38020
R#1 26.19 (0.00)

Q 99.00>83.00 (-) 2.23e4



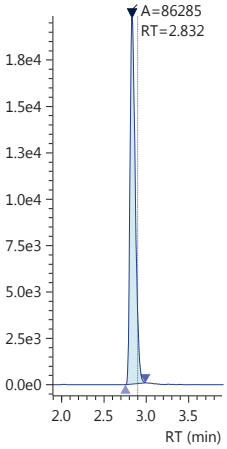

R1 101.00>85.00 (-) 5.69e3




**Sodium Perchlorate -18O4_IS**

Conc 1.00000

ISTD 107.00>89.00 (-) 1.99e4



# Insight Report

**Printed at 5/19/2021 12:31:14 PM**

Method File: I:\LCMS01\DATA\20210518\20210518.lcm
Project File: I:\LCMS01\DATA\20210518\20210518.damlp

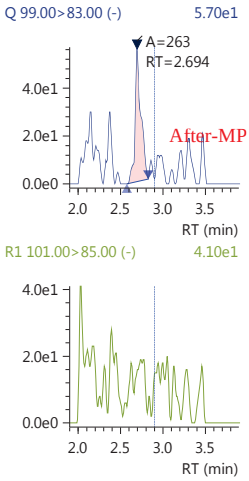
## 20210518_034

Sample ID: EQ2100298-01
Date Acquired: 5/18/2021 4:56:36 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\20210518_034.lcd
Vial: 26 | Inj. Volume: 25.0000uL | Tray: 4

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | M | 2.694 | 263 | 108736 | 1 | 0.02127 | ng/mL | ---- | 19.64 |
| Sodium Perchlorate-18O4 _IS | M | 2.702 | 1087 36 | 108736 | 1 | 1.00000 | ng/mL | ---- | ---- |

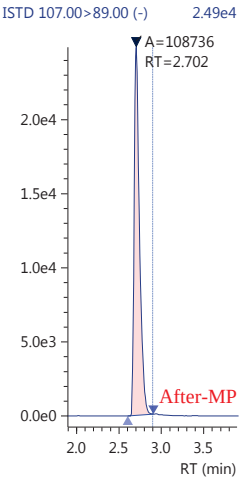
**Perchlorate**

Conc 0.02127
R#1 19.64 (0.00)




**Sodium Perchlorate -18O4_IS**

Conc 1.00000



# Insight Report

**Printed at 5/19/2021 12:32:23 PM**

Method File: I:\LCMS01\DATA\20210518\20210517.lcm

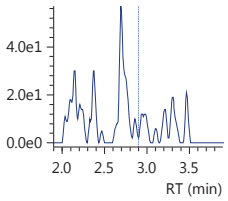
## 20210518_034

Sample ID: EQ2100298-01
Date Acquired: 5/18/2021 4:56:36 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\Before\20210518_034.lcd
Vial: 26 | Inj. Volume: 25.0000uL | Tray: 4

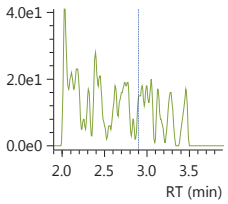
**Perchlorate**

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

Q 99.00>83.00 (-) 5.70e1



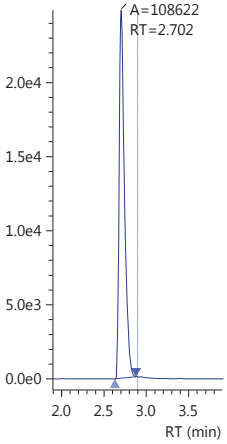

R1 101.00>85.00 (-) 4.10e1




**Sodium Perchlorate -18O4_IS**

Conc ----

ISTD 107.00>89.00 (-) 2.49e4



# Insight Report

**Printed at 5/19/2021 12:31:14 PM**

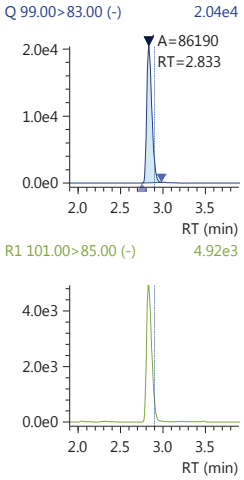
## 20210518_041

Sample ID: PERCHLORATE7
Date Acquired: 5/18/2021 5:55:22 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\20210518_041.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.833 | 86190 | 80095 | 1 | 9.46131 | ng/mL | 10.0000 | 25.02 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.831 | 80095 | 80095 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

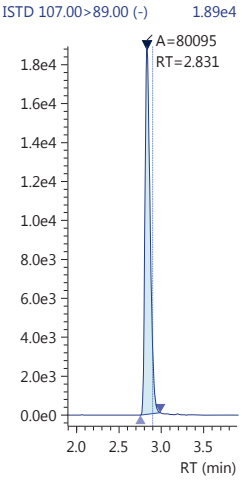
**Perchlorate**

Conc 9.46131
R#1 25.02 (0.00)




**Sodium Perchlorate -18O4_IS**

Conc 1.00000



# Insight Report

**Printed at 5/19/2021 12:32:23 PM**

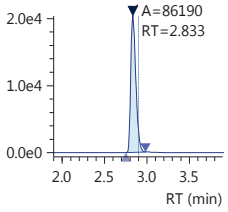
## 20210518_041

Sample ID: PERCHLORATE7
Date Acquired: 5/18/2021 5:55:22 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210518\Before\20210518_041.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

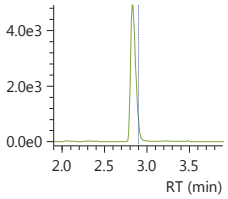
**Perchlorate**

Conc 10.07337
R#1 25.02 (0.00)

Q 99.00>83.00 (-) 2.04e4



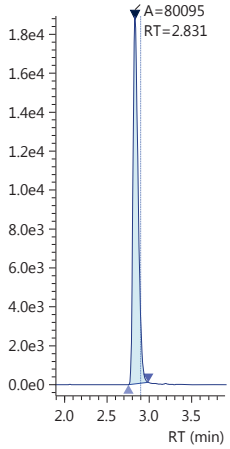

R1 101.00>85.00 (-) 4.92e3




**Sodium Perchlorate -18O4_IS**

Conc 1.00000

ISTD 107.00>89.00 (-) 1.89e4



# Insight Report

**Printed at 5/19/2021 11:21:19 AM**

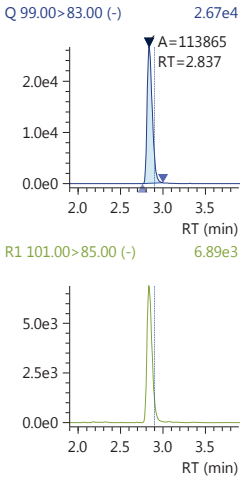
## 20210519_008

Sample ID: PERCHLORATE7
Date Acquired: 5/19/2021 10:17:23 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210519\20210519_008.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.837 | 113865 | 107470 | 1 | 9.31544 | ng/mL | 10.0000 | 25.82 |
| Sodium Perchlorate-18O4_IS | Auto | 2.836 | 107470 | 107470 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

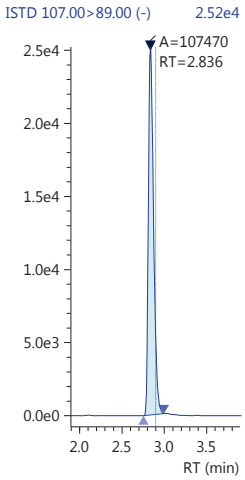
**Perchlorate**

Conc 9.31544
R#1 25.82 (0.00)




**Sodium Perchlorate -18O4_IS**

Conc 1.00000



# Insight Report

**Printed at 5/19/2021 11:22:56 AM**

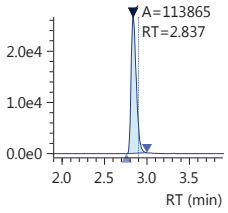
## 20210519_008

Sample ID: PERCHLORATE7
Date Acquired: 5/19/2021 10:17:23 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210519\Before\20210519_008.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

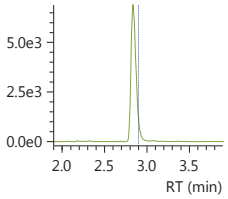
**Perchlorate**

Conc 9.31544
R#1 25.82 (0.00)

Q 99.00>83.00 (-) 2.67e4



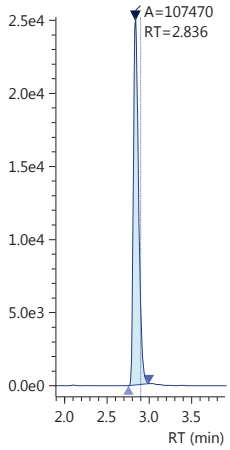

R1 101.00>85.00 (-) 6.89e3




**Sodium Perchlorate -18O4_IS**

Conc 1.00000

ISTD 107.00>89.00 (-) 2.52e4



# Insight Report

**Printed at 5/19/2021 11:21:19 AM**

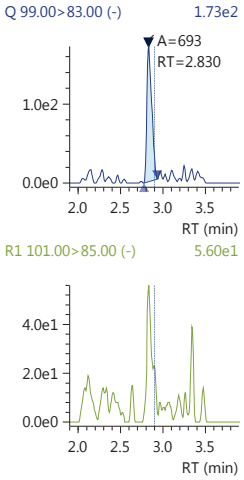
## 20210519_009

Sample ID: E2100526-001X20
Date Acquired: 5/19/2021 10:25:45 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210519\20210519_009.lcd
Vial: 29 | Inj. Volume: 25.0000uL | Tray: 4

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.830 | 693 | 117684 | 1 | 0.05177 | ng/mL | ---- | 30.54 |
| Sodium Perchlorate-18O4 _IS | Auto | 2.832 | 1176 84 | 117684 | 1 | 1.00000 | ng/mL | ---- | ---- |

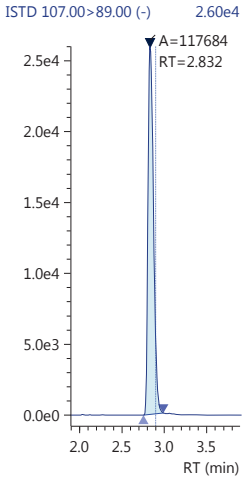
**Perchlorate**

Conc 0.05177
R#1 30.54 (0.00)




**Sodium Perchlorate -18O4_IS**

Conc 1.00000



# Insight Report

**Printed at 5/19/2021 11:22:56 AM**

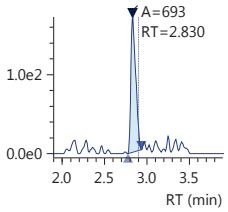
## 20210519_009

Sample ID: E2100526-001X20
Date Acquired: 5/19/2021 10:25:45 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210519\Before\20210519_009.lcd
Vial: 29 | Inj. Volume: 25.0000uL | Tray: 4

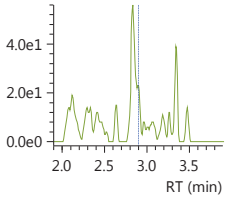
**Perchlorate**

Conc 0.05177
R#1 30.54 (0.00)

Q 99.00>83.00 (-) 1.73e2



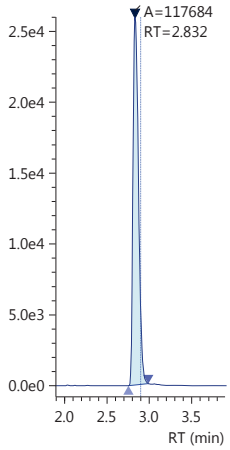

R1 101.00>85.00 (-) 5.60e1




**Sodium Perchlorate -18O4_IS**

Conc 1.00000

ISTD 107.00>89.00 (-) 2.60e4



# Insight Report

**Printed at 5/19/2021 11:21:19 AM**

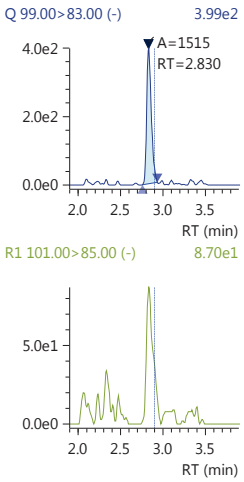
## 20210519_012

Sample ID: EQ2100298-02
Date Acquired: 5/19/2021 10:50:52 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210519\20210519_012.lcd
Vial: 27 | Inj. Volume: 25.0000uL | Tray: 4

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.830 | 1515 | 130750 | 1 | 0.10184 | ng/mL | ---- | 19.43 |
| Sodium Perchlorate-18O4 _IS | M | 2.830 | 1307 50 | 130750 | 1 | 1.00000 | ng/mL | ---- | ---- |

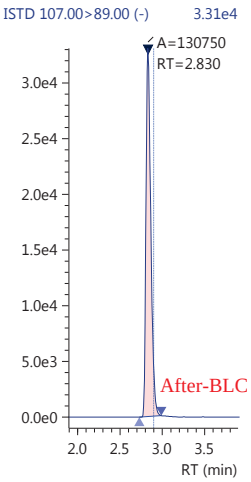
**Perchlorate**

Conc 0.10184
R#1 19.43 (0.00)




**Sodium Perchlorate -18O4_IS**

Conc 1.00000



# Insight Report

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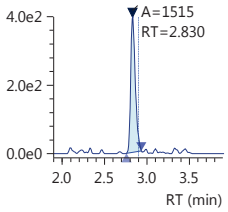
## 20210519_012

Sample ID: EQ2100298-02
Date Acquired: 5/19/2021 10:50:52 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210519\Before\20210519_012.lcd
Vial: 27 | Inj. Volume: 25.0000uL | Tray: 4

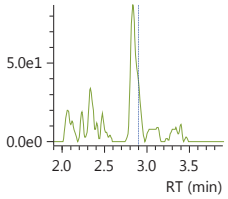
**Perchlorate**

Conc 0.10190
R#1 19.43 (0.00)

Q 99.00>83.00 (-) 3.99e2



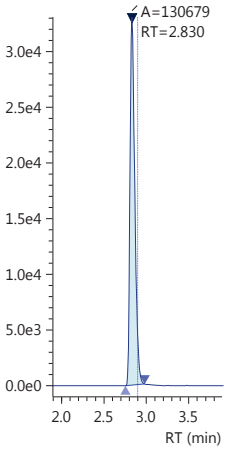

R1 101.00>85.00 (-) 8.70e1




**Sodium Perchlorate -18O4_IS**

Conc 1.00000

ISTD 107.00>89.00 (-) 3.31e4



# Insight Report

**Printed at 5/19/2021 11:21:19 AM**

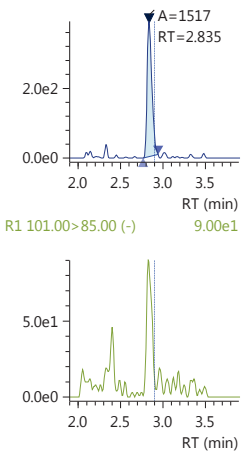
## 20210519_013

Sample ID: EQ2100298-03
Date Acquired: 5/19/2021 10:59:14 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210519\20210519_013.lcd
Vial: 28 | Inj. Volume: 25.0000uL | Tray: 4

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.835 | 1517 | 126073 | 1 | 0.10576 | ng/mL | ---- | 21.62 |
| Sodium Perchlorate-18O4 _IS | M | 2.833 | 1260 73 | 126073 | 1 | 1.00000 | ng/mL | ---- | ---- |

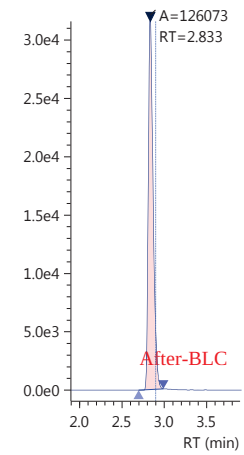
**Perchlorate**

Conc 0.10576
R#1 21.62 (0.00)




**Sodium Perchlorate -18O4_IS**

Conc 1.00000



# Insight Report

**Printed at 5/19/2021 11:22:56 AM**

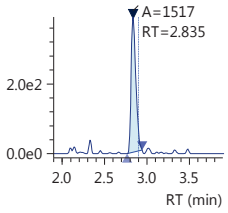
## 20210519_013

Sample ID: EQ2100298-03
Date Acquired: 5/19/2021 10:59:14 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210519\Before\20210519_013.lcd
Vial: 28 | Inj. Volume: 25.0000uL | Tray: 4

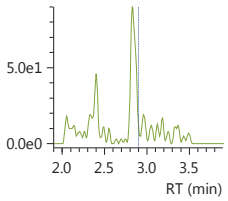
**Perchlorate**

Conc 0.10557
R#1 21.62 (0.00)

Q 99.00>83.00 (-) 3.92e2



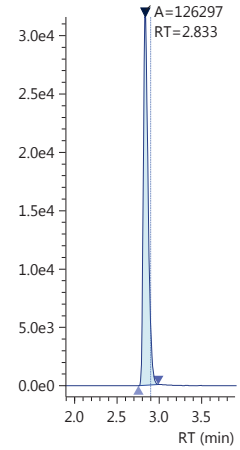

R1 101.00>85.00 (-) 9.00e1




**Sodium Perchlorate -18O4_IS**

Conc 1.00000

ISTD 107.00>89.00 (-) 3.16e4



# Insight Report

**Printed at 5/19/2021 11:21:19 AM**

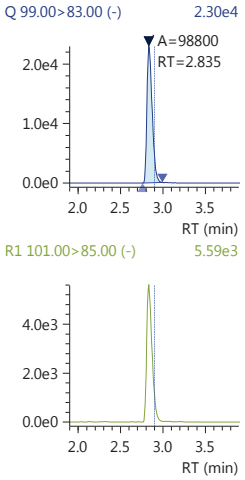
## 20210519_014

Sample ID: PERCHLORATE7
Date Acquired: 5/19/2021 11:07:37 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210519\20210519_014.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

| Name | Mode ID | Found RT | Area | ISTD Area | ISTD Group | Conc. | Unit | Std. Conc. | Ref 1 Actual Ratio |
|---|---|---|---|---|---|---|---|---|---|
| Perchlorate | Auto | 2.835 | 98800 | 92600 | 1 | 9.38100 | ng/mL | 10.0000 | 24.34 |
| Sodium Perchlorate-18O4 _IS | M | 2.833 | 92600 | 92600 | 1 | 1.00000 | ng/mL | 1.0000 | ---- |

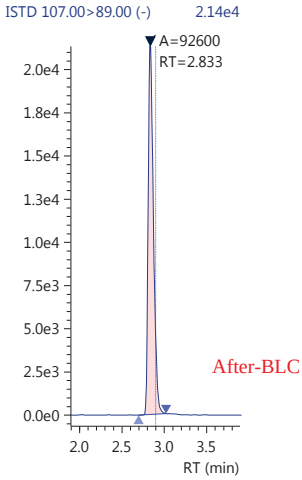
**Perchlorate**

Conc 9.38100
R#1 24.34 (0.00)




**Sodium Perchlorate -18O4_IS**

Conc 1.00000




After-BLC

# Insight Report

Printed at 5/19/2021 11:22:56 AM

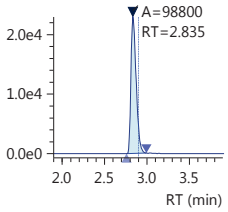
## 20210519_014

Sample ID: PERCHLORATE7
Date Acquired: 5/19/2021 11:07:37 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210519\Before\20210519_014.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

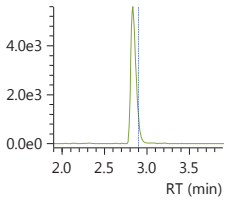
**Perchlorate**

Conc 9.40467
R#1 24.34 (0.00)

Q 99.00>83.00 (-) 2.30e4



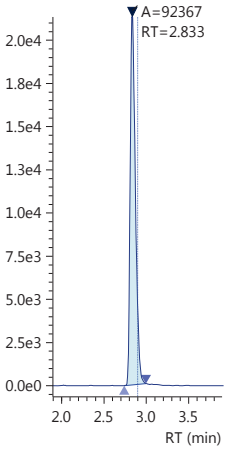

R1 101.00>85.00 (-) 5.59e3




**Sodium Perchlorate -18O4_IS**

Conc 1.00000

ISTD 107.00>89.00 (-) 2.14e4



10450 Stancliff Rd. Suite 210
Houston, TX 77099
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F: +1 281 530 5887
www.alsglobal.com

# WorkOrder: HS21050180

## Longhorn GW Treatment Plant Bi Weekly Samples

## Bhate Environmental Associates, Inc.

Marcia Olive
445 Union Blvd Ste 129
Lakewood CO 80228

**26-May-2021**

ALS Environmental
ALS Group USA, Corp
10450 Stancliff Road, Suite 210
Houston, TX 77099
**T :** +1 281 530 5656
**F :** +1 281 530 5887
**www.alsglobal.com**

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  - Dates Report
  - QC
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  - Certifications
  - Sample Tracking Record
  - SampleReceiptCheckList
  - COC
- HS21050180 8260_W_DOD Raw Data
- HS21050180 Wet Chem Raw Data (9056_anions_W)

# HS21050180 Longhorn GW Treatment Plant Bi Weekly Samples Final

ALS WO# HS21050180

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

May 10, 2021

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

Work Order: **HS21050180**

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

Dear Marcia Olive,

ALS Environmental received 2 sample(s) on May 05, 2021 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**
RJ Modashia
Project Manager

**ALS Houston, US** Date: 10-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Bi Weekly Samples
**Work Order:** HS21050180

## SAMPLE SUMMARY

| Lab Samp ID | Client Sample ID | Matrix | TagNo | Collection Date | Date Received | Hold |
|---|---|---|---|---|---|---|
| HS21050180-01 | LH18/24-SP650_050421 | Water | | 04-May-2021 14:00 | 05-May-2021 11:10 | ☐ |
| HS21050180-02 | Trip Blank | Water | CG-031621-270 | 04-May-2021 00:00 | 05-May-2021 11:10 | ☐ |

**ALS Houston, US** Date: 10-May-21

**Client:** Bhate Environmental Associates, Inc. **CASE NARRATIVE**
**Project:** Longhorn GW Treatment Plant Bi Weekly Samples
**Work Order:** HS21050180

## GCMS Volatiles by Method SW8260

### Batch ID: R383158

**Sample ID: CCV**

- Dichlorodifluoromethane, Chloromethane and Hexachlorobutadiene exceeded %D limits for CCV. Samples are ND for these compounds.

**Sample ID: LH18/24-SP650_050421 (HS21050180-01MS)**

- The recovery of the Matrix Spike (MS) associated to this analyte was outside of the established control limits. However, the LCS was within control limits. The recovery of the MS may be due to sample matrix interference.

**Sample ID: LH18/24-SP650_050421 (HS21050180-01MSD)**

- The recovery of the Matrix Spike Duplicate (MSD) associated to this analyte was outside of the established control limits. However, the LCS was within control limits. The failed recovery of the MSD may be due to sample matrix interference.

## WetChemistry by Method SW9056

### Batch ID: R383278

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

**ALS Houston, US** Date: 10-May-21

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Longhorn GW Treatment Plant Bi Weekly Samples WorkOrder:HS21050180
Sample ID: LH18/24-SP650_050421 Lab ID:HS21050180-01
Collection Date: 04-May-2021 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-May-2021 14:49 |
| 1,1,1-Trichloroethane | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 06-May-2021 14:49 |
| 1,1,2,2-Tetrachloroethane | 1.0 | U | 0.50 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:49 |
| 1,1,2-Trichloroethane | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:49 |
| 1,1-Dichloroethane | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 06-May-2021 14:49 |
| 1,1-Dichloroethene | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 06-May-2021 14:49 |
| 1,1-Dichloropropene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:49 |
| 1,2,3-Trichlorobenzene | 1.0 | U | 0.40 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:49 |
| 1,2,3-Trichloropropane | 1.0 | U | 0.50 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:49 |
| 1,2,4-Trichlorobenzene | 1.0 | U | 0.50 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:49 |
| 1,2,4-Trimethylbenzene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:49 |
| 1,2-Dibromo-3-chloropropane | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 06-May-2021 14:49 |
| 1,2-Dibromoethane | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 06-May-2021 14:49 |
| 1,2-Dichlorobenzene | 1.0 | U | 0.50 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:49 |
| 1,2-Dichloroethane | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 06-May-2021 14:49 |
| 1,2-Dichloropropane | 1.0 | U | 0.50 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:49 |
| 1,3,5-Trimethylbenzene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:49 |
| 1,3-Dichlorobenzene | 1.0 | U | 0.40 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:49 |
| 1,3-Dichloropropane | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:49 |
| 1,4-Dichlorobenzene | 1.0 | U | 0.40 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:49 |
| 2,2-Dichloropropane | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 06-May-2021 14:49 |
| 2-Butanone | 1.0 | U | 0.50 | 1.0 | 2.0 | ug/L | 1 | 06-May-2021 14:49 |
| 2-Chlorotoluene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:49 |
| 2-Hexanone | 2.0 | U | 1.0 | 2.0 | 2.0 | ug/L | 1 | 06-May-2021 14:49 |
| 4-Chlorotoluene | 1.0 | U | 0.40 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:49 |
| 4-Isopropyltoluene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:49 |
| 4-Methyl-2-pentanone | 2.0 | U | 0.70 | 2.0 | 2.0 | ug/L | 1 | 06-May-2021 14:49 |
| Acetone | 2.0 | U | 0.40 | 2.0 | 2.0 | ug/L | 1 | 06-May-2021 14:49 |
| Benzene | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 06-May-2021 14:49 |
| Bromobenzene | 1.0 | U | 0.40 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:49 |
| Bromochloromethane | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 06-May-2021 14:49 |
| Bromodichloromethane | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 06-May-2021 14:49 |
| Bromoform | 1.0 | U | 0.40 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:49 |
| Bromomethane | 1.0 | U | 0.40 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:49 |
| Carbon disulfide | 2.0 | U | 0.60 | 2.0 | 2.0 | ug/L | 1 | 06-May-2021 14:49 |
| Carbon tetrachloride | 1.0 | U | 0.50 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:49 |
| Chlorobenzene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:49 |
| Chloroethane | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:49 |
| Chloroform | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 06-May-2021 14:49 |

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

**ALS Houston, US** Date: 10-May-21

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Longhorn GW Treatment Plant Bi Weekly Samples WorkOrder:HS21050180
Sample ID: LH18/24-SP650_050421 Lab ID:HS21050180-01
Collection Date: 04-May-2021 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 | 06-May-2021 14:49 |
| **cis-1,2-Dichloroethene** | **8.9** | | **0.20** | **0.50** | **1.0** | **ug/L** | 1 | 06-May-2021 14:49 |
| cis-1,3-Dichloropropene | 0.50 | U | 0.10 | 0.50 | 1.0 | ug/L | 1 | 06-May-2021 14:49 |
| Dibromochloromethane | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:49 |
| Dibromomethane | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 06-May-2021 14:49 |
| Dichlorodifluoromethane | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:49 |
| Ethylbenzene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:49 |
| Hexachlorobutadiene | 1.0 | U | 1.0 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:49 |
| Isopropylbenzene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:49 |
| m,p-Xylene | 1.0 | U | 0.50 | 1.0 | 2.0 | ug/L | 1 | 06-May-2021 14:49 |
| Methylene chloride | 2.0 | U | 0.40 | 2.0 | 2.0 | ug/L | 1 | 06-May-2021 14:49 |
| n-Butylbenzene | 1.0 | U | 0.40 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:49 |
| n-Propylbenzene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:49 |
| Naphthalene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:49 |
| o-Xylene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:49 |
| sec-Butylbenzene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:49 |
| Styrene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:49 |
| tert-Butylbenzene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:49 |
| Tetrachloroethene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:49 |
| Toluene | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 06-May-2021 14:49 |
| trans-1,2-Dichloroethene | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 06-May-2021 14:49 |
| trans-1,3-Dichloropropene | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 06-May-2021 14:49 |
| **Trichloroethene** | **3.1** | | **0.20** | **0.50** | **1.0** | **ug/L** | 1 | 06-May-2021 14:49 |
| Trichlorofluoromethane | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:49 |
| Vinyl chloride | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 06-May-2021 14:49 |
| *Surr: 1,2-Dichloroethane-d4* | *92.8* | | | **0** | *81-118* | *%REC* | *1* | *06-May-2021 14:49* |
| *Surr: 4-Bromofluorobenzene* | *106* | | | **0** | *85-114* | *%REC* | *1* | *06-May-2021 14:49* |
| *Surr: Dibromofluoromethane* | *91.5* | | | **0** | *80-119* | *%REC* | *1* | *06-May-2021 14:49* |
| *Surr: Toluene-d8* | *105* | | | **0** | *89-112* | *%REC* | *1* | *06-May-2021 14:49* |
| **ANIONS BY SW9056A** | | **Method:SW9056** | | | | | | Analyst: YP |
| **Chloride** | **507** | | **4.00** | **10.0** | **10.0** | **mg/L** | 20 | 07-May-2021 15:17 |
| **Sulfate** | **29.7** | | **0.200** | **0.500** | **0.500** | **mg/L** | 1 | 07-May-2021 15:10 |

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

**ALS Houston, US** Date: 10-May-21

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Longhorn GW Treatment Plant Bi Weekly Samples WorkOrder:HS21050180
Sample ID: Trip Blank Lab ID:HS21050180-02
Collection Date: 04-May-2021 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-May-2021 14:28 |
| 1,1,1-Trichloroethane | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 06-May-2021 14:28 |
| 1,1,2,2-Tetrachloroethane | 1.0 | U | 0.50 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:28 |
| 1,1,2-Trichloroethane | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:28 |
| 1,1-Dichloroethane | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 06-May-2021 14:28 |
| 1,1-Dichloroethene | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 06-May-2021 14:28 |
| 1,1-Dichloropropene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:28 |
| 1,2,3-Trichlorobenzene | 1.0 | U | 0.40 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:28 |
| 1,2,3-Trichloropropane | 1.0 | U | 0.50 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:28 |
| 1,2,4-Trichlorobenzene | 1.0 | U | 0.50 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:28 |
| 1,2,4-Trimethylbenzene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:28 |
| 1,2-Dibromo-3-chloropropane | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 06-May-2021 14:28 |
| 1,2-Dibromoethane | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 06-May-2021 14:28 |
| 1,2-Dichlorobenzene | 1.0 | U | 0.50 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:28 |
| 1,2-Dichloroethane | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 06-May-2021 14:28 |
| 1,2-Dichloropropane | 1.0 | U | 0.50 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:28 |
| 1,3,5-Trimethylbenzene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:28 |
| 1,3-Dichlorobenzene | 1.0 | U | 0.40 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:28 |
| 1,3-Dichloropropane | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:28 |
| 1,4-Dichlorobenzene | 1.0 | U | 0.40 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:28 |
| 2,2-Dichloropropane | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 06-May-2021 14:28 |
| 2-Butanone | 1.0 | U | 0.50 | 1.0 | 2.0 | ug/L | 1 | 06-May-2021 14:28 |
| 2-Chlorotoluene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:28 |
| 2-Hexanone | 2.0 | U | 1.0 | 2.0 | 2.0 | ug/L | 1 | 06-May-2021 14:28 |
| 4-Chlorotoluene | 1.0 | U | 0.40 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:28 |
| 4-Isopropyltoluene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:28 |
| 4-Methyl-2-pentanone | 2.0 | U | 0.70 | 2.0 | 2.0 | ug/L | 1 | 06-May-2021 14:28 |
| Acetone | 2.0 | U | 0.40 | 2.0 | 2.0 | ug/L | 1 | 06-May-2021 14:28 |
| Benzene | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 06-May-2021 14:28 |
| Bromobenzene | 1.0 | U | 0.40 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:28 |
| Bromochloromethane | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 06-May-2021 14:28 |
| Bromodichloromethane | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 06-May-2021 14:28 |
| Bromoform | 1.0 | U | 0.40 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:28 |
| Bromomethane | 1.0 | U | 0.40 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:28 |
| Carbon disulfide | 2.0 | U | 0.60 | 2.0 | 2.0 | ug/L | 1 | 06-May-2021 14:28 |
| Carbon tetrachloride | 1.0 | U | 0.50 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:28 |
| Chlorobenzene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:28 |
| Chloroethane | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:28 |
| Chloroform | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 06-May-2021 14:28 |

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

**ALS Houston, US** Date: 10-May-21

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Longhorn GW Treatment Plant Bi Weekly Samples WorkOrder:HS21050180
Sample ID: Trip Blank Lab ID:HS21050180-02
Collection Date: 04-May-2021 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 | 06-May-2021 14:28 |
| cis-1,2-Dichloroethene | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 06-May-2021 14:28 |
| cis-1,3-Dichloropropene | 0.50 | U | 0.10 | 0.50 | 1.0 | ug/L | 1 | 06-May-2021 14:28 |
| Dibromochloromethane | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:28 |
| Dibromomethane | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 06-May-2021 14:28 |
| Dichlorodifluoromethane | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:28 |
| Ethylbenzene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:28 |
| Hexachlorobutadiene | 1.0 | U | 1.0 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:28 |
| Isopropylbenzene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:28 |
| m,p-Xylene | 1.0 | U | 0.50 | 1.0 | 2.0 | ug/L | 1 | 06-May-2021 14:28 |
| Methylene chloride | 2.0 | U | 0.40 | 2.0 | 2.0 | ug/L | 1 | 06-May-2021 14:28 |
| n-Butylbenzene | 1.0 | U | 0.40 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:28 |
| n-Propylbenzene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:28 |
| Naphthalene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:28 |
| o-Xylene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:28 |
| sec-Butylbenzene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:28 |
| Styrene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:28 |
| tert-Butylbenzene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:28 |
| Tetrachloroethene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:28 |
| Toluene | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 06-May-2021 14:28 |
| trans-1,2-Dichloroethene | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 06-May-2021 14:28 |
| trans-1,3-Dichloropropene | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 06-May-2021 14:28 |
| Trichloroethene | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 06-May-2021 14:28 |
| Trichlorofluoromethane | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 06-May-2021 14:28 |
| Vinyl chloride | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 06-May-2021 14:28 |
| *Surr: 1,2-Dichloroethane-d4* | *90.1* | | | **0** | *81-118* | *%REC* | *1* | *06-May-2021 14:28* |
| *Surr: 4-Bromofluorobenzene* | *85.1* | | | **0** | *85-114* | *%REC* | *1* | *06-May-2021 14:28* |
| *Surr: Dibromofluoromethane* | *88.8* | | | **0** | *80-119* | *%REC* | *1* | *06-May-2021 14:28* |
| *Surr: Toluene-d8* | *102* | | | **0** | *89-112* | *%REC* | *1* | *06-May-2021 14:28* |

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

**ALS Houston, US** Date: 10-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Bi Weekly Samples
**WorkOrder:** HS21050180

**DATES REPORT**

| Sample ID | Client Samp ID | Collection Date | Leachate Date | Prep Date | Analysis Date | DF |
|---|---|---|---|---|---|---|
| **Batch ID:** R383158 ( 0 ) | **Test Name :** VOLATILES ORGANICS BY METHOD 8260C | | | | **Matrix:** Water | |
| HS21050180-01 | LH18/24-SP650_050421 | 04 May 2021 14:00 | | | 06 May 2021 14:49 | 1 |
| HS21050180-02 | Trip Blank | 04 May 2021 00:00 | | | 06 May 2021 14:28 | 1 |
| **Batch ID:** R383278 ( 0 ) | **Test Name :** ANIONS BY SW9056A | | | | **Matrix:** Water | |
| HS21050180-01 | LH18/24-SP650_050421 | 04 May 2021 14:00 | | | 07 May 2021 15:17 | 20 |
| HS21050180-01 | LH18/24-SP650_050421 | 04 May 2021 14:00 | | | 07 May 2021 15:10 | 1 |

**ALS Houston, US** Date: 10-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Bi Weekly Samples
**WorkOrder:** HS21050180

**QC BATCH REPORT**

**Batch ID:** R383158 ( 0 ) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

**MBLK** Sample ID: **VBLKW-210506** Units: **ug/L** Analysis Date: **06-May-2021 13:45**
Client ID: Run ID: **VOA6_383158** SeqNo: **6080192** 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 | 0.50 | 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: 10-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Bi Weekly Samples
**WorkOrder:** HS21050180

**QC BATCH REPORT**

**Batch ID:** R383158 ( 0 ) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

**MBLK** Sample ID: **VBLKW-210506** Units: **ug/L** Analysis Date: **06-May-2021 13:45**
Client ID: Run ID: **VOA6_383158** SeqNo: **6080192** 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* | *45.81* | *1.0* | *50* | *0* | *91.6* | *81 - 118* | | | | |
| *Surr: 4-Bromofluorobenzene* | *45.31* | *1.0* | *50* | *0* | *90.6* | *85 - 114* | | | | |
| *Surr: Dibromofluoromethane* | *46.03* | *1.0* | *50* | *0* | *92.1* | *80 - 119* | | | | |
| *Surr: Toluene-d8* | *53.59* | *1.0* | *50* | *0* | *107* | *89 - 112* | | | | |

**ALS Houston, US** Date: 10-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Bi Weekly Samples
**WorkOrder:** HS21050180

**QC BATCH REPORT**

**Batch ID:** R383158 ( 0 ) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

**LCS** Sample ID: **VLCSW-210506** Units: **ug/L** Analysis Date: **06-May-2021 13:03**
Client ID: Run ID: **VOA6_383158** SeqNo: **6080191** 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 | 18.65 | 1.0 | 20 | 0 | 93.2 | 78 - 124 | | | | |
| 1,1,1-Trichloroethane | 20.11 | 1.0 | 20 | 0 | 101 | 74 - 131 | | | | |
| 1,1,2,2-Tetrachloroethane | 20.61 | 1.0 | 20 | 0 | 103 | 71 - 121 | | | | |
| 1,1,2-Trichloroethane | 20.25 | 1.0 | 20 | 0 | 101 | 80 - 119 | | | | |
| 1,1-Dichloroethane | 20.23 | 1.0 | 20 | 0 | 101 | 77 - 125 | | | | |
| 1,1-Dichloroethene | 17.47 | 1.0 | 20 | 0 | 87.3 | 71 - 131 | | | | |
| 1,1-Dichloropropene | 18.53 | 1.0 | 20 | 0 | 92.7 | 78 - 125 | | | | |
| 1,2,3-Trichlorobenzene | 22.1 | 1.0 | 20 | 0 | 110 | 69 - 129 | | | | |
| 1,2,3-Trichloropropane | 21.08 | 1.0 | 20 | 0 | 105 | 73 - 122 | | | | |
| 1,2,4-Trichlorobenzene | 21.34 | 1.0 | 20 | 0 | 107 | 69 - 130 | | | | |
| 1,2,4-Trimethylbenzene | 18.31 | 1.0 | 20 | 0 | 91.5 | 76 - 124 | | | | |
| 1,2-Dibromo-3-chloropropane | 21.5 | 1.0 | 20 | 0 | 107 | 62 - 128 | | | | |
| 1,2-Dibromoethane | 20.61 | 1.0 | 20 | 0 | 103 | 77 - 121 | | | | |
| 1,2-Dichlorobenzene | 18.26 | 1.0 | 20 | 0 | 91.3 | 80 - 119 | | | | |
| 1,2-Dichloroethane | 19.22 | 1.0 | 20 | 0 | 96.1 | 73 - 128 | | | | |
| 1,2-Dichloropropane | 20.15 | 1.0 | 20 | 0 | 101 | 78 - 122 | | | | |
| 1,3,5-Trimethylbenzene | 17.1 | 1.0 | 20 | 0 | 85.5 | 75 - 124 | | | | |
| 1,3-Dichlorobenzene | 18.67 | 1.0 | 20 | 0 | 93.3 | 80 - 119 | | | | |
| 1,3-Dichloropropane | 21.26 | 1.0 | 20 | 0 | 106 | 80 - 119 | | | | |
| 1,4-Dichlorobenzene | 18.06 | 1.0 | 20 | 0 | 90.3 | 79 - 118 | | | | |
| 2,2-Dichloropropane | 19.45 | 1.0 | 20 | 0 | 97.3 | 60 - 139 | | | | |
| 2-Butanone | 39.47 | 2.0 | 40 | 0 | 98.7 | 56 - 143 | | | | |
| 2-Chlorotoluene | 20.65 | 1.0 | 20 | 0 | 103 | 79 - 122 | | | | |
| 2-Hexanone | 39.82 | 2.0 | 40 | 0 | 99.6 | 57 - 139 | | | | |
| 4-Chlorotoluene | 18.34 | 1.0 | 20 | 0 | 91.7 | 78 - 122 | | | | |
| 4-Isopropyltoluene | 16.97 | 1.0 | 20 | 0 | 84.9 | 77 - 127 | | | | |
| 4-Methyl-2-pentanone | 39.47 | 2.0 | 40 | 0 | 98.7 | 67 - 130 | | | | |
| Acetone | 36.27 | 2.0 | 40 | 0 | 90.7 | 39 - 160 | | | | |
| Benzene | 19.22 | 1.0 | 20 | 0 | 96.1 | 79 - 120 | | | | |
| Bromobenzene | 19.01 | 1.0 | 20 | 0 | 95.0 | 80 - 120 | | | | |
| Bromochloromethane | 20.11 | 1.0 | 20 | 0 | 101 | 78 - 123 | | | | |
| Bromodichloromethane | 19.76 | 1.0 | 20 | 0 | 98.8 | 79 - 125 | | | | |
| Bromoform | 18.45 | 1.0 | 20 | 0 | 92.3 | 66 - 130 | | | | |
| Bromomethane | 22.98 | 1.0 | 20 | 0 | 115 | 53 - 141 | | | | |

**ALS Houston, US** Date: 10-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Bi Weekly Samples
**WorkOrder:** HS21050180

**QC BATCH REPORT**

**Batch ID:** R383158 ( 0 ) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

**LCS** Sample ID: **VLCSW-210506** Units: **ug/L** Analysis Date: **06-May-2021 13:03**
Client ID: Run ID: **VOA6_383158** SeqNo: **6080191** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Carbon disulfide | 40.05 | 2.0 | 40 | 0 | 100 | 64 - 133 | | | | |
| Carbon tetrachloride | 17.73 | 1.0 | 20 | 0 | 88.6 | 72 - 136 | | | | |
| Chlorobenzene | 18.85 | 1.0 | 20 | 0 | 94.3 | 82 - 118 | | | | |
| Chloroethane | 19.28 | 1.0 | 20 | 0 | 96.4 | 60 - 138 | | | | |
| Chloroform | 20.38 | 1.0 | 20 | 0 | 102 | 79 - 124 | | | | |
| Chloromethane | 22.08 | 1.0 | 20 | 0 | 110 | 50 - 139 | | | | |
| cis-1,2-Dichloroethene | 19.69 | 1.0 | 20 | 0 | 98.5 | 78 - 123 | | | | |
| cis-1,3-Dichloropropene | 19.95 | 1.0 | 20 | 0 | 99.8 | 75 - 124 | | | | |
| Dibromochloromethane | 19.61 | 1.0 | 20 | 0 | 98.1 | 74 - 126 | | | | |
| Dibromomethane | 18.83 | 1.0 | 20 | 0 | 94.2 | 79 - 123 | | | | |
| Dichlorodifluoromethane | 24.04 | 1.0 | 20 | 0 | 120 | 32 - 152 | | | | |
| Ethylbenzene | 17.28 | 1.0 | 20 | 0 | 86.4 | 79 - 121 | | | | |
| Hexachlorobutadiene | 19.59 | 1.0 | 20 | 0 | 98.0 | 66 - 134 | | | | |
| Isopropylbenzene | 16.15 | 1.0 | 20 | 0 | 80.8 | 72 - 131 | | | | |
| m,p-Xylene | 34.51 | 2.0 | 40 | 0 | 86.3 | 80 - 121 | | | | |
| Methylene chloride | 20.77 | 2.0 | 20 | 0 | 104 | 74 - 124 | | | | |
| Naphthalene | 22.19 | 1.0 | 20 | 0 | 111 | 61 - 128 | | | | |
| n-Butylbenzene | 17.34 | 1.0 | 20 | 0 | 86.7 | 75 - 128 | | | | |
| n-Propylbenzene | 17.91 | 1.0 | 20 | 0 | 89.5 | 76 - 126 | | | | |
| o-Xylene | 17.06 | 1.0 | 20 | 0 | 85.3 | 78 - 122 | | | | |
| sec-Butylbenzene | 18.68 | 1.0 | 20 | 0 | 93.4 | 77 - 126 | | | | |
| Styrene | 18.02 | 1.0 | 20 | 0 | 90.1 | 78 - 123 | | | | |
| tert-Butylbenzene | 17.53 | 1.0 | 20 | 0 | 87.6 | 78 - 124 | | | | |
| Tetrachloroethene | 18.13 | 1.0 | 20 | 0 | 90.7 | 74 - 129 | | | | |
| Toluene | 19.41 | 1.0 | 20 | 0 | 97.0 | 80 - 121 | | | | |
| trans-1,2-Dichloroethene | 19.84 | 1.0 | 20 | 0 | 99.2 | 75 - 124 | | | | |
| trans-1,3-Dichloropropene | 19.46 | 1.0 | 20 | 0 | 97.3 | 73 - 127 | | | | |
| Trichloroethene | 19.84 | 1.0 | 20 | 0 | 99.2 | 79 - 123 | | | | |
| Trichlorofluoromethane | 16.72 | 1.0 | 20 | 0 | 83.6 | 65 - 141 | | | | |
| Vinyl chloride | 19.12 | 1.0 | 20 | 0 | 95.6 | 58 - 137 | | | | |
| *Surr: 1,2-Dichloroethane-d4* | *54.19* | *1.0* | *50* | *0* | *108* | *81 - 118* | | | | |
| *Surr: 4-Bromofluorobenzene* | *47.3* | *1.0* | *50* | *0* | *94.6* | *85 - 114* | | | | |
| *Surr: Dibromofluoromethane* | *50.09* | *1.0* | *50* | *0* | *100* | *80 - 119* | | | | |
| *Surr: Toluene-d8* | *50.17* | *1.0* | *50* | *0* | *100* | *89 - 112* | | | | |

**ALS Houston, US** Date: 10-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Bi Weekly Samples
**WorkOrder:** HS21050180

**QC BATCH REPORT**

**Batch ID:** R383158 ( 0 ) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

**MS** Sample ID: **HS21050180-01MS** Units: **ug/L** Analysis Date: **06-May-2021 15:10**
Client ID: **LH18/24-SP650_050421** Run ID: **VOA6_383158** SeqNo: **6080195** 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 | 18.81 | 1.0 | 20 | 0 | 94.0 | 78 - 124 | | | | |
| 1,1,1-Trichloroethane | 20.04 | 1.0 | 20 | 0 | 100 | 74 - 131 | | | | |
| 1,1,2,2-Tetrachloroethane | 17.69 | 1.0 | 20 | 0 | 88.4 | 71 - 121 | | | | |
| 1,1,2-Trichloroethane | 19.11 | 1.0 | 20 | 0 | 95.5 | 80 - 119 | | | | |
| 1,1-Dichloroethane | 18.36 | 1.0 | 20 | 0 | 91.8 | 77 - 125 | | | | |
| 1,1-Dichloroethene | 18.09 | 1.0 | 20 | 0 | 90.5 | 71 - 131 | | | | |
| 1,1-Dichloropropene | 19.89 | 1.0 | 20 | 0 | 99.5 | 78 - 125 | | | | |
| 1,2,3-Trichlorobenzene | 20.73 | 1.0 | 20 | 0 | 104 | 69 - 129 | | | | |
| 1,2,3-Trichloropropane | 16.9 | 1.0 | 20 | 0 | 84.5 | 73 - 122 | | | | |
| 1,2,4-Trichlorobenzene | 19.3 | 1.0 | 20 | 0 | 96.5 | 69 - 130 | | | | |
| 1,2,4-Trimethylbenzene | 20.39 | 1.0 | 20 | 0 | 102 | 76 - 124 | | | | |
| 1,2-Dibromo-3-chloropropane | 19.54 | 1.0 | 20 | 0 | 97.7 | 62 - 128 | | | | |
| 1,2-Dibromoethane | 20.13 | 1.0 | 20 | 0 | 101 | 77 - 121 | | | | |
| 1,2-Dichlorobenzene | 18.34 | 1.0 | 20 | 0 | 91.7 | 80 - 119 | | | | |
| 1,2-Dichloroethane | 19.63 | 1.0 | 20 | 0 | 98.1 | 73 - 128 | | | | |
| 1,2-Dichloropropane | 19.93 | 1.0 | 20 | 0 | 99.6 | 78 - 122 | | | | |
| 1,3,5-Trimethylbenzene | 18.84 | 1.0 | 20 | 0 | 94.2 | 75 - 124 | | | | |
| 1,3-Dichlorobenzene | 19.45 | 1.0 | 20 | 0 | 97.3 | 80 - 119 | | | | |
| 1,3-Dichloropropane | 21.02 | 1.0 | 20 | 0 | 105 | 80 - 119 | | | | |
| 1,4-Dichlorobenzene | 18.23 | 1.0 | 20 | 0 | 91.1 | 79 - 118 | | | | |
| 2,2-Dichloropropane | 18.6 | 1.0 | 20 | 0 | 93.0 | 60 - 139 | | | | |
| 2-Butanone | 34.12 | 2.0 | 40 | 0 | 85.3 | 56 - 143 | | | | |
| 2-Chlorotoluene | 19.95 | 1.0 | 20 | 0 | 99.8 | 79 - 122 | | | | |
| 2-Hexanone | 39.41 | 2.0 | 40 | 0 | 98.5 | 57 - 139 | | | | |
| 4-Chlorotoluene | 18.8 | 1.0 | 20 | 0 | 94.0 | 78 - 122 | | | | |
| 4-Isopropyltoluene | 20.98 | 1.0 | 20 | 0 | 105 | 77 - 127 | | | | |
| 4-Methyl-2-pentanone | 39.74 | 2.0 | 40 | 0 | 99.4 | 67 - 130 | | | | |
| Acetone | 34.06 | 2.0 | 40 | 0 | 85.2 | 39 - 160 | | | | |
| Benzene | 19 | 1.0 | 20 | 0 | 95.0 | 79 - 120 | | | | |
| Bromobenzene | 17.55 | 1.0 | 20 | 0 | 87.8 | 80 - 120 | | | | |
| Bromochloromethane | 18.67 | 1.0 | 20 | 0 | 93.4 | 78 - 123 | | | | |
| Bromodichloromethane | 18.77 | 1.0 | 20 | 0 | 93.9 | 79 - 125 | | | | |
| Bromoform | 20.97 | 1.0 | 20 | 0 | 105 | 66 - 130 | | | | |
| Bromomethane | 15.17 | 1.0 | 20 | 0 | 75.9 | 53 - 141 | | | | |

**ALS Houston, US** Date: 10-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Bi Weekly Samples
**WorkOrder:** HS21050180

**QC BATCH REPORT**

**Batch ID:** R383158 ( 0 ) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

**MS** Sample ID: **HS21050180-01MS** Units: **ug/L** Analysis Date: **06-May-2021 15:10**
Client ID: **LH18/24-SP650_050421** Run ID: **VOA6_383158** SeqNo: **6080195** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Carbon disulfide | 44.81 | 2.0 | 40 | 0 | 112 | 64 - 133 | | | | |
| Carbon tetrachloride | 20.2 | 1.0 | 20 | 0 | 101 | 72 - 136 | | | | |
| Chlorobenzene | 19.55 | 1.0 | 20 | 0 | 97.8 | 82 - 118 | | | | |
| Chloroethane | 16.21 | 1.0 | 20 | 0 | 81.1 | 60 - 138 | | | | |
| Chloroform | 18.41 | 1.0 | 20 | 0 | 92.1 | 79 - 124 | | | | |
| Chloromethane | 30.78 | 1.0 | 20 | 0 | 154 | 50 - 139 | | | | S |
| cis-1,2-Dichloroethene | 27.46 | 1.0 | 20 | 8.946 | 92.6 | 78 - 123 | | | | |
| cis-1,3-Dichloropropene | 18.49 | 1.0 | 20 | 0 | 92.4 | 75 - 124 | | | | |
| Dibromochloromethane | 18.67 | 1.0 | 20 | 0 | 93.4 | 74 - 126 | | | | |
| Dibromomethane | 18.49 | 1.0 | 20 | 0 | 92.5 | 79 - 123 | | | | |
| Dichlorodifluoromethane | 18.64 | 1.0 | 20 | 0 | 93.2 | 32 - 152 | | | | |
| Ethylbenzene | 18.89 | 1.0 | 20 | 0 | 94.5 | 79 - 121 | | | | |
| Hexachlorobutadiene | 22.72 | 1.0 | 20 | 0 | 114 | 66 - 134 | | | | |
| Isopropylbenzene | 21.47 | 1.0 | 20 | 0 | 107 | 72 - 131 | | | | |
| m,p-Xylene | 37.91 | 2.0 | 40 | 0 | 94.8 | 80 - 121 | | | | |
| Methylene chloride | 18.45 | 2.0 | 20 | 0 | 92.2 | 74 - 124 | | | | |
| Naphthalene | 16.95 | 1.0 | 20 | 0 | 84.7 | 61 - 128 | | | | |
| n-Butylbenzene | 21.39 | 1.0 | 20 | 0 | 107 | 75 - 128 | | | | |
| n-Propylbenzene | 17.34 | 1.0 | 20 | 0 | 86.7 | 76 - 126 | | | | |
| o-Xylene | 22.58 | 1.0 | 20 | 0 | 113 | 78 - 122 | | | | |
| sec-Butylbenzene | 23.68 | 1.0 | 20 | 0 | 118 | 77 - 126 | | | | |
| Styrene | 22.4 | 1.0 | 20 | 0 | 112 | 78 - 123 | | | | |
| tert-Butylbenzene | 20.96 | 1.0 | 20 | 0 | 105 | 78 - 124 | | | | |
| Tetrachloroethene | 20.78 | 1.0 | 20 | 0 | 104 | 74 - 129 | | | | |
| Toluene | 20.01 | 1.0 | 20 | 0 | 100 | 80 - 121 | | | | |
| trans-1,2-Dichloroethene | 18.64 | 1.0 | 20 | 0 | 93.2 | 75 - 124 | | | | |
| trans-1,3-Dichloropropene | 19 | 1.0 | 20 | 0 | 95.0 | 73 - 127 | | | | |
| Trichloroethene | 23 | 1.0 | 20 | 3.129 | 99.3 | 79 - 123 | | | | |
| Trichlorofluoromethane | 19.27 | 1.0 | 20 | 0 | 96.3 | 65 - 141 | | | | |
| Vinyl chloride | 19.67 | 1.0 | 20 | 0 | 98.3 | 58 - 137 | | | | |
| *Surr: 1,2-Dichloroethane-d4* | *49.26* | *1.0* | *50* | *0* | *98.5* | *81 - 118* | | | | |
| *Surr: 4-Bromofluorobenzene* | *51.59* | *1.0* | *50* | *0* | *103* | *85 - 114* | | | | |
| *Surr: Dibromofluoromethane* | *47.8* | *1.0* | *50* | *0* | *95.6* | *80 - 119* | | | | |
| *Surr: Toluene-d8* | *52.62* | *1.0* | *50* | *0* | *105* | *89 - 112* | | | | |

**ALS Houston, US** Date: 10-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Bi Weekly Samples
**WorkOrder:** HS21050180

**QC BATCH REPORT**

**Batch ID:** R383158 ( 0 ) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

**MSD** Sample ID: **HS21050180-01MSD** Units: **ug/L** Analysis Date: **06-May-2021 15:31**
Client ID: **LH18/24-SP650_050421** Run ID: **VOA6_383158** SeqNo: **6080196** 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 | 18.79 | 1.0 | 20 | 0 | 94.0 | 78 - 124 | 18.81 | 0.079 | 20 | |
| 1,1,1-Trichloroethane | 19.04 | 1.0 | 20 | 0 | 95.2 | 74 - 131 | 20.04 | 5.12 | 20 | |
| 1,1,2,2-Tetrachloroethane | 20.13 | 1.0 | 20 | 0 | 101 | 71 - 121 | 17.69 | 12.9 | 20 | |
| 1,1,2-Trichloroethane | 20.29 | 1.0 | 20 | 0 | 101 | 80 - 119 | 19.11 | 6.03 | 20 | |
| 1,1-Dichloroethane | 18.76 | 1.0 | 20 | 0 | 93.8 | 77 - 125 | 18.36 | 2.15 | 20 | |
| 1,1-Dichloroethene | 17.86 | 1.0 | 20 | 0 | 89.3 | 71 - 131 | 18.09 | 1.32 | 20 | |
| 1,1-Dichloropropene | 19.9 | 1.0 | 20 | 0 | 99.5 | 78 - 125 | 19.89 | 0.0233 | 20 | |
| 1,2,3-Trichlorobenzene | 26.1 | 1.0 | 20 | 0 | 131 | 69 - 129 | 20.73 | 22.9 | 20 | SR |
| 1,2,3-Trichloropropane | 20.04 | 1.0 | 20 | 0 | 100 | 73 - 122 | 16.9 | 17 | 20 | |
| 1,2,4-Trichlorobenzene | 26.4 | 1.0 | 20 | 0 | 132 | 69 - 130 | 19.3 | 31.1 | 20 | SR |
| 1,2,4-Trimethylbenzene | 21.14 | 1.0 | 20 | 0 | 106 | 76 - 124 | 20.39 | 3.6 | 20 | |
| 1,2-Dibromo-3-chloropropane | 22.87 | 1.0 | 20 | 0 | 114 | 62 - 128 | 19.54 | 15.7 | 20 | |
| 1,2-Dibromoethane | 20.61 | 1.0 | 20 | 0 | 103 | 77 - 121 | 20.13 | 2.37 | 20 | |
| 1,2-Dichlorobenzene | 21.82 | 1.0 | 20 | 0 | 109 | 80 - 119 | 18.34 | 17.3 | 20 | |
| 1,2-Dichloroethane | 19.21 | 1.0 | 20 | 0 | 96.0 | 73 - 128 | 19.63 | 2.16 | 20 | |
| 1,2-Dichloropropane | 19.46 | 1.0 | 20 | 0 | 97.3 | 78 - 122 | 19.93 | 2.37 | 20 | |
| 1,3,5-Trimethylbenzene | 18.56 | 1.0 | 20 | 0 | 92.8 | 75 - 124 | 18.84 | 1.5 | 20 | |
| 1,3-Dichlorobenzene | 19.12 | 1.0 | 20 | 0 | 95.6 | 80 - 119 | 19.45 | 1.71 | 20 | |
| 1,3-Dichloropropane | 21 | 1.0 | 20 | 0 | 105 | 80 - 119 | 21.02 | 0.0889 | 20 | |
| 1,4-Dichlorobenzene | 21.39 | 1.0 | 20 | 0 | 107 | 79 - 118 | 18.23 | 16 | 20 | |
| 2,2-Dichloropropane | 18.51 | 1.0 | 20 | 0 | 92.5 | 60 - 139 | 18.6 | 0.517 | 20 | |
| 2-Butanone | 36.17 | 2.0 | 40 | 0 | 90.4 | 56 - 143 | 34.12 | 5.82 | 20 | |
| 2-Chlorotoluene | 21.25 | 1.0 | 20 | 0 | 106 | 79 - 122 | 19.95 | 6.31 | 20 | |
| 2-Hexanone | 40.37 | 2.0 | 40 | 0 | 101 | 57 - 139 | 39.41 | 2.4 | 20 | |
| 4-Chlorotoluene | 18.83 | 1.0 | 20 | 0 | 94.1 | 78 - 122 | 18.8 | 0.113 | 20 | |
| 4-Isopropyltoluene | 20.52 | 1.0 | 20 | 0 | 103 | 77 - 127 | 20.98 | 2.23 | 20 | |
| 4-Methyl-2-pentanone | 41.55 | 2.0 | 40 | 0 | 104 | 67 - 130 | 39.74 | 4.46 | 20 | |
| Acetone | 32.38 | 2.0 | 40 | 0 | 80.9 | 39 - 160 | 34.06 | 5.08 | 20 | |
| Benzene | 18.77 | 1.0 | 20 | 0 | 93.8 | 79 - 120 | 19 | 1.22 | 20 | |
| Bromobenzene | 19.14 | 1.0 | 20 | 0 | 95.7 | 80 - 120 | 17.55 | 8.62 | 20 | |
| Bromochloromethane | 18.44 | 1.0 | 20 | 0 | 92.2 | 78 - 123 | 18.67 | 1.25 | 20 | |
| Bromodichloromethane | 18.79 | 1.0 | 20 | 0 | 94.0 | 79 - 125 | 18.77 | 0.105 | 20 | |
| Bromoform | 18.67 | 1.0 | 20 | 0 | 93.4 | 66 - 130 | 20.97 | 11.6 | 20 | |
| Bromomethane | 13.61 | 1.0 | 20 | 0 | 68.0 | 53 - 141 | 15.17 | 10.9 | 20 | |

**ALS Houston, US** Date: 10-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Bi Weekly Samples
**WorkOrder:** HS21050180

**QC BATCH REPORT**

**Batch ID:** R383158 ( 0 ) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

**MSD** Sample ID: **HS21050180-01MSD** Units: **ug/L** Analysis Date: **06-May-2021 15:31**
Client ID: **LH18/24-SP650_050421** Run ID: **VOA6_383158** SeqNo: **6080196** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | RPD %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Carbon disulfide | 41.54 | 2.0 | 40 | 0 | 104 | 64 - 133 | 44.81 | 7.57 | 20 | |
| Carbon tetrachloride | 20.08 | 1.0 | 20 | 0 | 100 | 72 - 136 | 20.2 | 0.566 | 20 | |
| Chlorobenzene | 19.25 | 1.0 | 20 | 0 | 96.2 | 82 - 118 | 19.55 | 1.56 | 20 | |
| Chloroethane | 13.55 | 1.0 | 20 | 0 | 67.8 | 60 - 138 | 16.21 | 17.9 | 20 | |
| Chloroform | 18.59 | 1.0 | 20 | 0 | 93.0 | 79 - 124 | 18.41 | 0.983 | 20 | |
| Chloromethane | 28.7 | 1.0 | 20 | 0 | 144 | 50 - 139 | 30.78 | 7 | 20 | S |
| cis-1,2-Dichloroethene | 26.88 | 1.0 | 20 | 8.946 | 89.7 | 78 - 123 | 27.46 | 2.13 | 20 | |
| cis-1,3-Dichloropropene | 19.16 | 1.0 | 20 | 0 | 95.8 | 75 - 124 | 18.49 | 3.54 | 20 | |
| Dibromochloromethane | 19.27 | 1.0 | 20 | 0 | 96.4 | 74 - 126 | 18.67 | 3.15 | 20 | |
| Dibromomethane | 18.82 | 1.0 | 20 | 0 | 94.1 | 79 - 123 | 18.49 | 1.76 | 20 | |
| Dichlorodifluoromethane | 17.43 | 1.0 | 20 | 0 | 87.2 | 32 - 152 | 18.64 | 6.68 | 20 | |
| Ethylbenzene | 18.91 | 1.0 | 20 | 0 | 94.6 | 79 - 121 | 18.89 | 0.0889 | 20 | |
| Hexachlorobutadiene | 28.12 | 1.0 | 20 | 0 | 141 | 66 - 134 | 22.72 | 21.3 | 20 | SR |
| Isopropylbenzene | 19.59 | 1.0 | 20 | 0 | 98.0 | 72 - 131 | 21.47 | 9.13 | 20 | |
| m,p-Xylene | 36.58 | 2.0 | 40 | 0 | 91.4 | 80 - 121 | 37.91 | 3.58 | 20 | |
| Methylene chloride | 18.8 | 2.0 | 20 | 0 | 94.0 | 74 - 124 | 18.45 | 1.88 | 20 | |
| Naphthalene | 25.15 | 1.0 | 20 | 0 | 126 | 61 - 128 | 16.95 | 39 | 20 | R |
| n-Butylbenzene | 24.12 | 1.0 | 20 | 0 | 121 | 75 - 128 | 21.39 | 12 | 20 | |
| n-Propylbenzene | 20.7 | 1.0 | 20 | 0 | 103 | 76 - 126 | 17.34 | 17.7 | 20 | |
| o-Xylene | 17.96 | 1.0 | 20 | 0 | 89.8 | 78 - 122 | 22.58 | 22.8 | 20 | R |
| sec-Butylbenzene | 22.69 | 1.0 | 20 | 0 | 113 | 77 - 126 | 23.68 | 4.24 | 20 | |
| Styrene | 18.4 | 1.0 | 20 | 0 | 92.0 | 78 - 123 | 22.4 | 19.6 | 20 | |
| tert-Butylbenzene | 22.16 | 1.0 | 20 | 0 | 111 | 78 - 124 | 20.96 | 5.57 | 20 | |
| Tetrachloroethene | 20.27 | 1.0 | 20 | 0 | 101 | 74 - 129 | 20.78 | 2.46 | 20 | |
| Toluene | 19.73 | 1.0 | 20 | 0 | 98.7 | 80 - 121 | 20.01 | 1.37 | 20 | |
| trans-1,2-Dichloroethene | 18.24 | 1.0 | 20 | 0 | 91.2 | 75 - 124 | 18.64 | 2.19 | 20 | |
| trans-1,3-Dichloropropene | 19.35 | 1.0 | 20 | 0 | 96.8 | 73 - 127 | 19 | 1.84 | 20 | |
| Trichloroethene | 23.01 | 1.0 | 20 | 3.129 | 99.4 | 79 - 123 | 23 | 0.0553 | 20 | |
| Trichlorofluoromethane | 17.25 | 1.0 | 20 | 0 | 86.3 | 65 - 141 | 19.27 | 11 | 20 | |
| Vinyl chloride | 19.34 | 1.0 | 20 | 0 | 96.7 | 58 - 137 | 19.67 | 1.67 | 20 | |
| *Surr: 1,2-Dichloroethane-d4* | *48.57* | *1.0* | *50* | *0* | *97.1* | *81 - 118* | *49.26* | *1.41* | *20* | |
| *Surr: 4-Bromofluorobenzene* | *49.9* | *1.0* | *50* | *0* | *99.8* | *85 - 114* | *51.59* | *3.34* | *20* | |
| *Surr: Dibromofluoromethane* | *47.08* | *1.0* | *50* | *0* | *94.2* | *80 - 119* | *47.8* | *1.52* | *20* | |
| *Surr: Toluene-d8* | *52.09* | *1.0* | *50* | *0* | *104* | *89 - 112* | *52.62* | *1* | *20* | |

**ALS Houston, US** Date: 10-May-21

| | |
|---|---|
| **Client:** | Bhate Environmental Associates, Inc. |
| **Project:** | Longhorn GW Treatment Plant Bi Weekly Samples |
| **WorkOrder:** | HS21050180 |

**QC BATCH REPORT**

| | | | | | |
|---|---|---|---|---|---|
| **Batch ID:** | **R383158 ( 0 )** | **Instrument:** | **VOA6** | **Method:** | **VOLATILES ORGANICS BY METHOD 8260C** |

**The following samples were analyzed in this batch:** HS21050180-01 HS21050180-02

**ALS Houston, US** Date: 10-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Bi Weekly Samples
**WorkOrder:** HS21050180

**QC BATCH REPORT**

**Batch ID:** R383278 ( 0 ) **Instrument:** ICS-Integrion **Method:** ANIONS BY SW9056A

**MBLK** Sample ID: **MBLK-** Units: **mg/L** Analysis Date: **07-May-2021 12:03**
Client ID: Run ID: **ICS-Integrion_383278** SeqNo: **6082631** 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: **07-May-2021 12:11**
Client ID: Run ID: **ICS-Integrion_383278** SeqNo: **6082632** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 19.23 | 0.500 | 20 | 0 | 96.1 | 80 - 120 | | | | |
| Sulfate | 19.41 | 0.500 | 20 | 0 | 97.0 | 80 - 120 | | | | |

**MS** Sample ID: **HS21050180-01MS** Units: **mg/L** Analysis Date: **07-May-2021 15:25**
Client ID: **LH18/24-SP650_050421** Run ID: **ICS-Integrion_383278** SeqNo: **6082649** PrepDate: DF: **20**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 679.7 | 10.0 | 200 | 507.5 | 86.1 | 80 - 120 | | | | |
| Sulfate | 225.1 | 10.0 | 200 | 29.65 | 97.7 | 80 - 120 | | | | |

**MSD** Sample ID: **HS21050180-01MSD** Units: **mg/L** Analysis Date: **07-May-2021 15:32**
Client ID: **LH18/24-SP650_050421** Run ID: **ICS-Integrion_383278** SeqNo: **6082650** PrepDate: DF: **20**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 685.3 | 10.0 | 200 | 507.5 | 88.9 | 80 - 120 | 679.7 | 0.823 | 20 | |
| Sulfate | 228.5 | 10.0 | 200 | 29.65 | 99.4 | 80 - 120 | 225.1 | 1.47 | 20 | |

**The following samples were analyzed in this batch:** HS21050180-01

**ALS Houston, US** Date: 10-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Bi Weekly Samples
**WorkOrder:** **HS21050180**

**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 | 21-022-0 | 26-Mar-2022 |
| Dept of Defense | PJLA L20-507-R2 | 22-Dec-2021 |
| Florida | E87611-30-07/01/2020 | 30-Jun-2021 |
| Kansas | E-10352 2020-2021 | 31-Jul-2021 |
| Kentucky | 123043, 2021-2022 | 30-Apr-2022 |
| Louisiana | 03087, 2020-2021 | 30-Jun-2021 |
| North Carolina | 624-2021 | 31-Dec-2021 |
| Oklahoma | 2020-165 | 31-Aug-2021 |
| Texas | T104704231-21-27 | 30-Apr-2022 |

**ALS Houston, US** Date: 10-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Bi Weekly Samples
**Work Order:** HS21050180

**SAMPLE TRACKING**

| Lab Samp ID | Client Sample ID | Action | Date | Person | New Location |
|---|---|---|---|---|---|
| HS21050180-01 | LH18/24-SP650_050421 | Login | 5/5/2021 1:31:16 PM | PJM | WET342 |
| HS21050180-01 | LH18/24-SP650_050421 | Login | 5/5/2021 1:31:16 PM | PJM | VOA041 |
| HS21050180-02 | Trip Blank | Login | 5/5/2021 1:31:16 PM | PJM | VOA041 |

**ALS Houston, US** Date: 10-May-21

## Sample Receipt Checklist

**Work Order ID:** HS21050180 **Date/Time Received:** **05-May-2021 11:10**

**Client Name:** Bhate Environmental **Received by:** **Pablo Marinez**

| **Completed By:** | /S/ Pablo Marinez | 05-May-2021 13:31 | **Reviewed by:** | /S/ Ragen Giga | 05-May-2021 17:43 |
|---|---|---|---|---|---|
| | eSignature | Date/Time | | eSignature | Date/Time |

Matrices: **WATER** Carrier name: **ALS.HS**

| | | | |
|---|---|---|---|
| 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): | 0.9°C UC/C | IR 31 |
| Cooler(s)/Kit(s): | 46324 | |
| Date/Time sample(s) sent to storage: | 5/5/21 13:35 | |

| | | | |
|---|---|---|---|
| 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 ATTN: R.J. Modashia

Page 1 of 1

**Project:** BHATE
LONGHORN ARMY AMMN. PLANT (LHAAP)
GROUNDWATER TREATMENT PLANT (GWTP)
KARNACK, TEXAS

**Project No.** NWO1312.0150.0 16.0001

**Job:**
**GROUNDWATER TREATMENT PLANT BI-WEEKLY SAMPLES**

**Prepared By:** Scott Beesinger

**P.O Number**

**HS21050180**
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_050421 | Water | 05/04/21 / 14:00 | | 3 | 3 | | HCL | |
| LH18/24-SP650_050421 | Water | 05/04/21 / 14:00 | | 1 | | 1 | NONE | |
| Trip Blank | Water | 05/04/21 | | 2 | 2 | | HCL | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

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

| Relinquished By: | Date | Time | Received By: | Date | Time | Relinquished By: | Date | Time | Received By: | Date | Time |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Scott Beesinger | 05/04/21 | 14:30 | Patt Ma | 5/5/21 | 10:10 | | | | | | |

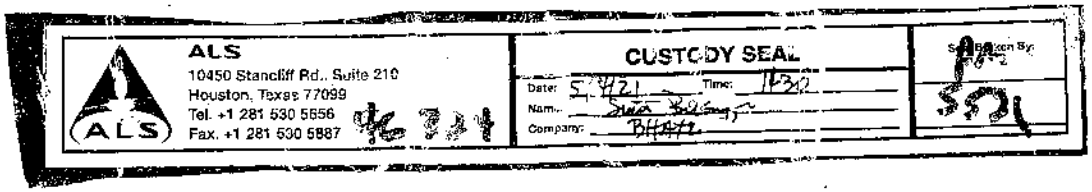
**9For Lab Use Only**

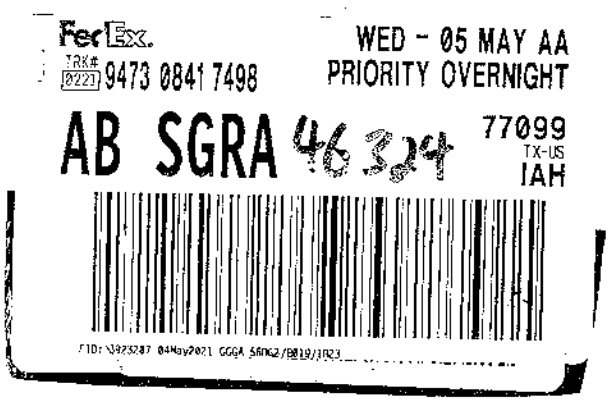
| Received At Lab By: | Date | Time | Airbill No. | Opened By: | Date | Time | Temp of Container | Seal No. | Condition |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |

Remarks

46324 0.9C IR21 CPO

(Word) S:\I-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
46324
CUSTODY SEAL
Date: 5-4-21
Time: 1432
Name:
Company:
Signature By:
521


FedEx.
TRK# 0221 9473 0841 7498
WED - 05 MAY AA
PRIORITY OVERNIGHT
AB SGRA 46324
77099
TX-US
IAH

# HS21050180 8260_W_DOD Raw Data

ALS WO# HS21050180

# MSVOA06 -Logbook

**Batch:** 44312 **Analyst:** Presenta Cabascango

**Date:** 04-02-2021 **Reviewer:**

**Method:** 8260 **Laboratory:** Houston

**Comments:**

| # | Samp ID | Type | Analyzed | DF | Init Wt/Vol | Final Vol | File ID | Matrix | Status | pH |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | BFB | TUNE | 04-02-2021 10:32 am | 1.00 | 50 mL | 50 mL | X040201.D | Liquid | Y | NA |
| 2 | VSTD000.25 | ICAL1 | 04-02-2021 10:53 am | 1.00 | 50 mL | 50 mL | X040202.D | Liquid | Y | NA |
| 3 | VSTD000.5 | ICAL2 | 04-02-2021 11:35 am | 1.00 | 50 mL | 50 mL | X040203.D | Liquid | Y | NA |
| 4 | VSTD001 | ICAL3 | 04-02-2021 11:56 am | 1.00 | 50 mL | 50 mL | X040204.D | Liquid | Y | NA |
| 5 | VSTD002 | ICAL4 | 04-02-2021 12:17 pm | 1.00 | 50 mL | 50 mL | X040205.D | Liquid | Y | NA |
| 6 | VSTD005 | ICAL5 | 04-02-2021 12:38 pm | 1.00 | 50 mL | 50 mL | X040206.D | Liquid | Y | NA |
| 7 | VSTD020 | ICAL6 | 04-02-2021 12:59 pm | 1.00 | 50 mL | 50 mL | X040207.D | Liquid | Y | NA |
| 8 | VSTD050 | ICAL7 | 04-02-2021 01:20 pm | 1.00 | 50 mL | 50 mL | X040208.D | Liquid | Y | NA |
| 9 | VSTD100 | ICAL8 | 04-02-2021 01:41 pm | 1.00 | 50 mL | 50 mL | X040209.D | Liquid | Y | NA |
| 10 | VSTD150 | ICAL9 | 04-02-2021 02:02 pm | 1.00 | 50 mL | 50 mL | X040210.D | Liquid | Y | NA |
| 11 | VSTD200 | ICAL | 04-02-2021 02:23 pm | 1.00 | 50 mL | 50 mL | X040211.D | Liquid | Y | NA |
| 12 | BLANK | SAMP | 04-02-2021 02:44 pm | 1.00 | 50 mL | 50 mL | X040212.D | Liquid | Y | NA |
| 13 | CCV | SAMP | 04-02-2021 03:05 pm | 1.00 | 50 mL | 50 mL | X040213.D | Liquid | Y | NA |
| 14 | CCV | CCV | 04-02-2021 03:26 pm | 1.00 | 50 mL | 50 mL | X040214.D | Liquid | Y | NA |
| 15 | CCB | SAMP | 04-02-2021 03:47 pm | 1.00 | 50 mL | 50 mL | X040215.D | Liquid | Y | NA |
| 16 | VLCSW-210402 | LCS | 04-02-2021 04:08 pm | 1.00 | 50 mL | 50 mL | X040216.D | Liquid | Y | NA |
| 17 | BLANK | SAMP | 04-02-2021 04:29 pm | 1.00 | 50 mL | 50 mL | X040217.D | Liquid | Y | NA |
| 18 | BLANK | SAMP | 04-02-2021 04:50 pm | 1.00 | 50 mL | 50 mL | X040218.D | Liquid | Y | NA |
| 19 | VBLKW-210402 | MBLK | 04-02-2021 05:11 pm | 1.00 | 50 mL | 50 mL | X040219.D | Liquid | Y | NA |
| 20 | HS21031390-28 | SAMP | 04-02-2021 05:32 pm | 1.00 | 50 mL | 50 mL | X040220.D | Liquid | Y | NA |
| 21 | HS21031390-01 | SAMP | 04-02-2021 05:53 pm | 1.00 | 50 mL | 50 mL | X040221.D | Liquid | Y | NA |
| 22 | HS21031390-02 | SAMP | 04-02-2021 06:14 pm | 1.00 | 50 mL | 50 mL | X040222.D | Liquid | Y | NA |
| 23 | HS21031390-08 | SAMP | 04-02-2021 06:35 pm | 1.00 | 50 mL | 50 mL | X040223.D | Liquid | Y | NA |
| 24 | HS21031390-14 | SAMP | 04-02-2021 06:56 pm | 1.00 | 50 mL | 50 mL | X040224.D | Liquid | Y | NA |
| 25 | HS21031390-06 | SAMP | 04-02-2021 07:17 pm | 10.00 | 5 mL | 50 mL | X040225.D | Liquid | Y | NA |
| 26 | HS21031390-09 | SAMP | 04-02-2021 07:38 pm | 5.00 | 10 mL | 50 mL | X040226.D | Liquid | Y | NA |
| 27 | HS21031390-28MS | MS | 04-02-2021 07:59 pm | 1.00 | 50 mL | 50 mL | X040227.D | Liquid | Y | NA |
| 28 | HS21031390-28MSD | MSD | 04-02-2021 08:20 pm | 1.00 | 50 mL | 50 mL | X040228.D | Liquid | Y | NA |
| 29 | HS21031390-06 | SAMP | 04-02-2021 08:41 pm | 100.0( | 500 µL | 50 mL | X040229.D | Liquid | Y | NA |
| 30 | HS21031390-09 | SAMP | 04-02-2021 09:03 pm | 25.00 | 2 mL | 50 mL | X040230.D | Liquid | Y | NA |
| 31 | HS21031318-29 | SAMP | 04-02-2021 09:24 pm | 1.00 | 50 mL | 50 mL | X040231.D | Liquid | Y | NA |
| 32 | HS21040032-03 | SAMP | 04-02-2021 09:45 pm | 1.00 | 50 mL | 50 mL | X040232.D | Liquid | Y | NA |
| 33 | BFB | TUNE | 04-02-2021 10:06 pm | 1.00 | 50 mL | 50 mL | Y040201.D | Liquid | Y | NA |
| 34 | CCV | CCV | 04-02-2021 10:27 pm | 1.00 | 50 mL | 50 mL | Y040202a.D | Liquid | Y | NA |
| 35 | CCV | CCV | 04-02-2021 10:48 pm | 1.00 | 50 mL | 50 mL | Y040203.D | Liquid | Y | NA |
| 36 | CCB | SAMP | 04-02-2021 11:09 pm | 1.00 | 50 mL | 50 mL | Y040204.D | Liquid | Y | NA |
| 37 | VLCSW-210402 | LCS | 04-02-2021 11:30 pm | 1.00 | 50 mL | 50 mL | Y040205.D | Liquid | Y | NA |
| 38 | BLANK | SAMP | 04-02-2021 11:51 pm | 1.00 | 50 mL | 50 mL | Y040206.D | Liquid | Y | NA |
| 39 | VBLKW-210402 | MBLK | 04-03-2021 12:12 am | 1.00 | 50 mL | 50 mL | Y040207.D | Liquid | Y | NA |
| 40 | HS21031399-49 | SAMP | 04-03-2021 12:33 am | 1.00 | 50 mL | 50 mL | Y040208.D | Liquid | Y | NA |
| 41 | HS21031390-31 | SAMP | 04-03-2021 12:54 am | 1.00 | 50 mL | 50 mL | Y040209.D | Liquid | Y | NA |

# MSVOA06 -Logbook

| # | Samp ID | Type | Analyzed | DF | Init Wt/Vol | Final Vol | File ID | Matrix | Status | pH |
|---|---|---|---|---|---|---|---|---|---|---|
| 42 | HS21031390-33 | SAMP | 04-03-2021 01:15 am | 1.00 | 50 mL | 50 mL | Y040210.D | Liquid | Y | NA |
| 43 | HS21031390-31MS | MS | 04-03-2021 01:36 am | 1.00 | 50 mL | 50 mL | Y040211.D | Liquid | Y | NA |
| 44 | HS21031390-31MSD | MSD | 04-03-2021 01:57 am | 1.00 | 50 mL | 50 mL | Y040212.D | Liquid | Y | NA |
| 45 | BLANK | SAMP | 04-03-2021 02:18 am | 1.00 | 50 mL | 50 mL | Y040213.D | Liquid | Y | NA |
| 46 | BLANK | SAMP | 04-03-2021 02:39 am | 1.00 | 50 mL | 50 mL | Y040214.D | Liquid | Y | NA |
| 47 | HS21031399-38 | SAMP | 04-03-2021 03:00 am | 1.00 | 50 mL | 50 mL | Y040215.D | Liquid | Y | NA |
| 48 | HS21031399-39 | SAMP | 04-03-2021 03:21 am | 1.00 | 50 mL | 50 mL | Y040216.D | Liquid | Y | NA |
| 49 | HS21031399-41 | SAMP | 04-03-2021 03:43 am | 1.00 | 50 mL | 50 mL | Y040217.D | Liquid | Y | NA |
| 50 | HS21031399-42 | SAMP | 04-03-2021 04:04 am | 1.00 | 50 mL | 50 mL | Y040218.D | Liquid | Y | NA |
| 51 | HS21031399-43 | SAMP | 04-03-2021 04:25 am | 1.00 | 50 mL | 50 mL | Y040219.D | Liquid | Y | NA |
| 52 | HS21031399-44 | SAMP | 04-03-2021 04:46 am | 1.00 | 50 mL | 50 mL | Y040220.D | Liquid | Y | NA |
| 53 | HS21031399-45 | SAMP | 04-03-2021 05:07 am | 1.00 | 50 mL | 50 mL | Y040221.D | Liquid | Y | NA |
| 54 | HS21031399-46 | SAMP | 04-03-2021 05:28 am | 1.00 | 50 mL | 50 mL | Y040222.D | Liquid | Y | NA |
| 55 | HS21031565-01 | SAMP | 04-03-2021 05:49 am | 1.00 | 50 mL | 50 mL | Y040223.D | Liquid | Y | NA |
| 56 | HS21031565-05 | SAMP | 04-03-2021 06:10 am | 1.00 | 50 mL | 50 mL | Y040224.D | Liquid | Y | NA |
| 57 | HS21031565-06 | SAMP | 04-03-2021 06:31 am | 1.00 | 50 mL | 50 mL | Y040225.D | Liquid | Y | NA |
| 58 | HS21031565-07 | SAMP | 04-03-2021 06:52 am | 1.00 | 50 mL | 50 mL | Y040226.D | Liquid | Y | NA |
| 59 | HS21031565-08 | SAMP | 04-03-2021 07:13 am | 1.00 | 50 mL | 50 mL | Y040227.D | Liquid | Y | NA |
| 60 | HS21031565-11 | SAMP | 04-03-2021 07:35 am | 1.00 | 50 mL | 50 mL | Y040228.D | Liquid | Y | NA |
| 61 | HS21031565-14 | SAMP | 04-03-2021 07:56 am | 1.00 | 50 mL | 50 mL | Y040229.D | Liquid | Y | NA |
| 62 | HS21031565-15 | SAMP | 04-03-2021 08:17 am | 1.00 | 50 mL | 50 mL | Y040230.D | Liquid | Y | NA |
| 63 | HS21031390-32 | SAMP | 04-03-2021 08:38 am | 1.00 | 50 mL | 50 mL | Y040231.D | Liquid | Y | NA |
| 64 | BLANJ | SAMP | 04-03-2021 08:59 am | 1.00 | 50 mL | 50 mL | Y040240.D | Liquid | Y | NA |

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21050180

Matrix Spike - Sample No.: ICV

| COMPOUND | SPIKE ADDED (ug/L) | SAMPLE AMOUNT () | % REC # | QC. LIMITS REC. |
|---|---|---|---|---|
| cis-1,3-Dichloropropene | 50.00 | 48.85 | 98 | 80-120 |
| trans-1,3-Dichloroprope | 50.00 | 51.51 | 103 | 80-120 |
| 1,3-Dichlorobenzene | 50.00 | 49.54 | 99 | 80-120 |
| 2,2-Dichloropropane | 50.00 | 47.30 | 95 | 80-120 |
| 1,1-Dichloropropene | 50.00 | 47.08 | 94 | 80-120 |
| Dibromomethane | 50.00 | 47.64 | 95 | 80-120 |
| 1,2-Dibromoethane | 50.00 | 51.71 | 103 | 80-120 |
| trans-1,2-Dichloroethen | 50.00 | 48.47 | 97 | 80-120 |
| 1,1,1,2-Tetrachloroetha | 50.00 | 48.41 | 97 | 80-120 |
| 1,1,1-Trichloroethane | 50.00 | 49.62 | 99 | 80-120 |
| 1,1,2,2-Tetrachloroetha | 50.00 | 48.55 | 97 | 80-120 |
| 1,1,2-Trichloroethane | 50.00 | 48.15 | 96 | 80-120 |
| 1,1-Dichloroethane | 50.00 | 48.94 | 98 | 80-120 |
| 1,1-Dichloroethene | 50.00 | 46.21 | 92 | 80-120 |
| Trichloroethene | 50.00 | 50.43 | 101 | 80-120 |
| 1,2,3-Trichlorobenzene | 50.00 | 57.23 | 114 | 80-120 |
| Trichlorofluoromethane | 50.00 | 44.00 | 88 | 80-120 |
| 1,2,4-Trichlorobenzene | 50.00 | 57.48 | 115 | 80-120 |
| 1,2,4-Trimethylbenzene | 50.00 | 50.07 | 100 | 80-120 |
| Tetrachloroethene | 50.00 | 48.57 | 97 | 80-120 |
| 1,2-Dichlorobenzene | 50.00 | 48.20 | 96 | 80-120 |
| 1,2-Dichloroethane | 50.00 | 47.48 | 95 | 80-120 |
| 1,2-Dichloropropane | 50.00 | 48.02 | 96 | 80-120 |
| 1,3,5-Trimethylbenzene | 50.00 | 49.71 | 99 | 80-120 |
| 1,3-Dichloropropane | 50.00 | 49.92 | 100 | 80-120 |
| 1,4-Dichlorobenzene | 50.00 | 47.54 | 95 | 80-120 |
| Toluene | 50.00 | 47.80 | 96 | 80-120 |
| 2-Butanone | 100.00 | 98.91 | 99 | 80-120 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

_____

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21050180

Matrix Spike - Sample No.: ICV

| COMPOUND | SPIKE ADDED (ug/L) | SAMPLE AMOUNT () | % REC # | QC. LIMITS REC. |
|---|---|---|---|---|
| 2-Chlorotoluene | 50.00 | 50.66 | 101 | 80-120 |
| 2-Hexanone | 100.00 | 97.04 | 97 | 80-120 |
| 4-Chlorotoluene | 50.00 | 48.75 | 98 | 80-120 |
| tert-Butylbenzene | 50.00 | 49.95 | 100 | 80-120 |
| 4-Methyl-2-Pentanone | 100.00 | 97.81 | 98 | 80-120 |
| Acetone | 100.00 | 105.49 | 105 | 80-120 |
| Benzene | 50.00 | 47.13 | 94 | 80-120 |
| Bromobenzene | 50.00 | 46.83 | 94 | 80-120 |
| Bromochloromethane | 50.00 | 49.41 | 99 | 80-120 |
| Bromodichloromethane | 50.00 | 48.53 | 97 | 80-120 |
| Bromoform | 50.00 | 46.98 | 94 | 80-120 |
| Bromomethane | 50.00 | 54.60 | 109 | 80-120 |
| Carbon Disulfide | 100.00 | 96.28 | 96 | 80-120 |
| Carbon Tetrachloride | 50.00 | 48.11 | 96 | 80-120 |
| Chlorobenzene | 50.00 | 46.17 | 92 | 80-120 |
| Chloroethane | 50.00 | 45.43 | 91 | 80-120 |
| Chloroform | 50.00 | 46.67 | 93 | 80-120 |
| Chloromethane | 50.00 | 50.17 | 100 | 80-120 |
| cis-1,2-Dichloroethene | 50.00 | 46.33 | 93 | 80-120 |
| Dibromochloromethane | 50.00 | 50.10 | 100 | 80-120 |
| Dichlorodifluoromethane | 50.00 | 50.80 | 102 | 80-120 |
| Ethylbenzene | 50.00 | 47.36 | 95 | 80-120 |
| Hexachlorobutadiene | 50.00 | 56.97 | 114 | 80-120 |
| Isopropylbenzene | 50.00 | 47.61 | 95 | 80-120 |
| m,p-Xylenes | 100.00 | 97.83 | 98 | 80-120 |
| Methylene Chloride | 50.00 | 45.57 | 91 | 80-120 |
| n-Butylbenzene | 50.00 | 53.89 | 108 | 80-120 |
| n-Propylbenzene | 50.00 | 50.37 | 101 | 80-120 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

_____

FORM III VOA

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21050180

Matrix Spike - Sample No.: ICV

| COMPOUND | SPIKE ADDED (ug/L) | SAMPLE AMOUNT () | % REC # | QC. LIMITS REC. |
|---|---|---|---|---|
| Naphthalene | 50.00 | 59.95 | 120 | 80-120 |
| o-Xylene | 50.00 | 47.73 | 95 | 80-120 |
| sec-Butylbenzene | 50.00 | 53.52 | 107 | 80-120 |
| Styrene | 50.00 | 45.13 | 90 | 80-120 |
| Vinyl Chloride | 50.00 | 46.17 | 92 | 80-120 |
| 1,2,3-Trichloropropane | 50.00 | 48.09 | 96 | 80-120 |
| p-Isopropyltoluene | 50.00 | 52.42 | 105 | 80-120 |
| 1,2-Dibromo-3-Chloropro | 50.00 | 50.11 | 100 | 80-120 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

_____

FORM III VOA

# FORM 5
## VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
## BROMOFLUOROBENZENE (BFB)

Lab Name: ALS LABORATORY GROUP  Contract:

Lab Code: ALS-HS  Case No.:  SAS No.:  SDG No.: HS21050180

Lab File ID: X040201  BFB Injection Date: 04/02/21

Instrument ID: VOA6  BFB Injection Time: 1032

GC Column: DB624  ID: 0.25 (mm)  Heated Purge: (Y/N) N

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15.0 - 40.0% of mass 95 | 22.5 |
| 75 | 30.0 - 60.0% of mass 95 | 53.3 |
| 95 | Base Peak, 100% relative abundance | 100.0 |
| 96 | 5.0 - 9.0% of mass 95 | 6.5 |
| 173 | Less than 2.0% of mass 174 | 1.1 ( 1.3)1 |
| 174 | Greater than 50.0% of mass 95 | 83.8 |
| 175 | 5.0 - 9.0% of mass 174 | 6.3 ( 7.6)1 |
| 176 | 95.0 - 101.0% of mass 174 | 81.4 ( 97.1)1 |
| 177 | 5.0 - 9.0% of mass 176 | 4.4 ( 5.4)2 |

1-Value is % mass 174  2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 01 | VSTD000.25 | VSTD000.25 | X040202 | 04/02/21 | 1053 |
| 02 | VSTD000.5 | VSTD000.5 | X040203 | 04/02/21 | 1135 |
| 03 | VSTD001 | VSTD001 | X040204 | 04/02/21 | 1156 |
| 04 | VSTD002 | VSTD002 | X040205 | 04/02/21 | 1217 |
| 05 | VSTD005 | VSTD005 | X040206 | 04/02/21 | 1238 |
| 06 | VSTD020 | VSTD020 | X040207 | 04/02/21 | 1259 |
| 07 | VSTD050 | VSTD050 | X040208 | 04/02/21 | 1320 |
| 08 | VSTD100 | VSTD100 | X040209 | 04/02/21 | 1341 |
| 09 | VSTD150 | VSTD150 | X040210 | 04/02/21 | 1402 |
| 10 | VSTD200 | VSTD200 | X040211 | 04/02/21 | 1423 |
| 11 | ICV | ICV | X040214 | 04/02/21 | 1526 |
| 12 | | | | | |
| 13 | | | | | |
| 14 | | | | | |
| 15 | | | | | |
| 16 | | | | | |
| 17 | | | | | |
| 18 | | | | | |
| 19 | | | | | |
| 20 | | | | | |
| 21 | | | | | |
| 22 | | | | | |



FORM V VOA

# FORM 6
## VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS LABORATORY GROUP  Contract:

Lab Code: ALS-HS  Case No.:  SAS No.:  SDG No.: HS21050180

Instrument ID: VOA6  Calibration Date(s): 04/02/21 04/02/21

Column: DB624  ID: 0.18 (mm)  Calibration Time(s): 1053  1423

LAB FILE ID:  RF0.25: X040202  RF0.5: X040203  RF1: X040204
RF2: X040205  RF5: X040206  RF20: X040207

| COMPOUND | RF0.25 | RF0.5 | RF1 | RF2 | RF5 | RF20 |
|---|---|---|---|---|---|---|
| cis-1,3-Dichloropropene | | 0.611 | 0.598 | 0.571 | 0.590 | 0.548 |
| trans-1,3-Dichloropropene | | 0.517 | 0.492 | 0.468 | 0.474 | 0.466 |
| 1,3-Dichlorobenzene | | 1.502 | 1.736 | 1.452 | 1.485 | 1.256 |
| 2,2-Dichloropropane | | 0.916 | 1.086 | 0.935 | 0.906 | 0.758 |
| 1,1-Dichloropropene | | 0.543 | 0.501 | 0.512 | 0.458 | 0.402 |
| Dibromomethane | | 0.286 | 0.291 | 0.214 | 0.247 | 0.228 |
| 1,2-Dibromoethane | | 0.370 | 0.328 | 0.322 | 0.362 | 0.311 |
| trans-1,2-Dichloroethene | | 0.453 | 0.559 | 0.506 | 0.509 | 0.446 |
| 1,1,1,2-Tetrachloroethane | | 0.446 | 0.434 | 0.354 | 0.344 | 0.292 |
| 1,1,1-Trichloroethane | | 0.828 | 1.026 | 0.864 | 0.886 | 0.766 |
| 1,1,2,2-Tetrachloroethane | | 0.946 | 0.991 | 0.882 | 0.881 | 0.764 |
| 1,1,2-Trichloroethane | | 0.276 | 0.355 | 0.300 | 0.320 | 0.251 |
| 1,1-Dichloroethane | | 1.027 | 0.916 | 0.805 | 0.947 | 0.879 |
| 1,1-Dichloroethene | | 0.748 | 0.754 | 0.752 | 0.776 | 0.659 |
| Trichloroethene | | 0.263 | 0.401 | 0.364 | 0.376 | 0.308 |
| 1,2,3-Trichlorobenzene | | 129 | 340 | 989 | 3180 | 14313 |
| Trichlorofluoromethane | | 1.637 | 1.782 | 1.590 | 1.451 | 1.285 |
| 1,2,4-Trichlorobenzene | | 587 | 999 | 2030 | 7143 | 30279 |
| 1,2,4-Trimethylbenzene | | 2.563 | 2.788 | 2.727 | 2.571 | 2.165 |
| Tetrachloroethene | | 0.287 | 0.349 | 0.318 | 0.302 | 0.242 |
| 1,2-Dichlorobenzene | | 1.526 | 1.585 | 1.284 | 1.381 | 1.210 |
| 1,2-Dichloroethane | | 0.560 | 0.634 | 0.506 | 0.530 | 0.475 |
| 1,2-Dichloropropane | | 0.366 | 0.428 | 0.336 | 0.353 | 0.311 |
| 1,3,5-Trimethylbenzene | | 3.057 | 2.816 | 2.548 | 2.520 | 2.075 |
| 1,3-Dichloropropane | | 0.554 | 0.646 | 0.553 | 0.596 | 0.480 |
| 1,4-Dichlorobenzene | | 1.897 | 1.894 | 1.620 | 1.598 | 1.310 |
| Toluene | | 1.730 | 1.763 | 1.521 | 1.491 | 1.234 |
| 2-Butanone | | 0.157 | 0.179 | 0.144 | 0.173 | 0.178 |
| 2-Chlorotoluene | | 5215 | 10702 | 18225 | 48629 | 181169 |
| 2-Hexanone | | 1566 | 3776 | 7121 | 18023 | 70194 |
| 4-Chlorotoluene | | 2.704 | 3.192 | 2.653 | 2.552 | 2.255 |
| tert-Butylbenzene | | 4655 | 9533 | 17971 | 44435 | 165790 |
| 4-Methyl-2-Pentanone | | 0.244 | 0.321 | 0.315 | 0.296 | 0.269 |
| Acetone | | 3461 | 5059 | 7678 | 13893 | 51773 |
| Benzene | | 1.557 | 1.547 | 1.342 | 1.283 | 1.158 |
| Bromobenzene | | 0.938 | 1.044 | 0.955 | 0.900 | 0.731 |
| Bromochloromethane | | 0.298 | 0.277 | 0.269 | 0.316 | 0.296 |
| Bromodichloromethane | | 0.538 | 0.573 | 0.489 | 0.492 | 0.458 |
| Bromoform | | 696 | 1463 | 3160 | 10258 | 41512 |
| Bromomethane | | 2683 | 5913 | 9724 | 26104 | 90493 |
| Carbon Disulfide | | 1.497 | 1.596 | 1.417 | 1.385 | 1.210 |
| Carbon Tetrachloride | | 0.473 | 0.534 | 0.410 | 0.428 | 0.373 |
| Chlorobenzene | | 5017 | 10928 | 17493 | 44198 | 175855 |
| Chloroethane | | 0.673 | 0.578 | 0.568 | 0.623 | 0.550 |

FORM VI VOA

# FORM 6
## VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS LABORATORY GROUP  Contract:

Lab Code: ALS-HS  Case No.:  SAS No.:  SDG No.: HS2105018

Instrument ID: VOA6  Calibration Date(s): 04/02/21 04/02/21

Column: DB624  ID: 0.18 (mm)  Calibration Time(s): 1053  1423

LAB FILE ID:  RF0.25: X040202  RF0.5: X040203  RF1: X040204
RF2: X040205  RF5: X040206  RF20: X040207

| COMPOUND | RF0.25 | RF0.5 | RF1 | RF2 | RF5 | RF20 |
|---|---|---|---|---|---|---|
| Chloroform | | 0.972 | 1.222 | 1.190 | 1.100 | 0.991 |
| Chloromethane | | 1979 | 4001 | 7064 | 18363 | 65135 |
| cis-1,2-Dichloroethene | | 0.588 | 0.711 | 0.624 | 0.604 | 0.542 |
| Dibromochloromethane | | 0.387 | 0.407 | 0.404 | 0.393 | 0.335 |
| Dichlorodifluoromethane | | 1570 | 3510 | 6450 | 14213 | 52690 |
| Ethylbenzene | | 0.674 | 0.587 | 0.521 | 0.539 | 0.417 |
| Hexachlorobutadiene | | 341 | 903 | 2237 | 5720 | 18261 |
| Isopropylbenzene | | 1.569 | 1.835 | 1.580 | 1.496 | 1.234 |
| m,p-Xylenes | | 0.703 | 0.711 | 0.599 | 0.625 | 0.541 |
| Methylene Chloride | | 2167 | 4155 | 7271 | 17205 | 63925 |
| n-Butylbenzene | | 2.281 | 2.369 | 2.274 | 2.283 | 1.821 |
| n-Propylbenzene | | 3.749 | 4.657 | 4.026 | 3.853 | 2.939 |
| Naphthalene | | 712 | 1196 | 3114 | 9895 | 40800 |
| o-Xylene | | 0.714 | 0.714 | 0.648 | 0.648 | 0.514 |
| sec-Butylbenzene | | 6410 | 14391 | 24043 | 61667 | 229551 |
| Styrene | | 3816 | 8571 | 15017 | 41908 | 184136 |
| Vinyl Chloride | | 0.844 | 0.943 | 0.758 | 0.756 | 0.736 |
| 1,2,3-Trichloropropane | | 0.773 | 0.785 | 0.702 | 0.692 | 0.576 |
| p-Isopropyltoluene | | 2.416 | 2.732 | 2.558 | 2.466 | 2.013 |
| 1,2-Dibromo-3-Chloropropane | | 0.056 | 0.064 | 0.063 | 0.048 | 0.050 |
| 1,2-Dichloroethane-d4 | | 2323 | 4438 | 7506 | 20809 | 80475 |
| Dibromofluoromethane | | 1934 | 3862 | 6870 | 17824 | 68668 |
| Toluene-d8 | | 6330 | 12313 | 22274 | 56112 | 218999 |
| 4-Bromofluorobenzene | | 2889 | 4647 | 7732 | 19193 | 81621 |

FORM VI VOA

# FORM 6
## VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS LABORATORY GROUP  Contract:

Lab Code: ALS-HS  Case No.:  SAS No.:  SDG No.: HS2105018

Instrument ID: VOA6  Calibration Date(s): 04/02/21 04/02/21

Column: DB624  ID: 0.18 (mm)  Calibration Time(s): 1053  1423

LAB FILE ID:  RF50: X040208  RF100: X040209  RF150: X040210
RF200: X040211

| COMPOUND | RF50 | RF100 | RF150 | RF200 |
|---|---|---|---|---|
| cis-1,3-Dichloropropene | 0.577 | 0.599 | 0.587 | 0.586 |
| trans-1,3-Dichloropropene | 0.504 | 0.518 | 0.532 | 0.522 |
| 1,3-Dichlorobenzene | 1.372 | 1.446 | 1.409 | 1.374 |
| 2,2-Dichloropropane | 0.844 | 0.918 | 0.921 | 0.941 |
| 1,1-Dichloropropene | 0.449 | 0.461 | 0.450 | 0.447 |
| Dibromomethane | 0.237 | 0.245 | 0.235 | 0.236 |
| 1,2-Dibromoethane | 0.341 | 0.351 | 0.355 | 0.354 |
| trans-1,2-Dichloroethene | 0.485 | 0.526 | 0.536 | 0.565 |
| 1,1,1,2-Tetrachloroethane | 0.352 | 0.367 | 0.372 | 0.376 |
| 1,1,1-Trichloroethane | 0.899 | 0.960 | 0.951 | 0.964 |
| 1,1,2,2-Tetrachloroethane | 0.760 | 0.797 | 0.771 | 0.716 |
| 1,1,2-Trichloroethane | 0.265 | 0.281 | 0.281 | 0.284 |
| 1,1-Dichloroethane | 0.839 | 0.947 | 0.987 | 1.005 |
| 1,1-Dichloroethene | 0.668 | 0.684 | 0.663 | 0.702 |
| Trichloroethene | 0.345 | 0.350 | 0.337 | 0.337 |
| 1,2,3-Trichlorobenzene | 52490 | 117190 | 195277 | 281184 |
| Trichlorofluoromethane | 1.310 | 1.307 | 1.274 | 1.278 |
| 1,2,4-Trichlorobenzene | 103358 | 232584 | 381873 | 545632 |
| 1,2,4-Trimethylbenzene | 2.453 | 2.615 | 2.610 | 2.602 |
| Tetrachloroethene | 0.282 | 0.313 | 0.311 | 0.313 |
| 1,2-Dichlorobenzene | 1.265 | 1.382 | 1.336 | 1.392 |
| 1,2-Dichloroethane | 0.517 | 0.525 | 0.513 | 0.503 |
| 1,2-Dichloropropane | 0.329 | 0.336 | 0.332 | 0.335 |
| 1,3,5-Trimethylbenzene | 2.551 | 2.869 | 2.834 | 2.847 |
| 1,3-Dichloropropane | 0.525 | 0.549 | 0.548 | 0.547 |
| 1,4-Dichlorobenzene | 1.387 | 1.462 | 1.467 | 1.402 |
| Toluene | 1.437 | 1.578 | 1.573 | 1.656 |
| 2-Butanone | 0.168 | 0.177 | 0.189 | 0.181 |
| 2-Chlorotoluene | 650376 | 1462425 | 2338020 | 3358028 |
| 2-Hexanone | 226441 | 532674 | 900210 | 1242339 |
| 4-Chlorotoluene | 2.548 | 2.898 | 2.866 | 2.870 |
| tert-Butylbenzene | 651644 | 1479946 | 2477004 | 3439191 |
| 4-Methyl-2-Pentanone | 0.299 | 0.315 | 0.326 | 0.327 |
| Acetone | 120767 | 244755 | 407837 | 582209 |
| Benzene | 1.243 | 1.292 | 1.250 | 1.247 |
| Bromobenzene | 0.779 | 0.821 | 0.792 | 0.797 |
| Bromochloromethane | 0.300 | 0.310 | 0.305 | 0.313 |
| Bromodichloromethane | 0.485 | 0.502 | 0.484 | 0.491 |
| Bromoform | 138380 | 319806 | 537877 | 767647 |
| Bromomethane | 247329 | 554247 | 938790 | |
| Carbon Disulfide | 1.236 | 1.327 | 1.376 | 1.472 |
| Carbon Tetrachloride | 0.449 | 0.470 | 0.464 | 0.460 |
| Chlorobenzene | 563393 | 1339959 | 2237237 | 3183866 |
| Chloroethane | 0.552 | 0.494 | 0.464 | 0.503 |

# FORM 6
## VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS LABORATORY GROUP  Contract:

Lab Code: ALS-HS  Case No.:  SAS No.:  SDG No.: HS2105018

Instrument ID: VOA6  Calibration Date(s): 04/02/21 04/02/21

Column: DB624  ID: 0.18 (mm)  Calibration Time(s): 1053  1423

LAB FILE ID:  RF50: X040208  RF100: X040209  RF150: X040210
RF200: X040211

| COMPOUND | RF50 | RF100 | RF150 | RF200 |
|---|---|---|---|---|
| Chloroform | 1.044 | 1.107 | 1.055 | 1.092 |
| Chloromethane | 185744 | 419280 | 667172 | 907287 |
| cis-1,2-Dichloroethene | 0.580 | 0.612 | 0.608 | 0.631 |
| Dibromochloromethane | 0.378 | 0.397 | 0.407 | 0.405 |
| Dichlorodifluoromethane | 160699 | 387079 | 621536 | 916685 |
| Ethylbenzene | 0.509 | 0.530 | 0.519 | 0.521 |
| Hexachlorobutadiene | 81563 | 187520 | 305917 | 429774 |
| Isopropylbenzene | 1.565 | 1.701 | 1.692 | 1.726 |
| m,p-Xylenes | 0.674 | 0.727 | 0.747 | 0.773 |
| Methylene Chloride | 173954 | 420832 | 703062 | 1013494 |
| n-Butylbenzene | 2.457 | 2.722 | 2.645 | 2.750 |
| n-Propylbenzene | 3.678 | 3.844 | 3.709 | 3.686 |
| Naphthalene | 141575 | 310567 | 520608 | 749188 |
| o-Xylene | 0.621 | 0.665 | 0.678 | 0.713 |
| sec-Butylbenzene | 916729 | 2181632 | | |
| Styrene | 627903 | 1538607 | 2637559 | 3858242 |
| Vinyl Chloride | 0.712 | 0.681 | 0.664 | 0.652 |
| 1,2,3-Trichloropropane | 0.635 | 0.657 | 0.610 | 0.610 |
| p-Isopropyltoluene | 2.525 | 2.768 | 2.671 | 2.646 |
| 1,2-Dibromo-3-Chloropropane | 0.052 | 0.051 | 0.054 | 0.052 |
| 1,2-Dichloroethane-d4 | 243778 | 568806 | 919399 | 1266674 |
| Dibromofluoromethane | 201590 | 476731 | 758989 | 1061294 |
| Toluene-d8 | 658700 | 1733824 | 2714142 | 3949224 |
| 4-Bromofluorobenzene | 267013 | 624362 | 1011725 | 1473828 |

FORM VI VOA

# FORM 6
# VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS LABORATORY GROUP  Contract:

Lab Code: ALS-HS  Case No.:  SAS No.:  SDG No.: HS2105018

Instrument ID: VOA6  Calibration Date(s): 04/02/21 04/02/21

Column: DB624  ID: 0.18 (mm)  Calibration Time(s): 1053 1423

| COMPOUND | CURVE | COEFFICENTS A0 | COEFFICENTS A1 | COEFFICENTS A2 | %RSD OR R^2 | MAX %RSD OR R^2 |
|---|---|---|---|---|---|---|
| cis-1,3-Dichloropropene | AVRG | | 0.58520519 | | 3.152 | 15.000 |
| trans-1,3-Dichloropropene | AVRG | | 0.49915698 | | 5.030 | 15.000 |
| 1,3-Dichlorobenzene | AVRG | | 1.44813613 | | 9.040 | 15.000 |
| 2,2-Dichloropropane | AVRG | | 0.91405893 | | 9.504 | 15.000 |
| 1,1-Dichloropropene | AVRG | | 0.46917580 | | 9.014 | 15.000 |
| Dibromomethane | AVRG | | 0.24653572 | | 10.433 | 15.000 |
| 1,2-Dibromoethane | AVRG | | 0.34372934 | | 5.743 | 15.000 |
| trans-1,2-Dichloroethene | AVRG | | 0.50953350 | | 8.299 | 15.000 |
| 1,1,1,2-Tetrachloroethane | AVRG | | 0.37102268 | | 12.551 | 15.000 |
| 1,1,1-Trichloroethane | AVRG | | 0.90484867 | | 8.784 | 15.000 |
| 1,1,2,2-Tetrachloroethane | AVRG | | 0.83418422 | | 11.296 | 15.000 |
| 1,1,2-Trichloroethane | AVRG | | 0.29044925 | | 10.722 | 15.000 |
| 1,1-Dichloroethane | AVRG | | 0.92815456 | | 8.120 | 15.000 |
| 1,1-Dichloroethene | AVRG | | 0.71193342 | | 6.418 | 15.000 |
| Trichloroethene | AVRG | | 0.34228157 | | 11.637 | 15.000 |
| 1,2,3-Trichlorobenzene | LINR | 2.456e-002 | 5.68414421 | | 0.9997690 | 0.9900000 |
| Trichlorofluoromethane | AVRG | | 1.43491906 | | 13.285 | 15.000 |
| 1,2,4-Trichlorobenzene | LINR | 1.064e-002 | 2.92570541 | | 0.9999122 | 0.9900000 |
| 1,2,4-Trimethylbenzene | AVRG | | 2.56609512 | | 6.957 | 15.000 |
| Tetrachloroethene | AVRG | | 0.30180986 | | 9.756 | 15.000 |
| 1,2-Dichlorobenzene | AVRG | | 1.37352217 | | 8.786 | 15.000 |
| 1,2-Dichloroethane | AVRG | | 0.52923847 | | 8.569 | 15.000 |
| 1,2-Dichloropropane | AVRG | | 0.34746320 | | 9.746 | 15.000 |
| 1,3,5-Trimethylbenzene | AVRG | | 2.67975715 | | 10.826 | 15.000 |
| 1,3-Dichloropropane | AVRG | | 0.55524978 | | 8.209 | 15.000 |
| 1,4-Dichlorobenzene | AVRG | | 1.55975685 | | 13.707 | 15.000 |
| Toluene | AVRG | | 1.55369092 | | 10.350 | 15.000 |
| 2-Butanone | AVRG | | 0.17188136 | | 8.043 | 15.000 |
| 2-Chlorotoluene | LINR | -3.16e-004 | 0.47619041 | | 0.9996583 | 0.9900000 |
| 2-Hexanone | LINR | 5.774e-002 | 4.70883716 | | 0.9992788 | 0.9900000 |
| 4-Chlorotoluene | AVRG | | 2.72651892 | | 9.851 | 15.000 |
| tert-Butylbenzene | LINR | 1.442e-002 | 0.45914509 | | 0.9994260 | 0.9900000 |
| 4-Methyl-2-Pentanone | AVRG | | 0.30135668 | | 9.309 | 15.000 |
| Acetone | LINR | -8.92e-002 | 6.30997186 | | 0.9981749 | 0.9900000 |
| Benzene | AVRG | | 1.32442622 | | 10.422 | 15.000 |
| Bromobenzene | AVRG | | 0.86189203 | | 11.857 | 15.000 |
| Bromochloromethane | AVRG | | 0.29822245 | | 5.347 | 15.000 |
| Bromodichloromethane | AVRG | | 0.50136209 | | 6.797 | 15.000 |
| Bromoform | LINR | 4.08e-002 | 3.84770696 | | 0.9988231 | 0.9900000 |
| Bromomethane | LINR | -3.75e-003 | 1.40365124 | | 0.9992972 | 0.9900000 |
| Carbon Disulfide | AVRG | | 1.39065583 | | 8.875 | 15.000 |
| Carbon Tetrachloride | AVRG | | 0.45111664 | | 10.005 | 15.000 |
| Chlorobenzene | LINR | 3.548e-002 | 0.92786401 | | 0.9987986 | 0.9900000 |
| Chloroethane | AVRG | | 0.55618809 | | 11.716 | 15.000 |

FORM VI VOA

# FORM 6
## VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS LABORATORY GROUP  Contract:

Lab Code: ALS-HS  Case No.:  SAS No.:  SDG No.: HS2105018

Instrument ID: VOA6  Calibration Date(s): 04/02/21 04/02/21

Column: DB624  ID: 0.18 (mm)  Calibration Time(s): 1053 1423

| COMPOUND | CURVE | COEFFICENTS A0 | A1 | A2 | %RSD OR R^2 | MAX %RSD OR R^2 |
|---|---|---|---|---|---|---|
| Chloroform | AVRG | | 1.08583611 | | 7.606 | 15.000 |
| Chloromethane | LINR | -1.64e-002 | 1.95759673 | | 0.9998247 | 0.9900000 |
| cis-1,2-Dichloroethene | AVRG | | 0.61120734 | | 7.506 | 15.000 |
| Dibromochloromethane | AVRG | | 0.39032656 | | 5.891 | 15.000 |
| Dichlorodifluoromethane | LINR | 3.342e-002 | 1.98263895 | | 0.9976252 | 0.9900000 |
| Ethylbenzene | AVRG | | 0.53519726 | | 12.727 | 15.000 |
| Hexachlorobutadiene | LINR | 2.012e-002 | 3.67390387 | | 0.9990912 | 0.9900000 |
| Isopropylbenzene | AVRG | | 1.59986884 | | 10.758 | 15.000 |
| m,p-Xylenes | AVRG | | 0.67771190 | | 11.180 | 15.000 |
| Methylene Chloride | LINR | 2.966e-002 | 1.78818120 | | 0.9978871 | 0.9900000 |
| n-Butylbenzene | AVRG | | 2.40036584 | | 12.051 | 15.000 |
| n-Propylbenzene | AVRG | | 3.79338843 | | 11.677 | 15.000 |
| Naphthalene | LINR | 1.485e-002 | 2.14021732 | | 0.9998061 | 0.9900000 |
| o-Xylene | AVRG | | 0.65719452 | | 9.642 | 15.000 |
| sec-Butylbenzene | 2ORDR | 9.564e-004 | 0.37536023 | -1.01e-002 | 0.9987986 | 0.9900000 |
| Styrene | LINR | 6.725e-002 | 0.76975814 | | 0.9966097 | 0.9900000 |
| Vinyl Chloride | AVRG | | 0.74959896 | | 12.472 | 15.000 |
| 1,2,3-Trichloropropane | AVRG | | 0.67109213 | | 10.879 | 15.000 |
| p-Isopropyltoluene | AVRG | | 2.53288753 | | 9.002 | 15.000 |
| 1,2-Dibromo-3-Chloropropane | AVRG | | 5.439e-002 | | 10.437 | 15.000 |
| 1,2-Dichloroethane-d4 | LINR | 9.666e-003 | 1.40410549 | | 0.9998489 | 0.9900000 |
| Dibromofluoromethane | LINR | 8.656e-003 | 1.68407127 | | 0.9996746 | 0.9900000 |
| Toluene-d8 | LINR | 3.71e-002 | 0.74922718 | | 0.9979532 | 0.9900000 |
| 4-Bromofluorobenzene | LINR | 3.301e-002 | 2.01663185 | | 0.9986184 | 0.9900000 |

FORM VI VOA

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040201.D



Date : 02-APR-2021 10:32

Client ID: BFB

Instrument: voa6.i

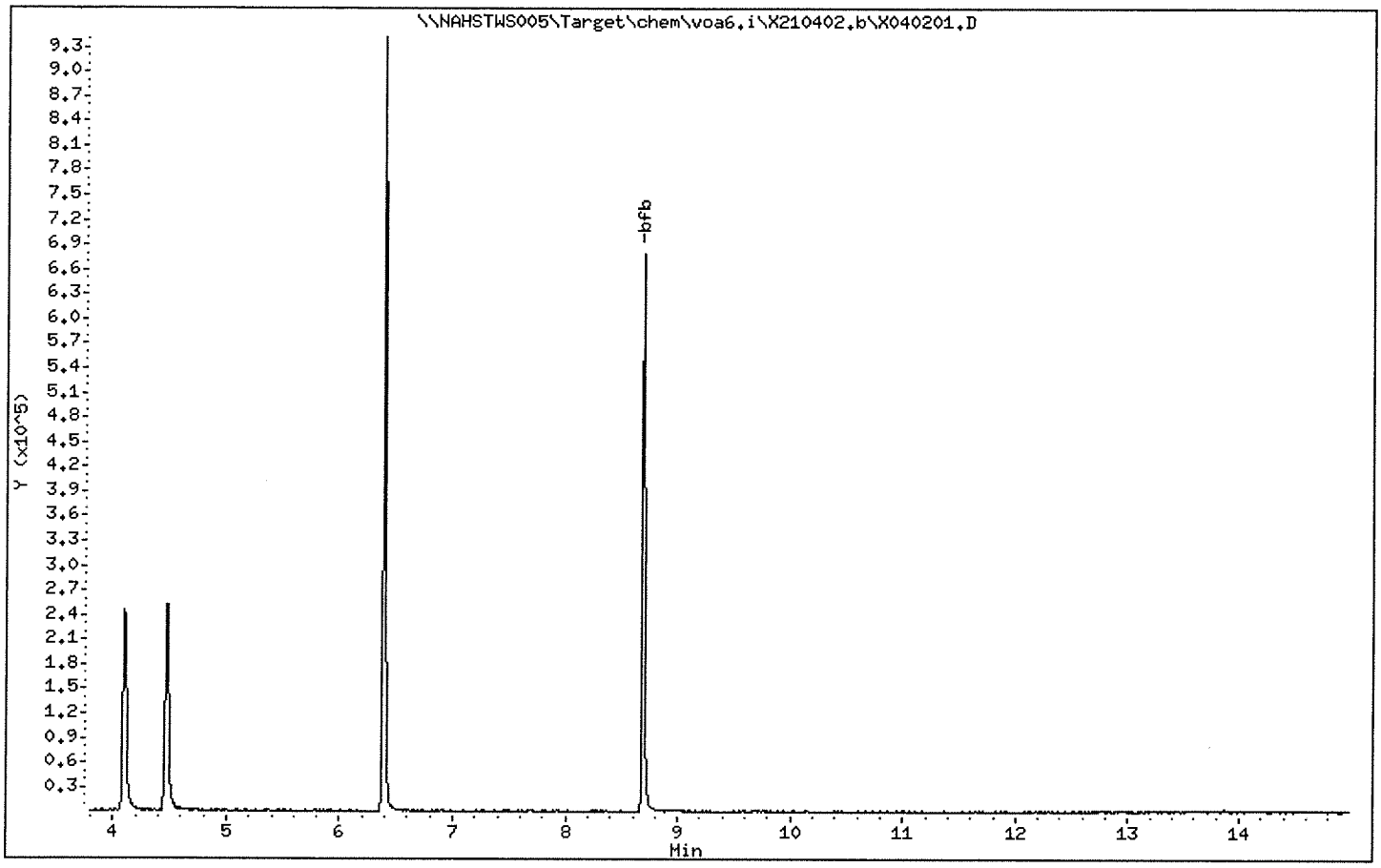
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040201.D



Date : 02-APR-2021 10:32

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

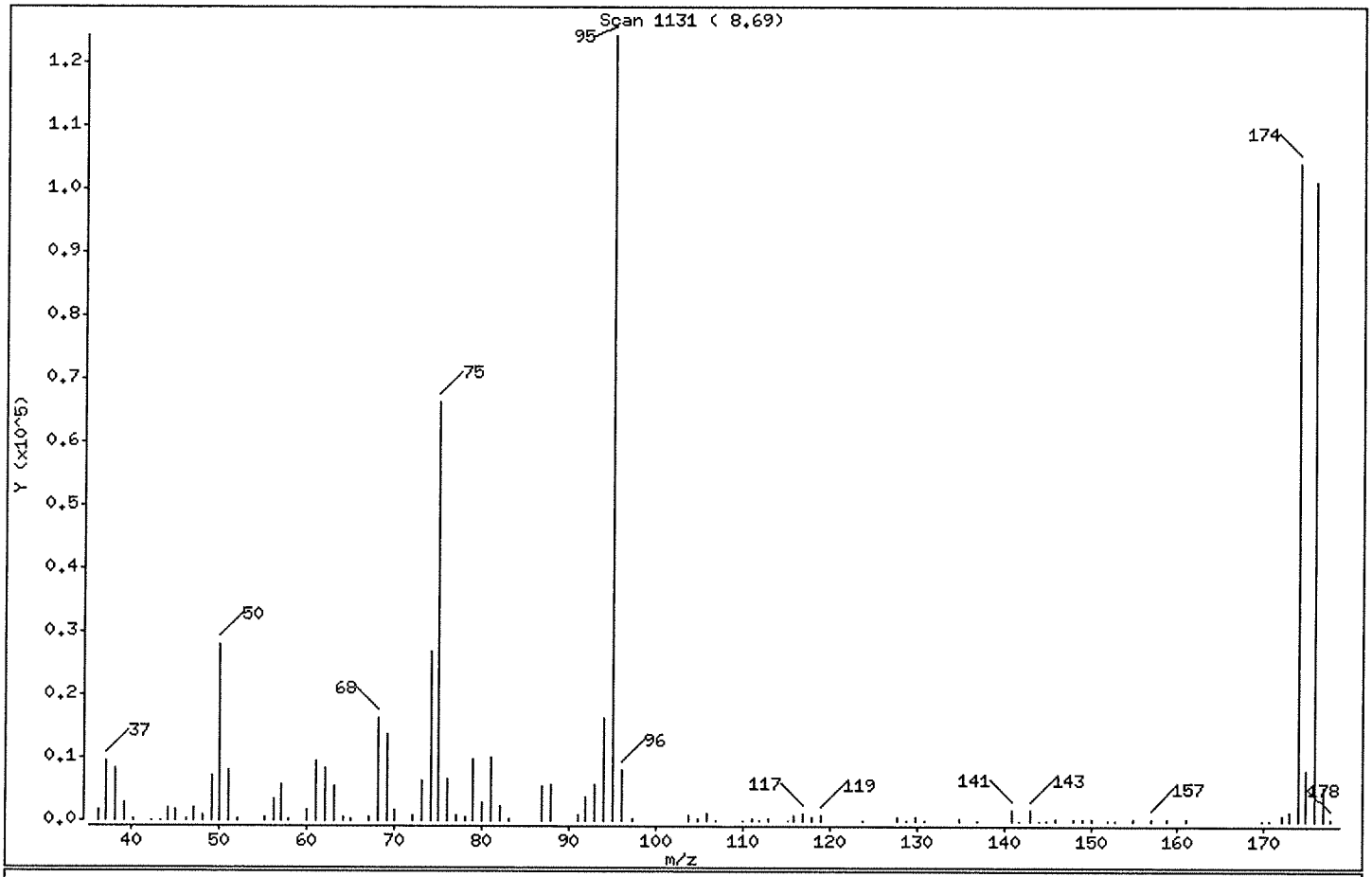
Volume Injected (uL): 2.0

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 | 22.51 |
| 75 | 30.00 - 60.00% of mass 95 | 53.31 |
| 96 | 5.00 - 9.00% of mass 95 | 6.51 |
| 173 | Less than 2.00% of mass 174 | 1.06 ( 1.26) |
| 174 | Greater than 50.00% of mass 95 | 83.79 |
| 175 | 5.00 - 9.00% of mass 174 | 6.34 ( 7.56) |
| 176 | 95.00 - 101.00% of mass 174 | 81.37 ( 97.11) |
| 177 | 5.00 - 9.00% of mass 176 | 4.40 ( 5.40) |

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040201.D



Date : 02-APR-2021 10:32

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: X040201.D
Spectrum: Scan 1131 ( 8.69)
Location of Maximum: 95.00
Number of points: 95

| m/z | Y | m/z | Y | m/z | Y | m/z | Y |
|---|---|---|---|---|---|---|---|
| 36.10 | 1732 | 64.00 | 599 | 95.00 | 124200 | 141.70 | 84 |
| 37.00 | 9290 | 65.00 | 153 | 96.00 | 8090 | 142.90 | 1576 |
| 38.00 | 8308 | 67.00 | 500 | 97.20 | 217 | 143.90 | 75 |
| 39.00 | 2929 | 68.00 | 16384 | 103.70 | 740 | 144.80 | 94 |
| 40.10 | 424 | 69.00 | 13717 | 104.80 | 164 | 145.90 | 148 |
| 42.20 | 74 | 70.00 | 1785 | 105.80 | 1029 | 147.90 | 250 |
| 43.20 | 72 | 72.10 | 777 | 106.90 | 112 | 148.90 | 155 |
| 44.00 | 2050 | 73.00 | 6328 | 109.90 | 136 | 150.00 | 286 |
| 45.00 | 1795 | 74.00 | 26912 | 111.00 | 268 | 151.80 | 52 |
| 46.10 | 242 | 75.00 | 66216 | 111.90 | 85 | 152.70 | 124 |
| 47.00 | 1874 | 76.00 | 6620 | 112.90 | 237 | 154.80 | 284 |
| 48.00 | 988 | 77.10 | 800 | 115.10 | 59 | 156.80 | 312 |
| 49.00 | 7094 | 78.10 | 446 | 115.80 | 811 | 158.80 | 260 |
| 50.00 | 27952 | 78.90 | 9818 | 116.90 | 1154 | 161.00 | 258 |
| 51.00 | 7947 | 79.90 | 2794 | 117.80 | 635 | 169.80 | 139 |
| 51.90 | 391 | 80.90 | 10133 | 118.90 | 930 | 170.60 | 140 |
| 55.20 | 631 | 82.00 | 2269 | 123.70 | 57 | 172.20 | 893 |
| 56.10 | 3391 | 83.00 | 193 | 127.70 | 679 | 172.90 | 1311 |
| 57.00 | 5690 | 86.90 | 5298 | 128.70 | 113 | 173.90 | 104064 |
| 57.90 | 400 | 87.90 | 5776 | 129.70 | 519 | 174.90 | 7871 |
| 59.90 | 1604 | 90.90 | 805 | 130.80 | 68 | 175.90 | 101056 |
| 61.00 | 9323 | 91.90 | 3707 | 134.80 | 220 | 176.90 | 5459 |
| 62.00 | 8245 | 92.90 | 5610 | 136.80 | 123 | 177.80 | 373 |
| 63.00 | 5418 | 94.00 | 16192 | 140.90 | 1678 | | |

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040202.D
Lab Smp Id: VSTD000.25 Client Smp ID: VSTD000.25
Inj Date : 02-APR-2021 10:53
Operator : PC Inst ID: voa6.i
Smp Info : VSTD000.25;VSTD000.25;1;1;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\8260W.m
Meth Date : 14-Apr-2021 12:06 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 14:23 Cal File: X040211.D
Als bottle: 2 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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 | 4.182 | 4.182 | (1.000) | 311555 | 50.0000 | |
| * 36 1,4-Difluorobenzene | 114 | 4.963 | 4.963 | (1.000) | 505232 | 50.0000 | |
| * 47 Chlorobenzene-d5 | 117 | 7.671 | 7.671 | (1.000) | 450629 | 50.0000 | |
| * 70 1,4-Dichlorobenzene-d4 | 152 | 9.662 | 9.662 | (1.000) | 197083 | 50.0000 | |
| $ 30 Dibromofluoromethane | 113 | 4.103 | 4.103 | (0.981) | 968 | 0.25000 | 0.69(aM) |
| $ 35 1,2-Dichloroethane-d4 | 65 | 4.476 | 4.476 | (1.070) | 1238 | 0.25000 | 0.76(TaM) |
| $ 48 Toluene-d8 | 98 | 6.396 | 6.396 | (0.834) | 4819 | 0.25000 | 2.25(a) |
| $ 69 4-Bromofluorobenzene | 95 | 8.695 | 8.695 | (1.134) | 3592 | 0.25000 | 2.45(a) |
| 60 1,1,1,2-Tetrachloroethane | 131 | 7.771 | 7.771 | (1.013) | 1020 | 0.25000 | 0.30(a) |
| 31 1,1,1-Trichloroethane | 97 | 4.075 | 4.075 | (0.974) | 1165 | 0.25000 | 0.20(a) |
| 68 1,1,2,2-Tetrachloroethane | 83 | 8.838 | 8.838 | (0.915) | 1175 | 0.25000 | 0.35(aM) |
| 53 1,1,2-Trichloroethane | 83 | 6.840 | 6.840 | (0.892) | 995 | 0.25000 | 0.38(a) |
| 22 1,1-Dichloroethane | 63 | 2.936 | 2.936 | (0.702) | 2053 | 0.25000 | 0.35(aM) |
| 11 1,1-Dichloroethene | 96 | 1.904 | 1.904 | (0.455) | 1567 | 0.25000 | 0.35(aM) |
| 32 1,1-Dichloropropene | 75 | 4.275 | 4.275 | (0.861) | 1486 | 0.25000 | 0.31(aM) |
| 71 1,2,3-Trichloropropane | 75 | 8.867 | 8.867 | (0.918) | 809 | 0.25000 | 0.30(a) |
| 90 1,2,4-Trichlorobenzene | 180 | 11.410 | 11.410 | (1.181) | 217 | 0.25000 | 0.69(aM) |
| 79 1,2,4-Trimethylbenzene | 105 | 9.383 | 9.383 | (0.971) | 3018 | 0.25000 | 0.29(a) |
| 57 1,2-Dibromoethane | 107 | 7.262 | 7.262 | (0.947) | 1258 | 0.25000 | 0.40(a) |
| 88 1,2-Dichlorobenzene | 146 | 10.006 | 10.006 | (1.036) | 1278 | 0.25000 | 0.23(a) |
| 33 1,2-Dichloroethane | 62 | 4.562 | 4.562 | (0.919) | 1597 | 0.25000 | 0.29(a) |
| 42 1,2-Dichloropropane | 63 | 5.450 | 5.450 | (1.098) | 1245 | 0.25000 | 0.35(aM) |

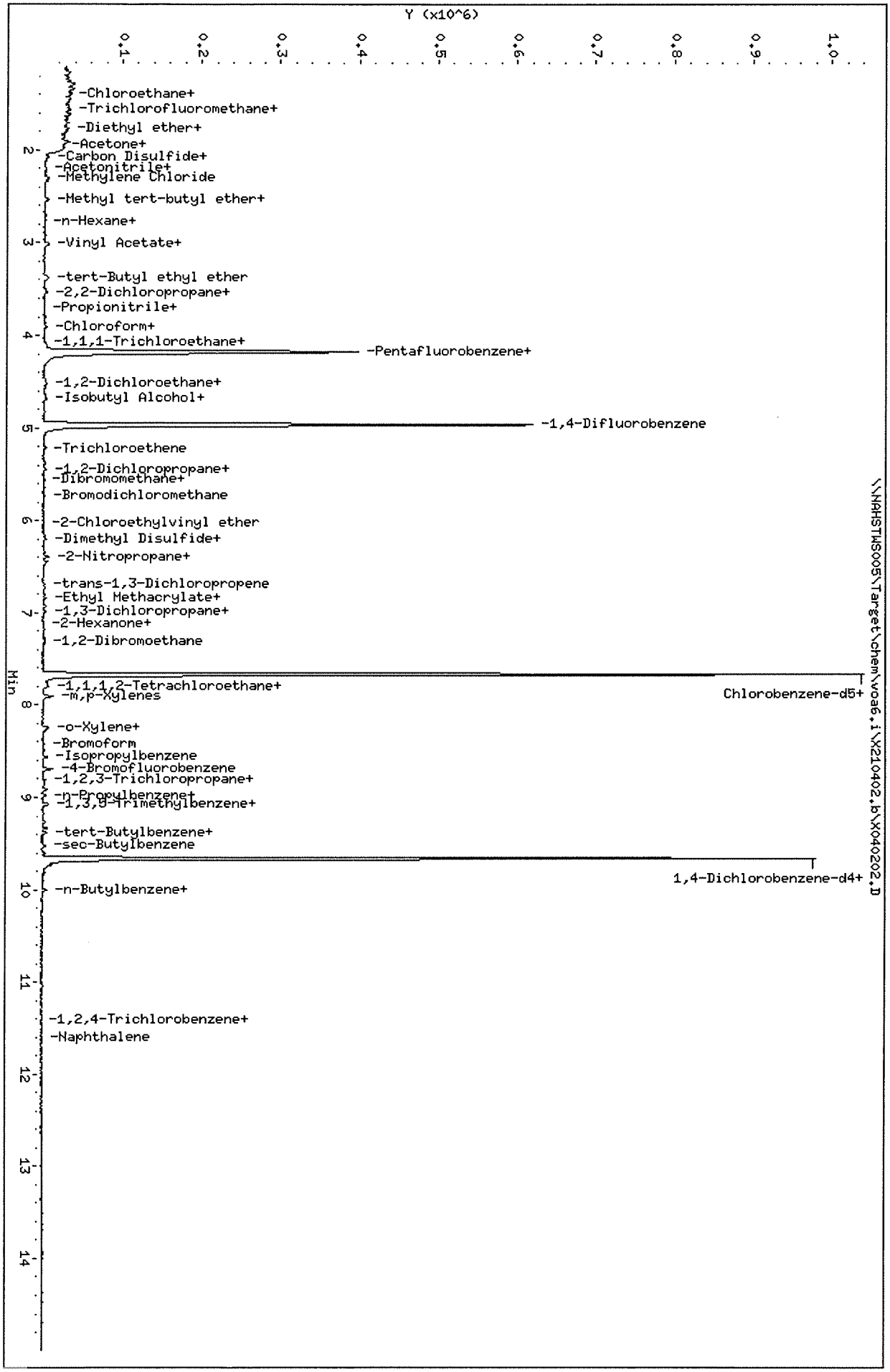
| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|---|
| 75 | 1,3,5-Trimethylbenzene | 105 | 9.075 | 9.075 | (0.939) | 3425 | 0.25000 | 0.32(a) |
| 83 | 1,3-Dichlorobenzene | 146 | 9.605 | 9.605 | (0.994) | 1316 | 0.25000 | 0.23(a) |
| 54 | 1,3-Dichloropropane | 76 | 6.983 | 6.983 | (0.910) | 1498 | 0.25000 | 0.29(a) |
| 84 | 1,4-Dichlorobenzene | 146 | 9.683 | 9.683 | (1.002) | 2103 | 0.25000 | 0.34(a) |
| 26 | 2,2-Dichloropropane | 77 | 3.516 | 3.516 | (0.841) | 1255 | 0.25000 | 0.22(aM) |
| 24 | 2-Butanone | 43 | 3.623 | 3.623 | (0.866) | 526 | 0.50000 | 0.49(aM) |
| 76 | 2-Chlorotoluene | 91 | 8.981 | 8.981 | (0.930) | 2725 | 0.25000 | 0.31(a) |
| 52 | 2-Hexanone | 43 | 7.119 | 7.119 | (0.928) | 791 | 0.50000 | 3.30(Ta) |
| 77 | 4-Chlorotoluene | 91 | 9.082 | 9.082 | (0.940) | 2618 | 0.25000 | 0.24(a) |
| 82 | p-Isopropyltoluene | 119 | 9.655 | 9.655 | (0.999) | 2684 | 0.25000 | 0.26(a) |
| 45 | 4-Methyl-2-Pentanone | 43 | 6.338 | 6.338 | (0.826) | 1687 | 0.50000 | 0.62(aM) |
| 10 | Acetone | 43 | 1.983 | 1.983 | (0.474) | 3928 | 0.50000 | (a) |
| 37 | Benzene | 78 | 4.526 | 4.526 | (0.912) | 3943 | 0.25000 | 0.29(a) |
| 74 | Bromobenzene | 156 | 8.810 | 8.810 | (0.912) | 1120 | 0.25000 | 0.32(a) |
| 29 | Bromochloromethane | 128 | 3.788 | 3.788 | (0.906) | 448 | 0.25000 | 0.24(aM) |
| 39 | Bromodichloromethane | 83 | 5.729 | 5.729 | (1.154) | 1400 | 0.25000 | 0.27(aM) |
| 66 | Bromoform | 173 | 8.416 | 8.416 | (1.097) | 286 | 0.25000 | 2.16(aM) |
| 6 | Bromomethane | 94 | 1.346 | 1.346 | (0.322) | 1613 | 0.25000 | 0.17(aM) |
| 19 | Carbon Disulfide | 76 | 2.069 | 2.069 | (0.495) | 5638 | 0.50000 | 0.65(a) |
| 34 | Carbon Tetrachloride | 117 | 4.261 | 4.261 | (0.859) | 2083 | 0.25000 | 0.45(a) |
| 59 | Chlorobenzene | 112 | 7.692 | 7.692 | (1.003) | 3199 | 0.25000 | 2.10(a) |
| 7 | Chloroethane | 64 | 1.389 | 1.389 | (0.332) | 1580 | 0.25000 | 0.45(aM) |
| 28 | Chloroform | 83 | 3.910 | 3.910 | (0.935) | 1916 | 0.25000 | 0.28(a) |
| 3 | Chloromethane | 50 | 1.073 | 1.073 | (0.257) | 1314 | 0.25000 | (aM) |
| 27 | cis-1,2-Dichloroethene | 96 | 3.530 | 3.530 | (0.844) | 893 | 0.25000 | 0.23(aM) |
| 46 | cis-1,3-Dichloropropene | 75 | 6.166 | 6.166 | (1.242) | 1627 | 0.25000 | 0.27(aM) |
| 55 | Dibromochloromethane | 129 | 7.184 | 7.184 | (0.937) | 1273 | 0.25000 | 0.36(a) |
| 44 | Dibromomethane | 93 | 5.558 | 5.558 | (1.120) | 991 | 0.25000 | 0.39(a) |
| 2 | Dichlorodifluoromethane | 85 | 0.966 | 0.966 | (0.231) | 875 | 0.25000 | 1.94(aM) |
| 61 | Ethylbenzene | 106 | 7.800 | 7.800 | (1.017) | 1453 | 0.25000 | 0.30(a) |
| 91 | Hexachlorobutadiene | 225 | 11.481 | 11.481 | (1.188) | 297 | 0.25000 | 1.28(aM) |
| 67 | Isopropylbenzene | 105 | 8.566 | 8.566 | (1.117) | 3890 | 0.25000 | 0.26(a) |
| 62 | m,p-Xylenes | 106 | 7.907 | 7.907 | (1.031) | 2740 | 0.50000 | 0.44(a) |
| 17 | Methylene Chloride | 84 | 2.305 | 2.305 | (0.551) | 2054 | 0.25000 | 2.07(aM) |
| 87 | n-Butylbenzene | 91 | 10.006 | 10.006 | (1.036) | 2335 | 0.25000 | 0.24(a) |
| 73 | n-Propylbenzene | 91 | 8.924 | 8.924 | (0.924) | 3594 | 0.25000 | 0.24(a) |
| 92 | Naphthalene | 128 | 11.546 | 11.546 | (1.195) | 101 | 0.25000 | 0.79(aM) |
| 63 | o-Xylene | 106 | 8.244 | 8.244 | (1.075) | 1559 | 0.25000 | 0.26(a) |
| 81 | sec-Butylbenzene | 105 | 9.519 | 9.519 | (0.985) | 2687 | 0.25000 | 0.30(a) |
| 64 | Styrene | 104 | 8.272 | 8.272 | (1.078) | 2337 | 0.25000 | 3.56(a) |
| 78 | tert-Butylbenzene | 119 | 9.340 | 9.340 | (0.967) | 2337 | 0.25000 | 0.99(a) |
| 56 | Tetrachloroethene | 164 | 6.926 | 6.926 | (0.903) | 529 | 0.25000 | 0.19(aM) |
| 50 | Toluene | 91 | 6.446 | 6.446 | (0.840) | 3818 | 0.25000 | 0.27(a) |
| 20 | trans-1,2-Dichloroethene | 96 | 2.528 | 2.528 | (0.604) | 928 | 0.25000 | 0.29(Ta) |
| 51 | trans-1,3-Dichloropropene | 75 | 6.696 | 6.696 | (1.349) | 1368 | 0.25000 | 0.27(a) |
| 38 | Trichloroethene | 130 | 5.221 | 5.221 | (1.052) | 988 | 0.25000 | 0.28(aM) |
| 8 | Trichlorofluoromethane | 101 | 1.553 | 1.553 | (0.371) | 2725 | 0.25000 | 0.30(a) |
| 5 | Vinyl Chloride | 62 | 1.145 | 1.145 | (0.274) | 1614 | 0.25000 | 0.34(aM) |

## QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

QC Flag Legend

M - Compound response manually integrated.




Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040202.D
Date : 02-APR-2021 10:53
Client ID: VSTD000.25
Sample Info: VSTD000.25;VSTD000.25;1;1;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
\\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040202.D
Operator: PC
Column diameter: 0.18

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040203.D
Lab Smp Id: VSTD000.5 Client Smp ID: VSTD000.5
Inj Date : 02-APR-2021 11:35
Operator : PC Inst ID: voa6.i
Smp Info : VSTD000.5;VSTD000.5;1;2;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\8260W.m
Meth Date : 14-Apr-2021 12:07 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 10:53 Cal File: X040202.D
Als bottle: 4 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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 |

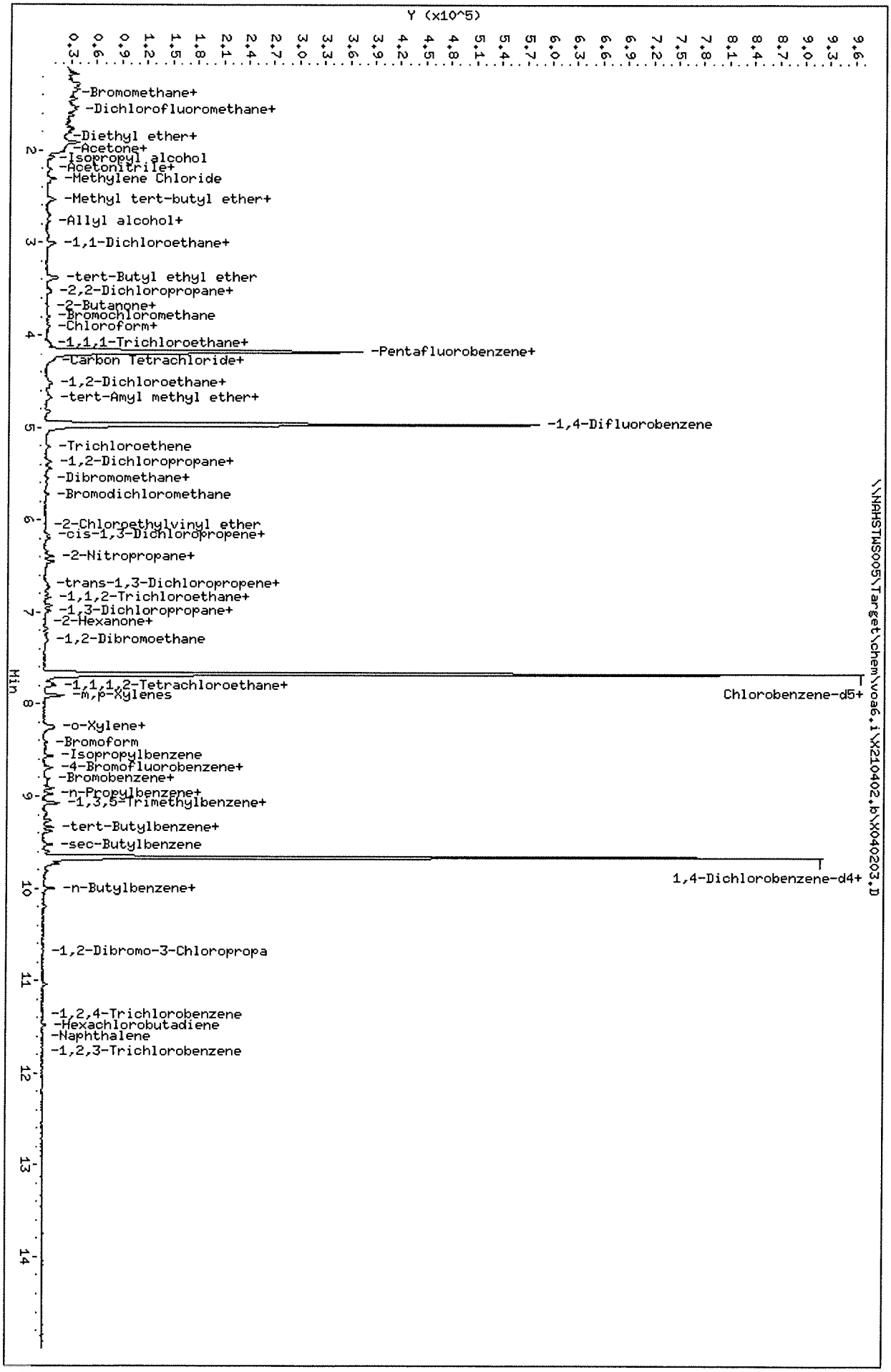
| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|---|
| * | 1 Pentafluorobenzene | 168 | 4.182 | 4.182 | (1.000) | 292480 | 50.0000 | |
| * | 36 1,4-Difluorobenzene | 114 | 4.970 | 4.970 | (1.000) | 476531 | 50.0000 | |
| * | 47 Chlorobenzene-d5 | 117 | 7.671 | 7.671 | (1.000) | 420545 | 50.0000 | |
| * | 70 1,4-Dichlorobenzene-d4 | 152 | 9.662 | 9.662 | (1.000) | 191809 | 50.0000 | |
| $ | 30 Dibromofluoromethane | 113 | 4.118 | 4.118 | (0.985) | 1934 | 0.50000 | 0.98(a) |
| $ | 35 1,2-Dichloroethane-d4 | 65 | 4.476 | 4.476 | (1.070) | 2323 | 0.50000 | 1.04(Ta) |
| $ | 48 Toluene-d8 | 98 | 6.389 | 6.389 | (0.833) | 6330 | 0.50000 | 2.41(Ta) |
| $ | 69 4-Bromofluorobenzene | 95 | 8.695 | 8.695 | (1.134) | 2889 | 0.50000 | 2.34(a) |
| | 60 1,1,1,2-Tetrachloroethane | 131 | 7.778 | 7.778 | (1.014) | 1878 | 0.50000 | 0.60(a) |
| | 31 1,1,1-Trichloroethane | 97 | 4.082 | 4.082 | (0.976) | 2422 | 0.50000 | 0.45(a) |
| | 68 1,1,2,2-Tetrachloroethane | 83 | 8.845 | 8.845 | (0.915) | 1814 | 0.50000 | 0.56(aM) |
| | 53 1,1,2-Trichloroethane | 83 | 6.847 | 6.847 | (0.893) | 1162 | 0.50000 | 0.47(a) |
| | 22 1,1-Dichloroethane | 63 | 2.914 | 2.914 | (0.697) | 3004 | 0.50000 | 0.55(Ta) |
| | 11 1,1-Dichloroethene | 96 | 1.926 | 1.926 | (0.461) | 2188 | 0.50000 | 0.52(aM) |
| | 32 1,1-Dichloropropene | 75 | 4.283 | 4.283 | (0.862) | 2586 | 0.50000 | 0.57(aM) |
| | 93 1,2,3-Trichlorobenzene | 180 | 11.768 | 11.768 | (1.218) | 129 | 0.50000 | 1.41(aM) |
| | 71 1,2,3-Trichloropropane | 75 | 8.867 | 8.867 | (0.918) | 1482 | 0.50000 | 0.57(aM) |
| | 90 1,2,4-Trichlorobenzene | 180 | 11.374 | 11.374 | (1.177) | 587 | 0.50000 | 0.97(aM) |
| | 79 1,2,4-Trimethylbenzene | 105 | 9.383 | 9.383 | (0.971) | 4917 | 0.50000 | 0.49(a) |
| | 89 1,2-Dibromo-3-Chloropropane | 155 | 10.679 | 10.679 | (1.105) | 107 | 0.50000 | 0.51(aM) |
| | 57 1,2-Dibromoethane | 107 | 7.262 | 7.262 | (0.947) | 1554 | 0.50000 | 0.53(a) |
| | 88 1,2-Dichlorobenzene | 146 | 9.992 | 9.992 | (1.034) | 2928 | 0.50000 | 0.55(a) |

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040203.D Page 2
Report Date: 14-Apr-2021 12:07

| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|
| 33 1,2-Dichloroethane | 62 | 4.562 | 4.562 | (0.918) | 2669 | 0.50000 | 0.52(aM) |
| 42 1,2-Dichloropropane | 63 | 5.443 | 5.443 | (1.095) | 1742 | 0.50000 | 0.52(aM) |
| 75 1,3,5-Trimethylbenzene | 105 | 9.067 | 9.067 | (0.938) | 5864 | 0.50000 | 0.57(a) |
| 83 1,3-Dichlorobenzene | 146 | 9.605 | 9.605 | (0.994) | 2882 | 0.50000 | 0.51(a) |
| 54 1,3-Dichloropropane | 76 | 6.983 | 6.983 | (0.910) | 2329 | 0.50000 | 0.49(a) |
| 84 1,4-Dichlorobenzene | 146 | 9.683 | 9.683 | (1.002) | 3639 | 0.50000 | 0.60(aM) |
| 26 2,2-Dichloropropane | 77 | 3.509 | 3.509 | (0.839) | 2680 | 0.50000 | 0.50(a) |
| 24 2-Butanone | 43 | 3.616 | 3.616 | (0.865) | 917 | 1.00000 | 0.91(aM) |
| 76 2-Chlorotoluene | 91 | 8.974 | 8.974 | (0.929) | 5215 | 0.50000 | 0.63(a) |
| 52 2-Hexanone | 43 | 7.112 | 7.112 | (0.927) | 1566 | 1.00000 | 3.76(a) |
| 77 4-Chlorotoluene | 91 | 9.082 | 9.082 | (0.940) | 5187 | 0.50000 | 0.49(a) |
| 82 p-Isopropyltoluene | 119 | 9.648 | 9.648 | (0.999) | 4635 | 0.50000 | 0.47(a) |
| 45 4-Methyl-2-Pentanone | 43 | 6.338 | 6.338 | (0.826) | 2057 | 1.00000 | 0.81(a) |
| 10 Acetone | 43 | 1.983 | 1.983 | (0.474) | 3461 | 1.00000 | (a) |
| 37 Benzene | 78 | 4.519 | 4.519 | (0.909) | 7419 | 0.50000 | 0.58(a) |
| 74 Bromobenzene | 156 | 8.802 | 8.802 | (0.911) | 1800 | 0.50000 | 0.54(a) |
| 29 Bromochloromethane | 128 | 3.795 | 3.795 | (0.908) | 872 | 0.50000 | 0.49(a) |
| 39 Bromodichloromethane | 83 | 5.730 | 5.730 | (1.153) | 2564 | 0.50000 | 0.53(aM) |
| 66 Bromoform | 173 | 8.416 | 8.416 | (1.097) | 696 | 0.50000 | 2.35(aM) |
| 6 Bromomethane | 94 | 1.339 | 1.339 | (0.320) | 2683 | 0.50000 | 0.45(aM) |
| 19 Carbon Disulfide | 76 | 2.069 | 2.069 | (0.495) | 8755 | 1.00000 | 1.07(a) |
| 34 Carbon Tetrachloride | 117 | 4.275 | 4.275 | (0.860) | 2256 | 0.50000 | 0.52(a) |
| 59 Chlorobenzene | 112 | 7.692 | 7.692 | (1.003) | 5017 | 0.50000 | 2.32(a) |
| 7 Chloroethane | 64 | 1.410 | 1.410 | (0.337) | 1969 | 0.50000 | 0.60(aMH) |
| 28 Chloroform | 83 | 3.917 | 3.917 | (0.937) | 2842 | 0.50000 | 0.44(a) |
| 3 Chloromethane | 50 | 1.081 | 1.081 | (0.258) | 1979 | 0.50000 | (aM) |
| 27 cis-1,2-Dichloroethene | 96 | 3.545 | 3.545 | (0.848) | 1721 | 0.50000 | 0.48(a) |
| 46 cis-1,3-Dichloropropene | 75 | 6.166 | 6.166 | (1.241) | 2912 | 0.50000 | 0.52(a) |
| 55 Dibromochloromethane | 129 | 7.176 | 7.176 | (0.936) | 1628 | 0.50000 | 0.49(a) |
| 44 Dibromomethane | 93 | 5.558 | 5.558 | (1.118) | 1365 | 0.50000 | 0.58(a) |
| 2 Dichlorodifluoromethane | 85 | 0.973 | 0.973 | (0.233) | 1570 | 0.50000 | 2.20(aM) |
| 61 Ethylbenzene | 106 | 7.800 | 7.800 | (1.017) | 2833 | 0.50000 | 0.62(aM) |
| 91 Hexachlorobutadiene | 225 | 11.489 | 11.489 | (1.189) | 341 | 0.50000 | 1.33(aM) |
| 67 Isopropylbenzene | 105 | 8.559 | 8.559 | (1.116) | 6599 | 0.50000 | 0.49(a) |
| 62 m,p-Xylenes | 106 | 7.907 | 7.907 | (1.031) | 5913 | 1.00000 | 1.03(a) |
| 17 Methylene Chloride | 84 | 2.306 | 2.306 | (0.551) | 2167 | 0.50000 | 2.14(aM) |
| 87 n-Butylbenzene | 91 | 9.999 | 9.999 | (1.035) | 4376 | 0.50000 | 0.47(a) |
| 73 n-Propylbenzene | 91 | 8.917 | 8.917 | (0.923) | 7191 | 0.50000 | 0.49(a) |
| 92 Naphthalene | 128 | 11.603 | 11.603 | (1.201) | 712 | 0.50000 | 1.13(a) |
| 63 o-Xylene | 106 | 8.244 | 8.244 | (1.075) | 3002 | 0.50000 | 0.54(a) |
| 81 sec-Butylbenzene | 105 | 9.519 | 9.519 | (0.985) | 6410 | 0.50000 | 0.67(a) |
| 64 Styrene | 104 | 8.265 | 8.265 | (1.078) | 3816 | 0.50000 | 3.71(a) |
| 78 tert-Butylbenzene | 119 | 9.340 | 9.340 | (0.967) | 4655 | 0.50000 | 1.27(a) |
| 56 Tetrachloroethene | 164 | 6.933 | 6.933 | (0.904) | 1206 | 0.50000 | 0.47(a) |
| 50 Toluene | 91 | 6.446 | 6.446 | (0.840) | 7275 | 0.50000 | 0.55(a) |
| 20 trans-1,2-Dichloroethene | 96 | 2.535 | 2.535 | (0.606) | 1325 | 0.50000 | 0.44(a) |
| 51 trans-1,3-Dichloropropene | 75 | 6.689 | 6.689 | (1.346) | 2463 | 0.50000 | 0.51(a) |
| 38 Trichloroethene | 130 | 5.214 | 5.214 | (1.049) | 1254 | 0.50000 | 0.38(a) |
| 8 Trichlorofluoromethane | 101 | 1.561 | 1.561 | (0.373) | 4789 | 0.50000 | 0.57(aM) |
| 5 Vinyl Chloride | 62 | 1.145 | 1.145 | (0.274) | 2470 | 0.50000 | 0.56(a) |

QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

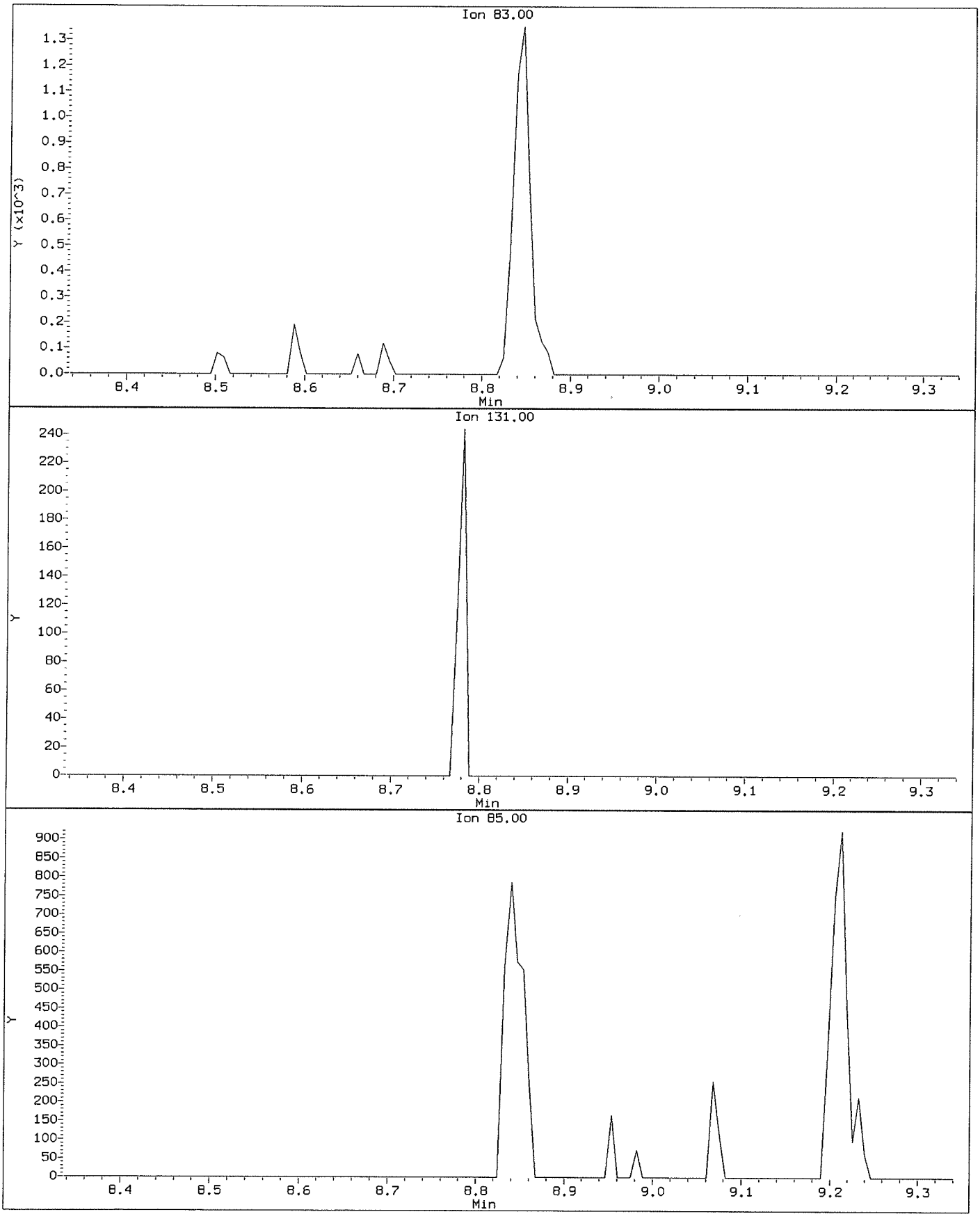



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Sample Info: VSTD000.5;VSTD000.5;1;2;;
Purge Volume: 5.0
Column phase: DB624

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

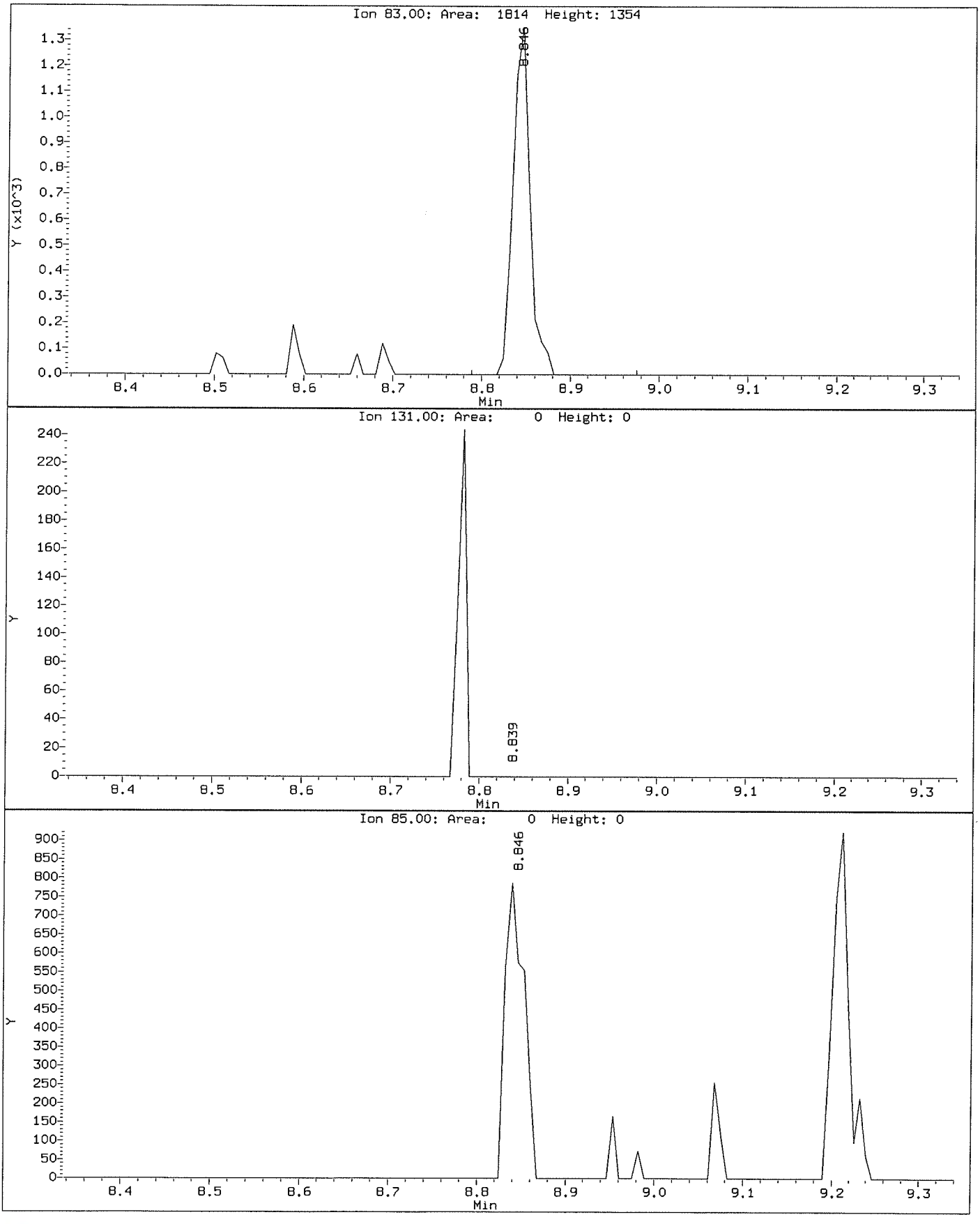
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Compound: 1,1,2,2-Tetrachloroethane
CAS Number: 79-34-5



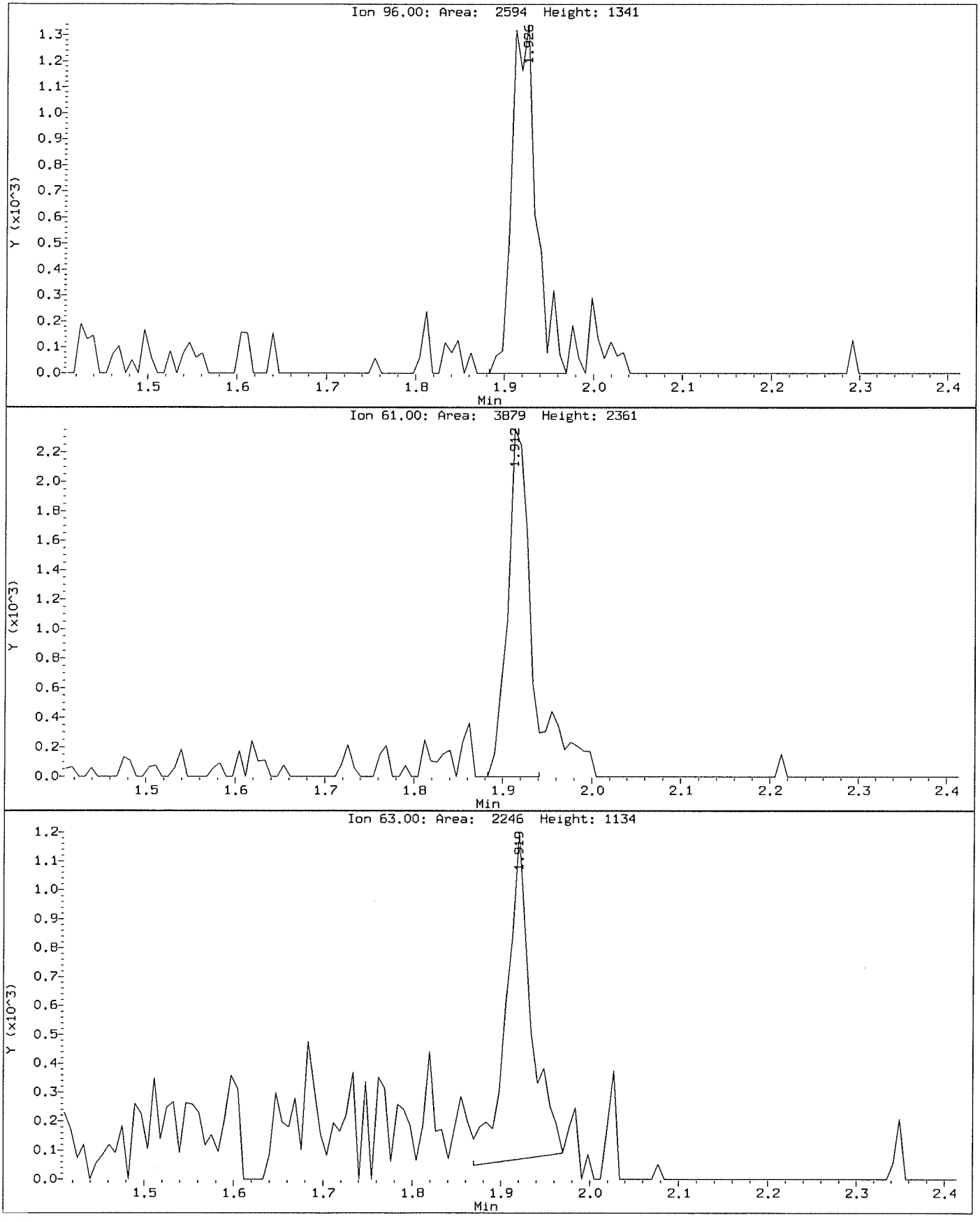
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Compound: 1,1,2,2-Tetrachloroethane
CAS Number: 79-34-5



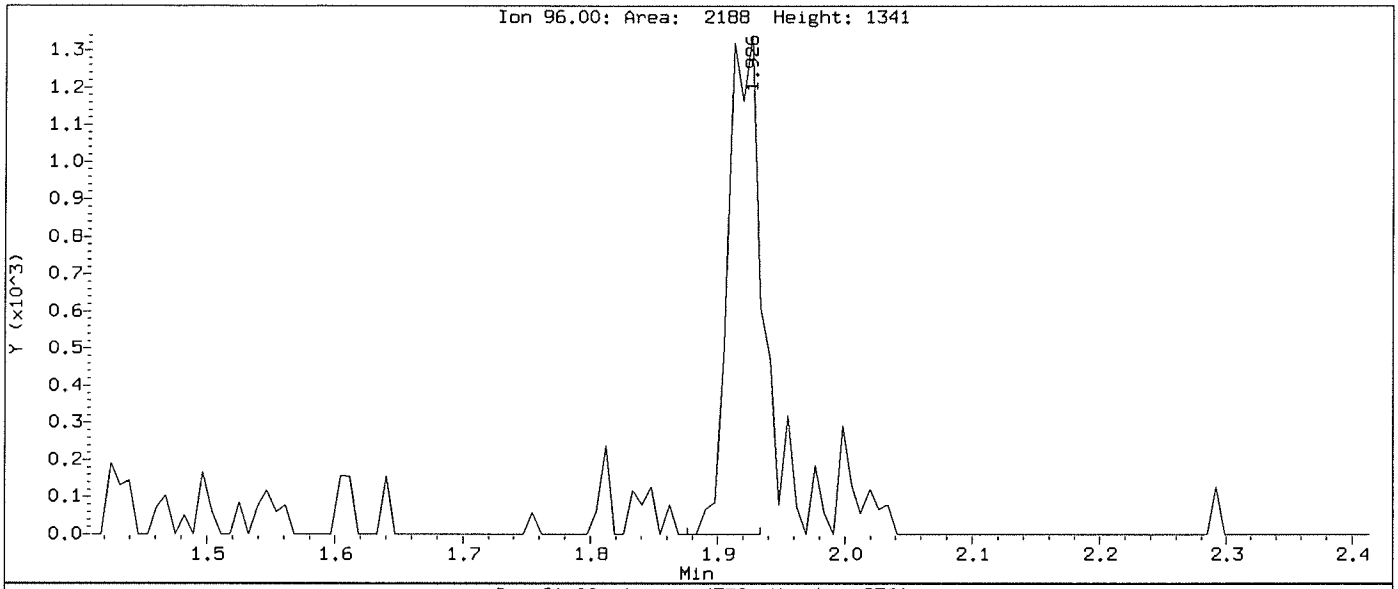
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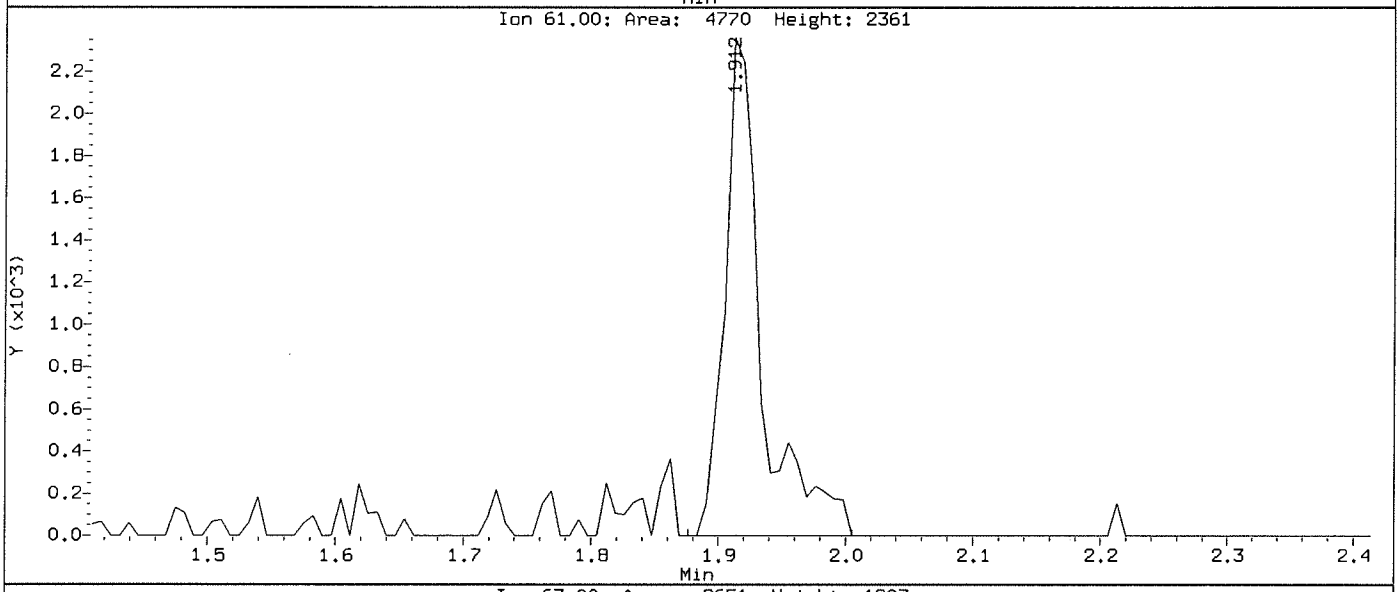
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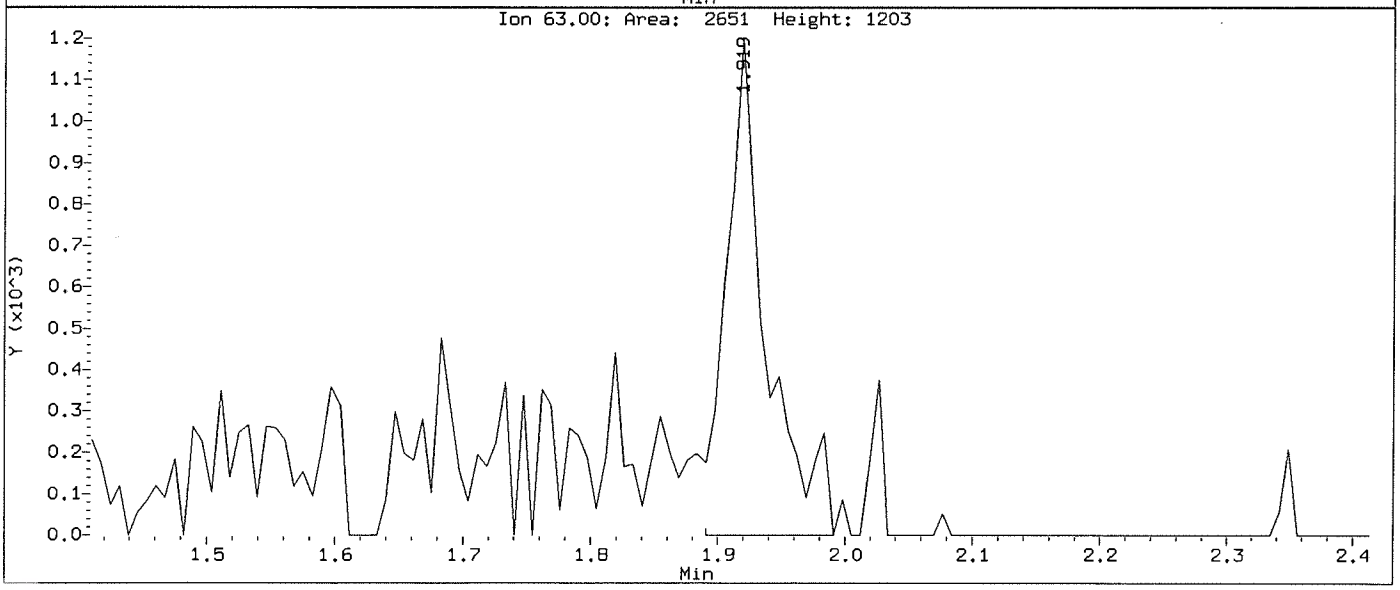


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CAS Number: 75-35-4

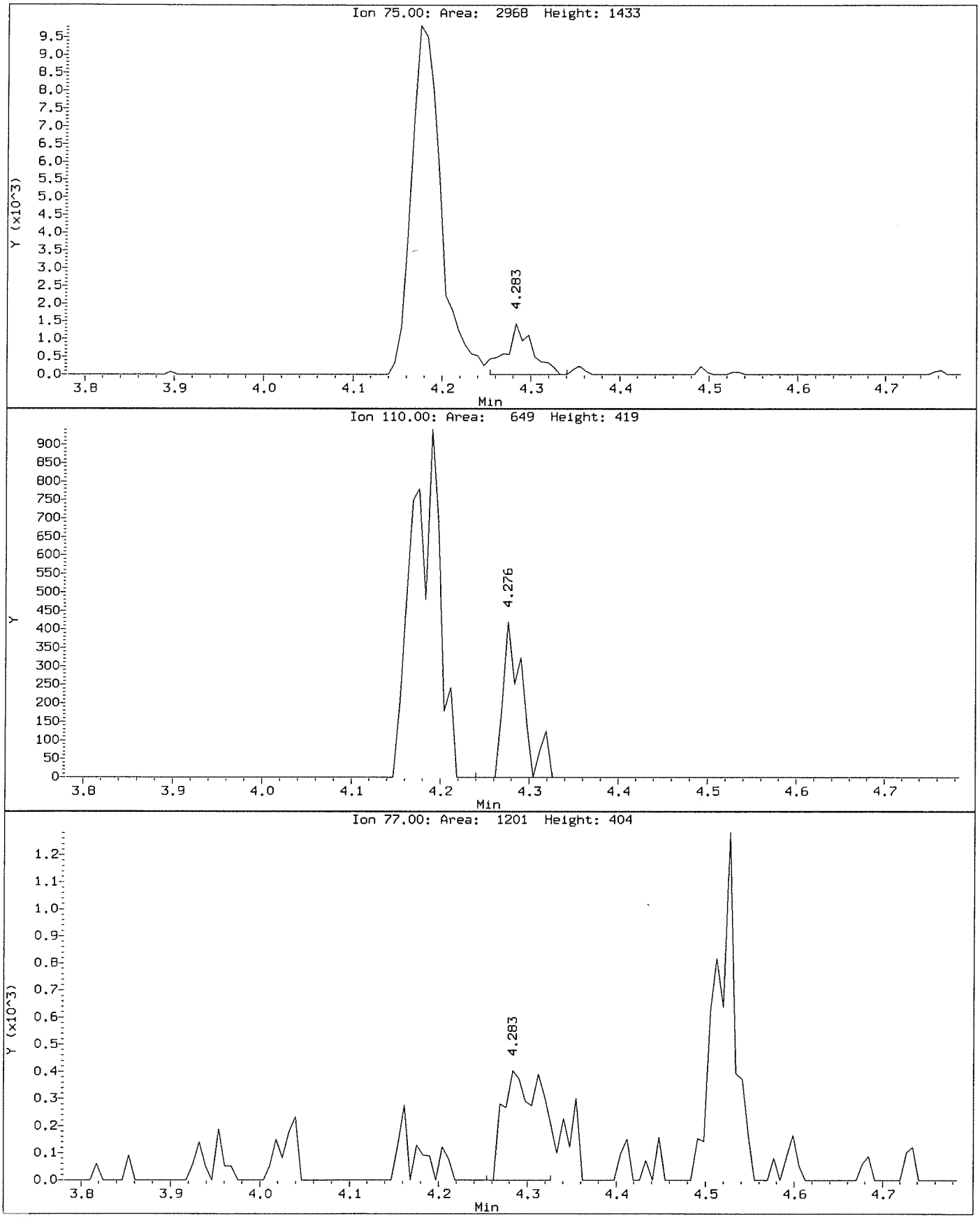


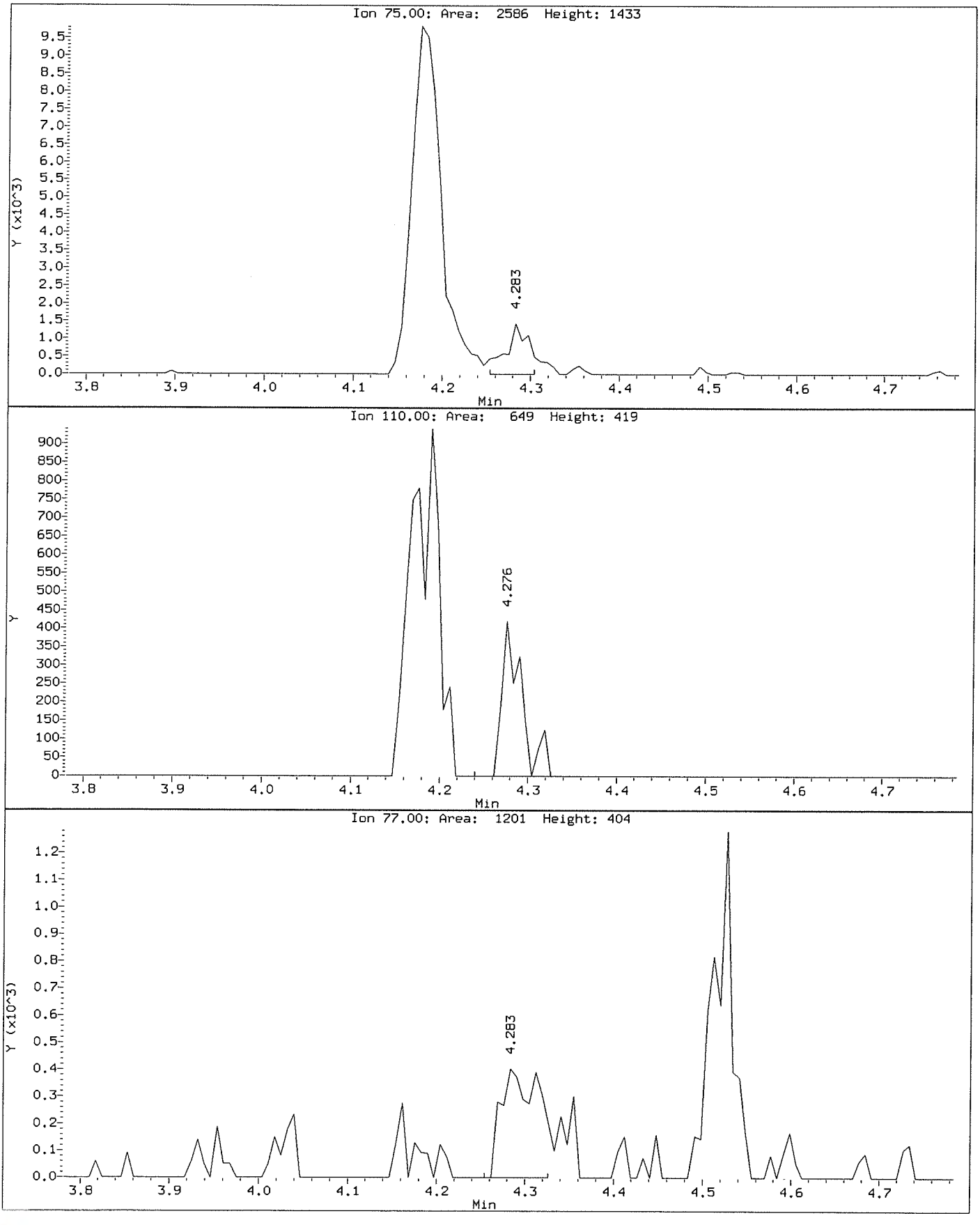
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Compound: 1,1-Dichloropropene
CAS Number: 563-58-6



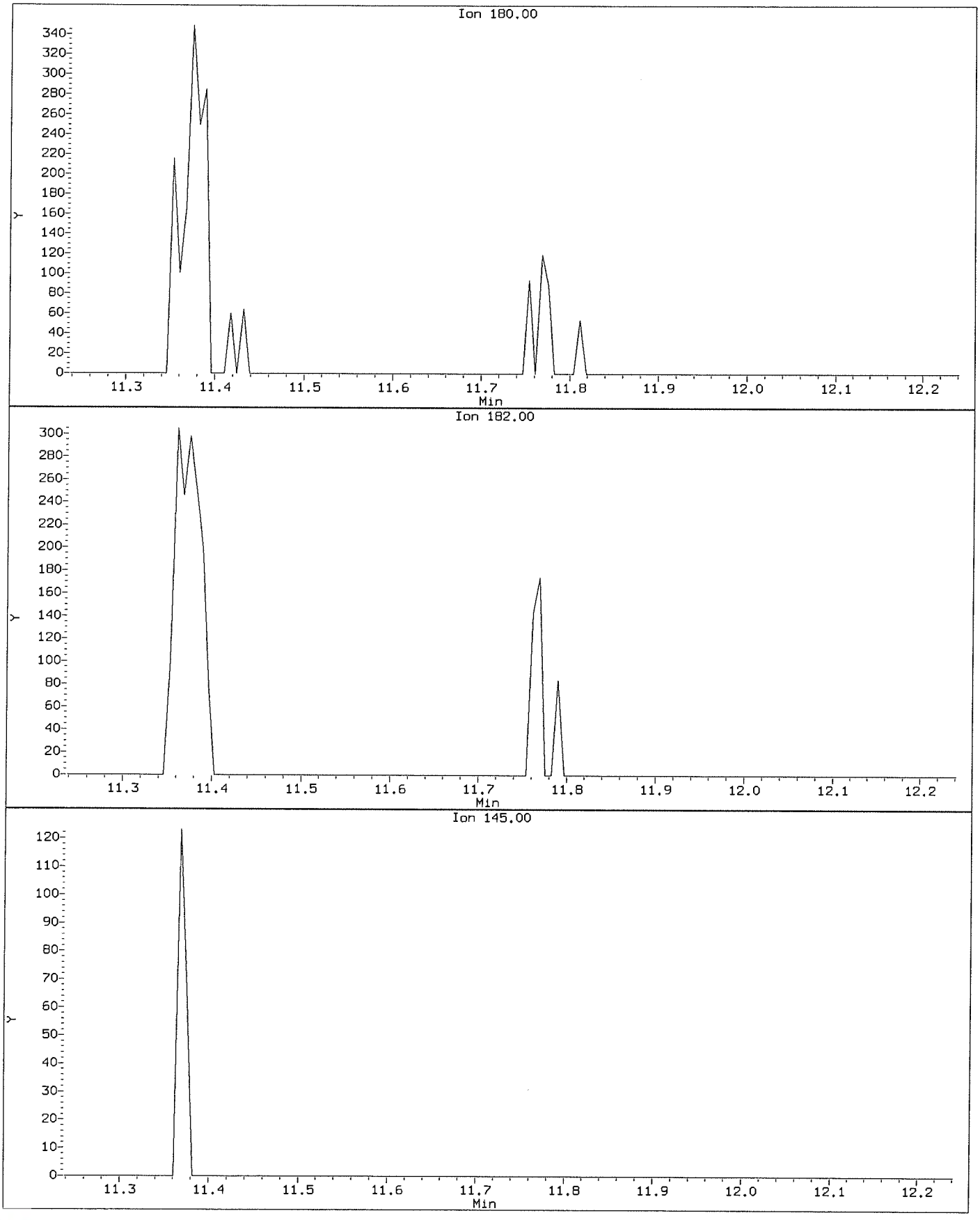
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Compound: 1,1-Dichloropropene
CAS Number: 563-58-6



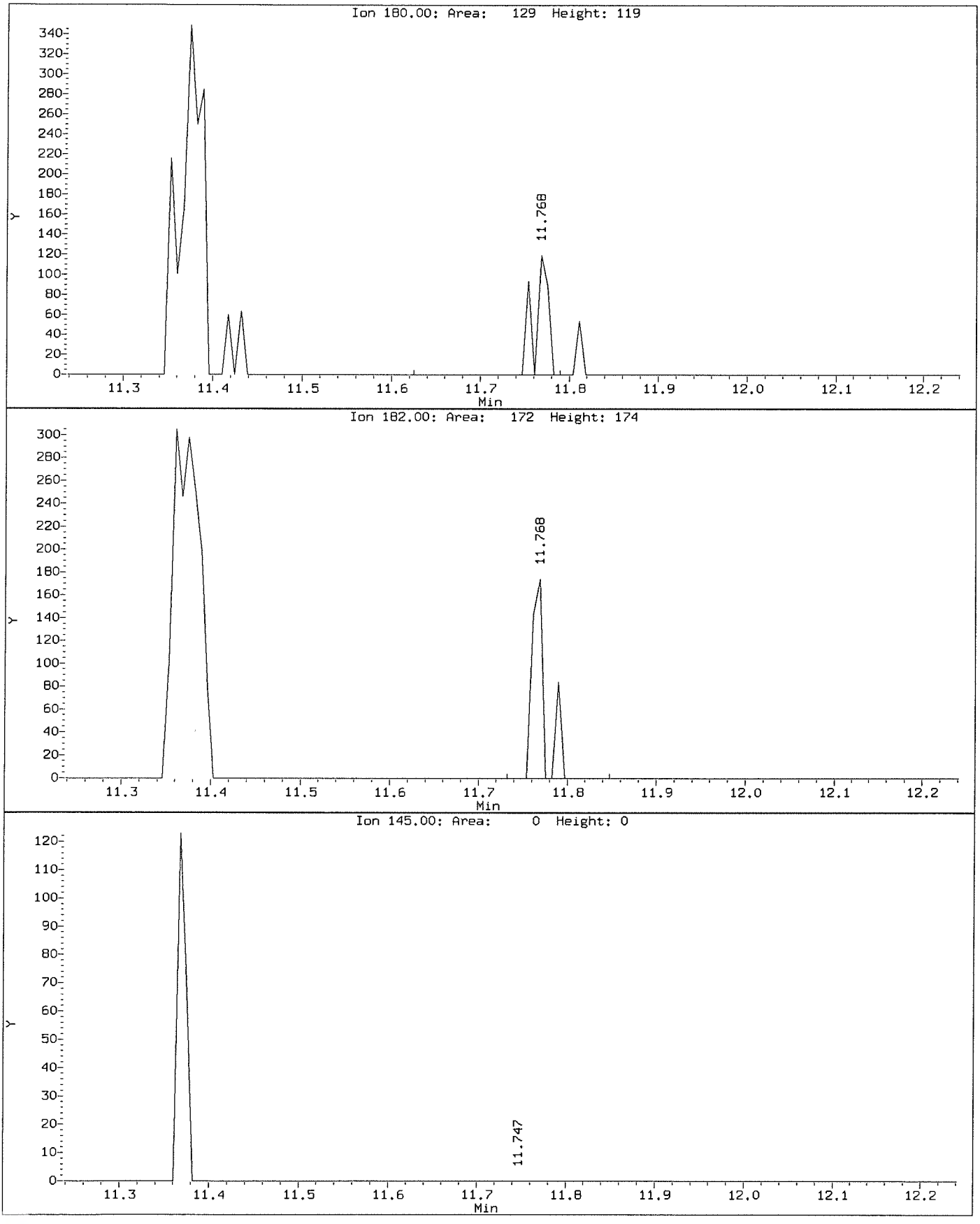
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Compound: 1,2,3-Trichlorobenzene
CAS Number: 87-61-6



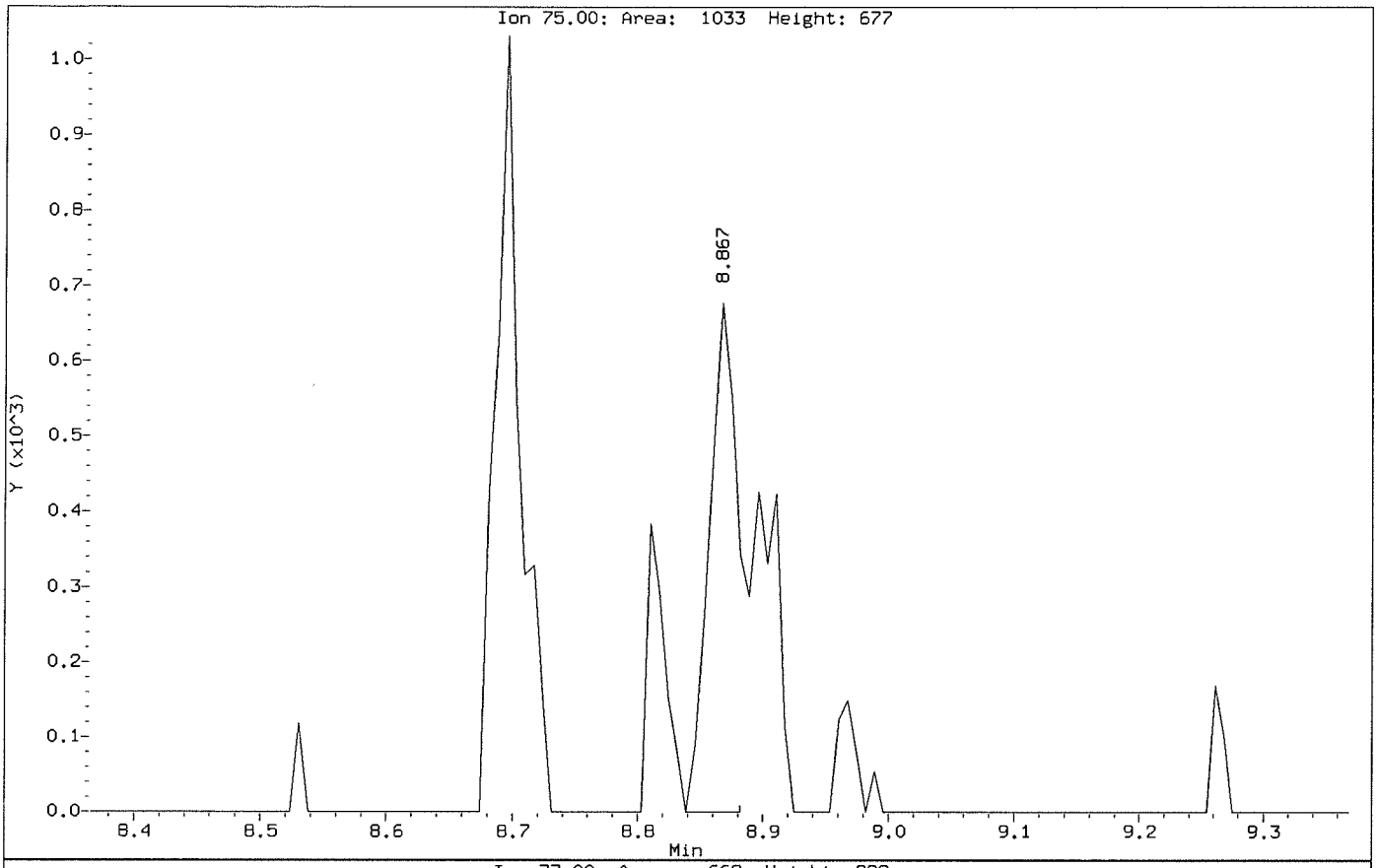
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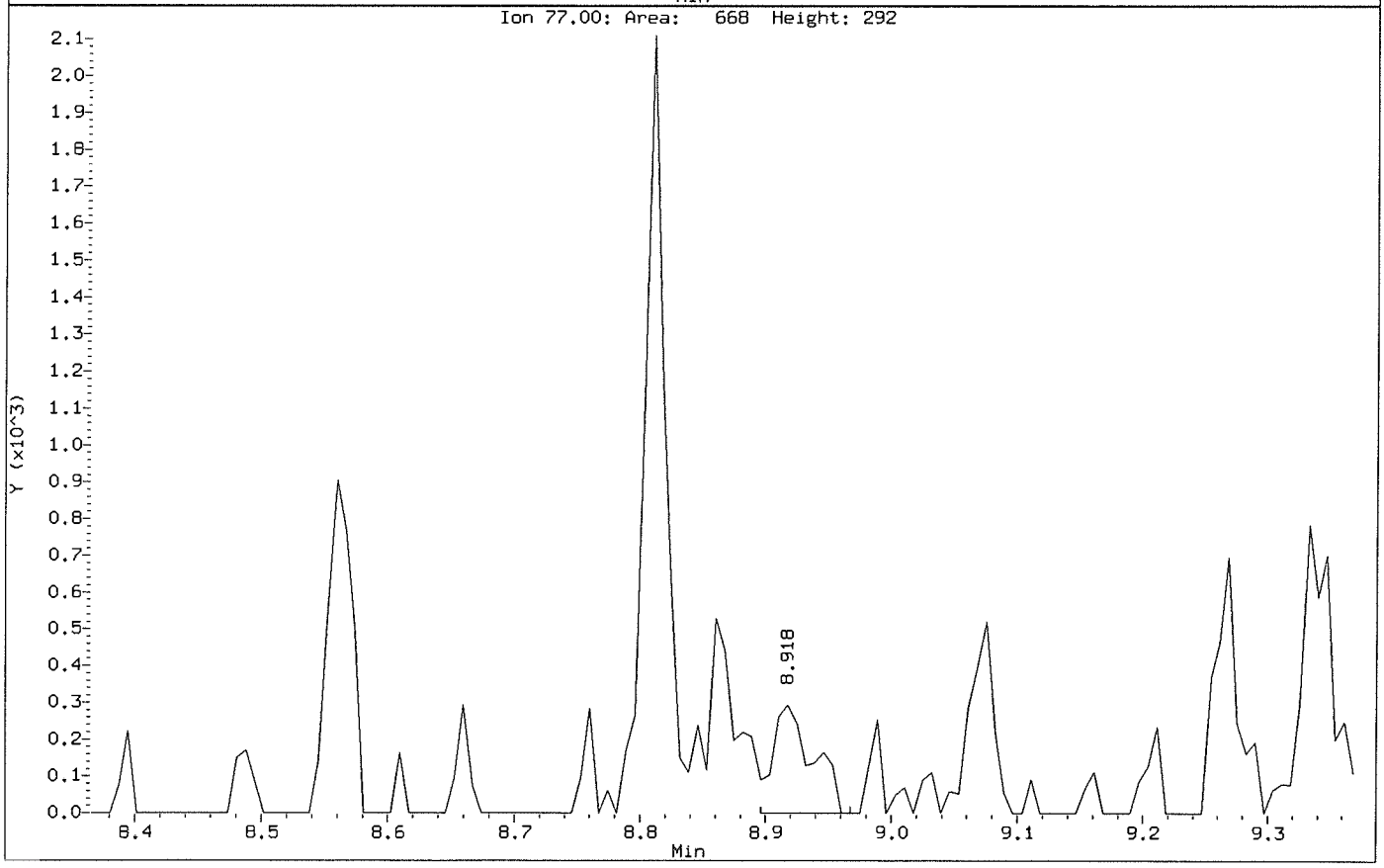
Compound: 1,2,3-Trichlorobenzene
CAS Number: 87-61-6



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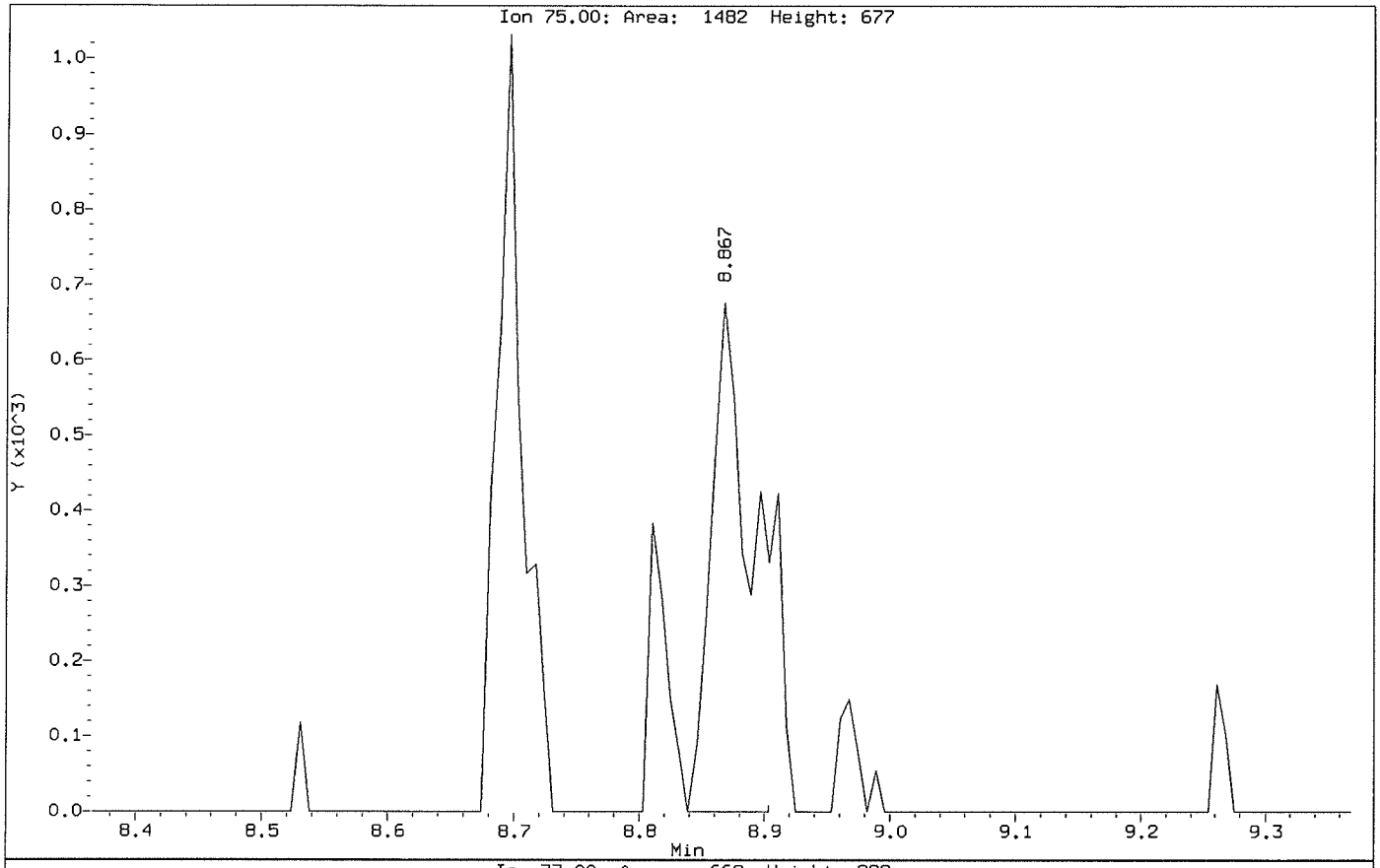
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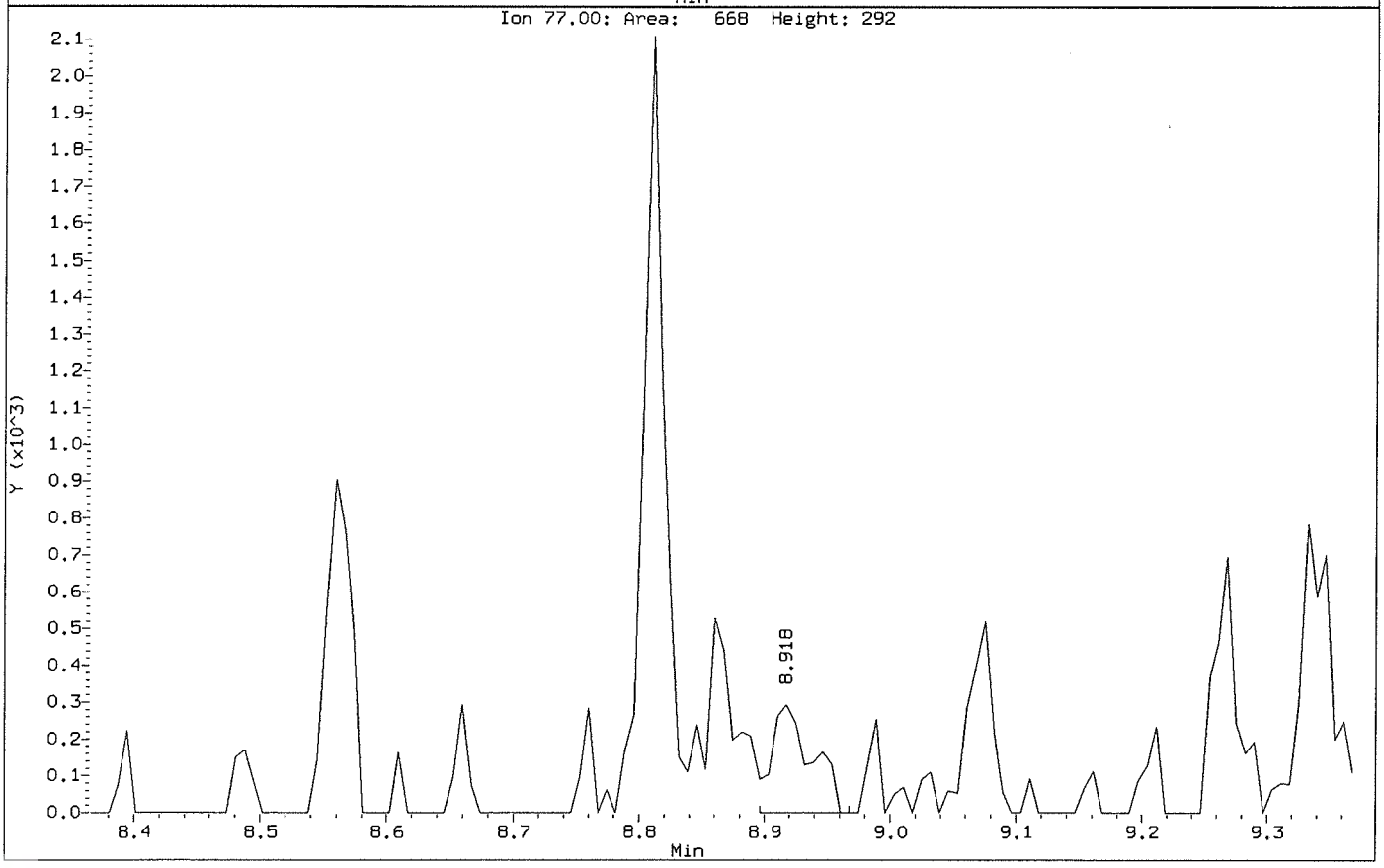


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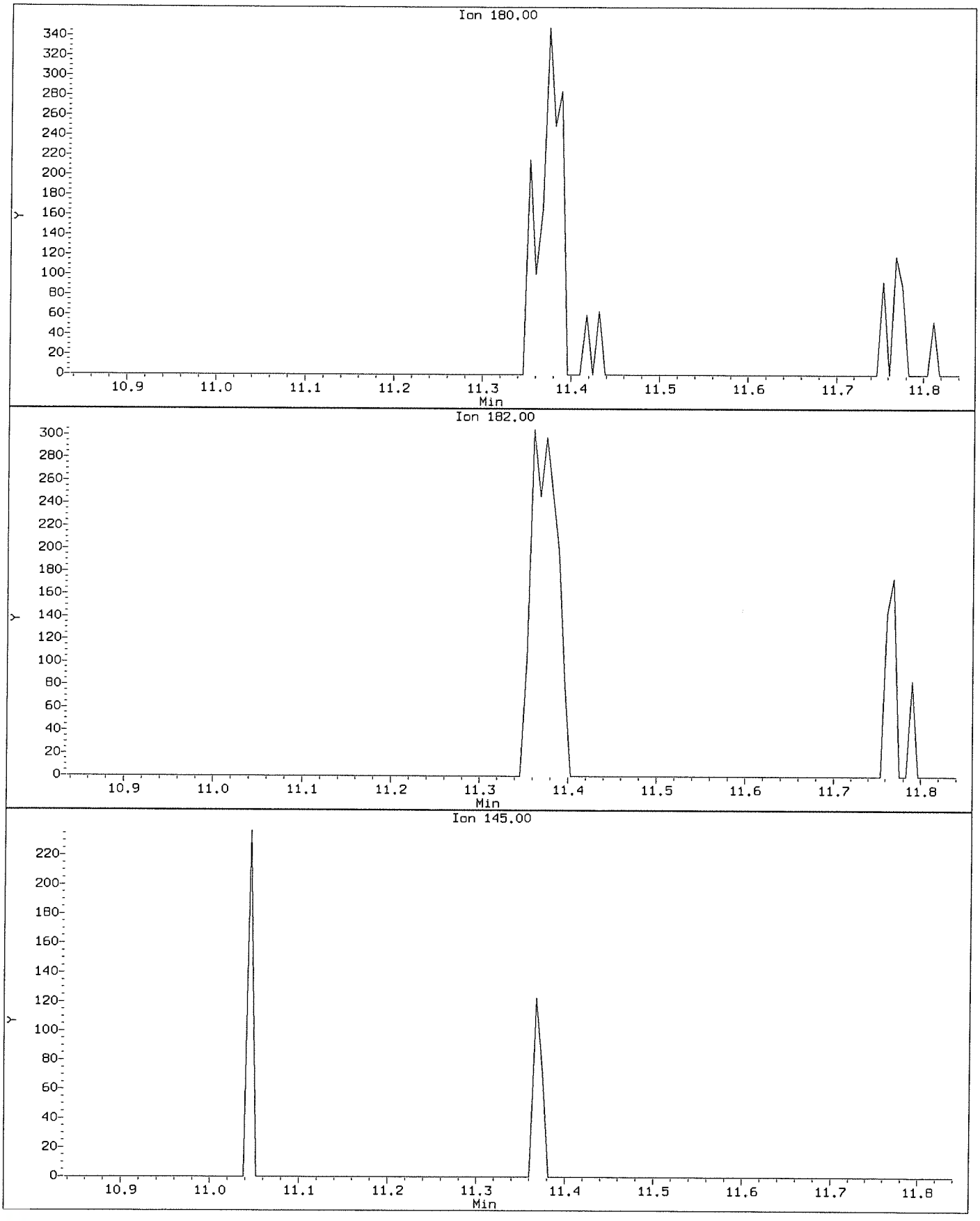
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CAS Number: 96-18-4



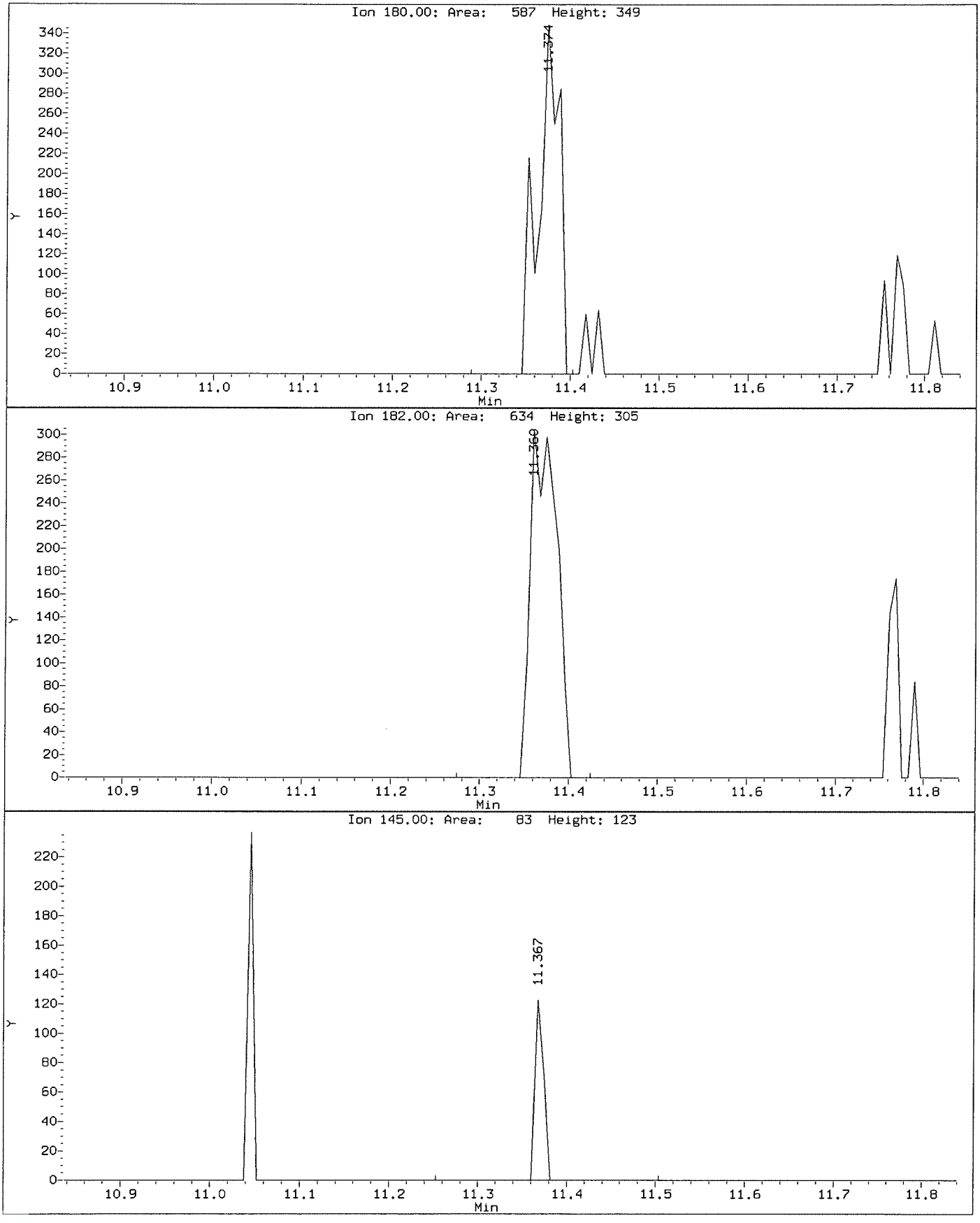
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Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1



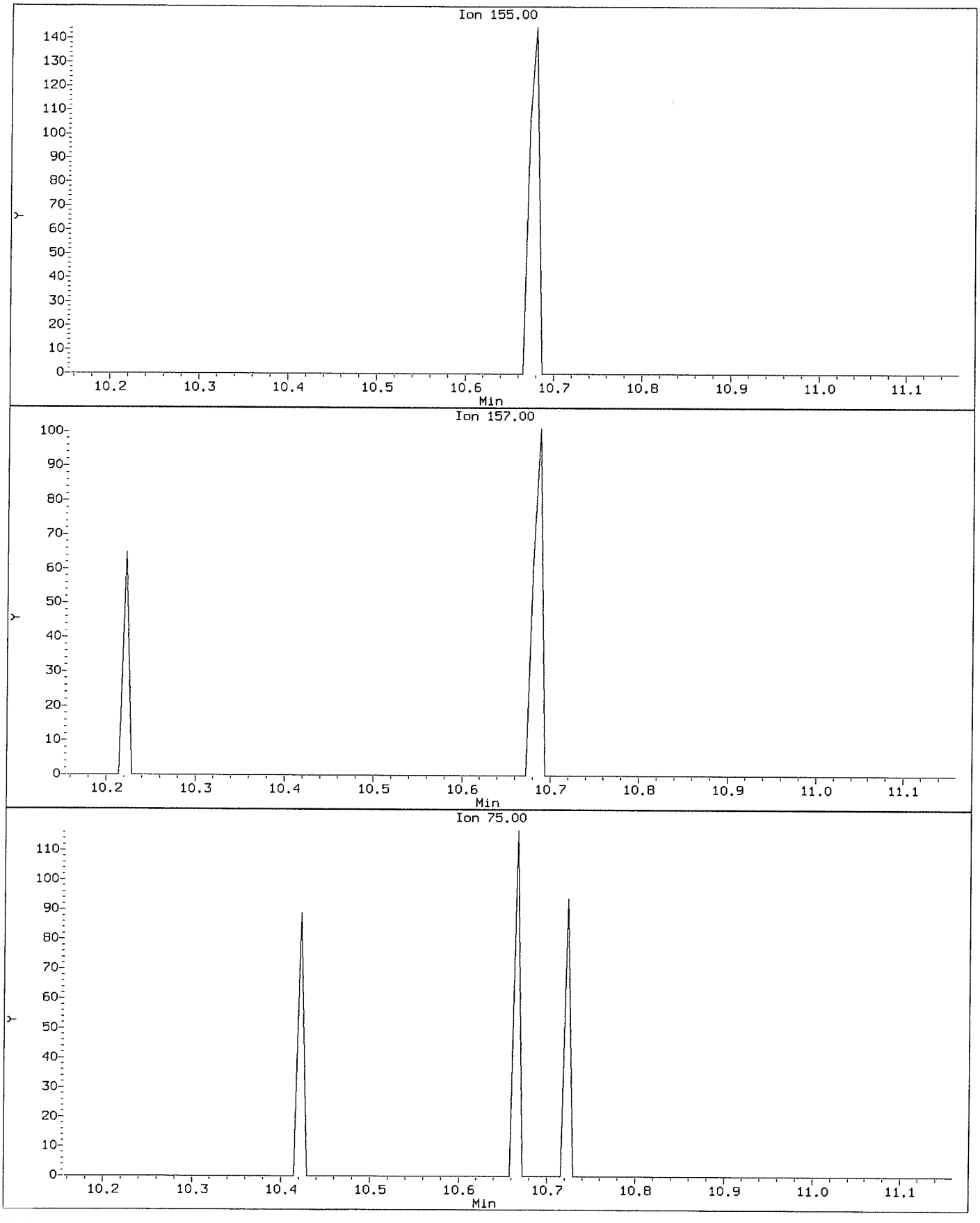
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Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1



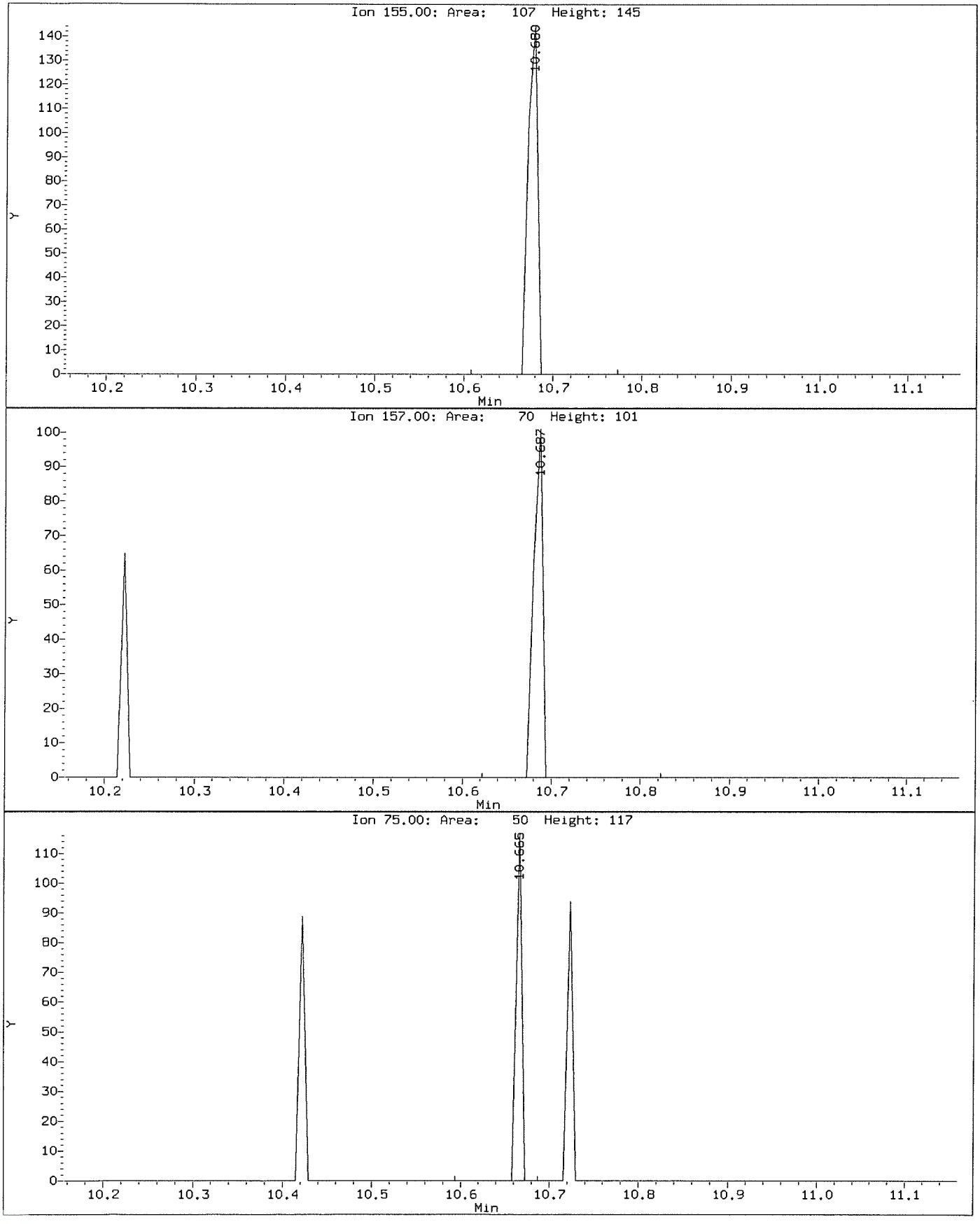
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Compound: 1,2-Dibromo-3-Chloropropane
CAS Number: 96-12-8



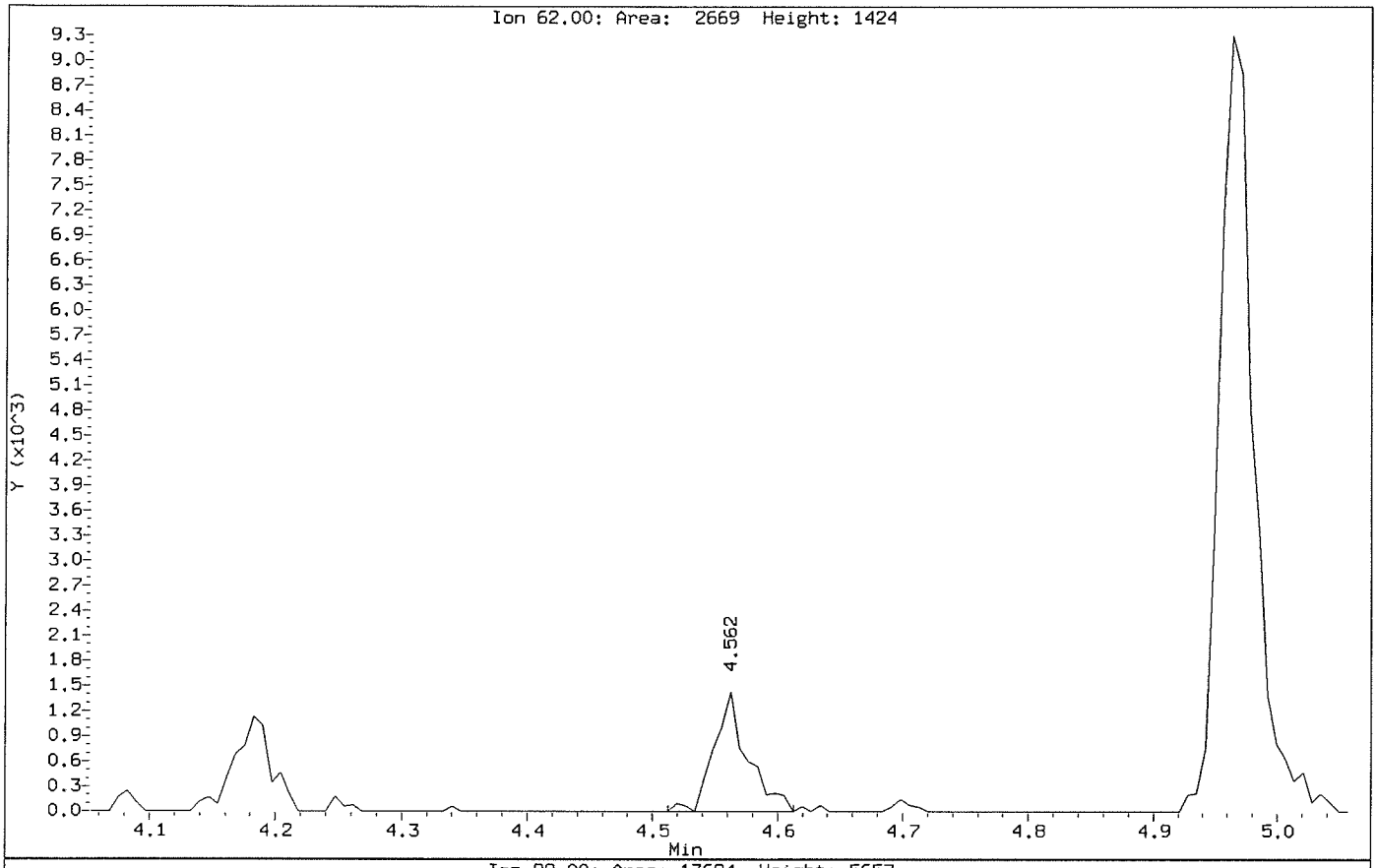
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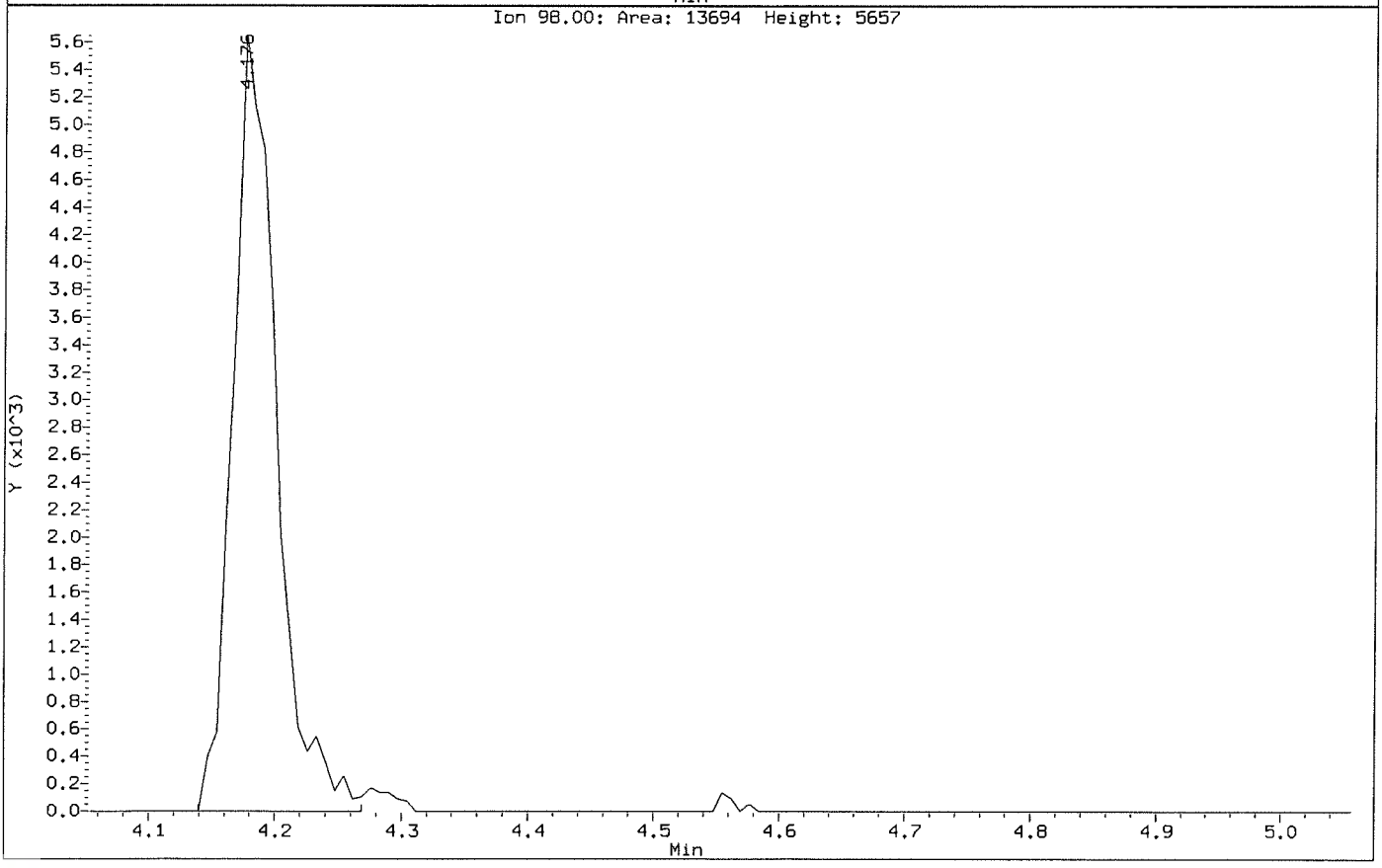
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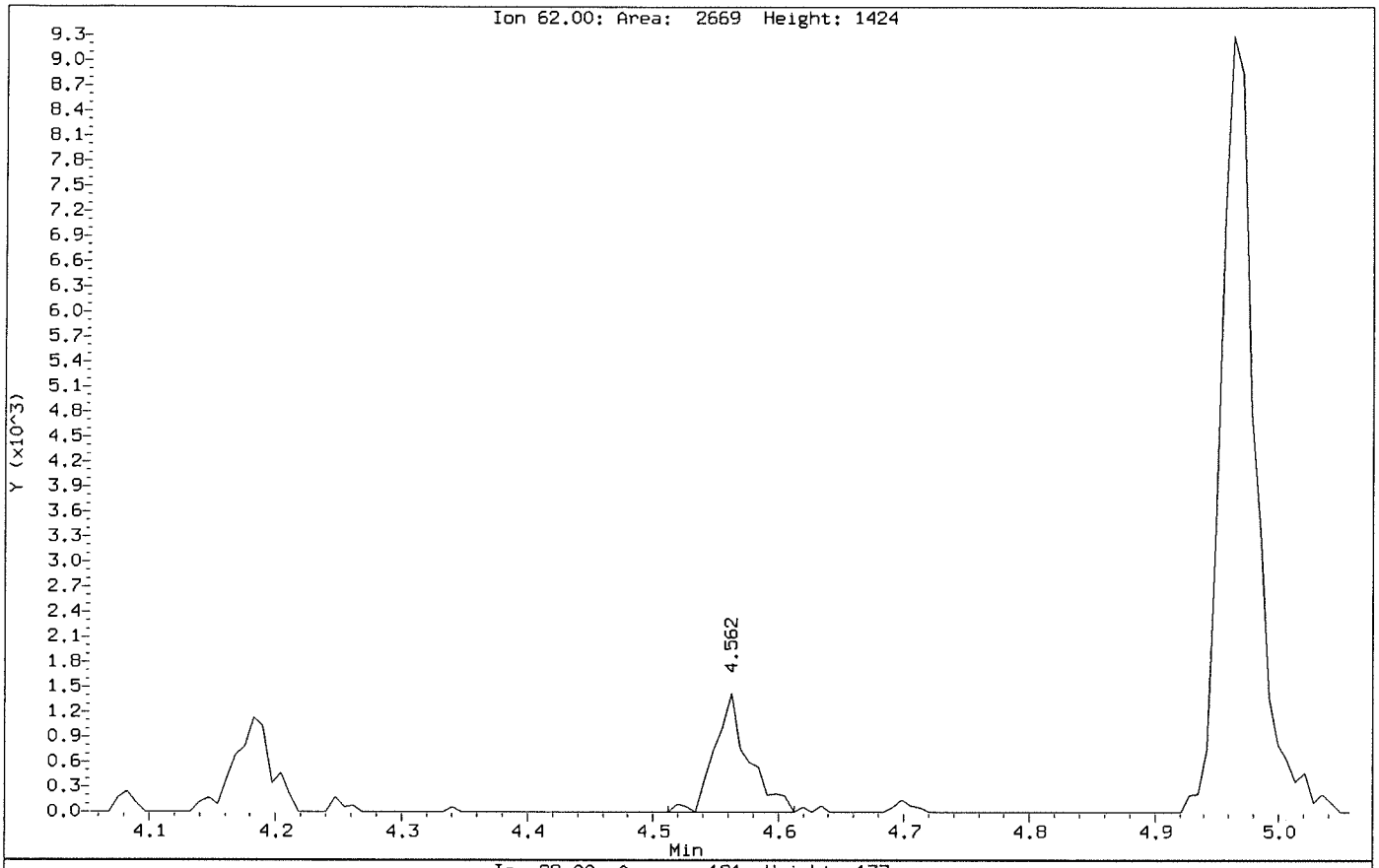
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CAS Number: 107-06-2

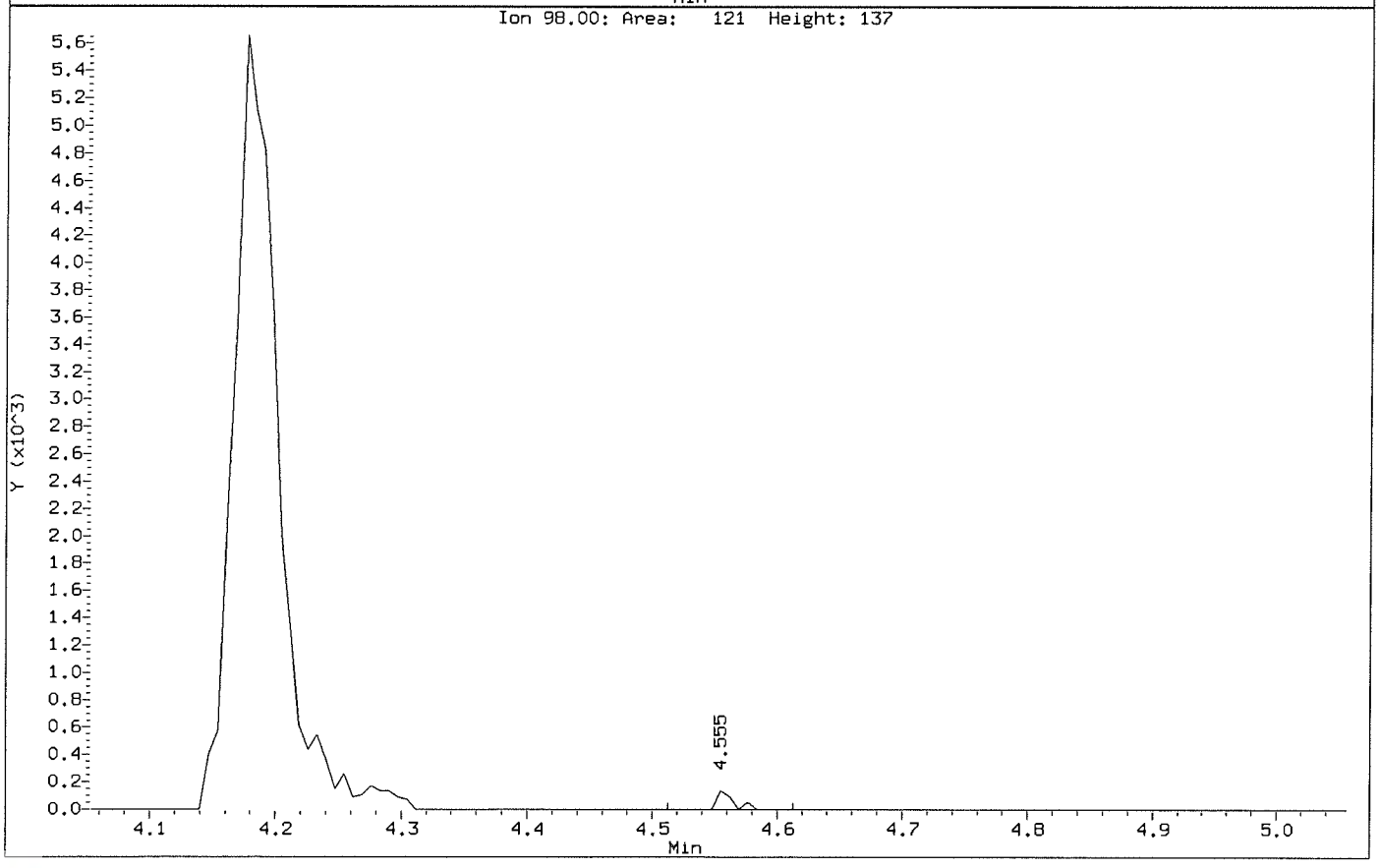


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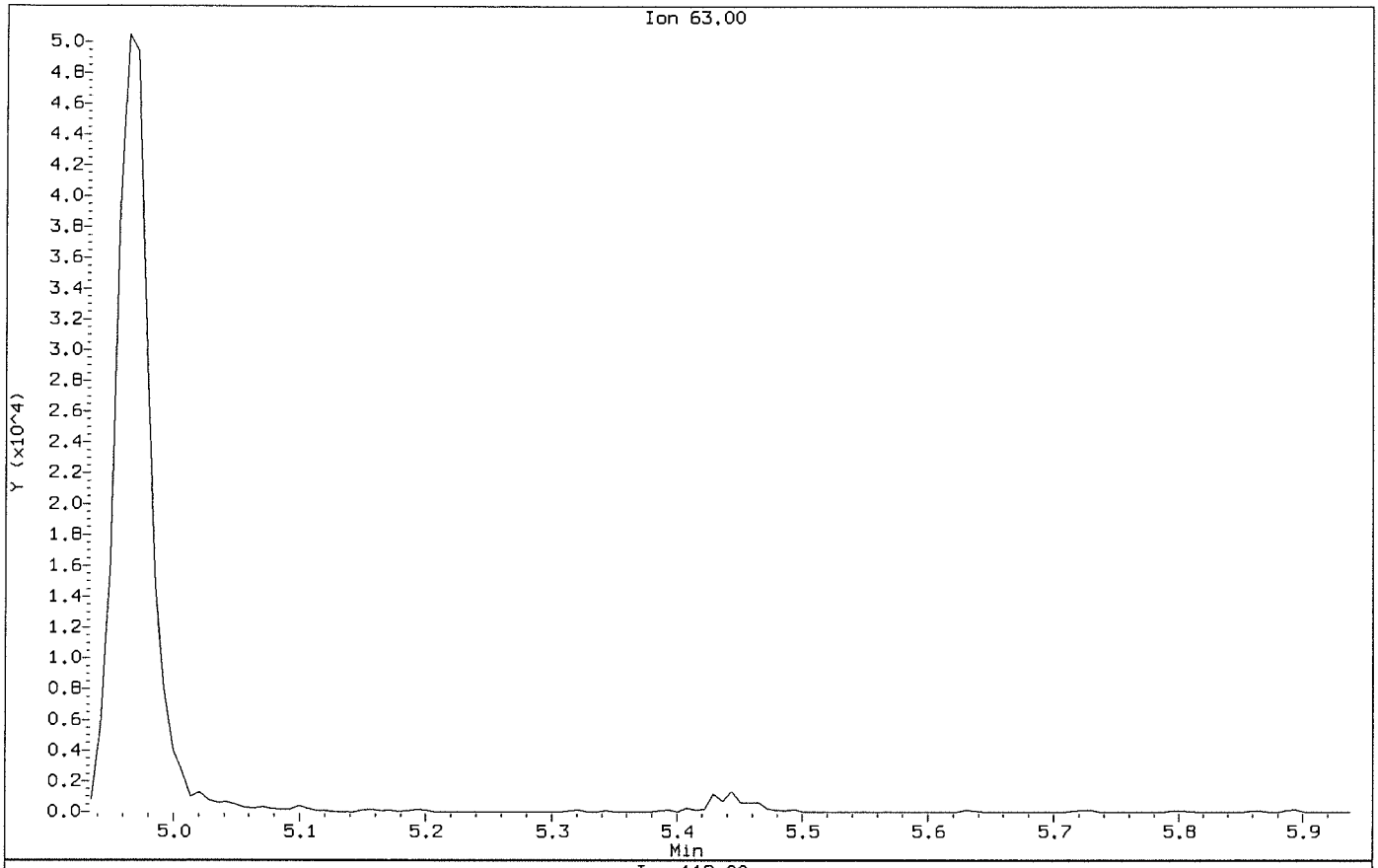
Compound: 1,2-Dichloroethane
CAS Number: 107-06-2

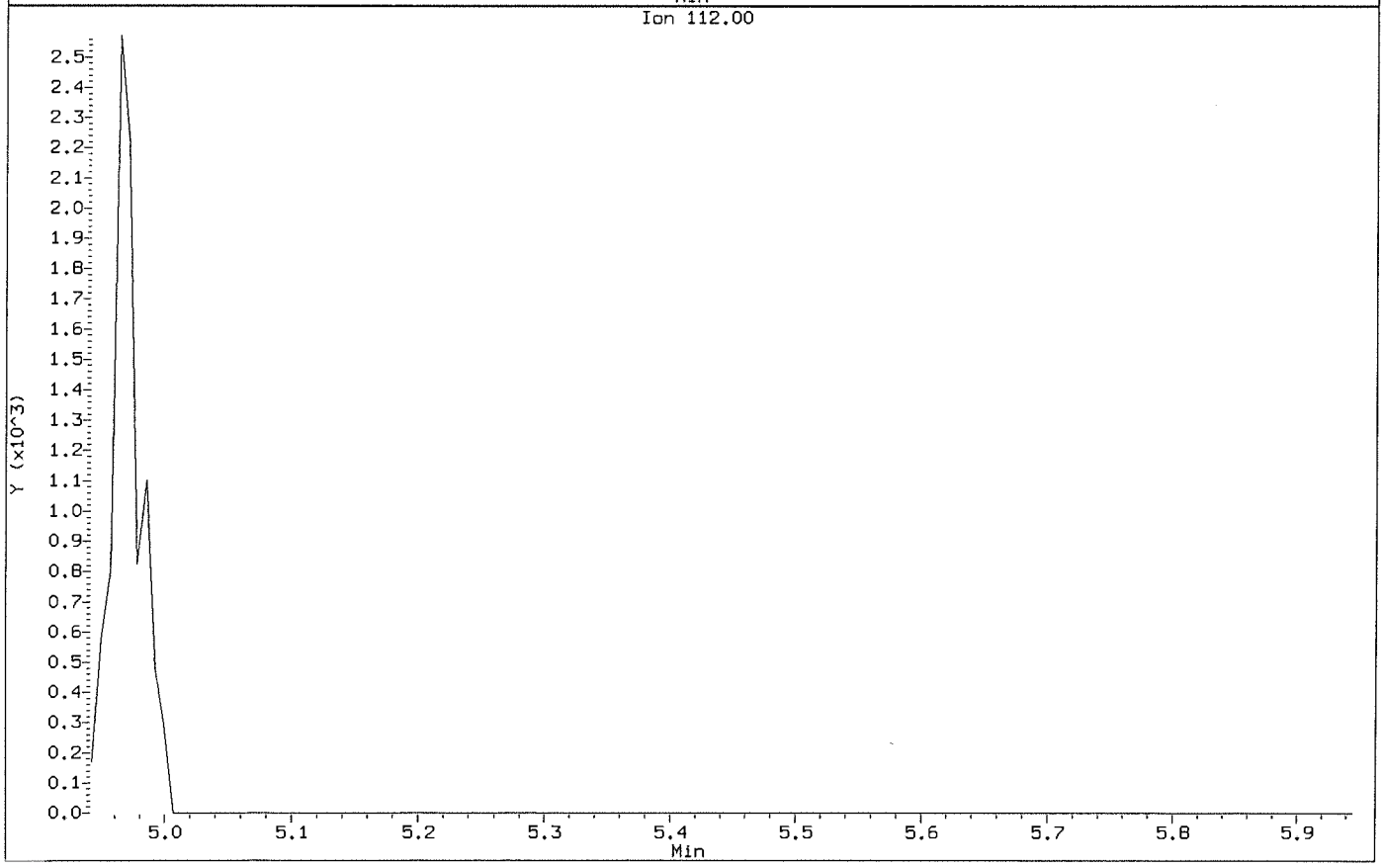


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Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

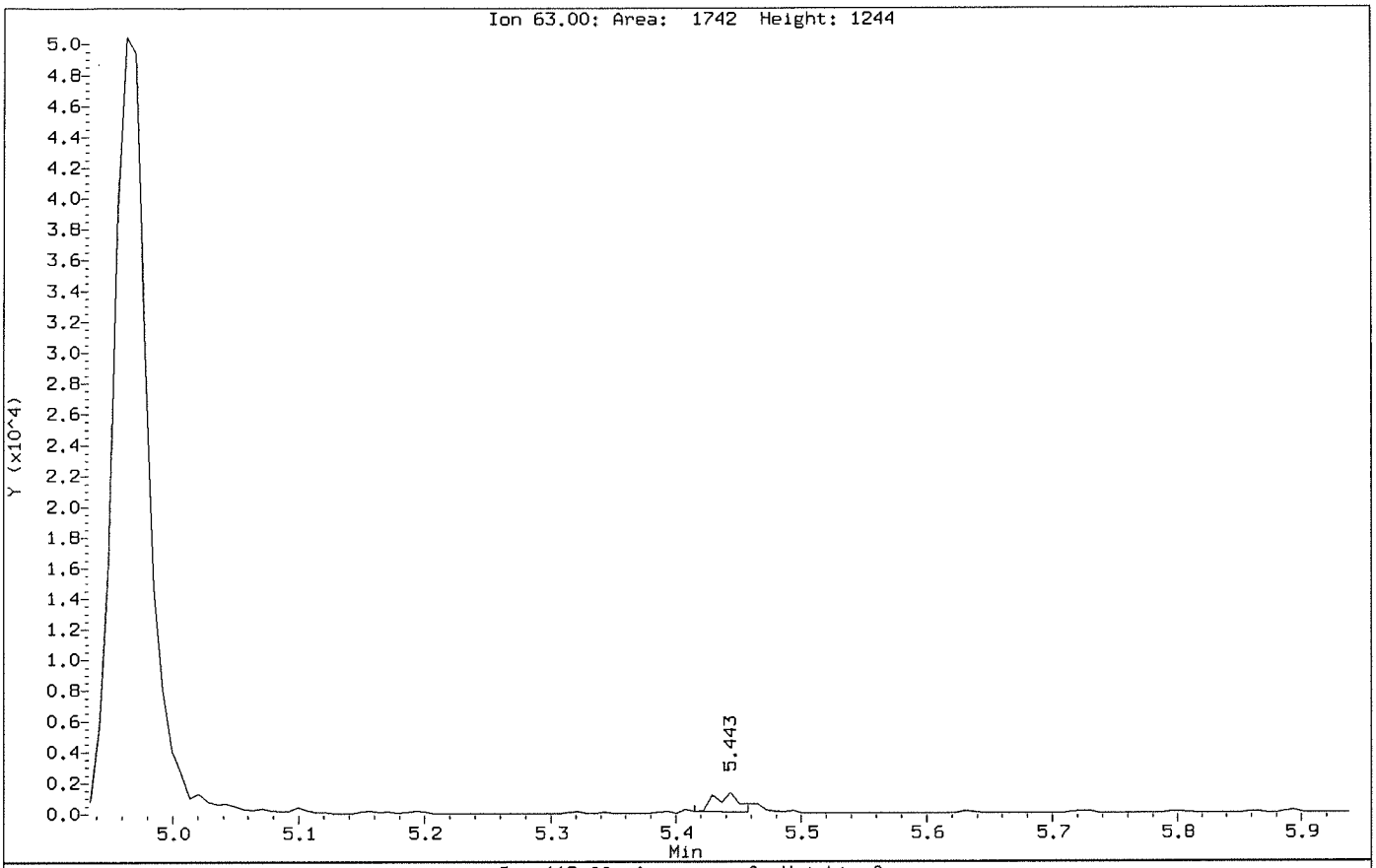
Compound: 1,2-Dichloropropane
CAS Number: 78-87-5

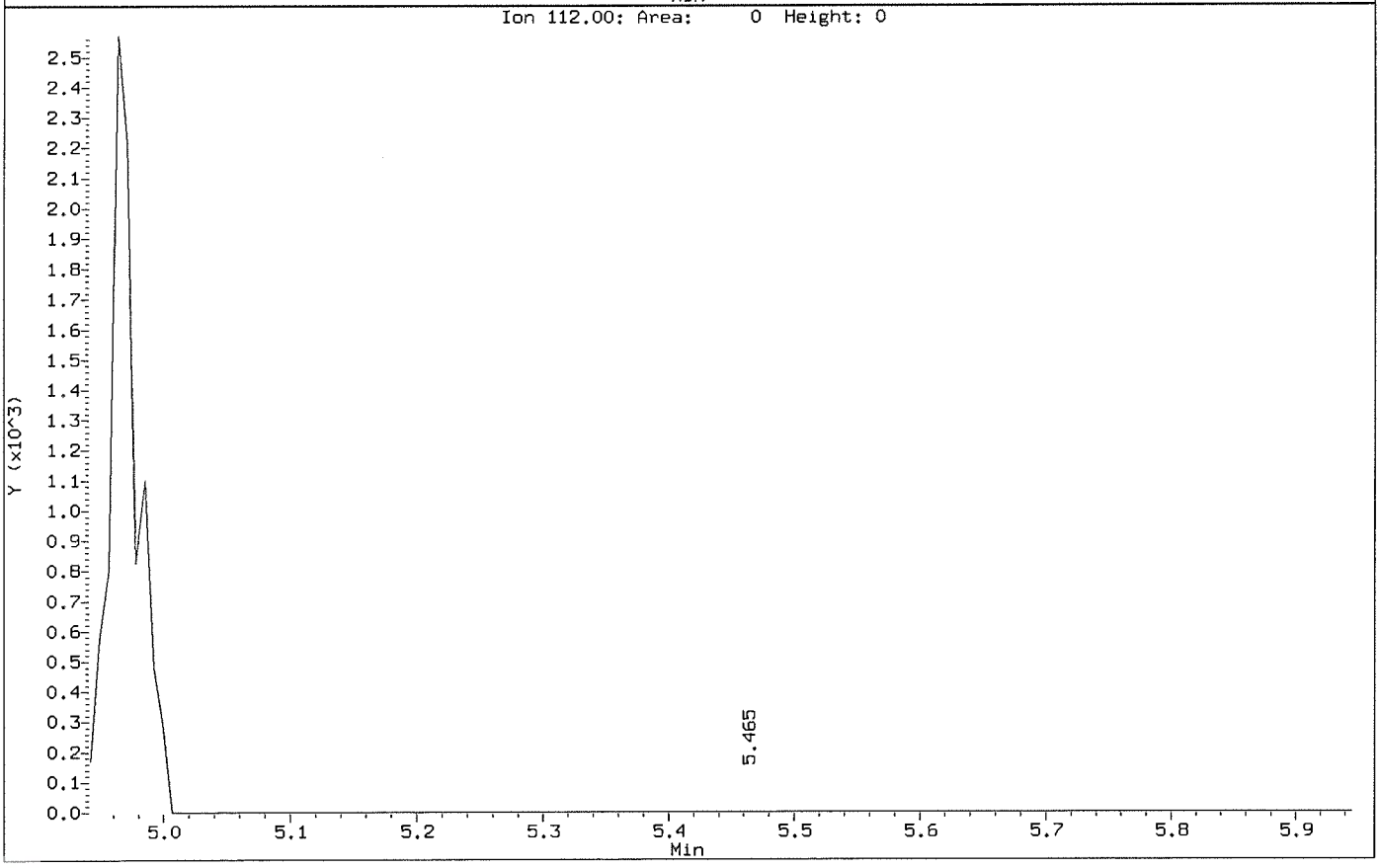


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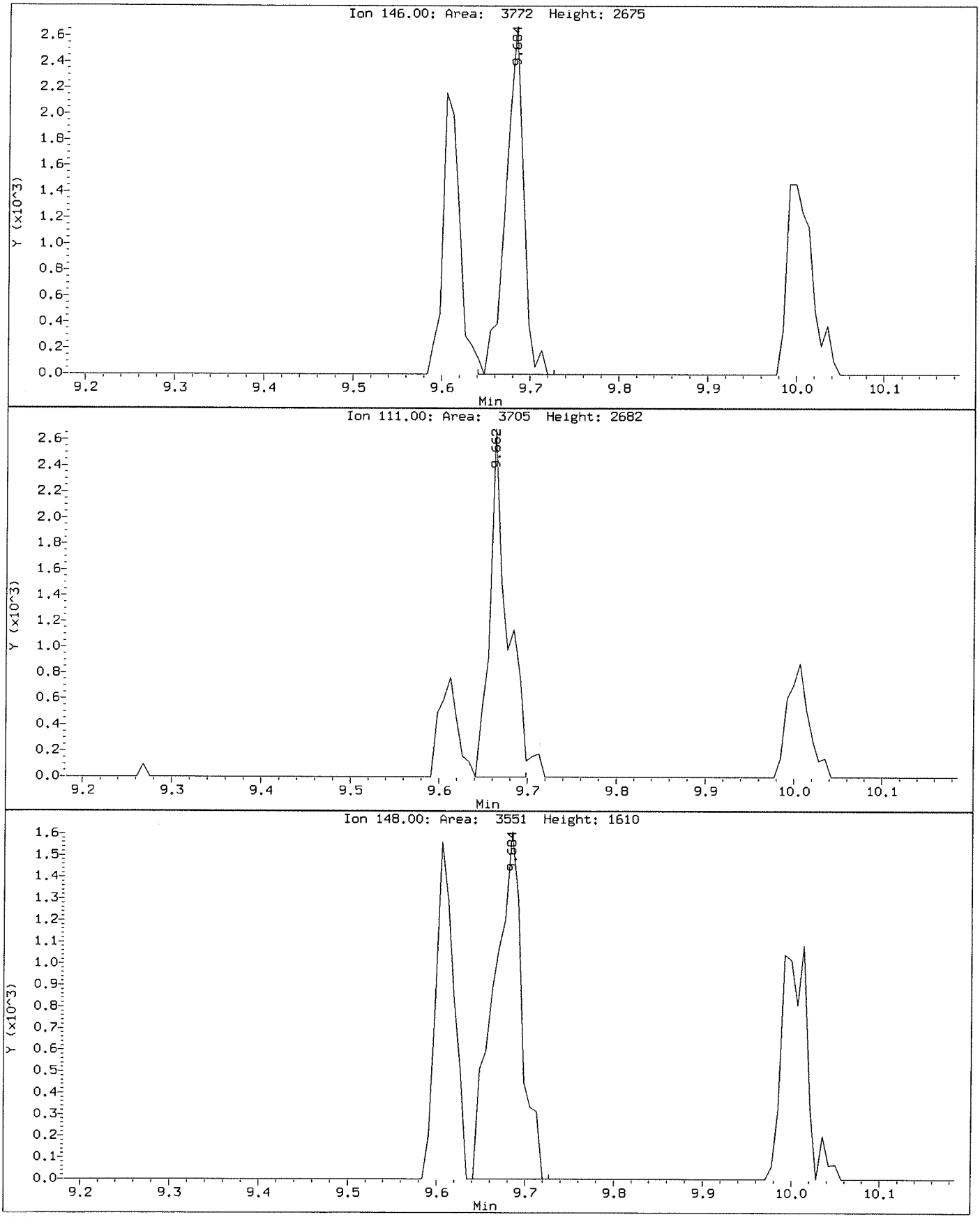
Compound: 1,2-Dichloropropane
CAS Number: 78-87-5



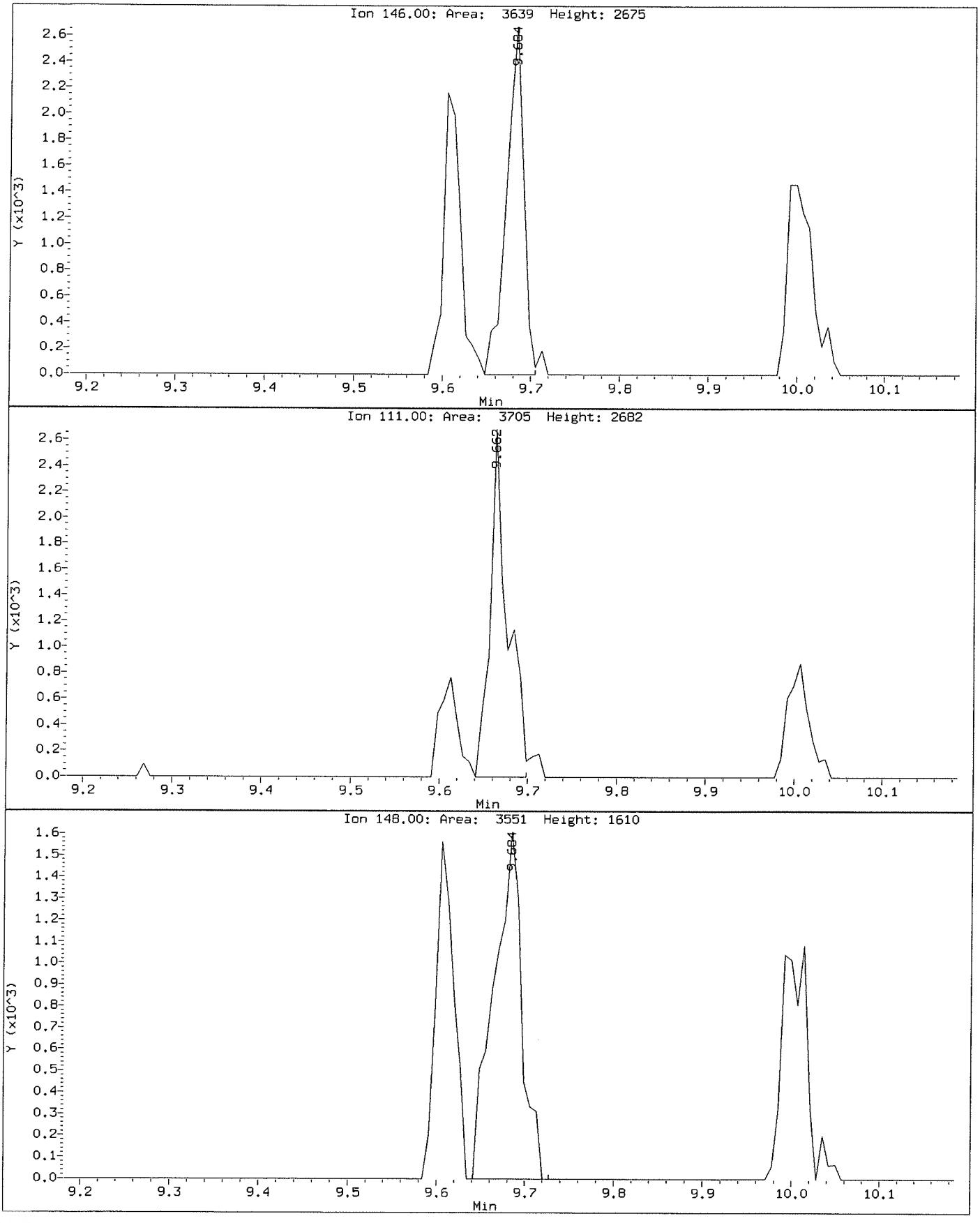
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Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,4-Dichlorobenzene
CAS Number: 106-46-7



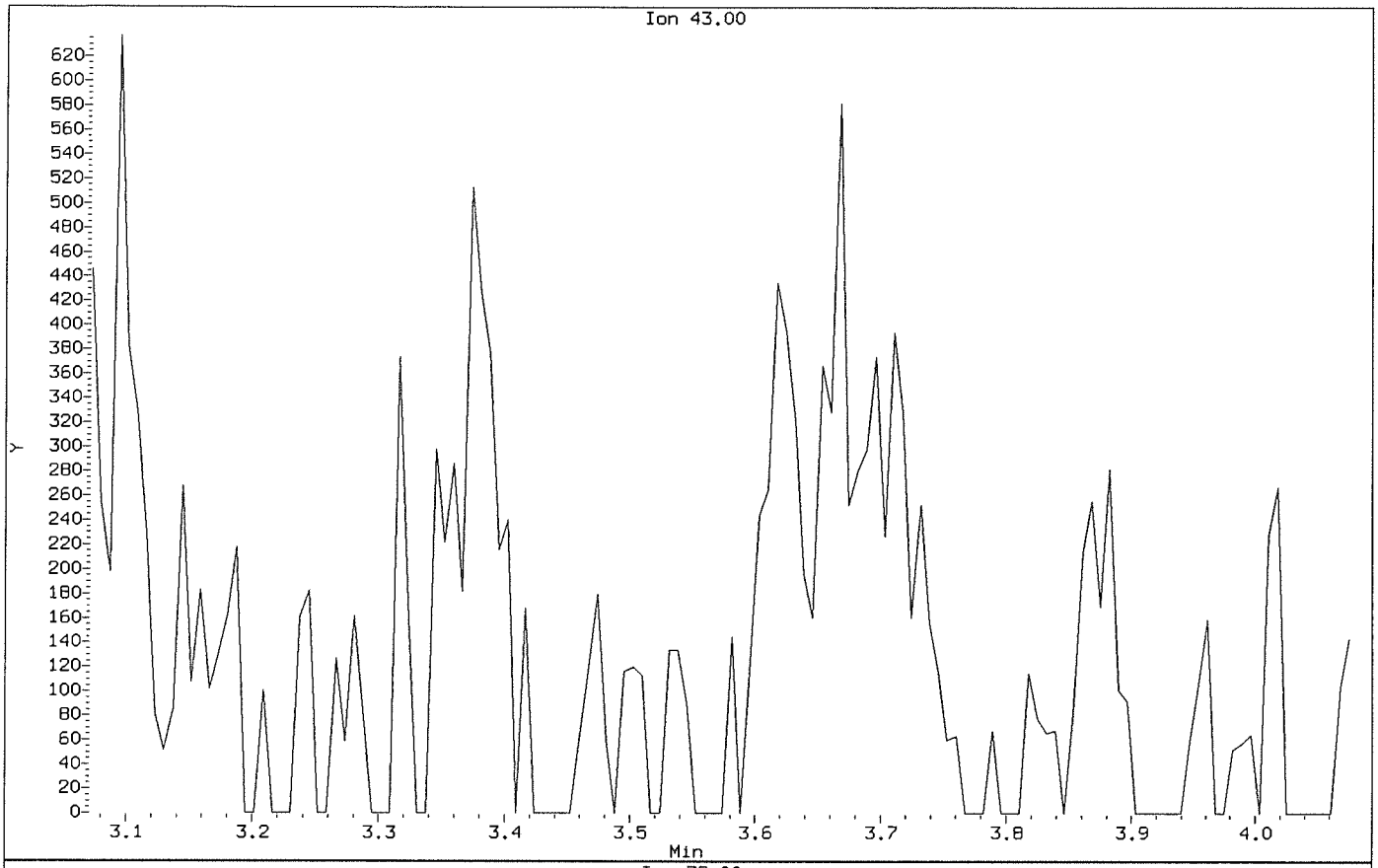
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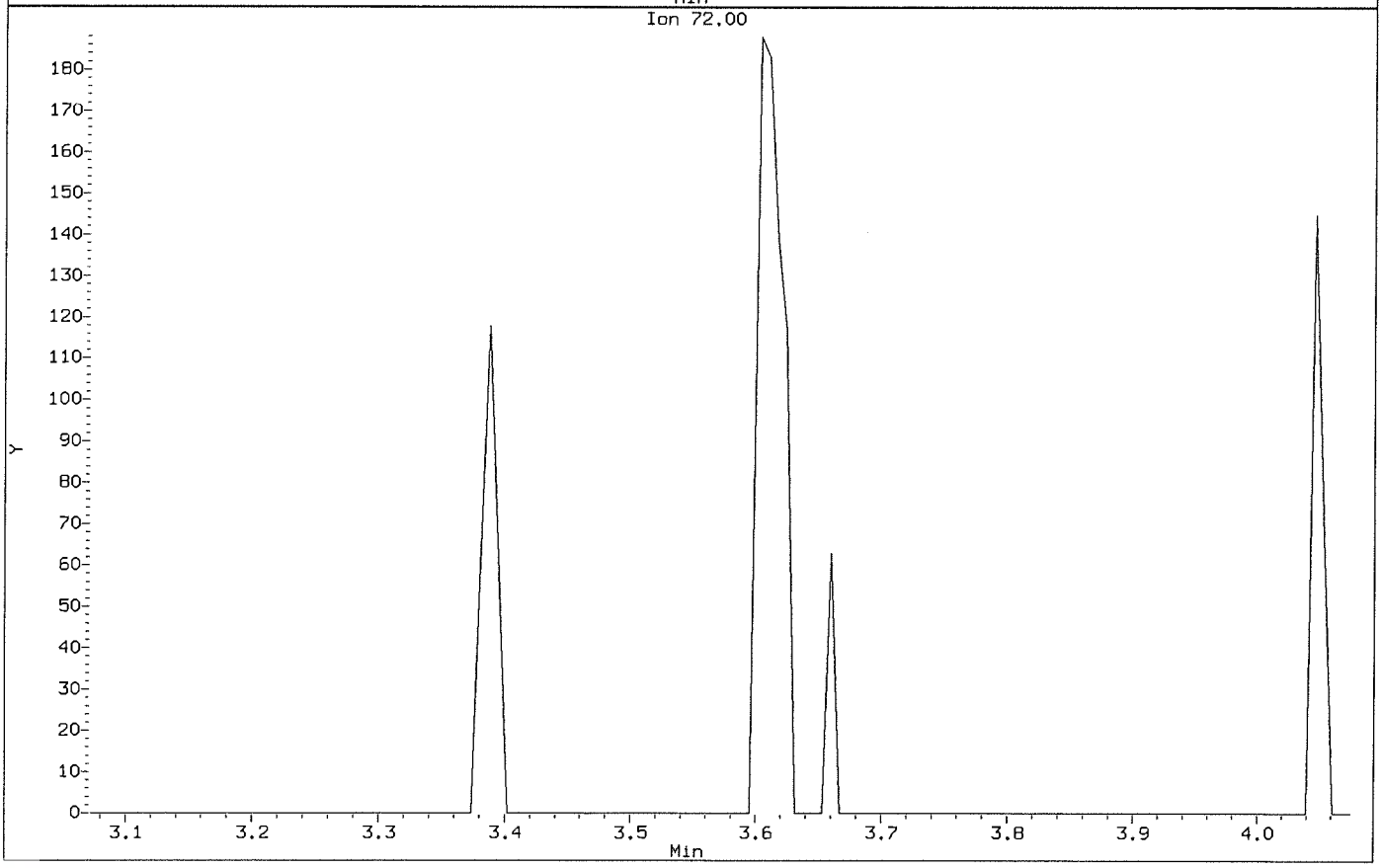
Compound: 1,4-Dichlorobenzene
CAS Number: 106-46-7



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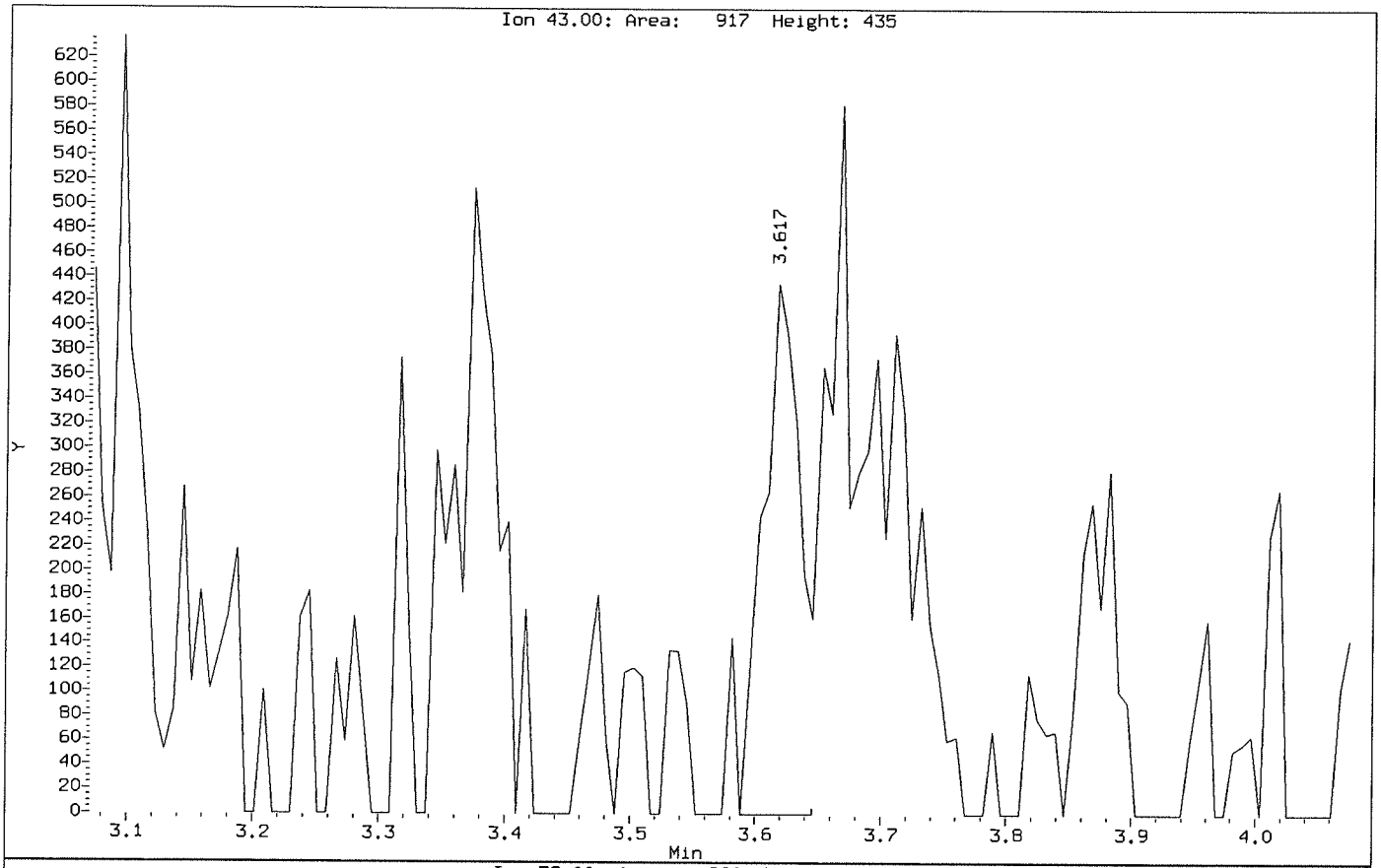
Compound: 2-Butanone
CAS Number: 78-93-3

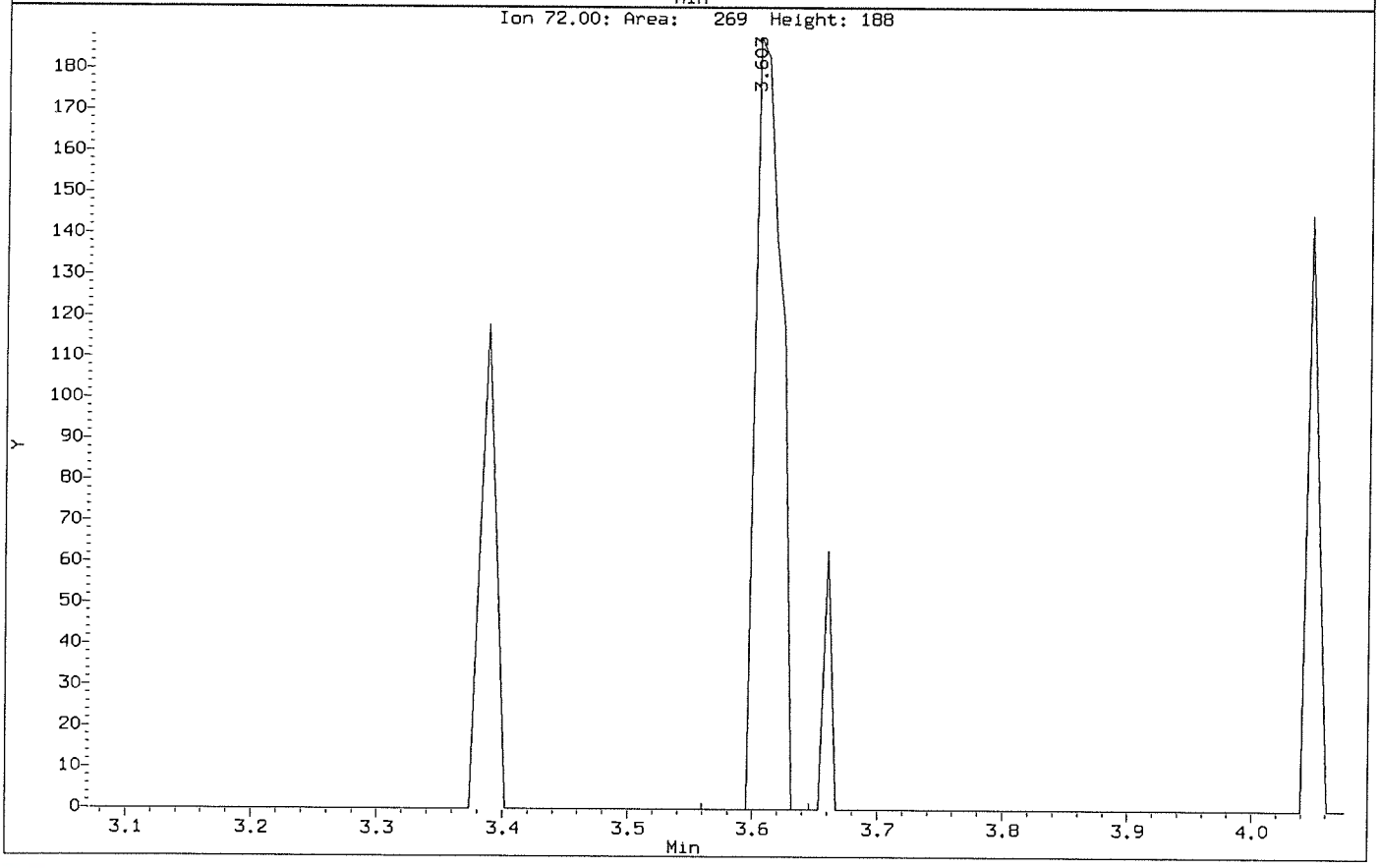


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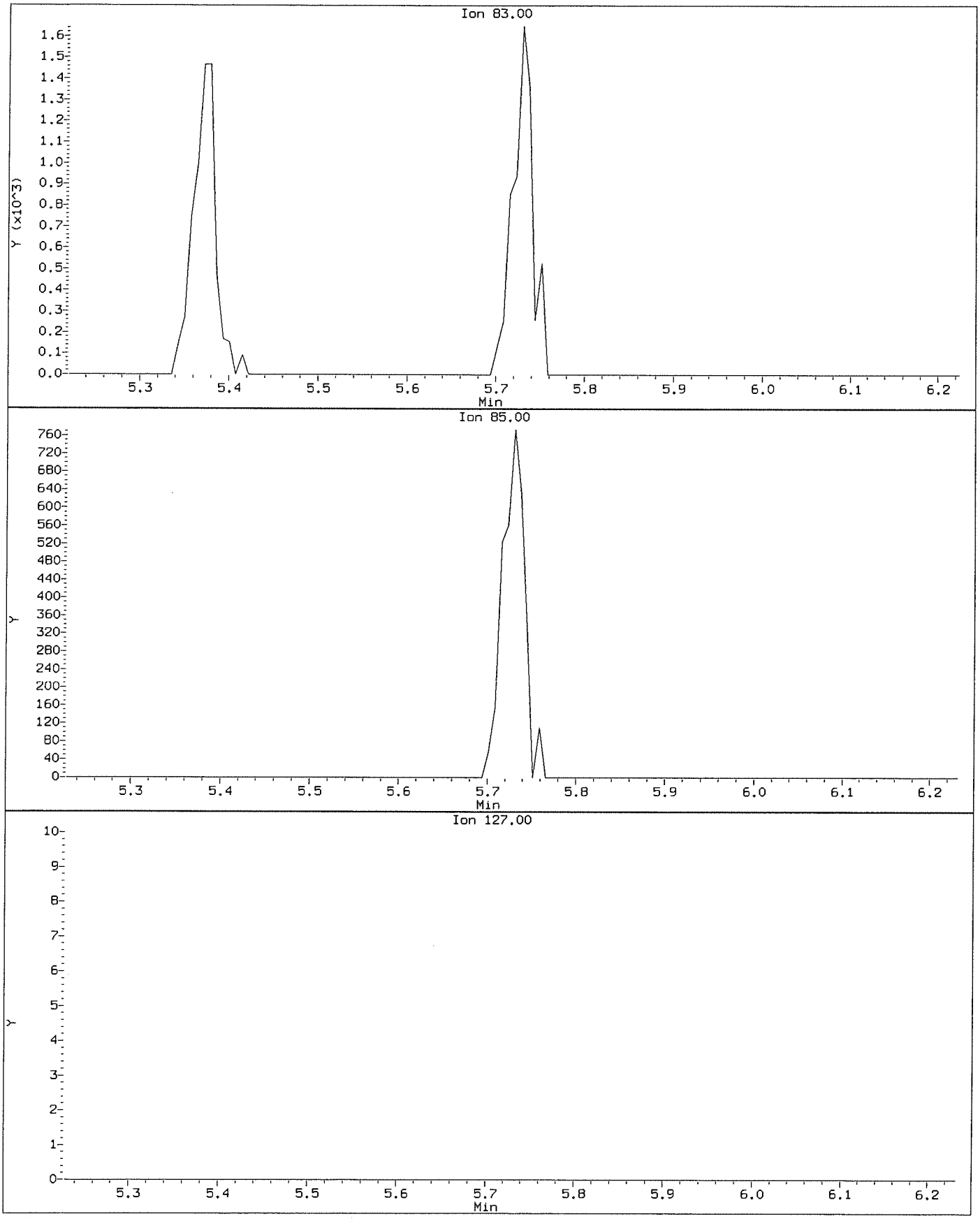
Compound: 2-Butanone
CAS Number: 78-93-3



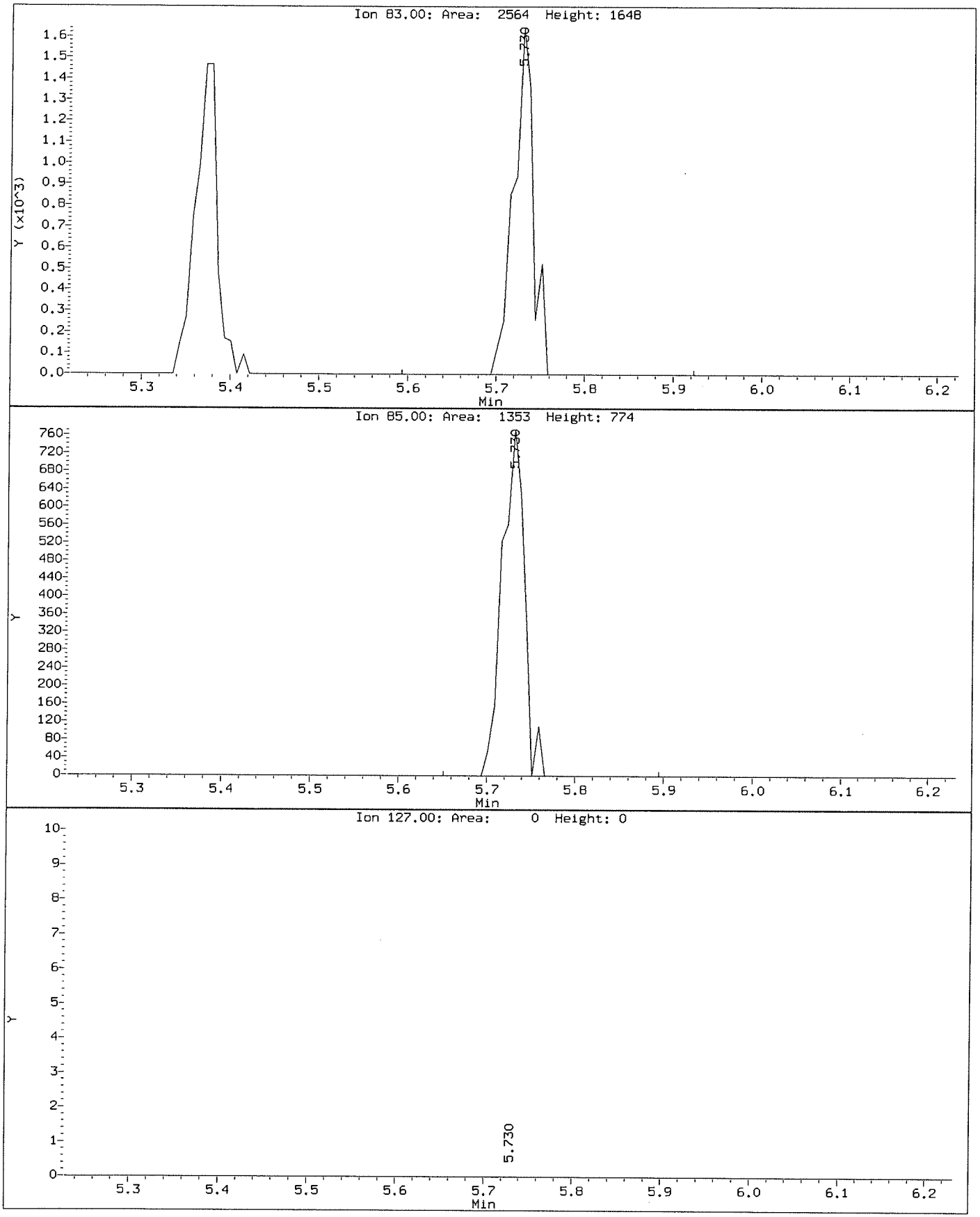
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Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Bromodichloromethane
CAS Number: 75-27-4



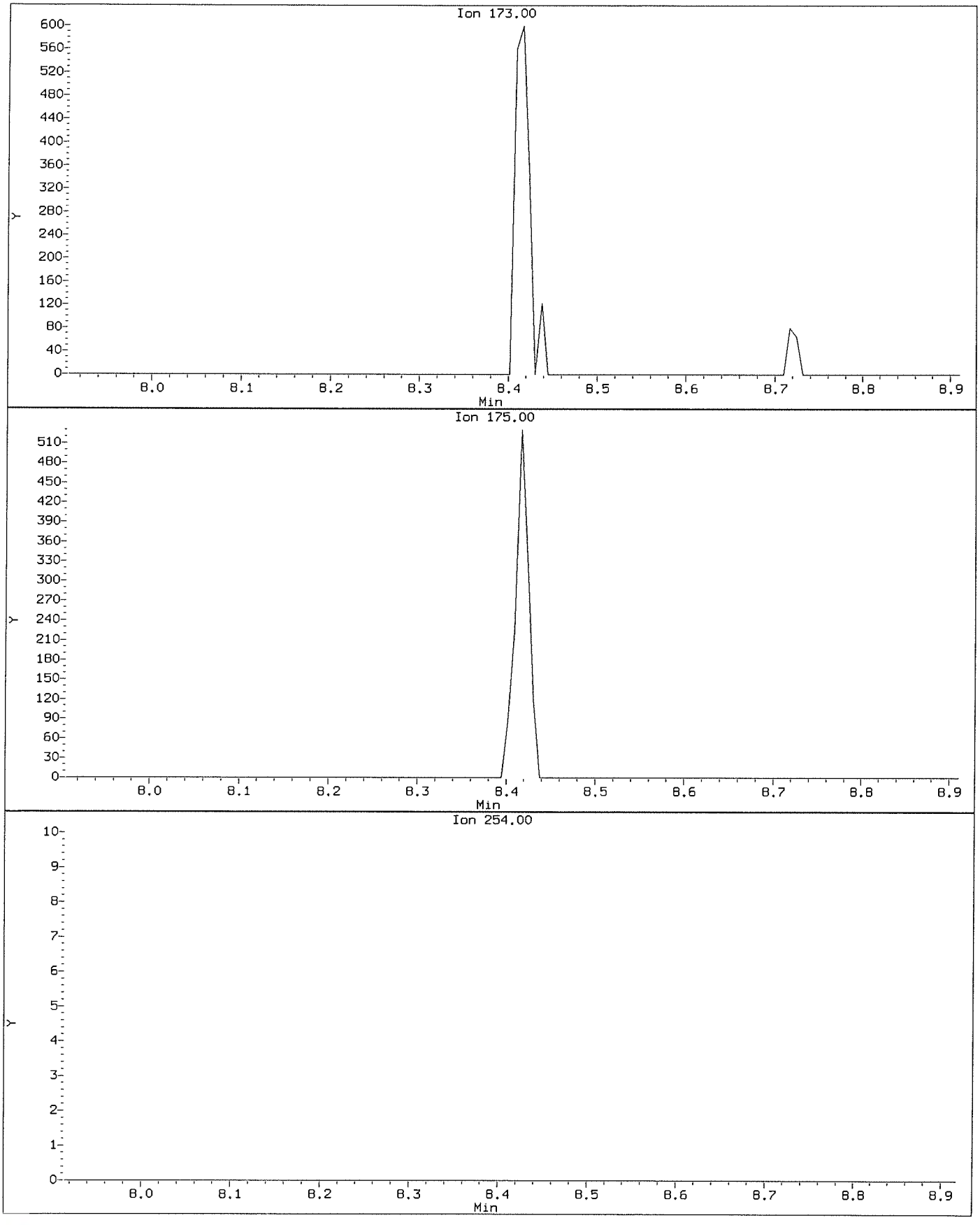
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Compound: Bromodichloromethane
CAS Number: 75-27-4



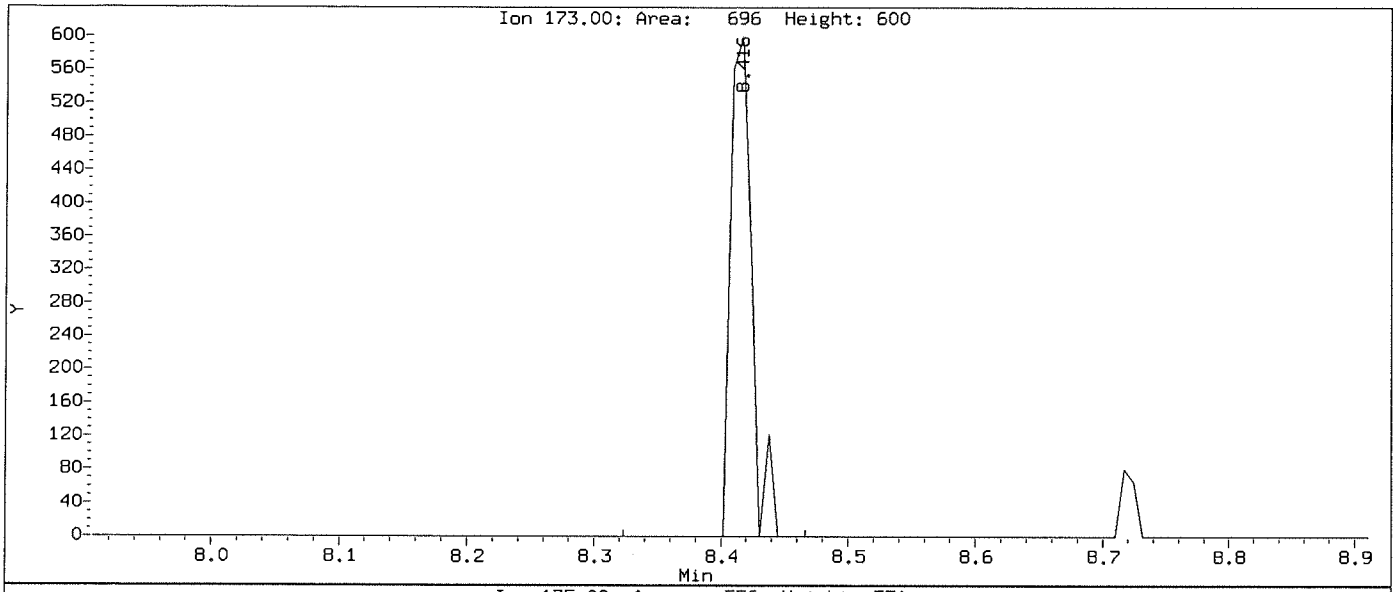
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Client Sample ID: VSTD000.5

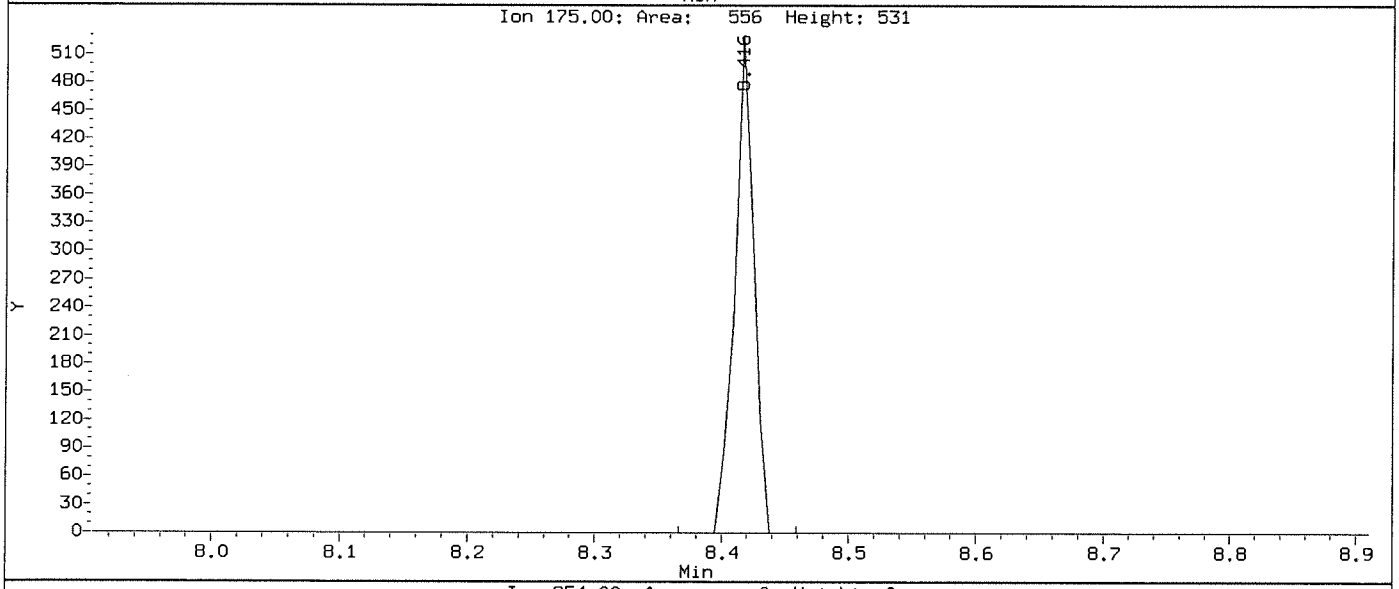
Compound: Bromoform
CAS Number: 75-25-2

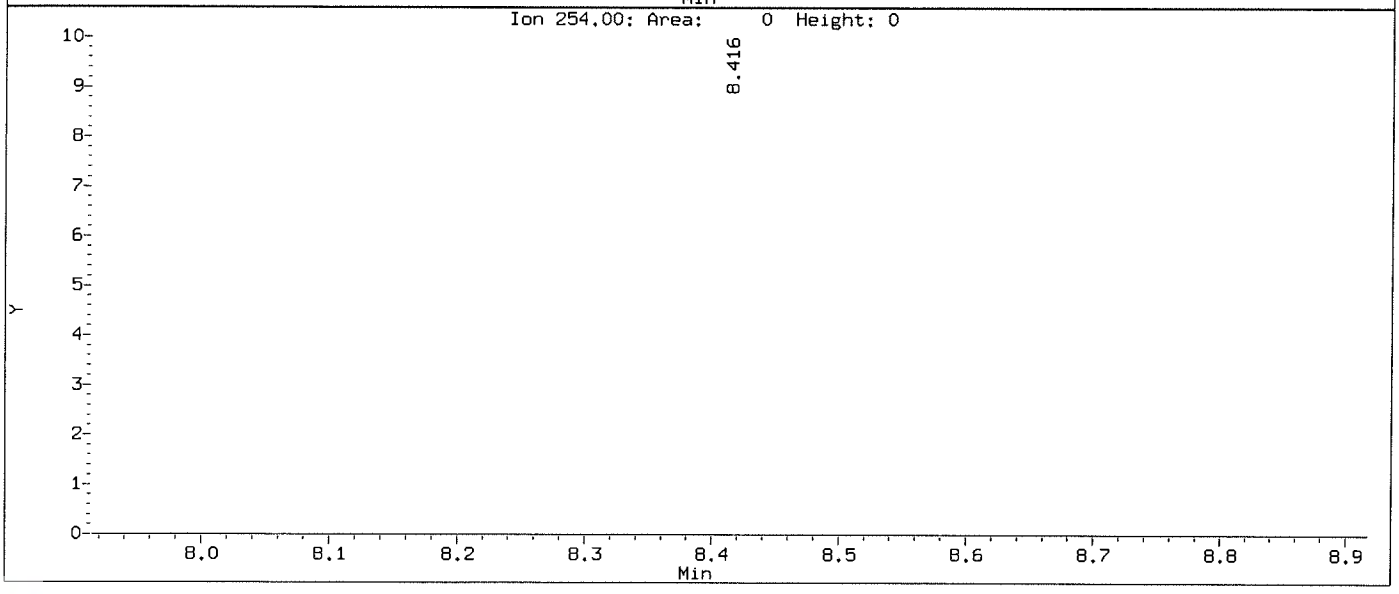


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Client Sample ID: VSTD000.5

Compound: Bromoform
CAS Number: 75-25-2

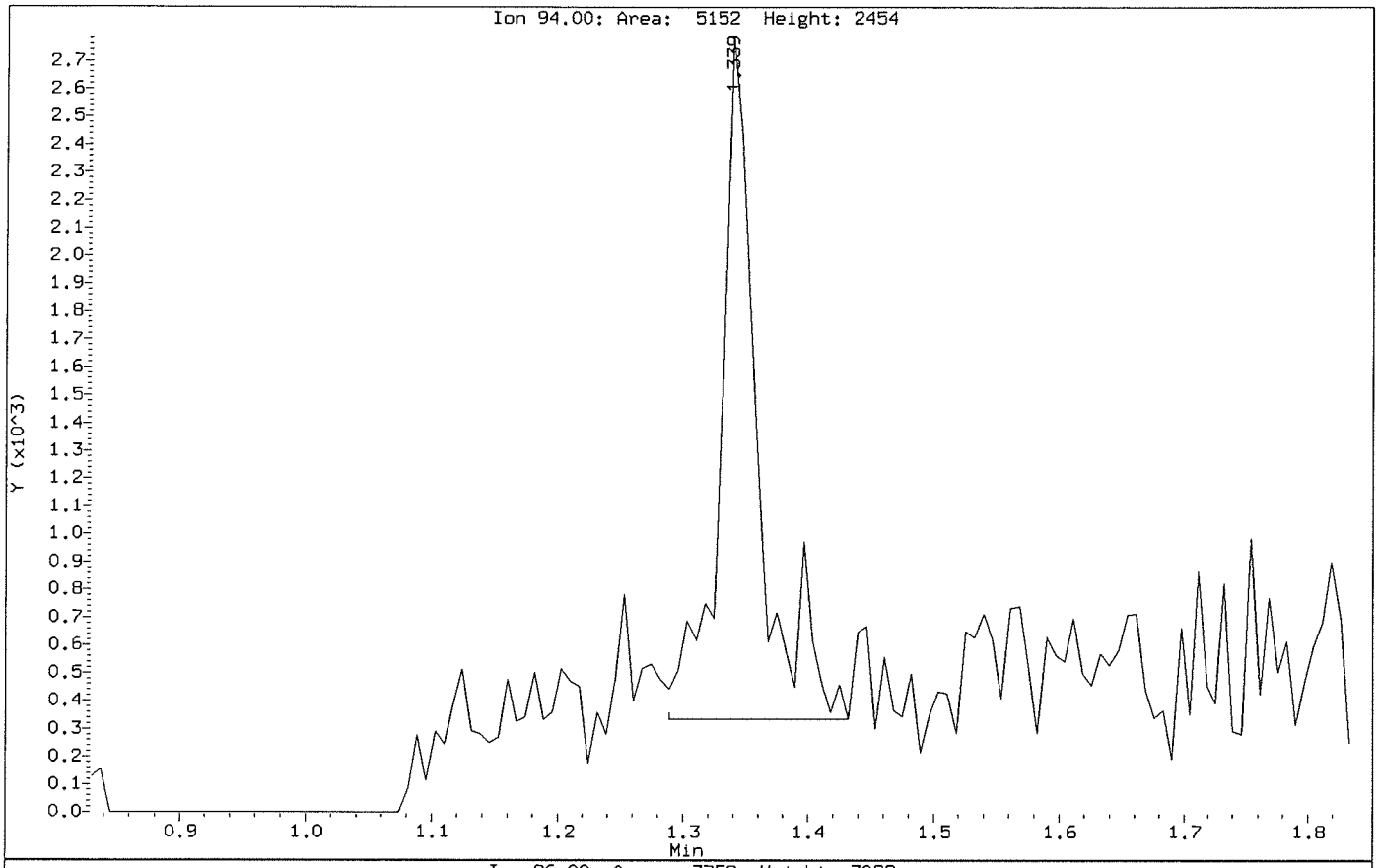


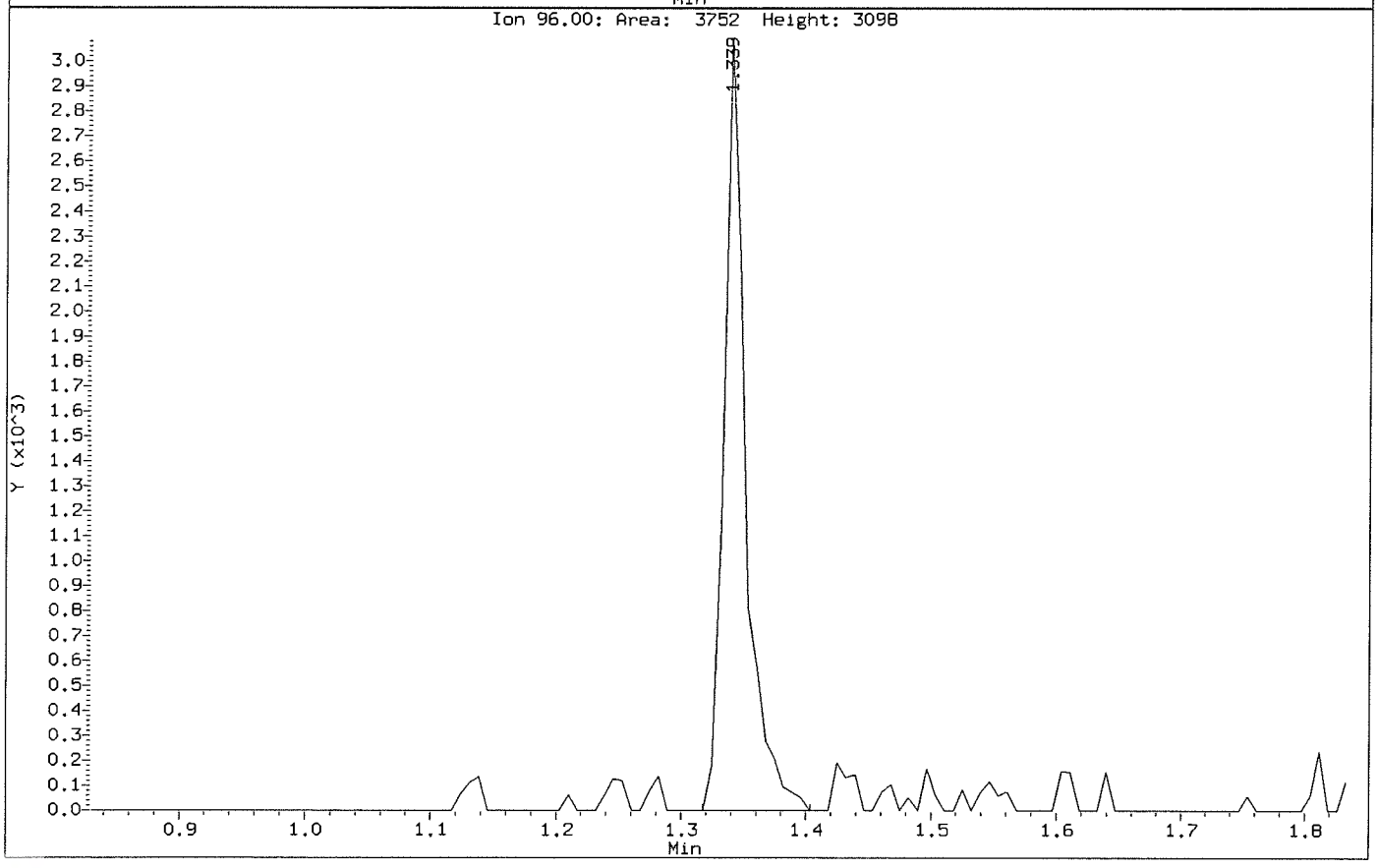



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Client Sample ID: VSTD000.5

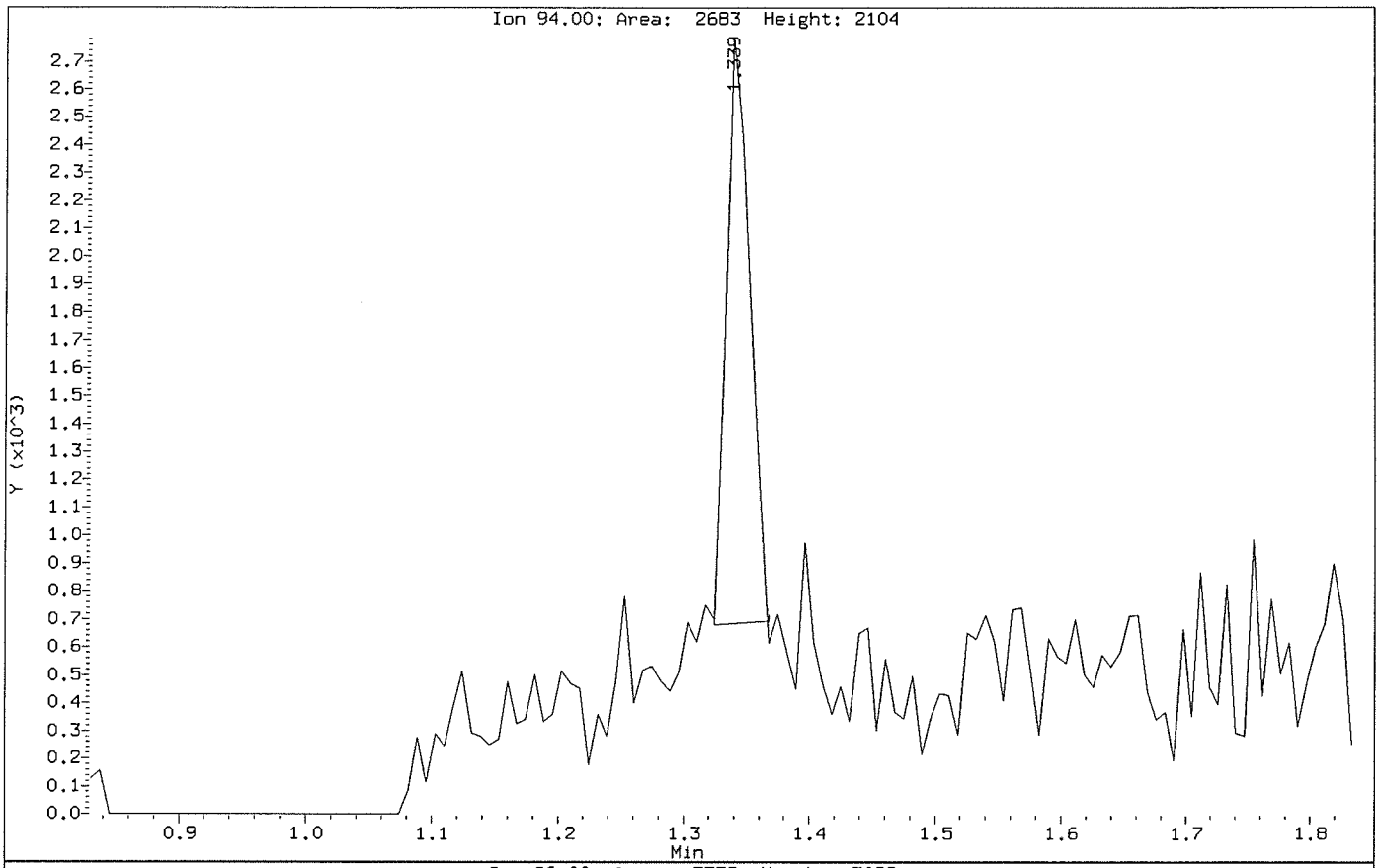
Compound: Bromomethane
CAS Number: 74-83-9

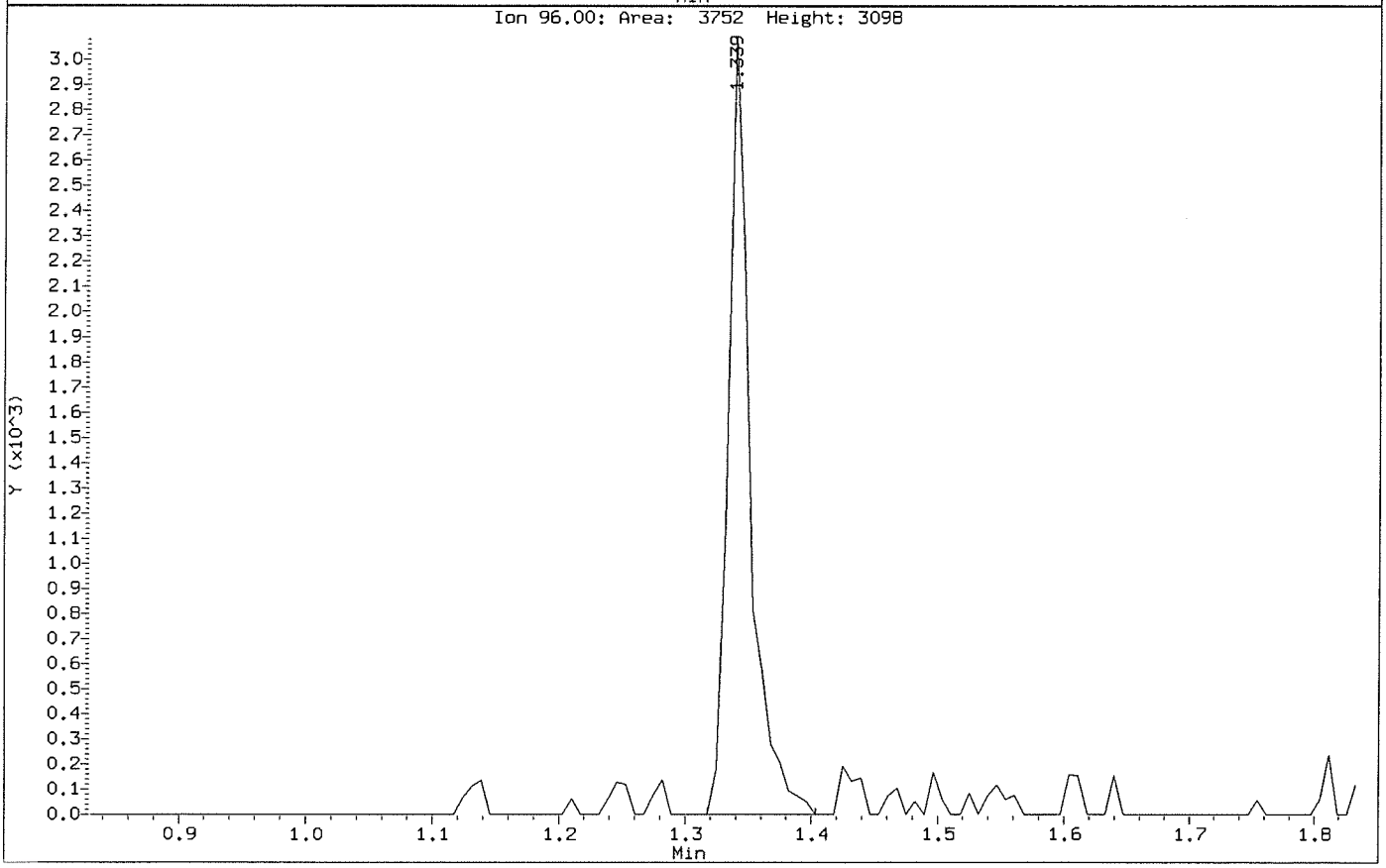


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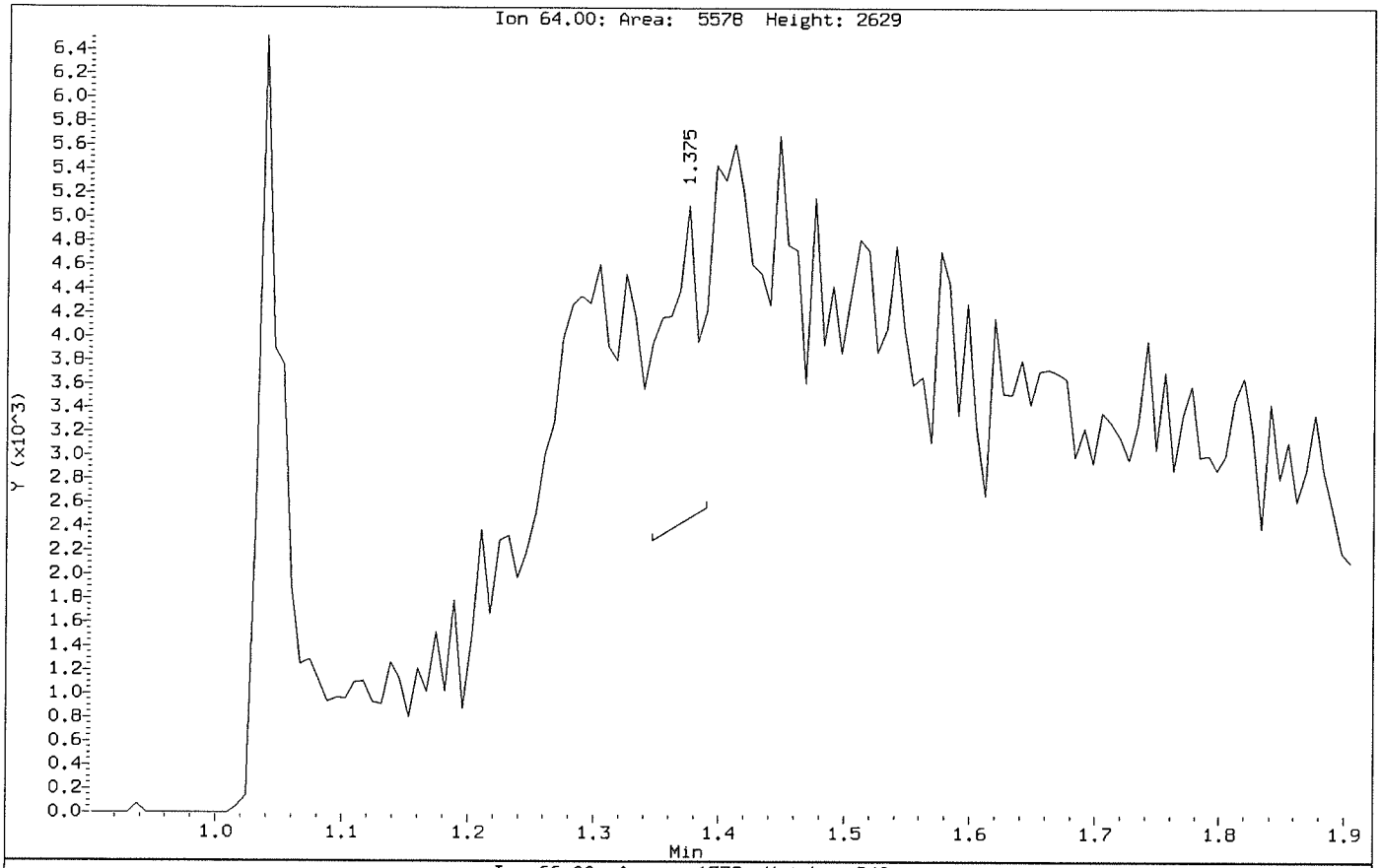
Compound: Bromomethane
CAS Number: 74-83-9

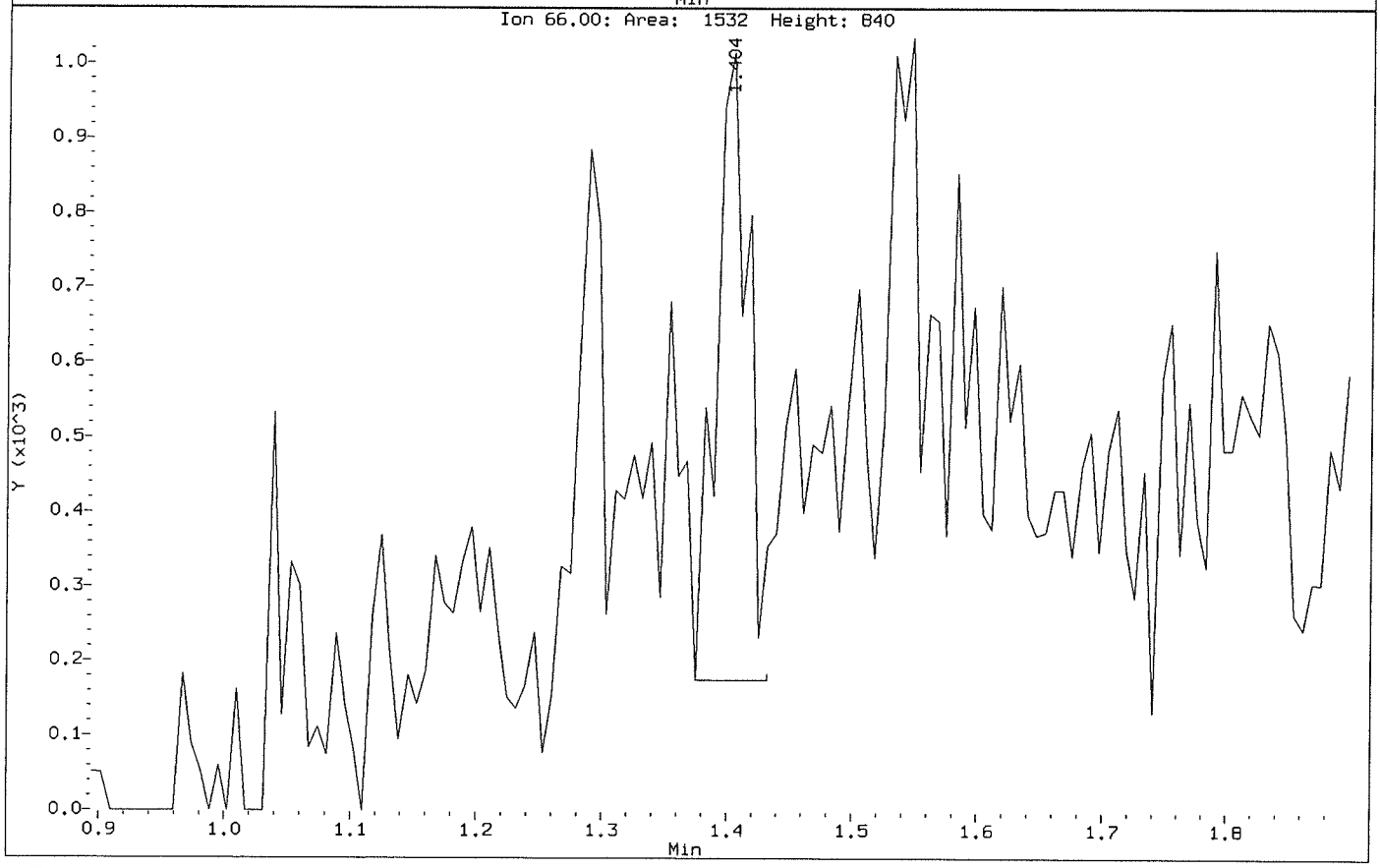


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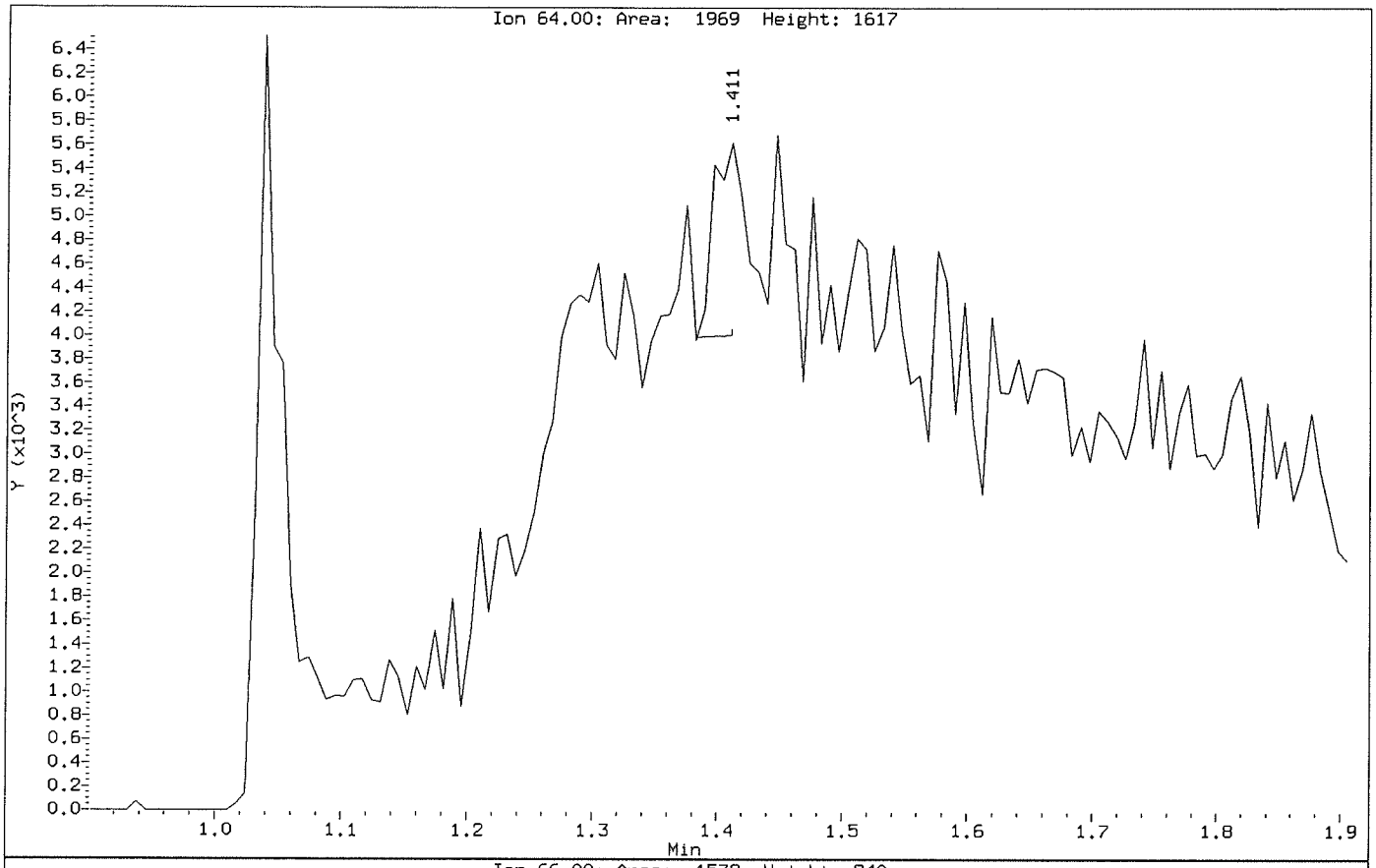
Compound: Chloroethane
CAS Number: 75-00-3

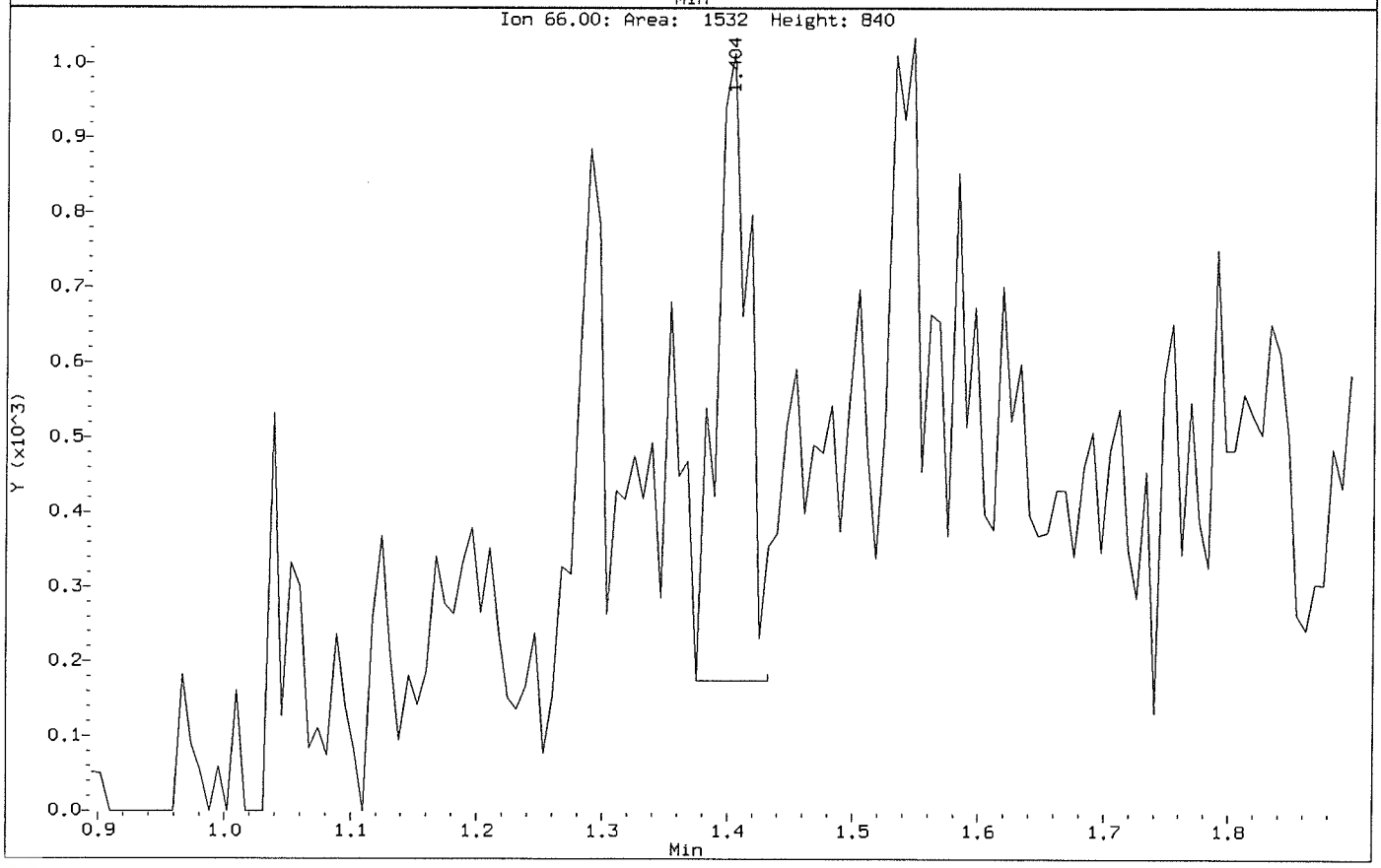


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Instrument: voa6.i
Client Sample ID: VSTD000.5

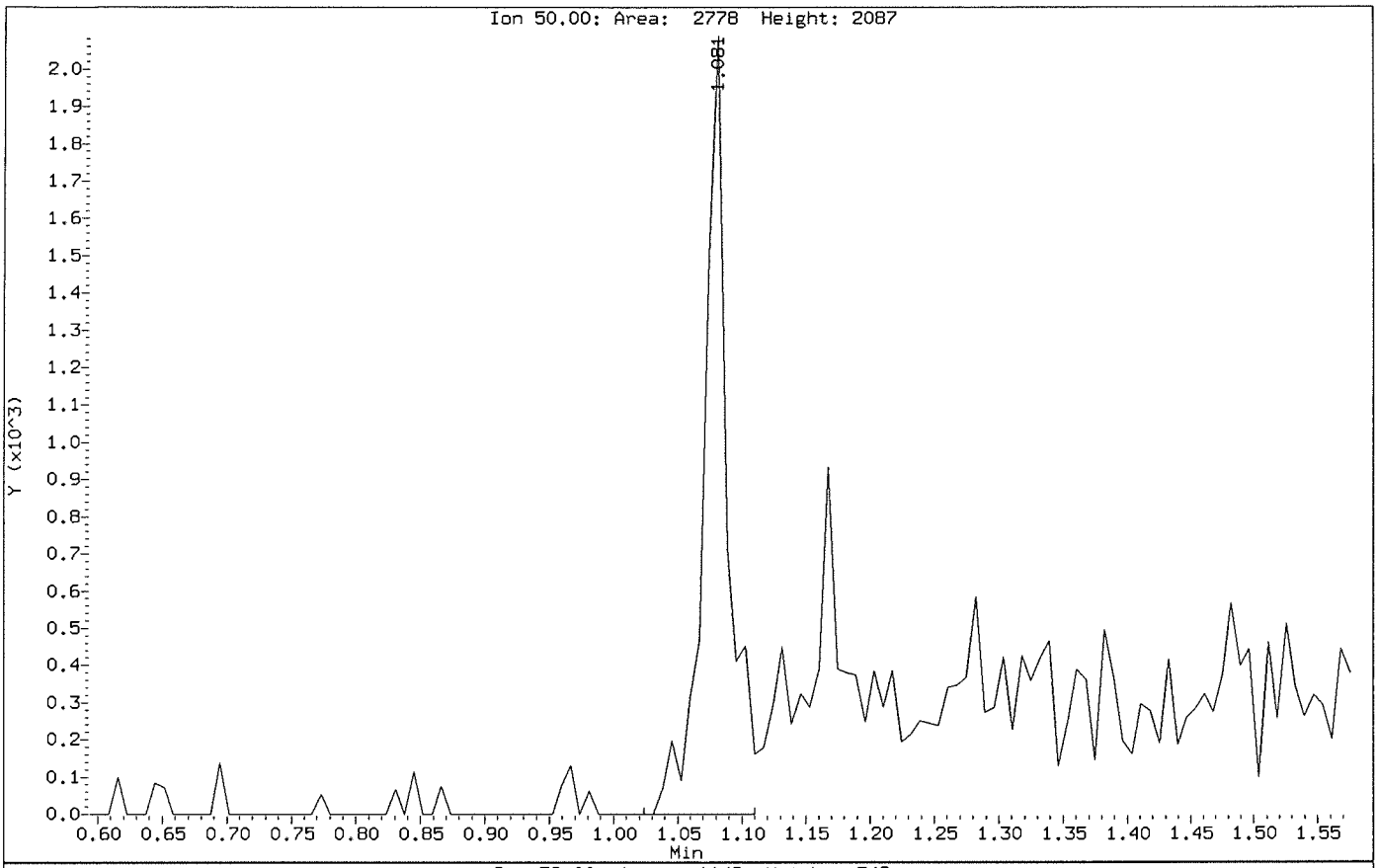
Compound: Chloroethane
CAS Number: 75-00-3

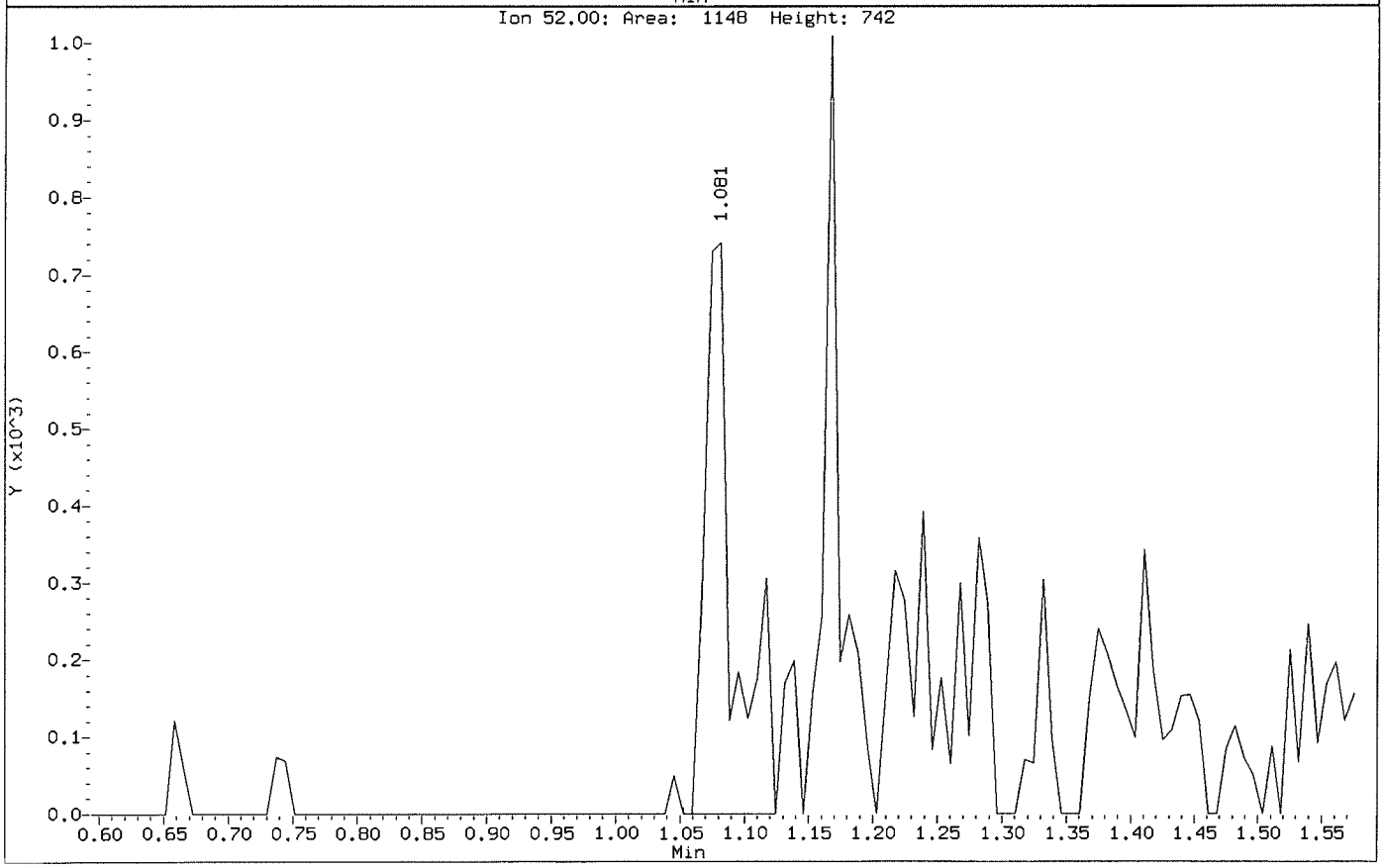


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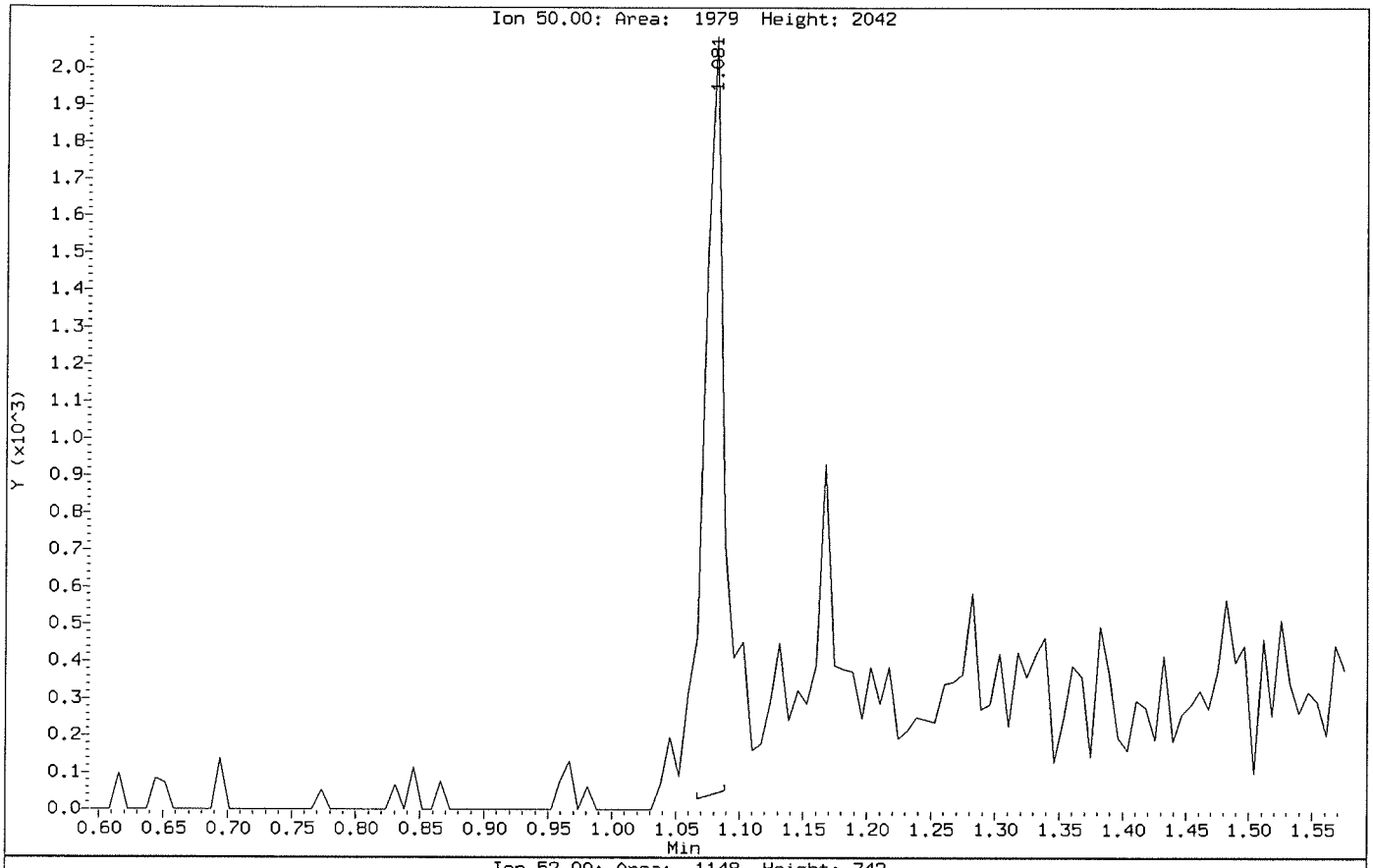
Compound: Chloromethane
CAS Number: 74-87-3

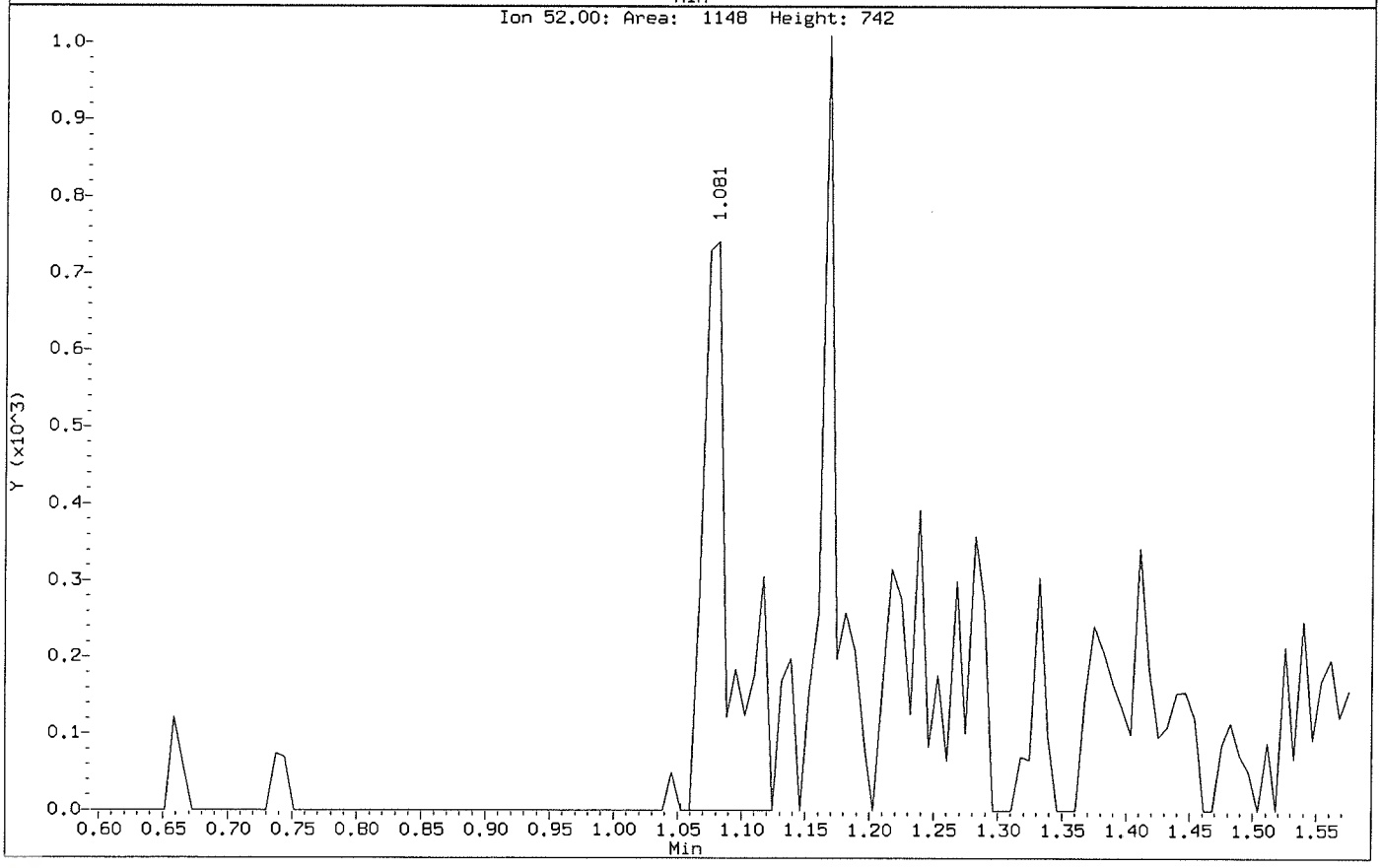


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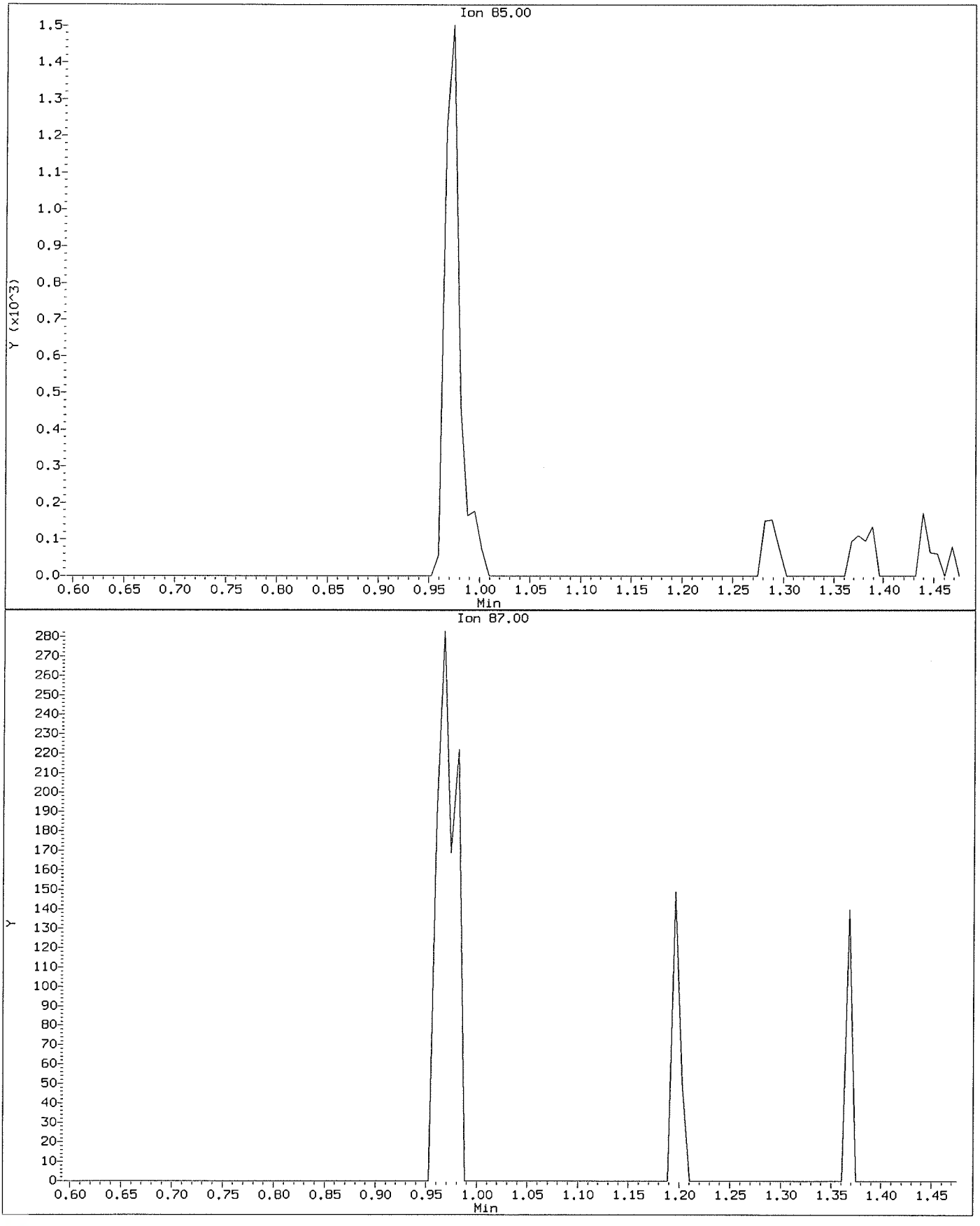
Compound: Chloromethane
CAS Number: 74-87-3



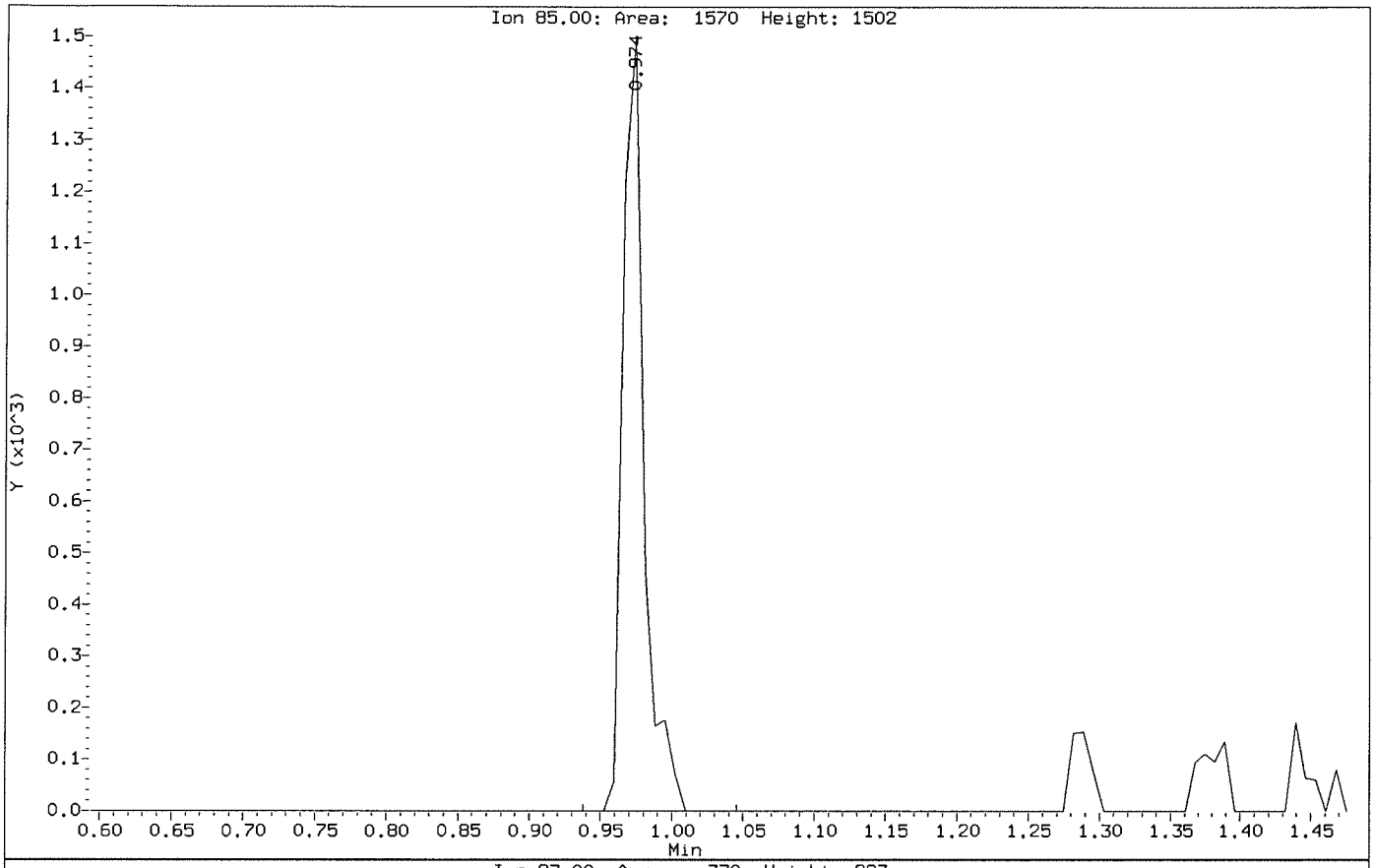
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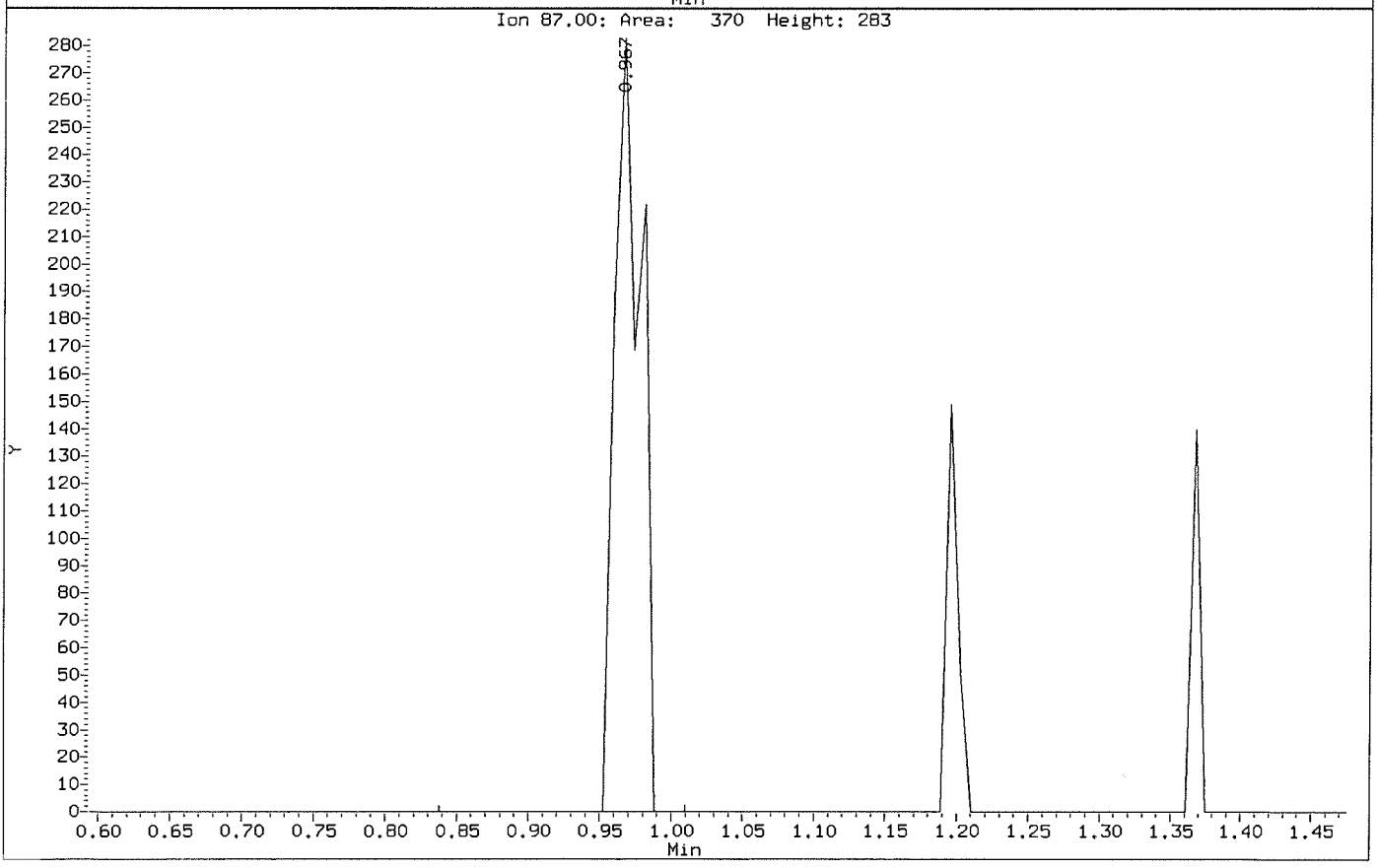
Compound: Dichlorodifluoromethane
CAS Number: 75-71-8



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Instrument: voa6.i
Client Sample ID: VSTD000.5

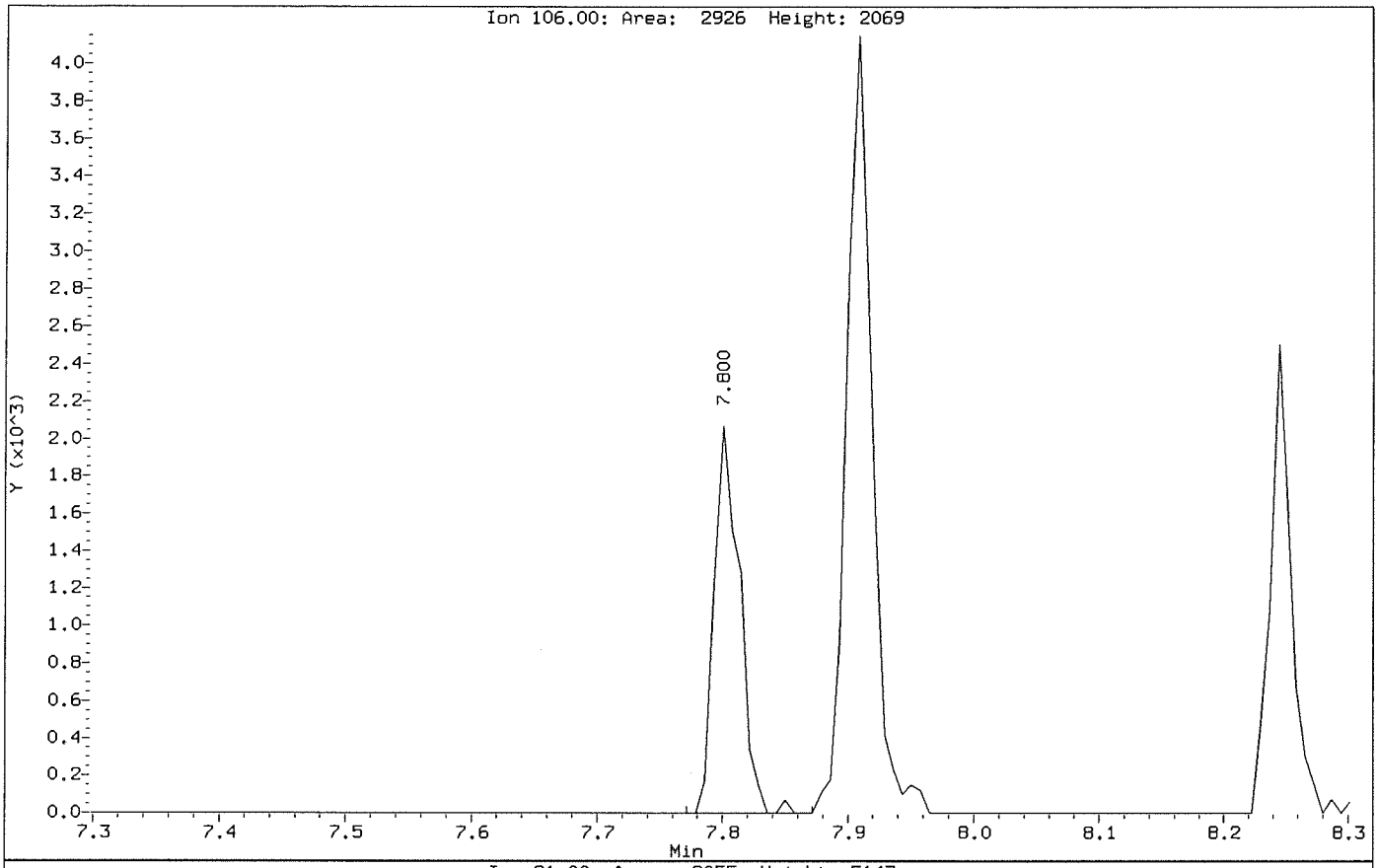
Compound: Dichlorodifluoromethane
CAS Number: 75-71-8

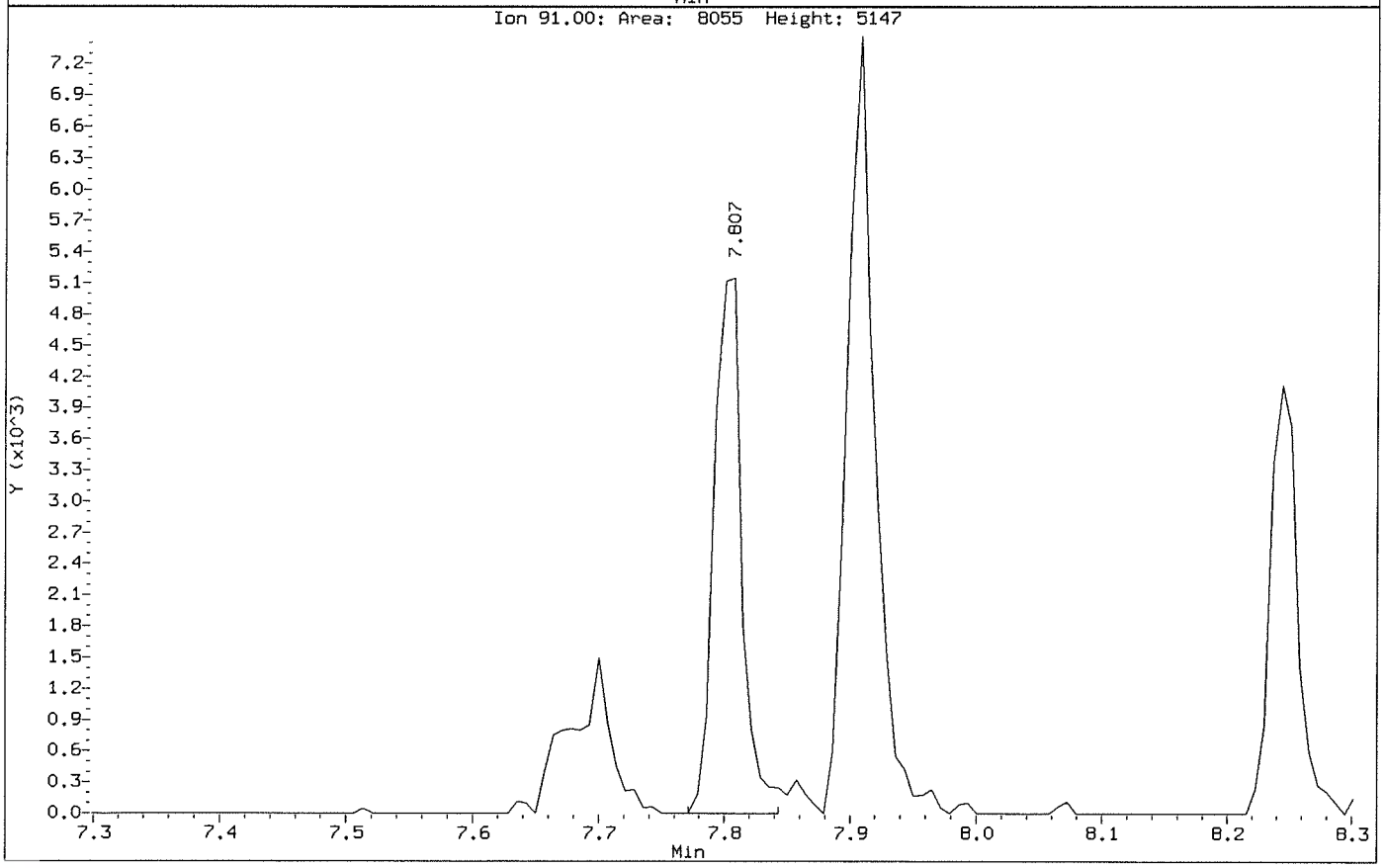


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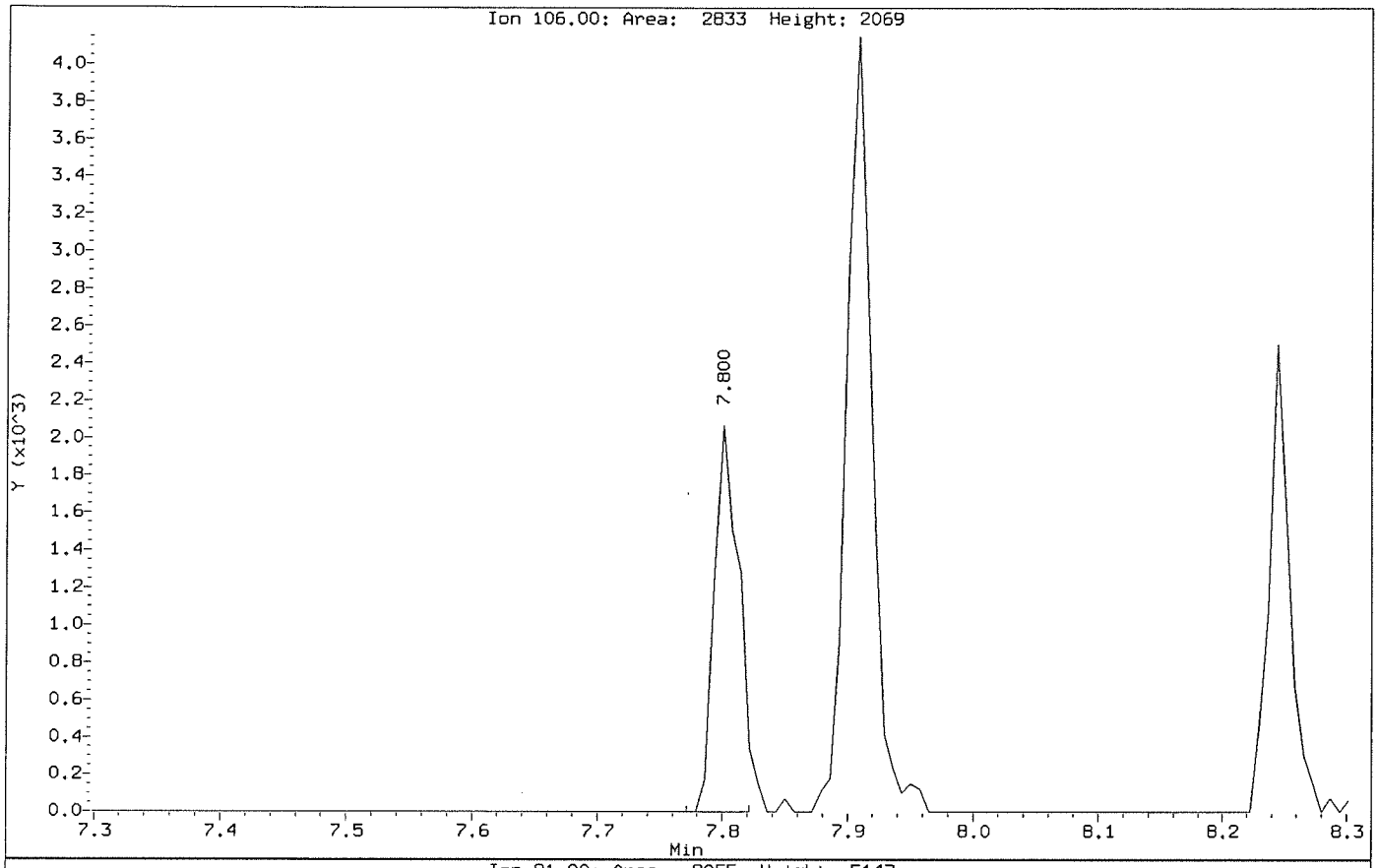
Compound: Ethylbenzene
CAS Number: 100-41-4

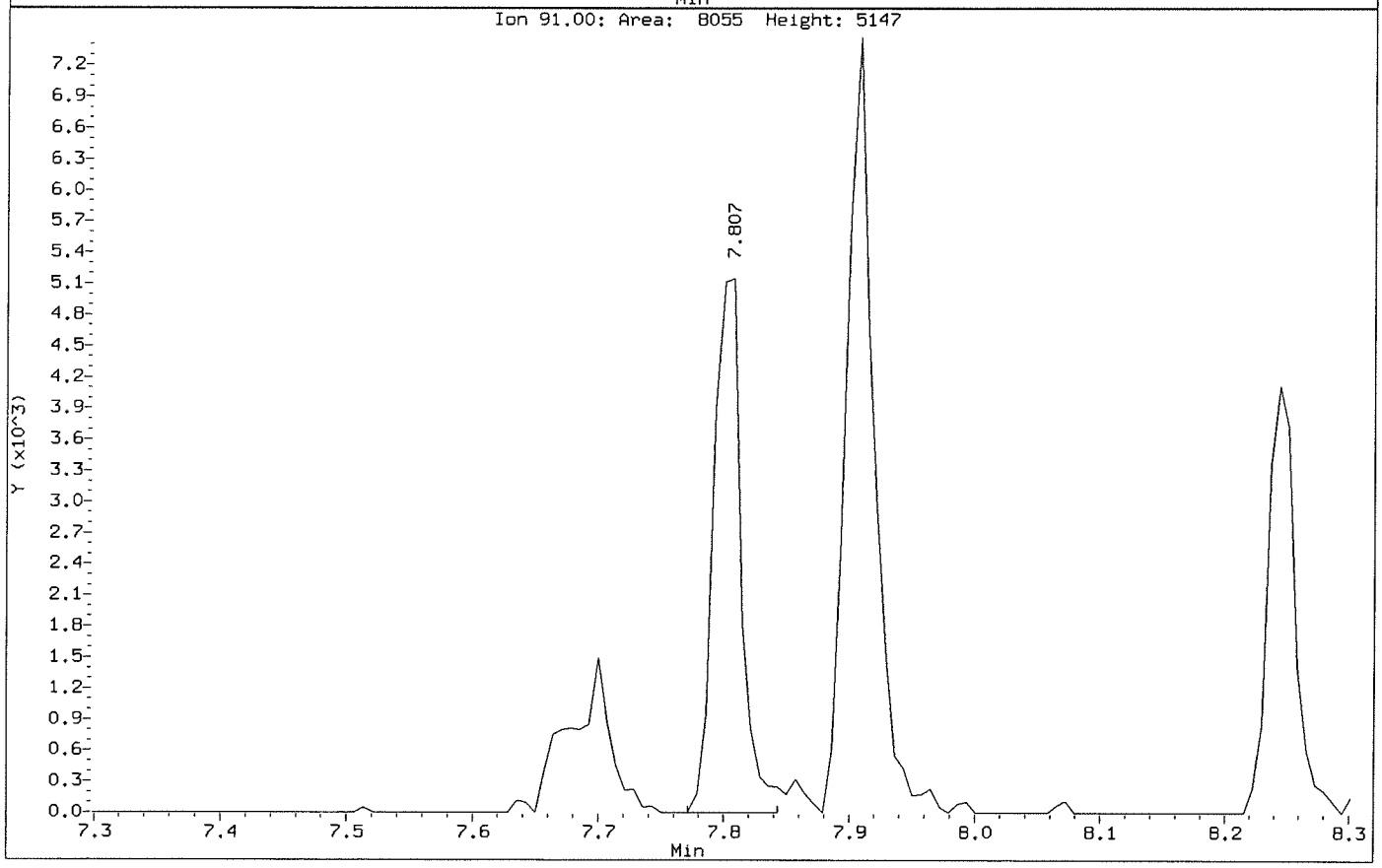


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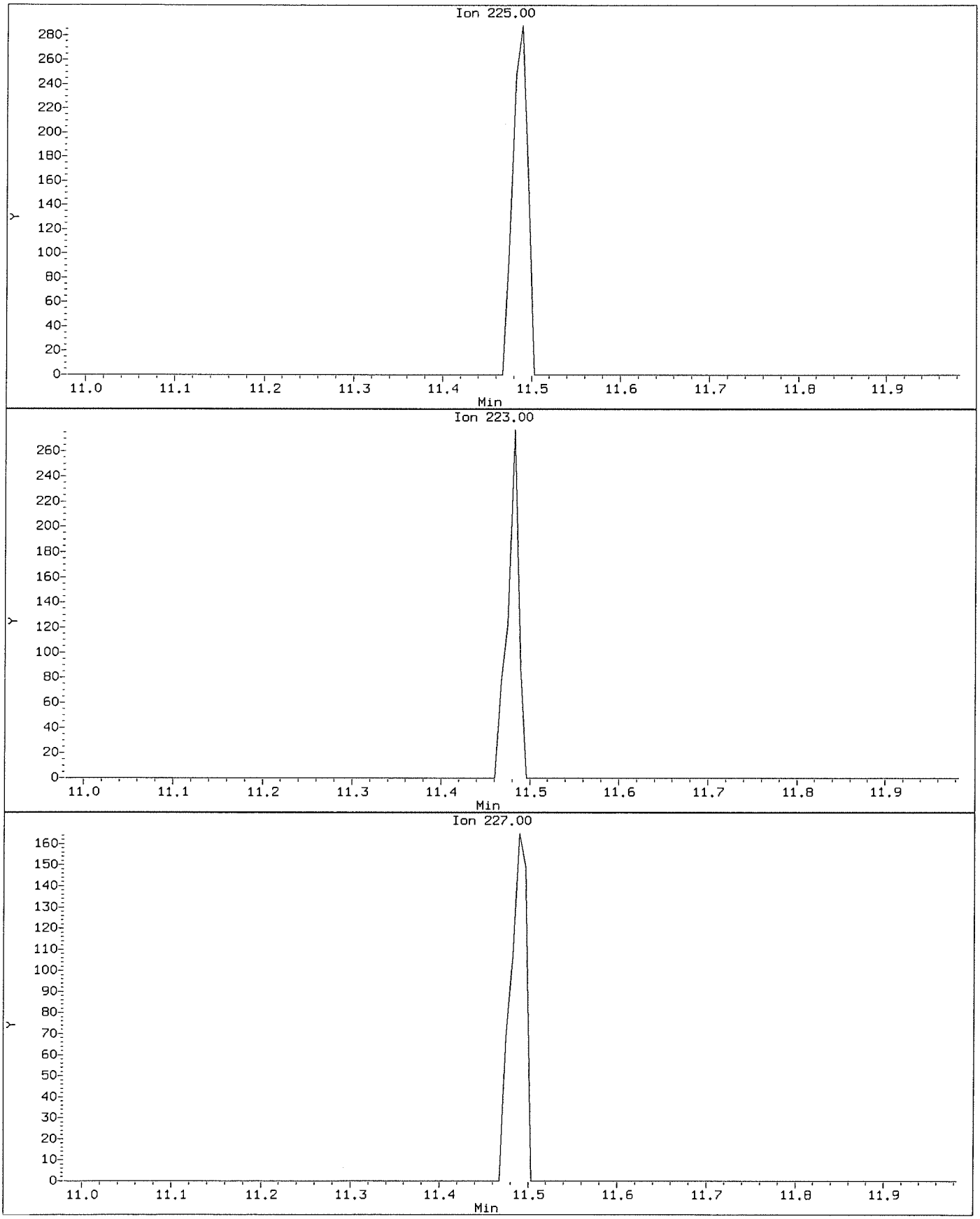
Compound: Ethylbenzene
CAS Number: 100-41-4



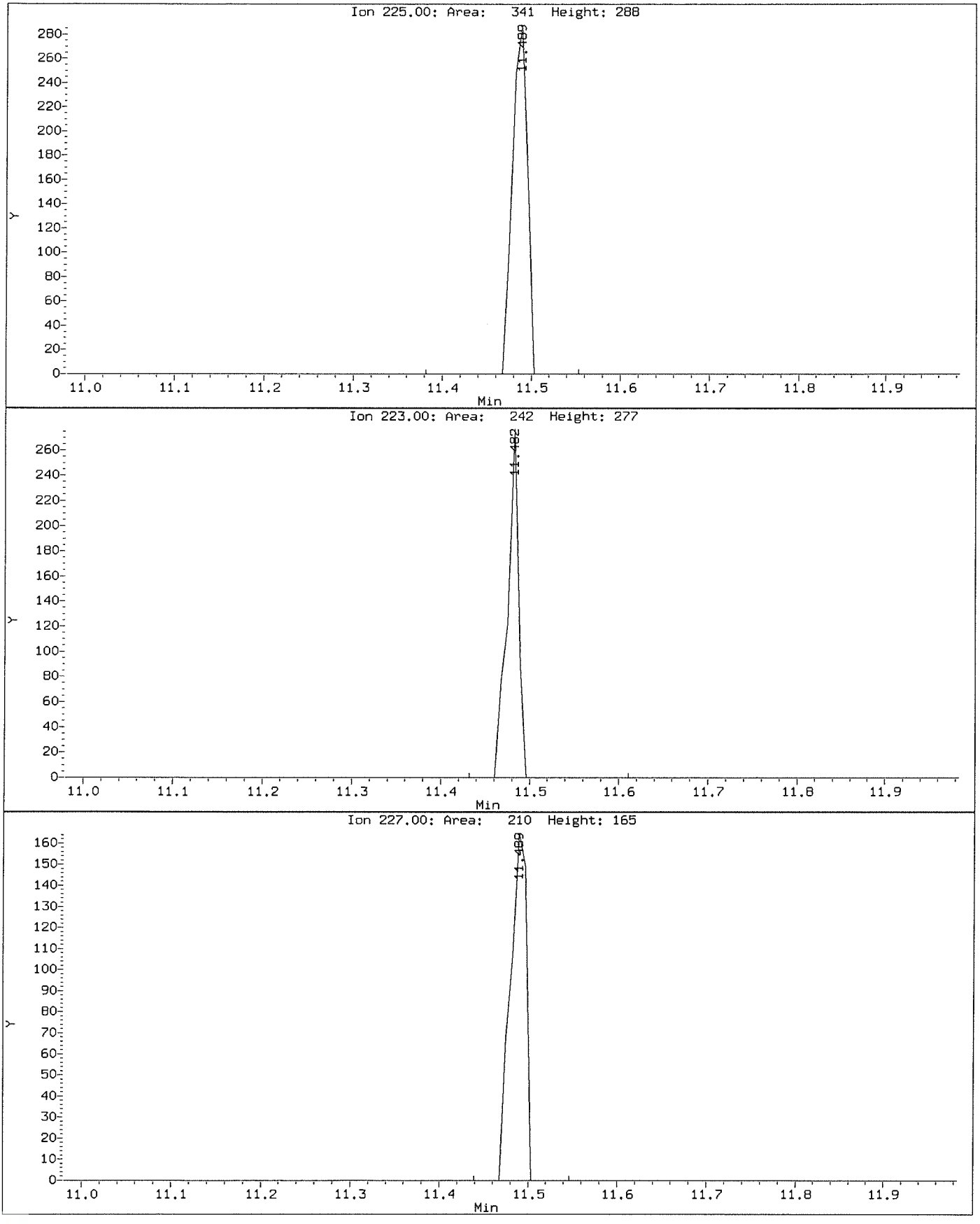
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Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Hexachlorobutadiene
CAS Number: 87-68-3



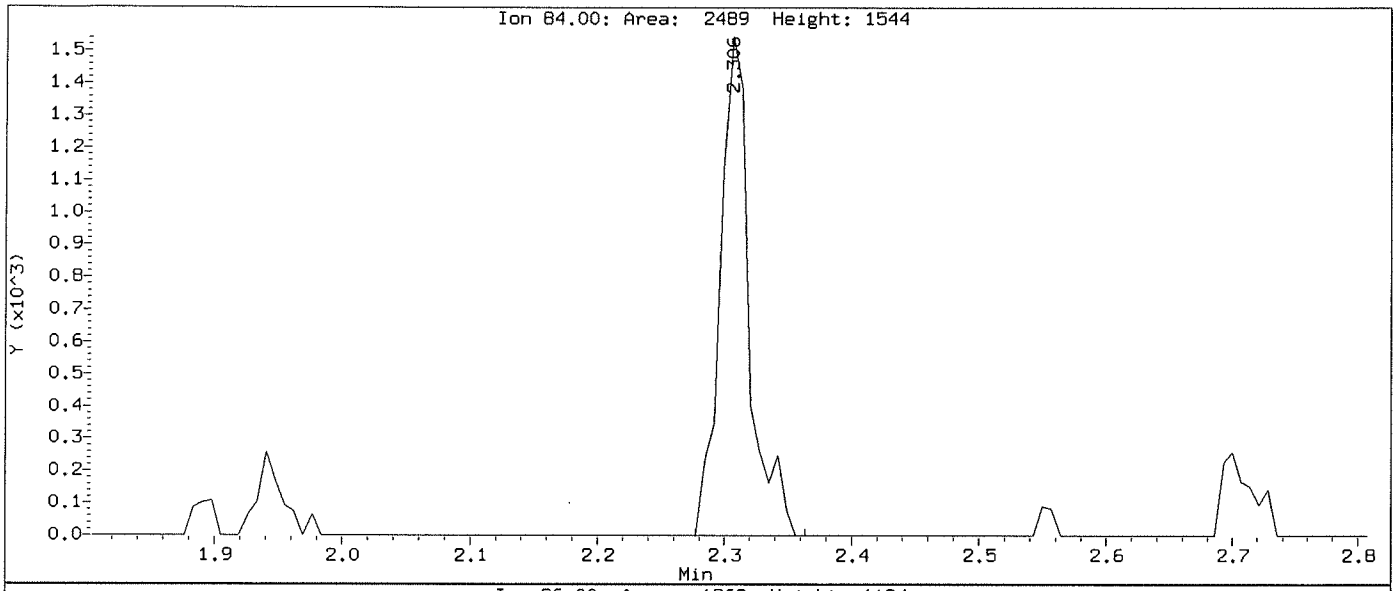
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Client Sample ID: VSTD000.5

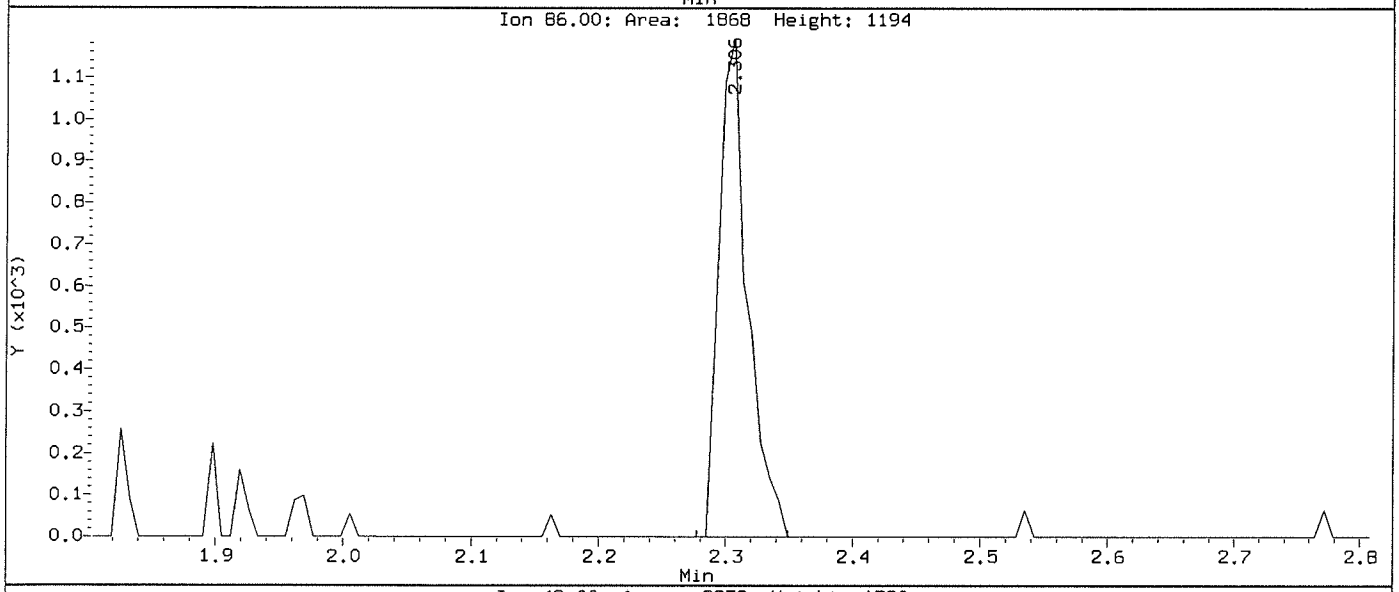
Compound: Hexachlorobutadiene
CAS Number: 87-68-3

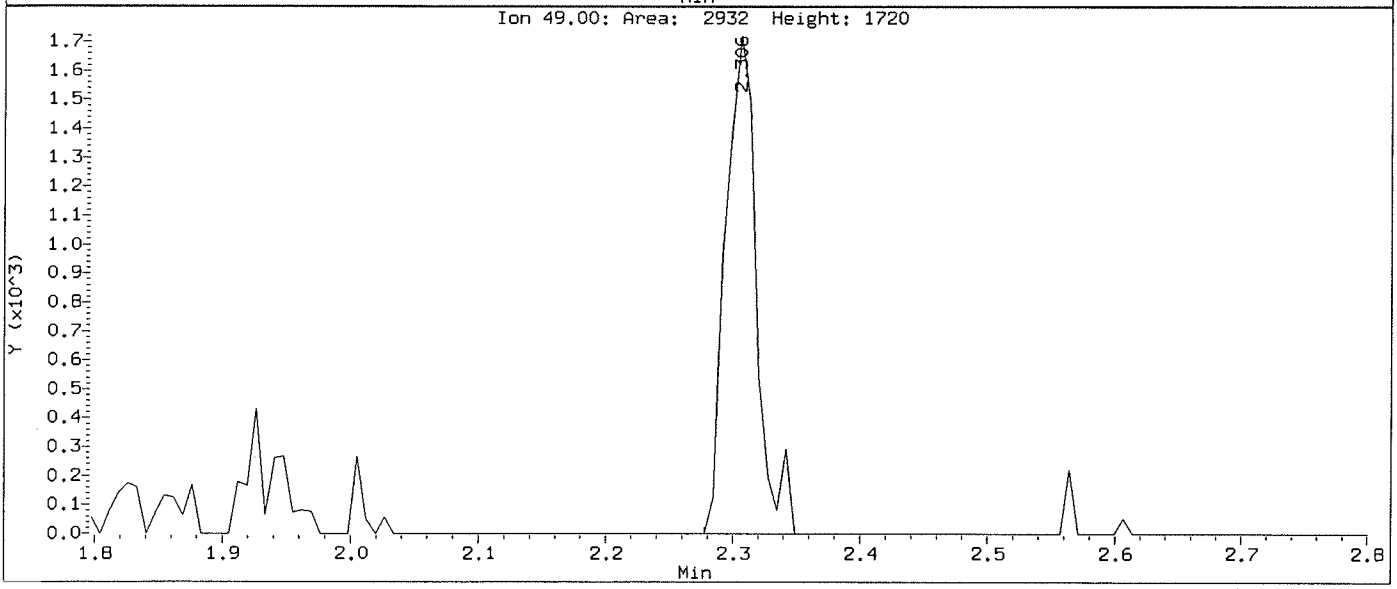


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Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Methylene Chloride
CAS Number: 75-09-2

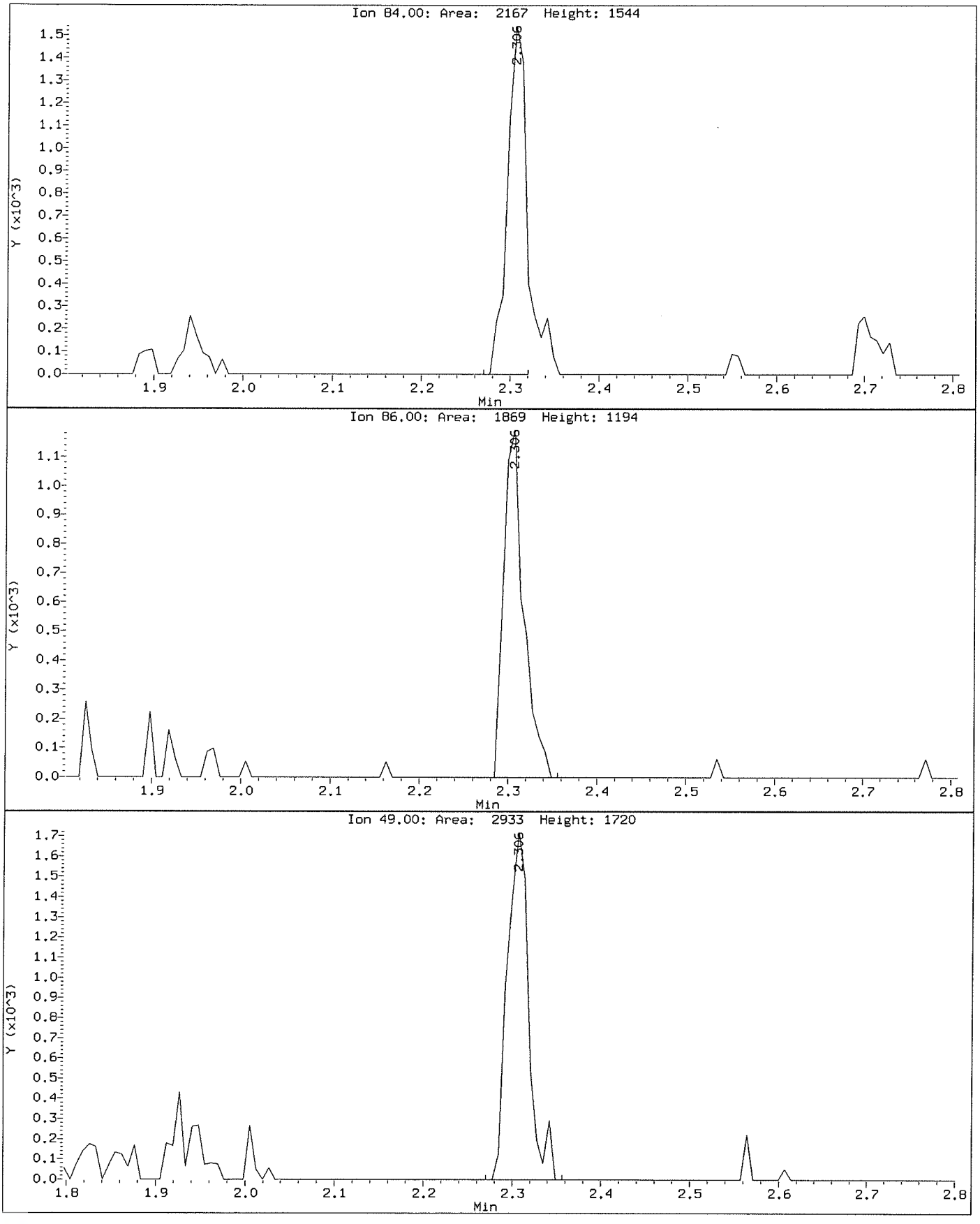


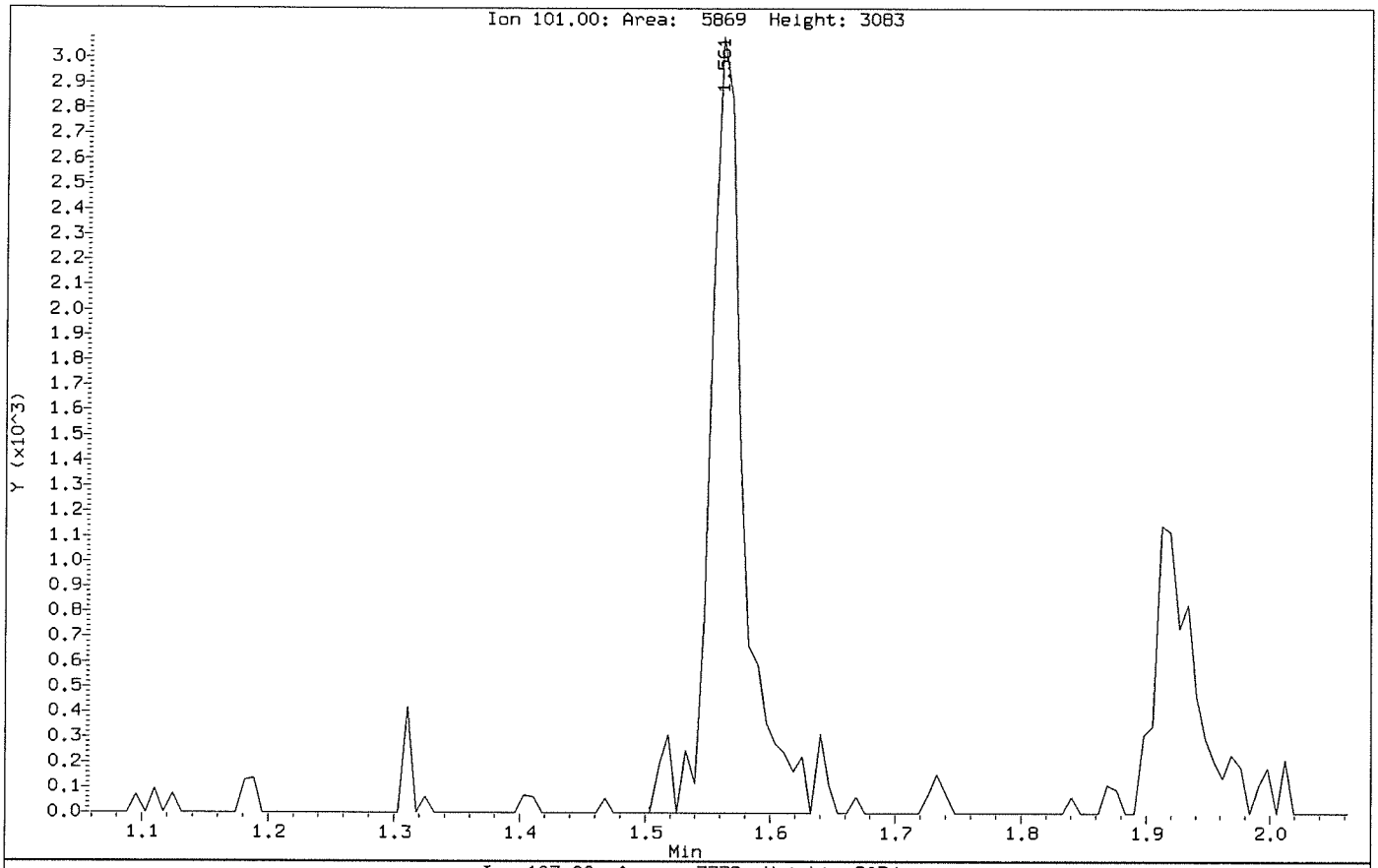
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Client Sample ID: VSTD000.5

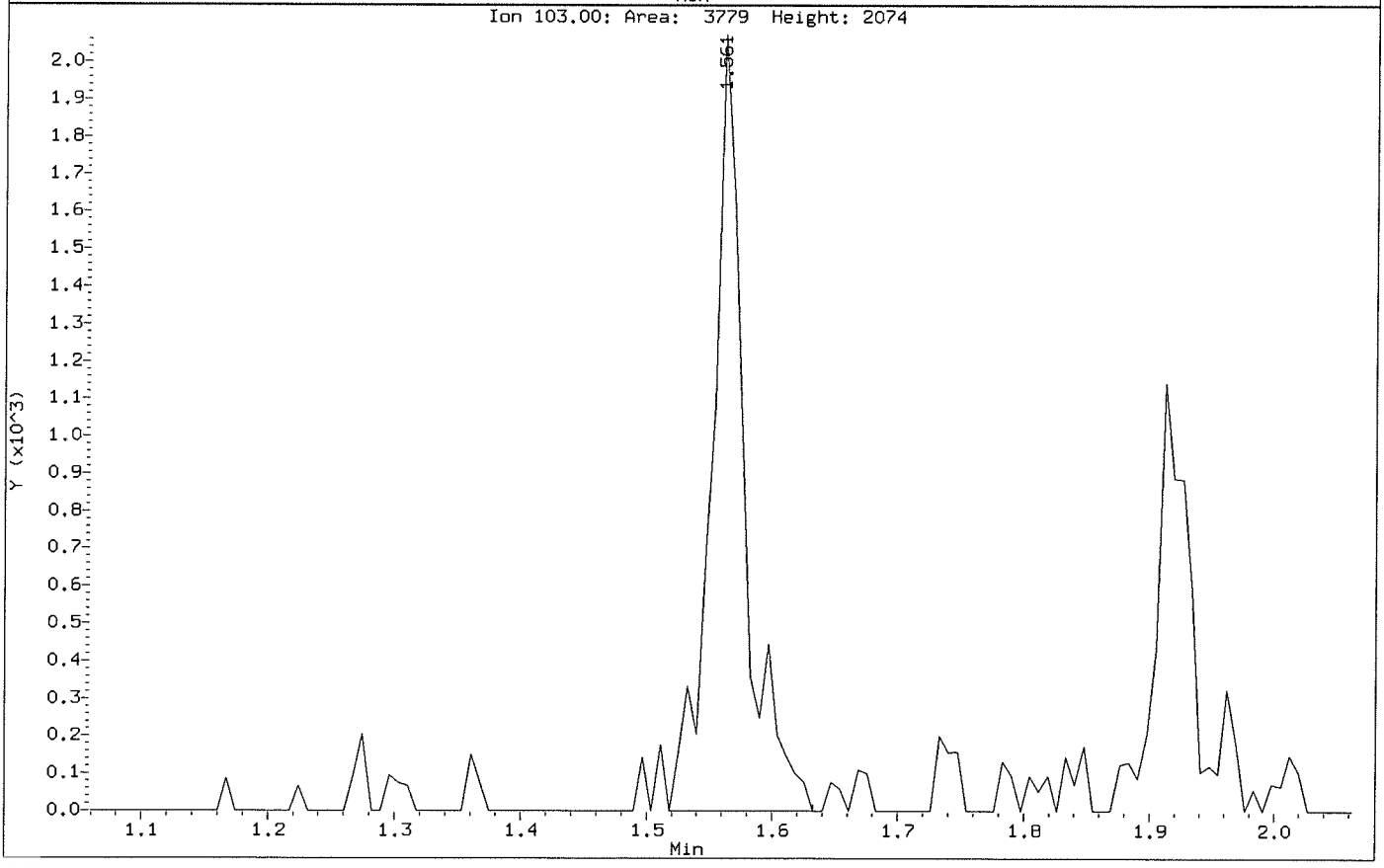
Compound: Methylene Chloride
CAS Number: 75-09-2



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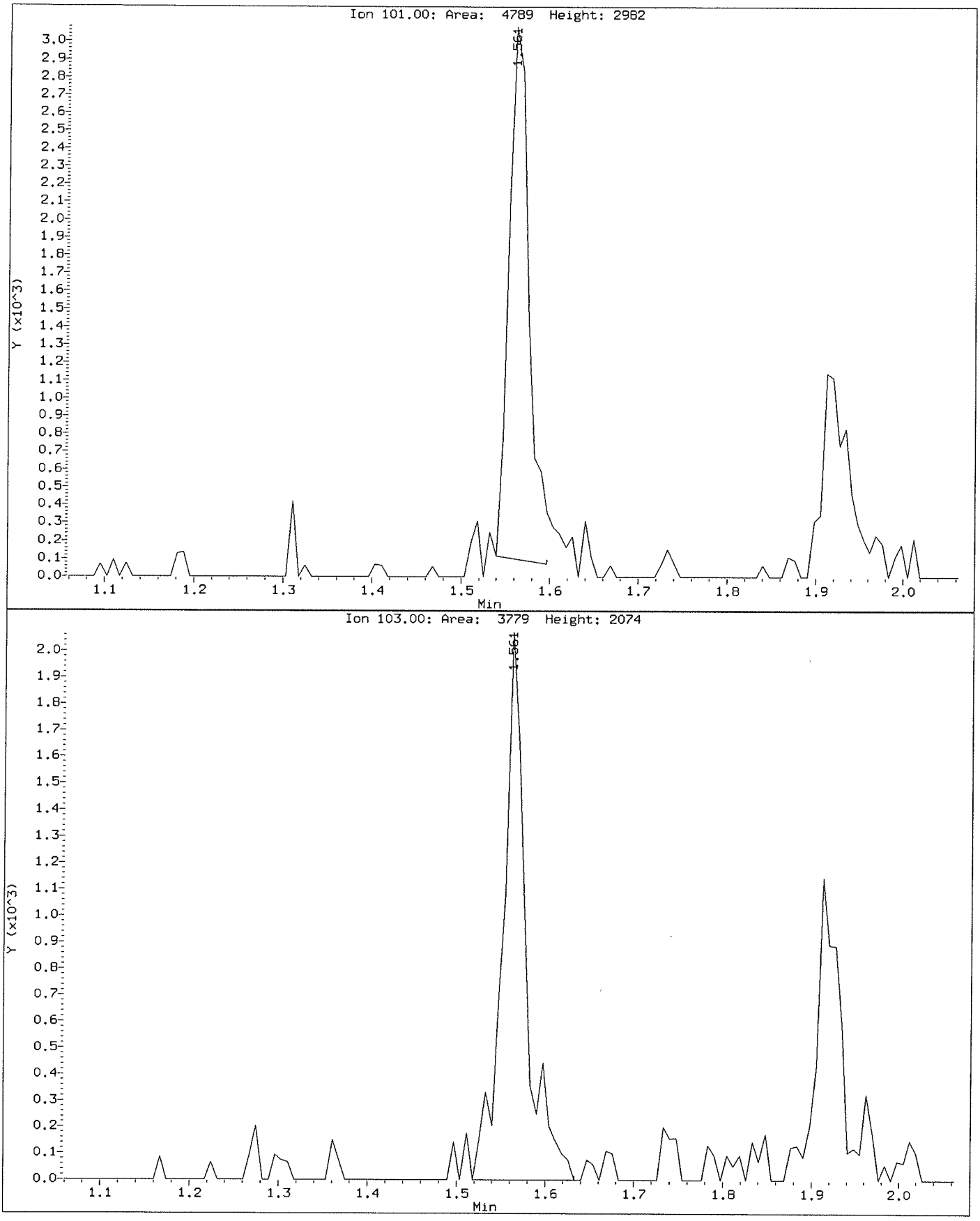
Compound: Trichlorofluoromethane
CAS Number: 75-69-4



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040203.D
Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Trichlorofluoromethane
CAS Number: 75-69-4



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040204.D
Lab Smp Id: VSTD001 Client Smp ID: VSTD001
Inj Date : 02-APR-2021 11:56
Operator : PC Inst ID: voa6.i
Smp Info : VSTD001;VSTD001;1;3;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\8260W.m
Meth Date : 14-Apr-2021 12:07 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 11:35 Cal File: X040203.D
Als bottle: 5 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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 |

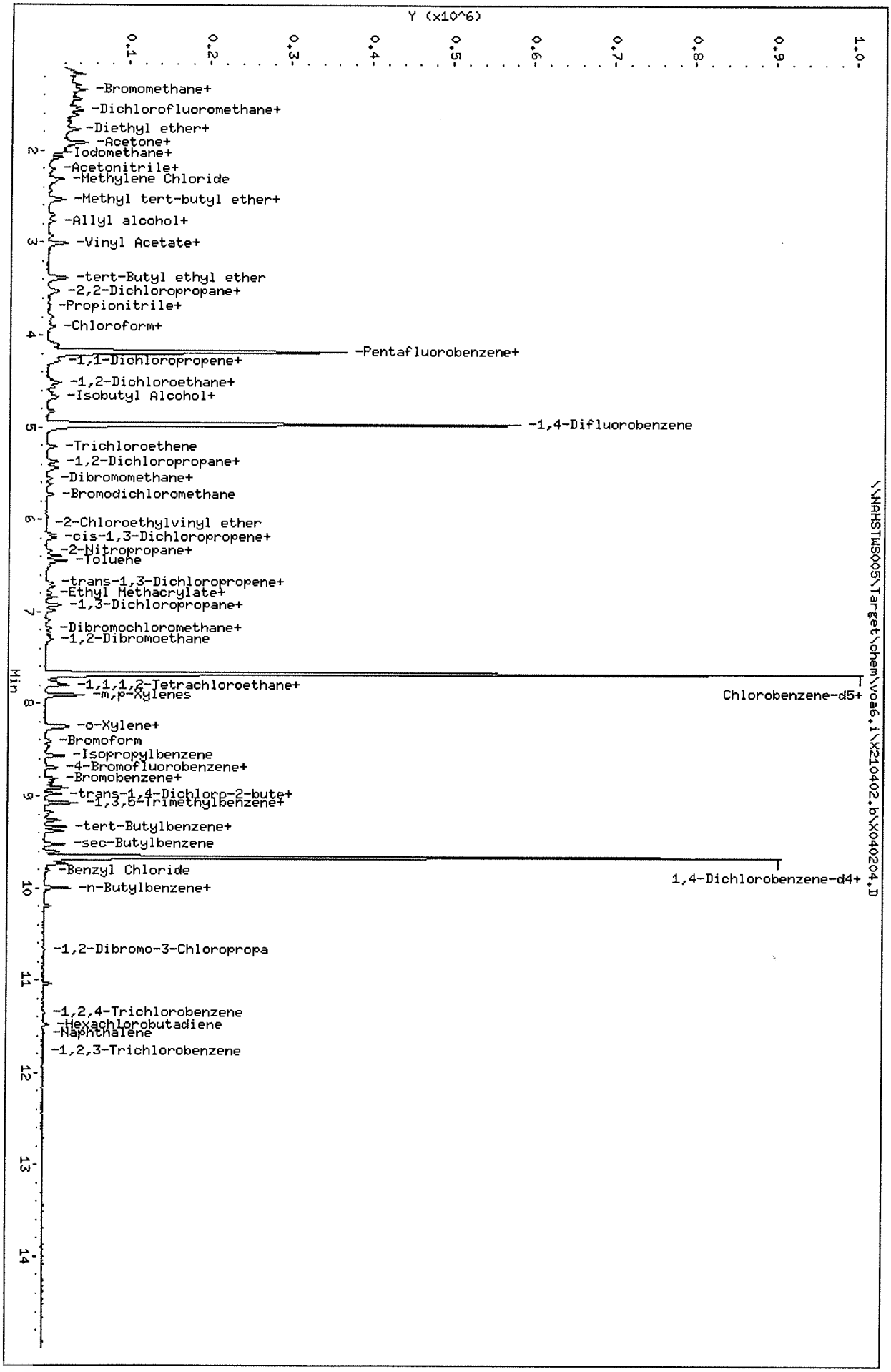
| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|---|
| * | 1 Pentafluorobenzene | 168 | 4.182 | 4.182 | (1.000) | 278422 | 50.0000 | |
| * | 36 1,4-Difluorobenzene | 114 | 4.963 | 4.963 | (1.000) | 467952 | 50.0000 | |
| * | 47 Chlorobenzene-d5 | 117 | 7.671 | 7.671 | (1.000) | 425730 | 50.0000 | |
| * | 70 1,4-Dichlorobenzene-d4 | 152 | 9.662 | 9.662 | (1.000) | 185938 | 50.0000 | |
| $ | 30 Dibromofluoromethane | 113 | 4.103 | 4.103 | (0.981) | 3862 | 1.00000 | 1.60(a) |
| $ | 35 1,2-Dichloroethane-d4 | 65 | 4.476 | 4.476 | (1.070) | 4438 | 1.00000 | 1.60(a) |
| $ | 48 Toluene-d8 | 98 | 6.388 | 6.388 | (0.833) | 12313 | 1.00000 | 2.93(a) |
| $ | 69 4-Bromofluorobenzene | 95 | 8.695 | 8.695 | (1.134) | 4647 | 1.00000 | 2.75(a) |
| | 60 1,1,1,2-Tetrachloroethane | 131 | 7.771 | 7.771 | (1.013) | 3697 | 1.00000 | 1.17(a) |
| | 31 1,1,1-Trichloroethane | 97 | 4.089 | 4.089 | (0.978) | 5714 | 1.00000 | 1.13(a) |
| | 68 1,1,2,2-Tetrachloroethane | 83 | 8.838 | 8.838 | (0.915) | 3684 | 1.00000 | 1.18(aM) |
| | 53 1,1,2-Trichloroethane | 83 | 6.840 | 6.840 | (0.892) | 3024 | 1.00000 | 1.22(a) |
| | 22 1,1-Dichloroethane | 63 | 2.929 | 2.929 | (0.700) | 5104 | 1.00000 | 0.98(a) |
| | 11 1,1-Dichloroethene | 96 | 1.919 | 1.919 | (0.459) | 4199 | 1.00000 | 1.05(aM) |
| | 32 1,1-Dichloropropene | 75 | 4.283 | 4.283 | (0.863) | 4690 | 1.00000 | 1.06(a) |
| | 93 1,2,3-Trichlorobenzene | 180 | 11.746 | 11.746 | (1.216) | 340 | 1.00000 | 1.74(aM) |
| | 71 1,2,3-Trichloropropane | 75 | 8.867 | 8.867 | (0.918) | 2918 | 1.00000 | 1.16(aM) |
| | 90 1,2,4-Trichlorobenzene | 180 | 11.345 | 11.345 | (1.174) | 999 | 1.00000 | 1.31(aM) |
| | 79 1,2,4-Trimethylbenzene | 105 | 9.383 | 9.383 | (0.971) | 10370 | 1.00000 | 1.08(a) |
| | 89 1,2-Dibromo-3-Chloropropane | 155 | 10.665 | 10.665 | (1.104) | 237 | 1.00000 | 1.17(aM) |
| | 57 1,2-Dibromoethane | 107 | 7.270 | 7.270 | (0.948) | 2792 | 1.00000 | 0.95(a) |
| | 88 1,2-Dichlorobenzene | 146 | 9.999 | 9.999 | (1.035) | 5894 | 1.00000 | 1.15(a) |

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040204.D Page 2
Report Date: 14-Apr-2021 12:07

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|---|
| 33 | 1,2-Dichloroethane | 62 | 4.562 | 4.562 | (0.919) | 5931 | 1.00000 | 1.19 (aM) |
| 42 | 1,2-Dichloropropane | 63 | 5.436 | 5.436 | (1.095) | 4009 | 1.00000 | 1.23 (aM) |
| 75 | 1,3,5-Trimethylbenzene | 105 | 9.067 | 9.067 | (0.938) | 10474 | 1.00000 | 1.05 (a) |
| 83 | 1,3-Dichlorobenzene | 146 | 9.612 | 9.612 | (0.995) | 6457 | 1.00000 | 1.19 (a) |
| 54 | 1,3-Dichloropropane | 76 | 6.990 | 6.990 | (0.911) | 5500 | 1.00000 | 1.16 (a) |
| 84 | 1,4-Dichlorobenzene | 146 | 9.683 | 9.683 | (1.002) | 7042 | 1.00000 | 1.21 (a) |
| 26 | 2,2-Dichloropropane | 77 | 3.509 | 3.509 | (0.839) | 6050 | 1.00000 | 1.18 (a) |
| 24 | 2-Butanone | 43 | 3.609 | 3.609 | (0.863) | 1990 | 2.00000 | 2.07 (aM) |
| 76 | 2-Chlorotoluene | 91 | 8.974 | 8.974 | (0.929) | 10702 | 1.00000 | 1.35 (a) |
| 52 | 2-Hexanone | 43 | 7.098 | 7.098 | (0.925) | 3776 | 2.00000 | 4.97 (aM) |
| 77 | 4-Chlorotoluene | 91 | 9.075 | 9.075 | (0.939) | 11870 | 1.00000 | 1.17 (a) |
| 82 | p-Isopropyltoluene | 119 | 9.648 | 9.648 | (0.999) | 10160 | 1.00000 | 1.07 (a) |
| 45 | 4-Methyl-2-Pentanone | 43 | 6.338 | 6.338 | (0.826) | 5462 | 2.00000 | 2.12 (a) |
| 10 | Acetone | 43 | 1.983 | 1.983 | (0.474) | 5059 | 2.00000 | 1.27 (a) |
| 37 | Benzene | 78 | 4.512 | 4.512 | (0.909) | 14479 | 1.00000 | 1.16 (a) |
| 74 | Bromobenzene | 156 | 8.810 | 8.810 | (0.912) | 3881 | 1.00000 | 1.21 (a) |
| 29 | Bromochloromethane | 128 | 3.788 | 3.788 | (0.906) | 1542 | 1.00000 | 0.92 (a) |
| 39 | Bromodichloromethane | 83 | 5.737 | 5.737 | (1.156) | 5366 | 1.00000 | 1.14 (aM) |
| 66 | Bromoform | 173 | 8.408 | 8.408 | (1.096) | 1463 | 1.00000 | 2.70 (Ta) |
| 6 | Bromomethane | 94 | 1.339 | 1.339 | (0.320) | 5913 | 1.00000 | 1.30 (aM) |
| 19 | Carbon Disulfide | 76 | 2.069 | 2.069 | (0.495) | 17779 | 2.00000 | 2.29 (aM) |
| 34 | Carbon Tetrachloride | 117 | 4.261 | 4.261 | (0.859) | 4997 | 1.00000 | 1.18 (a) |
| 59 | Chlorobenzene | 112 | 7.692 | 7.692 | (1.003) | 10928 | 1.00000 | 2.96 (a) |
| 7 | Chloroethane | 64 | 1.403 | 1.403 | (0.336) | 3221 | 1.00000 | 1.04 (aM) |
| 28 | Chloroform | 83 | 3.903 | 3.903 | (0.933) | 6802 | 1.00000 | 1.12 (a) |
| 3 | Chloromethane | 50 | 1.074 | 1.074 | (0.257) | 4001 | 1.00000 | 0.58 (aM) |
| 27 | cis-1,2-Dichloroethene | 96 | 3.538 | 3.538 | (0.846) | 3959 | 1.00000 | 1.16 (a) |
| 46 | cis-1,3-Dichloropropene | 75 | 6.159 | 6.159 | (1.241) | 5594 | 1.00000 | 1.02 (a) |
| 55 | Dibromochloromethane | 129 | 7.184 | 7.184 | (0.937) | 3464 | 1.00000 | 1.04 (a) |
| 44 | Dibromomethane | 93 | 5.558 | 5.558 | (1.120) | 2720 | 1.00000 | 1.17 (a) |
| 2 | Dichlorodifluoromethane | 85 | 0.973 | 0.973 | (0.233) | 3510 | 1.00000 | 2.92 (a) |
| 61 | Ethylbenzene | 106 | 7.800 | 7.800 | (1.017) | 4998 | 1.00000 | 1.09 (a) |
| 91 | Hexachlorobutadiene | 225 | 11.481 | 11.481 | (1.188) | 903 | 1.00000 | 1.89 (aM) |
| 67 | Isopropylbenzene | 105 | 8.566 | 8.566 | (1.117) | 15623 | 1.00000 | 1.14 (a) |
| 62 | m,p-Xylenes | 106 | 7.900 | 7.900 | (1.030) | 12113 | 2.00000 | 2.09 (a) |
| 17 | Methylene Chloride | 84 | 2.298 | 2.298 | (0.550) | 4155 | 1.00000 | 2.81 (aM) |
| 87 | n-Butylbenzene | 91 | 9.999 | 9.999 | (1.035) | 8809 | 1.00000 | 0.98 (a) |
| 73 | n-Propylbenzene | 91 | 8.917 | 8.917 | (0.923) | 17317 | 1.00000 | 1.22 (a) |
| 92 | Naphthalene | 128 | 11.575 | 11.575 | (1.198) | 1196 | 1.00000 | 1.43 (aM) |
| 63 | o-Xylene | 106 | 8.244 | 8.244 | (1.075) | 6080 | 1.00000 | 1.08 (a) |
| 81 | sec-Butylbenzene | 105 | 9.519 | 9.519 | (0.985) | 14391 | 1.00000 | 1.49 (a) |
| 64 | Styrene | 104 | 8.265 | 8.265 | (1.078) | 8571 | 1.00000 | 4.13 (a) |
| 78 | tert-Butylbenzene | 119 | 9.332 | 9.332 | (0.966) | 9533 | 1.00000 | 1.89 (a) |
| 56 | Tetrachloroethene | 164 | 6.933 | 6.933 | (0.904) | 2969 | 1.00000 | 1.15 (a) |
| 50 | Toluene | 91 | 6.446 | 6.446 | (0.840) | 15008 | 1.00000 | 1.13 (a) |
| 20 | trans-1,2-Dichloroethene | 96 | 2.535 | 2.535 | (0.606) | 3113 | 1.00000 | 1.09 (a) |
| 51 | trans-1,3-Dichloropropene | 75 | 6.682 | 6.682 | (1.346) | 4602 | 1.00000 | 0.98 (a) |
| 38 | Trichloroethene | 130 | 5.207 | 5.207 | (1.049) | 3757 | 1.00000 | 1.17 (aM) |
| 8 | Trichlorofluoromethane | 101 | 1.561 | 1.561 | (0.373) | 9924 | 1.00000 | 1.24 (aM) |
| 5 | Vinyl Chloride | 62 | 1.145 | 1.145 | (0.274) | 5253 | 1.00000 | 1.25 (aM) |

QC Flag Legend

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

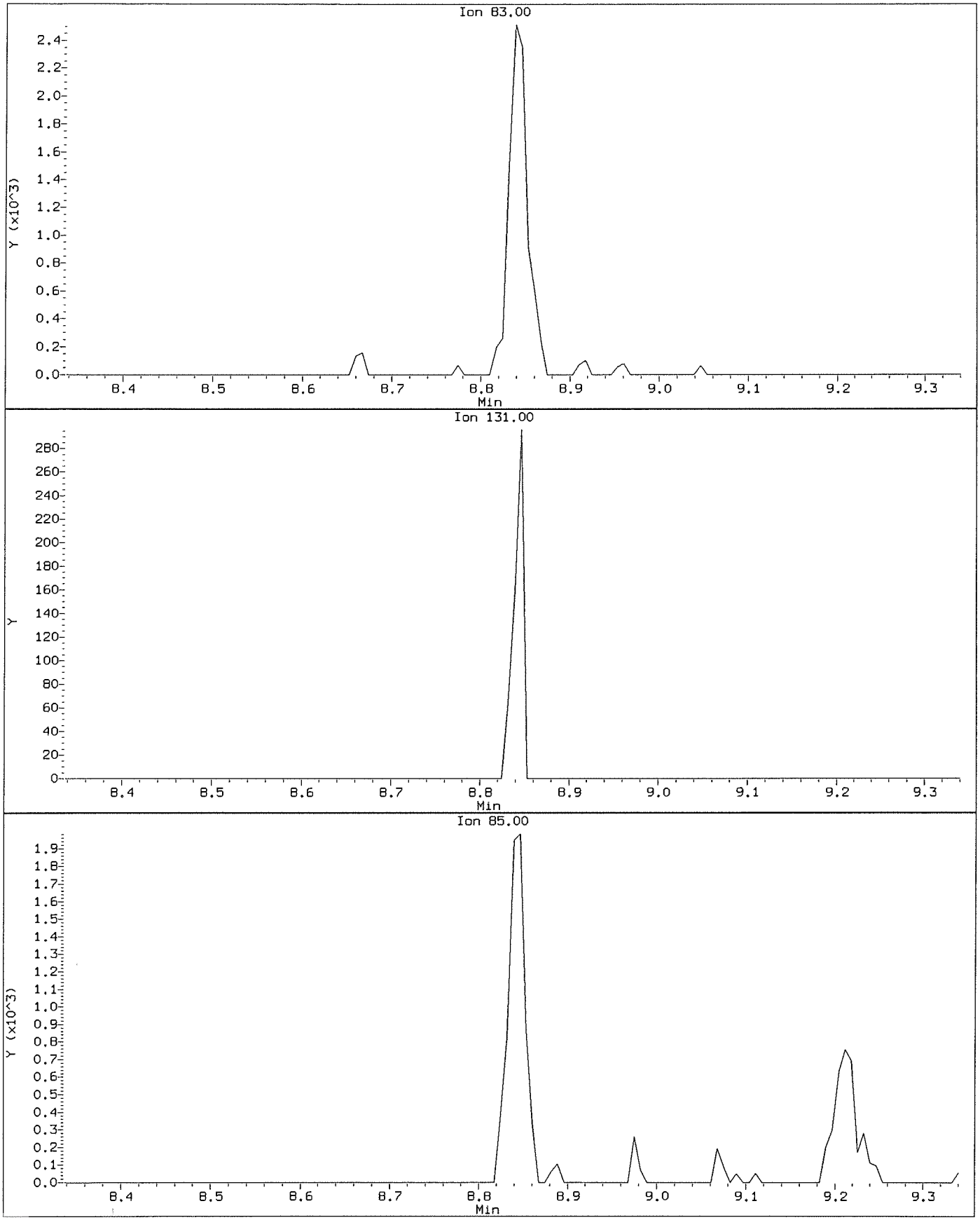



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Sample Info: VSTD001;VSTD001;1;3;;
Purge Volume: 5.0
Column phase: DB624

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

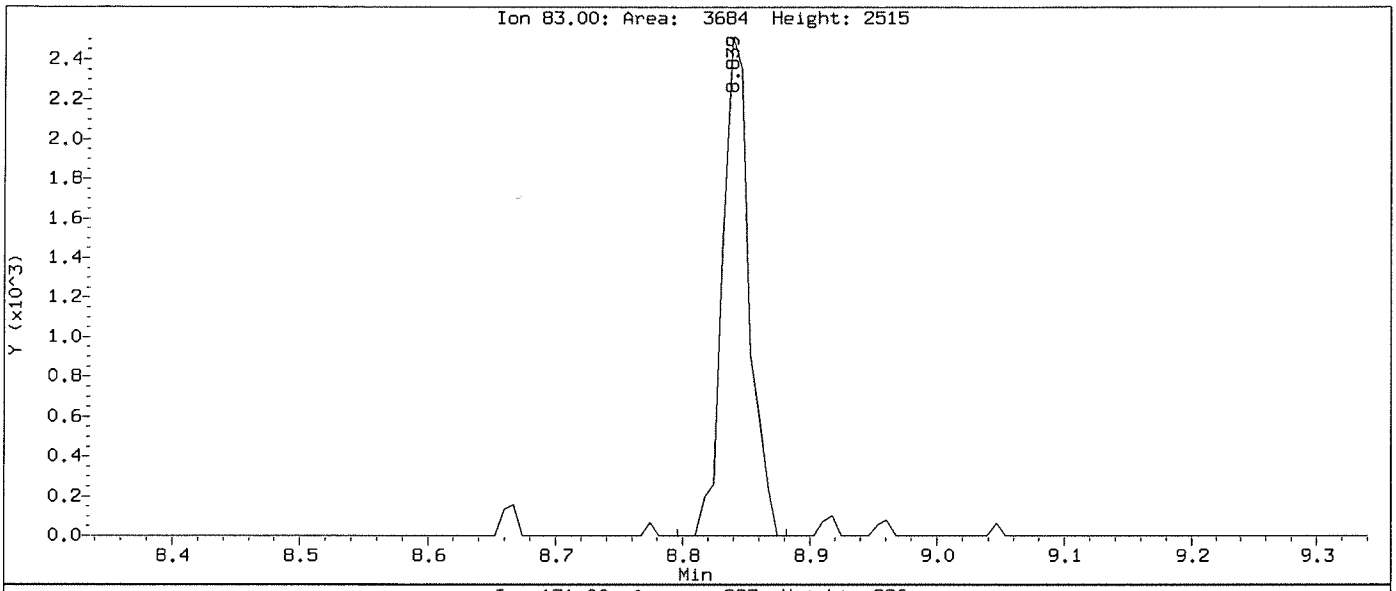
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Instrument: voa6.i
Client Sample ID: VSTD001

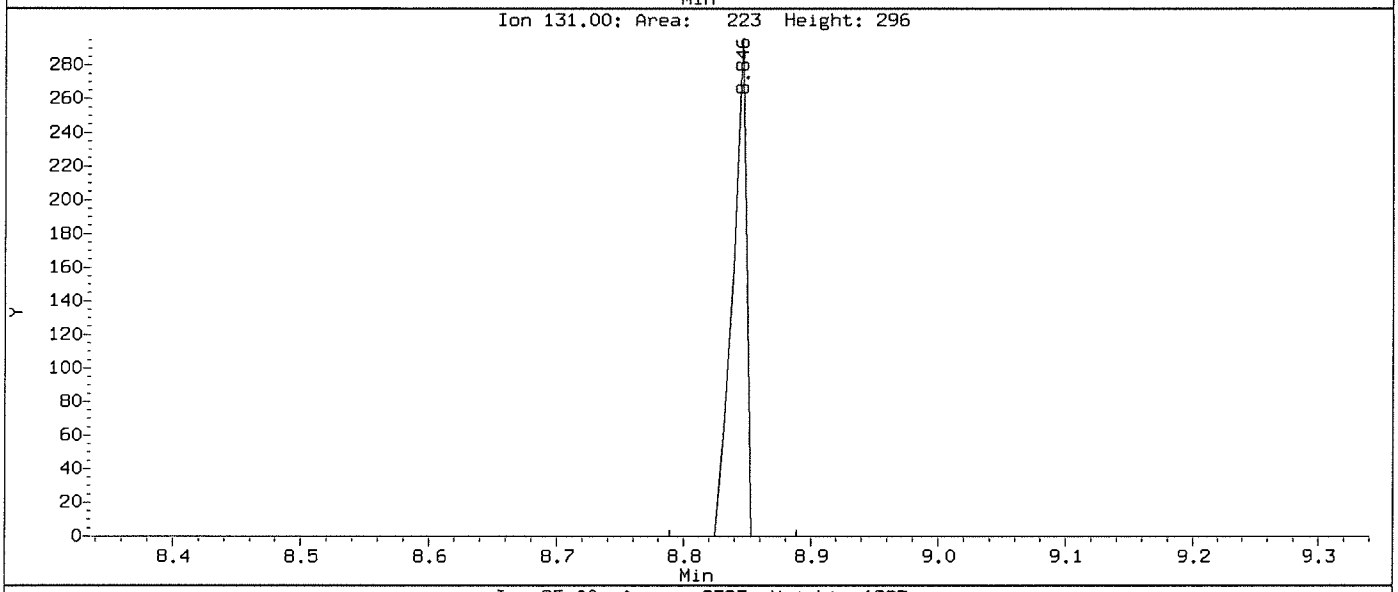
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CAS Number: 79-34-5

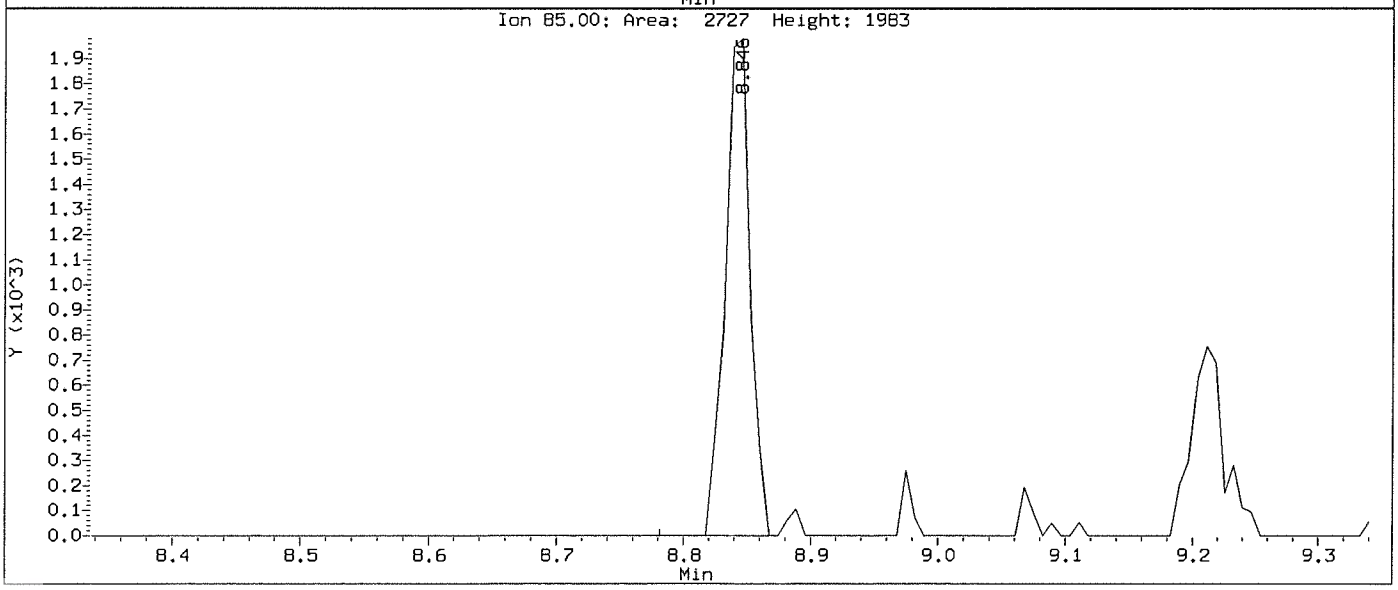


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Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,1,2,2-Tetrachloroethane
CAS Number: 79-34-5

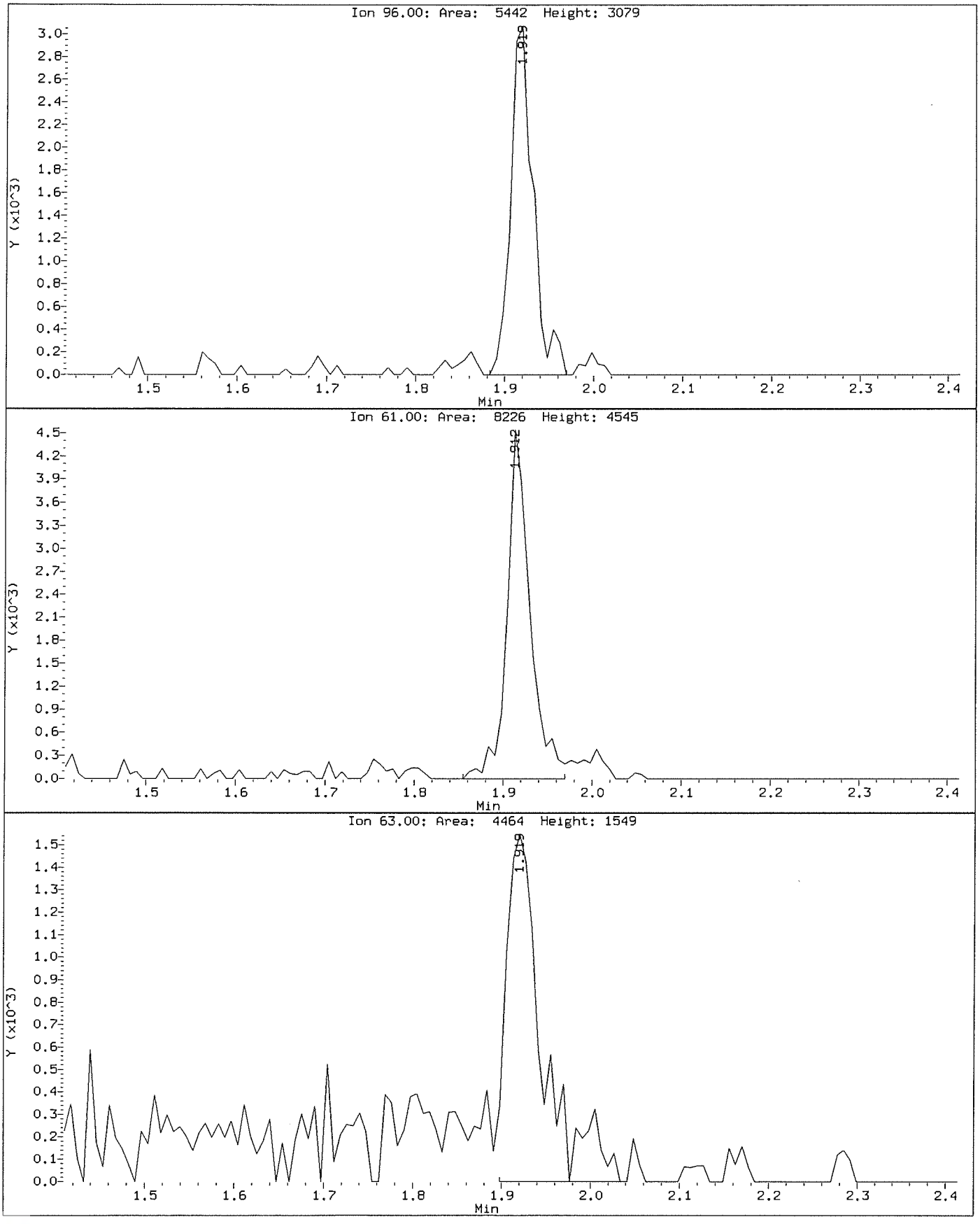


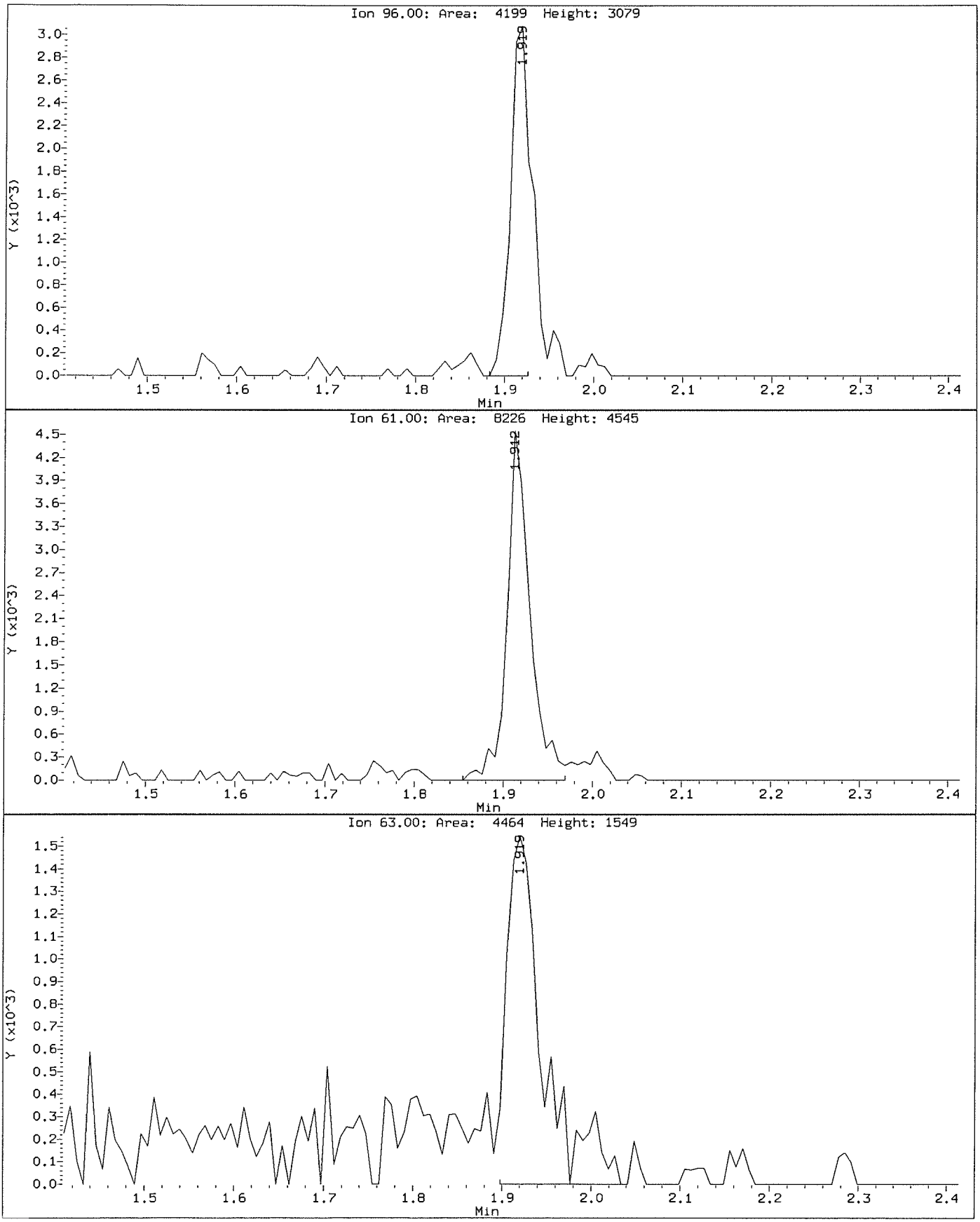
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Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,1-Dichloroethene
CAS Number: 75-35-4



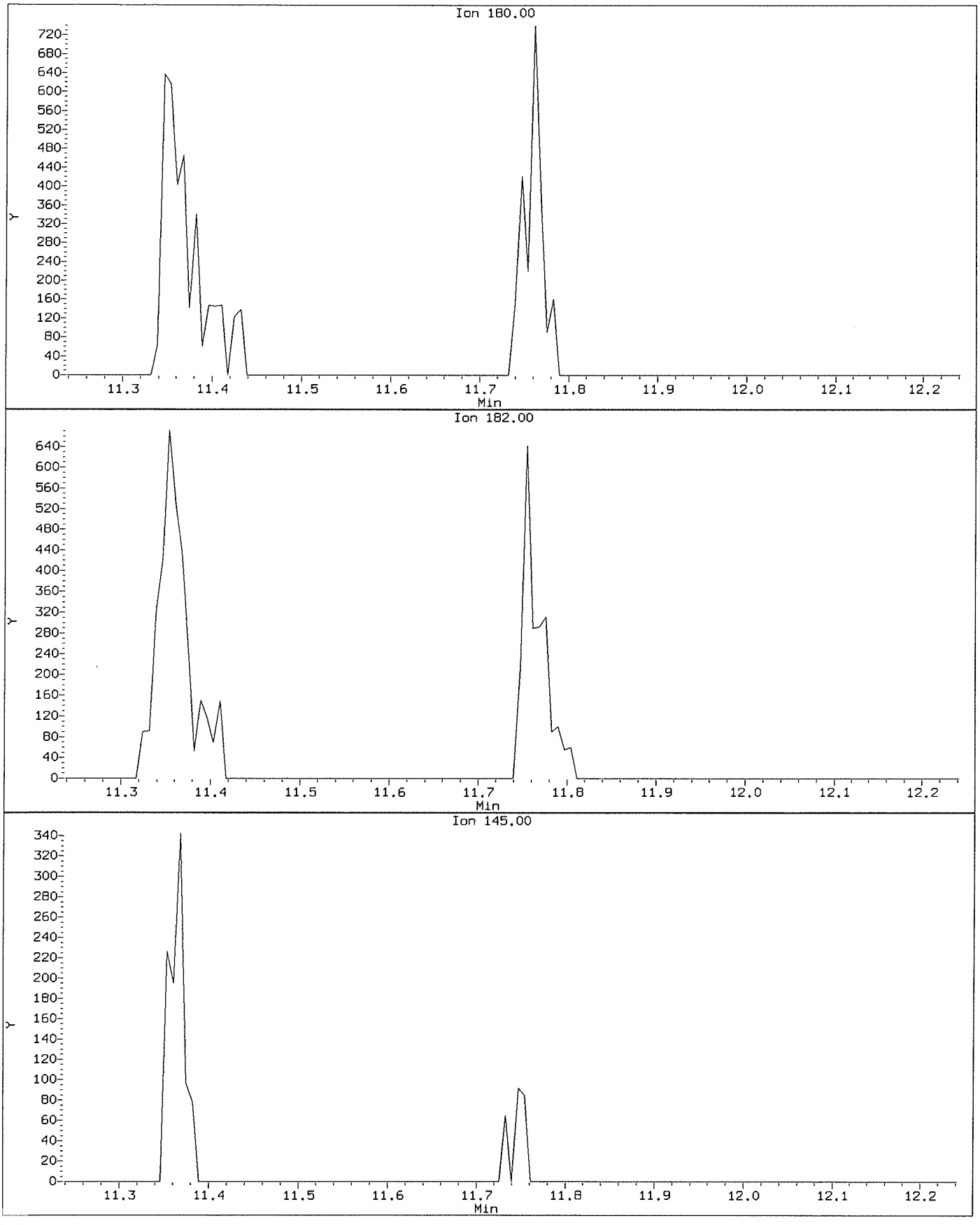
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Client Sample ID: VSTD001

Compound: 1,1-Dichloroethene
CAS Number: 75-35-4



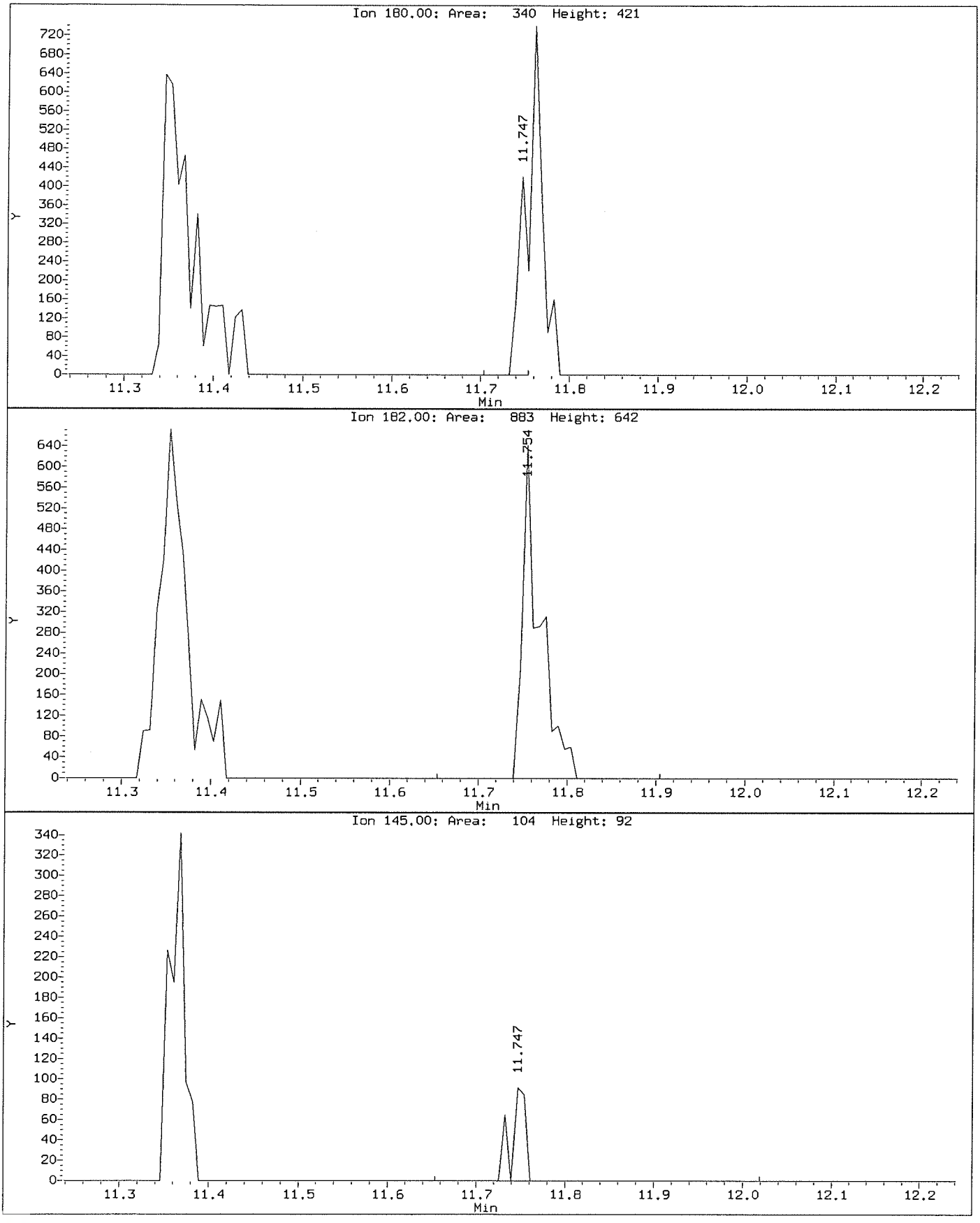
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Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,2,3-Trichlorobenzene
CAS Number: 87-61-6



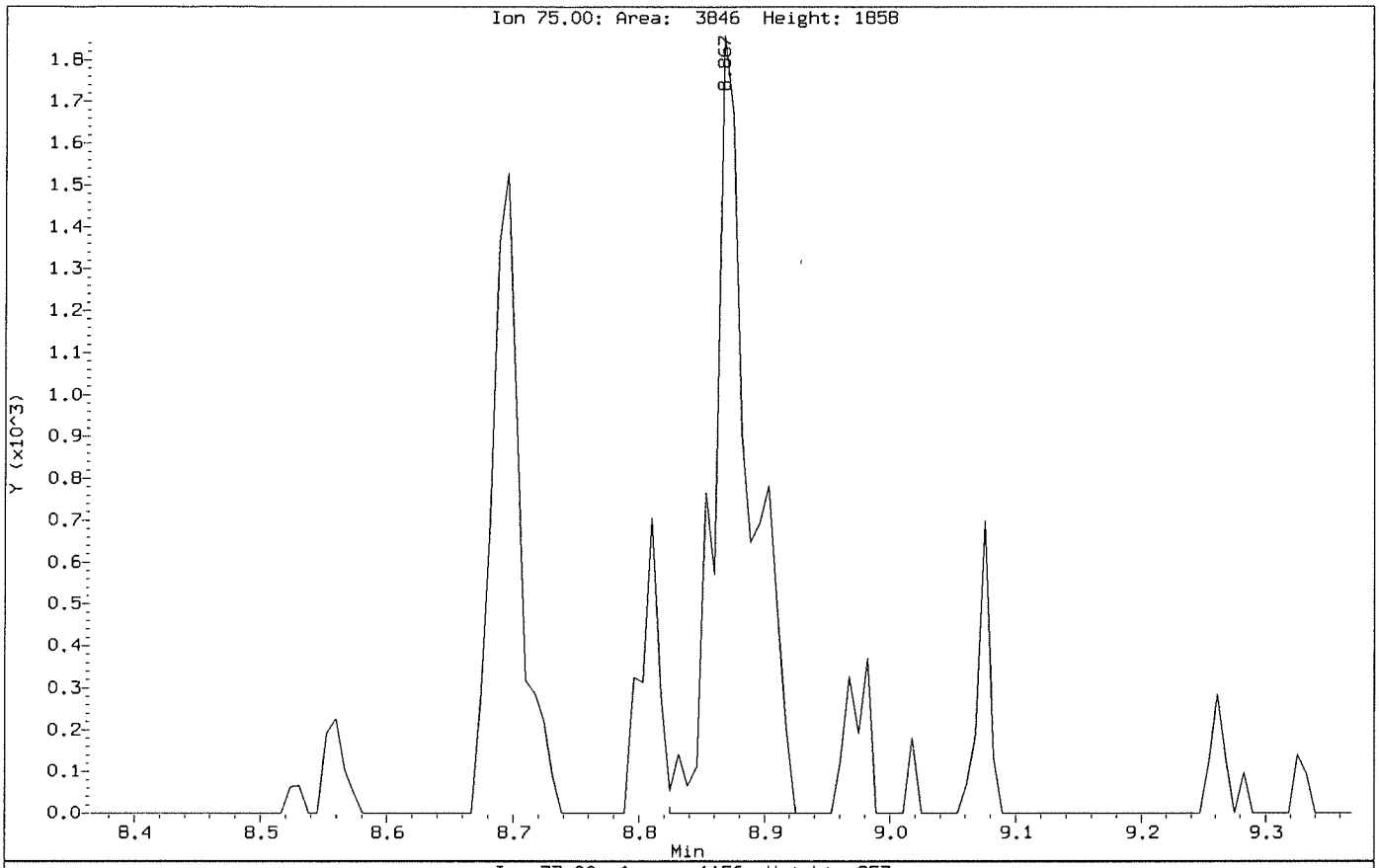
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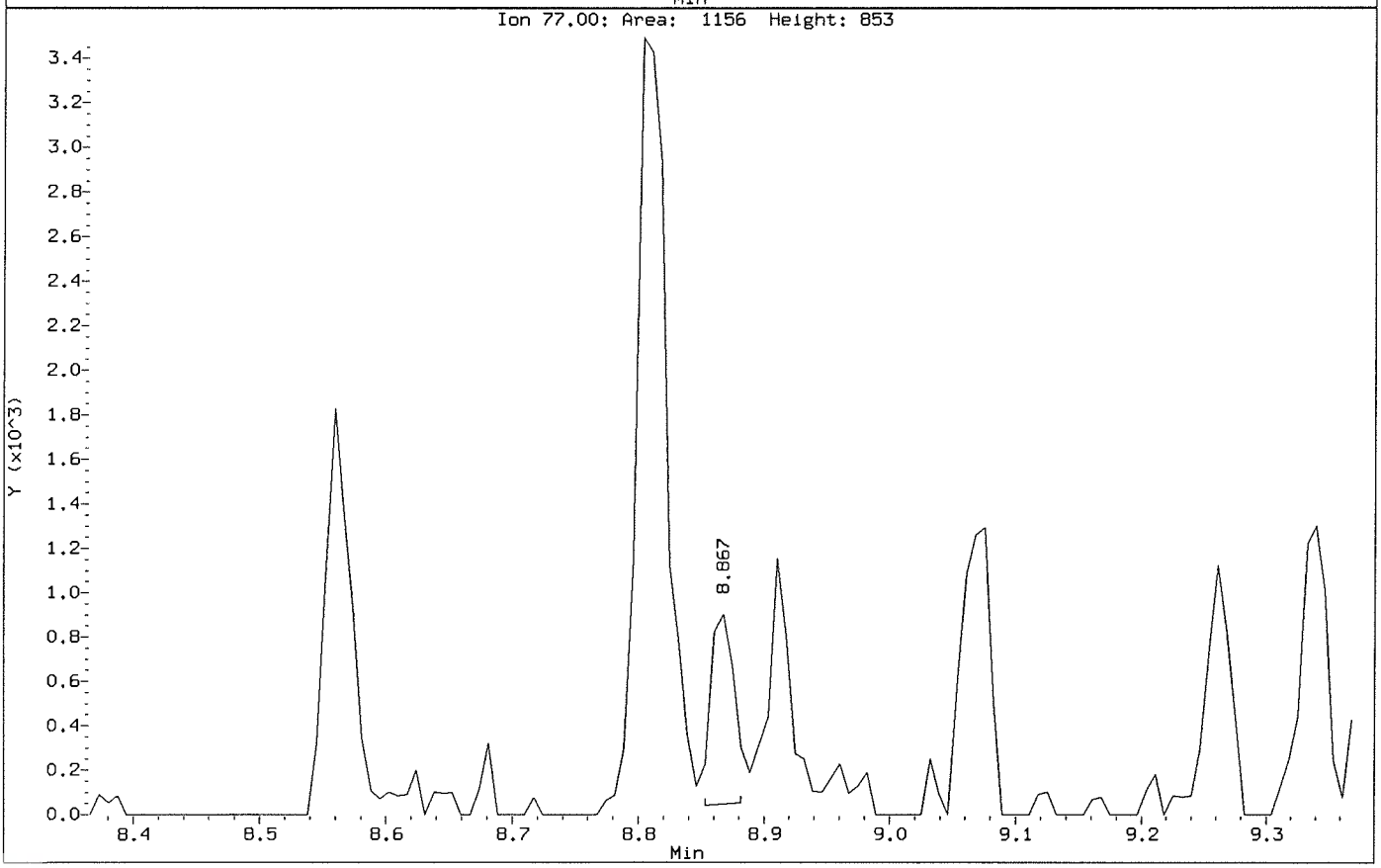
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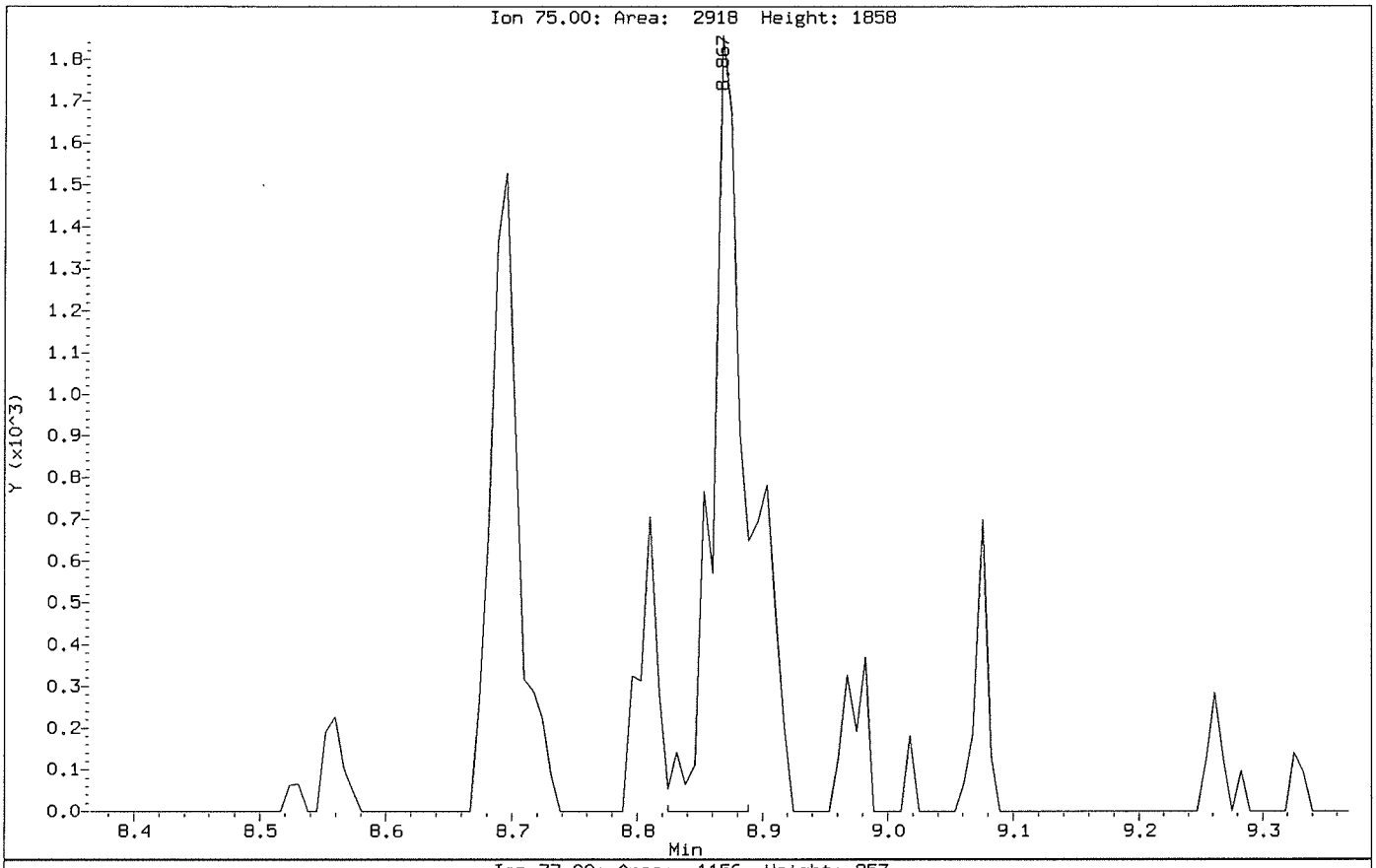
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4

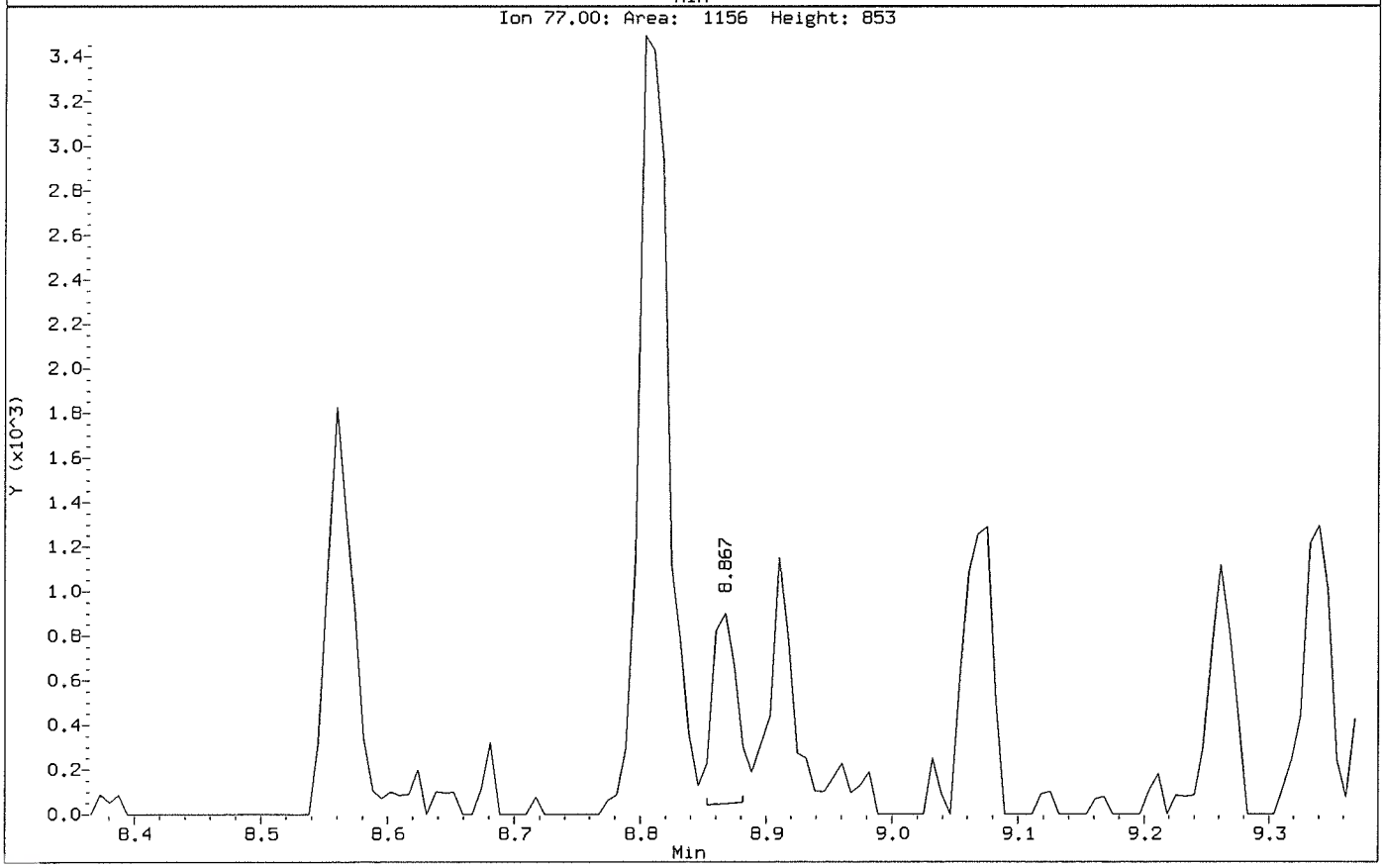


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Instrument: voa6.i
Client Sample ID: VSTD001

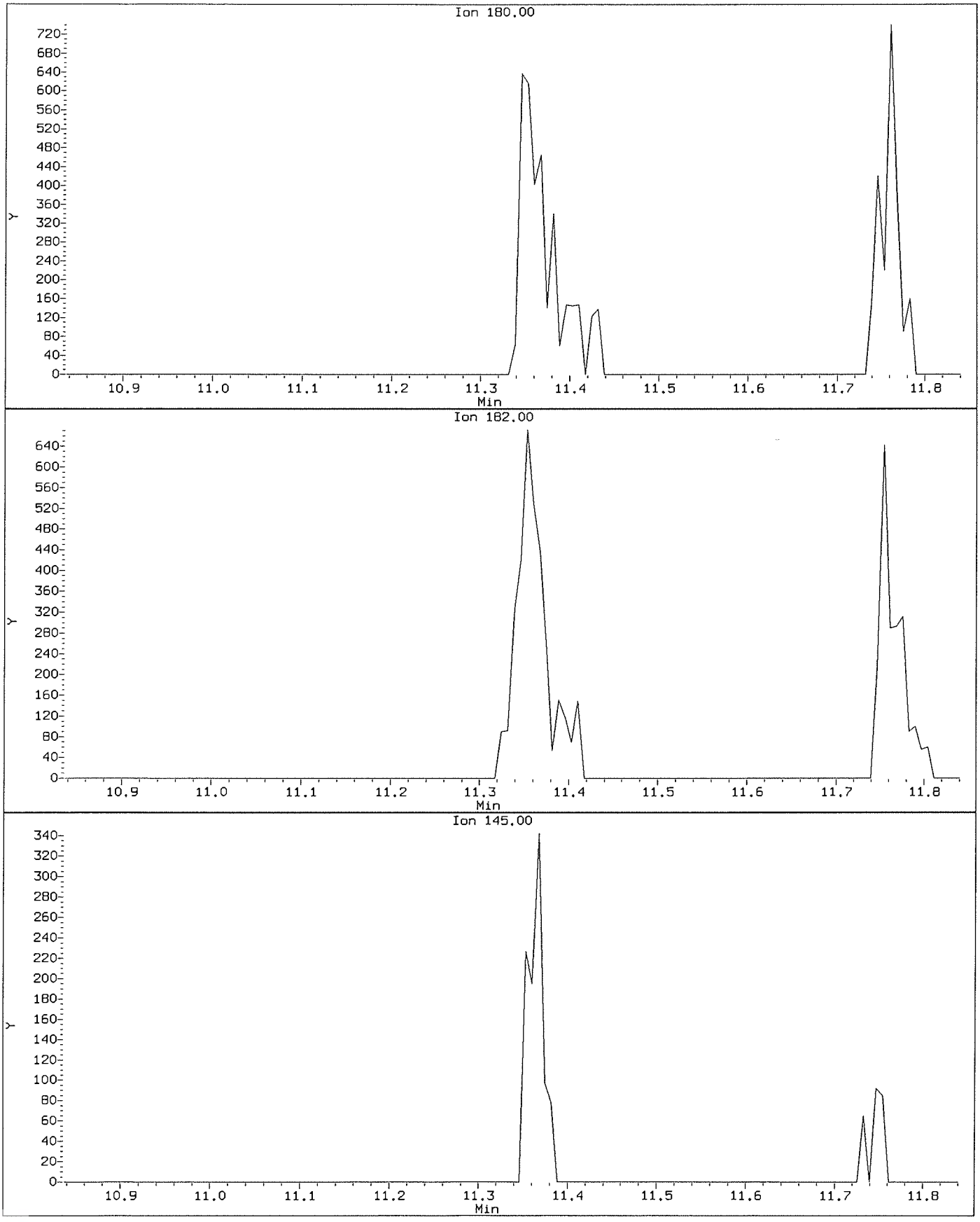
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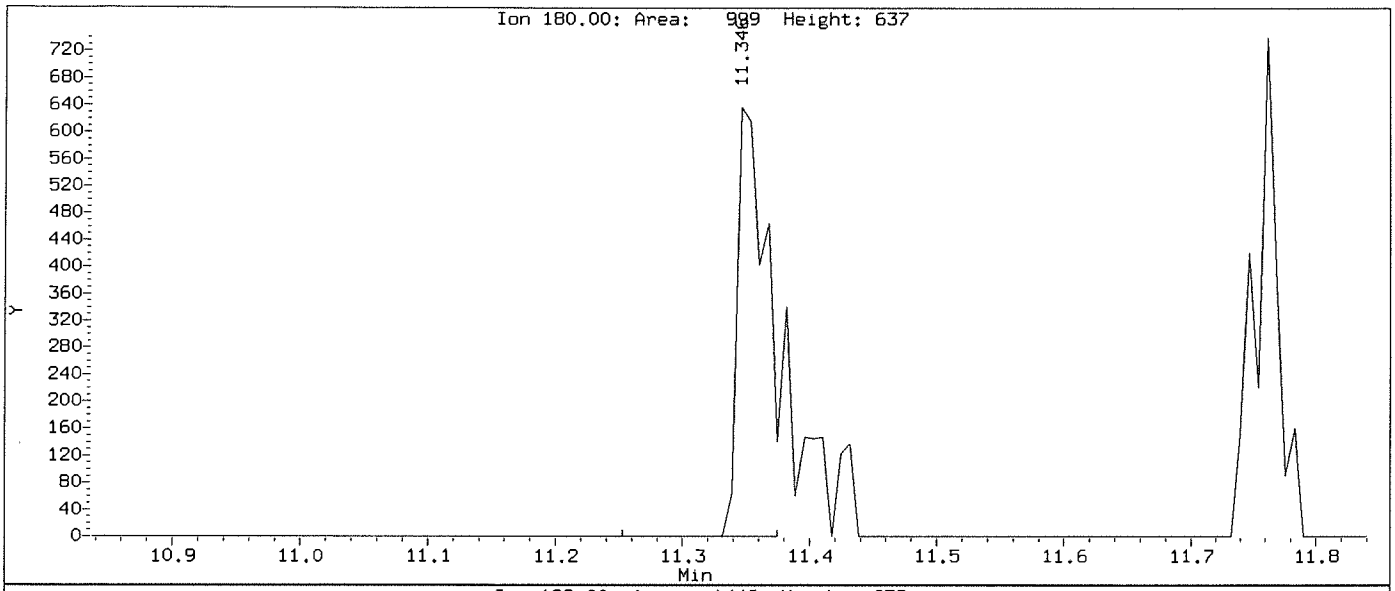
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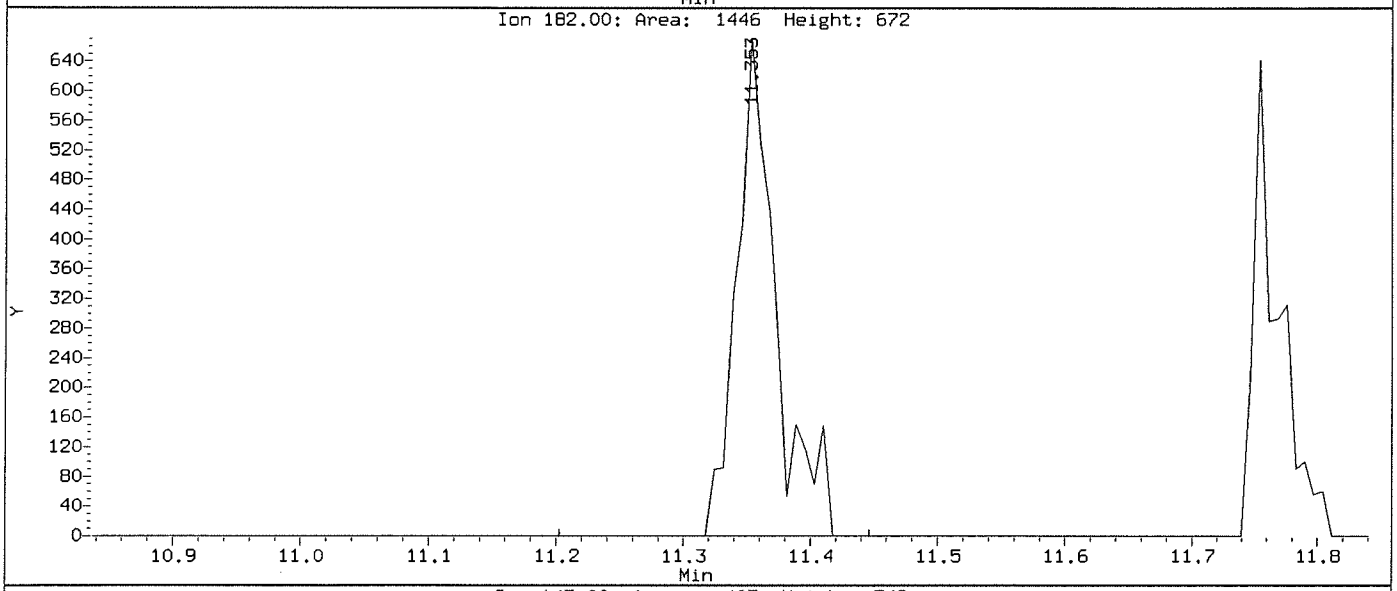
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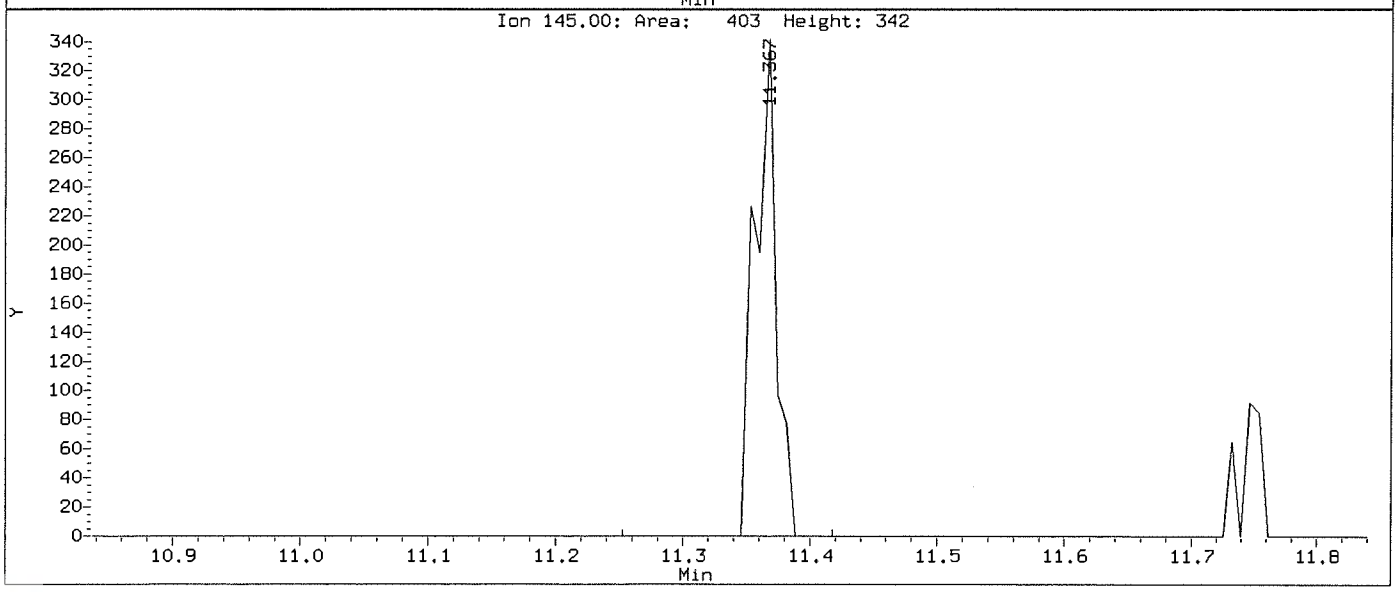


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Client Sample ID: VSTD001

Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1

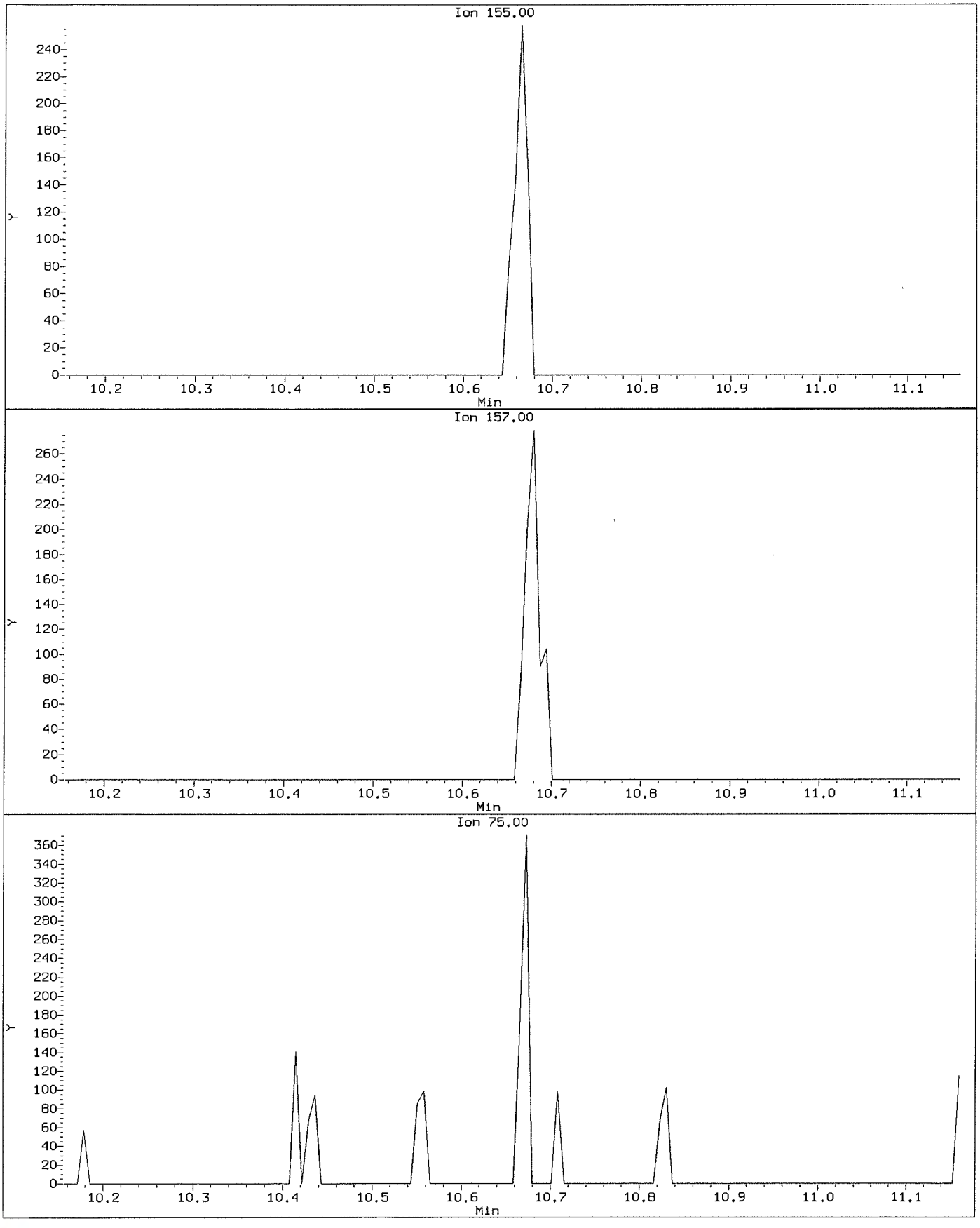


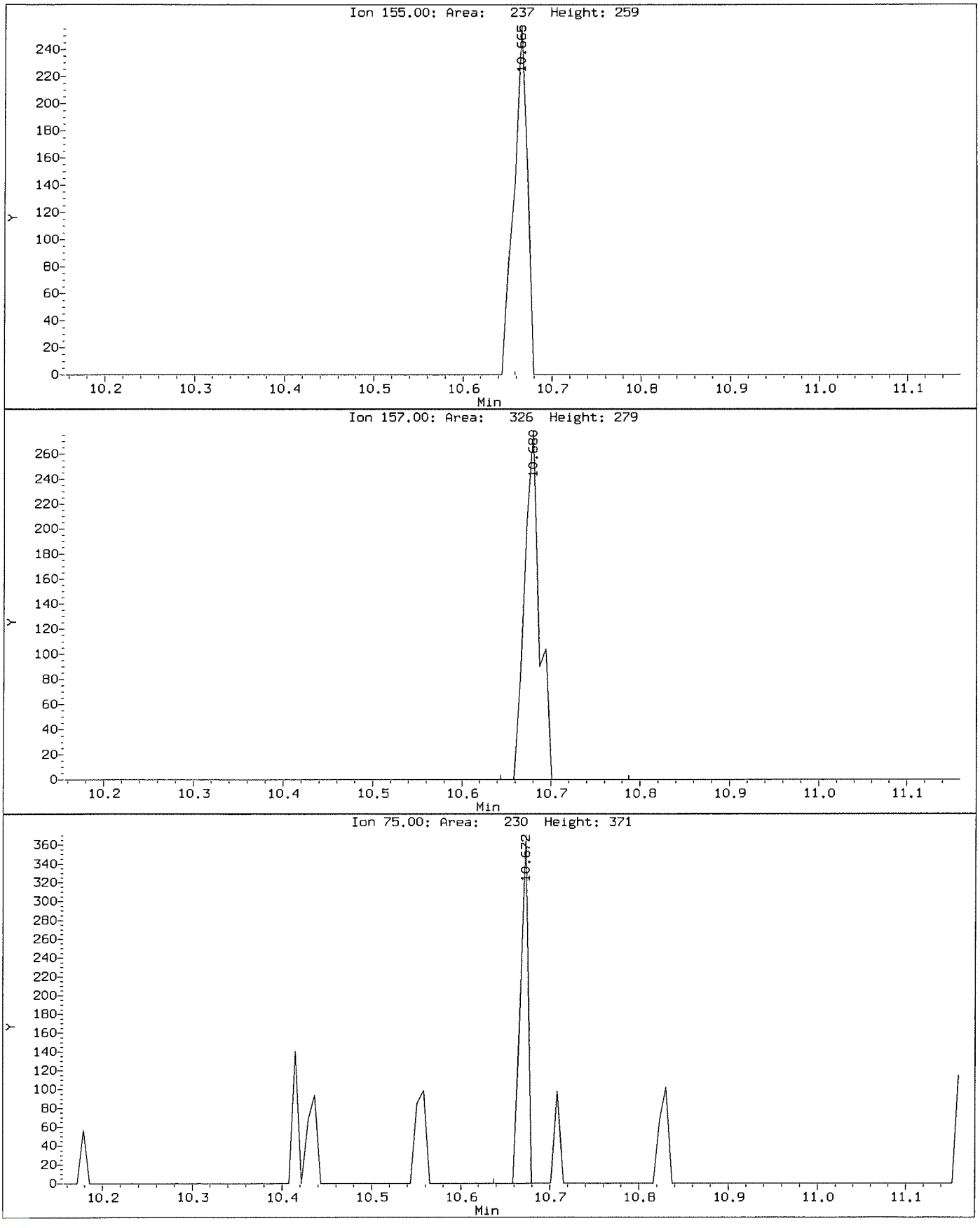
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Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,2-Dibromo-3-Chloropropane
CAS Number: 96-12-8



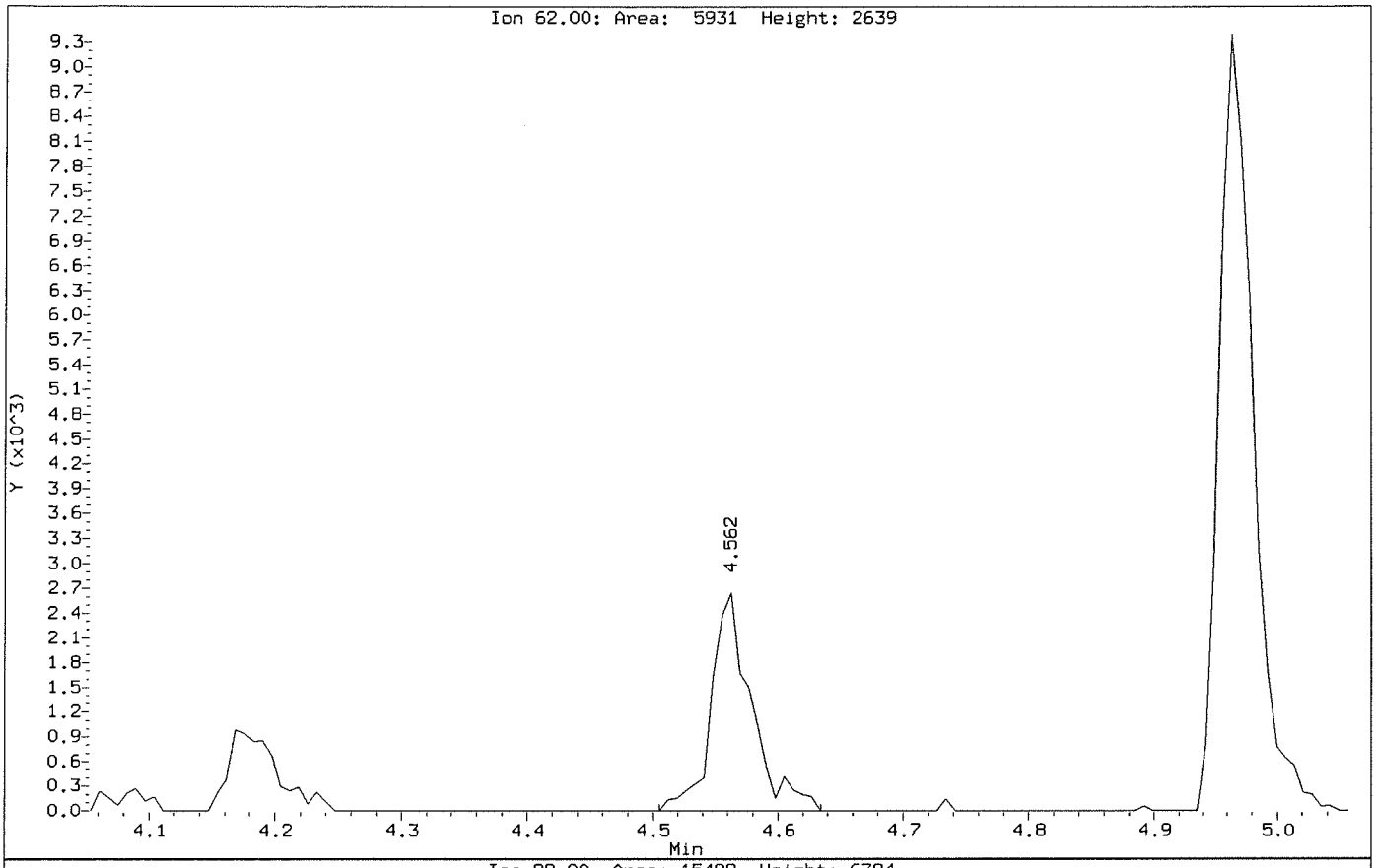
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Client Sample ID: VSTD001

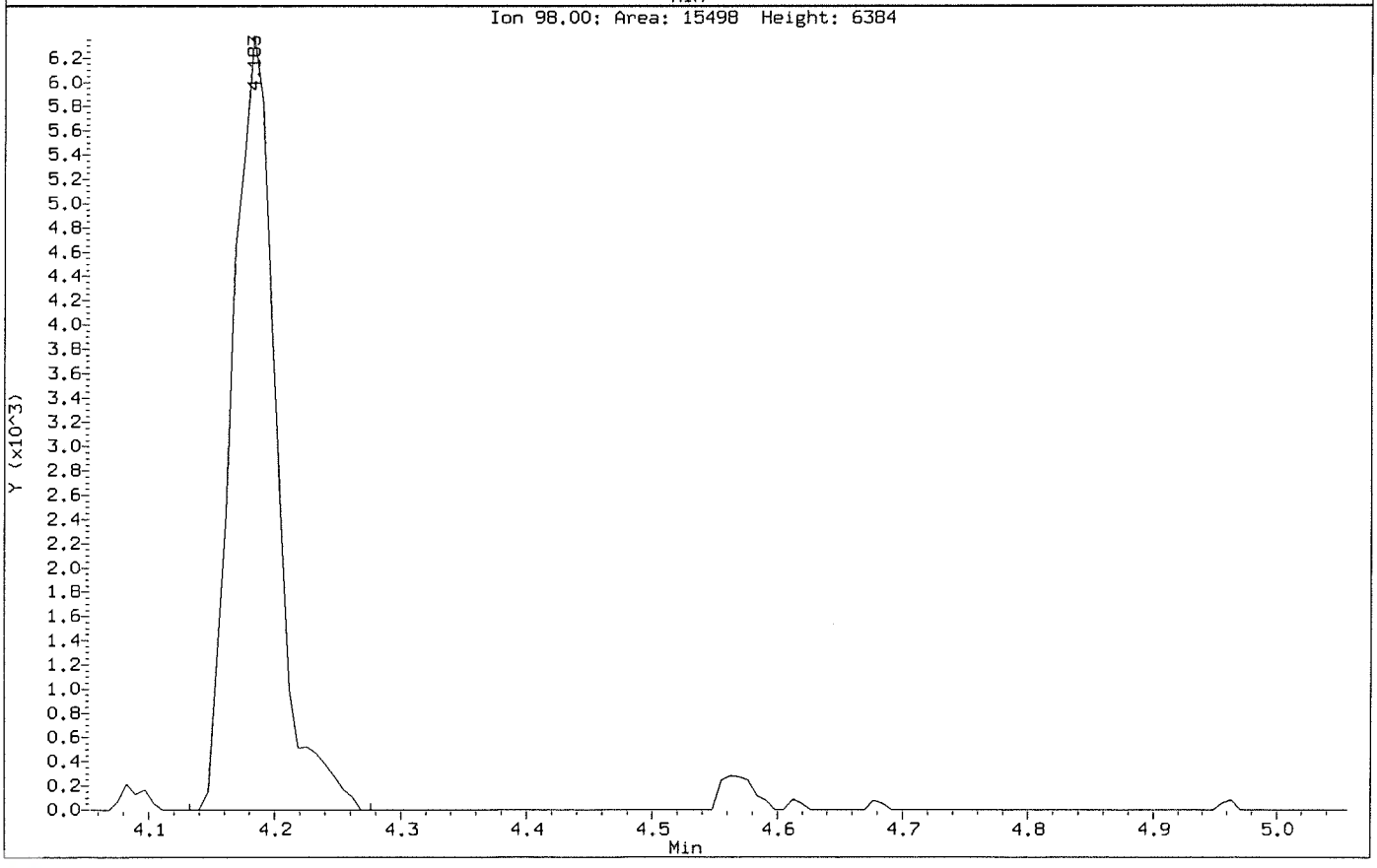
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CAS Number: 96-12-8



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Instrument: voa6.i
Client Sample ID: VSTD001

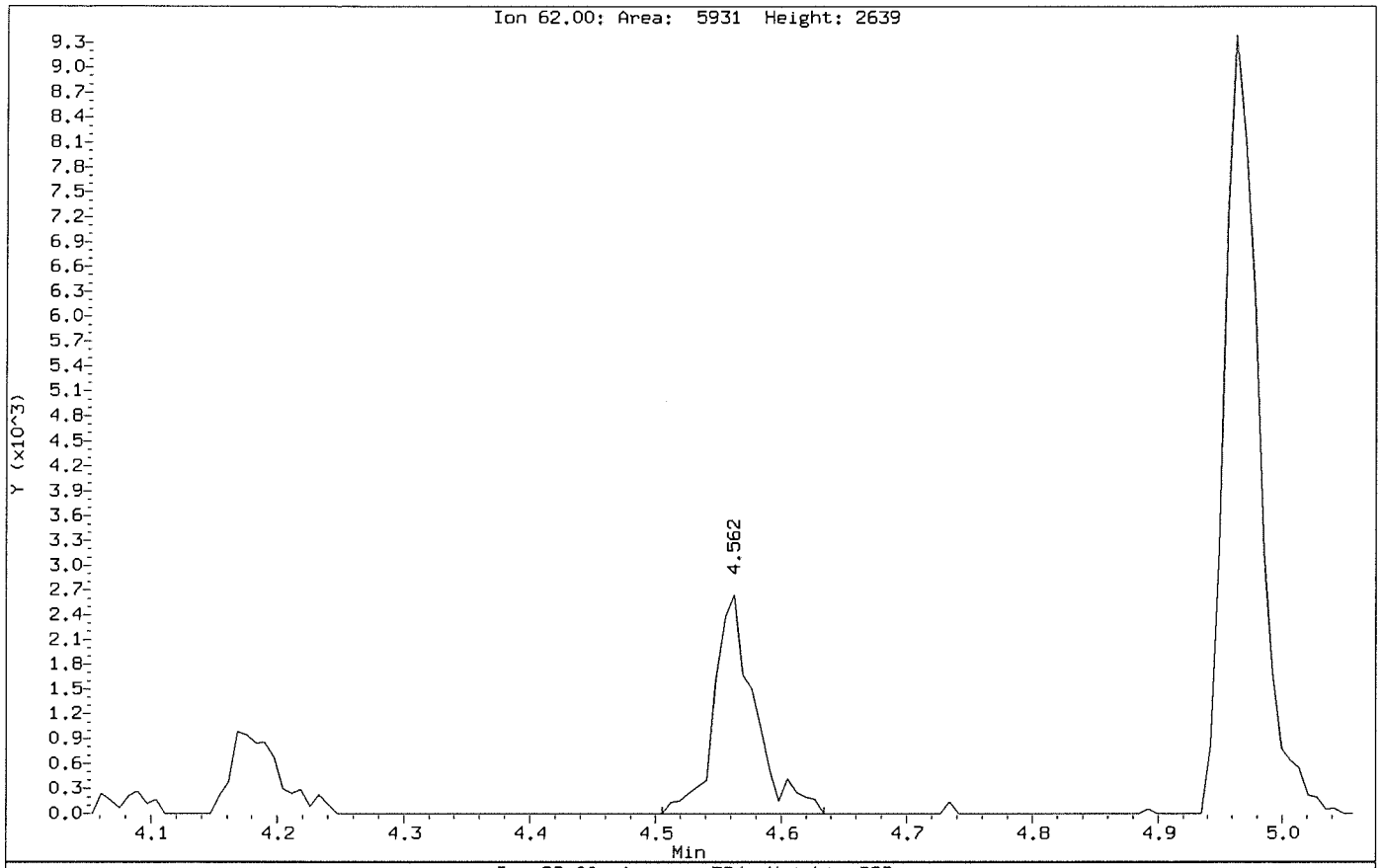
Compound: 1,2-Dichloroethane
CAS Number: 107-06-2

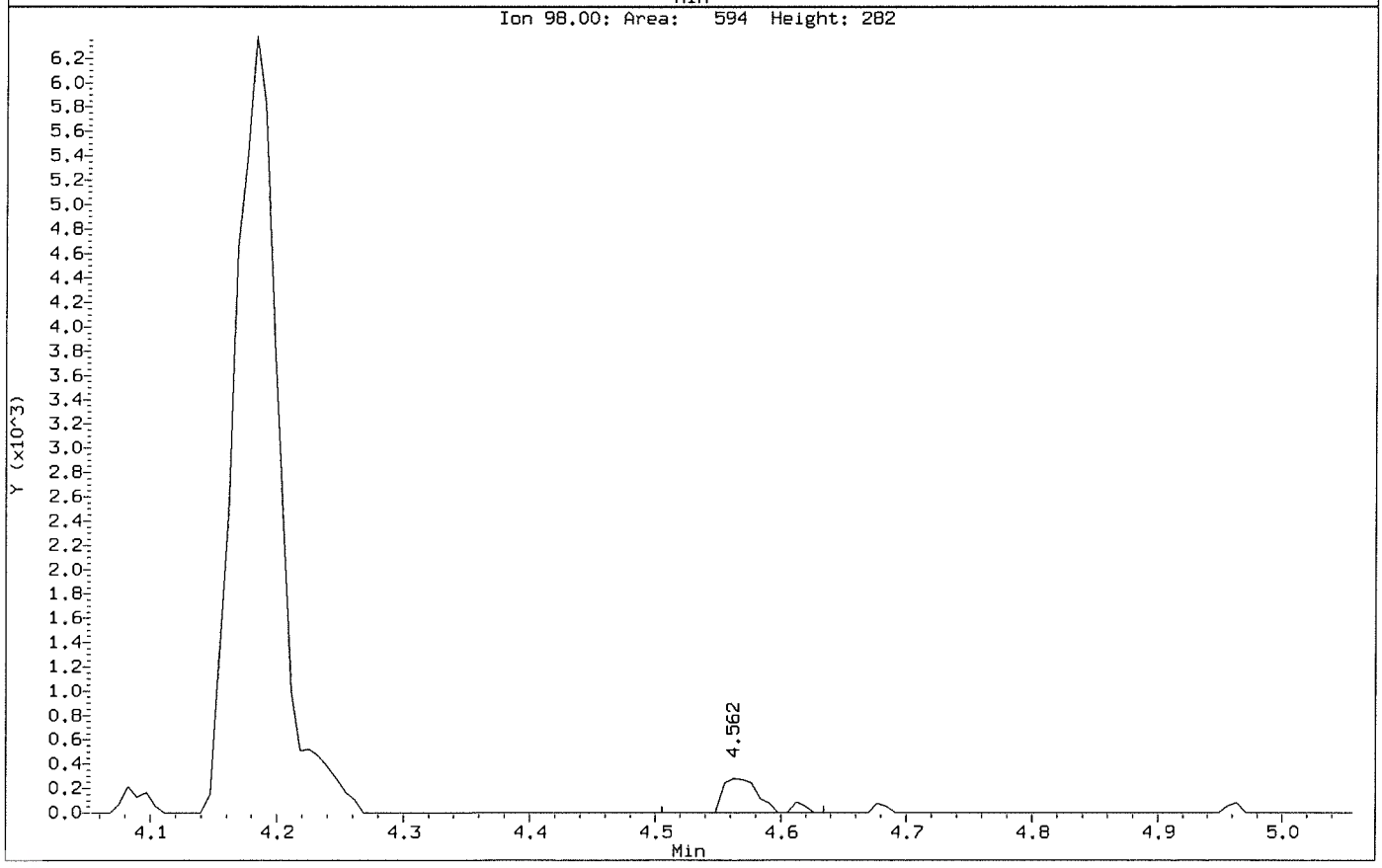


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Instrument: voa6.i
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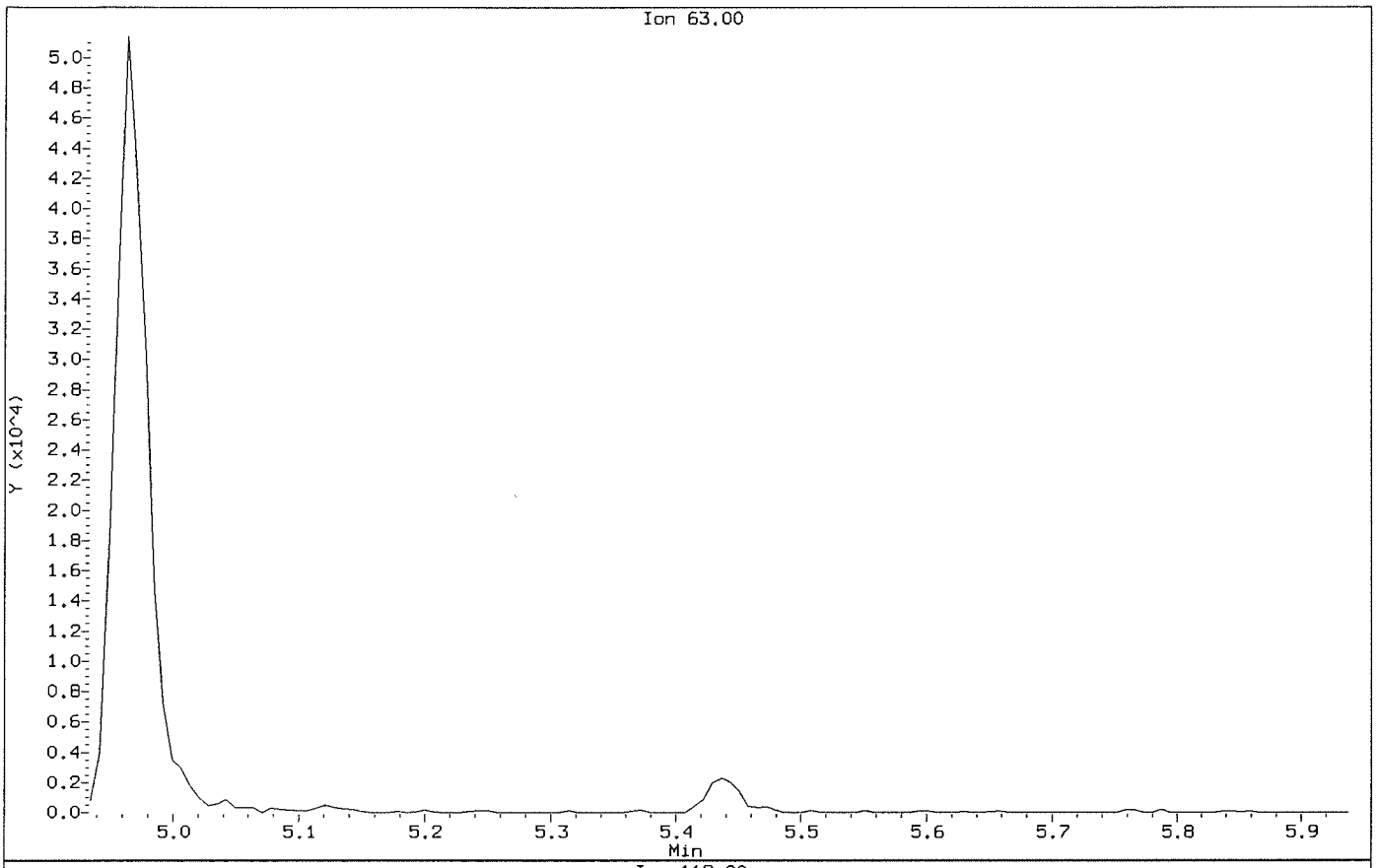
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CAS Number: 107-06-2

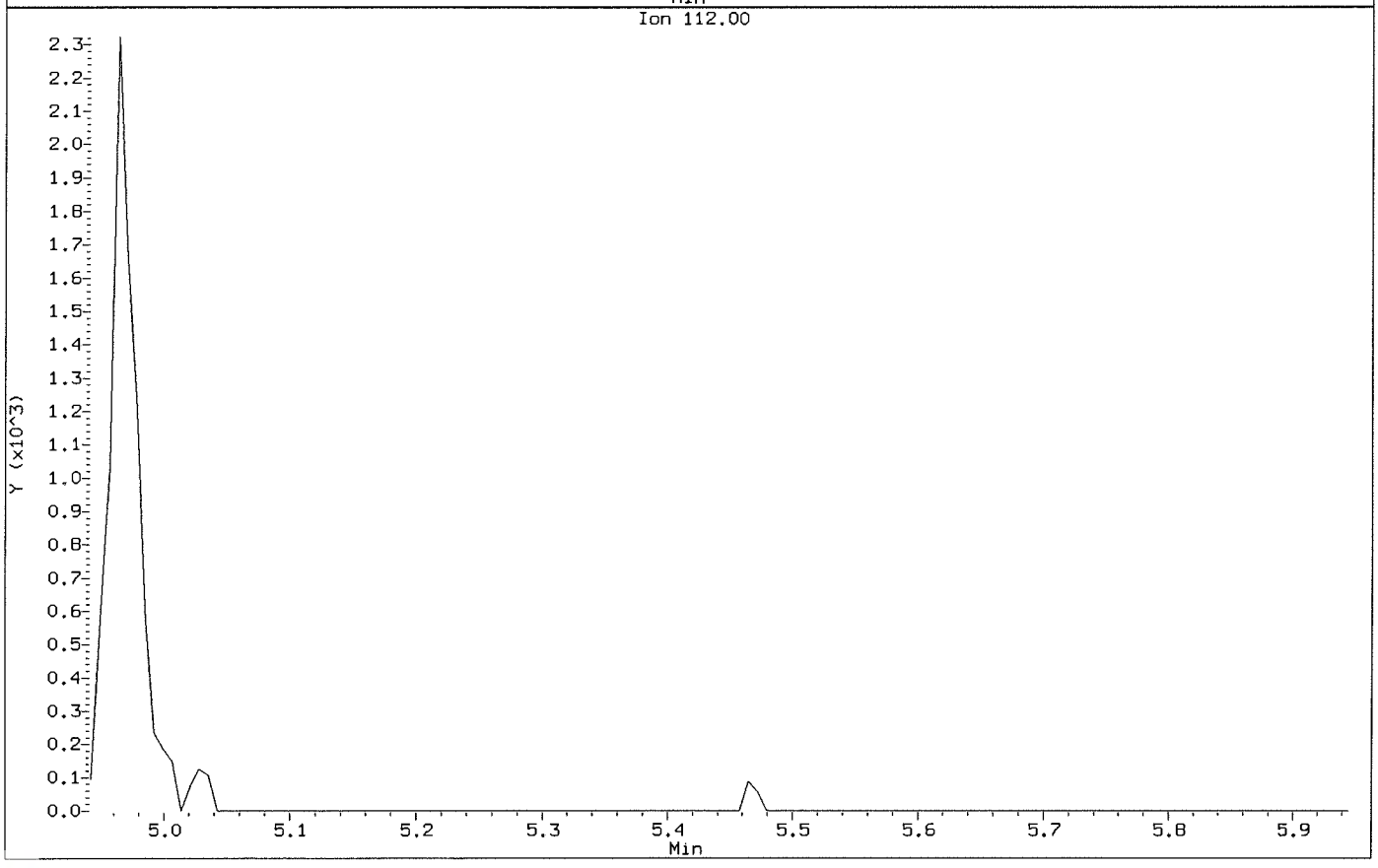


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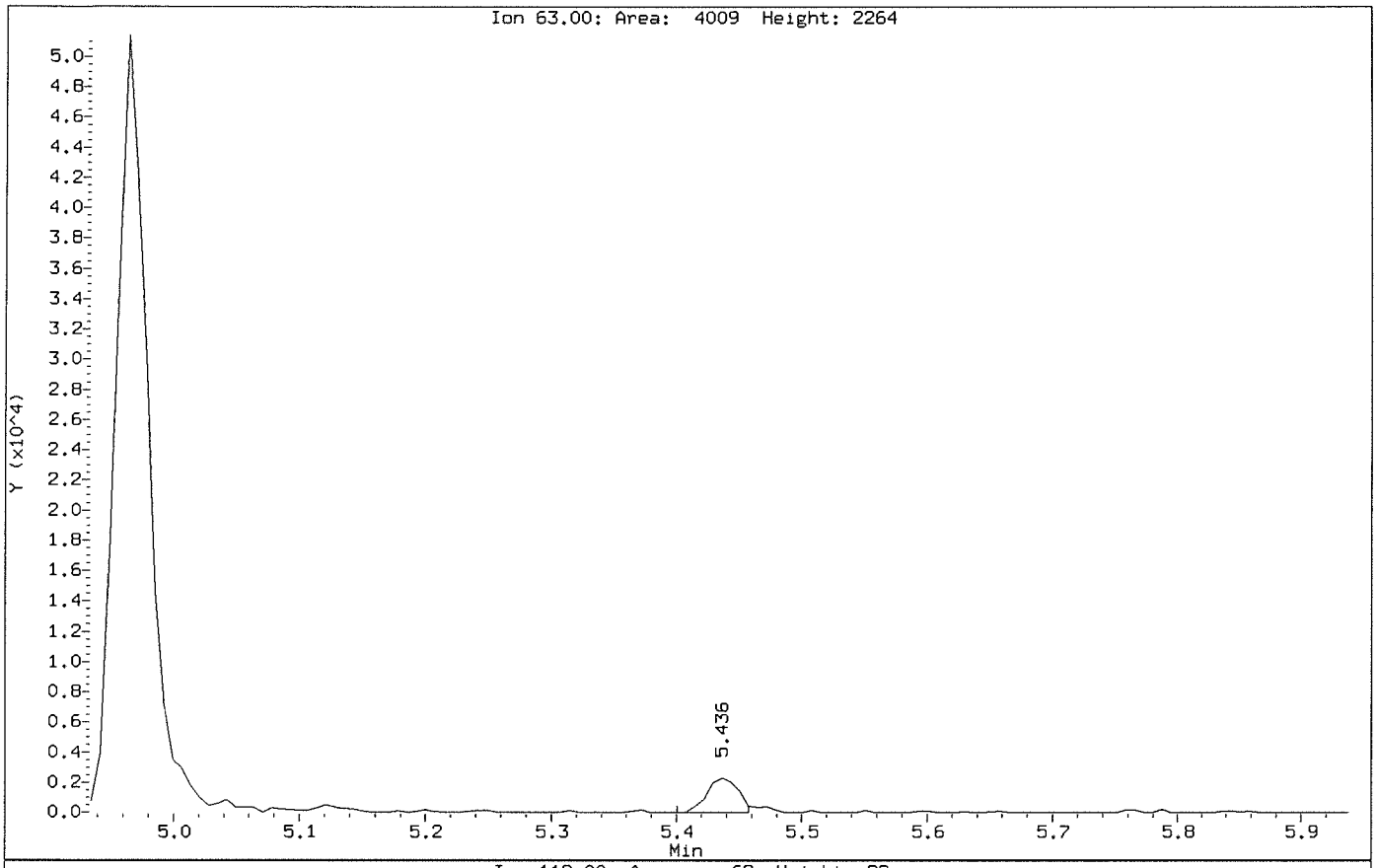
Compound: 1,2-Dichloropropane
CAS Number: 78-87-5

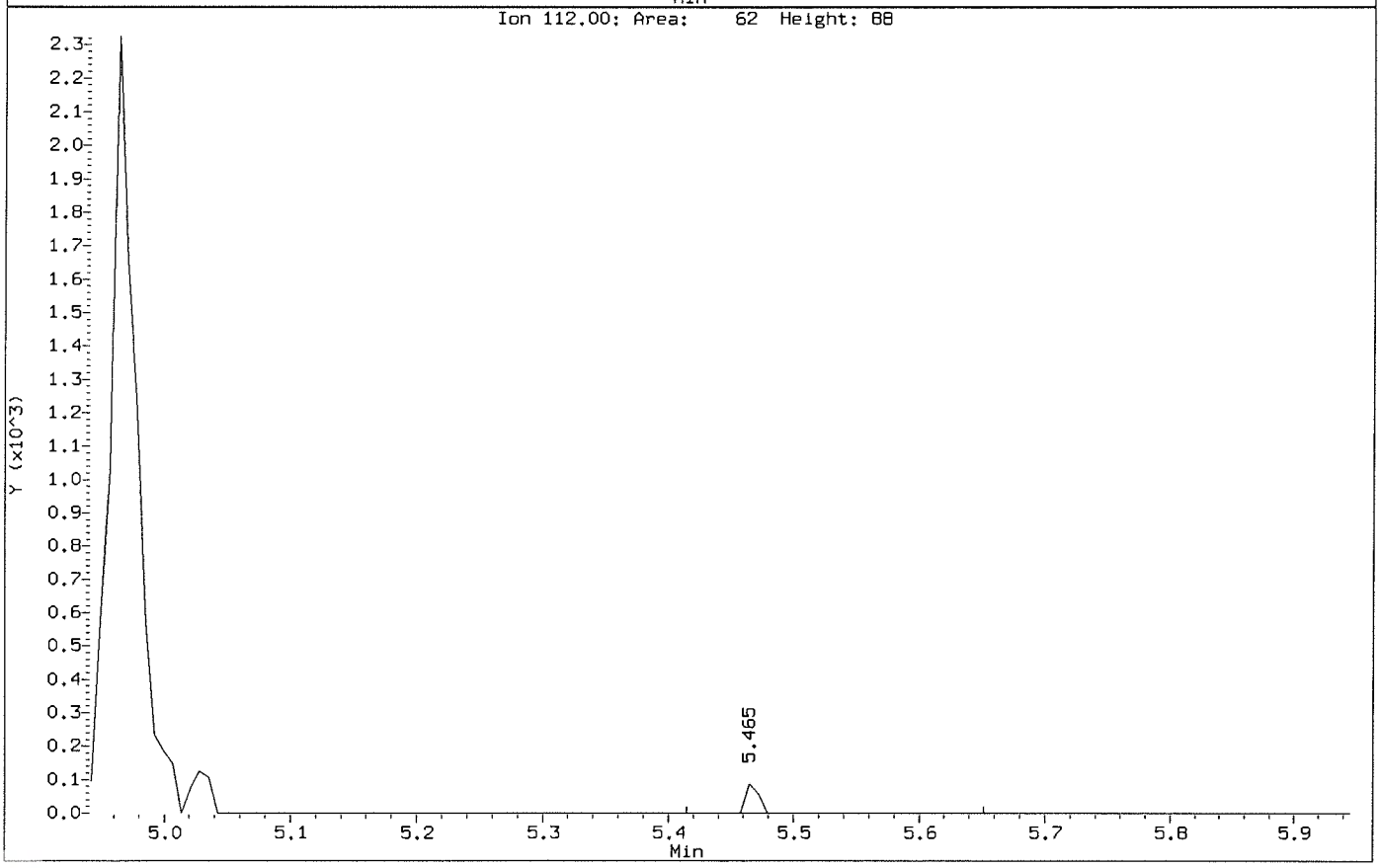


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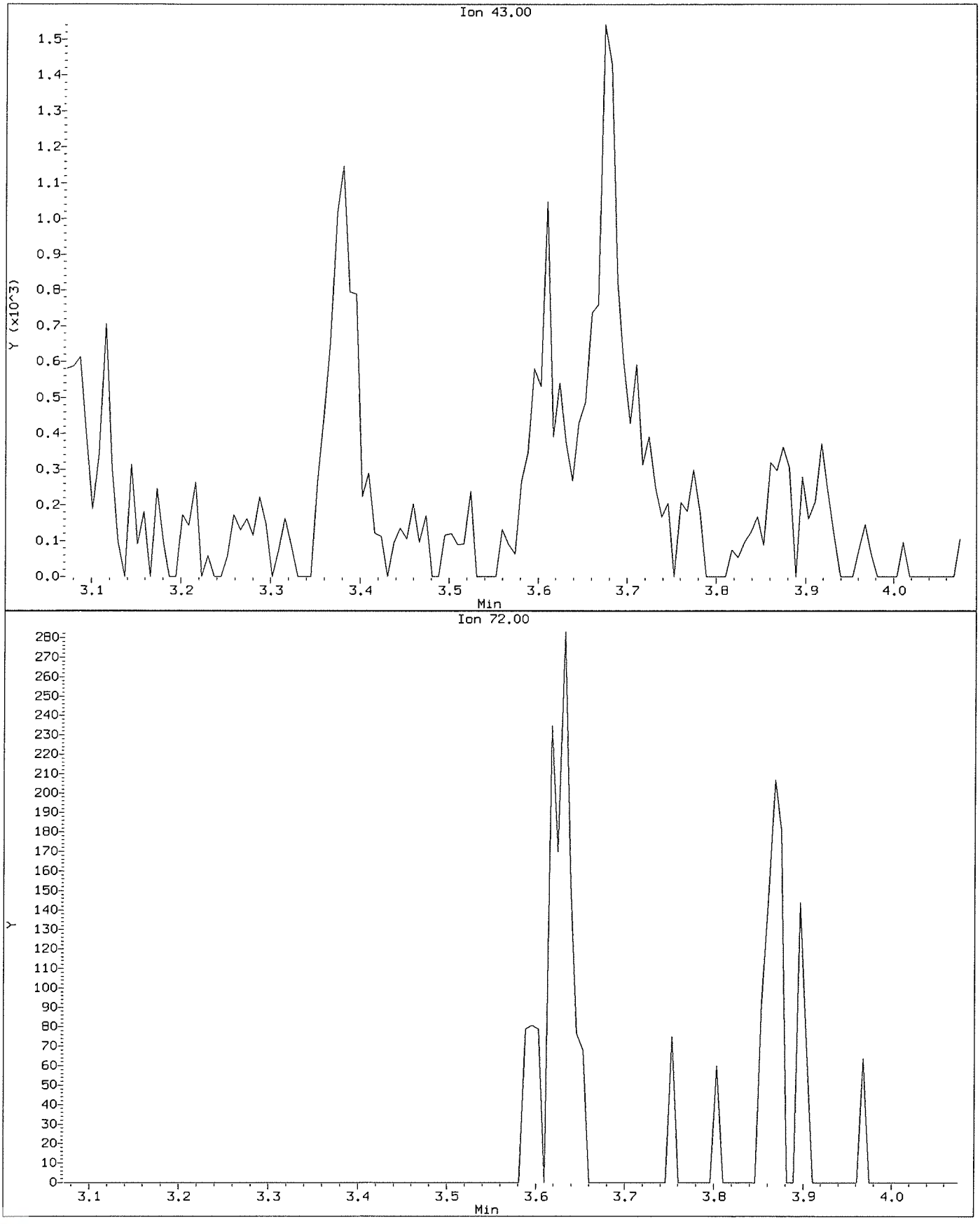
Compound: 1,2-Dichloropropane
CAS Number: 78-87-5



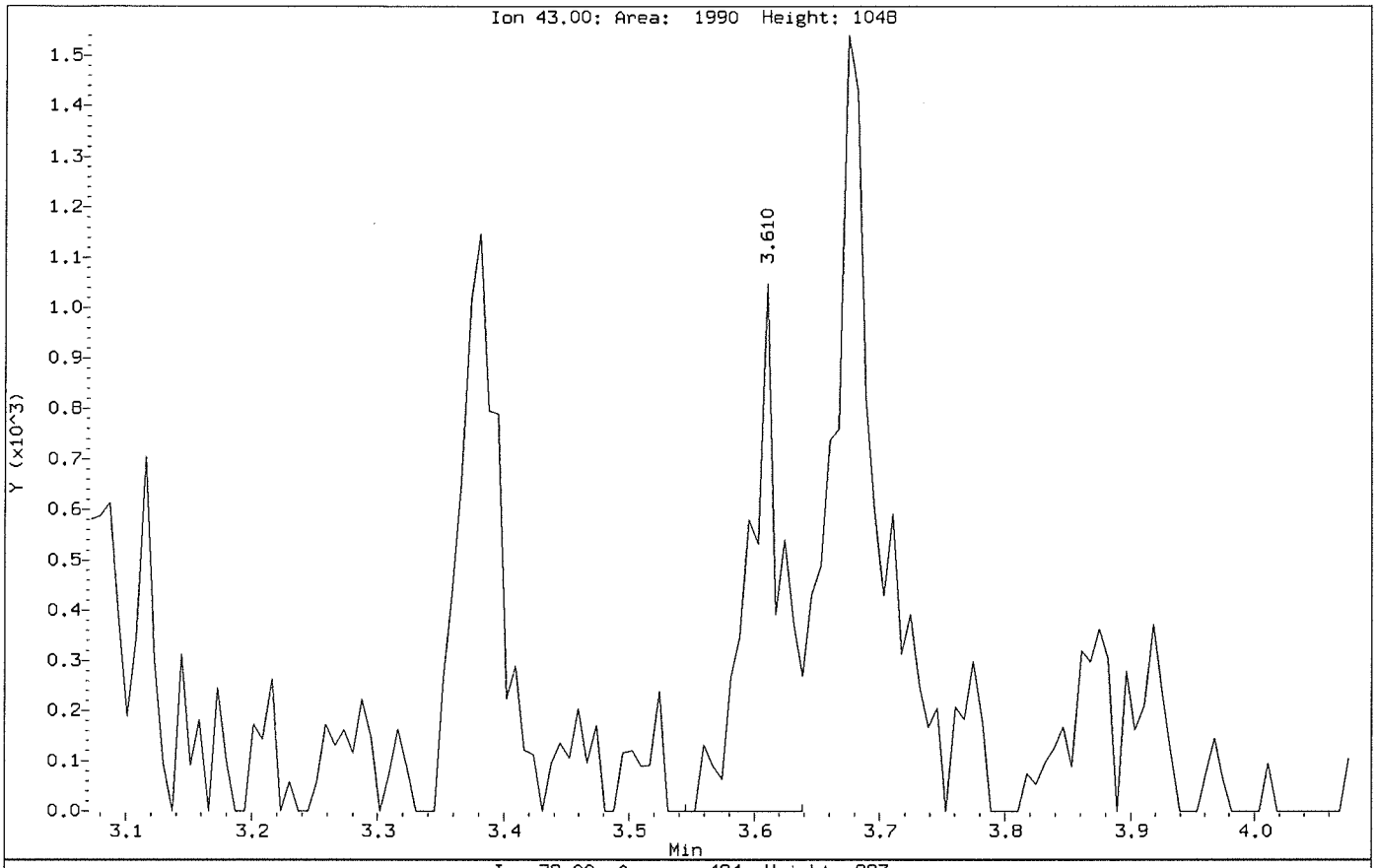
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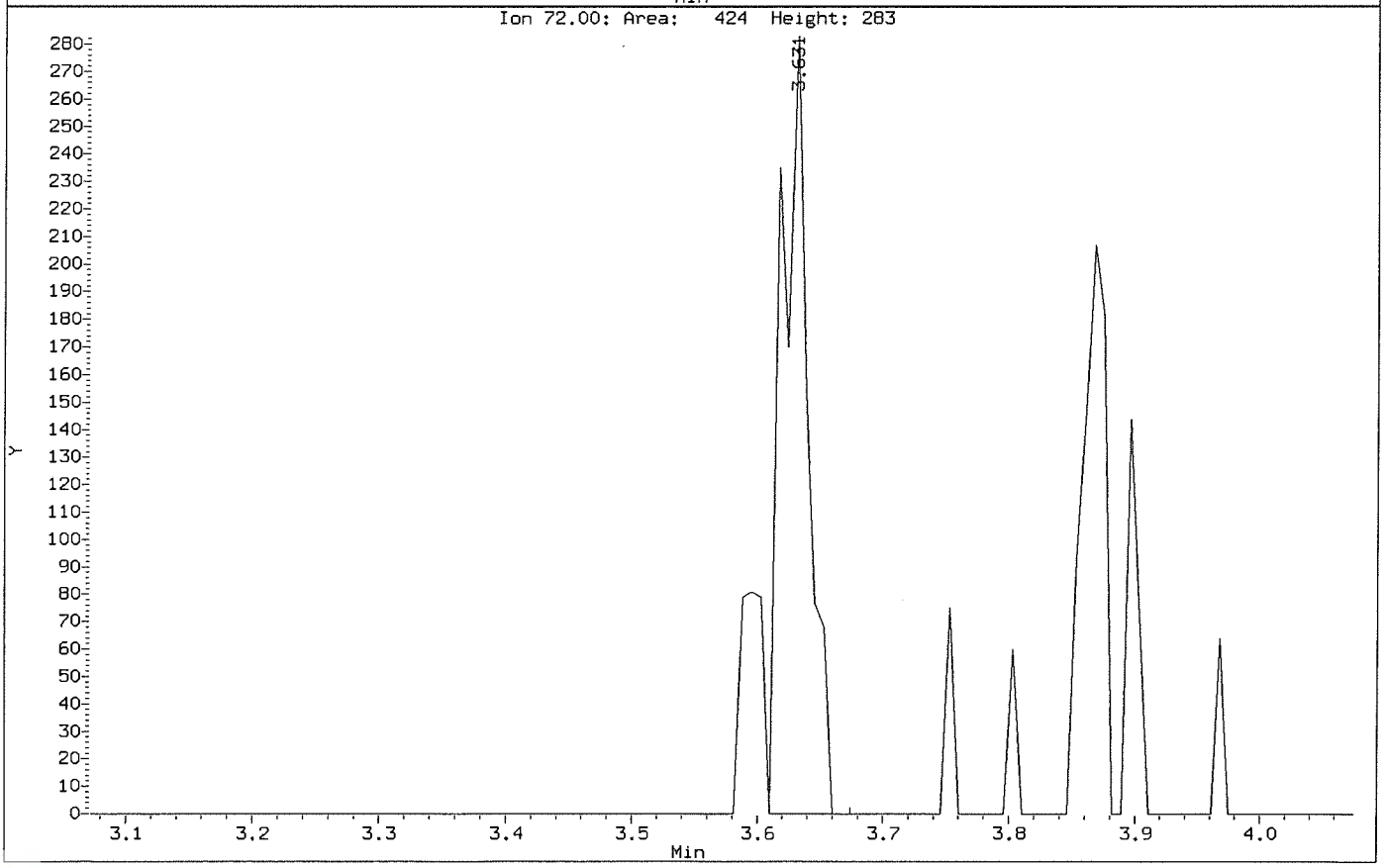
Compound: 2-Butanone
CAS Number: 78-93-3



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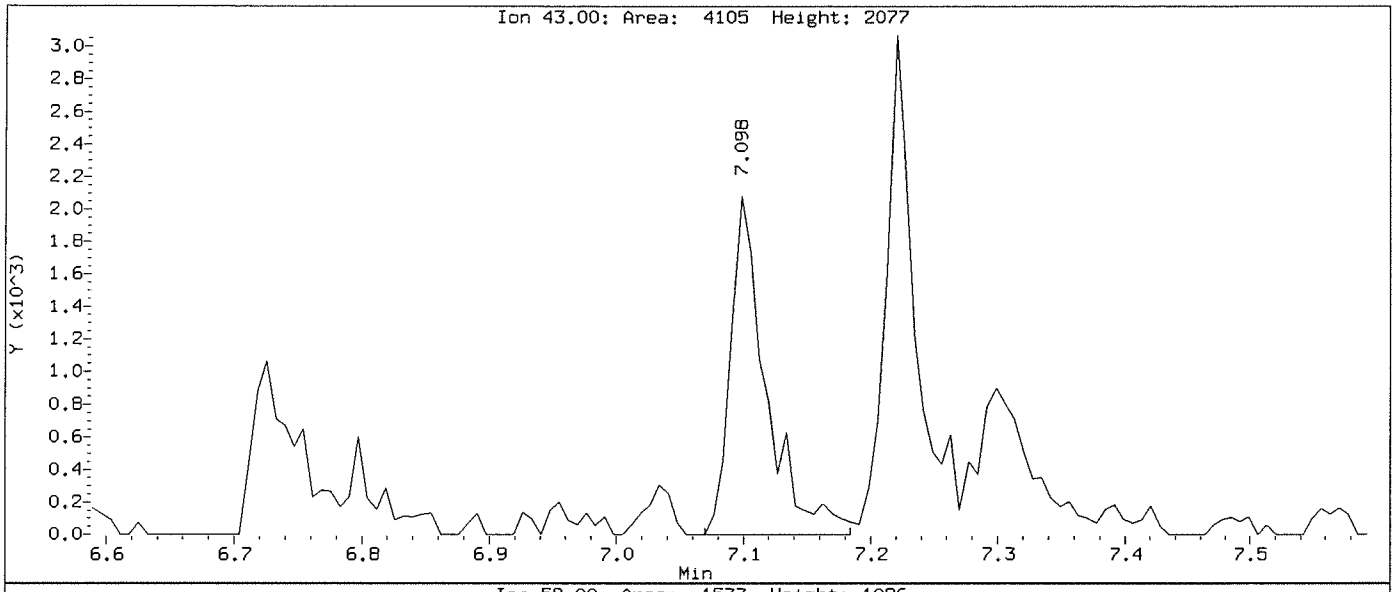
Compound: 2-Butanone
CAS Number: 78-93-3

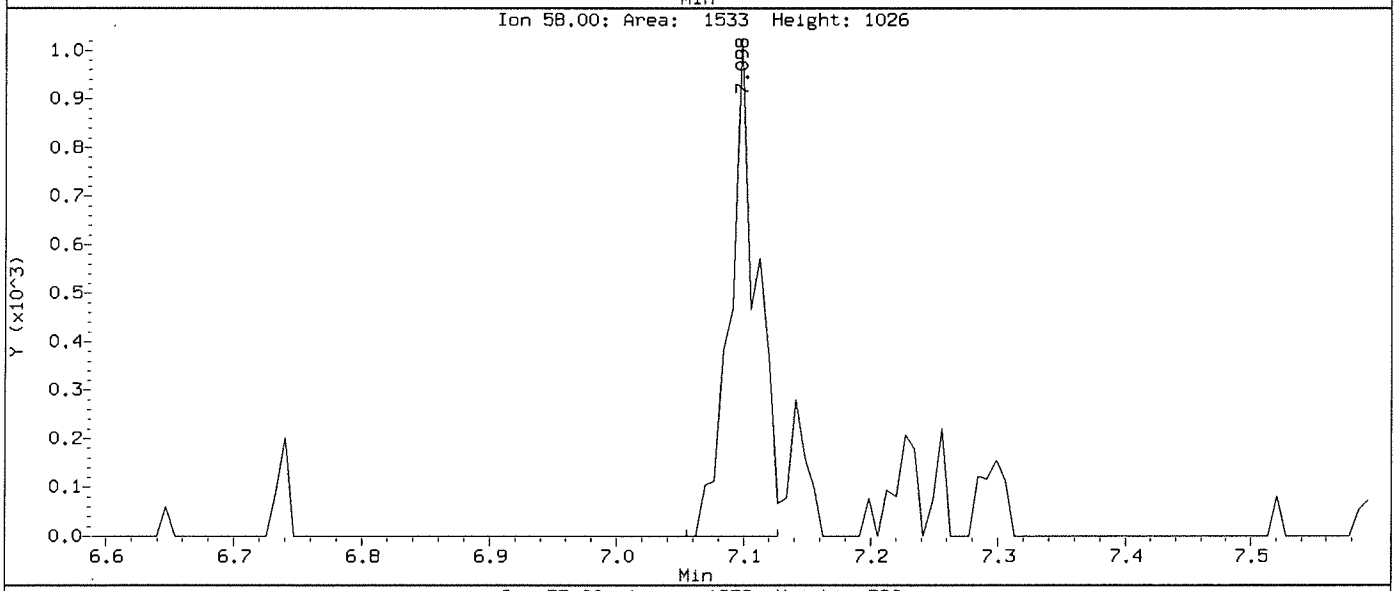


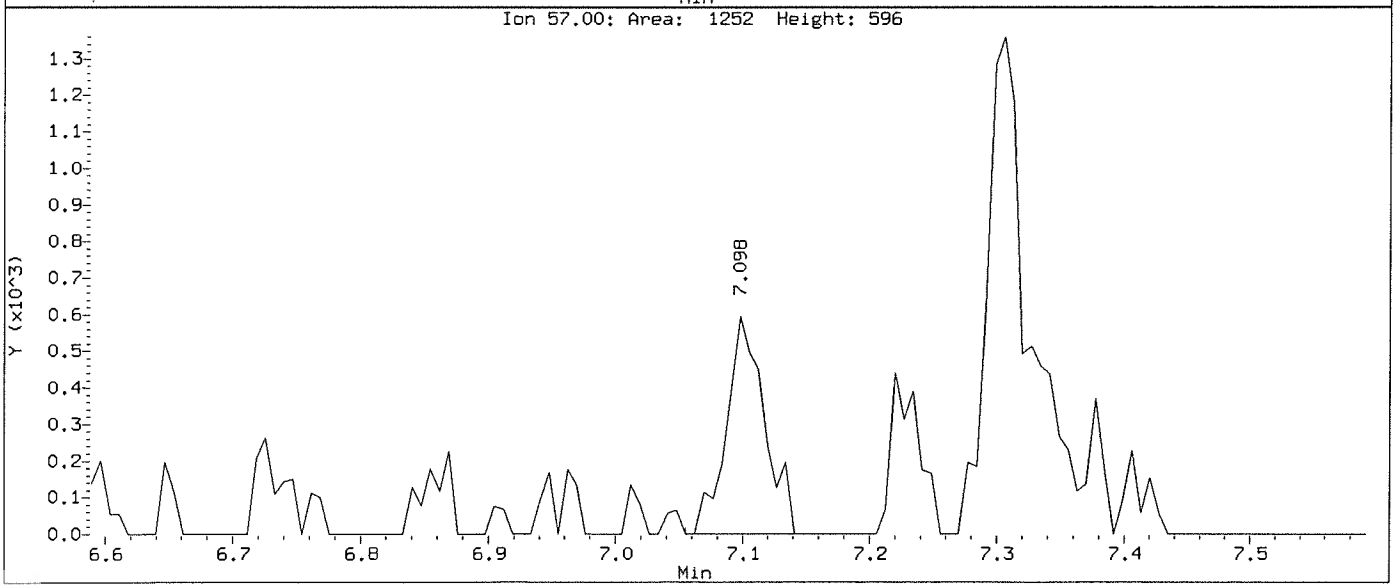



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Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 2-Hexanone
CAS Number: 591-78-6

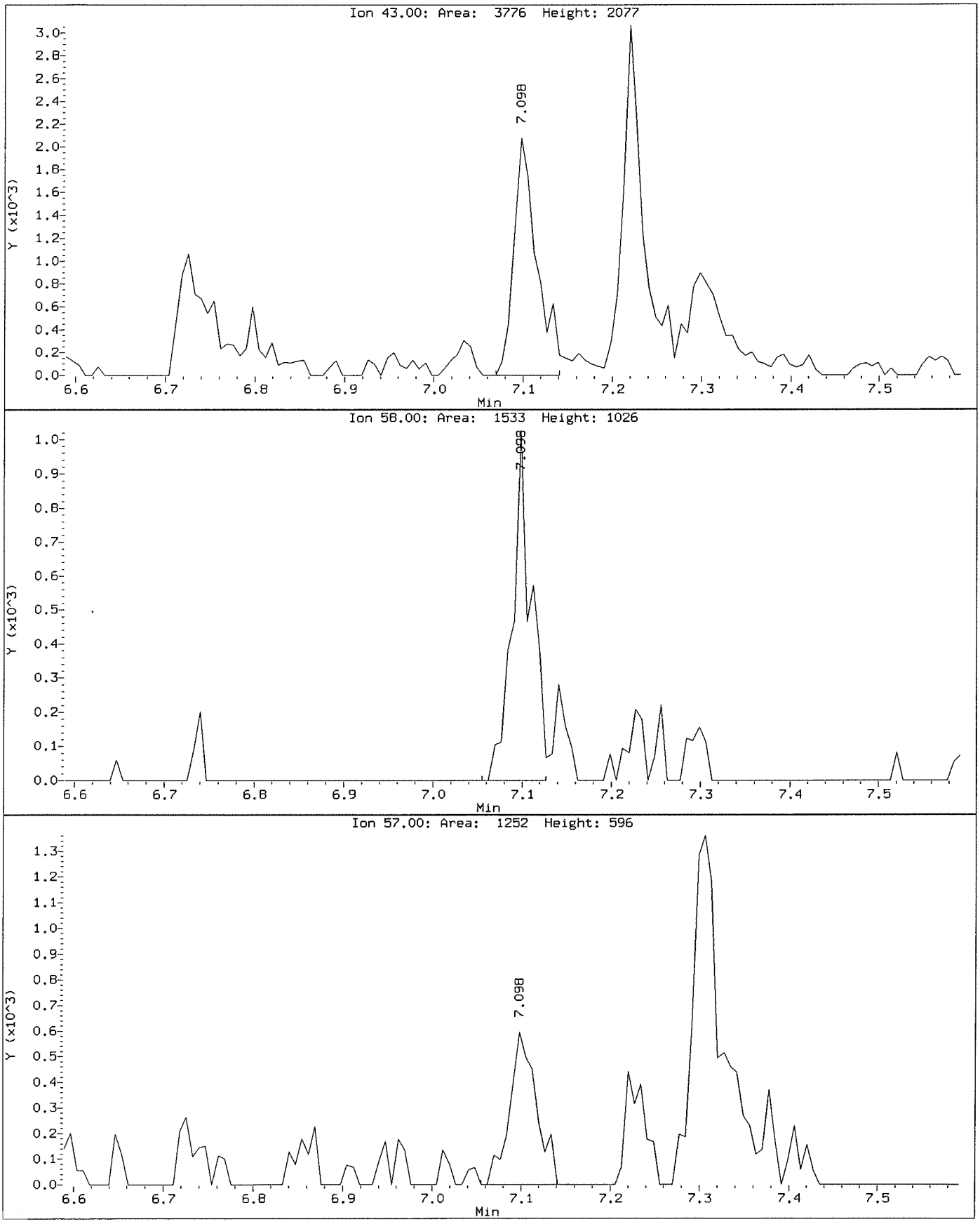


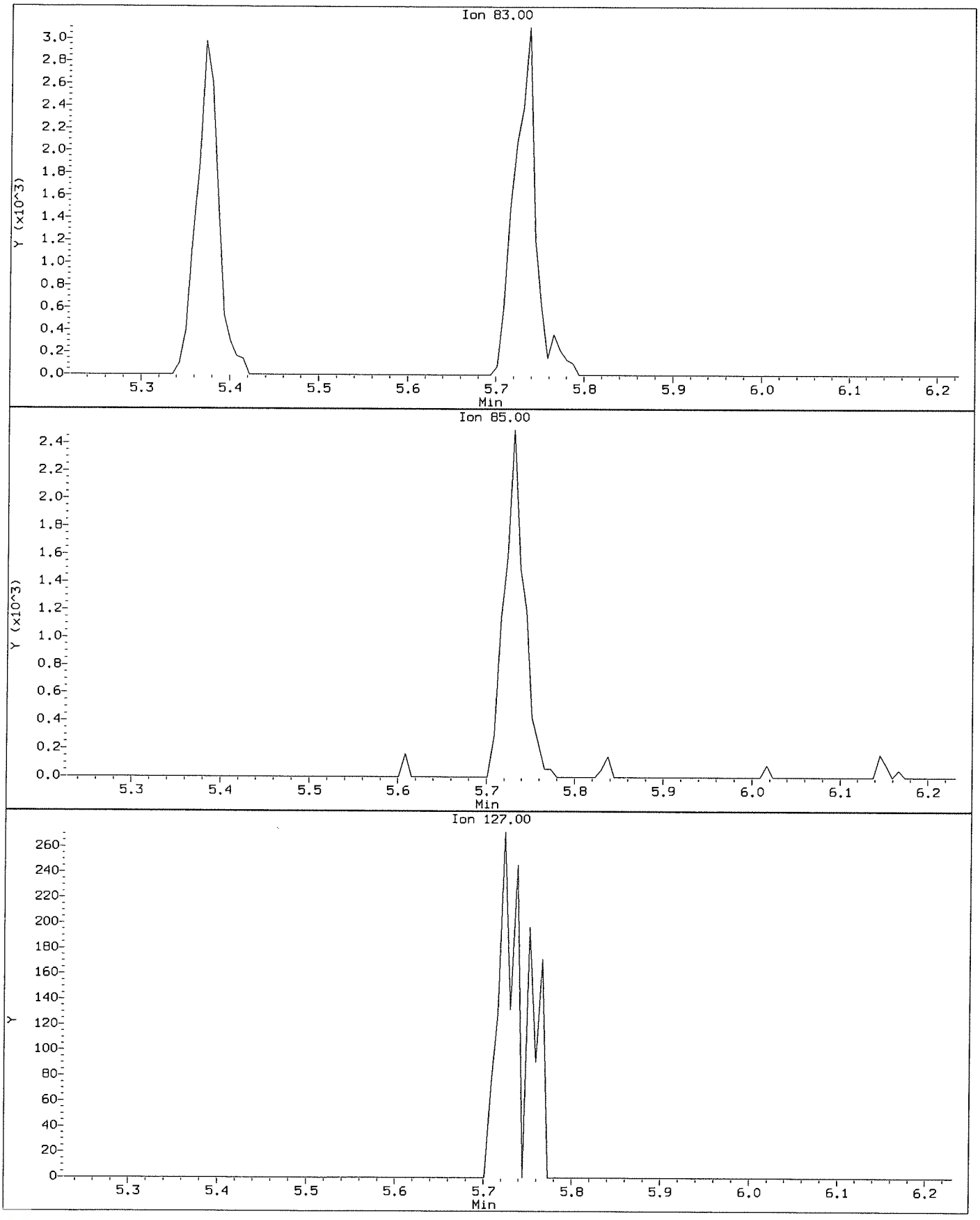
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Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 2-Hexanone
CAS Number: 591-78-6



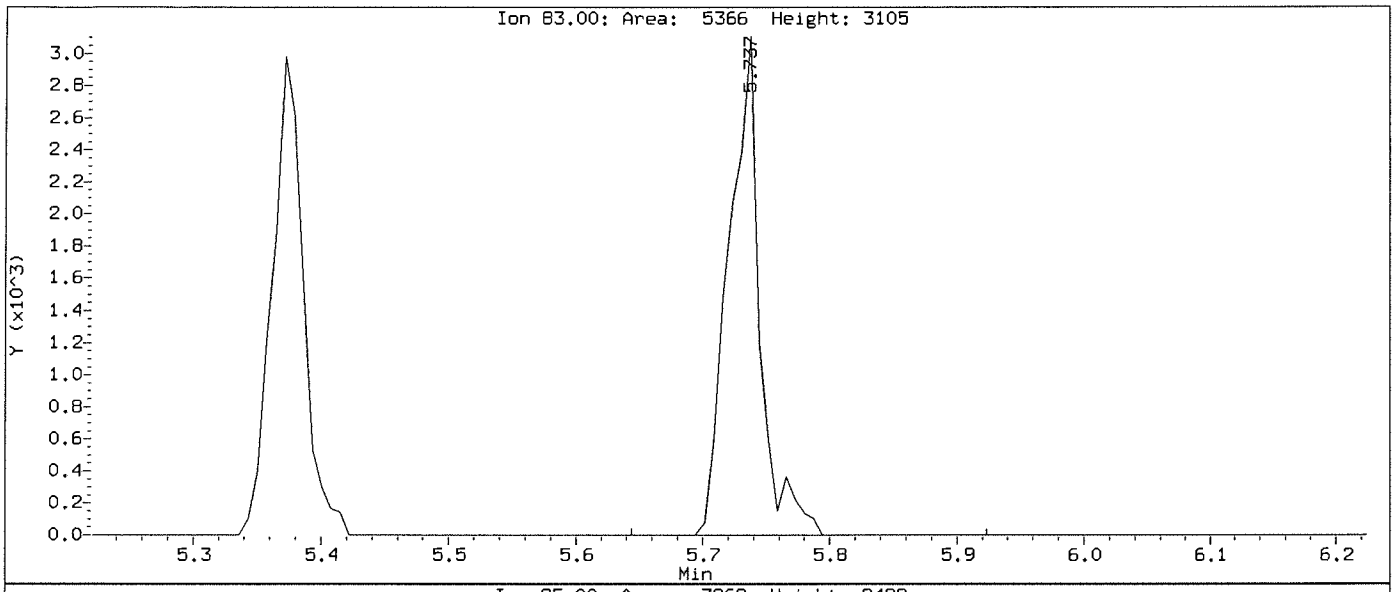
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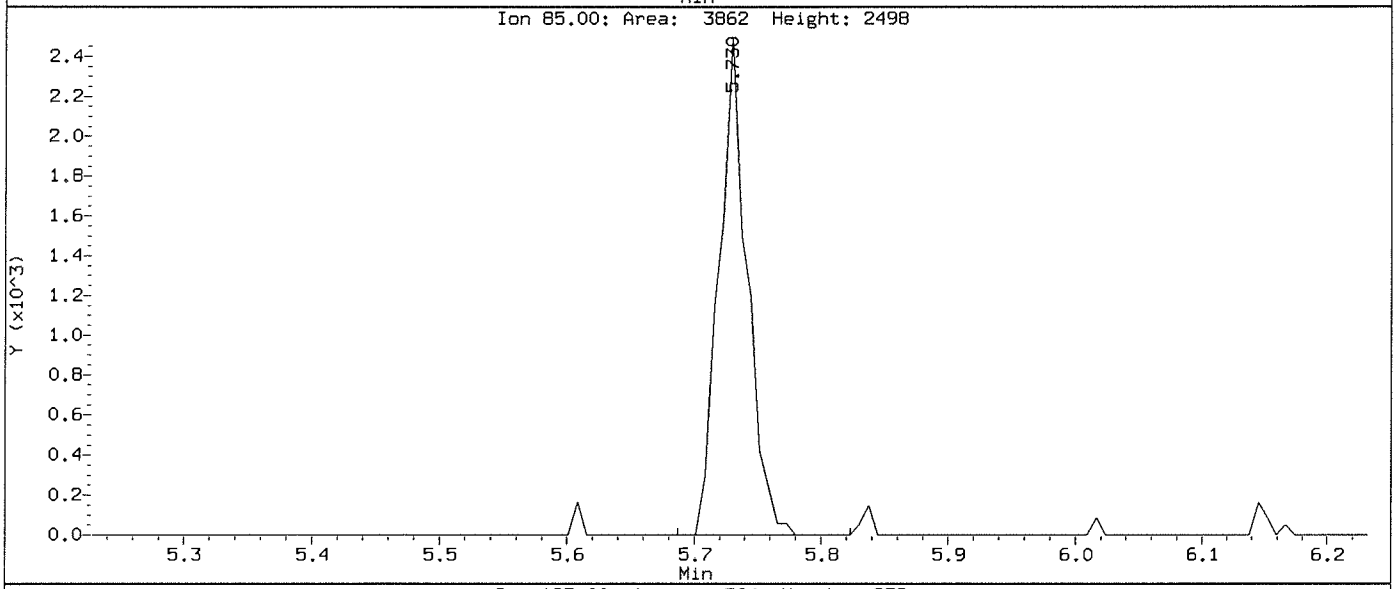
Compound: Bromodichloromethane
CAS Number: 75-27-4

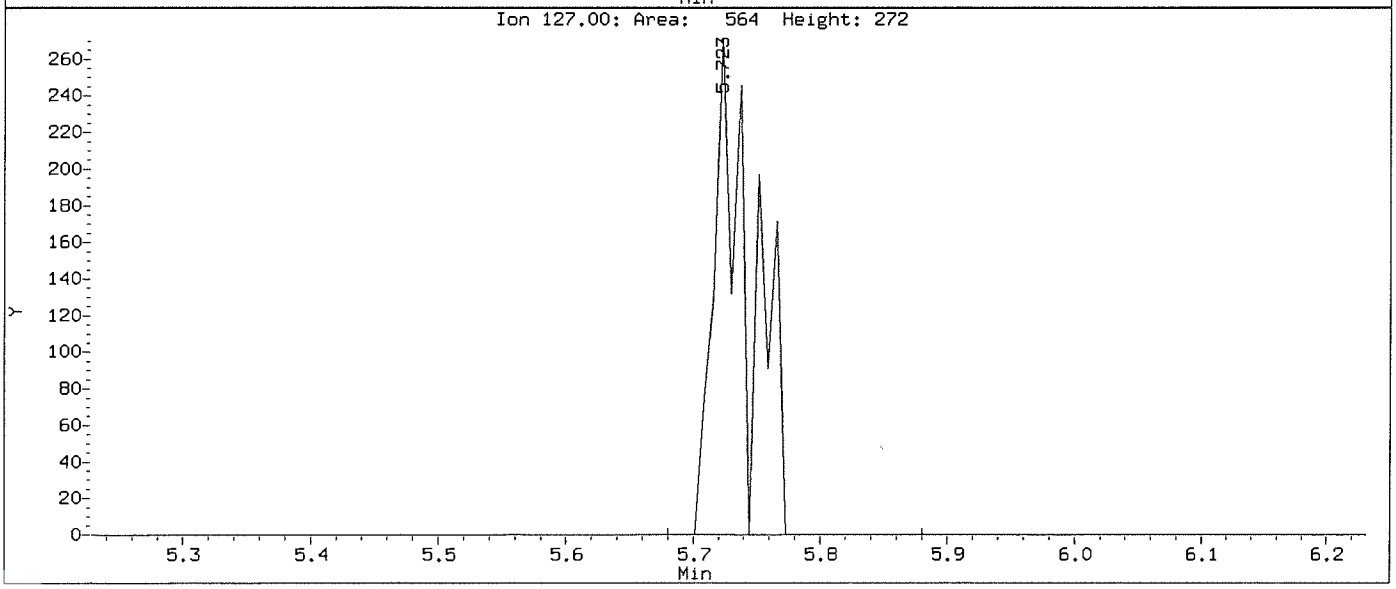


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Client Sample ID: VSTD001

Compound: Bromodichloromethane
CAS Number: 75-27-4

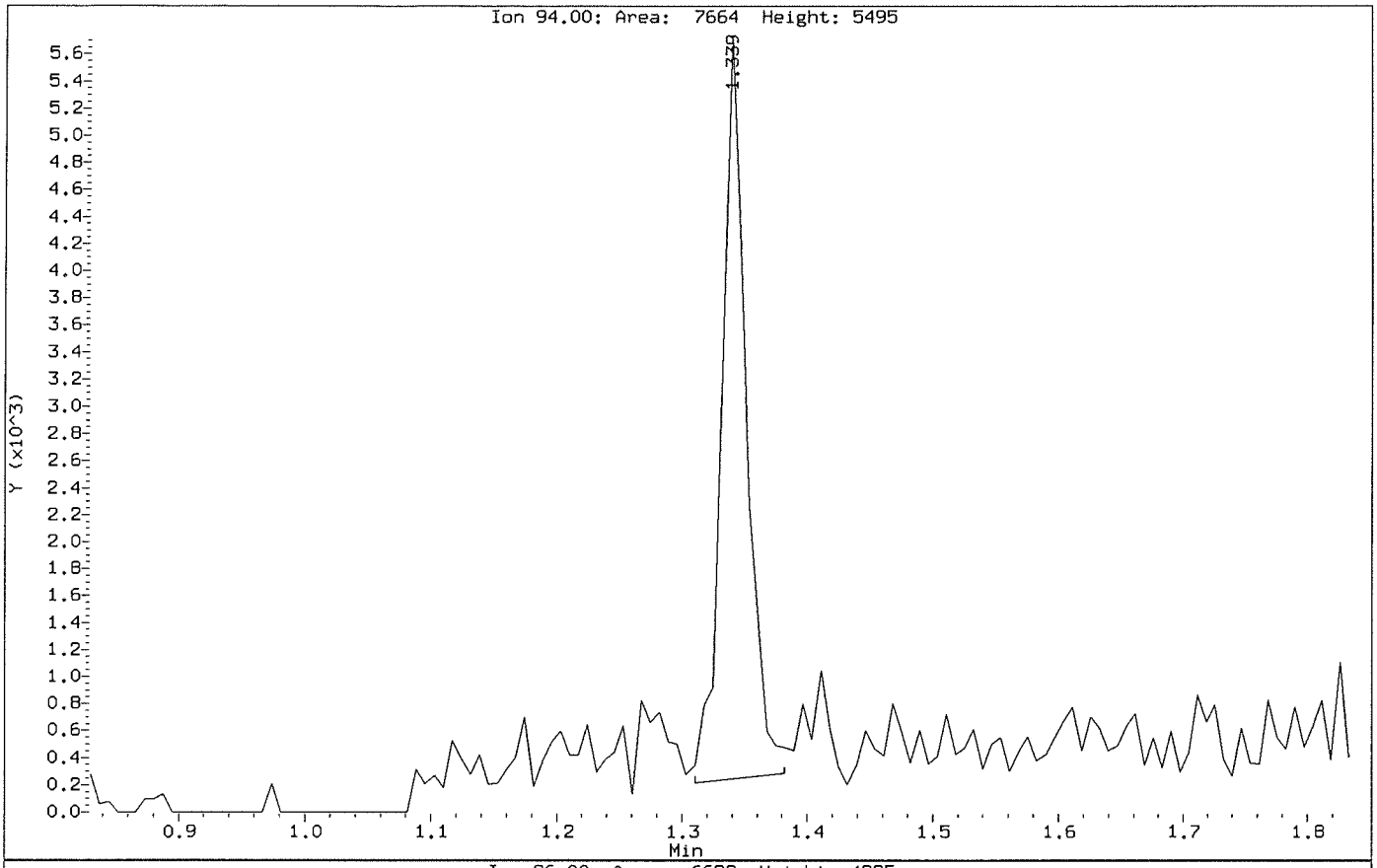


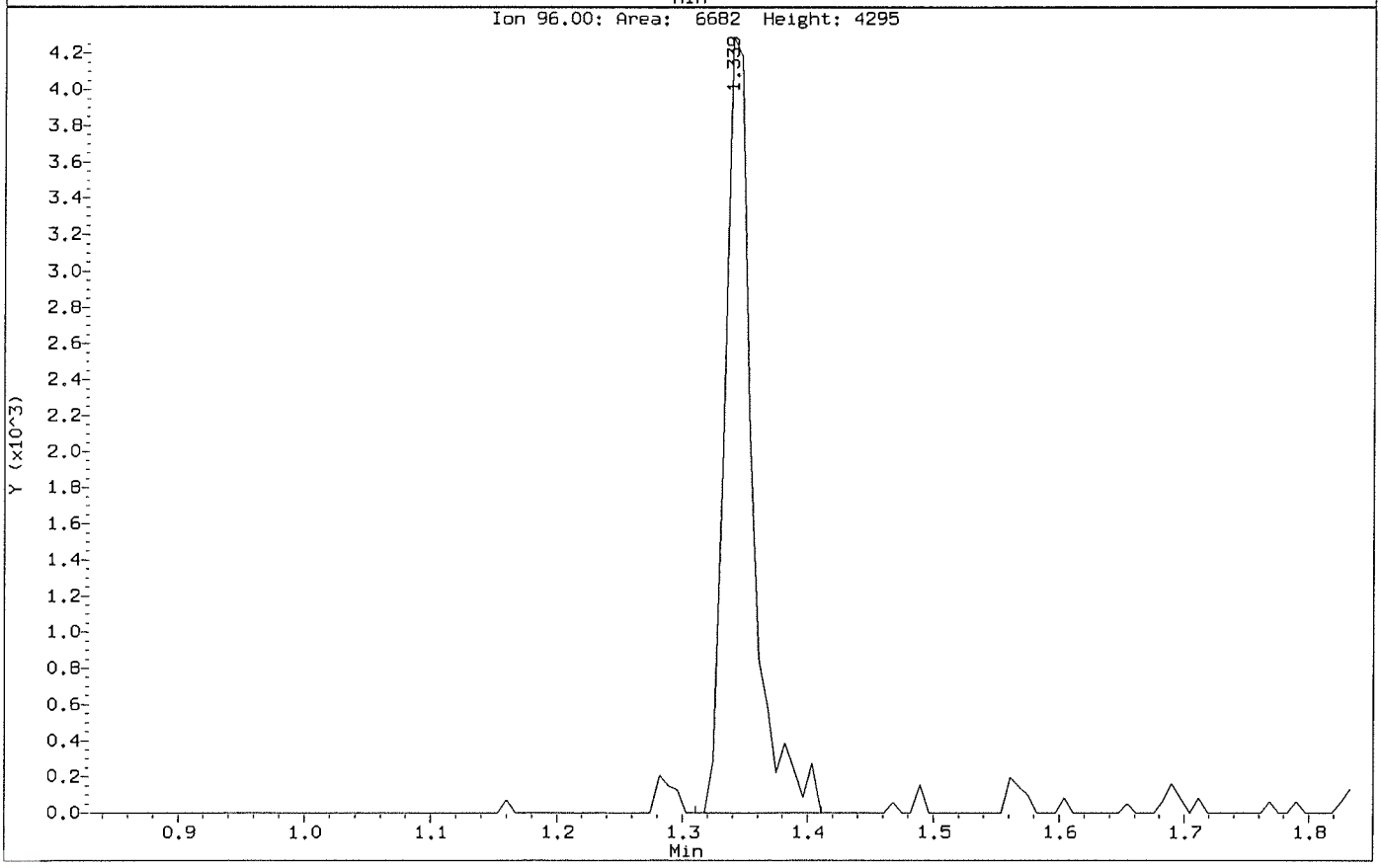



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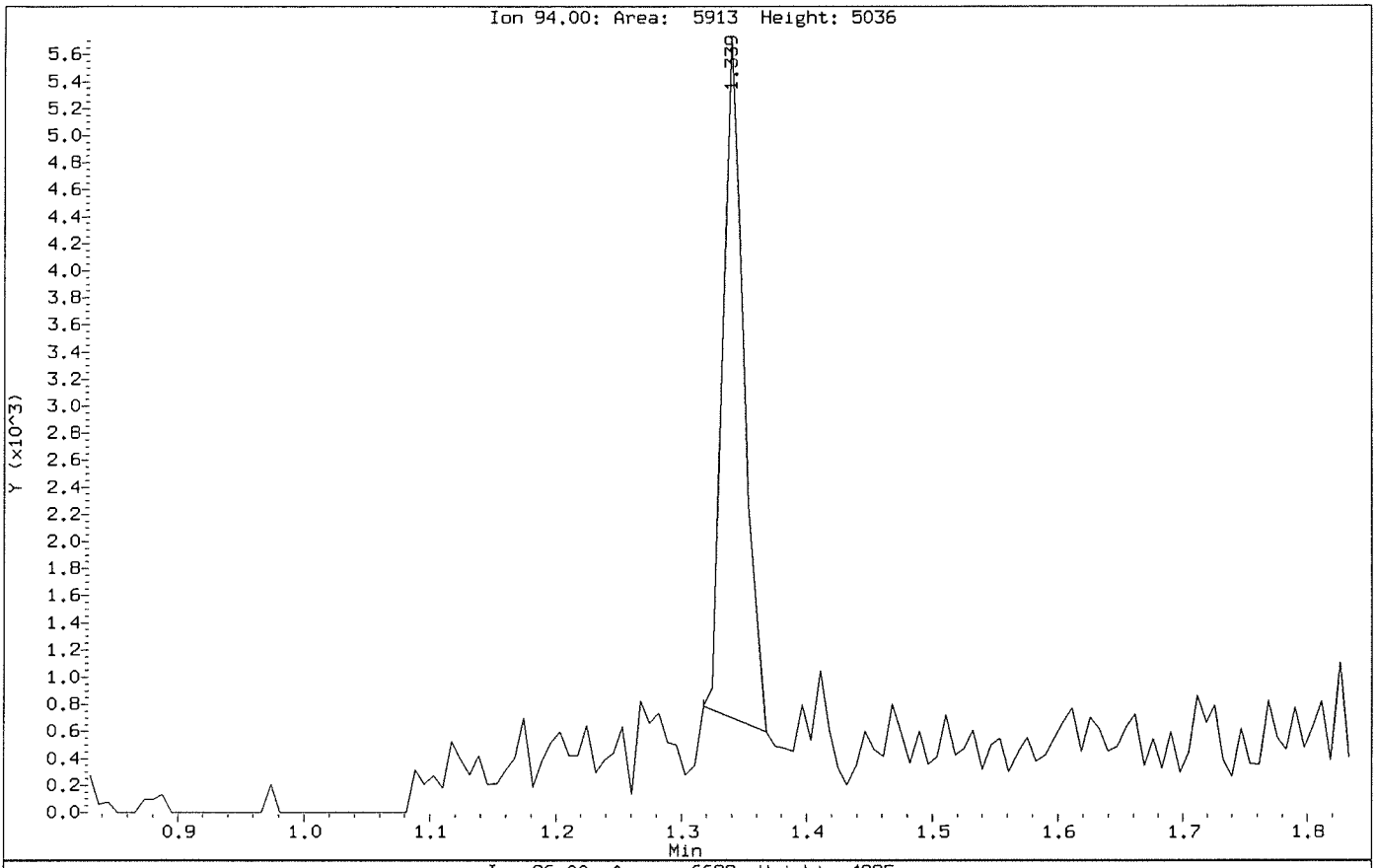
Compound: Bromomethane
CAS Number: 74-83-9

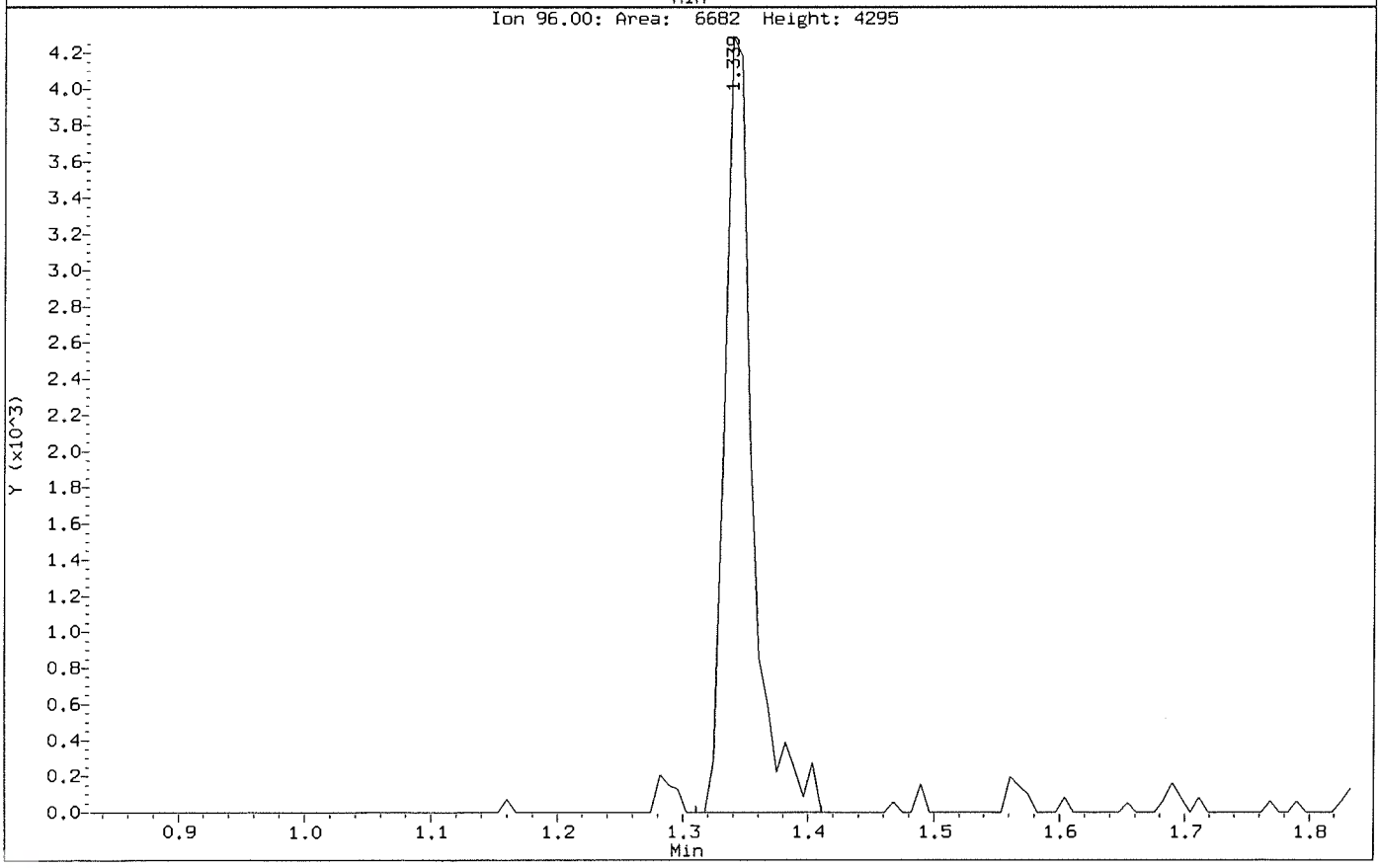


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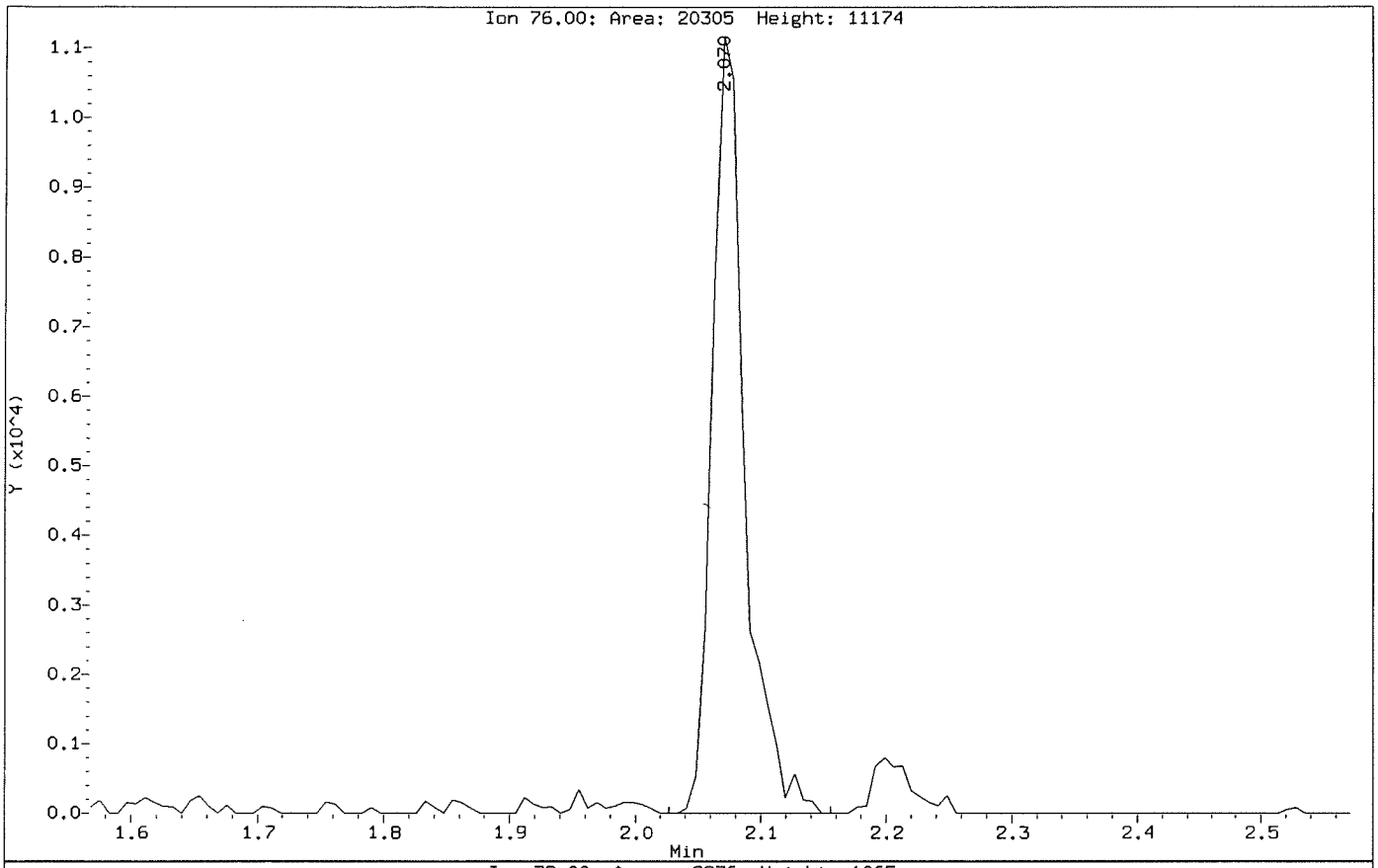
Compound: Bromomethane
CAS Number: 74-83-9

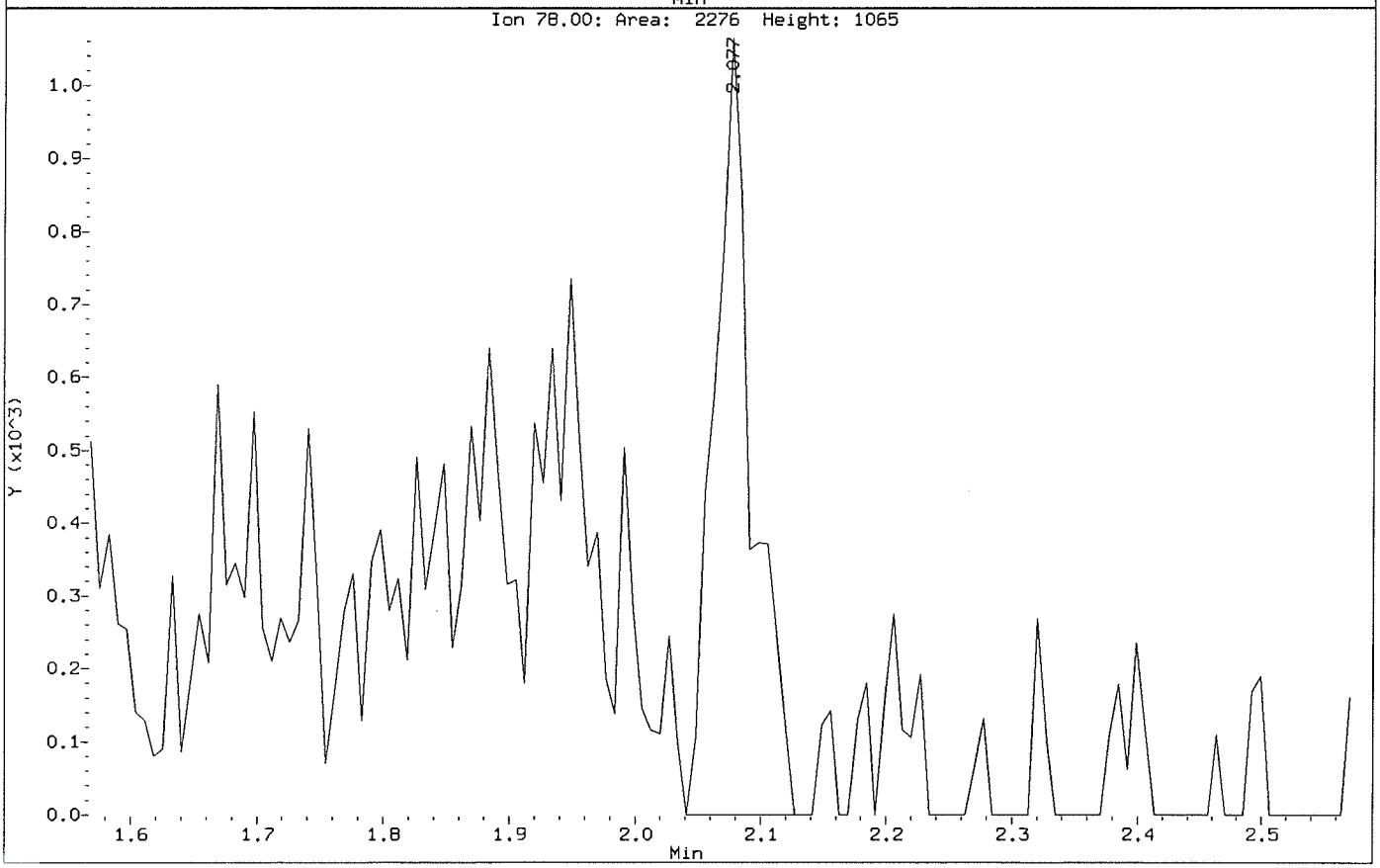


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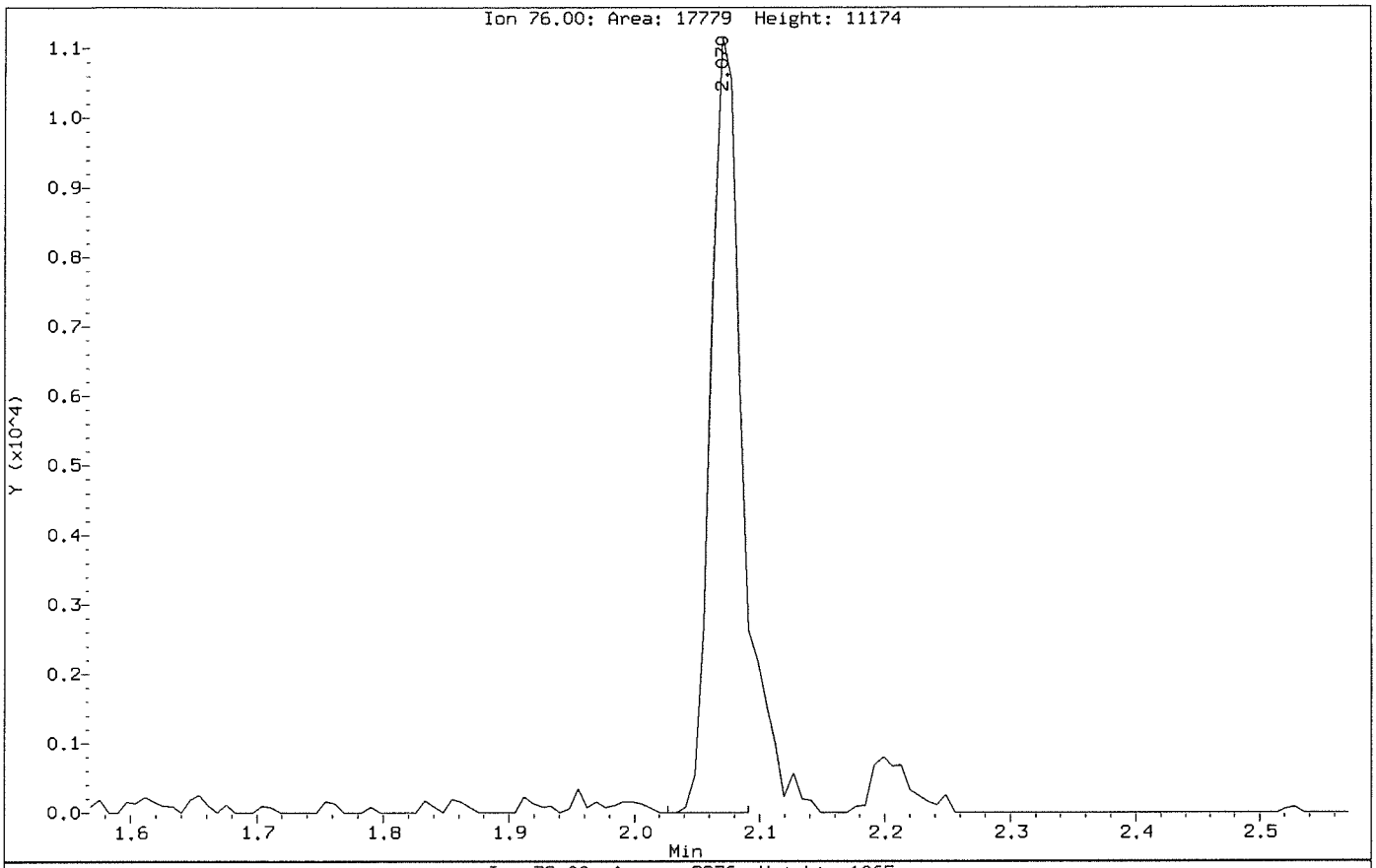
Compound: Carbon Disulfide
CAS Number: 75-15-0

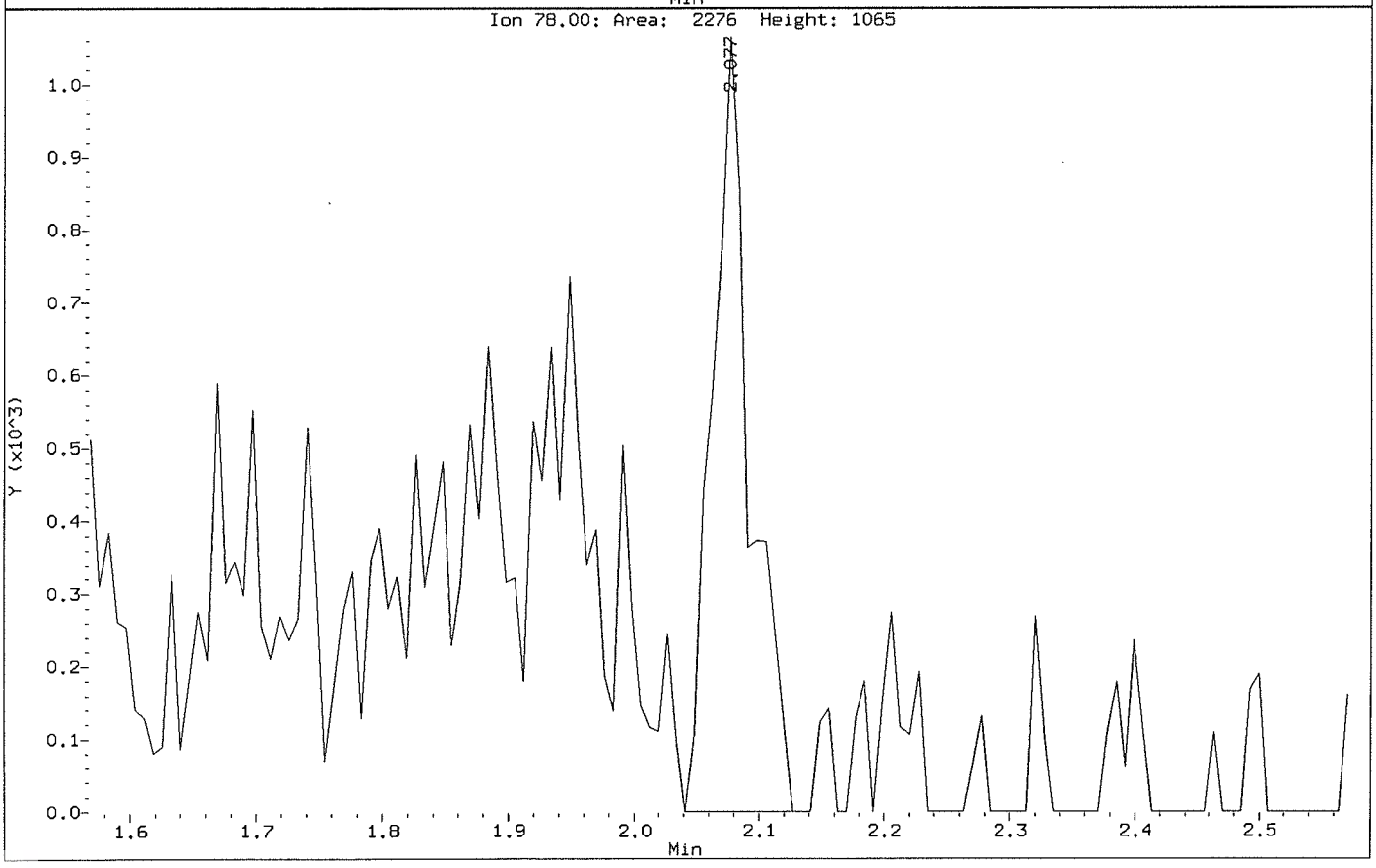


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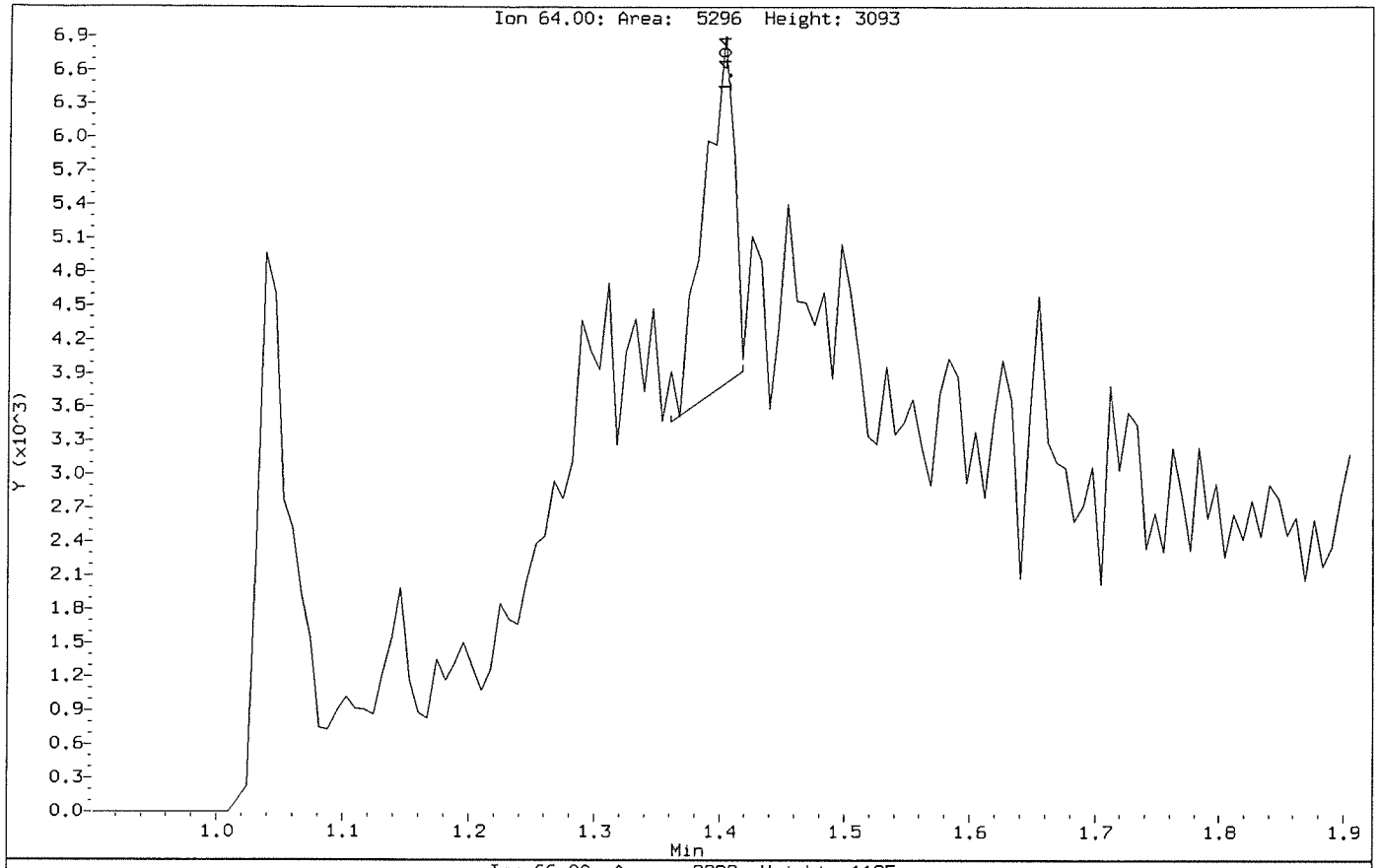
Compound: Carbon Disulfide
CAS Number: 75-15-0

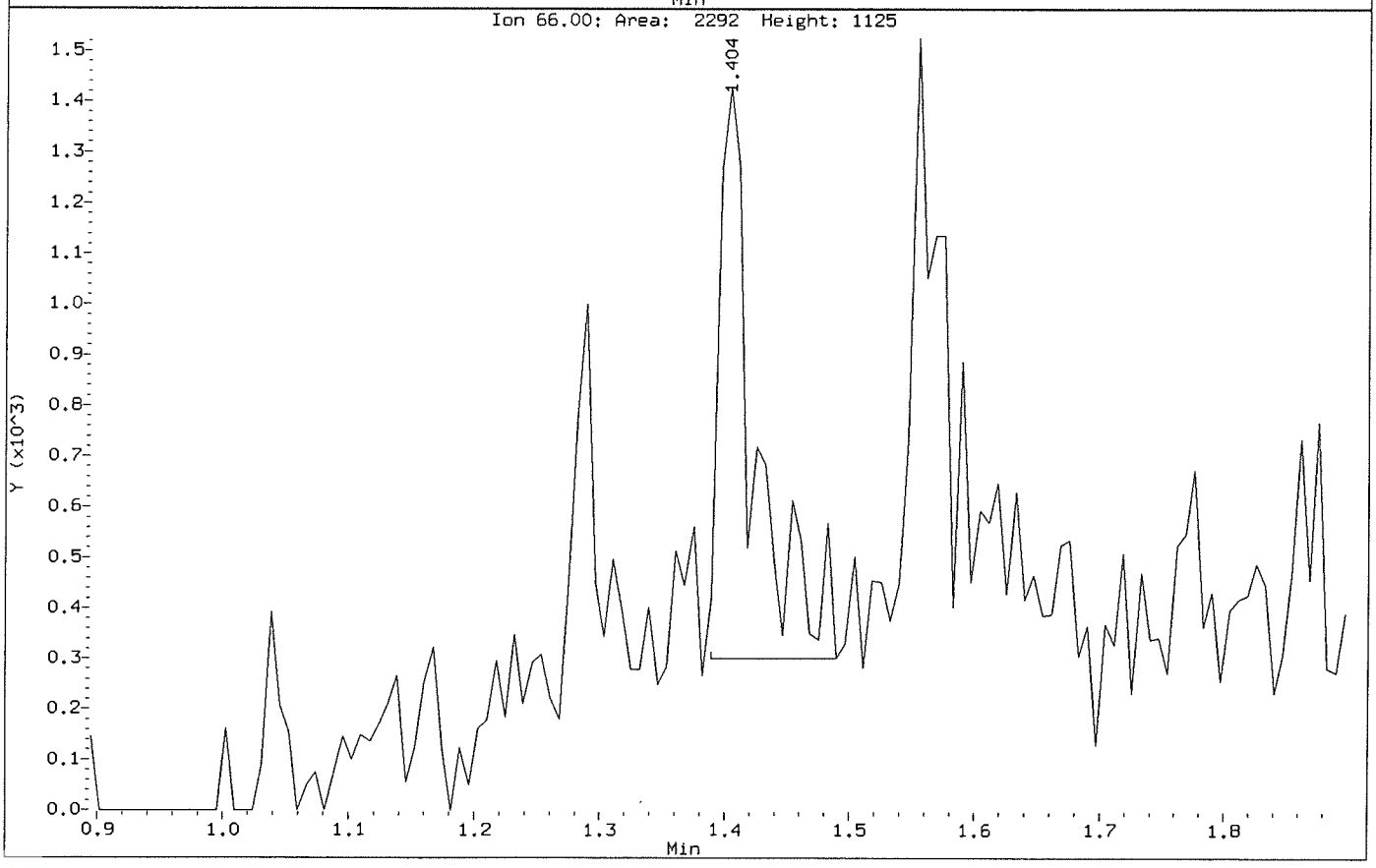


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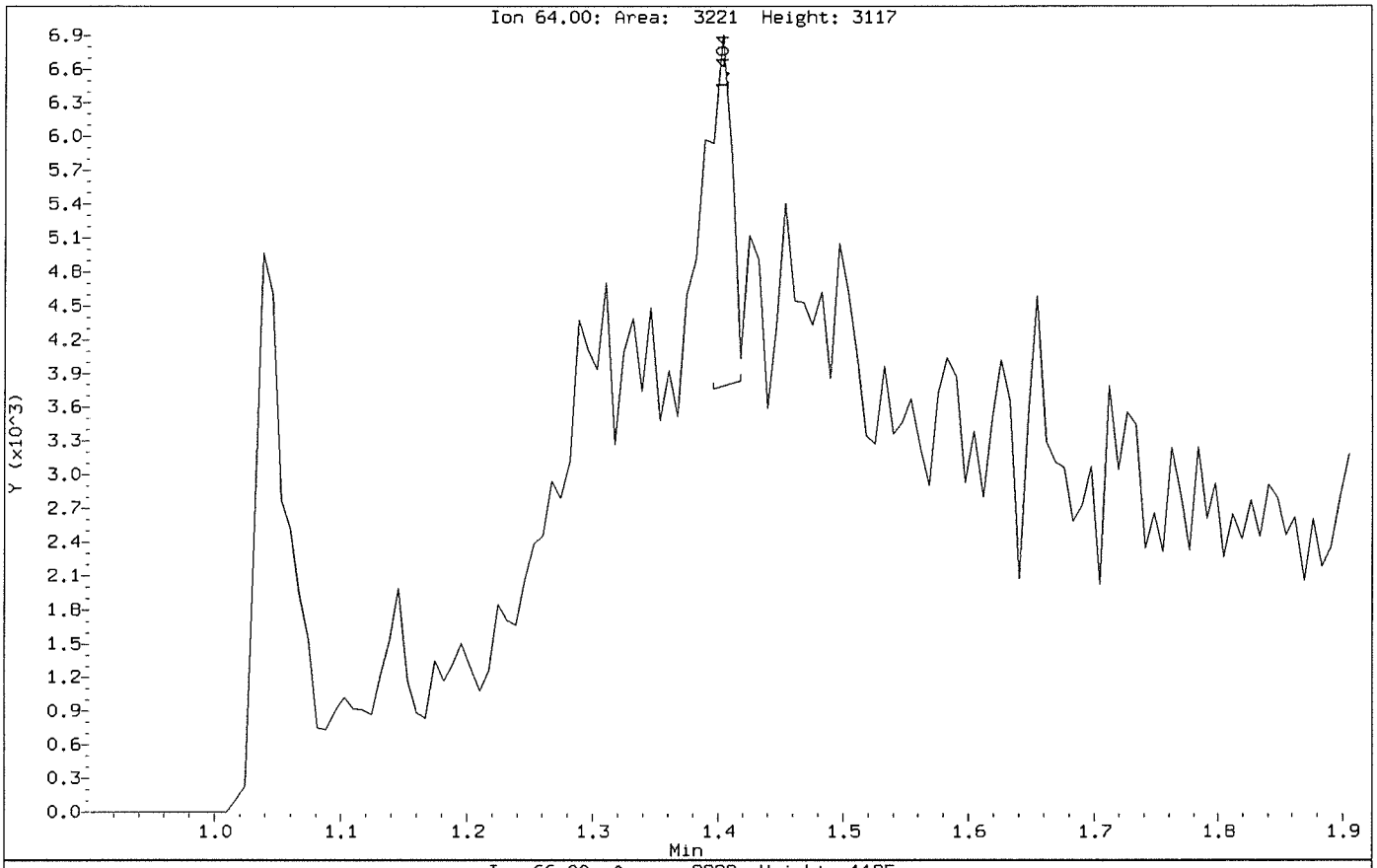
Compound: Chloroethane
CAS Number: 75-00-3

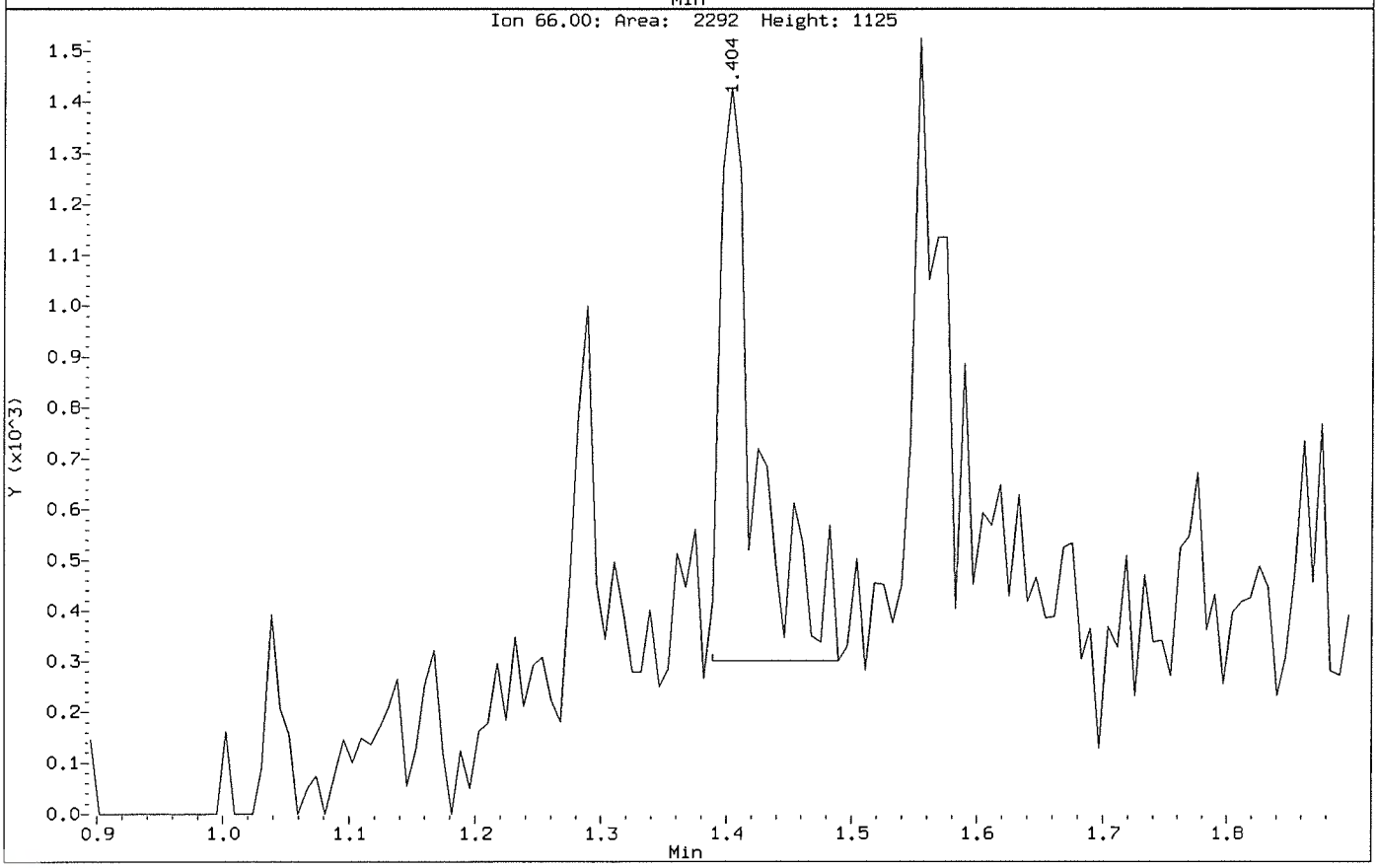


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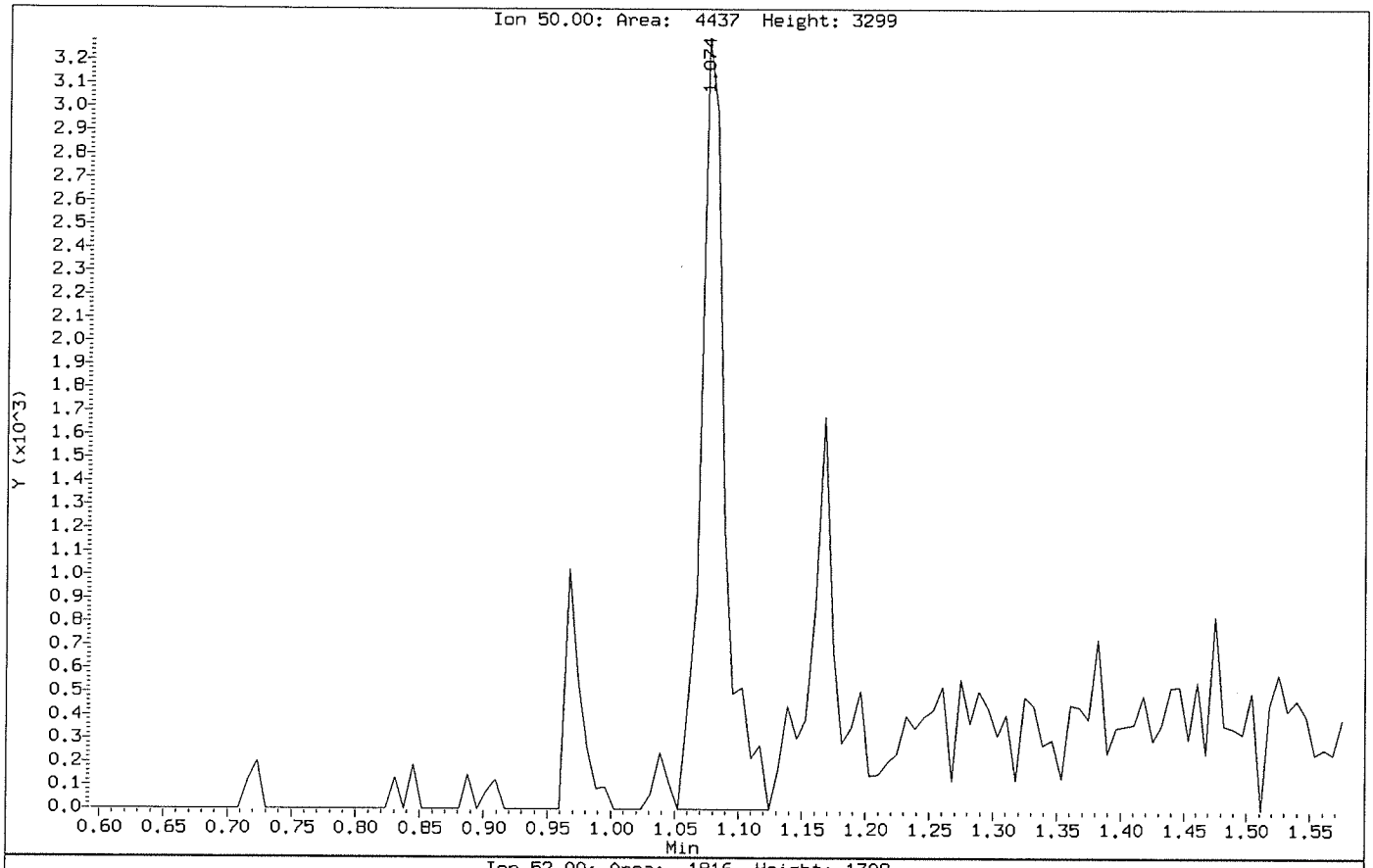
Compound: Chloroethane
CAS Number: 75-00-3

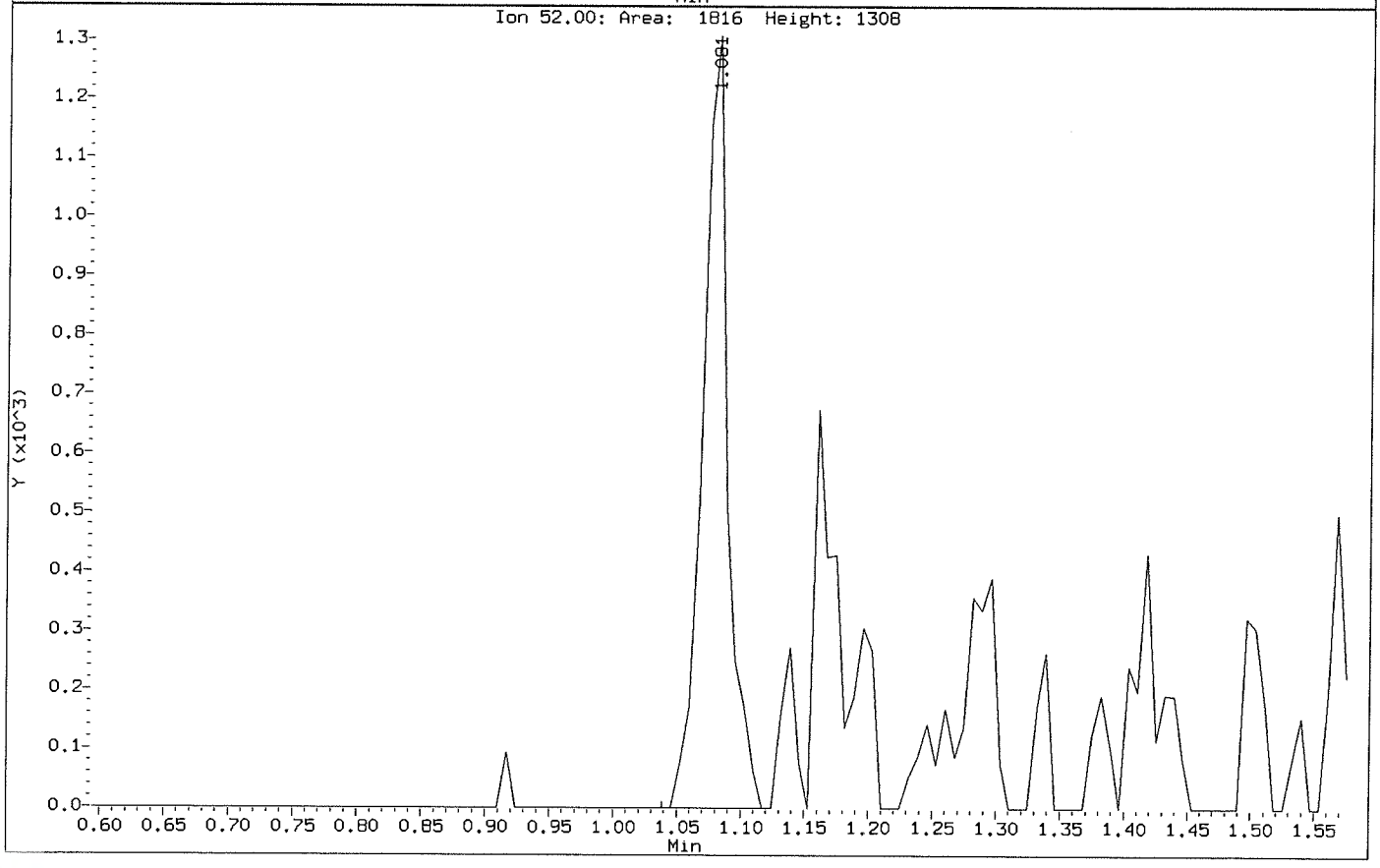


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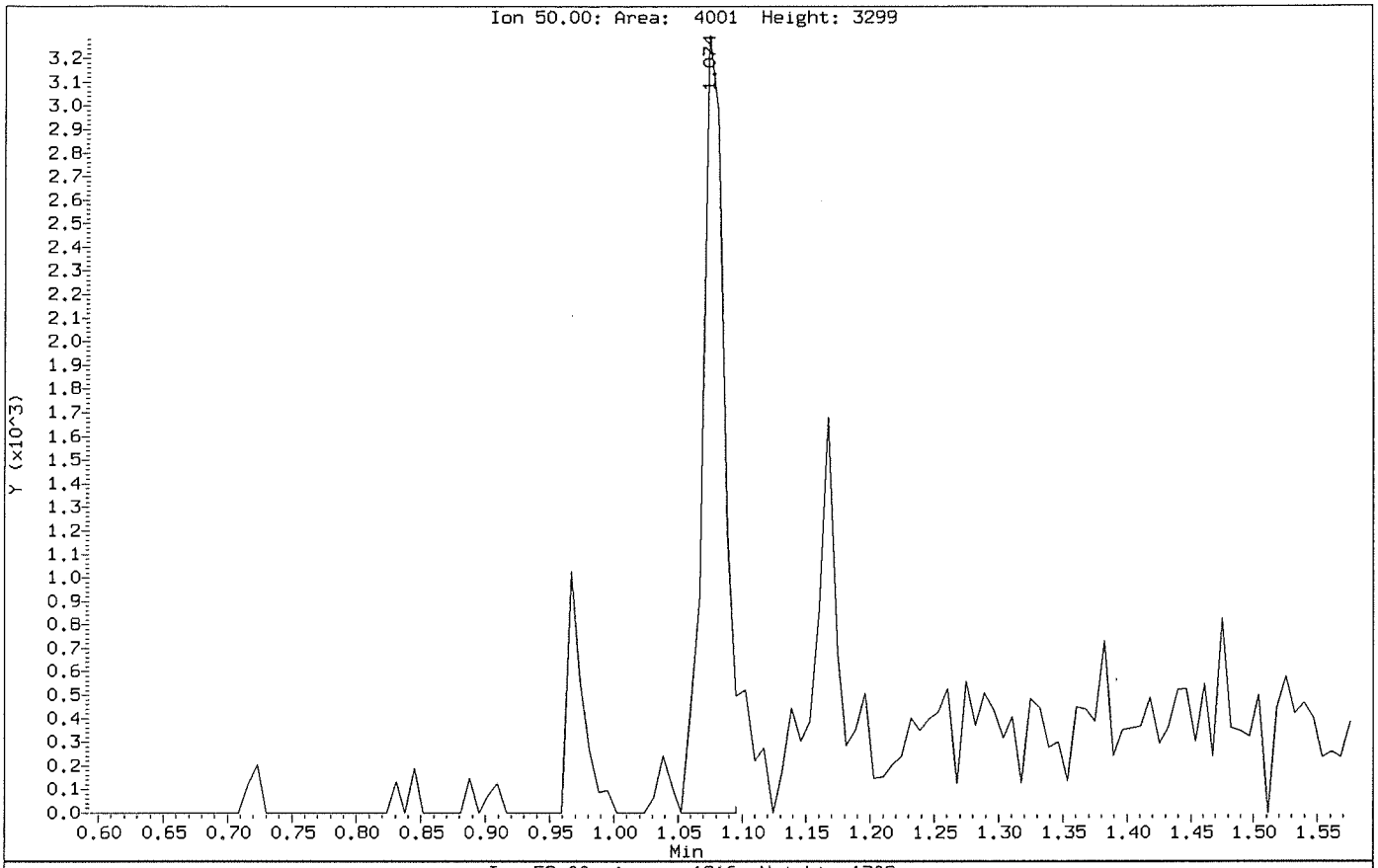
Compound: Chloromethane
CAS Number: 74-87-3

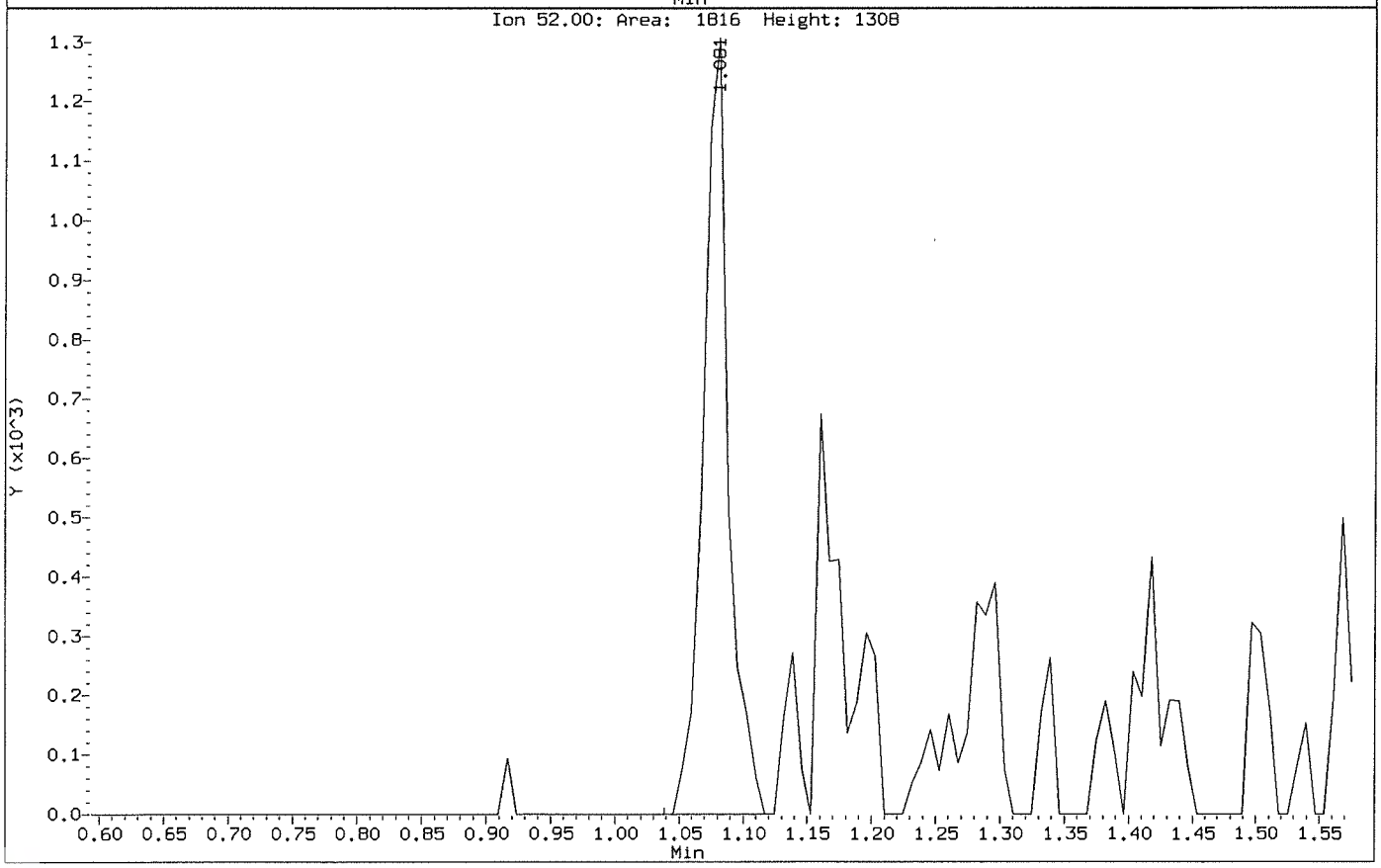


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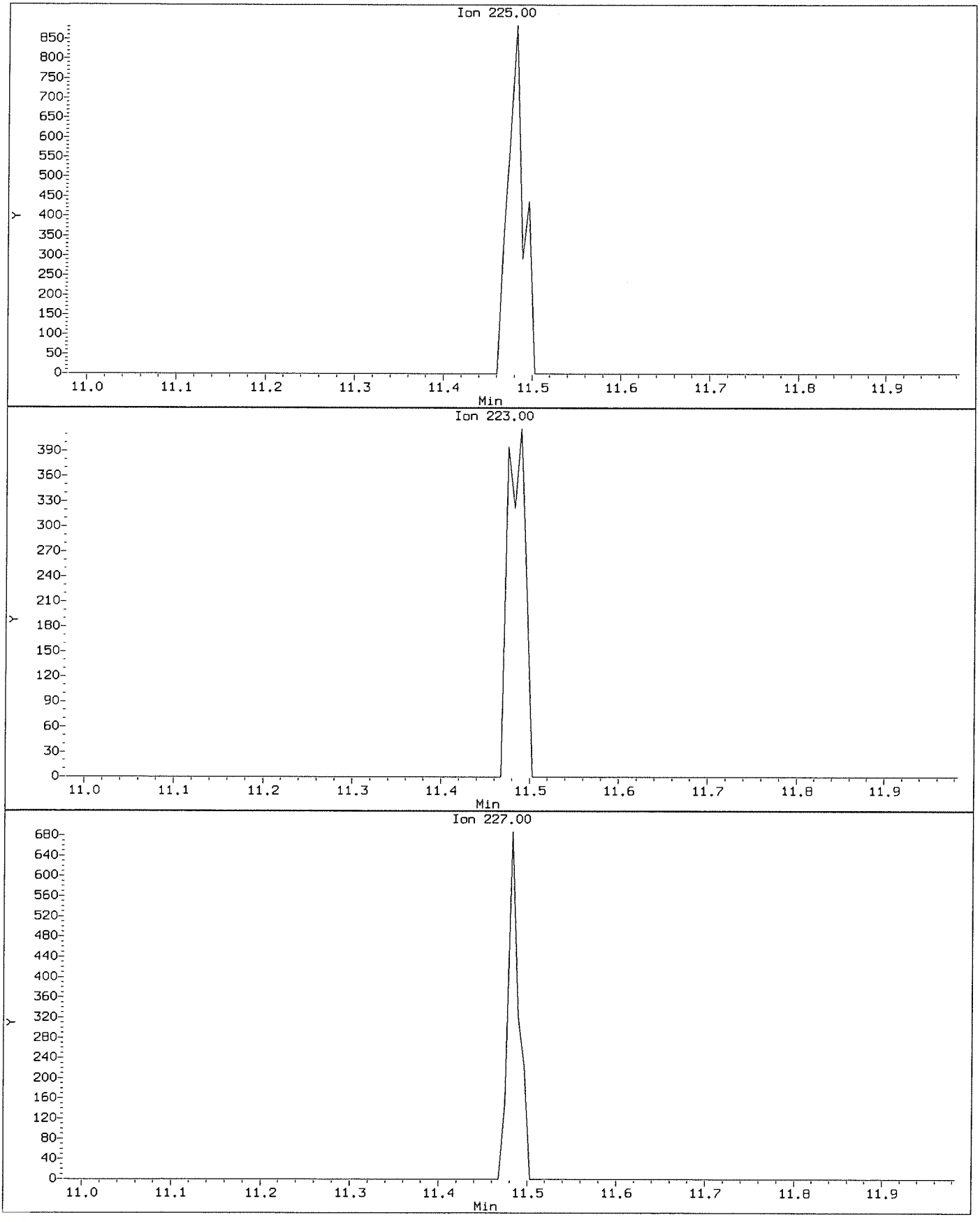
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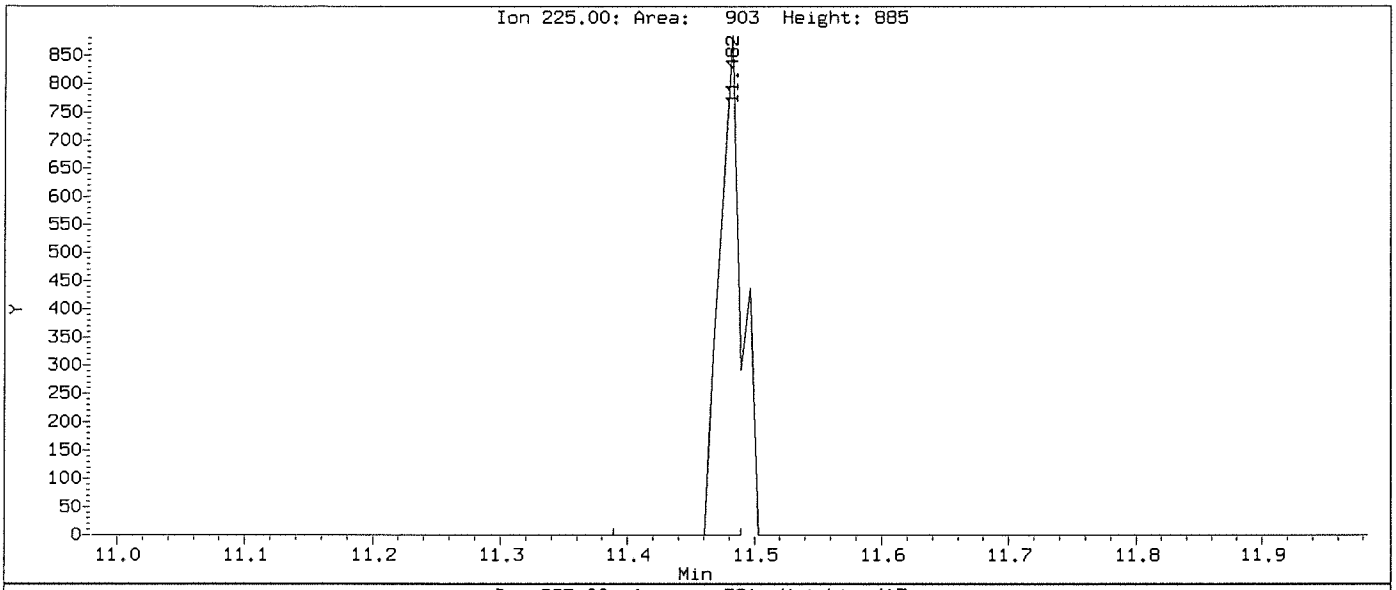
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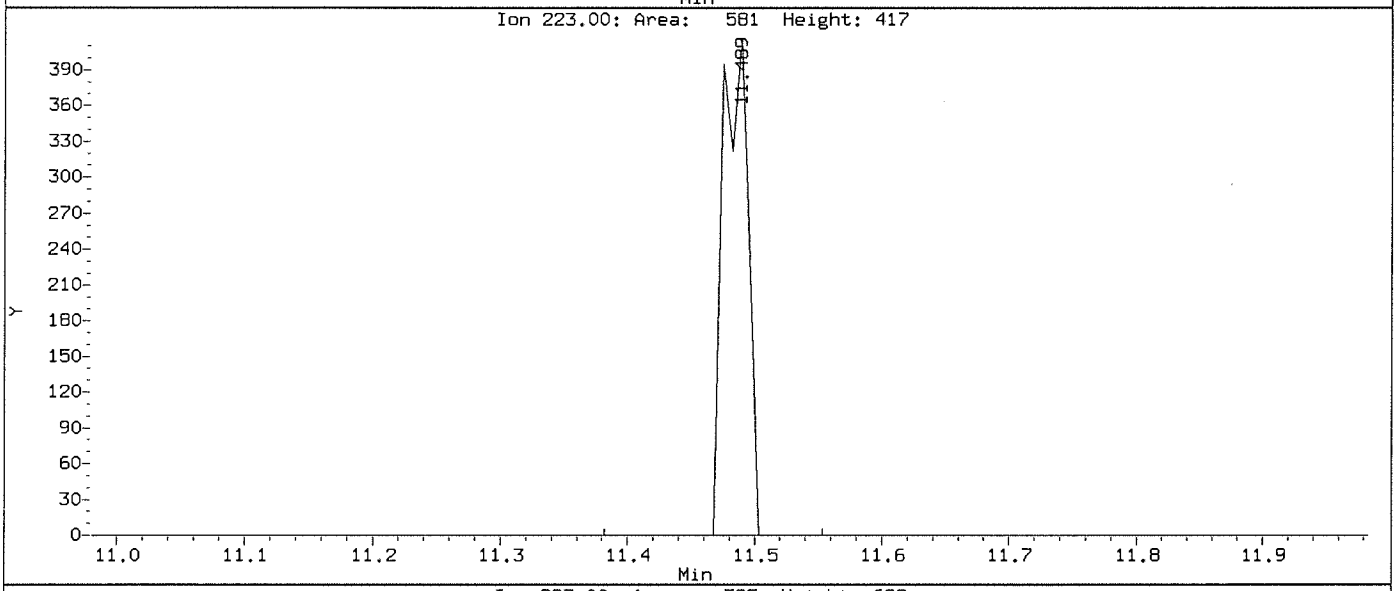
Compound: Hexachlorobutadiene
CAS Number: 87-68-3

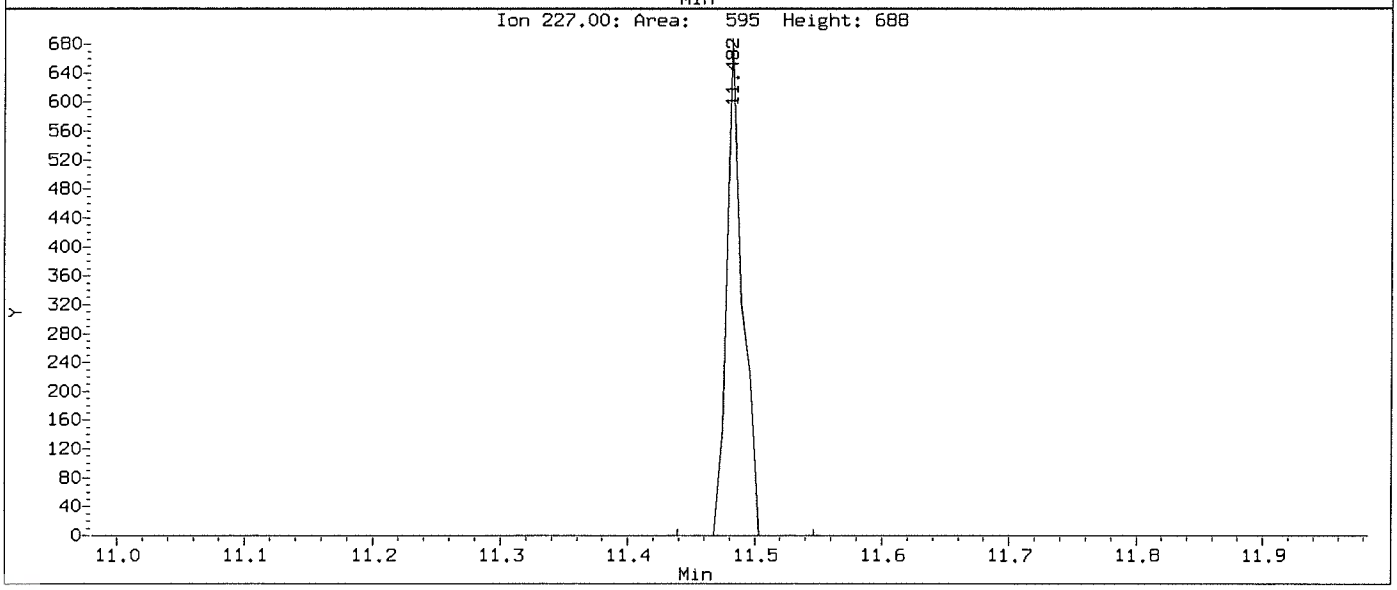


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Client Sample ID: VSTD001

Compound: Hexachlorobutadiene
CAS Number: 87-68-3

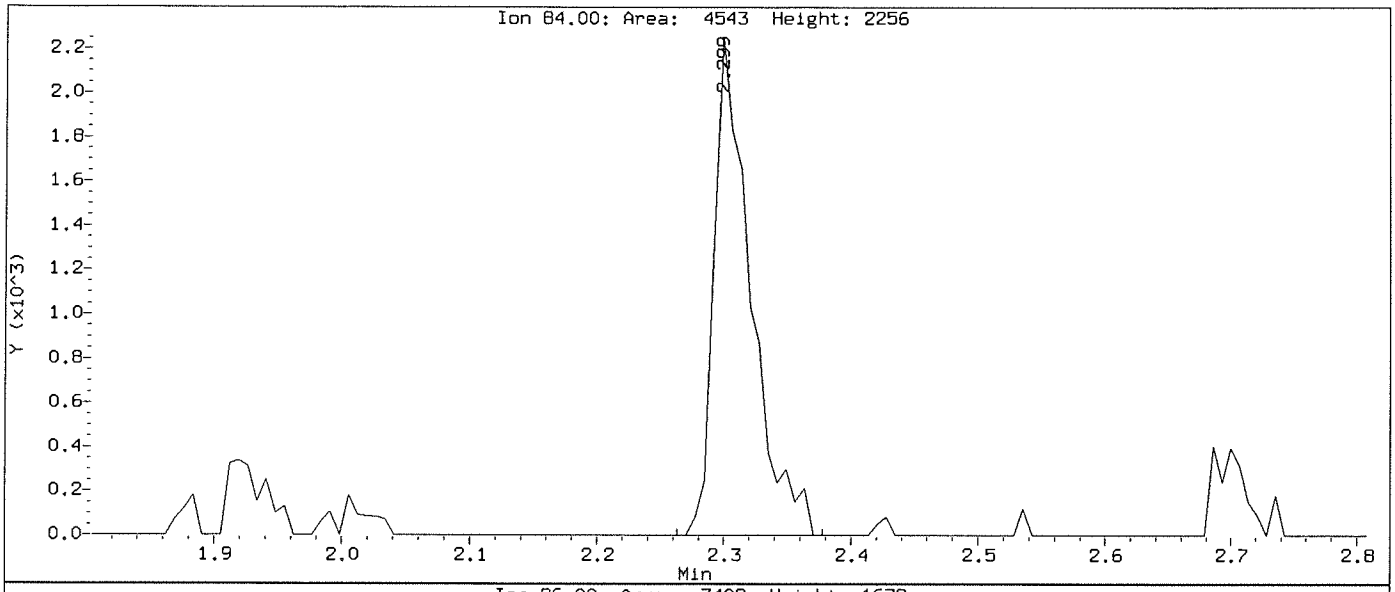


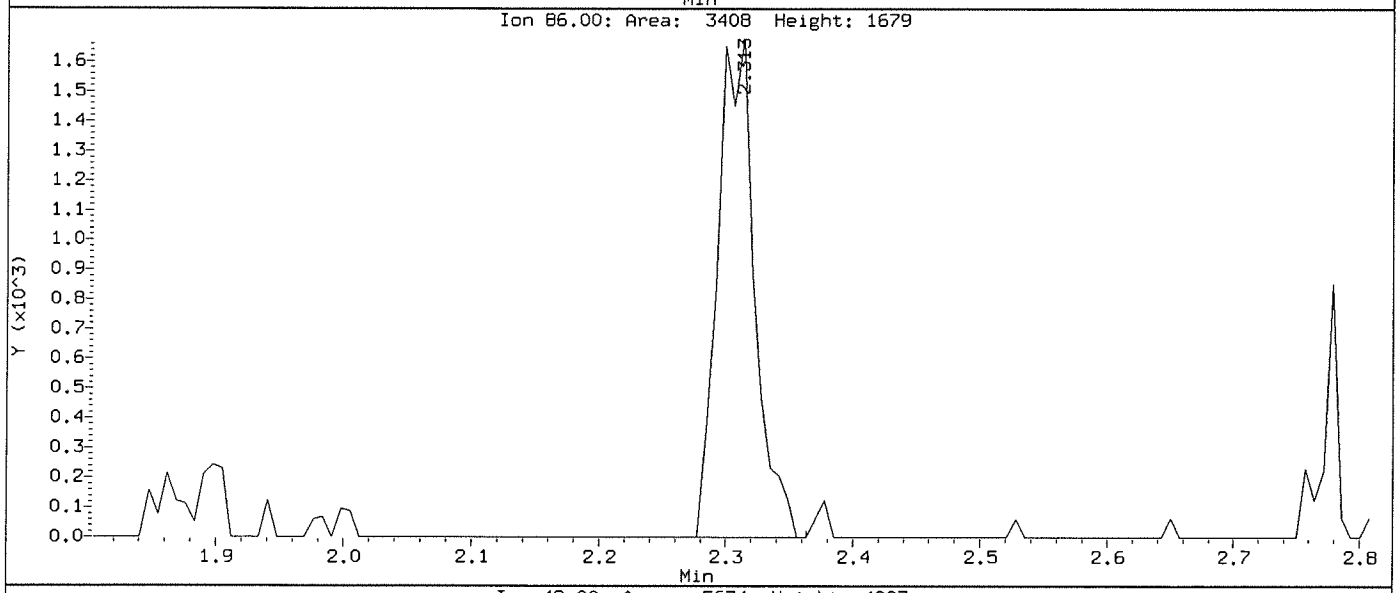



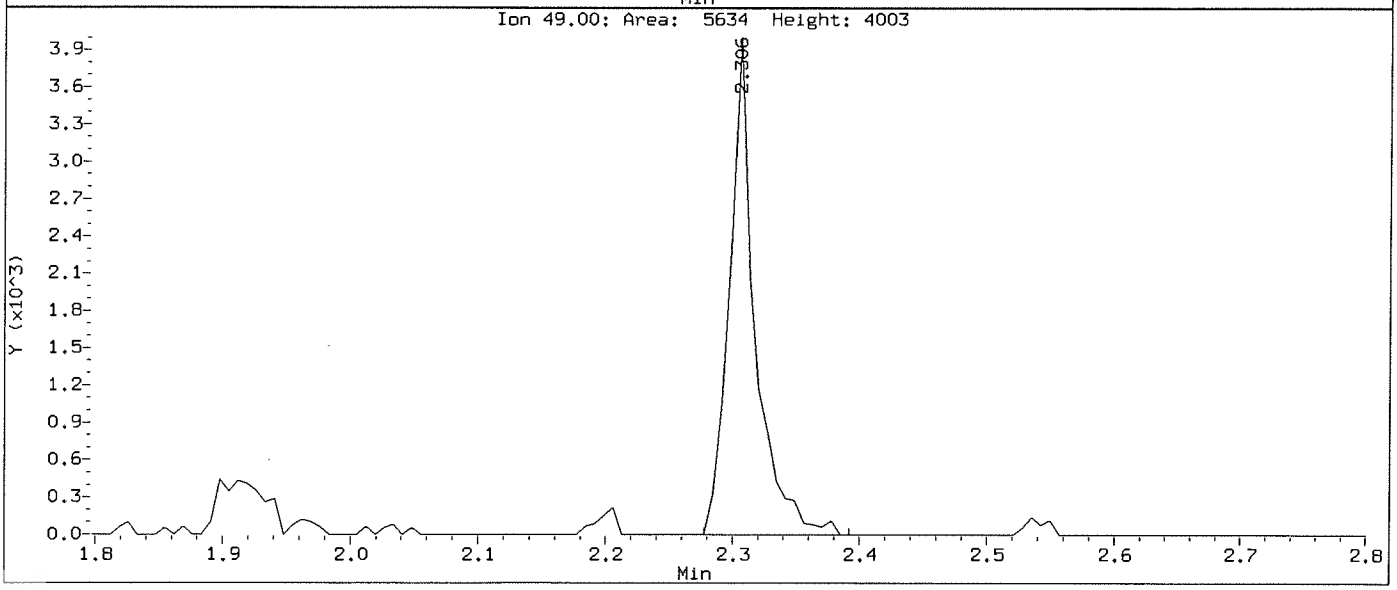



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Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Methylene Chloride
CAS Number: 75-09-2

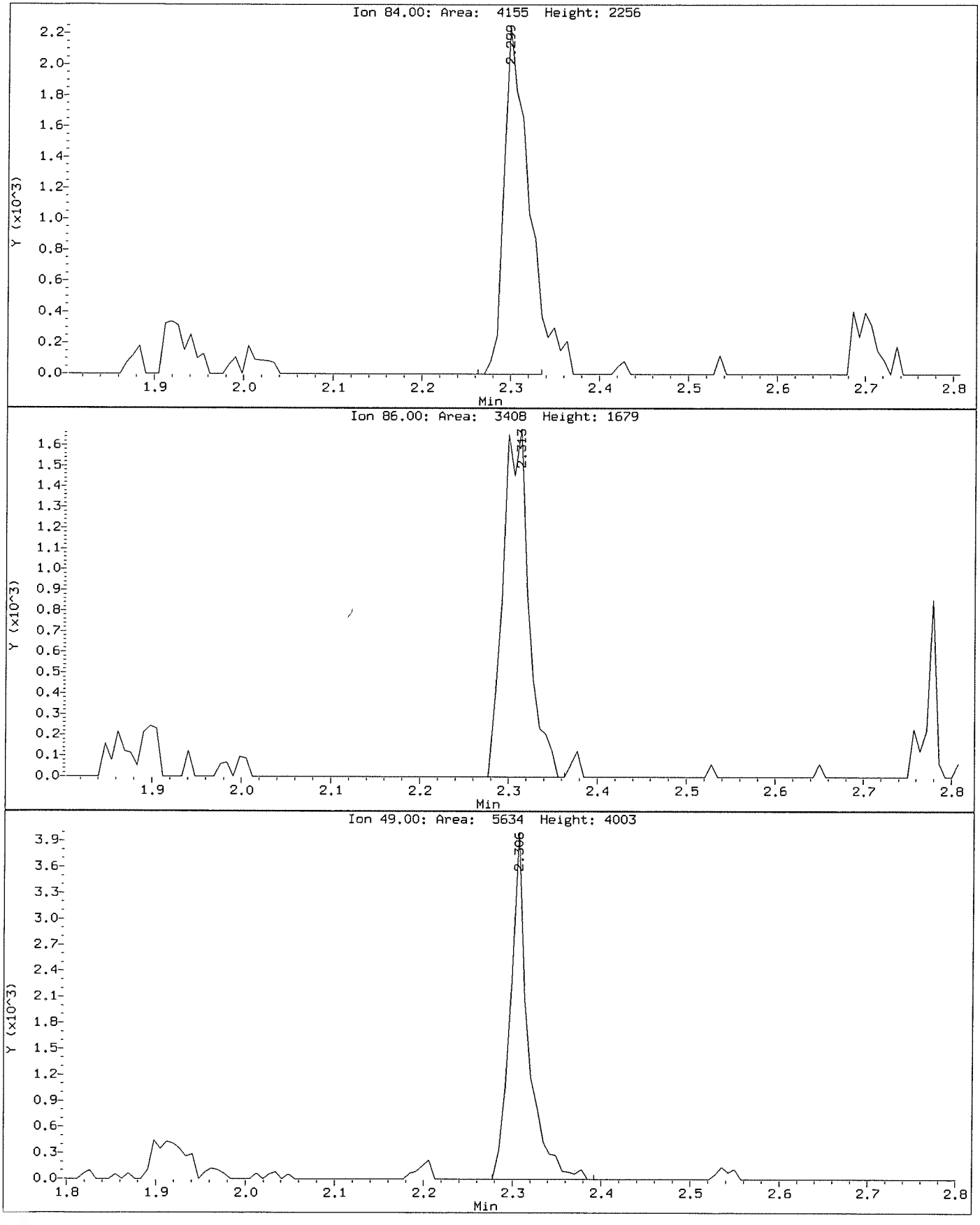


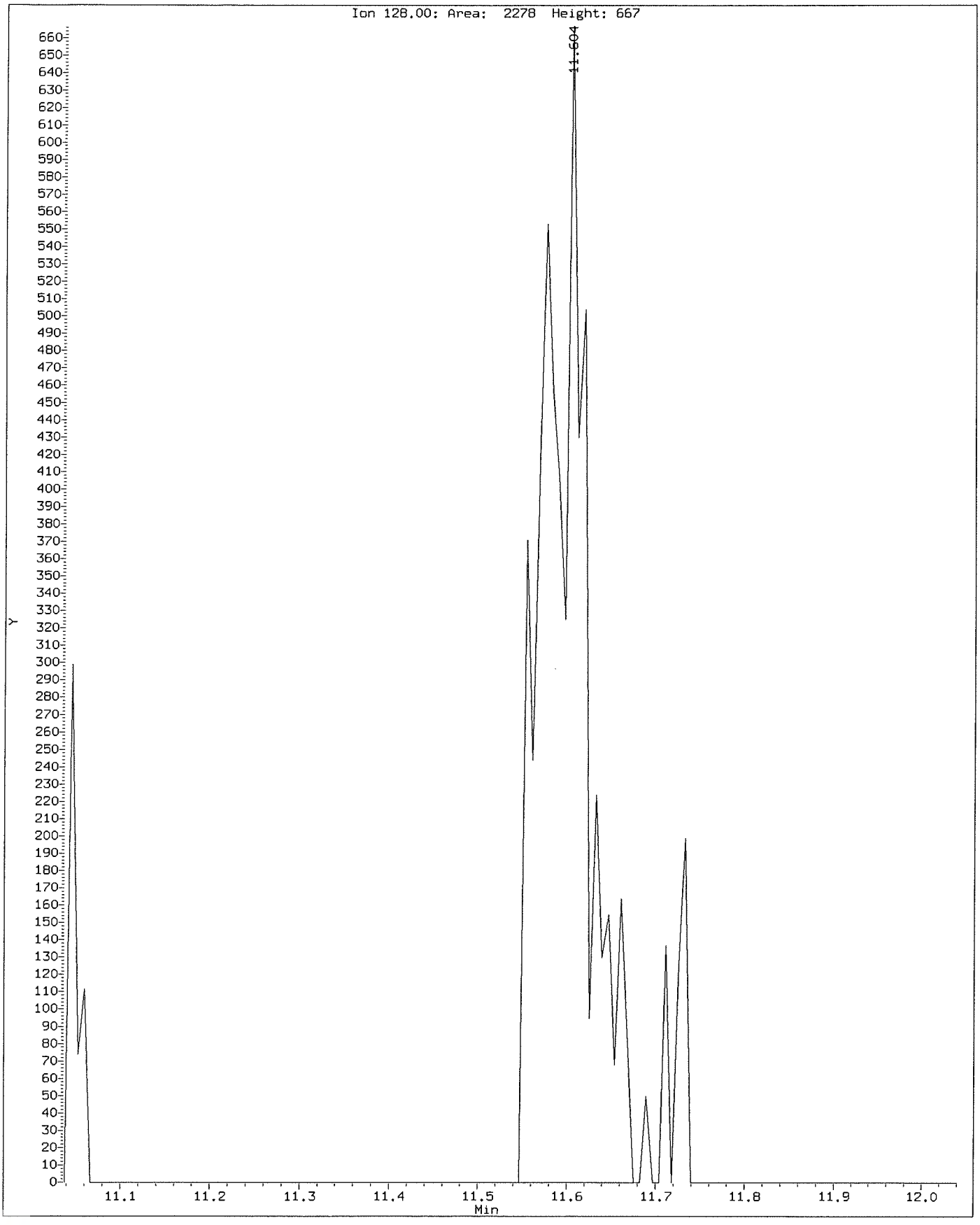
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Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Methylene Chloride
CAS Number: 75-09-2



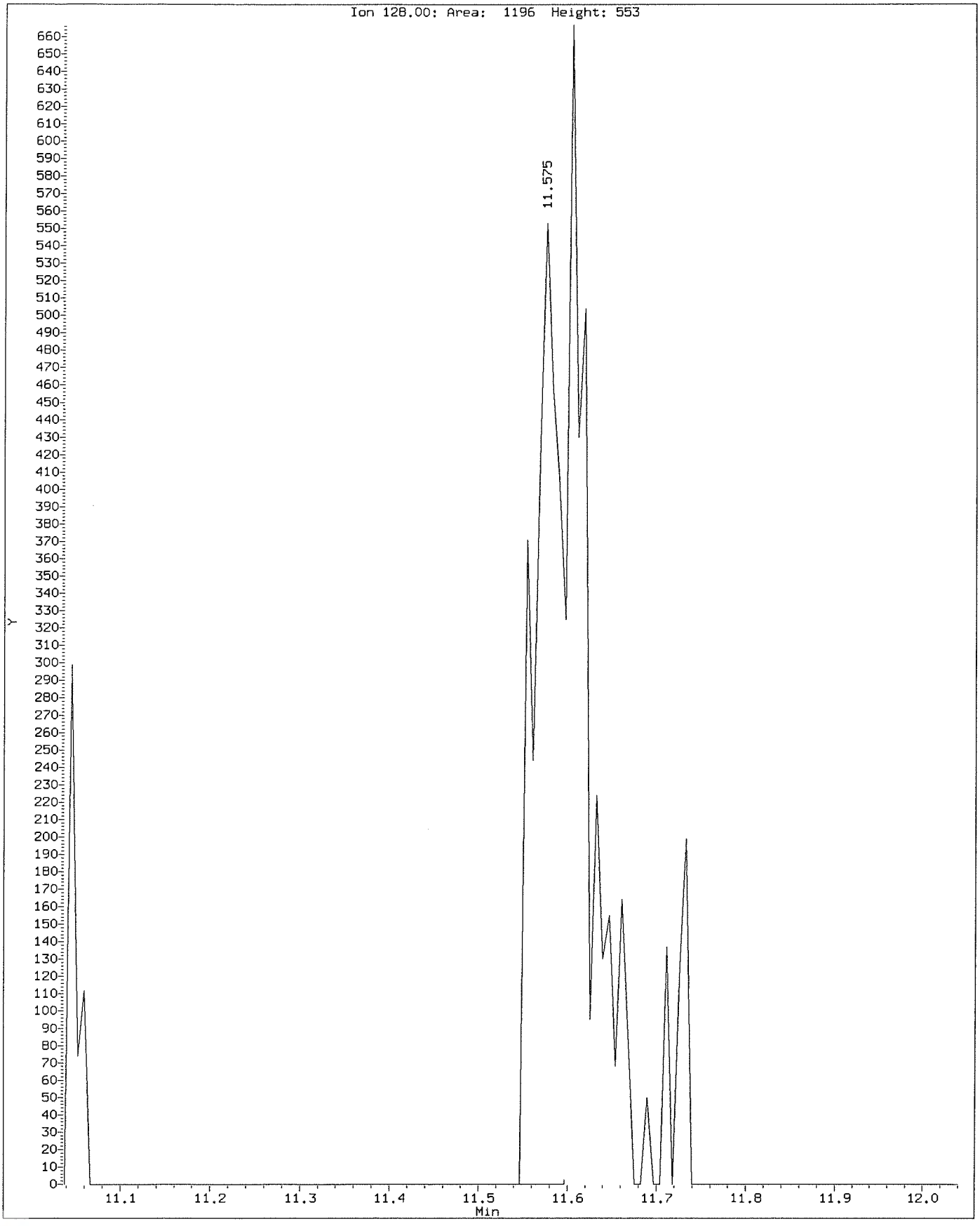
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Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Naphthalene
CAS Number: 91-20-3



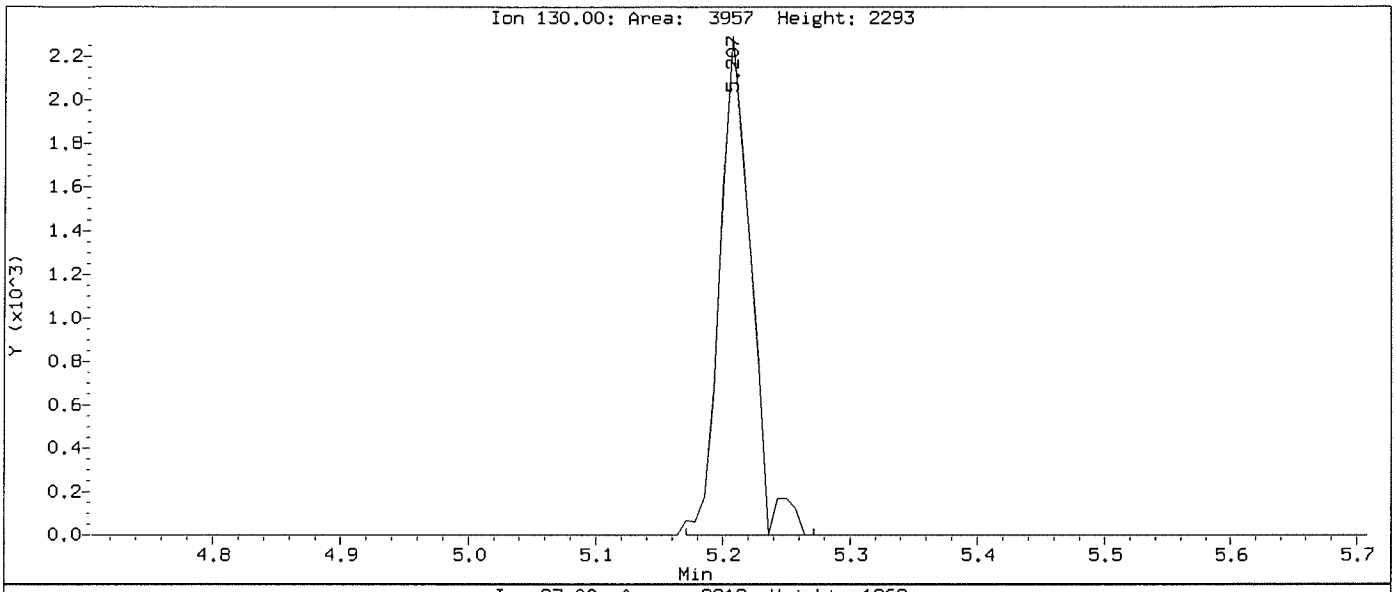
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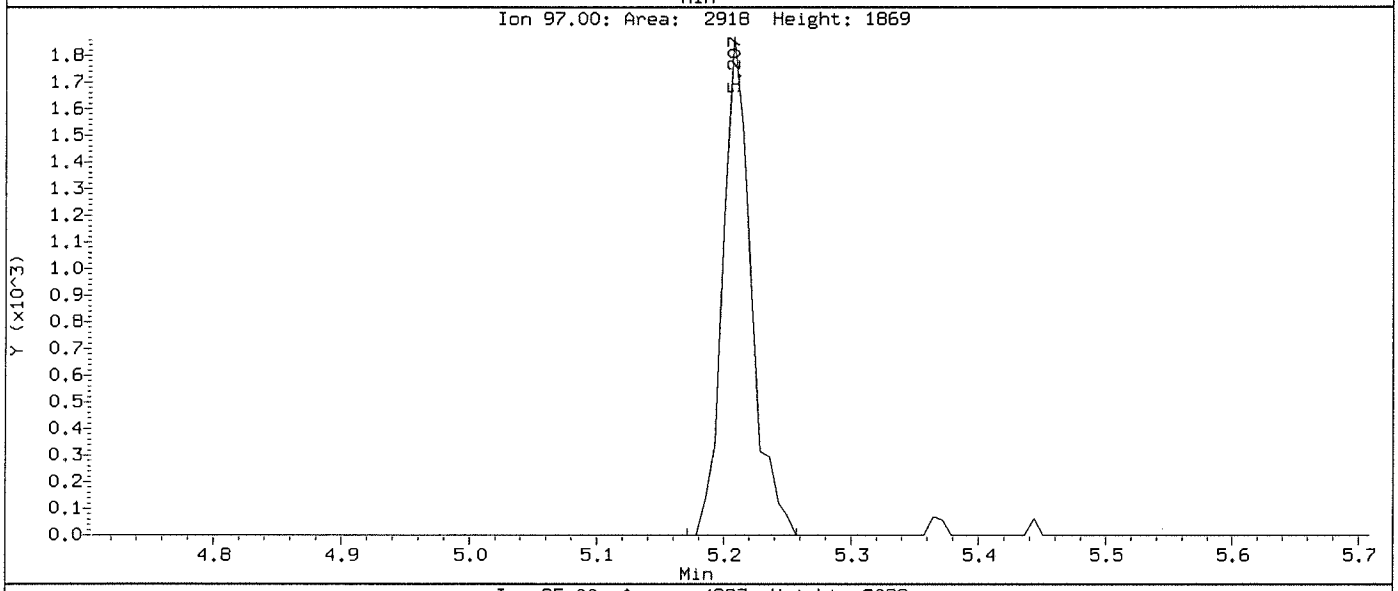
Compound: Naphthalene
CAS Number: 91-20-3

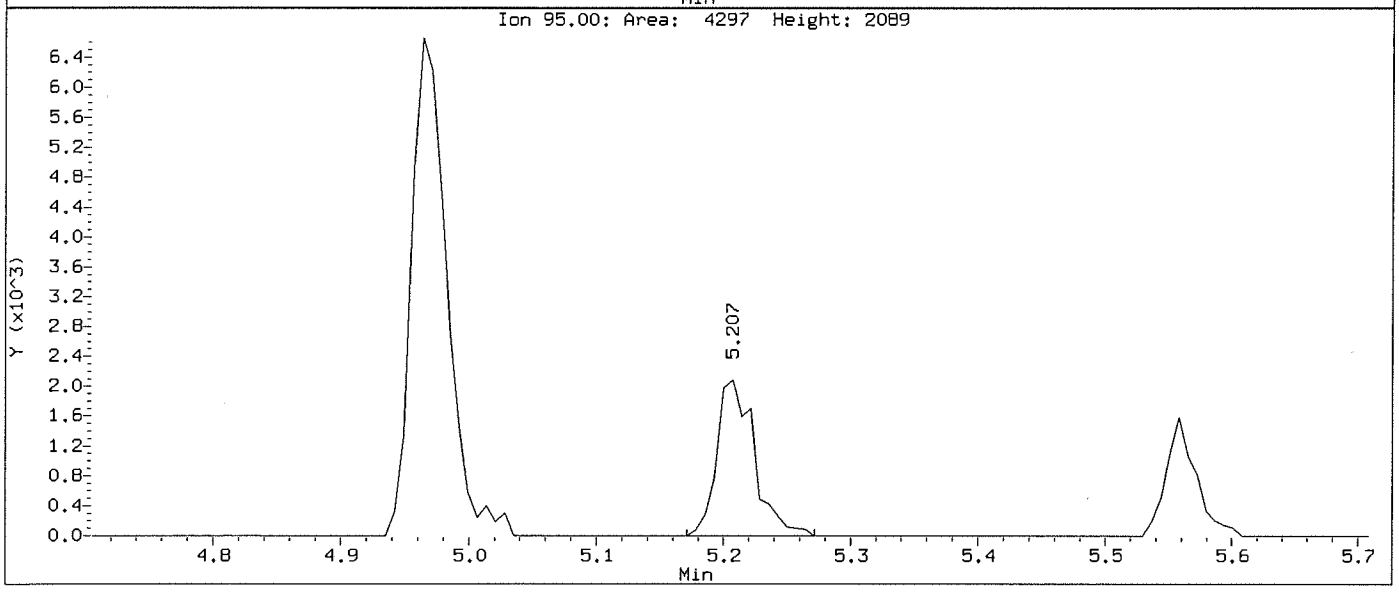


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before\X040204.D
Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Trichloroethene
CAS Number: 79-01-6

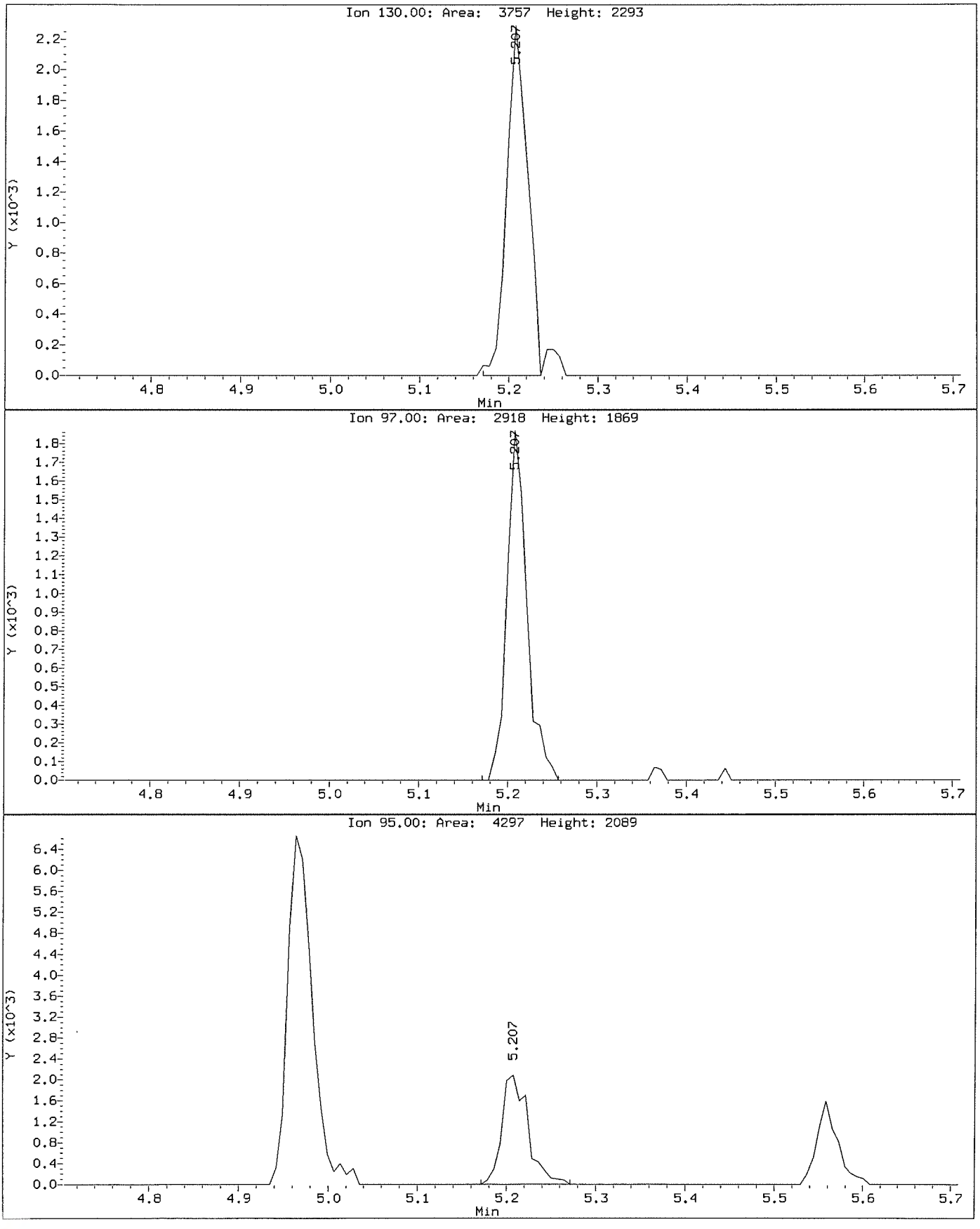


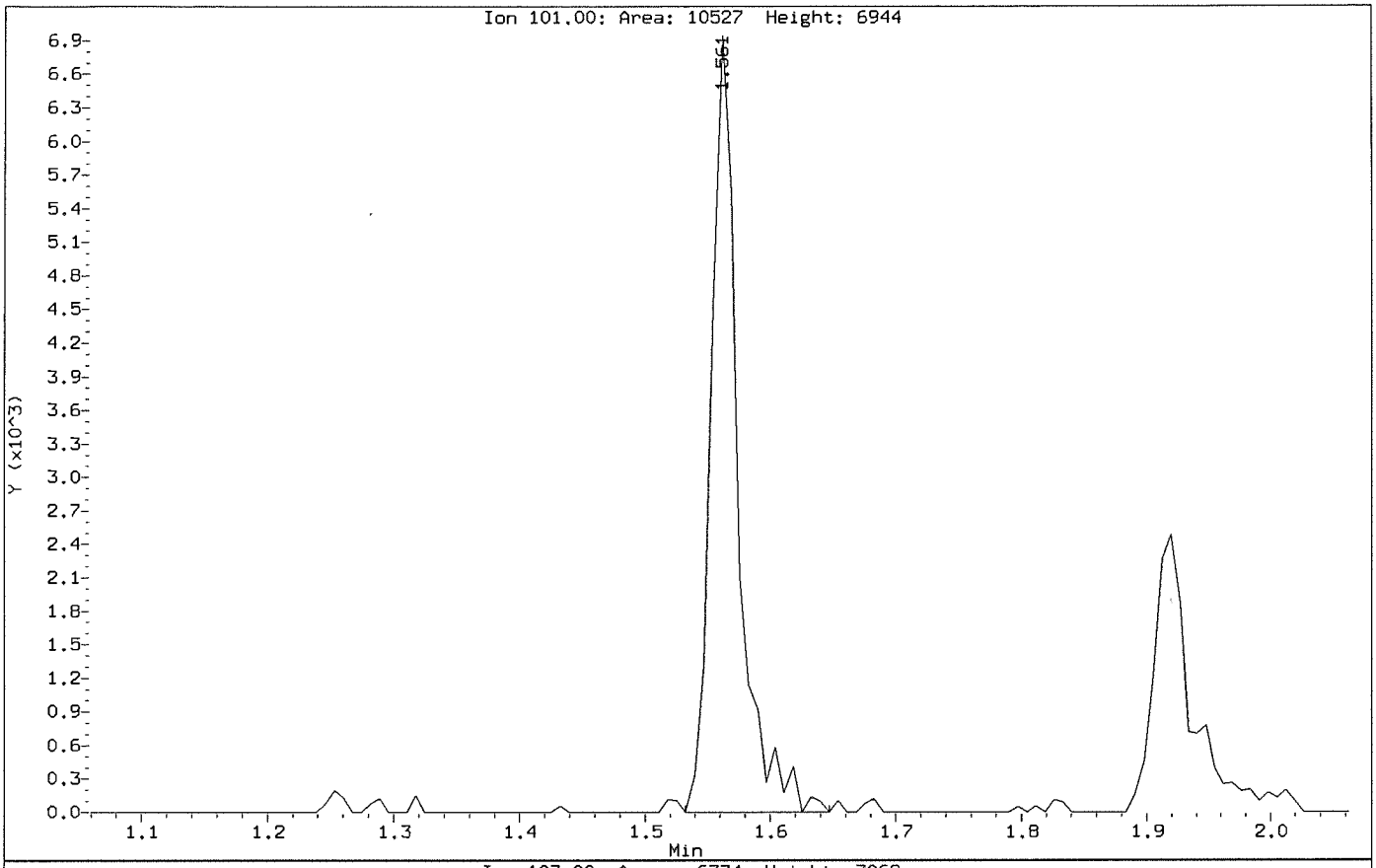
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Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

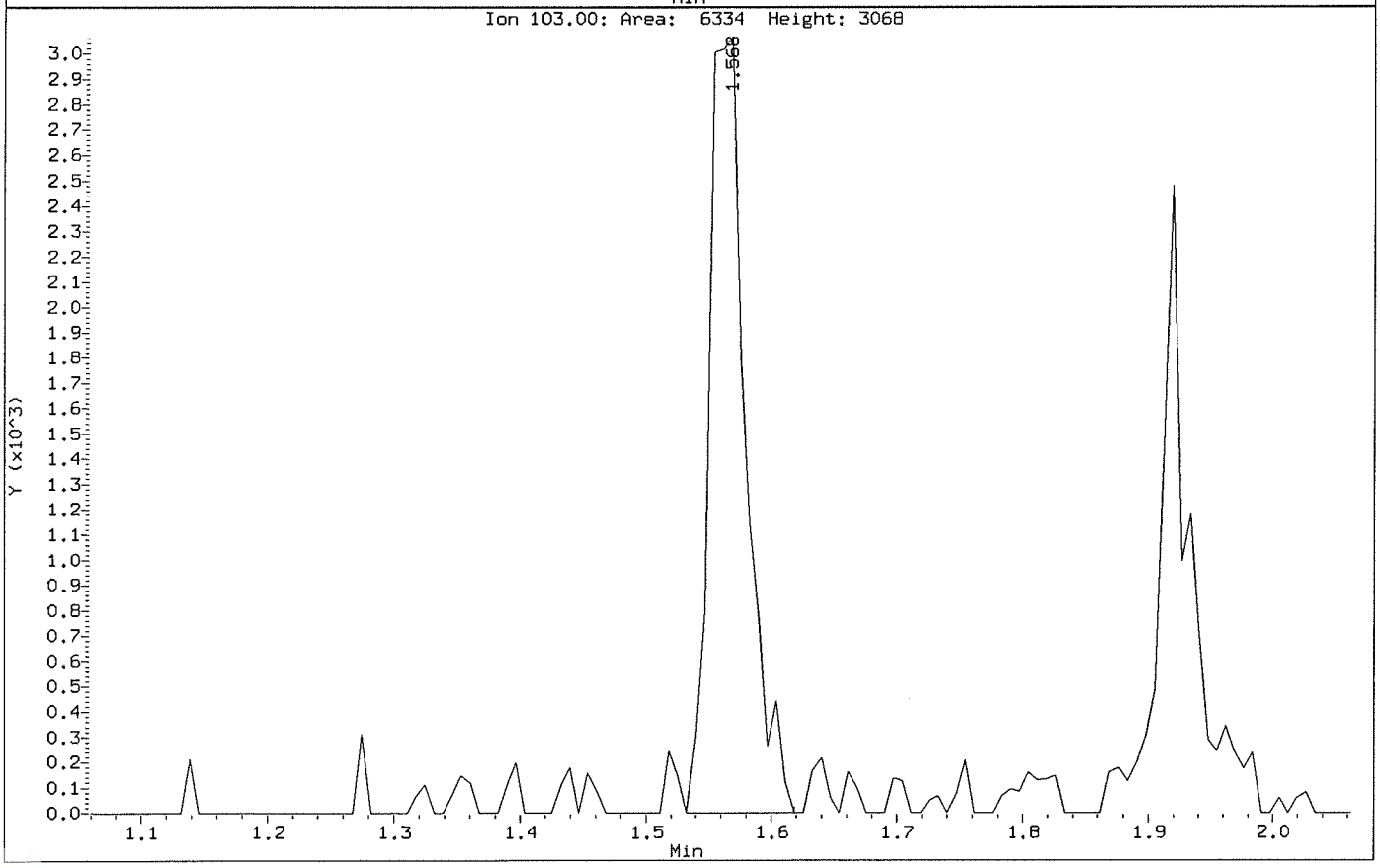
Compound: Trichloroethene
CAS Number: 79-01-6



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before\X040204.D
Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

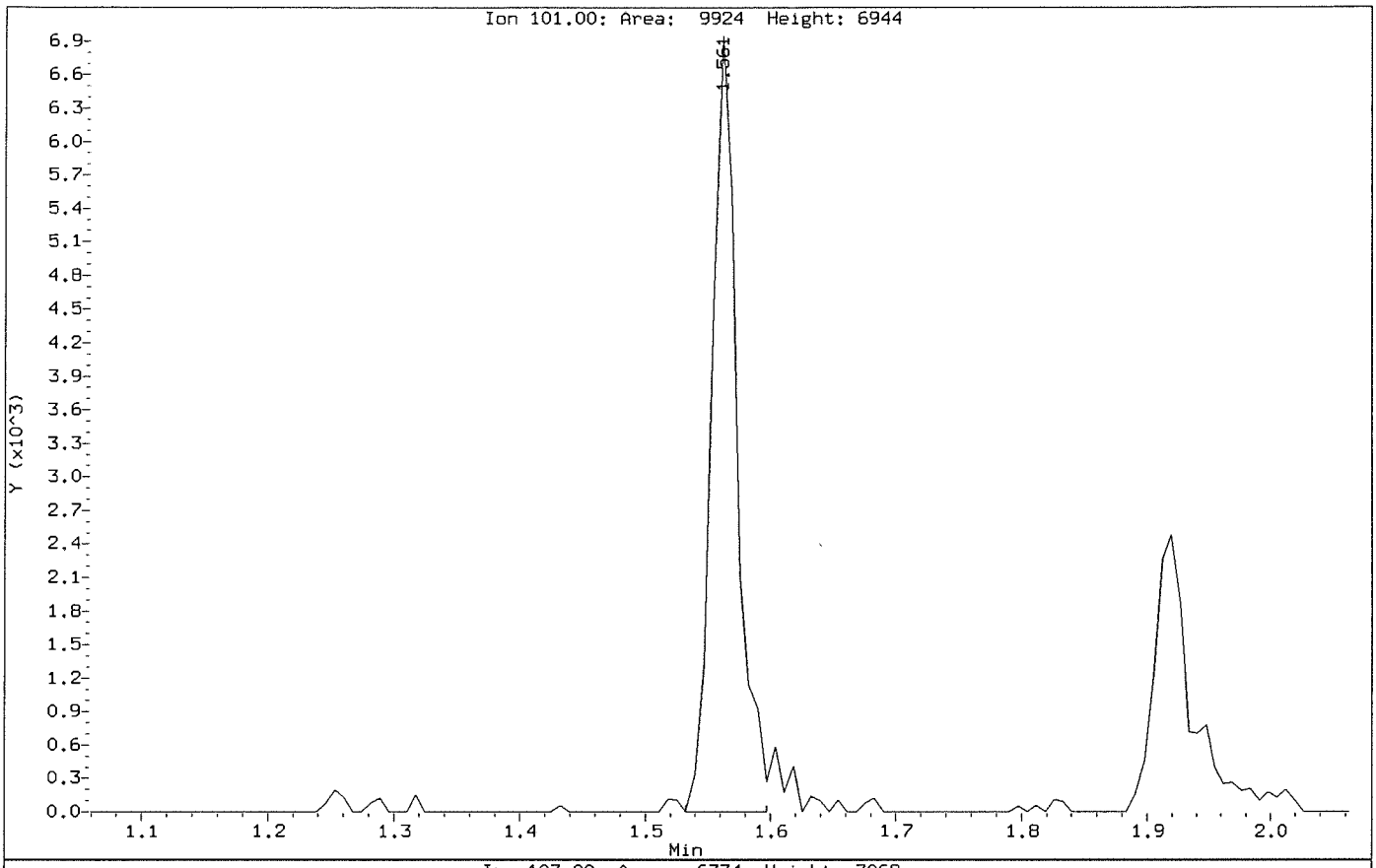
Compound: Trichlorofluoromethane
CAS Number: 75-69-4

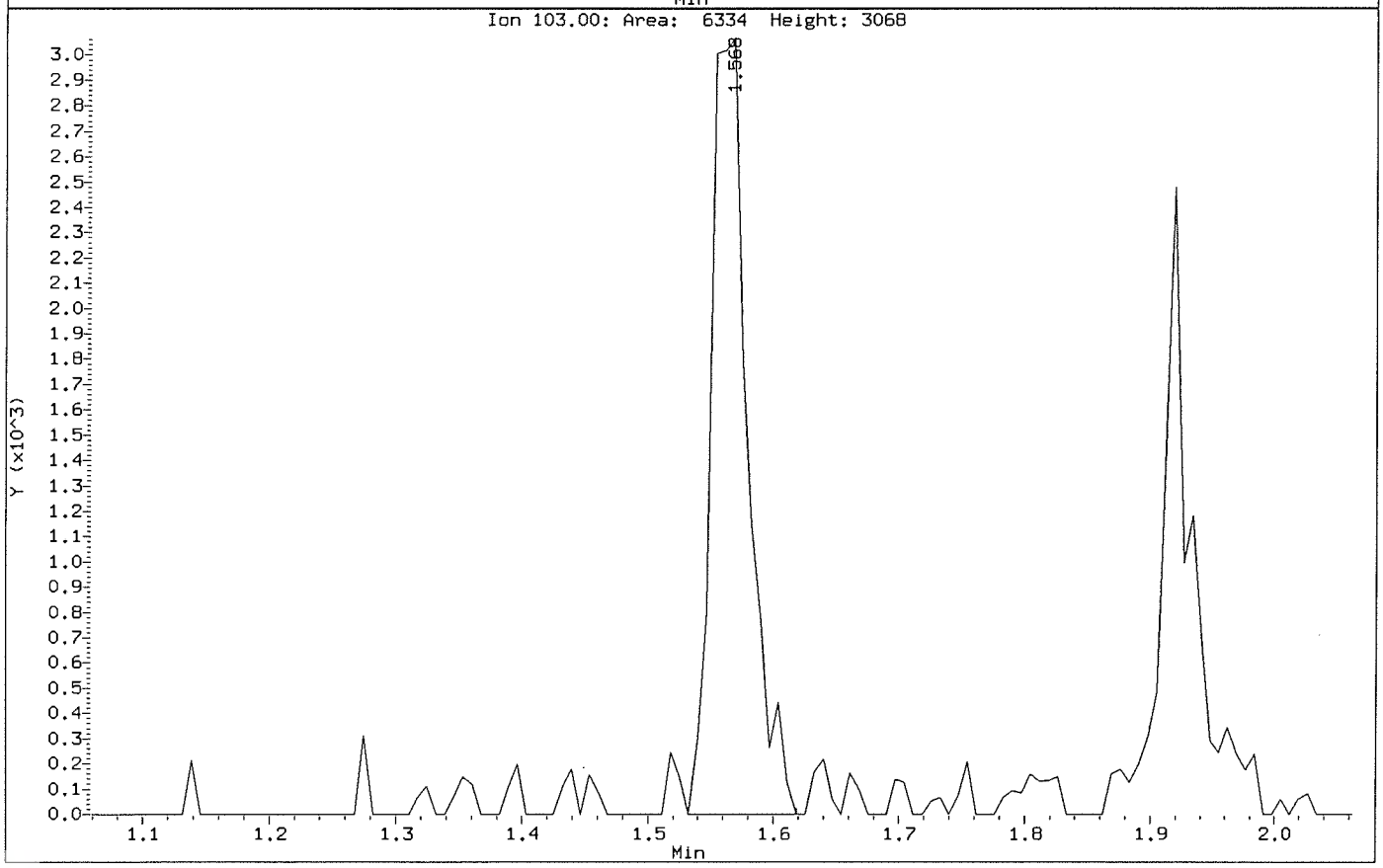


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Client Sample ID: VSTD001

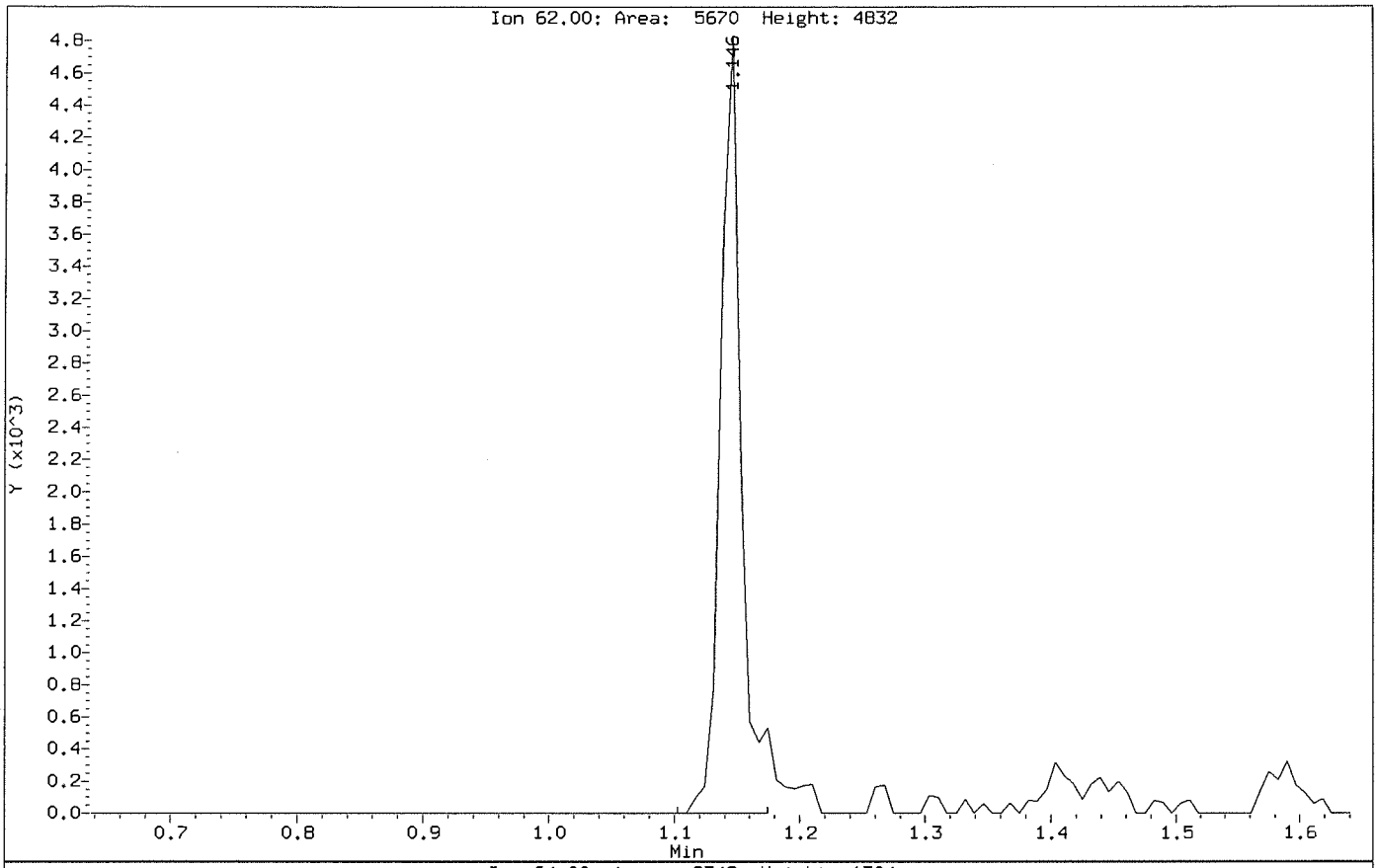
Compound: Trichlorofluoromethane
CAS Number: 75-69-4

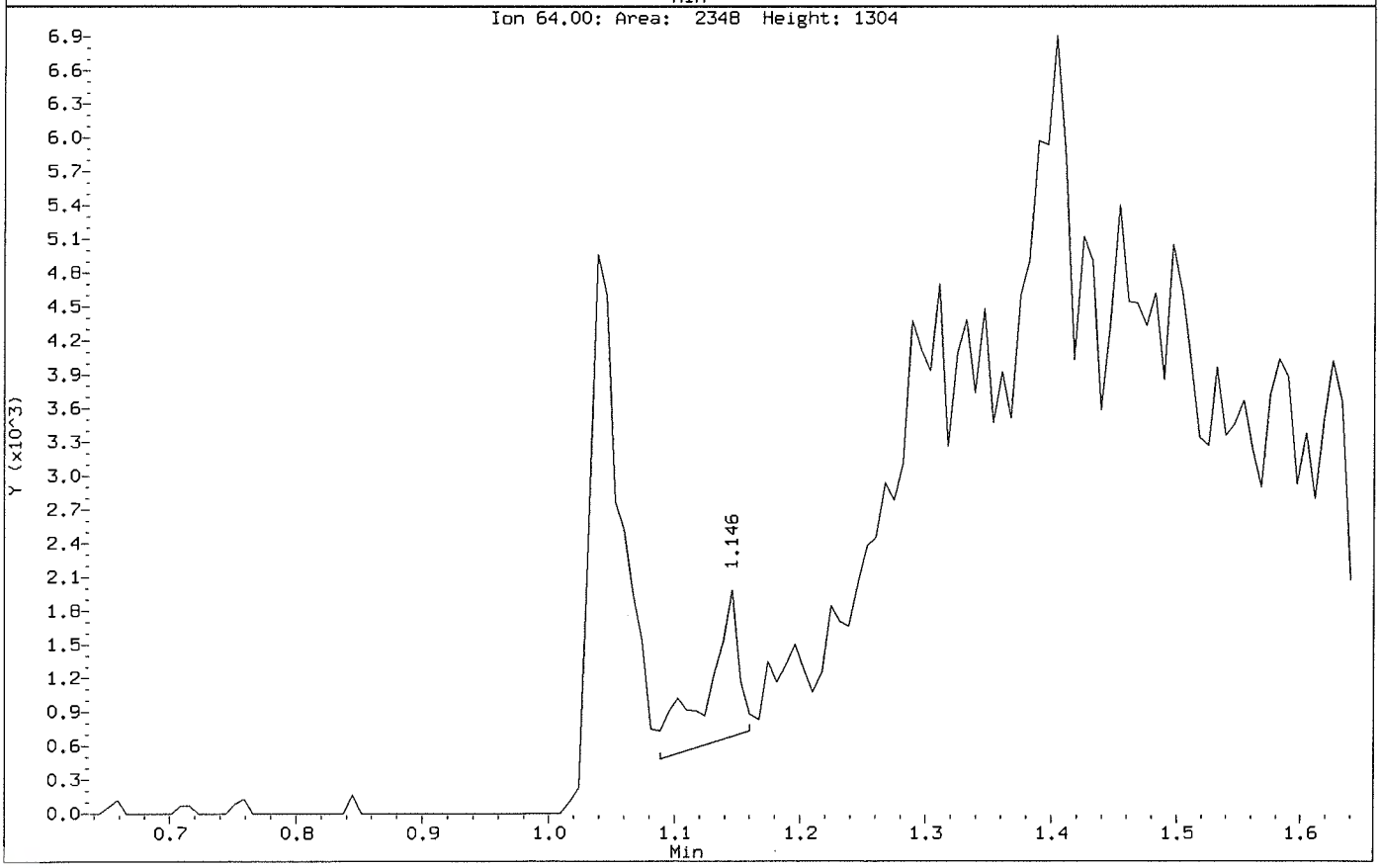


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Instrument: voa6.i
Client Sample ID: VSTD001

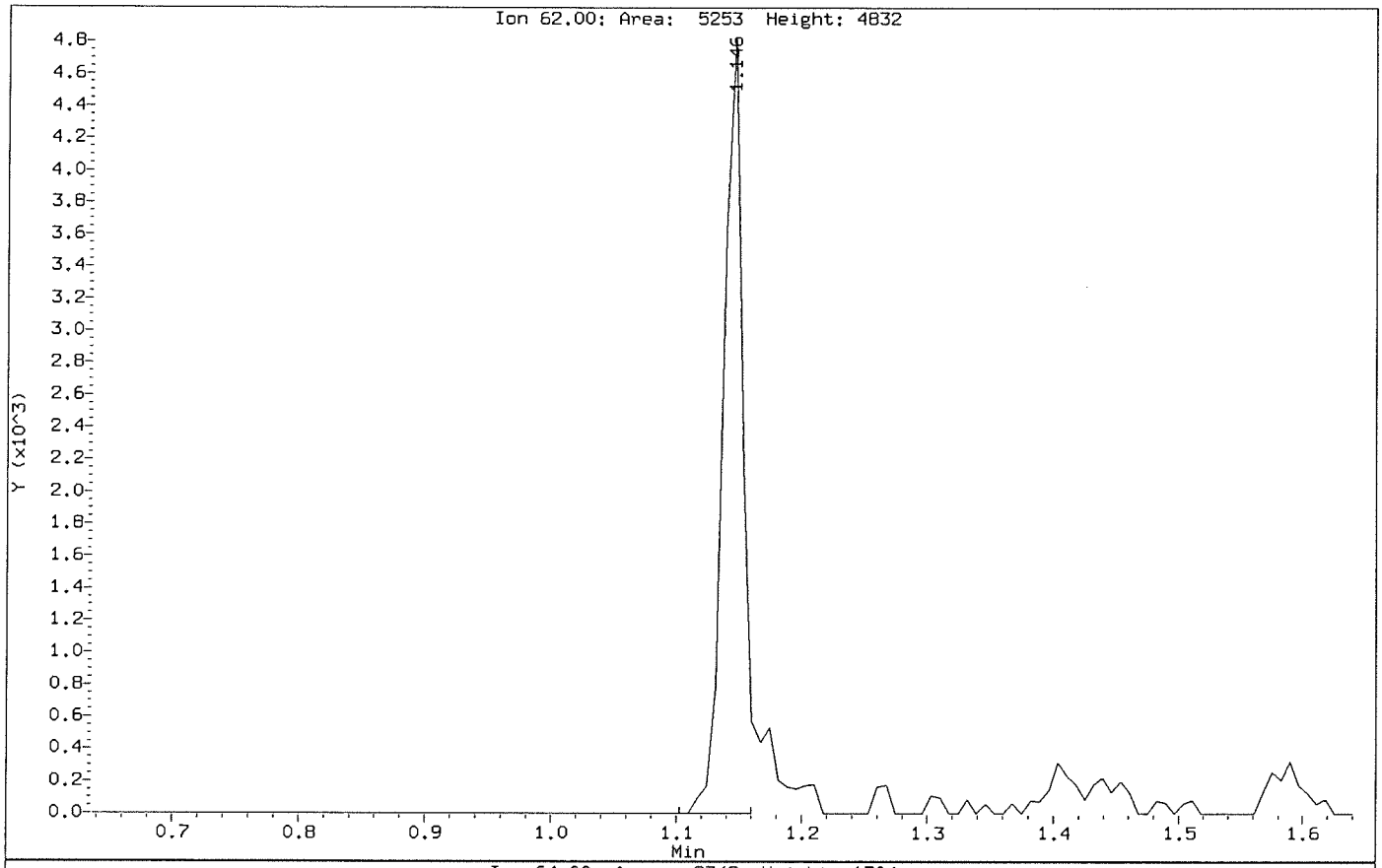
Compound: Vinyl Chloride
CAS Number: 75-01-4

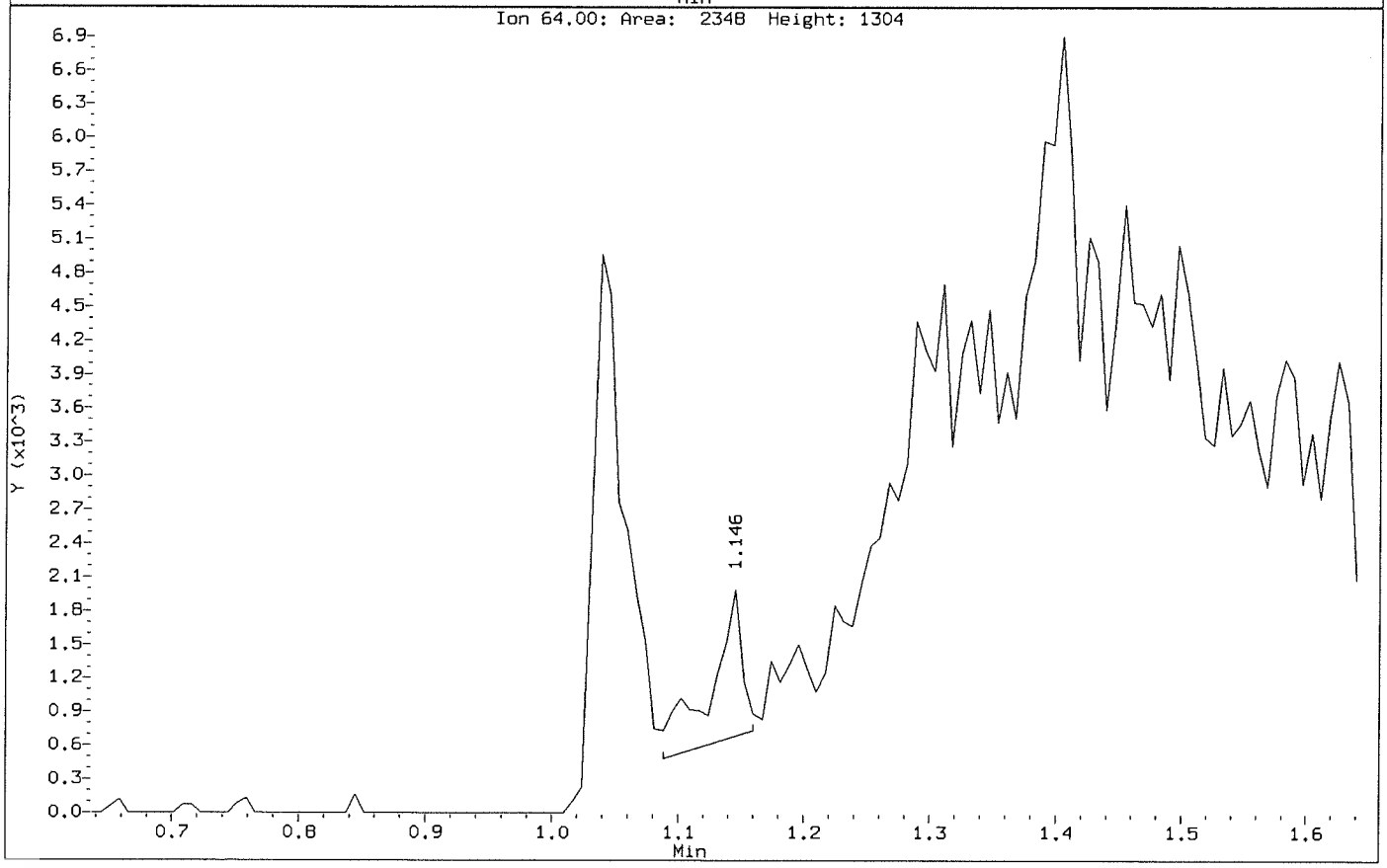


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040204.D
Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Vinyl Chloride
CAS Number: 75-01-4



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040205.D
Lab Smp Id: VSTD002 Client Smp ID: VSTD002
Inj Date : 02-APR-2021 12:17
Operator : PC Inst ID: voa6.i
Smp Info : VSTD002;VSTD002;1;4;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\8260W.m
Meth Date : 14-Apr-2021 12:07 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 11:56 Cal File: X040204.D
Als bottle: 6 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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 |

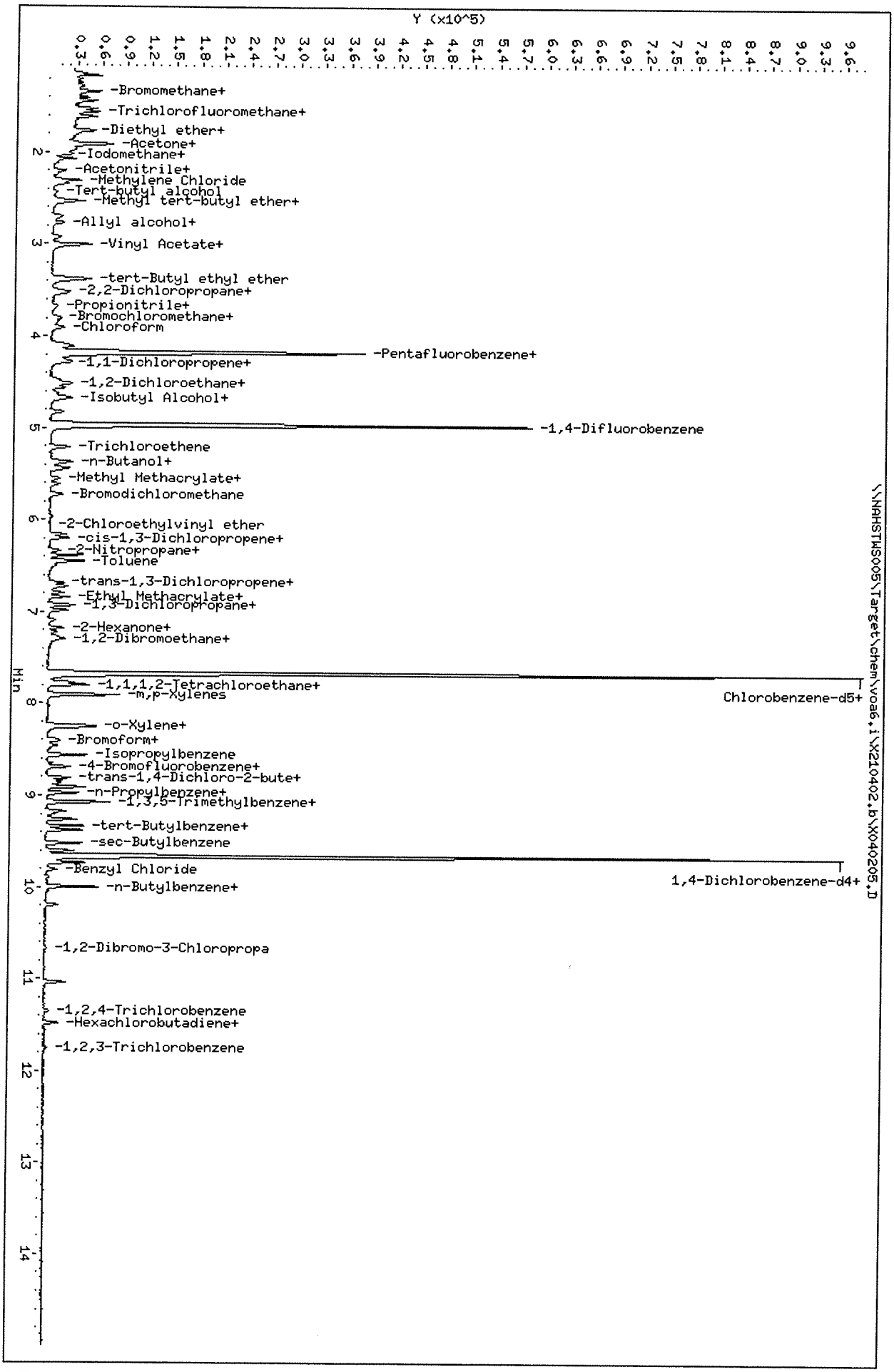
| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|
| * 1 Pentafluorobenzene | 168 | 4.182 | 4.182 | (1.000) | 278535 | 50.0000 | |
| * 36 1,4-Difluorobenzene | 114 | 4.970 | 4.970 | (1.000) | 469682 | 50.0000 | |
| * 47 Chlorobenzene-d5 | 117 | 7.670 | 7.670 | (1.000) | 424642 | 50.0000 | |
| * 70 1,4-Dichlorobenzene-d4 | 152 | 9.662 | 9.662 | (1.000) | 187429 | 50.0000 | |
| $ 30 Dibromofluoromethane | 113 | 4.103 | 4.103 | (0.981) | 6870 | 2.00000 | 2.50(a) |
| $ 35 1,2-Dichloroethane-d4 | 65 | 4.476 | 4.476 | (1.070) | 7506 | 2.00000 | 2.37(a) |
| $ 48 Toluene-d8 | 98 | 6.388 | 6.388 | (0.833) | 22274 | 2.00000 | 3.81(a) |
| $ 69 4-Bromofluorobenzene | 95 | 8.695 | 8.695 | (1.134) | 7732 | 2.00000 | 3.48(a) |
| 60 1,1,1,2-Tetrachloroethane | 131 | 7.778 | 7.778 | (1.014) | 6017 | 2.00000 | 1.90(a) |
| 31 1,1,1-Trichloroethane | 97 | 4.089 | 4.089 | (0.978) | 9621 | 2.00000 | 1.90(a) |
| 68 1,1,2,2-Tetrachloroethane | 83 | 8.838 | 8.838 | (0.915) | 6611 | 2.00000 | 2.11(aM) |
| 53 1,1,2-Trichloroethane | 83 | 6.840 | 6.840 | (0.892) | 5102 | 2.00000 | 2.06(a) |
| 22 1,1-Dichloroethane | 63 | 2.929 | 2.929 | (0.700) | 8974 | 2.00000 | 1.73(a) |
| 11 1,1-Dichloroethene | 96 | 1.911 | 1.911 | (0.457) | 8383 | 2.00000 | 2.11(aM) |
| 32 1,1-Dichloropropene | 75 | 4.289 | 4.289 | (0.863) | 9624 | 2.00000 | 2.18(a) |
| 93 1,2,3-Trichlorobenzene | 180 | 11.746 | 11.746 | (1.216) | 989 | 2.00000 | 2.72(aM) |
| 71 1,2,3-Trichloropropane | 75 | 8.867 | 8.867 | (0.918) | 5266 | 2.00000 | 2.09(aM) |
| 90 1,2,4-Trichlorobenzene | 180 | 11.352 | 11.352 | (1.175) | 2030 | 2.00000 | 2.11(aM) |
| 79 1,2,4-Trimethylbenzene | 105 | 9.382 | 9.382 | (0.971) | 20446 | 2.00000 | 2.12(a) |
| 89 1,2-Dibromo-3-Chloropropane | 155 | 10.672 | 10.672 | (1.105) | 476 | 2.00000 | 2.33(aM) |
| 57 1,2-Dibromoethane | 107 | 7.262 | 7.262 | (0.947) | 5463 | 2.00000 | 1.87(a) |
| 88 1,2-Dichlorobenzene | 146 | 9.998 | 9.998 | (1.035) | 9626 | 2.00000 | 1.86(a) |

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040205.D Page 2
Report Date: 14-Apr-2021 12:07

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|---|
| 33 | 1,2-Dichloroethane | 62 | 4.562 | 4.562 | (0.918) | 9508 | 2.00000 | 1.91(aM) |
| 42 | 1,2-Dichloropropane | 63 | 5.436 | 5.436 | (1.094) | 6318 | 2.00000 | 1.93(aM) |
| 75 | 1,3,5-Trimethylbenzene | 105 | 9.067 | 9.067 | (0.938) | 19106 | 2.00000 | 1.90(a) |
| 83 | 1,3-Dichlorobenzene | 146 | 9.604 | 9.604 | (0.994) | 10887 | 2.00000 | 2.00(a) |
| 54 | 1,3-Dichloropropane | 76 | 6.983 | 6.983 | (0.910) | 9391 | 2.00000 | 1.99(a) |
| 84 | 1,4-Dichlorobenzene | 146 | 9.683 | 9.683 | (1.002) | 12147 | 2.00000 | 2.07(a) |
| 26 | 2,2-Dichloropropane | 77 | 3.509 | 3.509 | (0.839) | 10421 | 2.00000 | 2.04(a) |
| 24 | 2-Butanone | 43 | 3.602 | 3.602 | (0.861) | 3208 | 4.00000 | 3.35(aM) |
| 76 | 2-Chlorotoluene | 91 | 8.974 | 8.974 | (0.929) | 18225 | 2.00000 | 2.29(a) |
| 52 | 2-Hexanone | 43 | 7.097 | 7.097 | (0.925) | 7121 | 4.00000 | 6.83 |
| 77 | 4-Chlorotoluene | 91 | 9.074 | 9.074 | (0.939) | 19889 | 2.00000 | 1.94(a) |
| 82 | p-Isopropyltoluene | 119 | 9.647 | 9.647 | (0.999) | 19181 | 2.00000 | 2.02(a) |
| 45 | 4-Methyl-2-Pentanone | 43 | 6.331 | 6.331 | (0.825) | 10701 | 4.00000 | 4.18(a) |
| 10 | Acetone | 43 | 1.976 | 1.976 | (0.473) | 7678 | 4.00000 | 4.23(a) |
| 37 | Benzene | 78 | 4.519 | 4.519 | (0.909) | 25214 | 2.00000 | 2.02(a) |
| 74 | Bromobenzene | 156 | 8.809 | 8.809 | (0.912) | 7157 | 2.00000 | 2.21(a) |
| 29 | Bromochloromethane | 128 | 3.795 | 3.795 | (0.908) | 2997 | 2.00000 | 1.80(a) |
| 39 | Bromodichloromethane | 83 | 5.722 | 5.722 | (1.151) | 9180 | 2.00000 | 1.94(a) |
| 66 | Bromoform | 173 | 8.415 | 8.415 | (1.097) | 3160 | 2.00000 | 3.47(Ta) |
| 6 | Bromomethane | 94 | 1.338 | 1.338 | (0.320) | 9724 | 2.00000 | 2.26(aM) |
| 19 | Carbon Disulfide | 76 | 2.076 | 2.076 | (0.496) | 31568 | 4.00000 | 4.07(a) |
| 34 | Carbon Tetrachloride | 117 | 4.261 | 4.261 | (0.857) | 7702 | 2.00000 | 1.81(a) |
| 59 | Chlorobenzene | 112 | 7.692 | 7.692 | (1.003) | 17493 | 2.00000 | 3.68(a) |
| 7 | Chloroethane | 64 | 1.403 | 1.403 | (0.336) | 6331 | 2.00000 | 2.04(aM) |
| 28 | Chloroform | 83 | 3.910 | 3.910 | (0.935) | 13259 | 2.00000 | 2.19(a) |
| 3 | Chloromethane | 50 | 1.080 | 1.080 | (0.258) | 7064 | 2.00000 | 1.66(aM) |
| 27 | cis-1,2-Dichloroethene | 96 | 3.530 | 3.530 | (0.844) | 6948 | 2.00000 | 2.04(a) |
| 46 | cis-1,3-Dichloropropene | 75 | 6.159 | 6.159 | (1.239) | 10724 | 2.00000 | 1.95(a) |
| 55 | Dibromochloromethane | 129 | 7.176 | 7.176 | (0.936) | 6867 | 2.00000 | 2.07(a) |
| 44 | Dibromomethane | 93 | 5.557 | 5.557 | (1.118) | 4023 | 2.00000 | 1.73(a) |
| 2 | Dichlorodifluoromethane | 85 | 0.973 | 0.973 | (0.233) | 6450 | 2.00000 | 3.96(a) |
| 61 | Ethylbenzene | 106 | 7.799 | 7.799 | (1.017) | 8850 | 2.00000 | 1.94(a) |
| 91 | Hexachlorobutadiene | 225 | 11.488 | 11.488 | (1.189) | 2237 | 2.00000 | 3.19(a) |
| 67 | Isopropylbenzene | 105 | 8.559 | 8.559 | (1.116) | 26830 | 2.00000 | 1.97(a) |
| 62 | m,p-Xylenes | 106 | 7.907 | 7.907 | (1.031) | 20338 | 4.00000 | 3.53(a) |
| 17 | Methylene Chloride | 84 | 2.305 | 2.305 | (0.551) | 7271 | 2.00000 | 3.81(a) |
| 87 | n-Butylbenzene | 91 | 9.998 | 9.998 | (1.035) | 17052 | 2.00000 | 1.89(a) |
| 73 | n-Propylbenzene | 91 | 8.910 | 8.910 | (0.922) | 30182 | 2.00000 | 2.12(a) |
| 92 | Naphthalene | 128 | 11.560 | 11.560 | (1.196) | 3114 | 2.00000 | 2.52(aM) |
| 63 | o-Xylene | 106 | 8.243 | 8.243 | (1.075) | 11012 | 2.00000 | 1.97(a) |
| 81 | sec-Butylbenzene | 105 | 9.519 | 9.519 | (0.985) | 24043 | 2.00000 | 2.44(a) |
| 64 | Styrene | 104 | 8.265 | 8.265 | (1.078) | 15017 | 2.00000 | 4.72(a) |
| 78 | tert-Butylbenzene | 119 | 9.339 | 9.339 | (0.967) | 17971 | 2.00000 | 2.92(a) |
| 56 | Tetrachloroethene | 164 | 6.933 | 6.933 | (0.904) | 5396 | 2.00000 | 2.10(a) |
| 50 | Toluene | 91 | 6.453 | 6.453 | (0.841) | 25834 | 2.00000 | 1.95(a) |
| 20 | trans-1,2-Dichloroethene | 96 | 2.535 | 2.535 | (0.606) | 5643 | 2.00000 | 1.98(a) |
| 51 | trans-1,3-Dichloropropene | 75 | 6.682 | 6.682 | (1.344) | 8794 | 2.00000 | 1.87(a) |
| 38 | Trichloroethene | 130 | 5.206 | 5.206 | (1.048) | 6830 | 2.00000 | 2.12(a) |
| 8 | Trichlorofluoromethane | 101 | 1.560 | 1.560 | (0.373) | 17711 | 2.00000 | 2.21(a) |
| 5 | Vinyl Chloride | 62 | 1.145 | 1.145 | (0.274) | 8442 | 2.00000 | 2.02(aM) |

QC Flag Legend

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

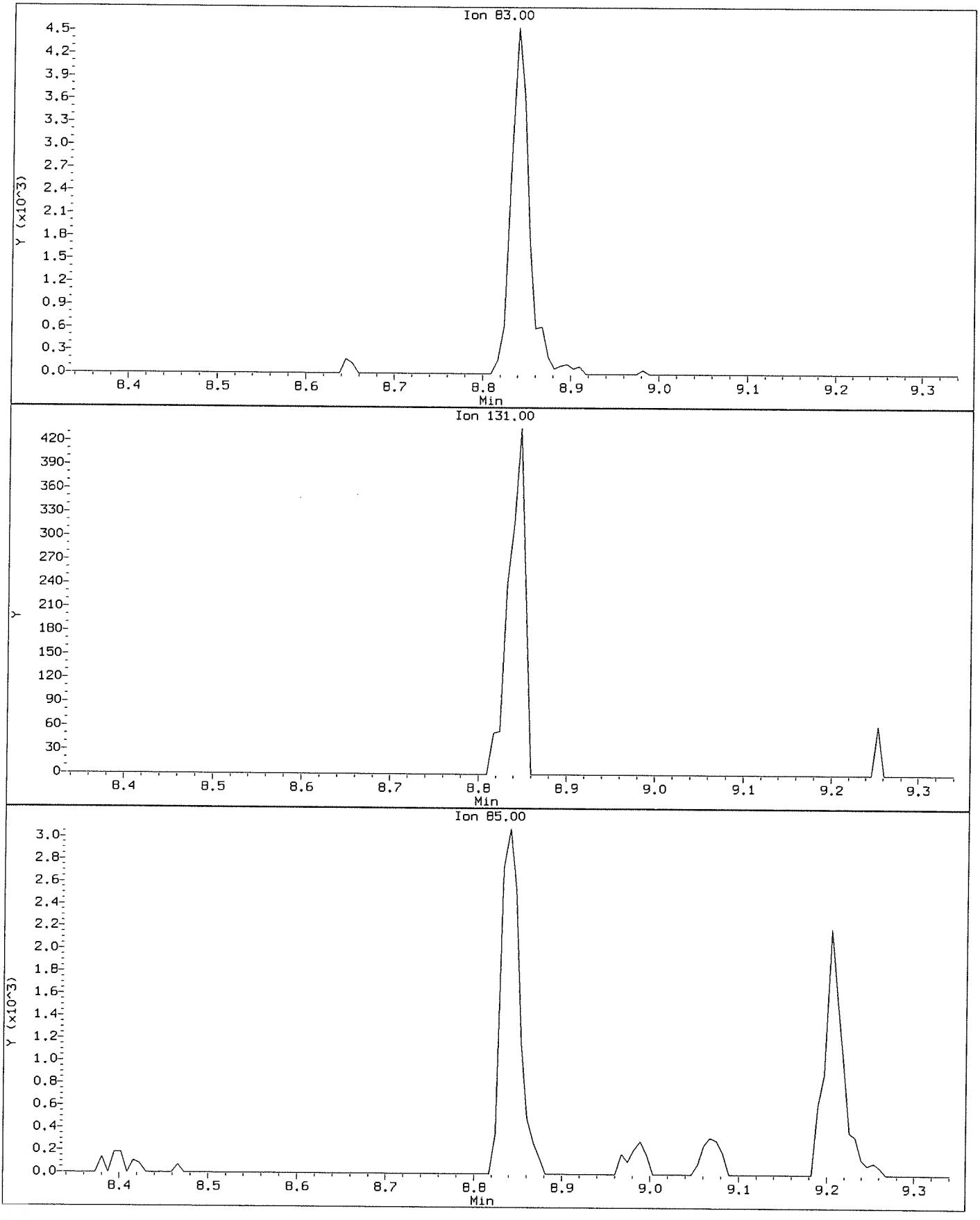



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Client ID: VSTD002
Sample Info: VSTD002;VSTD002;1;4;;
Purge Volume: 5.0
Column phase: DB624

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

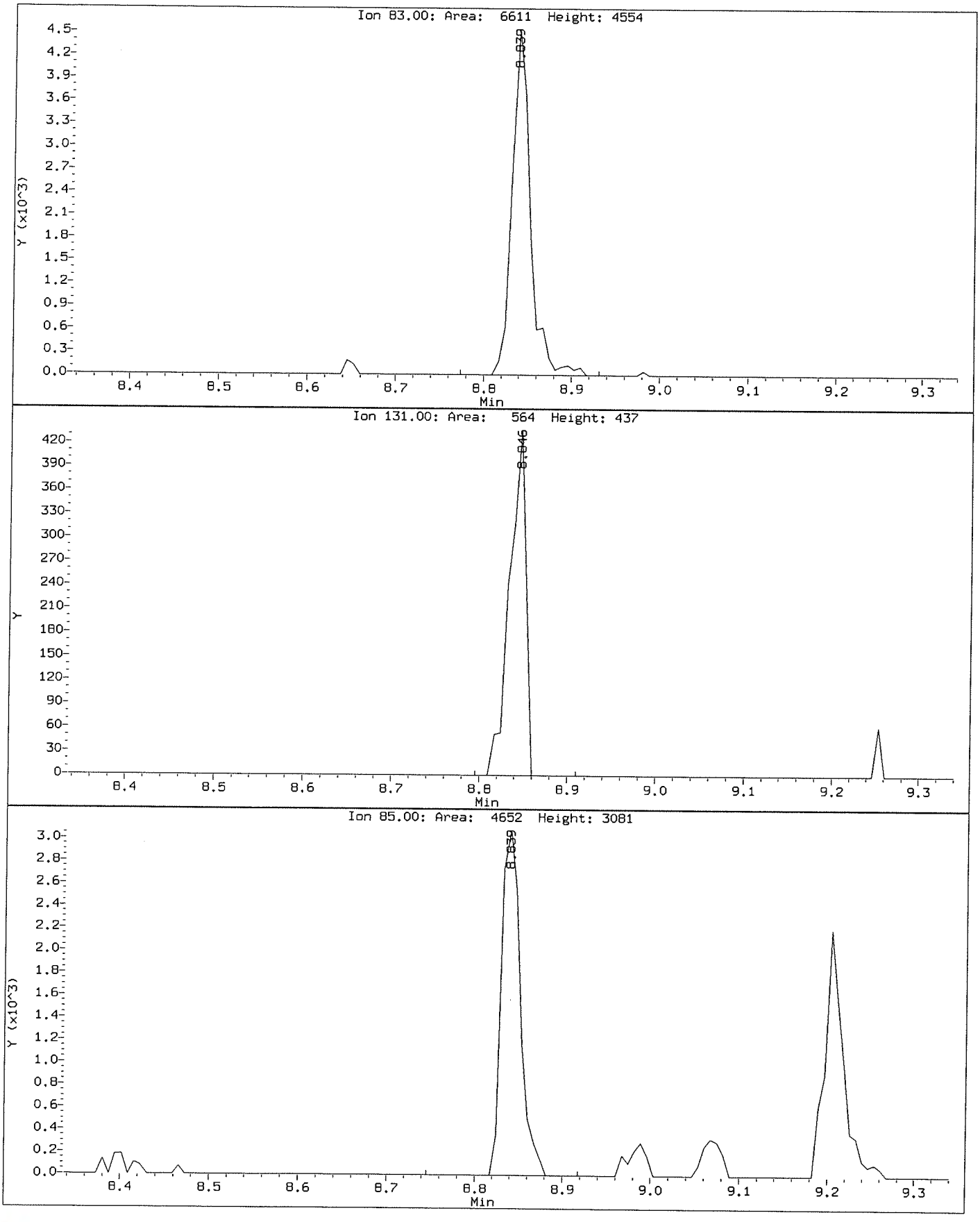
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Injection Date: 02-APR-2021 12:17
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: 1,1,2,2-Tetrachloroethane
CAS Number: 79-34-5



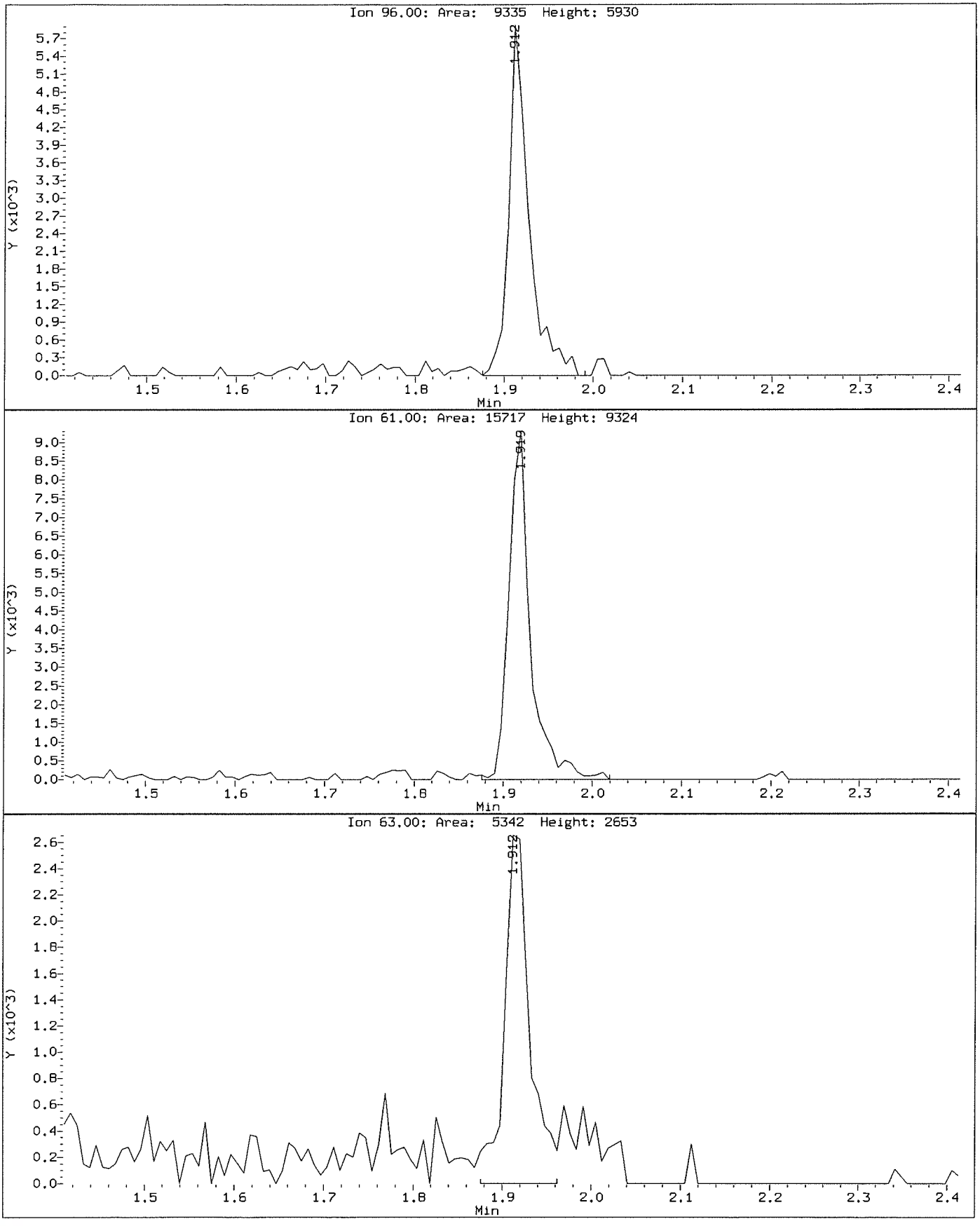
Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040205.D
Injection Date: 02-APR-2021 12:17
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: 1,1,2,2-Tetrachloroethane
CAS Number: 79-34-5



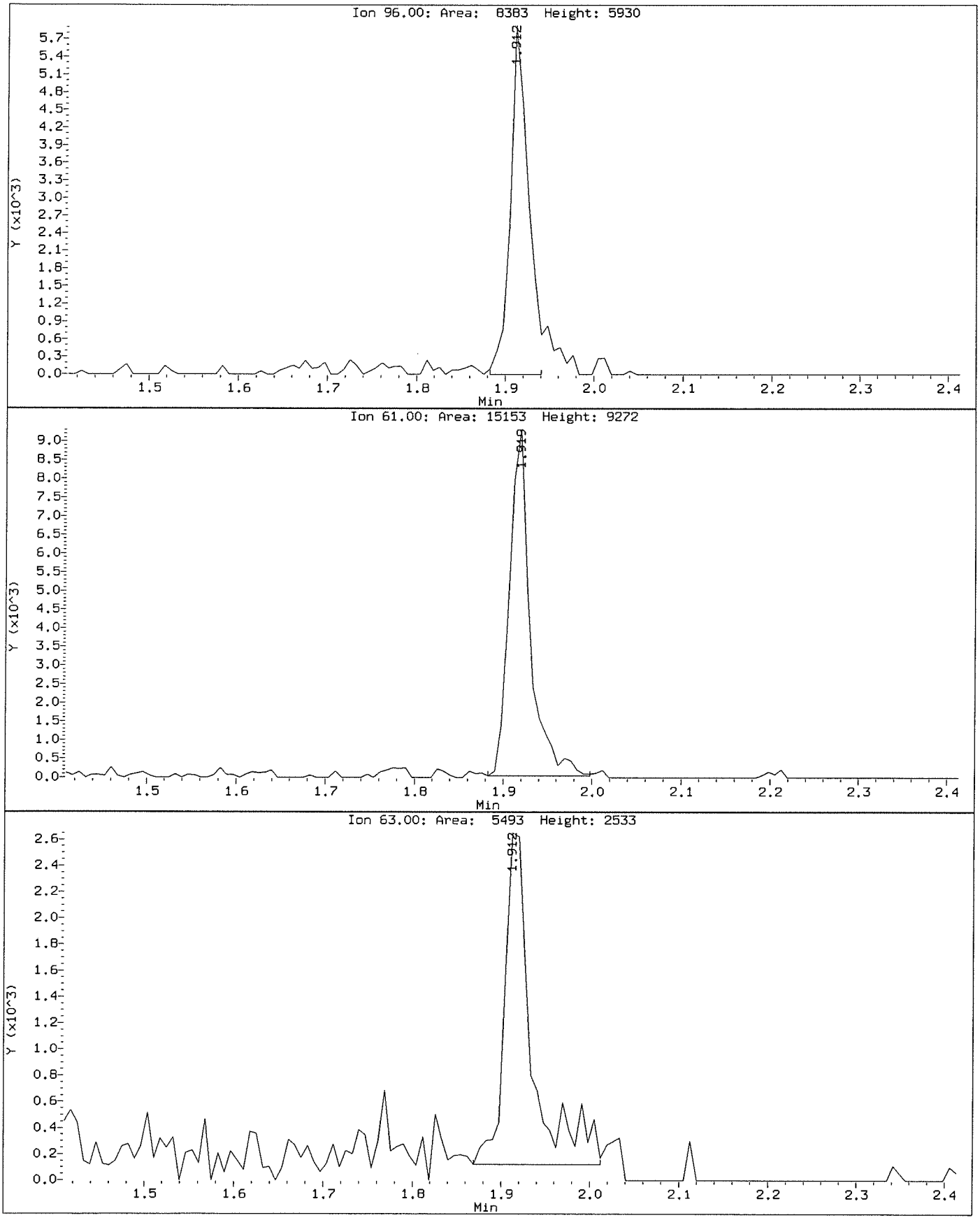
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Injection Date: 02-APR-2021 12:17
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: 1,1-Dichloroethene
CAS Number: 75-35-4



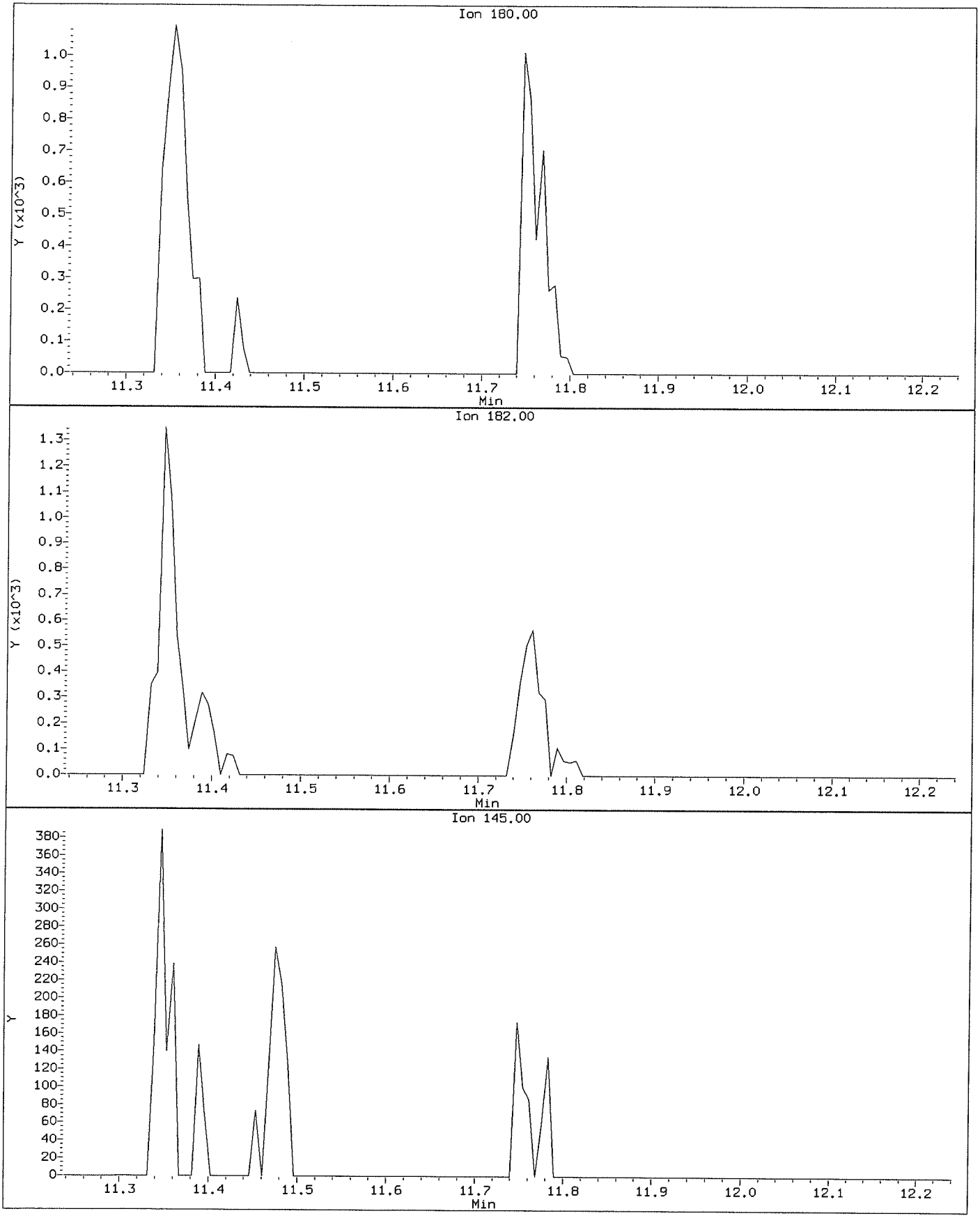
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Injection Date: 02-APR-2021 12:17
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: 1,1-Dichloroethene
CAS Number: 75-35-4



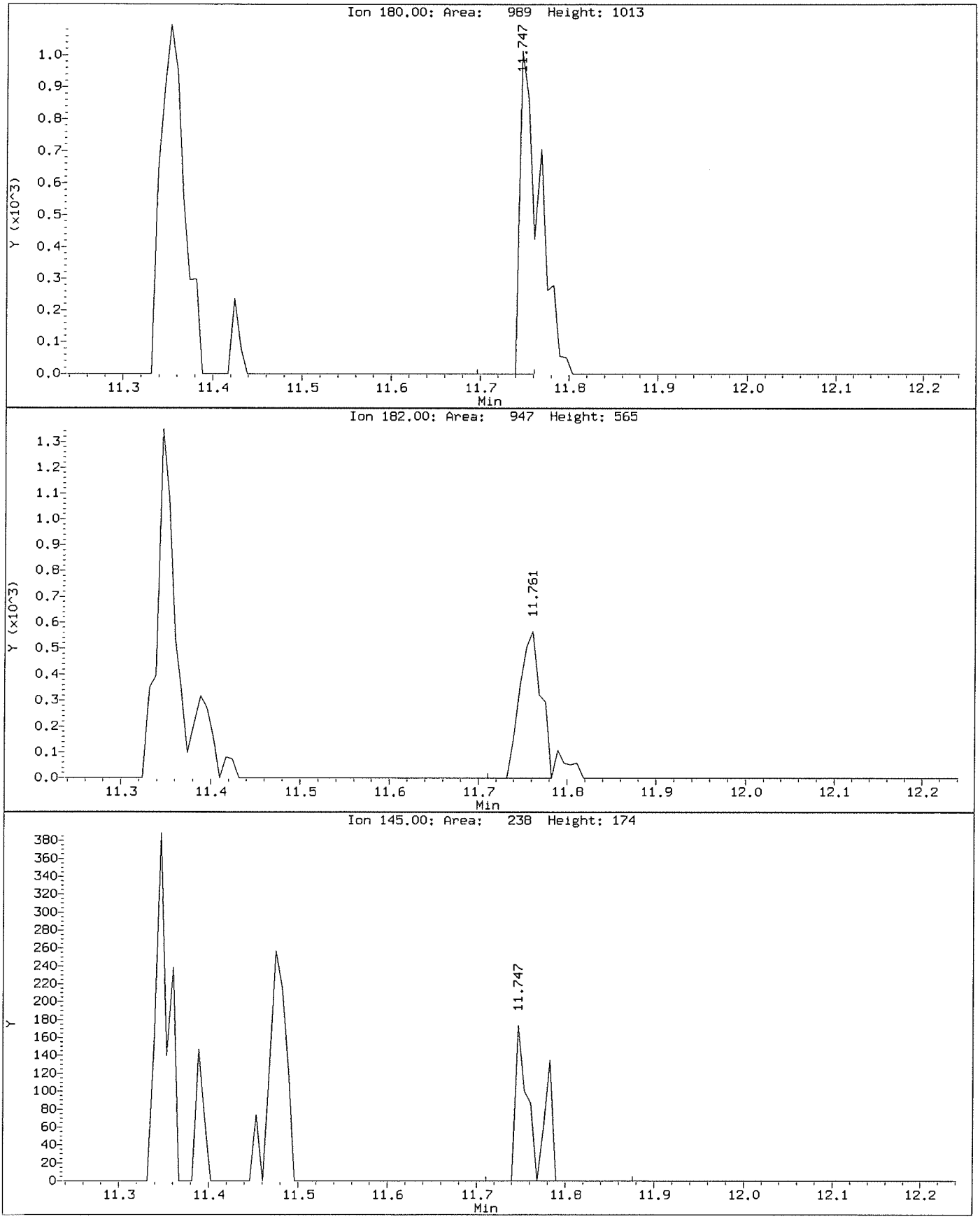
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Injection Date: 02-APR-2021 12:17
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: 1,2,3-Trichlorobenzene
CAS Number: 87-61-6



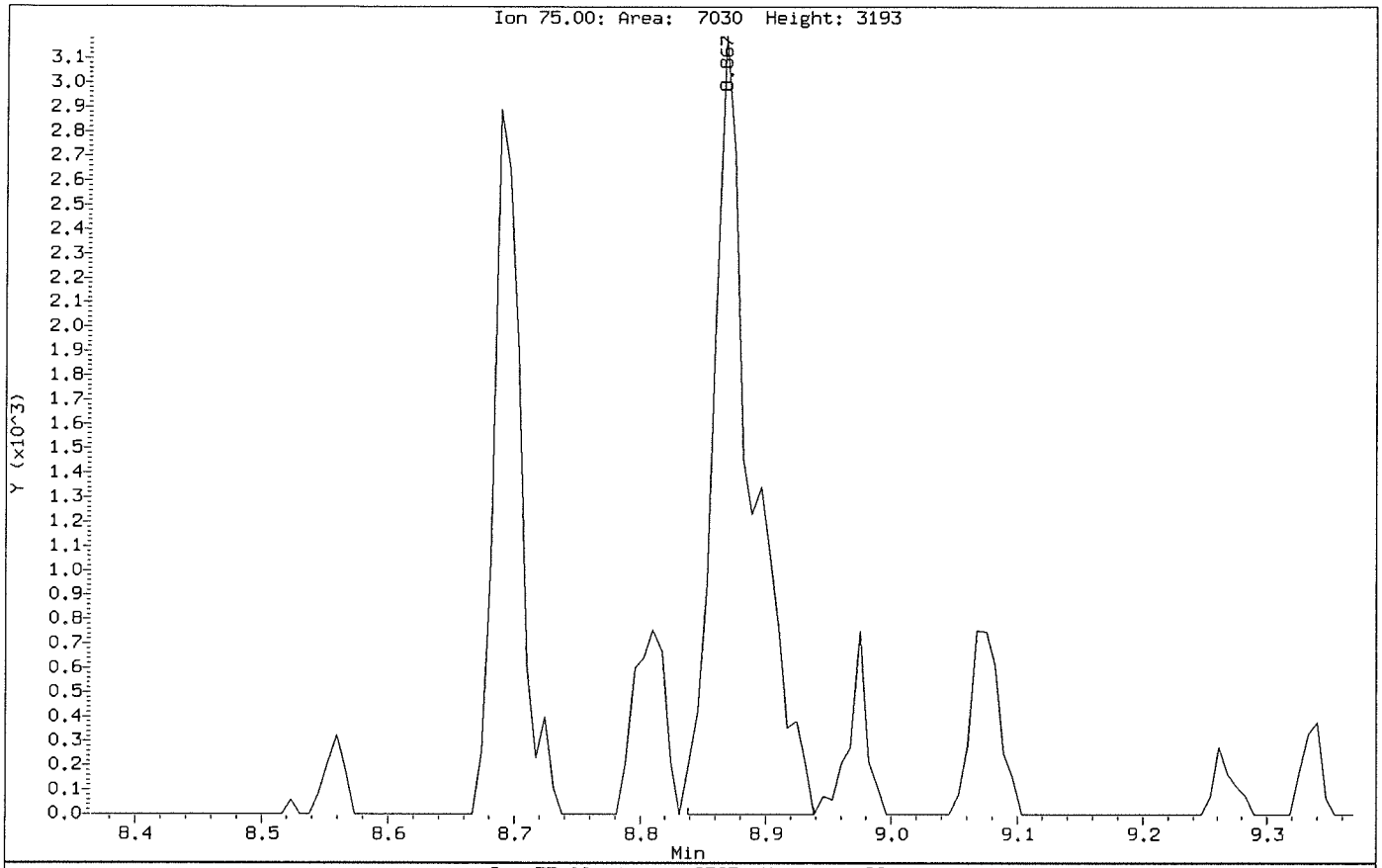
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Injection Date: 02-APR-2021 12:17
Instrument: voa6.i
Client Sample ID: VSTD002

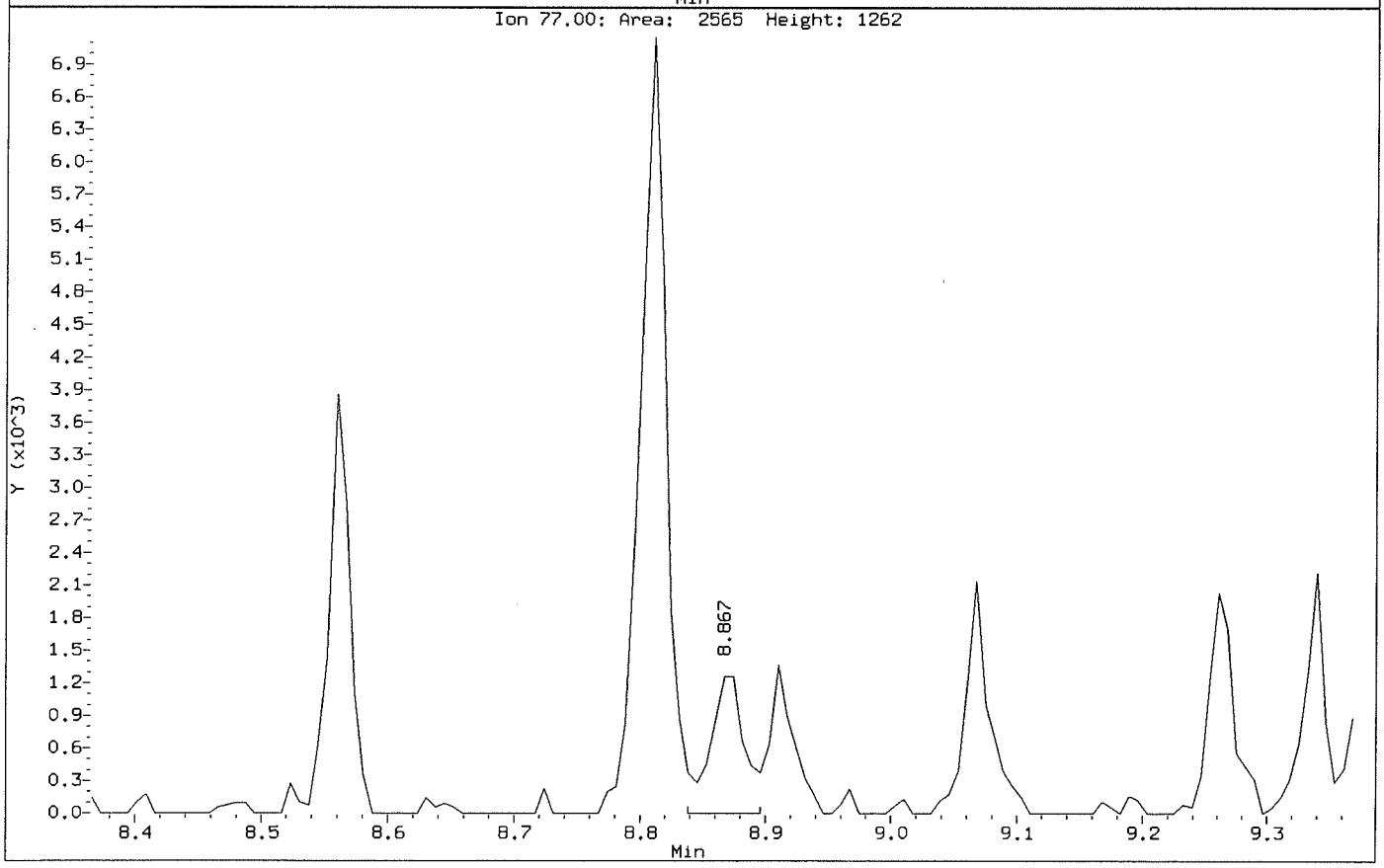
Compound: 1,2,3-Trichlorobenzene
CAS Number: 87-61-6



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before\X040205.D
Injection Date: 02-APR-2021 12:17
Instrument: voa6.i
Client Sample ID: VSTD002

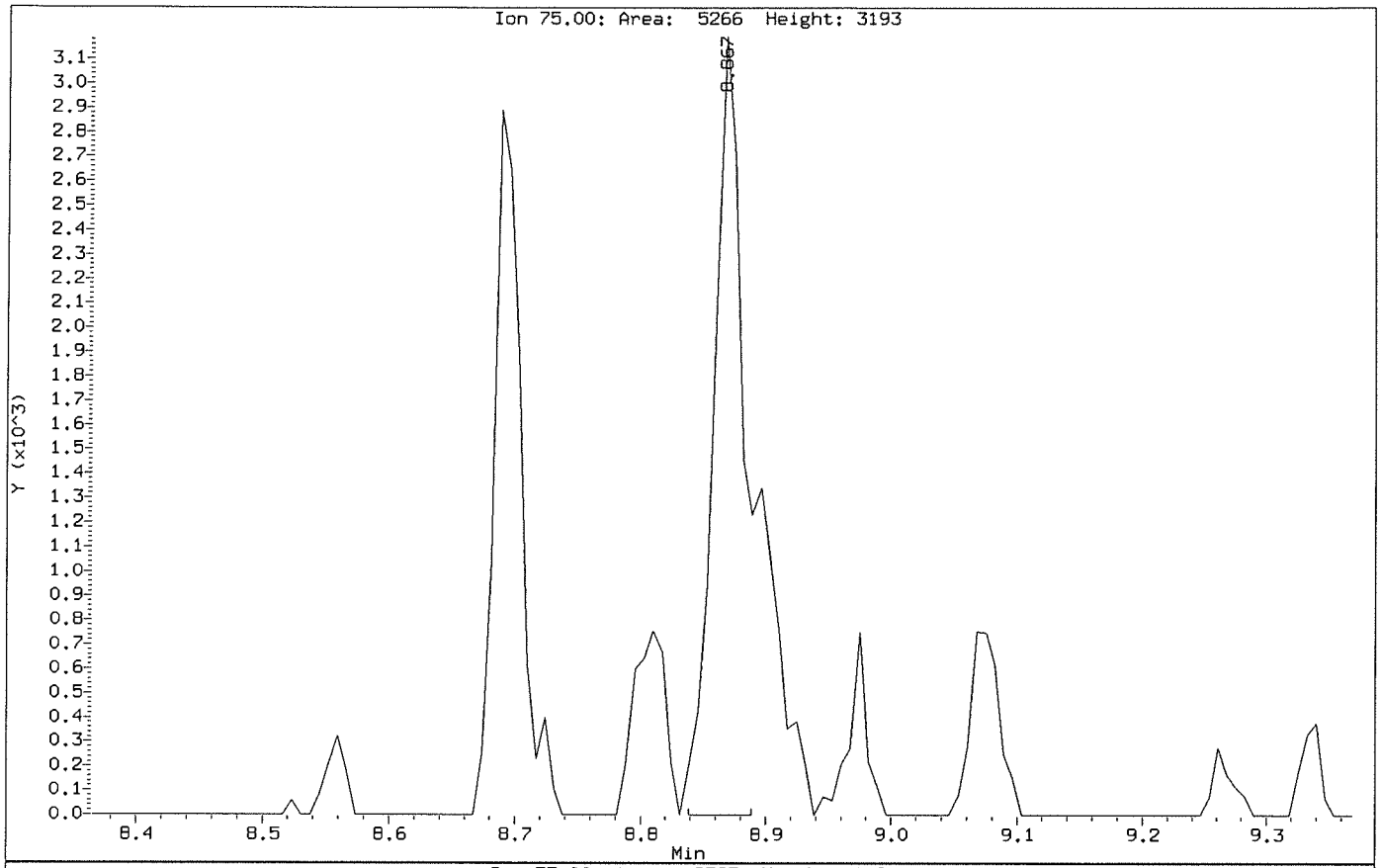
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4

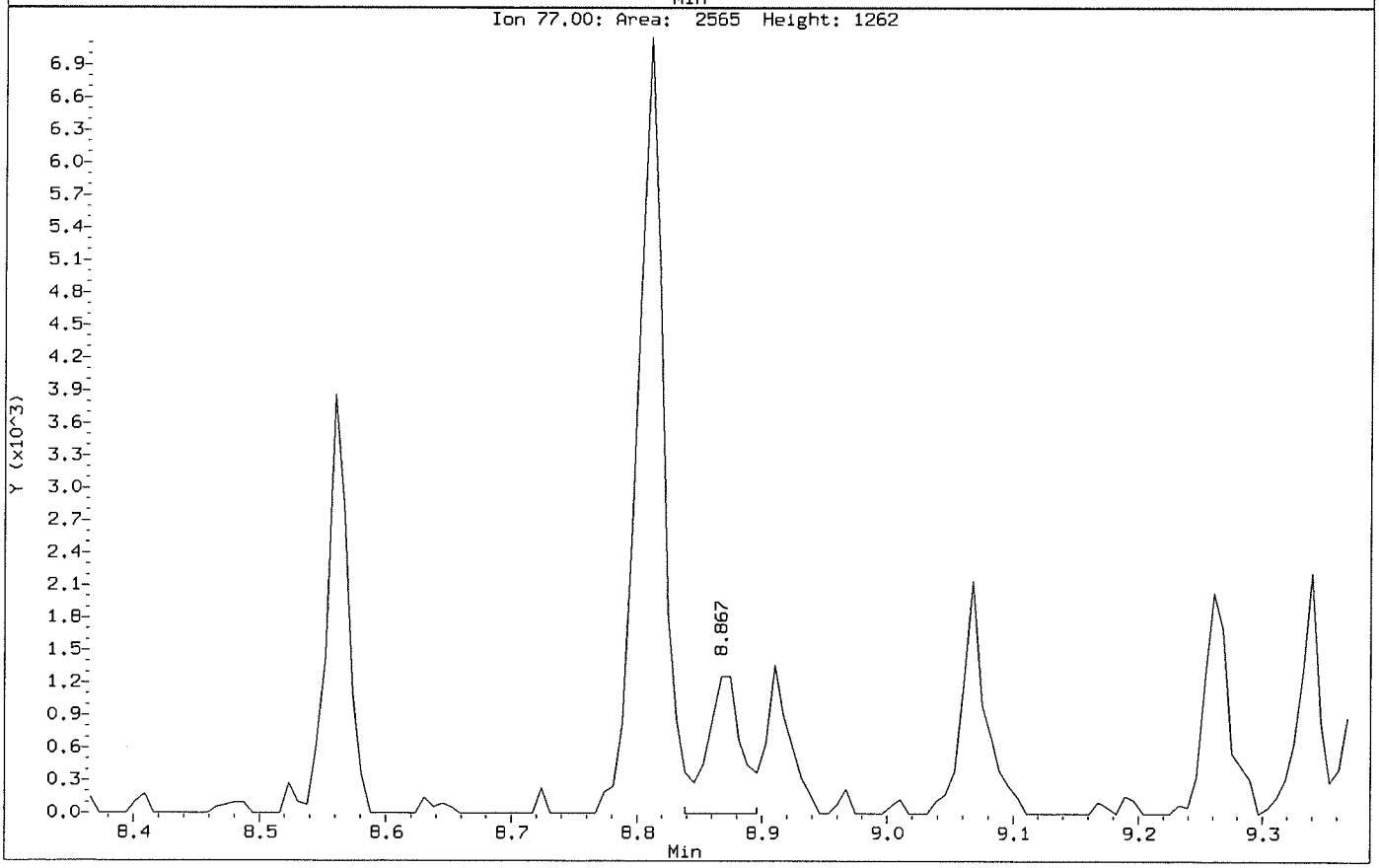


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040205.D
Injection Date: 02-APR-2021 12:17
Instrument: voa6.i
Client Sample ID: VSTD002

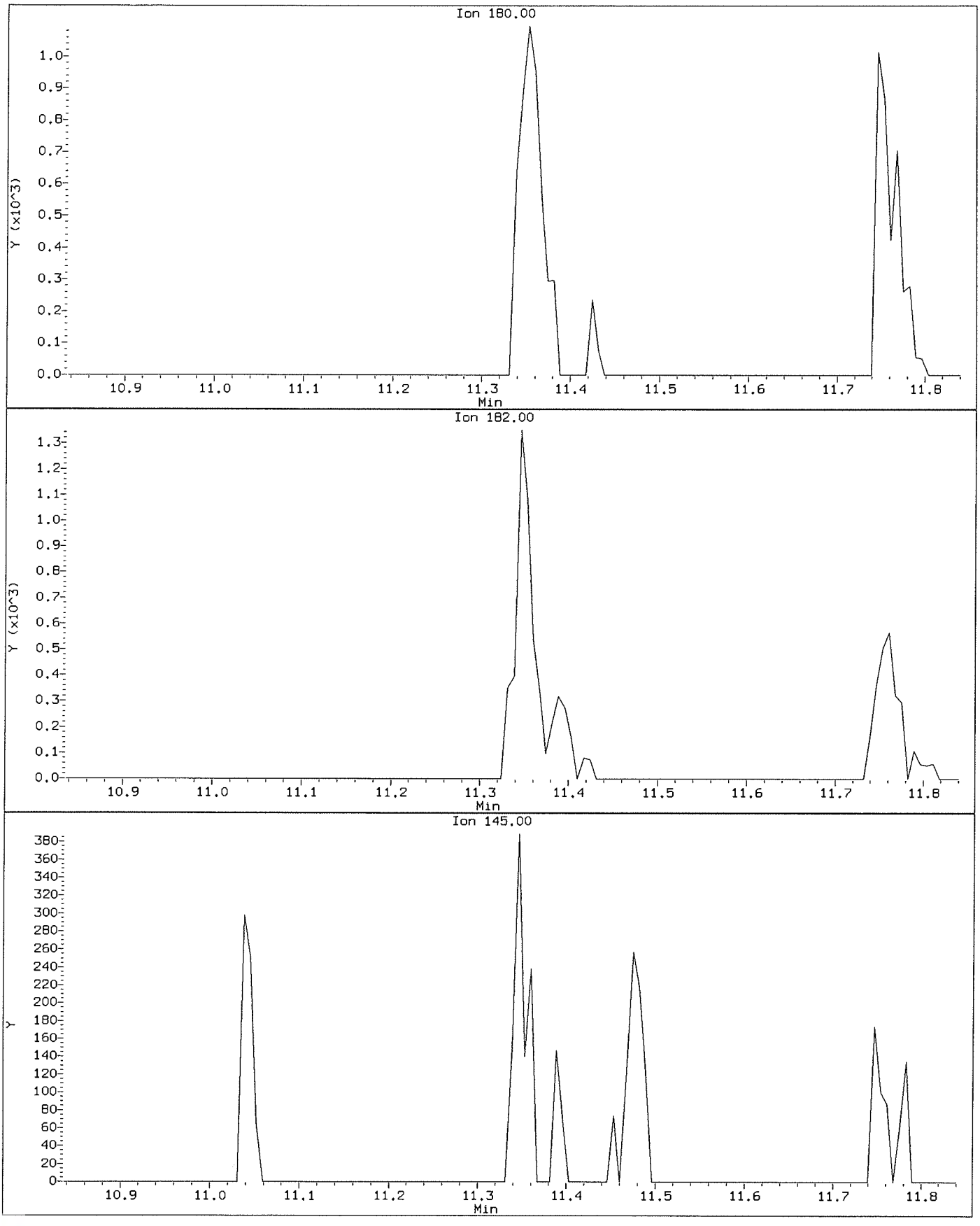
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



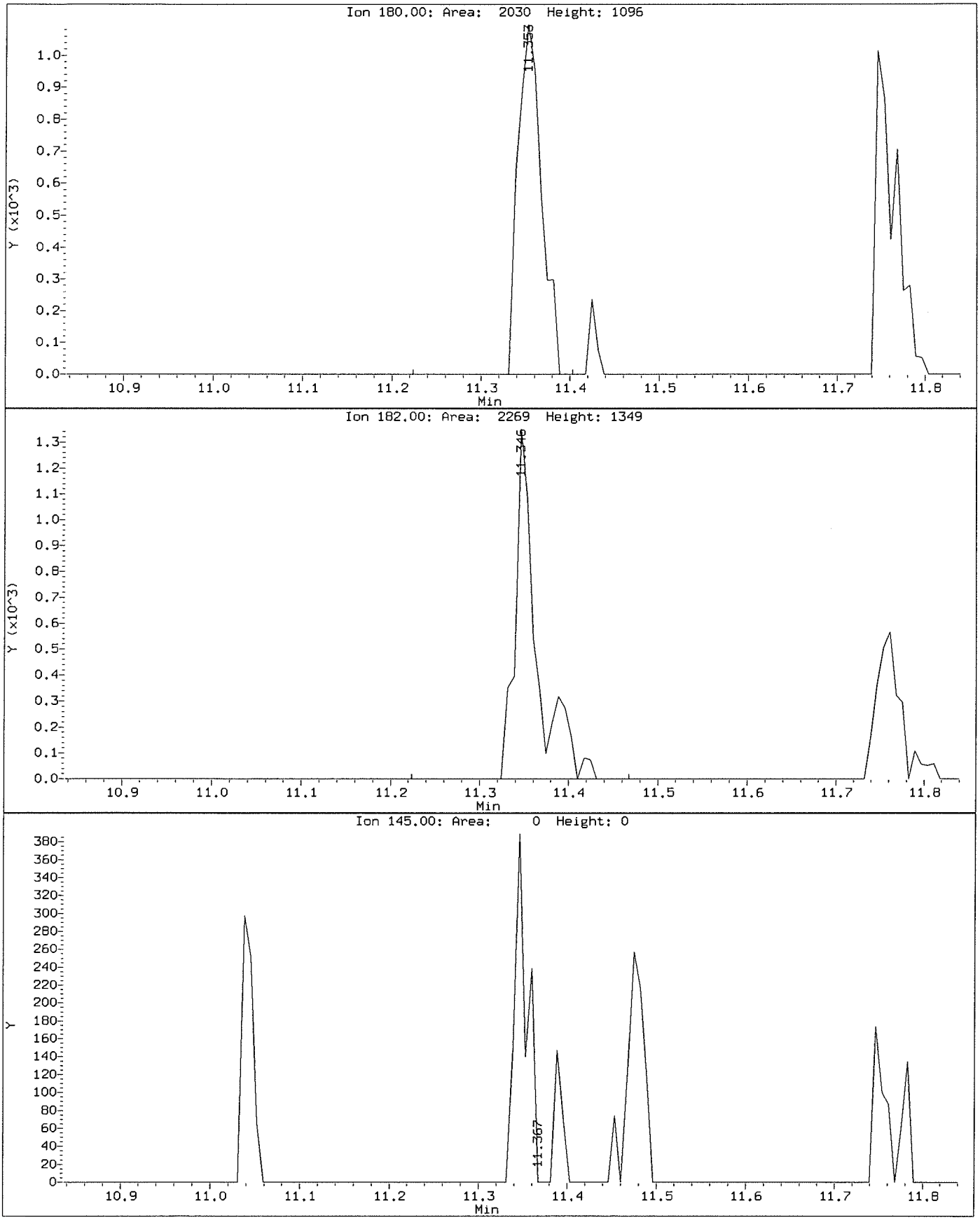
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Injection Date: 02-APR-2021 12:17
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1



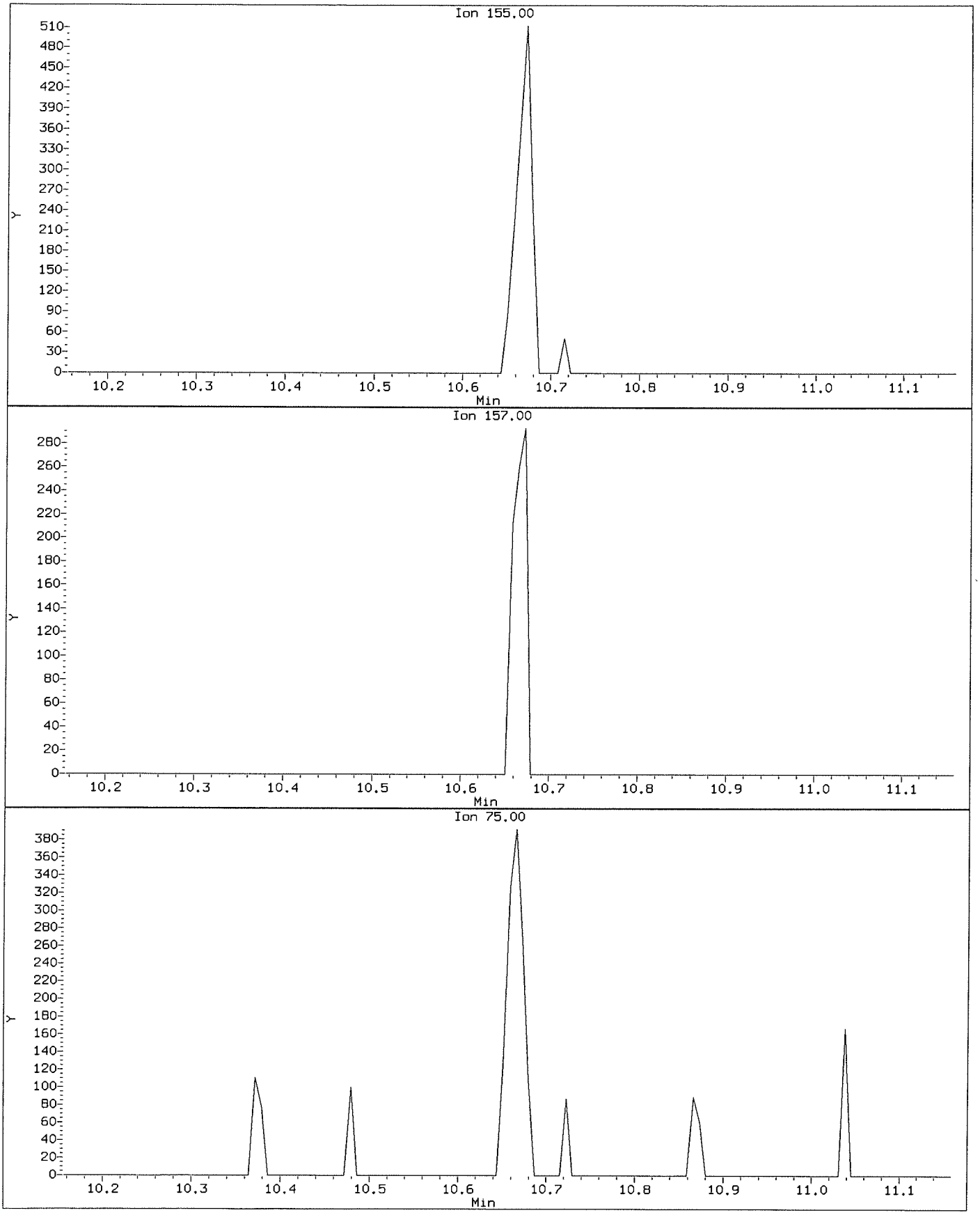
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Injection Date: 02-APR-2021 12:17
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1



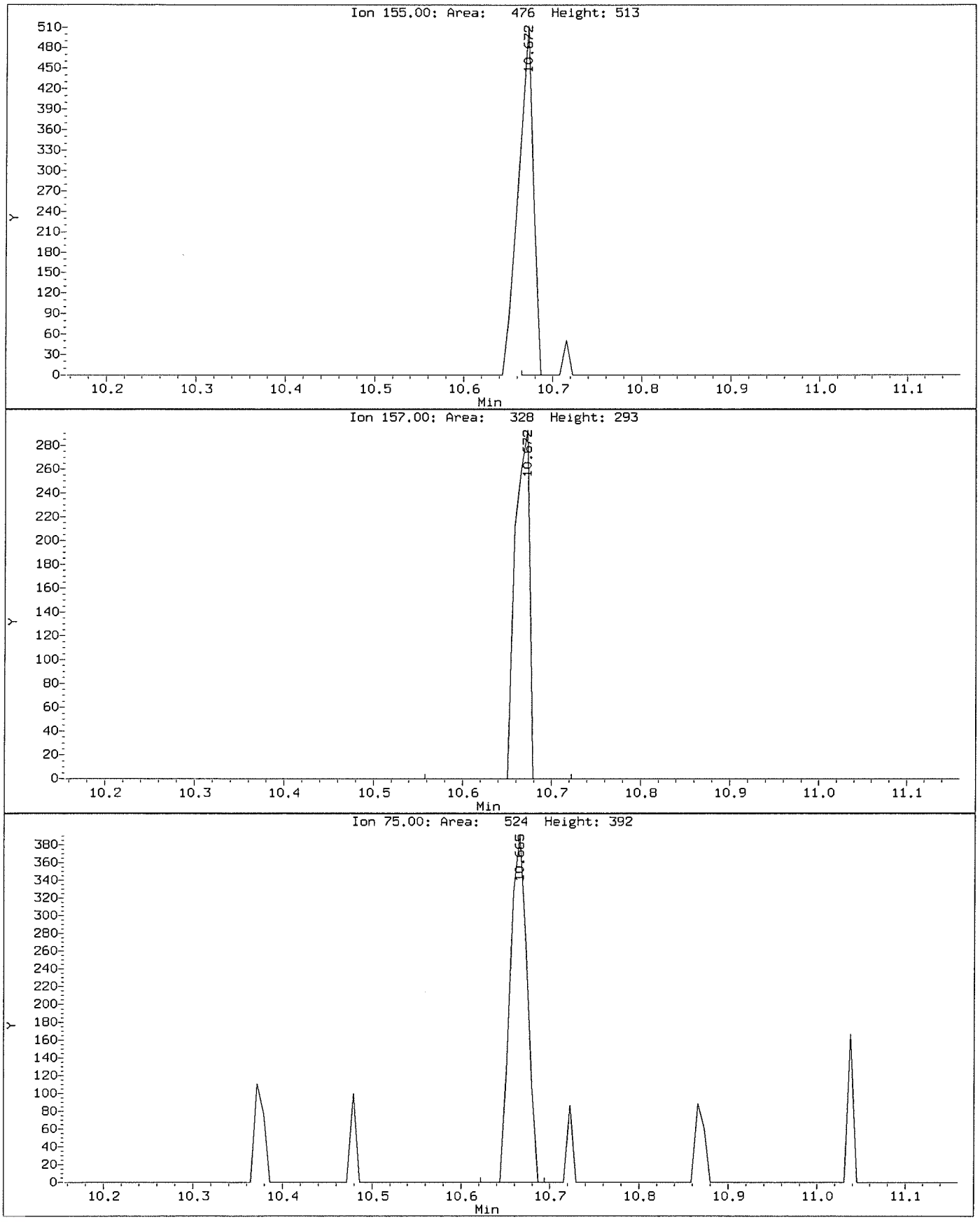
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Injection Date: 02-APR-2021 12:17
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: 1,2-Dibromo-3-Chloropropane
CAS Number: 96-12-8



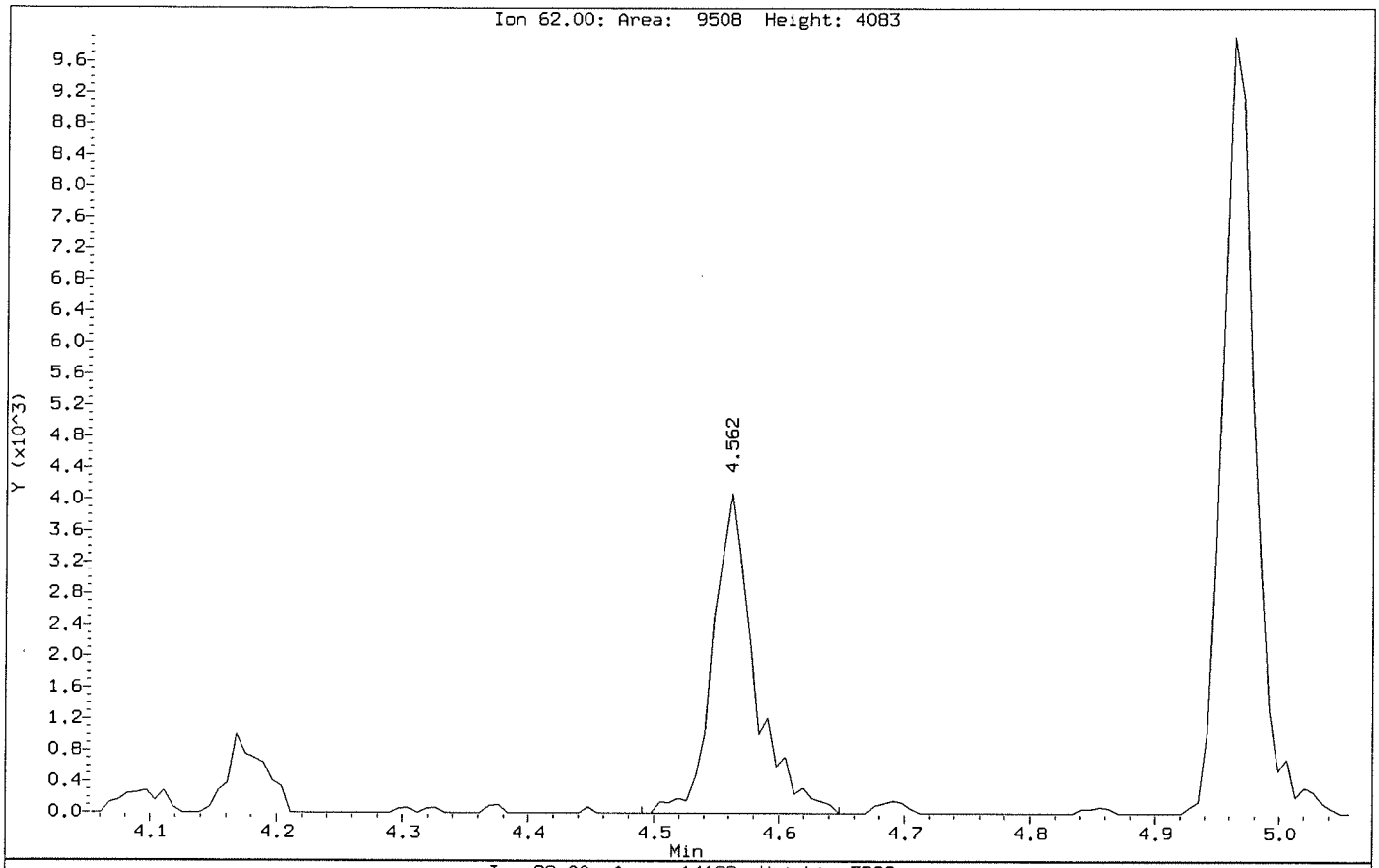
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Instrument: voa6.i
Client Sample ID: VSTD002

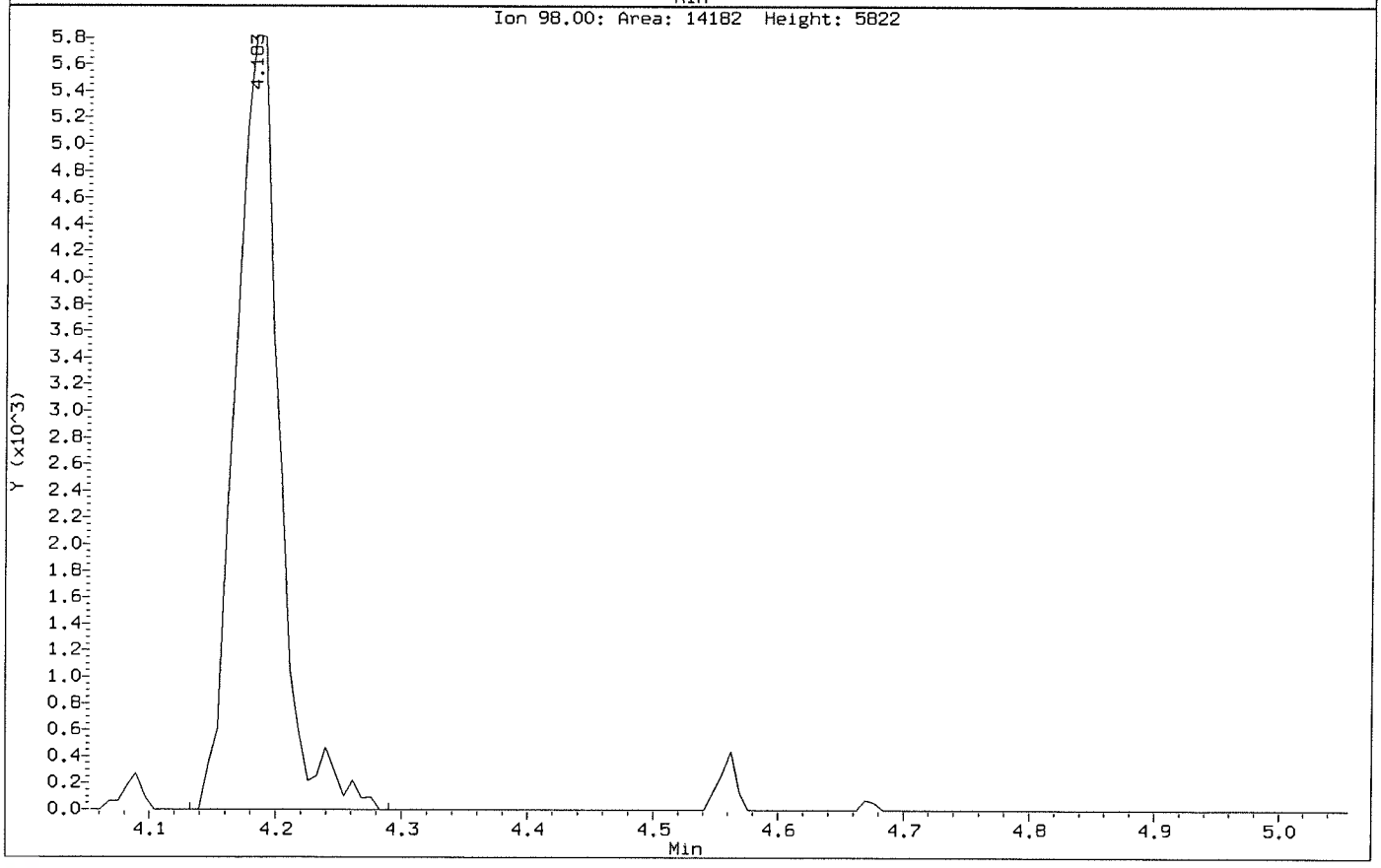
Compound: 1,2-Dibromo-3-Chloropropane
CAS Number: 96-12-8



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Instrument: voa6.i
Client Sample ID: VSTD002

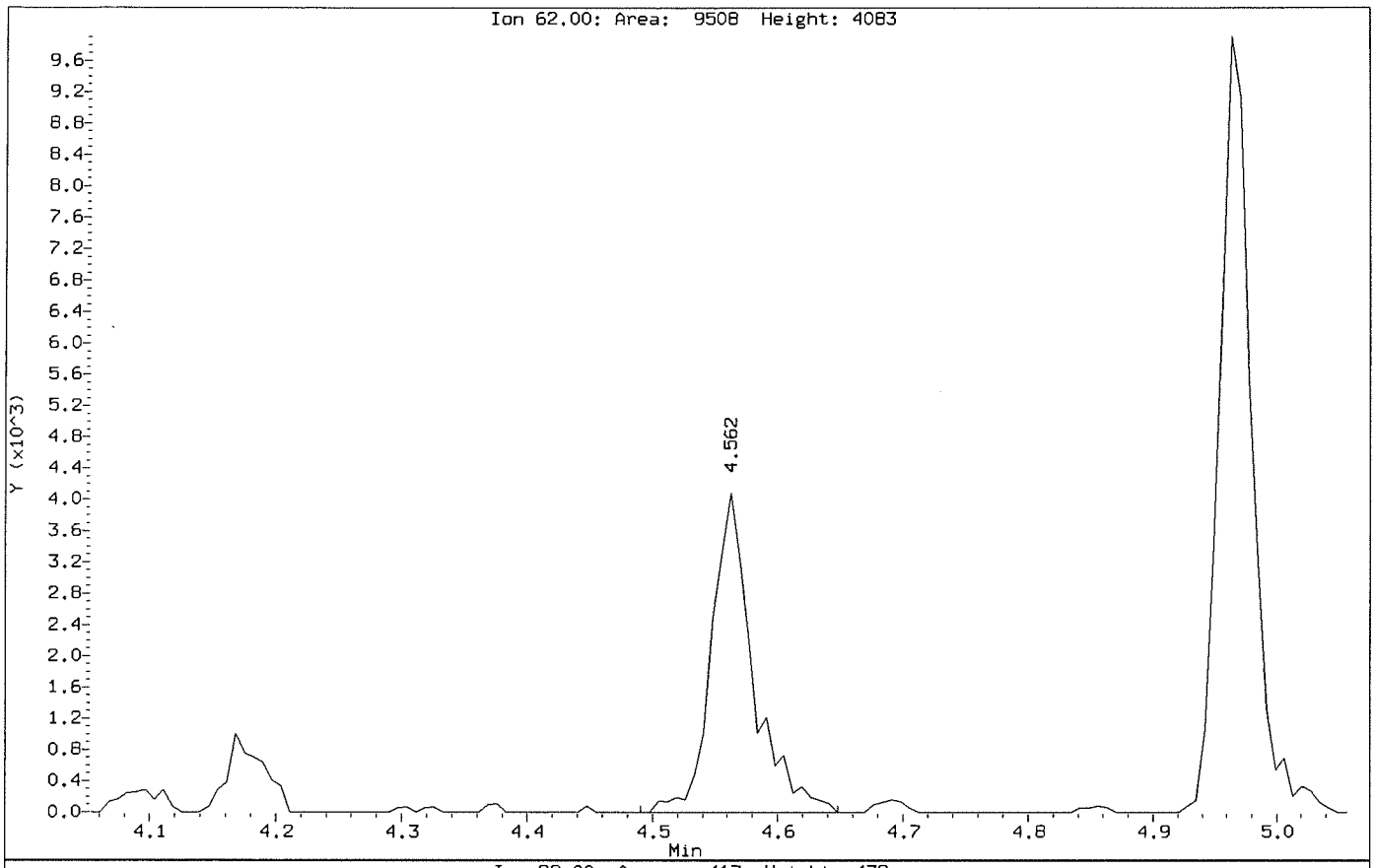
Compound: 1,2-Dichloroethane
CAS Number: 107-06-2

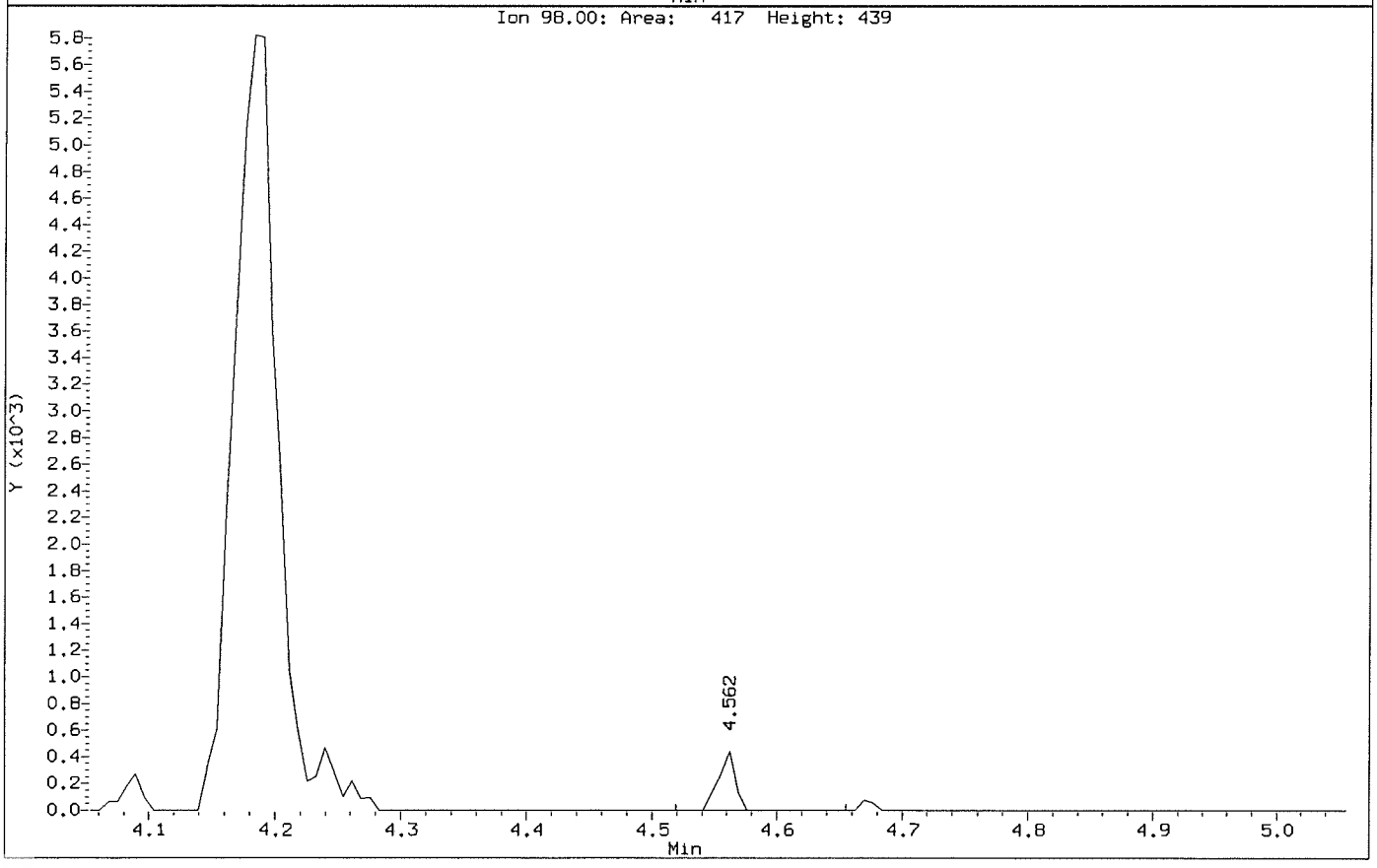


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Client Sample ID: VSTD002

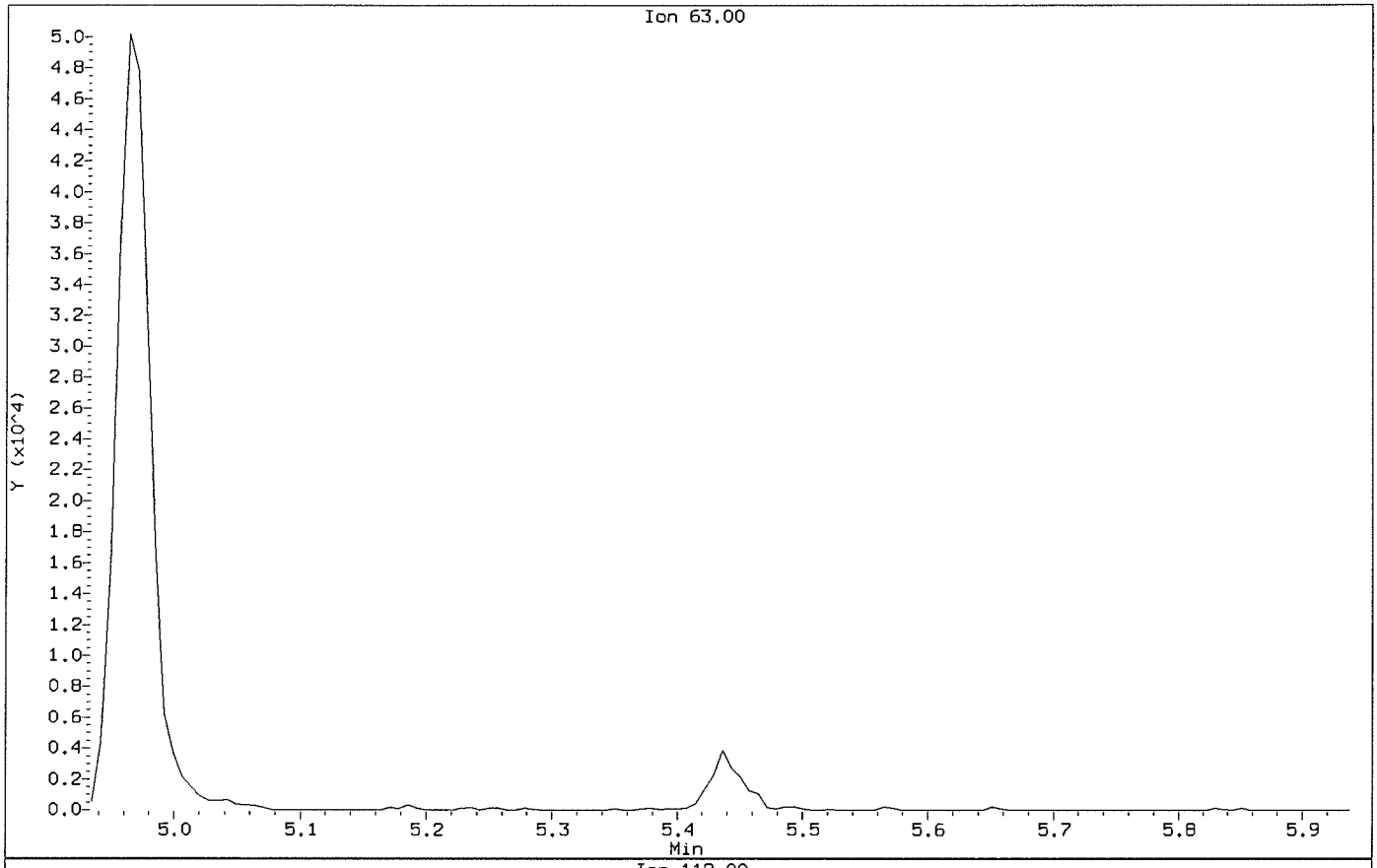
Compound: 1,2-Dichloroethane
CAS Number: 107-06-2

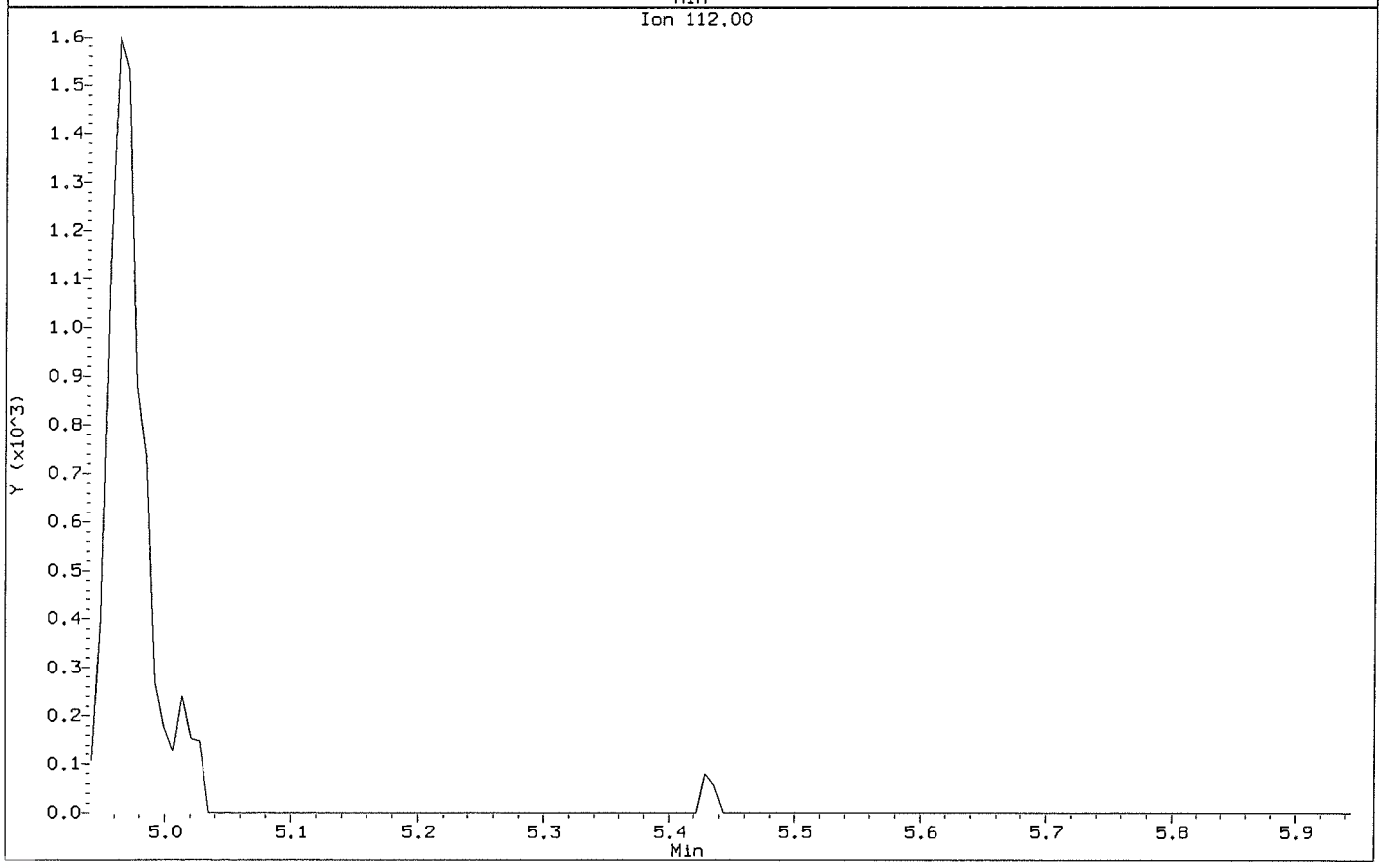


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Client Sample ID: VSTD002

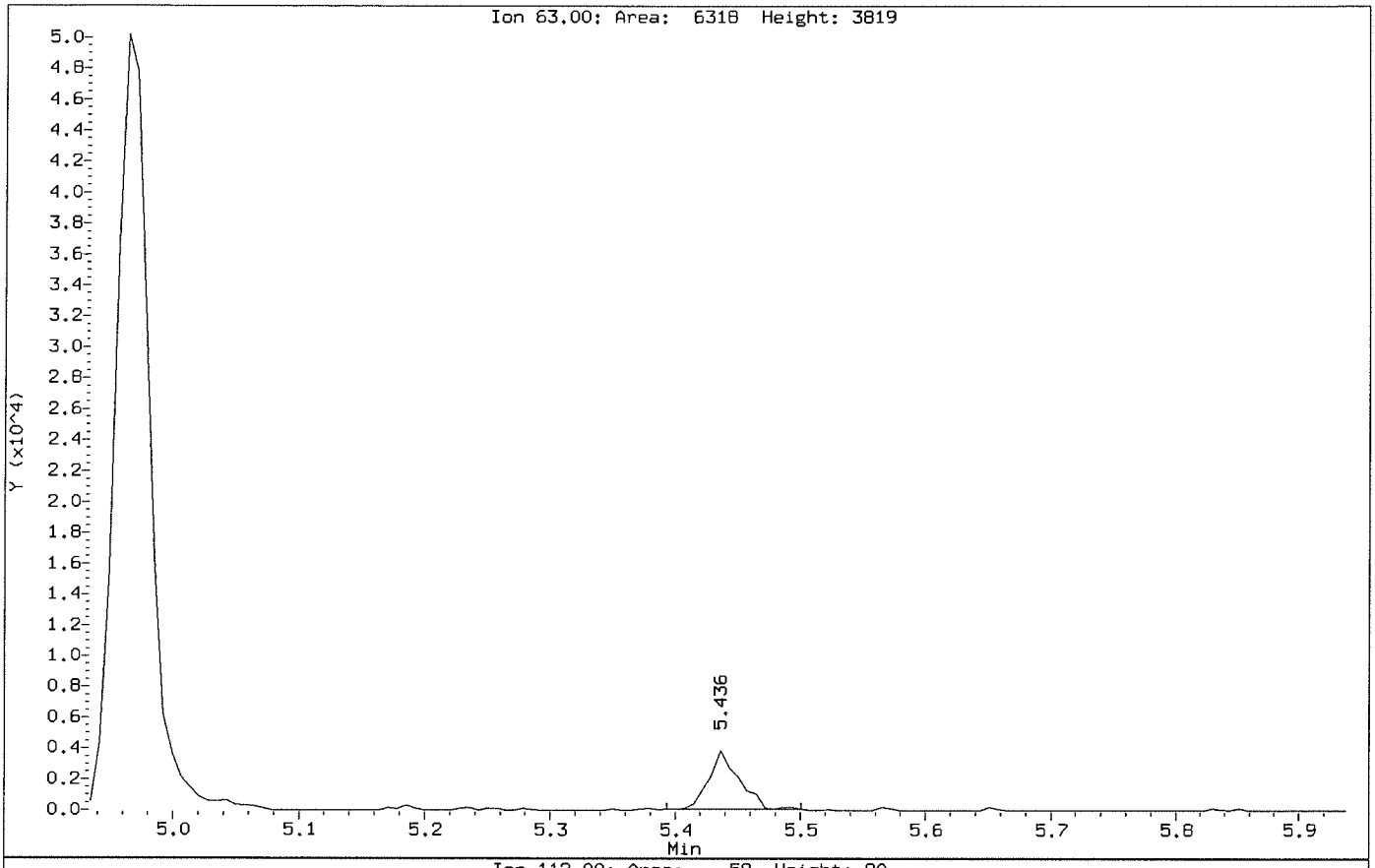
Compound: 1,2-Dichloropropane
CAS Number: 78-87-5

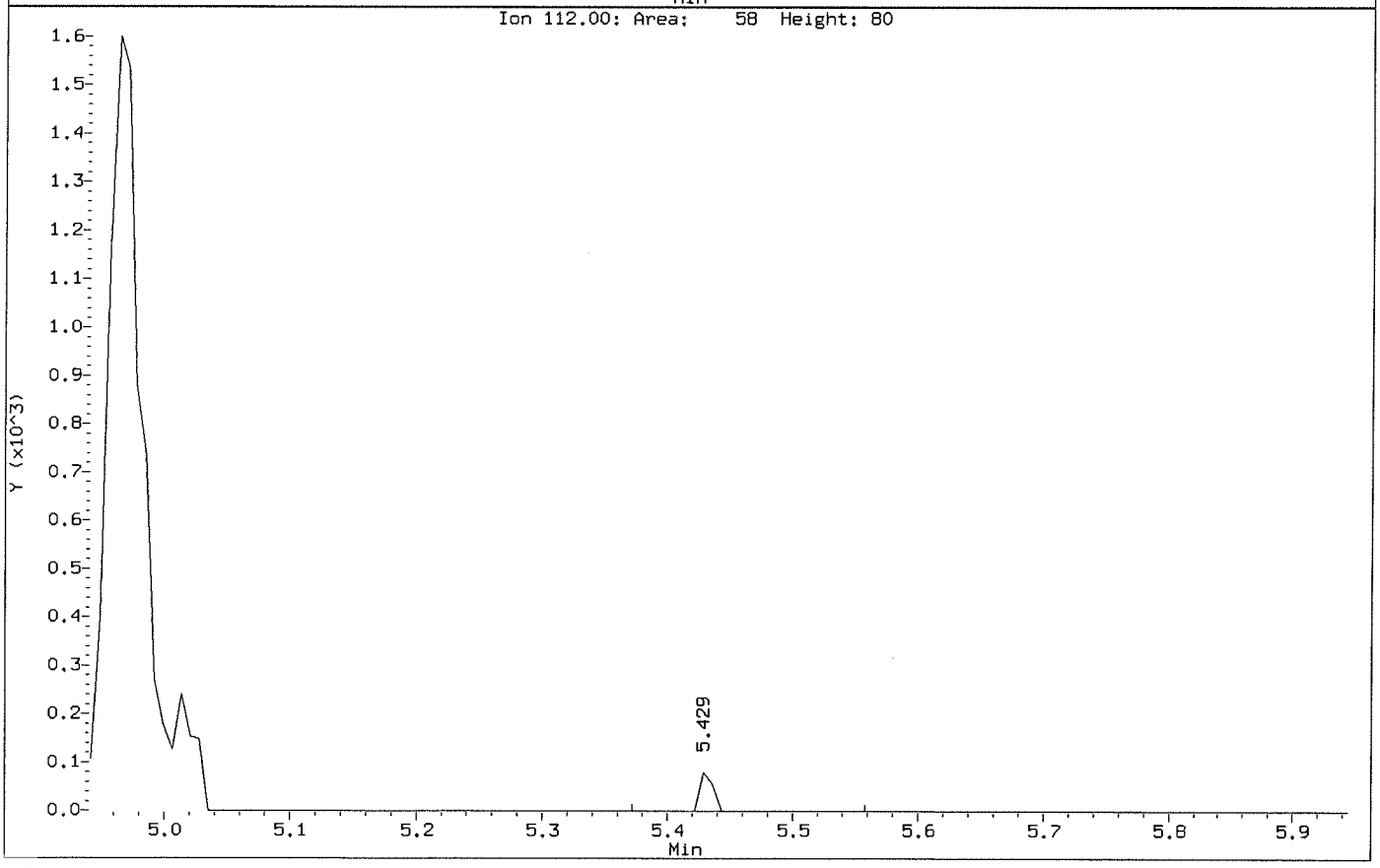


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Client Sample ID: VSTD002

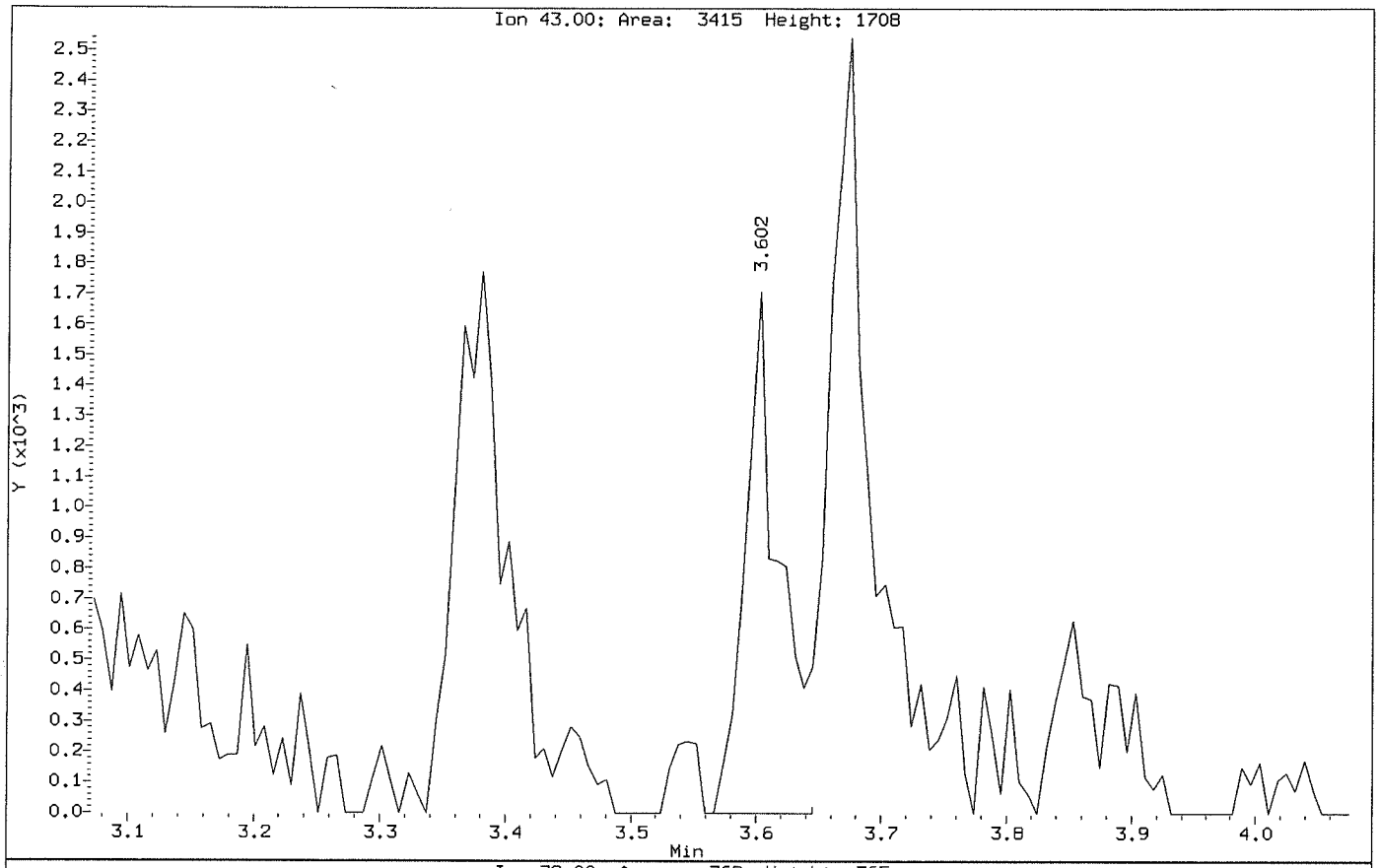
Compound: 1,2-Dichloropropane
CAS Number: 78-87-5

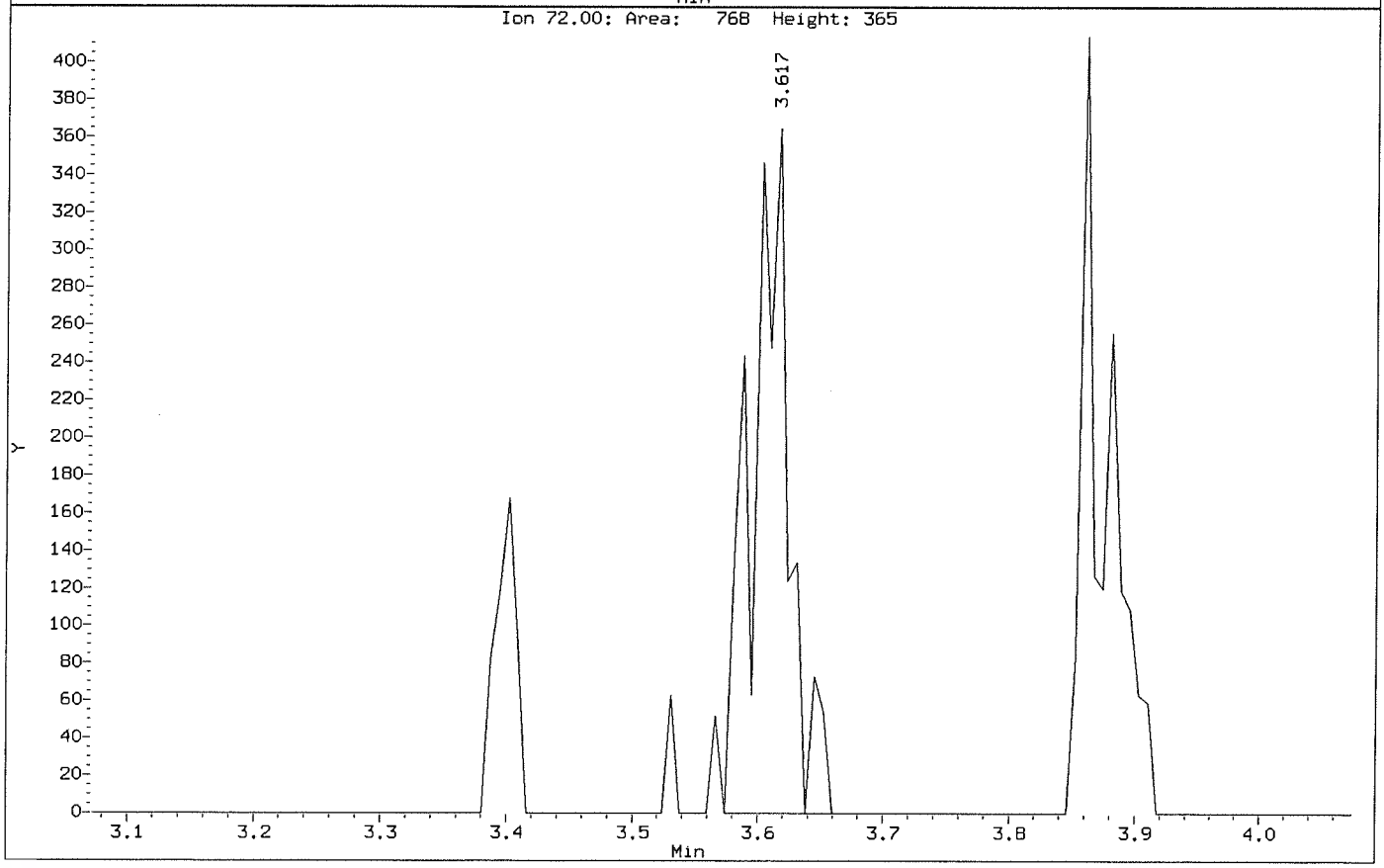


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Client Sample ID: VSTD002

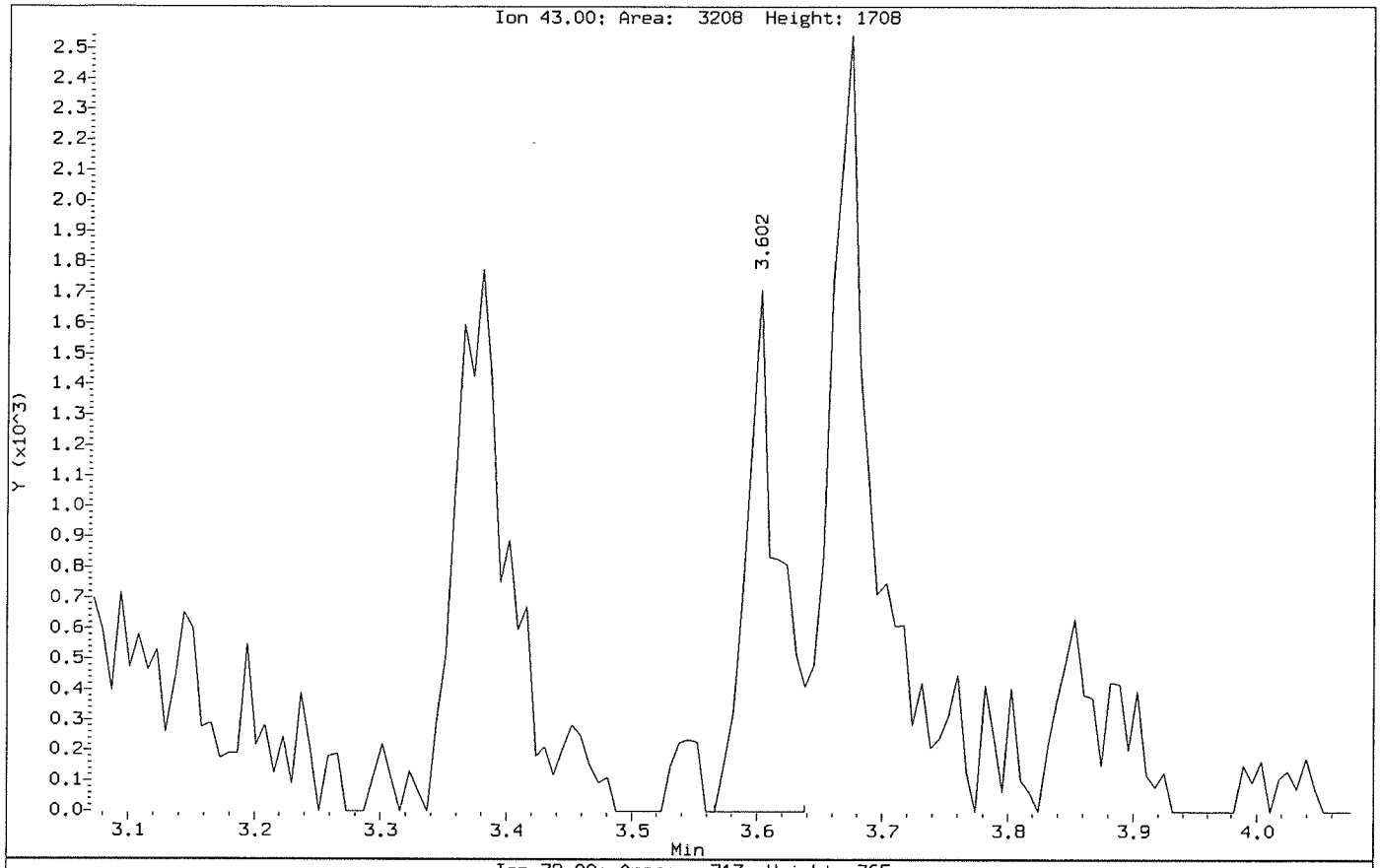
Compound: 2-Butanone
CAS Number: 78-93-3

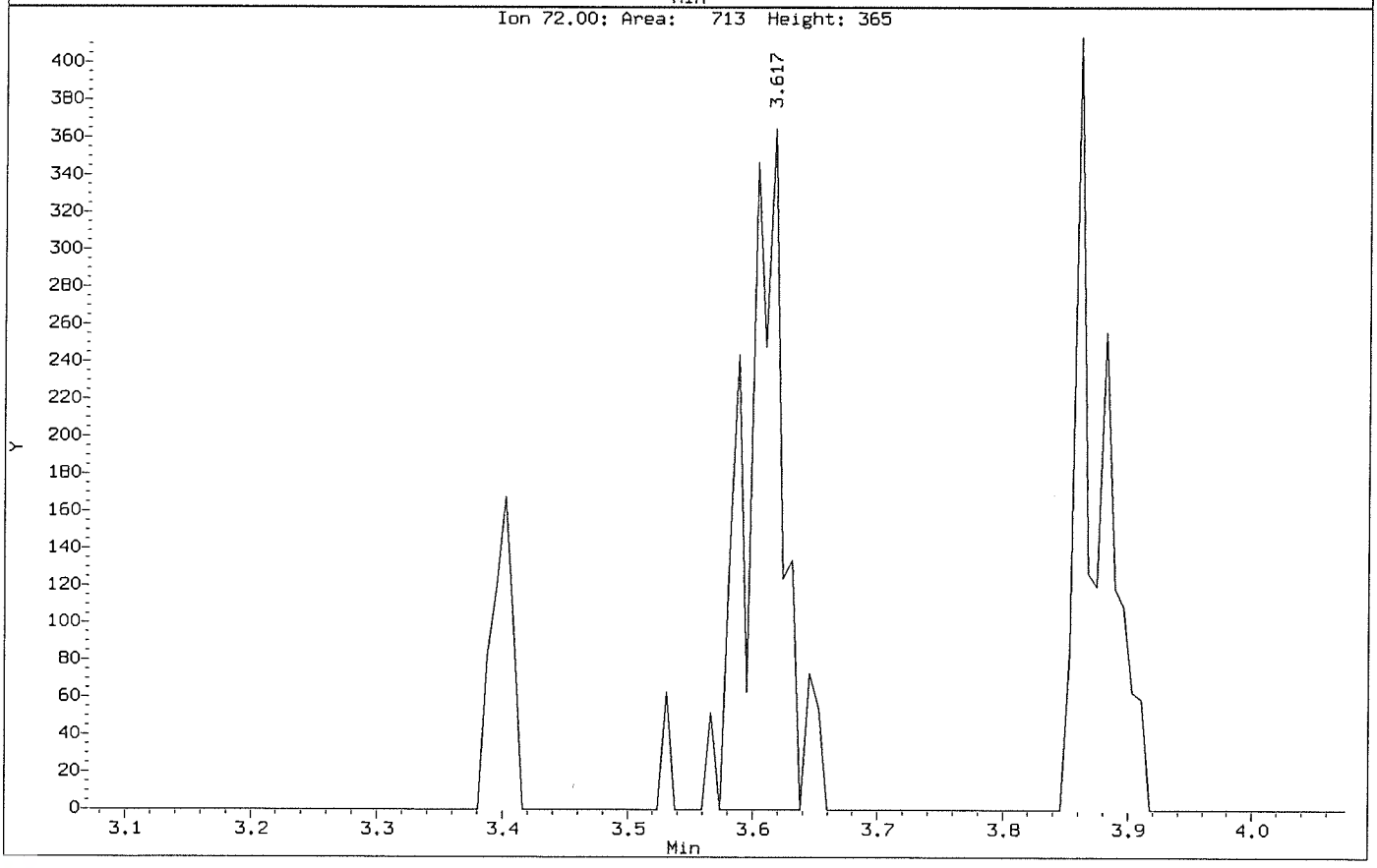


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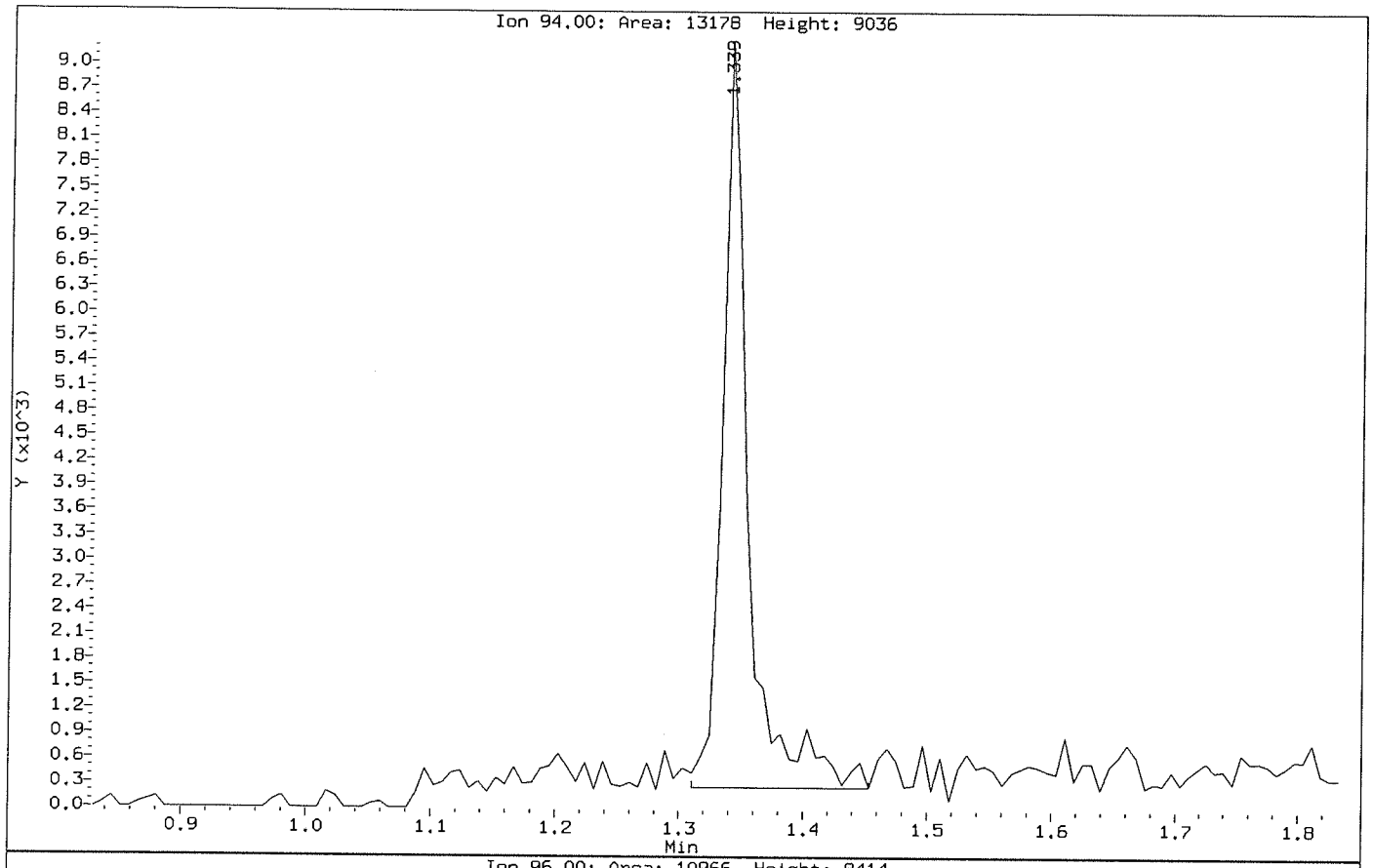
Compound: 2-Butanone
CAS Number: 78-93-3

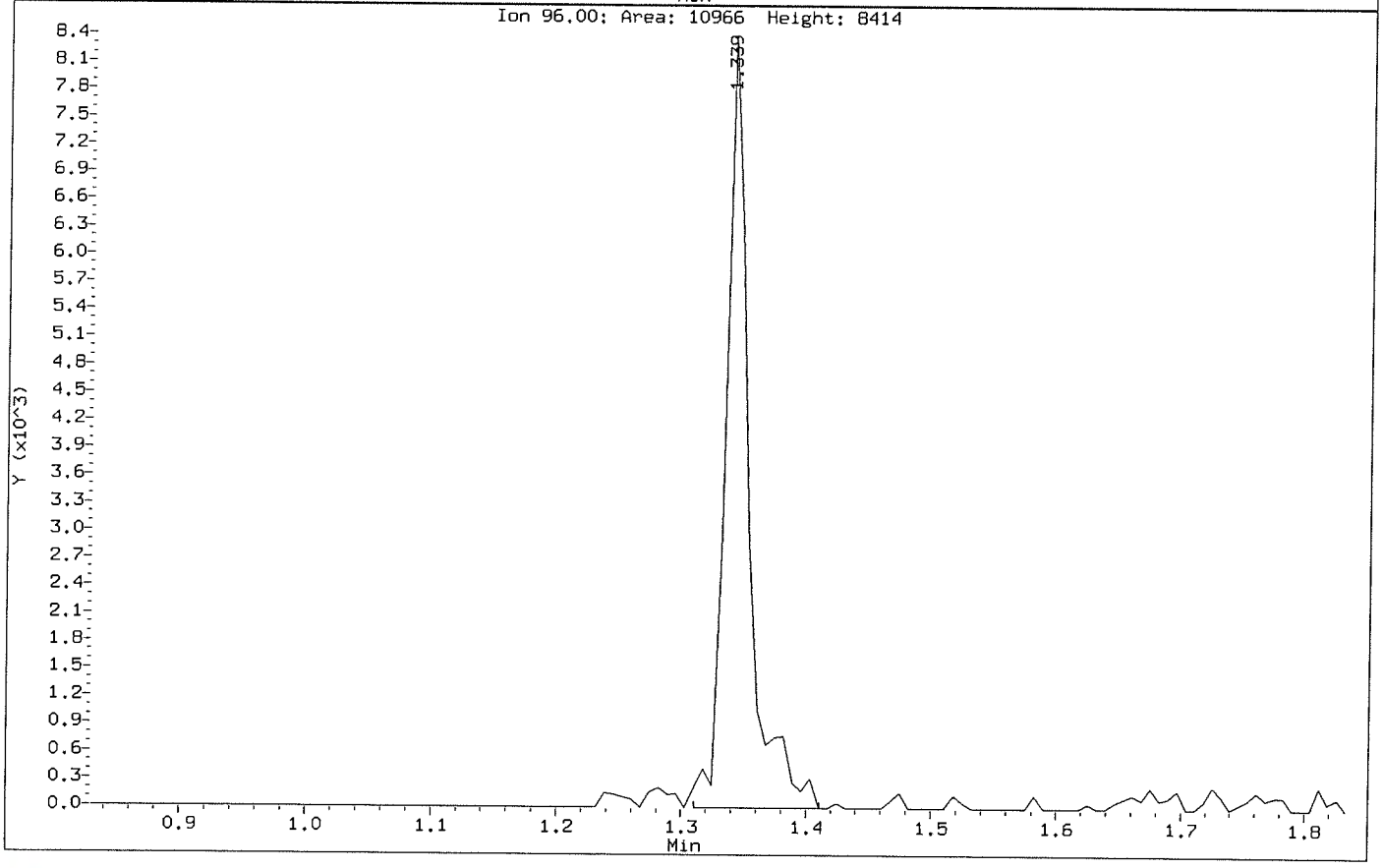


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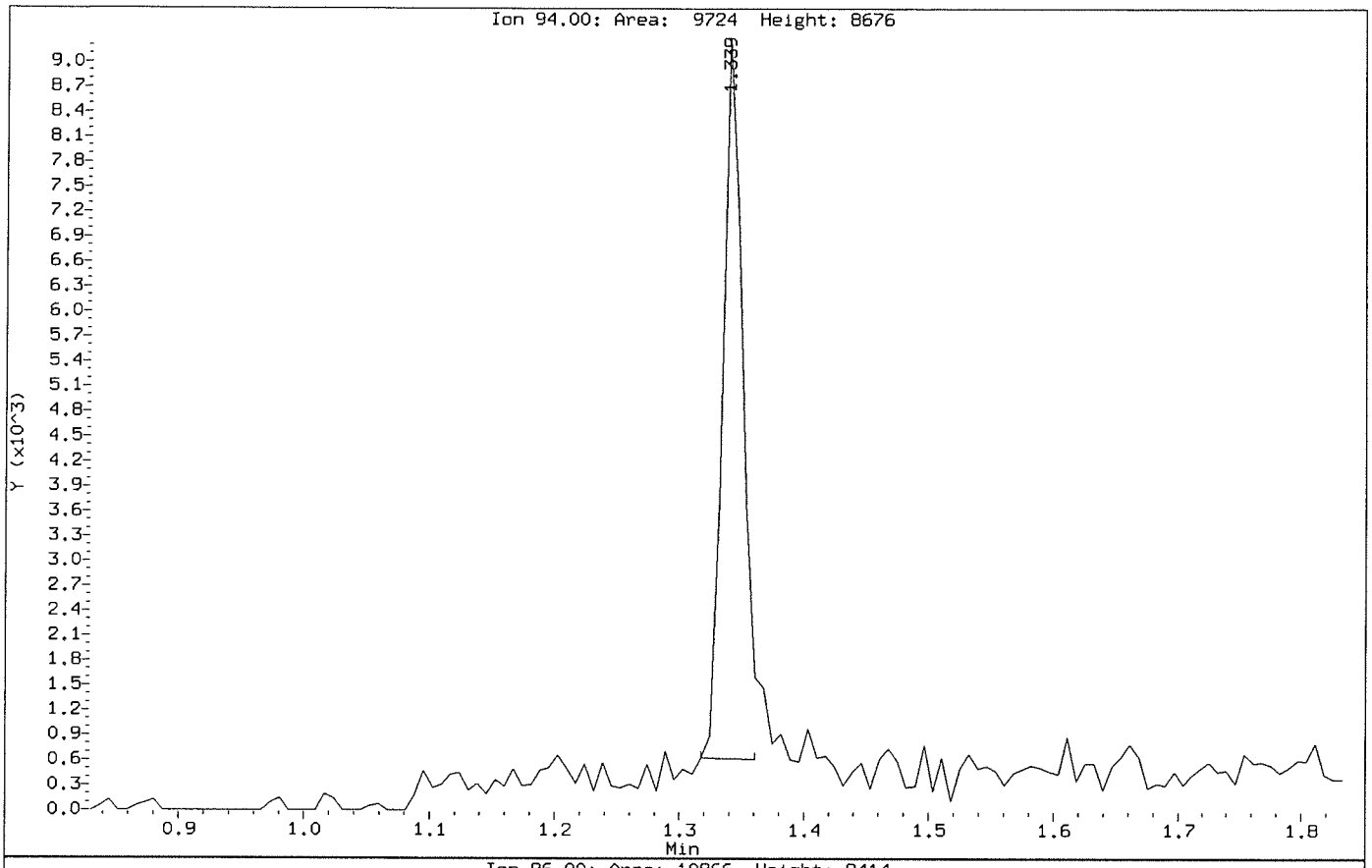
Compound: Bromomethane
CAS Number: 74-83-9

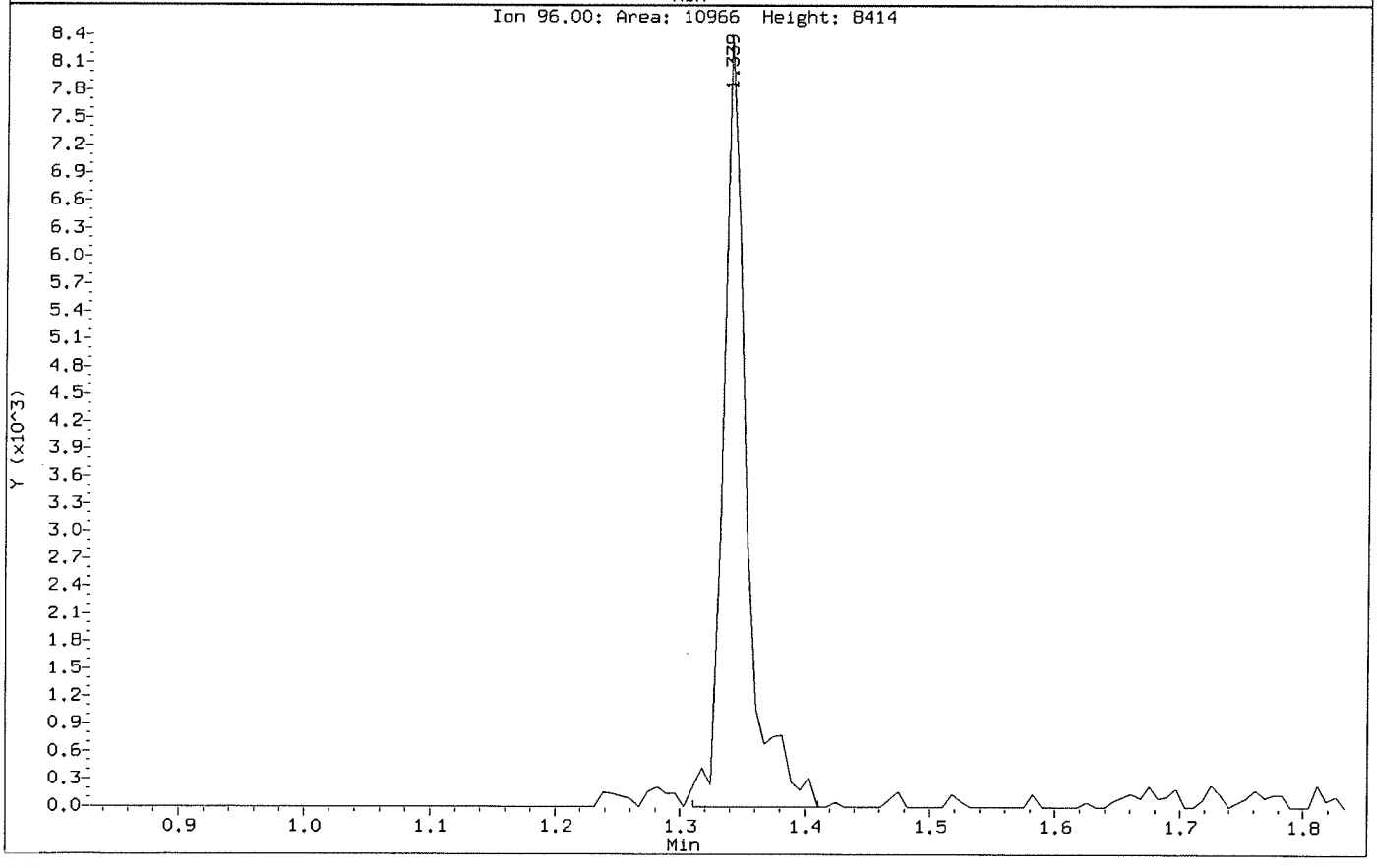


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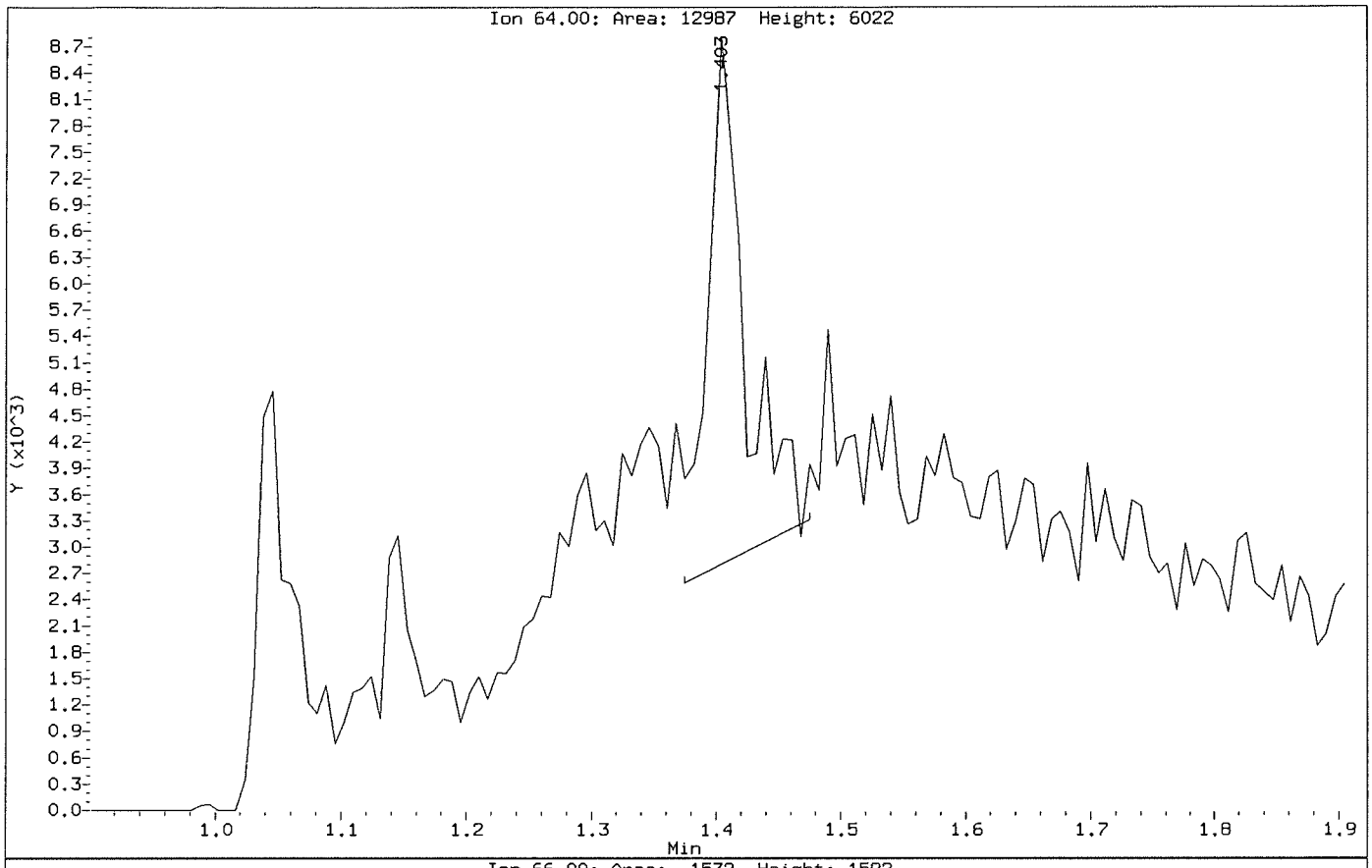
Compound: Bromomethane
CAS Number: 74-83-9

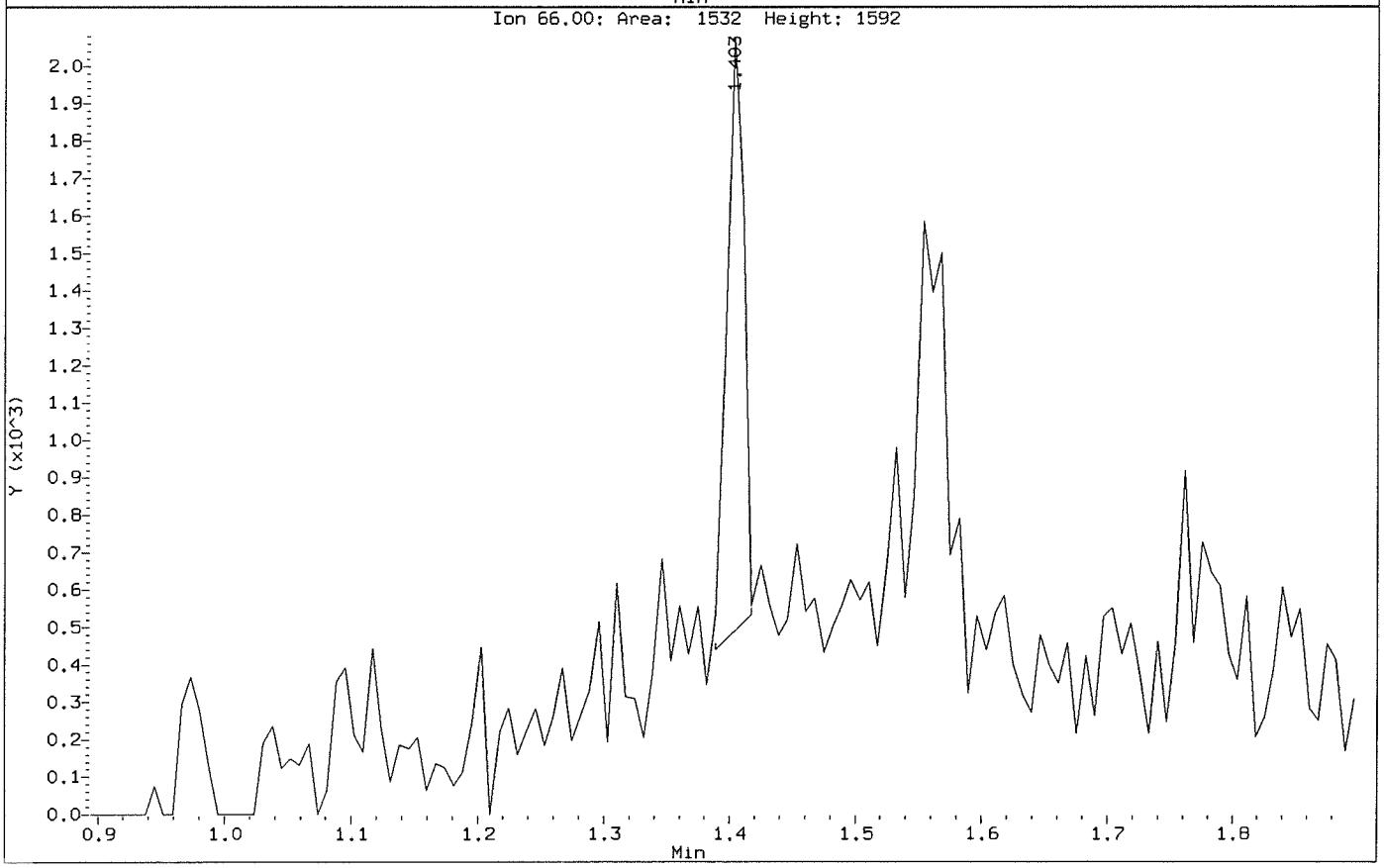


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Client Sample ID: VSTD002

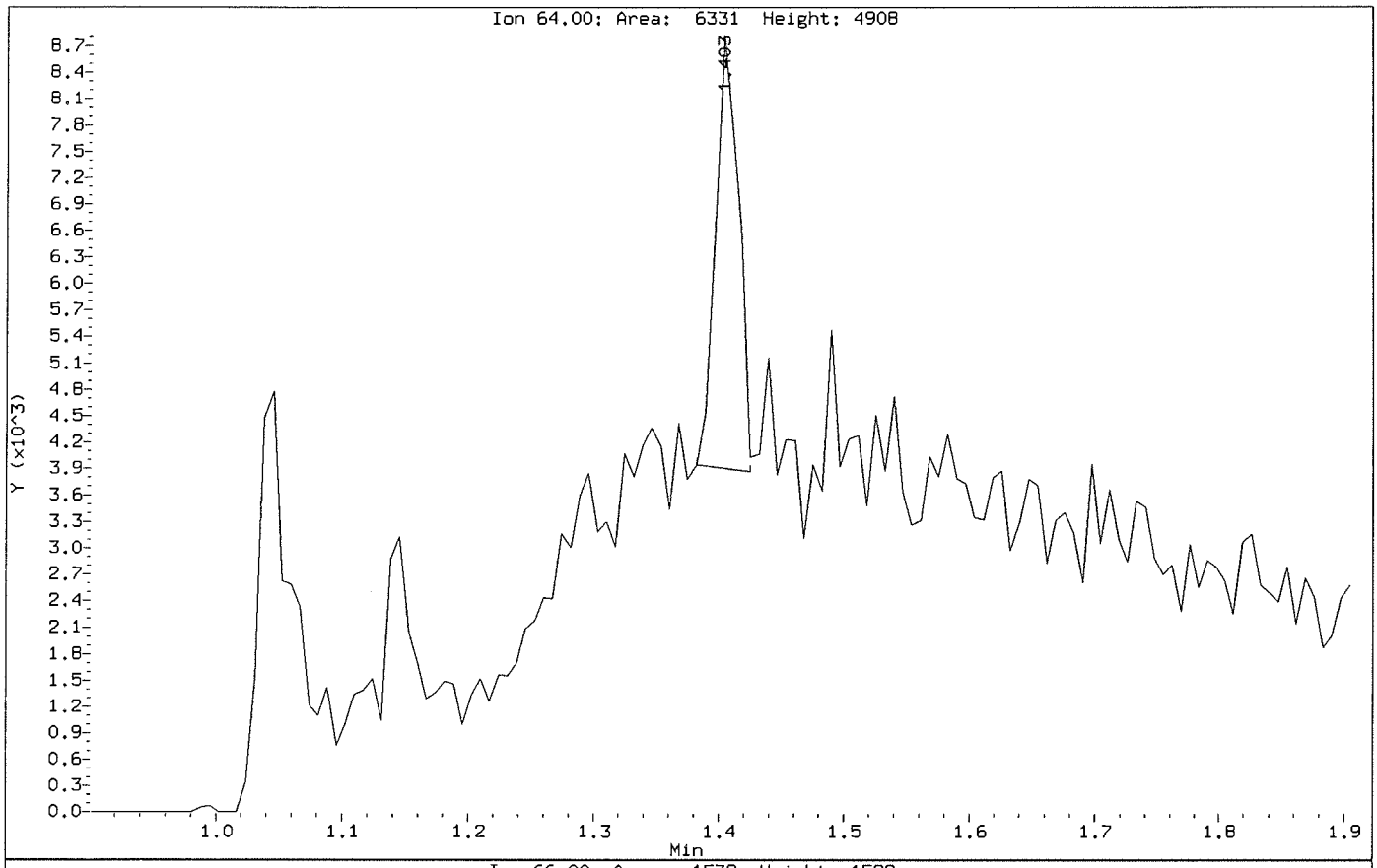
Compound: Chloroethane
CAS Number: 75-00-3

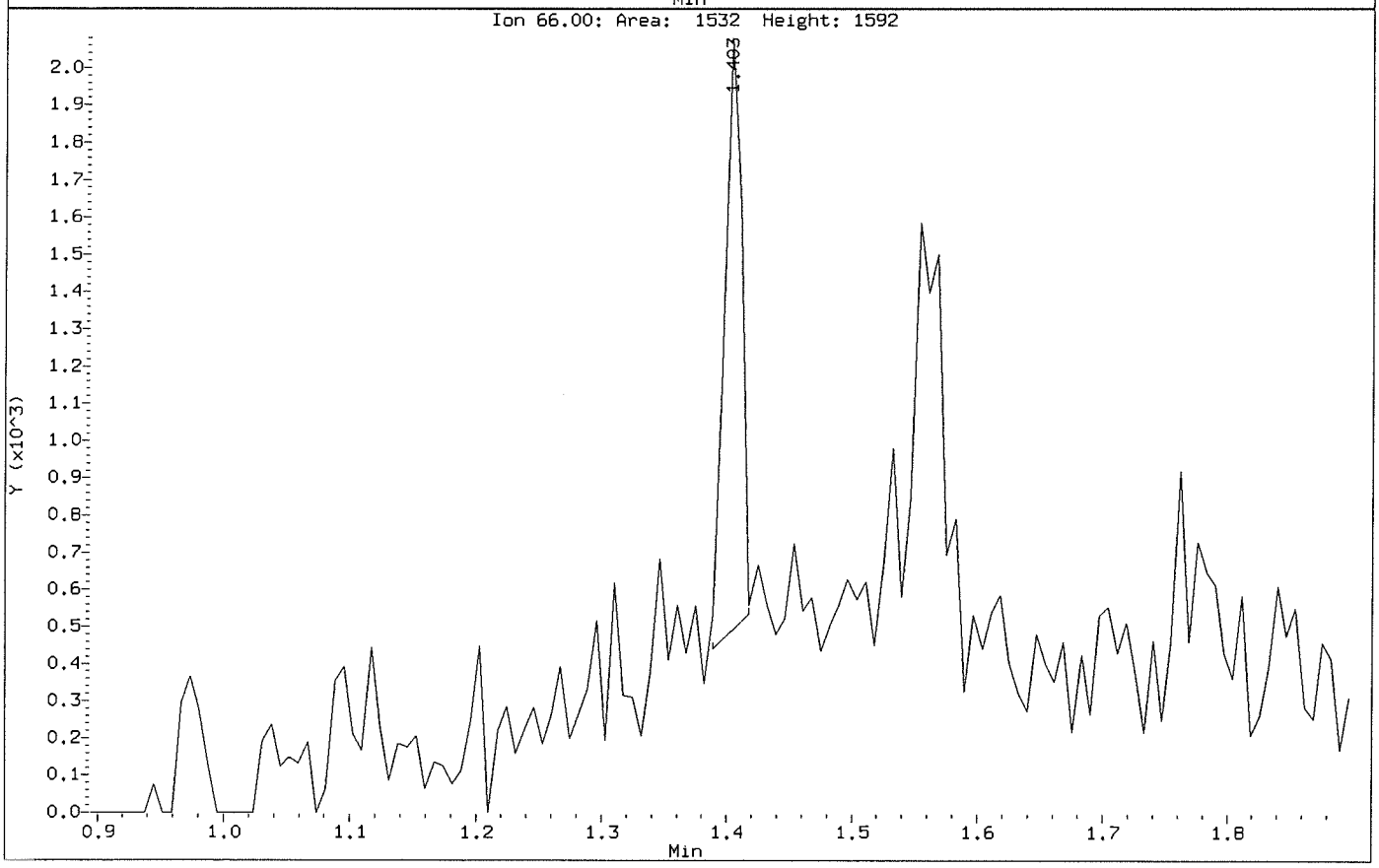


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Injection Date: 02-APR-2021 12:17
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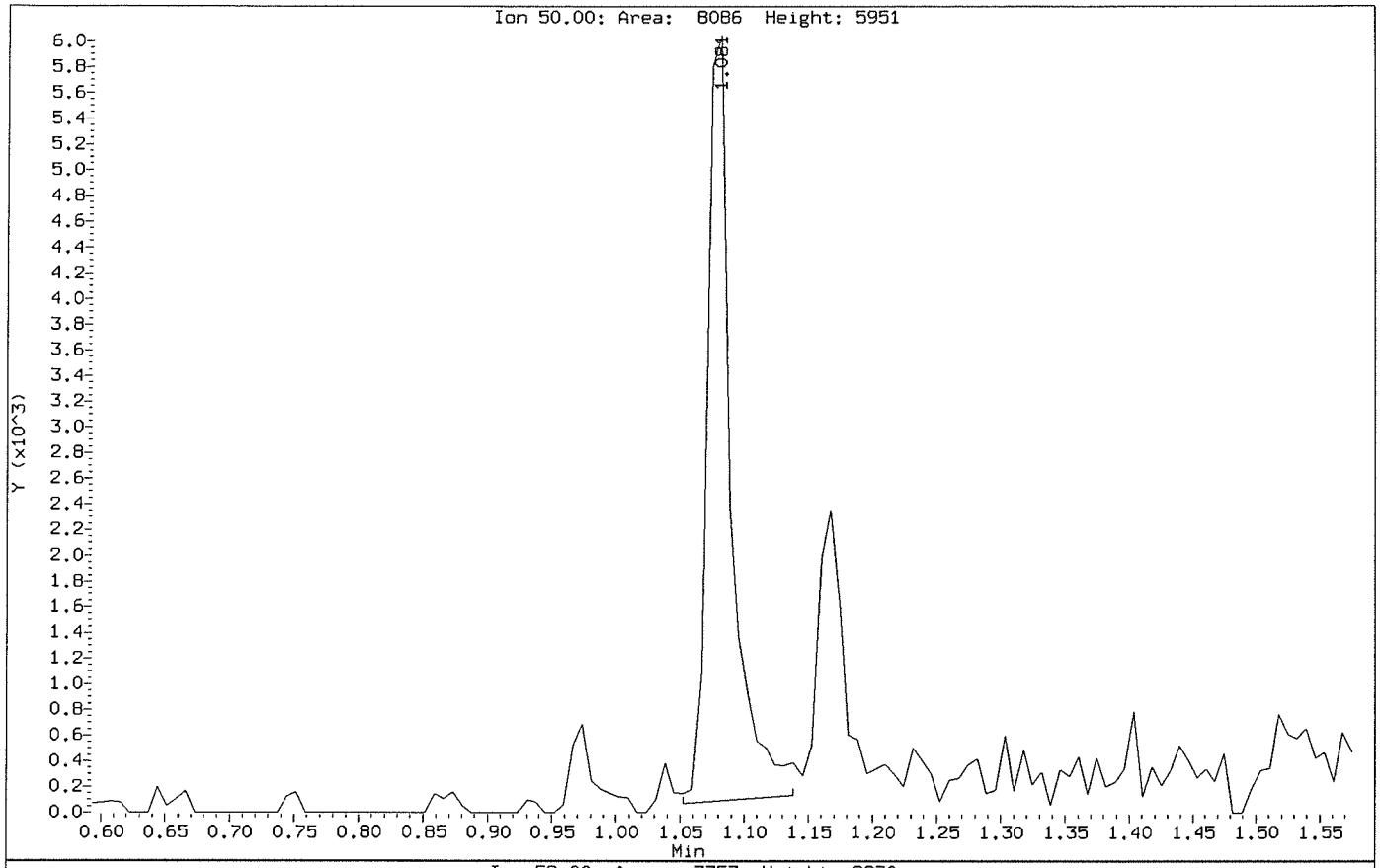
Compound: Chloroethane
CAS Number: 75-00-3

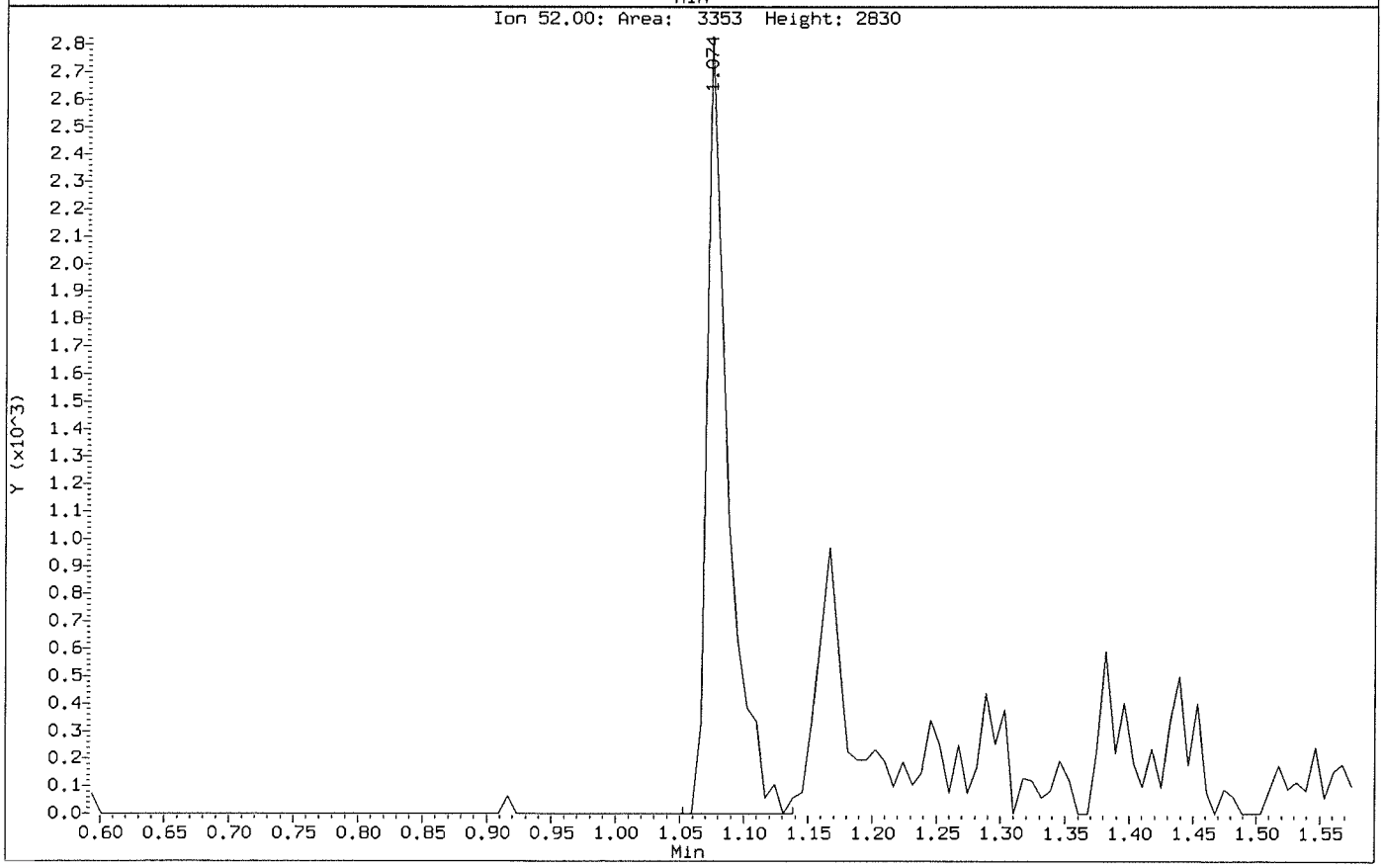


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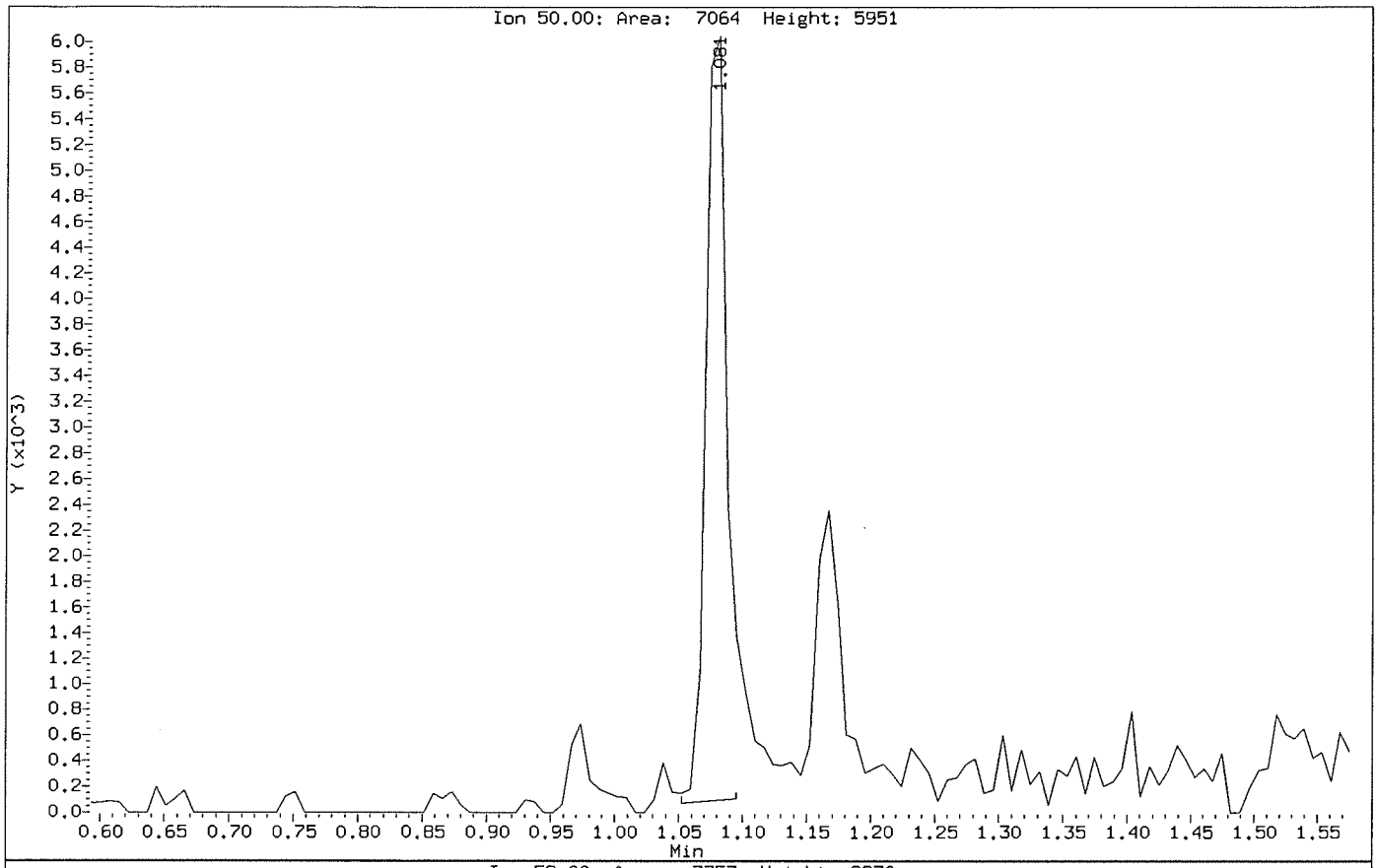
Compound: Chloromethane
CAS Number: 74-87-3

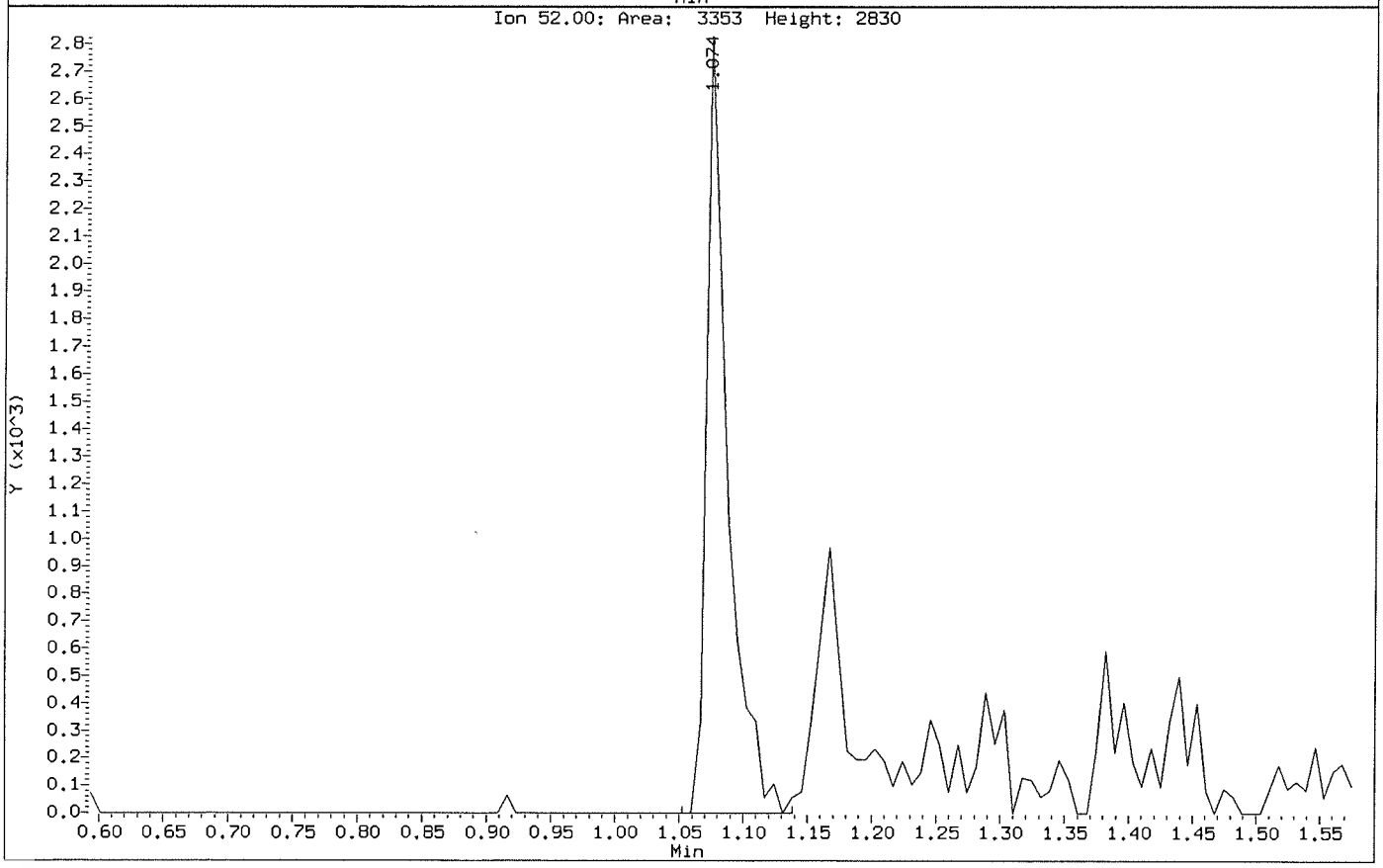


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Instrument: voa6.i
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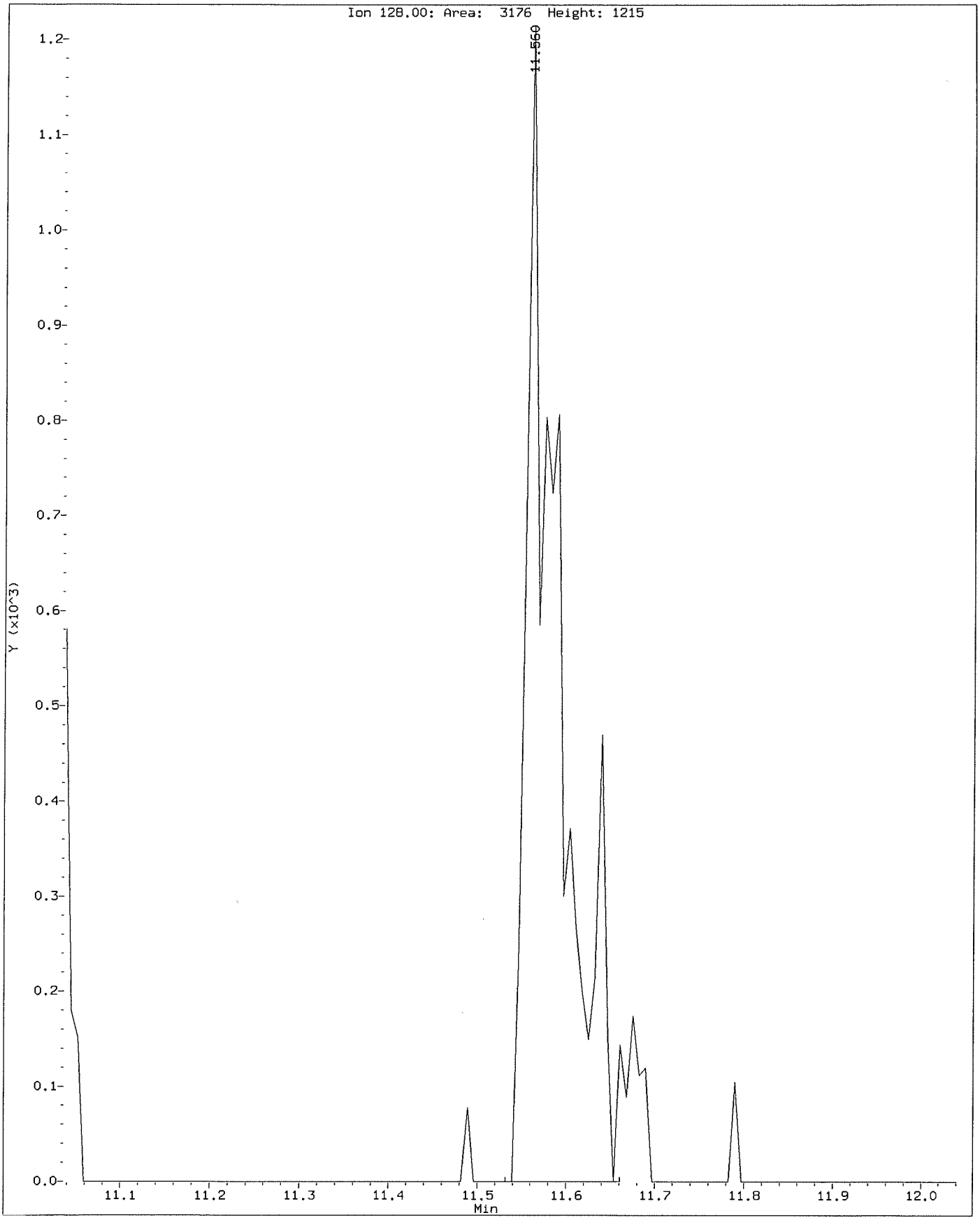
Compound: Chloromethane
CAS Number: 74-87-3



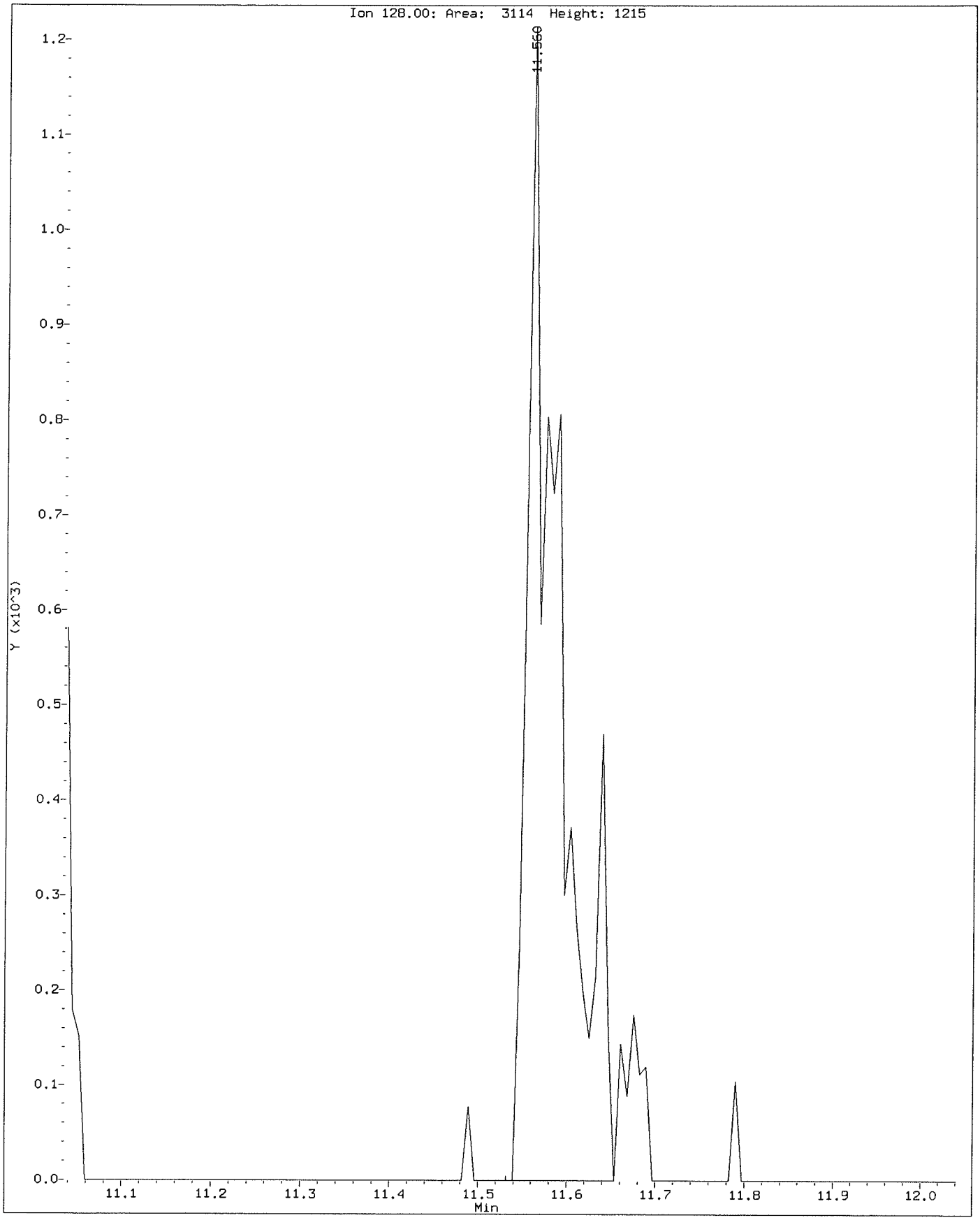
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Injection Date: 02-APR-2021 12:17
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: Naphthalene
CAS Number: 91-20-3



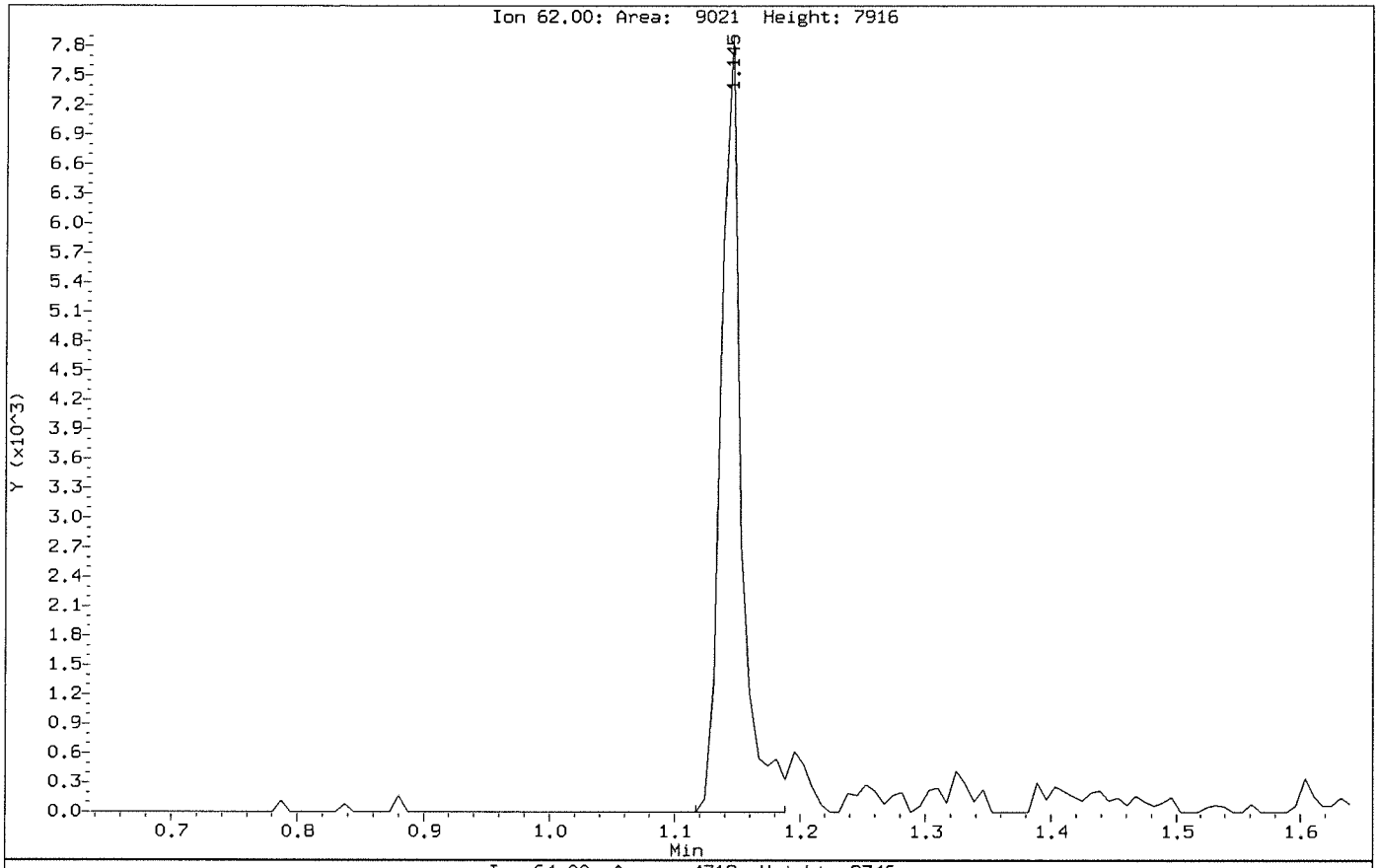
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Instrument: voa6.i
Client Sample ID: VSTD002

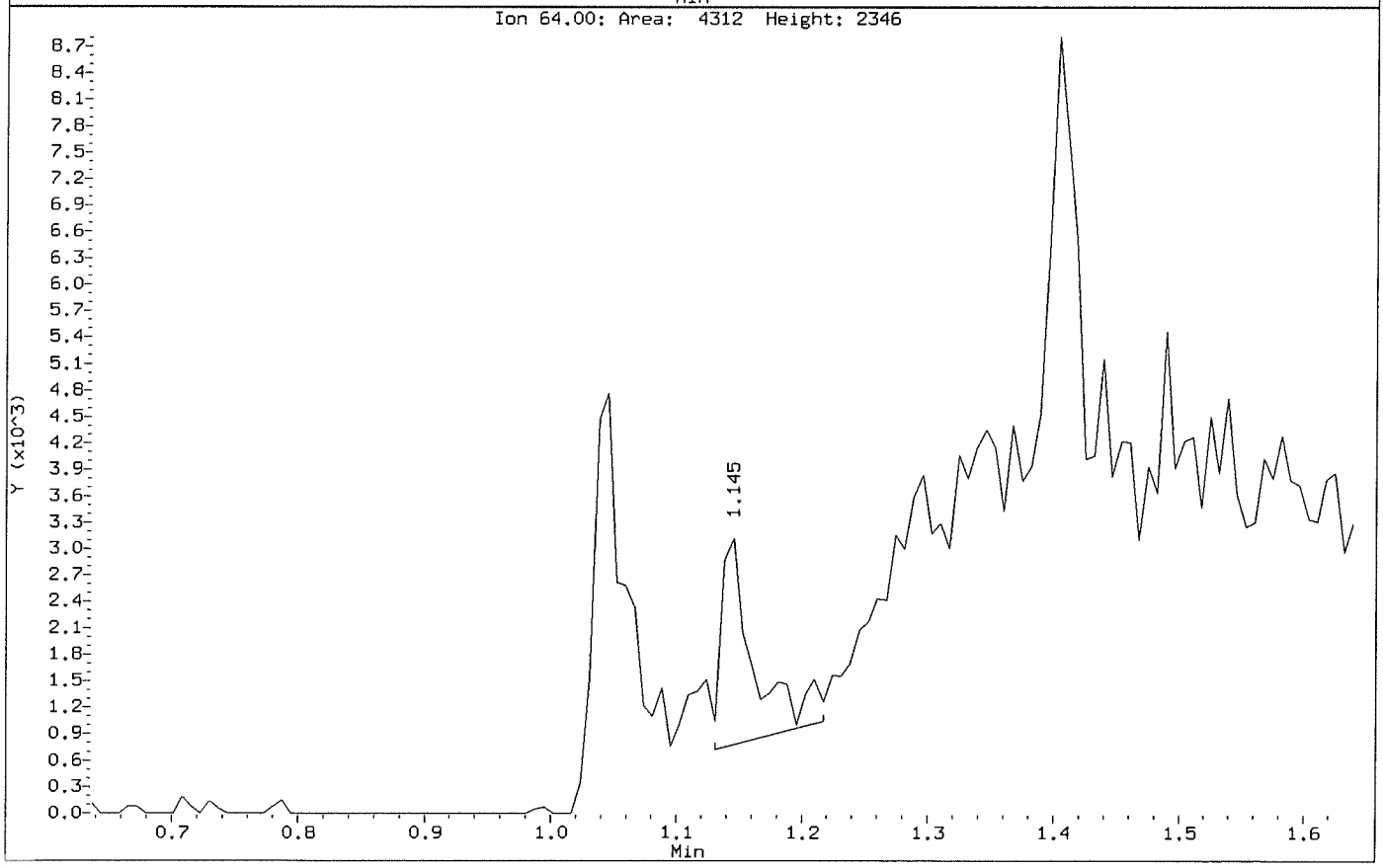
Compound: Naphthalene
CAS Number: 91-20-3



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before\X040205.D
Injection Date: 02-APR-2021 12:17
Instrument: voa6.i
Client Sample ID: VSTD002

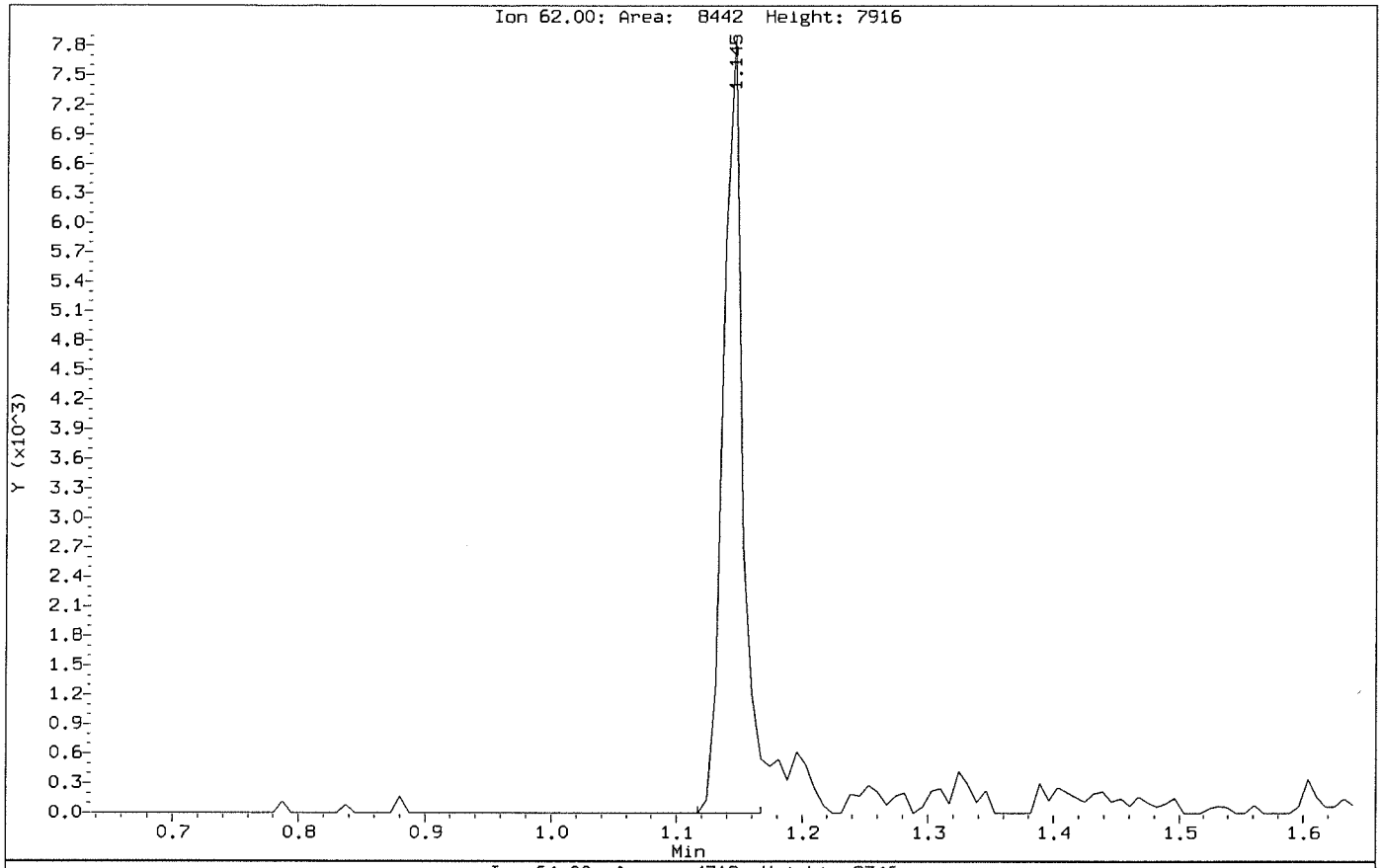
Compound: Vinyl Chloride
CAS Number: 75-01-4

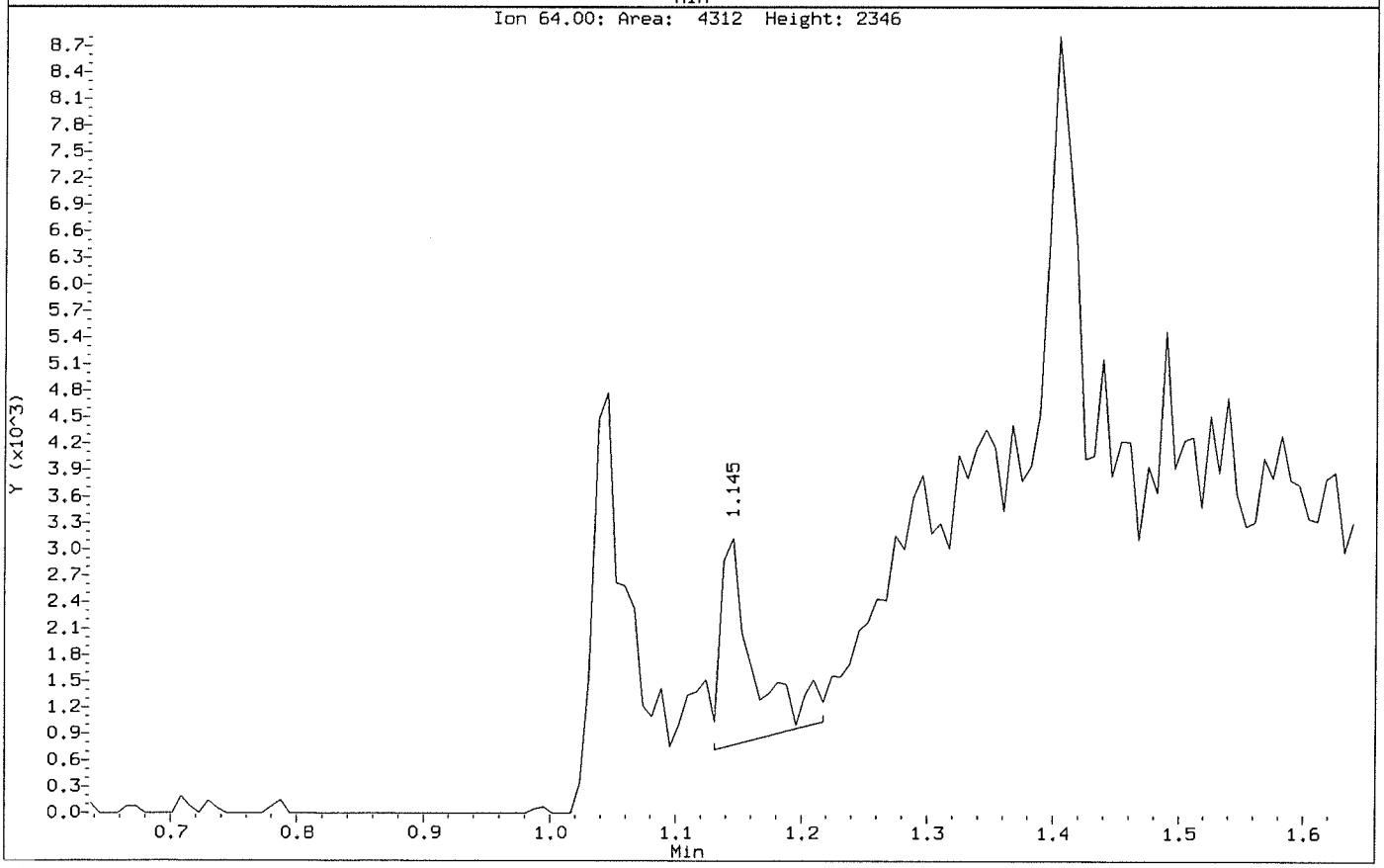


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040205.D
Injection Date: 02-APR-2021 12:17
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: Vinyl Chloride
CAS Number: 75-01-4



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040206.D
Lab Smp Id: VSTD005 Client Smp ID: VSTD005
Inj Date : 02-APR-2021 12:38
Operator : PC Inst ID: voa6.i
Smp Info : VSTD005;VSTD005;1;5;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\8260W.m
Meth Date : 14-Apr-2021 12:07 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 12:17 Cal File: X040205.D
Als bottle: 7 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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 |

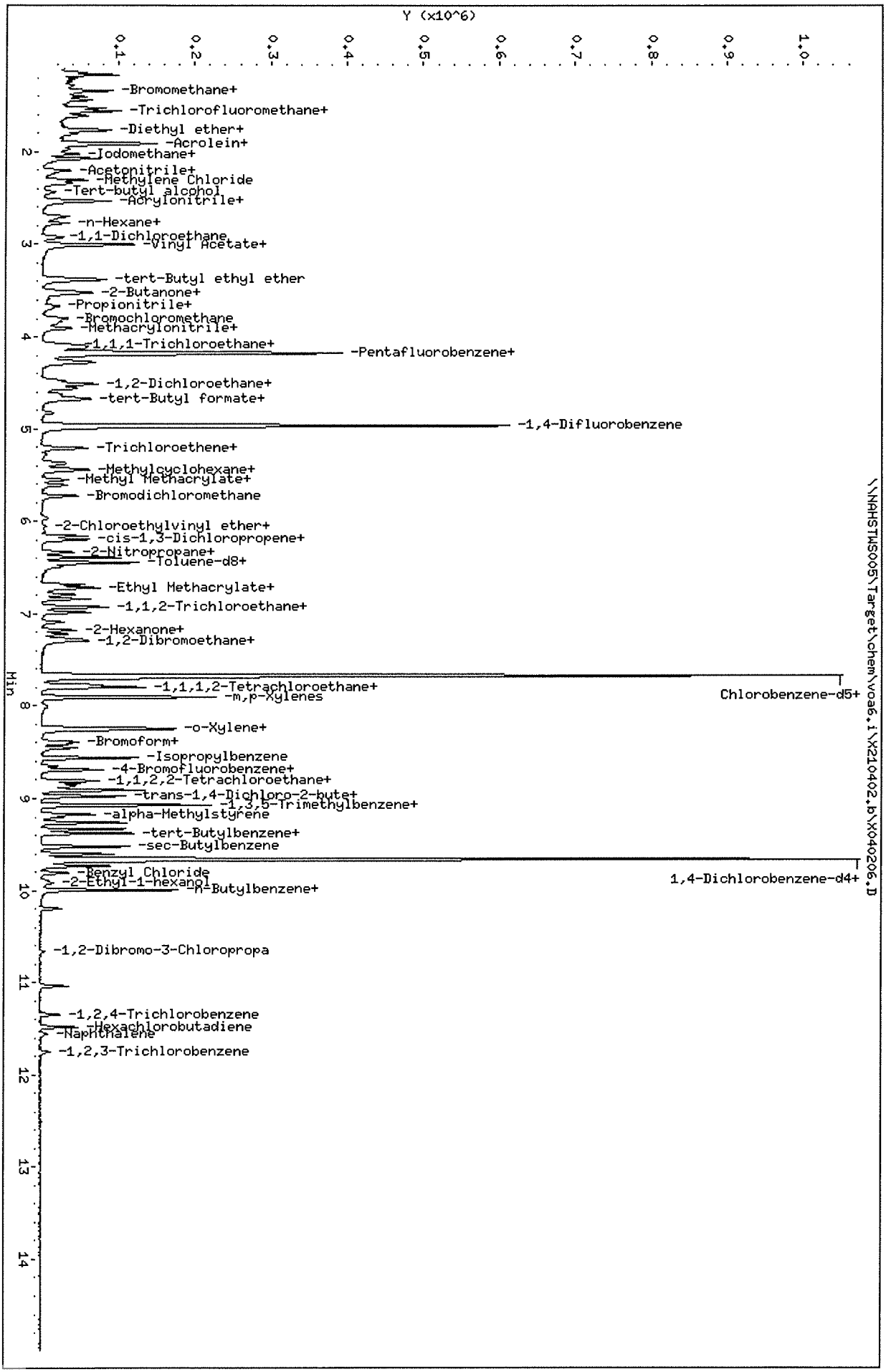
| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|---|
| * | 1 Pentafluorobenzene | 168 | 4.182 | 4.182 | (1.000) | 291823 | 50.0000 | |
| * | 36 1,4-Difluorobenzene | 114 | 4.963 | 4.963 | (1.000) | 482057 | 50.0000 | |
| * | 47 Chlorobenzene-d5 | 117 | 7.671 | 7.671 | (1.000) | 440939 | 50.0000 | |
| * | 70 1,4-Dichlorobenzene-d4 | 152 | 9.662 | 9.662 | (1.000) | 205433 | 50.0000 | |
| $ | 30 Dibromofluoromethane | 113 | 4.103 | 4.103 | (0.981) | 17824 | 5.00000 | 5.57 |
| $ | 35 1,2-Dichloroethane-d4 | 65 | 4.476 | 4.476 | (1.070) | 20809 | 5.00000 | 5.48 |
| $ | 48 Toluene-d8 | 98 | 6.388 | 6.388 | (0.833) | 56112 | 5.00000 | 6.62 |
| $ | 69 4-Bromofluorobenzene | 95 | 8.688 | 8.688 | (1.133) | 19193 | 5.00000 | 6.03 |
| | 60 1,1,1,2-Tetrachloroethane | 131 | 7.771 | 7.771 | (1.013) | 15164 | 5.00000 | 4.63(a) |
| | 31 1,1,1-Trichloroethane | 97 | 4.082 | 4.082 | (0.976) | 25845 | 5.00000 | 4.89(a) |
| | 68 1,1,2,2-Tetrachloroethane | 83 | 8.838 | 8.838 | (0.915) | 18095 | 5.00000 | 5.27 |
| | 53 1,1,2-Trichloroethane | 83 | 6.840 | 6.840 | (0.892) | 14112 | 5.00000 | 5.50 |
| | 22 1,1-Dichloroethane | 63 | 2.922 | 2.922 | (0.699) | 27634 | 5.00000 | 5.10 |
| | 11 1,1-Dichloroethene | 96 | 1.912 | 1.912 | (0.457) | 22632 | 5.00000 | 5.44 |
| | 32 1,1-Dichloropropene | 75 | 4.275 | 4.275 | (0.861) | 22071 | 5.00000 | 4.87(a) |
| | 93 1,2,3-Trichlorobenzene | 180 | 11.746 | 11.746 | (1.216) | 3180 | 5.00000 | 5.62(MH) |
| | 71 1,2,3-Trichloropropane | 75 | 8.867 | 8.867 | (0.918) | 14216 | 5.00000 | 5.15(M) |
| | 90 1,2,4-Trichlorobenzene | 180 | 11.345 | 11.345 | (1.174) | 7143 | 5.00000 | 5.61(M) |
| | 79 1,2,4-Trimethylbenzene | 105 | 9.383 | 9.383 | (0.971) | 52824 | 5.00000 | 5.01 |
| | 89 1,2-Dibromo-3-Chloropropane | 155 | 10.658 | 10.658 | (1.103) | 984 | 5.00000 | 4.40(aM) |
| | 57 1,2-Dibromoethane | 107 | 7.262 | 7.262 | (0.947) | 15977 | 5.00000 | 5.27 |
| | 88 1,2-Dichlorobenzene | 146 | 9.991 | 9.991 | (1.034) | 28370 | 5.00000 | 5.02 |

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040206.D Page 2
Report Date: 14-Apr-2021 12:07

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|---|
| 33 | 1,2-Dichloroethane | 62 | 4.562 | 4.562 | (0.919) | 25538 | 5.00000 | 5.00 |
| 42 | 1,2-Dichloropropane | 63 | 5.436 | 5.436 | (1.095) | 17013 | 5.00000 | 5.07(M) |
| 75 | 1,3,5-Trimethylbenzene | 105 | 9.067 | 9.067 | (0.938) | 51759 | 5.00000 | 4.70(a) |
| 83 | 1,3-Dichlorobenzene | 146 | 9.605 | 9.605 | (0.994) | 30504 | 5.00000 | 5.12 |
| 54 | 1,3-Dichloropropane | 76 | 6.983 | 6.983 | (0.910) | 26268 | 5.00000 | 5.36 |
| 84 | 1,4-Dichlorobenzene | 146 | 9.683 | 9.683 | (1.002) | 32837 | 5.00000 | 5.12 |
| 26 | 2,2-Dichloropropane | 77 | 3.516 | 3.516 | (0.841) | 26445 | 5.00000 | 4.95(a) |
| 24 | 2-Butanone | 43 | 3.588 | 3.588 | (0.858) | 10099 | 10.0000 | 10.06 |
| 76 | 2-Chlorotoluene | 91 | 8.974 | 8.974 | (0.929) | 48629 | 5.00000 | 5.62 |
| 52 | 2-Hexanone | 43 | 7.090 | 7.090 | (0.924) | 18023 | 10.0000 | 12.51 |
| 77 | 4-Chlorotoluene | 91 | 9.067 | 9.067 | (0.938) | 52427 | 5.00000 | 4.68(a) |
| 82 | p-Isopropyltoluene | 119 | 9.648 | 9.648 | (0.999) | 50664 | 5.00000 | 4.86(a) |
| 45 | 4-Methyl-2-Pentanone | 43 | 6.331 | 6.331 | (0.825) | 26117 | 10.0000 | 9.82 |
| 10 | Acetone | 43 | 1.976 | 1.976 | (0.473) | 13893 | 10.0000 | 10.55 |
| 37 | Benzene | 78 | 4.512 | 4.512 | (0.909) | 61868 | 5.00000 | 4.84(a) |
| 74 | Bromobenzene | 156 | 8.810 | 8.810 | (0.912) | 18481 | 5.00000 | 5.21 |
| 29 | Bromochloromethane | 128 | 3.803 | 3.803 | (0.909) | 9227 | 5.00000 | 5.30 |
| 39 | Bromodichloromethane | 83 | 5.729 | 5.729 | (1.154) | 23726 | 5.00000 | 4.90(a) |
| 66 | Bromoform | 173 | 8.416 | 8.416 | (1.097) | 10258 | 5.00000 | 6.51(T) |
| 6 | Bromomethane | 94 | 1.339 | 1.339 | (0.320) | 26104 | 5.00000 | 6.09 |
| 19 | Carbon Disulfide | 76 | 2.069 | 2.069 | (0.495) | 80845 | 10.0000 | 9.96 |
| 34 | Carbon Tetrachloride | 117 | 4.268 | 4.268 | (0.860) | 20622 | 5.00000 | 4.74(a) |
| 59 | Chlorobenzene | 112 | 7.692 | 7.692 | (1.003) | 44198 | 5.00000 | 6.42 |
| 7 | Chloroethane | 64 | 1.403 | 1.403 | (0.336) | 18174 | 5.00000 | 5.59(M) |
| 28 | Chloroform | 83 | 3.910 | 3.910 | (0.935) | 32090 | 5.00000 | 5.06 |
| 3 | Chloromethane | 50 | 1.081 | 1.081 | (0.258) | 18363 | 5.00000 | 5.33 |
| 27 | cis-1,2-Dichloroethene | 96 | 3.530 | 3.530 | (0.844) | 17639 | 5.00000 | 4.94(a) |
| 46 | cis-1,3-Dichloropropene | 75 | 6.159 | 6.159 | (1.241) | 28459 | 5.00000 | 5.04 |
| 55 | Dibromochloromethane | 129 | 7.176 | 7.176 | (0.936) | 17339 | 5.00000 | 5.03 |
| 44 | Dibromomethane | 93 | 5.558 | 5.558 | (1.120) | 11926 | 5.00000 | 5.01 |
| 2 | Dichlorodifluoromethane | 85 | 0.973 | 0.973 | (0.233) | 14213 | 5.00000 | 6.49 |
| 61 | Ethylbenzene | 106 | 7.800 | 7.800 | (1.017) | 23767 | 5.00000 | 5.03 |
| 91 | Hexachlorobutadiene | 225 | 11.481 | 11.481 | (1.188) | 5720 | 5.00000 | 6.12(M) |
| 67 | Isopropylbenzene | 105 | 8.559 | 8.559 | (1.116) | 65962 | 5.00000 | 4.67(a) |
| 62 | m,p-Xylenes | 106 | 7.907 | 7.907 | (1.031) | 55105 | 10.0000 | 9.22 |
| 17 | Methylene Chloride | 84 | 2.306 | 2.306 | (0.551) | 17205 | 5.00000 | 6.75 |
| 87 | n-Butylbenzene | 91 | 9.991 | 9.991 | (1.034) | 46904 | 5.00000 | 4.75(a) |
| 73 | n-Propylbenzene | 91 | 8.910 | 8.910 | (0.922) | 79153 | 5.00000 | 5.07 |
| 92 | Naphthalene | 128 | 11.553 | 11.553 | (1.196) | 9895 | 5.00000 | 5.89(M) |
| 63 | o-Xylene | 106 | 8.244 | 8.244 | (1.075) | 28594 | 5.00000 | 4.93(a) |
| 81 | sec-Butylbenzene | 105 | 9.519 | 9.519 | (0.985) | 61667 | 5.00000 | 5.63 |
| 64 | Styrene | 104 | 8.258 | 8.258 | (1.077) | 41908 | 5.00000 | 7.02 |
| 78 | tert-Butylbenzene | 119 | 9.340 | 9.340 | (0.967) | 44435 | 5.00000 | 5.68 |
| 56 | Tetrachloroethene | 164 | 6.926 | 6.926 | (0.903) | 13320 | 5.00000 | 5.00 |
| 50 | Toluene | 91 | 6.446 | 6.446 | (0.840) | 65734 | 5.00000 | 4.79(a) |
| 20 | trans-1,2-Dichloroethene | 96 | 2.535 | 2.535 | (0.606) | 14854 | 5.00000 | 4.99(a) |
| 51 | trans-1,3-Dichloropropene | 75 | 6.682 | 6.682 | (1.346) | 22837 | 5.00000 | 4.74(a) |
| 38 | Trichloroethene | 130 | 5.207 | 5.207 | (1.049) | 18140 | 5.00000 | 5.49 |
| 8 | Trichlorofluoromethane | 101 | 1.561 | 1.561 | (0.373) | 42341 | 5.00000 | 5.05 |
| 5 | Vinyl Chloride | 62 | 1.145 | 1.145 | (0.274) | 22066 | 5.00000 | 5.04(M) |

QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

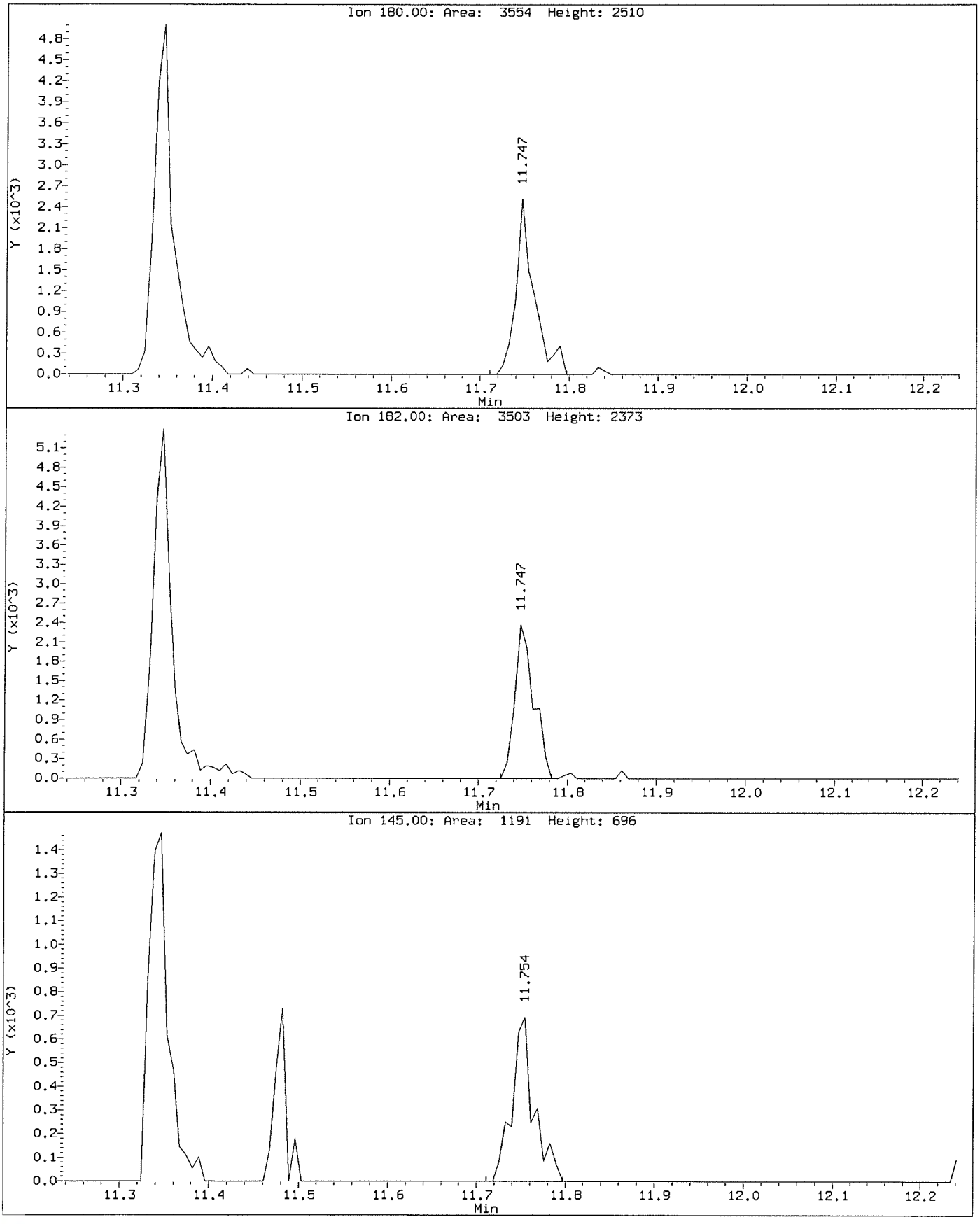



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040206.D
Date : 02-APR-2021 12:38
Client ID: VSTD005
Sample Info: VSTD005;VSTD005;1;5;;
Purge Volume: 5.0
Column phase: DB624

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

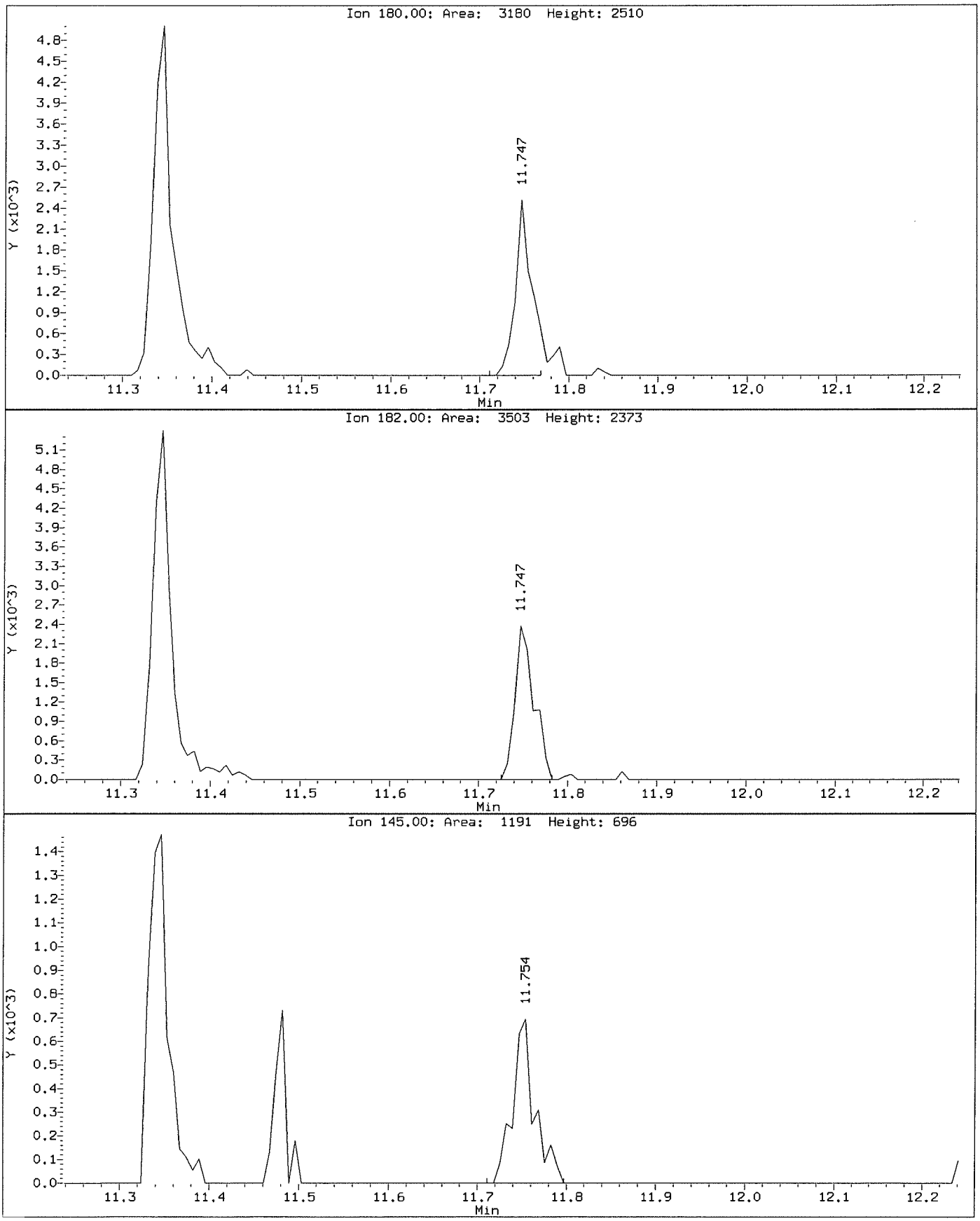
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Injection Date: 02-APR-2021 12:38
Instrument: voa6.i
Client Sample ID: VSTD005

Compound: 1,2,3-Trichlorobenzene
CAS Number: 87-61-6



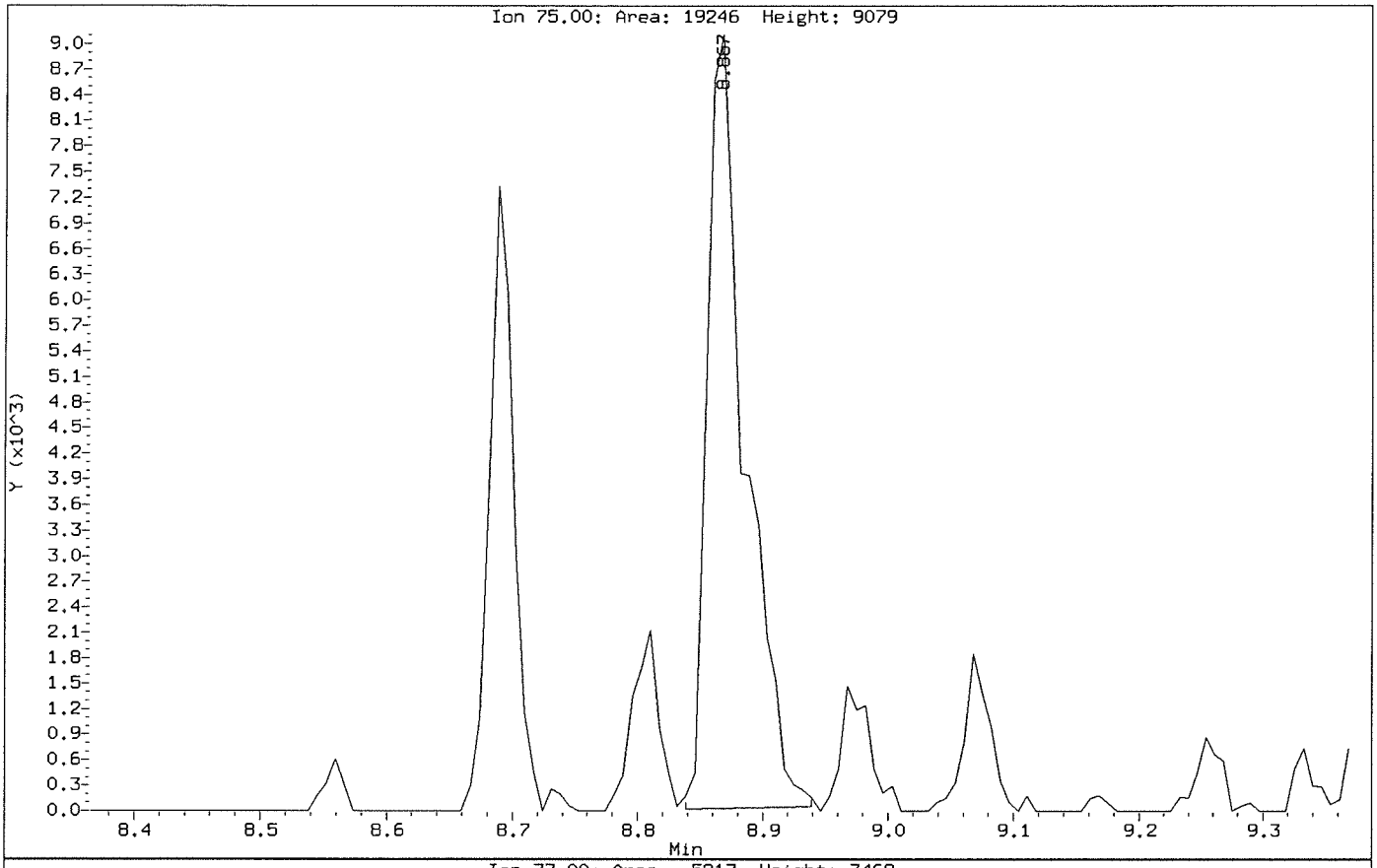
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Instrument: voa6.i
Client Sample ID: VSTD005

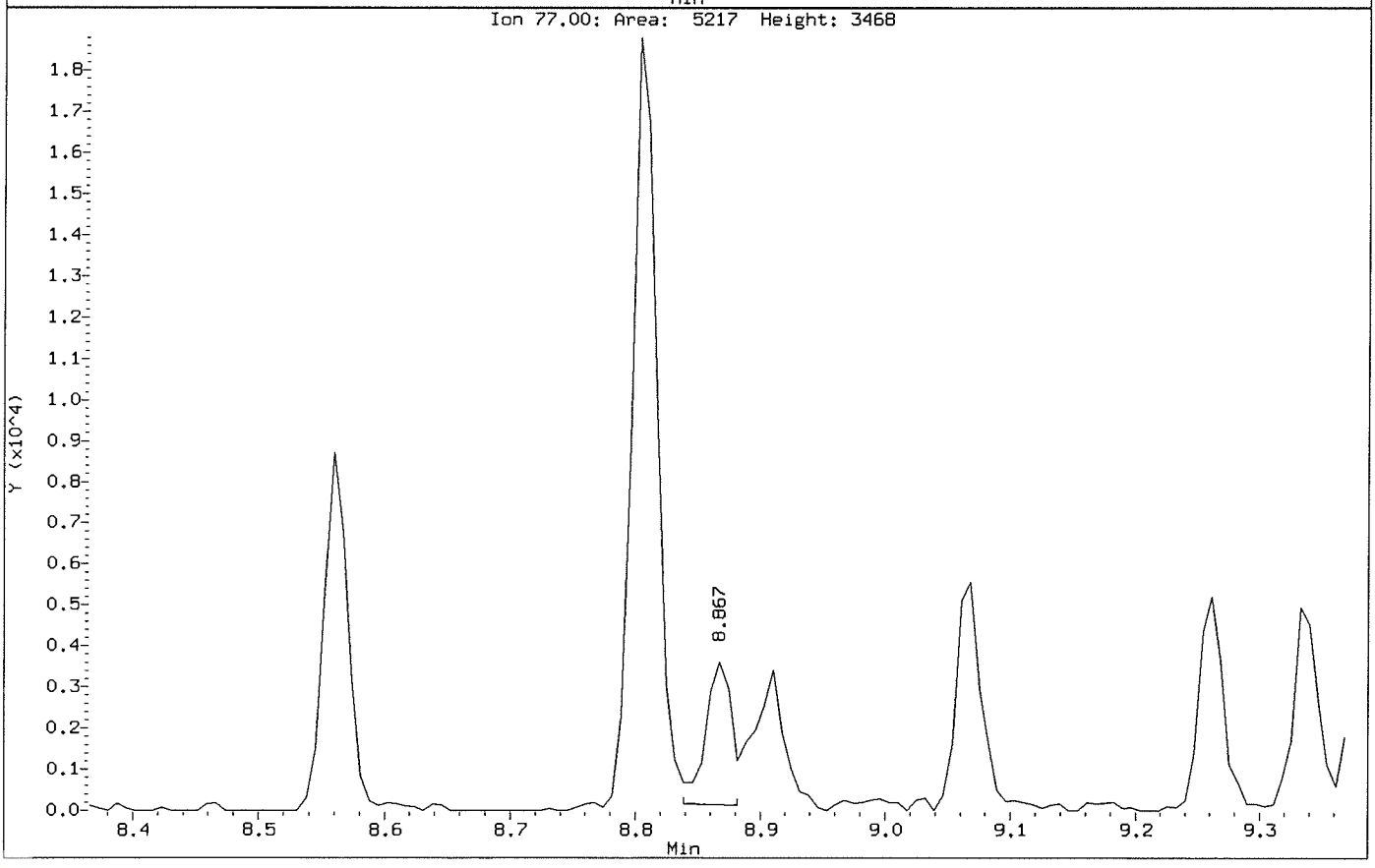
Compound: 1,2,3-Trichlorobenzene
CAS Number: 87-61-6



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before\X040206.D
Injection Date: 02-APR-2021 12:38
Instrument: voa6.i
Client Sample ID: VSTD005

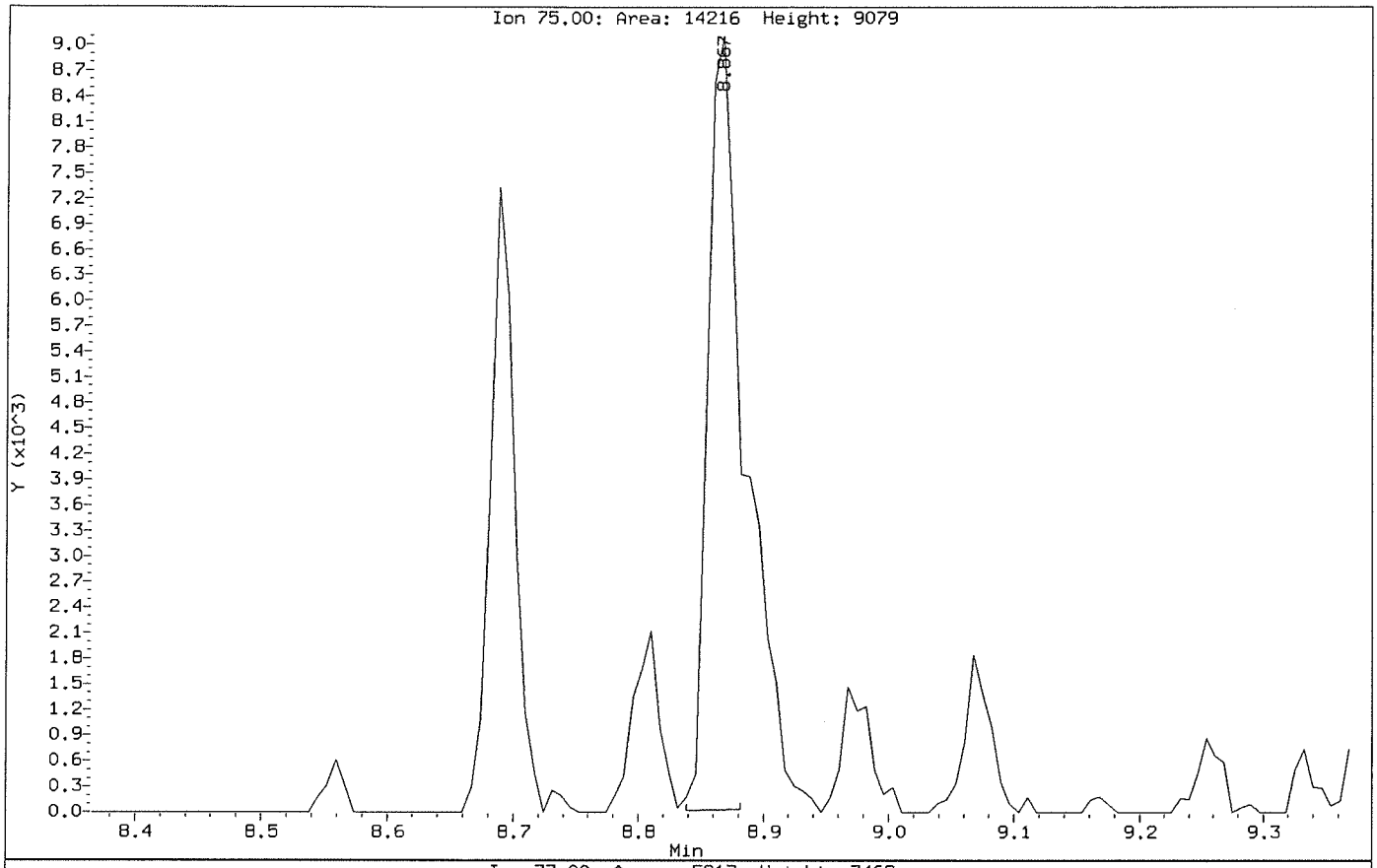
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4

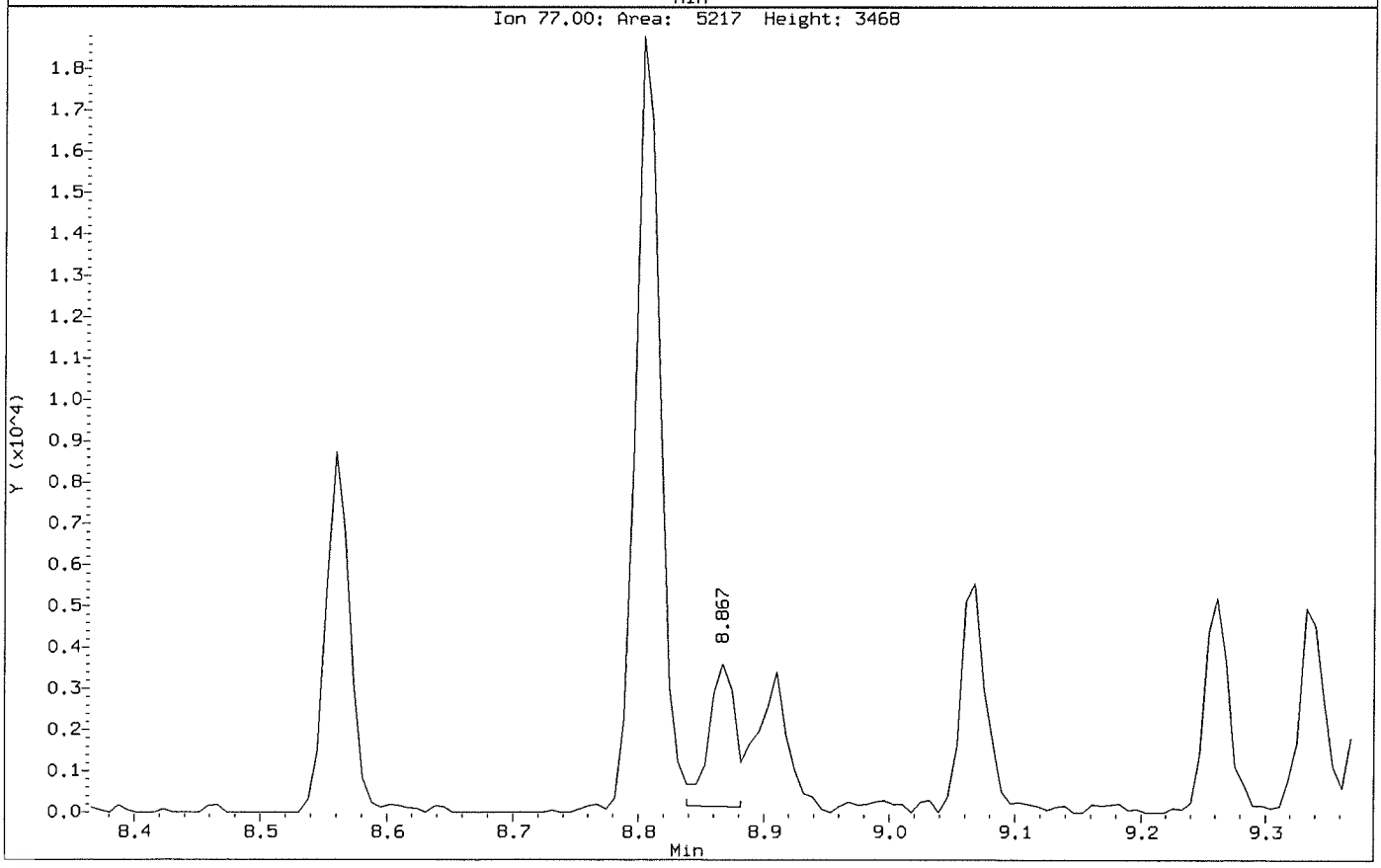


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Instrument: voa6.i
Client Sample ID: VSTD005

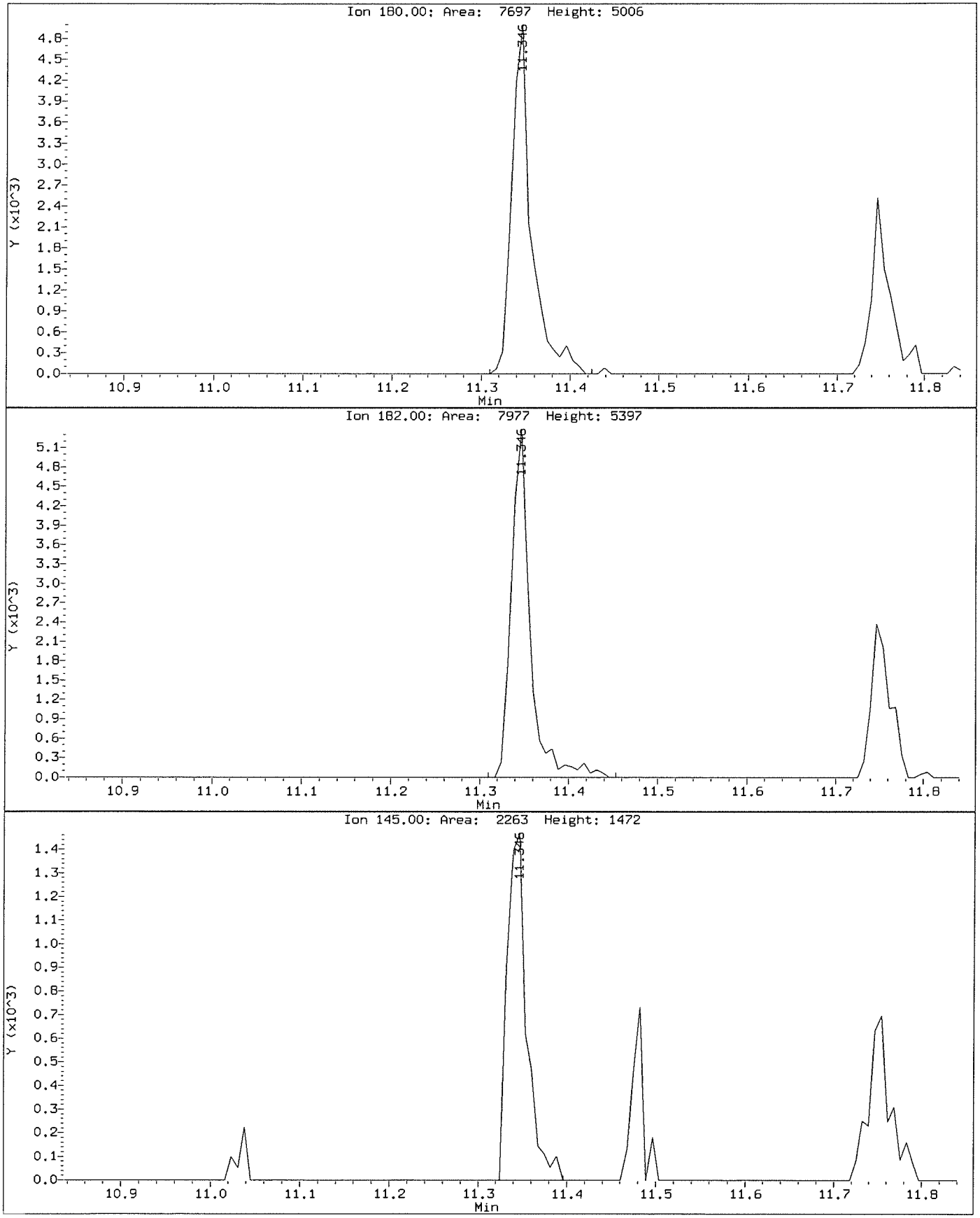
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



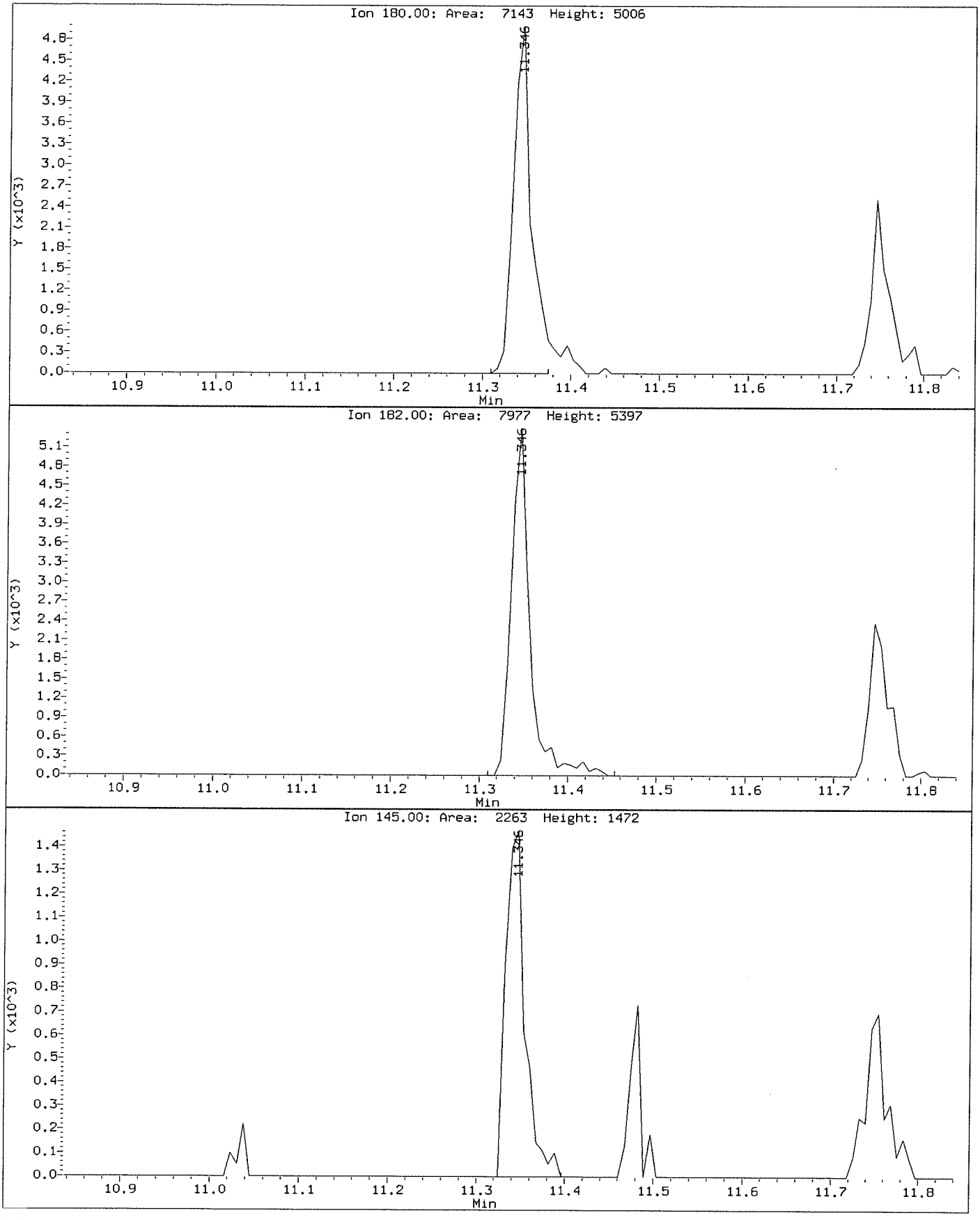
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Injection Date: 02-APR-2021 12:38
Instrument: voa6.i
Client Sample ID: VSTD005

Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1



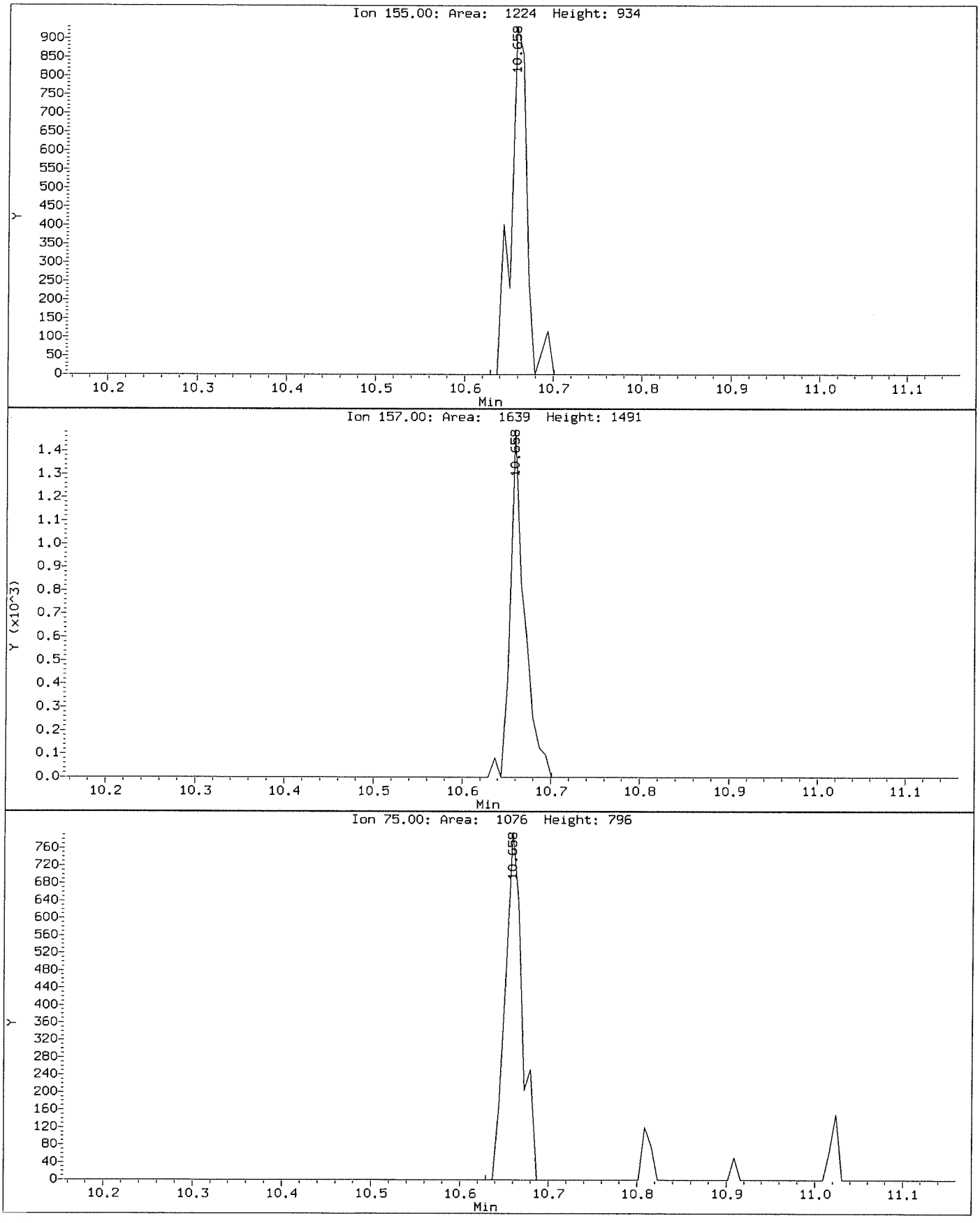
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Instrument: voa6.i
Client Sample ID: VSTD005

Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1



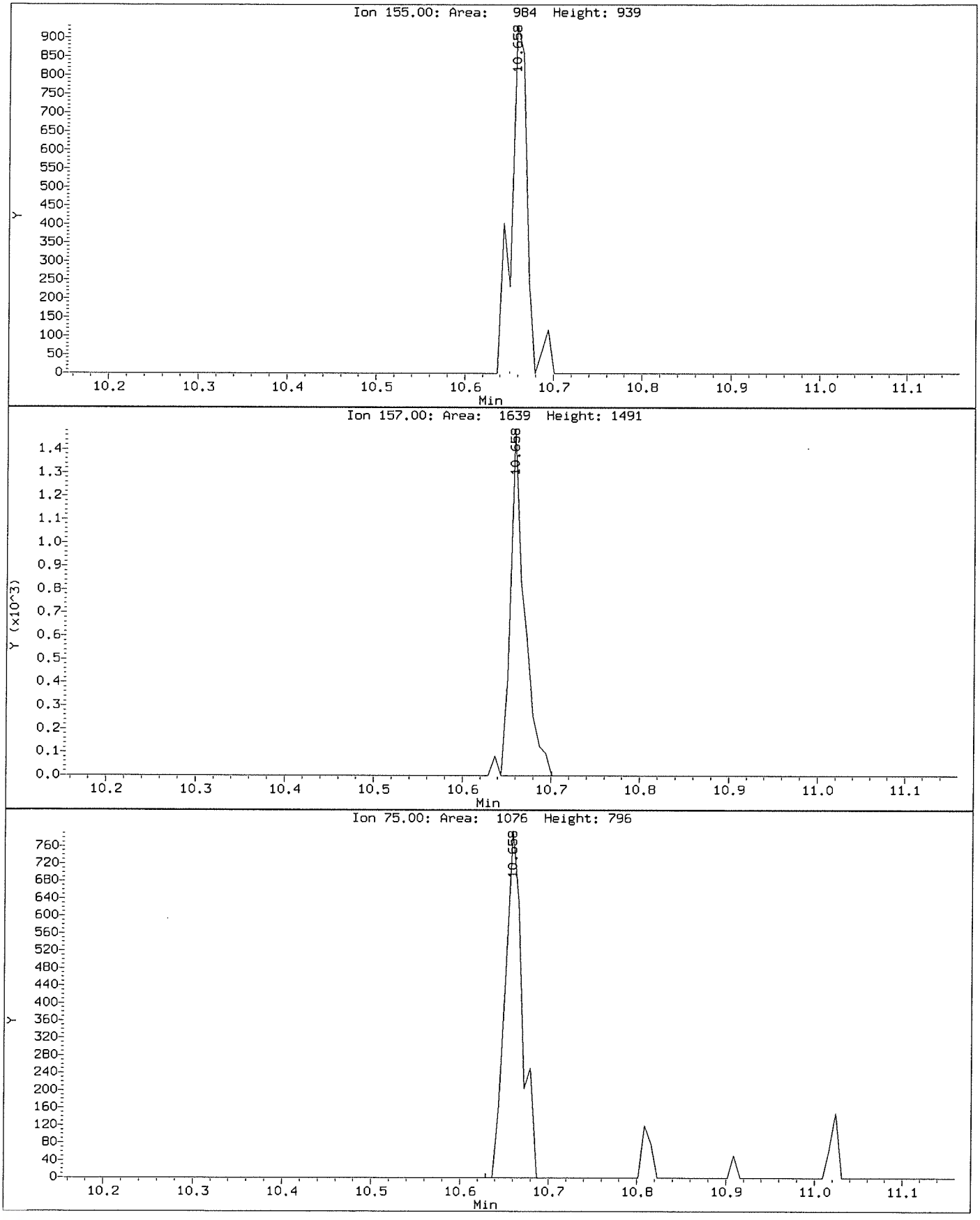
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Instrument: voa6.i
Client Sample ID: VSTD005

Compound: 1,2-Dibromo-3-Chloropropane
CAS Number: 96-12-8



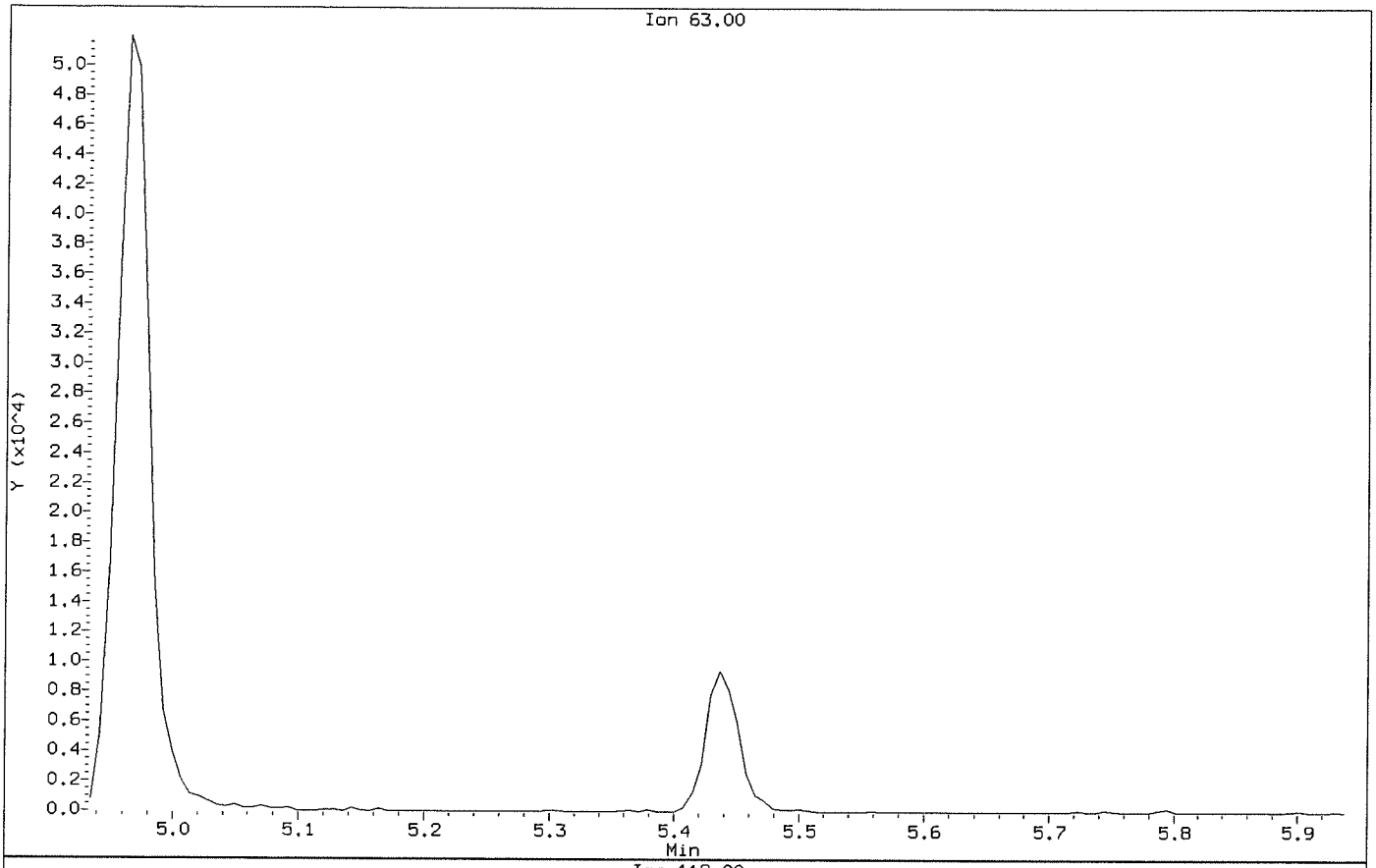
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Client Sample ID: VSTD005

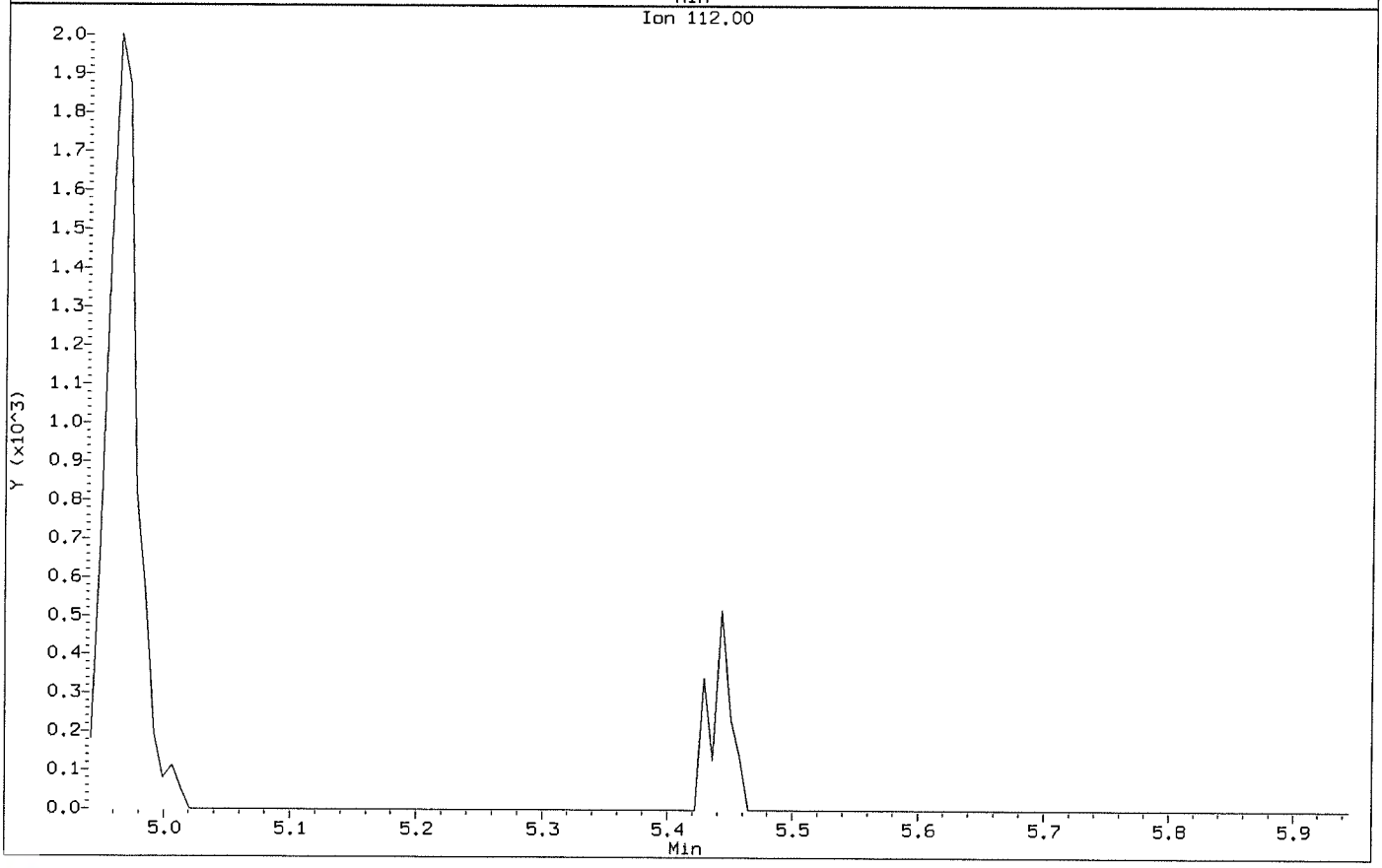
Compound: 1,2-Dibromo-3-Chloropropane
CAS Number: 96-12-8



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before\X040206.D
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Instrument: voa6.i
Client Sample ID: VSTD005

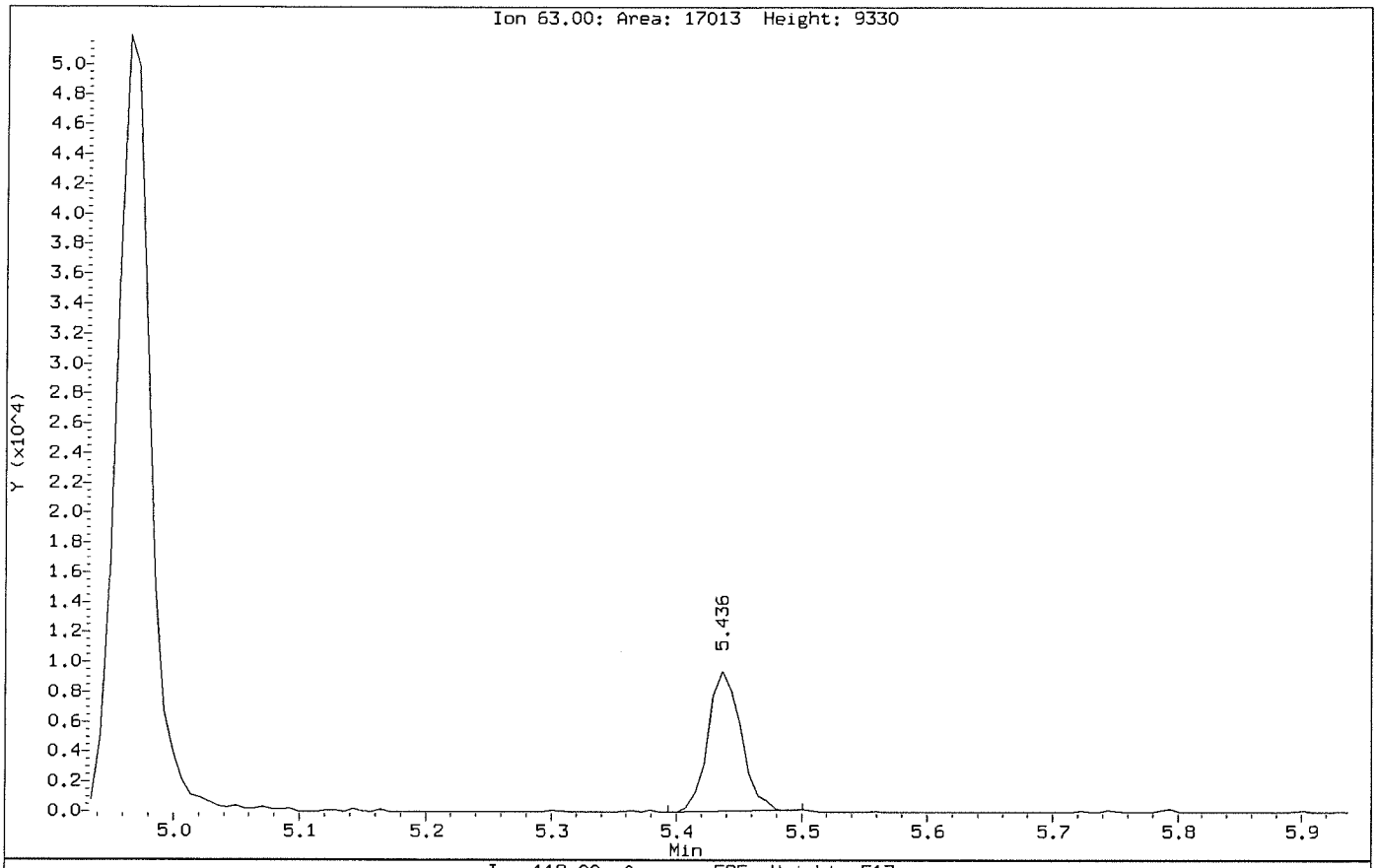
Compound: 1,2-Dichloropropane
CAS Number: 78-87-5

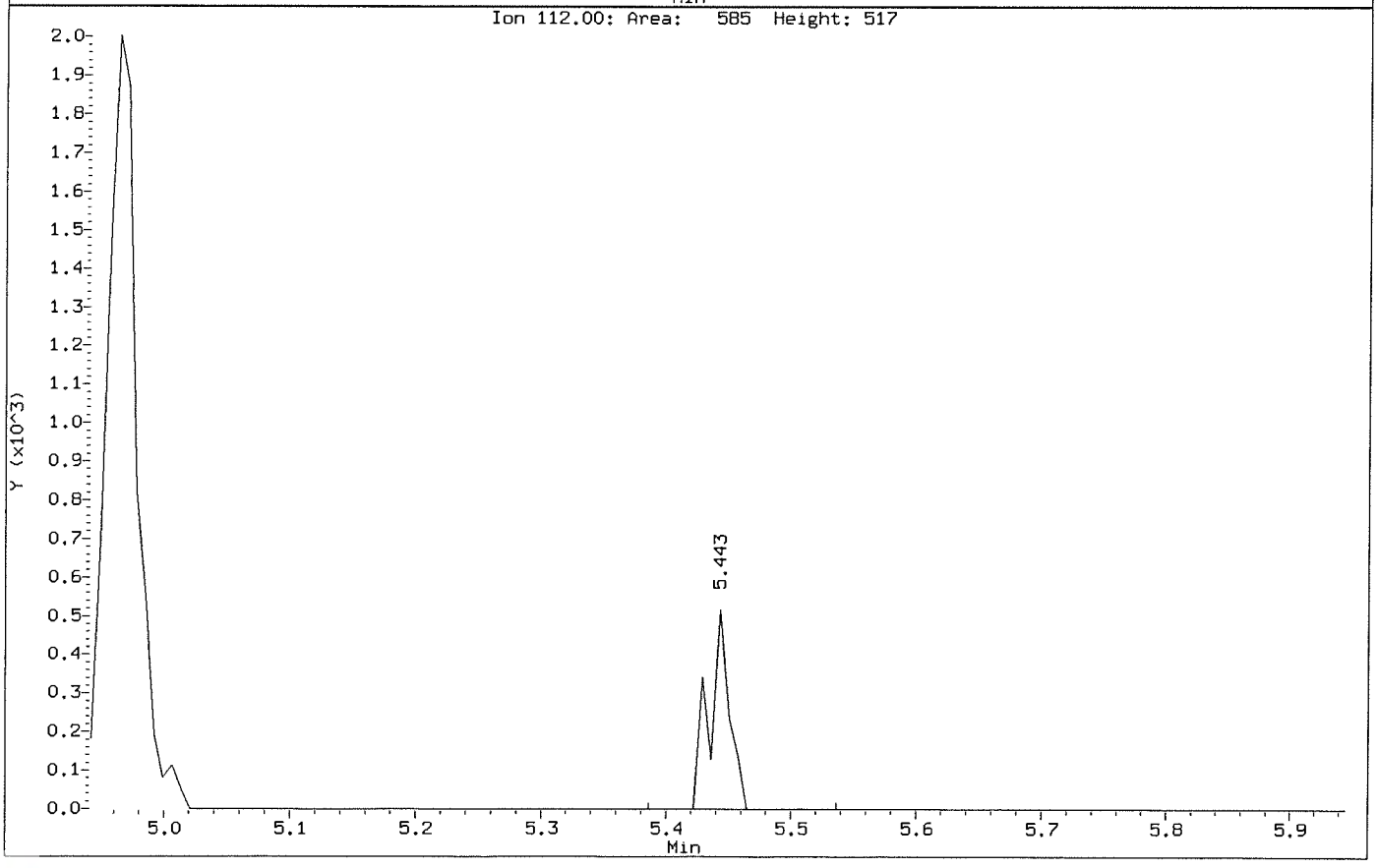


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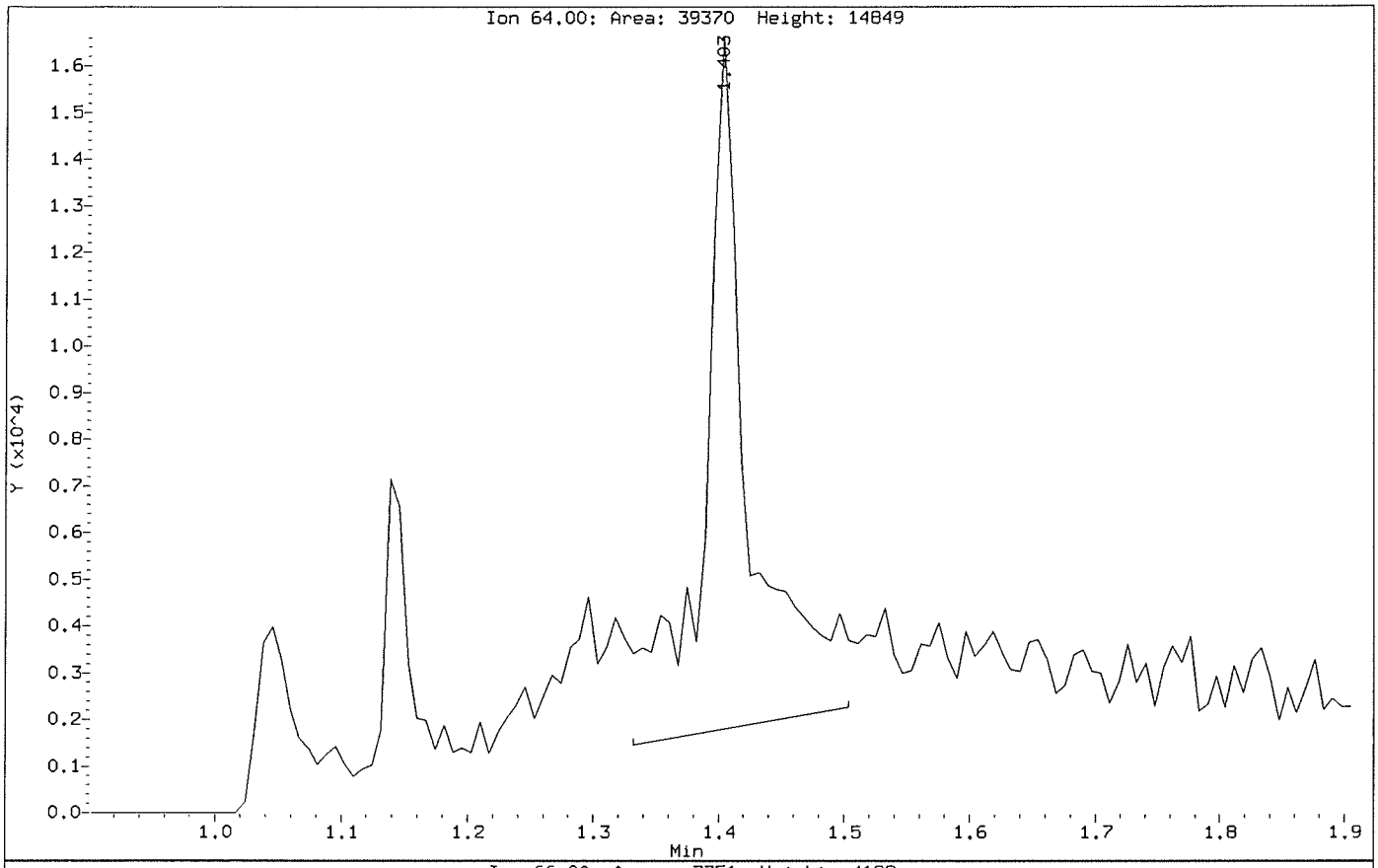
Compound: 1,2-Dichloropropane
CAS Number: 78-87-5

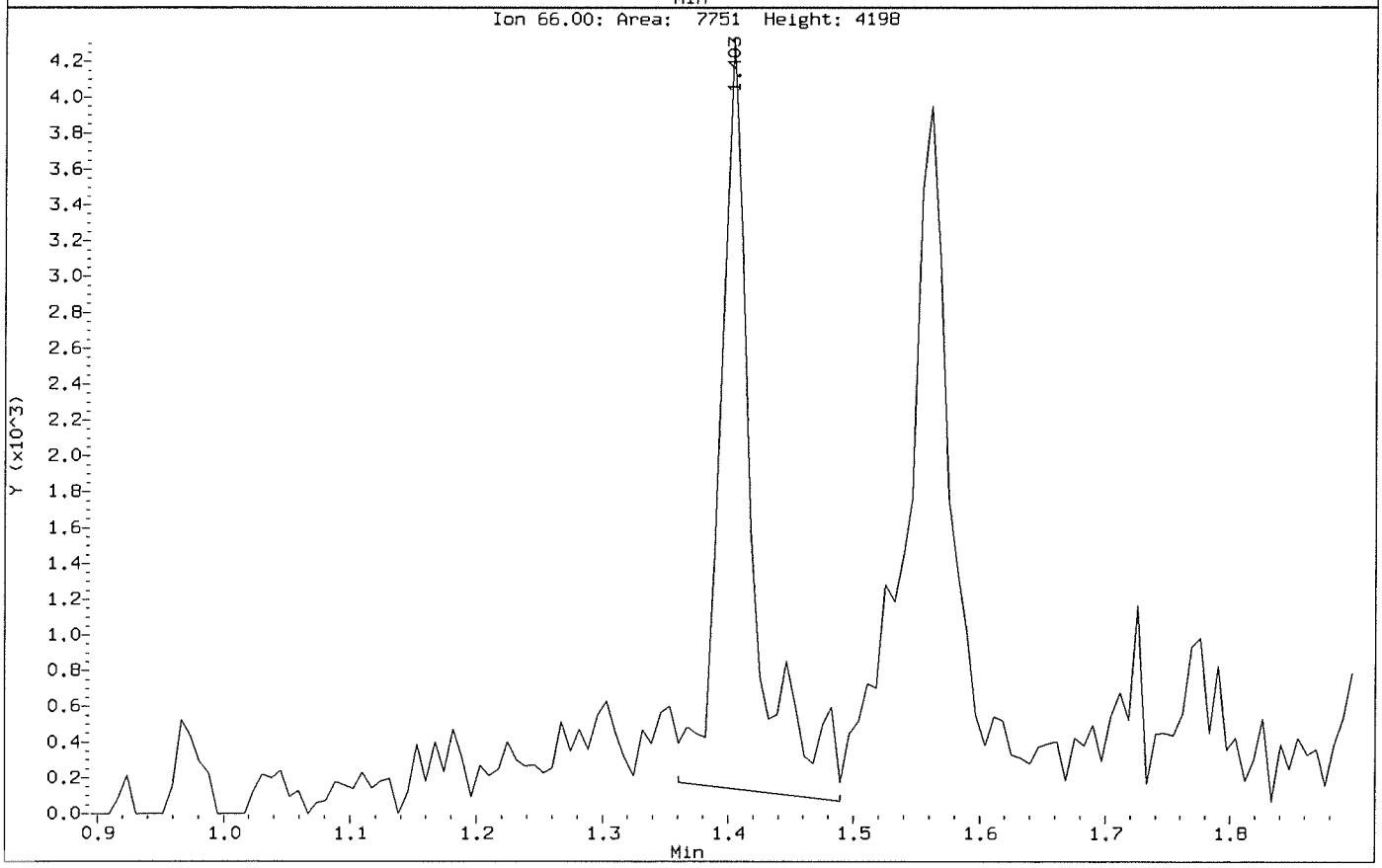


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Instrument: voa6.i
Client Sample ID: VSTD005

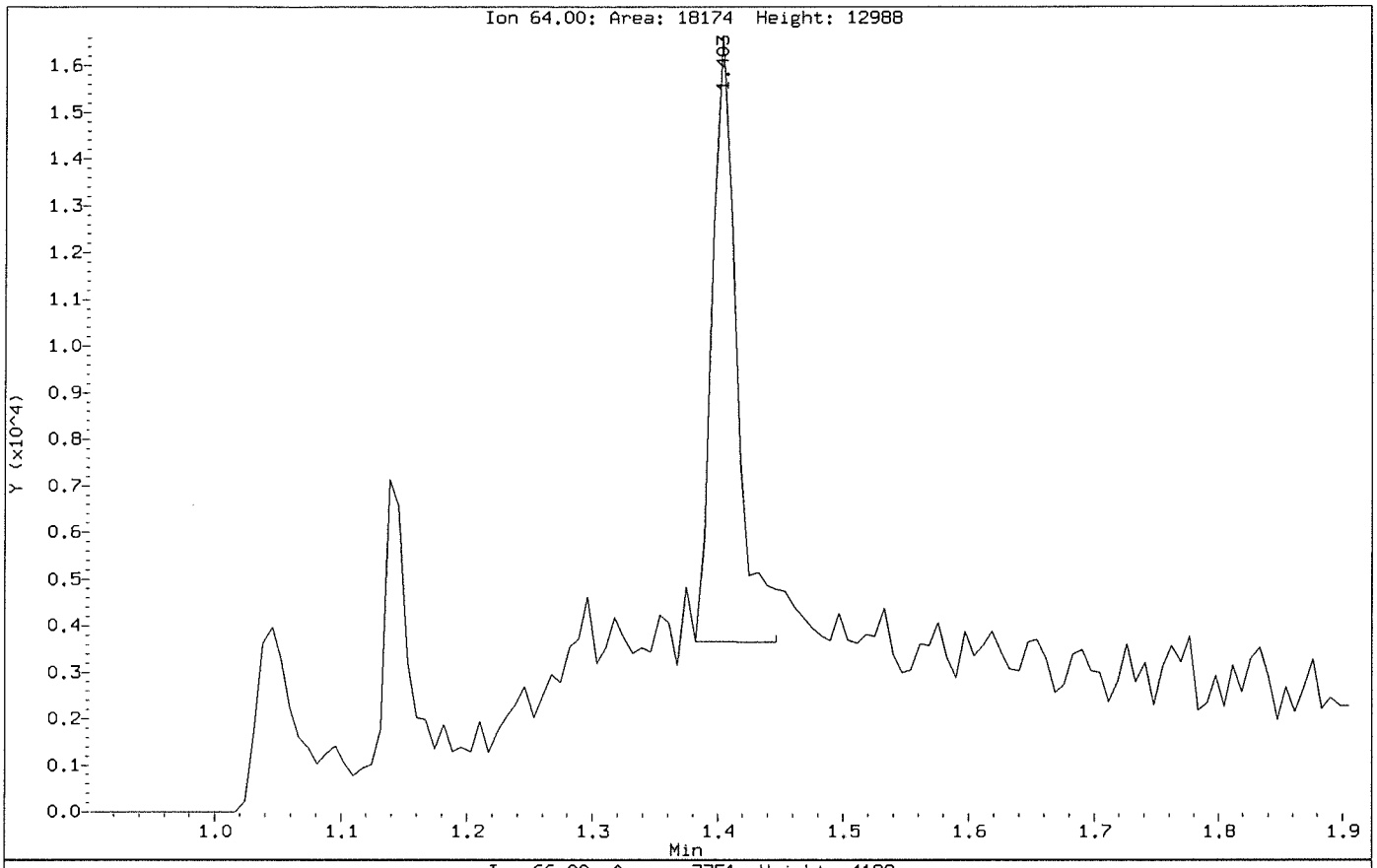
Compound: Chloroethane
CAS Number: 75-00-3

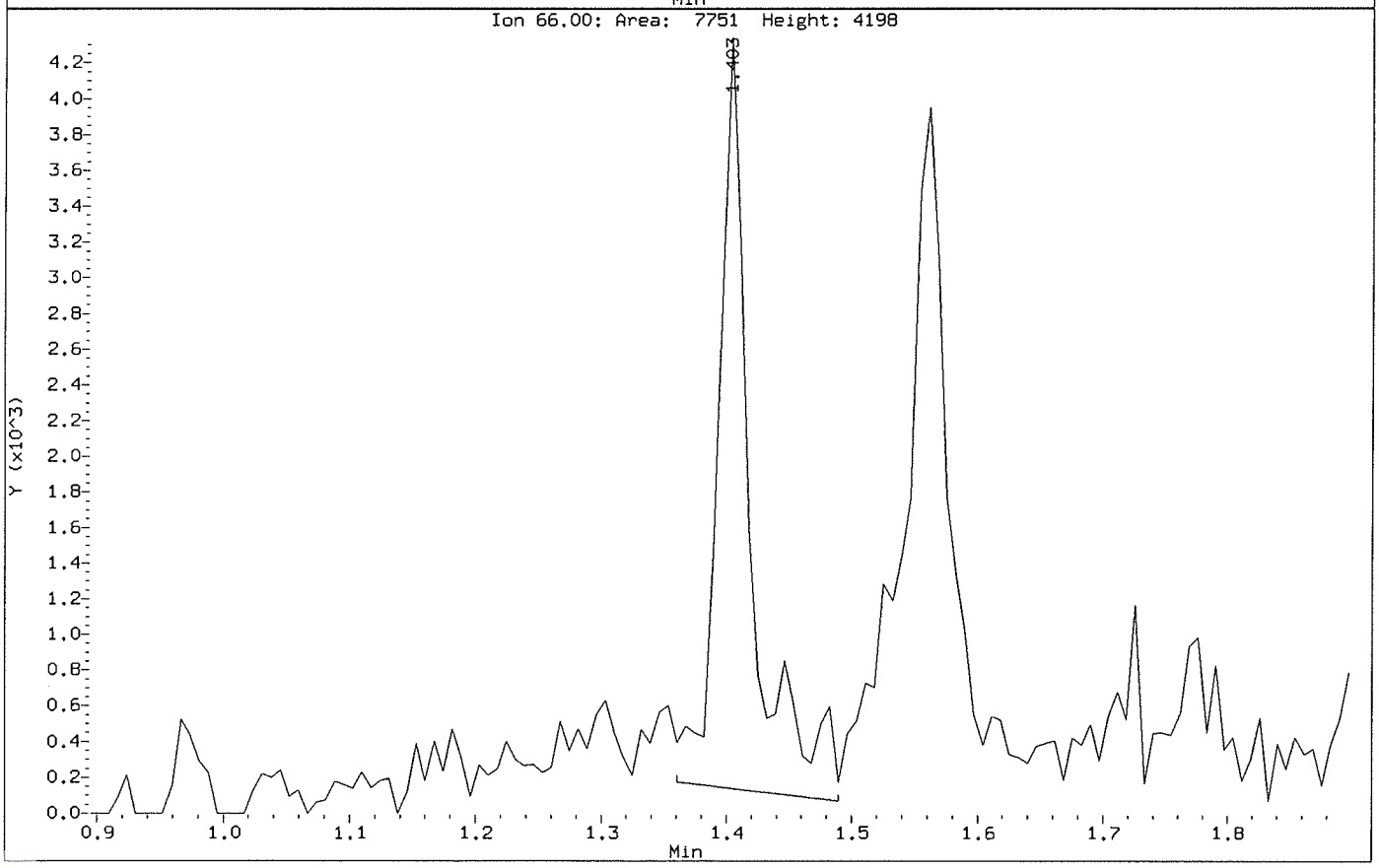


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040206.D
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Instrument: voa6.i
Client Sample ID: VSTD005

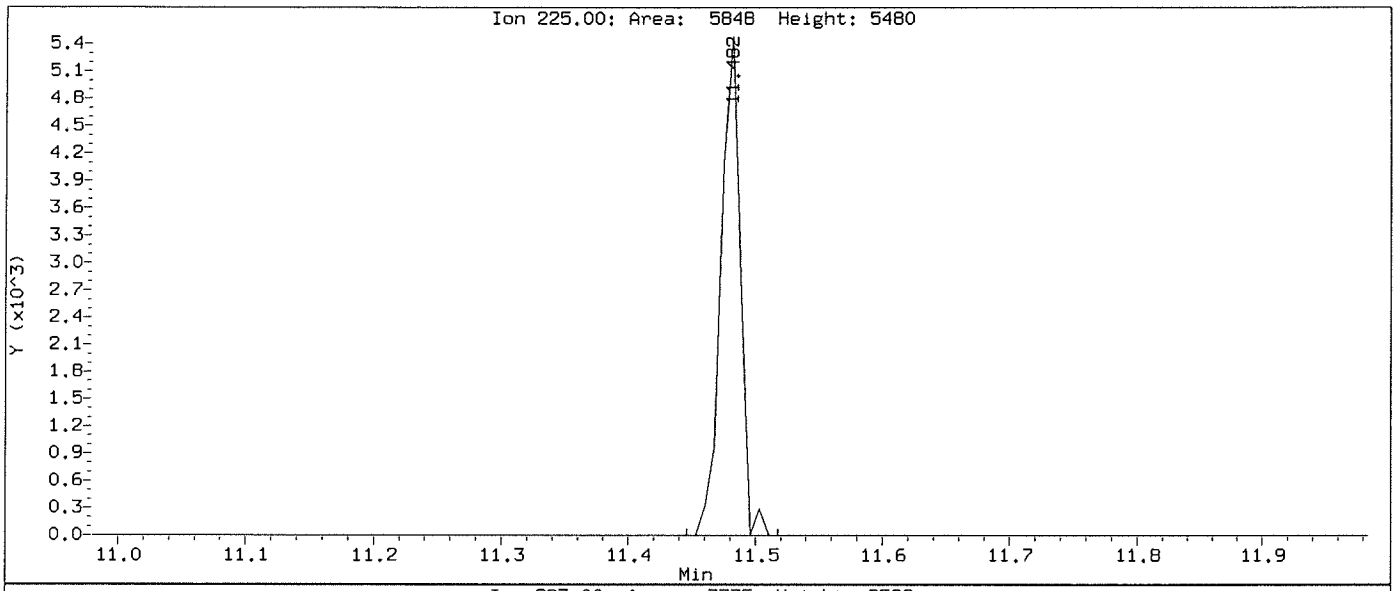
Compound: Chloroethane
CAS Number: 75-00-3

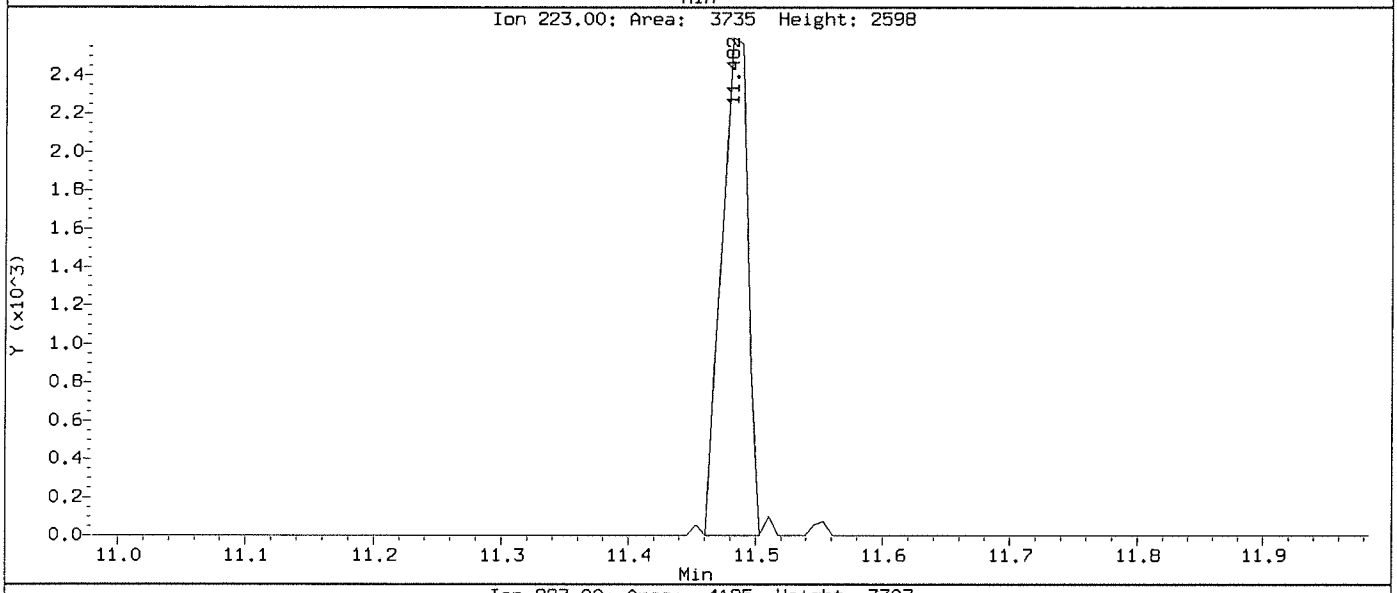


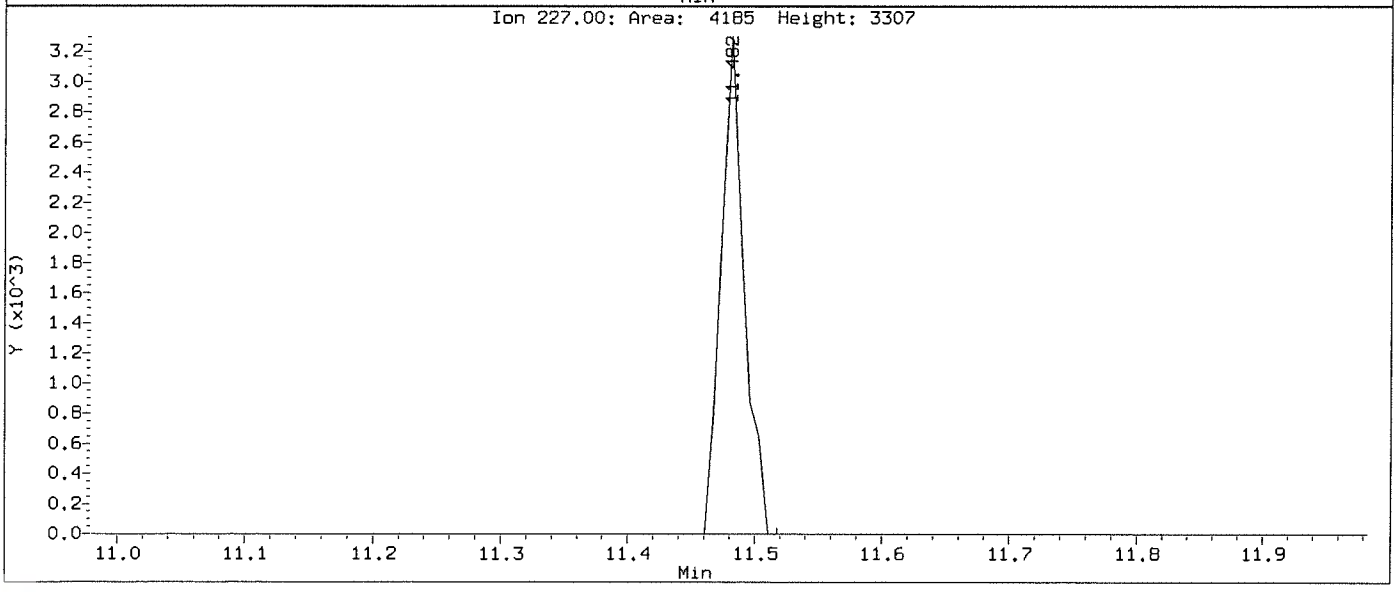



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before\X040206.D
Injection Date: 02-APR-2021 12:38
Instrument: voa6.i
Client Sample ID: VSTD005

Compound: Hexachlorobutadiene
CAS Number: 87-68-3

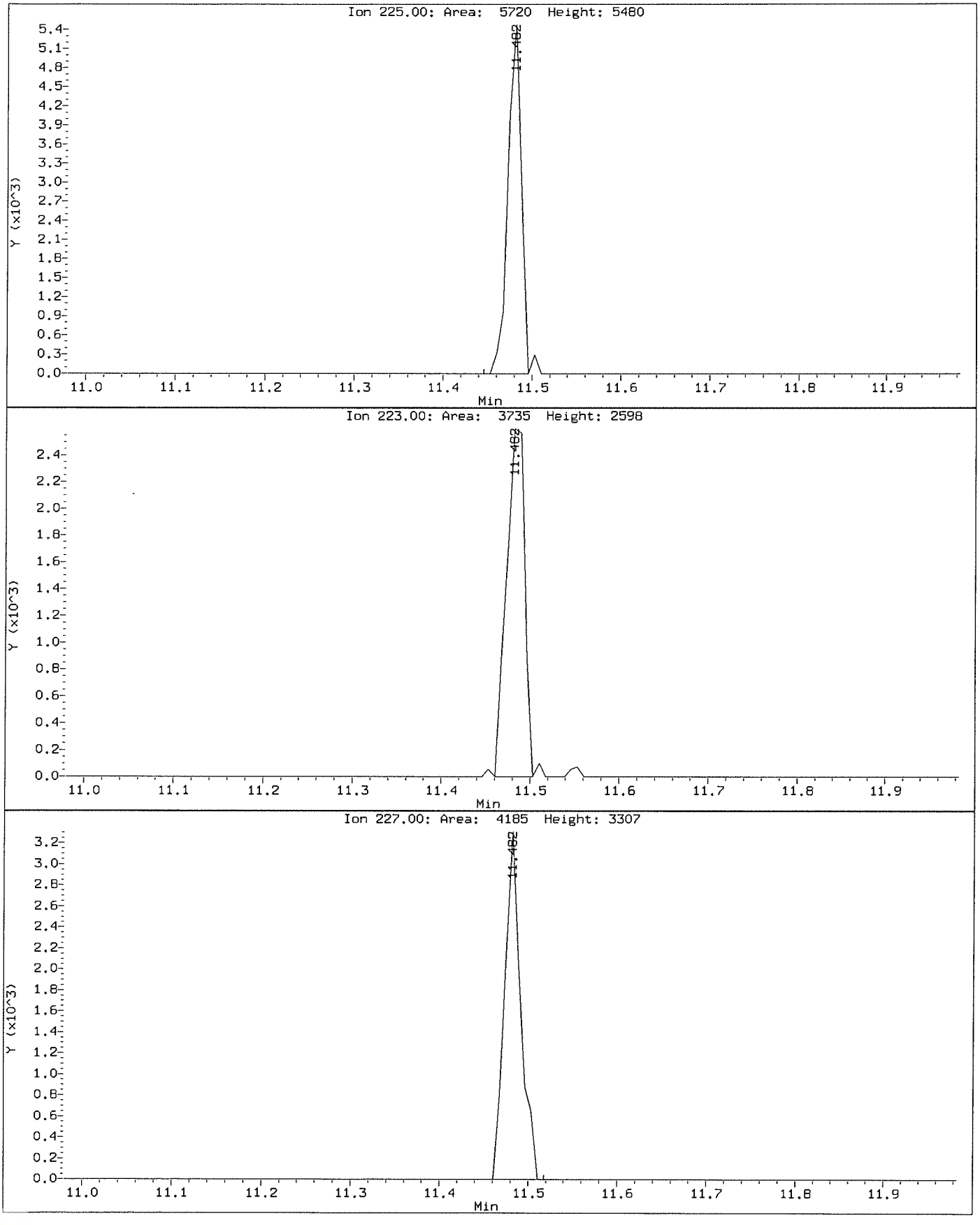


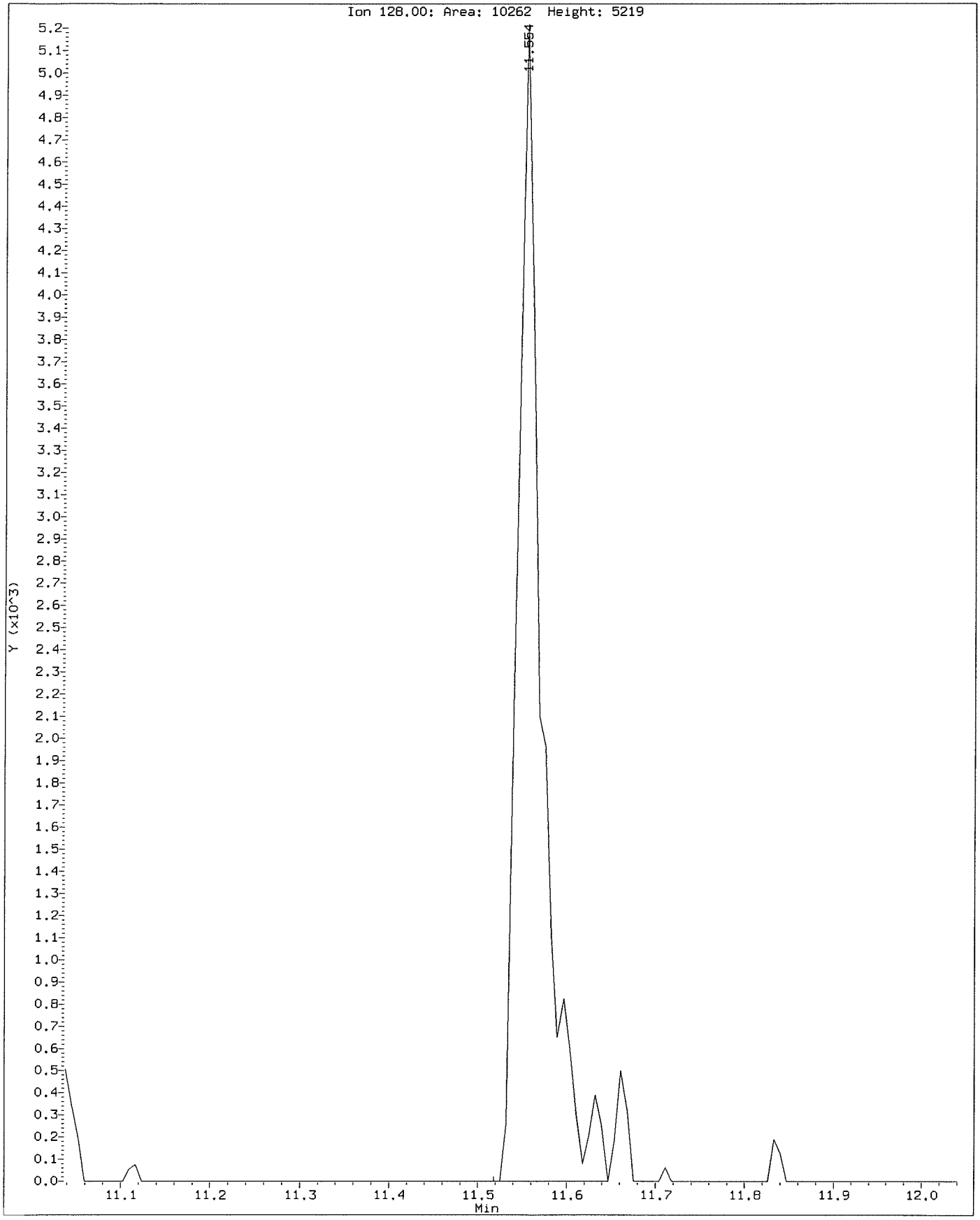
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Instrument: voa6.i
Client Sample ID: VSTD005

Compound: Hexachlorobutadiene
CAS Number: 87-68-3



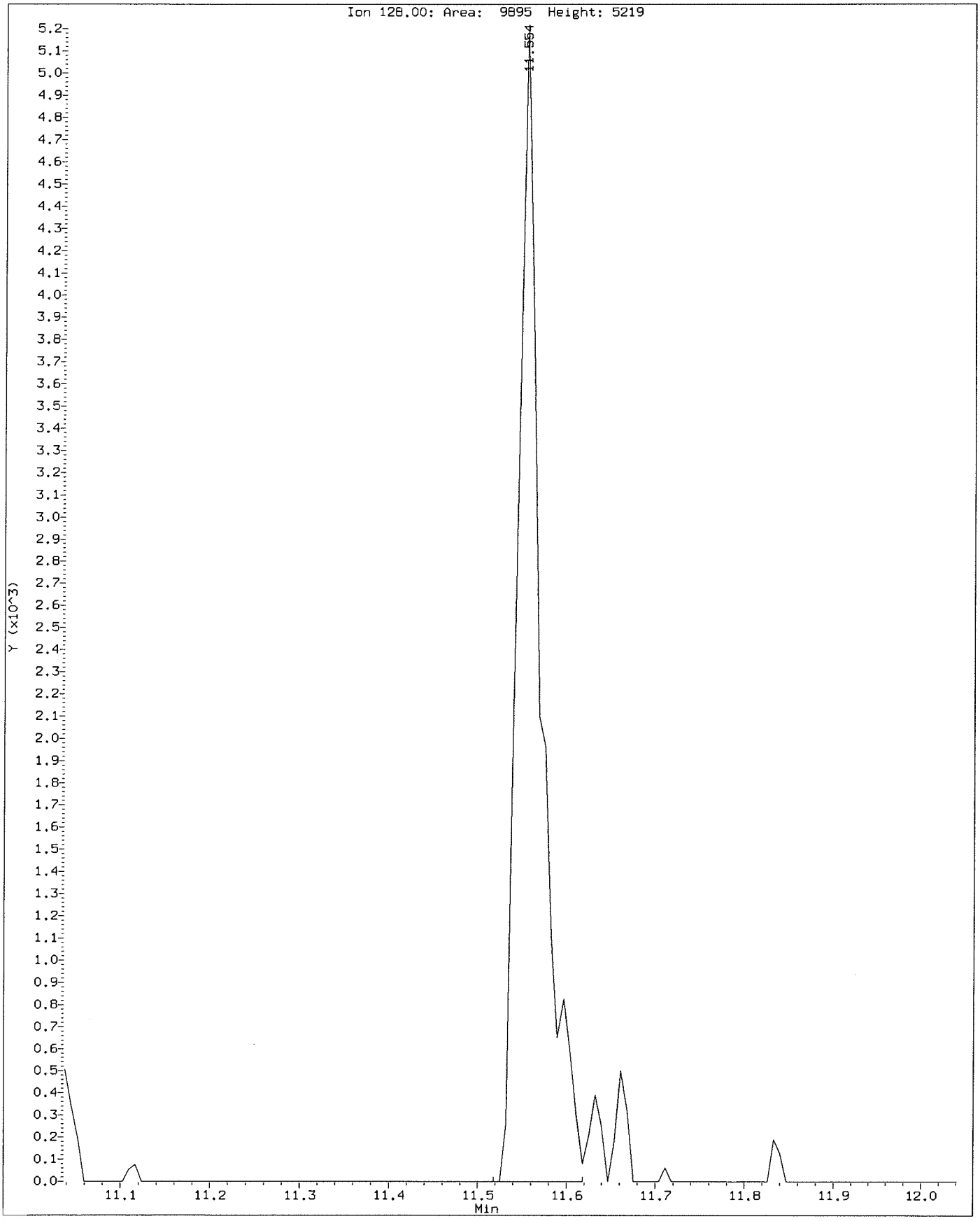
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Injection Date: 02-APR-2021 12:38
Instrument: voa6.i
Client Sample ID: VSTD005

Compound: Naphthalene
CAS Number: 91-20-3



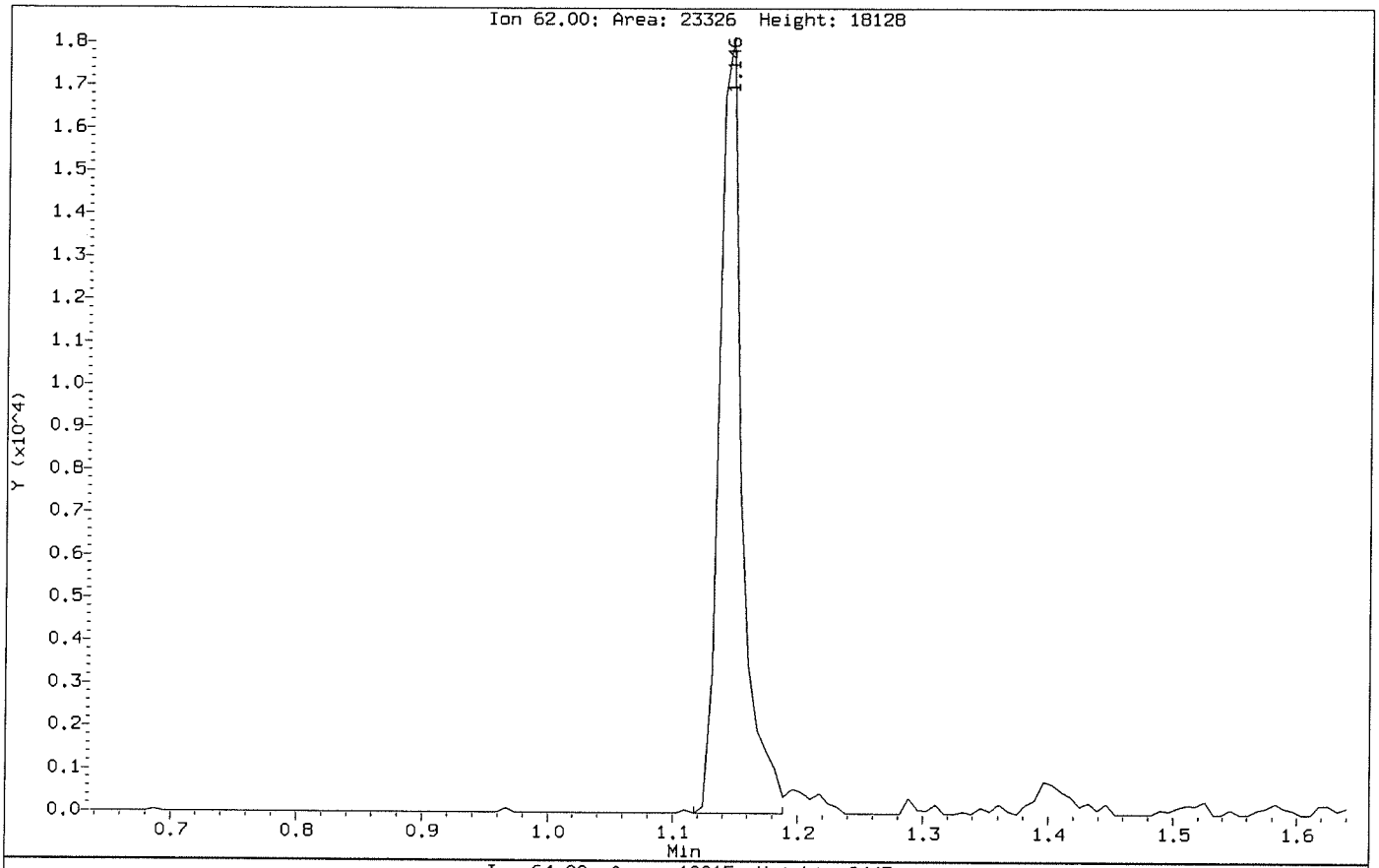
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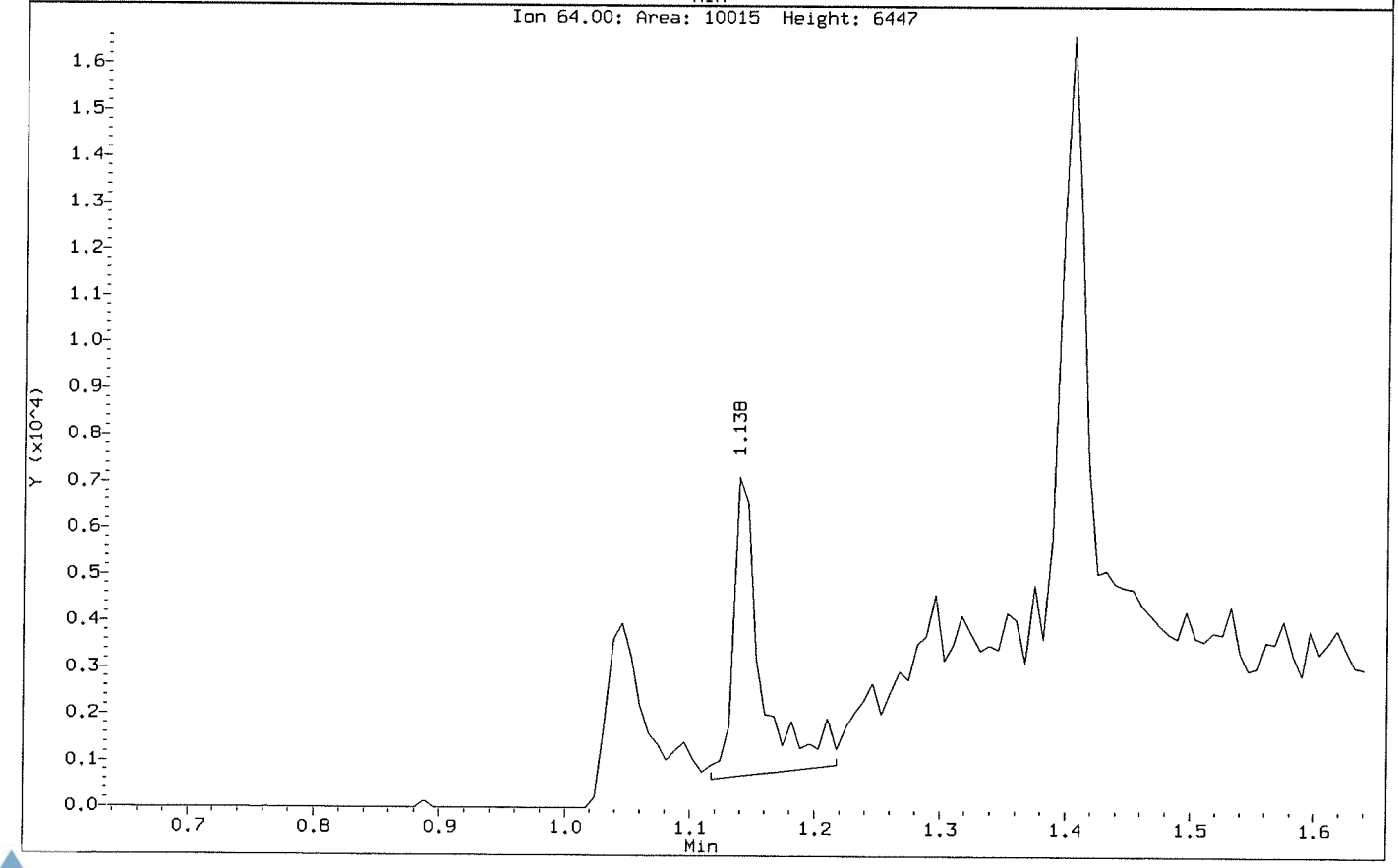
Compound: Naphthalene
CAS Number: 91-20-3



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before\X040206.D
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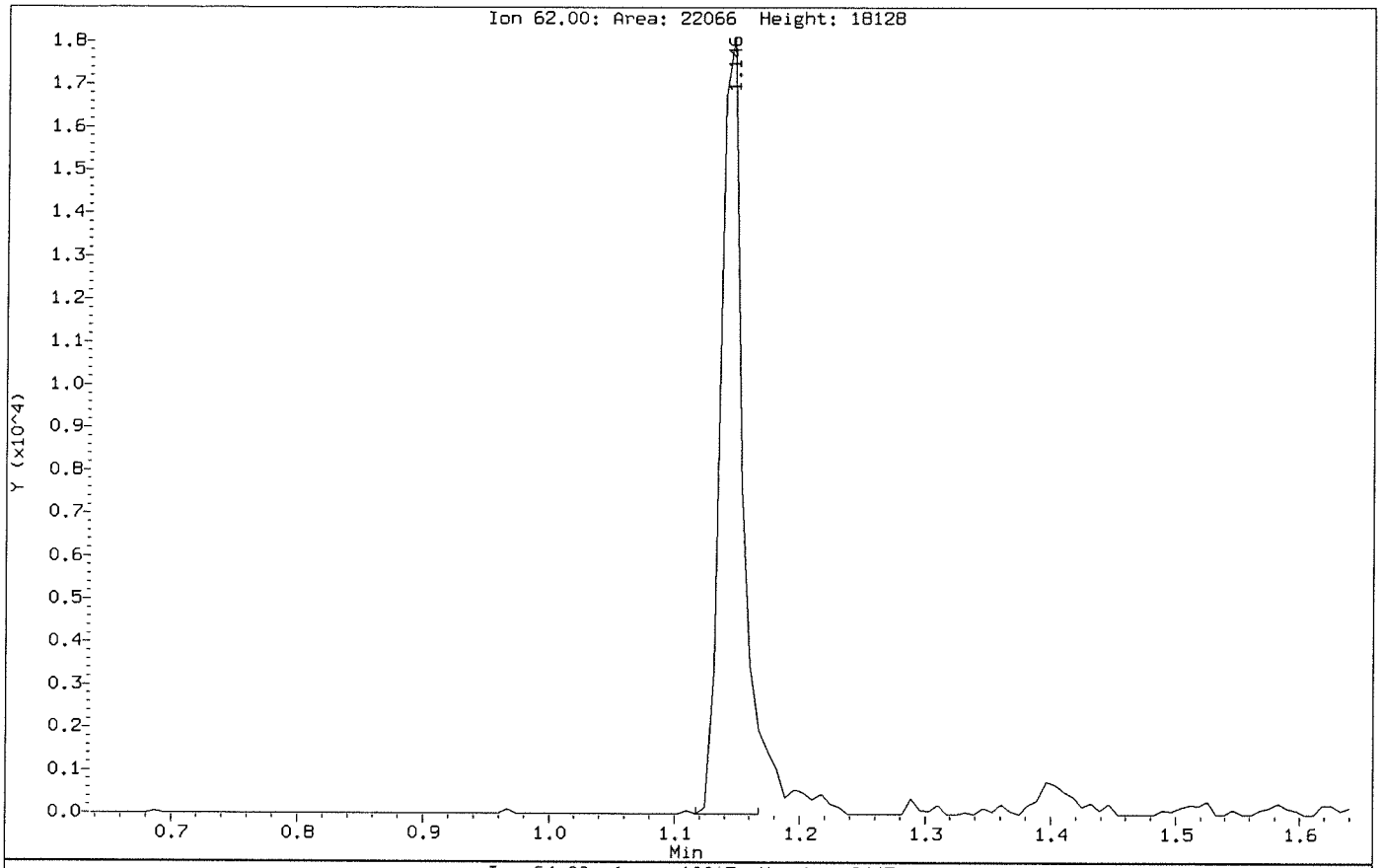
Compound: Vinyl Chloride
CAS Number: 75-01-4

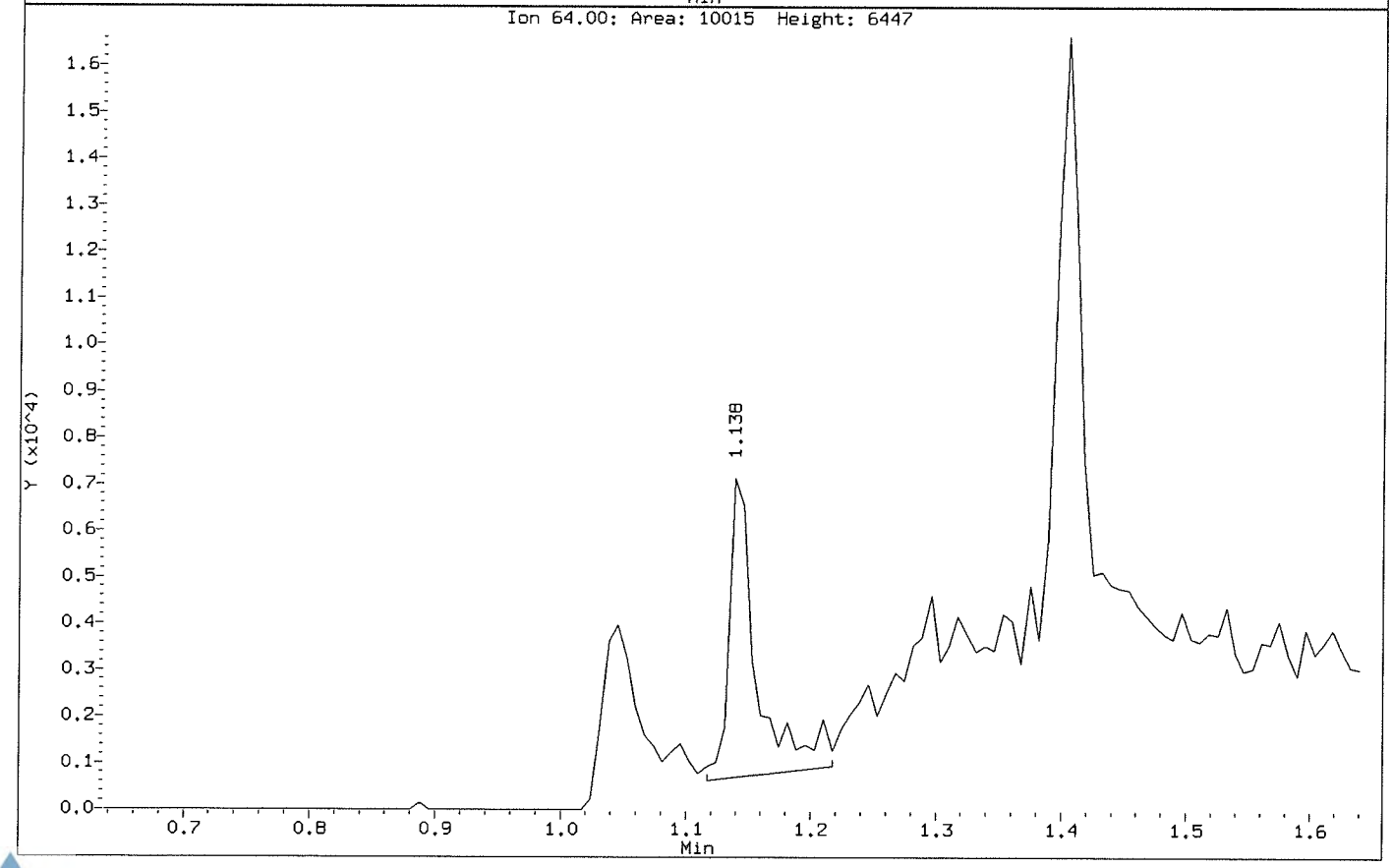


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040206.D
Injection Date: 02-APR-2021 12:38
Instrument: voa6.i
Client Sample ID: VSTD005

Compound: Vinyl Chloride
CAS Number: 75-01-4



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040207.D
Lab Smp Id: VSTD020 Client Smp ID: VSTD020
Inj Date : 02-APR-2021 12:59
Operator : PC Inst ID: voa6.i
Smp Info : VSTD020;VSTD020;1;6;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\8260W.m
Meth Date : 14-Apr-2021 12:07 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 12:38 Cal File: X040206.D
Als bottle: 8 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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 |

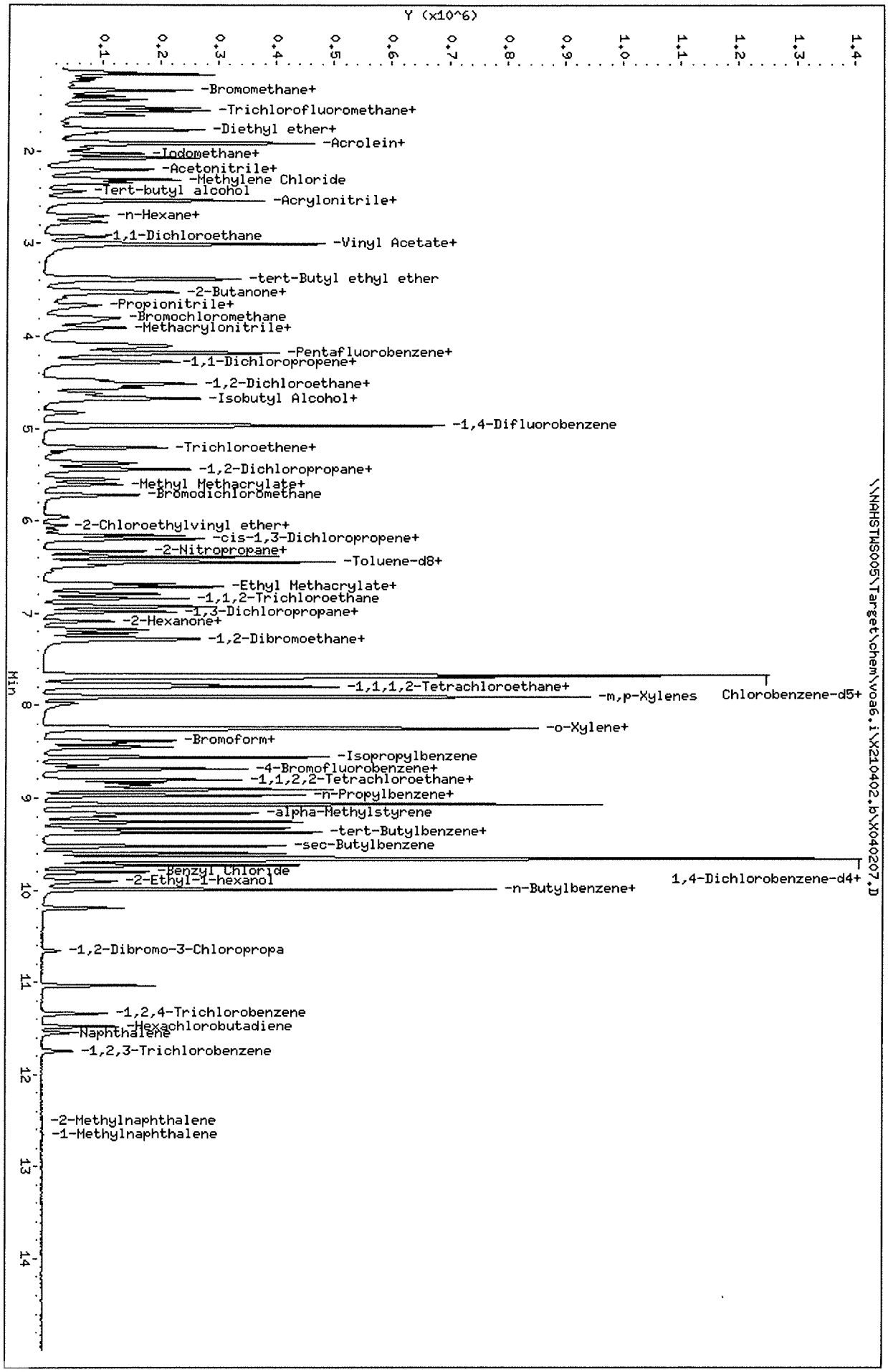
| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|
| * 1 Pentafluorobenzene | 168 | 4.182 | 4.182 | (1.000) | 303845 | 50.0000 | |
| * 36 1,4-Difluorobenzene | 114 | 4.963 | 4.963 | (1.000) | 500849 | 50.0000 | |
| * 47 Chlorobenzene-d5 | 117 | 7.670 | 7.670 | (1.000) | 505360 | 50.0000 | |
| * 70 1,4-Dichlorobenzene-d4 | 152 | 9.662 | 9.662 | (1.000) | 244406 | 50.0000 | |
| $ 30 Dibromofluoromethane | 113 | 4.103 | 4.103 | (0.981) | 68668 | 20.0000 | 19.46 |
| $ 35 1,2-Dichloroethane-d4 | 65 | 4.476 | 4.476 | (1.070) | 80475 | 20.0000 | 19.07 |
| $ 48 Toluene-d8 | 98 | 6.388 | 6.388 | (0.833) | 218999 | 20.0000 | 18.08 |
| $ 69 4-Bromofluorobenzene | 95 | 8.688 | 8.688 | (1.133) | 81621 | 20.0000 | 17.93 |
| 60 1,1,1,2-Tetrachloroethane | 131 | 7.778 | 7.778 | (1.014) | 59057 | 20.0000 | 15.74 |
| 31 1,1,1-Trichloroethane | 97 | 4.089 | 4.089 | (0.978) | 93144 | 20.0000 | 16.93 |
| 68 1,1,2,2-Tetrachloroethane | 83 | 8.838 | 8.838 | (0.915) | 74660 | 20.0000 | 18.30 |
| 53 1,1,2-Trichloroethane | 83 | 6.840 | 6.840 | (0.892) | 50828 | 20.0000 | 17.31 |
| 22 1,1-Dichloroethane | 63 | 2.921 | 2.921 | (0.699) | 106820 | 20.0000 | 18.93 |
| 11 1,1-Dichloroethene | 96 | 1.919 | 1.919 | (0.459) | 80105 | 20.0000 | 18.51 |
| 32 1,1-Dichloropropene | 75 | 4.282 | 4.282 | (0.863) | 80443 | 20.0000 | 17.11 |
| 93 1,2,3-Trichlorobenzene | 180 | 11.746 | 11.746 | (1.216) | 14313 | 20.0000 | 17.87(H) |
| 71 1,2,3-Trichloropropane | 75 | 8.867 | 8.867 | (0.918) | 56313 | 20.0000 | 17.16(M) |
| 90 1,2,4-Trichlorobenzene | 180 | 11.338 | 11.338 | (1.173) | 30279 | 20.0000 | 18.65 |
| 79 1,2,4-Trimethylbenzene | 105 | 9.375 | 9.375 | (0.970) | 211618 | 20.0000 | 16.87 |
| 89 1,2-Dibromo-3-Chloropropane | 155 | 10.657 | 10.657 | (1.103) | 4913 | 20.0000 | 18.47 |
| 57 1,2-Dibromoethane | 107 | 7.262 | 7.262 | (0.947) | 62872 | 20.0000 | 18.09 |
| 88 1,2-Dichlorobenzene | 146 | 9.991 | 9.991 | (1.034) | 118277 | 20.0000 | 17.61 |

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040207.D Page 2
Report Date: 14-Apr-2021 12:07

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|---|
| 33 | 1,2-Dichloroethane | 62 | 4.555 | 4.555 | (0.918) | 95203 | 20.0000 | 17.95 |
| 42 | 1,2-Dichloropropane | 63 | 5.436 | 5.436 | (1.095) | 62390 | 20.0000 | 17.92 |
| 75 | 1,3,5-Trimethylbenzene | 105 | 9.067 | 9.067 | (0.938) | 202880 | 20.0000 | 15.48 |
| 83 | 1,3-Dichlorobenzene | 146 | 9.605 | 9.605 | (0.994) | 122816 | 20.0000 | 17.35 |
| 54 | 1,3-Dichloropropane | 76 | 6.983 | 6.983 | (0.910) | 97006 | 20.0000 | 17.28 |
| 84 | 1,4-Dichlorobenzene | 146 | 9.683 | 9.683 | (1.002) | 128066 | 20.0000 | 16.79 |
| 26 | 2,2-Dichloropropane | 77 | 3.509 | 3.509 | (0.839) | 92115 | 20.0000 | 16.58 |
| 24 | 2-Butanone | 43 | 3.588 | 3.588 | (0.858) | 43391 | 40.0000 | 41.54 |
| 76 | 2-Chlorotoluene | 91 | 8.974 | 8.974 | (0.929) | 181169 | 20.0000 | 17.63 |
| 52 | 2-Hexanone | 43 | 7.090 | 7.090 | (0.924) | 70194 | 40.0000 | 35.58 |
| 77 | 4-Chlorotoluene | 91 | 9.067 | 9.067 | (0.938) | 220427 | 20.0000 | 16.53 |
| 82 | p-Isopropyltoluene | 119 | 9.647 | 9.647 | (0.999) | 196775 | 20.0000 | 15.89 |
| 45 | 4-Methyl-2-Pentanone | 43 | 6.324 | 6.324 | (0.824) | 108861 | 40.0000 | 35.74 |
| 10 | Acetone | 43 | 1.976 | 1.976 | (0.473) | 51773 | 40.0000 | 49.29 |
| 37 | Benzene | 78 | 4.512 | 4.512 | (0.909) | 232017 | 20.0000 | 17.48 |
| 74 | Bromobenzene | 156 | 8.802 | 8.802 | (0.911) | 71498 | 20.0000 | 16.97 |
| 29 | Bromochloromethane | 128 | 3.795 | 3.795 | (0.908) | 35942 | 20.0000 | 19.83 |
| 39 | Bromodichloromethane | 83 | 5.722 | 5.722 | (1.153) | 91854 | 20.0000 | 18.28 |
| 66 | Bromoform | 173 | 8.408 | 8.408 | (1.096) | 41512 | 20.0000 | 17.84 |
| 6 | Bromomethane | 94 | 1.338 | 1.338 | (0.320) | 90493 | 20.0000 | 20.71 |
| 19 | Carbon Disulfide | 76 | 2.069 | 2.069 | (0.495) | 294062 | 40.0000 | 34.79 |
| 34 | Carbon Tetrachloride | 117 | 4.261 | 4.261 | (0.859) | 74697 | 20.0000 | 16.53 |
| 59 | Chlorobenzene | 112 | 7.692 | 7.692 | (1.003) | 175855 | 20.0000 | 17.91 |
| 7 | Chloroethane | 64 | 1.403 | 1.403 | (0.336) | 66802 | 20.0000 | 19.76(M) |
| 28 | Chloroform | 83 | 3.910 | 3.910 | (0.935) | 120493 | 20.0000 | 18.26 |
| 3 | Chloromethane | 50 | 1.080 | 1.080 | (0.258) | 65135 | 20.0000 | 20.16 |
| 27 | cis-1,2-Dichloroethene | 96 | 3.530 | 3.530 | (0.844) | 65903 | 20.0000 | 17.74 |
| 46 | cis-1,3-Dichloropropene | 75 | 6.152 | 6.152 | (1.240) | 109730 | 20.0000 | 18.71 |
| 55 | Dibromochloromethane | 129 | 7.176 | 7.176 | (0.936) | 67732 | 20.0000 | 17.16 |
| 44 | Dibromomethane | 93 | 5.550 | 5.550 | (1.118) | 45583 | 20.0000 | 18.45 |
| 2 | Dichlorodifluoromethane | 85 | 0.973 | 0.973 | (0.233) | 52690 | 20.0000 | 18.86 |
| 61 | Ethylbenzene | 106 | 7.799 | 7.799 | (1.017) | 84392 | 20.0000 | 15.60 |
| 91 | Hexachlorobutadiene | 225 | 11.481 | 11.481 | (1.188) | 18261 | 20.0000 | 14.73 |
| 67 | Isopropylbenzene | 105 | 8.559 | 8.559 | (1.116) | 249504 | 20.0000 | 15.42 |
| 62 | m,p-Xylenes | 106 | 7.907 | 7.907 | (1.031) | 218583 | 40.0000 | 31.91 |
| 17 | Methylene Chloride | 84 | 2.305 | 2.305 | (0.551) | 63925 | 20.0000 | 20.29 |
| 87 | n-Butylbenzene | 91 | 9.991 | 9.991 | (1.034) | 178024 | 20.0000 | 15.17 |
| 73 | n-Propylbenzene | 91 | 8.910 | 8.910 | (0.922) | 287314 | 20.0000 | 15.49 |
| 92 | Naphthalene | 128 | 11.546 | 11.546 | (1.195) | 40800 | 20.0000 | 18.60 |
| 63 | o-Xylene | 106 | 8.244 | 8.244 | (1.075) | 103808 | 20.0000 | 15.62 |
| 81 | sec-Butylbenzene | 105 | 9.519 | 9.519 | (0.985) | 229551 | 20.0000 | 17.23(M) |
| 64 | Styrene | 104 | 8.258 | 8.258 | (1.077) | 184136 | 20.0000 | 17.38 |
| 78 | tert-Butylbenzene | 119 | 9.339 | 9.339 | (0.967) | 165790 | 20.0000 | 16.29 |
| 56 | Tetrachloroethene | 164 | 6.926 | 6.926 | (0.903) | 48973 | 20.0000 | 16.05 |
| 50 | Toluene | 91 | 6.446 | 6.446 | (0.840) | 249510 | 20.0000 | 15.88 |
| 20 | trans-1,2-Dichloroethene | 96 | 2.535 | 2.535 | (0.606) | 54266 | 20.0000 | 17.52 |
| 51 | trans-1,3-Dichloropropene | 75 | 6.682 | 6.682 | (1.346) | 93424 | 20.0000 | 18.68 |
| 38 | Trichloroethene | 130 | 5.206 | 5.206 | (1.049) | 61652 | 20.0000 | 17.98 |
| 8 | Trichlorofluoromethane | 101 | 1.560 | 1.560 | (0.373) | 156171 | 20.0000 | 17.90 |
| 5 | Vinyl Chloride | 62 | 1.145 | 1.145 | (0.274) | 89514 | 20.0000 | 19.65 |

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

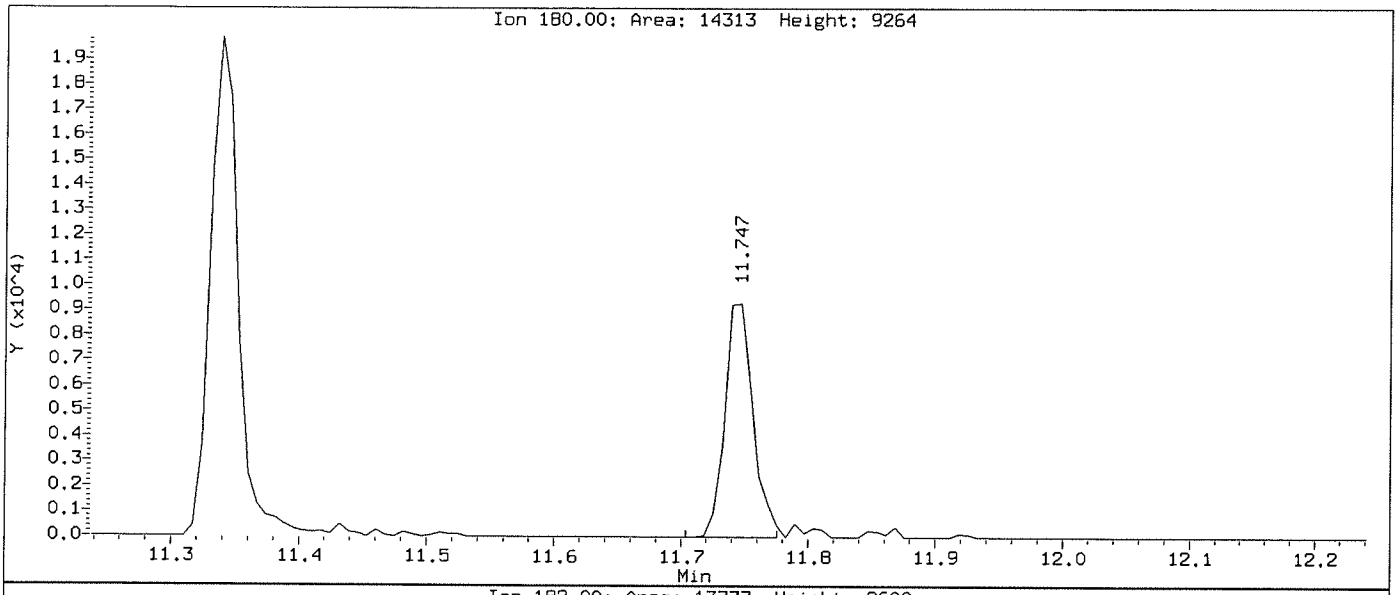


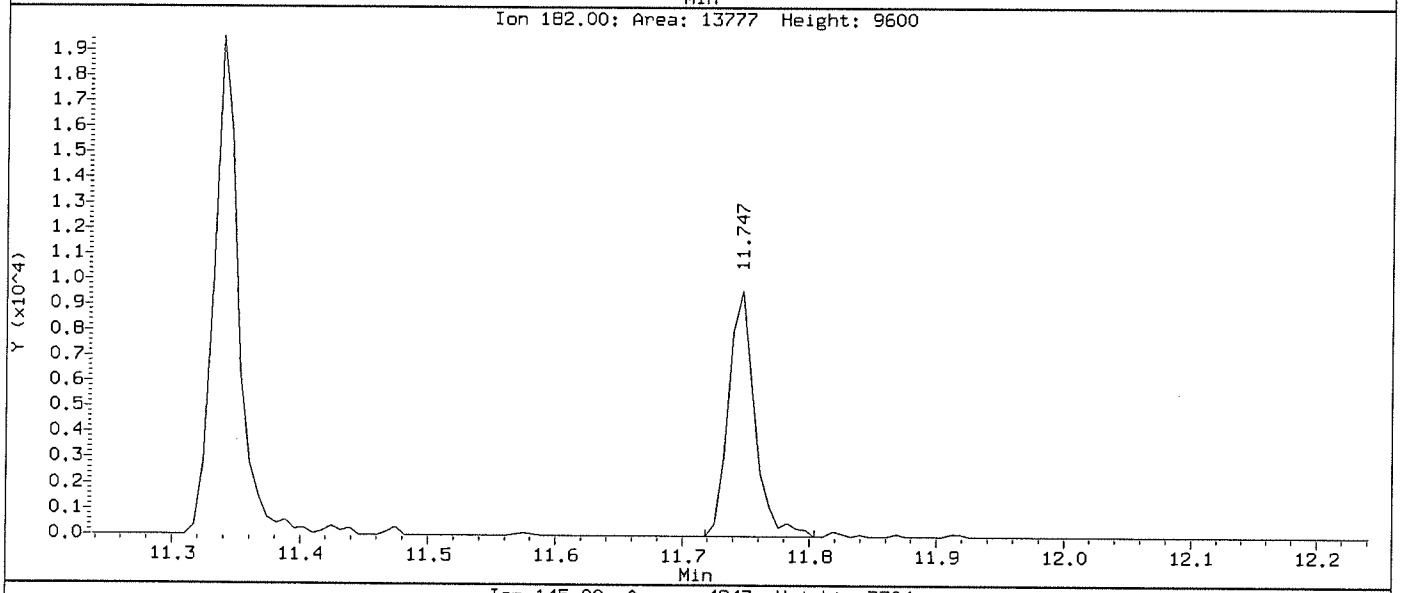

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Sample Info: VSTD020;VSTD020;1;6;;
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Column phase: DB624

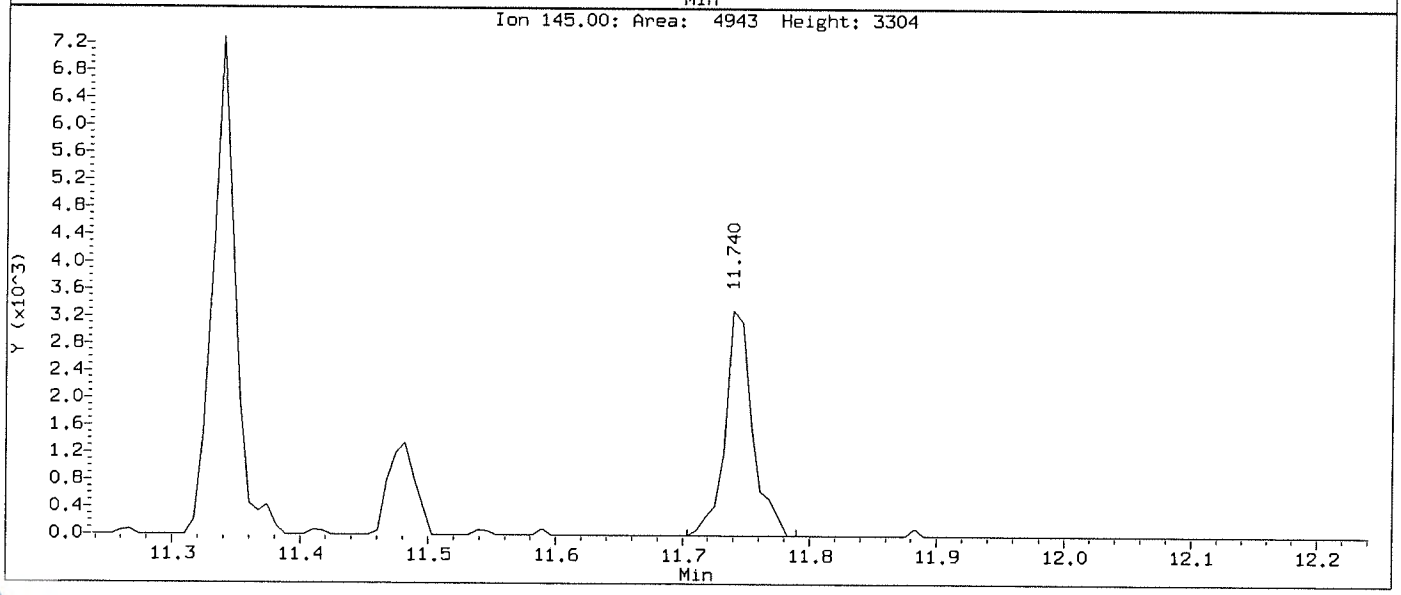
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Operator: PC
Column diameter: 0.18

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Injection Date: 02-APR-2021 12:59
Instrument: voa6.i
Client Sample ID: VSTD020

Compound: 1,2,3-Trichlorobenzene
CAS Number: 87-61-6

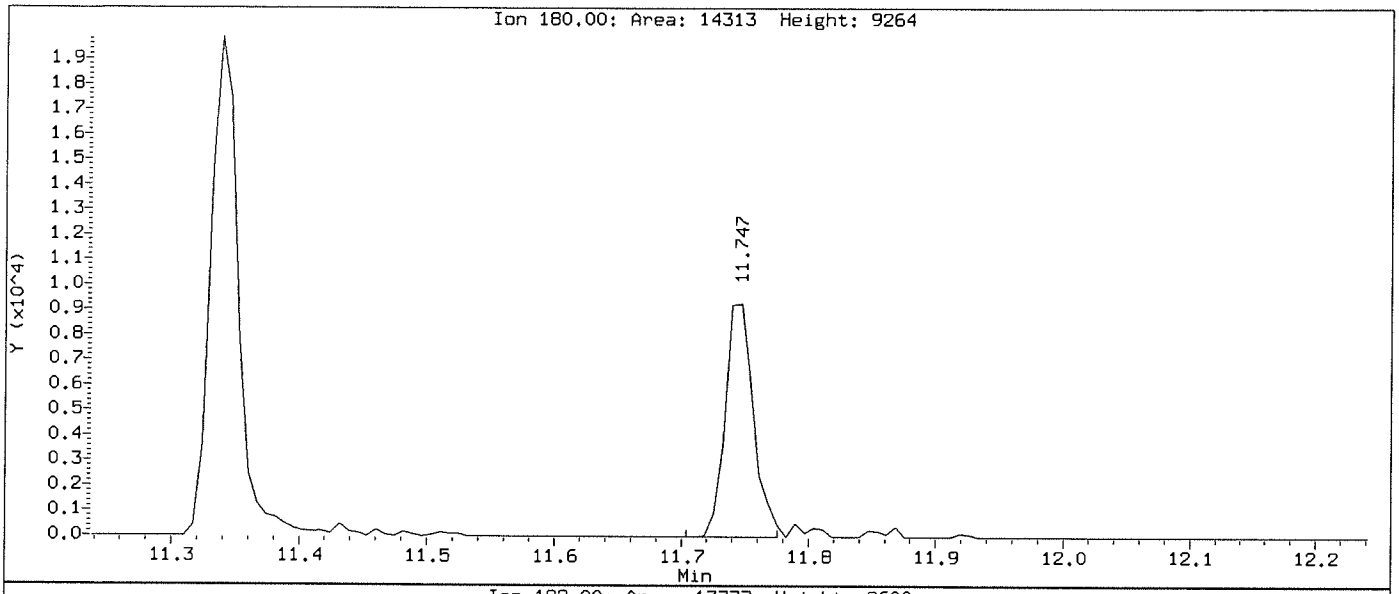


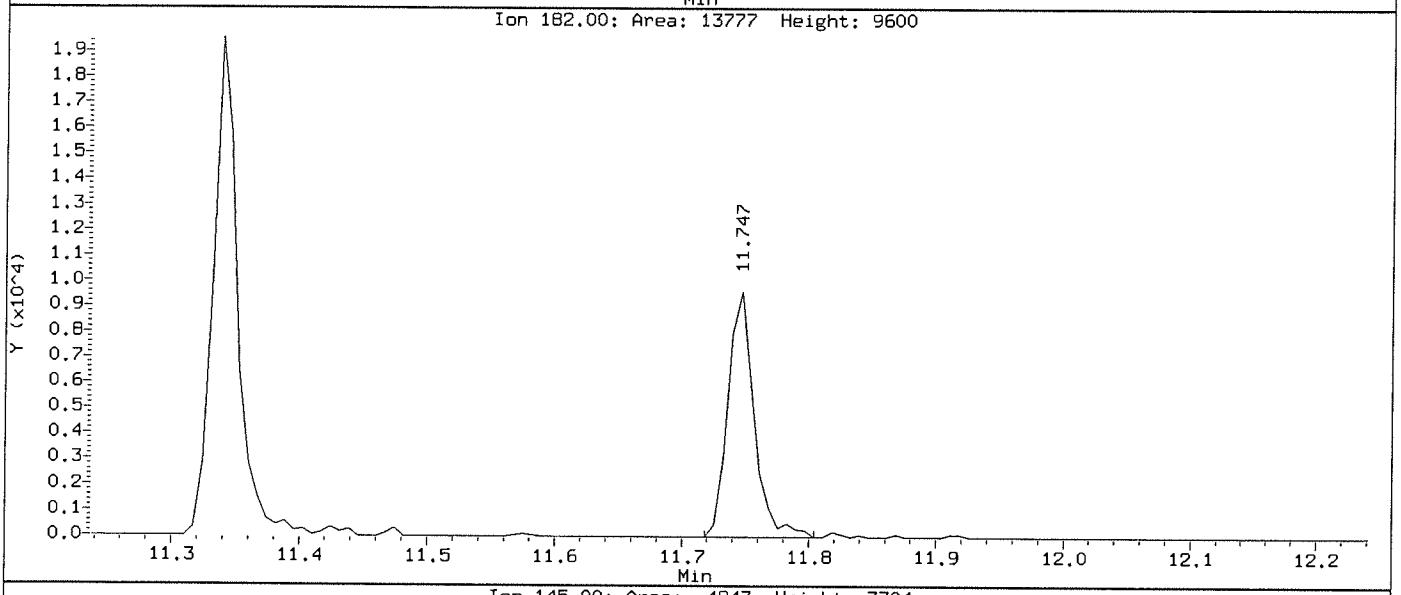



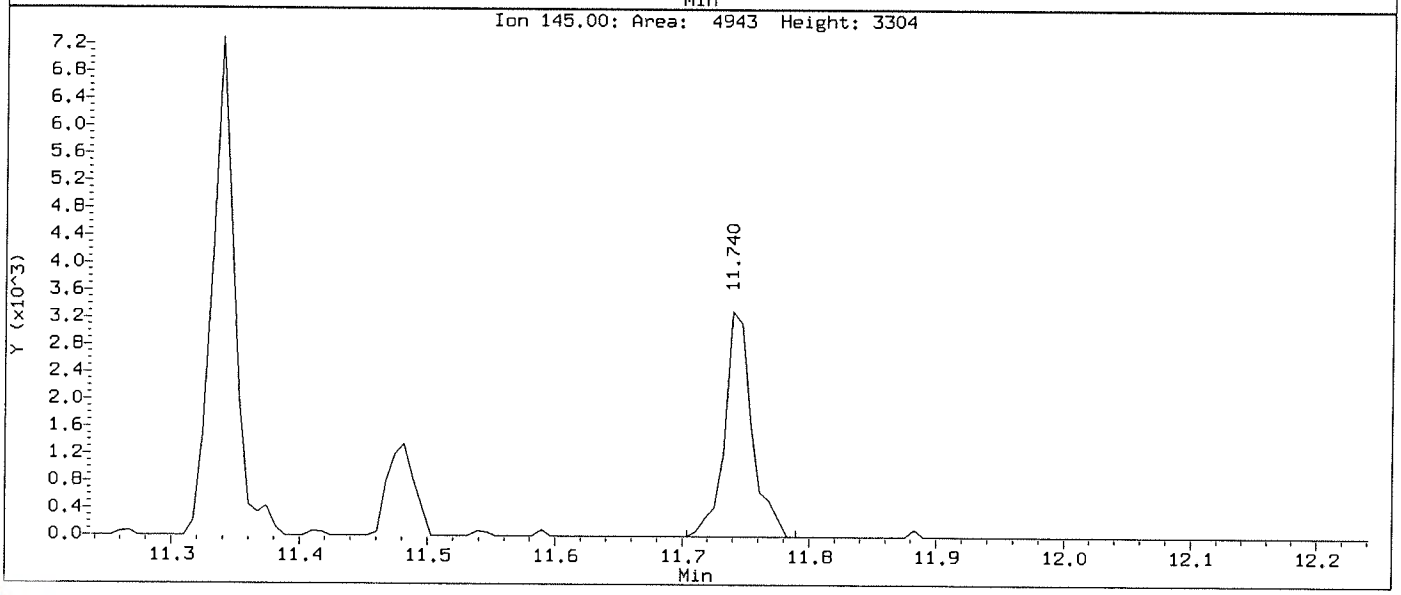



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Client Sample ID: VSTD020

Compound: 1,2,3-Trichlorobenzene
CAS Number: 87-61-6

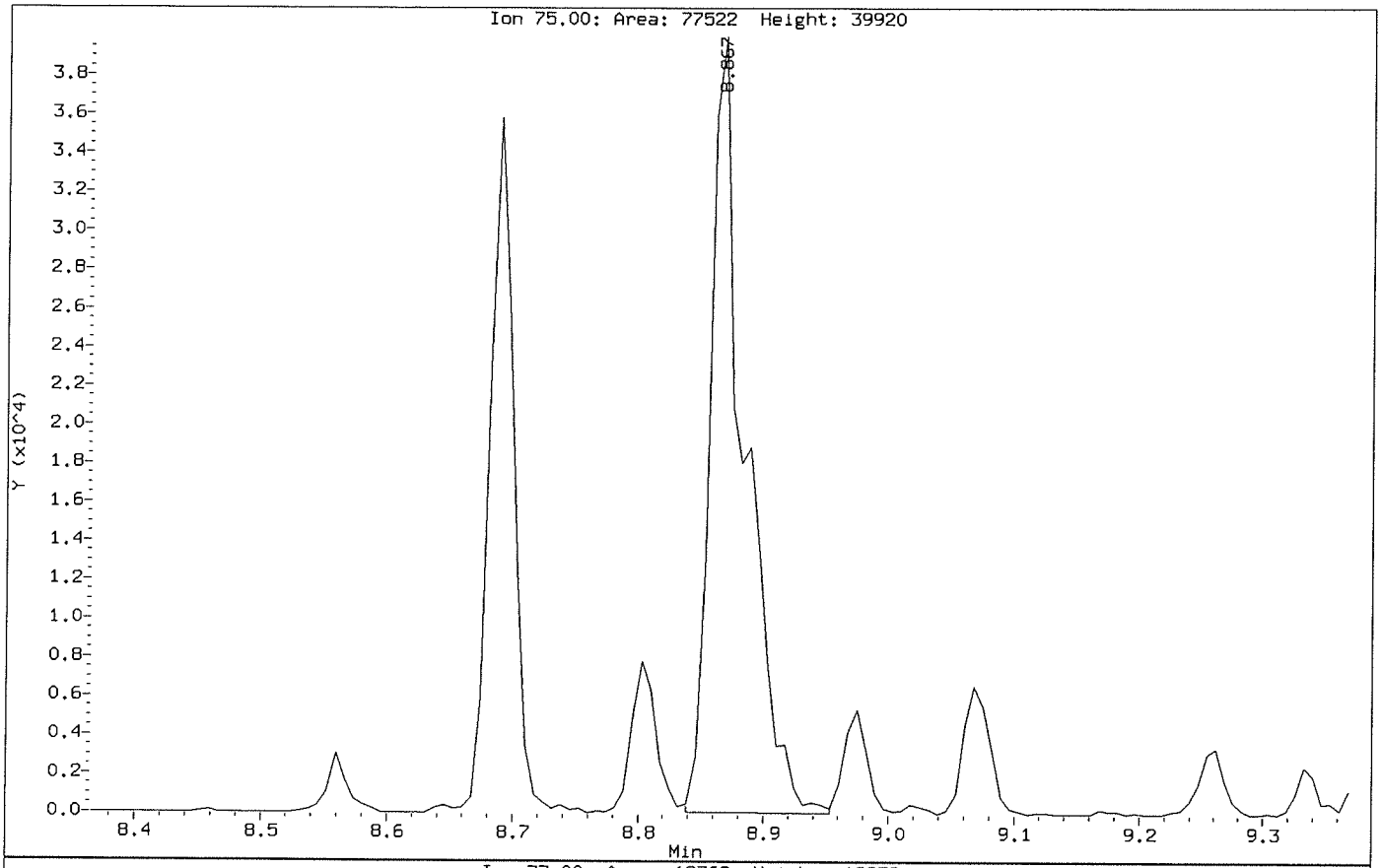


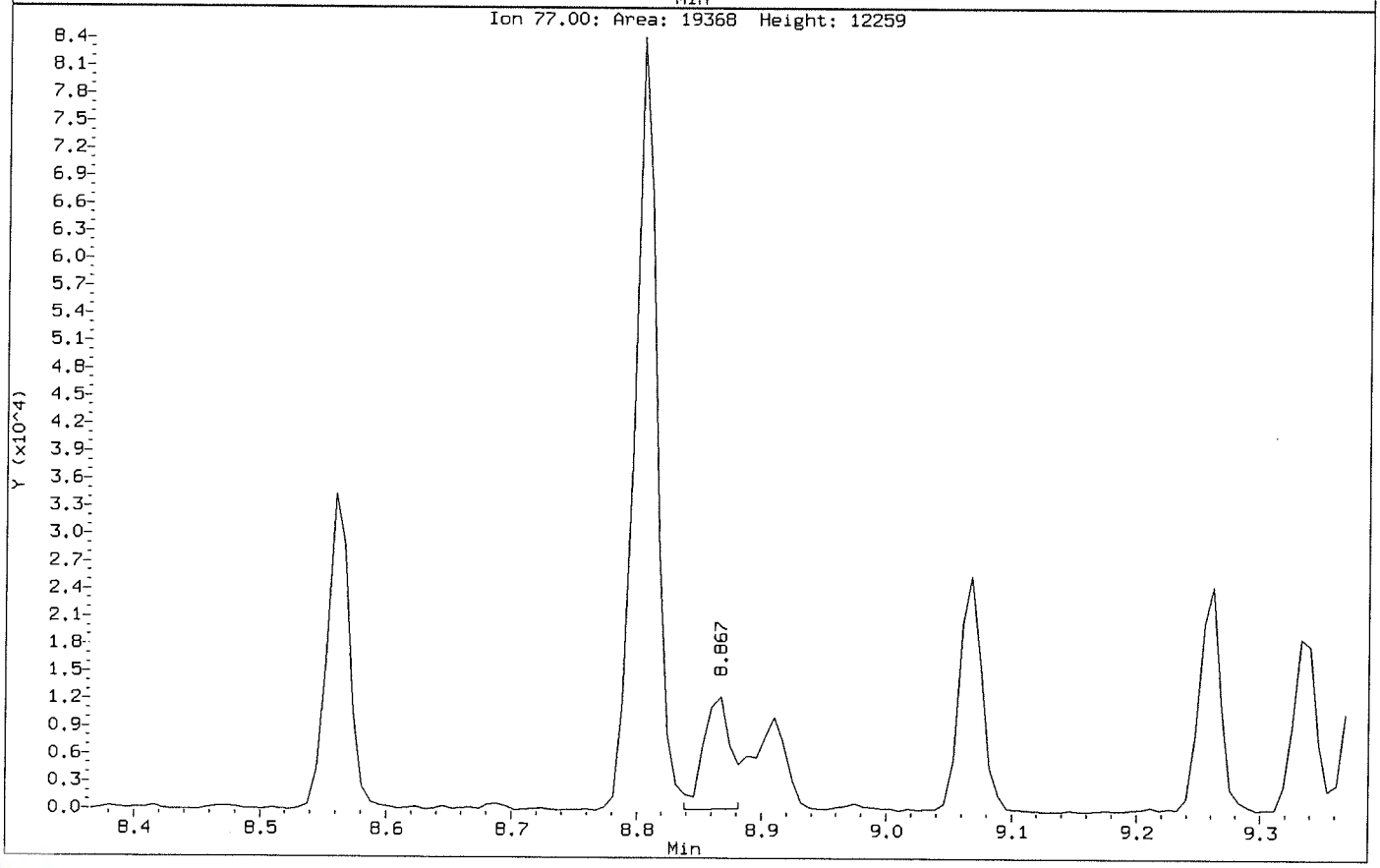



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Client Sample ID: VSTD020

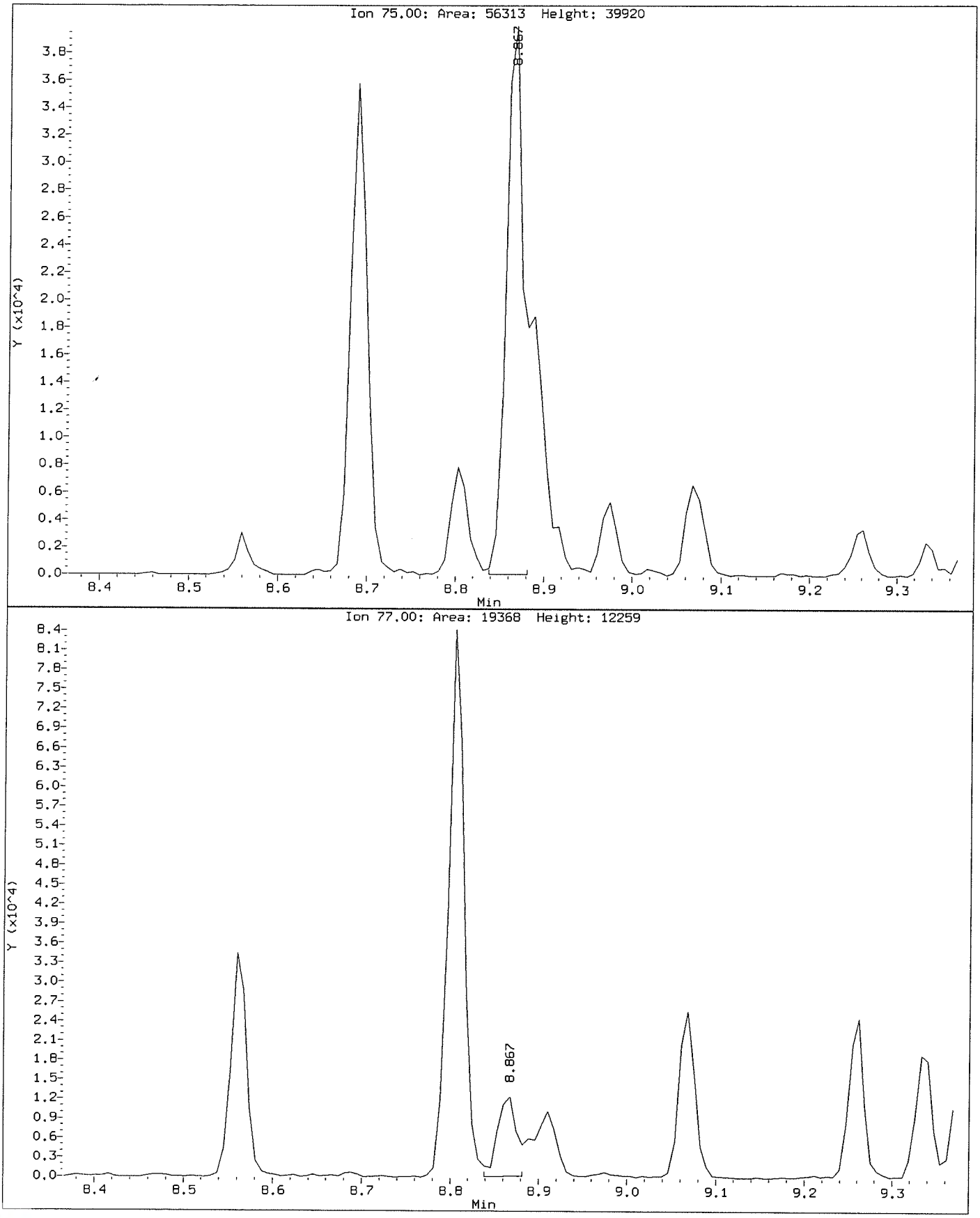
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



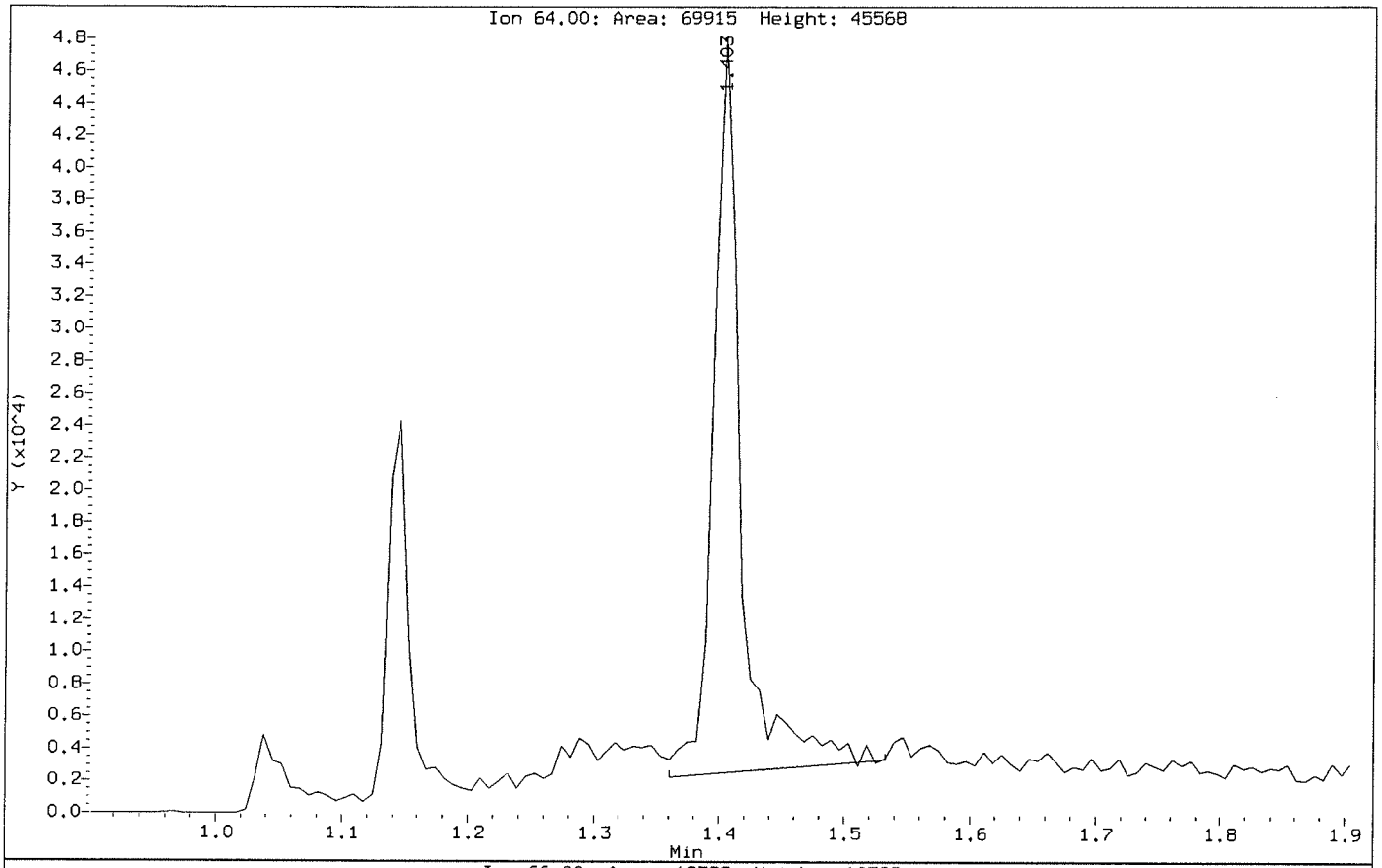
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Client Sample ID: VSTD020

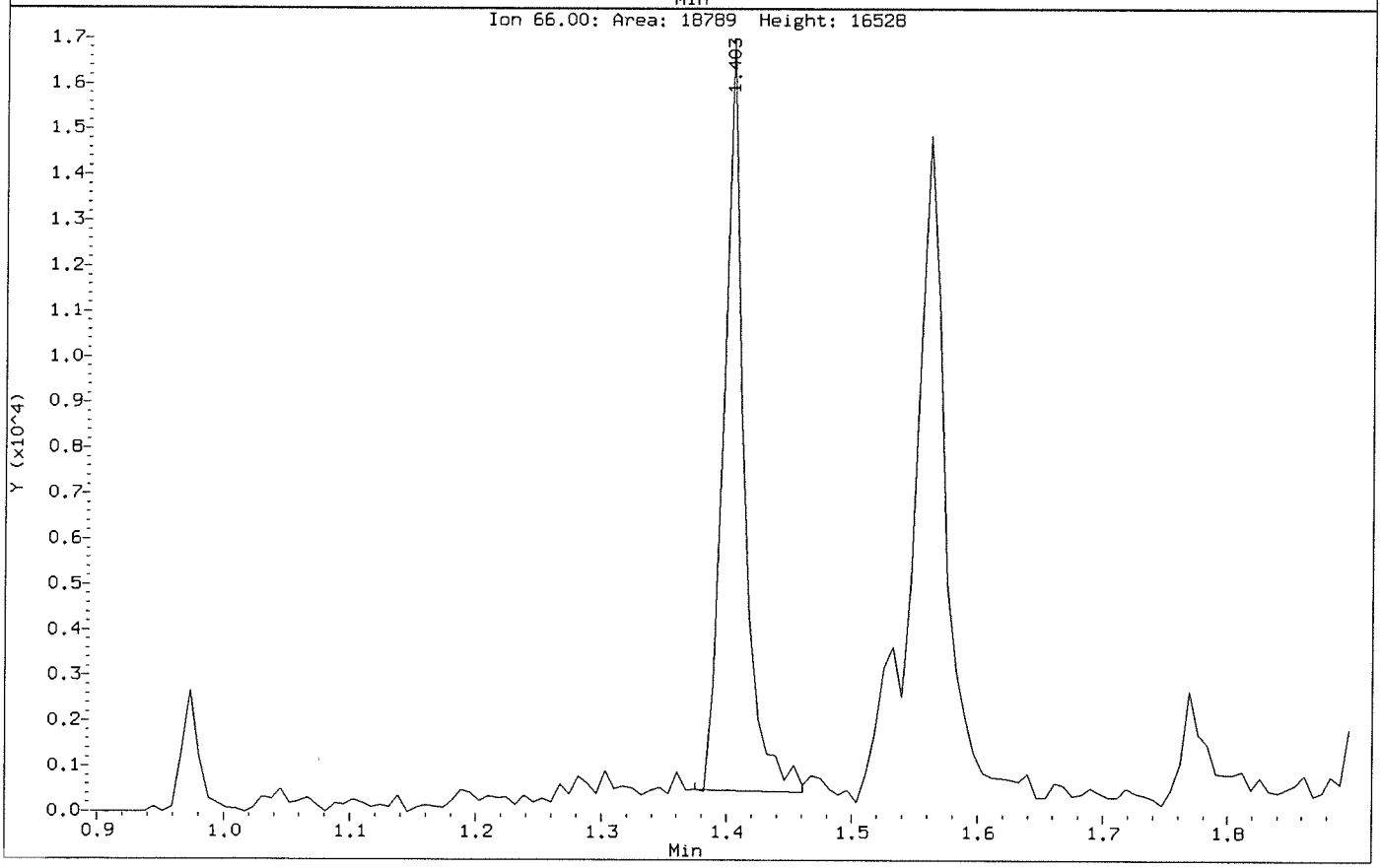
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



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Instrument: voa6.i
Client Sample ID: VSTD020

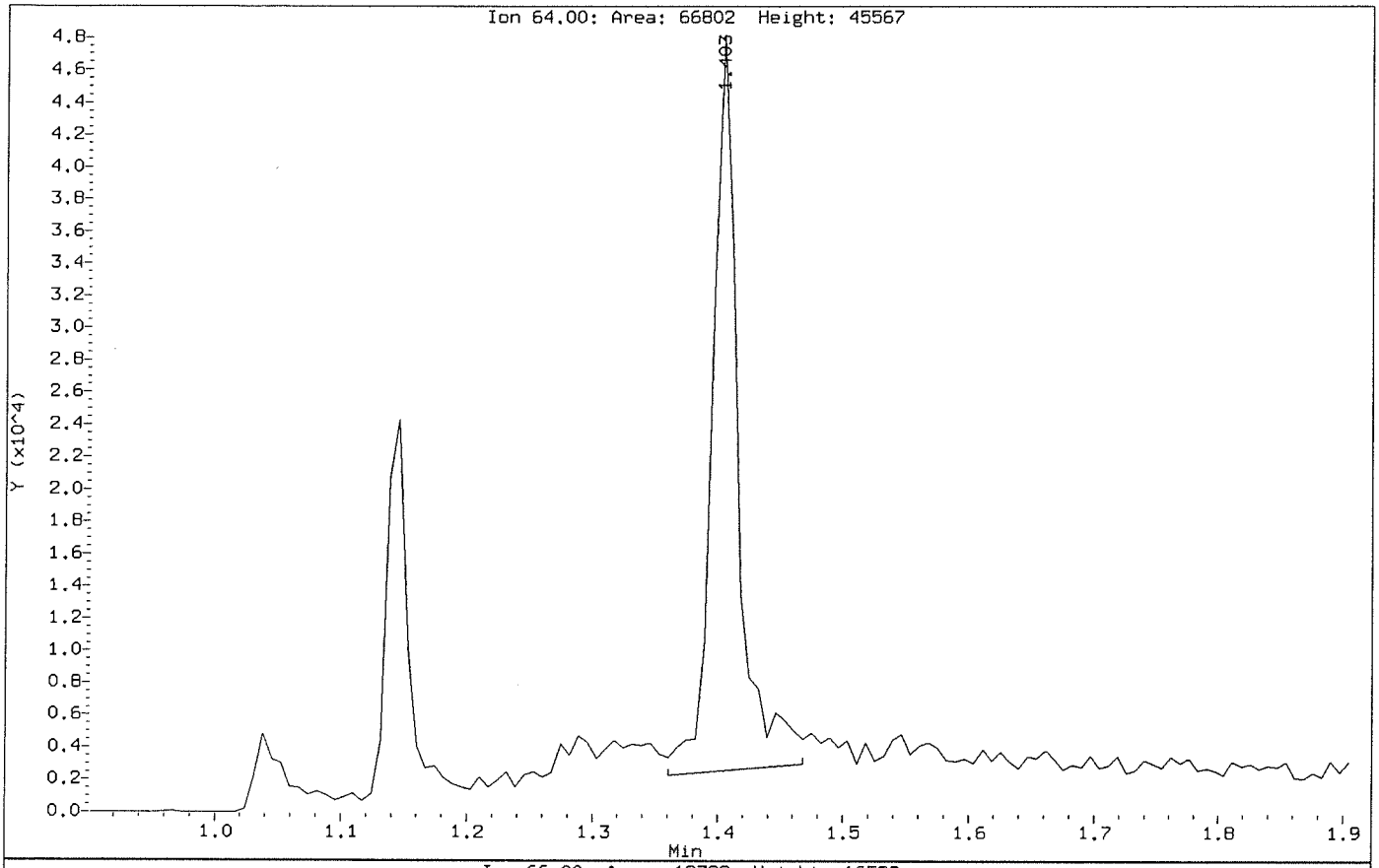
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CAS Number: 75-00-3

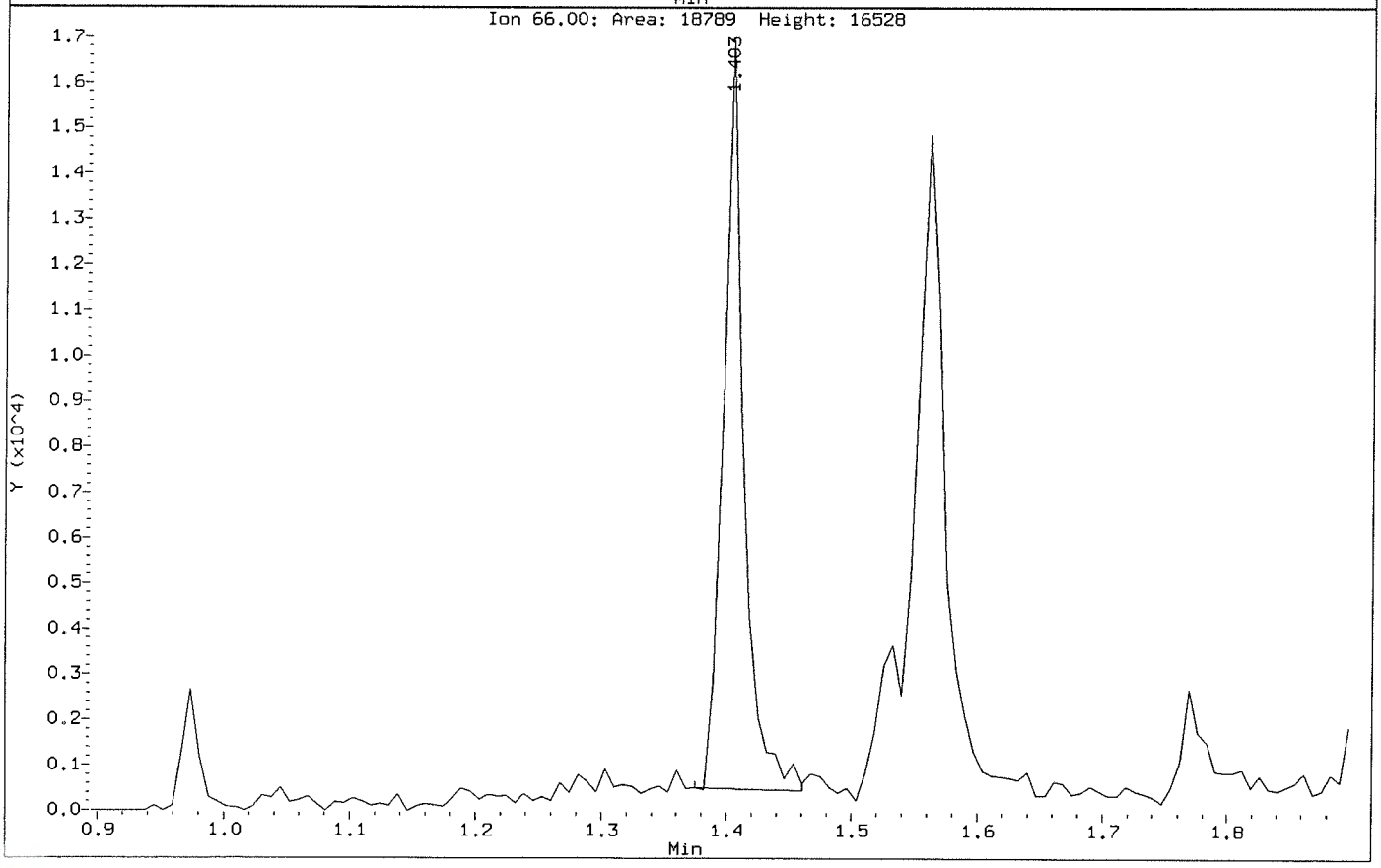


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Instrument: voa6.i
Client Sample ID: VSTD020

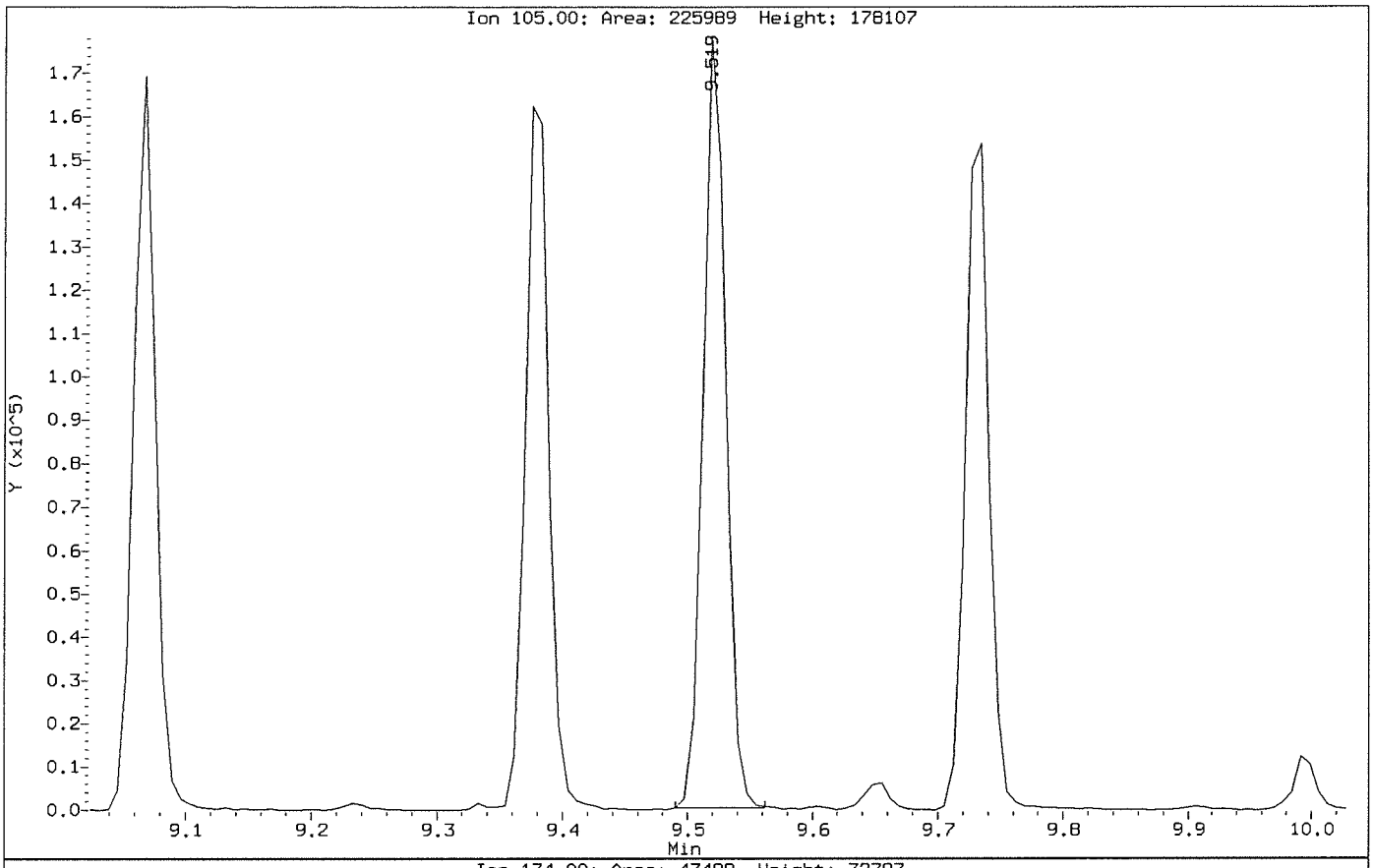
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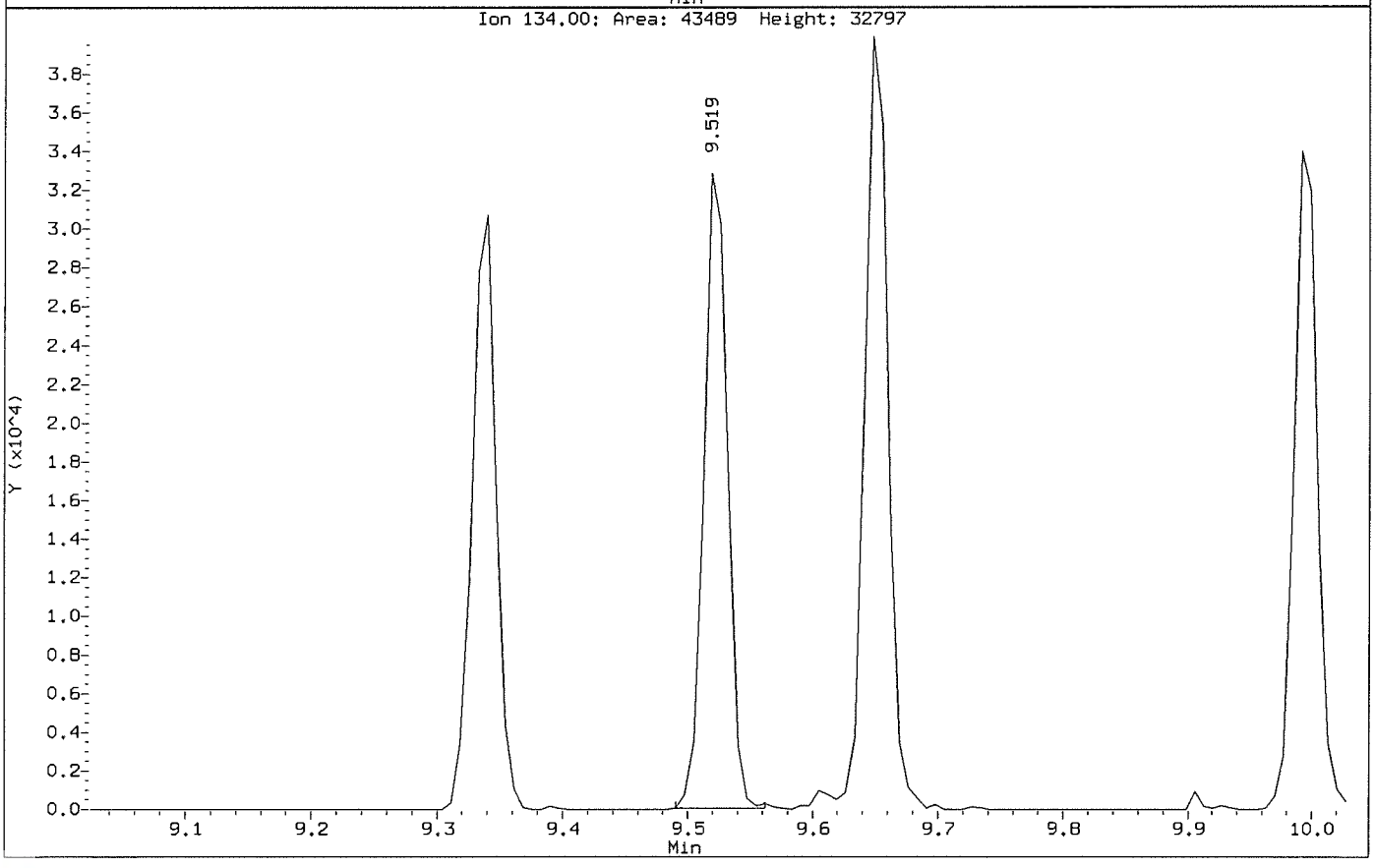


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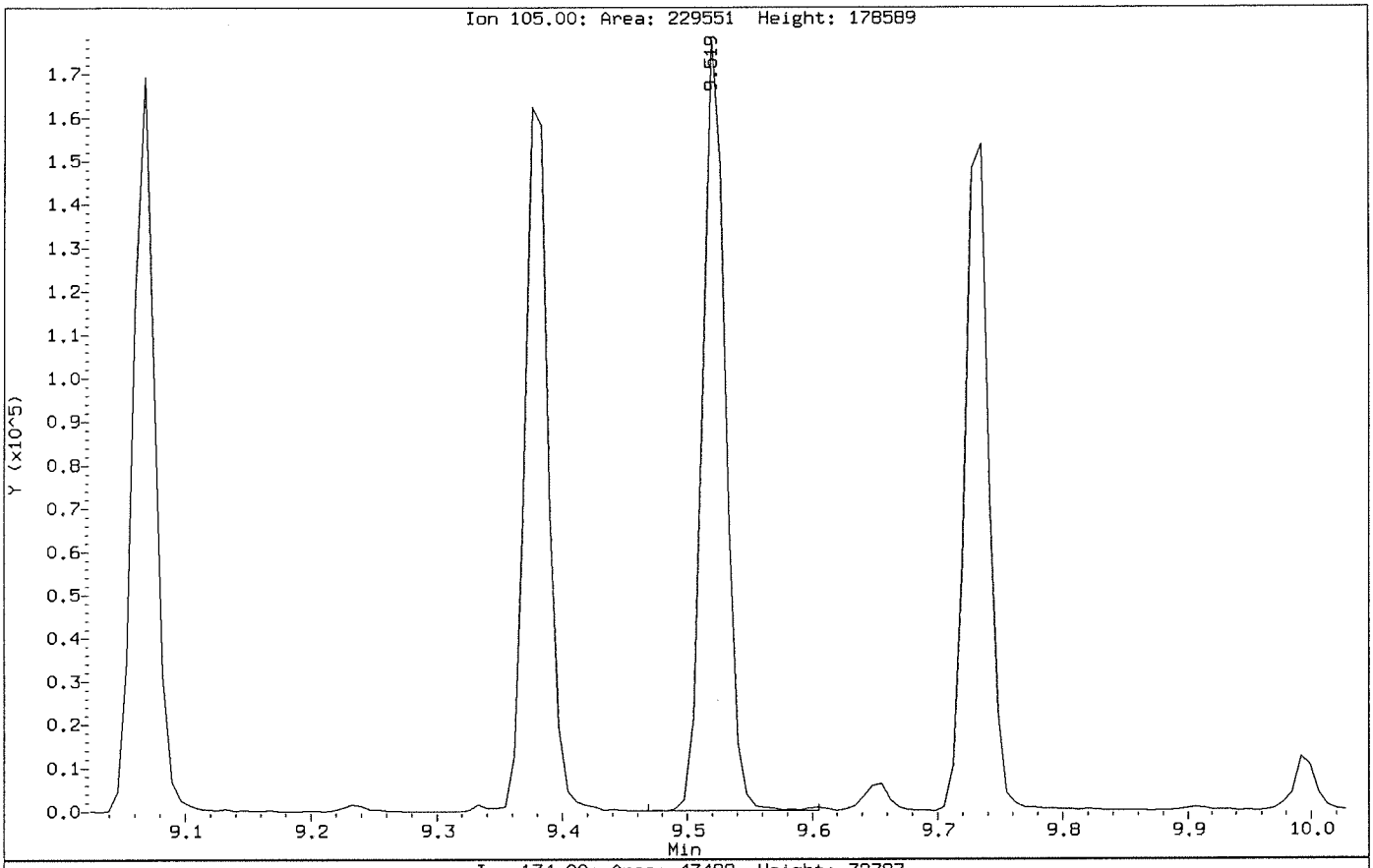
Compound: sec-Butylbenzene
CAS Number: 135-98-8

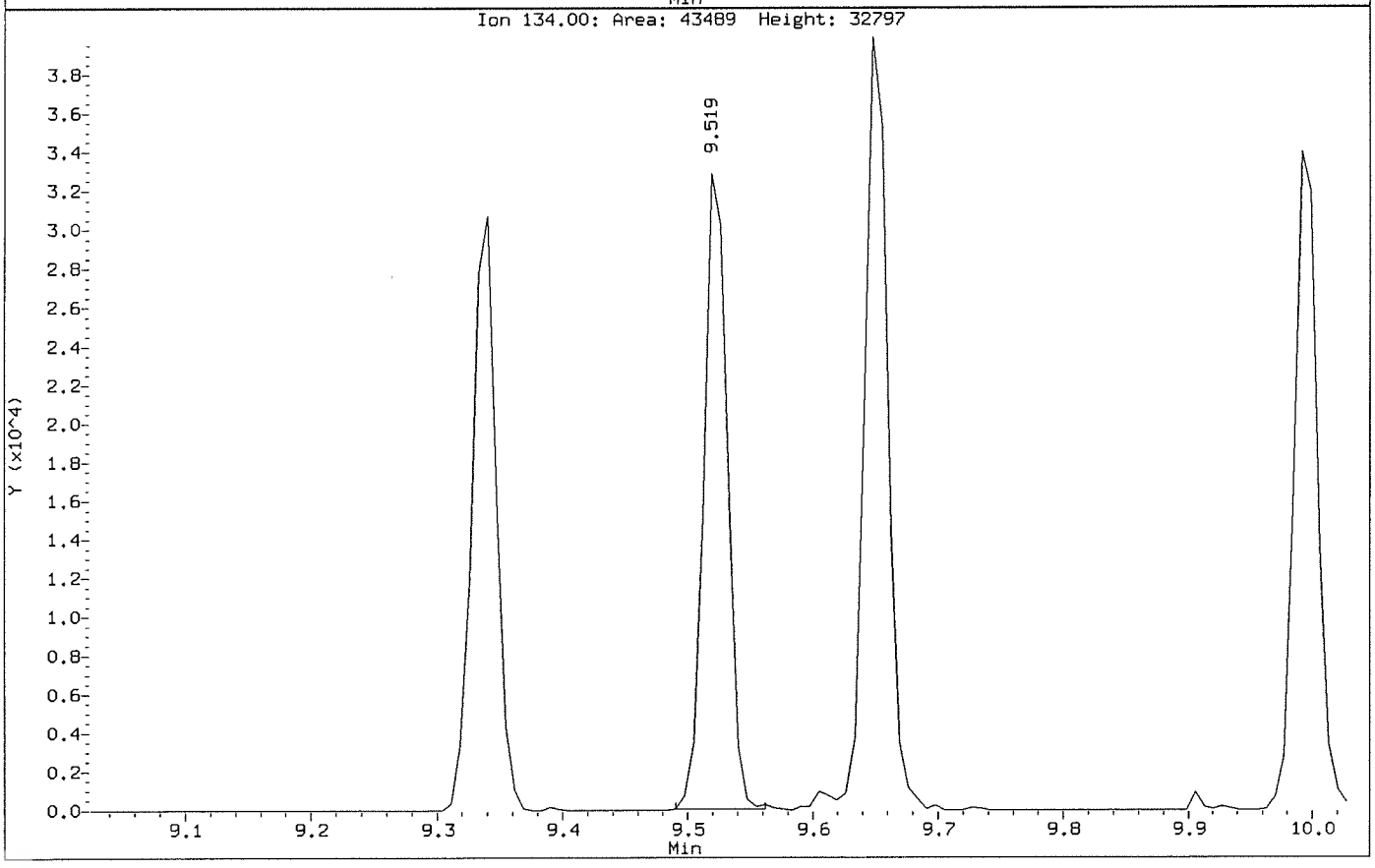


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Injection Date: 02-APR-2021 12:59
Instrument: voa6.i
Client Sample ID: VSTD020

Compound: sec-Butylbenzene
CAS Number: 135-98-8



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040208.D Page 1
Report Date: 14-Apr-2021 12:07

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040208.D
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Inj Date : 02-APR-2021 13:20
Operator : PC Inst ID: voa6.i
Smp Info : VSTD050;VSTD050;1;7;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\8260W.m
Meth Date : 14-Apr-2021 12:07 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 12:59 Cal File: X040207.D
Als bottle: 9 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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 |

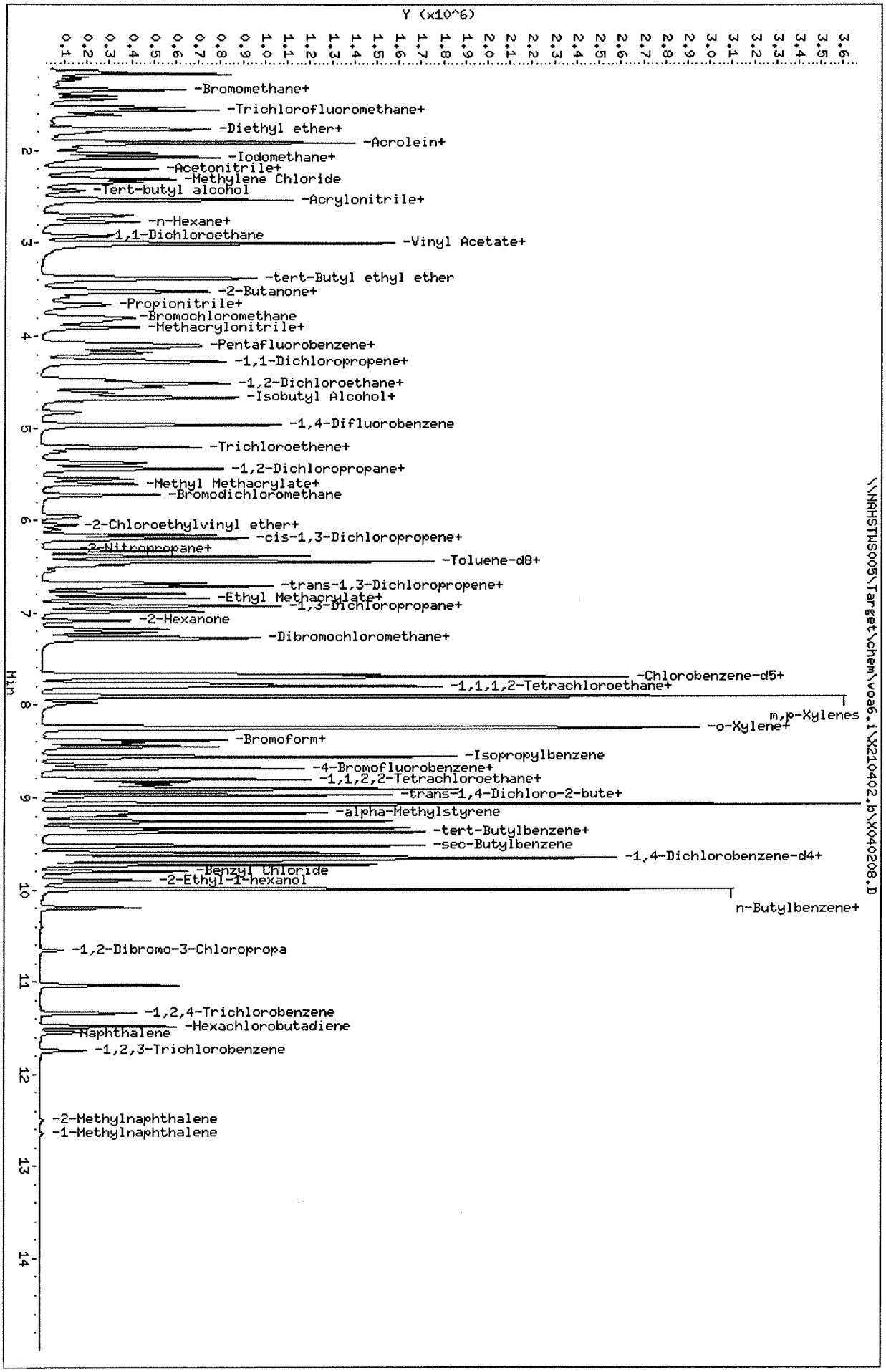
| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|---|
| * | 1 Pentafluorobenzene | 168 | 4.182 | 4.182 | (1.000) | 359684 | 50.0000 | |
| * | 36 1,4-Difluorobenzene | 114 | 4.963 | 4.963 | (1.000) | 598485 | 50.0000 | |
| * | 47 Chlorobenzene-d5 | 117 | 7.671 | 7.671 | (1.000) | 588191 | 50.0000 | |
| * | 70 1,4-Dichlorobenzene-d4 | 152 | 9.662 | 9.662 | (1.000) | 309539 | 50.0000 | |
| $ | 30 Dibromofluoromethane | 113 | 4.096 | 4.096 | (0.979) | 201590 | 50.0000 | 47.62 |
| $ | 35 1,2-Dichloroethane-d4 | 65 | 4.476 | 4.476 | (1.070) | 243778 | 50.0000 | 48.06 |
| $ | 48 Toluene-d8 | 98 | 6.388 | 6.388 | (0.833) | 658700 | 50.0000 | 43.80 |
| $ | 69 4-Bromofluorobenzene | 95 | 8.688 | 8.688 | (1.133) | 267013 | 50.0000 | 47.42 |
| | 60 1,1,1,2-Tetrachloroethane | 131 | 7.778 | 7.778 | (1.014) | 206973 | 50.0000 | 47.42 |
| | 31 1,1,1-Trichloroethane | 97 | 4.089 | 4.089 | (0.978) | 323366 | 50.0000 | 49.67 |
| | 68 1,1,2,2-Tetrachloroethane | 83 | 8.838 | 8.838 | (0.915) | 235293 | 50.0000 | 45.56 |
| | 53 1,1,2-Trichloroethane | 83 | 6.840 | 6.840 | (0.892) | 155825 | 50.0000 | 45.60 |
| | 22 1,1-Dichloroethane | 63 | 2.921 | 2.921 | (0.699) | 301783 | 50.0000 | 45.19 |
| | 11 1,1-Dichloroethene | 96 | 1.911 | 1.911 | (0.457) | 240341 | 50.0000 | 46.92 |
| | 32 1,1-Dichloropropene | 75 | 4.282 | 4.282 | (0.863) | 268882 | 50.0000 | 47.87 |
| | 93 1,2,3-Trichlorobenzene | 180 | 11.746 | 11.746 | (1.216) | 52490 | 50.0000 | 49.42(H) |
| | 71 1,2,3-Trichloropropane | 75 | 8.860 | 8.860 | (0.917) | 196436 | 50.0000 | 47.28(M) |
| | 90 1,2,4-Trichlorobenzene | 180 | 11.338 | 11.338 | (1.173) | 103358 | 50.0000 | 49.37 |
| | 79 1,2,4-Trimethylbenzene | 105 | 9.383 | 9.383 | (0.971) | 759321 | 50.0000 | 47.79 |
| | 89 1,2-Dibromo-3-Chloropropane | 155 | 10.658 | 10.658 | (1.103) | 15961 | 50.0000 | 47.40 |
| | 57 1,2-Dibromoethane | 107 | 7.262 | 7.262 | (0.947) | 200503 | 50.0000 | 49.58 |
| | 88 1,2-Dichlorobenzene | 146 | 9.991 | 9.991 | (1.034) | 391711 | 50.0000 | 46.06 |

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040208.D Page 2
Report Date: 14-Apr-2021 12:07

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|---|
| 33 | 1,2-Dichloroethane | 62 | 4.555 | 4.555 | (0.918) | 309702 | 50.0000 | 48.88 |
| 42 | 1,2-Dichloropropane | 63 | 5.436 | 5.436 | (1.095) | 196914 | 50.0000 | 47.34 |
| 75 | 1,3,5-Trimethylbenzene | 105 | 9.067 | 9.067 | (0.938) | 789779 | 50.0000 | 47.60 |
| 83 | 1,3-Dichlorobenzene | 146 | 9.605 | 9.605 | (0.994) | 424596 | 50.0000 | 47.36 |
| 54 | 1,3-Dichloropropane | 76 | 6.983 | 6.983 | (0.910) | 308859 | 50.0000 | 47.28 |
| 84 | 1,4-Dichlorobenzene | 146 | 9.683 | 9.683 | (1.002) | 429308 | 50.0000 | 44.45 |
| 26 | 2,2-Dichloropropane | 77 | 3.509 | 3.509 | (0.839) | 303503 | 50.0000 | 46.15 |
| 24 | 2-Butanone | 43 | 3.580 | 3.580 | (0.856) | 121094 | 100.000 | 97.93 |
| 76 | 2-Chlorotoluene | 91 | 8.974 | 8.974 | (0.929) | 650376 | 50.0000 | 50.01 |
| 52 | 2-Hexanone | 43 | 7.083 | 7.083 | (0.923) | 226441 | 100.000 | 93.52 |
| 77 | 4-Chlorotoluene | 91 | 9.067 | 9.067 | (0.938) | 788734 | 50.0000 | 46.72 |
| 82 | p-Isopropyltoluene | 119 | 9.648 | 9.648 | (0.999) | 781650 | 50.0000 | 49.84 |
| 45 | 4-Methyl-2-Pentanone | 43 | 6.324 | 6.324 | (0.824) | 351323 | 100.000 | 99.10 |
| 10 | Acetone | 43 | 1.976 | 1.976 | (0.473) | 120767 | 100.000 | 101.46 |
| 37 | Benzene | 78 | 4.512 | 4.512 | (0.909) | 744015 | 50.0000 | 46.93 |
| 74 | Bromobenzene | 156 | 8.802 | 8.802 | (0.911) | 241177 | 50.0000 | 45.19 |
| 29 | Bromochloromethane | 128 | 3.795 | 3.795 | (0.908) | 108002 | 50.0000 | 50.34 |
| 39 | Bromodichloromethane | 83 | 5.722 | 5.722 | (1.153) | 290150 | 50.0000 | 48.34 |
| 66 | Bromoform | 173 | 8.408 | 8.408 | (1.096) | 138380 | 50.0000 | 47.30 |
| 6 | Bromomethane | 94 | 1.338 | 1.338 | (0.320) | 247329 | 50.0000 | 48.07 |
| 19 | Carbon Disulfide | 76 | 2.069 | 2.069 | (0.495) | 888972 | 100.000 | 88.86 |
| 34 | Carbon Tetrachloride | 117 | 4.268 | 4.268 | (0.860) | 268785 | 50.0000 | 49.77 |
| 59 | Chlorobenzene | 112 | 7.692 | 7.692 | (1.003) | 563393 | 50.0000 | 46.21 |
| 7 | Chloroethane | 64 | 1.403 | 1.403 | (0.336) | 198610 | 50.0000 | 49.63 |
| 28 | Chloroform | 83 | 3.910 | 3.910 | (0.935) | 375547 | 50.0000 | 48.07 |
| 3 | Chloromethane | 50 | 1.081 | 1.081 | (0.258) | 185744 | 50.0000 | 49.72 |
| 27 | cis-1,2-Dichloroethene | 96 | 3.530 | 3.530 | (0.844) | 208514 | 50.0000 | 47.42 |
| 46 | cis-1,3-Dichloropropene | 75 | 6.152 | 6.152 | (1.240) | 345467 | 50.0000 | 49.31 |
| 55 | Dibromochloromethane | 129 | 7.176 | 7.176 | (0.936) | 222208 | 50.0000 | 48.39 |
| 44 | Dibromomethane | 93 | 5.550 | 5.550 | (1.118) | 141630 | 50.0000 | 47.99 |
| 2 | Dichlorodifluoromethane | 85 | 0.973 | 0.973 | (0.233) | 160699 | 50.0000 | 45.96 |
| 61 | Ethylbenzene | 106 | 7.799 | 7.799 | (1.017) | 299171 | 50.0000 | 47.51 |
| 91 | Hexachlorobutadiene | 225 | 11.481 | 11.481 | (1.188) | 81563 | 50.0000 | 49.40 |
| 67 | Isopropylbenzene | 105 | 8.559 | 8.559 | (1.116) | 920776 | 50.0000 | 48.92 |
| 62 | m,p-Xylenes | 106 | 7.900 | 7.900 | (1.030) | 792507 | 100.000 | 99.40 |
| 17 | Methylene Chloride | 84 | 2.305 | 2.305 | (0.551) | 173954 | 50.0000 | 44.72 |
| 87 | n-Butylbenzene | 91 | 9.991 | 9.991 | (1.034) | 760541 | 50.0000 | 51.17 |
| 73 | n-Propylbenzene | 91 | 8.910 | 8.910 | (0.922) | 1138343 | 50.0000 | 48.47 |
| 92 | Naphthalene | 128 | 11.539 | 11.539 | (1.194) | 141575 | 50.0000 | 49.68 |
| 63 | o-Xylene | 106 | 8.244 | 8.244 | (1.075) | 365247 | 50.0000 | 47.24 |
| 81 | sec-Butylbenzene | 105 | 9.519 | 9.519 | (0.985) | 916729 | 50.0000 | 51.21 |
| 64 | Styrene | 104 | 8.258 | 8.258 | (1.077) | 627903 | 50.0000 | 44.44 |
| 78 | tert-Butylbenzene | 119 | 9.332 | 9.332 | (0.966) | 651644 | 50.0000 | 49.05 |
| 56 | Tetrachloroethene | 164 | 6.926 | 6.926 | (0.903) | 165972 | 50.0000 | 46.74 |
| 50 | Toluene | 91 | 6.446 | 6.446 | (0.840) | 845299 | 50.0000 | 46.24 |
| 20 | trans-1,2-Dichloroethene | 96 | 2.527 | 2.527 | (0.604) | 174385 | 50.0000 | 47.57 |
| 51 | trans-1,3-Dichloropropene | 75 | 6.682 | 6.682 | (1.346) | 301383 | 50.0000 | 50.44 |
| 38 | Trichloroethene | 130 | 5.206 | 5.206 | (1.049) | 206412 | 50.0000 | 50.38 |
| 8 | Trichlorofluoromethane | 101 | 1.560 | 1.560 | (0.373) | 471106 | 50.0000 | 45.63 |
| 5 | Vinyl Chloride | 62 | 1.145 | 1.145 | (0.274) | 256013 | 50.0000 | 47.47 |

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

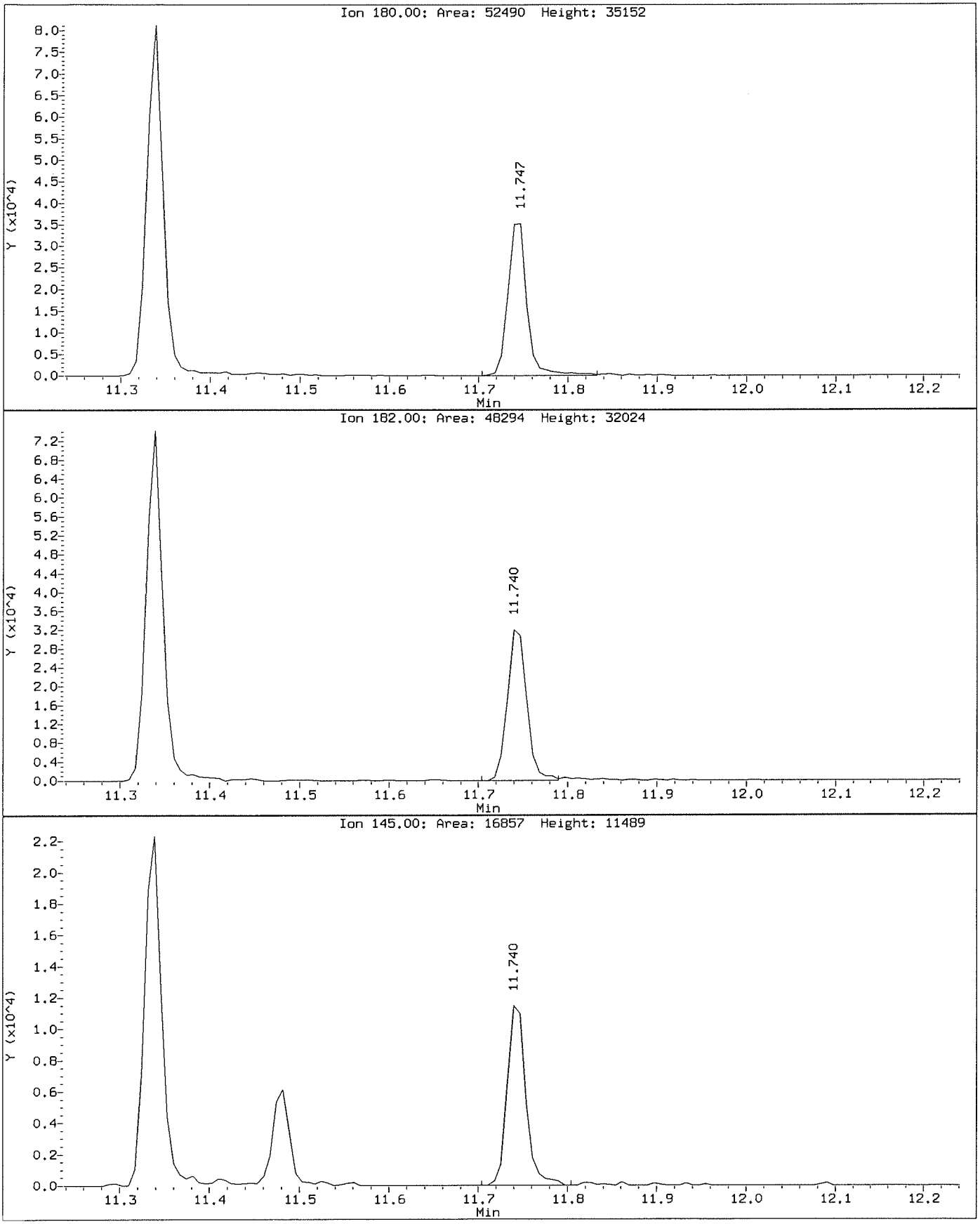



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040208.D
Date : 02-APR-2021 13:20
Client ID: VSTD050
Sample Info: VSTD050;VSTD050;1;7;;
Purge Volume: 5.0
Column phase: DB624

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

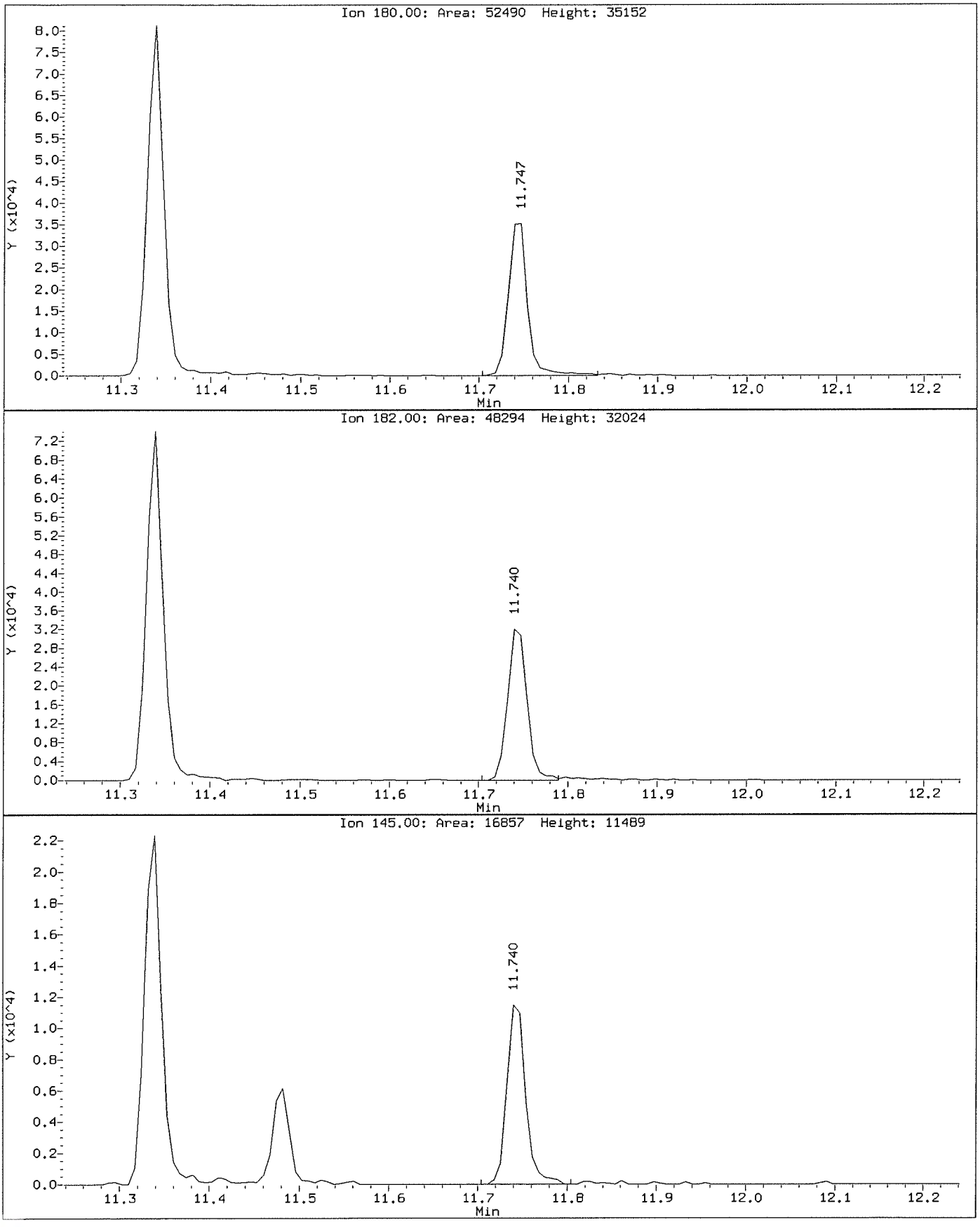
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Injection Date: 02-APR-2021 13:20
Instrument: voa6.i
Client Sample ID: VSTD050

Compound: 1,2,3-Trichlorobenzene
CAS Number: 87-61-6



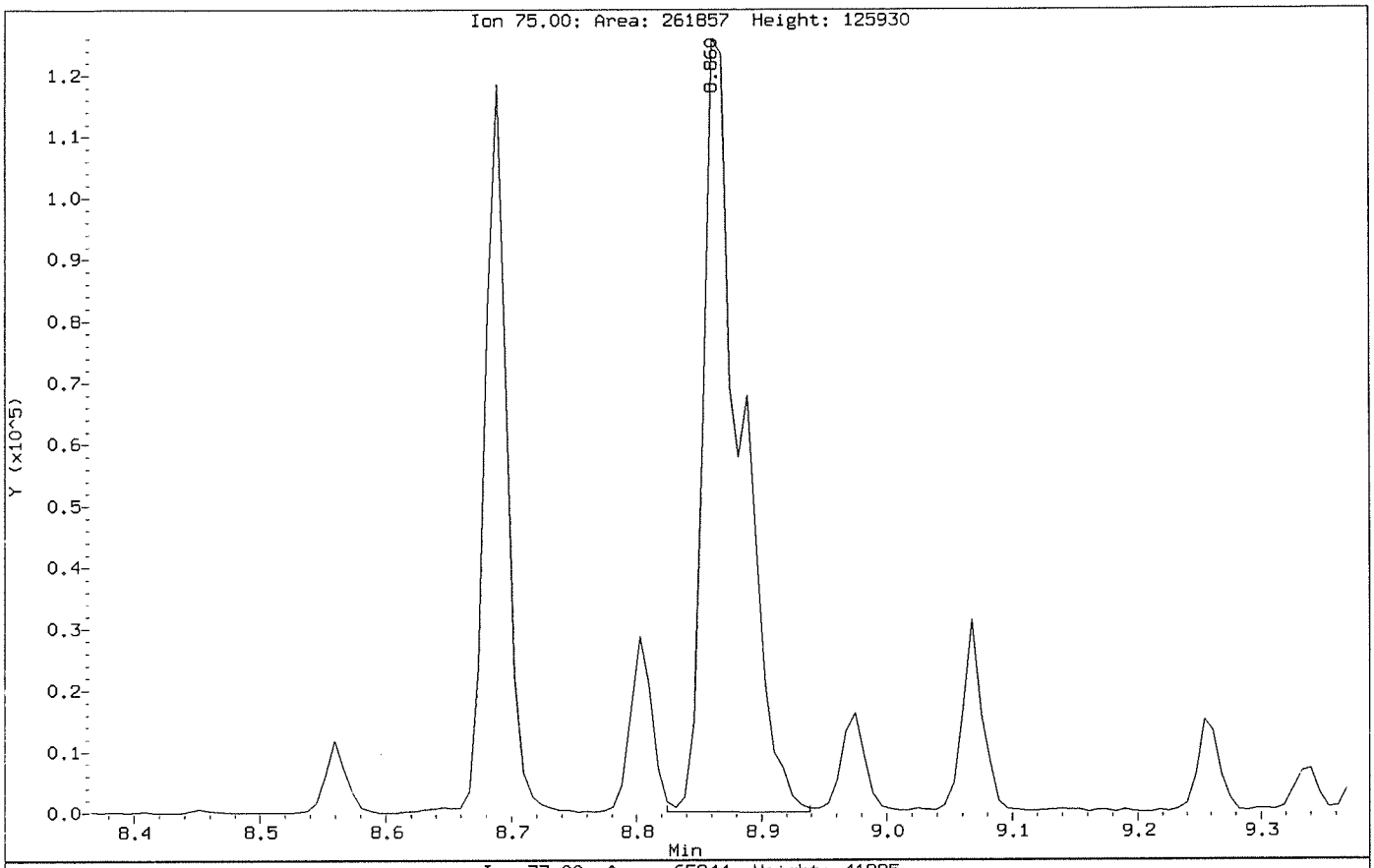
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Injection Date: 02-APR-2021 13:20
Instrument: voa6.i
Client Sample ID: VSTD050

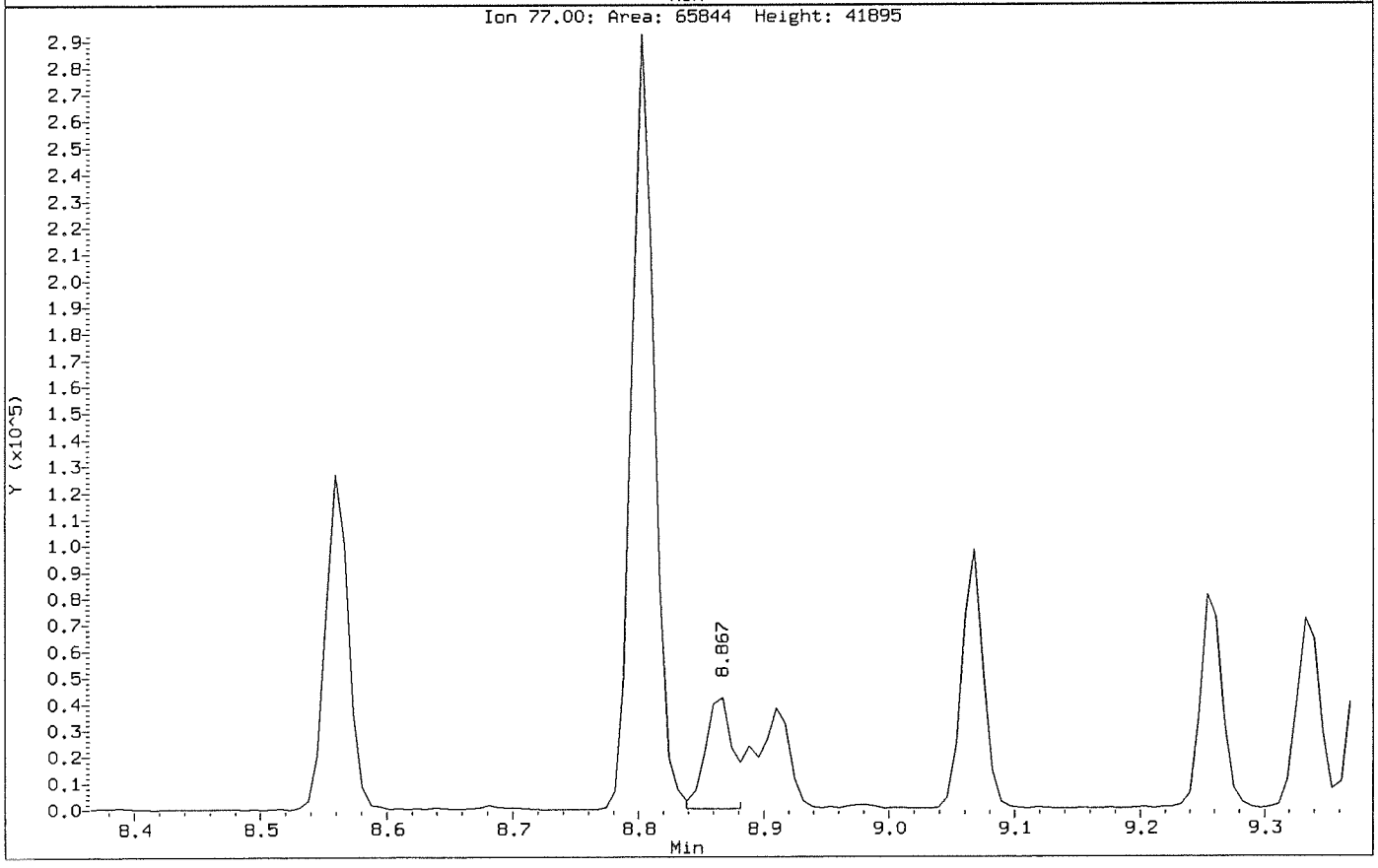
Compound: 1,2,3-Trichlorobenzene
CAS Number: 87-61-6



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before\X040208.D
Injection Date: 02-APR-2021 13:20
Instrument: voa6.i
Client Sample ID: VSTD050

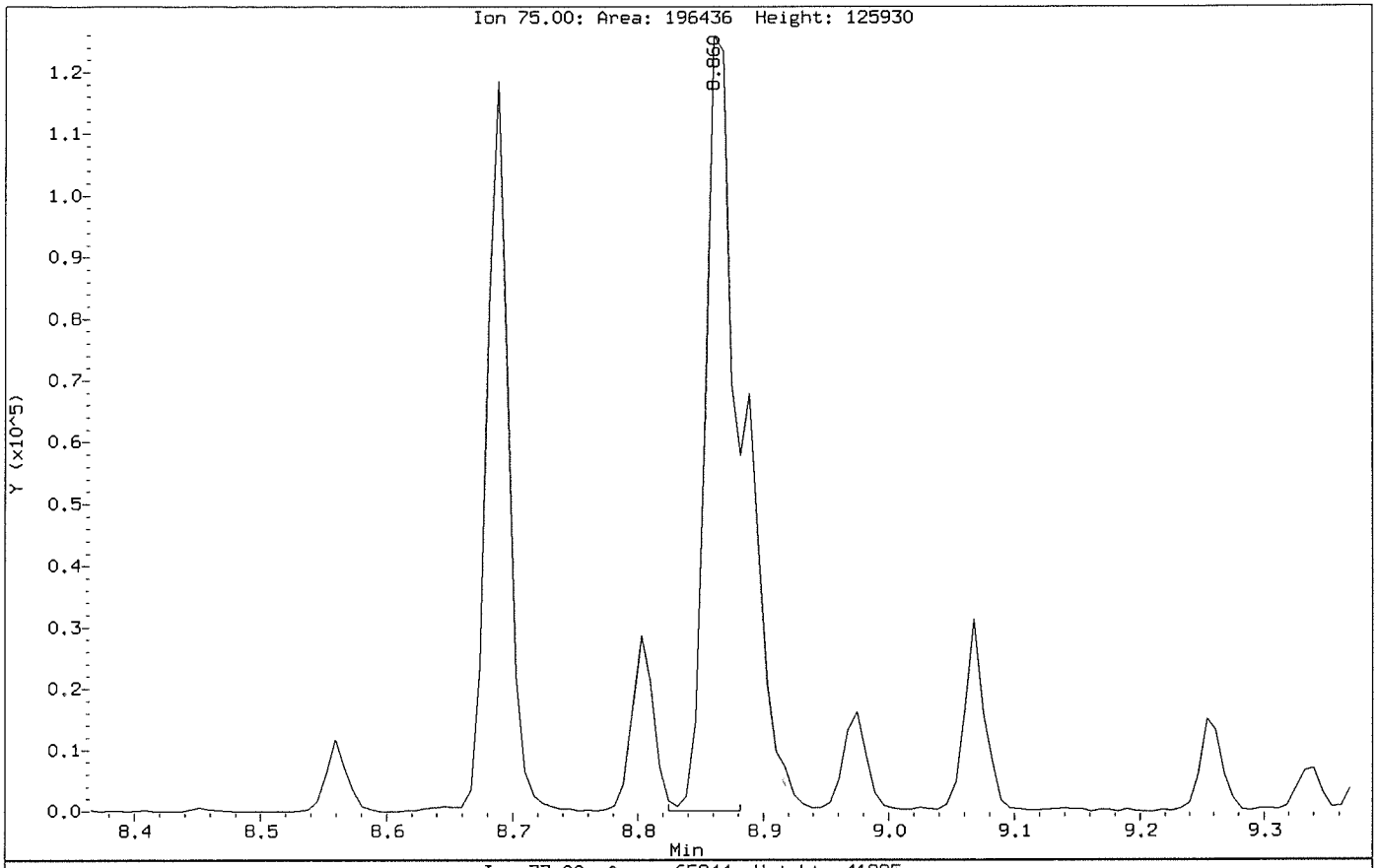
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4

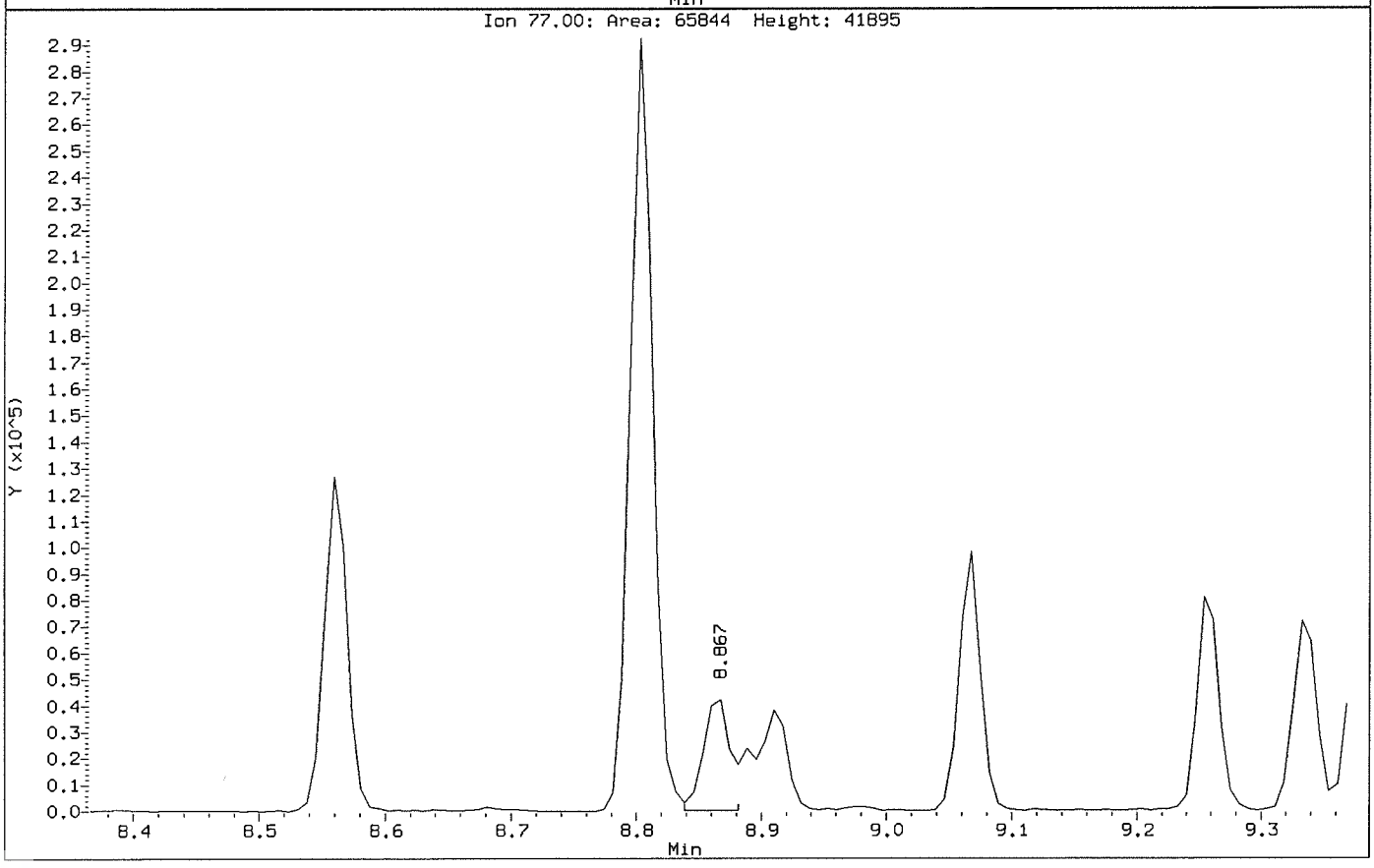


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040208.D
Injection Date: 02-APR-2021 13:20
Instrument: voa6.i
Client Sample ID: VSTD050

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040209.D
Lab Smp Id: VSTD100 Client Smp ID: VSTD100
Inj Date : 02-APR-2021 13:41
Operator : PC Inst ID: voa6.i
Smp Info : VSTD100;VSTD100;1;8;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\8260W.m
Meth Date : 14-Apr-2021 12:07 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 10 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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 |

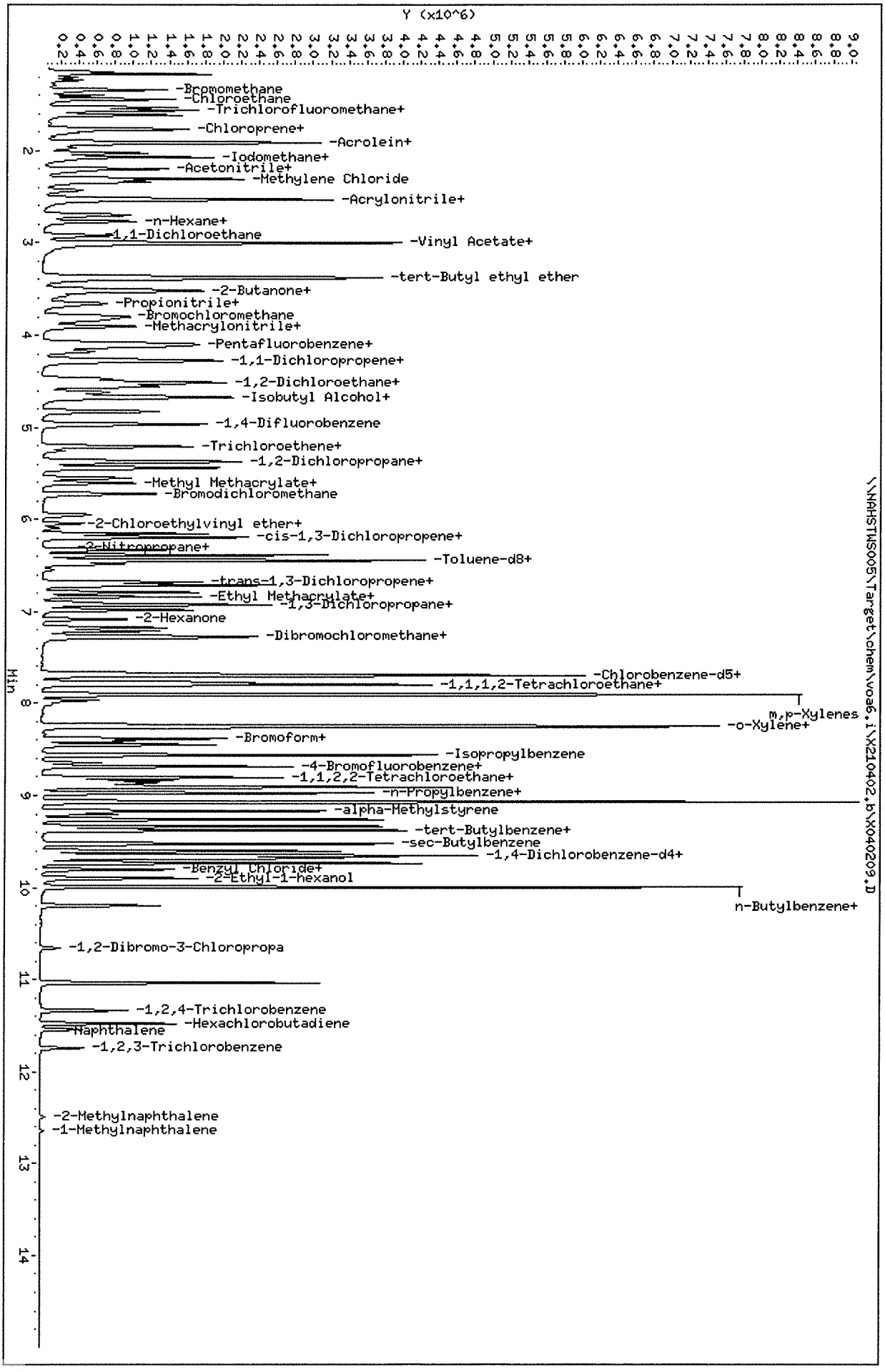
| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|---|
| * | 1 Pentafluorobenzene | 168 | 4.182 | 4.182 | (1.000) | 397825 | 50.0000 | |
| * | 36 1,4-Difluorobenzene | 114 | 4.963 | 4.963 | (1.000) | 683502 | 50.0000 | |
| * | 47 Chlorobenzene-d5 | 117 | 7.670 | 7.670 | (1.000) | 652649 | 50.0000 | |
| * | 70 1,4-Dichlorobenzene-d4 | 152 | 9.662 | 9.662 | (1.000) | 339759 | 50.0000 | |
| $ | 30 Dibromofluoromethane | 113 | 4.096 | 4.096 | (0.979) | 476731 | 100.000 | 101.33 |
| $ | 35 1,2-Dichloroethane-d4 | 65 | 4.476 | 4.476 | (1.070) | 568806 | 100.000 | 100.86 |
| $ | 48 Toluene-d8 | 98 | 6.388 | 6.388 | (0.833) | 1733824 | 100.000 | 101.37 |
| $ | 69 4-Bromofluorobenzene | 95 | 8.688 | 8.688 | (1.133) | 624362 | 100.000 | 98.11 |
| | 60 1,1,1,2-Tetrachloroethane | 131 | 7.778 | 7.778 | (1.014) | 479283 | 100.000 | 98.96 |
| | 31 1,1,1-Trichloroethane | 97 | 4.082 | 4.082 | (0.976) | 764100 | 100.000 | 106.13 |
| | 68 1,1,2,2-Tetrachloroethane | 83 | 8.838 | 8.838 | (0.915) | 541783 | 100.000 | 95.57 |
| | 53 1,1,2-Trichloroethane | 83 | 6.840 | 6.840 | (0.892) | 366869 | 100.000 | 96.76 |
| | 22 1,1-Dichloroethane | 63 | 2.921 | 2.921 | (0.699) | 753749 | 100.000 | 102.06 |
| | 11 1,1-Dichloroethene | 96 | 1.911 | 1.911 | (0.457) | 544587 | 100.000 | 96.14 |
| | 32 1,1-Dichloropropene | 75 | 4.282 | 4.282 | (0.863) | 630066 | 100.000 | 98.23 |
| | 93 1,2,3-Trichlorobenzene | 180 | 11.746 | 11.746 | (1.216) | 117190 | 100.000 | 99.25 |
| | 71 1,2,3-Trichloropropane | 75 | 8.867 | 8.867 | (0.918) | 446697 | 100.000 | 97.95(M) |
| | 90 1,2,4-Trichlorobenzene | 180 | 11.338 | 11.338 | (1.173) | 232584 | 100.000 | 100.67 |
| | 79 1,2,4-Trimethylbenzene | 105 | 9.382 | 9.382 | (0.971) | 1776673 | 100.000 | 101.89 |
| | 89 1,2-Dibromo-3-Chloropropane | 155 | 10.657 | 10.657 | (1.103) | 34453 | 100.000 | 93.22 |
| | 57 1,2-Dibromoethane | 107 | 7.262 | 7.262 | (0.947) | 458409 | 100.000 | 102.17 |
| | 88 1,2-Dichlorobenzene | 146 | 9.991 | 9.991 | (1.034) | 938908 | 100.000 | 100.59 |

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040209.D Page 2
Report Date: 14-Apr-2021 12:07

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|---|
| 33 | 1,2-Dichloroethane | 62 | 4.555 | 4.555 | (0.918) | 718135 | 100.000 | 99.26 |
| 42 | 1,2-Dichloropropane | 63 | 5.436 | 5.436 | (1.095) | 459836 | 100.000 | 96.81 |
| 75 | 1,3,5-Trimethylbenzene | 105 | 9.067 | 9.067 | (0.938) | 1949272 | 100.000 | 107.04 |
| 83 | 1,3-Dichlorobenzene | 146 | 9.604 | 9.604 | (0.994) | 982824 | 100.000 | 99.87 |
| 54 | 1,3-Dichloropropane | 76 | 6.983 | 6.983 | (0.910) | 716413 | 100.000 | 98.84 |
| 84 | 1,4-Dichlorobenzene | 146 | 9.683 | 9.683 | (1.002) | 993655 | 100.000 | 93.75 |
| 26 | 2,2-Dichloropropane | 77 | 3.509 | 3.509 | (0.839) | 730316 | 100.000 | 100.41 |
| 24 | 2-Butanone | 43 | 3.580 | 3.580 | (0.856) | 281647 | 200.000 | 205.94(A) |
| 76 | 2-Chlorotoluene | 91 | 8.974 | 8.974 | (0.929) | 1462425 | 100.000 | 102.46 |
| 52 | 2-Hexanone | 43 | 7.083 | 7.083 | (0.923) | 532674 | 200.000 | 195.04 |
| 77 | 4-Chlorotoluene | 91 | 9.067 | 9.067 | (0.938) | 1969439 | 100.000 | 106.29 |
| 82 | p-Isopropyltoluene | 119 | 9.647 | 9.647 | (0.999) | 1880664 | 100.000 | 109.26 |
| 45 | 4-Methyl-2-Pentanone | 43 | 6.324 | 6.324 | (0.824) | 822135 | 200.000 | 209.00(A) |
| 10 | Acetone | 43 | 1.976 | 1.976 | (0.473) | 244755 | 200.000 | 189.64 |
| 37 | Benzene | 78 | 4.512 | 4.512 | (0.909) | 1766015 | 100.000 | 97.54 |
| 74 | Bromobenzene | 156 | 8.802 | 8.802 | (0.911) | 558017 | 100.000 | 95.27 |
| 29 | Bromochloromethane | 128 | 3.795 | 3.795 | (0.908) | 246372 | 100.000 | 103.83 |
| 39 | Bromodichloromethane | 83 | 5.722 | 5.722 | (1.153) | 685781 | 100.000 | 100.06 |
| 66 | Bromoform | 173 | 8.408 | 8.408 | (1.096) | 319806 | 100.000 | 96.31 |
| 6 | Bromomethane | 94 | 1.338 | 1.338 | (0.320) | 554247 | 100.000 | 97.59 |
| 19 | Carbon Disulfide | 76 | 2.069 | 2.069 | (0.495) | 2112156 | 200.000 | 190.89 |
| 34 | Carbon Tetrachloride | 117 | 4.268 | 4.268 | (0.860) | 642068 | 100.000 | 104.11 |
| 59 | Chlorobenzene | 112 | 7.692 | 7.692 | (1.003) | 1339959 | 100.000 | 97.02 |
| 7 | Chloroethane | 64 | 1.403 | 1.403 | (0.336) | 392927 | 100.000 | 88.79 |
| 28 | Chloroform | 83 | 3.910 | 3.910 | (0.935) | 880788 | 100.000 | 101.94 |
| 3 | Chloromethane | 50 | 1.073 | 1.073 | (0.257) | 419280 | 100.000 | 102.33 |
| 27 | cis-1,2-Dichloroethene | 96 | 3.523 | 3.523 | (0.842) | 487101 | 100.000 | 100.16 |
| 46 | cis-1,3-Dichloropropene | 75 | 6.152 | 6.152 | (1.240) | 818804 | 100.000 | 102.35 |
| 55 | Dibromochloromethane | 129 | 7.176 | 7.176 | (0.936) | 517830 | 100.000 | 101.63 |
| 44 | Dibromomethane | 93 | 5.550 | 5.550 | (1.118) | 334869 | 100.000 | 99.36 |
| 2 | Dichlorodifluoromethane | 85 | 0.973 | 0.973 | (0.233) | 387079 | 100.000 | 98.12 |
| 61 | Ethylbenzene | 106 | 7.799 | 7.799 | (1.017) | 691578 | 100.000 | 98.99 |
| 91 | Hexachlorobutadiene | 225 | 11.481 | 11.481 | (1.188) | 187520 | 100.000 | 102.39 |
| 67 | Isopropylbenzene | 105 | 8.559 | 8.559 | (1.116) | 2220518 | 100.000 | 106.33 |
| 62 | m,p-Xylenes | 106 | 7.907 | 7.907 | (1.031) | 1898668 | 200.000 | 214.63(A) |
| 17 | Methylene Chloride | 84 | 2.305 | 2.305 | (0.551) | 420832 | 100.000 | 96.06 |
| 87 | n-Butylbenzene | 91 | 9.991 | 9.991 | (1.034) | 1849392 | 100.000 | 113.38 |
| 73 | n-Propylbenzene | 91 | 8.910 | 8.910 | (0.922) | 2612395 | 100.000 | 101.34 |
| 92 | Naphthalene | 128 | 11.546 | 11.546 | (1.195) | 310567 | 100.000 | 98.55 |
| 63 | o-Xylene | 106 | 8.243 | 8.243 | (1.075) | 868184 | 100.000 | 101.20 |
| 81 | sec-Butylbenzene | 105 | 9.518 | 9.518 | (0.985) | 2181632 | 100.000 | 99.79 |
| 64 | Styrene | 104 | 8.258 | 8.258 | (1.077) | 1538607 | 100.000 | 94.09 |
| 78 | tert-Butylbenzene | 119 | 9.339 | 9.339 | (0.967) | 1479946 | 100.000 | 100.72 |
| 56 | Tetrachloroethene | 164 | 6.925 | 6.925 | (0.903) | 408051 | 100.000 | 103.57 |
| 50 | Toluene | 91 | 6.446 | 6.446 | (0.840) | 2059118 | 100.000 | 101.53 |
| 20 | trans-1,2-Dichloroethene | 96 | 2.527 | 2.527 | (0.604) | 418464 | 100.000 | 103.21 |
| 51 | trans-1,3-Dichloropropene | 75 | 6.682 | 6.682 | (1.346) | 707864 | 100.000 | 103.73 |
| 38 | Trichloroethene | 130 | 5.206 | 5.206 | (1.049) | 478548 | 100.000 | 102.27 |
| 8 | Trichlorofluoromethane | 101 | 1.560 | 1.560 | (0.373) | 1040295 | 100.000 | 91.11 |
| 5 | Vinyl Chloride | 62 | 1.145 | 1.145 | (0.274) | 541798 | 100.000 | 90.84 |

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.



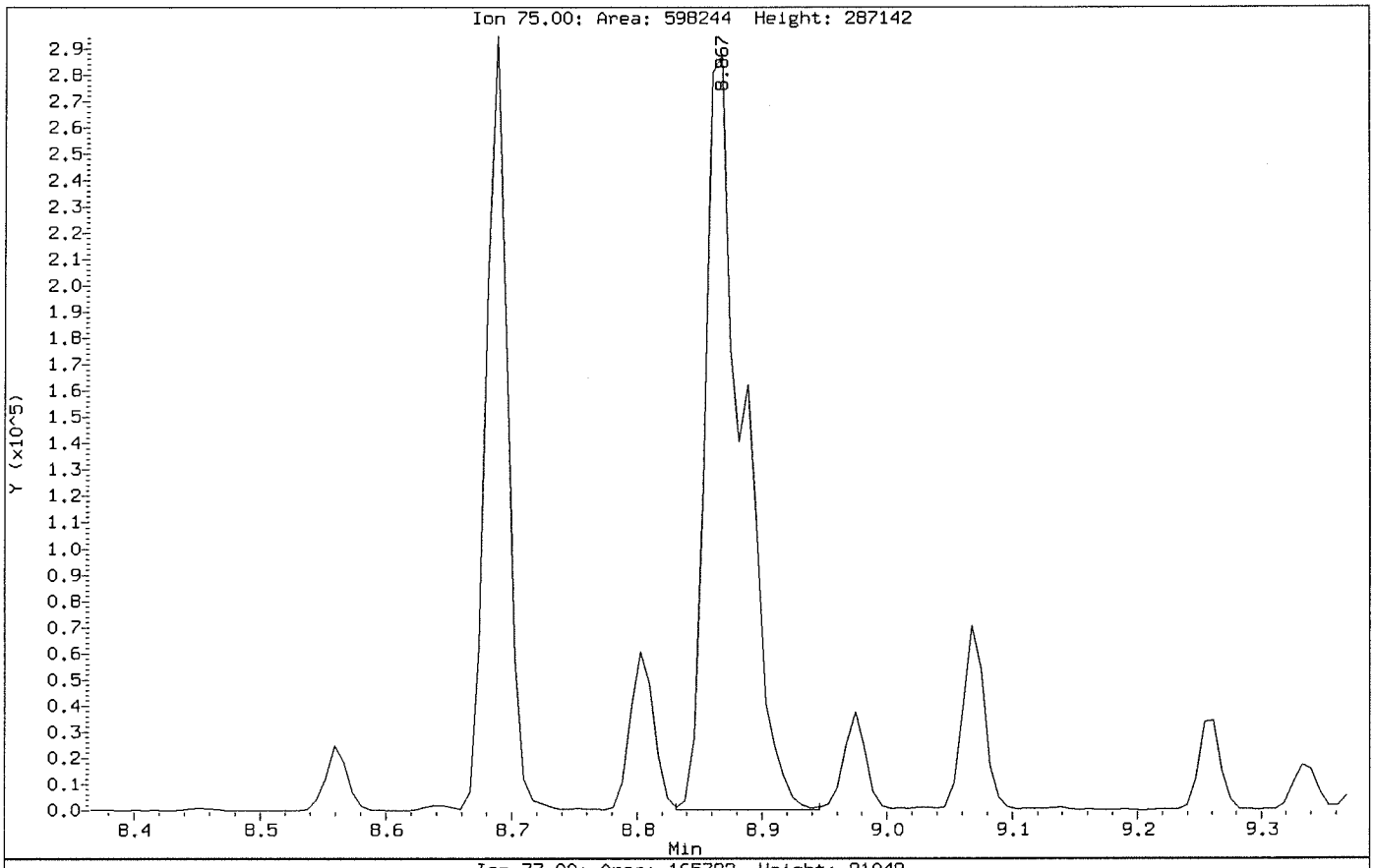

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040209.D
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Client ID: VSTD100
Sample Info: VSTD100;VSTD100;1;8;;
Purge Volume: 5.0
Column phase: DB624

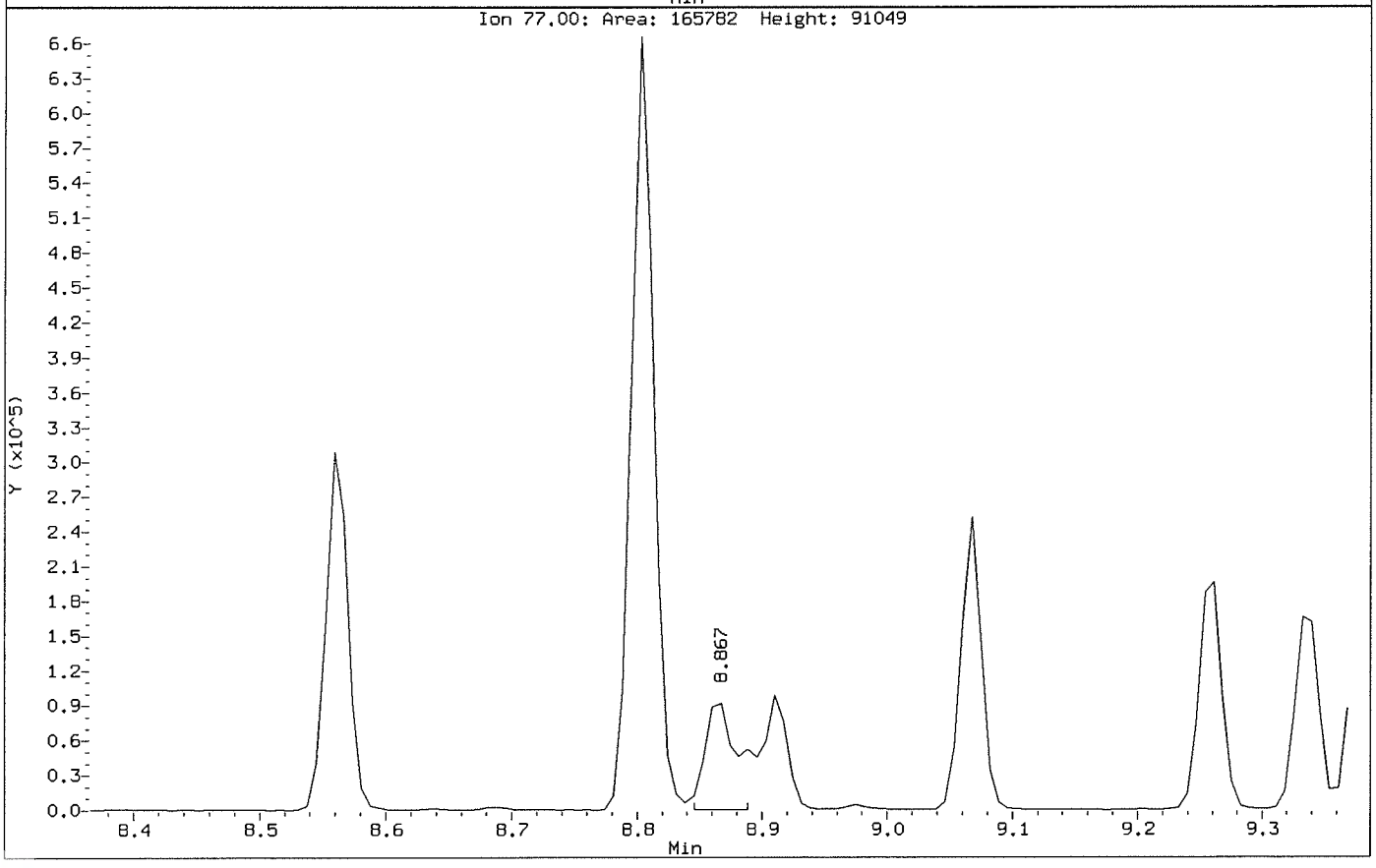
\\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040209.D

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before\X040209.D
Injection Date: 02-APR-2021 13:41
Instrument: voa6.i
Client Sample ID: VSTD100

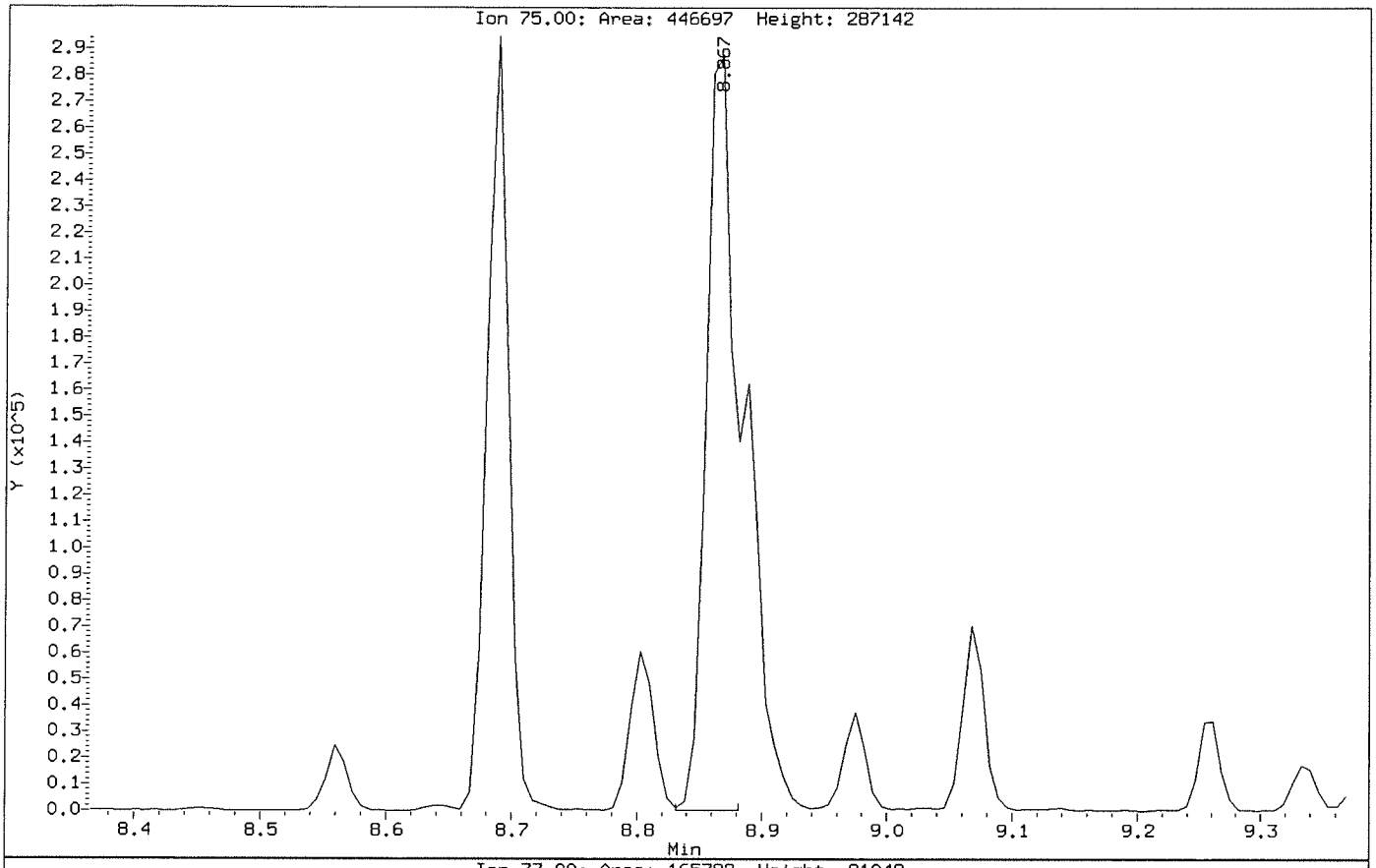
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4

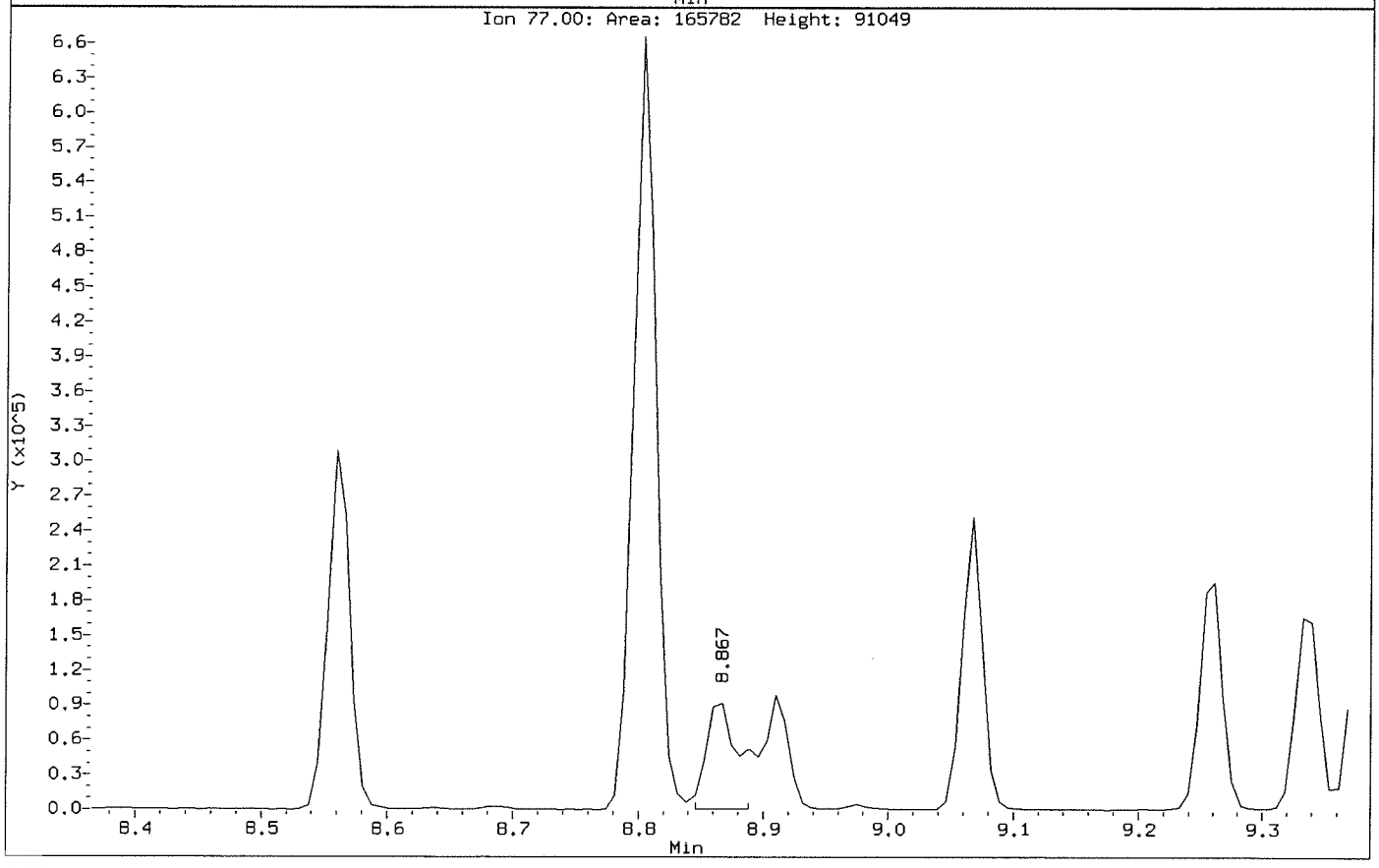


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040209.D
Injection Date: 02-APR-2021 13:41
Instrument: voa6.i
Client Sample ID: VSTD100

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040210.D
Lab Smp Id: VSTD150 Client Smp ID: VSTD150
Inj Date : 02-APR-2021 14:02
Operator : PC Inst ID: voa6.i
Smp Info : VSTD150;VSTD150;1;9;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\8260W.m
Meth Date : 14-Apr-2021 12:07 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:41 Cal File: X040209.D
Als bottle: 11 Calibration Sample, Level: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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

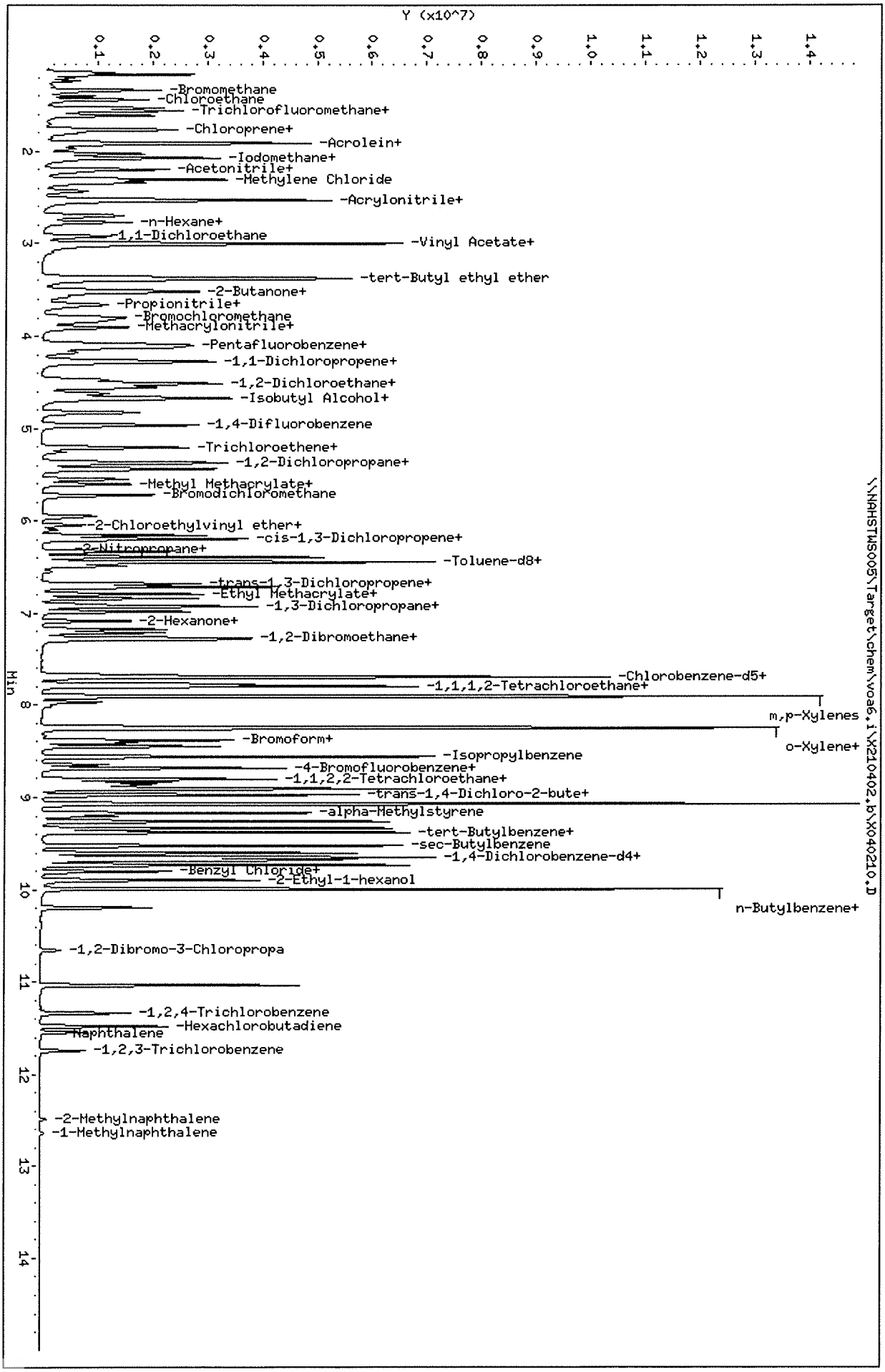
| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 5.000 | ng unit correction factor |
| Vo | 5.000 | sample purged |
| Cpnd Variable | | Local Compound Variable |

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|---|
| * | 1 Pentafluorobenzene | 168 | 4.182 | 4.182 | (1.000) | 432906 | 50.0000 | |
| * | 36 1,4-Difluorobenzene | 114 | 4.963 | 4.963 | (1.000) | 745206 | 50.0000 | |
| * | 47 Chlorobenzene-d5 | 117 | 7.671 | 7.671 | (1.000) | 707197 | 50.0000 | |
| * | 70 1,4-Dichlorobenzene-d4 | 152 | 9.662 | 9.662 | (1.000) | 375287 | 50.0000 | |
| $ | 30 Dibromofluoromethane | 113 | 4.096 | 4.096 | (0.979) | 758989 | 150.000 | 148.06 |
| $ | 35 1,2-Dichloroethane-d4 | 65 | 4.469 | 4.469 | (1.068) | 919399 | 150.000 | 149.58 |
| $ | 48 Toluene-d8 | 98 | 6.388 | 6.388 | (0.833) | 2714142 | 150.000 | 145.62 |
| $ | 69 4-Bromofluorobenzene | 95 | 8.688 | 8.688 | (1.133) | 1011725 | 150.000 | 145.90 |
| | 60 1,1,1,2-Tetrachloroethane | 131 | 7.778 | 7.778 | (1.014) | 790441 | 150.000 | 150.62 |
| | 31 1,1,1-Trichloroethane | 97 | 4.082 | 4.082 | (0.976) | 1234717 | 150.000 | 157.60 |
| | 68 1,1,2,2-Tetrachloroethane | 83 | 8.838 | 8.838 | (0.915) | 868190 | 150.000 | 138.66 |
| | 53 1,1,2-Trichloroethane | 83 | 6.840 | 6.840 | (0.892) | 595658 | 150.000 | 144.99 |
| | 22 1,1-Dichloroethane | 63 | 2.922 | 2.922 | (0.699) | 1281616 | 150.000 | 159.48 |
| | 11 1,1-Dichloroethene | 96 | 1.912 | 1.912 | (0.457) | 861197 | 150.000 | 139.71 |
| | 32 1,1-Dichloropropene | 75 | 4.283 | 4.283 | (0.863) | 1006007 | 150.000 | 143.86 |
| | 93 1,2,3-Trichlorobenzene | 180 | 11.739 | 11.739 | (1.215) | 195277 | 150.000 | 149.11 |
| | 71 1,2,3-Trichloropropane | 75 | 8.867 | 8.867 | (0.918) | 687077 | 150.000 | 136.40(M) |
| | 90 1,2,4-Trichlorobenzene | 180 | 11.338 | 11.338 | (1.173) | 381873 | 150.000 | 149.38 |
| | 79 1,2,4-Trimethylbenzene | 105 | 9.383 | 9.383 | (0.971) | 2938093 | 150.000 | 152.54 |
| | 89 1,2-Dibromo-3-Chloropropane | 155 | 10.658 | 10.658 | (1.103) | 60599 | 150.000 | 148.44 |
| | 57 1,2-Dibromoethane | 107 | 7.262 | 7.262 | (0.947) | 752347 | 150.000 | 154.75 |
| | 88 1,2-Dichlorobenzene | 146 | 9.991 | 9.991 | (1.034) | 1503887 | 150.000 | 145.87 |

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|---|
| 33 | 1,2-Dichloroethane | 62 | 4.555 | 4.555 | (0.918) | 1146217 | 150.000 | 145.31 |
| 42 | 1,2-Dichloropropane | 63 | 5.436 | 5.436 | (1.095) | 743370 | 150.000 | 143.54 |
| 75 | 1,3,5-Trimethylbenzene | 105 | 9.067 | 9.067 | (0.938) | 3190342 | 150.000 | 158.61 |
| 83 | 1,3-Dichlorobenzene | 146 | 9.605 | 9.605 | (0.994) | 1586842 | 150.000 | 145.99 |
| 54 | 1,3-Dichloropropane | 76 | 6.983 | 6.983 | (0.910) | 1162532 | 150.000 | 148.02 |
| 84 | 1,4-Dichlorobenzene | 146 | 9.683 | 9.683 | (1.002) | 1651188 | 150.000 | 141.04 |
| 26 | 2,2-Dichloropropane | 77 | 3.509 | 3.509 | (0.839) | 1196637 | 150.000 | 151.20 |
| 24 | 2-Butanone | 43 | 3.573 | 3.573 | (0.854) | 491349 | 300.000 | 330.17(A) |
| 76 | 2-Chlorotoluene | 91 | 8.974 | 8.974 | (0.929) | 2338020 | 150.000 | 148.31 |
| 52 | 2-Hexanone | 43 | 7.083 | 7.083 | (0.923) | 900210 | 300.000 | 302.58(A) |
| 77 | 4-Chlorotoluene | 91 | 9.067 | 9.067 | (0.938) | 3227321 | 150.000 | 157.70 |
| 82 | p-Isopropyltoluene | 119 | 9.648 | 9.648 | (0.999) | 3007466 | 150.000 | 158.19 |
| 45 | 4-Methyl-2-Pentanone | 43 | 6.324 | 6.324 | (0.824) | 1384425 | 300.000 | 324.80(A) |
| 10 | Acetone | 43 | 1.969 | 1.969 | (0.471) | 407837 | 300.000 | 292.76(A) |
| 37 | Benzene | 78 | 4.512 | 4.512 | (0.909) | 2794489 | 150.000 | 141.56 |
| 74 | Bromobenzene | 156 | 8.802 | 8.802 | (0.911) | 891203 | 150.000 | 137.76 |
| 29 | Bromochloromethane | 128 | 3.795 | 3.795 | (0.908) | 396528 | 150.000 | 153.57 |
| 39 | Bromodichloromethane | 83 | 5.722 | 5.722 | (1.153) | 1082579 | 150.000 | 144.87 |
| 66 | Bromoform | 173 | 8.408 | 8.408 | (1.096) | 537877 | 150.000 | 148.36 |
| 6 | Bromomethane | 94 | 1.331 | 1.331 | (0.318) | 938790 | 150.000 | 152.00 |
| 19 | Carbon Disulfide | 76 | 2.069 | 2.069 | (0.495) | 3573893 | 300.000 | 296.82(A) |
| 34 | Carbon Tetrachloride | 117 | 4.268 | 4.268 | (0.860) | 1036792 | 150.000 | 154.20 |
| 59 | Chlorobenzene | 112 | 7.692 | 7.692 | (1.003) | 2237237 | 150.000 | 148.54 |
| 7 | Chloroethane | 64 | 1.396 | 1.396 | (0.334) | 603127 | 150.000 | 125.24 |
| 28 | Chloroform | 83 | 3.910 | 3.910 | (0.935) | 1370564 | 150.000 | 145.78 |
| 3 | Chloromethane | 50 | 1.074 | 1.074 | (0.257) | 667172 | 150.000 | 150.02 |
| 27 | cis-1,2-Dichloroethene | 96 | 3.523 | 3.523 | (0.842) | 789545 | 150.000 | 149.19 |
| 46 | cis-1,3-Dichloropropene | 75 | 6.152 | 6.152 | (1.240) | 1312095 | 150.000 | 150.43 |
| 55 | Dibromochloromethane | 129 | 7.176 | 7.176 | (0.936) | 863970 | 150.000 | 156.49 |
| 44 | Dibromomethane | 93 | 5.550 | 5.550 | (1.118) | 524697 | 150.000 | 142.79 |
| 2 | Dichlorodifluoromethane | 85 | 0.973 | 0.973 | (0.233) | 621536 | 150.000 | 143.99 |
| 61 | Ethylbenzene | 106 | 7.800 | 7.800 | (1.017) | 1101538 | 150.000 | 145.51 |
| 91 | Hexachlorobutadiene | 225 | 11.481 | 11.481 | (1.188) | 305917 | 150.000 | 150.74 |
| 67 | Isopropylbenzene | 105 | 8.559 | 8.559 | (1.116) | 3589822 | 150.000 | 158.64 |
| 62 | m,p-Xylenes | 106 | 7.907 | 7.907 | (1.031) | 3169680 | 300.000 | 330.67(A) |
| 17 | Methylene Chloride | 84 | 2.298 | 2.298 | (0.550) | 703062 | 150.000 | 146.68 |
| 87 | n-Butylbenzene | 91 | 9.991 | 9.991 | (1.034) | 2978362 | 150.000 | 165.31 |
| 73 | n-Propylbenzene | 91 | 8.910 | 8.910 | (0.922) | 4176046 | 150.000 | 146.67 |
| 92 | Naphthalene | 128 | 11.539 | 11.539 | (1.194) | 520608 | 150.000 | 149.19 |
| 63 | o-Xylene | 106 | 8.244 | 8.244 | (1.075) | 1437616 | 150.000 | 154.66 |
| 81 | sec-Butylbenzene | 105 | 9.519 | 9.519 | (0.985) | 3533495 | 150.000 | 132.12 |
| 64 | Styrene | 104 | 8.258 | 8.258 | (1.077) | 2637559 | 150.000 | 146.90 |
| 78 | tert-Butylbenzene | 119 | 9.340 | 9.340 | (0.967) | 2477004 | 150.000 | 152.24 |
| 56 | Tetrachloroethene | 164 | 6.926 | 6.926 | (0.903) | 659039 | 150.000 | 154.38 |
| 50 | Toluene | 91 | 6.446 | 6.446 | (0.840) | 3338306 | 150.000 | 151.91 |
| 20 | trans-1,2-Dichloroethene | 96 | 2.528 | 2.528 | (0.604) | 695609 | 150.000 | 157.67 |
| 51 | trans-1,3-Dichloropropene | 75 | 6.682 | 6.682 | (1.346) | 1189690 | 150.000 | 159.91 |
| 38 | Trichloroethene | 130 | 5.207 | 5.207 | (1.049) | 752757 | 150.000 | 147.55 |
| 8 | Trichlorofluoromethane | 101 | 1.561 | 1.561 | (0.373) | 1654953 | 150.000 | 133.20 |
| 5 | Vinyl Chloride | 62 | 1.138 | 1.138 | (0.272) | 862204 | 150.000 | 132.84 |

QC Flag Legend

A - Target compound detected but, quantitated amount
exceeded maximum amount.
M - Compound response manually integrated.

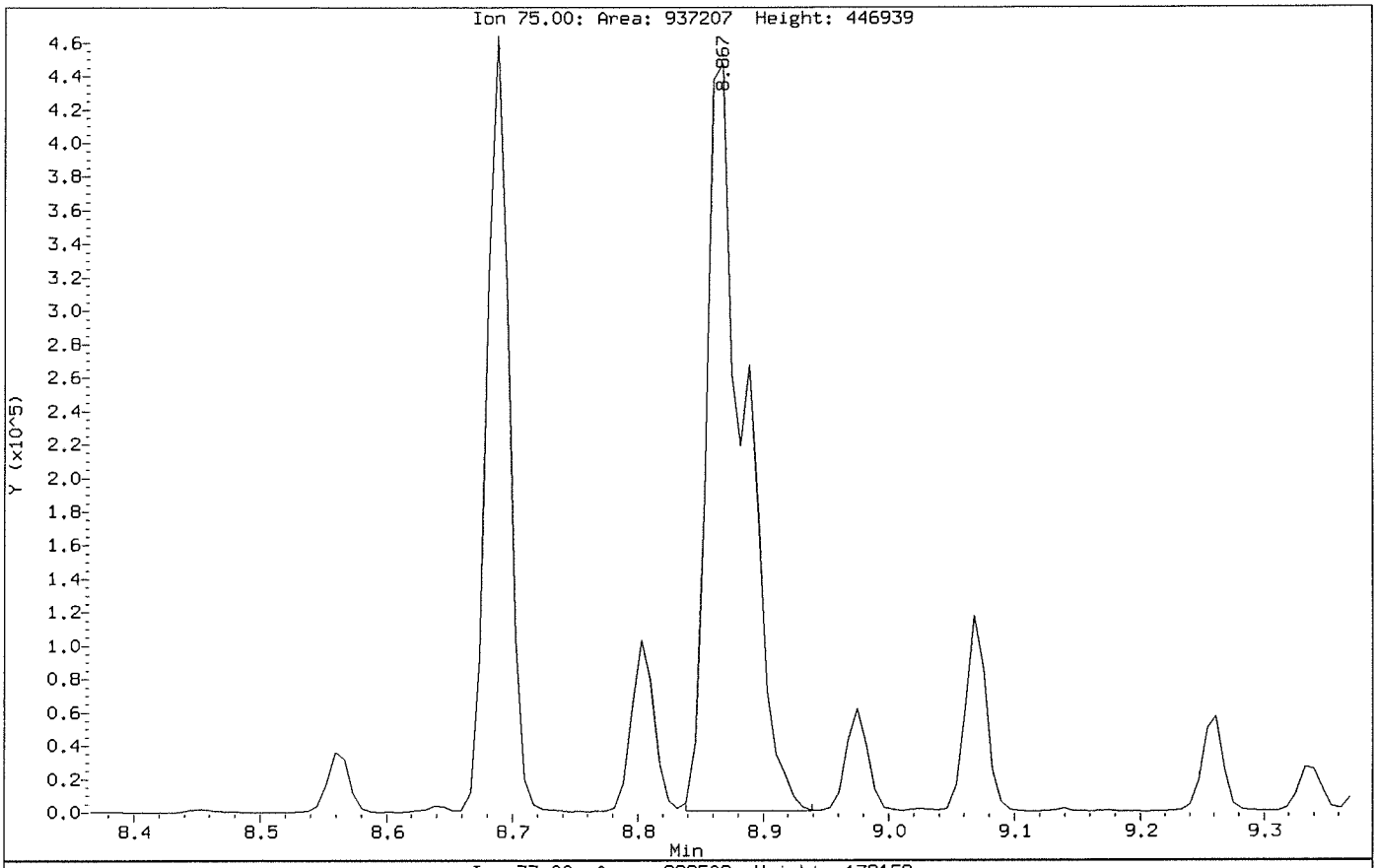


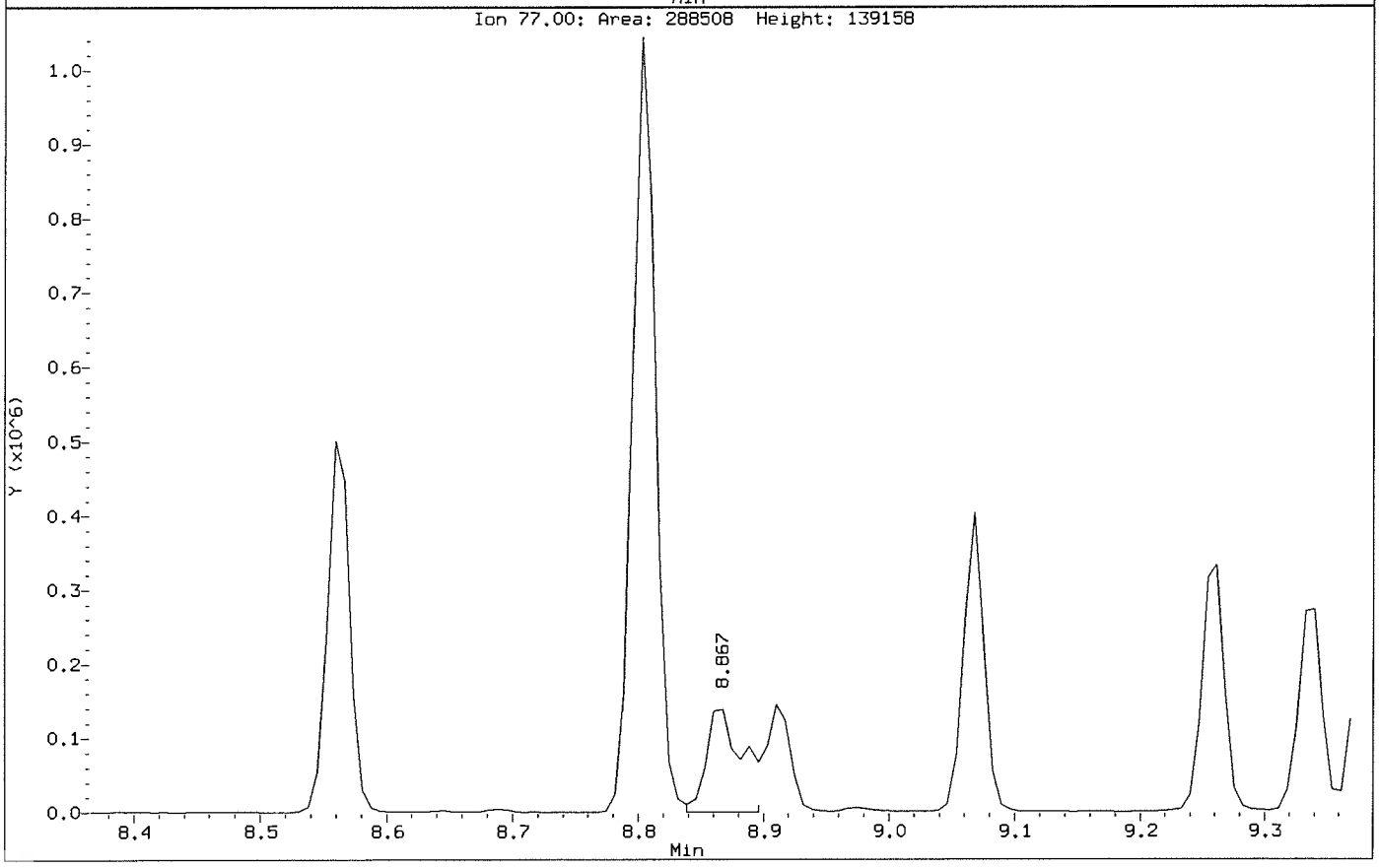

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Client ID: VSTD150
Sample Info: VSTD150;VSTD150;1;9;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTW5005\Target\chem\voa6.i\X210402.b\Before\X040210.D
Injection Date: 02-APR-2021 14:02
Instrument: voa6.i
Client Sample ID: VSTD150

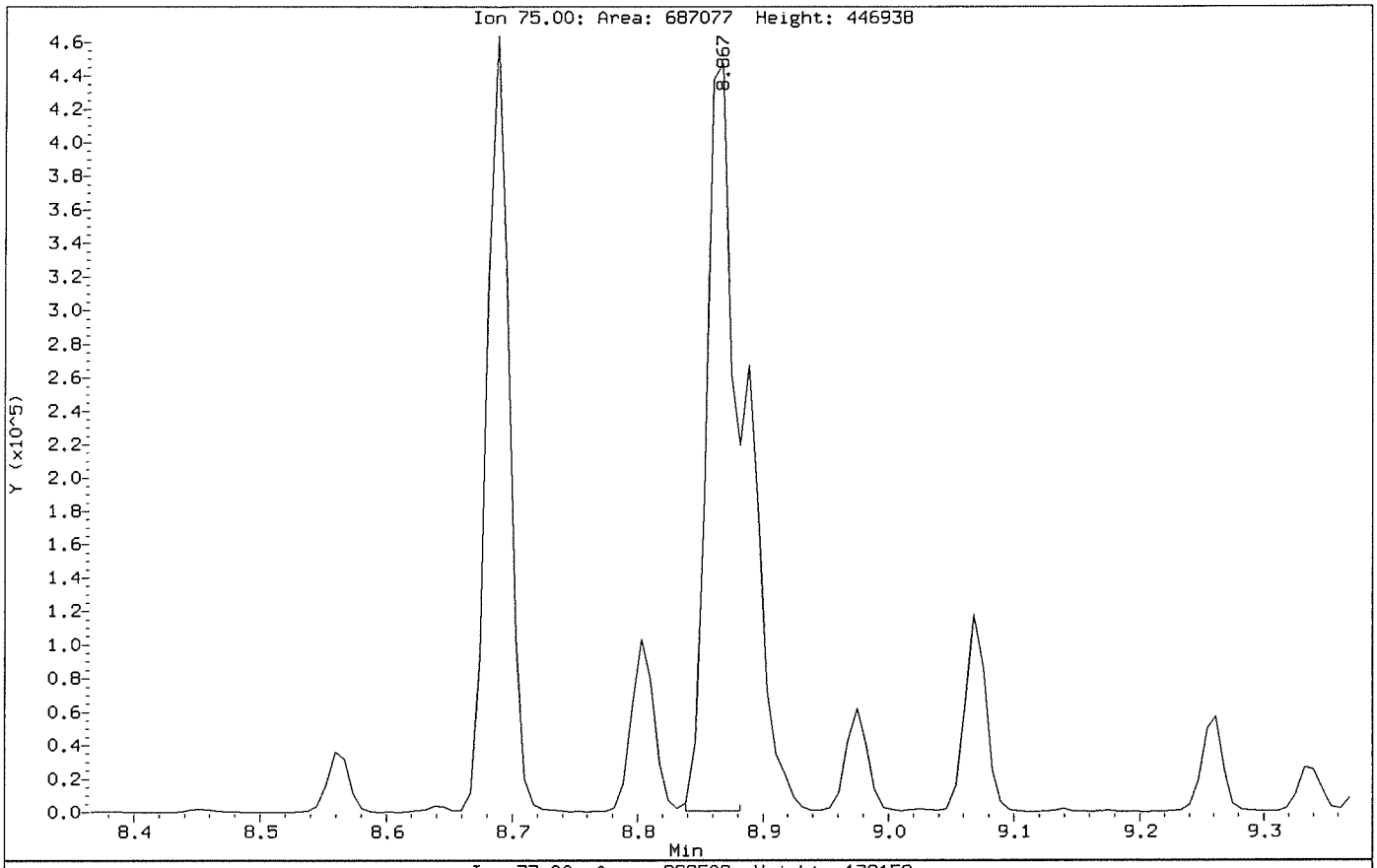
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4

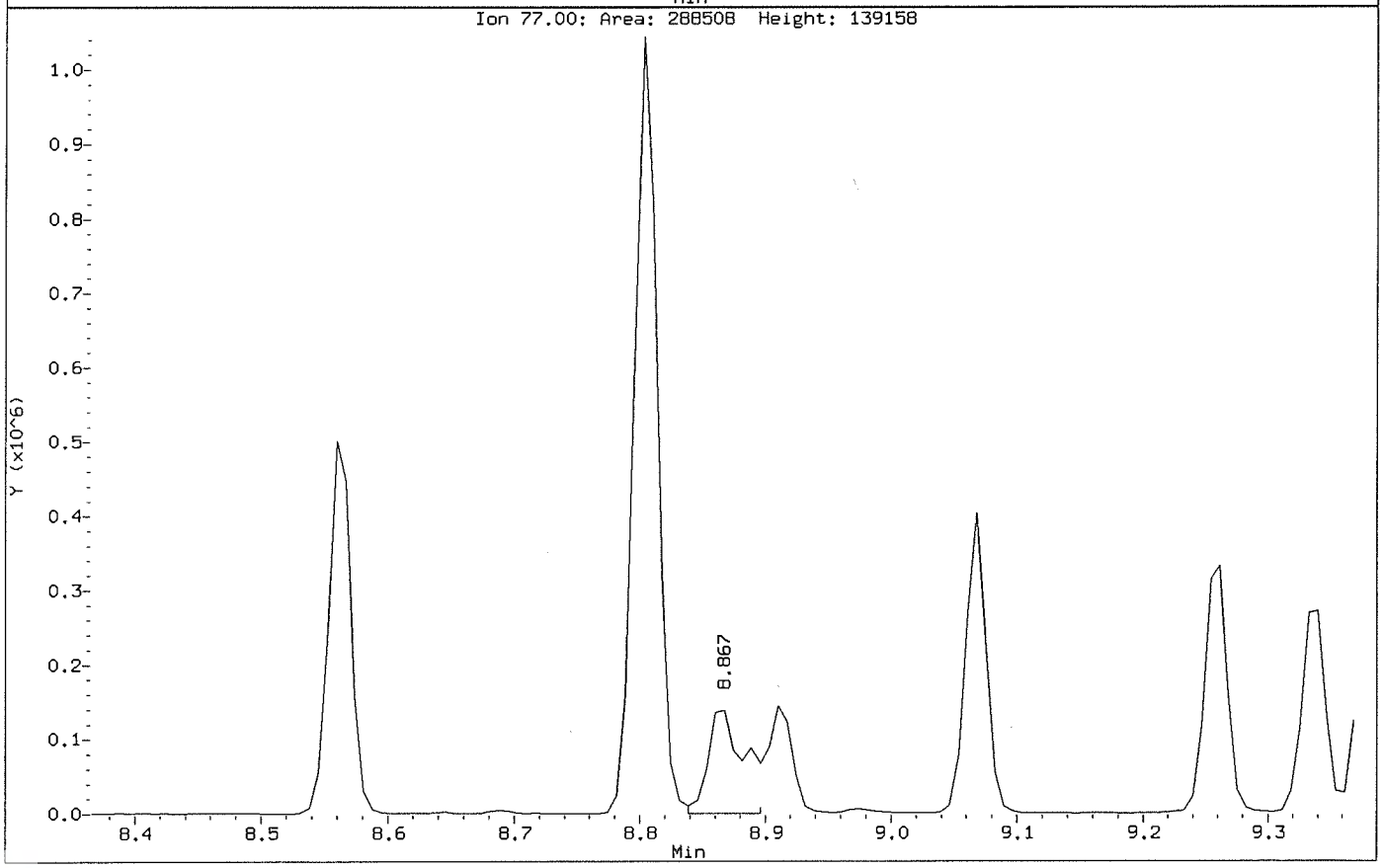


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040210.D
Injection Date: 02-APR-2021 14:02
Instrument: voa6.i
Client Sample ID: VSTD150

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040211.D
Lab Smp Id: VSTD200 Client Smp ID: VSTD200
Inj Date : 02-APR-2021 14:23
Operator : PC Inst ID: voa6.i
Smp Info : VSTD200;VSTD200;1;10;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\8260W.m
Meth Date : 14-Apr-2021 12:07 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 14:02 Cal File: X040210.D
Als bottle: 12 Calibration Sample, Level: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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 |

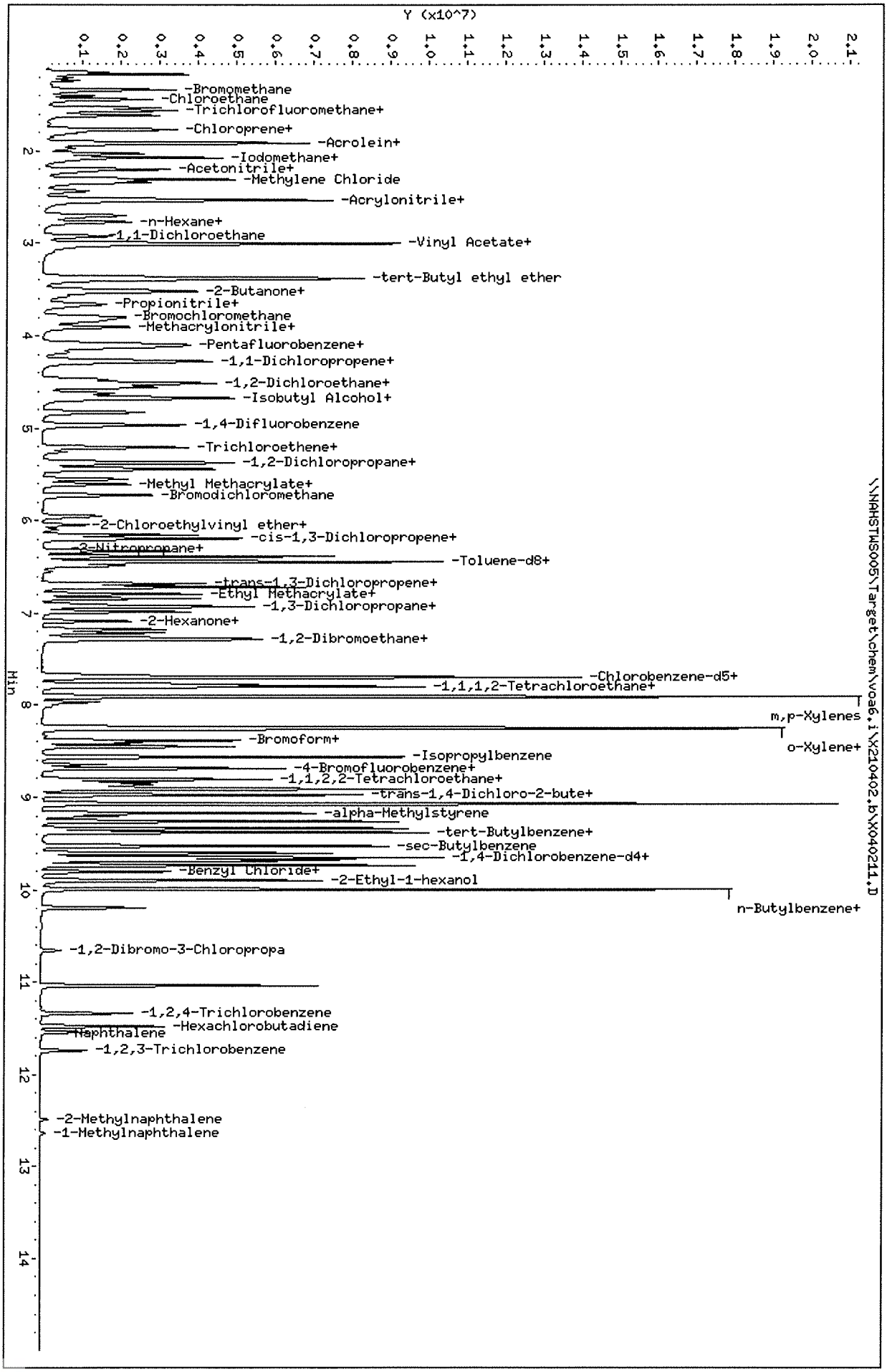
| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|---|
| * | 1 Pentafluorobenzene | 168 | 4.182 | 4.182 | (1.000) | 444815 | 50.0000 | |
| * | 36 1,4-Difluorobenzene | 114 | 4.970 | 4.970 | (1.000) | 788136 | 50.0000 | |
| * | 47 Chlorobenzene-d5 | 117 | 7.670 | 7.670 | (1.000) | 732576 | 50.0000 | |
| * | 70 1,4-Dichlorobenzene-d4 | 152 | 9.662 | 9.662 | (1.000) | 399401 | 50.0000 | |
| $ | 30 Dibromofluoromethane | 113 | 4.096 | 4.096 | (0.979) | 1061294 | 200.000 | 201.33(A) |
| $ | 35 1,2-Dichloroethane-d4 | 65 | 4.469 | 4.469 | (1.069) | 1266674 | 200.000 | 200.40(A) |
| $ | 48 Toluene-d8 | 98 | 6.388 | 6.388 | (0.833) | 3949224 | 200.000 | 203.80(A) |
| $ | 69 4-Bromofluorobenzene | 95 | 8.688 | 8.688 | (1.133) | 1473828 | 200.000 | 204.50(A) |
| | 60 1,1,1,2-Tetrachloroethane | 131 | 7.778 | 7.778 | (1.014) | 1103309 | 200.000 | 202.96(A) |
| | 31 1,1,1-Trichloroethane | 97 | 4.082 | 4.082 | (0.976) | 1714778 | 200.000 | 213.02(A) |
| | 68 1,1,2,2-Tetrachloroethane | 83 | 8.838 | 8.838 | (0.915) | 1144495 | 200.000 | 171.75 |
| | 53 1,1,2-Trichloroethane | 83 | 6.840 | 6.840 | (0.892) | 832139 | 200.000 | 195.54 |
| | 22 1,1-Dichloroethane | 63 | 2.921 | 2.921 | (0.699) | 1788541 | 200.000 | 216.60(A) |
| | 11 1,1-Dichloroethene | 96 | 1.911 | 1.911 | (0.457) | 1249794 | 200.000 | 197.32 |
| | 32 1,1-Dichloropropene | 75 | 4.282 | 4.282 | (0.862) | 1409104 | 200.000 | 190.53 |
| | 93 1,2,3-Trichlorobenzene | 180 | 11.739 | 11.739 | (1.215) | 281184 | 200.000 | 201.31(A) |
| | 71 1,2,3-Trichloropropane | 75 | 8.867 | 8.867 | (0.918) | 974292 | 200.000 | 181.74(M) |
| | 90 1,2,4-Trichlorobenzene | 180 | 11.338 | 11.338 | (1.173) | 545632 | 200.000 | 200.37(A) |
| | 79 1,2,4-Trimethylbenzene | 105 | 9.382 | 9.382 | (0.971) | 4157532 | 200.000 | 202.82(A) |
| | 89 1,2-Dibromo-3-Chloropropane | 155 | 10.657 | 10.657 | (1.103) | 83462 | 200.000 | 192.10 |
| | 57 1,2-Dibromoethane | 107 | 7.262 | 7.262 | (0.947) | 1038675 | 200.000 | 206.24(A) |
| | 88 1,2-Dichlorobenzene | 146 | 9.991 | 9.991 | (1.034) | 2224673 | 200.000 | 202.76(A) |

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040211.D Page 2
Report Date: 14-Apr-2021 12:07

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|---|
| 33 | 1,2-Dichloroethane | 62 | 4.555 | 4.555 | (0.916) | 1584950 | 200.000 | 189.99 |
| 42 | 1,2-Dichloropropane | 63 | 5.436 | 5.436 | (1.094) | 1055161 | 200.000 | 192.65 |
| 75 | 1,3,5-Trimethylbenzene | 105 | 9.067 | 9.067 | (0.938) | 4548590 | 200.000 | 212.49(A) |
| 83 | 1,3-Dichlorobenzene | 146 | 9.604 | 9.604 | (0.994) | 2194416 | 200.000 | 189.70 |
| 54 | 1,3-Dichloropropane | 76 | 6.983 | 6.983 | (0.910) | 1603166 | 200.000 | 197.06 |
| 84 | 1,4-Dichlorobenzene | 146 | 9.683 | 9.683 | (1.002) | 2240695 | 200.000 | 179.84 |
| 26 | 2,2-Dichloropropane | 77 | 3.509 | 3.509 | (0.839) | 1674653 | 200.000 | 205.94(A) |
| 24 | 2-Butanone | 43 | 3.573 | 3.573 | (0.854) | 645810 | 400.000 | 422.34(A) |
| 76 | 2-Chlorotoluene | 91 | 8.974 | 8.974 | (0.929) | 3358028 | 200.000 | 200.16(A) |
| 52 | 2-Hexanone | 43 | 7.090 | 7.090 | (0.924) | 1242339 | 400.000 | 402.16(A) |
| 77 | 4-Chlorotoluene | 91 | 9.067 | 9.067 | (0.938) | 4585059 | 200.000 | 210.52(A) |
| 82 | p-Isopropyltoluene | 119 | 9.655 | 9.655 | (0.999) | 4227083 | 200.000 | 208.92(A) |
| 45 | 4-Methyl-2-Pentanone | 43 | 6.331 | 6.331 | (0.825) | 1914337 | 400.000 | 433.56(A) |
| 10 | Acetone | 43 | 1.976 | 1.976 | (0.473) | 582209 | 400.000 | 408.48(A) |
| 37 | Benzene | 78 | 4.512 | 4.512 | (0.908) | 3932008 | 200.000 | 188.34 |
| 74 | Bromobenzene | 156 | 8.809 | 8.809 | (0.912) | 1274031 | 200.000 | 185.04 |
| 29 | Bromochloromethane | 128 | 3.795 | 3.795 | (0.908) | 556545 | 200.000 | 209.77(A) |
| 39 | Bromodichloromethane | 83 | 5.722 | 5.722 | (1.151) | 1547381 | 200.000 | 195.80 |
| 66 | Bromoform | 173 | 8.408 | 8.408 | (1.096) | 767647 | 200.000 | 203.63(A) |
| 6 | Bromomethane | 94 | 1.331 | 1.331 | (0.318) | 1480667 | 200.000 | 233.43(A) |
| 19 | Carbon Disulfide | 76 | 2.069 | 2.069 | (0.495) | 5238761 | 400.000 | 423.44(A) |
| 34 | Carbon Tetrachloride | 117 | 4.268 | 4.268 | (0.859) | 1448734 | 200.000 | 203.73(A) |
| 59 | Chlorobenzene | 112 | 7.692 | 7.692 | (1.003) | 3183866 | 200.000 | 203.40(A) |
| 7 | Chloroethane | 64 | 1.403 | 1.403 | (0.336) | 894908 | 200.000 | 180.86 |
| 28 | Chloroform | 83 | 3.910 | 3.910 | (0.935) | 1942548 | 200.000 | 201.09(A) |
| 3 | Chloromethane | 50 | 1.073 | 1.073 | (0.257) | 907287 | 200.000 | 198.82 |
| 27 | cis-1,2-Dichloroethene | 96 | 3.523 | 3.523 | (0.842) | 1123271 | 200.000 | 206.57(A) |
| 46 | cis-1,3-Dichloropropene | 75 | 6.159 | 6.159 | (1.239) | 1847509 | 200.000 | 200.28(A) |
| 55 | Dibromochloromethane | 129 | 7.176 | 7.176 | (0.936) | 1185863 | 200.000 | 207.35(A) |
| 44 | Dibromomethane | 93 | 5.550 | 5.550 | (1.117) | 745183 | 200.000 | 191.75 |
| 2 | Dichlorodifluoromethane | 85 | 0.973 | 0.973 | (0.233) | 916685 | 200.000 | 205.96(A) |
| 61 | Ethylbenzene | 106 | 7.799 | 7.799 | (1.017) | 1526562 | 200.000 | 194.67 |
| 91 | Hexachlorobutadiene | 225 | 11.481 | 11.481 | (1.188) | 429774 | 200.000 | 198.67 |
| 67 | Isopropylbenzene | 105 | 8.566 | 8.566 | (1.117) | 5058822 | 200.000 | 215.81(A) |
| 62 | m,p-Xylenes | 106 | 7.907 | 7.907 | (1.031) | 4529670 | 400.000 | 456.18(A) |
| 17 | Methylene Chloride | 84 | 2.305 | 2.305 | (0.551) | 1013494 | 200.000 | 205.19(A) |
| 87 | n-Butylbenzene | 91 | 9.991 | 9.991 | (1.034) | 4394030 | 200.000 | 229.16(A) |
| 73 | n-Propylbenzene | 91 | 8.917 | 8.917 | (0.923) | 5888594 | 200.000 | 194.33 |
| 92 | Naphthalene | 128 | 11.539 | 11.539 | (1.194) | 749188 | 200.000 | 201.47(A) |
| 63 | o-Xylene | 106 | 8.244 | 8.244 | (1.075) | 2088779 | 200.000 | 216.92(A) |
| 81 | sec-Butylbenzene | 105 | 9.526 | 9.526 | (0.986) | 4949811 | 200.000 | 155.30 |
| 64 | Styrene | 104 | 8.258 | 8.258 | (1.077) | 3858242 | 200.000 | 206.06(A) |
| 78 | tert-Butylbenzene | 119 | 9.339 | 9.339 | (0.967) | 3439191 | 200.000 | 198.40 |
| 56 | Tetrachloroethene | 164 | 6.933 | 6.933 | (0.904) | 918280 | 200.000 | 207.66(A) |
| 50 | Toluene | 91 | 6.446 | 6.446 | (0.840) | 4854239 | 200.000 | 213.24(A) |
| 20 | trans-1,2-Dichloroethene | 96 | 2.527 | 2.527 | (0.604) | 1005931 | 200.000 | 221.91(A) |
| 51 | trans-1,3-Dichloropropene | 75 | 6.682 | 6.682 | (1.344) | 1646048 | 200.000 | 209.20(A) |
| 38 | Trichloroethene | 130 | 5.206 | 5.206 | (1.048) | 1061444 | 200.000 | 196.73 |
| 8 | Trichlorofluoromethane | 101 | 1.560 | 1.560 | (0.373) | 2273233 | 200.000 | 178.07 |
| 5 | Vinyl Chloride | 62 | 1.138 | 1.138 | (0.272) | 1159290 | 200.000 | 173.84 |

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.

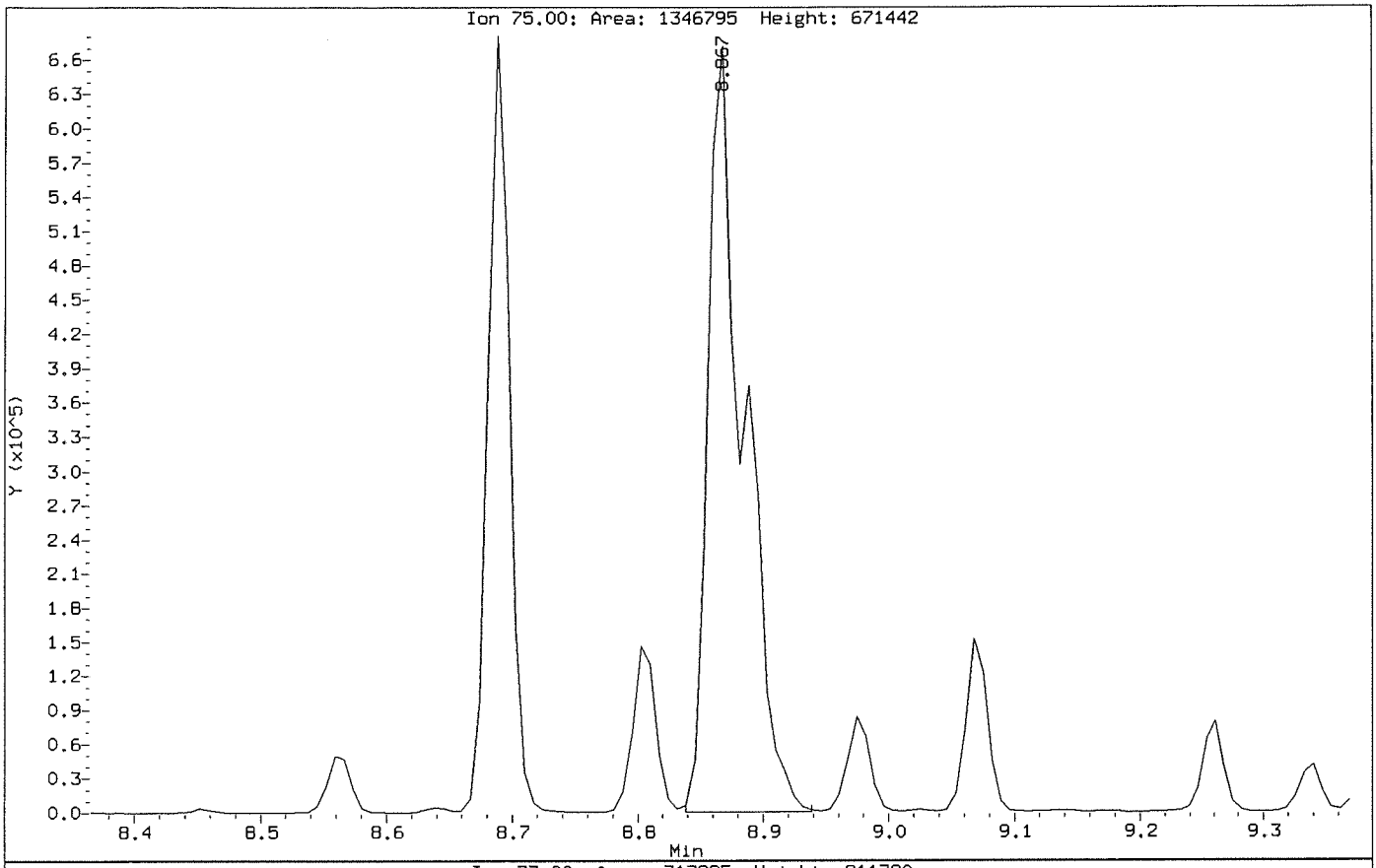


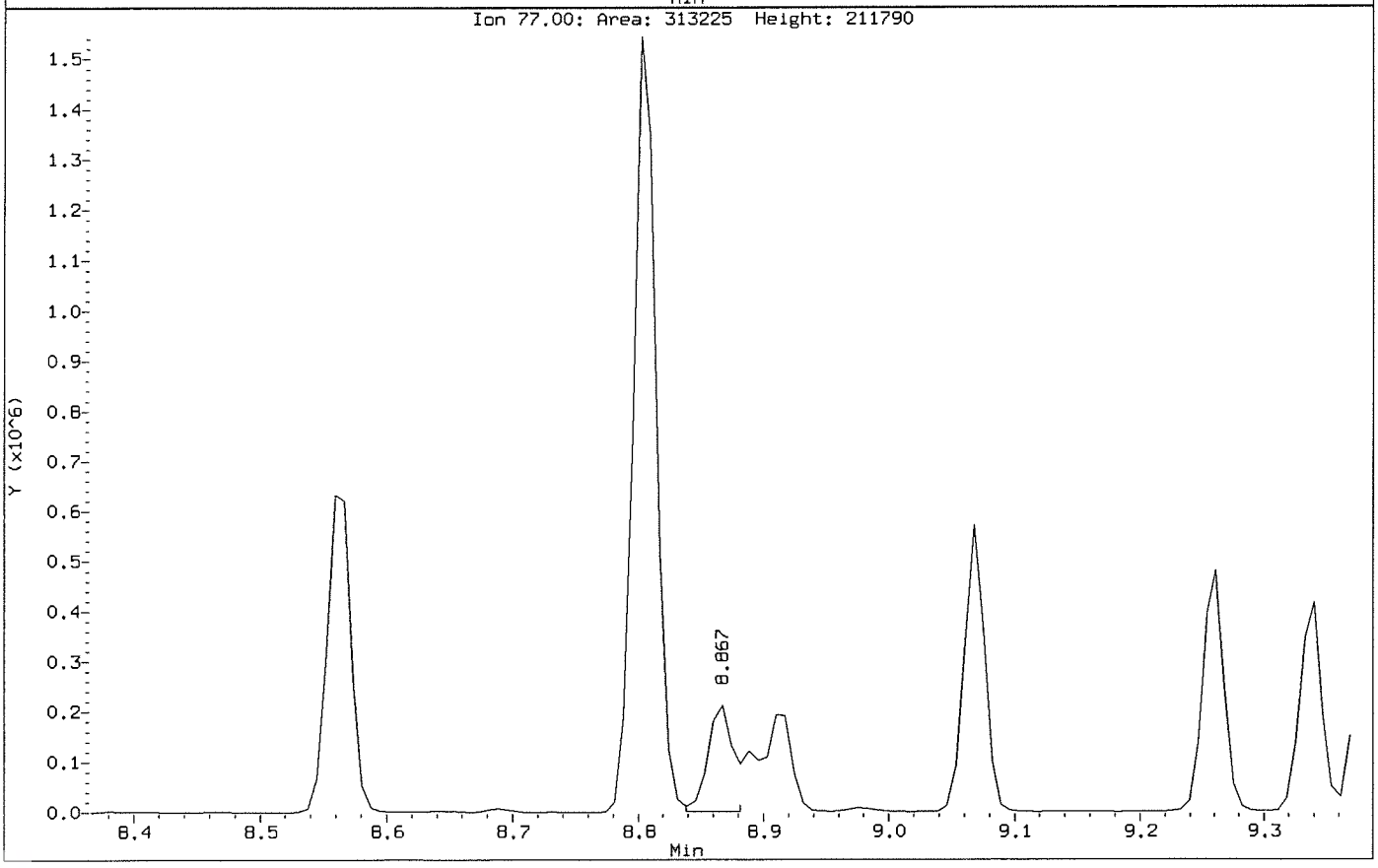

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040211.D
Date : 02-APR-2021 14:23
Client ID: VSTD200
Sample Info: VSTD200;VSTD200;1;10;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTW5005\Target\chem\voa6.i\X210402.b\Before\X040211.D
Injection Date: 02-APR-2021 14:23
Instrument: voa6.i
Client Sample ID: VSTD200

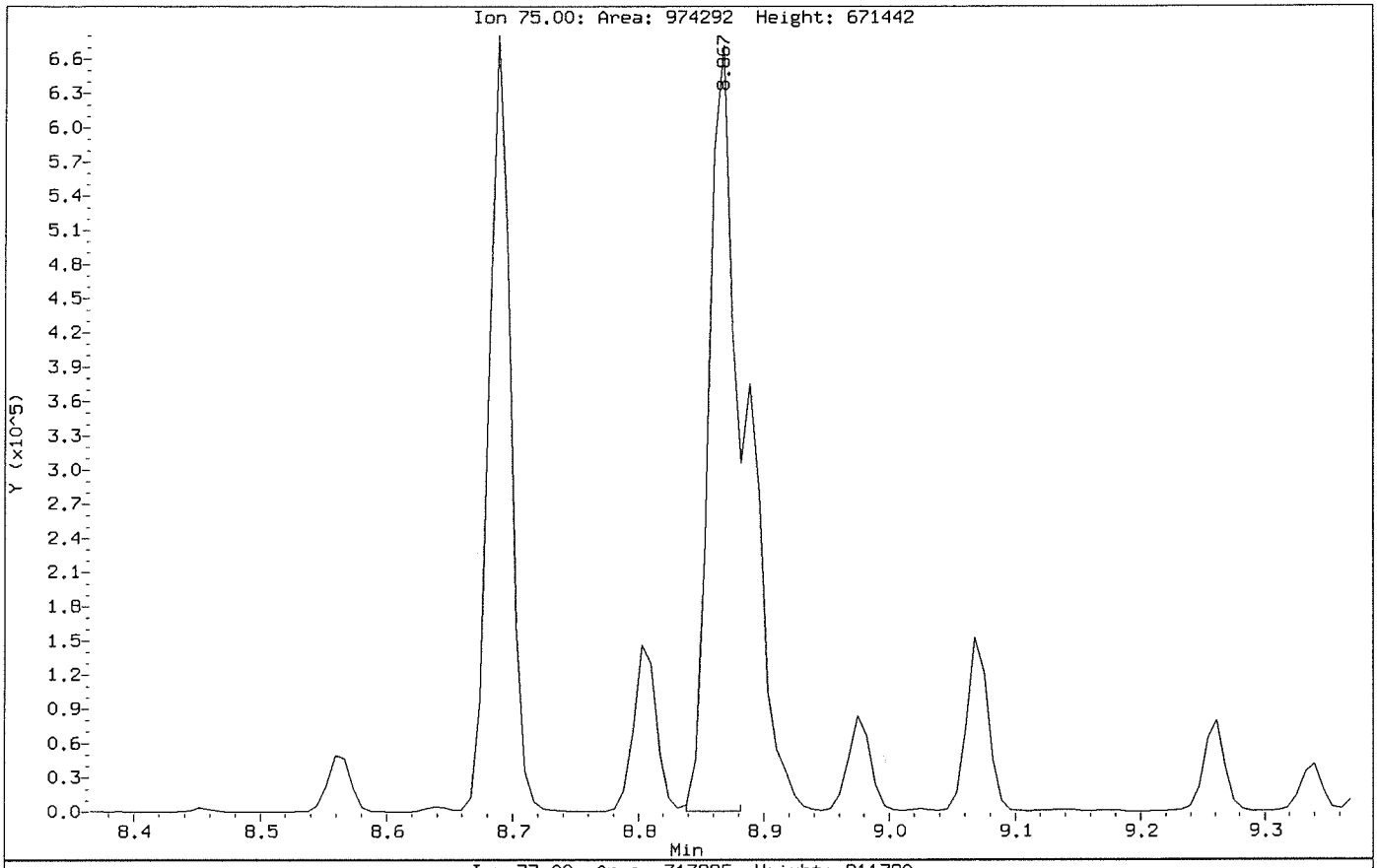
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4

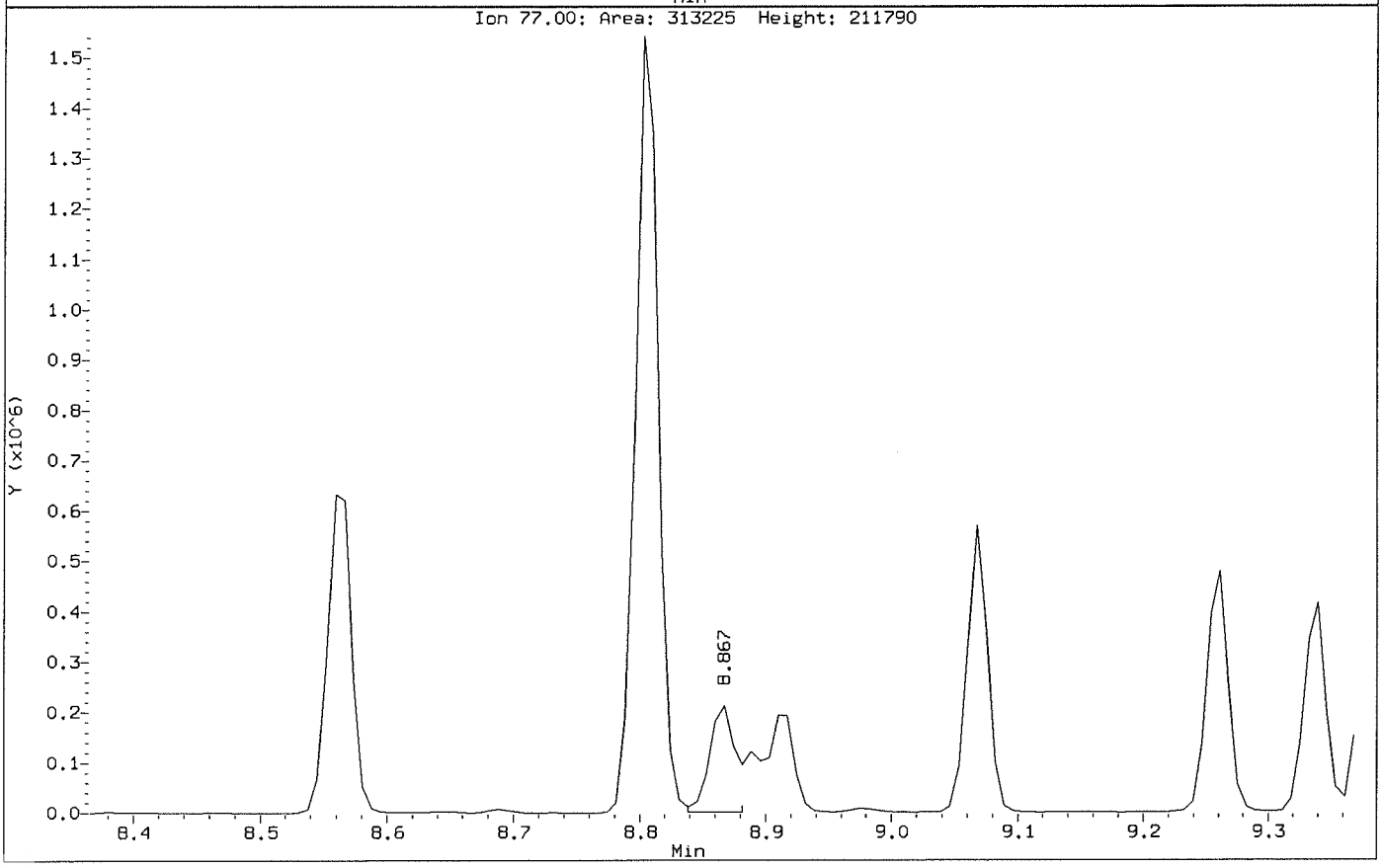


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040211.D
Injection Date: 02-APR-2021 14:23
Instrument: voa6.i
Client Sample ID: VSTD200

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040214.D
Lab Smp Id: ICV Client Smp ID: ICV
Inj Date : 02-APR-2021 15:26
Operator : PC Inst ID: voa6.i
Smp Info : CCV;CCV;2;;ICV
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\8260W.m
Meth Date : 14-Apr-2021 12:07 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 14:23 Cal File: X040211.D
Als bottle: 15 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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 |

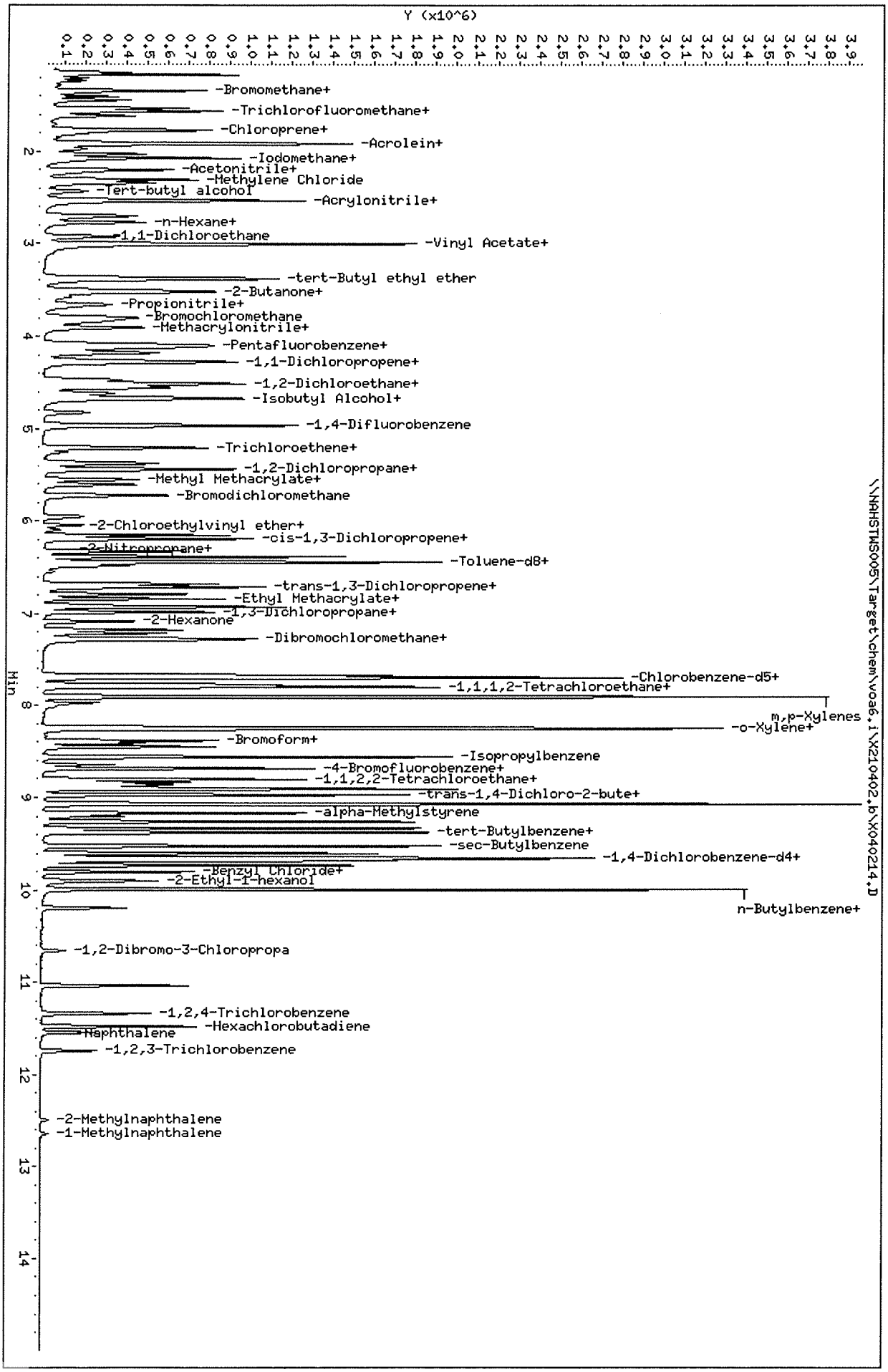
| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ug/l) | CONCENTRATIONS FINAL ( ug/l) |
|---|---|---|---|---|---|---|---|
| * 1 Pentafluorobenzene | 168 | 4.182 | 4.182 | (1.000) | 403237 | 50.0000 | |
| * 36 1,4-Difluorobenzene | 114 | 4.963 | 4.970 | (1.000) | 674704 | 50.0000 | |
| * 47 Chlorobenzene-d5 | 117 | 7.670 | 7.670 | (1.000) | 639311 | 50.0000 | |
| * 70 1,4-Dichlorobenzene-d4 | 152 | 9.662 | 9.662 | (1.000) | 322985 | 50.0000 | |
| $ 30 Dibromofluoromethane | 113 | 4.096 | 4.096 | (0.979) | 233448 | 49.1812 | 49.18 |
| $ 35 1,2-Dichloroethane-d4 | 65 | 4.469 | 4.469 | (1.069) | 278339 | 48.9433 | 48.94 |
| $ 48 Toluene-d8 | 98 | 6.388 | 6.388 | (0.833) | 812891 | 49.4873 | 49.48 |
| $ 69 4-Bromofluorobenzene | 95 | 8.688 | 8.688 | (1.133) | 292882 | 47.8435 | 47.84 |
| 60 1,1,1,2-Tetrachloroethane | 131 | 7.771 | 7.778 | (1.013) | 229688 | 48.4168 | 48.41 |
| 31 1,1,1-Trichloroethane | 97 | 4.082 | 4.082 | (0.976) | 362101 | 49.6208 | 49.62 |
| 68 1,1,2,2-Tetrachloroethane | 83 | 8.838 | 8.838 | (0.915) | 261620 | 48.5508 | 48.55 |
| 53 1,1,2-Trichloroethane | 83 | 6.840 | 6.840 | (0.892) | 178830 | 48.1535 | 48.15 |
| 22 1,1-Dichloroethane | 63 | 2.921 | 2.921 | (0.699) | 366337 | 48.9407 | 48.94 |
| 11 1,1-Dichloroethene | 96 | 1.919 | 1.911 | (0.459) | 265347 | 46.2152 | 46.21 |
| 32 1,1-Dichloropropene | 75 | 4.282 | 4.282 | (0.863) | 298126 | 47.0892 | 47.08 |
| 93 1,2,3-Trichlorobenzene | 180 | 11.746 | 11.739 | (1.216) | 63647 | 57.2335 | 57.23 |
| 71 1,2,3-Trichloropropane | 75 | 8.867 | 8.867 | (0.918) | 208513 | 48.0993 | 48.09(M) |
| 90 1,2,4-Trichlorobenzene | 180 | 11.338 | 11.338 | (1.173) | 125752 | 57.4873 | 57.48 |
| 79 1,2,4-Trimethylbenzene | 105 | 9.382 | 9.382 | (0.971) | 829989 | 50.0711 | 50.07 |
| 89 1,2-Dibromo-3-Chloropropane | 155 | 10.657 | 10.657 | (1.103) | 17607 | 50.1152 | 50.11 |
| 57 1,2-Dibromoethane | 107 | 7.262 | 7.262 | (0.947) | 227270 | 51.7110 | 51.71 |
| 88 1,2-Dichlorobenzene | 146 | 9.991 | 9.991 | (1.034) | 427668 | 48.2013 | 48.20 |

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040214.D Page 2
Report Date: 14-Apr-2021 12:07

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ug/l) | CONCENTRATIONS FINAL ( ug/l) |
|---|---|---|---|---|---|---|---|---|
| 33 | 1,2-Dichloroethane | 62 | 4.555 | 4.555 | (0.918) | 339122 | 47.4855 | 47.48 |
| 42 | 1,2-Dichloropropane | 63 | 5.436 | 5.436 | (1.095) | 225180 | 48.0261 | 48.02 |
| 75 | 1,3,5-Trimethylbenzene | 105 | 9.067 | 9.067 | (0.938) | 860516 | 49.7108 | 49.71 |
| 83 | 1,3-Dichlorobenzene | 146 | 9.604 | 9.604 | (0.994) | 463455 | 49.5434 | 49.54 |
| 54 | 1,3-Dichloropropane | 76 | 6.983 | 6.983 | (0.910) | 354415 | 49.9208 | 49.92 |
| 84 | 1,4-Dichlorobenzene | 146 | 9.683 | 9.683 | (1.002) | 479018 | 47.5426 | 47.54 |
| 26 | 2,2-Dichloropropane | 77 | 3.516 | 3.509 | (0.841) | 348707 | 47.3038 | 47.30 |
| 24 | 2-Butanone | 43 | 3.580 | 3.573 | (0.856) | 137119 | 98.9187 | 98.91 |
| 76 | 2-Chlorotoluene | 91 | 8.974 | 8.974 | (0.929) | 687490 | 50.6640 | 50.66 |
| 52 | 2-Hexanone | 43 | 7.083 | 7.090 | (0.923) | 255686 | 97.0498 | 97.04 |
| 77 | 4-Chlorotoluene | 91 | 9.067 | 9.067 | (0.938) | 858671 | 48.7535 | 48.75 |
| 82 | p-Isopropyltoluene | 119 | 9.647 | 9.655 | (0.999) | 857714 | 52.4221 | 52.42 |
| 45 | 4-Methyl-2-Pentanone | 43 | 6.324 | 6.331 | (0.824) | 376883 | 97.8101 | 97.81 |
| 10 | Acetone | 43 | 1.976 | 1.976 | (0.473) | 140540 | 105.499 | 105.49 |
| 37 | Benzene | 78 | 4.512 | 4.512 | (0.909) | 842450 | 47.1382 | 47.13 |
| 74 | Bromobenzene | 156 | 8.802 | 8.809 | (0.911) | 260738 | 46.8316 | 46.83 |
| 29 | Bromochloromethane | 128 | 3.795 | 3.795 | (0.908) | 118838 | 49.4111 | 49.41 |
| 39 | Bromodichloromethane | 83 | 5.722 | 5.722 | (1.153) | 328355 | 48.5343 | 48.53 |
| 66 | Bromoform | 173 | 8.408 | 8.408 | (1.096) | 149360 | 46.9861 | 46.98 |
| 6 | Bromomethane | 94 | 1.338 | 1.331 | (0.320) | 314834 | 54.6089 | 54.60 |
| 19 | Carbon Disulfide | 76 | 2.069 | 2.069 | (0.495) | 1079823 | 96.2814 | 96.28 |
| 34 | Carbon Tetrachloride | 117 | 4.268 | 4.268 | (0.860) | 292868 | 48.1105 | 48.11 |
| 59 | Chlorobenzene | 112 | 7.692 | 7.692 | (1.003) | 611852 | 46.1746 | 46.17 |
| 7 | Chloroethane | 64 | 1.403 | 1.403 | (0.336) | 203811 | 45.4376 | 45.43 |
| 28 | Chloroform | 83 | 3.910 | 3.910 | (0.935) | 408734 | 46.6752 | 46.67 |
| 3 | Chloromethane | 50 | 1.080 | 1.073 | (0.258) | 210094 | 50.1762 | 50.17 |
| 27 | cis-1,2-Dichloroethene | 96 | 3.530 | 3.523 | (0.844) | 228412 | 46.3383 | 46.33 |
| 46 | cis-1,3-Dichloropropene | 75 | 6.152 | 6.159 | (1.240) | 385775 | 48.8520 | 48.85 |
| 55 | Dibromochloromethane | 129 | 7.176 | 7.176 | (0.936) | 250044 | 50.1010 | 50.10 |
| 44 | Dibromomethane | 93 | 5.550 | 5.550 | (1.118) | 158513 | 47.6477 | 47.64 |
| 2 | Dichlorodifluoromethane | 85 | 0.973 | 0.973 | (0.233) | 199877 | 50.8089 | 50.80 |
| 61 | Ethylbenzene | 106 | 7.799 | 7.799 | (1.017) | 324142 | 47.3674 | 47.36 |
| 91 | Hexachlorobutadiene | 225 | 11.481 | 11.481 | (1.188) | 98407 | 56.9744 | 56.97 |
| 67 | Isopropylbenzene | 105 | 8.559 | 8.566 | (1.116) | 974095 | 47.6184 | 47.61 |
| 62 | m,p-Xylenes | 106 | 7.907 | 7.907 | (1.031) | 847768 | 97.8340 | 97.83 |
| 17 | Methylene Chloride | 84 | 2.305 | 2.305 | (0.551) | 198869 | 45.5779 | 45.57 |
| 87 | n-Butylbenzene | 91 | 9.991 | 9.991 | (1.034) | 835608 | 53.8906 | 53.89 |
| 73 | n-Propylbenzene | 91 | 8.910 | 8.917 | (0.922) | 1234483 | 50.3785 | 50.37 |
| 92 | Naphthalene | 128 | 11.538 | 11.539 | (1.194) | 178728 | 59.9582 | 59.95(M) |
| 63 | o-Xylene | 106 | 8.243 | 8.244 | (1.075) | 401147 | 47.7384 | 47.73 |
| 81 | sec-Butylbenzene | 105 | 9.519 | 9.526 | (0.985) | 1004067 | 53.5261 | 53.52 |
| 64 | Styrene | 104 | 8.258 | 8.258 | (1.077) | 693888 | 45.1363 | 45.13 |
| 78 | tert-Butylbenzene | 119 | 9.339 | 9.339 | (0.967) | 692638 | 49.9528 | 49.95 |
| 56 | Tetrachloroethene | 164 | 6.925 | 6.933 | (0.903) | 187444 | 48.5731 | 48.57 |
| 50 | Toluene | 91 | 6.446 | 6.446 | (0.840) | 949684 | 47.8049 | 47.80 |
| 20 | trans-1,2-Dichloroethene | 96 | 2.527 | 2.527 | (0.604) | 199194 | 48.4745 | 48.47 |
| 51 | trans-1,3-Dichloropropene | 75 | 6.682 | 6.682 | (1.346) | 346971 | 51.5125 | 51.51 |
| 38 | Trichloroethene | 130 | 5.206 | 5.206 | (1.049) | 232943 | 50.4339 | 50.43 |
| 8 | Trichlorofluoromethane | 101 | 1.560 | 1.560 | (0.373) | 509214 | 44.0030 | 44.00 |
| 5 | Vinyl Chloride | 62 | 1.145 | 1.138 | (0.274) | 279152 | 46.1765 | 46.17 |

QC Flag Legend

M - Compound response manually integrated.

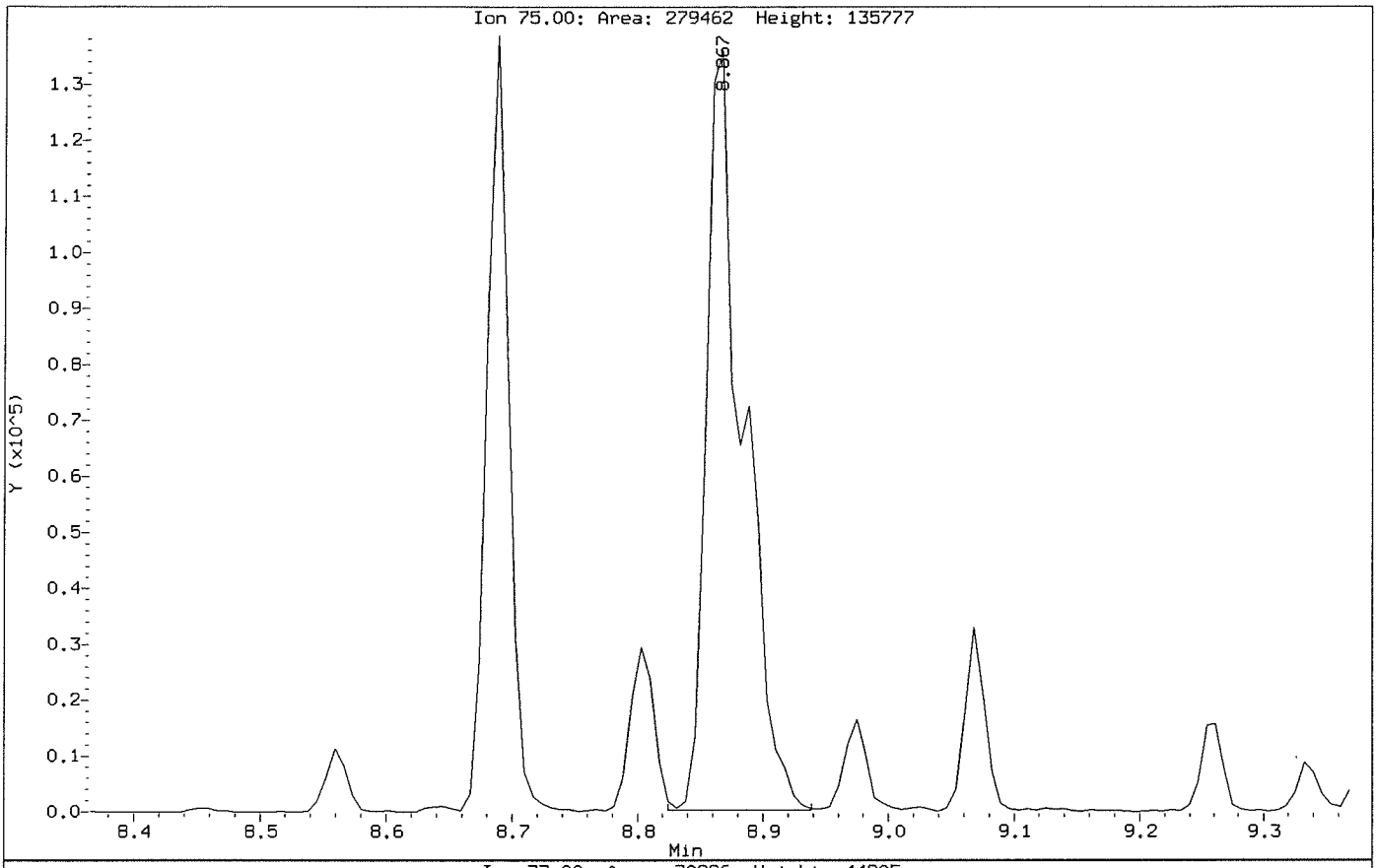


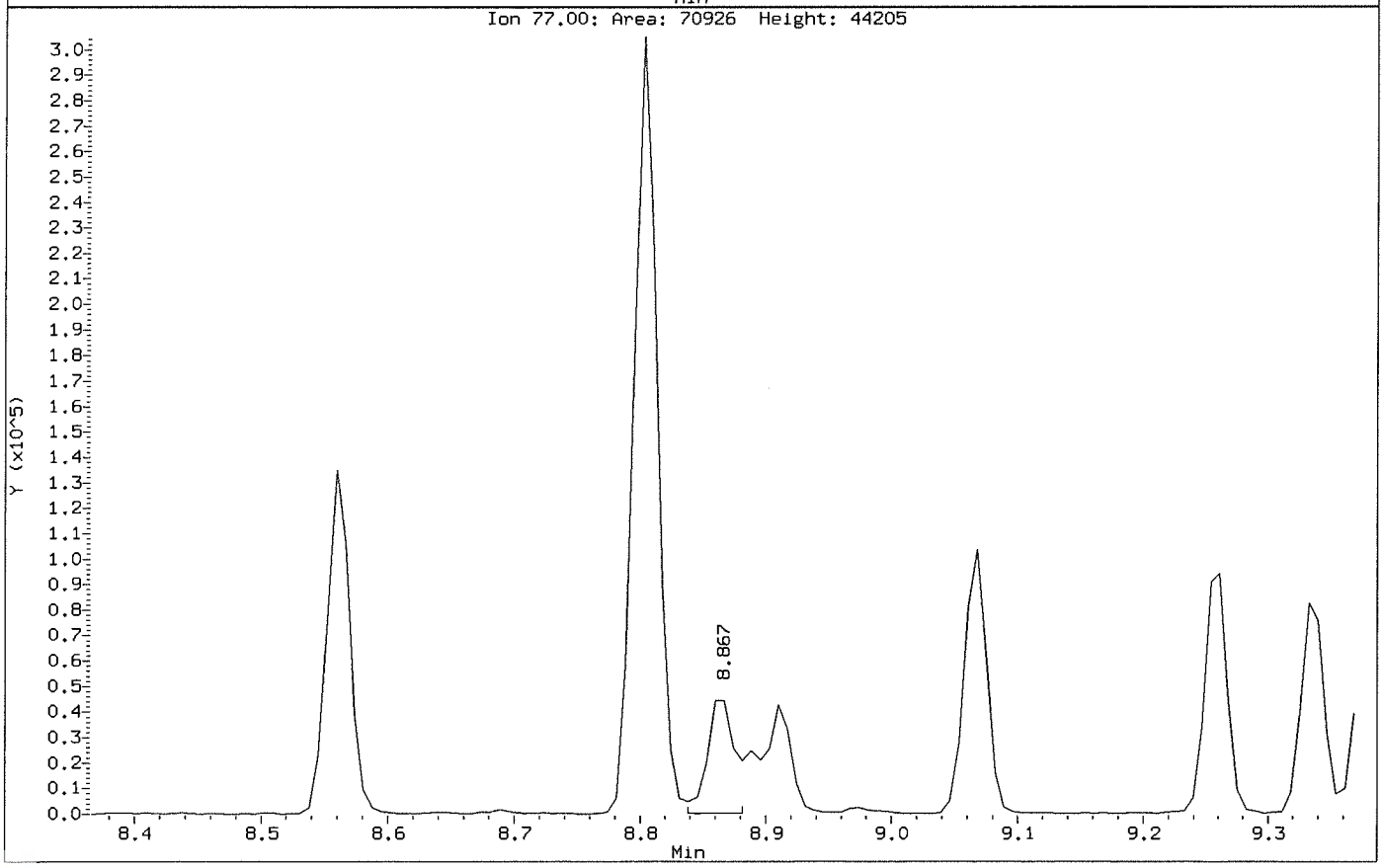

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040214.D
Date : 02-APR-2021 15:26
Client ID: ICV
Sample Info: CCV;CCV;2;;ICV
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before\X040214.D
Injection Date: 02-APR-2021 15:26
Instrument: voa6.i
Client Sample ID: ICV

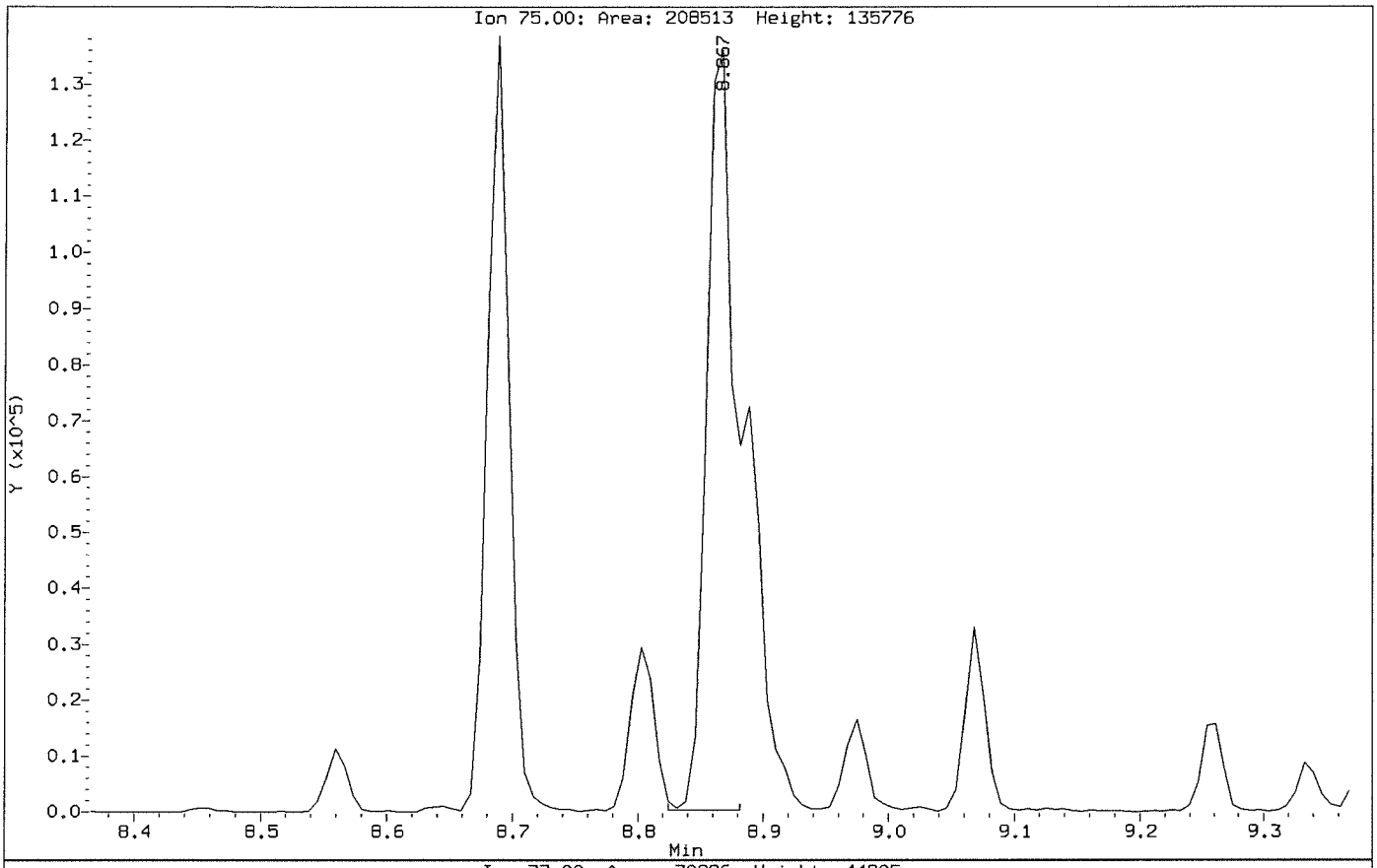
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4

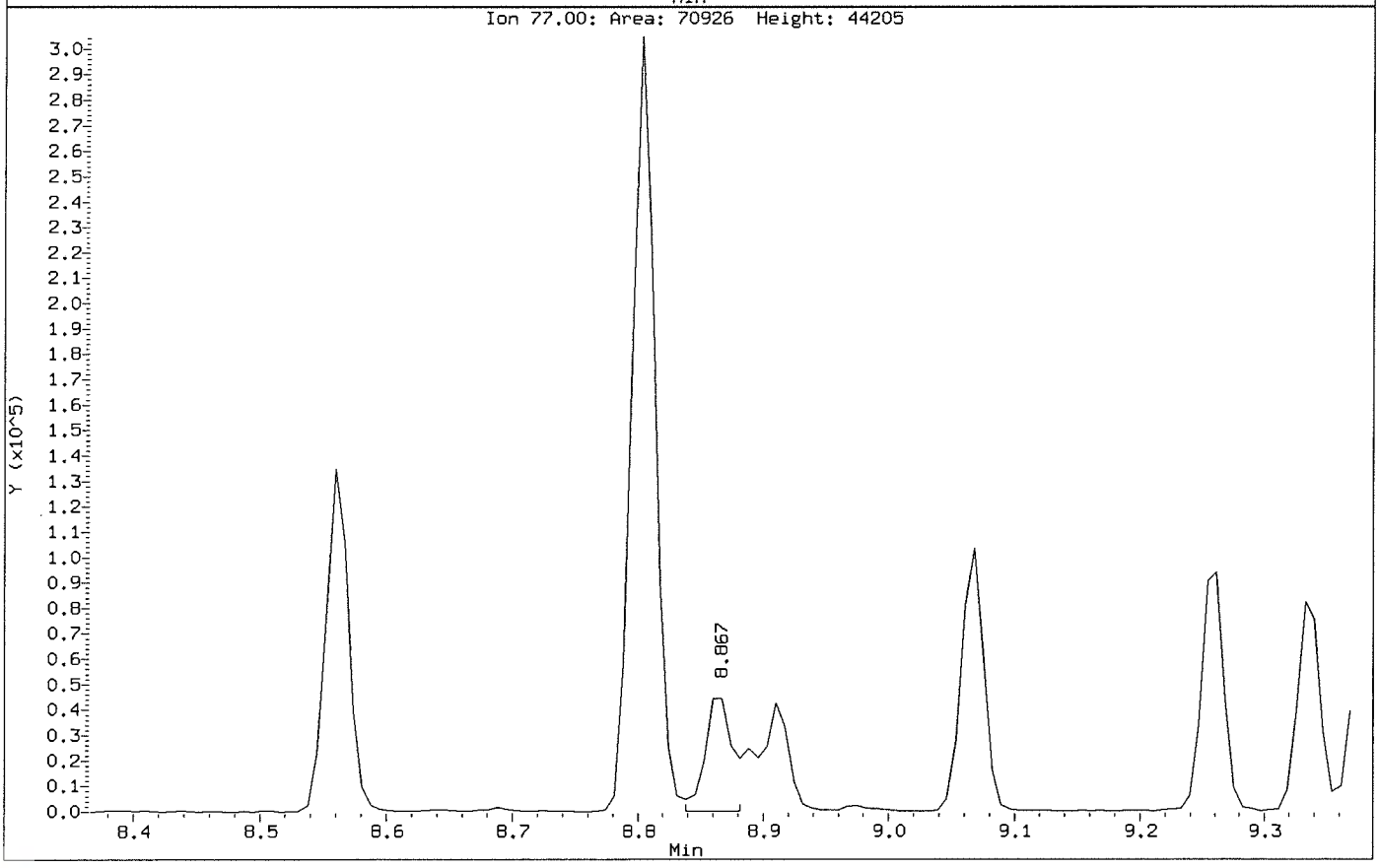


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040214.D
Injection Date: 02-APR-2021 15:26
Instrument: voa6.i
Client Sample ID: ICV

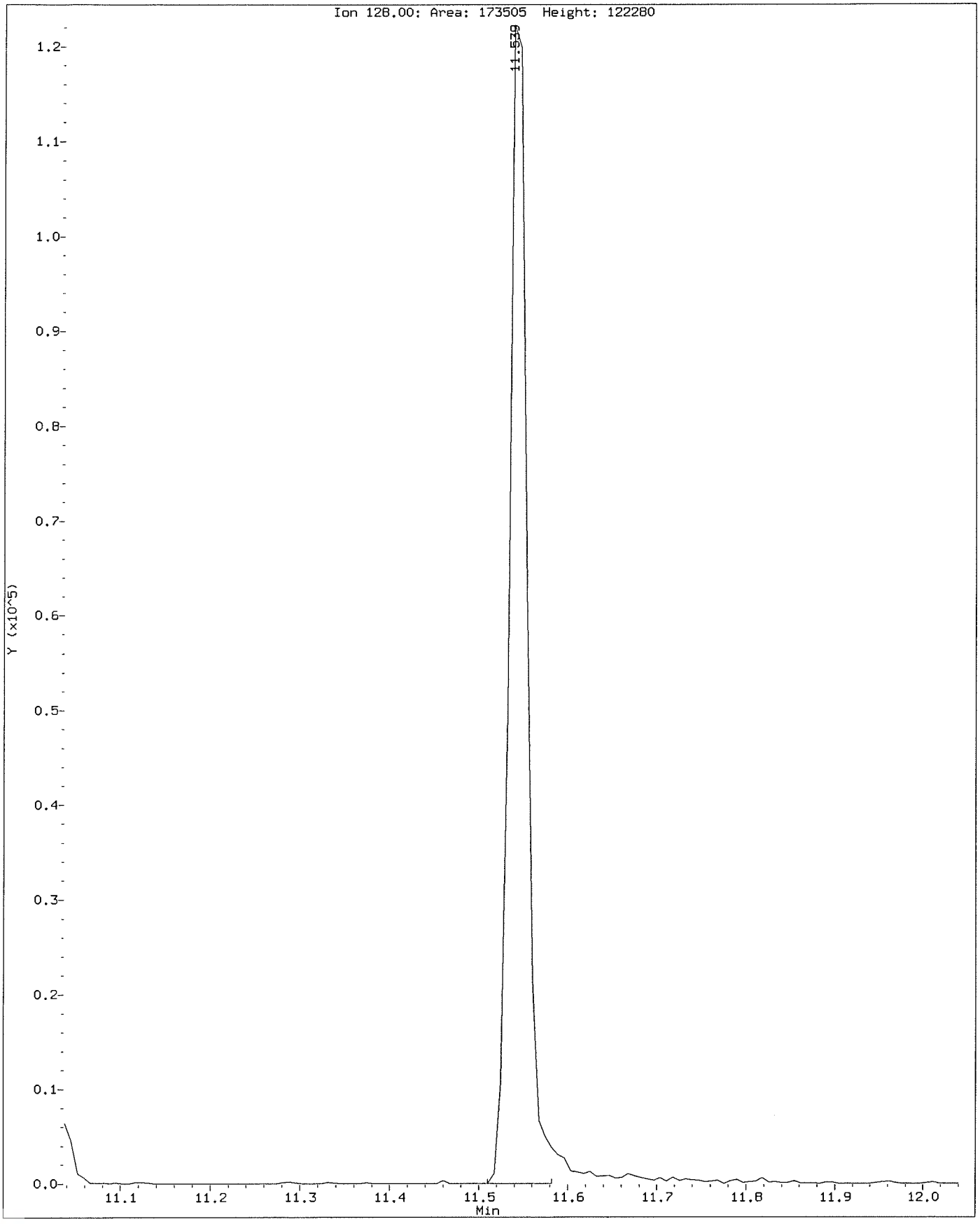
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



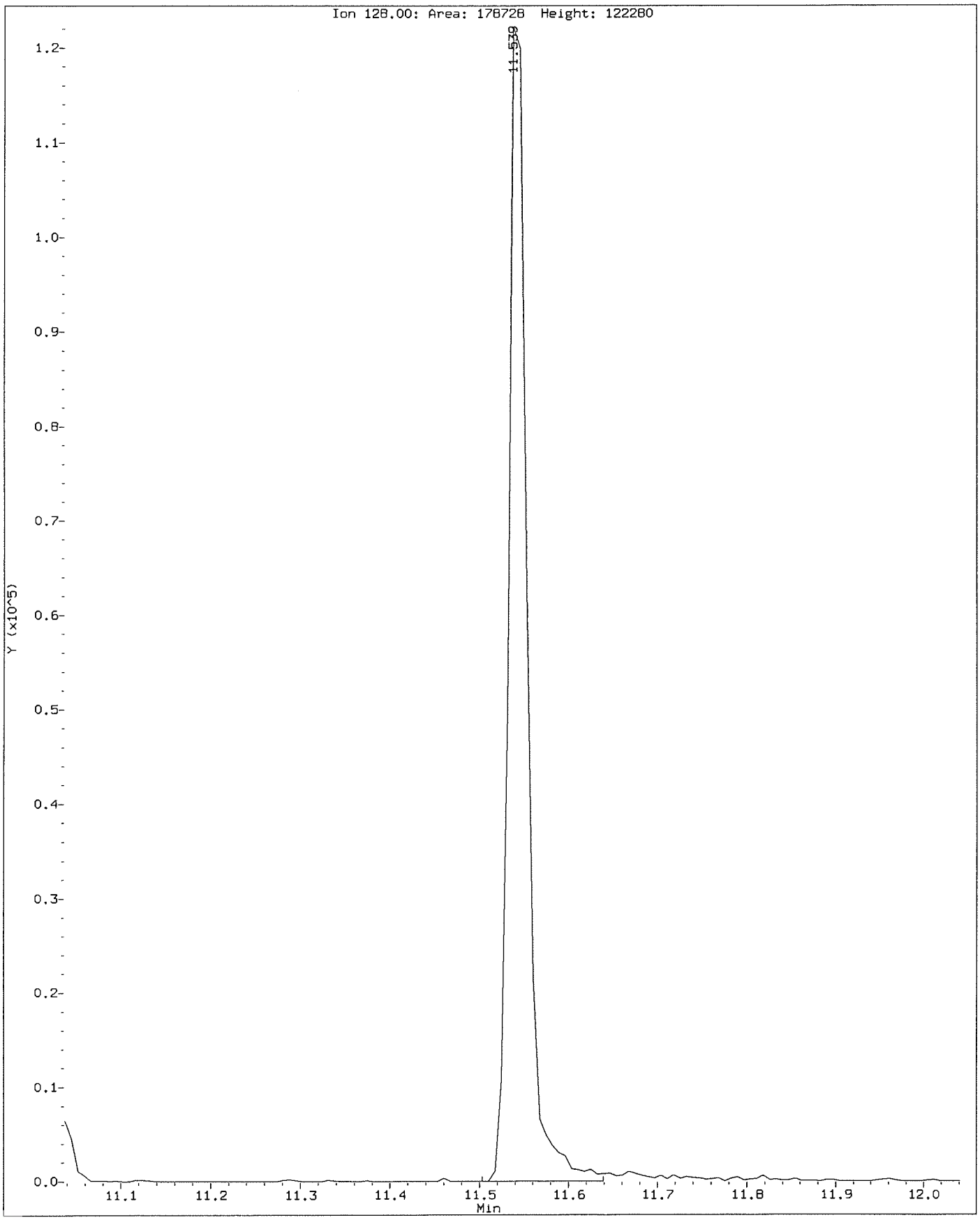
Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before\X040214.D
Injection Date: 02-APR-2021 15:26
Instrument: voa6.i
Client Sample ID: ICV

Compound: Naphthalene
CAS Number: 91-20-3



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040214.D
Injection Date: 02-APR-2021 15:26
Instrument: voa6.i
Client Sample ID: ICV

Compound: Naphthalene
CAS Number: 91-20-3



# MSVOA06 -Logbook

**Batch:** 44794
**Date:** 05-06-2021
**Method:** 8260
**Comments:**

**Analyst:** Presenta Cabascango
**Reviewer:**
**Laboratory:** Houston

| # | Samp ID | Type | Analyzed | DF | Init Wt/Vol | Final Vol | File ID | Matrix | Status | pH |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | BFB | TUNE | 05-06-2021 11:39 am | 1.00 | 50 mL | 50 mL | X050601.D | Liquid | Y | NA |
| 2 | CCV | CCV | 05-06-2021 12:00 pm | 1.00 | 50 mL | 50 mL | X050602.D | Liquid | Y | NA |
| 3 | BLANK | SAMP | 05-06-2021 12:21 pm | 1.00 | 50 mL | 50 mL | X050603.D | Liquid | Y | NA |
| 4 | CCB | SAMP | 05-06-2021 12:42 pm | 1.00 | 50 mL | 50 mL | X050604.D | Liquid | Y | NA |
| 5 | VLCSW-210506 | LCS | 05-06-2021 01:03 pm | 1.00 | 50 mL | 50 mL | X050605.D | Liquid | Y | NA |
| 6 | BLANK | SAMP | 05-06-2021 01:24 pm | 1.00 | 50 mL | 50 mL | X050606.D | Liquid | Y | NA |
| 7 | VBLKW-210506 | MBLK | 05-06-2021 01:45 pm | 1.00 | 50 mL | 50 mL | X050607.D | Liquid | Y | NA |
| 8 | HS21041557-22 | SAMP | 05-06-2021 02:07 pm | 1.00 | 50 mL | 50 mL | X050608.D | Liquid | Y | NA |
| 9 | HS21050180-02 | SAMP | 05-06-2021 02:28 pm | 1.00 | 50 mL | 50 mL | X050609.D | Liquid | Y | NA |
| 10 | HS21050180-01 | SAMP | 05-06-2021 02:49 pm | 1.00 | 50 mL | 50 mL | X050610.D | Liquid | Y | NA |
| 11 | HS21050180-01MS | MS | 05-06-2021 03:10 pm | 1.00 | 50 mL | 50 mL | X050611.D | Liquid | Y | NA |
| 12 | HS21050180-01MSD | MSD | 05-06-2021 03:31 pm | 1.00 | 50 mL | 50 mL | X050612.D | Liquid | Y | NA |
| 13 | CCV-END | CCV | 05-06-2021 03:52 pm | 1.00 | 50 mL | 50 mL | X050613.D | Liquid | Y | NA |
| 14 | HS21050124-03 | SAMP | 05-06-2021 04:13 pm | 1.00 | 50 mL | 50 mL | X050614.D | Liquid | Y | NA |
| 15 | HS21041557-23 | SAMP | 05-06-2021 04:34 pm | 1.00 | 50 mL | 50 mL | X050615.D | Liquid | Y | NA |
| 16 | HS21041557-16 | SAMP | 05-06-2021 04:55 pm | 1.00 | 50 mL | 50 mL | X050616.D | Liquid | Y | NA |
| 17 | HS21041557-17 | SAMP | 05-06-2021 05:16 pm | 1.00 | 50 mL | 50 mL | X050617.D | Liquid | Y | NA |
| 18 | HS21041557-18 | SAMP | 05-06-2021 05:37 pm | 1.00 | 50 mL | 50 mL | X050618.D | Liquid | Y | NA |
| 19 | HS21041557-19 | SAMP | 05-06-2021 05:58 pm | 1.00 | 50 mL | 50 mL | X050619.D | Liquid | Y | NA |
| 20 | HS21041557-20 | SAMP | 05-06-2021 06:19 pm | 1.00 | 50 mL | 50 mL | X050620.D | Liquid | Y | NA |
| 21 | HS21041557-21 | SAMP | 05-06-2021 06:40 pm | 1.00 | 50 mL | 50 mL | X050621.D | Liquid | Y | NA |
| 22 | HS21041470-09 | SAMP | 05-06-2021 07:01 pm | 1.00 | 50 mL | 50 mL | X050622.D | Liquid | Y | NA |
| 23 | HS21041617-01 | SAMP | 05-06-2021 07:22 pm | 1.00 | 50 mL | 50 mL | X050623.D | Liquid | Y | NA |
| 24 | HS21041617-02 | SAMP | 05-06-2021 07:43 pm | 1.00 | 50 mL | 50 mL | X050624.D | Liquid | Y | NA |
| 25 | HS21041617-03 | SAMP | 05-06-2021 08:05 pm | 1.00 | 50 mL | 50 mL | X050625.D | Liquid | Y | NA |
| 26 | HS21041617-04 | SAMP | 05-06-2021 08:26 pm | 1.00 | 50 mL | 50 mL | X050626.D | Liquid | Y | NA |
| 27 | HS21041617-05 | SAMP | 05-06-2021 08:47 pm | 1.00 | 50 mL | 50 mL | X050627.D | Liquid | Y | NA |
| 28 | HS21041617-06 | SAMP | 05-06-2021 09:08 pm | 1.00 | 50 mL | 50 mL | X050628.D | Liquid | Y | NA |
| 29 | HS21041617-07 | SAMP | 05-06-2021 09:29 pm | 1.00 | 50 mL | 50 mL | X050629.D | Liquid | Y | NA |
| 30 | HS21041617-08 | SAMP | 05-06-2021 09:50 pm | 1.00 | 50 mL | 50 mL | X050630.D | Liquid | Y | NA |
| 31 | BFB | TUNE | 05-06-2021 10:11 pm | 1.00 | 50 mL | 50 mL | Y050601.D | Liquid | Y | NA |
| 32 | CCV | CCV | 05-06-2021 10:32 pm | 1.00 | 50 mL | 50 mL | Y050602a.D | Liquid | Y | NA |
| 33 | CCV | CCV | 05-06-2021 10:53 pm | 1.00 | 50 mL | 50 mL | Y050603.D | Liquid | Y | NA |
| 34 | CCB | SAMP | 05-06-2021 11:14 pm | 1.00 | 50 mL | 50 mL | Y050604.D | Liquid | Y | NA |
| 35 | VLCSW-210506 | LCS | 05-06-2021 11:35 pm | 1.00 | 50 mL | 50 mL | Y050605.D | Liquid | Y | NA |
| 36 | BLANK | SAMP | 05-06-2021 11:56 pm | 1.00 | 50 mL | 50 mL | Y050606.D | Liquid | Y | NA |
| 37 | VBLKW-210506 | MBLK | 05-07-2021 12:17 am | 1.00 | 50 mL | 50 mL | Y050607.D | Liquid | Y | NA |
| 38 | HS21050147-01 | SAMP | 05-07-2021 12:38 am | 1.00 | 50 mL | 50 mL | Y050608.D | Liquid | Y | NA |
| 39 | HS21050147-02 | SAMP | 05-07-2021 12:59 am | 1.00 | 50 mL | 50 mL | Y050609.D | Liquid | Y | NA |
| 40 | HS21050147-05 | SAMP | 05-07-2021 01:20 am | 1.00 | 50 mL | 50 mL | Y050610.D | Liquid | Y | NA |
| 41 | HS21050147-01MS | MS | 05-07-2021 01:41 am | 1.00 | 50 mL | 50 mL | Y050611.D | Liquid | Y | NA |

# MSVOA06 -Logbook

| # | Samp ID | Type | Analyzed | DF | Init Wt/Vol | Final Vol | File ID | Matrix | Status | pH |
|---|---|---|---|---|---|---|---|---|---|---|
| 42 | HS21050147-01MSD | MSD | 05-07-2021 02:02 am | 1.00 | 50 mL | 50 mL | Y050612.D | Liquid | Y | NA |
| 43 | MBLK-165475 | MBLK | 05-07-2021 02:23 am | 1.00 | 50 mL | 50 mL | Y050613.D | Liquid | Y | NA |
| 44 | HS21040443-20 | SAMP | 05-07-2021 02:44 am | 1.00 | 50 mL | 50 mL | Y050614.D | Liquid | Y | NA |
| 45 | MBLK-165410 | MBLK | 05-07-2021 03:05 am | 20.00 | 2.5 mL | 50 mL | Y050615.D | Liquid | Y | NA |
| 46 | HS21050116-03 | SAMP | 05-07-2021 03:26 am | 20.00 | 2.5 mL | 50 mL | Y050616.D | Liquid | Y | NA |
| 47 | MBLK-165471 | MBLK | 05-07-2021 03:47 am | 20.00 | 2.5 mL | 50 mL | Y050617.D | Liquid | Y | NA |
| 48 | HS21050141-01 | SAMP | 05-07-2021 04:09 am | 20.00 | 2.5 mL | 50 mL | Y050618.D | Liquid | Y | NA |
| 49 | HS21050163-01 | SAMP | 05-07-2021 04:30 am | 20.00 | 2.5 mL | 50 mL | Y050619.D | Liquid | Y | NA |
| 50 | HS21050184-01 | SAMP | 05-07-2021 04:51 am | 100.0( | 500 µL | 50 mL | Y050620.D | Liquid | Y | NA |
| 51 | HS21050199-01 | SAMP | 05-07-2021 05:12 am | 1.00 | 50 mL | 50 mL | Y050621.D | Liquid | Y | NA |
| 52 | HS21050147-03 | SAMP | 05-07-2021 05:33 am | 1.00 | 50 mL | 50 mL | Y050622.D | Liquid | Y | NA |
| 53 | HS21041615-02 | SAMP | 05-07-2021 05:54 am | 5.00 | 10 mL | 50 mL | Y050623.D | Liquid | Y | NA |
| 54 | HS21050147-04 | SAMP | 05-07-2021 06:15 am | 5.00 | 10 mL | 50 mL | Y050624.D | Liquid | Y | NA |
| 55 | HS21050147-04 | SAMP | 05-07-2021 06:36 am | 50.00 | 1 mL | 50 mL | Y050625.D | Liquid | Y | NA |
| 56 | HS21050181-02 | SAMP | 05-07-2021 06:57 am | 1.00 | 50 mL | 50 mL | Y050626.D | Liquid | Y | NA |
| 57 | HS21050181-03 | SAMP | 05-07-2021 07:18 am | 1.00 | 50 mL | 50 mL | Y050627.D | Liquid | Y | NA |
| 58 | HS21050181-05 | SAMP | 05-07-2021 07:39 am | 1.00 | 50 mL | 50 mL | Y050628.D | Liquid | Y | NA |
| 59 | HS21050181-06 | SAMP | 05-07-2021 08:00 am | 1.00 | 50 mL | 50 mL | Y050629.D | Liquid | Y | NA |
| 60 | HS21050181-07 | SAMP | 05-07-2021 08:21 am | 1.00 | 50 mL | 50 mL | Y050630.D | Liquid | Y | NA |
| 61 | HS21050181-04 | SAMP | 05-07-2021 08:43 am | 10.00 | 5 mL | 50 mL | Y050631.D | Liquid | Y | NA |
| 62 | HS21050181-01 | SAMP | 05-07-2021 09:04 am | 10.00 | 5 mL | 50 mL | Y050632.D | Liquid | Y | NA |
| 63 | BLANK | SAMP | 05-07-2021 09:25 am | 1.00 | 50 mL | 50 mL | Y050633.D | Liquid | Y | NA |

# FORM 2
## WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: ALS LABORATORY GROUP  Contract:

Lab Code: ALS-HS  Case No.:  SAS No.:  SDG No.: HS21050180

| | CLIENT SAMPLE NO. | SMC1 (DCE)# | SMC2 # | SMC3 (TOL)# | OTHER # | TOT OUT |
|---|---|---|---|---|---|---|
| 01 | VLCSW-210506 | 108 | 100 | 100 | 95 | 0 |
| 02 | VBLKW-210506 | 92 | 92 | 107 | 91 | 0 |
| 03 | HS21050180-02 | 90 | 89 | 102 | 85 | 0 |
| 04 | HS21050180-01 | 93 | 91 | 105 | 106 | 0 |
| 05 | HS21050180-01MS | 98 | 96 | 105 | 103 | 0 |
| 06 | HS21050180-01MSD | 97 | 94 | 104 | 100 | 0 |
| 07 | | | | | | |
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| | | QC LIMITS |
|---|---|---|
| SMC1 (DCE) | = 1,2-Dichloroethane-d4 | ( 0-130) |
| SMC2 | = Dibromofluoromethane | ( 0-130) |
| SMC3 (TOL) | = Toluene-d8 | ( 0-130) |
| OTHER | = 4-Bromofluorobenzene | ( 0-130) |

# Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

FORM 4
VOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

VBLKW-210506

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21050180

Lab File ID: X050607 Lab Sample ID: VBLKW-210506

Date Analyzed: 05/06/21 Time Analyzed: 1345

GC Column: DB624 ID: 0.18 (mm) Heated Purge: (Y/N) N

Instrument ID: VOA6

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

| | SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | TIME ANALYZED |
|---|---|---|---|---|
| 01 | VLCSW-210506 | VLCSW-210506 | X050605 | 1303 |
| 02 | HS21050180-02 | HS21050180-02 | X050609 | 1428 |
| 03 | HS21050180-01 | HS21050180-01 | X050610 | 1449 |
| 04 | HS21050180-01MS | HS21050180-01MS | X050611 | 1510 |
| 05 | HS21050180-01MSD | HS21050180-01MSD | X050612 | 1531 |
| 06 | | | | |
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COMMENTS:

# FORM 5
## VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
## BROMOFLUOROBENZENE (BFB)

Lab Name: ALS LABORATORY GROUP  Contract:

Lab Code: ALS-HS  Case No.:  SAS No.:  SDG No.: HS21050180

Lab File ID: X050601  BFB Injection Date: 05/06/21

Instrument ID: VOA6  BFB Injection Time: 1139

GC Column: DB624  ID: 0.25 (mm)  Heated Purge: (Y/N) N

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15.0 - 40.0% of mass 95 | 21.2 |
| 75 | 30.0 - 60.0% of mass 95 | 54.0 |
| 95 | Base Peak, 100% relative abundance | 100.0 |
| 96 | 5.0 - 9.0% of mass 95 | 7.2 |
| 173 | Less than 2.0% of mass 174 | 0.7 ( 1.2)1 |
| 174 | Greater than 50.0% of mass 95 | 64.8 |
| 175 | 5.0 - 9.0% of mass 174 | 5.7 ( 8.7)1 |
| 176 | 95.0 - 101.0% of mass 174 | 63.0 ( 97.2)1 |
| 177 | 5.0 - 9.0% of mass 176 | 4.2 ( 6.6)2 |

1-Value is % mass 174  2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 01 | CCV | CCV | X050602 | 05/06/21 | 1200 |
| 02 | VLCSW-210506 | VLCSW-210506 | X050605 | 05/06/21 | 1303 |
| 03 | VBLKW-210506 | VBLKW-210506 | X050607 | 05/06/21 | 1345 |
| 04 | HS21050180-02 | HS21050180-02 | X050609 | 05/06/21 | 1428 |
| 05 | HS21050180-01 | HS21050180-01 | X050610 | 05/06/21 | 1449 |
| 06 | HS21050180-01MS | HS21050180-01MS | X050611 | 05/06/21 | 1510 |
| 07 | HS21050180-01MSD | HS21050180-01MSD | X050612 | 05/06/21 | 1531 |
| 08 | CCV-END | CCV-END | X050613 | 05/06/21 | 1552 |
| 09 | | | | | |
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FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS LABORATORY GROUP  Contract:

Lab Code: ALS-HS  Case No.:  SAS No.:  SDG No.: HS21050180

Instrument ID: VOA6  Calibration Date: 05/06/21  Time: 1200

Lab File ID: X050602  Init. Calib. Date(s): 04/02/21  04/02/21

Init. Calib. Times: 1053  1423

GC Column: DB624  ID: 0.18 (mm)

| COMPOUND | RRF or AMOUNT | RRF50.000 or AMOUNT | CCAL RRF50.000 | MIN RRF | %D or %DRIFT | MAX %D or %DRIFT | CURV TYPE |
|---|---|---|---|---|---|---|---|
| cis-1,3-Dichloropropene | 0.5850000 | 0.6216576 | 0.6216576 | 0.2 | -6.27 | 20.00 | AVRG |
| trans-1,3-Dichloropropene | 0.4990000 | 0.5563897 | 0.5563897 | 0.1 | -11.50 | 20.00 | AVRG |
| 1,3-Dichlorobenzene | 1.4480000 | 1.4543954 | 1.4543954 | 0.6 | -0.44 | 20.00 | AVRG |
| 2,2-Dichloropropane | 0.9140000 | 0.9716276 | 0.9716276 | 0.1 | -6.30 | 20.00 | AVRG |
| 1,1-Dichloropropene | 0.4690000 | 0.4751634 | 0.4751634 | 0.1 | -1.31 | 20.00 | AVRG |
| Dibromomethane | 0.2460000 | 0.2506033 | 0.2506033 | 0.1 | -1.87 | 20.00 | AVRG |
| 1,2-Dibromoethane | 0.3440000 | 0.3755243 | 0.3755243 | 0.1 | -9.16 | 20.00 | AVRG |
| trans-1,2-Dichloroethene | 0.5090000 | 0.5358736 | 0.5358736 | 0.1 | -5.28 | 20.00 | AVRG |
| 1,1,1,2-Tetrachloroethane | 0.3710000 | 0.3795133 | 0.3795133 | 0.1 | -2.29 | 20.00 | AVRG |
| 1,1,1-Trichloroethane | 0.9050000 | 0.9548274 | 0.9548274 | 0.1 | -5.50 | 20.00 | AVRG |
| 1,1,2,2-Tetrachloroethane | 0.8340000 | 0.8723146 | 0.8723146 | 0.3 | -4.59 | 20.00 | AVRG |
| 1,1,2-Trichloroethane | 0.2900000 | 0.3038247 | 0.3038247 | 0.1 | -4.77 | 20.00 | AVRG |
| 1,1-Dichloroethane | 0.9280000 | 1.0851782 | 1.0851782 | 0.2 | -16.94 | 20.00 | AVRG |
| 1,1-Dichloroethene | 0.7120000 | 0.6404233 | 0.6404233 | 0.1 | 10.05 | 20.00 | AVRG |
| Trichloroethene | 0.3420000 | 0.3519321 | 0.3519321 | 0.2 | -2.90 | 20.00 | AVRG |
| 1,2,3-Trichlorobenzene | 54.629531 | 50.000000 | 0.1878963 | 0.01 | -9.26 | 20.00 | LINR |
| Trichlorofluoromethane | 1.4350000 | 1.2145965 | 1.2145965 | 0.1 | 15.36 | 20.00 | AVRG |
| 1,2,4-Trichlorobenzene | 56.581391 | 50.000000 | 0.3831501 | 0.1 | -13.16 | 20.00 | LINR |
| 1,2,4-Trimethylbenzene | 2.5660000 | 2.5704686 | 2.5704686 | 0.1 | -0.17 | 20.00 | AVRG |
| Tetrachloroethene | 0.3020000 | 0.2952710 | 0.2952710 | 0.2 | 2.23 | 20.00 | AVRG |
| 1,2-Dichlorobenzene | 1.3730000 | 1.3626721 | 1.3626721 | 0.4 | 0.75 | 20.00 | AVRG |
| 1,2-Dichloroethane | 0.5290000 | 0.5341996 | 0.5341996 | 0.1 | -0.98 | 20.00 | AVRG |
| 1,2-Dichloropropane | 0.3470000 | 0.3601139 | 0.3601139 | 0.1 | -3.78 | 20.00 | AVRG |
| 1,3,5-Trimethylbenzene | 2.6800000 | 2.6393089 | 2.6393089 | 0.1 | 1.52 | 20.00 | AVRG |
| 1,3-Dichloropropane | 0.5550000 | 0.5995469 | 0.5995469 | 0.1 | -8.03 | 20.00 | AVRG |
| 1,4-Dichlorobenzene | 1.5600000 | 1.5036731 | 1.5036731 | 0.4 | 3.61 | 20.00 | AVRG |
| Toluene | 1.5540000 | 1.6222575 | 1.6222575 | 0.4 | -4.39 | 20.00 | AVRG |
| 2-Butanone | 0.1720000 | 0.2047502 | 0.2047502 | 0.1 | -19.04 | 20.00 | AVRG |
| 2-Chlorotoluene | 53.922527 | 50.000000 | 2.2654110 | 0.1 | -7.84 | 20.00 | LINR |
| 2-Hexanone | 97.267552 | 100.00000 | 0.2004323 | 0.1 | 2.73 | 20.00 | LINR |
| 4-Chlorotoluene | 2.7260000 | 2.7358196 | 2.7358196 | 0.1 | -0.36 | 20.00 | AVRG |
| tert-Butylbenzene | 46.623849 | 50.000000 | 1.9994822 | 0.1 | 6.75 | 20.00 | LINR |
| 4-Methyl-2-Pentanone | 0.3010000 | 0.3029157 | 0.3029157 | 0.1 | -0.64 | 20.00 | AVRG |
| Acetone | 102.90238 | 100.00000 | 0.1701500 | 0.1 | -2.90 | 20.00 | LINR |
| Benzene | 1.3240000 | 1.3471837 | 1.3471837 | 0.5 | -1.75 | 20.00 | AVRG |
| Bromobenzene | 0.8620000 | 0.8340525 | 0.8340525 | 0.1 | 3.24 | 20.00 | AVRG |
| Bromochloromethane | 0.2980000 | 0.3238178 | 0.3238178 | 0.1 | -8.66 | 20.00 | AVRG |
| Bromodichloromethane | 0.5010000 | 0.5213399 | 0.5213399 | 0.2 | -4.06 | 20.00 | AVRG |
| Bromoform | 47.103699 | 50.000000 | 0.2342376 | 0.1 | 5.79 | 20.00 | LINR |
| Bromomethane | 48.914265 | 50.000000 | 0.6996261 | 0.1 | 2.17 | 20.00 | LINR |
| Carbon Disulfide | 1.3910000 | 1.4371222 | 1.4371222 | 0.1 | -3.32 | 20.00 | AVRG |
| Carbon Tetrachloride | 0.4510000 | 0.4471178 | 0.4471178 | 0.1 | 0.86 | 20.00 | AVRG |



FORM VII VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS LABORATORY GROUP  Contract:

Lab Code: ALS-HS  Case No.:  SAS No.:  SDG No.: HS2105018

Instrument ID: VOA6  Calibration Date: 05/06/21  Time: 1200

Lab File ID: X050602  Init. Calib. Date(s): 04/02/21  04/02/21

Init. Calib. Times: 1053  1423

GC Column: DB624  ID: 0.18 (mm)

| COMPOUND | RRF or AMOUNT | RRF50.000 or AMOUNT | CCAL RRF50.000 | MIN RRF | %D or %DRIFT | MAX %D or %DRIFT | CURV TYPE | |
|---|---|---|---|---|---|---|---|---|
| Chlorobenzene | 48.944940 | 50.000000 | 1.0167639 | 0.5 | 2.11 | 20.00 | LINR | |
| Chloroethane | 0.5560000 | 0.5064342 | 0.5064342 | 0.1 | 8.91 | 20.00 | AVRG | |
| Chloroform | 1.0860000 | 1.1591817 | 1.1591817 | 0.2 | -6.74 | 20.00 | AVRG | |
| Chloromethane | 60.659258 | 50.000000 | 0.6281204 | 0.1 | -21.32 | 20.00 | LINR | <- |
| cis-1,2-Dichloroethene | 0.6110000 | 0.6492804 | 0.6492804 | 0.1 | -6.26 | 20.00 | AVRG | |
| Dibromochloromethane | 0.3900000 | 0.4204546 | 0.4204546 | 0.1 | -7.81 | 20.00 | AVRG | |
| Dichlorodifluoromethane | 64.334903 | 50.000000 | 0.6321256 | 0.1 | -28.67 | 20.00 | LINR | <- |
| Ethylbenzene | 0.5350000 | 0.5272696 | 0.5272696 | 0.1 | 1.44 | 20.00 | AVRG | |
| Hexachlorobutadiene | 60.593968 | 50.000000 | 0.3243837 | 0.1 | -21.19 | 20.00 | LINR | <- |
| Isopropylbenzene | 1.6000000 | 1.5174435 | 1.5174435 | 0.1 | 5.16 | 20.00 | AVRG | |
| m,p-Xylenes | 0.6780000 | 0.6825027 | 0.6825027 | 0.1 | -0.66 | 20.00 | AVRG | |
| Methylene Chloride | 54.288000 | 50.000000 | 0.5906004 | 0.1 | -8.58 | 20.00 | LINR | |
| n-Butylbenzene | 2.4000000 | 2.6298691 | 2.6298691 | 0.5 | -9.58 | 20.00 | AVRG | |
| n-Propylbenzene | 3.7930000 | 3.8020073 | 3.8020073 | 0.1 | -0.24 | 20.00 | AVRG | |
| Naphthalene | 56.056085 | 50.000000 | 0.5168987 | 0.2 | -12.11 | 20.00 | LINR | |
| o-Xylene | 0.6570000 | 0.6154500 | 0.6154500 | 0.3 | 6.32 | 20.00 | AVRG | |
| sec-Butylbenzene | 52.852694 | 50.000000 | 3.0657037 | 0.1 | -5.70 | 20.00 | 2RDR | |
| Styrene | 45.624507 | 50.000000 | 1.0980537 | 0.3 | 8.75 | 20.00 | LINR | |
| Vinyl Chloride | 0.7500000 | 0.7472660 | 0.7472660 | 0.1 | 0.36 | 20.00 | AVRG | |
| 1,2,3-Trichloropropane | 0.6710000 | 0.7272577 | 0.7272577 | 0.1 | -8.38 | 20.00 | AVRG | |
| p-Isopropyltoluene | 2.5330000 | 2.6891607 | 2.6891607 | 0.1 | -6.16 | 20.00 | AVRG | |
| 1,2-Dibromo-3-Chloropropane | 5.4e-002 | 5.54e-002 | 5.54e-002 | 0.05 | -2.59 | 20.00 | AVRG | |
| 1,2-Dichloroethane-d4 | 51.753847 | 50.000000 | 0.7302945 | 0.1 | -3.51 | 20.00 | LINR | |
| Dibromofluoromethane | 49.596338 | 50.000000 | 0.5838651 | 0.1 | 0.81 | 20.00 | LINR | |
| Toluene-d8 | 48.904919 | 50.000000 | 1.2559646 | 0.1 | 2.19 | 20.00 | LINR | |
| 4-Bromofluorobenzene | 50.076443 | 50.000000 | 0.4802666 | 0.1 | -0.15 | 20.00 | LINR | |



FORM VII VOA

# FORM 7B
## VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS LABORATORY GROUP  Contract:

Lab Code: ALS-HS  Case No.:  SAS No.:  SDG No.: HS21050180

Instrument ID: VOA6  Calibration Date: 05/06/21  Time: 1552

Lab File ID: X050613  Init. Calib. Date(s): 04/02/21  04/02/21

Init. Calib. Times: 1053  1423

GC Column: DB624  ID: 0.18 (mm)

| COMPOUND | RRF or AMOUNT | RRF50.000 or AMOUNT | CCAL RRF50.000 | MIN RRF | %D or %DRIFT | MAX %D or %DRIFT | CURV TYPE |
|---|---|---|---|---|---|---|---|
| cis-1,3-Dichloropropene | 0.5850000 | 0.5818890 | 0.5818890 | 0.2 | 0.53 | 50.00 | AVRG |
| trans-1,3-Dichloropropene | 0.4990000 | 0.5020148 | 0.5020148 | 0.1 | -0.60 | 50.00 | AVRG |
| 1,3-Dichlorobenzene | 1.4480000 | 1.3203667 | 1.3203667 | 0.6 | 8.81 | 50.00 | AVRG |
| 2,2-Dichloropropane | 0.9140000 | 0.8407195 | 0.8407195 | 0.1 | 8.02 | 50.00 | AVRG |
| 1,1-Dichloropropene | 0.4690000 | 0.4247945 | 0.4247945 | 0.1 | 9.42 | 50.00 | AVRG |
| Dibromomethane | 0.2460000 | 0.2406070 | 0.2406070 | 0.1 | 2.19 | 50.00 | AVRG |
| 1,2-Dibromoethane | 0.3440000 | 0.3476619 | 0.3476619 | 0.1 | -1.06 | 50.00 | AVRG |
| trans-1,2-Dichloroethene | 0.5090000 | 0.4918751 | 0.4918751 | 0.1 | 3.36 | 50.00 | AVRG |
| 1,1,1,2-Tetrachloroethane | 0.3710000 | 0.3428240 | 0.3428240 | 0.1 | 7.59 | 50.00 | AVRG |
| 1,1,1-Trichloroethane | 0.9050000 | 0.8709419 | 0.8709419 | 0.1 | 3.76 | 50.00 | AVRG |
| 1,1,2,2-Tetrachloroethane | 0.8340000 | 0.7079499 | 0.7079499 | 0.3 | 15.11 | 50.00 | AVRG |
| 1,1,2-Trichloroethane | 0.2900000 | 0.2727877 | 0.2727877 | 0.1 | 5.94 | 50.00 | AVRG |
| 1,1-Dichloroethane | 0.9280000 | 0.9416237 | 0.9416237 | 0.2 | -1.47 | 50.00 | AVRG |
| 1,1-Dichloroethene | 0.7120000 | 0.6528098 | 0.6528098 | 0.1 | 8.31 | 50.00 | AVRG |
| Trichloroethene | 0.3420000 | 0.3236819 | 0.3236819 | 0.2 | 5.36 | 50.00 | AVRG |
| 1,2,3-Trichlorobenzene | 42.784812 | 50.000000 | 0.1462199 | 0.01 | 14.43 | 50.00 | LINR |
| Trichlorofluoromethane | 1.4350000 | 1.0848984 | 1.0848984 | 0.1 | 24.40 | 50.00 | AVRG |
| 1,2,4-Trichlorobenzene | 41.623586 | 50.000000 | 0.2808992 | 0.1 | 16.75 | 50.00 | LINR |
| 1,2,4-Trimethylbenzene | 2.5660000 | 2.1318548 | 2.1318548 | 0.1 | 16.92 | 50.00 | AVRG |
| Tetrachloroethene | 0.3020000 | 0.2478834 | 0.2478834 | 0.2 | 17.92 | 50.00 | AVRG |
| 1,2-Dichlorobenzene | 1.3730000 | 1.1433818 | 1.1433818 | 0.4 | 16.72 | 50.00 | AVRG |
| 1,2-Dichloroethane | 0.5290000 | 0.5327383 | 0.5327383 | 0.1 | -0.71 | 50.00 | AVRG |
| 1,2-Dichloropropane | 0.3470000 | 0.3400789 | 0.3400789 | 0.1 | 1.99 | 50.00 | AVRG |
| 1,3,5-Trimethylbenzene | 2.6800000 | 2.0345777 | 2.0345777 | 0.1 | 24.08 | 50.00 | AVRG |
| 1,3-Dichloropropane | 0.5550000 | 0.5543041 | 0.5543041 | 0.1 | 0.12 | 50.00 | AVRG |
| 1,4-Dichlorobenzene | 1.5600000 | 1.3298694 | 1.3298694 | 0.4 | 14.75 | 50.00 | AVRG |
| Toluene | 1.5540000 | 1.4194125 | 1.4194125 | 0.4 | 8.66 | 50.00 | AVRG |
| 2-Butanone | 0.1720000 | 0.1887802 | 0.1887802 | 0.1 | -9.76 | 50.00 | AVRG |
| 2-Chlorotoluene | 42.554941 | 50.000000 | 1.7879724 | 0.1 | 14.89 | 50.00 | LINR |
| 2-Hexanone | 96.012984 | 100.00000 | 0.1977680 | 0.1 | 3.99 | 50.00 | LINR |
| 4-Chlorotoluene | 2.7260000 | 2.1686141 | 2.1686141 | 0.1 | 20.45 | 50.00 | AVRG |
| tert-Butylbenzene | 37.971510 | 50.000000 | 1.6225931 | 0.1 | 24.06 | 50.00 | LINR |
| 4-Methyl-2-Pentanone | 0.3010000 | 0.3030800 | 0.3030800 | 0.1 | -0.69 | 50.00 | AVRG |
| Acetone | 91.241206 | 100.00000 | 0.1516695 | 0.1 | 8.76 | 50.00 | LINR |
| Benzene | 1.3240000 | 1.2583434 | 1.2583434 | 0.5 | 4.96 | 50.00 | AVRG |
| Bromobenzene | 0.8620000 | 0.6643038 | 0.6643038 | 0.1 | 22.93 | 50.00 | AVRG |
| Bromochloromethane | 0.2980000 | 0.3010038 | 0.3010038 | 0.1 | -1.01 | 50.00 | AVRG |
| Bromodichloromethane | 0.5010000 | 0.4989791 | 0.4989791 | 0.2 | 0.40 | 50.00 | AVRG |
| Bromoform | 46.697059 | 50.000000 | 0.2321239 | 0.1 | 6.60 | 50.00 | LINR |
| Bromomethane | 45.576276 | 50.000000 | 0.6520646 | 0.1 | 8.85 | 50.00 | LINR |
| Carbon Disulfide | 1.3910000 | 1.3101357 | 1.3101357 | 0.1 | 5.81 | 50.00 | AVRG |
| Carbon Tetrachloride | 0.4510000 | 0.3955121 | 0.3955121 | 0.1 | 12.30 | 50.00 | AVRG |

# FORM 7B
## VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS LABORATORY GROUP  Contract:

Lab Code: ALS-HS  Case No.:  SAS No.:  SDG No.: HS2105018

Instrument ID: VOA6  Calibration Date: 05/06/21  Time: 1552

Lab File ID: X050613  Init. Calib. Date(s): 04/02/21  04/02/21

Init. Calib. Times:  1053  1423

GC Column: DB624  ID: 0.18 (mm)

| COMPOUND | RRF or AMOUNT | RRF50.000 or AMOUNT | CCAL RRF50.000 | MIN RRF | %D or %DRIFT | MAX %D or %DRIFT | CURV TYPE |
|---|---|---|---|---|---|---|---|
| Chlorobenzene | 45.258788 | 50.000000 | 0.9373093 | 0.5 | 9.48 | 50.00 | LINR |
| Chloroethane | 0.5560000 | 0.4323553 | 0.4323553 | 0.1 | 22.24 | 50.00 | AVRG |
| Chloroform | 1.0860000 | 1.0826724 | 1.0826724 | 0.2 | 0.31 | 50.00 | AVRG |
| Chloromethane | 48.588405 | 50.000000 | 0.5047972 | 0.1 | 2.82 | 50.00 | LINR |
| cis-1,2-Dichloroethene | 0.6110000 | 0.5930651 | 0.5930651 | 0.1 | 2.94 | 50.00 | AVRG |
| Dibromochloromethane | 0.3900000 | 0.3817291 | 0.3817291 | 0.1 | 2.12 | 50.00 | AVRG |
| Dichlorodifluoromethane | 47.866408 | 50.000000 | 0.4659986 | 0.1 | 4.27 | 50.00 | LINR |
| Ethylbenzene | 0.5350000 | 0.4610758 | 0.4610758 | 0.1 | 13.82 | 50.00 | AVRG |
| Hexachlorobutadiene | 32.458467 | 50.000000 | 0.1712197 | 0.1 | 35.08 | 50.00 | LINR |
| Isopropylbenzene | 1.6000000 | 1.3948475 | 1.3948475 | 0.1 | 12.82 | 50.00 | AVRG |
| m,p-Xylenes | 0.6780000 | 0.6142821 | 0.6142821 | 0.1 | 9.40 | 50.00 | AVRG |
| Methylene Chloride | 48.812836 | 50.000000 | 0.5293632 | 0.1 | 2.37 | 50.00 | LINR |
| n-Butylbenzene | 2.4000000 | 1.9002370 | 1.9002370 | 0.5 | 20.82 | 50.00 | AVRG |
| n-Propylbenzene | 3.7930000 | 2.9440028 | 2.9440028 | 0.1 | 22.38 | 50.00 | AVRG |
| Naphthalene | 44.737290 | 50.000000 | 0.4111263 | 0.2 | 10.52 | 50.00 | LINR |
| o-Xylene | 0.6570000 | 0.5781685 | 0.5781685 | 0.3 | 12.00 | 50.00 | AVRG |
| sec-Butylbenzene | 44.673108 | 50.000000 | 2.5525282 | 0.1 | 10.65 | 50.00 | 2RDR |
| Styrene | 43.341551 | 50.000000 | 1.0387375 | 0.3 | 13.32 | 50.00 | LINR |
| Vinyl Chloride | 0.7500000 | 0.6923601 | 0.6923601 | 0.1 | 7.68 | 50.00 | AVRG |
| 1,2,3-Trichloropropane | 0.6710000 | 0.5854235 | 0.5854235 | 0.1 | 12.75 | 50.00 | AVRG |
| p-Isopropyltoluene | 2.5330000 | 2.1609202 | 2.1609202 | 0.1 | 14.69 | 50.00 | AVRG |
| 1,2-Dibromo-3-Chloropropane | 5.4e-002 | 5.38e-002 | 5.38e-002 | 0.05 | 0.37 | 50.00 | AVRG |
| 1,2-Dichloroethane-d4 | 52.445258 | 50.000000 | 0.7401429 | 0.1 | -4.89 | 50.00 | LINR |
| Dibromofluoromethane | 48.847468 | 50.000000 | 0.5749715 | 0.1 | 2.30 | 50.00 | LINR |
| Toluene-d8 | 47.121605 | 50.000000 | 1.2083605 | 0.1 | 5.76 | 50.00 | LINR |
| 4-Bromofluorobenzene | 52.460458 | 50.000000 | 0.5039101 | 0.1 | -4.92 | 50.00 | LINR |



FORM VII VOA

# FORM 8
## VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ALS LABORATORY GROUP  Contract:

Lab Code: ALS-HS  Case No.:  SAS No.:  SDG No.: HS21050180

Lab File ID (Standard): X050602  Date Analyzed: 05/06/21

Instrument ID: VOA6  Time Analyzed: 1200

GC Column: DB624  ID: 0.18 (mm)  Heated Purge: (Y/N) N

| | | IS1 (CBZ) AREA # | RT # | IS2 (DFB) AREA # | RT # | IS3 (DCB) AREA # | RT # |
|---|---|---|---|---|---|---|---|
| | 12 HOUR STD | 529710 | 7.67 | 552814 | 4.96 | 266530 | 9.66 |
| | UPPER LIMIT | 1059420 | 8.17 | 1105628 | 5.46 | 533060 | 10.16 |
| | LOWER LIMIT | 264855 | 7.17 | 276407 | 4.46 | 133265 | 9.16 |
| | CLIENT SAMPLE NO. | | | | | | |
| 01 | VLCSW-210506 | 471384 | 7.67 | 524529 | 4.97 | 217786 | 9.66 |
| 02 | VBLKW-210506 | 460934 | 7.67 | 508284 | 4.96 | 182756 | 9.66 |
| 03 | HS21050180-02 | 485998 | 7.67 | 480203 | 4.96 | 196728 | 9.66 |
| 04 | HS21050180-01 | 449845 | 7.67 | 473364 | 4.96 | 180492 | 9.66 |
| 05 | HS21050180-01MS | 495492 | 7.67 | 545197 | 4.96 | 287461 | 9.66 |
| 06 | HS21050180-01MSD | 499641 | 7.67 | 558177 | 4.96 | 256739 | 9.66 |
| 07 | | | | | | | |
| 08 | | | | | | | |
| 09 | | | | | | | |
| 10 | | | | | | | |
| 11 | | | | | | | |
| 12 | | | | | | | |
| 13 | | | | | | | |
| 14 | | | | | | | |
| 15 | | | | | | | |
| 16 | | | | | | | |
| 17 | | | | | | | |
| 18 | | | | | | | |
| 19 | | | | | | | |
| 20 | | | | | | | |

IS1 (CBZ) = Chlorobenzene-d5
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (DCB) = 1,4-Dichlorobenzene-d4

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 values outside QC limits with an asterisk.
* Values outside of QC limits.



FORM VIII VOA

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ALS LABORATORY GROUP  Contract:

Lab Code: ALS-HS  Case No.:  SAS No.:  SDG No.: HS21050180

Lab File ID (Standard): X050602  Date Analyzed: 05/06/21

Instrument ID: VOA6  Time Analyzed: 1200

GC Column: DB624  ID: 0.18 (mm)  Heated Purge: (Y/N) N

| | | IS4 AREA # | RT # | AREA # | RT # | AREA # | RT # |
|---|---|---|---|---|---|---|---|
| | 12 HOUR STD | 327079 | 4.18 | | | | |
| | UPPER LIMIT | 654158 | 4.68 | | | | |
| | LOWER LIMIT | 163540 | 3.68 | | | | |
| | CLIENT SAMPLE NO. | | | | | | |
| 01 | VLCSW-210506 | 301256 | 4.18 | | | | |
| 02 | VBLKW-210506 | 314656 | 4.18 | | | | |
| 03 | HS21050180-02 | 301685 | 4.18 | | | | |
| 04 | HS21050180-01 | 294366 | 4.18 | | | | |
| 05 | HS21050180-01MS | 336008 | 4.18 | | | | |
| 06 | HS21050180-01MSD | 350013 | 4.18 | | | | |
| 07 | | | | | | | |
| 08 | | | | | | | |
| 09 | | | | | | | |
| 10 | | | | | | | |
| 11 | | | | | | | |
| 12 | | | | | | | |
| 13 | | | | | | | |
| 14 | | | | | | | |
| 15 | | | | | | | |
| 16 | | | | | | | |
| 17 | | | | | | | |
| 18 | | | | | | | |
| 19 | | | | | | | |
| 20 | | | | | | | |

IS4 = Pentafluorobenzene

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 values outside QC limits with an asterisk.
* Values outside of QC limits.



FORM VIII VOA

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210506.b\X050601.D



Date : 06-MAY-2021 11:39

Client ID: BFB

Instrument: voa6.i

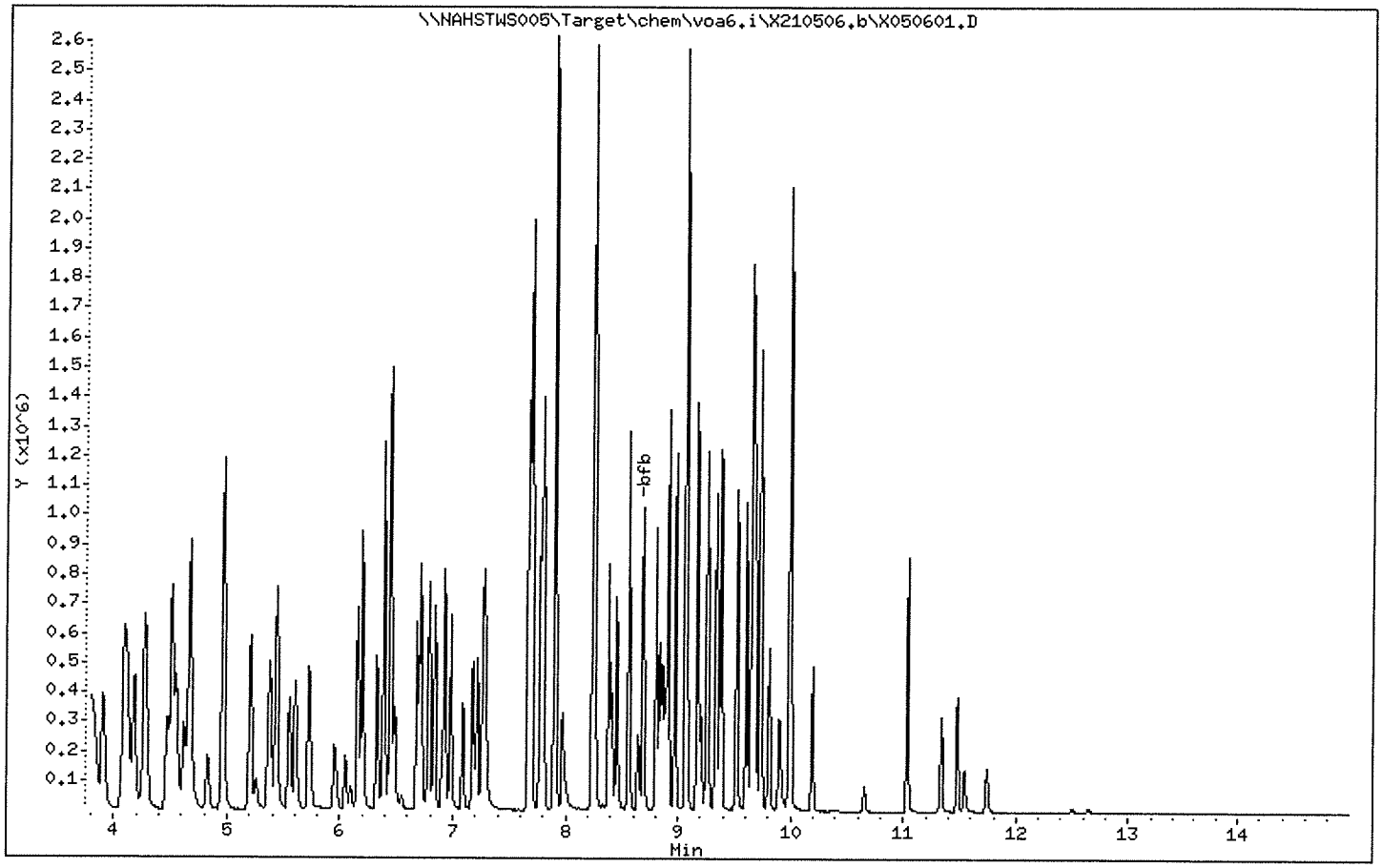
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210506.b\X050601.D



Date : 06-MAY-2021 11:39

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

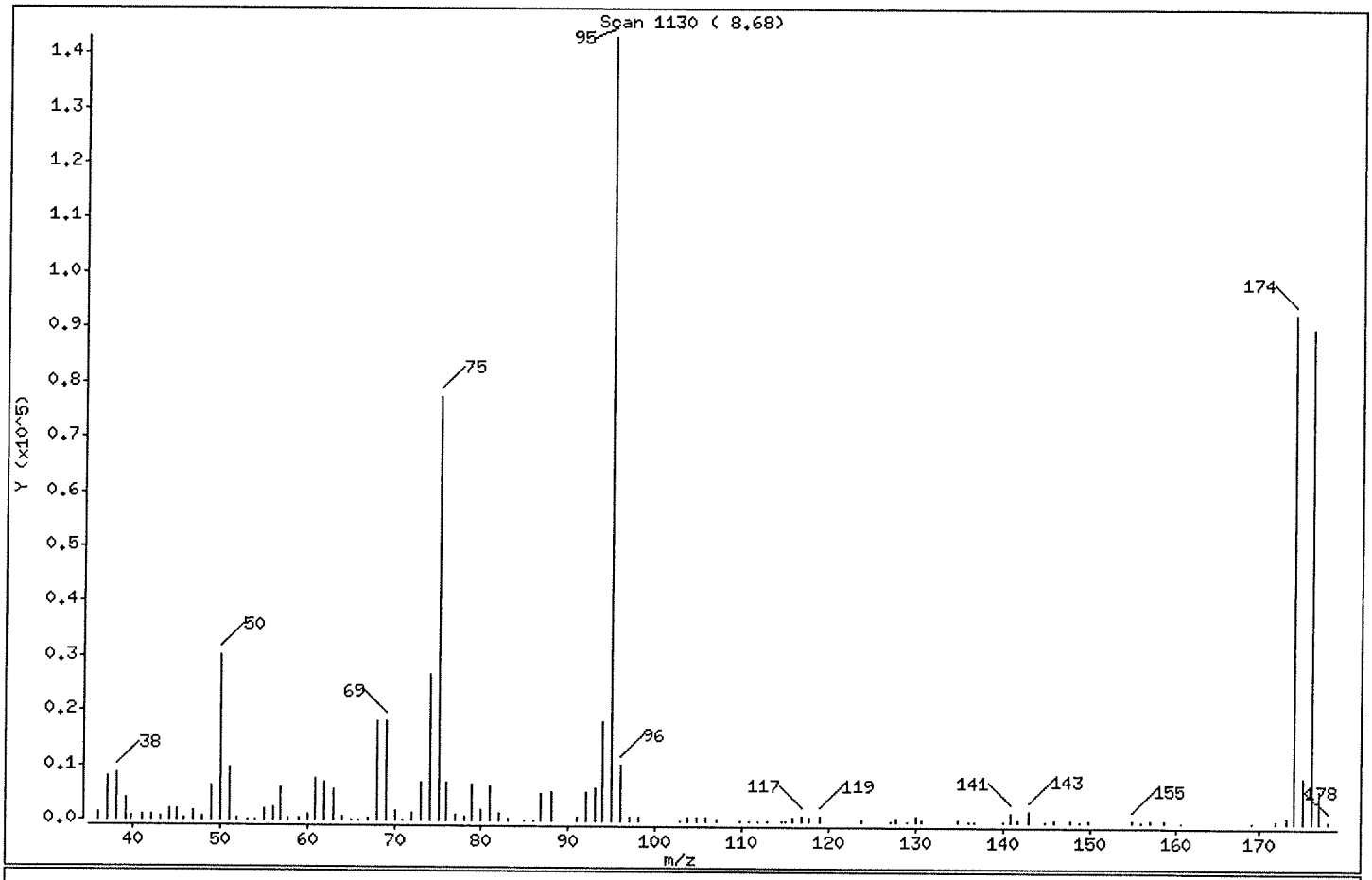
Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25

1 bfb




| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 95 | Base Peak, 100% relative abundance | 100.00 |
| 50 | 15.00 - 40.00% of mass 95 | 21.15 |
| 75 | 30.00 - 60.00% of mass 95 | 54.03 |
| 96 | 5.00 - 9.00% of mass 95 | 7.20 |
| 173 | Less than 2.00% of mass 174 | 0.75 ( 1.16) |
| 174 | Greater than 50.00% of mass 95 | 64.81 |
| 175 | 5.00 - 9.00% of mass 174 | 5.66 ( 8.74) |
| 176 | 95.00 - 101.00% of mass 174 | 62.98 ( 97.17) |
| 177 | 5.00 - 9.00% of mass 176 | 4.19 ( 6.65) |

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210506.b\X050601.D



Date : 06-MAY-2021 11:39

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: X050601.D
Spectrum: Scan 1130 ( 8.68)
Location of Maximum: 95.00
Number of points: 106

| m/z | Y | m/z | Y | m/z | Y | m/z | Y |
|---|---|---|---|---|---|---|---|
| 36.00 | 1403 | 63.00 | 5547 | 93.00 | 5962 | 134.80 | 315 |
| 37.00 | 7916 | 64.00 | 616 | 94.00 | 18080 | 136.00 | 136 |
| 38.10 | 8420 | 65.00 | 101 | 95.00 | 143040 | 136.70 | 134 |
| 39.10 | 3802 | 65.90 | 130 | 96.00 | 10292 | 140.00 | 153 |
| 39.90 | 665 | 67.00 | 491 | 97.00 | 579 | 140.90 | 1544 |
| 41.00 | 996 | 68.00 | 18072 | 98.10 | 511 | 141.80 | 280 |
| 42.00 | 828 | 69.00 | 18192 | 102.80 | 103 | 142.90 | 1972 |
| 43.10 | 600 | 70.00 | 1502 | 103.80 | 649 | 144.90 | 155 |
| 44.10 | 1817 | 71.00 | 85 | 104.80 | 535 | 146.00 | 224 |
| 45.00 | 1981 | 72.00 | 1194 | 105.80 | 530 | 147.70 | 288 |
| 45.90 | 191 | 73.00 | 7017 | 107.00 | 264 | 148.80 | 76 |
| 46.90 | 1617 | 74.00 | 26744 | 109.70 | 137 | 149.80 | 314 |
| 48.00 | 810 | 75.00 | 77288 | 110.90 | 101 | 154.80 | 388 |
| 49.00 | 6374 | 76.00 | 6775 | 111.80 | 107 | 156.00 | 94 |
| 50.00 | 30256 | 76.90 | 875 | 112.90 | 157 | 156.90 | 239 |
| 51.00 | 9397 | 78.00 | 681 | 114.60 | 75 | 158.70 | 247 |
| 51.90 | 423 | 78.90 | 6610 | 115.00 | 88 | 160.80 | 156 |
| 53.10 | 154 | 79.90 | 1991 | 115.90 | 646 | 169.10 | 57 |
| 54.00 | 81 | 80.90 | 6167 | 116.90 | 1015 | 171.70 | 394 |
| 55.00 | 1906 | 81.90 | 1468 | 117.80 | 536 | 173.10 | 1071 |
| 56.00 | 2439 | 83.10 | 278 | 118.90 | 970 | 173.90 | 92704 |
| 57.00 | 5832 | 85.00 | 54 | 123.70 | 182 | 174.90 | 8098 |
| 57.80 | 310 | 85.90 | 151 | 127.00 | 108 | 175.90 | 90080 |
| 59.00 | 232 | 86.90 | 4881 | 127.80 | 634 | 176.90 | 5987 |
| 60.00 | 1091 | 88.00 | 5165 | 128.90 | 159 | 177.90 | 217 |
| 61.00 | 7715 | 90.90 | 655 | 130.00 | 872 | | |
| 62.00 | 7027 | 92.00 | 5250 | 130.70 | 335 | | |

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210506.b\X050602.D Page 1
Report Date: 25-May-2021 10:28

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210506.b\X050602.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 06-MAY-2021 12:00
Operator : PC Inst ID: voa6.i
Smp Info : CCV;CCV;2;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210506.b\8260W.m
Meth Date : 25-May-2021 10:28 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 2 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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 |

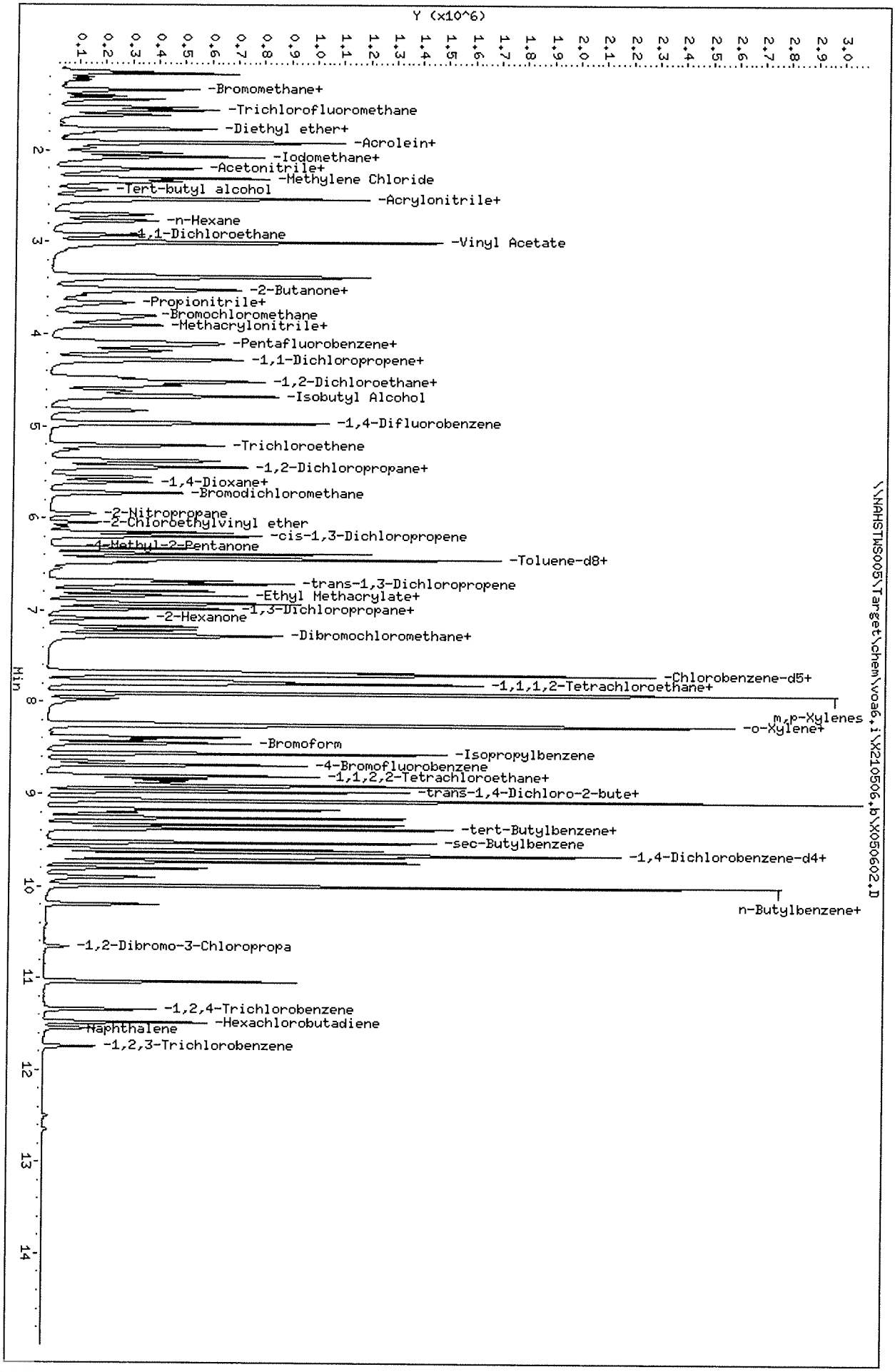
| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|
| * 1 Pentafluorobenzene | 168 | 4.182 | 4.182 | (1.000) | 327079 | 50.0000 | |
| * 36 1,4-Difluorobenzene | 114 | 4.963 | 4.963 | (1.000) | 552814 | 50.0000 | |
| * 47 Chlorobenzene-d5 | 117 | 7.670 | 7.670 | (1.000) | 529710 | 50.0000 | |
| * 70 1,4-Dichlorobenzene-d4 | 152 | 9.662 | 9.662 | (1.000) | 266530 | 50.0000 | |
| $ 30 Dibromofluoromethane | 113 | 4.103 | 4.103 | (0.981) | 190970 | 50.0000 | 49.59 |
| $ 35 1,2-Dichloroethane-d4 | 65 | 4.476 | 4.476 | (1.070) | 238864 | 50.0000 | 51.75 |
| $ 48 Toluene-d8 | 98 | 6.388 | 6.388 | (0.833) | 665297 | 50.0000 | 48.90 |
| $ 69 4-Bromofluorobenzene | 95 | 8.688 | 8.688 | (1.133) | 254402 | 50.0000 | 50.07 |
| 60 1,1,1,2-Tetrachloroethane | 131 | 7.771 | 7.771 | (1.013) | 201032 | 50.0000 | 51.14 |
| 31 1,1,1-Trichloroethane | 97 | 4.082 | 4.082 | (0.976) | 312304 | 50.0000 | 52.76 |
| 68 1,1,2,2-Tetrachloroethane | 83 | 8.838 | 8.838 | (0.915) | 232498 | 50.0000 | 52.28 |
| 53 1,1,2-Trichloroethane | 83 | 6.840 | 6.840 | (0.892) | 160939 | 50.0000 | 52.30 |
| 22 1,1-Dichloroethane | 63 | 2.921 | 2.921 | (0.699) | 354939 | 50.0000 | 58.45 |
| 11 1,1-Dichloroethene | 96 | 1.919 | 1.919 | (0.459) | 209469 | 50.0000 | 44.97 |
| 32 1,1-Dichloropropene | 75 | 4.282 | 4.282 | (0.863) | 262677 | 50.0000 | 50.63 |
| 93 1,2,3-Trichlorobenzene | 180 | 11.746 | 11.746 | (1.216) | 50080 | 50.0000 | 54.62 |
| 71 1,2,3-Trichloropropane | 75 | 8.867 | 8.867 | (0.918) | 193836 | 50.0000 | 54.18 (M) |
| 90 1,2,4-Trichlorobenzene | 180 | 11.338 | 11.338 | (1.173) | 102121 | 50.0000 | 56.58 |
| 79 1,2,4-Trimethylbenzene | 105 | 9.375 | 9.375 | (0.970) | 685107 | 50.0000 | 50.08 |
| 89 1,2-Dibromo-3-Chloropropane | 155 | 10.657 | 10.657 | (1.103) | 14764 | 50.0000 | 50.92 |
| 57 1,2-Dibromoethane | 107 | 7.262 | 7.262 | (0.947) | 198919 | 50.0000 | 54.62 |
| 88 1,2-Dichlorobenzene | 146 | 9.991 | 9.991 | (1.034) | 363193 | 50.0000 | 49.60 |

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210506.b\X050602.D Page 2
Report Date: 25-May-2021 10:28

| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|
| 33 1,2-Dichloroethane | 62 | 4.555 | 4.555 | (0.918) | 295313 | 50.0000 | 50.46 |
| 42 1,2-Dichloropropane | 63 | 5.436 | 5.436 | (1.095) | 199076 | 50.0000 | 51.82 |
| 75 1,3,5-Trimethylbenzene | 105 | 9.067 | 9.067 | (0.938) | 703455 | 50.0000 | 49.24 |
| 83 1,3-Dichlorobenzene | 146 | 9.604 | 9.604 | (0.994) | 387640 | 50.0000 | 50.21 |
| 54 1,3-Dichloropropane | 76 | 6.983 | 6.983 | (0.910) | 317586 | 50.0000 | 53.98 |
| 84 1,4-Dichlorobenzene | 146 | 9.683 | 9.683 | (1.002) | 400774 | 50.0000 | 48.20 |
| 26 2,2-Dichloropropane | 77 | 3.509 | 3.509 | (0.839) | 317799 | 50.0000 | 53.14 |
| 24 2-Butanone | 43 | 3.580 | 3.580 | (0.856) | 133939 | 100.000 | 119.12 |
| 76 2-Chlorotoluene | 91 | 8.974 | 8.974 | (0.929) | 603800 | 50.0000 | 53.92 |
| 52 2-Hexanone | 43 | 7.083 | 7.083 | (0.923) | 212342 | 100.000 | 97.26 |
| 77 4-Chlorotoluene | 91 | 9.067 | 9.067 | (0.938) | 729178 | 50.0000 | 50.17 |
| 82 p-Isopropyltoluene | 119 | 9.647 | 9.647 | (0.999) | 716742 | 50.0000 | 53.08 |
| 45 4-Methyl-2-Pentanone | 43 | 6.324 | 6.324 | (0.824) | 320915 | 100.000 | 100.51 |
| 10 Acetone | 43 | 1.976 | 1.976 | (0.473) | 111305 | 100.000 | 102.90 |
| 37 Benzene | 78 | 4.512 | 4.512 | (0.909) | 744742 | 50.0000 | 50.85 |
| 74 Bromobenzene | 156 | 8.802 | 8.802 | (0.911) | 222300 | 50.0000 | 48.38 |
| 29 Bromochloromethane | 128 | 3.795 | 3.795 | (0.908) | 105914 | 50.0000 | 54.29 |
| 39 Bromodichloromethane | 83 | 5.722 | 5.722 | (1.153) | 288204 | 50.0000 | 51.99 |
| 66 Bromoform | 173 | 8.408 | 8.408 | (1.096) | 124078 | 50.0000 | 47.10 |
| 6 Bromomethane | 94 | 1.338 | 1.338 | (0.320) | 228833 | 50.0000 | 48.91 |
| 19 Carbon Disulfide | 76 | 2.069 | 2.069 | (0.495) | 940105 | 100.000 | 103.34 |
| 34 Carbon Tetrachloride | 117 | 4.268 | 4.268 | (0.860) | 247173 | 50.0000 | 49.55 |
| 59 Chlorobenzene | 112 | 7.692 | 7.692 | (1.003) | 538590 | 50.0000 | 48.94 |
| 7 Chloroethane | 64 | 1.403 | 1.403 | (0.336) | 165644 | 50.0000 | 45.52 |
| 28 Chloroform | 83 | 3.910 | 3.910 | (0.935) | 379144 | 50.0000 | 53.37 |
| 3 Chloromethane | 50 | 1.080 | 1.080 | (0.258) | 205445 | 50.0000 | 60.65 |
| 27 cis-1,2-Dichloroethene | 96 | 3.530 | 3.530 | (0.844) | 212366 | 50.0000 | 53.11 |
| 46 cis-1,3-Dichloropropene | 75 | 6.152 | 6.152 | (1.240) | 343661 | 50.0000 | 53.11 |
| 55 Dibromochloromethane | 129 | 7.176 | 7.176 | (0.936) | 222719 | 50.0000 | 53.85 |
| 44 Dibromomethane | 93 | 5.550 | 5.550 | (1.118) | 138537 | 50.0000 | 50.82 |
| 2 Dichlorodifluoromethane | 85 | 0.973 | 0.973 | (0.233) | 206755 | 50.0000 | 64.33 |
| 61 Ethylbenzene | 106 | 7.799 | 7.799 | (1.017) | 279300 | 50.0000 | 49.25 |
| 91 Hexachlorobutadiene | 225 | 11.481 | 11.481 | (1.188) | 86458 | 50.0000 | 60.59 |
| 67 Isopropylbenzene | 105 | 8.559 | 8.559 | (1.116) | 803805 | 50.0000 | 47.42 |
| 62 m,p-Xylenes | 106 | 7.907 | 7.907 | (1.031) | 723057 | 100.000 | 100.70 |
| 17 Methylene Chloride | 84 | 2.305 | 2.305 | (0.551) | 193173 | 50.0000 | 54.28 |
| 87 n-Butylbenzene | 91 | 9.991 | 9.991 | (1.034) | 700939 | 50.0000 | 54.78 |
| 73 n-Propylbenzene | 91 | 8.910 | 8.910 | (0.922) | 1013349 | 50.0000 | 50.11 |
| 92 Naphthalene | 128 | 11.546 | 11.546 | (1.195) | 137769 | 50.0000 | 56.05 |
| 63 o-Xylene | 106 | 8.243 | 8.243 | (1.075) | 326010 | 50.0000 | 46.82 |
| 81 sec-Butylbenzene | 105 | 9.519 | 9.519 | (0.985) | 817102 | 50.0000 | 52.85 |
| 64 Styrene | 104 | 8.258 | 8.258 | (1.077) | 581650 | 50.0000 | 45.62 |
| 78 tert-Butylbenzene | 119 | 9.332 | 9.332 | (0.966) | 532922 | 50.0000 | 46.62 |
| 56 Tetrachloroethene | 164 | 6.925 | 6.925 | (0.903) | 156408 | 50.0000 | 48.91 |
| 50 Toluene | 91 | 6.446 | 6.446 | (0.840) | 859326 | 50.0000 | 52.20 |
| 20 trans-1,2-Dichloroethene | 96 | 2.527 | 2.527 | (0.604) | 175273 | 50.0000 | 52.58 |
| 51 trans-1,3-Dichloropropene | 75 | 6.682 | 6.682 | (1.346) | 307580 | 50.0000 | 55.73 |
| 38 Trichloroethene | 130 | 5.206 | 5.206 | (1.049) | 194553 | 50.0000 | 51.40 |
| 8 Trichlorofluoromethane | 101 | 1.560 | 1.560 | (0.373) | 397269 | 50.0000 | 42.32 |
| 5 Vinyl Chloride | 62 | 1.145 | 1.145 | (0.274) | 244415 | 50.0000 | 49.84 |

QC Flag Legend

M - Compound response manually integrated.

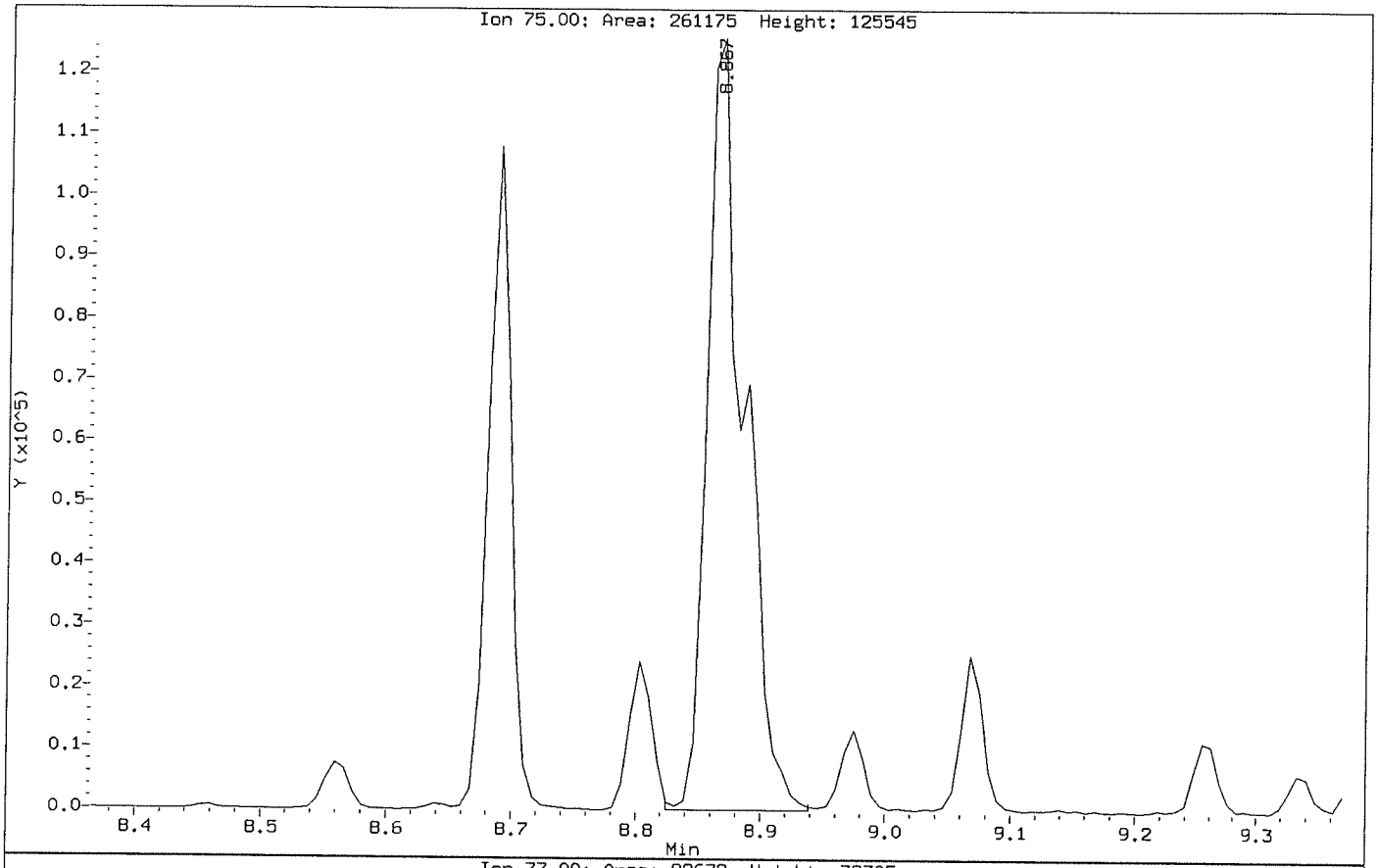


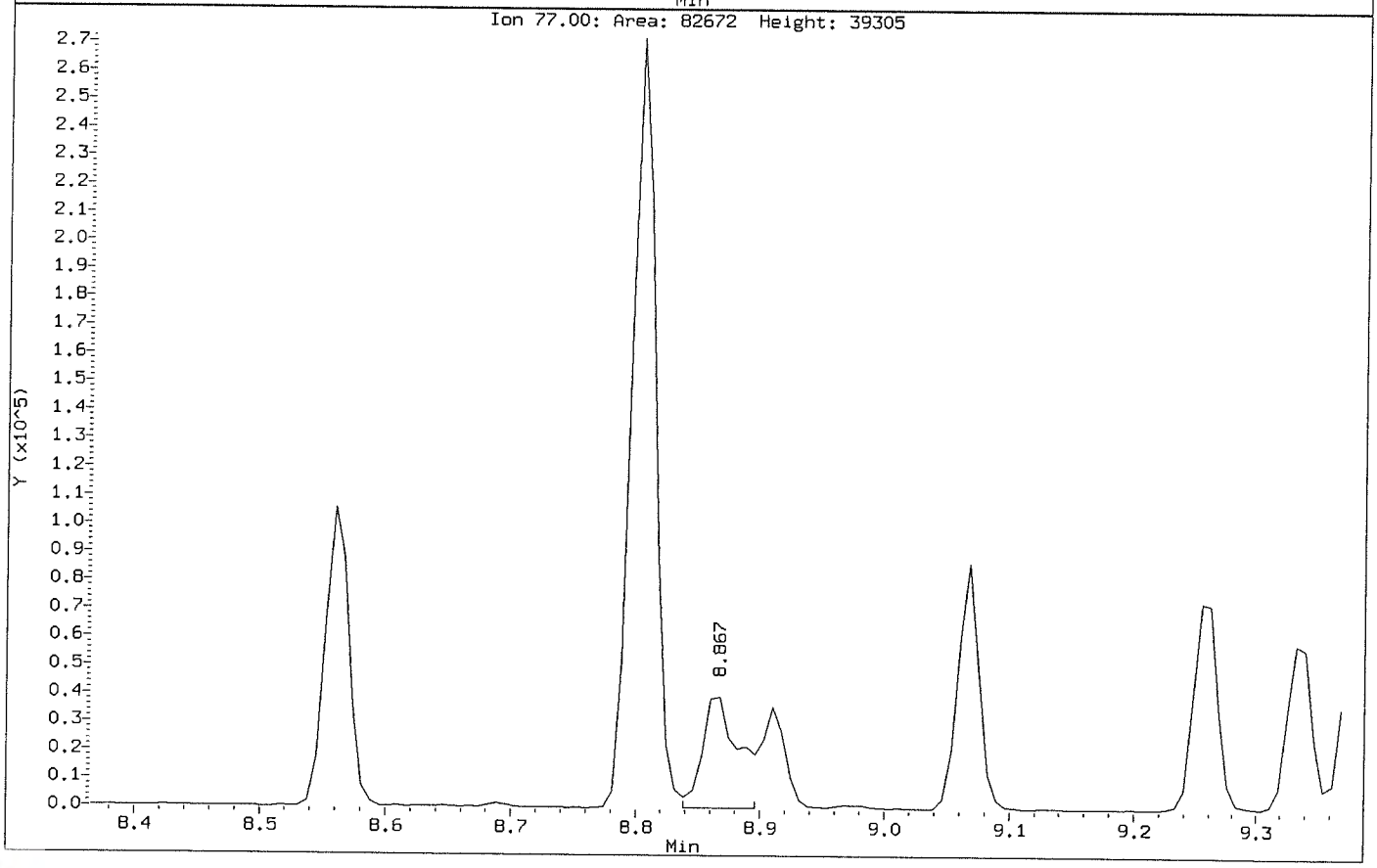

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210506.b\X050602.D
Date : 06-MAY-2021 12:00
Client ID: CCV
Sample Info: CCV;CCV;2;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210506.b\Before\X050602.D
Injection Date: 06-MAY-2021 12:00
Instrument: voa6.i
Client Sample ID: CCV

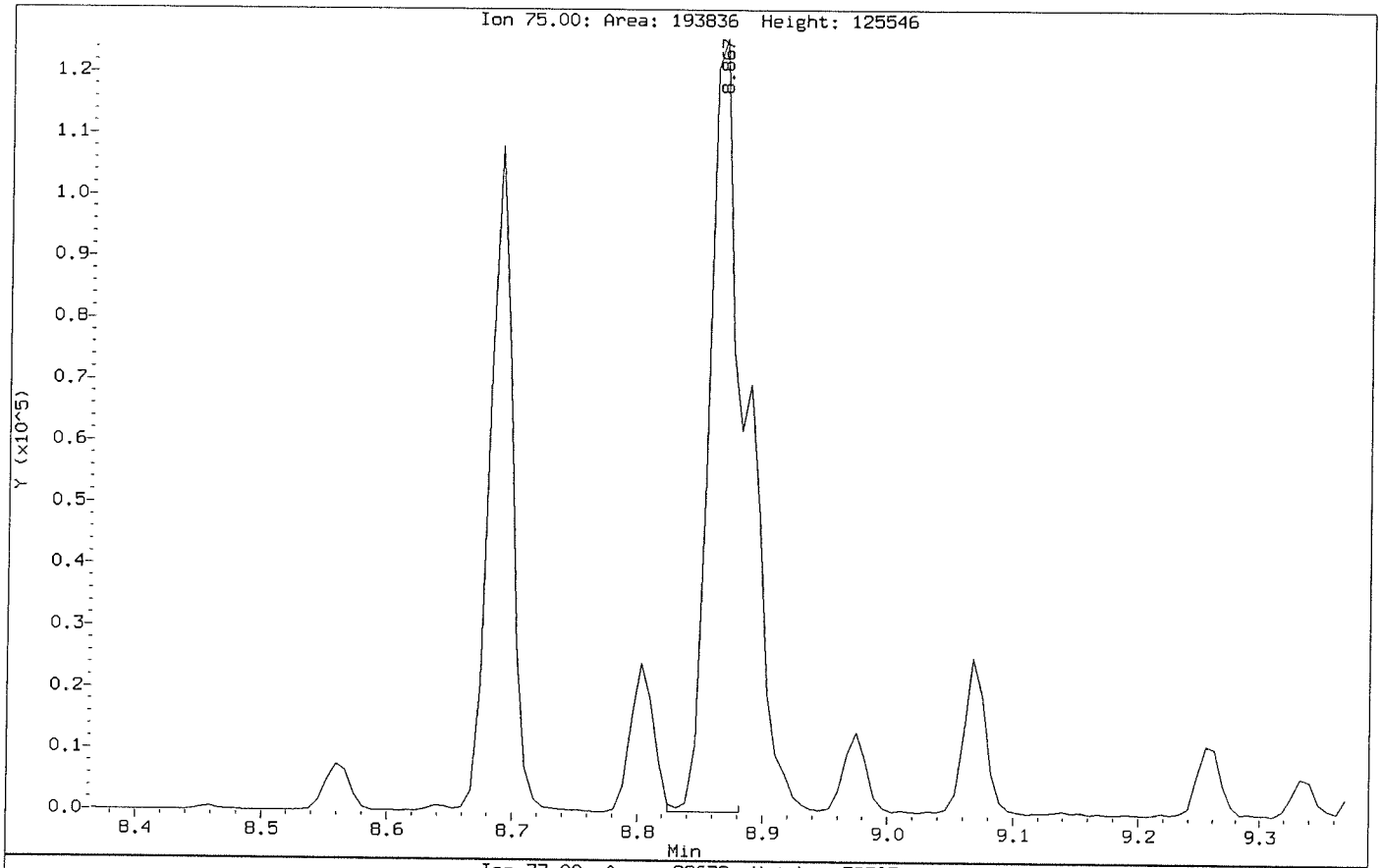
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4

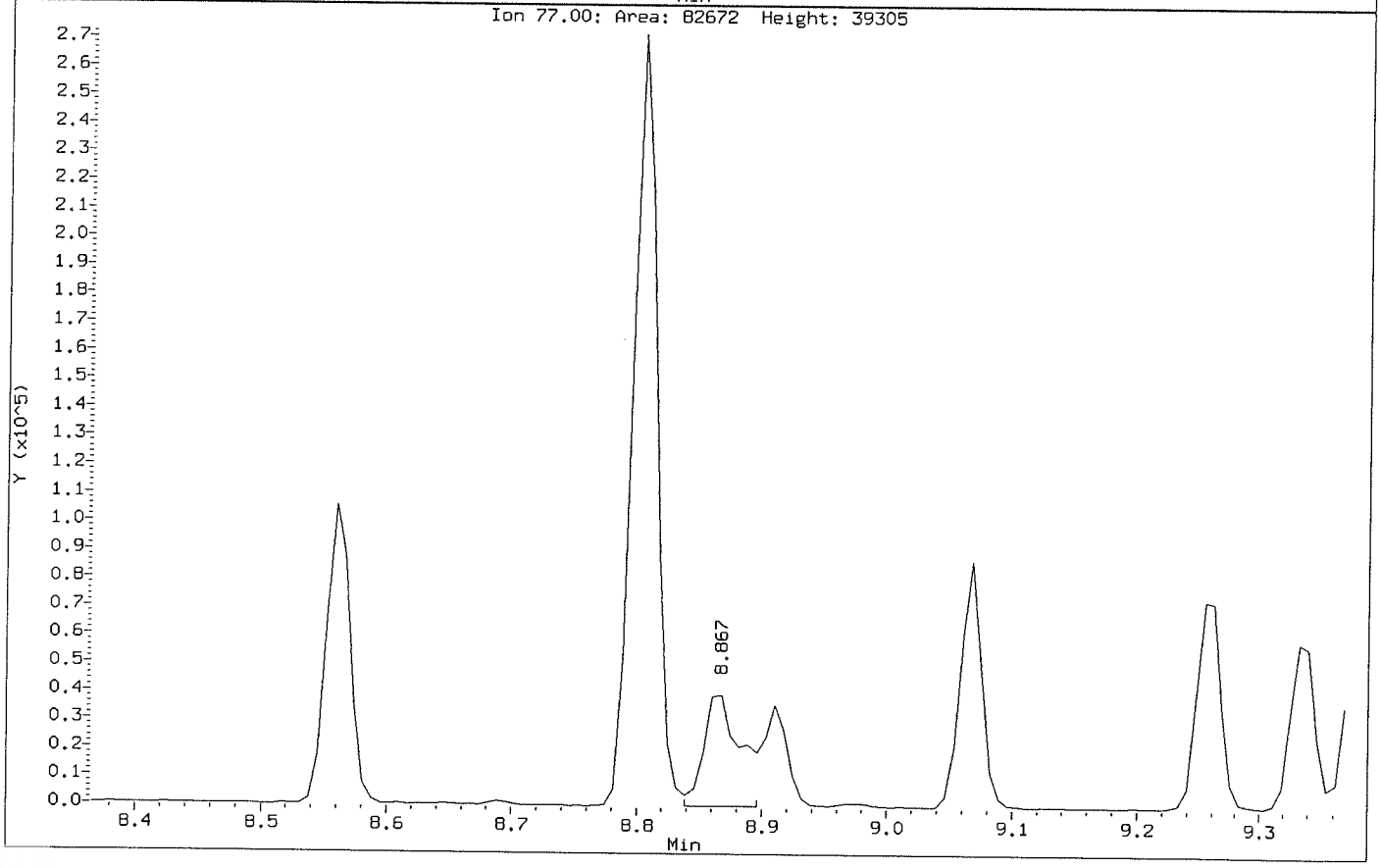


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210506.b\X050602.D
Injection Date: 06-MAY-2021 12:00
Instrument: voa6.i
Client Sample ID: CCV

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210506.b\X050605.D
Lab Smp Id: VLCSW-210506 Client Smp ID: VLCSW-210506
Inj Date : 06-MAY-2021 13:03
Operator : PC Inst ID: voa6.i
Smp Info : VLCSW-210506;VLCSW-210506;3;;LCS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210506.b\8260W.m
Meth Date : 25-May-2021 10:28 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 5 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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

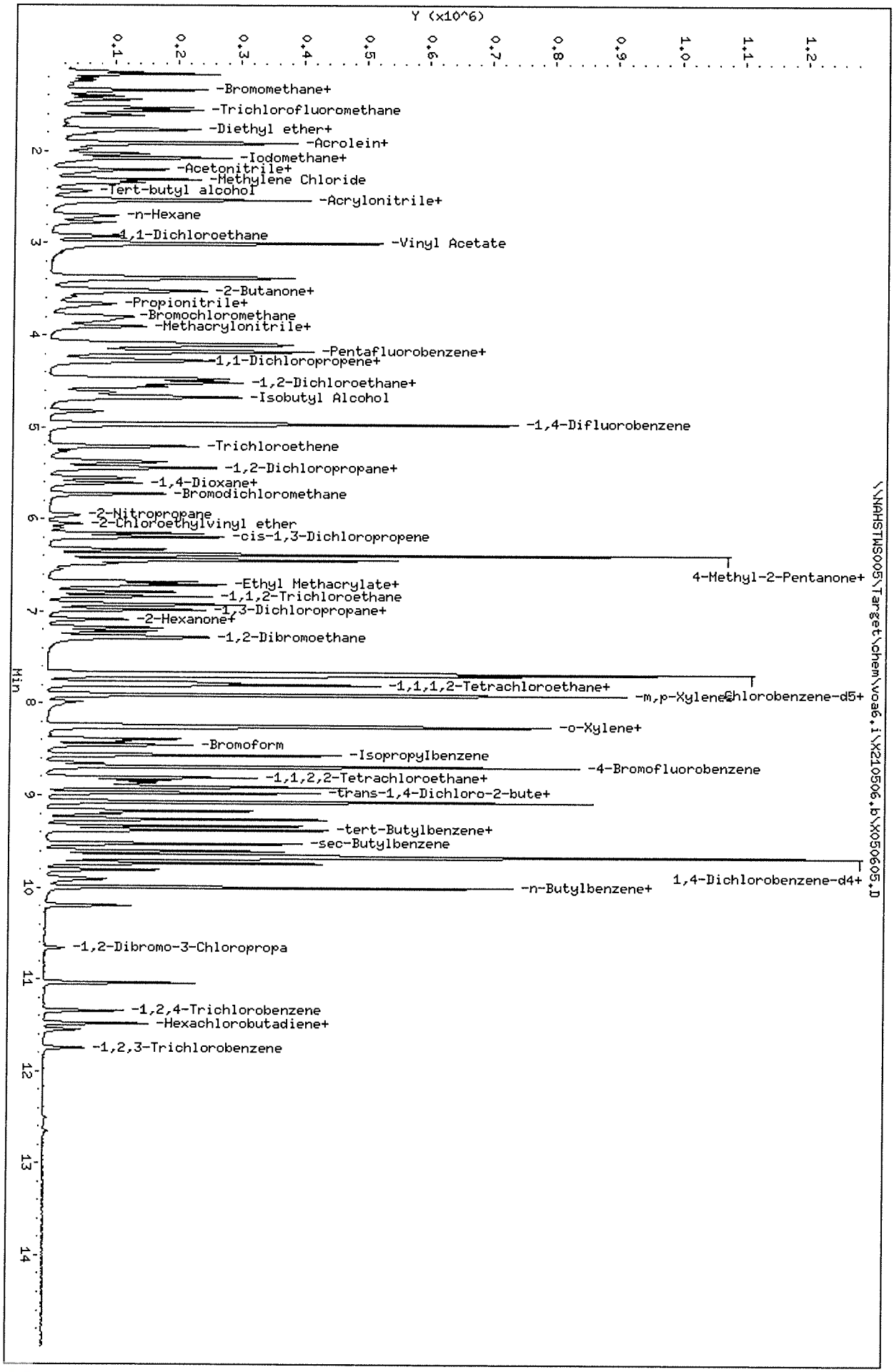
| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 5.000 | ng unit correction factor |
| Vo | 5.000 | sample purged |
| Cpnd Variable | | Local Compound Variable |

| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ug/l) | CONCENTRATIONS FINAL ( ug/l) |
|---|---|---|---|---|---|---|---|
| * 1 Pentafluorobenzene | 168 | 4.182 | 4.182 | (1.000) | 301256 | 50.0000 | |
| * 36 1,4-Difluorobenzene | 114 | 4.970 | 4.963 | (1.000) | 524529 | 50.0000 | |
| * 47 Chlorobenzene-d5 | 117 | 7.671 | 7.670 | (1.000) | 471384 | 50.0000 | |
| * 70 1,4-Dichlorobenzene-d4 | 152 | 9.662 | 9.662 | (1.000) | 217786 | 50.0000 | |
| $ 30 Dibromofluoromethane | 113 | 4.103 | 4.103 | (0.981) | 177659 | 50.0900 | 50.08 |
| $ 35 1,2-Dichloroethane-d4 | 65 | 4.476 | 4.476 | (1.070) | 230448 | 54.1874 | 54.18 |
| $ 48 Toluene-d8 | 98 | 6.388 | 6.388 | (0.833) | 607947 | 50.1689 | 50.16 |
| $ 69 4-Bromofluorobenzene | 95 | 8.688 | 8.688 | (1.133) | 213432 | 47.3047 | 47.30 |
| 60 1,1,1,2-Tetrachloroethane | 131 | 7.771 | 7.771 | (1.013) | 65231 | 18.6487 | 18.64 |
| 31 1,1,1-Trichloroethane | 97 | 4.089 | 4.082 | (0.978) | 109649 | 20.1124 | 20.11 |
| 68 1,1,2,2-Tetrachloroethane | 83 | 8.838 | 8.838 | (0.915) | 74887 | 20.6103 | 20.61 |
| 53 1,1,2-Trichloroethane | 83 | 6.840 | 6.840 | (0.892) | 55440 | 20.2464 | 20.24 |
| 22 1,1-Dichloroethane | 63 | 2.922 | 2.921 | (0.699) | 113116 | 20.2273 | 20.22 |
| 11 1,1-Dichloroethene | 96 | 1.919 | 1.919 | (0.459) | 74924 | 17.4669 | 17.46 |
| 32 1,1-Dichloropropene | 75 | 4.282 | 4.282 | (0.862) | 91210 | 18.5314 | 18.53 |
| 93 1,2,3-Trichlorobenzene | 180 | 11.746 | 11.746 | (1.216) | 15992 | 22.0974 | 22.09 |
| 71 1,2,3-Trichloropropane | 75 | 8.860 | 8.867 | (0.917) | 61628 | 21.0832 | 21.08(M) |
| 90 1,2,4-Trichlorobenzene | 180 | 11.338 | 11.338 | (1.173) | 30978 | 21.3399 | 21.33 |
| 79 1,2,4-Trimethylbenzene | 105 | 9.383 | 9.375 | (0.971) | 204605 | 18.3056 | 18.30 |
| 89 1,2-Dibromo-3-Chloropropane | 155 | 10.658 | 10.657 | (1.103) | 5093 | 21.4986 | 21.49 |
| 57 1,2-Dibromoethane | 107 | 7.262 | 7.262 | (0.947) | 66782 | 20.6081 | 20.60 |
| 88 1,2-Dichlorobenzene | 146 | 9.991 | 9.991 | (1.034) | 109250 | 18.2611 | 18.26 |

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ug/l) | CONCENTRATIONS FINAL ( ug/l) |
|---|---|---|---|---|---|---|---|---|
| 33 | 1,2-Dichloroethane | 62 | 4.555 | 4.555 | (0.916) | 106693 | 19.2170 | 19.21 |
| 42 | 1,2-Dichloropropane | 63 | 5.436 | 5.436 | (1.094) | 73461 | 20.1534 | 20.15 |
| 75 | 1,3,5-Trimethylbenzene | 105 | 9.067 | 9.067 | (0.938) | 199611 | 17.1013 | 17.10 |
| 83 | 1,3-Dichlorobenzene | 146 | 9.605 | 9.604 | (0.994) | 117746 | 18.6671 | 18.66 |
| 54 | 1,3-Dichloropropane | 76 | 6.983 | 6.983 | (0.910) | 111293 | 21.2606 | 21.26 |
| 84 | 1,4-Dichlorobenzene | 146 | 9.683 | 9.683 | (1.002) | 122696 | 18.0598 | 18.05 |
| 26 | 2,2-Dichloropropane | 77 | 3.509 | 3.509 | (0.839) | 107144 | 19.4549 | 19.45 |
| 24 | 2-Butanone | 43 | 3.581 | 3.580 | (0.856) | 40880 | 39.4745 | 39.47 |
| 76 | 2-Chlorotoluene | 91 | 8.974 | 8.974 | (0.929) | 189034 | 20.6504 | 20.65 |
| 52 | 2-Hexanone | 43 | 7.090 | 7.083 | (0.924) | 73946 | 39.8210 | 39.82 |
| 77 | 4-Chlorotoluene | 91 | 9.067 | 9.067 | (0.938) | 217773 | 18.3373 | 18.33 |
| 82 | p-Isopropyltoluene | 119 | 9.648 | 9.647 | (0.999) | 187227 | 16.9704 | 16.97 |
| 45 | 4-Methyl-2-Pentanone | 43 | 6.324 | 6.324 | (0.824) | 112139 | 39.4704 | 39.47 |
| 10 | Acetone | 43 | 1.976 | 1.976 | (0.473) | 38896 | 36.2731 | 36.27 |
| 37 | Benzene | 78 | 4.512 | 4.512 | (0.908) | 267052 | 19.2207 | 19.22 |
| 74 | Bromobenzene | 156 | 8.802 | 8.802 | (0.911) | 71359 | 19.0080 | 19.00 |
| 29 | Bromochloromethane | 128 | 3.795 | 3.795 | (0.908) | 36140 | 20.1132 | 20.11 |
| 39 | Bromodichloromethane | 83 | 5.729 | 5.722 | (1.153) | 103935 | 19.7611 | 19.76 |
| 66 | Bromoform | 173 | 8.408 | 8.408 | (1.096) | 40219 | 18.4543 | 18.45 |
| 6 | Bromomethane | 94 | 1.338 | 1.338 | (0.320) | 99459 | 22.9833 | 22.98 |
| 19 | Carbon Disulfide | 76 | 2.069 | 2.069 | (0.495) | 335592 | 40.0522 | 40.05 |
| 34 | Carbon Tetrachloride | 117 | 4.268 | 4.268 | (0.859) | 83901 | 17.7288 | 17.72 |
| 59 | Chlorobenzene | 112 | 7.692 | 7.692 | (1.003) | 173520 | 18.8517 | 18.85 |
| 7 | Chloroethane | 64 | 1.403 | 1.403 | (0.336) | 64602 | 19.2778 | 19.27 |
| 28 | Chloroform | 83 | 3.910 | 3.910 | (0.935) | 133364 | 20.3849 | 20.38 |
| 3 | Chloromethane | 50 | 1.081 | 1.080 | (0.258) | 70494 | 22.0828 | 22.08 |
| 27 | cis-1,2-Dichloroethene | 96 | 3.530 | 3.530 | (0.844) | 72522 | 19.6932 | 19.69 |
| 46 | cis-1,3-Dichloropropene | 75 | 6.152 | 6.152 | (1.238) | 122476 | 19.9500 | 19.95 |
| 55 | Dibromochloromethane | 129 | 7.176 | 7.176 | (0.936) | 72180 | 19.6148 | 19.61 |
| 44 | Dibromomethane | 93 | 5.550 | 5.550 | (1.117) | 48704 | 18.8315 | 18.83 |
| 2 | Dichlorodifluoromethane | 85 | 0.973 | 0.973 | (0.233) | 67978 | 24.0401 | 24.04 |
| 61 | Ethylbenzene | 106 | 7.800 | 7.799 | (1.017) | 87200 | 17.2821 | 17.28 |
| 91 | Hexachlorobutadiene | 225 | 11.481 | 11.481 | (1.188) | 22033 | 19.5903 | 19.59 |
| 67 | Isopropylbenzene | 105 | 8.559 | 8.559 | (1.116) | 243627 | 16.1524 | 16.15 |
| 62 | m,p-Xylenes | 106 | 7.900 | 7.907 | (1.030) | 220507 | 34.5122 | 34.51 |
| 17 | Methylene Chloride | 84 | 2.305 | 2.305 | (0.551) | 64986 | 20.7700 | 20.77 |
| 87 | n-Butylbenzene | 91 | 9.991 | 9.991 | (1.034) | 181255 | 17.3361 | 17.33 |
| 73 | n-Propylbenzene | 91 | 8.910 | 8.910 | (0.922) | 295903 | 17.9086 | 17.90 |
| 92 | Naphthalene | 128 | 11.546 | 11.546 | (1.195) | 43643 | 22.1866 | 22.18 |
| 63 | o-Xylene | 106 | 8.244 | 8.243 | (1.075) | 105683 | 17.0571 | 17.05 |
| 81 | sec-Butylbenzene | 105 | 9.519 | 9.519 | (0.985) | 222342 | 18.6837 | 18.68 |
| 64 | Styrene | 104 | 8.258 | 8.258 | (1.077) | 179528 | 18.0210 | 18.02 |
| 78 | tert-Butylbenzene | 119 | 9.340 | 9.332 | (0.967) | 159457 | 17.5299 | 17.52 |
| 56 | Tetrachloroethene | 164 | 6.926 | 6.925 | (0.903) | 51590 | 18.1312 | 18.13 |
| 50 | Toluene | 91 | 6.446 | 6.446 | (0.840) | 284247 | 19.4056 | 19.40 |
| 20 | trans-1,2-Dichloroethene | 96 | 2.535 | 2.527 | (0.606) | 60905 | 19.8388 | 19.83 |
| 51 | trans-1,3-Dichloropropene | 75 | 6.682 | 6.682 | (1.344) | 101921 | 19.4638 | 19.46 |
| 38 | Trichloroethene | 130 | 5.207 | 5.206 | (1.048) | 71258 | 19.8450 | 19.84 |
| 8 | Trichlorofluoromethane | 101 | 1.561 | 1.560 | (0.373) | 144524 | 16.7166 | 16.71 |
| 5 | Vinyl Chloride | 62 | 1.145 | 1.145 | (0.274) | 86356 | 19.1204 | 19.12 |

QC Flag Legend

M - Compound response manually integrated.

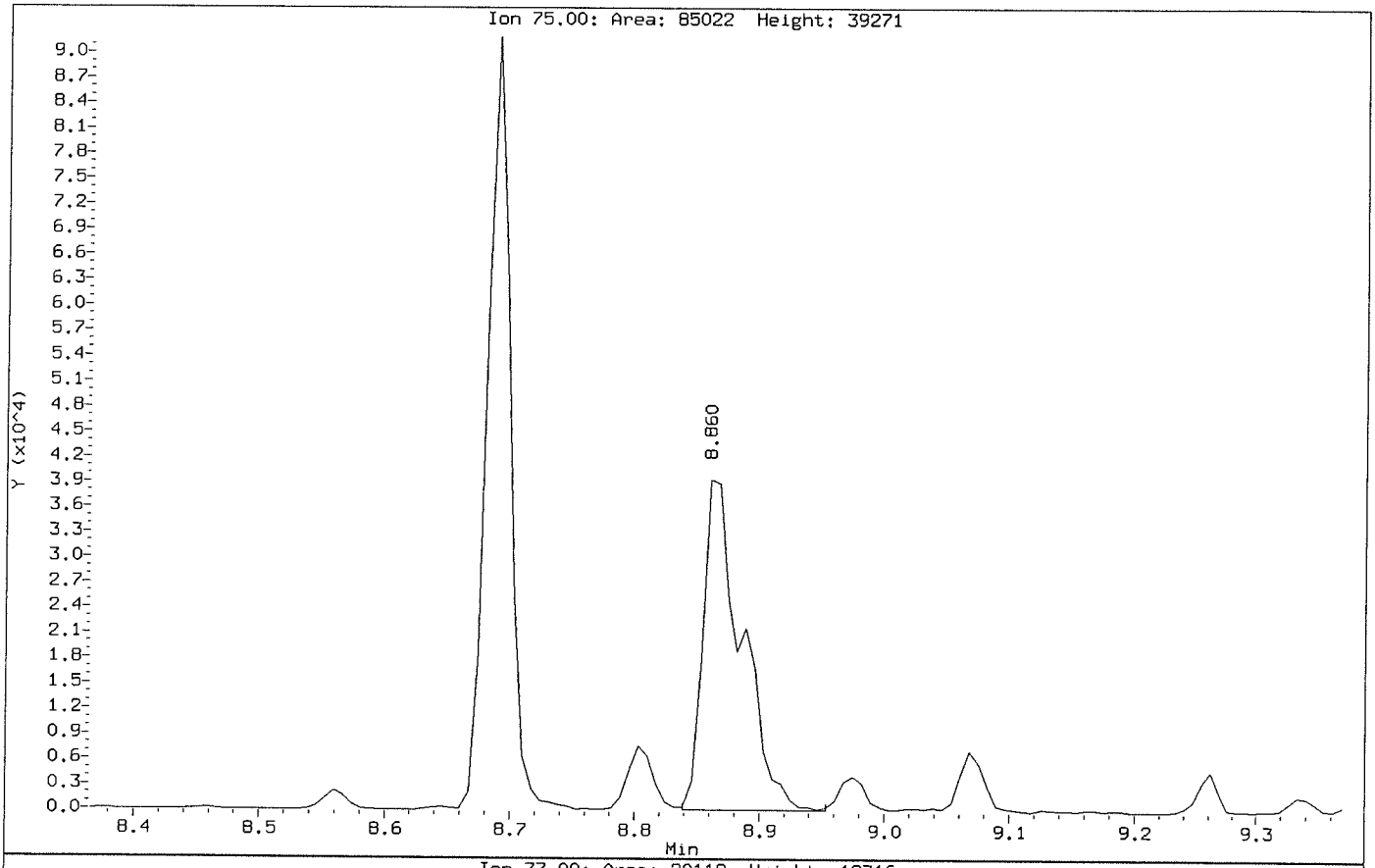


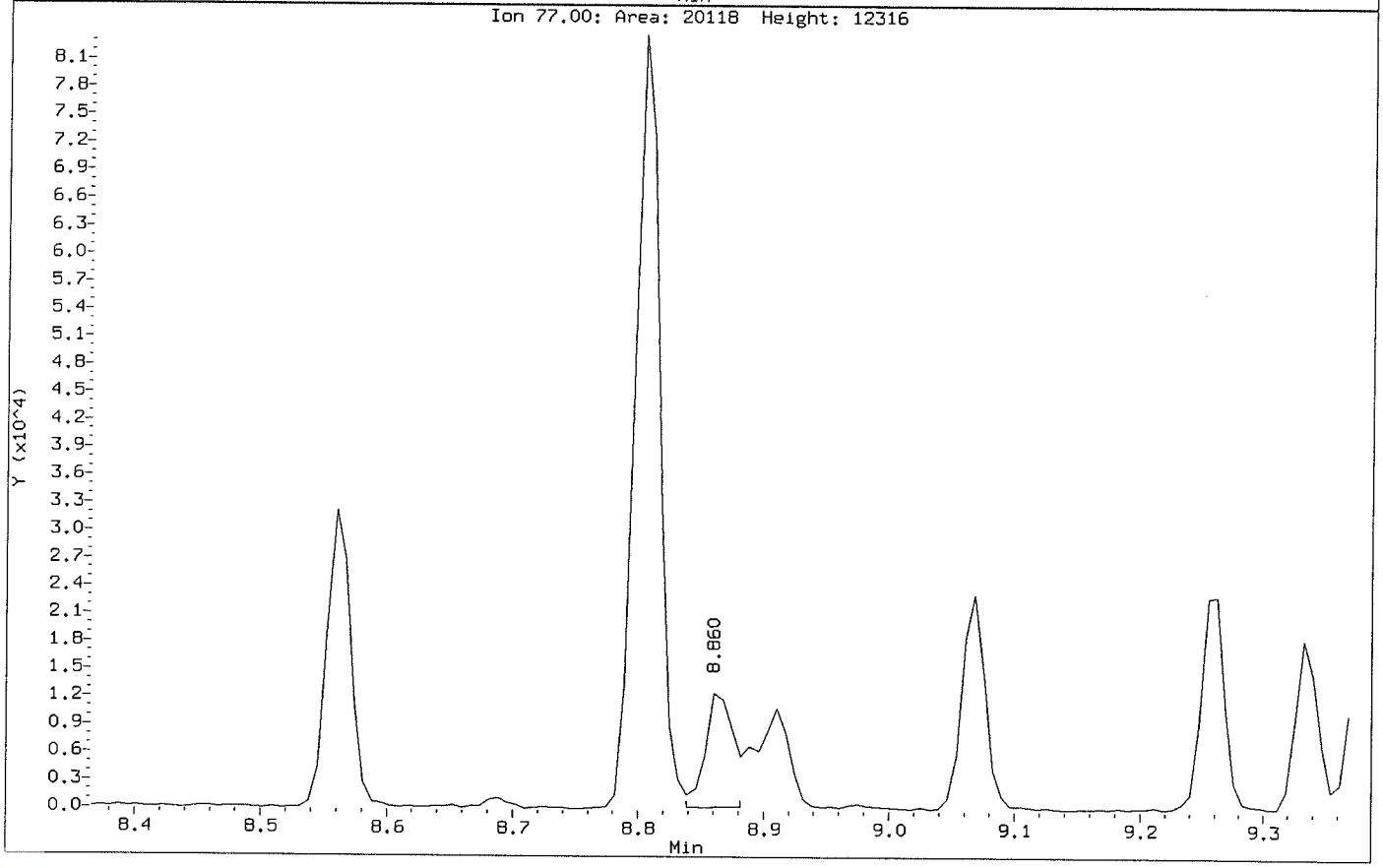

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210506.b\X050605.D
Date : 06-MAY-2021 13:03
Client ID: VLCSW-210506
Sample Info: VLCSW-210506;VLCSW-210506;3;;LCS
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210506.b\Before\X050605.D
Injection Date: 06-MAY-2021 13:03
Instrument: voa6.i
Client Sample ID: VLCSW-210506

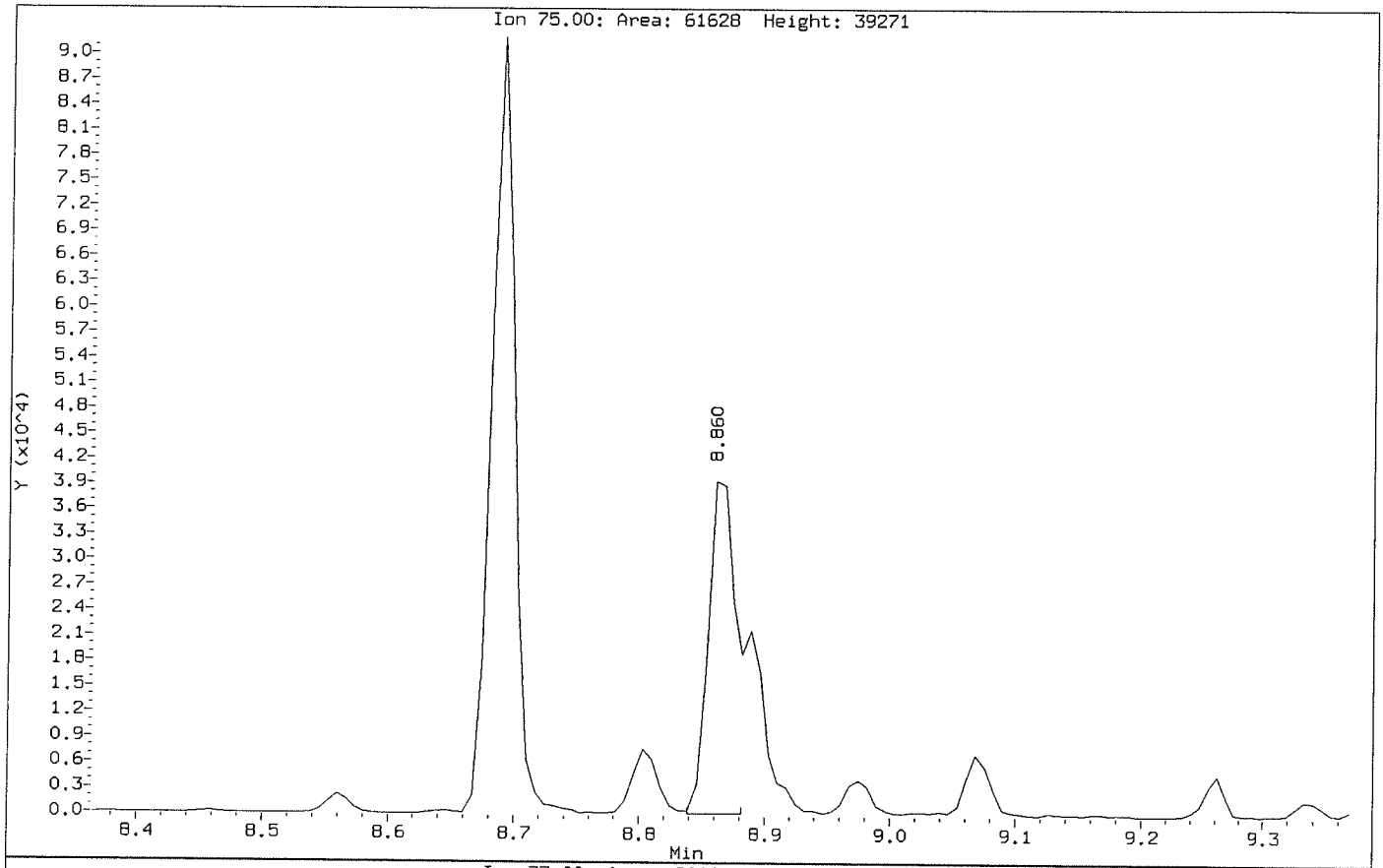
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4

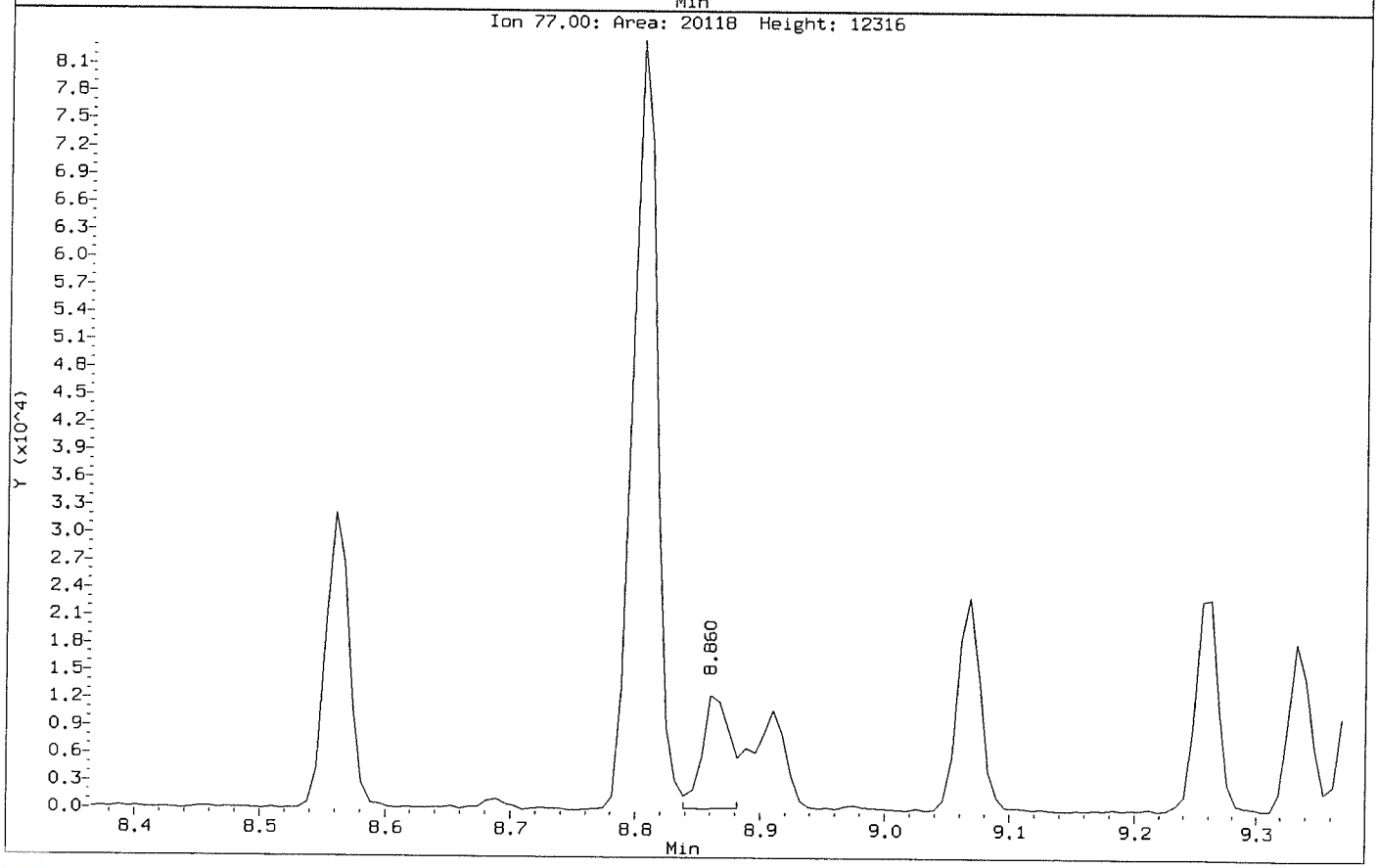


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210506.b\X050605.D
Injection Date: 06-MAY-2021 13:03
Instrument: voa6.i
Client Sample ID: VLCSW-210506

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210506.b\X050607.D
Lab Smp Id: VBLKW-210506 Client Smp ID: VBLKW-210506
Inj Date : 06-MAY-2021 13:45
Operator : PC Inst ID: voa6.i
Smp Info : VBLKW-210506;VBLKW-210506;3;;BLANK
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210506.b\8260W.m
Meth Date : 25-May-2021 10:28 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 7 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7066

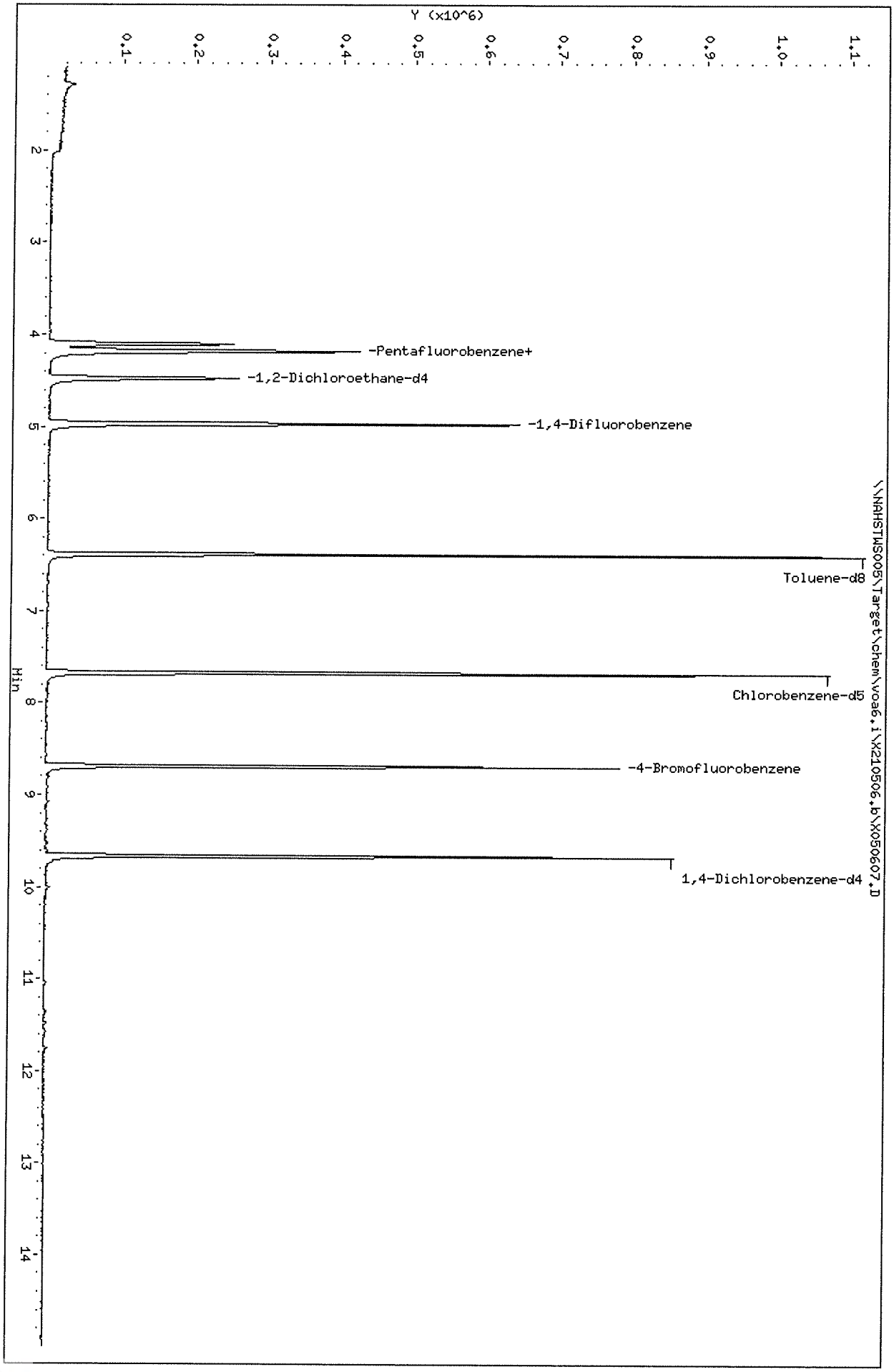
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

| 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) | CONCENTRATIONS FINAL ( ug/l) |
|---|---|---|---|---|---|---|---|
| * 1 Pentafluorobenzene | 168 | 4.182 | 4.182 | (1.000) | 314656 | 50.0000 | |
| * 36 1,4-Difluorobenzene | 114 | 4.963 | 4.963 | (1.000) | 508284 | 50.0000 | |
| * 47 Chlorobenzene-d5 | 117 | 7.671 | 7.670 | (1.000) | 460934 | 50.0000 | |
| * 70 1,4-Dichlorobenzene-d4 | 152 | 9.662 | 9.662 | (1.000) | 182756 | 50.0000 | |
| $ 30 Dibromofluoromethane | 113 | 4.103 | 4.103 | (0.981) | 170402 | 46.0333 | 46.03 |
| $ 35 1,2-Dichloroethane-d4 | 65 | 4.476 | 4.476 | (1.070) | 203153 | 45.8103 | 45.81 |
| $ 48 Toluene-d8 | 98 | 6.388 | 6.388 | (0.833) | 636548 | 53.5888 | 53.58 |
| $ 69 4-Bromofluorobenzene | 95 | 8.688 | 8.688 | (1.133) | 199561 | 45.3054 | 45.30 |

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210506.b\X050607.D
Date : 06-MAY-2021 13:45
Client ID: VBLKW-210506
Sample Info: VBLKW-210506;VBLKW-210506;3;;BLANK
Purge Volume: 5.0
Column phase: DB624

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



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210506.b\X050609.D
Lab Smp Id: HS21050180-02 Client Smp ID: HS21050180-02
Inj Date : 06-MAY-2021 14:28
Operator : PC Inst ID: voa6.i
Smp Info : HS21050180-02;HS21050180-02;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210506.b\8260W.m
Meth Date : 25-May-2021 10:30 Qin.Xu Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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 |

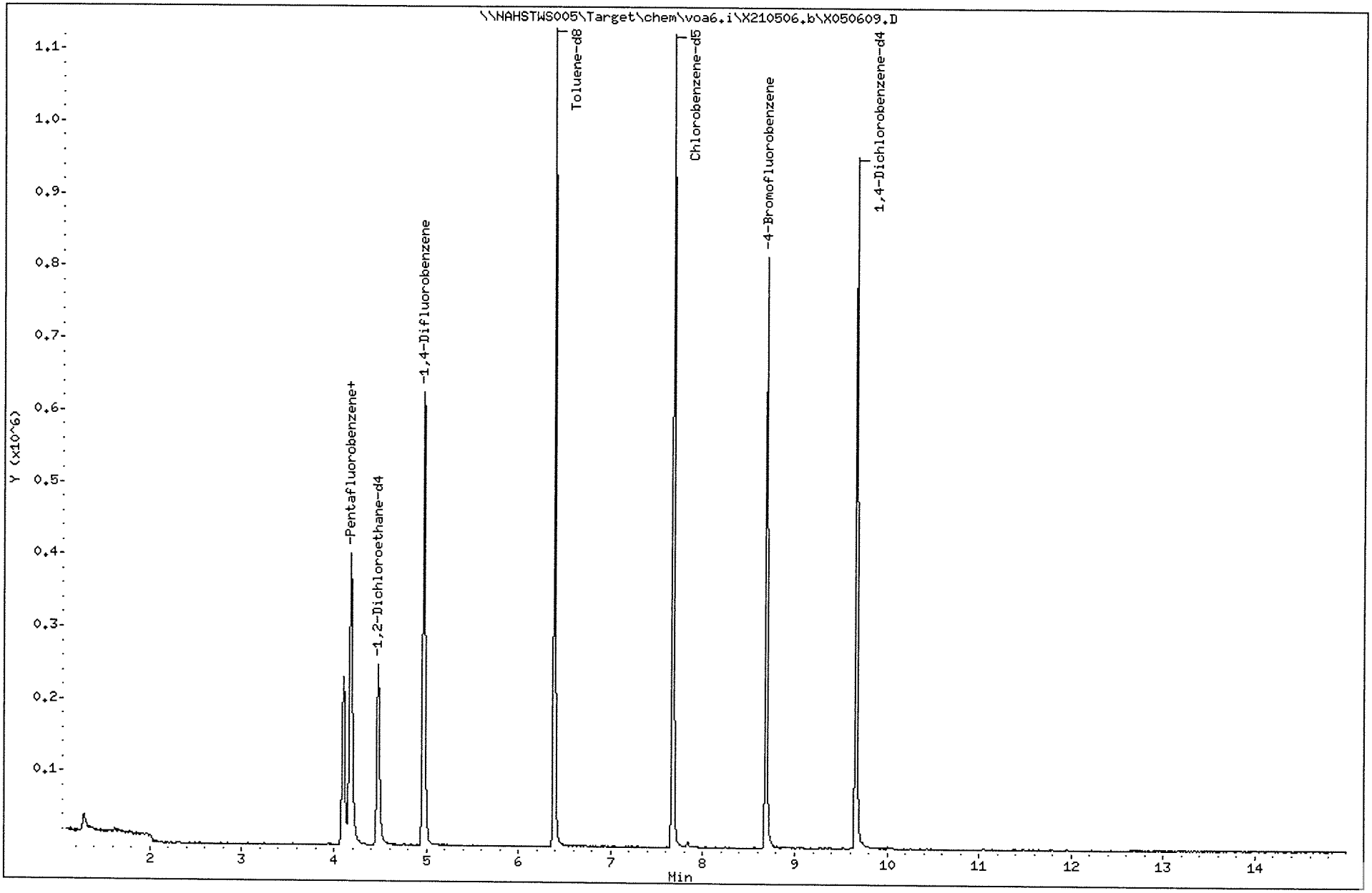
| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ug/l) | CONCENTRATIONS FINAL ( ug/l) |
|---|---|---|---|---|---|---|---|
| * 1 Pentafluorobenzene | 168 | 4.182 | 4.182 | (1.000) | 301685 | 50.0000 | |
| * 36 1,4-Difluorobenzene | 114 | 4.963 | 4.963 | (1.000) | 480203 | 50.0000 | |
| * 47 Chlorobenzene-d5 | 117 | 7.670 | 7.671 | (1.000) | 485998 | 50.0000 | |
| * 70 1,4-Dichlorobenzene-d4 | 152 | 9.662 | 9.662 | (1.000) | 196728 | 50.0000 | |
| $ 30 Dibromofluoromethane | 113 | 4.103 | 4.103 | (0.981) | 157526 | 44.4000 | 44.40 |
| $ 35 1,2-Dichloroethane-d4 | 65 | 4.476 | 4.469 | (1.070) | 191490 | 45.0451 | 45.04 |
| $ 48 Toluene-d8 | 98 | 6.388 | 6.388 | (0.833) | 640387 | 51.2166 | 51.21 |
| $ 69 4-Bromofluorobenzene | 95 | 8.688 | 8.688 | (1.133) | 197141 | 42.5519 | 42.55 |

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210506.b\X050609.D
Date : 06-MAY-2021 14:28
Client ID: HS21050180-02
Sample Info: HS21050180-02;HS21050180-02;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i

Operator: PC
Column diameter: 0.18





ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210506.b\X050610.D
Lab Smp Id: HS21050180-01 Client Smp ID: HS21050180-01
Inj Date : 06-MAY-2021 14:49
Operator : PC Inst ID: voa6.i
Smp Info : HS21050180-01;HS21050180-01;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210506.b\8260W.m
Meth Date : 25-May-2021 10:30 Qin.Xu Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7066

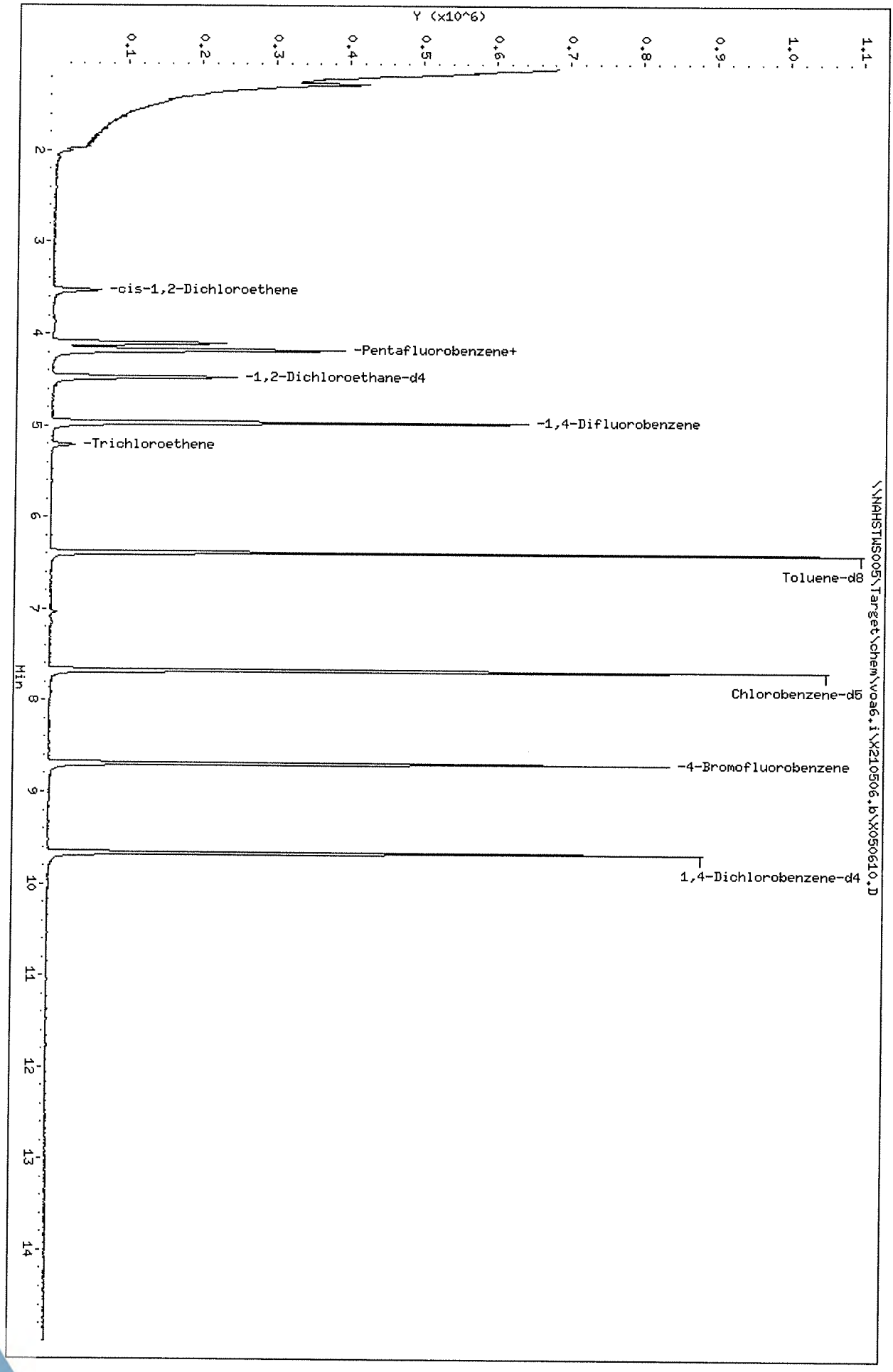
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

| 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) | CONCENTRATIONS FINAL ( ug/l) |
|---|---|---|---|---|---|---|---|
| * 1 Pentafluorobenzene | 168 | 4.182 | 4.182 | (1.000) | 294366 | 50.0000 | |
| * 36 1,4-Difluorobenzene | 114 | 4.963 | 4.963 | (1.000) | 473364 | 50.0000 | |
| * 47 Chlorobenzene-d5 | 117 | 7.671 | 7.671 | (1.000) | 449845 | 50.0000 | |
| * 70 1,4-Dichlorobenzene-d4 | 152 | 9.662 | 9.662 | (1.000) | 180492 | 50.0000 | |
| $ 30 Dibromofluoromethane | 113 | 4.104 | 4.103 | (0.981) | 158394 | 45.7415 | 45.74 |
| $ 35 1,2-Dichloroethane-d4 | 65 | 4.469 | 4.469 | (1.068) | 192448 | 46.3815 | 46.38 |
| $ 48 Toluene-d8 | 98 | 6.389 | 6.388 | (0.833) | 606425 | 52.3555 | 52.35 |
| $ 69 4-Bromofluorobenzene | 95 | 8.688 | 8.688 | (1.133) | 228684 | 52.9093 | 52.90 |
| 27 cis-1,2-Dichloroethene | 96 | 3.530 | 3.530 | (0.844) | 32191 | 8.94599 | 8.94 |
| 38 Trichloroethene | 130 | 5.207 | 5.206 | (1.049) | 10138 | 3.12855 | 3.12(a) |

QC Flag Legend

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




Data File: \\NAHSTWS005\Target\chem\voa6.i\X210506.b\X050610.D
Date : 06-MAY-2021 14:49
Client ID: HS21050180-01
Sample Info: HS21050180-01;HS21050180-01;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210506.b\X050610.D



Date : 06-MAY-2021 14:49

Client ID: HS21050180-01

Instrument: voa6.i

Sample Info: HS21050180-01;HS21050180-01;;;

Purge Volume: 5.0

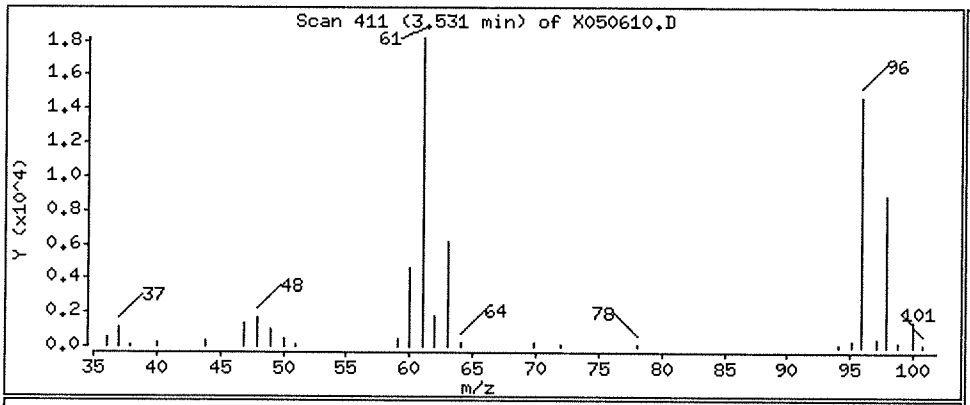
Operator: PC

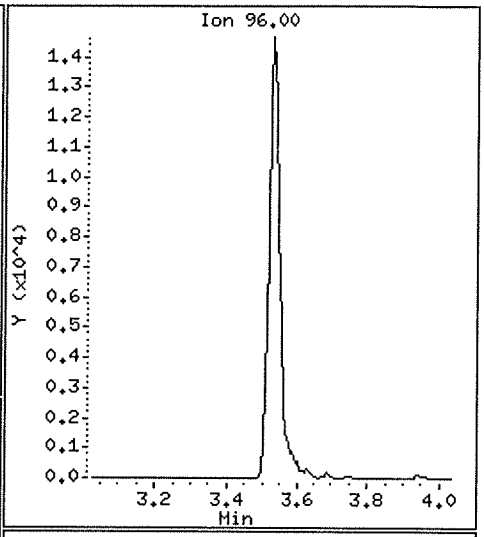
Column phase: DB624

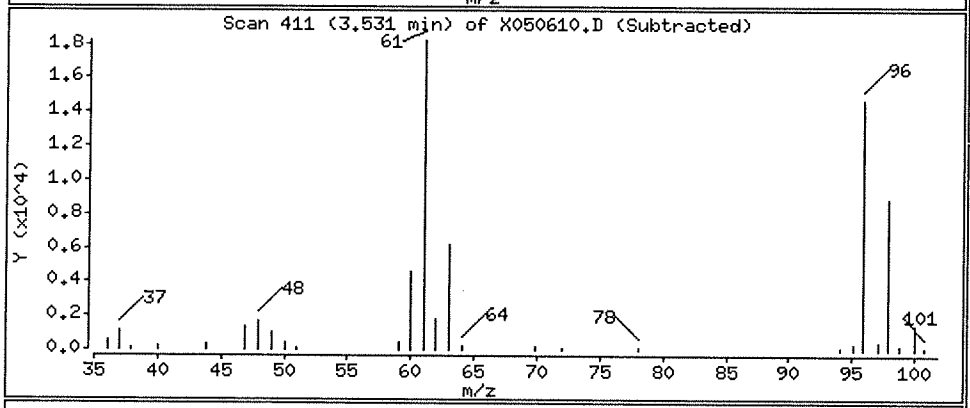
Column diameter: 0.18

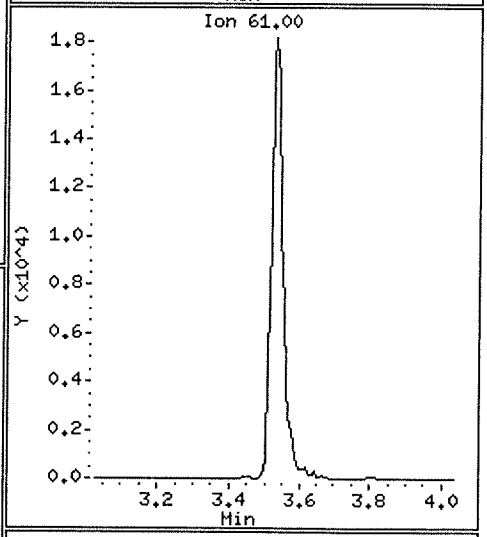
27 cis-1,2-Dichloroethene

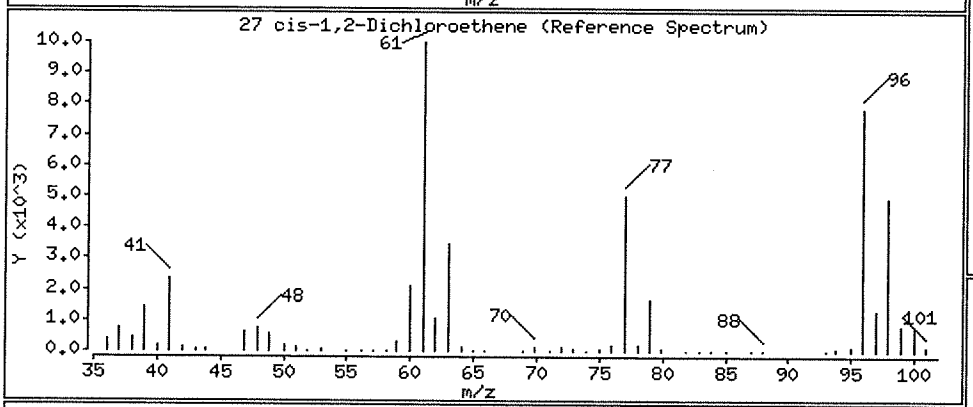
Concentration: 8.94 ug/l

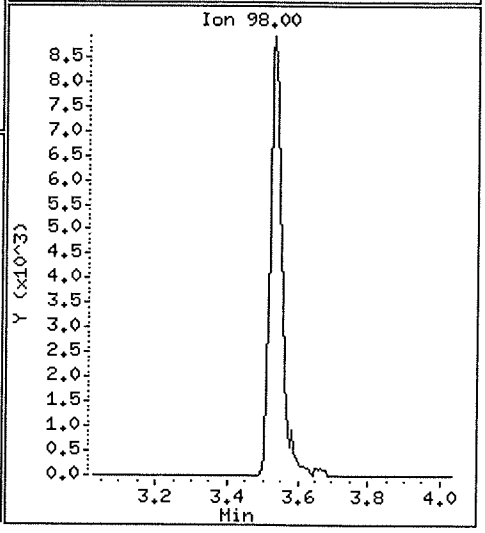


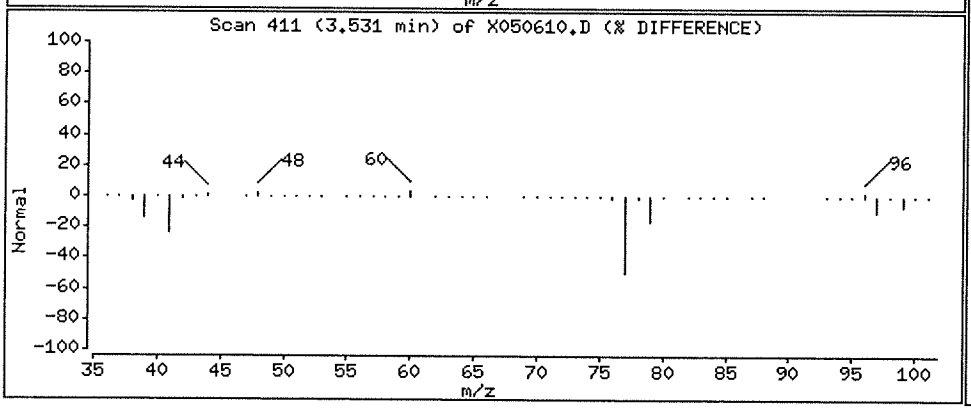



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210506.b\X050610.D



Date : 06-MAY-2021 14:49

Client ID: HS21050180-01

Instrument: voa6.i

Sample Info: HS21050180-01;HS21050180-01;;;

Purge Volume: 5.0

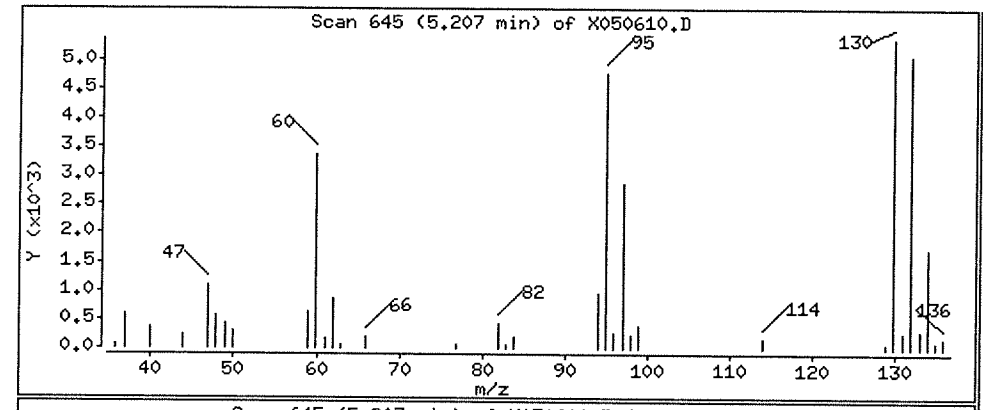
Operator: PC

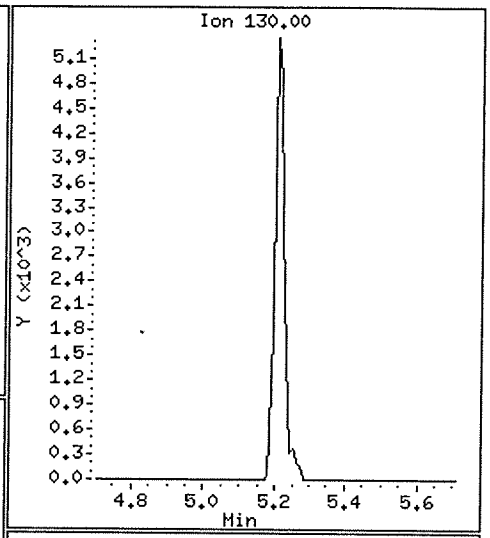
Column phase: DB624

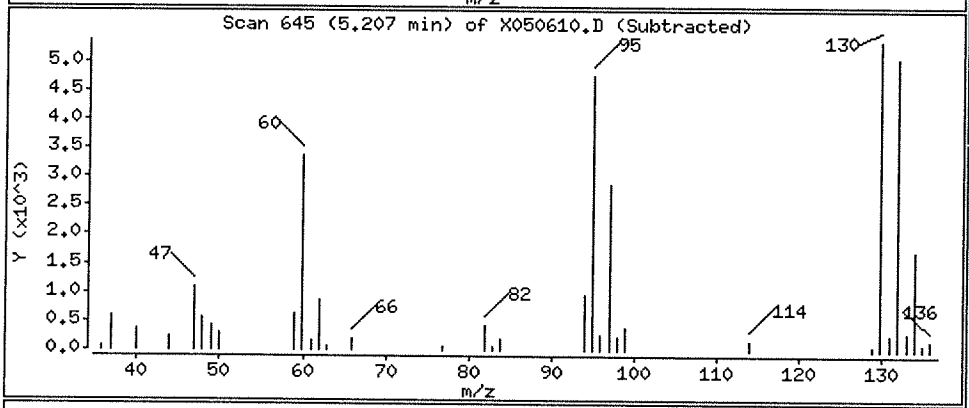
Column diameter: 0.18

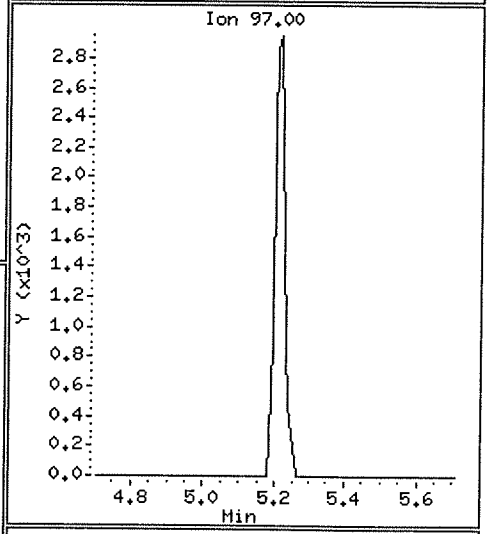
38 Trichloroethene

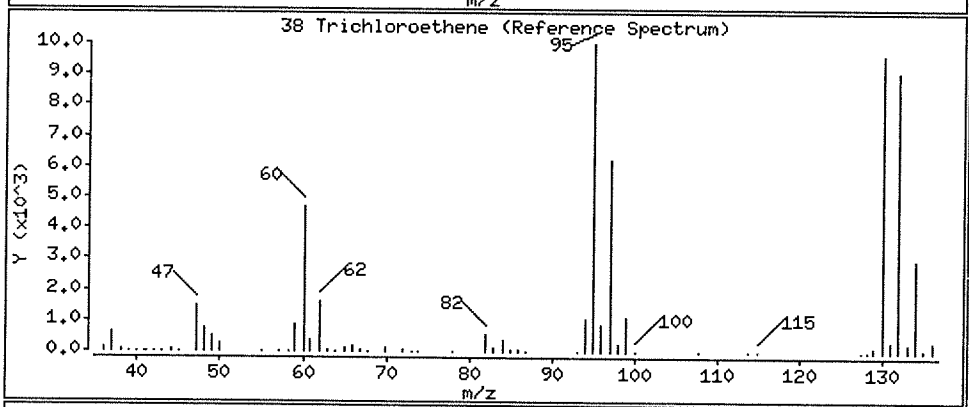
Concentration: 3.12 ug/l

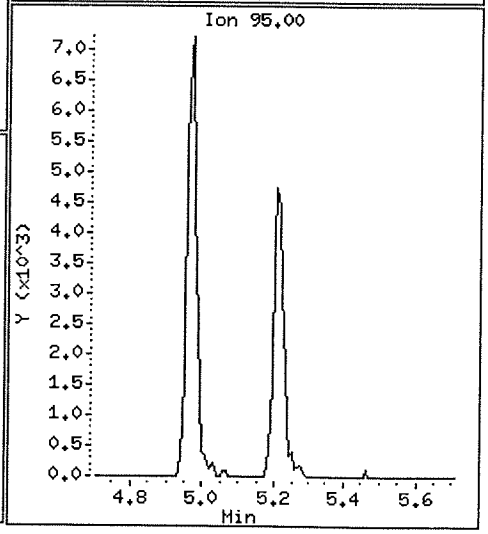


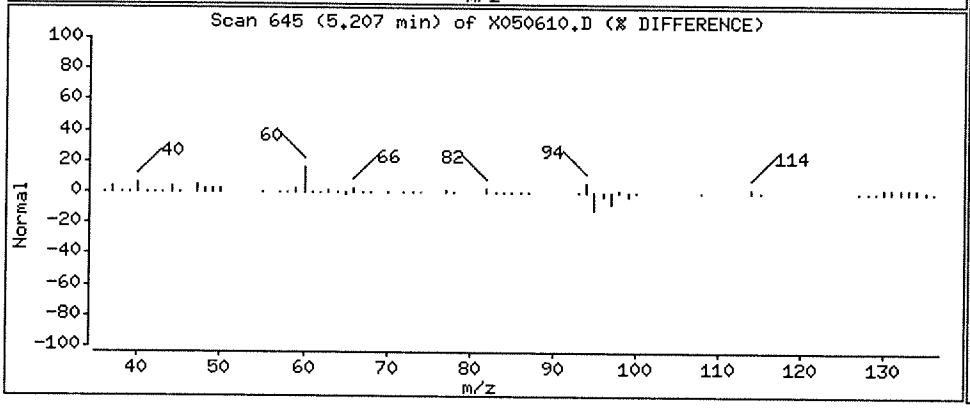



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210506.b\X050611.D
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Inj Date : 06-MAY-2021 15:10
Operator : PC Inst ID: voa6.i
Smp Info : HS21050180-01MS;HS21050180-01MS;3;;MS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210506.b\8260W.m
Meth Date : 25-May-2021 10:28 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 11 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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

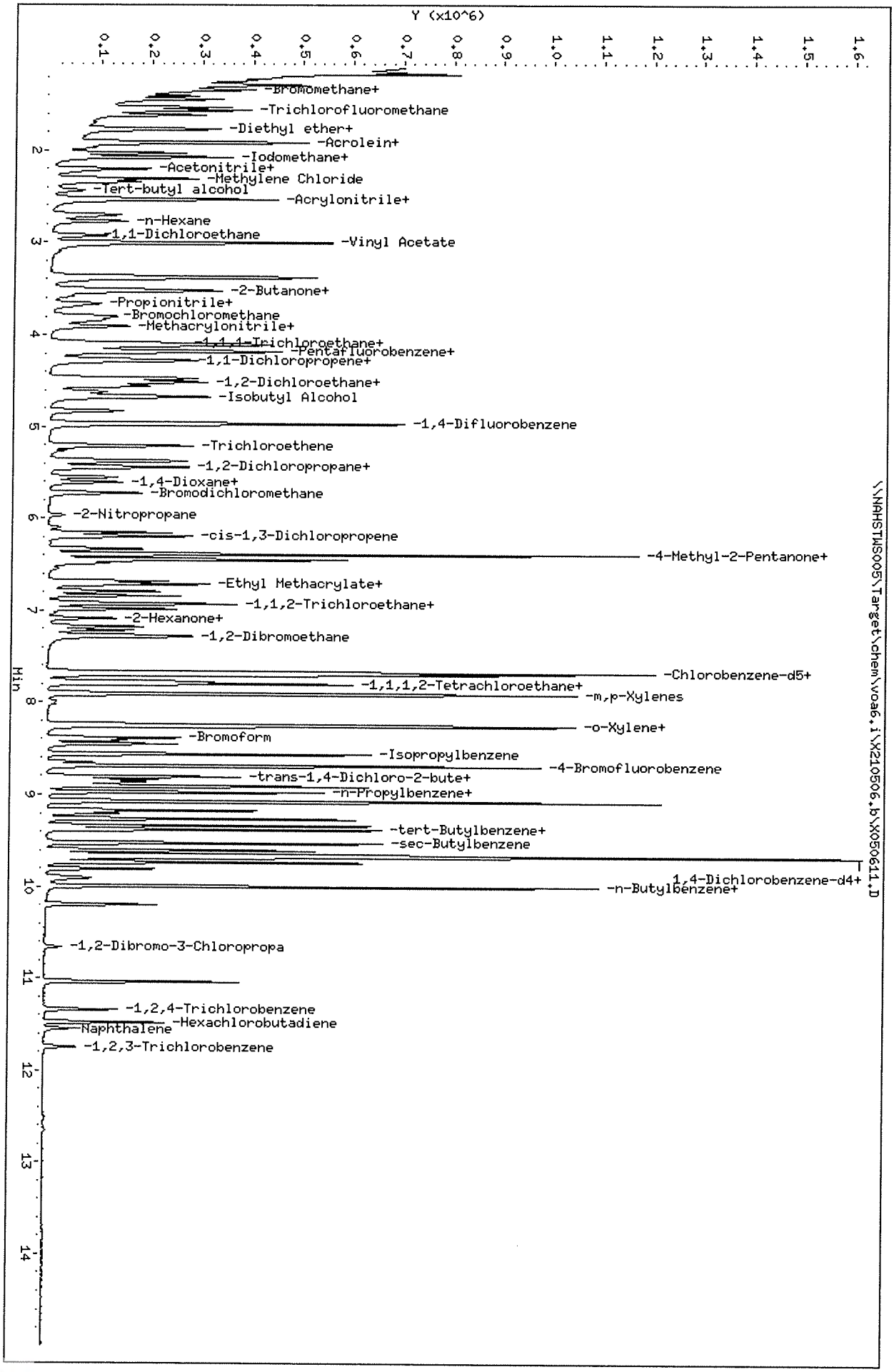
| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 5.000 | ng unit correction factor |
| Vo | 5.000 | sample purged |
| Cpnd Variable | | Local Compound Variable |

| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ug/l) | FINAL ( ug/l) |
|---|---|---|---|---|---|---|---|
| * 1 Pentafluorobenzene | 168 | 4.182 | 4.182 | (1.000) | 336008 | 50.0000 | |
| * 36 1,4-Difluorobenzene | 114 | 4.963 | 4.963 | (1.000) | 545197 | 50.0000 | |
| * 47 Chlorobenzene-d5 | 117 | 7.670 | 7.670 | (1.000) | 495492 | 50.0000 | |
| * 70 1,4-Dichlorobenzene-d4 | 152 | 9.662 | 9.662 | (1.000) | 287461 | 50.0000 | |
| $ 30 Dibromofluoromethane | 113 | 4.103 | 4.103 | (0.981) | 189002 | 47.7967 | 47.79 |
| $ 35 1,2-Dichloroethane-d4 | 65 | 4.469 | 4.476 | (1.069) | 233444 | 49.2589 | 49.25 |
| $ 48 Toluene-d8 | 98 | 6.388 | 6.388 | (0.833) | 671448 | 52.6192 | 52.61 |
| $ 69 4-Bromofluorobenzene | 95 | 8.688 | 8.688 | (1.133) | 245424 | 51.5937 | 51.59 |
| 60 1,1,1,2-Tetrachloroethane | 131 | 7.778 | 7.771 | (1.014) | 69154 | 18.8083 | 18.80 |
| 31 1,1,1-Trichloroethane | 97 | 4.082 | 4.082 | (0.976) | 121842 | 20.0374 | 20.03 |
| 68 1,1,2,2-Tetrachloroethane | 83 | 8.838 | 8.838 | (0.915) | 84824 | 17.6867 | 17.68 |
| 53 1,1,2-Trichloroethane | 83 | 6.840 | 6.840 | (0.892) | 54992 | 19.1057 | 19.10 |
| 22 1,1-Dichloroethane | 63 | 2.921 | 2.921 | (0.699) | 114520 | 18.3604 | 18.36 |
| 11 1,1-Dichloroethene | 96 | 1.919 | 1.919 | (0.459) | 86564 | 18.0933 | 18.09 |
| 32 1,1-Dichloropropene | 75 | 4.282 | 4.282 | (0.863) | 101763 | 19.8917 | 19.89 |
| 93 1,2,3-Trichlorobenzene | 180 | 11.746 | 11.746 | (1.216) | 19726 | 20.7308 | 20.73 |
| 71 1,2,3-Trichloropropane | 75 | 8.860 | 8.867 | (0.917) | 65191 | 16.8965 | 16.89(M) |
| 90 1,2,4-Trichlorobenzene | 180 | 11.338 | 11.338 | (1.173) | 36885 | 19.3025 | 19.30 |
| 79 1,2,4-Trimethylbenzene | 105 | 9.375 | 9.375 | (0.970) | 300778 | 20.3875 | 20.38 |
| 89 1,2-Dibromo-3-Chloropropane | 155 | 10.657 | 10.657 | (1.103) | 6111 | 19.5434 | 19.54 |
| 57 1,2-Dibromoethane | 107 | 7.262 | 7.262 | (0.947) | 68564 | 20.1286 | 20.12 |
| 88 1,2-Dichlorobenzene | 146 | 9.991 | 9.991 | (1.034) | 144796 | 18.3363 | 18.33 |

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ug/l) | CONCENTRATIONS FINAL ( ug/l) |
|---|---|---|---|---|---|---|---|---|
| 33 | 1,2-Dichloroethane | 62 | 4.555 | 4.555 | (0.918) | 113268 | 19.6278 | 19.62 |
| 42 | 1,2-Dichloropropane | 63 | 5.436 | 5.436 | (1.095) | 75492 | 19.9255 | 19.92 |
| 75 | 1,3,5-Trimethylbenzene | 105 | 9.067 | 9.067 | (0.938) | 290239 | 18.8387 | 18.83 |
| 83 | 1,3-Dichlorobenzene | 146 | 9.605 | 9.604 | (0.994) | 161956 | 19.4526 | 19.45 |
| 54 | 1,3-Dichloropropane | 76 | 6.983 | 6.983 | (0.910) | 115681 | 21.0236 | 21.02 |
| 84 | 1,4-Dichlorobenzene | 146 | 9.683 | 9.683 | (1.002) | 163435 | 18.2255 | 18.22 |
| 26 | 2,2-Dichloropropane | 77 | 3.509 | 3.509 | (0.839) | 114279 | 18.6043 | 18.60 |
| 24 | 2-Butanone | 43 | 3.580 | 3.580 | (0.856) | 39414 | 34.1226 | 34.12 |
| 76 | 2-Chlorotoluene | 91 | 8.974 | 8.974 | (0.929) | 241069 | 19.9512 | 19.95 |
| 52 | 2-Hexanone | 43 | 7.090 | 7.083 | (0.924) | 76862 | 39.4096 | 39.40 |
| 77 | 4-Chlorotoluene | 91 | 9.067 | 9.067 | (0.938) | 294763 | 18.8042 | 18.80 |
| 82 | p-Isopropyltoluene | 119 | 9.647 | 9.647 | (0.999) | 305530 | 20.9811 | 20.98 |
| 45 | 4-Methyl-2-Pentanone | 43 | 6.324 | 6.324 | (0.824) | 118683 | 39.7412 | 39.74 |
| 10 | Acetone | 43 | 1.976 | 1.976 | (0.473) | 41028 | 34.0619 | 34.06 |
| 37 | Benzene | 78 | 4.512 | 4.512 | (0.909) | 274362 | 18.9982 | 18.99 |
| 74 | Bromobenzene | 156 | 8.809 | 8.802 | (0.912) | 86982 | 17.5537 | 17.55 |
| 29 | Bromochloromethane | 128 | 3.795 | 3.795 | (0.908) | 37419 | 18.6712 | 18.67 |
| 39 | Bromodichloromethane | 83 | 5.729 | 5.722 | (1.154) | 102629 | 18.7731 | 18.77 |
| 66 | Bromoform | 173 | 8.408 | 8.408 | (1.096) | 48766 | 20.9743 | 20.97 |
| 6 | Bromomethane | 94 | 1.338 | 1.338 | (0.320) | 73532 | 15.1715 | 15.17 |
| 19 | Carbon Disulfide | 76 | 2.069 | 2.069 | (0.495) | 418745 | 44.8075 | 44.80 |
| 34 | Carbon Tetrachloride | 117 | 4.268 | 4.268 | (0.860) | 99350 | 20.1974 | 20.19 |
| 59 | Chlorobenzene | 112 | 7.692 | 7.692 | (1.003) | 189873 | 19.5519 | 19.55 |
| 7 | Chloroethane | 64 | 1.403 | 1.403 | (0.336) | 60588 | 16.2101 | 16.21(M) |
| 28 | Chloroform | 83 | 3.910 | 3.910 | (0.935) | 134360 | 18.4131 | 18.41 |
| 3 | Chloromethane | 50 | 1.081 | 1.080 | (0.258) | 108498 | 30.7846 | 30.78 |
| 27 | cis-1,2-Dichloroethene | 96 | 3.530 | 3.530 | (0.844) | 112776 | 27.4567 | 27.45 |
| 46 | cis-1,3-Dichloropropene | 75 | 6.159 | 6.152 | (1.241) | 117983 | 18.4896 | 18.48 |
| 55 | Dibromochloromethane | 129 | 7.176 | 7.176 | (0.936) | 72234 | 18.6744 | 18.67 |
| 44 | Dibromomethane | 93 | 5.550 | 5.550 | (1.118) | 49716 | 18.4941 | 18.49 |
| 2 | Dichlorodifluoromethane | 85 | 0.973 | 0.973 | (0.233) | 57508 | 18.6376 | 18.63 |
| 61 | Ethylbenzene | 106 | 7.799 | 7.799 | (1.017) | 100213 | 18.8949 | 18.89 |
| 91 | Hexachlorobutadiene | 225 | 11.481 | 11.481 | (1.188) | 33973 | 22.7159 | 22.71 |
| 67 | Isopropylbenzene | 105 | 8.559 | 8.559 | (1.116) | 340318 | 21.4651 | 21.46 |
| 62 | m,p-Xylenes | 106 | 7.907 | 7.907 | (1.031) | 254629 | 37.9137 | 37.91 |
| 17 | Methylene Chloride | 84 | 2.305 | 2.305 | (0.551) | 63754 | 18.4474 | 18.44 |
| 87 | n-Butylbenzene | 91 | 9.991 | 9.991 | (1.034) | 295170 | 21.3888 | 21.38 |
| 73 | n-Propylbenzene | 91 | 8.910 | 8.910 | (0.922) | 378190 | 17.3410 | 17.34 |
| 92 | Naphthalene | 128 | 11.546 | 11.546 | (1.195) | 43526 | 16.9454 | 16.94 |
| 63 | o-Xylene | 106 | 8.244 | 8.243 | (1.075) | 147054 | 22.5796 | 22.57 |
| 81 | sec-Butylbenzene | 105 | 9.519 | 9.519 | (0.985) | 375054 | 23.6776 | 23.67 |
| 64 | Styrene | 104 | 8.258 | 8.258 | (1.077) | 245081 | 22.3997 | 22.39 |
| 78 | tert-Butylbenzene | 119 | 9.339 | 9.332 | (0.967) | 253465 | 20.9635 | 20.96 |
| 56 | Tetrachloroethene | 164 | 6.926 | 6.925 | (0.903) | 62144 | 20.7778 | 20.77 |
| 50 | Toluene | 91 | 6.446 | 6.446 | (0.840) | 308026 | 20.0058 | 20.00 |
| 20 | trans-1,2-Dichloroethene | 96 | 2.535 | 2.527 | (0.606) | 63843 | 18.6449 | 18.64 |
| 51 | trans-1,3-Dichloropropene | 75 | 6.682 | 6.682 | (1.346) | 103412 | 18.9999 | 18.99 |
| 38 | Trichloroethene | 130 | 5.206 | 5.206 | (1.049) | 85830 | 22.9971 | 22.99 |
| 8 | Trichlorofluoromethane | 101 | 1.560 | 1.560 | (0.373) | 185801 | 19.2682 | 19.26 |
| 5 | Vinyl Chloride | 62 | 1.145 | 1.145 | (0.274) | 99086 | 19.6700 | 19.66 |

QC Flag Legend

M - Compound response manually integrated.

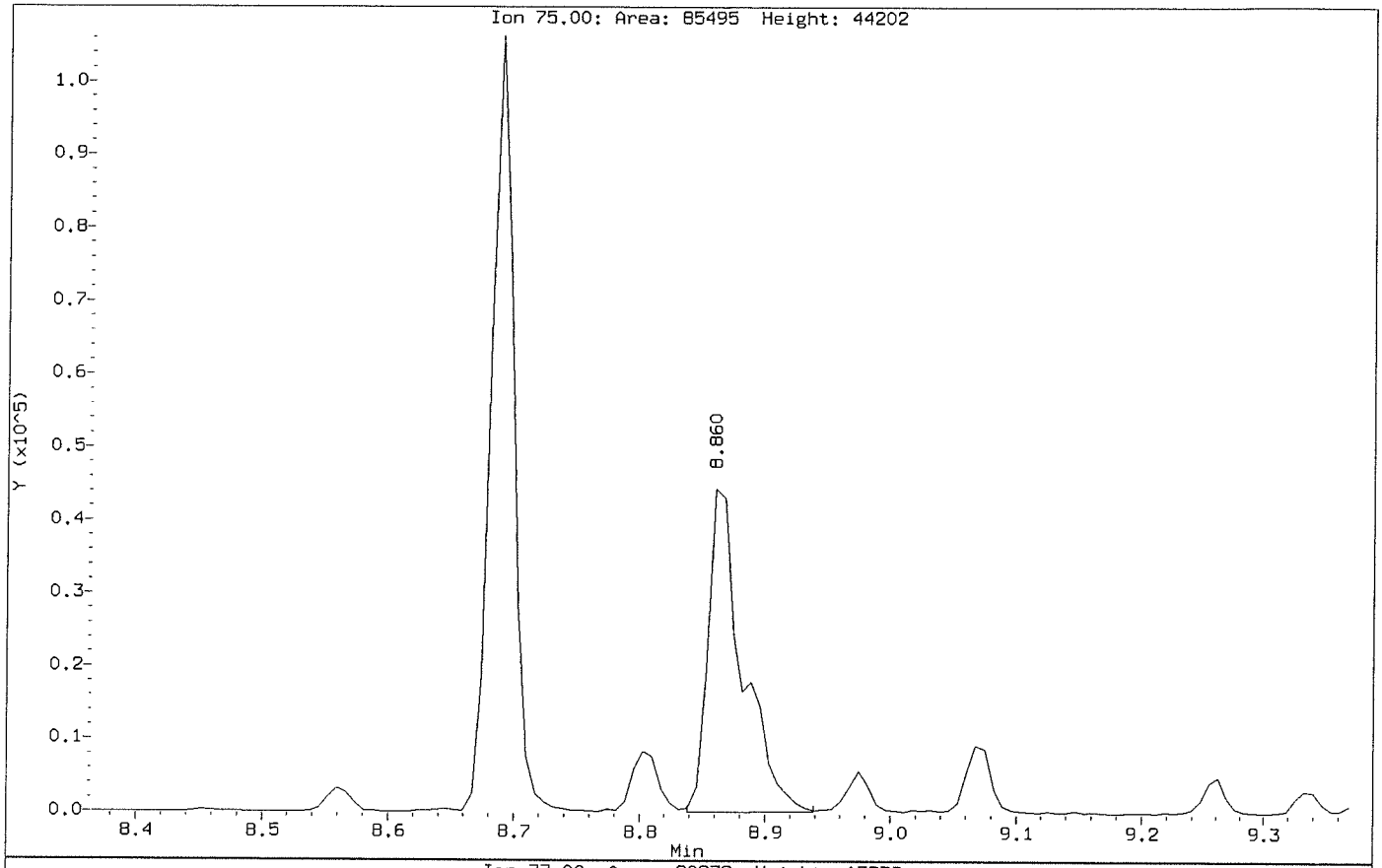


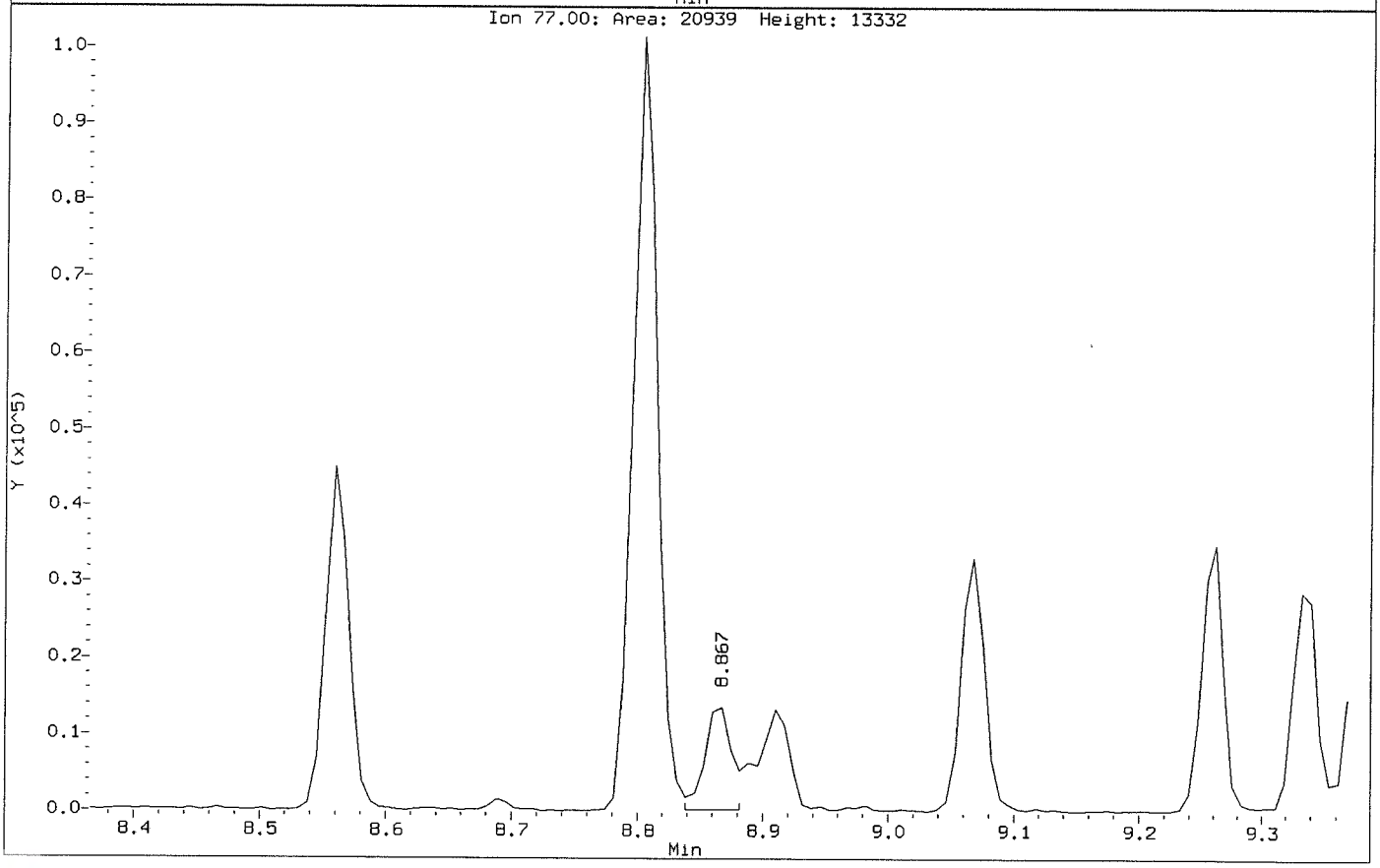

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Sample Info: HS21050180-01MS;HS21050180-01MS;3;;MS
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210506.b\Before\X050611.D
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Instrument: voa6.i
Client Sample ID: HS210501BO-01MS

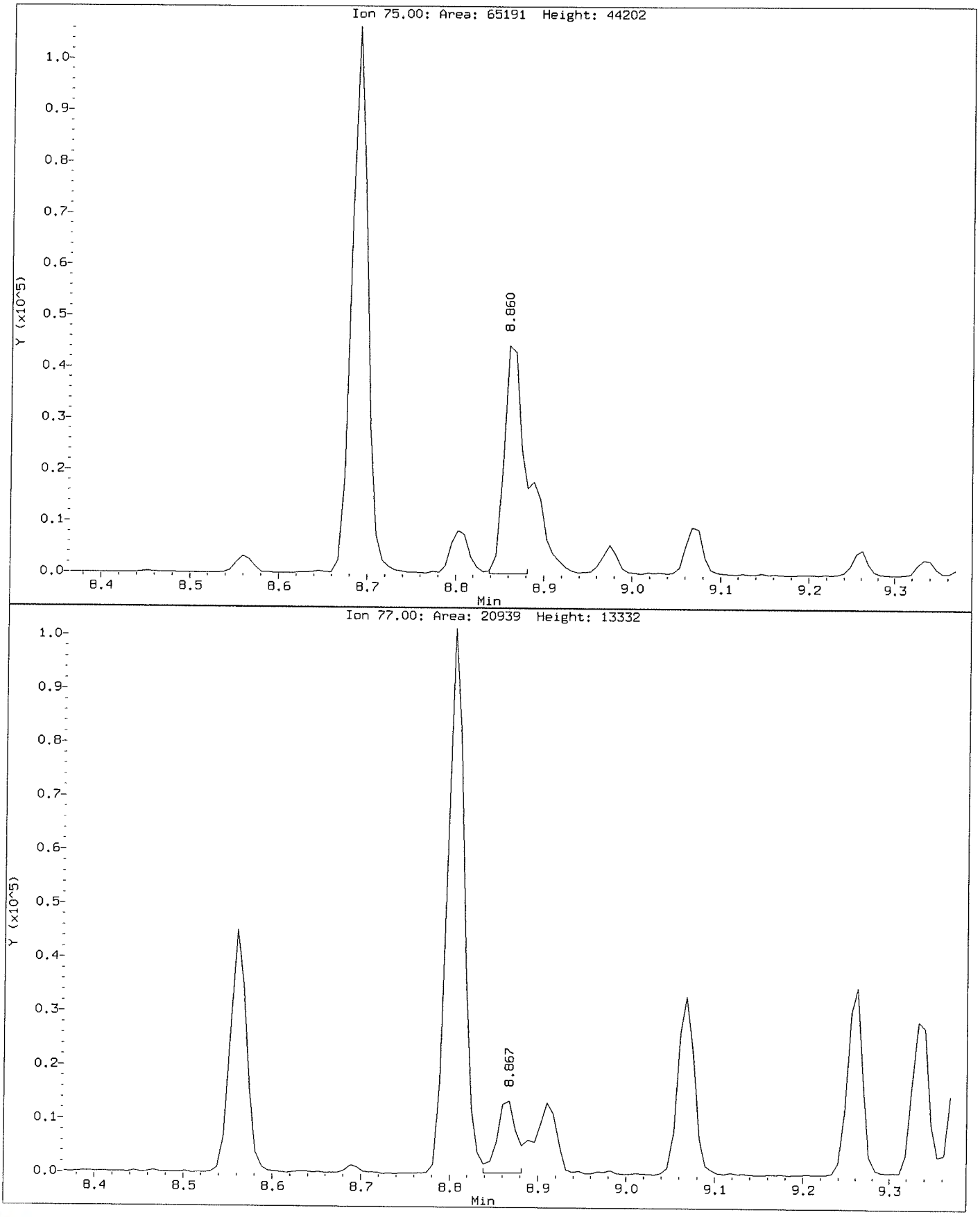
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



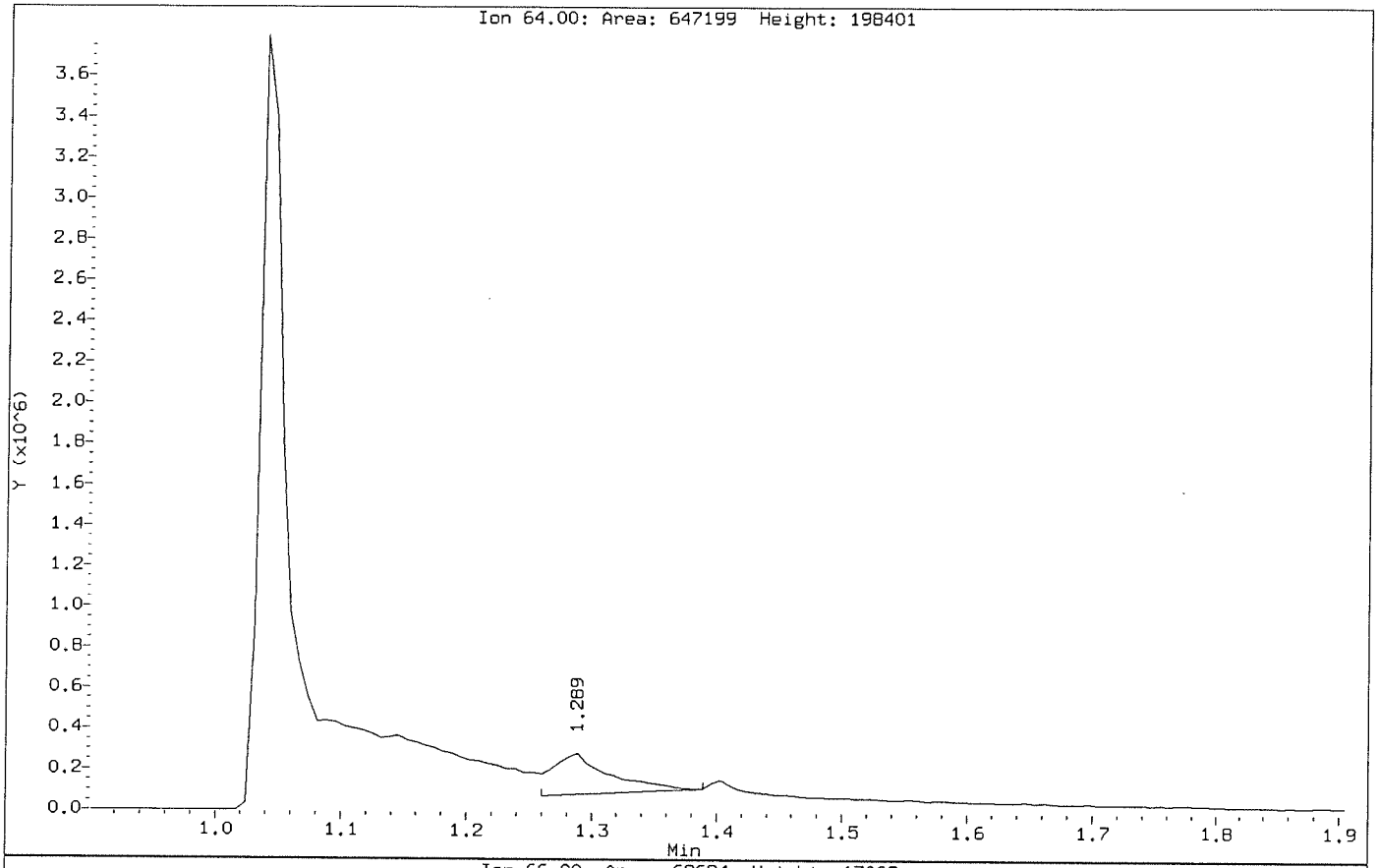
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Injection Date: 06-MAY-2021 15:10
Instrument: voa6.i
Client Sample ID: HS21050180-01MS

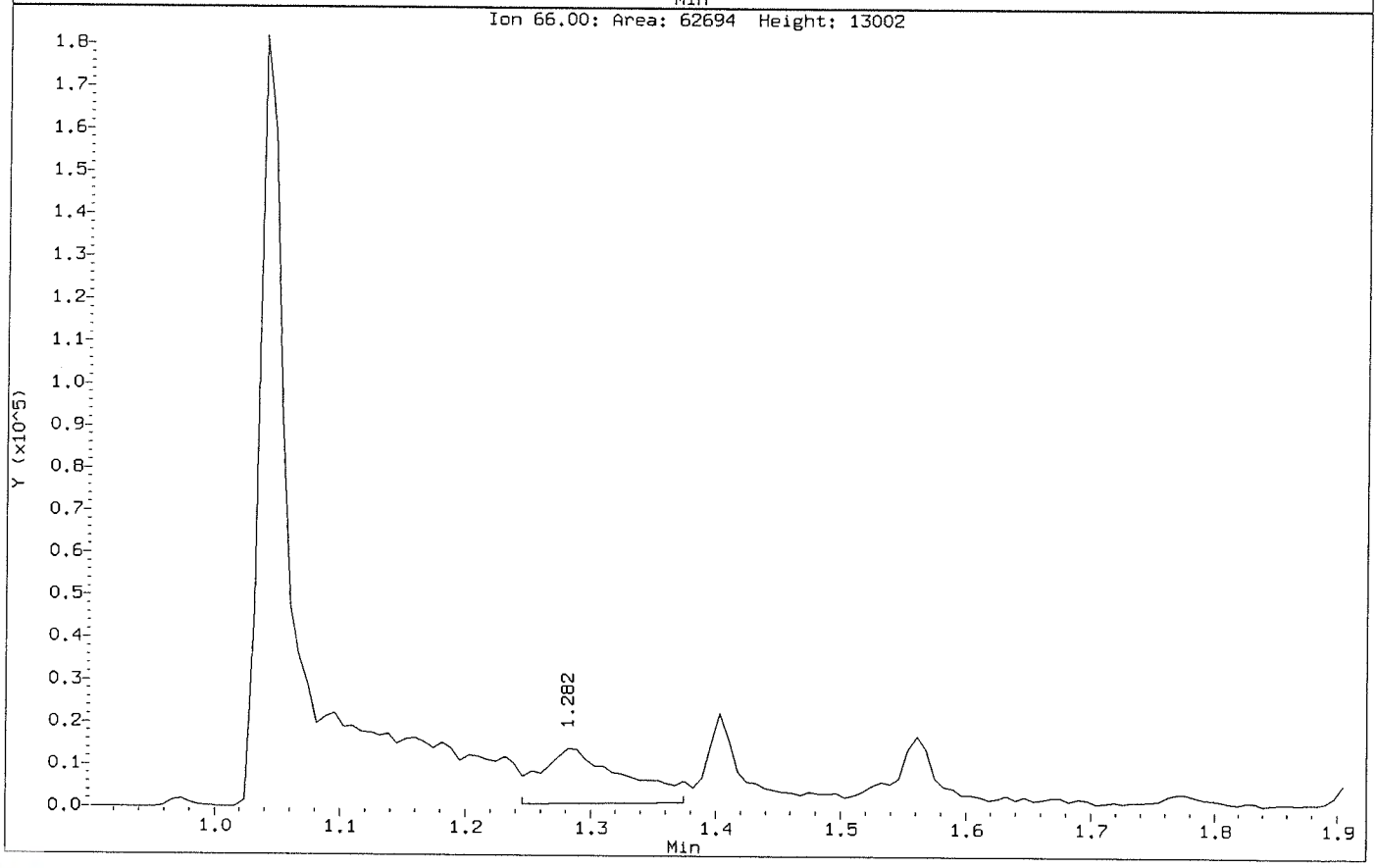
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210506.b\Before\X050611.D
Injection Date: 06-MAY-2021 15:10
Instrument: voa6.i
Client Sample ID: HS21050180-01MS

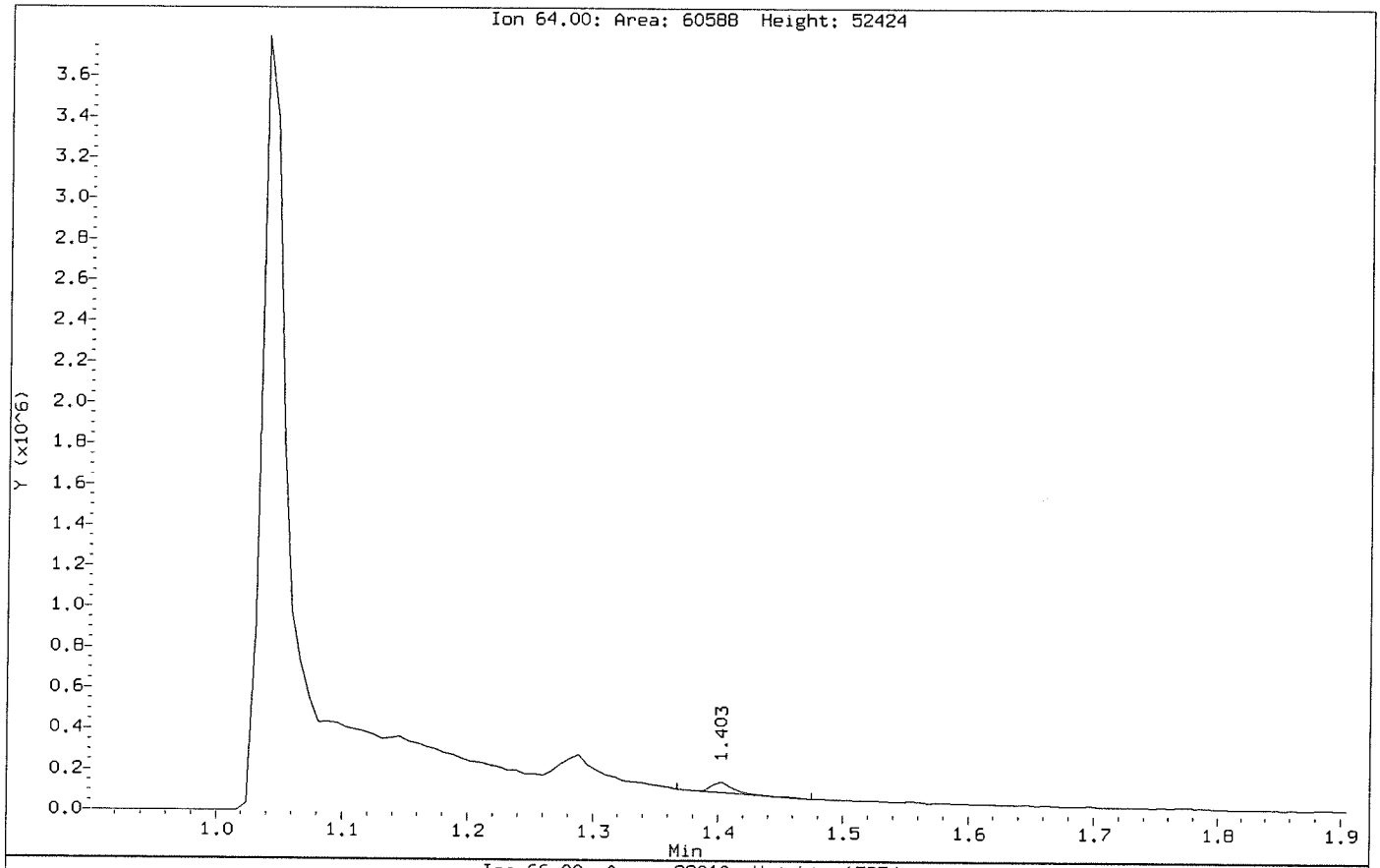
Compound: Chloroethane
CAS Number: 75-00-3

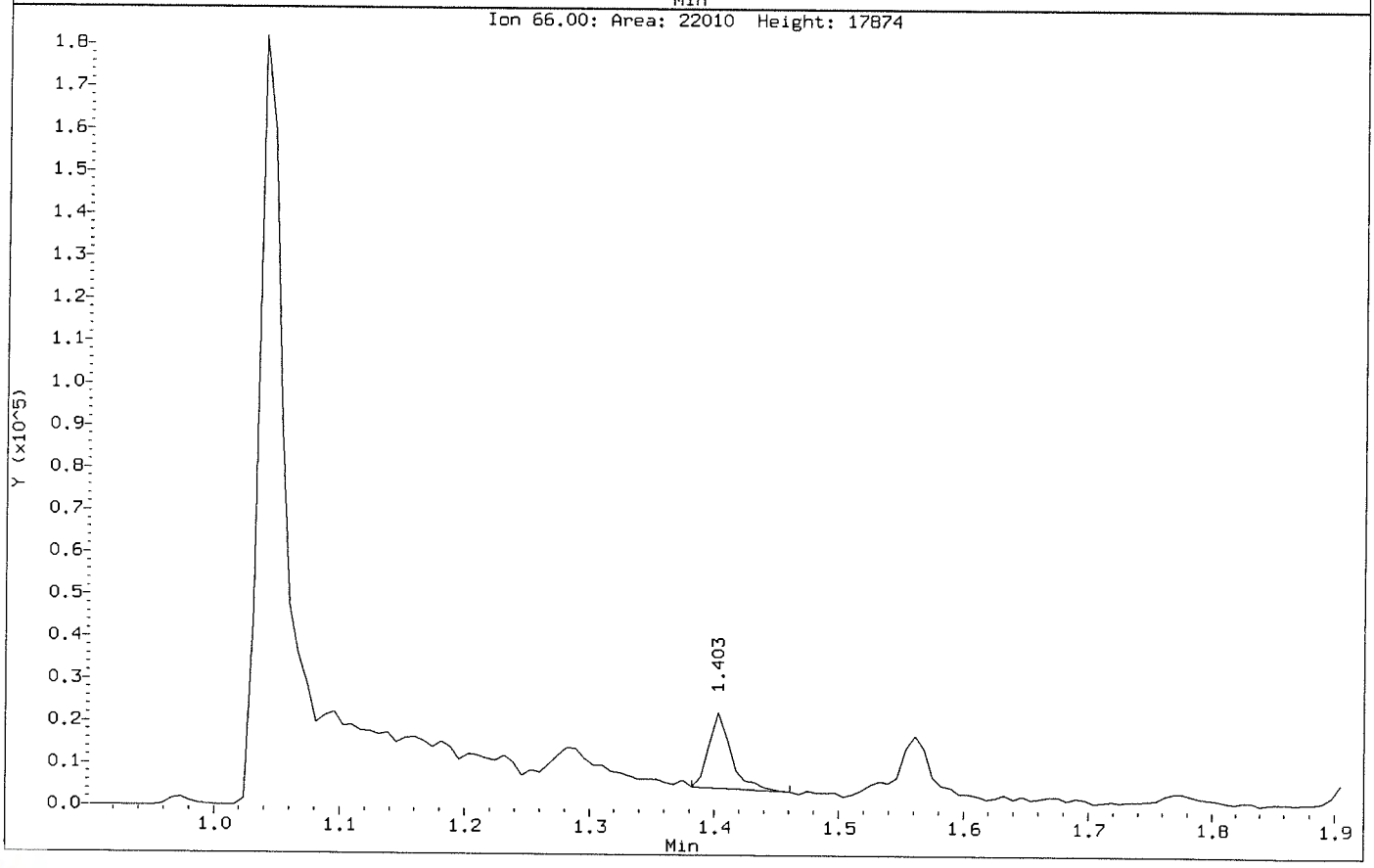


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210506.b\X050611.D
Injection Date: 06-MAY-2021 15:10
Instrument: voa6.i
Client Sample ID: HS21050180-01MS

Compound: Chloroethane
CAS Number: 75-00-3



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210506.b\X050612.D
Lab Smp Id: HS21050180-01MSD Client Smp ID: HS21050180-01MSD
Inj Date : 06-MAY-2021 15:31
Operator : PC Inst ID: voa6.i
Smp Info : HS21050180-01MSD;HS21050180-01MSD;3;;MSD
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210506.b\8260W.m
Meth Date : 25-May-2021 10:28 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 11 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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 |

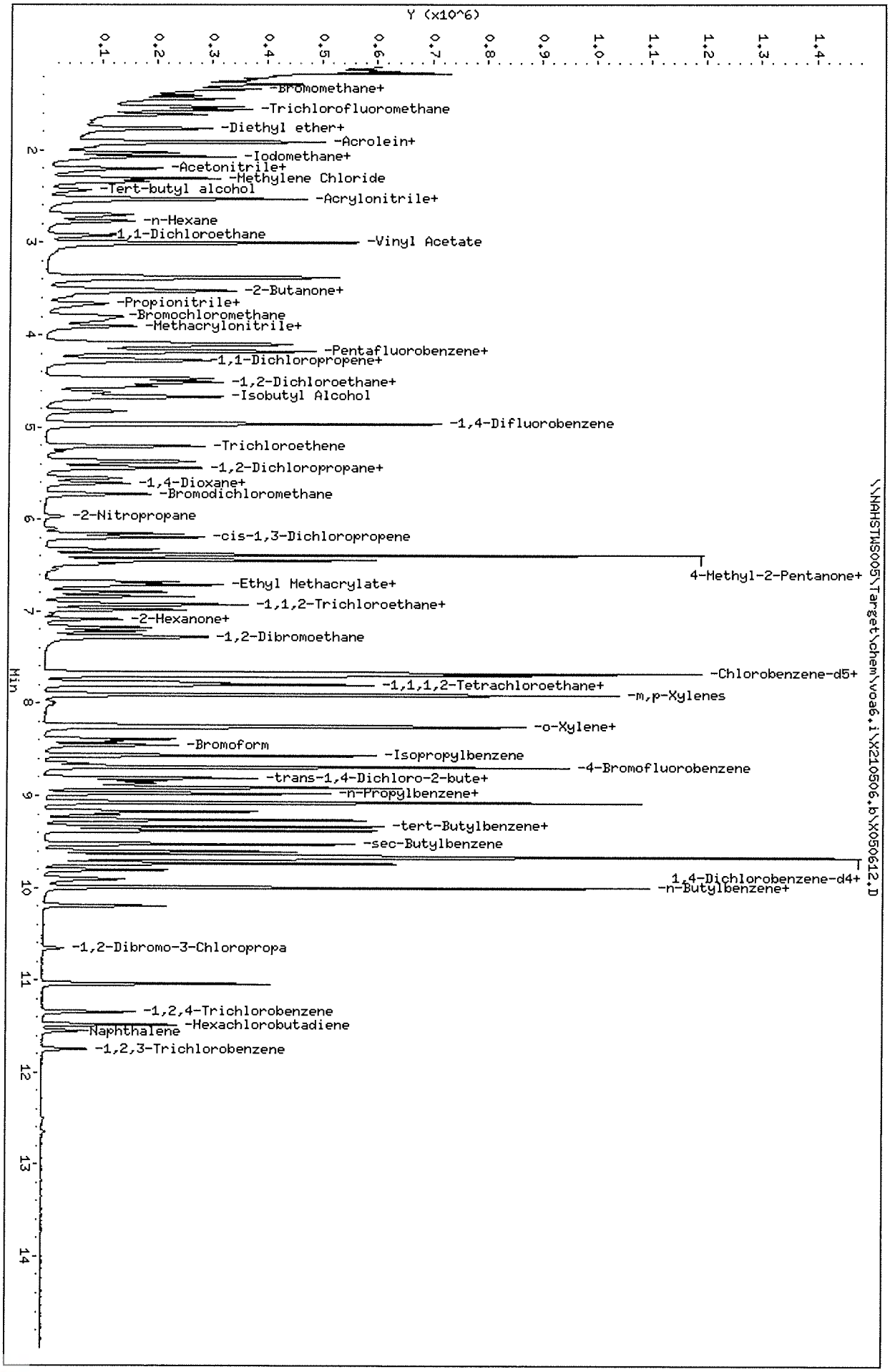
| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ug/l) | FINAL ( ug/l) |
|---|---|---|---|---|---|---|---|---|
| * | 1 Pentafluorobenzene | 168 | 4.182 | 4.182 | (1.000) | 350013 | 50.0000 | |
| * | 36 1,4-Difluorobenzene | 114 | 4.963 | 4.963 | (1.000) | 558177 | 50.0000 | |
| * | 47 Chlorobenzene-d5 | 117 | 7.670 | 7.670 | (1.000) | 499641 | 50.0000 | |
| * | 70 1,4-Dichlorobenzene-d4 | 152 | 9.662 | 9.662 | (1.000) | 256739 | 50.0000 | |
| $ | 30 Dibromofluoromethane | 113 | 4.103 | 4.103 | (0.981) | 193883 | 47.0758 | 47.07 |
| $ | 35 1,2-Dichloroethane-d4 | 65 | 4.469 | 4.476 | (1.069) | 239747 | 48.5715 | 48.57 |
| $ | 48 Toluene-d8 | 98 | 6.388 | 6.388 | (0.833) | 670075 | 52.0947 | 52.09 |
| $ | 69 4-Bromofluorobenzene | 95 | 8.688 | 8.688 | (1.133) | 239087 | 49.9001 | 49.90 |
| | 60 1,1,1,2-Tetrachloroethane | 131 | 7.778 | 7.771 | (1.014) | 69678 | 18.7935 | 18.79 |
| | 31 1,1,1-Trichloroethane | 97 | 4.089 | 4.082 | (0.978) | 120582 | 19.0367 | 19.03 |
| | 68 1,1,2,2-Tetrachloroethane | 83 | 8.838 | 8.838 | (0.915) | 86245 | 20.1349 | 20.13 |
| | 53 1,1,2-Trichloroethane | 83 | 6.840 | 6.840 | (0.892) | 58902 | 20.2942 | 20.29 |
| | 22 1,1-Dichloroethane | 63 | 2.921 | 2.921 | (0.699) | 121881 | 18.7586 | 18.75 |
| | 11 1,1-Dichloroethene | 96 | 1.919 | 1.919 | (0.459) | 88987 | 17.8555 | 17.85 |
| | 32 1,1-Dichloropropene | 75 | 4.282 | 4.282 | (0.863) | 104210 | 19.8963 | 19.89 |
| | 93 1,2,3-Trichlorobenzene | 180 | 11.746 | 11.746 | (1.216) | 22469 | 26.1010 | 26.10 |
| | 71 1,2,3-Trichloropropane | 75 | 8.867 | 8.867 | (0.918) | 69057 | 20.0403 | 20.04(M) |
| | 90 1,2,4-Trichlorobenzene | 180 | 11.338 | 11.338 | (1.173) | 45406 | 26.4037 | 26.40 |
| | 79 1,2,4-Trimethylbenzene | 105 | 9.382 | 9.375 | (0.971) | 278483 | 21.1351 | 21.13 |
| | 89 1,2-Dibromo-3-Chloropropane | 155 | 10.657 | 10.657 | (1.103) | 6388 | 22.8739 | 22.87 |
| | 57 1,2-Dibromoethane | 107 | 7.262 | 7.262 | (0.947) | 70794 | 20.6107 | 20.61 |
| | 88 1,2-Dichlorobenzene | 146 | 9.991 | 9.991 | (1.034) | 153869 | 21.8169 | 21.81 |

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210506.b\X050612.D Page 2
Report Date: 25-May-2021 10:28

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ug/l) | CONCENTRATIONS FINAL ( ug/l) |
|---|---|---|---|---|---|---|---|---|
| 33 | 1,2-Dichloroethane | 62 | 4.555 | 4.555 | (0.918) | 113485 | 19.2081 | 19.20 |
| 42 | 1,2-Dichloropropane | 63 | 5.436 | 5.436 | (1.095) | 75478 | 19.4585 | 19.45 |
| 75 | 1,3,5-Trimethylbenzene | 105 | 9.067 | 9.067 | (0.938) | 255359 | 18.5581 | 18.55 |
| 83 | 1,3-Dichlorobenzene | 146 | 9.604 | 9.604 | (0.994) | 142189 | 19.1221 | 19.12 |
| 54 | 1,3-Dichloropropane | 76 | 6.983 | 6.983 | (0.910) | 116546 | 21.0049 | 21.00 |
| 84 | 1,4-Dichlorobenzene | 146 | 9.683 | 9.683 | (1.002) | 171327 | 21.3918 | 21.39 |
| 26 | 2,2-Dichloropropane | 77 | 3.509 | 3.509 | (0.839) | 118428 | 18.5083 | 18.50 |
| 24 | 2-Butanone | 43 | 3.580 | 3.580 | (0.856) | 43516 | 36.1665 | 36.16 |
| 76 | 2-Chlorotoluene | 91 | 8.974 | 8.974 | (0.929) | 229311 | 21.2501 | 21.25 |
| 52 | 2-Hexanone | 43 | 7.090 | 7.083 | (0.924) | 79535 | 40.3659 | 40.36 |
| 77 | 4-Chlorotoluene | 91 | 9.067 | 9.067 | (0.938) | 263557 | 18.8254 | 18.82 |
| 82 | p-Isopropyltoluene | 119 | 9.647 | 9.647 | (0.999) | 266869 | 20.5192 | 20.51 |
| 45 | 4-Methyl-2-Pentanone | 43 | 6.324 | 6.324 | (0.824) | 125131 | 41.5524 | 41.55 |
| 10 | Acetone | 43 | 1.976 | 1.976 | (0.473) | 40867 | 32.3753 | 32.37 |
| 37 | Benzene | 78 | 4.512 | 4.512 | (0.909) | 277474 | 18.7669 | 18.76 |
| 74 | Bromobenzene | 156 | 8.809 | 8.802 | (0.912) | 84687 | 19.1356 | 19.13 |
| 29 | Bromochloromethane | 128 | 3.795 | 3.795 | (0.908) | 38496 | 18.4400 | 18.44 |
| 39 | Bromodichloromethane | 83 | 5.729 | 5.722 | (1.154) | 105183 | 18.7928 | 18.79 |
| 66 | Bromoform | 173 | 8.408 | 8.408 | (1.096) | 43197 | 18.6727 | 18.67 |
| 6 | Bromomethane | 94 | 1.338 | 1.338 | (0.320) | 68802 | 13.6085 | 13.60 |
| 19 | Carbon Disulfide | 76 | 2.069 | 2.069 | (0.495) | 404392 | 41.5402 | 41.54 |
| 34 | Carbon Tetrachloride | 117 | 4.268 | 4.268 | (0.860) | 101141 | 20.0834 | 20.08 |
| 59 | Chlorobenzene | 112 | 7.692 | 7.692 | (1.003) | 188200 | 19.2490 | 19.24 |
| 7 | Chloroethane | 64 | 1.403 | 1.403 | (0.336) | 52757 | 13.5502 | 13.55(M) |
| 28 | Chloroform | 83 | 3.910 | 3.910 | (0.935) | 141343 | 18.5950 | 18.59 |
| 3 | Chloromethane | 50 | 1.080 | 1.080 | (0.258) | 105579 | 28.7037 | 28.70 |
| 27 | cis-1,2-Dichloroethene | 96 | 3.530 | 3.530 | (0.844) | 114996 | 26.8770 | 26.87 |
| 46 | cis-1,3-Dichloropropene | 75 | 6.159 | 6.152 | (1.241) | 125146 | 19.1561 | 19.15 |
| 55 | Dibromochloromethane | 129 | 7.176 | 7.176 | (0.936) | 75170 | 19.2721 | 19.27 |
| 44 | Dibromomethane | 93 | 5.550 | 5.550 | (1.118) | 51804 | 18.8227 | 18.82 |
| 2 | Dichlorodifluoromethane | 85 | 0.973 | 0.973 | (0.233) | 55651 | 17.4327 | 17.43 |
| 61 | Ethylbenzene | 106 | 7.799 | 7.799 | (1.017) | 101142 | 18.9117 | 18.91 |
| 91 | Hexachlorobutadiene | 225 | 11.481 | 11.481 | (1.188) | 37900 | 28.1235 | 28.12 |
| 67 | Isopropylbenzene | 105 | 8.559 | 8.559 | (1.116) | 313219 | 19.5919 | 19.59 |
| 62 | m,p-Xylenes | 106 | 7.907 | 7.907 | (1.031) | 247724 | 36.5793 | 36.57 |
| 17 | Methylene Chloride | 84 | 2.305 | 2.305 | (0.551) | 67784 | 18.7981 | 18.79 |
| 87 | n-Butylbenzene | 91 | 9.991 | 9.991 | (1.034) | 297231 | 24.1154 | 24.11 |
| 73 | n-Propylbenzene | 91 | 8.910 | 8.910 | (0.922) | 403186 | 20.6993 | 20.69 |
| 92 | Naphthalene | 128 | 11.546 | 11.546 | (1.195) | 58563 | 25.1518 | 25.15 |
| 63 | o-Xylene | 106 | 8.243 | 8.243 | (1.075) | 117932 | 17.9577 | 17.95 |
| 81 | sec-Butylbenzene | 105 | 9.519 | 9.519 | (0.985) | 320529 | 22.6942 | 22.69 |
| 64 | Styrene | 104 | 8.258 | 8.258 | (1.077) | 195155 | 18.3957 | 18.39 |
| 78 | tert-Butylbenzene | 119 | 9.332 | 9.332 | (0.966) | 239808 | 22.1645 | 22.16 |
| 56 | Tetrachloroethene | 164 | 6.925 | 6.925 | (0.903) | 61142 | 20.2730 | 20.27 |
| 50 | Toluene | 91 | 6.446 | 6.446 | (0.840) | 306375 | 19.7333 | 19.73 |
| 20 | trans-1,2-Dichloroethene | 96 | 2.527 | 2.527 | (0.604) | 65065 | 18.2415 | 18.24 |
| 51 | trans-1,3-Dichloropropene | 75 | 6.682 | 6.682 | (1.346) | 107836 | 19.3519 | 19.35 |
| 38 | Trichloroethene | 130 | 5.206 | 5.206 | (1.049) | 87922 | 23.0098 | 23.00 |
| 8 | Trichlorofluoromethane | 101 | 1.560 | 1.560 | (0.373) | 173299 | 17.2526 | 17.25 |
| 5 | Vinyl Chloride | 62 | 1.145 | 1.145 | (0.274) | 101503 | 19.3435 | 19.34 |

QC Flag Legend

M - Compound response manually integrated.

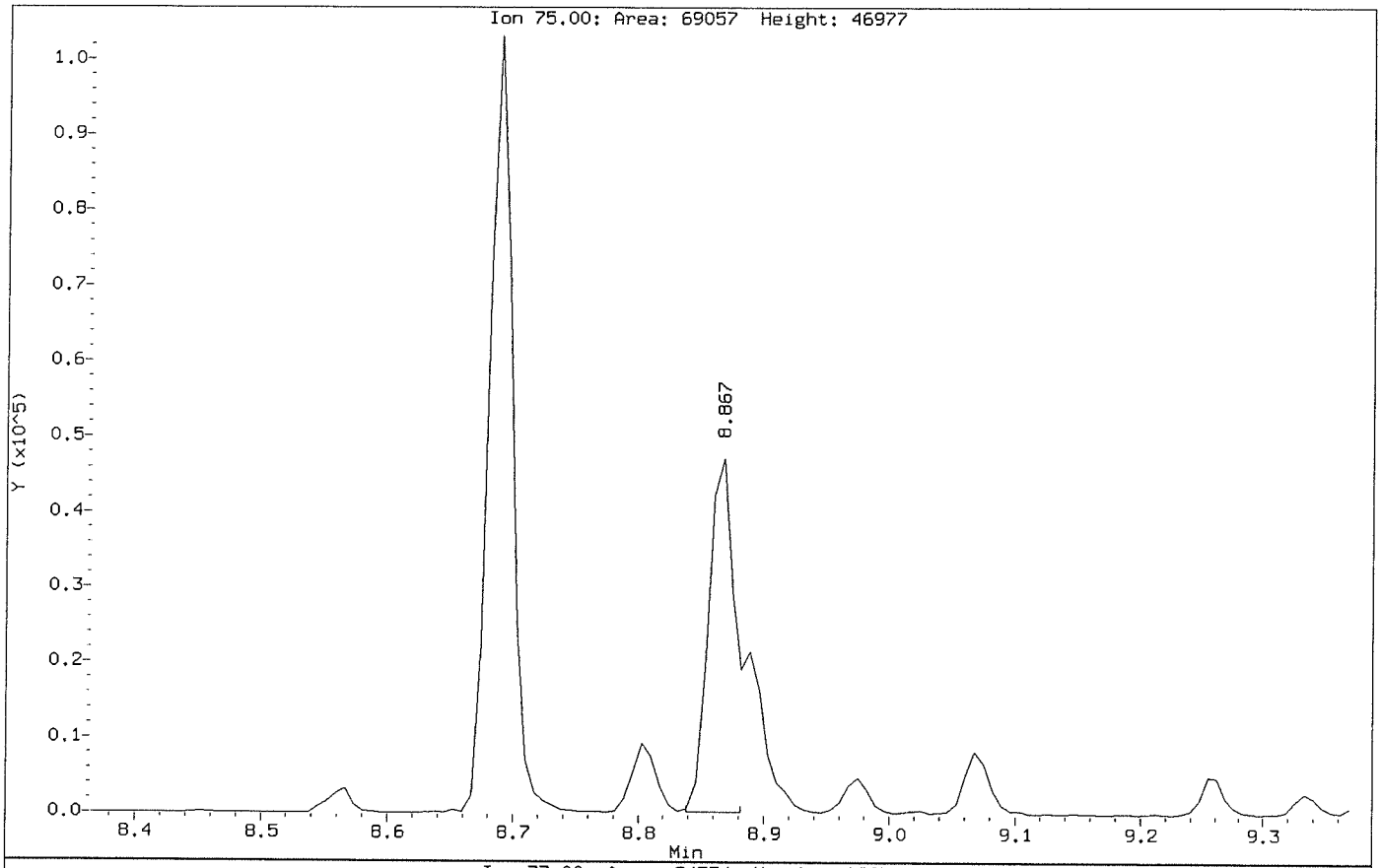


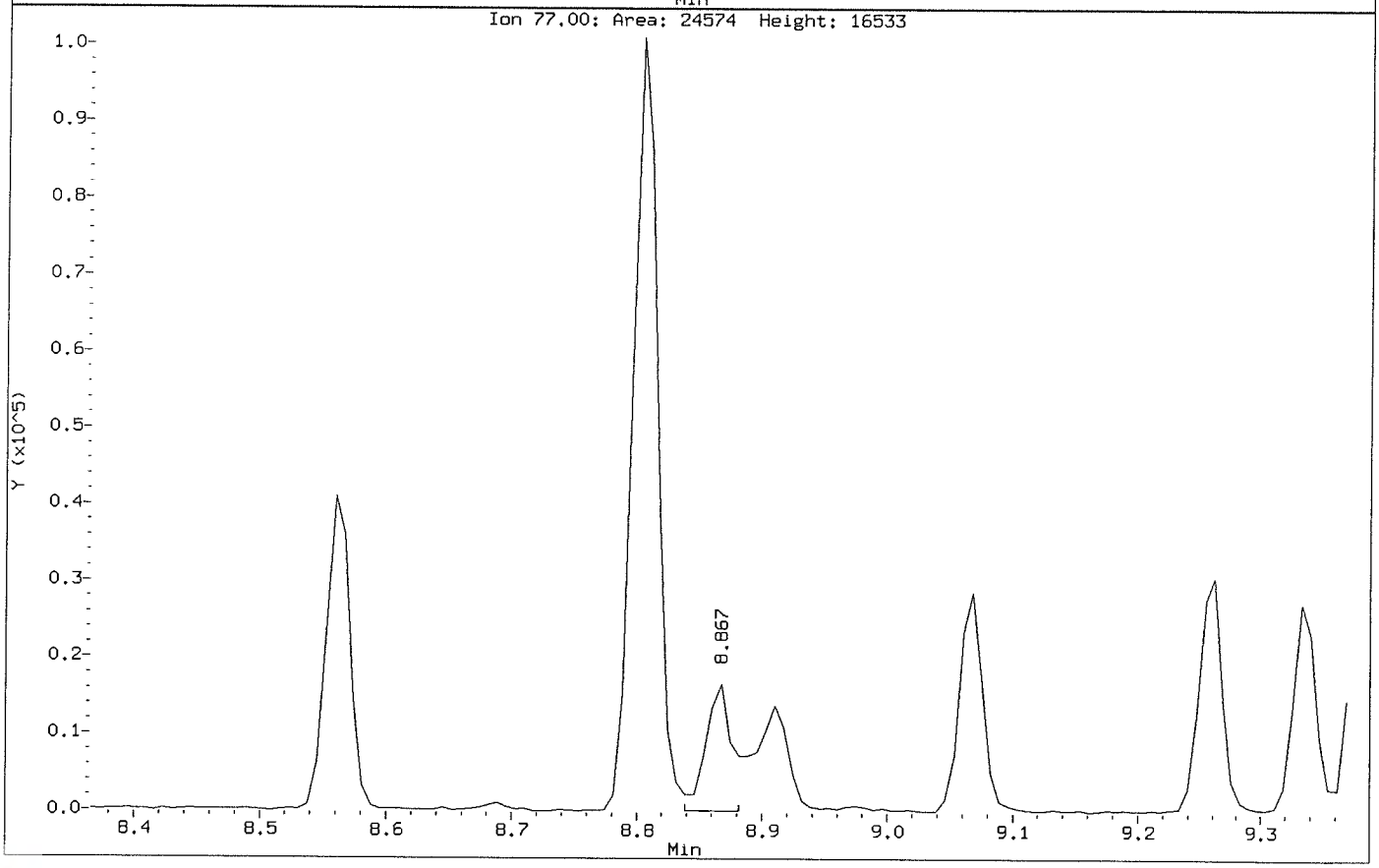

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Sample Info: HS21050180-01MSD;HS21050180-01MSD;3;;MSD
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210506.b\Before\X050612.D
Injection Date: 06-MAY-2021 15:31
Instrument: voa6.i
Client Sample ID: HS21050180-01MSD

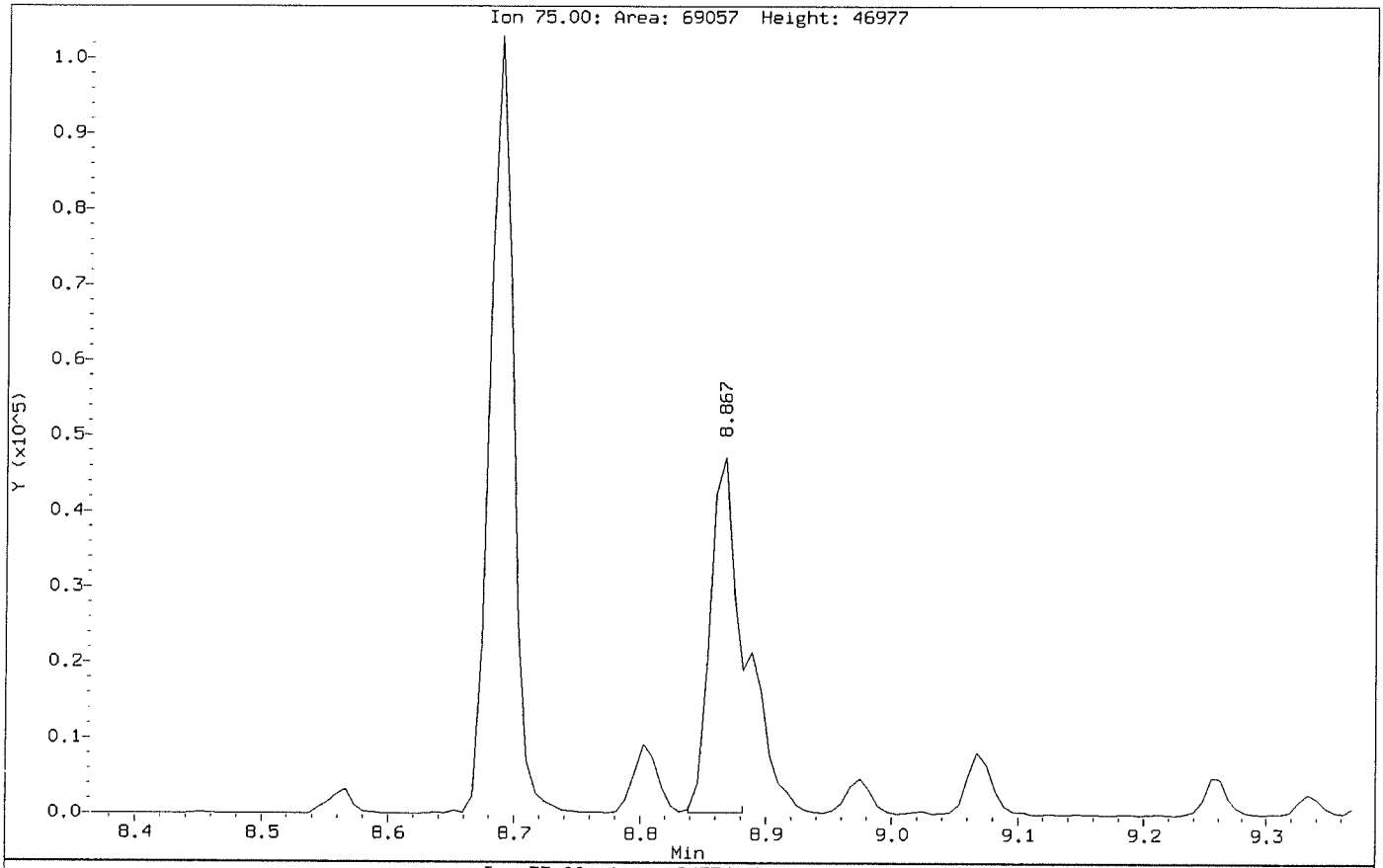
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4

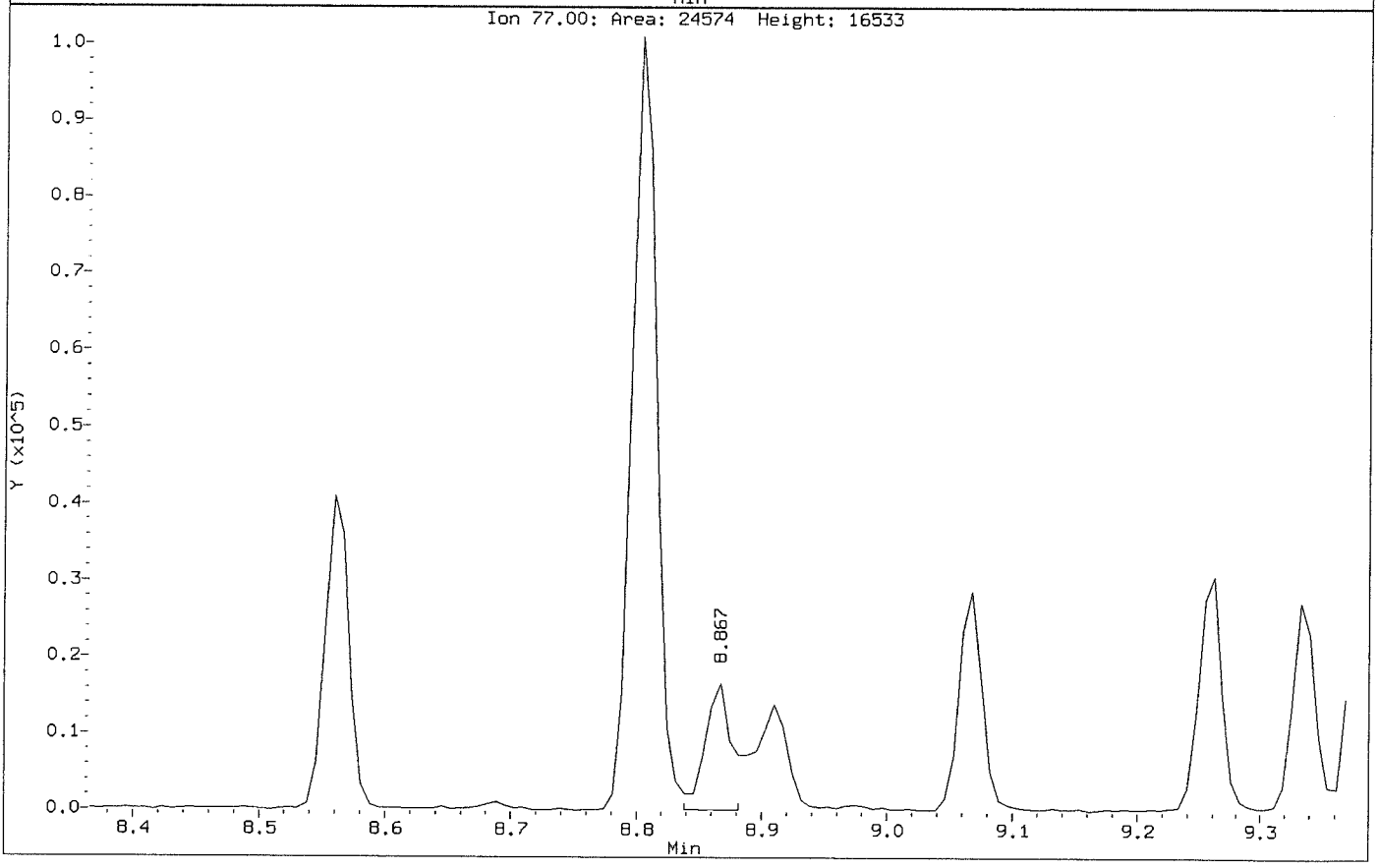


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Injection Date: 06-MAY-2021 15:31
Instrument: voa6.i
Client Sample ID: HS21050180-01MSD

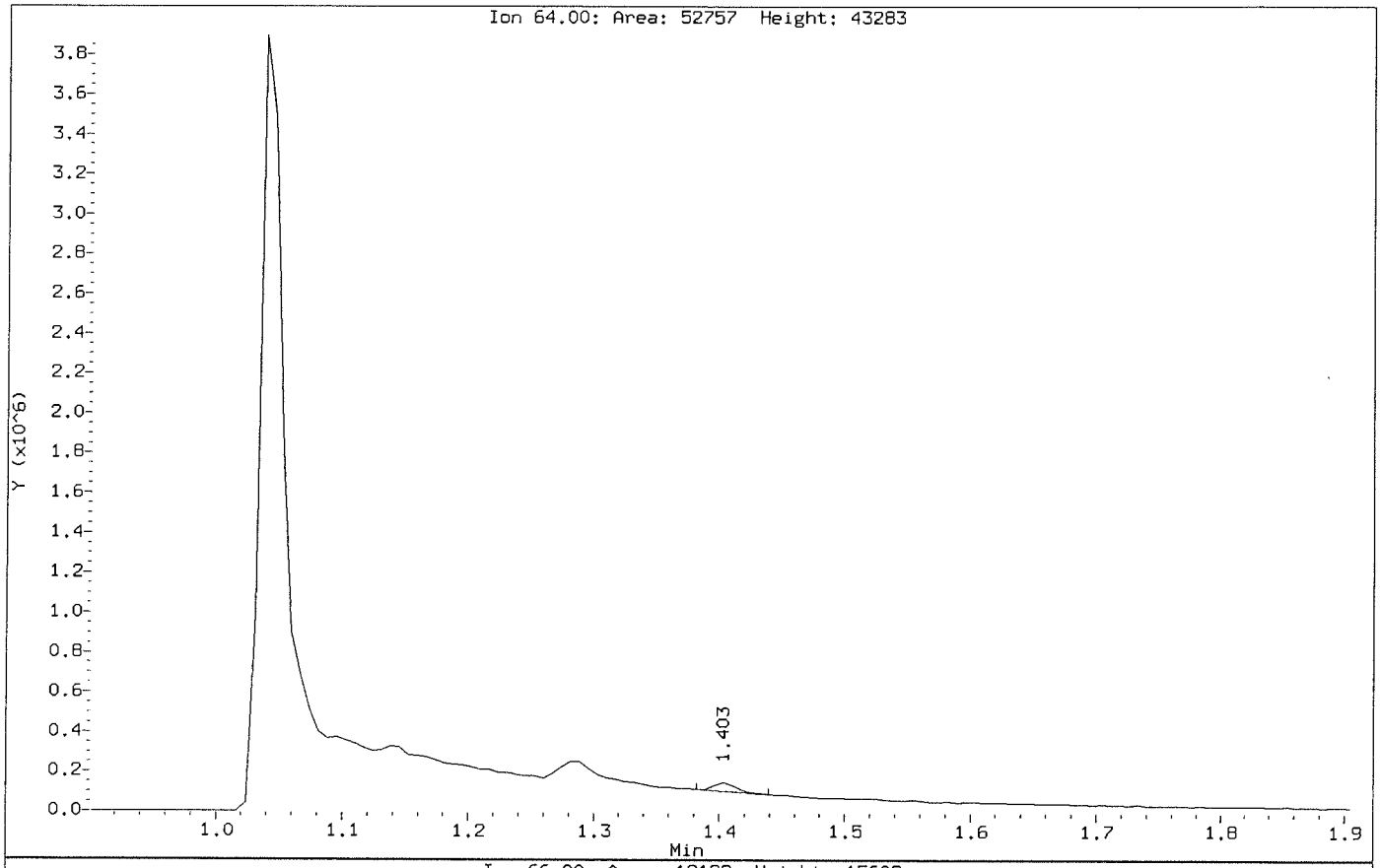
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4

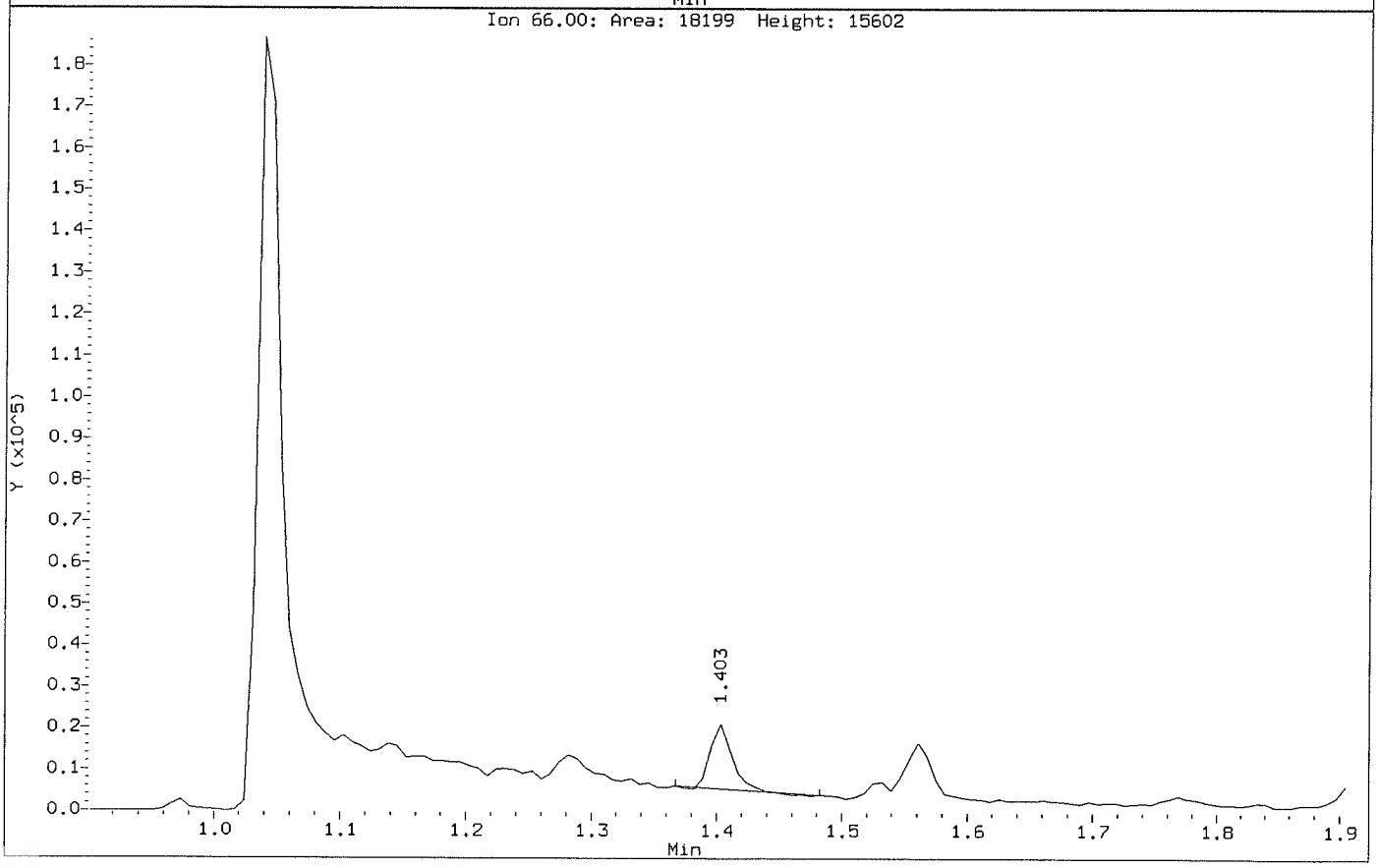


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210506.b\Before\X050612.D
Injection Date: 06-MAY-2021 15:31
Instrument: voa6.i
Client Sample ID: HS21050180-01MSD

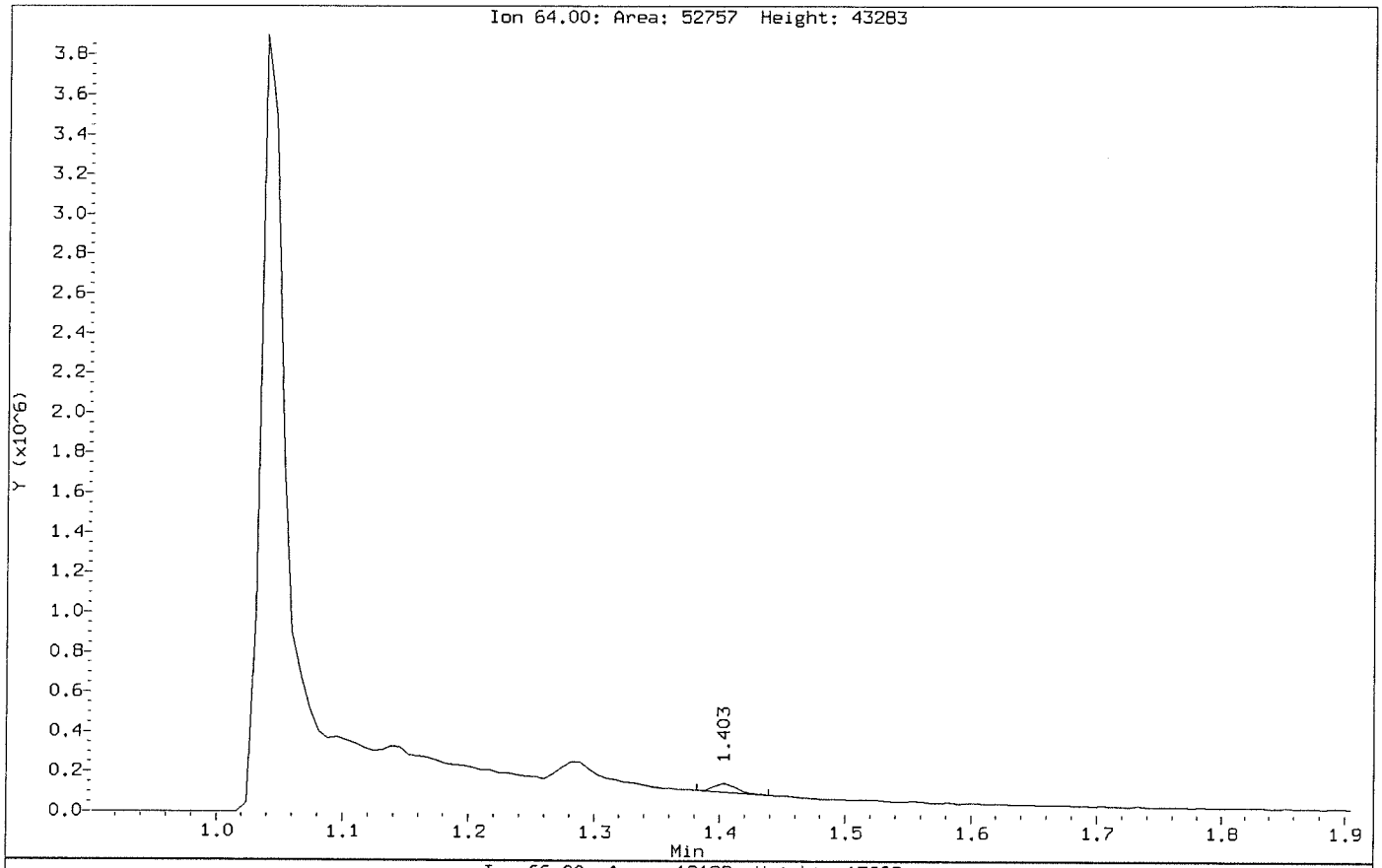
Compound: Chloroethane
CAS Number: 75-00-3

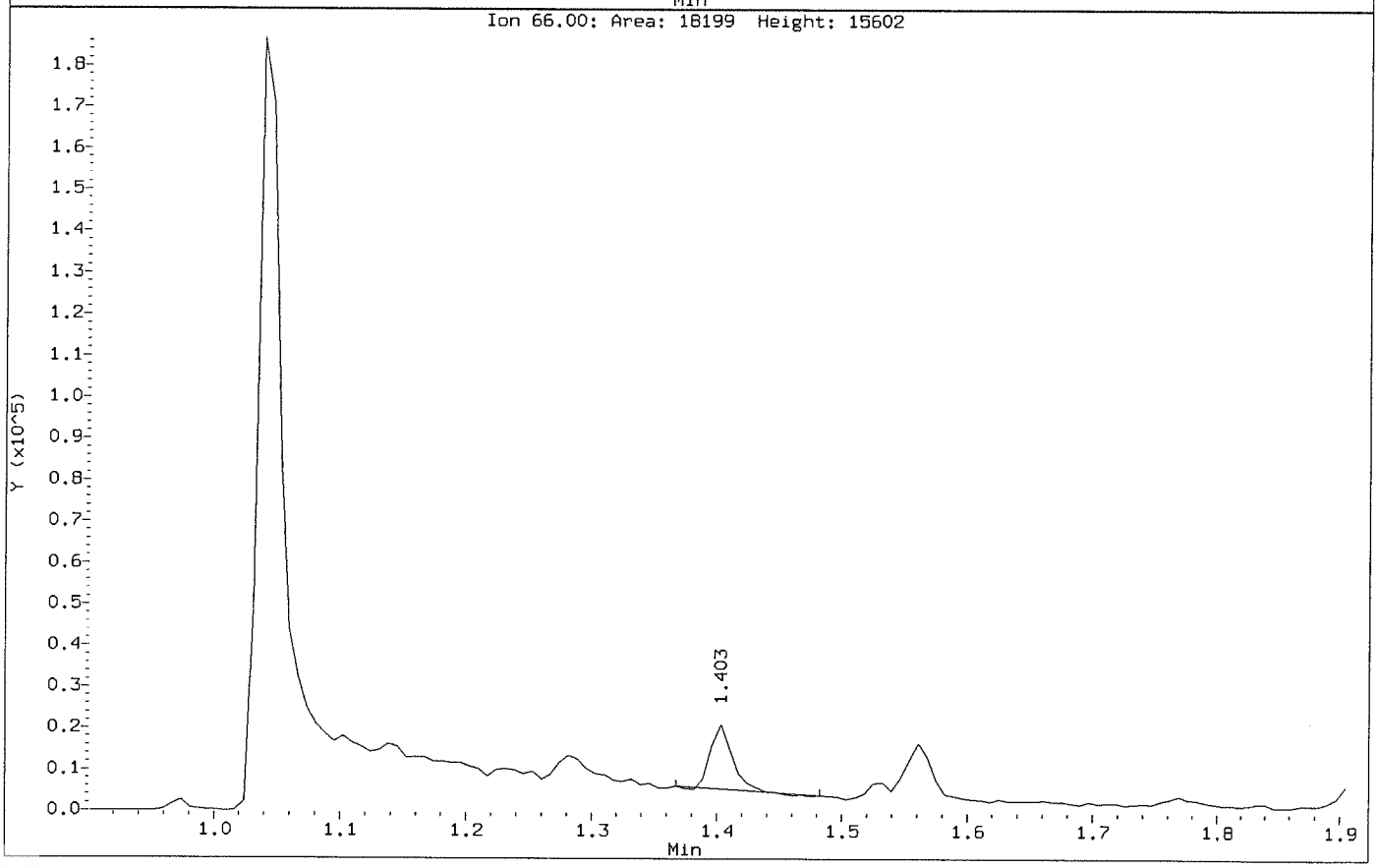


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Injection Date: 06-MAY-2021 15:31
Instrument: voa6.i
Client Sample ID: HS21050180-01MSD

Compound: Chloroethane
CAS Number: 75-00-3



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210506.b\X050613.D
Lab Smp Id: CCV-END Client Smp ID: CCV-END
Inj Date : 06-MAY-2021 15:52
Operator : PC Inst ID: voa6.i
Smp Info : CCV-END;CCV-END;2;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210506.b\8260W.m
Meth Date : 25-May-2021 10:28 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 12 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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

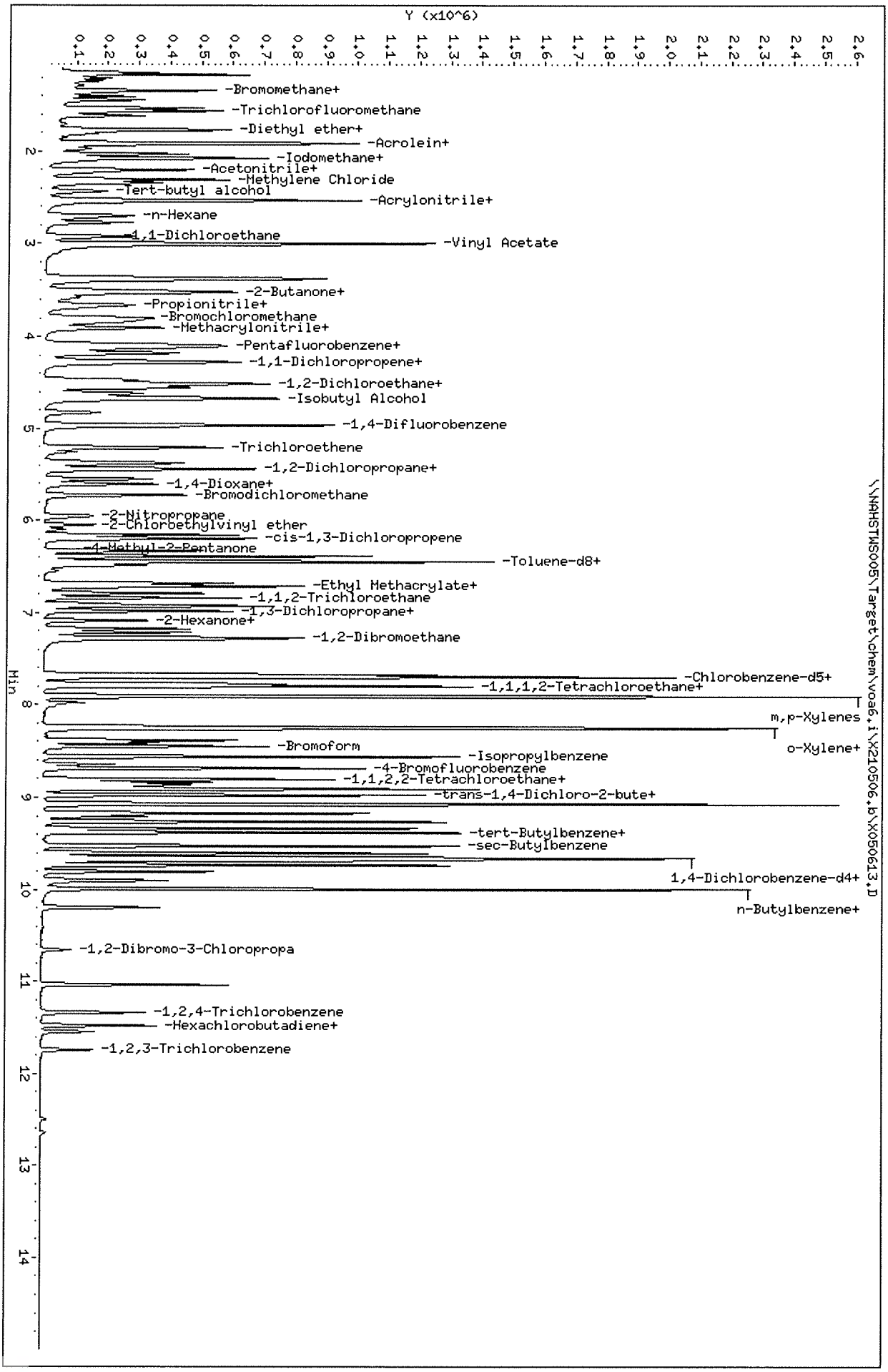
| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 5.000 | ng unit correction factor |
| Vo | 5.000 | sample purged |
| Cpnd Variable | | Local Compound Variable |

| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|
| * 1 Pentafluorobenzene | 168 | 4.182 | 4.182 | (1.000) | 311325 | 50.0000 | |
| * 36 1,4-Difluorobenzene | 114 | 4.963 | 4.963 | (1.000) | 521132 | 50.0000 | |
| * 47 Chlorobenzene-d5 | 117 | 7.671 | 7.671 | (1.000) | 495257 | 50.0000 | |
| * 70 1,4-Dichlorobenzene-d4 | 152 | 9.662 | 9.662 | (1.000) | 292443 | 50.0000 | |
| $ 30 Dibromofluoromethane | 113 | 4.103 | 4.103 | (0.981) | 179003 | 50.0000 | 48.84 |
| $ 35 1,2-Dichloroethane-d4 | 65 | 4.469 | 4.469 | (1.069) | 230425 | 50.0000 | 52.44 |
| $ 48 Toluene-d8 | 98 | 6.388 | 6.388 | (0.833) | 598449 | 50.0000 | 47.12 |
| $ 69 4-Bromofluorobenzene | 95 | 8.688 | 8.688 | (1.133) | 249565 | 50.0000 | 52.46 |
| 60 1,1,1,2-Tetrachloroethane | 131 | 7.778 | 7.778 | (1.014) | 169786 | 50.0000 | 46.19 |
| 31 1,1,1-Trichloroethane | 97 | 4.082 | 4.082 | (0.976) | 271146 | 50.0000 | 48.12 |
| 68 1,1,2,2-Tetrachloroethane | 83 | 8.838 | 8.838 | (0.915) | 207035 | 50.0000 | 42.43 |
| 53 1,1,2-Trichloroethane | 83 | 6.840 | 6.840 | (0.892) | 135100 | 50.0000 | 46.95 |
| 22 1,1-Dichloroethane | 63 | 2.921 | 2.921 | (0.699) | 293151 | 50.0000 | 50.72 |
| 11 1,1-Dichloroethene | 96 | 1.919 | 1.919 | (0.459) | 203236 | 50.0000 | 45.84 |
| 32 1,1-Dichloropropene | 75 | 4.282 | 4.282 | (0.863) | 221374 | 50.0000 | 45.27 |
| 93 1,2,3-Trichlorobenzene | 180 | 11.739 | 11.739 | (1.215) | 42761 | 50.0000 | 42.78 |
| 71 1,2,3-Trichloropropane | 75 | 8.867 | 8.867 | (0.918) | 171203 | 50.0000 | 43.61(M) |
| 90 1,2,4-Trichlorobenzene | 180 | 11.338 | 11.338 | (1.173) | 82147 | 50.0000 | 41.62 |
| 79 1,2,4-Trimethylbenzene | 105 | 9.383 | 9.383 | (0.971) | 623446 | 50.0000 | 41.53 |
| 89 1,2-Dibromo-3-Chloropropane | 155 | 10.658 | 10.658 | (1.103) | 15742 | 50.0000 | 49.48 |
| 57 1,2-Dibromoethane | 107 | 7.262 | 7.262 | (0.947) | 172182 | 50.0000 | 50.57 |
| 88 1,2-Dichlorobenzene | 146 | 9.991 | 9.991 | (1.034) | 334374 | 50.0000 | 41.62 |

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|---|
| 33 | 1,2-Dichloroethane | 62 | 4.555 | 4.555 | (0.918) | 277627 | 50.0000 | 50.33 |
| 42 | 1,2-Dichloropropane | 63 | 5.436 | 5.436 | (1.095) | 177226 | 50.0000 | 48.93 |
| 75 | 1,3,5-Trimethylbenzene | 105 | 9.067 | 9.067 | (0.938) | 594998 | 50.0000 | 37.96 |
| 83 | 1,3-Dichlorobenzene | 146 | 9.605 | 9.605 | (0.994) | 386132 | 50.0000 | 45.58 |
| 54 | 1,3-Dichloropropane | 76 | 6.983 | 6.983 | (0.910) | 274523 | 50.0000 | 49.91 |
| 84 | 1,4-Dichlorobenzene | 146 | 9.683 | 9.683 | (1.002) | 388911 | 50.0000 | 42.63 |
| 26 | 2,2-Dichloropropane | 77 | 3.509 | 3.509 | (0.839) | 261737 | 50.0000 | 45.98 |
| 24 | 2-Butanone | 43 | 3.580 | 3.580 | (0.856) | 117544 | 100.000 | 109.83 |
| 76 | 2-Chlorotoluene | 91 | 8.974 | 8.974 | (0.929) | 522880 | 50.0000 | 42.55 |
| 52 | 2-Hexanone | 43 | 7.090 | 7.090 | (0.924) | 195892 | 100.000 | 96.01 |
| 77 | 4-Chlorotoluene | 91 | 9.067 | 9.067 | (0.938) | 634196 | 50.0000 | 39.76 |
| 82 | p-Isopropyltoluene | 119 | 9.648 | 9.648 | (0.999) | 631946 | 50.0000 | 42.65 |
| 45 | 4-Methyl-2-Pentanone | 43 | 6.324 | 6.324 | (0.824) | 300205 | 100.000 | 100.57 |
| 10 | Acetone | 43 | 1.976 | 1.976 | (0.473) | 94437 | 100.000 | 91.24 |
| 37 | Benzene | 78 | 4.512 | 4.512 | (0.909) | 655763 | 50.0000 | 47.50 |
| 74 | Bromobenzene | 156 | 8.802 | 8.802 | (0.911) | 194271 | 50.0000 | 38.53 |
| 29 | Bromochloromethane | 128 | 3.795 | 3.795 | (0.908) | 93710 | 50.0000 | 50.46 |
| 39 | Bromodichloromethane | 83 | 5.729 | 5.729 | (1.154) | 260034 | 50.0000 | 49.76 |
| 66 | Bromoform | 173 | 8.408 | 8.408 | (1.096) | 114961 | 50.0000 | 46.69 |
| 6 | Bromomethane | 94 | 1.338 | 1.338 | (0.320) | 203004 | 50.0000 | 45.57 |
| 19 | Carbon Disulfide | 76 | 2.069 | 2.069 | (0.495) | 815756 | 100.000 | 94.20 |
| 34 | Carbon Tetrachloride | 117 | 4.268 | 4.268 | (0.860) | 206114 | 50.0000 | 43.83 |
| 59 | Chlorobenzene | 112 | 7.692 | 7.692 | (1.003) | 464209 | 50.0000 | 45.25 |
| 7 | Chloroethane | 64 | 1.403 | 1.403 | (0.336) | 134603 | 50.0000 | 38.86(M) |
| 28 | Chloroform | 83 | 3.910 | 3.910 | (0.935) | 337063 | 50.0000 | 49.85 |
| 3 | Chloromethane | 50 | 1.081 | 1.081 | (0.258) | 157156 | 50.0000 | 48.58 |
| 27 | cis-1,2-Dichloroethene | 96 | 3.530 | 3.530 | (0.844) | 184636 | 50.0000 | 48.51 |
| 46 | cis-1,3-Dichloropropene | 75 | 6.152 | 6.152 | (1.240) | 303241 | 50.0000 | 49.71 |
| 55 | Dibromochloromethane | 129 | 7.176 | 7.176 | (0.936) | 189054 | 50.0000 | 48.89 |
| 44 | Dibromomethane | 93 | 5.550 | 5.550 | (1.118) | 125388 | 50.0000 | 48.79 |
| 2 | Dichlorodifluoromethane | 85 | 0.973 | 0.973 | (0.233) | 145077 | 50.0000 | 47.86 |
| 61 | Ethylbenzene | 106 | 7.800 | 7.800 | (1.017) | 228351 | 50.0000 | 43.07 |
| 91 | Hexachlorobutadiene | 225 | 11.481 | 11.481 | (1.188) | 50072 | 50.0000 | 32.45 |
| 67 | Isopropylbenzene | 105 | 8.559 | 8.559 | (1.116) | 690808 | 50.0000 | 43.59 |
| 62 | m,p-Xylenes | 106 | 7.907 | 7.907 | (1.031) | 608455 | 100.000 | 90.64 |
| 17 | Methylene Chloride | 84 | 2.305 | 2.305 | (0.551) | 164804 | 50.0000 | 48.81 |
| 87 | n-Butylbenzene | 91 | 9.991 | 9.991 | (1.034) | 555711 | 50.0000 | 39.58 |
| 73 | n-Propylbenzene | 91 | 8.910 | 8.910 | (0.922) | 860953 | 50.0000 | 38.80 |
| 92 | Naphthalene | 128 | 11.546 | 11.546 | (1.195) | 120231 | 50.0000 | 44.73 |
| 63 | o-Xylene | 106 | 8.244 | 8.244 | (1.075) | 286342 | 50.0000 | 43.98 |
| 81 | sec-Butylbenzene | 105 | 9.519 | 9.519 | (0.985) | 746469 | 50.0000 | 44.67 |
| 64 | Styrene | 104 | 8.258 | 8.258 | (1.077) | 514442 | 50.0000 | 43.34 |
| 78 | tert-Butylbenzene | 119 | 9.340 | 9.340 | (0.967) | 474516 | 50.0000 | 37.97 |
| 56 | Tetrachloroethene | 164 | 6.926 | 6.926 | (0.903) | 122766 | 50.0000 | 41.06 |
| 50 | Toluene | 91 | 6.446 | 6.446 | (0.840) | 702974 | 50.0000 | 45.67 |
| 20 | trans-1,2-Dichloroethene | 96 | 2.528 | 2.528 | (0.604) | 153133 | 50.0000 | 48.26 |
| 51 | trans-1,3-Dichloropropene | 75 | 6.682 | 6.682 | (1.346) | 261616 | 50.0000 | 50.28 |
| 38 | Trichloroethene | 130 | 5.206 | 5.206 | (1.049) | 168681 | 50.0000 | 47.28 |
| 8 | Trichlorofluoromethane | 101 | 1.561 | 1.561 | (0.373) | 337756 | 50.0000 | 37.80 |
| 5 | Vinyl Chloride | 62 | 1.145 | 1.145 | (0.274) | 215549 | 50.0000 | 46.18 |

QC Flag Legend

M - Compound response manually integrated.

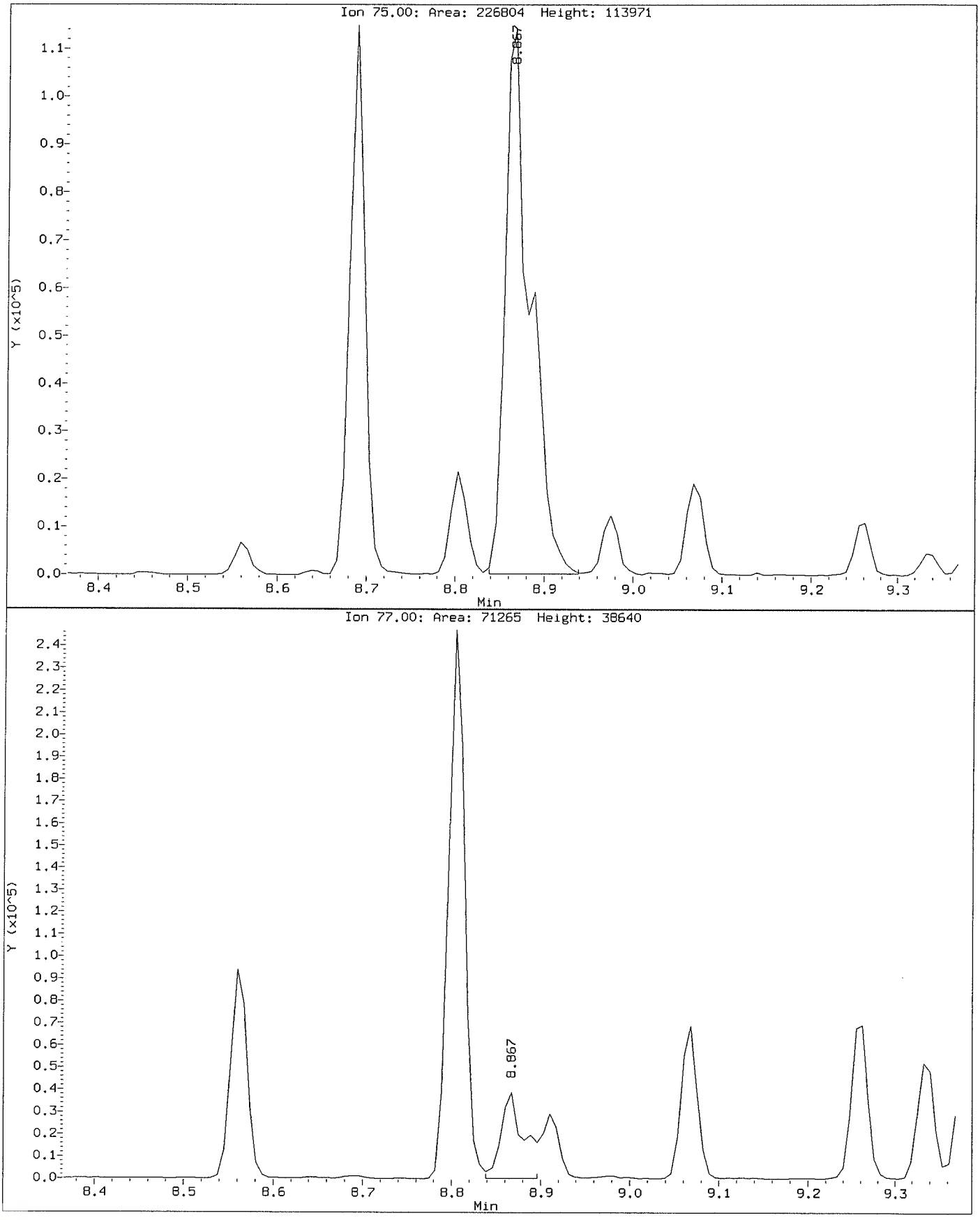



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210506.b\X050613.D
Date : 06-MAY-2021 15:52
Client ID: CCV-END
Sample Info: CCV-END;CCV-END;2;;
Purge Volume: 5.0
Column phase: DB624

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

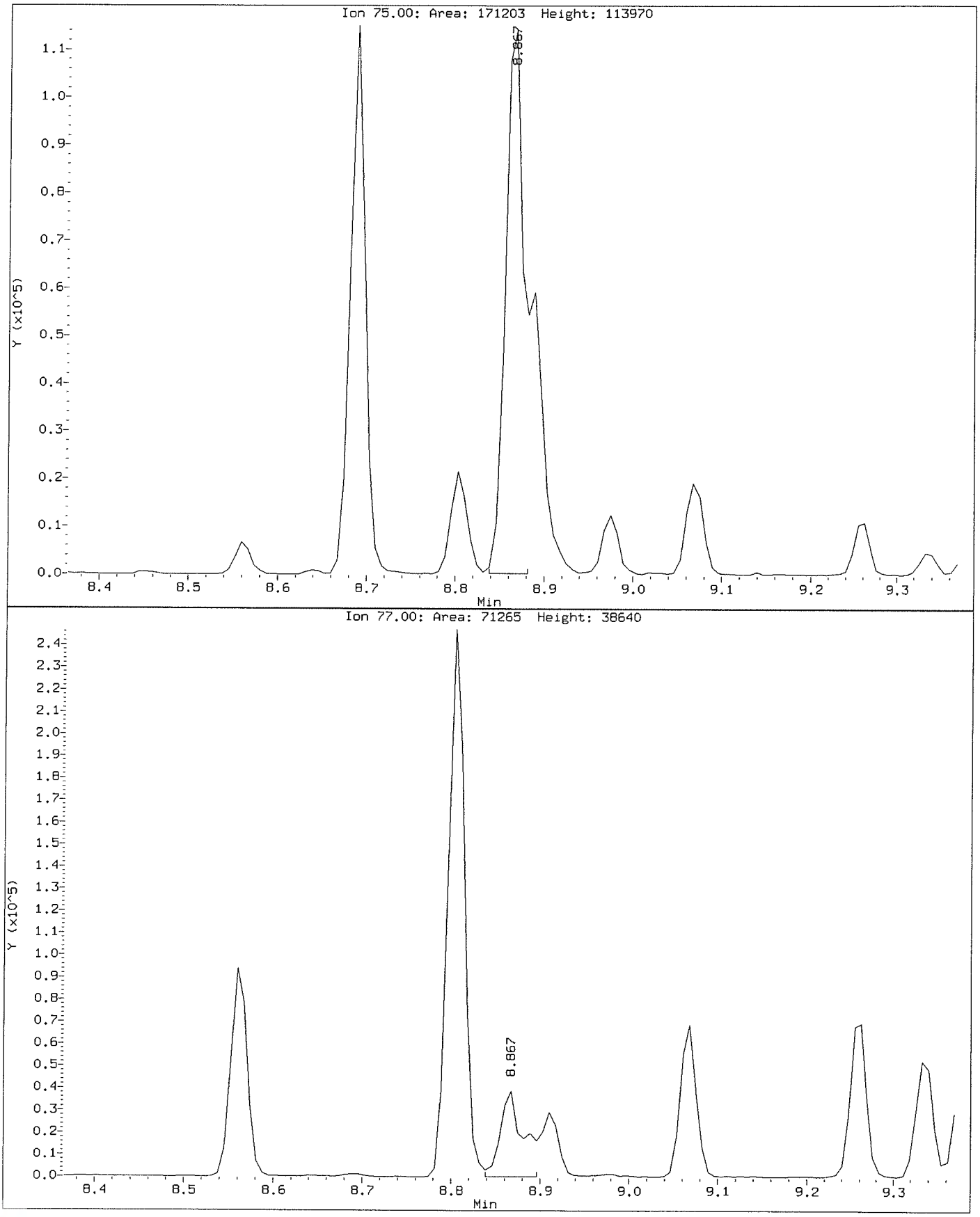
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Injection Date: 06-MAY-2021 15:52
Instrument: voa6.i
Client Sample ID: CCV-END

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



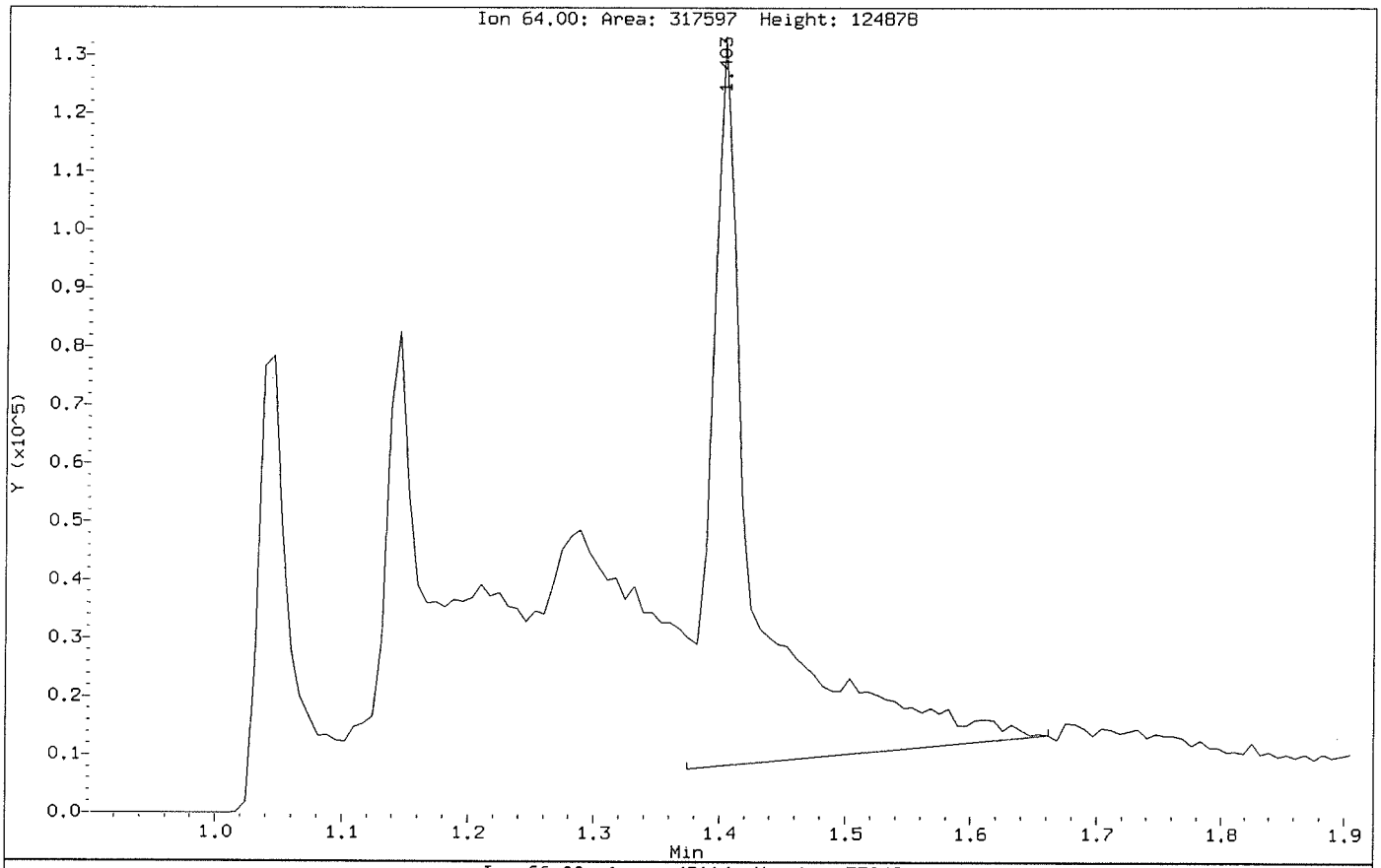
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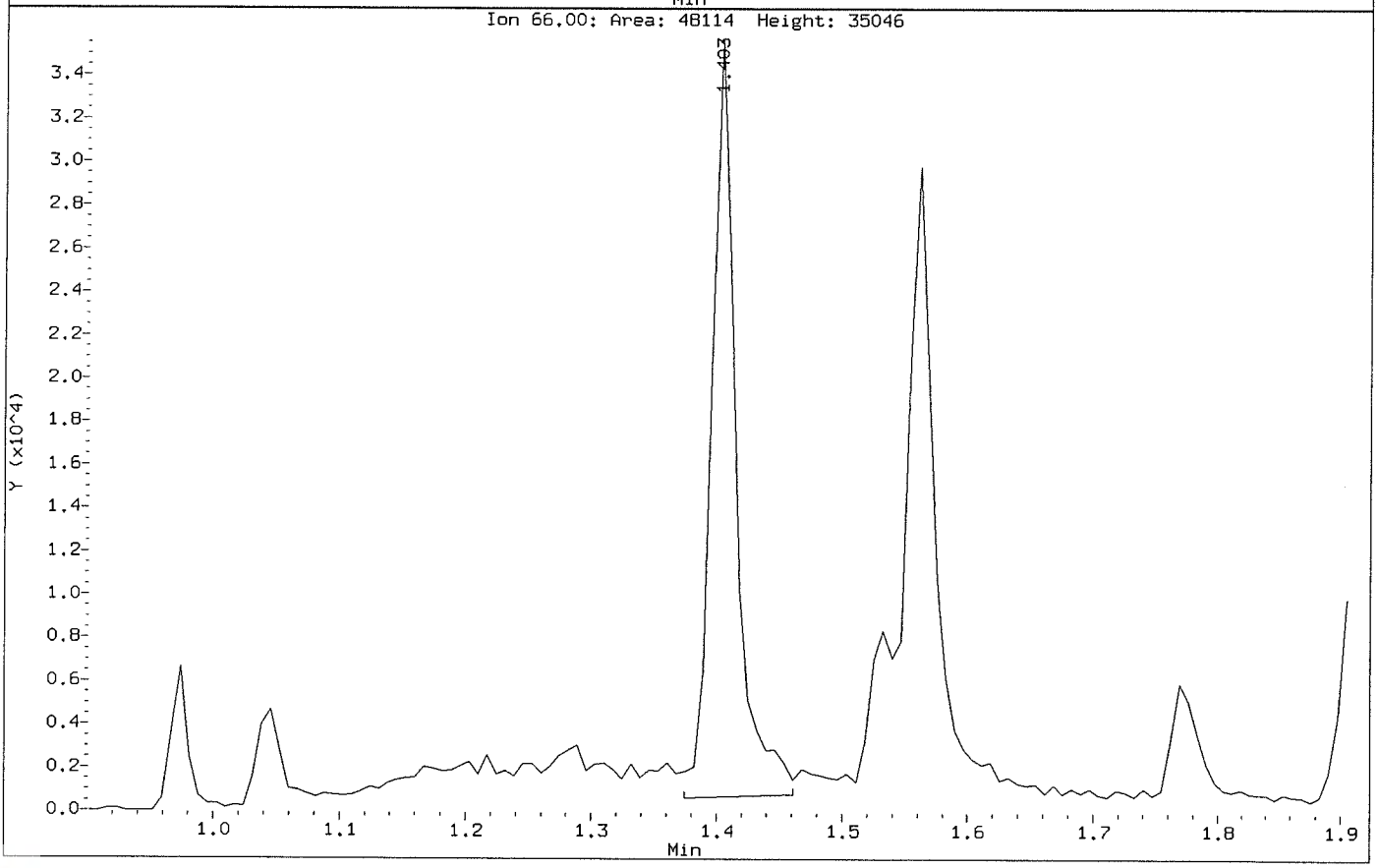
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210506.b\Before\X050613.D
Injection Date: 06-MAY-2021 15:52
Instrument: voa6.i
Client Sample ID: CCV-END

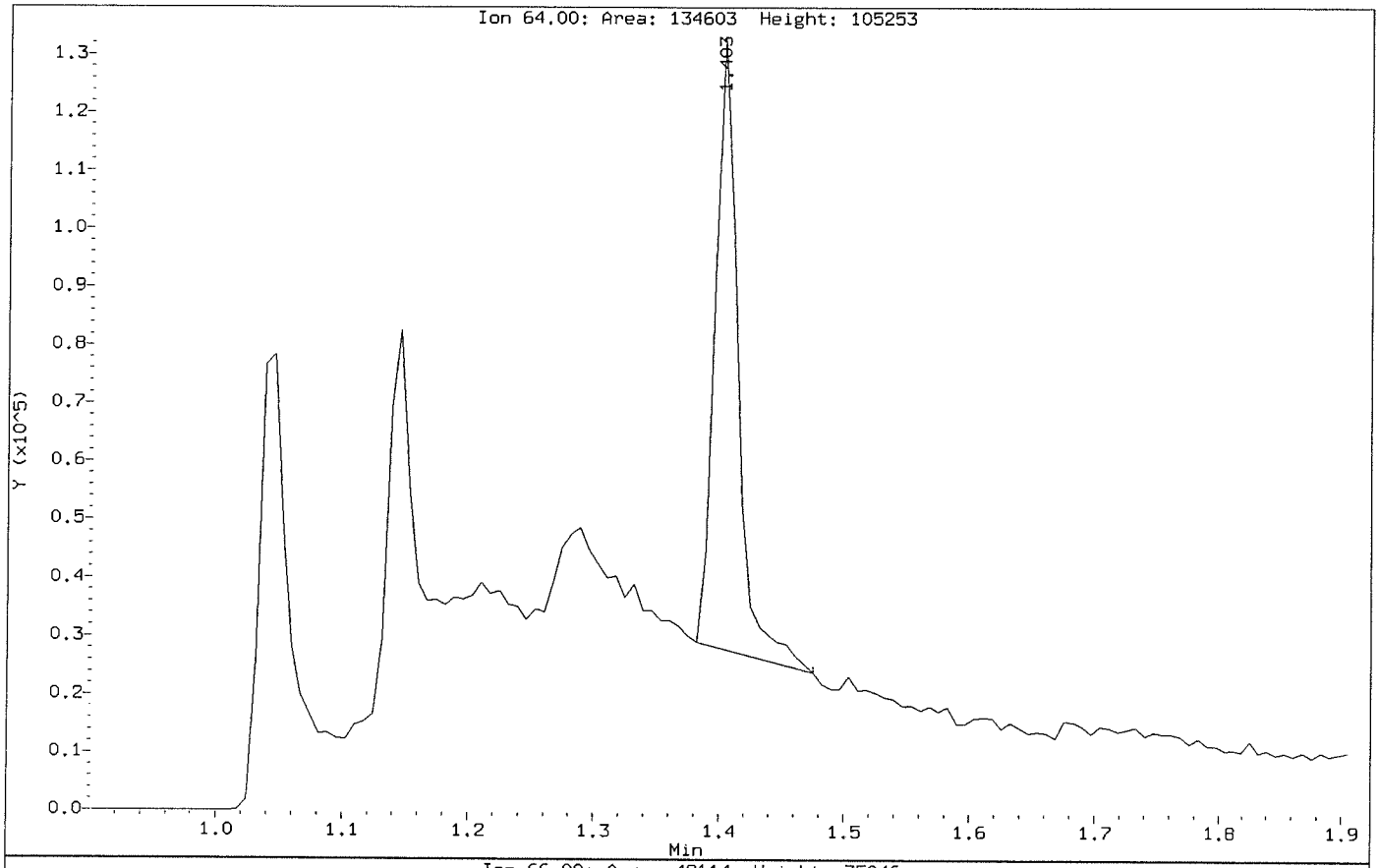
Compound: Chloroethane
CAS Number: 75-00-3

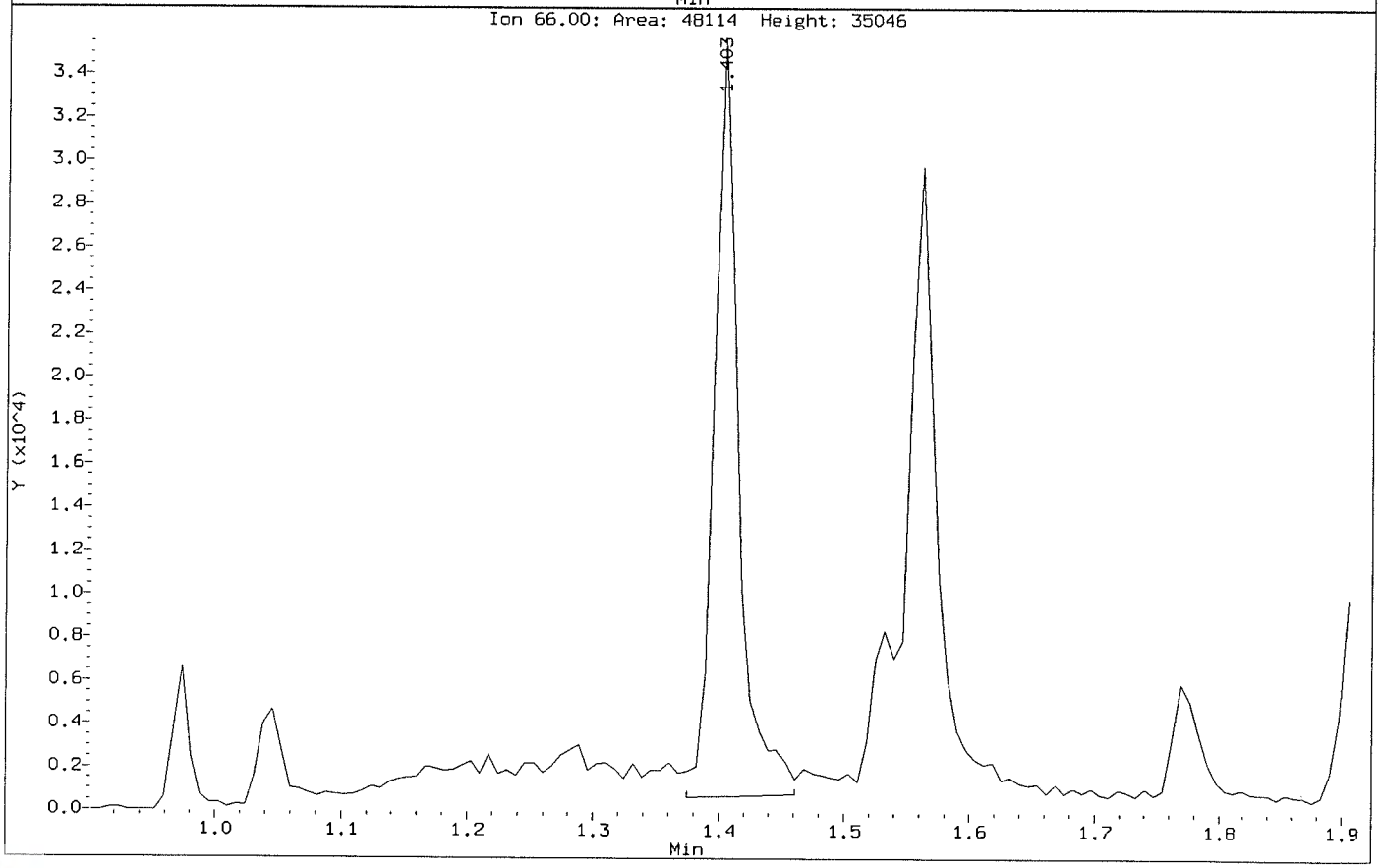


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210506.b\X050613.D
Injection Date: 06-MAY-2021 15:52
Instrument: voa6.i
Client Sample ID: CCV-END

Compound: Chloroethane
CAS Number: 75-00-3



# HS21050180 Wet Chem Raw Data (9056_anions_W)

ALS WO# HS21050180

Sequence: 050721
Last Update Operator: alshs.nouser

| CD | Name | Comment | Type | Position | Dilution | Level | Instrument Method | Processing Method |
|---|---|---|---|---|---|---|---|---|
|  | STD1 | | Calibration | BB1 | 1.00 | 1 | Anions Program ISO37mM 150mm short 0.4 | Anions Processing Method ISO |
|  | STD2 | | Calibration | BB2 | 1.00 | 2 | Anions Program ISO37mM 150mm short 0.4 | Anions Processing Method ISO |
|  | STD3 | | Calibration | BB3 | 1.00 | 3 | Anions Program ISO37mM 150mm short 0.4 | Anions Processing Method ISO |
|  | STD4 | | Calibration | BB4 | 1.00 | 4 | Anions Program ISO37mM 150mm short 0.4 | Anions Processing Method ISO |
|  | STD5 | | Calibration | BB5 | 1.00 | 5 | Anions Program ISO37mM 150mm short 0.4 | Anions Processing Method ISO |
|  | STD6 | | Calibration | BB6 | 1.00 | 6 | Anions Program ISO37mM 150mm short 0.4 | Anions Processing Method ISO |
|  | ICV | | Unknown | BB7 | 1.00 | | Anions Program ISO37mM 150mm short 0.4 | Anions Processing Method ISO |
|  | ICB | | Unknown | BB8 | 1.00 | | Anions Program ISO37mM 150mm short 0.4 | Anions Processing Method ISO |
|  | CCV | | Unknown | R1 | 1.00 | | Anions Program ISO37mM 150mm short 0.4 | Anions Processing Method ISO |
|  | CCB | | Unknown | R4 | 1.00 | | Anions Program ISO37mM 150mm short 0.4 | Anions Processing Method ISO |
|  | MBLK- | | Unknown | R5 | 1.00 | | Anions Program ISO37mM 150mm short 0.4 | Anions Processing Method ISO |
|  | LCS- | | Unknown | R2 | 1.00 | | Anions Program ISO37mM 150mm short 0.4 | Anions Processing Method ISO |
|  | CCV1 | | Unknown | R3 | 1.00 | | Anions Program ISO37mM 150mm short 0.4 | Anions Processing Method ISO |
|  | CCB | | Unknown | R8 | 1.00 | | Anions Program ISO37mM 150mm short 0.4 | Anions Processing Method ISO |
|  | CCV | | Unknown | R1 | 1.00 | | Anions Program ISO37mM 150mm short 0.4 | Anions Processing Method ISO |
|  | CCB | | Unknown | R4 | 1.00 | | Anions Program ISO37mM 150mm short 0.4 | Anions Processing Method ISO |
|  | HS21050180-01 | | Unknown | RC1 | 1.00 | | Anions Program ISO37mM 150mm short 0.4 | Anions Processing Method ISO |
|  | HS21050180-01DF20 | | Unknown | RC2 | 20.00 | | Anions Program ISO37mM 150mm short 0.4 | Anions Processing Method ISO |
|  | HS21050180-01MSDF20 | | Unknown | RC3 | 20.00 | | Anions Program ISO37mM 150mm short 0.4 | Anions Processing Method ISO |
|  | HS21050180-01MSDDF20 | | Unknown | RC4 | 20.00 | | Anions Program ISO37mM 150mm short 0.4 | Anions Processing Method ISO |
|  | CCV1 | | Unknown | R3 | 1.00 | | Anions Program ISO37mM 150mm short 0.4 | Anions Processing Method ISO |
|  | CCB | | Unknown | R7 | 1.00 | | Anions Program ISO37mM 150mm short 0.4 | Anions Processing Method ISO |

Sequence: 050721
Last Update Operator: alshs.nouser

| CD | Name | Volume | Status | Inject Time |
|---|---|---|---|---|
| | STD1 | 5.0 | Finished | 5/5/2021 6:12:32 PM -05:00 |
| | STD2 | 5.0 | Finished | 5/5/2021 6:20:08 PM -05:00 |
| | STD3 | 5.0 | Finished | 5/5/2021 6:27:33 PM -05:00 |
| | STD4 | 5.0 | Finished | 5/5/2021 6:34:56 PM -05:00 |
| | STD5 | 5.0 | Finished | 5/5/2021 6:42:20 PM -05:00 |
| | STD6 | 5.0 | Finished | 5/5/2021 6:49:43 PM -05:00 |
| | ICV | 5.0 | Finished | 5/5/2021 6:57:07 PM -05:00 |
| | ICB | 5.0 | Finished | 5/5/2021 7:14:09 PM -05:00 |
| | CCV | 5.0 | Finished | 5/7/2021 11:49:10 AM -05:00 |
| | CCB | 5.0 | Finished | 5/7/2021 11:56:33 AM -05:00 |
| | MBLK- | 5.0 | Finished | 5/7/2021 12:03:57 PM -05:00 |
| | LCS- | 5.0 | Finished | 5/7/2021 12:11:22 PM -05:00 |
| | CCV1 | 5.0 | Finished | 5/7/2021 1:11:12 PM -05:00 |
| | CCB | 5.0 | Finished | 5/7/2021 1:18:55 PM -05:00 |
| | CCV | 5.0 | Finished | 5/7/2021 2:33:08 PM -05:00 |
| | CCB | 5.0 | Finished | 5/7/2021 2:47:56 PM -05:00 |
| | HS21050180-01 | 5.0 | Finished | 5/7/2021 3:10:08 PM -05:00 |
| | HS21050180-01DF20 | 5.0 | Finished | 5/7/2021 3:17:44 PM -05:00 |
| | HS21050180-01MSDF20 | 5.0 | Finished | 5/7/2021 3:25:11 PM -05:00 |
| | HS21050180-01MSDDF20 | 5.0 | Finished | 5/7/2021 3:32:34 PM -05:00 |
| | CCV1 | 5.0 | Finished | 5/7/2021 3:39:58 PM -05:00 |
| | CCB | 5.0 | Finished | 5/7/2021 3:54:45 PM -05:00 |

Sequence: 050721
Injection #6: STD6

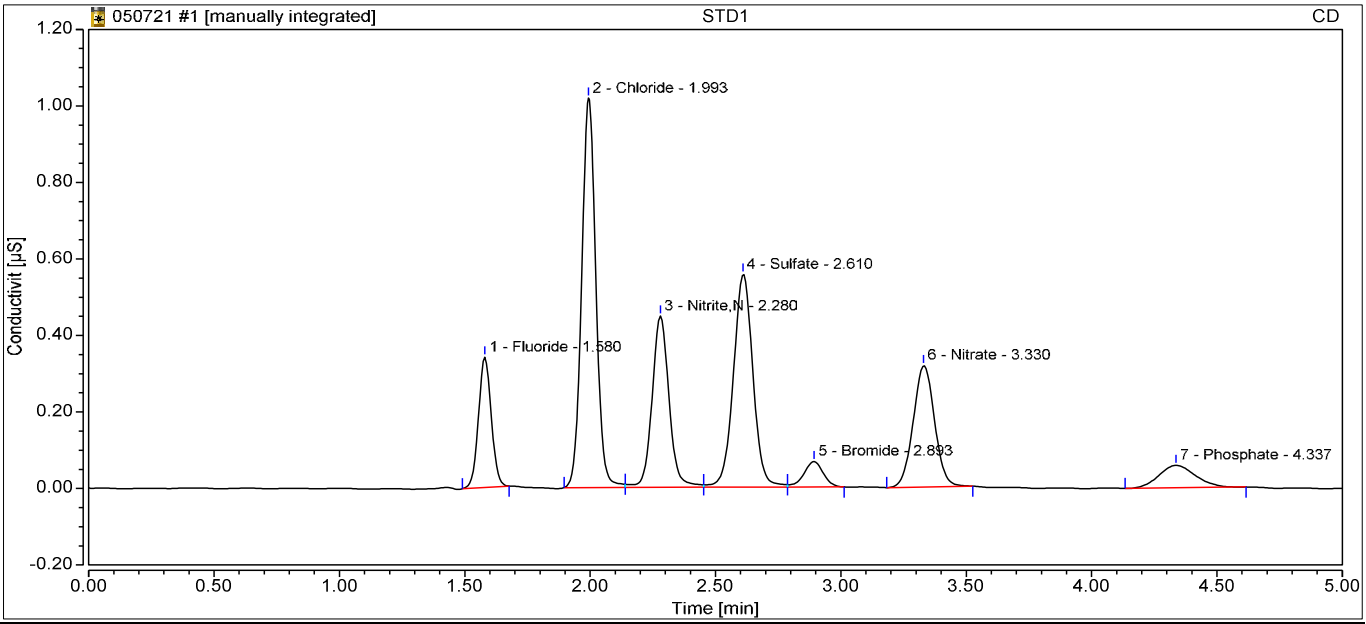
Calibration

| 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/* | *Area* | *6* | *26.4373* | *0.99601* | *0.0037* | *0.2049* | *0.0000* |
| 2 | Chloride | Lin, WithOffset, 1/ | Area | 6 | 0.6871 | 1.00000 | -0.0005 | 0.1344 | 0.0000 |
| 3 | Nitrite,N | Lin, WithOffset, 1/ | Area | 6 | 17.7767 | 0.99788 | 0.0149 | 0.2622 | 0.0000 |
| 4 | Sulfate | Lin, WithOffset, 1/ | Area | 6 | 1.7139 | 0.99998 | 0.0010 | 0.0990 | 0.0000 |
| 5 | Bromide | Lin, WithOffset, 1/ | Area | 6 | 3.9005 | 0.99992 | 0.0004 | 0.0565 | 0.0000 |
| 6 | Nitrate | Lin, WithOffset, 1/ | Area | 6 | 4.7579 | 0.99988 | -0.0013 | 0.3350 | 0.0000 |
| 7 | Phosphate | Lin, WithOffset, 1/ | Area | 6 | 7.9708 | 0.99971 | -0.0045 | 0.1295 | 0.0000 |
| n.a. | Chlorate | Lin, WithOffset, 1/ | Area | 0 | n.a. | n.a. | n.a. | n.a. | n.a. |
| **Maximum** | | | | | **26.4373** | 1.00000 | | | |
| **Minimum** | | | | | 0.6871 | **0.99601** | | | |

*1 STD1*

| | | | |
|---|---|---|---|
| *Sample Name:* | **STD1** | *Injection Volume:* | **5.00** |
| *Vial Number:* | **BB1** | *Channel:* | **CD** |
| *Sample Type:* | **Calibration Standard** | *Wavelength:* | **210** |
| *Control Program:* | **Anions Program ISO37mM 150mm short 0.4** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **Anions Processing Method ISO** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **05/05/2021 18:12** | *Sample Weight:* | **1.0000** |

Run Time:



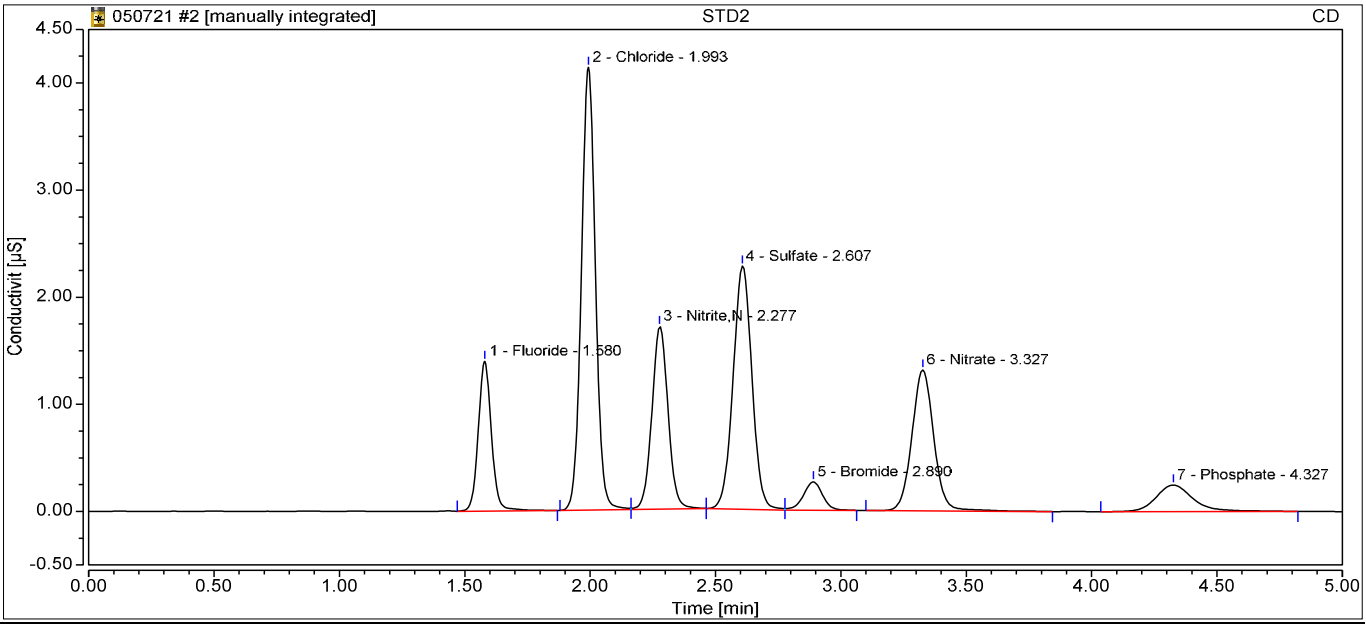

**Integration Results**

| No. | Retention min | Peak Name | Peak Type | Area µS*min | Amount ppm | Concentration ppm | Dilution |
|---|---|---|---|---|---|---|---|
| 1 | 1.58 | Fluoride | BMB* | 0.020 | 0.0804 | 0.0804 | 1.0000 |
| 2 | 1.99 | Chloride | BM * | 0.067 | 0.4989 | 0.4989 | 1.0000 |
| 3 | 2.28 | Nitrite,N | M * | 0.035 | 0.0767 | 0.0767 | 1.0000 |
| 4 | 2.61 | Sulfate | M * | 0.050 | 0.4965 | 0.4965 | 1.0000 |
| 5 | 2.89 | Bromide | MB* | 0.006 | 0.0985 | 0.0985 | 1.0000 |
| 6 | 3.33 | Nitrate | BMB* | 0.031 | 0.0974 | 0.0974 | 1.0000 |
| 7 | 4.34 | Phosphate | BMB* | 0.010 | 0.1110 | 0.1110 | 1.0000 |
| n.a. | n.a. | Chlorate | n.a. | n.a. | n.a. | n.a. | 1.0000 |
| **Total:** | | | **0.000** | **0.219** | | **1.46** | |

2 STD2

| | | | |
|---|---|---|---|
| *Sample Name:* | **STD2** | *Injection Volume:* | **5.00** |
| *Vial Number:* | **BB2** | *Channel:* | **CD** |
| *Sample Type:* | **Calibration Standard** | *Wavelength:* | **210** |
| *Control Program:* | **Anions Program ISO37mM 150mm short 0.4** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **Anions Processing Method ISO** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **05/05/2021 18:20** | *Sample Weight:* | **1.0000** |

Run Time:



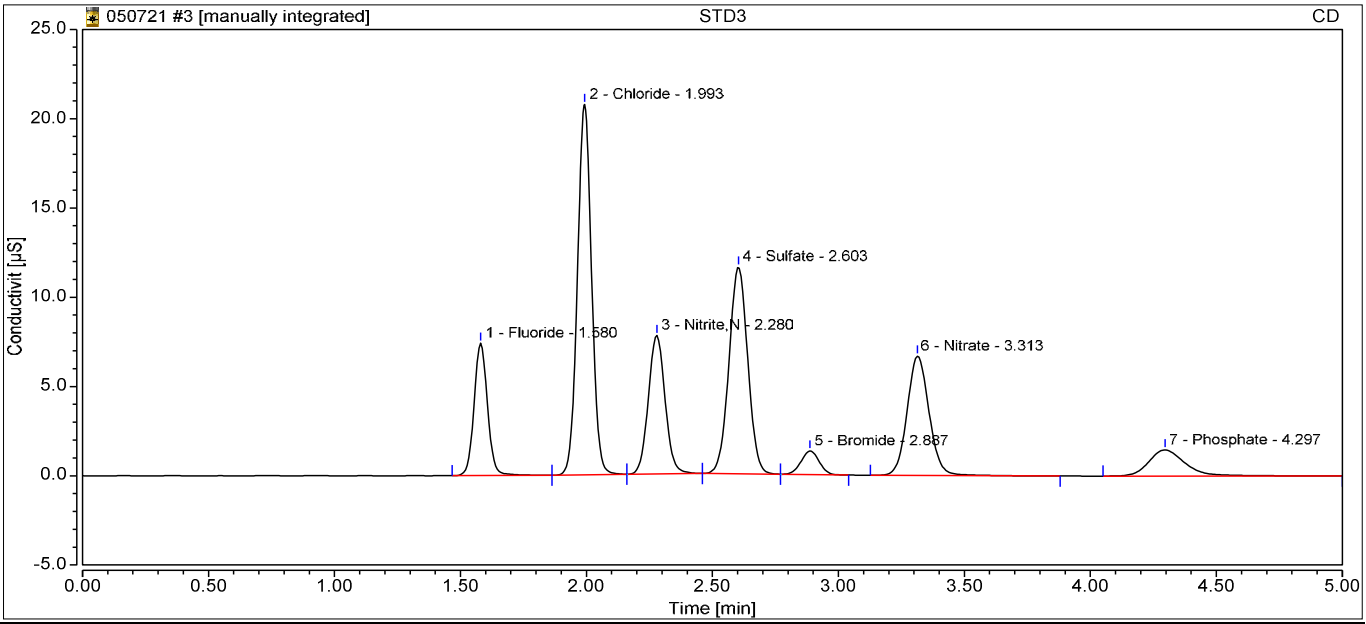

**Integration Results**

| No. | Retention min | Peak Name | Peak Type | Area µS*min | Amount ppm | Concentration ppm | Dilution |
|---|---|---|---|---|---|---|---|
| 1 | 1.58 | Fluoride | BMB | 0.085 | 0.3985 | 0.3985 | 1.0000 |
| 2 | 1.99 | Chloride | BM * | 0.268 | 1.9973 | 1.9973 | 1.0000 |
| 3 | 2.28 | Nitrite,N | Mb* | 0.127 | 0.4273 | 0.4273 | 1.0000 |
| 4 | 2.61 | Sulfate | bM * | 0.198 | 1.9879 | 1.9879 | 1.0000 |
| 5 | 2.89 | Bromide | MB* | 0.024 | 0.4134 | 0.4134 | 1.0000 |
| 6 | 3.33 | Nitrate | BMB | 0.133 | 0.4017 | 0.4017 | 1.0000 |
| 7 | 4.33 | Phosphate | BMB | 0.043 | 0.3676 | 0.3676 | 1.0000 |
| n.a. | n.a. | Chlorate | n.a. | n.a. | n.a. | n.a. | 1.0000 |
| **Total:** | | | **0.000** | **0.878** | | **5.99** | |

*3 STD3*

| | | | |
|---|---|---|---|
| *Sample Name:* | **STD3** | *Injection Volume:* | **5.00** |
| *Vial Number:* | **BB3** | *Channel:* | **CD** |
| *Sample Type:* | **Calibration Standard** | *Wavelength:* | **210** |
| *Control Program:* | **Anions Program ISO37mM 150mm short 0.4** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **Anions Processing Method ISO** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **05/05/2021 18:27** | *Sample Weight:* | **1.0000** |

Run Time:



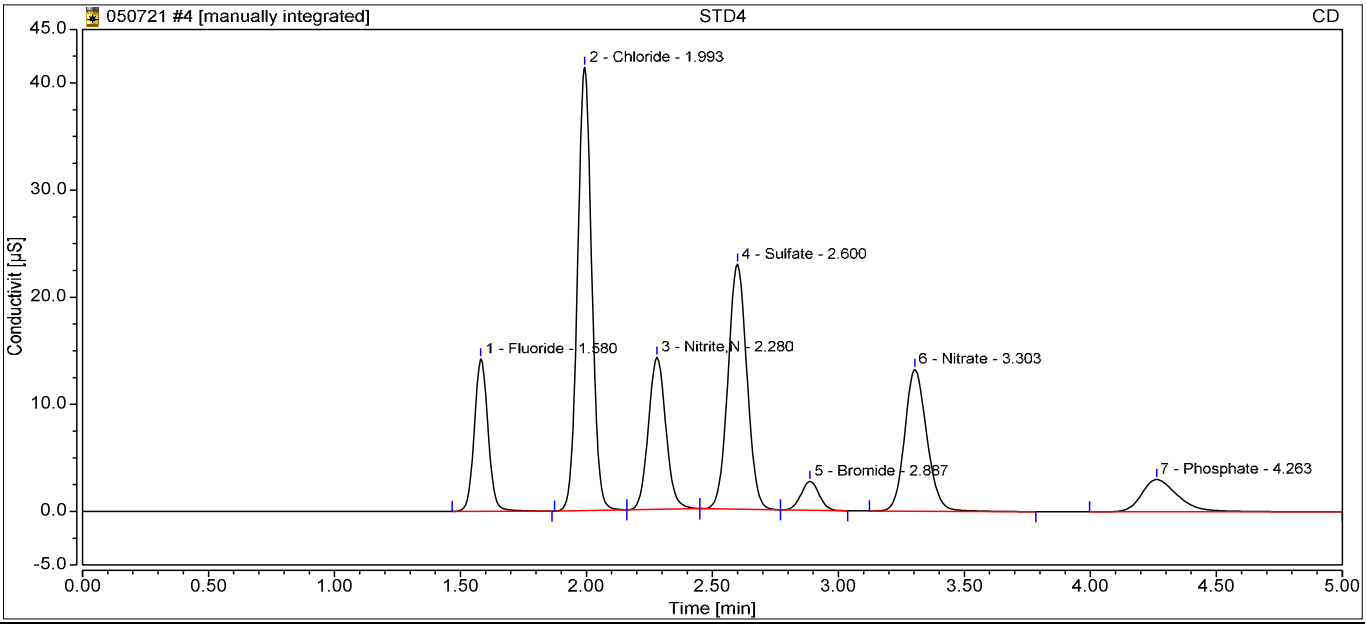

**Integration Results**

| No. | Retention min | Peak Name | Peak Type | Area µS*min | Amount ppm | Concentration ppm | Dilution |
|---|---|---|---|---|---|---|---|
| 1 | 1.58 | Fluoride | BMb* | 0.459 | 2.2233 | 2.2233 | 1.0000 |
| 2 | 1.99 | Chloride | bM * | 1.346 | 10.0167 | 10.0167 | 1.0000 |
| 3 | 2.28 | Nitrite,N | Mb* | 0.600 | 2.2303 | 2.2303 | 1.0000 |
| 4 | 2.60 | Sulfate | bM * | 1.000 | 10.0941 | 10.0941 | 1.0000 |
| 5 | 2.89 | Bromide | MB* | 0.112 | 1.9684 | 1.9684 | 1.0000 |
| 6 | 3.31 | Nitrate | BMB | 0.675 | 2.0188 | 2.0188 | 1.0000 |
| 7 | 4.30 | Phosphate | BMB | 0.247 | 1.9396 | 1.9396 | 1.0000 |
| n.a. | n.a. | Chlorate | n.a. | n.a. | n.a. | n.a. | 1.0000 |
| **Total:** | | | **0.000** | **4.438** | | **30.49** | |

*4 STD4*

| | | | |
|---|---|---|---|
| *Sample Name:* | **STD4** | *Injection Volume:* | **5.00** |
| *Vial Number:* | **BB4** | *Channel:* | **CD** |
| *Sample Type:* | **Calibration Standard** | *Wavelength:* | **210** |
| *Control Program:* | **Anions Program ISO37mM 150mm short 0.4** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **Anions Processing Method ISO** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **05/05/2021 18:34** | *Sample Weight:* | **1.0000** |

Run Time:



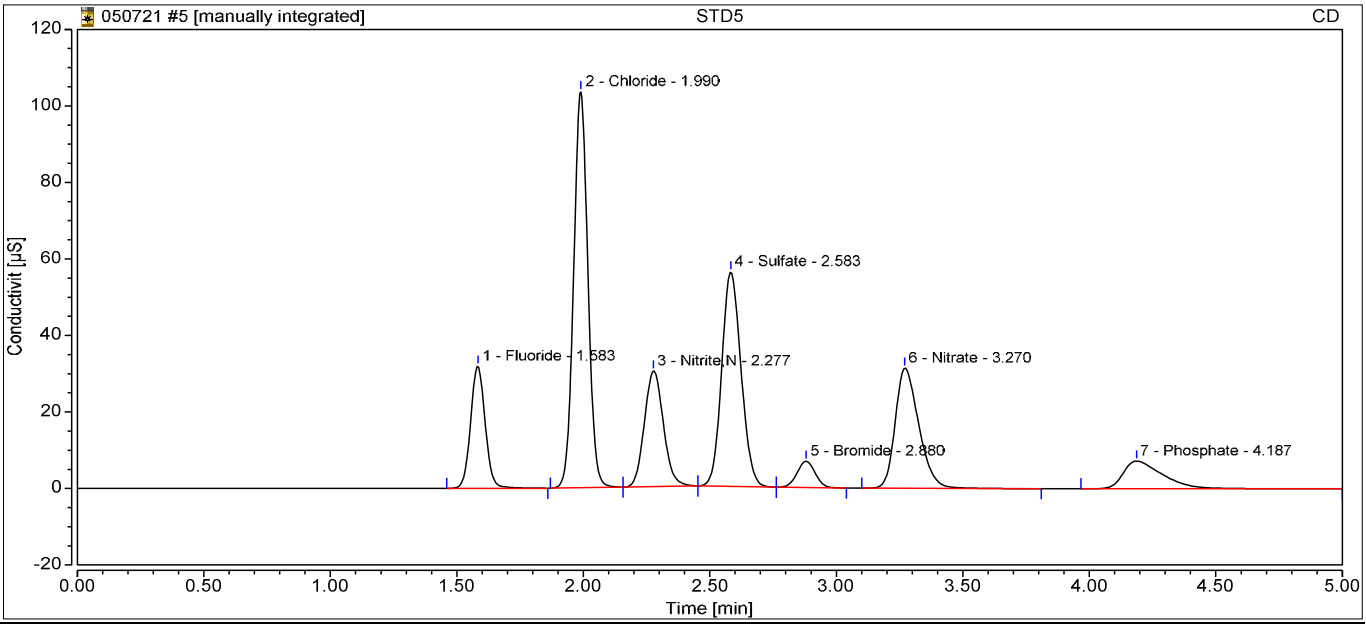

**Integration Results**

| No. | Retention min | Peak Name | Peak Type | Area µS*min | Amount ppm | Concentration ppm | Dilution |
|---|---|---|---|---|---|---|---|
| 1 | 1.58 | Fluoride | BMB | 0.903 | 4.3869 | 4.3869 | 1.0000 |
| 2 | 1.99 | Chloride | BM * | 2.691 | 20.0267 | 20.0267 | 1.0000 |
| 3 | 2.28 | Nitrite,N | Mb* | 1.144 | 4.3066 | 4.3066 | 1.0000 |
| 4 | 2.60 | Sulfate | bMB* | 1.988 | 20.0727 | 20.0727 | 1.0000 |
| 5 | 2.89 | Bromide | BMB | 0.224 | 3.9555 | 3.9555 | 1.0000 |
| 6 | 3.30 | Nitrate | BMB | 1.350 | 4.0333 | 4.0333 | 1.0000 |
| 7 | 4.26 | Phosphate | BMB | 0.506 | 3.9429 | 3.9429 | 1.0000 |
| n.a. | n.a. | Chlorate | n.a. | n.a. | n.a. | n.a. | 1.0000 |
| **Total:** | | | **0.000** | **8.805** | | **60.72** | |

*5 STD5*

| | | | |
|---|---|---|---|
| *Sample Name:* | **STD5** | *Injection Volume:* | **5.00** |
| *Vial Number:* | **BB5** | *Channel:* | **CD** |
| *Sample Type:* | **Calibration Standard** | *Wavelength:* | **210** |
| *Control Program:* | **Anions Program ISO37mM 150mm short 0.4** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **Anions Processing Method ISO** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **05/05/2021 18:42** | *Sample Weight:* | **1.0000** |

Run Time:

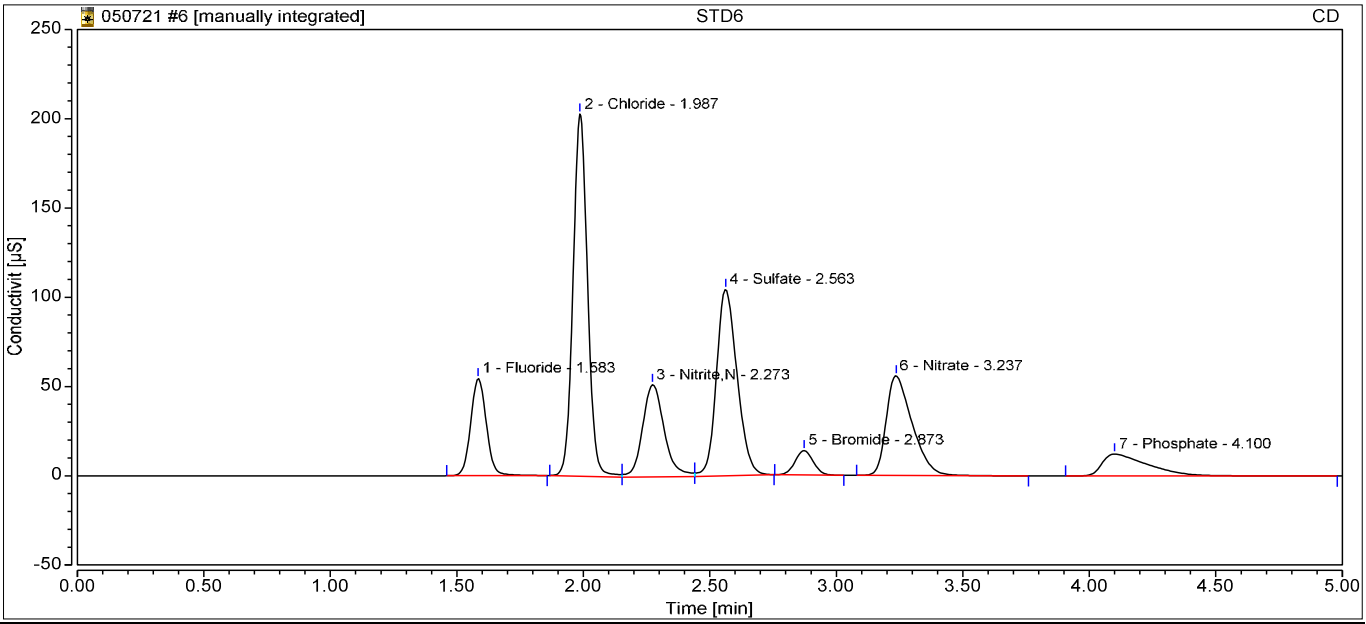



**Integration Results**

| No. | Retention min | Peak Name | Peak Type | Area µS*min | Amount ppm | Concentration ppm | Dilution |
|---|---|---|---|---|---|---|---|
| 1 | 1.58 | Fluoride | BMB | 2.140 | 10.4243 | 10.4243 | 1.0000 |
| 2 | 1.99 | Chloride | BMb* | 6.732 | 50.0934 | 50.0934 | 1.0000 |
| 3 | 2.28 | Nitrite,N | bMb* | 2.637 | 9.9988 | 9.9988 | 1.0000 |
| 4 | 2.58 | Sulfate | bMB* | 4.966 | 50.1541 | 50.1541 | 1.0000 |
| 5 | 2.88 | Bromide | BMB | 0.571 | 10.1112 | 10.1112 | 1.0000 |
| 6 | 3.27 | Nitrate | BMB | 3.393 | 10.1328 | 10.1328 | 1.0000 |
| 7 | 4.19 | Phosphate | BMB | 1.313 | 10.1773 | 10.1773 | 1.0000 |
| n.a. | n.a. | Chlorate | n.a. | n.a. | n.a. | n.a. | 1.0000 |
| **Total:** | | | **0.000** | **21.751** | | **151.09** | |

| | | | |
|---|---|---|---|
| *6 STD6* | | | |
| *Sample Name:* | **STD6** | *Injection Volume:* | **5.00** |
| *Vial Number:* | **BB6** | *Channel:* | **CD** |
| *Sample Type:* | **Calibration Standard** | *Wavelength:* | **210** |
| *Control Program:* | **Anions Program ISO37mM 150mm short 0.4** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **Anions Processing Method ISO** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **05/05/2021 18:49** | *Sample Weight:* | **1.0000** |

Run Time:



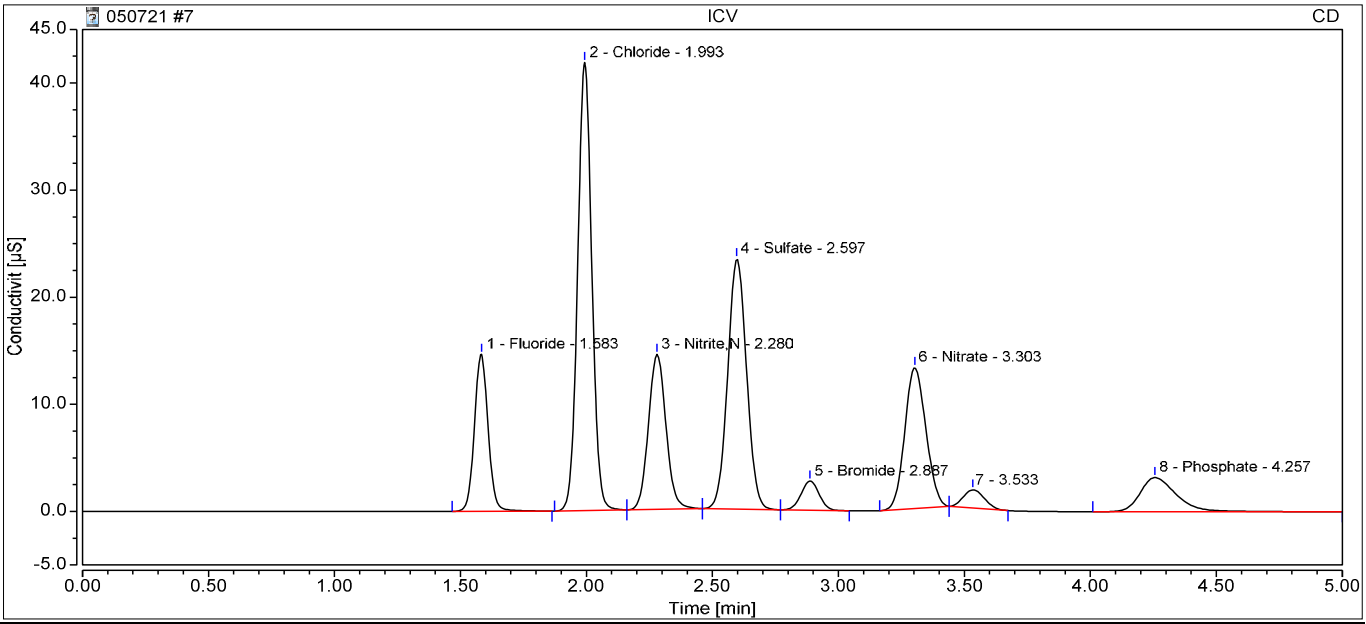

**Integration Results**

| No. | Retention min | Peak Name | Peak Type | Area µS*min | Amount ppm | Concentration ppm | Dilution |
|---|---|---|---|---|---|---|---|
| 1 | 1.58 | Fluoride | BMB | 3.894 | 18.9867 | 18.9867 | 1.0000 |
| 2 | 1.99 | Chloride | BM * | 13.421 | 99.8669 | 99.8669 | 1.0000 |
| 3 | 2.27 | Nitrite,N | M * | 5.117 | 19.4604 | 19.4604 | 1.0000 |
| 4 | 2.56 | Sulfate | MB* | 9.870 | 99.6947 | 99.6947 | 1.0000 |
| 5 | 2.87 | Bromide | BMB | 1.127 | 19.9531 | 19.9531 | 1.0000 |
| 6 | 3.24 | Nitrate | BMB | 6.637 | 19.8160 | 19.8160 | 1.0000 |
| 7 | 4.10 | Phosphate | BMB | 2.580 | 19.9616 | 19.9616 | 1.0000 |
| n.a. | n.a. | Chlorate | n.a. | n.a. | n.a. | n.a. | 1.0000 |
| **Total:** | | | **0.000** | **42.646** | | **297.74** | |

7 ICV

| | | | |
|---|---|---|---|
| *Sample Name:* | **ICV** | *Injection Volume:* | **5.00** |
| *Vial Number:* | **BB7** | *Channel:* | **CD** |
| *Sample Type:* | **Unknown** | *Wavelength:* | **210** |
| *Control Program:* | **Anions Program ISO37mM 150mm short 0.4** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **Anions Processing Method ISO** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **05/05/2021 18:57** | *Sample Weight:* | **1.0000** |

Run Time:



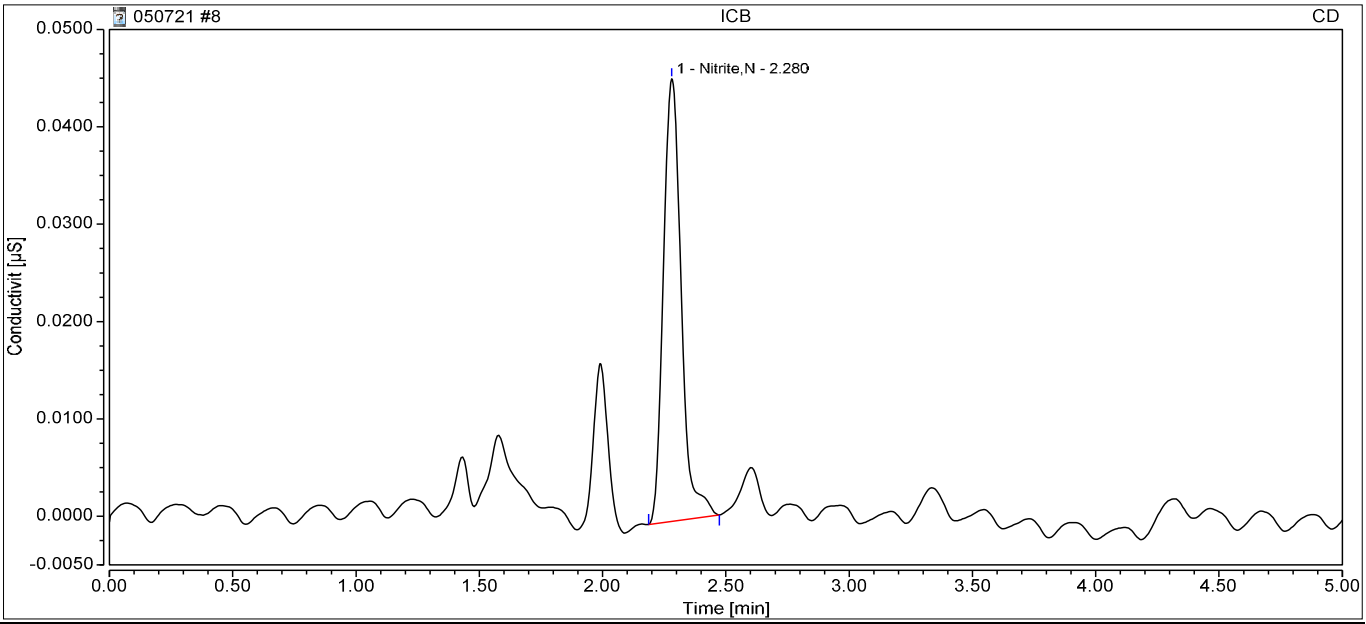

**Integration Results**

| No. | Retention min | Peak Name | Peak Type | Area µS*min | Amount ppm | Concentration ppm | Dilution |
|---|---|---|---|---|---|---|---|
| 1 | 1.58 | Fluoride | BMB | 0.924 | 4.4936 | 4.4936 | 1.0000 |
| 2 | 1.99 | Chloride | BMB | 2.715 | 20.2077 | 20.2077 | 1.0000 |
| 3 | 2.28 | Nitrite,N | BMB | 1.168 | 4.3995 | 4.3995 | 1.0000 |
| 4 | 2.60 | Sulfate | BMB | 2.028 | 20.4771 | 20.4771 | 1.0000 |
| 5 | 2.89 | Bromide | BMB | 0.226 | 3.9960 | 3.9960 | 1.0000 |
| 6 | 3.30 | Nitrate | BMB | 1.281 | 3.8265 | 3.8265 | 1.0000 |
| 8 | 4.26 | Phosphate | BMB | 0.533 | 4.1549 | 4.1549 | 1.0000 |
| n.a. | n.a. | Chlorate | n.a. | n.a. | n.a. | n.a. | 1.0000 |
| **Total:** | | | **0.000** | **8.876** | | **61.56** | |

*8 ICB*

| | | | |
|---|---|---|---|
| *Sample Name:* | **ICB** | *Injection Volume:* | **5.00** |
| *Vial Number:* | **BB8** | *Channel:* | **CD** |
| *Sample Type:* | **Unknown** | *Wavelength:* | **210** |
| *Control Program:* | **Anions Program ISO37mM 150mm short 0.4** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **Anions Processing Method ISO** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **05/05/2021 19:14** | *Sample Weight:* | **1.0000** |

Run Time:



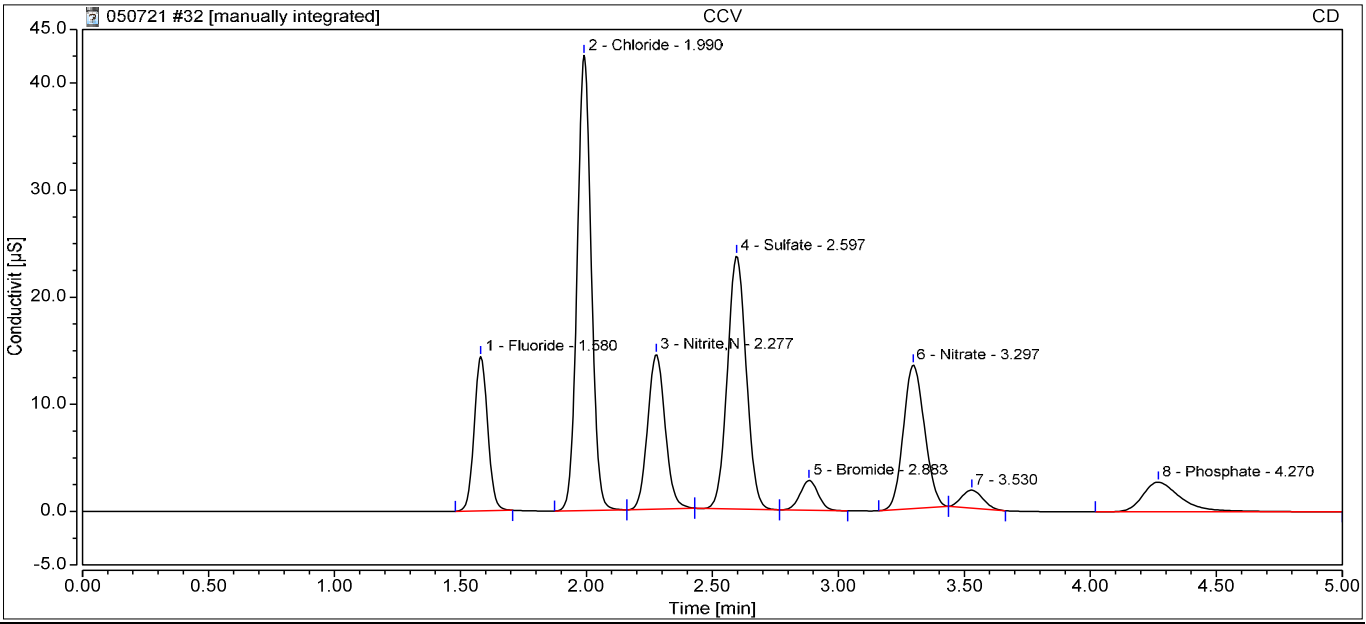

**Integration Results**

| 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 |
| 1 | 2.28 | Nitrite,N | BMB | 0.004 | 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. | Phosphate | 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 |
| **Total:** | | | **0.000** | **0.004** | | **0.00** | |

*32 CCV*

| | | | |
|---|---|---|---|
| *Sample Name:* | **CCV** | *Injection Volume:* | **5.00** |
| *Vial Number:* | **R1** | *Channel:* | **CD** |
| *Sample Type:* | **Unknown** | *Wavelength:* | **210** |
| *Control Program:* | **Anions Program ISO37mM 150mm short 0.4** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **Anions Processing Method ISO** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **05/07/2021 11:49** | *Sample Weight:* | **1.0000** |

Run Time:



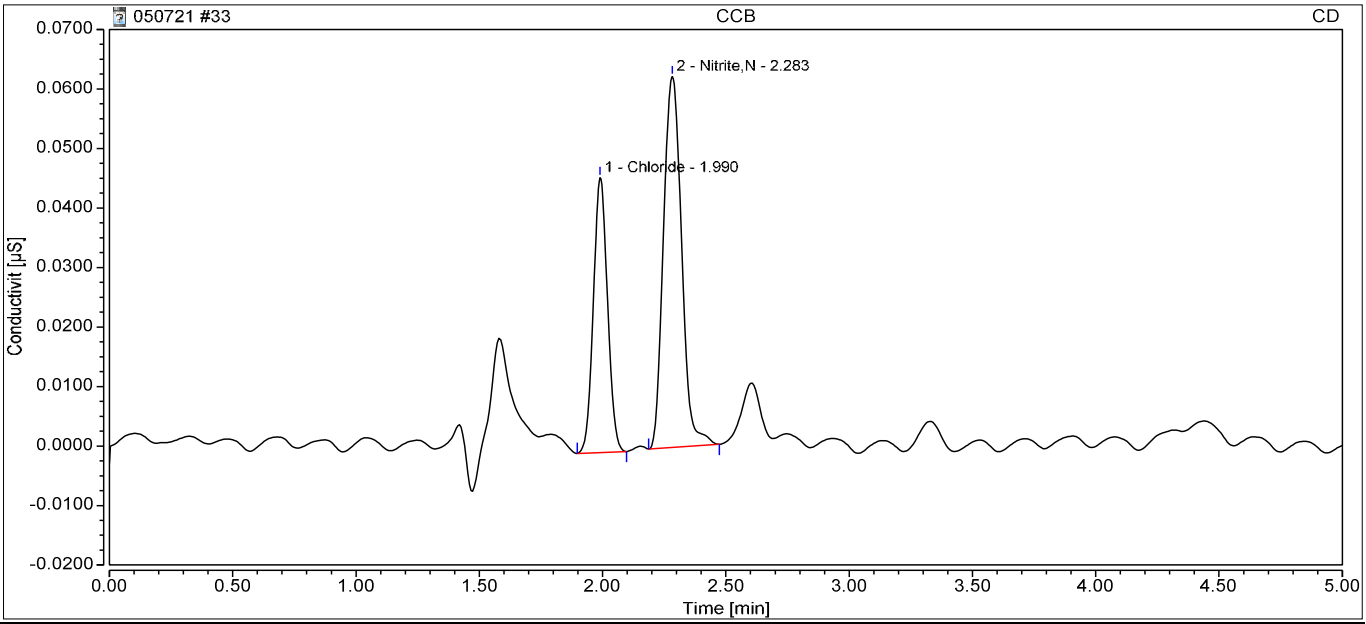

**Integration Results**

| No. | Retention min | Peak Name | Peak Type | Area µS*min | Amount ppm | Concentration ppm | Dilution |
|---|---|---|---|---|---|---|---|
| 1 | 1.58 | Fluoride | BMB* | 0.897 | 4.3583 | 4.3583 | 1.0000 |
| 2 | 1.99 | Chloride | BMb* | 2.755 | 20.5042 | 20.5042 | 1.0000 |
| 3 | 2.28 | Nitrite,N | bMb* | 1.162 | 4.3745 | 4.3745 | 1.0000 |
| 4 | 2.60 | Sulfate | bMB* | 2.046 | 20.6625 | 20.6625 | 1.0000 |
| 5 | 2.88 | Bromide | BMB | 0.231 | 4.0764 | 4.0764 | 1.0000 |
| 6 | 3.30 | Nitrate | BMB | 1.305 | 3.8979 | 3.8979 | 1.0000 |
| 8 | 4.27 | Phosphate | BMB | 0.493 | 3.8394 | 3.8394 | 1.0000 |
| n.a. | n.a. | Chlorate | n.a. | n.a. | n.a. | n.a. | 1.0000 |
| **Total:** | | | **0.000** | **8.888** | | **61.71** | |

*33 CCB*

| | | | |
|---|---|---|---|
| *Sample Name:* | **CCB** | *Injection Volume:* | **5.00** |
| *Vial Number:* | **R4** | *Channel:* | **CD** |
| *Sample Type:* | **Unknown** | *Wavelength:* | **210** |
| *Control Program:* | **Anions Program ISO37mM 150mm short 0.4** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **Anions Processing Method ISO** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **05/07/2021 11:56** | *Sample Weight:* | **1.0000** |

Run Time:



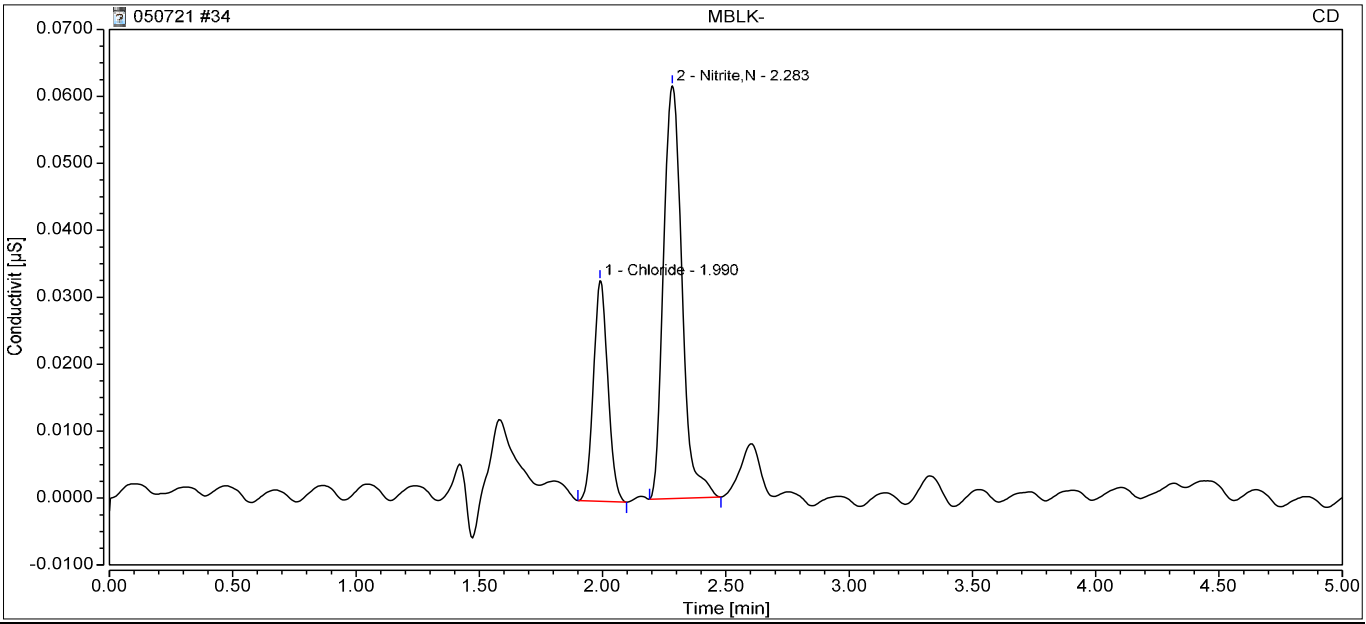

**Integration Results**

| 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. | 1.0000 |
| 1 | 1.99 | Chloride | BMB | 0.003 | 0.0263 | 0.0263 | 1.0000 |
| 2 | 2.28 | Nitrite,N | BMB | 0.005 | 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. | Phosphate | 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 |
| **Total:** | | | **0.000** | **0.008** | | **0.03** | |

*34 MBLK-*

| | | | |
|---|---|---|---|
| *Sample Name:* | **MBLK-** | *Injection Volume:* | **5.00** |
| *Vial Number:* | **R5** | *Channel:* | **CD** |
| *Sample Type:* | **Unknown** | *Wavelength:* | **210** |
| *Control Program:* | **Anions Program ISO37mM 150mm short 0.4** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **Anions Processing Method ISO** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **05/07/2021 12:03** | *Sample Weight:* | **1.0000** |

Run Time:



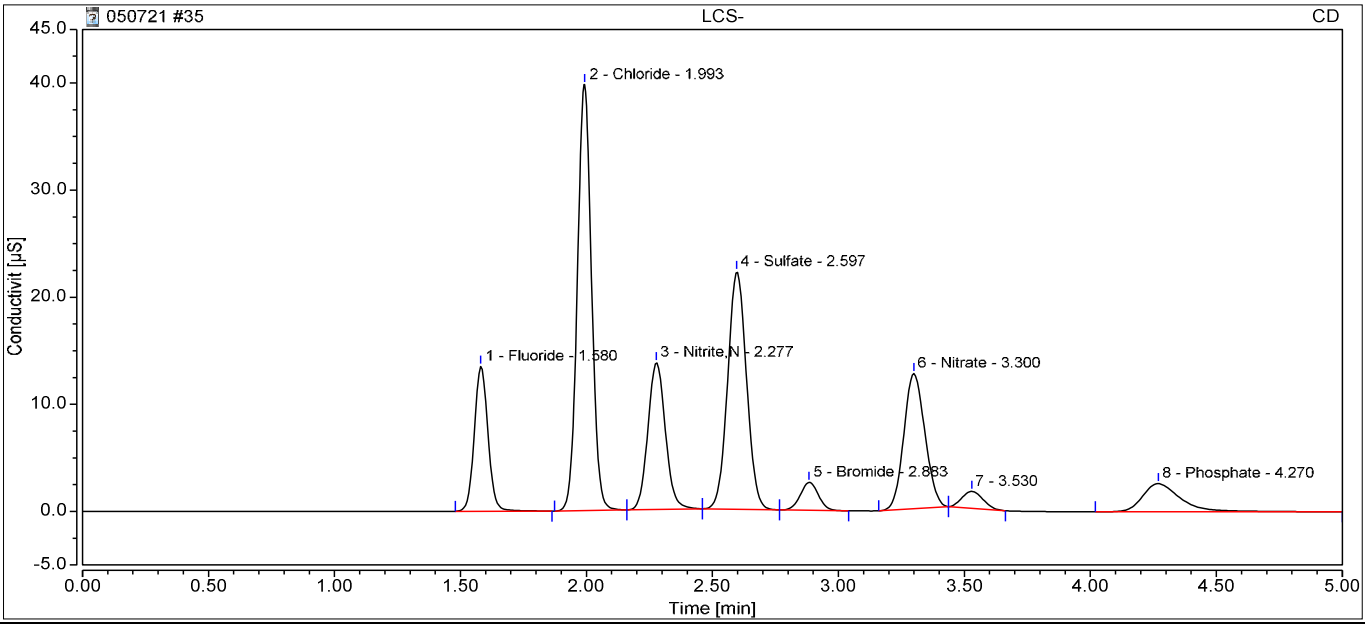

**Integration Results**

| 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 | 1.99 | Chloride | BMB | 0.002 | 0.0201 | 0.0201 | 1.0000 |
| 2 | 2.28 | Nitrite,N | BMB | 0.005 | 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. | Phosphate | 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 |
| **Total:** | | | **0.000** | **0.008** | | **0.02** | |

*35 LCS-*

| | | | |
|---|---|---|---|
| *Sample Name:* | **LCS-** | *Injection Volume:* | **5.00** |
| *Vial Number:* | **R2** | *Channel:* | **CD** |
| *Sample Type:* | **Unknown** | *Wavelength:* | **210** |
| *Control Program:* | **Anions Program ISO37mM 150mm short 0.4** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **Anions Processing Method ISO** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **05/07/2021 12:11** | *Sample Weight:* | **1.0000** |

Run Time:



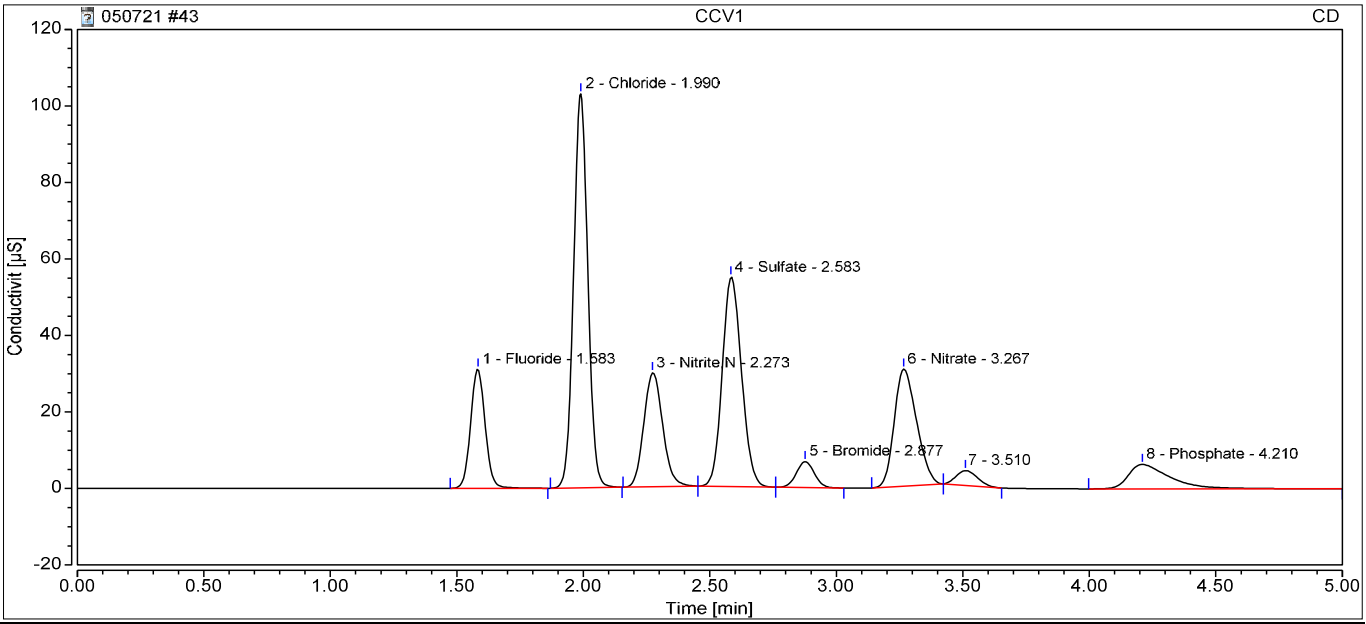

**Integration Results**

| No. | Retention min | Peak Name | Peak Type | Area µS*min | Amount ppm | Concentration ppm | Dilution |
|---|---|---|---|---|---|---|---|
| 1 | 1.58 | Fluoride | BMB | 0.854 | 4.1505 | 4.1505 | 1.0000 |
| 2 | 1.99 | Chloride | BMB | 2.583 | 19.2264 | 19.2264 | 1.0000 |
| 3 | 2.28 | Nitrite,N | BMB | 1.103 | 4.1512 | 4.1512 | 1.0000 |
| 4 | 2.60 | Sulfate | BMB | 1.922 | 19.4062 | 19.4062 | 1.0000 |
| 5 | 2.88 | Bromide | BMB | 0.216 | 3.8217 | 3.8217 | 1.0000 |
| 6 | 3.30 | Nitrate | BMB | 1.224 | 3.6569 | 3.6569 | 1.0000 |
| 8 | 4.27 | Phosphate | BMB | 0.460 | 3.5887 | 3.5887 | 1.0000 |
| n.a. | n.a. | Chlorate | n.a. | n.a. | n.a. | n.a. | 1.0000 |
| **Total:** | | | **0.000** | **8.363** | | **58.00** | |

*43 CCV1*

| | | | |
|---|---|---|---|
| *Sample Name:* | **CCV1** | *Injection Volume:* | **5.00** |
| *Vial Number:* | **R3** | *Channel:* | **CD** |
| *Sample Type:* | **Unknown** | *Wavelength:* | **210** |
| *Control Program:* | **Anions Program ISO37mM 150mm short 0.4** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **Anions Processing Method ISO** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **05/07/2021 13:11** | *Sample Weight:* | **1.0000** |

Run Time:



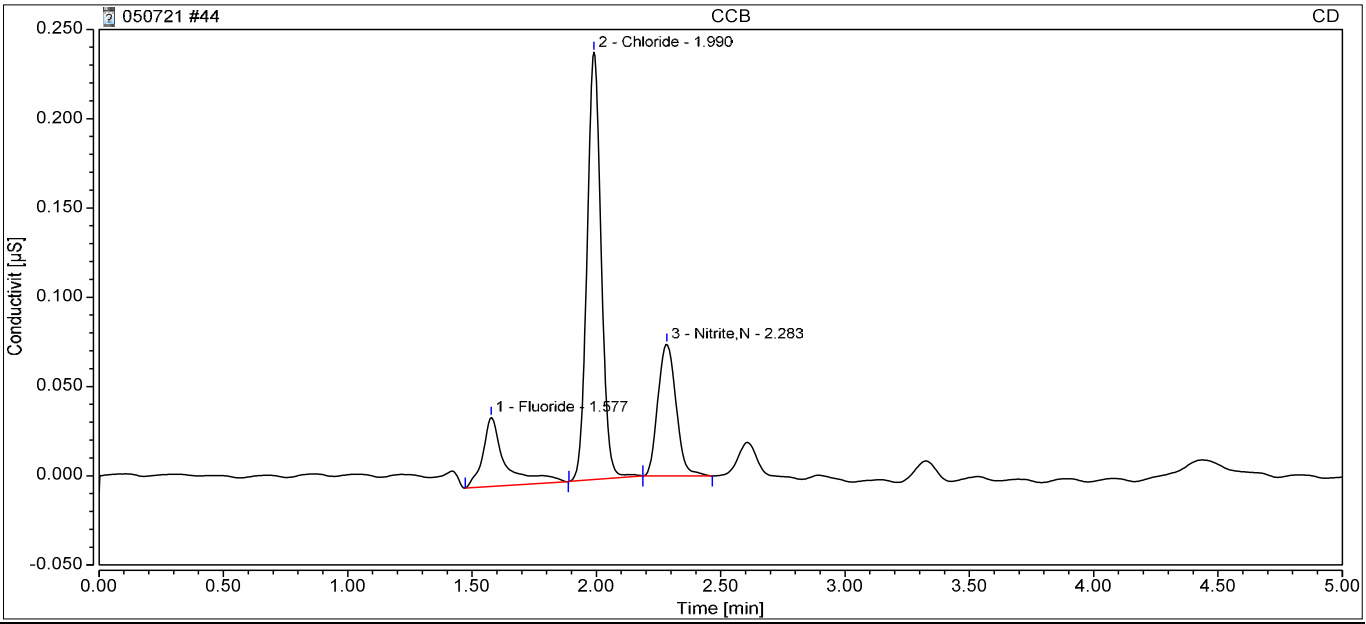

**Integration Results**

| No. | Retention min | Peak Name | Peak Type | Area µS*min | Amount ppm | Concentration ppm | Dilution |
|---|---|---|---|---|---|---|---|
| 1 | 1.58 | Fluoride | BMB | 2.081 | 10.1367 | 10.1367 | 1.0000 |
| 2 | 1.99 | Chloride | BMB | 6.696 | 49.8287 | 49.8287 | 1.0000 |
| 3 | 2.27 | Nitrite,N | BMB | 2.586 | 9.8051 | 9.8051 | 1.0000 |
| 4 | 2.58 | Sulfate | BMB | 4.844 | 48.9213 | 48.9213 | 1.0000 |
| 5 | 2.88 | Bromide | BMB | 0.561 | 9.9187 | 9.9187 | 1.0000 |
| 6 | 3.27 | Nitrate | BMB | 3.126 | 9.3355 | 9.3355 | 1.0000 |
| 8 | 4.21 | Phosphate | BMB | 1.219 | 9.4512 | 9.4512 | 1.0000 |
| n.a. | n.a. | Chlorate | n.a. | n.a. | n.a. | n.a. | 1.0000 |
| **Total:** | | | **0.000** | **21.112** | | **147.40** | |

*44 CCB*

| | | | |
|---|---|---|---|
| *Sample Name:* | **CCB** | *Injection Volume:* | **5.00** |
| *Vial Number:* | **R8** | *Channel:* | **CD** |
| *Sample Type:* | **Unknown** | *Wavelength:* | **210** |
| *Control Program:* | **Anions Program ISO37mM 150mm short 0.4** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **Anions Processing Method ISO** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **05/07/2021 13:18** | *Sample Weight:* | **1.0000** |

Run Time:



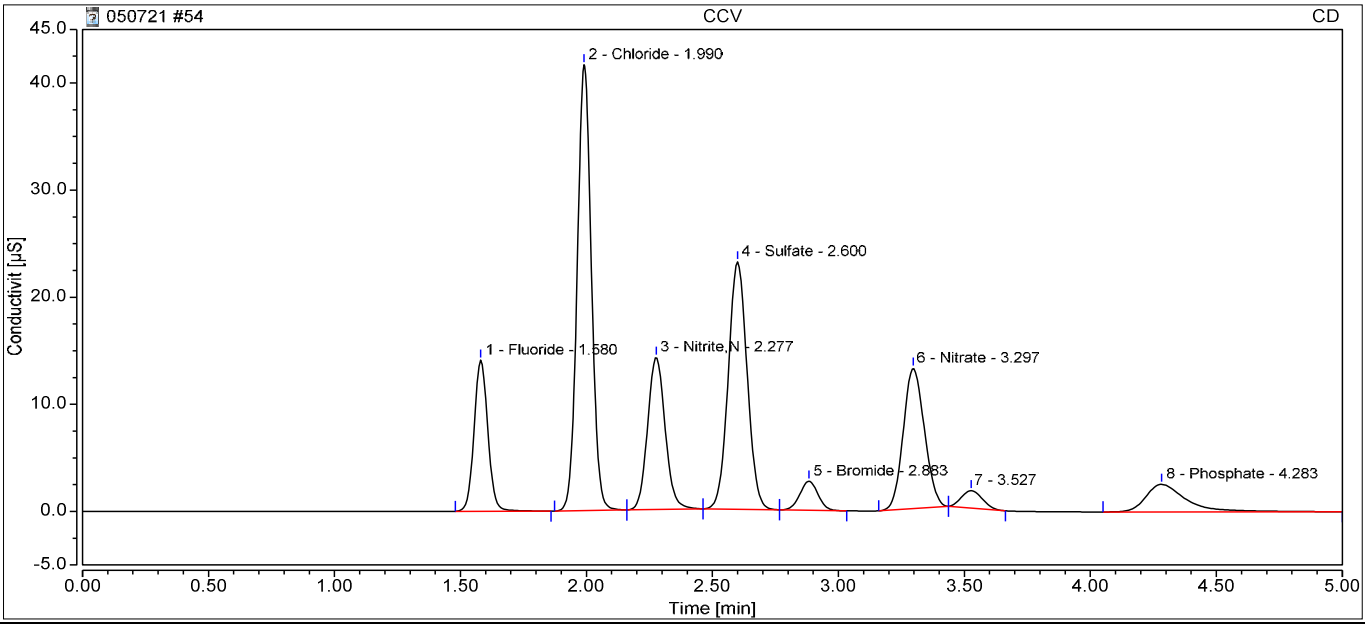

**Integration Results**

| No. | Retention min | Peak Name | Peak Type | Area µS*min | Amount ppm | Concentration ppm | Dilution |
|---|---|---|---|---|---|---|---|
| 1 | 1.58 | Fluoride | BMB | 0.004 | 0.0016 | 0.0016 | 1.0000 |
| 2 | 1.99 | Chloride | BMB | 0.016 | 0.1207 | 0.1207 | 1.0000 |
| 3 | 2.28 | Nitrite,N | BMB | 0.006 | 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. | Phosphate | 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 |
| **Total:** | | | **0.000** | **0.026** | | **0.12** | |

*54 CCV*

| | | | |
|---|---|---|---|
| *Sample Name:* | **CCV** | *Injection Volume:* | **5.00** |
| *Vial Number:* | **R1** | *Channel:* | **CD** |
| *Sample Type:* | **Unknown** | *Wavelength:* | **210** |
| *Control Program:* | **Anions Program ISO37mM 150mm short 0.4** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **Anions Processing Method ISO** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **05/07/2021 14:33** | *Sample Weight:* | **1.0000** |

Run Time:



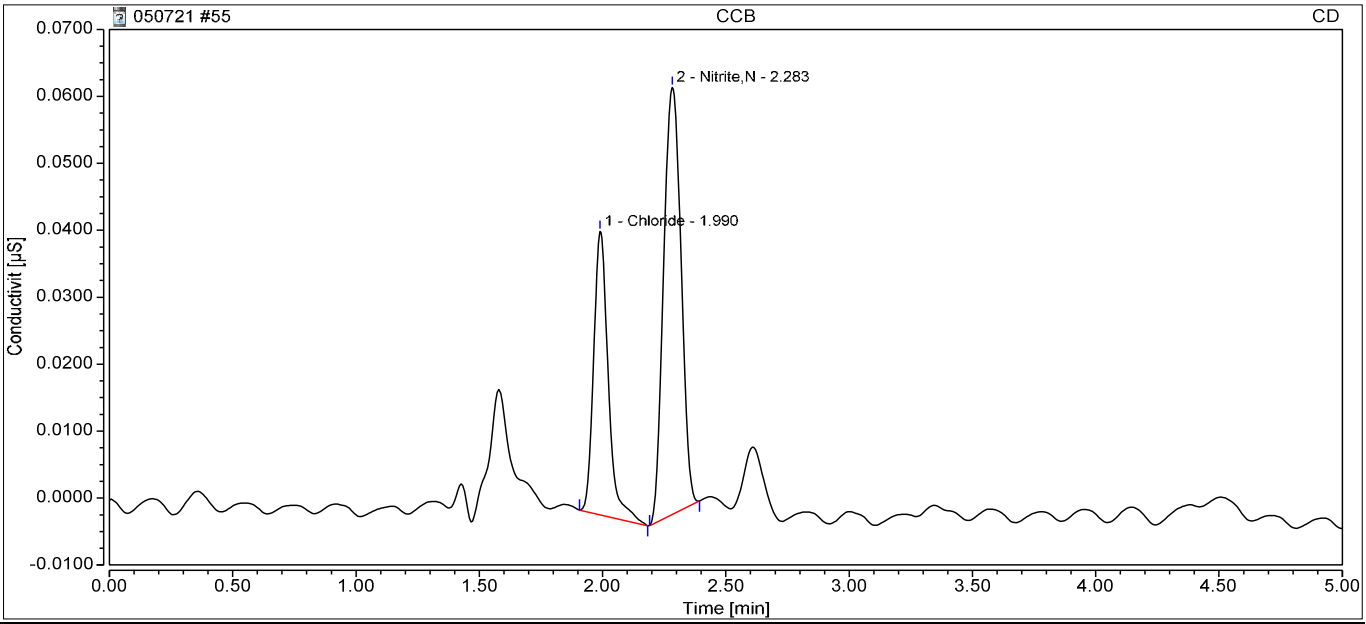

**Integration Results**

| No. | Retention min | Peak Name | Peak Type | Area µS*min | Amount ppm | Concentration ppm | Dilution |
|---|---|---|---|---|---|---|---|
| 1 | 1.58 | Fluoride | BMB | 0.895 | 4.3514 | 4.3514 | 1.0000 |
| 2 | 1.99 | Chloride | BMB | 2.708 | 20.1513 | 20.1513 | 1.0000 |
| 3 | 2.28 | Nitrite,N | BMB | 1.148 | 4.3224 | 4.3224 | 1.0000 |
| 4 | 2.60 | Sulfate | BMB | 2.005 | 20.2417 | 20.2417 | 1.0000 |
| 5 | 2.88 | Bromide | BMB | 0.225 | 3.9802 | 3.9802 | 1.0000 |
| 6 | 3.30 | Nitrate | BMB | 1.276 | 3.8129 | 3.8129 | 1.0000 |
| 8 | 4.28 | Phosphate | BMB | 0.478 | 3.7267 | 3.7267 | 1.0000 |
| n.a. | n.a. | Chlorate | n.a. | n.a. | n.a. | n.a. | 1.0000 |
| **Total:** | | | **0.000** | **8.735** | | **60.59** | |

*55 CCB*

| | | | |
|---|---|---|---|
| *Sample Name:* | **CCB** | *Injection Volume:* | **5.00** |
| *Vial Number:* | **R4** | *Channel:* | **CD** |
| *Sample Type:* | **Unknown** | *Wavelength:* | **210** |
| *Control Program:* | **Anions Program ISO37mM 150mm short 0.4** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **Anions Processing Method ISO** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **05/07/2021 14:47** | *Sample Weight:* | **1.0000** |

Run Time:



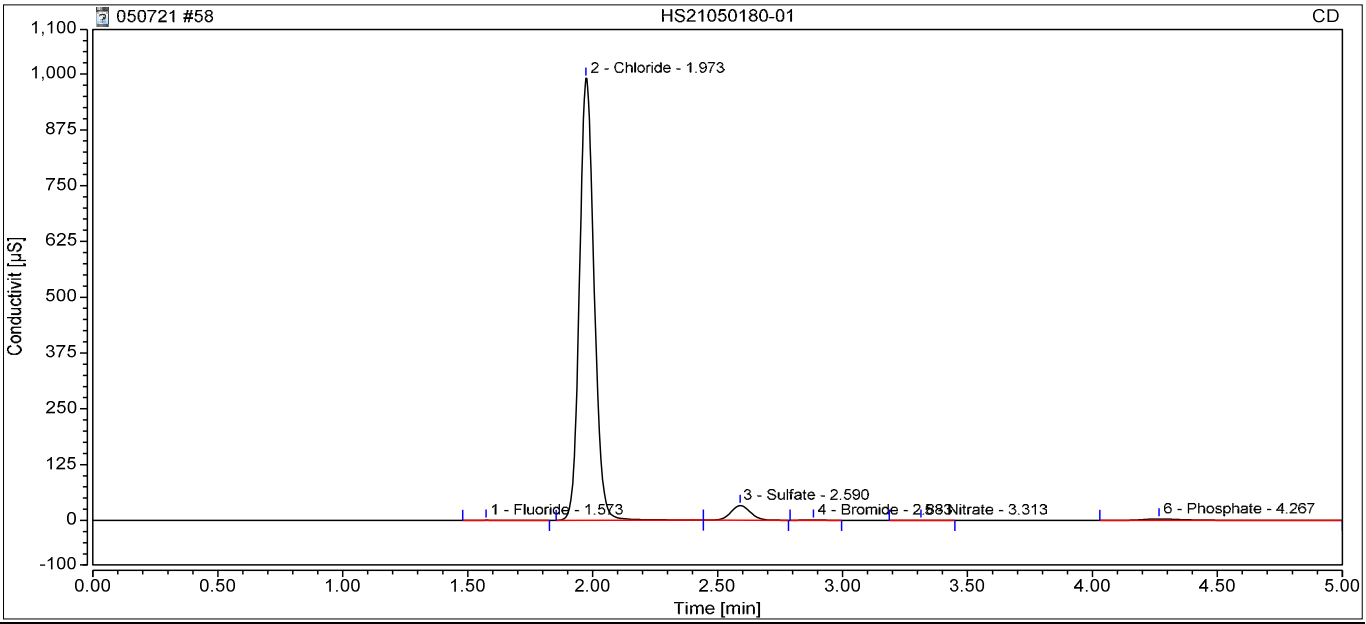

**Integration Results**

| 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 | 1.99 | Chloride | BMB | 0.003 | 0.0252 | 0.0252 | 1.0000 |
| 2 | 2.28 | Nitrite,N | BMB | 0.005 | 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. | Phosphate | 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 |
| **Total:** | | | **0.000** | **0.008** | | **0.03** | |

*58 HS21050180-01*

| | | | |
|---|---|---|---|
| *Sample Name:* | **HS21050180-01** | *Injection Volume:* | **5.00** |
| *Vial Number:* | **RC1** | *Channel:* | **CD** |
| *Sample Type:* | **Unknown** | *Wavelength:* | **210** |
| *Control Program:* | **Anions Program ISO37mM 150mm short 0.4** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **Anions Processing Method ISO** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **05/07/2021 15:10** | *Sample Weight:* | **1.0000** |

Run Time:



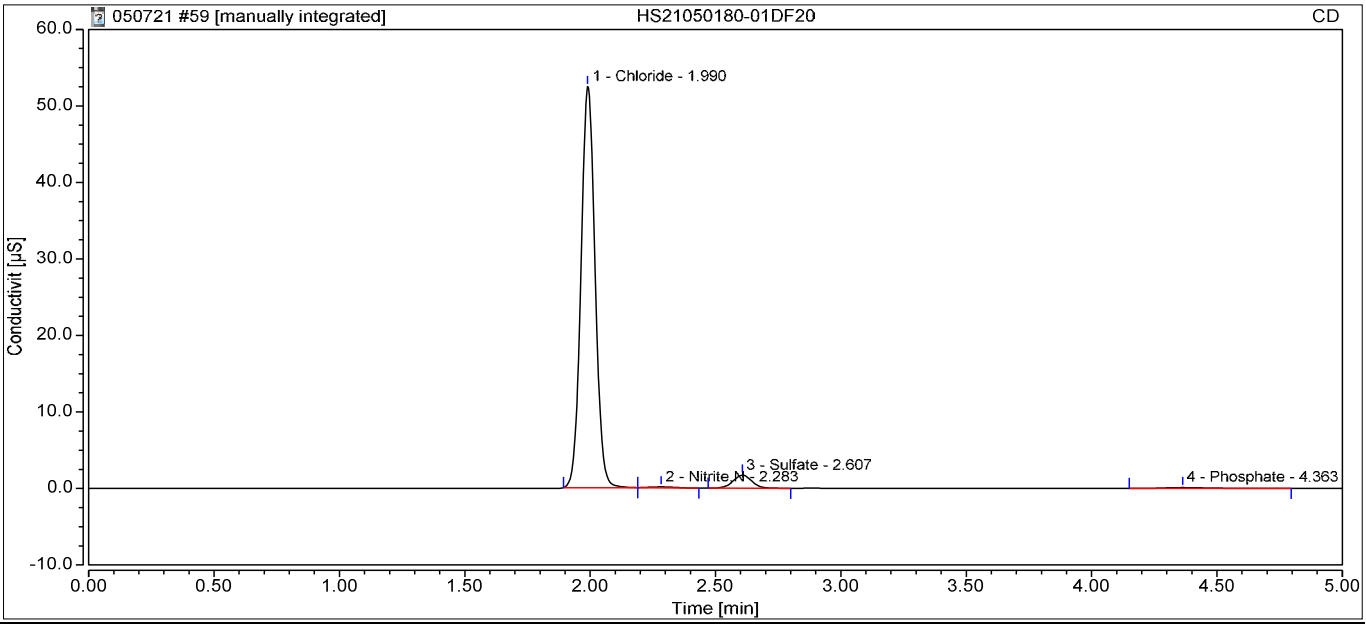

**Integration Results**

| No. | Retention min | Peak Name | Peak Type | Area µS*min | Amount ppm | Concentration ppm | Dilution |
|---|---|---|---|---|---|---|---|
| 1 | 1.57 | Fluoride | BMB | 0.027 | 0.1124 | 0.1124 | 1.0000 |
| 2 | 1.97 | Chloride | BMB | 67.095 | 499.2602 | 499.2602 | 1.0000 |
| n.a. | n.a. | Nitrite,N | n.a. | n.a. | n.a. | n.a. | 1.0000 |
| 3 | 2.59 | Sulfate | BMB | 2.942 | 29.7151 | 29.7151 | 1.0000 |
| 4 | 2.88 | Bromide | BMB | 0.036 | 0.6224 | 0.6224 | 1.0000 |
| 5 | 3.31 | Nitrate | BMB | 0.003 | 0.0137 | 0.0137 | 1.0000 |
| 6 | 4.27 | Phosphate | BMB | 0.587 | 4.5726 | 4.5726 | 1.0000 |
| n.a. | n.a. | Chlorate | n.a. | n.a. | n.a. | n.a. | 1.0000 |
| **Total:** | | | **0.000** | **70.691** | | **534.30** | |

*59 HS21050180-01DF20*

| | | | |
|---|---|---|---|
| *Sample Name:* | **HS21050180-01DF20** | *Injection Volume:* | **5.00** |
| *Vial Number:* | **RC2** | *Channel:* | **CD** |
| *Sample Type:* | **Unknown** | *Wavelength:* | **210** |
| *Control Program:* | **Anions Program ISO37mM 150mm short 0.4** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **Anions Processing Method ISO** | *Dilution Factor:* | **20.0000** |
| *Recording Time:* | **05/07/2021 15:17** | *Sample Weight:* | **1.0000** |

Run Time:



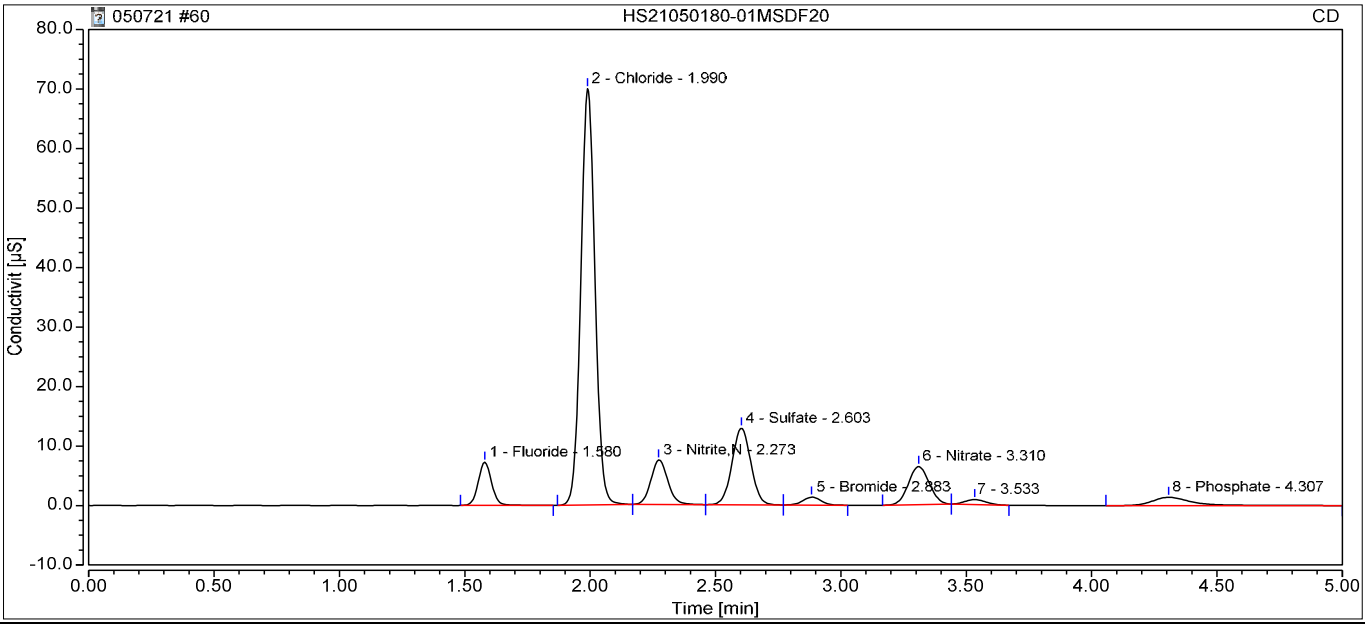

**Integration Results**

| 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. | 20.0000 |
| 1 | 1.99 | Chloride | BMB* | 3.409 | 25.3735 | 507.4699 | 20.0000 |
| 2 | 2.28 | Nitrite,N | BMB | 0.013 | n.a. | n.a. | 20.0000 |
| 3 | 2.61 | Sulfate | BMB | 0.148 | 1.4824 | 29.6475 | 20.0000 |
| n.a. | n.a. | Bromide | n.a. | n.a. | n.a. | n.a. | 20.0000 |
| n.a. | n.a. | Nitrate | n.a. | n.a. | n.a. | n.a. | 20.0000 |
| 4 | 4.36 | Phosphate | BMB | 0.023 | 0.2161 | 4.3212 | 20.0000 |
| n.a. | n.a. | Chlorate | n.a. | n.a. | n.a. | n.a. | 20.0000 |
| **Total:** | | | **0.000** | **3.594** | | **541.44** | |

*60 HS21050180-01MSDF20*

| | | | |
|---|---|---|---|
| *Sample Name:* | **HS21050180-01MSDF20** | *Injection Volume:* | **5.00** |
| *Vial Number:* | **RC3** | *Channel:* | **CD** |
| *Sample Type:* | **Unknown** | *Wavelength:* | **210** |
| *Control Program:* | **Anions Program ISO37mM 150mm short 0.4** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **Anions Processing Method ISO** | *Dilution Factor:* | **20.0000** |
| *Recording Time:* | **05/07/2021 15:25** | *Sample Weight:* | **1.0000** |

Run Time:



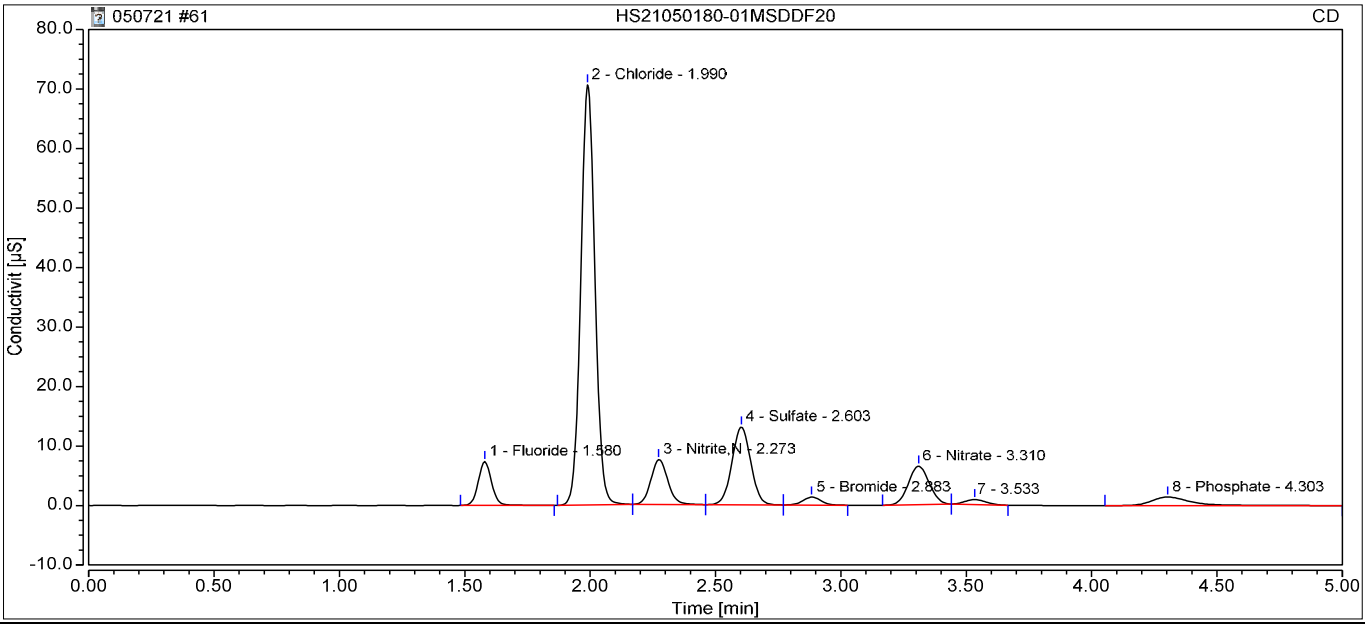

**Integration Results**

| No. | Retention min | Peak Name | Peak Type | Area µS*min | Amount ppm | Concentration ppm | Dilution |
|---|---|---|---|---|---|---|---|
| 1 | 1.58 | Fluoride | BMB | 0.449 | 2.1753 | 43.5060 | 20.0000 |
| 2 | 1.99 | Chloride | BMB | 4.567 | 33.9845 | 679.6908 | 20.0000 |
| 3 | 2.27 | Nitrite,N | BMB | 0.584 | 2.1688 | 43.3760 | 20.0000 |
| 4 | 2.60 | Sulfate | BMB | 1.115 | 11.2572 | 225.1443 | 20.0000 |
| 5 | 2.88 | Bromide | BMB | 0.110 | 1.9408 | 38.8166 | 20.0000 |
| 6 | 3.31 | Nitrate | BMB | 0.617 | 1.8450 | 36.9003 | 20.0000 |
| 8 | 4.31 | Phosphate | BMB | 0.252 | 1.9800 | 39.6008 | 20.0000 |
| n.a. | n.a. | Chlorate | n.a. | n.a. | n.a. | n.a. | 20.0000 |
| **Total:** | | | **0.000** | **7.694** | | **1107.03** | |

*61 HS21050180-01MSDDF20*

| | | | |
|---|---|---|---|
| *Sample Name:* | **HS21050180-01MSDDF20** | *Injection Volume:* | **5.00** |
| *Vial Number:* | **RC4** | *Channel:* | **CD** |
| *Sample Type:* | **Unknown** | *Wavelength:* | **210** |
| *Control Program:* | **Anions Program ISO37mM 150mm short 0.4** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **Anions Processing Method ISO** | *Dilution Factor:* | **20.0000** |
| *Recording Time:* | **05/07/2021 15:32** | *Sample Weight:* | **1.0000** |

Run Time:



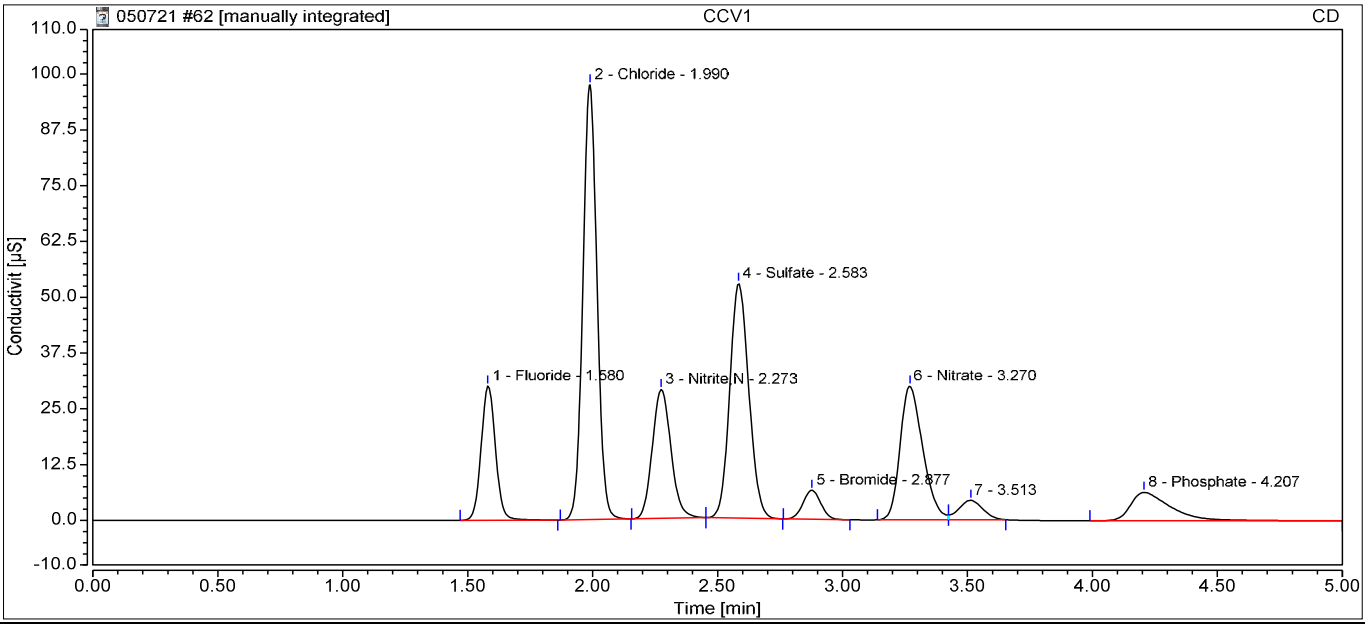

**Integration Results**

| No. | Retention min | Peak Name | Peak Type | Area µS*min | Amount ppm | Concentration ppm | Dilution |
|---|---|---|---|---|---|---|---|
| 1 | 1.58 | Fluoride | BMB | 0.456 | 2.2079 | 44.1578 | 20.0000 |
| 2 | 1.99 | Chloride | BMB | 4.605 | 34.2663 | 685.3258 | 20.0000 |
| 3 | 2.27 | Nitrite,N | BMB | 0.589 | 2.1889 | 43.7788 | 20.0000 |
| 4 | 2.60 | Sulfate | BMB | 1.132 | 11.4238 | 228.4752 | 20.0000 |
| 5 | 2.88 | Bromide | BMB | 0.111 | 1.9599 | 39.1990 | 20.0000 |
| 6 | 3.31 | Nitrate | BMB | 0.623 | 1.8624 | 37.2478 | 20.0000 |
| 8 | 4.30 | Phosphate | BMB | 0.259 | 2.0357 | 40.7140 | 20.0000 |
| n.a. | n.a. | Chlorate | n.a. | n.a. | n.a. | n.a. | 20.0000 |
| **Total:** | | | **0.000** | **7.774** | | **1118.90** | |

62 CCV1

| | | | |
|---|---|---|---|
| *Sample Name:* | **CCV1** | *Injection Volume:* | **5.00** |
| *Vial Number:* | **R3** | *Channel:* | **CD** |
| *Sample Type:* | **Unknown** | *Wavelength:* | **210** |
| *Control Program:* | **Anions Program ISO37mM 150mm short 0.4** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **Anions Processing Method ISO** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **05/07/2021 15:39** | *Sample Weight:* | **1.0000** |

Run Time:



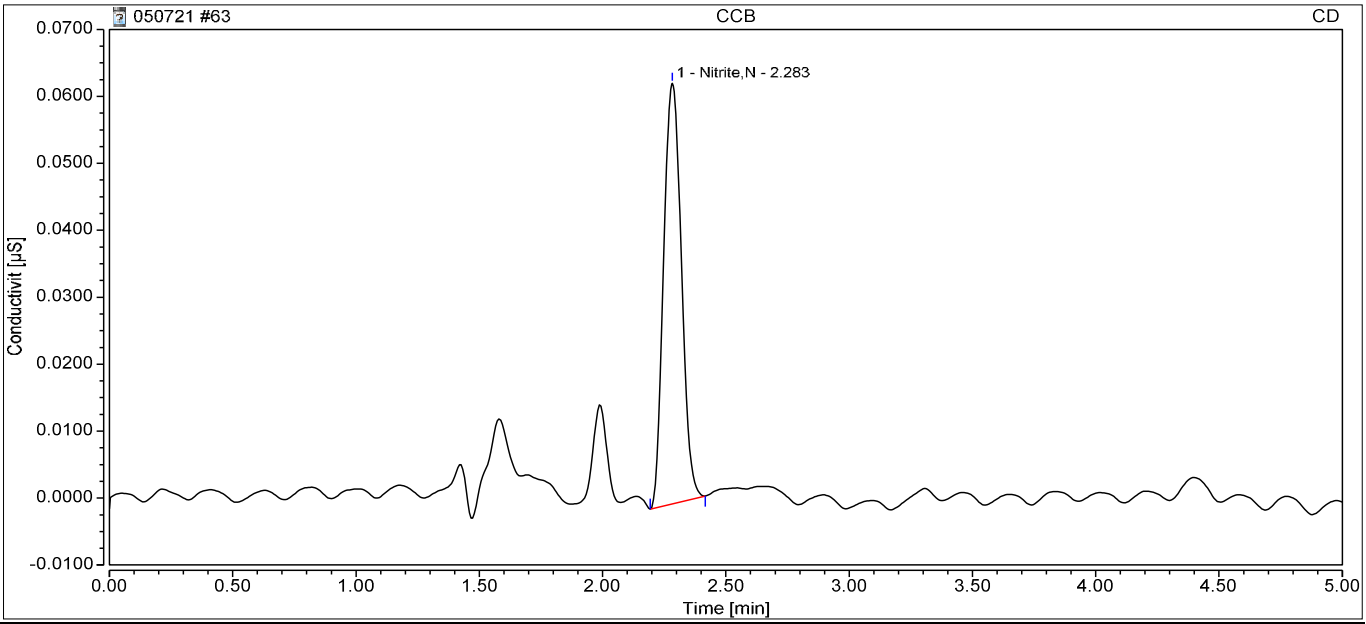

**Integration Results**

| No. | Retention min | Peak Name | Peak Type | Area µS*min | Amount ppm | Concentration ppm | Dilution |
|---|---|---|---|---|---|---|---|
| 1 | 1.58 | Fluoride | BMB | 2.011 | 9.7973 | 9.7973 | 1.0000 |
| 2 | 1.99 | Chloride | BMB | 6.363 | 47.3477 | 47.3477 | 1.0000 |
| 3 | 2.27 | Nitrite,N | BMB | 2.502 | 9.4861 | 9.4861 | 1.0000 |
| 4 | 2.58 | Sulfate | BMB | 4.658 | 47.0488 | 47.0488 | 1.0000 |
| 5 | 2.88 | Bromide | BMB | 0.539 | 9.5287 | 9.5287 | 1.0000 |
| 6 | 3.27 | Nitrate | BM * | 3.152 | 9.4125 | 9.4125 | 1.0000 |
| 8 | 4.21 | Phosphate | BMB | 1.182 | 9.1651 | 9.1651 | 1.0000 |
| n.a. | n.a. | Chlorate | n.a. | n.a. | n.a. | n.a. | 1.0000 |
| **Total:** | | | **0.000** | **20.407** | | **141.79** | |

*63 CCB*

| | | | |
|---|---|---|---|
| *Sample Name:* | **CCB** | *Injection Volume:* | **5.00** |
| *Vial Number:* | **R7** | *Channel:* | **CD** |
| *Sample Type:* | **Unknown** | *Wavelength:* | **210** |
| *Control Program:* | **Anions Program ISO37mM 150mm short 0.4** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **Anions Processing Method ISO** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **05/07/2021 15:54** | *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 |
| 1 | 2.28 | Nitrite,N | BMB | 0.005 | 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. | Phosphate | 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 |
| **Total:** | | | **0.000** | **0.005** | | **0.00** | |

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# WorkOrder: HS21050553

## Longhorn GW Treatment Plant Monthly Effluent Samples

## Bhate Environmental Associates, Inc.

Marcia Olive
445 Union Blvd Ste 129
Lakewood CO 80228

**10-Jun-2021**

ALS Environmental
ALS Group USA, Corp
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- Certificate of Analysis
- Chain of Custody
- Preparation Sheets
- Analytical Results
- Accuracy and Precision
- Initial Calibration
- Chromatogram

# HS21050553 Longhorn GW Treatment Plant Monthly Effluent Samples Final

ALS WO# HS21050553

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May 26, 2021

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

Work Order: **HS21050553**

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

Dear Marcia Olive,

ALS Environmental received 3 sample(s) on May 12, 2021 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**
Ragen Giga
Project Manager

**ALS Houston, US** Date: 26-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Monthly Effluent Samples
**Work Order:** HS21050553

## SAMPLE SUMMARY

| Lab Samp ID | Client Sample ID | Matrix | TagNo | Collection Date | Date Received | Hold |
|---|---|---|---|---|---|---|
| HS21050553-01 | LH18/24-SP650_051121 | Water | | 11-May-2021 14:00 | 12-May-2021 09:55 | ☐ |
| HS21050553-02 | LH18/24-SP650_0511321_BIX | Water | | 11-May-2021 14:00 | 12-May-2021 09:55 | ☐ |
| HS21050553-03 | Trip Blank | Water | CG-031621-271 | 11-May-2021 00:00 | 12-May-2021 09:55 | ☐ |

**ALS Houston, US** Date: 26-May-21

**Client:** Bhate Environmental Associates, Inc. **CASE NARRATIVE**
**Project:** Longhorn GW Treatment Plant Monthly Effluent Samples
**Work Order:** HS21050553

## Work Order Comments

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

## GCMS Semivolatiles by Method SW8270SIM

### Batch ID: 165793

**Sample ID: LCSD-165793**

• The RPD between the LCS and LCSD was outside of the control limit. Surrogate Nitrobenzene-d5

## GCMS Volatiles by Method SW8260

### Batch ID: R384020

**Sample ID: VLCSW-210518**

• 1,2,3-Trichlorobenzene and Naphthalene exceeded QC limits for LCS. Samples are ND for these compounds.

## Metals by Method SW6020A

### Batch ID: 166115

**Sample ID: HS21050672-08MSD**

• MSD is for an unrelated sample

## WetChemistry by Method SW7196

### Batch ID: R383795

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

**ALS Houston, US** Date: 26-May-21

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Longhorn GW Treatment Plant Monthly Effluent Samples WorkOrder:HS21050553
Sample ID: LH18/24-SP650_051121 Lab ID:HS21050553-01
Collection Date: 11-May-2021 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 | 18-May-2021 20:37 |
| 1,1,1-Trichloroethane | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 18-May-2021 20:37 |
| 1,1,2,2-Tetrachloroethane | 1.0 | U | 0.50 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:37 |
| 1,1,2-Trichloroethane | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:37 |
| 1,1-Dichloroethane | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 18-May-2021 20:37 |
| 1,1-Dichloroethene | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 18-May-2021 20:37 |
| 1,1-Dichloropropene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:37 |
| 1,2,3-Trichlorobenzene | 1.0 | U | 0.40 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:37 |
| 1,2,3-Trichloropropane | 1.0 | U | 0.50 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:37 |
| 1,2,4-Trichlorobenzene | 1.0 | U | 0.50 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:37 |
| 1,2,4-Trimethylbenzene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:37 |
| 1,2-Dibromo-3-chloropropane | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 18-May-2021 20:37 |
| 1,2-Dibromoethane | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 18-May-2021 20:37 |
| 1,2-Dichlorobenzene | 1.0 | U | 0.50 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:37 |
| 1,2-Dichloroethane | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 18-May-2021 20:37 |
| 1,2-Dichloropropane | 1.0 | U | 0.50 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:37 |
| 1,3,5-Trimethylbenzene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:37 |
| 1,3-Dichlorobenzene | 1.0 | U | 0.40 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:37 |
| 1,3-Dichloropropane | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:37 |
| 1,4-Dichlorobenzene | 1.0 | U | 0.40 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:37 |
| 2,2-Dichloropropane | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 18-May-2021 20:37 |
| 2-Butanone | 1.0 | U | 0.50 | 1.0 | 2.0 | ug/L | 1 | 18-May-2021 20:37 |
| 2-Chlorotoluene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:37 |
| 2-Hexanone | 2.0 | U | 1.0 | 2.0 | 2.0 | ug/L | 1 | 18-May-2021 20:37 |
| 4-Chlorotoluene | 1.0 | U | 0.40 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:37 |
| 4-Isopropyltoluene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:37 |
| 4-Methyl-2-pentanone | 2.0 | U | 0.70 | 2.0 | 2.0 | ug/L | 1 | 18-May-2021 20:37 |
| Acetone | 2.0 | U | 0.40 | 2.0 | 2.0 | ug/L | 1 | 18-May-2021 20:37 |
| Benzene | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 18-May-2021 20:37 |
| Bromobenzene | 1.0 | U | 0.40 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:37 |
| Bromochloromethane | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 18-May-2021 20:37 |
| Bromodichloromethane | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 18-May-2021 20:37 |
| Bromoform | 1.0 | U | 0.40 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:37 |
| Bromomethane | 1.0 | U | 0.40 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:37 |
| Carbon disulfide | 2.0 | U | 0.60 | 2.0 | 2.0 | ug/L | 1 | 18-May-2021 20:37 |
| Carbon tetrachloride | 1.0 | U | 0.50 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:37 |
| Chlorobenzene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:37 |
| Chloroethane | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:37 |
| Chloroform | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 18-May-2021 20:37 |

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

**ALS Houston, US** Date: 26-May-21

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Longhorn GW Treatment Plant Monthly Effluent Samples WorkOrder:HS21050553
Sample ID: LH18/24-SP650_051121 Lab ID:HS21050553-01
Collection Date: 11-May-2021 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 | 18-May-2021 20:37 |
| **cis-1,2-Dichloroethene** | **8.2** | | **0.20** | **0.50** | **1.0** | **ug/L** | 1 | 18-May-2021 20:37 |
| cis-1,3-Dichloropropene | 0.50 | U | 0.10 | 0.50 | 1.0 | ug/L | 1 | 18-May-2021 20:37 |
| Dibromochloromethane | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:37 |
| Dibromomethane | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 18-May-2021 20:37 |
| Dichlorodifluoromethane | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:37 |
| Ethylbenzene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:37 |
| Hexachlorobutadiene | 1.0 | U | 1.0 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:37 |
| Isopropylbenzene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:37 |
| m,p-Xylene | 1.0 | U | 0.50 | 1.0 | 2.0 | ug/L | 1 | 18-May-2021 20:37 |
| Methylene chloride | 2.0 | U | 0.40 | 2.0 | 2.0 | ug/L | 1 | 18-May-2021 20:37 |
| n-Butylbenzene | 1.0 | U | 0.40 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:37 |
| n-Propylbenzene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:37 |
| Naphthalene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:37 |
| o-Xylene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:37 |
| sec-Butylbenzene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:37 |
| Styrene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:37 |
| tert-Butylbenzene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:37 |
| Tetrachloroethene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:37 |
| Toluene | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 18-May-2021 20:37 |
| trans-1,2-Dichloroethene | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 18-May-2021 20:37 |
| trans-1,3-Dichloropropene | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 18-May-2021 20:37 |
| **Trichloroethene** | **2.8** | | **0.20** | **0.50** | **1.0** | **ug/L** | 1 | 18-May-2021 20:37 |
| Trichlorofluoromethane | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:37 |
| Vinyl chloride | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 18-May-2021 20:37 |
| *Surr: 1,2-Dichloroethane-d4* | *99.8* | | | **0** | *81-118* | *%REC* | *1* | *18-May-2021 20:37* |
| *Surr: 4-Bromofluorobenzene* | *89.1* | | | **0** | *85-114* | *%REC* | *1* | *18-May-2021 20:37* |
| *Surr: Dibromofluoromethane* | *94.2* | | | **0** | *80-119* | *%REC* | *1* | *18-May-2021 20:37* |
| *Surr: Toluene-d8* | *109* | | | **0** | *89-112* | *%REC* | *1* | *18-May-2021 20:37* |
| **SEMIVOLATILES SIM** | | **Method:SW8270SIM** | | | | Prep:SW3510 / 14-May-2021 | | Analyst: ACN |
| **1,4-Dioxane** | **1.7** | a | **0.10** | **0.10** | **0.10** | **ug/L** | 10 | 19-May-2021 13:40 |
| *Surr: 2-Fluorobiphenyl* | *109* | | | **0** | *40-140* | *%REC* | *10* | *19-May-2021 13:40* |
| *Surr: 4-Terphenyl-d14* | *94.6* | | | **0** | *40-140* | *%REC* | *10* | *19-May-2021 13:40* |
| *Surr: Nitrobenzene-d5* | *84.6* | | | **0** | *40-140* | *%REC* | *10* | *19-May-2021 13:40* |
| **METALS BY ICPMS BY SW6020A** | | **Method:SW6020A** | | | | Prep:SW3010A / 22-May-2021 | | Analyst: JHD |
| **Barium** | **0.104** | | **0.00190** | **0.00250** | **0.00500** | **mg/L** | 1 | 26-May-2021 11:40 |
| Lead | 0.00100 | U | 0.000600 | 0.00100 | 0.00500 | mg/L | 1 | 26-May-2021 11:40 |
| Selenium | 0.00250 | U | 0.00110 | 0.00250 | 0.00500 | mg/L | 1 | 26-May-2021 11:40 |
| Silver | 0.000500 | U | 0.000200 | 0.000500 | 0.00500 | mg/L | 1 | 26-May-2021 11:40 |

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

**ALS Houston, US** Date: 26-May-21

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

Project: Longhorn GW Treatment Plant Monthly Effluent Samples WorkOrder:HS21050553

Sample ID: LH18/24-SP650_051121 Lab ID:HS21050553-01

Collection Date: 11-May-2021 14:00 Matrix:Water

| ANALYSES | RESULT | QUAL | DL | LOD | LOQ | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|---|---|---|---|---|---|---|---|
| **HEXAVALENT CHROMIUM BY SW7196A** | | **Method:SW7196** | | | | | | Analyst: KVL |
| Chromium, Hexavalent | 0.0100 | U | 0.00600 | 0.0100 | 0.0100 | mg/L | 1 | 12-May-2021 13:38 |

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

**ALS Houston, US** Date: 26-May-21

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

Project: Longhorn GW Treatment Plant Monthly Effluent Samples WorkOrder:HS21050553

Sample ID: LH18/24-SP650_0511321_BIX Lab ID:HS21050553-02

Collection Date: 11-May-2021 14:00 Matrix:Water

| ANALYSES | RESULT | QUAL | DL | LOD | LOQ | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|---|---|---|---|---|---|---|---|
| **SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)** | | **Method:NA** | | | | | | Analyst: GR |
| Subcontract Analysis | See Attached | | 0 | 0 | | NA | 1 | 19-May-2021 16:18 |

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

**ALS Houston, US** Date: 26-May-21

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Longhorn GW Treatment Plant Monthly Effluent Samples WorkOrder:HS21050553
Sample ID: Trip Blank Lab ID:HS21050553-03
Collection Date: 11-May-2021 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 | 18-May-2021 20:16 |
| 1,1,1-Trichloroethane | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 18-May-2021 20:16 |
| 1,1,2,2-Tetrachloroethane | 1.0 | U | 0.50 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:16 |
| 1,1,2-Trichloroethane | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:16 |
| 1,1-Dichloroethane | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 18-May-2021 20:16 |
| 1,1-Dichloroethene | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 18-May-2021 20:16 |
| 1,1-Dichloropropene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:16 |
| 1,2,3-Trichlorobenzene | 1.0 | U | 0.40 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:16 |
| 1,2,3-Trichloropropane | 1.0 | U | 0.50 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:16 |
| 1,2,4-Trichlorobenzene | 1.0 | U | 0.50 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:16 |
| 1,2,4-Trimethylbenzene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:16 |
| 1,2-Dibromo-3-chloropropane | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 18-May-2021 20:16 |
| 1,2-Dibromoethane | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 18-May-2021 20:16 |
| 1,2-Dichlorobenzene | 1.0 | U | 0.50 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:16 |
| 1,2-Dichloroethane | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 18-May-2021 20:16 |
| 1,2-Dichloropropane | 1.0 | U | 0.50 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:16 |
| 1,3,5-Trimethylbenzene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:16 |
| 1,3-Dichlorobenzene | 1.0 | U | 0.40 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:16 |
| 1,3-Dichloropropane | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:16 |
| 1,4-Dichlorobenzene | 1.0 | U | 0.40 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:16 |
| 2,2-Dichloropropane | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 18-May-2021 20:16 |
| 2-Butanone | 1.0 | U | 0.50 | 1.0 | 2.0 | ug/L | 1 | 18-May-2021 20:16 |
| 2-Chlorotoluene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:16 |
| 2-Hexanone | 2.0 | U | 1.0 | 2.0 | 2.0 | ug/L | 1 | 18-May-2021 20:16 |
| 4-Chlorotoluene | 1.0 | U | 0.40 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:16 |
| 4-Isopropyltoluene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:16 |
| 4-Methyl-2-pentanone | 2.0 | U | 0.70 | 2.0 | 2.0 | ug/L | 1 | 18-May-2021 20:16 |
| Acetone | 2.0 | U | 0.40 | 2.0 | 2.0 | ug/L | 1 | 18-May-2021 20:16 |
| Benzene | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 18-May-2021 20:16 |
| Bromobenzene | 1.0 | U | 0.40 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:16 |
| Bromochloromethane | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 18-May-2021 20:16 |
| Bromodichloromethane | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 18-May-2021 20:16 |
| Bromoform | 1.0 | U | 0.40 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:16 |
| Bromomethane | 1.0 | U | 0.40 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:16 |
| Carbon disulfide | 2.0 | U | 0.60 | 2.0 | 2.0 | ug/L | 1 | 18-May-2021 20:16 |
| Carbon tetrachloride | 1.0 | U | 0.50 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:16 |
| Chlorobenzene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:16 |
| Chloroethane | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:16 |
| Chloroform | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 18-May-2021 20:16 |

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

**ALS Houston, US** Date: 26-May-21

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Longhorn GW Treatment Plant Monthly Effluent Samples WorkOrder:HS21050553
Sample ID: Trip Blank Lab ID:HS21050553-03
Collection Date: 11-May-2021 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 | 18-May-2021 20:16 |
| cis-1,2-Dichloroethene | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 18-May-2021 20:16 |
| cis-1,3-Dichloropropene | 0.50 | U | 0.10 | 0.50 | 1.0 | ug/L | 1 | 18-May-2021 20:16 |
| Dibromochloromethane | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:16 |
| Dibromomethane | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 18-May-2021 20:16 |
| Dichlorodifluoromethane | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:16 |
| Ethylbenzene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:16 |
| Hexachlorobutadiene | 1.0 | U | 1.0 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:16 |
| Isopropylbenzene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:16 |
| m,p-Xylene | 1.0 | U | 0.50 | 1.0 | 2.0 | ug/L | 1 | 18-May-2021 20:16 |
| Methylene chloride | 2.0 | U | 0.40 | 2.0 | 2.0 | ug/L | 1 | 18-May-2021 20:16 |
| n-Butylbenzene | 1.0 | U | 0.40 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:16 |
| n-Propylbenzene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:16 |
| Naphthalene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:16 |
| o-Xylene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:16 |
| sec-Butylbenzene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:16 |
| Styrene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:16 |
| tert-Butylbenzene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:16 |
| Tetrachloroethene | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:16 |
| Toluene | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 18-May-2021 20:16 |
| trans-1,2-Dichloroethene | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 18-May-2021 20:16 |
| trans-1,3-Dichloropropene | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 18-May-2021 20:16 |
| Trichloroethene | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 18-May-2021 20:16 |
| Trichlorofluoromethane | 1.0 | U | 0.30 | 1.0 | 1.0 | ug/L | 1 | 18-May-2021 20:16 |
| Vinyl chloride | 0.50 | U | 0.20 | 0.50 | 1.0 | ug/L | 1 | 18-May-2021 20:16 |
| *Surr: 1,2-Dichloroethane-d4* | *97.2* | | | **0** | *81-118* | *%REC* | *1* | *18-May-2021 20:16* |
| *Surr: 4-Bromofluorobenzene* | *93.6* | | | **0** | *85-114* | *%REC* | *1* | *18-May-2021 20:16* |
| *Surr: Dibromofluoromethane* | *92.9* | | | **0** | *80-119* | *%REC* | *1* | *18-May-2021 20:16* |
| *Surr: Toluene-d8* | *110* | | | **0** | *89-112* | *%REC* | *1* | *18-May-2021 20:16* |

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:** HS21050553

**Batch ID:** 165793 **Start Date:** 14 May 2021 10:08 **End Date:** 14 May 2021 14:30
**Method:** SV AQ SEP FUN EXTRACT-LOWLEV - 3510C **Prep Code:** 3510_B_SIM

| Sample ID | Container | Sample Wt/Vol | Final Volume | Prep Factor | |
|---|---|---|---|---|---|
| HS21050553-01 | 1 | 1000 (mL) | 1 (mL) | 0.001 | 1-liter amber glass, Neat |

**Batch ID:** 166115 **Start Date:** 22 May 2021 09:00 **End Date:** 22 May 2021 13:00
**Method:** WATER - SW3010A **Prep Code:** 3010A

| Sample ID | Container | Sample Wt/Vol | Final Volume | Prep Factor | |
|---|---|---|---|---|---|
| HS21050553-01 | | 10 (mL) | 10 (mL) | 1 | 120 plastic HNO3 |

**ALS Houston, US** Date: 26-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Monthly Effluent Samples
**WorkOrder:** HS21050553

**DATES REPORT**

| Sample ID | Client Samp ID | Collection Date | Leachate Date | Prep Date | Analysis Date | DF |
|---|---|---|---|---|---|---|
| **Batch ID:** 165793 ( 0 ) | **Test Name :** SEMIVOLATILES SIM | | | | **Matrix:** Water | |
| HS21050553-01 | LH18/24-SP650_051121 | 11 May 2021 14:00 | | 14 May 2021 10:08 | 19 May 2021 13:40 | 10 |
| **Batch ID:** 166115 ( 0 ) | **Test Name :** METALS BY ICPMS BY SW6020A | | | | **Matrix:** Water | |
| HS21050553-01 | LH18/24-SP650_051121 | 11 May 2021 14:00 | | 22 May 2021 13:00 | 26 May 2021 11:40 | 1 |
| **Batch ID:** R383795 ( 0 ) | **Test Name :** HEXAVALENT CHROMIUM BY SW7196A | | | | **Matrix:** Water | |
| HS21050553-01 | LH18/24-SP650_051121 | 11 May 2021 14:00 | | | 12 May 2021 13:38 | 1 |
| **Batch ID:** R383960 ( 0 ) | **Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850) | | | | **Matrix:** Water | |
| HS21050553-02 | LH18/24-SP650_0511321_BIX | 11 May 2021 14:00 | | | 19 May 2021 16:18 | 1 |
| **Batch ID:** R384020 ( 0 ) | **Test Name :** VOLATILES ORGANICS BY METHOD 8260C | | | | **Matrix:** Water | |
| HS21050553-01 | LH18/24-SP650_051121 | 11 May 2021 14:00 | | | 18 May 2021 20:37 | 1 |
| HS21050553-03 | Trip Blank | 11 May 2021 00:00 | | | 18 May 2021 20:16 | 1 |

**ALS Houston, US** Date: 26-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Monthly Effluent Samples
**WorkOrder:** HS21050553

**QC BATCH REPORT**

**Batch ID: 166115 ( 0 )** **Instrument: ICPMS06** **Method: METALS BY ICPMS BY SW6020A**

**MBLK** Sample ID: **MBLK-166115** Units: **mg/L** Analysis Date: **25-May-2021 23:46**
Client ID: Run ID: **ICPMS06_384352** SeqNo: **6109900** PrepDate: **22-May-2021** 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 | 0.00100 | 0.00500 | | | | | | | | U |
| Selenium | 0.00250 | 0.00500 | | | | | | | | U |
| Silver | 0.000500 | 0.00500 | | | | | | | | U |

**LCS** Sample ID: **LCS-166115** Units: **mg/L** Analysis Date: **25-May-2021 23:48**
Client ID: Run ID: **ICPMS06_384352** SeqNo: **6109901** PrepDate: **22-May-2021** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Barium | 0.04871 | 0.00500 | 0.05 | 0 | 97.4 | 86 - 114 | | | | |
| Lead | 0.04571 | 0.00500 | 0.05 | 0 | 91.4 | 88 - 115 | | | | |
| Selenium | 0.04964 | 0.00500 | 0.05 | 0 | 99.3 | 80 - 120 | | | | |
| Silver | 0.04834 | 0.00500 | 0.05 | 0 | 96.7 | 85 - 116 | | | | |

**MS** Sample ID: **HS21050672-08MS** Units: **mg/L** Analysis Date: **25-May-2021 23:54**
Client ID: Run ID: **ICPMS06_384352** SeqNo: **6109904** PrepDate: **22-May-2021** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Barium | 0.2276 | 0.00500 | 0.05 | 0.1823 | 90.5 | 86 - 114 | | | | |
| Lead | 0.04705 | 0.00500 | 0.05 | 0.000049 | 94.0 | 88 - 115 | | | | |
| Selenium | 0.04827 | 0.00500 | 0.05 | 0.000118 | 96.3 | 80 - 120 | | | | |
| Silver | 0.04628 | 0.00500 | 0.05 | -0.000009 | 92.6 | 85 - 116 | | | | |

**MSD** Sample ID: **HS21050672-08MSD** Units: **mg/L** Analysis Date: **25-May-2021 23:56**
Client ID: Run ID: **ICPMS06_384352** SeqNo: **6109905** PrepDate: **22-May-2021** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Barium | 0.2202 | 0.00500 | 0.05 | 0.1823 | 75.7 | 86 - 114 | 0.2276 | 3.29 | 20 | S |
| Lead | 0.04449 | 0.00500 | 0.05 | 0.000049 | 88.9 | 88 - 115 | 0.04705 | 5.58 | 20 | |
| Selenium | 0.04604 | 0.00500 | 0.05 | 0.000118 | 91.8 | 80 - 120 | 0.04827 | 4.73 | 20 | |
| Silver | 0.04497 | 0.00500 | 0.05 | -0.000009 | 90.0 | 85 - 116 | 0.04628 | 2.87 | 20 | |

**ALS Houston, US** Date: 26-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Monthly Effluent Samples
**WorkOrder:** HS21050553

**QC BATCH REPORT**

**Batch ID: 166115 ( 0 )** **Instrument: ICPMS06** **Method: METALS BY ICPMS BY SW6020A**

**PDS** Sample ID: **HS21050672-08PDS** Units: **mg/L** Analysis Date: **25-May-2021 23:58**
Client ID: Run ID: **ICPMS06_384352** SeqNo: **6109906** PrepDate: **22-May-2021** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Barium | 0.2873 | 0.00500 | 0.1 | 0.1823 | 105 | 80 - 120 | | | | |
| Lead | 0.1013 | 0.00500 | 0.1 | 0.000049 | 101 | 80 - 120 | | | | |
| Selenium | 0.1049 | 0.00500 | 0.1 | 0.000118 | 105 | 80 - 120 | | | | |
| Silver | 0.09162 | 0.00500 | 0.1 | -0.000009 | 91.6 | 80 - 120 | | | | |

**SD** Sample ID: **HS21050672-08SD** Units: **mg/L** Analysis Date: **25-May-2021 23:52**
Client ID: Run ID: **ICPMS06_384352** SeqNo: **6109903** PrepDate: **22-May-2021** DF: **5**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %D | %D Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Barium | 0.1815 | 0.0250 | | | | | 0.1823 | 0.432 | 10 | |
| Lead | 0.00500 | 0.0250 | | | | | 0.000049 | 0 | 10 | U |
| Selenium | 0.0125 | 0.0250 | | | | | 0.000118 | 0 | 10 | U |
| Silver | 0.00250 | 0.0250 | | | | | -0.000009 | 0 | 10 | U |

**The following samples were analyzed in this batch:** HS21050553-01

**ALS Houston, US** Date: 26-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Monthly Effluent Samples
**WorkOrder:** HS21050553

**QC BATCH REPORT**

**Batch ID: 165793 ( 0 )** **Instrument: SV-6** **Method: SEMIVOLATILES SIM**

**MBLK** Sample ID: **MBLK-165793** Units: **ug/L** Analysis Date: **19-May-2021 12:22**
Client ID: Run ID: **SV-6_384023** SeqNo: **6101792** PrepDate: **14-May-2021** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,4-Dioxane | 0.010 | 0.010 | | | | | | | | U |
| *Surr: 2-Fluorobiphenyl* | *0.06531* | *0* | *0.08* | *0* | *81.6* | *40 - 140* | | | | |
| *Surr: 4-Terphenyl-d14* | *0.07721* | *0* | *0.08* | *0* | *96.5* | *40 - 140* | | | | |
| *Surr: Nitrobenzene-d5* | *0.07334* | *0* | *0.08* | *0* | *91.7* | *40 - 140* | | | | |

**LCS** Sample ID: **LCS-165793** Units: **ug/L** Analysis Date: **19-May-2021 12:40**
Client ID: Run ID: **SV-6_384023** SeqNo: **6101793** PrepDate: **14-May-2021** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,4-Dioxane | 0.06615 | 0.010 | 0.08 | 0 | 82.7 | 40 - 140 | | | | |
| *Surr: 2-Fluorobiphenyl* | *0.0694* | *0* | *0.08* | *0* | *86.7* | *40 - 140* | | | | |
| *Surr: 4-Terphenyl-d14* | *0.08022* | *0* | *0.08* | *0* | *100* | *40 - 140* | | | | |
| *Surr: Nitrobenzene-d5* | *0.04909* | *0* | *0.08* | *0* | *61.4* | *40 - 140* | | | | |

**LCSD** Sample ID: **LCSD-165793** Units: **ug/L** Analysis Date: **19-May-2021 12:58**
Client ID: Run ID: **SV-6_384023** SeqNo: **6101794** PrepDate: **14-May-2021** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,4-Dioxane | 0.06227 | 0.010 | 0.08 | 0 | 77.8 | 40 - 140 | 0.06615 | 6.04 | 20 | |
| *Surr: 2-Fluorobiphenyl* | *0.07474* | *0* | *0.08* | *0* | *93.4* | *40 - 140* | *0.0694* | *7.42* | *20* | |
| *Surr: 4-Terphenyl-d14* | *0.07064* | *0* | *0.08* | *0* | *88.3* | *40 - 140* | *0.08022* | *12.7* | *20* | |
| *Surr: Nitrobenzene-d5* | *0.06177* | *0* | *0.08* | *0* | *77.2* | *40 - 140* | *0.04909* | *22.9* | *20* | R |

**The following samples were analyzed in this batch:** HS21050553-01

**ALS Houston, US** Date: 26-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Monthly Effluent Samples
**WorkOrder:** HS21050553

**QC BATCH REPORT**

**Batch ID:** R384020 ( 0 ) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

**MBLK** Sample ID: **VBLKW-210518** Units: **ug/L** Analysis Date: **18-May-2021 17:49**
Client ID: Run ID: **VOA6_384020** SeqNo: **6101560** 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 | 0.50 | 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: 26-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Monthly Effluent Samples
**WorkOrder:** HS21050553

**QC BATCH REPORT**

**Batch ID:** R384020 ( 0 ) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

**MBLK** Sample ID: **VBLKW-210518** Units: **ug/L** Analysis Date: **18-May-2021 17:49**
Client ID: Run ID: **VOA6_384020** SeqNo: **6101560** 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* | *48.59* | *1.0* | *50* | *0* | *97.2* | *81 - 118* | | | | |
| *Surr: 4-Bromofluorobenzene* | *46.47* | *1.0* | *50* | *0* | *92.9* | *85 - 114* | | | | |
| *Surr: Dibromofluoromethane* | *46.52* | *1.0* | *50* | *0* | *93.0* | *80 - 119* | | | | |
| *Surr: Toluene-d8* | *53.79* | *1.0* | *50* | *0* | *108* | *89 - 112* | | | | |

**ALS Houston, US** Date: 26-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Monthly Effluent Samples
**WorkOrder:** HS21050553

**QC BATCH REPORT**

**Batch ID:** R384020 ( 0 ) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

**LCS** Sample ID: **VLCSW-210518** Units: **ug/L** Analysis Date: **18-May-2021 16:46**
Client ID: Run ID: **VOA6_384020** SeqNo: **6101559** 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 | 19.34 | 1.0 | 20 | 0 | 96.7 | 78 - 124 | | | | |
| 1,1,1-Trichloroethane | 20.25 | 1.0 | 20 | 0 | 101 | 74 - 131 | | | | |
| 1,1,2,2-Tetrachloroethane | 21.66 | 1.0 | 20 | 0 | 108 | 71 - 121 | | | | |
| 1,1,2-Trichloroethane | 19.74 | 1.0 | 20 | 0 | 98.7 | 80 - 119 | | | | |
| 1,1-Dichloroethane | 20.44 | 1.0 | 20 | 0 | 102 | 77 - 125 | | | | |
| 1,1-Dichloroethene | 19.66 | 1.0 | 20 | 0 | 98.3 | 71 - 131 | | | | |
| 1,1-Dichloropropene | 20.14 | 1.0 | 20 | 0 | 101 | 78 - 125 | | | | |
| 1,2,3-Trichlorobenzene | 26.52 | 1.0 | 20 | 0 | 133 | 69 - 129 | | | | S |
| 1,2,3-Trichloropropane | 21.33 | 1.0 | 20 | 0 | 107 | 73 - 122 | | | | |
| 1,2,4-Trichlorobenzene | 25.16 | 1.0 | 20 | 0 | 126 | 69 - 130 | | | | |
| 1,2,4-Trimethylbenzene | 19.66 | 1.0 | 20 | 0 | 98.3 | 76 - 124 | | | | |
| 1,2-Dibromo-3-chloropropane | 23.25 | 1.0 | 20 | 0 | 116 | 62 - 128 | | | | |
| 1,2-Dibromoethane | 21.06 | 1.0 | 20 | 0 | 105 | 77 - 121 | | | | |
| 1,2-Dichlorobenzene | 19.08 | 1.0 | 20 | 0 | 95.4 | 80 - 119 | | | | |
| 1,2-Dichloroethane | 20.91 | 1.0 | 20 | 0 | 105 | 73 - 128 | | | | |
| 1,2-Dichloropropane | 20.69 | 1.0 | 20 | 0 | 103 | 78 - 122 | | | | |
| 1,3,5-Trimethylbenzene | 19.48 | 1.0 | 20 | 0 | 97.4 | 75 - 124 | | | | |
| 1,3-Dichlorobenzene | 20.06 | 1.0 | 20 | 0 | 100 | 80 - 119 | | | | |
| 1,3-Dichloropropane | 20.32 | 1.0 | 20 | 0 | 102 | 80 - 119 | | | | |
| 1,4-Dichlorobenzene | 20.55 | 1.0 | 20 | 0 | 103 | 79 - 118 | | | | |
| 2,2-Dichloropropane | 20.86 | 1.0 | 20 | 0 | 104 | 60 - 139 | | | | |
| 2-Butanone | 42.72 | 2.0 | 40 | 0 | 107 | 56 - 143 | | | | |
| 2-Chlorotoluene | 19 | 1.0 | 20 | 0 | 95.0 | 79 - 122 | | | | |
| 2-Hexanone | 42.72 | 2.0 | 40 | 0 | 107 | 57 - 139 | | | | |
| 4-Chlorotoluene | 19.7 | 1.0 | 20 | 0 | 98.5 | 78 - 122 | | | | |
| 4-Isopropyltoluene | 19.43 | 1.0 | 20 | 0 | 97.2 | 77 - 127 | | | | |
| 4-Methyl-2-pentanone | 43.8 | 2.0 | 40 | 0 | 109 | 67 - 130 | | | | |
| Acetone | 48.21 | 2.0 | 40 | 0 | 121 | 39 - 160 | | | | |
| Benzene | 21.09 | 1.0 | 20 | 0 | 105 | 79 - 120 | | | | |
| Bromobenzene | 19.59 | 1.0 | 20 | 0 | 98.0 | 80 - 120 | | | | |
| Bromochloromethane | 19.43 | 1.0 | 20 | 0 | 97.2 | 78 - 123 | | | | |
| Bromodichloromethane | 20.6 | 1.0 | 20 | 0 | 103 | 79 - 125 | | | | |
| Bromoform | 19.91 | 1.0 | 20 | 0 | 99.6 | 66 - 130 | | | | |
| Bromomethane | 25.63 | 1.0 | 20 | 0 | 128 | 53 - 141 | | | | |

**ALS Houston, US** Date: 26-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Monthly Effluent Samples
**WorkOrder:** HS21050553

**QC BATCH REPORT**

**Batch ID:** R384020 ( 0 ) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

**LCS** Sample ID: **VLCSW-210518** Units: **ug/L** Analysis Date: **18-May-2021 16:46**
Client ID: Run ID: **VOA6_384020** SeqNo: **6101559** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Carbon disulfide | 43.26 | 2.0 | 40 | 0 | 108 | 64 - 133 | | | | |
| Carbon tetrachloride | 19.19 | 1.0 | 20 | 0 | 96.0 | 72 - 136 | | | | |
| Chlorobenzene | 19.9 | 1.0 | 20 | 0 | 99.5 | 82 - 118 | | | | |
| Chloroethane | 19.49 | 1.0 | 20 | 0 | 97.4 | 60 - 138 | | | | |
| Chloroform | 19.98 | 1.0 | 20 | 0 | 99.9 | 79 - 124 | | | | |
| Chloromethane | 22.72 | 1.0 | 20 | 0 | 114 | 50 - 139 | | | | |
| cis-1,2-Dichloroethene | 19.75 | 1.0 | 20 | 0 | 98.8 | 78 - 123 | | | | |
| cis-1,3-Dichloropropene | 20.76 | 1.0 | 20 | 0 | 104 | 75 - 124 | | | | |
| Dibromochloromethane | 20.89 | 1.0 | 20 | 0 | 104 | 74 - 126 | | | | |
| Dibromomethane | 20.85 | 1.0 | 20 | 0 | 104 | 79 - 123 | | | | |
| Dichlorodifluoromethane | 21.39 | 1.0 | 20 | 0 | 107 | 32 - 152 | | | | |
| Ethylbenzene | 20.05 | 1.0 | 20 | 0 | 100 | 79 - 121 | | | | |
| Hexachlorobutadiene | 21.57 | 1.0 | 20 | 0 | 108 | 66 - 134 | | | | |
| Isopropylbenzene | 18.88 | 1.0 | 20 | 0 | 94.4 | 72 - 131 | | | | |
| m,p-Xylene | 39.82 | 2.0 | 40 | 0 | 99.5 | 80 - 121 | | | | |
| Methylene chloride | 21.19 | 2.0 | 20 | 0 | 106 | 74 - 124 | | | | |
| Naphthalene | 25.77 | 1.0 | 20 | 0 | 129 | 61 - 128 | | | | S |
| n-Butylbenzene | 18.8 | 1.0 | 20 | 0 | 94.0 | 75 - 128 | | | | |
| n-Propylbenzene | 19.8 | 1.0 | 20 | 0 | 99.0 | 76 - 126 | | | | |
| o-Xylene | 19.66 | 1.0 | 20 | 0 | 98.3 | 78 - 122 | | | | |
| sec-Butylbenzene | 18.12 | 1.0 | 20 | 0 | 90.6 | 77 - 126 | | | | |
| Styrene | 19.13 | 1.0 | 20 | 0 | 95.6 | 78 - 123 | | | | |
| tert-Butylbenzene | 18.64 | 1.0 | 20 | 0 | 93.2 | 78 - 124 | | | | |
| Tetrachloroethene | 19.86 | 1.0 | 20 | 0 | 99.3 | 74 - 129 | | | | |
| Toluene | 20.55 | 1.0 | 20 | 0 | 103 | 80 - 121 | | | | |
| trans-1,2-Dichloroethene | 20.88 | 1.0 | 20 | 0 | 104 | 75 - 124 | | | | |
| trans-1,3-Dichloropropene | 21.09 | 1.0 | 20 | 0 | 105 | 73 - 127 | | | | |
| Trichloroethene | 20.8 | 1.0 | 20 | 0 | 104 | 79 - 123 | | | | |
| Trichlorofluoromethane | 19.33 | 1.0 | 20 | 0 | 96.6 | 65 - 141 | | | | |
| Vinyl chloride | 19.53 | 1.0 | 20 | 0 | 97.7 | 58 - 137 | | | | |
| *Surr: 1,2-Dichloroethane-d4* | *54.04* | *1.0* | *50* | *0* | *108* | *81 - 118* | | | | |
| *Surr: 4-Bromofluorobenzene* | *49.64* | *1.0* | *50* | *0* | *99.3* | *85 - 114* | | | | |
| *Surr: Dibromofluoromethane* | *49.37* | *1.0* | *50* | *0* | *98.7* | *80 - 119* | | | | |
| *Surr: Toluene-d8* | *49.76* | *1.0* | *50* | *0* | *99.5* | *89 - 112* | | | | |

**ALS Houston, US** Date: 26-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Monthly Effluent Samples
**WorkOrder:** HS21050553

**QC BATCH REPORT**

**Batch ID:** R384020 ( 0 ) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

**MS** Sample ID: **HS21050689-01MS** Units: **ug/L** Analysis Date: **18-May-2021 20:58**
Client ID: Run ID: **VOA6_384020** SeqNo: **6101565** 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 | 18.32 | 1.0 | 20 | 0 | 91.6 | 78 - 124 | | | | |
| 1,1,1-Trichloroethane | 19.56 | 1.0 | 20 | 0 | 97.8 | 74 - 131 | | | | |
| 1,1,2,2-Tetrachloroethane | 17.6 | 1.0 | 20 | 0 | 88.0 | 71 - 121 | | | | |
| 1,1,2-Trichloroethane | 18.33 | 1.0 | 20 | 0 | 91.7 | 80 - 119 | | | | |
| 1,1-Dichloroethane | 18.29 | 1.0 | 20 | 0 | 91.5 | 77 - 125 | | | | |
| 1,1-Dichloroethene | 18.18 | 1.0 | 20 | 0 | 90.9 | 71 - 131 | | | | |
| 1,1-Dichloropropene | 21.18 | 1.0 | 20 | 0 | 106 | 78 - 125 | | | | |
| 1,2,3-Trichlorobenzene | 15.06 | 1.0 | 20 | 0 | 75.3 | 69 - 129 | | | | |
| 1,2,3-Trichloropropane | 16.96 | 1.0 | 20 | 0 | 84.8 | 73 - 122 | | | | |
| 1,2,4-Trichlorobenzene | 17.25 | 1.0 | 20 | 0 | 86.2 | 69 - 130 | | | | |
| 1,2,4-Trimethylbenzene | 19.58 | 1.0 | 20 | 0 | 97.9 | 76 - 124 | | | | |
| 1,2-Dibromo-3-chloropropane | 16.58 | 1.0 | 20 | 0 | 82.9 | 62 - 128 | | | | |
| 1,2-Dibromoethane | 18.36 | 1.0 | 20 | 0 | 91.8 | 77 - 121 | | | | |
| 1,2-Dichlorobenzene | 17.49 | 1.0 | 20 | 0 | 87.5 | 80 - 119 | | | | |
| 1,2-Dichloroethane | 19.38 | 1.0 | 20 | 0 | 96.9 | 73 - 128 | | | | |
| 1,2-Dichloropropane | 19.21 | 1.0 | 20 | 0 | 96.1 | 78 - 122 | | | | |
| 1,3,5-Trimethylbenzene | 19.81 | 1.0 | 20 | 0 | 99.1 | 75 - 124 | | | | |
| 1,3-Dichlorobenzene | 18.77 | 1.0 | 20 | 0 | 93.9 | 80 - 119 | | | | |
| 1,3-Dichloropropane | 18.16 | 1.0 | 20 | 0 | 90.8 | 80 - 119 | | | | |
| 1,4-Dichlorobenzene | 19.05 | 1.0 | 20 | 0 | 95.2 | 79 - 118 | | | | |
| 2,2-Dichloropropane | 18.54 | 1.0 | 20 | 0 | 92.7 | 60 - 139 | | | | |
| 2-Butanone | 31.17 | 2.0 | 40 | 0 | 77.9 | 56 - 143 | | | | |
| 2-Chlorotoluene | 18.98 | 1.0 | 20 | 0 | 94.9 | 79 - 122 | | | | |
| 2-Hexanone | 32.93 | 2.0 | 40 | 0 | 82.3 | 57 - 139 | | | | |
| 4-Chlorotoluene | 19.26 | 1.0 | 20 | 0 | 96.3 | 78 - 122 | | | | |
| 4-Isopropyltoluene | 20.48 | 1.0 | 20 | 0 | 102 | 77 - 127 | | | | |
| 4-Methyl-2-pentanone | 33.44 | 2.0 | 40 | 0 | 83.6 | 67 - 130 | | | | |
| Acetone | 30.62 | 2.0 | 40 | 0 | 76.5 | 39 - 160 | | | | |
| Benzene | 19.56 | 1.0 | 20 | 0 | 97.8 | 79 - 120 | | | | |
| Bromobenzene | 18.8 | 1.0 | 20 | 0 | 94.0 | 80 - 120 | | | | |
| Bromochloromethane | 16.83 | 1.0 | 20 | 0 | 84.1 | 78 - 123 | | | | |
| Bromodichloromethane | 18.71 | 1.0 | 20 | 0 | 93.5 | 79 - 125 | | | | |
| Bromoform | 16.82 | 1.0 | 20 | 0 | 84.1 | 66 - 130 | | | | |
| Bromomethane | 19.48 | 1.0 | 20 | 0 | 97.4 | 53 - 141 | | | | |

**ALS Houston, US** Date: 26-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Monthly Effluent Samples
**WorkOrder:** HS21050553

**QC BATCH REPORT**

**Batch ID:** R384020 ( 0 ) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

**MS** Sample ID: **HS21050689-01MS** Units: **ug/L** Analysis Date: **18-May-2021 20:58**
Client ID: Run ID: **VOA6_384020** SeqNo: **6101565** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Carbon disulfide | 37.52 | 2.0 | 40 | 0 | 93.8 | 64 - 133 | | | | |
| Carbon tetrachloride | 19.96 | 1.0 | 20 | 0 | 99.8 | 72 - 136 | | | | |
| Chlorobenzene | 18.62 | 1.0 | 20 | 0 | 93.1 | 82 - 118 | | | | |
| Chloroethane | 16.02 | 1.0 | 20 | 0 | 80.1 | 60 - 138 | | | | |
| Chloroform | 17.63 | 1.0 | 20 | 0 | 88.2 | 79 - 124 | | | | |
| Chloromethane | 18.36 | 1.0 | 20 | 0 | 91.8 | 50 - 139 | | | | |
| cis-1,2-Dichloroethene | 17.61 | 1.0 | 20 | 0 | 88.1 | 78 - 123 | | | | |
| cis-1,3-Dichloropropene | 18.99 | 1.0 | 20 | 0 | 95.0 | 75 - 124 | | | | |
| Dibromochloromethane | 17.95 | 1.0 | 20 | 0 | 89.8 | 74 - 126 | | | | |
| Dibromomethane | 18.42 | 1.0 | 20 | 0 | 92.1 | 79 - 123 | | | | |
| Dichlorodifluoromethane | 18.28 | 1.0 | 20 | 0 | 91.4 | 32 - 152 | | | | |
| Ethylbenzene | 20.51 | 1.0 | 20 | 0 | 103 | 79 - 121 | | | | |
| Hexachlorobutadiene | 20.7 | 1.0 | 20 | 0 | 104 | 66 - 134 | | | | |
| Isopropylbenzene | 20.51 | 1.0 | 20 | 0 | 103 | 72 - 131 | | | | |
| m,p-Xylene | 39.81 | 2.0 | 40 | 0 | 99.5 | 80 - 121 | | | | |
| Methylene chloride | 18.25 | 2.0 | 20 | 0 | 91.3 | 74 - 124 | | | | |
| Naphthalene | 14.48 | 1.0 | 20 | 0 | 72.4 | 61 - 128 | | | | |
| n-Butylbenzene | 20.43 | 1.0 | 20 | 0 | 102 | 75 - 128 | | | | |
| n-Propylbenzene | 20.79 | 1.0 | 20 | 0 | 104 | 76 - 126 | | | | |
| o-Xylene | 19.16 | 1.0 | 20 | 0 | 95.8 | 78 - 122 | | | | |
| sec-Butylbenzene | 21.02 | 1.0 | 20 | 0 | 105 | 77 - 126 | | | | |
| Styrene | 18.3 | 1.0 | 20 | 0 | 91.5 | 78 - 123 | | | | |
| tert-Butylbenzene | 20.38 | 1.0 | 20 | 0 | 102 | 78 - 124 | | | | |
| Tetrachloroethene | 27.2 | 1.0 | 20 | 6.806 | 102 | 74 - 129 | | | | |
| Toluene | 19.64 | 1.0 | 20 | 0 | 98.2 | 80 - 121 | | | | |
| trans-1,2-Dichloroethene | 18.95 | 1.0 | 20 | 0 | 94.7 | 75 - 124 | | | | |
| trans-1,3-Dichloropropene | 18.59 | 1.0 | 20 | 0 | 93.0 | 73 - 127 | | | | |
| Trichloroethene | 20.87 | 1.0 | 20 | 0.6087 | 101 | 79 - 123 | | | | |
| Trichlorofluoromethane | 19.79 | 1.0 | 20 | 0 | 99.0 | 65 - 141 | | | | |
| Vinyl chloride | 18.11 | 1.0 | 20 | 0 | 90.6 | 58 - 137 | | | | |
| *Surr: 1,2-Dichloroethane-d4* | *50.51* | *1.0* | *50* | *0* | *101* | *81 - 118* | | | | |
| *Surr: 4-Bromofluorobenzene* | *49.16* | *1.0* | *50* | *0* | *98.3* | *85 - 114* | | | | |
| *Surr: Dibromofluoromethane* | *47.28* | *1.0* | *50* | *0* | *94.6* | *80 - 119* | | | | |
| *Surr: Toluene-d8* | *52.95* | *1.0* | *50* | *0* | *106* | *89 - 112* | | | | |

**ALS Houston, US** Date: 26-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Monthly Effluent Samples
**WorkOrder:** HS21050553

**QC BATCH REPORT**

**Batch ID:** R384020 ( 0 ) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

**MSD** Sample ID: **HS21050689-01MSD** Units: **ug/L** Analysis Date: **18-May-2021 21:19**
Client ID: Run ID: **VOA6_384020** SeqNo: **6101566** 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 | 17.49 | 1.0 | 20 | 0 | 87.4 | 78 - 124 | 18.32 | 4.63 | 20 | |
| 1,1,1-Trichloroethane | 18.77 | 1.0 | 20 | 0 | 93.9 | 74 - 131 | 19.56 | 4.13 | 20 | |
| 1,1,2,2-Tetrachloroethane | 18.67 | 1.0 | 20 | 0 | 93.3 | 71 - 121 | 17.6 | 5.9 | 20 | |
| 1,1,2-Trichloroethane | 17.48 | 1.0 | 20 | 0 | 87.4 | 80 - 119 | 18.33 | 4.74 | 20 | |
| 1,1-Dichloroethane | 17.71 | 1.0 | 20 | 0 | 88.6 | 77 - 125 | 18.29 | 3.22 | 20 | |
| 1,1-Dichloroethene | 17.44 | 1.0 | 20 | 0 | 87.2 | 71 - 131 | 18.18 | 4.17 | 20 | |
| 1,1-Dichloropropene | 19.65 | 1.0 | 20 | 0 | 98.3 | 78 - 125 | 21.18 | 7.48 | 20 | |
| 1,2,3-Trichlorobenzene | 18.19 | 1.0 | 20 | 0 | 90.9 | 69 - 129 | 15.06 | 18.8 | 20 | |
| 1,2,3-Trichloropropane | 17.6 | 1.0 | 20 | 0 | 88.0 | 73 - 122 | 16.96 | 3.75 | 20 | |
| 1,2,4-Trichlorobenzene | 18.65 | 1.0 | 20 | 0 | 93.2 | 69 - 130 | 17.25 | 7.8 | 20 | |
| 1,2,4-Trimethylbenzene | 19.54 | 1.0 | 20 | 0 | 97.7 | 76 - 124 | 19.58 | 0.203 | 20 | |
| 1,2-Dibromo-3-chloropropane | 18.46 | 1.0 | 20 | 0 | 92.3 | 62 - 128 | 16.58 | 10.8 | 20 | |
| 1,2-Dibromoethane | 18.15 | 1.0 | 20 | 0 | 90.8 | 77 - 121 | 18.36 | 1.15 | 20 | |
| 1,2-Dichlorobenzene | 18.34 | 1.0 | 20 | 0 | 91.7 | 80 - 119 | 17.49 | 4.73 | 20 | |
| 1,2-Dichloroethane | 19.12 | 1.0 | 20 | 0 | 95.6 | 73 - 128 | 19.38 | 1.35 | 20 | |
| 1,2-Dichloropropane | 18.14 | 1.0 | 20 | 0 | 90.7 | 78 - 122 | 19.21 | 5.74 | 20 | |
| 1,3,5-Trimethylbenzene | 20.16 | 1.0 | 20 | 0 | 101 | 75 - 124 | 19.81 | 1.75 | 20 | |
| 1,3-Dichlorobenzene | 18.65 | 1.0 | 20 | 0 | 93.2 | 80 - 119 | 18.77 | 0.662 | 20 | |
| 1,3-Dichloropropane | 17.9 | 1.0 | 20 | 0 | 89.5 | 80 - 119 | 18.16 | 1.42 | 20 | |
| 1,4-Dichlorobenzene | 19.39 | 1.0 | 20 | 0 | 96.9 | 79 - 118 | 19.05 | 1.77 | 20 | |
| 2,2-Dichloropropane | 17.42 | 1.0 | 20 | 0 | 87.1 | 60 - 139 | 18.54 | 6.22 | 20 | |
| 2-Butanone | 30.36 | 2.0 | 40 | 0 | 75.9 | 56 - 143 | 31.17 | 2.62 | 20 | |
| 2-Chlorotoluene | 18.95 | 1.0 | 20 | 0 | 94.8 | 79 - 122 | 18.98 | 0.174 | 20 | |
| 2-Hexanone | 33.46 | 2.0 | 40 | 0 | 83.7 | 57 - 139 | 32.93 | 1.61 | 20 | |
| 4-Chlorotoluene | 19.8 | 1.0 | 20 | 0 | 99.0 | 78 - 122 | 19.26 | 2.77 | 20 | |
| 4-Isopropyltoluene | 20.56 | 1.0 | 20 | 0 | 103 | 77 - 127 | 20.48 | 0.416 | 20 | |
| 4-Methyl-2-pentanone | 35.46 | 2.0 | 40 | 0 | 88.7 | 67 - 130 | 33.44 | 5.86 | 20 | |
| Acetone | 30.51 | 2.0 | 40 | 0 | 76.3 | 39 - 160 | 30.62 | 0.348 | 20 | |
| Benzene | 18.42 | 1.0 | 20 | 0 | 92.1 | 79 - 120 | 19.56 | 6.02 | 20 | |
| Bromobenzene | 18.93 | 1.0 | 20 | 0 | 94.6 | 80 - 120 | 18.8 | 0.666 | 20 | |
| Bromochloromethane | 17.29 | 1.0 | 20 | 0 | 86.4 | 78 - 123 | 16.83 | 2.69 | 20 | |
| Bromodichloromethane | 18.56 | 1.0 | 20 | 0 | 92.8 | 79 - 125 | 18.71 | 0.788 | 20 | |
| Bromoform | 17.69 | 1.0 | 20 | 0 | 88.5 | 66 - 130 | 16.82 | 5.06 | 20 | |
| Bromomethane | 19.31 | 1.0 | 20 | 0 | 96.6 | 53 - 141 | 19.48 | 0.865 | 20 | |

**ALS Houston, US** Date: 26-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Monthly Effluent Samples
**WorkOrder:** HS21050553

**QC BATCH REPORT**

**Batch ID:** R384020 ( 0 ) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

**MSD** Sample ID: **HS21050689-01MSD** Units: **ug/L** Analysis Date: **18-May-2021 21:19**
Client ID: Run ID: **VOA6_384020** SeqNo: **6101566** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | RPD %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Carbon disulfide | 37 | 2.0 | 40 | 0 | 92.5 | 64 - 133 | 37.52 | 1.38 | 20 | |
| Carbon tetrachloride | 19.45 | 1.0 | 20 | 0 | 97.2 | 72 - 136 | 19.96 | 2.61 | 20 | |
| Chlorobenzene | 18.63 | 1.0 | 20 | 0 | 93.2 | 82 - 118 | 18.62 | 0.0602 | 20 | |
| Chloroethane | 17.32 | 1.0 | 20 | 0 | 86.6 | 60 - 138 | 16.02 | 7.79 | 20 | |
| Chloroform | 17.51 | 1.0 | 20 | 0 | 87.5 | 79 - 124 | 17.63 | 0.708 | 20 | |
| Chloromethane | 18.71 | 1.0 | 20 | 0 | 93.5 | 50 - 139 | 18.36 | 1.87 | 20 | |
| cis-1,2-Dichloroethene | 17.66 | 1.0 | 20 | 0 | 88.3 | 78 - 123 | 17.61 | 0.303 | 20 | |
| cis-1,3-Dichloropropene | 18.47 | 1.0 | 20 | 0 | 92.4 | 75 - 124 | 18.99 | 2.79 | 20 | |
| Dibromochloromethane | 17.96 | 1.0 | 20 | 0 | 89.8 | 74 - 126 | 17.95 | 0.0508 | 20 | |
| Dibromomethane | 18.26 | 1.0 | 20 | 0 | 91.3 | 79 - 123 | 18.42 | 0.832 | 20 | |
| Dichlorodifluoromethane | 17.95 | 1.0 | 20 | 0 | 89.8 | 32 - 152 | 18.28 | 1.8 | 20 | |
| Ethylbenzene | 19.44 | 1.0 | 20 | 0 | 97.2 | 79 - 121 | 20.51 | 5.35 | 20 | |
| Hexachlorobutadiene | 21.72 | 1.0 | 20 | 0 | 109 | 66 - 134 | 20.7 | 4.77 | 20 | |
| Isopropylbenzene | 20.18 | 1.0 | 20 | 0 | 101 | 72 - 131 | 20.51 | 1.64 | 20 | |
| m,p-Xylene | 38.96 | 2.0 | 40 | 0 | 97.4 | 80 - 121 | 39.81 | 2.16 | 20 | |
| Methylene chloride | 17.62 | 2.0 | 20 | 0 | 88.1 | 74 - 124 | 18.25 | 3.5 | 20 | |
| Naphthalene | 17.06 | 1.0 | 20 | 0 | 85.3 | 61 - 128 | 14.48 | 16.3 | 20 | |
| n-Butylbenzene | 20.6 | 1.0 | 20 | 0 | 103 | 75 - 128 | 20.43 | 0.812 | 20 | |
| n-Propylbenzene | 20.86 | 1.0 | 20 | 0 | 104 | 76 - 126 | 20.79 | 0.347 | 20 | |
| o-Xylene | 18.57 | 1.0 | 20 | 0 | 92.8 | 78 - 122 | 19.16 | 3.14 | 20 | |
| sec-Butylbenzene | 20.85 | 1.0 | 20 | 0 | 104 | 77 - 126 | 21.02 | 0.841 | 20 | |
| Styrene | 18.05 | 1.0 | 20 | 0 | 90.2 | 78 - 123 | 18.3 | 1.38 | 20 | |
| tert-Butylbenzene | 20.78 | 1.0 | 20 | 0 | 104 | 78 - 124 | 20.38 | 1.94 | 20 | |
| Tetrachloroethene | 26.76 | 1.0 | 20 | 6.806 | 99.8 | 74 - 129 | 27.2 | 1.64 | 20 | |
| Toluene | 19.33 | 1.0 | 20 | 0 | 96.7 | 80 - 121 | 19.64 | 1.57 | 20 | |
| trans-1,2-Dichloroethene | 17.96 | 1.0 | 20 | 0 | 89.8 | 75 - 124 | 18.95 | 5.33 | 20 | |
| trans-1,3-Dichloropropene | 17.94 | 1.0 | 20 | 0 | 89.7 | 73 - 127 | 18.59 | 3.59 | 20 | |
| Trichloroethene | 19.98 | 1.0 | 20 | 0.6087 | 96.9 | 79 - 123 | 20.87 | 4.32 | 20 | |
| Trichlorofluoromethane | 18.95 | 1.0 | 20 | 0 | 94.7 | 65 - 141 | 19.79 | 4.36 | 20 | |
| Vinyl chloride | 17.18 | 1.0 | 20 | 0 | 85.9 | 58 - 137 | 18.11 | 5.26 | 20 | |
| *Surr: 1,2-Dichloroethane-d4* | *49.29* | *1.0* | *50* | *0* | *98.6* | *81 - 118* | *50.51* | *2.44* | *20* | |
| *Surr: 4-Bromofluorobenzene* | *50.06* | *1.0* | *50* | *0* | *100* | *85 - 114* | *49.16* | *1.81* | *20* | |
| *Surr: Dibromofluoromethane* | *47.28* | *1.0* | *50* | *0* | *94.6* | *80 - 119* | *47.28* | *0.00894* | *20* | |
| *Surr: Toluene-d8* | *52.61* | *1.0* | *50* | *0* | *105* | *89 - 112* | *52.95* | *0.65* | *20* | |

**ALS Houston, US** Date: 26-May-21

| | |
|---|---|
| **Client:** | Bhate Environmental Associates, Inc. |
| **Project:** | Longhorn GW Treatment Plant Monthly Effluent Samples |
| **WorkOrder:** | HS21050553 |

**QC BATCH REPORT**

| | | | | | |
|---|---|---|---|---|---|
| **Batch ID:** | **R384020 ( 0 )** | **Instrument:** | **VOA6** | **Method:** | **VOLATILES ORGANICS BY METHOD 8260C** |

**The following samples were analyzed in this batch:** HS21050553-01 HS21050553-03

**ALS Houston, US** Date: 26-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Monthly Effluent Samples
**WorkOrder:** HS21050553

**QC BATCH REPORT**

**Batch ID: R383795 ( 0 )** **Instrument: UV-2450** **Method: HEXAVALENT CHROMIUM BY SW7196A**

**MBLK** Sample ID: **MBLK-R383795** Units: **mg/L** Analysis Date: **12-May-2021 13:30**
Client ID: Run ID: **UV-2450_383795** SeqNo: **6096161** PrepDate: DF: **1**

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

**LCS** Sample ID: **LCS-R383795** Units: **mg/L** Analysis Date: **12-May-2021 13:30**
Client ID: Run ID: **UV-2450_383795** SeqNo: **6096160** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Chromium, Hexavalent | 0.257 | 0.0100 | 0.25 | 0 | 103 | 90 - 111 | | | | |

**MS** Sample ID: **HS21050553-01MS** Units: **mg/L** Analysis Date: **12-May-2021 13:40**
Client ID: **LH18/24-SP650_051121** Run ID: **UV-2450_383795** SeqNo: **6096163** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Chromium, Hexavalent | 0.252 | 0.0100 | 0.25 | 0 | 101 | 90 - 111 | | | | |

**MSD** Sample ID: **HS21050553-01MSD** Units: **mg/L** Analysis Date: **12-May-2021 13:40**
Client ID: **LH18/24-SP650_051121** Run ID: **UV-2450_383795** SeqNo: **6096162** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Chromium, Hexavalent | 0.254 | 0.0100 | 0.25 | 0 | 102 | 90 - 111 | 0.252 | 0.791 | 20 | |

**The following samples were analyzed in this batch:** HS21050553-01

**ALS Houston, US** Date: 26-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Monthly Effluent Samples
**WorkOrder:** **HS21050553**

**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 | 21-022-0 | 26-Mar-2022 |
| Dept of Defense | PJLA L20-507-R2 | 22-Dec-2021 |
| Florida | E87611-30-07/01/2020 | 30-Jun-2021 |
| Kansas | E-10352 2020-2021 | 31-Jul-2021 |
| Kentucky | 123043, 2021-2022 | 30-Apr-2022 |
| Louisiana | 03087, 2020-2021 | 30-Jun-2021 |
| North Carolina | 624-2021 | 31-Dec-2021 |
| Oklahoma | 2020-165 | 31-Aug-2021 |
| Texas | T104704231-21-27 | 30-Apr-2022 |

**ALS Houston, US** Date: 26-May-21

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Monthly Effluent Samples
**Work Order:** HS21050553

**SAMPLE TRACKING**

| Lab Samp ID | Client Sample ID | Action | Date | Person | New Location |
|---|---|---|---|---|---|
| HS21050553-01 | LH18/24-SP650_051121 | Login | 5/12/2021 11:31:41 AM | PJM | MET076 |
| HS21050553-01 | LH18/24-SP650_051121 | Login | 5/12/2021 11:31:41 AM | PJM | EXT048 |
| HS21050553-01 | LH18/24-SP650_051121 | Login | 5/12/2021 11:31:41 AM | PJM | WET257 |
| HS21050553-01 | LH18/24-SP650_051121 | Login | 5/12/2021 11:31:41 AM | PJM | VOA235 |
| HS21050553-02 | LH18/24-SP650_0511321_BIX | Login | 5/12/2021 11:31:41 AM | PJM | Sub |
| HS21050553-03 | Trip Blank | Login | 5/12/2021 11:31:41 AM | PJM | VOA235 |

**ALS Houston, US** Date: 26-May-21

## Sample Receipt Checklist

**Work Order ID:** HS21050553 **Date/Time Received:** 12-May-2021 09:55

**Client Name:** Bhate Environmental **Received by:** Pablo Marinez

| **Completed By:** | /S/ Pablo Marinez | 12-May-2021 11:32 | **Reviewed by:** | /S/ Ragen Giga | 12-May-2021 14:48 |
|---|---|---|---|---|---|
| | 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): | 0.5°C UC/C | | | | IR 31 | |
| Cooler(s)/Kit(s): | 46969 | | | | | |
| Date/Time sample(s) sent to storage: | 5/12/21 11:40 | | | | | |
| 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: RJ Modashia

Page 1 of 1

**Project:** BHATE
LONGHORN ARMY AMMN. PLANT (LHAAP)
GROUNDWATER TREATMENT PLANT (GWTP)
KARNACK, TEXAS

**Project No.** NWO1312.0150.0 16.0001

**Job:** GROUNDWATER TREATMENT PLANT MONTHLY EFFLUENT SAMPLES

**Prepared By:** Scott Beesinger

**P.O. Number**

**HS21050553**

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

| 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_051121 | Water | 05/11/21 / 14:00 | | 3 | X | | | | | HCL | |
| LH18/24-SP650_051121 | Water | 05/11/21 / 14:00 | | 2 | | | X | X | | NONE | |
| LH18/24-SP650_051121_BIX | Water | 05/11/21 / 14:00 | | 1 | | | | | X | NONE | |
| LH18/24-SP650_051121 | Water | 05/11/21 / 14:00 | | 1 | | X | | | | HNO3 | |
| Trip Blank | Water | 05/11/21 | | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 05/11/21 | 14:30 | | 5/12/21 | 955 | | | | | | |

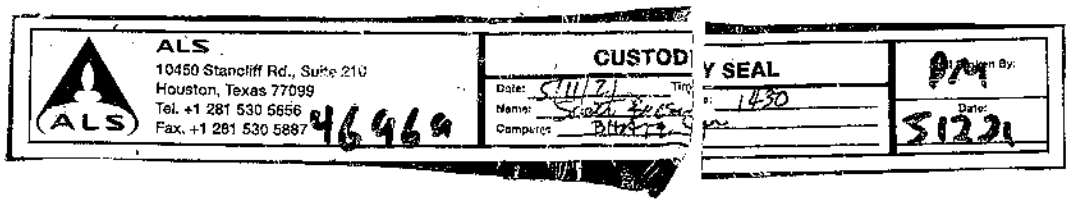
**For Lab Use Only**

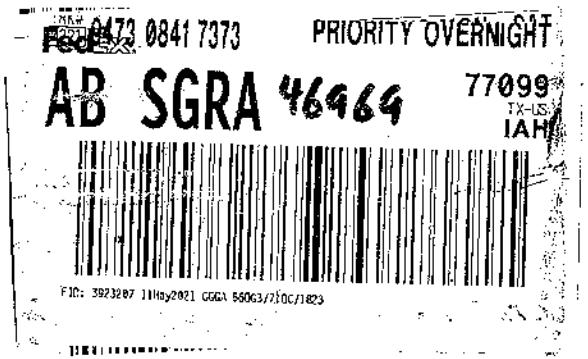
| Received At Lab By: | Date | Time | Airbill No. | Opened By: | Date | Time | Temp of Container | Seal No. | Condition |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |

Remarks:

46464 0.5C IR31 GFC

(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
46469
CUSTOD
Date: 5/11/21
Name:
Company:
Y SEAL
1430
Date:
5/12/21


FedEx 0473 0841 7373
PRIORITY OVERNIGHT
AB SGRA 46469
77099
TX-US
IAH

May 19, 2021 Service Request No:E2100555

RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Suite 210
Houston, TX 77099-4338

**Laboratory Results for: HS21050553**

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory May 12, 2021
For your reference, these analyses have been assigned our service request number **E2100555.**

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.

Respectfully submitted,

**ALS Group USA, Corp. dba ALS Environmental**



Corey Grandits
Project Manager

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 Houston | **Service Request No.:** | E2100555 |
| **Project:** | HS21050553 | **Date Received:** | 05/12/21 |
| **Sample Matrix:** | W | | |

## 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 05/12/21.

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:**

EQ2100298: 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 and DLCS recoveries are within QC limits.

DoD certification is held for the method/matrix/analytes provided in this report.

*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:**E2100555
**Project:** HS21050553

## SAMPLE CROSS-REFERENCE

| SAMPLE # | CLIENT SAMPLE ID | DATE | TIME |
|---|---|---|---|
| E2100555-001 | LH18/24-SP650_051121_BIX | 5/11/2021 | 1400 |

# Service Request Summary

**Folder #:** **E2100555**
Client Name: ALS Environmental - US
Project Name: HS21050553
Project Number:

**Report To:** RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Houston, TX 77099-4338
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number: 281-530-5887
E-mail: rj.modashia@alsglobal.com

Project Chemist: Corey Grandits
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 05/12/21
Internal Due Date: 5/26/2021
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS21050553
EDD: No EDD Specified

1 125 mL-Plastic Bottle Plastic
**Location:** EHRMS-WIC 8B
**Pressure Gas:**

| Lab Samp No. | Client Samp No | Matrix | Collected | HOUSTON ClO4 DOD/6850 |
|---|---|---|---|---|
| E2100555-001 | LH18/24-SP650_051121_BIX | Ground Water | 05/11/21 1400 | **IV** |

# Service Request Summary

**Folder #:** **E2100555**
Client Name: ALS Environmental - US
Project Name: HS21050553
Project Number:

**Report To:** RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Houston, TX 77099-4338
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number: 281-530-5887
E-mail: rj.modashia@alsglobal.com

Project Chemist: Corey Grandits
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 05/12/21
Internal Due Date: 5/26/2021
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS21050553
EDD: No EDD Specified

1 125 mL-Plastic Bottle Plastic
**Location:** EHRMS-WIC 8B
**Pressure Gas:**

## Test Comments:

| Group | Test/Method | Samples | Comments |
|---|---|---|---|
| Semivoa GCMS | ClO4 DOD/6850 | 1 | Level II due 5/26, IV due 6/3 |

# 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 | Internal standard not within the specified limits. See case narrative. |
| 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. |
| 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. |

# Data Qualifiers

## Lab Standard

| | |
|---|---|
| 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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## State Certifications, Accreditations, and Licenses

| Agency | Number | Expire Date |
|---|---|---|
| American Association for Laboratory Accreditation | 2897.01 2020 | 11/30/2021 |
| Arizona Department of Health Services | AZ0793-2020 | 5/27/2021 |
| Arkansas Department of Environmental Quality | 21-022-0 | 3/26/2022 |
| Department of Defense | A2LA 2897.01 | 11/30/2021 |
| Florida Department of Health | E87611-2020 | 6/30/2021 |
| Hawaii Department of Health | 2021-2022 | 4/30/2022 |
| Kansas Department of Health and Environment | E-10352-2020 | 7/31/2021 |
| Louisiana Department of Environmental Quality | 03087-2020 | 6/30/2021 |
| Louisiana Department of Health and Hospitals | LA028-2021 | 12/31/2021 |
| Maine Department of Health and Human Services | 2020016 | 6/5/2022 |
| Maryland Department of the Environment | 343-2020 | 6/30/2021 |
| Minnesota Department of Health | 2021671 | 12/31/2021 |
| Nevada Department of Concervation and Natural Resources | TX026932021-4 | 7/31/2021 |
| New Hampshire Environmental Laboratory Accreditation Program | 209421 | 4/24/2022 |
| New Jersey Department of Environmental Protection | TX008 | 6/30/2021 |
| Oklahoma Department of Environmental Quality | 2020-123 | 8/31/2021 |
| Pennsylvania Department of Environmental Protection | 014 | 6/30/2021 |
| Tennessee Department of Environment and Concervation | 04016-2021 | 4/30/2022 |
| United States Department of Agriculture | P330-19-00299 | 10/10/2022 |

# Chain of Custody

**ALS Environmental - Houston HRMS**
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Houston, TX 77099
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**F:** +1 281 530 5887
**www.alsglobal.com**

# Subcontract Chain of Custody

**SAMPLING STATE:** **Dept of Defense** **COC ID:** **16112**

**SUBCONTRACT TO:**

ALS Environmental
10450 Stancliff RoadSuite 210
Houston, TX 77084

**Phone:** +1 281 530 5656

**CUSTOMER INFORMATION:**

| | |
|---|---|
| **Company:** | ALS Houston |
| **Contact:** | RJ Modashia |
| **Address:** | 10450 Stancliff Rd, Ste 210 |
| **Phone:** | +1 281 530 5656 |
| **Email:** | RJ.Modashia@alsglobal.com |
| **Alternate Contact:** | |
| **Email:** | |

**INVOICE INFORMATION:**

| | |
|---|---|
| **Company:** | ALS Houston |
| **Contact:** | Accounts Payable |
| **Address:** | 10450 Stancliff Rd, Ste 210 |
| **Phone:** | +1 281 530 5656 |
| **Reference:** | HS21050553 |
| **TSR:** | Sonia West |

| | LAB SAMPLE ID | CLIENT SAMPLE ID | MATRIX | COLLECT DATE |
|---|---|---|---|---|
| | ANALYSIS REQUESTED | | | DUE DATE |
| **1.** | **HS21050553-02** | **LH18/24-SP650_0511321_BIX** | **Water** | **11 May 2021 14:00** |
| | Provide Level II and Level IV reports in separate pdf | | | 26 May 2021 |

**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: 5/12/21 16:00

Received By: _____ Date/Time: 5-12-21 1800

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

# Cooler Receipt Form

ALS Environmental

Project Chemist: CG

Client/Project: ALS-H

Thermometer ID: IR31

Date/Time Received: 5/12/21 Initials: CG

Date/Time Logged in: 5/13/21 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 | | 5/12/21 | 1800 | CG | 2.8 | ☒ |
| | | | | | | ☐ |
| | | | | | | ☐ |
| | | | | | | ☐ |

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

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

# *Preparation Information Benchsheet*

**Prep Run#:** 379504 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
**Team:** Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 5/17/21 10:50

| # | Lab Code | Client ID | B# | Method /Test | pH | Cl | Matrix | Amt. Ext. | Sample Description |
|---|---|---|---|---|---|---|---|---|---|
| 1 | E2100526-001 | LH18/24-SP650_050421_BIX | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 2 | E2100553-001 | LH18/24-SP650_051121_BIX | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 3 | E2100554-001 | LH18/24-SP140_051121 | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 4 | E2100555-001 | LH18/24-SP650_051121_BIX | .01 | 6850/ClO4 DOD | | | Ground Water | 10mL | |
| 5 | EQ2100298-01 | MB | | 6850/ClO4 DOD | | | Liquid | 10mL | |
| 6 | EQ2100298-02 | LCS | | 6850/ClO4 DOD | | | Liquid | 10mL | |
| 7 | EQ2100298-03 | DLCS | | 6850/ClO4 DOD | | | Liquid | 10mL | |

## Spiking Solutions

Name: Perchlorate Intermediate Stock1 Inventory ID 214035 Logbook Ref: Perchlorate Expires On: 05/23/2021

EQ2100298-02 1.00µL EQ2100298-03 1.00µL

Name: Perchlorate Internal Standard 1ug/mL Inventory ID 214820 Logbook Ref: Perchlorate Internal Standard Expires On: 07/03/2021

E2100526-001 100.00µL E2100553-001 100.00µL E2100554-001 100.00µL E2100555-001 100.00µL EQ2100298-01 100.00µL EQ2100298-02 100.00µL
EQ2100298-03 100.00µL

## Preparation Steps

Step: Preparation
Started: 5/17/21 10:50
Finished: 5/17/21 11:30
By: GRIVERA
Comments

Comments: _____

Reviewed By: GR Date: 5/17/21

Chain of Custody

Relinquished By: _____ Date: _____ Extracts Examined

Received By: _____ Date: _____ Yes No

# Analytical Results

**ALS Environmental - Houston HRMS**
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**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

| | | | |
|---|---|---|---|
| **Client:** | ALS Environmental - US | **Service Request:** | E2100555 |
| **Project:** | HS21050553 | **Date Collected:** | 5/11/21 1400 |
| **Sample Matrix:** | Ground Water | **Date Received:** | 5/12/21 |
| **Sample Name:** | LH18/24-SP650_051121_BIX | **Units:** | µg/L |
| **Lab Code:** | E2100555-001 | **Basis:** | As Received |

**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 | **0.799** | J | 2.00 | 1.00 | 0.500 | 20 | 5/17/21 | 5/19/21 10:42 | 379504 | 724049 | |

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

| | | | |
|---|---|---|---|
| **Client:** | ALS Environmental - US | **Service Request:** | E2100555 |
| **Project:** | HS21050553 | **Date Collected:** | NA |
| **Sample Matrix:** | Ground Water | **Date Received:** | NA |
| **Sample Name:** | Method Blank | **Units:** | µg/L |
| **Lab Code:** | EQ2100298-01 | **Basis:** | As Received |

**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 | 5/17/21 | 5/18/21 16:56 | 379504 | 724053 | |

# Accuracy & Precision

**ALS Environmental - Houston HRMS**
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**ALS Group USA, Corp. dba ALS Environmental**

QA/QC Report

**Client:** ALS Environmental - US
**Project:** HS21050553
**Sample Matrix:** Ground Water

**Service Request:** E2100555
**Date Analyzed:** 5/19/21

## 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:** As Received

**Extraction Lot:** 379504

| | Lab Control Sample EQ2100298-02 | | | Duplicate Lab Control Sample EQ2100298-03 | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Analyte Name** | **Result** | **Spike Amount** | **% Rec** | **Result** | **Spike Amount** | **% Rec** | **% Rec Limits** | **RPD** | **RPD Limit** |
| Perchlorate | 0.102 | 0.100 | 102 | 0.106 | 0.100 | 106 | 84 - 119 | 4 | 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:** | E2100555 |
| **Project:** | HS21050553 | **Date Collected:** | NA |
| **Sample Matrix:** | Ground Water | **Date Received:** | NA |
| **Sample Name:** | Lab Control Sample | **Units:** | µg/L |
| **Lab Code:** | EQ2100298-02 | **Basis:** | As Received |

**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 | **0.102** | | 0.100 | 0.0500 | 0.0250 | 1 | 5/17/21 | 5/19/21 10:50 | 379504 | 724049 | |

**ALS Group USA, Corp. dba ALS Environmental**

Analytical Report

| | | | |
|---|---|---|---|
| **Client:** | ALS Environmental - US | **Service Request:** | E2100555 |
| **Project:** | HS21050553 | **Date Collected:** | NA |
| **Sample Matrix:** | Ground Water | **Date Received:** | NA |
| **Sample Name:** | Duplicate Lab Control Sample | **Units:** | µg/L |
| **Lab Code:** | EQ2100298-03 | **Basis:** | As Received |

**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 | 5/17/21 | 5/19/21 10:59 | 379504 | 724049 | |

# HS21050553 8260_W_DOD Raw Data

ALS WO# HS21050553

# MSVOA06 -Logbook

**Batch:** 44956 **Analyst:** Presenta Cabascango

**Date:** 05-18-2021 **Reviewer:**

**Method:** 8260 **Laboratory:** Houston

**Comments:**

| # | Samp ID | Type | Analyzed | DF | Init Wt/Vol | Final Vol | File ID | Matrix | Status | pH |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | BFB | TUNE | 05-18-2021 11:02 am | 1.00 | 50 mL | 50 mL | X051801.D | Liquid | Y | NA |
| 2 | VSDT000.25 | ICAL1 | 05-18-2021 11:23 am | 1.00 | 50 mL | 50 mL | X051802.D | Liquid | Y | NA |
| 3 | VSDT000.5 | ICAL2 | 05-18-2021 11:43 am | 1.00 | 50 mL | 50 mL | X051803.D | Liquid | Y | NA |
| 4 | VSDT001 | ICAL3 | 05-18-2021 12:25 pm | 1.00 | 50 mL | 50 mL | X051804.D | Liquid | Y | NA |
| 5 | VSDT002 | ICAL4 | 05-18-2021 12:46 pm | 1.00 | 50 mL | 50 mL | X051805.D | Liquid | Y | NA |
| 6 | VSDT005 | ICAL5 | 05-18-2021 01:07 pm | 1.00 | 50 mL | 50 mL | X051806.D | Liquid | Y | NA |
| 7 | VSDT020 | ICAL6 | 05-18-2021 01:28 pm | 1.00 | 50 mL | 50 mL | X051807.D | Liquid | Y | NA |
| 8 | VSDT050 | ICAL7 | 05-18-2021 01:49 pm | 1.00 | 50 mL | 50 mL | X051808.D | Liquid | Y | NA |
| 9 | VSDT100 | ICAL8 | 05-18-2021 02:10 pm | 1.00 | 50 mL | 50 mL | X051809.D | Liquid | Y | NA |
| 10 | VSDT150 | ICAL9 | 05-18-2021 02:31 pm | 1.00 | 50 mL | 50 mL | X051810.D | Liquid | Y | NA |
| 11 | VSDT200 | ICAL | 05-18-2021 02:52 pm | 1.00 | 50 mL | 50 mL | X051811.D | Liquid | Y | NA |
| 12 | BLANK | SAMP | 05-18-2021 03:13 pm | 1.00 | 50 mL | 50 mL | X051812.D | Liquid | Y | NA |
| 13 | BLANK | CCV | 05-18-2021 03:43 pm | 1.00 | 50 mL | 50 mL | X051813.D | Liquid | Y | NA |
| 14 | CCV | CCV | 05-18-2021 04:04 pm | 1.00 | 50 mL | 50 mL | X051814.D | Liquid | Y | NA |
| 15 | BLANK | SAMP | 05-18-2021 04:25 pm | 1.00 | 50 mL | 50 mL | X051815.D | Liquid | Y | NA |
| 16 | VLCSW-210518 | LCS | 05-18-2021 04:46 pm | 1.00 | 50 mL | 50 mL | X051816.D | Liquid | Y | NA |
| 17 | BLANK | SAMP | 05-18-2021 05:07 pm | 1.00 | 50 mL | 50 mL | X051817.D | Liquid | Y | NA |
| 18 | BLANK | SAMP | 05-18-2021 05:28 pm | 1.00 | 50 mL | 50 mL | X051818.D | Liquid | Y | NA |
| 19 | VBLKW-210518 | MBLK | 05-18-2021 05:49 pm | 1.00 | 50 mL | 50 mL | X051819.D | Liquid | Y | NA |
| 20 | HS21040303-13 | SAMP | 05-18-2021 06:10 pm | 1.00 | 50 mL | 50 mL | X051820.D | Liquid | Y | NA |
| 21 | HS21040303-14 | SAMP | 05-18-2021 06:31 pm | 1.00 | 50 mL | 50 mL | X051821.D | Liquid | Y | NA |
| 22 | HS21040303-15 | SAMP | 05-18-2021 06:52 pm | 1.00 | 50 mL | 50 mL | X051822.D | Liquid | Y | NA |
| 23 | HS21040303-16 | SAMP | 05-18-2021 07:13 pm | 1.00 | 50 mL | 50 mL | X051823.D | Liquid | Y | NA |
| 24 | HS21050689-01 | SAMP | 05-18-2021 07:34 pm | 1.00 | 50 mL | 50 mL | X051824.D | Liquid | Y | NA |
| 25 | HS21050689-02 | SAMP | 05-18-2021 07:55 pm | 1.00 | 50 mL | 50 mL | X051825.D | Liquid | Y | NA |
| 26 | HS21050553-03 | SAMP | 05-18-2021 08:16 pm | 1.00 | 50 mL | 50 mL | X051826.D | Liquid | Y | NA |
| 27 | HS21050553-01 | SAMP | 05-18-2021 08:37 pm | 1.00 | 50 mL | 50 mL | X051827.D | Liquid | Y | NA |
| 28 | HS21050689-01MS | MS | 05-18-2021 08:58 pm | 1.00 | 50 mL | 50 mL | X051828.D | Liquid | Y | NA |
| 29 | HS21050689-01MSD | MSD | 05-18-2021 09:19 pm | 1.00 | 50 mL | 50 mL | X051829.D | Liquid | Y | NA |
| 30 | CCV-END | CCV | 05-18-2021 09:40 pm | 1.00 | 50 mL | 50 mL | X051830.D | Liquid | Y | NA |
| 31 | BLANK | SAMP | 05-18-2021 10:01 pm | 1.00 | 50 mL | 50 mL | X051831.D | Liquid | Y | NA |

# FORM 2
## WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: ALS LABORATORY GROUP  Contract:

Lab Code: ALS-HS  Case No.:  SAS No.:  SDG No.: HS21050553

| | CLIENT SAMPLE NO. | SMC1 (DCE) # | SMC2 # | SMC3 (TOL) # | OTHER # | TOT OUT |
|---|---|---|---|---|---|---|
| 01 | VLCSW-210518 | 108 | 99 | 100 | 99 | 0 |
| 02 | VBLKW-210518 | 97 | 93 | 108 | 93 | 0 |
| 03 | HS21050553-03 | 97 | 93 | 110 | 94 | 0 |
| 04 | HS21050553-01 | 100 | 94 | 109 | 89 | 0 |
| 05 | HS21050689-01MS | 101 | 94 | 106 | 98 | 0 |
| 06 | HS21050689-01MSD | 98 | 94 | 105 | 100 | 0 |
| 07 | | | | | | |
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| | | QC LIMITS |
|---|---|---|
| SMC1 (DCE) | = 1,2-Dichloroethane-d4 | ( 0-130) |
| SMC2 | = Dibromofluoromethane | ( 0-130) |
| SMC3 (TOL) | = Toluene-d8 | ( 0-130) |
| OTHER | = 4-Bromofluorobenzene | ( 0-130) |

# Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21050553

Matrix Spike - Sample No.: ICV

| COMPOUND | SPIKE ADDED (ug/L) | SAMPLE AMOUNT () | % REC # | QC. LIMITS REC. |
|---|---|---|---|---|
| cis-1,3-Dichloropropene | 50.00 | 50.19 | 100 | 80-120 |
| trans-1,3-Dichloroprope | 50.00 | 52.04 | 104 | 80-120 |
| 1,3-Dichlorobenzene | 50.00 | 47.75 | 96 | 80-120 |
| 2,2-Dichloropropane | 50.00 | 50.09 | 100 | 80-120 |
| 1,1-Dichloropropene | 50.00 | 48.31 | 97 | 80-120 |
| Dibromomethane | 50.00 | 50.15 | 100 | 80-120 |
| 1,2-Dibromoethane | 50.00 | 51.94 | 104 | 80-120 |
| trans-1,2-Dichloroethen | 50.00 | 50.14 | 100 | 80-120 |
| 1,1,1,2-Tetrachloroetha | 50.00 | 48.20 | 96 | 80-120 |
| 1,1,1-Trichloroethane | 50.00 | 50.61 | 101 | 80-120 |
| 1,1,2,2-Tetrachloroetha | 50.00 | 51.75 | 104 | 80-120 |
| 1,1,2-Trichloroethane | 50.00 | 50.03 | 100 | 80-120 |
| 1,1-Dichloroethane | 50.00 | 47.25 | 94 | 80-120 |
| 1,1-Dichloroethene | 50.00 | 47.25 | 94 | 80-120 |
| Trichloroethene | 50.00 | 48.16 | 96 | 80-120 |
| 1,2,3-Trichlorobenzene | 50.00 | 59.14 | 118 | 80-120 |
| Trichlorofluoromethane | 50.00 | 48.01 | 96 | 80-120 |
| 1,2,4-Trichlorobenzene | 50.00 | 53.39 | 107 | 80-120 |
| 1,2,4-Trimethylbenzene | 50.00 | 46.88 | 94 | 80-120 |
| Tetrachloroethene | 50.00 | 50.18 | 100 | 80-120 |
| 1,2-Dichlorobenzene | 50.00 | 46.87 | 94 | 80-120 |
| 1,2-Dichloroethane | 50.00 | 48.88 | 98 | 80-120 |
| 1,2-Dichloropropane | 50.00 | 47.74 | 95 | 80-120 |
| 1,3,5-Trimethylbenzene | 50.00 | 47.22 | 94 | 80-120 |
| 1,3-Dichloropropane | 50.00 | 50.41 | 101 | 80-120 |
| 1,4-Dichlorobenzene | 50.00 | 47.95 | 96 | 80-120 |
| Toluene | 50.00 | 49.96 | 100 | 80-120 |
| 2-Butanone | 100.00 | 103.30 | 103 | 80-120 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

_____

FORM III VOA

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21050553

Matrix Spike - Sample No.: ICV

| COMPOUND | SPIKE ADDED (ug/L) | SAMPLE AMOUNT () | % REC # | QC. LIMITS REC. |
|---|---|---|---|---|
| 2-Chlorotoluene | 50.00 | 45.74 | 91 | 80-120 |
| 2-Hexanone | 100.00 | 104.71 | 105 | 80-120 |
| 4-Chlorotoluene | 50.00 | 47.02 | 94 | 80-120 |
| tert-Butylbenzene | 50.00 | 45.40 | 91 | 80-120 |
| 4-Methyl-2-Pentanone | 100.00 | 102.15 | 102 | 80-120 |
| Acetone | 100.00 | 117.46 | 117 | 80-120 |
| Benzene | 50.00 | 50.17 | 100 | 80-120 |
| Bromobenzene | 50.00 | 47.17 | 94 | 80-120 |
| Bromochloromethane | 50.00 | 48.14 | 96 | 80-120 |
| Bromodichloromethane | 50.00 | 49.36 | 99 | 80-120 |
| Bromoform | 50.00 | 52.15 | 104 | 80-120 |
| Bromomethane | 50.00 | 56.94 | 114 | 80-120 |
| Carbon Disulfide | 100.00 | 107.07 | 107 | 80-120 |
| Carbon Tetrachloride | 50.00 | 48.29 | 96 | 80-120 |
| Chlorobenzene | 50.00 | 47.89 | 96 | 80-120 |
| Chloroethane | 50.00 | 47.02 | 94 | 80-120 |
| Chloroform | 50.00 | 47.74 | 95 | 80-120 |
| Chloromethane | 50.00 | 51.81 | 104 | 80-120 |
| cis-1,2-Dichloroethene | 50.00 | 48.97 | 98 | 80-120 |
| Dibromochloromethane | 50.00 | 52.44 | 105 | 80-120 |
| Dichlorodifluoromethane | 50.00 | 51.12 | 102 | 80-120 |
| Ethylbenzene | 50.00 | 48.94 | 98 | 80-120 |
| Hexachlorobutadiene | 50.00 | 48.34 | 97 | 80-120 |
| Isopropylbenzene | 50.00 | 48.03 | 96 | 80-120 |
| m,p-Xylenes | 100.00 | 98.78 | 99 | 80-120 |
| Methylene Chloride | 50.00 | 49.43 | 99 | 80-120 |
| n-Butylbenzene | 50.00 | 47.59 | 95 | 80-120 |
| n-Propylbenzene | 50.00 | 47.46 | 95 | 80-120 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

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FORM III VOA

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21050553

Matrix Spike - Sample No.: ICV

| COMPOUND | SPIKE ADDED (ug/L) | SAMPLE AMOUNT () | % REC # | QC. LIMITS REC. |
|---|---|---|---|---|
| Naphthalene | 50.00 | 59.54 | 119 | 80-120 |
| o-Xylene | 50.00 | 48.60 | 97 | 80-120 |
| sec-Butylbenzene | 50.00 | 46.39 | 93 | 80-120 |
| Styrene | 50.00 | 46.53 | 93 | 80-120 |
| Vinyl Chloride | 50.00 | 47.95 | 96 | 80-120 |
| 1,2,3-Trichloropropane | 50.00 | 53.16 | 106 | 80-120 |
| p-Isopropyltoluene | 50.00 | 46.79 | 94 | 80-120 |
| 1,2-Dibromo-3-Chloropro | 50.00 | 56.34 | 113 | 80-120 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

_____

FORM III VOA

FORM 4
VOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

VBLKW-210518

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21050553

Lab File ID: X051819 Lab Sample ID: VBLKW-210518

Date Analyzed: 05/18/21 Time Analyzed: 1749

GC Column: DB624 ID: 0.18 (mm) Heated Purge: (Y/N) N

Instrument ID: VOA6

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

| | SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | TIME ANALYZED |
|---|---|---|---|---|
| 01 | VLCSW-210518 | VLCSW-210518 | X051816 | 1646 |
| 02 | HS21050553-03 | HS21050553-03 | X051826 | 2016 |
| 03 | HS21050553-01 | HS21050553-01 | X051827 | 2037 |
| 04 | HS21050689-01MS | HS21050689-01MS | X051828 | 2058 |
| 05 | HS21050689-01MSD | HS21050689-01MSD | X051829 | 2119 |
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COMMENTS:

# FORM 5
## VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
## BROMOFLUOROBENZENE (BFB)

Lab Name: ALS LABORATORY GROUP  Contract:

Lab Code: ALS-HS  Case No.:  SAS No.:  SDG No.: HS21050553

Lab File ID: X051801  BFB Injection Date: 05/18/21

Instrument ID: VOA6  BFB Injection Time: 1102

GC Column: DB624  ID: 0.25 (mm)  Heated Purge: (Y/N) N

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15.0 - 40.0% of mass 95 | 21.6 |
| 75 | 30.0 - 60.0% of mass 95 | 54.6 |
| 95 | Base Peak, 100% relative abundance | 100.0 |
| 96 | 5.0 - 9.0% of mass 95 | 6.2 |
| 173 | Less than 2.0% of mass 174 | 1.3 ( 1.6)1 |
| 174 | Greater than 50.0% of mass 95 | 81.7 |
| 175 | 5.0 - 9.0% of mass 174 | 6.4 ( 7.8)1 |
| 176 | 95.0 - 101.0% of mass 174 | 78.5 ( 96.1)1 |
| 177 | 5.0 - 9.0% of mass 176 | 5.1 ( 6.6)2 |

1-Value is % mass 174  2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 01 | VSTD000.25 | VSDT000.25 | X051802 | 05/18/21 | 1123 |
| 02 | VSTD000.5 | VSDT000.5 | X051803 | 05/18/21 | 1143 |
| 03 | VSTD001 | VSDT001 | X051804 | 05/18/21 | 1225 |
| 04 | VSTD002 | VSDT002 | X051805 | 05/18/21 | 1246 |
| 05 | VSTD005 | VSDT005 | X051806 | 05/18/21 | 1307 |
| 06 | VSTD020 | VSDT020 | X051807 | 05/18/21 | 1328 |
| 07 | VSTD050 | VSDT050 | X051808 | 05/18/21 | 1349 |
| 08 | VSTD100 | VSDT100 | X051809 | 05/18/21 | 1410 |
| 09 | VSTD150 | VSDT150 | X051810 | 05/18/21 | 1431 |
| 10 | VSTD200 | VSDT200 | X051811 | 05/18/21 | 1452 |
| 11 | ICV | ICV | X051814 | 05/18/21 | 1604 |
| 12 | VLCSW-210518 | VLCSW-210518 | X051816 | 05/18/21 | 1646 |
| 13 | VBLKW-210518 | VBLKW-210518 | X051819 | 05/18/21 | 1749 |
| 14 | HS21050553-03 | HS21050553-03 | X051826 | 05/18/21 | 2016 |
| 15 | HS21050553-01 | HS21050553-01 | X051827 | 05/18/21 | 2037 |
| 16 | HS21050689-01MS | HS21050689-01MS | X051828 | 05/18/21 | 2058 |
| 17 | HS21050689-01MSD | HS21050689-01MSD | X051829 | 05/18/21 | 2119 |
| 18 | CCV-END | CCV-END | X051830 | 05/18/21 | 2140 |
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# FORM 6
## VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS LABORATORY GROUP  Contract:

Lab Code: ALS-HS  Case No.:  SAS No.:  SDG No.: HS21050553

Instrument ID: VOA6  Calibration Date(s): 05/18/21 05/18/21

Column: DB624  ID: 0.18 (mm)  Calibration Time(s): 1123  1452

LAB FILE ID:  RF0.25: X051802  RF0.5: X051803  RF1: X051804
RF2: X051805  RF5: X051806  RF20: X051807

| COMPOUND | RF0.25 | RF0.5 | RF1 | RF2 | RF5 | RF20 |
|---|---|---|---|---|---|---|
| cis-1,3-Dichloropropene | | 0.487 | 0.572 | 0.482 | 0.536 | 0.562 |
| trans-1,3-Dichloropropene | | 0.362 | 0.481 | 0.462 | 0.448 | 0.484 |
| 1,3-Dichlorobenzene | | 1.298 | 1.784 | 1.444 | 1.385 | 1.313 |
| 2,2-Dichloropropane | | 0.814 | 0.849 | 0.827 | 0.820 | 0.784 |
| 1,1-Dichloropropene | | 0.489 | 0.470 | 0.395 | 0.427 | 0.399 |
| Dibromomethane | | 0.205 | 0.266 | 0.241 | 0.239 | 0.244 |
| 1,2-Dibromoethane | | 0.268 | 0.371 | 0.360 | 0.338 | 0.348 |
| trans-1,2-Dichloroethene | | 0.501 | 0.440 | 0.499 | 0.456 | 0.444 |
| 1,1,1,2-Tetrachloroethane | | 0.339 | 0.370 | 0.394 | 0.369 | 0.343 |
| 1,1,1-Trichloroethane | | 0.814 | 0.829 | 0.797 | 0.851 | 0.831 |
| 1,1,2,2-Tetrachloroethane | | 1276 | 3942 | 6612 | 14932 | 63561 |
| 1,1,2-Trichloroethane | | 0.259 | 0.353 | 0.294 | 0.269 | 0.277 |
| 1,1-Dichloroethane | | 0.905 | 1.024 | 0.837 | 0.887 | 0.889 |
| 1,1-Dichloroethene | | 0.602 | 0.555 | 0.544 | 0.494 | 0.462 |
| Trichloroethene | | 0.303 | 0.372 | 0.325 | 0.354 | 0.319 |
| 1,2,3-Trichlorobenzene | | 298 | 800 | 1755 | 3826 | 17129 |
| Trichlorofluoromethane | | 1.002 | 1.059 | 1.083 | 1.013 | 0.935 |
| 1,2,4-Trichlorobenzene | | 425 | 1337 | 2176 | 7168 | 30700 |
| 1,2,4-Trimethylbenzene | | 2.442 | 3.010 | 2.493 | 2.447 | 2.264 |
| Tetrachloroethene | | 0.267 | 0.257 | 0.293 | 0.265 | 0.257 |
| 1,2-Dichlorobenzene | | 1.324 | 1.811 | 1.406 | 1.370 | 1.301 |
| 1,2-Dichloroethane | | 0.502 | 0.549 | 0.494 | 0.503 | 0.500 |
| 1,2-Dichloropropane | | 0.369 | 0.354 | 0.317 | 0.336 | 0.337 |
| 1,3,5-Trimethylbenzene | | 2.332 | 2.757 | 2.552 | 2.314 | 2.225 |
| 1,3-Dichloropropane | | 0.491 | 0.653 | 0.571 | 0.580 | 0.567 |
| 1,4-Dichlorobenzene | | 2775 | 6628 | 10925 | 24844 | 112231 |
| Toluene | | 1.254 | 1.468 | 1.434 | 1.426 | 1.362 |
| 2-Butanone | | 0.208 | 0.199 | 0.150 | 0.167 | 0.187 |
| 2-Chlorotoluene | | 2.577 | 2.759 | 2.223 | 2.151 | 1.969 |
| 2-Hexanone | | 1113 | 4644 | 6265 | 15257 | 64652 |
| 4-Chlorotoluene | | 2.534 | 3.056 | 2.582 | 2.471 | 2.392 |
| tert-Butylbenzene | | 2.074 | 2.525 | 2.221 | 2.080 | 1.787 |
| 4-Methyl-2-Pentanone | | 1863 | 6100 | 9786 | 23491 | 96386 |
| Acetone | | 2121 | 2806 | 4685 | 8158 | 27873 |
| Benzene | | 1.285 | 1.241 | 1.192 | 1.243 | 1.191 |
| Bromobenzene | | 0.727 | 1.032 | 0.792 | 0.881 | 0.809 |
| Bromochloromethane | | 0.300 | 0.313 | 0.305 | 0.314 | 0.288 |
| Bromodichloromethane | | 0.468 | 0.503 | 0.466 | 0.483 | 0.472 |
| Bromoform | | 0.227 | 0.256 | 0.199 | 0.227 | 0.224 |
| Bromomethane | | 1623 | 3018 | 5999 | 15785 | 51157 |
| Carbon Disulfide | | 1.049 | 1.194 | 1.138 | 1.099 | 1.092 |
| Carbon Tetrachloride | | 0.420 | 0.447 | 0.466 | 0.436 | 0.396 |
| Chlorobenzene | | 0.995 | 1.061 | 0.996 | 0.934 | 0.914 |
| Chloroethane | | 0.482 | 0.365 | 0.357 | 0.373 | 0.414 |

FORM VI VOA

# FORM 6
## VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS LABORATORY GROUP  Contract:

Lab Code: ALS-HS  Case No.:  SAS No.:  SDG No.: HS2105055

Instrument ID: VOA6  Calibration Date(s): 05/18/21 05/18/21

Column: DB624  ID: 0.18 (mm)  Calibration Time(s): 1123  1452

LAB FILE ID:  RF0.25: X051802  RF0.5: X051803  RF1: X051804
RF2: X051805  RF5: X051806  RF20: X051807

| COMPOUND | RF0.25 | RF0.5 | RF1 | RF2 | RF5 | RF20 |
|---|---|---|---|---|---|---|
| Chloroform | | 1.117 | 1.077 | 0.992 | 1.081 | 1.060 |
| Chloromethane | | 1464 | 3160 | 5348 | 14179 | 54108 |
| cis-1,2-Dichloroethene | | 0.502 | 0.640 | 0.565 | 0.558 | 0.550 |
| Dibromochloromethane | | 0.297 | 0.455 | 0.365 | 0.368 | 0.376 |
| Dichlorodifluoromethane | | 1498 | 2403 | 5548 | 14123 | 57043 |
| Ethylbenzene | | 0.480 | 0.478 | 0.501 | 0.476 | 0.437 |
| Hexachlorobutadiene | | 285 | 1107 | 2099 | 4641 | 20104 |
| Isopropylbenzene | | 1.418 | 1.528 | 1.397 | 1.412 | 1.315 |
| m,p-Xylenes | | 0.569 | 0.620 | 0.605 | 0.597 | 0.581 |
| Methylene Chloride | | 0.434 | 0.476 | 0.538 | 0.489 | 0.488 |
| n-Butylbenzene | | 2.521 | 2.761 | 2.102 | 2.057 | 2.013 |
| n-Propylbenzene | | 3.468 | 4.022 | 3.792 | 3.412 | 3.065 |
| Naphthalene | | 406 | 1471 | 3094 | 8781 | 42386 |
| o-Xylene | | 0.614 | 0.616 | 0.595 | 0.583 | 0.553 |
| sec-Butylbenzene | | 2.812 | 3.226 | 3.184 | 2.734 | 2.527 |
| Styrene | | 2465 | 6890 | 12689 | 31296 | 151430 |
| Vinyl Chloride | | 0.706 | 0.637 | 0.668 | 0.630 | 0.574 |
| 1,2,3-Trichloropropane | | 851 | 3361 | 4744 | 9928 | 50993 |
| p-Isopropyltoluene | | 2.384 | 2.876 | 2.412 | 2.335 | 2.132 |
| 1,2-Dibromo-3-Chloropropane | | 63 | 283 | 511 | 1184 | 4660 |
| 1,2-Dichloroethane-d4 | | 1965 | 3259 | 6073 | 16438 | 67187 |
| Dibromofluoromethane | | 1526 | 2671 | 5073 | 12495 | 55528 |
| Toluene-d8 | | 4554 | 7865 | 16788 | 42740 | 177650 |
| 4-Bromofluorobenzene | | 3536 | 2729 | 7059 | 15616 | 68387 |

FORM VI VOA

# FORM 6
## VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS LABORATORY GROUP  Contract:

Lab Code: ALS-HS  Case No.:  SAS No.:  SDG No.: HS2105055

Instrument ID: VOA6  Calibration Date(s): 05/18/21 05/18/21

Column: DB624  ID: 0.18 (mm)  Calibration Time(s): 1123  1452

LAB FILE ID:  RF50: X051808  RF100: X051809  RF150: X051810
RF200: X051811

| COMPOUND | RF50 | RF100 | RF150 | RF200 |
|---|---|---|---|---|
| cis-1,3-Dichloropropene | 0.551 | 0.592 | 0.579 | 0.572 |
| trans-1,3-Dichloropropene | 0.521 | 0.530 | 0.520 | 0.507 |
| 1,3-Dichlorobenzene | 1.363 | 1.440 | 1.445 | 1.456 |
| 2,2-Dichloropropane | 0.768 | 0.864 | 0.862 | 0.867 |
| 1,1-Dichloropropene | 0.367 | 0.444 | 0.428 | 0.436 |
| Dibromomethane | 0.235 | 0.250 | 0.247 | 0.242 |
| 1,2-Dibromoethane | 0.358 | 0.371 | 0.365 | 0.364 |
| trans-1,2-Dichloroethene | 0.449 | 0.491 | 0.520 | 0.530 |
| 1,1,1,2-Tetrachloroethane | 0.357 | 0.371 | 0.368 | 0.368 |
| 1,1,1-Trichloroethane | 0.809 | 0.898 | 0.909 | 0.916 |
| 1,1,2,2-Tetrachloroethane | 192852 | 443127 | 690313 | 941646 |
| 1,1,2-Trichloroethane | 0.284 | 0.298 | 0.290 | 0.290 |
| 1,1-Dichloroethane | 0.901 | 0.943 | 0.964 | 0.982 |
| 1,1-Dichloroethene | 0.419 | 0.457 | 0.472 | 0.495 |
| Trichloroethene | 0.310 | 0.337 | 0.326 | 0.332 |
| 1,2,3-Trichlorobenzene | 53322 | 129422 | 217046 | 307927 |
| Trichlorofluoromethane | 0.805 | 0.902 | 0.910 | 0.940 |
| 1,2,4-Trichlorobenzene | 93881 | 230076 | 378072 | 556188 |
| 1,2,4-Trimethylbenzene | 2.367 | 2.620 | 2.619 | 2.624 |
| Tetrachloroethene | 0.256 | 0.297 | 0.297 | 0.310 |
| 1,2-Dichlorobenzene | 1.264 | 1.348 | 1.378 | 1.410 |
| 1,2-Dichloroethane | 0.493 | 0.481 | 0.458 | 0.443 |
| 1,2-Dichloropropane | 0.324 | 0.336 | 0.328 | 0.324 |
| 1,3,5-Trimethylbenzene | 2.338 | 2.608 | 2.633 | 2.704 |
| 1,3-Dichloropropane | 0.567 | 0.572 | 0.569 | 0.548 |
| 1,4-Dichlorobenzene | 328636 | 774191 | 1228277 | 1710708 |
| Toluene | 1.423 | 1.541 | 1.532 | 1.544 |
| 2-Butanone | 0.183 | 0.194 | 0.189 | 0.185 |
| 2-Chlorotoluene | 2.002 | 2.129 | 2.128 | 2.118 |
| 2-Hexanone | 184352 | 424072 | 684773 | 929961 |
| 4-Chlorotoluene | 2.422 | 2.634 | 2.635 | 2.660 |
| tert-Butylbenzene | 1.852 | 2.157 | 2.163 | 2.202 |
| 4-Methyl-2-Pentanone | 268097 | 642103 | 1037606 | 1395319 |
| Acetone | 67628 | 161640 | 237075 | 336393 |
| Benzene | 1.208 | 1.285 | 1.250 | 1.237 |
| Bromobenzene | 0.778 | 0.824 | 0.832 | 0.827 |
| Bromochloromethane | 0.299 | 0.306 | 0.312 | 0.305 |
| Bromodichloromethane | 0.471 | 0.507 | 0.491 | 0.486 |
| Bromoform | 0.245 | 0.261 | 0.270 | 0.266 |
| Bromomethane | 137904 | 330862 | | |
| Carbon Disulfide | 1.138 | 1.206 | 1.311 | 1.375 |
| Carbon Tetrachloride | 0.378 | 0.462 | 0.451 | 0.466 |
| Chlorobenzene | 0.935 | 0.993 | 0.978 | 1.018 |
| Chloroethane | 0.336 | 0.369 | 0.350 | 0.361 |

FORM VI VOA

# FORM 6
## VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS LABORATORY GROUP  Contract:

Lab Code: ALS-HS  Case No.:  SAS No.:  SDG No.: HS2105055

Instrument ID: VOA6  Calibration Date(s): 05/18/21 05/18/21

Column: DB624  ID: 0.18 (mm)  Calibration Time(s): 1123  1452

LAB FILE ID:  RF50: X051808  RF100: X051809  RF150: X051810
RF200: X051811

| COMPOUND | RF50 | RF100 | RF150 | RF200 |
|---|---|---|---|---|
| Chloroform | 1.018 | 1.075 | 1.069 | 1.070 |
| Chloromethane | 144469 | 323129 | 530291 | 760194 |
| cis-1,2-Dichloroethene | 0.555 | 0.596 | 0.612 | 0.608 |
| Dibromochloromethane | 0.398 | 0.419 | 0.416 | 0.421 |
| Dichlorodifluoromethane | 146727 | 385804 | 635388 | 916851 |
| Ethylbenzene | 0.466 | 0.513 | 0.501 | 0.507 |
| Hexachlorobutadiene | 54907 | 159233 | 251193 | 377761 |
| Isopropylbenzene | 1.391 | 1.613 | 1.599 | 1.652 |
| m,p-Xylenes | 0.611 | 0.676 | 0.672 | 0.689 |
| Methylene Chloride | 0.488 | 0.522 | 0.539 | 0.538 |
| n-Butylbenzene | 2.082 | 2.488 | 2.515 | 2.591 |
| n-Propylbenzene | 3.255 | 3.697 | 3.540 | 3.618 |
| Naphthalene | 135654 | 338098 | 555881 | 826266 |
| o-Xylene | 0.587 | 0.633 | 0.637 | 0.647 |
| sec-Butylbenzene | 2.562 | 3.072 | 3.064 | 3.195 |
| Styrene | 468440 | 1137742 | 1857964 | 2618657 |
| Vinyl Chloride | 0.520 | 0.554 | 0.560 | 0.583 |
| 1,2,3-Trichloropropane | 161438 | 370826 | 570152 | 760241 |
| p-Isopropyltoluene | 2.228 | 2.603 | 2.576 | 2.673 |
| 1,2-Dibromo-3-Chloropropane | 14297 | 35357 | 55728 | 81966 |
| 1,2-Dichloroethane-d4 | 177225 | 428979 | 631492 | 867782 |
| Dibromofluoromethane | 145001 | 355480 | 559479 | 756859 |
| Toluene-d8 | 483036 | 1269181 | | |
| 4-Bromofluorobenzene | 197985 | 494712 | 751419 | 1039902 |

FORM VI VOA

# FORM 6
## VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS LABORATORY GROUP  Contract:

Lab Code: ALS-HS  Case No.:  SAS No.:  SDG No.: HS2105055

Instrument ID: VOA6  Calibration Date(s): 05/18/21 05/18/21

Column: DB624  ID: 0.18 (mm)  Calibration Time(s): 1123  1452

| COMPOUND | CURVE | COEFFICENTS A0 | A1 | A2 | %RSD OR R^2 | MAX %RSD OR R^2 |
|---|---|---|---|---|---|---|
| cis-1,3-Dichloropropene | AVRG | | 0.54815013 | | 7.198 | 15.000 |
| trans-1,3-Dichloropropene | AVRG | | 0.47952641 | | 10.867 | 15.000 |
| 1,3-Dichlorobenzene | AVRG | | 1.43648780 | | 9.972 | 15.000 |
| 2,2-Dichloropropane | AVRG | | 0.82828869 | | 4.331 | 15.000 |
| 1,1-Dichloropropene | AVRG | | 0.42830770 | | 8.852 | 15.000 |
| Dibromomethane | AVRG | | 0.24083691 | | 6.728 | 15.000 |
| 1,2-Dibromoethane | AVRG | | 0.34906143 | | 9.275 | 15.000 |
| trans-1,2-Dichloroethene | AVRG | | 0.48104288 | | 7.125 | 15.000 |
| 1,1,1,2-Tetrachloroethane | AVRG | | 0.36426927 | | 4.529 | 15.000 |
| 1,1,1-Trichloroethane | AVRG | | 0.85043801 | | 5.394 | 15.000 |
| 1,1,2,2-Tetrachloroethane | LINR | -1.06e-002 | 1.22020858 | | 0.9996255 | 0.9900000 |
| 1,1,2-Trichloroethane | AVRG | | 0.29044361 | | 9.129 | 15.000 |
| 1,1-Dichloroethane | AVRG | | 0.92592468 | | 6.216 | 15.000 |
| 1,1-Dichloroethene | AVRG | | 0.50003055 | | 11.379 | 15.000 |
| Trichloroethene | AVRG | | 0.33109441 | | 6.506 | 15.000 |
| 1,2,3-Trichlorobenzene | 2ORDR | 9.632e-003 | 4.28133993 | -0.5154682 | 0.9995826 | 0.9900000 |
| Trichlorofluoromethane | AVRG | | 0.96110314 | | 9.038 | 15.000 |
| 1,2,4-Trichlorobenzene | LINR | 4.933e-002 | 2.11604080 | | 0.9976091 | 0.9900000 |
| 1,2,4-Trimethylbenzene | AVRG | | 2.54299659 | | 8.430 | 15.000 |
| Tetrachloroethene | AVRG | | 0.27783391 | | 7.699 | 15.000 |
| 1,2-Dichlorobenzene | AVRG | | 1.40138714 | | 11.491 | 15.000 |
| 1,2-Dichloroethane | AVRG | | 0.49160844 | | 6.118 | 15.000 |
| 1,2-Dichloropropane | AVRG | | 0.33602311 | | 4.888 | 15.000 |
| 1,3,5-Trimethylbenzene | AVRG | | 2.49588490 | | 7.816 | 15.000 |
| 1,3-Dichloropropane | AVRG | | 0.56857427 | | 7.291 | 15.000 |
| 1,4-Dichlorobenzene | LINR | 5.061e-003 | 0.67731606 | | 0.9998297 | 0.9900000 |
| Toluene | AVRG | | 1.44259465 | | 6.537 | 15.000 |
| 2-Butanone | AVRG | | 0.18456292 | | 9.299 | 15.000 |
| 2-Chlorotoluene | AVRG | | 2.22844412 | | 11.870 | 15.000 |
| 2-Hexanone | LINR | -5.43e-003 | 4.72960490 | | 0.9996417 | 0.9900000 |
| 4-Chlorotoluene | AVRG | | 2.59844887 | | 7.579 | 15.000 |
| tert-Butylbenzene | AVRG | | 2.11785900 | | 10.166 | 15.000 |
| 4-Methyl-2-Pentanone | LINR | 1.757e-003 | 3.13747126 | | 0.9992518 | 0.9900000 |
| Acetone | LINR | -0.1031195 | 8.31977183 | | 0.9992475 | 0.9900000 |
| Benzene | AVRG | | 1.23700589 | | 2.821 | 15.000 |
| Bromobenzene | AVRG | | 0.83350948 | | 10.277 | 15.000 |
| Bromochloromethane | AVRG | | 0.30471850 | | 2.737 | 15.000 |
| Bromodichloromethane | AVRG | | 0.48310323 | | 3.112 | 15.000 |
| Bromoform | AVRG | | 0.24181056 | | 9.935 | 15.000 |
| Bromomethane | LINR | -9.54e-003 | 1.92097258 | | 0.9993822 | 0.9900000 |
| Carbon Disulfide | AVRG | | 1.17802683 | | 9.054 | 15.000 |
| Carbon Tetrachloride | AVRG | | 0.43581111 | | 7.302 | 15.000 |
| Chlorobenzene | AVRG | | 0.98043280 | | 4.719 | 15.000 |
| Chloroethane | AVRG | | 0.37848234 | | 11.670 | 15.000 |

# FORM 6
## VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS LABORATORY GROUP  Contract:

Lab Code: ALS-HS  Case No.:  SAS No.:  SDG No.: HS2105055

Instrument ID: VOA6  Calibration Date(s): 05/18/21 05/18/21

Column: DB624  ID: 0.18 (mm)  Calibration Time(s): 1123 1452

| COMPOUND | CURVE | COEFFICENTS A0 | A1 | A2 | %RSD OR R^2 | MAX %RSD OR R^2 |
|---|---|---|---|---|---|---|
| Chloroform | AVRG | | 1.06227706 | | 3.452 | 15.000 |
| Chloromethane | LINR | 4.72e-003 | 1.84566789 | | 0.9991701 | 0.9900000 |
| cis-1,2-Dichloroethene | AVRG | | 0.57624659 | | 7.251 | 15.000 |
| Dibromochloromethane | AVRG | | 0.39079995 | | 11.706 | 15.000 |
| Dichlorodifluoromethane | LINR | 4.157e-002 | 1.52321051 | | 0.9978249 | 0.9900000 |
| Ethylbenzene | AVRG | | 0.48449831 | | 4.945 | 15.000 |
| Hexachlorobutadiene | LINR | 6.372e-002 | 3.12063356 | | 0.9952728 | 0.9900000 |
| Isopropylbenzene | AVRG | | 1.48070600 | | 8.062 | 15.000 |
| m,p-Xylenes | AVRG | | 0.62439142 | | 7.010 | 15.000 |
| Methylene Chloride | AVRG | | 0.50138203 | | 7.098 | 15.000 |
| n-Butylbenzene | AVRG | | 2.34785648 | | 12.003 | 15.000 |
| n-Propylbenzene | AVRG | | 3.54120408 | | 8.079 | 15.000 |
| Naphthalene | LINR | 6.205e-002 | 1.42523240 | | 0.9969447 | 0.9900000 |
| o-Xylene | AVRG | | 0.60729113 | | 5.006 | 15.000 |
| sec-Butylbenzene | AVRG | | 2.93063409 | | 9.421 | 15.000 |
| Styrene | LINR | 3.526e-002 | 0.84676544 | | 0.9993765 | 0.9900000 |
| Vinyl Chloride | AVRG | | 0.60367291 | | 9.968 | 15.000 |
| 1,2,3-Trichloropropane | LINR | -1.23e-002 | 1.49190380 | | 0.9985771 | 0.9900000 |
| p-Isopropyltoluene | AVRG | | 2.46870248 | | 9.462 | 15.000 |
| 1,2-Dibromo-3-Chloropropane | LINR | 3.21e-002 | 14.3600447 | | 0.9984415 | 0.9900000 |
| 1,2-Dichloroethane-d4 | LINR | -2.54e-002 | 1.57628033 | | 0.9986859 | 0.9900000 |
| Dibromofluoromethane | LINR | -4.56e-003 | 1.80361438 | | 0.9994050 | 0.9900000 |
| Toluene-d8 | LINR | 2.027e-002 | 0.79767420 | | 0.9950610 | 0.9900000 |
| 4-Bromofluorobenzene | LINR | 2.432e-003 | 2.11361156 | | 0.9991459 | 0.9900000 |

FORM VI VOA

# FORM 7B
## VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS LABORATORY GROUP  Contract:

Lab Code: ALS-HS  Case No.:  SAS No.:  SDG No.: HS21050553

Instrument ID: VOA6  Calibration Date: 05/18/21  Time: 2140

Lab File ID: X051830  Init. Calib. Date(s): 05/18/21  05/18/21

Init. Calib. Times: 1123  1452

GC Column: DB624  ID: 0.18 (mm)

| COMPOUND | RRF or AMOUNT | RRF50.000 or AMOUNT | CCAL RRF50.000 | MIN RRF | %D or %DRIFT | MAX %D or %DRIFT | CURV TYPE |
|---|---|---|---|---|---|---|---|
| cis-1,3-Dichloropropene | 0.5480000 | 0.5566097 | 0.5566097 | 0.2 | -1.57 | 50.00 | AVRG |
| trans-1,3-Dichloropropene | 0.4790000 | 0.5013231 | 0.5013231 | 0.1 | -4.66 | 50.00 | AVRG |
| 1,3-Dichlorobenzene | 1.4360000 | 1.3999199 | 1.3999199 | 0.6 | 2.51 | 50.00 | AVRG |
| 2,2-Dichloropropane | 0.8280000 | 0.7878951 | 0.7878951 | 0.1 | 4.84 | 50.00 | AVRG |
| 1,1-Dichloropropene | 0.4280000 | 0.4137262 | 0.4137262 | 0.1 | 3.34 | 50.00 | AVRG |
| Dibromomethane | 0.2410000 | 0.2315305 | 0.2315305 | 0.1 | 3.93 | 50.00 | AVRG |
| 1,2-Dibromoethane | 0.3490000 | 0.3514073 | 0.3514073 | 0.1 | -0.69 | 50.00 | AVRG |
| trans-1,2-Dichloroethene | 0.4810000 | 0.4744952 | 0.4744952 | 0.1 | 1.35 | 50.00 | AVRG |
| 1,1,1,2-Tetrachloroethane | 0.3640000 | 0.3525812 | 0.3525812 | 0.1 | 3.14 | 50.00 | AVRG |
| 1,1,1-Trichloroethane | 0.8500000 | 0.8516194 | 0.8516194 | 0.1 | -0.19 | 50.00 | AVRG |
| 1,1,2,2-Tetrachloroethane | 46.791650 | 50.000000 | 0.7756411 | 0.3 | 6.42 | 50.00 | LINR |
| 1,1,2-Trichloroethane | 0.2900000 | 0.2827000 | 0.2827000 | 0.1 | 2.52 | 50.00 | AVRG |
| 1,1-Dichloroethane | 0.9260000 | 0.9290675 | 0.9290675 | 0.2 | -0.33 | 50.00 | AVRG |
| 1,1-Dichloroethene | 0.5000000 | 0.4371565 | 0.4371565 | 0.1 | 12.57 | 50.00 | AVRG |
| Trichloroethene | 0.3310000 | 0.3219782 | 0.3219782 | 0.2 | 2.72 | 50.00 | AVRG |
| 1,2,3-Trichlorobenzene | 41.165480 | 50.000000 | 0.1946121 | 0.01 | 17.67 | 50.00 | 2RDR |
| Trichlorofluoromethane | 0.9610000 | 0.8670345 | 0.8670345 | 0.1 | 9.78 | 50.00 | AVRG |
| 1,2,4-Trichlorobenzene | 41.312532 | 50.000000 | 0.3671571 | 0.1 | 17.37 | 50.00 | LINR |
| 1,2,4-Trimethylbenzene | 2.5430000 | 2.5270541 | 2.5270541 | 0.1 | 0.63 | 50.00 | AVRG |
| Tetrachloroethene | 0.2780000 | 0.2788146 | 0.2788146 | 0.2 | -0.29 | 50.00 | AVRG |
| 1,2-Dichlorobenzene | 1.4010000 | 1.2697447 | 1.2697447 | 0.4 | 9.37 | 50.00 | AVRG |
| 1,2-Dichloroethane | 0.4910000 | 0.4884643 | 0.4884643 | 0.1 | 0.52 | 50.00 | AVRG |
| 1,2-Dichloropropane | 0.3360000 | 0.3240021 | 0.3240021 | 0.1 | 3.57 | 50.00 | AVRG |
| 1,3,5-Trimethylbenzene | 2.4960000 | 2.4713232 | 2.4713232 | 0.1 | 0.99 | 50.00 | AVRG |
| 1,3-Dichloropropane | 0.5690000 | 0.5531426 | 0.5531426 | 0.1 | 2.79 | 50.00 | AVRG |
| 1,4-Dichlorobenzene | 48.072437 | 50.000000 | 1.4120255 | 0.4 | 3.86 | 50.00 | LINR |
| Toluene | 1.4430000 | 1.4663063 | 1.4663063 | 0.4 | -1.62 | 50.00 | AVRG |
| 2-Butanone | 0.1850000 | 0.1686305 | 0.1686305 | 0.1 | 8.85 | 50.00 | AVRG |
| 2-Chlorotoluene | 2.2280000 | 2.0940627 | 2.0940627 | 0.1 | 6.01 | 50.00 | AVRG |
| 2-Hexanone | 88.691640 | 100.00000 | 0.1880983 | 0.1 | 11.31 | 50.00 | LINR |
| 4-Chlorotoluene | 2.5980000 | 2.5491171 | 2.5491171 | 0.1 | 1.88 | 50.00 | AVRG |
| tert-Butylbenzene | 2.1180000 | 2.0237190 | 2.0237190 | 0.1 | 4.45 | 50.00 | AVRG |
| 4-Methyl-2-Pentanone | 91.368124 | 100.00000 | 0.2909359 | 0.1 | 8.63 | 50.00 | LINR |
| Acetone | 92.788139 | 100.00000 | 0.1177245 | 0.1 | 7.21 | 50.00 | LINR |
| Benzene | 1.2370000 | 1.2433907 | 1.2433907 | 0.5 | -0.52 | 50.00 | AVRG |
| Bromobenzene | 0.8340000 | 0.7823363 | 0.7823363 | 0.1 | 6.19 | 50.00 | AVRG |
| Bromochloromethane | 0.3050000 | 0.2929180 | 0.2929180 | 0.1 | 3.96 | 50.00 | AVRG |
| Bromodichloromethane | 0.4830000 | 0.4760273 | 0.4760273 | 0.2 | 1.44 | 50.00 | AVRG |
| Bromoform | 0.2420000 | 0.2284303 | 0.2284303 | 0.1 | 5.61 | 50.00 | AVRG |
| Bromomethane | 49.595555 | 50.000000 | 0.5213276 | 0.1 | 0.81 | 50.00 | LINR |
| Carbon Disulfide | 1.1780000 | 1.2313017 | 1.2313017 | 0.1 | -4.52 | 50.00 | AVRG |
| Carbon Tetrachloride | 0.4360000 | 0.4063831 | 0.4063831 | 0.1 | 6.79 | 50.00 | AVRG |



FORM VII VOA

# FORM 7B
## VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS LABORATORY GROUP  Contract:

Lab Code: ALS-HS  Case No.:  SAS No.:  SDG No.: HS2105055

Instrument ID: VOA6  Calibration Date: 05/18/21  Time: 2140

Lab File ID: X051830  Init. Calib. Date(s): 05/18/21  05/18/21

Init. Calib. Times: 1123  1452

GC Column: DB624  ID: 0.18 (mm)

| COMPOUND | RRF or AMOUNT | RRF50.000 or AMOUNT | CCAL RRF50.000 | MIN RRF | %D or %DRIFT | MAX %D or %DRIFT | CURV TYPE |
|---|---|---|---|---|---|---|---|
| Chlorobenzene | 0.9800000 | 0.9534663 | 0.9534663 | 0.5 | 2.71 | 50.00 | AVRG |
| Chloroethane | 0.3780000 | 0.3990408 | 0.3990408 | 0.1 | -5.57 | 50.00 | AVRG |
| Chloroform | 1.0620000 | 1.0443922 | 1.0443922 | 0.2 | 1.66 | 50.00 | AVRG |
| Chloromethane | 51.536569 | 50.000000 | 0.5559025 | 0.1 | -3.07 | 50.00 | LINR |
| cis-1,2-Dichloroethene | 0.5760000 | 0.5576641 | 0.5576641 | 0.1 | 3.18 | 50.00 | AVRG |
| Dibromochloromethane | 0.3900000 | 0.3897324 | 0.3897324 | 0.1 | 0.07 | 50.00 | AVRG |
| Dichlorodifluoromethane | 47.549882 | 50.000000 | 0.5970457 | 0.1 | 4.90 | 50.00 | LINR |
| Ethylbenzene | 0.4840000 | 0.4864456 | 0.4864456 | 0.1 | -0.50 | 50.00 | AVRG |
| Hexachlorobutadiene | 43.157925 | 50.000000 | 0.2561790 | 0.1 | 13.68 | 50.00 | LINR |
| Isopropylbenzene | 1.4800000 | 1.4972743 | 1.4972743 | 0.1 | -1.17 | 50.00 | AVRG |
| m,p-Xylenes | 0.6240000 | 0.6437893 | 0.6437893 | 0.1 | -3.17 | 50.00 | AVRG |
| Methylene Chloride | 0.5010000 | 0.5092740 | 0.5092740 | 0.1 | -1.65 | 50.00 | AVRG |
| n-Butylbenzene | 2.3480000 | 2.2569174 | 2.2569174 | 0.5 | 3.88 | 50.00 | AVRG |
| n-Propylbenzene | 3.5410000 | 3.4825319 | 3.4825319 | 0.1 | 1.65 | 50.00 | AVRG |
| Naphthalene | 40.031482 | 50.000000 | 0.5182189 | 0.2 | 19.94 | 50.00 | LINR |
| o-Xylene | 0.6070000 | 0.6032678 | 0.6032678 | 0.3 | 0.61 | 50.00 | AVRG |
| sec-Butylbenzene | 2.9310000 | 2.8187700 | 2.8187700 | 0.1 | 3.83 | 50.00 | AVRG |
| Styrene | 46.719359 | 50.000000 | 1.0618380 | 0.3 | 6.56 | 50.00 | LINR |
| Vinyl Chloride | 0.6040000 | 0.5408004 | 0.5408004 | 0.1 | 10.46 | 50.00 | AVRG |
| 1,2,3-Trichloropropane | 47.264496 | 50.000000 | 0.6418783 | 0.1 | 5.47 | 50.00 | LINR |
| p-Isopropyltoluene | 2.4690000 | 2.3758630 | 2.3758630 | 0.1 | 3.77 | 50.00 | AVRG |
| 1,2-Dibromo-3-Chloropropane | 42.770017 | 50.000000 | 5.73e-002 | 0.05 | 14.46 | 50.00 | LINR |
| 1,2-Dichloroethane-d4 | 53.420567 | 50.000000 | 0.6939279 | 0.1 | -6.84 | 50.00 | LINR |
| Dibromofluoromethane | 52.896050 | 50.000000 | 0.5890850 | 0.1 | -5.79 | 50.00 | LINR |
| Toluene-d8 | 51.251332 | 50.000000 | 1.2596030 | 0.1 | -2.50 | 50.00 | LINR |
| 4-Bromofluorobenzene | 52.451966 | 50.000000 | 0.4951748 | 0.1 | -4.90 | 50.00 | LINR |



FORM VII VOA

# FORM 8
## VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ALS LABORATORY GROUP  Contract:

Lab Code: ALS-HS  Case No.:  SAS No.:  SDG No.: HS21050553

Lab File ID (Standard): X051830  Date Analyzed: 05/18/21

Instrument ID: VOA6  Time Analyzed: 2140

GC Column: DB624  ID: 0.18 (mm)  Heated Purge: (Y/N) N

| | | IS1(CBZ) AREA # | RT # | IS2(DFB) AREA # | RT # | IS3(DCB) AREA # | RT # |
|---|---|---|---|---|---|---|---|
| | 12 HOUR STD | 459151 | 7.67 | 483716 | 4.96 | 239723 | 9.66 |
| | UPPER LIMIT | 918302 | 8.17 | 967432 | 5.46 | 479446 | 10.16 |
| | LOWER LIMIT | 229576 | 7.17 | 241858 | 4.46 | 119862 | 9.16 |
| | CLIENT SAMPLE NO. | | | | | | |
| 01 | VLCSW-210518 | 435248 | 7.67 | 454349 | 4.96 | 217306 | 9.66 |
| 02 | VBLKW-210518 | 441438 | 7.67 | 483775 | 4.96 | 195367 | 9.66 |
| 03 | HS21050553-03 | 400513 | 7.67 | 449549 | 4.96 | 180387 | 9.66 |
| 04 | HS21050553-01 | 402458 | 7.67 | 457288 | 4.97 | 171966 | 9.66 |
| 05 | HS21050689-01MS | 455044 | 7.67 | 481210 | 4.96 | 227275 | 9.66 |
| 06 | HS21050689-01MSD | 456259 | 7.67 | 491541 | 4.96 | 222997 | 9.66 |
| 07 | | | | | | | |
| 08 | | | | | | | |
| 09 | | | | | | | |
| 10 | | | | | | | |
| 11 | | | | | | | |
| 12 | | | | | | | |
| 13 | | | | | | | |
| 14 | | | | | | | |
| 15 | | | | | | | |
| 16 | | | | | | | |
| 17 | | | | | | | |
| 18 | | | | | | | |
| 19 | | | | | | | |
| 20 | | | | | | | |

IS1 (CBZ) = Chlorobenzene-d5
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (DCB) = 1,4-Dichlorobenzene-d4

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 values outside QC limits with an asterisk.
* Values outside of QC limits.



FORM VIII VOA

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ALS LABORATORY GROUP  Contract:

Lab Code: ALS-HS  Case No.:  SAS No.:  SDG No.: HS21050553

Lab File ID (Standard): X051830  Date Analyzed: 05/18/21

Instrument ID: VOA6  Time Analyzed: 2140

GC Column: DB624  ID: 0.18 (mm)  Heated Purge: (Y/N) N

| | | IS4 AREA # | RT # | AREA # | RT # | AREA # | RT # |
|---|---|---|---|---|---|---|---|
| | 12 HOUR STD | 284397 | 4.18 | | | | |
| | UPPER LIMIT | 568794 | 4.68 | | | | |
| | LOWER LIMIT | 142199 | 3.68 | | | | |
| | CLIENT SAMPLE NO. | | | | | | |
| 01 | VLCSW-210518 | 284418 | 4.18 | | | | |
| 02 | VBLKW-210518 | 313668 | 4.18 | | | | |
| 03 | HS21050553-03 | 289755 | 4.18 | | | | |
| 04 | HS21050553-01 | 293929 | 4.18 | | | | |
| 05 | HS21050689-01MS | 309593 | 4.18 | | | | |
| 06 | HS21050689-01MSD | 314237 | 4.18 | | | | |
| 07 | | | | | | | |
| 08 | | | | | | | |
| 09 | | | | | | | |
| 10 | | | | | | | |
| 11 | | | | | | | |
| 12 | | | | | | | |
| 13 | | | | | | | |
| 14 | | | | | | | |
| 15 | | | | | | | |
| 16 | | | | | | | |
| 17 | | | | | | | |
| 18 | | | | | | | |
| 19 | | | | | | | |
| 20 | | | | | | | |

IS4 = Pentafluorobenzene

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 values outside QC limits with an asterisk.
* Values outside of QC limits.



FORM VIII VOA

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051801.D

Date : 18-MAY-2021 11:02

Client ID: BFB

Instrument: voa6.i

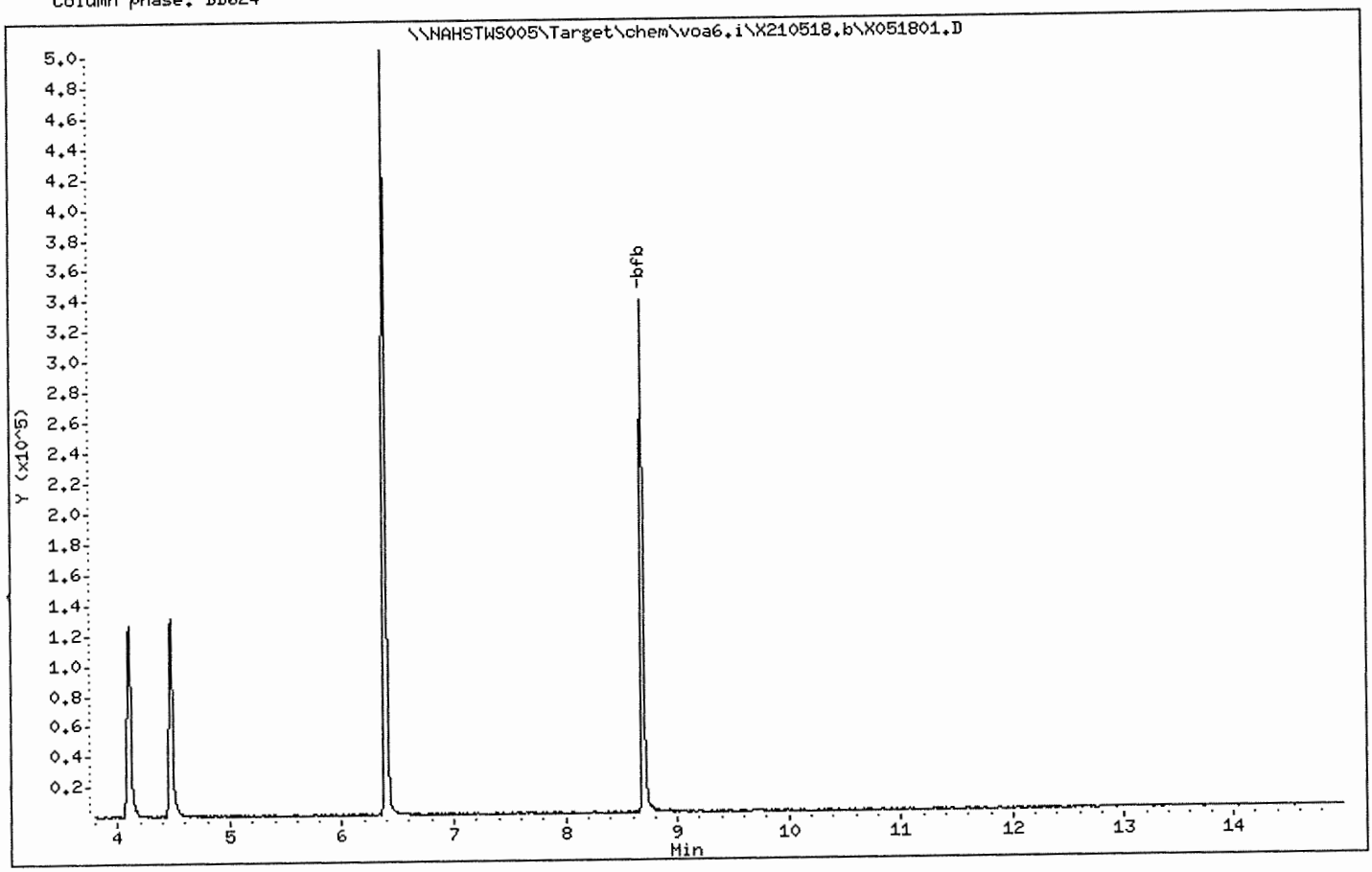
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051801.D



Date : 18-MAY-2021 11:02

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

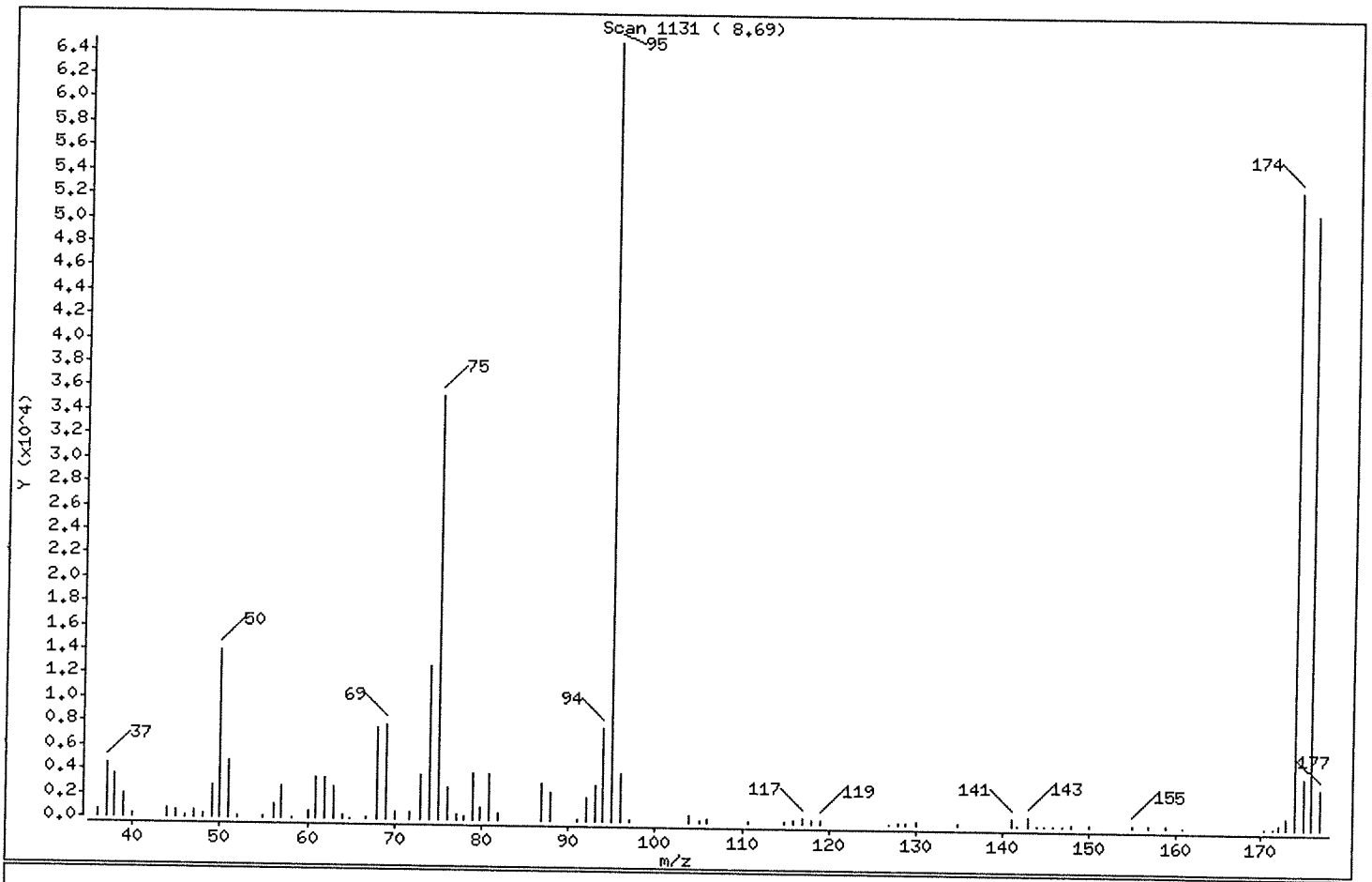
Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25

1 bfb




| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 95 | Base Peak, 100% relative abundance | 100.00 |
| 50 | 15.00 - 40.00% of mass 95 | 21.57 |
| 75 | 30.00 - 60.00% of mass 95 | 54.58 |
| 96 | 5.00 - 9.00% of mass 95 | 6.22 |
| 173 | Less than 2.00% of mass 174 | 1.30 ( 1.59) |
| 174 | Greater than 50.00% of mass 95 | 81.67 |
| 175 | 5.00 - 9.00% of mass 174 | 6.39 ( 7.82) |
| 176 | 95.00 - 101.00% of mass 174 | 78.52 ( 96.15) |
| 177 | 5.00 - 9.00% of mass 176 | 5.15 ( 6.56) |

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051801.D



Date : 18-MAY-2021 11:02

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: X051801.D
Spectrum: Scan 1131 ( 8.69)
Location of Maximum: 95.00
Number of points: 83

| m/z | Y | m/z | Y | m/z | Y | m/z | Y |
|---|---|---|---|---|---|---|---|
| 36.00 | 659 | 63.00 | 2721 | 92.00 | 1901 | 141.70 | 64 |
| 37.00 | 4492 | 64.00 | 282 | 93.00 | 2997 | 142.80 | 715 |
| 38.00 | 3512 | 64.80 | 58 | 94.00 | 7815 | 143.90 | 60 |
| 39.00 | 1875 | 66.80 | 141 | 95.00 | 64840 | 144.80 | 50 |
| 40.00 | 367 | 68.00 | 7559 | 96.00 | 4033 | 145.80 | 52 |
| 44.00 | 753 | 69.00 | 7848 | 97.00 | 80 | 146.80 | 54 |
| 45.00 | 666 | 70.10 | 653 | 103.90 | 627 | 147.90 | 169 |
| 46.00 | 85 | 71.80 | 523 | 105.00 | 166 | 149.90 | 76 |
| 47.00 | 657 | 73.00 | 3762 | 105.90 | 293 | 154.90 | 186 |
| 48.00 | 369 | 74.00 | 12856 | 110.80 | 120 | 156.80 | 95 |
| 49.00 | 2757 | 75.00 | 35392 | 114.90 | 109 | 158.80 | 137 |
| 50.00 | 13984 | 76.00 | 2705 | 115.90 | 319 | 160.80 | 61 |
| 51.00 | 4819 | 77.00 | 459 | 116.90 | 497 | 170.50 | 59 |
| 52.00 | 122 | 77.90 | 266 | 118.00 | 279 | 171.40 | 59 |
| 54.90 | 202 | 78.90 | 3898 | 118.90 | 355 | 172.10 | 229 |
| 56.10 | 1223 | 79.90 | 1045 | 126.90 | 66 | 172.90 | 844 |
| 57.00 | 2742 | 80.90 | 3915 | 128.00 | 208 | 173.90 | 52952 |
| 58.20 | 65 | 81.90 | 608 | 128.70 | 126 | 174.90 | 4142 |
| 60.00 | 659 | 86.90 | 3136 | 129.90 | 279 | 175.90 | 50912 |
| 61.00 | 3477 | 87.90 | 2433 | 134.80 | 103 | 176.90 | 3338 |
| 62.00 | 3463 | 90.90 | 216 | 140.90 | 646 | | |

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051802.D
Lab Smp Id: VSDT000.25 Client Smp ID: VSTD000.25
Inj Date : 18-MAY-2021 11:23
Operator : PC Inst ID: voa6.i
Smp Info : VSDT000.25;VSTD000.25;1;1;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210518.b\8260W.m
Meth Date : 08-Jun-2021 11:42 voa6.i Quant Type: ISTD
Cal Date : 18-MAY-2021 14:52 Cal File: X051811.D
Als bottle: 2 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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 | 4.182 | 4.182 | (1.000) | 259430 | 50.0000 | |
| * 36 1,4-Difluorobenzene | 114 | 4.970 | 4.970 | (1.000) | 431449 | 50.0000 | |
| * 47 Chlorobenzene-d5 | 117 | 7.670 | 7.670 | (1.000) | 398320 | 50.0000 | |
| * 70 1,4-Dichlorobenzene-d4 | 152 | 9.662 | 9.662 | (1.000) | 184412 | 50.0000 | |
| $ 30 Dibromofluoromethane | 113 | 4.103 | 4.103 | (0.981) | 1710 | 0.25000 | 0.36(a) |
| $ 35 1,2-Dichloroethane-d4 | 65 | 4.483 | 4.483 | (1.072) | 2365 | 0.25000 | (Ta) |
| $ 48 Toluene-d8 | 98 | 6.388 | 6.388 | (0.833) | 6953 | 0.25000 | 1.70(a) |
| $ 69 4-Bromofluorobenzene | 95 | 8.695 | 8.695 | (1.134) | 5204 | 0.25000 | 1.50(a) |
| 60 1,1,1,2-Tetrachloroethane | 131 | 7.771 | 7.771 | (1.013) | 675 | 0.25000 | 0.23(a) |
| 31 1,1,1-Trichloroethane | 97 | 4.082 | 4.082 | (0.976) | 1063 | 0.25000 | 0.24(a) |
| 68 1,1,2,2-Tetrachloroethane | 83 | 8.845 | 8.845 | (0.915) | 589 | 0.25000 | (aM) |
| 53 1,1,2-Trichloroethane | 83 | 6.847 | 6.847 | (0.893) | 614 | 0.25000 | 0.26(a) |
| 22 1,1-Dichloroethane | 63 | 2.929 | 2.929 | (0.700) | 1620 | 0.25000 | 0.33(aM) |
| 11 1,1-Dichloroethene | 96 | 1.911 | 1.911 | (0.457) | 700 | 0.25000 | 0.26(aM) |
| 32 1,1-Dichloropropene | 75 | 4.282 | 4.282 | (0.862) | 1580 | 0.25000 | 0.42(a) |
| 93 1,2,3-Trichlorobenzene | 180 | 11.789 | 11.789 | (1.220) | 70 | 0.25000 | 0.56(aM) |
| 71 1,2,3-Trichloropropane | 75 | 8.874 | 8.874 | (0.918) | 551 | 0.25000 | (aM) |
| 90 1,2,4-Trichlorobenzene | 180 | 11.374 | 11.374 | (1.177) | 245 | 0.25000 | 2.60(aM) |
| 79 1,2,4-Trimethylbenzene | 105 | 9.382 | 9.382 | (0.971) | 2182 | 0.25000 | 0.23(a) |
| 57 1,2-Dibromoethane | 107 | 7.269 | 7.269 | (0.948) | 893 | 0.25000 | 0.32(a) |
| 88 1,2-Dichlorobenzene | 146 | 10.006 | 10.006 | (1.036) | 1360 | 0.25000 | 0.26(a) |
| 33 1,2-Dichloroethane | 62 | 4.555 | 4.555 | (0.916) | 1269 | 0.25000 | 0.29(a) |

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051802.D Page 2
Report Date: 08-Jun-2021 11:42

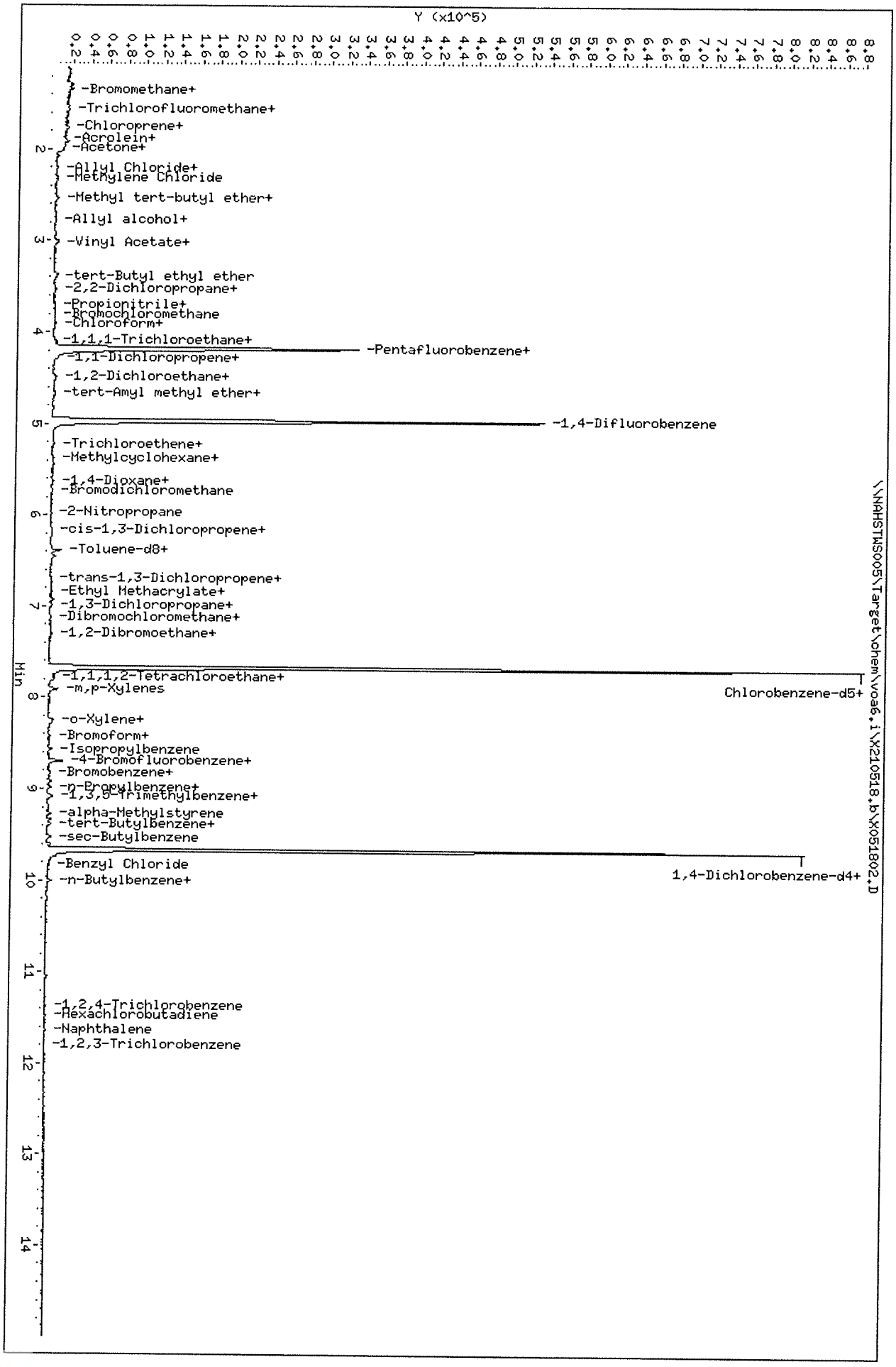
| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|
| 42 1,2-Dichloropropane | 63 | 5.436 | 5.436 | (1.094) | 680 | 0.25000 | 0.23 (aM) |
| 75 1,3,5-Trimethylbenzene | 105 | 9.074 | 9.074 | (0.939) | 2277 | 0.25000 | 0.24 (a) |
| 83 1,3-Dichlorobenzene | 146 | 9.619 | 9.619 | (0.996) | 1349 | 0.25000 | 0.25 (a) |
| 54 1,3-Dichloropropane | 76 | 6.983 | 6.983 | (0.910) | 1203 | 0.25000 | 0.26 (a) |
| 84 1,4-Dichlorobenzene | 146 | 9.683 | 9.683 | (1.002) | 1848 | 0.25000 | 0.59 (a) |
| 26 2,2-Dichloropropane | 77 | 3.523 | 3.523 | (0.842) | 1125 | 0.25000 | 0.26 (aM) |
| 24 2-Butanone | 43 | 3.630 | 3.630 | (0.868) | 349 | 0.50000 | 0.36 (aM) |
| 76 2-Chlorotoluene | 91 | 8.981 | 8.981 | (0.930) | 2422 | 0.25000 | 0.29 (a) |
| 52 2-Hexanone | 43 | 7.119 | 7.119 | (0.928) | 640 | 0.50000 | 0.10 (TaM) |
| 77 4-Chlorotoluene | 91 | 9.082 | 9.082 | (0.940) | 2995 | 0.25000 | 0.31 (a) |
| 82 p-Isopropyltoluene | 119 | 9.655 | 9.655 | (0.999) | 2275 | 0.25000 | 0.24 (a) |
| 45 4-Methyl-2-Pentanone | 43 | 6.331 | 6.331 | (0.825) | 1633 | 0.50000 | 0.73 (aM) |
| 10 Acetone | 43 | 1.983 | 1.983 | (0.474) | 1986 | 0.50000 | (a) |
| 37 Benzene | 78 | 4.519 | 4.519 | (0.909) | 3242 | 0.25000 | 0.30 (a) |
| 74 Bromobenzene | 156 | 8.817 | 8.817 | (0.913) | 788 | 0.25000 | 0.25 (a) |
| 29 Bromochloromethane | 128 | 3.802 | 3.802 | (0.909) | 596 | 0.25000 | 0.37 (aM) |
| 39 Bromodichloromethane | 83 | 5.729 | 5.729 | (1.153) | 1099 | 0.25000 | 0.26 (aM) |
| 66 Bromoform | 173 | 8.415 | 8.415 | (1.097) | 229 | 0.25000 | 0.11 (aM) |
| 6 Bromomethane | 94 | 1.345 | 1.345 | (0.322) | 1349 | 0.25000 | 0.02 (aM) |
| 19 Carbon Disulfide | 76 | 2.069 | 2.069 | (0.495) | 3241 | 0.50000 | 0.53 (aM) |
| 34 Carbon Tetrachloride | 117 | 4.275 | 4.275 | (0.860) | 1043 | 0.25000 | 0.27 (aM) |
| 59 Chlorobenzene | 112 | 7.692 | 7.692 | (1.003) | 1804 | 0.25000 | 0.23 (a) |
| 7 Chloroethane | 64 | 1.396 | 1.396 | (0.334) | 951 | 0.25000 | 0.48 (aM) |
| 28 Chloroform | 83 | 3.917 | 3.917 | (0.937) | 1662 | 0.25000 | 0.30 (a) |
| 3 Chloromethane | 50 | 1.080 | 1.080 | (0.258) | 1250 | 0.25000 | 0.68 (aM) |
| 27 cis-1,2-Dichloroethene | 96 | 3.545 | 3.545 | (0.848) | 627 | 0.25000 | 0.20 (aM) |
| 46 cis-1,3-Dichloropropene | 75 | 6.166 | 6.166 | (1.241) | 1190 | 0.25000 | 0.25 (a) |
| 55 Dibromochloromethane | 129 | 7.176 | 7.176 | (0.936) | 804 | 0.25000 | 0.25 (a) |
| 44 Dibromomethane | 93 | 5.550 | 5.550 | (1.117) | 644 | 0.25000 | 0.30 (aM) |
| 2 Dichlorodifluoromethane | 85 | 0.973 | 0.973 | (0.233) | 789 | 0.25000 | 2.31 (aM) |
| 61 Ethylbenzene | 106 | 7.799 | 7.799 | (1.017) | 684 | 0.25000 | 0.17 (a) |
| 91 Hexachlorobutadiene | 225 | 11.474 | 11.474 | (1.188) | 207 | 0.25000 | 3.36 (aM) |
| 67 Isopropylbenzene | 105 | 8.559 | 8.559 | (1.116) | 2610 | 0.25000 | 0.22 (a) |
| 62 m,p-Xylenes | 106 | 7.914 | 7.914 | (1.032) | 2264 | 0.50000 | 0.45 (a) |
| 17 Methylene Chloride | 84 | 2.312 | 2.312 | (0.553) | 955 | 0.25000 | 0.36 (a) |
| 87 n-Butylbenzene | 91 | 10.013 | 10.013 | (1.036) | 1224 | 0.25000 | 0.14 (a) |
| 73 n-Propylbenzene | 91 | 8.924 | 8.924 | (0.924) | 3266 | 0.25000 | 0.25 (a) |
| 92 Naphthalene | 128 | 11.639 | 11.639 | (1.205) | 140 | 0.25000 | 3.15 (aM) |
| 63 o-Xylene | 106 | 8.243 | 8.243 | (1.075) | 1402 | 0.25000 | 0.28 (a) |
| 81 sec-Butylbenzene | 105 | 9.526 | 9.526 | (0.986) | 2583 | 0.25000 | 0.23 (a) |
| 64 Styrene | 104 | 8.272 | 8.272 | (1.078) | 1817 | 0.25000 | 1.95 (a) |
| 78 tert-Butylbenzene | 119 | 9.339 | 9.339 | (0.967) | 1985 | 0.25000 | 0.25 (a) |
| 56 Tetrachloroethene | 164 | 6.918 | 6.918 | (0.902) | 368 | 0.25000 | 0.16 (aM) |
| 50 Toluene | 91 | 6.453 | 6.453 | (0.841) | 3453 | 0.25000 | 0.30 (a) |
| 20 trans-1,2-Dichloroethene | 96 | 2.527 | 2.527 | (0.604) | 513 | 0.25000 | 0.20 (aM) |
| 51 trans-1,3-Dichloropropene | 75 | 6.689 | 6.689 | (1.346) | 972 | 0.25000 | 0.23 (aM) |
| 38 Trichloroethene | 130 | 5.221 | 5.221 | (1.050) | 865 | 0.25000 | 0.30 (aM) |
| 8 Trichlorofluoromethane | 101 | 1.560 | 1.560 | (0.373) | 1217 | 0.25000 | 0.24 (a) |
| 5 Vinyl Chloride | 62 | 1.145 | 1.145 | (0.274) | 1276 | 0.25000 | 0.40 (a) |

QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).

QC Flag Legend

M - Compound response manually integrated.




Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051802.D
Date : 18-MAY-2021 11:23
Client ID: VSTD000.25
Sample Info: VSDT000.25;VSTD000.25;1;1;;
Purge Volume: 5.0
Column phase: DB624

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

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051803.D
Lab Smp Id: VSDT000.5 Client Smp ID: VSTD000.5
Inj Date : 18-MAY-2021 11:43
Operator : PC Inst ID: voa6.i
Smp Info : VSDT000.5;VSTD000.5;1;2;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210518.b\8260W.m
Meth Date : 08-Jun-2021 11:42 voa6.i Quant Type: ISTD
Cal Date : 18-MAY-2021 11:23 Cal File: X051802.D
Als bottle: 3 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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 |

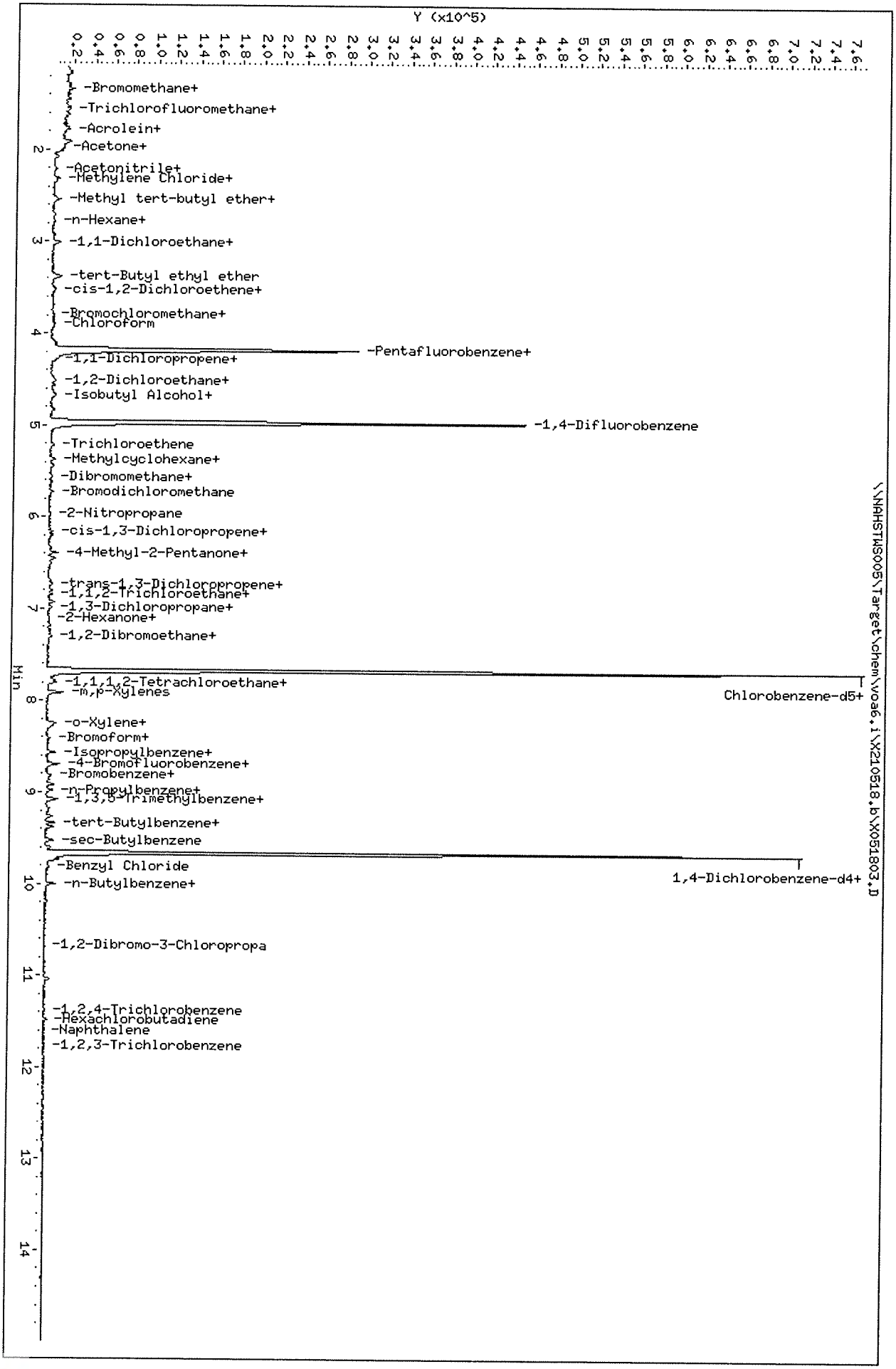
| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|---|
| * | 1 Pentafluorobenzene | 168 | 4.182 | 4.182 | (1.000) | 226673 | 50.0000 | |
| * | 36 1,4-Difluorobenzene | 114 | 4.970 | 4.970 | (1.000) | 364110 | 50.0000 | |
| * | 47 Chlorobenzene-d5 | 117 | 7.671 | 7.671 | (1.000) | 347141 | 50.0000 | |
| * | 70 1,4-Dichlorobenzene-d4 | 152 | 9.662 | 9.662 | (1.000) | 155518 | 50.0000 | |
| $ | 30 Dibromofluoromethane | 113 | 4.103 | 4.103 | (0.981) | 1526 | 0.50000 | 0.37 (aM) |
| $ | 35 1,2-Dichloroethane-d4 | 65 | 4.483 | 4.483 | (1.072) | 1965 | 0.50000 | (Ta) |
| $ | 48 Toluene-d8 | 98 | 6.388 | 6.388 | (0.833) | 4554 | 0.50000 | 1.53 (Ta) |
| $ | 69 4-Bromofluorobenzene | 95 | 8.695 | 8.695 | (1.134) | 3536 | 0.50000 | 1.19 (a) |
| | 60 1,1,1,2-Tetrachloroethane | 131 | 7.778 | 7.778 | (1.014) | 1176 | 0.50000 | 0.46 (a) |
| | 31 1,1,1-Trichloroethane | 97 | 4.089 | 4.089 | (0.978) | 1845 | 0.50000 | 0.47 (a) |
| | 68 1,1,2,2-Tetrachloroethane | 83 | 8.838 | 8.838 | (0.915) | 1276 | 0.50000 | (aM) |
| | 53 1,1,2-Trichloroethane | 83 | 6.847 | 6.847 | (0.893) | 899 | 0.50000 | 0.44 (a) |
| | 22 1,1-Dichloroethane | 63 | 2.929 | 2.929 | (0.700) | 2051 | 0.50000 | 0.48 (Ta) |
| | 11 1,1-Dichloroethene | 96 | 1.919 | 1.919 | (0.459) | 1364 | 0.50000 | 0.60 (aM) |
| | 32 1,1-Dichloropropene | 75 | 4.282 | 4.282 | (0.862) | 1781 | 0.50000 | 0.57 (a) |
| | 93 1,2,3-Trichlorobenzene | 180 | 11.768 | 11.768 | (1.218) | 298 | 0.50000 | 0.89 (aM) |
| | 71 1,2,3-Trichloropropane | 75 | 8.867 | 8.867 | (0.918) | 851 | 0.50000 | (aMH) |
| | 90 1,2,4-Trichlorobenzene | 180 | 11.381 | 11.381 | (1.178) | 425 | 0.50000 | 2.75 (aM) |
| | 79 1,2,4-Trimethylbenzene | 105 | 9.383 | 9.383 | (0.971) | 3798 | 0.50000 | 0.48 (a) |
| | 89 1,2-Dibromo-3-Chloropropane | 155 | 10.672 | 10.672 | (1.105) | 63 | 0.50000 | 1.89 (aM) |
| | 57 1,2-Dibromoethane | 107 | 7.262 | 7.262 | (0.947) | 929 | 0.50000 | 0.38 (a) |
| | 88 1,2-Dichlorobenzene | 146 | 9.999 | 9.999 | (1.035) | 2059 | 0.50000 | 0.47 (a) |

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051803.D Page 2
Report Date: 08-Jun-2021 11:42

| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|
| 33 1,2-Dichloroethane | 62 | 4.569 | 4.569 | (0.919) | 1830 | 0.50000 | 0.51(a) |
| 42 1,2-Dichloropropane | 63 | 5.443 | 5.443 | (1.095) | 1344 | 0.50000 | 0.54(aM) |
| 75 1,3,5-Trimethylbenzene | 105 | 9.075 | 9.075 | (0.939) | 3626 | 0.50000 | 0.46(a) |
| 83 1,3-Dichlorobenzene | 146 | 9.612 | 9.612 | (0.995) | 2018 | 0.50000 | 0.45(a) |
| 54 1,3-Dichloropropane | 76 | 6.990 | 6.990 | (0.911) | 1704 | 0.50000 | 0.43(aM) |
| 84 1,4-Dichlorobenzene | 146 | 9.683 | 9.683 | (1.002) | 2775 | 0.50000 | 0.85(a) |
| 26 2,2-Dichloropropane | 77 | 3.523 | 3.523 | (0.842) | 1844 | 0.50000 | 0.49(aM) |
| 24 2-Butanone | 43 | 3.609 | 3.609 | (0.863) | 942 | 1.00000 | 1.12(aM) |
| 76 2-Chlorotoluene | 91 | 8.981 | 8.981 | (0.930) | 4008 | 0.50000 | 0.57(a) |
| 52 2-Hexanone | 43 | 7.112 | 7.112 | (0.927) | 1113 | 1.00000 | 0.48(Ta) |
| 77 4-Chlorotoluene | 91 | 9.082 | 9.082 | (0.940) | 3941 | 0.50000 | 0.48(a) |
| 82 p-Isopropyltoluene | 119 | 9.655 | 9.655 | (0.999) | 3707 | 0.50000 | 0.48(aM) |
| 45 4-Methyl-2-Pentanone | 43 | 6.331 | 6.331 | (0.825) | 1863 | 1.00000 | 0.92(a) |
| 10 Acetone | 43 | 1.976 | 1.976 | (0.473) | 2121 | 1.00000 | (a) |
| 37 Benzene | 78 | 4.519 | 4.519 | (0.909) | 4678 | 0.50000 | 0.51(a) |
| 74 Bromobenzene | 156 | 8.810 | 8.810 | (0.912) | 1130 | 0.50000 | 0.43(a) |
| 29 Bromochloromethane | 128 | 3.788 | 3.788 | (0.906) | 680 | 0.50000 | 0.49(a) |
| 39 Bromodichloromethane | 83 | 5.729 | 5.729 | (1.153) | 1706 | 0.50000 | 0.48(aM) |
| 66 Bromoform | 173 | 8.408 | 8.408 | (1.096) | 788 | 0.50000 | 0.46(aM) |
| 6 Bromomethane | 94 | 1.338 | 1.338 | (0.320) | 1623 | 0.50000 | 0.21(a) |
| 19 Carbon Disulfide | 76 | 2.069 | 2.069 | (0.495) | 4757 | 1.00000 | 0.89(aM) |
| 34 Carbon Tetrachloride | 117 | 4.268 | 4.268 | (0.859) | 1529 | 0.50000 | 0.48(aM) |
| 59 Chlorobenzene | 112 | 7.692 | 7.692 | (1.003) | 3453 | 0.50000 | 0.50(a) |
| 7 Chloroethane | 64 | 1.403 | 1.403 | (0.336) | 1092 | 0.50000 | 0.63(aM) |
| 28 Chloroform | 83 | 3.910 | 3.910 | (0.935) | 2533 | 0.50000 | 0.52(a) |
| 3 Chloromethane | 50 | 1.081 | 1.081 | (0.258) | 1464 | 0.50000 | 0.83(aM) |
| 27 cis-1,2-Dichloroethene | 96 | 3.538 | 3.538 | (0.846) | 1137 | 0.50000 | 0.43(a) |
| 46 cis-1,3-Dichloropropene | 75 | 6.159 | 6.159 | (1.239) | 1773 | 0.50000 | 0.44(a) |
| 55 Dibromochloromethane | 129 | 7.184 | 7.184 | (0.937) | 1032 | 0.50000 | 0.38(a) |
| 44 Dibromomethane | 93 | 5.565 | 5.565 | (1.120) | 745 | 0.50000 | 0.42(a) |
| 2 Dichlorodifluoromethane | 85 | 0.973 | 0.973 | (0.233) | 1498 | 0.50000 | 2.58(aM) |
| 61 Ethylbenzene | 106 | 7.807 | 7.807 | (1.018) | 1667 | 0.50000 | 0.49(a) |
| 91 Hexachlorobutadiene | 225 | 11.474 | 11.474 | (1.188) | 285 | 0.50000 | 3.47(aM) |
| 67 Isopropylbenzene | 105 | 8.566 | 8.566 | (1.117) | 4923 | 0.50000 | 0.47(a) |
| 62 m,p-Xylenes | 106 | 7.907 | 7.907 | (1.031) | 3953 | 1.00000 | 0.91(a) |
| 17 Methylene Chloride | 84 | 2.305 | 2.305 | (0.551) | 985 | 0.50000 | 0.43(a) |
| 87 n-Butylbenzene | 91 | 10.006 | 10.006 | (1.036) | 3921 | 0.50000 | 0.53(a) |
| 73 n-Propylbenzene | 91 | 8.917 | 8.917 | (0.923) | 5394 | 0.50000 | 0.48(a) |
| 92 Naphthalene | 128 | 11.610 | 11.610 | (1.202) | 406 | 0.50000 | 3.28(aM) |
| 63 o-Xylene | 106 | 8.244 | 8.244 | (1.075) | 2130 | 0.50000 | 0.50(a) |
| 81 sec-Butylbenzene | 105 | 9.526 | 9.526 | (0.986) | 4374 | 0.50000 | 0.47(a) |
| 64 Styrene | 104 | 8.272 | 8.272 | (1.078) | 2465 | 0.50000 | 2.06(a) |
| 78 tert-Butylbenzene | 119 | 9.340 | 9.340 | (0.967) | 3226 | 0.50000 | 0.48(a) |
| 56 Tetrachloroethene | 164 | 6.926 | 6.926 | (0.903) | 928 | 0.50000 | 0.48(a) |
| 50 Toluene | 91 | 6.446 | 6.446 | (0.840) | 4354 | 0.50000 | 0.43(a) |
| 20 trans-1,2-Dichloroethene | 96 | 2.528 | 2.528 | (0.604) | 1135 | 0.50000 | 0.52(a) |
| 51 trans-1,3-Dichloropropene | 75 | 6.696 | 6.696 | (1.347) | 1319 | 0.50000 | 0.37(a) |
| 38 Trichloroethene | 130 | 5.207 | 5.207 | (1.048) | 1104 | 0.50000 | 0.45(a) |
| 8 Trichlorofluoromethane | 101 | 1.561 | 1.561 | (0.373) | 2271 | 0.50000 | 0.52(a) |
| 5 Vinyl Chloride | 62 | 1.145 | 1.145 | (0.274) | 1600 | 0.50000 | 0.58(aM) |

QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

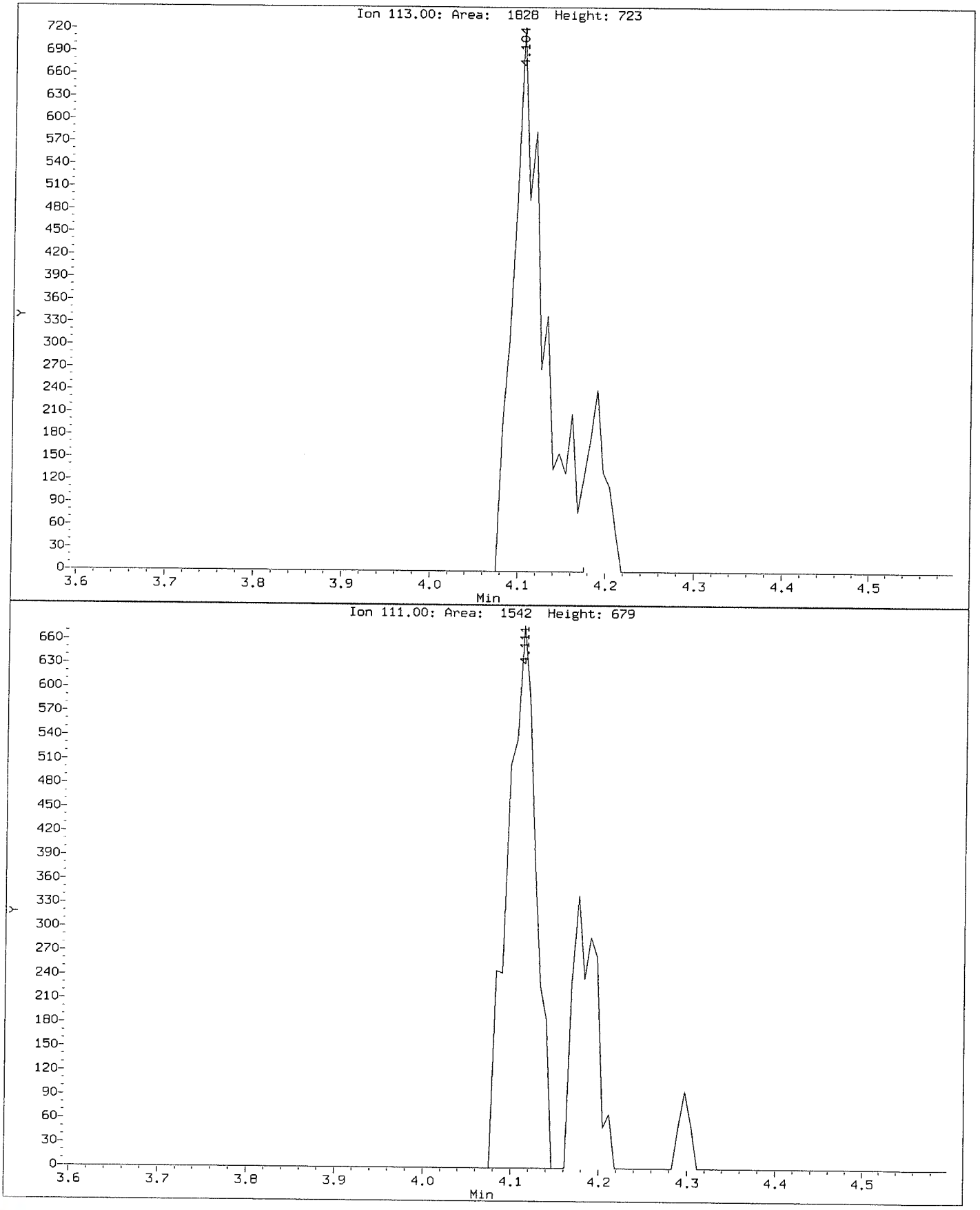



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Sample Info: VSDT000.5;VSTD000.5;1;2;;
Purge Volume: 5.0
Column phase: DB624

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

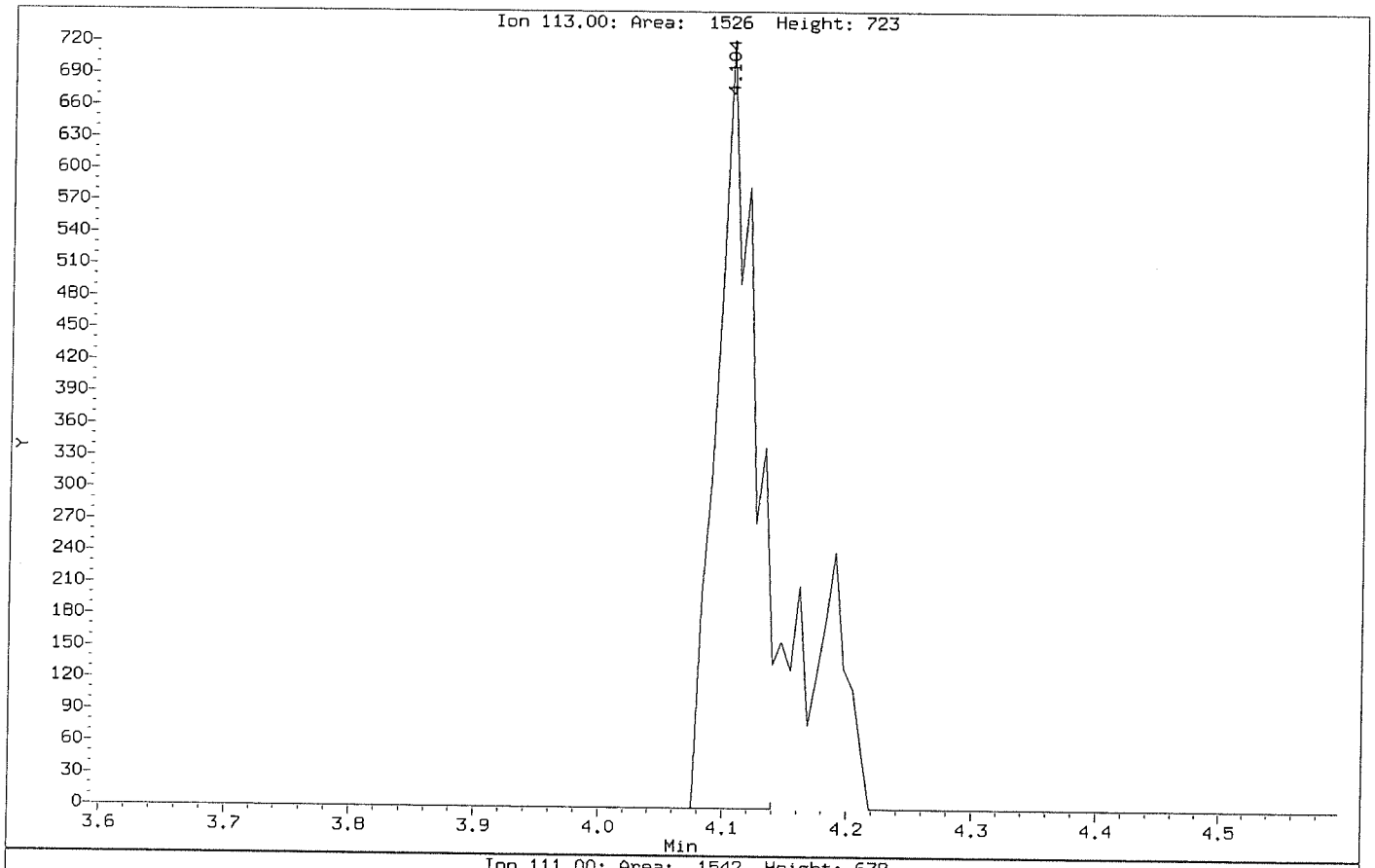
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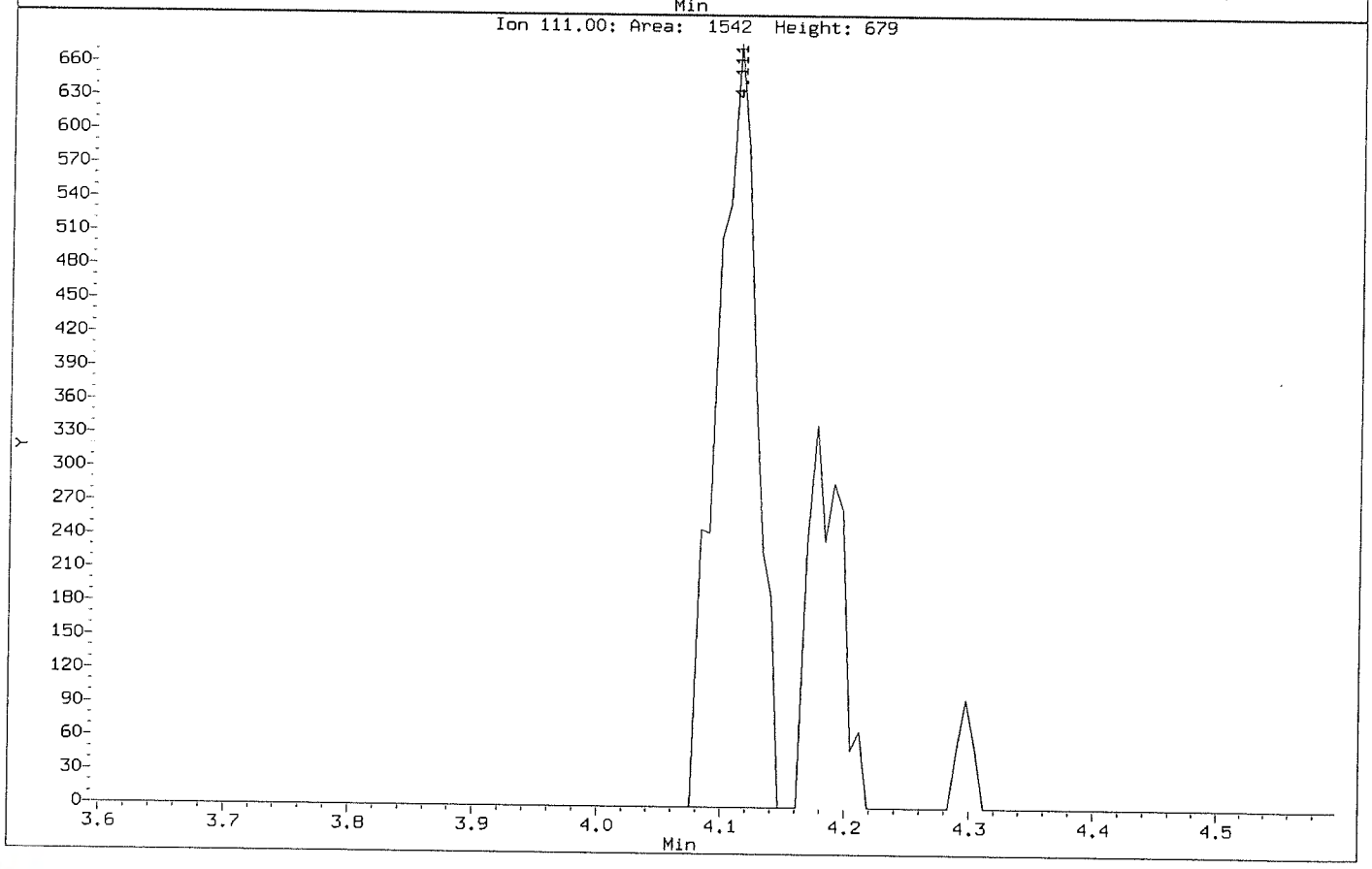
Compound: Dibromofluoromethane
CAS Number: 1868-53-7



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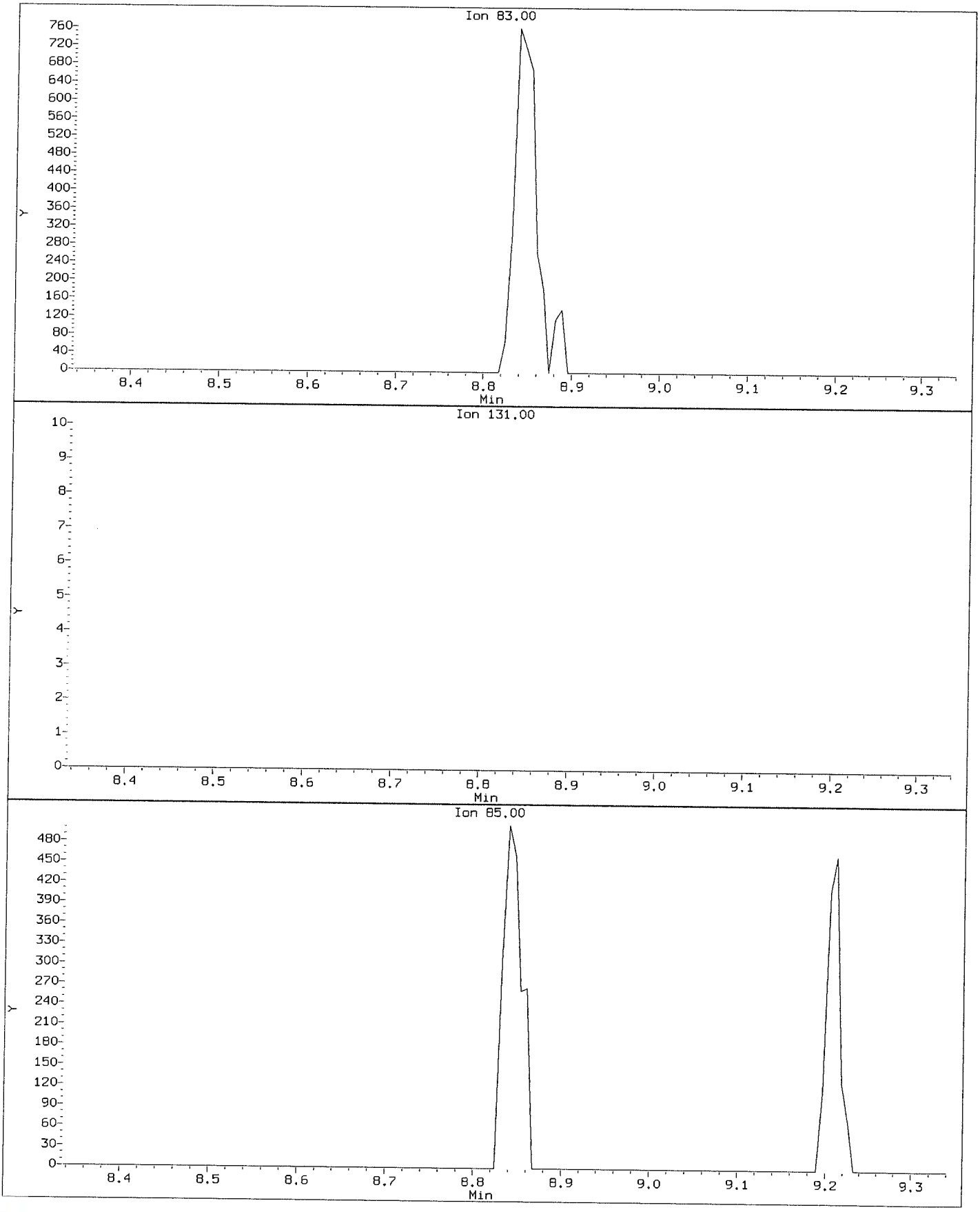
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CAS Number: 1868-53-7



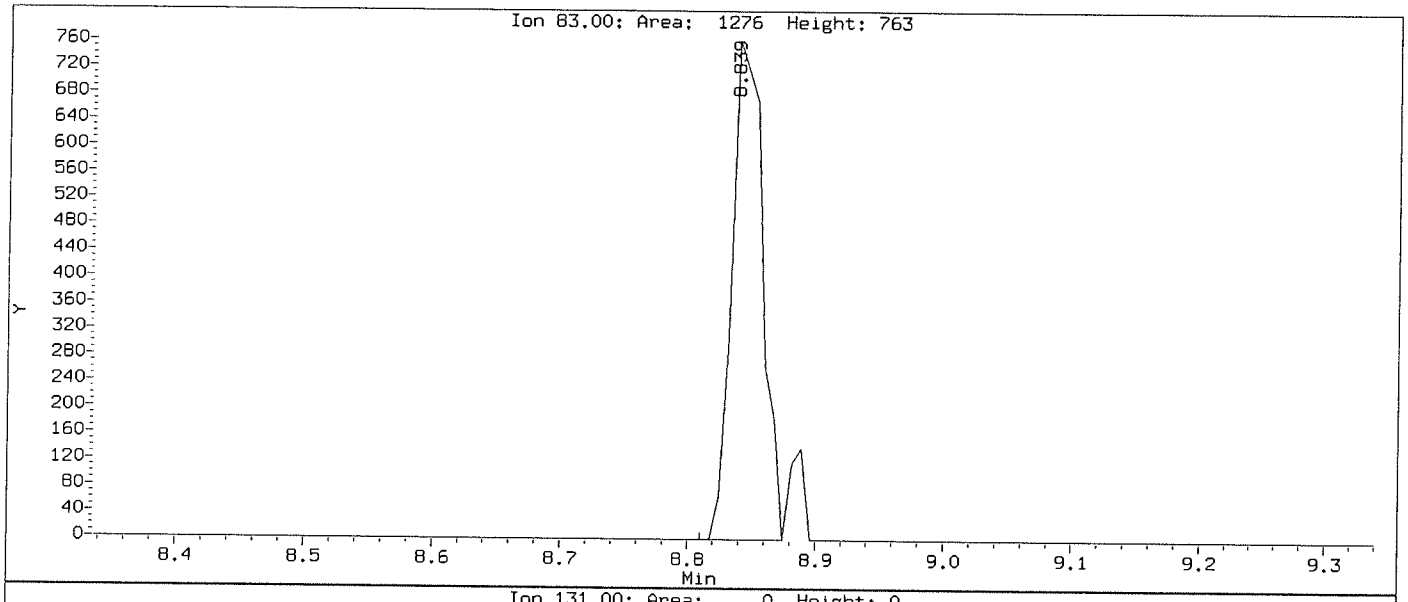
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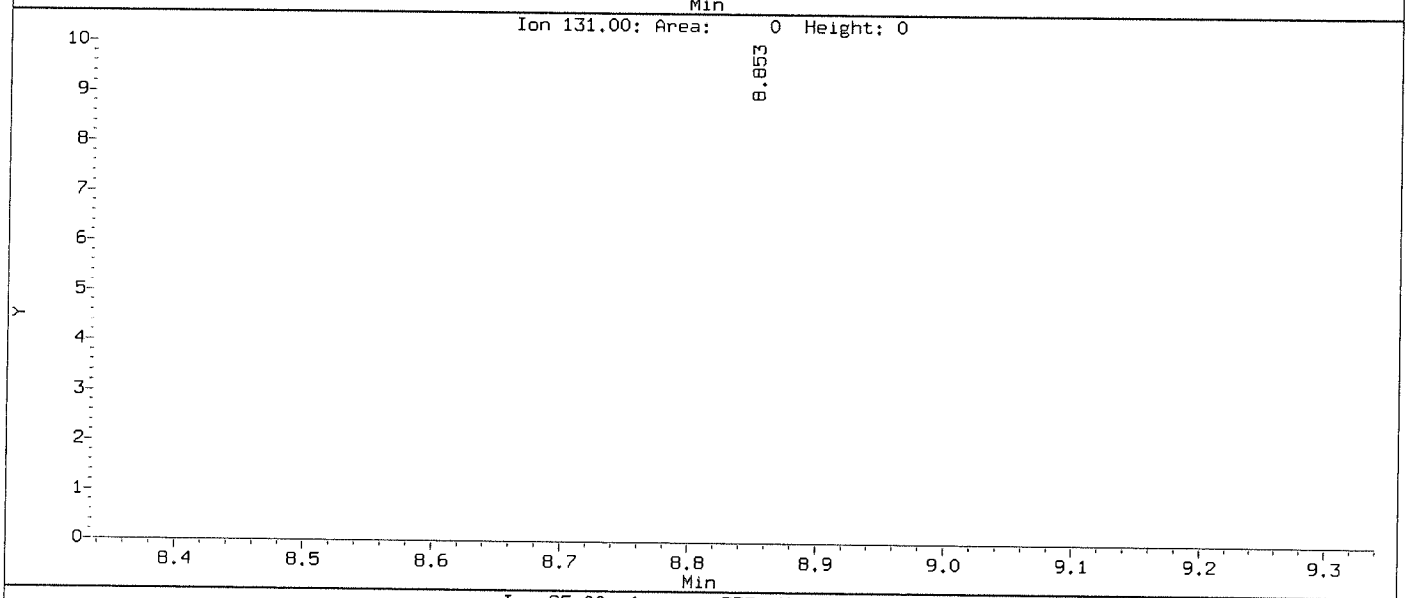
Compound: 1,1,2,2-Tetrachloroethane
CAS Number: 79-34-5

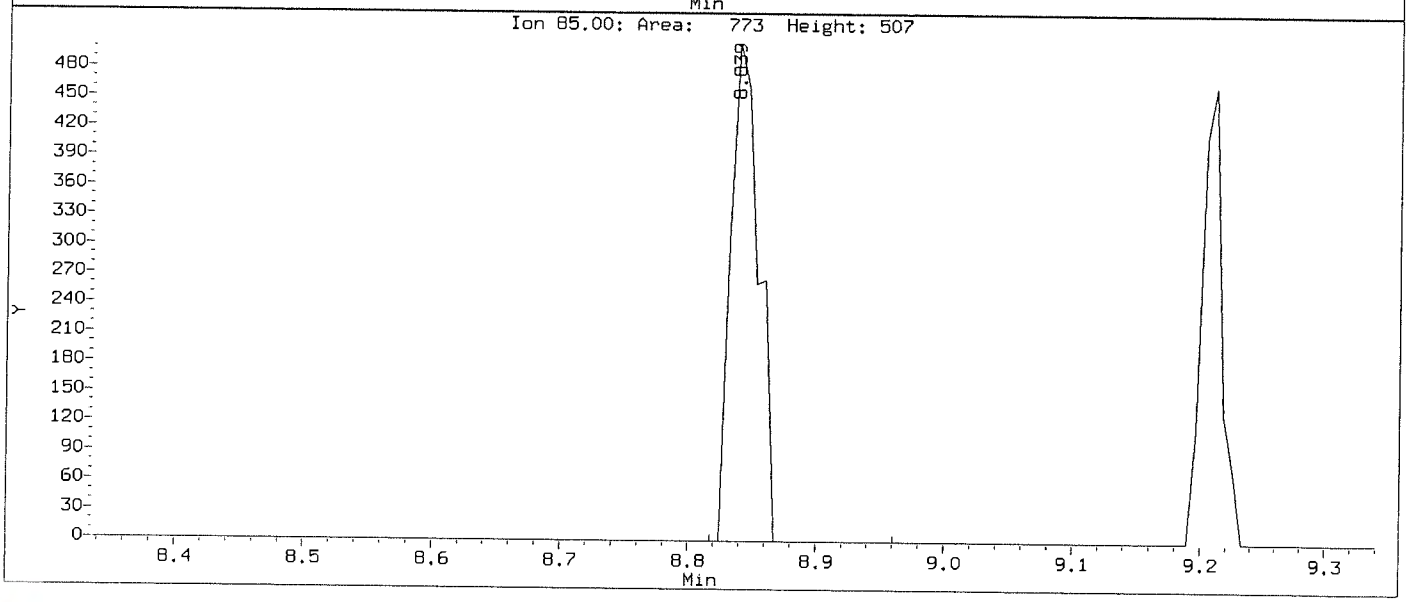


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Compound: 1,1,2,2-Tetrachloroethane
CAS Number: 79-34-5

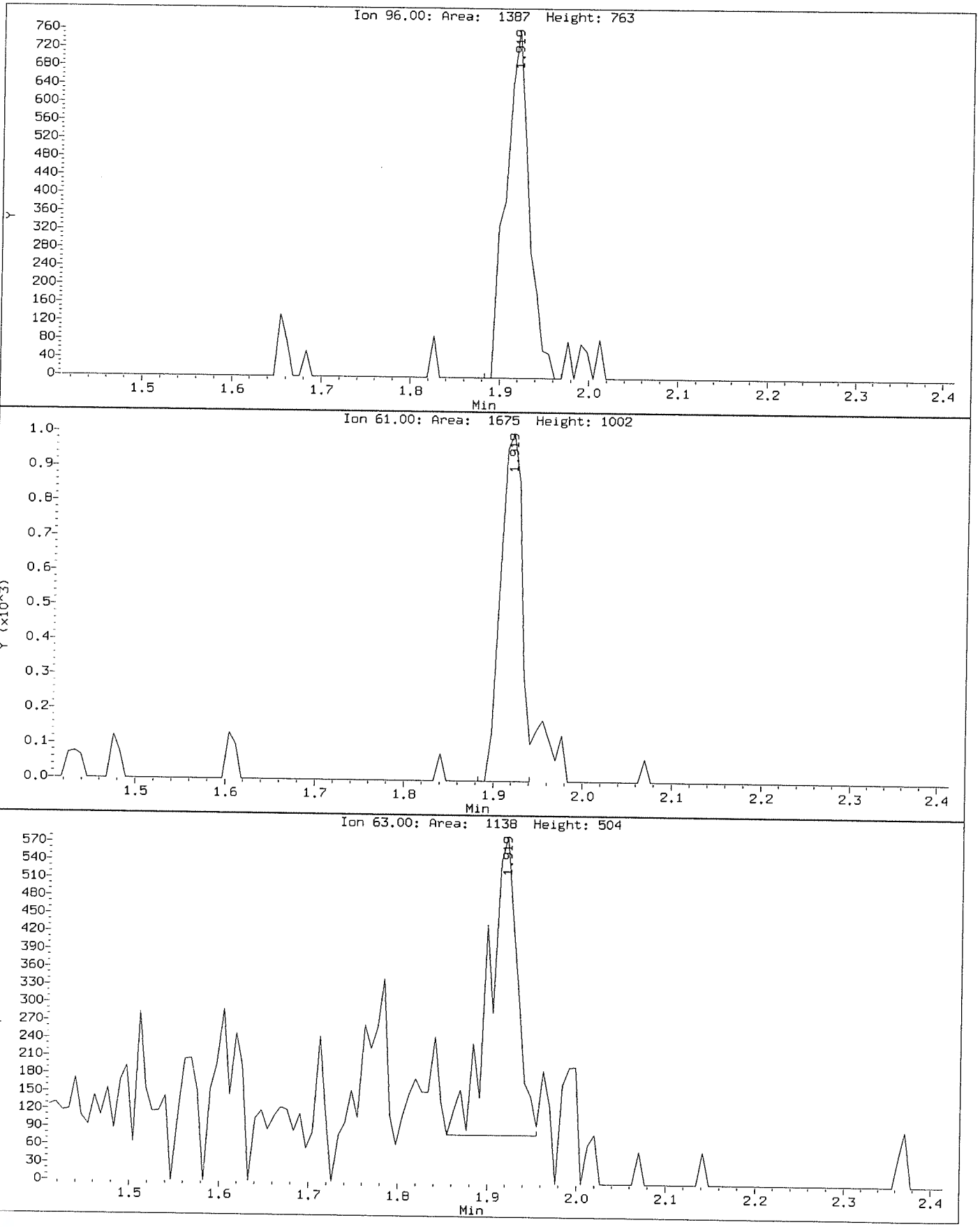


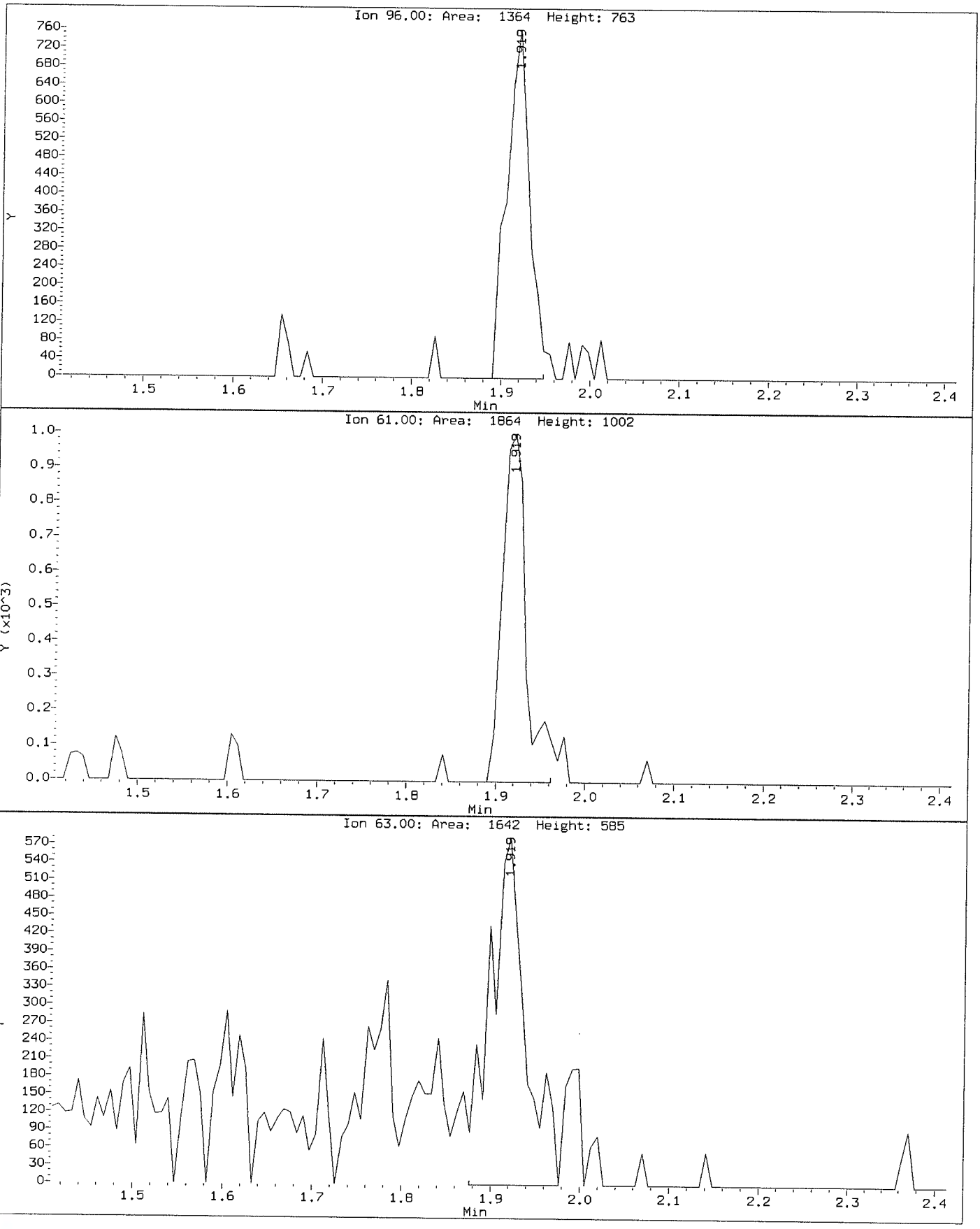
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Compound: 1,1-Dichloroethene
CAS Number: 75-35-4



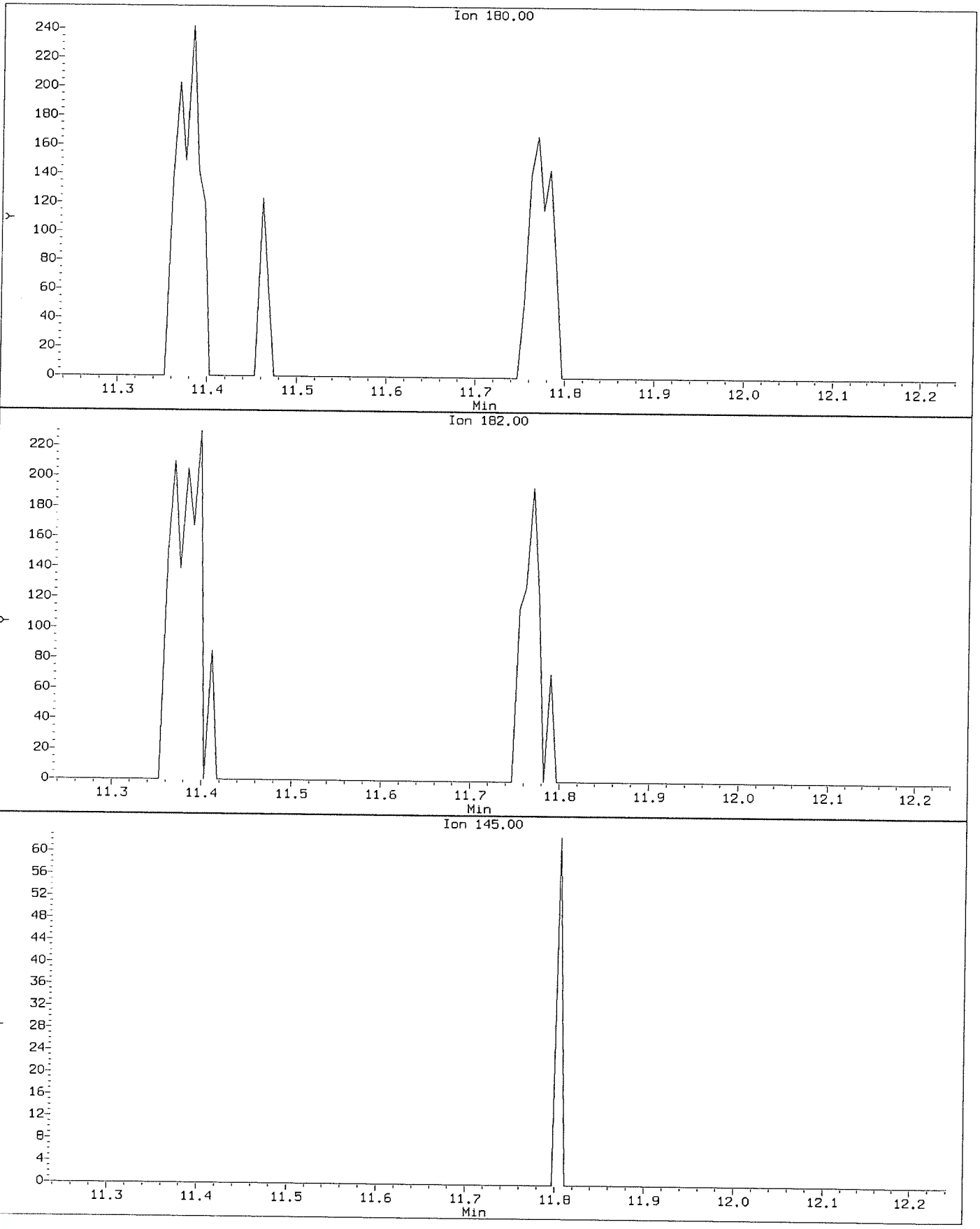
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Compound: 1,1-Dichloroethene
CAS Number: 75-35-4



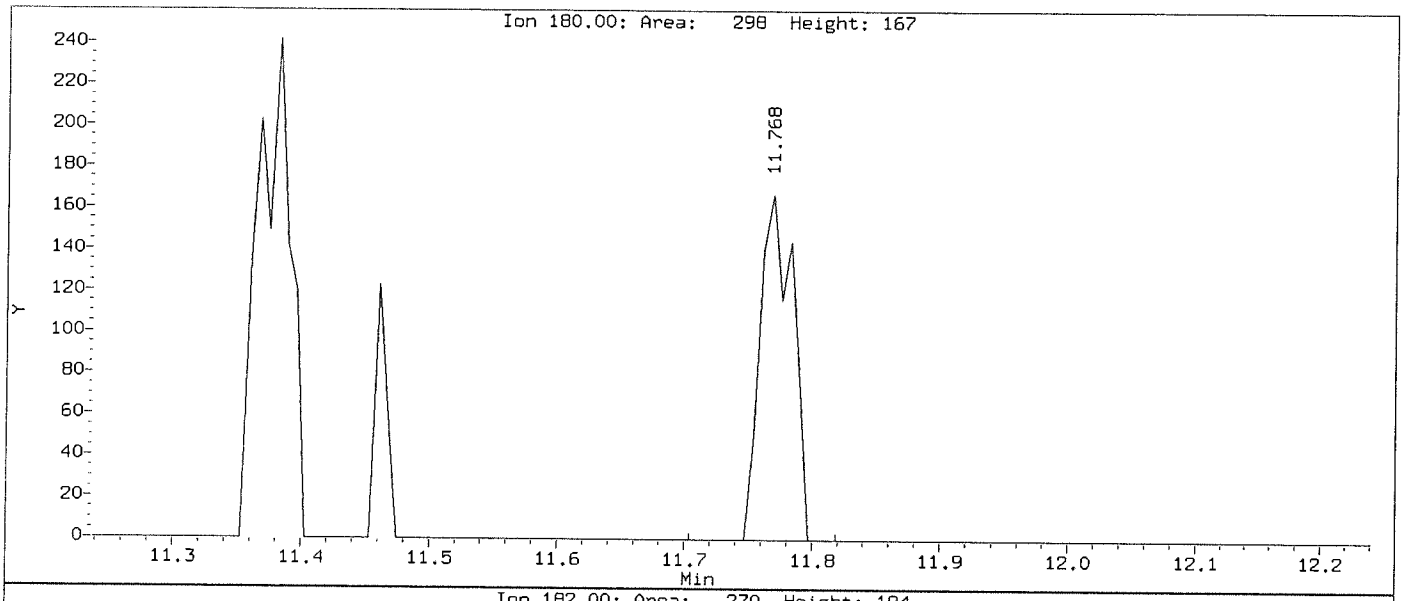
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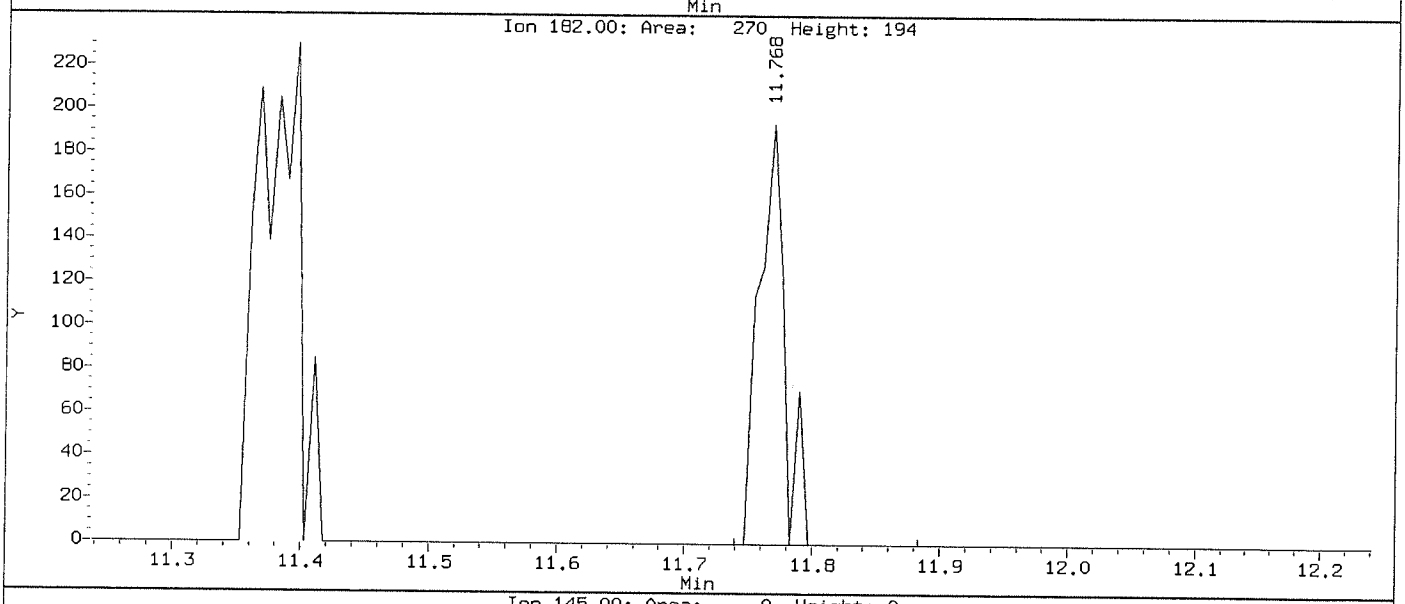
Compound: 1,2,3-Trichlorobenzene
CAS Number: 87-61-6

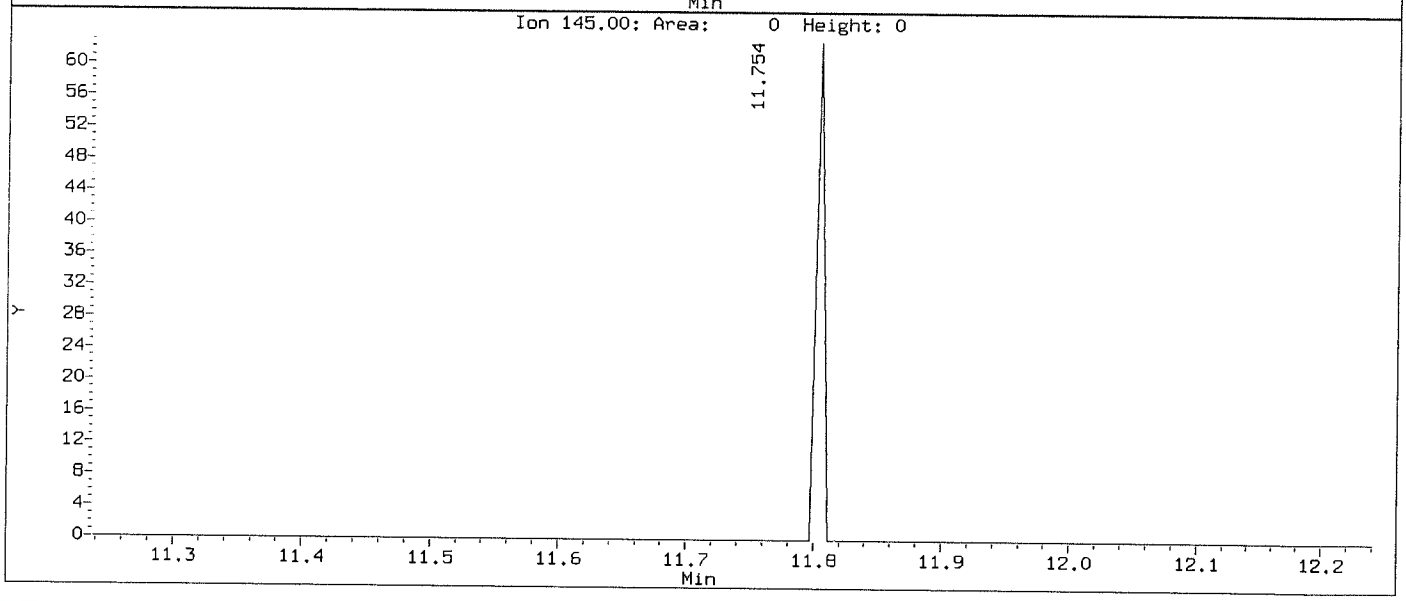


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Compound: 1,2,3-Trichlorobenzene
CAS Number: 87-61-6

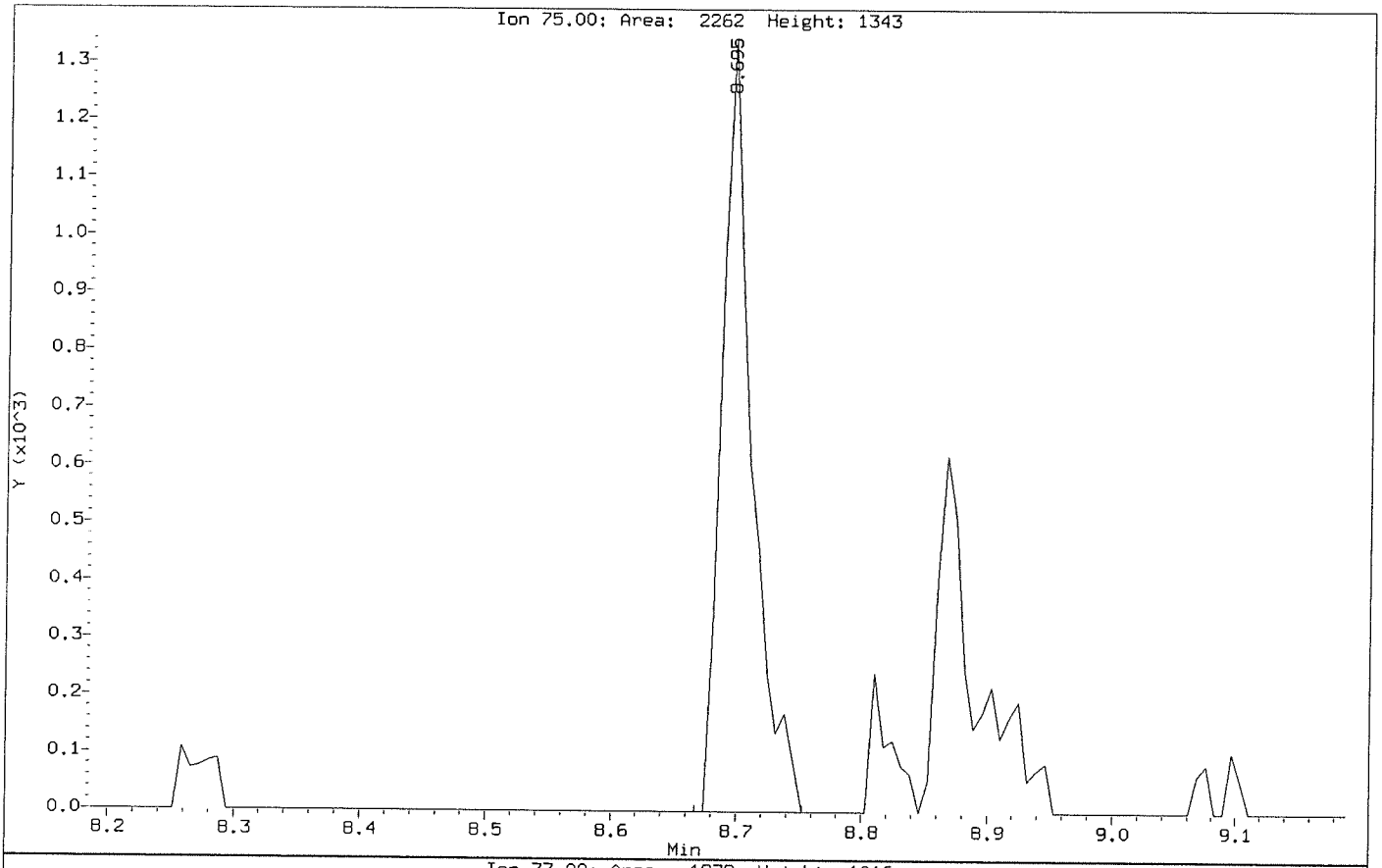


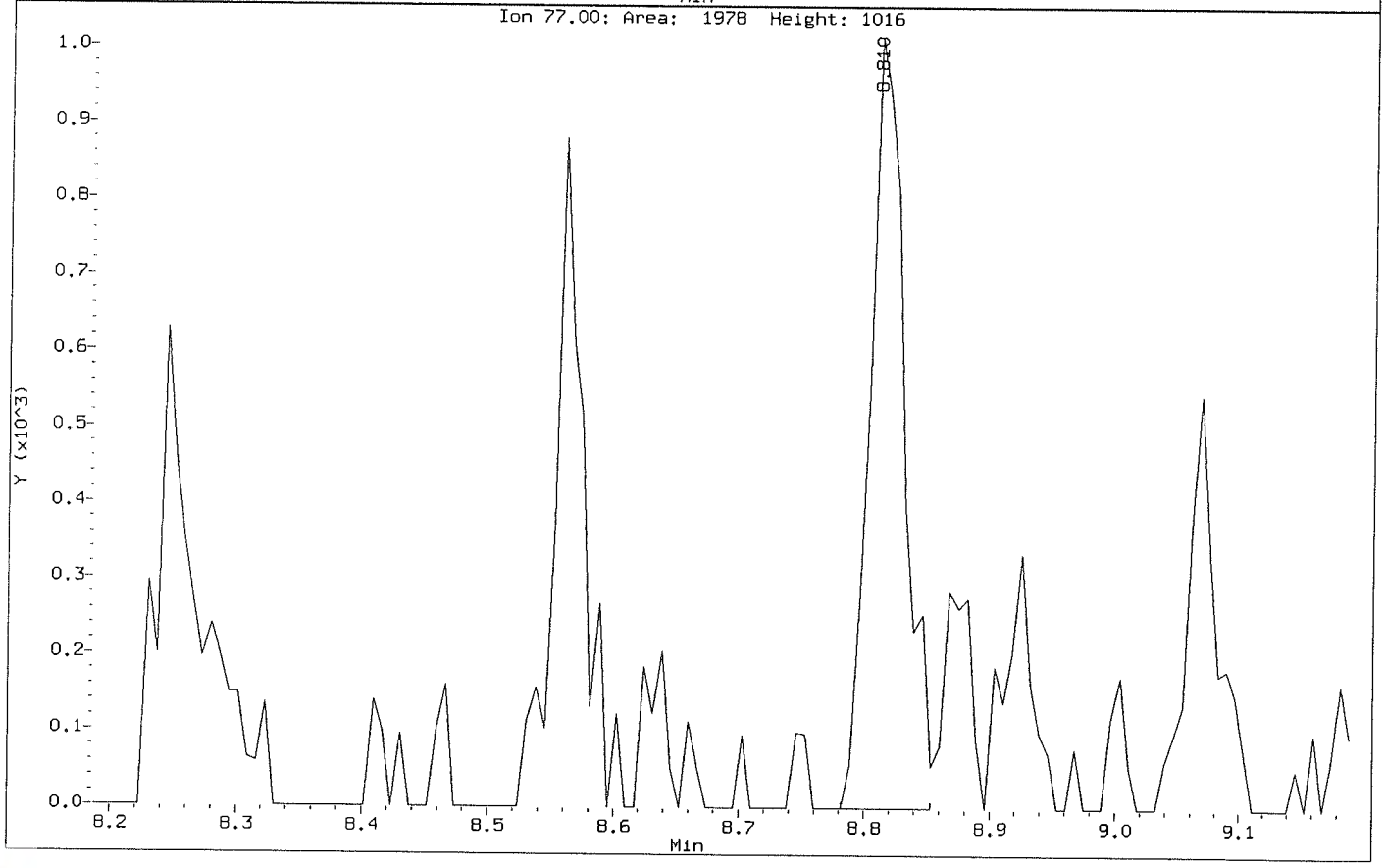



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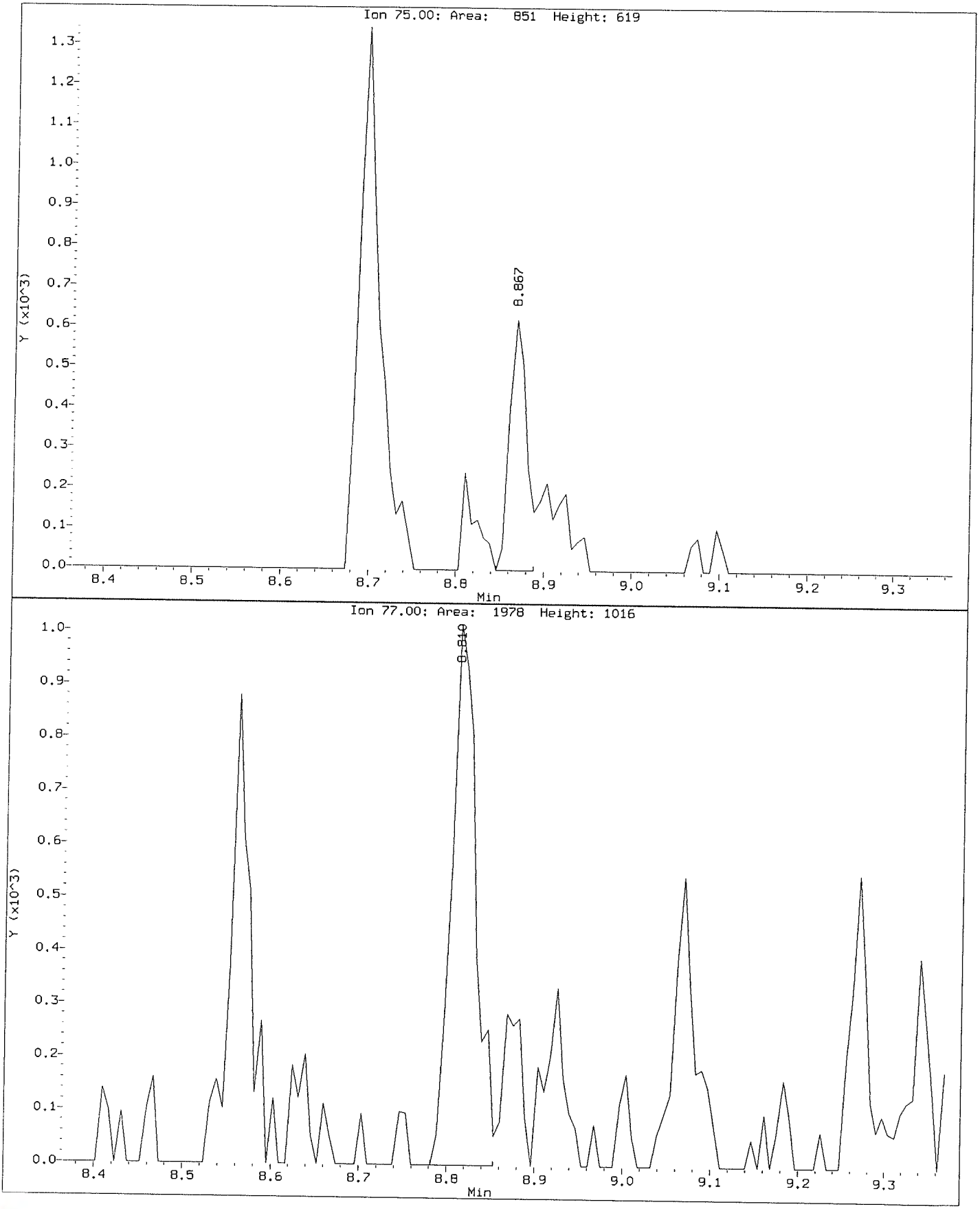
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



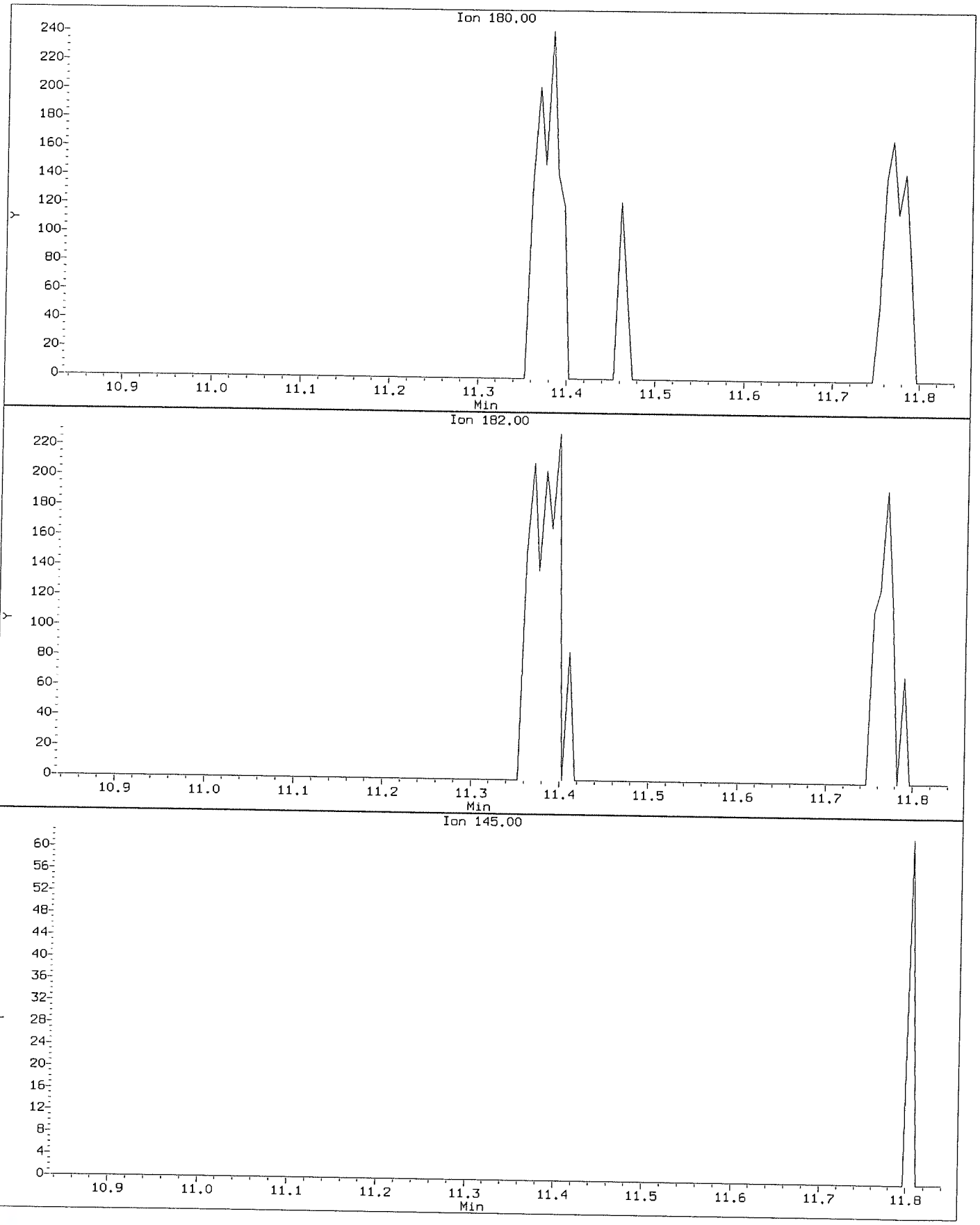
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Client Sample ID: VSTD000.5

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



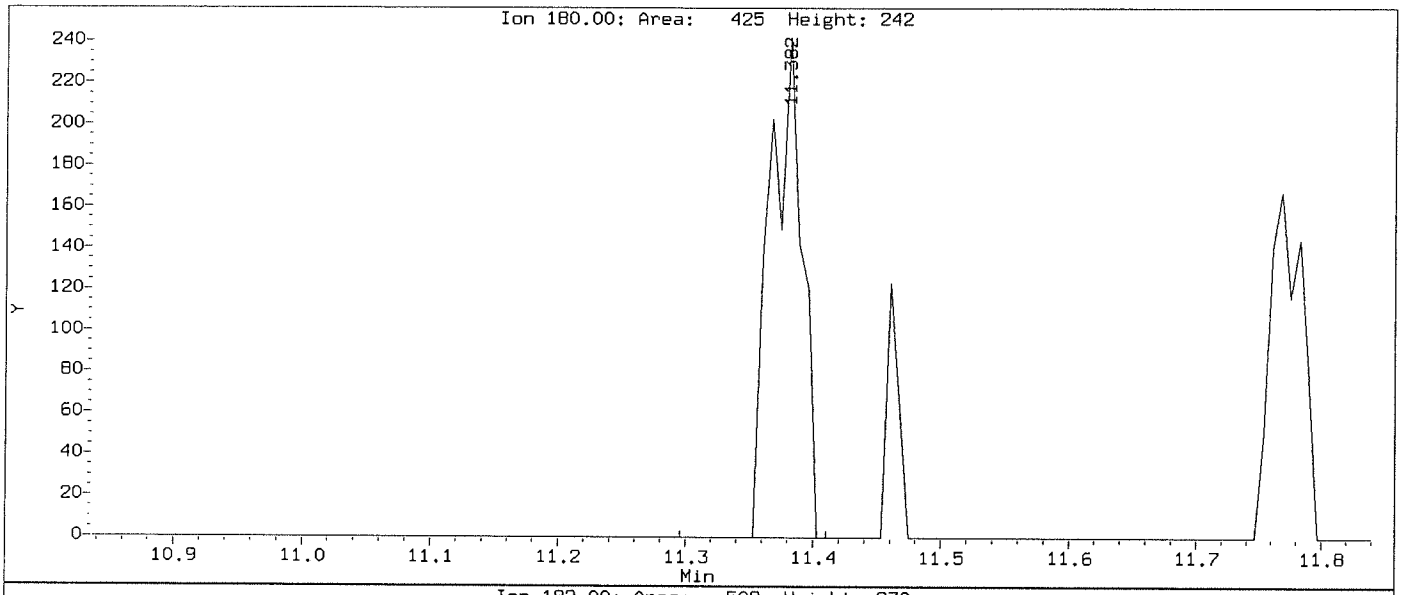
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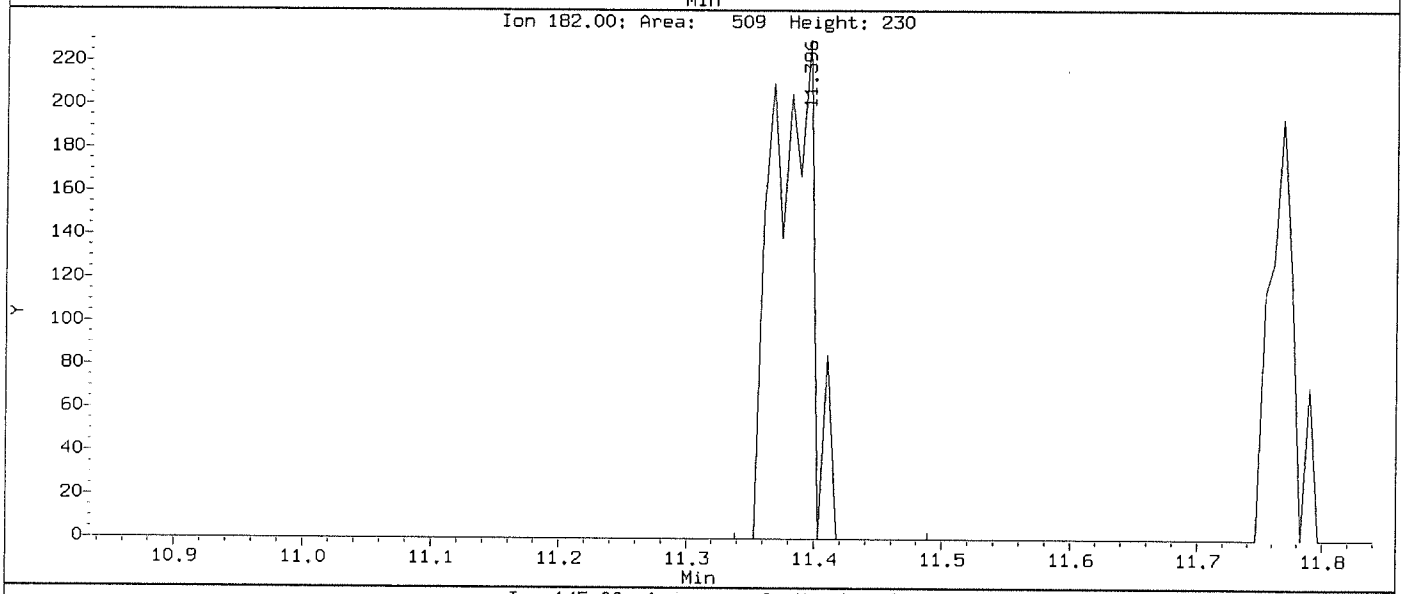
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CAS Number: 120-82-1

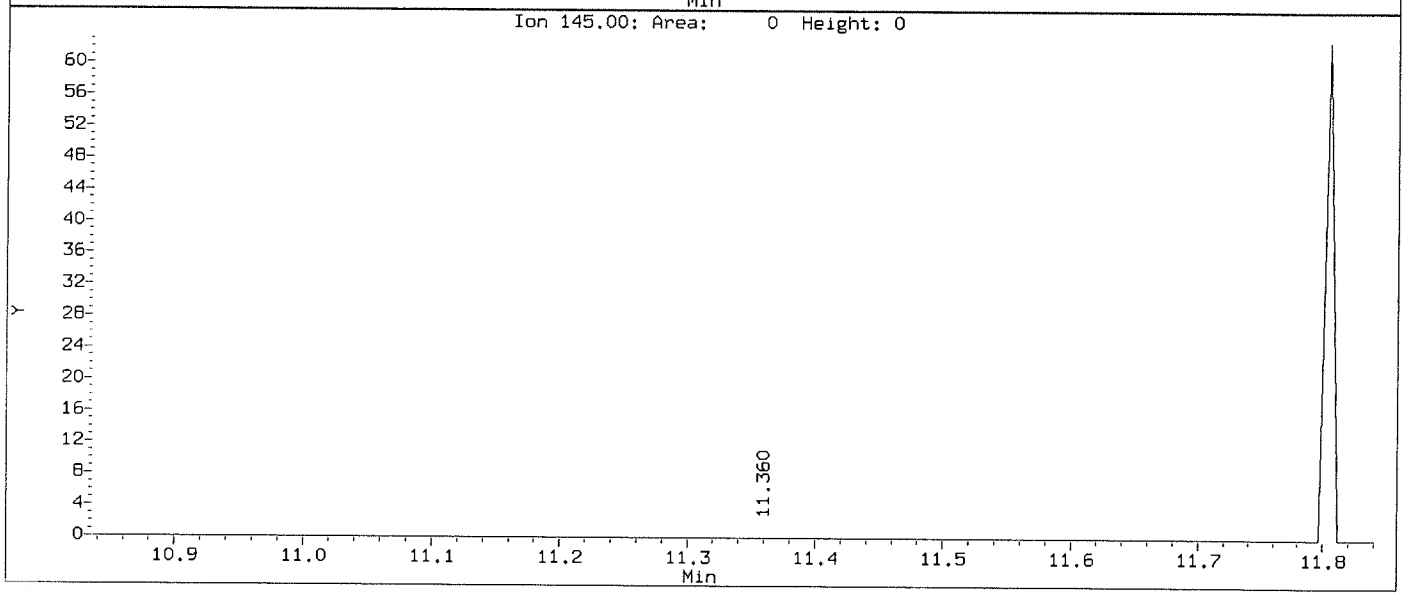


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Client Sample ID: VSTD000.5

Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1

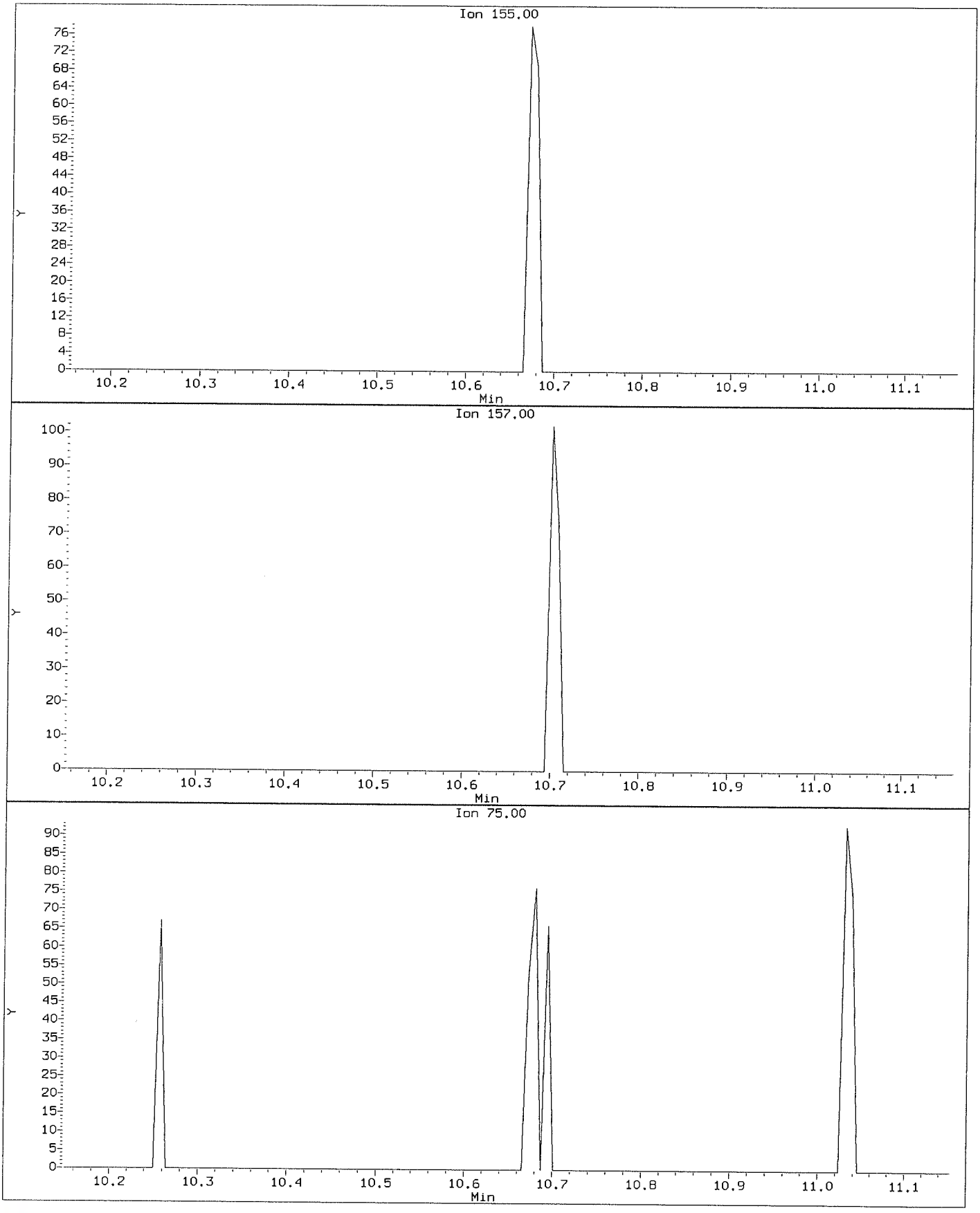


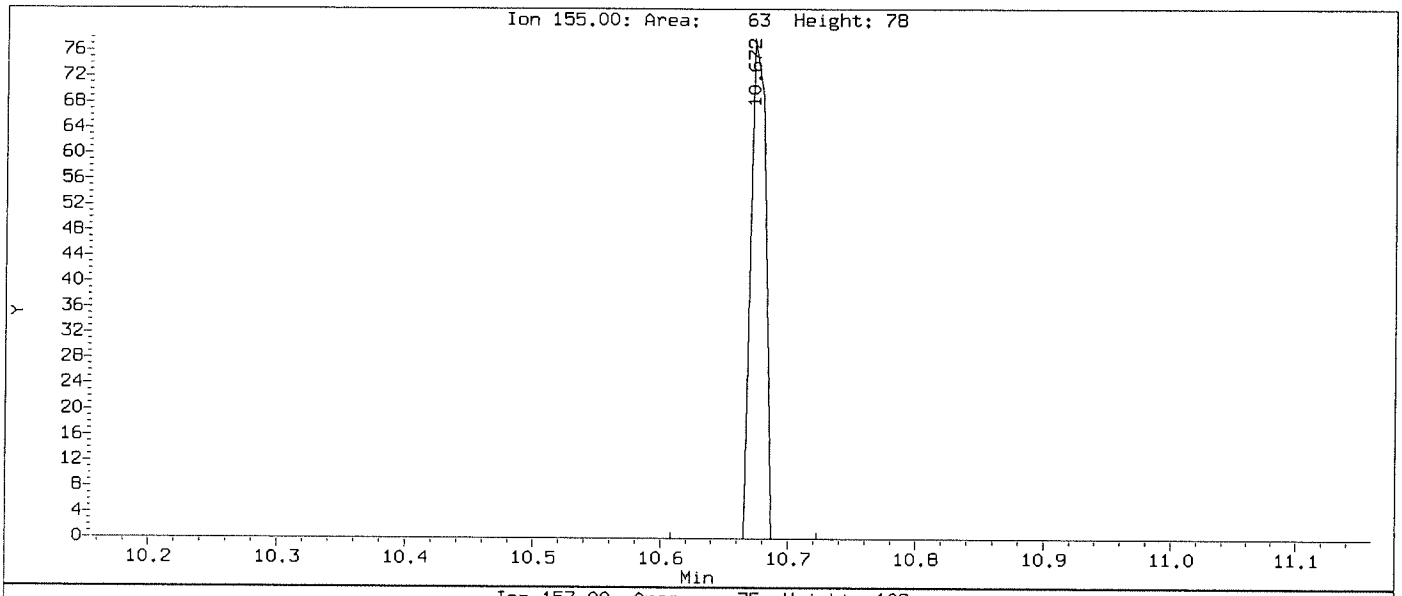
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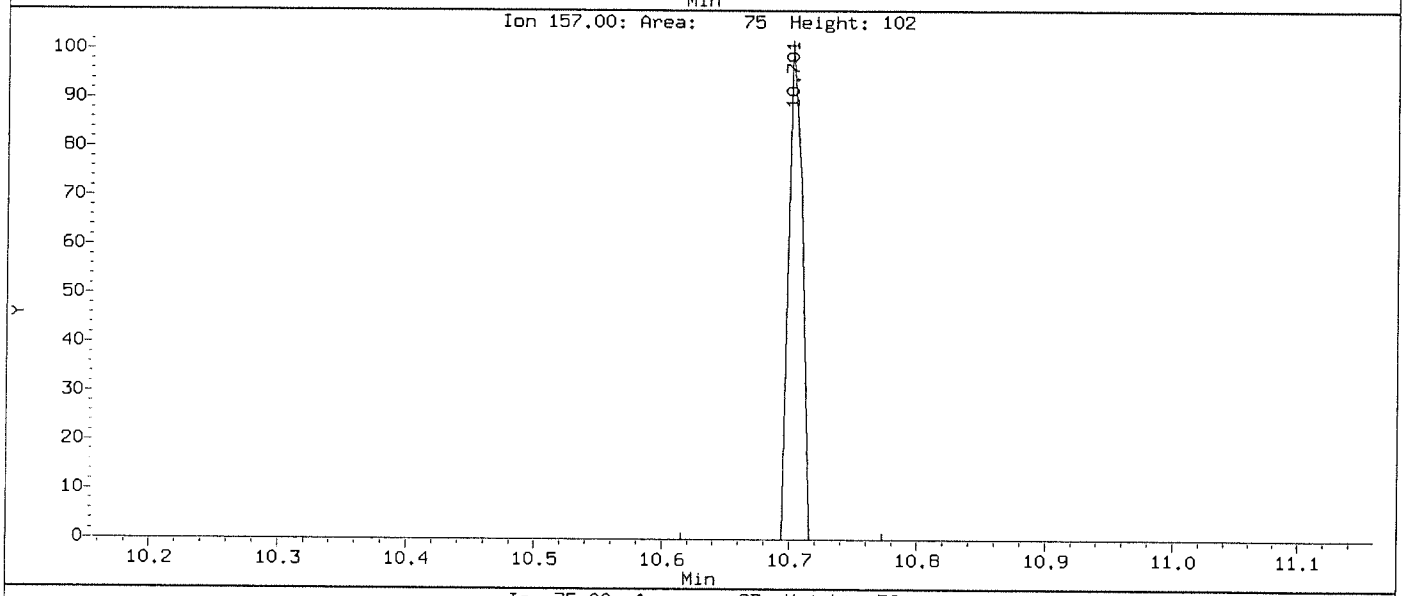
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CAS Number: 96-12-8

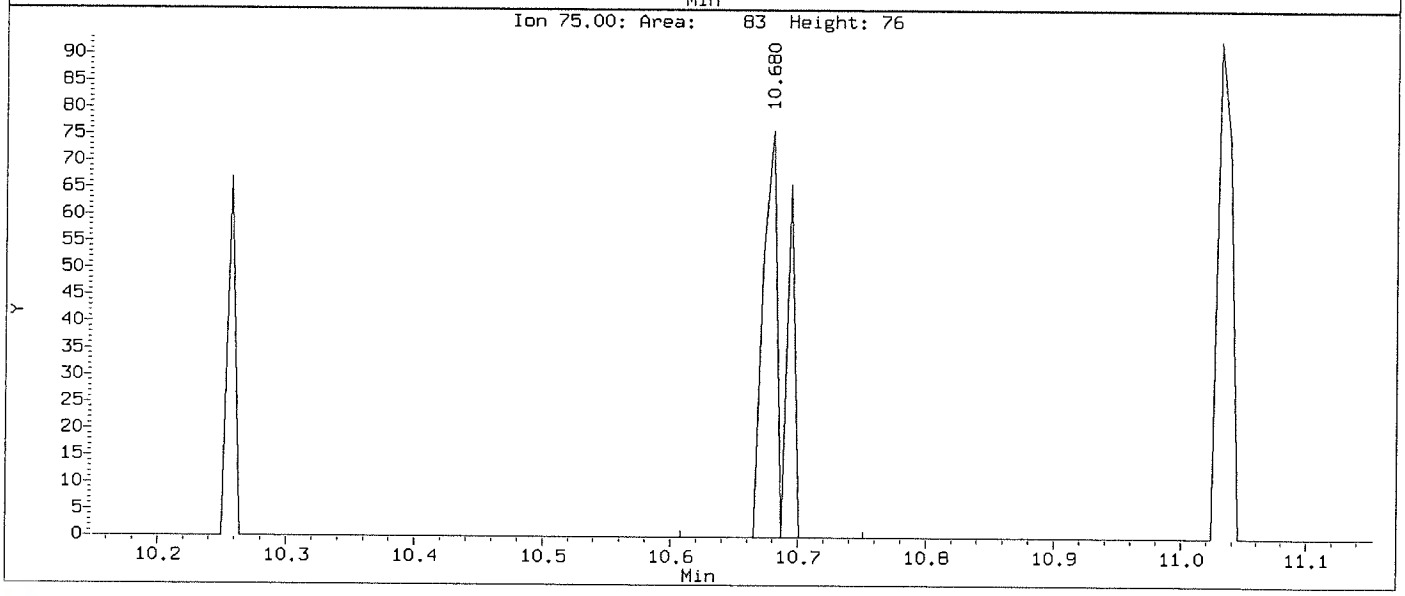


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Compound: 1,2-Dibromo-3-Chloropropane
CAS Number: 96-12-8

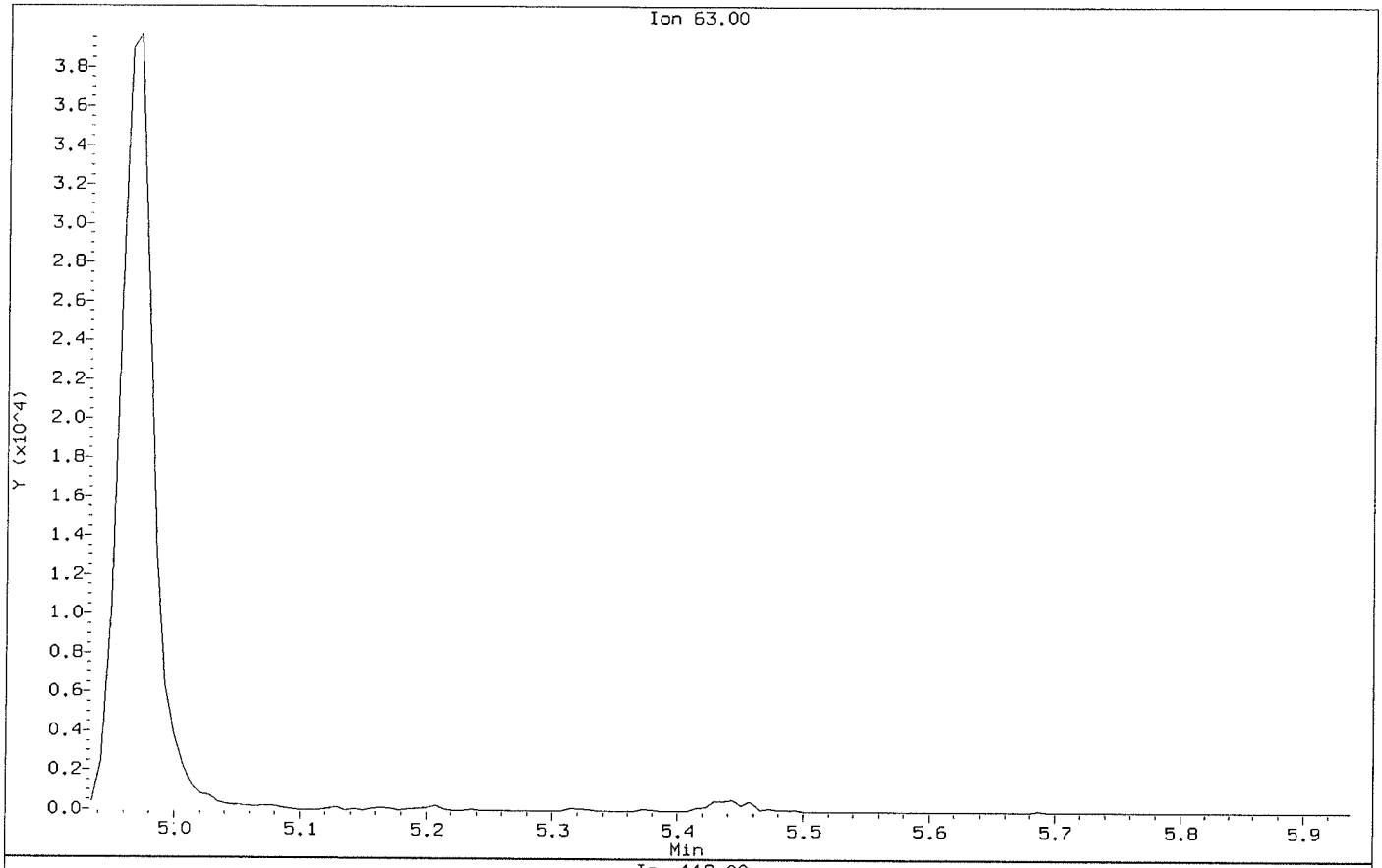


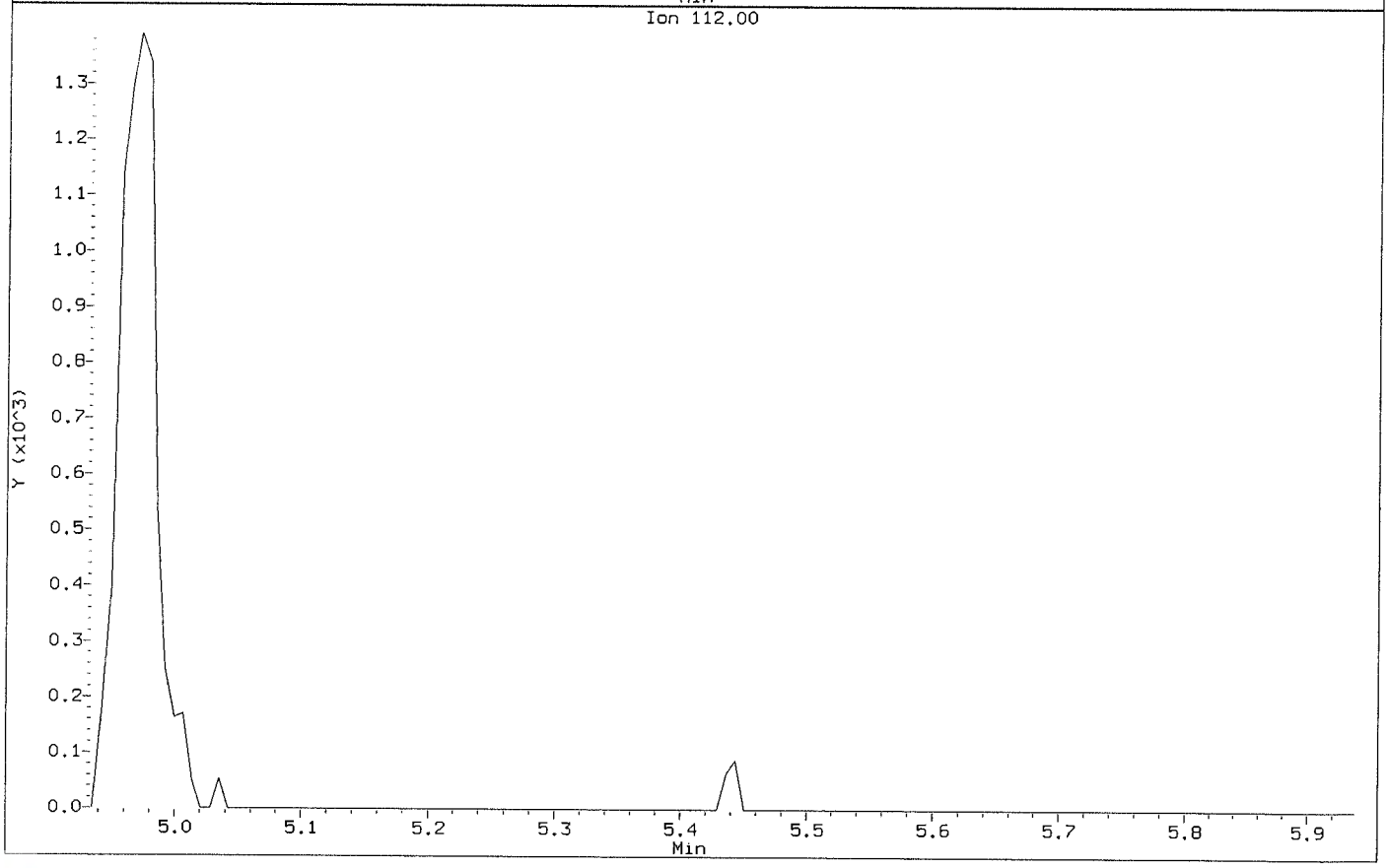



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Instrument: voa6.i
Client Sample ID: VSTD000.5

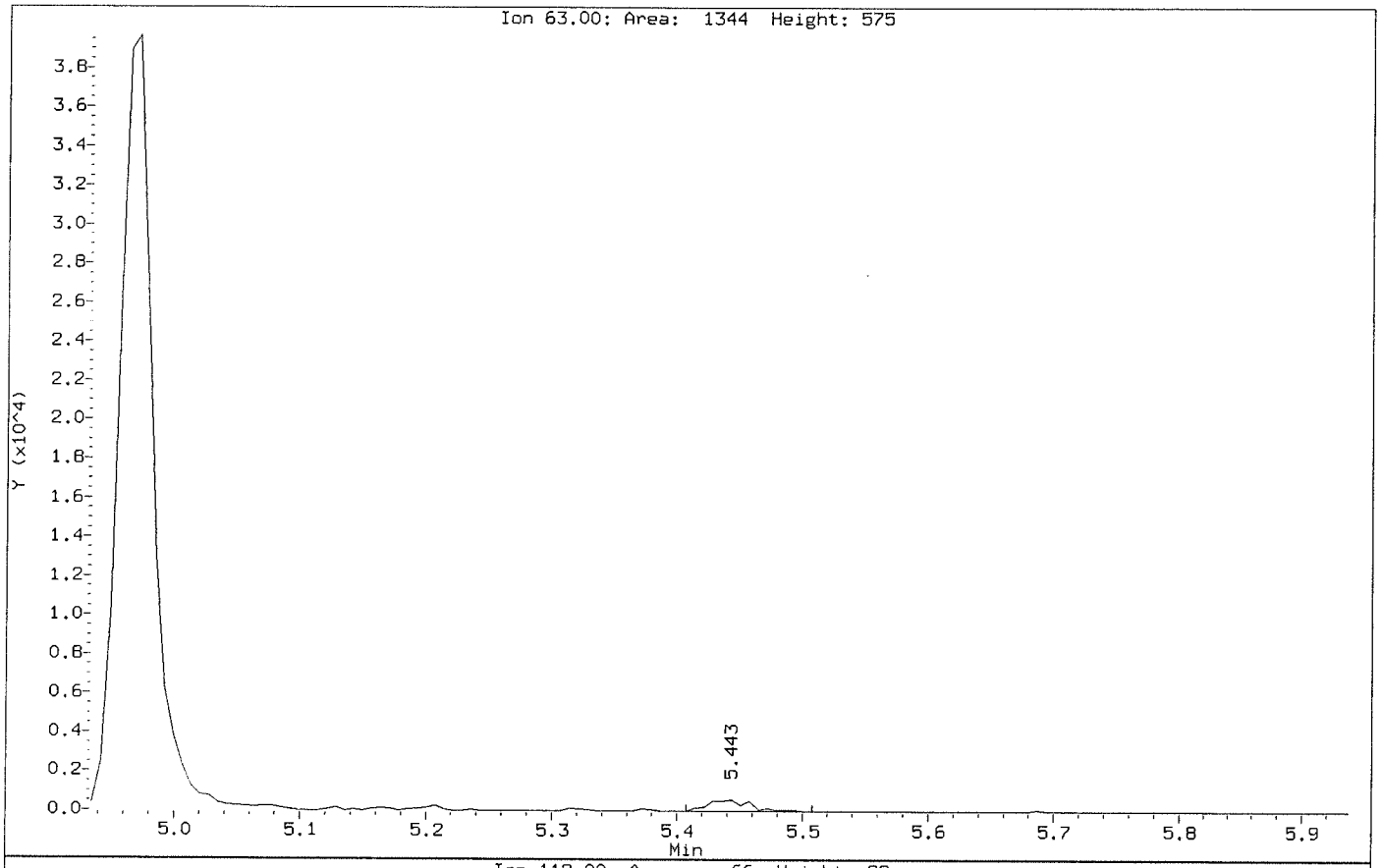
Compound: 1,2-Dichloropropane
CAS Number: 78-87-5

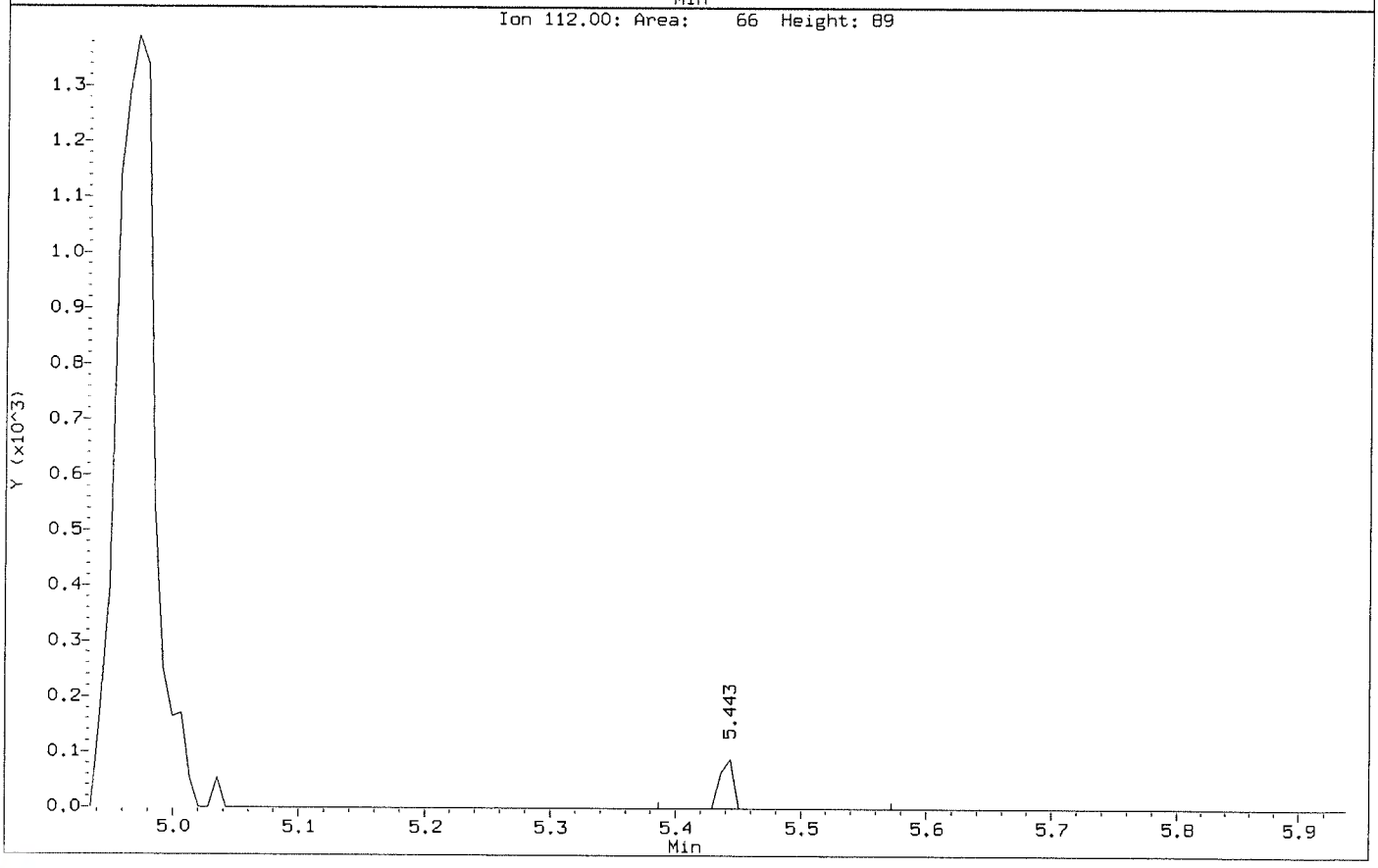


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Client Sample ID: VSTD000.5

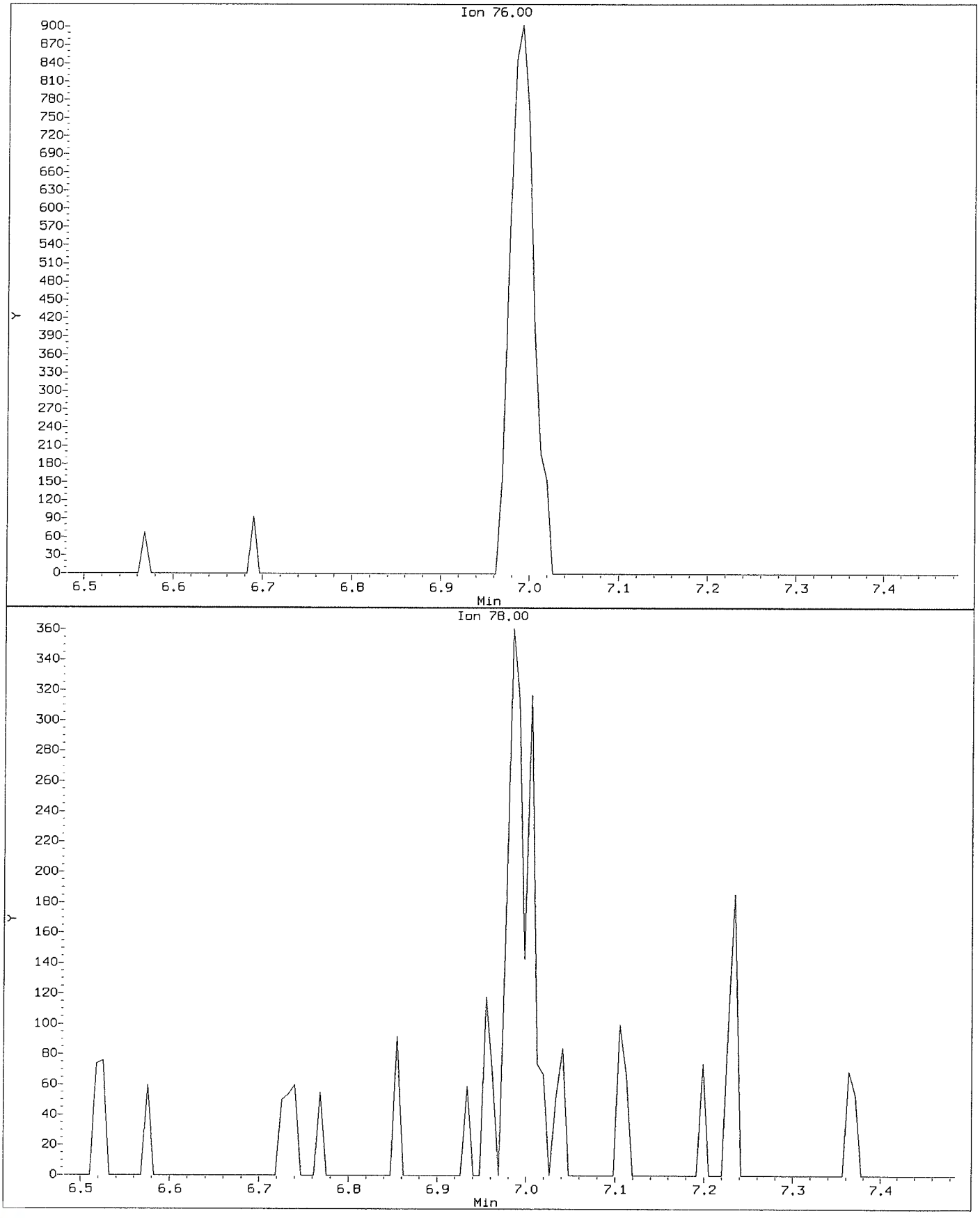
Compound: 1,2-Dichloropropane
CAS Number: 78-87-5



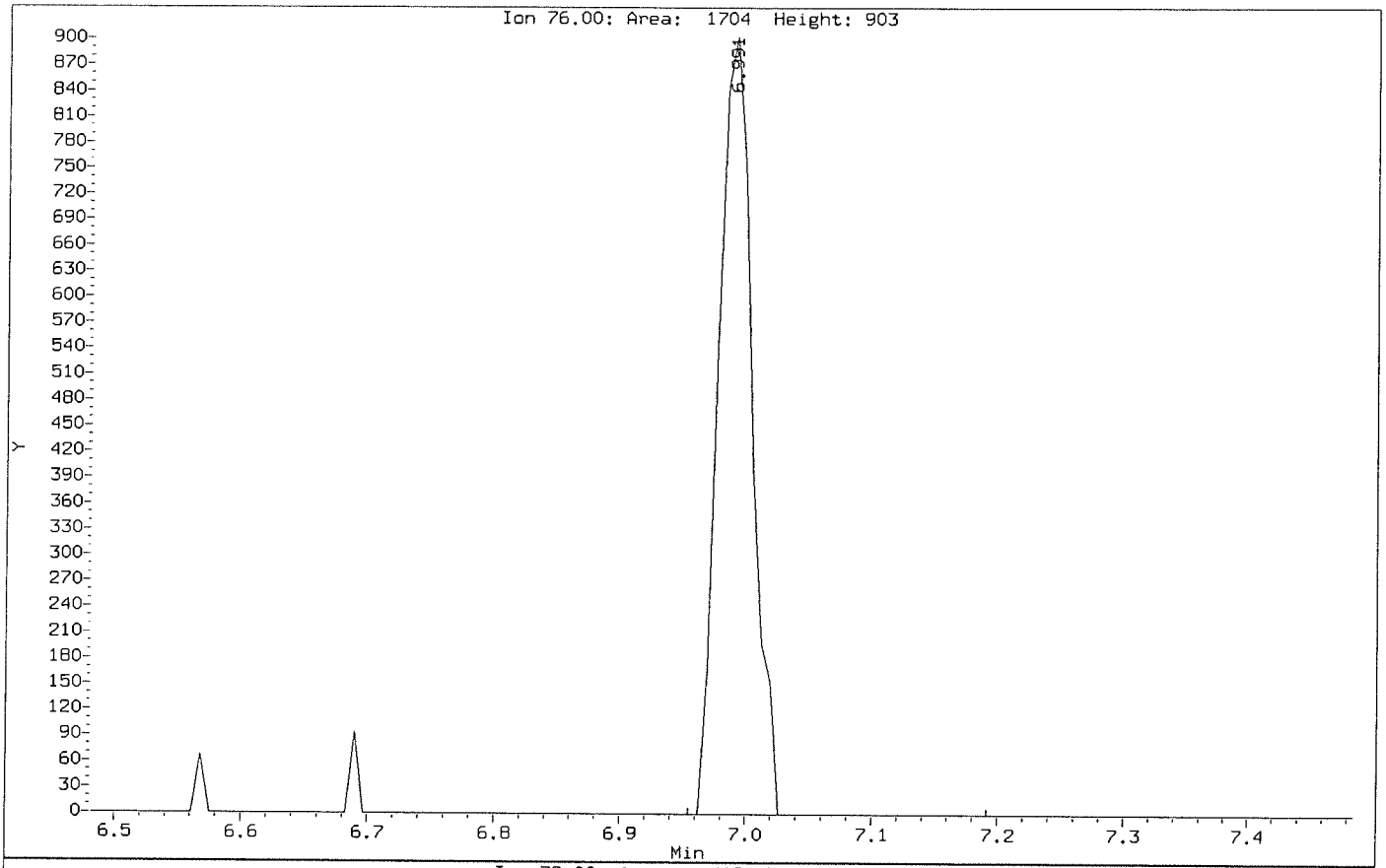
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Instrument: voa6.i
Client Sample ID: VSTD000.5

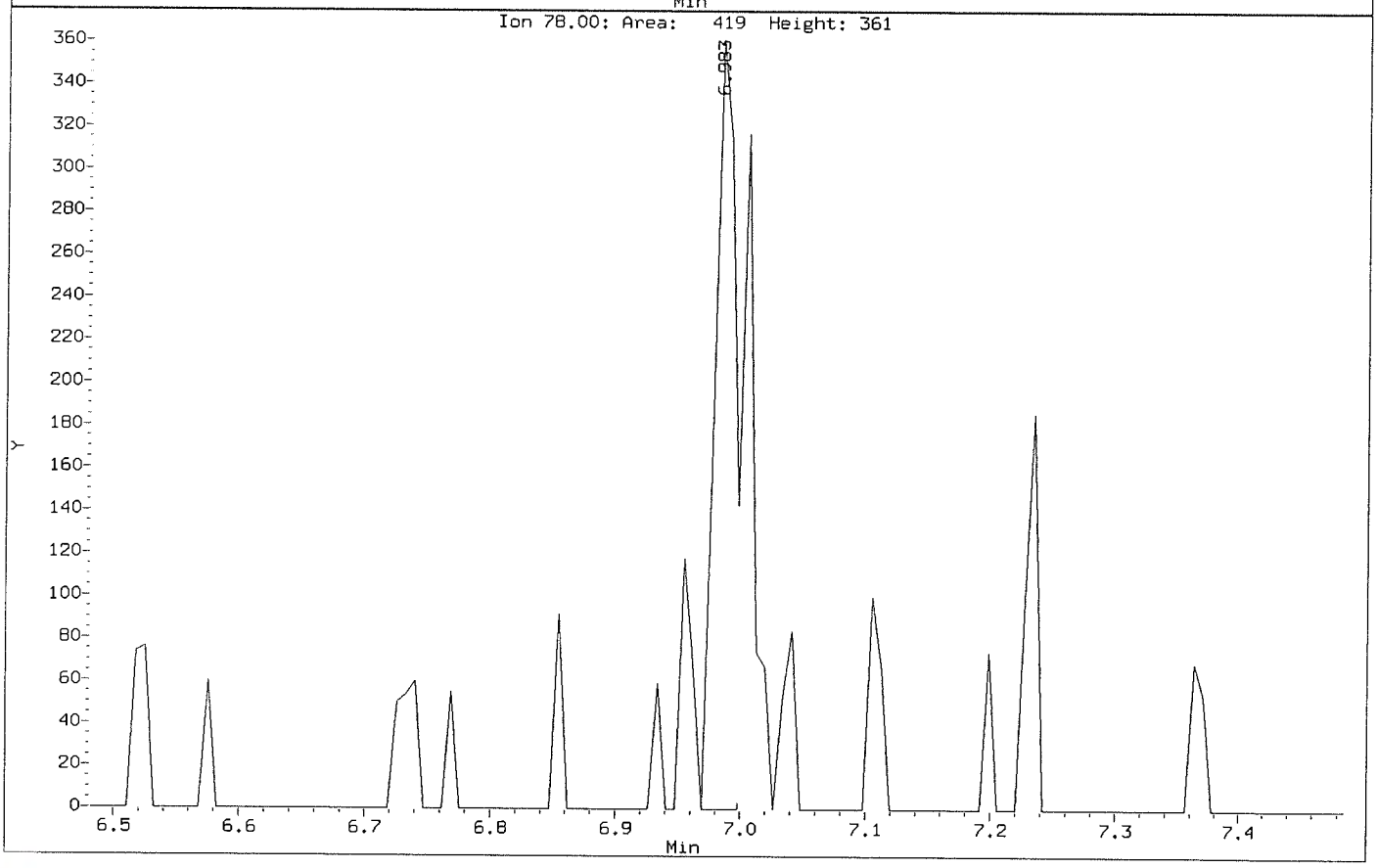
Compound: 1,3-Dichloropropane
CAS Number: 142-28-9



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051803.D
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Instrument: voa6.i
Client Sample ID: VSTD000.5

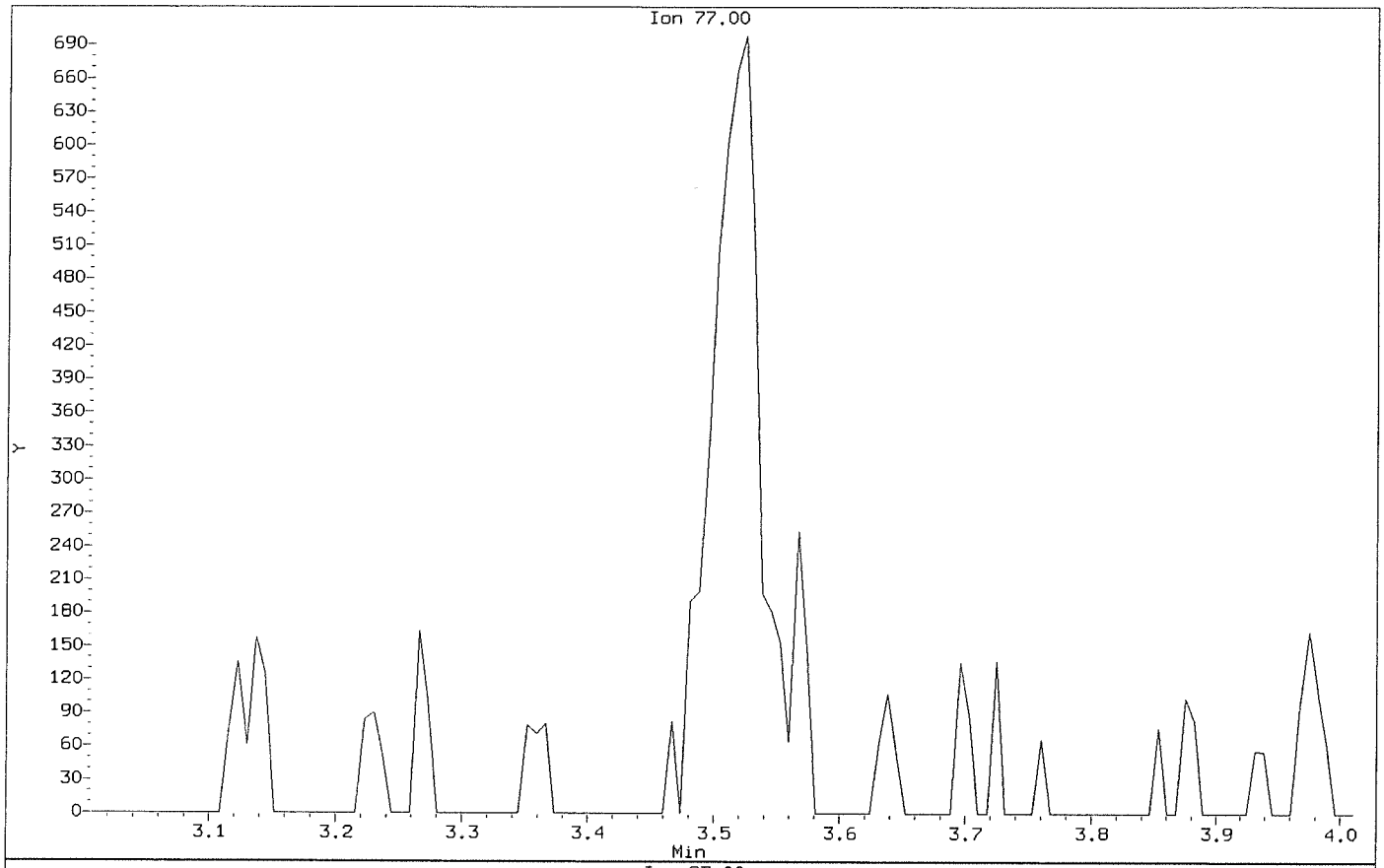
Compound: 1,3-Dichloropropane
CAS Number: 142-28-9

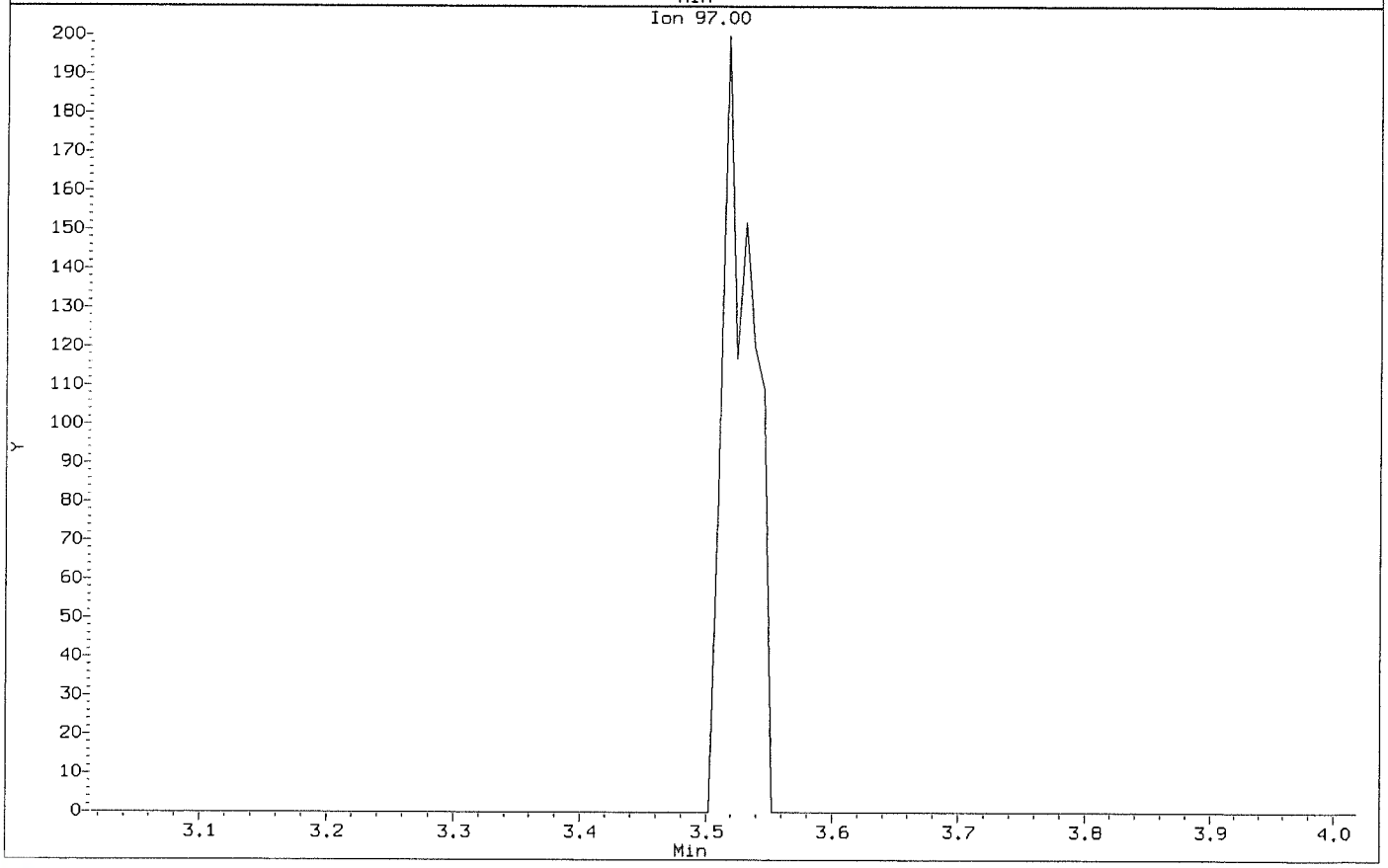


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Client Sample ID: VSTD000.5

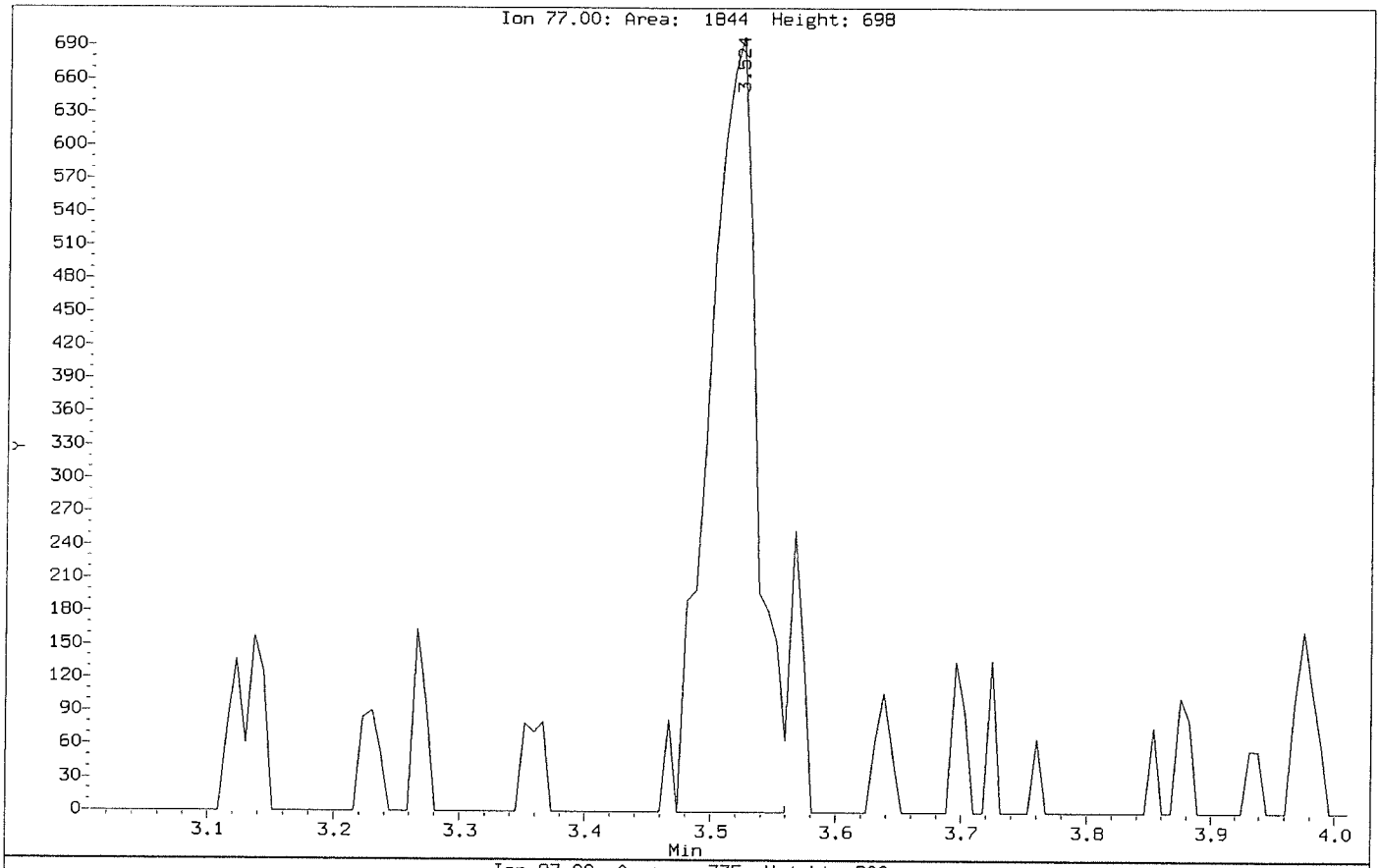
Compound: 2,2-Dichloropropane
CAS Number: 594-20-7

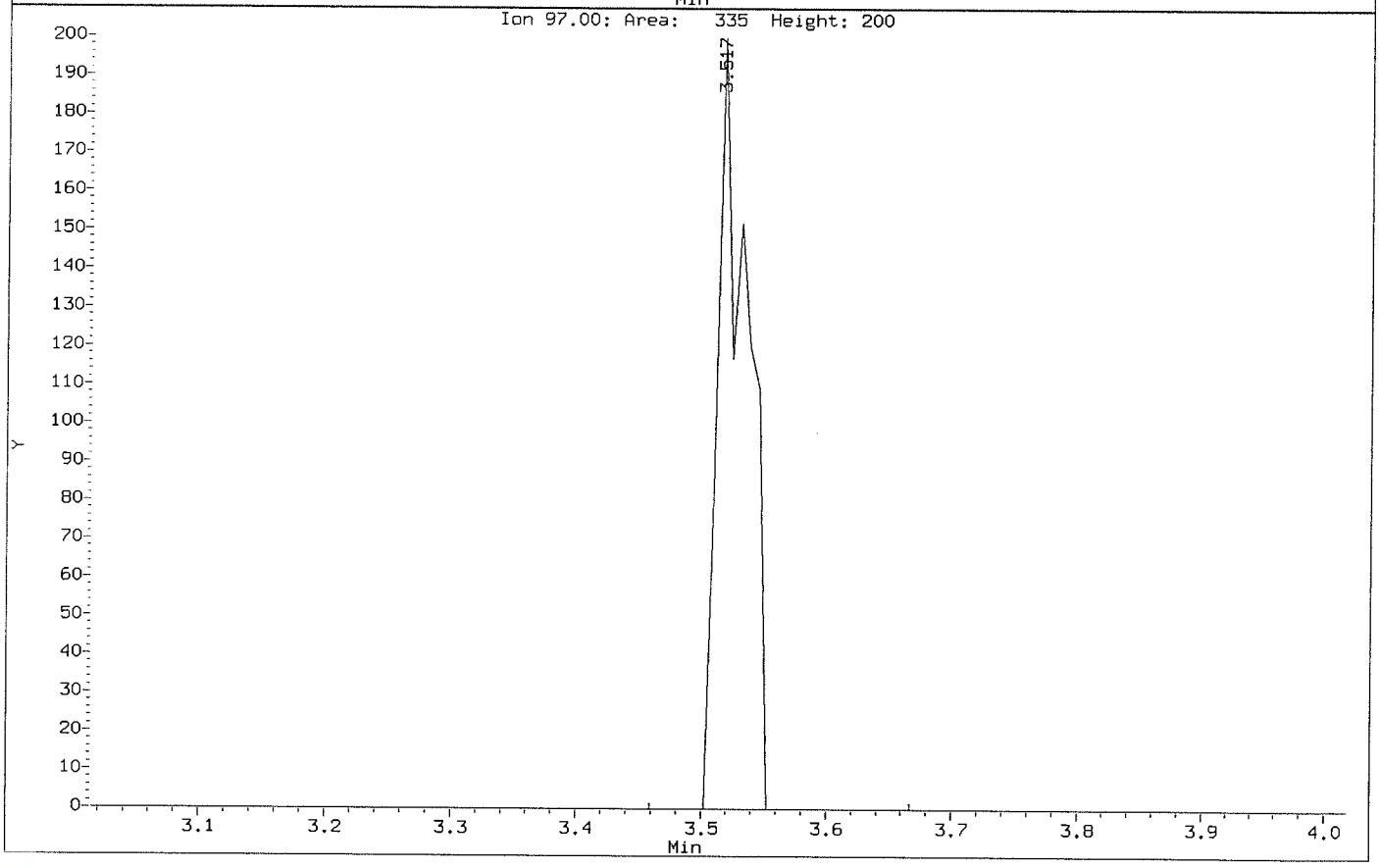


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Injection Date: 18-MAY-2021 11:43
Instrument: voa6.i
Client Sample ID: VSTD000.5

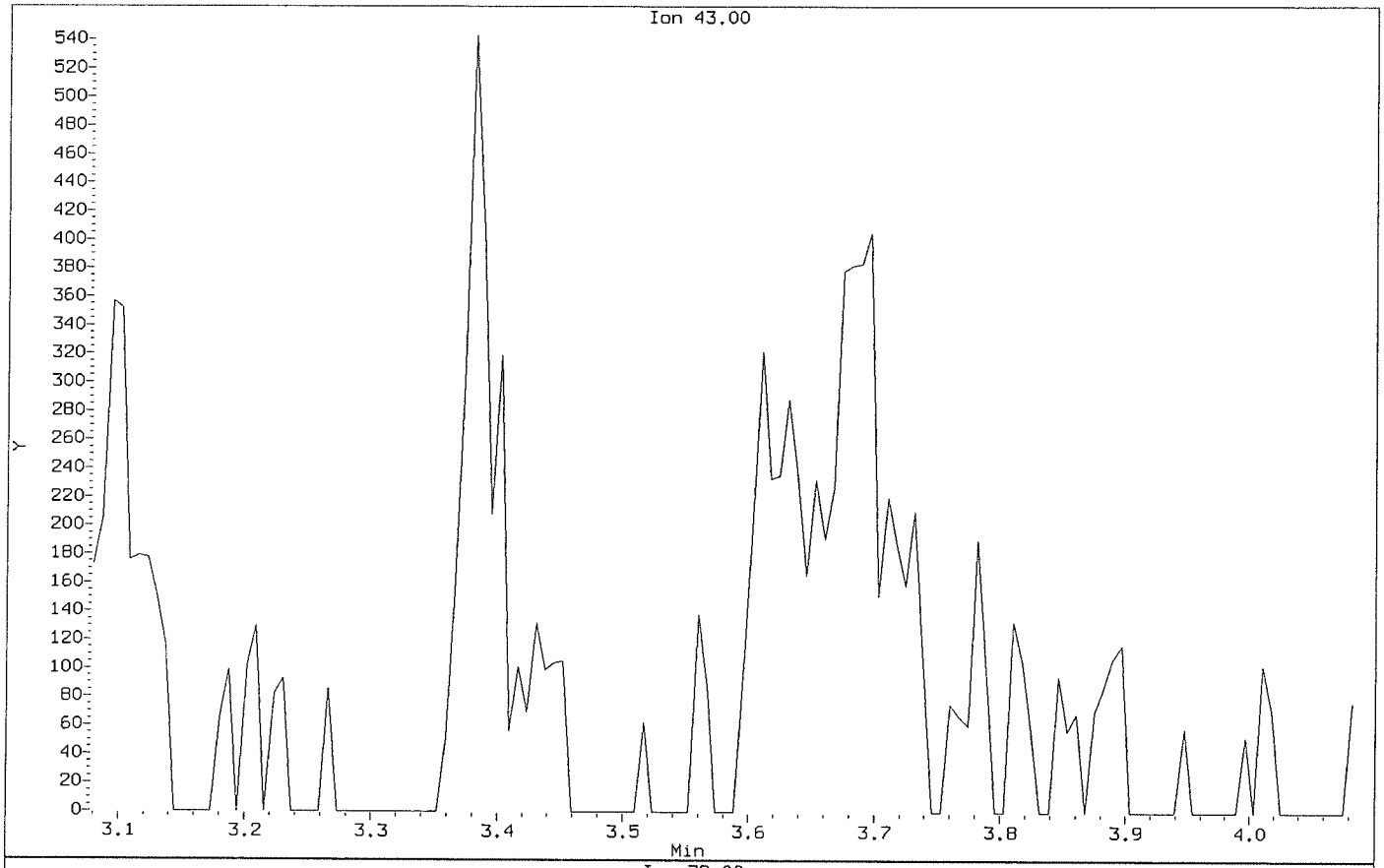
Compound: 2,2-Dichloropropane
CAS Number: 594-20-7

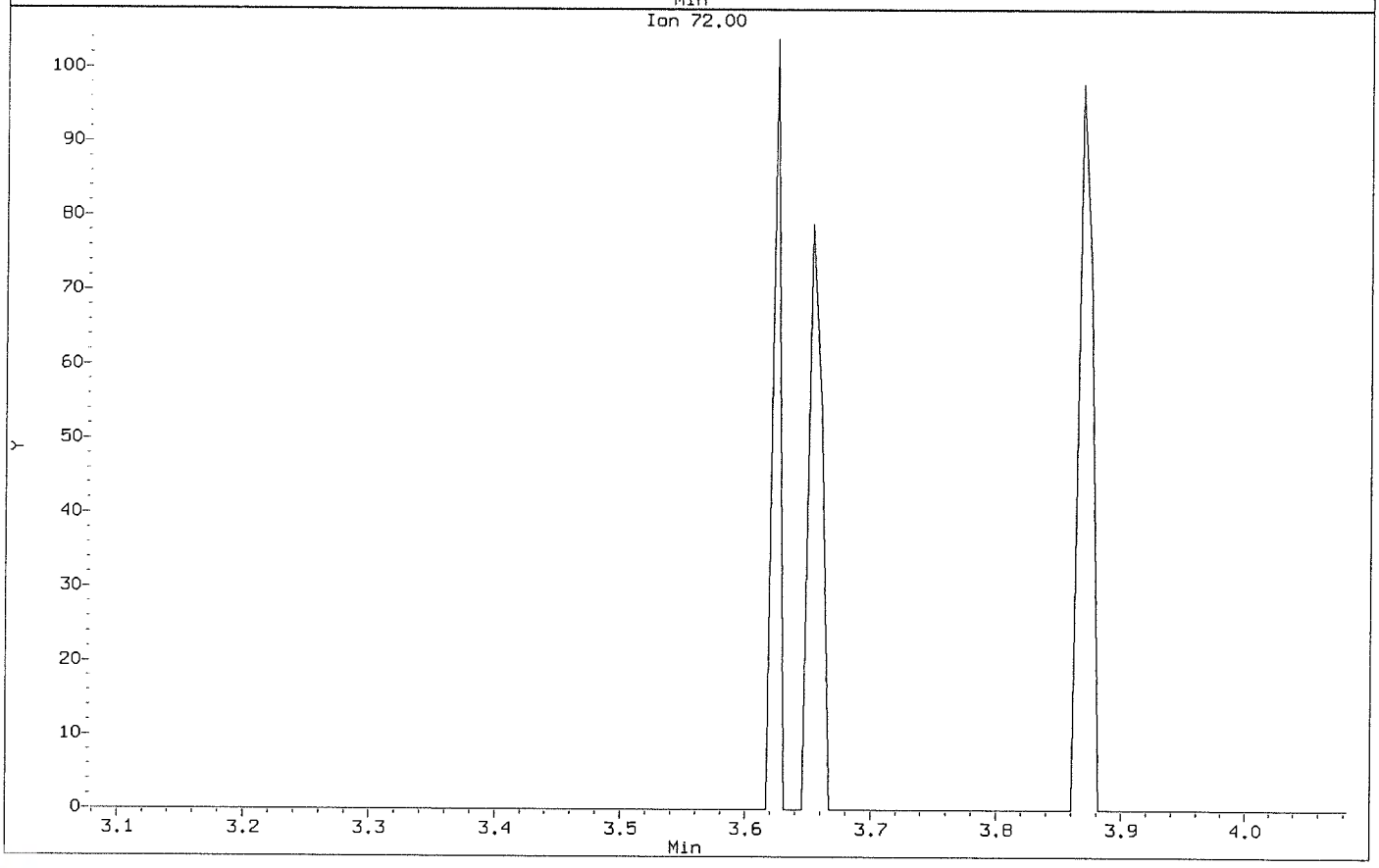


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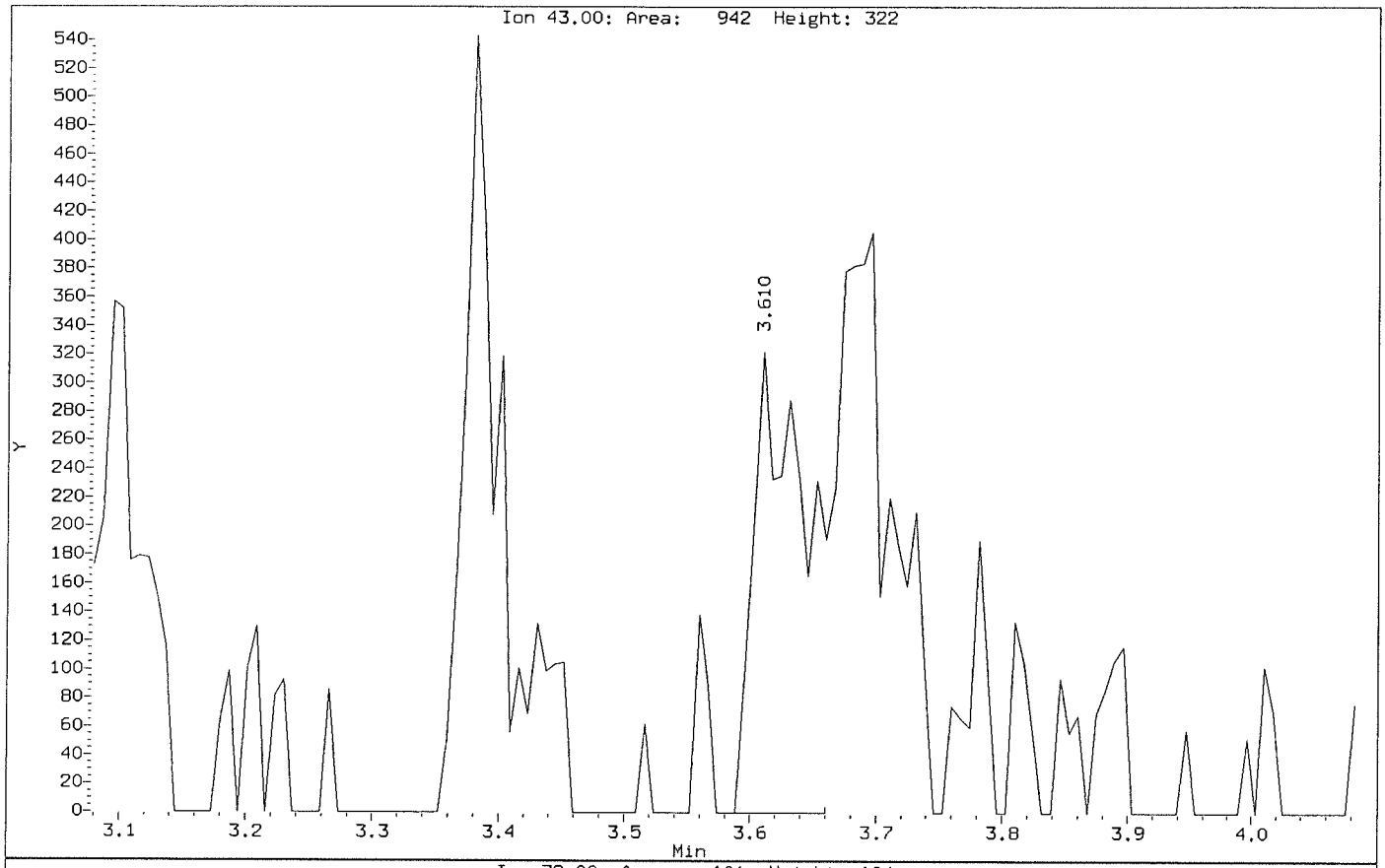
Compound: 2-Butanone
CAS Number: 78-93-3

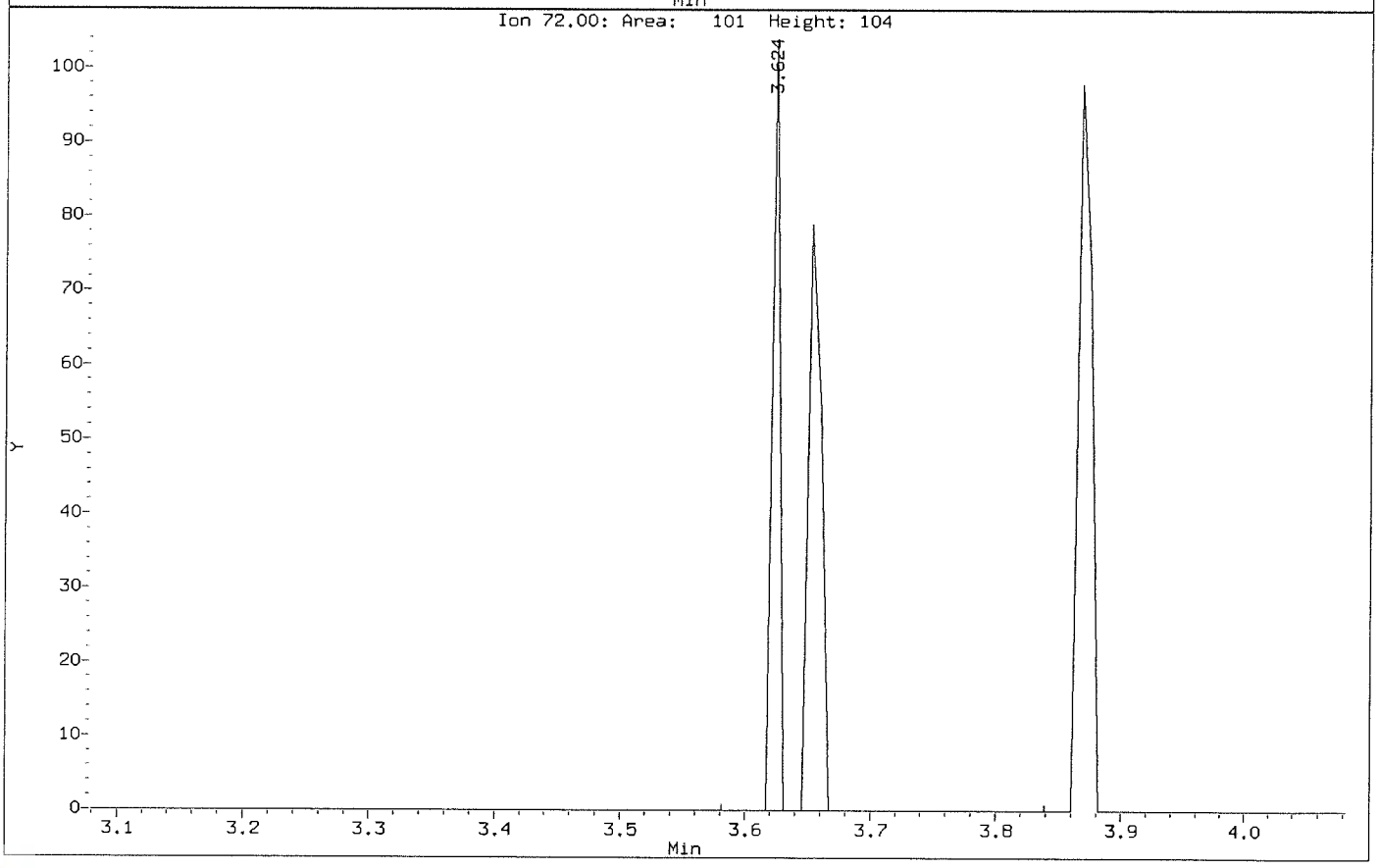


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Injection Date: 18-MAY-2021 11:43
Instrument: voa6.i
Client Sample ID: VSTD000.5

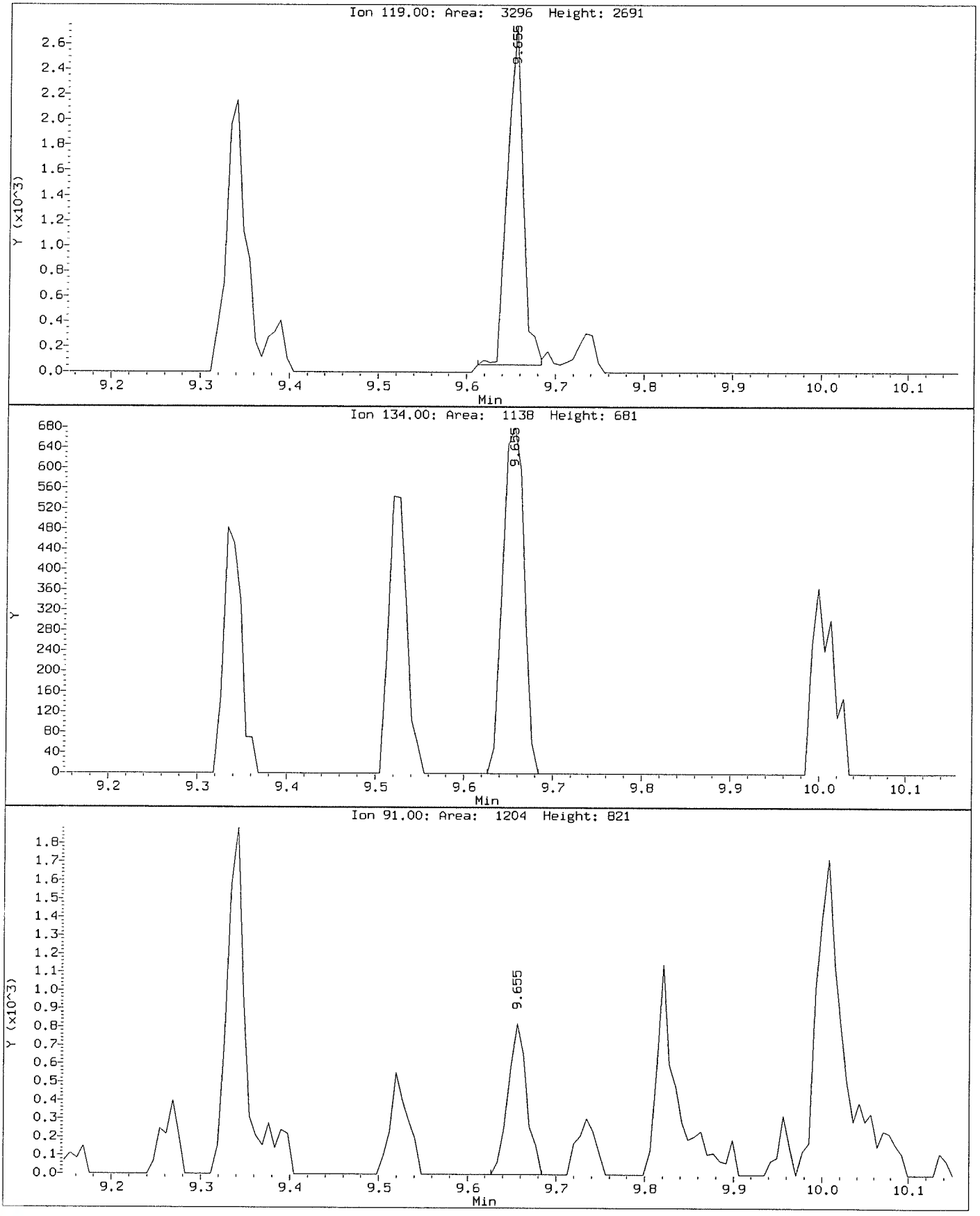
Compound: 2-Butanone
CAS Number: 78-93-3



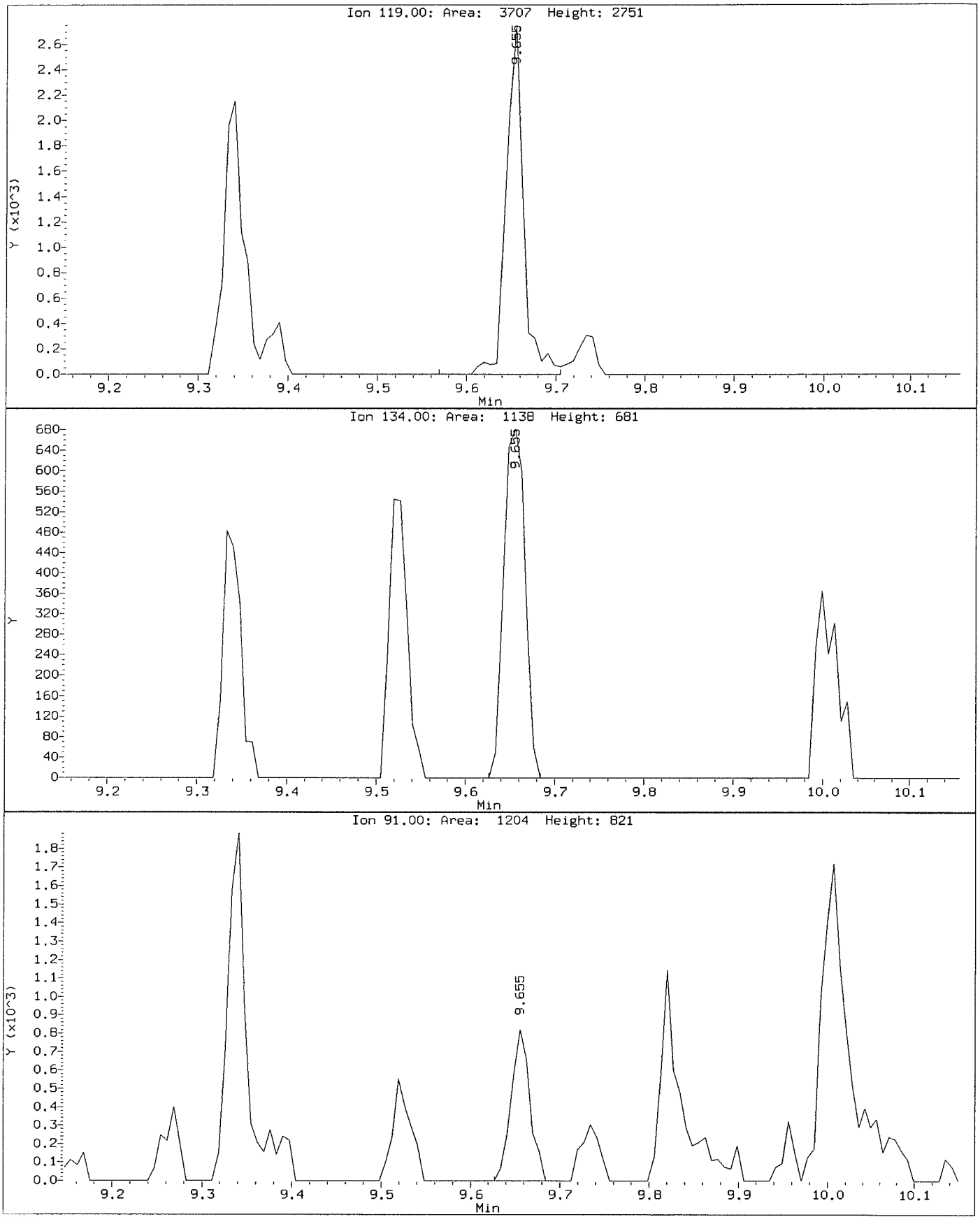
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Injection Date: 18-MAY-2021 11:43
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: p-Isopropyltoluene
CAS Number: 99-87-6



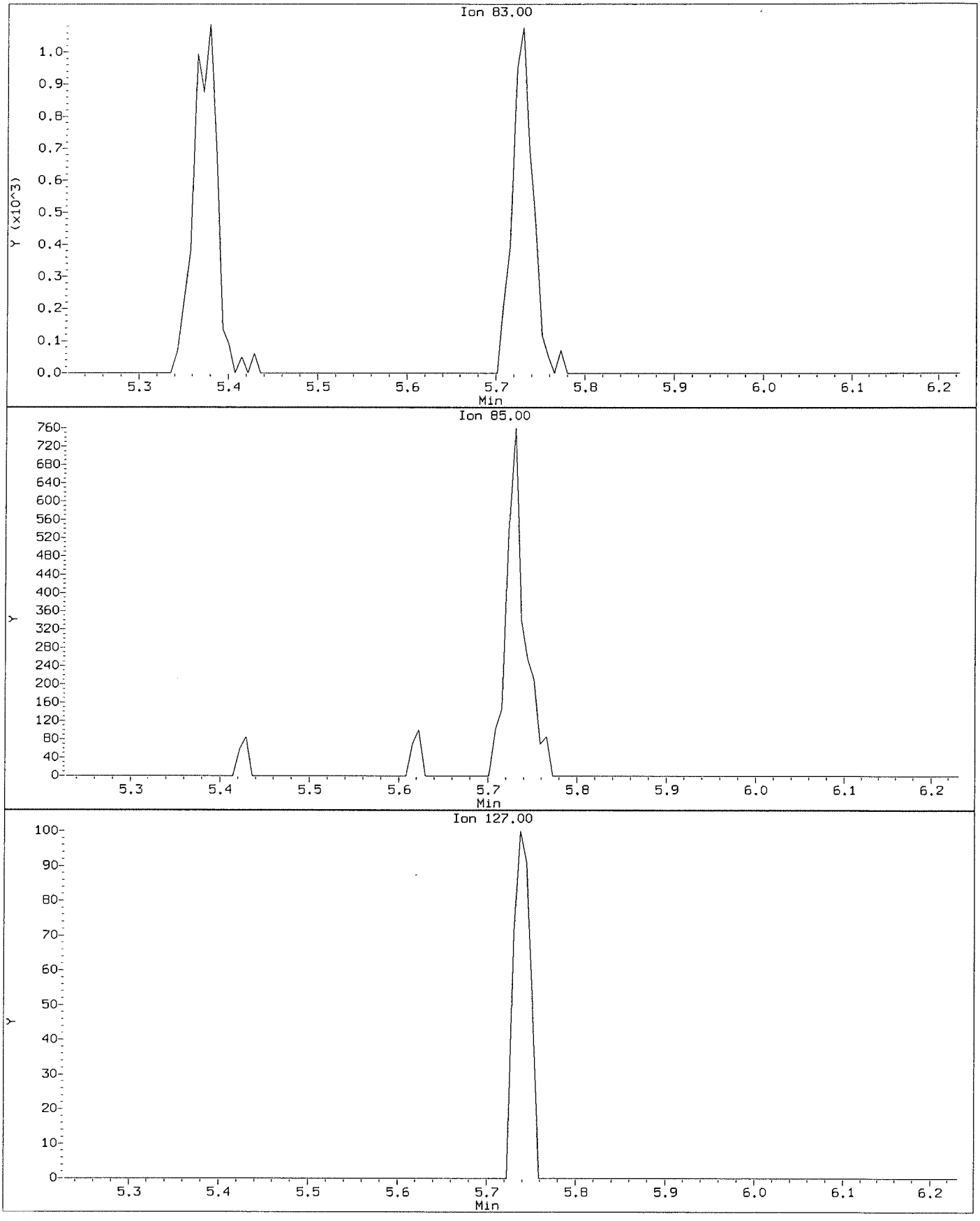
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Client Sample ID: VSTD000.5

Compound: p-Isopropyltoluene
CAS Number: 99-87-6



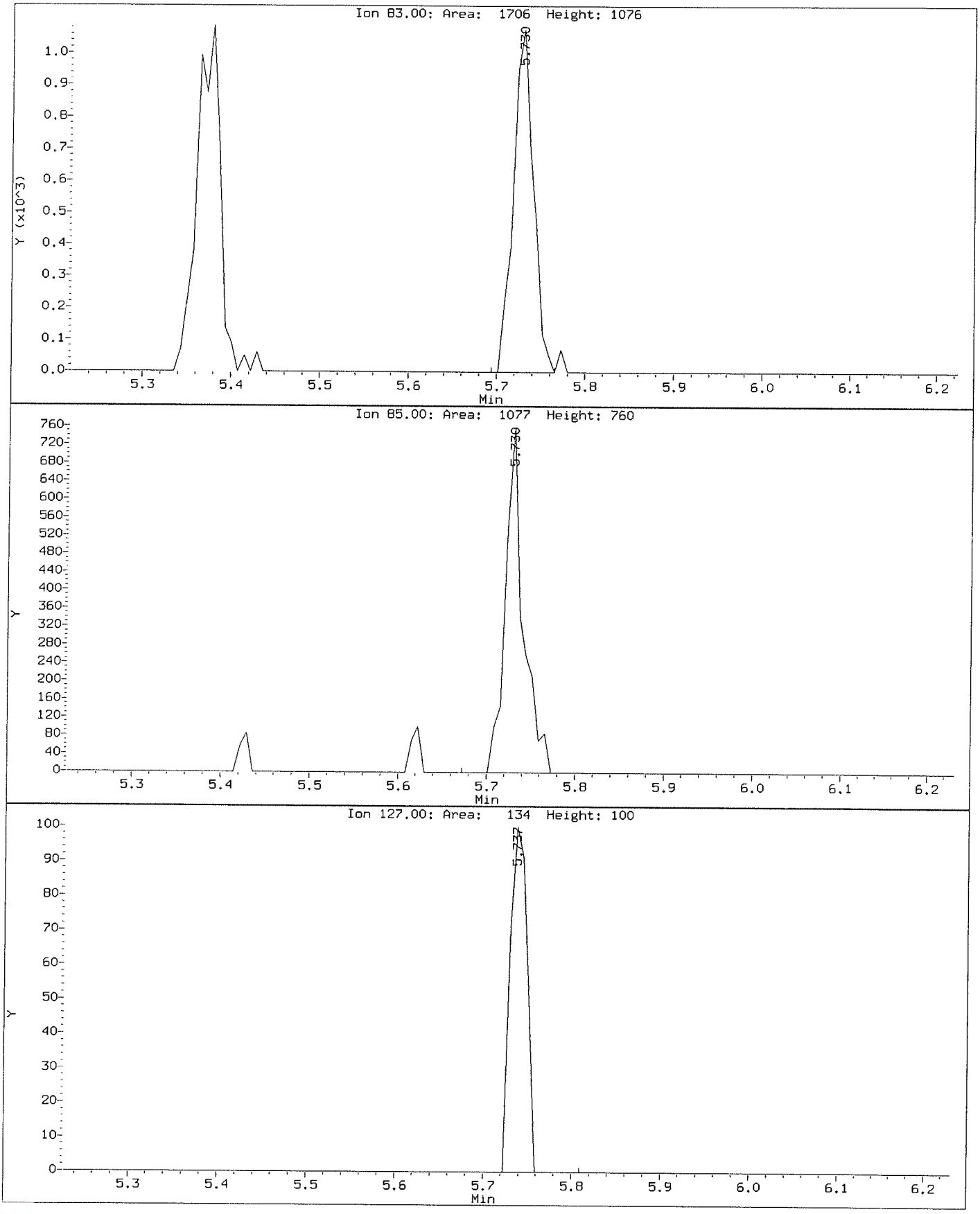
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Injection Date: 18-MAY-2021 11:43
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Bromodichloromethane
CAS Number: 75-27-4



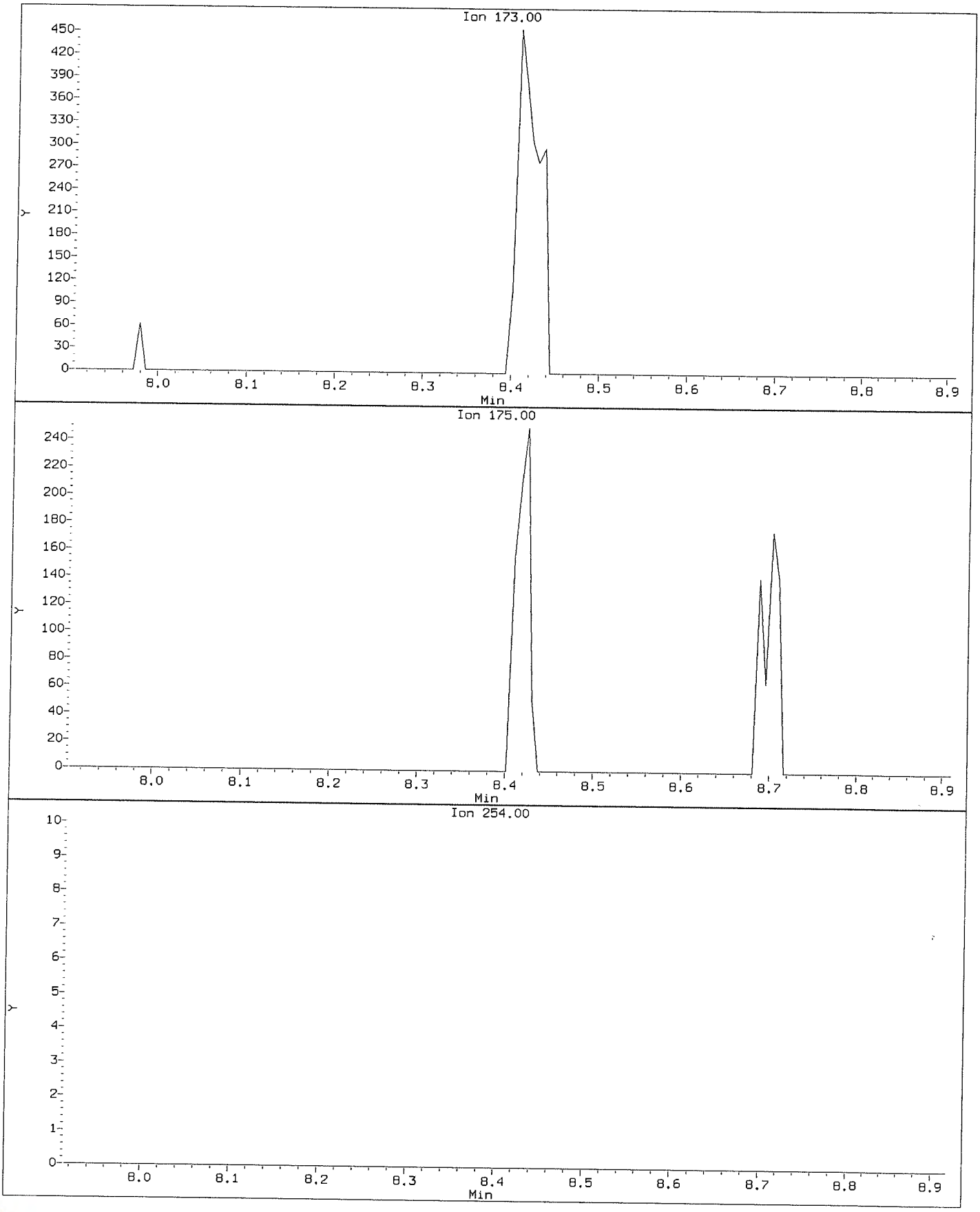
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Injection Date: 18-MAY-2021 11:43
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Bromodichloromethane
CAS Number: 75-27-4



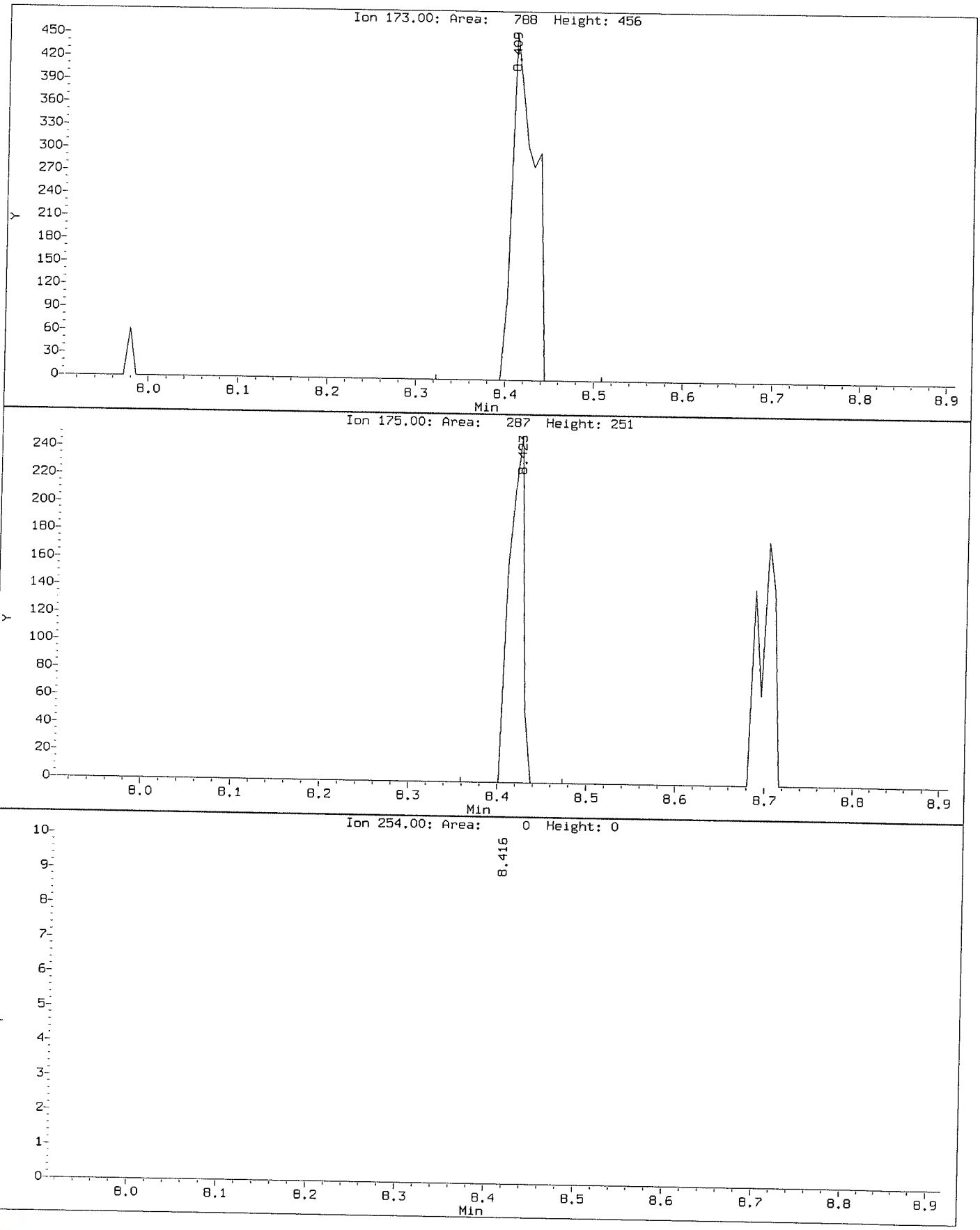
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Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Bromoform
CAS Number: 75-25-2



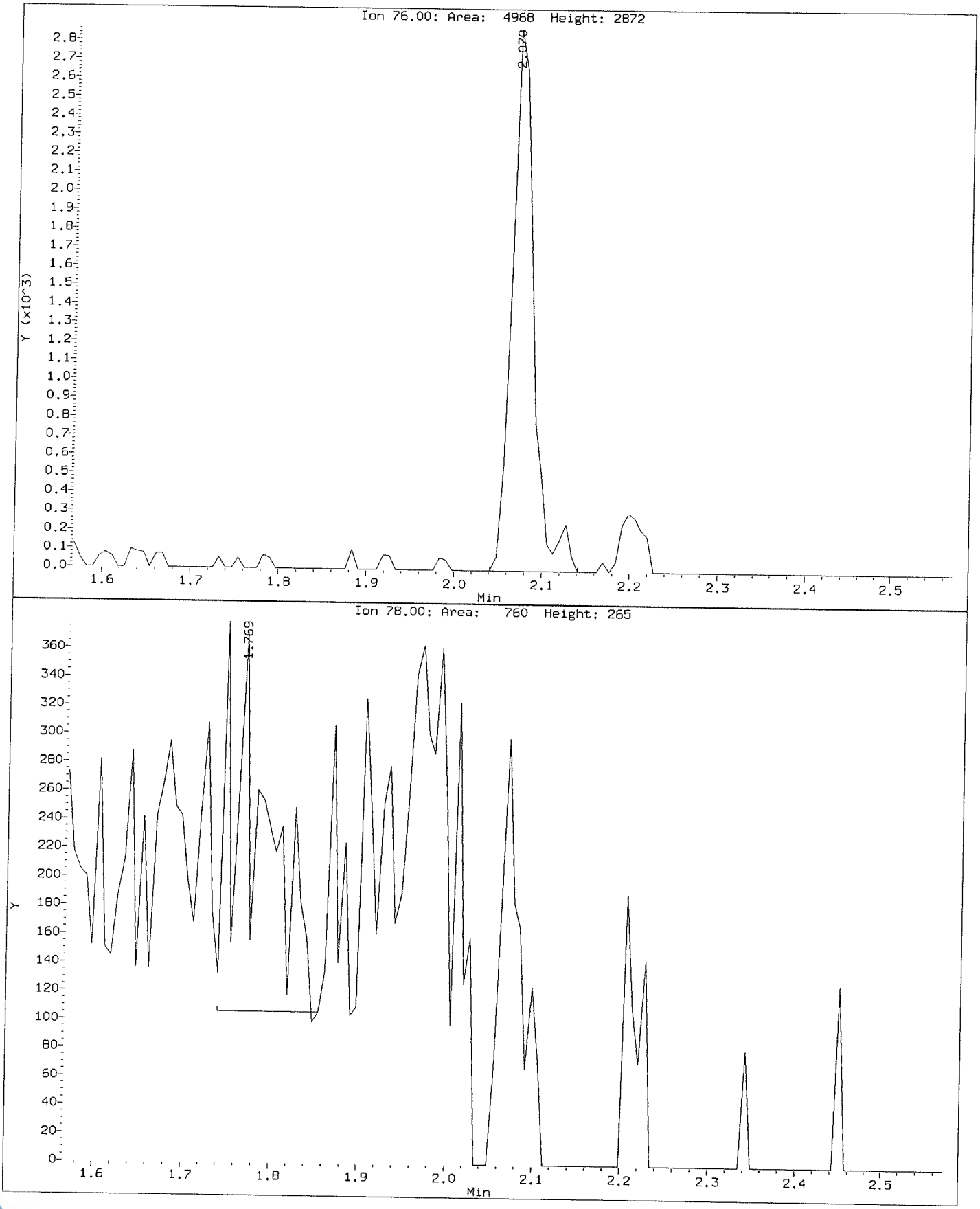
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Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Bromoform
CAS Number: 75-25-2



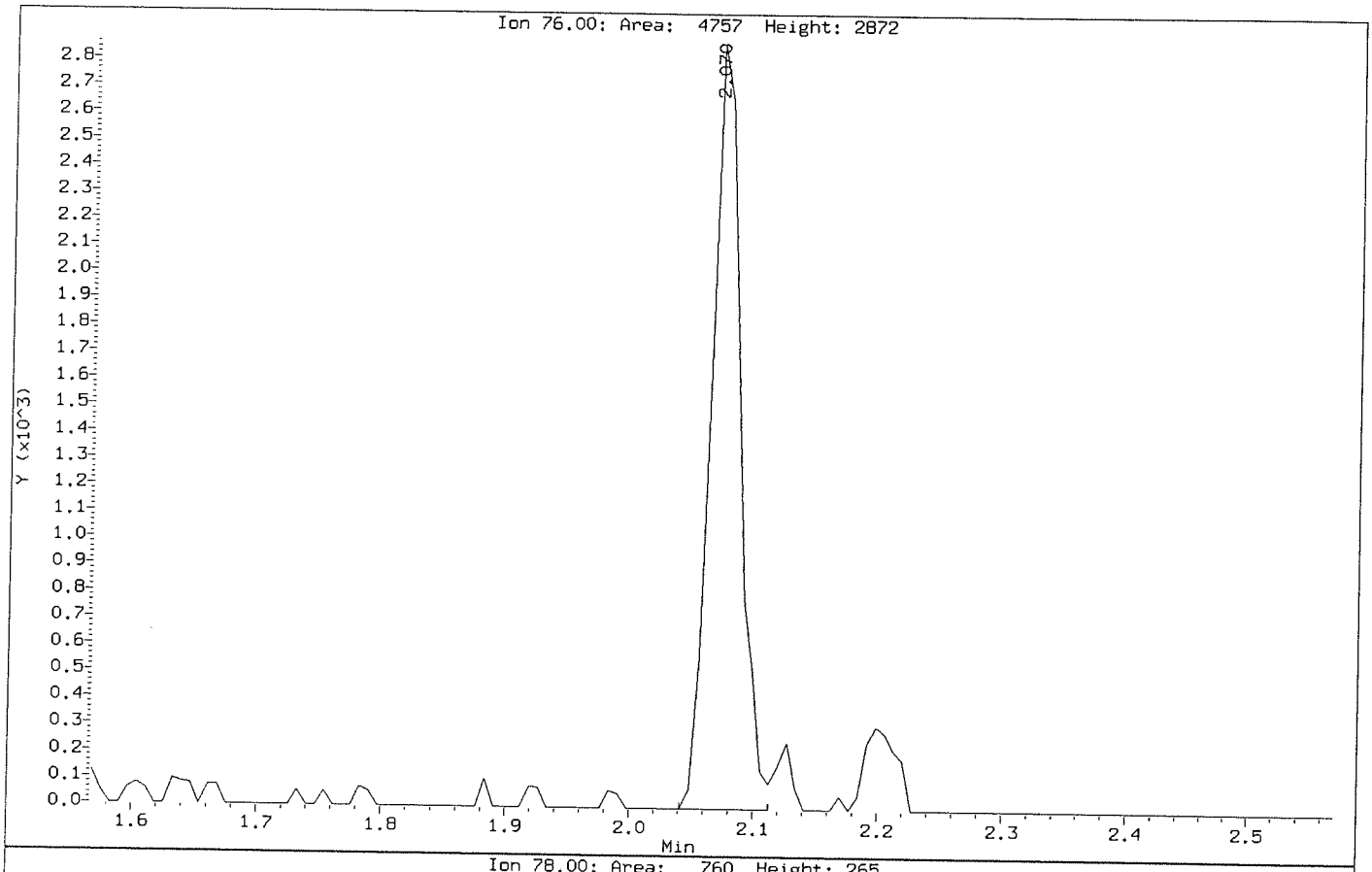
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Instrument: voa6.i
Client Sample ID: VSTD000.5

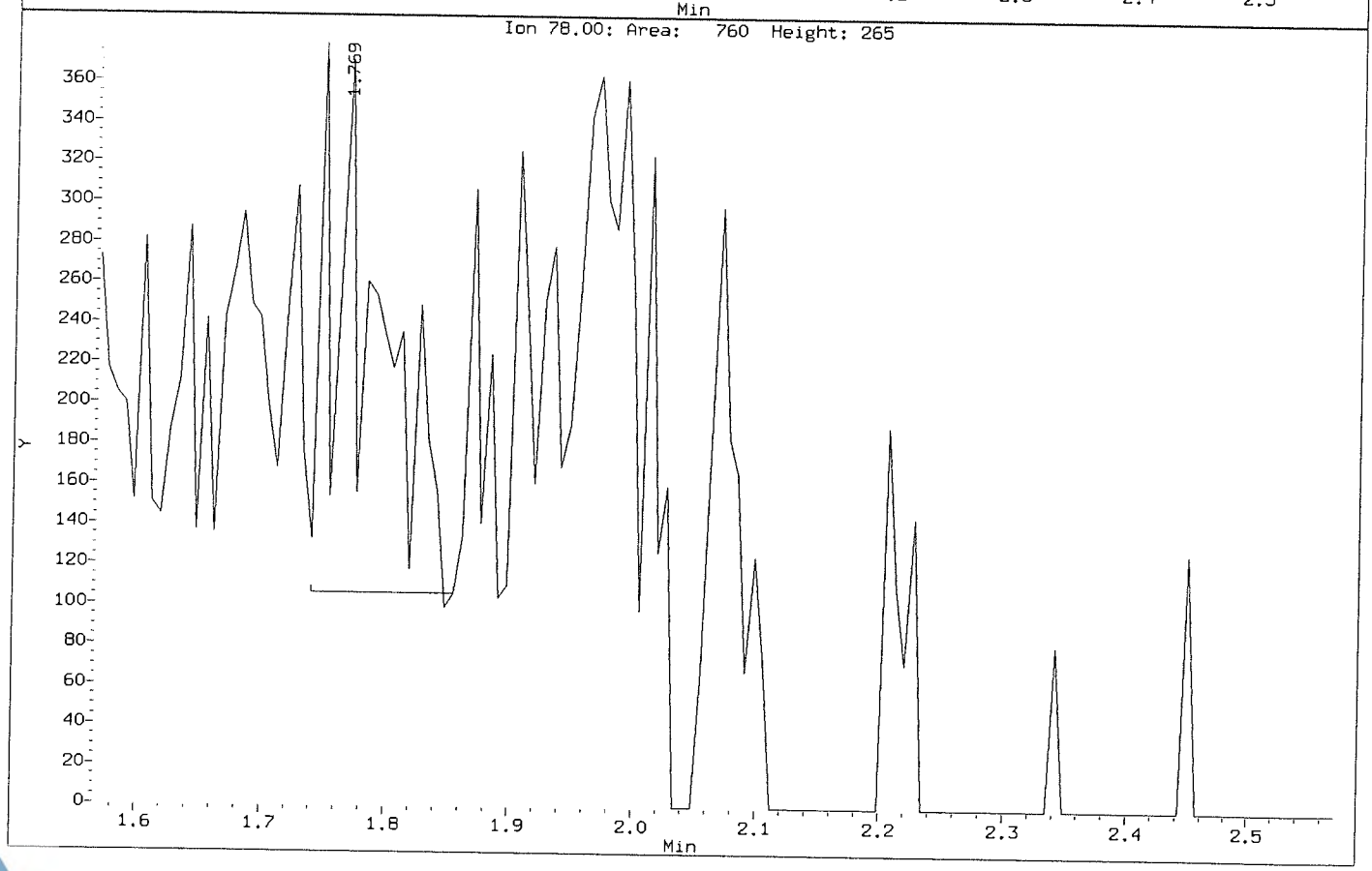
Compound: Carbon Disulfide
CAS Number: 75-15-0



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051803.D
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Instrument: voa6.i
Client Sample ID: VSTD000.5

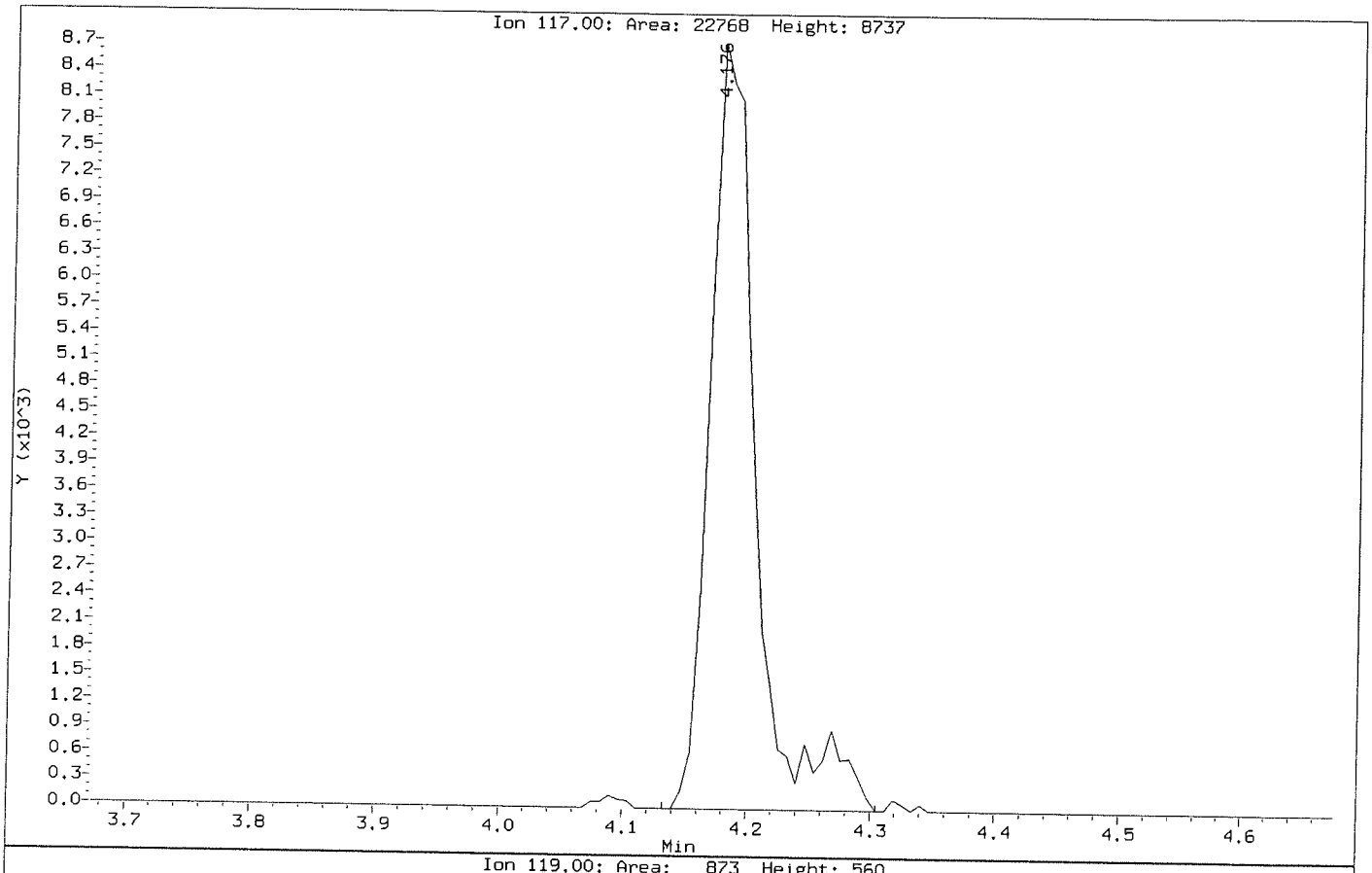
Compound: Carbon Disulfide
CAS Number: 75-15-0

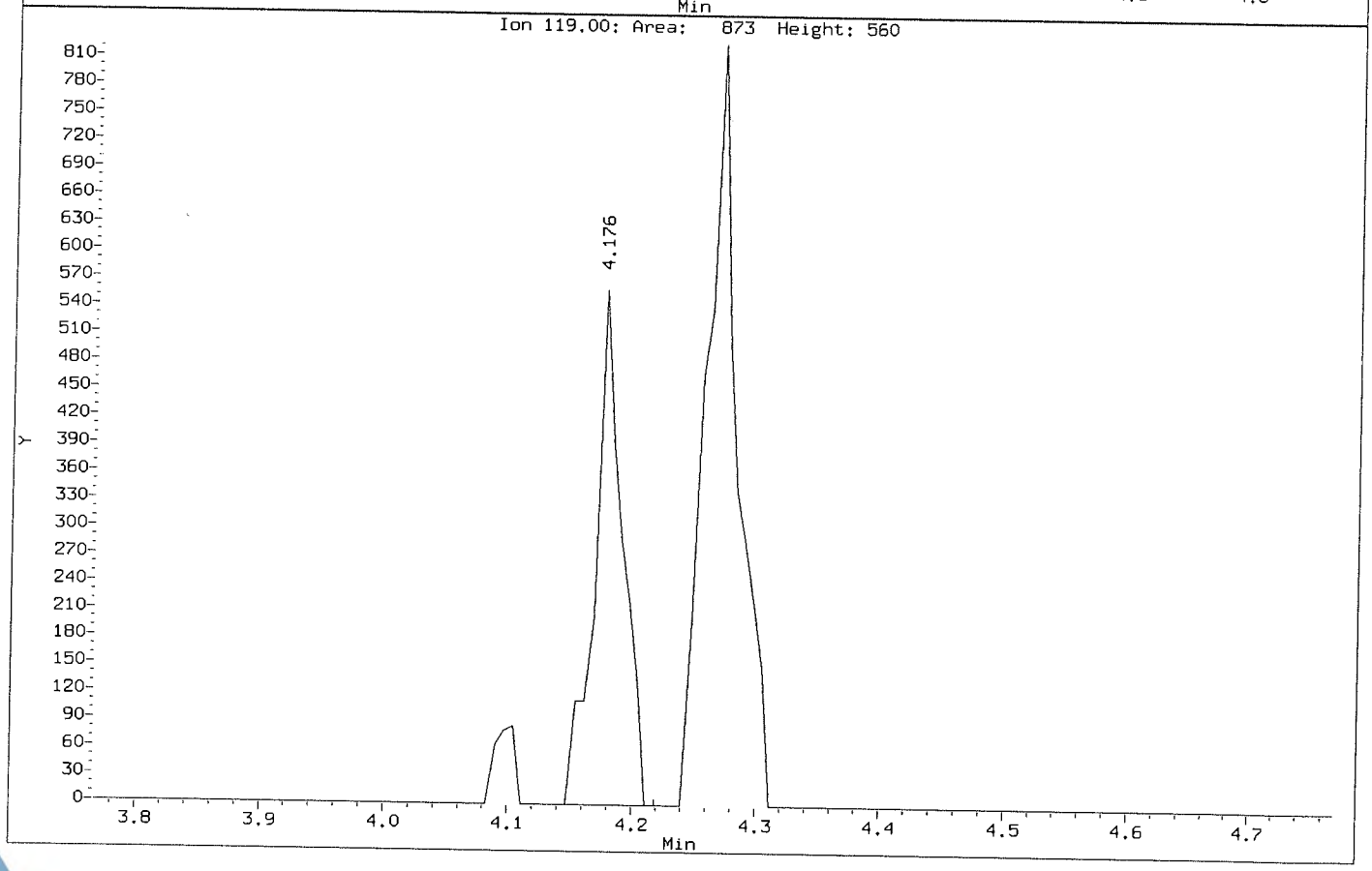


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Client Sample ID: VSTD000.5

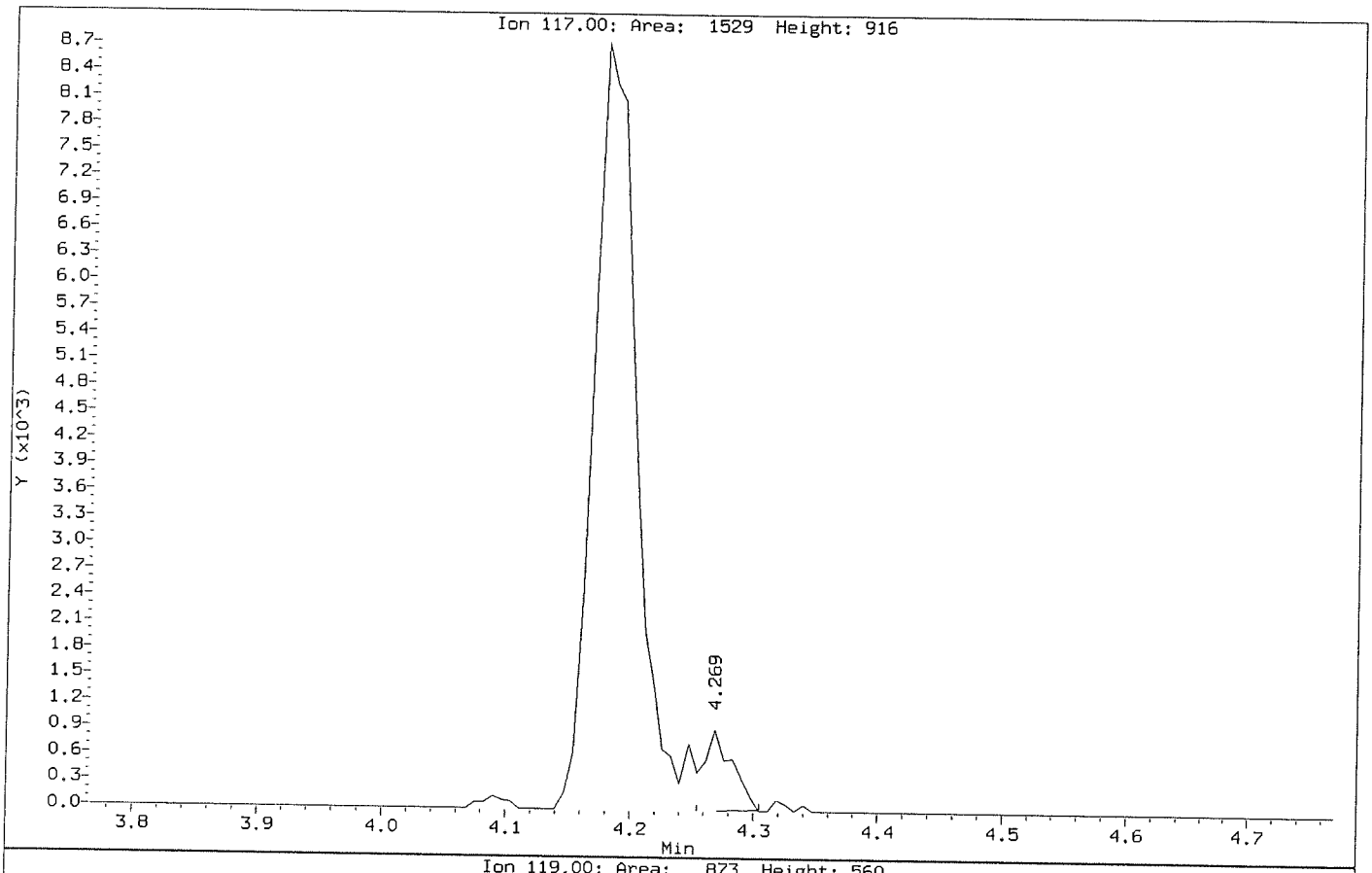
Compound: Carbon Tetrachloride
CAS Number: 56-23-5

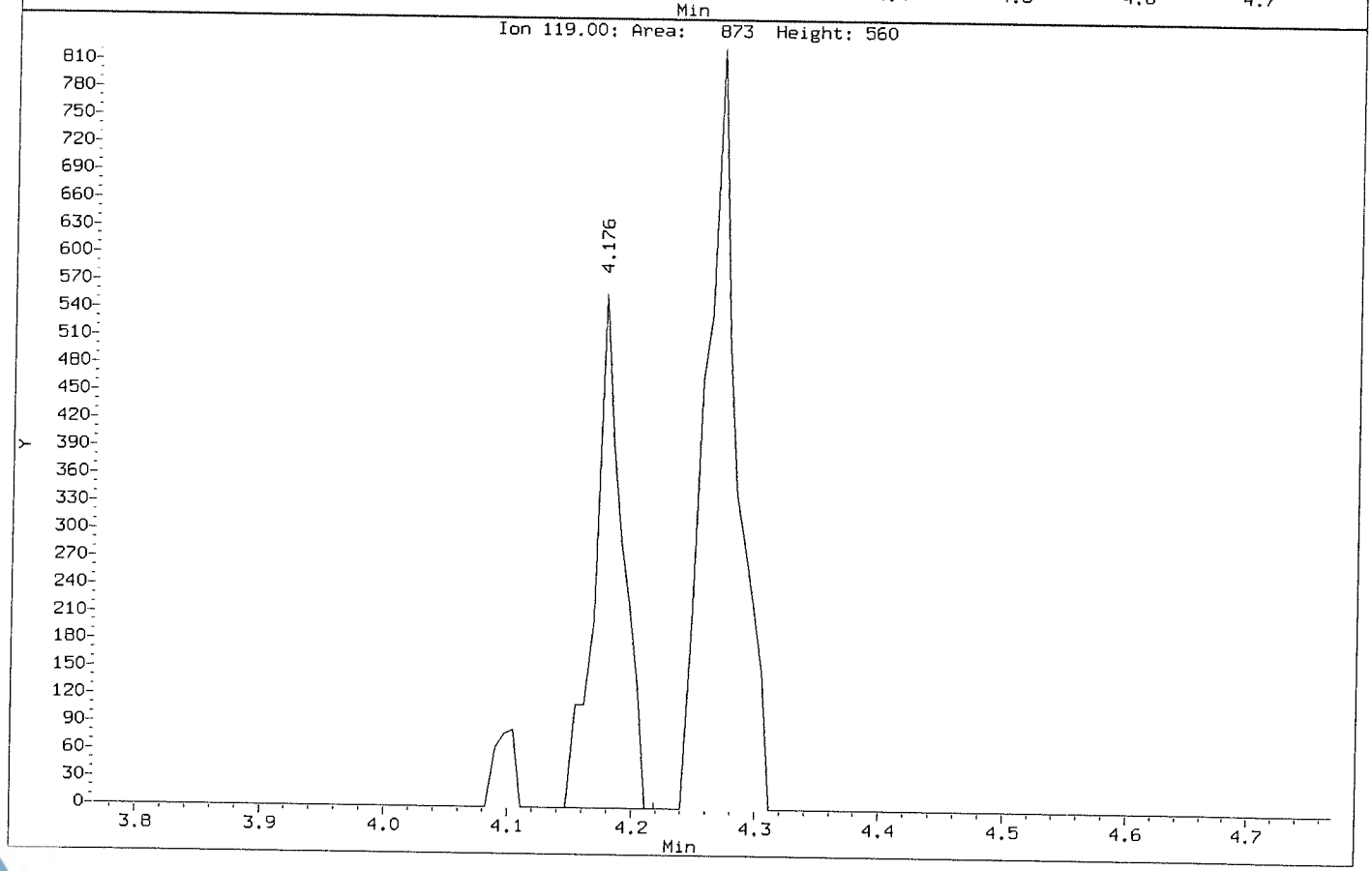


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Injection Date: 18-MAY-2021 11:43
Instrument: voa6.i
Client Sample ID: VSTD000.5

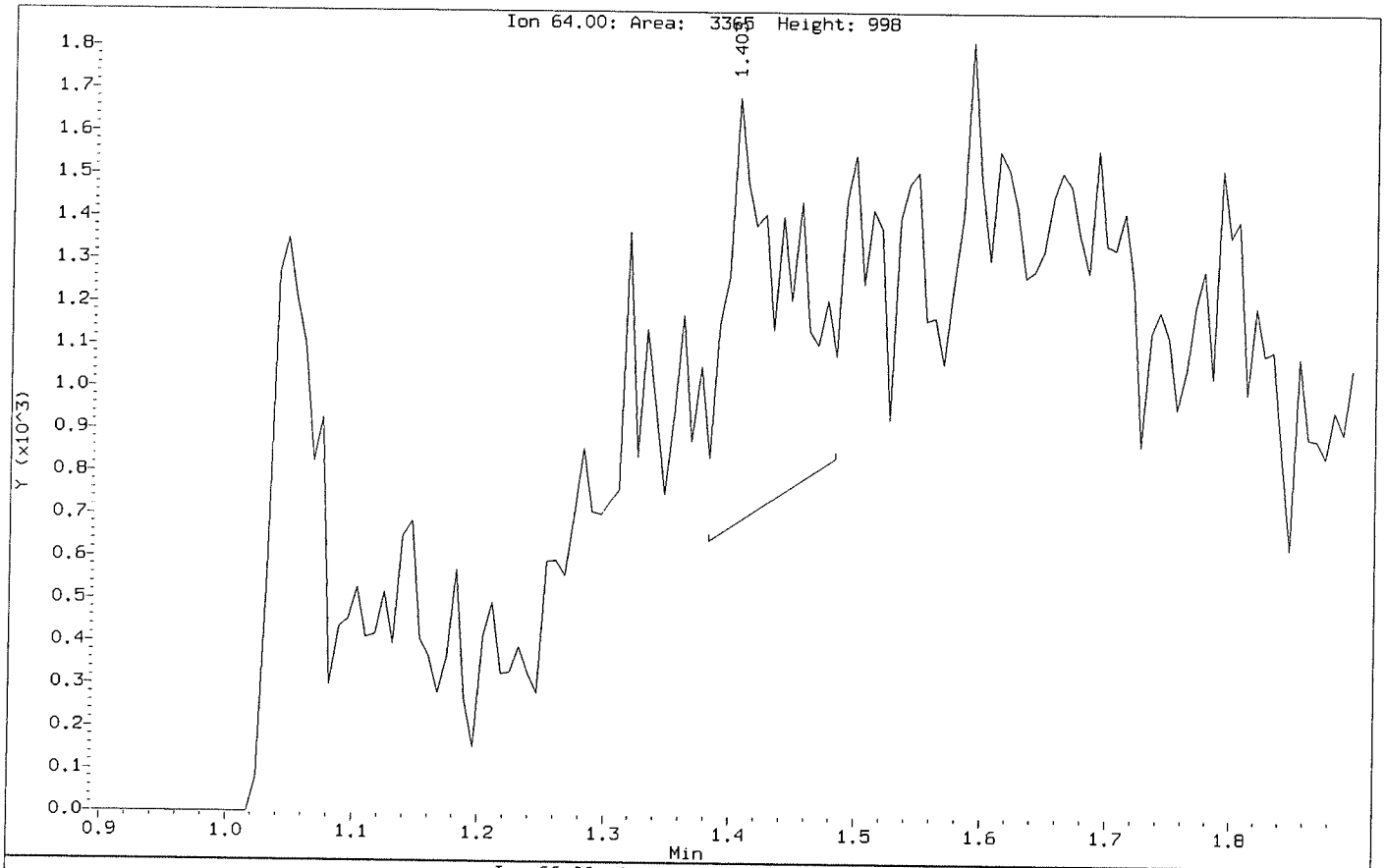
Compound: Carbon Tetrachloride
CAS Number: 56-23-5

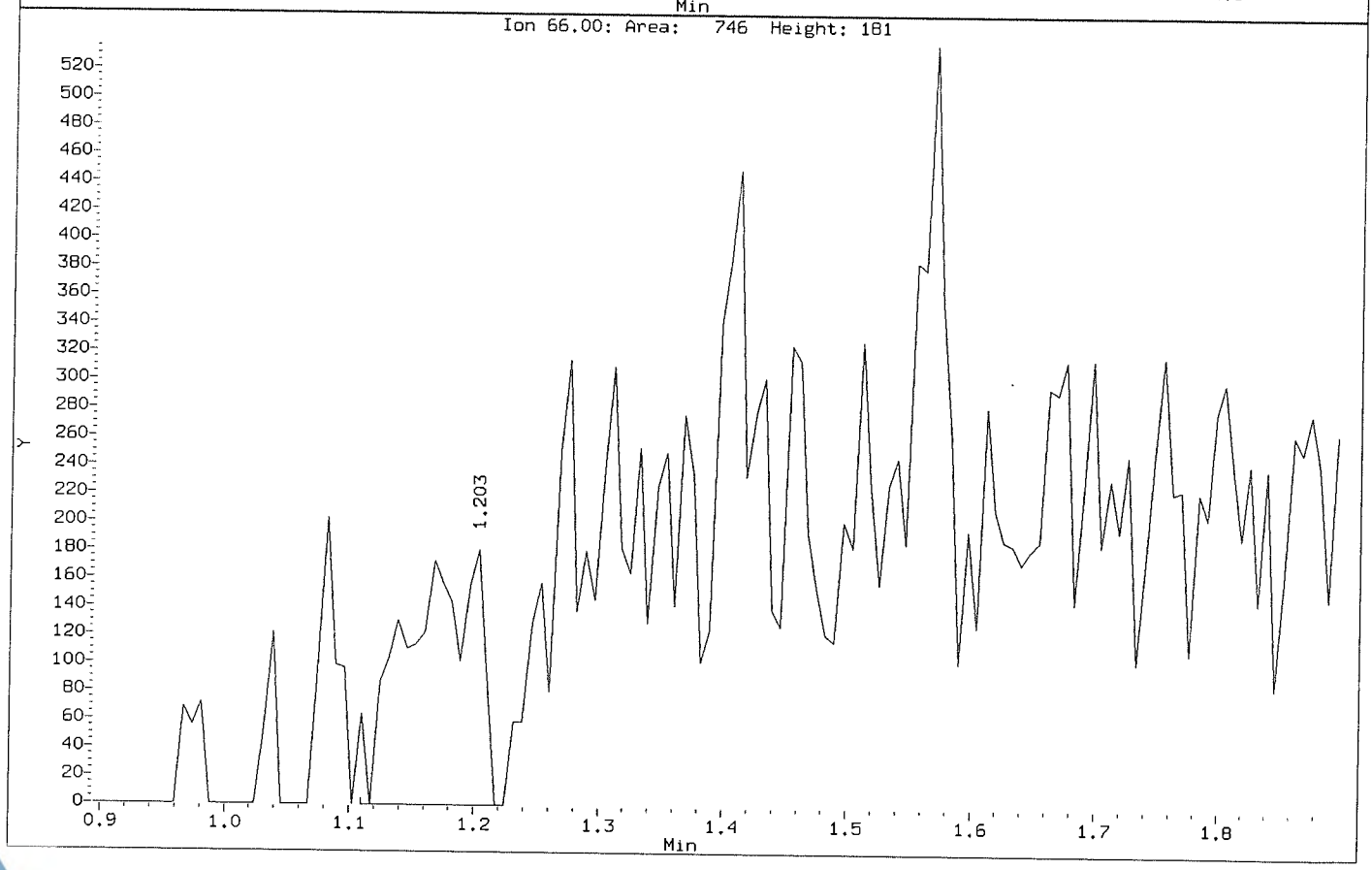


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Instrument: voa6.i
Client Sample ID: VSTD000.5

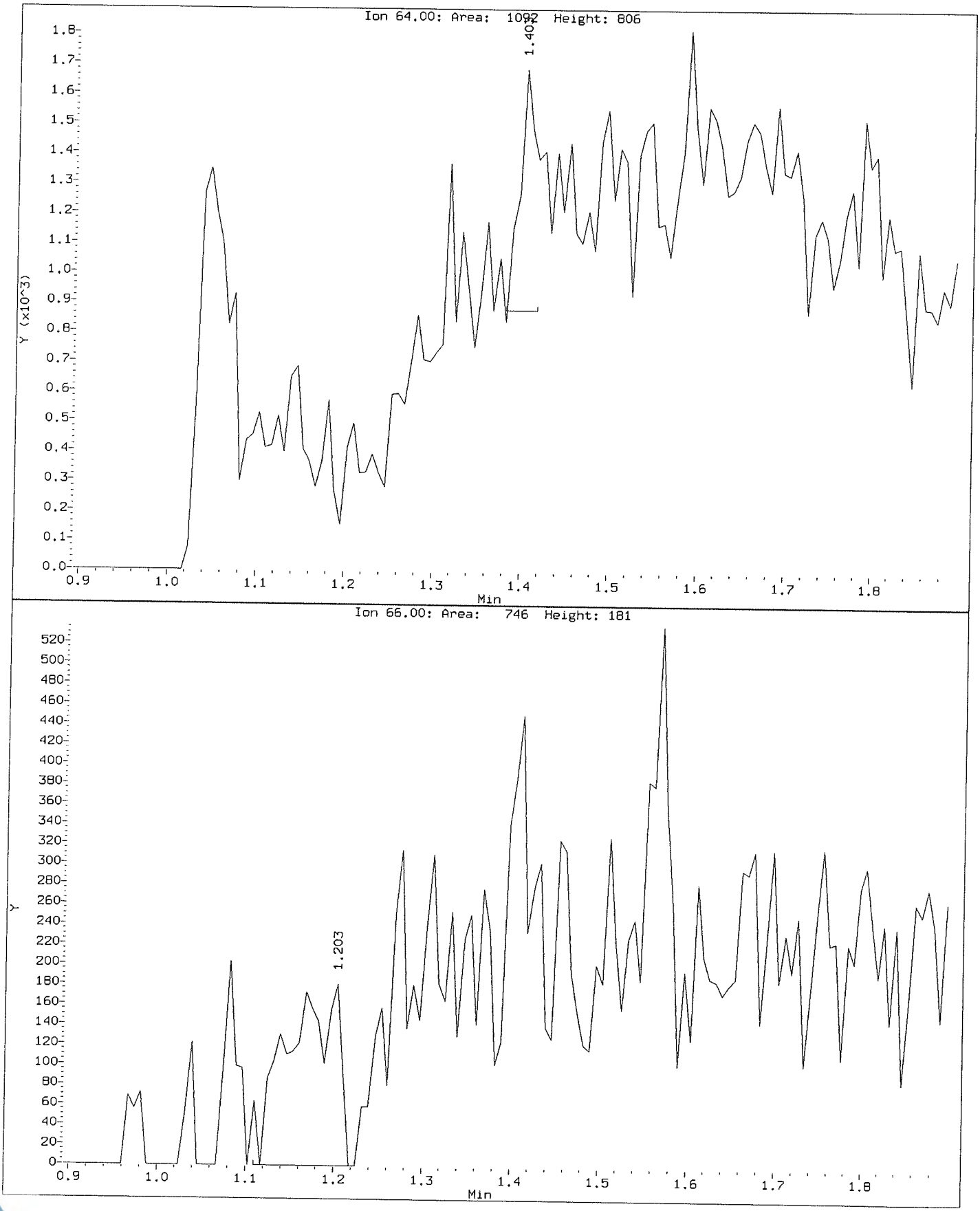
Compound: Chloroethane
CAS Number: 75-00-3



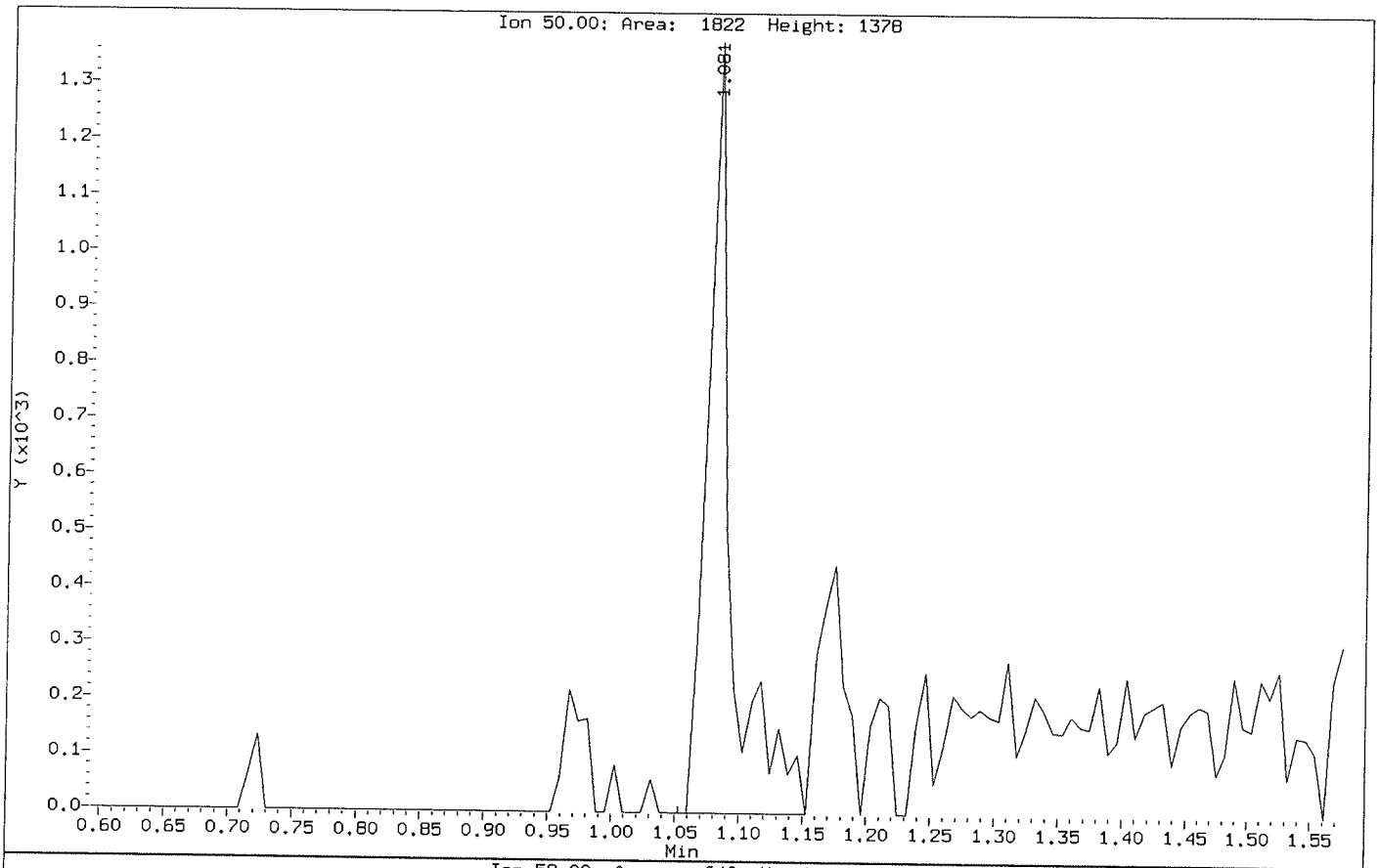
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Injection Date: 18-MAY-2021 11:43
Instrument: voa6.i
Client Sample ID: VSTD000.5

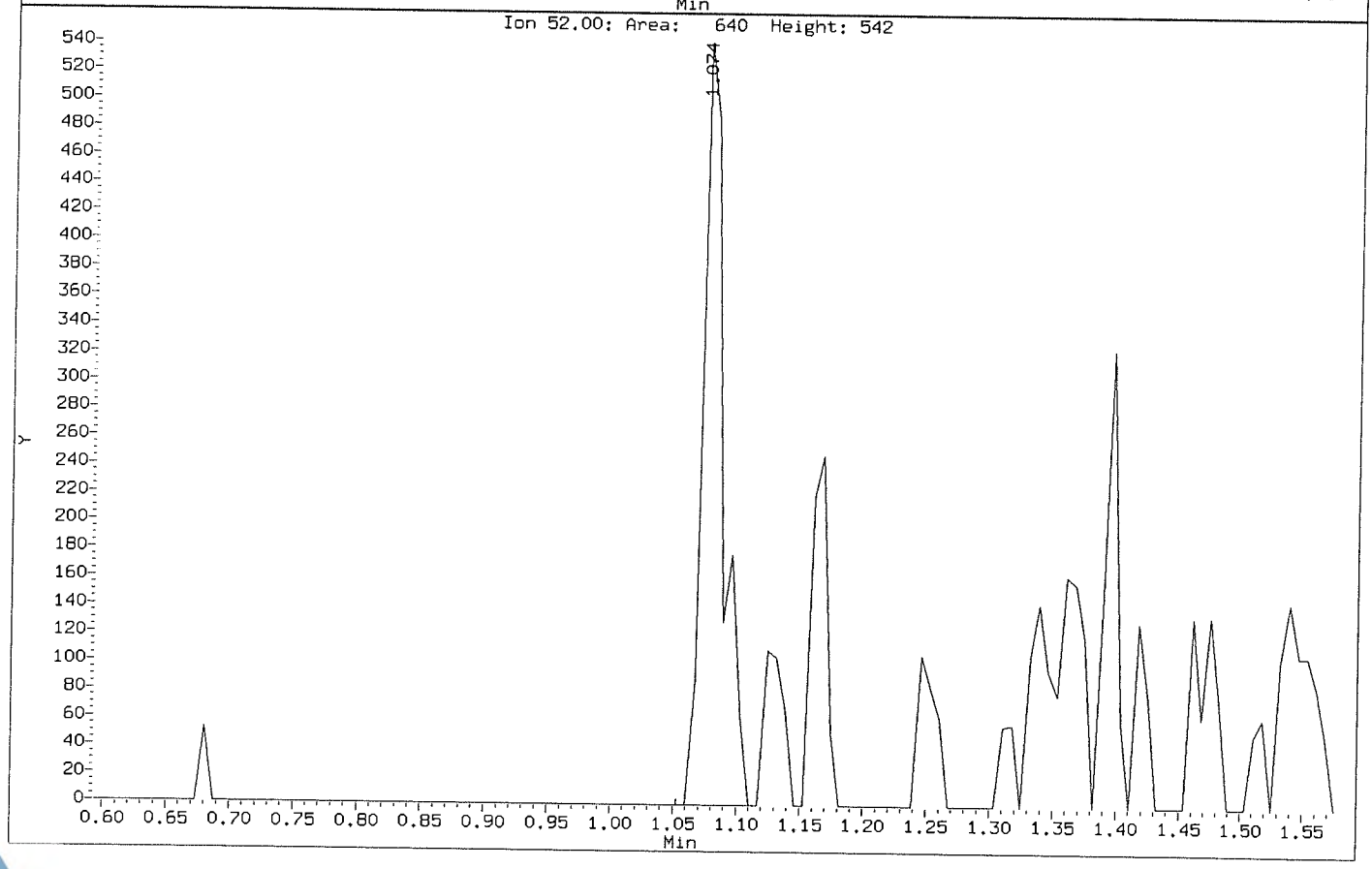
Compound: Chloroethane
CAS Number: 75-00-3



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Instrument: voa6.i
Client Sample ID: VSTD000.5

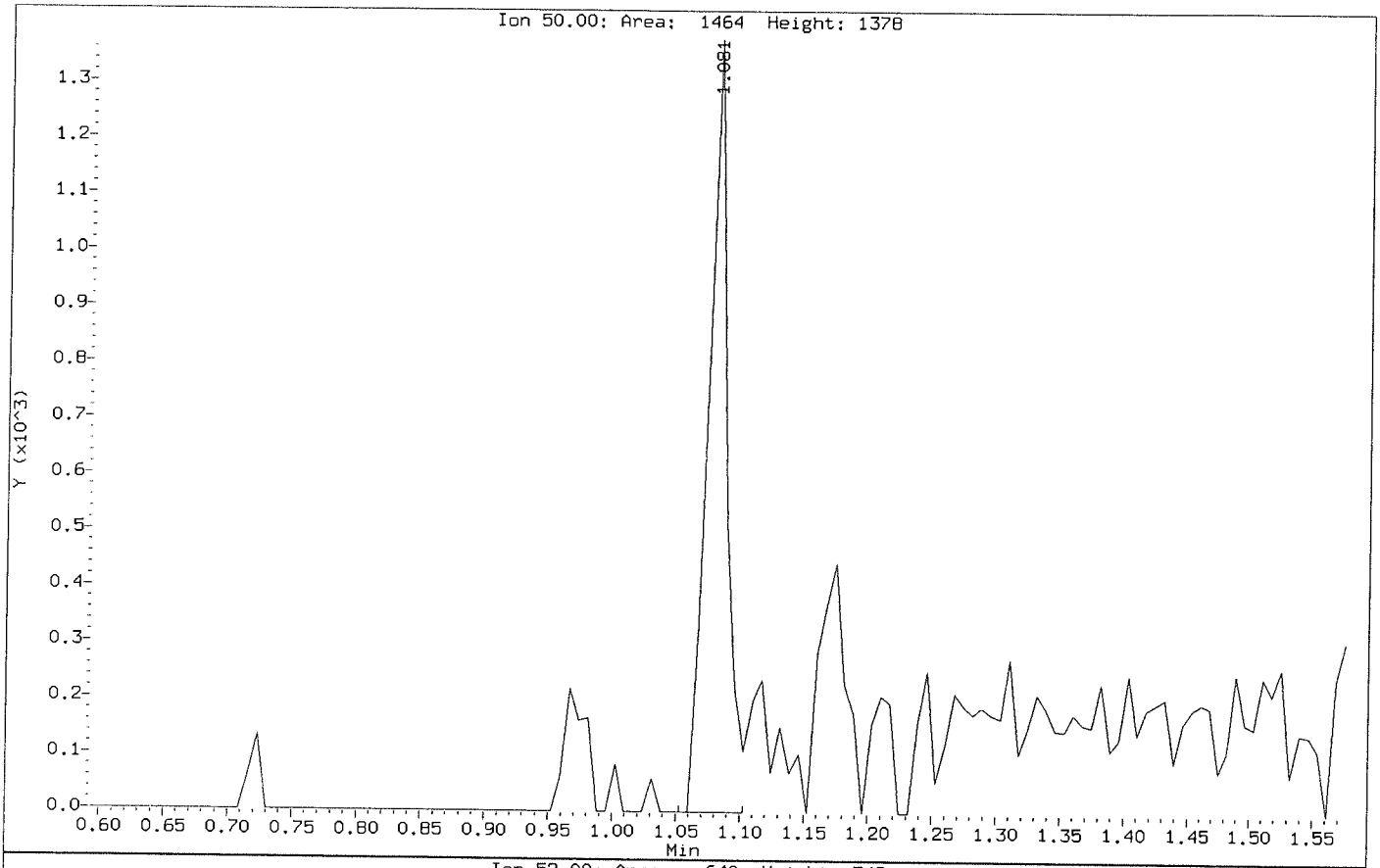
Compound: Chloromethane
CAS Number: 74-87-3

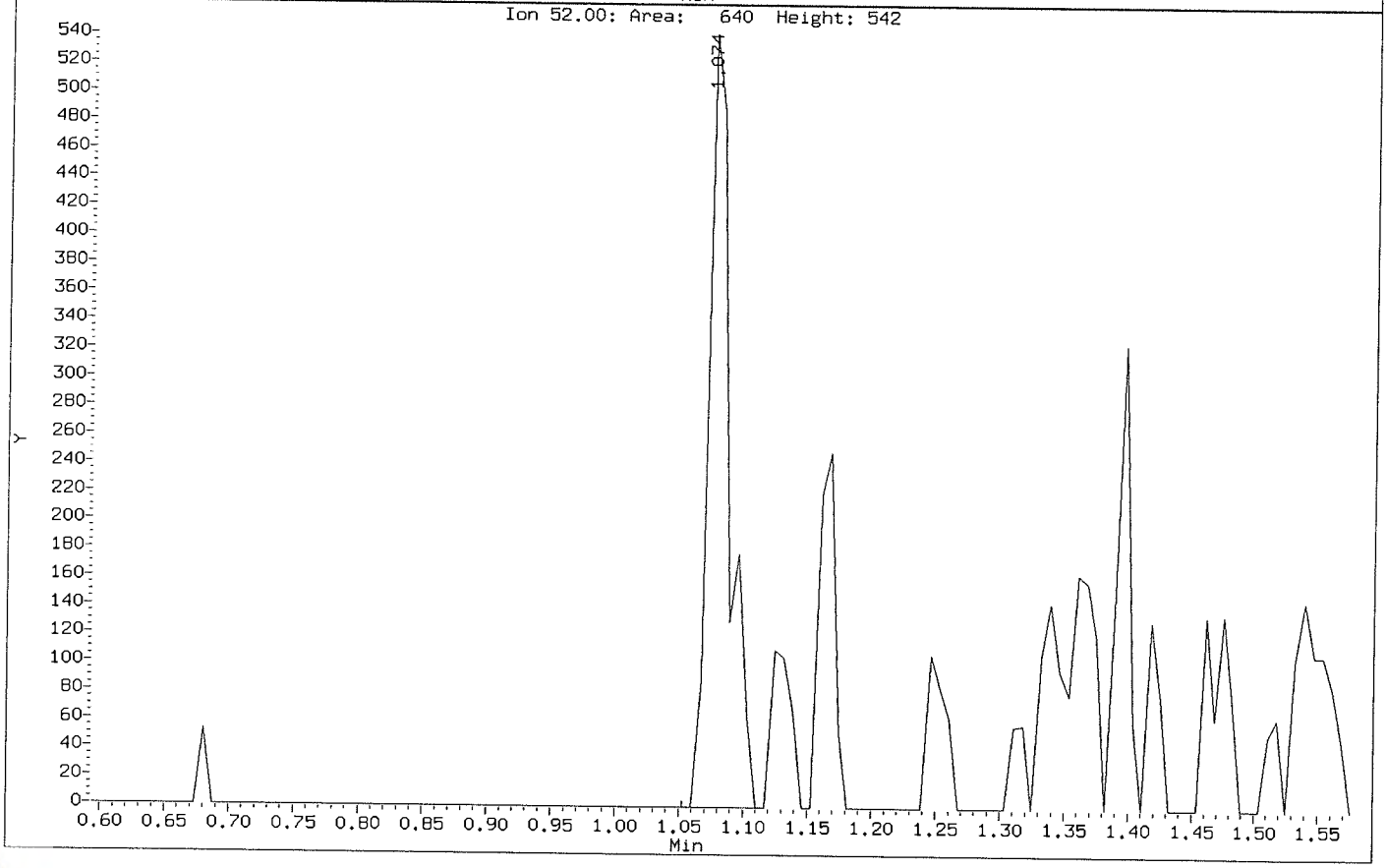


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Injection Date: 18-MAY-2021 11:43
Instrument: voa6.i
Client Sample ID: VSTD000.5

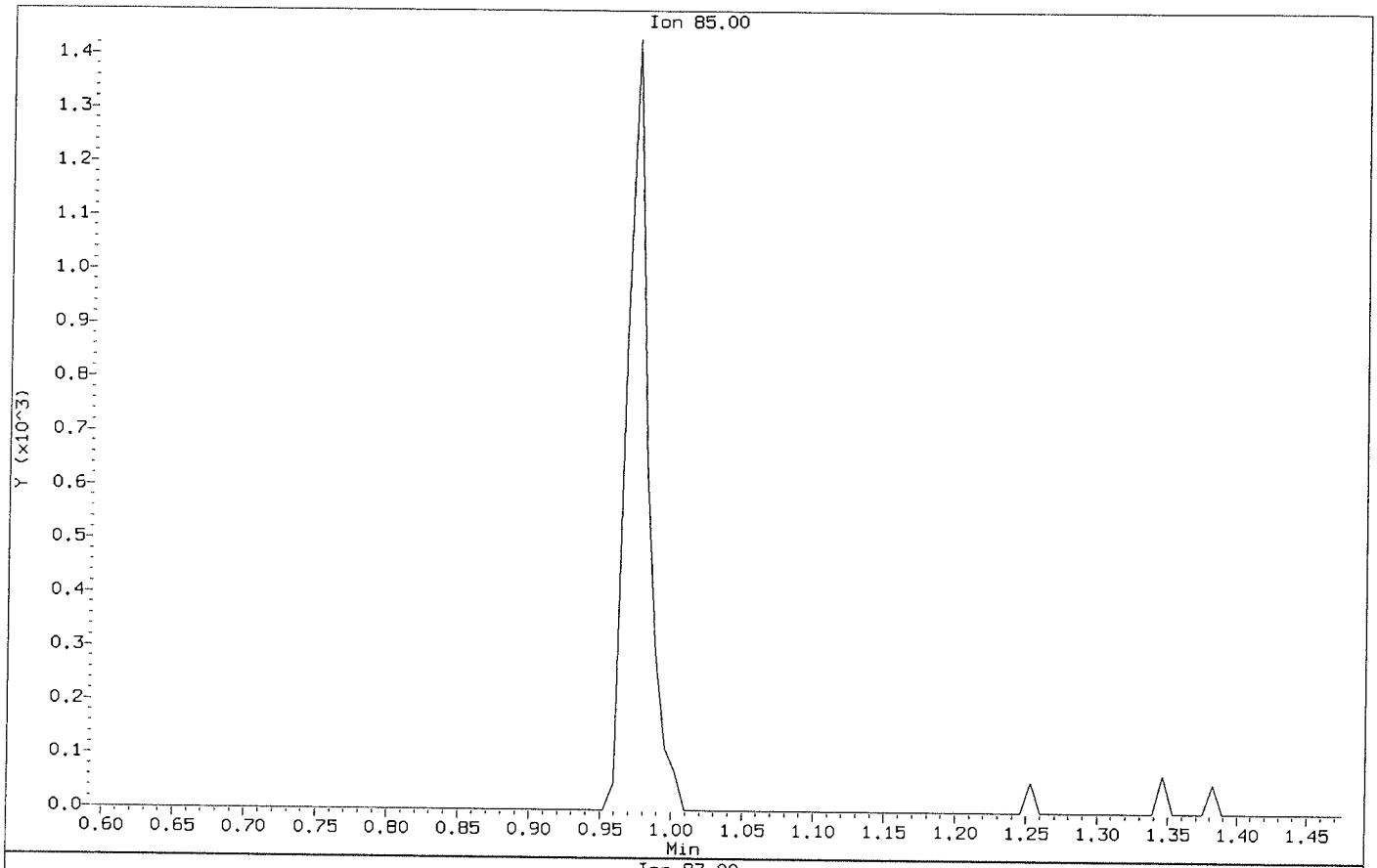
Compound: Chloromethane
CAS Number: 74-87-3

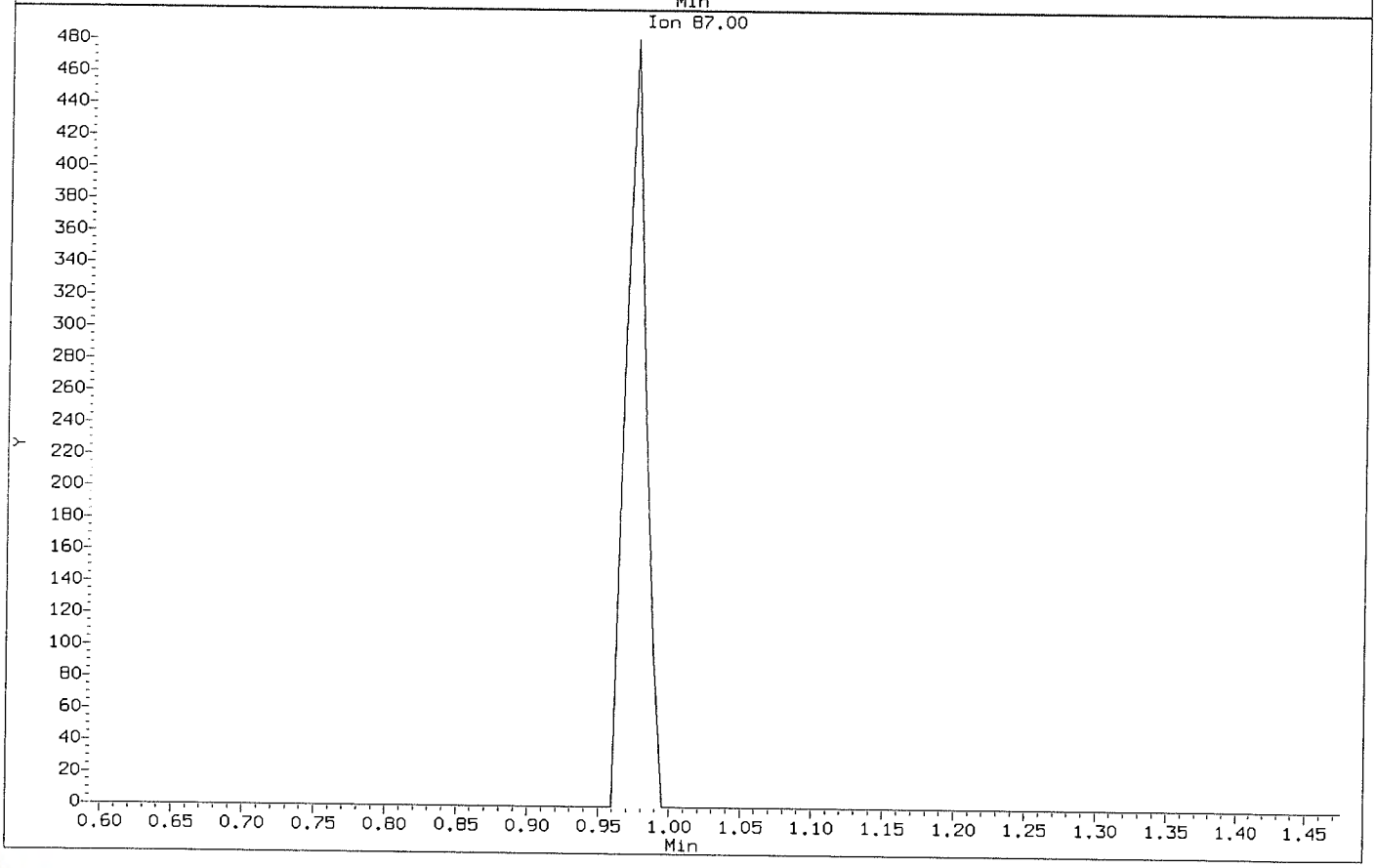


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Injection Date: 18-MAY-2021 11:43
Instrument: voa6.i
Client Sample ID: VSTD000.5

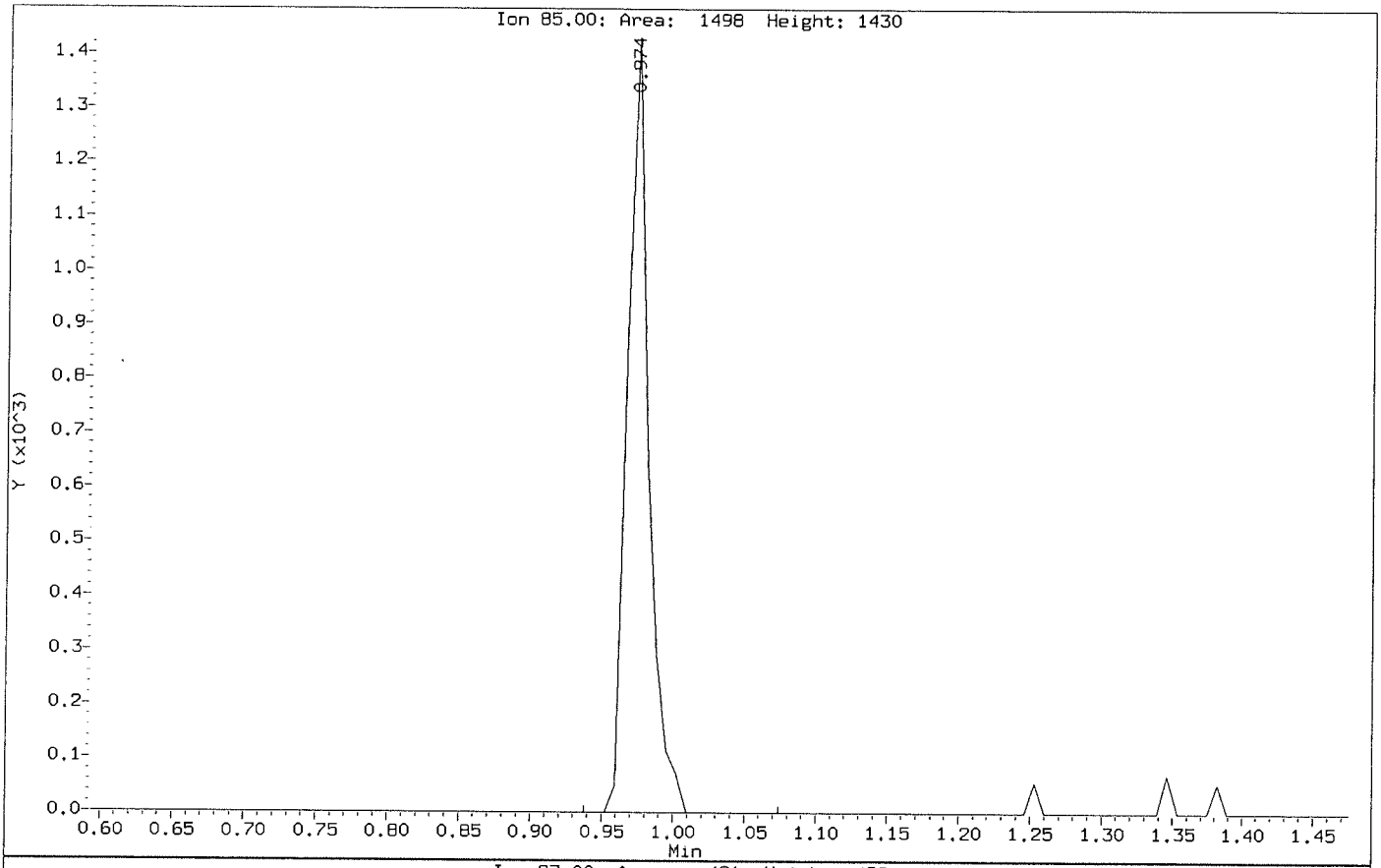
Compound: Dichlorodifluoromethane
CAS Number: 75-71-8

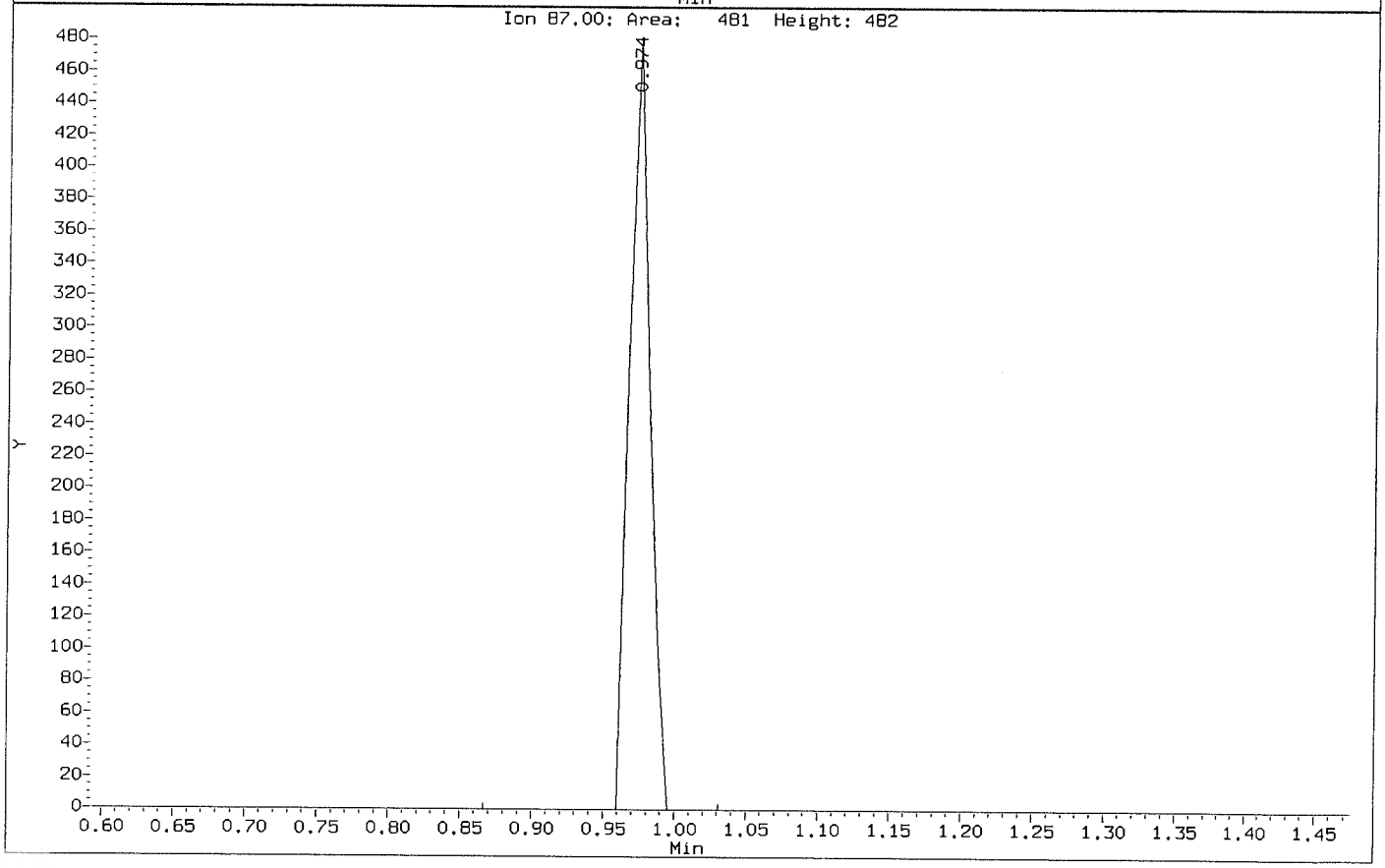


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Injection Date: 18-MAY-2021 11:43
Instrument: voa6.i
Client Sample ID: VSTD000.5

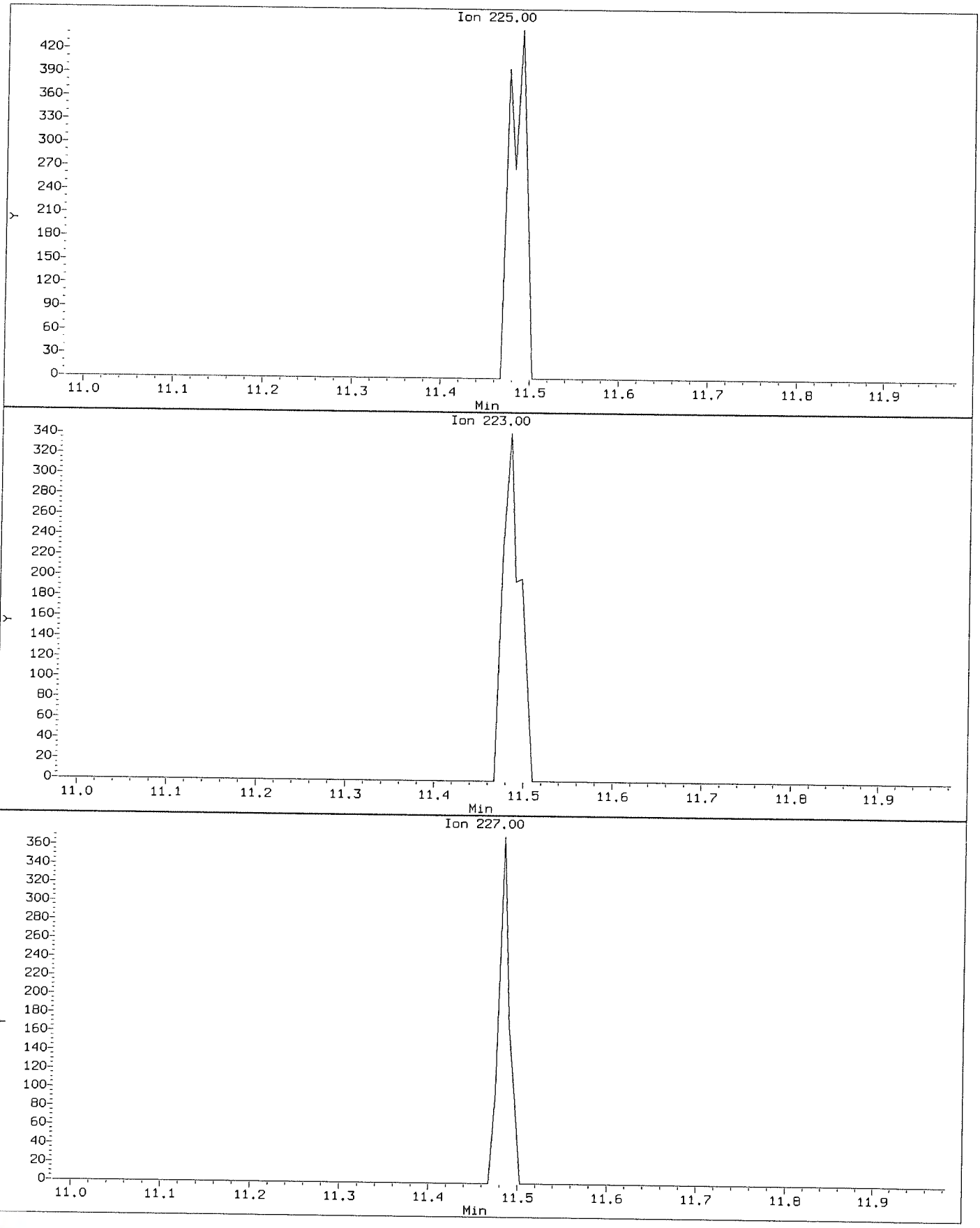
Compound: Dichlorodifluoromethane
CAS Number: 75-71-8



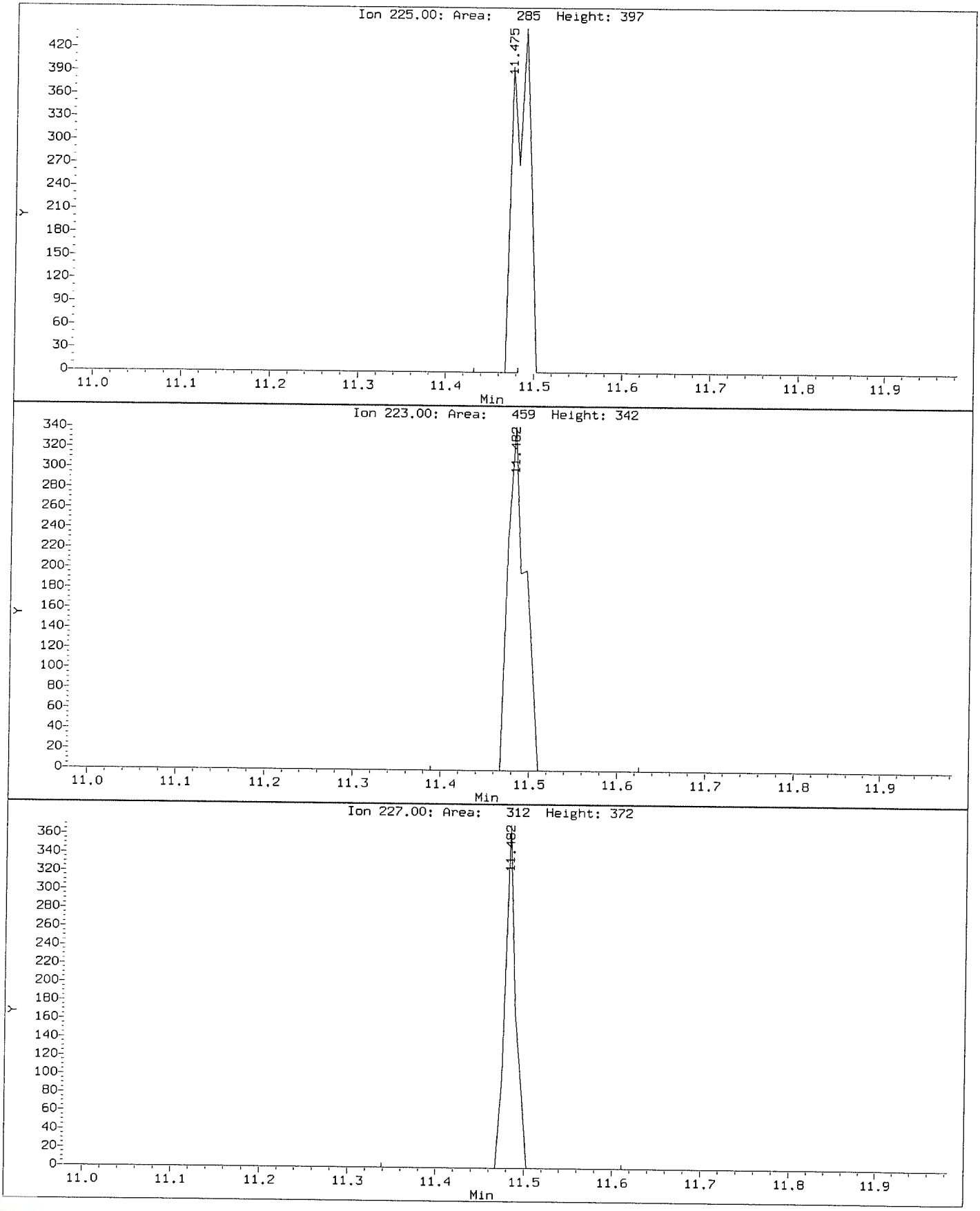
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Injection Date: 18-MAY-2021 11:43
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Hexachlorobutadiene
CAS Number: 87-68-3



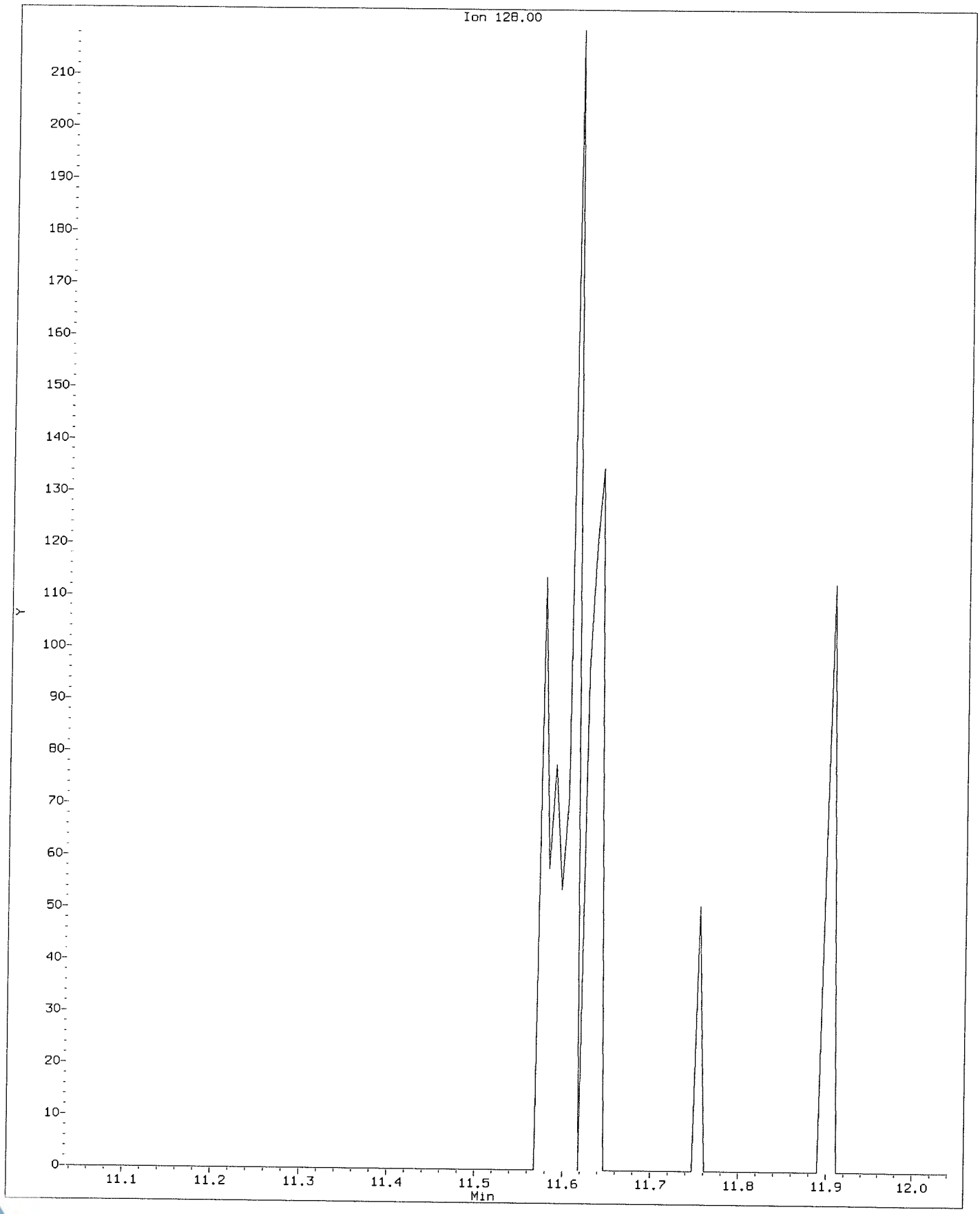
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Injection Date: 18-MAY-2021 11:43
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Hexachlorobutadiene
CAS Number: 87-68-3



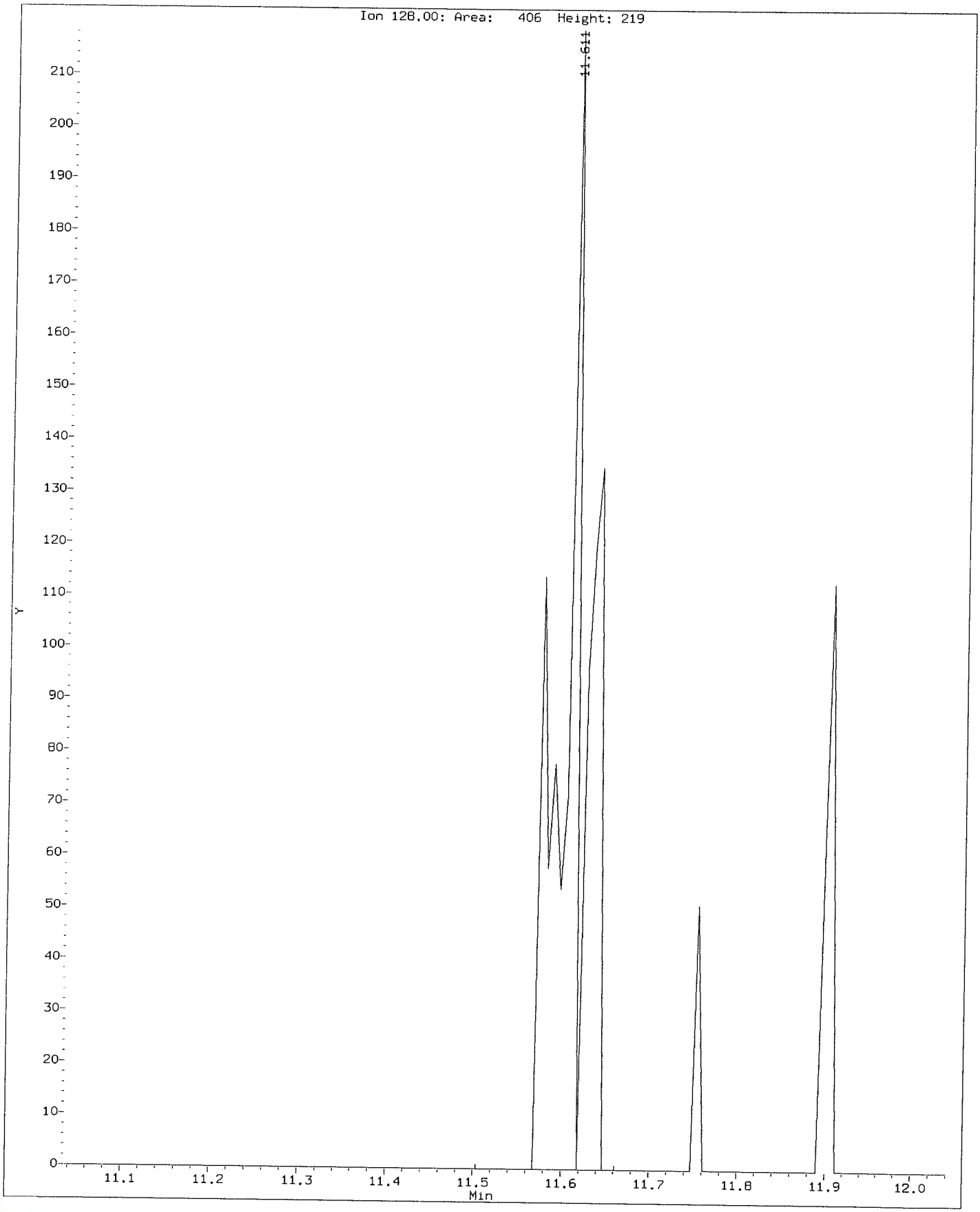
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Injection Date: 18-MAY-2021 11:43
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Naphthalene
CAS Number: 91-20-3



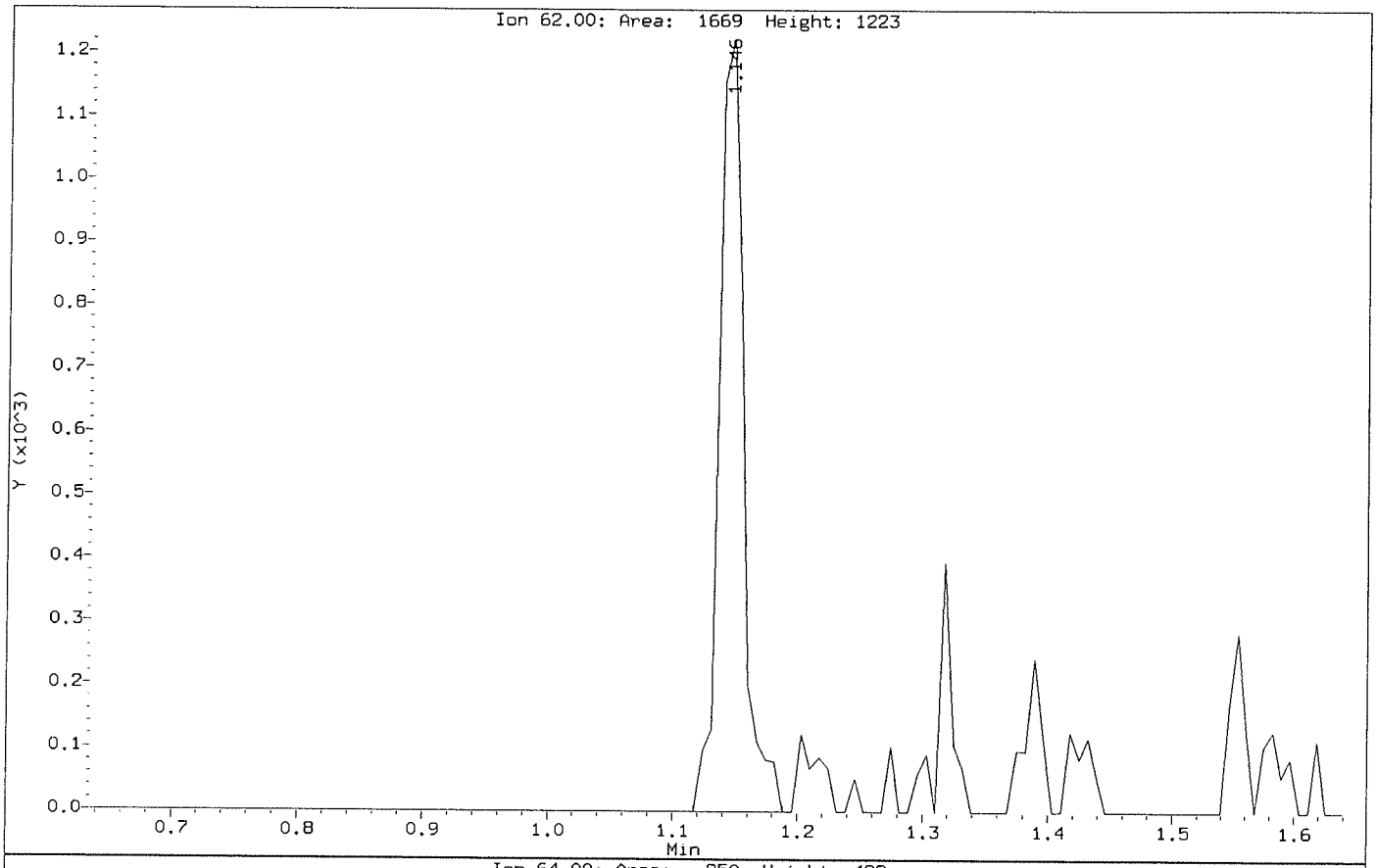
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Injection Date: 18-MAY-2021 11:43
Instrument: voa6.i
Client Sample ID: VSTD000.5

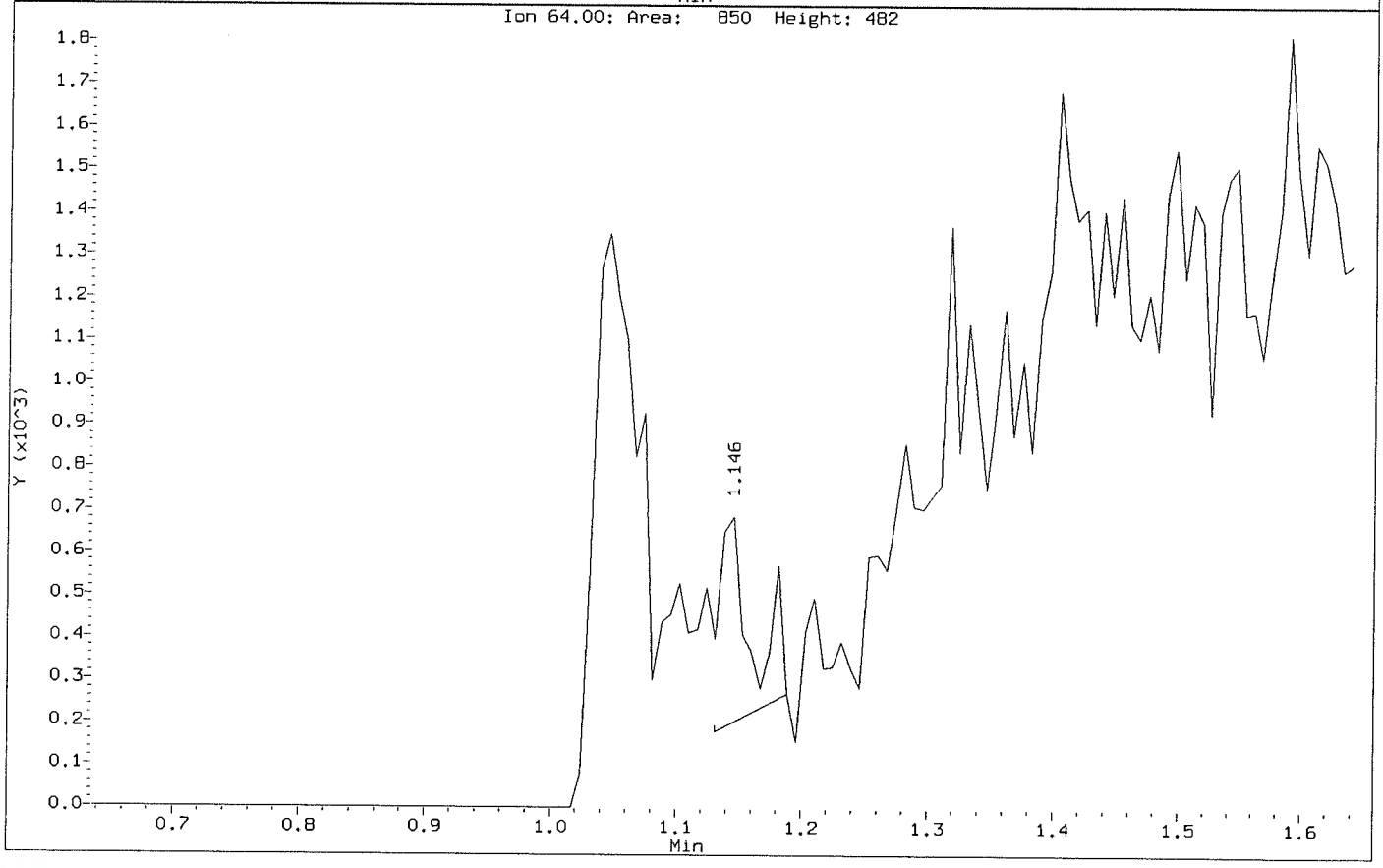
Compound: Naphthalene
CAS Number: 91-20-3



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Instrument: voa6.i
Client Sample ID: VSTD000.5

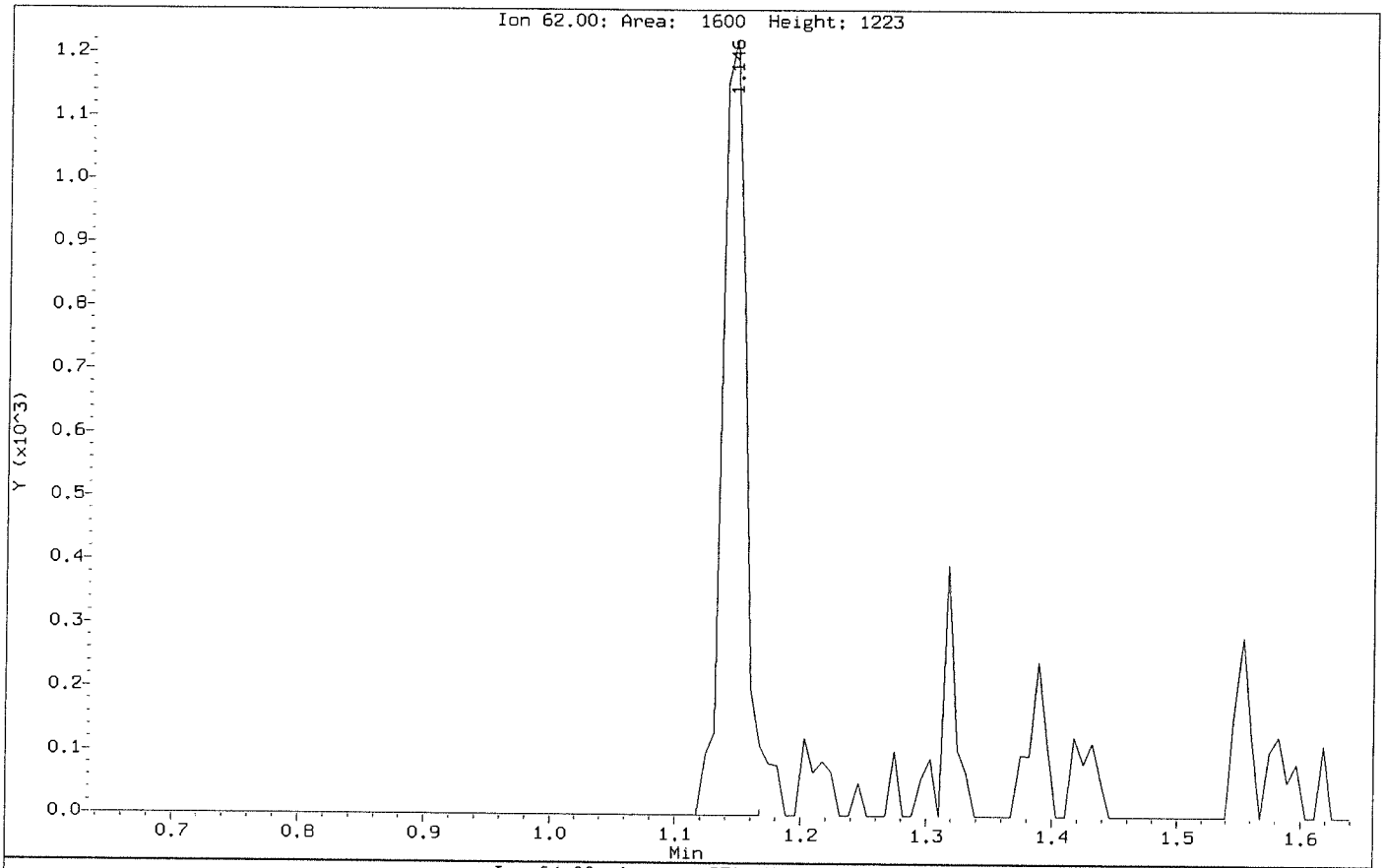
Compound: Vinyl Chloride
CAS Number: 75-01-4

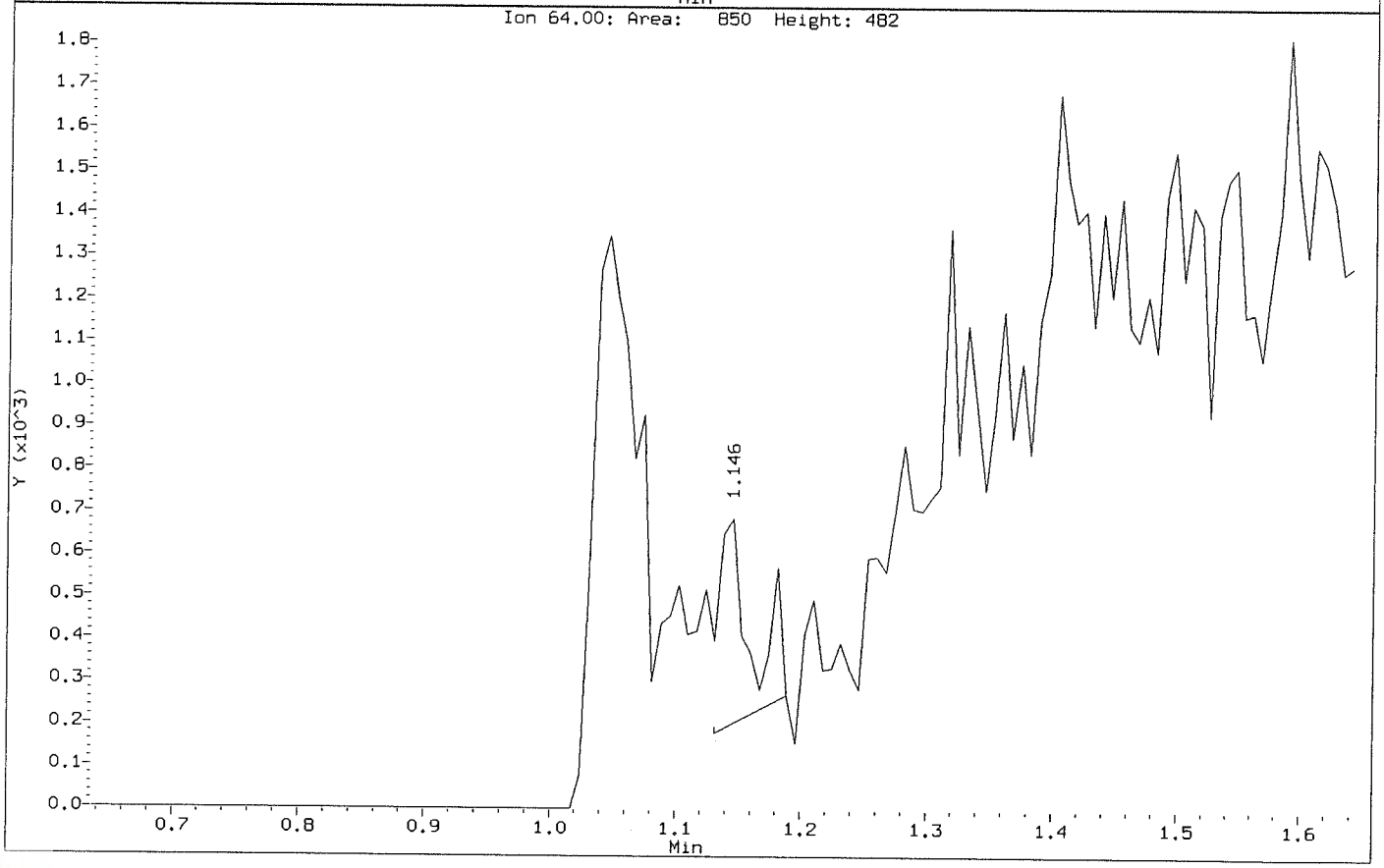


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Injection Date: 18-MAY-2021 11:43
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Vinyl Chloride
CAS Number: 75-01-4



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051804.D Page 1
Report Date: 08-Jun-2021 11:42

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051804.D
Lab Smp Id: VSDT001 Client Smp ID: VSTD001
Inj Date : 18-MAY-2021 12:25
Operator : PC Inst ID: voa6.i
Smp Info : VSDT001;VSTD001;1;3;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210518.b\8260W.m
Meth Date : 08-Jun-2021 11:42 voa6.i Quant Type: ISTD
Cal Date : 18-MAY-2021 11:43 Cal File: X051803.D
Als bottle: 5 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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 |

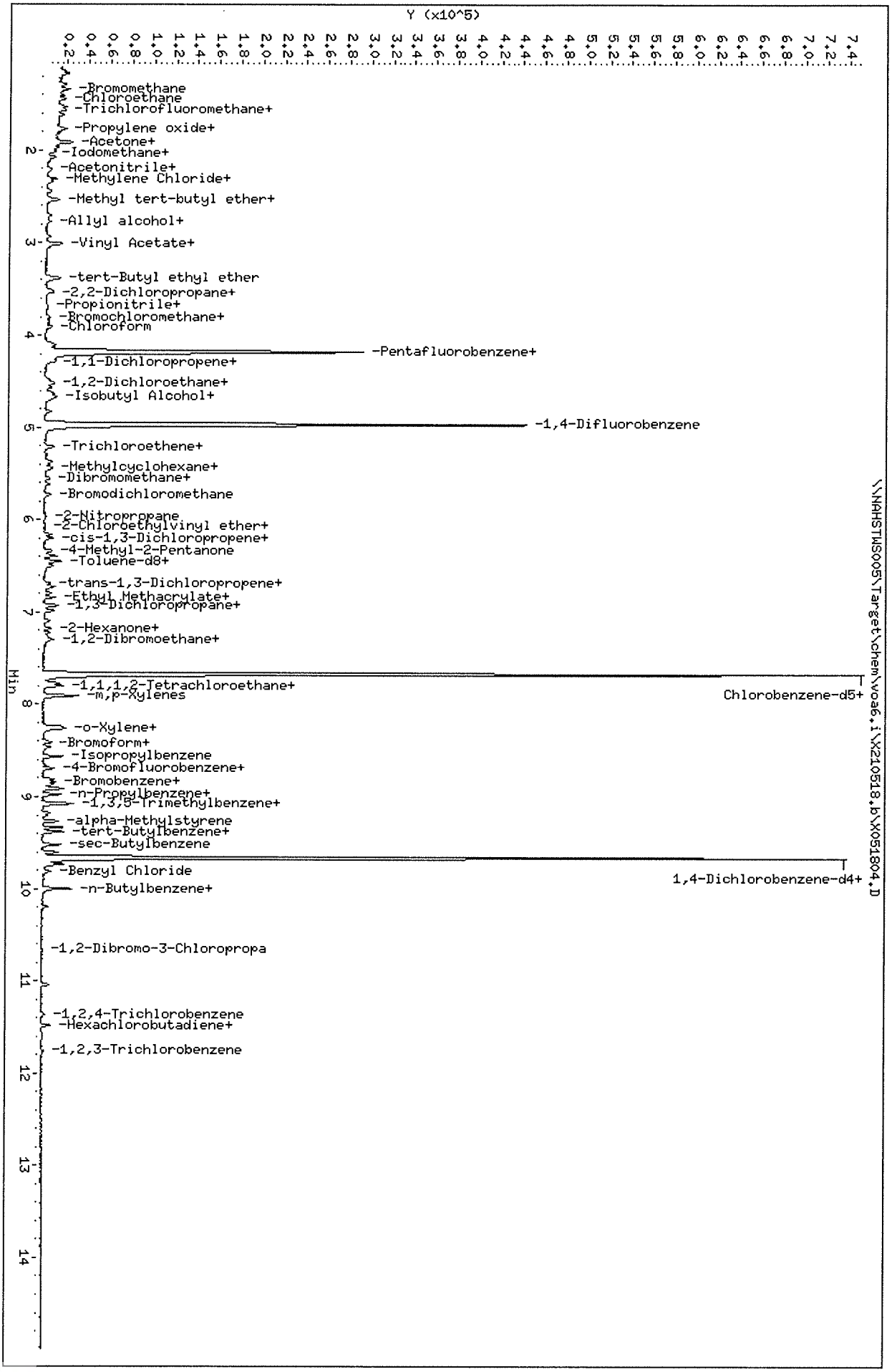
| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|
| * 1 Pentafluorobenzene | 168 | 4.182 | 4.182 | (1.000) | 219851 | 50.0000 | |
| * 36 1,4-Difluorobenzene | 114 | 4.970 | 4.970 | (1.000) | 365818 | 50.0000 | |
| * 47 Chlorobenzene-d5 | 117 | 7.671 | 7.671 | (1.000) | 338329 | 50.0000 | |
| * 70 1,4-Dichlorobenzene-d4 | 152 | 9.662 | 9.662 | (1.000) | 153566 | 50.0000 | |
| $ 30 Dibromofluoromethane | 113 | 4.103 | 4.103 | (0.981) | 2671 | 1.00000 | 0.86(a) |
| $ 35 1,2-Dichloroethane-d4 | 65 | 4.476 | 4.476 | (1.070) | 3259 | 1.00000 | (Ta) |
| $ 48 Toluene-d8 | 98 | 6.396 | 6.396 | (0.834) | 7865 | 1.00000 | 1.94(a) |
| $ 69 4-Bromofluorobenzene | 95 | 8.695 | 8.695 | (1.134) | 2729 | 1.00000 | 0.97(a) |
| 60 1,1,1,2-Tetrachloroethane | 131 | 7.771 | 7.771 | (1.013) | 2501 | 1.00000 | 1.01(a) |
| 31 1,1,1-Trichloroethane | 97 | 4.089 | 4.089 | (0.978) | 3645 | 1.00000 | 0.97(a) |
| 68 1,1,2,2-Tetrachloroethane | 83 | 8.838 | 8.838 | (0.915) | 3942 | 1.00000 | 1.03(aM) |
| 53 1,1,2-Trichloroethane | 83 | 6.840 | 6.840 | (0.892) | 2388 | 1.00000 | 1.21(a) |
| 22 1,1-Dichloroethane | 63 | 2.929 | 2.929 | (0.700) | 4505 | 1.00000 | 1.10(a) |
| 11 1,1-Dichloroethene | 96 | 1.912 | 1.912 | (0.457) | 2439 | 1.00000 | 1.10(a) |
| 32 1,1-Dichloropropene | 75 | 4.290 | 4.290 | (0.863) | 3437 | 1.00000 | 1.09(a) |
| 93 1,2,3-Trichlorobenzene | 180 | 11.754 | 11.754 | (1.216) | 800 | 1.00000 | 1.59(aM) |
| 71 1,2,3-Trichloropropane | 75 | 8.867 | 8.867 | (0.918) | 3361 | 1.00000 | 1.01(aMH) |
| 90 1,2,4-Trichlorobenzene | 180 | 11.360 | 11.360 | (1.176) | 1337 | 1.00000 | 3.38(aM) |
| 79 1,2,4-Trimethylbenzene | 105 | 9.383 | 9.383 | (0.971) | 9246 | 1.00000 | 1.18(a) |
| 89 1,2-Dibromo-3-Chloropropane | 155 | 10.658 | 10.658 | (1.103) | 283 | 1.00000 | 2.92(aM) |
| 57 1,2-Dibromoethane | 107 | 7.270 | 7.270 | (0.948) | 2509 | 1.00000 | 1.06(a) |
| 88 1,2-Dichlorobenzene | 146 | 9.999 | 9.999 | (1.035) | 5563 | 1.00000 | 1.29(a) |

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051804.D Page 2
Report Date: 08-Jun-2021 11:42

| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|
| 33 1,2-Dichloroethane | 62 | 4.562 | 4.562 | (0.918) | 4020 | 1.00000 | 1.11(a) |
| 42 1,2-Dichloropropane | 63 | 5.443 | 5.443 | (1.095) | 2590 | 1.00000 | 1.05(aM) |
| 75 1,3,5-Trimethylbenzene | 105 | 9.067 | 9.067 | (0.938) | 8467 | 1.00000 | 1.10(a) |
| 83 1,3-Dichlorobenzene | 146 | 9.605 | 9.605 | (0.994) | 5480 | 1.00000 | 1.24(a) |
| 54 1,3-Dichloropropane | 76 | 6.983 | 6.983 | (0.910) | 4419 | 1.00000 | 1.14(a) |
| 84 1,4-Dichlorobenzene | 146 | 9.683 | 9.683 | (1.002) | 6628 | 1.00000 | 1.71(a) |
| 26 2,2-Dichloropropane | 77 | 3.509 | 3.509 | (0.839) | 3735 | 1.00000 | 1.02(a) |
| 24 2-Butanone | 43 | 3.609 | 3.609 | (0.863) | 1748 | 2.00000 | 2.15(aM) |
| 76 2-Chlorotoluene | 91 | 8.974 | 8.974 | (0.929) | 8473 | 1.00000 | 1.23(aM) |
| 52 2-Hexanone | 43 | 7.098 | 7.098 | (0.925) | 4644 | 2.00000 | 2.97(a) |
| 77 4-Chlorotoluene | 91 | 9.075 | 9.075 | (0.939) | 9387 | 1.00000 | 1.17(a) |
| 82 p-Isopropyltoluene | 119 | 9.655 | 9.655 | (0.999) | 8833 | 1.00000 | 1.16(a) |
| 45 4-Methyl-2-Pentanone | 43 | 6.331 | 6.331 | (0.825) | 6100 | 2.00000 | 2.91(a) |
| 10 Acetone | 43 | 1.976 | 1.976 | (0.473) | 2806 | 2.00000 | 0.15(a) |
| 37 Benzene | 78 | 4.519 | 4.519 | (0.909) | 9079 | 1.00000 | 1.00(a) |
| 74 Bromobenzene | 156 | 8.810 | 8.810 | (0.912) | 3170 | 1.00000 | 1.23(a) |
| 29 Bromochloromethane | 128 | 3.803 | 3.803 | (0.909) | 1376 | 1.00000 | 1.02(a) |
| 39 Bromodichloromethane | 83 | 5.729 | 5.729 | (1.153) | 3683 | 1.00000 | 1.04(aM) |
| 66 Bromoform | 173 | 8.416 | 8.416 | (1.097) | 1736 | 1.00000 | 1.06(Ta) |
| 6 Bromomethane | 94 | 1.339 | 1.339 | (0.320) | 3018 | 1.00000 | 0.84(aM) |
| 19 Carbon Disulfide | 76 | 2.076 | 2.076 | (0.497) | 10496 | 2.00000 | 2.02(a) |
| 34 Carbon Tetrachloride | 117 | 4.268 | 4.268 | (0.859) | 3274 | 1.00000 | 1.02(aH) |
| 59 Chlorobenzene | 112 | 7.692 | 7.692 | (1.003) | 7182 | 1.00000 | 1.08(a) |
| 7 Chloroethane | 64 | 1.403 | 1.403 | (0.336) | 1604 | 1.00000 | 0.96(aM) |
| 28 Chloroform | 83 | 3.917 | 3.917 | (0.937) | 4735 | 1.00000 | 1.01(a) |
| 3 Chloromethane | 50 | 1.073 | 1.073 | (0.257) | 3160 | 1.00000 | 1.56(aM) |
| 27 cis-1,2-Dichloroethene | 96 | 3.538 | 3.538 | (0.846) | 2814 | 1.00000 | 1.11(a) |
| 46 cis-1,3-Dichloropropene | 75 | 6.166 | 6.166 | (1.241) | 4187 | 1.00000 | 1.04(a) |
| 55 Dibromochloromethane | 129 | 7.176 | 7.176 | (0.936) | 3082 | 1.00000 | 1.16(a) |
| 44 Dibromomethane | 93 | 5.558 | 5.558 | (1.118) | 1945 | 1.00000 | 1.10(a) |
| 2 Dichlorodifluoromethane | 85 | 0.973 | 0.973 | (0.233) | 2403 | 1.00000 | 2.91(a) |
| 61 Ethylbenzene | 106 | 7.800 | 7.800 | (1.017) | 3237 | 1.00000 | 0.98(a) |
| 91 Hexachlorobutadiene | 225 | 11.481 | 11.481 | (1.188) | 1107 | 1.00000 | 4.31(aM) |
| 67 Isopropylbenzene | 105 | 8.559 | 8.559 | (1.116) | 10338 | 1.00000 | 1.03(a) |
| 62 m,p-Xylenes | 106 | 7.907 | 7.907 | (1.031) | 8386 | 2.00000 | 1.98(a) |
| 17 Methylene Chloride | 84 | 2.306 | 2.306 | (0.551) | 2091 | 1.00000 | 0.94(a) |
| 87 n-Butylbenzene | 91 | 9.999 | 9.999 | (1.035) | 8481 | 1.00000 | 1.17(a) |
| 73 n-Propylbenzene | 91 | 8.917 | 8.917 | (0.923) | 12352 | 1.00000 | 1.13(a) |
| 92 Naphthalene | 128 | 11.567 | 11.567 | (1.197) | 1471 | 1.00000 | 3.78(aM) |
| 63 o-Xylene | 106 | 8.244 | 8.244 | (1.075) | 4167 | 1.00000 | 1.01(a) |
| 81 sec-Butylbenzene | 105 | 9.519 | 9.519 | (0.985) | 9907 | 1.00000 | 1.10(a) |
| 64 Styrene | 104 | 8.265 | 8.265 | (1.078) | 6890 | 1.00000 | 2.62(a) |
| 78 tert-Butylbenzene | 119 | 9.340 | 9.340 | (0.967) | 7755 | 1.00000 | 1.19(a) |
| 56 Tetrachloroethene | 164 | 6.933 | 6.933 | (0.904) | 1738 | 1.00000 | 0.92(a) |
| 50 Toluene | 91 | 6.446 | 6.446 | (0.840) | 9931 | 1.00000 | 1.01(a) |
| 20 trans-1,2-Dichloroethene | 96 | 2.528 | 2.528 | (0.604) | 1937 | 1.00000 | 0.91(a) |
| 51 trans-1,3-Dichloropropene | 75 | 6.689 | 6.689 | (1.346) | 3517 | 1.00000 | 1.00(a) |
| 38 Trichloroethene | 130 | 5.207 | 5.207 | (1.048) | 2724 | 1.00000 | 1.12(a) |
| 8 Trichlorofluoromethane | 101 | 1.561 | 1.561 | (0.373) | 4657 | 1.00000 | 1.10(a) |
| 5 Vinyl Chloride | 62 | 1.145 | 1.145 | (0.274) | 2800 | 1.00000 | 1.05(aM) |

QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

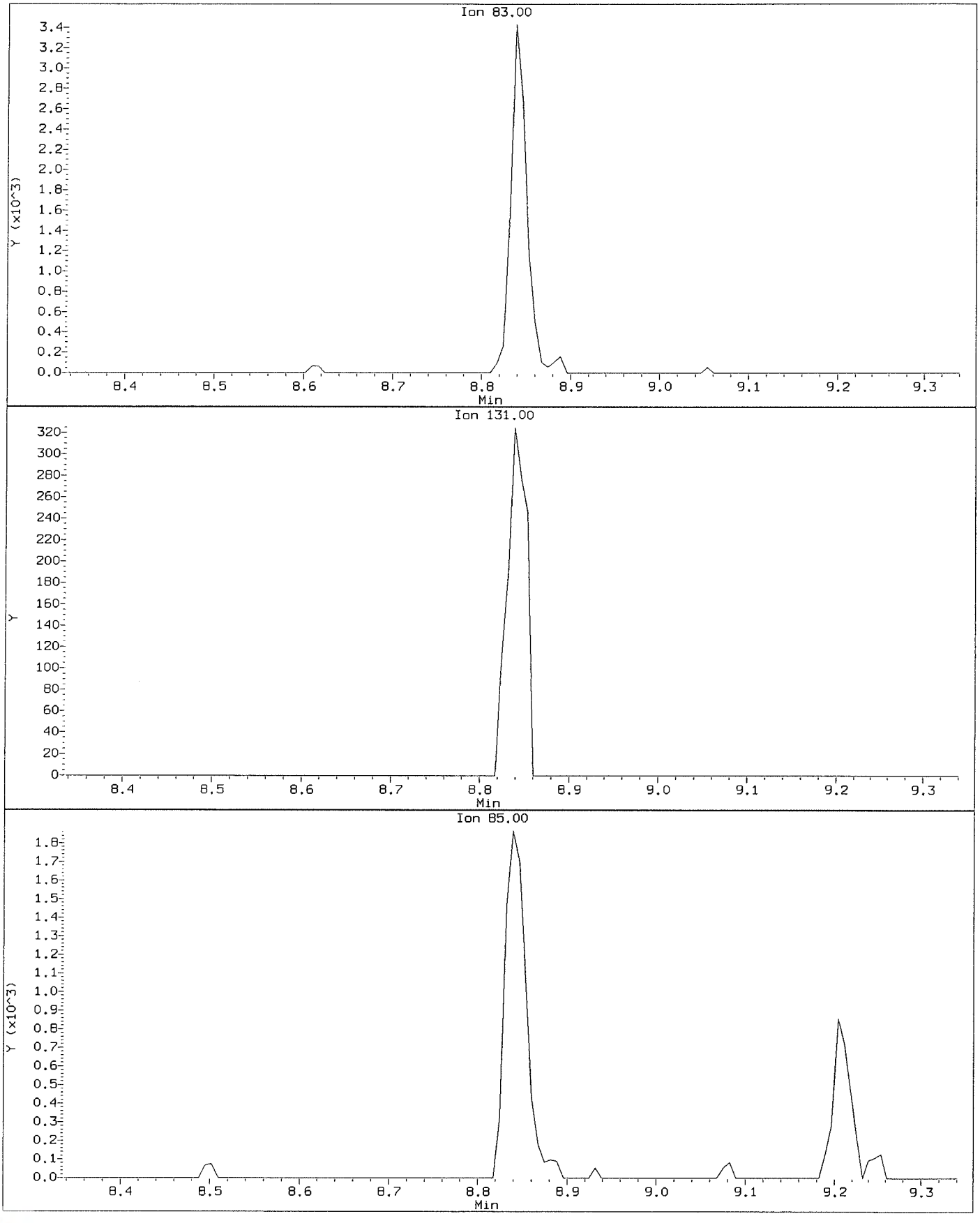



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Client ID: VSTD001
Sample Info: VSDT001;VSTD001;1;3;;
Purge Volume: 5.0
Column phase: DB624

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

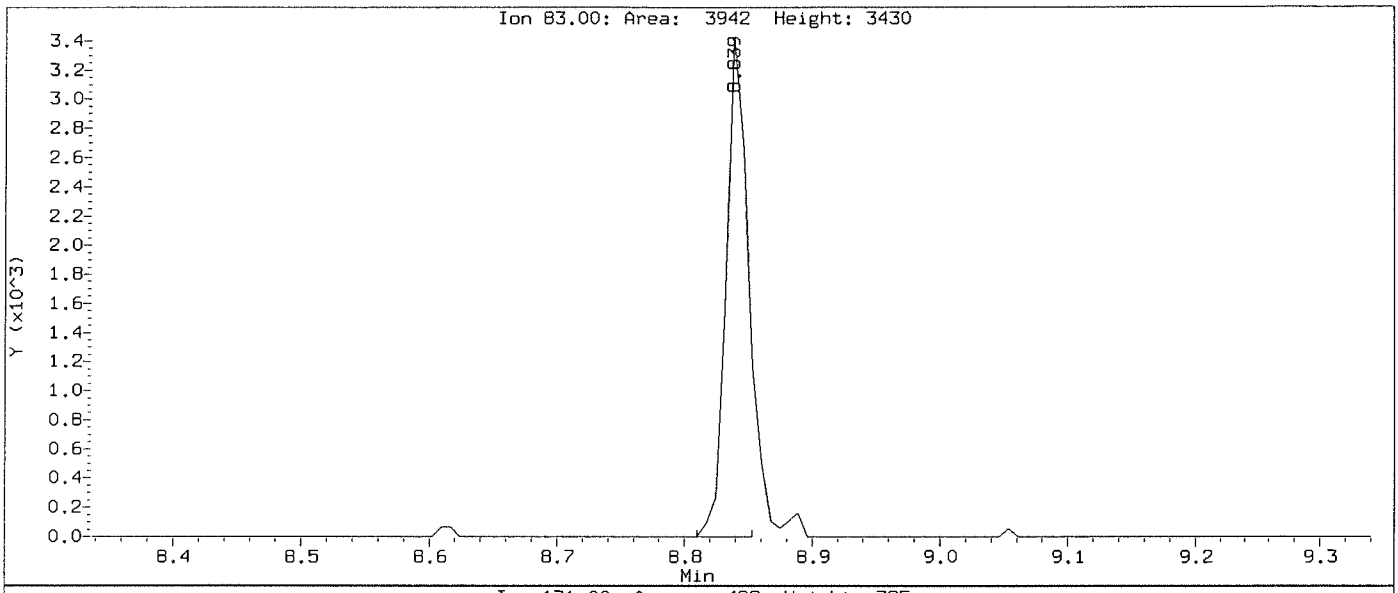
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Instrument: voa6.i
Client Sample ID: VSTD001

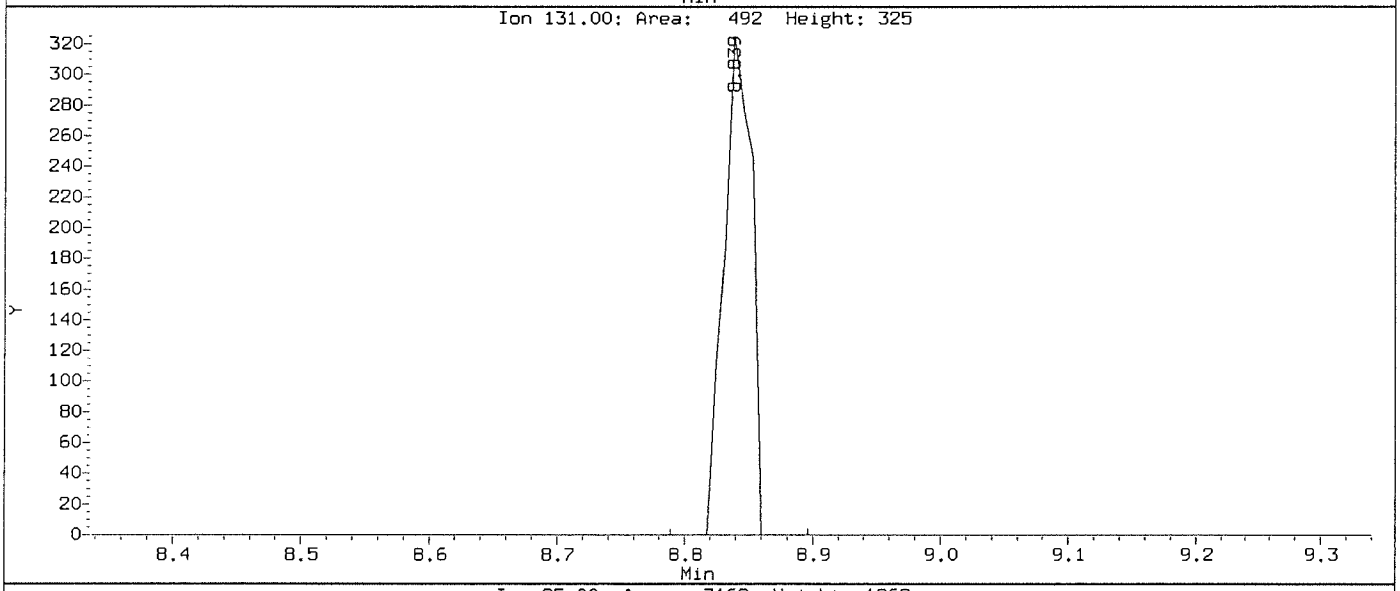
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CAS Number: 79-34-5

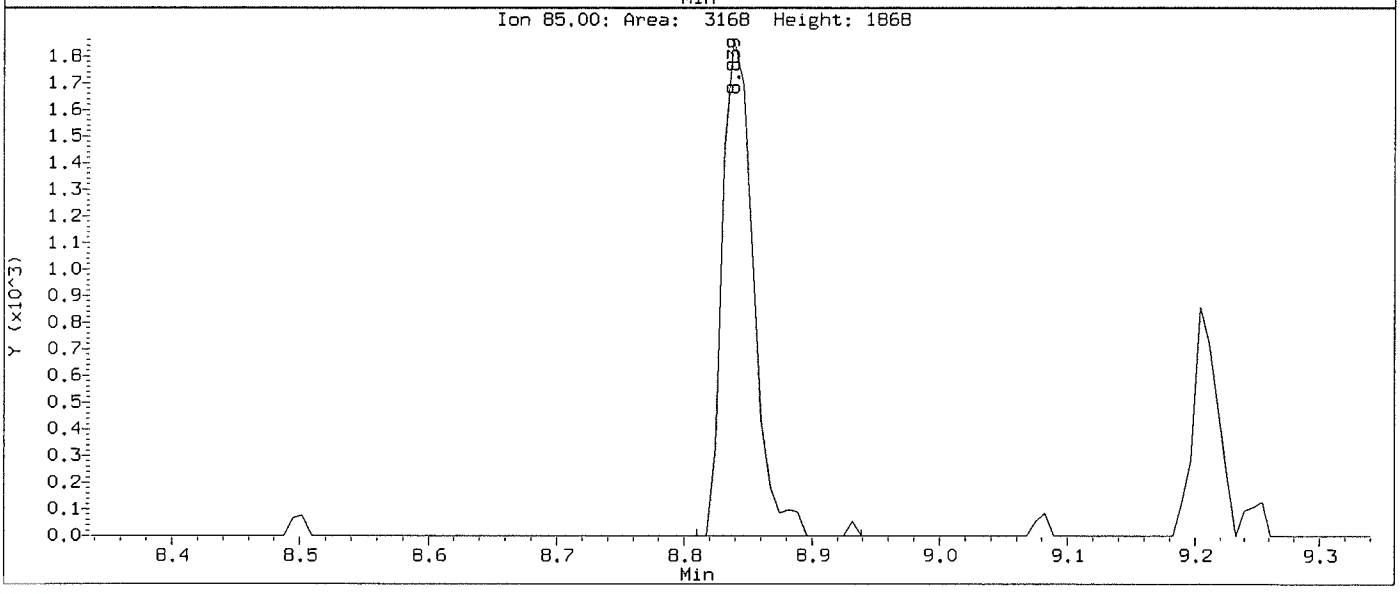


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Injection Date: 18-MAY-2021 12:25
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,1,2,2-Tetrachloroethane
CAS Number: 79-34-5

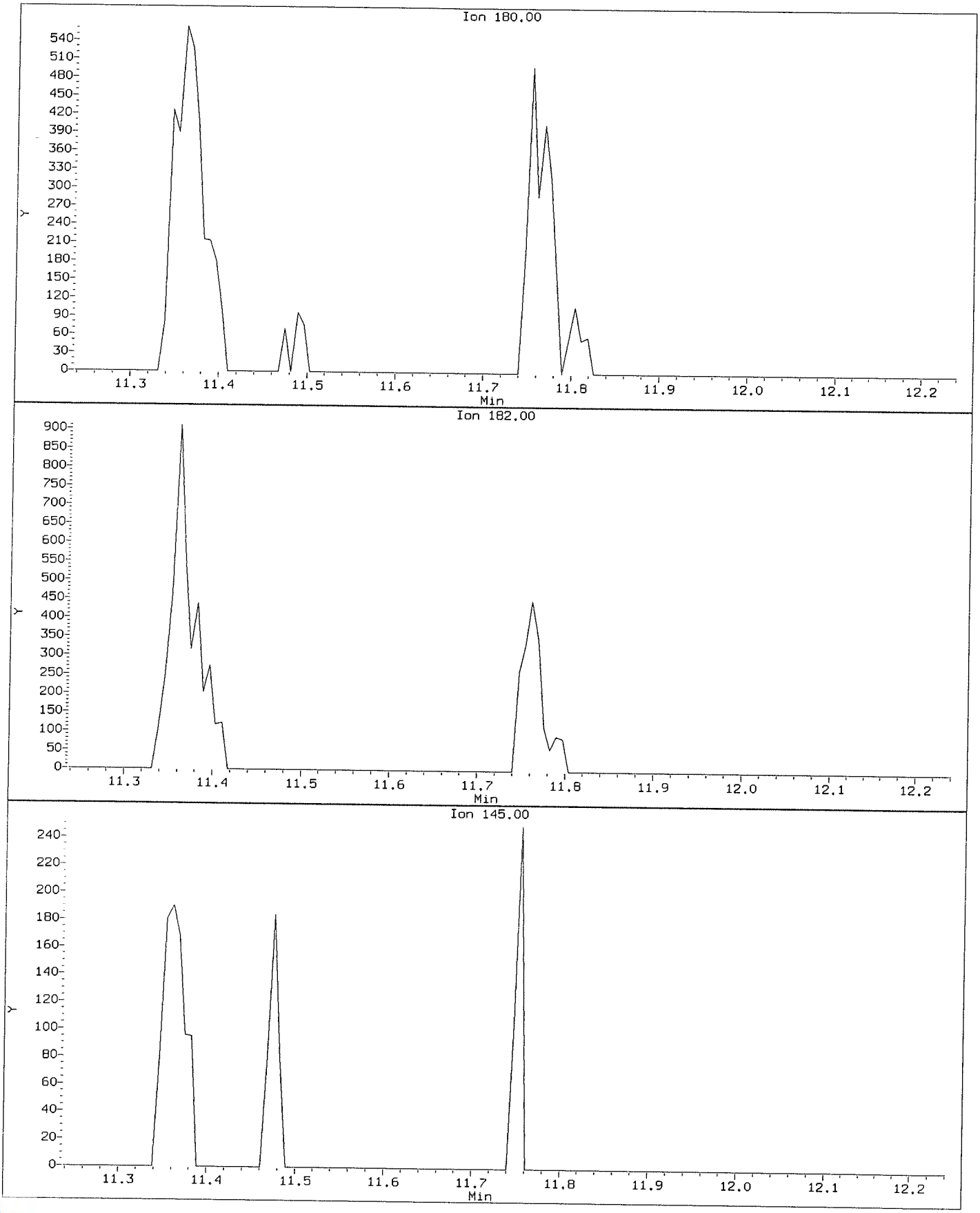


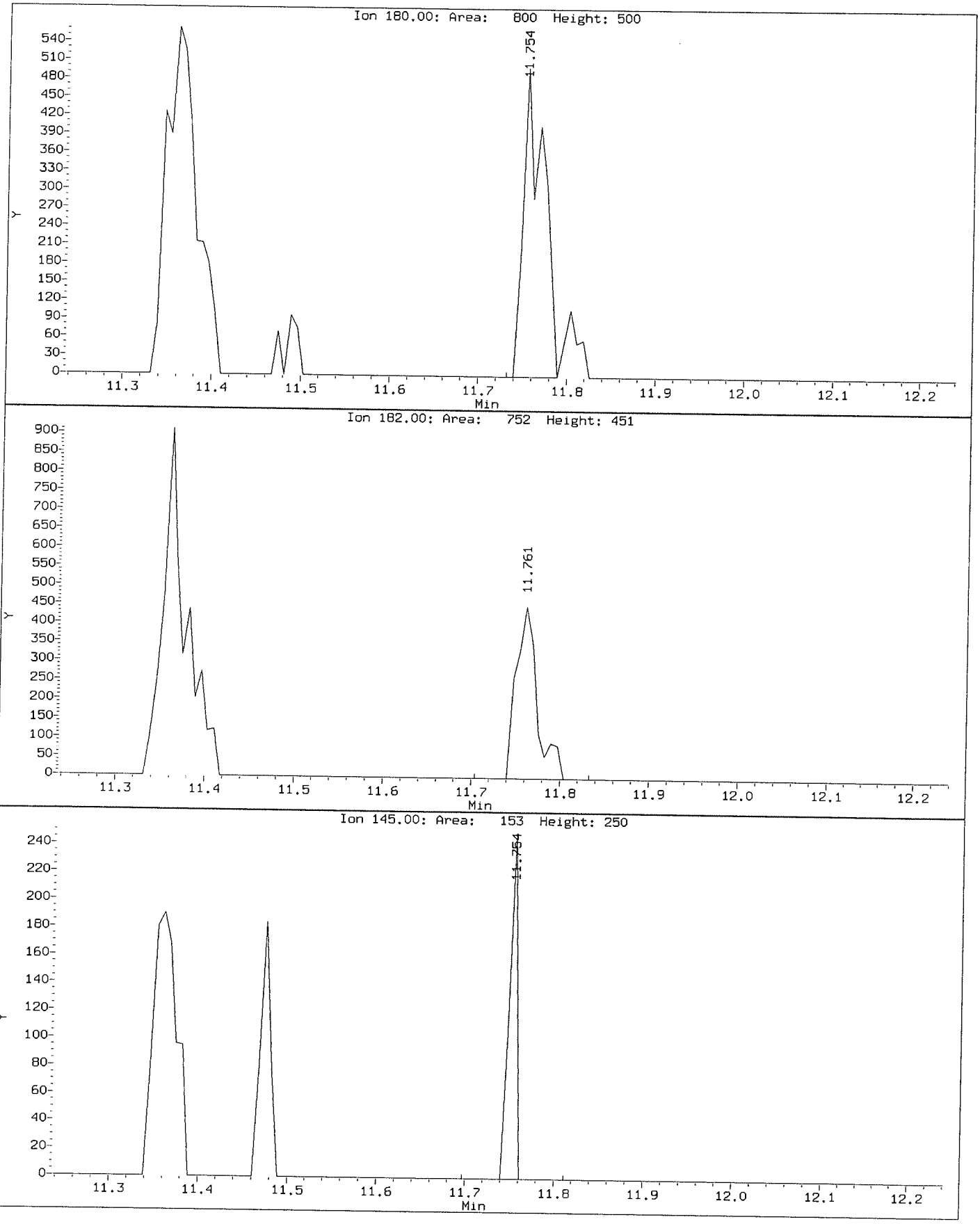
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Injection Date: 18-MAY-2021 12:25
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,2,3-Trichlorobenzene
CAS Number: 87-61-6



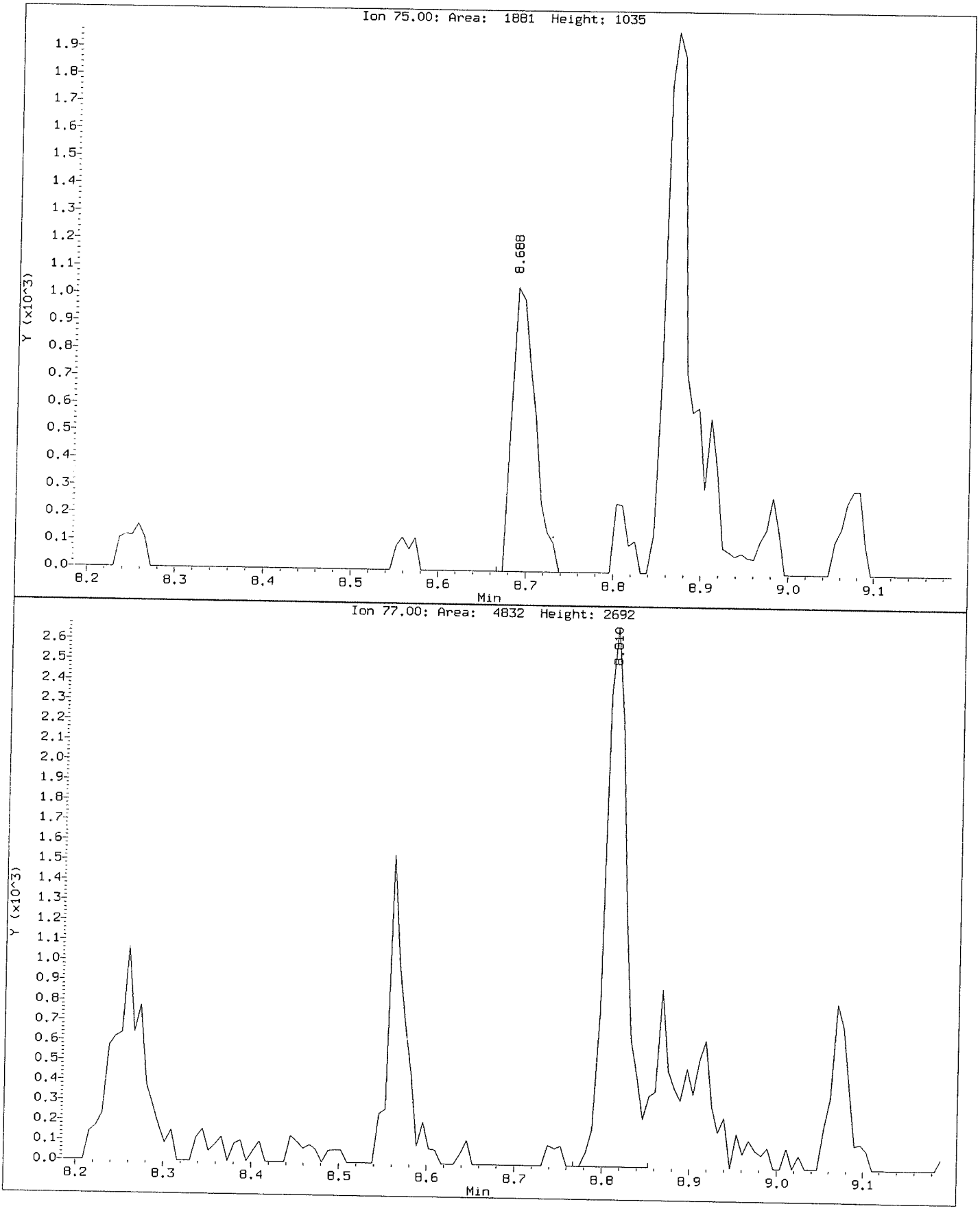
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Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,2,3-Trichlorobenzene
CAS Number: 87-61-6



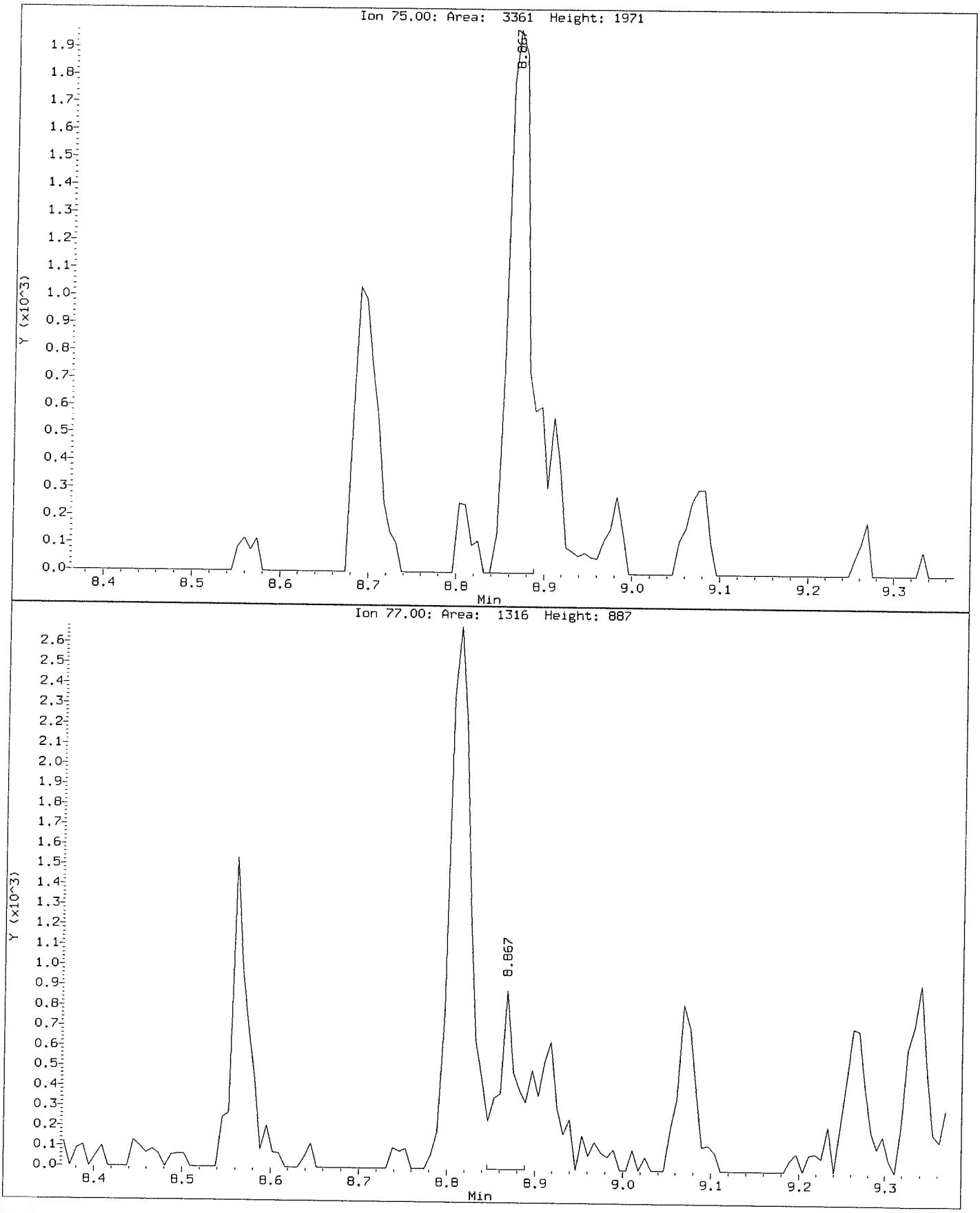
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Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



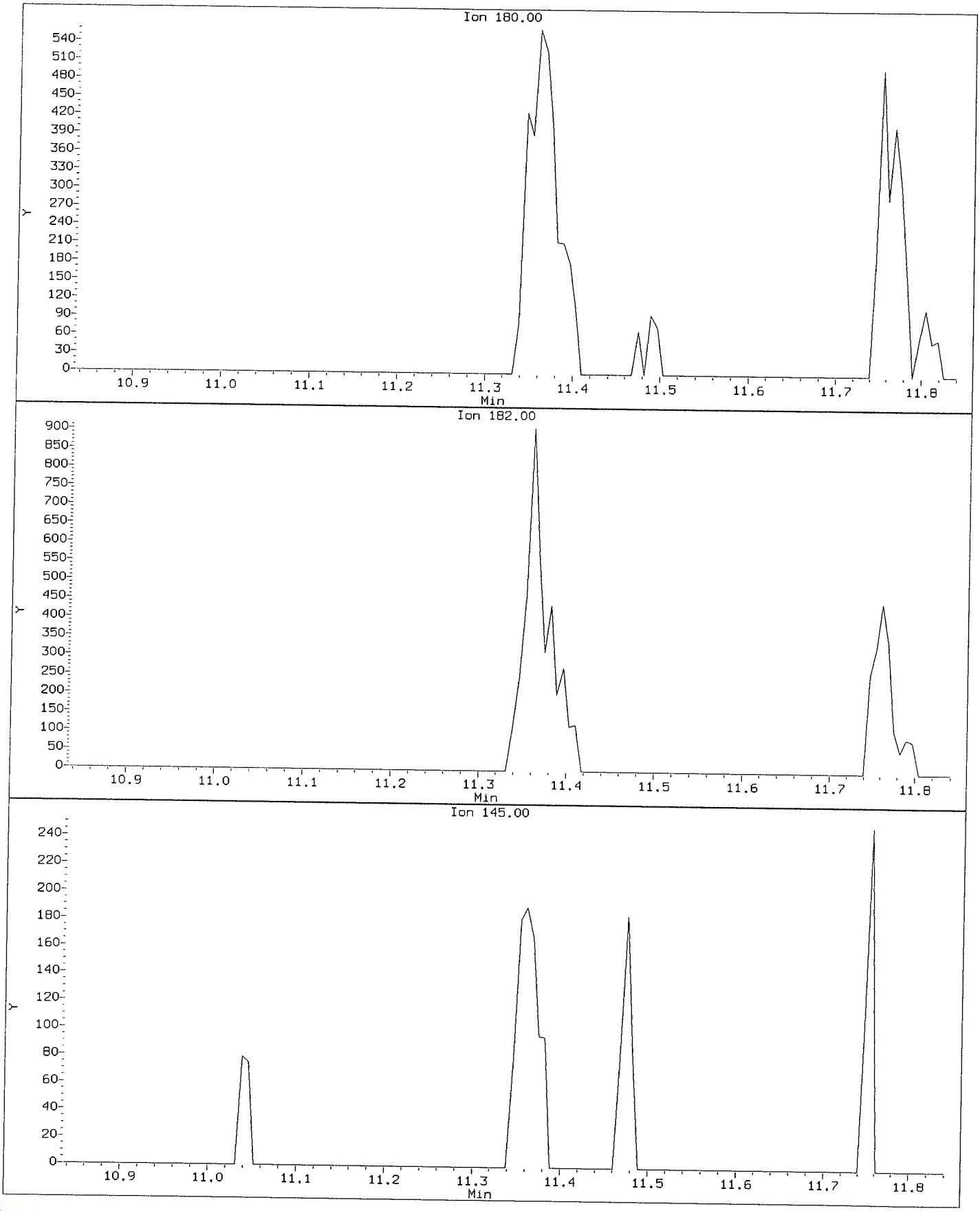
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Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



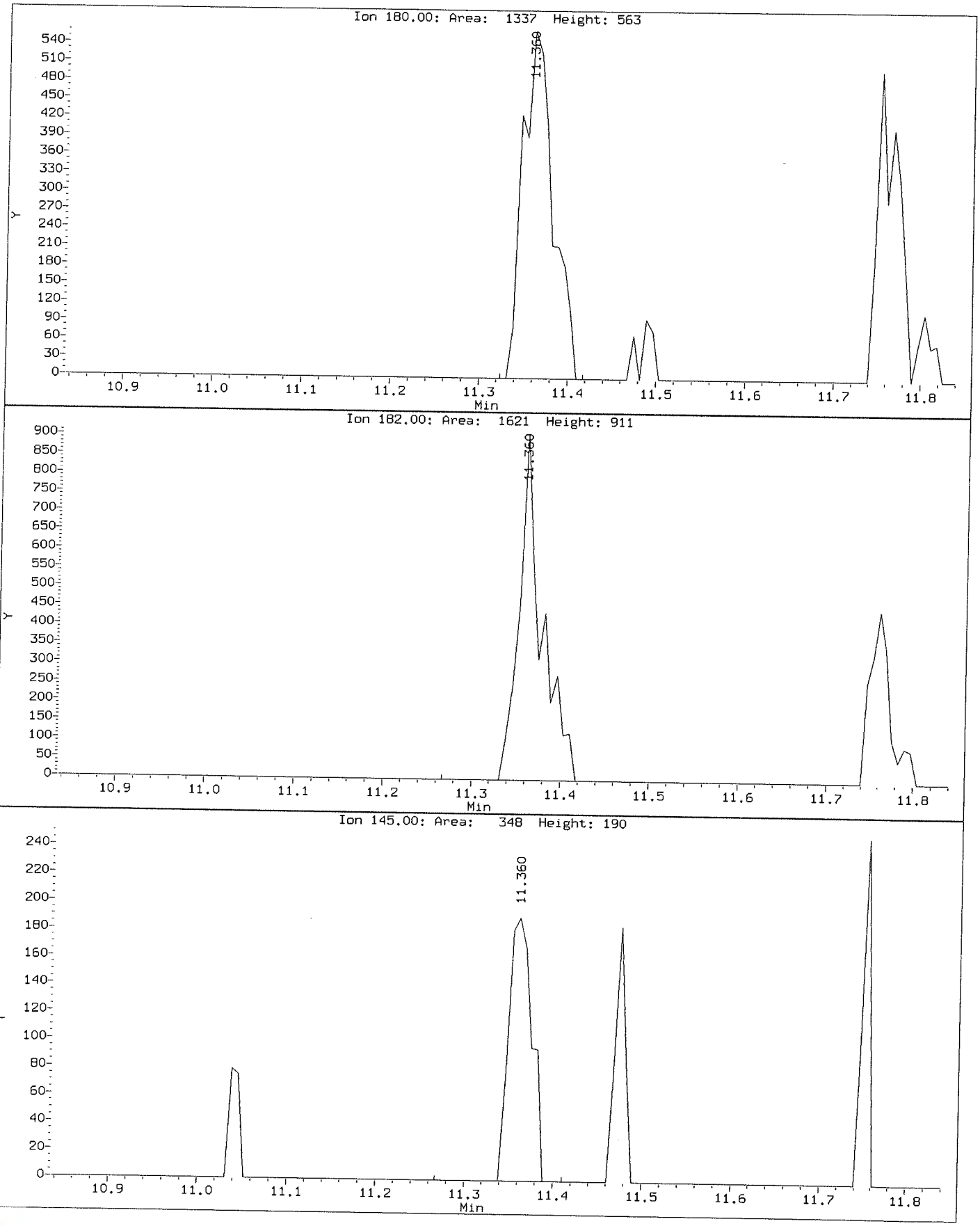
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Injection Date: 18-MAY-2021 12:25
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1



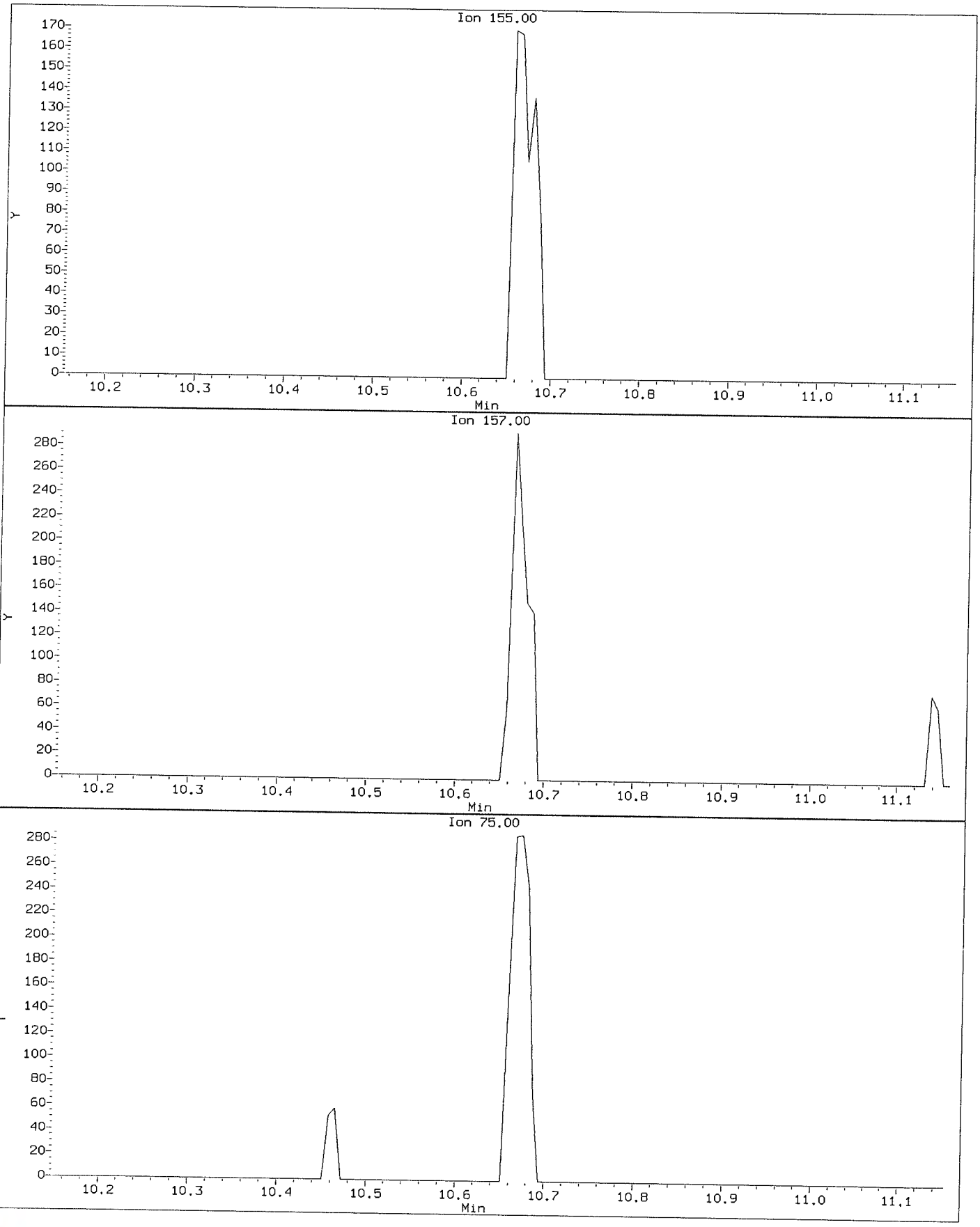
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Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,2,4-Trichlorobenzene
CAS Number: 120-82-1



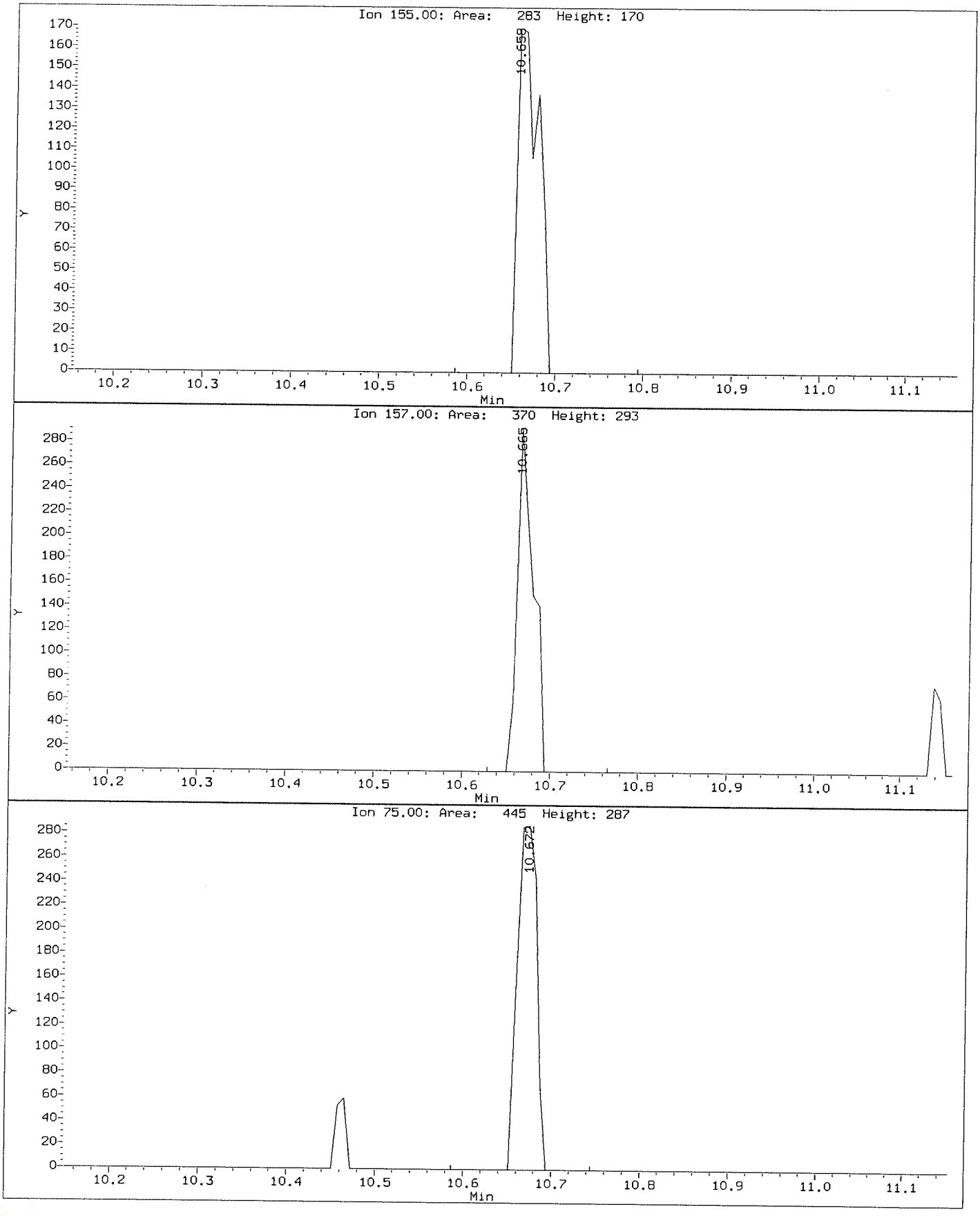
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Injection Date: 18-MAY-2021 12:25
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: 1,2-Dibromo-3-Chloropropane
CAS Number: 96-12-8



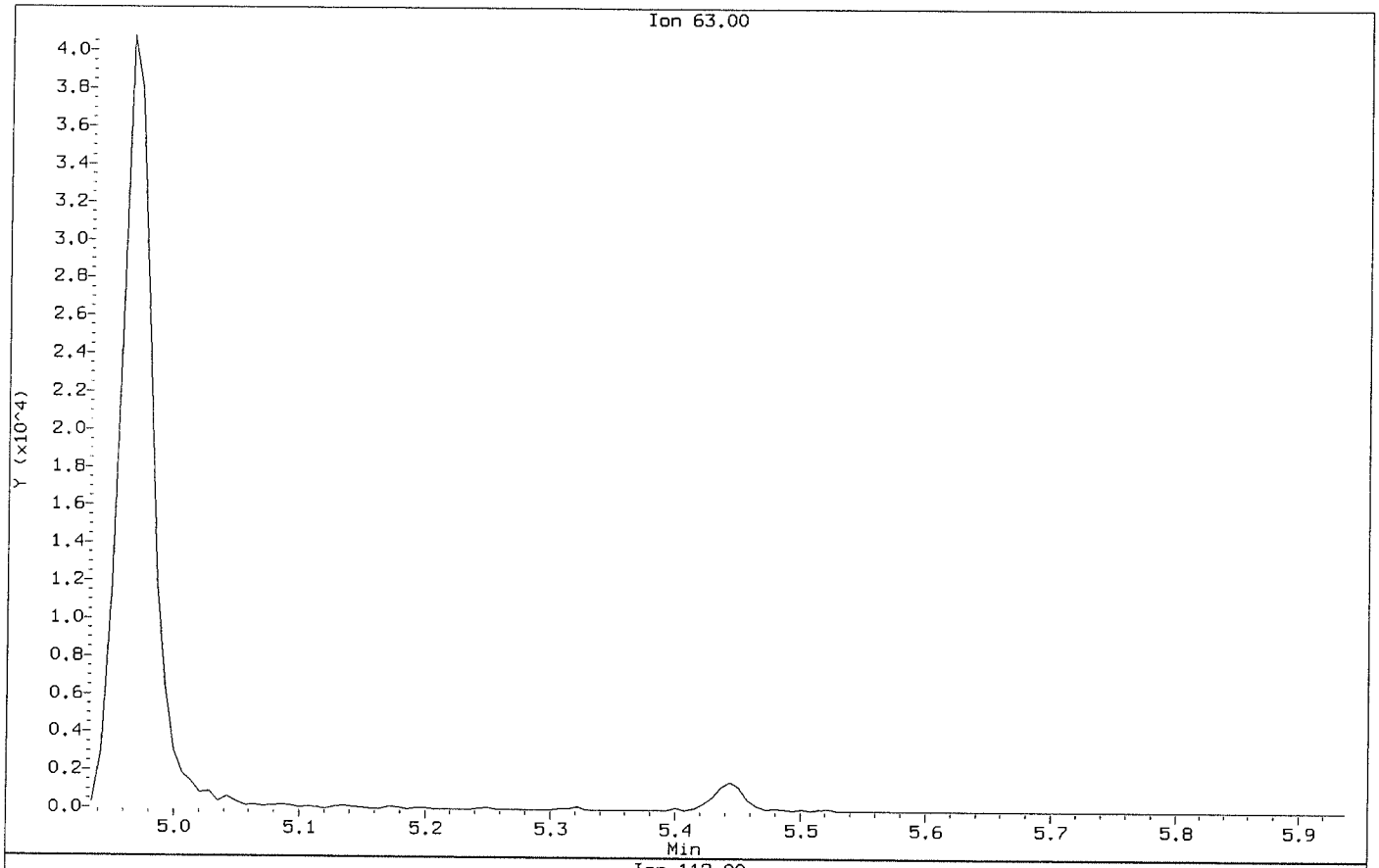
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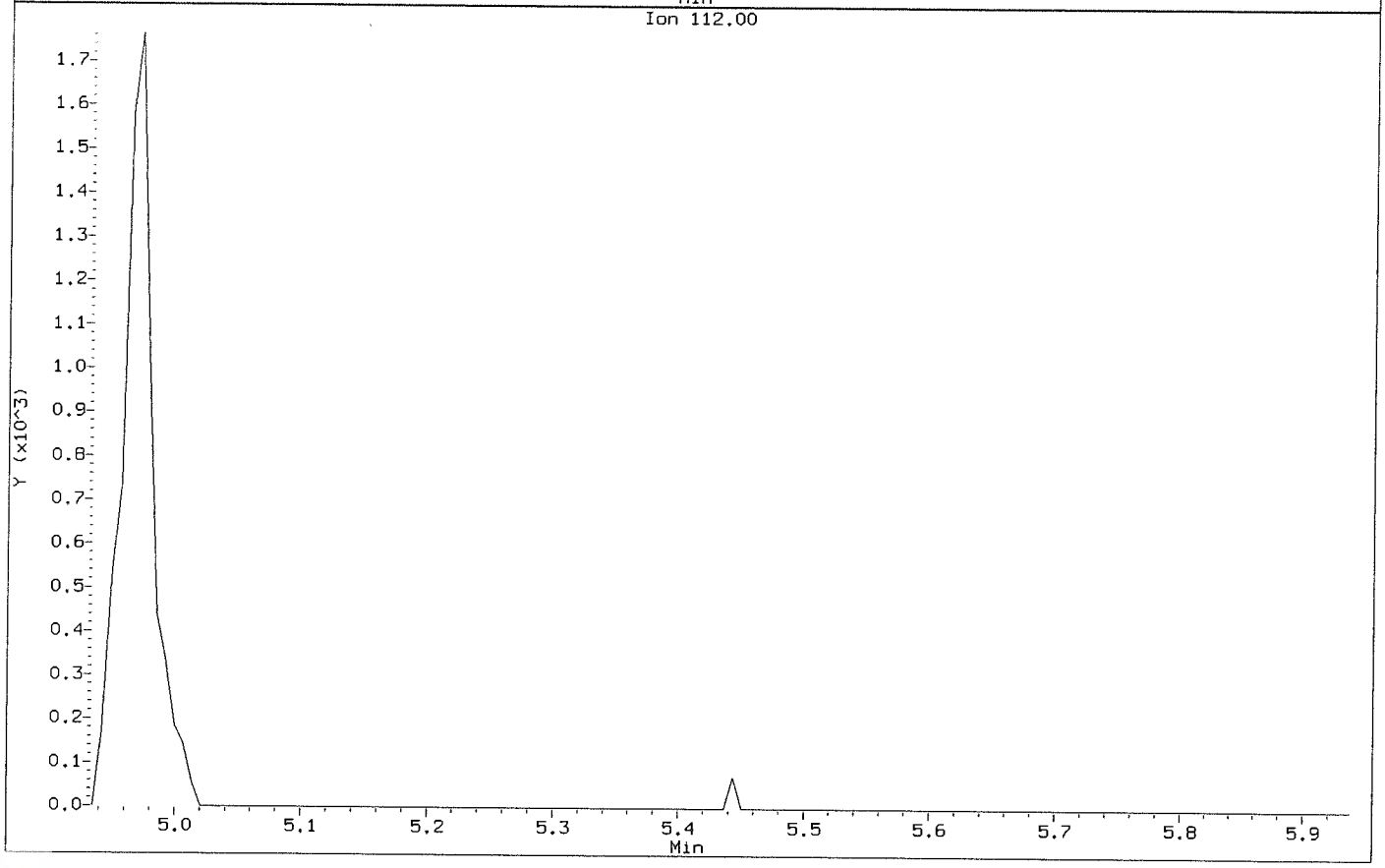
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CAS Number: 96-12-8



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\Before\X051804.D
Injection Date: 18-MAY-2021 12:25
Instrument: voa6.i
Client Sample ID: VSTD001

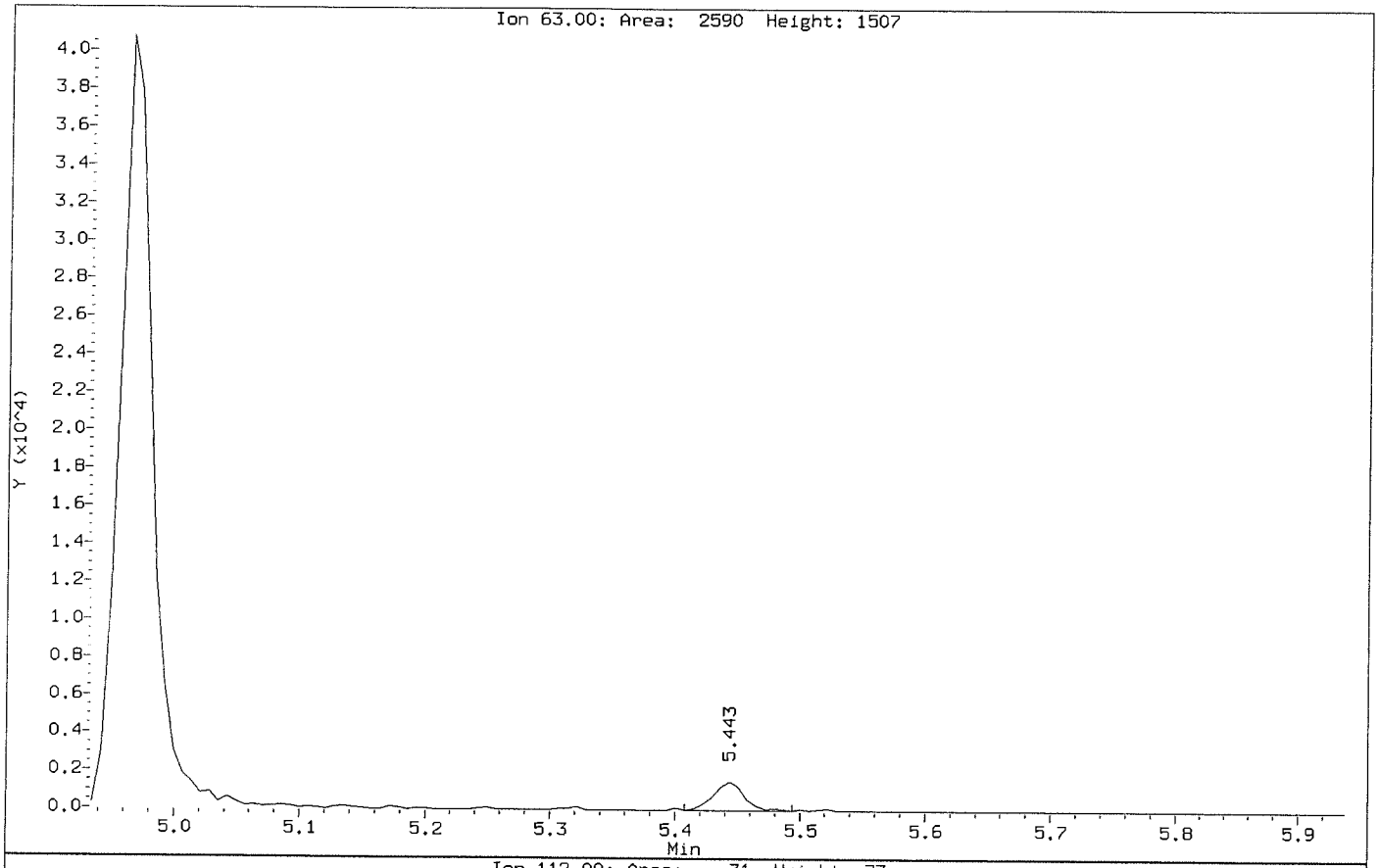
Compound: 1,2-Dichloropropane
CAS Number: 78-87-5

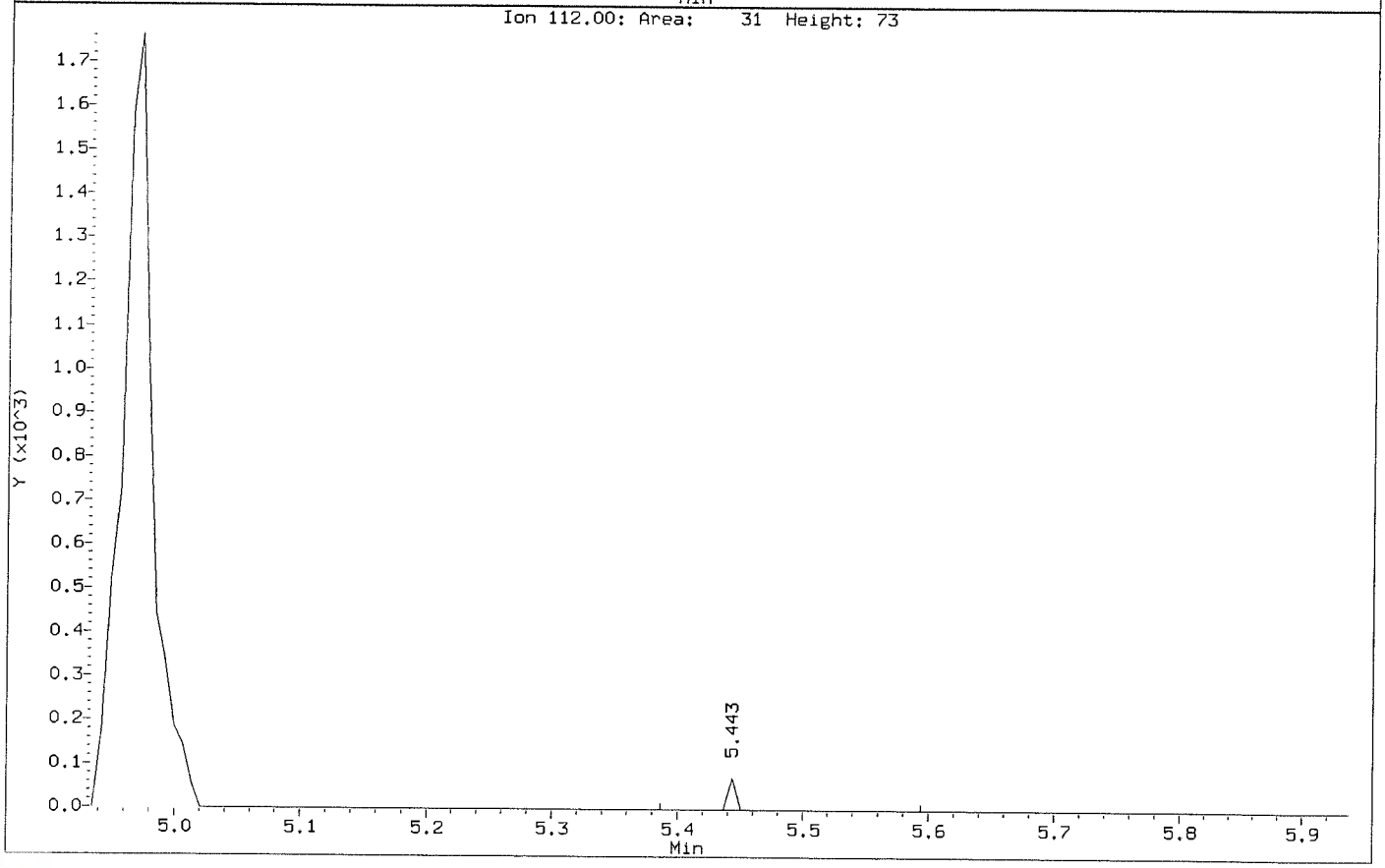


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Injection Date: 18-MAY-2021 12:25
Instrument: voa6.i
Client Sample ID: VSTD001

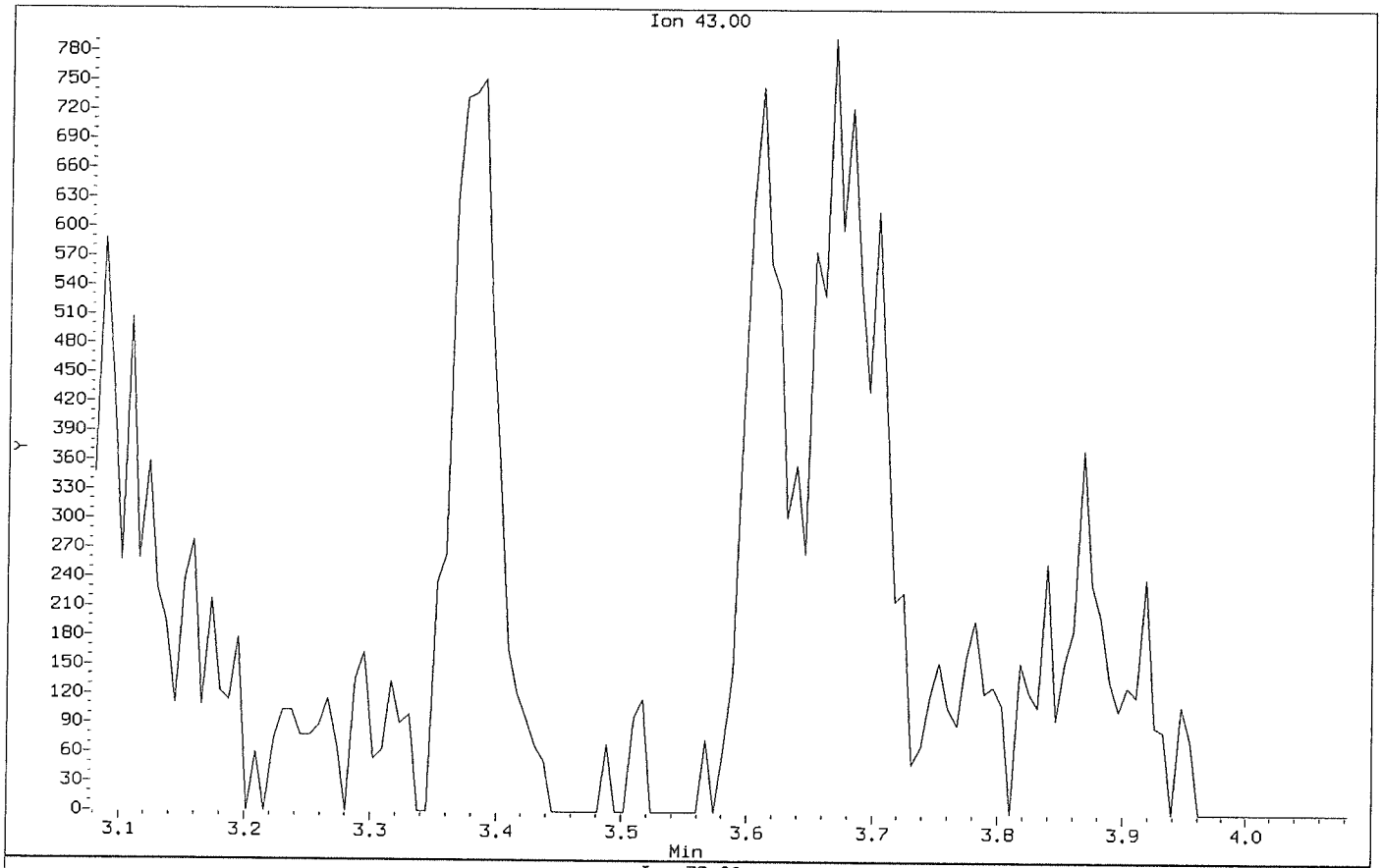
Compound: 1,2-Dichloropropane
CAS Number: 78-87-5

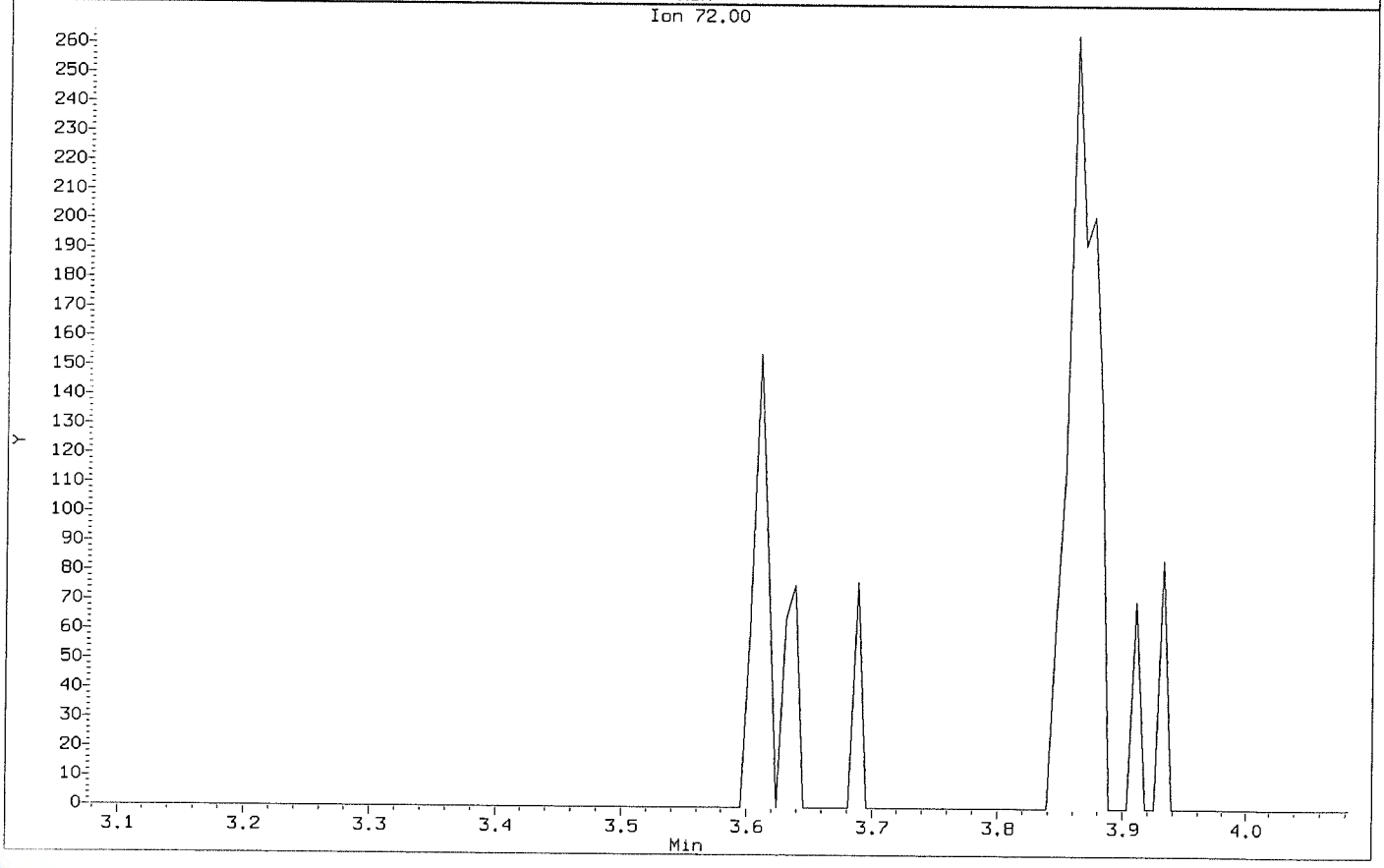


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Injection Date: 18-MAY-2021 12:25
Instrument: voa6.i
Client Sample ID: VSTD001

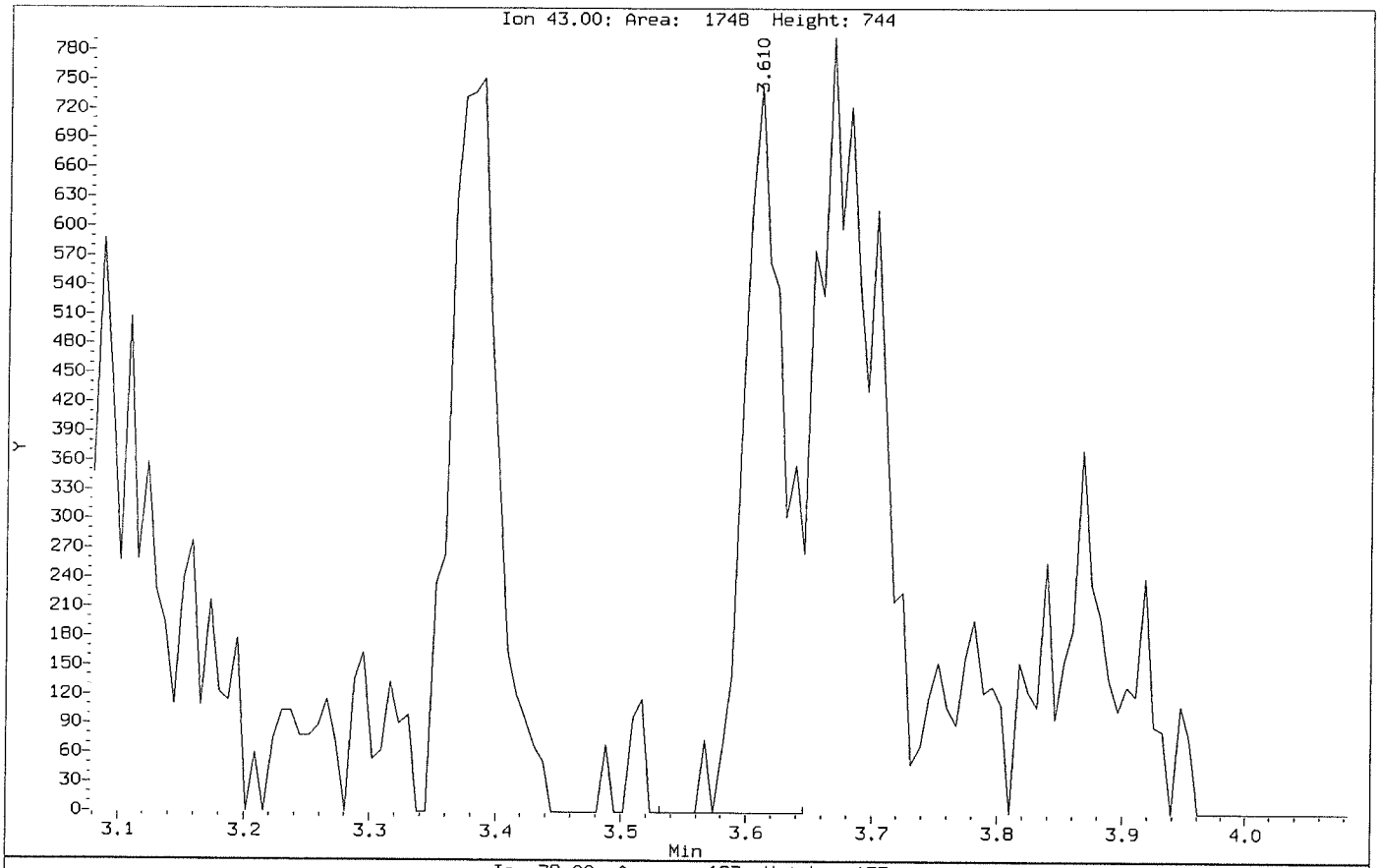
Compound: 2-Butanone
CAS Number: 78-93-3

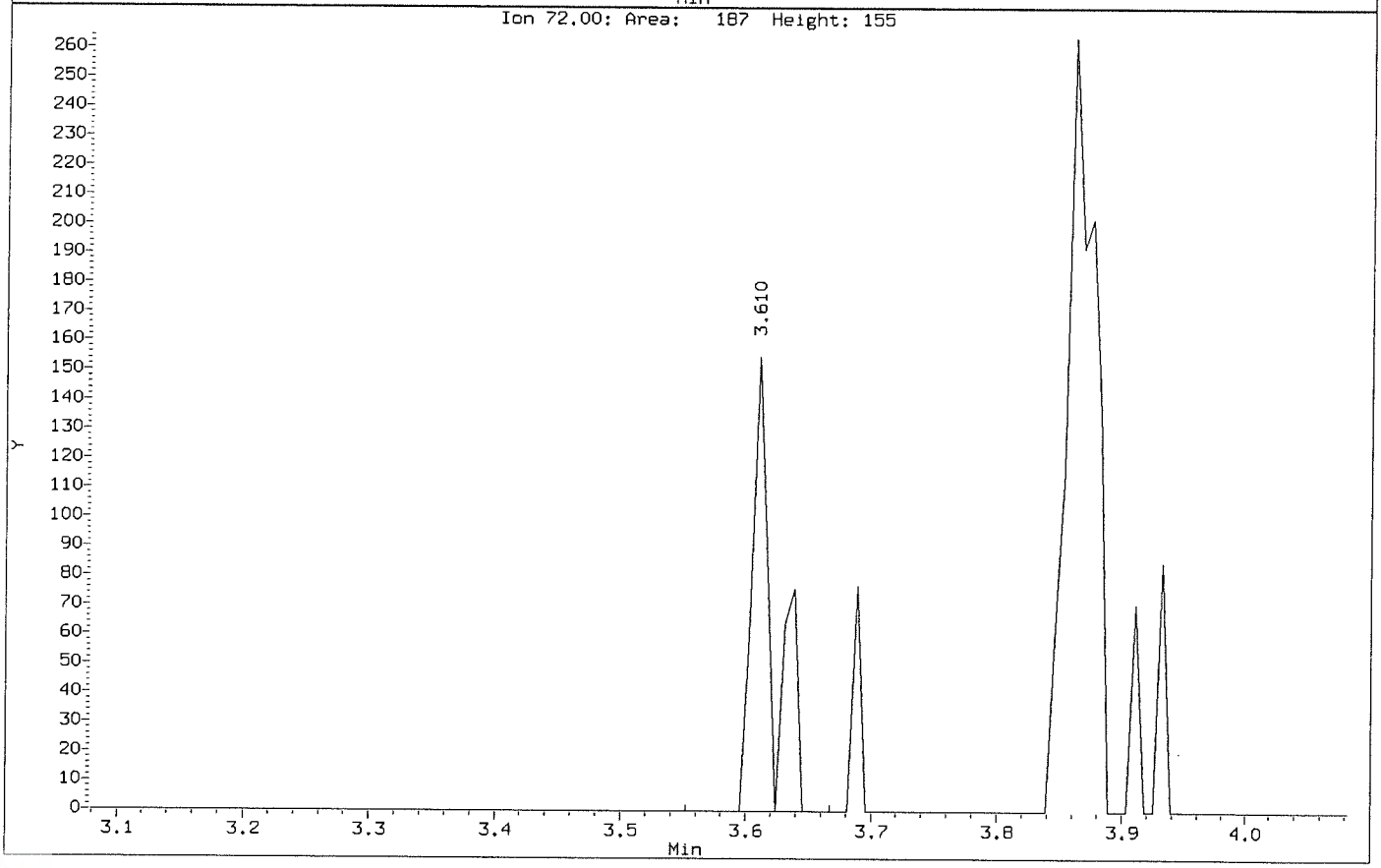


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Injection Date: 18-MAY-2021 12:25
Instrument: voa6.i
Client Sample ID: VSTD001

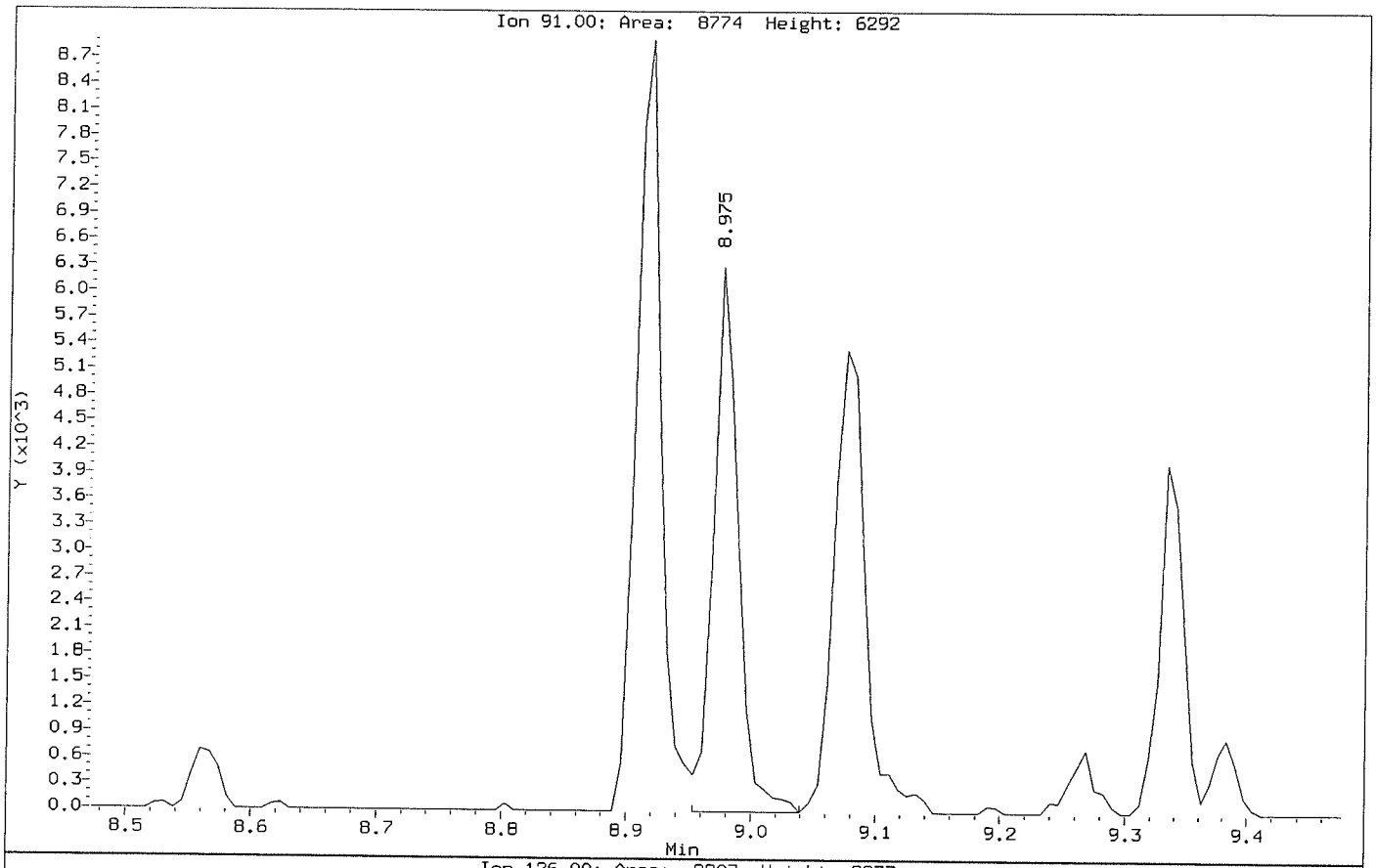
Compound: 2-Butanone
CAS Number: 78-93-3

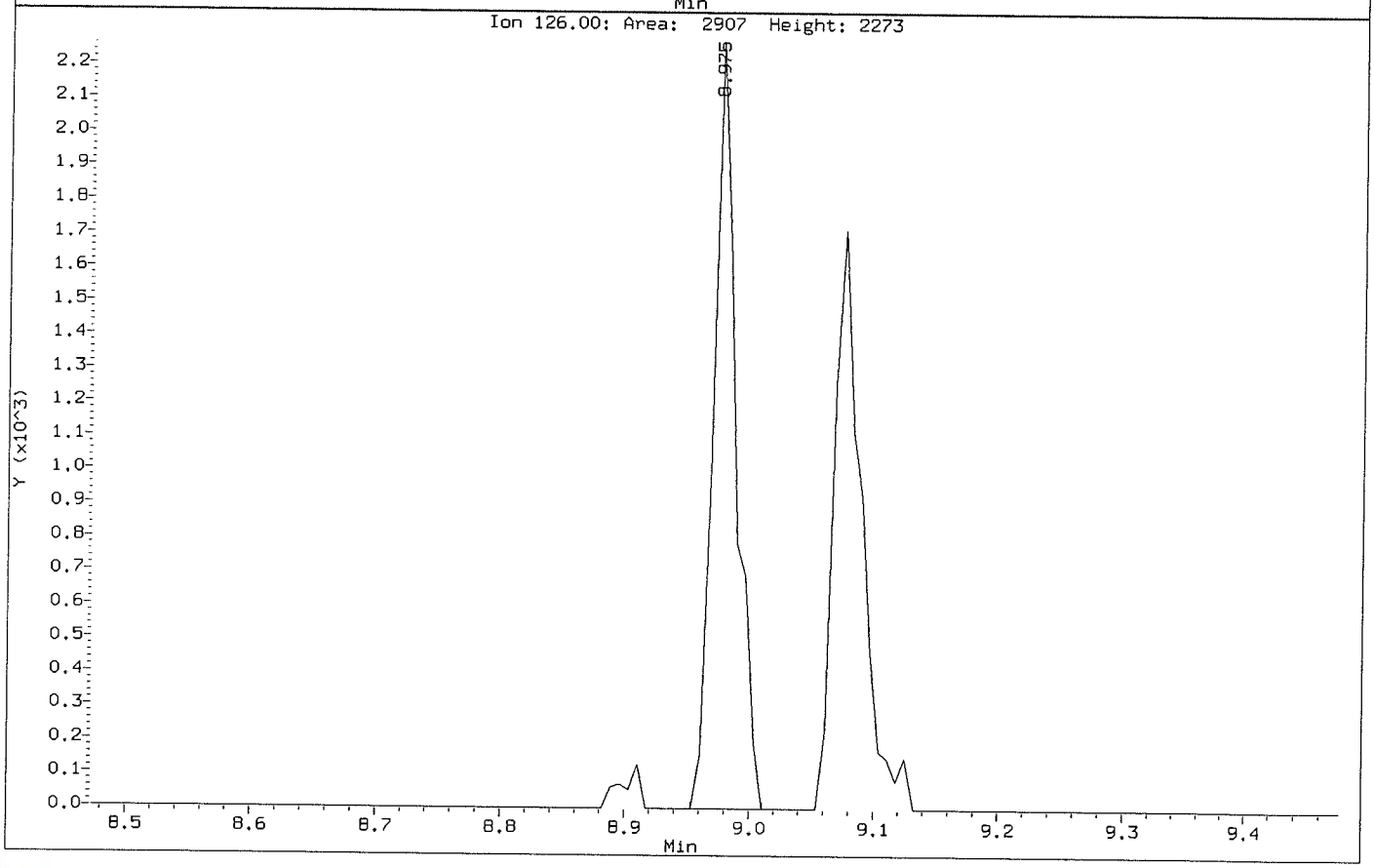


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Injection Date: 18-MAY-2021 12:25
Instrument: voa6.i
Client Sample ID: VSTD001

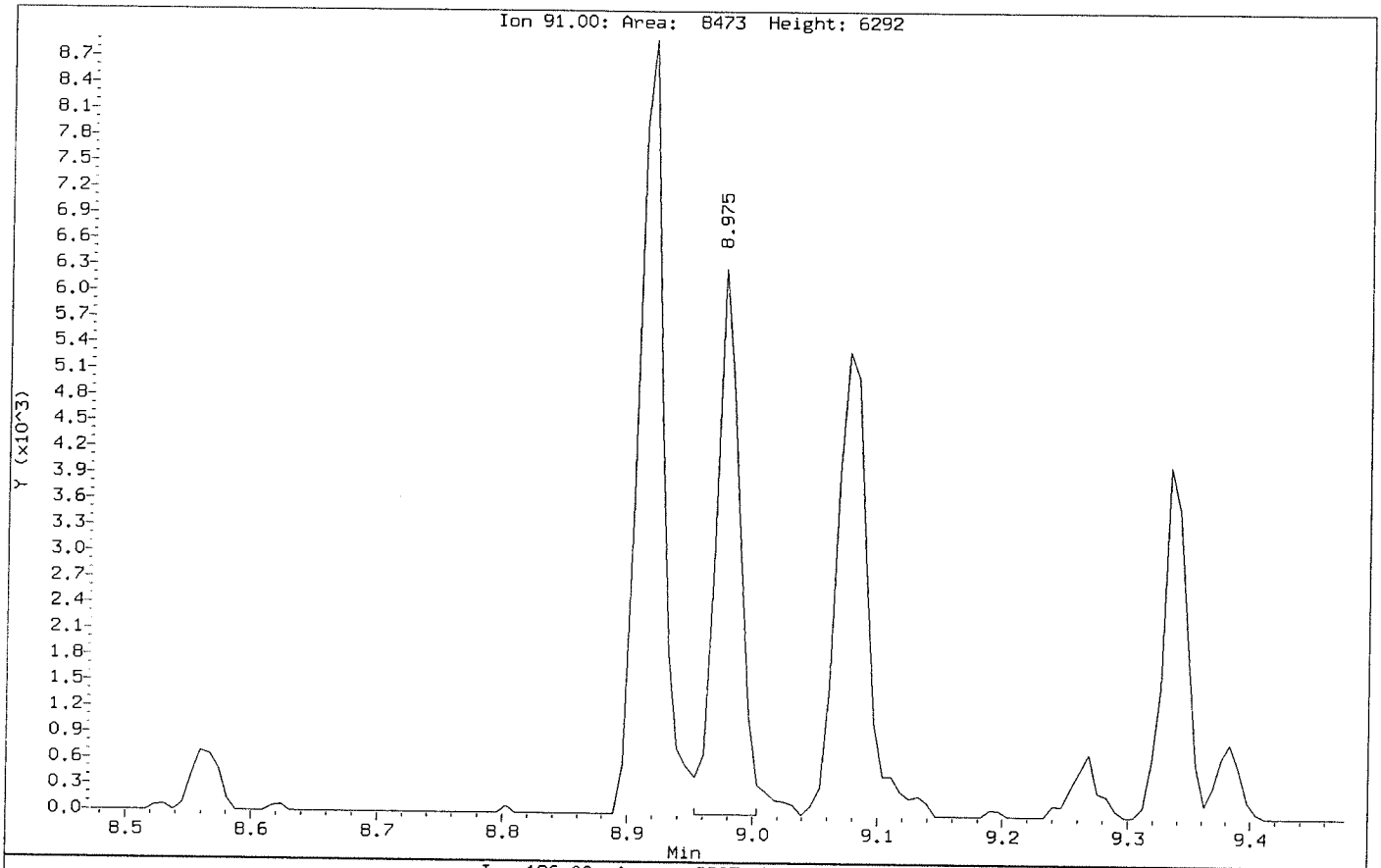
Compound: 2-Chlorotoluene
CAS Number: 95-49-8

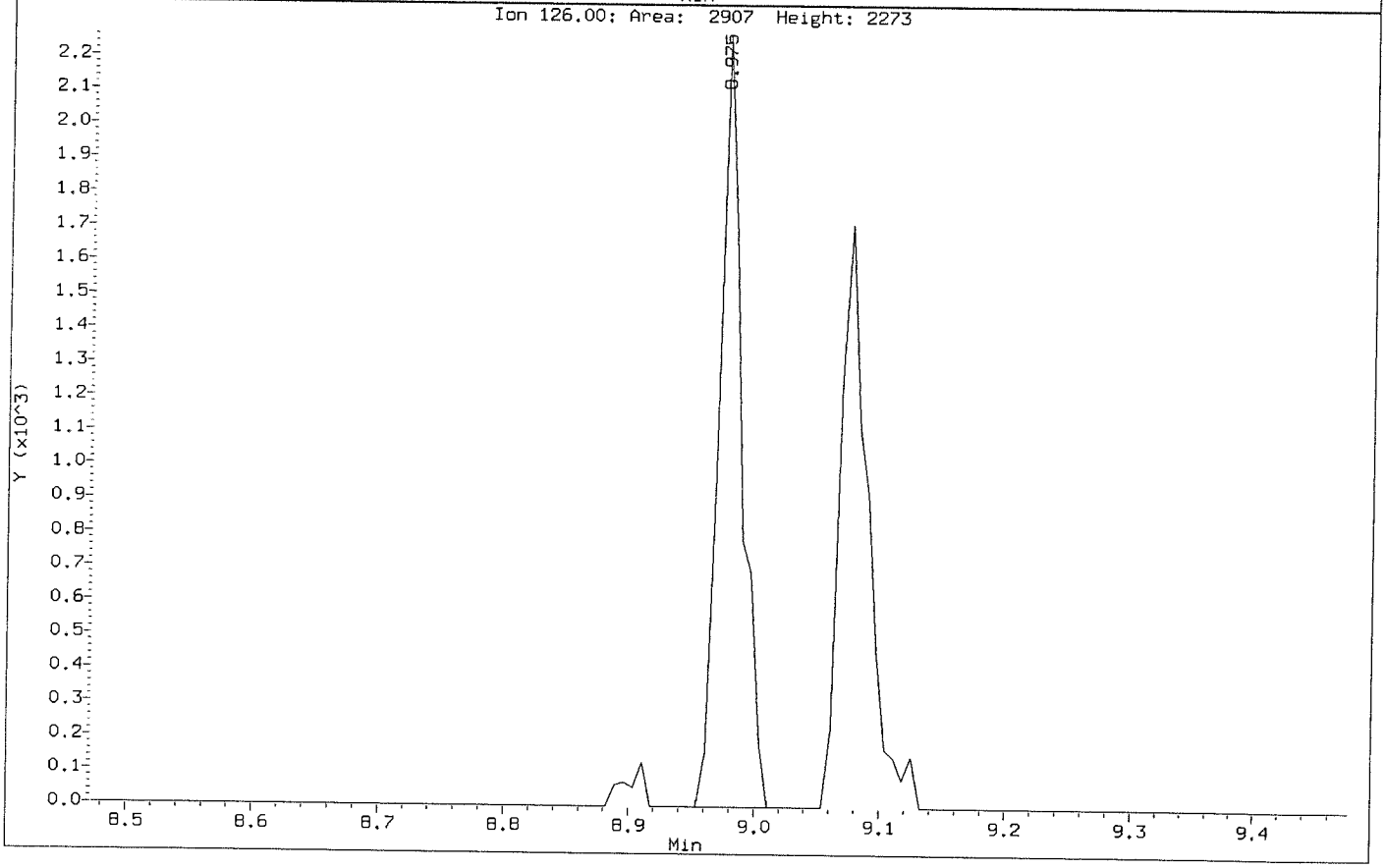


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Injection Date: 18-MAY-2021 12:25
Instrument: voa6.i
Client Sample ID: VSTD001

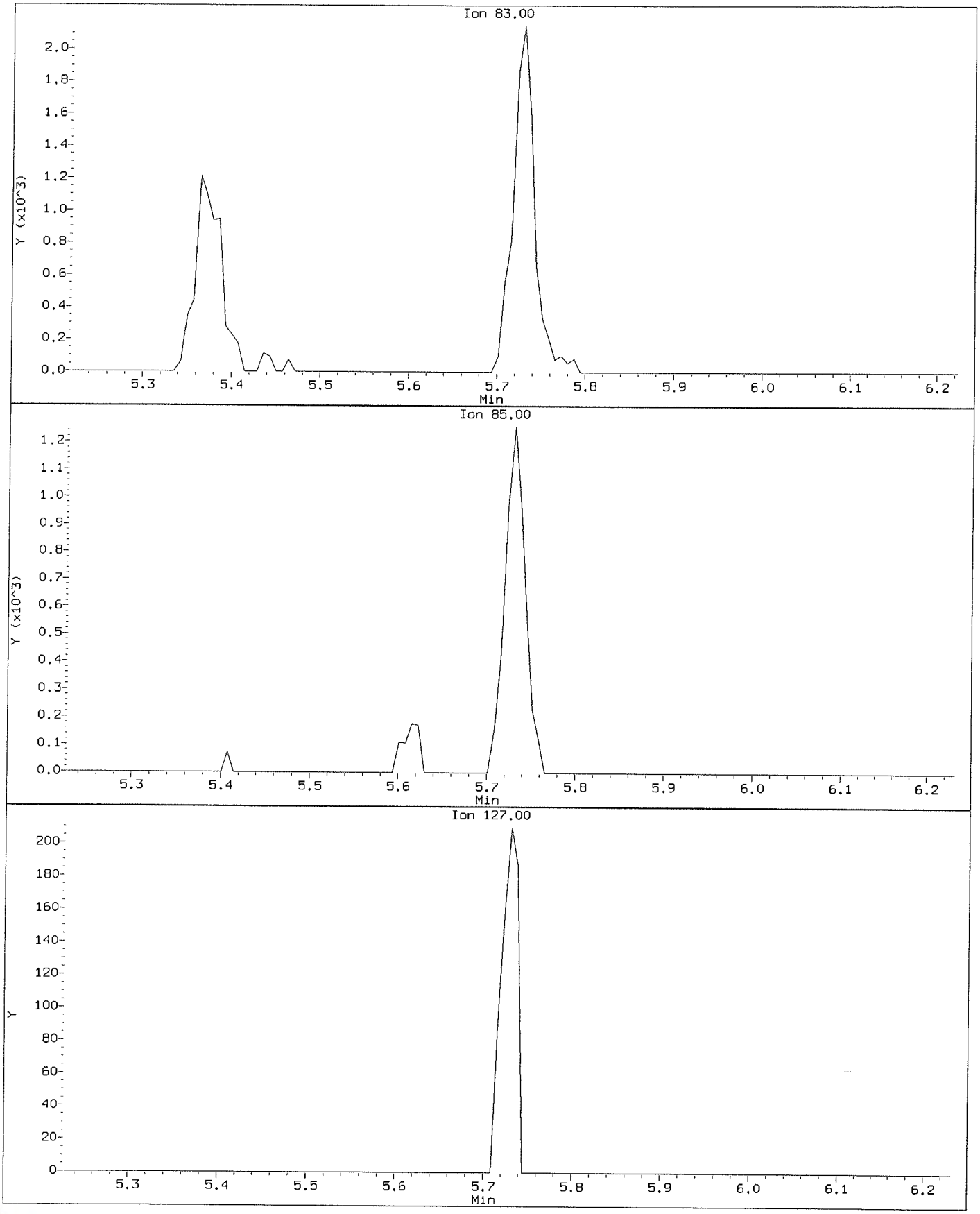
Compound: 2-Chlorotoluene
CAS Number: 95-49-8



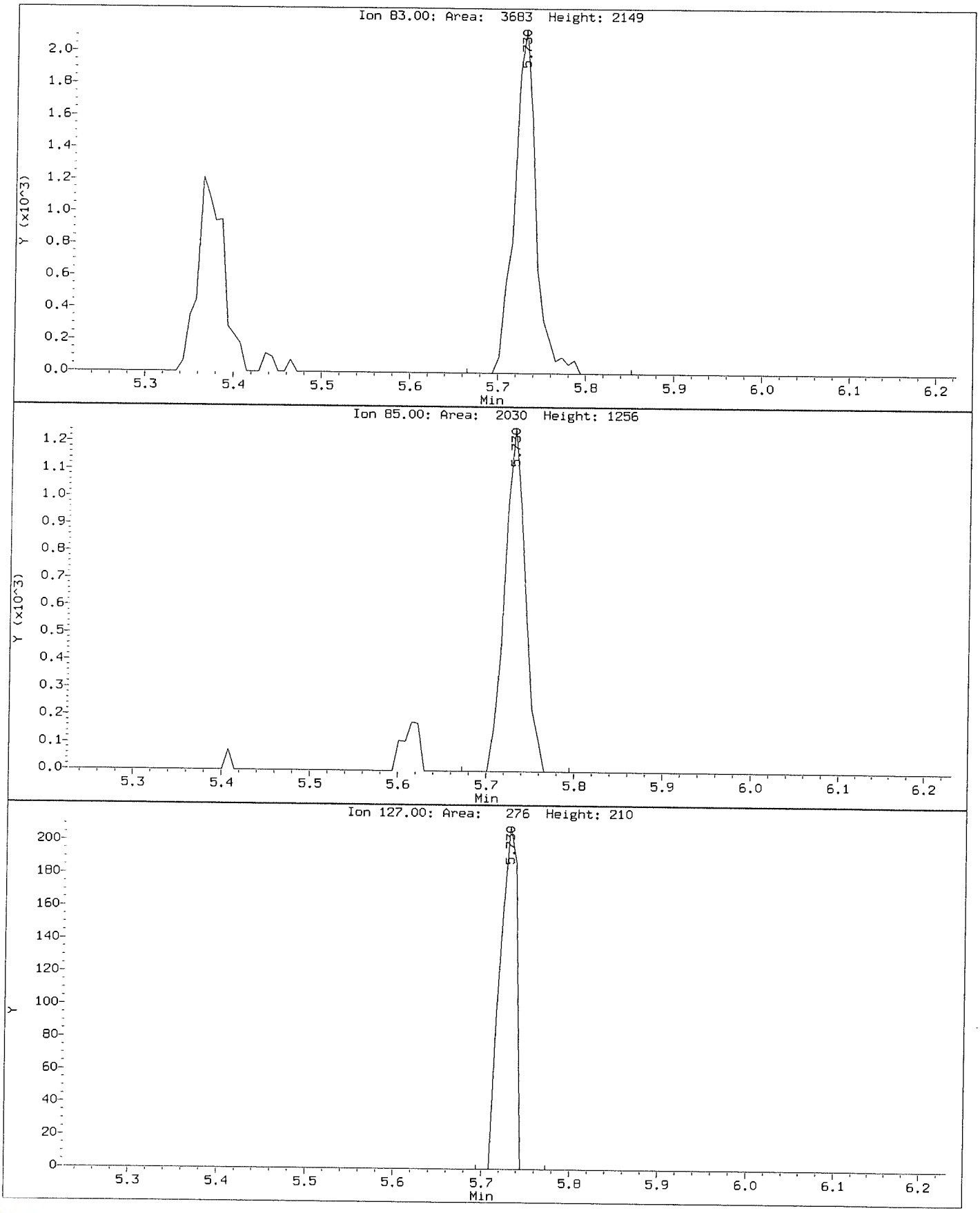
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Injection Date: 18-MAY-2021 12:25
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Bromodichloromethane
CAS Number: 75-27-4



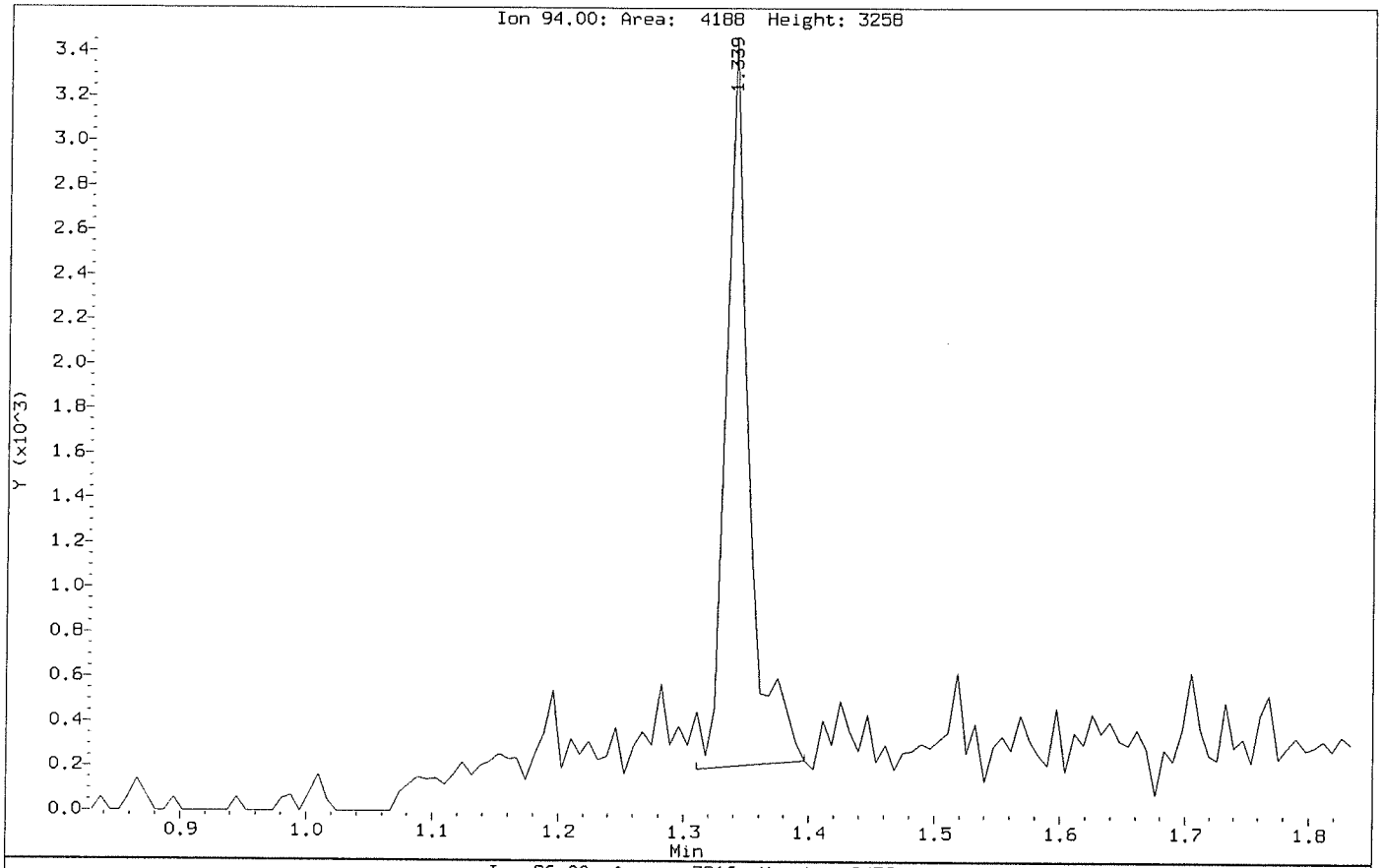
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Injection Date: 18-MAY-2021 12:25
Instrument: voa6.i
Client Sample ID: VSTD001

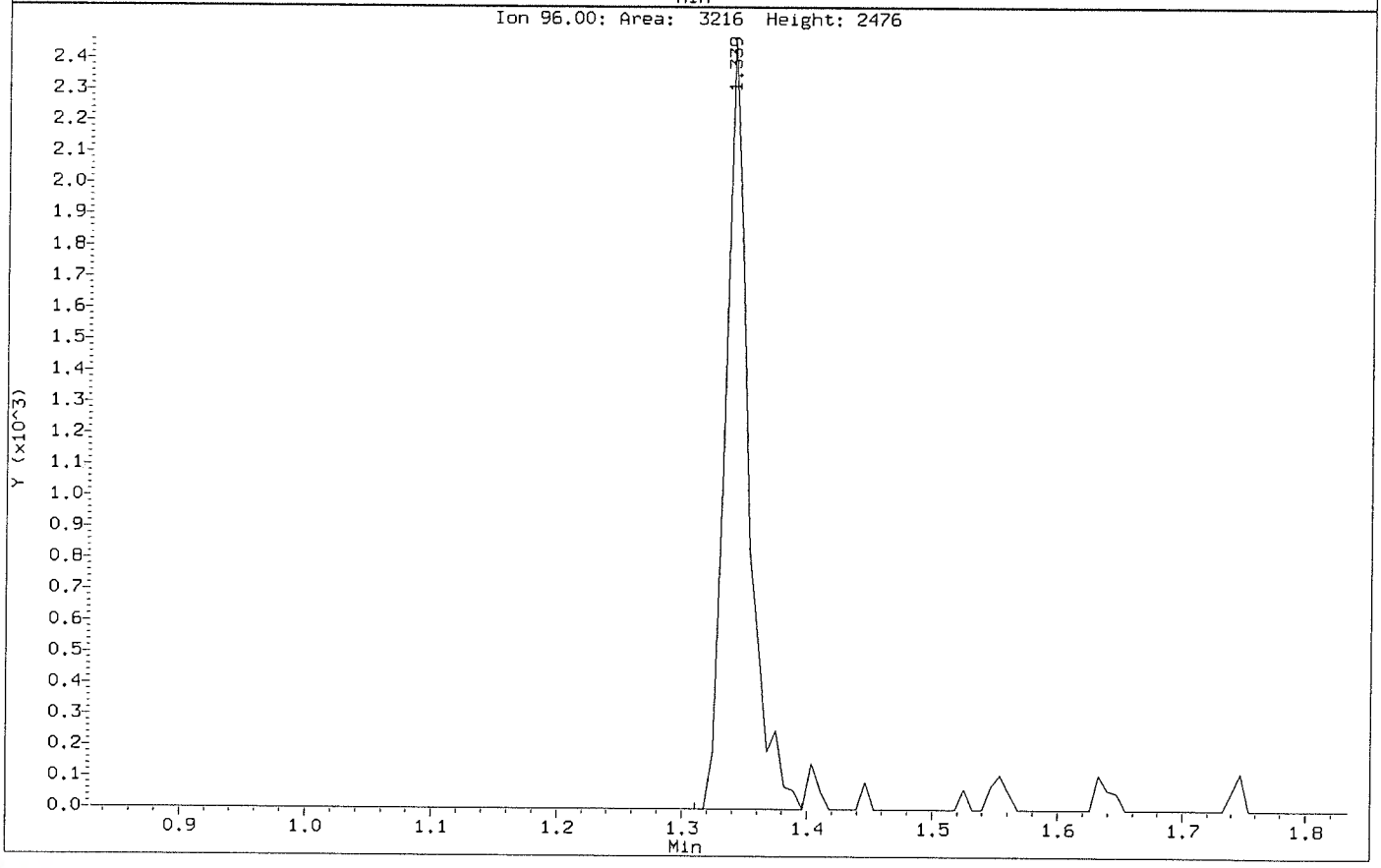
Compound: Bromodichloromethane
CAS Number: 75-27-4



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\Before\X051804.D
Injection Date: 18-MAY-2021 12:25
Instrument: voa6.i
Client Sample ID: VSTD001

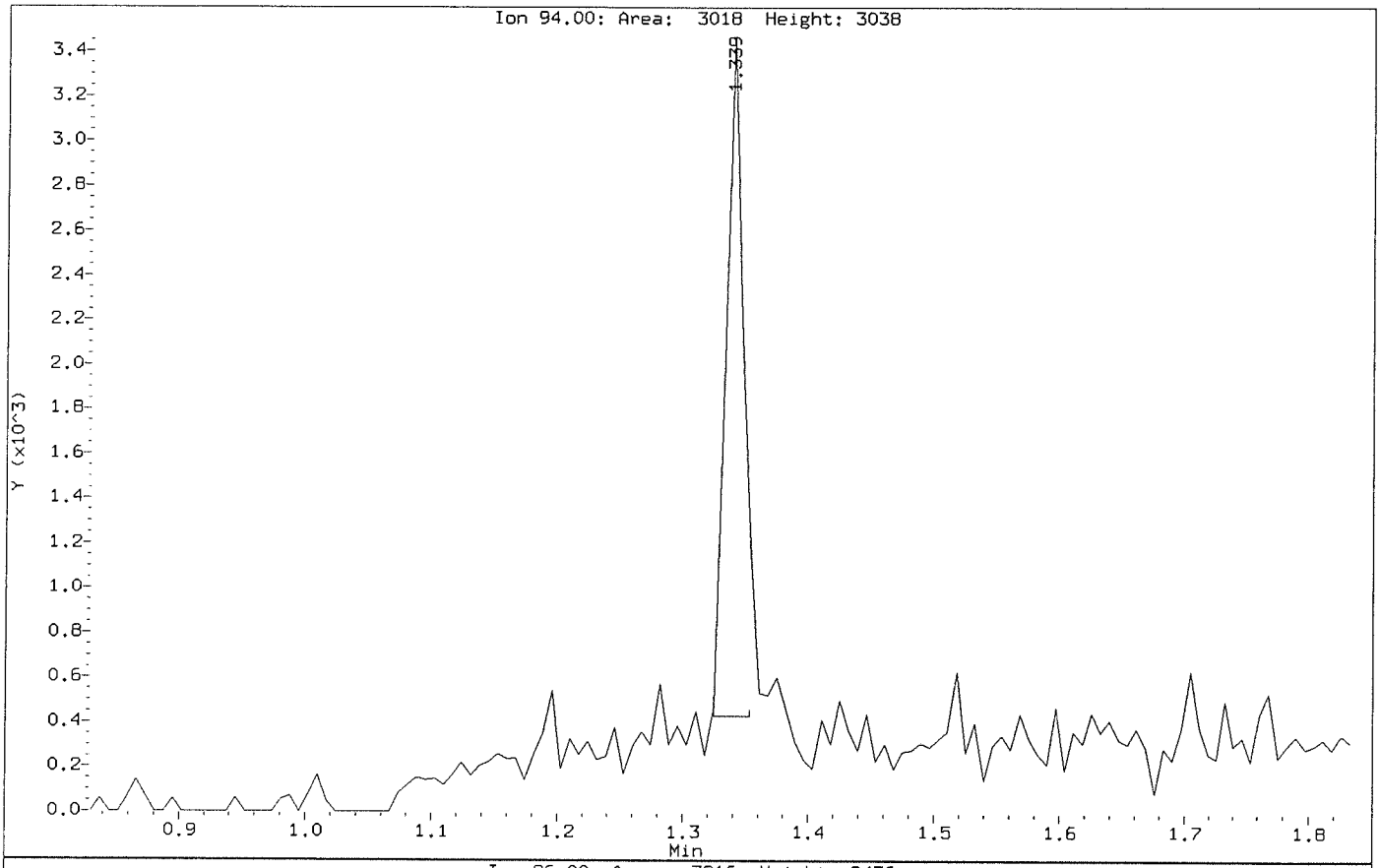
Compound: Bromomethane
CAS Number: 74-83-9

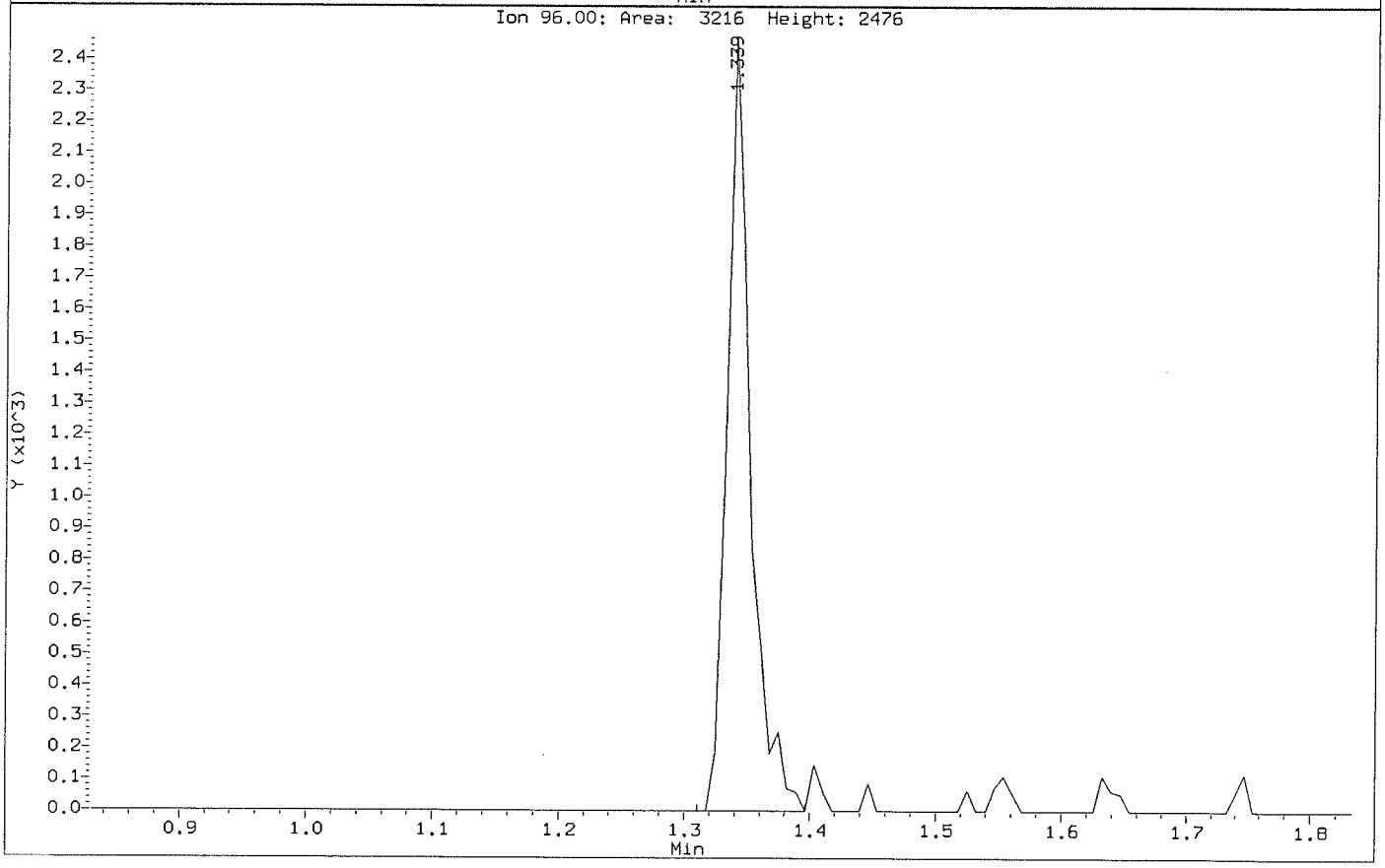


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Injection Date: 18-MAY-2021 12:25
Instrument: voa6.i
Client Sample ID: VSTD001

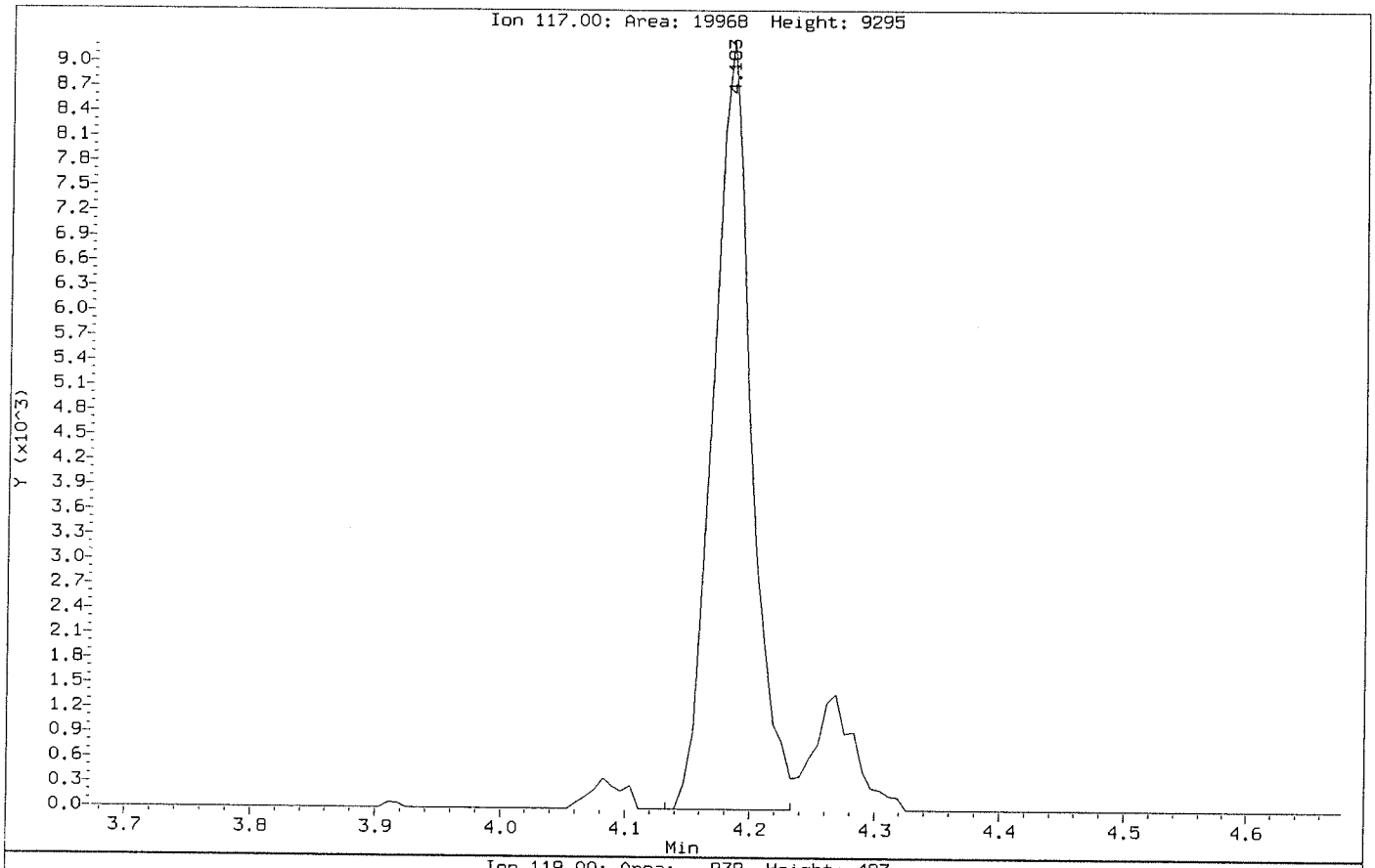
Compound: Bromomethane
CAS Number: 74-83-9

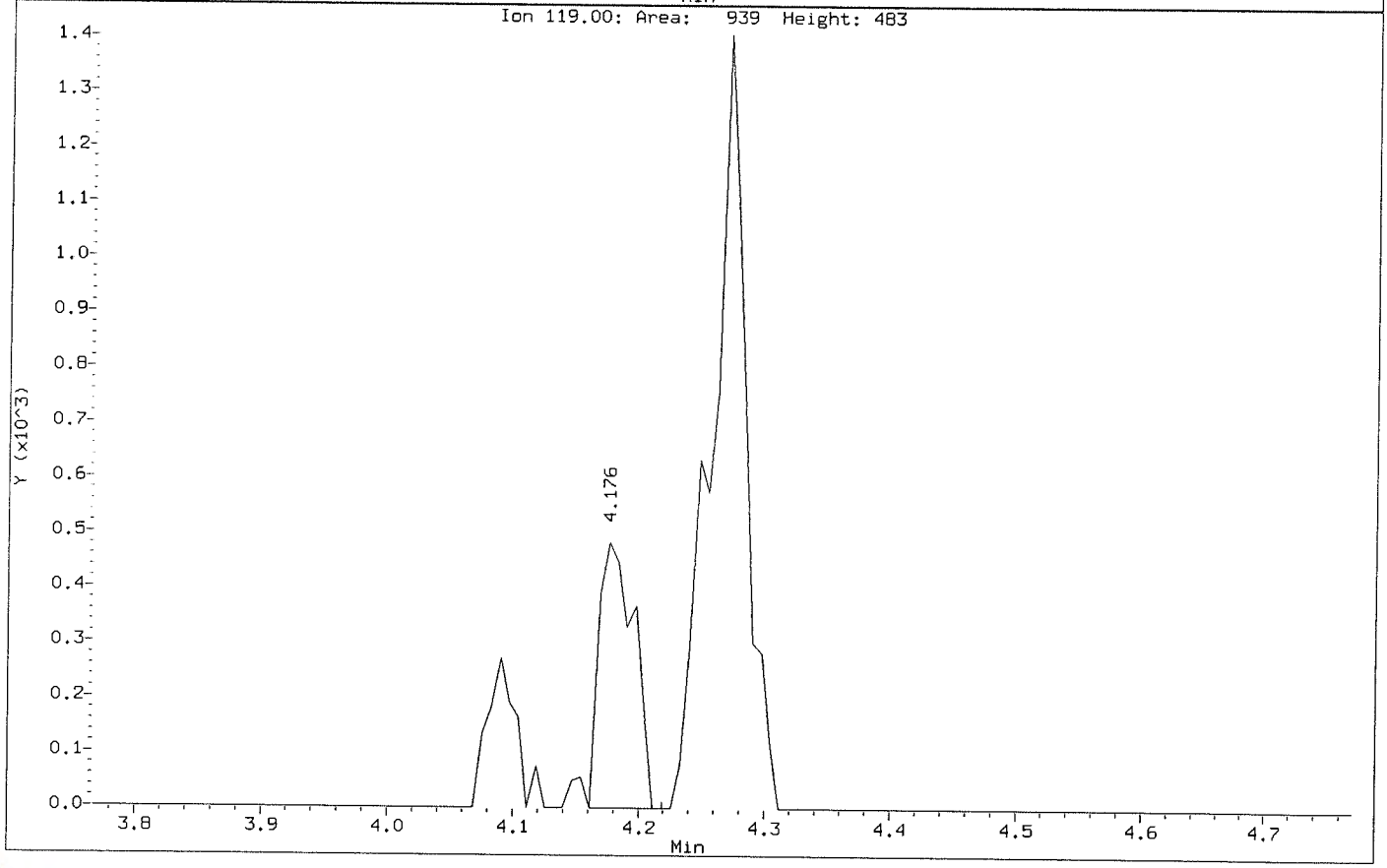


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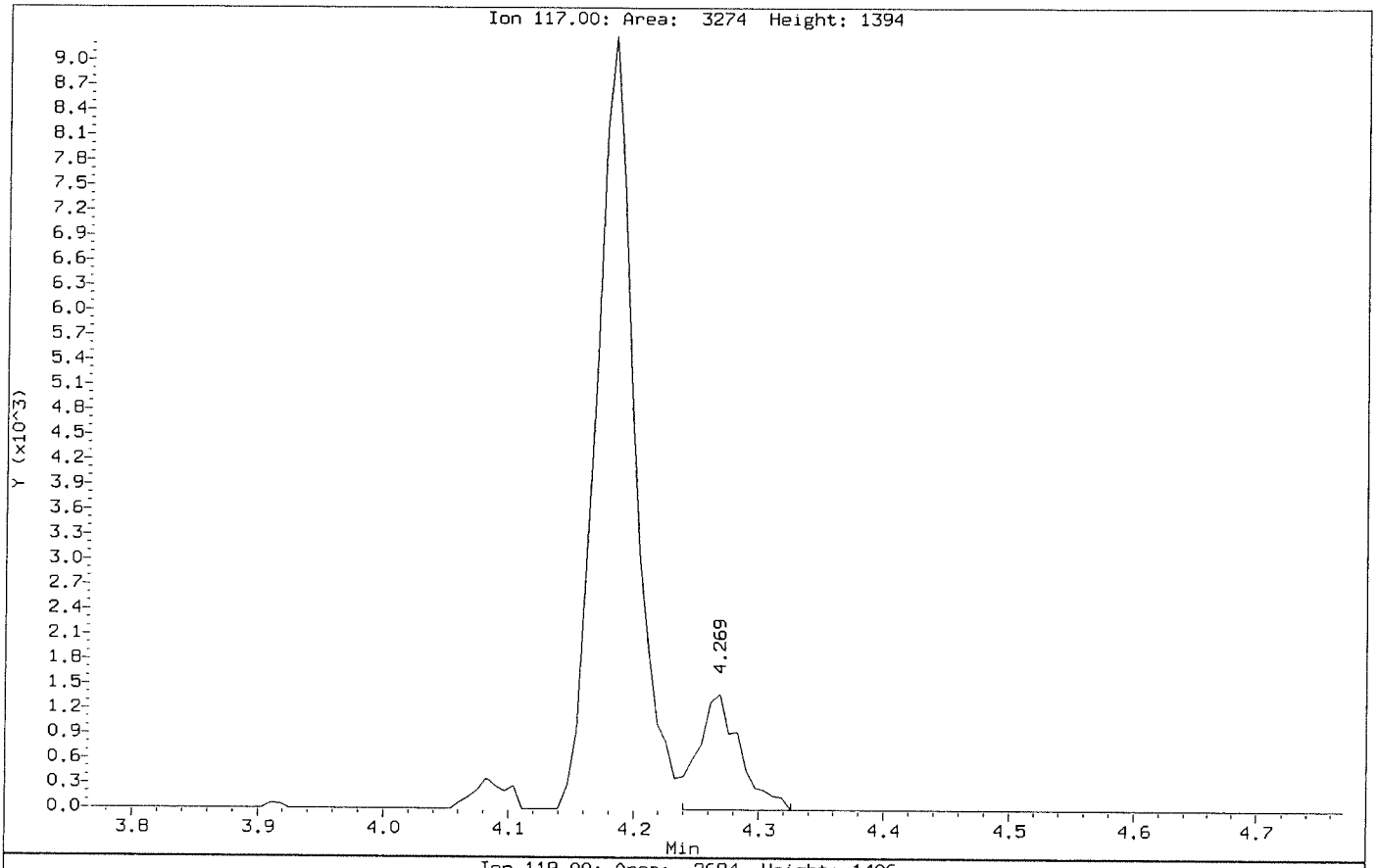
Compound: Carbon Tetrachloride
CAS Number: 56-23-5

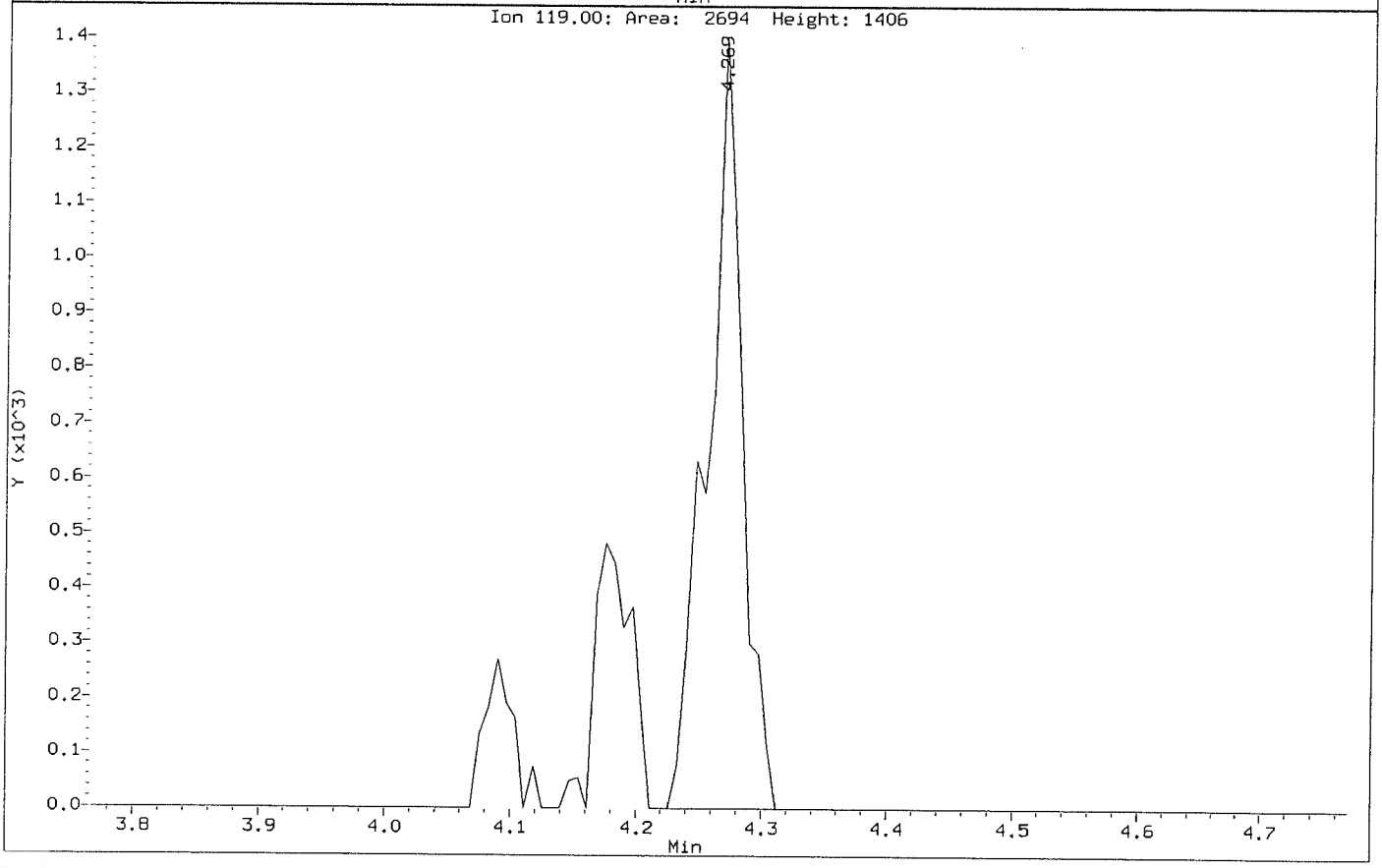


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Injection Date: 18-MAY-2021 12:25
Instrument: voa6.i
Client Sample ID: VSTD001

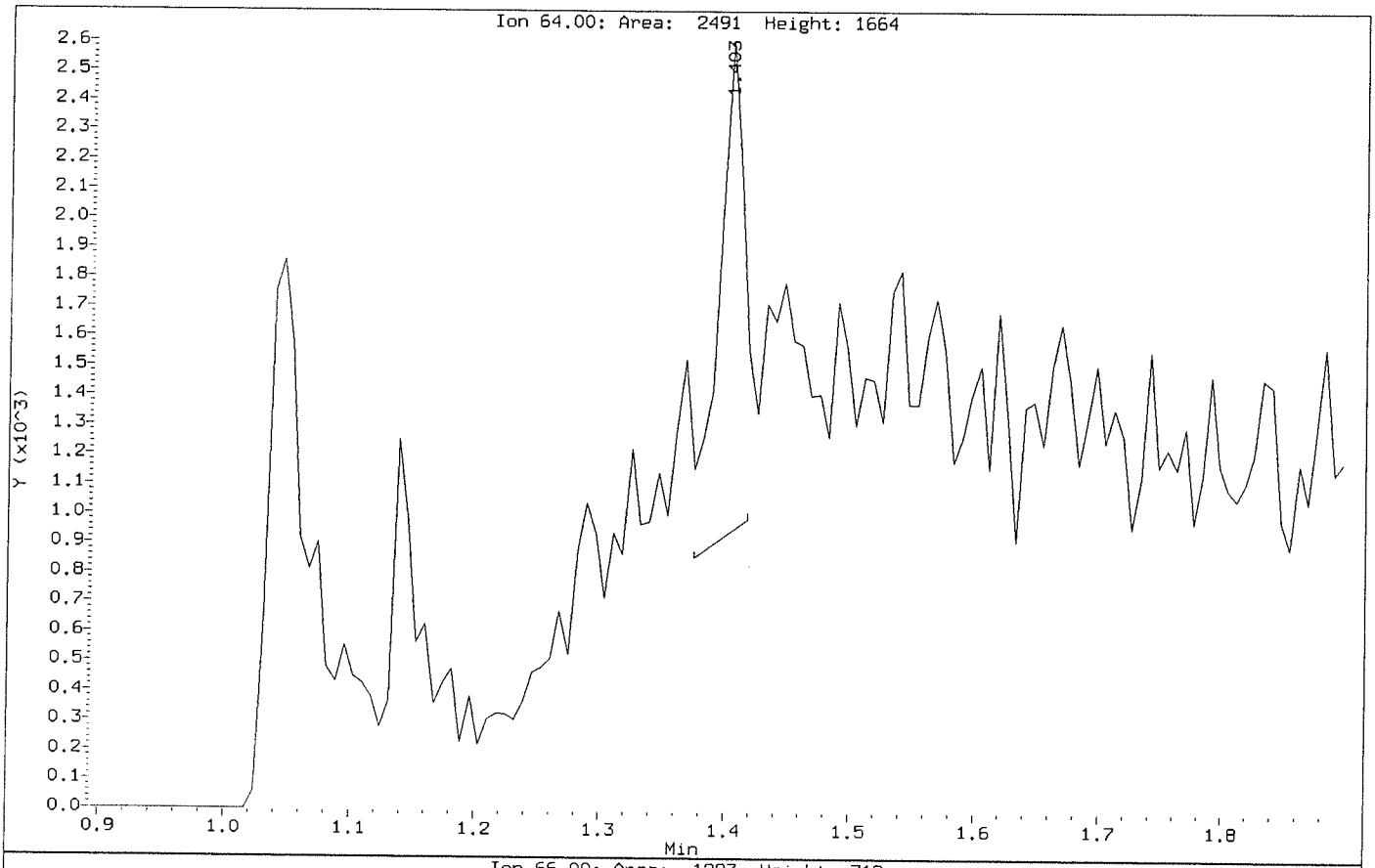
Compound: Carbon Tetrachloride
CAS Number: 56-23-5

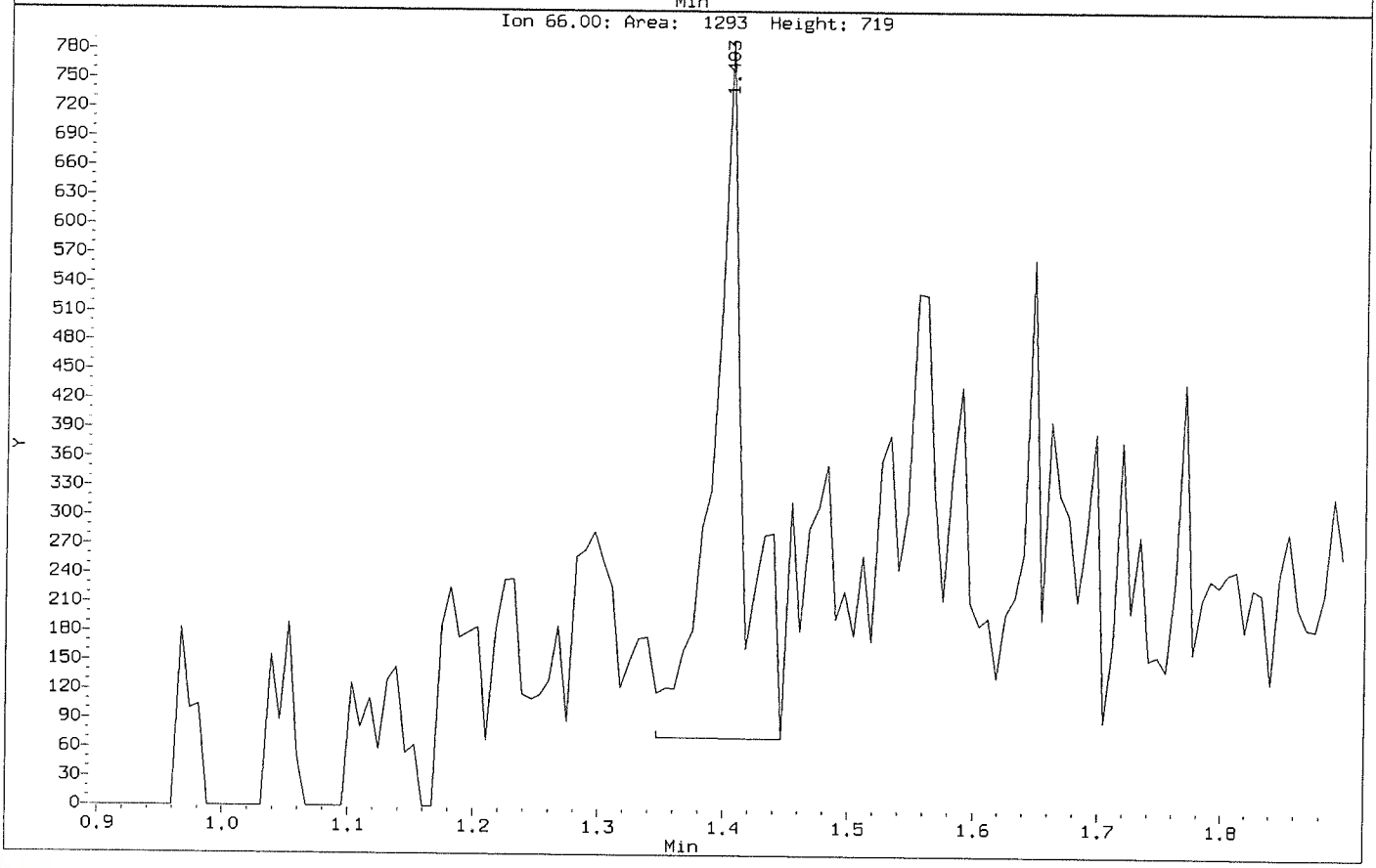


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Client Sample ID: VSTD001

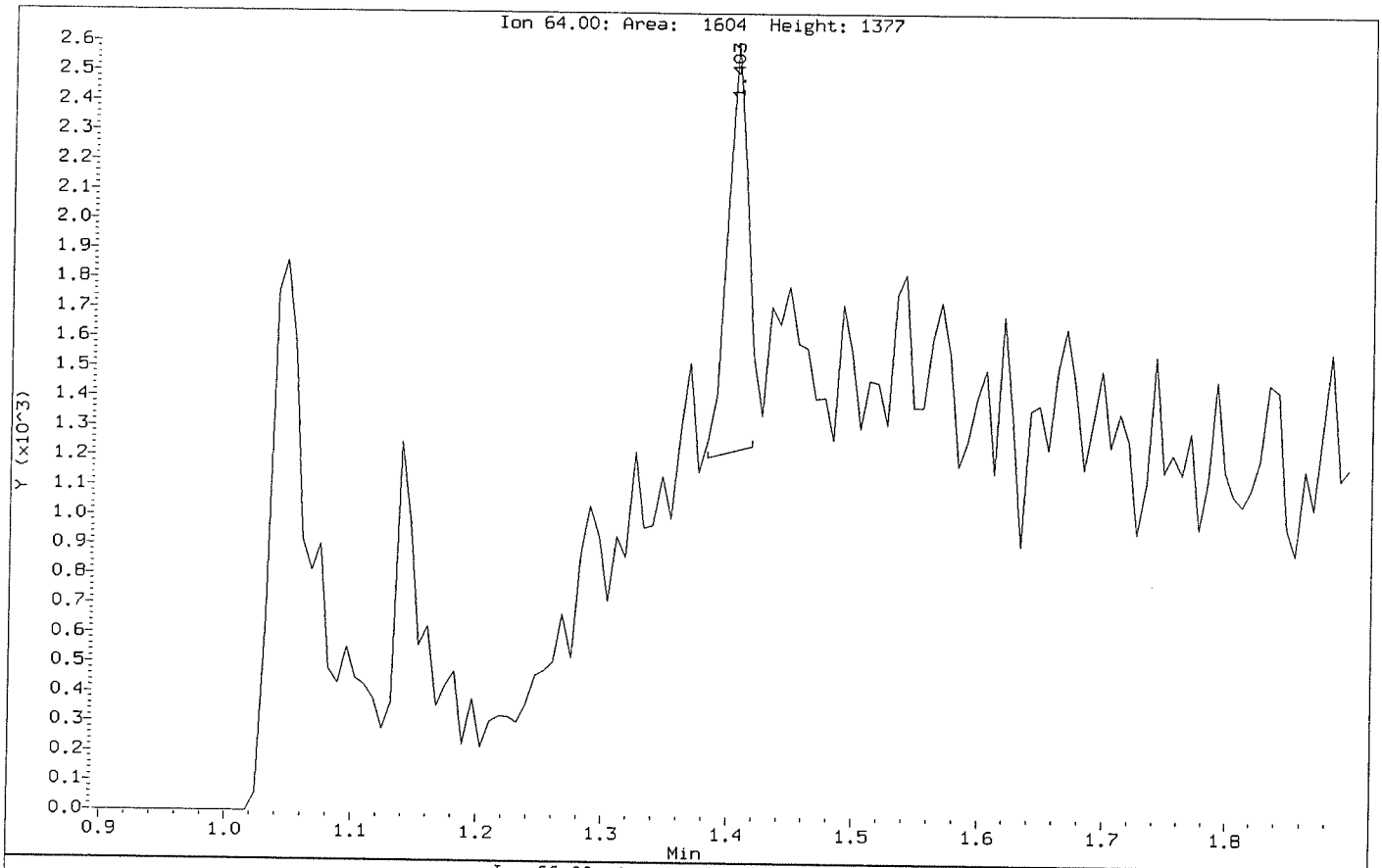
Compound: Chloroethane
CAS Number: 75-00-3

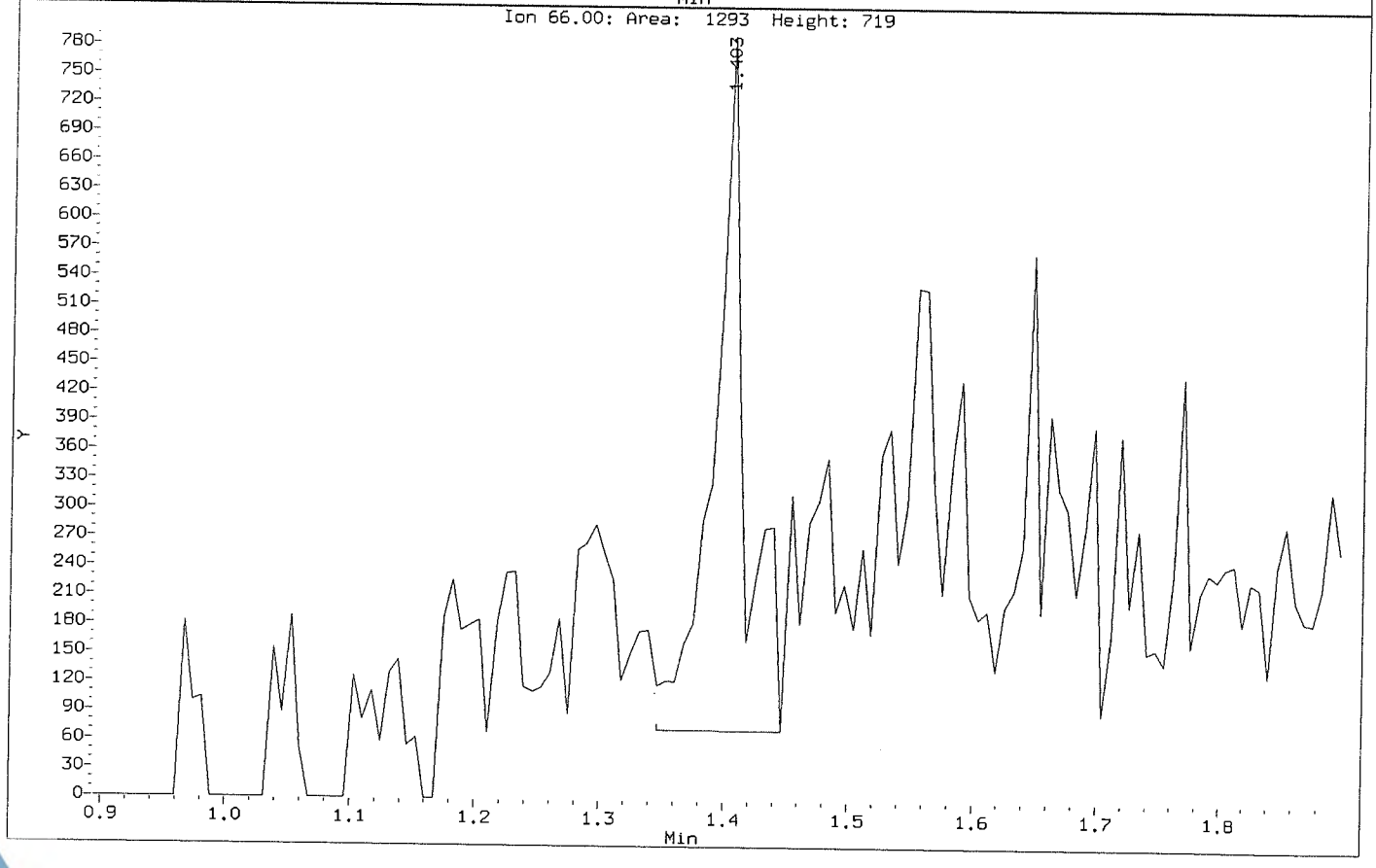


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Injection Date: 18-MAY-2021 12:25
Instrument: voa6.i
Client Sample ID: VSTD001

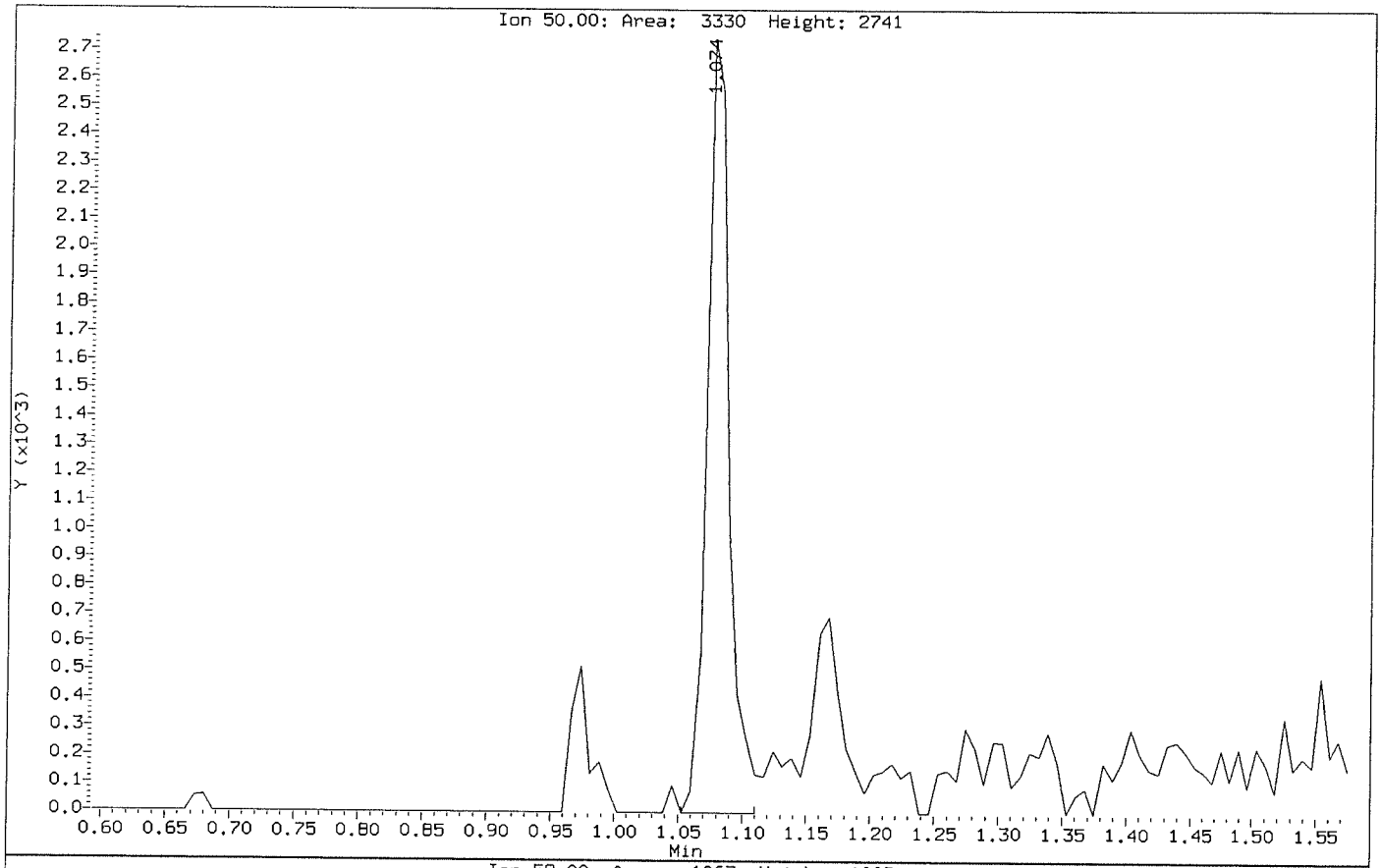
Compound: Chloroethane
CAS Number: 75-00-3

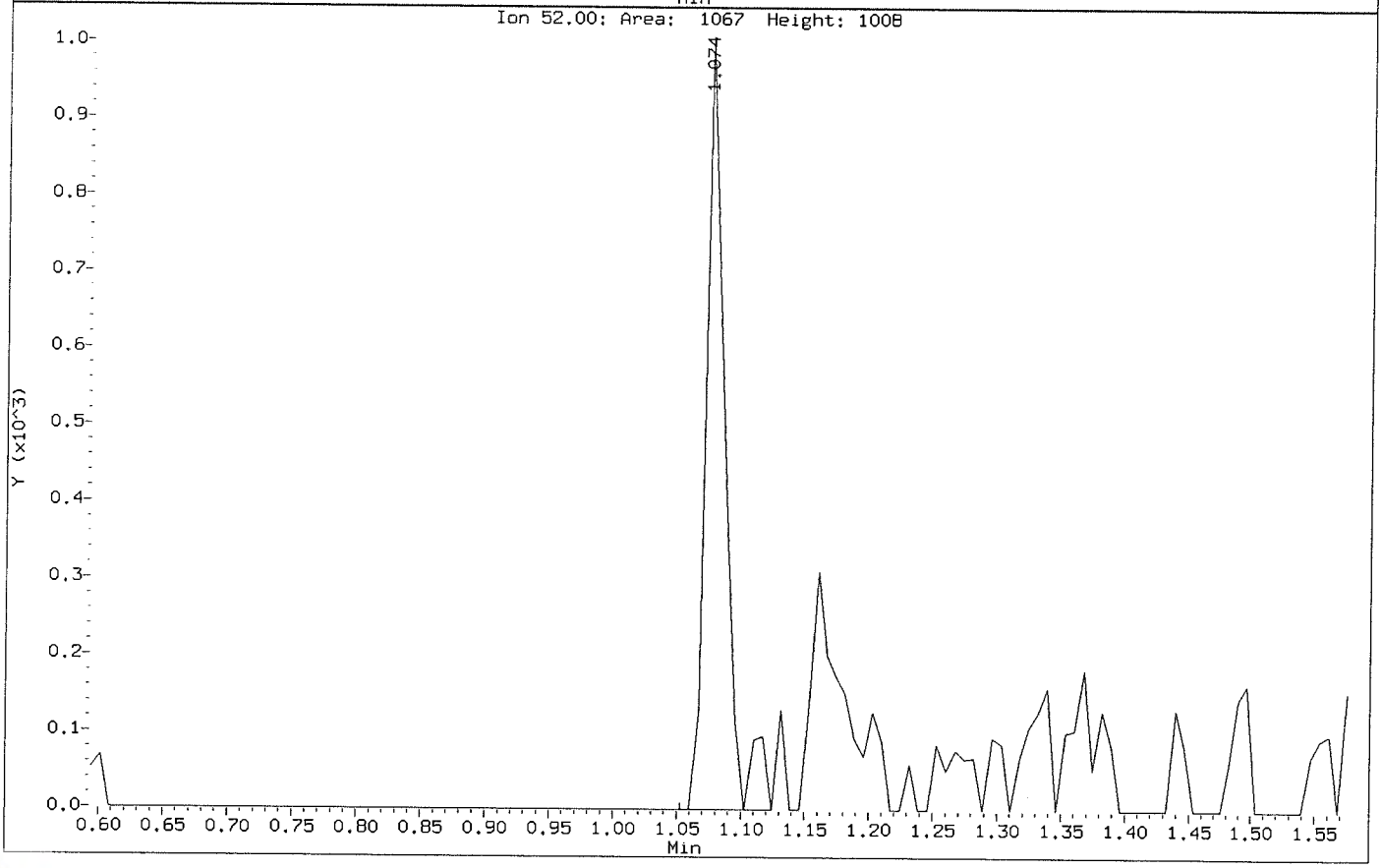


Data File: \\NAHSTW5005\Target\chem\voa6.i\X210518.b\Before\X051804.D
Injection Date: 18-MAY-2021 12:25
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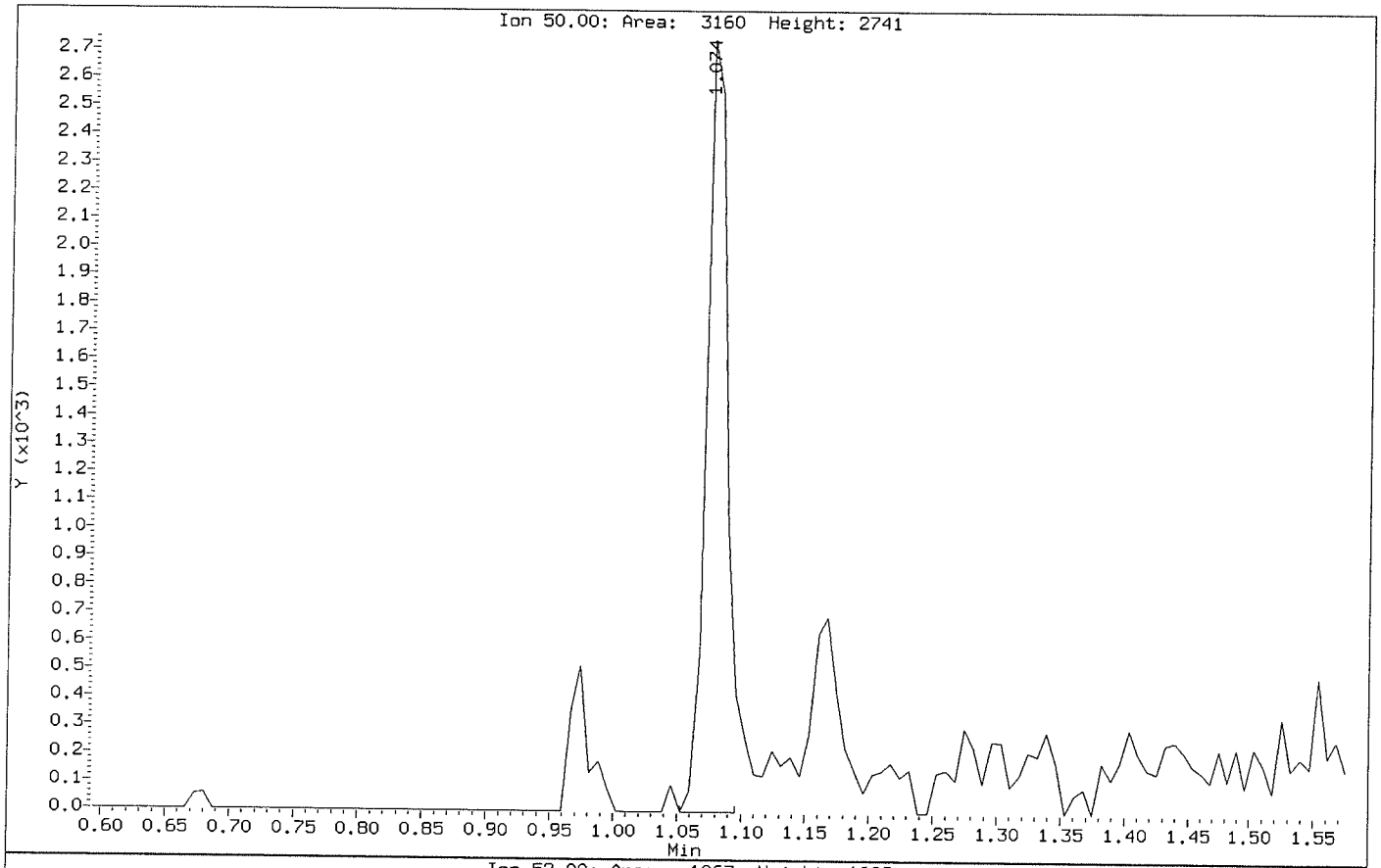
Compound: Chloromethane
CAS Number: 74-87-3

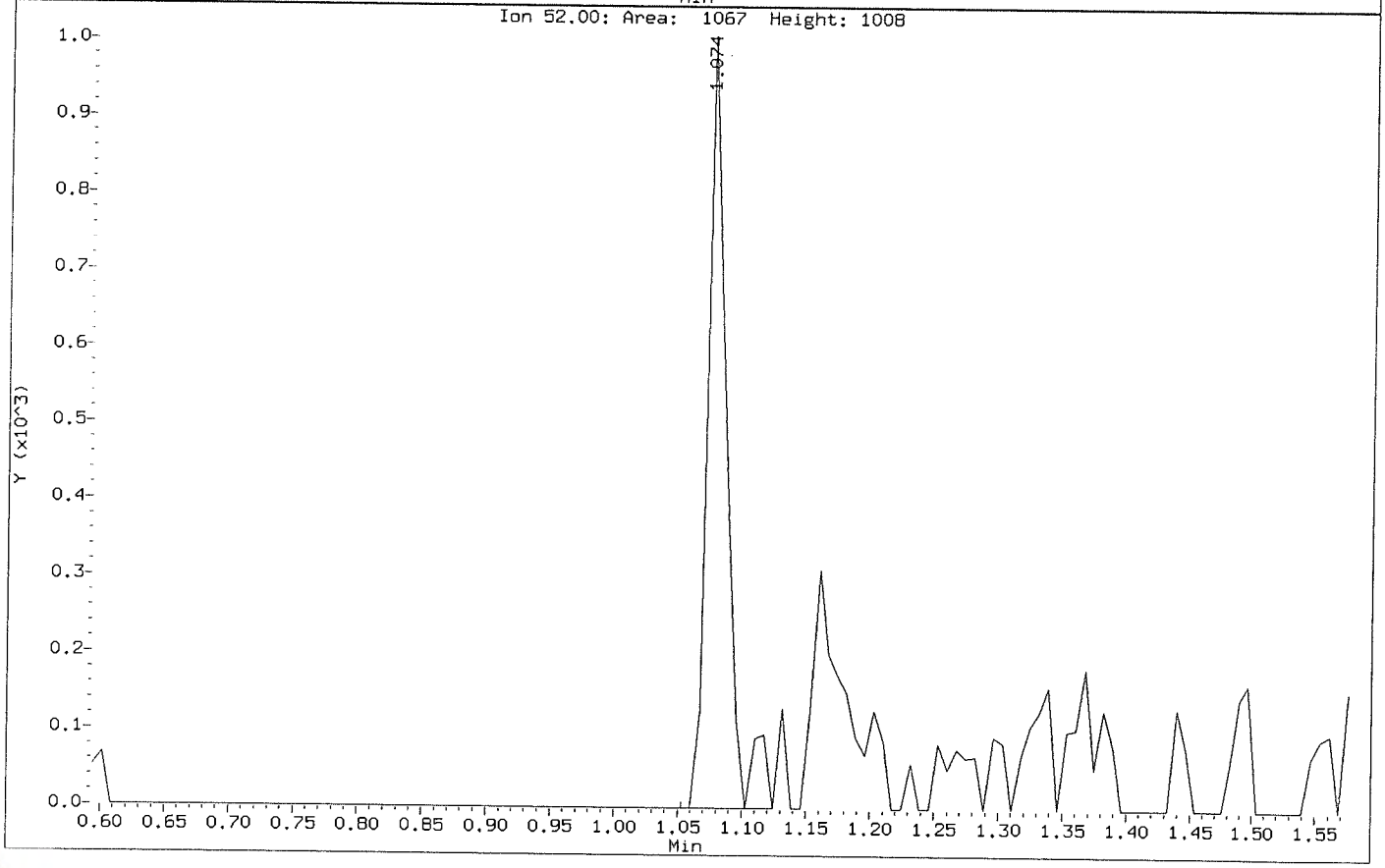


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051804.D
Injection Date: 18-MAY-2021 12:25
Instrument: voa6.i
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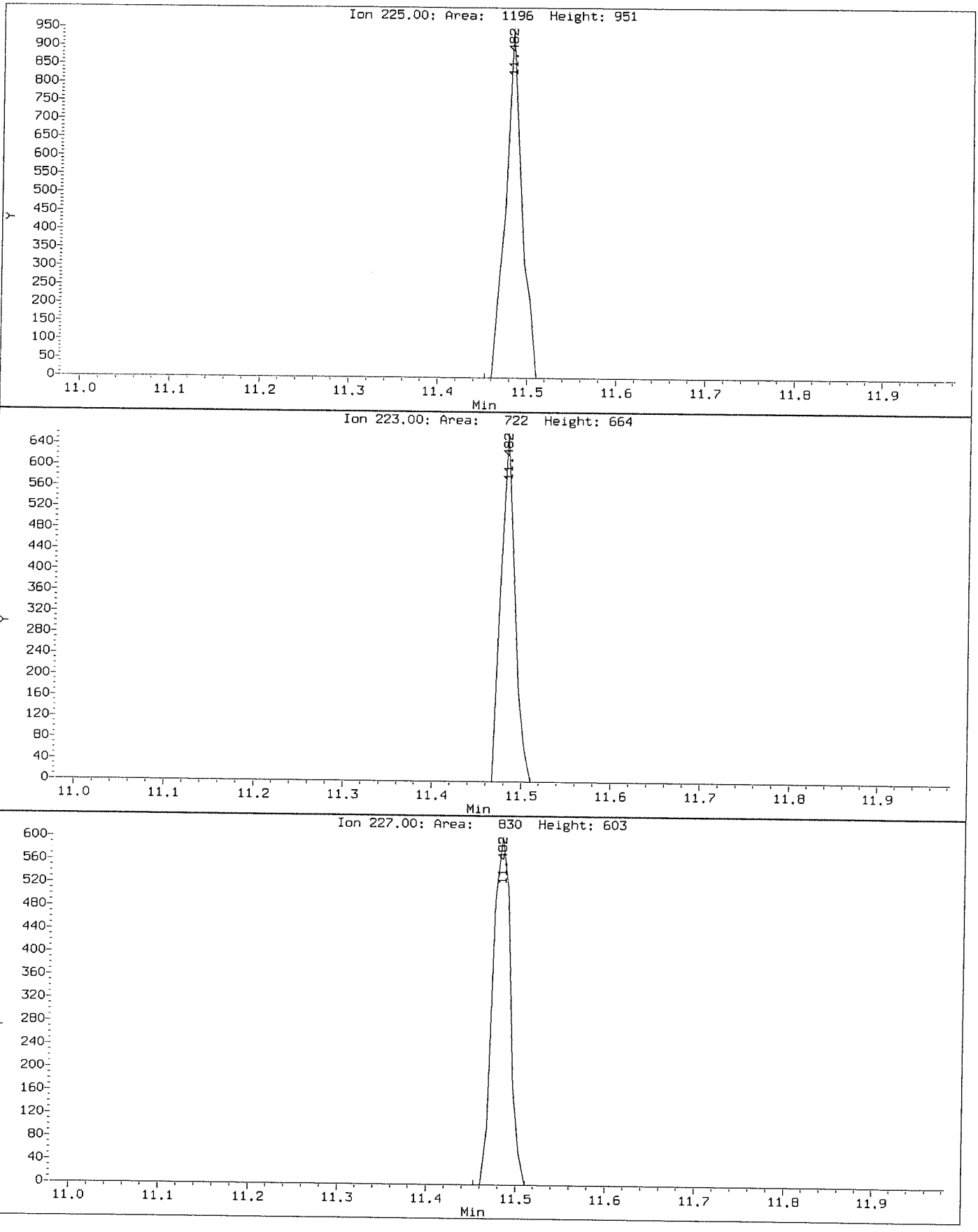
Compound: Chloromethane
CAS Number: 74-87-3



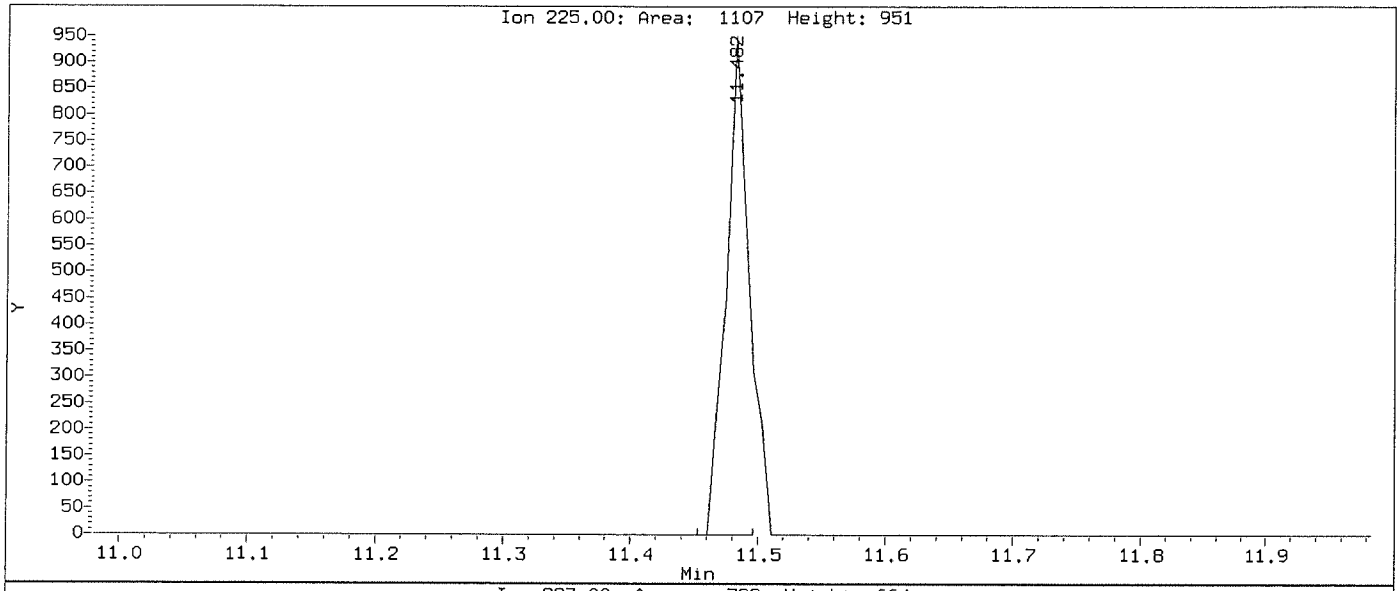
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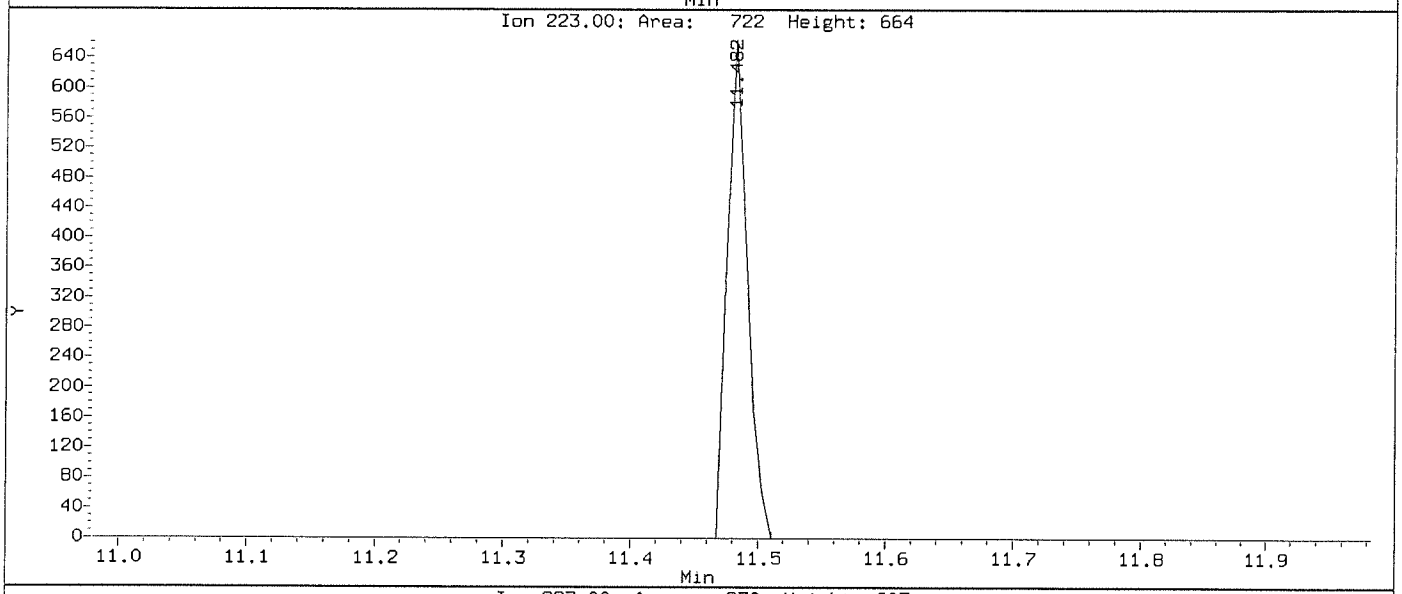
Compound: Hexachlorobutadiene
CAS Number: 87-68-3

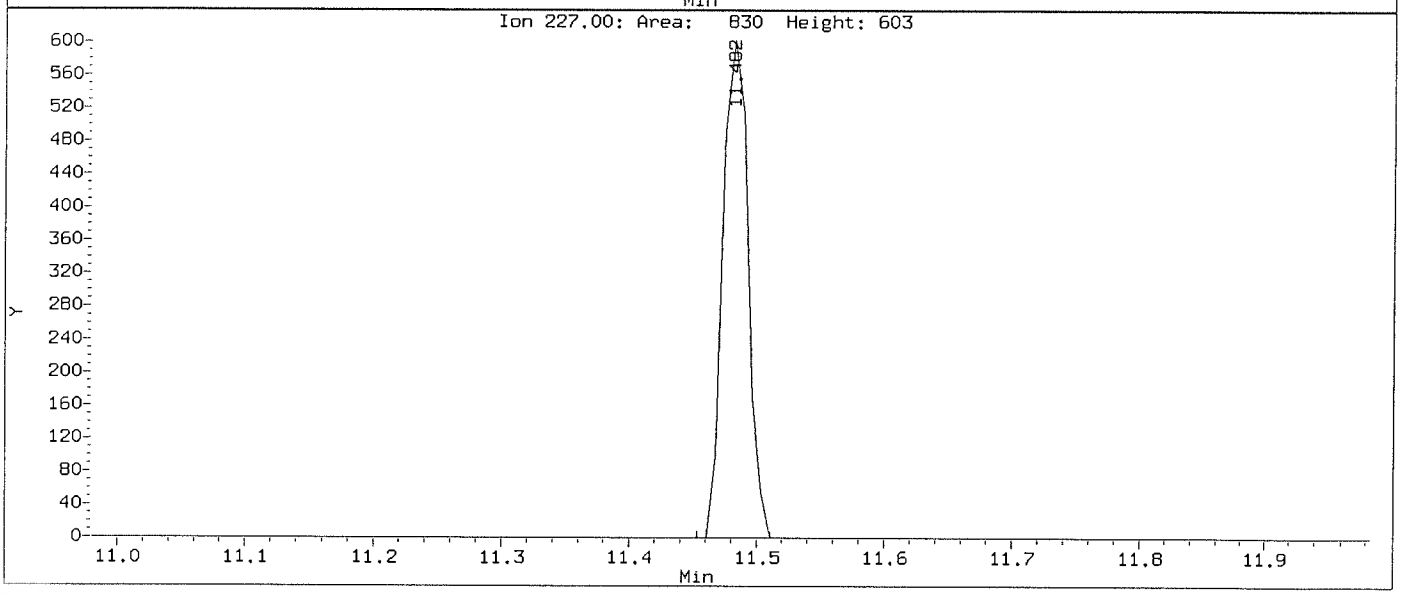


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Injection Date: 18-MAY-2021 12:25
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Hexachlorobutadiene
CAS Number: 87-68-3

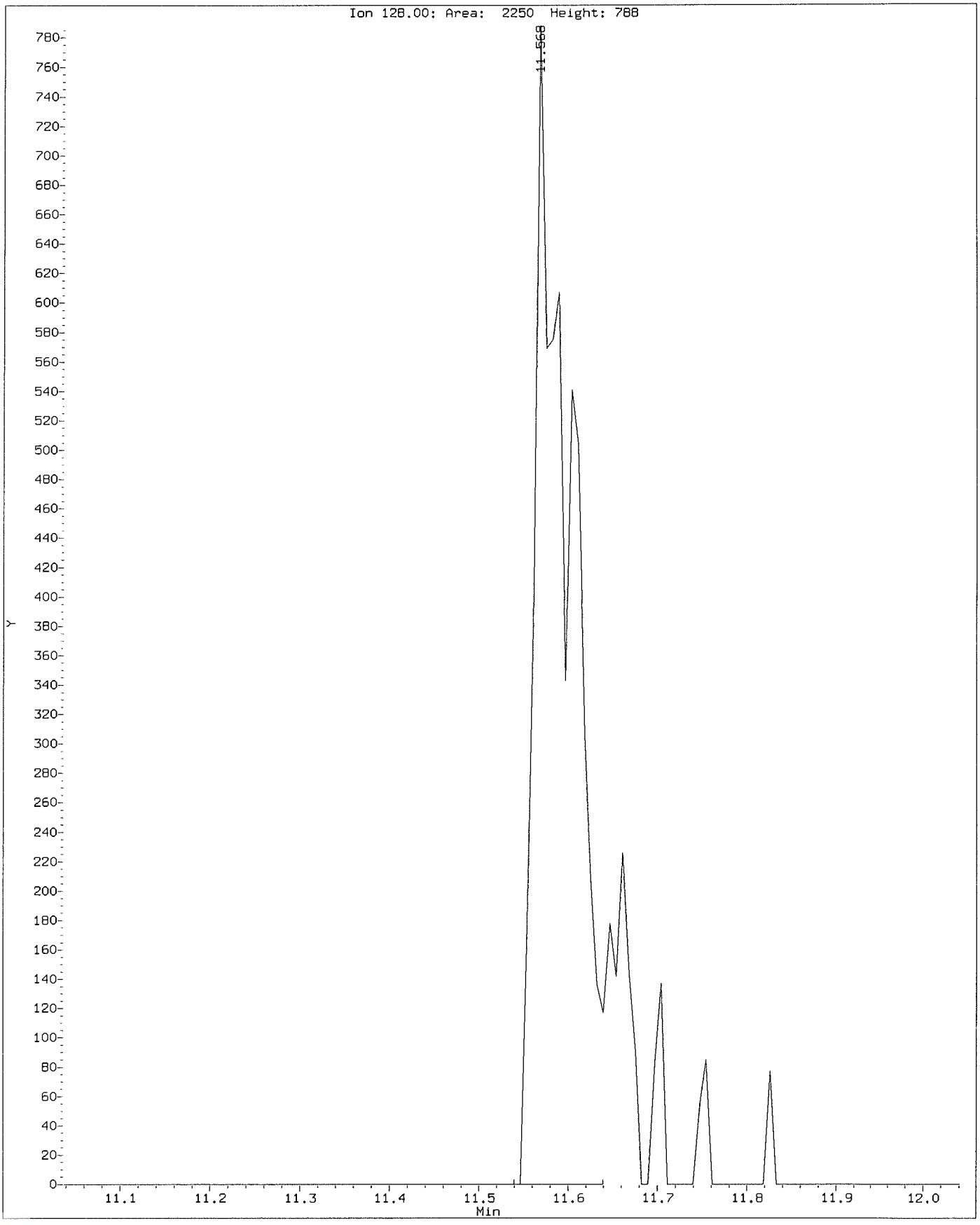


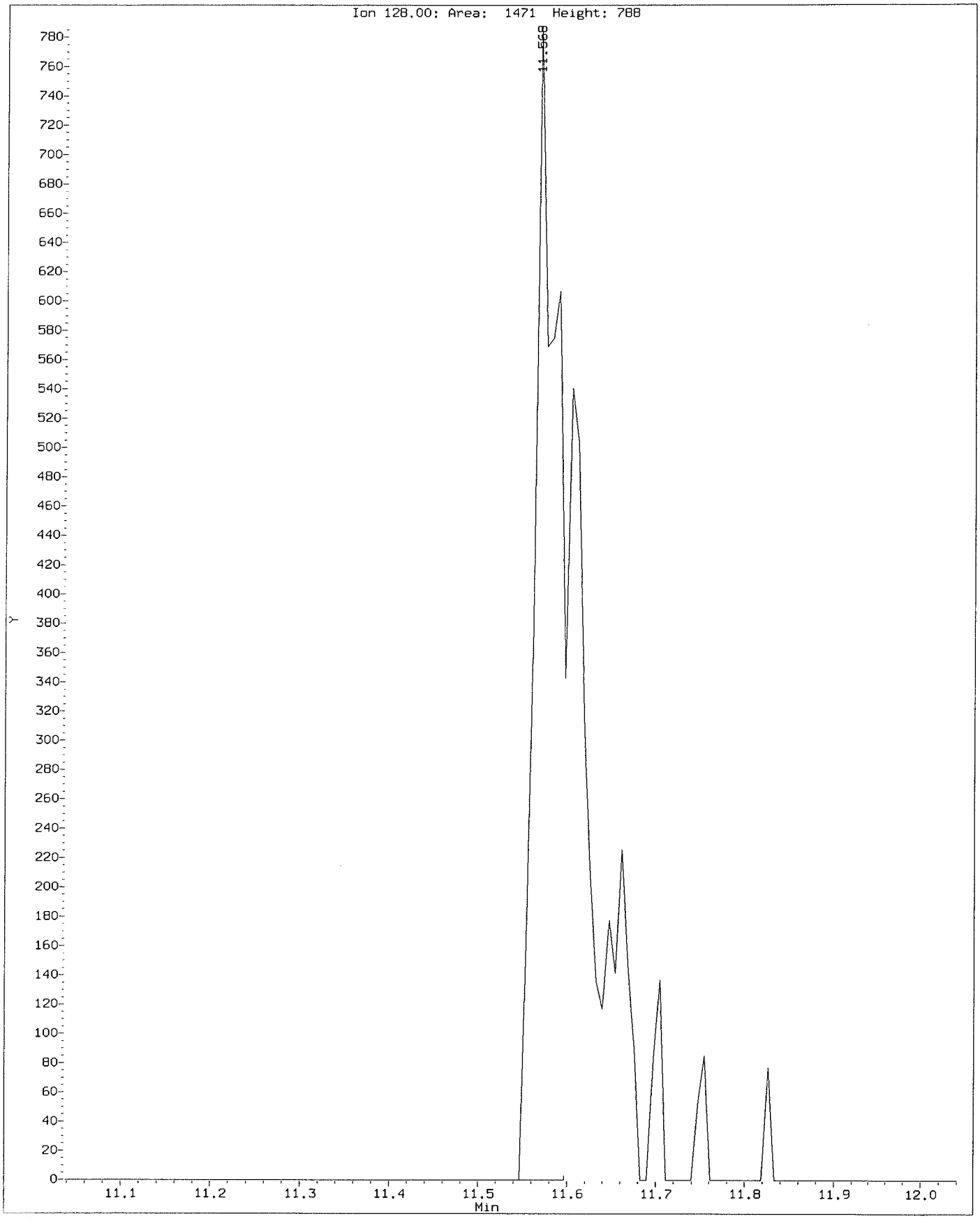
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Injection Date: 18-MAY-2021 12:25
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Naphthalene
CAS Number: 91-20-3



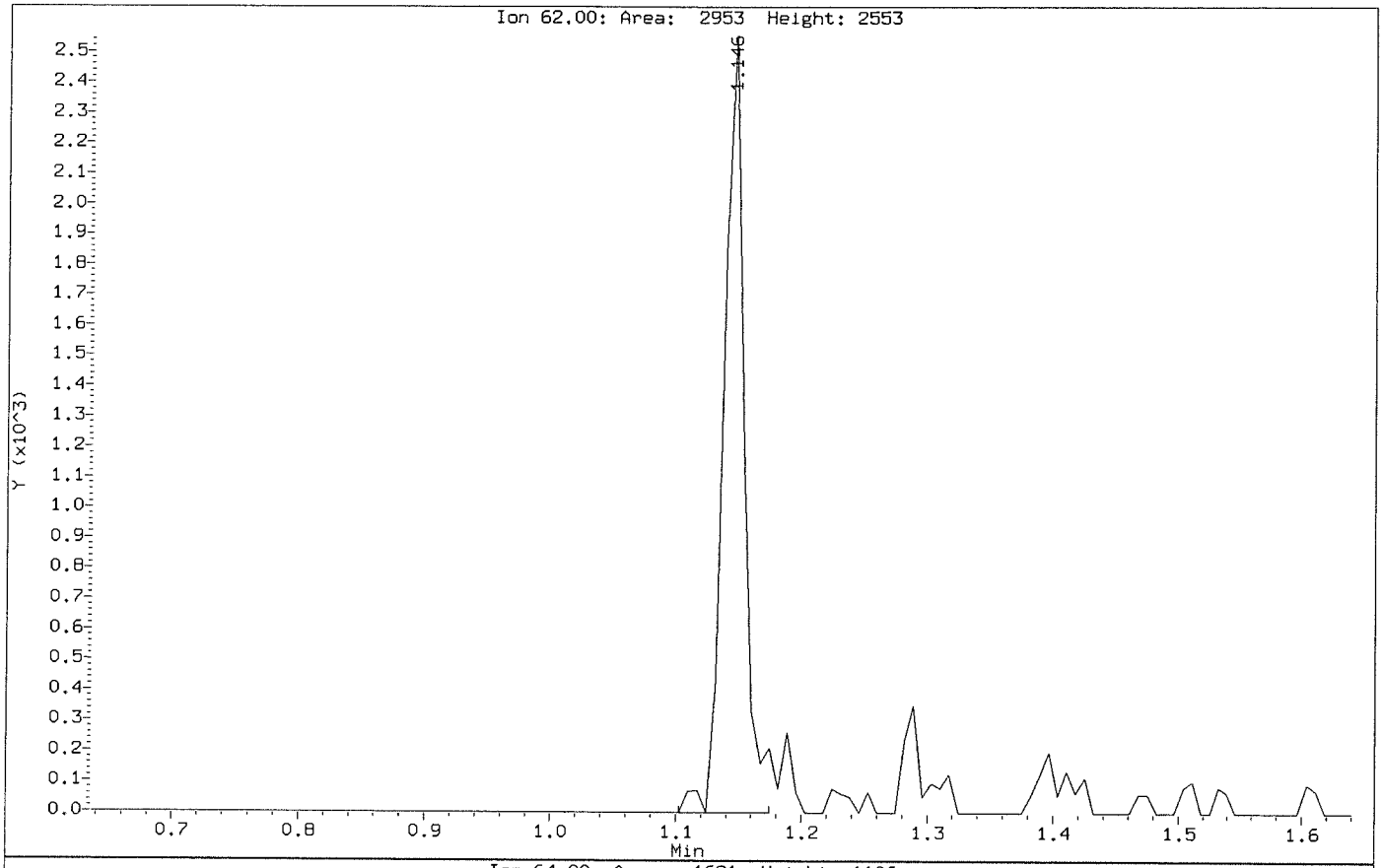
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Injection Date: 18-MAY-2021 12:25
Instrument: voa6.i
Client Sample ID: VSTD001

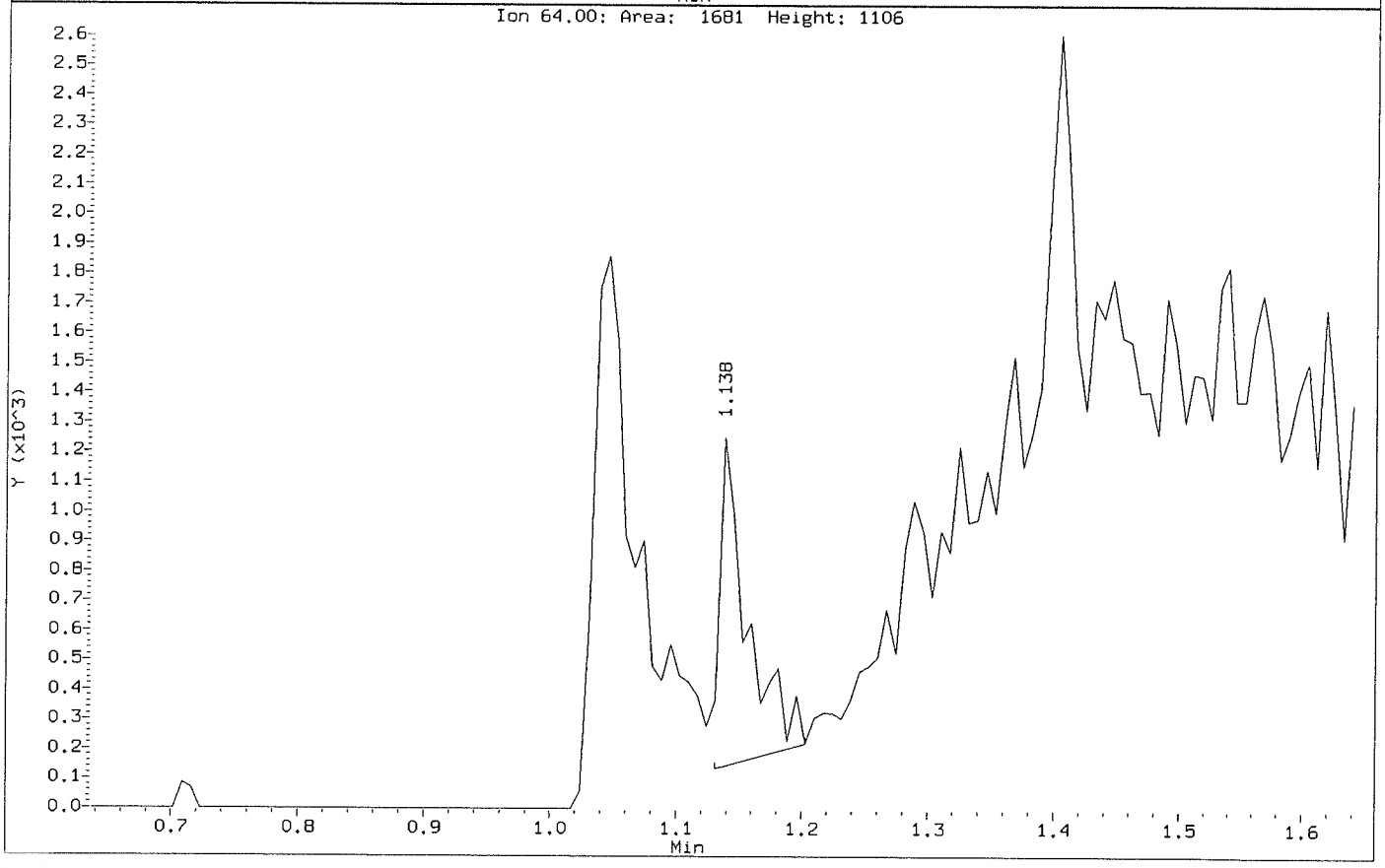
Compound: Naphthalene
CAS Number: 91-20-3



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\Before\X051804.D
Injection Date: 18-MAY-2021 12:25
Instrument: voa6.i
Client Sample ID: VSTD001

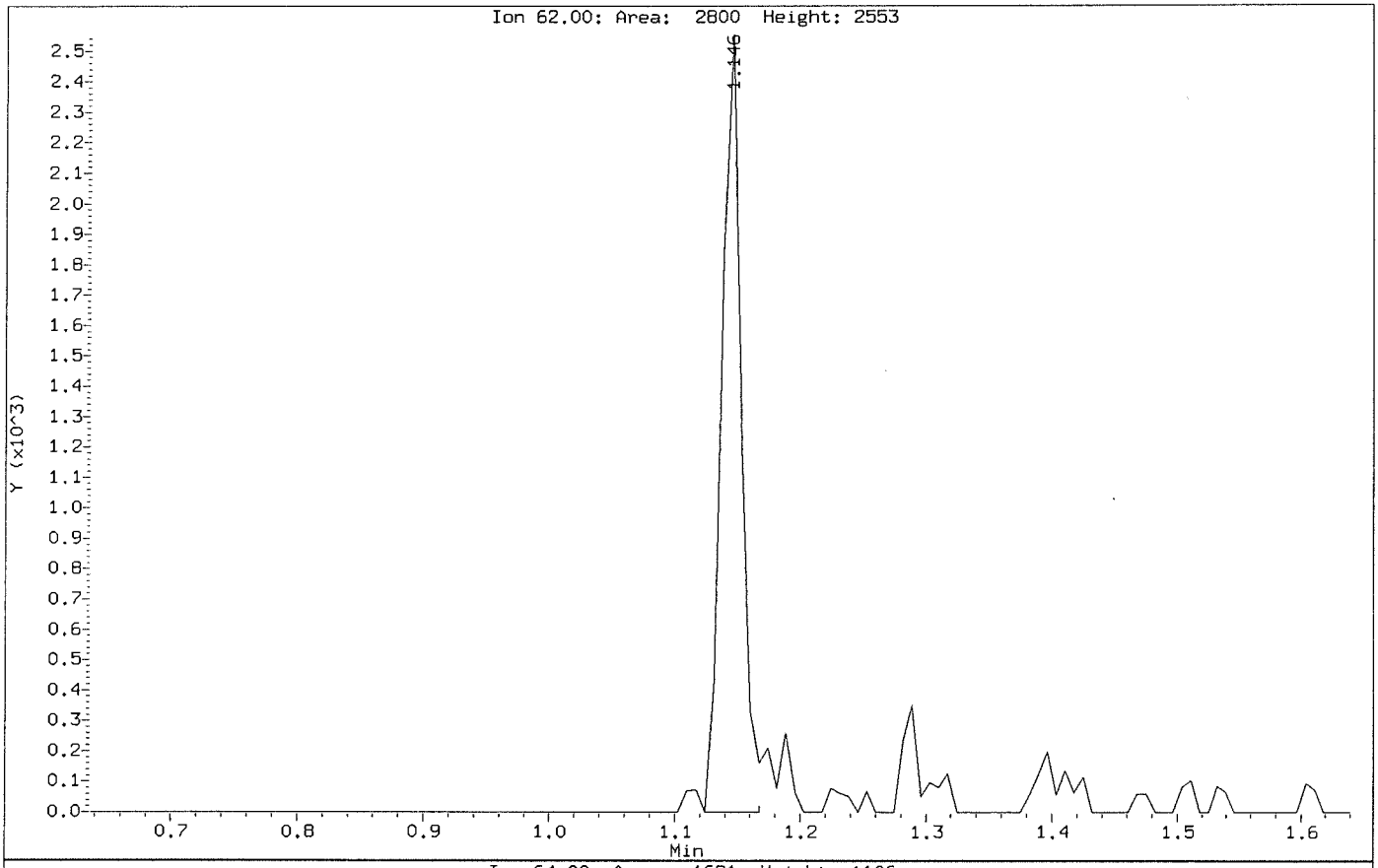
Compound: Vinyl Chloride
CAS Number: 75-01-4

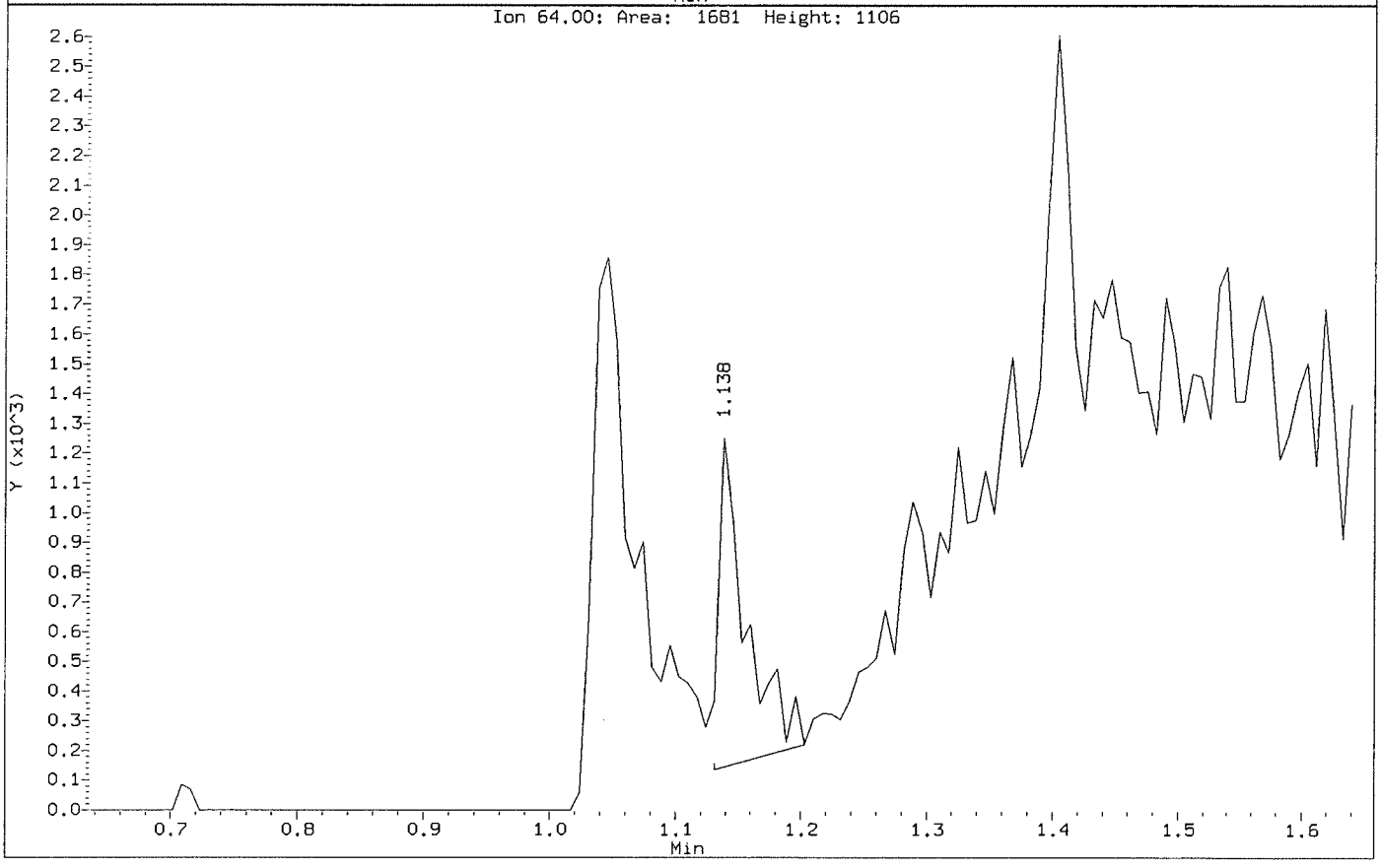


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051804.D
Injection Date: 18-MAY-2021 12:25
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Vinyl Chloride
CAS Number: 75-01-4



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051805.D
Lab Smp Id: VSDT002 Client Smp ID: VSTD002
Inj Date : 18-MAY-2021 12:46
Operator : PC Inst ID: voa6.i
Smp Info : VSDT002;VSTD002;1;4;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210518.b\8260W.m
Meth Date : 08-Jun-2021 11:42 voa6.i Quant Type: ISTD
Cal Date : 18-MAY-2021 12:25 Cal File: X051804.D
Als bottle: 6 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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

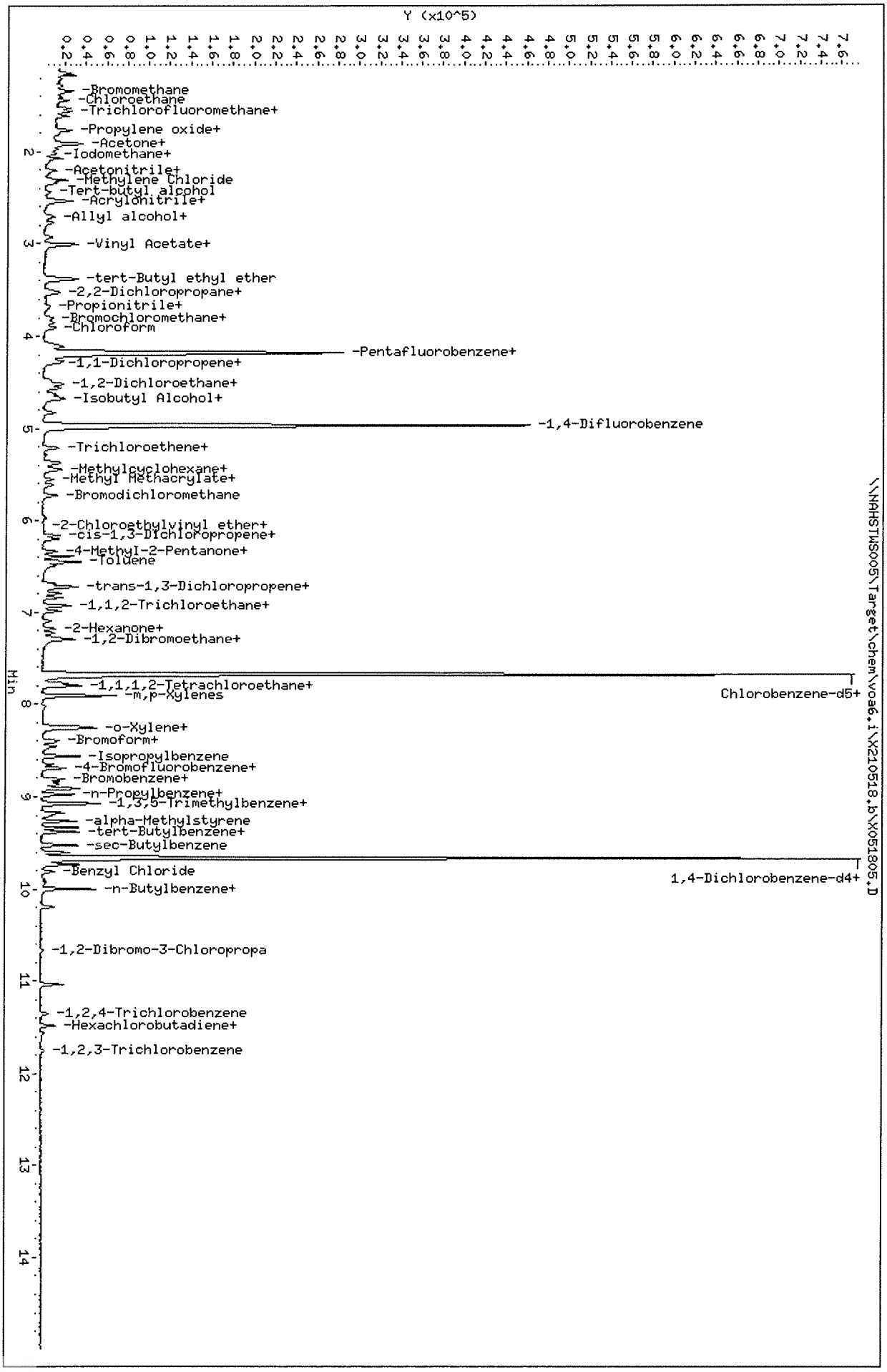
| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 5.000 | ng unit correction factor |
| Vo | 5.000 | sample purged |
| Cpnd Variable | | Local Compound Variable |

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|---|
| * | 1 Pentafluorobenzene | 168 | 4.182 | 4.182 | (1.000) | 223222 | 50.0000 | |
| * | 36 1,4-Difluorobenzene | 114 | 4.970 | 4.970 | (1.000) | 372877 | 50.0000 | |
| * | 47 Chlorobenzene-d5 | 117 | 7.670 | 7.670 | (1.000) | 342499 | 50.0000 | |
| * | 70 1,4-Dichlorobenzene-d4 | 152 | 9.662 | 9.662 | (1.000) | 158694 | 50.0000 | |
| $ | 30 Dibromofluoromethane | 113 | 4.103 | 4.103 | (0.981) | 5073 | 2.00000 | 1.82(a) |
| $ | 35 1,2-Dichloroethane-d4 | 65 | 4.476 | 4.476 | (1.070) | 6073 | 2.00000 | 0.87(a) |
| $ | 48 Toluene-d8 | 98 | 6.388 | 6.388 | (0.833) | 16788 | 2.00000 | 2.96(a) |
| $ | 69 4-Bromofluorobenzene | 95 | 8.688 | 8.688 | (1.133) | 7059 | 2.00000 | 2.29(a) |
| | 60 1,1,1,2-Tetrachloroethane | 131 | 7.778 | 7.778 | (1.014) | 5404 | 2.00000 | 2.16(a) |
| | 31 1,1,1-Trichloroethane | 97 | 4.089 | 4.089 | (0.978) | 7117 | 2.00000 | 1.87(a) |
| | 68 1,1,2,2-Tetrachloroethane | 83 | 8.838 | 8.838 | (0.915) | 6612 | 2.00000 | 2.01(aM) |
| | 53 1,1,2-Trichloroethane | 83 | 6.840 | 6.840 | (0.892) | 4027 | 2.00000 | 2.02(a) |
| | 22 1,1-Dichloroethane | 63 | 2.929 | 2.929 | (0.700) | 7473 | 2.00000 | 1.80(a) |
| | 11 1,1-Dichloroethene | 96 | 1.919 | 1.919 | (0.459) | 4857 | 2.00000 | 2.17(a) |
| | 32 1,1-Dichloropropene | 75 | 4.289 | 4.289 | (0.863) | 5889 | 2.00000 | 1.84(a) |
| | 93 1,2,3-Trichlorobenzene | 180 | 11.753 | 11.753 | (1.216) | 1755 | 2.00000 | 2.84(a) |
| | 71 1,2,3-Trichloropropane | 75 | 8.867 | 8.867 | (0.918) | 4744 | 2.00000 | 1.61(aMH) |
| | 90 1,2,4-Trichlorobenzene | 180 | 11.352 | 11.352 | (1.175) | 2176 | 2.00000 | 3.91(a) |
| | 79 1,2,4-Trimethylbenzene | 105 | 9.382 | 9.382 | (0.971) | 15828 | 2.00000 | 1.96(a) |
| | 89 1,2-Dibromo-3-Chloropropane | 155 | 10.665 | 10.665 | (1.104) | 511 | 2.00000 | 3.91(aM) |
| | 57 1,2-Dibromoethane | 107 | 7.262 | 7.262 | (0.947) | 4934 | 2.00000 | 2.06(a) |
| | 88 1,2-Dichlorobenzene | 146 | 9.998 | 9.998 | (1.035) | 8926 | 2.00000 | 2.00(a) |

| | | | | | | AMOUNTS | |
|---|---|---|---|---|---|---|---|
| | QUANT SIG | | | | | CAL-AMT | ON-COL |
| Compounds | MASS | RT | EXP RT | REL RT | RESPONSE | ( ug/l) | ( ug/l) |
| 33 1,2-Dichloroethane | 62 | 4.562 | 4.562 | (0.918) | 7371 | 2.00000 | 2.01(a) |
| 42 1,2-Dichloropropane | 63 | 5.436 | 5.436 | (1.094) | 4723 | 2.00000 | 1.88(aM) |
| 75 1,3,5-Trimethylbenzene | 105 | 9.067 | 9.067 | (0.938) | 16203 | 2.00000 | 2.04(a) |
| 83 1,3-Dichlorobenzene | 146 | 9.612 | 9.612 | (0.995) | 9167 | 2.00000 | 2.01(a) |
| 54 1,3-Dichloropropane | 76 | 6.983 | 6.983 | (0.910) | 7822 | 2.00000 | 2.00(a) |
| 84 1,4-Dichlorobenzene | 146 | 9.683 | 9.683 | (1.002) | 10925 | 2.00000 | 2.58(a) |
| 26 2,2-Dichloropropane | 77 | 3.516 | 3.516 | (0.841) | 7384 | 2.00000 | 1.99(a) |
| 24 2-Butanone | 43 | 3.609 | 3.609 | (0.863) | 2680 | 4.00000 | 3.25(aM) |
| 76 2-Chlorotoluene | 91 | 8.974 | 8.974 | (0.929) | 14113 | 2.00000 | 1.99(a) |
| 52 2-Hexanone | 43 | 7.090 | 7.090 | (0.924) | 6265 | 4.00000 | 4.05(a) |
| 77 4-Chlorotoluene | 91 | 9.074 | 9.074 | (0.939) | 16392 | 2.00000 | 1.98(a) |
| 82 p-Isopropyltoluene | 119 | 9.647 | 9.647 | (0.999) | 15308 | 2.00000 | 1.95(a) |
| 45 4-Methyl-2-Pentanone | 43 | 6.331 | 6.331 | (0.825) | 9786 | 4.00000 | 4.57(a) |
| 10 Acetone | 43 | 1.976 | 1.976 | (0.473) | 4685 | 4.00000 | 3.57(a) |
| 37 Benzene | 78 | 4.519 | 4.519 | (0.909) | 17777 | 2.00000 | 1.92(a) |
| 74 Bromobenzene | 156 | 8.809 | 8.809 | (0.912) | 5025 | 2.00000 | 1.89(a) |
| 29 Bromochloromethane | 128 | 3.802 | 3.802 | (0.909) | 2725 | 2.00000 | 2.00(a) |
| 39 Bromodichloromethane | 83 | 5.729 | 5.729 | (1.153) | 6957 | 2.00000 | 1.93(aM) |
| 66 Bromoform | 173 | 8.415 | 8.415 | (1.097) | 2721 | 2.00000 | 1.64(Ta) |
| 6 Bromomethane | 94 | 1.338 | 1.338 | (0.320) | 5999 | 2.00000 | 2.10(aM) |
| 19 Carbon Disulfide | 76 | 2.069 | 2.069 | (0.495) | 20321 | 4.00000 | 3.86(a) |
| 34 Carbon Tetrachloride | 117 | 4.254 | 4.254 | (0.856) | 6956 | 2.00000 | 2.14(aH) |
| 59 Chlorobenzene | 112 | 7.692 | 7.692 | (1.003) | 13639 | 2.00000 | 2.03(a) |
| 7 Chloroethane | 64 | 1.403 | 1.403 | (0.336) | 3185 | 2.00000 | 1.88(aM) |
| 28 Chloroform | 83 | 3.917 | 3.917 | (0.937) | 8858 | 2.00000 | 1.86(a) |
| 3 Chloromethane | 50 | 1.080 | 1.080 | (0.258) | 5348 | 2.00000 | 2.44(a) |
| 27 cis-1,2-Dichloroethene | 96 | 3.530 | 3.530 | (0.844) | 5045 | 2.00000 | 1.96(a) |
| 46 cis-1,3-Dichloropropene | 75 | 6.159 | 6.159 | (1.239) | 7191 | 2.00000 | 1.75(a) |
| 55 Dibromochloromethane | 129 | 7.176 | 7.176 | (0.936) | 5007 | 2.00000 | 1.87(a) |
| 44 Dibromomethane | 93 | 5.557 | 5.557 | (1.118) | 3596 | 2.00000 | 2.00(a) |
| 2 Dichlorodifluoromethane | 85 | 0.973 | 0.973 | (0.233) | 5548 | 2.00000 | 3.97(a) |
| 61 Ethylbenzene | 106 | 7.799 | 7.799 | (1.017) | 6867 | 2.00000 | 2.06(a) |
| 91 Hexachlorobutadiene | 225 | 11.481 | 11.481 | (1.188) | 2099 | 2.00000 | 5.24(M) |
| 67 Isopropylbenzene | 105 | 8.566 | 8.566 | (1.117) | 19138 | 2.00000 | 1.88(a) |
| 62 m,p-Xylenes | 106 | 7.907 | 7.907 | (1.031) | 16590 | 4.00000 | 3.87(a) |
| 17 Methylene Chloride | 84 | 2.305 | 2.305 | (0.551) | 4803 | 2.00000 | 2.14(a) |
| 87 n-Butylbenzene | 91 | 9.998 | 9.998 | (1.035) | 13346 | 2.00000 | 1.79(a) |
| 73 n-Propylbenzene | 91 | 8.917 | 8.917 | (0.923) | 24073 | 2.00000 | 2.14(a) |
| 92 Naphthalene | 128 | 11.553 | 11.553 | (1.196) | 3094 | 2.00000 | 4.49(aM) |
| 63 o-Xylene | 106 | 8.243 | 8.243 | (1.075) | 8148 | 2.00000 | 1.95(a) |
| 81 sec-Butylbenzene | 105 | 9.526 | 9.526 | (0.986) | 20210 | 2.00000 | 2.17(a) |
| 64 Styrene | 104 | 8.265 | 8.265 | (1.078) | 12689 | 2.00000 | 3.33(a) |
| 78 tert-Butylbenzene | 119 | 9.339 | 9.339 | (0.967) | 14096 | 2.00000 | 2.09(a) |
| 56 Tetrachloroethene | 164 | 6.933 | 6.933 | (0.904) | 4009 | 2.00000 | 2.10(a) |
| 50 Toluene | 91 | 6.446 | 6.446 | (0.840) | 19645 | 2.00000 | 1.98(a) |
| 20 trans-1,2-Dichloroethene | 96 | 2.535 | 2.535 | (0.606) | 4458 | 2.00000 | 2.07(a) |
| 51 trans-1,3-Dichloropropene | 75 | 6.689 | 6.689 | (1.346) | 6893 | 2.00000 | 1.92(a) |
| 38 Trichloroethene | 130 | 5.206 | 5.206 | (1.048) | 4850 | 2.00000 | 1.96(a) |
| 8 Trichlorofluoromethane | 101 | 1.560 | 1.560 | (0.373) | 9673 | 2.00000 | 2.25(a) |
| 5 Vinyl Chloride | 62 | 1.145 | 1.145 | (0.274) | 5963 | 2.00000 | 2.21(a) |

QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

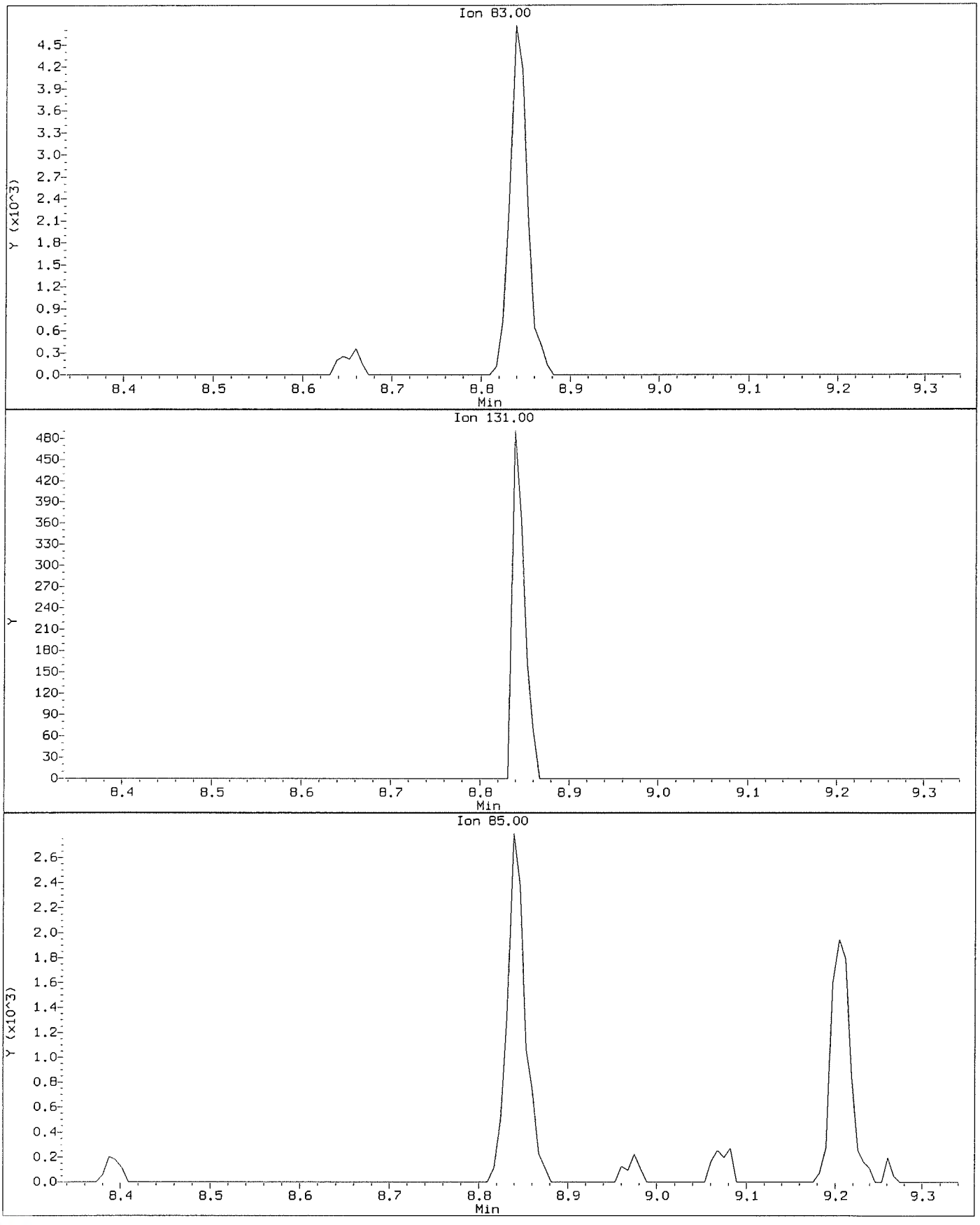



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Client ID: VSTD002
Sample Info: WSDT002;VSTD002;1;4;;
Purge Volume: 5.0
Column phase: DB624

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

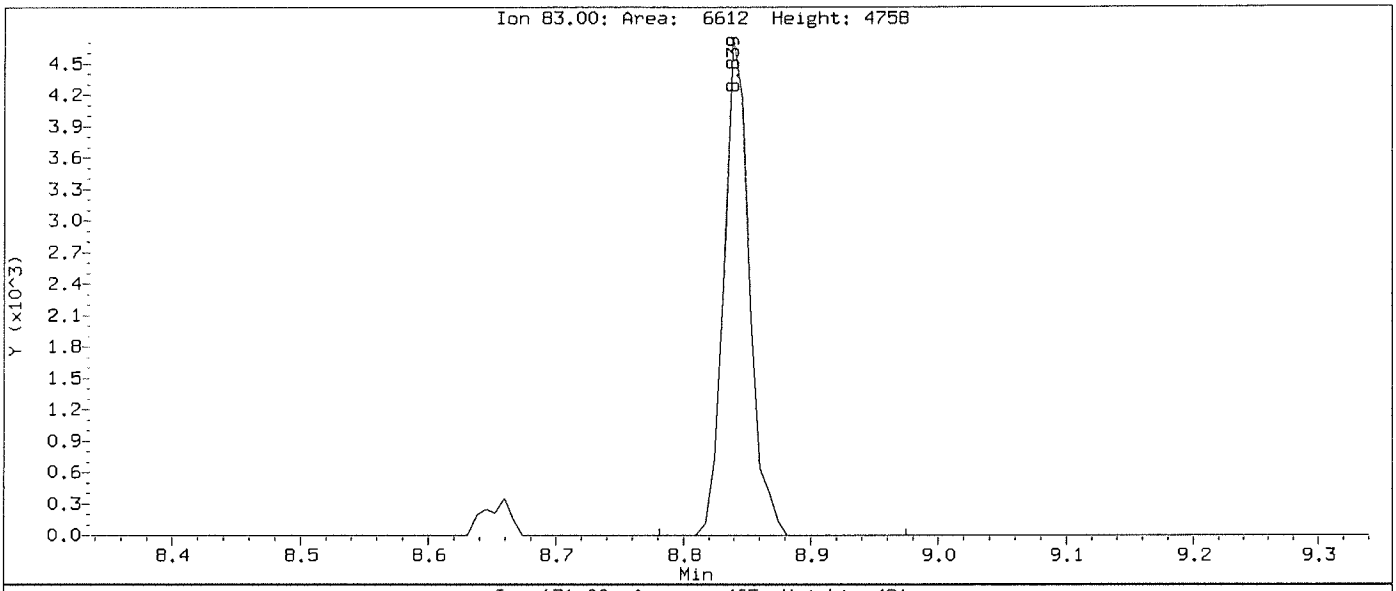
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Instrument: voa6.i
Client Sample ID: VSTD002

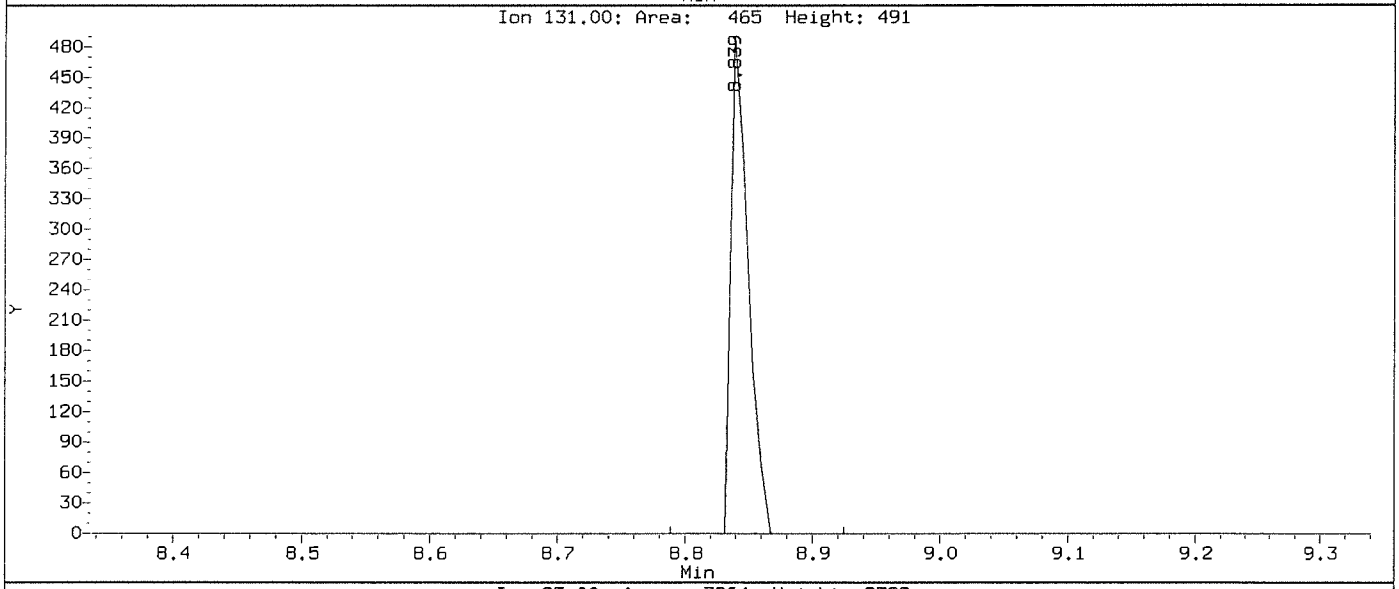
Compound: 1,1,2,2-Tetrachloroethane
CAS Number: 79-34-5

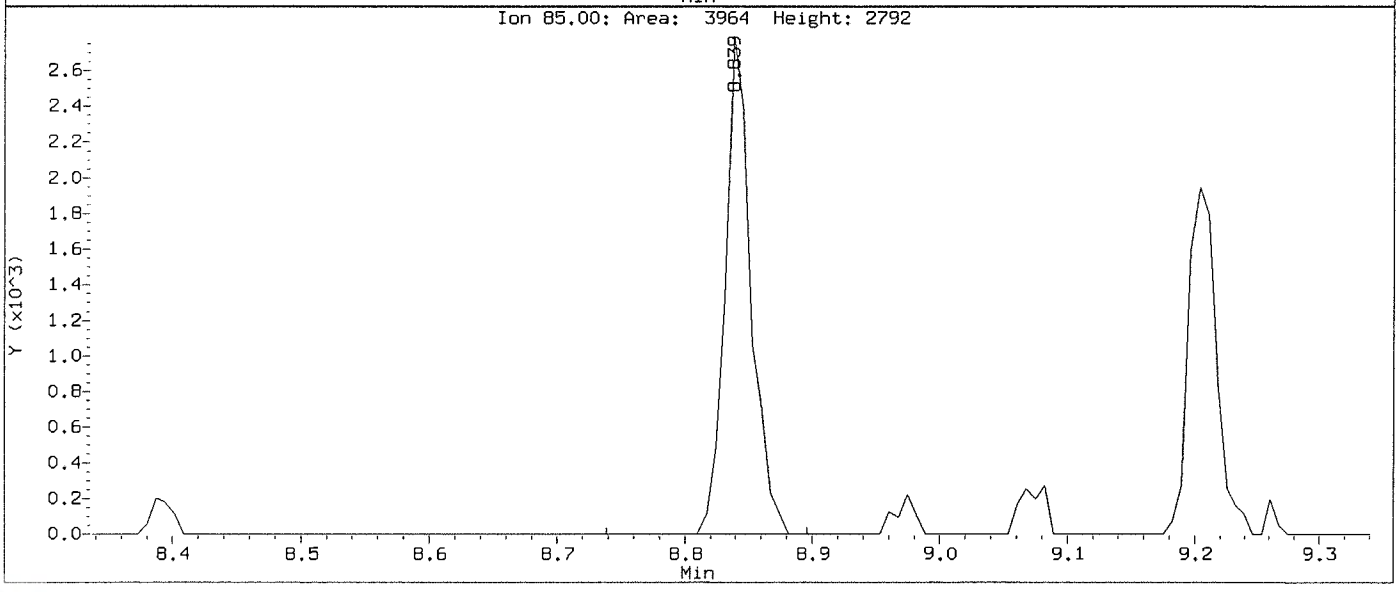


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Client Sample ID: VSTD002

Compound: 1,1,2,2-Tetrachloroethane
CAS Number: 79-34-5

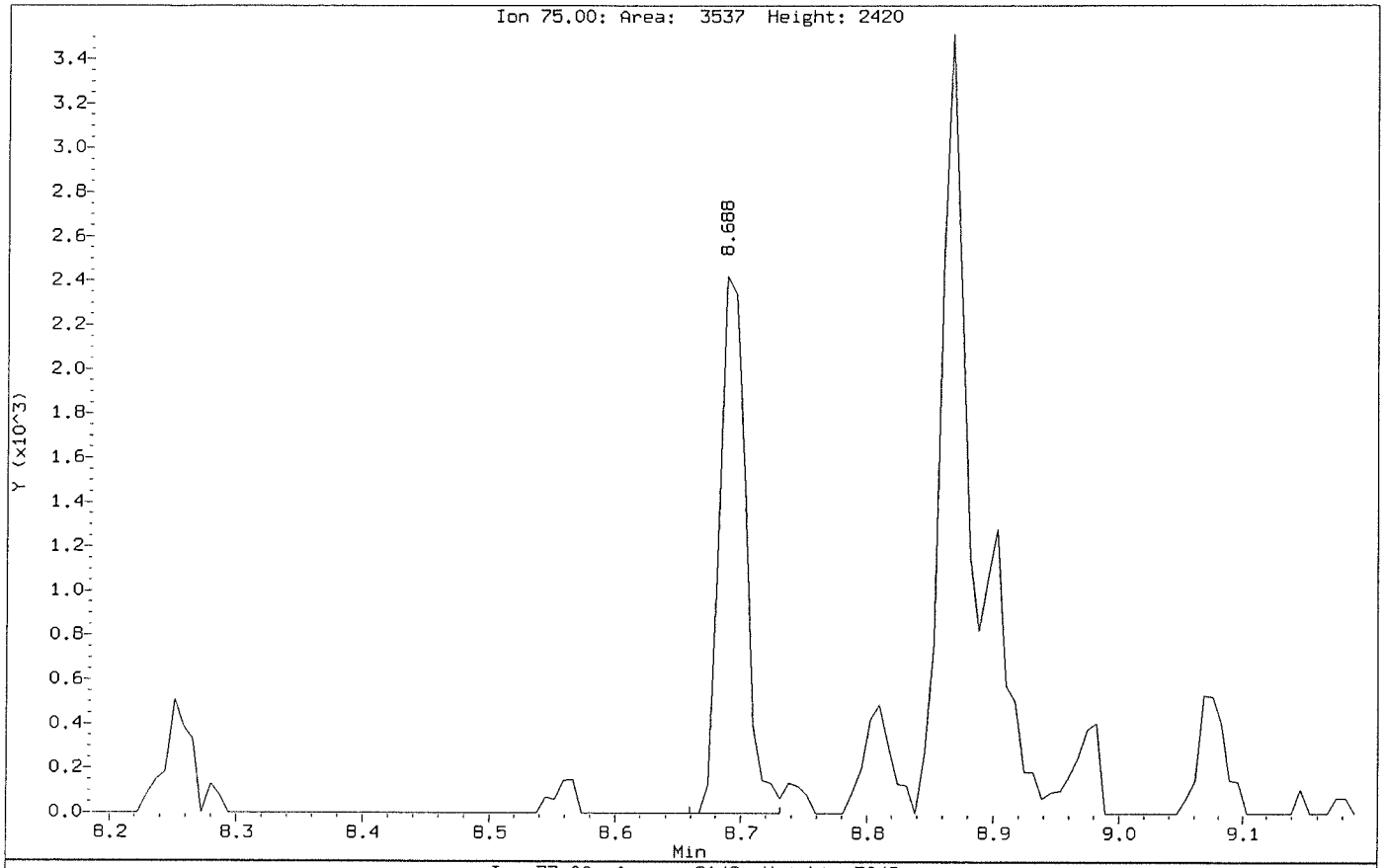


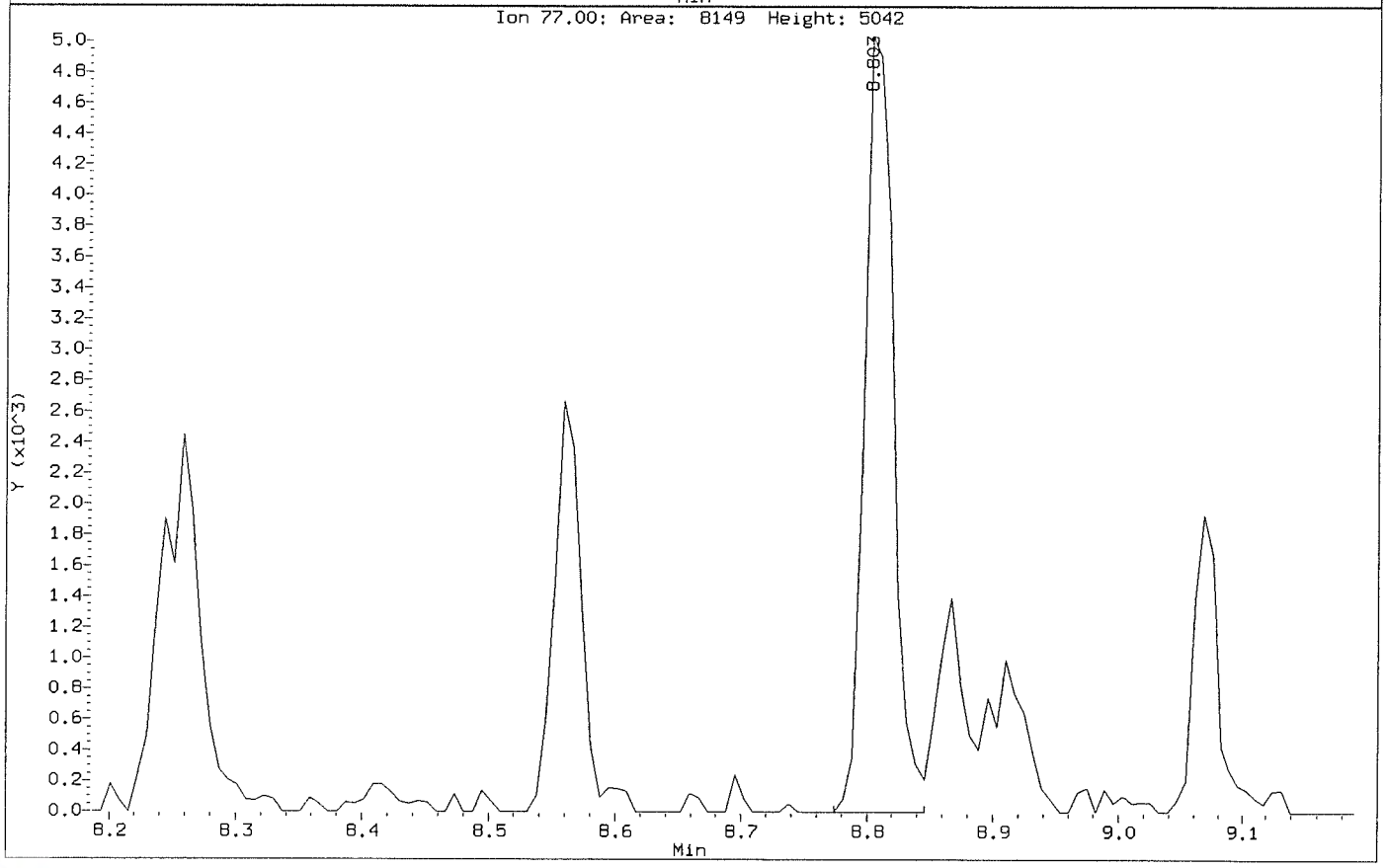



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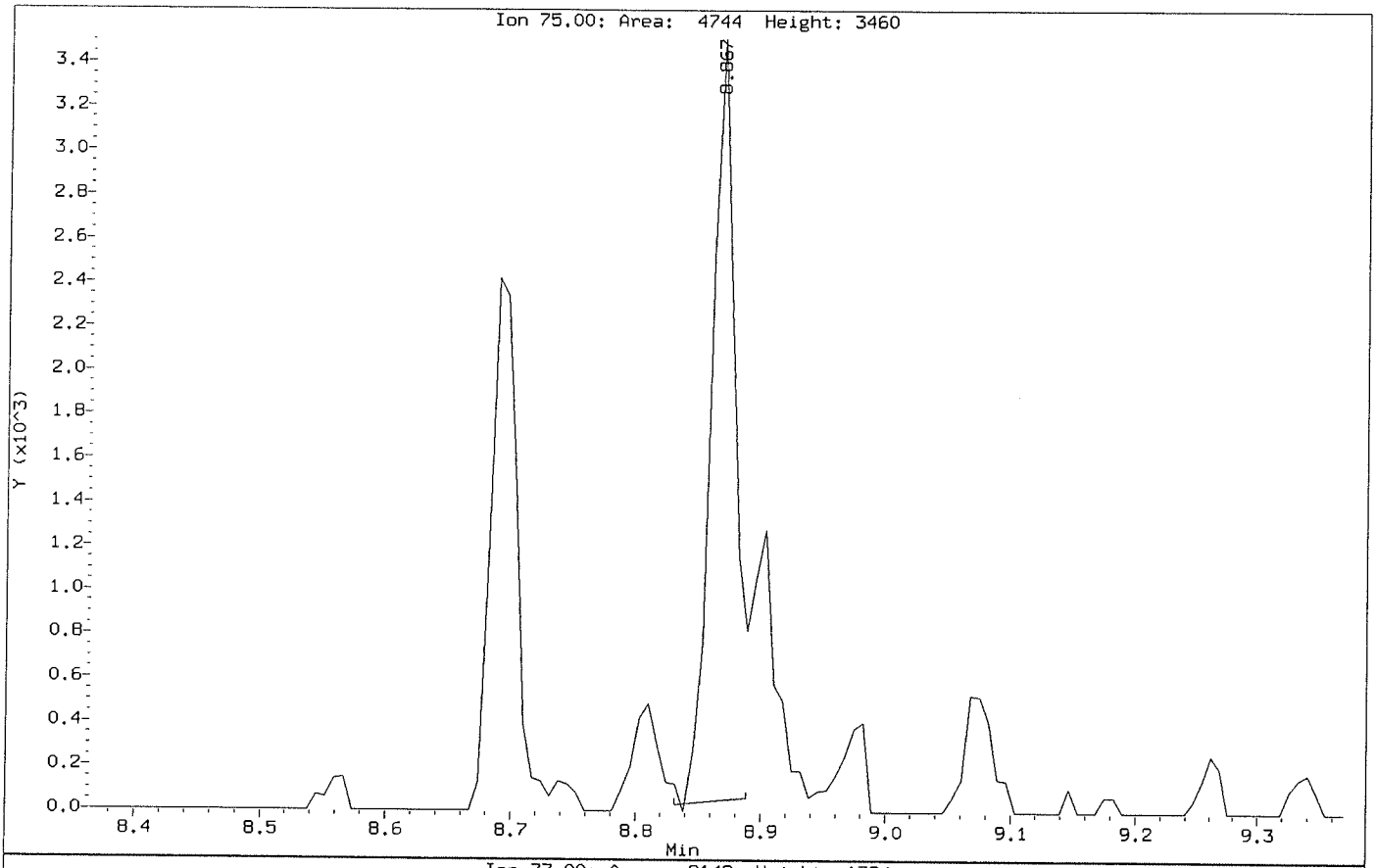
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4

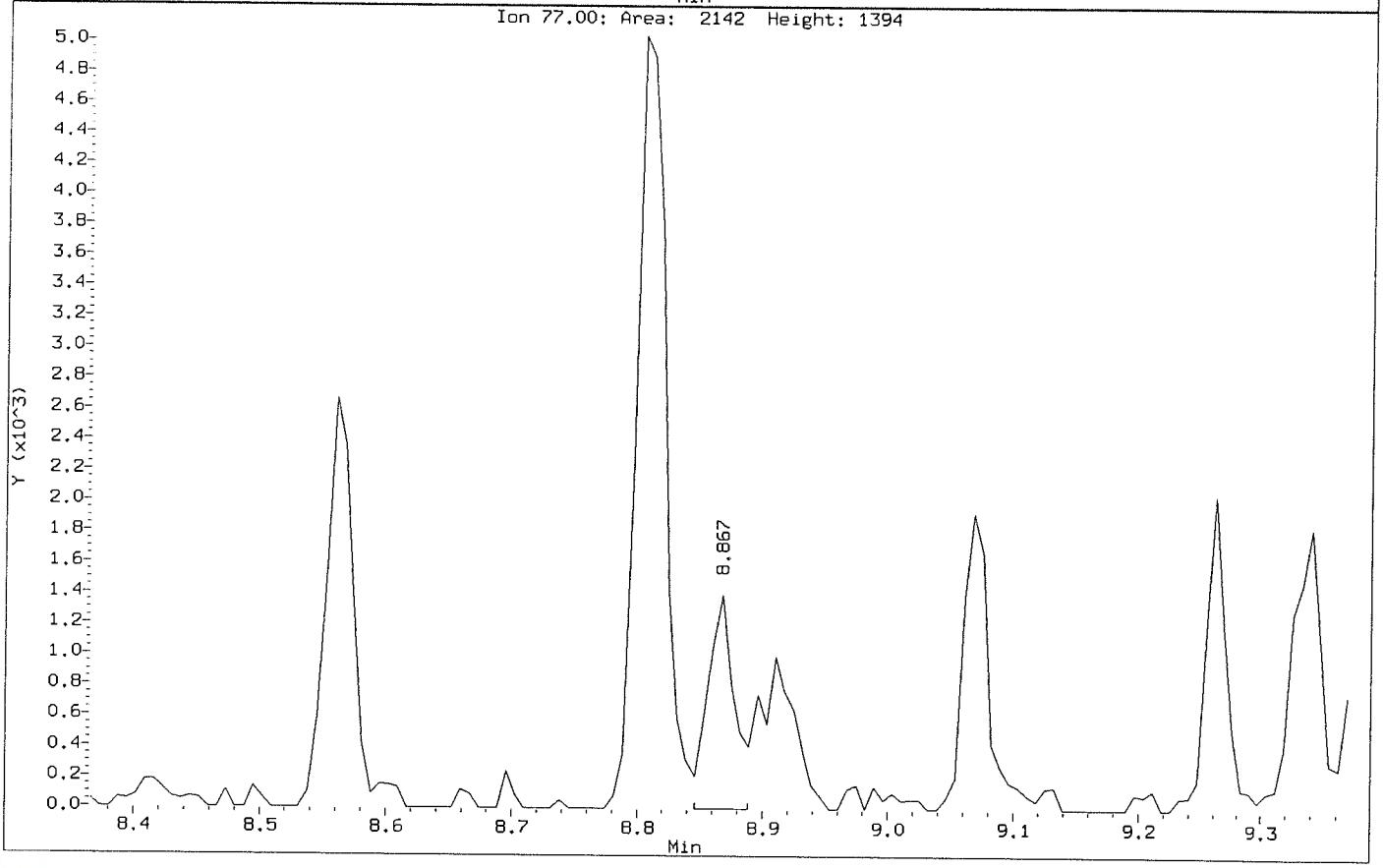


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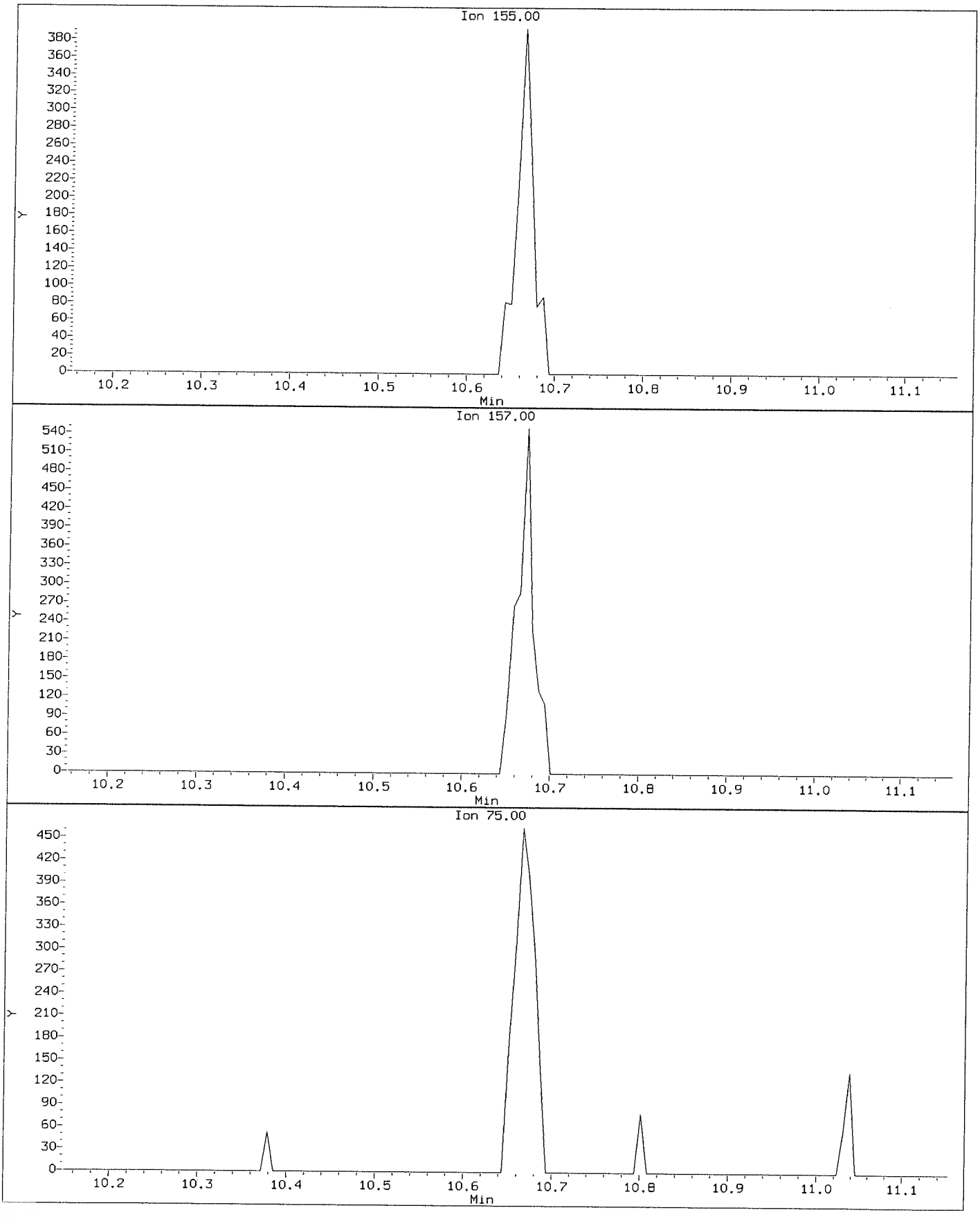
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



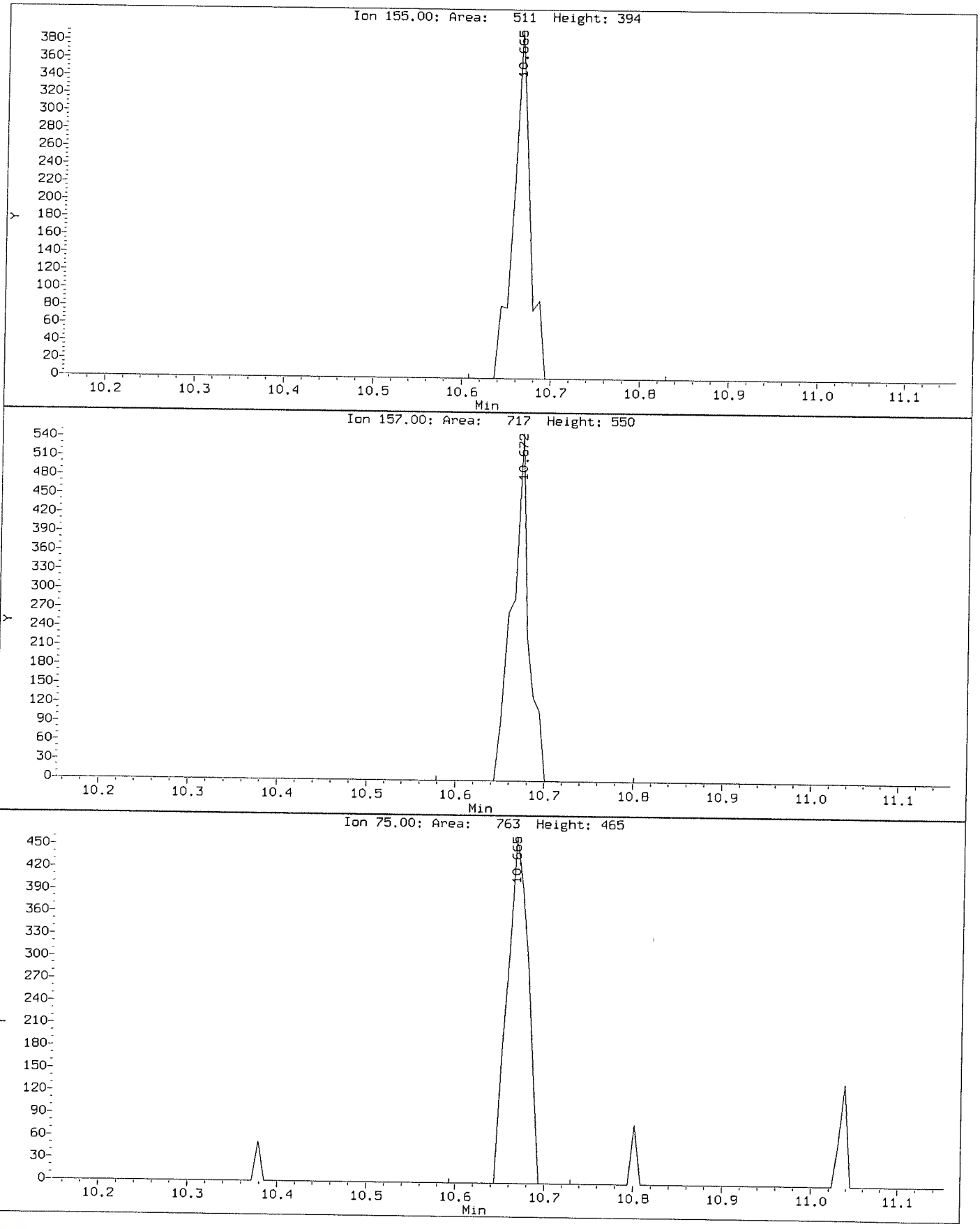
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Injection Date: 18-MAY-2021 12:46
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: 1,2-Dibromo-3-Chloropropane
CAS Number: 96-12-8



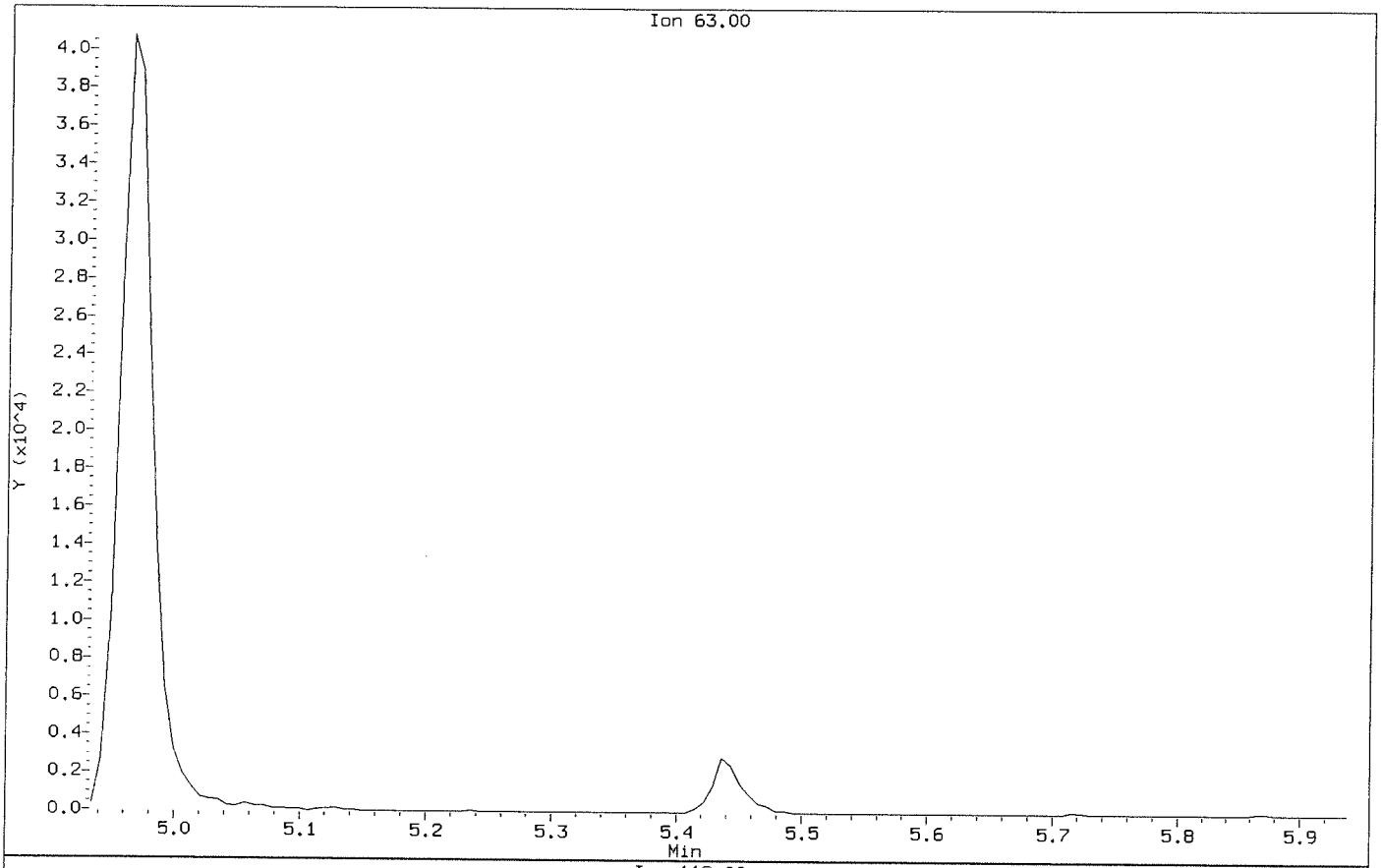
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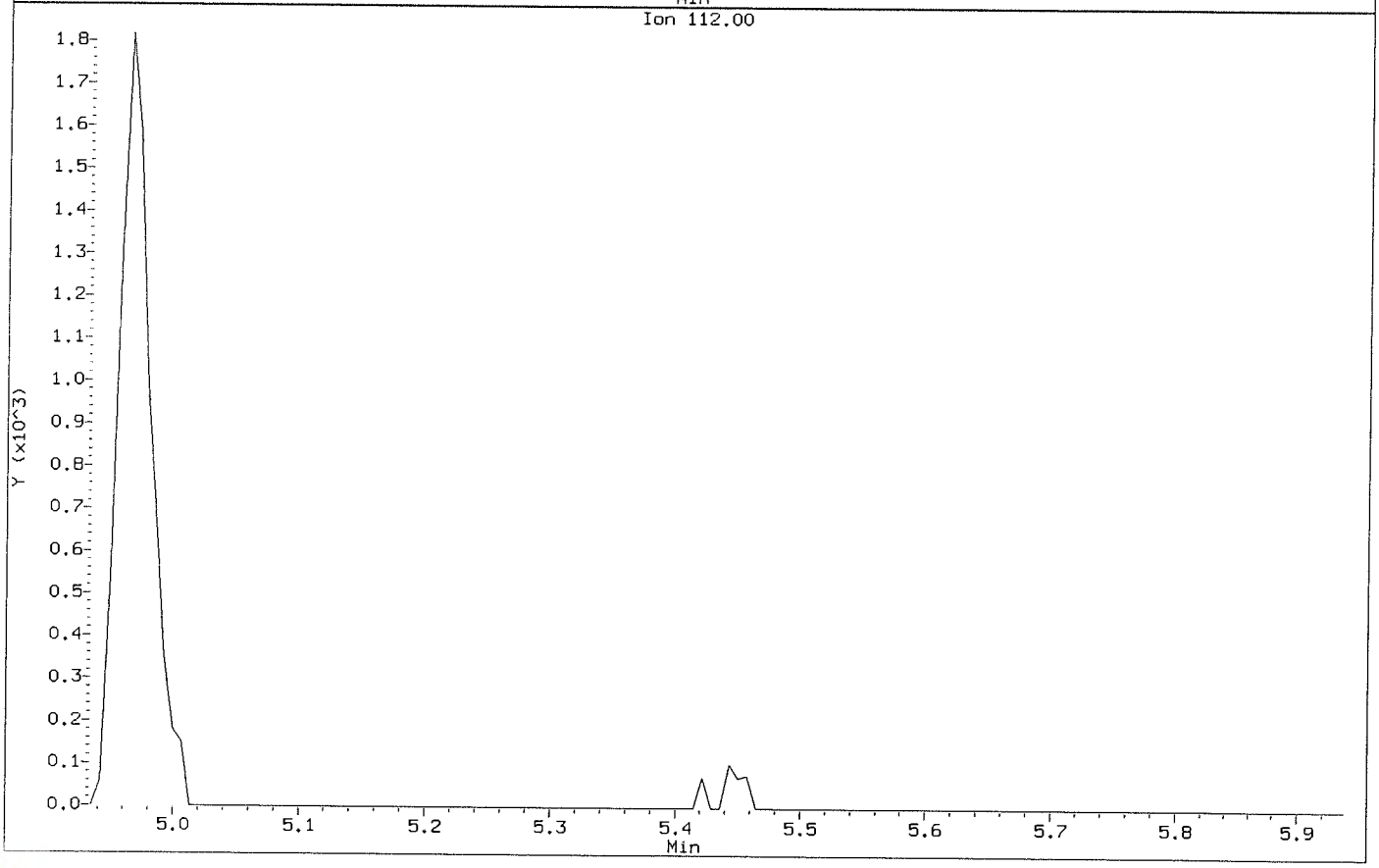
Compound: 1,2-Dibromo-3-Chloropropane
CAS Number: 96-12-8



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Injection Date: 18-MAY-2021 12:46
Instrument: voa6.i
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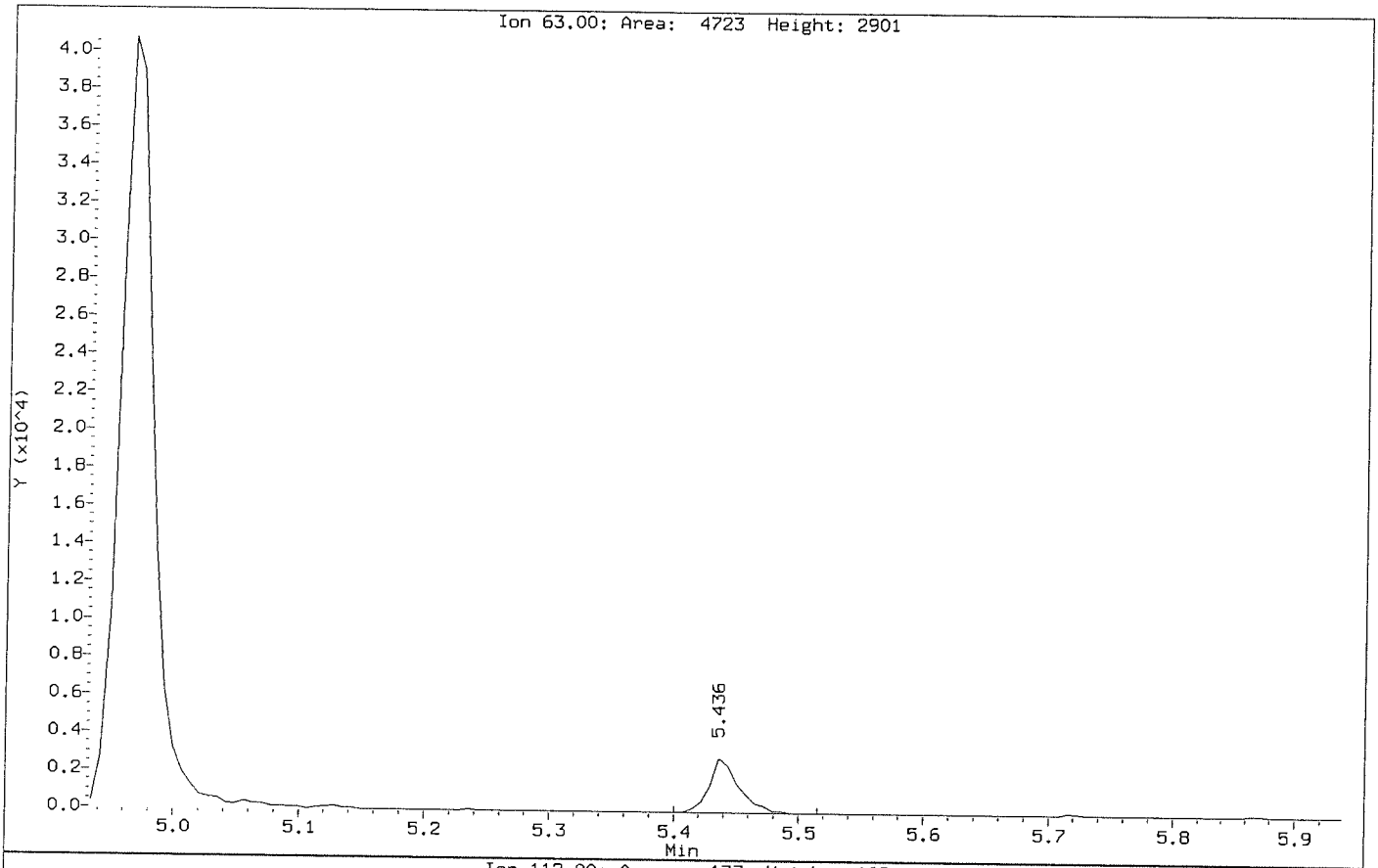
Compound: 1,2-Dichloropropane
CAS Number: 78-87-5

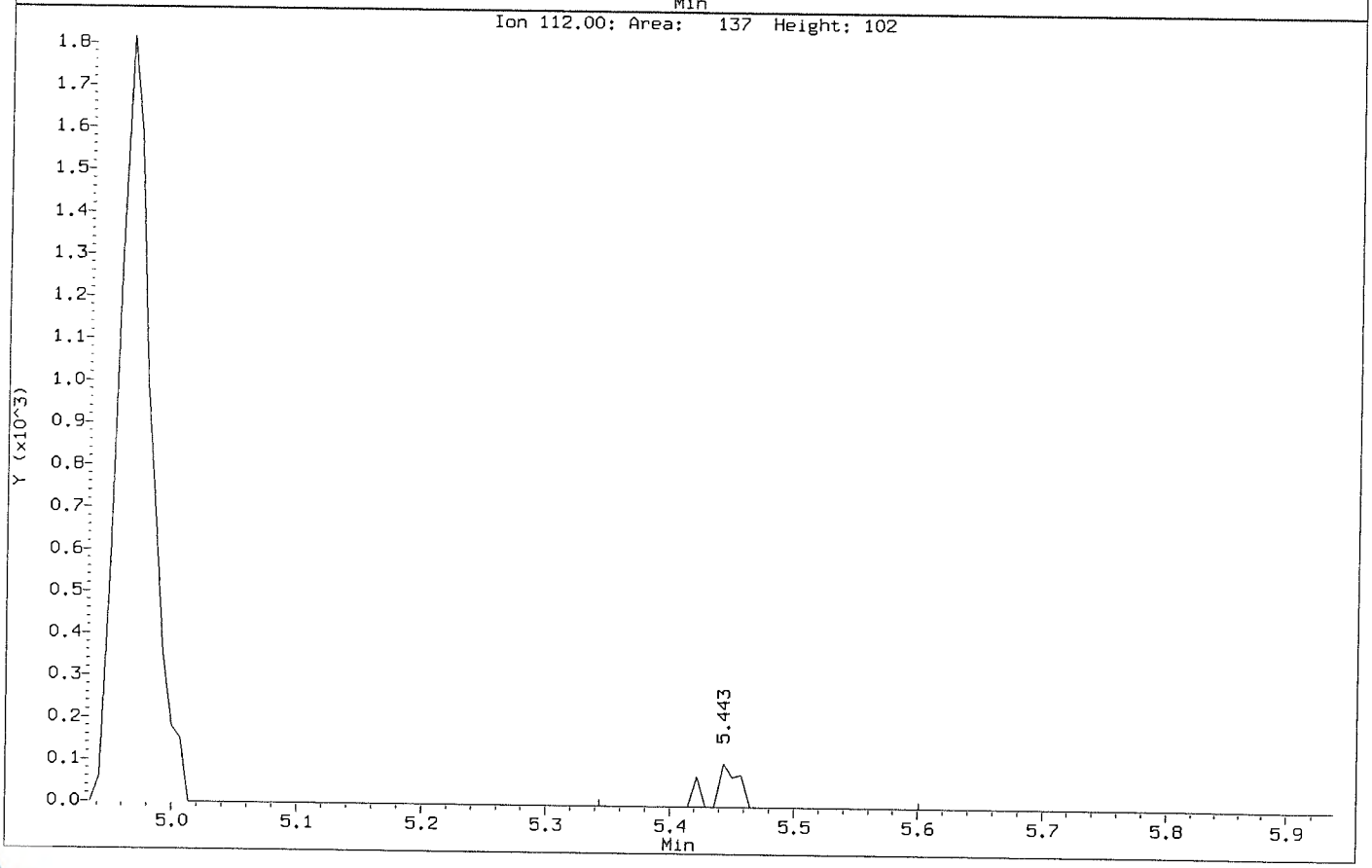


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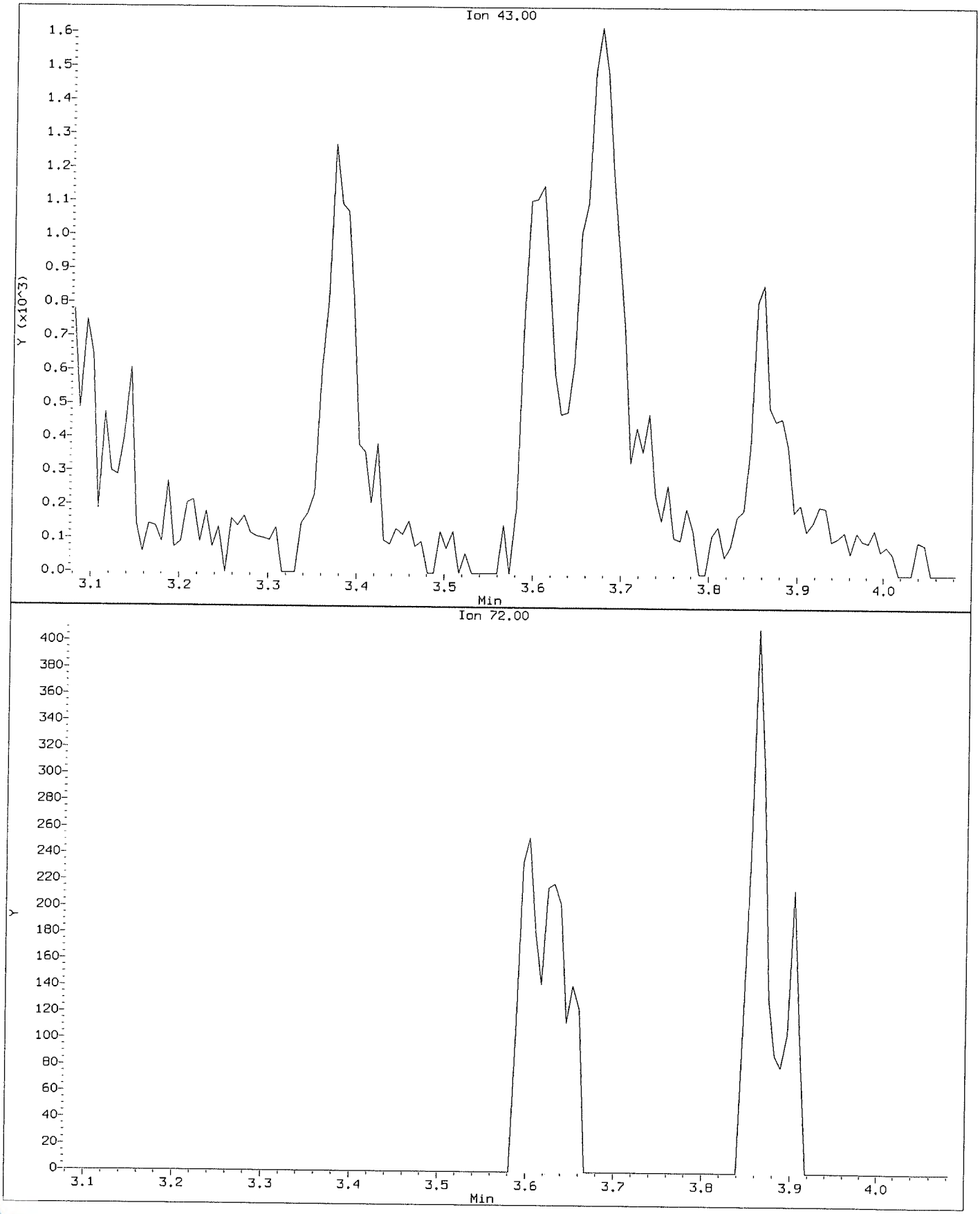
Compound: 1,2-Dichloropropane
CAS Number: 78-87-5



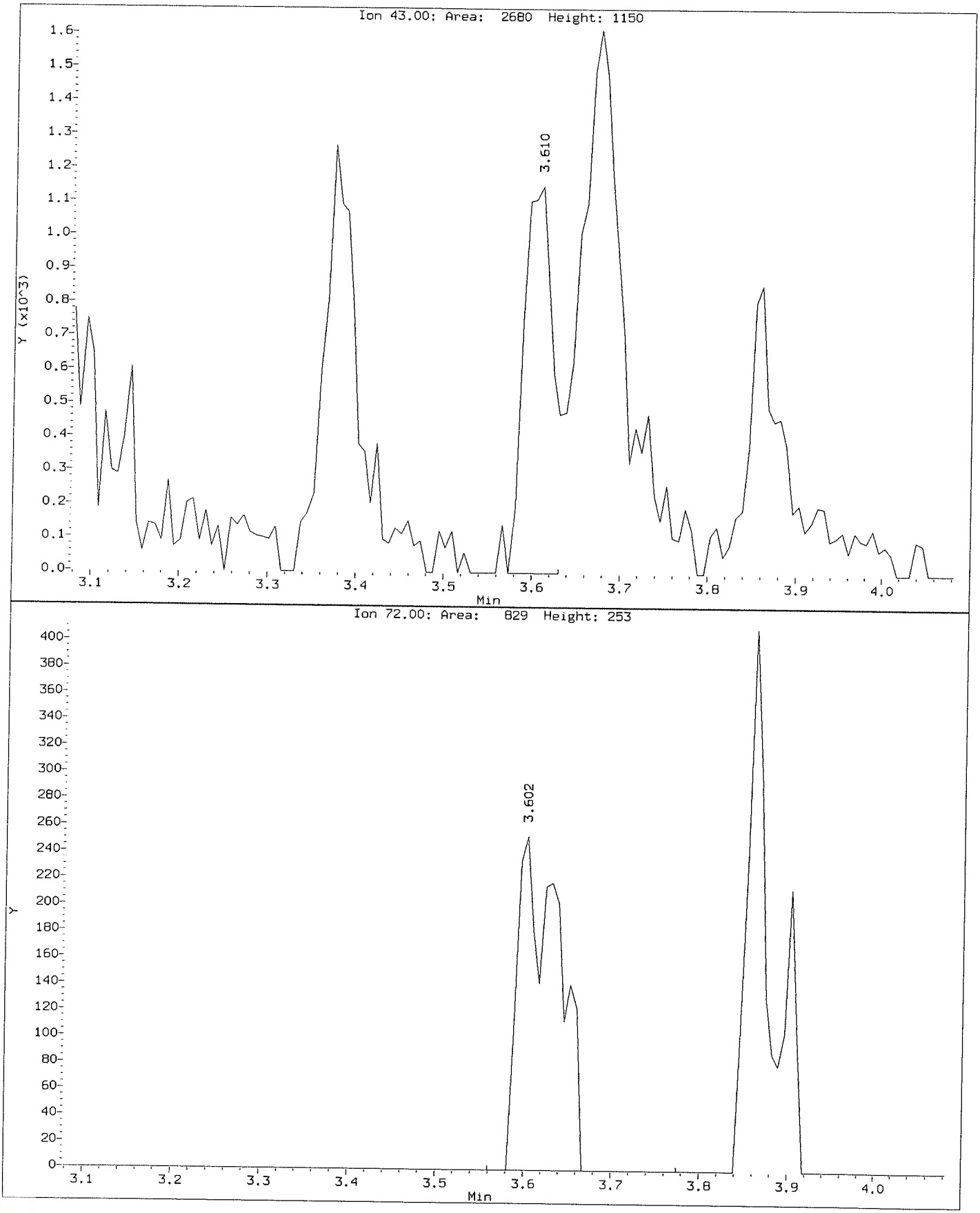
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Injection Date: 18-MAY-2021 12:46
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: 2-Butanone
CAS Number: 78-93-3



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051805.D
Injection Date: 18-MAY-2021 12:46
Instrument: voa6.i
Client Sample ID: VSTD002

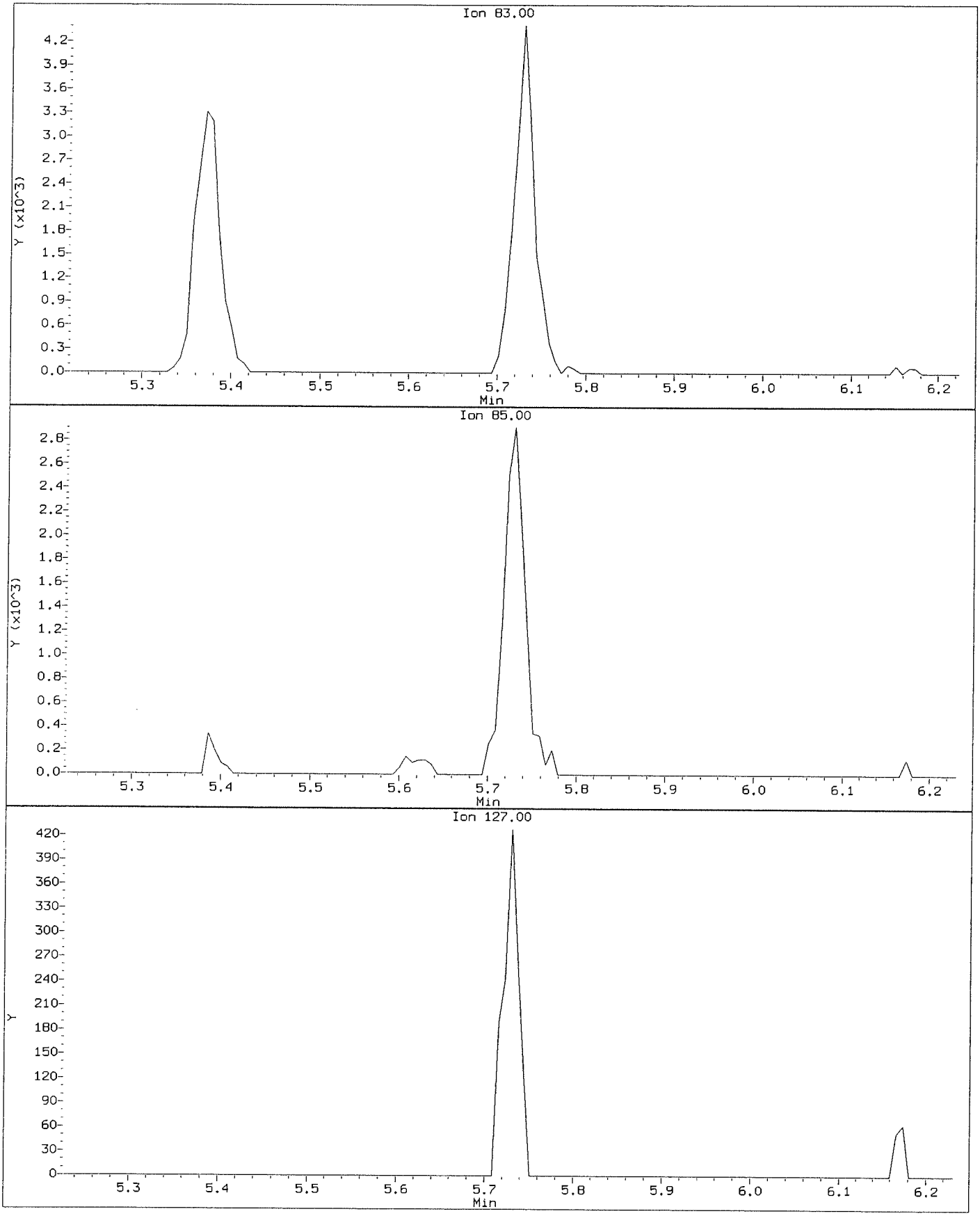
Compound: 2-Butanone
CAS Number: 78-93-3



Injection Date: 18-MAY-2021 12:46
Instrument: voa6.i
Client Sample ID: VSTD002

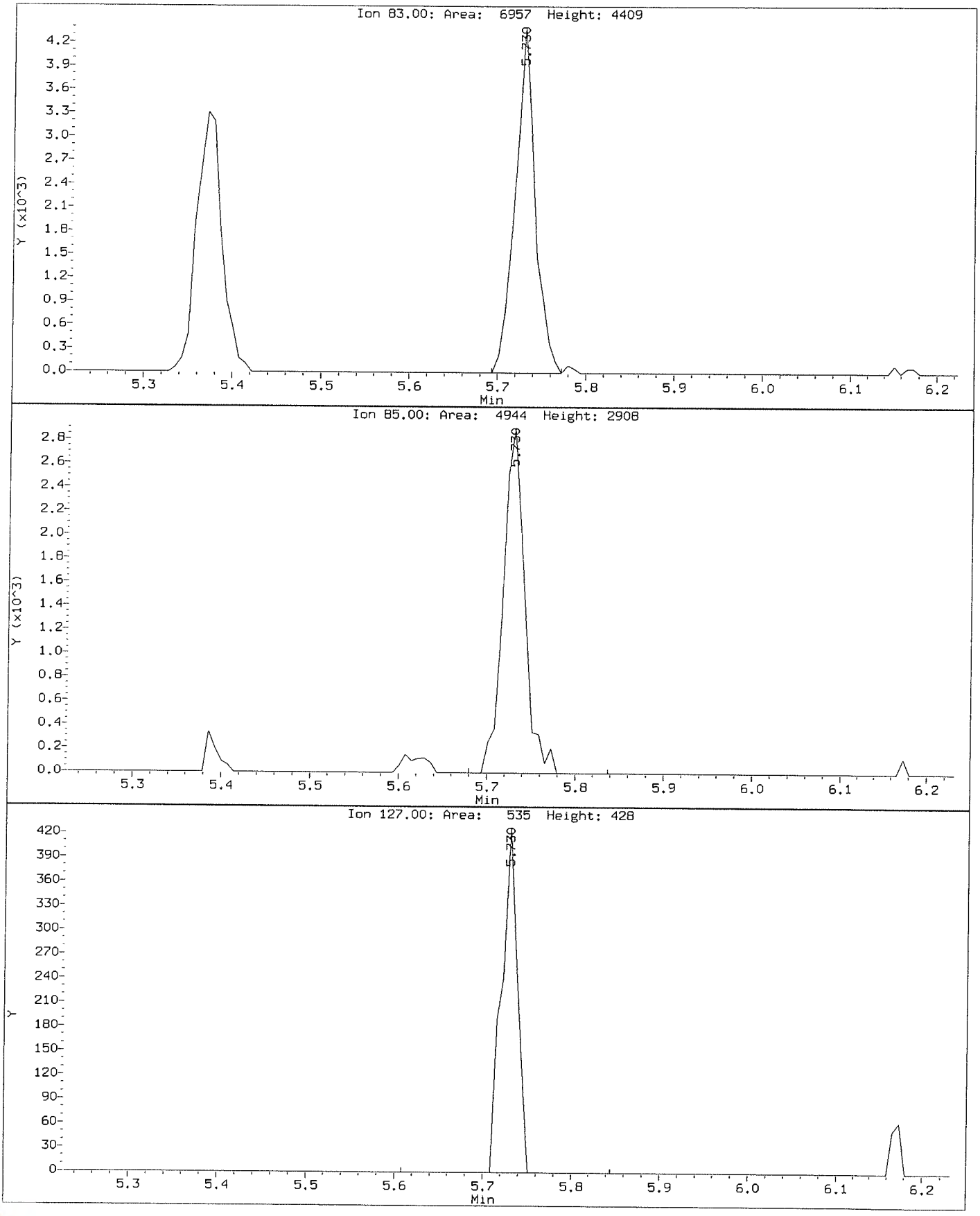
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Compound: Bromodichloromethane
CAS Number: 75-27-4



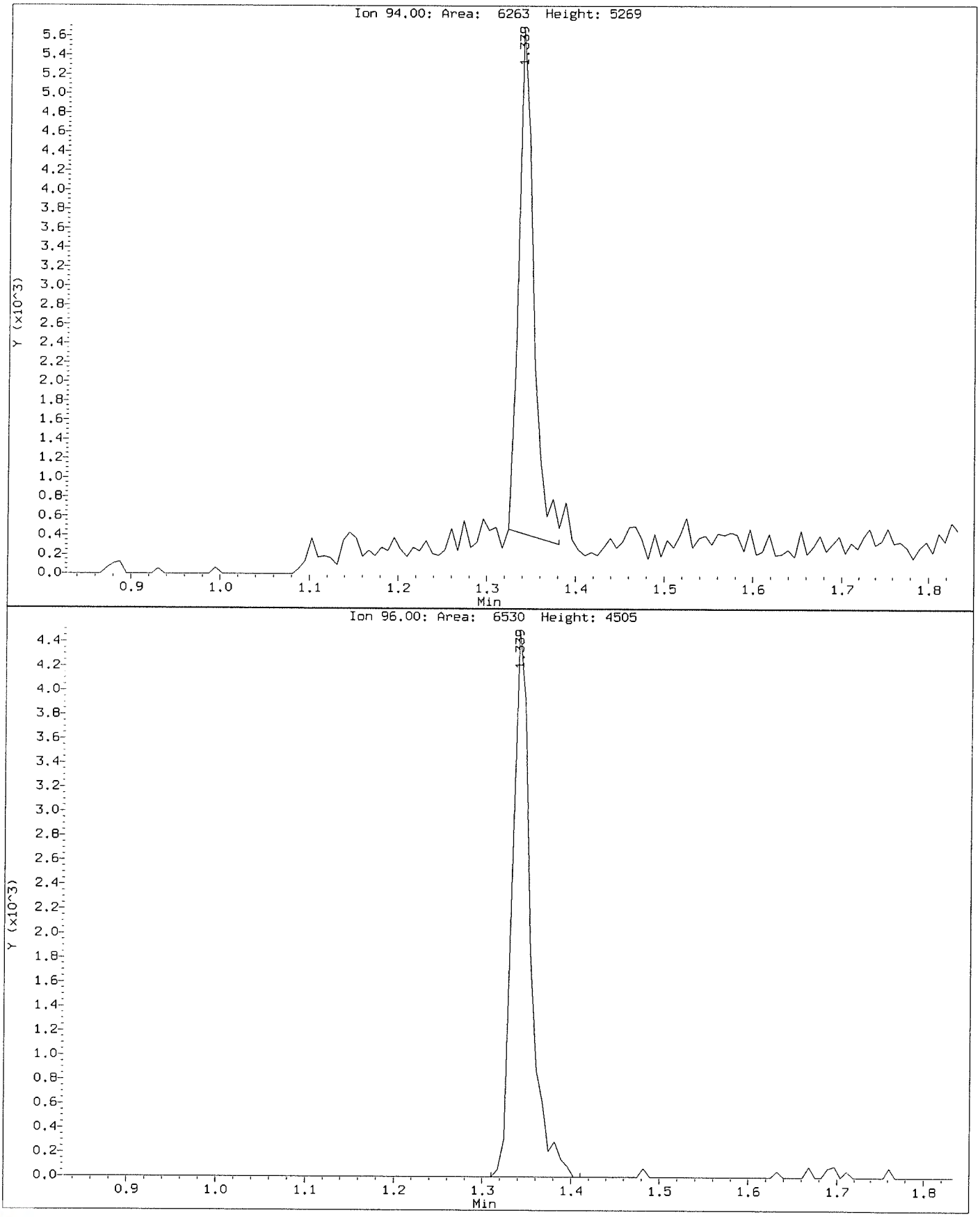
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Instrument: voa6.i
Client Sample ID: VSTD002

Compound: Bromodichloromethane
CAS Number: 75-27-4



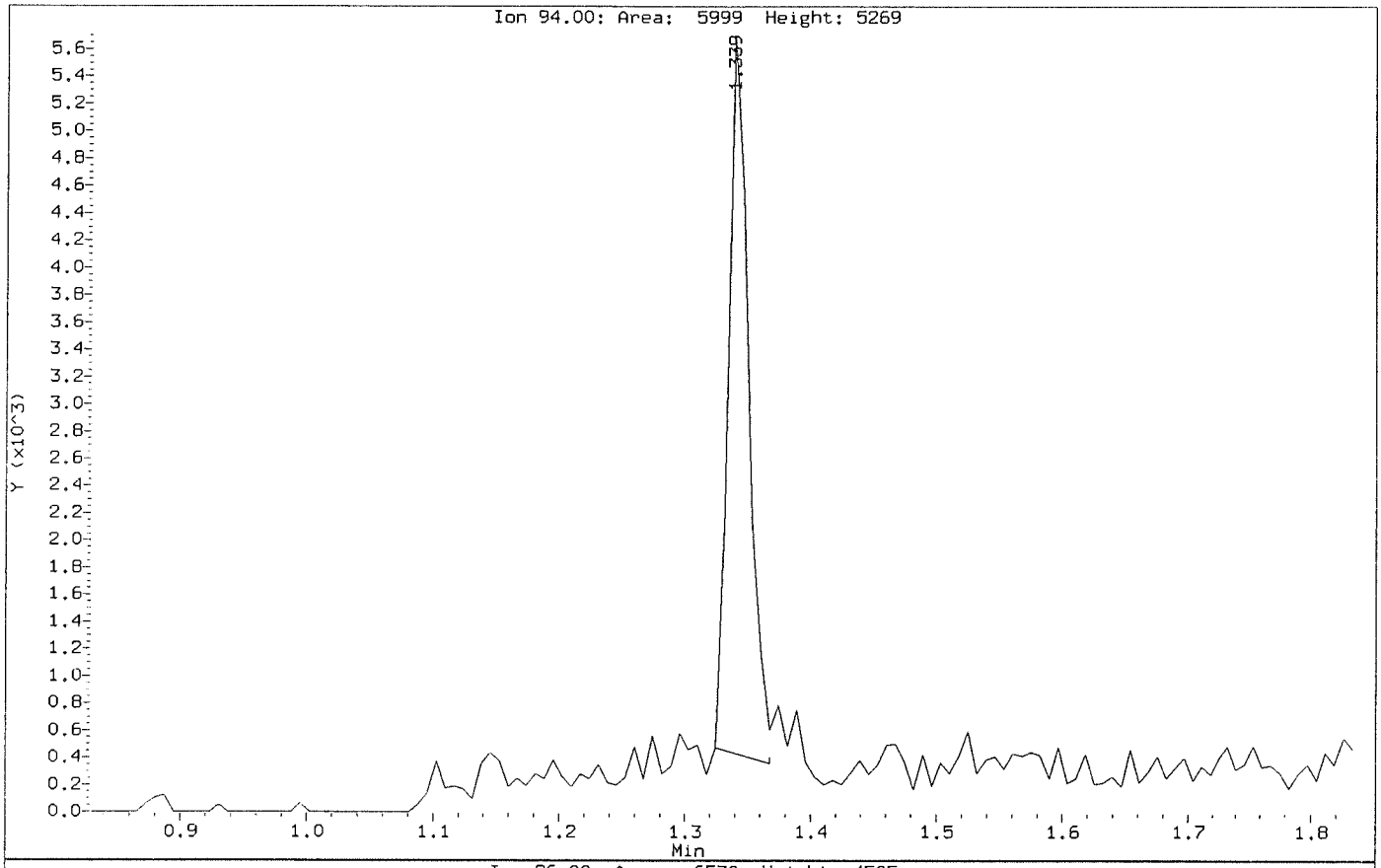
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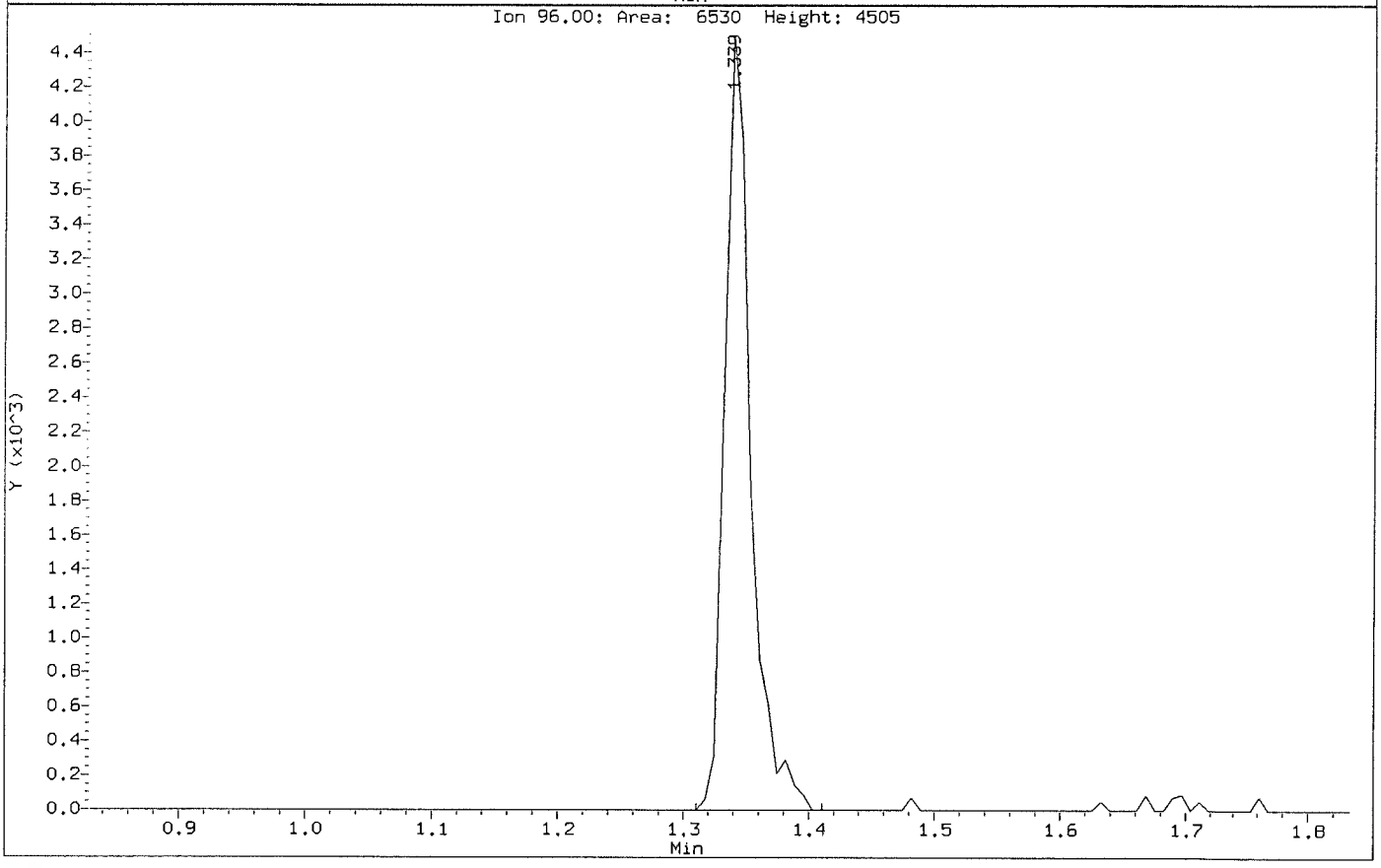
Compound: Bromomethane
CAS Number: 74-83-9



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Instrument: voa6.i
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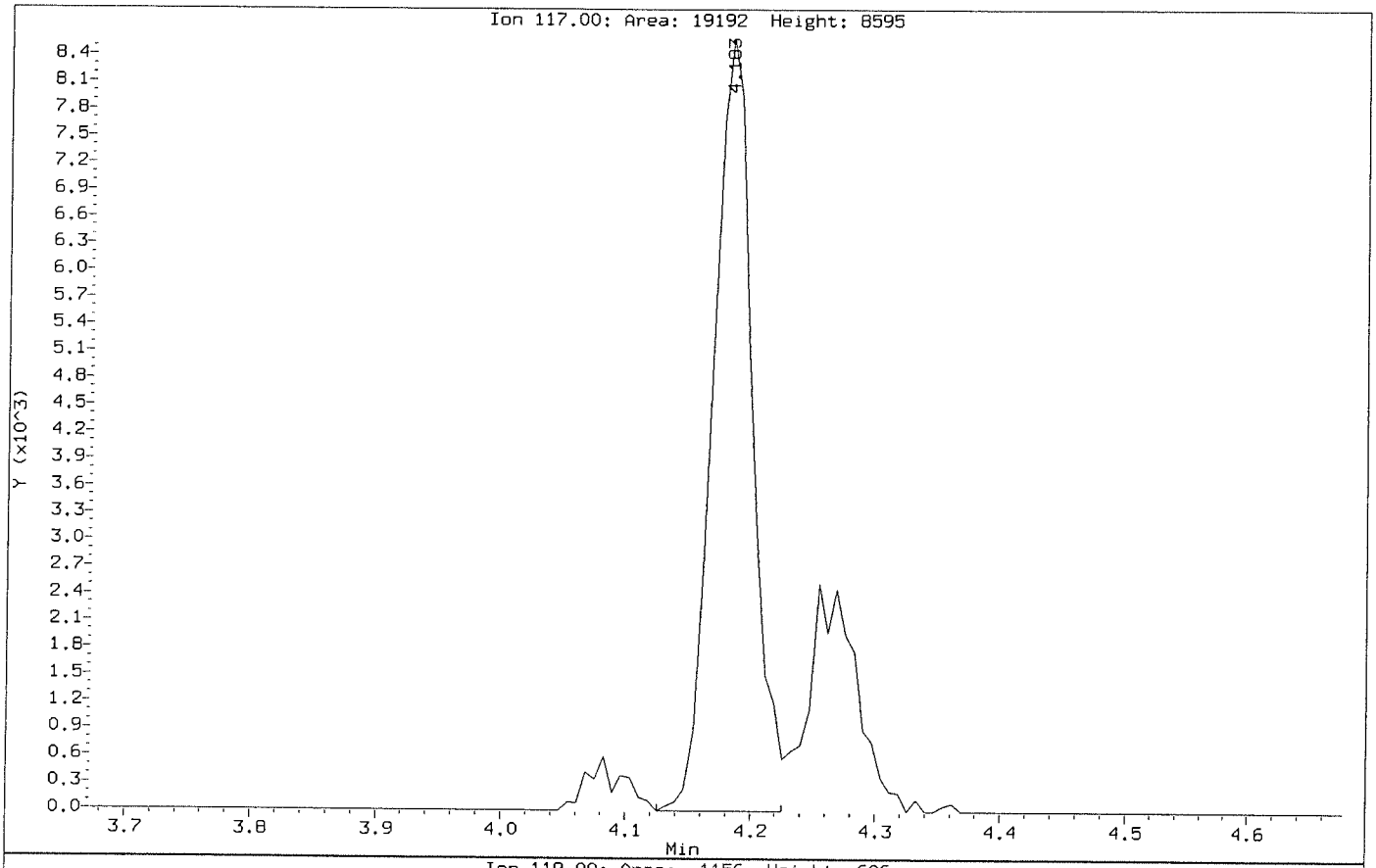
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CAS Number: 74-83-9

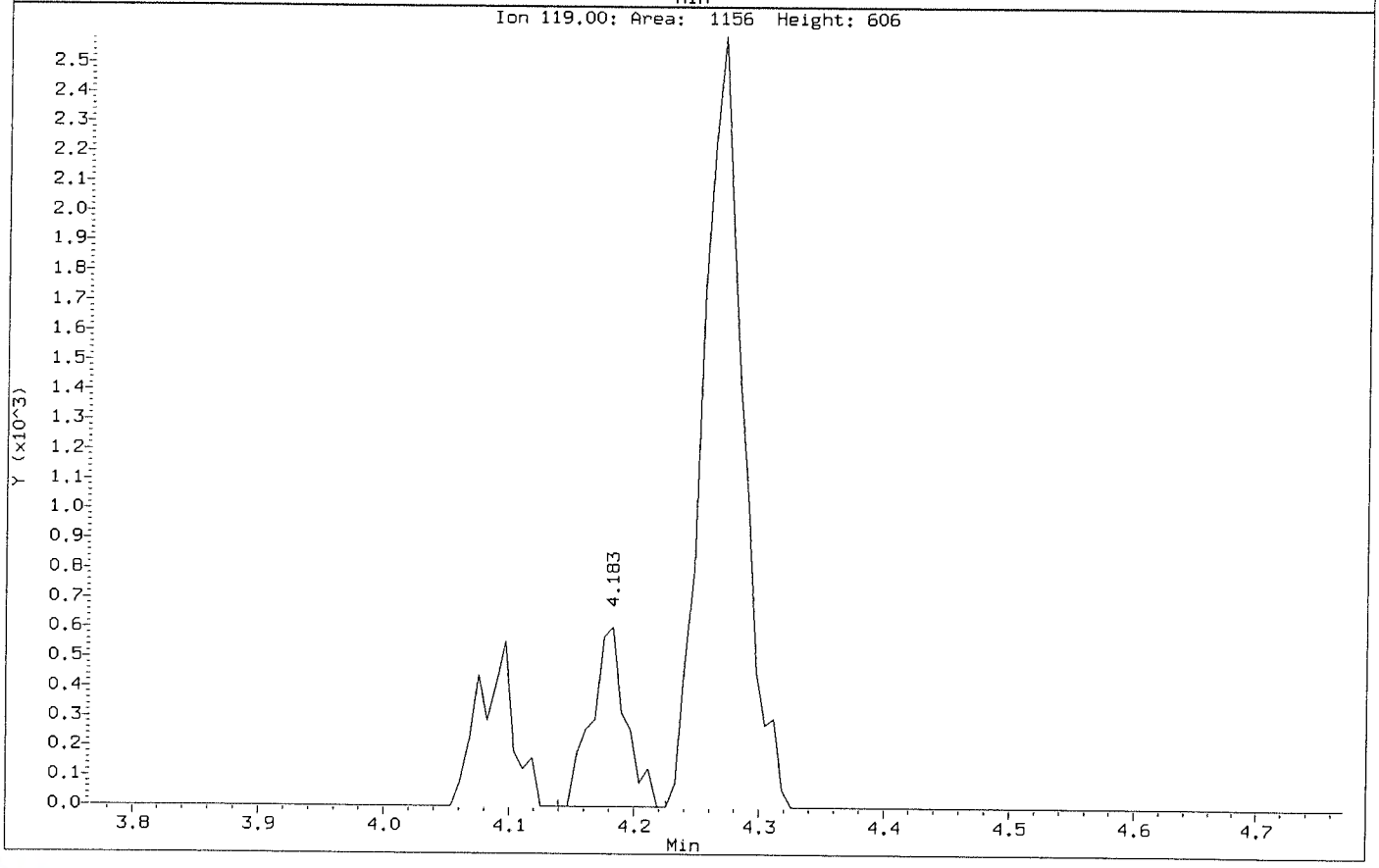


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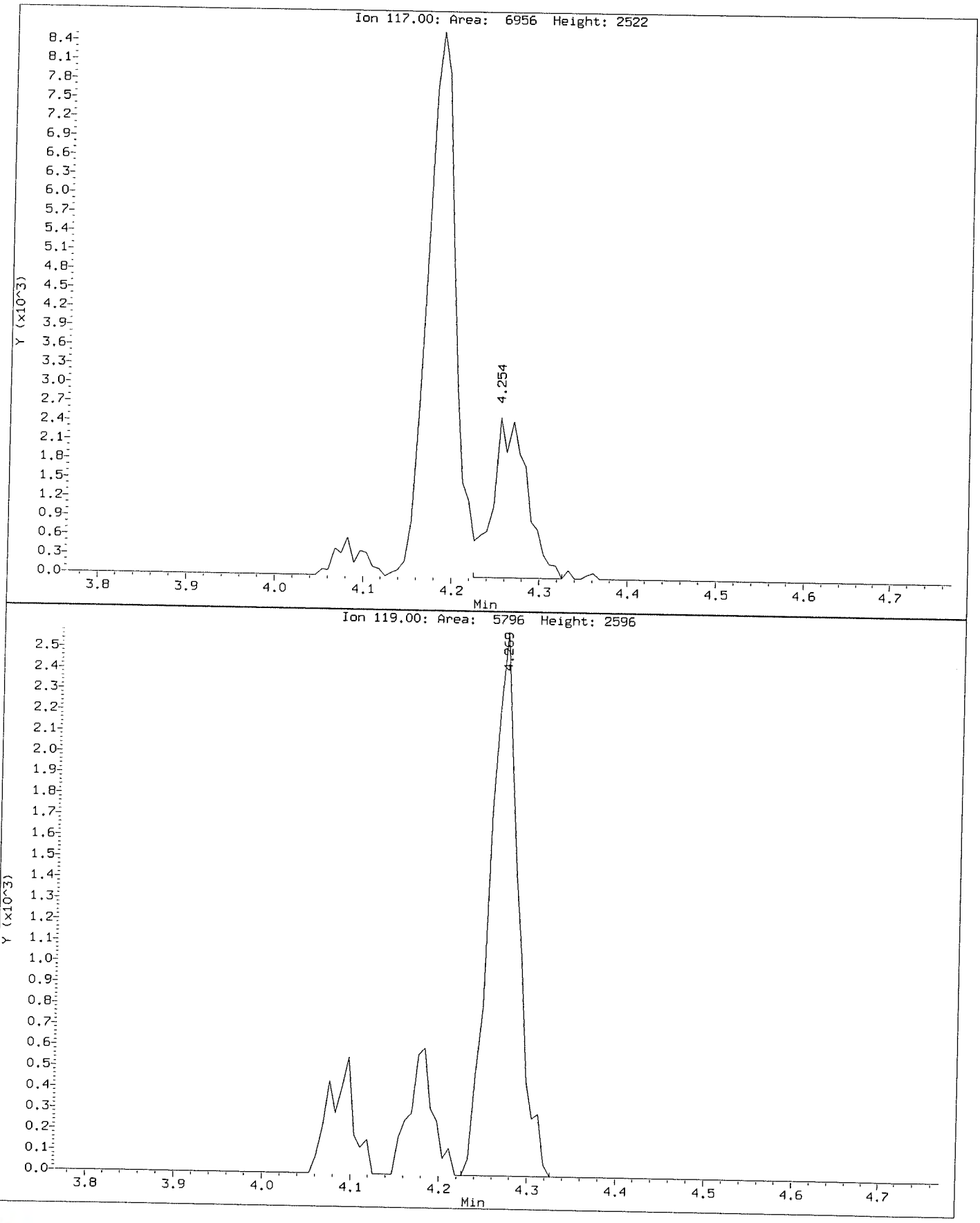
Compound: Carbon Tetrachloride
CAS Number: 56-23-5



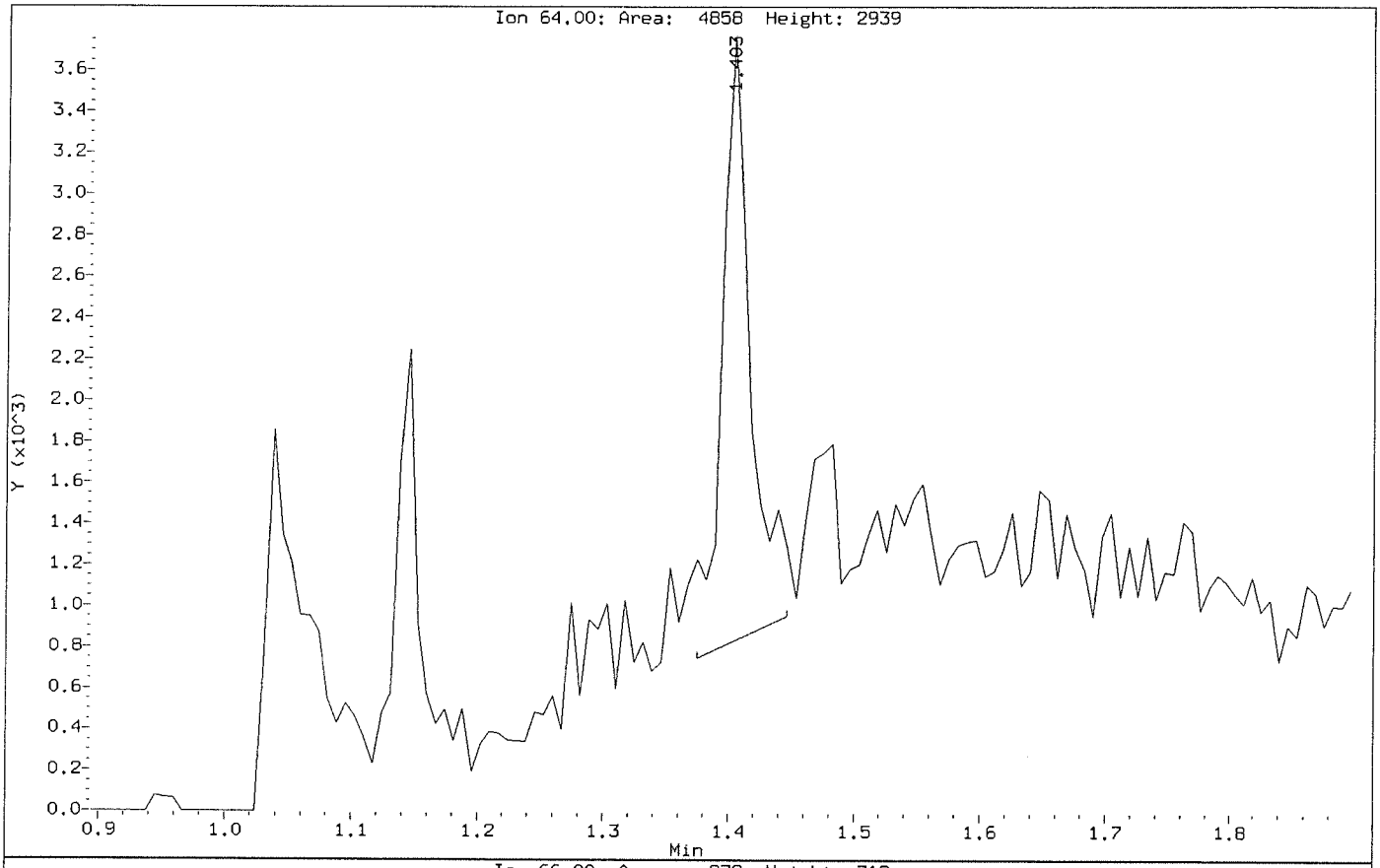
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Client Sample ID: VSTD002

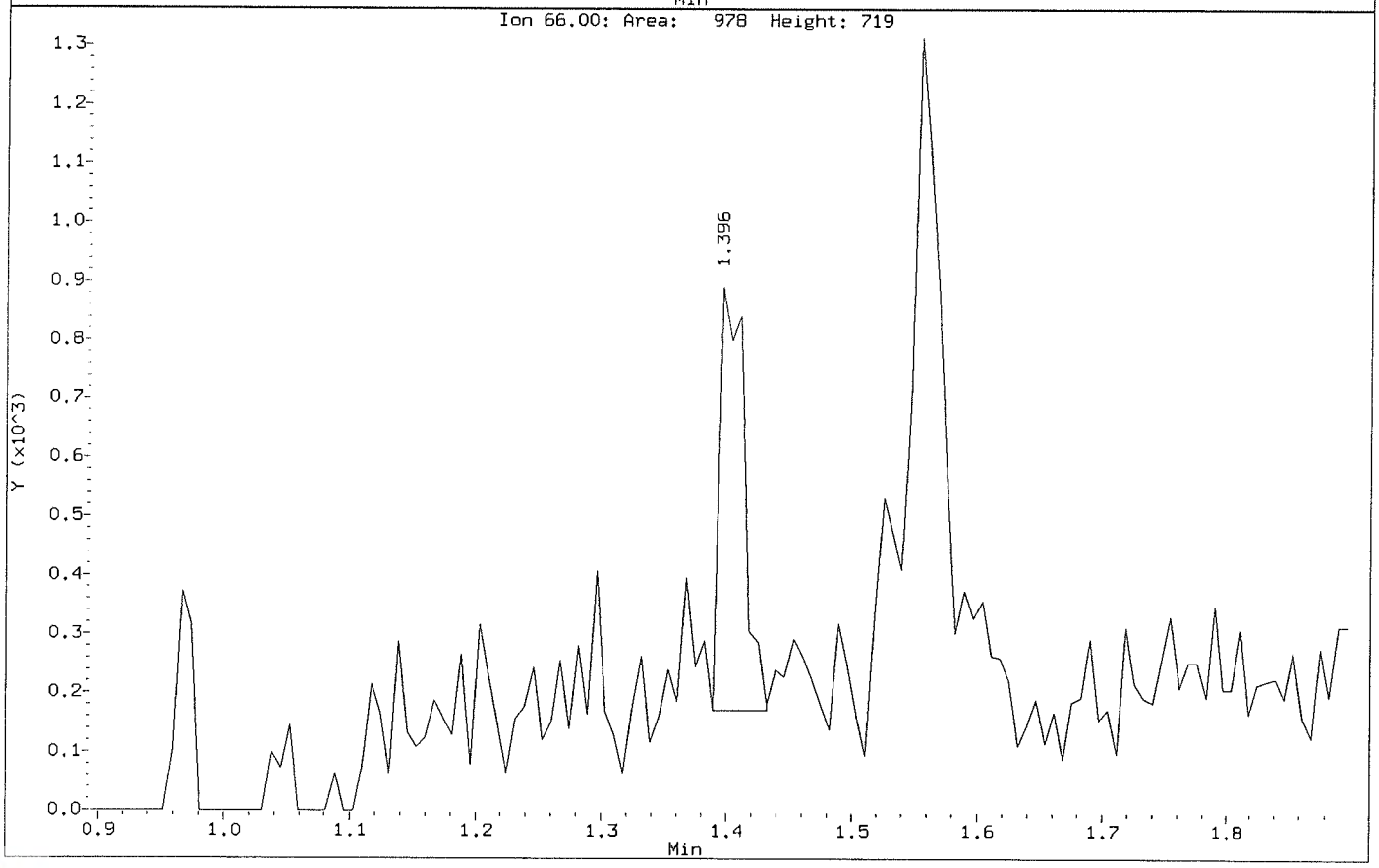
Compound: Carbon Tetrachloride
CAS Number: 56-23-5



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\Before\X051805.D
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Client Sample ID: VSTD002

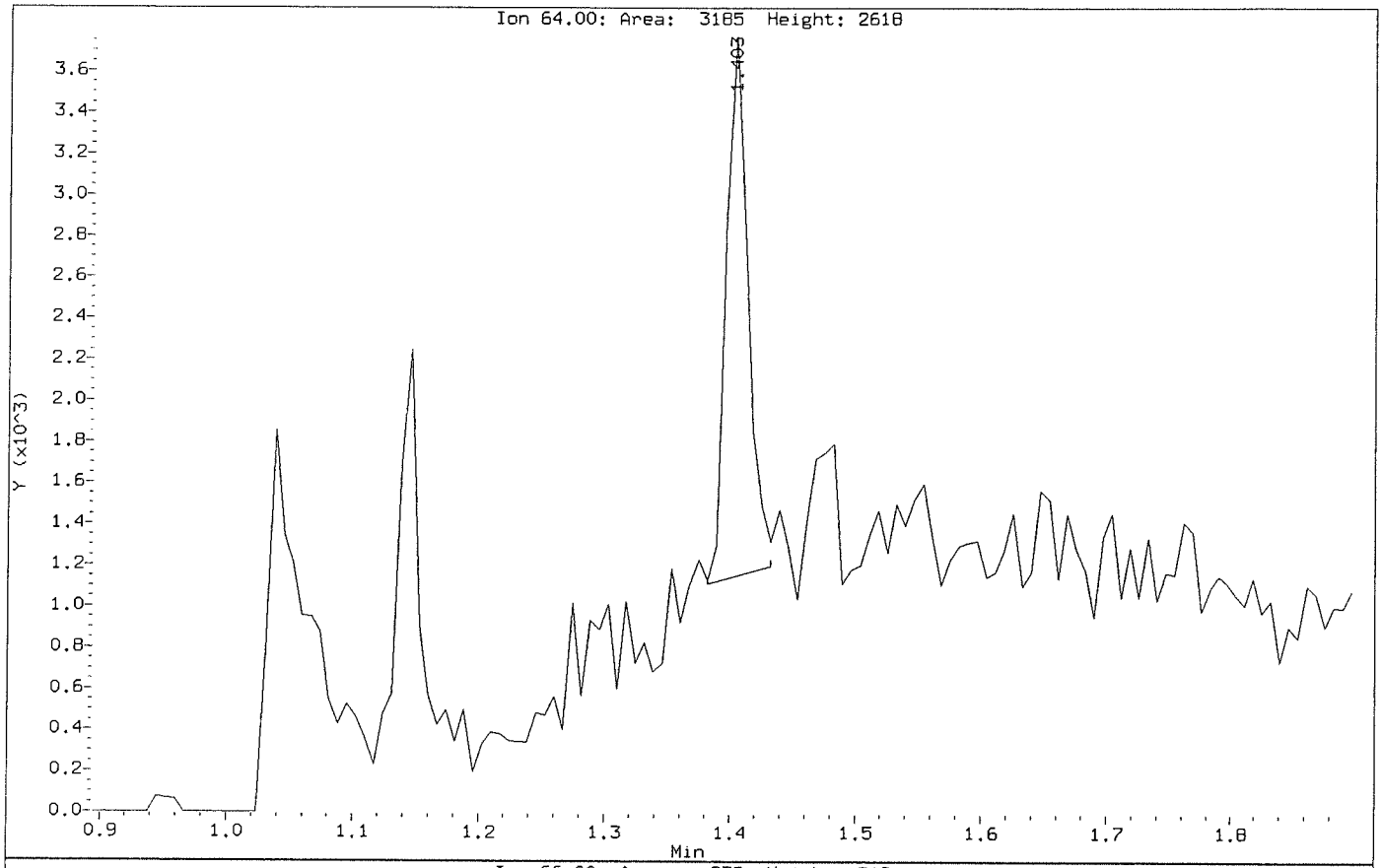
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CAS Number: 75-00-3

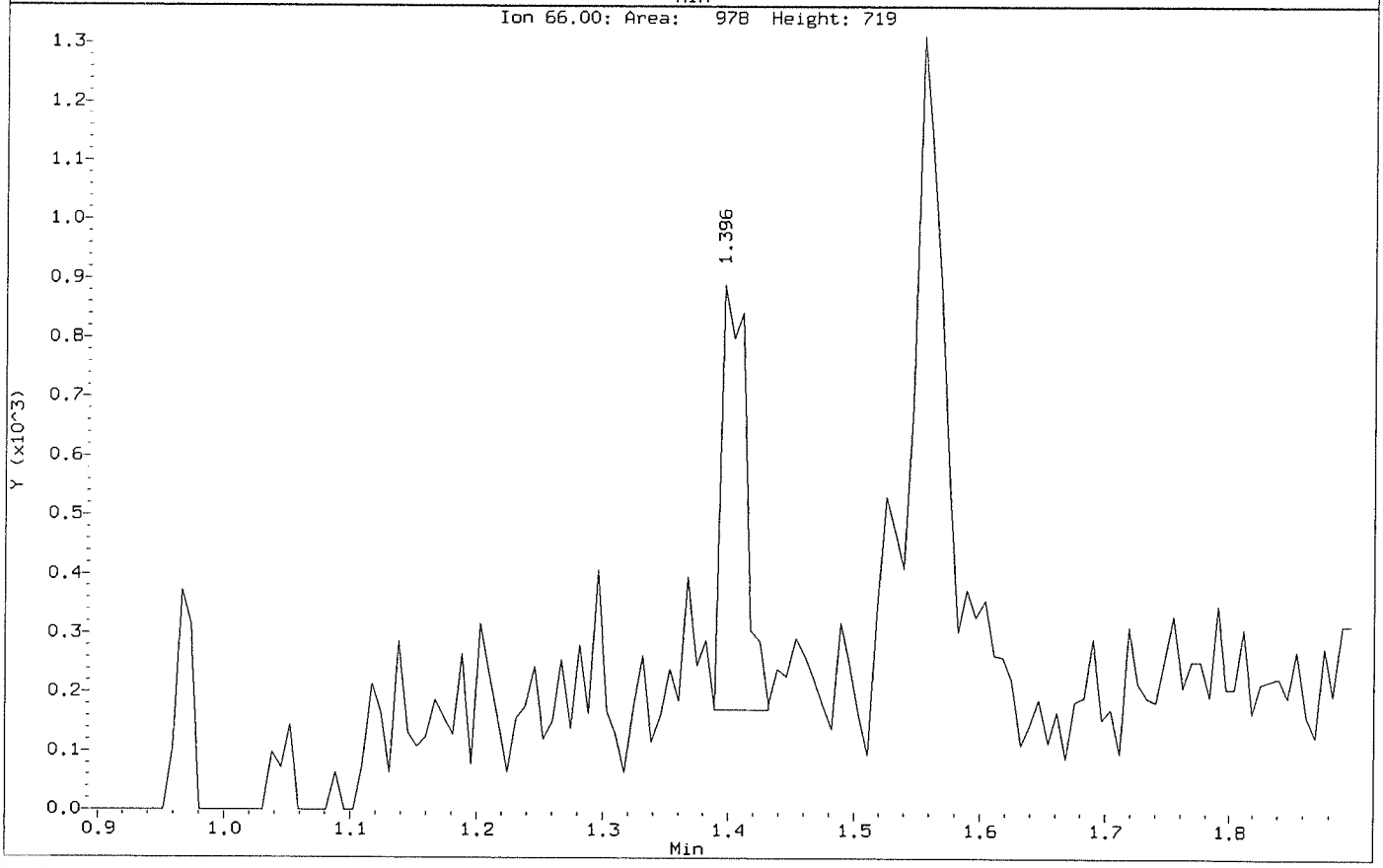


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Injection Date: 18-MAY-2021 12:46
Instrument: voa6.i
Client Sample ID: VSTD002

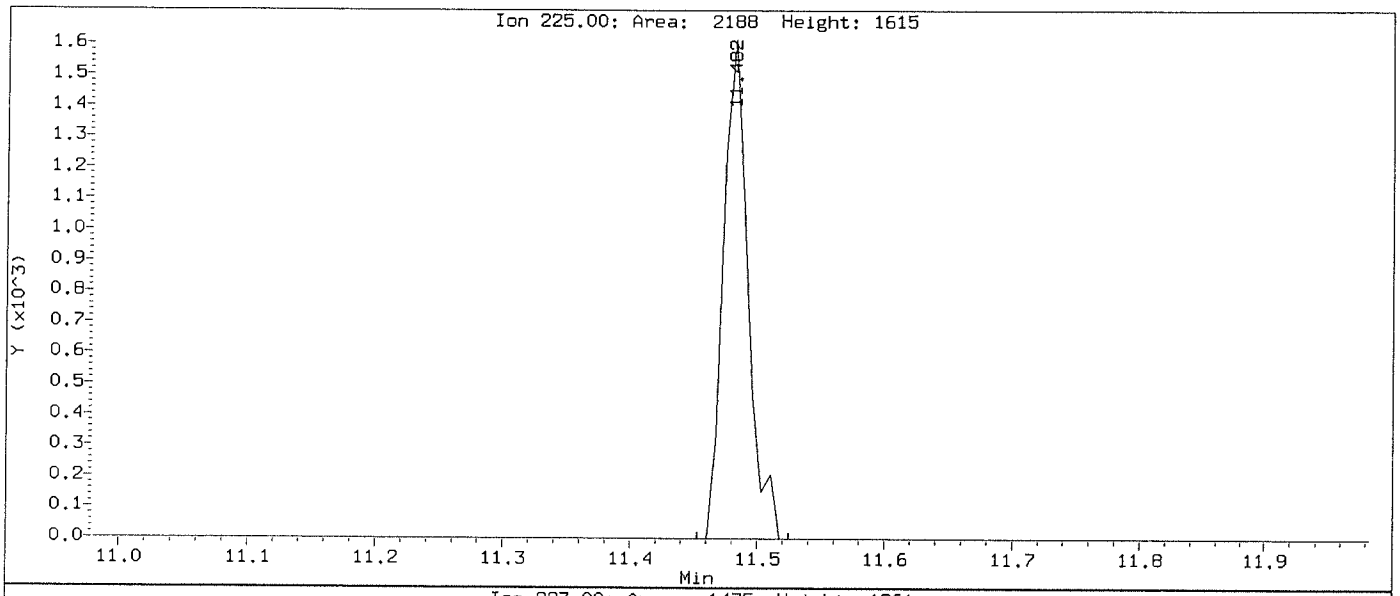
Compound: Chloroethane
CAS Number: 75-00-3

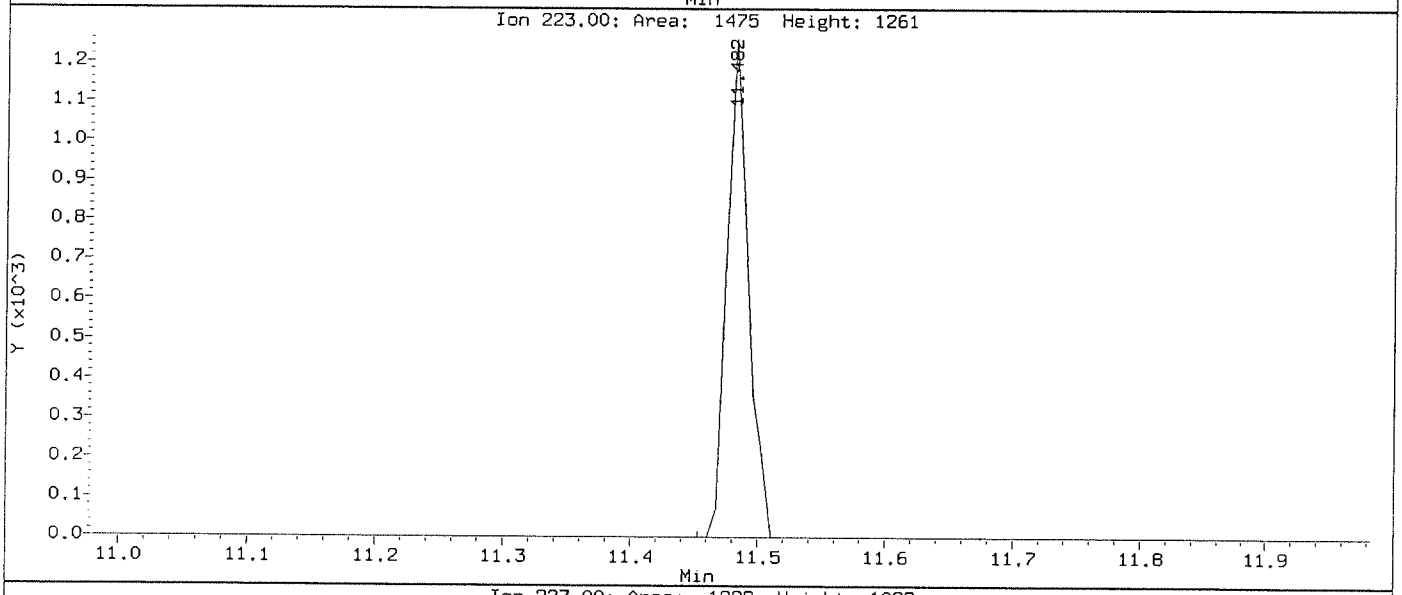


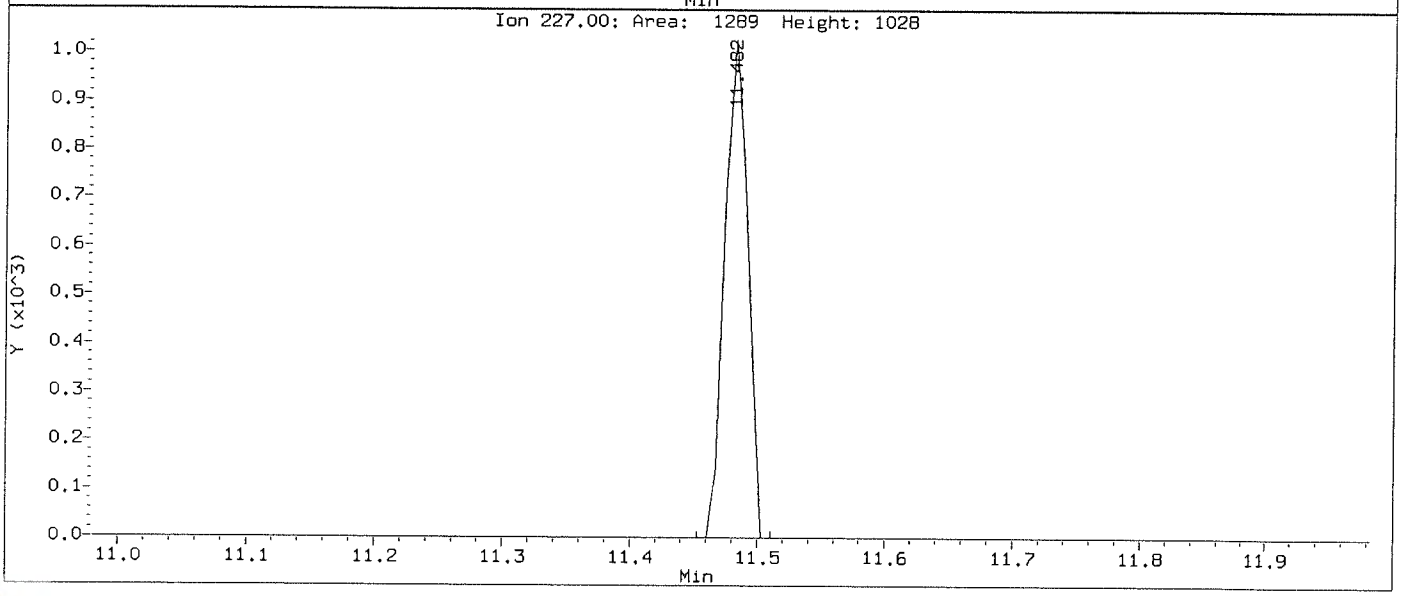



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\Before\X051805.D
Injection Date: 18-MAY-2021 12:46
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: Hexachlorobutadiene
CAS Number: 87-68-3

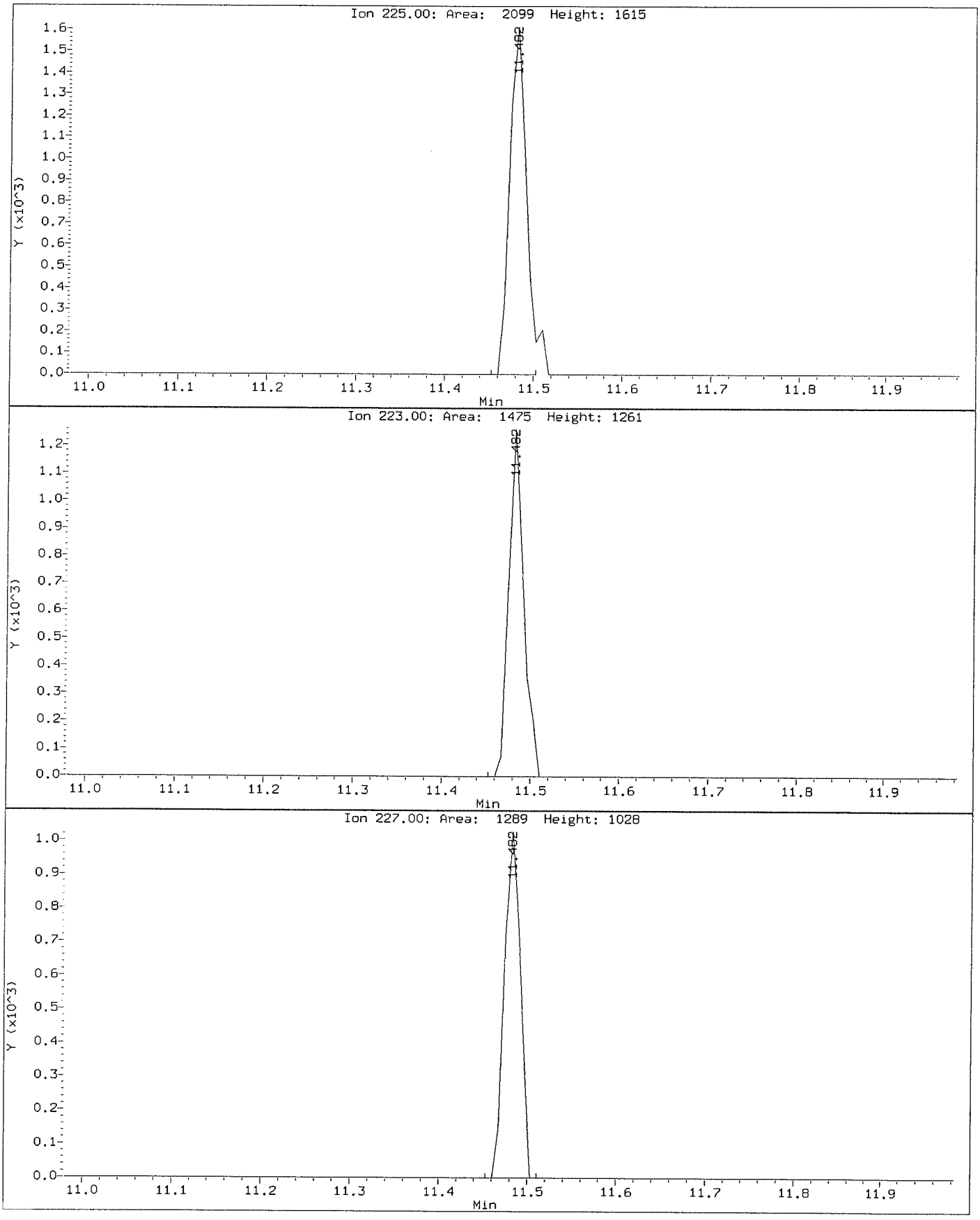


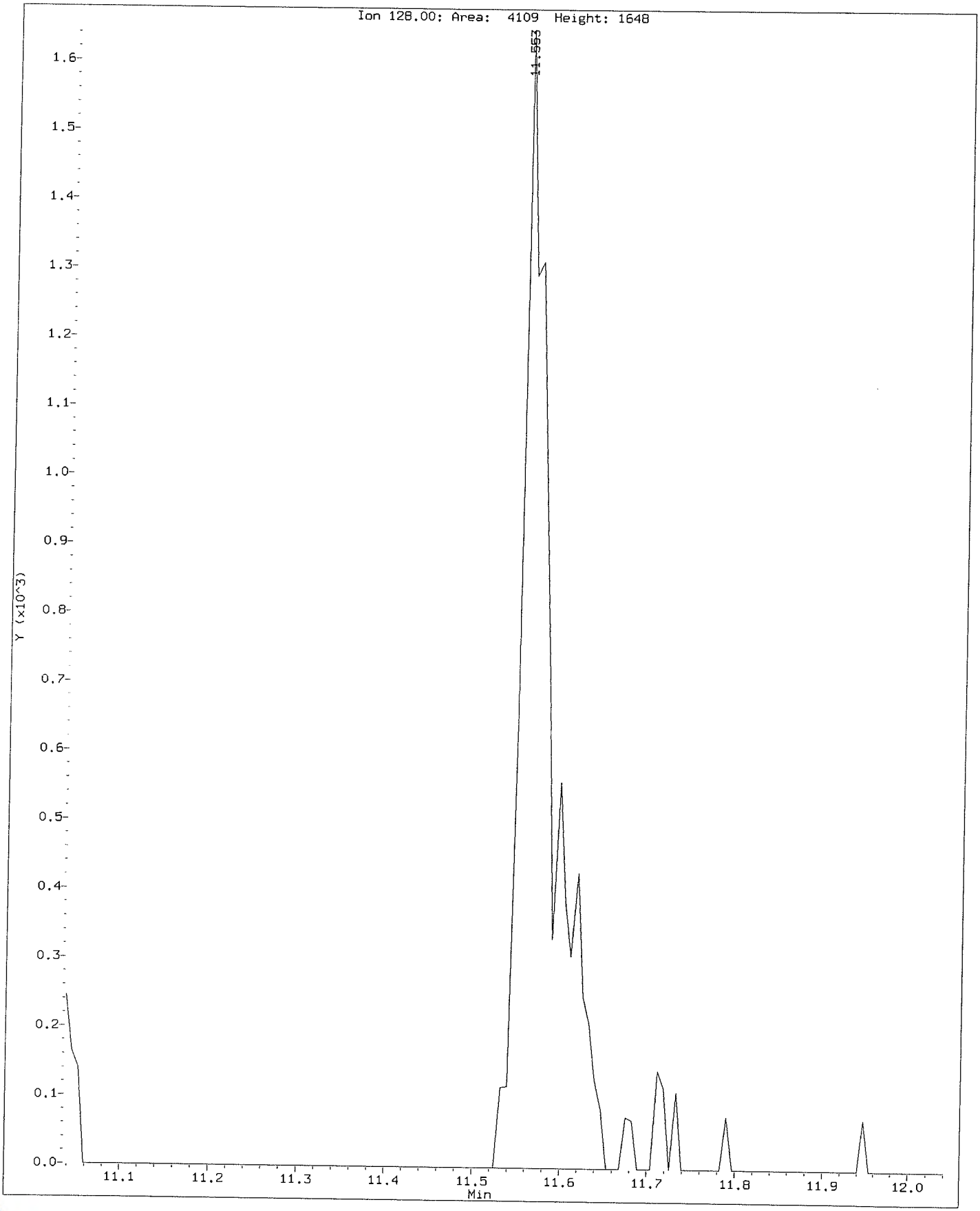
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Injection Date: 18-MAY-2021 12:46
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: Hexachlorobutadiene
CAS Number: 87-68-3



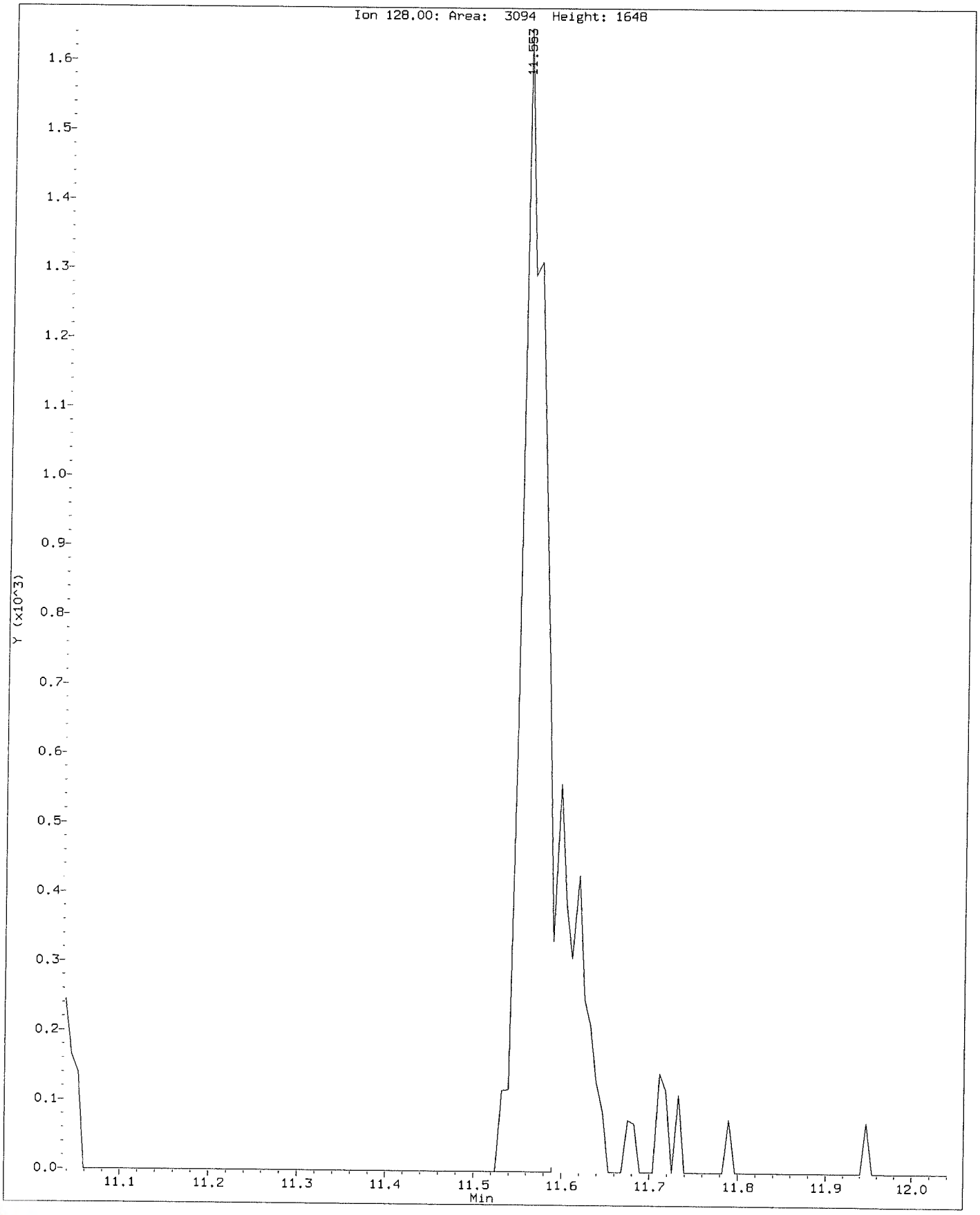
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Injection Date: 18-MAY-2021 12:46
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: Naphthalene
CAS Number: 91-20-3



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051805.D
Injection Date: 18-MAY-2021 12:46
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: Naphthalene
CAS Number: 91-20-3



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051806.D
Lab Smp Id: VSDT005 Client Smp ID: VSTD005
Inj Date : 18-MAY-2021 13:07
Operator : PC Inst ID: voa6.i
Smp Info : VSDT005;VSTD005;1;5;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210518.b\8260W.m
Meth Date : 08-Jun-2021 11:42 voa6.i Quant Type: ISTD
Cal Date : 18-MAY-2021 12:46 Cal File: X051805.D
Als bottle: 7 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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 |

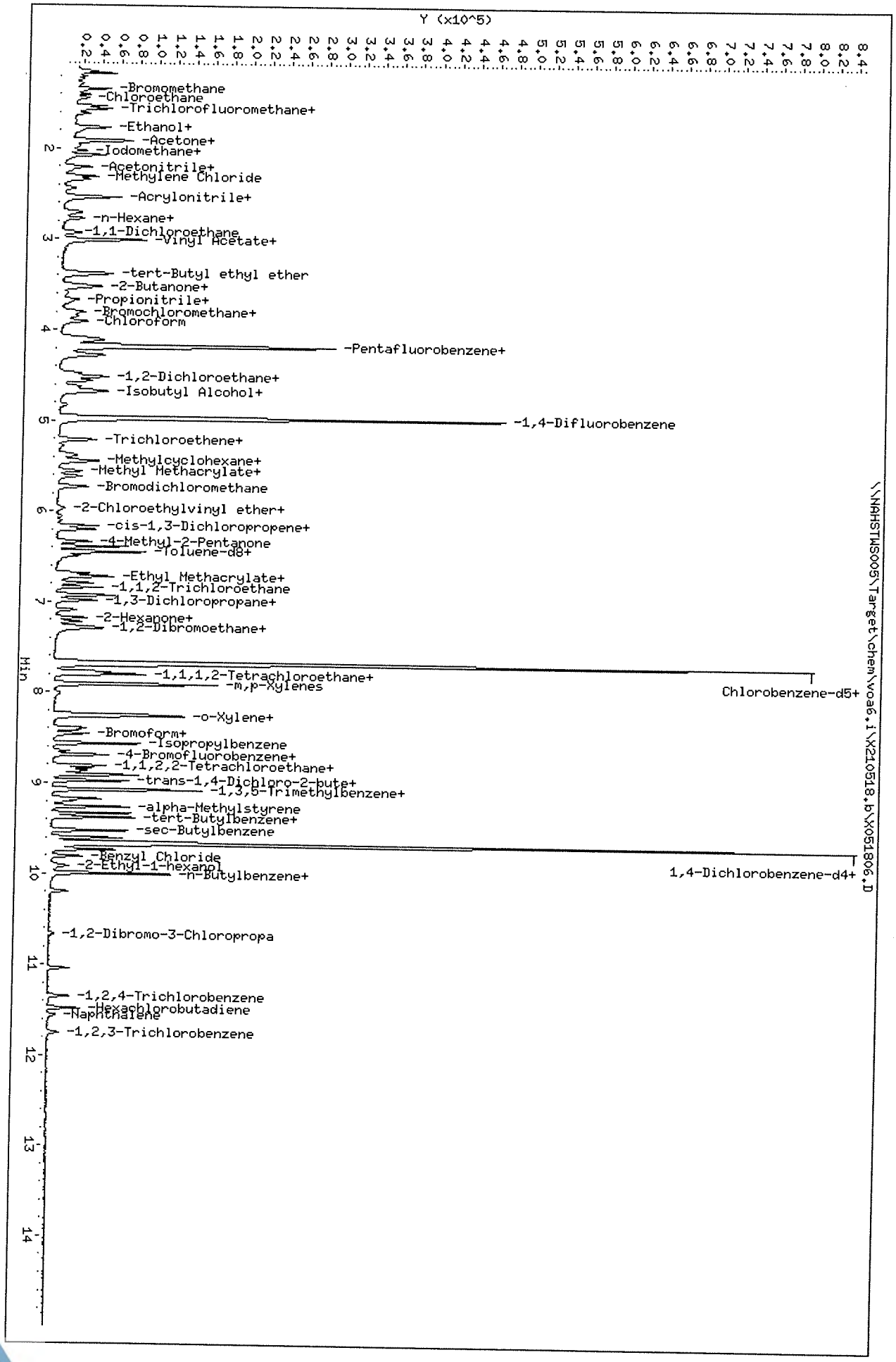
| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|
| * 1 Pentafluorobenzene | 168 | 4.182 | 4.182 | (1.000) | 225058 | 50.0000 | |
| * 36 1,4-Difluorobenzene | 114 | 4.970 | 4.970 | (1.000) | 374386 | 50.0000 | |
| * 47 Chlorobenzene-d5 | 117 | 7.671 | 7.671 | (1.000) | 349203 | 50.0000 | |
| * 70 1,4-Dichlorobenzene-d4 | 152 | 9.662 | 9.662 | (1.000) | 167006 | 50.0000 | |
| $ 30 Dibromofluoromethane | 113 | 4.103 | 4.103 | (0.981) | 12495 | 5.00000 | 4.77(a) |
| $ 35 1,2-Dichloroethane-d4 | 65 | 4.476 | 4.476 | (1.070) | 16438 | 5.00000 | 4.48(a) |
| $ 48 Toluene-d8 | 98 | 6.388 | 6.388 | (0.833) | 42740 | 5.00000 | 5.89 |
| $ 69 4-Bromofluorobenzene | 95 | 8.688 | 8.688 | (1.133) | 15616 | 5.00000 | 4.84(a) |
| 60 1,1,1,2-Tetrachloroethane | 131 | 7.771 | 7.771 | (1.013) | 12874 | 5.00000 | 5.06 |
| 31 1,1,1-Trichloroethane | 97 | 4.089 | 4.089 | (0.978) | 19150 | 5.00000 | 5.00 |
| 68 1,1,2,2-Tetrachloroethane | 83 | 8.838 | 8.838 | (0.915) | 14932 | 5.00000 | 4.92(a) |
| 53 1,1,2-Trichloroethane | 83 | 6.840 | 6.840 | (0.892) | 9408 | 5.00000 | 4.63(a) |
| 22 1,1-Dichloroethane | 63 | 2.929 | 2.929 | (0.700) | 19958 | 5.00000 | 4.78(a) |
| 11 1,1-Dichloroethene | 96 | 1.911 | 1.911 | (0.457) | 11117 | 5.00000 | 4.93(a) |
| 32 1,1-Dichloropropene | 75 | 4.275 | 4.275 | (0.860) | 15980 | 5.00000 | 4.98(a) |
| 93 1,2,3-Trichlorobenzene | 180 | 11.746 | 11.746 | (1.216) | 3826 | 5.00000 | 5.37 |
| 71 1,2,3-Trichloropropane | 75 | 8.867 | 8.867 | (0.918) | 9928 | 5.00000 | 3.81(aMH) |
| 90 1,2,4-Trichlorobenzene | 180 | 11.345 | 11.345 | (1.174) | 7168 | 5.00000 | 7.00 |
| 79 1,2,4-Trimethylbenzene | 105 | 9.382 | 9.382 | (0.971) | 40866 | 5.00000 | 4.81(a) |
| 89 1,2-Dibromo-3-Chloropropane | 155 | 10.665 | 10.665 | (1.104) | 1184 | 5.00000 | 6.69 |
| 57 1,2-Dibromoethane | 107 | 7.262 | 7.262 | (0.947) | 11790 | 5.00000 | 4.83(a) |
| 88 1,2-Dichlorobenzene | 146 | 9.999 | 9.999 | (1.035) | 22875 | 5.00000 | 4.88(a) |

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051806.D Page 2
Report Date: 08-Jun-2021 11:42

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|---|
| 33 | 1,2-Dichloroethane | 62 | 4.562 | 4.562 | (0.918) | 18828 | 5.00000 | 5.11 |
| 42 | 1,2-Dichloropropane | 63 | 5.436 | 5.436 | (1.094) | 12574 | 5.00000 | 4.99(aM) |
| 75 | 1,3,5-Trimethylbenzene | 105 | 9.067 | 9.067 | (0.938) | 38648 | 5.00000 | 4.63(a) |
| 83 | 1,3-Dichlorobenzene | 146 | 9.605 | 9.605 | (0.994) | 23137 | 5.00000 | 4.82(a) |
| 54 | 1,3-Dichloropropane | 76 | 6.983 | 6.983 | (0.910) | 20253 | 5.00000 | 5.10 |
| 84 | 1,4-Dichlorobenzene | 146 | 9.683 | 9.683 | (1.002) | 24844 | 5.00000 | 5.29 |
| 26 | 2,2-Dichloropropane | 77 | 3.516 | 3.516 | (0.841) | 18465 | 5.00000 | 4.95(a) |
| 24 | 2-Butanone | 43 | 3.588 | 3.588 | (0.858) | 7505 | 10.0000 | 9.03 |
| 76 | 2-Chlorotoluene | 91 | 8.974 | 8.974 | (0.929) | 35922 | 5.00000 | 4.82(a) |
| 52 | 2-Hexanone | 43 | 7.097 | 7.097 | (0.925) | 15257 | 10.0000 | 10.06 |
| 77 | 4-Chlorotoluene | 91 | 9.074 | 9.074 | (0.939) | 41267 | 5.00000 | 4.75(a) |
| 82 | p-Isopropyltoluene | 119 | 9.648 | 9.648 | (0.999) | 38993 | 5.00000 | 4.72(a) |
| 45 | 4-Methyl-2-Pentanone | 43 | 6.331 | 6.331 | (0.825) | 23491 | 10.0000 | 10.64 |
| 10 | Acetone | 43 | 1.983 | 1.983 | (0.474) | 8158 | 10.0000 | 9.92 |
| 37 | Benzene | 78 | 4.512 | 4.512 | (0.908) | 46553 | 5.00000 | 5.02 |
| 74 | Bromobenzene | 156 | 8.809 | 8.809 | (0.912) | 14708 | 5.00000 | 5.28 |
| 29 | Bromochloromethane | 128 | 3.802 | 3.802 | (0.909) | 7065 | 5.00000 | 5.15 |
| 39 | Bromodichloromethane | 83 | 5.729 | 5.729 | (1.153) | 18096 | 5.00000 | 5.00 |
| 66 | Bromoform | 173 | 8.415 | 8.415 | (1.097) | 7918 | 5.00000 | 4.68(Ta) |
| 6 | Bromomethane | 94 | 1.338 | 1.338 | (0.320) | 15785 | 5.00000 | 6.25 |
| 19 | Carbon Disulfide | 76 | 2.069 | 2.069 | (0.495) | 49473 | 10.0000 | 9.33 |
| 34 | Carbon Tetrachloride | 117 | 4.268 | 4.268 | (0.859) | 16315 | 5.00000 | 4.99(aH) |
| 59 | Chlorobenzene | 112 | 7.692 | 7.692 | (1.003) | 32631 | 5.00000 | 4.76(a) |
| 7 | Chloroethane | 64 | 1.403 | 1.403 | (0.336) | 8398 | 5.00000 | 4.92(aM) |
| 28 | Chloroform | 83 | 3.910 | 3.910 | (0.935) | 24324 | 5.00000 | 5.08 |
| 3 | Chloromethane | 50 | 1.081 | 1.081 | (0.258) | 14179 | 5.00000 | 6.05 |
| 27 | cis-1,2-Dichloroethene | 96 | 3.523 | 3.523 | (0.842) | 12551 | 5.00000 | 4.83(a) |
| 46 | cis-1,3-Dichloropropene | 75 | 6.159 | 6.159 | (1.239) | 20073 | 5.00000 | 4.89(a) |
| 55 | Dibromochloromethane | 129 | 7.176 | 7.176 | (0.936) | 12858 | 5.00000 | 4.71(a) |
| 44 | Dibromomethane | 93 | 5.557 | 5.557 | (1.118) | 8941 | 5.00000 | 4.95(a) |
| 2 | Dichlorodifluoromethane | 85 | 0.973 | 0.973 | (0.233) | 14123 | 5.00000 | 6.85 |
| 61 | Ethylbenzene | 106 | 7.799 | 7.799 | (1.017) | 16617 | 5.00000 | 4.91(a) |
| 91 | Hexachlorobutadiene | 225 | 11.481 | 11.481 | (1.188) | 4641 | 5.00000 | 7.52 |
| 67 | Isopropylbenzene | 105 | 8.559 | 8.559 | (1.116) | 49325 | 5.00000 | 4.76(a) |
| 62 | m,p-Xylenes | 106 | 7.907 | 7.907 | (1.031) | 41694 | 10.0000 | 9.56 |
| 17 | Methylene Chloride | 84 | 2.305 | 2.305 | (0.551) | 11006 | 5.00000 | 4.87(a) |
| 87 | n-Butylbenzene | 91 | 9.991 | 9.991 | (1.034) | 34349 | 5.00000 | 4.38(a) |
| 73 | n-Propylbenzene | 91 | 8.910 | 8.910 | (0.922) | 56986 | 5.00000 | 4.81(a) |
| 92 | Naphthalene | 128 | 11.553 | 11.553 | (1.196) | 8781 | 5.00000 | 6.84 |
| 63 | o-Xylene | 106 | 8.244 | 8.244 | (1.075) | 20375 | 5.00000 | 4.80(a) |
| 81 | sec-Butylbenzene | 105 | 9.519 | 9.519 | (0.985) | 45656 | 5.00000 | 4.66(a) |
| 64 | Styrene | 104 | 8.258 | 8.258 | (1.077) | 31296 | 5.00000 | 5.55 |
| 78 | tert-Butylbenzene | 119 | 9.332 | 9.332 | (0.966) | 34739 | 5.00000 | 4.91(a) |
| 56 | Tetrachloroethene | 164 | 6.933 | 6.933 | (0.904) | 9252 | 5.00000 | 4.76(a) |
| 50 | Toluene | 91 | 6.446 | 6.446 | (0.840) | 49788 | 5.00000 | 4.94(a) |
| 20 | trans-1,2-Dichloroethene | 96 | 2.527 | 2.527 | (0.604) | 10258 | 5.00000 | 4.73(a) |
| 51 | trans-1,3-Dichloropropene | 75 | 6.689 | 6.689 | (1.346) | 16774 | 5.00000 | 4.67(a) |
| 38 | Trichloroethene | 130 | 5.214 | 5.214 | (1.049) | 13273 | 5.00000 | 5.35 |
| 8 | Trichlorofluoromethane | 101 | 1.560 | 1.560 | (0.373) | 22800 | 5.00000 | 5.27 |
| 5 | Vinyl Chloride | 62 | 1.145 | 1.145 | (0.274) | 14191 | 5.00000 | 5.22 |

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.

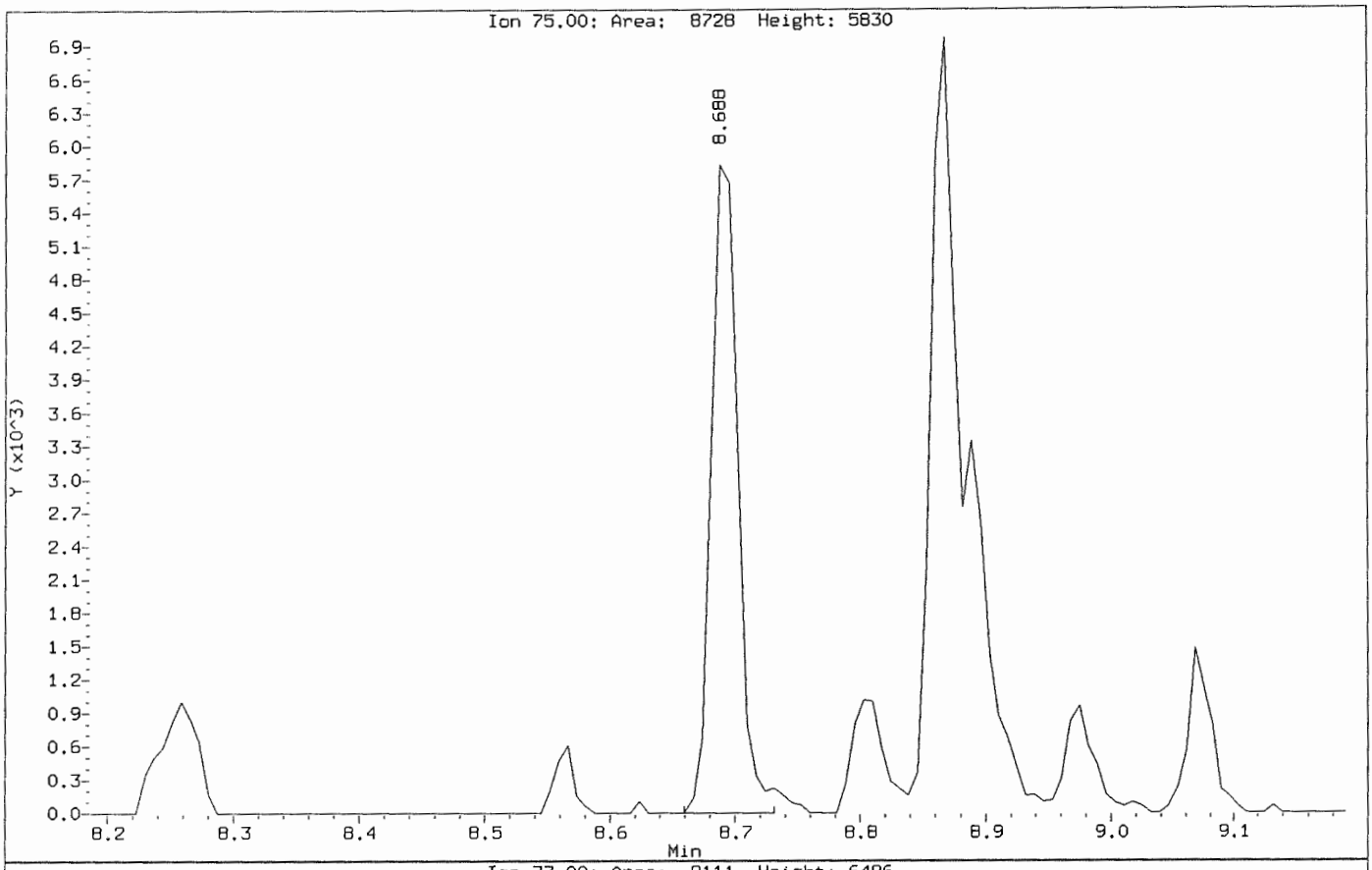


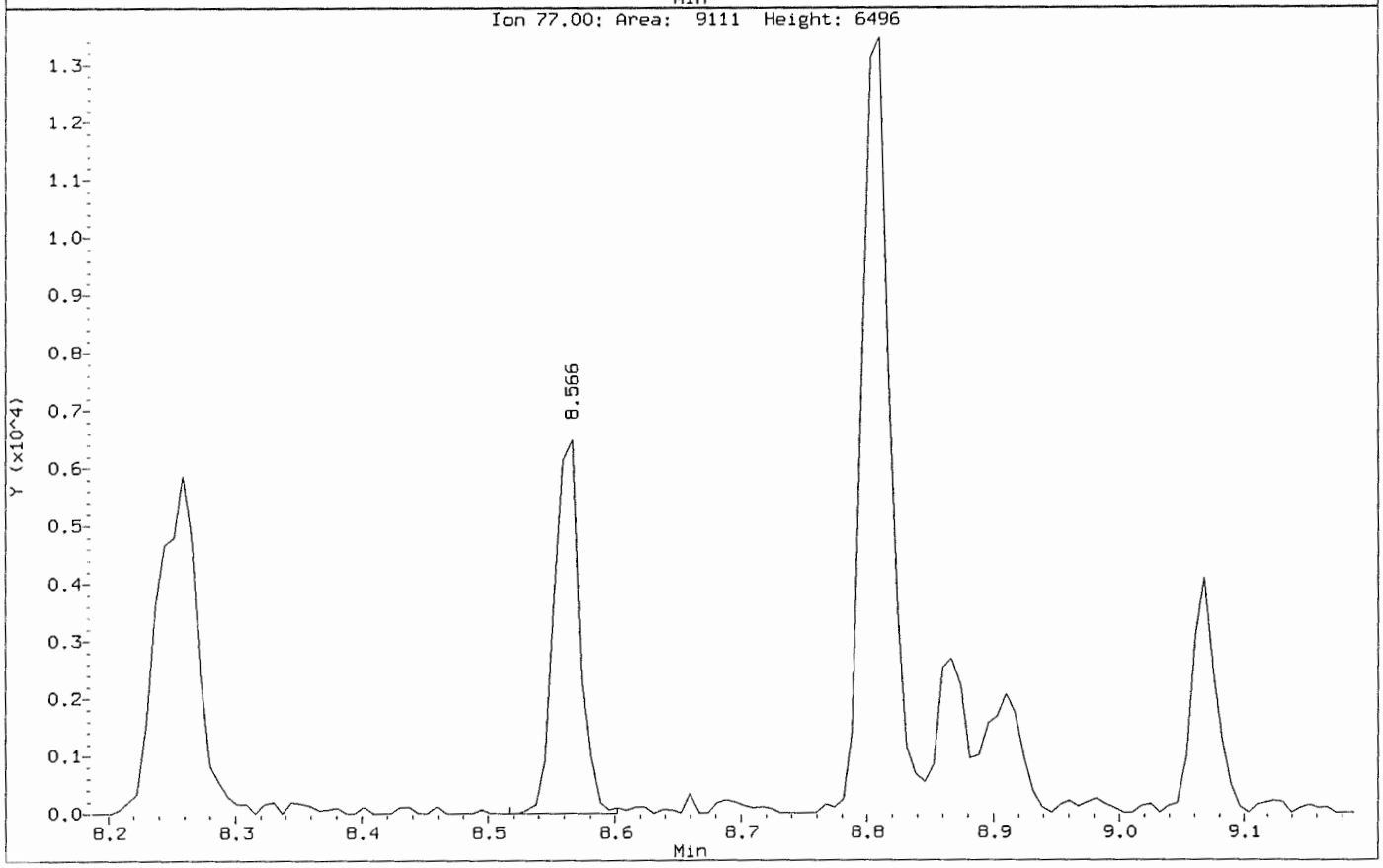

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051806.D
Date : 18-MAY-2021 13:07
Client ID: VSTD005
Sample Info: VSDT005;VSTD005;1;5;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\Before\X051806.D
Injection Date: 18-MAY-2021 13:07
Instrument: voa6.i
Client Sample ID: VSTD005

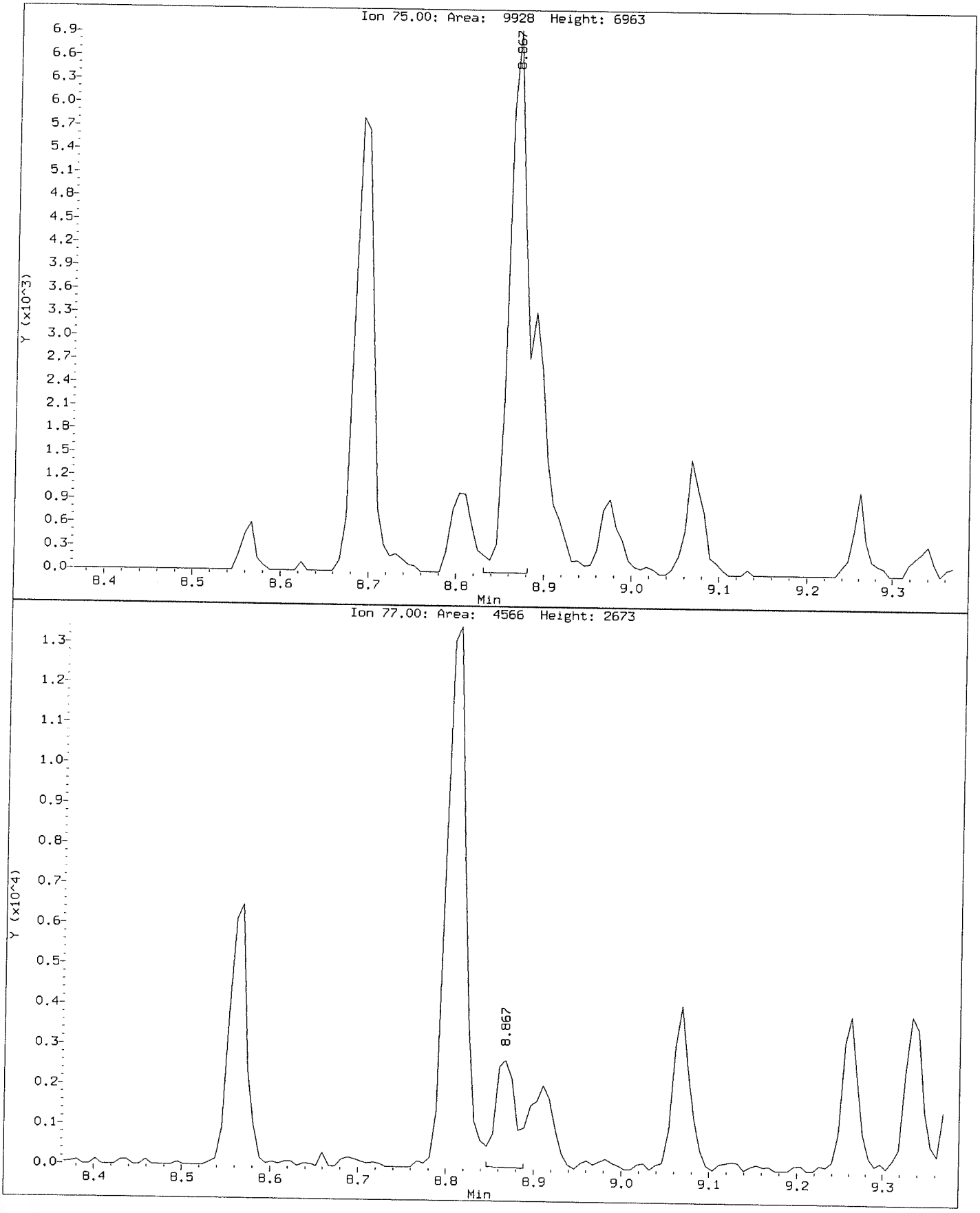
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



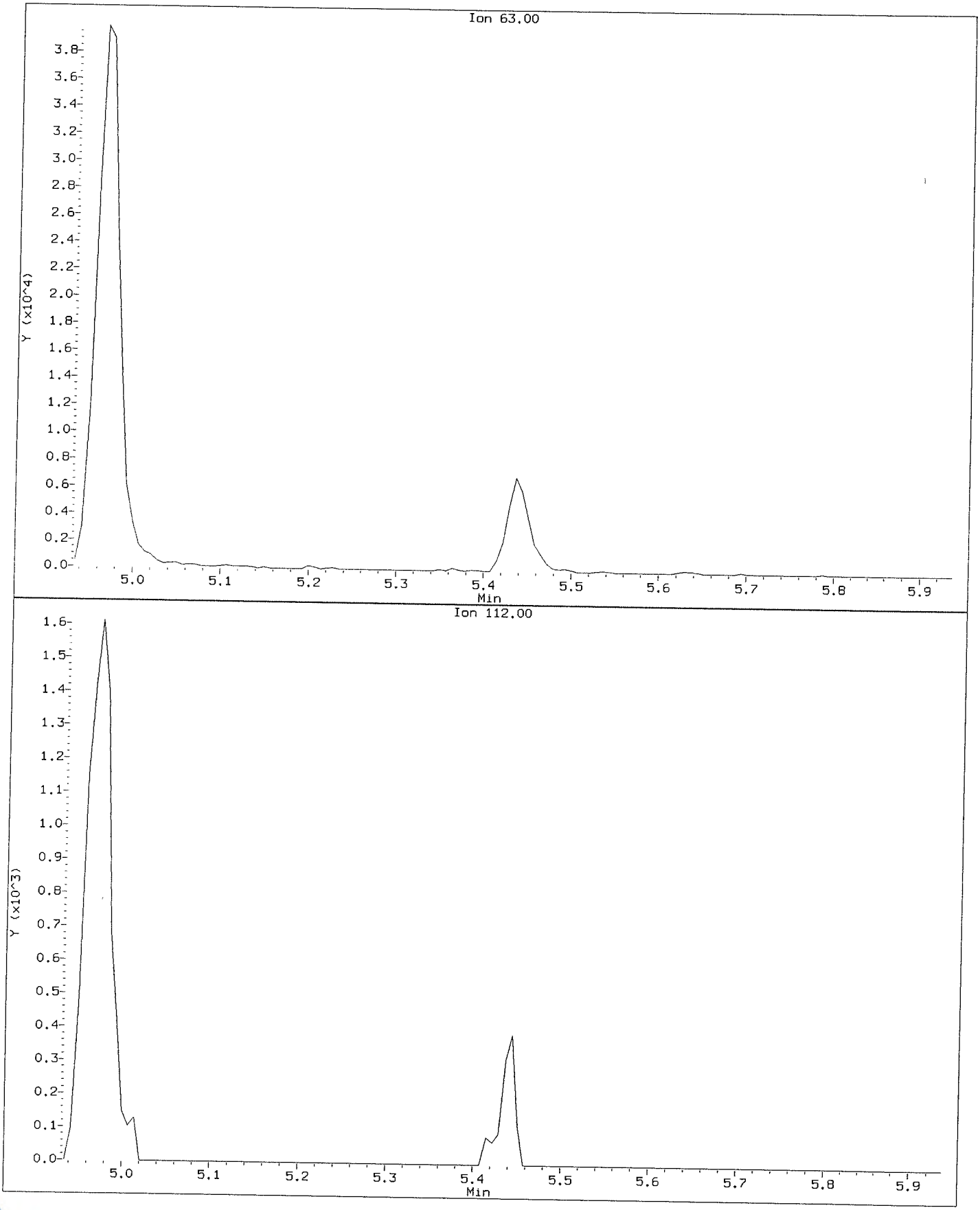
Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051806.D
Injection Date: 18-MAY-2021 13:07
Instrument: voa6.i
Client Sample ID: VSTD005

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



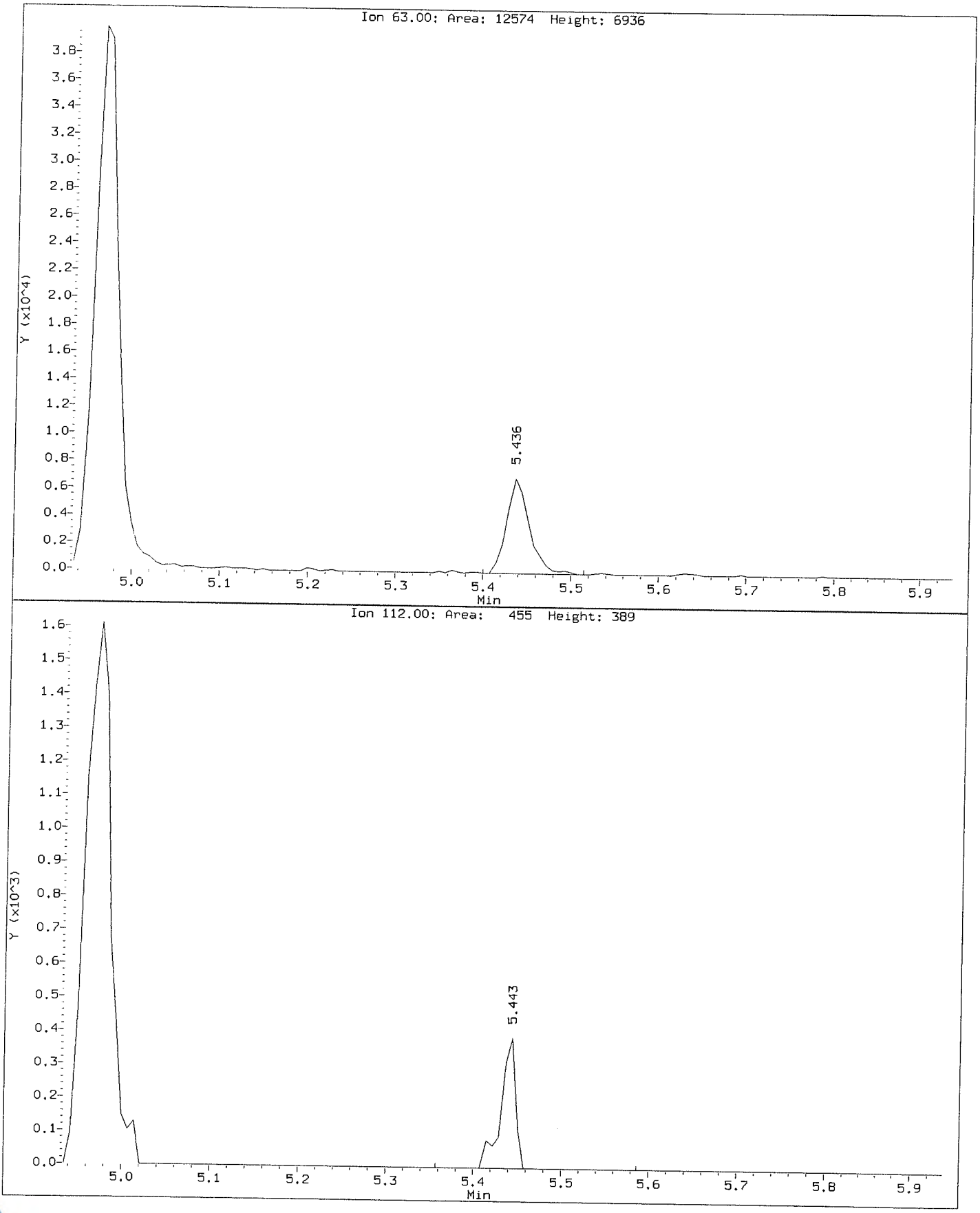
Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\Before\X051806.D
Injection Date: 18-MAY-2021 13:07
Instrument: voa6.i
Client Sample ID: VSTD005

Compound: 1,2-Dichloropropane
CAS Number: 78-87-5



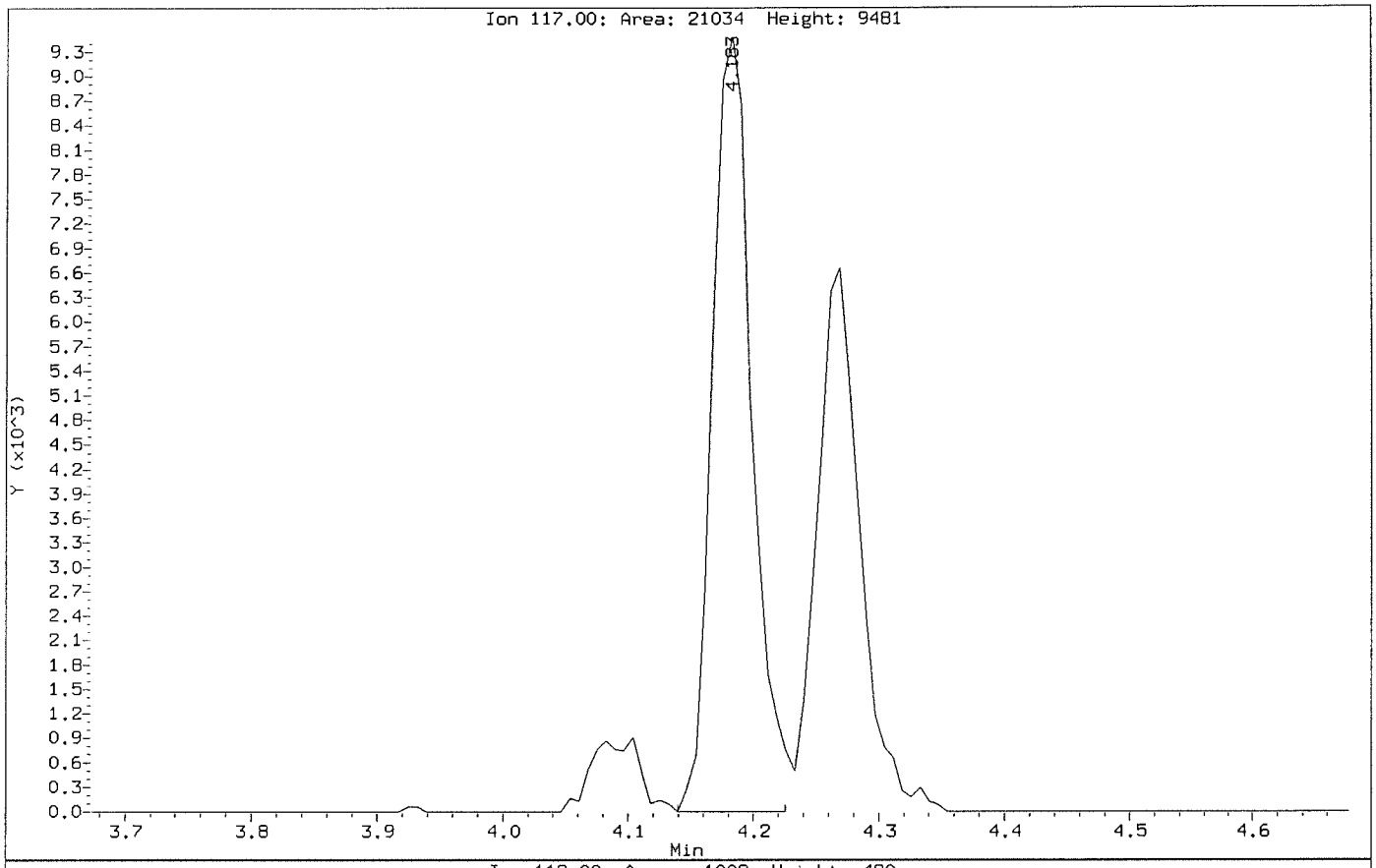
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Injection Date: 18-MAY-2021 13:07
Instrument: voa6.i
Client Sample ID: VSTD005

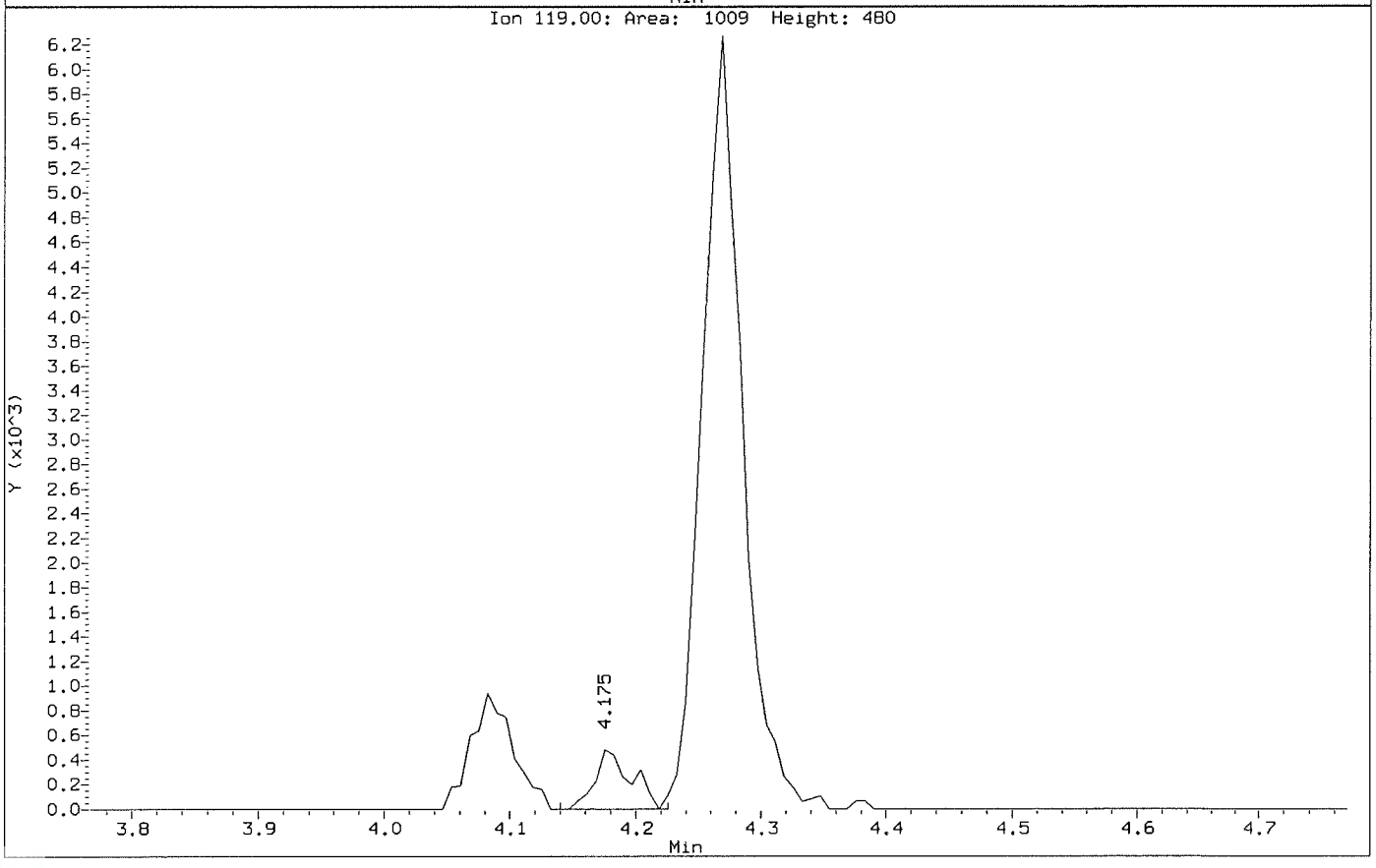
Compound: 1,2-Dichloropropane
CAS Number: 78-87-5



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\Before\X051806.D
Injection Date: 18-MAY-2021 13:07
Instrument: voa6.i
Client Sample ID: VSTD005

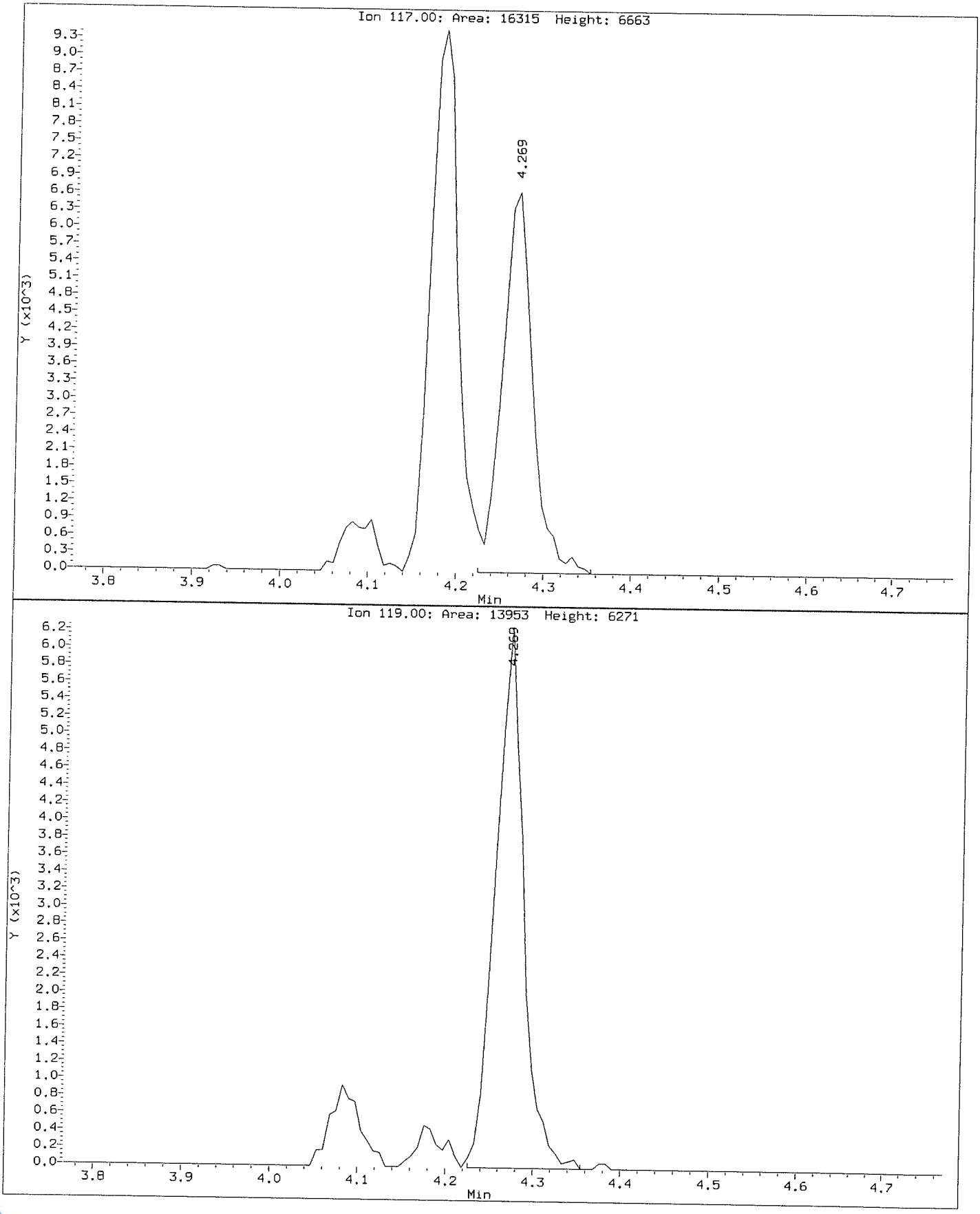
Compound: Carbon Tetrachloride
CAS Number: 56-23-5



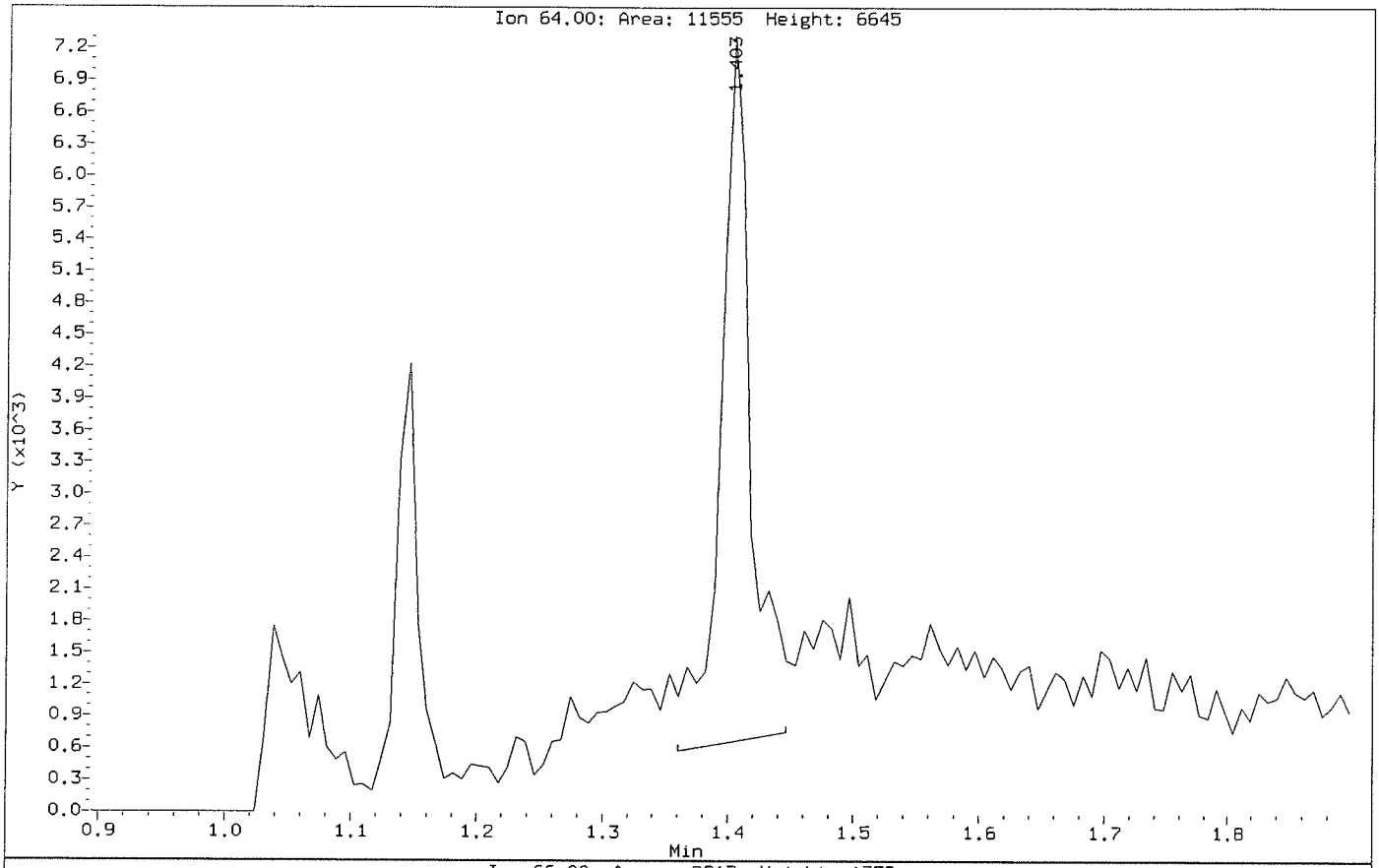
Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051806.D
Injection Date: 18-MAY-2021 13:07
Instrument: voa6.i
Client Sample ID: VSTD005

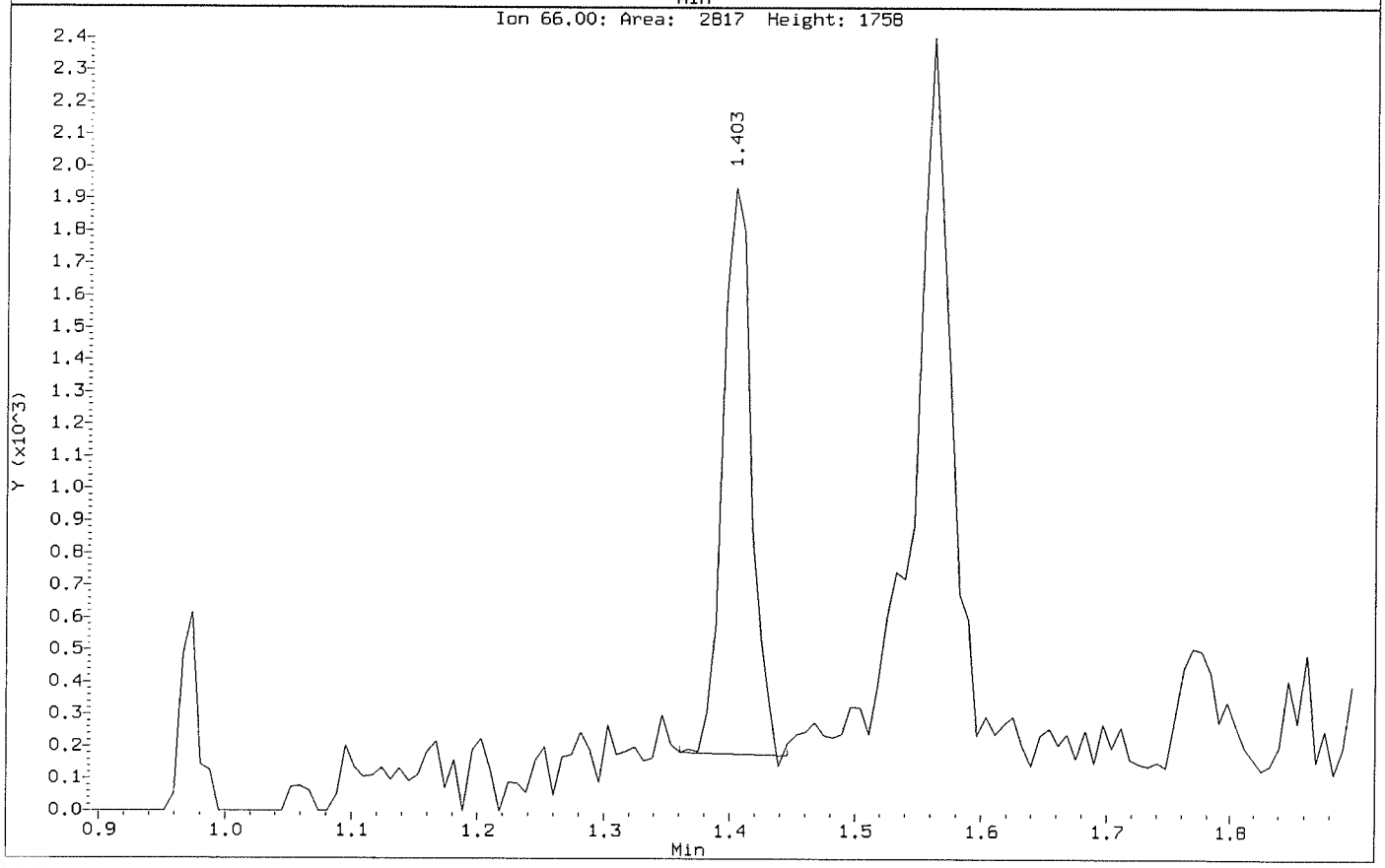
Compound: Carbon Tetrachloride
CAS Number: 56-23-5



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\Before\X051806.D
Injection Date: 18-MAY-2021 13:07
Instrument: voa6.i
Client Sample ID: VSTD005

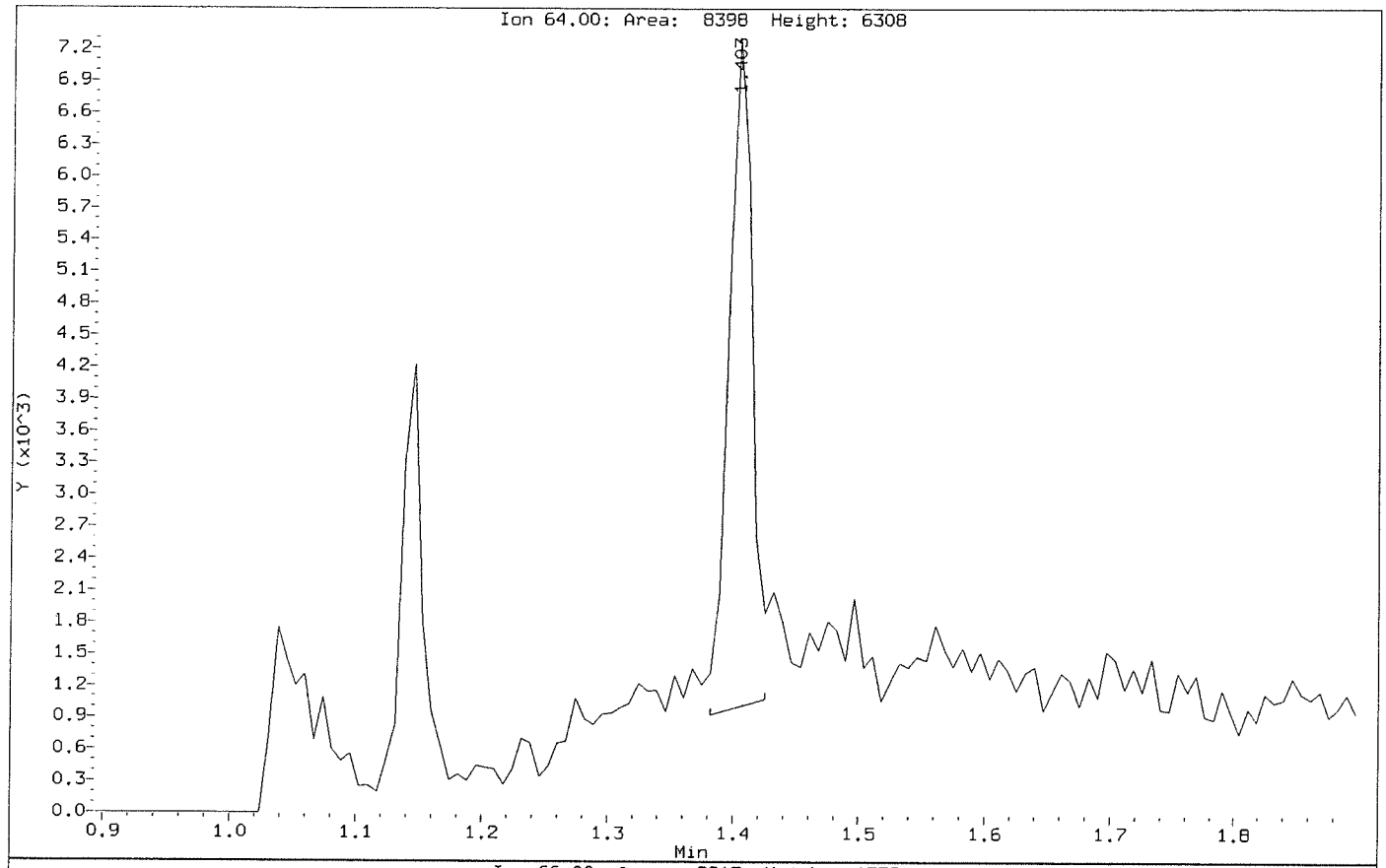
Compound: Chloroethane
CAS Number: 75-00-3

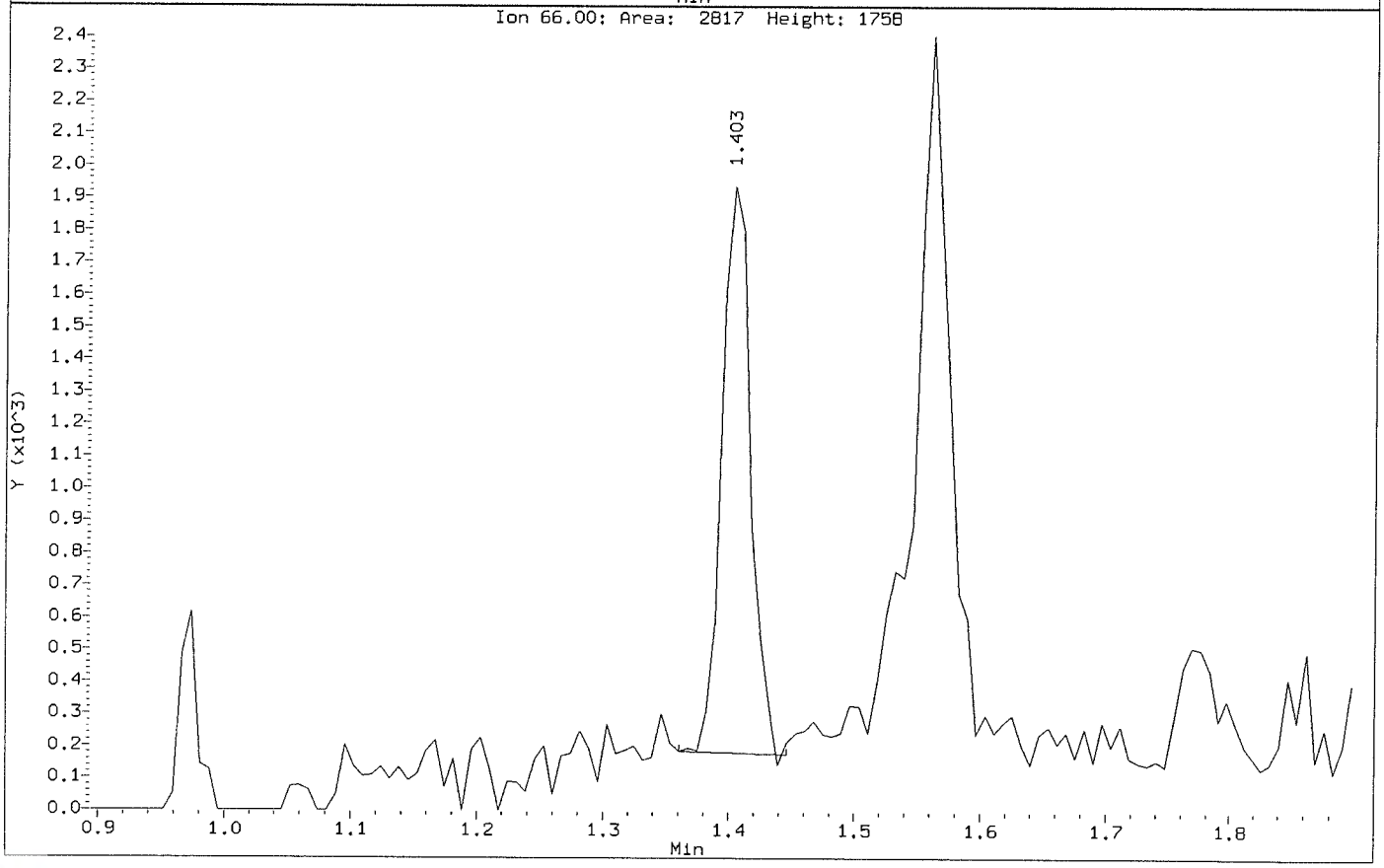


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051806.D
Injection Date: 18-MAY-2021 13:07
Instrument: voa6.i
Client Sample ID: VSTD005

Compound: Chloroethane
CAS Number: 75-00-3



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051807.D
Lab Smp Id: VSDT020 Client Smp ID: VSTD020
Inj Date : 18-MAY-2021 13:28
Operator : PC Inst ID: voa6.i
Smp Info : VSDT020;VSTD020;1;6;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210518.b\8260W.m
Meth Date : 08-Jun-2021 11:42 voa6.i Quant Type: ISTD
Cal Date : 18-MAY-2021 13:07 Cal File: X051806.D
Als bottle: 8 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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 |

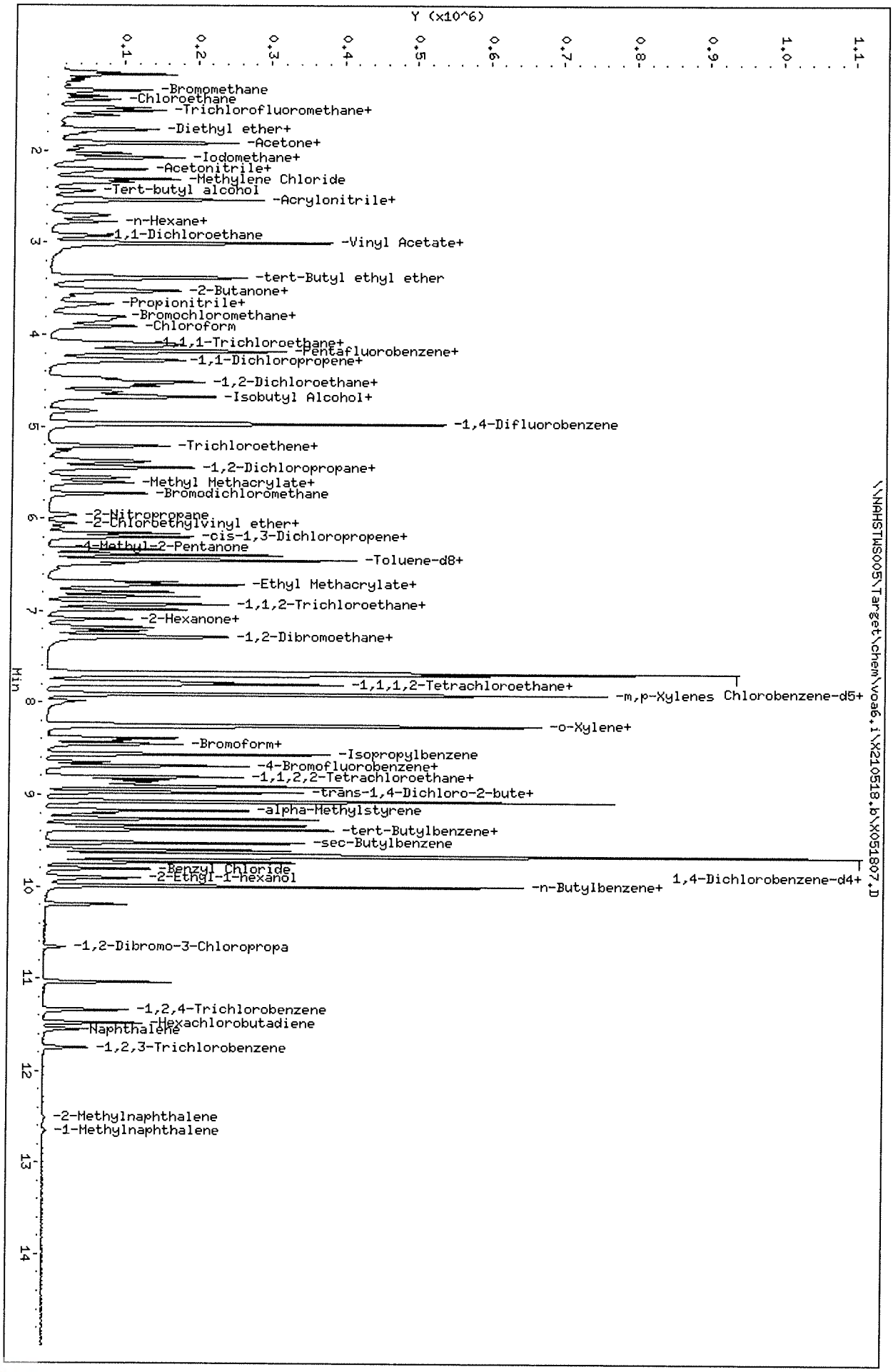
| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|---|
| * | 1 Pentafluorobenzene | 168 | 4.182 | 4.182 | (1.000) | 239147 | 50.0000 | |
| * | 36 1,4-Difluorobenzene | 114 | 4.970 | 4.970 | (1.000) | 395431 | 50.0000 | |
| * | 47 Chlorobenzene-d5 | 117 | 7.671 | 7.671 | (1.000) | 387314 | 50.0000 | |
| * | 70 1,4-Dichlorobenzene-d4 | 152 | 9.662 | 9.662 | (1.000) | 196242 | 50.0000 | |
| $ | 30 Dibromofluoromethane | 113 | 4.103 | 4.103 | (0.981) | 55528 | 20.0000 | 20.71 |
| $ | 35 1,2-Dichloroethane-d4 | 65 | 4.476 | 4.476 | (1.070) | 67187 | 20.0000 | 20.87 |
| $ | 48 Toluene-d8 | 98 | 6.388 | 6.388 | (0.833) | 177650 | 20.0000 | 19.30 |
| $ | 69 4-Bromofluorobenzene | 95 | 8.688 | 8.688 | (1.133) | 68387 | 20.0000 | 18.78 |
| | 60 1,1,1,2-Tetrachloroethane | 131 | 7.778 | 7.778 | (1.014) | 53138 | 20.0000 | 18.83 |
| | 31 1,1,1-Trichloroethane | 97 | 4.082 | 4.082 | (0.976) | 79461 | 20.0000 | 19.53 |
| | 68 1,1,2,2-Tetrachloroethane | 83 | 8.838 | 8.838 | (0.915) | 63561 | 20.0000 | 19.23 |
| | 53 1,1,2-Trichloroethane | 83 | 6.840 | 6.840 | (0.892) | 42865 | 20.0000 | 19.05 |
| | 22 1,1-Dichloroethane | 63 | 2.922 | 2.922 | (0.699) | 85085 | 20.0000 | 19.21 |
| | 11 1,1-Dichloroethene | 96 | 1.919 | 1.919 | (0.459) | 44209 | 20.0000 | 18.48 |
| | 32 1,1-Dichloropropene | 75 | 4.283 | 4.283 | (0.862) | 63118 | 20.0000 | 18.63 |
| | 93 1,2,3-Trichlorobenzene | 180 | 11.746 | 11.746 | (1.216) | 17129 | 20.0000 | 18.97 |
| | 71 1,2,3-Trichloropropane | 75 | 8.867 | 8.867 | (0.918) | 50993 | 20.0000 | 18.76(MH) |
| | 90 1,2,4-Trichlorobenzene | 180 | 11.338 | 11.338 | (1.173) | 30700 | 20.0000 | 19.01 |
| | 79 1,2,4-Trimethylbenzene | 105 | 9.383 | 9.383 | (0.971) | 177707 | 20.0000 | 17.80 |
| | 89 1,2-Dibromo-3-Chloropropane | 155 | 10.658 | 10.658 | (1.103) | 4660 | 20.0000 | 18.65 |
| | 57 1,2-Dibromoethane | 107 | 7.262 | 7.262 | (0.947) | 53873 | 20.0000 | 19.92 |
| | 88 1,2-Dichlorobenzene | 146 | 9.991 | 9.991 | (1.034) | 102122 | 20.0000 | 18.56 |

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051807.D Page 2
Report Date: 08-Jun-2021 11:42

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|---|
| 33 | 1,2-Dichloroethane | 62 | 4.555 | 4.555 | (0.916) | 79057 | 20.0000 | 20.33 |
| 42 | 1,2-Dichloropropane | 63 | 5.436 | 5.436 | (1.094) | 53324 | 20.0000 | 20.06 |
| 75 | 1,3,5-Trimethylbenzene | 105 | 9.067 | 9.067 | (0.938) | 174662 | 20.0000 | 17.83 |
| 83 | 1,3-Dichlorobenzene | 146 | 9.605 | 9.605 | (0.994) | 103039 | 20.0000 | 18.27 |
| 54 | 1,3-Dichloropropane | 76 | 6.983 | 6.983 | (0.910) | 87802 | 20.0000 | 19.93 |
| 84 | 1,4-Dichlorobenzene | 146 | 9.683 | 9.683 | (1.002) | 112231 | 20.0000 | 19.62 |
| 26 | 2,2-Dichloropropane | 77 | 3.509 | 3.509 | (0.839) | 74977 | 20.0000 | 18.92 |
| 24 | 2-Butanone | 43 | 3.581 | 3.581 | (0.856) | 35815 | 40.0000 | 40.57 |
| 76 | 2-Chlorotoluene | 91 | 8.974 | 8.974 | (0.929) | 154565 | 20.0000 | 17.67 |
| 52 | 2-Hexanone | 43 | 7.090 | 7.090 | (0.924) | 64652 | 40.0000 | 39.20 |
| 77 | 4-Chlorotoluene | 91 | 9.067 | 9.067 | (0.938) | 187764 | 20.0000 | 18.41 |
| 82 | p-Isopropyltoluene | 119 | 9.648 | 9.648 | (0.999) | 167380 | 20.0000 | 17.27 |
| 45 | 4-Methyl-2-Pentanone | 43 | 6.324 | 6.324 | (0.824) | 96386 | 40.0000 | 39.12 |
| 10 | Acetone | 43 | 1.976 | 1.976 | (0.473) | 27873 | 40.0000 | 43.32 |
| 37 | Benzene | 78 | 4.512 | 4.512 | (0.908) | 188446 | 20.0000 | 19.26 |
| 74 | Bromobenzene | 156 | 8.802 | 8.802 | (0.911) | 63498 | 20.0000 | 19.41 |
| 29 | Bromochloromethane | 128 | 3.795 | 3.795 | (0.908) | 27530 | 20.0000 | 18.88 |
| 39 | Bromodichloromethane | 83 | 5.729 | 5.729 | (1.153) | 74633 | 20.0000 | 19.53 |
| 66 | Bromoform | 173 | 8.408 | 8.408 | (1.096) | 34786 | 20.0000 | 18.57 |
| 6 | Bromomethane | 94 | 1.339 | 1.339 | (0.320) | 51157 | 20.0000 | 20.06 |
| 19 | Carbon Disulfide | 76 | 2.069 | 2.069 | (0.495) | 208910 | 40.0000 | 37.07 |
| 34 | Carbon Tetrachloride | 117 | 4.268 | 4.268 | (0.859) | 62631 | 20.0000 | 18.17(H) |
| 59 | Chlorobenzene | 112 | 7.692 | 7.692 | (1.003) | 141615 | 20.0000 | 18.64 |
| 7 | Chloroethane | 64 | 1.403 | 1.403 | (0.336) | 39588 | 20.0000 | 21.86 |
| 28 | Chloroform | 83 | 3.910 | 3.910 | (0.935) | 101443 | 20.0000 | 19.96 |
| 3 | Chloromethane | 50 | 1.073 | 1.073 | (0.257) | 54108 | 20.0000 | 21.11 |
| 27 | cis-1,2-Dichloroethene | 96 | 3.530 | 3.530 | (0.844) | 52610 | 20.0000 | 19.08 |
| 46 | cis-1,3-Dichloropropene | 75 | 6.152 | 6.152 | (1.238) | 88923 | 20.0000 | 20.51 |
| 55 | Dibromochloromethane | 129 | 7.176 | 7.176 | (0.936) | 58237 | 20.0000 | 19.23 |
| 44 | Dibromomethane | 93 | 5.558 | 5.558 | (1.118) | 38557 | 20.0000 | 20.24 |
| 2 | Dichlorodifluoromethane | 85 | 0.973 | 0.973 | (0.233) | 57043 | 20.0000 | 20.24 |
| 61 | Ethylbenzene | 106 | 7.800 | 7.800 | (1.017) | 67752 | 20.0000 | 18.05 |
| 91 | Hexachlorobutadiene | 225 | 11.481 | 11.481 | (1.188) | 20104 | 20.0000 | 19.17 |
| 67 | Isopropylbenzene | 105 | 8.559 | 8.559 | (1.116) | 203782 | 20.0000 | 17.76 |
| 62 | m,p-Xylenes | 106 | 7.907 | 7.907 | (1.031) | 179924 | 40.0000 | 37.19 |
| 17 | Methylene Chloride | 84 | 2.306 | 2.306 | (0.551) | 46728 | 20.0000 | 19.48 |
| 87 | n-Butylbenzene | 91 | 9.991 | 9.991 | (1.034) | 158021 | 20.0000 | 17.14 |
| 73 | n-Propylbenzene | 91 | 8.910 | 8.910 | (0.922) | 240606 | 20.0000 | 17.31 |
| 92 | Naphthalene | 128 | 11.546 | 11.546 | (1.195) | 42386 | 20.0000 | 18.49 |
| 63 | o-Xylene | 106 | 8.244 | 8.244 | (1.075) | 85643 | 20.0000 | 18.20 |
| 81 | sec-Butylbenzene | 105 | 9.519 | 9.519 | (0.985) | 198389 | 20.0000 | 17.24 |
| 64 | Styrene | 104 | 8.258 | 8.258 | (1.077) | 151430 | 20.0000 | 18.31 |
| 78 | tert-Butylbenzene | 119 | 9.340 | 9.340 | (0.967) | 140248 | 20.0000 | 16.87 |
| 56 | Tetrachloroethene | 164 | 6.926 | 6.926 | (0.903) | 39827 | 20.0000 | 18.50 |
| 50 | Toluene | 91 | 6.446 | 6.446 | (0.840) | 211082 | 20.0000 | 18.88 |
| 20 | trans-1,2-Dichloroethene | 96 | 2.528 | 2.528 | (0.604) | 42462 | 20.0000 | 18.45 |
| 51 | trans-1,3-Dichloropropene | 75 | 6.682 | 6.682 | (1.344) | 76644 | 20.0000 | 20.20 |
| 38 | Trichloroethene | 130 | 5.207 | 5.207 | (1.048) | 50471 | 20.0000 | 19.27 |
| 8 | Trichlorofluoromethane | 101 | 1.561 | 1.561 | (0.373) | 89444 | 20.0000 | 19.45 |
| 5 | Vinyl Chloride | 62 | 1.145 | 1.145 | (0.274) | 54952 | 20.0000 | 19.03 |

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

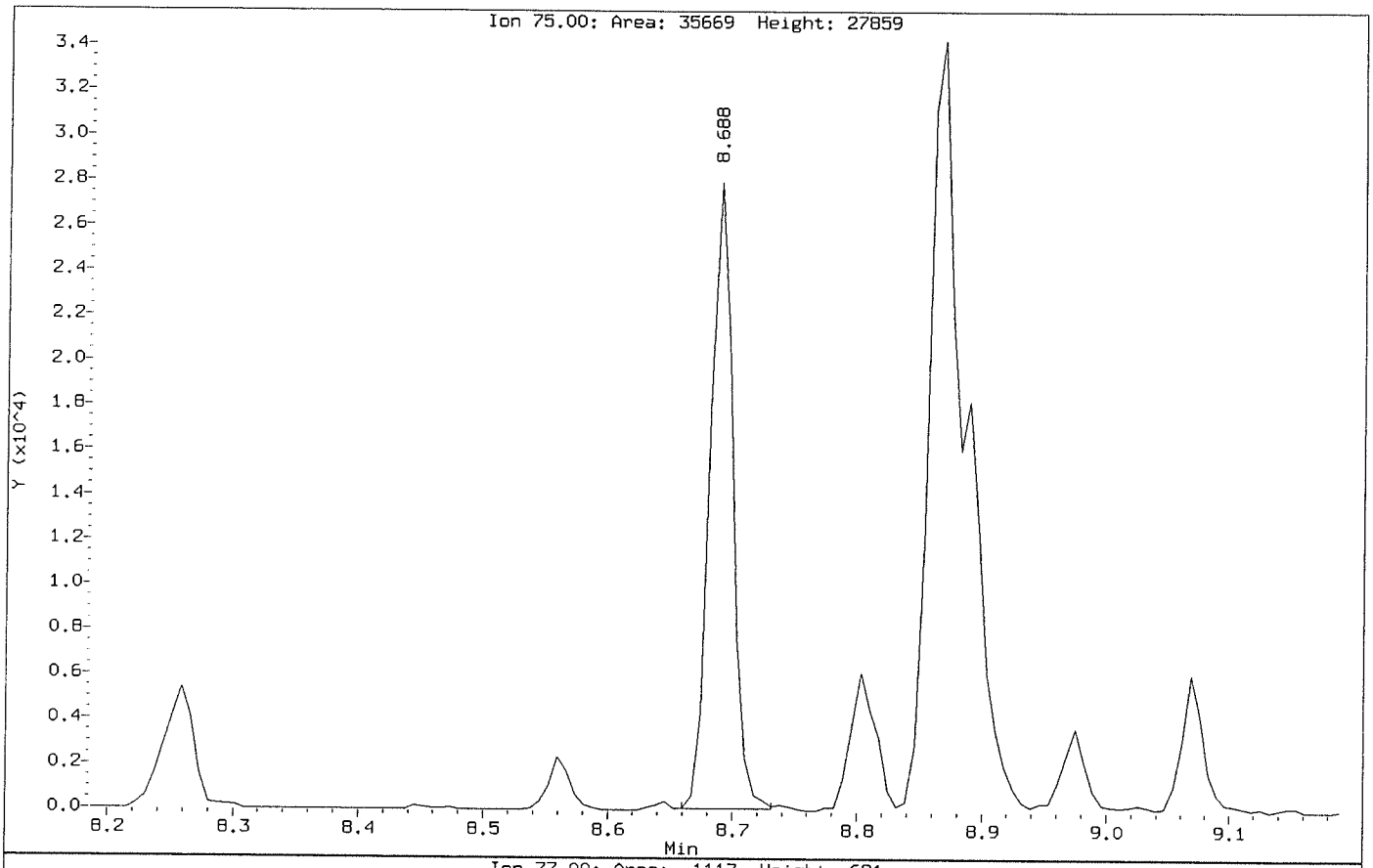


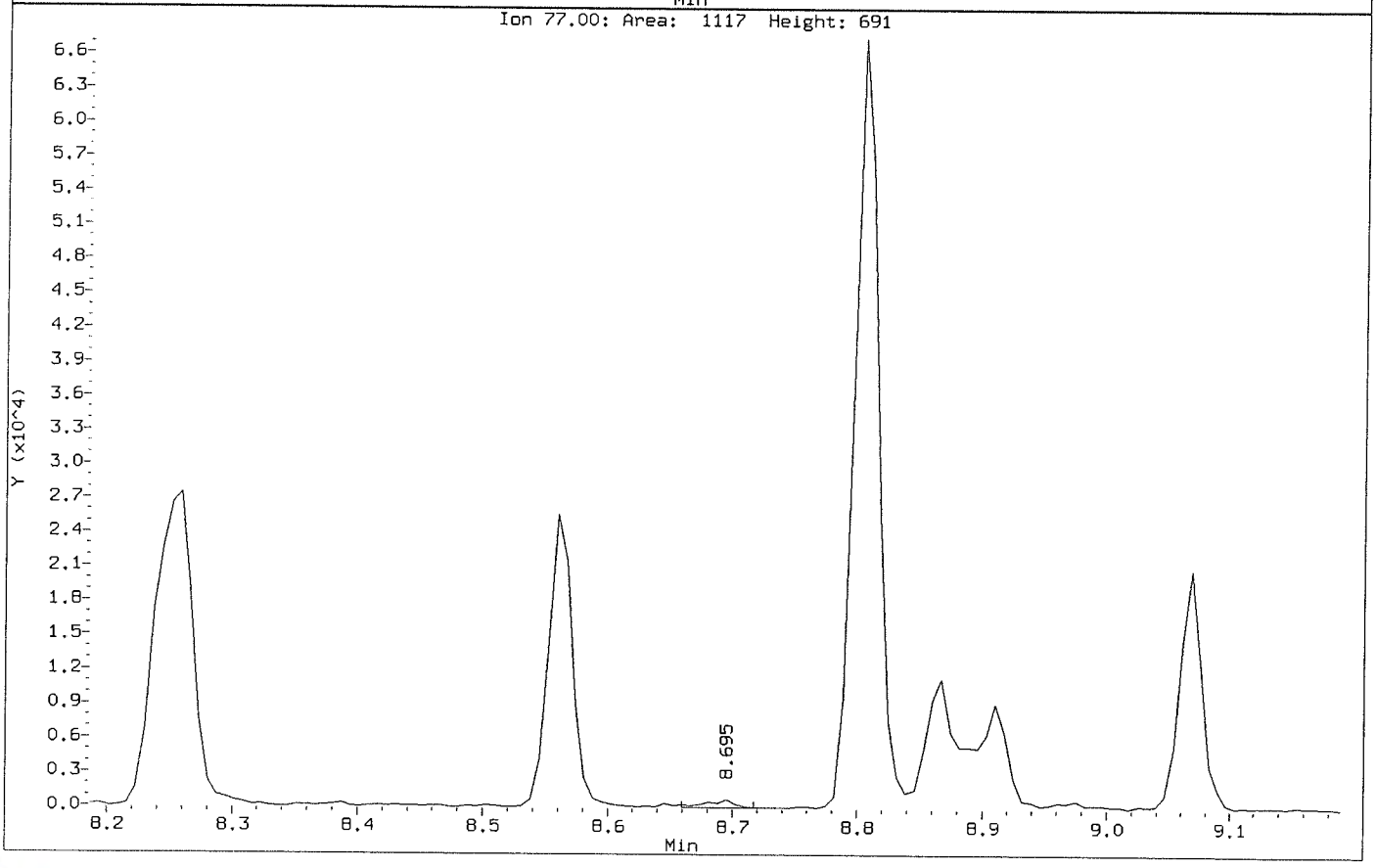

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Sample Info: VSDT020;VSTD020;1;6;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\Before\X051807.D
Injection Date: 18-MAY-2021 13:28
Instrument: voa6.i
Client Sample ID: VSTD020

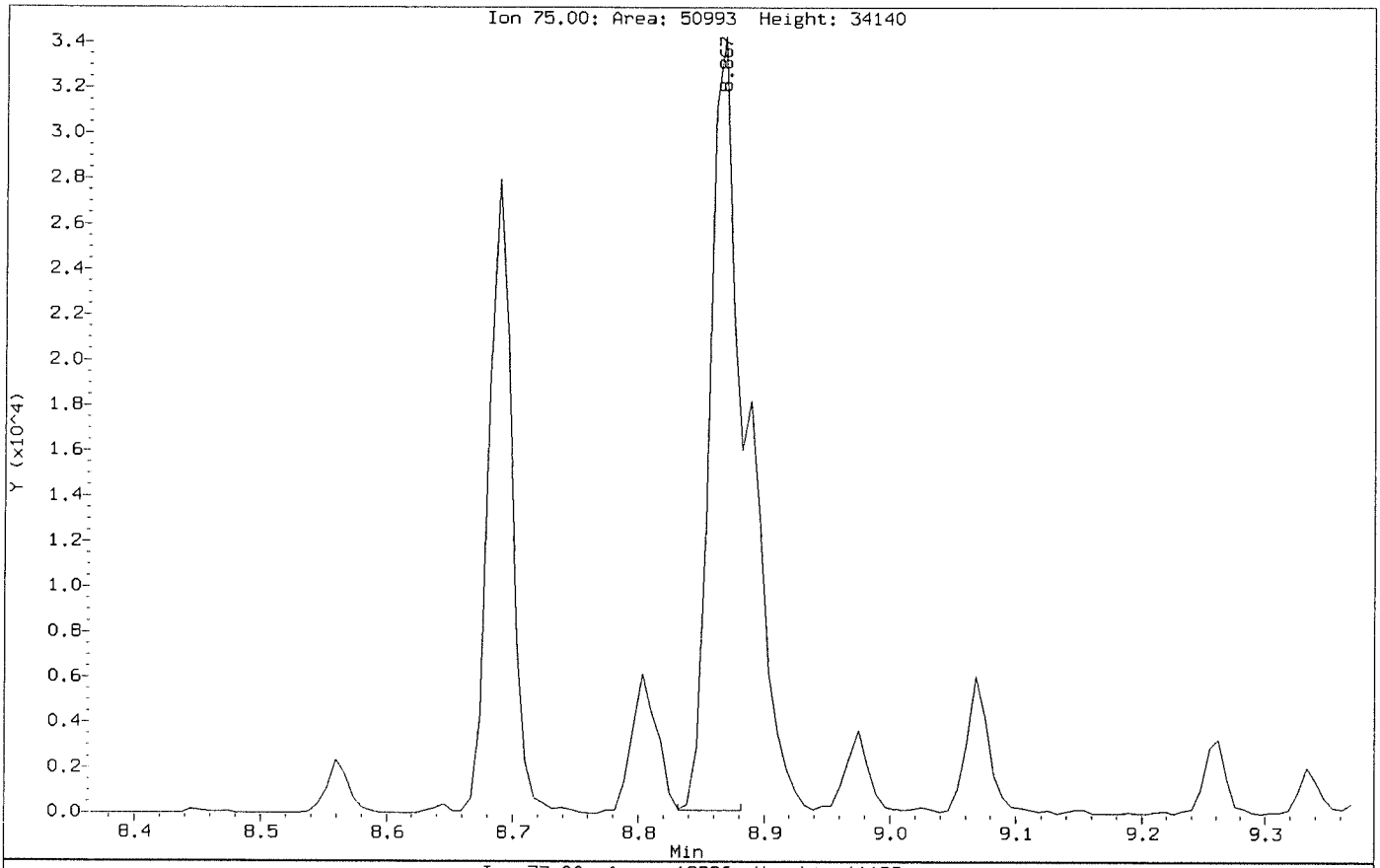
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CAS Number: 96-18-4

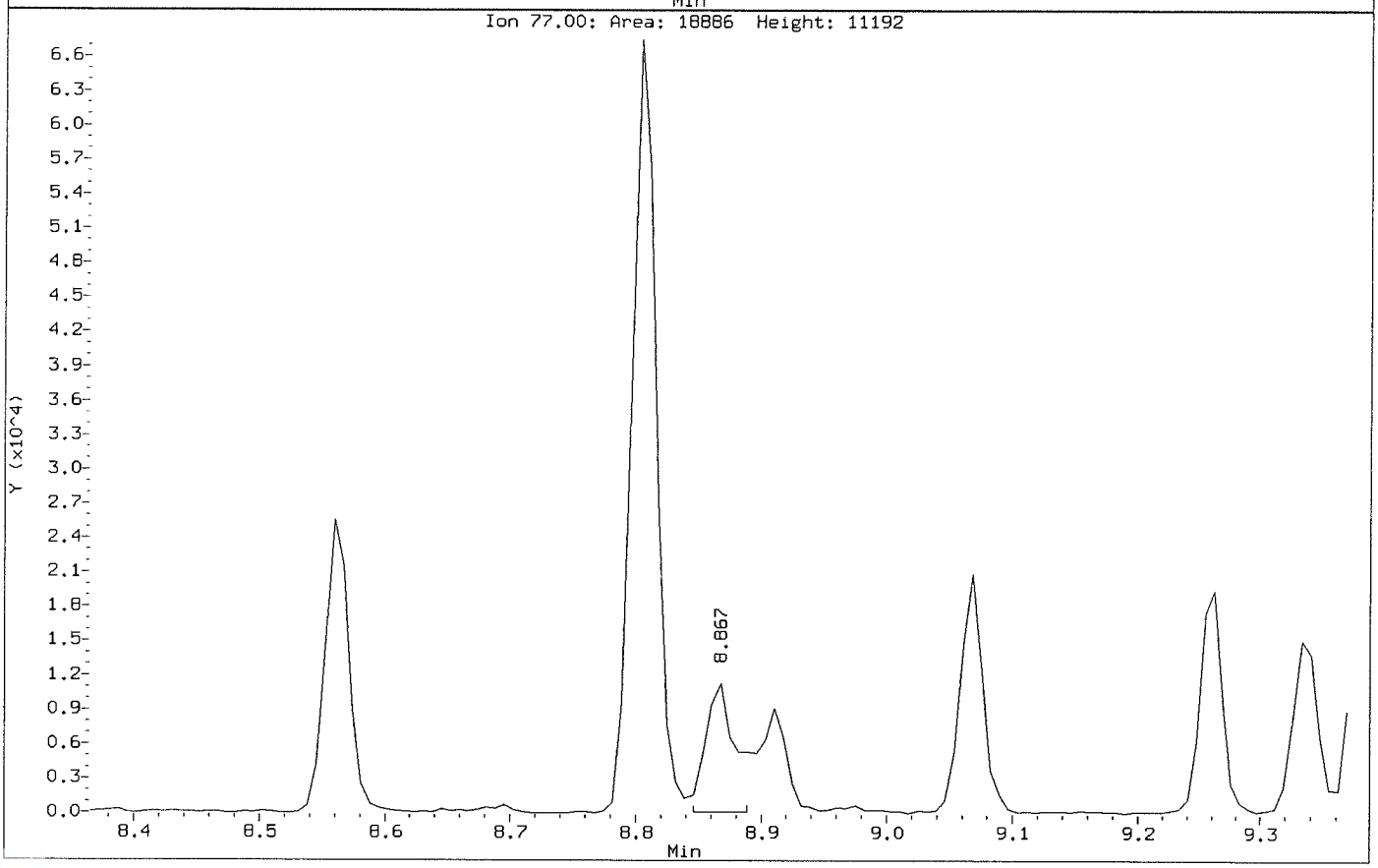


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Client Sample ID: VSTD020

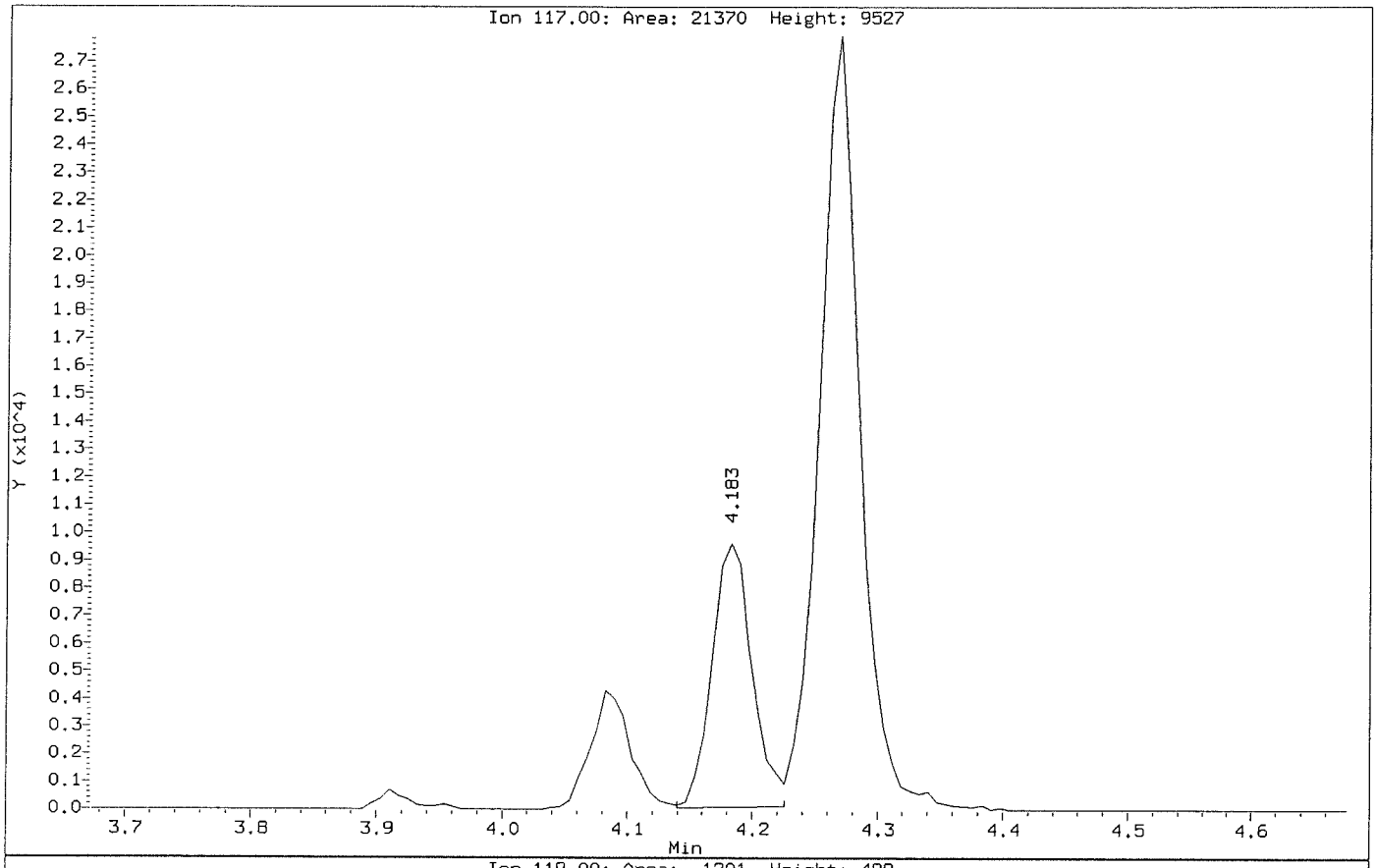
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CAS Number: 96-18-4

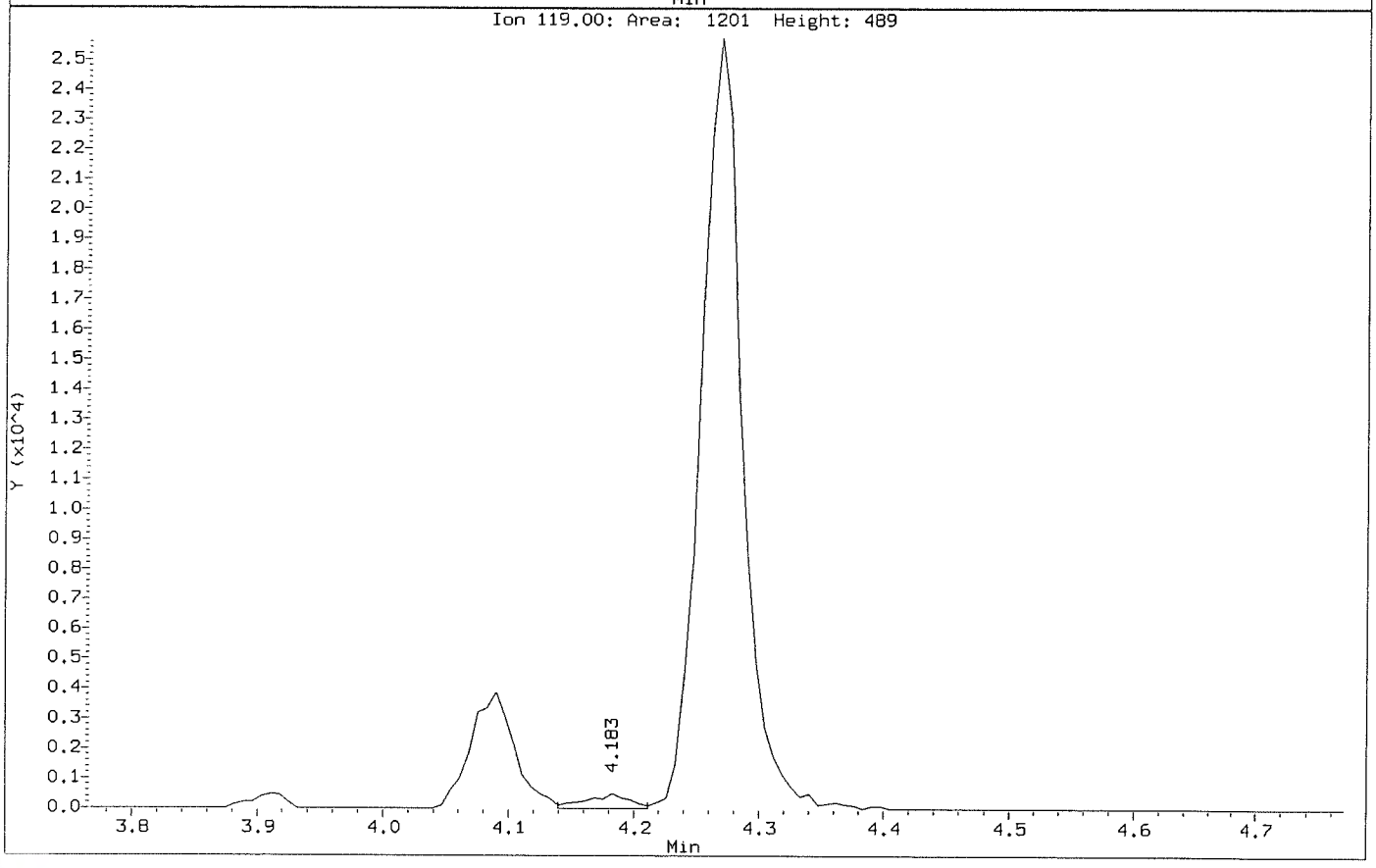


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Client Sample ID: VSTD020

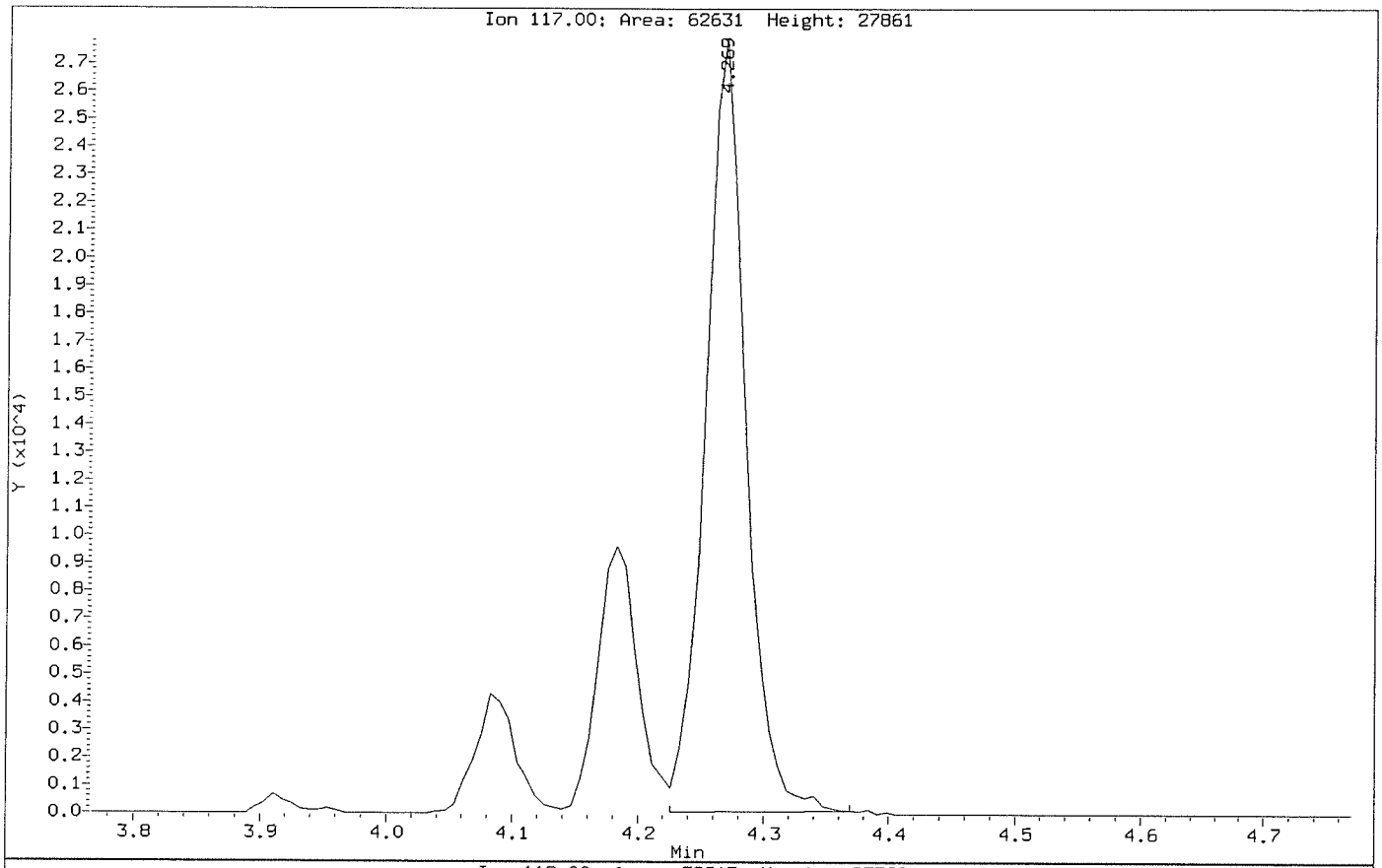
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CAS Number: 56-23-5

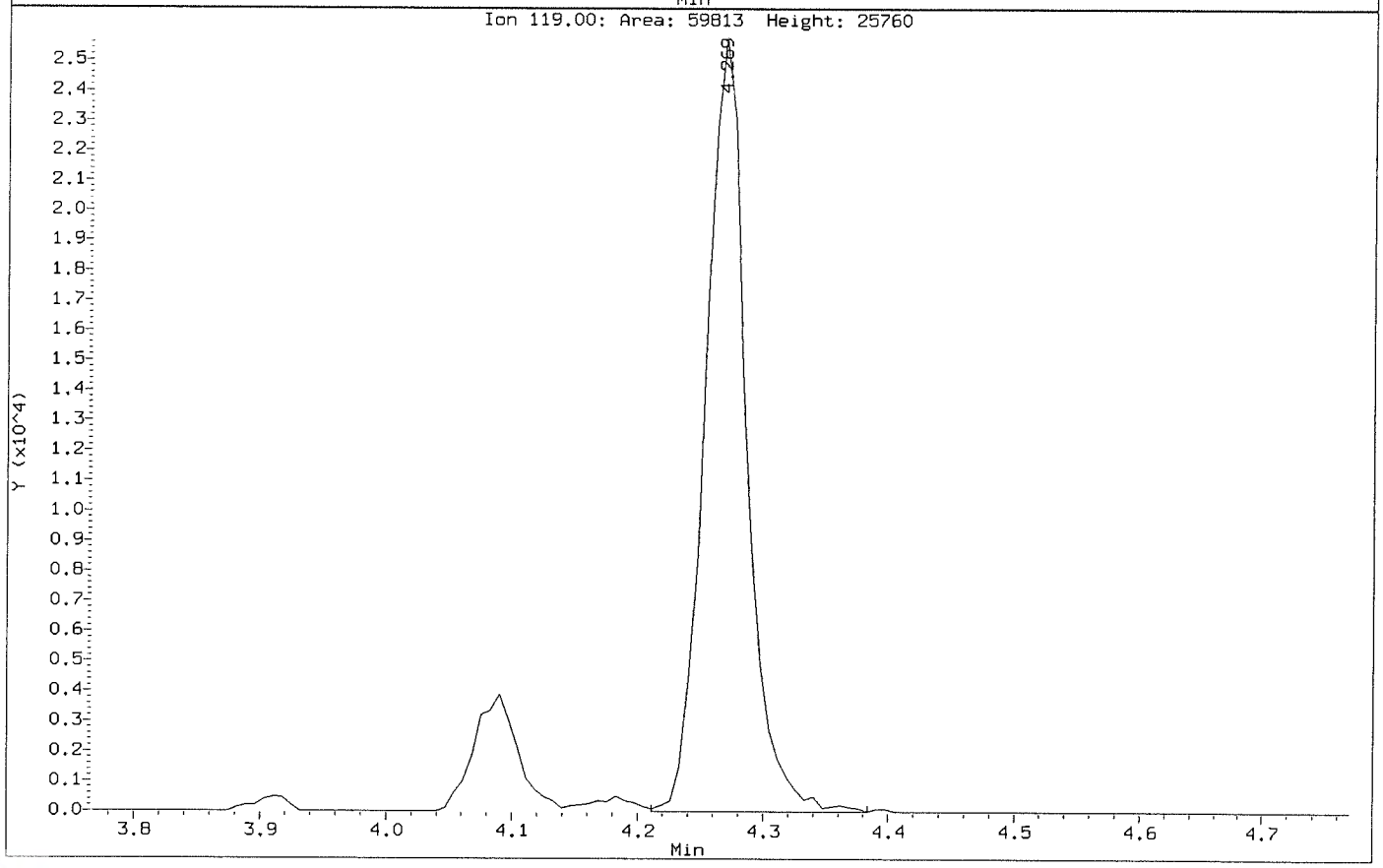


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Injection Date: 18-MAY-2021 13:28
Instrument: voa6.i
Client Sample ID: VSTD020

Compound: Carbon Tetrachloride
CAS Number: 56-23-5



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051808.D
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Inj Date : 18-MAY-2021 13:49
Operator : PC Inst ID: voa6.i
Smp Info : VSDT050;VSTD050;1;7;;
Misc Info : HS18090001;WATER;0;1;
Comment :
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Meth Date : 08-Jun-2021 11:42 voa6.i Quant Type: ISTD
Cal Date : 18-MAY-2021 13:28 Cal File: X051807.D
Als bottle: 9 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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 |

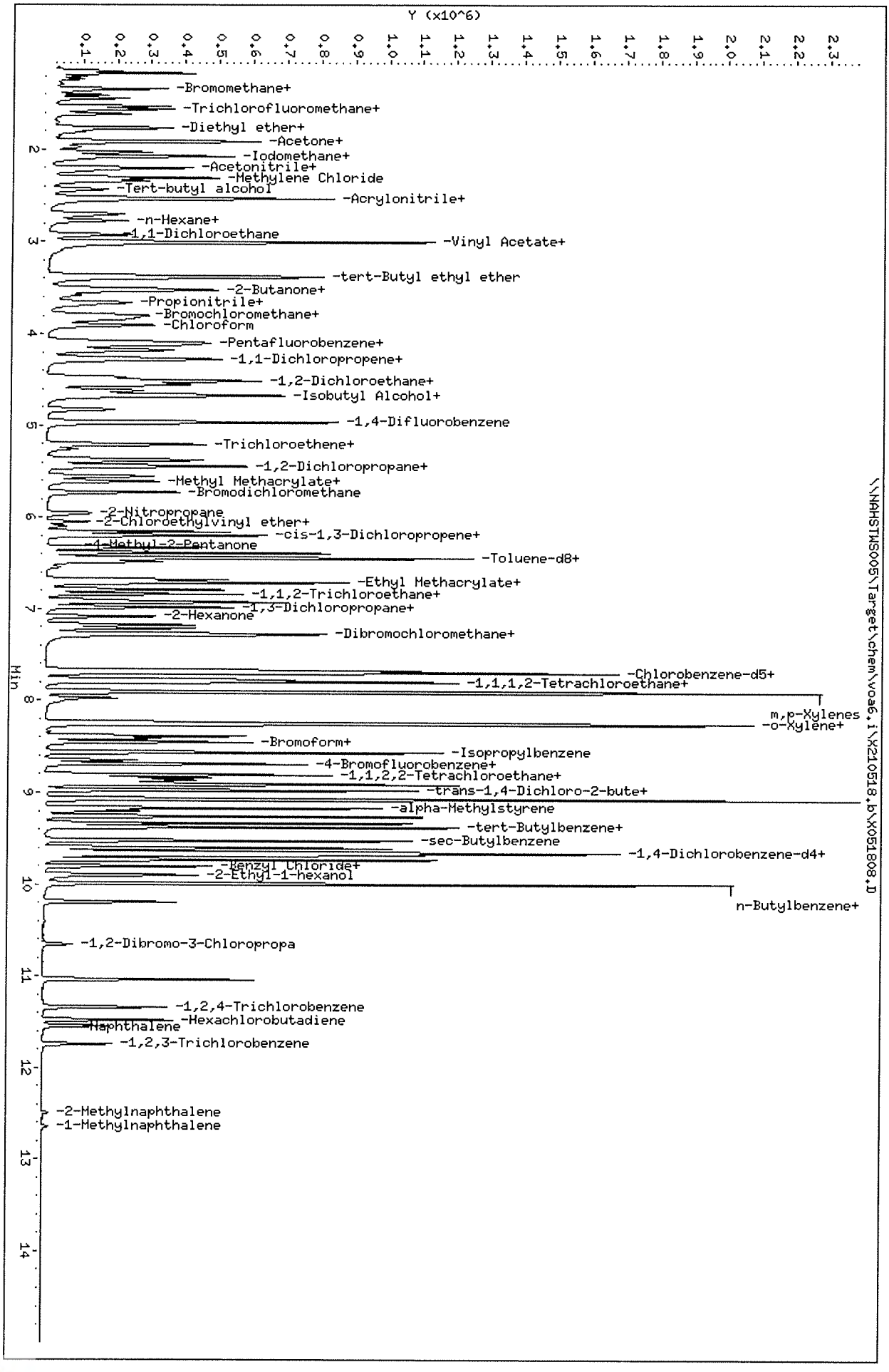
| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|
| * 1 Pentafluorobenzene | 168 | 4.182 | 4.182 | (1.000) | 271623 | 50.0000 | |
| * 36 1,4-Difluorobenzene | 114 | 4.963 | 4.963 | (1.000) | 462076 | 50.0000 | |
| * 47 Chlorobenzene-d5 | 117 | 7.671 | 7.671 | (1.000) | 443934 | 50.0000 | |
| * 70 1,4-Dichlorobenzene-d4 | 152 | 9.662 | 9.662 | (1.000) | 234223 | 50.0000 | |
| $ 30 Dibromofluoromethane | 113 | 4.103 | 4.103 | (0.981) | 145001 | 50.0000 | 47.91 |
| $ 35 1,2-Dichloroethane-d4 | 65 | 4.469 | 4.469 | (1.068) | 177225 | 50.0000 | 50.15 |
| $ 48 Toluene-d8 | 98 | 6.388 | 6.388 | (0.833) | 483036 | 50.0000 | 44.41 |
| $ 69 4-Bromofluorobenzene | 95 | 8.688 | 8.688 | (1.133) | 197985 | 50.0000 | 47.25 |
| 60 1,1,1,2-Tetrachloroethane | 131 | 7.771 | 7.771 | (1.013) | 158680 | 50.0000 | 49.06 |
| 31 1,1,1-Trichloroethane | 97 | 4.082 | 4.082 | (0.976) | 219680 | 50.0000 | 47.55 |
| 68 1,1,2,2-Tetrachloroethane | 83 | 8.838 | 8.838 | (0.915) | 192852 | 50.0000 | 49.70 |
| 53 1,1,2-Trichloroethane | 83 | 6.840 | 6.840 | (0.892) | 126274 | 50.0000 | 48.96 |
| 22 1,1-Dichloroethane | 63 | 2.922 | 2.922 | (0.699) | 244803 | 50.0000 | 48.66 |
| 11 1,1-Dichloroethene | 96 | 1.919 | 1.919 | (0.459) | 113858 | 50.0000 | 41.91 |
| 32 1,1-Dichloropropene | 75 | 4.283 | 4.283 | (0.863) | 169476 | 50.0000 | 42.81 |
| 93 1,2,3-Trichlorobenzene | 180 | 11.739 | 11.739 | (1.215) | 53322 | 50.0000 | 47.87 |
| 71 1,2,3-Trichloropropane | 75 | 8.860 | 8.860 | (0.917) | 161438 | 50.0000 | 50.79(MH) |
| 90 1,2,4-Trichlorobenzene | 180 | 11.338 | 11.338 | (1.173) | 93881 | 50.0000 | 44.87 |
| 79 1,2,4-Trimethylbenzene | 105 | 9.375 | 9.375 | (0.970) | 554335 | 50.0000 | 46.53 |
| 89 1,2-Dibromo-3-Chloropropane | 155 | 10.658 | 10.658 | (1.103) | 14297 | 50.0000 | 45.43 |
| 57 1,2-Dibromoethane | 107 | 7.262 | 7.262 | (0.947) | 158974 | 50.0000 | 51.29 |
| 88 1,2-Dichlorobenzene | 146 | 9.991 | 9.991 | (1.034) | 296098 | 50.0000 | 45.10 |

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051808.D Page 2
Report Date: 08-Jun-2021 11:42

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|---|
| 33 | 1,2-Dichloroethane | 62 | 4.555 | 4.555 | (0.918) | 227654 | 50.0000 | 50.10 |
| 42 | 1,2-Dichloropropane | 63 | 5.436 | 5.436 | (1.095) | 149596 | 50.0000 | 48.17 |
| 75 | 1,3,5-Trimethylbenzene | 105 | 9.067 | 9.067 | (0.938) | 547543 | 50.0000 | 46.83 |
| 83 | 1,3-Dichlorobenzene | 146 | 9.605 | 9.605 | (0.994) | 319195 | 50.0000 | 47.43 |
| 54 | 1,3-Dichloropropane | 76 | 6.983 | 6.983 | (0.910) | 251676 | 50.0000 | 49.85 |
| 84 | 1,4-Dichlorobenzene | 146 | 9.683 | 9.683 | (1.002) | 328636 | 50.0000 | 47.76 |
| 26 | 2,2-Dichloropropane | 77 | 3.516 | 3.516 | (0.841) | 208486 | 50.0000 | 46.33 |
| 24 | 2-Butanone | 43 | 3.581 | 3.581 | (0.856) | 99370 | 100.000 | 99.10 |
| 76 | 2-Chlorotoluene | 91 | 8.974 | 8.974 | (0.929) | 468855 | 50.0000 | 44.91 |
| 52 | 2-Hexanone | 43 | 7.083 | 7.083 | (0.923) | 184352 | 100.000 | 97.93 |
| 77 | 4-Chlorotoluene | 91 | 9.067 | 9.067 | (0.938) | 567359 | 50.0000 | 46.61 |
| 82 | p-Isopropyltoluene | 119 | 9.648 | 9.648 | (0.999) | 521890 | 50.0000 | 45.12 |
| 45 | 4-Methyl-2-Pentanone | 43 | 6.324 | 6.324 | (0.824) | 268097 | 100.000 | 94.82 |
| 10 | Acetone | 43 | 1.976 | 1.976 | (0.473) | 67628 | 100.000 | 98.41 |
| 37 | Benzene | 78 | 4.512 | 4.512 | (0.909) | 558350 | 50.0000 | 48.84 |
| 74 | Bromobenzene | 156 | 8.802 | 8.802 | (0.911) | 182153 | 50.0000 | 46.65 |
| 29 | Bromochloromethane | 128 | 3.795 | 3.795 | (0.908) | 81173 | 50.0000 | 49.03 |
| 39 | Bromodichloromethane | 83 | 5.729 | 5.729 | (1.154) | 217522 | 50.0000 | 48.72 |
| 66 | Bromoform | 173 | 8.408 | 8.408 | (1.096) | 108857 | 50.0000 | 50.70 |
| 6 | Bromomethane | 94 | 1.339 | 1.339 | (0.320) | 137904 | 50.0000 | 48.28 |
| 19 | Carbon Disulfide | 76 | 2.069 | 2.069 | (0.495) | 618017 | 100.000 | 96.57 |
| 34 | Carbon Tetrachloride | 117 | 4.268 | 4.268 | (0.860) | 174579 | 50.0000 | 43.34(H) |
| 59 | Chlorobenzene | 112 | 7.692 | 7.692 | (1.003) | 415148 | 50.0000 | 47.69 |
| 7 | Chloroethane | 64 | 1.403 | 1.403 | (0.336) | 91299 | 50.0000 | 44.40 |
| 28 | Chloroform | 83 | 3.910 | 3.910 | (0.935) | 276573 | 50.0000 | 47.92 |
| 3 | Chloromethane | 50 | 1.081 | 1.081 | (0.258) | 144469 | 50.0000 | 49.31 |
| 27 | cis-1,2-Dichloroethene | 96 | 3.530 | 3.530 | (0.844) | 150804 | 50.0000 | 48.17 |
| 46 | cis-1,3-Dichloropropene | 75 | 6.152 | 6.152 | (1.240) | 254601 | 50.0000 | 50.25 |
| 55 | Dibromochloromethane | 129 | 7.176 | 7.176 | (0.936) | 176711 | 50.0000 | 50.92 |
| 44 | Dibromomethane | 93 | 5.550 | 5.550 | (1.118) | 108491 | 50.0000 | 48.74 |
| 2 | Dichlorodifluoromethane | 85 | 0.973 | 0.973 | (0.233) | 146727 | 50.0000 | 43.21 |
| 61 | Ethylbenzene | 106 | 7.800 | 7.800 | (1.017) | 206868 | 50.0000 | 48.08 |
| 91 | Hexachlorobutadiene | 225 | 11.481 | 11.481 | (1.188) | 54907 | 50.0000 | 39.76 |
| 67 | Isopropylbenzene | 105 | 8.559 | 8.559 | (1.116) | 617711 | 50.0000 | 46.98 |
| 62 | m,p-Xylenes | 106 | 7.907 | 7.907 | (1.031) | 542165 | 100.000 | 97.79 |
| 17 | Methylene Chloride | 84 | 2.306 | 2.306 | (0.551) | 132553 | 50.0000 | 48.66 |
| 87 | n-Butylbenzene | 91 | 9.991 | 9.991 | (1.034) | 487657 | 50.0000 | 44.33 |
| 73 | n-Propylbenzene | 91 | 8.910 | 8.910 | (0.922) | 762402 | 50.0000 | 45.95 |
| 92 | Naphthalene | 128 | 11.546 | 11.546 | (1.195) | 135654 | 50.0000 | 44.37 |
| 63 | o-Xylene | 106 | 8.244 | 8.244 | (1.075) | 260680 | 50.0000 | 48.34 |
| 81 | sec-Butylbenzene | 105 | 9.519 | 9.519 | (0.985) | 600068 | 50.0000 | 43.70 |
| 64 | Styrene | 104 | 8.258 | 8.258 | (1.077) | 468440 | 50.0000 | 46.43 |
| 78 | tert-Butylbenzene | 119 | 9.340 | 9.340 | (0.967) | 433704 | 50.0000 | 43.71 |
| 56 | Tetrachloroethene | 164 | 6.926 | 6.926 | (0.903) | 113805 | 50.0000 | 46.13 |
| 50 | Toluene | 91 | 6.446 | 6.446 | (0.840) | 631628 | 50.0000 | 49.31 |
| 20 | trans-1,2-Dichloroethene | 96 | 2.535 | 2.535 | (0.606) | 121902 | 50.0000 | 46.64 |
| 51 | trans-1,3-Dichloropropene | 75 | 6.682 | 6.682 | (1.346) | 240773 | 50.0000 | 54.33 |
| 38 | Trichloroethene | 130 | 5.207 | 5.207 | (1.049) | 143217 | 50.0000 | 46.80 |
| 8 | Trichlorofluoromethane | 101 | 1.561 | 1.561 | (0.373) | 218785 | 50.0000 | 41.90 |
| 5 | Vinyl Chloride | 62 | 1.145 | 1.145 | (0.274) | 141344 | 50.0000 | 43.10 |

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

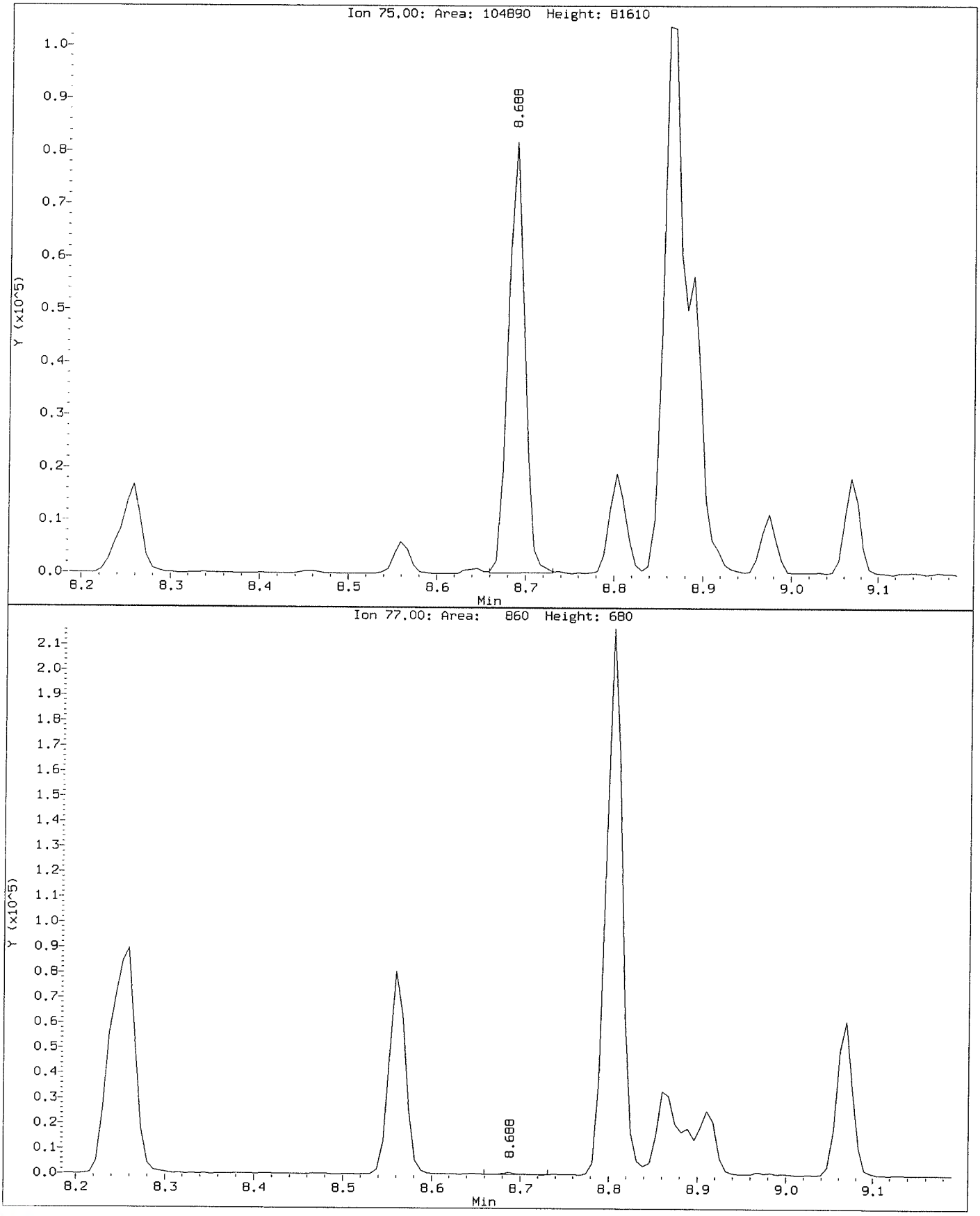



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051808.D
Date : 18-MAY-2021 13:49
Client ID: VSTD050
Sample Info: VSDT050;VSTD050;1;7;;
Purge Volume: 5.0
Column phase: DB624

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

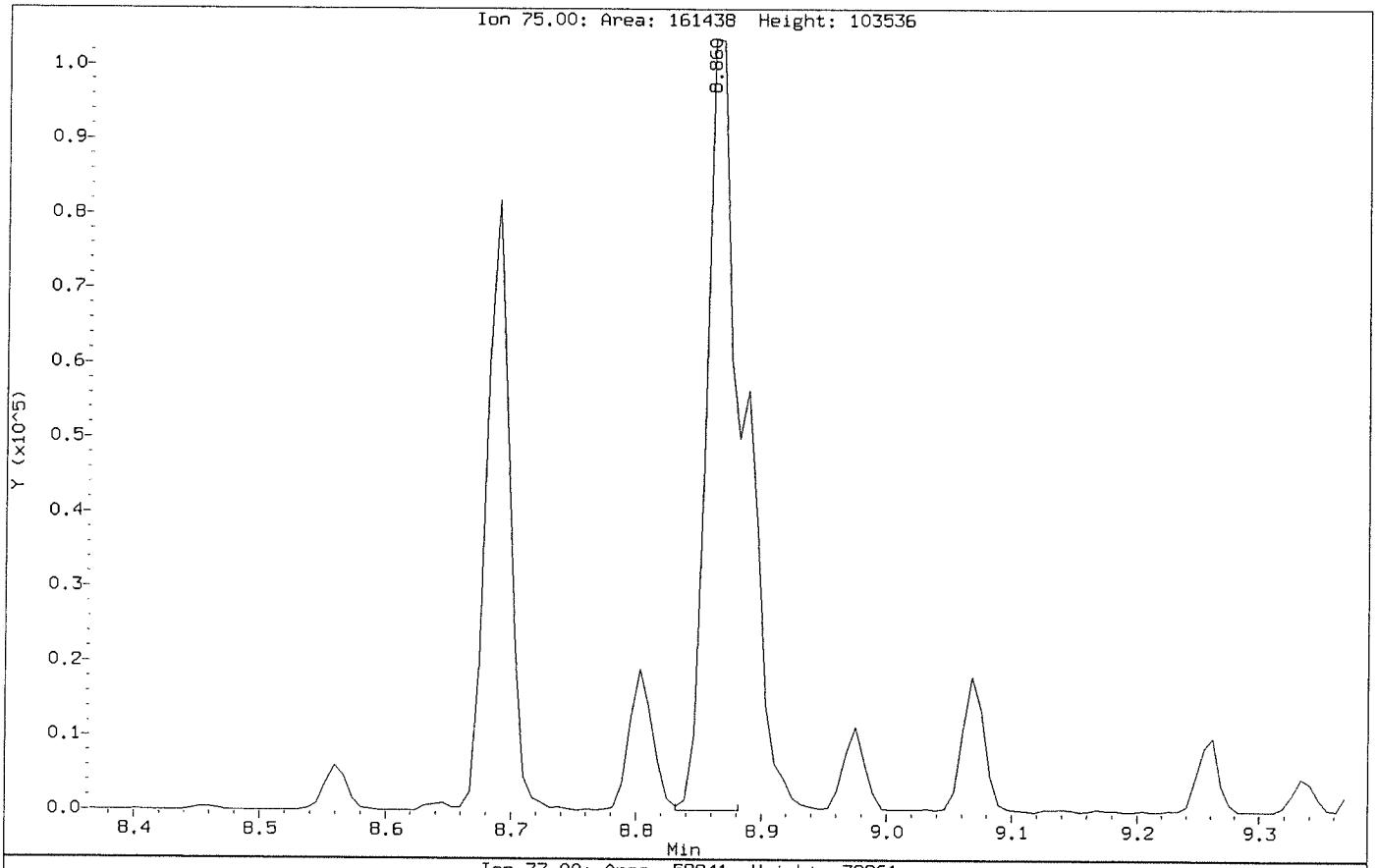
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Instrument: voa6.i
Client Sample ID: VSTD050

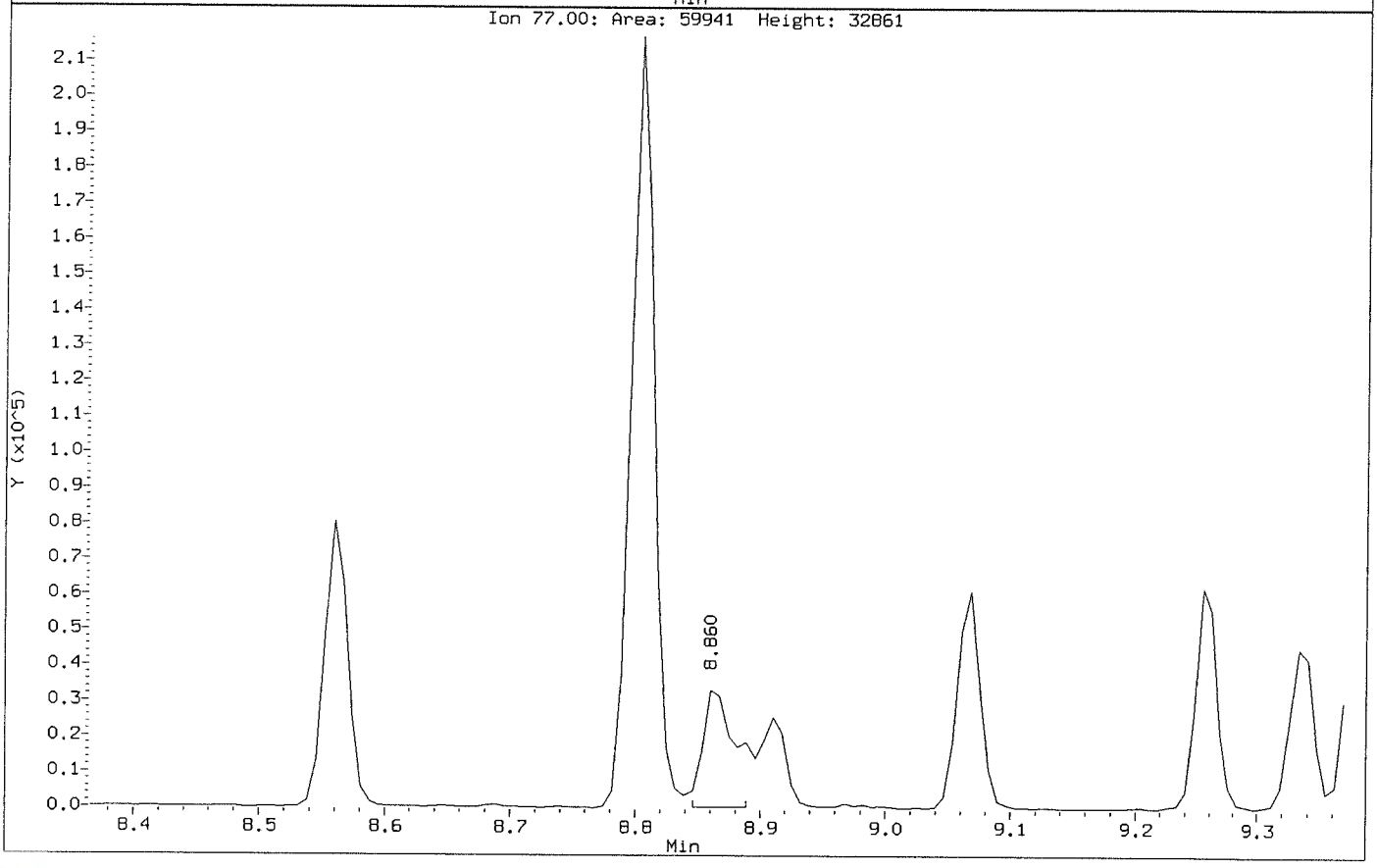
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



Data File: \\NAHSTW5005\Target\chem\voa6.i\X210518.b\X051808.D
Injection Date: 18-MAY-2021 13:49
Instrument: voa6.i
Client Sample ID: VSTD050

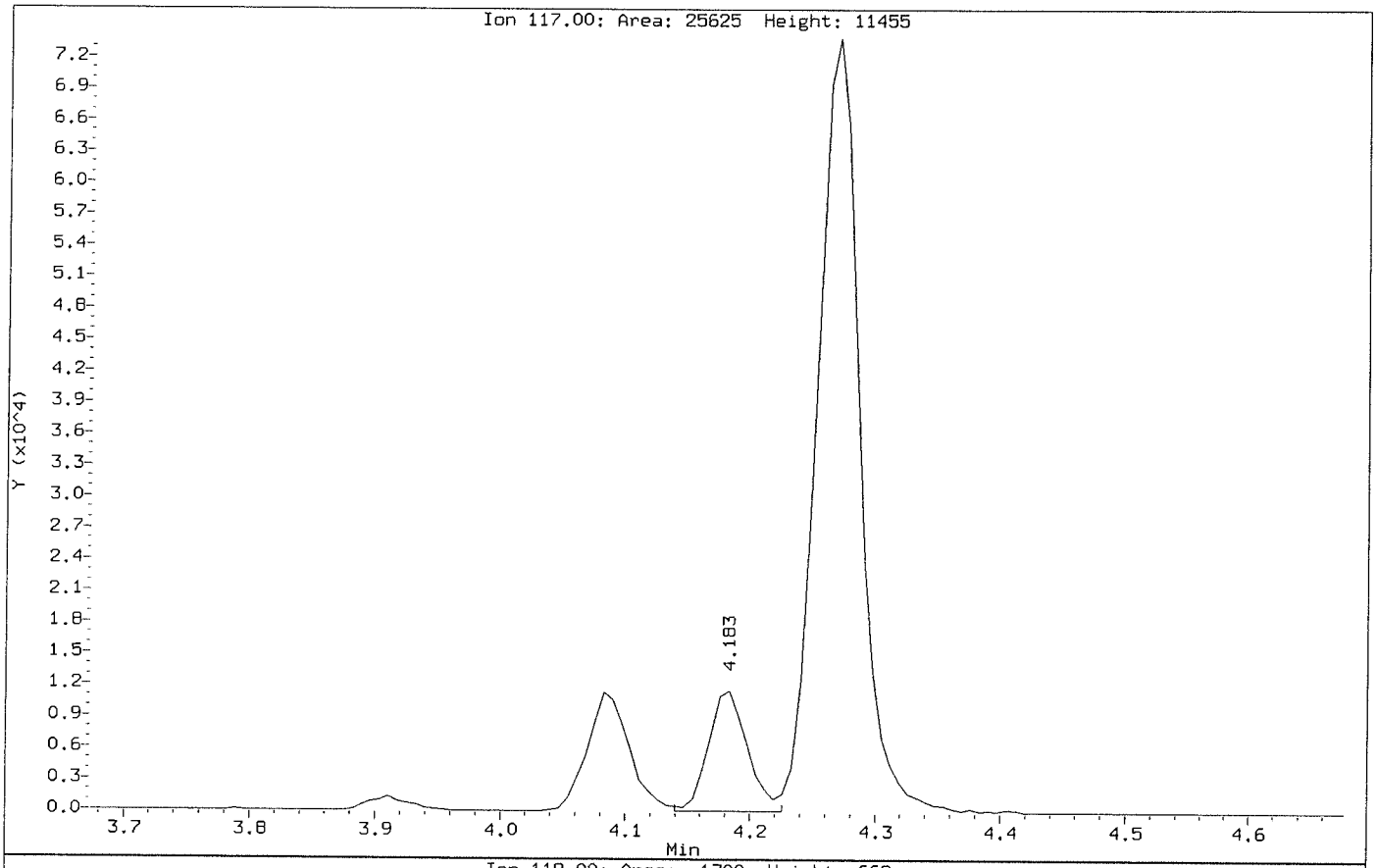
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4

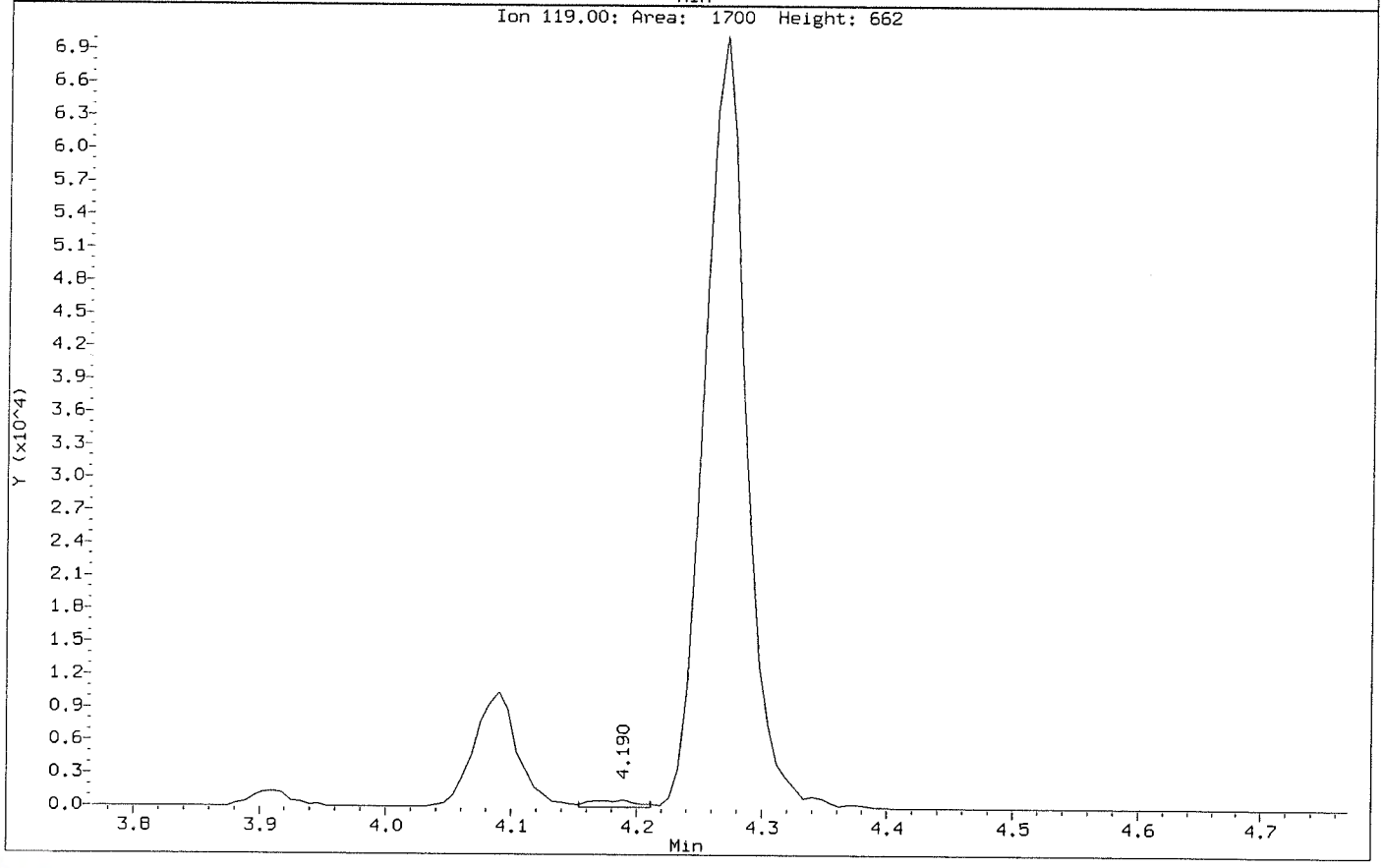


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\Before\X051808.D
Injection Date: 18-MAY-2021 13:49
Instrument: voa6.i
Client Sample ID: VSTD050

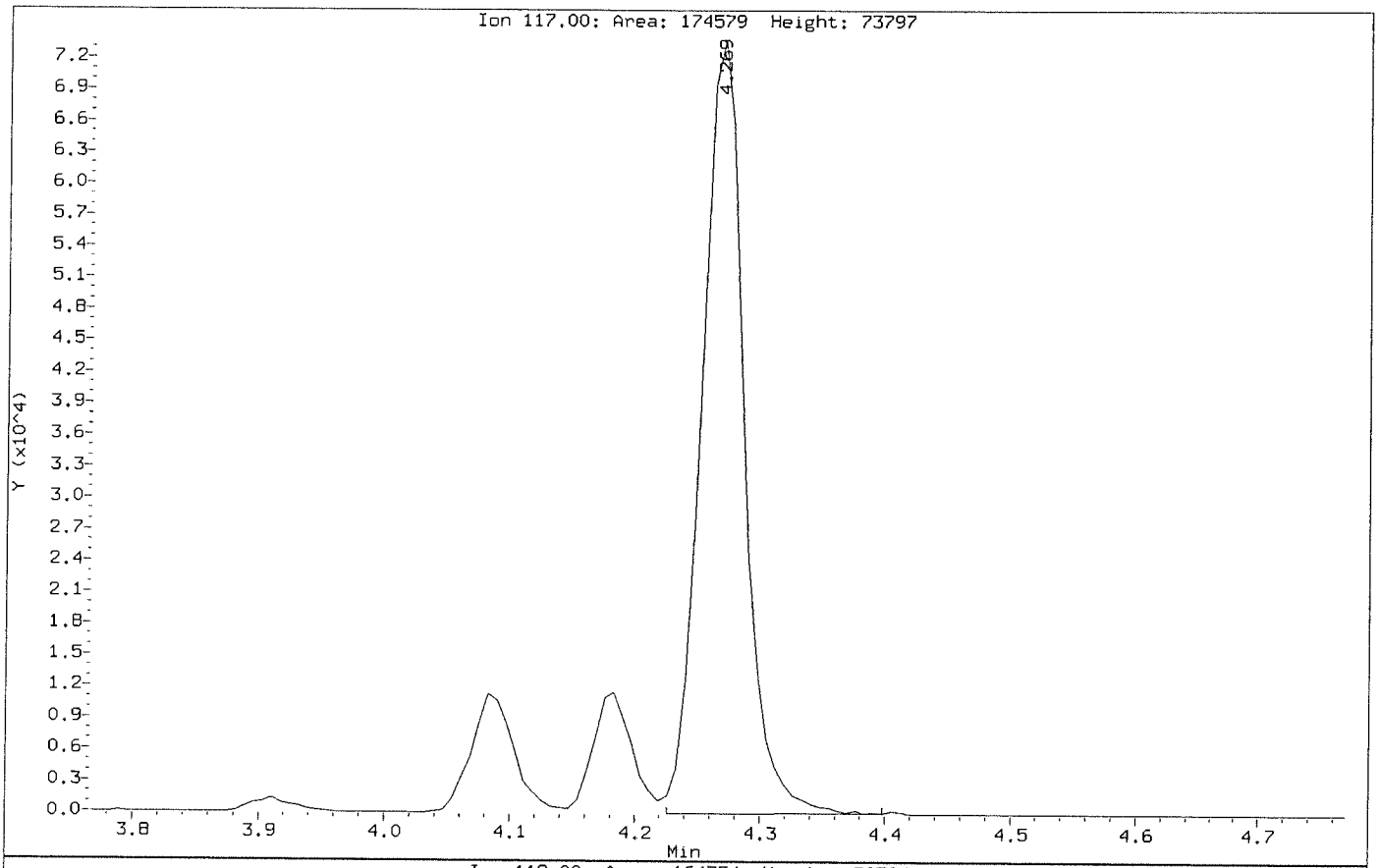
Compound: Carbon Tetrachloride
CAS Number: 56-23-5

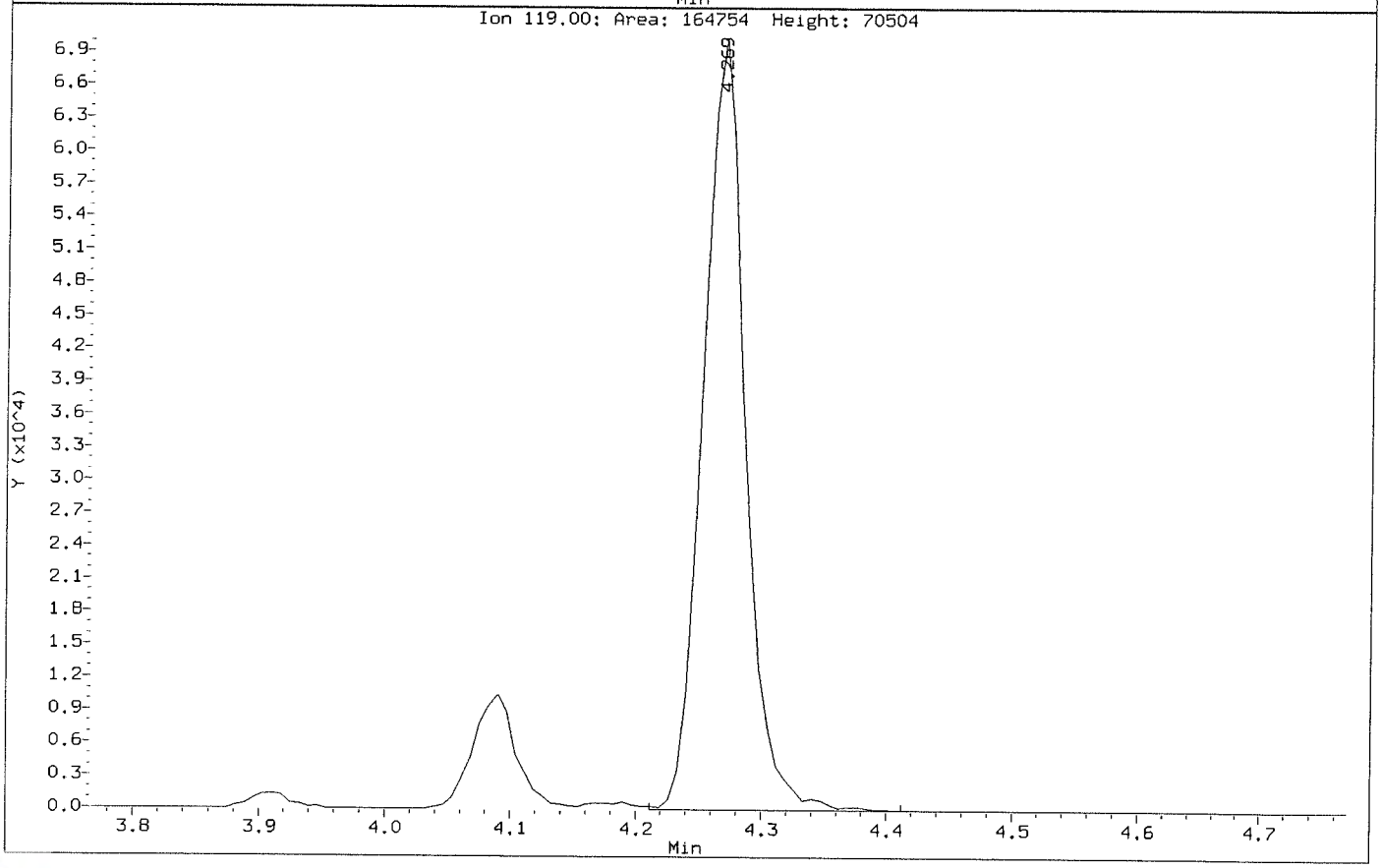


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051808.D
Injection Date: 18-MAY-2021 13:49
Instrument: voa6.i
Client Sample ID: VSTD050

Compound: Carbon Tetrachloride
CAS Number: 56-23-5



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051809.D
Lab Smp Id: VSDT100 Client Smp ID: VSTD100
Inj Date : 18-MAY-2021 14:10
Operator : PC Inst ID: voa6.i
Smp Info : VSDT100;VSTD100;1;8;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210518.b\8260W.m
Meth Date : 08-Jun-2021 11:42 voa6.i Quant Type: ISTD
Cal Date : 18-MAY-2021 13:49 Cal File: X051808.D
Als bottle: 10 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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 |

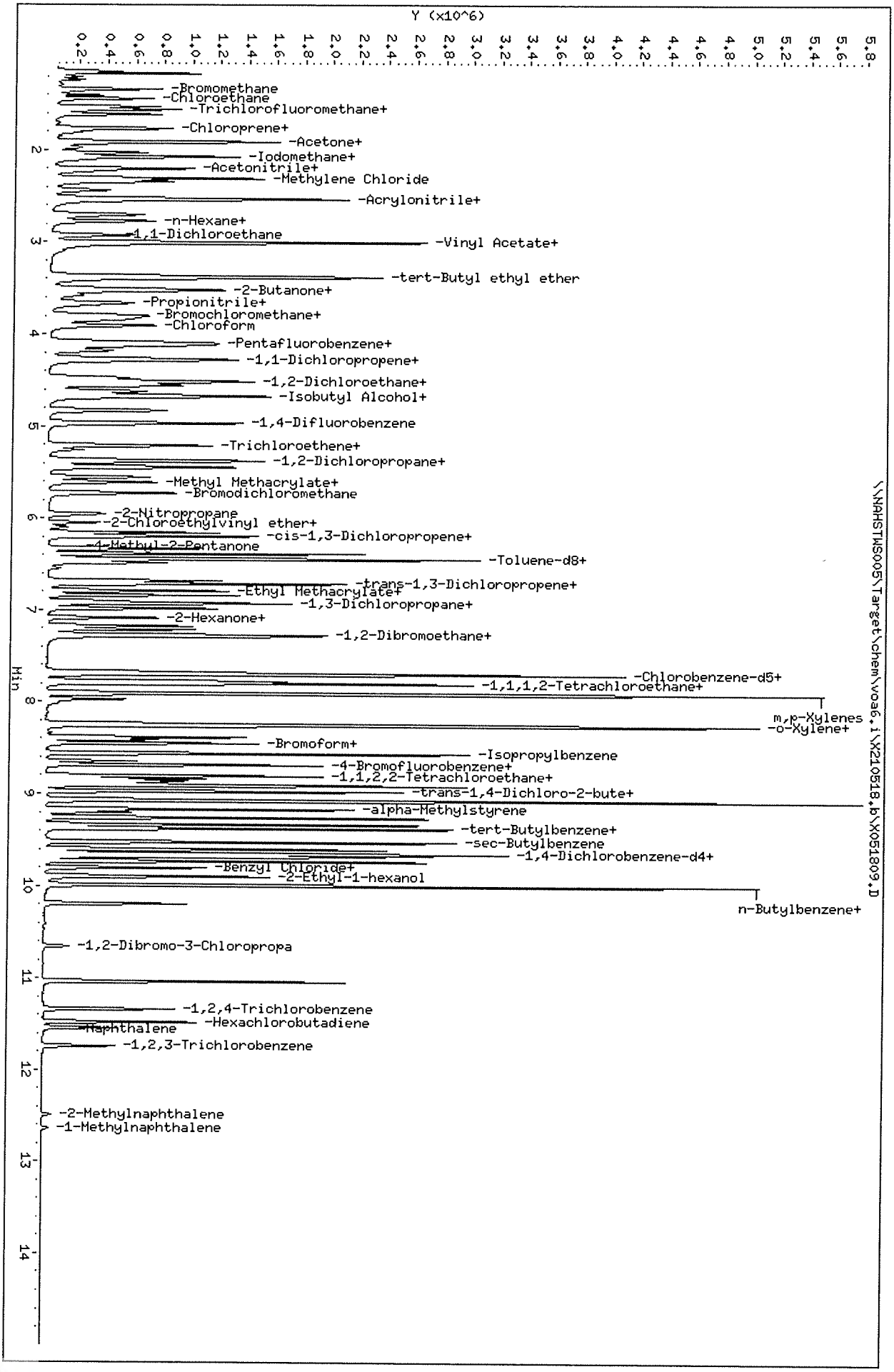
| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|
| * 1 Pentafluorobenzene | 168 | 4.182 | 4.182 | (1.000) | 314001 | 50.0000 | |
| * 36 1,4-Difluorobenzene | 114 | 4.963 | 4.963 | (1.000) | 515778 | 50.0000 | |
| * 47 Chlorobenzene-d5 | 117 | 7.670 | 7.670 | (1.000) | 499074 | 50.0000 | |
| * 70 1,4-Dichlorobenzene-d4 | 152 | 9.662 | 9.662 | (1.000) | 263690 | 50.0000 | |
| $ 30 Dibromofluoromethane | 113 | 4.103 | 4.103 | (0.981) | 355480 | 100.000 | 101.86 |
| $ 35 1,2-Dichloroethane-d4 | 65 | 4.476 | 4.476 | (1.070) | 428979 | 100.000 | 106.40 |
| $ 48 Toluene-d8 | 98 | 6.388 | 6.388 | (0.833) | 1269181 | 100.000 | 102.44 |
| $ 69 4-Bromofluorobenzene | 95 | 8.688 | 8.688 | (1.133) | 494712 | 100.000 | 104.87 |
| 60 1,1,1,2-Tetrachloroethane | 131 | 7.778 | 7.778 | (1.014) | 370212 | 100.000 | 101.81 |
| 31 1,1,1-Trichloroethane | 97 | 4.082 | 4.082 | (0.976) | 563928 | 100.000 | 105.58 |
| 68 1,1,2,2-Tetrachloroethane | 83 | 8.838 | 8.838 | (0.915) | 443127 | 100.000 | 101.99 |
| 53 1,1,2-Trichloroethane | 83 | 6.840 | 6.840 | (0.892) | 297064 | 100.000 | 102.46 |
| 22 1,1-Dichloroethane | 63 | 2.921 | 2.921 | (0.699) | 592075 | 100.000 | 101.82 |
| 11 1,1-Dichloroethene | 96 | 1.911 | 1.911 | (0.457) | 287208 | 100.000 | 91.46 |
| 32 1,1-Dichloropropene | 75 | 4.282 | 4.282 | (0.863) | 458513 | 100.000 | 103.77 |
| 93 1,2,3-Trichlorobenzene | 180 | 11.739 | 11.739 | (1.215) | 129422 | 100.000 | 99.33 |
| 71 1,2,3-Trichloropropane | 75 | 8.867 | 8.867 | (0.918) | 370826 | 100.000 | 104.28 (MH) |
| 90 1,2,4-Trichlorobenzene | 180 | 11.338 | 11.338 | (1.173) | 230076 | 100.000 | 94.78 |
| 79 1,2,4-Trimethylbenzene | 105 | 9.375 | 9.375 | (0.970) | 1381832 | 100.000 | 103.03 |
| 89 1,2-Dibromo-3-Chloropropane | 155 | 10.657 | 10.657 | (1.103) | 35357 | 100.000 | 97.87 |
| 57 1,2-Dibromoethane | 107 | 7.262 | 7.262 | (0.947) | 370175 | 100.000 | 106.24 |
| 88 1,2-Dichlorobenzene | 146 | 9.991 | 9.991 | (1.034) | 710748 | 100.000 | 96.16 |

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051809.D Page 2
Report Date: 08-Jun-2021 11:42

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|---|
| 33 | 1,2-Dichloroethane | 62 | 4.555 | 4.555 | (0.918) | 496566 | 100.000 | 97.91 |
| 42 | 1,2-Dichloropropane | 63 | 5.436 | 5.436 | (1.095) | 346292 | 100.000 | 99.90 |
| 75 | 1,3,5-Trimethylbenzene | 105 | 9.067 | 9.067 | (0.938) | 1375282 | 100.000 | 104.48 |
| 83 | 1,3-Dichlorobenzene | 146 | 9.605 | 9.605 | (0.994) | 759728 | 100.000 | 100.28 |
| 54 | 1,3-Dichloropropane | 76 | 6.983 | 6.983 | (0.910) | 570759 | 100.000 | 100.57 |
| 84 | 1,4-Dichlorobenzene | 146 | 9.683 | 9.683 | (1.002) | 774191 | 100.000 | 99.68 |
| 26 | 2,2-Dichloropropane | 77 | 3.509 | 3.509 | (0.839) | 542311 | 100.000 | 104.25 |
| 24 | 2-Butanone | 43 | 3.580 | 3.580 | (0.856) | 243094 | 200.000 | 209.73(A) |
| 76 | 2-Chlorotoluene | 91 | 8.974 | 8.974 | (0.929) | 1122830 | 100.000 | 95.54 |
| 52 | 2-Hexanone | 43 | 7.090 | 7.090 | (0.924) | 424072 | 200.000 | 200.67(A) |
| 77 | 4-Chlorotoluene | 91 | 9.067 | 9.067 | (0.938) | 1388921 | 100.000 | 101.35 |
| 82 | p-Isopropyltoluene | 119 | 9.647 | 9.647 | (0.999) | 1372597 | 100.000 | 105.42 |
| 45 | 4-Methyl-2-Pentanone | 43 | 6.324 | 6.324 | (0.824) | 642103 | 200.000 | 201.91(A) |
| 10 | Acetone | 43 | 1.976 | 1.976 | (0.473) | 161640 | 200.000 | 208.98(A) |
| 37 | Benzene | 78 | 4.512 | 4.512 | (0.909) | 1325440 | 100.000 | 103.87 |
| 74 | Bromobenzene | 156 | 8.802 | 8.802 | (0.911) | 434635 | 100.000 | 98.87 |
| 29 | Bromochloromethane | 128 | 3.795 | 3.795 | (0.908) | 192522 | 100.000 | 100.60 |
| 39 | Bromodichloromethane | 83 | 5.729 | 5.729 | (1.154) | 522723 | 100.000 | 104.89 |
| 66 | Bromoform | 173 | 8.408 | 8.408 | (1.096) | 260736 | 100.000 | 108.02 |
| 6 | Bromomethane | 94 | 1.338 | 1.338 | (0.320) | 330862 | 100.000 | 100.72 |
| 19 | Carbon Disulfide | 76 | 2.069 | 2.069 | (0.495) | 1515397 | 200.000 | 204.83(A) |
| 34 | Carbon Tetrachloride | 117 | 4.268 | 4.268 | (0.860) | 477105 | 100.000 | 106.12(H) |
| 59 | Chlorobenzene | 112 | 7.692 | 7.692 | (1.003) | 991098 | 100.000 | 101.27 |
| 7 | Chloroethane | 64 | 1.403 | 1.403 | (0.336) | 231805 | 100.000 | 97.52 |
| 28 | Chloroform | 83 | 3.910 | 3.910 | (0.935) | 675366 | 100.000 | 101.23 |
| 3 | Chloromethane | 50 | 1.073 | 1.073 | (0.257) | 323129 | 100.000 | 95.20 |
| 27 | cis-1,2-Dichloroethene | 96 | 3.523 | 3.523 | (0.842) | 374274 | 100.000 | 103.42 |
| 46 | cis-1,3-Dichloropropene | 75 | 6.152 | 6.152 | (1.240) | 610311 | 100.000 | 107.93 |
| 55 | Dibromochloromethane | 129 | 7.176 | 7.176 | (0.936) | 418487 | 100.000 | 107.28 |
| 44 | Dibromomethane | 93 | 5.550 | 5.550 | (1.118) | 257462 | 100.000 | 103.63 |
| 2 | Dichlorodifluoromethane | 85 | 0.973 | 0.973 | (0.233) | 385804 | 100.000 | 95.65 |
| 61 | Ethylbenzene | 106 | 7.799 | 7.799 | (1.017) | 512156 | 100.000 | 105.90 |
| 91 | Hexachlorobutadiene | 225 | 11.481 | 11.481 | (1.188) | 159233 | 100.000 | 97.40 |
| 67 | Isopropylbenzene | 105 | 8.559 | 8.559 | (1.116) | 1609936 | 100.000 | 108.92 |
| 62 | m,p-Xylenes | 106 | 7.907 | 7.907 | (1.031) | 1348570 | 200.000 | 216.38(A) |
| 17 | Methylene Chloride | 84 | 2.305 | 2.305 | (0.551) | 327997 | 100.000 | 104.16 |
| 87 | n-Butylbenzene | 91 | 9.991 | 9.991 | (1.034) | 1312086 | 100.000 | 105.96 |
| 73 | n-Propylbenzene | 91 | 8.910 | 8.910 | (0.922) | 1949961 | 100.000 | 104.41 |
| 92 | Naphthalene | 128 | 11.539 | 11.539 | (1.194) | 338098 | 100.000 | 94.47 |
| 63 | o-Xylene | 106 | 8.244 | 8.244 | (1.075) | 632124 | 100.000 | 104.28 |
| 81 | sec-Butylbenzene | 105 | 9.519 | 9.519 | (0.985) | 1619983 | 100.000 | 104.81 |
| 64 | Styrene | 104 | 8.258 | 8.258 | (1.077) | 1137742 | 100.000 | 98.28 |
| 78 | tert-Butylbenzene | 119 | 9.339 | 9.339 | (0.967) | 1137349 | 100.000 | 101.82 |
| 56 | Tetrachloroethene | 164 | 6.926 | 6.926 | (0.903) | 296905 | 100.000 | 107.06 |
| 50 | Toluene | 91 | 6.446 | 6.446 | (0.840) | 1538042 | 100.000 | 106.81 |
| 20 | trans-1,2-Dichloroethene | 96 | 2.527 | 2.527 | (0.604) | 308131 | 100.000 | 101.99 |
| 51 | trans-1,3-Dichloropropene | 75 | 6.682 | 6.682 | (1.346) | 546481 | 100.000 | 110.47 |
| 38 | Trichloroethene | 130 | 5.206 | 5.206 | (1.049) | 347501 | 100.000 | 101.74 |
| 8 | Trichlorofluoromethane | 101 | 1.560 | 1.560 | (0.373) | 566576 | 100.000 | 93.87 |
| 5 | Vinyl Chloride | 62 | 1.145 | 1.145 | (0.274) | 347786 | 100.000 | 91.73 |

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.

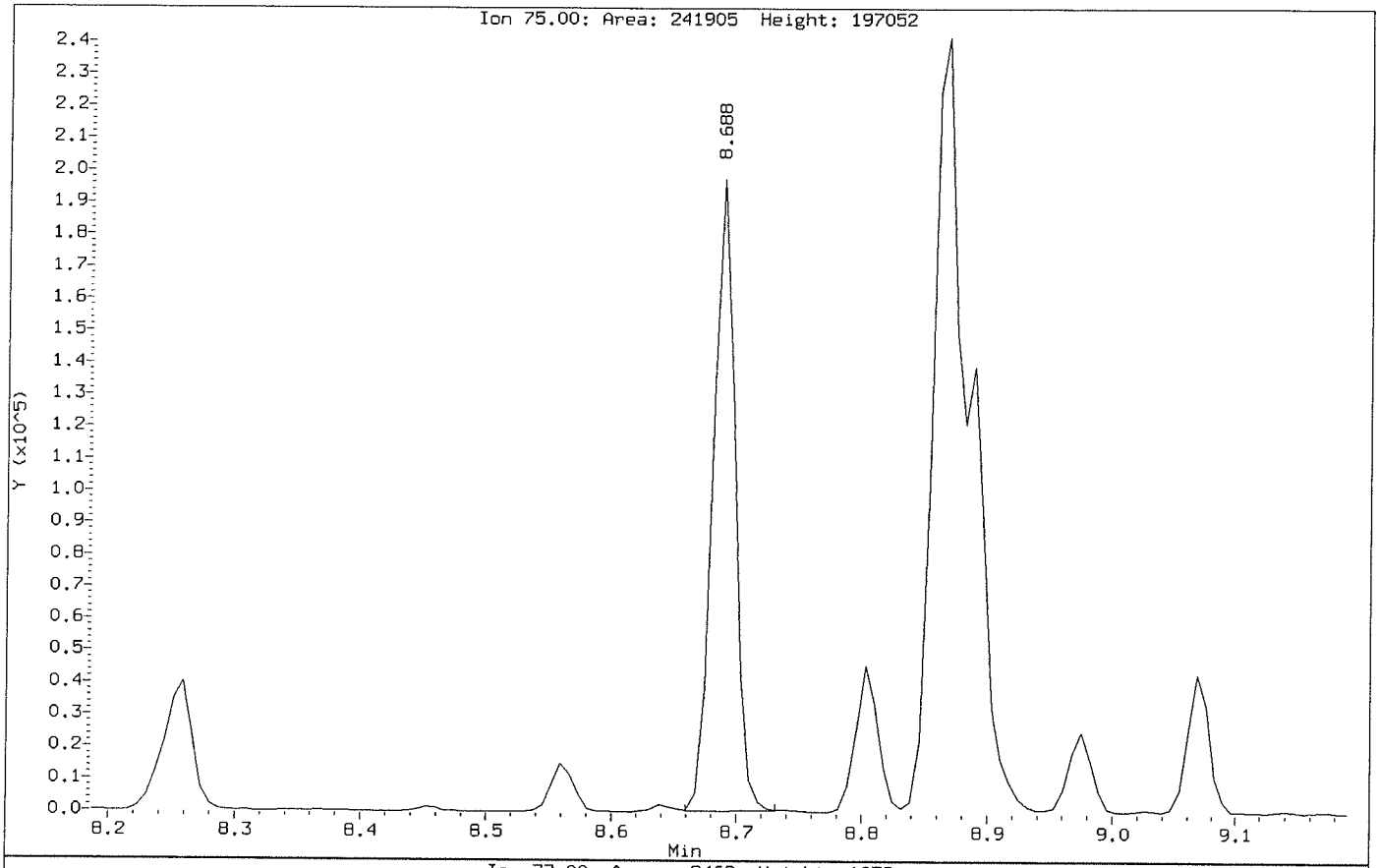


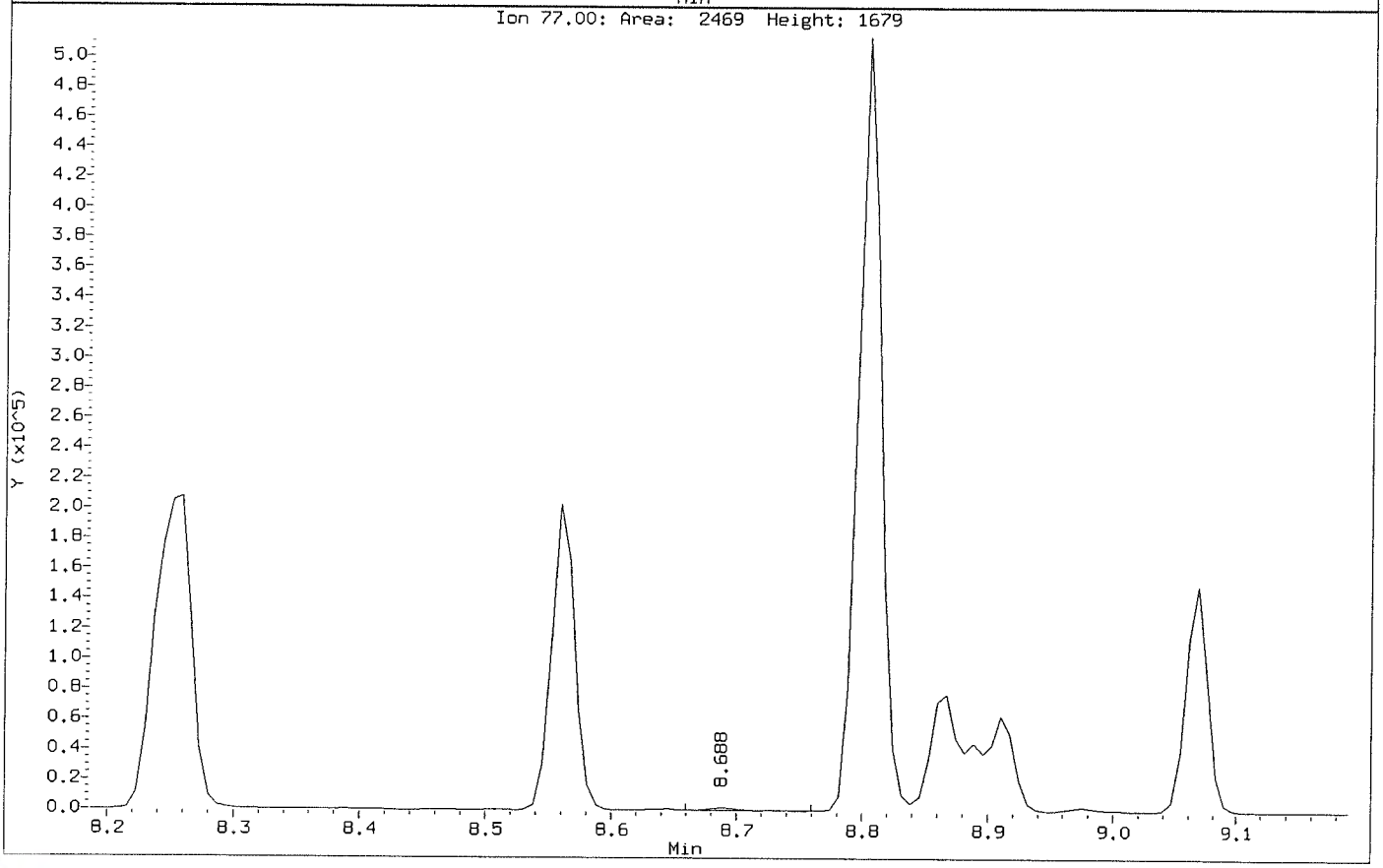

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051809.D
Date : 18-MAY-2021 14:10
Client ID: VSTD100
Sample Info: WSDT100;VSTD100;1;8;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\Before\X051809.D
Injection Date: 18-MAY-2021 14:10
Instrument: voa6.i
Client Sample ID: VSTD100

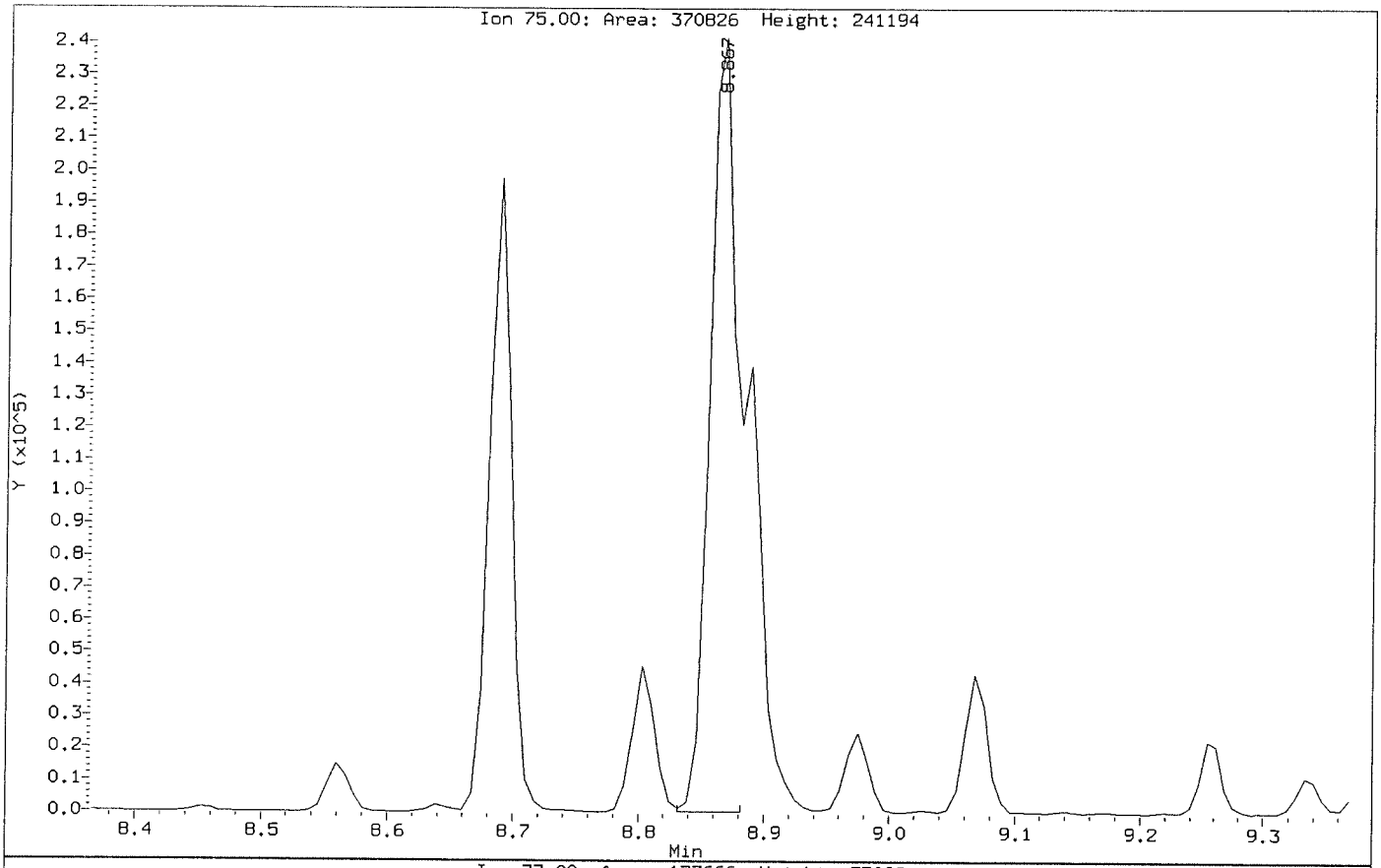
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4

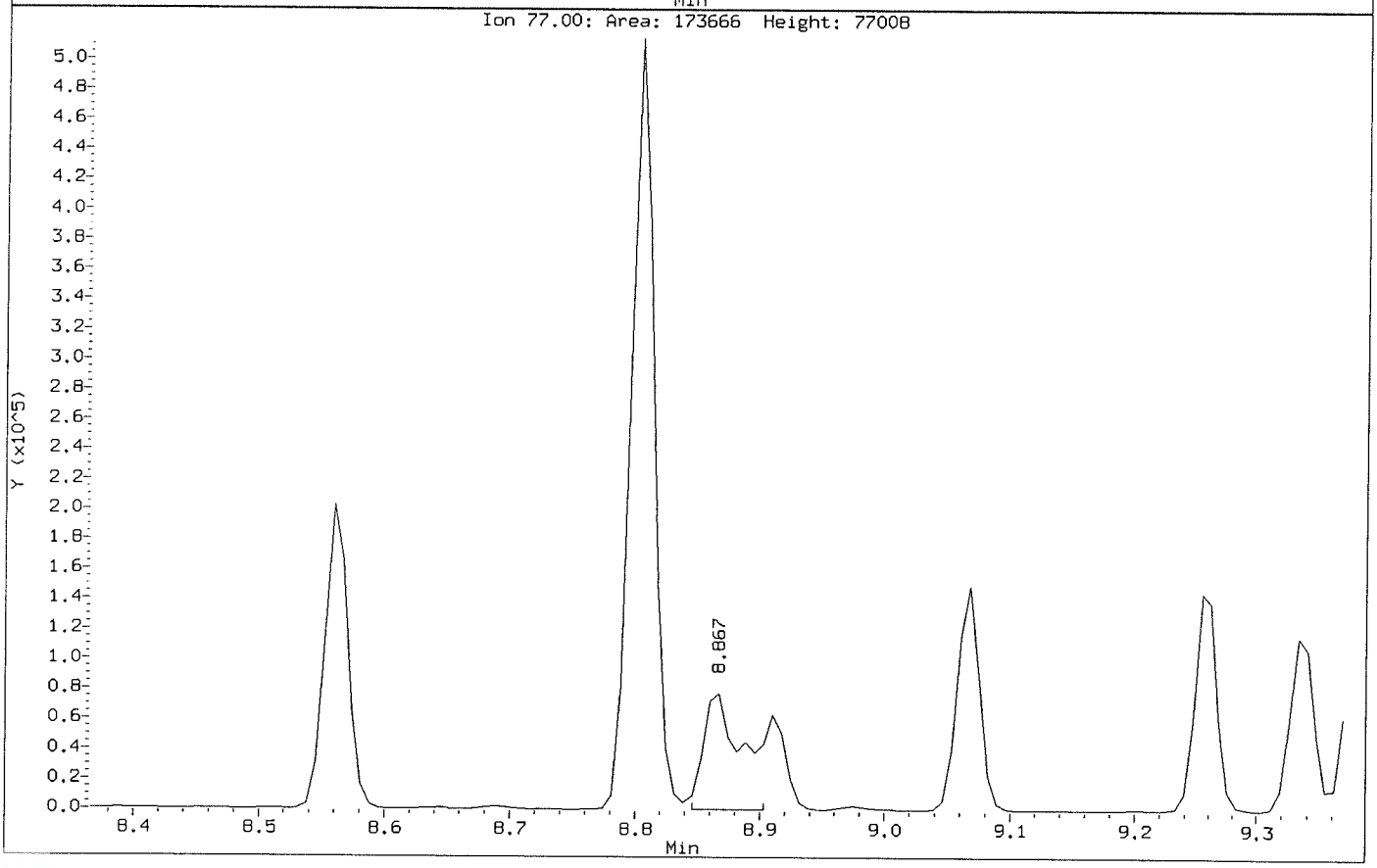


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051809.D
Injection Date: 18-MAY-2021 14:10
Instrument: voa6.i
Client Sample ID: VSTD100

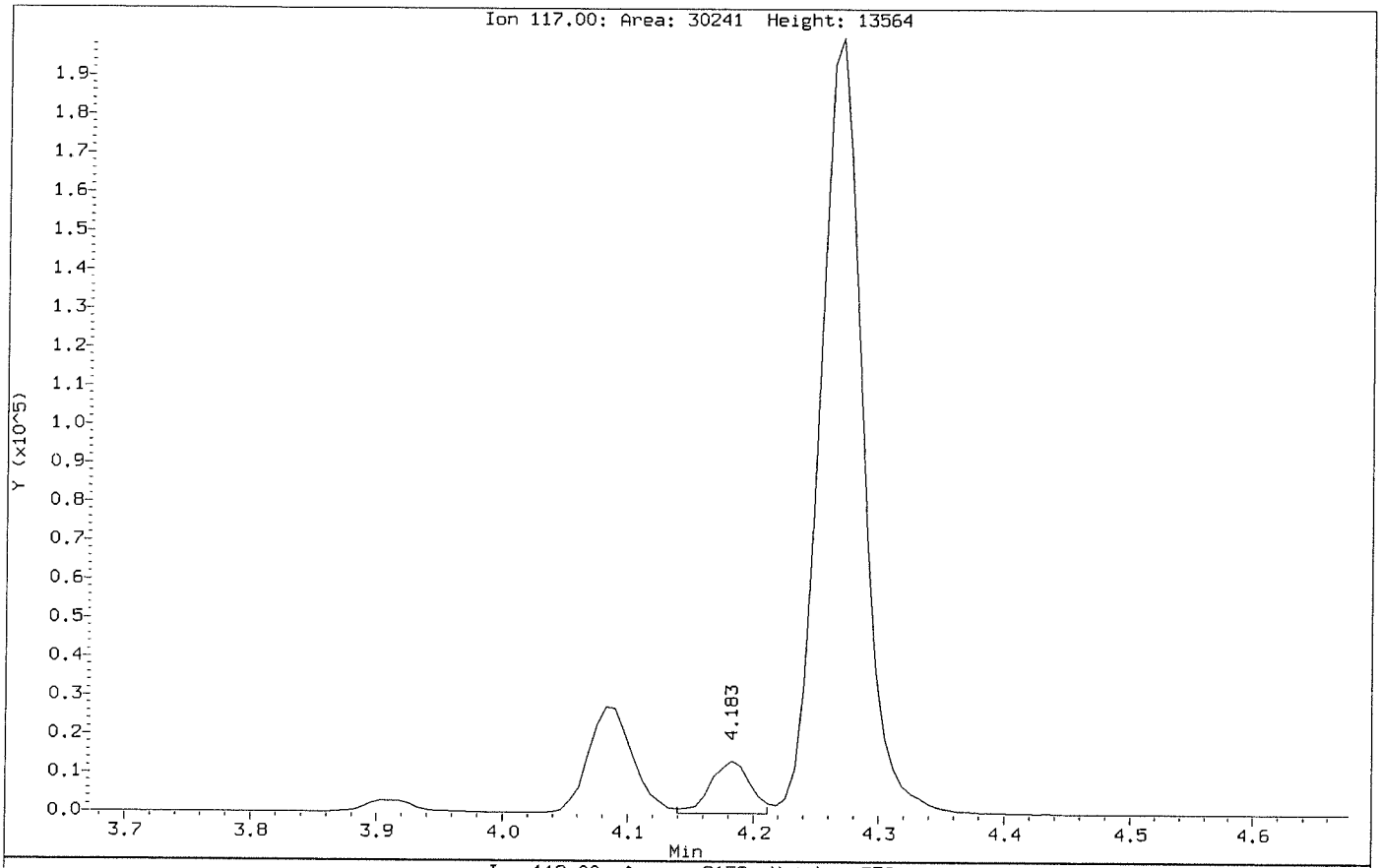
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4

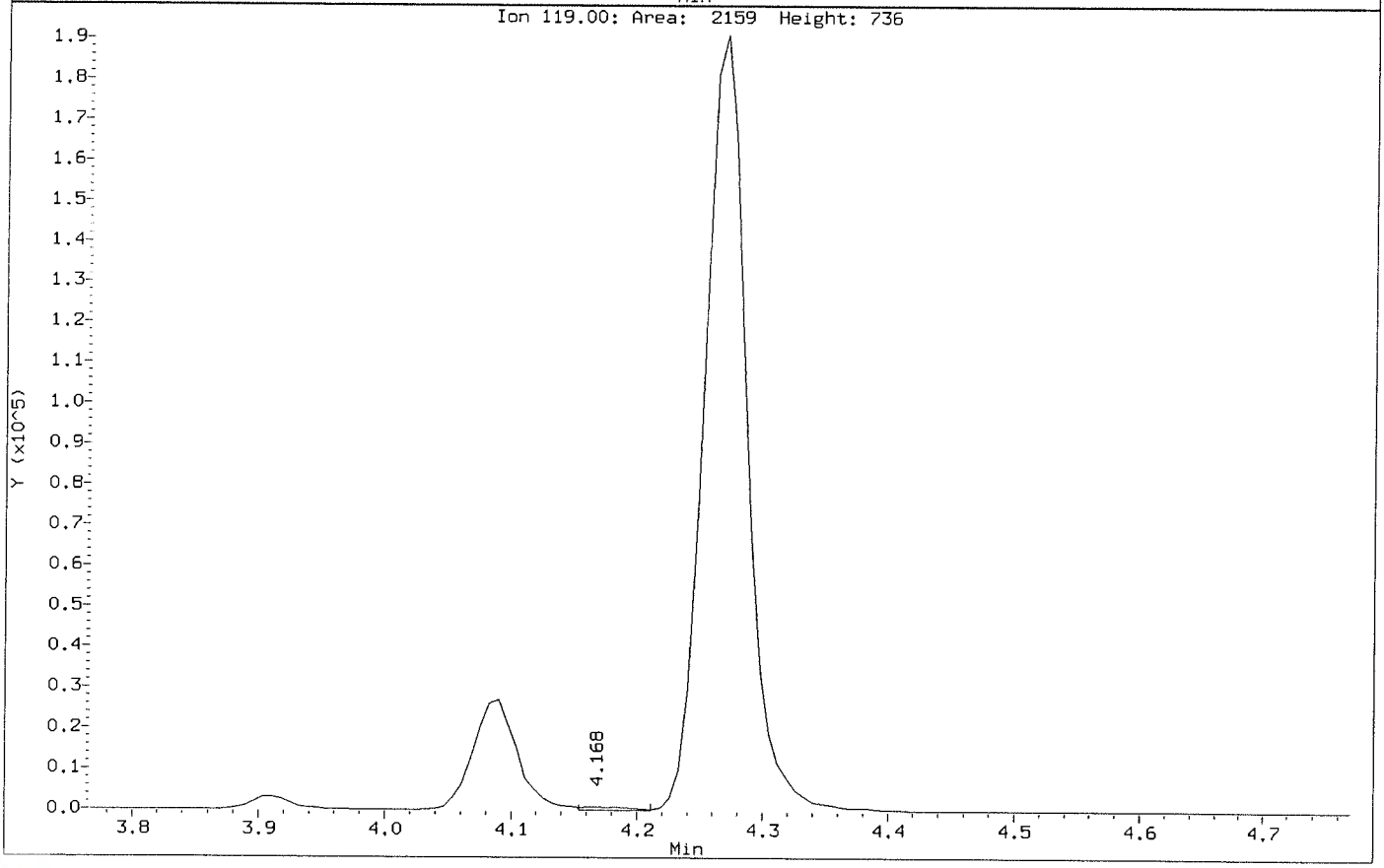


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\Before\X051809.D
Injection Date: 18-MAY-2021 14:10
Instrument: voa6.i
Client Sample ID: VSTD100

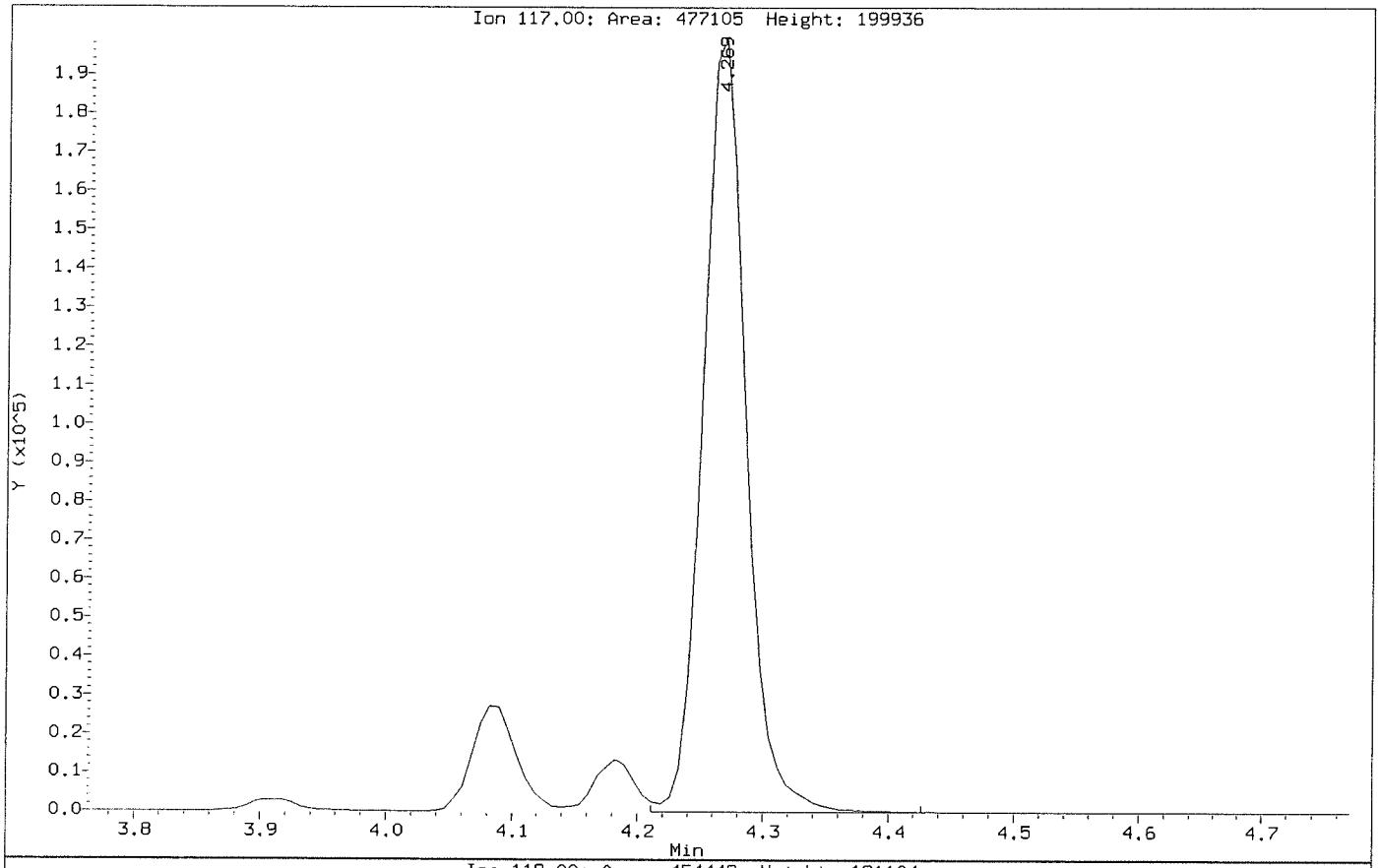
Compound: Carbon Tetrachloride
CAS Number: 56-23-5

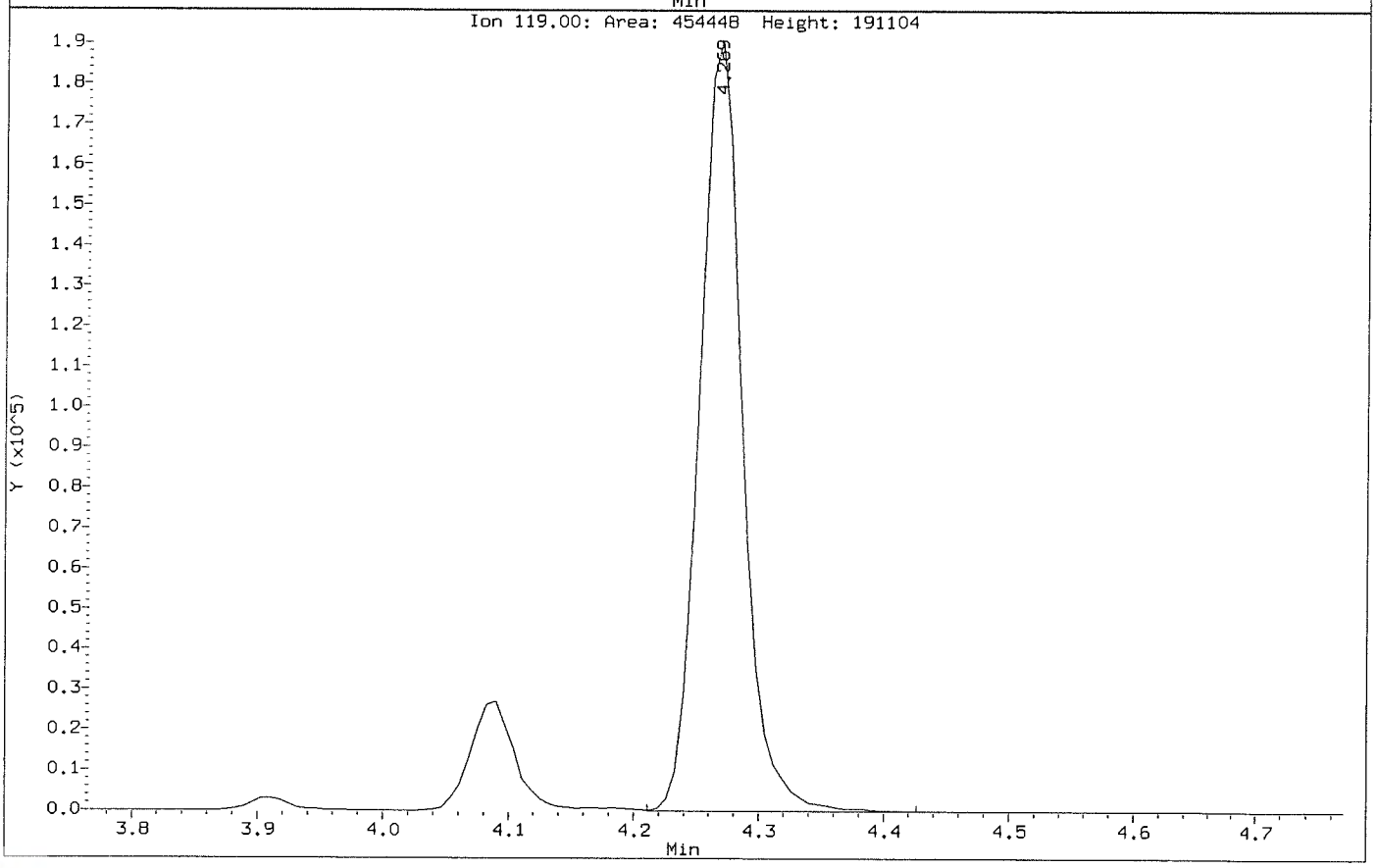


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051809.D
Injection Date: 18-MAY-2021 14:10
Instrument: voa6.i
Client Sample ID: VSTD100

Compound: Carbon Tetrachloride
CAS Number: 56-23-5



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051810.D
Lab Smp Id: VSDT150 Client Smp ID: VSTD150
Inj Date : 18-MAY-2021 14:31
Operator : PC Inst ID: voa6.i
Smp Info : VSDT150;VSTD150;1;9;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210518.b\8260W.m
Meth Date : 08-Jun-2021 11:42 voa6.i Quant Type: ISTD
Cal Date : 18-MAY-2021 14:10 Cal File: X051809.D
Als bottle: 11 Calibration Sample, Level: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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 |

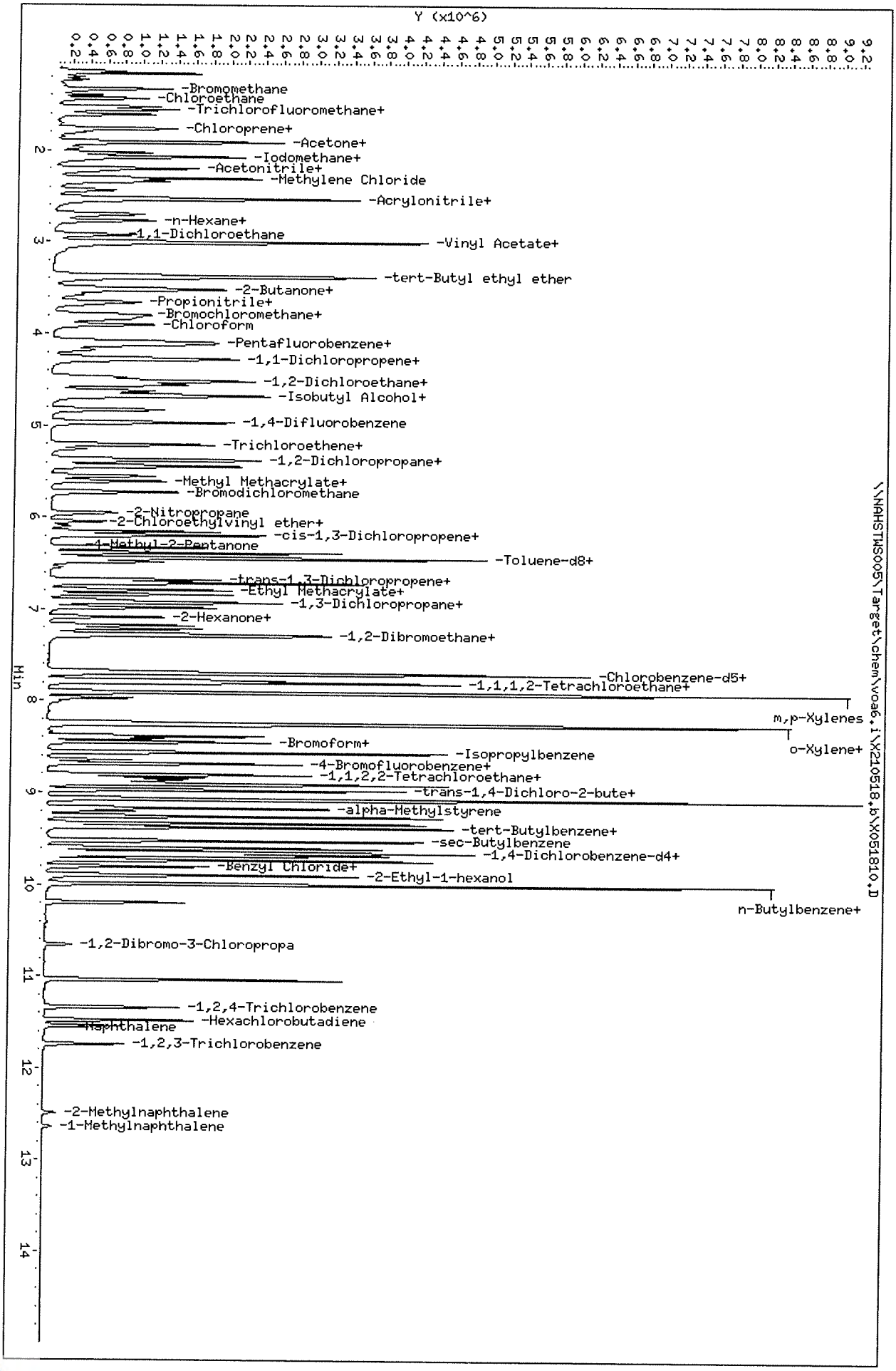
| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|
| * 1 Pentafluorobenzene | 168 | 4.182 | 4.182 | (1.000) | 329109 | 50.0000 | |
| * 36 1,4-Difluorobenzene | 114 | 4.970 | 4.970 | (1.000) | 561232 | 50.0000 | |
| * 47 Chlorobenzene-d5 | 117 | 7.671 | 7.671 | (1.000) | 528578 | 50.0000 | |
| * 70 1,4-Dichlorobenzene-d4 | 152 | 9.662 | 9.662 | (1.000) | 275715 | 50.0000 | |
| $ 30 Dibromofluoromethane | 113 | 4.096 | 4.096 | (0.979) | 559479 | 150.000 | 153.07 |
| $ 35 1,2-Dichloroethane-d4 | 65 | 4.469 | 4.469 | (1.069) | 631492 | 150.000 | 149.95 |
| $ 48 Toluene-d8 | 98 | 6.388 | 6.388 | (0.833) | 1868970 | 150.000 | 142.03 |
| $ 69 4-Bromofluorobenzene | 95 | 8.688 | 8.688 | (1.133) | 751419 | 150.000 | 150.35 |
| 60 1,1,1,2-Tetrachloroethane | 131 | 7.778 | 7.778 | (1.014) | 583245 | 150.000 | 151.45 |
| 31 1,1,1-Trichloroethane | 97 | 4.082 | 4.082 | (0.976) | 897728 | 150.000 | 160.37 |
| 68 1,1,2,2-Tetrachloroethane | 83 | 8.838 | 8.838 | (0.915) | 690313 | 150.000 | 152.22 |
| 53 1,1,2-Trichloroethane | 83 | 6.840 | 6.840 | (0.892) | 459596 | 150.000 | 149.68 |
| 22 1,1-Dichloroethane | 63 | 2.921 | 2.921 | (0.699) | 952111 | 150.000 | 156.22 |
| 11 1,1-Dichloroethene | 96 | 1.911 | 1.911 | (0.457) | 466111 | 150.000 | 141.61 |
| 32 1,1-Dichloropropene | 75 | 4.282 | 4.282 | (0.862) | 721187 | 150.000 | 150.00 |
| 93 1,2,3-Trichlorobenzene | 180 | 11.739 | 11.739 | (1.215) | 217046 | 150.000 | 153.02 |
| 71 1,2,3-Trichloropropane | 75 | 8.867 | 8.867 | (0.918) | 570152 | 150.000 | 153.63(MH) |
| 90 1,2,4-Trichlorobenzene | 180 | 11.338 | 11.338 | (1.173) | 378072 | 150.000 | 147.54 |
| 79 1,2,4-Trimethylbenzene | 105 | 9.382 | 9.382 | (0.971) | 2166512 | 150.000 | 154.49 |
| 89 1,2-Dibromo-3-Chloropropane | 155 | 10.658 | 10.658 | (1.103) | 55728 | 150.000 | 146.72 |
| 57 1,2-Dibromoethane | 107 | 7.262 | 7.262 | (0.947) | 578368 | 150.000 | 156.73 |
| 88 1,2-Dichlorobenzene | 146 | 9.991 | 9.991 | (1.034) | 1139772 | 150.000 | 147.49 |

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051810.D Page 2
Report Date: 08-Jun-2021 11:42

| | | | | | | AMOUNTS | |
|---|---|---|---|---|---|---|---|
| | QUANT SIG | | | | | CAL-AMT | ON-COL |
| Compounds | MASS | RT | EXP RT | REL RT | RESPONSE | ( ug/l) | ( ug/l) |
| 33 1,2-Dichloroethane | 62 | 4.555 | 4.555 | (0.916) | 771966 | 150.000 | 139.89 |
| 42 1,2-Dichloropropane | 63 | 5.436 | 5.436 | (1.094) | 552978 | 150.000 | 146.61 |
| 75 1,3,5-Trimethylbenzene | 105 | 9.067 | 9.067 | (0.938) | 2177669 | 150.000 | 158.22 |
| 83 1,3-Dichlorobenzene | 146 | 9.605 | 9.605 | (0.994) | 1194968 | 150.000 | 150.85 |
| 54 1,3-Dichloropropane | 76 | 6.983 | 6.983 | (0.910) | 901901 | 150.000 | 150.04 |
| 84 1,4-Dichlorobenzene | 146 | 9.683 | 9.683 | (1.002) | 1228277 | 150.000 | 151.12 |
| 26 2,2-Dichloropropane | 77 | 3.509 | 3.509 | (0.839) | 851542 | 150.000 | 156.19 |
| 24 2-Butanone | 43 | 3.580 | 3.580 | (0.856) | 372510 | 300.000 | 306.63(A) |
| 76 2-Chlorotoluene | 91 | 8.974 | 8.974 | (0.929) | 1760413 | 150.000 | 143.25 |
| 52 2-Hexanone | 43 | 7.090 | 7.090 | (0.924) | 684773 | 300.000 | 306.08(A) |
| 77 4-Chlorotoluene | 91 | 9.067 | 9.067 | (0.938) | 2179360 | 150.000 | 152.09 |
| 82 p-Isopropyltoluene | 119 | 9.648 | 9.648 | (0.999) | 2130981 | 150.000 | 156.53 |
| 45 4-Methyl-2-Pentanone | 43 | 6.324 | 6.324 | (0.824) | 1037606 | 300.000 | 308.03(A) |
| 10 Acetone | 43 | 1.976 | 1.976 | (0.473) | 237075 | 300.000 | 294.50(A) |
| 37 Benzene | 78 | 4.512 | 4.512 | (0.908) | 2104958 | 150.000 | 151.60 |
| 74 Bromobenzene | 156 | 8.802 | 8.802 | (0.911) | 688486 | 150.000 | 149.79 |
| 29 Bromochloromethane | 128 | 3.795 | 3.795 | (0.908) | 308322 | 150.000 | 153.72 |
| 39 Bromodichloromethane | 83 | 5.722 | 5.722 | (1.151) | 826506 | 150.000 | 152.41 |
| 66 Bromoform | 173 | 8.408 | 8.408 | (1.096) | 428300 | 150.000 | 167.54 |
| 6 Bromomethane | 94 | 1.331 | 1.331 | (0.318) | 596164 | 150.000 | 173.50 |
| 19 Carbon Disulfide | 76 | 2.069 | 2.069 | (0.495) | 2589664 | 300.000 | 333.97(A) |
| 34 Carbon Tetrachloride | 117 | 4.268 | 4.268 | (0.859) | 758939 | 150.000 | 155.14 |
| 59 Chlorobenzene | 112 | 7.692 | 7.692 | (1.003) | 1550410 | 150.000 | 149.58 |
| 7 Chloroethane | 64 | 1.403 | 1.403 | (0.336) | 345673 | 150.000 | 138.75 |
| 28 Chloroform | 83 | 3.910 | 3.910 | (0.935) | 1055145 | 150.000 | 150.90 |
| 3 Chloromethane | 50 | 1.073 | 1.073 | (0.257) | 530291 | 150.000 | 148.93 |
| 27 cis-1,2-Dichloroethene | 96 | 3.530 | 3.530 | (0.844) | 604470 | 150.000 | 159.36 |
| 46 cis-1,3-Dichloropropene | 75 | 6.159 | 6.159 | (1.239) | 975279 | 150.000 | 158.51 |
| 55 Dibromochloromethane | 129 | 7.176 | 7.176 | (0.936) | 660021 | 150.000 | 159.75 |
| 44 Dibromomethane | 93 | 5.550 | 5.550 | (1.117) | 415353 | 150.000 | 153.64 |
| 2 Dichlorodifluoromethane | 85 | 0.973 | 0.973 | (0.233) | 635388 | 150.000 | 149.11 |
| 61 Ethylbenzene | 106 | 7.799 | 7.799 | (1.017) | 794587 | 150.000 | 155.13 |
| 91 Hexachlorobutadiene | 225 | 11.481 | 11.481 | (1.188) | 251193 | 150.000 | 145.34 |
| 67 Isopropylbenzene | 105 | 8.559 | 8.559 | (1.116) | 2535541 | 150.000 | 161.98 |
| 62 m,p-Xylenes | 106 | 7.907 | 7.907 | (1.031) | 2132347 | 300.000 | 323.04(A) |
| 17 Methylene Chloride | 84 | 2.305 | 2.305 | (0.551) | 531906 | 150.000 | 161.17 |
| 87 n-Butylbenzene | 91 | 9.991 | 9.991 | (1.034) | 2079941 | 150.000 | 160.65 |
| 73 n-Propylbenzene | 91 | 8.910 | 8.910 | (0.922) | 2928436 | 150.000 | 149.96 |
| 92 Naphthalene | 128 | 11.539 | 11.539 | (1.194) | 555881 | 150.000 | 146.77 |
| 63 o-Xylene | 106 | 8.244 | 8.244 | (1.075) | 1010780 | 150.000 | 157.44 |
| 81 sec-Butylbenzene | 105 | 9.519 | 9.519 | (0.985) | 2534431 | 150.000 | 156.82 |
| 64 Styrene | 104 | 8.258 | 8.258 | (1.077) | 1857964 | 150.000 | 150.58 |
| 78 tert-Butylbenzene | 119 | 9.340 | 9.340 | (0.967) | 1789516 | 150.000 | 153.23 |
| 56 Tetrachloroethene | 164 | 6.933 | 6.933 | (0.904) | 471649 | 150.000 | 160.58 |
| 50 Toluene | 91 | 6.446 | 6.446 | (0.840) | 2428646 | 150.000 | 159.25 |
| 20 trans-1,2-Dichloroethene | 96 | 2.527 | 2.527 | (0.604) | 513534 | 150.000 | 162.18 |
| 51 trans-1,3-Dichloropropene | 75 | 6.682 | 6.682 | (1.344) | 875463 | 150.000 | 162.64 |
| 38 Trichloroethene | 130 | 5.206 | 5.206 | (1.048) | 549218 | 150.000 | 147.78 |
| 8 Trichlorofluoromethane | 101 | 1.560 | 1.560 | (0.373) | 898149 | 150.000 | 141.97 |
| 5 Vinyl Chloride | 62 | 1.138 | 1.138 | (0.272) | 553097 | 150.000 | 139.19 |

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.

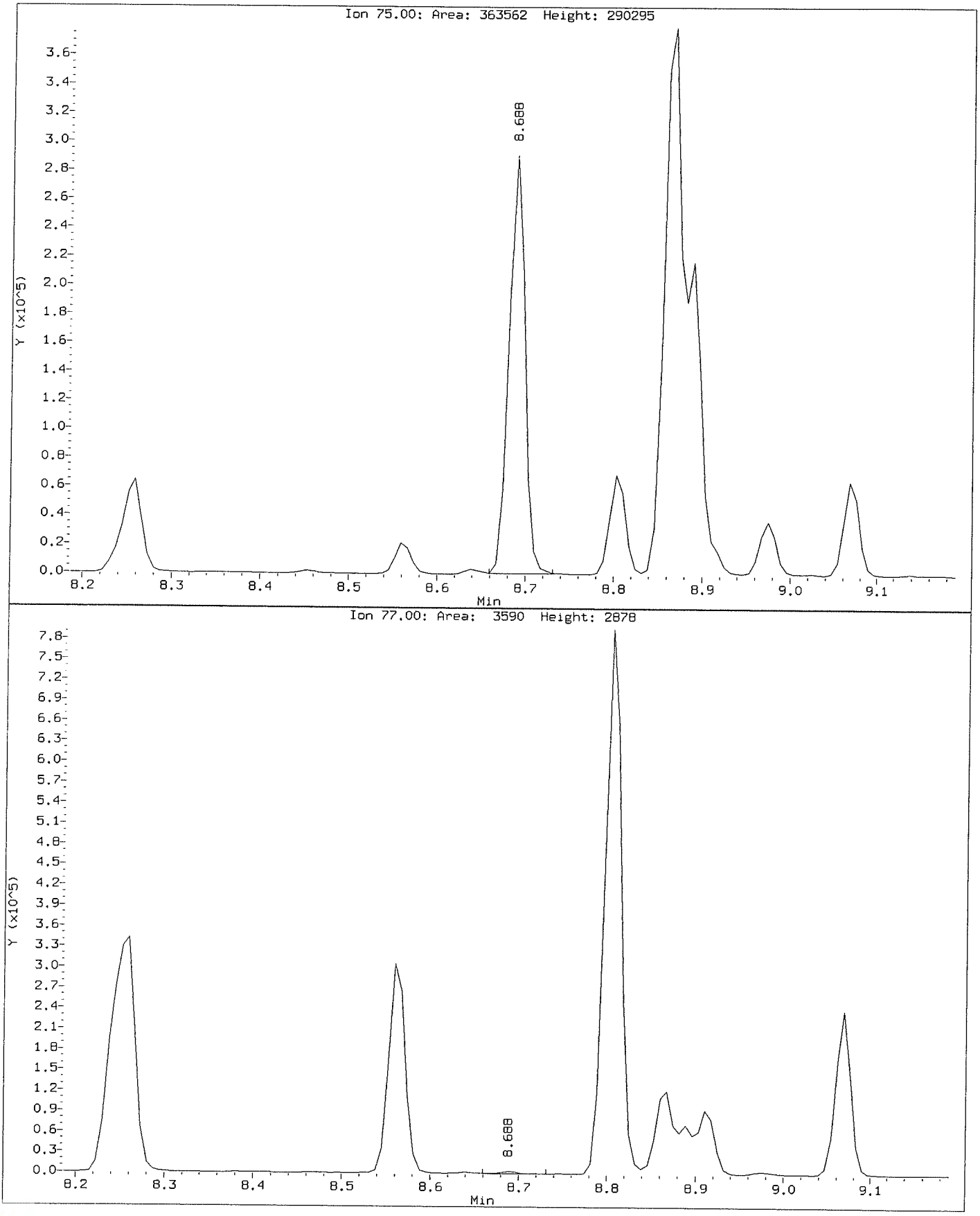



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051810.D
Date : 18-MAY-2021 14:31
Client ID: VSTD150
Sample Info: VSDT150;VSTD150;1;9;;
Purge Volume: 5.0
Column phase: DB624

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

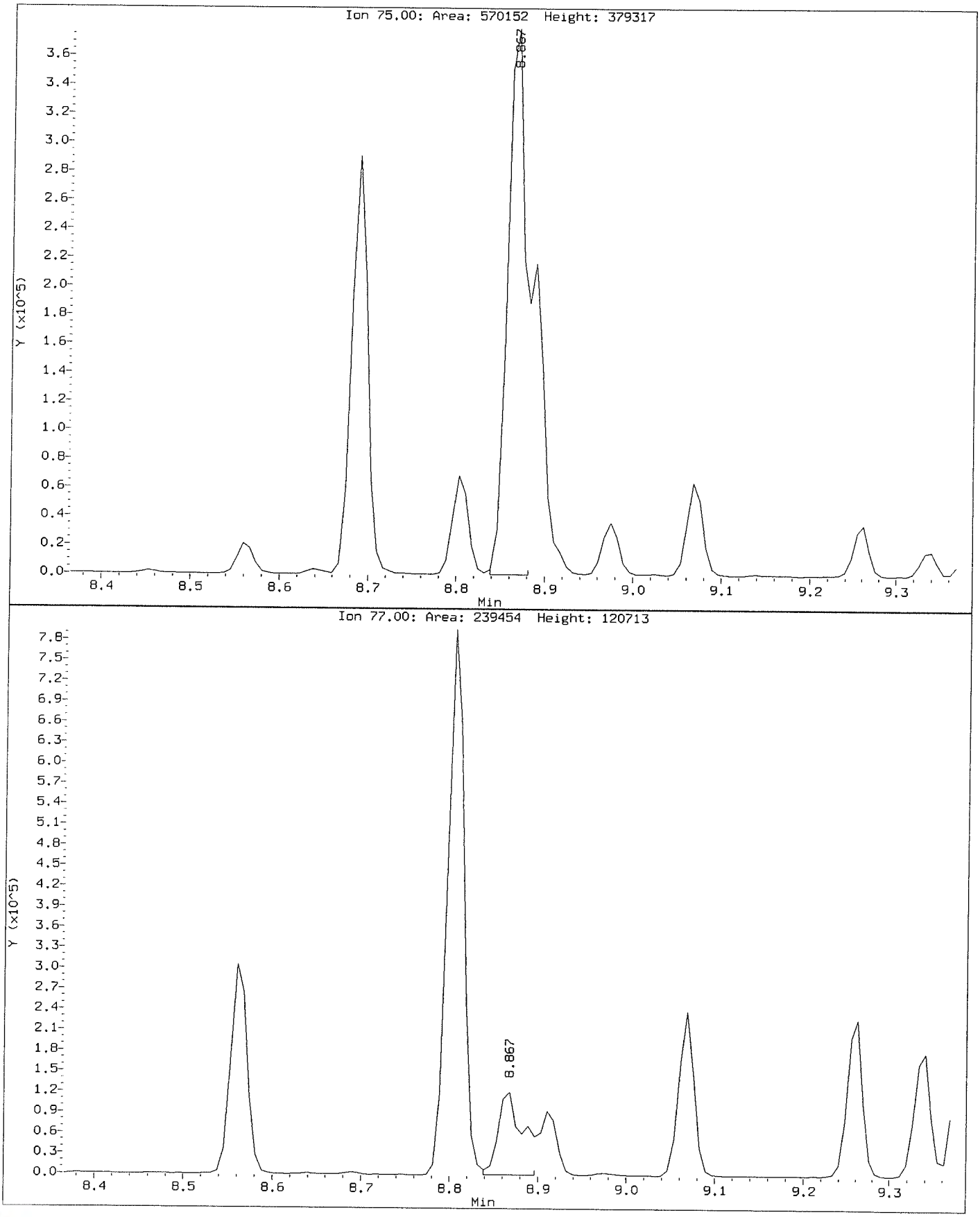
Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\Before\X051810.D
Injection Date: 18-MAY-2021 14:31
Instrument: voa6.i
Client Sample ID: VSTD150

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051810.D
Injection Date: 18-MAY-2021 14:31
Instrument: voa6.i
Client Sample ID: VSTD150

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051811.D
Lab Smp Id: VSDT200 Client Smp ID: VSTD200
Inj Date : 18-MAY-2021 14:52
Operator : PC Inst ID: voa6.i
Smp Info : VSDT200;VSTD200;1;10;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210518.b\8260W.m
Meth Date : 08-Jun-2021 11:42 voa6.i Quant Type: ISTD
Cal Date : 18-MAY-2021 14:31 Cal File: X051810.D
Als bottle: 12 Calibration Sample, Level: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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 |

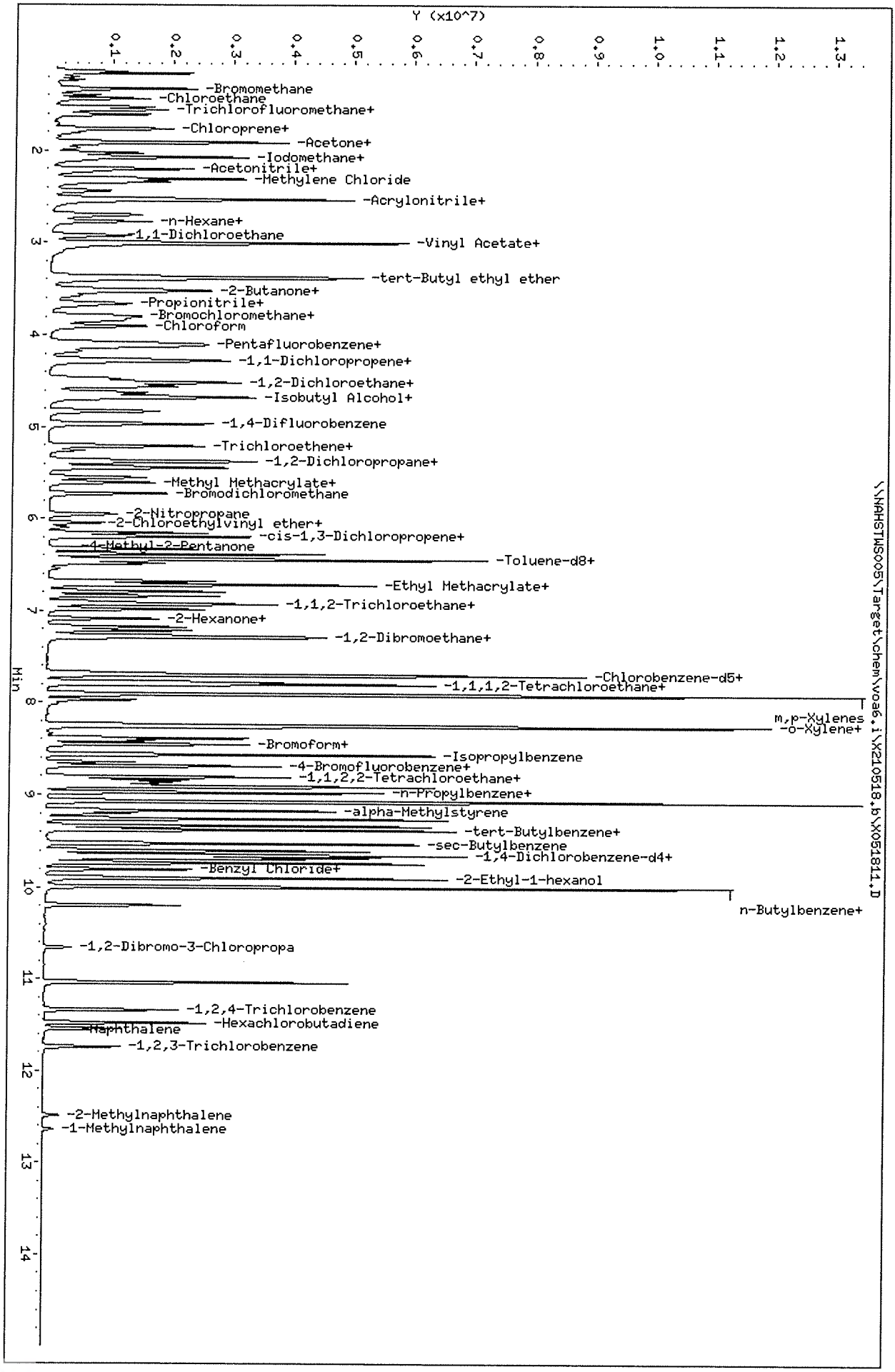
| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|
| * 1 Pentafluorobenzene | 168 | 4.182 | 4.182 | (1.000) | 345916 | 50.0000 | |
| * 36 1,4-Difluorobenzene | 114 | 4.963 | 4.963 | (1.000) | 588472 | 50.0000 | |
| * 47 Chlorobenzene-d5 | 117 | 7.671 | 7.671 | (1.000) | 555625 | 50.0000 | |
| * 70 1,4-Dichlorobenzene-d4 | 152 | 9.662 | 9.662 | (1.000) | 290246 | 50.0000 | |
| $ 30 Dibromofluoromethane | 113 | 4.096 | 4.096 | (0.979) | 756859 | 200.000 | 197.08 |
| $ 35 1,2-Dichloroethane-d4 | 65 | 4.476 | 4.476 | (1.070) | 867782 | 200.000 | 196.44 |
| $ 48 Toluene-d8 | 98 | 6.388 | 6.388 | (0.833) | 2599039 | 200.000 | 187.57 |
| $ 69 4-Bromofluorobenzene | 95 | 8.688 | 8.688 | (1.133) | 1039902 | 200.000 | 197.91 |
| 60 1,1,1,2-Tetrachloroethane | 131 | 7.778 | 7.778 | (1.014) | 817405 | 200.000 | 201.93(A) |
| 31 1,1,1-Trichloroethane | 97 | 4.082 | 4.082 | (0.976) | 1267981 | 200.000 | 215.51(A) |
| 68 1,1,2,2-Tetrachloroethane | 83 | 8.838 | 8.838 | (0.915) | 941646 | 200.000 | 197.40 |
| 53 1,1,2-Trichloroethane | 83 | 6.840 | 6.840 | (0.892) | 644929 | 200.000 | 199.81 |
| 22 1,1-Dichloroethane | 63 | 2.921 | 2.921 | (0.699) | 1359241 | 200.000 | 212.18(A) |
| 11 1,1-Dichloroethene | 96 | 1.911 | 1.911 | (0.457) | 685117 | 200.000 | 198.04 |
| 32 1,1-Dichloropropene | 75 | 4.282 | 4.282 | (0.863) | 1025250 | 200.000 | 203.38(A) |
| 93 1,2,3-Trichlorobenzene | 180 | 11.739 | 11.739 | (1.215) | 307927 | 200.000 | 198.57 |
| 71 1,2,3-Trichloropropane | 75 | 8.867 | 8.867 | (0.918) | 760241 | 200.000 | 194.77(MH) |
| 90 1,2,4-Trichlorobenzene | 180 | 11.338 | 11.338 | (1.173) | 556188 | 200.000 | 205.21(A) |
| 79 1,2,4-Trimethylbenzene | 105 | 9.383 | 9.383 | (0.971) | 3046305 | 200.000 | 206.36(A) |
| 89 1,2-Dibromo-3-Chloropropane | 155 | 10.658 | 10.658 | (1.103) | 81966 | 200.000 | 204.37(A) |
| 57 1,2-Dibromoethane | 107 | 7.262 | 7.262 | (0.947) | 808859 | 200.000 | 208.52(A) |
| 88 1,2-Dichlorobenzene | 146 | 9.991 | 9.991 | (1.034) | 1637655 | 200.000 | 201.31(A) |

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051811.D Page 2
Report Date: 08-Jun-2021 11:42

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|---|
| 33 | 1,2-Dichloroethane | 62 | 4.555 | 4.555 | (0.918) | 1042686 | 200.000 | 180.20 |
| 42 | 1,2-Dichloropropane | 63 | 5.436 | 5.436 | (1.095) | 761644 | 200.000 | 192.58 |
| 75 | 1,3,5-Trimethylbenzene | 105 | 9.067 | 9.067 | (0.938) | 3139978 | 200.000 | 216.72(A) |
| 83 | 1,3-Dichlorobenzene | 146 | 9.605 | 9.605 | (0.994) | 1690760 | 200.000 | 202.76(A) |
| 54 | 1,3-Dichloropropane | 76 | 6.983 | 6.983 | (0.910) | 1218096 | 200.000 | 192.78 |
| 84 | 1,4-Dichlorobenzene | 146 | 9.683 | 9.683 | (1.002) | 1710708 | 200.000 | 199.85 |
| 26 | 2,2-Dichloropropane | 77 | 3.509 | 3.509 | (0.839) | 1199420 | 200.000 | 209.30(A) |
| 24 | 2-Butanone | 43 | 3.580 | 3.580 | (0.856) | 513022 | 400.000 | 401.78(A) |
| 76 | 2-Chlorotoluene | 91 | 8.974 | 8.974 | (0.929) | 2458535 | 200.000 | 190.05 |
| 52 | 2-Hexanone | 43 | 7.090 | 7.090 | (0.924) | 929961 | 400.000 | 395.53(A) |
| 77 | 4-Chlorotoluene | 91 | 9.067 | 9.067 | (0.938) | 3087694 | 200.000 | 204.70(A) |
| 82 | p-Isopropyltoluene | 119 | 9.655 | 9.655 | (0.999) | 3103142 | 200.000 | 216.53(A) |
| 45 | 4-Methyl-2-Pentanone | 43 | 6.331 | 6.331 | (0.825) | 1395319 | 400.000 | 394.03(A) |
| 10 | Acetone | 43 | 1.976 | 1.976 | (0.473) | 336393 | 400.000 | 399.38(A) |
| 37 | Benzene | 78 | 4.512 | 4.512 | (0.909) | 2912199 | 200.000 | 200.02(A) |
| 74 | Bromobenzene | 156 | 8.809 | 8.809 | (0.912) | 960630 | 200.000 | 198.54 |
| 29 | Bromochloromethane | 128 | 3.795 | 3.795 | (0.908) | 421944 | 200.000 | 200.14(A) |
| 39 | Bromodichloromethane | 83 | 5.722 | 5.722 | (1.153) | 1143964 | 200.000 | 201.19(A) |
| 66 | Bromoform | 173 | 8.408 | 8.408 | (1.096) | 591908 | 200.000 | 220.27(A) |
| 6 | Bromomethane | 94 | 1.331 | 1.331 | (0.318) | 1028472 | 200.000 | 285.09(A) |
| 19 | Carbon Disulfide | 76 | 2.069 | 2.069 | (0.495) | 3804461 | 400.000 | 466.80(A) |
| 34 | Carbon Tetrachloride | 117 | 4.268 | 4.268 | (0.860) | 1096156 | 200.000 | 213.70(A) |
| 59 | Chlorobenzene | 112 | 7.692 | 7.692 | (1.003) | 2262308 | 200.000 | 207.64(A) |
| 7 | Chloroethane | 64 | 1.396 | 1.396 | (0.334) | 499152 | 200.000 | 190.62 |
| 28 | Chloroform | 83 | 3.910 | 3.910 | (0.935) | 1481226 | 200.000 | 201.55(A) |
| 3 | Chloromethane | 50 | 1.073 | 1.073 | (0.257) | 760194 | 200.000 | 203.04(A) |
| 27 | cis-1,2-Dichloroethene | 96 | 3.523 | 3.523 | (0.842) | 842045 | 200.000 | 211.21(A) |
| 46 | cis-1,3-Dichloropropene | 75 | 6.159 | 6.159 | (1.241) | 1345882 | 200.000 | 208.61(A) |
| 55 | Dibromochloromethane | 129 | 7.176 | 7.176 | (0.936) | 936355 | 200.000 | 215.61(A) |
| 44 | Dibromomethane | 93 | 5.550 | 5.550 | (1.118) | 570422 | 200.000 | 201.24(A) |
| 2 | Dichlorodifluoromethane | 85 | 0.973 | 0.973 | (0.233) | 916851 | 200.000 | 203.94(A) |
| 61 | Ethylbenzene | 106 | 7.799 | 7.799 | (1.017) | 1127474 | 200.000 | 209.41(A) |
| 91 | Hexachlorobutadiene | 225 | 11.481 | 11.481 | (1.188) | 377761 | 200.000 | 206.26(A) |
| 67 | Isopropylbenzene | 105 | 8.566 | 8.566 | (1.117) | 3672148 | 200.000 | 223.17(A) |
| 62 | m,p-Xylenes | 106 | 7.907 | 7.907 | (1.031) | 3061828 | 400.000 | 441.27(A) |
| 17 | Methylene Chloride | 84 | 2.298 | 2.298 | (0.550) | 744253 | 200.000 | 214.56(A) |
| 87 | n-Butylbenzene | 91 | 9.991 | 9.991 | (1.034) | 3008380 | 200.000 | 220.73(A) |
| 73 | n-Propylbenzene | 91 | 8.910 | 8.910 | (0.922) | 4200522 | 200.000 | 204.34(A) |
| 92 | Naphthalene | 128 | 11.539 | 11.539 | (1.194) | 826266 | 200.000 | 205.96(A) |
| 63 | o-Xylene | 106 | 8.244 | 8.244 | (1.075) | 1438569 | 200.000 | 213.16(A) |
| 81 | sec-Butylbenzene | 105 | 9.526 | 9.526 | (0.986) | 3709108 | 200.000 | 218.02(A) |
| 64 | Styrene | 104 | 8.258 | 8.258 | (1.077) | 2618657 | 200.000 | 201.30(A) |
| 78 | tert-Butylbenzene | 119 | 9.340 | 9.340 | (0.967) | 2556764 | 200.000 | 207.96(A) |
| 56 | Tetrachloroethene | 164 | 6.926 | 6.926 | (0.903) | 689947 | 200.000 | 223.46(A) |
| 50 | Toluene | 91 | 6.446 | 6.446 | (0.840) | 3431584 | 200.000 | 214.06(A) |
| 20 | trans-1,2-Dichloroethene | 96 | 2.527 | 2.527 | (0.604) | 732798 | 200.000 | 220.19(A) |
| 51 | trans-1,3-Dichloropropene | 75 | 6.682 | 6.682 | (1.346) | 1193973 | 200.000 | 211.55(A) |
| 38 | Trichloroethene | 130 | 5.206 | 5.206 | (1.049) | 782732 | 200.000 | 200.86(A) |
| 8 | Trichlorofluoromethane | 101 | 1.560 | 1.560 | (0.373) | 1300834 | 200.000 | 195.63 |
| 5 | Vinyl Chloride | 62 | 1.138 | 1.138 | (0.272) | 806948 | 200.000 | 193.21 |

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.

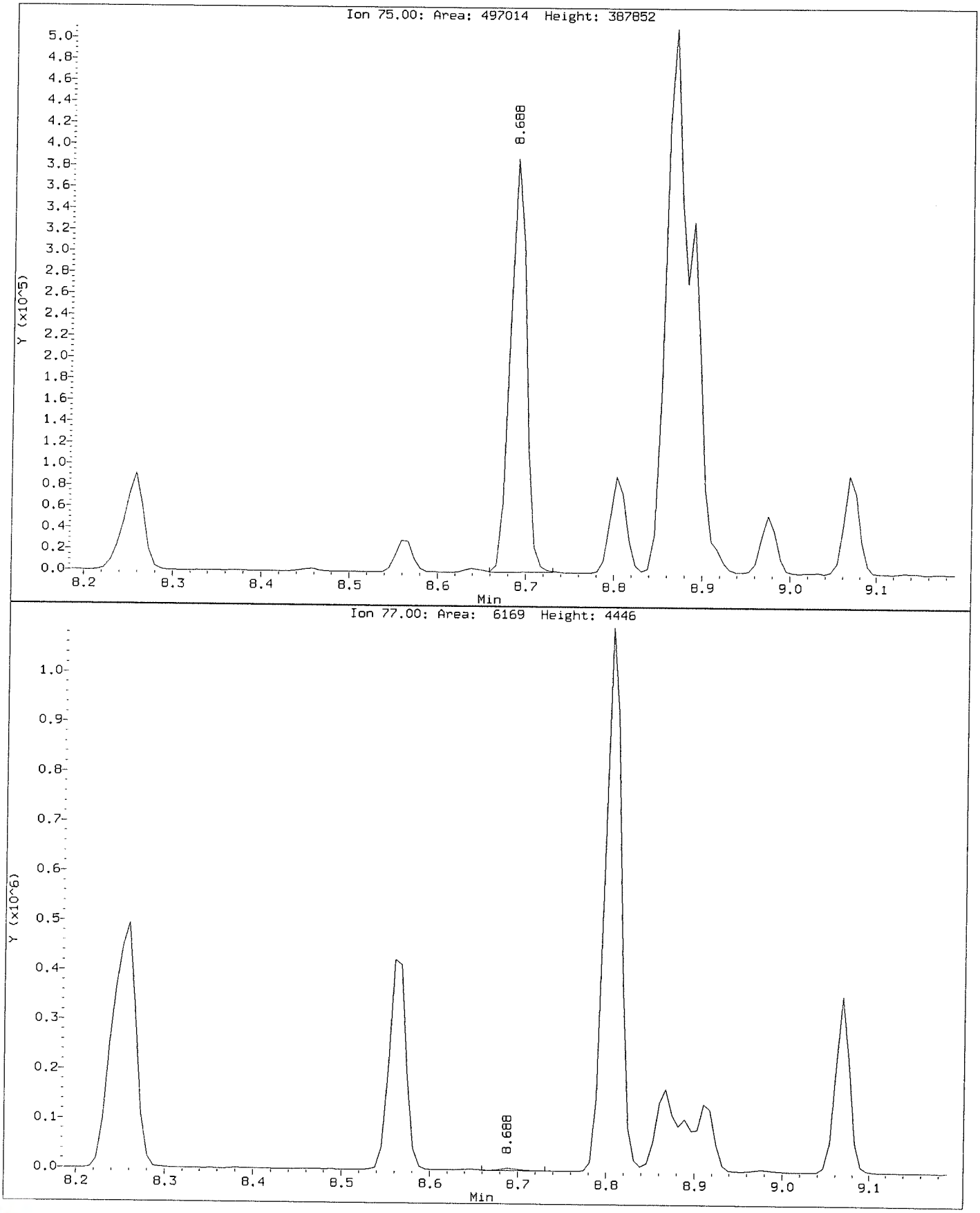



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Date : 18-MAY-2021 14:52
Client ID: VSTD200
Sample Info: VSDT200;VSTD200;1;10;;
Purge Volume: 5.0
Column phase: DB624

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

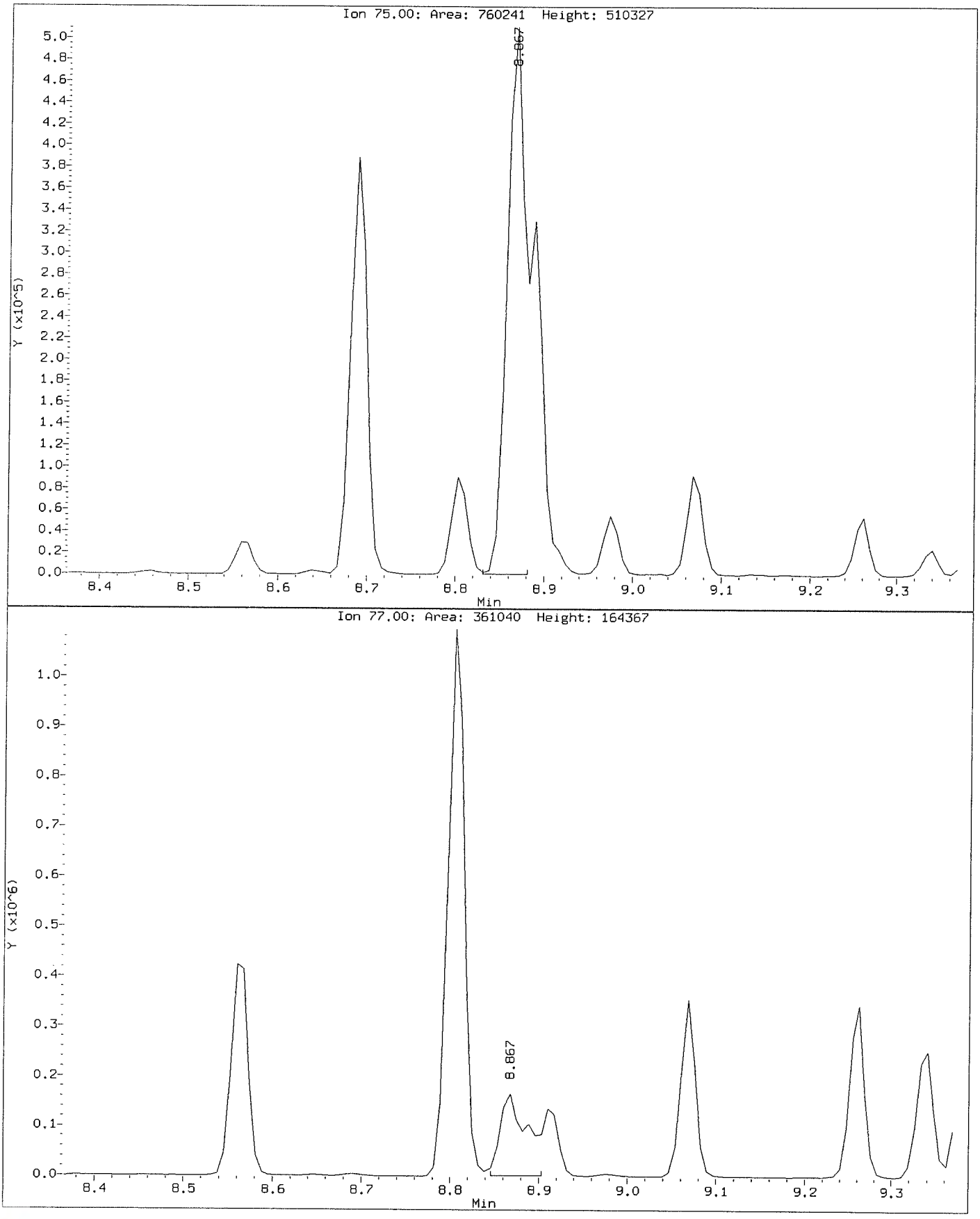
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Injection Date: 18-MAY-2021 14:52
Instrument: voa6.i
Client Sample ID: VSTD200

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051811.D
Injection Date: 18-MAY-2021 14:52
Instrument: voa6.i
Client Sample ID: VSTD200

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051814.D
Lab Smp Id: ICV Client Smp ID: ICV
Inj Date : 18-MAY-2021 16:04
Operator : PC Inst ID: voa6.i
Smp Info : CCV;CCV;2;;ICV
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210518.b\8260W.m
Meth Date : 08-Jun-2021 11:42 voa6.i Quant Type: ISTD
Cal Date : 18-MAY-2021 14:52 Cal File: X051811.D
Als bottle: 15 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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 |

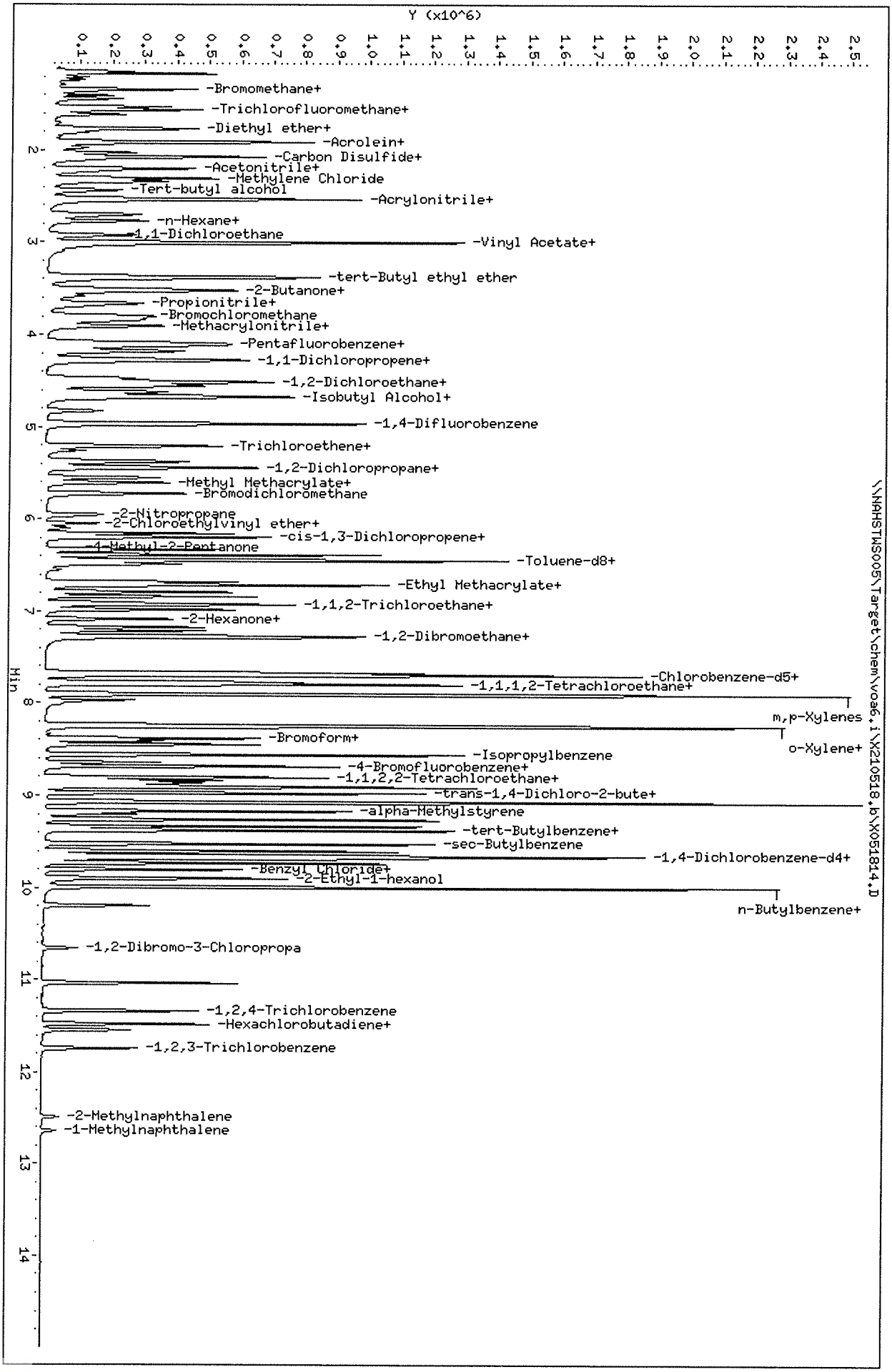
| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ug/l) | FINAL ( ug/l) |
|---|---|---|---|---|---|---|---|
| * 1 Pentafluorobenzene | 168 | 4.182 | 4.182 | (1.000) | 314020 | 50.0000 | |
| * 36 1,4-Difluorobenzene | 114 | 4.963 | 4.963 | (1.000) | 520811 | 50.0000 | |
| * 47 Chlorobenzene-d5 | 117 | 7.670 | 7.671 | (1.000) | 484823 | 50.0000 | |
| * 70 1,4-Dichlorobenzene-d4 | 152 | 9.662 | 9.662 | (1.000) | 250460 | 50.0000 | |
| $ 30 Dibromofluoromethane | 113 | 4.103 | 4.096 | (0.981) | 175772 | 50.2504 | 50.25 |
| $ 35 1,2-Dichloroethane-d4 | 65 | 4.469 | 4.476 | (1.069) | 205067 | 50.1979 | 50.19 |
| $ 48 Toluene-d8 | 98 | 6.388 | 6.388 | (0.833) | 584625 | 49.1076 | 49.10 |
| $ 69 4-Bromofluorobenzene | 95 | 8.688 | 8.688 | (1.133) | 230369 | 50.3369 | 50.33 |
| 60 1,1,1,2-Tetrachloroethane | 131 | 7.778 | 7.778 | (1.014) | 170258 | 48.2027 | 48.20 |
| 31 1,1,1-Trichloroethane | 97 | 4.082 | 4.082 | (0.976) | 270319 | 50.6112 | 50.61 |
| 68 1,1,2,2-Tetrachloroethane | 83 | 8.838 | 8.838 | (0.915) | 214655 | 51.7580 | 51.75 |
| 53 1,1,2-Trichloroethane | 83 | 6.840 | 6.840 | (0.892) | 140911 | 50.0345 | 50.03 |
| 22 1,1-Dichloroethane | 63 | 2.921 | 2.921 | (0.699) | 274803 | 47.2562 | 47.25 |
| 11 1,1-Dichloroethene | 96 | 1.911 | 1.911 | (0.457) | 148405 | 47.2568 | 47.25 |
| 32 1,1-Dichloropropene | 75 | 4.282 | 4.282 | (0.863) | 215541 | 48.3130 | 48.31 |
| 93 1,2,3-Trichlorobenzene | 180 | 11.739 | 11.739 | (1.215) | 71059 | 59.1408 | 59.14 |
| 71 1,2,3-Trichloropropane | 75 | 8.867 | 8.867 | (0.918) | 180570 | 53.1631 | 53.16(M) |
| 90 1,2,4-Trichlorobenzene | 180 | 11.338 | 11.338 | (1.173) | 120554 | 53.3923 | 53.39 |
| 79 1,2,4-Trimethylbenzene | 105 | 9.382 | 9.383 | (0.971) | 597253 | 46.8861 | 46.88 |
| 89 1,2-Dibromo-3-Chloropropane | 155 | 10.657 | 10.658 | (1.103) | 19095 | 56.3452 | 56.34 |
| 57 1,2-Dibromoethane | 107 | 7.262 | 7.262 | (0.947) | 175810 | 51.9432 | 51.94 |
| 88 1,2-Dichlorobenzene | 146 | 9.991 | 9.991 | (1.034) | 329044 | 46.8735 | 46.87 |

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051814.D Page 2
Report Date: 08-Jun-2021 11:42

| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ug/l) | FINAL ( ug/l) |
|---|---|---|---|---|---|---|---|
| 33 1,2-Dichloroethane | 62 | 4.555 | 4.555 | (0.918) | 250302 | 48.8804 | 48.88 |
| 42 1,2-Dichloropropane | 63 | 5.436 | 5.436 | (1.095) | 167115 | 47.7459 | 47.74 |
| 75 1,3,5-Trimethylbenzene | 105 | 9.067 | 9.067 | (0.938) | 590381 | 47.2215 | 47.22 |
| 83 1,3-Dichlorobenzene | 146 | 9.605 | 9.605 | (0.994) | 343639 | 47.7565 | 47.75 |
| 54 1,3-Dichloropropane | 76 | 6.983 | 6.983 | (0.910) | 277959 | 50.4174 | 50.41 |
| 84 1,4-Dichlorobenzene | 146 | 9.683 | 9.683 | (1.002) | 352814 | 47.9586 | 47.95 |
| 26 2,2-Dichloropropane | 77 | 3.509 | 3.509 | (0.839) | 260587 | 50.0938 | 50.09 |
| 24 2-Butanone | 43 | 3.580 | 3.580 | (0.856) | 119740 | 103.302 | 103.30 |
| 76 2-Chlorotoluene | 91 | 8.974 | 8.974 | (0.929) | 510642 | 45.7453 | 45.74 |
| 52 2-Hexanone | 43 | 7.090 | 7.090 | (0.924) | 215239 | 104.715 | 104.71 |
| 77 4-Chlorotoluene | 91 | 9.067 | 9.067 | (0.938) | 612096 | 47.0259 | 47.02 |
| 82 p-Isopropyltoluene | 119 | 9.647 | 9.655 | (0.999) | 578626 | 46.7908 | 46.79 |
| 45 4-Methyl-2-Pentanone | 43 | 6.324 | 6.331 | (0.824) | 315436 | 102.153 | 102.15 |
| 10 Acetone | 43 | 1.976 | 1.976 | (0.473) | 92565 | 117.467 | 117.46 |
| 37 Benzene | 78 | 4.512 | 4.512 | (0.909) | 646518 | 50.1763 | 50.17 |
| 74 Bromobenzene | 156 | 8.802 | 8.809 | (0.911) | 196985 | 47.1796 | 47.17 |
| 29 Bromochloromethane | 128 | 3.795 | 3.795 | (0.908) | 92140 | 48.1462 | 48.14 |
| 39 Bromodichloromethane | 83 | 5.729 | 5.722 | (1.154) | 248409 | 49.3648 | 49.36 |
| 66 Bromoform | 173 | 8.408 | 8.408 | (1.096) | 122293 | 52.1571 | 52.15 |
| 6 Bromomethane | 94 | 1.338 | 1.331 | (0.320) | 187724 | 56.9415 | 56.94 |
| 19 Carbon Disulfide | 76 | 2.069 | 2.069 | (0.495) | 792228 | 107.080 | 107.07 |
| 34 Carbon Tetrachloride | 117 | 4.268 | 4.268 | (0.860) | 219217 | 48.2910 | 48.29 |
| 59 Chlorobenzene | 112 | 7.692 | 7.692 | (1.003) | 455368 | 47.8996 | 47.89 |
| 7 Chloroethane | 64 | 1.403 | 1.396 | (0.336) | 111773 | 47.0223 | 47.02 |
| 28 Chloroform | 83 | 3.910 | 3.910 | (0.935) | 318549 | 47.7476 | 47.74 |
| 3 Chloromethane | 50 | 1.073 | 1.073 | (0.257) | 175510 | 51.8144 | 51.81 |
| 27 cis-1,2-Dichloroethene | 96 | 3.530 | 3.523 | (0.844) | 177242 | 48.9746 | 48.97 |
| 46 cis-1,3-Dichloropropene | 75 | 6.152 | 6.159 | (1.240) | 286606 | 50.1968 | 50.19 |
| 55 Dibromochloromethane | 129 | 7.176 | 7.176 | (0.936) | 198733 | 52.4448 | 52.44 |
| 44 Dibromomethane | 93 | 5.550 | 5.550 | (1.118) | 125829 | 50.1588 | 50.15 |
| 2 Dichlorodifluoromethane | 85 | 0.973 | 0.973 | (0.233) | 202217 | 51.1231 | 51.12 |
| 61 Ethylbenzene | 106 | 7.799 | 7.799 | (1.017) | 229958 | 48.9489 | 48.94 |
| 91 Hexachlorobutadiene | 225 | 11.481 | 11.481 | (1.188) | 72493 | 48.3476 | 48.34 |
| 67 Isopropylbenzene | 105 | 8.559 | 8.566 | (1.116) | 689621 | 48.0318 | 48.03 |
| 62 m,p-Xylenes | 106 | 7.900 | 7.907 | (1.030) | 598088 | 98.7859 | 98.78 |
| 17 Methylene Chloride | 84 | 2.305 | 2.298 | (0.551) | 155672 | 49.4373 | 49.43 |
| 87 n-Butylbenzene | 91 | 9.991 | 9.991 | (1.034) | 559802 | 47.5986 | 47.59 |
| 73 n-Propylbenzene | 91 | 8.910 | 8.910 | (0.922) | 842024 | 47.4685 | 47.46 |
| 92 Naphthalene | 128 | 11.539 | 11.539 | (1.194) | 198367 | 59.5423 | 59.54(M) |
| 63 o-Xylene | 106 | 8.244 | 8.244 | (1.075) | 286204 | 48.6033 | 48.60 |
| 81 sec-Butylbenzene | 105 | 9.519 | 9.526 | (0.985) | 681120 | 46.3974 | 46.39 |
| 64 Styrene | 104 | 8.258 | 8.258 | (1.077) | 512733 | 46.5385 | 46.53 |
| 78 tert-Butylbenzene | 119 | 9.339 | 9.340 | (0.967) | 481642 | 45.4003 | 45.40 |
| 56 Tetrachloroethene | 164 | 6.926 | 6.926 | (0.903) | 135210 | 50.1892 | 50.18 |
| 50 Toluene | 91 | 6.446 | 6.446 | (0.840) | 698935 | 49.9665 | 49.96 |
| 20 trans-1,2-Dichloroethene | 96 | 2.527 | 2.527 | (0.604) | 151505 | 50.1483 | 50.14 |
| 51 trans-1,3-Dichloropropene | 75 | 6.682 | 6.682 | (1.346) | 259978 | 52.0492 | 52.04 |
| 38 Trichloroethene | 130 | 5.206 | 5.206 | (1.049) | 166097 | 48.1615 | 48.16 |
| 8 Trichlorofluoromethane | 101 | 1.560 | 1.560 | (0.373) | 289827 | 48.0155 | 48.01 |
| 5 Vinyl Chloride | 62 | 1.145 | 1.138 | (0.274) | 181830 | 47.9597 | 47.95 |

QC Flag Legend

M - Compound response manually integrated.

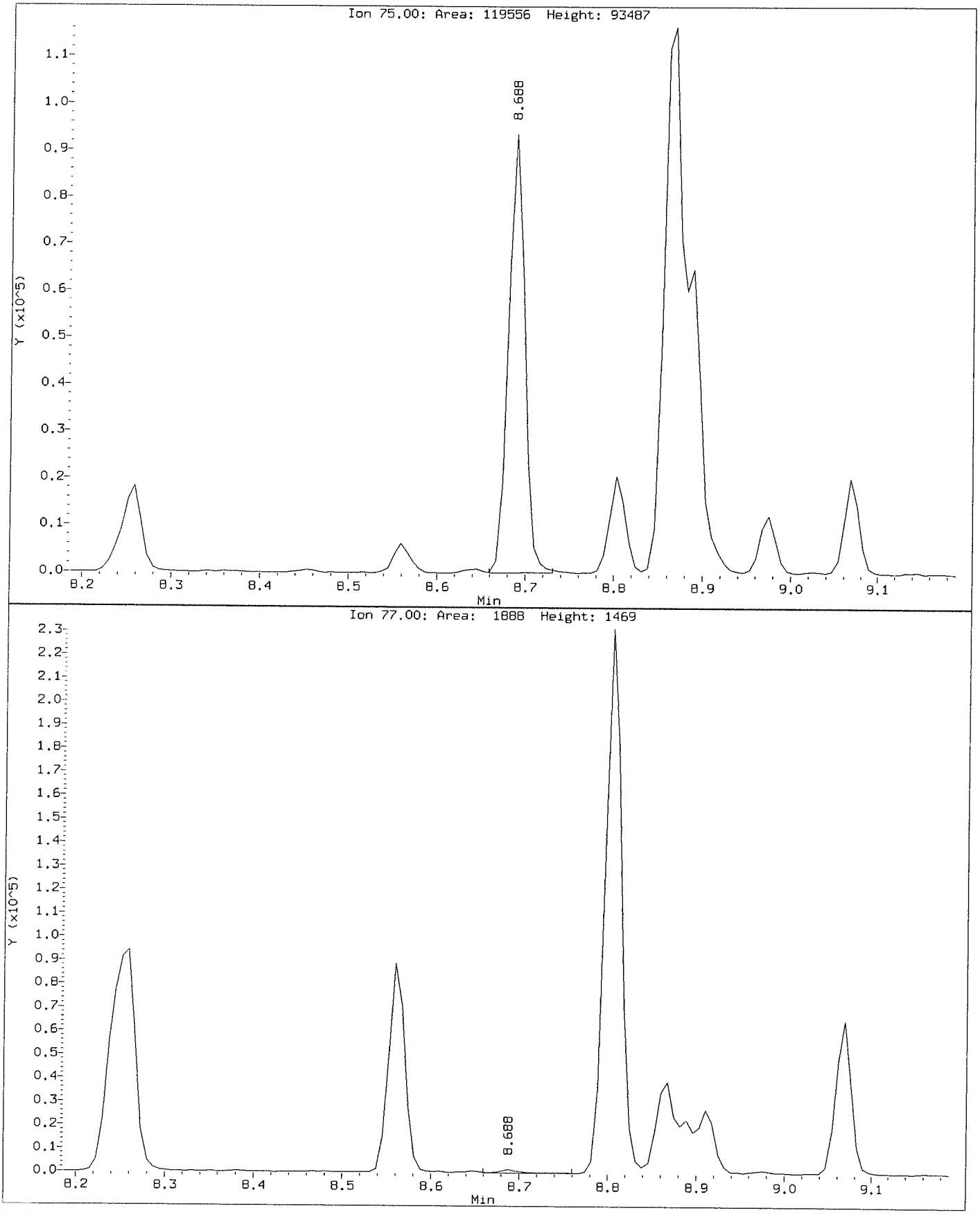



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Column phase: DB624

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

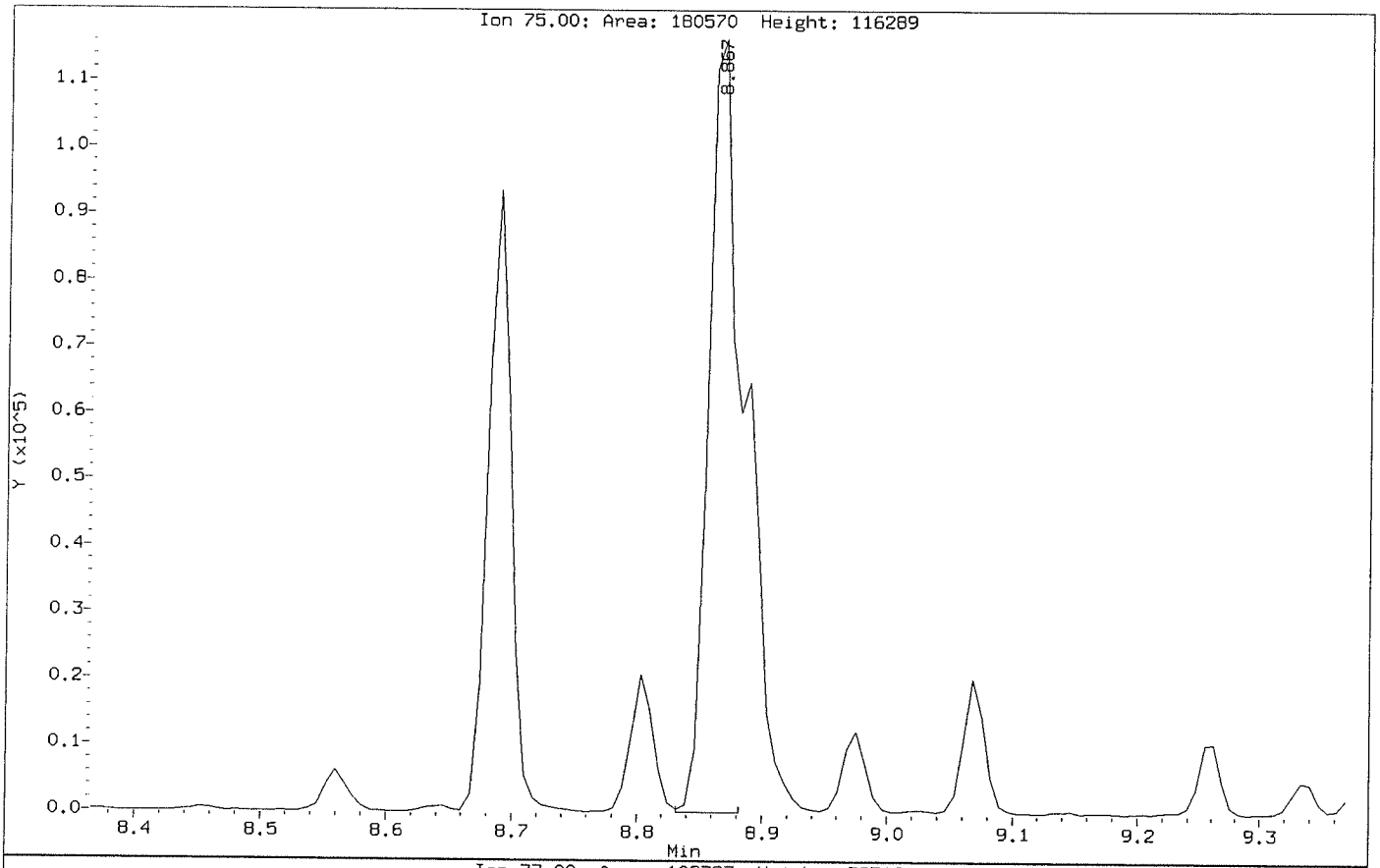
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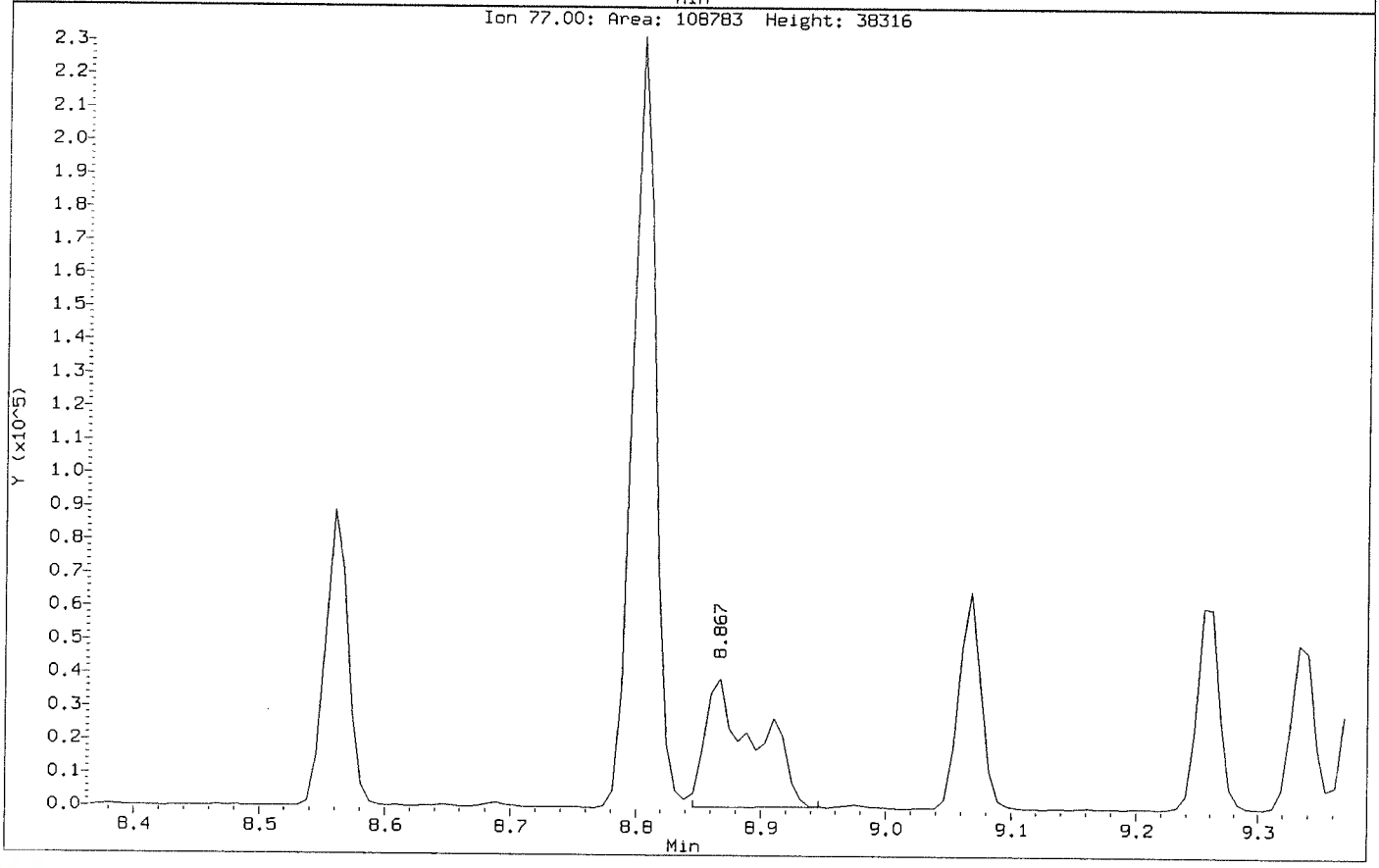
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CAS Number: 96-18-4



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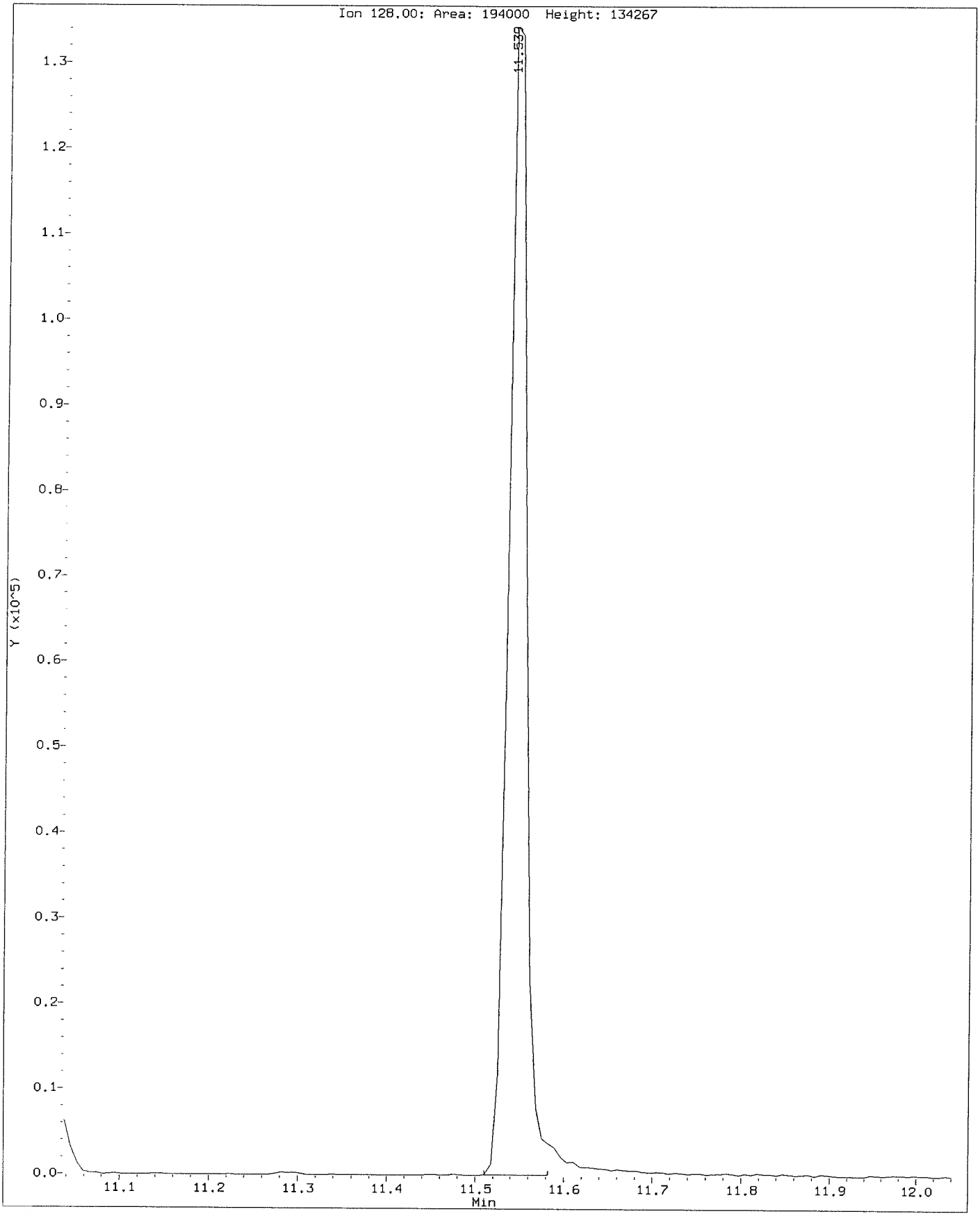
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CAS Number: 96-18-4



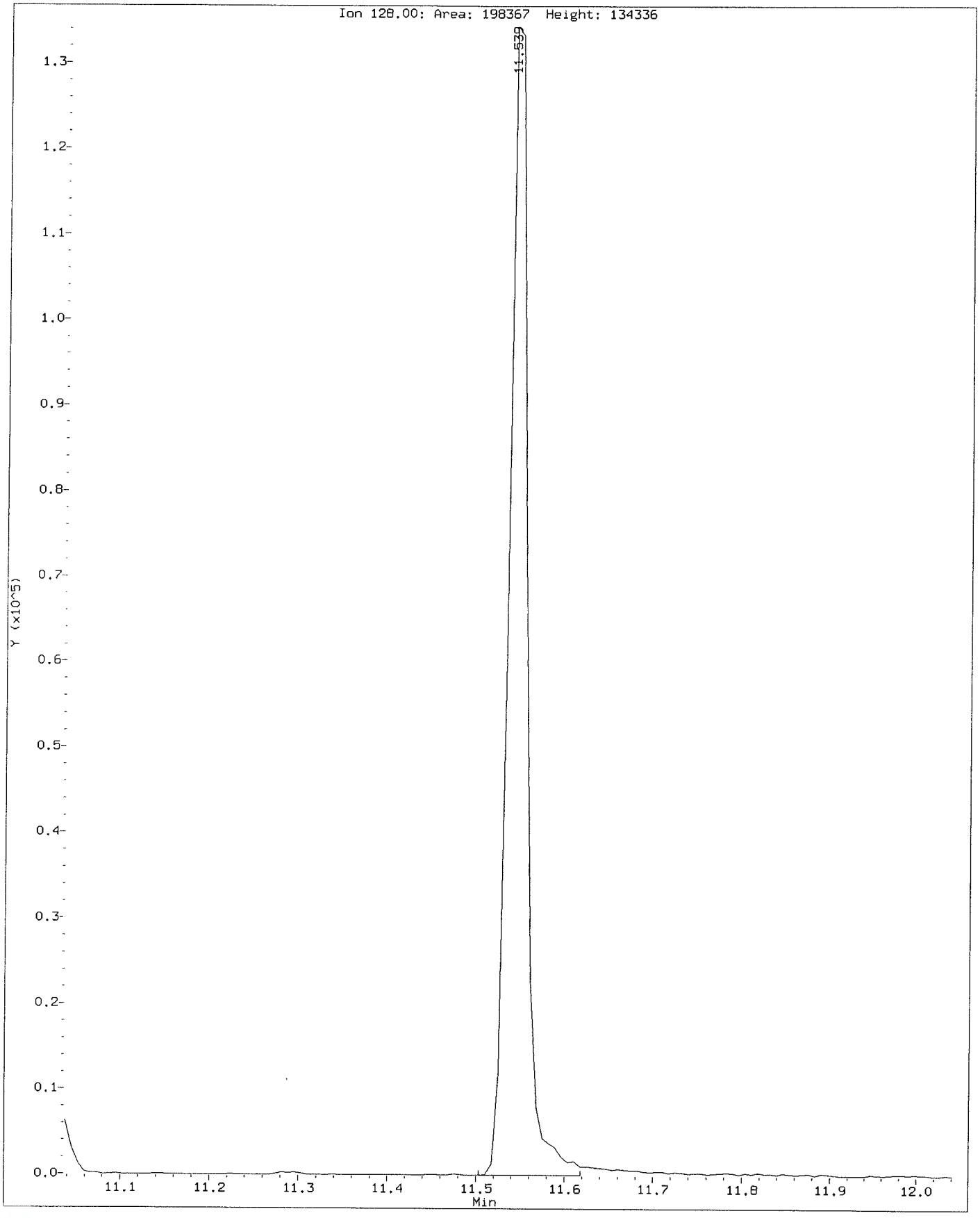
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Injection Date: 18-MAY-2021 16:04
Instrument: voa6.i
Client Sample ID: ICV

Compound: Naphthalene
CAS Number: 91-20-3



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051814.D
Injection Date: 18-MAY-2021 16:04
Instrument: voa6.i
Client Sample ID: ICV

Compound: Naphthalene
CAS Number: 91-20-3



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051816.D
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Inj Date : 18-MAY-2021 16:46
Operator : PC Inst ID: voa6.i
Smp Info : VLCSW-210518;VLCSW-210518;3;;LCS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210518.b\8260W.m
Meth Date : 08-Jun-2021 14:14 voa6.i Quant Type: ISTD
Cal Date : 18-MAY-2021 14:52 Cal File: X051811.D
Als bottle: 17 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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

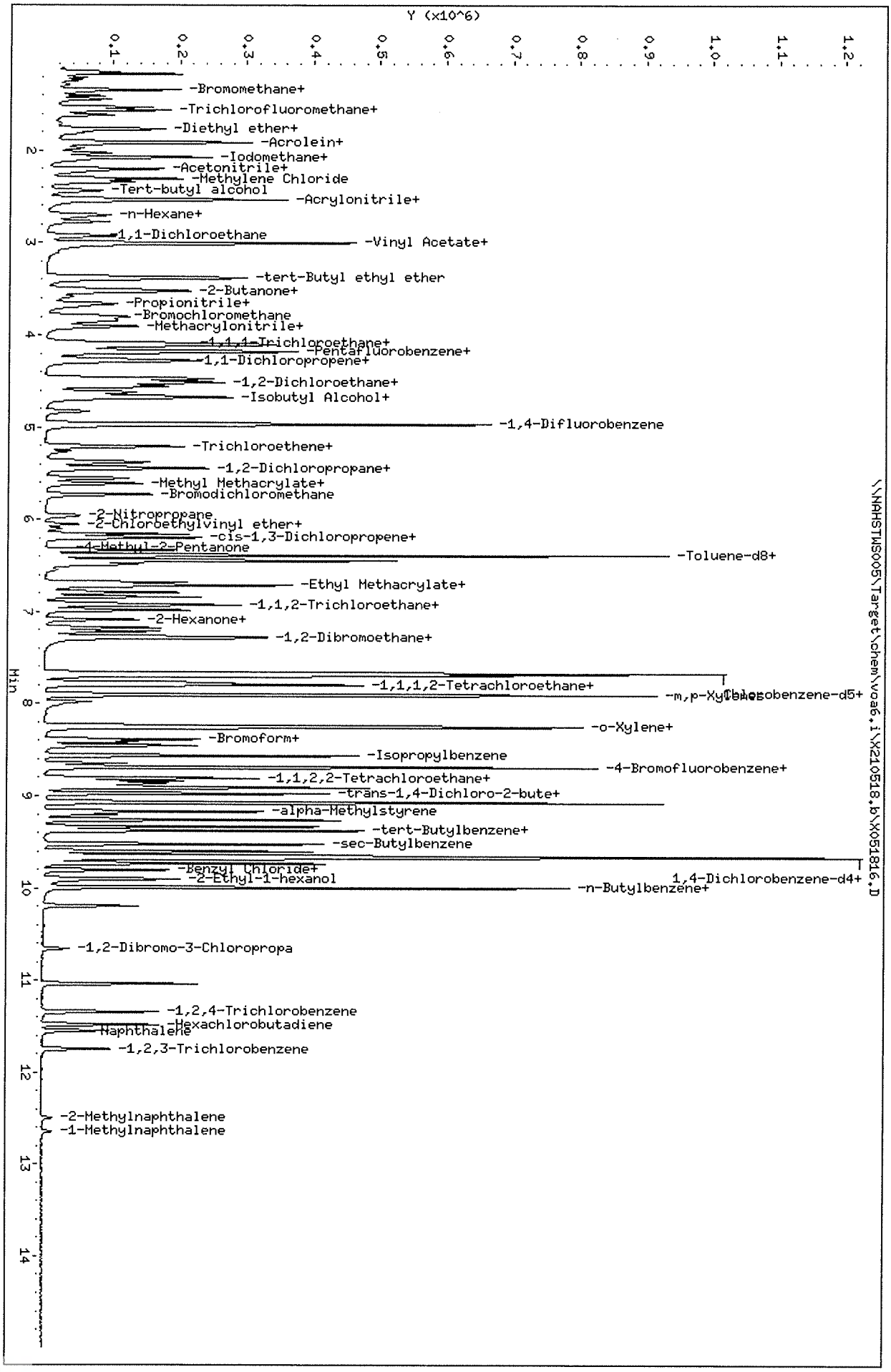
| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 5.000 | ng unit correction factor |
| Vo | 5.000 | sample purged |
| Cpnd Variable | | Local Compound Variable |

| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ug/l) | CONCENTRATIONS FINAL ( ug/l) |
|---|---|---|---|---|---|---|---|
| * 1 Pentafluorobenzene | 168 | 4.182 | 4.182 | (1.000) | 284418 | 50.0000 | |
| * 36 1,4-Difluorobenzene | 114 | 4.963 | 4.963 | (1.000) | 454349 | 50.0000 | |
| * 47 Chlorobenzene-d5 | 117 | 7.671 | 7.670 | (1.000) | 435248 | 50.0000 | |
| * 70 1,4-Dichlorobenzene-d4 | 152 | 9.662 | 9.662 | (1.000) | 217306 | 50.0000 | |
| $ 30 Dibromofluoromethane | 113 | 4.103 | 4.103 | (0.981) | 156411 | 49.3653 | 49.36 |
| $ 35 1,2-Dichloroethane-d4 | 65 | 4.469 | 4.476 | (1.069) | 199609 | 54.0422 | 54.04 |
| $ 48 Toluene-d8 | 98 | 6.388 | 6.388 | (0.833) | 531938 | 49.7575 | 49.75 |
| $ 69 4-Bromofluorobenzene | 95 | 8.688 | 8.688 | (1.133) | 203949 | 49.6415 | 49.64 |
| 60 1,1,1,2-Tetrachloroethane | 131 | 7.771 | 7.778 | (1.013) | 61317 | 19.3371 | 19.33 |
| 31 1,1,1-Trichloroethane | 97 | 4.082 | 4.082 | (0.976) | 97972 | 20.2522 | 20.25 |
| 68 1,1,2,2-Tetrachloroethane | 83 | 8.838 | 8.838 | (0.915) | 79030 | 21.6578 | 21.65 |
| 53 1,1,2-Trichloroethane | 83 | 6.840 | 6.840 | (0.892) | 49918 | 19.7437 | 19.74 |
| 22 1,1-Dichloroethane | 63 | 2.929 | 2.921 | (0.700) | 107681 | 20.4445 | 20.44 |
| 11 1,1-Dichloroethene | 96 | 1.911 | 1.911 | (0.457) | 55910 | 19.6565 | 19.65 |
| 32 1,1-Dichloropropene | 75 | 4.282 | 4.282 | (0.863) | 78378 | 20.1381 | 20.13 |
| 93 1,2,3-Trichlorobenzene | 180 | 11.746 | 11.739 | (1.216) | 26827 | 26.5159 | 26.51 |
| 71 1,2,3-Trichloropropane | 75 | 8.867 | 8.867 | (0.918) | 63931 | 21.3292 | 21.32(M) |
| 90 1,2,4-Trichlorobenzene | 180 | 11.338 | 11.338 | (1.173) | 46602 | 25.1562 | 25.15 |
| 79 1,2,4-Trimethylbenzene | 105 | 9.375 | 9.375 | (0.970) | 217236 | 19.6555 | 19.65 |
| 89 1,2-Dibromo-3-Chloropropane | 155 | 10.658 | 10.657 | (1.103) | 6550 | 23.2468 | 23.24 |
| 57 1,2-Dibromoethane | 107 | 7.262 | 7.262 | (0.947) | 63980 | 21.0560 | 21.05 |
| 88 1,2-Dichlorobenzene | 146 | 9.991 | 9.991 | (1.034) | 116200 | 19.0786 | 19.07 |

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ug/l) | CONCENTRATIONS FINAL ( ug/l) |
|---|---|---|---|---|---|---|---|---|
| 33 | 1,2-Dichloroethane | 62 | 4.555 | 4.555 | (0.918) | 93428 | 20.9141 | 20.91 |
| 42 | 1,2-Dichloropropane | 63 | 5.436 | 5.436 | (1.095) | 63175 | 20.6898 | 20.68 |
| 75 | 1,3,5-Trimethylbenzene | 105 | 9.067 | 9.067 | (0.938) | 211287 | 19.4781 | 19.47 |
| 83 | 1,3-Dichlorobenzene | 146 | 9.605 | 9.604 | (0.994) | 125253 | 20.0625 | 20.06 |
| 54 | 1,3-Dichloropropane | 76 | 6.983 | 6.983 | (0.910) | 100549 | 20.3153 | 20.31 |
| 84 | 1,4-Dichlorobenzene | 146 | 9.683 | 9.683 | (1.002) | 130231 | 20.5488 | 20.54 |
| 26 | 2,2-Dichloropropane | 77 | 3.509 | 3.509 | (0.839) | 98275 | 20.8581 | 20.85 |
| 24 | 2-Butanone | 43 | 3.580 | 3.580 | (0.856) | 44849 | 42.7190 | 42.71 |
| 76 | 2-Chlorotoluene | 91 | 8.974 | 8.974 | (0.929) | 184017 | 19.0000 | 19.00 |
| 52 | 2-Hexanone | 43 | 7.090 | 7.083 | (0.924) | 79119 | 42.7158 | 42.71 |
| 77 | 4-Chlorotoluene | 91 | 9.067 | 9.067 | (0.938) | 222433 | 19.6962 | 19.69 |
| 82 | p-Isopropyltoluene | 119 | 9.648 | 9.647 | (0.999) | 208501 | 19.4329 | 19.43 |
| 45 | 4-Methyl-2-Pentanone | 43 | 6.324 | 6.324 | (0.824) | 121268 | 43.7957 | 43.79 |
| 10 | Acetone | 43 | 1.976 | 1.976 | (0.473) | 36484 | 48.2054 | 48.20 |
| 37 | Benzene | 78 | 4.512 | 4.512 | (0.909) | 237038 | 21.0876 | 21.08 |
| 74 | Bromobenzene | 156 | 8.802 | 8.802 | (0.911) | 70980 | 19.5940 | 19.59 |
| 29 | Bromochloromethane | 128 | 3.795 | 3.795 | (0.908) | 33683 | 19.4323 | 19.43 |
| 39 | Bromodichloromethane | 83 | 5.729 | 5.729 | (1.154) | 90419 | 20.5968 | 20.59 |
| 66 | Bromoform | 173 | 8.408 | 8.408 | (1.096) | 41913 | 19.9116 | 19.91 |
| 6 | Bromomethane | 94 | 1.338 | 1.338 | (0.320) | 77311 | 25.6309 | 25.63 |
| 19 | Carbon Disulfide | 76 | 2.069 | 2.069 | (0.495) | 289859 | 43.2558 | 43.25 |
| 34 | Carbon Tetrachloride | 117 | 4.261 | 4.268 | (0.859) | 76012 | 19.1939 | 19.19 |
| 59 | Chlorobenzene | 112 | 7.692 | 7.692 | (1.003) | 169815 | 19.8972 | 19.89 |
| 7 | Chloroethane | 64 | 1.403 | 1.403 | (0.336) | 41953 | 19.4863 | 19.48 |
| 28 | Chloroform | 83 | 3.910 | 3.910 | (0.935) | 120706 | 19.9758 | 19.97 |
| 3 | Chloromethane | 50 | 1.073 | 1.073 | (0.257) | 69310 | 22.7246 | 22.72 |
| 27 | cis-1,2-Dichloroethene | 96 | 3.530 | 3.523 | (0.844) | 64751 | 19.7538 | 19.75 |
| 46 | cis-1,3-Dichloropropene | 75 | 6.152 | 6.152 | (1.240) | 103397 | 20.7582 | 20.75 |
| 55 | Dibromochloromethane | 129 | 7.176 | 7.176 | (0.936) | 71079 | 20.8939 | 20.89 |
| 44 | Dibromomethane | 93 | 5.550 | 5.550 | (1.118) | 45628 | 20.8492 | 20.84 |
| 2 | Dichlorodifluoromethane | 85 | 0.973 | 0.973 | (0.233) | 72126 | 21.3922 | 21.39 |
| 61 | Ethylbenzene | 106 | 7.800 | 7.799 | (1.017) | 84553 | 20.0480 | 20.04 |
| 91 | Hexachlorobutadiene | 225 | 11.481 | 11.481 | (1.188) | 25601 | 21.5681 | 21.56 |
| 67 | Isopropylbenzene | 105 | 8.559 | 8.559 | (1.116) | 243330 | 18.8782 | 18.87 |
| 62 | m,p-Xylenes | 106 | 7.900 | 7.900 | (1.030) | 216408 | 39.8153 | 39.81 |
| 17 | Methylene Chloride | 84 | 2.305 | 2.305 | (0.551) | 60449 | 21.1950 | 21.19 |
| 87 | n-Butylbenzene | 91 | 9.991 | 9.991 | (1.034) | 191831 | 18.7995 | 18.79 |
| 73 | n-Propylbenzene | 91 | 8.910 | 8.910 | (0.922) | 304757 | 19.8016 | 19.80 |
| 92 | Naphthalene | 128 | 11.546 | 11.546 | (1.195) | 69122 | 25.7697 | 25.76 |
| 63 | o-Xylene | 106 | 8.244 | 8.244 | (1.075) | 103917 | 19.6573 | 19.65 |
| 81 | sec-Butylbenzene | 105 | 9.519 | 9.519 | (0.985) | 230835 | 18.1233 | 18.12 |
| 64 | Styrene | 104 | 8.258 | 8.258 | (1.077) | 178526 | 19.1289 | 19.12 |
| 78 | tert-Butylbenzene | 119 | 9.332 | 9.339 | (0.966) | 171597 | 18.6428 | 18.64 |
| 56 | Tetrachloroethene | 164 | 6.926 | 6.926 | (0.903) | 48031 | 19.8596 | 19.85 |
| 50 | Toluene | 91 | 6.446 | 6.446 | (0.840) | 258081 | 20.5516 | 20.55 |
| 20 | trans-1,2-Dichloroethene | 96 | 2.528 | 2.535 | (0.604) | 57142 | 20.8826 | 20.88 |
| 51 | trans-1,3-Dichloropropene | 75 | 6.682 | 6.682 | (1.346) | 91915 | 21.0938 | 21.09 |
| 38 | Trichloroethene | 130 | 5.206 | 5.206 | (1.049) | 62565 | 20.7951 | 20.79 |
| 8 | Trichlorofluoromethane | 101 | 1.560 | 1.560 | (0.373) | 105652 | 19.3251 | 19.32 |
| 5 | Vinyl Chloride | 62 | 1.145 | 1.145 | (0.274) | 67081 | 19.5349 | 19.53 |

QC Flag Legend

M - Compound response manually integrated.

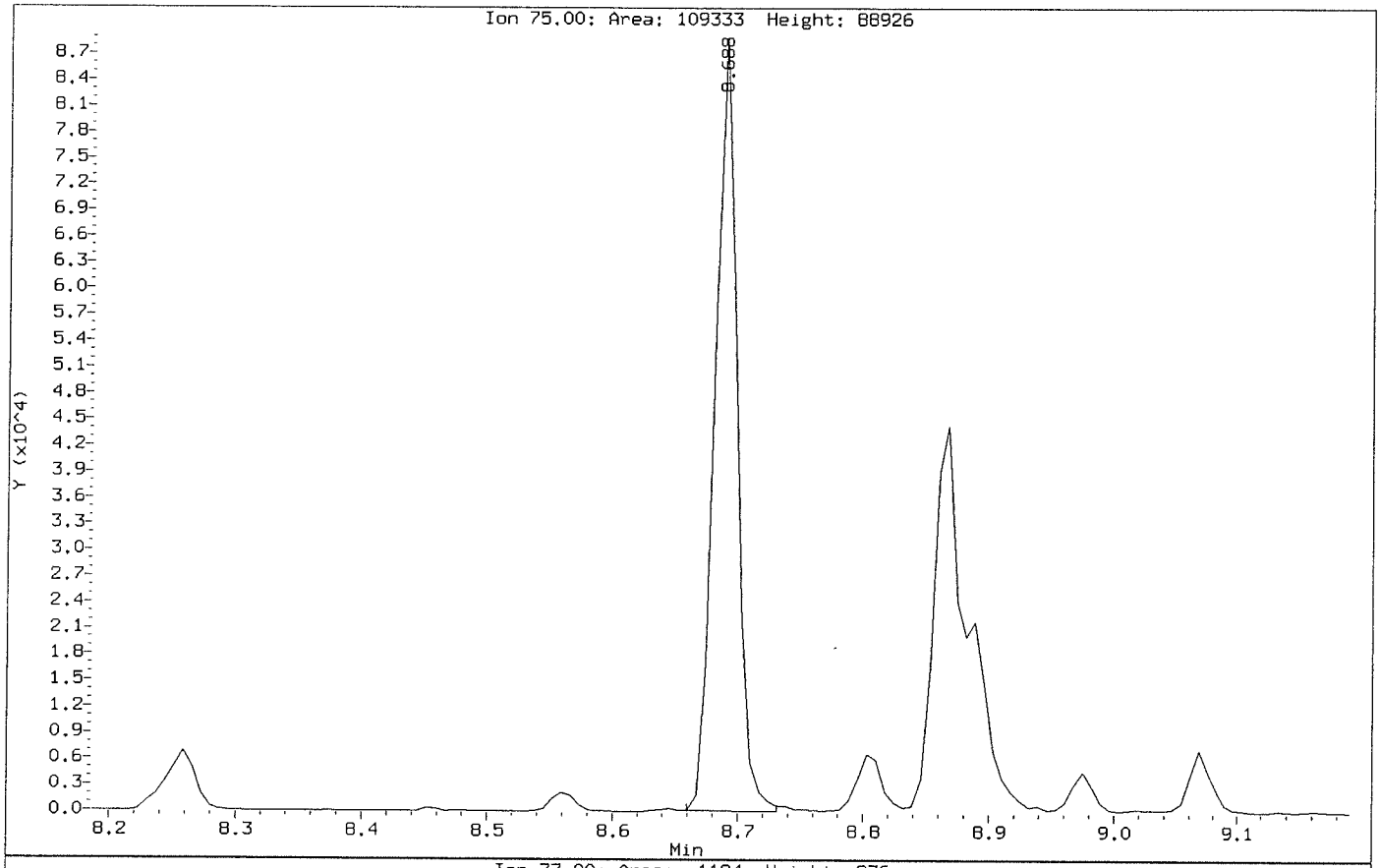


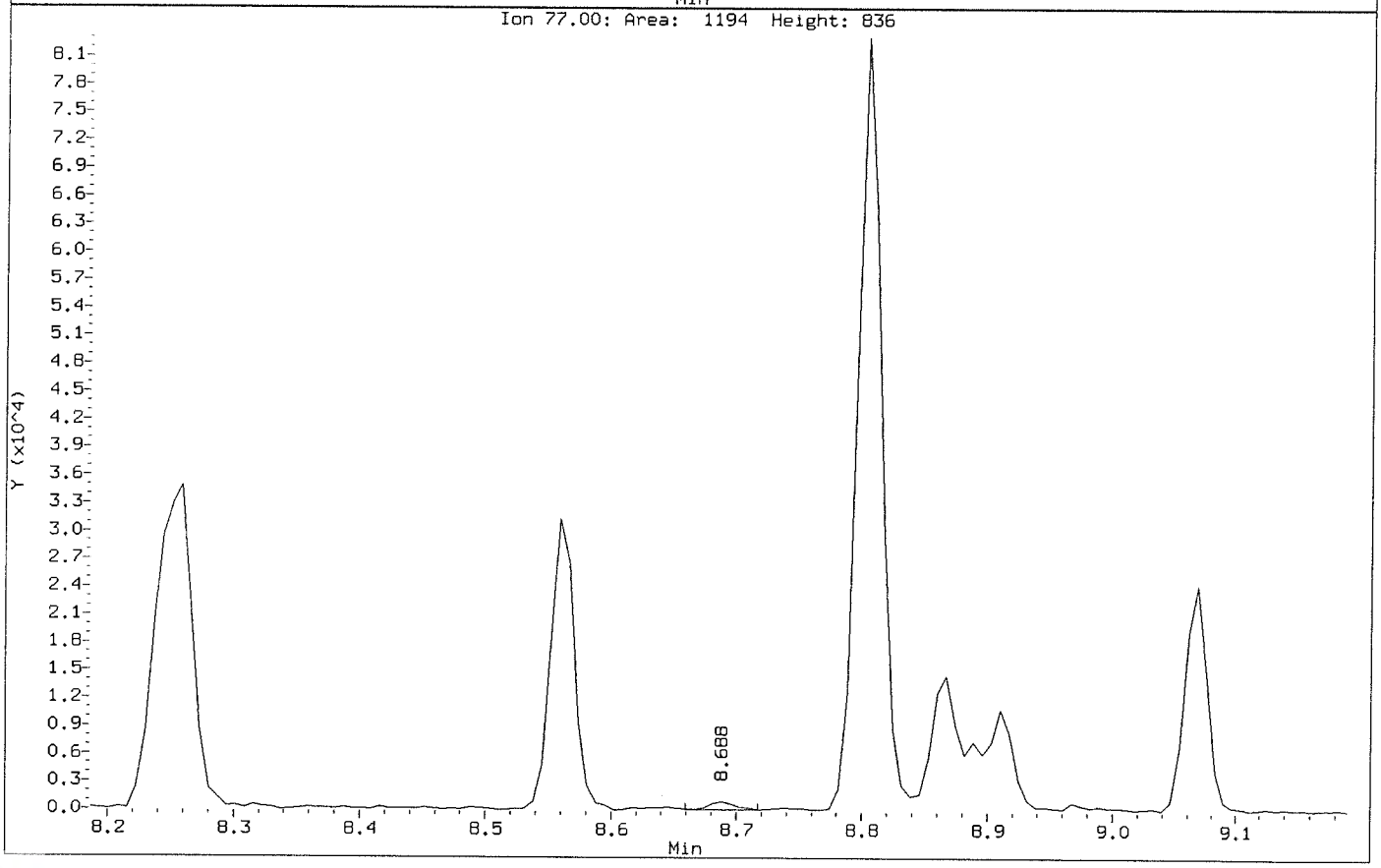

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Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\Before\X051816.D
Injection Date: 18-MAY-2021 16:46
Instrument: voa6.i
Client Sample ID: VLCSW-210518

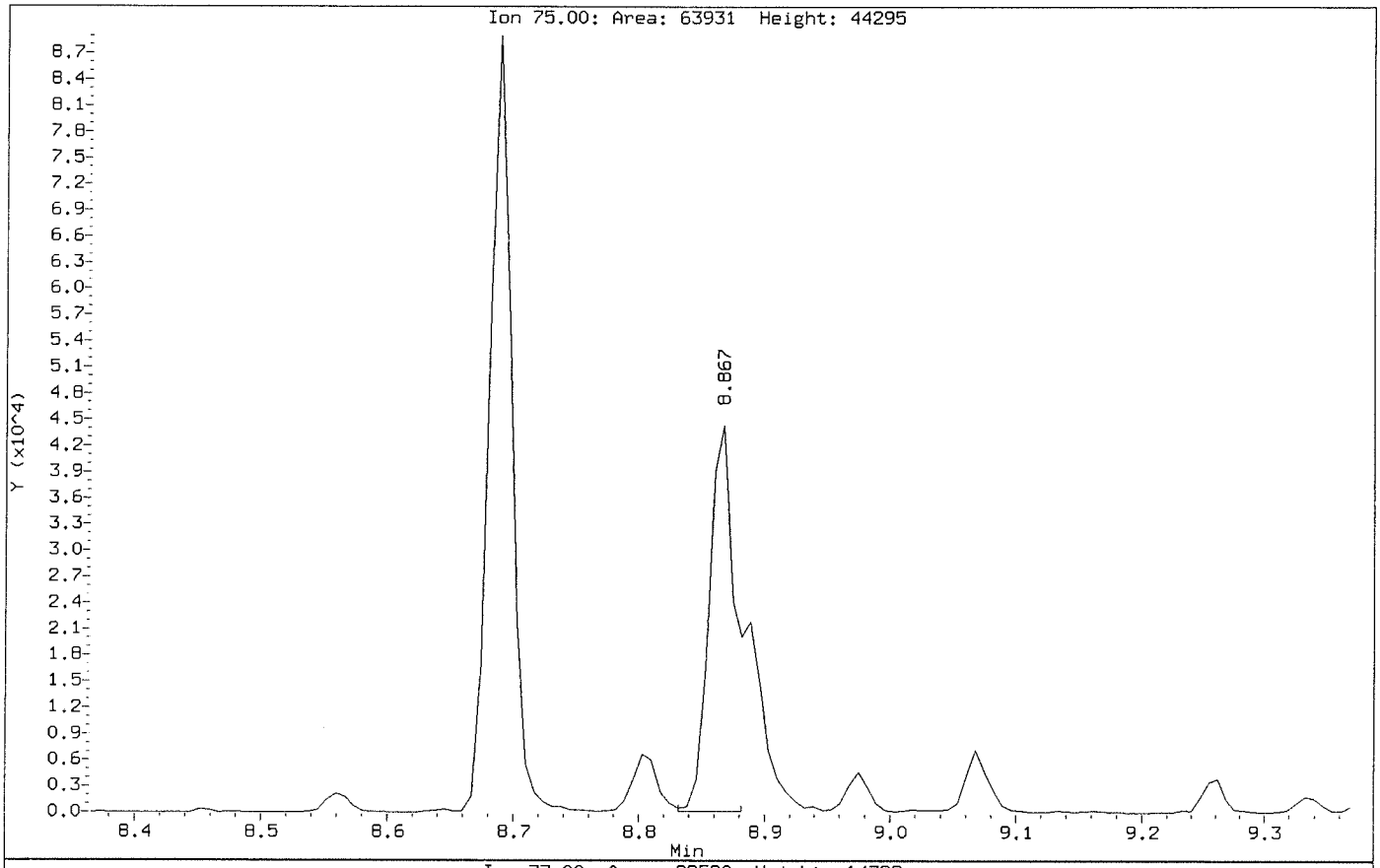
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4

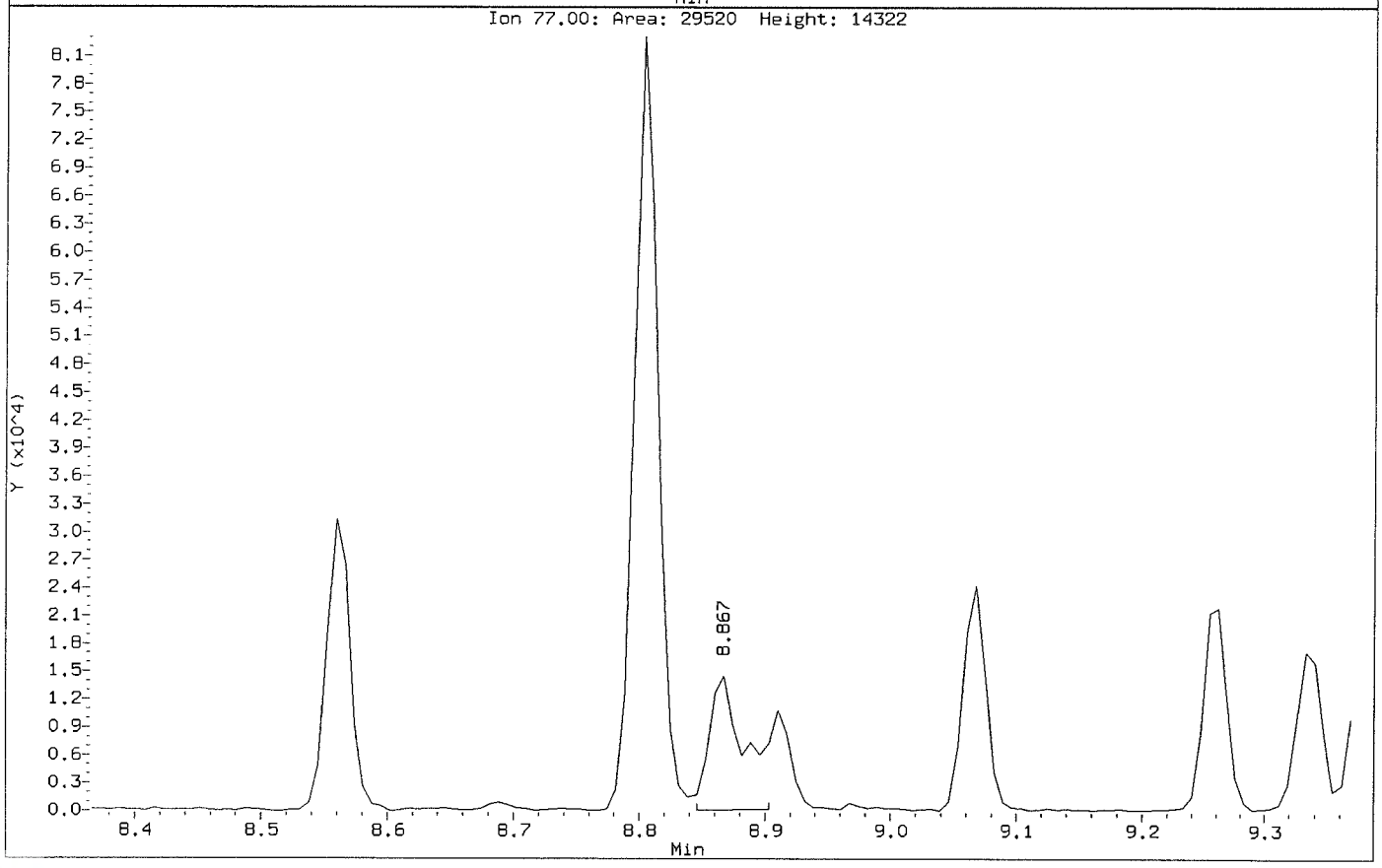


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051816.D
Injection Date: 18-MAY-2021 16:46
Instrument: voa6.i
Client Sample ID: VLCSW-210518

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051819.D
Lab Smp Id: VBLKW-210518 Client Smp ID: VBLKW-210518
Inj Date : 18-MAY-2021 17:49
Operator : PC Inst ID: voa6.i
Smp Info : VBLKW-210518;VBLKW-210518;3;;BLANK
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210518.b\8260W.m
Meth Date : 08-Jun-2021 14:14 voa6.i Quant Type: ISTD
Cal Date : 18-MAY-2021 14:52 Cal File: X051811.D
Als bottle: 20 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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 |

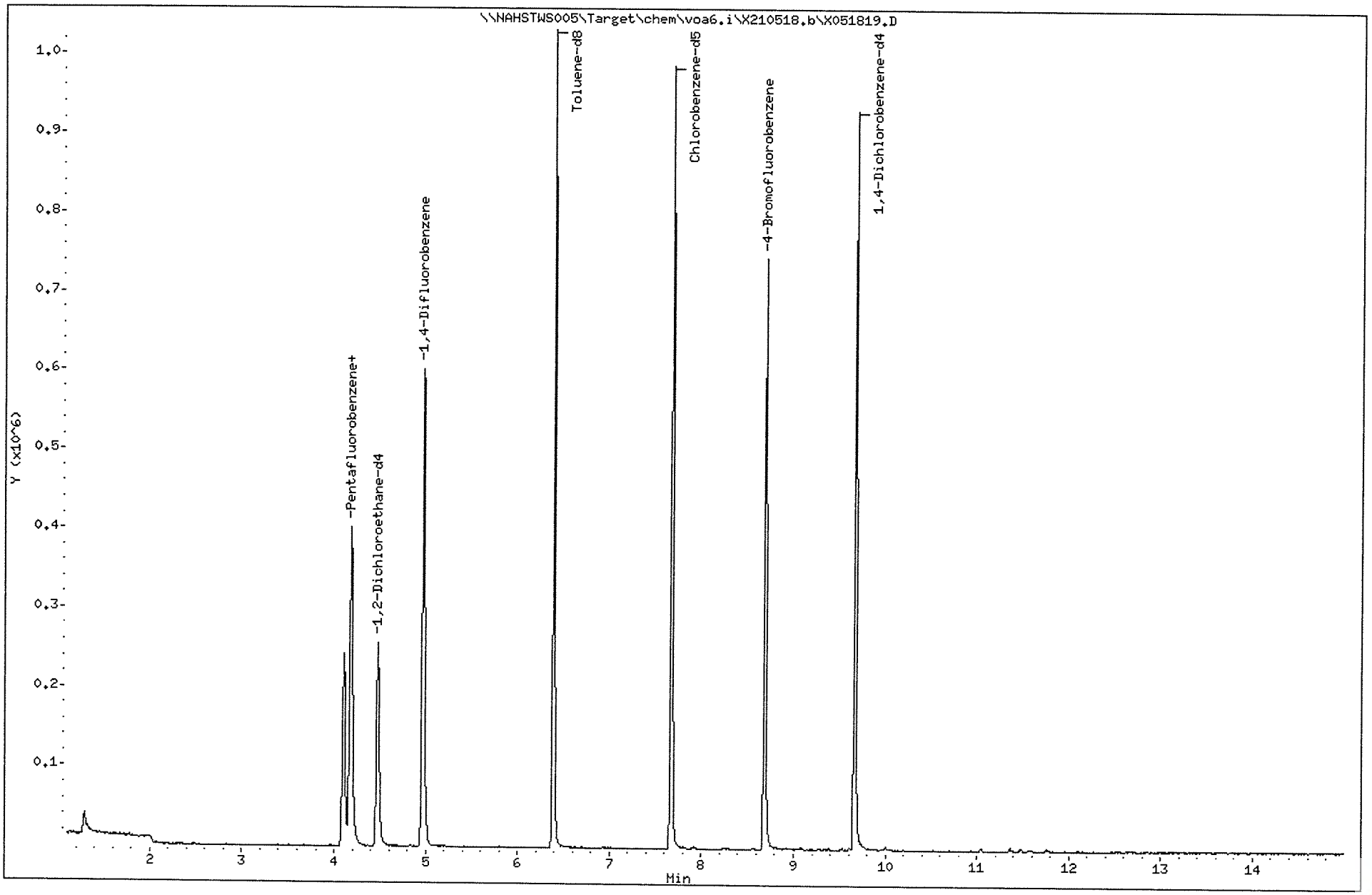
| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ug/l) | CONCENTRATIONS FINAL ( ug/l) |
|---|---|---|---|---|---|---|---|
| * 1 Pentafluorobenzene | 168 | 4.182 | 4.182 | (1.000) | 313668 | 50.0000 | |
| * 36 1,4-Difluorobenzene | 114 | 4.963 | 4.963 | (1.000) | 483775 | 50.0000 | |
| * 47 Chlorobenzene-d5 | 117 | 7.670 | 7.670 | (1.000) | 441438 | 50.0000 | |
| * 70 1,4-Dichlorobenzene-d4 | 152 | 9.662 | 9.662 | (1.000) | 195367 | 50.0000 | |
| $ 30 Dibromofluoromethane | 113 | 4.103 | 4.103 | (0.981) | 162587 | 46.5163 | 46.51 |
| $ 35 1,2-Dichloroethane-d4 | 65 | 4.476 | 4.476 | (1.070) | 198438 | 48.5900 | 48.58 |
| $ 48 Toluene-d8 | 98 | 6.388 | 6.388 | (0.833) | 584098 | 53.7867 | 53.78 |
| $ 69 4-Bromofluorobenzene | 95 | 8.688 | 8.688 | (1.133) | 193587 | 46.4665 | 46.46 |

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051819.D
Date : 18-MAY-2021 17:49
Client ID: VBLKW-210518
Sample Info: VBLKW-210518;VBLKW-210518;3;;BLANK
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i

Operator: PC
Column diameter: 0.18





ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051826.D
Lab Smp Id: HS21050553-03 Client Smp ID: HS21050553-03
Inj Date : 18-MAY-2021 20:16
Operator : PC Inst ID: voa6.i
Smp Info : HS21050553-03;HS21050553-03;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210518.b\8260W.m
Meth Date : 08-Jun-2021 14:14 voa6.i Quant Type: ISTD
Cal Date : 18-MAY-2021 14:52 Cal File: X051811.D
Als bottle: 27
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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) | CONCENTRATIONS FINAL ( ug/l) |
|---|---|---|---|---|---|---|---|
| * 1 Pentafluorobenzene | 168 | 4.182 | 4.182 | (1.000) | 289755 | 50.0000 | |
| * 36 1,4-Difluorobenzene | 114 | 4.963 | 4.963 | (1.000) | 449549 | 50.0000 | |
| * 47 Chlorobenzene-d5 | 117 | 7.671 | 7.670 | (1.000) | 400513 | 50.0000 | |
| * 70 1,4-Dichlorobenzene-d4 | 152 | 9.662 | 9.662 | (1.000) | 180387 | 50.0000 | |
| $ 30 Dibromofluoromethane | 113 | 4.103 | 4.103 | (0.981) | 149962 | 46.4448 | 46.44 |
| $ 35 1,2-Dichloroethane-d4 | 65 | 4.476 | 4.476 | (1.070) | 183259 | 48.5762 | 48.57 |
| $ 48 Toluene-d8 | 98 | 6.388 | 6.388 | (0.833) | 542016 | 54.9885 | 54.98 |
| $ 69 4-Bromofluorobenzene | 95 | 8.688 | 8.688 | (1.133) | 176884 | 46.7948 | 46.79 |

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051826.D



Date : 18-MAY-2021 20:16

Client ID: HS21050553-03

Instrument: voa6.i

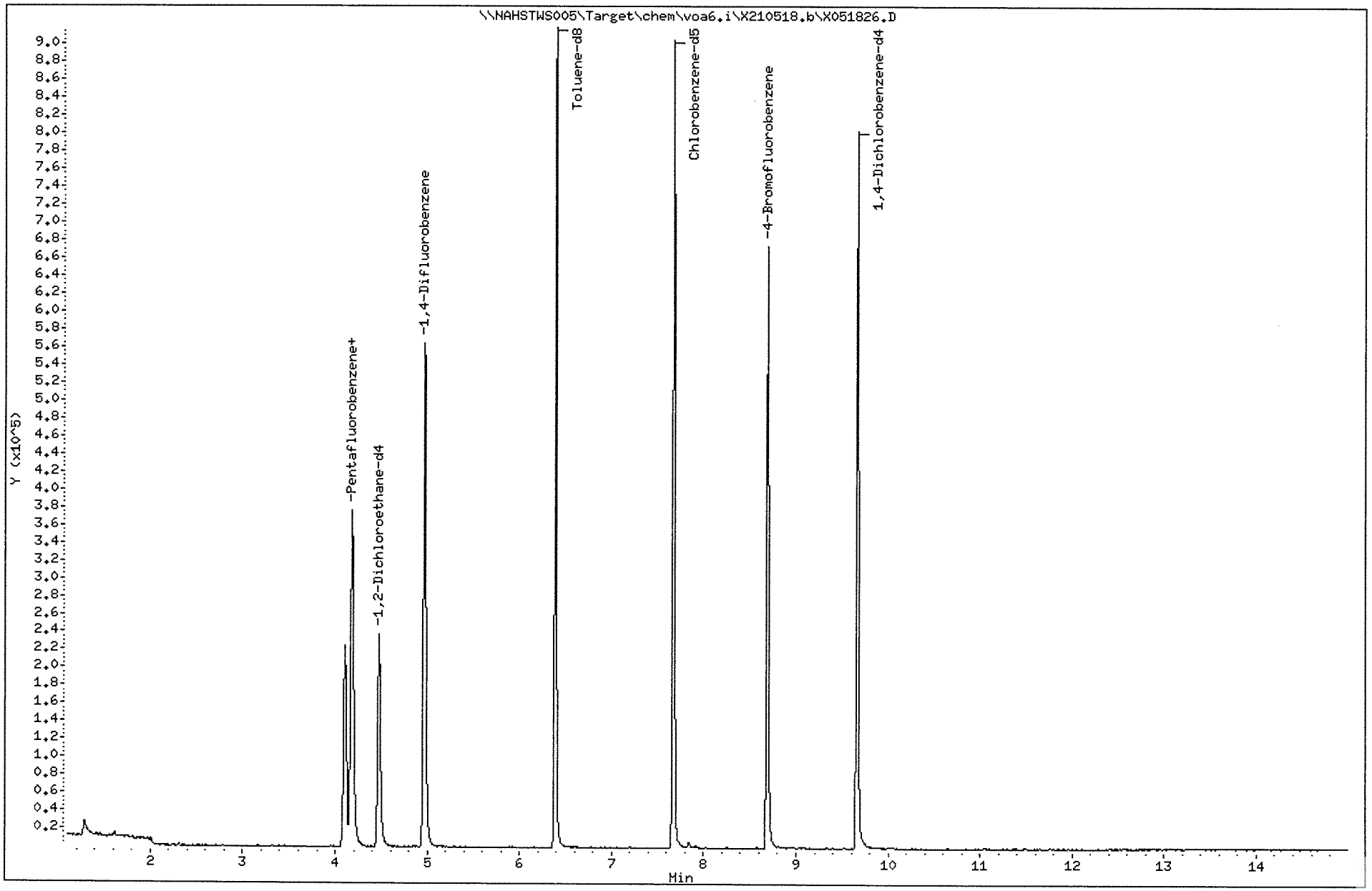
Sample Info: HS21050553-03;HS21050553-03;;;

Purge Volume: 5.0

Operator: PC

Column phase: DB624

Column diameter: 0.18



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051827.D
Lab Smp Id: HS21050553-01 Client Smp ID: HS21050553-01
Inj Date : 18-MAY-2021 20:37
Operator : PC Inst ID: voa6.i
Smp Info : HS21050553-01;HS21050553-01;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210518.b\8260W.m
Meth Date : 08-Jun-2021 14:18 Qin.Xu Quant Type: ISTD
Cal Date : 18-MAY-2021 14:52 Cal File: X051811.D
Als bottle: 28
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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 | 4.182 | 4.182 | (1.000) | 293929 | 50.0000 | |
| * 36 1,4-Difluorobenzene | 114 | 4.970 | 4.963 | (1.000) | 457288 | 50.0000 | |
| * 47 Chlorobenzene-d5 | 117 | 7.671 | 7.670 | (1.000) | 402458 | 50.0000 | |
| * 70 1,4-Dichlorobenzene-d4 | 152 | 9.662 | 9.662 | (1.000) | 171966 | 50.0000 | |
| $ 30 Dibromofluoromethane | 113 | 4.096 | 4.103 | (0.979) | 154223 | 47.0893 | 47.08 |
| $ 35 1,2-Dichloroethane-d4 | 65 | 4.469 | 4.476 | (1.069) | 190823 | 49.8965 | 49.89 |
| $ 48 Toluene-d8 | 98 | 6.388 | 6.388 | (0.833) | 540819 | 54.6090 | 54.60 |
| $ 69 4-Bromofluorobenzene | 95 | 8.688 | 8.688 | (1.133) | 169247 | 44.5638 | 44.56 |
| 27 cis-1,2-Dichloroethene | 96 | 3.538 | 3.523 | (0.846) | 27688 | 8.17355 | 8.17 |
| 38 Trichloroethene | 130 | 5.214 | 5.206 | (1.049) | 8559 | 2.82652 | 2.82(a) |

QC Flag Legend

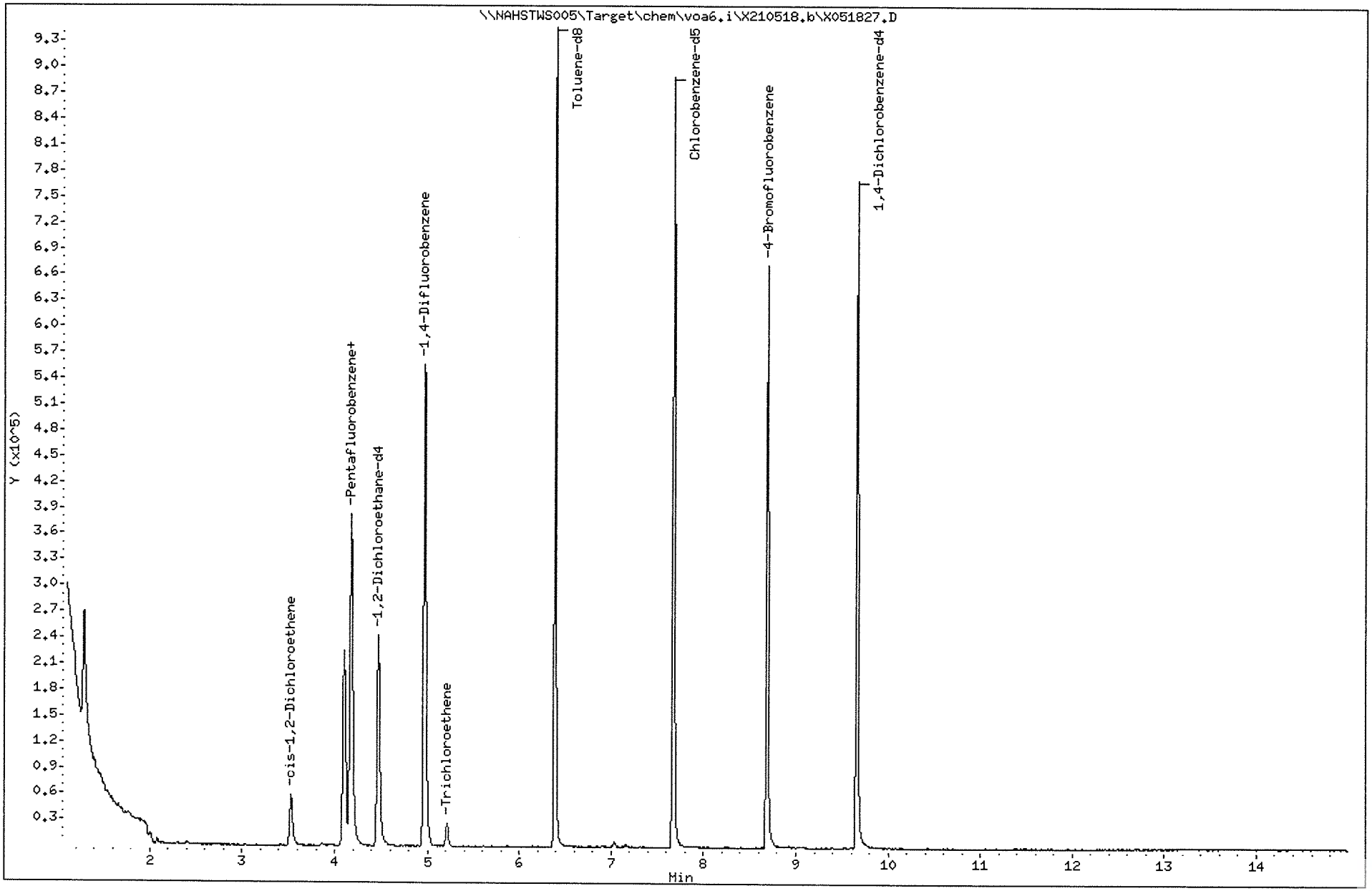
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051827.D
Date : 18-MAY-2021 20:37
Client ID: HS21050553-01
Sample Info: HS21050553-01;HS21050553-01;;;
Purge Volume: 5.0
Column phase: DB624



Instrument: voa6.i

Operator: PC
Column diameter: 0.18



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051827.D



Date : 18-MAY-2021 20:37

Client ID: HS21050553-01

Instrument: voa6.i

Sample Info: HS21050553-01;HS21050553-01;;;

Purge Volume: 5.0

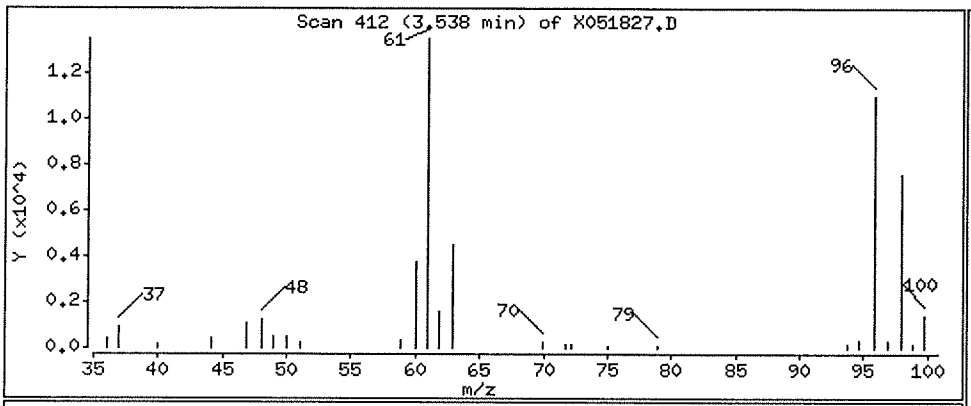
Operator: PC

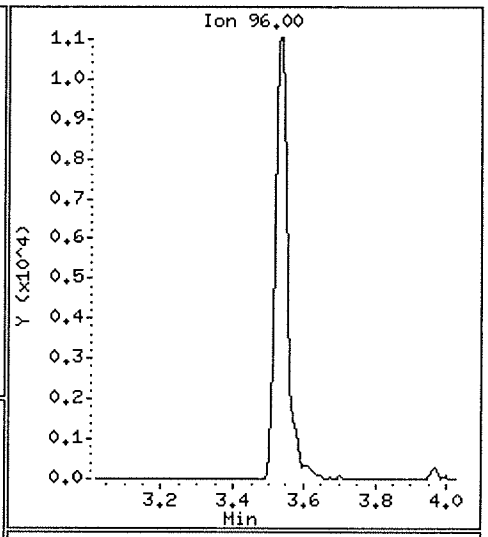
Column phase: DB624

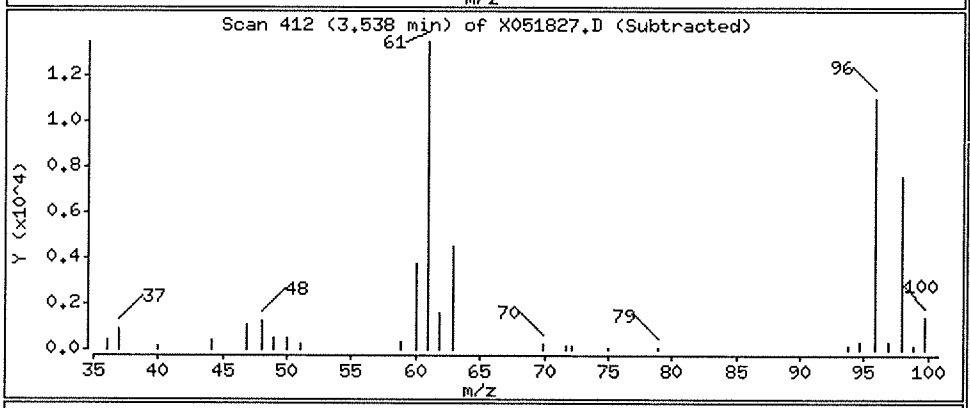
Column diameter: 0.18

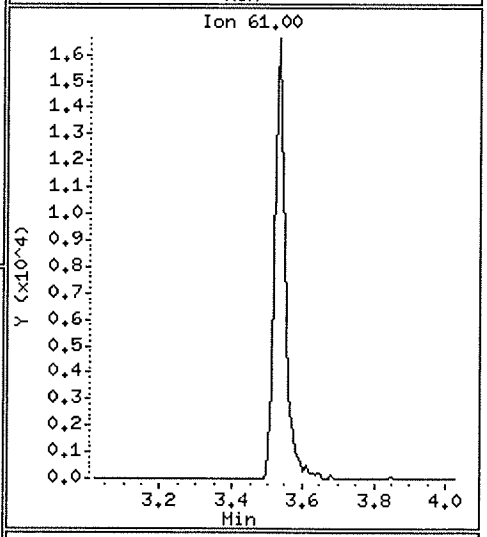
27 cis-1,2-Dichloroethene

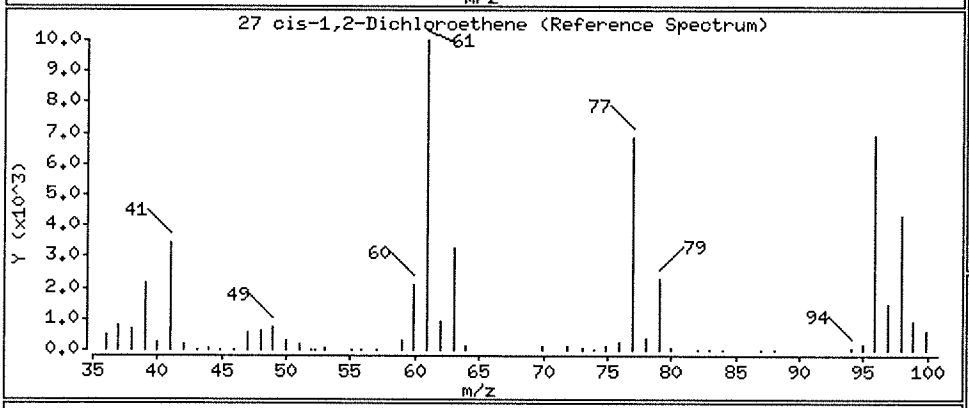
Concentration: 8.17 ug/l

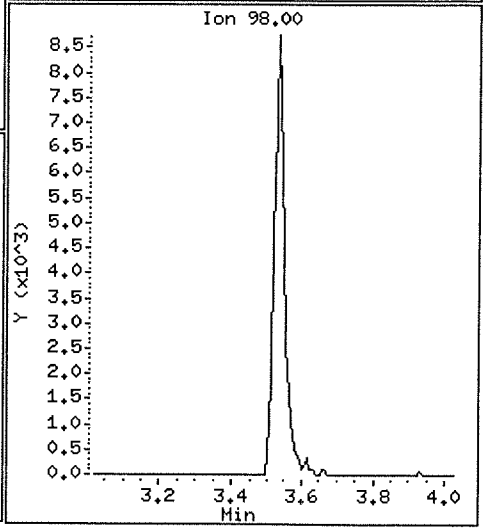


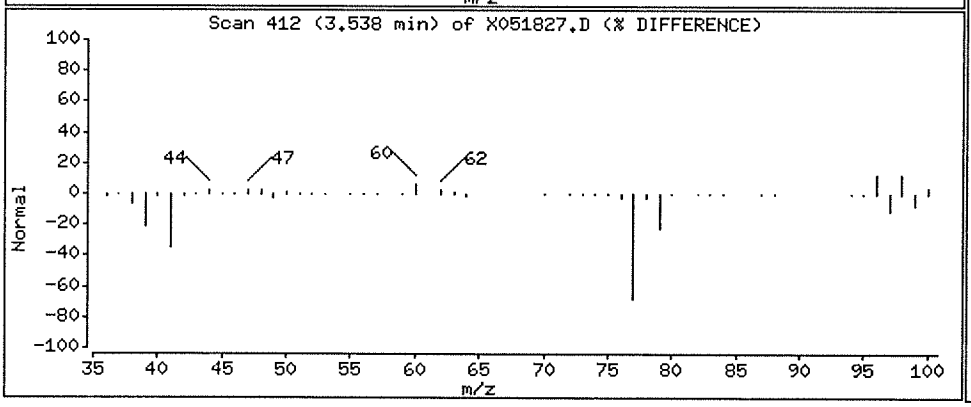



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051827.D



Date : 18-MAY-2021 20:37

Client ID: HS21050553-01

Instrument: voa6.i

Sample Info: HS21050553-01;HS21050553-01;;;

Purge Volume: 5.0

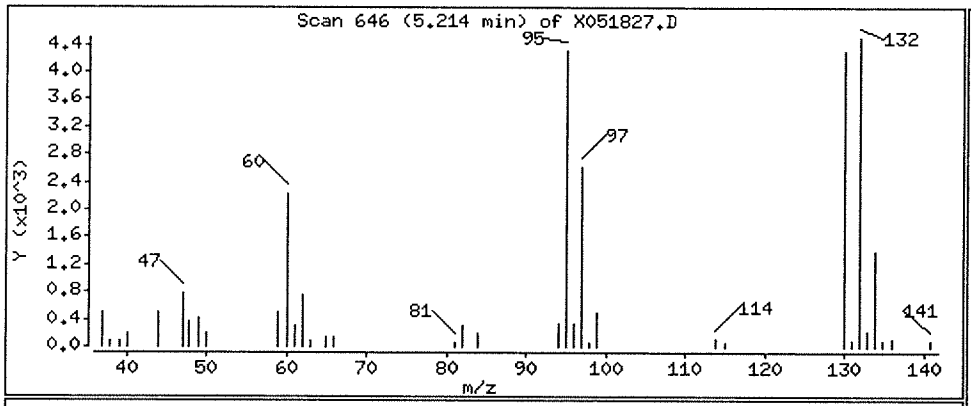
Operator: PC

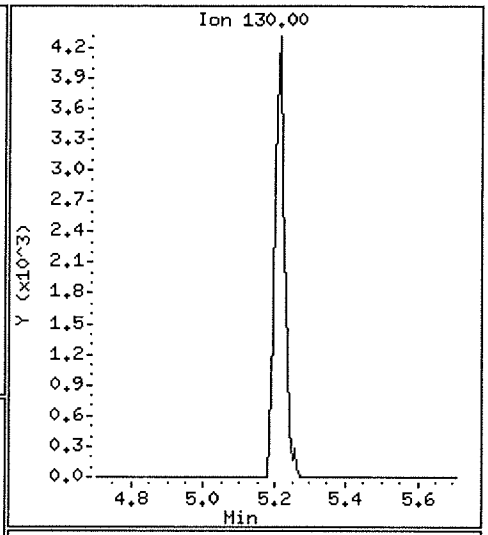
Column phase: DB624

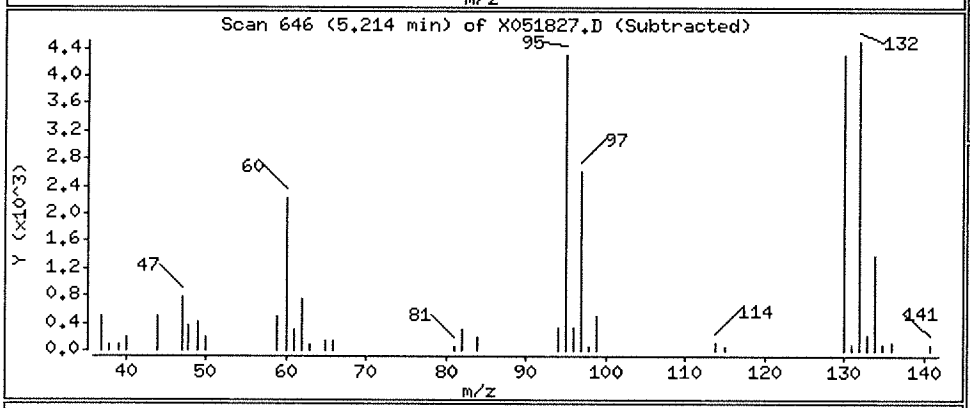
Column diameter: 0.18

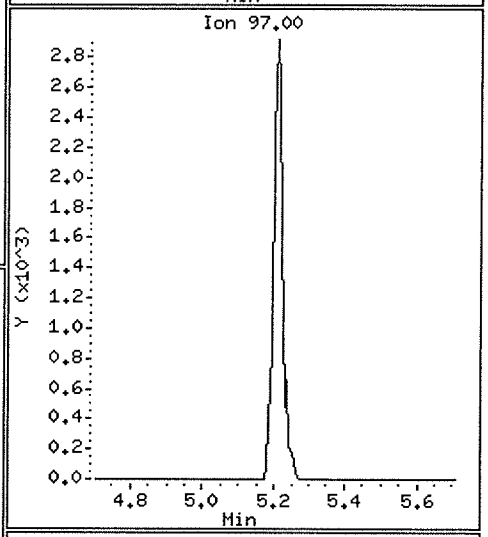
38 Trichloroethene

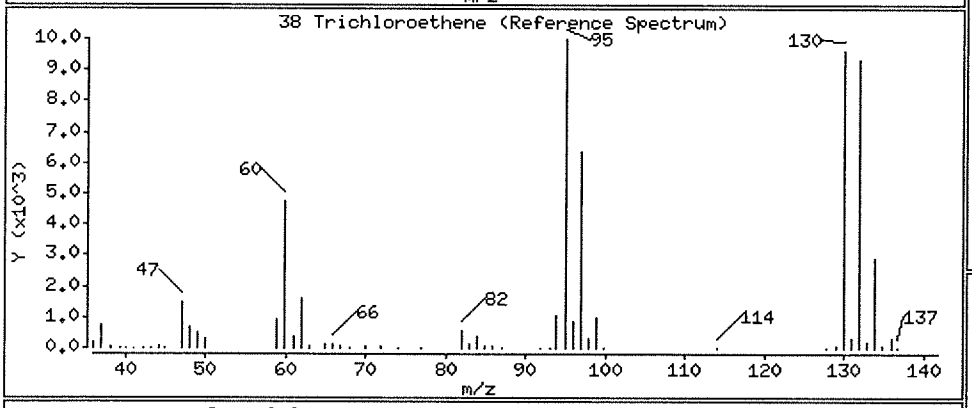
Concentration: 2.82 ug/l

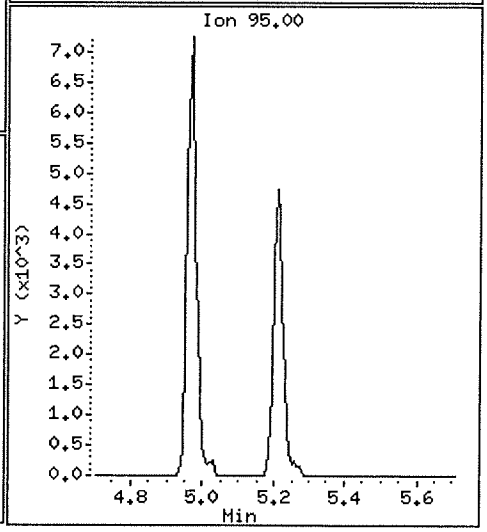


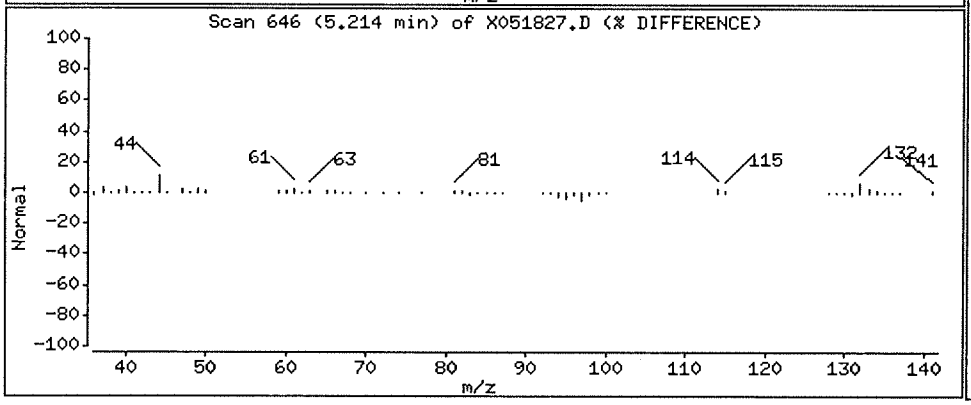



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051828.D Page 1
Report Date: 08-Jun-2021 14:14

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051828.D
Lab Smp Id: HS21050689-01MS Client Smp ID: HS21050689-01MS
Inj Date : 18-MAY-2021 20:58
Operator : PC Inst ID: voa6.i
Smp Info : HS21050689-01MS;HS21050689-01MS;3;;MS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210518.b\8260W.m
Meth Date : 08-Jun-2021 14:14 voa6.i Quant Type: ISTD
Cal Date : 18-MAY-2021 14:52 Cal File: X051811.D
Als bottle: 29 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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 |

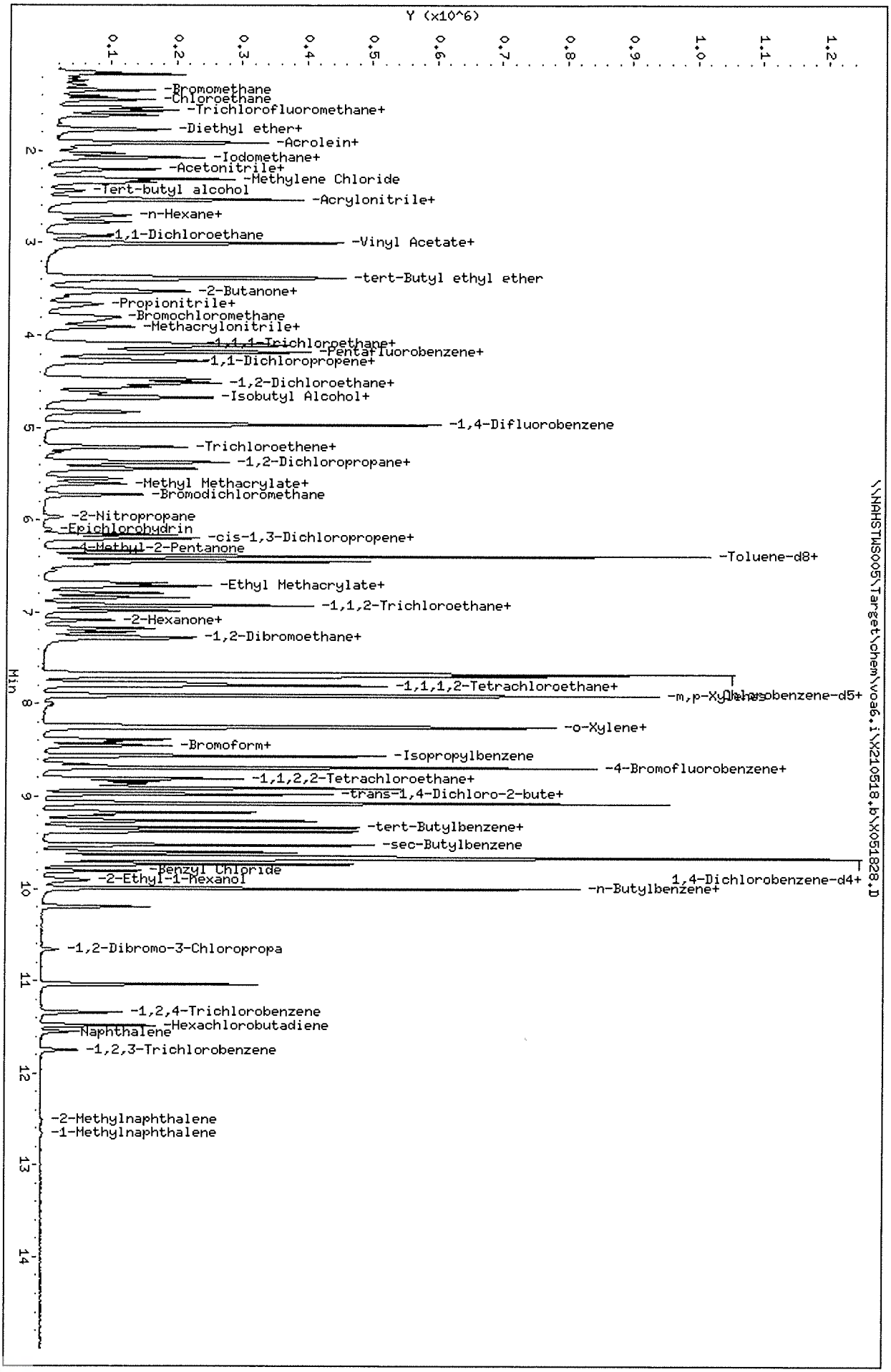
| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ug/l) | FINAL ( ug/l) |
|---|---|---|---|---|---|---|---|
| * 1 Pentafluorobenzene | 168 | 4.182 | 4.182 | (1.000) | 309593 | 50.0000 | |
| * 36 1,4-Difluorobenzene | 114 | 4.963 | 4.963 | (1.000) | 481210 | 50.0000 | |
| * 47 Chlorobenzene-d5 | 117 | 7.671 | 7.670 | (1.000) | 455044 | 50.0000 | |
| * 70 1,4-Dichlorobenzene-d4 | 152 | 9.662 | 9.662 | (1.000) | 227275 | 50.0000 | |
| $ 30 Dibromofluoromethane | 113 | 4.103 | 4.103 | (0.981) | 163112 | 47.2845 | 47.28 |
| $ 35 1,2-Dichloroethane-d4 | 65 | 4.476 | 4.476 | (1.070) | 203392 | 50.5074 | 50.50 |
| $ 48 Toluene-d8 | 98 | 6.388 | 6.388 | (0.833) | 592572 | 52.9515 | 52.95 |
| $ 69 4-Bromofluorobenzene | 95 | 8.688 | 8.688 | (1.133) | 211146 | 49.1587 | 49.15 |
| 60 1,1,1,2-Tetrachloroethane | 131 | 7.771 | 7.778 | (1.013) | 60730 | 18.3188 | 18.31 |
| 31 1,1,1-Trichloroethane | 97 | 4.082 | 4.082 | (0.976) | 103021 | 19.5642 | 19.56 |
| 68 1,1,2,2-Tetrachloroethane | 83 | 8.838 | 8.838 | (0.915) | 67536 | 17.5990 | 17.59 |
| 53 1,1,2-Trichloroethane | 83 | 6.840 | 6.840 | (0.892) | 48455 | 18.3313 | 18.33 |
| 22 1,1-Dichloroethane | 63 | 2.921 | 2.921 | (0.699) | 104866 | 18.2910 | 18.29 |
| 11 1,1-Dichloroethene | 96 | 1.919 | 1.911 | (0.459) | 56290 | 18.1808 | 18.18 |
| 32 1,1-Dichloropropene | 75 | 4.282 | 4.282 | (0.863) | 87305 | 21.1796 | 21.17 |
| 93 1,2,3-Trichlorobenzene | 180 | 11.746 | 11.739 | (1.216) | 15609 | 15.0619 | 15.06 |
| 71 1,2,3-Trichloropropane | 75 | 8.867 | 8.867 | (0.918) | 53540 | 16.9561 | 16.95(M) |
| 90 1,2,4-Trichlorobenzene | 180 | 11.338 | 11.338 | (1.173) | 31755 | 17.2493 | 17.24 |
| 79 1,2,4-Trimethylbenzene | 105 | 9.375 | 9.375 | (0.970) | 226316 | 19.5789 | 19.57 |
| 89 1,2-Dibromo-3-Chloropropane | 155 | 10.658 | 10.657 | (1.103) | 4740 | 16.5794 | 16.57 |
| 57 1,2-Dibromoethane | 107 | 7.262 | 7.262 | (0.947) | 58338 | 18.3640 | 18.36 |
| 88 1,2-Dichlorobenzene | 146 | 9.991 | 9.991 | (1.034) | 111422 | 17.4917 | 17.49 |

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051828.D Page 2
Report Date: 08-Jun-2021 14:14

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ug/l) | CONCENTRATIONS FINAL ( ug/l) |
|---|---|---|---|---|---|---|---|---|
| 33 | 1,2-Dichloroethane | 62 | 4.555 | 4.555 | (0.918) | 91712 | 19.3839 | 19.38 |
| 42 | 1,2-Dichloropropane | 63 | 5.436 | 5.436 | (1.095) | 62129 | 19.2115 | 19.21 |
| 75 | 1,3,5-Trimethylbenzene | 105 | 9.067 | 9.067 | (0.938) | 224785 | 19.8135 | 19.81 |
| 83 | 1,3-Dichlorobenzene | 146 | 9.605 | 9.604 | (0.994) | 122569 | 18.7714 | 18.77 |
| 54 | 1,3-Dichloropropane | 76 | 6.983 | 6.983 | (0.910) | 93964 | 18.1590 | 18.15 |
| 84 | 1,4-Dichlorobenzene | 146 | 9.683 | 9.683 | (1.002) | 126123 | 19.0464 | 19.04 |
| 26 | 2,2-Dichloropropane | 77 | 3.516 | 3.509 | (0.841) | 95084 | 18.5398 | 18.53 |
| 24 | 2-Butanone | 43 | 3.580 | 3.580 | (0.856) | 35617 | 31.1668 | 31.16 |
| 76 | 2-Chlorotoluene | 91 | 8.974 | 8.974 | (0.929) | 192305 | 18.9848 | 18.98 |
| 52 | 2-Hexanone | 43 | 7.090 | 7.083 | (0.924) | 63884 | 32.9283 | 32.92 |
| 77 | 4-Chlorotoluene | 91 | 9.067 | 9.067 | (0.938) | 227506 | 19.2618 | 19.26 |
| 82 | p-Isopropyltoluene | 119 | 9.648 | 9.647 | (0.999) | 229778 | 20.4766 | 20.47 |
| 45 | 4-Methyl-2-Pentanone | 43 | 6.324 | 6.324 | (0.824) | 96759 | 33.4449 | 33.44 |
| 10 | Acetone | 43 | 1.976 | 1.976 | (0.473) | 26625 | 30.6190 | 30.61 |
| 37 | Benzene | 78 | 4.512 | 4.512 | (0.909) | 232880 | 19.5612 | 19.56 |
| 74 | Bromobenzene | 156 | 8.802 | 8.802 | (0.911) | 71228 | 18.8000 | 18.80 |
| 29 | Bromochloromethane | 128 | 3.795 | 3.795 | (0.908) | 31751 | 16.8282 | 16.82 |
| 39 | Bromodichloromethane | 83 | 5.729 | 5.729 | (1.154) | 86990 | 18.7096 | 18.70 |
| 66 | Bromoform | 173 | 8.408 | 8.408 | (1.096) | 37020 | 16.8220 | 16.82 |
| 6 | Bromomethane | 94 | 1.338 | 1.338 | (0.320) | 64333 | 19.4815 | 19.48 |
| 19 | Carbon Disulfide | 76 | 2.069 | 2.069 | (0.495) | 273660 | 37.5176 | 37.51 |
| 34 | Carbon Tetrachloride | 117 | 4.268 | 4.268 | (0.860) | 83733 | 19.9634 | 19.96 |
| 59 | Chlorobenzene | 112 | 7.692 | 7.692 | (1.003) | 166176 | 18.6237 | 18.62 |
| 7 | Chloroethane | 64 | 1.403 | 1.403 | (0.336) | 37547 | 16.0217 | 16.02(M) |
| 28 | Chloroform | 83 | 3.910 | 3.910 | (0.935) | 115986 | 17.6338 | 17.63 |
| 3 | Chloromethane | 50 | 1.073 | 1.073 | (0.257) | 60801 | 18.3595 | 18.35 |
| 27 | cis-1,2-Dichloroethene | 96 | 3.530 | 3.523 | (0.844) | 62838 | 17.6114 | 17.61 |
| 46 | cis-1,3-Dichloropropene | 75 | 6.152 | 6.152 | (1.240) | 100198 | 18.9931 | 18.99 |
| 55 | Dibromochloromethane | 129 | 7.176 | 7.176 | (0.936) | 63843 | 17.9505 | 17.95 |
| 44 | Dibromomethane | 93 | 5.550 | 5.550 | (1.118) | 42689 | 18.4174 | 18.41 |
| 2 | Dichlorodifluoromethane | 85 | 0.973 | 0.973 | (0.233) | 65864 | 18.2813 | 18.28 |
| 61 | Ethylbenzene | 106 | 7.799 | 7.799 | (1.017) | 90447 | 20.5125 | 20.51 |
| 91 | Hexachlorobutadiene | 225 | 11.481 | 11.481 | (1.188) | 25518 | 20.7048 | 20.70 |
| 67 | Isopropylbenzene | 105 | 8.559 | 8.559 | (1.116) | 276376 | 20.5092 | 20.50 |
| 62 | m,p-Xylenes | 106 | 7.907 | 7.900 | (1.031) | 226195 | 39.8055 | 39.80 |
| 17 | Methylene Chloride | 84 | 2.305 | 2.305 | (0.551) | 56659 | 18.2507 | 18.25 |
| 87 | n-Butylbenzene | 91 | 9.991 | 9.991 | (1.034) | 218039 | 20.4306 | 20.43 |
| 73 | n-Propylbenzene | 91 | 8.910 | 8.910 | (0.922) | 334655 | 20.7905 | 20.79 |
| 92 | Naphthalene | 128 | 11.546 | 11.546 | (1.195) | 36301 | 14.4845 | 14.48 |
| 63 | o-Xylene | 106 | 8.244 | 8.244 | (1.075) | 105883 | 19.1578 | 19.15 |
| 81 | sec-Butylbenzene | 105 | 9.519 | 9.519 | (0.985) | 280046 | 21.0226 | 21.02 |
| 64 | Styrene | 104 | 8.258 | 8.258 | (1.077) | 177708 | 18.2973 | 18.29 |
| 78 | tert-Butylbenzene | 119 | 9.340 | 9.339 | (0.967) | 196208 | 20.3816 | 20.38 |
| 56 | Tetrachloroethene | 164 | 6.926 | 6.926 | (0.903) | 68784 | 27.2031 | 27.20 |
| 50 | Toluene | 91 | 6.446 | 6.446 | (0.840) | 257837 | 19.6389 | 19.63 |
| 20 | trans-1,2-Dichloroethene | 96 | 2.527 | 2.535 | (0.604) | 56431 | 18.9458 | 18.94 |
| 51 | trans-1,3-Dichloropropene | 75 | 6.682 | 6.682 | (1.346) | 85810 | 18.5935 | 18.59 |
| 38 | Trichloroethene | 130 | 5.206 | 5.206 | (1.049) | 66490 | 20.8660 | 20.86 |
| 8 | Trichlorofluoromethane | 101 | 1.560 | 1.560 | (0.373) | 117793 | 19.7938 | 19.79 |
| 5 | Vinyl Chloride | 62 | 1.145 | 1.145 | (0.274) | 67704 | 18.1130 | 18.11 |

QC Flag Legend

M - Compound response manually integrated.

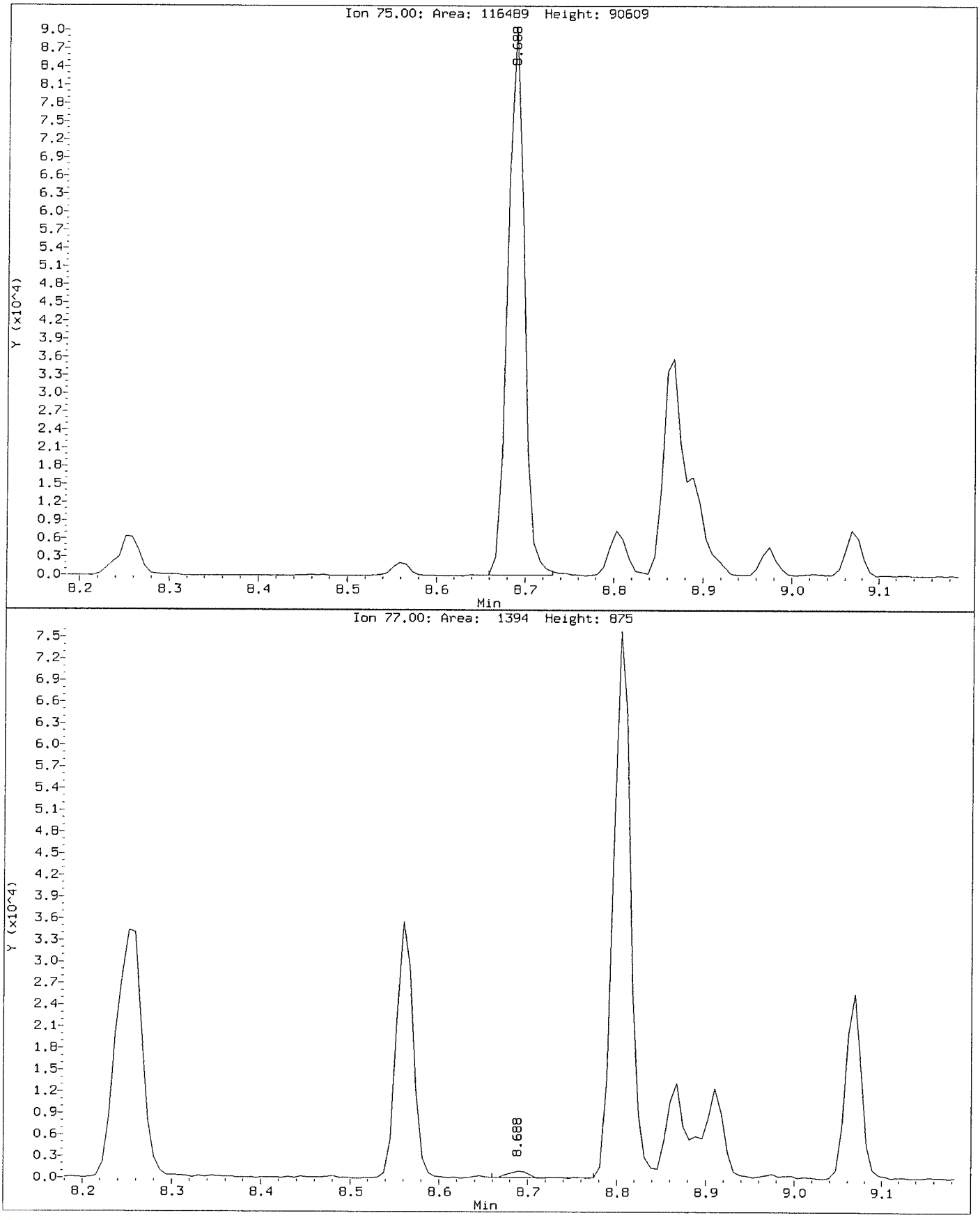



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051828.D
Date : 18-MAY-2021 20:58
Client ID: HS21050689-01MS
Sample Info: HS21050689-01MS;HS21050689-01MS;3;;MS
Purge Volume: 5.0
Column phase: DB624

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

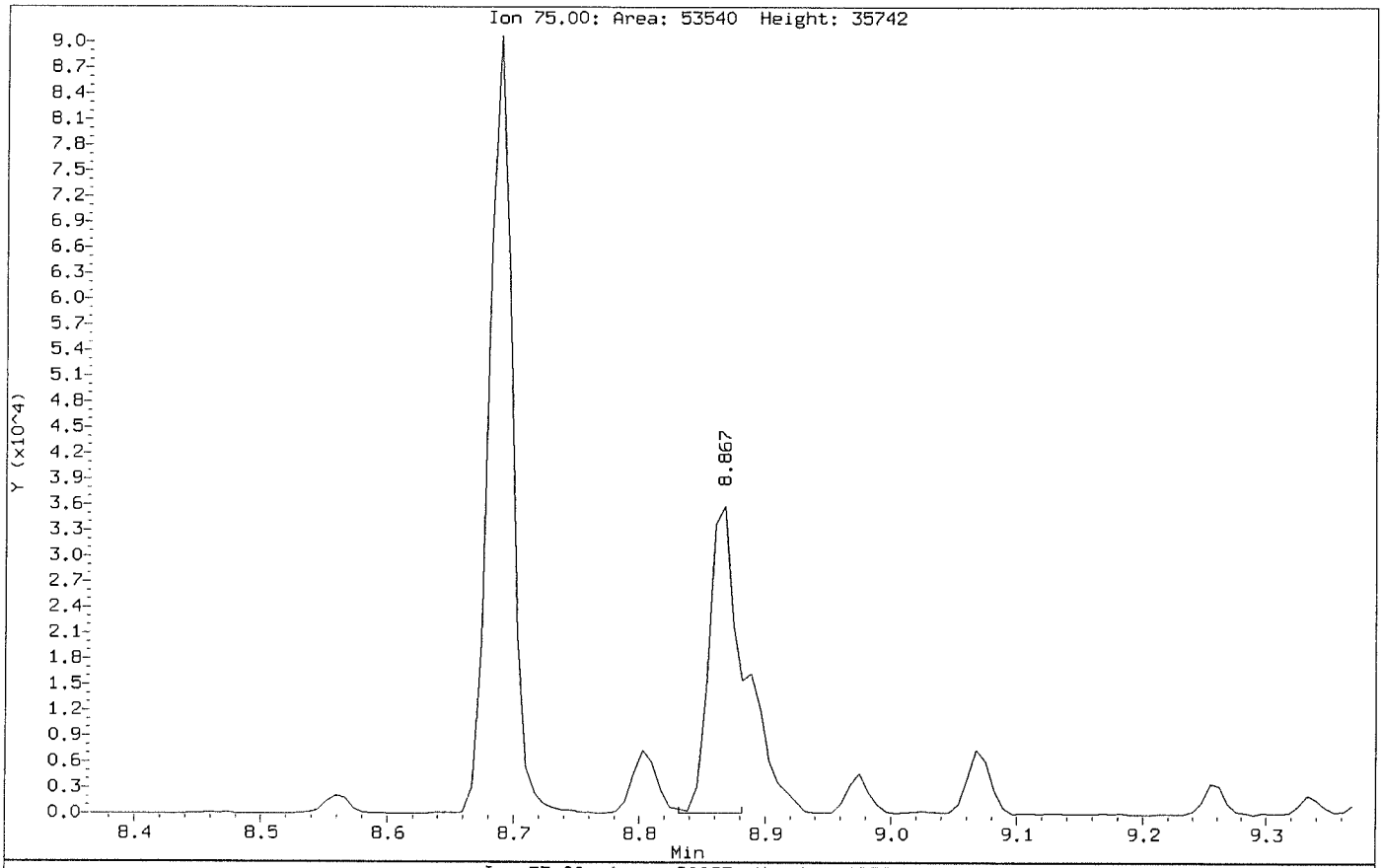
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Injection Date: 18-MAY-2021 20:58
Instrument: voa6.i
Client Sample ID: HS21050689-01MS

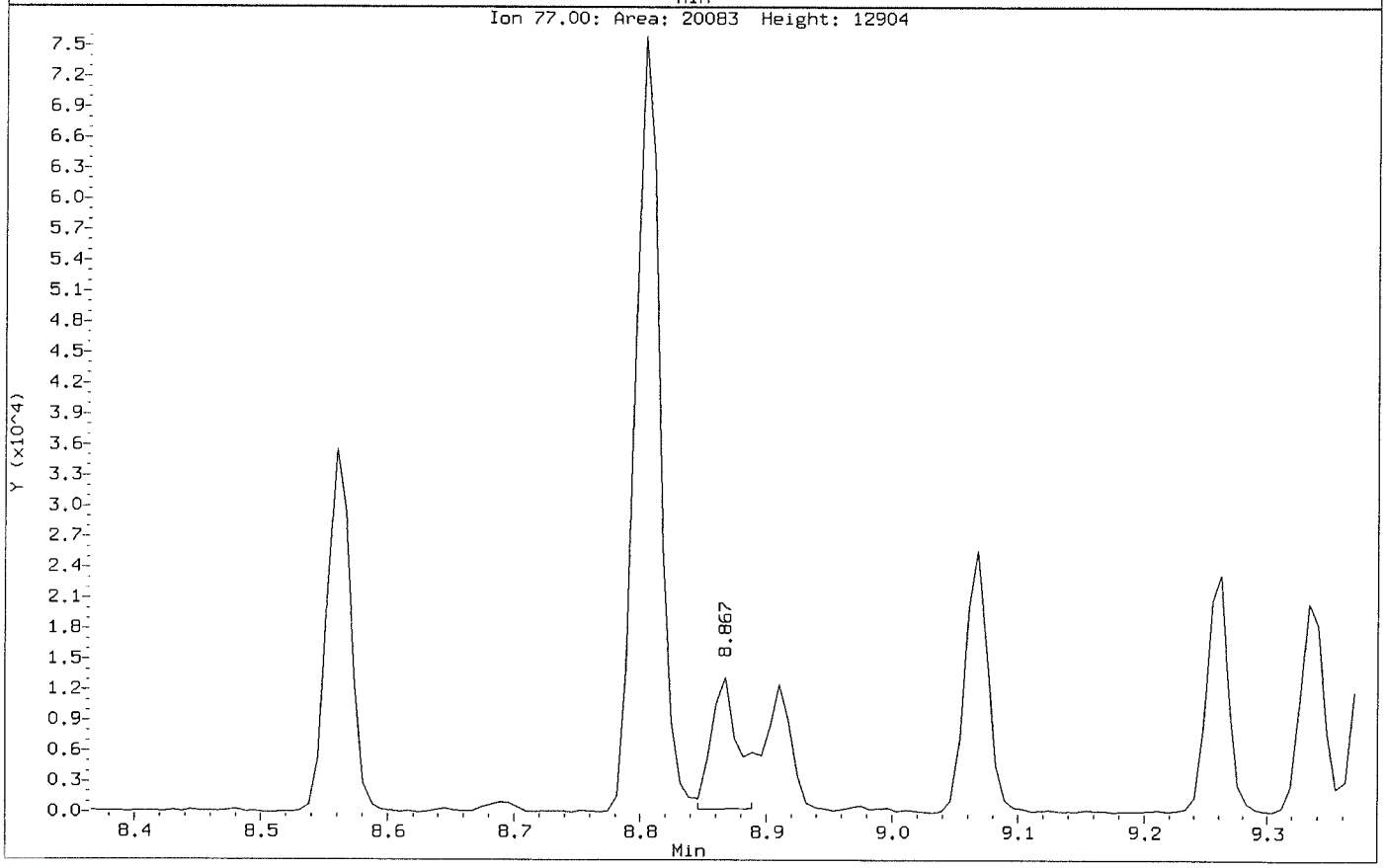
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051828.D
Injection Date: 18-MAY-2021 20:58
Instrument: voa6.i
Client Sample ID: HS21050689-01MS

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051829.D Page 1
Report Date: 08-Jun-2021 14:14

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051829.D
Lab Smp Id: HS21050689-01MSD Client Smp ID: HS21050689-01MSD
Inj Date : 18-MAY-2021 21:19
Operator : PC Inst ID: voa6.i
Smp Info : HS21050689-01MSD;HS21050689-01MSD;3;;MSD
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210518.b\8260W.m
Meth Date : 08-Jun-2021 14:14 voa6.i Quant Type: ISTD
Cal Date : 18-MAY-2021 14:52 Cal File: X051811.D
Als bottle: 29 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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 |

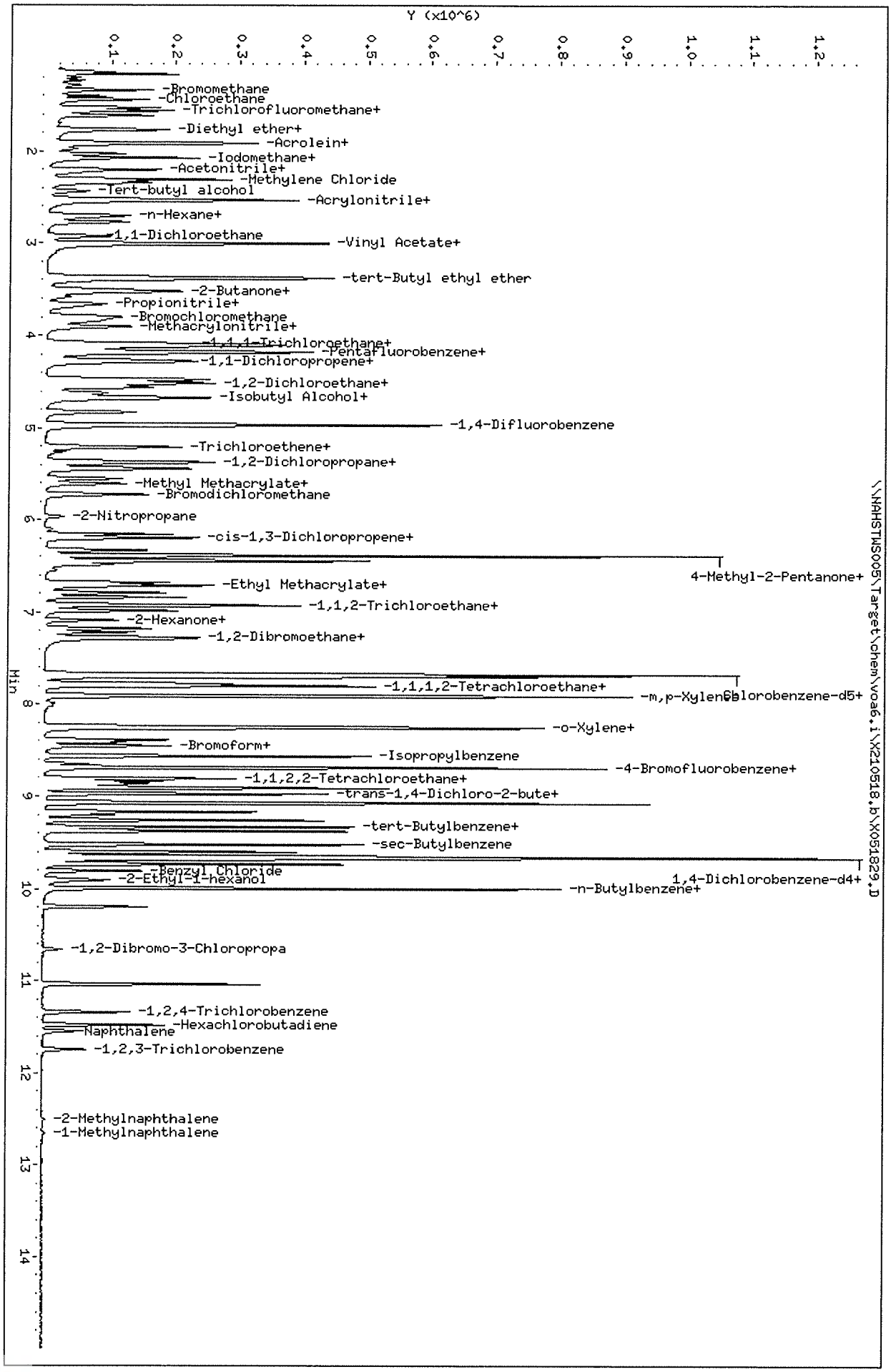
| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ug/l) | FINAL ( ug/l) |
|---|---|---|---|---|---|---|---|
| * 1 Pentafluorobenzene | 168 | 4.182 | 4.182 | (1.000) | 314237 | 50.0000 | |
| * 36 1,4-Difluorobenzene | 114 | 4.963 | 4.963 | (1.000) | 491541 | 50.0000 | |
| * 47 Chlorobenzene-d5 | 117 | 7.670 | 7.670 | (1.000) | 456259 | 50.0000 | |
| * 70 1,4-Dichlorobenzene-d4 | 152 | 9.662 | 9.662 | (1.000) | 222997 | 50.0000 | |
| $ 30 Dibromofluoromethane | 113 | 4.103 | 4.103 | (0.981) | 165544 | 47.2803 | 47.28 |
| $ 35 1,2-Dichloroethane-d4 | 65 | 4.476 | 4.476 | (1.070) | 201581 | 49.2880 | 49.28 |
| $ 48 Toluene-d8 | 98 | 6.388 | 6.388 | (0.833) | 590227 | 52.6082 | 52.60 |
| $ 69 4-Bromofluorobenzene | 95 | 8.688 | 8.688 | (1.133) | 215585 | 50.0563 | 50.05 |
| 60 1,1,1,2-Tetrachloroethane | 131 | 7.778 | 7.778 | (1.014) | 58136 | 17.4897 | 17.48 |
| 31 1,1,1-Trichloroethane | 97 | 4.082 | 4.082 | (0.976) | 100331 | 18.7718 | 18.77 |
| 68 1,1,2,2-Tetrachloroethane | 83 | 8.838 | 8.838 | (0.915) | 70172 | 18.6680 | 18.66 |
| 53 1,1,2-Trichloroethane | 83 | 6.840 | 6.840 | (0.892) | 46333 | 17.4818 | 17.48 |
| 22 1,1-Dichloroethane | 63 | 2.921 | 2.921 | (0.699) | 103069 | 17.7119 | 17.71 |
| 11 1,1-Dichloroethene | 96 | 1.919 | 1.911 | (0.459) | 54802 | 17.4386 | 17.43 |
| 32 1,1-Dichloropropene | 75 | 4.282 | 4.282 | (0.863) | 82746 | 19.6518 | 19.65 |
| 93 1,2,3-Trichlorobenzene | 180 | 11.746 | 11.739 | (1.216) | 18630 | 18.1857 | 18.18 |
| 71 1,2,3-Trichloropropane | 75 | 8.867 | 8.867 | (0.918) | 54469 | 17.6040 | 17.60(M) |
| 90 1,2,4-Trichlorobenzene | 180 | 11.338 | 11.338 | (1.173) | 34109 | 18.6497 | 18.64 |
| 79 1,2,4-Trimethylbenzene | 105 | 9.382 | 9.375 | (0.971) | 221606 | 19.5392 | 19.53 |
| 89 1,2-Dibromo-3-Chloropropane | 155 | 10.657 | 10.657 | (1.103) | 5236 | 18.4637 | 18.46 |
| 57 1,2-Dibromoethane | 107 | 7.262 | 7.262 | (0.947) | 57826 | 18.1543 | 18.15 |
| 88 1,2-Dichlorobenzene | 146 | 9.991 | 9.991 | (1.034) | 114617 | 18.3384 | 18.33 |

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051829.D Page 2
Report Date: 08-Jun-2021 14:14

| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ug/l) | CONCENTRATIONS FINAL ( ug/l) |
|---|---|---|---|---|---|---|---|
| 33 1,2-Dichloroethane | 62 | 4.555 | 4.555 | (0.918) | 92428 | 19.1247 | 19.12 |
| 42 1,2-Dichloropropane | 63 | 5.436 | 5.436 | (1.095) | 59922 | 18.1396 | 18.13 |
| 75 1,3,5-Trimethylbenzene | 105 | 9.067 | 9.067 | (0.938) | 224446 | 20.1631 | 20.16 |
| 83 1,3-Dichlorobenzene | 146 | 9.604 | 9.604 | (0.994) | 119468 | 18.6475 | 18.64 |
| 54 1,3-Dichloropropane | 76 | 6.983 | 6.983 | (0.910) | 92882 | 17.9021 | 17.90 |
| 84 1,4-Dichlorobenzene | 146 | 9.683 | 9.683 | (1.002) | 125988 | 19.3864 | 19.38 |
| 26 2,2-Dichloropropane | 77 | 3.509 | 3.509 | (0.839) | 90688 | 17.4213 | 17.42 |
| 24 2-Butanone | 43 | 3.580 | 3.580 | (0.856) | 35215 | 30.3596 | 30.35 |
| 76 2-Chlorotoluene | 91 | 8.974 | 8.974 | (0.929) | 188357 | 18.9518 | 18.95 |
| 52 2-Hexanone | 43 | 7.090 | 7.083 | (0.924) | 65087 | 33.4634 | 33.46 |
| 77 4-Chlorotoluene | 91 | 9.067 | 9.067 | (0.938) | 229497 | 19.8031 | 19.80 |
| 82 p-Isopropyltoluene | 119 | 9.647 | 9.647 | (0.999) | 226393 | 20.5620 | 20.56 |
| 45 4-Methyl-2-Pentanone | 43 | 6.331 | 6.324 | (0.825) | 102892 | 35.4647 | 35.46 |
| 10 Acetone | 43 | 1.976 | 1.976 | (0.473) | 26944 | 30.5126 | 30.51 |
| 37 Benzene | 78 | 4.512 | 4.512 | (0.909) | 223974 | 18.4177 | 18.41 |
| 74 Bromobenzene | 156 | 8.809 | 8.802 | (0.912) | 70354 | 18.9256 | 18.92 |
| 29 Bromochloromethane | 128 | 3.802 | 3.795 | (0.909) | 33107 | 17.2876 | 17.28 |
| 39 Bromodichloromethane | 83 | 5.729 | 5.729 | (1.154) | 88160 | 18.5627 | 18.56 |
| 66 Bromoform | 173 | 8.408 | 8.408 | (1.096) | 39044 | 17.6945 | 17.69 |
| 6 Bromomethane | 94 | 1.338 | 1.338 | (0.320) | 64749 | 19.3137 | 19.31 |
| 19 Carbon Disulfide | 76 | 2.069 | 2.069 | (0.495) | 273965 | 37.0043 | 37.00 |
| 34 Carbon Tetrachloride | 117 | 4.268 | 4.268 | (0.860) | 83329 | 19.4495 | 19.44 |
| 59 Chlorobenzene | 112 | 7.692 | 7.692 | (1.003) | 166720 | 18.6350 | 18.63 |
| 7 Chloroethane | 64 | 1.403 | 1.403 | (0.336) | 41199 | 17.3202 | 17.32(M) |
| 28 Chloroform | 83 | 3.910 | 3.910 | (0.935) | 116895 | 17.5094 | 17.50 |
| 3 Chloromethane | 50 | 1.073 | 1.073 | (0.257) | 62891 | 18.7055 | 18.70 |
| 27 cis-1,2-Dichloroethene | 96 | 3.530 | 3.523 | (0.844) | 63974 | 17.6648 | 17.66 |
| 46 cis-1,3-Dichloropropene | 75 | 6.159 | 6.152 | (1.241) | 99534 | 18.4707 | 18.47 |
| 55 Dibromochloromethane | 129 | 7.176 | 7.176 | (0.936) | 64046 | 17.9596 | 17.95 |
| 44 Dibromomethane | 93 | 5.550 | 5.550 | (1.118) | 43244 | 18.2647 | 18.26 |
| 2 Dichlorodifluoromethane | 85 | 0.973 | 0.973 | (0.233) | 65503 | 17.9543 | 17.95 |
| 61 Ethylbenzene | 106 | 7.799 | 7.799 | (1.017) | 85965 | 19.4441 | 19.44 |
| 91 Hexachlorobutadiene | 225 | 11.481 | 11.481 | (1.188) | 26485 | 21.7175 | 21.71 |
| 67 Isopropylbenzene | 105 | 8.559 | 8.559 | (1.116) | 272605 | 20.1755 | 20.17 |
| 62 m,p-Xylenes | 106 | 7.907 | 7.900 | (1.031) | 221959 | 38.9560 | 38.95 |
| 17 Methylene Chloride | 84 | 2.305 | 2.305 | (0.551) | 55532 | 17.6233 | 17.62 |
| 87 n-Butylbenzene | 91 | 9.991 | 9.991 | (1.034) | 215679 | 20.5972 | 20.59 |
| 73 n-Propylbenzene | 91 | 8.910 | 8.910 | (0.922) | 329497 | 20.8627 | 20.86 |
| 92 Naphthalene | 128 | 11.546 | 11.546 | (1.195) | 43671 | 17.0580 | 17.05 |
| 63 o-Xylene | 106 | 8.243 | 8.244 | (1.075) | 102886 | 18.5660 | 18.56 |
| 81 sec-Butylbenzene | 105 | 9.519 | 9.519 | (0.985) | 272474 | 20.8466 | 20.84 |
| 64 Styrene | 104 | 8.258 | 8.258 | (1.077) | 175479 | 18.0464 | 18.04 |
| 78 tert-Butylbenzene | 119 | 9.339 | 9.339 | (0.967) | 196290 | 20.7813 | 20.78 |
| 56 Tetrachloroethene | 164 | 6.925 | 6.926 | (0.903) | 67845 | 26.7603 | 26.76 |
| 50 Toluene | 91 | 6.446 | 6.446 | (0.840) | 254502 | 19.3333 | 19.33 |
| 20 trans-1,2-Dichloroethene | 96 | 2.535 | 2.535 | (0.606) | 54305 | 17.9626 | 17.96 |
| 51 trans-1,3-Dichloropropene | 75 | 6.682 | 6.682 | (1.346) | 84560 | 17.9375 | 17.93 |
| 38 Trichloroethene | 130 | 5.206 | 5.206 | (1.049) | 65047 | 19.9842 | 19.98 |
| 8 Trichlorofluoromethane | 101 | 1.560 | 1.560 | (0.373) | 114453 | 18.9483 | 18.94 |
| 5 Vinyl Chloride | 62 | 1.145 | 1.145 | (0.274) | 65196 | 17.1843 | 17.18 |

QC Flag Legend

M - Compound response manually integrated.

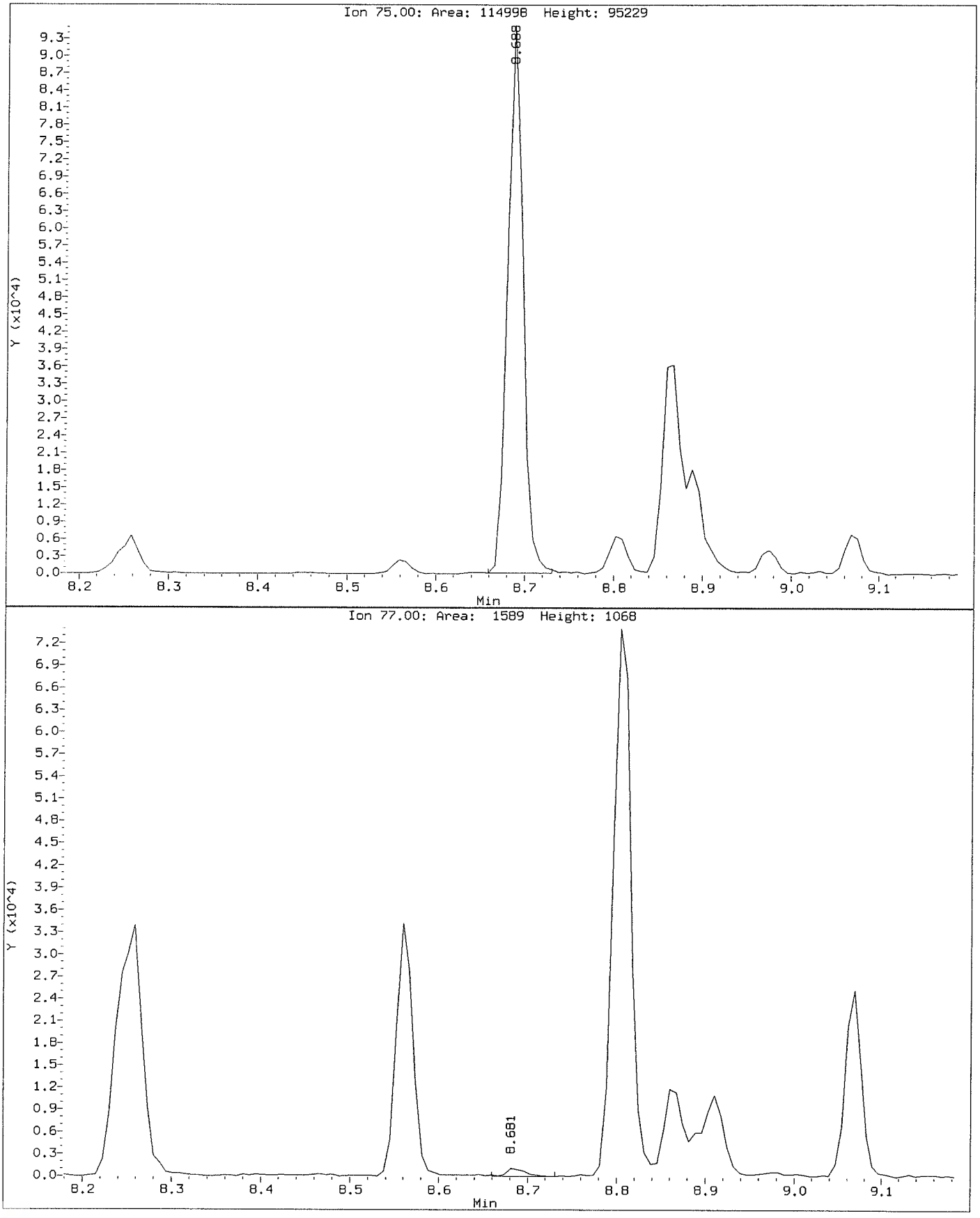



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Sample Info: HS21050689-01MSD;HS21050689-01MSD;3;;WSD
Purge Volume: 5.0
Column phase: DB624

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

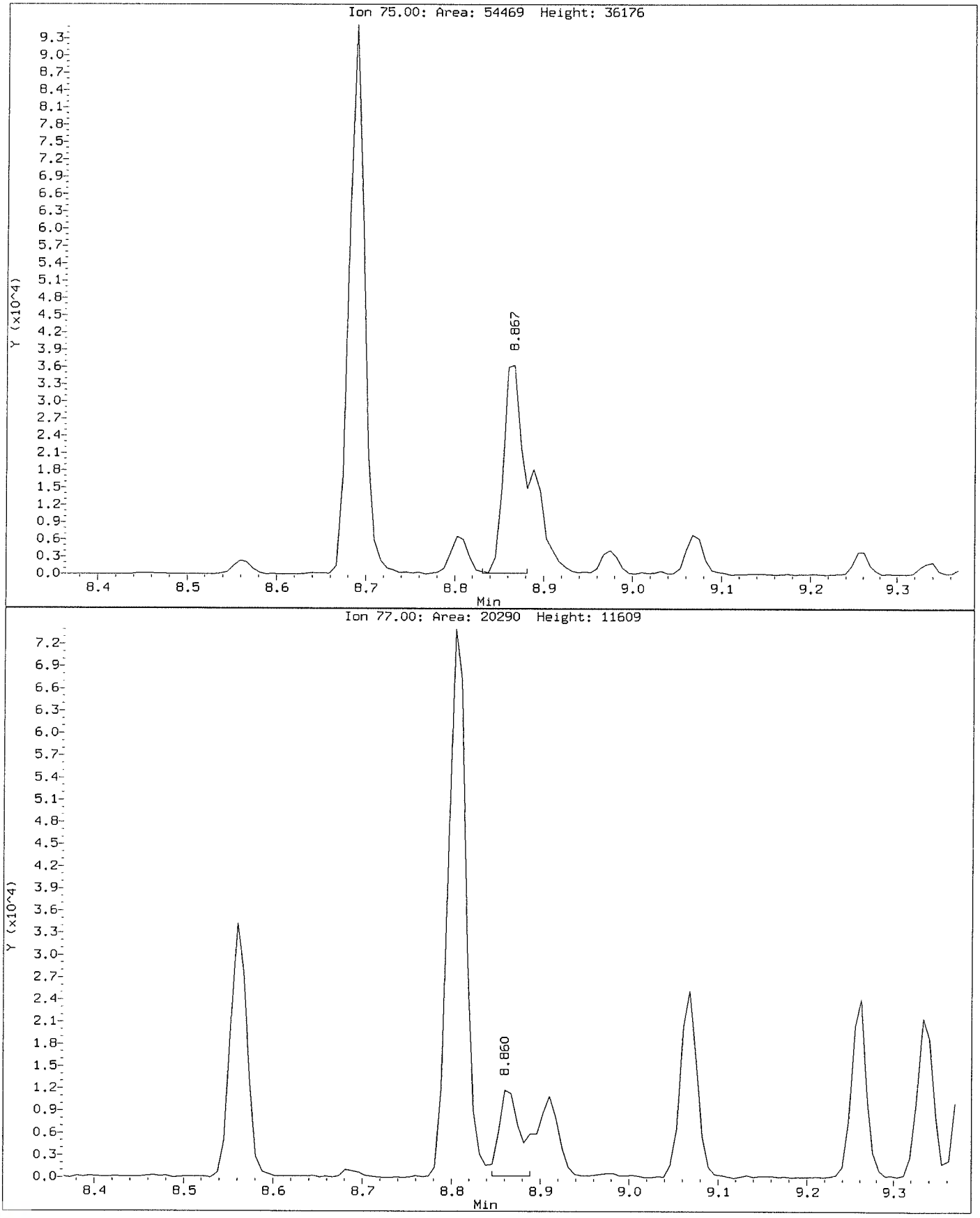
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Injection Date: 18-MAY-2021 21:19
Instrument: voa6.i
Client Sample ID: HS21050689-01MSD

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051829.D
Injection Date: 18-MAY-2021 21:19
Instrument: voa6.i
Client Sample ID: HS21050689-01MSD

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051830.D
Lab Smp Id: CCV-END Client Smp ID: CCV-END
Inj Date : 18-MAY-2021 21:40
Operator : PC Inst ID: voa6.i
Smp Info : CCV-END;CCV-END;2;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210518.b\8260W.m
Meth Date : 08-Jun-2021 14:14 voa6.i Quant Type: ISTD
Cal Date : 18-MAY-2021 14:52 Cal File: X051811.D
Als bottle: 30 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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 |

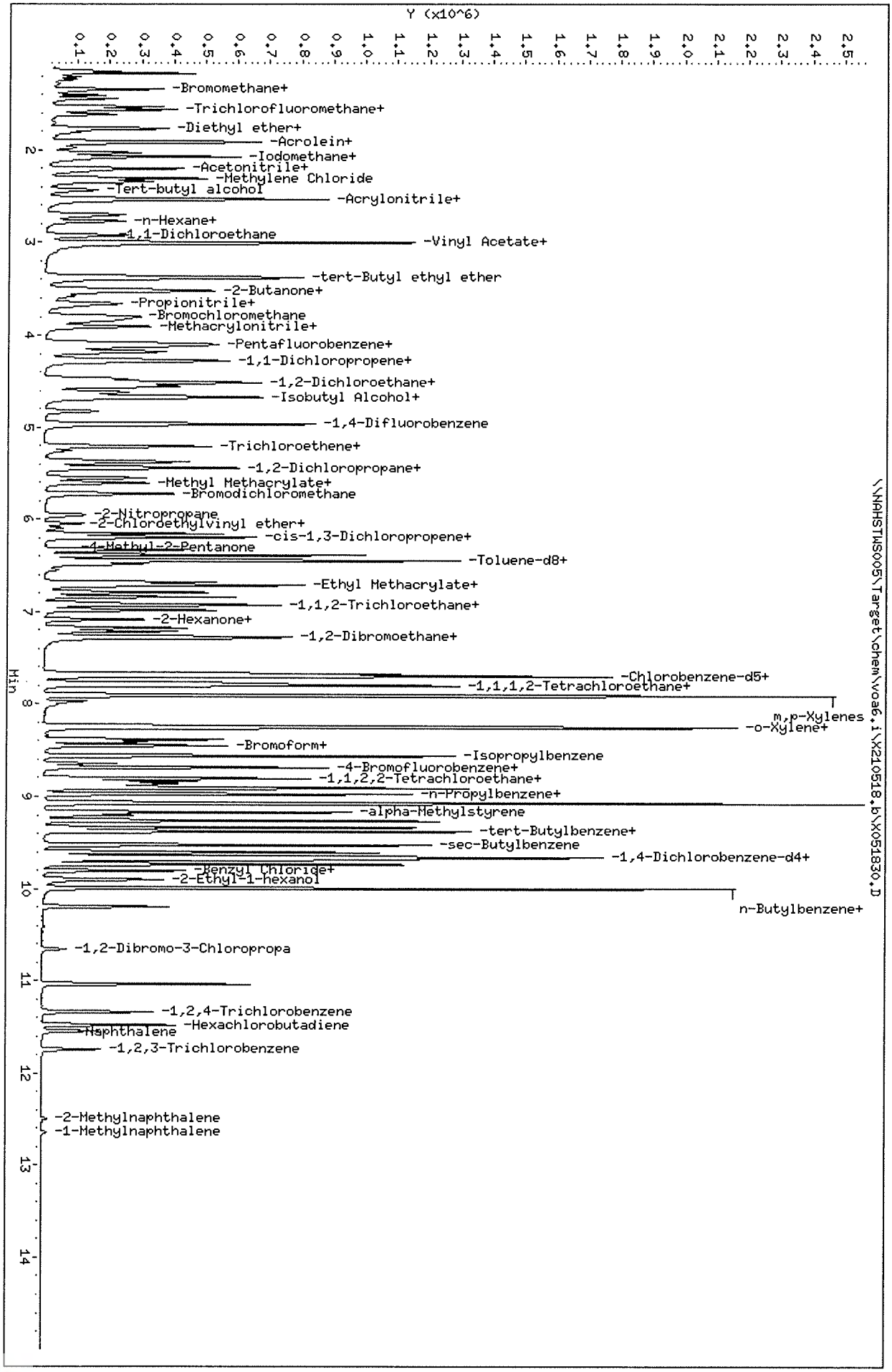
| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|
| * 1 Pentafluorobenzene | 168 | 4.182 | 4.182 | (1.000) | 284397 | 50.0000 | |
| * 36 1,4-Difluorobenzene | 114 | 4.963 | 4.963 | (1.000) | 483716 | 50.0000 | |
| * 47 Chlorobenzene-d5 | 117 | 7.670 | 7.670 | (1.000) | 459151 | 50.0000 | |
| * 70 1,4-Dichlorobenzene-d4 | 152 | 9.662 | 9.662 | (1.000) | 239723 | 50.0000 | |
| $ 30 Dibromofluoromethane | 113 | 4.103 | 4.103 | (0.981) | 167534 | 50.0000 | 52.89 |
| $ 35 1,2-Dichloroethane-d4 | 65 | 4.476 | 4.476 | (1.070) | 197351 | 50.0000 | 53.42 |
| $ 48 Toluene-d8 | 98 | 6.388 | 6.388 | (0.833) | 578348 | 50.0000 | 51.25 |
| $ 69 4-Bromofluorobenzene | 95 | 8.688 | 8.688 | (1.133) | 227360 | 50.0000 | 52.45 |
| 60 1,1,1,2-Tetrachloroethane | 131 | 7.778 | 7.778 | (1.014) | 161888 | 50.0000 | 48.39 |
| 31 1,1,1-Trichloroethane | 97 | 4.082 | 4.082 | (0.976) | 242198 | 50.0000 | 50.06 |
| 68 1,1,2,2-Tetrachloroethane | 83 | 8.838 | 8.838 | (0.915) | 185939 | 50.0000 | 46.79 |
| 53 1,1,2-Trichloroethane | 83 | 6.840 | 6.840 | (0.892) | 129802 | 50.0000 | 48.66 |
| 22 1,1-Dichloroethane | 63 | 2.921 | 2.921 | (0.699) | 264224 | 50.0000 | 50.16 |
| 11 1,1-Dichloroethene | 96 | 1.911 | 1.911 | (0.457) | 124326 | 50.0000 | 43.71 |
| 32 1,1-Dichloropropene | 75 | 4.282 | 4.282 | (0.863) | 200126 | 50.0000 | 48.29 |
| 93 1,2,3-Trichlorobenzene | 180 | 11.739 | 11.739 | (1.215) | 46653 | 50.0000 | 41.16 |
| 71 1,2,3-Trichloropropane | 75 | 8.867 | 8.867 | (0.918) | 153873 | 50.0000 | 47.26(M) |
| 90 1,2,4-Trichlorobenzene | 180 | 11.338 | 11.338 | (1.173) | 88016 | 50.0000 | 41.31 |
| 79 1,2,4-Trimethylbenzene | 105 | 9.375 | 9.375 | (0.970) | 605793 | 50.0000 | 49.68 |
| 89 1,2-Dibromo-3-Chloropropane | 155 | 10.657 | 10.657 | (1.103) | 13744 | 50.0000 | 42.77 |
| 57 1,2-Dibromoethane | 107 | 7.262 | 7.262 | (0.947) | 161349 | 50.0000 | 50.33 |
| 88 1,2-Dichlorobenzene | 146 | 9.991 | 9.991 | (1.034) | 304387 | 50.0000 | 45.30 |

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051830.D Page 2
Report Date: 08-Jun-2021 14:14

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/l) | AMOUNTS ON-COL ( ug/l) |
|---|---|---|---|---|---|---|---|---|
| 33 | 1,2-Dichloroethane | 62 | 4.555 | 4.555 | (0.918) | 236278 | 50.0000 | 49.68 |
| 42 | 1,2-Dichloropropane | 63 | 5.436 | 5.436 | (1.095) | 156725 | 50.0000 | 48.21 |
| 75 | 1,3,5-Trimethylbenzene | 105 | 9.067 | 9.067 | (0.938) | 592433 | 50.0000 | 49.50 |
| 83 | 1,3-Dichlorobenzene | 146 | 9.604 | 9.604 | (0.994) | 335593 | 50.0000 | 48.72 |
| 54 | 1,3-Dichloropropane | 76 | 6.983 | 6.983 | (0.910) | 253976 | 50.0000 | 48.64 |
| 84 | 1,4-Dichlorobenzene | 146 | 9.683 | 9.683 | (1.002) | 338495 | 50.0000 | 48.07 |
| 26 | 2,2-Dichloropropane | 77 | 3.509 | 3.509 | (0.839) | 224075 | 50.0000 | 47.56 |
| 24 | 2-Butanone | 43 | 3.580 | 3.580 | (0.856) | 95916 | 100.000 | 91.36 |
| 76 | 2-Chlorotoluene | 91 | 8.974 | 8.974 | (0.929) | 501995 | 50.0000 | 46.98 |
| 52 | 2-Hexanone | 43 | 7.083 | 7.083 | (0.923) | 172731 | 100.000 | 88.69 |
| 77 | 4-Chlorotoluene | 91 | 9.067 | 9.067 | (0.938) | 611082 | 50.0000 | 49.05 |
| 82 | p-Isopropyltoluene | 119 | 9.647 | 9.647 | (0.999) | 569549 | 50.0000 | 48.11 |
| 45 | 4-Methyl-2-Pentanone | 43 | 6.324 | 6.324 | (0.824) | 267167 | 100.000 | 91.36 |
| 10 | Acetone | 43 | 1.976 | 1.976 | (0.473) | 66961 | 100.000 | 92.78 |
| 37 | Benzene | 78 | 4.512 | 4.512 | (0.909) | 601448 | 50.0000 | 50.25 |
| 74 | Bromobenzene | 156 | 8.802 | 8.802 | (0.911) | 187544 | 50.0000 | 46.93 |
| 29 | Bromochloromethane | 128 | 3.795 | 3.795 | (0.908) | 83305 | 50.0000 | 48.06 |
| 39 | Bromodichloromethane | 83 | 5.729 | 5.729 | (1.154) | 230262 | 50.0000 | 49.26 |
| 66 | Bromoform | 173 | 8.408 | 8.408 | (1.096) | 104884 | 50.0000 | 47.23 |
| 6 | Bromomethane | 94 | 1.338 | 1.338 | (0.320) | 148264 | 50.0000 | 49.59 |
| 19 | Carbon Disulfide | 76 | 2.069 | 2.069 | (0.495) | 700357 | 100.000 | 104.52 |
| 34 | Carbon Tetrachloride | 117 | 4.268 | 4.268 | (0.860) | 196574 | 50.0000 | 46.62 |
| 59 | Chlorobenzene | 112 | 7.692 | 7.692 | (1.003) | 437785 | 50.0000 | 48.62 |
| 7 | Chloroethane | 64 | 1.403 | 1.403 | (0.336) | 113486 | 50.0000 | 52.71 |
| 28 | Chloroform | 83 | 3.910 | 3.910 | (0.935) | 297022 | 50.0000 | 49.15 |
| 3 | Chloromethane | 50 | 1.073 | 1.073 | (0.257) | 158097 | 50.0000 | 51.53 |
| 27 | cis-1,2-Dichloroethene | 96 | 3.523 | 3.523 | (0.842) | 158598 | 50.0000 | 48.38 |
| 46 | cis-1,3-Dichloropropene | 75 | 6.152 | 6.152 | (1.240) | 269241 | 50.0000 | 50.77 |
| 55 | Dibromochloromethane | 129 | 7.176 | 7.176 | (0.936) | 178946 | 50.0000 | 49.86 |
| 44 | Dibromomethane | 93 | 5.550 | 5.550 | (1.118) | 111995 | 50.0000 | 48.06 |
| 2 | Dichlorodifluoromethane | 85 | 0.973 | 0.973 | (0.233) | 169798 | 50.0000 | 47.54 |
| 61 | Ethylbenzene | 106 | 7.799 | 7.799 | (1.017) | 223352 | 50.0000 | 50.20 |
| 91 | Hexachlorobutadiene | 225 | 11.481 | 11.481 | (1.188) | 61412 | 50.0000 | 43.15 |
| 67 | Isopropylbenzene | 105 | 8.559 | 8.559 | (1.116) | 687475 | 50.0000 | 50.55 |
| 62 | m,p-Xylenes | 106 | 7.900 | 7.900 | (1.030) | 591193 | 100.000 | 103.10 |
| 17 | Methylene Chloride | 84 | 2.305 | 2.305 | (0.551) | 144836 | 50.0000 | 50.78 |
| 87 | n-Butylbenzene | 91 | 9.991 | 9.991 | (1.034) | 541035 | 50.0000 | 48.06 |
| 73 | n-Propylbenzene | 91 | 8.910 | 8.910 | (0.922) | 834843 | 50.0000 | 49.17 |
| 92 | Naphthalene | 128 | 11.546 | 11.546 | (1.195) | 124229 | 50.0000 | 40.03 |
| 63 | o-Xylene | 106 | 8.244 | 8.244 | (1.075) | 276991 | 50.0000 | 49.66 |
| 81 | sec-Butylbenzene | 105 | 9.519 | 9.519 | (0.985) | 675724 | 50.0000 | 48.09 |
| 64 | Styrene | 104 | 8.258 | 8.258 | (1.077) | 487544 | 50.0000 | 46.71 |
| 78 | tert-Butylbenzene | 119 | 9.339 | 9.339 | (0.967) | 485132 | 50.0000 | 47.77 |
| 56 | Tetrachloroethene | 164 | 6.926 | 6.926 | (0.903) | 128018 | 50.0000 | 50.17 |
| 50 | Toluene | 91 | 6.446 | 6.446 | (0.840) | 673256 | 50.0000 | 50.82 |
| 20 | trans-1,2-Dichloroethene | 96 | 2.535 | 2.535 | (0.606) | 134945 | 50.0000 | 49.31 |
| 51 | trans-1,3-Dichloropropene | 75 | 6.682 | 6.682 | (1.346) | 242498 | 50.0000 | 52.27 |
| 38 | Trichloroethene | 130 | 5.206 | 5.206 | (1.049) | 155746 | 50.0000 | 48.62 |
| 8 | Trichlorofluoromethane | 101 | 1.560 | 1.560 | (0.373) | 246582 | 50.0000 | 45.10 |
| 5 | Vinyl Chloride | 62 | 1.145 | 1.145 | (0.274) | 153802 | 50.0000 | 44.79 |

QC Flag Legend

M - Compound response manually integrated.

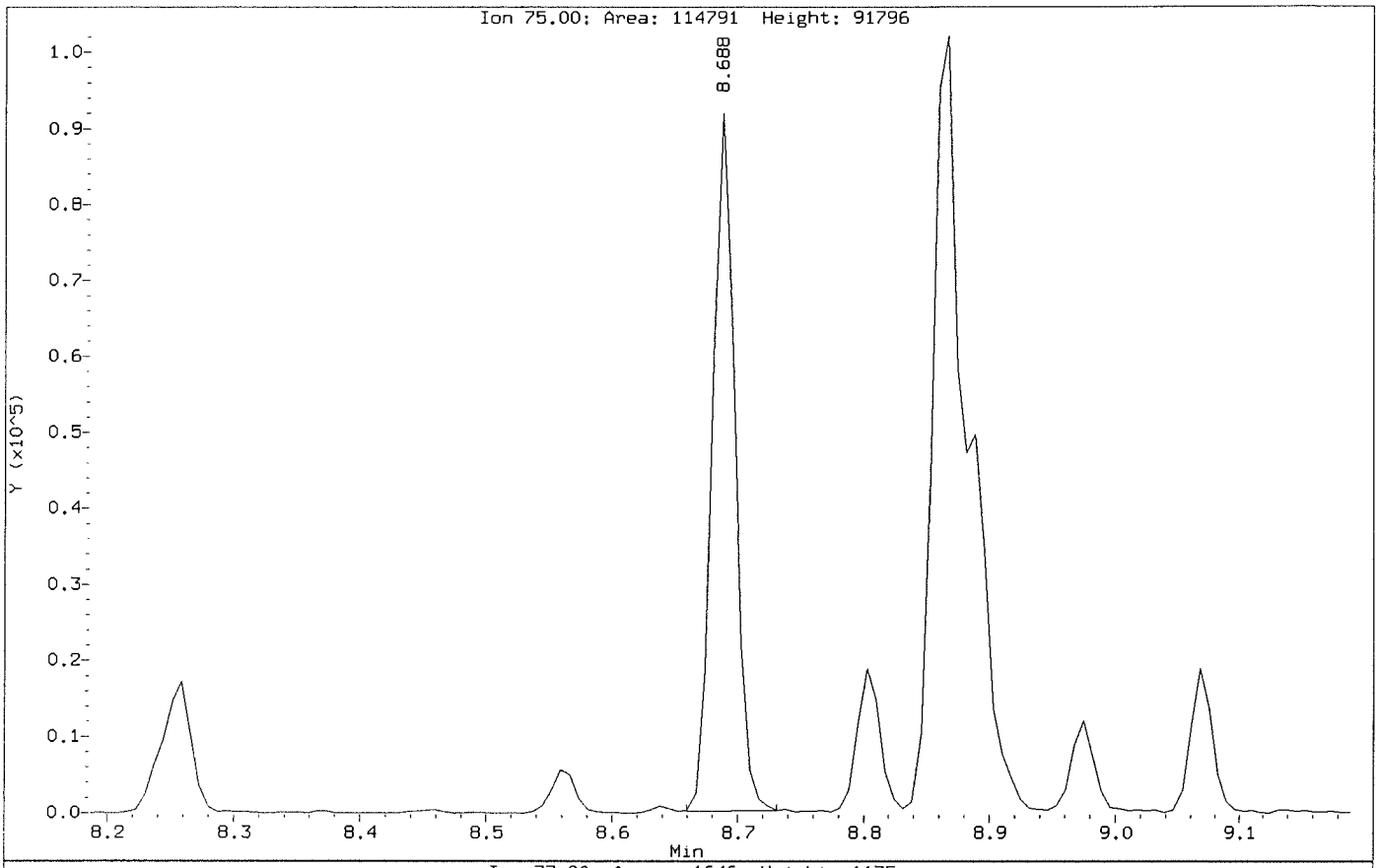


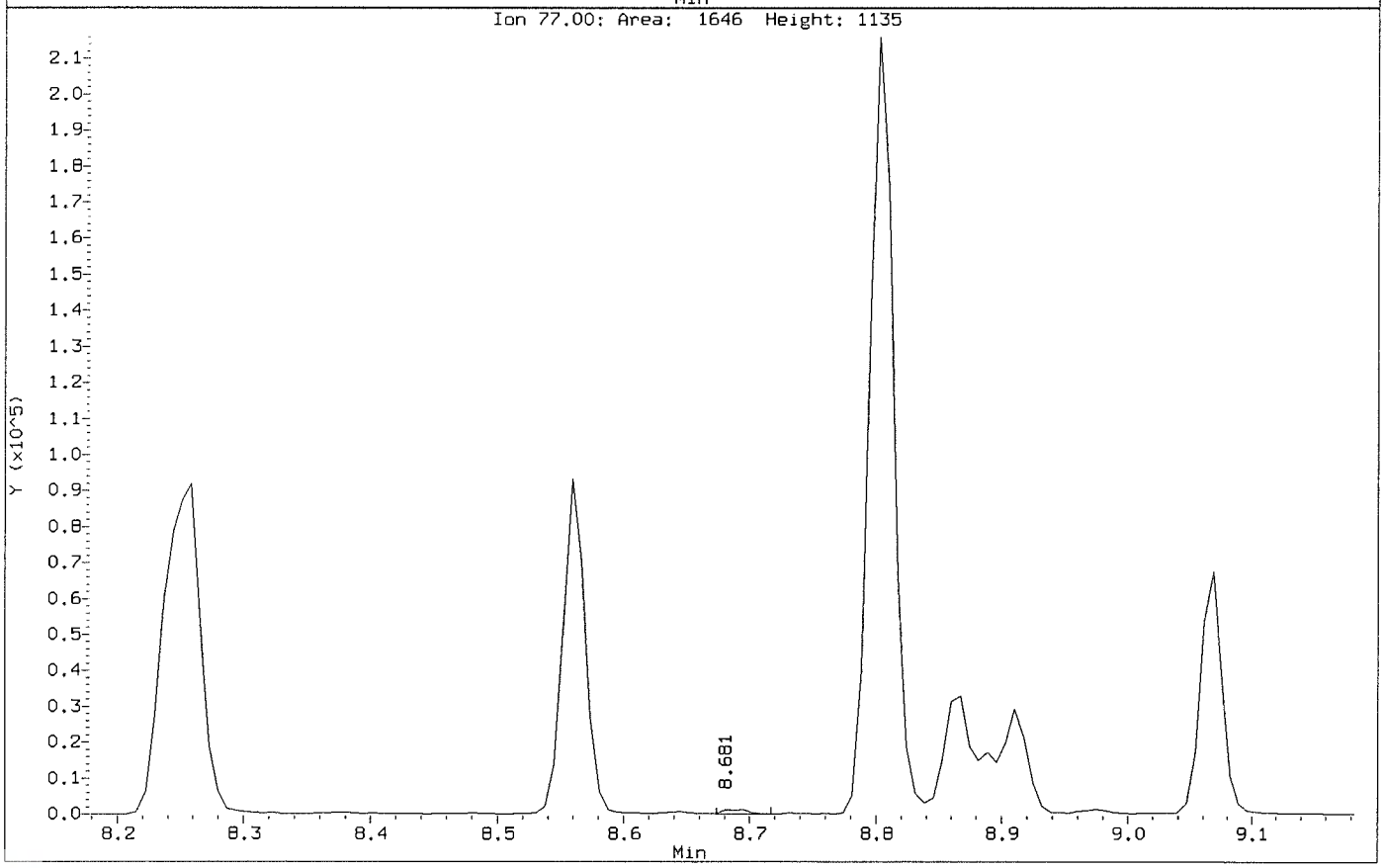

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051830.D
Date : 18-MAY-2021 21:40
Client ID: CCV-END
Sample Info: CCV-END;CCV-END;2;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\Before\X051830.D
Injection Date: 18-MAY-2021 21:40
Instrument: voa6.i
Client Sample ID: CCV-END

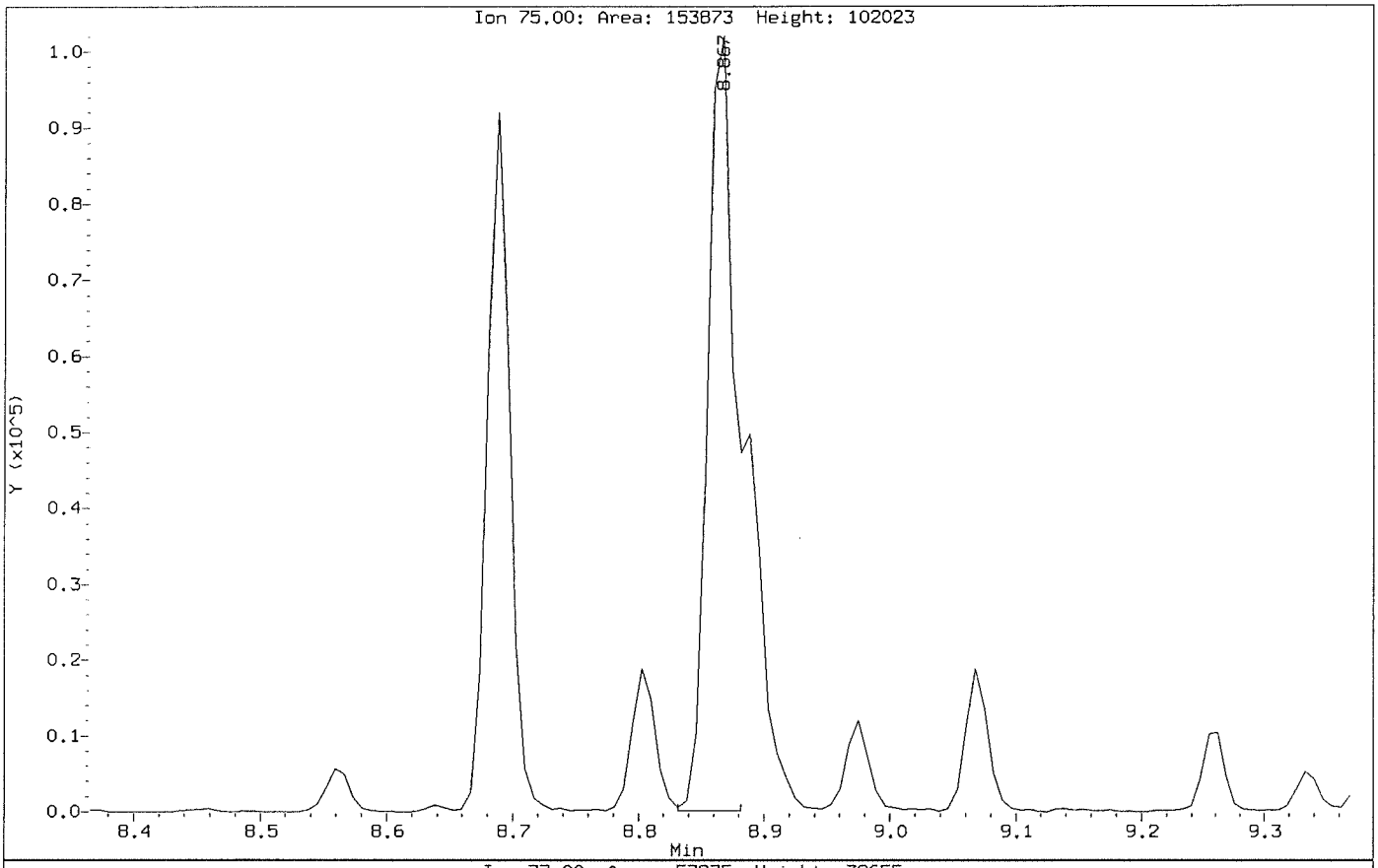
Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4

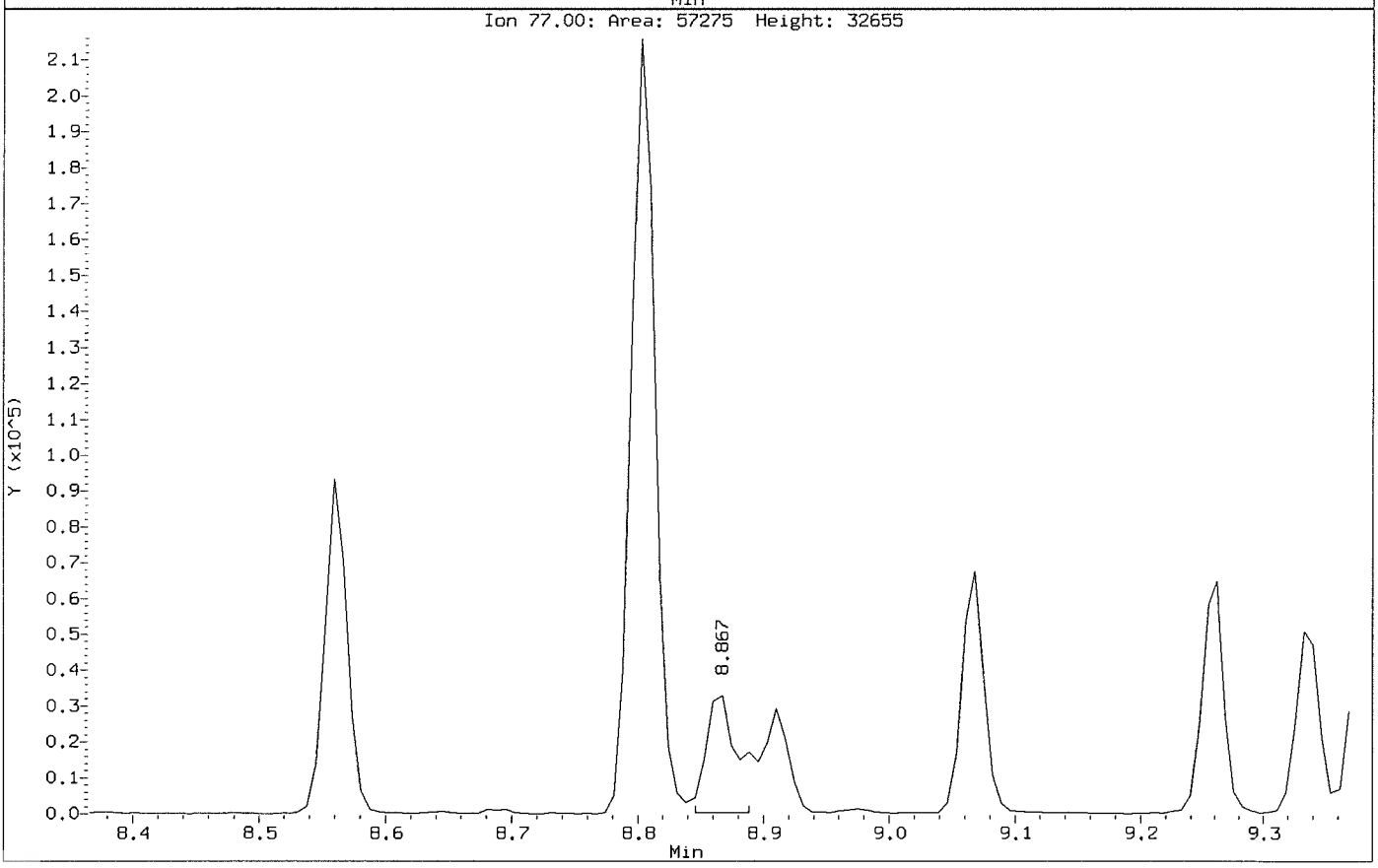


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210518.b\X051830.D
Injection Date: 18-MAY-2021 21:40
Instrument: voa6.i
Client Sample ID: CCV-END

Compound: 1,2,3-Trichloropropane
CAS Number: 96-18-4



# HS21050553 8270SIM_W Raw Data

ALS WO# HS21050553

# SV06 -Logbook

**Batch:** 41634 **Analyst:** Andrew Neir

**Date:** 09-01-2020 **Reviewer:**

**Method:** 8270DLL **Laboratory:** Houston

**Comments:** MSSV003

| # | Samp ID | Type | Analyzed | DF | Init Wt/Vol | Final Vol | File ID | Matrix | Status | pH |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | DFTPP | TUNE | 09-01-2020 01:52 pm | 1.00 | | | 001.D | | Y | NA |
| 2 | SLSTD-2.5 | CCV | 09-01-2020 02:04 pm | 1.00 | | | 002.D | | Y | NA |
| 3 | DXSIM-0.08 | SAMP | 09-01-2020 02:41 pm | 1.00 | | | 003.D | | Y | NA |
| 4 | DXSIM-0.01 | SAMP | 09-01-2020 03:03 pm | 1.00 | | | 004.D | | Y | NA |
| 5 | DXSIM-0.03 | SAMP | 09-01-2020 03:22 pm | 1.00 | | | 005.D | | Y | NA |
| 6 | DXSIM-0.05 | SAMP | 09-01-2020 03:41 pm | 1.00 | | | 006.D | | Y | NA |
| 7 | DXSIM-0.10 | SAMP | 09-01-2020 04:00 pm | 1.00 | | | 007.D | | Y | NA |
| 8 | DXSIM-0.15 | SAMP | 09-01-2020 04:19 pm | 1.00 | | | 008.D | | Y | NA |
| 9 | DXSIM-0.2 | SAMP | 09-01-2020 04:38 pm | 1.00 | | | 009.D | | Y | NA |
| 10 | DXSIM-0.5 | SAMP | 09-01-2020 04:57 pm | 1.00 | | | 010.D | | Y | NA |
| 11 | DXSIM-ICV | SAMP | 09-01-2020 05:16 pm | 1.00 | | | 011.D | | Y | NA |
| 12 | MBLK-156910 | MBLK | 09-01-2020 05:36 pm | 1.00 | 1000.00 mL | 1.00 mL | 012.D | Liquid | Y | NA |
| 13 | LCS-156910 | LCS | 09-01-2020 05:55 pm | 1.00 | 1000.00 mL | 1.00 mL | 013.D | Liquid | Y | NA |
| 14 | LCSD-156910 | LCSD | 09-01-2020 06:15 pm | 1.00 | 1000.00 mL | 1.00 mL | 014.D | Liquid | Y | NA |
| 15 | HS20090012-01 | SAMP | 09-01-2020 06:34 pm | 1.00 | 1000.00 mL | 1.00 mL | 015.D | Liquid | Y | NA |
| 16 | HS20070585-01 | SAMP | 09-01-2020 06:53 pm | 1.00 | 1000.00 mL | 1.00 mL | 016.D | Liquid | Y | NA |
| 17 | HS20070585-02 | SAMP | 09-01-2020 07:13 pm | 1.00 | 1000.00 mL | 1.00 mL | 017.D | Liquid | Y | NA |
| 18 | HS20070585-09 | SAMP | 09-01-2020 07:33 pm | 1.00 | 1000.00 mL | 1.00 mL | 018.D | Liquid | Y | NA |
| 19 | HS20070585-10 | SAMP | 09-01-2020 07:52 pm | 1.00 | 1000.00 mL | 1.00 mL | 019.D | Liquid | Y | NA |
| 20 | HS20070586-01 | SAMP | 09-01-2020 08:11 pm | 1.00 | 30.00 gm | 1.00 mL | 020.D | Solid | Y | NA |
| 21 | HS20070586-02 | SAMP | 09-01-2020 08:31 pm | 1.00 | 30.00 gm | 1.00 mL | 021.D | Solid | Y | NA |
| 22 | HS20070586-05 | SAMP | 09-01-2020 08:50 pm | 1.00 | 30.00 gm | 1.00 mL | 022.D | Solid | Y | NA |
| 23 | HS20070586-06 | SAMP | 09-01-2020 09:10 pm | 1.00 | 30.00 gm | 1.00 mL | 023.D | Solid | Y | NA |
| 24 | MBLK-156817 | MBLK | 09-01-2020 09:29 pm | 1.00 | 1000.00 mL | 1.00 mL | 024.D | Liquid | Y | NA |
| 25 | LCS-156817 | LCS | 09-01-2020 09:48 pm | 1.00 | 1000.00 mL | 1.00 mL | 025.D | Liquid | Y | NA |
| 26 | LCSD-156817 | LCSD | 09-01-2020 10:07 pm | 1.00 | 1000.00 mL | 1.00 mL | 026.D | Liquid | Y | NA |
| 27 | HS20081150-01 | SAMP | 09-01-2020 10:26 pm | 1.00 | 1000.00 mL | 1.00 mL | 027.D | Liquid | Y | NA |
| 28 | HS20081150-01 | SAMP | 09-01-2020 10:45 pm | 100.0( | 1000.00 mL | 1.00 mL | 028.D | Liquid | Y | NA |
| 29 | HS20081151-01 | SAMP | 09-01-2020 11:04 pm | 1.00 | 1000.00 mL | 1.00 mL | 029.D | Liquid | Y | NA |
| 30 | HS20081151-01 | SAMP | 09-01-2020 11:23 pm | 100.0( | 1000.00 mL | 1.00 mL | 030.D | Liquid | Y | NA |
| 31 | DXSIM-0.08 | SAMP | 09-01-2020 11:42 pm | 100.0( | 1000.00 mL | 1.00 mL | 031.D | Liquid | Y | NA |
| 32 | HS20081309-03 | SAMP | 09-02-2020 12:02 am | 1.00 | 1000.00 mL | 1.00 mL | 032.D | Liquid | Y | NA |
| 33 | HS20081238-01 | SAMP | 09-02-2020 12:21 am | 1.00 | 1000.00 mL | 1.00 mL | 033.D | Liquid | Y | NA |
| 34 | HS20081238-02 | SAMP | 09-02-2020 12:40 am | 1.00 | 1000.00 mL | 1.00 mL | 034.D | Liquid | Y | NA |
| 35 | HS20081238-03 | SAMP | 09-02-2020 01:00 am | 1.00 | 1000.00 mL | 1.00 mL | 035.D | Liquid | Y | NA |
| 36 | HS20081238-04 | SAMP | 09-02-2020 01:19 am | 1.00 | 1000.00 mL | 1.00 mL | 036.D | Liquid | Y | NA |
| 37 | HS20081238-05 | SAMP | 09-02-2020 01:39 am | 1.00 | 1000.00 mL | 1.00 mL | 037.D | Liquid | Y | NA |
| 38 | HS20081238-06 | SAMP | 09-02-2020 01:58 am | 1.00 | 1000.00 mL | 1.00 mL | 038.D | Liquid | Y | NA |
| 39 | HS20081238-07 | SAMP | 09-02-2020 02:18 am | 1.00 | 1000.00 mL | 1.00 mL | 039.D | Liquid | Y | NA |
| 40 | HS20081238-08 | SAMP | 09-02-2020 02:37 am | 1.00 | 1000.00 mL | 1.00 mL | 040.D | Liquid | Y | NA |
| 41 | HS20081238-09 | SAMP | 09-02-2020 02:57 am | 1.00 | 1000.00 mL | 1.00 mL | 041.D | Liquid | Y | NA |

# SV06 -Logbook

| # | Samp ID | Type | Analyzed | DF | Init Wt/Vol | Final Vol | File ID | Matrix | Status | pH |
|---|---|---|---|---|---|---|---|---|---|---|
| 42 | HS20081238-10 | SAMP | 09-02-2020 03:16 am | 1.00 | 1000.00 mL | 1.00 mL | 042.D | Liquid | Y | NA |
| 43 | HS20081238-11 | SAMP | 09-02-2020 03:35 am | 1.00 | 1000.00 mL | 1.00 mL | 043.D | Liquid | Y | NA |
| 44 | HS20081238-12 | SAMP | 09-02-2020 03:55 am | 1.00 | 1000.00 mL | 1.00 mL | 044.D | Liquid | Y | NA |
| 45 | HS20081238-13 | SAMP | 09-02-2020 04:14 am | 1.00 | 1000.00 mL | 1.00 mL | 045.D | Liquid | Y | NA |
| 46 | HS20081238-14 | SAMP | 09-02-2020 04:34 am | 1.00 | 1000.00 mL | 1.00 mL | 046.D | Liquid | Y | NA |
| 47 | HS20081238-15 | SAMP | 09-02-2020 04:53 am | 1.00 | 1000.00 mL | 1.00 mL | 047.D | Liquid | Y | NA |
| 48 | HS20081238-16 | SAMP | 09-02-2020 05:13 am | 1.00 | 1000.00 mL | 1.00 mL | 048.D | Liquid | Y | NA |
| 49 | HS20081238-17 | SAMP | 09-02-2020 05:32 am | 1.00 | 1000.00 mL | 1.00 mL | 049.D | Liquid | Y | NA |
| 50 | HS20081238-18 | SAMP | 09-02-2020 05:52 am | 1.00 | 1000.00 mL | 1.00 mL | 050.D | Liquid | Y | NA |

| Chemical | Value |
|---|---|
| IS ID | 3111842-01 |
| CAL STD ID | 3111832-06 |
| DFTPP ID | 3111843-07 |
| PCP Tailing | 0.82 |
| Benz. Tailing | 0.78 |
| Routine SOP Maintenance | ACN |

FORM 3
WATER SEMIVOLATILE METHOD SPIKE RECOVERY

Lab Name: ALS HOUSTON Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21050553

Matrix Spike - Sample No.: DXSIM-ICV

| COMPOUND | SPIKE ADDED (ug/L) | SAMPLE CONCENTRATION (ug/L) | % REC # | QC. LIMITS REC. |
|---|---|---|---|---|
| 1,4-Dioxane | 0.08000 | 0.07779 | 97 | 75-125 |

# Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

COMMENTS: _____

FORM III SV

# FORM 5
## SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
## DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ALS HOUSTON Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21050553

Lab File ID: 001 DFTPP Injection Date: 09/01/20

Instrument ID: SV6 DFTPP Injection Time: 1352

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 51 | 10.0 - 80.0% of mass 198 | 46.9 |
| 68 | Less than 2.0% of mass 69 | 0.5 ( 0.9)1 |
| 69 | Mass 69 relative abundance | 50.7 |
| 70 | Less than 2.0% of mass 69 | 0.3 ( 0.6)1 |
| 127 | 10.0 - 80.0% of mass 198 | 57.0 |
| 197 | Less than 2.0% of mass 198 | 0.4 |
| 198 | Base Peak, 100% relative abundance | 100.0 |
| 199 | 5.0 to 9.0% of mass 198 | 6.8 |
| 275 | 10.0 - 60.0% of mass 198 | 25.7 |
| 365 | 1.0 - 100.0% of mass 198 | 4.0 |
| 441 | Present, but less than mass 443 | 14.5 |
| 442 | 50.0 - 150.0% of mass 198 | 97.1 |
| 443 | 15.0 - 24.0% of mass 442 | 18.6 ( 19.1)2 |

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 01 | DXSIM-0.08 | DXSIM-0.08 | 003 | 09/01/20 | 1441 |
| 02 | DXSIM-0.01 | DXSIM-0.01 | 004 | 09/01/20 | 1503 |
| 03 | DXSIM-0.03 | DXSIM-0.03 | 005 | 09/01/20 | 1522 |
| 04 | DXSIM-0.05 | DXSIM-0.05 | 006 | 09/01/20 | 1541 |
| 05 | DXSIM-0.10 | DXSIM-0.10 | 007 | 09/01/20 | 1600 |
| 06 | DXSIM-0.15 | DXSIM-0.15 | 008 | 09/01/20 | 1619 |
| 07 | DXSIM-0.2 | DXSIM-0.2 | 009 | 09/01/20 | 1638 |
| 08 | DXSIM-0.5 | DXSIM-0.5 | 010 | 09/01/20 | 1657 |
| 09 | DXSIM-ICV | DXSIM-ICV | 011 | 09/01/20 | 1716 |
| 10 | | | | | |
| 11 | | | | | |
| 12 | | | | | |
| 13 | | | | | |
| 14 | | | | | |
| 15 | | | | | |
| 16 | | | | | |
| 17 | | | | | |
| 18 | | | | | |
| 19 | | | | | |
| 20 | | | | | |
| 21 | | | | | |
| 22 | | | | | |

FORM 6
SEMIVOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS HOUSTON Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21050553

Instrument ID: SV6 Calibration Date(s): 09/01/20 09/01/20

Column: RTX-5SIL MS ID: 0.28 (mm) Calibration Time(s): 1441 1657

LAB FILE ID: RF0.01: 004 RF0.03: 005 RF0.05: 006
RF0.08: 003 RF0.1: 007 RF0.15: 008

| COMPOUND | RF0.01 | RF0.03 | RF0.05 | RF0.08 | RF0.1 | RF0.15 |
|---|---|---|---|---|---|---|
| 1,4-Dioxane | 0.301 | 0.225 | 0.233 | 0.205 | 0.272 | 0.298 |
| Nitrobenzene-d5 | 0.475 | 0.356 | 0.285 | 0.364 | 0.296 | 0.373 |
| 4-Terphenyl-d14 | 0.997 | 0.901 | 0.769 | 0.929 | 0.708 | 0.713 |
| 2-Fluorobiphenyl | 1.354 | 1.207 | 1.318 | 1.119 | 1.138 | 1.054 |

FORM VI SV

# FORM 6
# SEMIVOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS HOUSTON Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS2105055

Instrument ID: SV6 Calibration Date(s): 09/01/20 09/01/20

Column: RTX-5SIL MS ID: 0.28 (mm) Calibration Time(s): 1441 1657

LAB FILE ID: RF0.2: 009 RF0.5: 010

| COMPOUND | RF0.2 | RF0.5 | CURVE | COEFFICENT A1 | %RSD OR R^2 | MAX %RSD OR R^2 |
|---|---|---|---|---|---|---|
| 1,4-Dioxane | 0.332 | 0.280 | AVRG | 0.26820713 | 16.222 | 20.000 |
| Nitrobenzene-d5 | 0.330 | 0.356 | AVRG | 0.35440929 | 16.461 | 20.000 |
| 4-Terphenyl-d14 | 0.774 | 0.841 | AVRG | 0.82891532 | 12.765 | 20.000 |
| 2-Fluorobiphenyl | 1.123 | 1.017 | AVRG | 1.16642898 | 10.235 | 20.000 |

FORM VI SV

Data File: \\nahstws005\Target\chem\SV6.i\200901.b\001.D



Date : 01-SEP-2020 13:52

Client ID: DFTPP

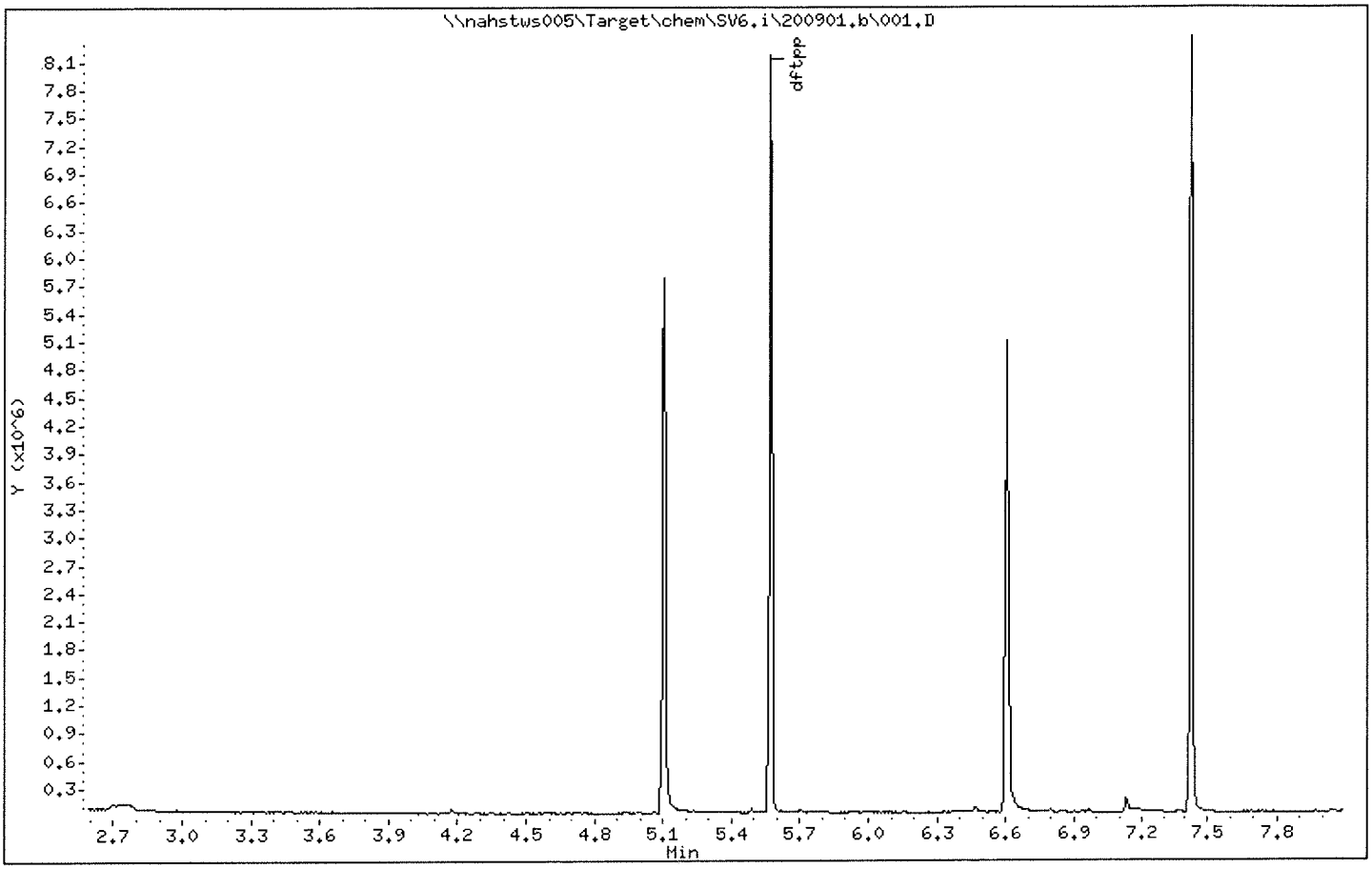
Instrument: SV6.i

Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: LG

Column phase: DB-5MS

Column diameter: 0.25



Data File: \\nahstws005\Target\chem\SV6.i\200901.b\001.D



Date : 01-SEP-2020 13:52

Client ID: DFTPP

Instrument: SV6.i

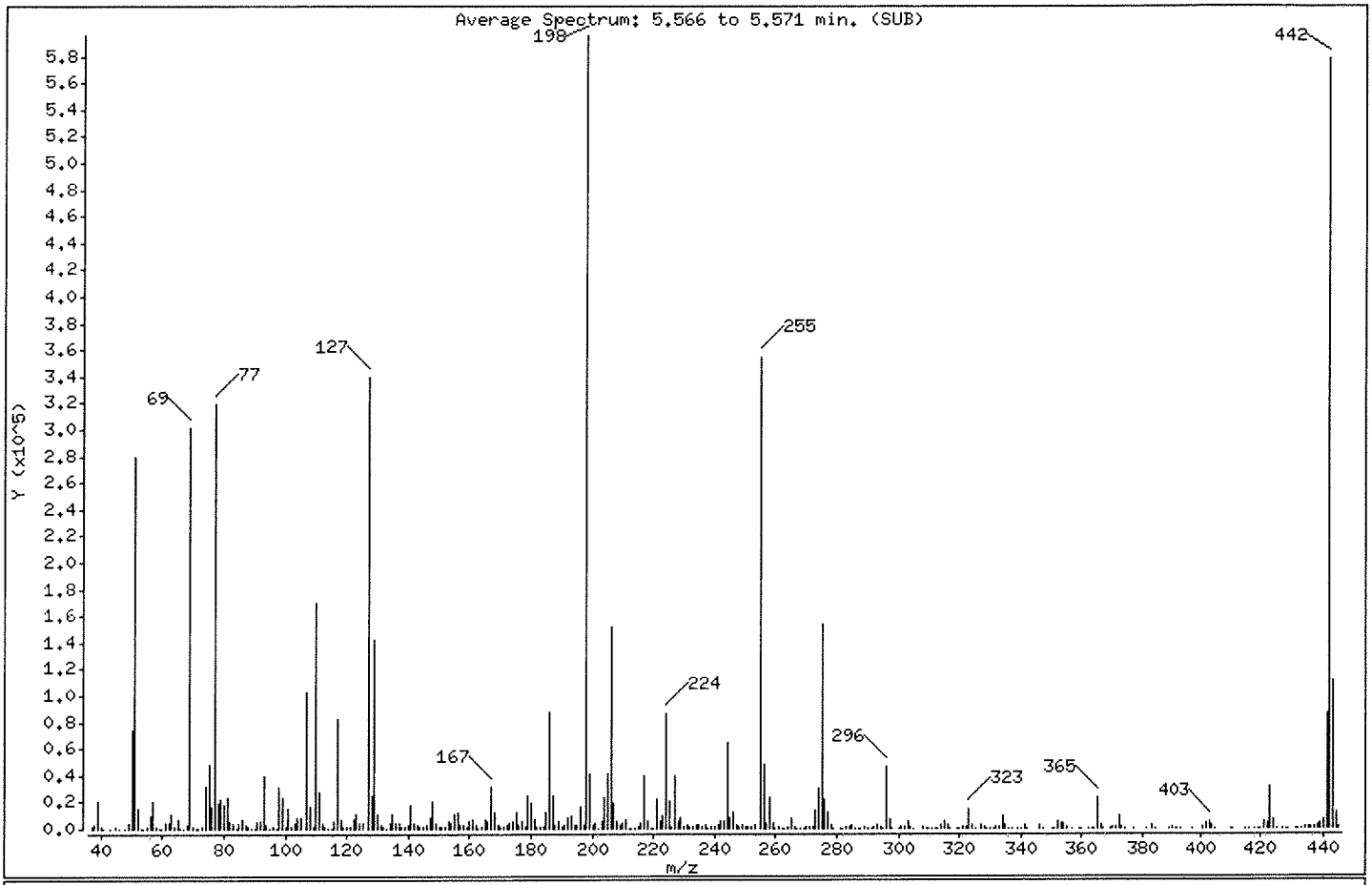
Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: LG

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 | 46.88 |
| 68 | Less than 2.00% of mass 69 | 0.48 ( 0.94) |
| 69 | Mass 69 relative abundance | 50.68 |
| 70 | Less than 2.00% of mass 69 | 0.31 ( 0.60) |
| 127 | 10.00 - 80.00% of mass 198 | 56.99 |
| 197 | Less than 2.00% of mass 198 | 0.41 |
| 199 | 5.00 - 9.00% of mass 198 | 6.84 |
| 275 | 10.00 - 60.00% of mass 198 | 25.68 |
| 365 | 1.00 - 100.00% of mass 198 | 4.01 |
| 441 | Present, but less than mass 443 | 14.46 |
| 442 | 50.00 - 150.00% of mass 198 | 97.09 |
| 443 | 15.00 - 24.00% of mass 442 | 18.56 ( 19.12) |

Data File: \\nahstws005\Target\chem\SV6.i\200901.b\001.D



Date : 01-SEP-2020 13:52

Client ID: DFTPP

Instrument: SV6.i

Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: LG

Column phase: DB-5MS

Column diameter: 0.25

Data File: 001.D
Spectrum: Average Spectrum: 5.566 to 5.571 min. (SUB)
Location of Maximum: 198.00
Number of points: 361

| m/z | Y | m/z | Y | m/z | Y | m/z | Y |
|---|---|---|---|---|---|---|---|
| 37.00 | 1132 | 133.00 | 523 | 224.00 | 85920 | 321.00 | 1936 |
| 38.00 | 3168 | 134.00 | 3567 | 225.00 | 20560 | 322.00 | 1358 |
| 39.00 | 20240 | 135.00 | 10509 | 226.00 | 1905 | 323.00 | 14582 |
| 40.00 | 847 | 136.00 | 4080 | 227.00 | 40272 | 324.00 | 3093 |
| 41.00 | 359 | 137.00 | 4659 | 228.00 | 6109 | 325.00 | 247 |
| 43.00 | 637 | 138.00 | 1176 | 229.00 | 8104 | 327.00 | 2927 |
| 45.00 | 726 | 139.00 | 691 | 230.00 | 865 | 328.00 | 1591 |
| 46.00 | 246 | 140.00 | 2173 | 231.00 | 3342 | 329.00 | 359 |
| 48.00 | 286 | 141.00 | 17232 | 232.00 | 803 | 330.00 | 103 |
| 49.00 | 3524 | 142.00 | 4786 | 233.00 | 880 | 331.00 | 218 |
| 50.00 | 74392 | 143.00 | 3273 | 234.00 | 2655 | 332.00 | 1451 |
| 51.00 | 279360 | 144.00 | 1143 | 235.00 | 3054 | 333.00 | 1368 |
| 52.00 | 14715 | 145.00 | 1076 | 236.00 | 1716 | 334.00 | 9177 |
| 53.00 | 159 | 146.00 | 3257 | 237.00 | 2356 | 335.00 | 2757 |
| 54.00 | 143 | 147.00 | 8842 | 238.00 | 432 | 336.00 | 112 |
| 55.00 | 1240 | 148.00 | 20160 | 239.00 | 1632 | 337.00 | 81 |
| 56.00 | 9103 | 149.00 | 3787 | 240.00 | 840 | 339.00 | 506 |
| 57.00 | 20872 | 150.00 | 1314 | 241.00 | 2253 | 340.00 | 133 |
| 58.00 | 1121 | 151.00 | 1875 | 242.00 | 5114 | 341.00 | 2506 |
| 59.00 | 664 | 152.00 | 1877 | 243.00 | 5015 | 342.00 | 537 |
| 60.00 | 26 | 153.00 | 5718 | 244.00 | 65016 | 346.00 | 3406 |
| 61.00 | 3531 | 154.00 | 4312 | 245.00 | 8277 | 347.00 | 505 |
| 62.00 | 3772 | 155.00 | 11251 | 246.00 | 11826 | 350.00 | 102 |
| 63.00 | 11375 | 156.00 | 12646 | 247.00 | 2935 | 351.00 | 344 |
| 64.00 | 1278 | 157.00 | 2476 | 248.00 | 921 | 352.00 | 5264 |
| 65.00 | 6226 | 158.00 | 2412 | 249.00 | 3014 | 353.00 | 3632 |
| 66.00 | 463 | 159.00 | 1824 | 250.00 | 749 | 354.00 | 4465 |
| 67.00 | 118 | 160.00 | 5511 | 251.00 | 954 | 355.00 | 955 |
| 68.00 | 2831 | 161.00 | 7151 | 252.00 | 1849 | 357.00 | 279 |
| 69.00 | 302016 | 162.00 | 2988 | 253.00 | 2849 | 359.00 | 276 |
| 70.00 | 1818 | 163.00 | 269 | 255.00 | 355200 | 360.00 | 121 |
| 71.00 | 296 | 164.00 | 816 | 256.00 | 47456 | 362.00 | 107 |
| 72.00 | 314 | 165.00 | 7317 | 257.00 | 3953 | 363.00 | 617 |
| 73.00 | 1963 | 166.00 | 5545 | 258.00 | 23384 | 364.00 | 541 |
| 74.00 | 30928 | 167.00 | 31856 | 259.00 | 3869 | 365.00 | 23912 |

Data File: \\nahstws005\Target\chem\SV6.i\200901.b\001.D



Date : 01-SEP-2020 13:52

Client ID: DFTPP

Instrument: SV6.i

Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: LG

Column phase: DB-5MS

Column diameter: 0.25

Data File: 001.D
Spectrum: Average Spectrum: 5.566 to 5.571 min. (SUB)
Location of Maximum: 198.00
Number of points: 361

| m/z | Y | m/z | Y | m/z | Y | m/z | Y |
|---|---|---|---|---|---|---|---|
| 75.00 | 48584 | 168.00 | 12438 | 260.00 | 547 | 366.00 | 2559 |
| 76.00 | 16219 | 169.00 | 2506 | 261.00 | 696 | 367.00 | 373 |
| 77.00 | 318912 | 170.00 | 1228 | 262.00 | 171 | 369.00 | 84 |
| 78.00 | 19664 | 171.00 | 1246 | 263.00 | 152 | 370.00 | 770 |
| 79.00 | 21776 | 172.00 | 2840 | 264.00 | 715 | 371.00 | 1471 |
| 80.00 | 17632 | 173.00 | 4122 | 265.00 | 8690 | 372.00 | 10099 |
| 81.00 | 23216 | 174.00 | 5776 | 266.00 | 1098 | 373.00 | 1794 |
| 82.00 | 5569 | 175.00 | 12113 | 267.00 | 359 | 374.00 | 159 |
| 83.00 | 4711 | 176.00 | 3068 | 268.00 | 471 | 377.00 | 136 |
| 84.00 | 622 | 177.00 | 5288 | 269.00 | 197 | 381.00 | 77 |
| 85.00 | 4731 | 178.00 | 1999 | 270.00 | 890 | 383.00 | 2249 |
| 86.00 | 7005 | 179.00 | 24752 | 271.00 | 1141 | 384.00 | 683 |
| 87.00 | 3268 | 180.00 | 18880 | 272.00 | 1967 | 389.00 | 169 |
| 88.00 | 1411 | 181.00 | 6948 | 273.00 | 13049 | 390.00 | 1414 |
| 89.00 | 683 | 182.00 | 2055 | 274.00 | 30776 | 391.00 | 520 |
| 90.00 | 327 | 183.00 | 718 | 275.00 | 152960 | 392.00 | 477 |
| 91.00 | 5418 | 184.00 | 1986 | 276.00 | 21272 | 393.00 | 139 |
| 92.00 | 5846 | 185.00 | 11921 | 277.00 | 12978 | 397.00 | 447 |
| 93.00 | 39760 | 186.00 | 87664 | 278.00 | 2659 | 401.00 | 836 |
| 94.00 | 2446 | 187.00 | 24008 | 279.00 | 628 | 402.00 | 4295 |
| 95.00 | 461 | 188.00 | 3104 | 281.00 | 567 | 403.00 | 5624 |
| 96.00 | 1877 | 189.00 | 5095 | 282.00 | 547 | 404.00 | 2205 |
| 97.00 | 570 | 190.00 | 857 | 283.00 | 1874 | 405.00 | 159 |
| 98.00 | 31608 | 191.00 | 2656 | 284.00 | 1318 | 410.00 | 82 |
| 99.00 | 22912 | 192.00 | 7627 | 285.00 | 3378 | 411.00 | 82 |
| 100.00 | 2053 | 193.00 | 9015 | 286.00 | 376 | 415.00 | 105 |
| 101.00 | 14676 | 194.00 | 2583 | 287.00 | 107 | 416.00 | 235 |
| 102.00 | 994 | 195.00 | 2733 | 288.00 | 123 | 418.00 | 200 |
| 103.00 | 3962 | 196.00 | 16172 | 289.00 | 862 | 419.00 | 258 |
| 104.00 | 8895 | 197.00 | 2436 | 290.00 | 416 | 420.00 | 272 |
| 105.00 | 7876 | 198.00 | 595968 | 291.00 | 335 | 421.00 | 5352 |
| 107.00 | 102624 | 199.00 | 40792 | 292.00 | 773 | 422.00 | 4268 |
| 108.00 | 16204 | 200.00 | 3416 | 293.00 | 2950 | 423.00 | 31088 |
| 109.00 | 1647 | 201.00 | 4505 | 294.00 | 931 | 424.00 | 6308 |
| 110.00 | 170432 | 202.00 | 32 | 295.00 | 485 | 425.00 | 681 |

Data File: \\nahstws005\Target\chem\SV6.i\200901.b\001.D



Date : 01-SEP-2020 13:52

Client ID: DFTPP

Instrument: SV6.i

Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: LG

Column phase: DB-5MS

Column diameter: 0.25

Data File: 001.D
Spectrum: Average Spectrum: 5.566 to 5.571 min. (SUB)
Location of Maximum: 198.00
Number of points: 361

| m/z | Y | m/z | Y | m/z | Y | m/z | Y |
|---|---|---|---|---|---|---|---|
| 111.00 | 27200 | 203.00 | 5754 | 296.00 | 46784 | 427.00 | 276 |
| 112.00 | 4383 | 204.00 | 23032 | 297.00 | 6214 | 428.00 | 255 |
| 113.00 | 1212 | 205.00 | 41664 | 298.00 | 580 | 429.00 | 278 |
| 114.00 | 601 | 206.00 | 152320 | 300.00 | 320 | 431.00 | 536 |
| 115.00 | 615 | 207.00 | 19016 | 301.00 | 981 | 432.00 | 96 |
| 116.00 | 5674 | 208.00 | 5811 | 302.00 | 1252 | 433.00 | 459 |
| 117.00 | 81968 | 209.00 | 2446 | 303.00 | 5202 | 434.00 | 1073 |
| 118.00 | 6322 | 210.00 | 3435 | 304.00 | 1503 | 435.00 | 1536 |
| 119.00 | 751 | 211.00 | 6291 | 305.00 | 88 | 436.00 | 1880 |
| 120.00 | 1445 | 212.00 | 214 | 308.00 | 1015 | 437.00 | 1700 |
| 121.00 | 773 | 213.00 | 353 | 309.00 | 672 | 438.00 | 3309 |
| 122.00 | 6206 | 214.00 | 404 | 310.00 | 442 | 439.00 | 4207 |
| 123.00 | 10790 | 215.00 | 1996 | 311.00 | 195 | 440.00 | 6195 |
| 124.00 | 4730 | 216.00 | 3882 | 312.00 | 263 | 441.00 | 86192 |
| 125.00 | 4622 | 217.00 | 40296 | 313.00 | 551 | 442.00 | 578624 |
| 127.00 | 339648 | 218.00 | 5802 | 314.00 | 2613 | 443.00 | 110608 |
| 128.00 | 24424 | 219.00 | 597 | 315.00 | 5016 | 444.00 | 12237 |
| 129.00 | 142400 | 220.00 | 249 | 316.00 | 2249 | 445.00 | 721 |
| 130.00 | 10696 | 221.00 | 21896 | 317.00 | 530 | | |
| 131.00 | 2236 | 222.00 | 5339 | 319.00 | 175 | | |
| 132.00 | 1119 | 223.00 | 9504 | 320.00 | 160 | | |

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\nahstws005\Target\chem\SV6.i\200901.b\003.D
Lab Smp Id: DXSIM-0.08 Client Smp ID: DXSIM-0.08
Inj Date : 01-SEP-2020 14:41 MS Autotune Date: 31-JUL-2020 09:35
Operator : LG Inst ID: SV6.i
Smp Info : DXSIM-0.08;DXSIM-0.08
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\SV6.i\200901.b\DXSIM.m
Meth Date : 14-Oct-2020 17:04 SV6.i Quant Type: ISTD
Cal Date : 01-SEP-2020 16:57 Cal File: 010.D
Als bottle: 3 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Vt | 1000.000 | Volume of final extract (uL) |
| Vo | 1000.000 | Volume of sample extracted (mL) |
| Cpnd Variable | | Local Compound Variable |

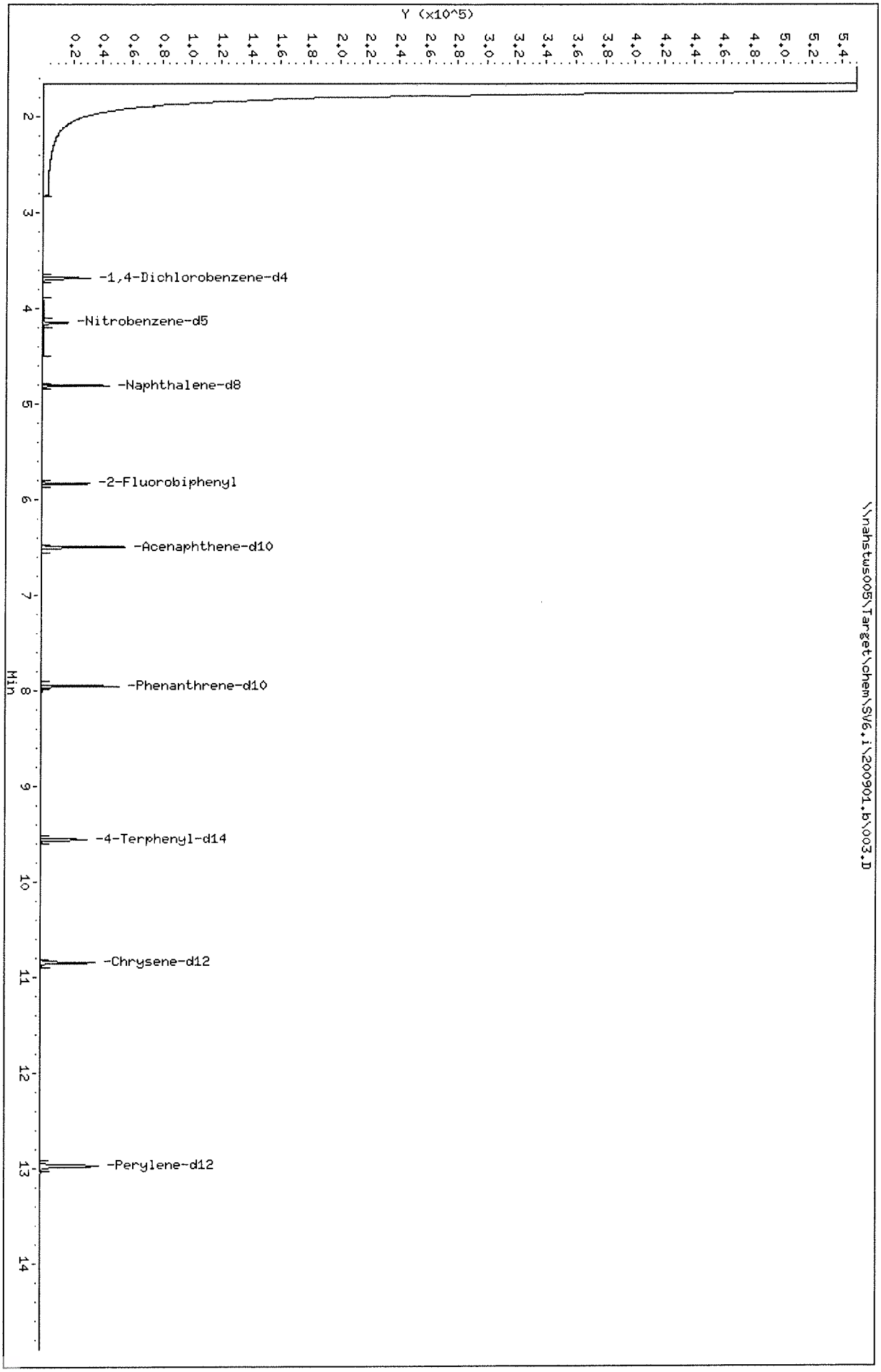
| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( NG) | ON-COL ( NG) |
|---|---|---|---|---|---|---|---|
| * 20 1,4-Dichlorobenzene-d4 | 152 | 3.683 | 3.683 | (1.000) | 8895 | 0.10000 | (aH) |
| * 45 Naphthalene-d8 | 136 | 4.809 | 4.809 | (1.000) | 35367 | 0.10000 | (H) |
| $ 33 Nitrobenzene-d5 | 82 | 4.155 | 4.155 | (0.902) | 10301 | 0.08000 | 0.08218 (QH) |
| * 86 Acenaphthene-d10 | 164 | 6.496 | 6.496 | (1.000) | 22159 | 0.10000 | (H) |
| $ 69 2-Fluorobiphenyl | 172 | 5.834 | 5.834 | (0.945) | 19840 | 0.08000 | 0.07676 (QH) |
| * 126 Phenanthrene-d10 | 188 | 7.951 | 7.951 | (1.000) | 43559 | 0.10000 | (H) |
| * 182 Chrysene-d12 | 240 | 10.845 | 10.845 | (1.000) | 35410 | 0.10000 | (M) |
| $ 158 4-Terphenyl-d14 | 244 | 9.554 | 9.554 | (0.937) | 26311 | 0.08000 | 0.08964 |
| * 198 Perylene-d12 | 264 | 12.972 | 12.972 | (1.000) | 41042 | 0.10000 | |
| 1 1,4-Dioxane | 58 | 1.895 | 1.895 | (0.583) | 1458 | 0.08000 | 0.06111 (aQH) |

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.

Data File: \\nahstws005\Target\chem\SV6.i\200901.b\003.D
Date : 01-SEP-2020 14:41
Client ID: DXSIM-0.08
Sample Info: DXSIM-0.08;DXSIM-0.08
Purge Volume: 1000.0
Column phase: RTX-5SIL MS

Instrument: SV6.i
Operator: LG
Column diameter: 0.28



ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\nahstws005\Target\chem\SV6.i\200901.b\004.D
Lab Smp Id: DXSIM-0.01 Client Smp ID: DXSIM-0.01
Inj Date : 01-SEP-2020 15:03 MS Autotune Date: 31-JUL-2020 09:35
Operator : LG Inst ID: SV6.i
Smp Info : DXSIM-0.01;DXSIM-0.01
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\SV6.i\200901.b\DXSIM.m
Meth Date : 14-Oct-2020 17:04 SV6.i Quant Type: ISTD
Cal Date : 01-SEP-2020 14:41 Cal File: 003.D
Als bottle: 4 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Vt | 1000.000 | Volume of final extract (uL) |
| Vo | 1000.000 | Volume of sample extracted (mL) |
| Cpnd Variable | | Local Compound Variable |

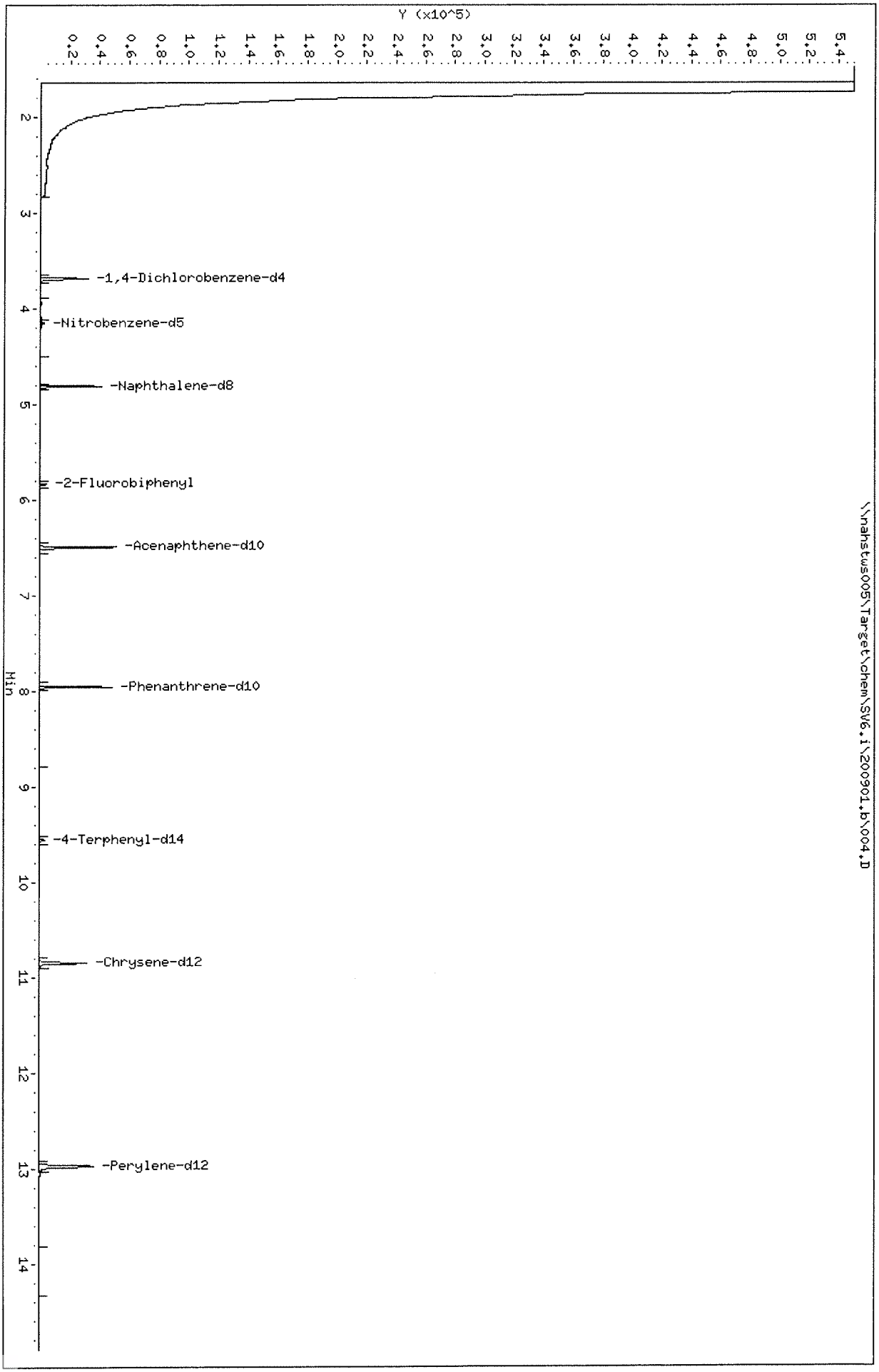
| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( NG) | ON-COL ( NG) | |
|---|---|---|---|---|---|---|---|---|
| * 20 1,4-Dichlorobenzene-d4 | 152 | 3.683 | 3.683 | (1.000) | 8796 | 0.10000 | | (a) |
| * 45 Naphthalene-d8 | 136 | 4.809 | 4.809 | (1.000) | 32119 | 0.10000 | | (H) |
| $ 33 Nitrobenzene-d5 | 82 | 4.155 | 4.155 | (0.864) | 1526 | 0.01000 | 0.01340 | (QM) |
| * 86 Acenaphthene-d10 | 164 | 6.496 | 6.496 | (1.000) | 19919 | 0.10000 | | |
| $ 69 2-Fluorobiphenyl | 172 | 5.834 | 5.834 | (0.898) | 2697 | 0.01000 | 0.01161 | (M) |
| * 126 Phenanthrene-d10 | 188 | 7.951 | 7.951 | (1.000) | 38069 | 0.10000 | | |
| * 182 Chrysene-d12 | 240 | 10.845 | 10.845 | (1.000) | 32361 | 0.10000 | | (M) |
| $ 158 4-Terphenyl-d14 | 244 | 9.554 | 9.554 | (0.881) | 3227 | 0.01000 | 0.01203 | (M) |
| * 198 Perylene-d12 | 264 | 12.967 | 12.967 | (1.000) | 42122 | 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.
H - Operator selected an alternate compound hit.

Data File: \\nahstws005\Target\chem\SV6.i\200901.b\004.D
Date : 01-SEP-2020 15:03
Client ID: DXSIM-0.01
Sample Info: DXSIM-0.01;DXSIM-0.01
Purge Volume: 1000.0
Column phase: RTX-5SIL MS

Instrument: SV6.i
Operator: LG
Column diameter: 0.28



ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\nahstws005\Target\chem\SV6.i\200901.b\005.D
Lab Smp Id: DXSIM-0.03 Client Smp ID: DXSIM-0.03
Inj Date : 01-SEP-2020 15:22 MS Autotune Date: 31-JUL-2020 09:35
Operator : LG Inst ID: SV6.i
Smp Info : DXSIM-0.03;DXSIM-0.03
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\SV6.i\200901.b\DXSIM.m
Meth Date : 14-Oct-2020 17:04 SV6.i Quant Type: ISTD
Cal Date : 01-SEP-2020 15:03 Cal File: 004.D
Als bottle: 5 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Vt | 1000.000 | Volume of final extract (uL) |
| Vo | 1000.000 | Volume of sample extracted (mL) |
| Cpnd Variable | | Local Compound Variable |

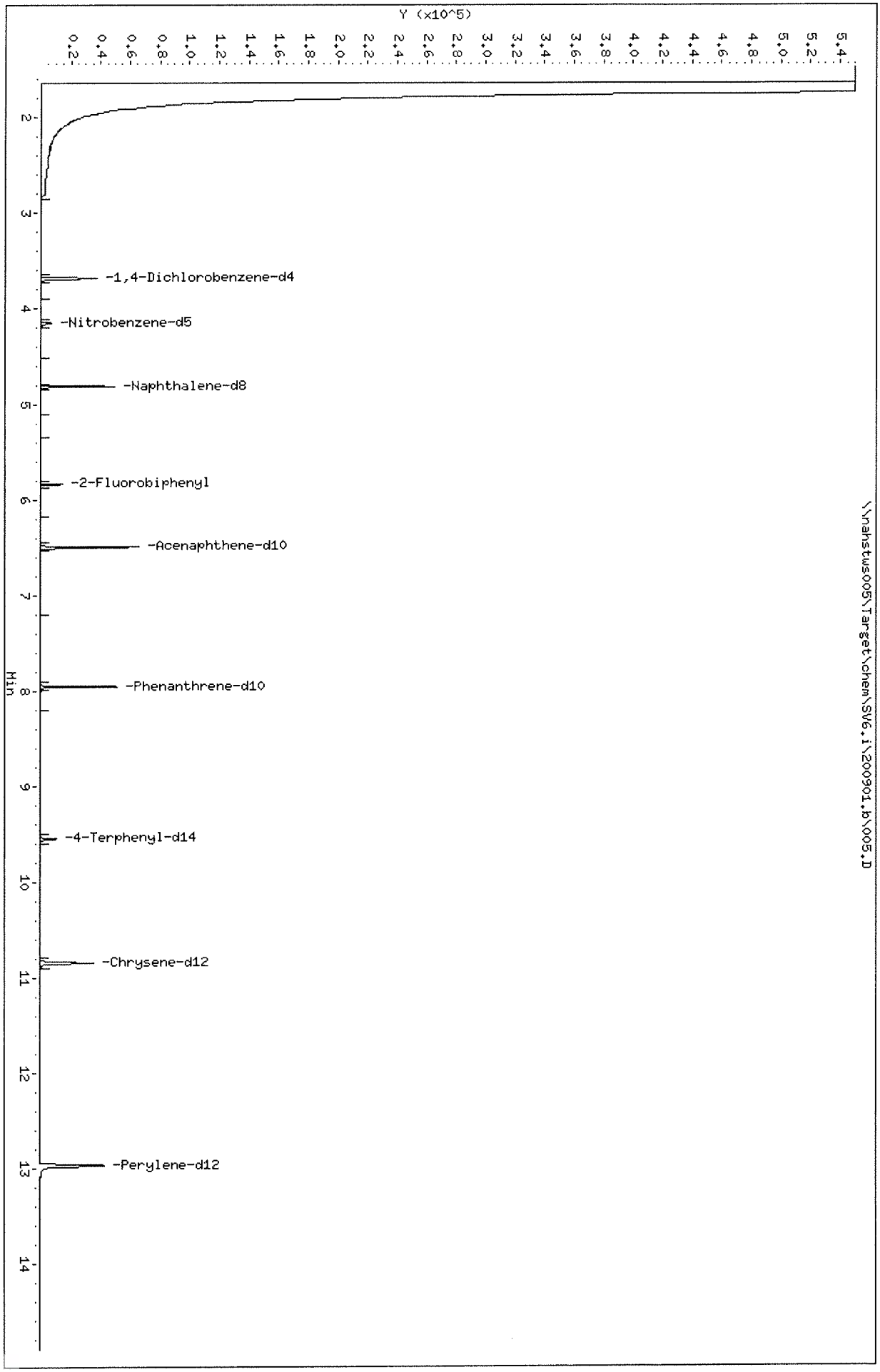
| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( NG) | ON-COL ( NG) | |
|---|---|---|---|---|---|---|---|---|
| * 20 1,4-Dichlorobenzene-d4 | 152 | 3.688 | 3.688 | (1.000) | 11206 | 0.10000 | | (aQ) |
| * 45 Naphthalene-d8 | 136 | 4.809 | 4.809 | (1.000) | 37822 | 0.10000 | | |
| $ 33 Nitrobenzene-d5 | 82 | 4.155 | 4.155 | (0.864) | 4046 | 0.03000 | 0.03018 | (QM) |
| * 86 Acenaphthene-d10 | 164 | 6.491 | 6.491 | (1.000) | 24426 | 0.10000 | | (M) |
| $ 69 2-Fluorobiphenyl | 172 | 5.834 | 5.834 | (0.899) | 8846 | 0.03000 | 0.03105 | (QM) |
| * 126 Phenanthrene-d10 | 188 | 7.951 | 7.951 | (1.000) | 45805 | 0.10000 | | (M) |
| * 182 Chrysene-d12 | 240 | 10.840 | 10.840 | (1.000) | 35939 | 0.10000 | | (M) |
| $ 158 4-Terphenyl-d14 | 244 | 9.549 | 9.549 | (0.927) | 9716 | 0.03000 | 0.03261 | |
| * 198 Perylene-d12 | 264 | 12.967 | 12.967 | (1.000) | 49371 | 0.10000 | | |

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.

Data File: \\nahstus005\Target\chem\SV6.i\200901.b\005.D
Date : 01-SEP-2020 15:22
Client ID: DXSIM-0.03
Sample Info: DXSIM-0.03;DXSIM-0.03
Purge Volume: 1000.0
Column phase: RTX-5SIL MS

Instrument: SV6.i
Operator: LG
Column diameter: 0.28



ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\nahstws005\Target\chem\SV6.i\200901.b\006.D
Lab Smp Id: DXSIM-0.05 Client Smp ID: DXSIM-0.05
Inj Date : 01-SEP-2020 15:41 MS Autotune Date: 31-JUL-2020 09:35
Operator : LG Inst ID: SV6.i
Smp Info : DXSIM-0.05;DXSIM-0.05
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\SV6.i\200901.b\DXSIM.m
Meth Date : 14-Oct-2020 17:04 SV6.i Quant Type: ISTD
Cal Date : 01-SEP-2020 15:22 Cal File: 005.D
Als bottle: 6 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Vt | 1000.000 | Volume of final extract (uL) |
| Vo | 1000.000 | Volume of sample extracted (mL) |
| Cpnd Variable | | Local Compound Variable |

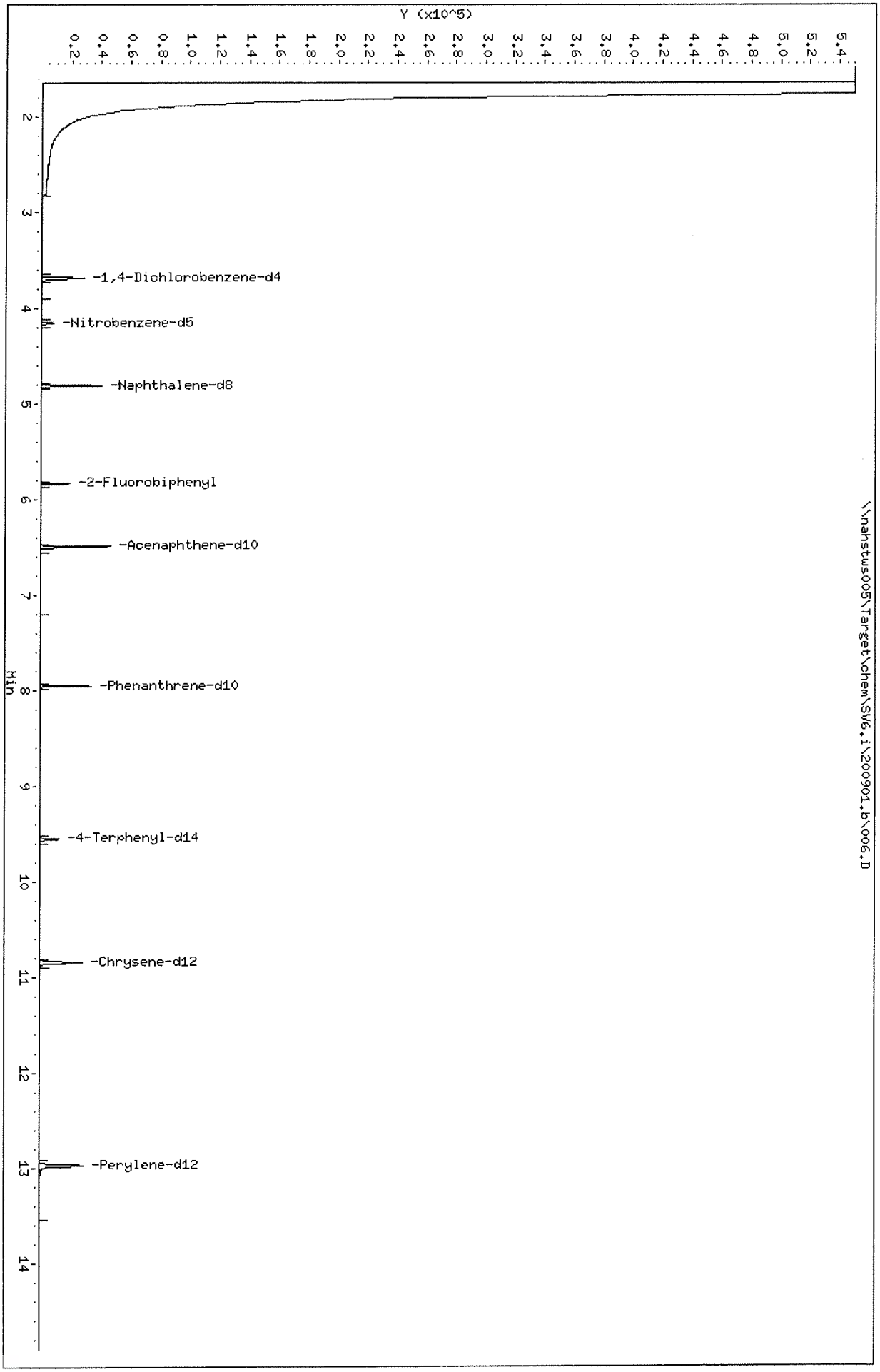
| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( NG) | ON-COL ( NG) | |
|---|---|---|---|---|---|---|---|---|
| * 20 1,4-Dichlorobenzene-d4 | 152 | 3.688 | 3.688 | (1.000) | 8859 | 0.10000 | | (aQ) |
| * 45 Naphthalene-d8 | 136 | 4.809 | 4.809 | (1.000) | 32258 | 0.10000 | | (M) |
| $ 33 Nitrobenzene-d5 | 82 | 4.155 | 4.155 | (0.864) | 4593 | 0.05000 | 0.04017 | (M) |
| * 86 Acenaphthene-d10 | 164 | 6.496 | 6.496 | (1.000) | 17615 | 0.10000 | | (M) |
| $ 69 2-Fluorobiphenyl | 172 | 5.834 | 5.834 | (0.898) | 11613 | 0.05000 | 0.05652 | (QM) |
| * 126 Phenanthrene-d10 | 188 | 7.951 | 7.951 | (1.000) | 28977 | 0.10000 | | |
| * 182 Chrysene-d12 | 240 | 10.840 | 10.840 | (1.000) | 28714 | 0.10000 | | (M) |
| $ 158 4-Terphenyl-d14 | 244 | 9.549 | 9.549 | (0.934) | 11038 | 0.05000 | 0.04638 | |
| * 198 Perylene-d12 | 264 | 12.967 | 12.967 | (1.000) | 33234 | 0.10000 | | |

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\SV6.i\200901.b\006.D
Date : 01-SEP-2020 15:41
Client ID: DXSIM-0.05
Sample Info: DXSIM-0.05;DXSIM-0.05
Purge Volume: 1000.0
Column phase: RTX-5SIL MS

Instrument: SV6.i
Operator: LG
Column diameter: 0.28



ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\nahstws005\Target\chem\SV6.i\200901.b\007.D
Lab Smp Id: DXSIM-0.10 Client Smp ID: DXSIM-0.10
Inj Date : 01-SEP-2020 16:00 MS Autotune Date: 31-JUL-2020 09:35
Operator : LG Inst ID: SV6.i
Smp Info : DXSIM-0.10;DXSIM-0.10
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\SV6.i\200901.b\DXSIM.m
Meth Date : 14-Oct-2020 17:04 SV6.i Quant Type: ISTD
Cal Date : 01-SEP-2020 15:41 Cal File: 006.D
Als bottle: 7 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 |

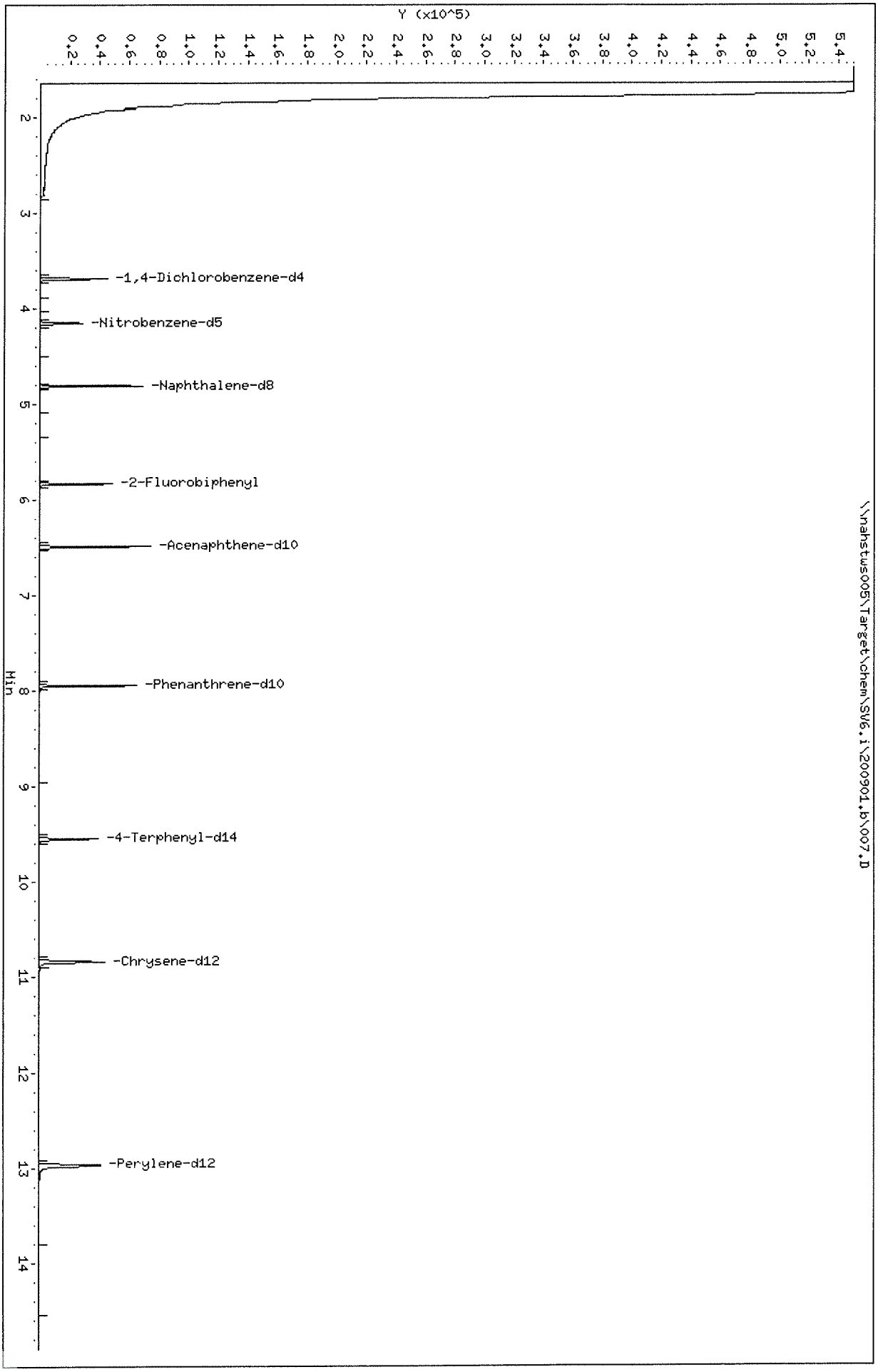
| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( NG) | AMOUNTS ON-COL ( NG) |
|---|---|---|---|---|---|---|---|
| * 20 1,4-Dichlorobenzene-d4 | 152 | 3.688 | 3.688 | (1.000) | 11640 | 0.10000 | (aM) |
| * 45 Naphthalene-d8 | 136 | 4.809 | 4.809 | (1.000) | 55315 | 0.10000 | |
| $ 33 Nitrobenzene-d5 | 82 | 4.155 | 4.155 | (0.864) | 16389 | 0.10000 | 0.08360(M) |
| * 86 Acenaphthene-d10 | 164 | 6.491 | 6.491 | (1.000) | 27614 | 0.10000 | (QM) |
| $ 69 2-Fluorobiphenyl | 172 | 5.834 | 5.834 | (0.899) | 31424 | 0.10000 | 0.09756(M) |
| * 126 Phenanthrene-d10 | 188 | 7.946 | 7.946 | (1.000) | 55479 | 0.10000 | |
| * 182 Chrysene-d12 | 240 | 10.840 | 10.840 | (1.000) | 48676 | 0.10000 | (M) |
| $ 158 4-Terphenyl-d14 | 244 | 9.549 | 9.549 | (1.000) | 34456 | 0.10000 | 0.08540 |
| * 198 Perylene-d12 | 264 | 12.962 | 12.962 | (1.000) | 53866 | 0.10000 | |
| 1 1,4-Dioxane | 58 | 1.918 | 1.918 | (0.567) | 3169 | 0.10000 | 0.1015(aQH) |

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.

Data File: \\nahstws005\Target\chem\SV6.i\200901.b\007.D
Date : 01-SEP-2020 16:00
Client ID: DXSIM-0.10
Sample Info: DXSIM-0.10;DXSIM-0.10
Purge Volume: 1000.0
Column phase: RTX-5SIL MS

Instrument: SV6.i
Operator: LG
Column diameter: 0.28



Data File: \\nahstws005\Target\chem\SV6.i\200901.b\008.D Page 1
Report Date: 14-Oct-2020 17:04

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\nahstws005\Target\chem\SV6.i\200901.b\008.D
Lab Smp Id: DXSIM-0.15 Client Smp ID: DXSIM-0.15
Inj Date : 01-SEP-2020 16:19 MS Autotune Date: 31-JUL-2020 09:35
Operator : LG Inst ID: SV6.i
Smp Info : DXSIM-0.15;DXSIM-0.15
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\SV6.i\200901.b\DXSIM.m
Meth Date : 14-Oct-2020 17:04 SV6.i Quant Type: ISTD
Cal Date : 01-SEP-2020 16:00 Cal File: 007.D
Als bottle: 8 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 |

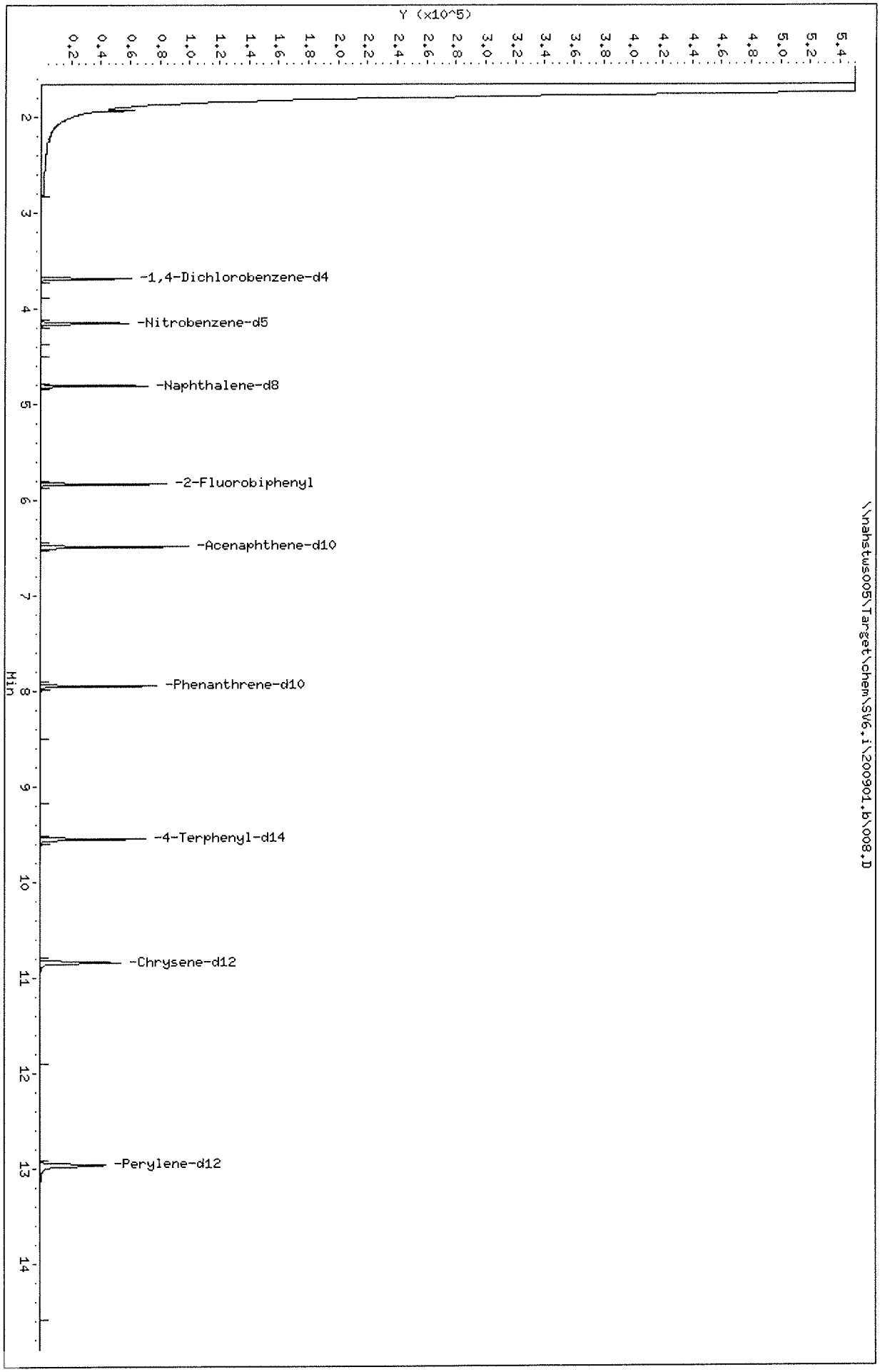
| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( NG) | ON-COL ( NG) | |
|---|---|---|---|---|---|---|---|---|
| * 20 1,4-Dichlorobenzene-d4 | 152 | 3.688 | 3.688 | (1.000) | 15270 | 0.10000 | | (aQM) |
| * 45 Naphthalene-d8 | 136 | 4.809 | 4.809 | (1.000) | 61912 | 0.10000 | | |
| $ 33 Nitrobenzene-d5 | 82 | 4.155 | 4.155 | (0.864) | 34608 | 0.15000 | 0.1577 | (AM) |
| * 86 Acenaphthene-d10 | 164 | 6.491 | 6.491 | (1.000) | 37191 | 0.10000 | | (M) |
| $ 69 2-Fluorobiphenyl | 172 | 5.834 | 5.834 | (0.899) | 58798 | 0.15000 | 0.1355 | (M) |
| * 126 Phenanthrene-d10 | 188 | 7.946 | 7.946 | (1.000) | 72506 | 0.10000 | | |
| * 182 Chrysene-d12 | 240 | 10.840 | 10.840 | (1.000) | 63837 | 0.10000 | | (M) |
| $ 158 4-Terphenyl-d14 | 244 | 9.549 | 9.549 | (0.881) | 68288 | 0.15000 | 0.1290 | (M) |
| * 198 Perylene-d12 | 264 | 12.961 | 12.961 | (1.000) | 62319 | 0.10000 | | (M) |
| 1 1,4-Dioxane | 58 | 1.932 | 1.932 | (0.555) | 6821 | 0.15000 | 0.1665 | (aQH) |

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.

Data File: \\nahstws005\Target\chem\SV6.i\200901.b\008.D
Date : 01-SEP-2020 16:19
Client ID: DXSIM-0.15
Sample Info: DXSIM-0.15;DXSIM-0.15
Purge Volume: 1000.0
Column phase: RTX-5SIL MS

Instrument: SV6.i
Operator: LG
Column diameter: 0.28



ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\nahstws005\Target\chem\SV6.i\200901.b\009.D
Lab Smp Id: DXSIM-0.2 Client Smp ID: DXSIM-0.2
Inj Date : 01-SEP-2020 16:38 MS Autotune Date: 31-JUL-2020 09:35
Operator : LG Inst ID: SV6.i
Smp Info : DXSIM-0.2;DXSIM-0.2
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\SV6.i\200901.b\DXSIM.m
Meth Date : 14-Oct-2020 17:04 SV6.i Quant Type: ISTD
Cal Date : 01-SEP-2020 16:19 Cal File: 008.D
Als bottle: 9 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Vt | 1000.000 | Volume of final extract (uL) |
| Vo | 1000.000 | Volume of sample extracted (mL) |
| Cpnd Variable | | Local Compound Variable |

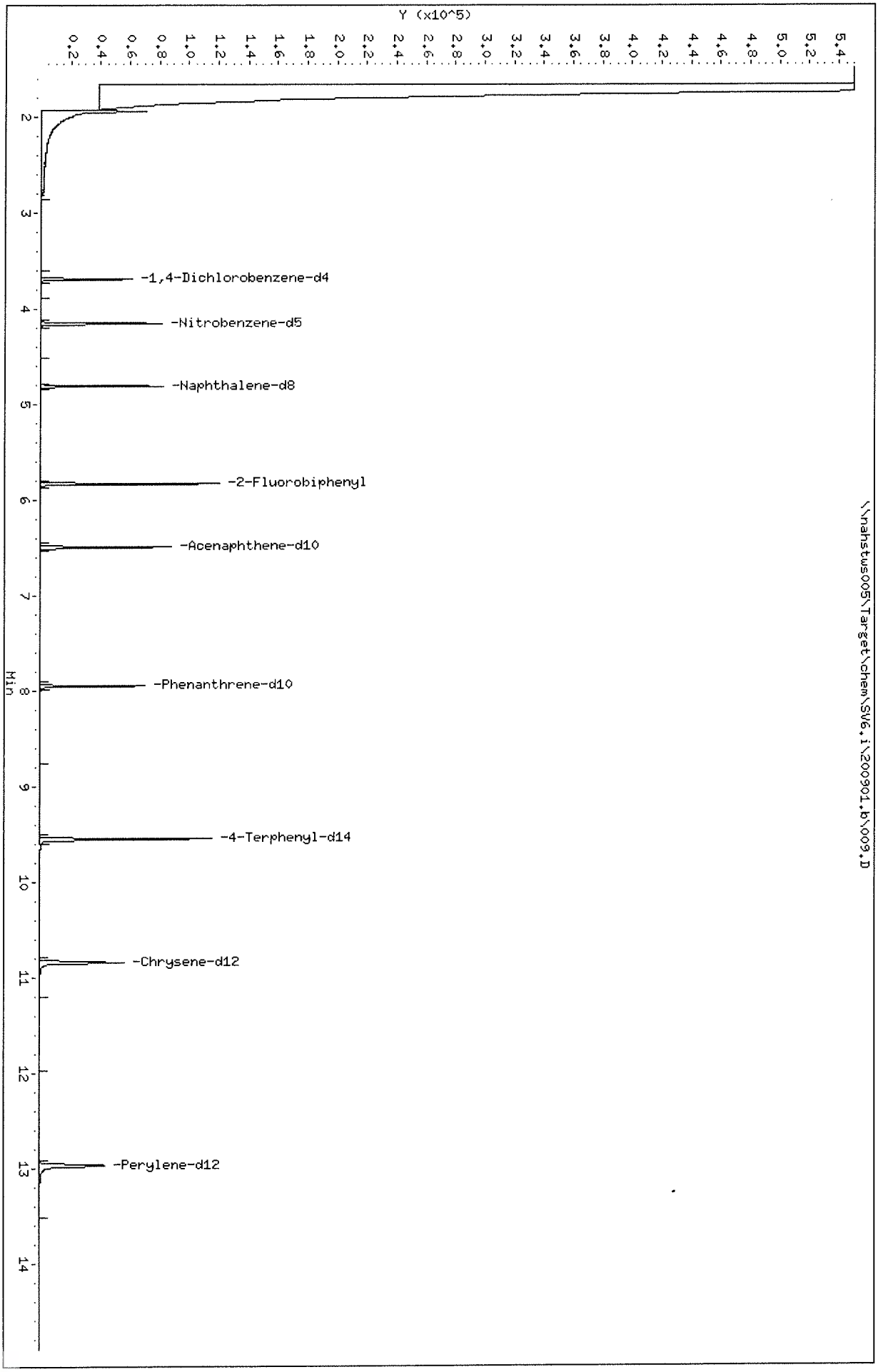
| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( NG) | ON-COL ( NG) |
|---|---|---|---|---|---|---|---|
| * 20 1,4-Dichlorobenzene-d4 | 152 | 3.694 | 3.694 | (1.000) | 16191 | 0.10000 | (aQ) |
| * 45 Naphthalene-d8 | 136 | 4.809 | 4.809 | (1.000) | 71876 | 0.10000 | |
| $ 33 Nitrobenzene-d5 | 82 | 4.155 | 4.155 | (0.864) | 47444 | 0.20000 | 0.1862(AM) |
| * 86 Acenaphthene-d10 | 164 | 6.491 | 6.491 | (1.000) | 37058 | 0.10000 | (Q) |
| $ 69 2-Fluorobiphenyl | 172 | 5.834 | 5.834 | (0.899) | 83257 | 0.20000 | 0.1926(A) |
| * 126 Phenanthrene-d10 | 188 | 7.946 | 7.946 | (1.000) | 66839 | 0.10000 | |
| * 182 Chrysene-d12 | 240 | 10.840 | 10.840 | (1.000) | 69577 | 0.10000 | (M) |
| $ 158 4-Terphenyl-d14 | 244 | 9.549 | 9.549 | (0.933) | 107656 | 0.20000 | 0.1867(A) |
| * 198 Perylene-d12 | 264 | 12.967 | 12.967 | (1.000) | 67389 | 0.10000 | (M) |
| 1 1,4-Dioxane | 58 | 1.943 | 1.943 | (0.526) | 10742 | 0.20000 | 0.2474(QM) |

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount exceeded maximum amount.
Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\SV6.i\200901.b\009.D
Date : 01-SEP-2020 16:38
Client ID: DXSIM-0.2
Sample Info: DXSIM-0.2;DXSIM-0.2
Purge Volume: 1000.0
Column phase: RTX-5SIL MS

Instrument: SV6.i
Operator: LG
Column diameter: 0.28



ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\nahstws005\Target\chem\SV6.i\200901.b\010.D
Lab Smp Id: DXSIM-0.5 Client Smp ID: DXSIM-0.5
Inj Date : 01-SEP-2020 16:57 MS Autotune Date: 31-JUL-2020 09:35
Operator : LG Inst ID: SV6.i
Smp Info : DXSIM-0.5;DXSIM-0.5
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\SV6.i\200901.b\DXSIM.m
Meth Date : 14-Oct-2020 17:04 SV6.i Quant Type: ISTD
Cal Date : 01-SEP-2020 16:38 Cal File: 009.D
Als bottle: 10 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Vt | 1000.000 | Volume of final extract (uL) |
| Vo | 1000.000 | Volume of sample extracted (mL) |
| Cpnd Variable | | Local Compound Variable |

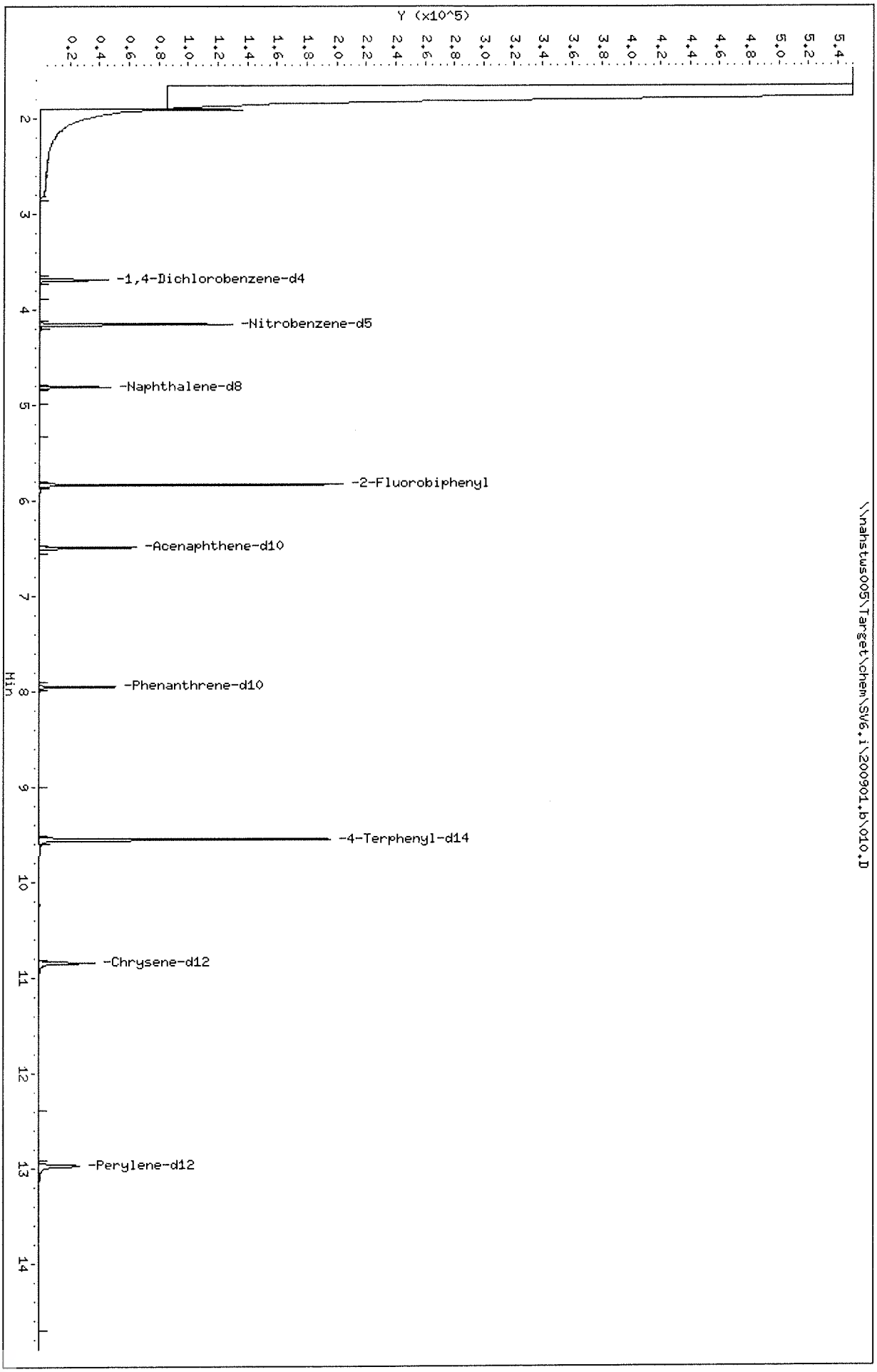
| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( NG) | ON-COL ( NG) | |
|---|---|---|---|---|---|---|---|---|
| * 20 1,4-Dichlorobenzene-d4 | 152 | 3.688 | 3.688 | (1.000) | 12162 | 0.10000 | | (a) |
| * 45 Naphthalene-d8 | 136 | 4.809 | 4.809 | (1.000) | 42331 | 0.10000 | | (M) |
| $ 33 Nitrobenzene-d5 | 82 | 4.155 | 4.155 | (0.864) | 75298 | 0.50000 | 0.5019 | (AM) |
| * 86 Acenaphthene-d10 | 164 | 6.496 | 6.496 | (1.000) | 25766 | 0.10000 | | |
| $ 69 2-Fluorobiphenyl | 172 | 5.834 | 5.834 | (0.898) | 131053 | 0.50000 | 0.4360 | (AQM) |
| * 126 Phenanthrene-d10 | 188 | 7.951 | 7.951 | (1.000) | 46874 | 0.10000 | | |
| * 182 Chrysene-d12 | 240 | 10.840 | 10.840 | (1.000) | 42265 | 0.10000 | | (M) |
| $ 158 4-Terphenyl-d14 | 244 | 9.554 | 9.554 | (0.934) | 177660 | 0.50000 | 0.5071 | (A) |
| * 198 Perylene-d12 | 264 | 12.967 | 12.967 | (1.000) | 40372 | 0.10000 | | (M) |
| 1 1,4-Dioxane | 58 | 1.910 | 1.910 | (0.518) | 17000 | 0.50000 | 0.5212 | (AQH) |

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.

Data File: \\nahstws005\Target\chem\SV6.i\200901.b\010.D
Date : 01-SEP-2020 16:57
Client ID: DXSIM-0.5
Sample Info: DXSIM-0.5;DXSIM-0.5
Purge Volume: 1000.0
Column phase: RTX-5SIL MS

Instrument: SV6.i
Operator: LG
Column diameter: 0.28



ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\nahstws005\Target\chem\SV6.i\200901.b\011.D
Lab Smp Id: DXSIM-ICV Client Smp ID: DXSIM-ICV
Inj Date : 01-SEP-2020 17:16 MS Autotune Date: 31-JUL-2020 09:35
Operator : LG Inst ID: SV6.i
Smp Info : DXSIM-ICV;DXSIM-ICV
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\SV6.i\200901.b\DXSIM.m
Meth Date : 14-Oct-2020 17:04 SV6.i Quant Type: ISTD
Cal Date : 01-SEP-2020 16:57 Cal File: 010.D
Als bottle: 11 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 | 3.688 | 3.688 | (1.000) | 8963 | 0.10000 | | (a) |
| * 45 Naphthalene-d8 | 136 | 4.809 | 4.809 | (1.000) | 36304 | 0.10000 | | (M) |
| $ 33 Nitrobenzene-d5 | 82 | 4.155 | 4.155 | (0.864) | 1344 | 0.01045 | 0.01044 | (RM) |
| * 86 Acenaphthene-d10 | 164 | 6.496 | 6.496 | (1.000) | 20841 | 0.10000 | | |
| $ 69 2-Fluorobiphenyl | 172 | 5.834 | 5.834 | (0.898) | 2375 | 0.00977 | 0.009770 | (RM) |
| * 126 Phenanthrene-d10 | 188 | 7.951 | 7.951 | (1.000) | 29957 | 0.10000 | | |
| * 182 Chrysene-d12 | 240 | 10.840 | 10.840 | (1.000) | 32572 | 0.10000 | | (M) |
| $ 158 4-Terphenyl-d14 | 244 | 9.549 | 9.554 | (0.881) | 3102 | 0.01149 | 0.01149 | (RM) |
| * 198 Perylene-d12 | 264 | 12.967 | 12.967 | (1.000) | 29891 | 0.10000 | | (M) |
| 1 1,4-Dioxane | 58 | 1.906 | 1.910 | (0.517) | 1870 | 0.07779 | 0.07779 | (aQH) |

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

Data File: \\nahstws005\Target\chem\SV6.i\200901.b\011.D



Date : 01-SEP-2020 17:16

Client ID: DXSIM-ICV

Instrument: SV6.i

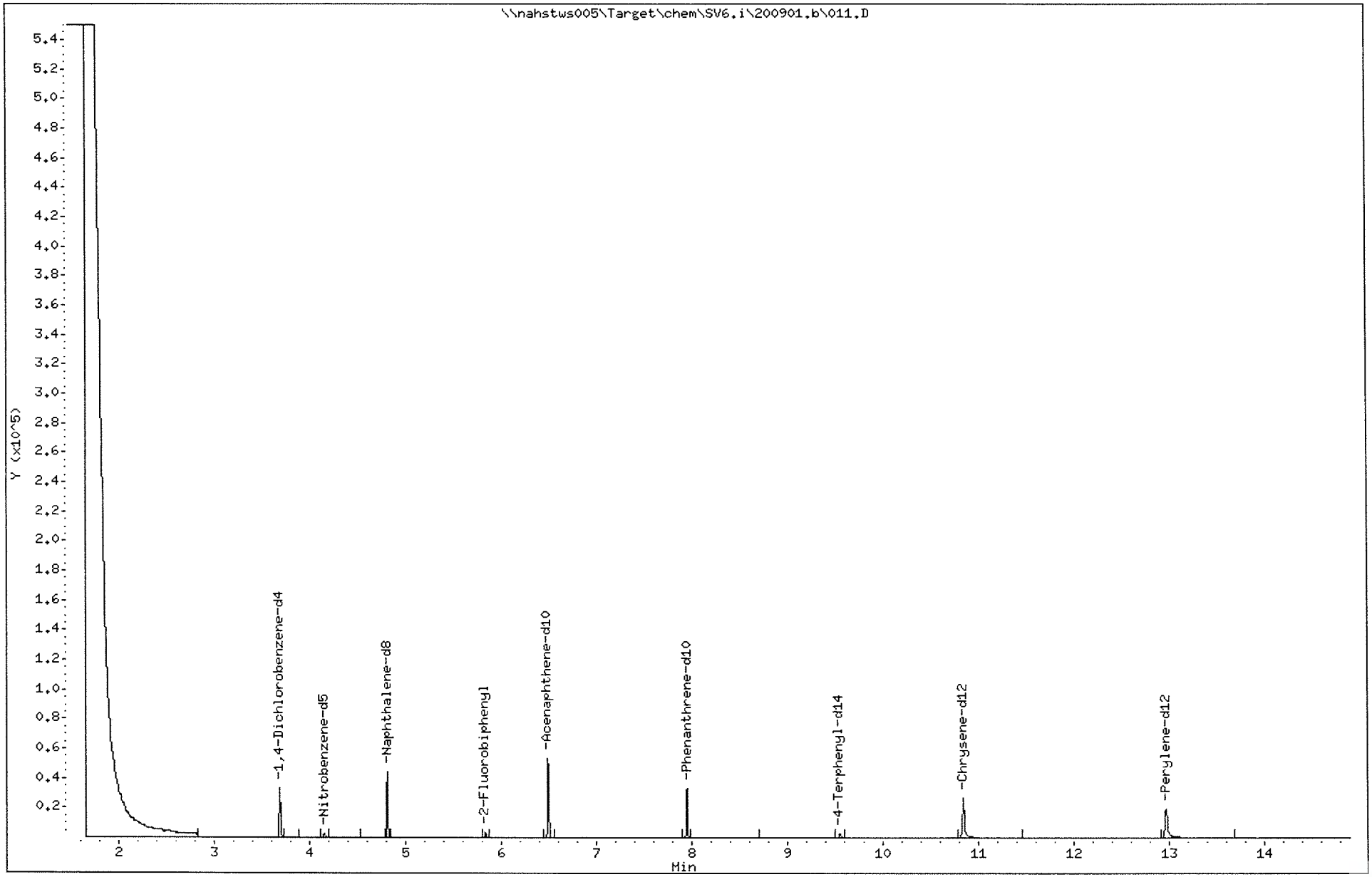
Sample Info: DXSIM-ICV;DXSIM-ICV

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28



# SV06 -Logbook

**Batch:** 44870 **Analyst:** Andrew Neir

**Date:** 05-19-2021 **Reviewer:**

**Method:** 8270DSIM/ LVI **Laboratory:** Houston

**Comments:** MSSV003

| # | Samp ID | Type | Analyzed | DF | Init Wt/Vol | Final Vol | File ID | Matrix | Status | pH |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | DFTPP02 | TUNE | 05-19-2021 09:51 am | 1.00 | | | 001.D | | Y | NA |
| 2 | SLSTD-2.5 | SAMP | 05-19-2021 10:01 am | 1.00 | | | 002.D | | Y | NA |
| 3 | LVISIM-0.025 | SAMP | 05-19-2021 10:32 am | 1.00 | | | 003.D | | Y | NA |
| 4 | PAHSIM-0.08 | CCV | 05-19-2021 10:51 am | 1.00 | | | 004.D | | Y | NA |
| 5 | 14DX-0.08 | SAMP | 05-19-2021 11:16 am | 1.00 | | | 005.D | | Y | NA |
| 6 | 14DX-0.08 | CCV | 05-19-2021 11:42 am | 1.00 | | | 006.D | | Y | NA |
| 7 | CCB | SAMP | 05-19-2021 12:04 pm | 1.00 | | | 007.D | | Y | NA |
| 8 | MBLK-165793 | MBLK | 05-19-2021 12:22 pm | 1.00 | 1000.00 mL | 1.00 mL | 008.D | Liquid | Y | NA |
| 9 | LCS-165793 | LCS | 05-19-2021 12:40 pm | 1.00 | 1000.00 mL | 1.00 mL | 009.D | Liquid | Y | NA |
| 10 | LCSD-165793 | LCSD | 05-19-2021 12:58 pm | 1.00 | 1000.00 mL | 1.00 mL | 010.D | Liquid | Y | NA |
| 11 | HS21050553-01 | SAMP | 05-19-2021 01:16 pm | 1.00 | 1000.00 mL | 1.00 mL | 011.D | Liquid | Y | NA |
| 12 | HS21050553-01 | SAMP | 05-19-2021 01:40 pm | 10.00 | 1000.00 mL | 1.00 mL | 012.D | Liquid | Y | NA |
| 13 | 14DX-0.08 | SAMP | 05-19-2021 02:04 pm | 1.00 | 1000.00 mL | 1.00 mL | 013.D | Liquid | Y | NA |
| 14 | MBLK-165952 | MBLK | 05-19-2021 02:24 pm | 1.00 | 33.00 mL | 2.00 mL | 014.D | Liquid | Y | NA |
| 15 | LCS-165952 | LCS | 05-19-2021 02:44 pm | 1.00 | 33.00 mL | 2.00 mL | 015.D | Liquid | Y | NA |
| 16 | LCSD-165952 | LCSD | 05-19-2021 03:04 pm | 1.00 | 33.00 mL | 2.00 mL | 016.D | Liquid | Y | NA |
| 17 | HS21050822-01 | SAMP | 05-19-2021 03:24 pm | 1.00 | 33.00 mL | 2.00 mL | 017.D | Liquid | Y | NA |
| 18 | HS21050822-02 | SAMP | 05-19-2021 03:44 pm | 1.00 | 33.00 mL | 2.00 mL | 018.D | Liquid | Y | NA |
| 19 | HS21050822-03 | SAMP | 05-19-2021 04:03 pm | 1.00 | 33.00 mL | 2.00 mL | 019.D | Liquid | Y | NA |
| 20 | HS21050822-04 | SAMP | 05-19-2021 04:23 pm | 1.00 | 33.00 mL | 2.00 mL | 020.D | Liquid | Y | NA |
| 21 | HS21050822-05 | SAMP | 05-19-2021 04:43 pm | 1.00 | 33.00 mL | 2.00 mL | 021.D | Liquid | Y | NA |
| 22 | HS21050822-06 | SAMP | 05-19-2021 05:03 pm | 1.00 | 33.00 mL | 2.00 mL | 022.D | Liquid | Y | NA |
| 23 | HS21050822-07 | SAMP | 05-19-2021 05:22 pm | 1.00 | 33.00 mL | 2.00 mL | 023.D | Liquid | Y | NA |
| 24 | HS21050822-08 | SAMP | 05-19-2021 05:42 pm | 1.00 | 33.00 mL | 2.00 mL | 024.D | Liquid | Y | NA |
| 25 | HS21050822-09 | SAMP | 05-19-2021 06:02 pm | 1.00 | 33.00 mL | 2.00 mL | 025.D | Liquid | Y | NA |
| 26 | MBLK-165752 | MBLK | 05-19-2021 06:22 pm | 1.00 | 1000.00 mL | 1.00 mL | 026.D | Liquid | Y | NA |
| 27 | LCS-165752 | LCS | 05-19-2021 06:41 pm | 1.00 | 1000.00 mL | 1.00 mL | 027.D | Liquid | Y | NA |
| 28 | LCSD-165752 | LCSD | 05-19-2021 07:00 pm | 1.00 | 1000.00 mL | 1.00 mL | 028.D | Liquid | Y | NA |
| 29 | HS21050549-01 | SAMP | 05-19-2021 07:20 pm | 1.00 | 1000.00 mL | 1.00 mL | 029.D | Liquid | Y | NA |
| 30 | HS21050549-02 | SAMP | 05-19-2021 07:39 pm | 1.00 | 1000.00 mL | 1.00 mL | 030.D | Liquid | Y | NA |
| 31 | HS21050549-03 | SAMP | 05-19-2021 07:58 pm | 1.00 | 1000.00 mL | 1.00 mL | 031.D | Liquid | Y | NA |
| 32 | HS21050549-04 | SAMP | 05-19-2021 08:18 pm | 1.00 | 1000.00 mL | 1.00 mL | 032.D | Liquid | Y | NA |
| 33 | HS21050549-05 | SAMP | 05-19-2021 08:37 pm | 1.00 | 1000.00 mL | 1.00 mL | 033.D | Liquid | Y | NA |
| 34 | HS21050549-06 | SAMP | 05-19-2021 08:57 pm | 1.00 | 1000.00 mL | 1.00 mL | 034.D | Liquid | Y | NA |
| 35 | HS21050549-07 | SAMP | 05-19-2021 09:16 pm | 1.00 | 1000.00 mL | 1.00 mL | 035.D | Liquid | Y | NA |

# FORM 2
## WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: ALS HOUSTON Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21050553

| | CLIENT SAMPLE NO. | S1 (NBZ)# | S2 # | S3 (FBP)# | S4 # | S5 # | S6 # | S7 # | S8 # | TOT OUT |
|---|---|---|---|---|---|---|---|---|---|---|
| 01 | MBLK-165793 | 92 | 96 | 82 | | | | | | 0 |
| 02 | LCS-165793 | 61 | 100 | 87 | | | | | | 0 |
| 03 | LCSD-165793 | 77 | 88 | 93 | | | | | | 0 |
| 04 | HS21050553-01 | 85 | 95 | 109 | | | | | | 0 |
| 05 | | | | | | | | | | |
| 06 | | | | | | | | | | |
| 07 | | | | | | | | | | |
| 08 | | | | | | | | | | |
| 09 | | | | | | | | | | |
| 10 | | | | | | | | | | |
| 11 | | | | | | | | | | |
| 12 | | | | | | | | | | |
| 13 | | | | | | | | | | |
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| | QC LIMITS |
|---|---|
| S1 (NBZ) = Nitrobenzene-d5 | (40-140) |
| S2 = 4-Terphenyl-d14 | (40-140) |
| S3 (FBP) = 2-Fluorobiphenyl | (40-140) |

# Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate diluted out

FORM 4
SEMIVOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

MBLK-165793

Lab Name: ALS HOUSTON Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21050553

Lab File ID: 008 Lab Sample ID: MBLK-165793

Instrument ID: SV6 Date Extracted:

Matrix: (soil/water) WATER Date Analyzed: 05/19/21

Level:(low/med) LOW Time Analyzed: 1222

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

| | SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED |
|---|---|---|---|---|
| 01 | LCS-165793 | LCS-165793 | 009 | 05/19/21 |
| 02 | LCSD-165793 | LCSD-165793 | 010 | 05/19/21 |
| 03 | HS21050553-01 | HS21050553-01 | 012 | 05/19/21 |
| 04 | | | | |
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COMMENTS:

# FORM 5
## SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
## DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ALS HOUSTON Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21050553

Lab File ID: 001 DFTPP Injection Date: 05/19/21

Instrument ID: SV6 DFTPP Injection Time: 0951

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 51 | 10.0 - 80.0% of mass 198 | 26.0 |
| 68 | Less than 2.0% of mass 69 | 0.0 ( 0.0)1 |
| 69 | Mass 69 relative abundance | 33.9 |
| 70 | Less than 2.0% of mass 69 | 0.2 ( 0.5)1 |
| 127 | 10.0 - 80.0% of mass 198 | 41.8 |
| 197 | Less than 2.0% of mass 198 | 0.0 |
| 198 | Base Peak, 100% relative abundance | 100.0 |
| 199 | 5.0 to 9.0% of mass 198 | 7.6 |
| 275 | 10.0 - 60.0% of mass 198 | 27.9 |
| 365 | 1.0 - 100.0% of mass 198 | 3.2 |
| 441 | Present, but less than mass 443 | 14.9 |
| 442 | 50.0 - 150.0% of mass 198 | 97.7 |
| 443 | 15.0 - 24.0% of mass 442 | 19.7 ( 20.2)2 |

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 01 | CCV | CCV | 006 | 05/19/21 | 1142 |
| 02 | MBLK-165793 | MBLK-165793 | 008 | 05/19/21 | 1222 |
| 03 | LCS-165793 | LCS-165793 | 009 | 05/19/21 | 1240 |
| 04 | LCSD-165793 | LCSD-165793 | 010 | 05/19/21 | 1258 |
| 05 | HS21050553-01 | HS21050553-01 | 012 | 05/19/21 | 1340 |
| 06 | 14DX-0.08 | 14DX-0.08 | 013 | 05/19/21 | 1404 |
| 07 | | | | | |
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FORM 7B
SEMIVOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS HOUSTON Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21050553

Instrument ID: SV6 Calibration Date: 05/19/21 Time: 1142

Lab File ID: 006 Init. Calib. Date(s): 09/01/20 09/01/20

Init. Calib. Times: 1441 1657

GC Column: RTX-5SIL MS ID: 0.28 (mm)

| COMPOUND | RRF or AMOUNT | RRF8e-002 or AMOUNT | CCAL RRF8e-002 | MIN RRF | %D or %DRIFT | MAX %D or %DRIFT | CURV TYPE |
|---|---|---|---|---|---|---|---|
| 1,4-Dioxane | 6.68e-002 | 8.e-002 | 0.2292332 | 0.01 | -16.50 | 20.00 | 2RDR |
| Nitrobenzene-d5 | 0.3540000 | 0.3341555 | 0.3341555 | 0.01 | -5.60 | 20.00 | AVRG |
| 4-Terphenyl-d14 | 0.8290000 | 0.9049348 | 0.9049348 | 0.01 | 9.16 | 20.00 | AVRG |
| 2-Fluorobiphenyl | 1.1660000 | 1.2671318 | 1.2671318 | 0.01 | 8.67 | 20.00 | AVRG |

FORM VII SV

FORM 7B
SEMIVOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS HOUSTON Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21050553

Instrument ID: SV6 Calibration Date: 05/19/21 Time: 1404

Lab File ID: 013 Init. Calib. Date(s): 09/01/20 09/01/20

Init. Calib. Times: 1441 1657

GC Column: RTX-5SIL MS ID: 0.28 (mm)

| COMPOUND | RRF OR AMOUNT | RRF8e-002 OR AMOUNT | MIN RRF | %D OR %DRIFT | MAX %D OR %DRIFT | CURV TYPE |
|---|---|---|---|---|---|---|
| 1,4-Dioxane | 0.2680000 | 0.1867227 | 0.01 | -30.33 | 50.00 | AVRG |
| Nitrobenzene-d5 | 0.3540000 | 0.2358370 | 0.01 | -33.38 | 50.00 | AVRG |
| 4-Terphenyl-d14 | 0.8290000 | 1.0841963 | 0.01 | 30.78 | 50.00 | AVRG |
| 2-Fluorobiphenyl | 1.1660000 | 1.4872547 | 0.01 | 27.55 | 50.00 | AVRG |

FORM VII SV

# FORM 8
## SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ALS HOUSTON Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21050553

Lab File ID (Standard): 006 Date Analyzed: 05/19/21

Instrument ID: SV6 Time Analyzed: 1142

| | | IS1(DCB) AREA # | RT # | IS2(NPT) AREA # | RT # | IS3(ANT) AREA # | RT # |
|---|---|---|---|---|---|---|---|
| | 12 HOUR STD | 13158 | 2.85 | 46019 | 3.92 | 30061 | 5.57 |
| | UPPER LIMIT | 26316 | 3.35 | 92038 | 4.42 | 60122 | 6.07 |
| | LOWER LIMIT | 6579 | 2.35 | 23010 | 3.42 | 15031 | 5.07 |
| | CLIENT SAMPLE NO. | | | | | | |
| 01 | MBLK-165793 | 11582 | 2.85 | 41162 | 3.93 | 23605 | 5.57 |
| 02 | LCS-165793 | 23693 | 2.86 | 90356 | 3.92 | 58783 | 5.56 |
| 03 | LCSD-165793 | 15121 | 2.85 | 50784 | 3.92 | 25619 | 5.57 |
| 04 | HS21050553-01 | 18390 | 2.85 | 62311 | 3.92 | 39489 | 5.57 |
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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 VIII SV

FORM 8
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ALS HOUSTON Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21050553

Lab File ID (Standard): 006 Date Analyzed: 05/19/21

Instrument ID: SV6 Time Analyzed: 1142

| | | IS4 (PHN) AREA # | RT # | IS5 (CRY) AREA # | RT # | IS6 (PRY) AREA # | RT # |
|---|---|---|---|---|---|---|---|
| | 12 HOUR STD | 50842 | 7.00 | 46071 | 9.61 | 37097 | 11.40 |
| | UPPER LIMIT | 101684 | 7.50 | 92142 | 10.11 | 74194 | 11.90 |
| | LOWER LIMIT | 25421 | 6.50 | 23036 | 9.11 | 18549 | 10.90 |
| | CLIENT SAMPLE NO. | | | | | | |
| 01 | MBLK-165793 | 42241 | 7.00 | 37239 | 9.61 | 26974 | 11.40 |
| 02 | LCS-165793 | 93819 | 6.99 | 89818 | 9.61 | 68639 | 11.40 |
| 03 | LCSD-165793 | 54849 | 7.00 | 48490 | 9.61 | 35861 | 11.40 |
| 04 | HS21050553-01 | 71403 | 7.00 | 67774 | 9.61 | 58750 | 11.40 |
| 05 | | | | | | | |
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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.



FORM VIII SV

Data File: \\nahstws005\Target\chem\SV6.i\210519.b\001.D



Date : 19-MAY-2021 09:51

Client ID: DFTPP02

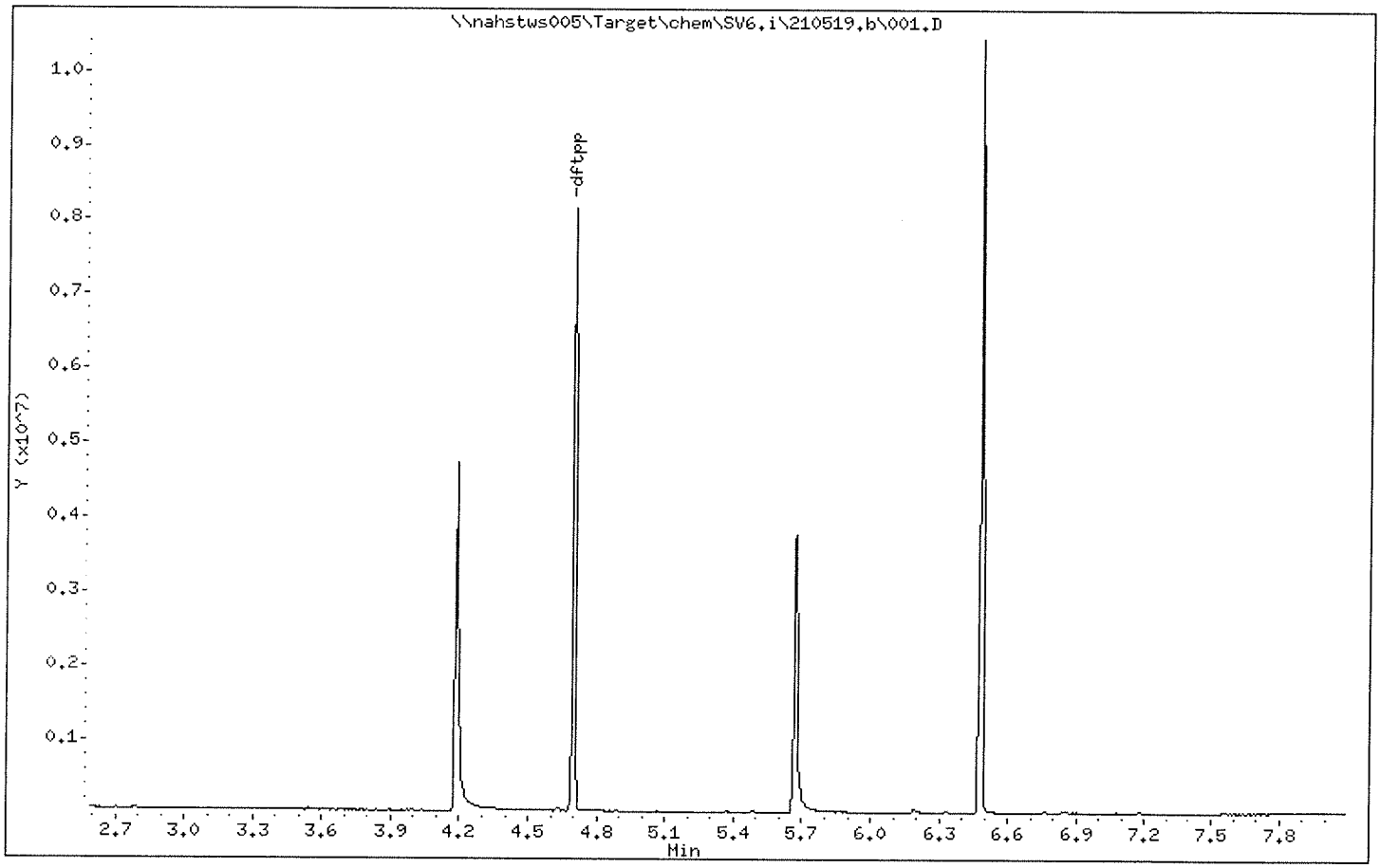
Instrument: SV6.i

Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: smith

Column phase: DB-5MS

Column diameter: 0.25



Data File: \\nahstws005\Target\chem\SV6.i\210519.b\001.D



Date : 19-MAY-2021 09:51

Client ID: DFTPP02

Instrument: SV6.i

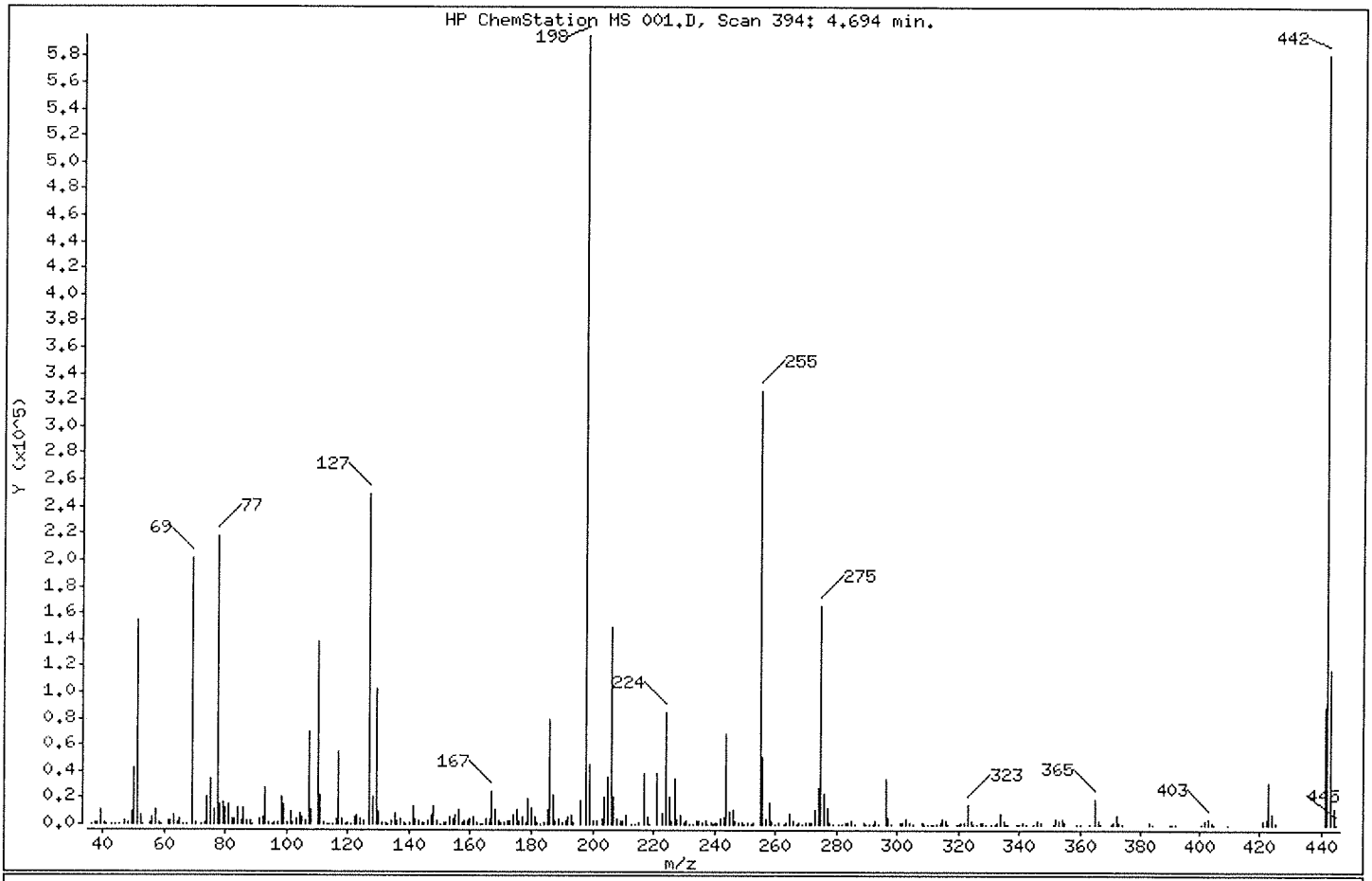
Sample Info: DFTPP;DFTPP;3;;DFTPP

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 | 25.97 |
| 68 | Less than 2.00% of mass 69 | 0.00 ( 0.00) |
| 69 | Mass 69 relative abundance | 33.88 |
| 70 | Less than 2.00% of mass 69 | 0.19 ( 0.55) |
| 127 | 10.00 - 80.00% of mass 198 | 41.76 |
| 197 | Less than 2.00% of mass 198 | 0.00 |
| 199 | 5.00 - 9.00% of mass 198 | 7.58 |
| 275 | 10.00 - 60.00% of mass 198 | 27.91 |
| 365 | 1.00 - 100.00% of mass 198 | 3.15 |
| 441 | Present, but less than mass 443 | 14.88 |
| 442 | 50.00 - 150.00% of mass 198 | 97.70 |
| 443 | 15.00 - 24.00% of mass 442 | 19.74 ( 20.20) |

Data File: \\nahstws005\Target\chem\SV6.i\210519.b\001.D



Date : 19-MAY-2021 09:51

Client ID: DFTPP02

Instrument: SV6.i

Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: smith

Column phase: DB-5MS

Column diameter: 0.25

Data File: 001.D

Spectrum: HP ChemStation MS 001.D, Scan 394: 4.694 min.

Location of Maximum: 198.00

Number of points: 319

| m/z | Y | m/z | Y | m/z | Y | m/z | Y |
|---|---|---|---|---|---|---|---|
| 36.00 | 387 | 124.00 | 3542 | 208.10 | 4704 | 297.00 | 5198 |
| 37.10 | 1192 | 125.00 | 2974 | 209.00 | 2127 | 298.10 | 277 |
| 38.10 | 1889 | 127.00 | 248704 | 210.10 | 2752 | 300.90 | 989 |
| 39.10 | 10912 | 128.10 | 20256 | 211.00 | 6767 | 301.90 | 807 |
| 40.10 | 812 | 129.00 | 103096 | 212.90 | 631 | 303.10 | 4457 |
| 41.00 | 510 | 130.00 | 9422 | 213.80 | 229 | 304.00 | 1045 |
| 42.80 | 158 | 131.10 | 1364 | 215.00 | 1838 | 305.10 | 267 |
| 44.10 | 384 | 132.20 | 1073 | 217.00 | 38744 | 308.00 | 738 |
| 45.00 | 382 | 133.10 | 574 | 218.00 | 4986 | 309.10 | 513 |
| 47.10 | 2468 | 134.00 | 2700 | 219.00 | 443 | 309.90 | 400 |
| 48.10 | 1144 | 135.00 | 8193 | 221.00 | 37952 | 311.10 | 352 |
| 49.10 | 10062 | 136.00 | 2935 | 223.00 | 8808 | 311.80 | 157 |
| 50.10 | 42976 | 137.10 | 3864 | 224.00 | 84912 | 312.90 | 415 |
| 51.10 | 154688 | 138.00 | 877 | 225.10 | 21208 | 314.00 | 1562 |
| 52.10 | 6927 | 139.00 | 352 | 226.10 | 2669 | 315.00 | 4522 |
| 53.10 | 466 | 140.00 | 1407 | 227.00 | 33576 | 316.00 | 2274 |
| 55.10 | 752 | 141.00 | 13661 | 227.90 | 4316 | 316.90 | 240 |
| 56.00 | 4970 | 142.00 | 4500 | 229.00 | 7060 | 319.70 | 187 |
| 57.00 | 10780 | 143.00 | 2495 | 230.00 | 1191 | 320.00 | 165 |
| 58.00 | 716 | 144.00 | 1028 | 231.00 | 3191 | 321.00 | 1764 |
| 58.90 | 199 | 145.00 | 755 | 232.00 | 574 | 322.10 | 779 |
| 61.10 | 2368 | 146.00 | 3089 | 233.00 | 621 | 323.10 | 15418 |
| 62.00 | 3216 | 147.10 | 6883 | 234.00 | 2298 | 324.10 | 2460 |
| 63.10 | 7337 | 148.00 | 13237 | 235.00 | 2480 | 325.10 | 347 |
| 64.10 | 1106 | 149.00 | 2728 | 236.10 | 1740 | 325.90 | 272 |
| 65.10 | 3951 | 150.10 | 668 | 237.10 | 2779 | 327.10 | 1942 |
| 66.00 | 357 | 151.20 | 1586 | 237.90 | 417 | 328.00 | 1436 |
| 67.10 | 453 | 152.10 | 1406 | 239.00 | 966 | 329.10 | 190 |
| 69.00 | 201792 | 153.00 | 5001 | 239.70 | 543 | 331.10 | 184 |
| 70.00 | 1102 | 154.10 | 3689 | 240.00 | 702 | 332.00 | 581 |
| 71.90 | 217 | 155.10 | 6966 | 241.10 | 1671 | 333.00 | 1252 |
| 73.00 | 1485 | 156.00 | 10717 | 242.10 | 3949 | 334.10 | 7541 |
| 74.00 | 20256 | 157.10 | 1816 | 243.10 | 5140 | 335.00 | 2778 |
| 75.10 | 33920 | 158.00 | 2616 | 244.10 | 67928 | 335.90 | 275 |
| 76.10 | 11548 | 159.00 | 2612 | 245.10 | 9341 | 336.20 | 276 |

Data File: \\nahstws005\Target\chem\SV6.i\210519.b\001.D



Date : 19-MAY-2021 09:51

Client ID: DFTPP02

Instrument: SV6.i

Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: smith

Column phase: DB-5MS

Column diameter: 0.25

Data File: 001.D
Spectrum: HP ChemStation MS 001.D, Scan 394: 4.694 min.
Location of Maximum: 198.00
Number of points: 319

| m/z | Y | m/z | Y | m/z | Y | m/z | Y |
|---|---|---|---|---|---|---|---|
| 77.10 | 217664 | 160.00 | 4342 | 246.00 | 11475 | 339.00 | 269 |
| 78.10 | 15494 | 161.00 | 5867 | 247.00 | 2644 | 339.90 | 224 |
| 79.00 | 17064 | 162.10 | 2041 | 248.10 | 751 | 341.10 | 1790 |
| 80.00 | 11948 | 163.00 | 441 | 249.00 | 1943 | 342.10 | 357 |
| 81.00 | 15085 | 163.90 | 479 | 249.80 | 635 | 344.70 | 224 |
| 82.00 | 3514 | 165.00 | 4714 | 251.00 | 901 | 346.00 | 2639 |
| 83.00 | 4046 | 166.10 | 3494 | 251.90 | 650 | 347.10 | 780 |
| 84.00 | 12675 | 167.00 | 24808 | 253.00 | 1732 | 351.10 | 334 |
| 85.00 | 3417 | 168.10 | 10483 | 255.00 | 326784 | 352.10 | 3730 |
| 86.00 | 12560 | 169.10 | 2673 | 256.00 | 50176 | 353.10 | 2425 |
| 87.00 | 2337 | 170.10 | 1259 | 257.10 | 3747 | 354.00 | 4114 |
| 87.90 | 2099 | 171.00 | 1198 | 258.00 | 16784 | 355.00 | 1135 |
| 88.80 | 551 | 172.00 | 3023 | 259.00 | 2602 | 359.00 | 254 |
| 91.10 | 3762 | 173.10 | 2317 | 260.00 | 630 | 360.00 | 177 |
| 92.10 | 5517 | 174.10 | 6875 | 261.10 | 760 | 363.20 | 152 |
| 93.00 | 26704 | 175.10 | 10367 | 263.00 | 302 | 365.00 | 18768 |
| 94.00 | 1916 | 176.00 | 2967 | 263.80 | 953 | 366.00 | 2197 |
| 95.00 | 612 | 177.00 | 4951 | 265.00 | 7551 | 366.70 | 159 |
| 96.10 | 1339 | 178.00 | 1582 | 266.00 | 2189 | 370.30 | 425 |
| 97.20 | 1096 | 179.00 | 19728 | 267.00 | 256 | 371.10 | 1147 |
| 98.00 | 20984 | 180.00 | 12661 | 267.90 | 984 | 372.10 | 7007 |
| 99.00 | 15337 | 181.00 | 5574 | 268.90 | 164 | 373.00 | 1672 |
| 100.00 | 1588 | 182.00 | 1259 | 269.80 | 899 | 374.10 | 278 |
| 101.00 | 9833 | 183.00 | 437 | 271.00 | 876 | 383.00 | 1786 |
| 102.00 | 884 | 184.10 | 1640 | 272.10 | 1244 | 384.10 | 393 |
| 103.00 | 4289 | 185.10 | 10425 | 273.10 | 10842 | 389.90 | 639 |
| 104.00 | 8170 | 186.10 | 80032 | 274.00 | 27728 | 390.90 | 415 |
| 105.10 | 5488 | 187.10 | 21400 | 275.10 | 166208 | 391.80 | 526 |
| 106.20 | 2498 | 188.00 | 2551 | 276.10 | 23488 | 400.90 | 397 |
| 107.00 | 69984 | 189.00 | 4317 | 277.00 | 12727 | 402.10 | 2771 |
| 108.00 | 10981 | 190.00 | 896 | 278.00 | 1669 | 403.10 | 4236 |
| 110.00 | 138944 | 191.20 | 2324 | 279.10 | 542 | 404.10 | 1680 |
| 111.00 | 21256 | 192.00 | 6015 | 281.10 | 263 | 405.10 | 352 |
| 112.00 | 2031 | 193.10 | 7065 | 281.90 | 253 | 410.00 | 199 |
| 113.10 | 595 | 193.90 | 1762 | 283.10 | 1572 | 421.10 | 3273 |

Data File: \\nahstws005\Target\chem\SV6.i\210519.b\001.D Page 5

Date : 19-MAY-2021 09:51

Client ID: DFTPP02 Instrument: SV6.i

Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: smith

Column phase: DB-5MS Column diameter: 0.25

Data File: 001.D
Spectrum: HP ChemStation MS 001.D, Scan 394: 4.694 min.
Location of Maximum: 198.00
Number of points: 319

| m/z | Y | m/z | Y | m/z | Y | m/z | Y |
|---|---|---|---|---|---|---|---|
| 113.80 | 239 | 196.00 | 18288 | 284.00 | 921 | 422.10 | 4210 |
| 115.00 | 414 | 198.00 | 595584 | 285.10 | 2092 | 423.10 | 30864 |
| 116.10 | 4605 | 199.00 | 45136 | 286.20 | 595 | 424.10 | 7673 |
| 117.00 | 54416 | 200.00 | 3316 | 289.00 | 714 | 425.20 | 824 |
| 118.00 | 4697 | 201.40 | 3293 | 290.00 | 435 | 441.10 | 88648 |
| 119.00 | 662 | 203.00 | 4382 | 290.90 | 374 | 442.10 | 581888 |
| 120.00 | 962 | 204.00 | 20488 | 292.00 | 381 | 443.10 | 117552 |
| 120.80 | 218 | 205.10 | 35456 | 293.00 | 3166 | 444.10 | 12292 |
| 122.10 | 5989 | 206.10 | 148800 | 294.00 | 590 | 445.10 | 505 |
| 123.00 | 6815 | 207.10 | 20816 | 296.10 | 33576 | | |

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\nahstws005\Target\chem\SV6.i\210519.b\005.D
Lab Smp Id: 14DX-0.08 Client Smp ID: 14DX-0.08
Inj Date : 19-MAY-2021 11:16 MS Autotune Date: 23-DEC-2020 11:30
Operator : LG Inst ID: SV6.i
Smp Info : 14DX-0.08;14DX-0.08
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\SV6.i\210519.b\DXSIM.m
Meth Date : 09-Jun-2021 14:04 SV6.i Quant Type: ISTD
Cal Date : 01-SEP-2020 14:41 Cal File: 003.D
Als bottle: 5 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) | |
|---|---|---|---|---|---|---|---|---|
| * 45 Naphthalene-d8 | 136 | 3.874 | 3.874 | (1.000) | 27248 | 0.10000 | | |
| $ 33 Nitrobenzene-d5 | 82 | 3.272 | 3.272 | (0.845) | 8030 | 0.08000 | 0.08315 | |
| * 86 Acenaphthene-d10 | 164 | 5.517 | 5.517 | (1.000) | 16223 | 0.10000 | | (Q) |
| $ 69 2-Fluorobiphenyl | 172 | 4.894 | 4.894 | (0.887) | 18754 | 0.08000 | 0.09911 | |
| $ 158 4-Terphenyl-d14 | 244 | 8.518 | 8.574 | (1.000) | 25203 | 0.08000 | | (a) |

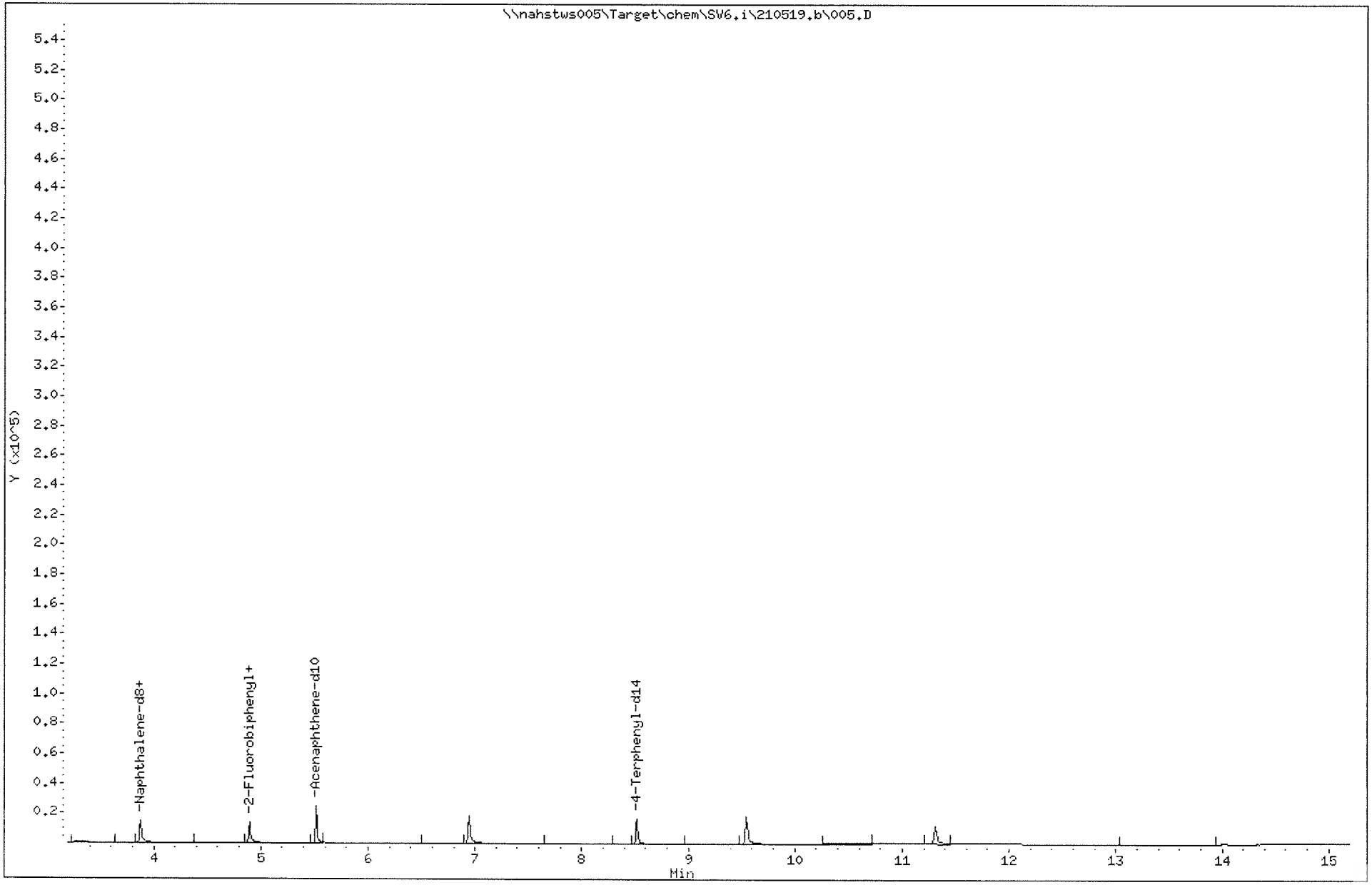
QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.

Data File: \\nahstws005\Target\chem\SV6.i\210519.b\005.D
Date : 19-MAY-2021 11:16
Client ID: 14DX-0.08
Sample Info: 14DX-0.08;14DX-0.08
Purge Volume: 1000.0
Column phase: RTX-5SIL MS



Instrument: SV6.i
Operator: LG
Column diameter: 0.28



ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\nahstws005\Target\chem\SV6.i\210519.b\006.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 19-MAY-2021 11:42
Operator : LG Inst ID: SV6.i
Smp Info : CCV-0.08;CCV-0.08
Misc Info : ;;0;1;
Comment :
Method : \\nahstws005\Target\chem\SV6.i\210519.b\DXSIM.m
Meth Date : 09-Jun-2021 14:11 SV6.i Quant Type: ISTD
Cal Date : 01-SEP-2020 14:41 Cal File: 003.D
Als bottle: 6 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTW7056

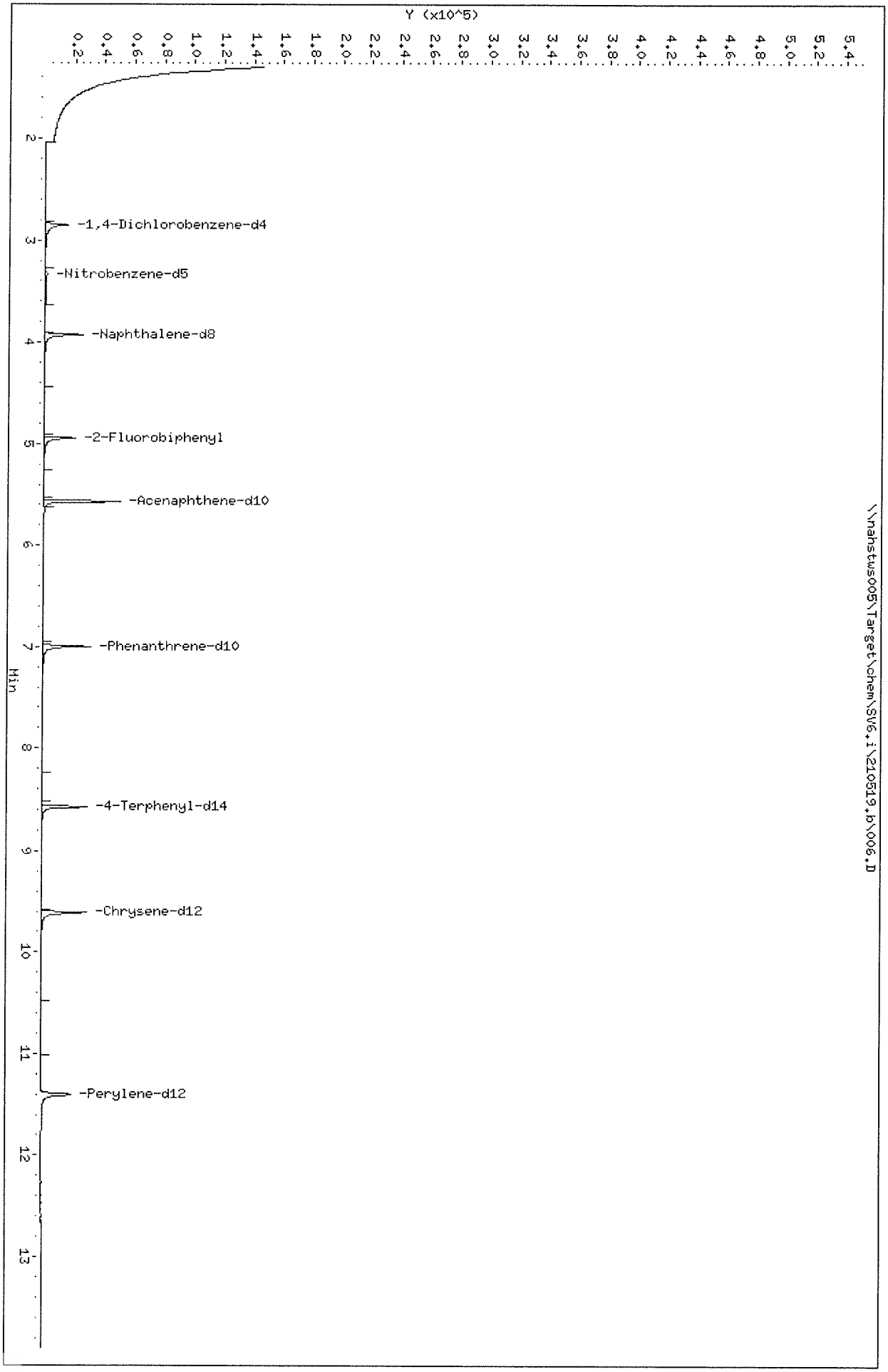
Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

| 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 | 2.851 | 2.851 | (1.000) | 13158 | 0.10000 | | (a) |
| * 45 Naphthalene-d8 | 136 | 3.923 | 3.923 | (1.000) | 46019 | 0.10000 | | |
| $ 33 Nitrobenzene-d5 | 82 | 3.329 | 3.329 | (0.849) | 12302 | 0.08000 | 0.07543 | |
| * 86 Acenaphthene-d10 | 164 | 5.570 | 5.570 | (1.000) | 30061 | 0.10000 | | |
| $ 69 2-Fluorobiphenyl | 172 | 4.944 | 4.944 | (0.888) | 30473 | 0.08000 | 0.08691 | |
| * 126 Phenanthrene-d10 | 188 | 6.998 | 6.998 | (1.000) | 50842 | 0.10000 | | |
| * 182 Chrysene-d12 | 240 | 9.612 | 9.612 | (1.000) | 46071 | 0.10000 | | (H) |
| $ 158 4-Terphenyl-d14 | 244 | 8.574 | 8.574 | (0.892) | 33353 | 0.08000 | 0.08734 | (M) |
| * 198 Perylene-d12 | 264 | 11.401 | 11.401 | (1.000) | 37097 | 0.10000 | | (M) |
| 1 1,4-Dioxane | 58 | 1.237 | 1.237 | (0.434) | 2413 | 0.08000 | 0.06676 | (aQM) |

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.




Data File: \\nahstws005\Target\chem\SV6.i\210519.b\006.D
Date : 19-MAY-2021 11:42
Client ID: CCV
Sample Info: CCV-0.08;CCV-0.08
Purge Volume: 1000.0
Column phase: RTX-5SIL MS

Instrument: SV6.i
Operator: LG
Column diameter: 0.28

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\nahstws005\Target\chem\SV6.i\210519.b\008.D
Lab Smp Id: MBLK-165793 Client Smp ID: MBLK-165793
Inj Date : 19-MAY-2021 12:22 MS Autotune Date: 23-DEC-2020 11:30
Operator : LG Inst ID: SV6.i
Smp Info : MBLK-165793;MBLK-165793;3;;BLANK
Misc Info : HS21050553;1;0;1
Comment :
Method : \\nahstws005\Target\chem\SV6.i\210519.b\DXSIM.m
Meth Date : 09-Jun-2021 14:02 devak.giga Quant Type: ISTD
Cal Date : 01-SEP-2020 14:41 Cal File: 003.D
Als bottle: 8 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 | 2.846 | 2.851 | (1.000) | 11582 | 0.10000 | | (a) |
| * 45 Naphthalene-d8 | 136 | 3.927 | 3.923 | (1.000) | 41162 | 0.10000 | | |
| $ 33 Nitrobenzene-d5 | 82 | 3.350 | 3.329 | (0.853) | 10699 | 0.07334 | 0.07334 | |
| * 86 Acenaphthene-d10 | 164 | 5.570 | 5.570 | (1.000) | 23605 | 0.10000 | | (QM) |
| $ 69 2-Fluorobiphenyl | 172 | 4.948 | 4.944 | (1.000) | 17982 | 0.06531 | 0.06531 | |
| * 126 Phenanthrene-d10 | 188 | 6.998 | 6.998 | (1.000) | 42241 | 0.10000 | | |
| * 182 Chrysene-d12 | 240 | 9.612 | 9.612 | (1.000) | 37239 | 0.10000 | | (M) |
| $ 158 4-Terphenyl-d14 | 244 | 8.574 | 8.574 | (0.892) | 23833 | 0.07721 | 0.07721 | (M) |
| * 198 Perylene-d12 | 264 | 11.401 | 11.401 | (1.000) | 26974 | 0.10000 | | |

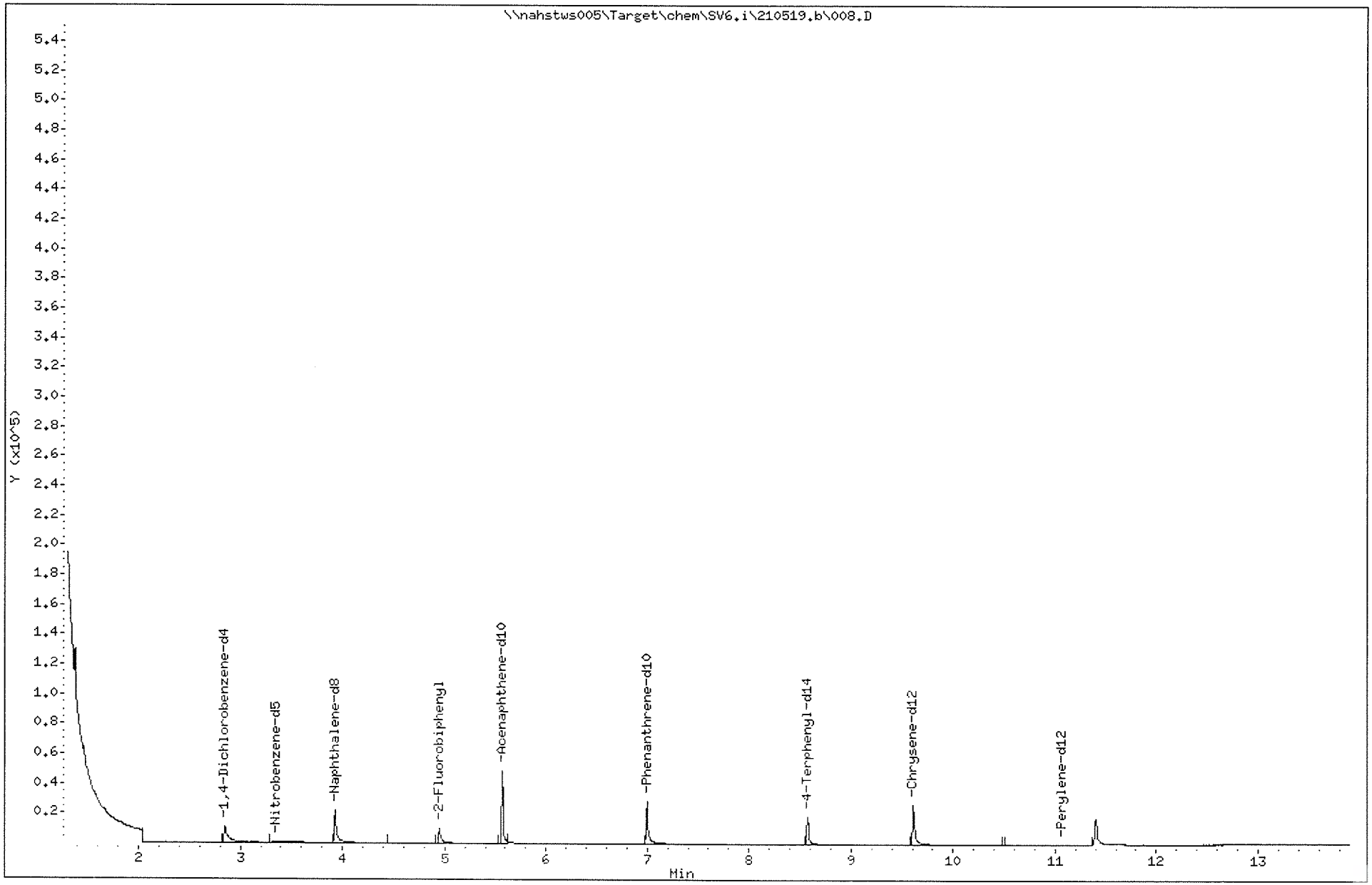
QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\SV6.i\210519.b\008.D
Date : 19-MAY-2021 12:22
Client ID: MBLK-165793
Sample Info: MBLK-165793;MBLK-165793;3;;BLANK
Purge Volume: 1000.0
Column phase: RTX-5SIL MS

Instrument: SV6.i
Operator: LG
Column diameter: 0.28





ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\nahstws005\Target\chem\SV6.i\210519.b\009.D
Lab Smp Id: LCS-165793 Client Smp ID: LCS-165793
Inj Date : 19-MAY-2021 12:40 MS Autotune Date: 23-DEC-2020 11:30
Operator : LG Inst ID: SV6.i
Smp Info : LCS-165793;LCS-165793;3;;LCS
Misc Info : HS21050553;1;0;1
Comment :
Method : \\nahstws005\Target\chem\SV6.i\210519.b\DXSIM.m
Meth Date : 09-Jun-2021 14:02 devak.giga Quant Type: ISTD
Cal Date : 01-SEP-2020 14:41 Cal File: 003.D
Als bottle: 9 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Vt | 1000.000 | Volume of final extract (uL) |
| Vo | 1000.000 | Volume of sample extracted (mL) |
| Cpnd Variable | | Local Compound Variable |

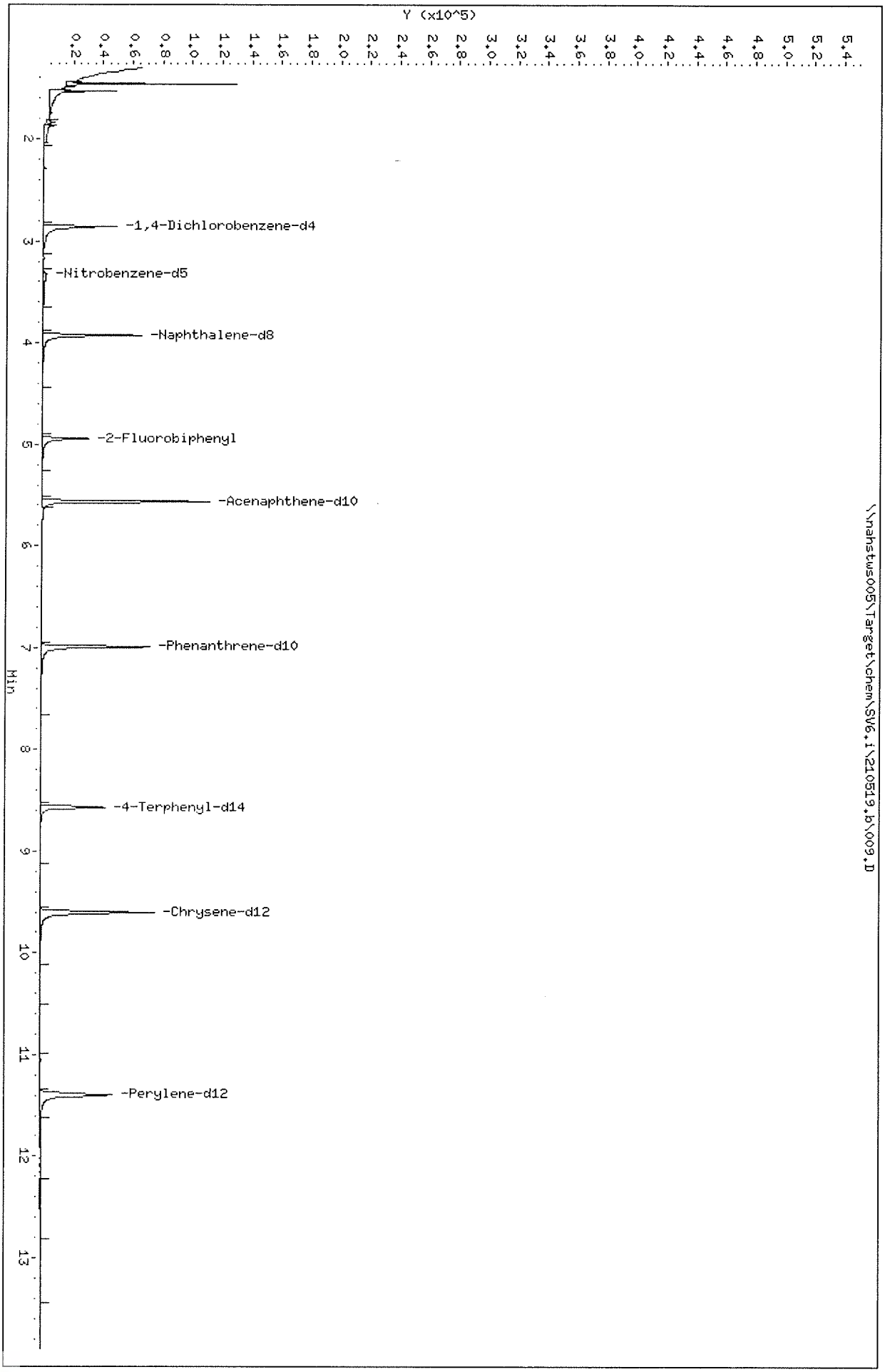
| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( NG) | FINAL ( ug/L) | |
|---|---|---|---|---|---|---|---|---|
| * 20 1,4-Dichlorobenzene-d4 | 152 | 2.857 | 2.851 | (1.000) | 23693 | 0.10000 | | (aM) |
| * 45 Naphthalene-d8 | 136 | 3.923 | 3.923 | (1.000) | 90356 | 0.10000 | | (M) |
| $ 33 Nitrobenzene-d5 | 82 | 3.334 | 3.329 | (0.850) | 15721 | 0.04909 | 0.04909 | (M) |
| * 86 Acenaphthene-d10 | 164 | 5.564 | 5.570 | (1.000) | 58783 | 0.10000 | | (QM) |
| $ 69 2-Fluorobiphenyl | 172 | 4.944 | 4.944 | (1.000) | 47582 | 0.06940 | 0.06940 | |
| * 126 Phenanthrene-d10 | 188 | 6.993 | 6.998 | (1.000) | 93819 | 0.10000 | | (M) |
| * 182 Chrysene-d12 | 240 | 9.607 | 9.612 | (1.000) | 89818 | 0.10000 | | (M) |
| $ 158 4-Terphenyl-d14 | 244 | 8.569 | 8.574 | (0.892) | 59726 | 0.08022 | 0.08022 | (M) |
| * 198 Perylene-d12 | 264 | 11.396 | 11.401 | (1.000) | 68639 | 0.10000 | | (M) |
| 1 1,4-Dioxane | 58 | 1.259 | 1.237 | (0.441) | 4293 | 0.06615 | 0.06615 | (aMH) |

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.

Data File: \\nahstws005\Target\chem\SV6.i\210519.b\009.D
Date : 19-MAY-2021 12:40
Client ID: LCS-165793
Sample Info: LCS-165793;LCS-165793;3;;LCS
Purge Volume: 1000.0
Column phase: RTX-5SIL MS

Instrument: SV6.i
Operator: LG
Column diameter: 0.28



ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\nahstws005\Target\chem\SV6.i\210519.b\010.D
Lab Smp Id: LCSD-165793 Client Smp ID: LCSD-165793
Inj Date : 19-MAY-2021 12:58 MS Autotune Date: 23-DEC-2020 11:30
Operator : LG Inst ID: SV6.i
Smp Info : LCSD-165793;LCSD-165793;3;;LCSD
Misc Info : HS21050553;1;0;1
Comment :
Method : \\nahstws005\Target\chem\SV6.i\210519.b\DXSIM.m
Meth Date : 09-Jun-2021 14:02 devak.giga Quant Type: ISTD
Cal Date : 01-SEP-2020 14:41 Cal File: 003.D
Als bottle: 10 QC Sample: LCSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTW7056

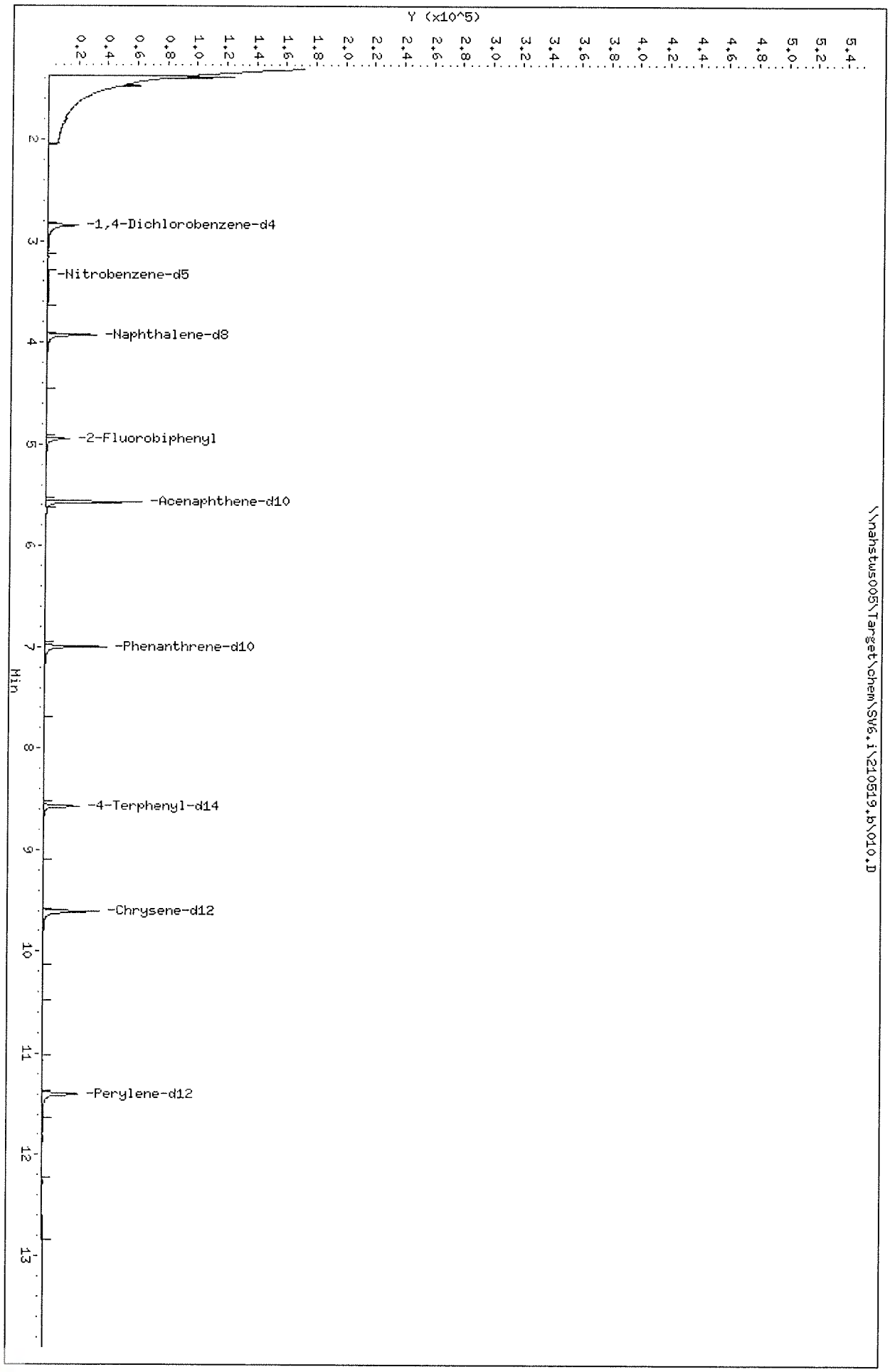
Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Vt | 1000.000 | Volume of final extract (uL) |
| Vo | 1000.000 | Volume of sample extracted (mL) |
| Cpnd Variable | | Local Compound Variable |

| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( NG) | FINAL ( ug/L) | |
|---|---|---|---|---|---|---|---|---|
| * 20 1,4-Dichlorobenzene-d4 | 152 | 2.846 | 2.851 | (1.000) | 15121 | 0.10000 | | (a) |
| * 45 Naphthalene-d8 | 136 | 3.923 | 3.923 | (1.000) | 50784 | 0.10000 | | |
| $ 33 Nitrobenzene-d5 | 82 | 3.345 | 3.329 | (0.853) | 11117 | 0.06177 | 0.06177 | |
| * 86 Acenaphthene-d10 | 164 | 5.570 | 5.570 | (1.000) | 25619 | 0.10000 | | (QM) |
| $ 69 2-Fluorobiphenyl | 172 | 4.948 | 4.944 | (0.925) | 22336 | 0.07475 | 0.07474 | |
| * 126 Phenanthrene-d10 | 188 | 6.998 | 6.998 | (1.000) | 54849 | 0.10000 | | |
| * 182 Chrysene-d12 | 240 | 9.607 | 9.612 | (1.000) | 48490 | 0.10000 | | (M) |
| $ 158 4-Terphenyl-d14 | 244 | 8.569 | 8.574 | (1.000) | 28392 | 0.07064 | 0.07064 | |
| * 198 Perylene-d12 | 264 | 11.401 | 11.401 | (1.000) | 35861 | 0.10000 | | |
| 1 1,4-Dioxane | 58 | 1.178 | 1.237 | (0.414) | 2530 | 0.06227 | 0.06227 | (aQ) |

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.




Data File: \\nahstws005\Target\chem\SV6.i\210519.b\010.D
Date : 19-MAY-2021 12:58
Client ID: LCSD-165793
Sample Info: LCSD-165793;LCSD-165793;3;;LCSD
Purge Volume: 1000.0
Column phase: RTX-5SIL MS

Instrument: SV6.i
Operator: LG
Column diameter: 0.28

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\nahstws005\Target\chem\SV6.i\210519.b\012.D
Lab Smp Id: HS21050553-01 Client Smp ID: HS21050553-01
Inj Date : 19-MAY-2021 13:40 MS Autotune Date: 23-DEC-2020 11:30
Operator : LG Inst ID: SV6.i
Smp Info : HS21050553-01;HS21050553-01
Misc Info : HS21050553;1;0;10
Comment :
Method : \\nahstws005\Target\chem\SV6.i\210519.b\DXSIM.m
Meth Date : 09-Jun-2021 14:01 devak.giga Quant Type: ISTD
Cal Date : 01-SEP-2020 14:41 Cal File: 003.D
Als bottle: 12
Dil Factor: 10.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTW7056

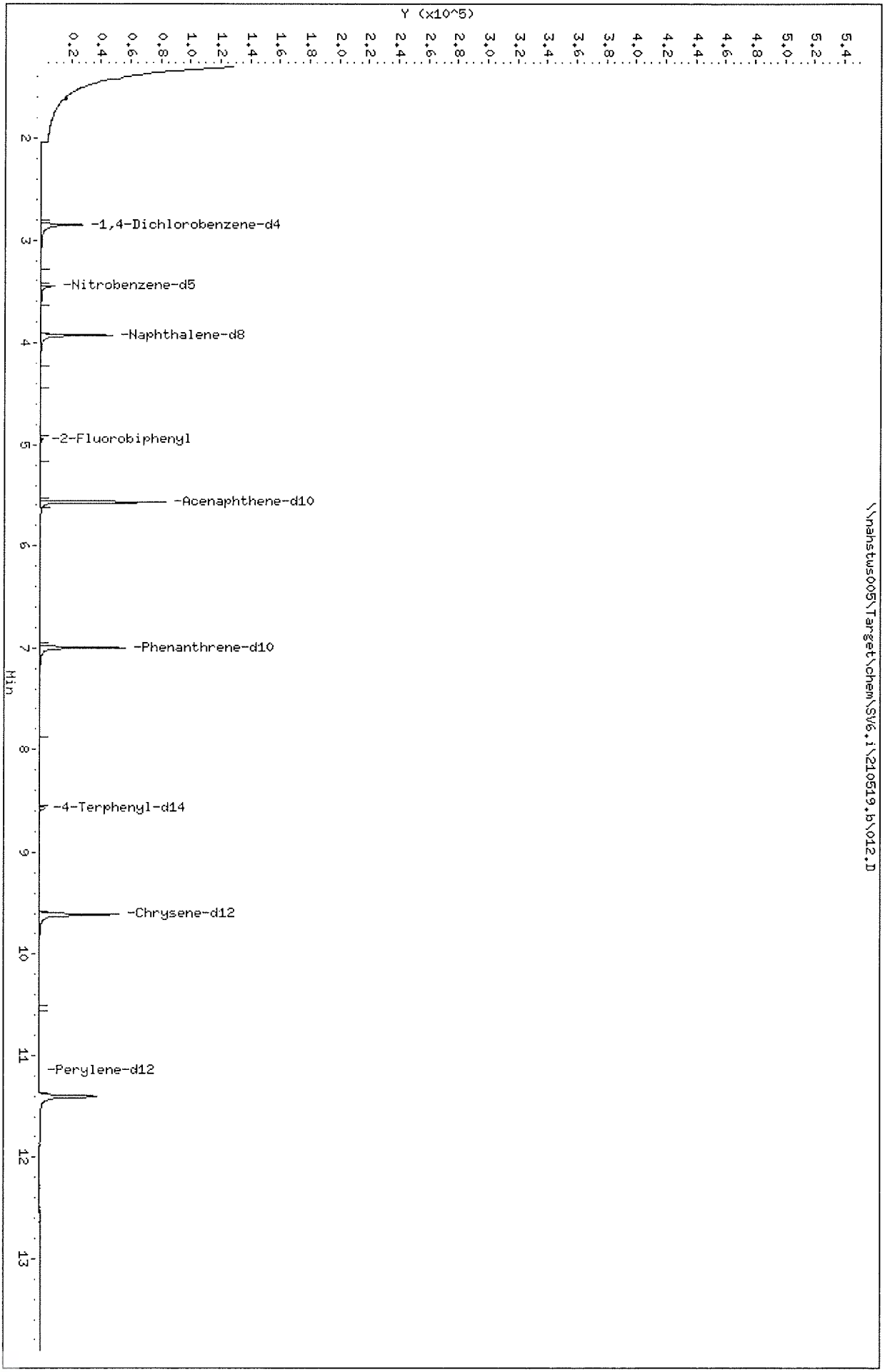
Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 10.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Vt | 1000.000 | Volume of final extract (uL) |
| Vo | 1000.000 | Volume of sample extracted (mL) |
| Cpnd Variable | | Local Compound Variable |

| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( NG) | FINAL ( ug/L) | |
|---|---|---|---|---|---|---|---|---|
| * 20 1,4-Dichlorobenzene-d4 | 152 | 2.851 | 2.851 | (1.000) | 18390 | 0.10000 | | (a) |
| * 45 Naphthalene-d8 | 136 | 3.923 | 3.923 | (1.000) | 62311 | 0.10000 | | |
| $ 33 Nitrobenzene-d5 | 82 | 3.324 | 3.329 | (0.847) | 1495 | 0.00677 | 0.06770 | (QMH) |
| * 86 Acenaphthene-d10 | 164 | 5.570 | 5.570 | (1.000) | 39489 | 0.10000 | | (QM) |
| $ 69 2-Fluorobiphenyl | 172 | 4.948 | 4.944 | (1.000) | 4031 | 0.00875 | 0.08751 | (Q) |
| * 126 Phenanthrene-d10 | 188 | 6.998 | 6.998 | (1.000) | 71403 | 0.10000 | | |
| * 182 Chrysene-d12 | 240 | 9.613 | 9.612 | (1.000) | 67774 | 0.10000 | | (M) |
| $ 158 4-Terphenyl-d14 | 244 | 8.574 | 8.574 | (0.892) | 4253 | 0.00757 | 0.07570 | (M) |
| * 198 Perylene-d12 | 264 | 11.401 | 11.401 | (1.000) | 58750 | 0.10000 | | |
| 1 1,4-Dioxane | 58 | 1.245 | 1.237 | (0.437) | 9908 | 0.17414 | 1.741 | (aQ) |

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.




Data File: \\nahstws005\Target\chem\SV6.i\210519.b\012.D
Date : 19-MAY-2021 13:40
Client ID: HS21050553-01
Sample Info: HS21050553-01;HS21050553-01
Purge Volume: 1000.0
Column phase: RTX-5SIL MS

Instrument: SV6.i
Operator: LG
Column diameter: 0.28

Data File: \\nahstws005\Target\chem\SV6.i\210519.b\012.D



Date : 19-MAY-2021 13:40

Client ID: HS21050553-01

Instrument: SV6.i

Sample Info: HS21050553-01;HS21050553-01

Purge Volume: 1000.0

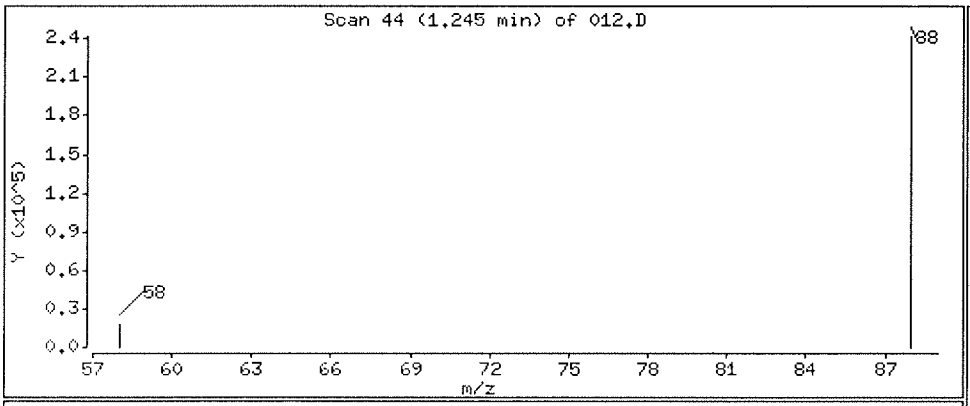
Operator: LG

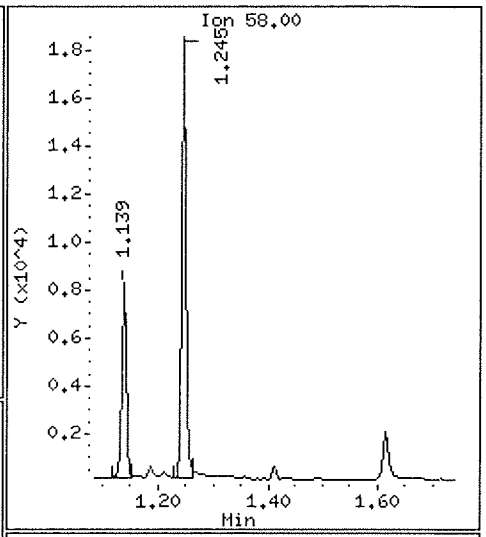
Column phase: RTX-5SIL MS

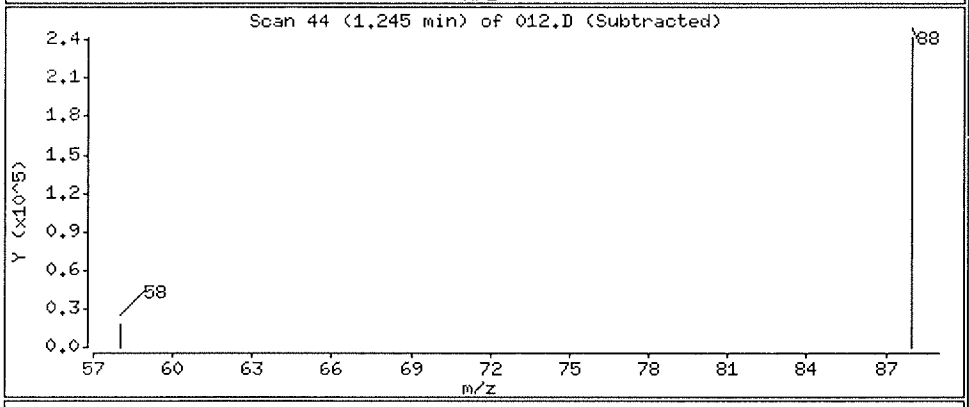
Column diameter: 0.28

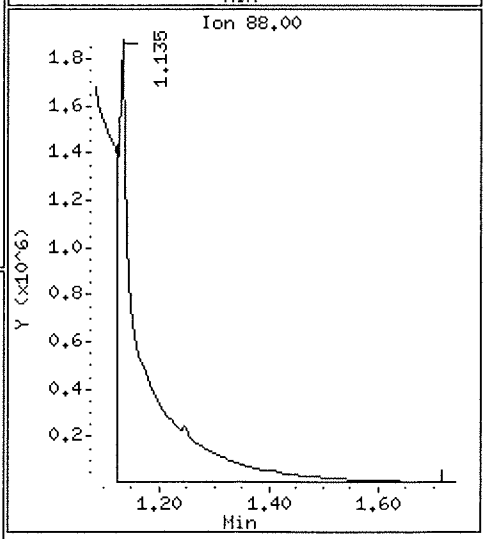
1 1,4-Dioxane

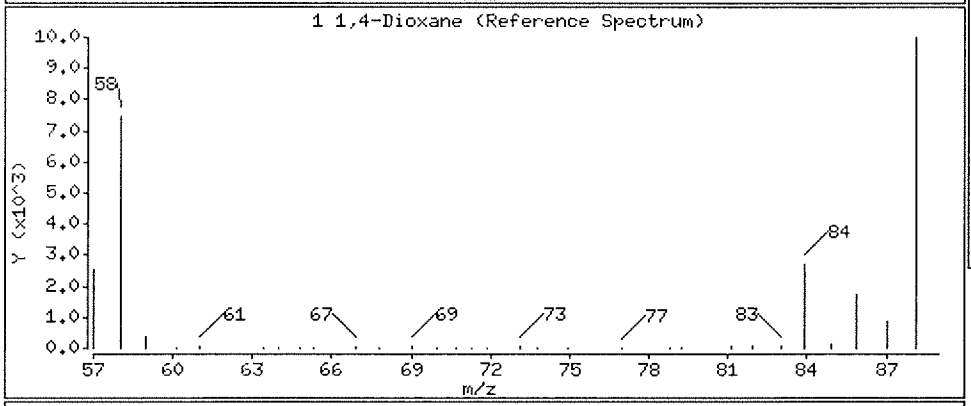
Concentration: 1.741 ug/L

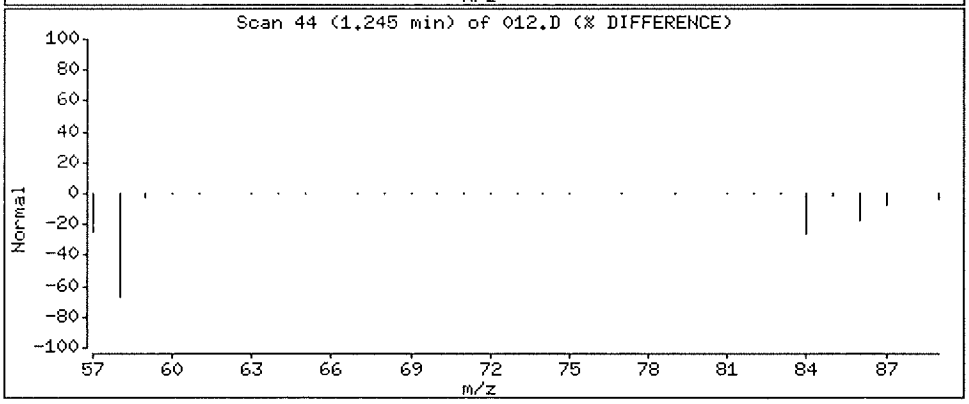


ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\nahstws005\Target\chem\SV6.i\210519.b\013.D
Lab Smp Id: 14DX-0.08 Client Smp ID: 14DX-0.08
Inj Date : 19-MAY-2021 14:04 MS Autotune Date: 23-DEC-2020 11:30
Operator : LG Inst ID: SV6.i
Smp Info : 14DX-0.08;14DX-0.08
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\SV6.i\210519.b\DXSIMEND.m
Meth Date : 09-Jun-2021 14:05 SV6.i Quant Type: ISTD
Cal Date : 01-SEP-2020 16:57 Cal File: 010.D
Als bottle: 13 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Vt | 1000.000 | Volume of final extract (uL) |
| Vo | 1000.000 | Volume of sample extracted (mL) |
| Cpnd Variable | | Local Compound Variable |

| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( NG) | ON-COL ( NG) |
|---|---|---|---|---|---|---|---|
| * 20 1,4-Dichlorobenzene-d4 | 152 | 2.846 | 2.846 | (1.000) | 7317 | 0.10000 | (a) |
| * 45 Naphthalene-d8 | 136 | 3.927 | 3.927 | (1.000) | 23565 | 0.10000 | |
| $ 33 Nitrobenzene-d5 | 82 | 3.340 | 3.340 | (0.851) | 4446 | 0.08000 | 0.05323(QM) |
| * 86 Acenaphthene-d10 | 164 | 5.570 | 5.570 | (1.000) | 13809 | 0.10000 | (QM) |
| $ 69 2-Fluorobiphenyl | 172 | 4.948 | 4.948 | (1.000) | 16430 | 0.08000 | 0.1020(Q) |
| * 126 Phenanthrene-d10 | 188 | 7.004 | 7.004 | (1.000) | 25293 | 0.10000 | |
| * 182 Chrysene-d12 | 240 | 9.618 | 9.618 | (1.000) | 21147 | 0.10000 | (M) |
| $ 158 4-Terphenyl-d14 | 244 | 8.574 | 8.574 | (0.891) | 18342 | 0.08000 | 0.1046(M) |
| * 198 Perylene-d12 | 264 | 11.407 | 11.407 | (1.000) | 17166 | 0.10000 | |
| 1 1,4-Dioxane | 58 | 1.190 | 1.190 | (0.418) | 1093 | 0.08000 | 0.05570(aQ) |

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.

Data File: \\nahstws005\Target\chem\SV6.i\210519.b\013.D



Date : 19-MAY-2021 14:04

Client ID: 14DX-0.08

Instrument: SV6.i

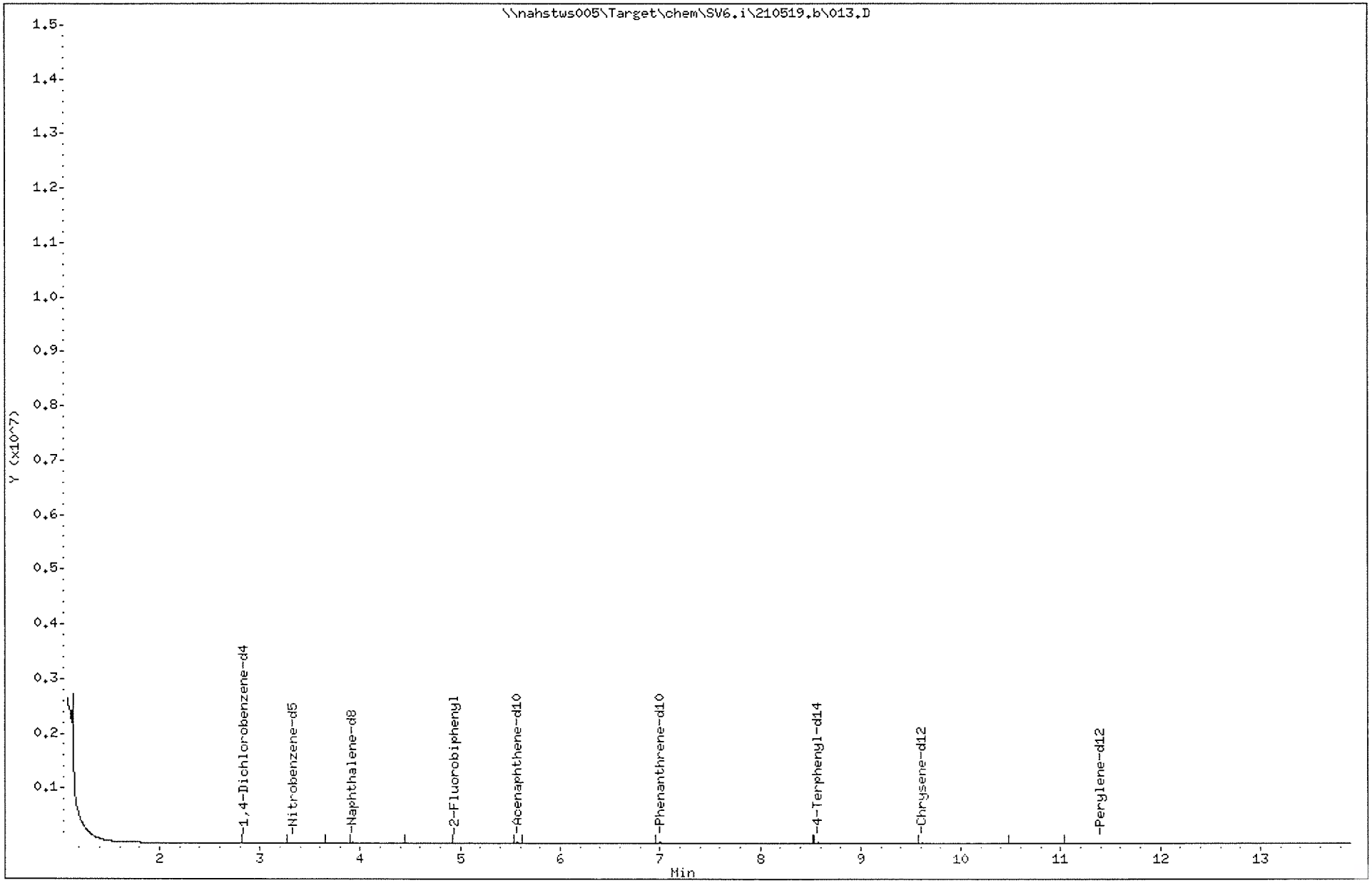
Sample Info: 14DX-0.08;14DX-0.08

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28



# HS21050553 - ME - ICP_W_DOD

ALS WO# HS21050553

## Form 11 - INTERNAL STANDARD ASSOCIATION

**Client:** Bhate Environmental Associates, Inc. Instrument:ICPMS06

**Project:** Longhorn GW Treatment Plant Monthly Effluent Samples

**WorkOrder:** HS21050553

| Mass | Analyte | Assoc Int Standard 1 | Assoc Int Standard 2 | Mode |
|---|---|---|---|---|
| 9 | Beryllium | Lithium | | Ar |
| 11 | Boron | Lithium | | Ar |
| 23 | Sodium | Germanium | | ArHe |
| 24 | Magnesium | Germanium | | ArHe |
| 27 | Aluminum | Germanium | | ArHe |
| 39 | Potassium | Germanium | | ArHe |
| 44 | Calcium | Germanium | | Ar |
| 47 | Titanium | Germanium | | Ar |
| 51 | Vanadium | Germanium | | ArHe |
| 52 | Chromium | Germanium | | ArHe |
| 55 | Manganese | Germanium | | ArHe |
| 56 | Iron | Germanium | | ArHe |
| 59 | Cobalt | Germanium | | ArHe |
| 60 | Nickel | Germanium | | ArHe |
| 63 | Copper | Germanium | | ArHe |
| 66 | Zinc | Germanium | | ArHe |
| 75 | Arsenic | Germanium | | ArHe |
| 82 | Selenium | Germanium | | Ar |
| 88 | Strontium | Indium | | Ar |
| 95 | Molybdenum | Indium | | Ar |
| 105 | Palladium | Germanium | | Ar |
| 107 | Silver | Indium | | Ar |
| 114 | Cadmium | Indium | | Ar |
| 118 | Tin | Indium | | Ar |
| 121 | Antimony | Germanium | | ArHe |
| 137 | Barium | Indium | | Ar |
| 205 | Thallium | Bismuth | | Ar |
| 208 | Lead | Bismuth | | Ar |

## FORM 12 - PREPARATION LOG

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Monthly Effluent Samples
**WorkOrder:** HS21050553
Start Date: 22-May-2021 09:00 End Date: 22-May-2021 13:00

Batch ID: 166115
Prep Code: 3010A
Method: SW3010A
Technician:

| SampID | ClientID | Matrix | Init Wt | Init Vol | FinalVol (mL) | PrepFac |
|---|---|---|---|---|---|---|
| HS21050553-01 | LH18/24-SP650_051121 | Water | | 10 | 10 | 1 |
| HS21050672-08MS | | | | 10 | 10 | 1 |
| HS21050672-08MSD | | | | 10 | 10 | 1 |
| HS21050672-08PDS | | | | 10 | 10 | 1 |
| HS21050672-08SD | | | | 10 | 10 | 1 |
| LCS-166115 | | | | 10 | 10 | 1 |
| MBLK-166115 | | | | 10 | 10 | 1 |

## FORM 13 - ANALYSIS RUN LOG

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Monthly Effluent Samples
**WorkOrder:** HS21050553
Start Date: 25-May-2021 End Date: 26-May-2021

Run ID:ICPMS06_384352
Instrument:ICPMS06
Method:

| Sample No. | D/F | Time | FileID | Analytes |
|---|---|---|---|---|
| ICPMS06_384352_Tune | 1 | 25-May-2021 00:00 | ICPMS06_384352_Tune_1 | |
| CAL BLK | 1 | 25-May-2021 11:05 | 009CALB.d_6109865 | AG BA PB SE |
| 2/10/200 | 1 | 25-May-2021 11:07 | 010CALS.d_6109866 | AG BA PB SE |
| 5/25/500 | 1 | 25-May-2021 11:09 | 011CALS.d_6109867 | AG BA PB SE |
| 10/50/100 | 1 | 25-May-2021 11:11 | 012CALS.d_6109868 | AG BA PB SE |
| 100/500/10K | 1 | 25-May-2021 11:13 | 013CALS.d_6109869 | AG BA PB SE |
| 200/1000/20K | 1 | 25-May-2021 11:15 | 014CALS.d_6109870 | AG BA PB SE |
| ICV | 1 | 25-May-2021 11:19 | 016_ICV.d_6109872 | AG BA PB SE |
| ICB | 1 | 25-May-2021 11:21 | 017_ICB.d_6109873 | AG BA PB SE |
| LLICV2 | 1 | 25-May-2021 11:23 | 018LCV2.d_6109874 | AG BA PB SE |
| LLICV5 | 1 | 25-May-2021 11:25 | 019LCV5.d_6109875 | AG BA PB SE |
| ICSA | 1 | 25-May-2021 11:44 | 022ICSA.d_6109878 | AG BA PB SE |
| ICSAB | 1 | 25-May-2021 11:46 | 023ICSB.d_6109879 | AG BA PB SE |
| CAL BLK | 1 | 25-May-2021 21:21 | 223CALB.d_6109882 | AG BA PB SE |
| 2/10/200 | 1 | 25-May-2021 21:23 | 224CALS.d_6109883 | AG BA PB SE |
| 5/25/500 | 1 | 25-May-2021 21:25 | 225CALS.d_6109884 | AG BA PB SE |
| 10/50/100 | 1 | 25-May-2021 21:27 | 226CALS.d_6109885 | AG BA PB SE |
| 100/500/10K | 1 | 25-May-2021 21:29 | 227CALS.d_6109886 | AG BA PB SE |
| 200/1000/20K | 1 | 25-May-2021 21:31 | 228CALS.d_6109887 | AG BA PB SE |
| ICV | 1 | 25-May-2021 21:35 | 230_ICV.d_6109889 | AG BA PB SE |
| LLICCV5 | 1 | 25-May-2021 21:37 | 231LCV5.d_6109890 | AG BA PB SE |
| LLICCV2 | 1 | 25-May-2021 21:39 | 232LCV2.d_6109891 | AG BA PB SE |
| ICB | 1 | 25-May-2021 21:41 | 233_ICB.d_6109892 | AG BA PB SE |
| CCV 1 | 1 | 25-May-2021 23:35 | 278_CCV.d_6109895 | AG BA PB SE |
| CCB 1 | 1 | 25-May-2021 23:37 | 279_CCB.d_6109896 | AG BA PB SE |
| ICSA | 1 | 25-May-2021 23:39 | 280ICSA.d_6109897 | AG BA PB SE |
| ICSAB | 1 | 25-May-2021 23:41 | 281ICSB.d_6109898 | AG BA PB SE |
| MBLK-166115 | 1 | 25-May-2021 23:46 | 283SMPL.d_6109900 | AG BA PB SE |
| LCS-166115 | 1 | 25-May-2021 23:48 | 284SMPL.d_6109901 | AG BA PB SE |
| ZZZZZZSD | 5 | 25-May-2021 23:52 | 286SMPL.d_6109903 | AG BA PB SE |
| ZZZZZZMS | 1 | 25-May-2021 23:54 | 287SMPL.d_6109904 | AG BA PB SE |
| ZZZZZZMSD | 1 | 25-May-2021 23:56 | 288SMPL.d_6109905 | AG BA PB SE |
| ZZZZZZPDS | 1 | 25-May-2021 23:58 | 289SMPL.d_6109906 | AG BA PB SE |
| CCV 2 | 1 | 26-May-2021 00:00 | 290_CCV.d_6109907 | AG BA PB SE |
| CCB 2 | 1 | 26-May-2021 00:02 | 291_CCB.d_6109908 | AG BA PB SE |
| CCV 3 | 1 | 26-May-2021 00:20 | 300_CCV.d_6109917 | AG BA PB SE |
| CCB 3 | 1 | 26-May-2021 00:22 | 301_CCB.d_6109918 | AG BA PB SE |
| CCV 4 | 1 | 26-May-2021 00:43 | 311_CCV.d_6109928 | AG BA PB SE |
| CCB 4 | 1 | 26-May-2021 00:45 | 312_CCB.d_6109929 | AG BA PB SE |
| LLCCV2 | 1 | 26-May-2021 00:49 | 314LCV2.d_6109931 | AG BA PB SE |
| LLCCV5 | 1 | 26-May-2021 00:51 | 315LCV5.d_6109932 | AG BA PB SE |
| ICSA | 1 | 26-May-2021 00:53 | 316ICSA.d_6109933 | AG BA PB SE |
| ICSAB | 1 | 26-May-2021 00:55 | 317ICSB.d_6109934 | AG BA PB SE |

## FORM 13 - ANALYSIS RUN LOG

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Monthly Effluent Samples
**WorkOrder:** HS21050553
Start Date: 26-May-2021 End Date: 26-May-2021

Run ID:ICPMS06_384403
Instrument:ICPMS06
Method:

| Sample No. | D/F | Time | FileID | Analytes |
|---|---|---|---|---|
| ICPMS06_384403_Tune | 1 | 26-May-2021 00:00 | ICPMS06_384403_Tune_1 | |
| CAL BLK | 1 | 26-May-2021 10:45 | 009CALB.d_6110820 | AG BA PB SE |
| 2/10/200 | 1 | 26-May-2021 10:47 | 010CALS.d_6110821 | AG BA PB SE |
| 5/25/500 | 1 | 26-May-2021 10:49 | 011CALS.d_6110822 | AG BA PB SE |
| 10/50/100 | 1 | 26-May-2021 10:51 | 012CALS.d_6110823 | AG BA PB SE |
| 100/500/10K | 1 | 26-May-2021 10:53 | 013CALS.d_6110824 | AG BA PB SE |
| 200/1000/20K | 1 | 26-May-2021 10:55 | 014CALS.d_6110825 | AG BA PB SE |
| ICV | 1 | 26-May-2021 10:59 | 016_ICV.d_6110827 | AG BA PB SE |
| ICB | 1 | 26-May-2021 11:01 | 017_ICB.d_6110828 | AG BA PB SE |
| LLICV2 | 1 | 26-May-2021 11:03 | 018LCV2.d_6110829 | AG BA PB SE |
| LLICV5 | 1 | 26-May-2021 11:05 | 019LCV5.d_6110830 | AG BA PB SE |
| ICSA | 1 | 26-May-2021 11:11 | 022ICSA.d_6110833 | AG BA PB SE |
| ICSAB | 1 | 26-May-2021 11:13 | 023ICSB.d_6110834 | AG BA PB SE |
| CCV 1 | 1 | 26-May-2021 11:20 | 025_CCV.d_6110836 | AG BA PB SE |
| CCB 1 | 1 | 26-May-2021 11:22 | 026_CCB.d_6110837 | AG BA PB SE |
| LH18/24-SP650_051121 | 1 | 26-May-2021 11:40 | 034SMPL.d_6110844 | AG BA PB SE |
| CCV 2 | 1 | 26-May-2021 11:46 | 037_CCV.d_6110847 | AG BA PB SE |
| CCB 2 | 1 | 26-May-2021 11:48 | 038_CCB.d_6110848 | AG BA PB SE |
| CCB 3 | 1 | 26-May-2021 12:38 | 062_CCB.d_6110853 | AG BA PB SE |
| CCV 3 | 1 | 26-May-2021 12:40 | 063_CCV.d_6110854 | AG BA PB SE |
| CCV 4 | 1 | 26-May-2021 13:06 | 073_CCV.d_6110850 | AG BA PB SE |
| CCB 4 | 1 | 26-May-2021 13:07 | 074_CCB.d_6110851 | AG BA PB SE |
| CCV 5 | 1 | 26-May-2021 16:55 | 148_CCV.d_6112009 | AG BA PB SE |
| CCB 5 | 1 | 26-May-2021 16:57 | 149_CCB.d_6112010 | AG BA PB SE |
| CCV 6 | 1 | 26-May-2021 17:22 | 160_CCV.d_6112021 | AG BA PB SE |
| CCB 6 | 1 | 26-May-2021 17:23 | 161_CCB.d_6112022 | AG BA PB SE |
| CCV 7 | 1 | 26-May-2021 17:52 | 172_CCV.d_6112031 | AG BA PB SE |
| CCB 7 | 1 | 26-May-2021 17:54 | 173_CCB.d_6112032 | AG BA PB SE |

## Form 2 - Initial and Continuing Calibration Verification

**Client:** Bhate Environmental Associates, Inc. Run ID: ICPMS06_384352

**Project:** Longhorn GW Treatment Plant Monthly Effluent Samples Instrument: ICPMS06

**WorkOrder:** HS21050553 Method: SW6020A

| ICV | Date: 25-May-2021 11:19 | | Seq: 6109872 | ICV | Units: ug/L |
|---|---|---|---|---|---|
| **Analyte** | **True** | **Found** | **%R** | **Control Limits** | **Flag** |
| Barium | 100 | 99.132 | 99 | 90-110 | |
| Lead | 100 | 99.347 | 99 | 90-110 | |
| Selenium | 100 | 96.901 | 97 | 90-110 | |
| Silver | 100 | 100.782 | 101 | 90-110 | |

| ICV | Date: 25-May-2021 21:35 | | Seq: 6109889 | ICV | Units: ug/L |
|---|---|---|---|---|---|
| **Analyte** | **True** | **Found** | **%R** | **Control Limits** | **Flag** |
| Barium | 100 | 98.592 | 99 | 90-110 | |
| Lead | 100 | 99.547 | 100 | 90-110 | |
| Selenium | 100 | 97.513 | 98 | 90-110 | |
| Silver | 100 | 99.148 | 99 | 90-110 | |

| CCV1 | Date: 25-May-2021 23:35 | | Seq: 6109895 | CCV | Units: ug/L |
|---|---|---|---|---|---|
| **Analyte** | **True** | **Found** | **%R** | **Control Limits** | **Flag** |
| Barium | 100 | 95.287 | 95 | 90-110 | |
| Lead | 100 | 95.305 | 95 | 90-110 | |
| Selenium | 100 | 98.026 | 98 | 90-110 | |
| Silver | 100 | 94.871 | 95 | 90-110 | |

| CCV2 | Date: 26-May-2021 00:00 | | Seq: 6109907 | CCV | Units: ug/L |
|---|---|---|---|---|---|
| **Analyte** | **True** | **Found** | **%R** | **Control Limits** | **Flag** |
| Barium | 100 | 97.258 | 97 | 90-110 | |
| Lead | 100 | 97.031 | 97 | 90-110 | |
| Selenium | 100 | 98.96 | 99 | 90-110 | |
| Silver | 100 | 94.117 | 94 | 90-110 | |

| CCV3 | Date: 26-May-2021 00:20 | | Seq: 6109917 | CCV | Units: ug/L |
|---|---|---|---|---|---|
| **Analyte** | **True** | **Found** | **%R** | **Control Limits** | **Flag** |
| Barium | 100 | 97.119 | 97 | 90-110 | |
| Lead | 100 | 96.679 | 97 | 90-110 | |
| Selenium | 100 | 97.079 | 97 | 90-110 | |
| Silver | 100 | 95.231 | 95 | 90-110 | |

| CCV4 | Date: 26-May-2021 00:43 | | Seq: 6109928 | CCV | Units: ug/L |
|---|---|---|---|---|---|
| **Analyte** | **True** | **Found** | **%R** | **Control Limits** | **Flag** |
| Barium | 100 | 96.36 | 96 | 90-110 | |
| Lead | 100 | 91.059 | 91 | 90-110 | |
| Selenium | 100 | 88.764 | 89 | 90-110 | S |
| Silver | 100 | 92.432 | 92 | 90-110 | |

## Form 2 - Initial and Continuing Calibration Verification

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Monthly Effluent Samples
**WorkOrder:** HS21050553

Run ID: ICPMS06_384403
Instrument: ICPMS06
Method: SW6020A

| ICV | Date: 26-May-2021 10:59 | | Seq: 6110827 | ICV | Units: ug/L |
|---|---|---|---|---|---|
| **Analyte** | **True** | **Found** | **%R** | **Control Limits** | **Flag** |
| Barium | 100 | 96.479 | 97 | 90-110 | |
| Lead | 100 | 98.113 | 98 | 90-110 | |
| Selenium | 100 | 96.618 | 97 | 90-110 | |
| Silver | 100 | 99.203 | 99 | 90-110 | |

| CCV1 | Date: 26-May-2021 11:20 | | Seq: 6110836 | CCV | Units: ug/L |
|---|---|---|---|---|---|
| **Analyte** | **True** | **Found** | **%R** | **Control Limits** | **Flag** |
| Barium | 100 | 97.332 | 97 | 90-110 | |
| Lead | 100 | 95.852 | 96 | 90-110 | |
| Selenium | 100 | 95.686 | 96 | 90-110 | |
| Silver | 100 | 99.177 | 99 | 90-110 | |

| CCV2 | Date: 26-May-2021 11:46 | | Seq: 6110847 | CCV | Units: ug/L |
|---|---|---|---|---|---|
| **Analyte** | **True** | **Found** | **%R** | **Control Limits** | **Flag** |
| Barium | 100 | 101.835 | 102 | 90-110 | |
| Lead | 100 | 99.25 | 99 | 90-110 | |
| Selenium | 100 | 94.98 | 95 | 90-110 | |
| Silver | 100 | 100.845 | 101 | 90-110 | |

| CCV3 | Date: 26-May-2021 12:40 | | Seq: 6110854 | CCV | Units: ug/L |
|---|---|---|---|---|---|
| **Analyte** | **True** | **Found** | **%R** | **Control Limits** | **Flag** |
| Barium | 100 | 101.987 | 102 | 90-110 | |
| Lead | 100 | 101.833 | 102 | 90-110 | |
| Selenium | 100 | 97.487 | 98 | 90-110 | |
| Silver | 100 | 101.403 | 101 | 90-110 | |

| CCV4 | Date: 26-May-2021 13:06 | | Seq: 6110850 | CCV | Units: ug/L |
|---|---|---|---|---|---|
| **Analyte** | **True** | **Found** | **%R** | **Control Limits** | **Flag** |
| Barium | 100 | 99.225 | 99 | 90-110 | |
| Lead | 100 | 101.586 | 102 | 90-110 | |
| Selenium | 100 | 97.165 | 97 | 90-110 | |
| Silver | 100 | 99.157 | 99 | 90-110 | |

| CCV5 | Date: 26-May-2021 16:55 | | Seq: 6112009 | CCV | Units: ug/L |
|---|---|---|---|---|---|
| **Analyte** | **True** | **Found** | **%R** | **Control Limits** | **Flag** |
| Barium | 100 | 95.008 | 95 | 90-110 | |
| Lead | 100 | 96.503 | 97 | 90-110 | |
| Selenium | 100 | 93.882 | 94 | 90-110 | |
| Silver | 100 | 96.527 | 97 | 90-110 | |

| CCV6 | Date: 26-May-2021 17:22 | | Seq: 6112021 | CCV | Units: ug/L |
|---|---|---|---|---|---|
| **Analyte** | **True** | **Found** | **%R** | **Control Limits** | **Flag** |
| Barium | 100 | 95.972 | 96 | 90-110 | |
| Lead | 100 | 97.138 | 97 | 90-110 | |
| Selenium | 100 | 92.73 | 93 | 90-110 | |
| Silver | 100 | 95.343 | 95 | 90-110 | |

| CCV7 | Date: 26-May-2021 17:52 | | Seq: 6112031 | CCV | Units: ug/L |
|---|---|---|---|---|---|
| **Analyte** | **True** | **Found** | **%R** | **Control Limits** | **Flag** |
| Barium | 100 | 99.215 | 99 | 90-110 | |
| Lead | 100 | 98.606 | 99 | 90-110 | |
| Selenium | 100 | 91.702 | 92 | 90-110 | |
| Silver | 100 | 97.841 | 98 | 90-110 | |

## Form 3 - BLANKS

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Monthly Effluent Samples
**WorkOrder:** HS21050553

Run ID: ICPMS06_384352
Instrument: ICPMS06
Method: SW6020A

| ICB | Date: 25-May-2021 11:21 | | Seq: 6109873 | 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 | |

| ICB | Date: 25-May-2021 21:41 | | Seq: 6109892 | 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: 25-May-2021 23:37 | | Seq: 6109896 | 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-166115 | Date: 25-May-2021 23:46 | | Seq: 6109900 | 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: 26-May-2021 00:02 | | Seq: 6109908 | 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: 26-May-2021 00:22 | | Seq: 6109918 | 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: 26-May-2021 00:45 | | Seq: 6109929 | 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 | |

## Form 3 - BLANKS

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Monthly Effluent Samples
**WorkOrder:** HS21050553

Run ID: ICPMS06_384403
Instrument: ICPMS06
Method: SW6020A

| ICB | Date: 26-May-2021 11:01 | | Seq: 6110828 | 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: 26-May-2021 11:22 | | Seq: 6110837 | CCB | Units: ug/L |
|---|---|---|---|---|---|
| **Analyte** | **Result** | **MDL** | **Report Limit** | **Qual** | |
| Barium | 4 | 1.9 | 4 | U | |
| Lead | 2 | 0.6 | 2 | U | |
| Selenium | 2 | 1.1 | 2 | U | |
| Silver | 2 | 0.2 | 2 | U | |

| CCB2 | Date: 26-May-2021 11:48 | | Seq: 6110848 | 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: 26-May-2021 12:38 | | Seq: 6110853 | 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: 26-May-2021 13:07 | | Seq: 6110851 | 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: 26-May-2021 16:57 | | Seq: 6112010 | 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 | |

| CCB6 | Date: 26-May-2021 17:23 | | Seq: 6112022 | 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 | |

| CCB7 | Date: 26-May-2021 17:54 | | Seq: 6112032 | 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 | |

## Form 4 - ICP Interference Check Sample

**Client:** Bhate Environmental Associates, Inc. Run ID:ICPMS06_384352

**Project:** Longhorn GW Treatment Plant Monthly Effluent Samples Instrument:ICPMS06

**WorkOrder:** HS21050553 Method:SW6020A

| ICSA | Date: 25-May-2021 11:44 | Seq: 6109878 | ICSA | Units: ug/L |
|---|---|---|---|---|
| **Analyte** | **True** | **Found** | **%R** | |
| Barium | | 0.29 | 0 | |
| Lead | | 0.096 | 0 | |
| Selenium | | 0.31 | 0 | |
| Silver | | 0.252 | 0 | |
| ICSAB | Date: 25-May-2021 11:46 | Seq: 6109879 | ICSAB | Units: ug/L |
| **Analyte** | **True** | **Found** | **%R** | |
| Barium | 100 | 100.7 | 101 | |
| Lead | 100 | 99.74 | 99.7 | |
| Selenium | 100 | 105 | 105 | |
| Silver | 100 | 96.95 | 97.0 | |
| ICSA | Date: 25-May-2021 23:39 | Seq: 6109897 | ICSA | Units: ug/L |
| **Analyte** | **True** | **Found** | **%R** | |
| Barium | | 0.385 | 0 | |
| Lead | | 0.086 | 0 | |
| Selenium | | 0.383 | 0 | |
| Silver | | 0.267 | 0 | |
| ICSAB | Date: 25-May-2021 23:41 | Seq: 6109898 | ICSAB | Units: ug/L |
| **Analyte** | **True** | **Found** | **%R** | |
| Barium | 100 | 99.7 | 99.7 | |
| Lead | 100 | 99.01 | 99.0 | |
| Selenium | 100 | 99.52 | 99.5 | |
| Silver | 100 | 92.37 | 92.4 | |
| ICSA | Date: 26-May-2021 00:53 | Seq: 6109933 | ICSA | Units: ug/L |
| **Analyte** | **True** | **Found** | **%R** | |
| Barium | | 0.359 | 0 | |
| Lead | | 0.073 | 0 | |
| Selenium | | 0.199 | 0 | |
| Silver | | 0.23 | 0 | |
| ICSAB | Date: 26-May-2021 00:55 | Seq: 6109934 | ICSAB | Units: ug/L |
| **Analyte** | **True** | **Found** | **%R** | |
| Barium | 100 | 97.43 | 97.4 | |
| Lead | 100 | 92.32 | 92.3 | |
| Selenium | 100 | 89.96 | 90.0 | |
| Silver | 100 | 86.81 | 86.8 | |

## Form 4 - ICP Interference Check Sample

**Client:** Bhate Environmental Associates, Inc. Run ID:ICPMS06_384403

**Project:** Longhorn GW Treatment Plant Monthly Effluent Samples Instrument:ICPMS06

**WorkOrder:** HS21050553 Method:SW6020A

| ICSA | Date: 26-May-2021 11:11 | Seq: 6110833 | ICSA | Units: ug/L |
|---|---|---|---|---|
| **Analyte** | **True** | **Found** | **%R** | |
| Barium | | 0.373 | 0 | |
| Lead | | 0.083 | 0 | |
| Selenium | | 0.399 | 0 | |
| Silver | | 0.261 | 0 | |

| ICSAB | Date: 26-May-2021 11:13 | Seq: 6110834 | ICSAB | Units: ug/L |
|---|---|---|---|---|
| **Analyte** | **True** | **Found** | **%R** | |
| Barium | 100 | 100 | 100 | |
| Lead | 100 | 100.1 | 100 | |
| Selenium | 100 | 102.8 | 103 | |
| Silver | 100 | 95.58 | 95.6 | |

## Form 5A - Matrix Spike/Matrix Spike Duplicate Recovery

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Monthly Effluent Samples
**WorkOrder:** HS21050553

Date Analyzed: 25-May-2021 23:56
Date Extracted: 22-May-2021 13:00
Units: ug/L

Matrix Spike: HS21050672-08MS
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 | 182.3 | 227.6 | 50.00 | 90.5 | 220.2 | 50.00 | 75.7 | 86-114 | 3.29 | 20 |
| Lead | 5.000 | 47.05 | 50.00 | 94.0 | 44.49 | 50.00 | 88.9 | 88-115 | 5.58 | 20 |
| Selenium | 5.000 | 48.27 | 50.00 | 96.3 | 46.04 | 50.00 | 91.8 | 80-120 | 4.73 | 20 |
| Silver | 5.000 | 46.28 | 50.00 | 92.6 | 44.97 | 50.00 | 90.0 | 85-116 | 2.87 | 20 |

**Form 5B - Post Digest Sample Recovery**

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Monthly Effluent Samples
**WorkOrder:** HS21050553

Date Analyzed: 25-May-2021 23:58
Date Extracted: 22-May-2021 13:00
Units: ug/L

Lab Sample ID: HS21050672-08PDS
Client Sample ID:

Analysis Method: SW6020A

| Analyte | Sample Result | PDS Result | Spike Amount | % Rec | % Rec Limits |
|---|---|---|---|---|---|
| Barium | 182.3 | 287.3 | 100 | 105 | 80-120 |
| Lead | 0 | 101.3 | 100 | 101 | 80-120 |
| Selenium | 0 | 104.9 | 100 | 105 | 80-120 |
| Silver | 0 | 91.62 | 100 | 92 | 80-120 |

**Form 7 - Laboratory Control Sample**

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Monthly Effluent Samples
**WorkOrder:** HS21050553

Date Analyzed: 25-May-2021 23:48
Date Extracted: 22-May-2021 13:00
Units: ug/L

Lab Sample ID: LCS-166115 Analysis Method: SW6020A

| Analyte | Spike Amount | LCS Result | % Rec | % Rec Limits |
|---|---|---|---|---|
| Barium | 50 | 48.71 | 97 | 86-114 |
| Lead | 50 | 45.71 | 91 | 88-115 |
| Selenium | 50 | 49.64 | 99 | 80-120 |
| Silver | 50 | 48.34 | 97 | 85-116 |

## Form 8 - ICP Serial Dilutions

**Client:** Bhate Environmental Associates, Inc.
**Project:** Longhorn GW Treatment Plant Monthly Effluent Samples
**WorkOrder:** HS21050553

Date Analyzed: 25-May-2021 23:52
Date Extracted: 22-May-2021 13:00
Units: ug/L

Lab Sample ID: HS21050672-08SD
Client Sample ID:

Analysis Method: SW6020A

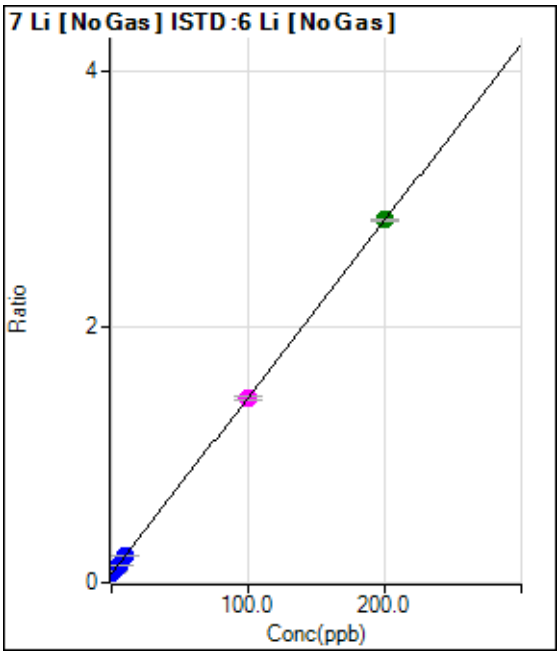
| Analyte | Sample Result | C | SD Result | C | RPD | Q |
|---|---|---|---|---|---|---|
| Barium | 182.3 | | 181.5 | | 0 | |
| Lead | 0 | U | 0 | U | 0 | |
| Selenium | 0 | U | 0 | U | 0 | |
| Silver | 0 | U | 0 | U | 0 | |

Calibration for 230_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\052521A.b\
Analysis File: 052521A.batch.bin
DA Date-Time: 5/25/2021 11:03:56 PM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

| Level | Standard Data File | Sample Name | Acq. Date-Time |
|---|---|---|---|
| 1 | 223CALB.d | CAL BLK | 5/25/2021 9:21:34 PM |
| 2 | 224CALS.d | 2/10/200 | 5/25/2021 9:23:34 PM |
| 3 | 225CALS.d | 5/25/500 | 5/25/2021 9:25:34 PM |
| 4 | 226CALS.d | 10/50/100 | 5/25/2021 9:27:34 PM |
| 5 | 227CALS.d | 100/500/10K | 5/25/2021 9:29:34 PM |
| 6 | 228CALS.d | 200/1000/20K | 5/25/2021 9:31:29 PM |

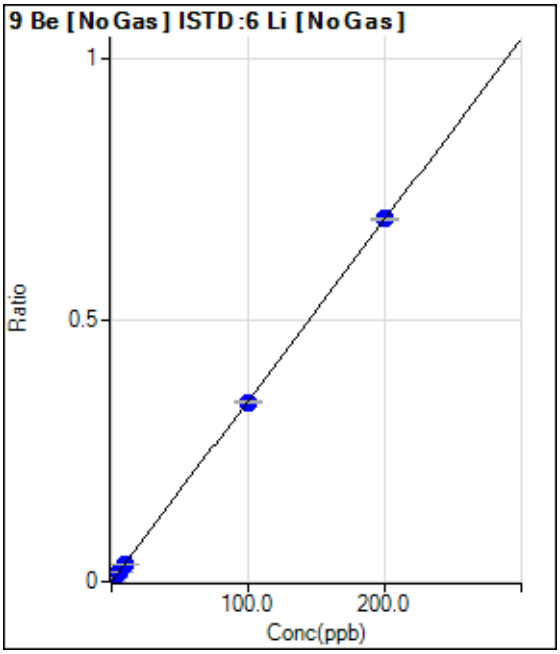
Calibration for 230_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 38265.12 | 0.0702 | P | 1.5 |
| 2 | ☐ | 2.000 | 1.902 | 52261.51 | 0.0965 | P | 2.1 |
| 3 | ☐ | 5.000 | 4.902 | 74080.03 | 0.1379 | P | 0.2 |
| 4 | ☐ | 10.000 | 9.916 | 109593.71 | 0.2072 | P | 0.4 |
| 5 | ☐ | 100.000 | 99.111 | 725642.46 | 1.4402 | M | 2.1 |
| 6 | ☐ | 200.000 | 200.452 | 1375184.61 | 2.8410 | A | 0.5 |

y = 0.0138 * x + 0.0702
R = 1.0000
DL = 0.2236
BEC = 5.077

Weight: <None>
Min Conc: <None>

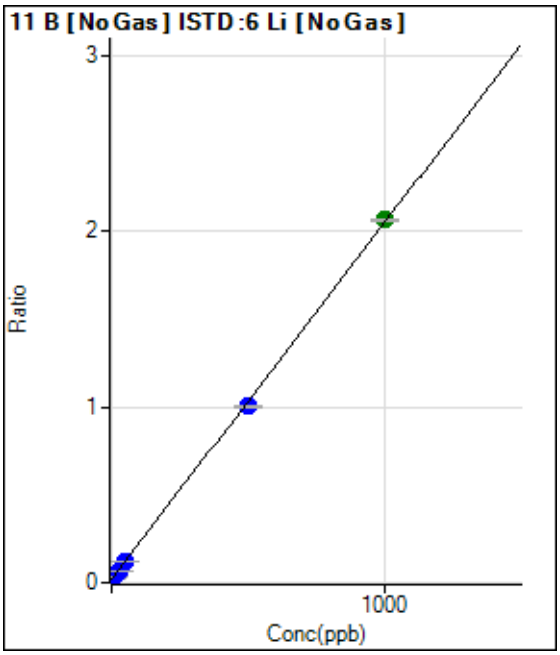



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 16.67 | 0.0000 | P | 75.7 |
| 2 | ☐ | 2.000 | 2.003 | 3763.87 | 0.0069 | P | 1.9 |
| 3 | ☐ | 5.000 | 4.876 | 9059.64 | 0.0169 | P | 2.3 |
| 4 | ☐ | 10.000 | 10.012 | 18301.98 | 0.0346 | P | 0.7 |
| 5 | ☐ | 100.000 | 99.025 | 172344.24 | 0.3420 | P | 1.3 |
| 6 | ☐ | 200.000 | 200.490 | 335191.99 | 0.6925 | P | 0.5 |

y = 0.0035 * x + 3.0591E-005
R = 1.0000
DL = 0.02011
BEC = 0.008858

Weight: <None>
Min Conc: <None>

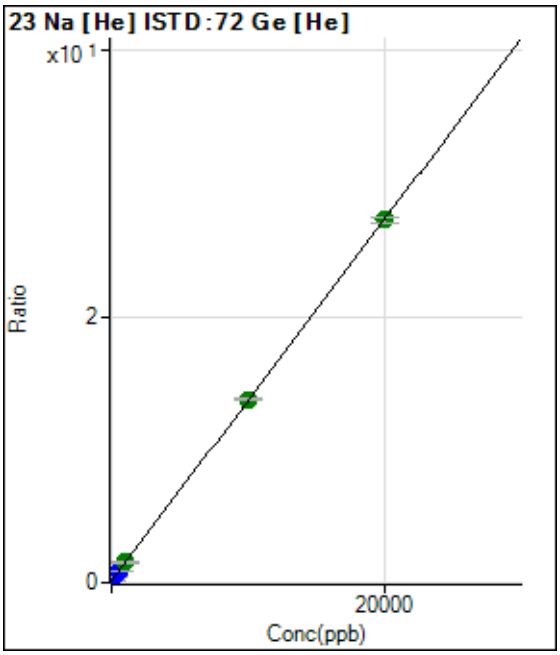
Calibration for 230_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 10410.59 | 0.0191 | P | 2.6 |
| 2 | ☐ | 10.000 | 9.228 | 20500.03 | 0.0378 | P | 1.9 |
| 3 | ☐ | 25.000 | 23.168 | 35539.96 | 0.0662 | P | 3.1 |
| 4 | ☐ | 50.000 | 48.672 | 62406.11 | 0.1180 | P | 1.6 |
| 5 | ☐ | 500.000 | 484.355 | 505608.91 | 1.0035 | P | 1.8 |
| 6 | ☐ | 1000.000 | 1007.943 | 1000811.08 | 2.0676 | A | 0.8 |

y = 0.0020 * x + 0.0191
R = 0.9998
DL = 0.7372
BEC = 9.394

Weight: <None>
Min Conc: <None>

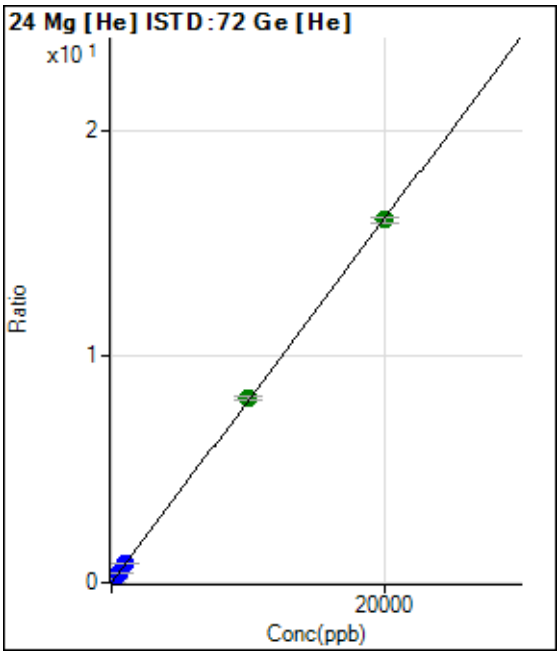



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 63179.61 | 0.1316 | P | 1.5 |
| 2 | ☐ | 200.000 | 208.618 | 200980.14 | 0.4150 | P | 1.1 |
| 3 | ☐ | 500.000 | 525.885 | 405420.47 | 0.8458 | P | 1.2 |
| 4 | ☐ | 1000.000 | 1026.132 | 727338.63 | 1.5252 | A | 1.8 |
| 5 | ☐ | 10000.00 | 10055.98 | 6367671.99 | 13.7885 | A | 0.9 |
| 6 | ☐ | 20000.00 | 19969.96 | 12220850.24 | 27.2525 | A | 1.5 |

y = 0.0014 * x + 0.1316
R = 1.0000
DL = 4.476
BEC = 96.92

Weight: <None>
Min Conc: <None>

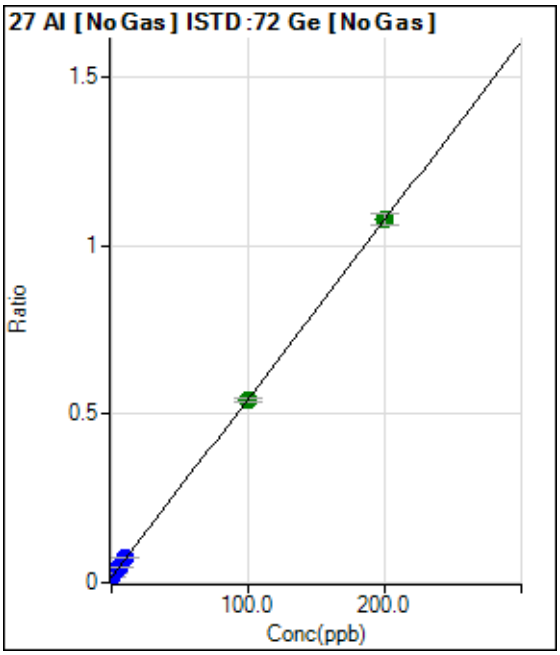
Calibration for 230_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 523.35 | 0.0011 | P | 15.5 |
| 2 | ☐ | 200.000 | 212.968 | 83442.34 | 0.1723 | P | 1.3 |
| 3 | ☐ | 500.000 | 536.127 | 207087.10 | 0.4320 | P | 0.9 |
| 4 | ☐ | 1000.000 | 1072.901 | 411790.44 | 0.8635 | P | 0.7 |
| 5 | ☐ | 10000.00 | 10124.08 | 3758485.05 | 8.1390 | A | 1.6 |
| 6 | ☐ | 20000.00 | 19933.28 | 7185954.68 | 16.0238 | A | 1.3 |

y = 8.0382E-004 * x + 0.0011
R = 1.0000
DL = 0.6295
BEC = 1.357

Weight: <None>
Min Conc: <None>

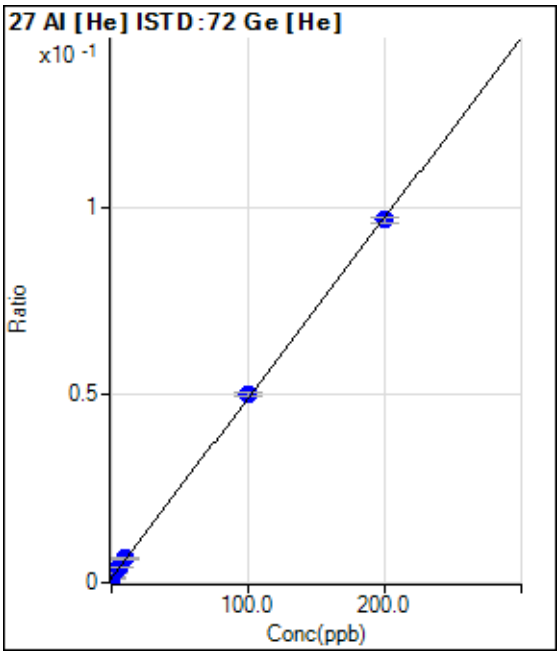



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 24154.72 | 0.0155 | P | 3.7 |
| 2 | ☐ | 2.000 | 2.792 | 47404.42 | 0.0303 | P | 2.7 |
| 3 | ☐ | 5.000 | 5.736 | 71268.68 | 0.0460 | P | 0.3 |
| 4 | ☐ | 10.000 | 11.538 | 116537.52 | 0.0767 | P | 0.7 |
| 5 | ☐ | 100.000 | 99.578 | 812743.14 | 0.5436 | A | 1.8 |
| 6 | ☐ | 200.000 | 200.108 | 1554045.19 | 1.0767 | A | 3.4 |

y = 0.0053 * x + 0.0155
R = 1.0000
DL = 0.321
BEC = 2.931

Weight: <None>
Min Conc: <None>

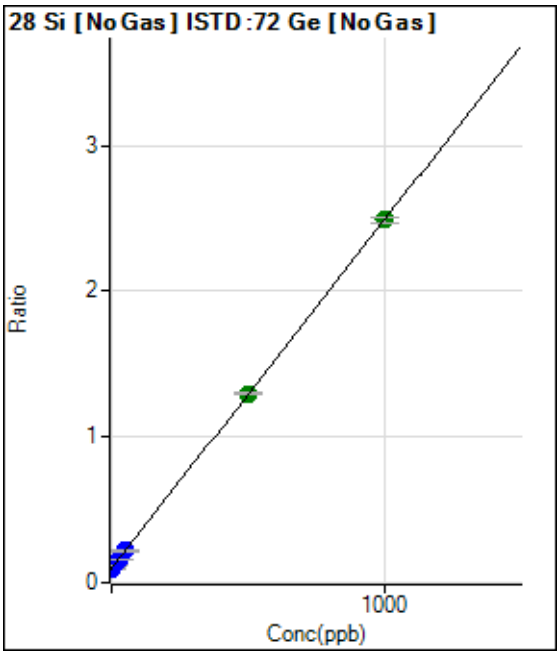
Calibration for 230_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 603.36 | 0.0013 | P | 18.2 |
| 2 | ☐ | 2.000 | 2.561 | 1203.41 | 0.0025 | P | 8.5 |
| 3 | ☐ | 5.000 | 5.888 | 1956.85 | 0.0041 | P | 6.9 |
| 4 | ☐ | 10.000 | 10.730 | 3053.73 | 0.0064 | P | 10.0 |
| 5 | ☐ | 100.000 | 102.129 | 23206.29 | 0.0502 | P | 1.8 |
| 6 | ☐ | 200.000 | 198.871 | 43341.18 | 0.0966 | P | 1.9 |

y = 4.7965E-004 * x + 0.0013
R = 0.9999
DL = 1.43
BEC = 2.621

Weight: <None>
Min Conc: <None>

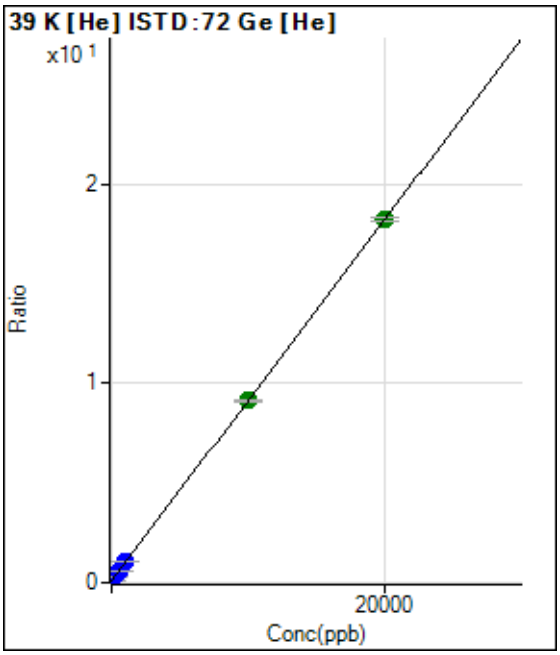



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 152374.06 | 0.0981 | P | 2.3 |
| 2 | ☐ | 10.000 | 8.664 | 185544.40 | 0.1188 | P | 1.2 |
| 3 | ☐ | 25.000 | 23.379 | 238763.87 | 0.1540 | P | 0.3 |
| 4 | ☐ | 50.000 | 50.434 | 332136.86 | 0.2187 | P | 1.6 |
| 5 | ☐ | 500.000 | 500.620 | 1936838.46 | 1.2955 | A | 0.9 |
| 6 | ☐ | 1000.000 | 999.722 | 3593753.59 | 2.4893 | A | 1.9 |

y = 0.0024 * x + 0.0981
R = 1.0000
DL = 2.822
BEC = 40.99

Weight: <None>
Min Conc: <None>

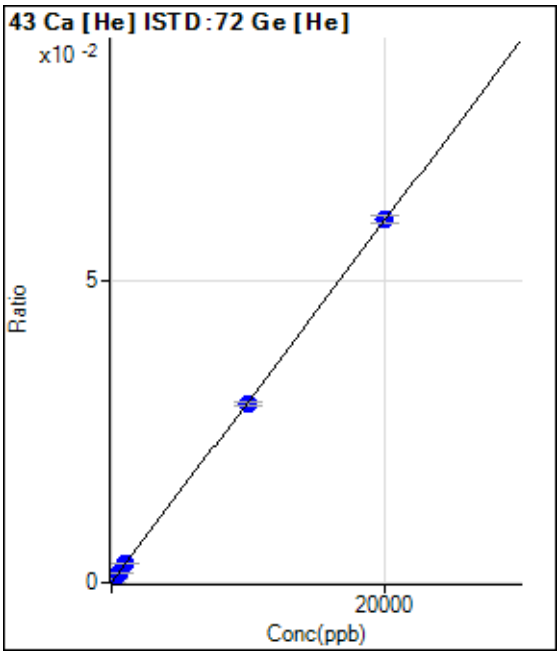
Calibration for 230_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 40192.21 | 0.0837 | P | 1.4 |
| 2 | ☐ | 200.000 | 205.163 | 130653.34 | 0.2698 | P | 1.2 |
| 3 | ☐ | 500.000 | 521.805 | 266922.43 | 0.5568 | P | 0.3 |
| 4 | ☐ | 1000.000 | 1041.613 | 490296.37 | 1.0281 | P | 0.1 |
| 5 | ☐ | 10000.00 | 10000.57 | 4225941.71 | 9.1510 | A | 1.0 |
| 6 | ☐ | 20000.00 | 19997.03 | 8168428.00 | 18.2145 | A | 0.9 |

y = 9.0667E-004 * x + 0.0837
R = 1.0000
DL = 3.979
BEC = 92.36

Weight: <None>
Min Conc: <None>

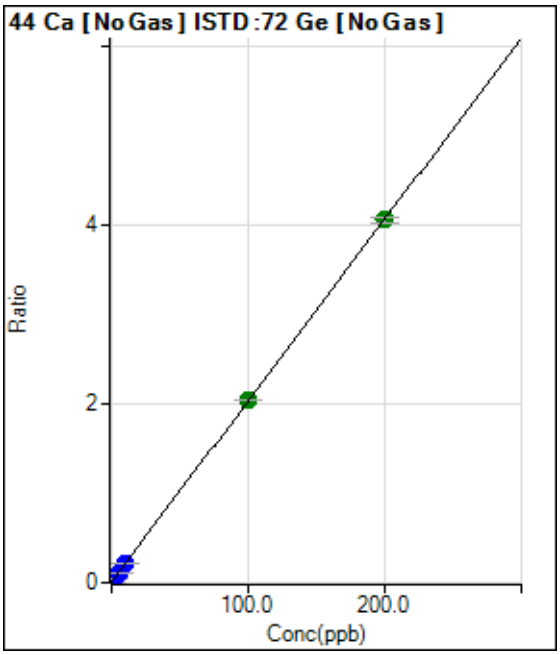



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 23.33 | 0.0000 | P | 65.3 |
| 2 | ☐ | 200.000 | 199.619 | 313.34 | 0.0006 | P | 19.9 |
| 3 | ☐ | 500.000 | 482.880 | 716.70 | 0.0015 | P | 4.1 |
| 4 | ☐ | 1000.000 | 1052.582 | 1526.78 | 0.0032 | P | 6.0 |
| 5 | ☐ | 10000.00 | 9895.228 | 13710.39 | 0.0297 | P | 1.8 |
| 6 | ☐ | 20000.00 | 20050.18 | 26953.33 | 0.0601 | P | 2.0 |

y = 2.9954E-006 * x + 4.8588E-005
R = 1.0000
DL = 31.77
BEC = 16.22

Weight: <None>
Min Conc: <None>

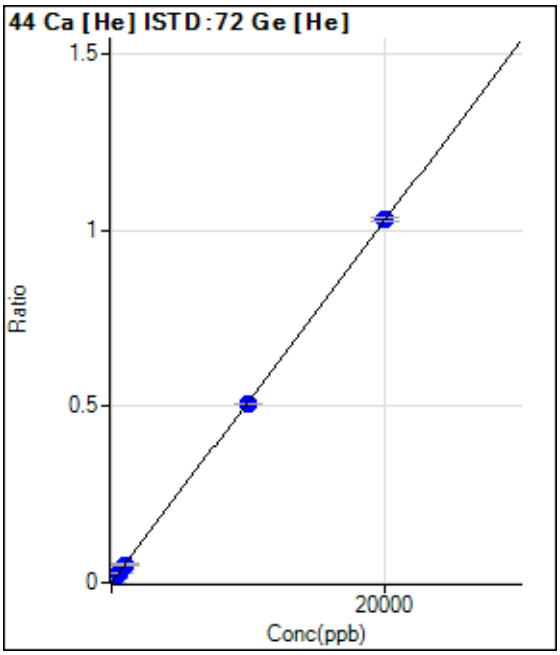
Calibration for 230_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 13480.13 | 0.0087 | P | 5.4 |
| 2 | ☐ | 2.000 | 2.013 | 77343.03 | 0.0495 | P | 2.4 |
| 3 | ☐ | 5.000 | 5.042 | 172089.58 | 0.1110 | P | 0.8 |
| 4 | ☐ | 10.000 | 10.260 | 329394.79 | 0.2169 | P | 1.2 |
| 5 | ☐ | 100.000 | 100.384 | 3058445.16 | 2.0457 | A | 1.0 |
| 6 | ☐ | 200.000 | 199.794 | 5865444.91 | 4.0629 | A | 1.7 |

y = 0.0203 * x + 0.0087
R = 1.0000
DL = 0.06959
BEC = 0.4276

Weight: <None>
Min Conc: <None>

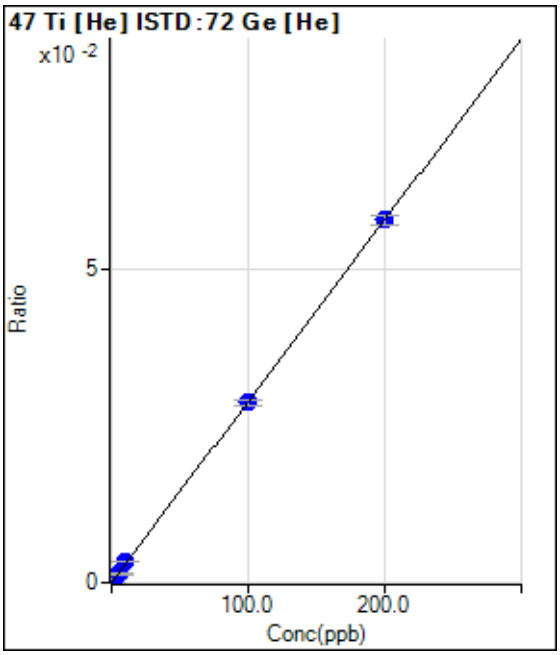



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 353.34 | 0.0007 | P | 4.2 |
| 2 | ☐ | 200.000 | 198.133 | 5277.78 | 0.0109 | P | 3.7 |
| 3 | ☐ | 500.000 | 521.659 | 13173.15 | 0.0275 | P | 4.7 |
| 4 | ☐ | 1000.000 | 987.025 | 24488.78 | 0.0514 | P | 2.4 |
| 5 | ☐ | 10000.00 | 9871.203 | 234109.09 | 0.5069 | P | 0.8 |
| 6 | ☐ | 20000.00 | 20064.52 | 461756.07 | 1.0297 | P | 1.2 |

y = 5.1280E-005 * x + 7.3612E-004
R = 1.0000
DL = 1.813
BEC = 14.35

Weight: <None>
Min Conc: <None>

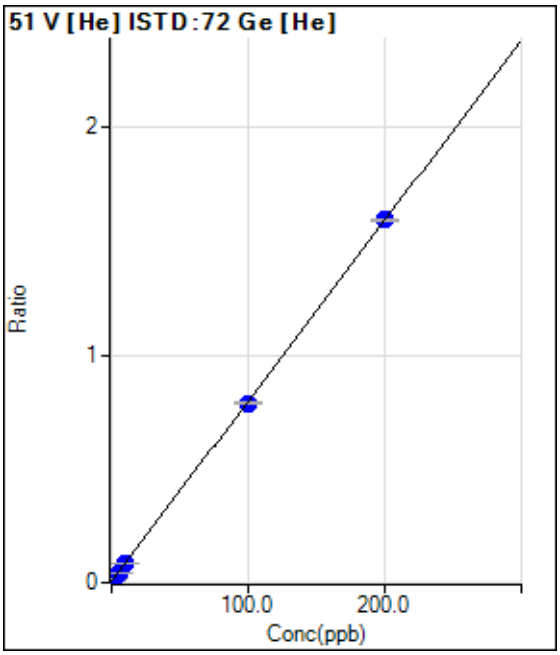
Calibration for 230_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 3.33 | 0.0000 | P | 173.2 |
| 2 | ☐ | 2.000 | 2.026 | 286.68 | 0.0006 | P | 25.1 |
| 3 | ☐ | 5.000 | 4.772 | 663.36 | 0.0014 | P | 14.7 |
| 4 | ☐ | 10.000 | 11.246 | 1550.11 | 0.0033 | P | 2.2 |
| 5 | ☐ | 100.000 | 99.496 | 13256.59 | 0.0287 | P | 2.9 |
| 6 | ☐ | 200.000 | 200.195 | 25894.73 | 0.0577 | P | 2.5 |

y = 2.8842E-004 * x + 6.9306E-006
R = 1.0000
DL = 0.1249
BEC = 0.02403

Weight: <None>
Min Conc: <None>

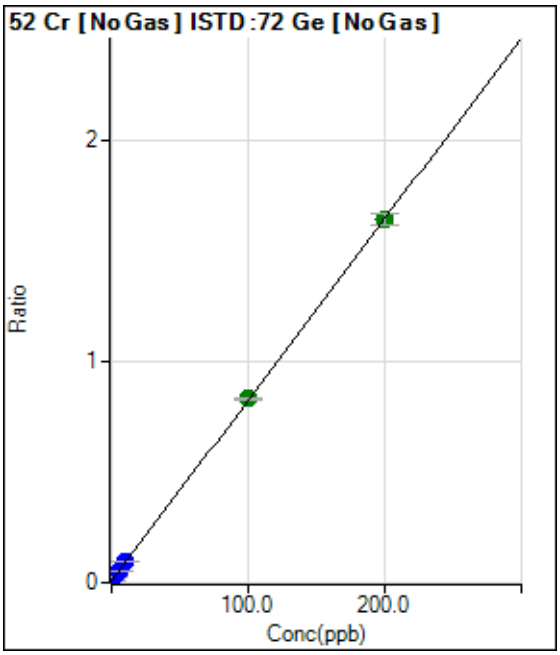



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 2474.68 | 0.0052 | P | 5.5 |
| 2 | ☐ | 2.000 | 1.968 | 10045.95 | 0.0207 | P | 3.3 |
| 3 | ☐ | 5.000 | 4.999 | 21446.83 | 0.0447 | P | 1.1 |
| 4 | ☐ | 10.000 | 10.132 | 40715.80 | 0.0854 | P | 1.3 |
| 5 | ☐ | 100.000 | 99.004 | 364369.90 | 0.7891 | P | 1.5 |
| 6 | ☐ | 200.000 | 200.492 | 714218.89 | 1.5926 | P | 0.5 |

y = 0.0079 * x + 0.0052
R = 1.0000
DL = 0.1067
BEC = 0.6512

Weight: <None>
Min Conc: <None>

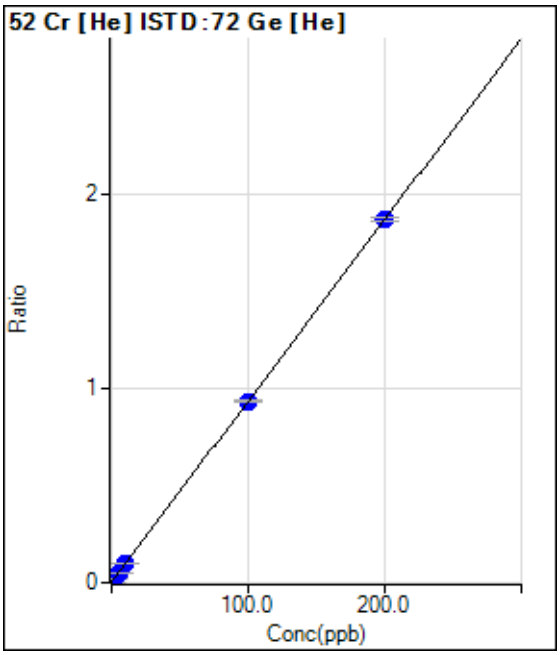
Calibration for 230_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 11491.67 | 0.0074 | P | 1.4 |
| 2 | ☐ | 2.000 | 2.037 | 37601.99 | 0.0241 | P | 2.7 |
| 3 | ☐ | 5.000 | 5.137 | 76680.72 | 0.0495 | P | 1.0 |
| 4 | ☐ | 10.000 | 10.503 | 141831.78 | 0.0934 | P | 0.9 |
| 5 | ☐ | 100.000 | 100.775 | 1244570.09 | 0.8324 | A | 0.7 |
| 6 | ☐ | 200.000 | 199.583 | 2369183.77 | 1.6414 | A | 3.1 |

y = 0.0082 * x + 0.0074
R = 1.0000
DL = 0.03703
BEC = 0.9031

Weight: <None>
Min Conc: <None>

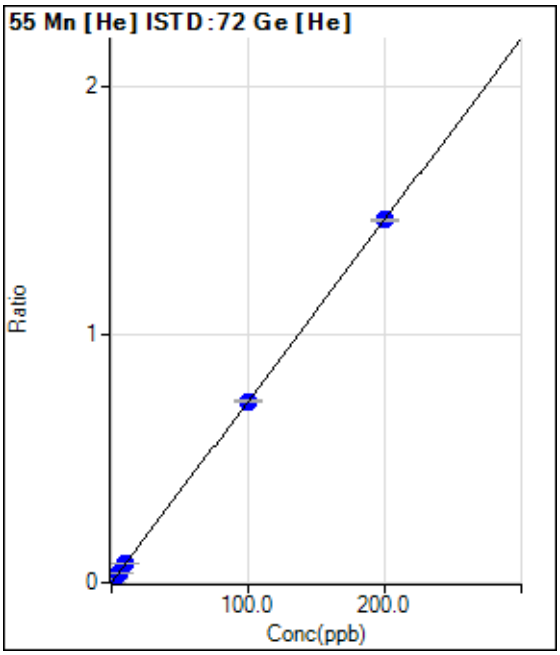



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 923.38 | 0.0019 | P | 3.2 |
| 2 | ☐ | 2.000 | 2.104 | 10450.81 | 0.0216 | P | 4.1 |
| 3 | ☐ | 5.000 | 5.124 | 23864.49 | 0.0498 | P | 1.4 |
| 4 | ☐ | 10.000 | 10.368 | 47101.13 | 0.0988 | P | 2.5 |
| 5 | ☐ | 100.000 | 99.936 | 431986.39 | 0.9354 | P | 0.8 |
| 6 | ☐ | 200.000 | 200.009 | 838661.55 | 1.8702 | P | 1.1 |

y = 0.0093 * x + 0.0019
R = 1.0000
DL = 0.01967
BEC = 0.206

Weight: <None>
Min Conc: <None>

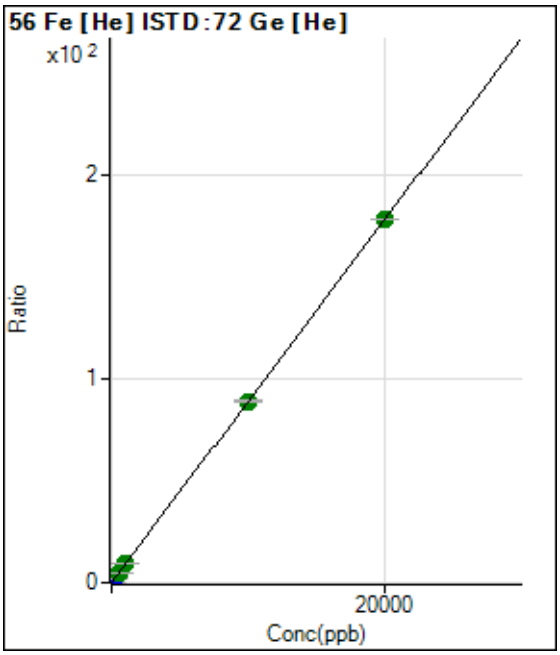
Calibration for 230_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 266.68 | 0.0006 | P | 4.6 |
| 2 | ☐ | 2.000 | 2.100 | 7692.30 | 0.0159 | P | 3.5 |
| 3 | ☐ | 5.000 | 5.109 | 18138.90 | 0.0378 | P | 2.2 |
| 4 | ☐ | 10.000 | 10.172 | 35667.07 | 0.0748 | P | 1.4 |
| 5 | ☐ | 100.000 | 99.905 | 336958.67 | 0.7297 | P | 1.4 |
| 6 | ☐ | 200.000 | 200.035 | 654942.91 | 1.4605 | P | 0.7 |

y = 0.0073 * x + 5.5562E-004
R = 1.0000
DL = 0.01042
BEC = 0.07613

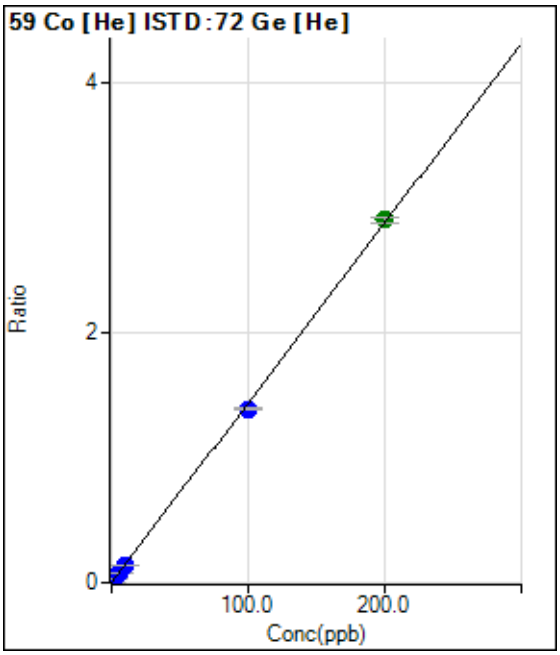
Weight: <None>
Min Conc: <None>




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 7662.30 | 0.0160 | P | 3.5 |
| 2 | ☐ | 200.000 | 205.024 | 889288.89 | 1.8360 | P | 0.6 |
| 3 | ☐ | 500.000 | 533.418 | 2277292.26 | 4.7511 | A | 1.3 |
| 4 | ☐ | 1000.000 | 1042.105 | 4419104.31 | 9.2668 | A | 0.5 |
| 5 | ☐ | 10000.00 | 9986.306 | 40943495.22 | 88.6646 | A | 1.5 |
| 6 | ☐ | 20000.00 | 20003.85 | 79643242.15 | 177.590 | A | 0.1 |

y = 0.0089 * x + 0.0160
R = 1.0000
DL = 0.1868
BEC = 1.798

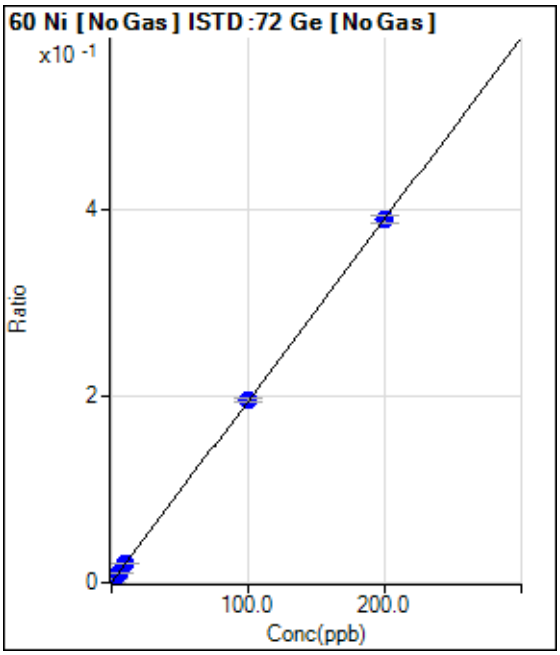
Weight: <None>
Min Conc: <None>




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 30.00 | 0.0001 | P | 88.2 |
| 2 | ☐ | 2.000 | 1.853 | 12929.67 | 0.0267 | P | 1.6 |
| 3 | ☐ | 5.000 | 4.895 | 33752.19 | 0.0704 | P | 1.5 |
| 4 | ☐ | 10.000 | 9.811 | 67262.11 | 0.1410 | P | 1.2 |
| 5 | ☐ | 100.000 | 96.386 | 639667.97 | 1.3851 | P | 1.0 |
| 6 | ☐ | 200.000 | 201.820 | 1300599.30 | 2.9003 | A | 1.3 |

y = 0.0144 * x + 6.2467E-005
R = 0.9998
DL = 0.0115
BEC = 0.004347

Weight: <None>
Min Conc: <None>

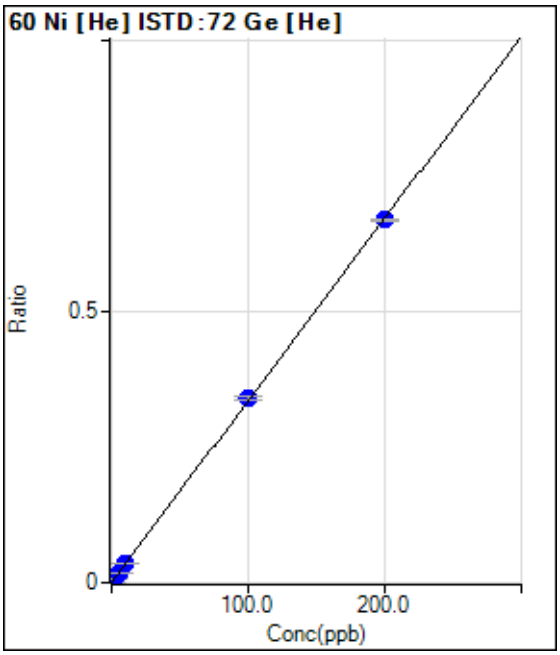



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 323.35 | 0.0002 | P | 34.3 |
| 2 | ☐ | 2.000 | 2.165 | 6895.20 | 0.0044 | P | 2.8 |
| 3 | ☐ | 5.000 | 4.989 | 15355.57 | 0.0099 | P | 3.4 |
| 4 | ☐ | 10.000 | 10.511 | 31329.58 | 0.0206 | P | 3.7 |
| 5 | ☐ | 100.000 | 100.648 | 292645.27 | 0.1957 | P | 1.5 |
| 6 | ☐ | 200.000 | 199.649 | 560213.91 | 0.3881 | P | 2.1 |

y = 0.0019 * x + 2.0855E-004
R = 1.0000
DL = 0.1104
BEC = 0.1073

Weight: <None>
Min Conc: <None>

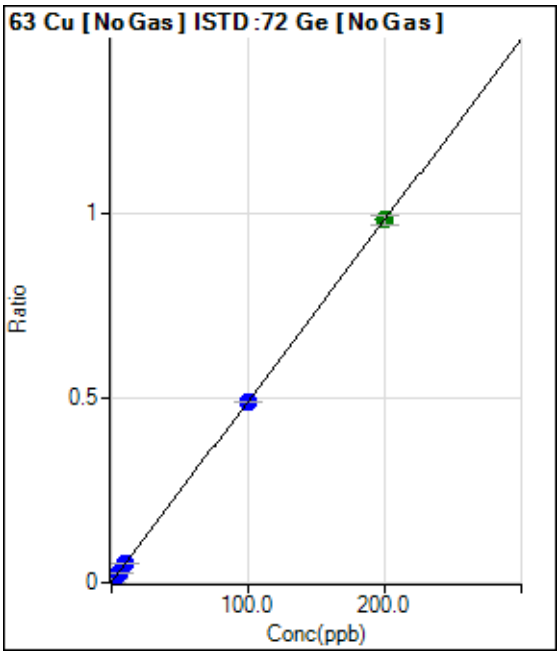
Calibration for 230_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 113.33 | 0.0002 | P | 44.6 |
| 2 | ☐ | 2.000 | 2.199 | 3693.92 | 0.0076 | P | 3.5 |
| 3 | ☐ | 5.000 | 5.195 | 8482.81 | 0.0177 | P | 0.4 |
| 4 | ☐ | 10.000 | 10.874 | 17541.47 | 0.0368 | P | 1.0 |
| 5 | ☐ | 100.000 | 101.221 | 157208.88 | 0.3404 | P | 1.8 |
| 6 | ☐ | 200.000 | 199.339 | 300562.93 | 0.6702 | P | 0.6 |

y = 0.0034 * x + 2.3621E-004
R = 1.0000
DL = 0.09396
BEC = 0.07028

Weight: <None>
Min Conc: <None>

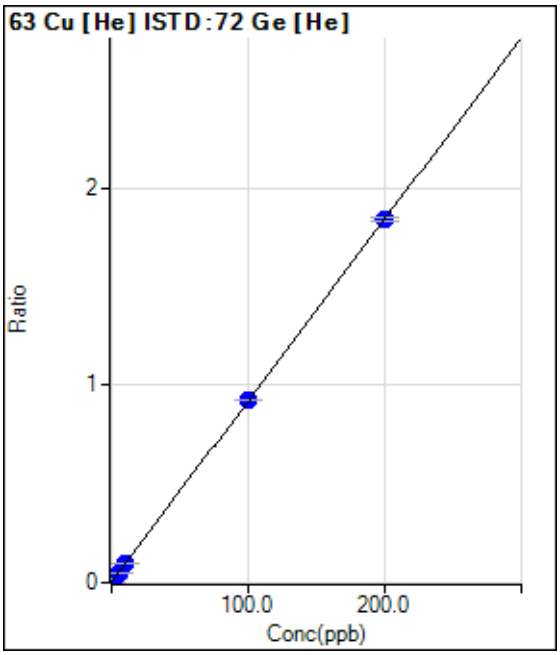



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 2376.92 | 0.0015 | P | 2.5 |
| 2 | ☐ | 2.000 | 2.133 | 18719.88 | 0.0120 | P | 0.9 |
| 3 | ☐ | 5.000 | 5.292 | 42580.32 | 0.0275 | P | 1.1 |
| 4 | ☐ | 10.000 | 10.763 | 82422.07 | 0.0543 | P | 0.7 |
| 5 | ☐ | 100.000 | 99.620 | 732066.89 | 0.4896 | P | 0.3 |
| 6 | ☐ | 200.000 | 200.143 | 1417742.01 | 0.9822 | A | 2.6 |

y = 0.0049 * x + 0.0015
R = 1.0000
DL = 0.02294
BEC = 0.312

Weight: <None>
Min Conc: <None>

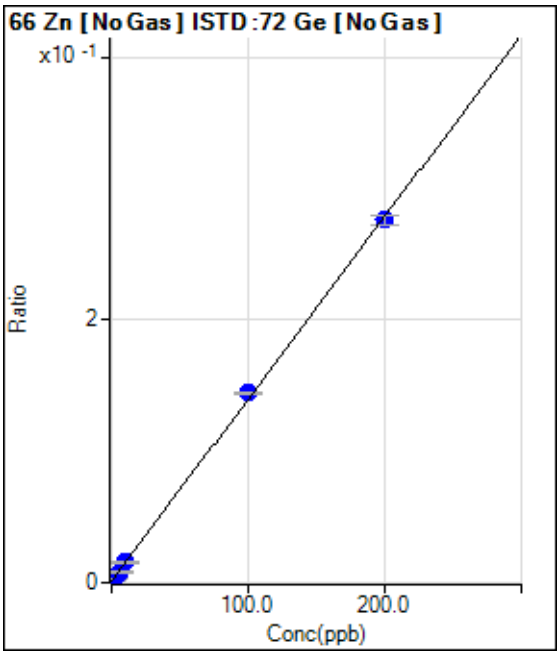
Calibration for 230_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 1183.41 | 0.0025 | P | 11.1 |
| 2 | ☐ | 2.000 | 2.050 | 10317.45 | 0.0213 | P | 1.0 |
| 3 | ☐ | 5.000 | 5.141 | 23821.08 | 0.0497 | P | 1.4 |
| 4 | ☐ | 10.000 | 10.523 | 47275.67 | 0.0991 | P | 0.7 |
| 5 | ☐ | 100.000 | 100.497 | 427517.00 | 0.9257 | P | 0.3 |
| 6 | ☐ | 200.000 | 199.721 | 823858.71 | 1.8372 | P | 1.2 |

y = 0.0092 * x + 0.0025
R = 1.0000
DL = 0.08955
BEC = 0.2684

Weight: <None>
Min Conc: <None>

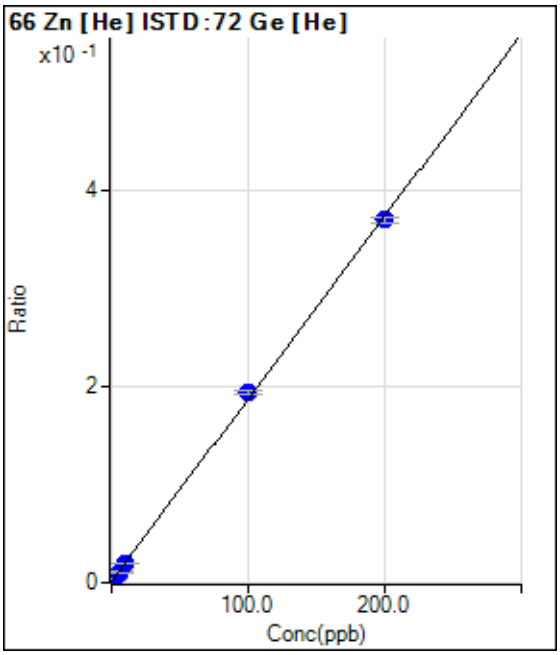



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 1796.82 | 0.0012 | P | 6.8 |
| 2 | ☐ | 2.000 | 1.673 | 5427.86 | 0.0035 | P | 2.1 |
| 3 | ☐ | 5.000 | 4.903 | 12329.10 | 0.0080 | P | 3.2 |
| 4 | ☐ | 10.000 | 10.381 | 23604.25 | 0.0155 | P | 3.5 |
| 5 | ☐ | 100.000 | 103.182 | 215515.97 | 0.1441 | P | 0.6 |
| 6 | ☐ | 200.000 | 198.395 | 398533.62 | 0.2761 | P | 2.4 |

y = 0.0014 * x + 0.0012
R = 0.9998
DL = 0.1693
BEC = 0.8347

Weight: <None>
Min Conc: <None>

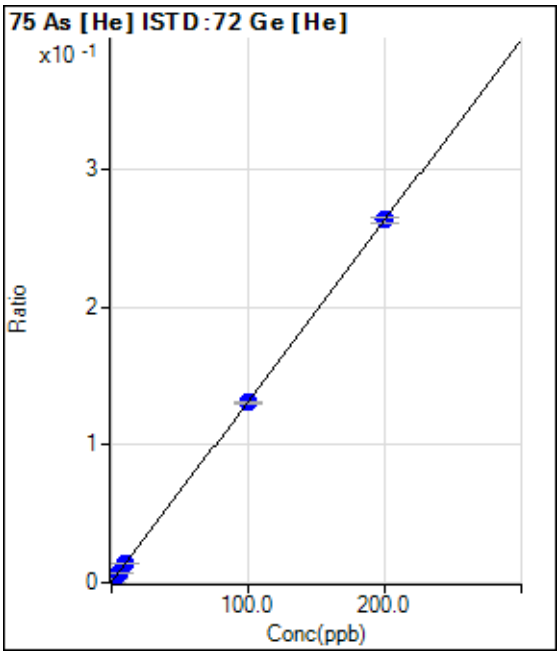
Calibration for 230_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 706.70 | 0.0015 | P | 8.0 |
| 2 | ☐ | 2.000 | 1.584 | 2140.21 | 0.0044 | P | 4.9 |
| 3 | ☐ | 5.000 | 4.983 | 5151.06 | 0.0107 | P | 6.6 |
| 4 | ☐ | 10.000 | 9.682 | 9293.38 | 0.0195 | P | 3.3 |
| 5 | ☐ | 100.000 | 103.756 | 89823.32 | 0.1945 | P | 1.6 |
| 6 | ☐ | 200.000 | 198.142 | 165974.97 | 0.3701 | P | 1.9 |

y = 0.0019 * x + 0.0015
R = 0.9997
DL = 0.1905
BEC = 0.7914

Weight: <None>
Min Conc: <None>

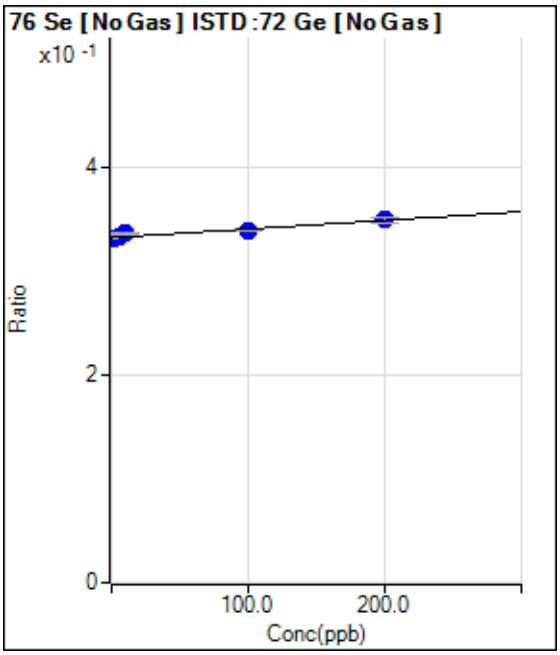



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 142.23 | 0.0003 | P | 15.8 |
| 2 | ☐ | 2.000 | 2.024 | 1433.42 | 0.0030 | P | 4.0 |
| 3 | ☐ | 5.000 | 5.315 | 3494.92 | 0.0073 | P | 5.8 |
| 4 | ☐ | 10.000 | 10.347 | 6632.77 | 0.0139 | P | 2.0 |
| 5 | ☐ | 100.000 | 99.348 | 60498.14 | 0.1310 | P | 1.0 |
| 6 | ☐ | 200.000 | 200.301 | 118305.62 | 0.2638 | P | 1.4 |

y = 0.0013 * x + 2.9637E-004
R = 1.0000
DL = 0.1066
BEC = 0.2253

Weight: <None>
Min Conc: <None>

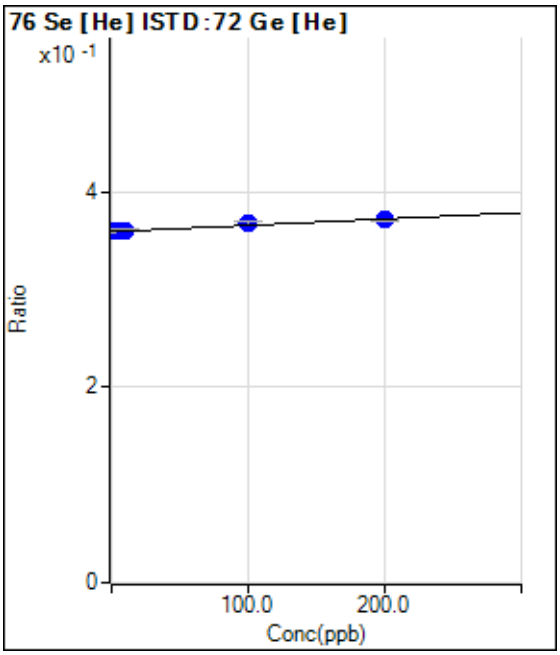
Calibration for 230_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 517004.00 | 0.3327 | P | 2.2 |
| 2 | ☐ | 2.000 | -20.893 | 517022.06 | 0.3309 | P | 0.5 |
| 3 | ☐ | 5.000 | 15.559 | 517901.13 | 0.3340 | P | 1.2 |
| 4 | ☐ | 10.000 | 47.693 | 511375.71 | 0.3367 | P | 0.7 |
| 5 | ☐ | 100.000 | 87.362 | 508330.55 | 0.3400 | P | 0.5 |
| 6 | ☐ | 200.000 | 204.399 | 504967.18 | 0.3498 | P | 1.6 |

y = 8.3649E-005 * x + 0.3327
R = 0.9674
DL = 261
BEC = 3977

Weight: <None>
Min Conc: <None>

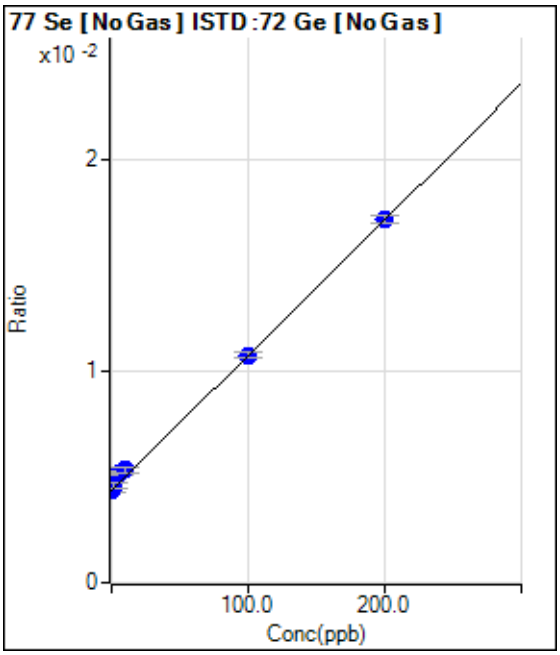



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 172215.85 | 0.3588 | P | 1.2 |
| 2 | ☐ | 2.000 | 12.901 | 174185.80 | 0.3596 | P | 1.9 |
| 3 | ☐ | 5.000 | 9.120 | 172268.69 | 0.3594 | P | 1.1 |
| 4 | ☐ | 10.000 | 25.492 | 171897.69 | 0.3605 | P | 0.4 |
| 5 | ☐ | 100.000 | 129.919 | 169636.59 | 0.3673 | P | 0.9 |
| 6 | ☐ | 200.000 | 184.054 | 166308.95 | 0.3709 | P | 0.9 |

y = 6.5540E-005 * x + 0.3588
R = 0.9826
DL = 200.7
BEC = 5474

Weight: <None>
Min Conc: <None>

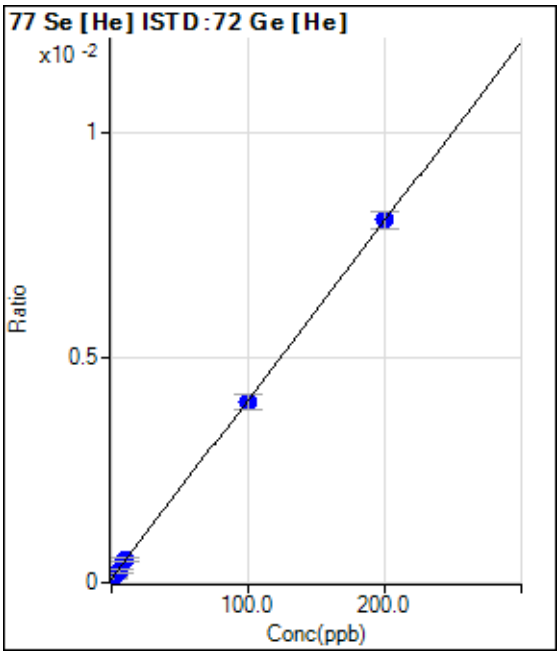
Calibration for 230_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 6748.52 | 0.0043 | P | 3.9 |
| 2 | ☐ | 2.000 | 3.766 | 7158.72 | 0.0046 | P | 6.8 |
| 3 | ☐ | 5.000 | 12.846 | 8012.52 | 0.0052 | P | 4.0 |
| 4 | ☐ | 10.000 | 15.390 | 8099.26 | 0.0053 | P | 5.3 |
| 5 | ☐ | 100.000 | 99.752 | 16089.90 | 0.0108 | P | 2.4 |
| 6 | ☐ | 200.000 | 199.641 | 24816.50 | 0.0172 | P | 2.0 |

y = 6.4348E-005 * x + 0.0043
R = 0.9993
DL = 7.969
BEC = 67.48

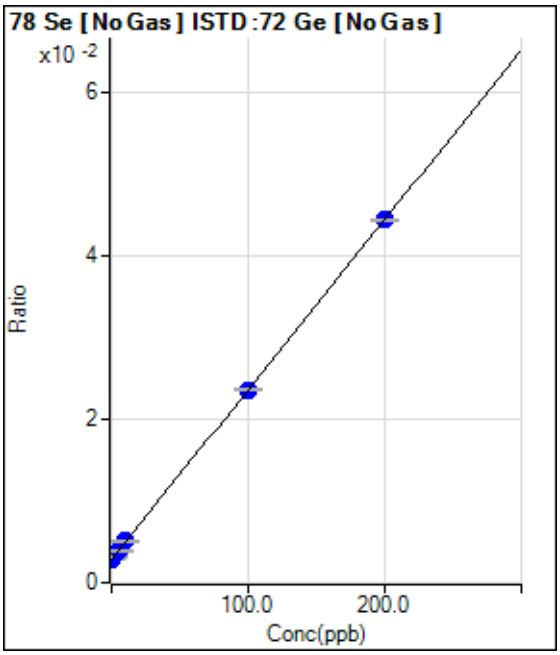
Weight: <None>
Min Conc: <None>




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 43.33 | 0.0001 | P | 47.9 |
| 2 | ☐ | 2.000 | 0.502 | 53.33 | 0.0001 | P | 29.0 |
| 3 | ☐ | 5.000 | 4.556 | 130.00 | 0.0003 | P | 27.9 |
| 4 | ☐ | 10.000 | 10.396 | 240.01 | 0.0005 | P | 12.5 |
| 5 | ☐ | 100.000 | 98.922 | 1856.83 | 0.0040 | P | 7.8 |
| 6 | ☐ | 200.000 | 200.546 | 3613.89 | 0.0081 | P | 5.1 |

y = 3.9733E-005 * x + 9.0222E-005
R = 1.0000
DL = 3.265
BEC = 2.271

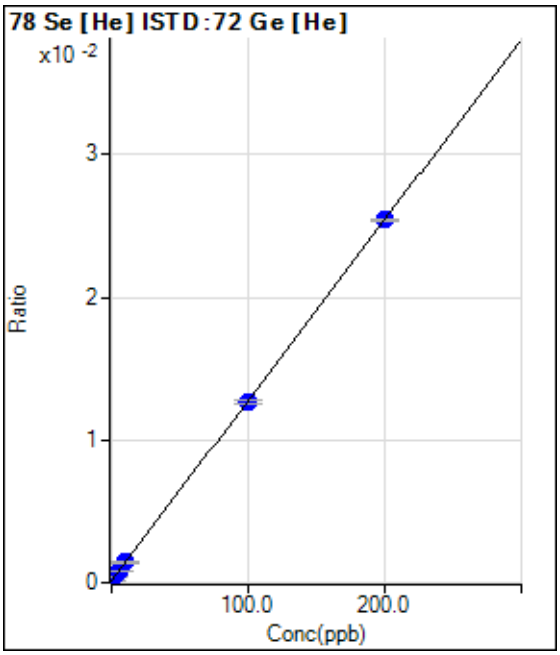
Weight: <None>
Min Conc: <None>




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 4430.82 | 0.0029 | P | 3.0 |
| 2 | ☐ | 2.000 | 1.945 | 5084.39 | 0.0033 | P | 5.3 |
| 3 | ☐ | 5.000 | 5.372 | 6148.17 | 0.0040 | P | 6.5 |
| 4 | ☐ | 10.000 | 10.892 | 7765.72 | 0.0051 | P | 4.2 |
| 5 | ☐ | 100.000 | 100.013 | 35303.23 | 0.0236 | P | 0.6 |
| 6 | ☐ | 200.000 | 199.940 | 64042.05 | 0.0444 | P | 0.8 |

y = 2.0759E-004 * x + 0.0029
R = 1.0000
DL = 1.244
BEC = 13.74

Weight: <None>
Min Conc: <None>

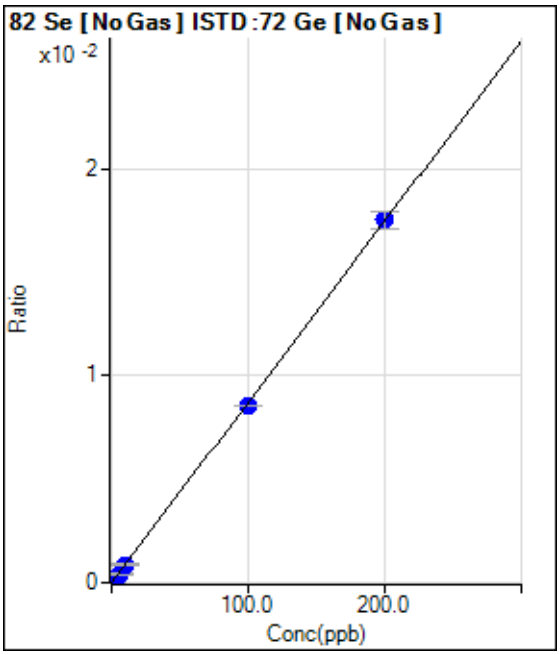



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 56.00 | 0.0001 | P | 10.5 |
| 2 | ☐ | 2.000 | 1.920 | 174.00 | 0.0004 | P | 4.7 |
| 3 | ☐ | 5.000 | 5.483 | 388.01 | 0.0008 | P | 1.6 |
| 4 | ☐ | 10.000 | 10.441 | 684.69 | 0.0014 | P | 15.0 |
| 5 | ☐ | 100.000 | 99.458 | 5856.62 | 0.0127 | P | 1.6 |
| 6 | ☐ | 200.000 | 200.238 | 11397.50 | 0.0254 | P | 0.9 |

y = 1.2634E-004 * x + 1.1665E-004
R = 1.0000
DL = 0.2905
BEC = 0.9233

Weight: <None>
Min Conc: <None>

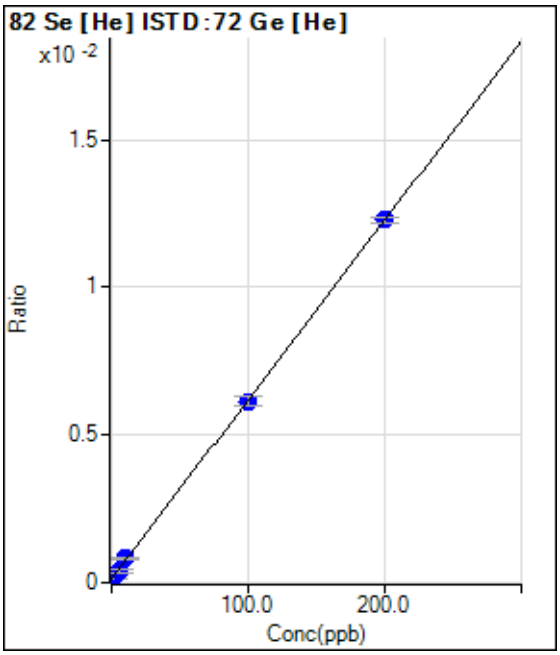
Calibration for 230_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | -5.56 | 0.0000 | P | -707.0 |
| 2 | ☐ | 2.000 | 2.259 | 301.58 | 0.0002 | P | 22.8 |
| 3 | ☐ | 5.000 | 4.680 | 627.31 | 0.0004 | P | 25.5 |
| 4 | ☐ | 10.000 | 10.048 | 1324.44 | 0.0009 | P | 14.4 |
| 5 | ☐ | 100.000 | 98.004 | 12770.63 | 0.0085 | P | 1.0 |
| 6 | ☐ | 200.000 | 201.001 | 25288.51 | 0.0175 | P | 5.0 |

y = 8.7192E-005 * x - 3.7187E-006
R = 0.9999
DL = 0.9047
BEC = -0.04265

Weight: <None>
Min Conc: <None>

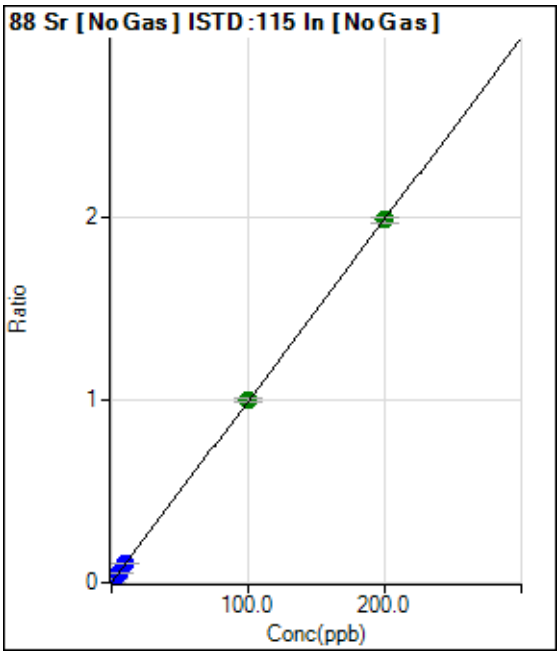



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 60.00 | 0.0001 | P | 28.8 |
| 2 | ☐ | 2.000 | 1.007 | 90.00 | 0.0002 | P | 62.0 |
| 3 | ☐ | 5.000 | 4.236 | 183.34 | 0.0004 | P | 29.3 |
| 4 | ☐ | 10.000 | 11.649 | 396.68 | 0.0008 | P | 10.2 |
| 5 | ☐ | 100.000 | 99.229 | 2840.36 | 0.0061 | P | 6.1 |
| 6 | ☐ | 200.000 | 200.332 | 5507.91 | 0.0123 | P | 1.9 |

y = 6.0679E-005 * x + 1.2499E-004
R = 0.9999
DL = 1.78
BEC = 2.06

Weight: <None>
Min Conc: <None>

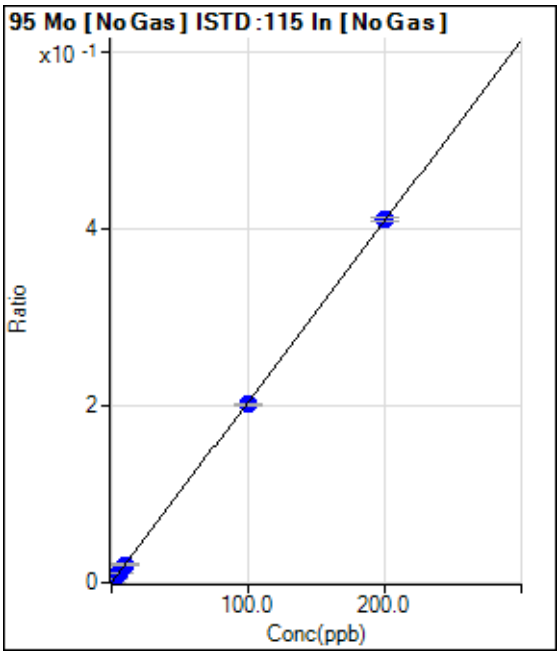
Calibration for 230_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 1456.78 | 0.0006 | P | 6.6 |
| 2 | ☐ | 2.000 | 2.015 | 48441.32 | 0.0206 | P | 1.1 |
| 3 | ☐ | 5.000 | 5.014 | 118023.07 | 0.0503 | P | 1.8 |
| 4 | ☐ | 10.000 | 10.080 | 237820.52 | 0.1006 | P | 1.3 |
| 5 | ☐ | 100.000 | 100.424 | 2268196.95 | 0.9966 | A | 1.9 |
| 6 | ☐ | 200.000 | 199.784 | 4370722.96 | 1.9821 | A | 1.3 |

y = 0.0099 * x + 6.2115E-004
R = 1.0000
DL = 0.01245
BEC = 0.06263

Weight: <None>
Min Conc: <None>

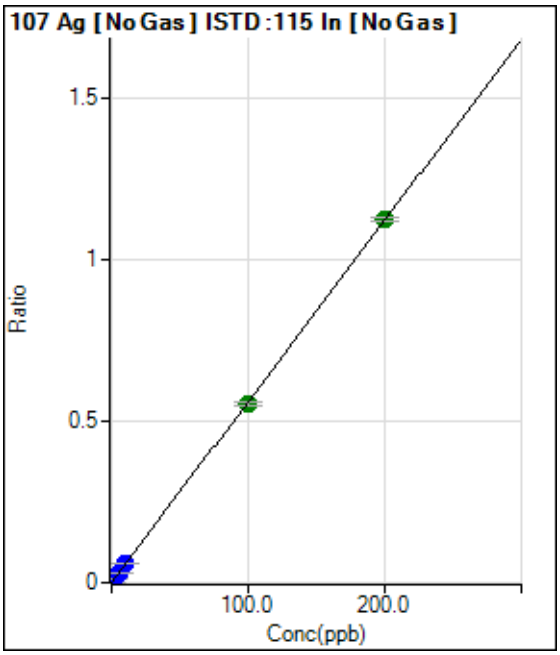



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 103.33 | 0.0000 | P | 38.9 |
| 2 | ☐ | 2.000 | 2.060 | 10013.93 | 0.0043 | P | 0.7 |
| 3 | ☐ | 5.000 | 5.019 | 24182.29 | 0.0103 | P | 1.5 |
| 4 | ☐ | 10.000 | 10.036 | 48662.35 | 0.0206 | P | 1.0 |
| 5 | ☐ | 100.000 | 98.589 | 459302.10 | 0.2018 | P | 1.4 |
| 6 | ☐ | 200.000 | 200.703 | 905795.90 | 0.4108 | P | 1.2 |

y = 0.0020 * x + 4.3988E-005
R = 1.0000
DL = 0.0251
BEC = 0.02149

Weight: <None>
Min Conc: <None>

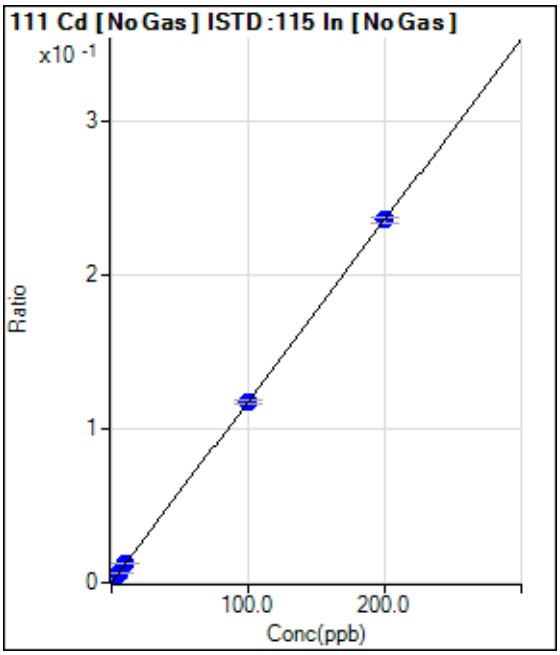
Calibration for 230_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 480.02 | 0.0002 | P | 21.3 |
| 2 | ☐ | 2.000 | 2.024 | 27114.76 | 0.0115 | P | 2.6 |
| 3 | ☐ | 5.000 | 5.062 | 66935.95 | 0.0286 | P | 0.6 |
| 4 | ☐ | 10.000 | 10.276 | 136505.24 | 0.0577 | P | 1.8 |
| 5 | ☐ | 100.000 | 99.201 | 1264694.10 | 0.5557 | A | 2.2 |
| 6 | ☐ | 200.000 | 200.384 | 2474754.18 | 1.1223 | A | 0.9 |

y = 0.0056 * x + 2.0482E-004
R = 1.0000
DL = 0.02342
BEC = 0.03658

Weight: <None>
Min Conc: <None>

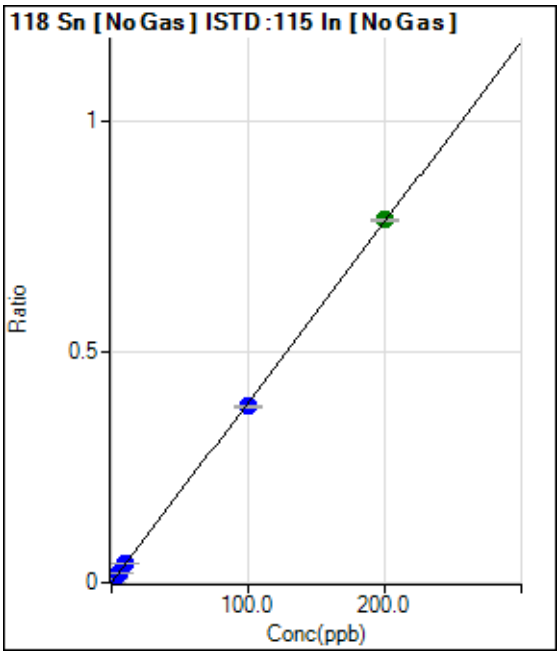



| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 0.00 | 0.0000 | P | |
| 2 | ☐ | 2.000 | 1.948 | 5397.86 | 0.0023 | P | 0.3 |
| 3 | ☐ | 5.000 | 5.065 | 13997.62 | 0.0060 | P | 0.8 |
| 4 | ☐ | 10.000 | 10.255 | 28581.09 | 0.0121 | P | 1.0 |
| 5 | ☐ | 100.000 | 99.657 | 267385.27 | 0.1175 | P | 2.0 |
| 6 | ☐ | 200.000 | 200.158 | 520303.60 | 0.2360 | P | 1.8 |

y = 0.0012 * x + 0.0000E+000
R = 1.0000
DL = 0
BEC = 0

Weight: <None>
Min Conc: <None>

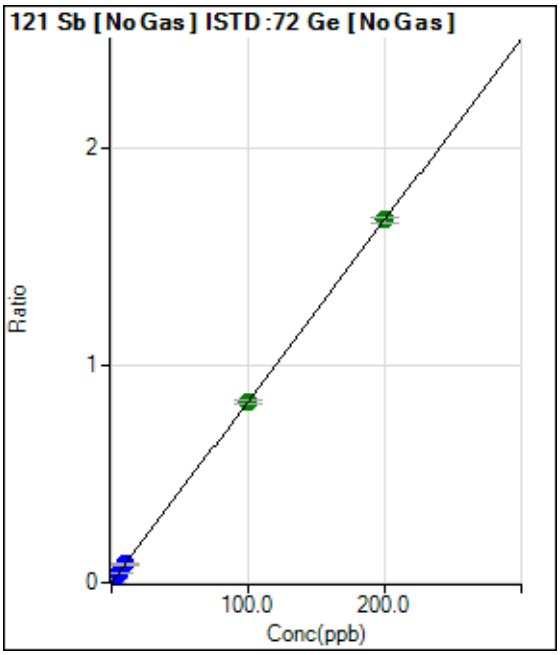
Calibration for 230_ICV.d




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 1383.44 | 0.0006 | P | 9.0 |
| 2 | ☐ | 2.000 | 2.019 | 19955.55 | 0.0085 | P | 7.5 |
| 3 | ☐ | 5.000 | 4.914 | 46442.27 | 0.0198 | P | 1.7 |
| 4 | ☐ | 10.000 | 10.018 | 94037.94 | 0.0398 | P | 0.6 |
| 5 | ☐ | 100.000 | 97.695 | 871011.71 | 0.3827 | P | 1.7 |
| 6 | ☐ | 200.000 | 201.153 | 1736196.48 | 0.7874 | A | 0.8 |

y = 0.0039 * x + 5.9006E-004
R = 0.9999
DL = 0.04082
BEC = 0.1509

Weight: <None>
Min Conc: <None>




| | Rjct | Conc. | Calc Conc. | CPS | Ratio | Det. | RSD |
|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0.000 | 0.000 | 1456.77 | 0.0009 | P | 14.1 |
| 2 | ☐ | 2.000 | 1.913 | 26343.37 | 0.0169 | P | 0.4 |
| 3 | ☐ | 5.000 | 4.794 | 63345.93 | 0.0409 | P | 0.7 |
| 4 | ☐ | 10.000 | 10.036 | 128336.38 | 0.0845 | P | 1.8 |
| 5 | ☐ | 100.000 | 99.771 | 1243277.82 | 0.8316 | A | 2.4 |
| 6 | ☐ | 200.000 | 200.119 | 2406666.79 | 1.6671 | A | 1.6 |

y = 0.0083 * x + 9.3831E-004
R = 1.0000
DL = 0.0477
BEC = 0.1127

Weight: <None>
Min Conc: <None>