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# United States Environmental Protection Agency
## Region 9 Laboratory

**1337 S. 46th Street Building 201**
**Richmond, CA 94804**

**Date:** **7/27/2017**

**Subject:** **Analytical Testing Results - Project R17S65**
**SDG: 17201B**

**From:** **Peter Husby, Director**
**EPA Region 9 Laboratory**
**EMD-3-1**

**To:** **Alana Lee**
**California Site Cleanup Section 3**
**SFD-7-3**

Attached are the results from the analysis of samples from the **MEW OU3 May 2017 Investigation** project. These data have been reviewed in accordance with EPA Region 9 Laboratory policy.

A full documentation package for these data, including raw data and sample custody documentation, is on file at the EPA Region 9 Laboratory. If you would like to request additional review and/or validation of the data, please contact Eugenia McNaughton at the Region 9 Quality Assurance Office.

If you have any questions, please ask for Richard Bauer, the Lab Project Manager at (510)412-2300.

**Analyses included in this report:**

Volatile Organic Compounds by GC/MS

United States Environmental Protection Agency
# Region 9 Laboratory
1337 S. 46th Street, Building 201, Richmond, CA 94804
Phone:(510) 412-2300 Fax:(510) 412-2302

| | | |
|---|---|---|
| **Project Manager:** Alana Lee | **California Site Cleanup Section 3** | **SDG:** 17201B |
| **Project Number:** R17S65 | **75 Hawthorne Street** | **Reported:** 07/27/17 07:45 |
| **Project:** MEW OU3 May 2017 Investigation | **San Francisco CA, 94105** | |

**ANALYTICAL REPORT FOR SAMPLES**

| Sample ID | Laboratory ID | Matrix | Date Collected | Date Received |
|---|---|---|---|---|
| SG135-10 | 1707040-01 | Air | 07/19/17 08:47 | 07/20/17 08:12 |
| SG137-6 | 1707040-02 | Air | 07/19/17 08:58 | 07/20/17 08:12 |
| SG137-10 | 1707040-03 | Air | 07/19/17 09:10 | 07/20/17 08:12 |
| SG128-6 | 1707040-04 | Air | 07/19/17 12:17 | 07/20/17 08:12 |
| SG126-6 | 1707040-05 | Air | 07/19/17 12:40 | 07/20/17 08:12 |
| F5-054-4ft | 1707040-06 | Air | 07/19/17 12:55 | 07/20/17 08:12 |
| F5-060-4ft | 1707040-07 | Air | 07/19/17 13:15 | 07/20/17 08:12 |

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| **Project Number:** R17S65 | **75 Hawthorne Street** | **Reported:** 07/27/17 07:45 | |
| **Project:** MEW OU3 May 2017 Investigation | **San Francisco CA, 94105** | | |

## Sample Results

| Analyte | Reanalysis / Extract | Result | Qualifiers / Comments | Quantitation Limit | Units | Batch | Prepared | Analyzed | Method |
|---|---|---|---|---|---|---|---|---|---|
| **Lab ID: 1707040-01** | | | | | | | | | **Air - Sampled: 07/19/17 08:47** |
| **Sample ID: SG135-10** | | | | | | | | | **Volatile Organic Compounds by TO-15** |
| Vinyl chloride | | 100 | | 60 | ug/m³ Air | B17G071 | 07/20/17 | 07/20/17 | TO-15 |
| 1,1-Dichloroethene | | ND | U | 90 | " | " | " | " | TO-15 |
| trans-1,2-Dichloroethene | RE1 | 11,000 | | 7,500 | " | B17G093 | 07/21/17 | 07/24/17 | TO-15 |
| cis-1,2-Dichloroethene | RE1 | 24,000 | | 7,500 | " | " | " | " | TO-15 |
| Chloroform | | ND | U | 100 | " | B17G071 | 07/20/17 | 07/20/17 | TO-15 |
| Benzene | | ND | U | 70 | " | " | " | " | TO-15 |
| Trichloroethene | RE3 | 380,000 | | 22,000 | " | B17G093 | 07/25/17 | 07/25/17 | TO-15 |
| Tetrachloroethene | | 200 | | 200 | " | B17G071 | 07/20/17 | 07/20/17 | TO-15 |
| **Lab ID: 1707040-02** | | | | | | | | | **Air - Sampled: 07/19/17 08:58** |
| **Sample ID: SG137-6** | | | | | | | | | **Volatile Organic Compounds by TO-15** |
| Vinyl chloride | | ND | U | 80 | ug/m³ Air | B17G071 | 07/20/17 | 07/20/17 | TO-15 |
| 1,1-Dichloroethene | | ND | U | 100 | " | " | " | " | TO-15 |
| trans-1,2-Dichloroethene | RE2 | 2,700 | | 1,000 | " | B17G093 | 07/21/17 | 07/25/17 | TO-15 |
| cis-1,2-Dichloroethene | | 2,200 | | 100 | " | B17G071 | 07/20/17 | 07/20/17 | TO-15 |
| Chloroform | | 90 | C1, J | 100 | " | " | " | " | TO-15 |
| Benzene | | ND | U | 100 | " | " | " | " | TO-15 |
| Trichloroethene | RE1 | 210,000 | | 14,000 | " | B17G093 | 07/21/17 | 07/24/17 | TO-15 |
| Tetrachloroethene | | ND | U | 200 | " | B17G071 | 07/20/17 | 07/20/17 | TO-15 |
| **Lab ID: 1707040-03** | | | | | | | | | **Air - Sampled: 07/19/17 09:10** |
| **Sample ID: SG137-10** | | | | | | | | | **Volatile Organic Compounds by TO-15** |
| Vinyl chloride | | ND | U | 90 | ug/m³ Air | B17G071 | 07/20/17 | 07/20/17 | TO-15 |
| 1,1-Dichloroethene | | ND | U | 100 | " | " | " | " | TO-15 |
| trans-1,2-Dichloroethene | RE2 | 3,100 | | 1,100 | " | B17G093 | 07/21/17 | 07/25/17 | TO-15 |
| cis-1,2-Dichloroethene | RE2 | 6,800 | | 1,100 | " | " | " | " | TO-15 |
| Chloroform | | 80 | C1, J | 200 | " | B17G071 | 07/20/17 | 07/20/17 | TO-15 |
| Benzene | | ND | U | 100 | " | " | " | " | TO-15 |
| Trichloroethene | RE1 | 200,000 | | 15,000 | " | B17G093 | 07/21/17 | 07/24/17 | TO-15 |
| Tetrachloroethene | | 100 | C1, J | 200 | " | B17G071 | 07/20/17 | 07/20/17 | TO-15 |
| **Lab ID: 1707040-04** | | | | | | | | | **Air - Sampled: 07/19/17 12:17** |
| **Sample ID: SG128-6** | | | | | | | | | **Volatile Organic Compounds by TO-15** |
| Vinyl chloride | | ND | U | 60 | ug/m³ Air | B17G071 | 07/20/17 | 07/21/17 | TO-15 |
| 1,1-Dichloroethene | | ND | U | 100 | " | " | " | " | TO-15 |
| trans-1,2-Dichloroethene | RE2 | 7,800 | | 800 | " | B17G093 | 07/21/17 | 07/25/17 | TO-15 |
| cis-1,2-Dichloroethene | RE2 | 2,700 | | 800 | " | " | " | " | TO-15 |
| Chloroform | | ND | U | 100 | " | B17G071 | 07/20/17 | 07/21/17 | TO-15 |
| Benzene | | ND | U | 80 | " | " | " | " | TO-15 |
| Trichloroethene | RE1 | 110,000 | | 11,000 | " | B17G093 | 07/21/17 | 07/24/17 | TO-15 |
| Tetrachloroethene | | ND | U | 200 | " | B17G071 | 07/20/17 | 07/21/17 | TO-15 |

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| **Project Manager:** Alana Lee | **California Site Cleanup Section 3** | **SDG:** 17201B |
| **Project Number:** R17S65 | **75 Hawthorne Street** | **Reported:** 07/27/17 07:45 |
| **Project:** MEW OU3 May 2017 Investigation | **San Francisco CA, 94105** | |

## Sample Results

| Analyte | Reanalysis / Extract | Result | Qualifiers / Comments | Quantitation Limit | Units | Batch | Prepared | Analyzed | Method |
|---|---|---|---|---|---|---|---|---|---|
| **Lab ID: 1707040-05** | | | | | | | | | **Air - Sampled: 07/19/17 12:40** |
| **Sample ID: SG126-6** | | | | | | | | | **Volatile Organic Compounds by TO-15** |
| Vinyl chloride | RE1 | ND | U | 40 | ug/m³ Air | B17G093 | 07/21/17 | 07/25/17 | TO-15 |
| 1,1-Dichloroethene | RE1 | ND | U | 70 | " | " | " | " | TO-15 |
| trans-1,2-Dichloroethene | RE1 | 700 | | 70 | " | " | " | " | TO-15 |
| cis-1,2-Dichloroethene | RE1 | 200 | | 70 | " | " | " | " | TO-15 |
| Chloroform | RE1 | 40 | C1, J | 90 | " | " | " | " | TO-15 |
| Benzene | RE1 | ND | U | 60 | " | " | " | " | TO-15 |
| Trichloroethene | RE2 | 76,000 | | 6,300 | " | " | 07/21/17 | 07/25/17 | TO-15 |
| Tetrachloroethene | RE1 | ND | U | 100 | " | " | 07/21/17 | 07/25/17 | TO-15 |
| **Lab ID: 1707040-06** | | | | | | | | | **Air - Sampled: 07/19/17 12:55** |
| **Sample ID: F5-054-4ft** | | | | | | | | | **Volatile Organic Compounds by TO-15** |
| Vinyl chloride | | ND | U | 5 | ug/m³ Air | B17G071 | 07/20/17 | 07/20/17 | TO-15 |
| 1,1-Dichloroethene | | ND | U | 8 | " | " | " | " | TO-15 |
| trans-1,2-Dichloroethene | | ND | U | 8 | " | " | " | " | TO-15 |
| cis-1,2-Dichloroethene | | 10 | | 8 | " | " | " | " | TO-15 |
| Chloroform | | 10 | C1 | 10 | " | " | " | " | TO-15 |
| Benzene | | ND | U | 7 | " | " | " | " | TO-15 |
| Trichloroethene | | 40 | | 10 | " | " | " | " | TO-15 |
| Tetrachloroethene | | 9 | C1, J | 10 | " | " | " | " | TO-15 |
| **Lab ID: 1707040-07** | | | | | | | | | **Air - Sampled: 07/19/17 13:15** |
| **Sample ID: F5-060-4ft** | | | | | | | | | **Volatile Organic Compounds by TO-15** |
| Vinyl chloride | | ND | U | 5 | ug/m³ Air | B17G071 | 07/20/17 | 07/20/17 | TO-15 |
| 1,1-Dichloroethene | | ND | U | 8 | " | " | " | " | TO-15 |
| trans-1,2-Dichloroethene | | ND | U | 8 | " | " | " | " | TO-15 |
| cis-1,2-Dichloroethene | | 10 | | 8 | " | " | " | " | TO-15 |
| Chloroform | | 20 | | 10 | " | " | " | " | TO-15 |
| Benzene | | ND | U | 7 | " | " | " | " | TO-15 |
| Trichloroethene | RE2 | 1,700 | | 100 | " | B17G093 | " | 07/25/17 | TO-15 |
| Tetrachloroethene | | 200 | | 10 | " | B17G071 | " | 07/20/17 | TO-15 |

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| **Project Number:** | R17S65 | **75 Hawthorne Street** | | **Reported:** | 07/27/17 07:45 |
| **Project:** | MEW OU3 May 2017 Investigation | **San Francisco CA, 94105** | | | |

## Volatile Organic Compounds by TO-15 - Quality Control

## EPA Region 9 Laboratory

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch B17G071 - Air_Can_Pressure** | | | | | | | | | | |
| **Blank (B17G071-BLK1)** | | | | Prepared & Analyzed: 07/20/17 | | | | | | |
| Vinyl chloride | ND | 3 | ug/m³ Air | | | | | | | U |
| 1,1-Dichloroethene | ND | 4 | ug/m³ Air | | | | | | | U |
| trans-1,2-Dichloroethene | ND | 4 | ug/m³ Air | | | | | | | U |
| cis-1,2-Dichloroethene | ND | 4 | ug/m³ Air | | | | | | | U |
| Chloroform | ND | 5 | ug/m³ Air | | | | | | | U |
| Benzene | ND | 3 | ug/m³ Air | | | | | | | U |
| Trichloroethene | ND | 5 | ug/m³ Air | | | | | | | U |
| Tetrachloroethene | ND | 7 | ug/m³ Air | | | | | | | U |
| **LCS (B17G071-BS1)** | | | | Prepared & Analyzed: 07/20/17 | | | | | | |
| 1,2-Dichlorotetrafluoroethane | 69 | 7 | ug/m³ Air | 70.5 | | 99 | 67-127 | | | |
| Chloromethane | 22 | 2 | ug/m³ Air | 22.7 | | 96 | 70-123 | | | |
| Vinyl chloride | 26 | 3 | ug/m³ Air | 27.3 | | 96 | 69-125 | | | |
| Bromomethane | 41 | 4 | ug/m³ Air | 41.5 | | 100 | 66-125 | | | |
| Chloroethane | 28 | 3 | ug/m³ Air | 27.7 | | 99 | 67-125 | | | |
| Trichlorofluoromethane | 57 | 6 | ug/m³ Air | 56.1 | | 101 | 68-133 | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 72 | 8 | ug/m³ Air | 72.0 | | 100 | 64-125 | | | |
| 1,1-Dichloroethene | 43 | 4 | ug/m³ Air | 40.8 | | 105 | 73-128 | | | |
| Dichloromethane | 31 | 3 | ug/m³ Air | 33.7 | | 92 | 73-116 | | | |
| trans-1,2-Dichloroethene | 45 | 4 | ug/m³ Air | 43.6 | | 102 | 80-123 | | | |
| 1,1-Dichloroethane | 40 | 4 | ug/m³ Air | 40.0 | | 100 | 72-125 | | | |
| cis-1,2-Dichloroethene | 44 | 4 | ug/m³ Air | 41.2 | | 107 | 77-129 | | | |
| Chloroform | 52 | 5 | ug/m³ Air | 52.2 | | 101 | 77-126 | | | |
| 1,1,1-Trichloroethane | 58 | 5 | ug/m³ Air | 56.2 | | 103 | 74-133 | | | |
| Carbon tetrachloride | 67 | 6 | ug/m³ Air | 65.4 | | 103 | 71-141 | | | |
| Benzene | 34 | 3 | ug/m³ Air | 34.2 | | 99 | 81-125 | | | |
| 1,2-Dichloroethane | 42 | 4 | ug/m³ Air | 42.1 | | 99 | 61-153 | | | |
| Trichloroethene | 61 | 5 | ug/m³ Air | 59.1 | | 103 | 73-128 | | | |
| 1,2-Dichloropropane | 50 | 5 | ug/m³ Air | 49.4 | | 101 | 77-129 | | | |
| cis-1,3-Dichloropropene | 51 | 5 | ug/m³ Air | 47.2 | | 108 | 80-136 | | | |
| Toluene | 41 | 4 | ug/m³ Air | 40.7 | | 100 | 78-133 | | | |
| trans-1,3-Dichloropropene | 46 | 5 | ug/m³ Air | 44.0 | | 104 | 79-146 | | | |
| 1,1,2-Trichloroethane | 57 | 5 | ug/m³ Air | 59.4 | | 97 | 74-134 | | | |
| Tetrachloroethene | 72 | 7 | ug/m³ Air | 73.2 | | 98 | 73-130 | | | |
| 1,2-Dibromoethane (EDB) | 84 | 8 | ug/m³ Air | 84.4 | | 100 | 78-133 | | | |
| Chlorobenzene | 48 | 5 | ug/m³ Air | 50.6 | | 95 | 81-126 | | | |
| Ethylbenzene | 47 | 4 | ug/m³ Air | 47.3 | | 98 | 82-130 | | | |
| m&p-Xylene | 93 | 9 | ug/m³ Air | 93.7 | | 99 | 82-131 | | | |
| o-Xylene | 48 | 4 | ug/m³ Air | 46.0 | | 104 | 82-132 | | | |
| Styrene | 44 | 4 | ug/m³ Air | 43.8 | | 101 | 65-141 | | | |
| 1,1,2,2-Tetrachloroethane | 69 | 7 | ug/m³ Air | 72.0 | | 96 | 73-127 | | | |

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| **Project Number:** | R17S65 | **75 Hawthorne Street** | | **Reported:** | 07/27/17 07:45 |
| **Project:** | MEW OU3 May 2017 Investigation | **San Francisco CA, 94105** | | | |

## Volatile Organic Compounds by TO-15 - Quality Control

## EPA Region 9 Laboratory

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch B17G071 - Air_Can_Pressure** | | | | | | | | | | |
| **LCS (B17G071-BS1)** | | | | Prepared & Analyzed: 07/20/17 | | | | | | |
| 1,3,5-Trimethylbenzene | 53 | 5 | ug/m³ Air | 52.6 | | 100 | 77-132 | | | |
| 1,2,4-Trimethylbenzene | 55 | 5 | ug/m³ Air | 52.1 | | 106 | 78-131 | | | |
| 1,3-Dichlorobenzene | 63 | 6 | ug/m³ Air | 63.1 | | 101 | 79-124 | | | |
| 1,4-Dichlorobenzene | 65 | 6 | ug/m³ Air | 63.7 | | 102 | 75-127 | | | |
| 1,2-Dichlorobenzene | 63 | 6 | ug/m³ Air | 62.5 | | 102 | 77-124 | | | |
| 1,2,4-Trichlorobenzene | 73 | 7 | ug/m³ Air | 69.7 | | 104 | 55-132 | | | |
| Hexachlorobutadiene | 104 | 10 | ug/m³ Air | 105 | | 99 | 52-131 | | | |
| **Duplicate (B17G071-DUP2)** | | **Source: 1707040-01** | | Prepared & Analyzed: 07/20/17 | | | | | | |
| Vinyl chloride | 100 | 60 | ug/m³ Air | | 100 | | | 7 | 20 | |
| 1,1-Dichloroethene | ND | 90 | ug/m³ Air | | ND | | | | 20 | U |
| Chloroform | ND | 100 | ug/m³ Air | | ND | | | | 20 | U |
| Benzene | ND | 70 | ug/m³ Air | | ND | | | | 20 | U |
| Tetrachloroethene | 100 | 200 | ug/m³ Air | | 200 | | | 3 | 20 | J |
| **Batch B17G093 - Air_Can_Pressure** | | | | | | | | | | |
| **Blank (B17G093-BLK1)** | | | | Prepared & Analyzed: 07/24/17 | | | | | | |
| Vinyl chloride | ND | 3 | ug/m³ Air | | | | | | | U |
| 1,1-Dichloroethene | ND | 4 | ug/m³ Air | | | | | | | U |
| trans-1,2-Dichloroethene | ND | 4 | ug/m³ Air | | | | | | | U |
| cis-1,2-Dichloroethene | ND | 4 | ug/m³ Air | | | | | | | U |
| Chloroform | ND | 5 | ug/m³ Air | | | | | | | U |
| Benzene | ND | 3 | ug/m³ Air | | | | | | | U |
| Trichloroethene | ND | 5 | ug/m³ Air | | | | | | | U |
| Tetrachloroethene | ND | 7 | ug/m³ Air | | | | | | | U |

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| **Project Number:** | R17S65 | **75 Hawthorne Street** | | **Reported:** | 07/27/17 07:45 |
| **Project:** | MEW OU3 May 2017 Investigation | **San Francisco CA, 94105** | | | |

## Volatile Organic Compounds by TO-15 - Quality Control

## EPA Region 9 Laboratory

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch B17G093 - Air_Can_Pressure** | | | | | | | | | | |
| **LCS (B17G093-BS1)** | | | | Prepared & Analyzed: 07/24/17 | | | | | | |
| 1,2-Dichlorotetrafluoroethane | 69 | 7 | ug/m³ Air | 70.5 | | 98 | 67-127 | | | |
| Chloromethane | 21 | 2 | ug/m³ Air | 22.7 | | 91 | 70-123 | | | |
| Vinyl chloride | 26 | 3 | ug/m³ Air | 27.3 | | 94 | 69-125 | | | |
| Bromomethane | 41 | 4 | ug/m³ Air | 41.5 | | 99 | 66-125 | | | |
| Chloroethane | 27 | 3 | ug/m³ Air | 27.7 | | 96 | 67-125 | | | |
| Trichlorofluoromethane | 59 | 6 | ug/m³ Air | 56.1 | | 105 | 68-133 | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 74 | 8 | ug/m³ Air | 72.0 | | 102 | 64-125 | | | |
| 1,1-Dichloroethene | 41 | 4 | ug/m³ Air | 40.8 | | 100 | 73-128 | | | |
| Dichloromethane | 42 | 3 | ug/m³ Air | 33.7 | | 125 | 73-116 | | | |
| trans-1,2-Dichloroethene | 44 | 4 | ug/m³ Air | 43.6 | | 101 | 80-123 | | | |
| 1,1-Dichloroethane | 39 | 4 | ug/m³ Air | 40.0 | | 98 | 72-125 | | | |
| cis-1,2-Dichloroethene | 42 | 4 | ug/m³ Air | 41.2 | | 103 | 77-129 | | | |
| Chloroform | 54 | 5 | ug/m³ Air | 52.2 | | 103 | 77-126 | | | |
| 1,1,1-Trichloroethane | 60 | 5 | ug/m³ Air | 56.2 | | 106 | 74-133 | | | |
| Carbon tetrachloride | 70 | 6 | ug/m³ Air | 65.4 | | 107 | 71-141 | | | |
| Benzene | 33 | 3 | ug/m³ Air | 34.2 | | 97 | 81-125 | | | |
| 1,2-Dichloroethane | 42 | 4 | ug/m³ Air | 42.1 | | 100 | 61-153 | | | |
| Trichloroethene | 59 | 5 | ug/m³ Air | 59.1 | | 100 | 73-128 | | | |
| 1,2-Dichloropropane | 47 | 5 | ug/m³ Air | 49.4 | | 96 | 77-129 | | | |
| cis-1,3-Dichloropropene | 49 | 5 | ug/m³ Air | 47.2 | | 104 | 80-136 | | | |
| Toluene | 41 | 4 | ug/m³ Air | 40.7 | | 102 | 78-133 | | | |
| trans-1,3-Dichloropropene | 45 | 5 | ug/m³ Air | 44.0 | | 103 | 79-146 | | | |
| 1,1,2-Trichloroethane | 58 | 5 | ug/m³ Air | 59.4 | | 98 | 74-134 | | | |
| Tetrachloroethene | 74 | 7 | ug/m³ Air | 73.2 | | 101 | 73-130 | | | |
| 1,2-Dibromoethane (EDB) | 85 | 8 | ug/m³ Air | 84.4 | | 101 | 78-133 | | | |
| Chlorobenzene | 49 | 5 | ug/m³ Air | 50.6 | | 98 | 81-126 | | | |
| Ethylbenzene | 47 | 4 | ug/m³ Air | 47.3 | | 100 | 82-130 | | | |
| m&p-Xylene | 95 | 9 | ug/m³ Air | 93.7 | | 102 | 82-131 | | | |
| o-Xylene | 49 | 4 | ug/m³ Air | 46.0 | | 107 | 82-132 | | | |
| Styrene | 45 | 4 | ug/m³ Air | 43.8 | | 103 | 65-141 | | | |
| 1,1,2,2-Tetrachloroethane | 71 | 7 | ug/m³ Air | 72.0 | | 98 | 73-127 | | | |
| 1,3,5-Trimethylbenzene | 55 | 5 | ug/m³ Air | 52.6 | | 104 | 77-132 | | | |
| 1,2,4-Trimethylbenzene | 57 | 5 | ug/m³ Air | 52.1 | | 110 | 78-131 | | | |
| 1,3-Dichlorobenzene | 65 | 6 | ug/m³ Air | 63.1 | | 103 | 79-124 | | | |
| 1,4-Dichlorobenzene | 66 | 6 | ug/m³ Air | 63.7 | | 104 | 75-127 | | | |
| 1,2-Dichlorobenzene | 65 | 6 | ug/m³ Air | 62.5 | | 105 | 77-124 | | | |
| 1,2,4-Trichlorobenzene | 73 | 7 | ug/m³ Air | 69.7 | | 104 | 55-132 | | | |
| Hexachlorobutadiene | 110 | 10 | ug/m³ Air | 105 | | 104 | 52-131 | | | |

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1337 S. 46th Street, Building 201, Richmond, CA 94804
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| | | | | | |
|---|---|---|---|---|---|
| **Project Manager:** | Alana Lee | **California Site Cleanup Section 3** | | **SDG:** | 17201B |
| **Project Number:** | R17S65 | **75 Hawthorne Street** | | **Reported:** | 07/27/17 07:45 |
| **Project:** | MEW OU3 May 2017 Investigation | **San Francisco CA, 94105** | | | |

## Volatile Organic Compounds by TO-15 - Quality Control

## EPA Region 9 Laboratory

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch B17G093 - Air_Can_Pressure** | | | | | | | | | | |
| **Duplicate (B17G093-DUP1)** | | **Source: 1707040-05RE2** | | Prepared: 07/24/17 Analyzed: 07/25/17 | | | | | | |
| Trichloroethene | 79000 | 6300 | ug/m³ Air | | 76000 | | | 4 | 20 | |
| **Batch S17G091 - B17G071** | | | | | | | | | | |
| **Instrument Blank (S17G091-IBL1)** | | | | Prepared & Analyzed: 07/20/17 | | | | | | |
| 1,2-Dichlorotetrafluoroethane | ND | 7 | ppbv | | | | | | | U |
| Chloromethane | ND | 2 | ppbv | | | | | | | U |
| Vinyl chloride | ND | 3 | ppbv | | | | | | | U |
| Bromomethane | ND | 4 | ppbv | | | | | | | U |
| Chloroethane | ND | 3 | ppbv | | | | | | | U |
| Trichlorofluoromethane | ND | 6 | ppbv | | | | | | | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 8 | ppbv | | | | | | | U |
| 1,1-Dichloroethene | ND | 4 | ppbv | | | | | | | U |
| Dichloromethane | ND | 3 | ppbv | | | | | | | U |
| trans-1,2-Dichloroethene | ND | 4 | ppbv | | | | | | | U |
| 1,1-Dichloroethane | ND | 4 | ppbv | | | | | | | U |
| cis-1,2-Dichloroethene | ND | 4 | ppbv | | | | | | | U |
| Chloroform | ND | 5 | ppbv | | | | | | | U |
| 1,1,1-Trichloroethane | ND | 5 | ppbv | | | | | | | U |
| Carbon tetrachloride | ND | 6 | ppbv | | | | | | | U |
| Benzene | ND | 3 | ppbv | | | | | | | U |
| 1,2-Dichloroethane | ND | 4 | ppbv | | | | | | | U |
| Trichloroethene | ND | 5 | ppbv | | | | | | | U |
| 1,2-Dichloropropane | ND | 5 | ppbv | | | | | | | U |
| cis-1,3-Dichloropropene | ND | 5 | ppbv | | | | | | | U |
| Toluene | ND | 4 | ppbv | | | | | | | U |
| trans-1,3-Dichloropropene | ND | 5 | ppbv | | | | | | | U |
| 1,1,2-Trichloroethane | ND | 5 | ppbv | | | | | | | U |
| Tetrachloroethene | ND | 7 | ppbv | | | | | | | U |
| 1,2-Dibromoethane (EDB) | ND | 8 | ppbv | | | | | | | U |
| Chlorobenzene | ND | 5 | ppbv | | | | | | | U |
| Ethylbenzene | ND | 4 | ppbv | | | | | | | U |
| m&p-Xylene | ND | 9 | ppbv | | | | | | | U |
| o-Xylene | ND | 4 | ppbv | | | | | | | U |
| Styrene | ND | 4 | ppbv | | | | | | | U |
| 1,1,2,2-Tetrachloroethane | ND | 7 | ppbv | | | | | | | U |
| 1,3,5-Trimethylbenzene | ND | 5 | ppbv | | | | | | | U |
| 1,2,4-Trimethylbenzene | ND | 5 | ppbv | | | | | | | U |
| 1,3-Dichlorobenzene | ND | 6 | ppbv | | | | | | | U |
| 1,4-Dichlorobenzene | ND | 6 | ppbv | | | | | | | U |
| 1,2-Dichlorobenzene | ND | 6 | ppbv | | | | | | | U |
| 1,2,4-Trichlorobenzene | ND | 7 | ppbv | | | | | | | U |
| Hexachlorobutadiene | ND | 10 | ppbv | | | | | | | U |

United States Environmental Protection Agency
# Region 9 Laboratory
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Phone:(510) 412-2300 Fax:(510) 412-2302

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|---|---|---|---|---|---|
| **Project Manager:** | Alana Lee | **California Site Cleanup Section 3** | | **SDG:** | 17201B |
| **Project Number:** | R17S65 | **75 Hawthorne Street** | | **Reported:** | 07/27/17 07:45 |
| **Project:** | MEW OU3 May 2017 Investigation | **San Francisco CA, 94105** | | | |

## Volatile Organic Compounds by TO-15 - Quality Control

## EPA Region 9 Laboratory

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch S17G091 - B17G071** | | | | | | | | | | |
| **Instrument Blank (S17G091-IBL2)** | | | | Prepared & Analyzed: 07/20/17 | | | | | | |
| 1,2-Dichlorotetrafluoroethane | ND | 7 | ppbv | | | | | | | U |
| Chloromethane | ND | 2 | ppbv | | | | | | | U |
| Vinyl chloride | ND | 3 | ppbv | | | | | | | U |
| Bromomethane | ND | 4 | ppbv | | | | | | | U |
| Chloroethane | ND | 3 | ppbv | | | | | | | U |
| Trichlorofluoromethane | ND | 6 | ppbv | | | | | | | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 8 | ppbv | | | | | | | U |
| 1,1-Dichloroethene | ND | 4 | ppbv | | | | | | | U |
| Dichloromethane | ND | 3 | ppbv | | | | | | | U |
| trans-1,2-Dichloroethene | ND | 4 | ppbv | | | | | | | U |
| 1,1-Dichloroethane | ND | 4 | ppbv | | | | | | | U |
| cis-1,2-Dichloroethene | ND | 4 | ppbv | | | | | | | U |
| Chloroform | ND | 5 | ppbv | | | | | | | U |
| 1,1,1-Trichloroethane | ND | 5 | ppbv | | | | | | | U |
| Carbon tetrachloride | ND | 6 | ppbv | | | | | | | U |
| Benzene | ND | 3 | ppbv | | | | | | | J, Q1, U |
| 1,2-Dichloroethane | ND | 4 | ppbv | | | | | | | J, Q1, U |
| Trichloroethene | ND | 5 | ppbv | | | | | | | J, Q1, U |
| 1,2-Dichloropropane | ND | 5 | ppbv | | | | | | | J, Q1, U |
| cis-1,3-Dichloropropene | ND | 5 | ppbv | | | | | | | J, Q1, U |
| Toluene | ND | 4 | ppbv | | | | | | | U |
| trans-1,3-Dichloropropene | ND | 5 | ppbv | | | | | | | U |
| 1,1,2-Trichloroethane | ND | 5 | ppbv | | | | | | | U |
| Tetrachloroethene | ND | 7 | ppbv | | | | | | | U |
| 1,2-Dibromoethane (EDB) | ND | 8 | ppbv | | | | | | | U |
| Chlorobenzene | ND | 5 | ppbv | | | | | | | U |
| Ethylbenzene | ND | 4 | ppbv | | | | | | | U |
| m&p-Xylene | ND | 9 | ppbv | | | | | | | U |
| o-Xylene | ND | 4 | ppbv | | | | | | | U |
| Styrene | ND | 4 | ppbv | | | | | | | U |
| 1,1,2,2-Tetrachloroethane | ND | 7 | ppbv | | | | | | | U |
| 1,3,5-Trimethylbenzene | ND | 5 | ppbv | | | | | | | U |
| 1,2,4-Trimethylbenzene | ND | 5 | ppbv | | | | | | | U |
| 1,3-Dichlorobenzene | ND | 6 | ppbv | | | | | | | U |
| 1,4-Dichlorobenzene | ND | 6 | ppbv | | | | | | | U |
| 1,2-Dichlorobenzene | ND | 6 | ppbv | | | | | | | U |
| 1,2,4-Trichlorobenzene | ND | 7 | ppbv | | | | | | | U |
| Hexachlorobutadiene | ND | 10 | ppbv | | | | | | | U |

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|---|---|---|---|---|---|
| **Project Manager:** | Alana Lee | **California Site Cleanup Section 3** | | **SDG:** | 17201B |
| **Project Number:** | R17S65 | **75 Hawthorne Street** | | **Reported:** | 07/27/17 07:45 |
| **Project:** | MEW OU3 May 2017 Investigation | **San Francisco CA, 94105** | | | |

## Volatile Organic Compounds by TO-15 - Quality Control

## EPA Region 9 Laboratory

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch S17G091 - B17G071** | | | | | | | | | | |
| **Instrument Blank (S17G091-IBL3)** | | | | Prepared & Analyzed: 07/20/17 | | | | | | |
| 1,2-Dichlorotetrafluoroethane | ND | 7 | ppbv | | | | | | | U |
| Chloromethane | ND | 2 | ppbv | | | | | | | U |
| Vinyl chloride | ND | 3 | ppbv | | | | | | | U |
| Bromomethane | ND | 4 | ppbv | | | | | | | U |
| Chloroethane | ND | 3 | ppbv | | | | | | | U |
| Trichlorofluoromethane | ND | 6 | ppbv | | | | | | | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 8 | ppbv | | | | | | | U |
| 1,1-Dichloroethene | ND | 4 | ppbv | | | | | | | U |
| Dichloromethane | ND | 3 | ppbv | | | | | | | U |
| trans-1,2-Dichloroethene | ND | 4 | ppbv | | | | | | | U |
| 1,1-Dichloroethane | ND | 4 | ppbv | | | | | | | U |
| cis-1,2-Dichloroethene | ND | 4 | ppbv | | | | | | | U |
| Chloroform | ND | 5 | ppbv | | | | | | | U |
| 1,1,1-Trichloroethane | ND | 5 | ppbv | | | | | | | U |
| Carbon tetrachloride | ND | 6 | ppbv | | | | | | | U |
| Benzene | ND | 3 | ppbv | | | | | | | U |
| 1,2-Dichloroethane | ND | 4 | ppbv | | | | | | | U |
| Trichloroethene | 6 | 5 | ppbv | | | | | | | |
| 1,2-Dichloropropane | ND | 5 | ppbv | | | | | | | U |
| cis-1,3-Dichloropropene | ND | 5 | ppbv | | | | | | | U |
| Toluene | ND | 4 | ppbv | | | | | | | U |
| trans-1,3-Dichloropropene | ND | 5 | ppbv | | | | | | | U |
| 1,1,2-Trichloroethane | ND | 5 | ppbv | | | | | | | U |
| Tetrachloroethene | ND | 7 | ppbv | | | | | | | U |
| 1,2-Dibromoethane (EDB) | ND | 8 | ppbv | | | | | | | U |
| Chlorobenzene | ND | 5 | ppbv | | | | | | | U |
| Ethylbenzene | ND | 4 | ppbv | | | | | | | U |
| m&p-Xylene | ND | 9 | ppbv | | | | | | | U |
| o-Xylene | ND | 4 | ppbv | | | | | | | U |
| Styrene | ND | 4 | ppbv | | | | | | | U |
| 1,1,2,2-Tetrachloroethane | ND | 7 | ppbv | | | | | | | U |
| 1,3,5-Trimethylbenzene | ND | 5 | ppbv | | | | | | | U |
| 1,2,4-Trimethylbenzene | ND | 5 | ppbv | | | | | | | U |
| 1,3-Dichlorobenzene | ND | 6 | ppbv | | | | | | | U |
| 1,4-Dichlorobenzene | ND | 6 | ppbv | | | | | | | U |
| 1,2-Dichlorobenzene | ND | 6 | ppbv | | | | | | | U |
| 1,2,4-Trichlorobenzene | ND | 7 | ppbv | | | | | | | U |
| Hexachlorobutadiene | ND | 10 | ppbv | | | | | | | U |

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# Region 9 Laboratory
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| | | | | | |
|---|---|---|---|---|---|
| **Project Manager:** | Alana Lee | **California Site Cleanup Section 3** | | **SDG:** | 17201B |
| **Project Number:** | R17S65 | **75 Hawthorne Street** | | **Reported:** | 07/27/17 07:45 |
| **Project:** | MEW OU3 May 2017 Investigation | **San Francisco CA, 94105** | | | |

## Volatile Organic Compounds by TO-15 - Quality Control

## EPA Region 9 Laboratory

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch S17G091 - B17G071** | | | | | | | | | | |
| **Instrument Blank (S17G091-IBL4)** | | | | Prepared: 07/20/17 Analyzed: 07/21/17 | | | | | | |
| 1,2-Dichlorotetrafluoroethane | ND | 7 | ppbv | | | | | | | U |
| Chloromethane | ND | 2 | ppbv | | | | | | | U |
| Vinyl chloride | ND | 3 | ppbv | | | | | | | U |
| Bromomethane | ND | 4 | ppbv | | | | | | | U |
| Chloroethane | ND | 3 | ppbv | | | | | | | U |
| Trichlorofluoromethane | ND | 6 | ppbv | | | | | | | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 8 | ppbv | | | | | | | U |
| 1,1-Dichloroethene | ND | 4 | ppbv | | | | | | | U |
| Dichloromethane | ND | 3 | ppbv | | | | | | | U |
| trans-1,2-Dichloroethene | ND | 4 | ppbv | | | | | | | U |
| 1,1-Dichloroethane | ND | 4 | ppbv | | | | | | | U |
| cis-1,2-Dichloroethene | ND | 4 | ppbv | | | | | | | U |
| Chloroform | ND | 5 | ppbv | | | | | | | U |
| 1,1,1-Trichloroethane | ND | 5 | ppbv | | | | | | | U |
| Carbon tetrachloride | ND | 6 | ppbv | | | | | | | U |
| Benzene | ND | 3 | ppbv | | | | | | | U |
| 1,2-Dichloroethane | ND | 4 | ppbv | | | | | | | U |
| Trichloroethene | 22 | 5 | ppbv | | | | | | | |
| 1,2-Dichloropropane | ND | 5 | ppbv | | | | | | | U |
| cis-1,3-Dichloropropene | ND | 5 | ppbv | | | | | | | U |
| Toluene | ND | 4 | ppbv | | | | | | | U |
| trans-1,3-Dichloropropene | ND | 5 | ppbv | | | | | | | U |
| 1,1,2-Trichloroethane | ND | 5 | ppbv | | | | | | | U |
| Tetrachloroethene | ND | 7 | ppbv | | | | | | | U |
| 1,2-Dibromoethane (EDB) | ND | 8 | ppbv | | | | | | | U |
| Chlorobenzene | ND | 5 | ppbv | | | | | | | U |
| Ethylbenzene | ND | 4 | ppbv | | | | | | | U |
| m&p-Xylene | ND | 9 | ppbv | | | | | | | U |
| o-Xylene | ND | 4 | ppbv | | | | | | | U |
| Styrene | ND | 4 | ppbv | | | | | | | U |
| 1,1,2,2-Tetrachloroethane | ND | 7 | ppbv | | | | | | | U |
| 1,3,5-Trimethylbenzene | ND | 5 | ppbv | | | | | | | U |
| 1,2,4-Trimethylbenzene | ND | 5 | ppbv | | | | | | | U |
| 1,3-Dichlorobenzene | ND | 6 | ppbv | | | | | | | U |
| 1,4-Dichlorobenzene | ND | 6 | ppbv | | | | | | | U |
| 1,2-Dichlorobenzene | ND | 6 | ppbv | | | | | | | U |
| 1,2,4-Trichlorobenzene | ND | 7 | ppbv | | | | | | | U |
| Hexachlorobutadiene | ND | 10 | ppbv | | | | | | | U |

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|---|---|---|---|---|---|
| **Project Manager:** | Alana Lee | **California Site Cleanup Section 3** | | **SDG:** | 17201B |
| **Project Number:** | R17S65 | **75 Hawthorne Street** | | **Reported:** | 07/27/17 07:45 |
| **Project:** | MEW OU3 May 2017 Investigation | **San Francisco CA, 94105** | | | |

## Volatile Organic Compounds by TO-15 - Quality Control

## EPA Region 9 Laboratory

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch S17G101 - B17G093** | | | | | | | | | | |
| **Instrument Blank (S17G101-IBL1)** | | | | Prepared & Analyzed: 07/24/17 | | | | | | |
| 1,2-Dichlorotetrafluoroethane | ND | 7 | ppbv | | | | | | | U |
| Chloromethane | ND | 2 | ppbv | | | | | | | U |
| Vinyl chloride | ND | 3 | ppbv | | | | | | | U |
| Bromomethane | ND | 4 | ppbv | | | | | | | U |
| Chloroethane | ND | 3 | ppbv | | | | | | | U |
| Trichlorofluoromethane | ND | 6 | ppbv | | | | | | | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 8 | ppbv | | | | | | | U |
| 1,1-Dichloroethene | ND | 4 | ppbv | | | | | | | U |
| Dichloromethane | 15 | 3 | ppbv | | | | | | | |
| trans-1,2-Dichloroethene | ND | 4 | ppbv | | | | | | | U |
| 1,1-Dichloroethane | ND | 4 | ppbv | | | | | | | U |
| cis-1,2-Dichloroethene | ND | 4 | ppbv | | | | | | | U |
| Chloroform | ND | 5 | ppbv | | | | | | | U |
| 1,1,1-Trichloroethane | ND | 5 | ppbv | | | | | | | U |
| Carbon tetrachloride | ND | 6 | ppbv | | | | | | | U |
| Benzene | ND | 3 | ppbv | | | | | | | U |
| 1,2-Dichloroethane | ND | 4 | ppbv | | | | | | | U |
| Trichloroethene | ND | 5 | ppbv | | | | | | | U |
| 1,2-Dichloropropane | ND | 5 | ppbv | | | | | | | U |
| cis-1,3-Dichloropropene | ND | 5 | ppbv | | | | | | | U |
| Toluene | ND | 4 | ppbv | | | | | | | U |
| trans-1,3-Dichloropropene | ND | 5 | ppbv | | | | | | | U |
| 1,1,2-Trichloroethane | ND | 5 | ppbv | | | | | | | U |
| Tetrachloroethene | ND | 7 | ppbv | | | | | | | U |
| 1,2-Dibromoethane (EDB) | ND | 8 | ppbv | | | | | | | U |
| Chlorobenzene | ND | 5 | ppbv | | | | | | | U |
| Ethylbenzene | ND | 4 | ppbv | | | | | | | U |
| m&p-Xylene | ND | 9 | ppbv | | | | | | | U |
| o-Xylene | ND | 4 | ppbv | | | | | | | U |
| Styrene | ND | 4 | ppbv | | | | | | | U |
| 1,1,2,2-Tetrachloroethane | ND | 7 | ppbv | | | | | | | U |
| 1,3,5-Trimethylbenzene | ND | 5 | ppbv | | | | | | | U |
| 1,2,4-Trimethylbenzene | ND | 5 | ppbv | | | | | | | U |
| 1,3-Dichlorobenzene | ND | 6 | ppbv | | | | | | | U |
| 1,4-Dichlorobenzene | ND | 6 | ppbv | | | | | | | U |
| 1,2-Dichlorobenzene | ND | 6 | ppbv | | | | | | | U |
| 1,2,4-Trichlorobenzene | ND | 7 | ppbv | | | | | | | U |
| Hexachlorobutadiene | ND | 10 | ppbv | | | | | | | U |

United States Environmental Protection Agency
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| **Project Manager:** | Alana Lee | **California Site Cleanup Section 3** | | **SDG:** | 17201B |
| **Project Number:** | R17S65 | **75 Hawthorne Street** | | **Reported:** | 07/27/17 07:45 |
| **Project:** | MEW OU3 May 2017 Investigation | **San Francisco CA, 94105** | | | |

## Volatile Organic Compounds by TO-15 - Quality Control

## EPA Region 9 Laboratory

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch S17G101 - B17G093** | | | | | | | | | | |
| **Instrument Blank (S17G101-IBL2)** | | | | Prepared: 07/24/17 Analyzed: 07/25/17 | | | | | | |
| 1,2-Dichlorotetrafluoroethane | ND | 7 | ppbv | | | | | | | U |
| Chloromethane | ND | 2 | ppbv | | | | | | | U |
| Vinyl chloride | ND | 3 | ppbv | | | | | | | U |
| Bromomethane | ND | 4 | ppbv | | | | | | | U |
| Chloroethane | ND | 3 | ppbv | | | | | | | U |
| Trichlorofluoromethane | ND | 6 | ppbv | | | | | | | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 8 | ppbv | | | | | | | U |
| 1,1-Dichloroethene | ND | 4 | ppbv | | | | | | | U |
| Dichloromethane | 16 | 3 | ppbv | | | | | | | |
| trans-1,2-Dichloroethene | ND | 4 | ppbv | | | | | | | U |
| 1,1-Dichloroethane | ND | 4 | ppbv | | | | | | | U |
| cis-1,2-Dichloroethene | ND | 4 | ppbv | | | | | | | U |
| Chloroform | ND | 5 | ppbv | | | | | | | U |
| 1,1,1-Trichloroethane | ND | 5 | ppbv | | | | | | | U |
| Carbon tetrachloride | ND | 6 | ppbv | | | | | | | U |
| Benzene | ND | 3 | ppbv | | | | | | | U |
| 1,2-Dichloroethane | ND | 4 | ppbv | | | | | | | U |
| Trichloroethene | ND | 5 | ppbv | | | | | | | U |
| 1,2-Dichloropropane | ND | 5 | ppbv | | | | | | | U |
| cis-1,3-Dichloropropene | ND | 5 | ppbv | | | | | | | U |
| Toluene | ND | 4 | ppbv | | | | | | | U |
| trans-1,3-Dichloropropene | ND | 5 | ppbv | | | | | | | U |
| 1,1,2-Trichloroethane | ND | 5 | ppbv | | | | | | | U |
| Tetrachloroethene | ND | 7 | ppbv | | | | | | | U |
| 1,2-Dibromoethane (EDB) | ND | 8 | ppbv | | | | | | | U |
| Chlorobenzene | ND | 5 | ppbv | | | | | | | U |
| Ethylbenzene | ND | 4 | ppbv | | | | | | | U |
| m&p-Xylene | ND | 9 | ppbv | | | | | | | U |
| o-Xylene | ND | 4 | ppbv | | | | | | | U |
| Styrene | ND | 4 | ppbv | | | | | | | U |
| 1,1,2,2-Tetrachloroethane | ND | 7 | ppbv | | | | | | | U |
| 1,3,5-Trimethylbenzene | ND | 5 | ppbv | | | | | | | U |
| 1,2,4-Trimethylbenzene | ND | 5 | ppbv | | | | | | | U |
| 1,3-Dichlorobenzene | ND | 6 | ppbv | | | | | | | U |
| 1,4-Dichlorobenzene | ND | 6 | ppbv | | | | | | | U |
| 1,2-Dichlorobenzene | ND | 6 | ppbv | | | | | | | U |
| 1,2,4-Trichlorobenzene | ND | 7 | ppbv | | | | | | | U |
| Hexachlorobutadiene | ND | 10 | ppbv | | | | | | | U |

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|---|---|---|---|---|---|
| **Project Manager:** | Alana Lee | **California Site Cleanup Section 3** | | **SDG:** | 17201B |
| **Project Number:** | R17S65 | **75 Hawthorne Street** | | **Reported:** | 07/27/17 07:45 |
| **Project:** | MEW OU3 May 2017 Investigation | **San Francisco CA, 94105** | | | |

## Volatile Organic Compounds by TO-15 - Quality Control

## EPA Region 9 Laboratory

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch S17G101 - B17G093** | | | | | | | | | | |
| **Instrument Blank (S17G101-IBL3)** | | | | Prepared: 07/24/17 Analyzed: 07/25/17 | | | | | | |
| 1,2-Dichlorotetrafluoroethane | ND | 7 | ppbv | | | | | | | U |
| Chloromethane | ND | 2 | ppbv | | | | | | | U |
| Vinyl chloride | ND | 3 | ppbv | | | | | | | U |
| Bromomethane | ND | 4 | ppbv | | | | | | | U |
| Chloroethane | ND | 3 | ppbv | | | | | | | U |
| Trichlorofluoromethane | ND | 6 | ppbv | | | | | | | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 8 | ppbv | | | | | | | U |
| 1,1-Dichloroethene | ND | 4 | ppbv | | | | | | | U |
| Dichloromethane | 18 | 3 | ppbv | | | | | | | |
| trans-1,2-Dichloroethene | ND | 4 | ppbv | | | | | | | U |
| 1,1-Dichloroethane | ND | 4 | ppbv | | | | | | | U |
| cis-1,2-Dichloroethene | ND | 4 | ppbv | | | | | | | U |
| Chloroform | ND | 5 | ppbv | | | | | | | U |
| 1,1,1-Trichloroethane | ND | 5 | ppbv | | | | | | | U |
| Carbon tetrachloride | ND | 6 | ppbv | | | | | | | U |
| Benzene | ND | 3 | ppbv | | | | | | | U |
| 1,2-Dichloroethane | ND | 4 | ppbv | | | | | | | U |
| Trichloroethene | ND | 5 | ppbv | | | | | | | U |
| 1,2-Dichloropropane | ND | 5 | ppbv | | | | | | | U |
| cis-1,3-Dichloropropene | ND | 5 | ppbv | | | | | | | U |
| Toluene | ND | 4 | ppbv | | | | | | | U |
| trans-1,3-Dichloropropene | ND | 5 | ppbv | | | | | | | U |
| 1,1,2-Trichloroethane | ND | 5 | ppbv | | | | | | | U |
| Tetrachloroethene | ND | 7 | ppbv | | | | | | | U |
| 1,2-Dibromoethane (EDB) | ND | 8 | ppbv | | | | | | | U |
| Chlorobenzene | ND | 5 | ppbv | | | | | | | U |
| Ethylbenzene | ND | 4 | ppbv | | | | | | | U |
| m&p-Xylene | ND | 9 | ppbv | | | | | | | U |
| o-Xylene | ND | 4 | ppbv | | | | | | | U |
| Styrene | ND | 4 | ppbv | | | | | | | U |
| 1,1,2,2-Tetrachloroethane | ND | 7 | ppbv | | | | | | | U |
| 1,3,5-Trimethylbenzene | ND | 5 | ppbv | | | | | | | U |
| 1,2,4-Trimethylbenzene | ND | 5 | ppbv | | | | | | | U |
| 1,3-Dichlorobenzene | ND | 6 | ppbv | | | | | | | U |
| 1,4-Dichlorobenzene | ND | 6 | ppbv | | | | | | | U |
| 1,2-Dichlorobenzene | ND | 6 | ppbv | | | | | | | U |
| 1,2,4-Trichlorobenzene | ND | 7 | ppbv | | | | | | | U |
| Hexachlorobutadiene | ND | 10 | ppbv | | | | | | | U |

United States Environmental Protection Agency
# Region 9 Laboratory
1337 S. 46th Street, Building 201, Richmond, CA 94804
Phone:(510) 412-2300 Fax:(510) 412-2302

| | | | | | |
|---|---|---|---|---|---|
| **Project Manager:** | Alana Lee | **California Site Cleanup Section 3** | | **SDG:** | 17201B |
| **Project Number:** | R17S65 | **75 Hawthorne Street** | | **Reported:** | 07/27/17 07:45 |
| **Project:** | MEW OU3 May 2017 Investigation | **San Francisco CA, 94105** | | | |

## Volatile Organic Compounds by TO-15 - Quality Control

## EPA Region 9 Laboratory

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch S17G101 - B17G093** | | | | | | | | | | |
| **Instrument Blank (S17G101-IBL4)** | | | | Prepared: 07/24/17 Analyzed: 07/25/17 | | | | | | |
| 1,2-Dichlorotetrafluoroethane | ND | 7 | ppbv | | | | | | | U |
| Chloromethane | ND | 2 | ppbv | | | | | | | U |
| Vinyl chloride | ND | 3 | ppbv | | | | | | | U |
| Bromomethane | ND | 4 | ppbv | | | | | | | U |
| Chloroethane | ND | 3 | ppbv | | | | | | | U |
| Trichlorofluoromethane | ND | 6 | ppbv | | | | | | | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 8 | ppbv | | | | | | | U |
| 1,1-Dichloroethene | ND | 4 | ppbv | | | | | | | U |
| Dichloromethane | 2 | 3 | ppbv | | | | | | | |
| trans-1,2-Dichloroethene | ND | 4 | ppbv | | | | | | | U |
| 1,1-Dichloroethane | ND | 4 | ppbv | | | | | | | U |
| cis-1,2-Dichloroethene | ND | 4 | ppbv | | | | | | | U |
| Chloroform | ND | 5 | ppbv | | | | | | | U |
| 1,1,1-Trichloroethane | ND | 5 | ppbv | | | | | | | U |
| Carbon tetrachloride | ND | 6 | ppbv | | | | | | | U |
| Benzene | ND | 3 | ppbv | | | | | | | U |
| 1,2-Dichloroethane | ND | 4 | ppbv | | | | | | | U |
| Trichloroethene | ND | 5 | ppbv | | | | | | | U |
| 1,2-Dichloropropane | ND | 5 | ppbv | | | | | | | U |
| cis-1,3-Dichloropropene | ND | 5 | ppbv | | | | | | | U |
| Toluene | ND | 4 | ppbv | | | | | | | U |
| trans-1,3-Dichloropropene | ND | 5 | ppbv | | | | | | | U |
| 1,1,2-Trichloroethane | ND | 5 | ppbv | | | | | | | U |
| Tetrachloroethene | ND | 7 | ppbv | | | | | | | U |
| 1,2-Dibromoethane (EDB) | ND | 8 | ppbv | | | | | | | U |
| Chlorobenzene | ND | 5 | ppbv | | | | | | | U |
| Ethylbenzene | ND | 4 | ppbv | | | | | | | U |
| m&p-Xylene | ND | 9 | ppbv | | | | | | | U |
| o-Xylene | ND | 4 | ppbv | | | | | | | U |
| Styrene | ND | 4 | ppbv | | | | | | | U |
| 1,1,2,2-Tetrachloroethane | ND | 7 | ppbv | | | | | | | U |
| 1,3,5-Trimethylbenzene | ND | 5 | ppbv | | | | | | | U |
| 1,2,4-Trimethylbenzene | ND | 5 | ppbv | | | | | | | U |
| 1,3-Dichlorobenzene | ND | 6 | ppbv | | | | | | | U |
| 1,4-Dichlorobenzene | ND | 6 | ppbv | | | | | | | U |
| 1,2-Dichlorobenzene | ND | 6 | ppbv | | | | | | | U |
| 1,2,4-Trichlorobenzene | ND | 7 | ppbv | | | | | | | U |
| Hexachlorobutadiene | ND | 10 | ppbv | | | | | | | U |

United States Environmental Protection Agency
# Region 9 Laboratory
1337 S. 46th Street, Building 201, Richmond, CA 94804
Phone:(510) 412-2300 Fax:(510) 412-2302

| | | | | | |
|---|---|---|---|---|---|
| **Project Manager:** | Alana Lee | **California Site Cleanup Section 3** | | **SDG:** | 17201B |
| **Project Number:** | R17S65 | **75 Hawthorne Street** | | **Reported:** | 07/27/17 07:45 |
| **Project:** | MEW OU3 May 2017 Investigation | **San Francisco CA, 94105** | | | |

## Volatile Organic Compounds by TO-15 - Quality Control

## EPA Region 9 Laboratory

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch S17G101 - B17G093** | | | | | | | | | | |
| **Instrument Blank (S17G101-IBL5)** | | | | Prepared: 07/24/17 Analyzed: 07/25/17 | | | | | | |
| 1,2-Dichlorotetrafluoroethane | ND | 7 | ppbv | | | | | | | U |
| Chloromethane | ND | 2 | ppbv | | | | | | | U |
| Vinyl chloride | ND | 3 | ppbv | | | | | | | U |
| Bromomethane | ND | 4 | ppbv | | | | | | | U |
| Chloroethane | ND | 3 | ppbv | | | | | | | U |
| Trichlorofluoromethane | ND | 6 | ppbv | | | | | | | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 8 | ppbv | | | | | | | U |
| 1,1-Dichloroethene | ND | 4 | ppbv | | | | | | | U |
| Dichloromethane | ND | 3 | ppbv | | | | | | | U |
| trans-1,2-Dichloroethene | ND | 4 | ppbv | | | | | | | U |
| 1,1-Dichloroethane | ND | 4 | ppbv | | | | | | | U |
| cis-1,2-Dichloroethene | ND | 4 | ppbv | | | | | | | U |
| Chloroform | ND | 5 | ppbv | | | | | | | U |
| 1,1,1-Trichloroethane | ND | 5 | ppbv | | | | | | | U |
| Carbon tetrachloride | ND | 6 | ppbv | | | | | | | U |
| Benzene | ND | 3 | ppbv | | | | | | | U |
| 1,2-Dichloroethane | ND | 4 | ppbv | | | | | | | U |
| Trichloroethene | ND | 5 | ppbv | | | | | | | U |
| 1,2-Dichloropropane | ND | 5 | ppbv | | | | | | | U |
| cis-1,3-Dichloropropene | ND | 5 | ppbv | | | | | | | U |
| Toluene | ND | 4 | ppbv | | | | | | | U |
| trans-1,3-Dichloropropene | ND | 5 | ppbv | | | | | | | U |
| 1,1,2-Trichloroethane | ND | 5 | ppbv | | | | | | | U |
| Tetrachloroethene | ND | 7 | ppbv | | | | | | | U |
| 1,2-Dibromoethane (EDB) | ND | 8 | ppbv | | | | | | | U |
| Chlorobenzene | ND | 5 | ppbv | | | | | | | U |
| Ethylbenzene | ND | 4 | ppbv | | | | | | | U |
| m&p-Xylene | ND | 9 | ppbv | | | | | | | U |
| o-Xylene | ND | 4 | ppbv | | | | | | | U |
| Styrene | ND | 4 | ppbv | | | | | | | U |
| 1,1,2,2-Tetrachloroethane | ND | 7 | ppbv | | | | | | | U |
| 1,3,5-Trimethylbenzene | ND | 5 | ppbv | | | | | | | U |
| 1,2,4-Trimethylbenzene | ND | 5 | ppbv | | | | | | | U |
| 1,3-Dichlorobenzene | ND | 6 | ppbv | | | | | | | U |
| 1,4-Dichlorobenzene | ND | 6 | ppbv | | | | | | | U |
| 1,2-Dichlorobenzene | ND | 6 | ppbv | | | | | | | U |
| 1,2,4-Trichlorobenzene | ND | 7 | ppbv | | | | | | | U |
| Hexachlorobutadiene | ND | 10 | ppbv | | | | | | | U |

United States Environmental Protection Agency
# Region 9 Laboratory
1337 S. 46th Street, Building 201, Richmond, CA 94804
Phone:(510) 412-2300 Fax:(510) 412-2302

| | | | | | |
|---|---|---|---|---|---|
| **Project Manager:** | Alana Lee | **California Site Cleanup Section 3** | | **SDG:** | 17201B |
| **Project Number:** | R17S65 | **75 Hawthorne Street** | | **Reported:** | 07/27/17 07:45 |
| **Project:** | MEW OU3 May 2017 Investigation | **San Francisco CA, 94105** | | | |

## Qualifiers and Comments

| | |
|---|---|
| Q1 | The internal standard associated with this analyte did not meet area count criteria. |
| J | The reported result for this analyte should be considered an estimated value. |
| C1 | The reported concentration for this analyte is below the quantitation limit. |
| U | Not Detected |
| NR | Not Reported |
| RE1, RE2, etc: | Result is from a sample re-analysis. |

United States Environmental Protection Agency
# Region 9 Laboratory
1337 S. 46th Street, Building 201, Richmond, CA 94804
Phone:(510) 412-2300 Fax:(510) 412-2302

| | | | | | |
|---|---|---|---|---|---|
| **Project Manager:** | Alana Lee | **California Site Cleanup Section 3** | | **SDG:** | 17201B |
| **Project Number:** | R17S65 | **75 Hawthorne Street** | | **Reported:** | 07/27/17 07:45 |
| **Project:** | MEW OU3 May 2017 Investigation | **San Francisco CA, 94105** | | | |

**WORK ORDER**

**Printed: 7/20/2017 10:06:47AM**

**1707040**

## EPA Region 9 Laboratory

**Client:** **California Site Cleanup Section 3**
**Project:** **MEW OU3 May 2017 Investigation**
**Project Number:** **R17S65**

**Report To:**
California Site Cleanup Section 3
Alana Lee
75 Hawthorne Street
San Francisco, CA 94105
Phone: (415) 972-3141
Fax: (415) 947-3526

**Project Contact**
California Site Cleanup Section 3
Alana Lee
75 Hawthorne Street
San Francisco, CA 94105
Phone :(415) 972-3141
Fax: (415) 947-3526

| Shipping Containers | Description | Temp C | Custody Seals? | Containers Intact? | Labels COC Agree? | Preservation Confirmed? | Received on Ice? | Comments |
|---|---|---|---|---|---|---|---|---|
| Box 1 | Box | 23 | No | Yes | Yes | No | No | |

| | | | |
|---|---|---|---|
| Date Due: | 08/19/17 17:00 (30 day TAT) | SDG: | 17201B |
| Received By: | Tatyana Dadiomov | Date Received: | 07/20/17 08:12 |
| Logged In By: | Lorraine Avalos | Date Logged In: | 07/20/17 09:50 |

| Analysis | Hold Time Expires | Comments | |
|---|---|---|---|
| **1707040-01 SG135-10 [Air] Sampled 07/19/17 08:47 (GMT-08:00) Pacific Time (US &** | | | **669** |
| VOCs, Soil Gas | 08/18/17 | 8 analytes, 14 day prelim | |
| **1707040-02 SG137-6 [Air] Sampled 07/19/17 08:58 (GMT-08:00) Pacific Time (US &** | | | **1062** |
| VOCs, Soil Gas | 08/18/17 | 8 analytes, 14 day prelim | |
| **1707040-03 SG137-10 [Air] Sampled 07/19/17 09:10 (GMT-08:00) Pacific Time (US &** | | | **1979** |
| VOCs, Soil Gas | 08/18/17 | 8 analytes, 14 day prelim | |
| **1707040-04 SG128-6 [Air] Sampled 07/19/17 12:17 (GMT-08:00) Pacific Time (US &** | | | **1095** |
| VOCs, Soil Gas | 08/18/17 | 8 analytes, 14 day prelim | |
| **1707040-05 SG126-6 [Air] Sampled 07/19/17 12:40 (GMT-08:00) Pacific Time (US &** | | | **632** |
| VOCs, Soil Gas | 08/18/17 | 8 analytes, 14 day prelim | |
| **1707040-06 F5-054-4ft [Air] Sampled 07/19/17 12:55 (GMT-08:00) Pacific Time (US &** | | | **896** |
| VOCs, Soil Gas | 08/18/17 | 8 analytes, 14 day prelim | |

**WORK ORDER**

**Printed: 7/20/2017 10:06:47AM**

**1707040**

## EPA Region 9 Laboratory

**Client:** **California Site Cleanup Section 3** **Project Number:** **R17S65**
**Project:** **MEW OU3 May 2017 Investigation**

| Analysis | Hold Time Expires | Comments |
|---|---|---|

| Analysis | Expires | Comments |
|---|---|---|
| **1707040-07 F5-060-4ft [Air] Sampled 07/19/17 13:15 (GMT-08:00) Pacific Time (US &** | | **1983** |
| VOCs, Soil Gas | 08/18/17 | 8 analytes, 14 day prelim |

Reviewed By

Date

| U.S. Environmental Protection Agency | CHAIN OF CUSTODY RECORD | EPA REGION 9<br>75 Hawthorne Street<br>San Francisco, California 94105 |
|---|---|---|
| Project / Case Number<br>**MEW - M6 / R17S65** | Project Name: **MEW** | EPA Project Manager contact:<br>Alana Lee, 415-972-3141 Lee.Alana@epa.gov |
| EPA R9 Laboratory | Samplers: *(Signature)*<br>ALANA LEE + GREG NAGLE | **Analysis Requested: TO15 - MEW Analyte List, 14 day TAT** |

| Lab ID | Field Sample ID (Location) | Canister ID | Comp | Grab | Date | Time | Initial Pressure | Final Pressure | TCE Screen | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|
| | SG135-10 | 669 | | X | 7/19/17 | 8:47 | -30 | -2 | | |
| | SG137-6 | 1062 | | X | | 8:58 | -30 | 0 | 100 | |
| | SG137-10 | 1979 | | X | | 9:10 | -30 | -10 | | |
| | SG128-6 | 1095 | | X | | 12:17 | -30 | ~~-10~~ -2 | 300-14000 | Tight |
| | SG126-6 | 632 | | X | | 12:40 | -30 | -2 | | suspect - Tight |
| | TS-054-4ft | 896 | | X | | 12:55 | -30 | 0 | 50-1000 | |
| | TS-060-4ft | 1983 | | X | | 13:15 | -30 | 0 | 800 | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
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| | | | | | | | | | | |

| Relinquished by: *(Signature)* | Date/Time | Received by: *(Signature)* | Date/Time | |
|---|---|---|---|---|
| | 7/19/17 1322 | | 7/19/17 1322 | HAND DELIVERY TO SAMPLE RECEIVING R9 LAB BY GREG NAGLE |

| Received for Laboratory by: *(Signature)* | Date/Time | Temp | Custody Seals Intact? (Yes/No) |
|---|---|---|---|
| | 07-20-17 8:12 | 23 | |



Table of Contents

Cooler/Box/Env 1 of 1

U.S. Environmental Protection Agency
Region 9 Richmond Laboratory

1337 South 46th Street
Richmond, CA 94804

# Sample Receipt Checklist

**Project No:** R17865 **Work Order No(s):** 1707040 **Date:** 7/20/17 **by** TD

## CUSTODY SEALS Intact

□ Yes □ No ☒ N/A- None

Check if applies: □ External Seals □ Internal Seals ☒ Hand Delivered

## TEMPERATURE 23 °C Within Acceptable Range

□ Yes □No ☒ Ambient OK

Check if applies:
□ Provided Temp Blank □ Between 6°C to 10°C □ Still cooling (sampled today & iced)
□ Previously Frozen □ Insufficient/Melted Ice □ Delivery Delay

## SAMPLE CONTAINERS Intact

☒ Yes □ No

*If not intact, was volume recoverable for analysis?* □ Yes □ No ☒ N/A

Check if applies: □ Bottle/Jar/Vial broken □ Cap broken or loose □ Other _____

## CHAIN OF CUSTODY Received

☒ Yes □ No

**COC complete and consistent with labels** ☒ Yes □ No □ N/A

Check if applies: □ Not relinquished □ Inconsistency resolved □ Follow-up needed (see comments)

**TAT and analyses match scheduling** ☒ Yes □ No □ N/A

Check if applies: □ Preliminary Results □ Rush Request □ 7-day TAT

**Within hold times** □ Expires today ☒ Yes □ No □ N/A

**All shipping and sample containers accounted for** ☒ Yes □ No □ N/A

## PRESERVATION / FILTRATION

☒ N/A No chem. pres./filtra.

Check if applies: □ Sample Receiving to preserve
□ Analyst to filter and/or preserve

**Preserved and/or filtered samples correctly identified** □ Yes □ No ☒ N/A

**Preserved samples (non-VOA vials) measured at correct pH** □ Yes □ No ☒ N/A

Preservation/measured pH_____

**Sample Receiving Preservation and/or pH Adjustments***

| Sample ID | Initial pH | Pres. | Date/time Pres. added | Adjusted pH | pH after 16-hrs (metals) | Date/time of pH recheck | Rechecked by |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
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*(continue on back, if needed)

## FOLLOW-UP / COMMENTS_____

# BATCH

# B17G071

# PREPARATION BENCH SHEET

## B17G071

### EPA Region 9 Laboratory

Project: R17S62
Project: R17S65

**Printed: 7/21/2017 12:10:44PM**

**Matrix: Air** **Analysis: VOCs, Soil Gas** **Prepared using: Air - Air_Can_Pressure**

| Lab Number | Sample Name | Prepared | Initial | Final | Spike ID | Source ID | ul Spike | Can # | Initial PSI | Final PSI | Initial DF | Final DF | Prepared By | Extraction Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1707035-01 A | AMCO-INF-0719-046 | 07/19/17 13:36 | 200 | 200 | | | | 1589E | 10 ml | 30.03 | 1 | 204.42 | LLH | 2ND CAN DILN from TEDLAR |
| 1707035-01RE1 A | AMCO-INF-0719-046 | 07/19/17 13:36 | 20 | 200 | | | | 1589E | 10 ml | 30.03 | 1 | 204.42 | LLH | 2ND CAN DILN from TEDLAR |
| 1707035-02 A | AMCO-EFF-0719-046 | 07/19/17 11:44 | 200 | 200 | | | | TEDLAR | - | - | 1 | 1 | LLH | straight from TEDLAR |
| 1707035-02RE1 A | AMCO-EFF-0719-046 | 07/19/17 13:43 | 20 | 200 | | | | 870 | 11.85 | 33.95 | 1 | 2.86 | LLH | transferred from TEDLAR |
| 1707040-01 A | SG135-10 | 07/20/17 11:03 | 20 | 200 | | | | 669 | 13.76 | 30.64 | 1 | 2.23 | LLH | 8 analytes, 14 day prelim |
| 1707040-02 A | SG137-6 | 07/20/17 11:07 | 20 | 200 | | | | 1062 | 10.21 | 30.53 | 1 | 2.99 | LLH | 8 analytes, 14 day prelim |
| 1707040-03 A | SG137-10 | 07/20/17 11:10 | 20 | 200 | | | | 1979 | 9.20 | 30.64 | 1 | 3.33 | LLH | 8 analytes, 14 day prelim |
| 1707040-04 A | SG128-6 | 07/20/17 11:12 | 20 | 200 | | | | 1095 | 12.10 | 30.53 | 1 | 2.52 | LLH | 8 analytes, 14 day prelim |
| 1707040-05 A | SG126-6 | 07/20/17 11:15 | 20 | 200 | | | | 632 | 14.45 | 30.70 | 1 | 2.12 | LLH | 8 analytes, 14 day prelim |
| 1707040-06 A | F5-054-4ft | 07/20/17 11:18 | 200 | 200 | | | | 896 | 14.61 | 30.24 | 1 | 2.07 | LLH | 8 analytes, 14 day prelim |
| 1707040-07 A | F5-060-4ft | 07/20/17 11:20 | 200 | 200 | | | | 1983 | 14.55 | 30.18 | 1 | 2.07 | LLH | 8 analytes, 14 day prelim |
| B17G071-BLK1 | Blank | 07/20/17 09:42 | 200 | 200 | | | | | | | | | LLH | |
| B17G071-BS1 | LCS | 07/20/17 09:42 | 200 | 200 | 1727058 | | 100000 | | | | | | LLH | |

**PREPARATION BENCH SHEET**

# B17G071

**EPA Region 9 Laboratory**

Project: R17S62
Project: R17S65

**Printed: 7/21/2017 12:10:44PM**

**Matrix: Air** **Analysis: QC** **Prepared using: Air - Air_Can_Pressure**

| Lab Number | Sample Name | Prepared | Initial | Final | Spike ID | Source ID | ul Spike | Can # | Initial PSI | Final PSI | Initial DF | Final DF | Prepared By | Extraction Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B17G071-DUP1 | Duplicate | 07/20/17 09:42 | 200 | 200 | | 1707035-01 | | 1589E | 10 ml | 30.03 | 1 | 204.42 | LLH | |
| B17G071-DUP2 | Duplicate | 07/20/17 09:42 | 20 | 200 | | 1707040-01 | | 669 | 13.76 | 30.64 | 1 | 2.23 | LLH | |

## Batch Comments

## Reagents

| Reagent # | Description |
|---|---|

2nd CAN DILUTION CALCULATION FORM

**07/19/17 LLH**

| SAMPLE # | CAN # | VOL ADDED ml | CAN SIZE ml | FINAL PRESS | AMBIENT PRESS | ORIGINAL DF | 2nd CAN DF |
|---|---|---|---|---|---|---|---|
| **1707035-01** | 1589E | 10 | 1000 | 30.03 | 14.69 | 1 | **204.42** |
| | | | | | | | |
| | | | | | | | |
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| **** 2nd can dilution from tedlar bag** | | | | | | | |
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**2nd CAN DF =** $\frac{\text{FINAL PRESSURE} - \text{AMBIENT PRESSURE}}{\text{VOL ADDED}}$ **X CAN VOL X ORIG DF**



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# TO15 DILUTION LOGBOOK

| DATE/ INITIAL | TIME | LAB SAMPLE # | CLIENT SAMPLE # | CAN ID | INITIAL PRESSURE (PSI) | INITIAL VOL (mL) | FINAL VOL (mL) | FINAL PRESSURE (PSI) | AMBIENT PRESSURE Hg/(PSI) | DILUTION FACTOR |
|---|---|---|---|---|---|---|---|---|---|---|
| 07/19/17 LH | 1326 | 1707035-01 | AMCO-INF-0719-04b | 1589E | (Tedlar) | 10ml | ~~400~~ 12 | 30.03 | 29.91/14.69 | 204.42 * |
| | | — | 2nd can dilution | — | | | int 7/20/17 | | | |
| | 1343 | 1707035-02RE1 | AMCO-EFF-0719-04b | 870 | 11.85 | 40 | 400 | 33.95 | — | 2.86 |
| | | — | xfer from tedlar to can | | | | | | | |
| | | * 2nd can dil'n = | 30.03 / 14.69 x 1000 / 10 x 1 | = 204.42 DF | | | | | | |
| | | | | | | | | | | |

USEPA REGION 9 LABORATORY

TO15 DILUTION LOGBOOK 12-14-16.xls

Reviewed by: SM

Date: 7/21/17



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2nd CAN DILUTION CALCULATION FORM

**07/21/17 LLH**

| SAMPLE # | CAN # | VOL ADDED ml | CAN SIZE ml | FINAL PRESS | AMBIENT PRESS | ORIGINAL DF | 2nd CAN DF |
|---|---|---|---|---|---|---|---|
| **1707040-01RE1** | 874 | 10 | 400 | 31.03 | 14.69 | 2.23 | **188.42** |
| **1707040-02RE1** | 877 | 10 | 400 | 30.91 | 14.69 | 2.99 | **251.66** |
| **1707040-03RE1** | 1087 | 10 | 400 | 30.71 | 14.69 | 3.33 | **278.46** |
| **1707040-04RE1** | 1105 | 10 | 400 | 30.64 | 14.69 | 2.52 | **210.25** |
| **1707040-05RE2** | 1113 | 10 | 400 | 30.56 | 14.69 | 2.12 | **176.41** |
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**2nd CAN DF =** $\dfrac{\text{FINAL PRESSURE} - \text{AMBIENT PRESSURE}}{\text{VOL ADDED}}$ **X CAN VOL X ORIG DF**



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# TO15 DILUTION LOGBOOK

| DATE/ INITIAL | TIME | LAB SAMPLE # | CLIENT SAMPLE # | CAN ID | INITIAL PRESSURE (PSI) | INITIAL VOL (mL) | FINAL VOL (mL) | FINAL PRESSURE (PSI) | AMBIENT PRESSURE Hg/(PSI) | DILUTION FACTOR |
|---|---|---|---|---|---|---|---|---|---|---|
| 07/20/17 | 1103 | 1707040-01 | SG135-10 | 669 | 13.76 | 400 | 400 | 30.64 | 29.44/14.71 | 2.23 |
| WH | 1107 | -02 | SG137-6 | 1062 | 10.21 | 400 | 400 | 30.53 | — | 2.99 |
| | 1110 | -03 | SG137-10 | 1979 | 9.20 | 400 | 400 | 30.64 | — | 3.33 |
| | 1112 | -04 | SG128-6 | 1095 | 12.10 | 400 | 400 | 30.53 | — | 2.52 |
| | 1115 | -05 | SG126-6 | 1632 | 14.45 | 400 | 400 | 30.70 | — | 2.12 |
| | 1118 | -06 | F5-054-4ff | 896 | 14.61 | 400 | 400 | 30.24 | — | 2.07 |
| | 1120 | -07 | F5-060-4ff | 1983 | 14.55 | 400 | 400 | 30.18 | — | 2.07 |
| 07/21/17 | 1012 | 1707040-07RE1 | orig can check | 1983 | — | 400 | 400 | 18.60 | 29.44/14.69 | check |
| WH | 1017 | -01RE1 | 2nd can #669 to | 874 | — | 10ml | 400 | 31.03 | — | 188.42 * |
| | 1023 | -02RE1 | #1062 to | 877 | — | 10ml | 400 | 30.91 | — | 257.66 |
| | 1029 | -03RE1 | #1979 to | 1087 | — | 10ml | 400 | 30.71 | — | 278.46 |
| | 1036 | -04RE1 | #1095 to | 1105 | — | 10ml | 400 | 30.64 | — | 210.25 |
| | 1041 | -05RE2 | #632 to | 1113 | — | 10ml | 400 | 30.56 | — | 176.41 |
| | 1045 | -05RE1 | orig can ~~check~~ repress WH 7/21/17 | 632 | 18.63 | 400 | 400 | 30.68 | — | 1.65 |

*2nd can dilution = $\frac{31.03}{14.69} \times 400 \times 2.23 = 188.42$ DF
10

WH 07/24/17

USEPA REGION 9 LABORATORY

TO15 DILUTION LOGBOOK 12-14-16.xls

Reviewed by: 

Date: 7/24/17



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# BATCH

# B17G093

# PREPARATION BENCH SHEET

## B17G093

### EPA Region 9 Laboratory

Project: R17S62
Project: R17S65

**Printed: 7/25/2017 11:14:08AM**

**Matrix: Air** **Analysis: VOCs, Soil Gas** **Prepared using: Air - Air_Can_Pressure**

| Lab Number | Sample Name | Prepared | Initial | Final | Spike ID | Source ID | ul Spike | Can # | Initial PSI | Final PSI | Initial DF | Final DF | Prepared By | Extraction Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1707040-01RE1 A | SG135-10 | 07/21/17 10:12 | 20 | 200 | | | | 874 | 10ml | 31.03 | 2.23 | 188.42 | LLH | 2ND CAN DILUTION |
| 1707040-01RE2 A | SG135-10 | 07/21/17 10:12 | 200 | 200 | | | | 874 | 10ml | 31.03 | 2.23 | 188.42 | LLH | 2ND CAN DILN |
| 1707040-01RE3 A | SG135-10 | 07/25/17 10:54 | 20 | 200 | | | | 874 | 14.76 | 32.73 | 188.42 | 418.29 | LLH | 2ND CAN REPRESS |
| 1707040-02RE1 A | SG137-6 | 07/21/17 10:17 | 20 | 200 | | | | 877 | 10ml | 30.91 | 2.99 | 251.66 | LLH | 2ND CAN DILUTION |
| 1707040-02RE2 A | SG137-6 | 07/21/17 10:17 | 200 | 200 | | | | 877 | 10ml | 30.91 | 2.99 | 251.66 | LLH | 2ND CAN DILN |
| 1707040-03RE1 A | SG137-10 | 07/21/17 10:29 | 20 | 200 | | | | 1087 | 10ml | 30.71 | 3.33 | 278.46 | LLH | 2ND CAN DILUTION |
| 1707040-03RE2 A | SG137-10 | 07/21/17 10:29 | 200 | 200 | | | | 1087 | 10ml | 30.71 | 3.33 | 278.46 | LLH | 2ND CAN DILN |
| 1707040-04RE1 A | SG128-6 | 07/21/17 10:36 | 20 | 200 | | | | 1105 | 10ml | 30.64 | 2.52 | 210.25 | LLH | 2ND CAN DILUTION |
| 1707040-04RE2 A | SG128-6 | 07/21/17 10:36 | 200 | 200 | | | | 1105 | 10ml | 30.64 | 2.52 | 210.25 | LLH | 2ND CAN DILN |
| 1707040-05RE1 A | SG126-6 | 07/21/17 10:45 | 40 | 200 | | | | 632 | 18.63 | 30.68 | 2.12 | 3.50 | LLH | ORIG CAN REPRESS |
| 1707040-05RE2 A | SG126-6 | 07/21/17 10:41 | 30 | 200 | | | | 1113 | 10ml | 30.56 | 2.12 | 176.41 | LLH | 2ND CAN DILUTION |
| 1707040-07RE1 A | F5-060-4ft | 07/20/17 11:20 | 50 | 200 | | | | 1983 | 14.55 | 30.18 | 1 | 2.07 | LLH | ORIG CAN |
| 1707040-07RE2 A | F5-060-4ft | 07/20/17 11:20 | 20 | 200 | | | | 1983 | 14.55 | 30.18 | 1 | 2.07 | LLH | ORIG CAN |

# PREPARATION BENCH SHEET

## B17G093

**EPA Region 9 Laboratory**

Project: R17S62
Project: R17S65

**Printed: 7/25/2017 11:14:08AM**

**Matrix: Air** **Analysis: VOCs, Soil Gas** **Prepared using: Air - Air_Can_Pressure**

| Lab Number | Sample Name | Prepared | Initial | Final | Spike ID | Source ID | ul Spike | Can # | Initial PSI | Final PSI | Initial DF | Final DF | Prepared By | Extraction Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1707044-01 A | AMCO-IA1-24hr-001 | 07/21/17 11:09 | 200 | 200 | | | | 771 | 14.37 | 21.54 | 1 | 1.50 | LLH | ORIG CAN |
| B17G093-BLK1 | Blank | 07/24/17 15:19 | 200 | 200 | | | | | | | | | LLH | |
| B17G093-BS1 | LCS | 07/24/17 15:19 | 200 | 200 | 1729079 | | 100000 | | | | | | LLH | |
| B17G093-DUP1 | Duplicate | 07/24/17 15:19 | 30 | 200 | | 1707040-05 RE2 | | 1113 | 10ml | 30.56 | 2.12 | 176.41 | LLH | |
| B17G093-DUP2 | Duplicate | 07/24/17 15:19 | 200 | 200 | | 1707044-01 | | 771 | 14.37 | 21.54 | 1 | 1.50 | LLH | |

## Batch Comments

## Reagents

**Reagent #** **Description**

**PREPARATION BENCH SHEET**

# B17G093

**EPA Region 9 Laboratory**

Project: R17S62
Project: R17S65

**Printed: 7/25/2017 11:14:08AM**

**Matrix: Air** **Analysis: QC** **Prepared using: Air - Air_Can_Pressure**

| Lab Number | Sample Name | Prepared | Initial | Final | Spike ID | Source ID | ul Spike | Can # | Initial PSI | Final PSI | Initial DF | Final DF | Prepared By | Extraction Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

# TO15 DILUTION LOGBOOK

| DATE/ INITIAL | TIME | LAB SAMPLE # | CLIENT SAMPLE # | CAN ID | INITIAL PRESSURE (PSI) | INITIAL VOL (mL) | FINAL VOL (mL) | FINAL PRESSURE (PSI) | AMBIENT PRESSURE Hg/(PSI) | DILUTION FACTOR |
|---|---|---|---|---|---|---|---|---|---|---|
| 07/25/17 LLH | 1054 | 1707040-01RE3 | 2nd can repress | 874 | 14.76 | 400 | 400 | 32.73 | 29.85/14.66 | 2.22 |

LLH 07/25/17

USEPA REGION 9 LABORATORY

TO15 DILUTION LOGBOOK 12-14-16.xls

Reviewed by: [illegible]

Date: 7/25/17



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# Calibration

1707015

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Method Path : D:\msdchem\1\2017\METHOD\
Method File : 071917K_TO15AA.M
Title : TO15
Last Update : Thu Jul 20 09:11:28 2017
Response Via : Initial Calibration

**REVIEWED**
**By LLH at 9:11 am, Jul 20, 2017**

Calibration Files
1 =071917KA04.D 2 =071917KA05.D 5 =071917KA06.D 10 =071917KA07.D 15 =071917KA08.D
20 =071917KA09.D

1 OUT

| | | Compound | 1 | 2 | 5 | 10 | 15 | 20 | Avg | %RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 1) | I | BROMOCHLOROMETHANE | ----------ISTD---------- | | | | | | | |
| 2) | T | Propene | 0.472 | 0.440 | 0.451 | 0.474 | 0.480 | 0.493 | 0.468 | 4.16 |
| 3) | T | Dichlorodifluo... | 2.325 | 2.375 | 2.279 | 2.245 | 2.246 | 2.241 | 2.285 | 2.37 |
| 4) | T | 1,2-Dichlorote... | 2.235 | 2.263 | 2.172 | 2.186 | 2.216 | 2.218 | 2.215 | 1.50 |
| 5) | T | Chloromethane | 0.606 | 0.588 | 0.572 | 0.578 | 0.588 | 0.592 | 0.587 | 2.01 |
| 6) | T | Vinyl chloride | 0.750 | 0.771 | 0.713 | 0.728 | 0.731 | 0.733 | 0.738 | 2.75 |
| 7) | T | 1,3-Butadiene | 0.570 | 0.522 | 0.508 | 0.515 | 0.523 | 0.519 | 0.526 | 4.21 |
| 8) | T | Bromomethane | 0.608 | 0.619 | 0.587 | 0.583 | 0.586 | 0.594 | 0.596 | 2.37 |
| 9) | T | Chloroethane | 0.362 | 0.369 | 0.350 | 0.340 | 0.347 | 0.352 | 0.354 | 2.93 |
| 10) | T | Bromoethene | 0.546 | 0.540 | 0.550 | 0.564 | 0.584 | 0.600 | 0.564 | 4.23 |
| 11) | T | Trichlorofluor... | 2.222 | 2.337 | 2.189 | 2.137 | 2.113 | 2.110 | 2.185 | 3.97 |
| 12) | T | 1,1,2-Trichlor... | 1.241 | 1.263 | 1.201 | 1.181 | 1.182 | 1.186 | 1.209 | 2.88 |
| 13) | T | 1,1-Dichloroet... | 0.819 | 0.861 | 0.884 | 0.931 | 0.964 | 0.978 | 0.906 | 6.85 |
| 14) | T | Acetone | 0.947 | 0.960 | 0.920 | 0.914 | 0.917 | 0.922 | 0.930 | 2.02 |
| 15) | T | Carbon disulfide | 1.909 | 1.909 | 1.846 | 1.824 | 1.822 | 1.839 | 1.858 | 2.17 |
| 16) | T | 2-Propanol | 0.507 | 0.545 | 0.600 | 0.661 | 0.689 | 0.714 | 0.619 | 13.31 |
| 17) | T | Allyl chloride | 0.503 | 0.554 | 0.586 | 0.622 | 0.638 | 0.649 | 0.592 | 9.48 |
| 18) | T | Dichloromethane | 0.946 | 0.836 | 0.715 | 0.682 | 0.668 | 0.672 | 0.753 | 15.08 |
| 19) | T | tert-Butyl met... | 1.273 | 1.394 | 1.545 | 1.679 | 1.740 | 1.792 | 1.570 | 13.05 |
| 20) | T | trans-1,2-Dich... | 0.844 | 0.906 | 0.892 | 0.889 | 0.889 | 0.891 | 0.885 | 2.40 |
| 21) | T | Hexane | 0.708 | 0.805 | 0.879 | 0.932 | 0.945 | 0.963 | 0.872 | 11.34 |
| 22) | T | 1,1-Dichloroet... | 1.203 | 1.233 | 1.203 | 1.191 | 1.187 | 1.208 | 1.204 | 1.36 |
| 23) | T | Vinyl acetate | 0.588 | 0.718 | 0.897 | 1.024 | 1.074 | 1.112 | 0.902 | 23.33 |
| 24) | T | cis-1,2-Dichlo... | 0.655 | 0.704 | 0.762 | 0.812 | 0.832 | 0.848 | 0.769 | 9.97 |
| 25) | T | 2-Butanone (MEK) | 0.254 | 0.273 | 0.302 | 0.310 | 0.314 | 0.320 | 0.295 | 8.86 |
| 26) | T | Ethyl acetate | 0.160 | 0.176 | 0.180 | 0.181 | 0.183 | 0.189 | 0.178 | 5.53 |
| 27) | T | Tetrahydrofuran | 0.543 | 0.582 | 0.585 | 0.615 | 0.624 | 0.631 | 0.597 | 5.56 |
| 28) | T | Chloroform | 1.531 | 1.591 | 1.540 | 1.515 | 1.506 | 1.510 | 1.532 | 2.07 |
| 29) | T | Cyclohexane | 0.785 | 0.851 | 0.920 | 0.953 | 0.958 | 0.975 | 0.907 | 8.19 |
| 30) | T | 1,1,1-Trichlor... | 1.658 | 1.744 | 1.671 | 1.677 | 1.674 | 1.682 | 1.684 | 1.80 |
| 31) | T | Carbon tetrach... | 1.689 | 1.791 | 1.724 | 1.741 | 1.730 | 1.742 | 1.736 | 1.91 |
| 32) | I | 1,4-DIFLUOROBENZENE | ----------ISTD---------- | | | | | | | |
| 33) | T | Benzene | 0.565 | 0.615 | 0.605 | 0.601 | 0.598 | 0.598 | 0.597 | 2.85 |
| 34) | T | 2,2,4-Trimethy... | 0.657 | 0.759 | 0.840 | 0.866 | 0.874 | 0.878 | 0.812 | 10.83 |
| 35) | T | 1,2-Dichloroet... | 0.320 | 0.332 | 0.330 | 0.319 | 0.314 | 0.312 | 0.321 | 2.61 |
| 36) | T | Heptane | 0.241 | 0.277 | 0.298 | 0.300 | 0.299 | 0.297 | 0.285 | 8.14 |
| 37) | T | Trichloroethene | 0.238 | 0.255 | 0.258 | 0.265 | 0.268 | 0.272 | 0.260 | 4.67 |
| 38) | T | 1,2-Dichloropr... | 0.182 | 0.193 | 0.197 | 0.199 | 0.200 | 0.201 | 0.195 | 3.65 |
| 39) | T | 1,4-Dioxane | 0.087 | 0.103 | 0.111 | 0.116 | 0.119 | 0.119 | 0.109 | 11.56 |
| 40) | T | Bromodichlorom... | 0.495 | 0.512 | 0.500 | 0.495 | 0.494 | 0.492 | 0.498 | 1.47 |
| 41) | T | cis-1,3-Dichlo... | 0.223 | 0.260 | 0.296 | 0.321 | 0.330 | 0.337 | 0.294 | 15.18 |
| 42) | T | 4-Methyl-2-pen... | 0.288 | 0.331 | 0.369 | 0.382 | 0.386 | 0.385 | 0.357 | 11.08 |
| 43) | I | CHLOROBENZENE-d5 | ----------ISTD---------- | | | | | | | |
| 44) | T | Toluene | 0.650 | 0.767 | 0.791 | 0.797 | 0.800 | 0.803 | 0.768 | 7.70 |
| 45) | T | trans-1,3-Dich... | 0.240 | 0.289 | 0.319 | 0.336 | 0.347 | 0.351 | 0.314 | 13.55 |
| 46) | T | 1,1,2-Trichlor... | 0.269 | 0.287 | 0.281 | 0.283 | 0.281 | 0.285 | 0.281 | 2.30 |
| 47) | T | Tetrachloroethene | 0.394 | 0.426 | 0.427 | 0.432 | 0.436 | 0.442 | 0.426 | 3.91 |
| 48) | T | 2-Hexanone | 0.260 | 0.322 | 0.361 | 0.378 | 0.383 | 0.380 | 0.347 | 13.89 |
| 49) | T | Chlorodibromom... | 0.496 | 0.538 | 0.532 | 0.537 | 0.539 | 0.537 | 0.530 | 3.19 |
| 50) | T | 1,2-Dibromoeth... | 0.345 | 0.375 | 0.385 | 0.391 | 0.395 | 0.398 | 0.381 | 5.15 |
| 51) | T | Chlorobenzene | 0.659 | 0.688 | 0.671 | 0.659 | 0.652 | 0.656 | 0.664 | 1.99 |
| 52) | T | Ethylbenzene | 1.002 | 1.131 | 1.147 | 1.140 | 1.147 | 1.143 | 1.118 | 5.12 |
| 53) | T | m&p-Xylene | 0.752 | 0.876 | 0.888 | 0.893 | 0.898 | 0.894 | 0.867 | 6.56 |
| 54) | T | o-Xylene | 0.615 | 0.773 | 0.857 | 0.898 | 0.910 | 0.911 | 0.827 | 14.08 |
| 55) | T | Styrene | 0.527 | 0.651 | 0.687 | 0.705 | 0.711 | 0.712 | 0.666 | 10.74 |
| 56) | T | Bromoform | 0.441 | 0.522 | 0.533 | 0.546 | 0.560 | 0.566 | 0.528 | 8.64 |
| 57) | T | 1,1,2,2-Tetrac... | 0.600 | 0.644 | 0.637 | 0.633 | 0.635 | 0.638 | 0.631 | 2.50 |
| 58) | T | 4-Ethyltoluene | 0.756 | 1.097 | 1.269 | 1.311 | 1.336 | 1.338 | 1.185 | 19.28 |
| 59) | T | 1,3,5-Trimethy... | 0.859 | 1.054 | 1.105 | 1.104 | 1.114 | 1.111 | 1.058 | 9.45 |

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Method Path : D:\msdchem\1\2017\METHOD\
Method File : 071917K_TO15AA.M
Title : TO15

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 60) | T | 1,2,4-Trimethy... | 0.680 | 0.909 | 1.042 | 1.086 | 1.104 | 1.113 | 0.989 | 17.09 |
| 61) | T | 1,3-Dichlorobe... | 0.611 | 0.655 | 0.697 | 0.721 | 0.739 | 0.744 | 0.695 | 7.53 |
| 62) | T | 1,4-Dichlorobe... | 0.564 | 0.628 | 0.680 | 0.698 | 0.714 | 0.715 | 0.666 | 8.93 |
| 63) | T | Benzyl chloride | 0.259 | 0.513 | 0.618 | 0.679 | 0.713 | 0.726 | 0.585 | 30.39 |
| 64) | T | 1,2-Dichlorobe... | 0.589 | 0.672 | 0.711 | 0.731 | 0.744 | 0.743 | 0.698 | 8.57 |
| 65) | T | 1,2,4-Trichlor... | 0.462 | 0.460 | 0.511 | 0.549 | 0.573 | 0.589 | 0.524 | 10.59 |
| 66) | T | Hexachlorobuta... | 0.710 | 0.751 | 0.735 | 0.743 | 0.755 | 0.755 | 0.742 | 2.32 |

(#) = Out of Range

**REVIEWED**
**By LLH at 9:14 am, Jul 20, 2017**

## SCV REPORT

Instrument Name: HP5973K
Sample Name: S17G076-SCV1
Misc Info: 10ppbv 1729080
Date Acquired: 7/20/2017 0:10
QLast Update: Thu Jul 20 09:11:28 2017
Operator: LLH

2 OUT (nontarget)

| # | Name | Ret Time | Amount | Concentration | %R | QC | LIMIT | STATUS | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1) | BROMOCHLOROMETHANE | 15.31 | #N/A | 19.80 | #N/A | 70.0 | 130.0 | #N/A | Internal | |
| 2) | Propene | 4.22 | 11.00 | 11.93 | 108% | 70.0 | 130.0 | pass | Subset | |
| 3) | Dichlorodifluoromethane | 4.31 | 11.00 | 11.36 | 103% | 70.0 | 130.0 | pass | Primary | |
| 4) | 1,2-Dichlorotetrafluoroethane | 4.64 | 10.60 | 11.21 | 106% | 70.0 | 130.0 | pass | Primary | |
| 5) | Chloromethane | 4.86 | 11.00 | 11.98 | 109% | 70.0 | 130.0 | pass | Primary | |
| 6) | Vinyl chloride | 5.15 | 11.00 | 11.84 | 108% | 70.0 | 130.0 | pass | Primary | |
| 7) | 1,3-Butadiene | 5.24 | 10.30 | 10.82 | 105% | 70.0 | 130.0 | pass | Subset | |
| 8) | Bromomethane | 6.17 | 11.00 | 12.15 | 110% | 70.0 | 130.0 | pass | Primary | |
| 9) | Chloroethane | 6.49 | 11.00 | 12.02 | 109% | 70.0 | 130.0 | pass | Primary | |
| 10) | Bromoethene | 7.05 | 10.40 | 11.97 | 115% | 70.0 | 130.0 | pass | Subset | |
| 11) | Trichlorofluoromethane | 7.15 | 10.10 | 10.54 | 104% | 70.0 | 130.0 | pass | Primary | |
| 12) | 1,1,2-Trichloro-1,2,2-trifluoroethane | 8.90 | 9.90 | 10.15 | 102% | 70.0 | 130.0 | pass | Primary | |
| 13) | 1,1-Dichloroethene | 9.03 | 10.90 | 11.84 | 109% | 70.0 | 130.0 | pass | Primary | |
| 14) | Acetone | 9.68 | 11.00 | 11.67 | 106% | 70.0 | 130.0 | pass | Subset | |
| 15) | Carbon disulfide | 9.72 | 10.70 | 10.95 | 102% | 70.0 | 130.0 | pass | Subset | |
| 16) | 2-Propanol | 10.29 | 9.00 | 9.80 | 109% | 70.0 | 130.0 | pass | Subset | |
| 17) | Allyl chloride | 10.62 | 11.00 | 12.53 | 114% | 70.0 | 130.0 | pass | Subset | |
| 18) | Dichloromethane | 11.21 | 10.30 | 9.59 | 93% | 70.0 | 130.0 | pass | Primary | |
| 19) | tert-Butyl methyl ether (MTBE) | 11.84 | 10.70 | 12.81 | 120% | 70.0 | 130.0 | pass | Subset | |
| 20) | trans-1,2-Dichloroethene | 11.89 | 11.00 | 11.64 | 106% | 70.0 | 130.0 | pass | Subset | |
| 21) | Hexane | 12.42 | 10.50 | 12.36 | 118% | 70.0 | 130.0 | pass | Subset | |
| 22) | 1,1-Dichloroethane | 13.29 | 10.40 | 10.75 | 103% | 70.0 | 130.0 | pass | Primary | |
| 23) | Vinyl acetate | 13.45 | 10.80 | 4.57 | 42% | 70.0 | 130.0 | FAIL | Subset | NT |
| 24) | cis-1,2-Dichloroethene | 14.75 | 11.00 | 12.44 | 113% | 70.0 | 130.0 | pass | Primary | |
| 25) | 2-Butanone (MEK) | 14.89 | 10.70 | 12.16 | 114% | 70.0 | 130.0 | pass | Subset | |
| 26) | Ethyl acetate | 14.91 | 10.70 | 12.27 | 115% | 70.0 | 130.0 | pass | Subset | |
| 27) | Tetrahydrofuran | 15.29 | 10.20 | 11.46 | 112% | 70.0 | 130.0 | pass | Subset | |
| 28) | Chloroform | 15.47 | 11.00 | 11.47 | 104% | 70.0 | 130.0 | pass | Primary | |
| 29) | Cyclohexane | 15.59 | 10.70 | 12.17 | 114% | 70.0 | 130.0 | pass | Subset | |
| 30) | 1,1,1-Trichloroethane | 15.70 | 10.90 | 11.19 | 103% | 70.0 | 130.0 | pass | Primary | |
| 31) | Carbon tetrachloride | 15.93 | 11.00 | 11.28 | 103% | 70.0 | 130.0 | pass | Primary | |
| 32) | 1,4-DIFLUOROBENZENE | 17.31 | #N/A | 19.60 | #N/A | 70.0 | 130.0 | #N/A | Internal | |
| 33) | Benzene | 16.47 | 11.00 | 11.64 | 106% | **70.0** | 130.0 | pass | Primary | |
| 34) | 2,2,4-Trimethylpentane | 16.35 | 10.60 | 11.94 | 113% | 70.0 | 130.0 | pass | Subset | |
| 35) | 1,2-Dichloroethane | 16.72 | 10.90 | 10.93 | 100% | 70.0 | 130.0 | pass | Primary | |
| 36) | Heptane | 16.74 | 10.60 | 11.46 | 108% | 70.0 | 130.0 | pass | Subset | |
| 37) | Trichloroethene | 17.70 | 11.00 | 12.46 | 113% | 70.0 | 130.0 | pass | Primary | |
| 38) | 1,2-Dichloropropane | 18.24 | 11.00 | 11.93 | 108% | 70.0 | 130.0 | pass | Primary | |
| 39) | 1,4-Dioxane | 18.44 | 9.30 | 13.78 | 148% | 70.0 | 130.0 | FAIL | Subset | NT |
| 40) | Bromodichloromethane | 18.71 | 10.60 | 10.79 | 102% | 70.0 | 130.0 | pass | Subset | |
| 41) | cis-1,3-Dichloropropene | 19.48 | 11.00 | 12.52 | 114% | 70.0 | 130.0 | pass | Primary | |
| 42) | 4-Methyl-2-pentanone (MIBK) | 19.72 | 10.10 | 12.52 | 124% | 70.0 | 130.0 | pass | Subset | |
| 43) | CHLOROBENZENE-d5 | 22.24 | #N/A | 19.60 | #N/A | 70.0 | 130.0 | #N/A | Internal | |
| 44) | Toluene | 19.94 | 11.00 | 12.26 | 111% | 70.0 | 130.0 | pass | Primary | |
| 45) | trans-1,3-Dichloropropene | 20.45 | 11.00 | 11.59 | 105% | 70.0 | 130.0 | pass | Primary | |
| 46) | 1,1,2-Trichloroethane | 20.76 | 11.00 | 11.74 | 107% | 70.0 | 130.0 | pass | Primary | |
| 47) | Tetrachloroethene | 20.77 | 11.00 | 11.85 | 108% | 70.0 | 130.0 | pass | Primary | |
| 48) | 2-Hexanone | 21.08 | 9.70 | 12.20 | 126% | 70.0 | 130.0 | pass | Subset | |
| 49) | Chlorodibromomethane | 21.35 | 10.70 | 11.20 | 105% | 70.0 | 130.0 | pass | Subset | |
| 50) | 1,2-Dibromoethane (EDB) | 21.59 | 11.00 | 12.22 | 111% | 70.0 | 130.0 | pass | Primary | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 51) | Chlorobenzene | 22.28 | 11.00 | 11.78 | 107% | 70.0 | 130.0 | pass | Primary |
| 52) | Ethylbenzene | 22.36 | 11.00 | 11.96 | 109% | 70.0 | 130.0 | pass | Primary |
| 53) | m&p-Xylene | 22.55 | 22.00 | 23.77 | 108% | 70.0 | 130.0 | pass | Primary |
| 54) | o-Xylene | 23.20 | 11.00 | 12.34 | 112% | 70.0 | 130.0 | pass | Primary |
| 55) | Styrene | 23.25 | 10.60 | 11.63 | 110% | 70.0 | 130.0 | pass | Primary |
| 56) | Bromoform | 23.64 | 10.80 | 11.43 | 106% | 70.0 | 130.0 | pass | Subset |
| 57) | 1,1,2,2-Tetrachloroethane | 24.35 | 11.00 | 10.91 | 99% | 70.0 | 130.0 | pass | Primary |
| 58) | 4-Ethyltoluene | 24.55 | 10.30 | 12.37 | 120% | 70.0 | 130.0 | pass | Subset |
| 59) | 1,3,5-Trimethylbenzene | 24.65 | 11.00 | 11.80 | 107% | 70.0 | 130.0 | pass | Primary |
| 60) | 1,2,4-Trimethylbenzene | 25.25 | 10.50 | 12.11 | 115% | 70.0 | 130.0 | pass | Primary |
| 61) | 1,3-Dichlorobenzene | 25.80 | 10.50 | 11.90 | 113% | 70.0 | 130.0 | pass | Primary |
| 62) | 1,4-Dichlorobenzene | 25.94 | 10.60 | 12.28 | 116% | 70.0 | 130.0 | pass | Primary |
| 63) | Benzyl chloride | 26.18 | 10.30 | 12.06 | 117% | 70.0 | 130.0 | pass | Subset |
| 64) | 1,2-Dichlorobenzene | 26.56 | 10.30 | 11.70 | 114% | 70.0 | 130.0 | pass | Primary |
| 65) | 1,2,4-Trichlorobenzene | 29.02 | 9.00 | 11.31 | 126% | 70.0 | 130.0 | pass | Primary |
| 66) | Hexachlorobutadiene | 29.13 | 9.00 | 9.97 | 111% | 70.0 | 130.0 | pass | Primary |

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# RT DUPLICATE REPORT

Instrument Name: HP5973K
Sample Name: S17G076-CAL4
Misc Info: 10ppbv 1729076
Date Acquired: 7/19/2017 21:37
QLast Update: Thu Jul 20 09:11:28 2017
Operator: LLH

| # | Name | RT | CONC | Qion | |
|---|---|---|---|---|---|
| 1) | BROMOCHLOROMETHANE | 15.313 | 19.800 | 49.1 | 15.301 |
| 2) | Propene | 4.223 | 11.679 | 41.1 | |
| 3) | Dichlorodifluoromethane | 4.314 | 10.854 | 85 | |
| 4) | 1,2-Dichlorotetrafluoroethane | 4.649 | 10.386 | 85 | |
| 5) | Chloromethane | 4.862 | 11.299 | 50.1 | |
| 6) | Vinyl chloride | 5.160 | 11.218 | 62.1 | |
| 7) | 1,3-Butadiene | 5.245 | 11.035 | 54.1 | |
| 8) | Bromomethane | 6.170 | 10.721 | 94 | |
| 9) | Chloroethane | 6.492 | 10.431 | 64.1 | |
| 10) | Bromoethene | 7.058 | 10.995 | 105.9 | |
| 11) | Trichlorofluoromethane | 7.155 | 10.122 | 101 | |
| 12) | 1,1,2-Trichloro-1,2,2-trifluoroethane | 8.901 | 9.384 | 150.9 | |
| 13) | 1,1-Dichloroethene | 9.029 | 10.915 | 61.1 | |
| 14) | Acetone | 9.686 | 11.290 | 43.1 | |
| 15) | Carbon disulfide | 9.722 | 10.779 | 76 | |
| 16) | 2-Propanol | 10.300 | 12.113 | 45.1 | |
| 17) | Allyl chloride | 10.623 | 12.044 | 41.1 | |
| 18) | Dichloromethane | 11.213 | 9.075 | 49.1 | |
| 19) | tert-Butyl methyl ether (MTBE) | 11.833 | 11.837 | 73.1 | |
| 20) | trans-1,2-Dichloroethene | 11.888 | 11.408 | 61.1 | |
| 21) | Hexane | 12.417 | 11.615 | 57.1 | |
| 22) | 1,1-Dichloroethane | 13.293 | 10.078 | 63.1 | |
| 23) | Vinyl acetate | 13.446 | 13.068 | 43.1 | |
| 24) | cis-1,2-Dichloroethene | 14.760 | 11.297 | 61.1 | |
| 25) | 2-Butanone (MEK) | 14.893 | 11.738 | 72.1 | |
| 26) | Ethyl acetate | 14.906 | 11.473 | 61.1 | |
| 27) | Tetrahydrofuran | 15.301 | 11.274 | 42.2 | |
| 28) | Chloroform | 15.471 | 10.988 | 83 | |
| 29) | Cyclohexane | 15.599 | 11.672 | 56.1 | |
| 30) | 1,1,1-Trichloroethane | 15.703 | 10.628 | 97 | |
| 31) | Carbon tetrachloride | 15.940 | 10.742 | 116.9 | |
| 32) | 1,4-DIFLUOROBENZENE | 17.309 | 19.600 | 114 | 16.749 |
| 33) | Benzene | 16.469 | 11.503 | 78.1 | 16.347 |
| 34) | 2,2,4-Trimethylpentane | 16.347 | 12.093 | 57.1 | |
| 35) | 1,2-Dichloroethane | 16.719 | 11.053 | 62.1 | |
| 36) | Heptane | 16.749 | 12.115 | 43.2 | |
| 37) | Trichloroethene | 17.698 | 11.866 | 129.9 | |
| 38) | 1,2-Dichloropropane | 18.245 | 11.567 | 63 | |
| 39) | 1,4-Dioxane | 18.440 | 11.381 | 88.1 | |
| 40) | Bromodichloromethane | 18.714 | 11.063 | 83 | |
| 41) | cis-1,3-Dichloropropene | 19.480 | 11.992 | 75 | |
| 42) | 4-Methyl-2-pentanone (MIBK) | 19.724 | 12.025 | 43.1 | |

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| | | | | | |
|---|---|---|---|---|---|
| 43) | CHLOROBENZENE-d5 | 22.236 | 19.600 | 117.1 | 21.585 |
| 44) | Toluene | 19.937 | 11.874 | 91.1 | |
| 45) | trans-1,3-Dichloropropene | 20.448 | 10.802 | 75 | |
| 46) | 1,1,2-Trichloroethane | 20.758 | 11.607 | 97 | |
| 47) | Tetrachloroethene | 20.770 | 11.607 | 165.9 | |
| 48) | 2-Hexanone | 21.080 | 11.880 | 43.1 | |
| 49) | Chlorodibromomethane | 21.354 | 11.429 | 128.9 | |
| 50) | 1,2-Dibromoethane (EDB) | 21.585 | 11.755 | 107 | |
| 51) | Chlorobenzene | 22.285 | 11.382 | 112 | |
| 52) | Ethylbenzene | 22.364 | 11.776 | 91.1 | |
| 53) | m&p-Xylene | 22.547 | 23.646 | 91.1 | |
| 54) | o-Xylene | 23.198 | 12.262 | 91.1 | |
| 55) | Styrene | 23.246 | 11.447 | 104.1 | |
| 56) | Bromoform | 23.642 | 11.681 | 172.9 | |
| 57) | 1,1,2,2-Tetrachloroethane | 24.353 | 11.136 | 83 | |
| 58) | 4-Ethyltoluene | 24.548 | 12.171 | 105.1 | |
| 59) | 1,3,5-Trimethylbenzene | 24.645 | 11.837 | 105.1 | |
| 60) | 1,2,4-Trimethylbenzene | 25.248 | 12.283 | 105.1 | |
| 61) | 1,3-Dichlorobenzene | 25.795 | 11.263 | 146 | |
| 62) | 1,4-Dichlorobenzene | 25.941 | 11.358 | 146 | |
| 63) | Benzyl chloride | 26.178 | 13.001 | 91.1 | 0.000 |
| 64) | 1,2-Dichlorobenzene | 26.556 | 11.304 | 146 | 0.000 |
| 65) | 1,2,4-Trichlorobenzene | 29.020 | 9.346 | 179.9 | 0.000 |
| 66) | Hexachlorobutadiene | 29.135 | 10.456 | 224.9 | 0.000 |
| ) | 0 | 0.000 | 0.000 | 0 | 0.000 |

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# CHEMSTATION CONCENTRATION REPORT

Instrument Name: HP5973K
Sample Name: S17G076-SCV1
Misc Info: 10ppbv 1729080
Date Acquired: 7/20/2017 0:10
QLast Update: Thu Jul 20 09:11:28 201
Operator: LLH

| # | Name | L1 | L2 | L3 | L4 | L5 | L6 |
|---|---|---|---|---|---|---|---|
| 1) | BROMOCHLOROMETHANE | 19.80 | 19.80 | 19.80 | 19.80 | 19.80 | 19.80 |
| 2) | Propene | 1.10 | 2.20 | 5.50 | 11.00 | 16.50 | 22.00 |
| 3) | Dichlorodifluoromethane | 1.06 | 2.12 | 5.30 | 10.60 | 15.90 | 21.20 |
| 4) | 1,2-Dichlorotetrafluoroethane | 1.01 | 2.02 | 5.05 | 10.10 | 15.15 | 20.20 |
| 5) | Chloromethane | 1.10 | 2.20 | 5.50 | 11.00 | 16.50 | 22.00 |
| 6) | Vinyl chloride | 1.07 | 2.14 | 5.35 | 10.70 | 16.05 | 21.40 |
| 7) | 1,3-Butadiene | 1.06 | 2.12 | 5.30 | 10.60 | 15.90 | 21.20 |
| 8) | Bromomethane | 1.07 | 2.14 | 5.35 | 10.70 | 16.05 | 21.40 |
| 9) | Chloroethane | 1.05 | 2.10 | 5.25 | 10.50 | 15.75 | 21.00 |
| 10) | Bromoethene | 1.08 | 2.16 | 5.40 | 10.80 | 16.20 | 21.60 |
| 11) | Trichlorofluoromethane | 1.00 | 2.00 | 5.00 | 10.00 | 15.00 | 20.00 |
| 12) | 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.94 | 1.88 | 4.70 | 9.40 | 14.10 | 18.80 |
| 13) | 1,1-Dichloroethene | 1.03 | 2.06 | 5.15 | 10.30 | 15.45 | 20.60 |
| 14) | Acetone | 1.10 | 2.20 | 5.50 | 11.00 | 16.50 | 22.00 |
| 15) | Carbon disulfide | 1.06 | 2.12 | 5.30 | 10.60 | 15.90 | 21.20 |
| 16) | 2-Propanol | 1.10 | 2.20 | 5.50 | 11.00 | 16.50 | 22.00 |
| 17) | Allyl chloride | 1.10 | 2.20 | 5.50 | 11.00 | 16.50 | 22.00 |
| 18) | Dichloromethane | 0.97 | 1.94 | 4.85 | 9.70 | 14.55 | 19.40 |
| 19) | tert-Butyl methyl ether (MTBE) | 1.08 | 2.16 | 5.40 | 10.80 | 16.20 | 21.60 |
| 20) | trans-1,2-Dichloroethene | 1.10 | 2.20 | 5.50 | 11.00 | 16.50 | 22.00 |
| 21) | Hexane | 1.05 | 2.10 | 5.25 | 10.50 | 15.75 | 21.00 |
| 22) | 1,1-Dichloroethane | 0.99 | 1.98 | 4.95 | 9.90 | 14.85 | 19.80 |
| 23) | Vinyl acetate | 1.10 | 2.20 | 5.50 | 11.00 | 16.50 | 22.00 |
| 24) | cis-1,2-Dichloroethene | 1.04 | 2.08 | 5.20 | 10.40 | 15.60 | 20.80 |
| 25) | 2-Butanone (MEK) | 1.08 | 2.16 | 5.40 | 10.80 | 16.20 | 21.60 |
| 26) | Ethyl acetate | 1.09 | 2.18 | 5.45 | 10.90 | 16.35 | 21.80 |
| 27) | Tetrahydrofuran | 1.05 | 2.10 | 5.25 | 10.50 | 15.75 | 21.00 |
| 28) | Chloroform | 1.07 | 2.14 | 5.35 | 10.70 | 16.05 | 21.40 |
| 29) | Cyclohexane | 1.07 | 2.14 | 5.35 | 10.70 | 16.05 | 21.40 |
| 30) | 1,1,1-Trichloroethane | 1.03 | 2.06 | 5.15 | 10.30 | 15.45 | 20.60 |
| 31) | Carbon tetrachloride | 1.04 | 2.08 | 5.20 | 10.40 | 15.60 | 20.80 |
| 32) | 1,4-DIFLUOROBENZENE | 19.60 | 19.60 | 19.60 | 19.60 | 19.60 | 19.60 |
| 33) | Benzene | 1.07 | 2.14 | 5.35 | 10.70 | 16.05 | 21.40 |
| 34) | 2,2,4-Trimethylpentane | 1.06 | 2.12 | 5.30 | 10.60 | 15.90 | 21.20 |
| 35) | 1,2-Dichloroethane | 1.04 | 2.08 | 5.20 | 10.40 | 15.60 | 20.80 |
| 36) | Heptane | 1.07 | 2.14 | 5.35 | 10.70 | 16.05 | 21.40 |
| 37) | Trichloroethene | 1.10 | 2.20 | 5.50 | 11.00 | 16.50 | 22.00 |
| 38) | 1,2-Dichloropropane | 1.07 | 2.14 | 5.35 | 10.70 | 16.05 | 21.40 |
| 39) | 1,4-Dioxane | 1.06 | 2.12 | 5.30 | 10.60 | 15.90 | 21.20 |
| 40) | Bromodichloromethane | 1.04 | 2.08 | 5.20 | 10.40 | 15.60 | 20.80 |
| 41) | cis-1,3-Dichloropropene | 1.04 | 2.08 | 5.20 | 10.40 | 15.60 | 20.80 |
| 42) | 4-Methyl-2-pentanone (MIBK) | 1.06 | 2.12 | 5.30 | 10.60 | 15.90 | 21.20 |

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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 43) | CHLOROBENZENE-d5 | 19.60 | 19.60 | 19.60 | 19.60 | 19.60 | 19.60 |
| 44) | Toluene | 1.08 | 2.16 | 5.40 | 10.80 | 16.20 | 21.60 |
| 45) | trans-1,3-Dichloropropene | 0.97 | 1.94 | 4.85 | 9.70 | 14.55 | 19.40 |
| 46) | 1,1,2-Trichloroethane | 1.09 | 2.18 | 5.45 | 10.90 | 16.35 | 21.80 |
| 47) | Tetrachloroethene | 1.08 | 2.16 | 5.40 | 10.80 | 16.20 | 21.60 |
| 48) | 2-Hexanone | 1.05 | 2.10 | 5.25 | 10.50 | 15.75 | 21.00 |
| 49) | Chlorodibromomethane | 1.07 | 2.14 | 5.35 | 10.70 | 16.05 | 21.40 |
| 50) | 1,2-Dibromoethane (EDB) | 1.10 | 2.20 | 5.50 | 11.00 | 16.50 | 22.00 |
| 51) | Chlorobenzene | 1.10 | 2.20 | 5.50 | 11.00 | 16.50 | 22.00 |
| 52) | Ethylbenzene | 1.09 | 2.18 | 5.45 | 10.90 | 16.35 | 21.80 |
| 53) | m&p-Xylene | 2.16 | 4.32 | 10.80 | 21.60 | 32.40 | 43.20 |
| 54) | o-Xylene | 1.06 | 2.12 | 5.30 | 10.60 | 15.90 | 21.20 |
| 55) | Styrene | 1.03 | 2.06 | 5.15 | 10.30 | 15.45 | 20.60 |
| 56) | Bromoform | 1.07 | 2.14 | 5.35 | 10.70 | 16.05 | 21.40 |
| 57) | 1,1,2,2-Tetrachloroethane | 1.05 | 2.10 | 5.25 | 10.50 | 15.75 | 21.00 |
| 58) | 4-Ethyltoluene | 1.04 | 2.08 | 5.20 | 10.40 | 15.60 | 20.80 |
| 59) | 1,3,5-Trimethylbenzene | 1.07 | 2.14 | 5.35 | 10.70 | 16.05 | 21.40 |
| 60) | 1,2,4-Trimethylbenzene | 1.06 | 2.12 | 5.30 | 10.60 | 15.90 | 21.20 |
| 61) | 1,3-Dichlorobenzene | 1.05 | 2.10 | 5.25 | 10.50 | 15.75 | 21.00 |
| 62) | 1,4-Dichlorobenzene | 1.06 | 2.12 | 5.30 | 10.60 | 15.90 | 21.20 |
| 63) | Benzyl chloride | 1.10 | 2.20 | 5.50 | 11.00 | 16.50 | 22.00 |
| 64) | 1,2-Dichlorobenzene | 1.04 | 2.08 | 5.20 | 10.40 | 15.60 | 20.80 |
| 65) | 1,2,4-Trichlorobenzene | 0.94 | 1.88 | 4.70 | 9.40 | 14.10 | 18.80 |
| 66) | Hexachlorobutadiene | 0.99 | 1.98 | 4.95 | 9.90 | 14.85 | 19.80 |
| ) | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

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# CALIBRATION AREA REPORT

Instrument Name: HP5973K
Sample Name: S17G076-SCV1
Misc Info: 10ppbv 1729080
Date Acquired: 7/20/2017 0:10
QLast Update: Thu Jul 20 09:11:28 201
Operator: LLH

| # | Name | L1 | L2 | L3 | L4 | L5 | L6 |
|---|---|---|---|---|---|---|---|
| 1) | BROMOCHLOROMETHANE | 378562 | 379472 | 390574 | 396141 | 402628 | 412629 |
| 2) | Propene | 9933 | 18562 | 48913 | 104310 | 161186 | 226079 |
| 3) | Dichlorodifluoromethane | 47117 | 96488 | 238298 | 476114 | 726239 | 990251 |
| 4) | 1,2-Dichlorotetrafluoroethane | 43167 | 87626 | 216358 | 441645 | 682817 | 933893 |
| 5) | Chloromethane | 12747 | 24781 | 62064 | 127256 | 197415 | 271600 |
| 6) | Vinyl chloride | 15342 | 31635 | 75207 | 155953 | 238675 | 327113 |
| 7) | 1,3-Butadiene | 11554 | 21194 | 53136 | 109249 | 169028 | 229347 |
| 8) | Bromomethane | 12439 | 25376 | 61945 | 124880 | 191404 | 264880 |
| 9) | Chloroethane | 7276 | 14842 | 36297 | 71480 | 111280 | 153945 |
| 10) | Bromoethene | 11267 | 22341 | 58632 | 121851 | 192516 | 270207 |
| 11) | Trichlorofluoromethane | 42483 | 89576 | 215917 | 427548 | 644524 | 879294 |
| 12) | 1,1,2-Trichloro-1,2,2-trifluoroethane | 22310 | 45511 | 111317 | 222201 | 338809 | 464841 |
| 13) | 1,1-Dichloroethene | 16128 | 33988 | 89758 | 191866 | 302849 | 419850 |
| 14) | Acetone | 19907 | 40484 | 99784 | 201230 | 307554 | 422884 |
| 15) | Carbon disulfide | 38682 | 77579 | 193035 | 386727 | 589230 | 812406 |
| 16) | 2-Propanol | 10670 | 22959 | 65050 | 145420 | 231063 | 327179 |
| 17) | Allyl chloride | 10571 | 23353 | 63534 | 136784 | 213985 | 297761 |
| 18) | Dichloromethane | 17551 | 31075 | 68361 | 132342 | 197697 | 271698 |
| 19) | tert-Butyl methyl ether (MTBE) | 26277 | 57690 | 164598 | 362798 | 573062 | 806470 |
| 20) | trans-1,2-Dichloroethene | 17750 | 38218 | 96765 | 195594 | 298362 | 408724 |
| 21) | Hexane | 14209 | 32381 | 91040 | 195807 | 302706 | 421633 |
| 22) | 1,1-Dichloroethane | 22765 | 46807 | 117438 | 235956 | 358374 | 498528 |
| 23) | Vinyl acetate | 12358 | 30261 | 97316 | 225338 | 360451 | 509765 |
| 24) | cis-1,2-Dichloroethene | 13026 | 28045 | 78140 | 168955 | 263781 | 367670 |
| 25) | 2-Butanone (MEK) | 5243 | 11296 | 32179 | 66965 | 103473 | 143929 |
| 26) | Ethyl acetate | 3332 | 7355 | 19378 | 39549 | 60741 | 85756 |
| 27) | Tetrahydrofuran | 10895 | 23411 | 60622 | 129124 | 199746 | 276128 |
| 28) | Chloroform | 31324 | 65249 | 162505 | 324241 | 491532 | 673290 |
| 29) | Cyclohexane | 16051 | 34918 | 97142 | 204054 | 312621 | 434708 |
| 30) | 1,1,1-Trichloroethane | 32660 | 68856 | 169746 | 345528 | 525933 | 722014 |
| 31) | Carbon tetrachloride | 33581 | 71405 | 176855 | 362244 | 548856 | 754944 |
| 32) | 1,4-DIFLUOROBENZENE | 1292649 | 1292899 | 1312140 | 1346899 | 1377920 | 1429914 |
| 33) | Benzene | 39844 | 86806 | 216579 | 441860 | **674591** | 933527 |
| 34) | 2,2,4-Trimethylpentane | 45912 | 106201 | 298141 | 630483 | 976778 | 1357518 |
| 35) | 1,2-Dichloroethane | 21927 | 45588 | 115047 | 228313 | 344414 | 473373 |
| 36) | Heptane | 17025 | 39070 | 106744 | 220278 | 337126 | 463695 |
| 37) | Trichloroethene | 17288 | 37023 | 95101 | 200432 | 311340 | 436296 |
| 38) | 1,2-Dichloropropane | 12845 | 27304 | 70496 | 146136 | 226159 | 314078 |
| 39) | 1,4-Dioxane | 6054 | 14383 | 39442 | 84349 | 133415 | 183873 |
| 40) | Bromodichloromethane | 33933 | 70209 | 174074 | 353930 | 541961 | 745899 |
| 41) | cis-1,3-Dichloropropene | 15295 | 35729 | 103103 | 229254 | 361885 | 510709 |
| 42) | 4-Methyl-2-pentanone (MIBK) | 20140 | 46219 | 130846 | 277920 | 431480 | 595393 |

**C:\MSDChem\1\DATA\10255KAA\10255KC4.D**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 43) | CHLOROBENZENE-d5 | 1158666 | 1165840 | 1209246 | 1264435 | 1303229 | 1356826 |
| 44) | Toluene | 41498 | 98595 | 263581 | 554990 | 861634 | 1200287 |
| 45) | trans-1,3-Dichloropropene | 13767 | 33364 | 95424 | 210135 | 336138 | 470754 |
| 46) | 1,1,2-Trichloroethane | 17306 | 37233 | 94546 | 198754 | 305019 | 429660 |
| 47) | Tetrachloroethene | 25186 | 54672 | 142400 | 301309 | 469113 | 661048 |
| 48) | 2-Hexanone | 16167 | 40228 | 116796 | 255819 | 401162 | 552885 |
| 49) | Chlorodibromomethane | 31356 | 68530 | 175662 | 370336 | 575463 | 795735 |
| 50) | 1,2-Dibromoethane (EDB) | 22427 | 49075 | 130601 | 277208 | 433703 | 605606 |
| 51) | Chlorobenzene | 42840 | 89992 | 227650 | 467487 | 715036 | 999734 |
| 52) | Ethylbenzene | 64562 | 146642 | 385670 | 801525 | 1246694 | 1725406 |
| 53) | m&p-Xylene | 96014 | 225147 | 591874 | 1243939 | 1935499 | 2673273 |
| 54) | o-Xylene | 38513 | 97538 | 280104 | 614106 | 962328 | 1336627 |
| 55) | Styrene | 32118 | 79804 | 218206 | 468263 | 730852 | 1015736 |
| 56) | Bromoform | 27893 | 66448 | 175819 | 377104 | 597640 | 837921 |
| 57) | 1,1,2,2-Tetrachloroethane | 37241 | 80447 | 206340 | 428450 | 665252 | 928057 |
| 58) | 4-Ethyltoluene | 46502 | 135764 | 407272 | 879504 | 1386269 | 1926916 |
| 59) | 1,3,5-Trimethylbenzene | 54317 | 134198 | 364685 | 762235 | 1188733 | 1645432 |
| 60) | 1,2,4-Trimethylbenzene | 42602 | 114584 | 340784 | 742372 | 1167410 | 1632891 |
| 61) | 1,3-Dichlorobenzene | 37941 | 81774 | 225703 | 488560 | 774341 | 1081022 |
| 62) | 1,4-Dichlorobenzene | 35344 | 79247 | 222301 | 477001 | 754900 | 1049274 |
| 63) | Benzyl chloride | 16841 | 67069 | 209676 | 481705 | 782641 | 1105705 |
| 64) | 1,2-Dichlorobenzene | 36210 | 83194 | 228163 | 490260 | 771768 | 1069515 |
| 65) | 1,2,4-Trichlorobenzene | 25666 | 51434 | 148301 | 333114 | 537093 | 766736 |
| 66) | Hexachlorobutadiene | 41569 | 88457 | 224491 | 474827 | 745329 | 1035422 |
| ) | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

# CHEMSTATION VS LIMS CONCENTRATION REPORT

Instrument Name: HP5973K
Sample Name: S17G076-SCV1
Misc Info: 10ppbv 1729080
Date Acquired: 7/20/2017 0:10
QLast Update: Thu Jul 20 09:11:28 201
Operator: LLH

| # | Name | L1 | L2 | L3 | L4 | L5 | L6 |
|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 5 | 10 | 15 | 20 |
| 1) | BROMOCHLOROMETHANE | | | | | | |
| 2) | Propene | OK | OK | OK | OK | OK | OK |
| 3) | Dichlorodifluoromethane | OK | OK | OK | OK | OK | OK |
| 4) | 1,2-Dichlorotetrafluoroethane | OK | OK | OK | OK | OK | OK |
| 5) | Chloromethane | OK | OK | OK | OK | OK | OK |
| 6) | Vinyl chloride | OK | OK | OK | OK | OK | OK |
| 7) | 1,3-Butadiene | OK | OK | OK | OK | OK | OK |
| 8) | Bromomethane | OK | OK | OK | OK | OK | OK |
| 9) | Chloroethane | OK | OK | OK | OK | OK | OK |
| 10) | Bromoethene | OK | OK | OK | OK | OK | OK |
| 11) | Trichlorofluoromethane | OK | OK | OK | OK | OK | OK |
| 12) | 1,1,2-Trichloro-1,2,2-trifluoroethane | OK | OK | OK | OK | OK | OK |
| 13) | 1,1-Dichloroethene | OK | OK | OK | OK | OK | OK |
| 14) | Acetone | OK | OK | OK | OK | OK | OK |
| 15) | Carbon disulfide | OK | OK | OK | OK | OK | OK |
| 16) | 2-Propanol | OK | OK | OK | OK | OK | OK |
| 17) | Allyl chloride | OK | OK | OK | OK | OK | OK |
| 18) | Dichloromethane | OK | OK | OK | OK | OK | OK |
| 19) | tert-Butyl methyl ether (MTBE) | OK | OK | OK | OK | OK | OK |
| 20) | trans-1,2-Dichloroethene | OK | OK | OK | OK | OK | OK |
| 21) | Hexane | OK | OK | OK | OK | OK | OK |
| 22) | 1,1-Dichloroethane | OK | OK | OK | OK | OK | OK |
| 23) | Vinyl acetate | OK | OK | OK | OK | OK | OK |
| 24) | cis-1,2-Dichloroethene | OK | OK | OK | OK | OK | OK |
| 25) | 2-Butanone (MEK) | OK | OK | OK | OK | OK | OK |
| 26) | Ethyl acetate | OK | OK | OK | OK | OK | OK |
| 27) | Tetrahydrofuran | OK | OK | OK | OK | OK | OK |
| 28) | Chloroform | OK | OK | OK | OK | OK | OK |
| 29) | Cyclohexane | OK | OK | OK | OK | OK | OK |
| 30) | 1,1,1-Trichloroethane | OK | OK | OK | OK | OK | OK |
| 31) | Carbon tetrachloride | OK | OK | OK | OK | OK | OK |
| 32) | 1,4-DIFLUOROBENZENE | | | | | | |
| 33) | Benzene | OK | OK | OK | OK | **OK** | OK |
| 34) | 2,2,4-Trimethylpentane | OK | OK | OK | OK | OK | OK |
| 35) | 1,2-Dichloroethane | OK | OK | OK | OK | OK | OK |
| 36) | Heptane | OK | OK | OK | OK | OK | OK |
| 37) | Trichloroethene | OK | OK | OK | OK | OK | OK |
| 38) | 1,2-Dichloropropane | OK | OK | OK | OK | OK | OK |
| 39) | 1,4-Dioxane | OK | OK | OK | OK | OK | OK |
| 40) | Bromodichloromethane | OK | OK | OK | OK | OK | OK |
| 41) | cis-1,3-Dichloropropene | OK | OK | OK | OK | OK | OK |
| 42) | 4-Methyl-2-pentanone (MIBK) | OK | OK | OK | OK | OK | OK |
| 43) | CHLOROBENZENE-d5 | | | | | | |
| 44) | Toluene | OK | OK | OK | OK | OK | OK |
| 45) | trans-1,3-Dichloropropene | OK | OK | OK | OK | OK | OK |
| 46) | 1,1,2-Trichloroethane | OK | OK | OK | OK | OK | OK |
| 47) | Tetrachloroethene | OK | OK | OK | OK | OK | OK |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 48) | 2-Hexanone | OK | OK | OK | OK | OK | OK |
| 49) | Chlorodibromomethane | OK | OK | OK | OK | OK | OK |
| 50) | 1,2-Dibromoethane (EDB) | OK | OK | OK | OK | OK | OK |
| 51) | Chlorobenzene | OK | OK | OK | OK | OK | OK |
| 52) | Ethylbenzene | OK | OK | OK | OK | OK | OK |
| 53) | m&p-Xylene | OK | OK | OK | OK | OK | OK |
| 54) | o-Xylene | OK | OK | OK | OK | OK | OK |
| 55) | Styrene | OK | OK | OK | OK | OK | OK |
| 56) | Bromoform | OK | OK | OK | OK | OK | OK |
| 57) | 1,1,2,2-Tetrachloroethane | OK | OK | OK | OK | OK | OK |
| 58) | 4-Ethyltoluene | OK | OK | OK | OK | OK | OK |
| 59) | 1,3,5-Trimethylbenzene | OK | OK | OK | OK | OK | OK |
| 60) | 1,2,4-Trimethylbenzene | OK | OK | OK | OK | OK | OK |
| 61) | 1,3-Dichlorobenzene | OK | OK | OK | OK | OK | OK |
| 62) | 1,4-Dichlorobenzene | OK | OK | OK | OK | OK | OK |
| 63) | Benzyl chloride | OK | OK | OK | OK | OK | OK |
| 64) | 1,2-Dichlorobenzene | OK | OK | OK | OK | OK | OK |
| 65) | 1,2,4-Trichlorobenzene | OK | OK | OK | OK | OK | OK |
| 66) | Hexachlorobutadiene | OK | OK | OK | OK | OK | OK |

# LIMS CONCENTRATION REPORT

Instrument Name: HP5973K
Sample Name: S17G076-SCV1
Misc Info: 10ppbv 1729080
Date Acquired: 7/20/2017 0:10
QLast Update: Thu Jul 20 09:11:28 20
Operator: LLH

| | | | L1 | L2 | L3 | L4 | L5 | L6 |
|---|---|---|---|---|---|---|---|---|
| # | Name | Amount | 1 | 2 | 5 | 10 | 15 | 20 |
| 1) | BROMOCHLOROMETHANE | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A |
| 2) | Propene | 0.022 | 1.10 | 2.20 | 5.50 | 11.00 | 16.50 | 22.00 |
| 3) | Dichlorodifluoromethane | 0.0212 | 1.06 | 2.12 | 5.30 | 10.60 | 15.90 | 21.20 |
| 4) | 1,2-Dichlorotetrafluoroethane | 0.0202 | 1.01 | 2.02 | 5.05 | 10.10 | 15.15 | 20.20 |
| 5) | Chloromethane | 0.022 | 1.10 | 2.20 | 5.50 | 11.00 | 16.50 | 22.00 |
| 6) | Vinyl chloride | 0.0214 | 1.07 | 2.14 | 5.35 | 10.70 | 16.05 | 21.40 |
| 7) | 1,3-Butadiene | 0.0212 | 1.06 | 2.12 | 5.30 | 10.60 | 15.90 | 21.20 |
| 8) | Bromomethane | 0.0214 | 1.07 | 2.14 | 5.35 | 10.70 | 16.05 | 21.40 |
| 9) | Chloroethane | 0.021 | 1.05 | 2.10 | 5.25 | 10.50 | 15.75 | 21.00 |
| 10) | Bromoethene | 0.0216 | 1.08 | 2.16 | 5.40 | 10.80 | 16.20 | 21.60 |
| 11) | Trichlorofluoromethane | 0.02 | 1.00 | 2.00 | 5.00 | 10.00 | 15.00 | 20.00 |
| 12) | 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.0188 | 0.94 | 1.88 | 4.70 | 9.40 | 14.10 | 18.80 |
| 13) | 1,1-Dichloroethene | 0.0206 | 1.03 | 2.06 | 5.15 | 10.30 | 15.45 | 20.60 |
| 14) | Acetone | 0.022 | 1.10 | 2.20 | 5.50 | 11.00 | 16.50 | 22.00 |
| 15) | Carbon disulfide | 0.0212 | 1.06 | 2.12 | 5.30 | 10.60 | 15.90 | 21.20 |
| 16) | 2-Propanol | 0.022 | 1.10 | 2.20 | 5.50 | 11.00 | 16.50 | 22.00 |
| 17) | Allyl chloride | 0.022 | 1.10 | 2.20 | 5.50 | 11.00 | 16.50 | 22.00 |
| 18) | Dichloromethane | 0.0194 | 0.97 | 1.94 | 4.85 | 9.70 | 14.55 | 19.40 |
| 19) | tert-Butyl methyl ether (MTBE) | 0.0216 | 1.08 | 2.16 | 5.40 | 10.80 | 16.20 | 21.60 |
| 20) | trans-1,2-Dichloroethene | 0.022 | 1.10 | 2.20 | 5.50 | 11.00 | 16.50 | 22.00 |
| 21) | Hexane | 0.021 | 1.05 | 2.10 | 5.25 | 10.50 | 15.75 | 21.00 |
| 22) | 1,1-Dichloroethane | 0.0198 | 0.99 | 1.98 | 4.95 | 9.90 | 14.85 | 19.80 |
| 23) | Vinyl acetate | 0.022 | 1.10 | 2.20 | 5.50 | 11.00 | 16.50 | 22.00 |
| 24) | cis-1,2-Dichloroethene | 0.0208 | 1.04 | 2.08 | 5.20 | 10.40 | 15.60 | 20.80 |
| 25) | 2-Butanone (MEK) | 0.0216 | 1.08 | 2.16 | 5.40 | 10.80 | 16.20 | 21.60 |
| 26) | Ethyl acetate | 0.0218 | 1.09 | 2.18 | 5.45 | 10.90 | 16.35 | 21.80 |
| 27) | Tetrahydrofuran | 0.021 | 1.05 | 2.10 | 5.25 | 10.50 | 15.75 | 21.00 |
| 28) | Chloroform | 0.0214 | 1.07 | 2.14 | 5.35 | 10.70 | 16.05 | 21.40 |
| 29) | Cyclohexane | 0.0214 | 1.07 | 2.14 | 5.35 | 10.70 | 16.05 | 21.40 |
| 30) | 1,1,1-Trichloroethane | 0.0206 | 1.03 | 2.06 | 5.15 | 10.30 | 15.45 | 20.60 |
| 31) | Carbon tetrachloride | 0.0208 | 1.04 | 2.08 | 5.20 | 10.40 | 15.60 | 20.80 |
| 32) | 1,4-DIFLUOROBENZENE | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A |
| 33) | Benzene | 0.0214 | 1.07 | 2.14 | 5.35 | **10.70** | 16.05 | 21.40 |
| 34) | 2,2,4-Trimethylpentane | 0.0212 | 1.06 | 2.12 | 5.30 | 10.60 | 15.90 | 21.20 |
| 35) | 1,2-Dichloroethane | 0.0208 | 1.04 | 2.08 | 5.20 | 10.40 | 15.60 | 20.80 |
| 36) | Heptane | 0.0214 | 1.07 | 2.14 | 5.35 | 10.70 | 16.05 | 21.40 |
| 37) | Trichloroethene | 0.022 | 1.10 | 2.20 | 5.50 | 11.00 | 16.50 | 22.00 |
| 38) | 1,2-Dichloropropane | 0.0214 | 1.07 | 2.14 | 5.35 | 10.70 | 16.05 | 21.40 |
| 39) | 1,4-Dioxane | 0.0212 | 1.06 | 2.12 | 5.30 | 10.60 | 15.90 | 21.20 |
| 40) | Bromodichloromethane | 0.0208 | 1.04 | 2.08 | 5.20 | 10.40 | 15.60 | 20.80 |
| 41) | cis-1,3-Dichloropropene | 0.0208 | 1.04 | 2.08 | 5.20 | 10.40 | 15.60 | 20.80 |
| 42) | 4-Methyl-2-pentanone (MIBK) | 0.0212 | 1.06 | 2.12 | 5.30 | 10.60 | 15.90 | 21.20 |
| 43) | CHLOROBENZENE-d5 | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A |
| 44) | Toluene | 0.0216 | 1.08 | 2.16 | 5.40 | 10.80 | 16.20 | 21.60 |
| 45) | trans-1,3-Dichloropropene | 0.0194 | 0.97 | 1.94 | 4.85 | 9.70 | 14.55 | 19.40 |
| 46) | 1,1,2-Trichloroethane | 0.0218 | 1.09 | 2.18 | 5.45 | 10.90 | 16.35 | 21.80 |
| 47) | Tetrachloroethene | 0.0216 | 1.08 | 2.16 | 5.40 | 10.80 | 16.20 | 21.60 |
| 48) | 2-Hexanone | 0.021 | 1.05 | 2.10 | 5.25 | 10.50 | 15.75 | 21.00 |
| 49) | Chlorodibromomethane | 0.0214 | 1.07 | 2.14 | 5.35 | 10.70 | 16.05 | 21.40 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 50) | 1,2-Dibromoethane (EDB) | 0.022 | 1.10 | 2.20 | 5.50 | 11.00 | 16.50 | 22.00 |
| 51) | Chlorobenzene | 0.022 | 1.10 | 2.20 | 5.50 | 11.00 | 16.50 | 22.00 |
| 52) | Ethylbenzene | 0.0218 | 1.09 | 2.18 | 5.45 | 10.90 | 16.35 | 21.80 |
| 53) | m&p-Xylene | 0.0432 | 2.16 | 4.32 | 10.80 | 21.60 | 32.40 | 43.20 |
| 54) | o-Xylene | 0.0212 | 1.06 | 2.12 | 5.30 | 10.60 | 15.90 | 21.20 |
| 55) | Styrene | 0.0206 | 1.03 | 2.06 | 5.15 | 10.30 | 15.45 | 20.60 |
| 56) | Bromoform | 0.0214 | 1.07 | 2.14 | 5.35 | 10.70 | 16.05 | 21.40 |
| 57) | 1,1,2,2-Tetrachloroethane | 0.021 | 1.05 | 2.10 | 5.25 | 10.50 | 15.75 | 21.00 |
| 58) | 4-Ethyltoluene | 0.0208 | 1.04 | 2.08 | 5.20 | 10.40 | 15.60 | 20.80 |
| 59) | 1,3,5-Trimethylbenzene | 0.0214 | 1.07 | 2.14 | 5.35 | 10.70 | 16.05 | 21.40 |
| 60) | 1,2,4-Trimethylbenzene | 0.0212 | 1.06 | 2.12 | 5.30 | 10.60 | 15.90 | 21.20 |
| 61) | 1,3-Dichlorobenzene | 0.021 | 1.05 | 2.10 | 5.25 | 10.50 | 15.75 | 21.00 |
| 62) | 1,4-Dichlorobenzene | 0.0212 | 1.06 | 2.12 | 5.30 | 10.60 | 15.90 | 21.20 |
| 63) | Benzyl chloride | 0.022 | 1.10 | 2.20 | 5.50 | 11.00 | 16.50 | 22.00 |
| 64) | 1,2-Dichlorobenzene | 0.0208 | 1.04 | 2.08 | 5.20 | 10.40 | 15.60 | 20.80 |
| 65) | 1,2,4-Trichlorobenzene | 0.0188 | 0.94 | 1.88 | 4.70 | 9.40 | 14.10 | 18.80 |
| 66) | Hexachlorobutadiene | 0.0198 | 0.99 | 1.98 | 4.95 | 9.90 | 14.85 | 19.80 |

# U.S. EPA Region 9 Laboratory

# Discrepancy #: D15-011

**Form Initiator:** Estrellita Manuel **Entry Date:** 2/24/2015

| Case: | Project: | SDG: |
|---|---|---|
| All Cases | NA | NA |

| SOP: | Analysis: | Rev.: | Analyst: | Date: |
|---|---|---|---|---|
| 311 | VOCs in Soil Gas | 3 | All Analysts | 2/20/2015 |
| **SOP:** | **Prep:** | **Rev.:** | **Analyst:** | **Date:** |
| | | | | |

**Discrepancy Type (check all that apply):**

**LCS:**

- ☐ High
- ☐ Low
- ☐ Frequency

**MS/MSD:**

- ☐ High
- ☐ Low
- ☐ RPD
- ☐ Frequency

**Holding Time:**

- ☐ Prep/extract
- ☐ Analysis

**Blank:**

- ☐ MB
- ☐ IB
- ☐ CB
- ☐ Frequency

**Surrogate:**

- ☐ High
- ☐ Low
- ☐ Frequency

**Calibration:**

- ☐ ICAL
- ☐ SVC
- ☐ CCAL
- ☐ QLS
- ☐ Frequency

**Other:**

- ☑ Other (describe)

Contaminated internal standards

**Describe Discrepancy:**

Restek internal standard (IS) stock mixes 1506025 and 1508151 have 0.5 ppbv of dichloromethane (DCM). The observed concentration is 1/2 of the reporting limit. Depending on the experimental error in calculating DCM concentration, the value may fall just above or just below the reportable concentration limit. The issue does not impact the SIM analysis since the internal standard used for the SIM analysis is at lower concentration and therefore the DCM is diluted to about 10 pptv which is below the SIM reporting limit of 50 pptv.

**Describe Corrective Actions:**

ESAT chemists notified Restek about the internal standards contamination issue (Restek Reference # 039048). The laboratory is currently working with Restek on the issue and on obtaining replacement cylinders. The laboratory will continue to use the contaminated stock until replacements are obtained. Dichloromethane below 2.5 ppbv (5X the observed IS concentration) will be flagged B to reflect the IS contamination issue. A copy of this discrepancy will be included in all cases where the contaminated internal standards were utilized.

# U.S. EPA Region 9 Laboratory

# Discrepancy #: D15-011

**Approvals:**

| | |
|---|---|
| Supervisor (EPA or ESAT): Ziyad Rajabi | Date: 3/2/2015 |
| EPA Team Leader or ESAT QA/QC: Adriane Scheele | Date: 3/3/2015 |
| EPA Lab QAO: Lucrina Jones | Date: 3/3/2015 |
| Check if Corrective Action Form Generated: ☐ | Form #: |

**QAO Comments:**

# SEQUENCE

# S17G076

# ANALYST / REVIEWER - DATA REVIEW CHECKLIST

| | | | | | |
|---|---|---|---|---|---|
| BATCH #: | N / A | SEQUENCE #: | | S17G076 | 07/19/17 |
| BATCH #: | INITIAL CALIBRATION | ANALYSIS: | | TO15 | HP5973K |

| | CHECKLIST ITEM | N/A | ANALYST Y/N | REVIEWER Y/N | IDENTIFY OUTLIERS / COMMENTS |
|---|---|---|---|---|---|
| DOCUMENTATION | ANALYST: Bench sheet(s) attached?<br>REVIEWER: Bench sheet(s) reviewed? | ✔ | | | |
| | ANALYST: Sequence log(s) attached?<br>REVIEWER: Sequence log(s) reviewed? | | Y | Y | |
| | ANALYST: Every run has a PDF in LIMS?<br>REVIEWER: Every PDF reviewed? | | Y | Y | |
| INITIAL CALIBRATION | Date of Initial Calibration used:<br>If applicable, note date of "Last Update" in Comments. | 07/19/2017<br>Thur July 20, 2017 09:11:28 | | | ICAL : Benzyl chloride<br>SCV : Vinyl Acetate; 1,4-Dioxane |
| | Initial Calibration ID (LIMS number): | 1707015 | | | |
| | ICAL within QC criteria? | | Y | Y | Benzyl chloride = 30.39 %RSD |
| | SCV within QC criteria? | | Y | Y | Vinyl acetate = 42%<br>1,4-Dioxane = 148% |
| INSTRUMENT / QC CHECKS | Tune or degradation checks within QC criteria? | | Y | Y | PASSED |
| | CCV(s) within QC criteria? | ✔ | | | |
| | QLS(s) within QC criteria? | ✔ | | | |
| | CB(s) or storage blank(s) within QC criteria? | ✔ | | | |
| | Other instrument checks within QC criteria?<br>Specify if applicable. | ✔ | | | |
| BATCH QCs | Method blanks < 1/2 QL? | ✔ | | | |
| | LCS(s) or SRM(s) within QC criteria? | ✔ | | | |
| | MSs/MSDs and/or DUPs within QC criteria? | ✔ | | | |
| | Other method-specific QCs within QC criteria?<br>Specify if applicable. | ✔ | | | |

# ANALYST / REVIEWER - DATA REVIEW CHECKLIST

| | | | | |
|---|---|---|---|---|
| BATCH #: | N / A | SEQUENCE #: | S17G076 | 07/19/17 |
| BATCH #: | INITIAL CALIBRATION | ANALYSIS: | TO15 | HP5973K |

| | CHECKLIST ITEM | N/A | ANALYST Y/N | REVIEWER Y/N | IDENTIFY OUTLIERS / COMMENTS |
|---|---|---|---|---|---|
| IS / SS | Internal standards within QC criteria? | ☐ | Y | Y | |
| | Surrogates within QC criteria? | ☑ | | | |
| SAMPLE DATA | Were samples prepared & analyzed within holding time? | ☑ | | | |
| | If samples need to be re-run, were RE(s) made in LIMS? | ☑ | | | |
| | Do any samples need to be re-digested or re-extracted? | ☑ | | | |
| | Were all data qualifiers appropriately applied? | ☑ | | | |
| | Are problems, anomalies, discrepancies documented in LIMS? Specify if applicable. | ☑ | | | |
| MANUAL INT | Were manual integrations performed and documented? Specify if applicable. | ☐ | Y | Y | |

| | | |
|---|---|---|
| APPROVALS | ANALYST INITIALS & DATE: | LLH 07/20/17 |
| | REVIEWED BY: | Ziyad Rajabi (affiliate) Digitally signed by Ziyad Rajabi (affiliate) Date: 2017.07.21 13:09:39 -07'00' SIGN HERE |

COMMENTS

*** Dichloromethane contamination slightly above 1/2 MDL, see Discrepancy Report D15-011. LLH 07/20/17

# Injection Log

Directory: d:\msdchem\1\2017\DATA\071917KA_FSAA

Table of Contents

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 31 | 071917KA01.D | 1. | PRIME | | 19 Jul 2017 16:40 |
| 2 | 32 | 071917KA02.D | 1. | PRIME | | 19 Jul 2017 17:31 |
| 3 | 31 | 071917KA03.D | 1. | S17G076-TUN1 | BFB 1538040 | 19 Jul 2017 18:22 |
| 4 | 31 | 071917KA04.D | 1. | S17G076-CAL1 | 1.0ppbv 1729073 | 19 Jul 2017 19:11 |
| 5 | 32 | 071917KA05.D | 1. | S17G076-CAL2 | 2.0ppbv 1729074 | 19 Jul 2017 19:59 |
| 6 | 32 | 071917KA06.D | 1. | S17G076-CAL3 | 5.0ppbv 1729075 | 19 Jul 2017 20:48 |
| 7 | 32 | 071917KA07.D | 1. | S17G076-CAL4 | 10ppbv 1729076 | 19 Jul 2017 21:37 |
| 8 | 32 | 071917KA08.D | 1. | S17G076-CAL5 | 15ppbv 1729077 | 19 Jul 2017 22:28 |
| 9 | 32 | 071917KA09.D | 1. | S17G076-CAL6 | 20ppbv 1729078 | 19 Jul 2017 23:19 |
| 10 | 38 | 071917KA10.D | 1. | S17G076-SCV1 | 10ppbv 1729080 | 20 Jul 2017 00:10 |
| 11 | 38 | 071917KA11.D | 1. | S17G076SCV1 | 10ppbv 1729080 | 20 Jul 2017 01:02 |
| 12 | 33 | 071917KA12.D | 1. | IBL | 200ml BLANK | 20 Jul 2017 01:53 |

GC/MS QA-QC Check Report

Table of Contents

Tune File : D:\msdchem\1\2017\DATA\071917KA_FSAA\071917KA03.D
Tune Time : 19 Jul 2017 6:22 pm

Daily Calibration File : D:\msdchem\1\2017\DATA\071917KA_FSAA\071917KA07.D

| File | Sample | Surrogate Recovery % | | | Internal Standard Responses |
|---|---|---|---|---|---|
| | | | 396141 | 1346900 | 1264440 |
| 071917KA04.D | S17G076-CAL1 | 378562 | 1292649 | 1158666 | |
| 071917KA05.D | S17G076-CAL2 | 379472 | 1292899 | 1165840 | |
| 071917KA06.D | S17G076-CAL3 | 390574 | 1312140 | 1209246 | |
| 071917KA07.D | S17G076-CAL4 | 396141 | 1346899 | 1264435 | |
| 071917KA08.D | S17G076-CAL5 | 402628 | 1377920 | 1303229 | |
| 071917KA09.D | S17G076-CAL6 | 412629 | 1429914 | 1356826 | |
| 071917KA10.D | S17G076-SCV1 | 418874 | 1451999 | 1368562 | |
| 071917KA11.D | S17G076SCV1 | 415360 | 1449652 | 1368165 | NOT USED |
| 071917KA12.D | IBL | 392591 | 1397601 | 1251468 | |

(fails) - fails 24hr time check * - fails criteria

Created: Thu Jul 20 09:27:02 2017 HP5973K

# Analysis Sequence

**S17G076**

**Project:**
**Analysis:**

**Instrument:** HP5973K **Calibration ID:** 1707015 Printed: 07/20/2017 9:34 am

| Lab Number | Sample Name | Order | Analyzed Date | STD ID | ISTD ID | Sequenced By | File ID | Comments |
|---|---|---|---|---|---|---|---|---|
| S17G076-TUN1 | MS Tune | 1 | 7/19/17 18:22 | 1538040 | | LLH | 071917KA03.D | |
| S17G076-CAL1 | TO15 | 2 | 7/19/17 19:11 | 1729073 | | LLH | 071917KA04.D | |
| S17G076-CAL2 | TO15 | 3 | 7/19/17 19:59 | 1729074 | | LLH | 071917KA05.D | |
| S17G076-CAL3 | TO15 | 4 | 7/19/17 20:48 | 1729075 | | LLH | 071917KA06.D | |
| S17G076-CAL4 | TO15 | 5 | 7/19/17 21:37 | 1729076 | | LLH | 071917KA07.D | |
| S17G076-CAL5 | TO15 | 6 | 7/19/17 22:28 | 1729077 | | LLH | 071917KA08.D | |
| S17G076-CAL6 | TO15 | 7 | 7/19/17 23:19 | 1729078 | | LLH | 071917KA09.D | |
| S17G076-SCV1 | TO15 SCV | 8 | 7/20/17 0:10 | 1729080 | | LLH | 071917KA10.D | |

**Sequence Comments**

**Reagents**

**Reagent #** **Description**

# Sequence Report

| ID | Name | Pos. | Int Std | Cal Std | Sample | Method | Inject | Status |
|---|---|---|---|---|---|---|---|---|
| | PRIME | T1 | 40 | 40 | 200 | TO-15_A.CTD3 | 7/19/2017 4:40:29 PM | Completed |
| | PRIME | T2 | 40 | 40 | 100 | TO-15_A.CTD3 | 7/19/2017 5:31:50 PM | Completed |
| | BFB | T1 | 40 | 40 | 50 | TO-15_A.CTD3 | 7/19/2017 6:22:27 PM | Completed |
| | CAL1 | T1 | 40 | 0 | 20 | TO-15_A.CTD3 | 7/19/2017 7:11:35 PM | Completed |
| | CAL2 | T2 | 40 | 0 | 20 | TO-15_A.CTD3 | 7/19/2017 7:59:36 PM | Completed |
| | CAL3 | T2 | 40 | 0 | 50 | TO-15_A.CTD3 | 7/19/2017 8:48:17 PM | Completed |
| | CAL4 | T2 | 40 | 0 | 100 | TO-15_A.CTD3 | 7/19/2017 9:37:50 PM | Completed |
| | CAL5 | T2 | 40 | 0 | 150 | TO-15_A.CTD3 | 7/19/2017 10:28:15 PM | Completed |
| | CAL6 | T2 | 40 | 0 | 200 | TO-15_A.CTD3 | 7/19/2017 11:19:43 PM | Completed |
| | SCV1 | T8 | 40 | 0 | 200 | TO-15_A.CTD3 | 7/20/2017 12:10:57 AM | Completed |
| | SCV1 | T8 | 40 | 0 | 200 | TO-15_A.CTD3 | 7/20/2017 1:02:12 AM | Completed |
| | BLANK | T3 | 40 | 0 | 200 | TO-15_A.CTD3 | 7/20/2017 1:53:37 AM | Completed |

# SEQUENCE DATA

# S17G076

# S17G076-TUN1

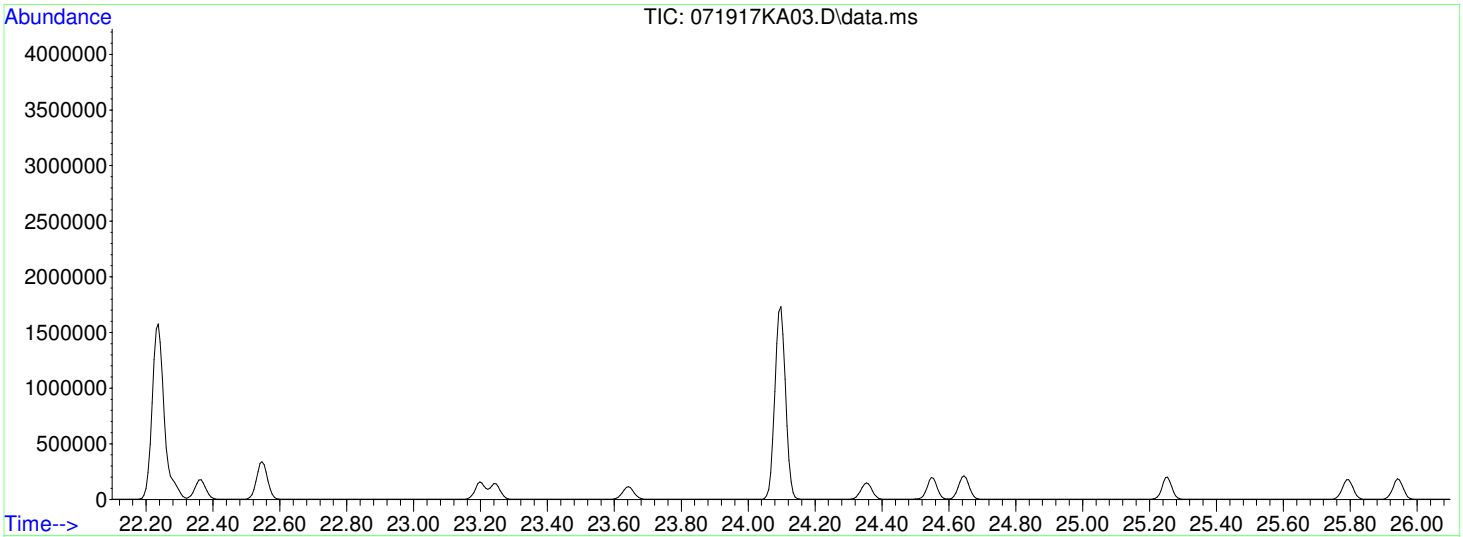
Table of Contents

Data Path : D:\msdchem\1\2017\DATA\071917KA_FSAA\
Data File : 071917KA03.D
InstName : HP5973K
Acq On : 19 Jul 2017 6:22 pm
Operator : LLH
Sample : S17G076-TUN1
Misc : BFB 1538040
ALS Vial : 31 Sample Multiplier: 1

**REVIEWED**
**By LLH at 9:01 am, Jul 20, 2017**

Integration File: lscint.p

Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Title : TO15
Last Update : Wed Jul 19 17:04:16 2017




AutoFind: Scans 3355, 3356, 3357; Background Corrected with Scan 3343

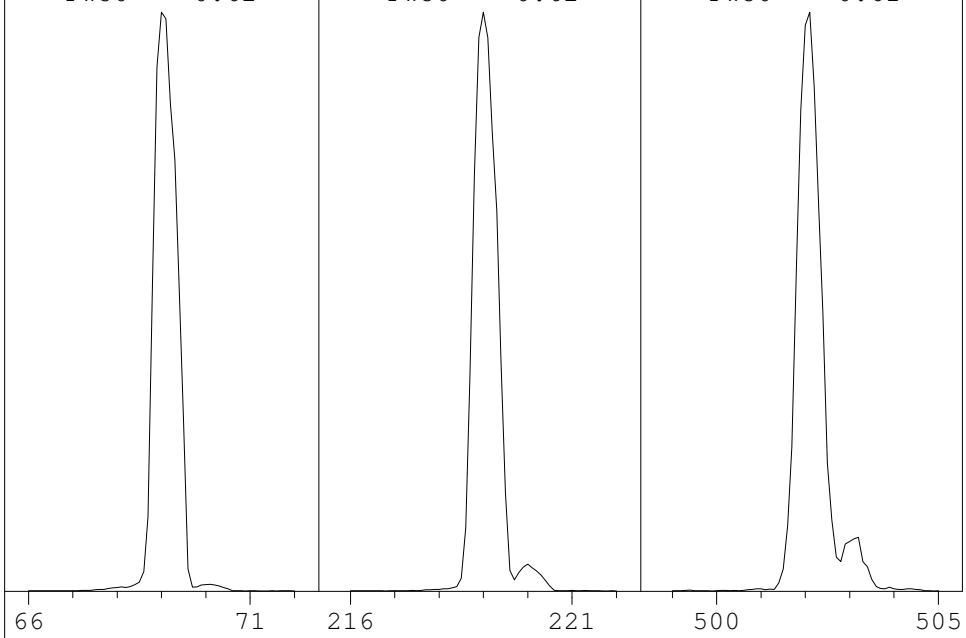
| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 50 | 95 | 8 | 40 | 19.3 | 61816 | PASS |
| 75 | 95 | 30 | 66 | 52.2 | 167019 | PASS |
| 95 | 95 | 100 | 100 | 100.0 | 319680 | PASS |
| 96 | 95 | 5 | 9 | 6.5 | 20888 | PASS |
| 173 | 174 | 0.00 | 2 | 0.5 | 1460 | PASS |
| 174 | 95 | 50 | 120 | 92.1 | 294485 | PASS |
| 175 | 174 | 4 | 9 | 7.3 | 21413 | PASS |
| 176 | 174 | 93 | 101 | 96.5 | 284139 | PASS |
| 177 | 176 | 5 | 9 | 6.5 | 18560 | PASS |

Autotune

Wed Jul 19 15:43:43 2017 Instrum

C:\MSDCHEM\1\5973N\atune.u US03960556

| Mass | 69.00 | Mass | 219.00 | Mass | 502.10 |
|---|---|---|---|---|---|
| Ab | 428063 | Ab | 329354 | Ab | 37239 |
| Pw50 | 0.62 | Pw50 | 0.62 | Pw50 | 0.61 |

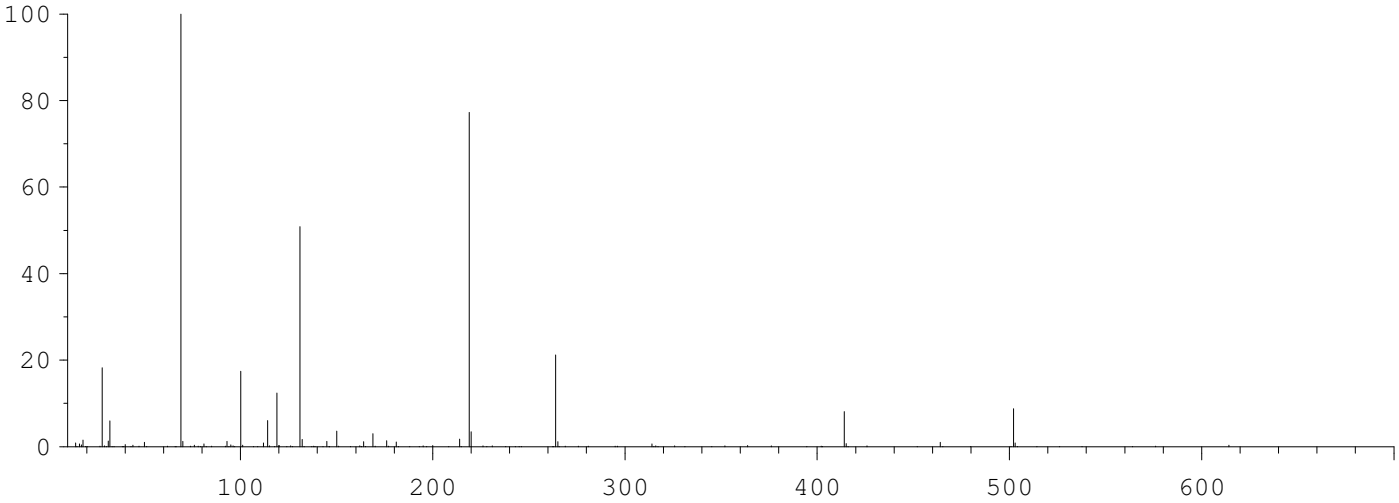



| | | | |
|---|---|---|---|
| Ion Pol | Pos | MassGain | 67 |
| | | MassOffs | -7 |
| Emission | 34.6 | AmuGain | 1998 |
| EIEnrgy | 69.9 | AmuOffs | 128 |
| Filament | 1 | Wid219 | -0.012 |
| | | DC Pol | Pos |
| Repeller | 34.81 | | |
| IonFcus | 90.2 | HEDEnab | On |
| EntLens | 14.5 | EMVolts | 1141 |
| EntOffs | 19.07 | | |
| | | Samples | 8 |
| PFTBA | Open | Averages | 3 |
| | | Stepsize | 0.10 |

Temperatures and Pressures:

| | | | |
|---|---|---|---|
| MS Source | 230 | Turbo Speed | 100 |
| MS Quad | 150 | | |

Scan: 10.00 - 700.00 Samples: 8 Thresh: 100 Step: 0.10
136 peaks Base: 69.10 Abundance: 382656




| Mass | Abund | Rel Abund | Iso Mass | Iso Abund | Iso Ratio |
|---|---|---|---|---|---|
| 69.10 | 382656 | 100.00 | 70.10 | 4567 | 1.19 |
| 219.00 | 295744 | 77.29 | 220.00 | 13207 | 4.47 |
| 502.10 | 33496 | 8.75 | 503.10 | 3384 | 10.10 |

Air/Water Check: H20~1.52% N2~18.23% O2~5.95% CO2~0.37% N2/H2O~1202.00%

Column(1) Flow: 1.496 Column(2): 0 ml/min. Interface Temp: 230

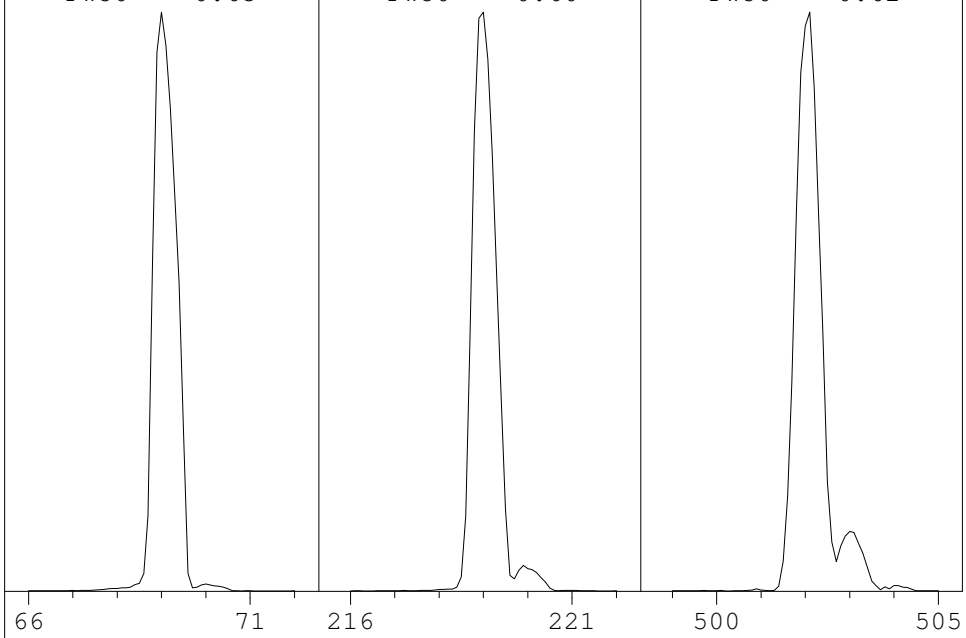
Ramp Criteria:
Ion Focus Maximum 90 volts using ion 502; EM Gain 280567
Repeller Maximum 35 volts using ion 219; Gain Factor 2.81

MassGain Values(Samples): 69(3) 67(2) 67(1) 67(0) 67(FS)

| TARGET MASS: | 50 | 69 | 131 | 219 | 414 | 502 | 800 |
|---|---|---|---|---|---|---|---|
| Amu Offset: | 128.0 | 128.0 | 128.0 | 128.0 | 128.0 | 128.0 | 128.0 |
| Entrance Lens Offset: | 19.1 | 19.1 | 19.1 | 19.1 | 19.1 | 19.1 | 19.1 |

Wed Jul 19 15:56:00 2017 Instrum
C:\msdchem\1\5973N\BFB071917A.u US03960556

| Mass | 69.00 | Mass | 219.00 | Mass | 502.10 |
|---|---|---|---|---|---|
| Ab | 410456 | Ab | 268989 | Ab | 31821 |
| Pw50 | 0.63 | Pw50 | 0.60 | Pw50 | 0.62 |

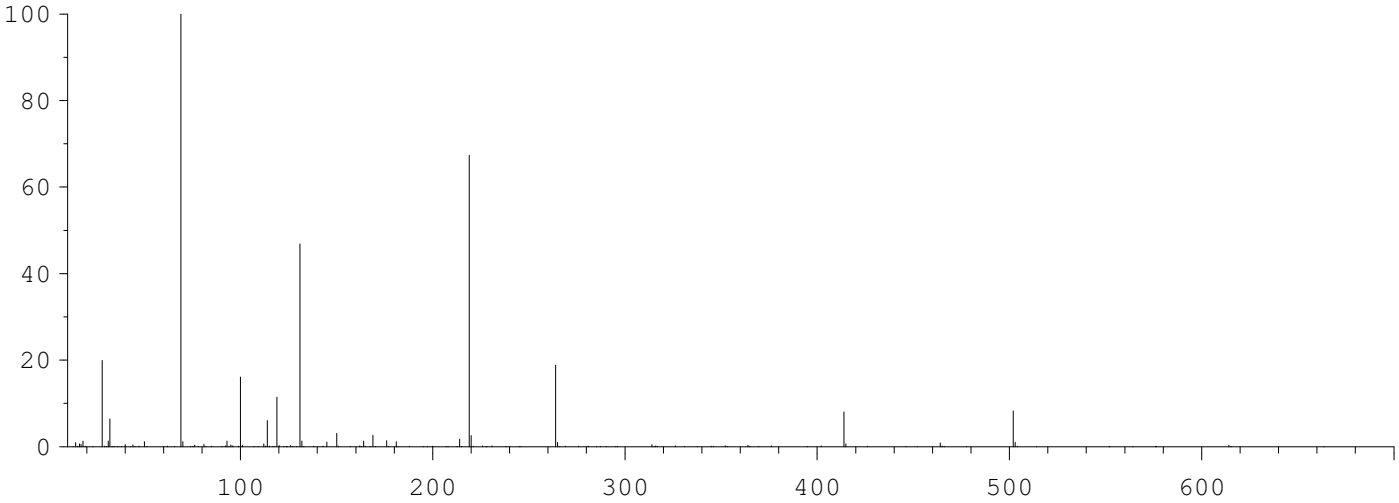



| | | | |
|---|---|---|---|
| Ion Pol | Pos | MassGain | 67 |
| | | MassOffs | -7 |
| Emission | 34.6 | AmuGain | 1998 |
| EIEnrgy | 69.9 | AmuOffs | 128 |
| Filament | 1 | Wid219 | -0.012 |
| | | DC Pol | Pos |
| Repeller | 31.46 | | |
| IonFcus | 90.2 | HEDEnab | On |
| EntLens | 14.5 | EMVolts | 1176 |
| EntOffs | 19.07 | | |
| | | Samples | 8 |
| PFTBA | Open | Averages | 3 |
| | | Stepsize | 0.10 |

Temperatures and Pressures:

| | | | |
|---|---|---|---|
| MS Source | 230 | Turbo Speed | 100 |
| MS Quad | 150 | | |

Scan: 10.00 - 700.00 Samples: 8 Thresh: 100 Step: 0.10
148 peaks Base: 69.10 Abundance: 369856




| Mass | Abund | Rel Abund | Iso Mass | Iso Abund | Iso Ratio |
|---|---|---|---|---|---|
| 69.10 | 369856 | 100.00 | 70.00 | 4404 | 1.19 |
| 219.00 | 249216 | 67.38 | 220.00 | 9588 | 3.85 |
| 502.00 | 30616 | 8.28 | 503.00 | 3621 | 11.83 |

Air/Water Check: H20~1.35% N2~19.95% O2~6.37% CO2~0.40% N2/H2O~1479.55%

Column(1) Flow: 1.496 Column(2): 0 ml/min. Interface Temp: 230

Ramp Criteria:
Ion Focus Maximum 90 volts using ion 502; EM Gain 357623
Repeller Maximum 35 volts using ion 219; Gain Factor 3.58

MassGain Values(Samples): 69(3) 67(2) 67(1) 67(0) 67(FS)

| TARGET MASS: | 50 | 69 | 131 | 219 | 414 | 502 | 800 |
|---|---|---|---|---|---|---|---|
| Amu Offset: | 128.0 | 128.0 | 128.0 | 128.0 | 128.0 | 128.0 | 128.0 |
| Entrance Lens Offset: | 19.1 | 19.1 | 19.1 | 19.1 | 19.1 | 19.1 | 19.1 |

# S17G076-CAL1

Data Path : D:\msdchem\1\2017\DATA\071917KA_FSAA\
Data File : 071917KA04.D
InstName : HP5973K
Acq On : 19 Jul 2017 7:11 pm
Operator : LLH
Sample : S17G076-CAL1
Misc : 1.0ppbv 1729073
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Jul 20 09:03:30 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:03:03 2017
Response via : Initial Calibration

**M.I. Performed By:**
LLH at 9:05 am, Jul 20, 2017

**M.I. Approved By:**
ZR at 1:06 pm, Jul 21, 2017

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) BROMOCHLOROMETHANE | 15.313 | 49 | 378562 | 19.80 | ppbv | | 0.00 |
| 32) 1,4-DIFLUOROBENZENE | 17.308 | 114 | 1292649 | 19.60 | ppbv | | 0.00 |
| 43) CHLOROBENZENE-d5 | 22.236 | 117 | 1158666 | 19.60 | ppbv | | 0.00 |
| Target Compounds | | | | | | | Qvalue |
| 2) Propene | 4.223 | 41 | 9933 | 1.24 | ppbv | | 98 |
| 3) Dichlorodifluoromethane | 4.308 | 85 | 47117 | 1.20 | ppbv | | 99 |
| 4) 1,2-Dichlorotetrafluor... | 4.649 | 85 | 43167 | 1.13 | ppbv | | 98 |
| 5) Chloromethane | 4.855 | 50 | 12747 | 1.22 | ppbv | | 99 |
| 6) Vinyl chloride | 5.160 | 62 | 15342 | 1.28 | ppbv | | 95 |
| 7) 1,3-Butadiene | 5.239 | 54 | 11554 | 1.36 | ppbv | | 86 |
| 8) Bromomethane | 6.163 | 94 | 12439 | 1.15 | ppbv | | 99 |
| 9) Chloroethane | 6.486 | 64 | 7276 | 1.18 | ppbv | | 97 |
| 10) Bromoethene | 7.052 | 106 | 11267 | 1.07 | ppbv | | 99 |
| 11) Trichlorofluoromethane | 7.155 | 101 | 42483 | 1.12 | ppbv | | 99 |
| 12) 1,1,2-Trichloro-1,2,2-... | 8.907 | 151 | 22310 | 1.02 | ppbv | | 100 |
| 13) 1,1-Dichloroethene | 9.029 | 61 | 16128 | 0.98 | ppbv | | 98 |
| 14) Acetone | 9.704 | 43 | 19907 | 1.26 | ppbv | | 99 |
| 15) Carbon disulfide | 9.722 | 76 | 38682 | 1.19 | ppbv | | 98 |
| 16) 2-Propanol | 10.331 | 45 | 10670 | 0.96 | ppbv | | 72 |
| 17) Allyl chloride | 10.635 | 41 | 10571 | 1.01 | ppbv | | 98 |
| 18) Dichloromethane | 11.207 | 49 | 17551 | 1.31 | ppbv | | 99 |
| 19) tert-Butyl methyl ethe... | 11.864 | 73 | 26277 | 0.89 | ppbv | | 100 |
| 20) trans-1,2-Dichloroethene | 11.888 | 61 | 17750 | 1.13 | ppbv | | 99 |
| 21) Hexane | 12.423 | 57 | 14209 | 0.90 | ppbv | | 91 |
| 22) 1,1-Dichloroethane | 13.293 | 63 | 22765 | 1.07 | ppbv | | 100 |
| 23) Vinyl acetate | 13.451 | 43 | 12358 | 0.77 | ppbv | | 99 |
| 24) cis-1,2-Dichloroethene | 14.759 | 61 | 13026 | 0.92 | ppbv | | 99 |
| 25) 2-Butanone (MEK) | 14.912 | 72 | 5243 | 0.99 | ppbv | # | 95 |
| 26) Ethyl acetate | 14.912 | 61 | 3332 | 1.06 | ppbv | # | 88 |
| 27) Tetrahydrofuran | 15.319 | 42 | 10895 | 1.05 | ppbv | | 98 |
| 28) Chloroform | 15.465 | 83 | 31324 | 1.18 | ppbv | | 99 |
| 29) Cyclohexane | 15.593 | 56 | 16051 | 0.99 | ppbv | | 93 |
| 30) 1,1,1-Trichloroethane | 15.708 | 97 | 32660 | 1.11 | ppbv | | 100 |
| 31) Carbon tetrachloride | 15.934 | 117 | 33581 | 1.09 | ppbv | | 99 |
| 33) Benzene | 16.469 | 78 | 39844 | 1.20 | ppbv | | 98 |
| 34) 2,2,4-Trimethylpentane | 16.353 | 57 | 45912 | 0.99 | ppbv | | 94 |
| 35) 1,2-Dichloroethane | 16.712 | 62 | 21927 | 1.25 | ppbv | | 99 |
| 36) Heptane | 16.743 | 43 | 17025m | 1.08 | ppbv | | |
| 37) Trichloroethene | 17.704 | 130 | 17288 | 1.15 | ppbv | | 98 |
| 38) 1,2-Dichloropropane | 18.239 | 63 | 12845 | 1.16 | ppbv | | 96 |
| 39) 1,4-Dioxane | 18.452 | 88 | 6054 | 0.87 | ppbv | | 90 |
| 40) Bromodichloromethane | 18.714 | 83 | 33933 | 1.25 | ppbv | | 100 |
| 41) cis-1,3-Dichloropropene | 19.480 | 75 | 15295 | 0.87 | ppbv | | 99 |
| 42) 4-Methyl-2-pentanone (... | 19.736 | 43 | 20140 | 0.98 | ppbv | | 96 |
| 44) Toluene | 19.937 | 91 | 41498 | 1.05 | ppbv | | 99 |
| 45) trans-1,3-Dichloropropene | 20.448 | 75 | 13767 | 0.80 | ppbv | | 97 |
| 46) 1,1,2-Trichloroethane | 20.752 | 97 | 17306 | 1.21 | ppbv | | 97 |
| 47) Tetrachloroethene | 20.770 | 166 | 25186 | 1.15 | ppbv | | 99 |
| 48) 2-Hexanone | 21.086 | 43 | 16167 | 0.87 | ppbv | | 94 |
| 49) Chlorodibromomethane | 21.354 | 129 | 31356 | 1.15 | ppbv | | 99 |
| 50) 1,2-Dibromoethane (EDB) | 21.585 | 107 | 22427 | 1.10 | ppbv | | 99 |
| 51) Chlorobenzene | 22.285 | 112 | 42840 | 1.24 | ppbv | # | 78 |
| 52) Ethylbenzene | 22.364 | 91 | 64562 | 1.13 | ppbv | | 98 |
| 53) m&p-Xylene | 22.546 | 91 | 96014 | 2.17 | ppbv | | 100 |
| 54) o-Xylene | 23.197 | 91 | 38513 | 0.89 | ppbv | | 99 |

Data Path : D:\msdchem\1\2017\DATA\071917KA_FSAA\
Data File : 071917KA04.D
InstName : HP5973K
Acq On : 19 Jul 2017 7:11 pm
Operator : LLH
Sample : S17G076-CAL1
Misc : 1.0ppbv 1729073
ALS Vial : 31 Sample Multiplier: 1

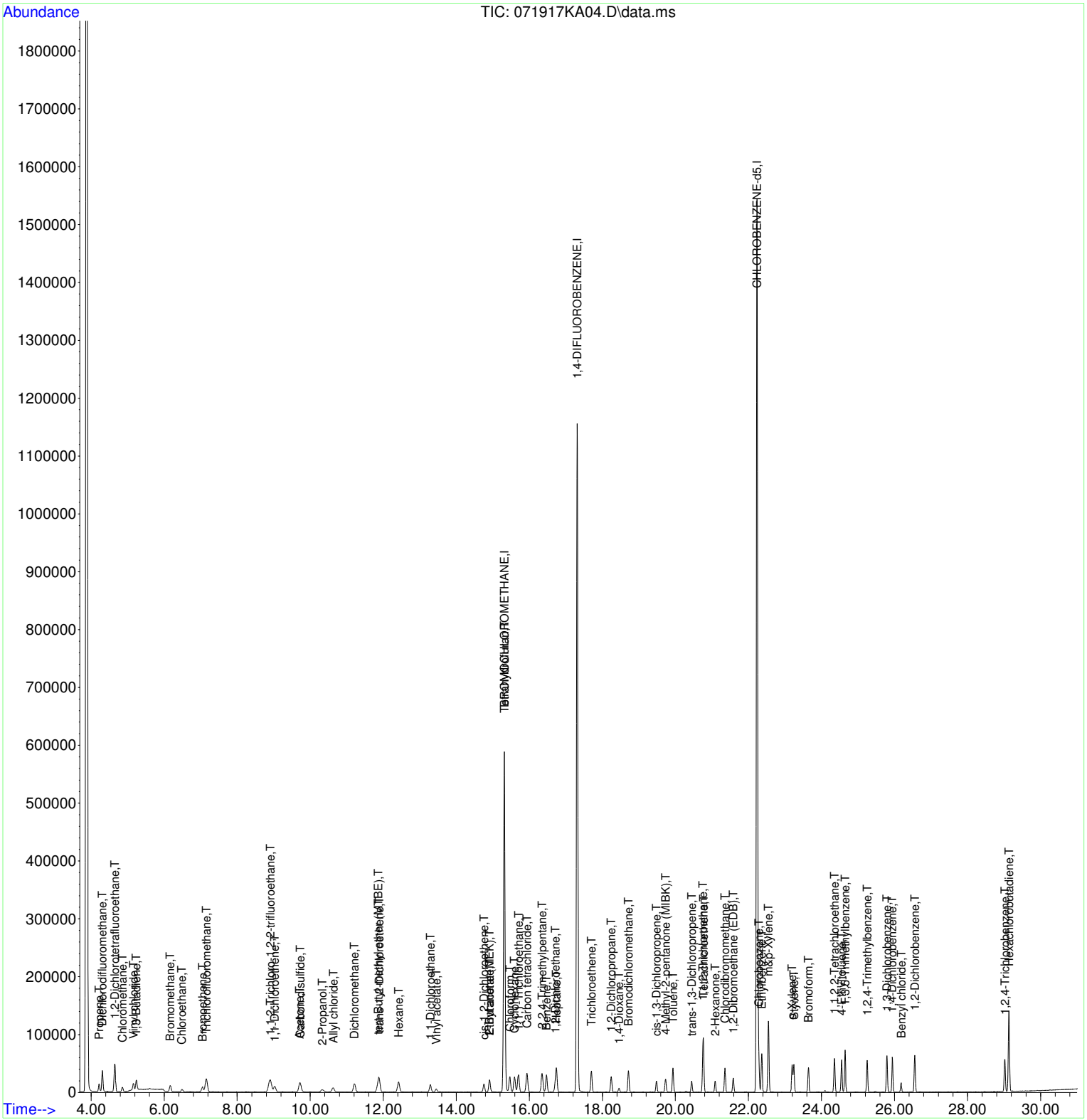
Quant Time: Jul 20 09:03:30 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:03:03 2017
Response via : Initial Calibration

| | Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 55) | Styrene | 23.246 | 104 | 32118 | 0.91 ppbv | 99 |
| 56) | Bromoform | 23.641 | 173 | 27893 | 1.01 ppbv | 98 |
| 57) | 1,1,2,2-Tetrachloroethane | 24.353 | 83 | 37241 | 1.16 ppbv | 98 |
| 58) | 4-Ethyltoluene | 24.554 | 105 | 46502 | 0.74 ppbv | 99 |
| 59) | 1,3,5-Trimethylbenzene | 24.645 | 105 | 54317 | 0.99 ppbv | 99 |
| 60) | 1,2,4-Trimethylbenzene | 25.254 | 105 | 42602 | 0.80 ppbv | 98 |
| 61) | 1,3-Dichlorobenzene | 25.795 | 146 | 37941 | 0.99 ppbv | 99 |
| 62) | 1,4-Dichlorobenzene | 25.941 | 146 | 35344 | 0.94 ppbv | 99 |
| 63) | Benzyl chloride | 26.184 | 91 | 16841 | 0.49 ppbv | 99 |
| 64) | 1,2-Dichlorobenzene | 26.555 | 146 | 36210 | 0.95 ppbv | 99 |
| 65) | 1,2,4-Trichlorobenzene | 29.025 | 180 | 25666 | 0.76 ppbv | 99 |
| 66) | Hexachlorobutadiene | 29.135 | 225 | 41569 | 1.08 ppbv | 99 |

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

Data Path : D:\msdchem\1\2017\DATA\071917KA_FSAA\
Data File : 071917KA04.D
InstName : HP5973K
Acq On : 19 Jul 2017 7:11 pm
Operator : LLH
Sample : S17G076-CAL1
Misc : 1.0ppbv 1729073
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Jul 20 09:03:30 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:03:03 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\071917KA_FSAA\
Data File : 071917KA04.D
InstName : HP5973K
Acq On : 19 Jul 2017 7:11 pm
Operator : LLH
Sample : S17G076-CAL1
Misc : 1.0ppbv 1729073
ALS Vial : 31 Sample Multiplier: 1

Before Manual Integration

Quant Time: Jul 20 09:03:30 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:03:03 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) BROMOCHLOROMETHANE | 15.313 | 49 | 378562 | 19.80 | ppbv | | 0.00 |
| 32) 1,4-DIFLUOROBENZENE | 17.308 | 114 | 1292649 | 19.60 | ppbv | | 0.00 |
| 43) CHLOROBENZENE-d5 | 22.236 | 117 | 1158666 | 19.60 | ppbv | | 0.00 |
| Target Compounds | | | | | | | Qvalue |
| 2) Propene | 4.223 | 41 | 9933 | 1.24 | ppbv | | 98 |
| 3) Dichlorodifluoromethane | 4.308 | 85 | 47117 | 1.20 | ppbv | | 99 |
| 4) 1,2-Dichlorotetrafluor... | 4.649 | 85 | 43167 | 1.13 | ppbv | | 98 |
| 5) Chloromethane | 4.855 | 50 | 12747 | 1.22 | ppbv | | 99 |
| 6) Vinyl chloride | 5.160 | 62 | 15342 | 1.28 | ppbv | | 95 |
| 7) 1,3-Butadiene | 5.239 | 54 | 11554 | 1.36 | ppbv | | 86 |
| 8) Bromomethane | 6.163 | 94 | 12439 | 1.15 | ppbv | | 99 |
| 9) Chloroethane | 6.486 | 64 | 7276 | 1.18 | ppbv | | 97 |
| 10) Bromoethene | 7.052 | 106 | 11267 | 1.07 | ppbv | | 99 |
| 11) Trichlorofluoromethane | 7.155 | 101 | 42483 | 1.12 | ppbv | | 99 |
| 12) 1,1,2-Trichloro-1,2,2-... | 8.907 | 151 | 22310 | 1.02 | ppbv | | 100 |
| 13) 1,1-Dichloroethene | 9.029 | 61 | 16128 | 0.98 | ppbv | | 98 |
| 14) Acetone | 9.704 | 43 | 19907 | 1.26 | ppbv | | 99 |
| 15) Carbon disulfide | 9.722 | 76 | 38682 | 1.19 | ppbv | | 98 |
| 16) 2-Propanol | 10.331 | 45 | 10670 | 0.96 | ppbv | | 72 |
| 17) Allyl chloride | 10.635 | 41 | 10571 | 1.01 | ppbv | | 98 |
| 18) Dichloromethane | 11.207 | 49 | 17551 | 1.31 | ppbv | | 99 |
| 19) tert-Butyl methyl ethe... | 11.864 | 73 | 26277 | 0.89 | ppbv | | 100 |
| 20) trans-1,2-Dichloroethene | 11.888 | 61 | 17750 | 1.13 | ppbv | | 99 |
| 21) Hexane | 12.423 | 57 | 14209 | 0.90 | ppbv | | 91 |
| 22) 1,1-Dichloroethane | 13.293 | 63 | 22765 | 1.07 | ppbv | | 100 |
| 23) Vinyl acetate | 13.451 | 43 | 12358 | 0.77 | ppbv | | 99 |
| 24) cis-1,2-Dichloroethene | 14.759 | 61 | 13026 | 0.92 | ppbv | | 99 |
| 25) 2-Butanone (MEK) | 14.912 | 72 | 5243 | 0.99 | ppbv | # | 95 |
| 26) Ethyl acetate | 14.912 | 61 | 3332 | 1.06 | ppbv | # | 88 |
| 27) Tetrahydrofuran | 15.319 | 42 | 10895 | 1.05 | ppbv | | 98 |
| 28) Chloroform | 15.465 | 83 | 31324 | 1.18 | ppbv | | 99 |
| 29) Cyclohexane | 15.593 | 56 | 16051 | 0.99 | ppbv | | 93 |
| 30) 1,1,1-Trichloroethane | 15.708 | 97 | 32660 | 1.11 | ppbv | | 100 |
| 31) Carbon tetrachloride | 15.934 | 117 | 33581 | 1.09 | ppbv | | 99 |
| 33) Benzene | 16.469 | 78 | 39844 | 1.20 | ppbv | | 98 |
| 34) 2,2,4-Trimethylpentane | 16.353 | 57 | 45912 | 0.99 | ppbv | | 94 |
| 35) 1,2-Dichloroethane | 16.712 | 62 | 21927 | 1.25 | ppbv | | 99 |
| 36) Heptane | 16.743 | 43 | 19293 | 1.22 | ppbv | | 87 |
| 37) Trichloroethene | 17.704 | 130 | 17288 | 1.15 | ppbv | | 98 |
| 38) 1,2-Dichloropropane | 18.239 | 63 | 12845 | 1.16 | ppbv | | 96 |
| 39) 1,4-Dioxane | 18.452 | 88 | 6054 | 0.87 | ppbv | | 90 |
| 40) Bromodichloromethane | 18.714 | 83 | 33933 | 1.25 | ppbv | | 100 |
| 41) cis-1,3-Dichloropropene | 19.480 | 75 | 15295 | 0.87 | ppbv | | 99 |
| 42) 4-Methyl-2-pentanone (... | 19.736 | 43 | 20140 | 0.98 | ppbv | | 96 |
| 44) Toluene | 19.937 | 91 | 41498 | 1.05 | ppbv | | 99 |
| 45) trans-1,3-Dichloropropene | 20.448 | 75 | 13767 | 0.80 | ppbv | | 97 |
| 46) 1,1,2-Trichloroethane | 20.752 | 97 | 17306 | 1.21 | ppbv | | 97 |
| 47) Tetrachloroethene | 20.770 | 166 | 25186 | 1.15 | ppbv | | 99 |
| 48) 2-Hexanone | 21.086 | 43 | 16167 | 0.87 | ppbv | | 94 |
| 49) Chlorodibromomethane | 21.354 | 129 | 31356 | 1.15 | ppbv | | 99 |
| 50) 1,2-Dibromoethane (EDB) | 21.585 | 107 | 22427 | 1.10 | ppbv | | 99 |
| 51) Chlorobenzene | 22.285 | 112 | 42840 | 1.24 | ppbv | # | 78 |
| 52) Ethylbenzene | 22.364 | 91 | 64562 | 1.13 | ppbv | | 98 |
| 53) m&p-Xylene | 22.546 | 91 | 96014 | 2.17 | ppbv | | 100 |
| 54) o-Xylene | 23.197 | 91 | 38513 | 0.89 | ppbv | | 99 |

Data Path : D:\msdchem\1\2017\DATA\071917KA_FSAA\
Data File : 071917KA04.D
InstName : HP5973K
Acq On : 19 Jul 2017 7:11 pm
Operator : LLH
Sample : S17G076-CAL1
Misc : 1.0ppbv 1729073
ALS Vial : 31 Sample Multiplier: 1

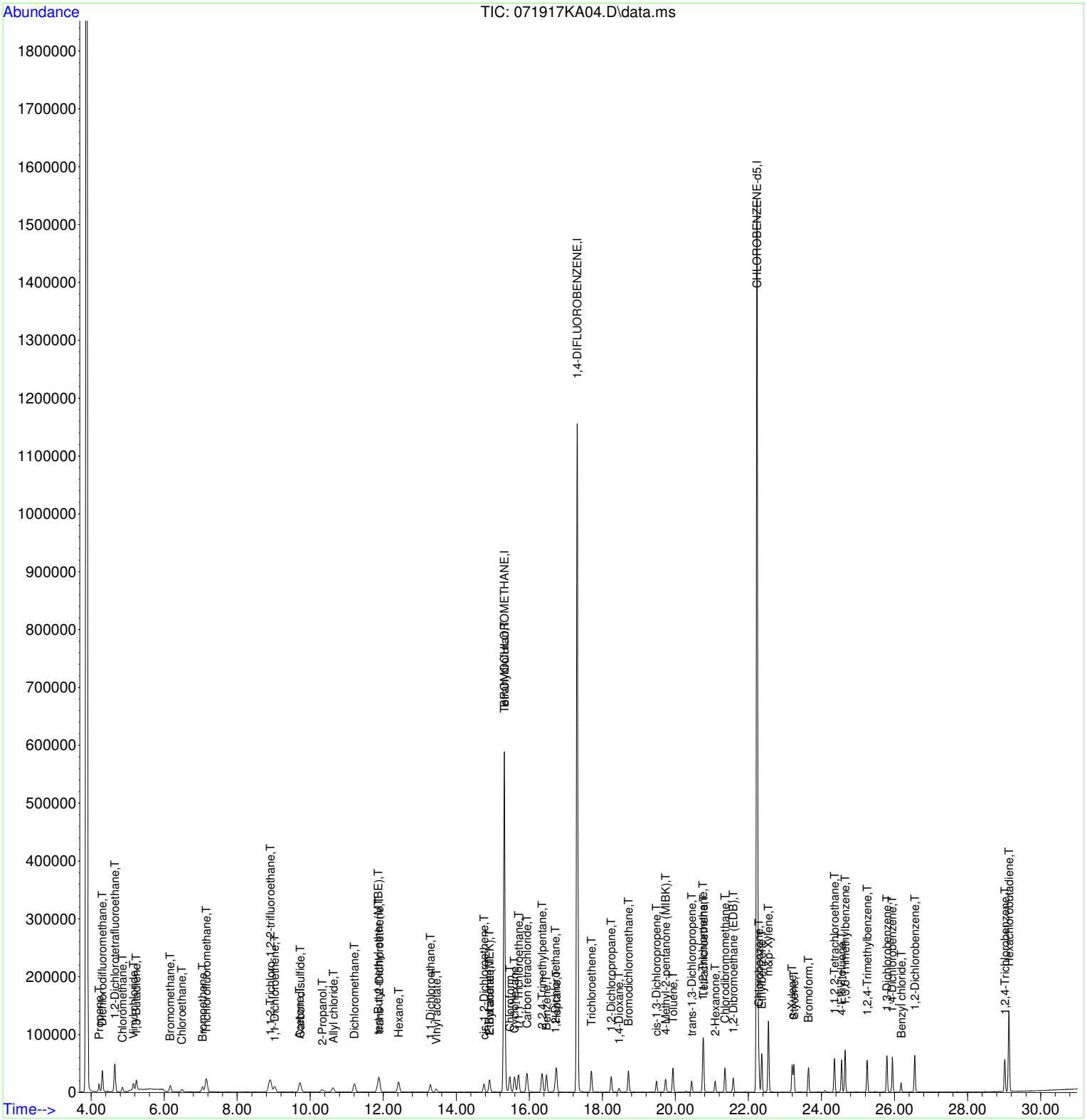
Quant Time: Jul 20 09:03:30 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:03:03 2017
Response via : Initial Calibration

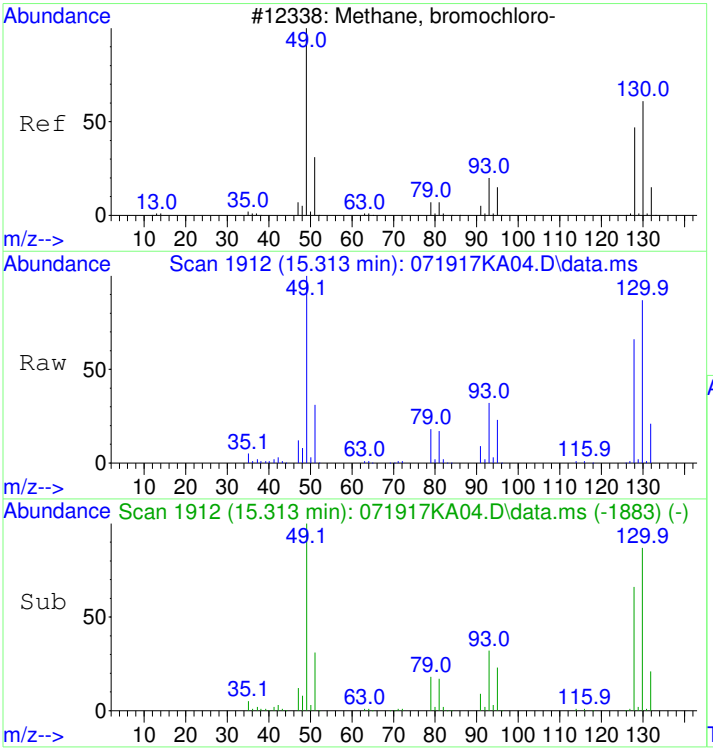
| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 55) Styrene | 23.246 | 104 | 32118 | 0.91 ppbv | 99 |
| 56) Bromoform | 23.641 | 173 | 27893 | 1.01 ppbv | 98 |
| 57) 1,1,2,2-Tetrachloroethane | 24.353 | 83 | 37241 | 1.16 ppbv | 98 |
| 58) 4-Ethyltoluene | 24.554 | 105 | 46502 | 0.74 ppbv | 99 |
| 59) 1,3,5-Trimethylbenzene | 24.645 | 105 | 54317 | 0.99 ppbv | 99 |
| 60) 1,2,4-Trimethylbenzene | 25.254 | 105 | 42602 | 0.80 ppbv | 98 |
| 61) 1,3-Dichlorobenzene | 25.795 | 146 | 37941 | 0.99 ppbv | 99 |
| 62) 1,4-Dichlorobenzene | 25.941 | 146 | 35344 | 0.94 ppbv | 99 |
| 63) Benzyl chloride | 26.184 | 91 | 16841 | 0.49 ppbv | 99 |
| 64) 1,2-Dichlorobenzene | 26.555 | 146 | 36210 | 0.95 ppbv | 99 |
| 65) 1,2,4-Trichlorobenzene | 29.025 | 180 | 25666 | 0.76 ppbv | 99 |
| 66) Hexachlorobutadiene | 29.135 | 225 | 41569 | 1.08 ppbv | 99 |

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

Data Path : D:\msdchem\1\2017\DATA\071917KA_FSAA\
Data File : 071917KA04.D
InstName : HP5973K
Acq On : 19 Jul 2017 7:11 pm
Operator : LLH
Sample : S17G076-CAL1
Misc : 1.0ppbv 1729073
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Jul 20 09:03:30 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:03:03 2017
Response via : Initial Calibration

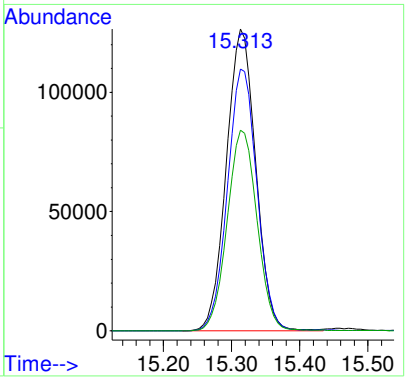


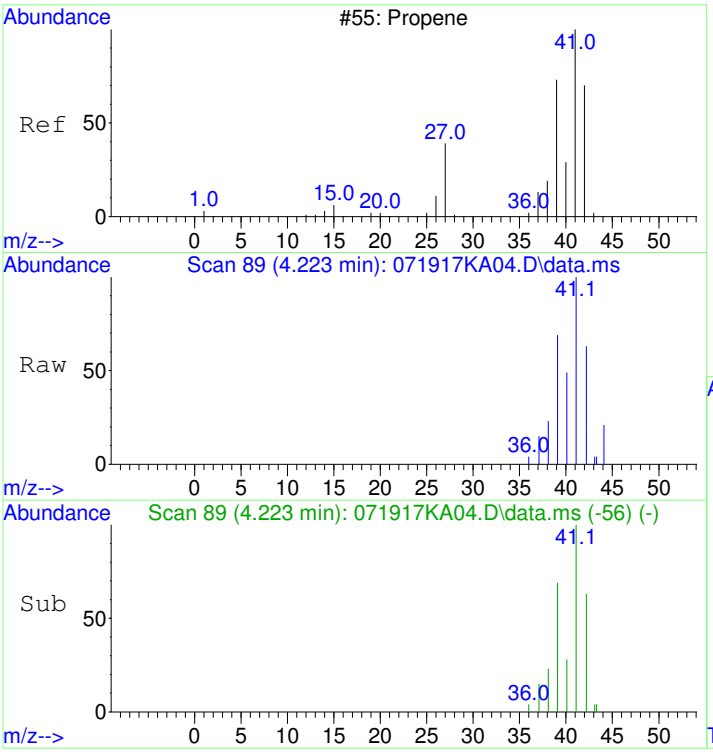



#1
BROMOCHLOROMETHANE
Concen: 19.80 ppbv
RT: 15.313 min Scan# 1912
Delta R.T. 0.000 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion: 49 Resp: 378562

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 130 | 87.0 | 67.2 | 107.2 |
| 128 | 67.5 | 47.6 | 87.6 |

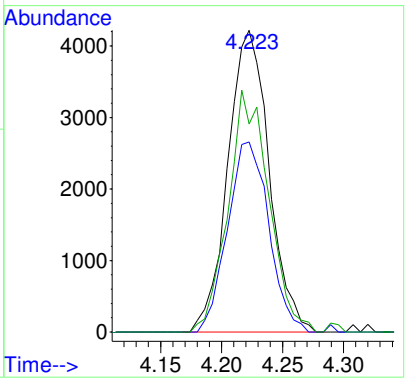


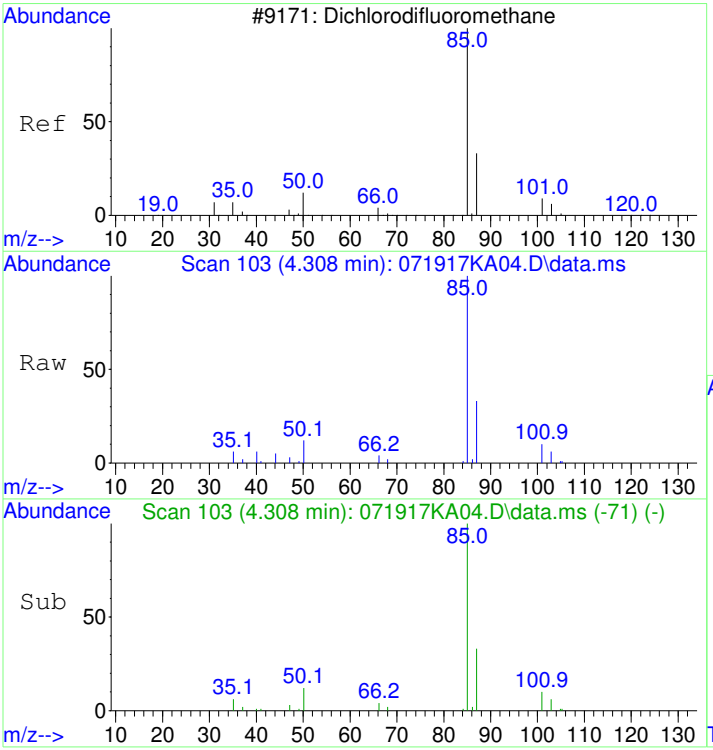




#2
Propene
Concen: 1.24 ppbv
RT: 4.223 min Scan# 89
Delta R.T. -0.000 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion: 41 Resp: 9933

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 41 | 100 | | |
| 42 | 62.8 | 44.0 | 84.0 |
| 39 | 78.8 | 57.2 | 97.2 |

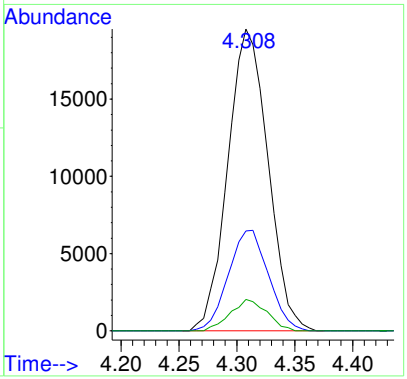


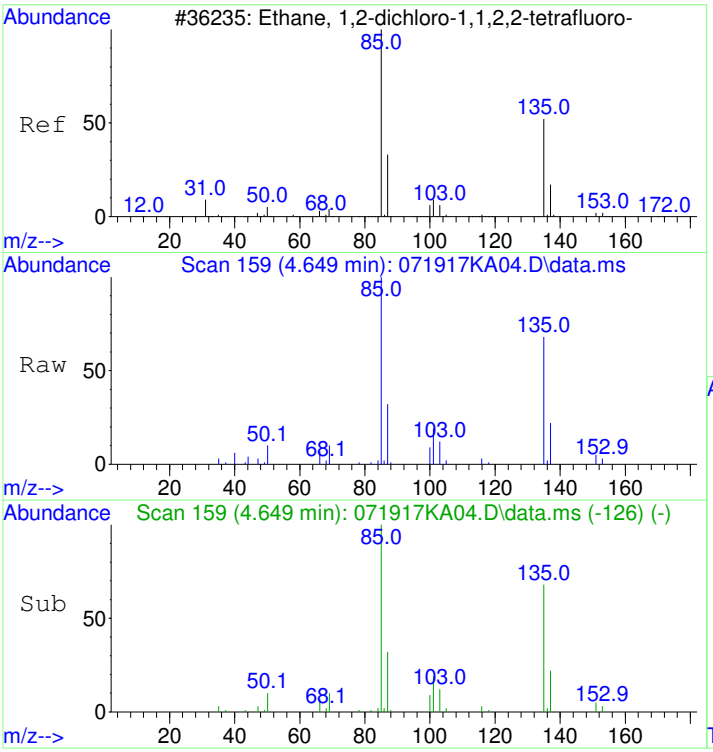



#3
Dichlorodifluoromethane
Concen: 1.20 ppbv
RT: 4.308 min Scan# 103
Delta R.T. -0.006 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion: 85 Resp: 47117

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 85 | 100 | | |
| 87 | 33.2 | 12.4 | 52.4 |
| 101 | 9.5 | 0.0 | 29.5 |

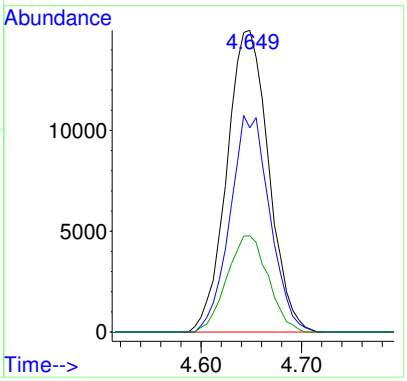


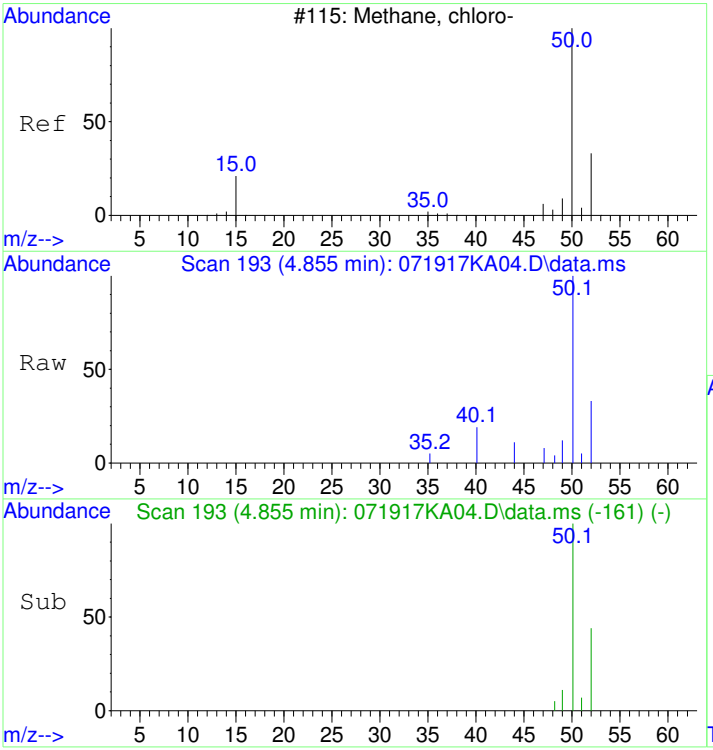




#4
1,2-Dichlorotetrafluoroethane
Concen: 1.13 ppbv
RT: 4.649 min Scan# 159
Delta R.T. -0.000 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion: 85 Resp: 43167

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 85 | 100 | | |
| 135 | 68.4 | 50.0 | 90.0 |
| 87 | 31.5 | 12.0 | 52.0 |

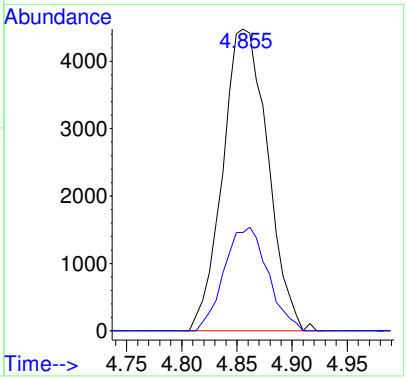


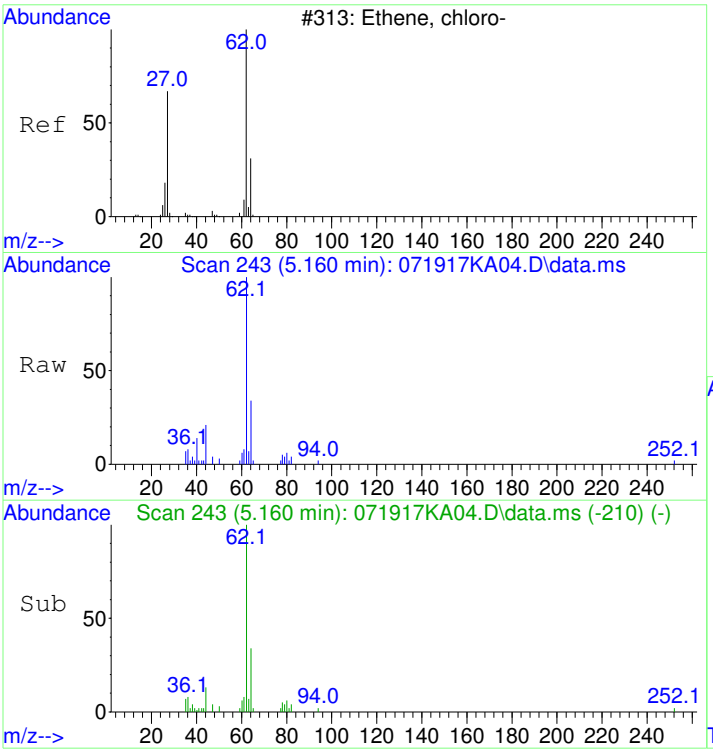



#5
Chloromethane
Concen: 1.22 ppbv
RT: 4.855 min Scan# 193
Delta R.T. -0.006 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion: 50 Resp: 12747

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 50 | 100 | | |
| 52 | 33.3 | 12.8 | 52.8 |

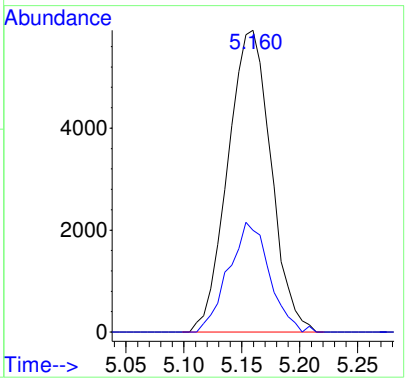


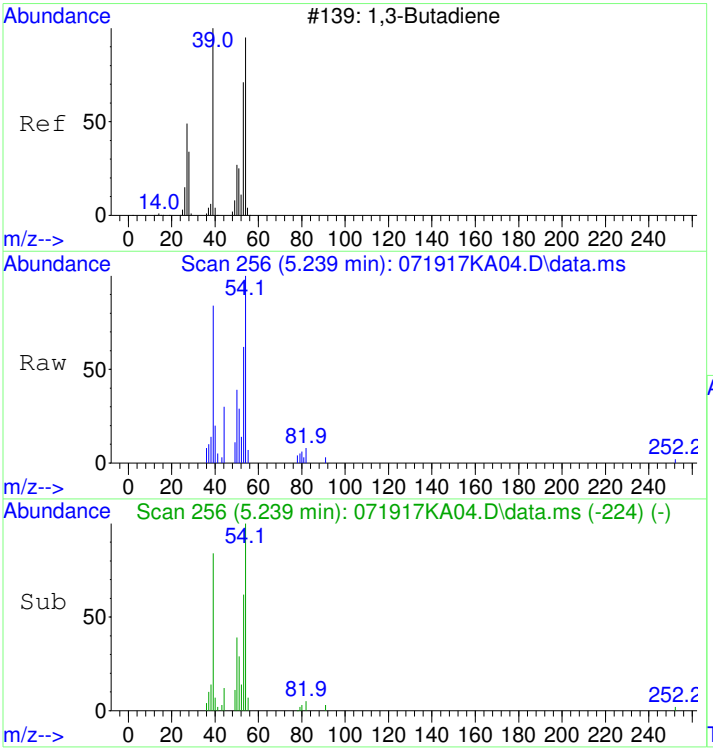




#6
Vinyl chloride
Concen: 1.28 ppbv
RT: 5.160 min Scan# 243
Delta R.T. -0.000 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion: 62 Resp: 15342

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 62 | 100 | | |
| 64 | 34.4 | 11.8 | 51.8 |

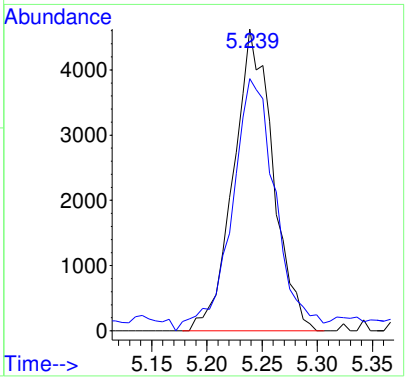


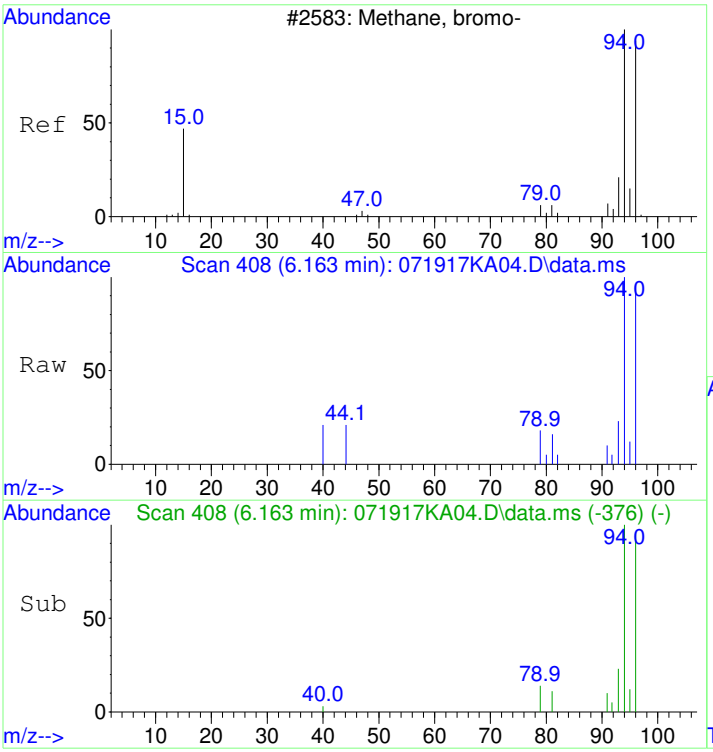



#7
1,3-Butadiene
Concen: 1.36 ppbv
RT: 5.239 min Scan# 256
Delta R.T. -0.006 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion: 54 Resp: 11554

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 54 | 100 | | |
| 39 | 99.2 | 66.3 | 106.3 |

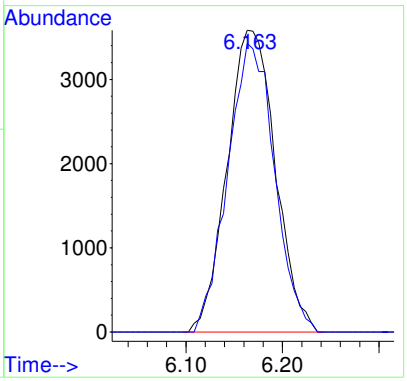


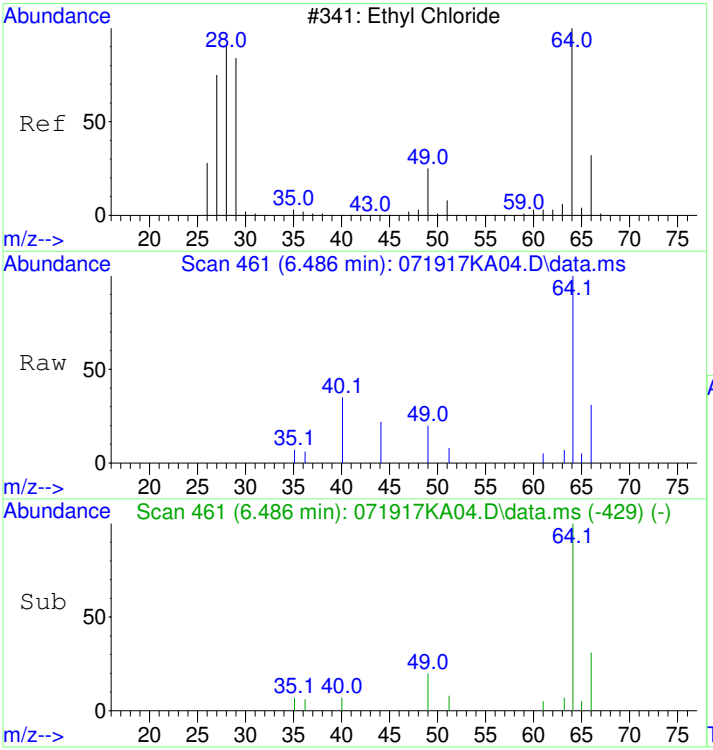




#8
Bromomethane
Concen: 1.15 ppbv
RT: 6.163 min Scan# 408
Delta R.T. -0.006 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion: 94 Resp: 12439

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 94 | 100 | | |
| 96 | 92.7 | 74.0 | 114.0 |

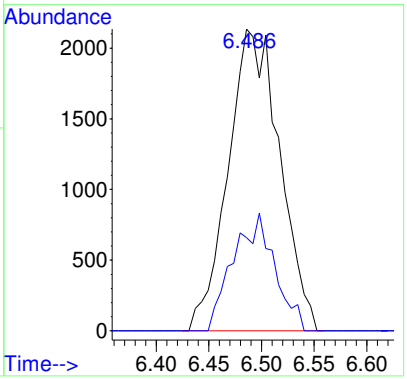


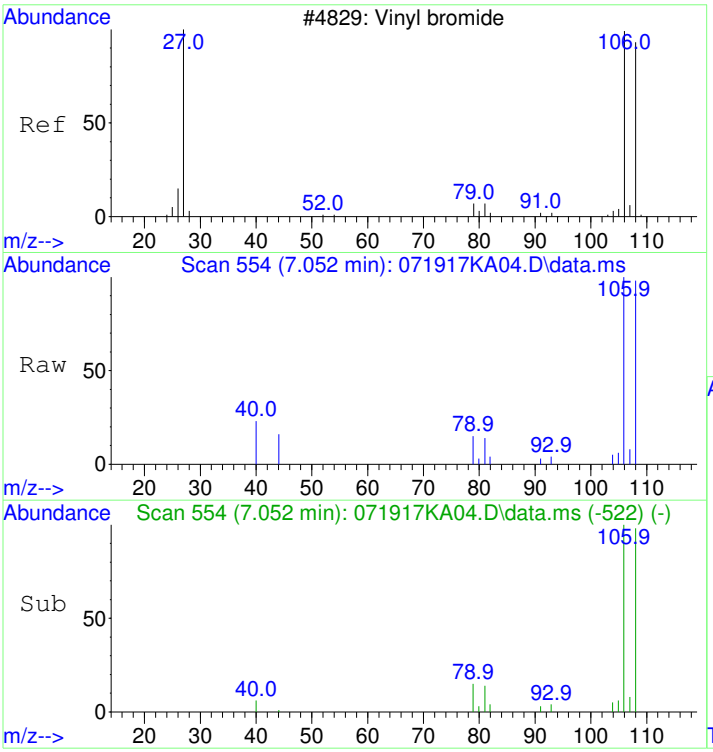



#9
Chloroethane
Concen: 1.18 ppbv
RT: 6.486 min Scan# 461
Delta R.T. -0.006 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion: 64 Resp: 7276

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 64 | 100 | | |
| 66 | 31.3 | 13.0 | 53.0 |

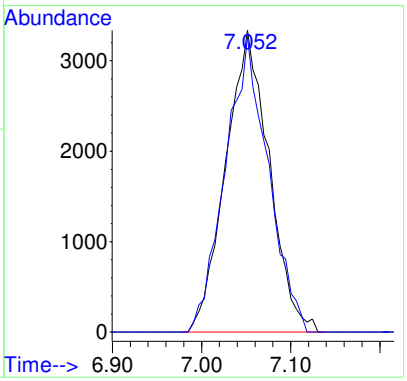


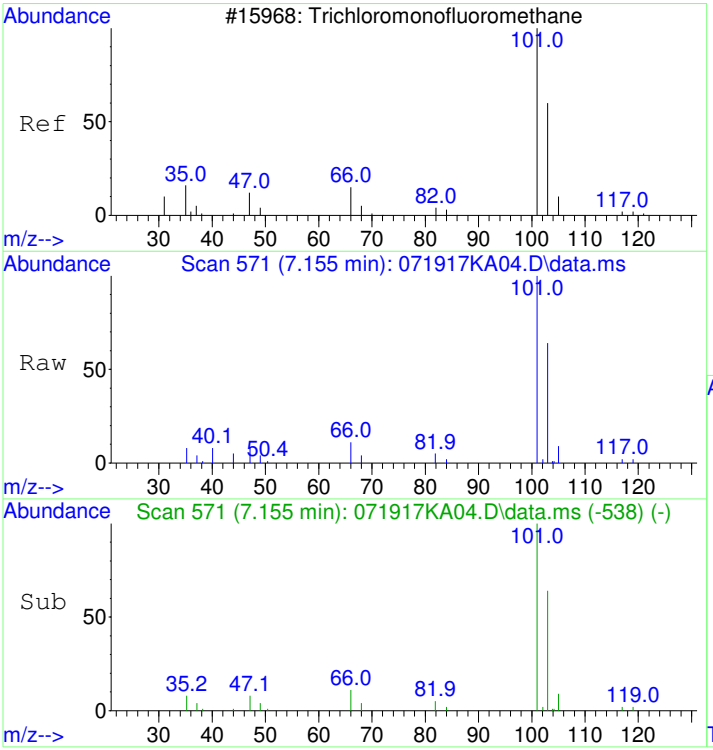




#10
Bromoethene
Concen: 1.07 ppbv
RT: 7.052 min Scan# 554
Delta R.T. -0.006 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion:106 Resp: 11267

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 106 | 100 | | |
| 108 | 96.6 | 0.0 | 215.3 |

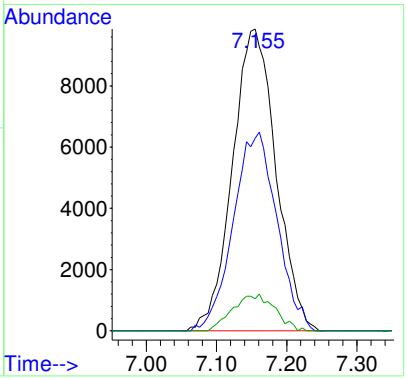


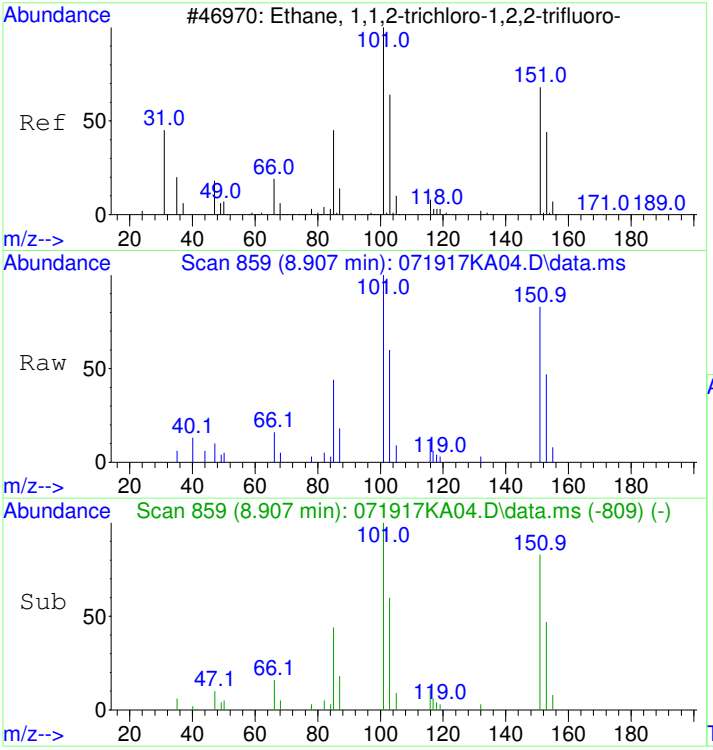



#11
Trichlorofluoromethane
Concen: 1.12 ppbv
RT: 7.155 min Scan# 571
Delta R.T. -0.000 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion:101 Resp: 42483

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 101 | 100 | | |
| 103 | 65.9 | 45.1 | 85.1 |
| 66 | 11.7 | 0.0 | 32.1 |

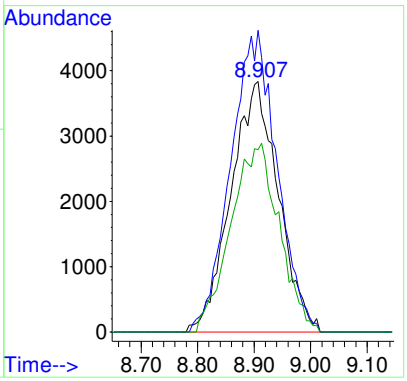


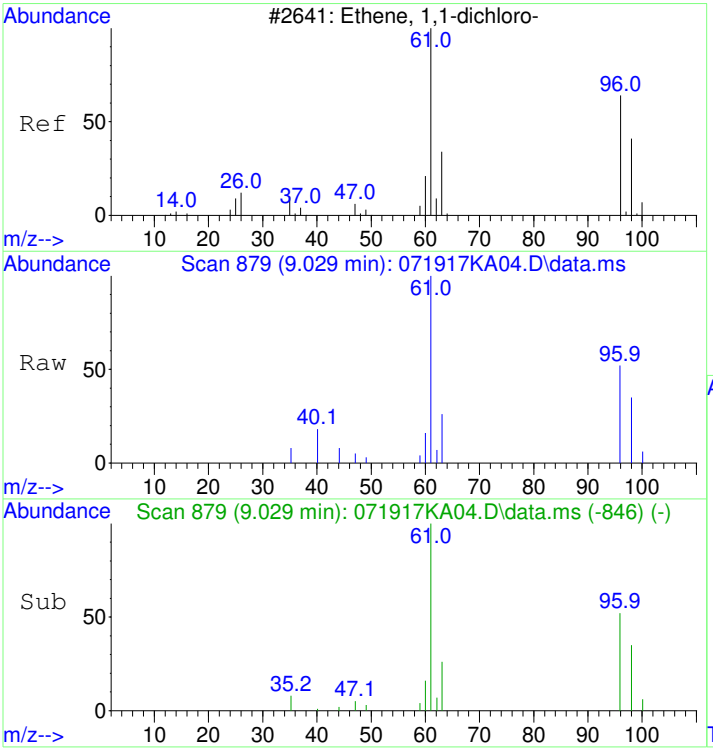




#12
1,1,2-Trichloro-1,2,2-trifluoroethane
Concen: 1.02 ppbv
RT: 8.907 min Scan# 859
Delta R.T. 0.006 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion:151 Resp: 22310

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 151 | 100 | | |
| 101 | 118.2 | 98.6 | 138.6 |
| 103 | 76.9 | 56.7 | 96.7 |

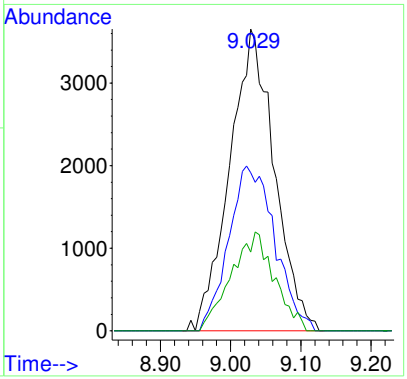


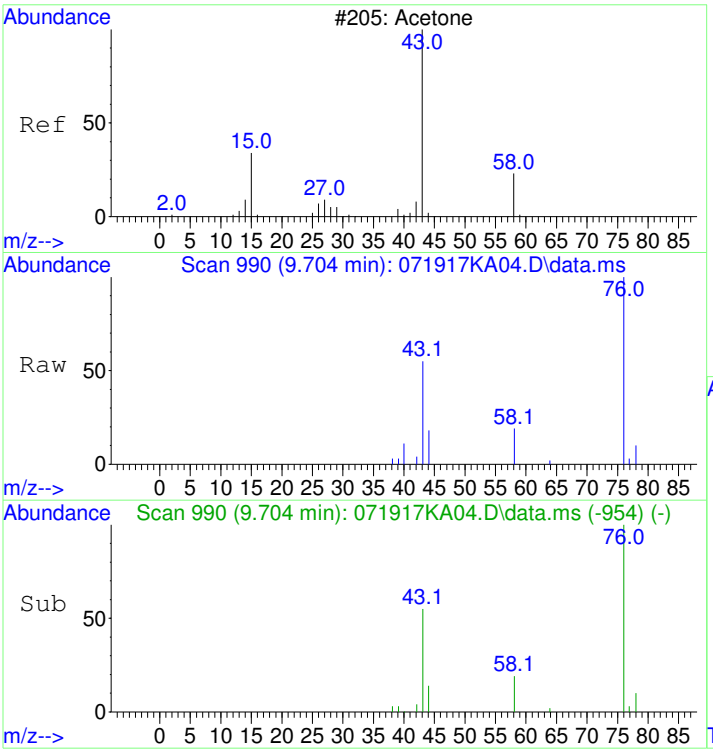



#13
1,1-Dichloroethene
Concen: 0.98 ppbv
RT: 9.029 min Scan# 879
Delta R.T. -0.000 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion: 61 Resp: 16128

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 61 | 100 | | |
| 96 | 56.6 | 38.6 | 78.6 |
| 63 | 31.6 | 11.9 | 51.9 |

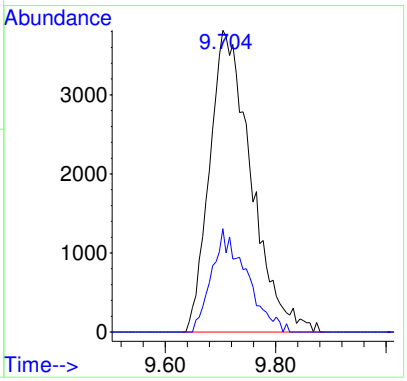


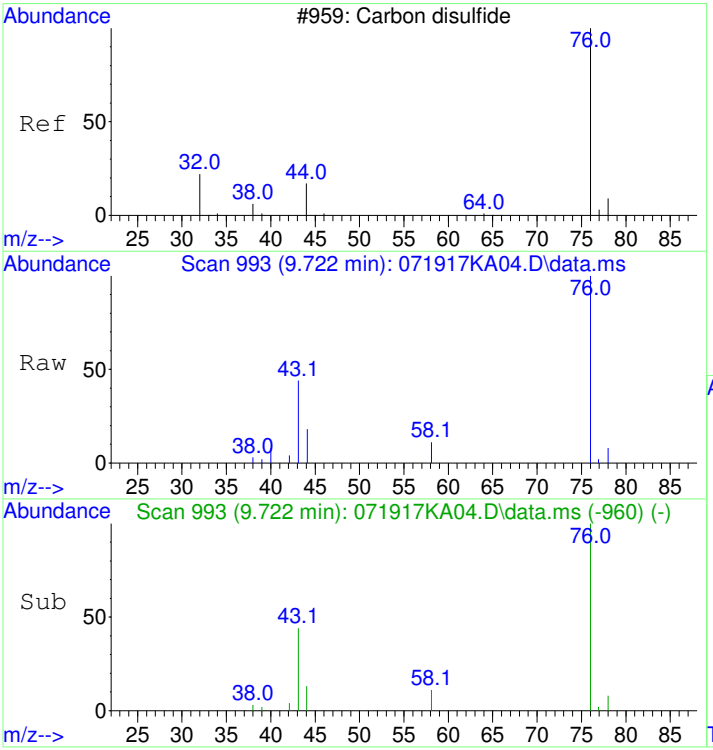




#14
Acetone
Concen: 1.26 ppbv
RT: 9.704 min Scan# 990
Delta R.T. 0.018 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion: 43 Resp: 19907

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 43 | 100 | | |
| 58 | 28.6 | 9.0 | 49.0 |

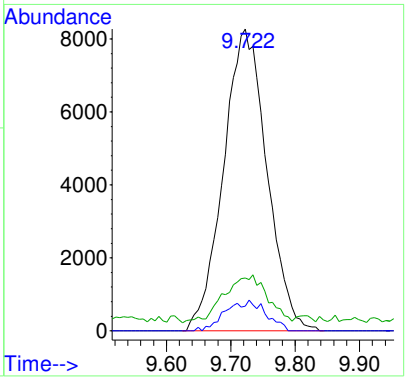


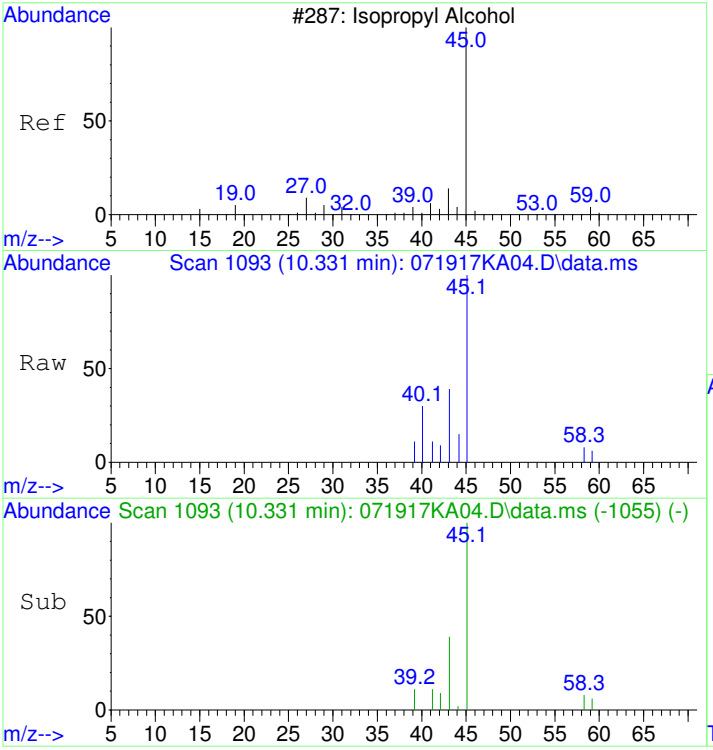



#15
Carbon disulfide
Concen: 1.19 ppbv
RT: 9.722 min Scan# 993
Delta R.T. -0.000 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion: 76 Resp: 38682

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 76 | 100 | | |
| 78 | 9.4 | 0.0 | 29.0 |
| 44 | 15.7 | 0.0 | 34.8 |

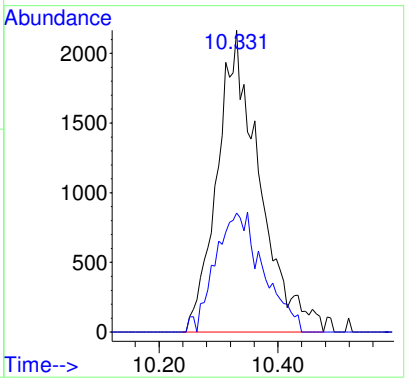


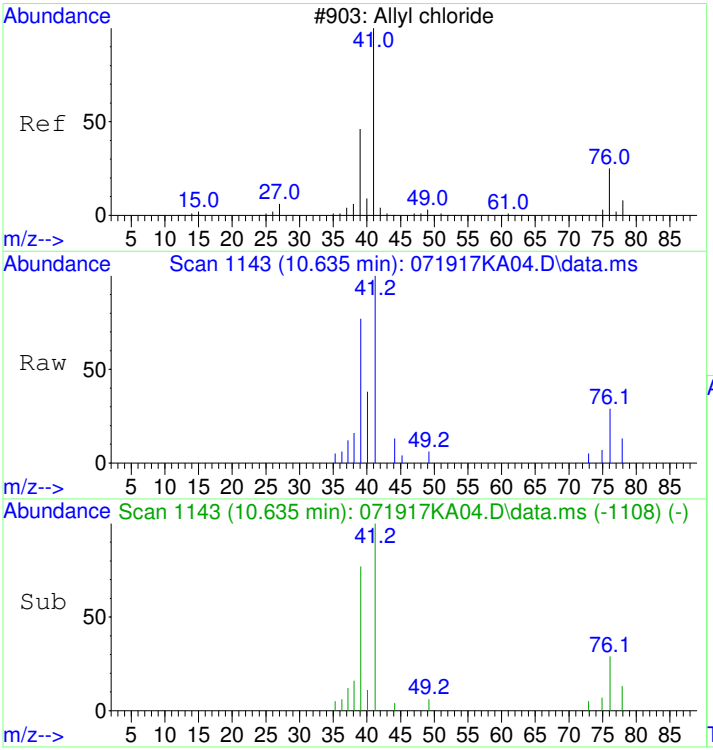




#16
2-Propanol
Concen: 0.96 ppbv
RT: 10.331 min Scan# 1093
Delta R.T. 0.030 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion: 45 Resp: 10670

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 45 | 100 | | |
| 43 | 45.2 | 10.1 | 50.1 |

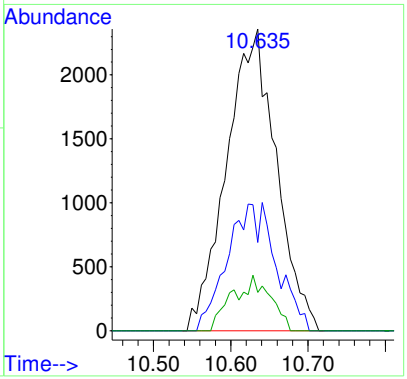


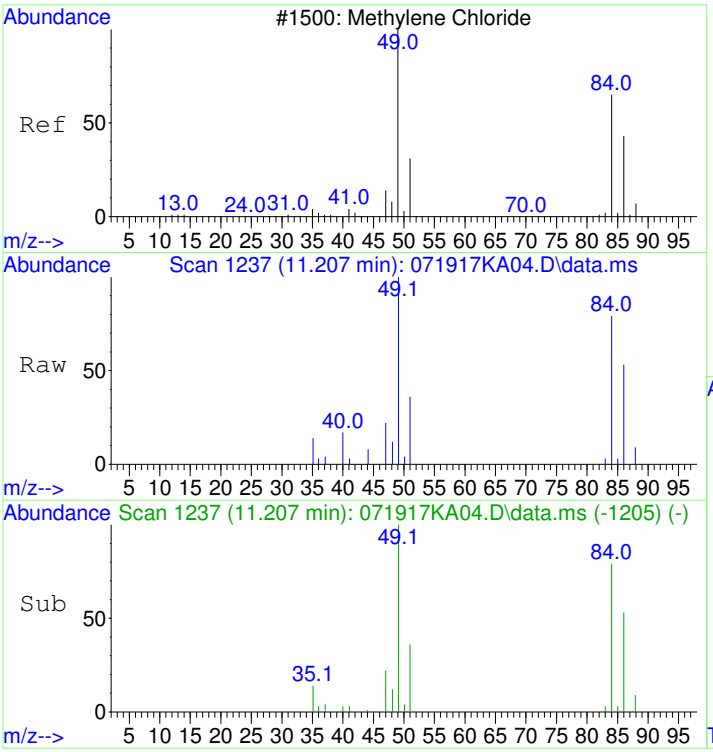



#17
Allyl chloride
Concen: 1.01 ppbv
RT: 10.635 min Scan# 1143
Delta R.T. 0.012 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion: 41 Resp: 10571

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 41 | 100 | | |
| 76 | 41.4 | 22.8 | 62.8 |
| 78 | 13.9 | 0.0 | 33.8 |

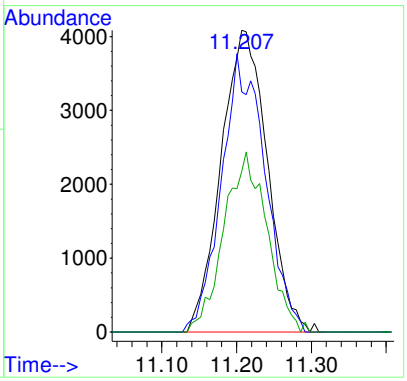


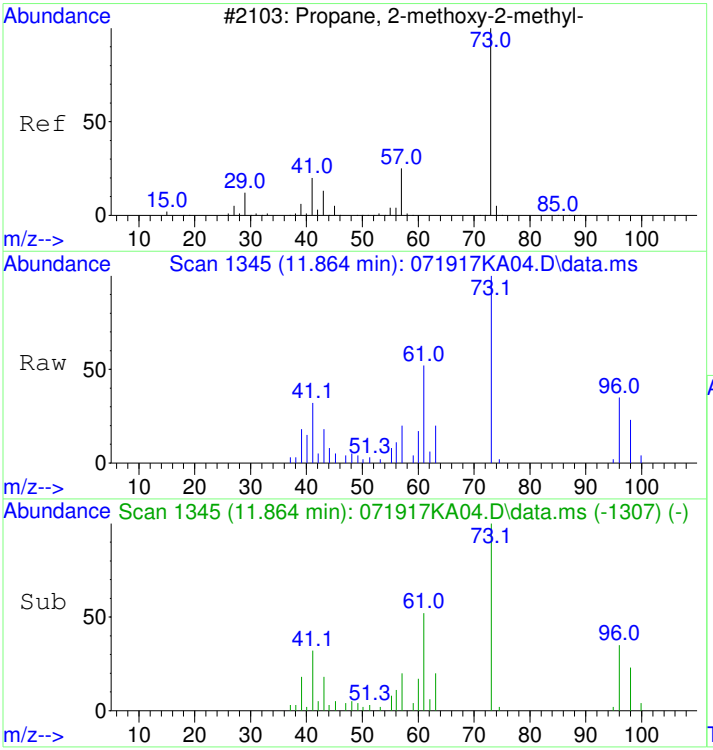




#18
Dichloromethane
Concen: 1.31 ppbv
RT: 11.207 min Scan# 1237
Delta R.T. -0.006 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion: 49 Resp: 17551

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 84 | 86.7 | 66.5 | 106.5 |
| 86 | 55.4 | 34.5 | 74.5 |

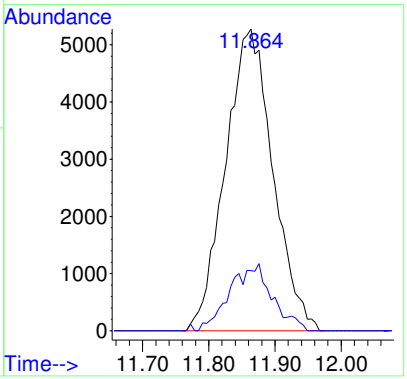


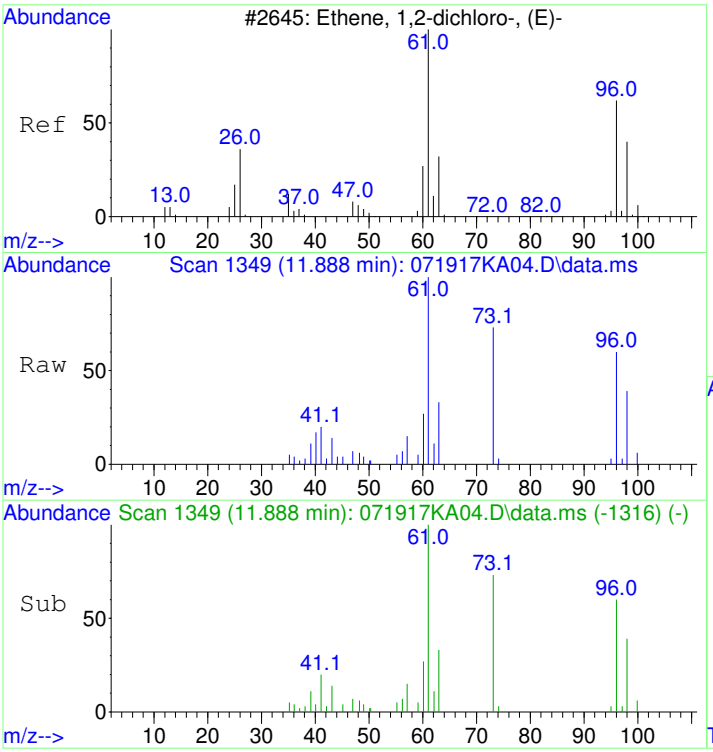



#19
tert-Butyl methyl ether (MTBE)
Concen: 0.89 ppbv
RT: 11.864 min Scan# 1345
Delta R.T. 0.030 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion: 73 Resp: 26277

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 73 | 100 | | |
| 57 | 19.8 | 0.0 | 39.9 |

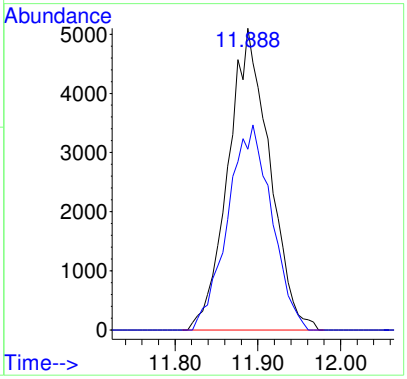


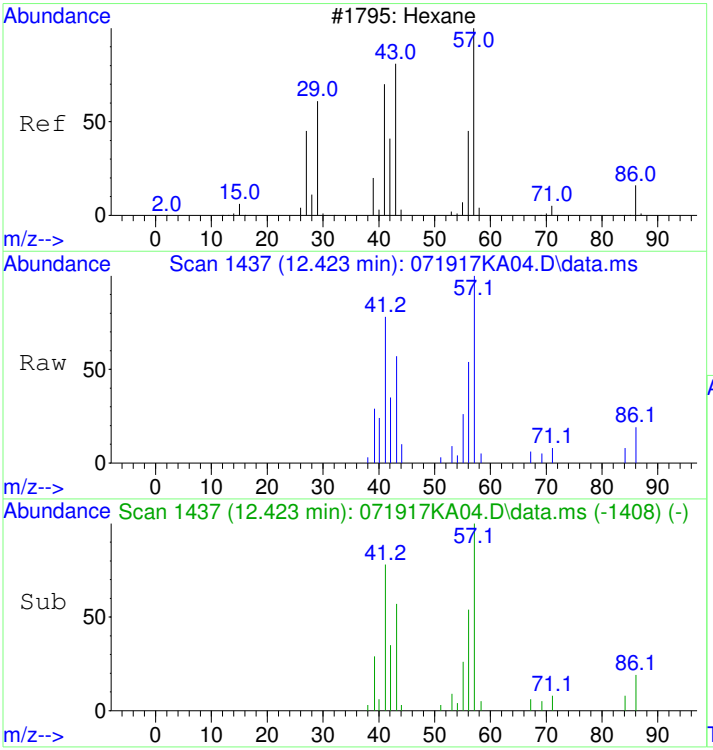




#20
trans-1,2-Dichloroethene
Concen: 1.13 ppbv
RT: 11.888 min Scan# 1349
Delta R.T. -0.000 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion: 61 Resp: 17750

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 61 | 100 | | |
| 96 | 72.0 | 51.3 | 91.3 |

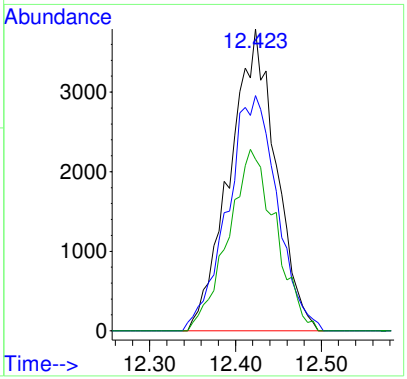


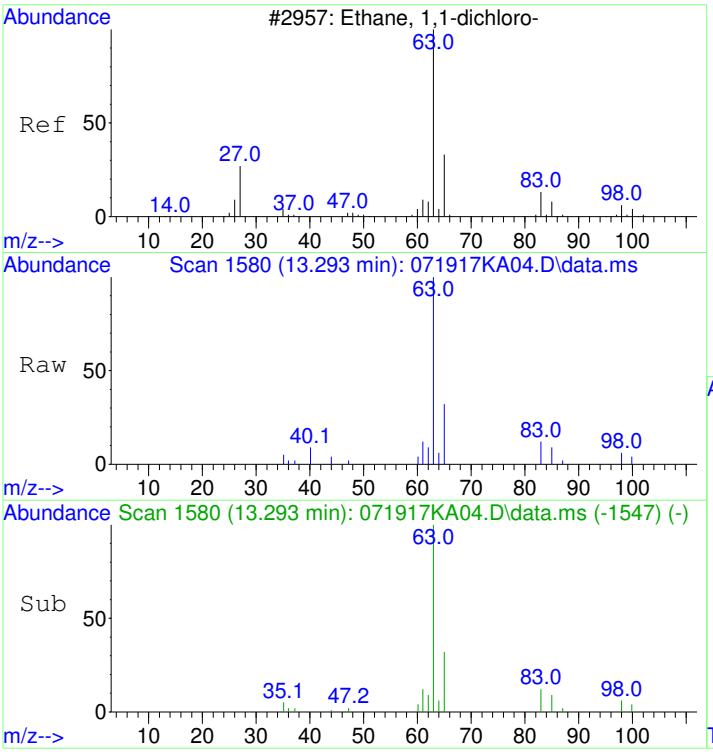



#21
Hexane
Concen: 0.90 ppbv
RT: 12.423 min Scan# 1437
Delta R.T. 0.006 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion: 57 Resp: 14209

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 57 | 100 | | |
| 41 | 83.8 | 52.6 | 92.6 |
| 43 | 61.7 | 39.2 | 79.2 |

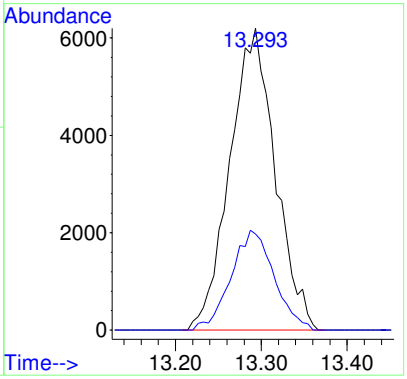


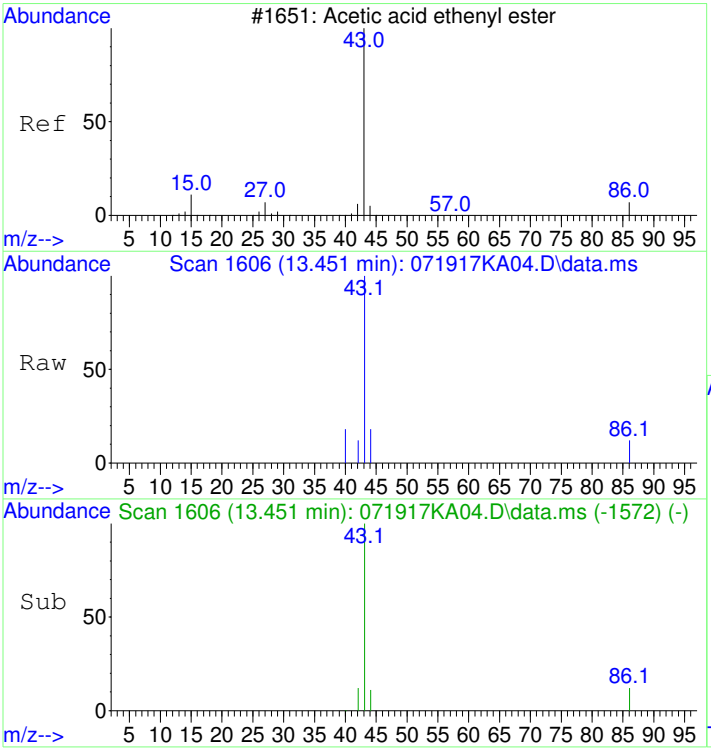




#22
1,1-Dichloroethane
Concen: 1.07 ppbv
RT: 13.293 min Scan# 1580
Delta R.T. -0.000 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion: 63 Resp: 22765

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 63 | 100 | | |
| 65 | 31.4 | 11.6 | 51.6 |

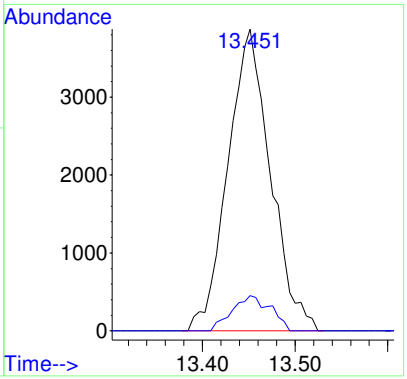


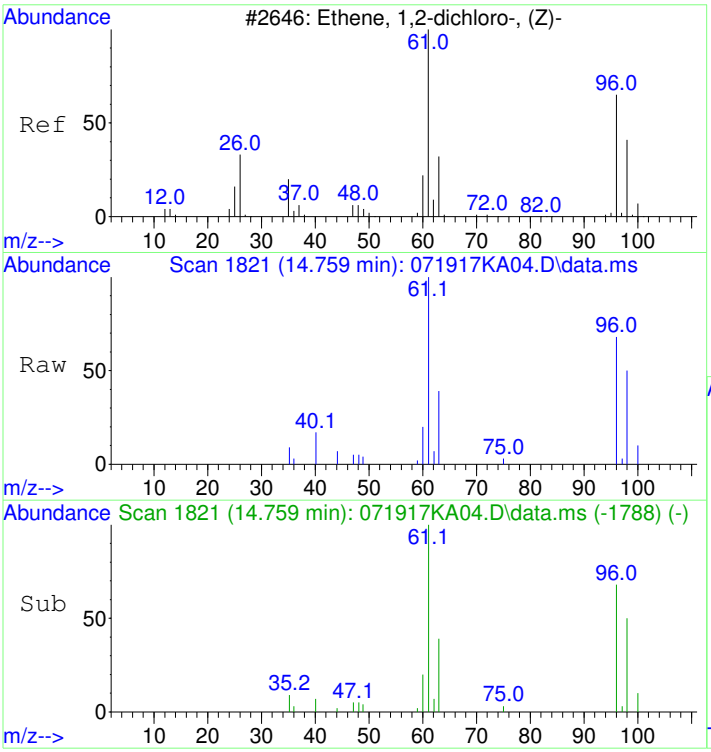



#23
Vinyl acetate
Concen: 0.77 ppbv
RT: 13.451 min Scan# 1606
Delta R.T. 0.006 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion: 43 Resp: 12358

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 43 | 100 | | |
| 86 | 10.5 | 0.0 | 30.8 |

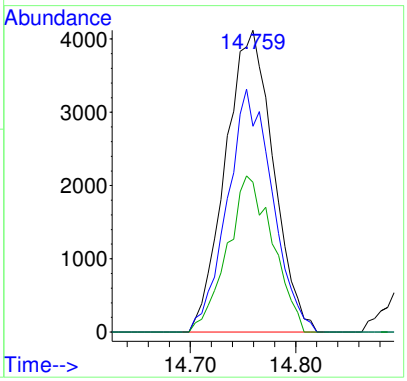


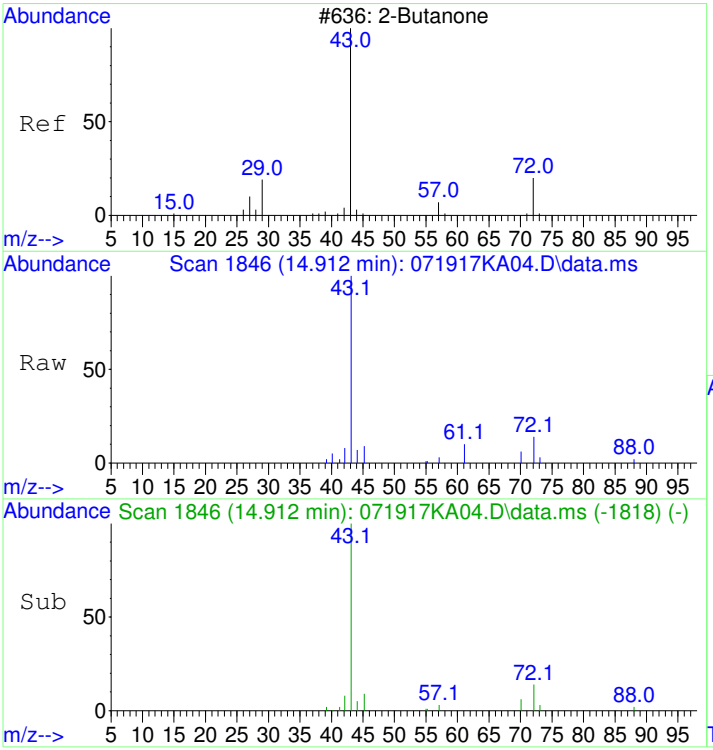




#24
cis-1,2-Dichloroethene
Concen: 0.92 ppbv
RT: 14.759 min Scan# 1821
Delta R.T. -0.000 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion: 61 Resp: 13026

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 61 | 100 | | |
| 96 | 75.8 | 56.2 | 96.2 |
| 98 | 49.1 | 27.8 | 67.8 |

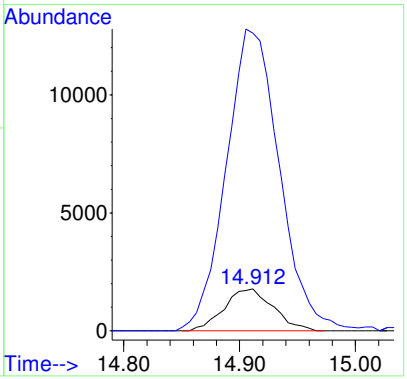


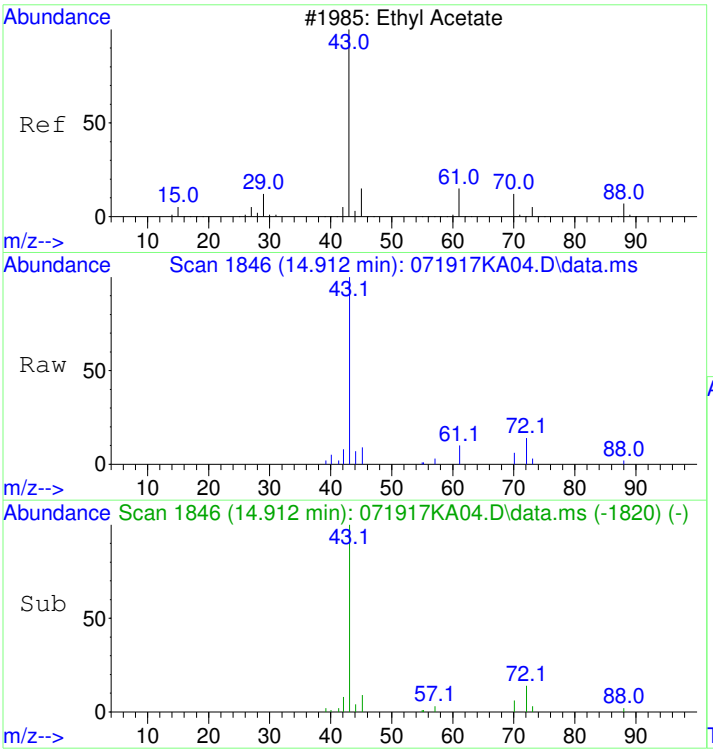



#25
2-Butanone (MEK)
Concen: 0.99 ppbv
RT: 14.912 min Scan# 1846
Delta R.T. 0.018 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion: 72 Resp: 5243

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 72 | 100 | | |
| 43 | 783.1 | 756.4 | 776.4# |

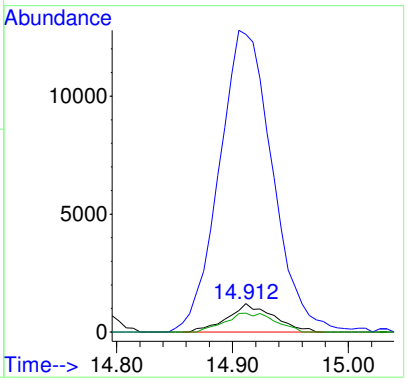


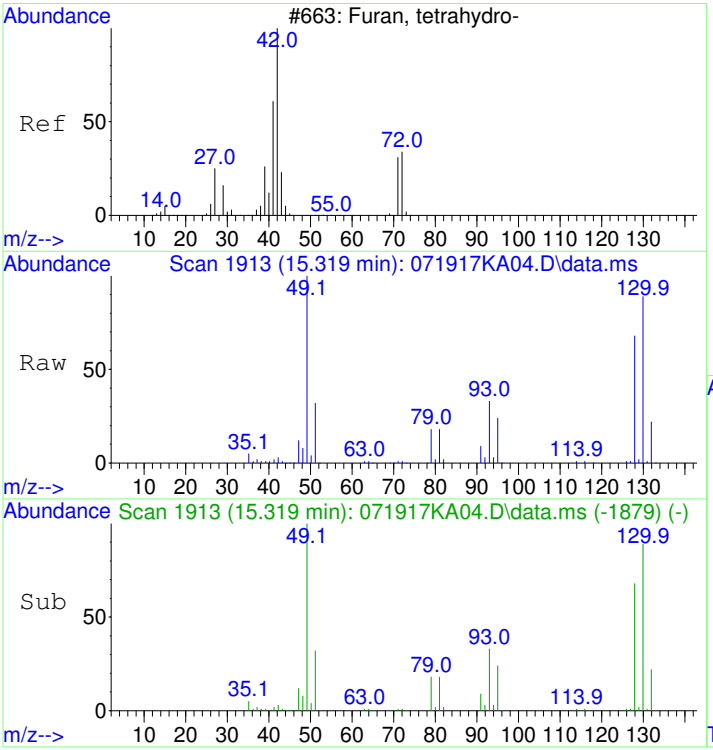




#26
Ethyl acetate
Concen: 1.06 ppbv
RT: 14.912 min Scan# 1846
Delta R.T. 0.006 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion: 61 Resp: 3332

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 61 | 100 | | |
| 43 | 1232.2 | 1288.3 | 1308.3# |
| 70 | 72.4 | 64.2 | 84.2 |

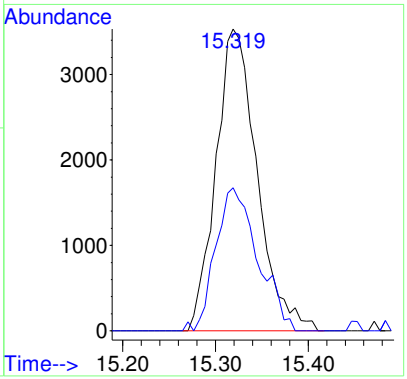


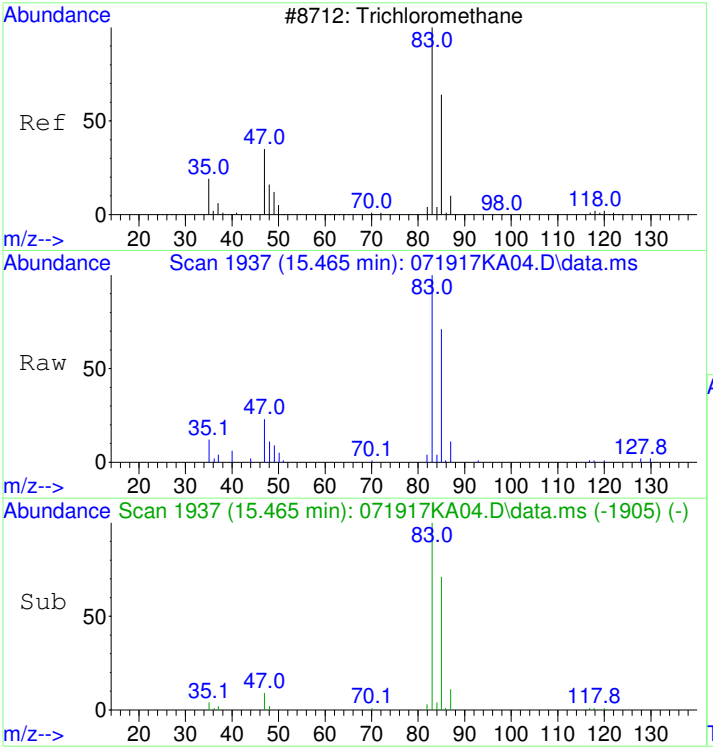



#27
Tetrahydrofuran
Concen: 1.05 ppbv
RT: 15.319 min Scan# 1913
Delta R.T. 0.018 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion: 42 Resp: 10895

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 42 | 100 | | |
| 72 | 48.6 | 30.1 | 70.1 |

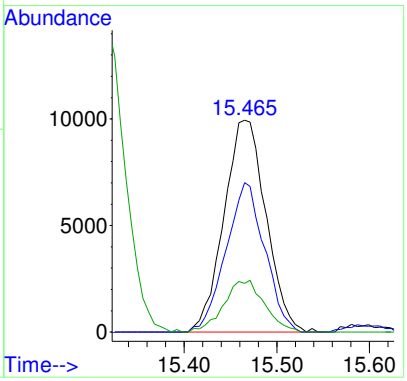


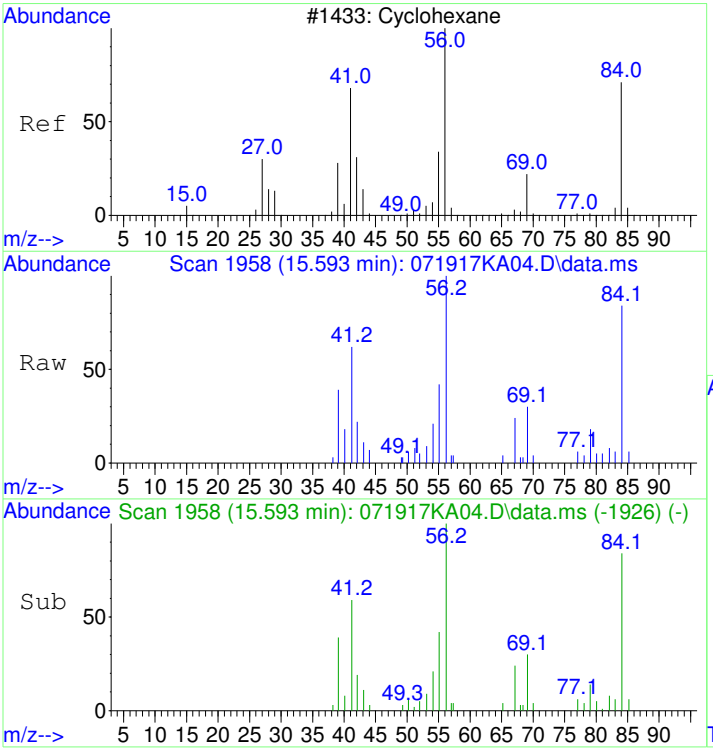




#28
Chloroform
Concen: 1.18 ppbv
RT: 15.465 min Scan# 1937
Delta R.T. -0.006 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion: 83 Resp: 31324

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 83 | 100 | | |
| 85 | 65.0 | 44.6 | 84.6 |
| 47 | 23.6 | 2.7 | 42.7 |

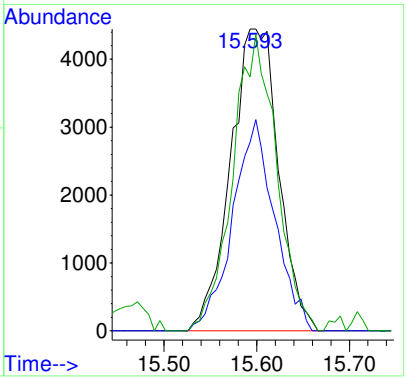


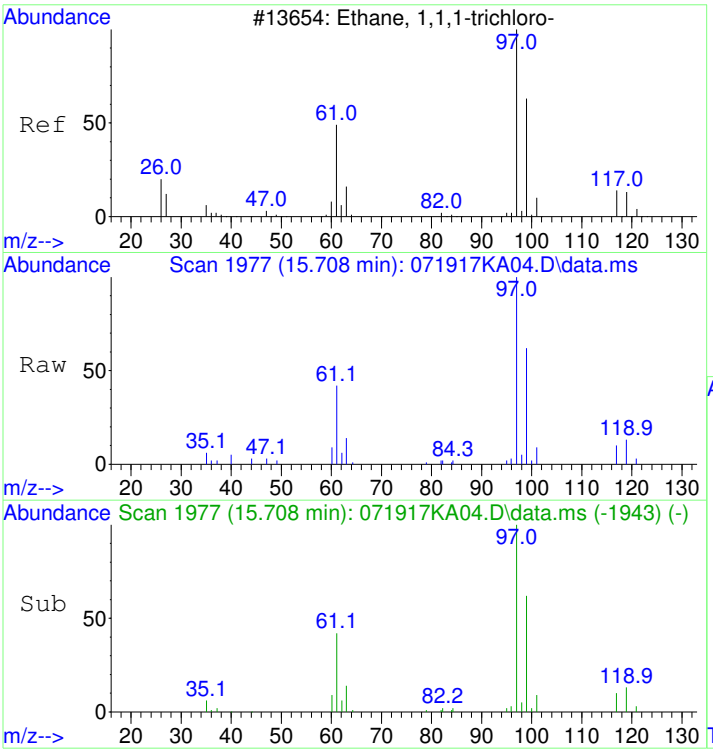



#29
Cyclohexane
Concen: 0.99 ppbv
RT: 15.593 min Scan# 1958
Delta R.T. -0.006 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion: 56 Resp: 16051

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 56 | 100 | | |
| 41 | 61.1 | 35.5 | 75.5 |
| 84 | 89.7 | 76.7 | 116.7 |

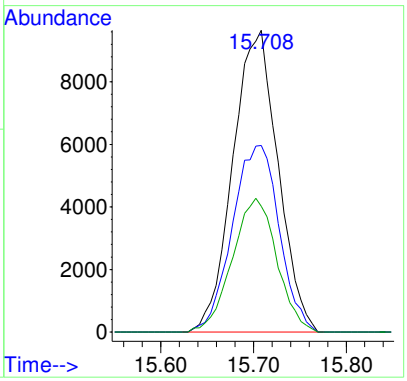


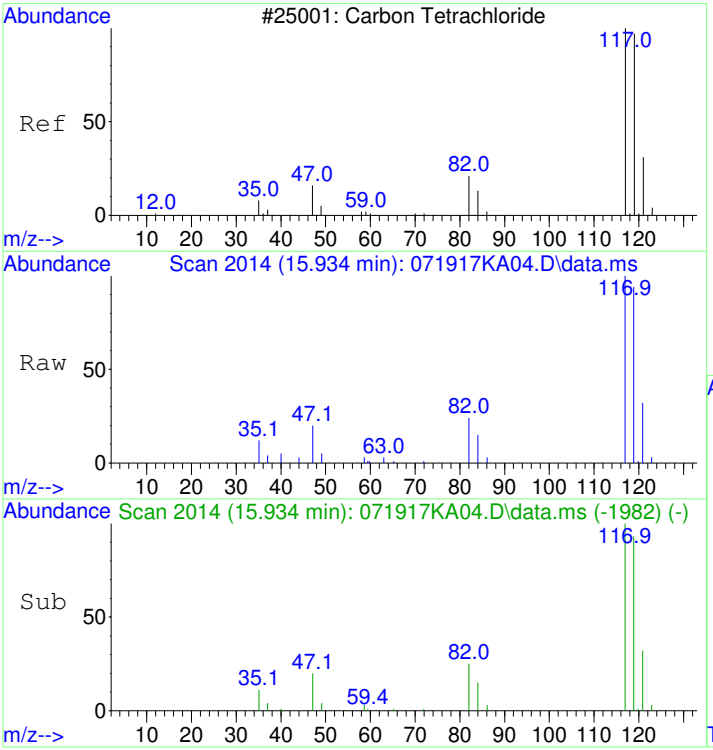




#30
1,1,1-Trichloroethane
Concen: 1.11 ppbv
RT: 15.708 min Scan# 1977
Delta R.T. 0.006 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion: 97 Resp: 32660

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 97 | 100 | | |
| 99 | 64.3 | 44.6 | 84.6 |
| 61 | 43.8 | 23.4 | 63.4 |

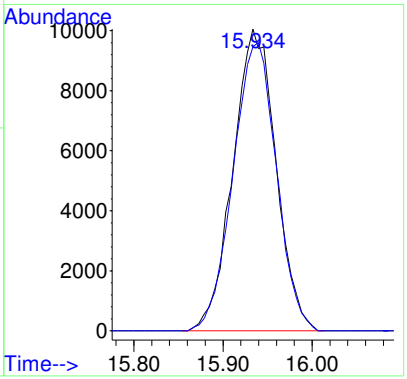


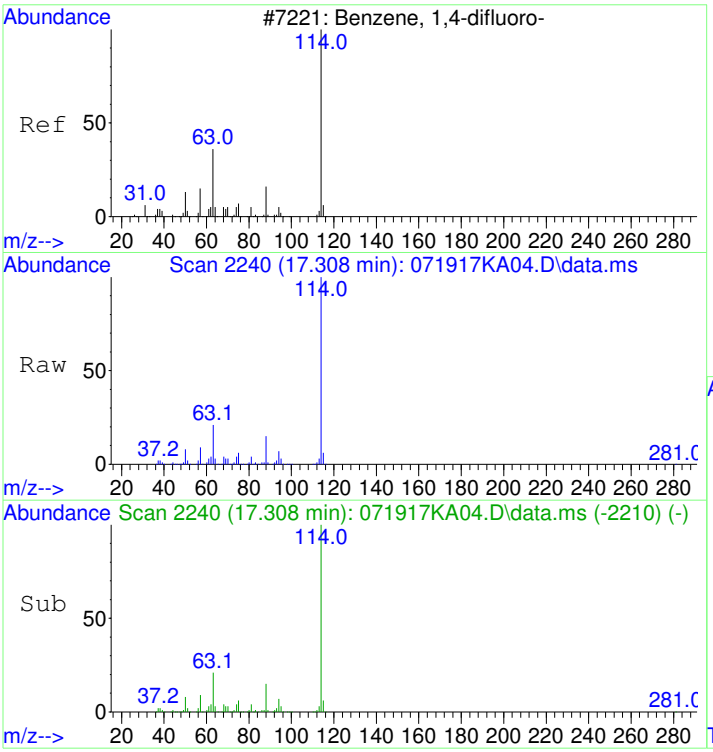



#31
Carbon tetrachloride
Concen: 1.09 ppbv
RT: 15.934 min Scan# 2014
Delta R.T. -0.006 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion:117 Resp: 33581

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 117 | 100 | | |
| 119 | 96.4 | 75.5 | 115.5 |

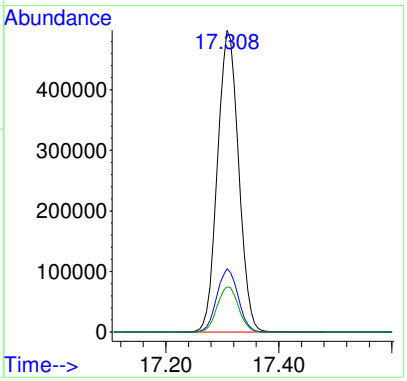


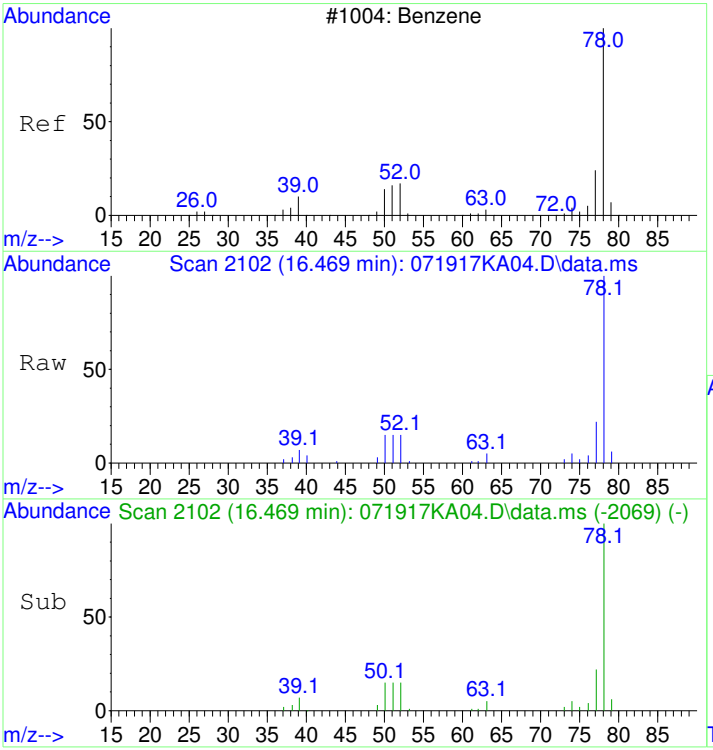




#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 17.308 min Scan# 2240
Delta R.T. -0.000 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion:114 Resp: 1292649

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 114 | 100 | | |
| 63 | 21.1 | 0.8 | 40.8 |
| 88 | 15.1 | 0.0 | 35.1 |

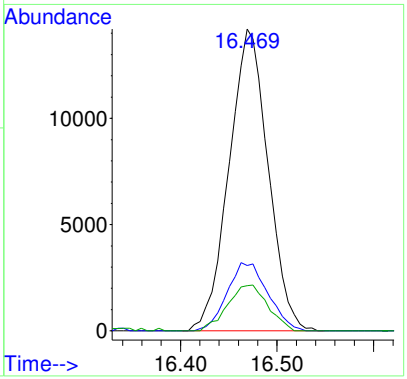


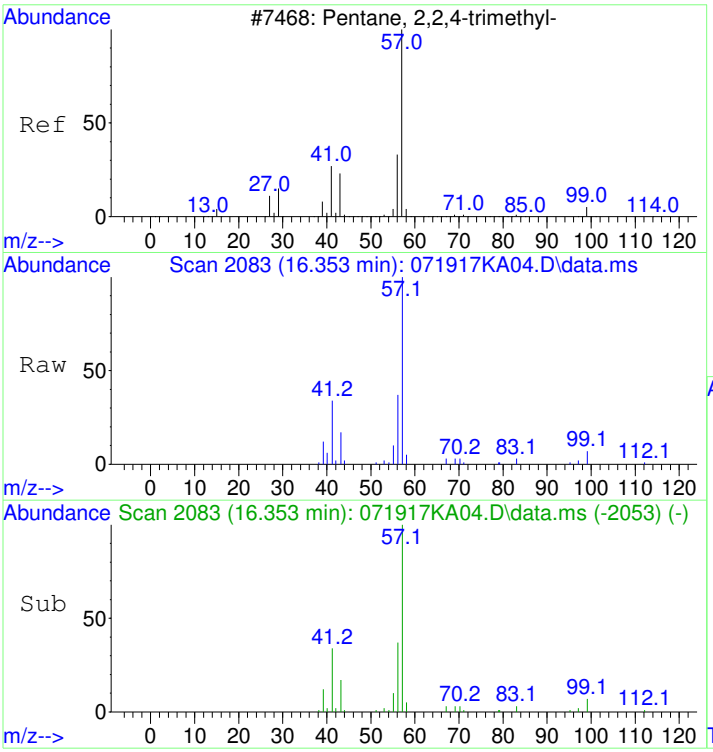



#33
Benzene
Concen: 1.20 ppbv
RT: 16.469 min Scan# 2102
Delta R.T. -0.000 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion: 78 Resp: 39844

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 78 | 100 | | |
| 77 | 23.6 | 2.6 | 42.6 |
| 50 | 15.7 | 0.0 | 36.1 |

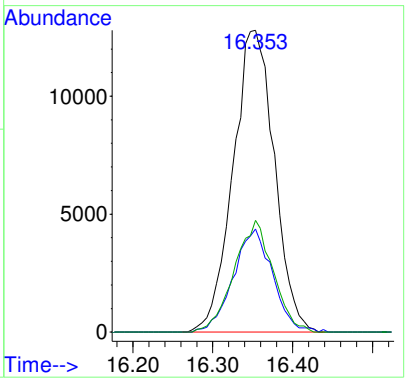


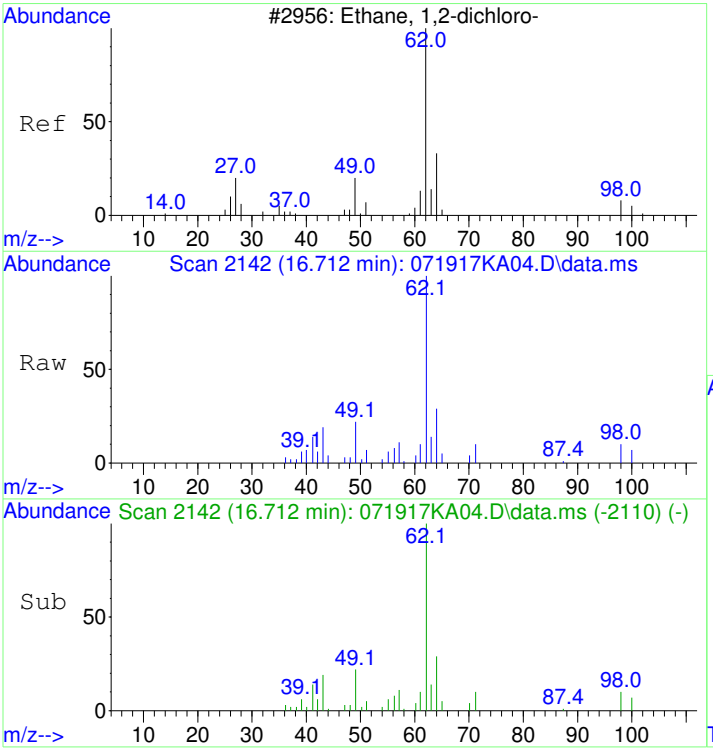




#34
2,2,4-Trimethylpentane
Concen: 0.99 ppbv
RT: 16.353 min Scan# 2083
Delta R.T. 0.006 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion: 57 Resp: 45912

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 57 | 100 | | |
| 41 | 32.5 | 7.9 | 47.9 |
| 56 | 34.8 | 12.8 | 52.8 |

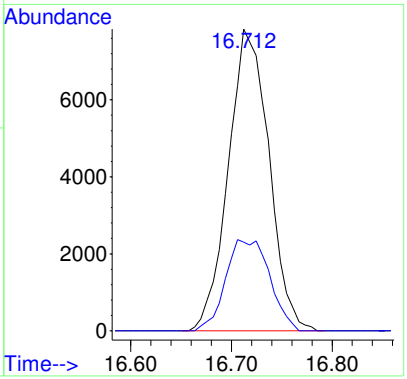


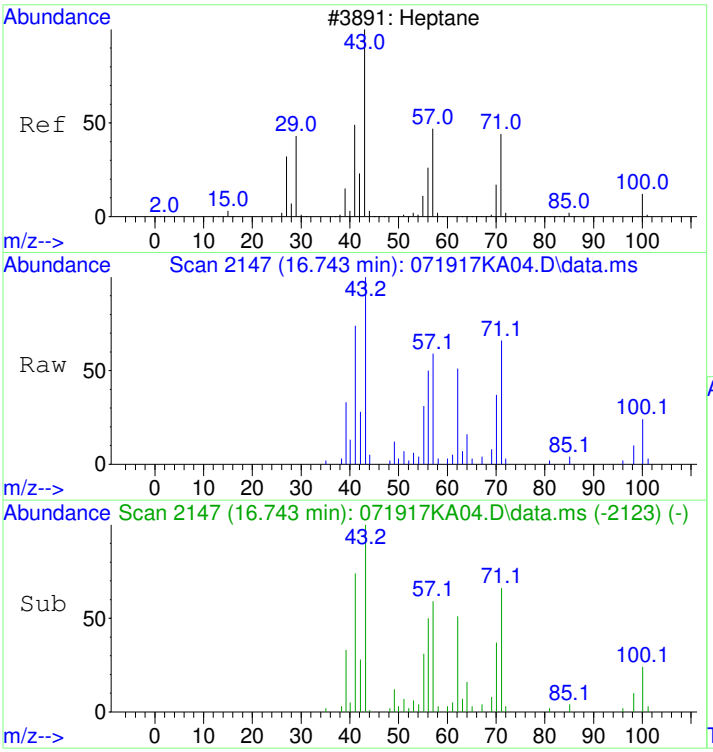



#35
1,2-Dichloroethane
Concen: 1.25 ppbv
RT: 16.712 min Scan# 2142
Delta R.T. -0.006 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion: 62 Resp: 21927

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 62 | 100 | | |
| 64 | 32.8 | 12.1 | 52.1 |

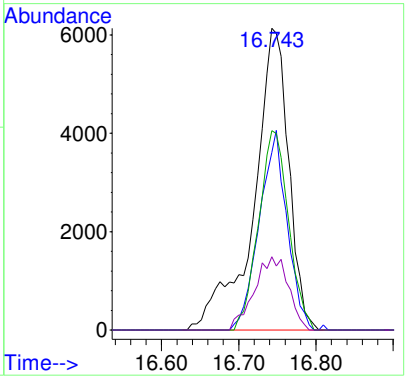


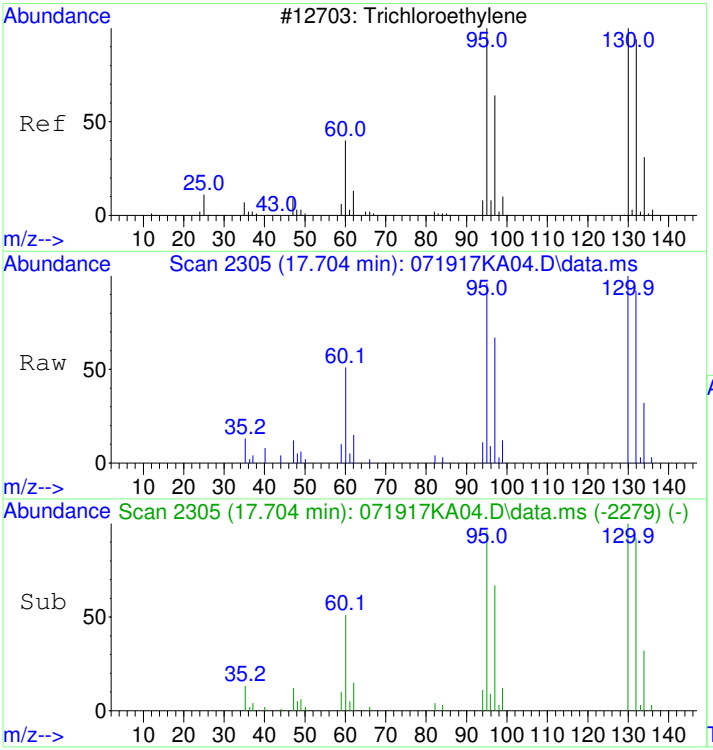

#36
Heptane
Concen: 1.22 ppbv
RT: 16.743 min Scan# 2147
Delta R.T. -0.006 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion: 43 Resp: 19293

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 43 | 100 | | |
| 57 | 52.4 | 40.2 | 80.2 |
| 71 | 56.6 | 50.1 | 90.1 |
| 100 | 23.6 | 7.9 | 47.9 |



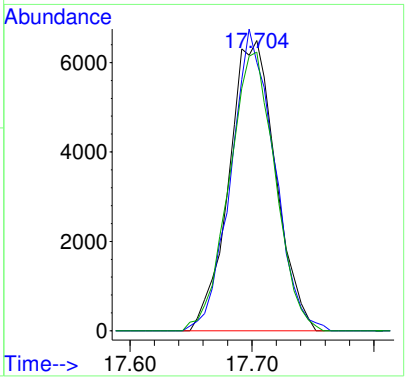

Before MI:
Peak SUMMED

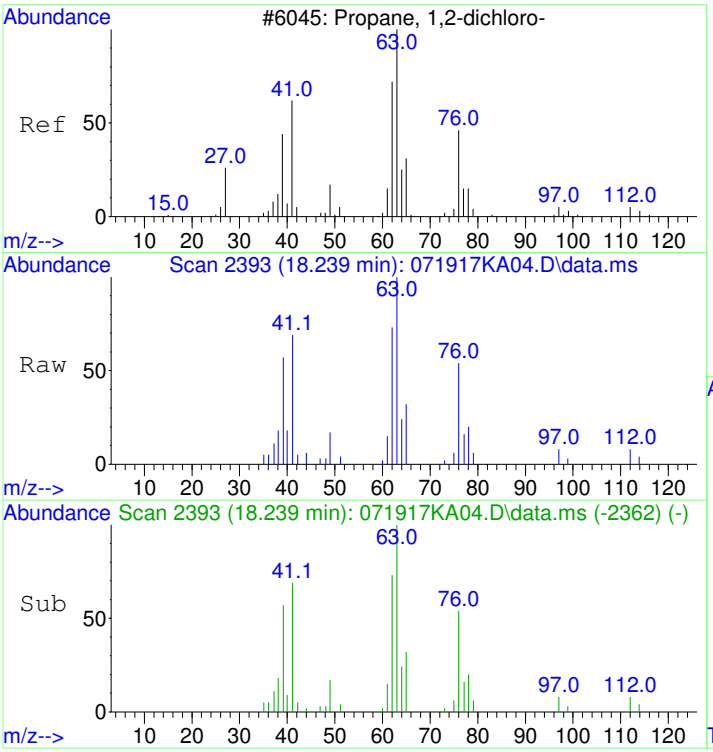



#37
Trichloroethene
Concen: 1.15 ppbv
RT: 17.704 min Scan# 2305
Delta R.T. 0.006 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion:130 Resp: 17288

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 130 | 100 | | |
| 132 | 96.1 | 77.0 | 117.0 |
| 95 | 94.6 | 78.3 | 118.3 |

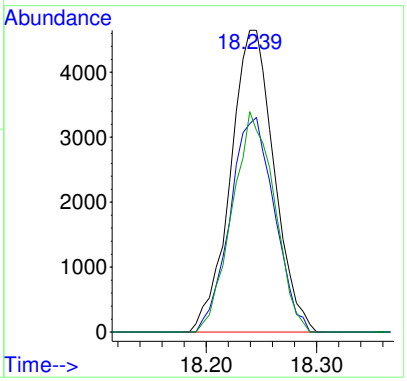


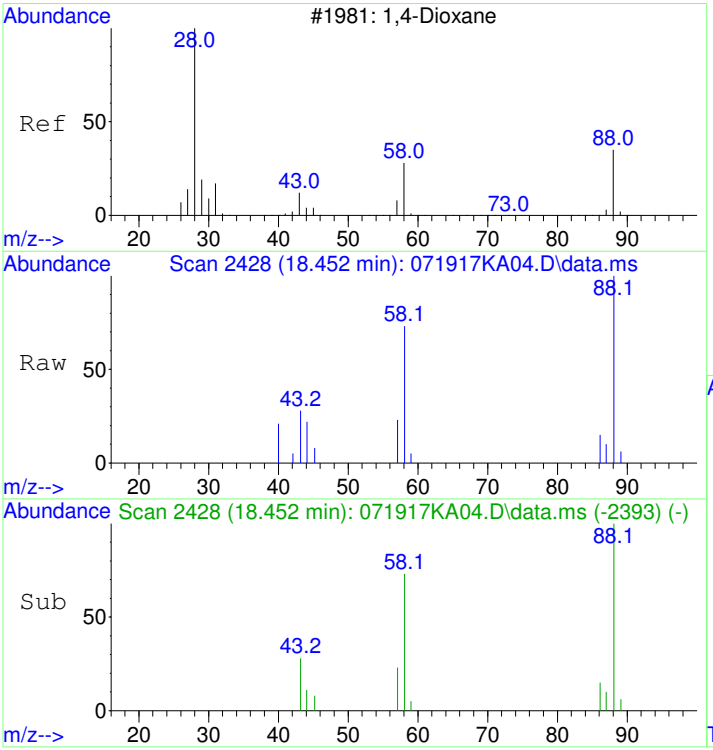




#38
1,2-Dichloropropane
Concen: 1.16 ppbv
RT: 18.239 min Scan# 2393
Delta R.T. -0.006 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion: 63 Resp: 12845

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 63 | 100 | | |
| 41 | 72.3 | 46.1 | 86.1 |
| 62 | 70.7 | 49.8 | 89.8 |

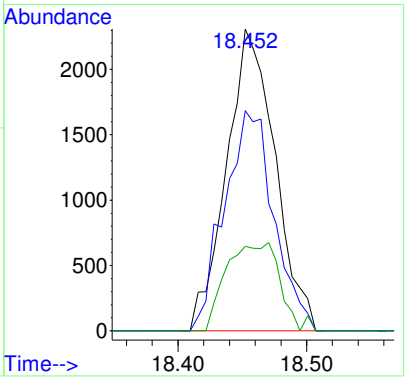


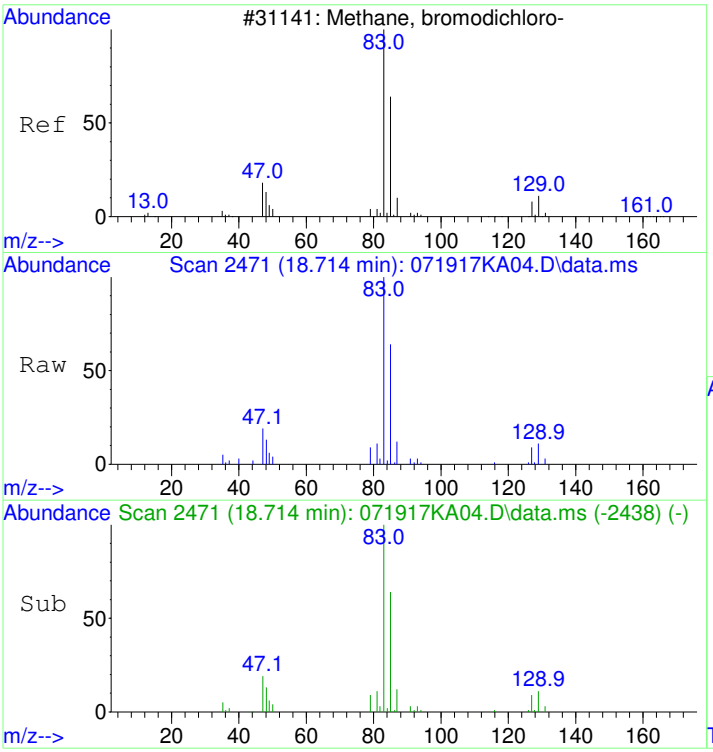



#39
1,4-Dioxane
Concen: 0.87 ppbv
RT: 18.452 min Scan# 2428
Delta R.T. 0.012 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion: 88 Resp: 6054

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 88 | 100 | | |
| 58 | 74.1 | 44.6 | 84.6 |
| 43 | 32.2 | 8.6 | 48.6 |

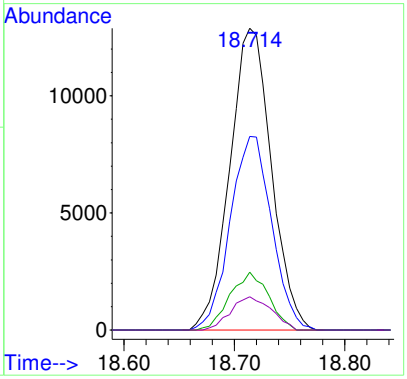


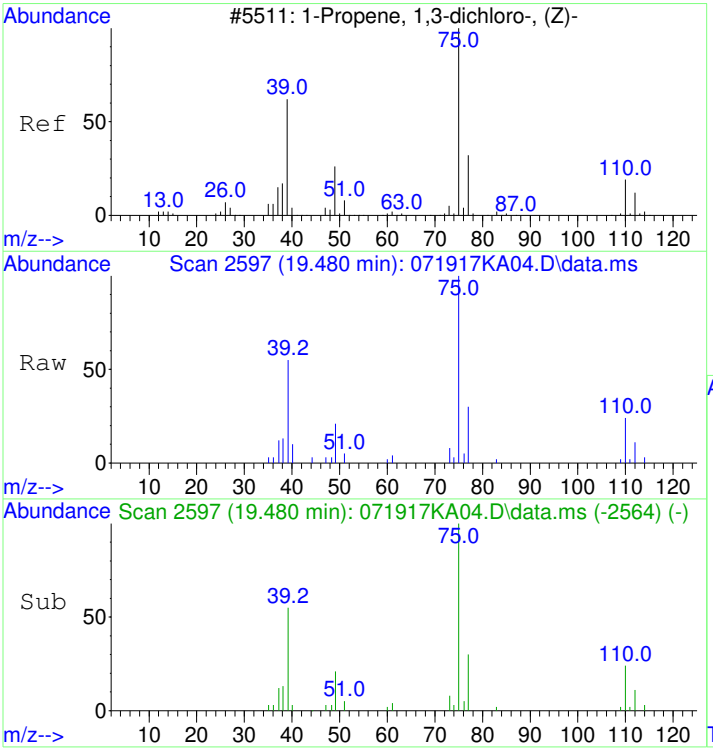




#40
Bromodichloromethane
Concen: 1.25 ppbv
RT: 18.714 min Scan# 2471
Delta R.T. -0.000 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion: 83 Resp: 33933

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 83 | 100 | | |
| 85 | 63.9 | 44.0 | 84.0 |
| 47 | 17.8 | 0.0 | 37.6 |
| 129 | 10.8 | 0.0 | 31.4 |

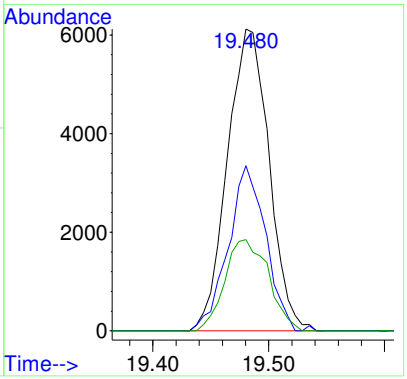


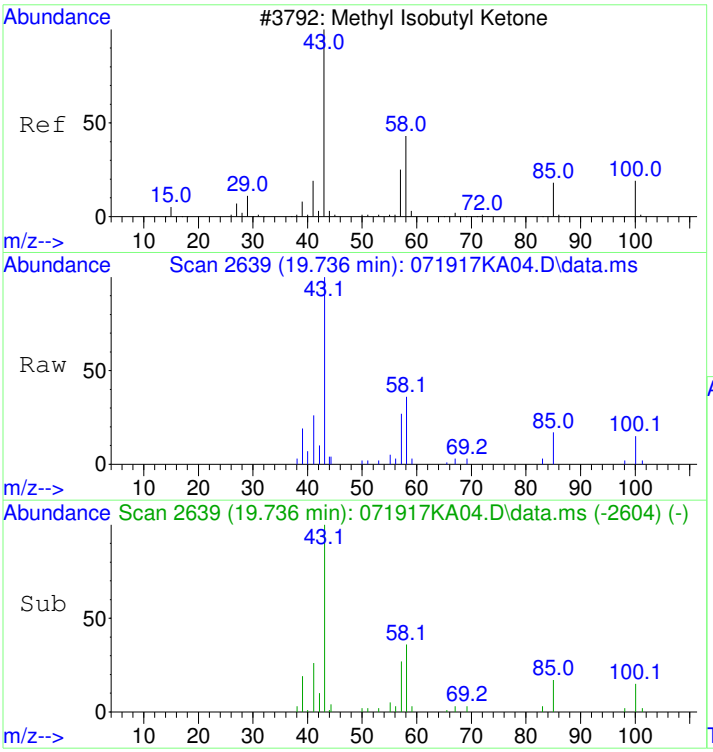



#41
cis-1,3-Dichloropropene
Concen: 0.87 ppbv
RT: 19.480 min Scan# 2597
Delta R.T. -0.000 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion: 75 Resp: 15295

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 75 | 100 | | |
| 39 | 49.2 | 27.7 | 67.7 |
| 77 | 31.6 | 11.6 | 51.6 |

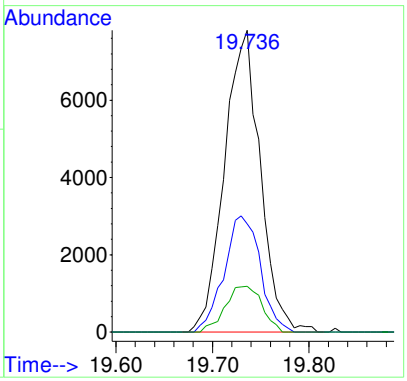


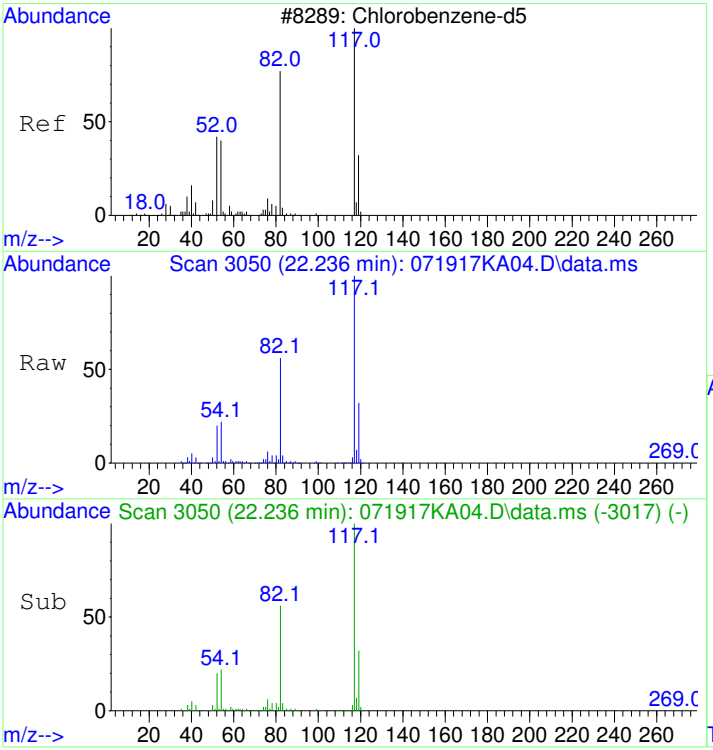




#42
4-Methyl-2-pentanone (MIBK)
Concen: 0.98 ppbv
RT: 19.736 min Scan# 2639
Delta R.T. 0.012 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion: 43 Resp: 20140

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 43 | 100 | | |
| 58 | 38.8 | 21.6 | 61.6 |
| 100 | 15.6 | 0.0 | 37.6 |

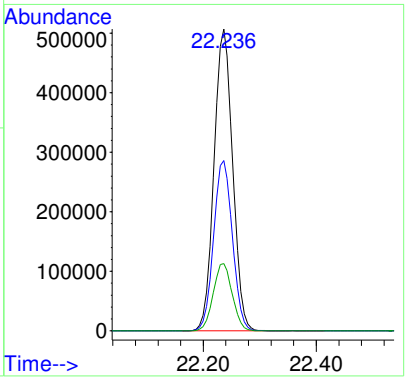


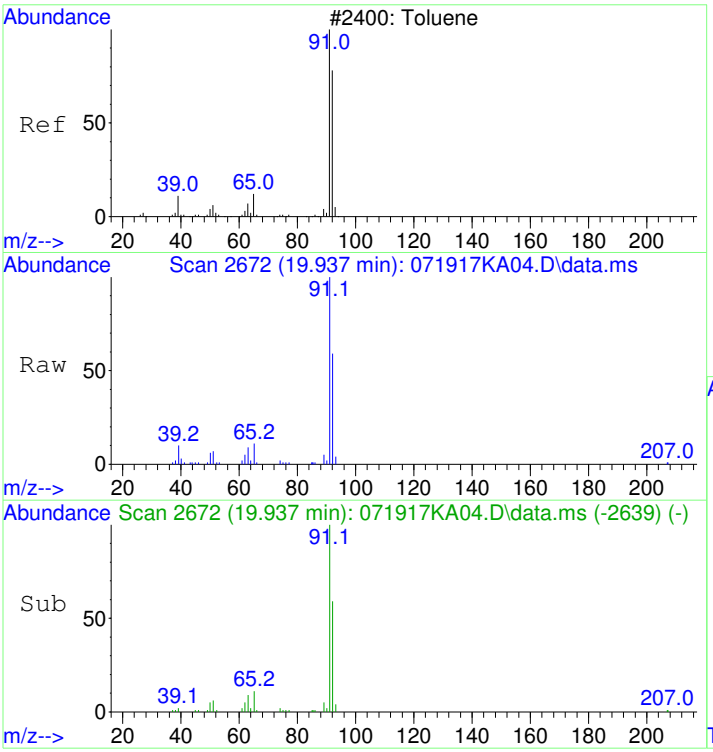



#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 22.236 min Scan# 3050
Delta R.T. -0.000 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion:117 Resp: 1158666

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 117 | 100 | | |
| 82 | 57.0 | 36.2 | 76.2 |
| 54 | 22.7 | 2.0 | 42.0 |

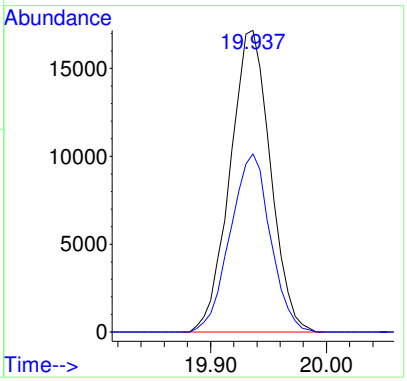


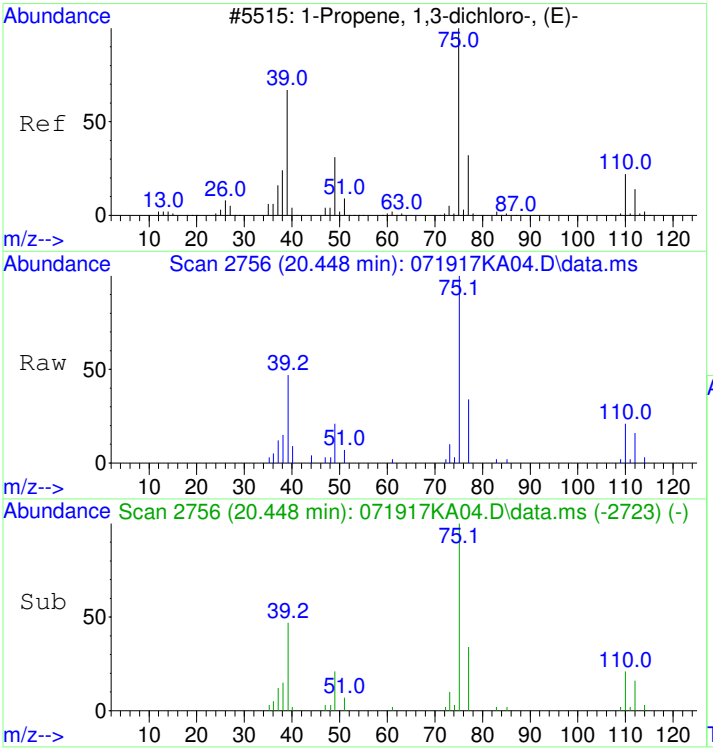




#44
Toluene
Concen: 1.05 ppbv
RT: 19.937 min Scan# 2672
Delta R.T. -0.000 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion: 91 Resp: 41498

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 91 | 100 | | |
| 92 | 58.9 | 39.9 | 79.9 |

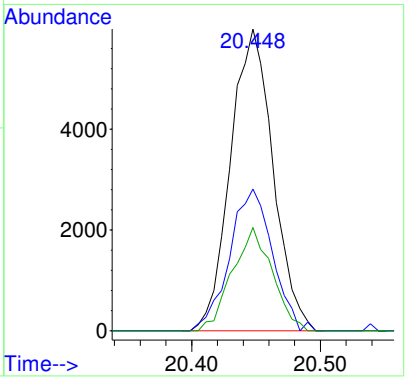


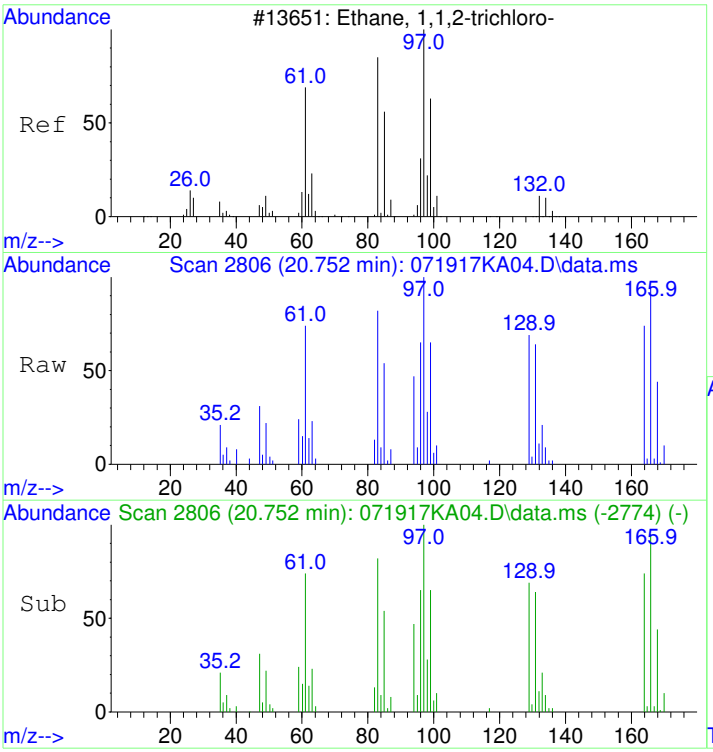



#45
trans-1,3-Dichloropropene
Concen: 0.80 ppbv
RT: 20.448 min Scan# 2756
Delta R.T. -0.000 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion: 75 Resp: 13767

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 75 | 100 | | |
| 39 | 47.3 | 24.8 | 64.8 |
| 77 | 32.2 | 11.4 | 51.4 |

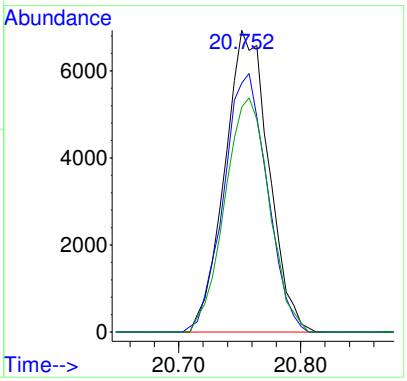


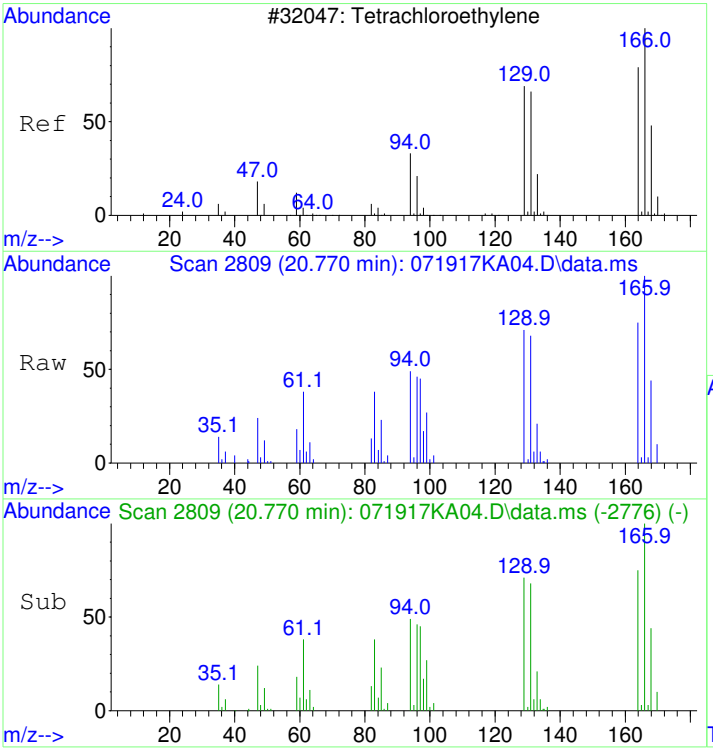




#46
1,1,2-Trichloroethane
Concen: 1.21 ppbv
RT: 20.752 min Scan# 2806
Delta R.T. -0.006 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion: 97 Resp: 17306

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 97 | 100 | | |
| 83 | 85.1 | 64.5 | 104.5 |
| 61 | 78.7 | 53.5 | 93.5 |

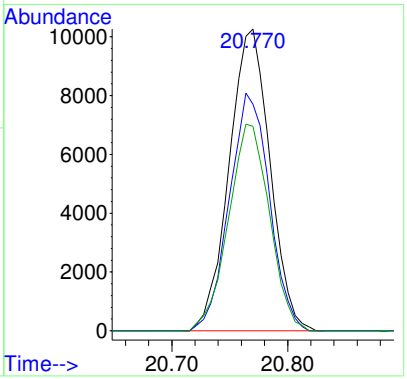


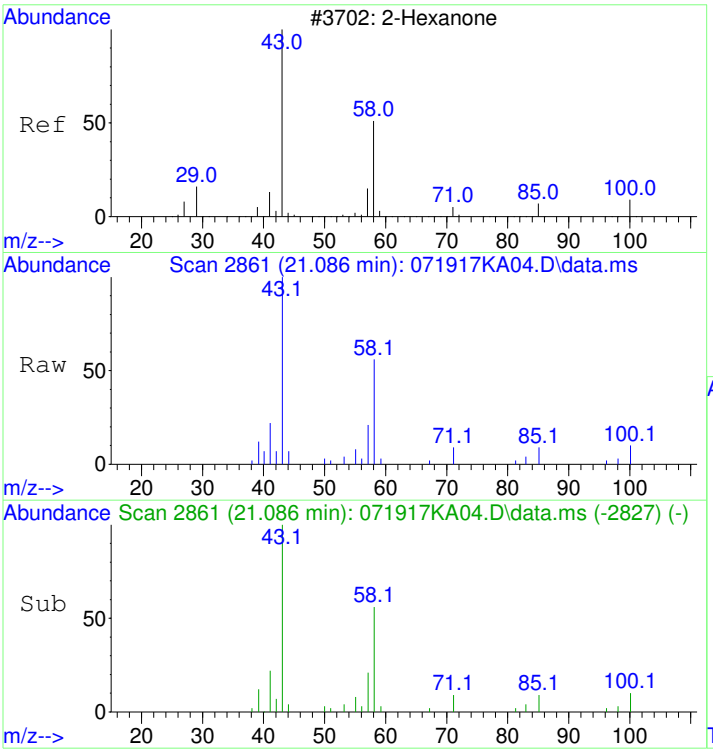



#47
Tetrachloroethene
Concen: 1.15 ppbv
RT: 20.770 min Scan# 2809
Delta R.T. -0.000 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion:166 Resp: 25186

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 166 | 100 | | |
| 164 | 77.2 | 57.9 | 97.9 |
| 131 | 68.6 | 47.0 | 87.0 |

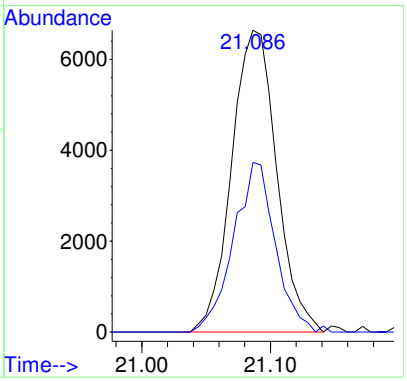


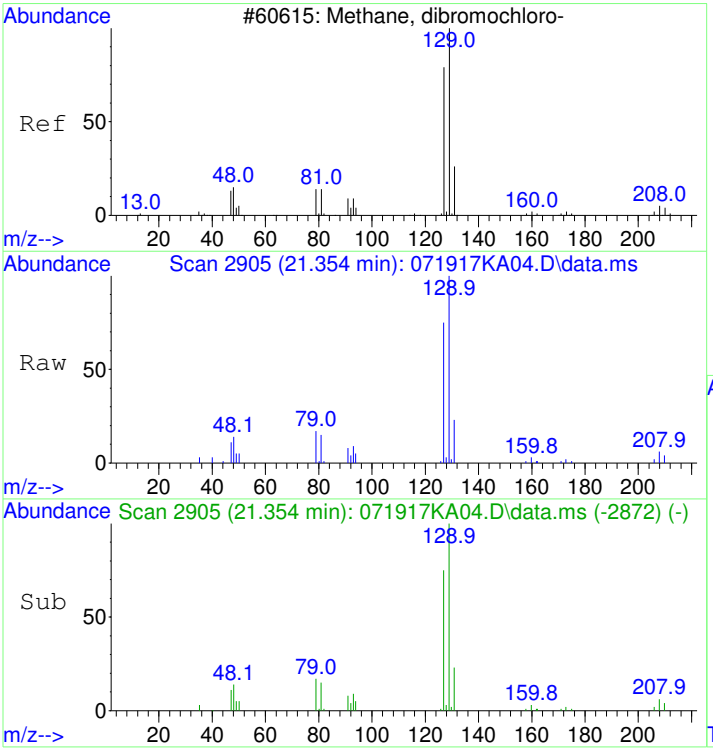




#48
2-Hexanone
Concen: 0.87 ppbv
RT: 21.086 min Scan# 2861
Delta R.T. 0.006 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion: 43 Resp: 16167

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 43 | 100 | | |
| 58 | 52.2 | 36.8 | 76.8 |

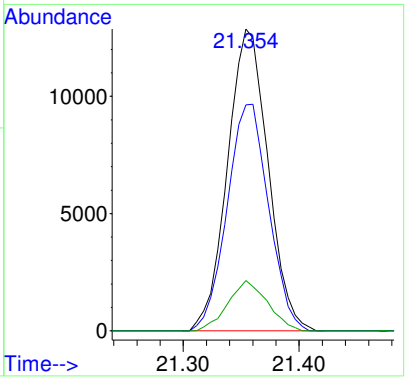


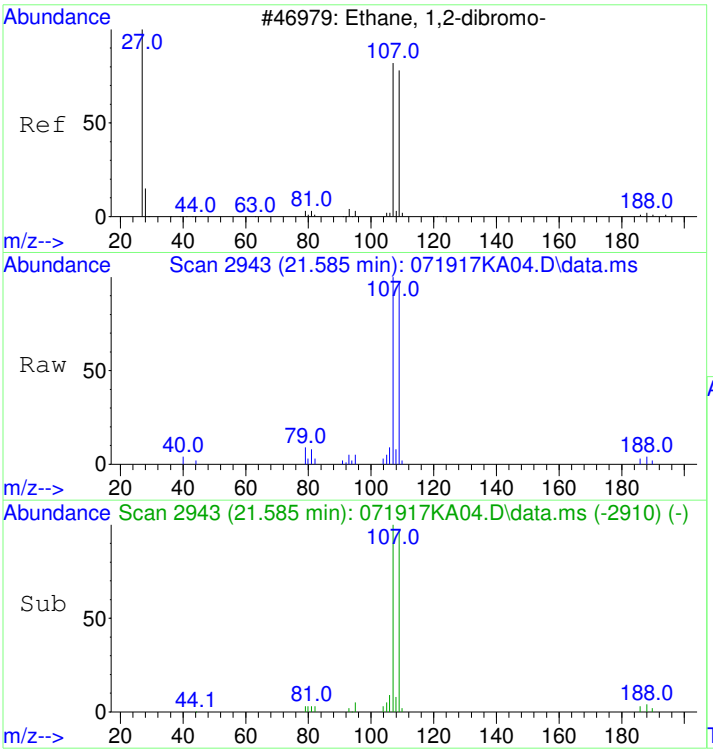



#49
Chlorodibromomethane
Concen: 1.15 ppbv
RT: 21.354 min Scan# 2905
Delta R.T. -0.000 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion:129 Resp: 31356

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 129 | 100 | | |
| 127 | 76.8 | 56.9 | 96.9 |
| 79 | 16.2 | 0.0 | 34.6 |

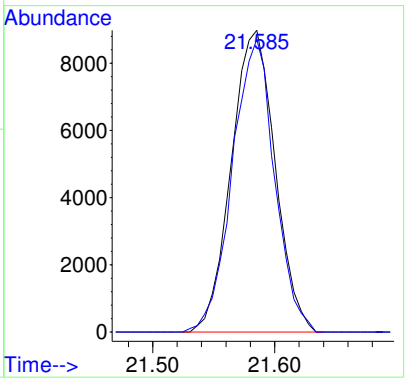


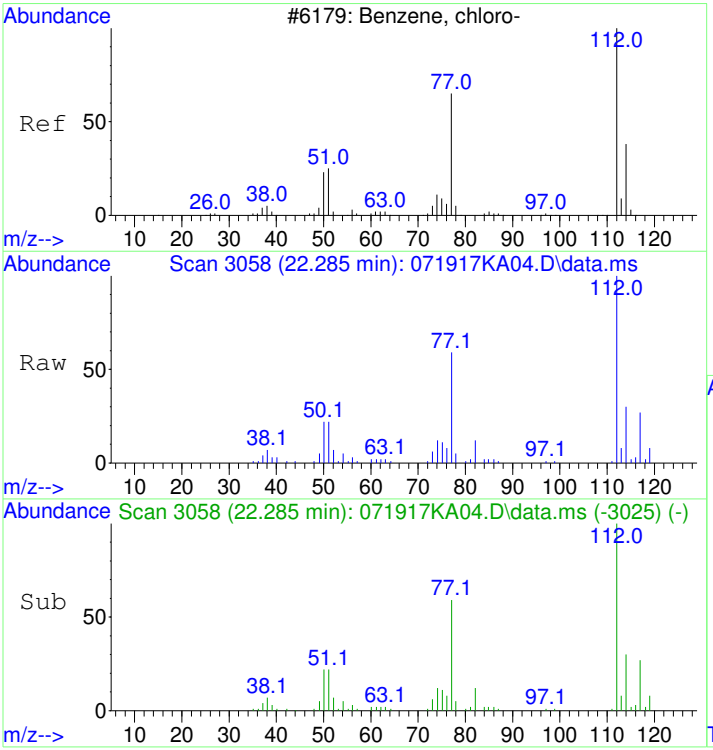




#50
1,2-Dibromoethane (EDB)
Concen: 1.10 ppbv
RT: 21.585 min Scan# 2943
Delta R.T. -0.000 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion:107 Resp: 22427

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 107 | 100 | | |
| 109 | 93.4 | 74.2 | 114.2 |

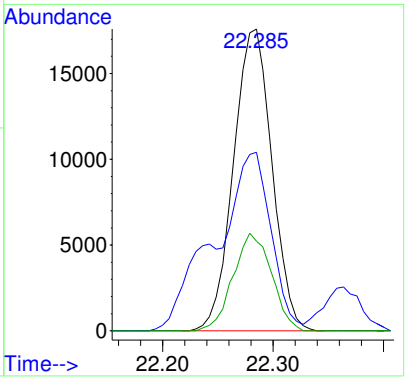


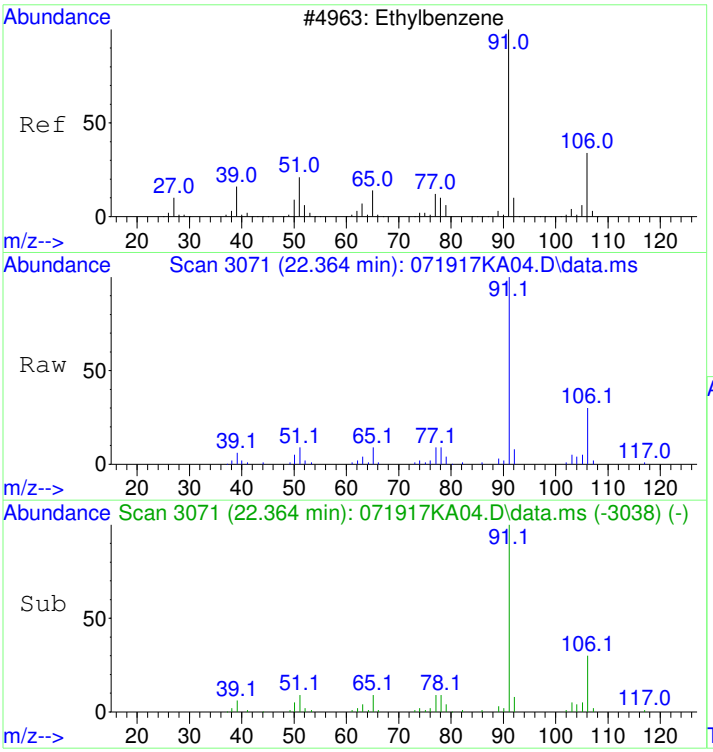



#51
Chlorobenzene
Concen: 1.24 ppbv
RT: 22.285 min Scan# 3058
Delta R.T. -0.000 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion:112 Resp: 42840

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 112 | 100 | | |
| 77 | 86.2 | 40.8 | 80.8# |
| 114 | 32.2 | 12.1 | 52.1 |

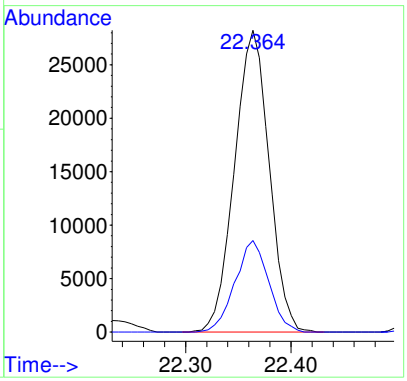


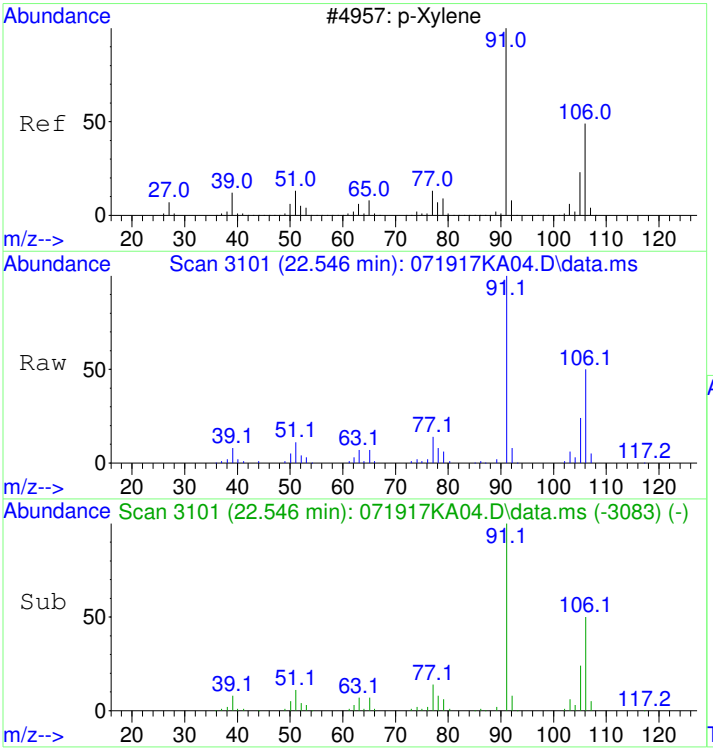




#52
Ethylbenzene
Concen: 1.13 ppbv
RT: 22.364 min Scan# 3071
Delta R.T. -0.000 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion: 91 Resp: 64562

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 91 | 100 | | |
| 106 | 29.4 | 10.5 | 50.5 |

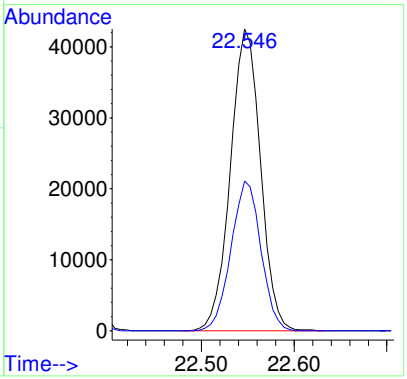


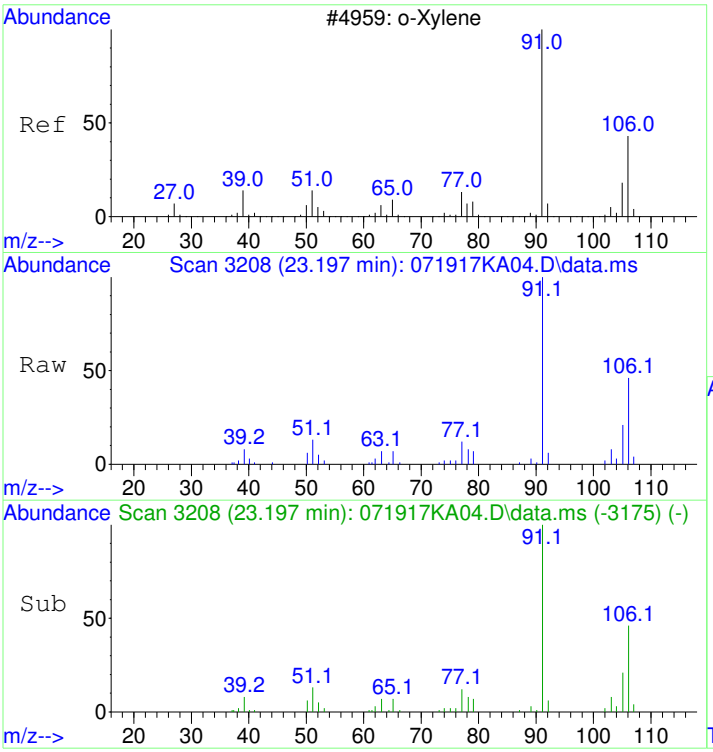



#53
m&p-Xylene
Concen: 2.17 ppbv
RT: 22.546 min Scan# 3101
Delta R.T. -0.000 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion: 91 Resp: 96014

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 91 | 100 | | |
| 106 | 49.2 | 29.3 | 69.3 |

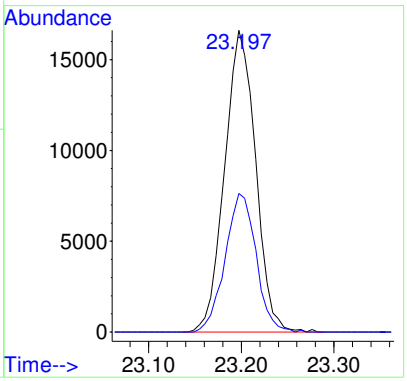


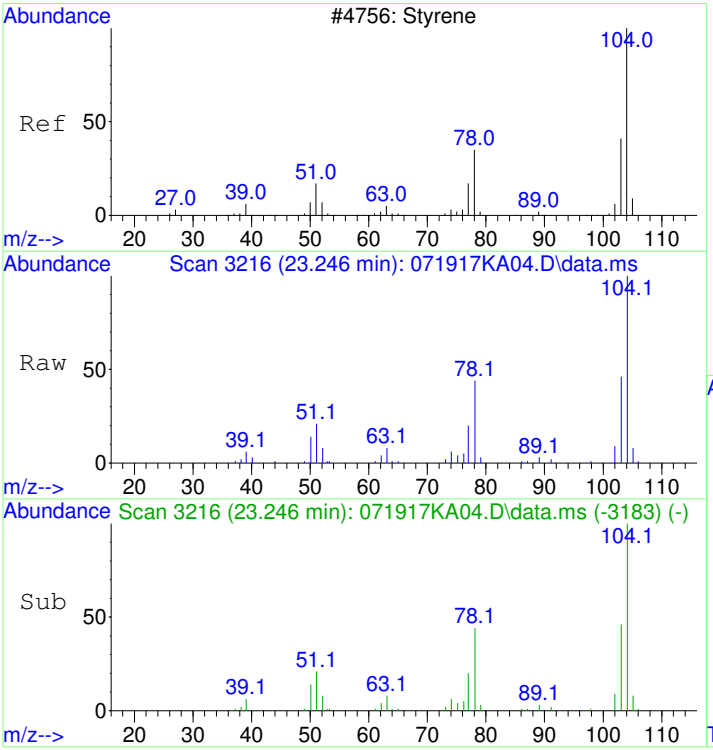




#54
o-Xylene
Concen: 0.89 ppbv
RT: 23.197 min Scan# 3208
Delta R.T. -0.000 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion: 91 Resp: 38513

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 91 | 100 | | |
| 106 | 46.0 | 26.3 | 66.3 |

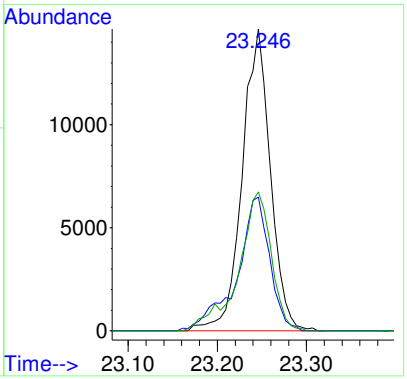


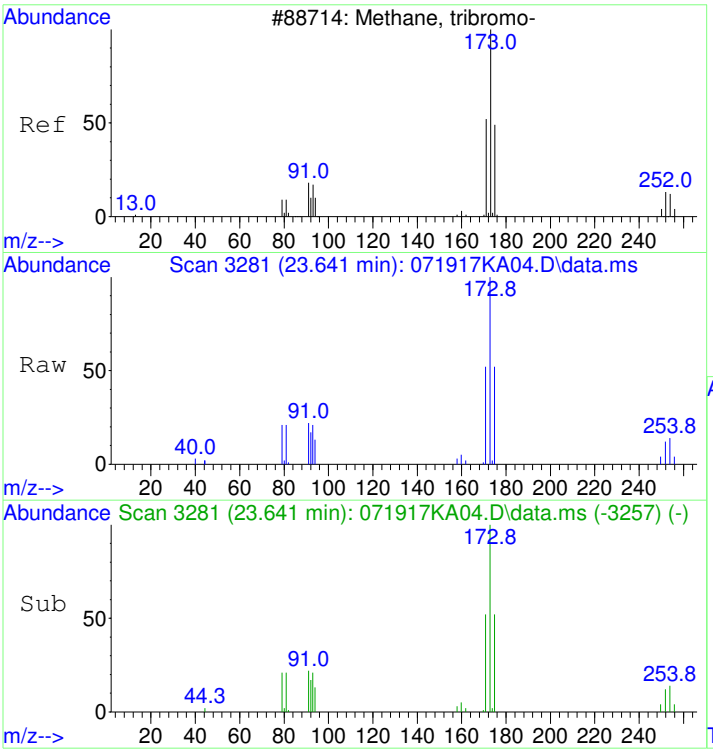



#55
Styrene
Concen: 0.91 ppbv
RT: 23.246 min Scan# 3216
Delta R.T. -0.000 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion:104 Resp: 32118

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 104 | 100 | | |
| 78 | 51.6 | 30.4 | 70.4 |
| 103 | 53.3 | 33.8 | 73.8 |

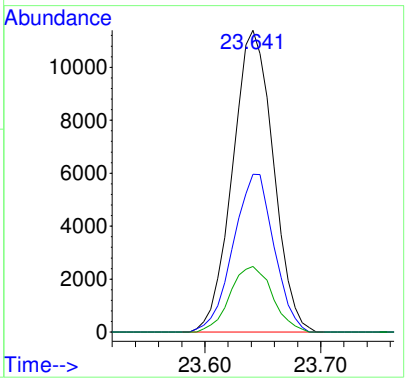


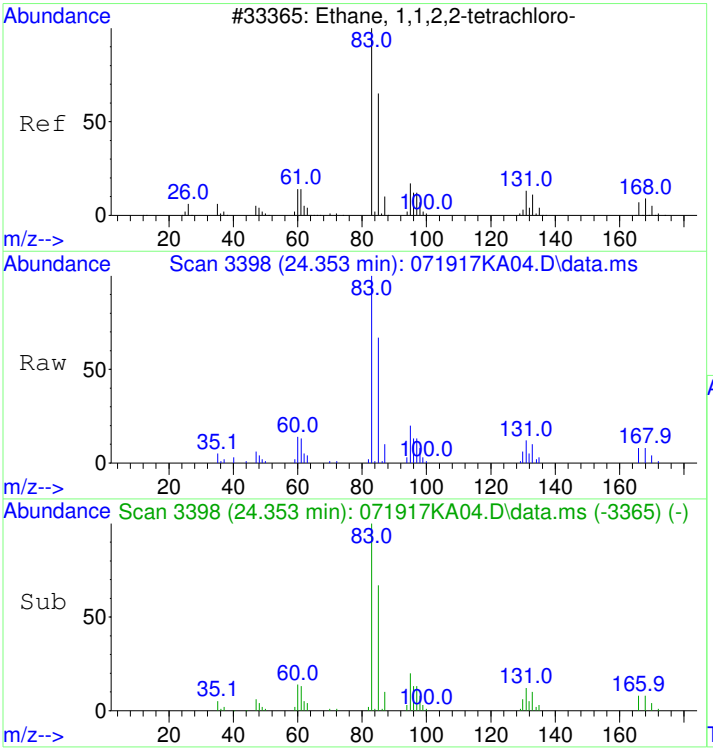




#56
Bromoform
Concen: 1.01 ppbv
RT: 23.641 min Scan# 3281
Delta R.T. -0.000 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion:173 Resp: 27893

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 173 | 100 | | |
| 171 | 52.3 | 31.6 | 71.6 |
| 91 | 22.6 | 1.1 | 41.1 |

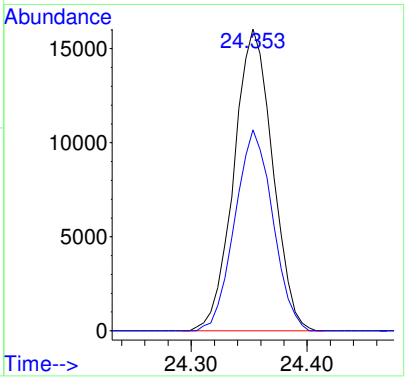


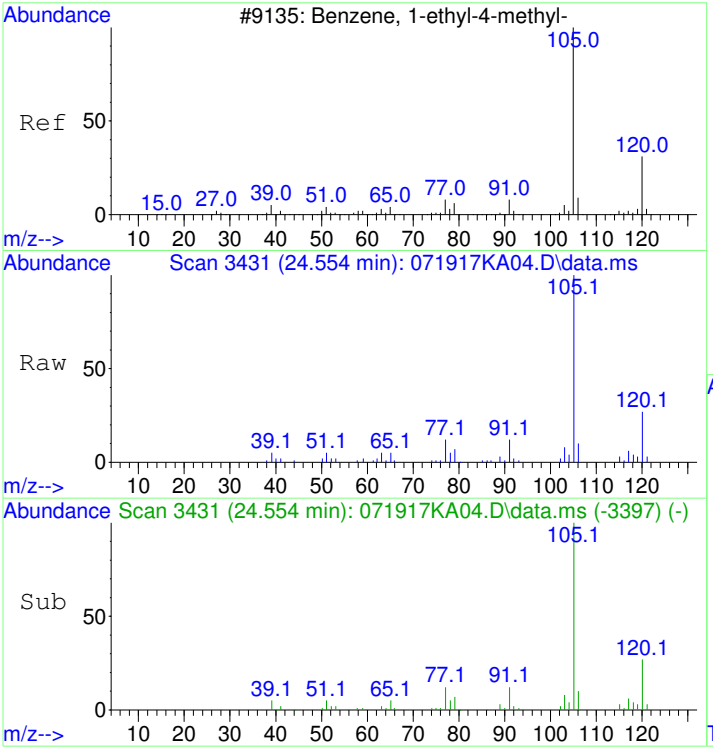



#57
1,1,2,2-Tetrachloroethane
Concen: 1.16 ppbv
RT: 24.353 min Scan# 3398
Delta R.T. -0.000 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion: 83 Resp: 37241

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 83 | 100 | | |
| 85 | 65.4 | 44.1 | 84.1 |

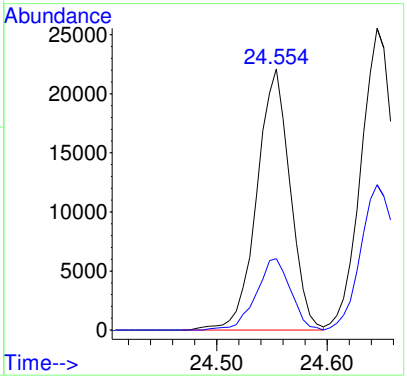


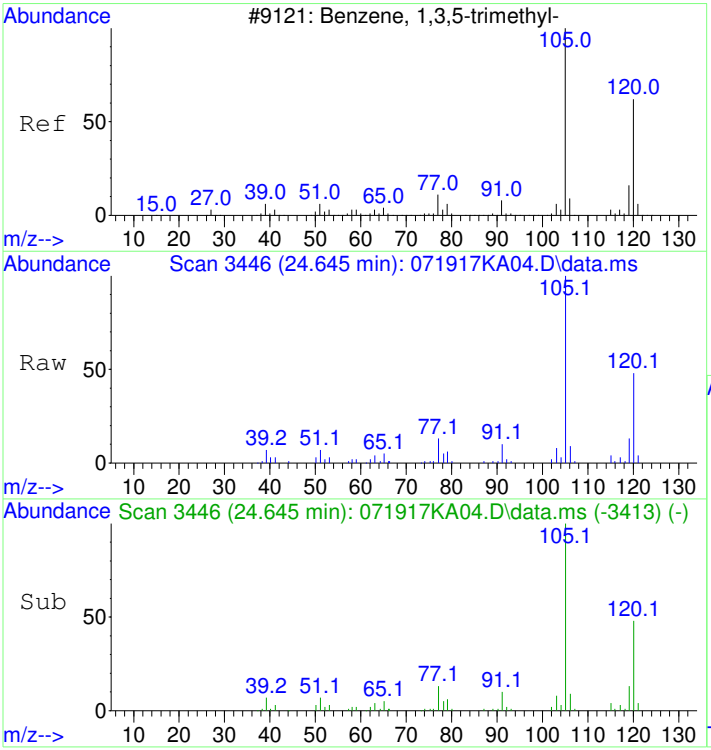




#58
4-Ethyltoluene
Concen: 0.74 ppbv
RT: 24.554 min Scan# 3431
Delta R.T. 0.006 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion:105 Resp: 46502

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 105 | 100 | | |
| 120 | 28.3 | 8.7 | 48.7 |

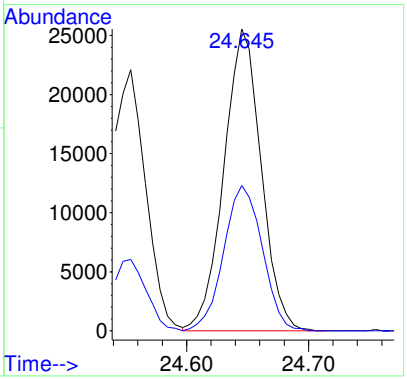


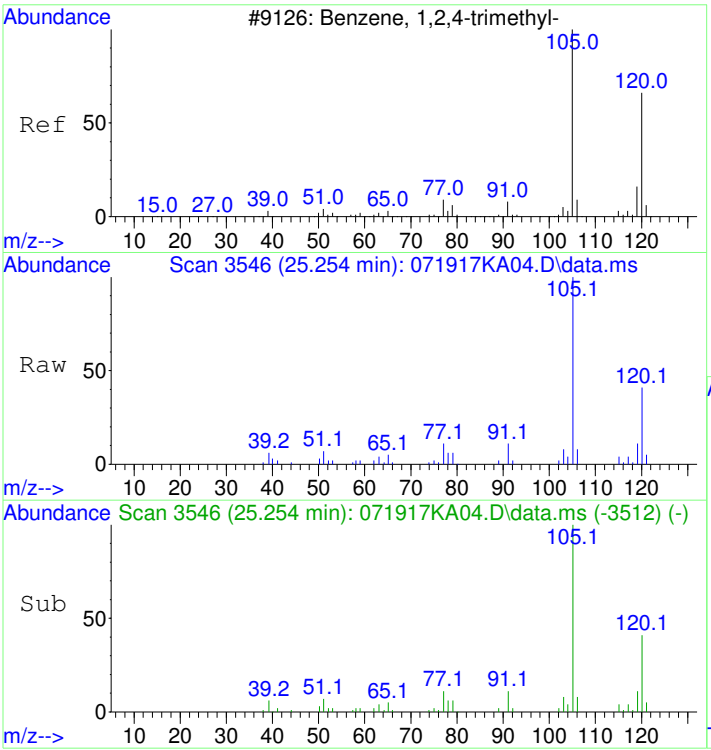



#59
1,3,5-Trimethylbenzene
Concen: 0.99 ppbv
RT: 24.645 min Scan# 3446
Delta R.T. -0.000 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion:105 Resp: 54317

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 105 | 100 | | |
| 120 | 49.8 | 29.4 | 69.4 |

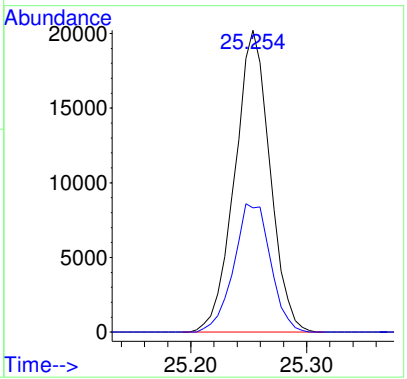


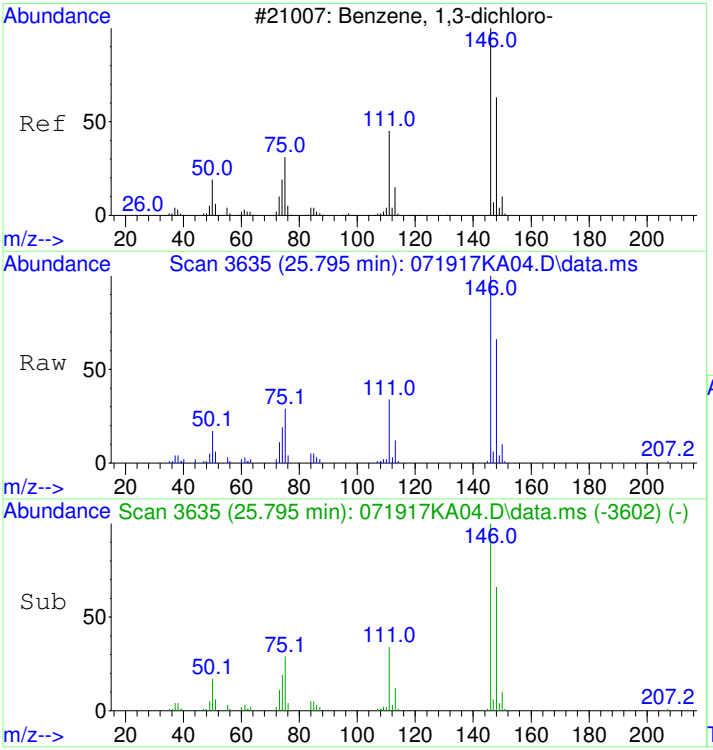




#60
1,2,4-Trimethylbenzene
Concen: 0.80 ppbv
RT: 25.254 min Scan# 3546
Delta R.T. 0.006 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion:105 Resp: 42602

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 105 | 100 | | |
| 120 | 44.5 | 25.9 | 65.9 |

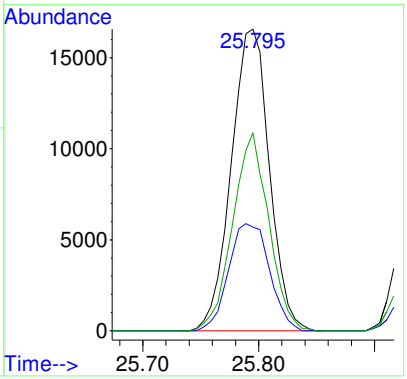


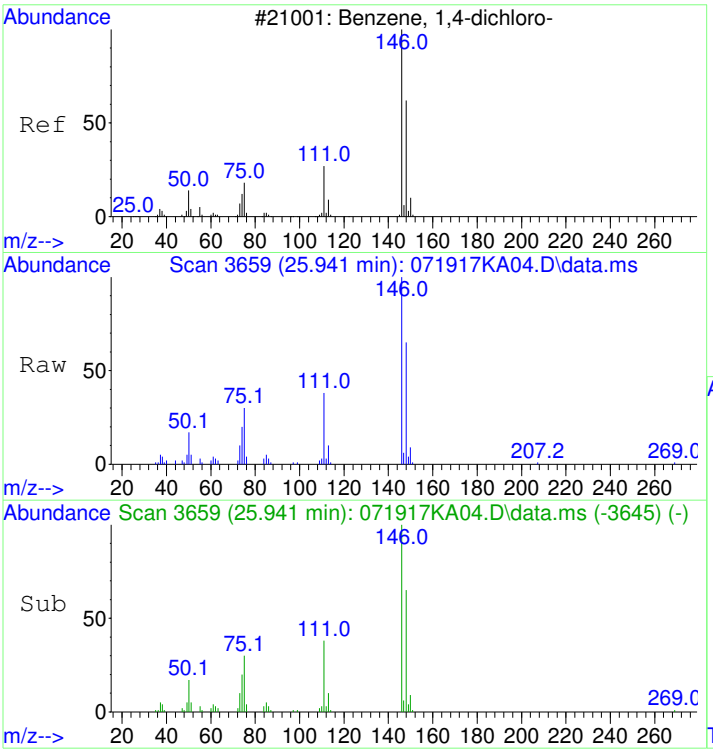



#61
1,3-Dichlorobenzene
Concen: 0.99 ppbv
RT: 25.795 min Scan# 3635
Delta R.T. -0.000 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion:146 Resp: 37941

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 146 | 100 | | |
| 111 | 38.1 | 18.0 | 58.0 |
| 148 | 62.2 | 43.9 | 83.9 |

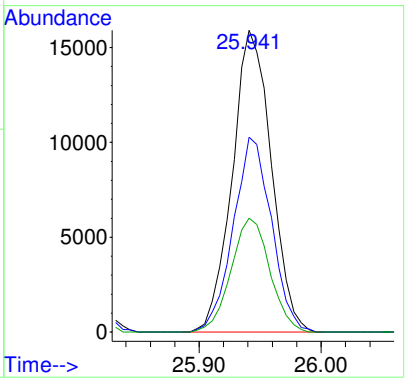


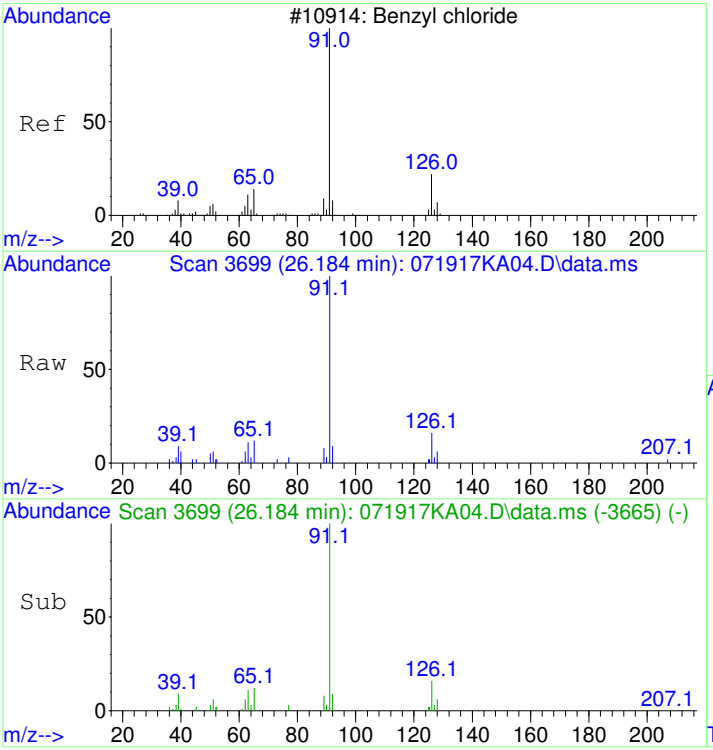




#62
1,4-Dichlorobenzene
Concen: 0.94 ppbv
RT: 25.941 min Scan# 3659
Delta R.T. -0.000 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion:146 Resp: 35344

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 146 | 100 | | |
| 148 | 63.2 | 44.0 | 84.0 |
| 111 | 37.5 | 16.7 | 56.7 |

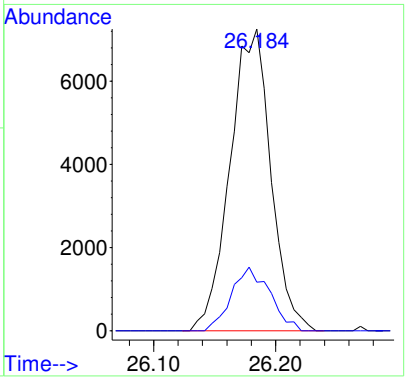


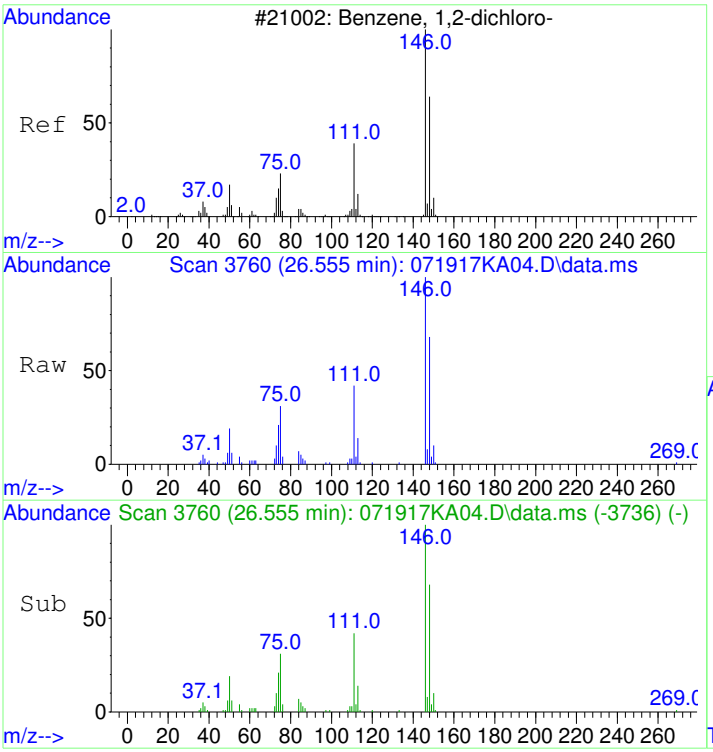



#63
Benzyl chloride
Concen: 0.49 ppbv
RT: 26.184 min Scan# 3699
Delta R.T. 0.006 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion: 91 Resp: 16841

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 91 | 100 | | |
| 126 | 19.8 | 0.0 | 39.4 |

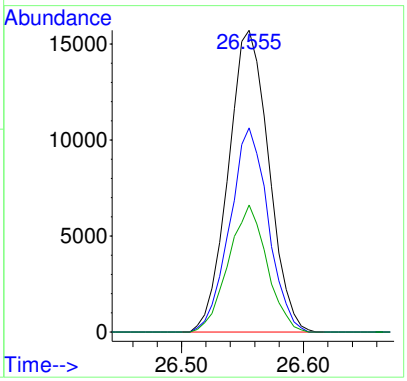


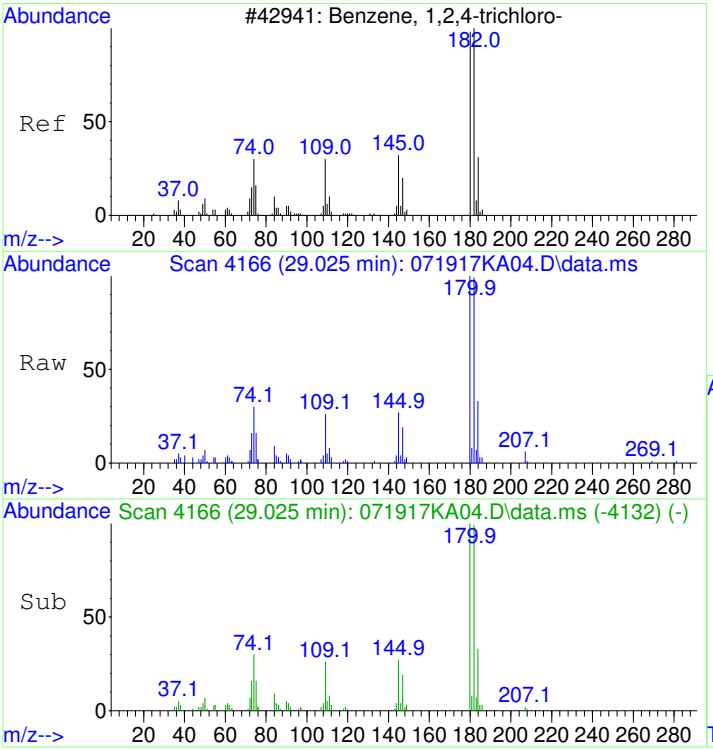




#64
1,2-Dichlorobenzene
Concen: 0.95 ppbv
RT: 26.555 min Scan# 3760
Delta R.T. -0.000 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion:146 Resp: 36210

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 146 | 100 | | |
| 148 | 64.1 | 43.5 | 83.5 |
| 111 | 40.0 | 19.4 | 59.4 |

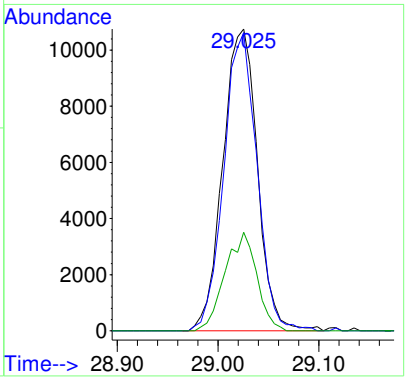


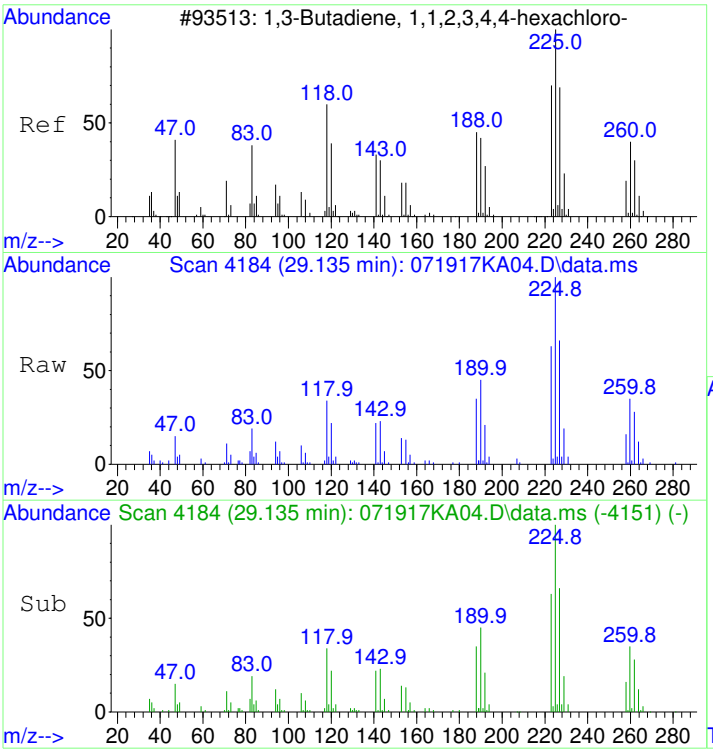



#65
1,2,4-Trichlorobenzene
Concen: 0.76 ppbv
RT: 29.025 min Scan# 4166
Delta R.T. 0.006 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion:180 Resp: 25666

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 180 | 100 | | |
| 182 | 94.4 | 75.3 | 115.3 |
| 184 | 29.9 | 10.6 | 50.6 |




#66
Hexachlorobutadiene
Concen: 1.08 ppbv
RT: 29.135 min Scan# 4184
Delta R.T. -0.000 min
Lab File: 071917KA04.D
Acq: 19 Jul 2017 7:11 pm

Tgt Ion:225 Resp: 41569

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 225 | 100 | | |
| 227 | 63.4 | 44.3 | 84.3 |
| 223 | 62.7 | 42.7 | 82.7 |

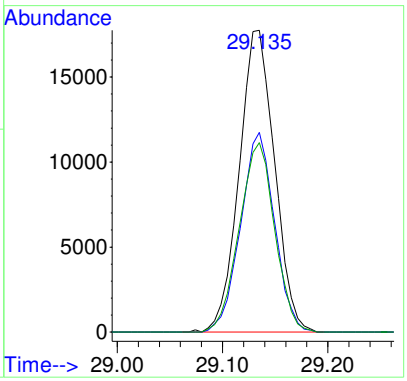
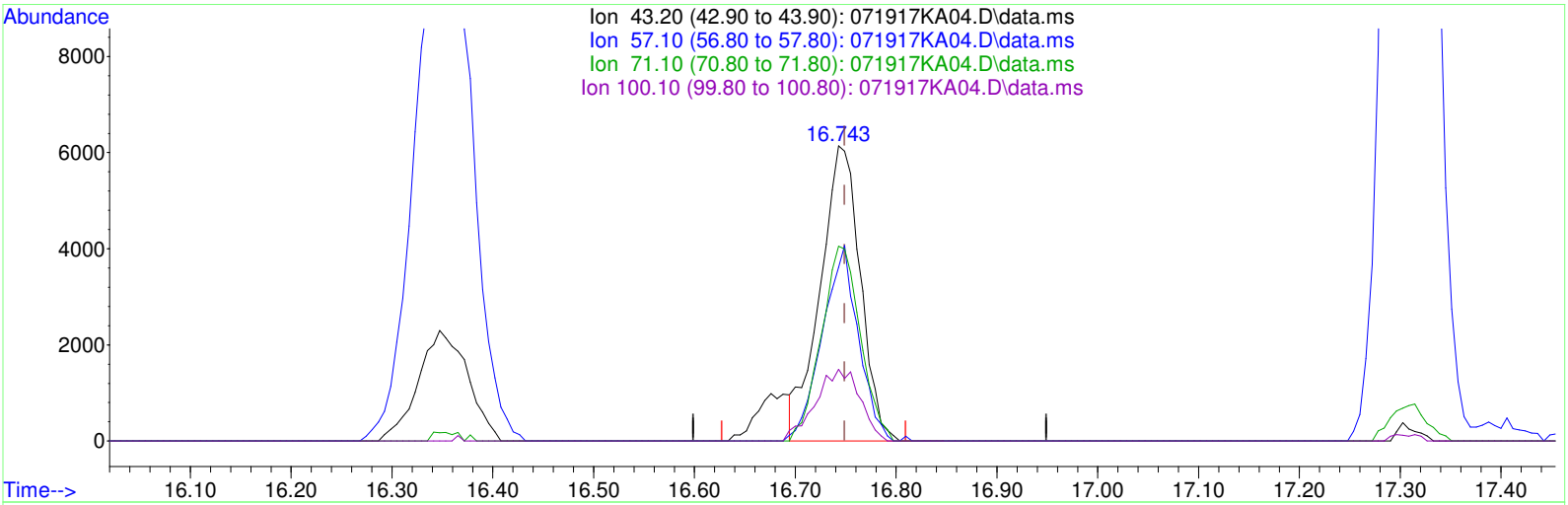
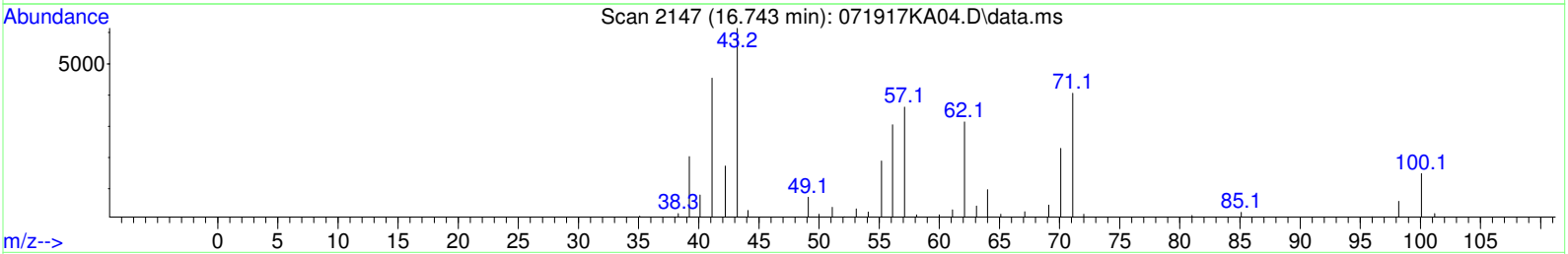


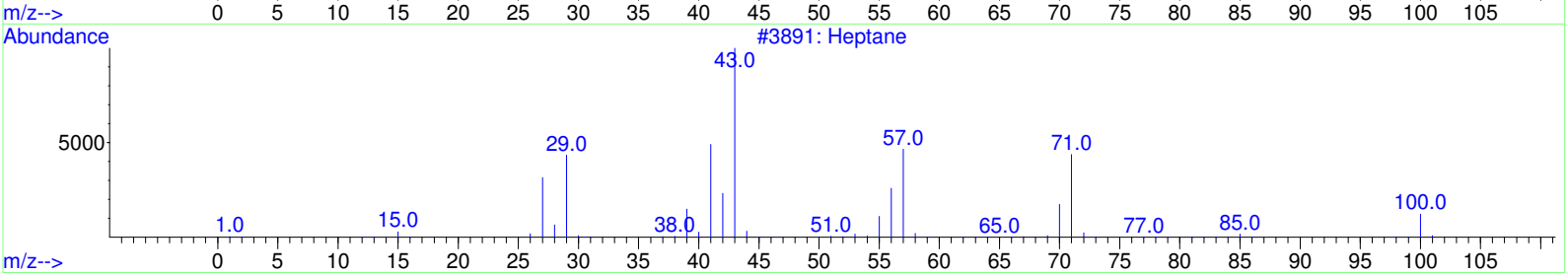
Table of Contents

Data Path : D:\msdchem\1\2017\DATA\071917KA_FSAA\
Data File : 071917KA04.D
InstName : HP5973K
Acq On : 19 Jul 2017 7:11 pm
Operator : LLH
Sample : S17G076-CAL1
Misc : 1.0ppbv 1729073
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Jul 20 09:03:30 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:03:03 2017
Response via : Initial Calibration




TIC: 071917KA04.D\data.ms

**(36) Heptane (T)**

**16.743min (-0.006) 1.08 ppbv m**

**response 17025**

| Ion | Exp% | Act% |
|---|---|---|
| 43.20 | 100.00 | 100.00 |
| 57.10 | 60.20 | 59.42 |
| 71.10 | 70.10 | 64.17 |
| 100.10 | 27.90 | 26.77 |

# S17G076-CAL2

Data Path : D:\msdchem\1\2017\DATA\071917KA_FSAA\
Data File : 071917KA05.D
InstName : HP5973K
Acq On : 19 Jul 2017 7:59 pm
Operator : LLH
Sample : S17G076-CAL2
Misc : 2.0ppbv 1729074
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Jul 20 09:07:03 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:06:56 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) BROMOCHLOROMETHANE | 15.313 | 49 | 379472 | 19.80 | ppbv | | 0.00 |
| 32) 1,4-DIFLUOROBENZENE | 17.309 | 114 | 1292899 | 19.60 | ppbv | | 0.00 |
| 43) CHLOROBENZENE-d5 | 22.236 | 117 | 1165840 | 19.60 | ppbv | | 0.00 |
| Target Compounds | | | | | | | Qvalue |
| 2) Propene | 4.223 | 41 | 18562 | 2.25 | ppbv | | 95 |
| 3) Dichlorodifluoromethane | 4.314 | 85 | 96488 | 2.40 | ppbv | | 100 |
| 4) 1,2-Dichlorotetrafluor... | 4.649 | 85 | 87626 | 2.24 | ppbv | | 100 |
| 5) Chloromethane | 4.862 | 50 | 24781 | 2.37 | ppbv | | 100 |
| 6) Vinyl chloride | 5.160 | 62 | 31635 | 2.54 | ppbv | | 99 |
| 7) 1,3-Butadiene | 5.245 | 54 | 21194 | 2.38 | ppbv | | 86 |
| 8) Bromomethane | 6.170 | 94 | 25376 | 2.32 | ppbv | | 100 |
| 9) Chloroethane | 6.492 | 64 | 14842 | 2.35 | ppbv | | 98 |
| 10) Bromoethene | 7.058 | 106 | 22341 | 2.12 | ppbv | | 99 |
| 11) Trichlorofluoromethane | 7.155 | 101 | 89576 | 2.31 | ppbv | | 99 |
| 12) 1,1,2-Trichloro-1,2,2-... | 8.913 | 151 | 45511 | 2.05 | ppbv | | 99 |
| 13) 1,1-Dichloroethene | 9.029 | 61 | 33988 | 2.04 | ppbv | | 98 |
| 14) Acetone | 9.704 | 43 | 40484 | 2.50 | ppbv | | 99 |
| 15) Carbon disulfide | 9.728 | 76 | 77579 | 2.34 | ppbv | | 98 |
| 16) 2-Propanol | 10.306 | 45 | 22959 | 2.03 | ppbv | | 77 |
| 17) Allyl chloride | 10.635 | 41 | 23353 | 2.21 | ppbv | | 98 |
| 18) Dichloromethane | 11.207 | 49 | 31075 | 2.29 | ppbv | | 99 |
| 19) tert-Butyl methyl ethe... | 11.858 | 73 | 57690 | 1.96 | ppbv | | 98 |
| 20) trans-1,2-Dichloroethene | 11.888 | 61 | 38218 | 2.41 | ppbv | | 100 |
| 21) Hexane | 12.423 | 57 | 32381 | 2.04 | ppbv | | 95 |
| 22) 1,1-Dichloroethane | 13.293 | 63 | 46807 | 2.16 | ppbv | | 100 |
| 23) Vinyl acetate | 13.458 | 43 | 30261 | 1.88 | ppbv | | 99 |
| 24) cis-1,2-Dichloroethene | 14.766 | 61 | 28045 | 1.98 | ppbv | | 100 |
| 25) 2-Butanone (MEK) | 14.906 | 72 | 11296 | 2.12 | ppbv | # | 86 |
| 26) Ethyl acetate | 14.912 | 61 | 7355 | 2.30 | ppbv | # | 93 |
| 27) Tetrahydrofuran | 15.319 | 42 | 23411 | 2.21 | ppbv | | 98 |
| 28) Chloroform | 15.465 | 83 | 65249 | 2.40 | ppbv | | 99 |
| 29) Cyclohexane | 15.593 | 56 | 34918 | 2.13 | ppbv | | 96 |
| 30) 1,1,1-Trichloroethane | 15.703 | 97 | 68856 | 2.29 | ppbv | | 99 |
| 31) Carbon tetrachloride | 15.934 | 117 | 71405 | 2.27 | ppbv | | 98 |
| 33) Benzene | 16.469 | 78 | 86806 | 2.53 | ppbv | | 100 |
| 34) 2,2,4-Trimethylpentane | 16.353 | 57 | 106201 | 2.25 | ppbv | | 96 |
| 35) 1,2-Dichloroethane | 16.712 | 62 | 45588 | 2.49 | ppbv | | 100 |
| 36) Heptane | 16.743 | 43 | 39070 | 2.41 | ppbv | | 99 |
| 37) Trichloroethene | 17.698 | 130 | 37023 | 2.41 | ppbv | | 99 |
| 38) 1,2-Dichloropropane | 18.239 | 63 | 27304 | 2.40 | ppbv | | 97 |
| 39) 1,4-Dioxane | 18.452 | 88 | 14383 | 2.03 | ppbv | | 98 |
| 40) Bromodichloromethane | 18.714 | 83 | 70209 | 2.48 | ppbv | | 99 |
| 41) cis-1,3-Dichloropropene | 19.480 | 75 | 35729 | 2.02 | ppbv | | 98 |
| 42) 4-Methyl-2-pentanone (... | 19.730 | 43 | 46219 | 2.19 | ppbv | | 98 |
| 44) Toluene | 19.937 | 91 | 98595 | 2.43 | ppbv | | 98 |
| 45) trans-1,3-Dichloropropene | 20.448 | 75 | 33364 | 1.92 | ppbv | | 100 |
| 46) 1,1,2-Trichloroethane | 20.752 | 97 | 37233 | 2.51 | ppbv | | 97 |
| 47) Tetrachloroethene | 20.770 | 166 | 54672 | 2.42 | ppbv | | 99 |
| 48) 2-Hexanone | 21.086 | 43 | 40228 | 2.10 | ppbv | | 95 |
| 49) Chlorodibromomethane | 21.354 | 129 | 68530 | 2.43 | ppbv | | 99 |
| 50) 1,2-Dibromoethane (EDB) | 21.579 | 107 | 49075 | 2.35 | ppbv | | 99 |
| 51) Chlorobenzene | 22.285 | 112 | 89992 | 2.52 | ppbv | | 90 |
| 52) Ethylbenzene | 22.364 | 91 | 146642 | 2.49 | ppbv | | 99 |
| 53) m&p-Xylene | 22.547 | 91 | 225147 | 4.95 | ppbv | | 99 |
| 54) o-Xylene | 23.197 | 91 | 97538 | 2.22 | ppbv | | 99 |

Data Path : D:\msdchem\1\2017\DATA\071917KA_FSAA\
Data File : 071917KA05.D
InstName : HP5973K
Acq On : 19 Jul 2017 7:59 pm
Operator : LLH
Sample : S17G076-CAL2
Misc : 2.0ppbv 1729074
ALS Vial : 32 Sample Multiplier: 1

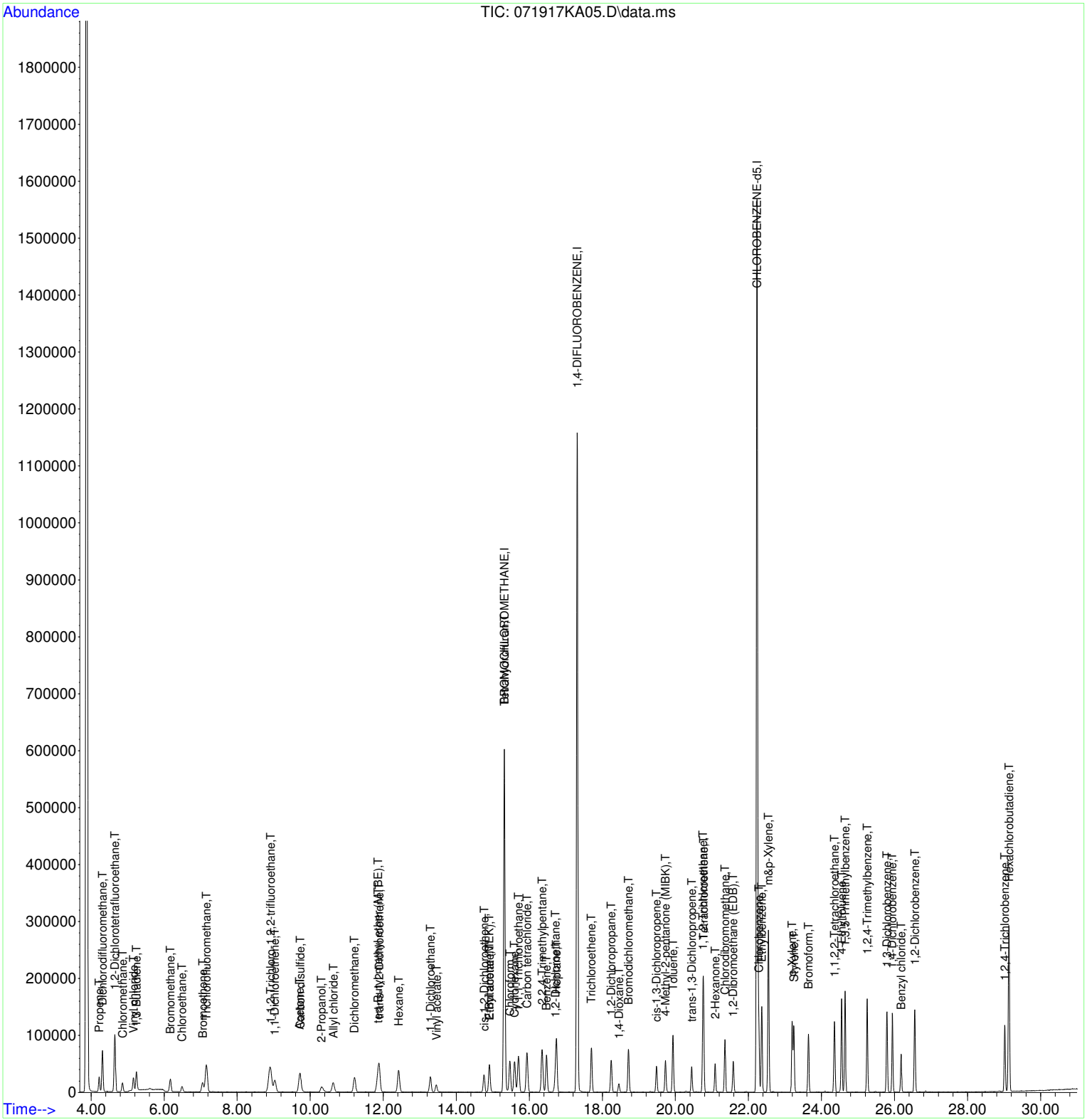
Quant Time: Jul 20 09:07:03 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:06:56 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 55) Styrene | 23.246 | 104 | 79804 | 2.21 ppbv | 98 |
| 56) Bromoform | 23.642 | 173 | 66448 | 2.35 ppbv | 99 |
| 57) 1,1,2,2-Tetrachloroethane | 24.353 | 83 | 80447 | 2.42 ppbv | 99 |
| 58) 4-Ethyltoluene | 24.554 | 105 | 135764 | 2.13 ppbv | 99 |
| 59) 1,3,5-Trimethylbenzene | 24.645 | 105 | 134198 | 2.40 ppbv | 100 |
| 60) 1,2,4-Trimethylbenzene | 25.254 | 105 | 114584 | 2.14 ppbv | 99 |
| 61) 1,3-Dichlorobenzene | 25.795 | 146 | 81774 | 2.09 ppbv | 98 |
| 62) 1,4-Dichlorobenzene | 25.941 | 146 | 79247 | 2.07 ppbv | 99 |
| 63) Benzyl chloride | 26.178 | 91 | 67069 | 1.98 ppbv | 100 |
| 64) 1,2-Dichlorobenzene | 26.556 | 146 | 83194 | 2.15 ppbv | 98 |
| 65) 1,2,4-Trichlorobenzene | 29.019 | 180 | 51434 | 1.49 ppbv | 100 |
| 66) Hexachlorobutadiene | 29.135 | 225 | 88457 | 2.22 ppbv | 99 |

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

Data Path : D:\msdchem\1\2017\DATA\071917KA_FSAA\
Data File : 071917KA05.D
InstName : HP5973K
Acq On : 19 Jul 2017 7:59 pm
Operator : LLH
Sample : S17G076-CAL2
Misc : 2.0ppbv 1729074
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Jul 20 09:07:03 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:06:56 2017
Response via : Initial Calibration



# S17G076-CAL3

Data Path : D:\msdchem\1\2017\DATA\071917KA_FSAA\
Data File : 071917KA06.D
InstName : HP5973K
Acq On : 19 Jul 2017 8:48 pm
Operator : LLH
Sample : S17G076-CAL3
Misc : 5.0ppbv 1729075
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Jul 20 09:07:48 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:07:41 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) BROMOCHLOROMETHANE | 15.313 | 49 | 390574 | 19.80 | ppbv | | 0.00 |
| 32) 1,4-DIFLUOROBENZENE | 17.314 | 114 | 1312140 | 19.60 | ppbv | | 0.00 |
| 43) CHLOROBENZENE-d5 | 22.236 | 117 | 1209246 | 19.60 | ppbv | | 0.00 |
| Target Compounds | | | | | | | Qvalue |
| 2) Propene | 4.223 | 41 | 48913 | 5.64 | ppbv | | 98 |
| 3) Dichlorodifluoromethane | 4.314 | 85 | 238298 | 5.62 | ppbv | | 99 |
| 4) 1,2-Dichlorotetrafluor... | 4.648 | 85 | 216358 | 5.25 | ppbv | | 100 |
| 5) Chloromethane | 4.861 | 50 | 62064 | 5.67 | ppbv | | 100 |
| 6) Vinyl chloride | 5.160 | 62 | 75207 | 5.63 | ppbv | | 97 |
| 7) 1,3-Butadiene | 5.245 | 54 | 53136 | 5.59 | ppbv | | 96 |
| 8) Bromomethane | 6.163 | 94 | 61945 | 5.43 | ppbv | | 99 |
| 9) Chloroethane | 6.498 | 64 | 36297 | 5.45 | ppbv | | 99 |
| 10) Bromoethene | 7.051 | 106 | 58632 | 5.37 | ppbv | | 98 |
| 11) Trichlorofluoromethane | 7.155 | 101 | 215917 | 5.26 | ppbv | | 100 |
| 12) 1,1,2-Trichloro-1,2,2-... | 8.907 | 151 | 111317 | 4.80 | ppbv | | 100 |
| 13) 1,1-Dichloroethene | 9.035 | 61 | 89758 | 5.19 | ppbv | | 99 |
| 14) Acetone | 9.686 | 43 | 99784 | 5.80 | ppbv | | 100 |
| 15) Carbon disulfide | 9.722 | 76 | 193035 | 5.54 | ppbv | | 99 |
| 16) 2-Propanol | 10.312 | 45 | 65050 | 5.54 | ppbv | | 93 |
| 17) Allyl chloride | 10.635 | 41 | 63534 | 5.74 | ppbv | | 100 |
| 18) Dichloromethane | 11.219 | 49 | 68361 | 4.82 | ppbv | | 99 |
| 19) tert-Butyl methyl ethe... | 11.845 | 73 | 164598 | 5.44 | ppbv | | 98 |
| 20) trans-1,2-Dichloroethene | 11.894 | 61 | 96765 | 5.80 | ppbv | | 100 |
| 21) Hexane | 12.417 | 57 | 91040 | 5.52 | ppbv | | 97 |
| 22) 1,1-Dichloroethane | 13.299 | 63 | 117438 | 5.16 | ppbv | | 98 |
| 23) Vinyl acetate | 13.445 | 43 | 97316 | 5.80 | ppbv | | 99 |
| 24) cis-1,2-Dichloroethene | 14.759 | 61 | 78140 | 5.33 | ppbv | | 100 |
| 25) 2-Butanone (MEK) | 14.899 | 72 | 32179 | 5.80 | ppbv | # | 97 |
| 26) Ethyl acetate | 14.905 | 61 | 19378 | 5.76 | ppbv | | 99 |
| 27) Tetrahydrofuran | 15.307 | 42 | 60622 | 5.45 | ppbv | | 99 |
| 28) Chloroform | 15.465 | 83 | 162505 | 5.68 | ppbv | | 99 |
| 29) Cyclohexane | 15.593 | 56 | 97142 | 5.71 | ppbv | | 99 |
| 30) 1,1,1-Trichloroethane | 15.702 | 97 | 169746 | 5.36 | ppbv | | 99 |
| 31) Carbon tetrachloride | 15.940 | 117 | 176855 | 5.37 | ppbv | | 99 |
| 33) Benzene | 16.469 | 78 | 216579 | 5.98 | ppbv | | 100 |
| 34) 2,2,4-Trimethylpentane | 16.347 | 57 | 298141 | 6.05 | ppbv | | 99 |
| 35) 1,2-Dichloroethane | 16.718 | 62 | 115047 | 5.94 | ppbv | | 100 |
| 36) Heptane | 16.743 | 43 | 106744 | 6.26 | ppbv | | 98 |
| 37) Trichloroethene | 17.704 | 130 | 95101 | 5.92 | ppbv | | 100 |
| 38) 1,2-Dichloropropane | 18.245 | 63 | 70496 | 5.91 | ppbv | | 98 |
| 39) 1,4-Dioxane | 18.446 | 88 | 39442 | 5.47 | ppbv | | 98 |
| 40) Bromodichloromethane | 18.714 | 83 | 174074 | 5.78 | ppbv | | 100 |
| 41) cis-1,3-Dichloropropene | 19.486 | 75 | 103103 | 5.65 | ppbv | | 100 |
| 42) 4-Methyl-2-pentanone (... | 19.724 | 43 | 130846 | 5.97 | ppbv | | 99 |
| 44) Toluene | 19.937 | 91 | 263581 | 6.06 | ppbv | | 100 |
| 45) trans-1,3-Dichloropropene | 20.448 | 75 | 95424 | 5.20 | ppbv | | 100 |
| 46) 1,1,2-Trichloroethane | 20.758 | 97 | 94546 | 5.93 | ppbv | | 98 |
| 47) Tetrachloroethene | 20.770 | 166 | 142400 | 5.89 | ppbv | | 99 |
| 48) 2-Hexanone | 21.080 | 43 | 116796 | 5.76 | ppbv | | 99 |
| 49) Chlorodibromomethane | 21.354 | 129 | 175662 | 5.81 | ppbv | | 99 |
| 50) 1,2-Dibromoethane (EDB) | 21.585 | 107 | 130601 | 5.90 | ppbv | | 100 |
| 51) Chlorobenzene | 22.285 | 112 | 227650 | 5.95 | ppbv | | 97 |
| 52) Ethylbenzene | 22.364 | 91 | 385670 | 6.10 | ppbv | | 100 |
| 53) m&p-Xylene | 22.546 | 91 | 591874 | 12.12 | ppbv | | 100 |
| 54) o-Xylene | 23.197 | 91 | 280104 | 6.00 | ppbv | | 99 |

Data Path : D:\msdchem\1\2017\DATA\071917KA_FSAA\
Data File : 071917KA06.D
InstName : HP5973K
Acq On : 19 Jul 2017 8:48 pm
Operator : LLH
Sample : S17G076-CAL3
Misc : 5.0ppbv 1729075
ALS Vial : 32 Sample Multiplier: 1

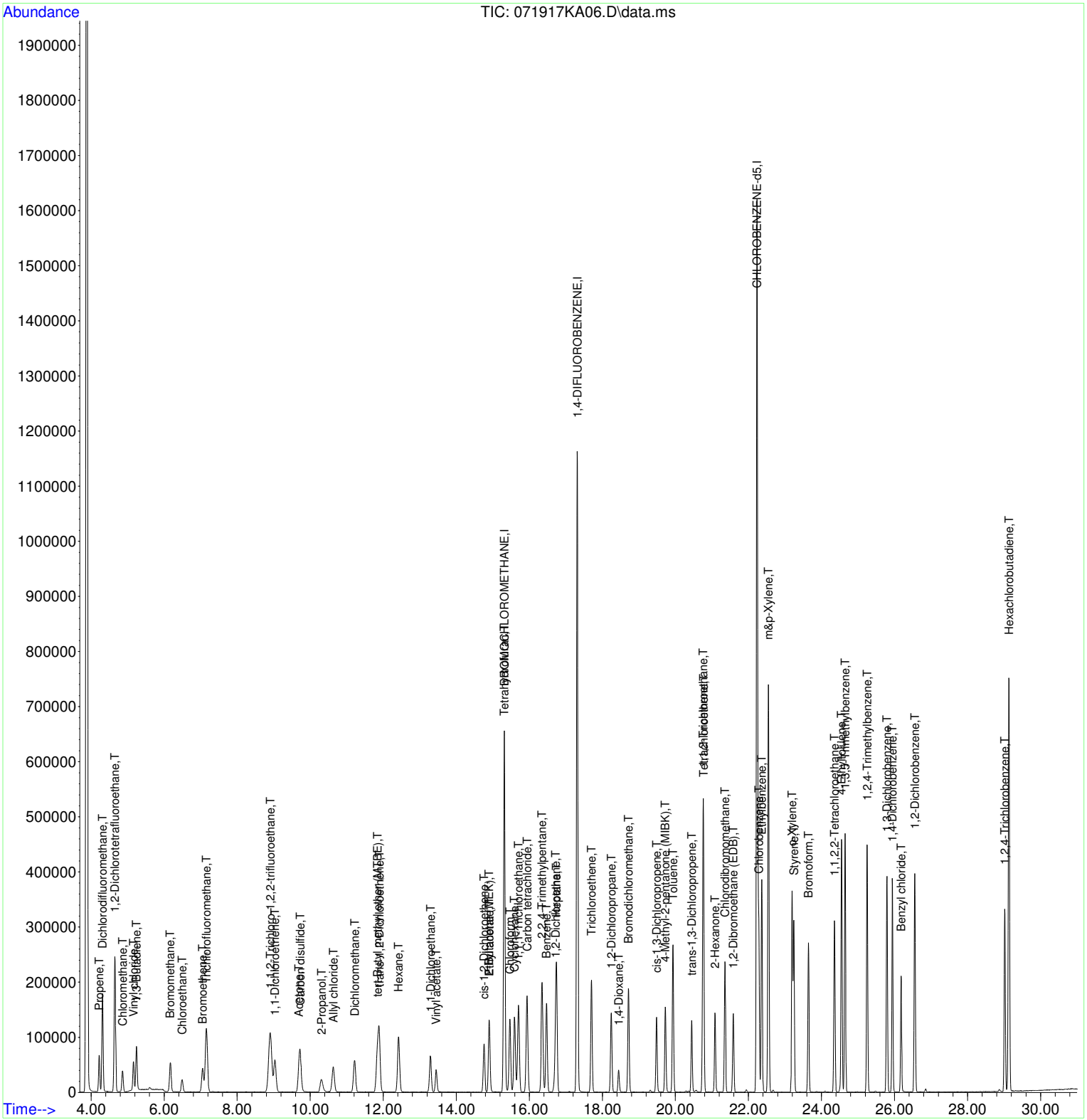
Quant Time: Jul 20 09:07:48 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:07:41 2017
Response via : Initial Calibration

| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 55) | Styrene | 23.246 | 104 | 218206 | 5.70 | ppbv | 99 |
| 56) | Bromoform | 23.641 | 173 | 175819 | 5.82 | ppbv | 99 |
| 57) | 1,1,2,2-Tetrachloroethane | 24.353 | 83 | 206340 | 5.77 | ppbv | 100 |
| 58) | 4-Ethyltoluene | 24.548 | 105 | 407272 | 6.04 | ppbv | 99 |
| 59) | 1,3,5-Trimethylbenzene | 24.645 | 105 | 364685 | 6.10 | ppbv | 99 |
| 60) | 1,2,4-Trimethylbenzene | 25.254 | 105 | 340784 | 6.03 | ppbv | 99 |
| 61) | 1,3-Dichlorobenzene | 25.795 | 146 | 225703 | 5.50 | ppbv | 99 |
| 62) | 1,4-Dichlorobenzene | 25.947 | 146 | 222301 | 5.58 | ppbv | 100 |
| 63) | Benzyl chloride | 26.178 | 91 | 209676 | 5.93 | ppbv | 100 |
| 64) | 1,2-Dichlorobenzene | 26.555 | 146 | 228163 | 5.59 | ppbv | 99 |
| 65) | 1,2,4-Trichlorobenzene | 29.019 | 180 | 148301 | 4.23 | ppbv | 99 |
| 66) | Hexachlorobutadiene | 29.135 | 225 | 224491 | 5.28 | ppbv | 100 |

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

Data Path : D:\msdchem\1\2017\DATA\071917KA_FSAA\
Data File : 071917KA06.D
InstName : HP5973K
Acq On : 19 Jul 2017 8:48 pm
Operator : LLH
Sample : S17G076-CAL3
Misc : 5.0ppbv 1729075
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Jul 20 09:07:48 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:07:41 2017
Response via : Initial Calibration



# S17G076-CAL4

Data Path : D:\msdchem\1\2017\DATA\071917KA_FSAA\
Data File : 071917KA07.D
InstName : HP5973K
Acq On : 19 Jul 2017 9:37 pm
Operator : LLH
Sample : S17G076-CAL4
Misc : 10ppbv 1729076
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Jul 20 09:08:34 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:08:26 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) BROMOCHLOROMETHANE | 15.313 | 49 | 396141 | 19.80 | ppbv | 0.00 |
| 32) 1,4-DIFLUOROBENZENE | 17.309 | 114 | 1346899 | 19.60 | ppbv | 0.00 |
| 43) CHLOROBENZENE-d5 | 22.236 | 117 | 1264435 | 19.60 | ppbv | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 2) Propene | 4.223 | 41 | 104310 | 11.68 | ppbv | 100 |
| 3) Dichlorodifluoromethane | 4.314 | 85 | 476114 | 10.85 | ppbv | 100 |
| 4) 1,2-Dichlorotetrafluor... | 4.649 | 85 | 441645 | 10.39 | ppbv | 100 |
| 5) Chloromethane | 4.862 | 50 | 127256 | 11.30 | ppbv | 100 |
| 6) Vinyl chloride | 5.160 | 62 | 155953 | 11.22 | ppbv | 100 |
| 7) 1,3-Butadiene | 5.245 | 54 | 109249 | 11.03 | ppbv | 100 |
| 8) Bromomethane | 6.170 | 94 | 124880 | 10.72 | ppbv | 100 |
| 9) Chloroethane | 6.492 | 64 | 71480 | 10.43 | ppbv | 100 |
| 10) Bromoethene | 7.058 | 106 | 121851 | 10.99 | ppbv | 100 |
| 11) Trichlorofluoromethane | 7.155 | 101 | 427548 | 10.12 | ppbv | 100 |
| 12) 1,1,2-Trichloro-1,2,2-... | 8.901 | 151 | 222201 | 9.38 | ppbv | 100 |
| 13) 1,1-Dichloroethene | 9.029 | 61 | 191866 | 10.92 | ppbv | 100 |
| 14) Acetone | 9.686 | 43 | 201230 | 11.29 | ppbv | 100 |
| 15) Carbon disulfide | 9.722 | 76 | 386727 | 10.78 | ppbv | 100 |
| 16) 2-Propanol | 10.300 | 45 | 145420 | 12.11 | ppbv | 100 |
| 17) Allyl chloride | 10.623 | 41 | 136784 | 12.04 | ppbv | 100 |
| 18) Dichloromethane | 11.213 | 49 | 132342 | 9.08 | ppbv | 100 |
| 19) tert-Butyl methyl ethe... | 11.833 | 73 | 362798 | 11.84 | ppbv | 100 |
| 20) trans-1,2-Dichloroethene | 11.888 | 61 | 195594 | 11.41 | ppbv | 100 |
| 21) Hexane | 12.417 | 57 | 195807 | 11.61 | ppbv | 100 |
| 22) 1,1-Dichloroethane | 13.293 | 63 | 235956 | 10.08 | ppbv | 100 |
| 23) Vinyl acetate | 13.446 | 43 | 225338 | 13.07 | ppbv | 100 |
| 24) cis-1,2-Dichloroethene | 14.760 | 61 | 168955 | 11.30 | ppbv | 100 |
| 25) 2-Butanone (MEK) | 14.893 | 72 | 66965 | 11.74 | ppbv | 100 |
| 26) Ethyl acetate | 14.906 | 61 | 39549 | 11.47 | ppbv | 100 |
| 27) Tetrahydrofuran | 15.301 | 42 | 129124 | 11.27 | ppbv | 100 |
| 28) Chloroform | 15.471 | 83 | 324241 | 10.99 | ppbv | 100 |
| 29) Cyclohexane | 15.599 | 56 | 204054 | 11.67 | ppbv | 100 |
| 30) 1,1,1-Trichloroethane | 15.703 | 97 | 345528 | 10.63 | ppbv | 100 |
| 31) Carbon tetrachloride | 15.940 | 117 | 362244 | 10.74 | ppbv | 100 |
| 33) Benzene | 16.469 | 78 | 441860 | 11.50 | ppbv | 100 |
| 34) 2,2,4-Trimethylpentane | 16.347 | 57 | 630483 | 12.09 | ppbv | 100 |
| 35) 1,2-Dichloroethane | 16.718 | 62 | 228313 | 11.05 | ppbv | 100 |
| 36) Heptane | 16.749 | 43 | 220278 | 12.12 | ppbv | 100 |
| 37) Trichloroethene | 17.698 | 130 | 200432 | 11.87 | ppbv | 100 |
| 38) 1,2-Dichloropropane | 18.245 | 63 | 146136 | 11.57 | ppbv | 100 |
| 39) 1,4-Dioxane | 18.440 | 88 | 84349 | 11.38 | ppbv | 100 |
| 40) Bromodichloromethane | 18.714 | 83 | 353930 | 11.06 | ppbv | 100 |
| 41) cis-1,3-Dichloropropene | 19.480 | 75 | 229254 | 11.99 | ppbv | 100 |
| 42) 4-Methyl-2-pentanone (... | 19.724 | 43 | 277920 | 12.03 | ppbv | 100 |
| 44) Toluene | 19.937 | 91 | 554990 | 11.87 | ppbv | 100 |
| 45) trans-1,3-Dichloropropene | 20.448 | 75 | 210135 | 10.80 | ppbv | 100 |
| 46) 1,1,2-Trichloroethane | 20.758 | 97 | 198754 | 11.61 | ppbv | 100 |
| 47) Tetrachloroethene | 20.770 | 166 | 301309 | 11.61 | ppbv | 100 |
| 48) 2-Hexanone | 21.080 | 43 | 255819 | 11.88 | ppbv | 100 |
| 49) Chlorodibromomethane | 21.354 | 129 | 370336 | 11.43 | ppbv | 100 |
| 50) 1,2-Dibromoethane (EDB) | 21.585 | 107 | 277208 | 11.76 | ppbv | 100 |
| 51) Chlorobenzene | 22.285 | 112 | 467487 | 11.38 | ppbv | 100 |
| 52) Ethylbenzene | 22.364 | 91 | 801525 | 11.78 | ppbv | 100 |
| 53) m&p-Xylene | 22.547 | 91 | 1243939 | 23.65 | ppbv | 100 |
| 54) o-Xylene | 23.198 | 91 | 614106 | 12.26 | ppbv | 100 |

Data Path : D:\msdchem\1\2017\DATA\071917KA_FSAA\
Data File : 071917KA07.D
InstName : HP5973K
Acq On : 19 Jul 2017 9:37 pm
Operator : LLH
Sample : S17G076-CAL4
Misc : 10ppbv 1729076
ALS Vial : 32 Sample Multiplier: 1

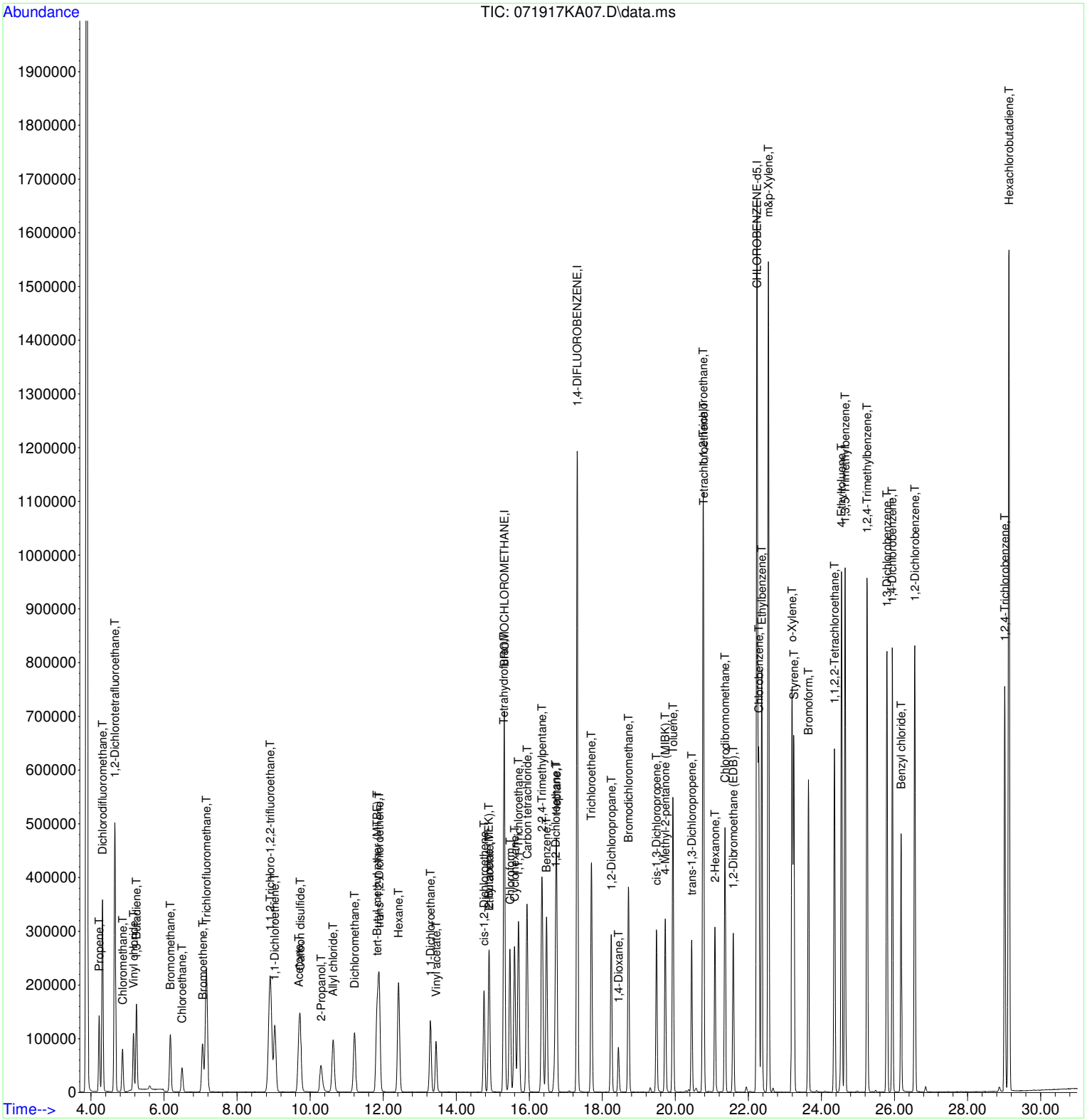
Quant Time: Jul 20 09:08:34 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:08:26 2017
Response via : Initial Calibration

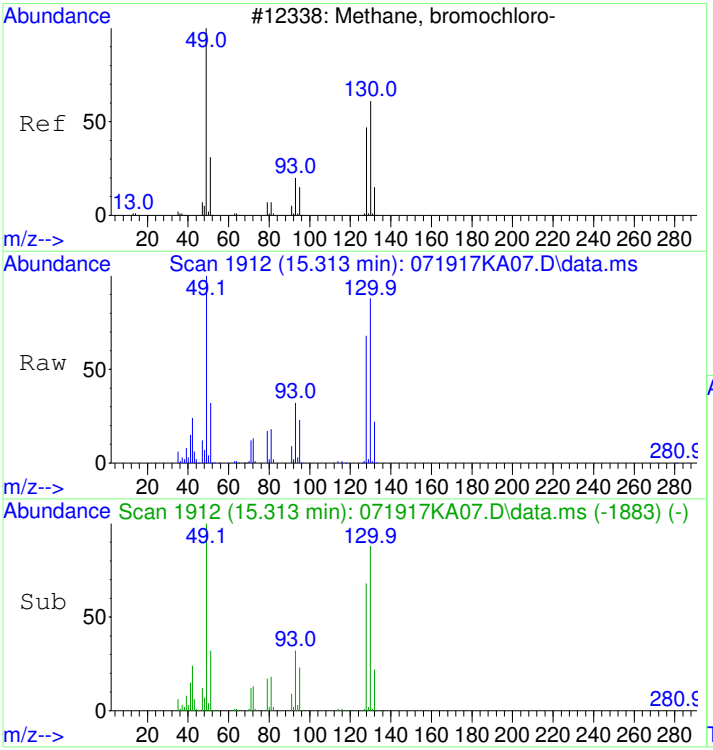
| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 55) Styrene | 23.246 | 104 | 468263 | 11.45 ppbv | 100 |
| 56) Bromoform | 23.642 | 173 | 377104 | 11.68 ppbv | 100 |
| 57) 1,1,2,2-Tetrachloroethane | 24.353 | 83 | 428450 | 11.14 ppbv | 100 |
| 58) 4-Ethyltoluene | 24.548 | 105 | 879504 | 12.17 ppbv | 100 |
| 59) 1,3,5-Trimethylbenzene | 24.645 | 105 | 762235 | 11.84 ppbv | 100 |
| 60) 1,2,4-Trimethylbenzene | 25.248 | 105 | 742372 | 12.28 ppbv | 100 |
| 61) 1,3-Dichlorobenzene | 25.795 | 146 | 488560 | 11.26 ppbv | 100 |
| 62) 1,4-Dichlorobenzene | 25.941 | 146 | 477001 | 11.36 ppbv | 100 |
| 63) Benzyl chloride | 26.178 | 91 | 481705 | 13.00 ppbv | 100 |
| 64) 1,2-Dichlorobenzene | 26.556 | 146 | 490260 | 11.30 ppbv | 100 |
| 65) 1,2,4-Trichlorobenzene | 29.020 | 180 | 333114 | 9.35 ppbv | 100 |
| 66) Hexachlorobutadiene | 29.135 | 225 | 474827 | 10.46 ppbv | 100 |

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

Data Path : D:\msdchem\1\2017\DATA\071917KA_FSAA\
Data File : 071917KA07.D
InstName : HP5973K
Acq On : 19 Jul 2017 9:37 pm
Operator : LLH
Sample : S17G076-CAL4
Misc : 10ppbv 1729076
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Jul 20 09:08:34 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:08:26 2017
Response via : Initial Calibration

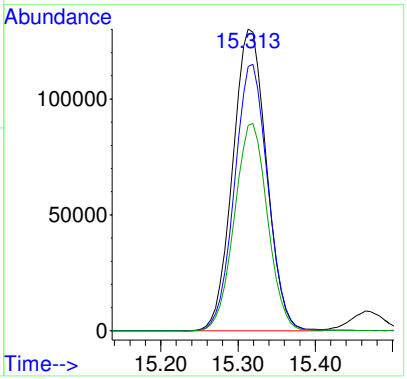


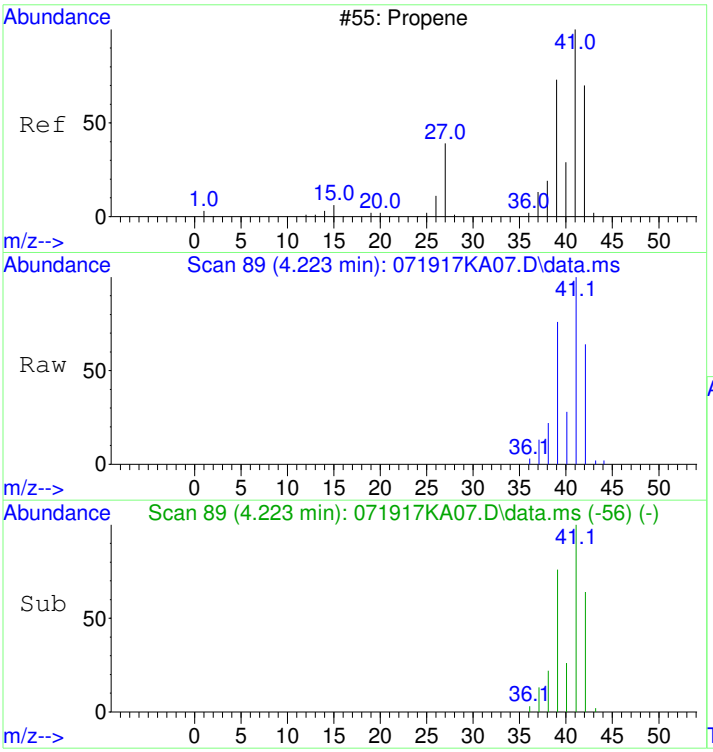



#1
BROMOCHLOROMETHANE
Concen: 19.80 ppbv
RT: 15.313 min Scan# 1912
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion: 49 Resp: 396141

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 130 | 87.2 | 67.2 | 107.2 |
| 128 | 67.6 | 47.6 | 87.6 |

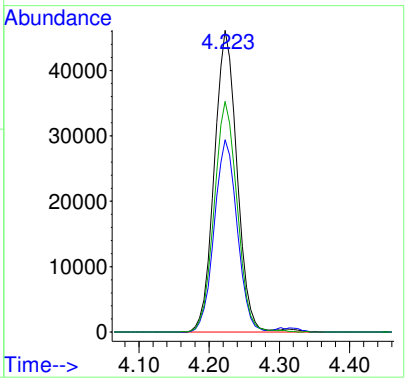


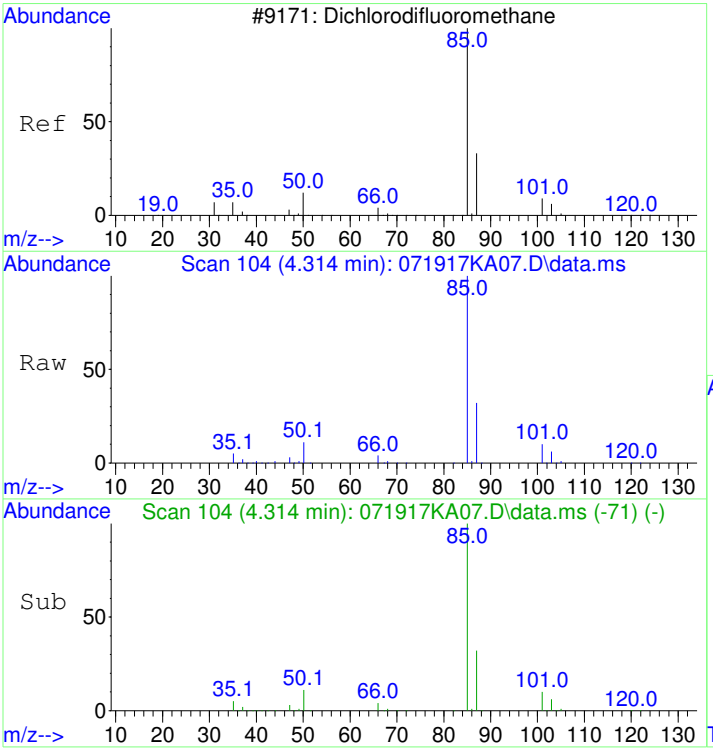




#2
Propene
Concen: 11.68 ppbv
RT: 4.223 min Scan# 89
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion: 41 Resp: 104310

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 41 | 100 | | |
| 42 | 64.0 | 44.0 | 84.0 |
| 39 | 77.2 | 57.2 | 97.2 |

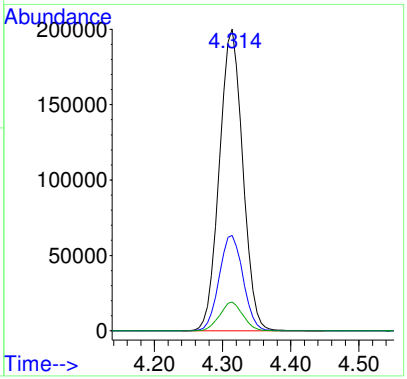


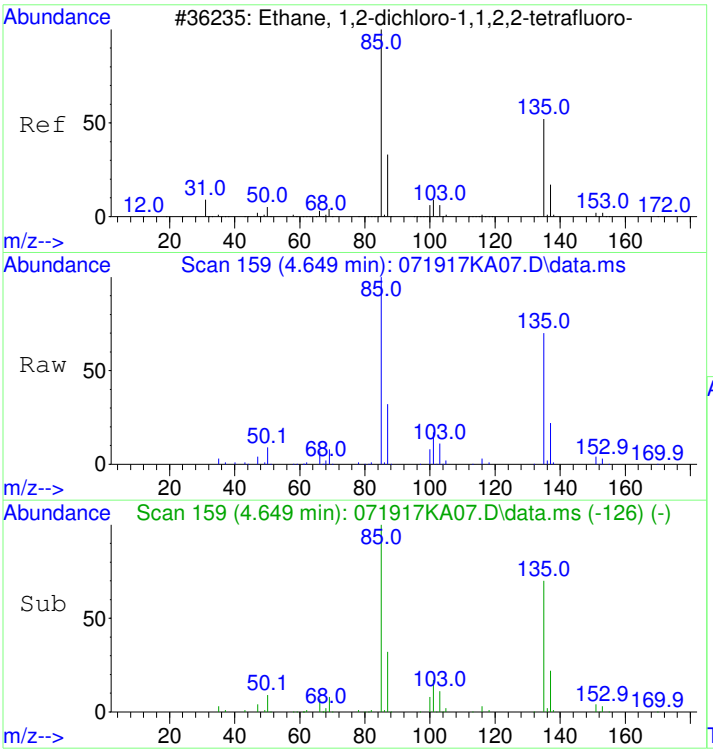



#3
Dichlorodifluoromethane
Concen: 10.85 ppbv
RT: 4.314 min Scan# 104
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion: 85 Resp: 476114

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 85 | 100 | | |
| 87 | 32.4 | 12.4 | 52.4 |
| 101 | 9.5 | 0.0 | 29.5 |

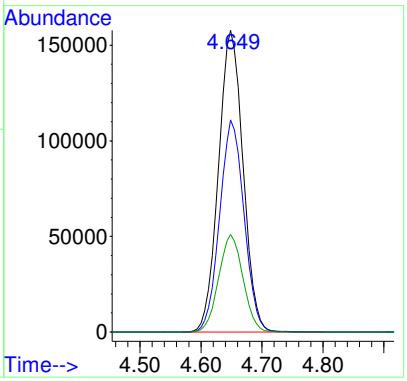


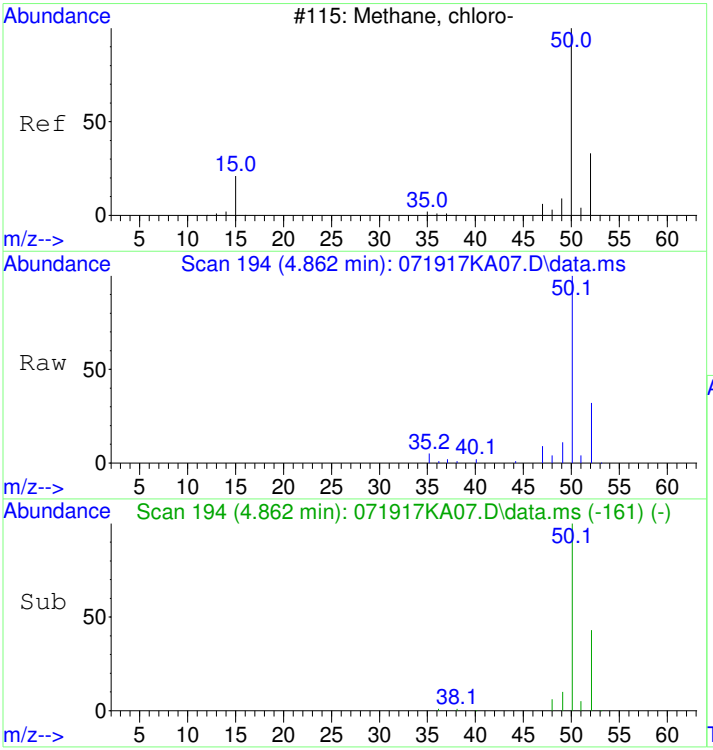




#4
1,2-Dichlorotetrafluoroethane
Concen: 10.39 ppbv
RT: 4.649 min Scan# 159
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion: 85 Resp: 441645

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 85 | 100 | | |
| 135 | 70.0 | 50.0 | 90.0 |
| 87 | 32.0 | 12.0 | 52.0 |

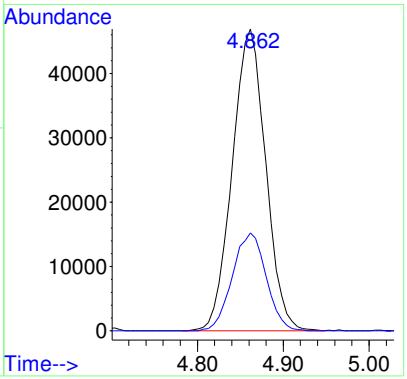


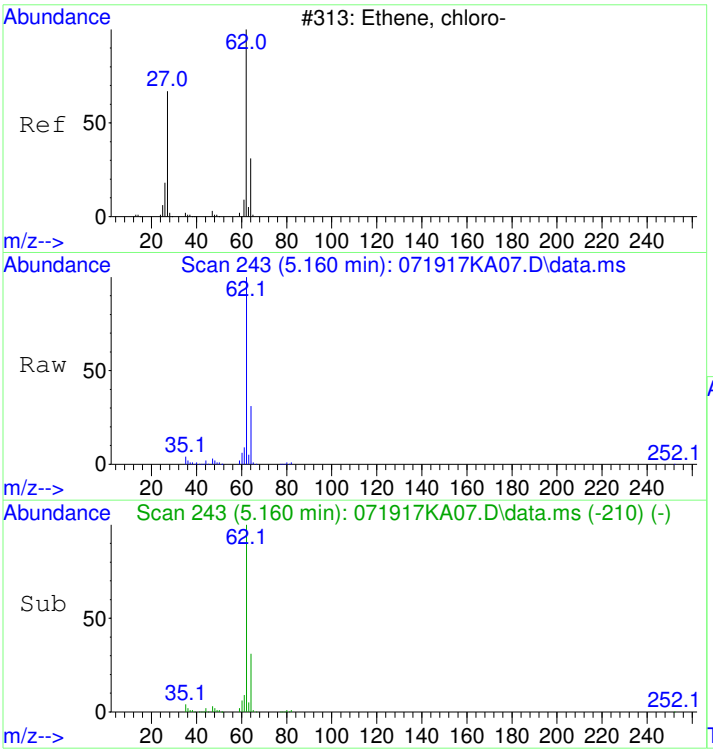



#5
Chloromethane
Concen: 11.30 ppbv
RT: 4.862 min Scan# 194
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion: 50 Resp: 127256

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 50 | 100 | | |
| 52 | 32.8 | 12.8 | 52.8 |

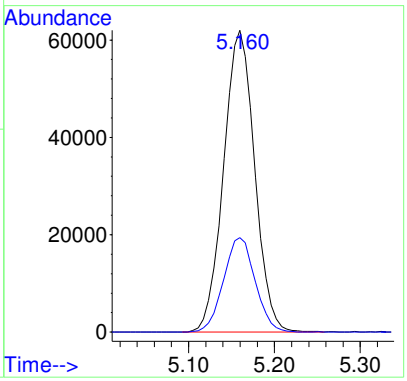


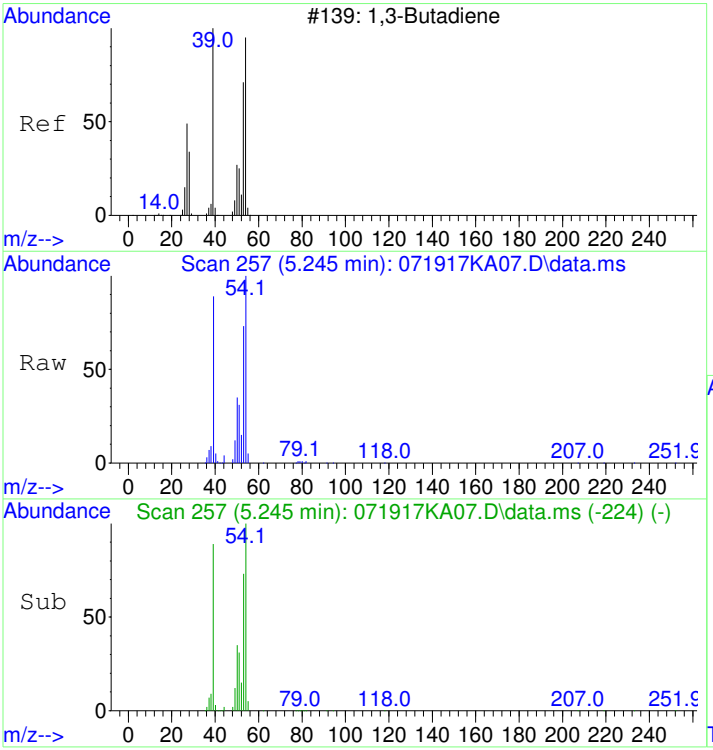




#6
Vinyl chloride
Concen: 11.22 ppbv
RT: 5.160 min Scan# 243
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion: 62 Resp: 155953

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 62 | 100 | | |
| 64 | 31.8 | 11.8 | 51.8 |

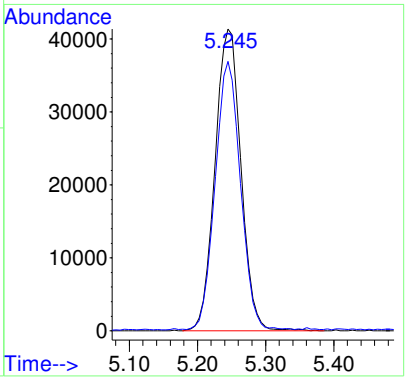


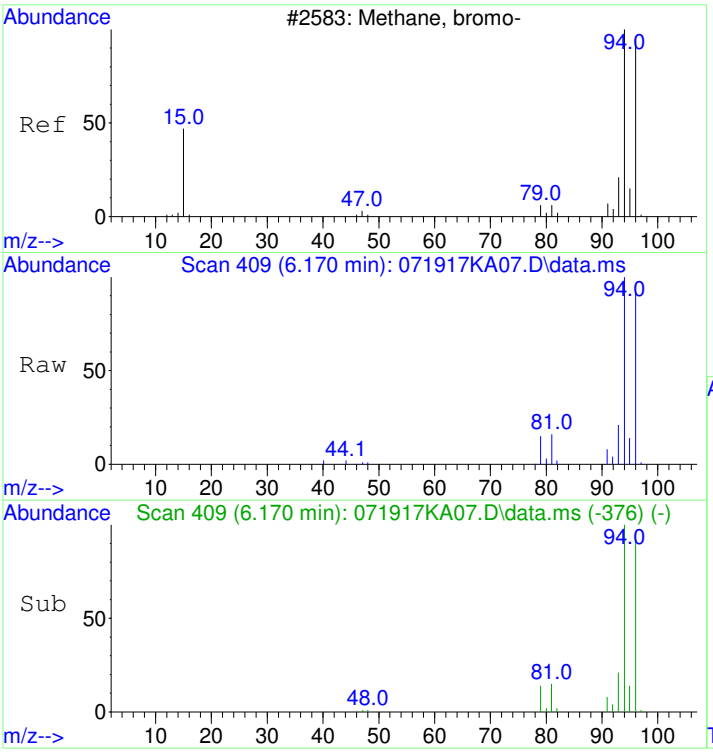



#7
1,3-Butadiene
Concen: 11.03 ppbv
RT: 5.245 min Scan# 257
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion: 54 Resp: 109249

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 54 | 100 | | |
| 39 | 86.3 | 66.3 | 106.3 |

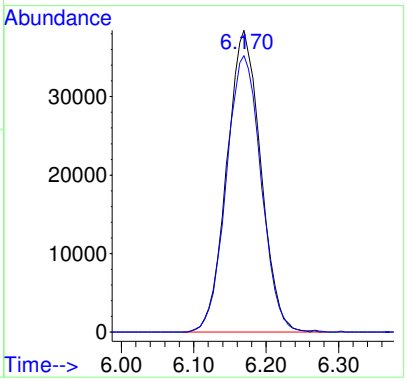


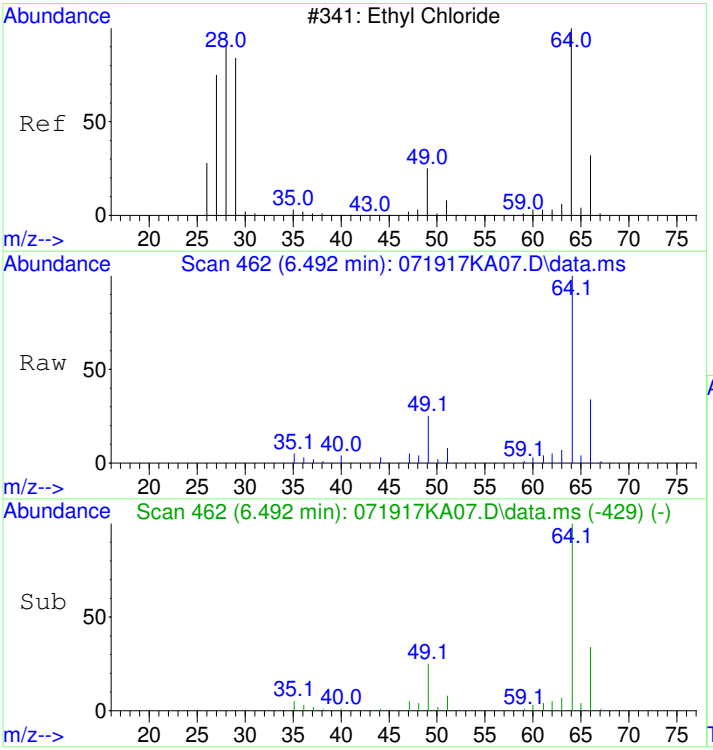




#8
Bromomethane
Concen: 10.72 ppbv
RT: 6.170 min Scan# 409
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion: 94 Resp: 124880

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 94 | 100 | | |
| 96 | 94.0 | 74.0 | 114.0 |

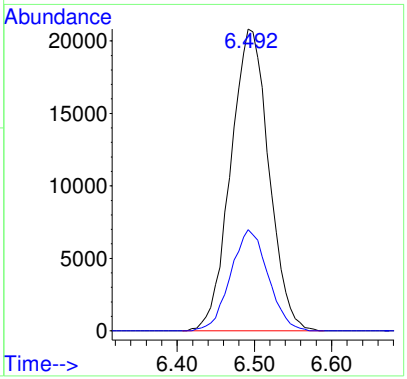


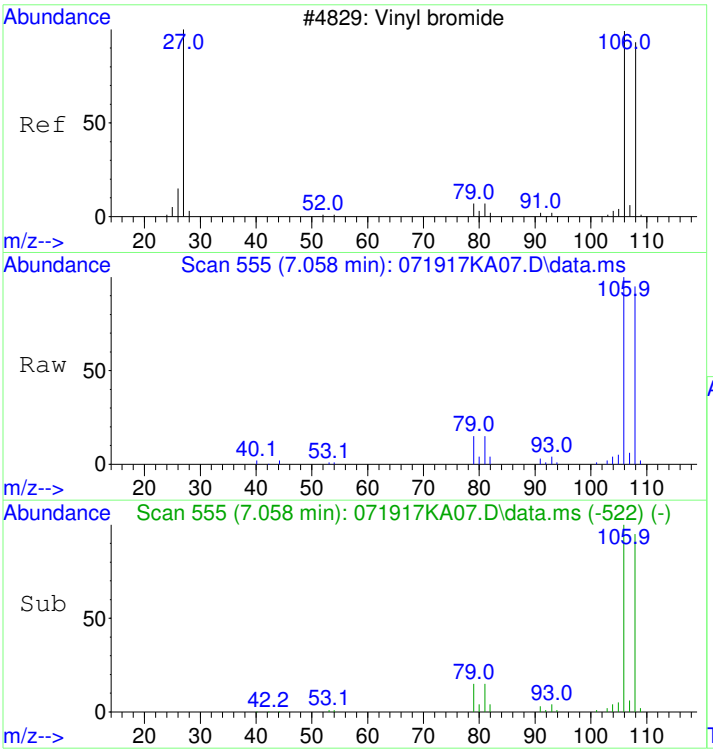



#9
Chloroethane
Concen: 10.43 ppbv
RT: 6.492 min Scan# 462
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion: 64 Resp: 71480

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 64 | 100 | | |
| 66 | 33.0 | 13.0 | 53.0 |

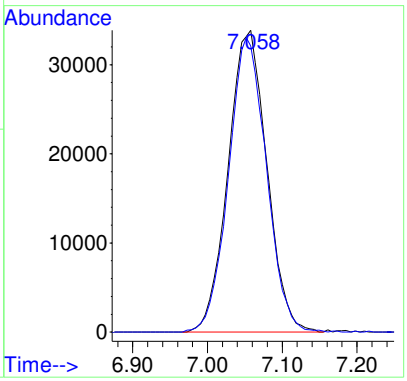


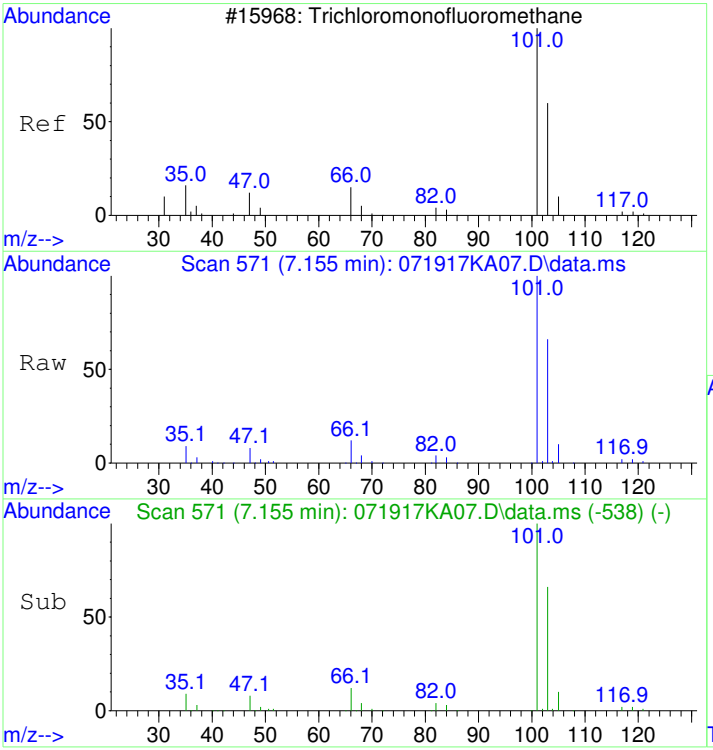




#10
Bromoethene
Concen: 10.99 ppbv
RT: 7.058 min Scan# 555
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion:106 Resp: 121851

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 106 | 100 | | |
| 108 | 95.3 | 0.0 | 215.3 |

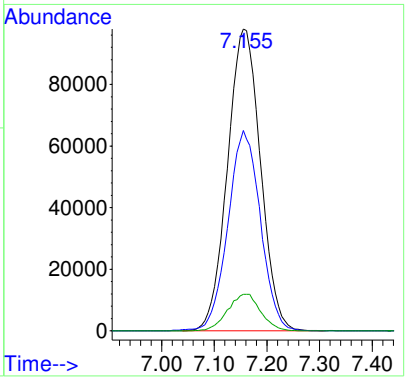


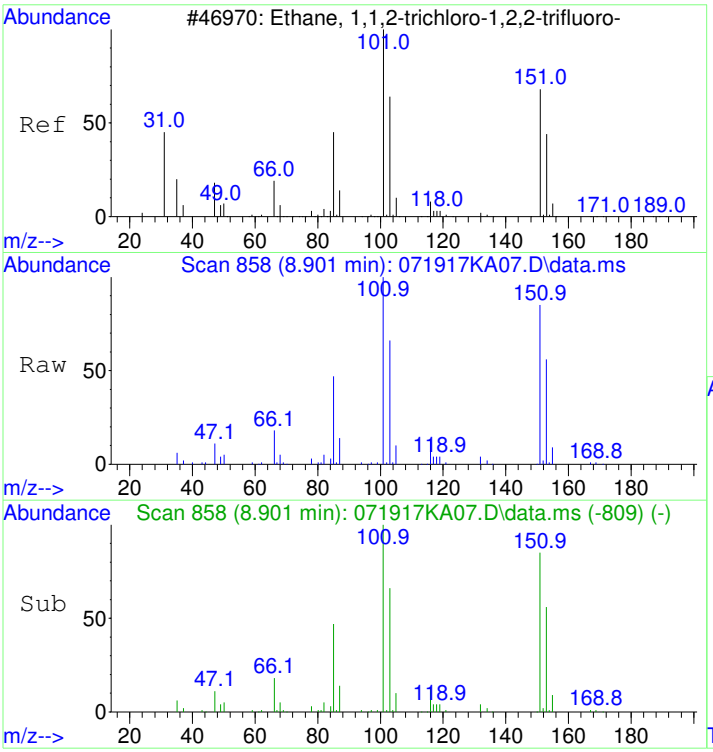



#11
Trichlorofluoromethane
Concen: 10.12 ppbv
RT: 7.155 min Scan# 571
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion:101 Resp: 427548

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 101 | 100 | | |
| 103 | 65.1 | 45.1 | 85.1 |
| 66 | 12.1 | 0.0 | 32.1 |

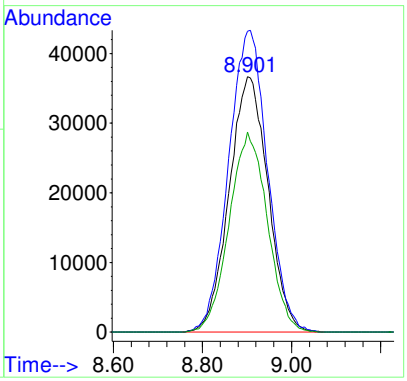


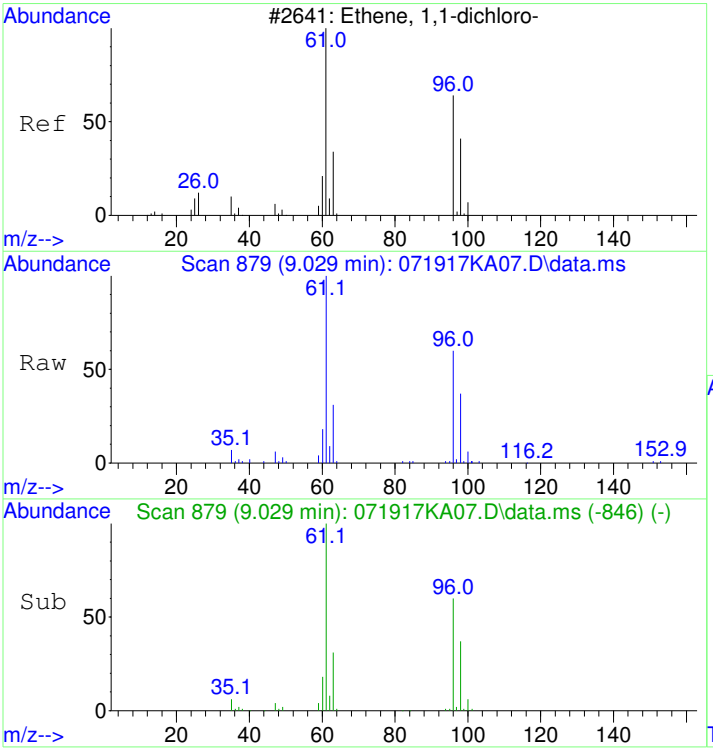




#12
1,1,2-Trichloro-1,2,2-trifluoroethane
Concen: 9.38 ppbv
RT: 8.901 min Scan# 858
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion:151 Resp: 222201

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 151 | 100 | | |
| 101 | 118.6 | 98.6 | 138.6 |
| 103 | 76.7 | 56.7 | 96.7 |

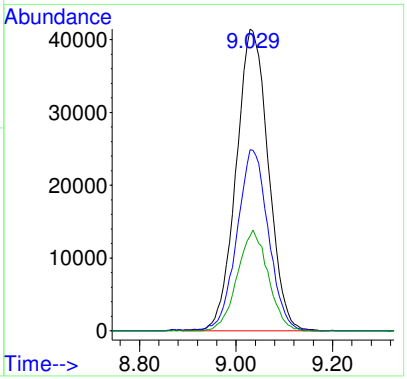


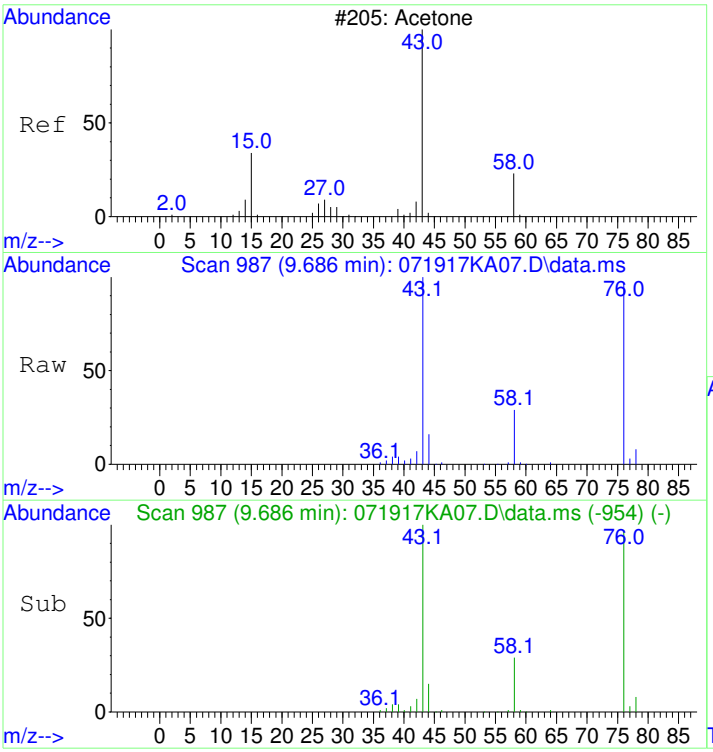



#13
1,1-Dichloroethene
Concen: 10.92 ppbv
RT: 9.029 min Scan# 879
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion: 61 Resp: 191866

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 61 | 100 | | |
| 96 | 58.6 | 38.6 | 78.6 |
| 63 | 31.9 | 11.9 | 51.9 |

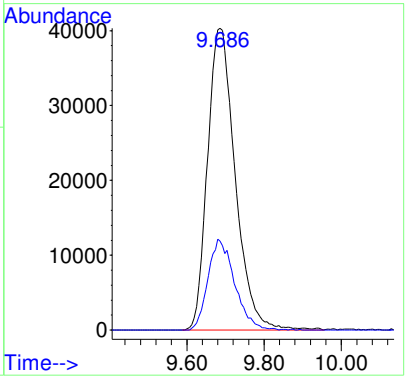


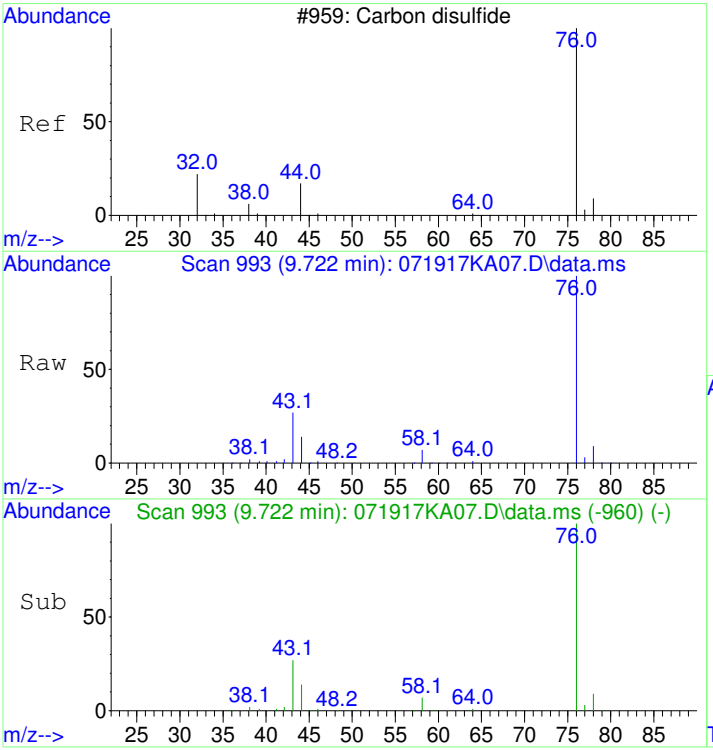




#14
Acetone
Concen: 11.29 ppbv
RT: 9.686 min Scan# 987
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion: 43 Resp: 201230

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 43 | 100 | | |
| 58 | 29.0 | 9.0 | 49.0 |

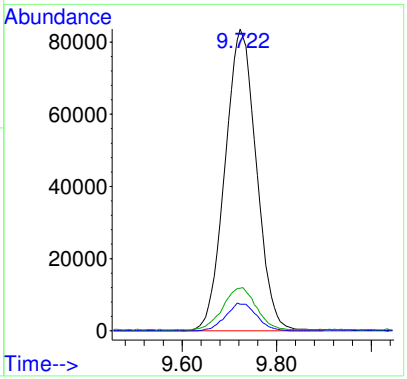


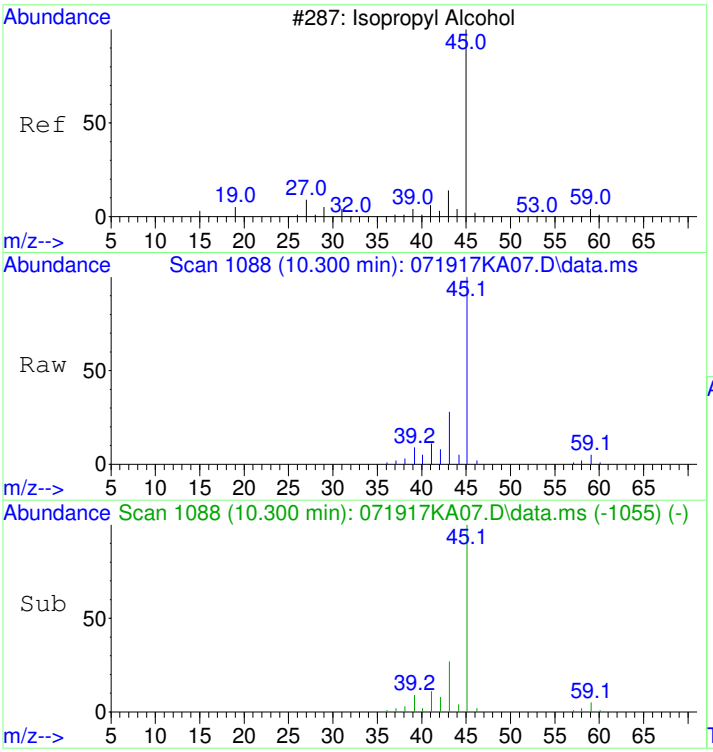



#15
Carbon disulfide
Concen: 10.78 ppbv
RT: 9.722 min Scan# 993
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion: 76 Resp: 386727

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 76 | 100 | | |
| 78 | 9.0 | 0.0 | 29.0 |
| 44 | 14.8 | 0.0 | 34.8 |

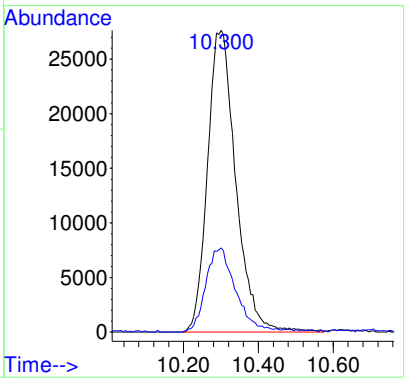


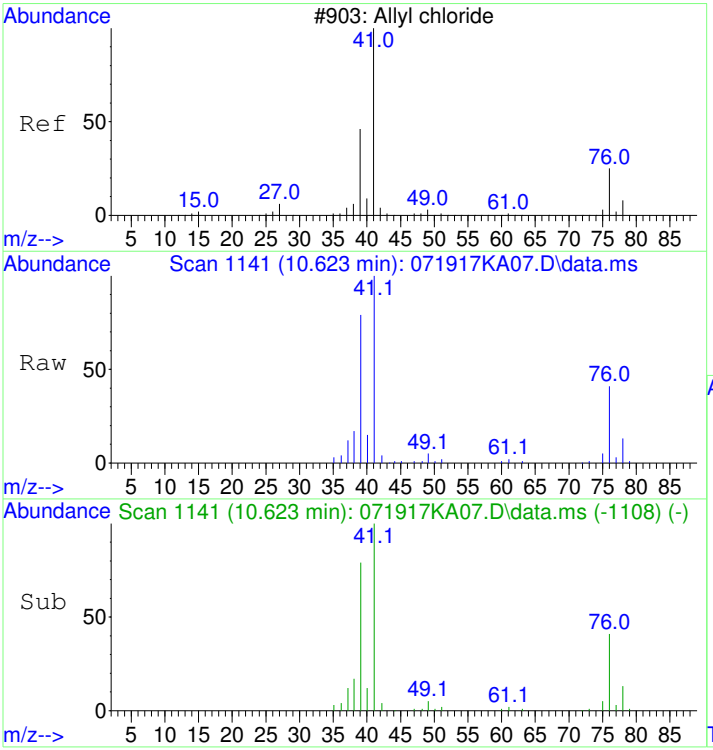




#16
2-Propanol
Concen: 12.11 ppbv
RT: 10.300 min Scan# 1088
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion: 45 Resp: 145420

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 45 | 100 | | |
| 43 | 30.1 | 10.1 | 50.1 |

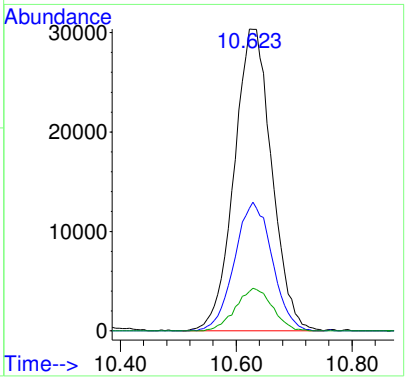


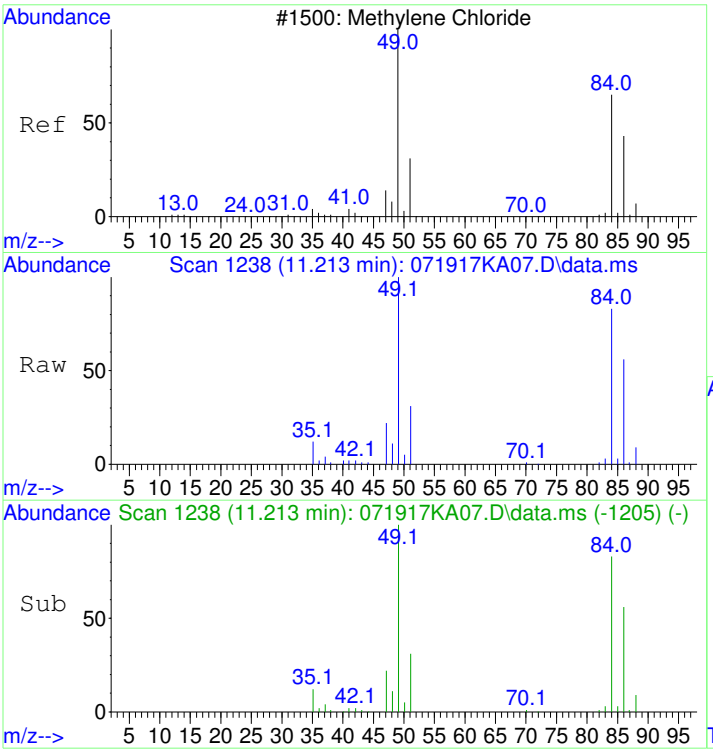



#17
Allyl chloride
Concen: 12.04 ppbv
RT: 10.623 min Scan# 1141
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion: 41 Resp: 136784

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 41 | 100 | | |
| 76 | 42.8 | 22.8 | 62.8 |
| 78 | 13.8 | 0.0 | 33.8 |

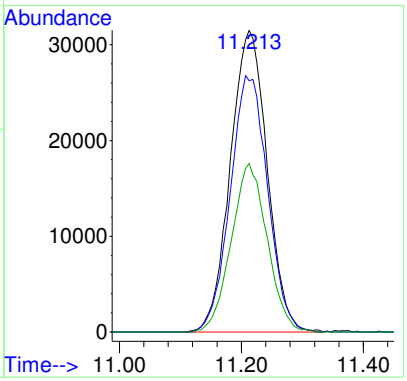


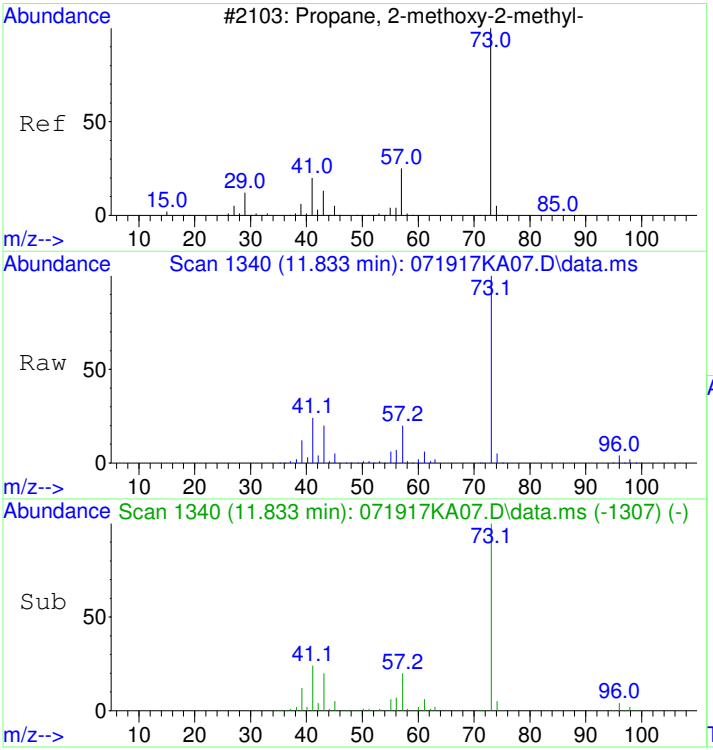




#18
Dichloromethane
Concen: 9.08 ppbv
RT: 11.213 min Scan# 1238
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion: 49 Resp: 132342

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 84 | 86.5 | 66.5 | 106.5 |
| 86 | 54.5 | 34.5 | 74.5 |

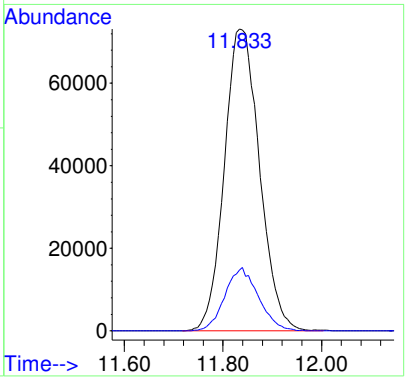


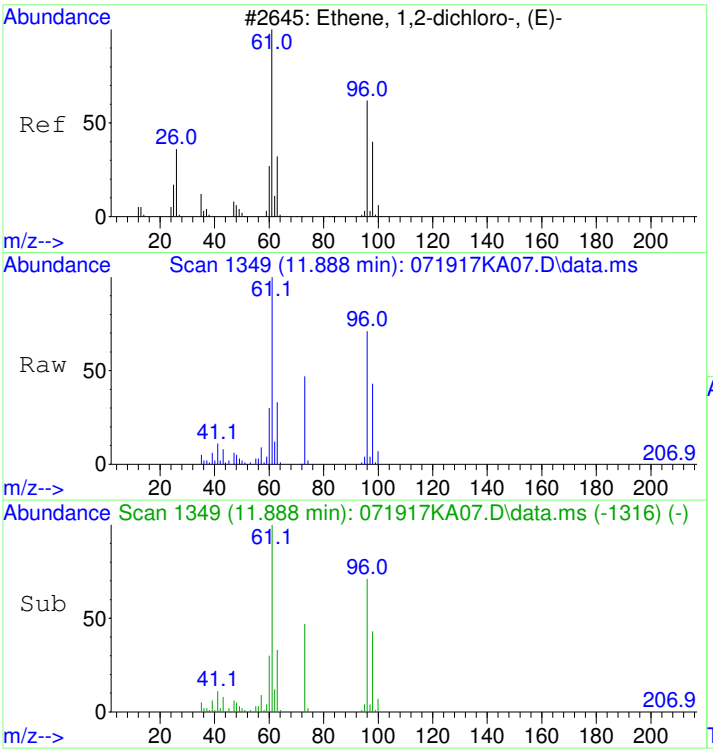



#19
tert-Butyl methyl ether (MTBE)
Concen: 11.84 ppbv
RT: 11.833 min Scan# 1340
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion: 73 Resp: 362798

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 73 | 100 | | |
| 57 | 19.9 | 0.0 | 39.9 |

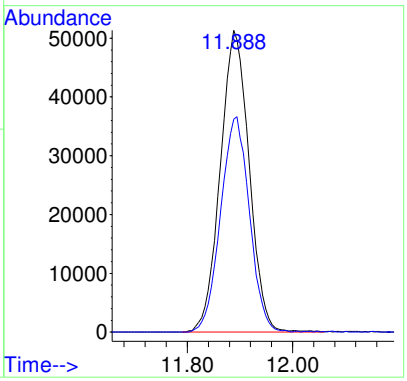


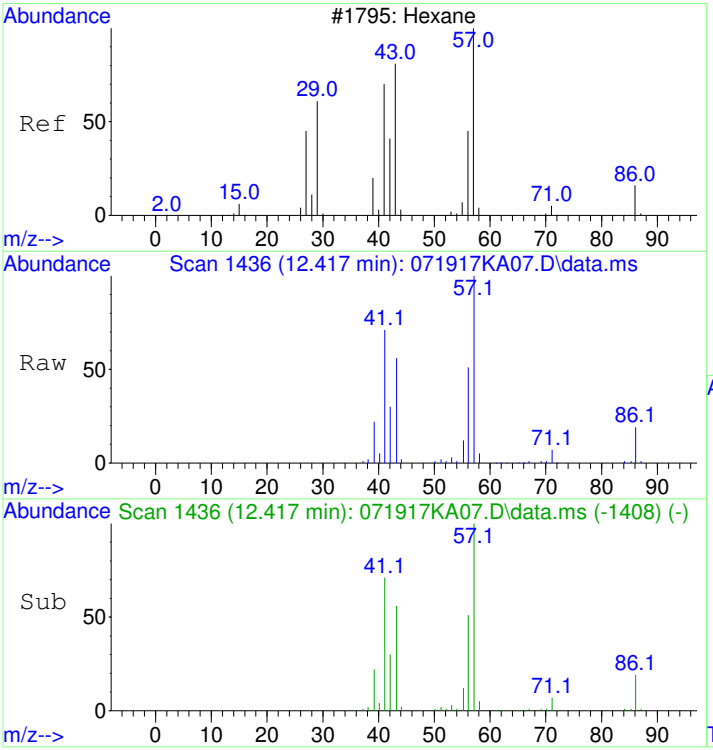




#20
trans-1,2-Dichloroethene
Concen: 11.41 ppbv
RT: 11.888 min Scan# 1349
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion: 61 Resp: 195594

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 61 | 100 | | |
| 96 | 71.3 | 51.3 | 91.3 |

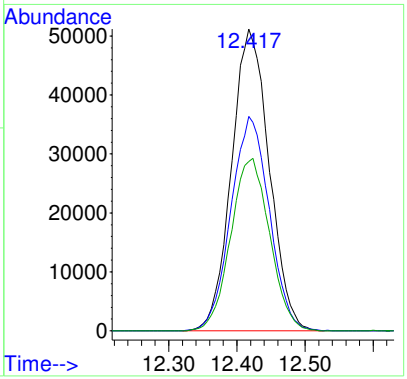


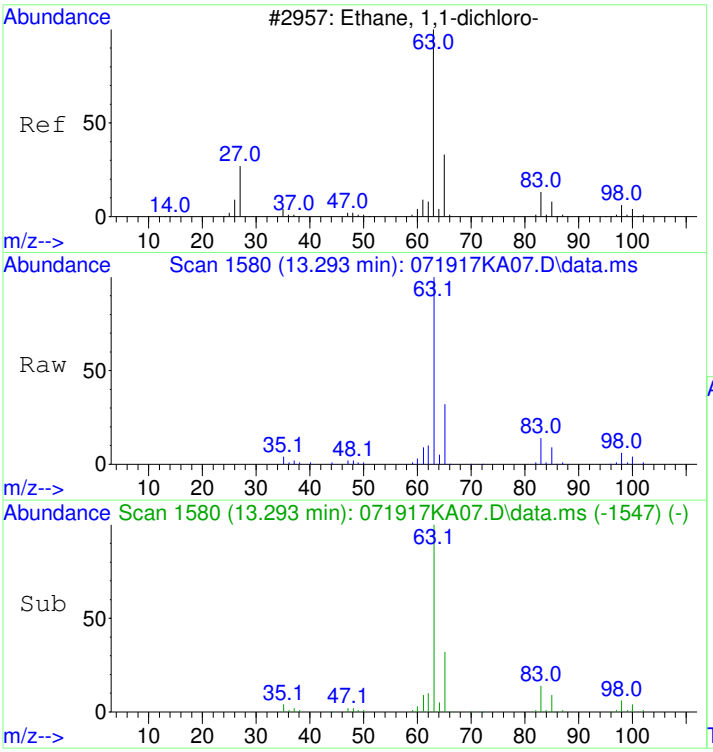



#21
Hexane
Concen: 11.61 ppbv
RT: 12.417 min Scan# 1436
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion: 57 Resp: 195807

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 57 | 100 | | |
| 41 | 72.6 | 52.6 | 92.6 |
| 43 | 59.2 | 39.2 | 79.2 |

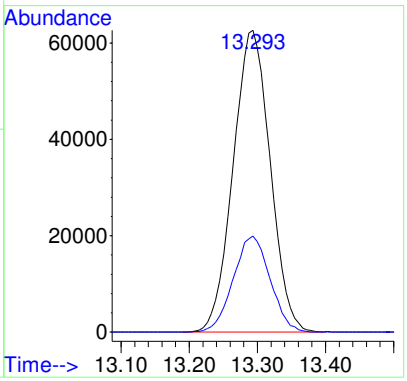


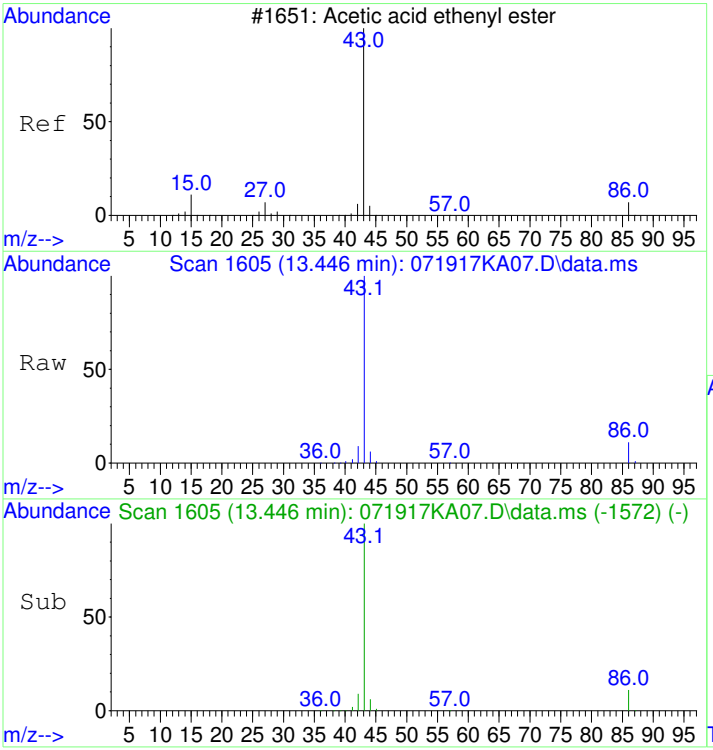




#22
1,1-Dichloroethane
Concen: 10.08 ppbv
RT: 13.293 min Scan# 1580
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion: 63 Resp: 235956

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 63 | 100 | | |
| 65 | 31.6 | 11.6 | 51.6 |

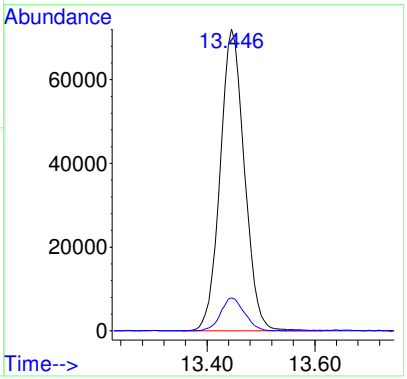


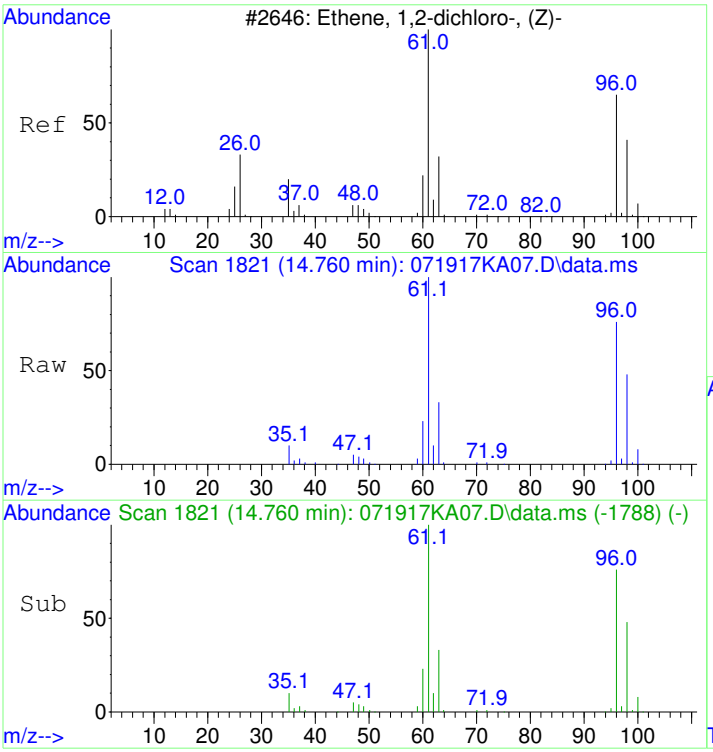



#23
Vinyl acetate
Concen: 13.07 ppbv
RT: 13.446 min Scan# 1605
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion: 43 Resp: 225338

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 43 | 100 | | |
| 86 | 10.8 | 0.0 | 30.8 |

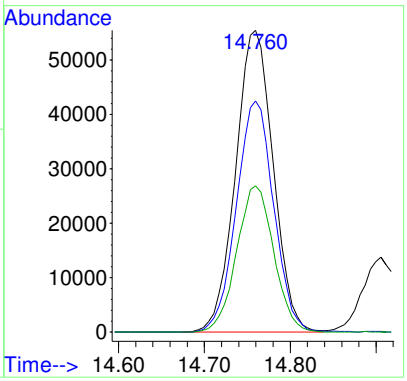


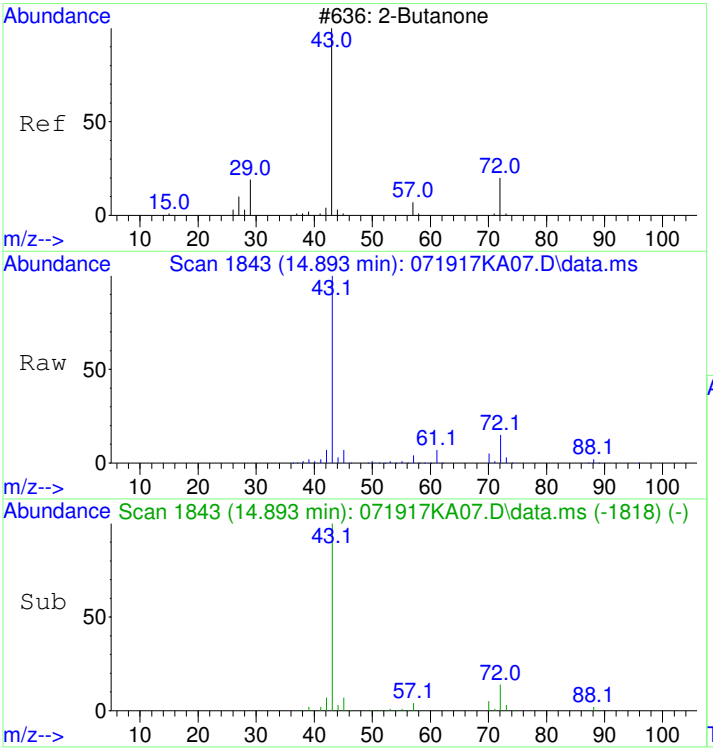




#24
cis-1,2-Dichloroethene
Concen: 11.30 ppbv
RT: 14.760 min Scan# 1821
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion: 61 Resp: 168955

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 61 | 100 | | |
| 96 | 76.2 | 56.2 | 96.2 |
| 98 | 47.8 | 27.8 | 67.8 |

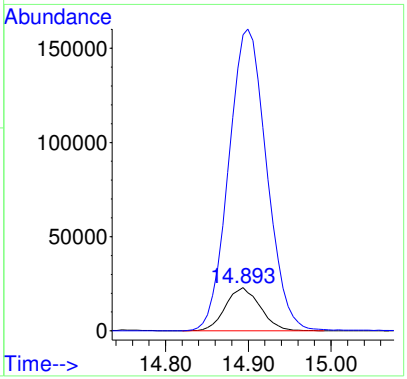


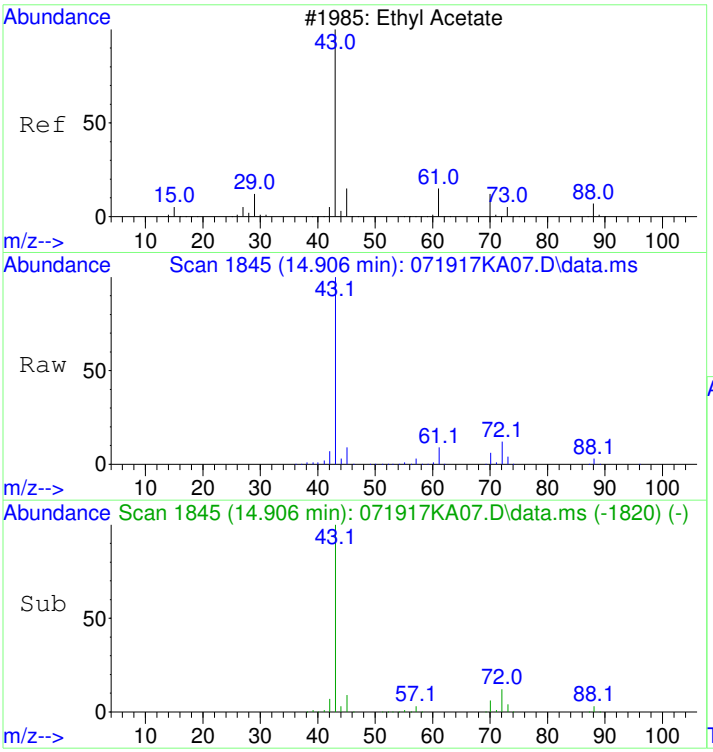



#25
2-Butanone (MEK)
Concen: 11.74 ppbv
RT: 14.893 min Scan# 1843
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion: 72 Resp: 66965

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 72 | 100 | | |
| 43 | 766.4 | 756.4 | 776.4 |

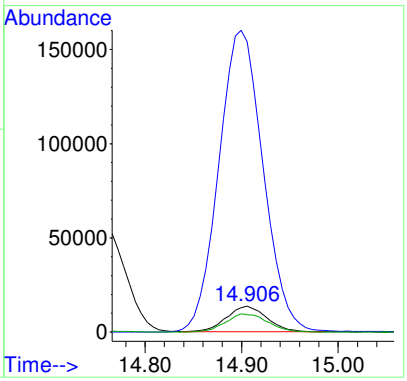


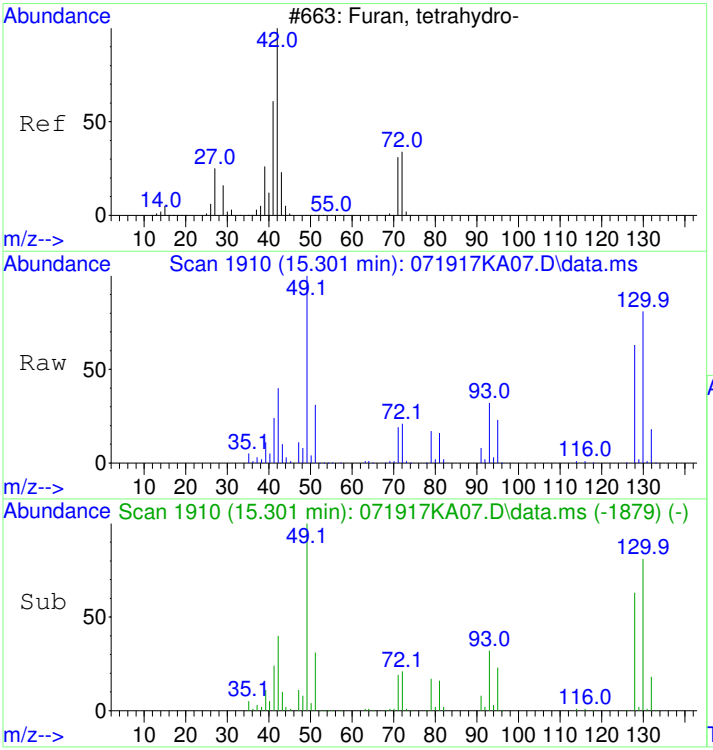




#26
Ethyl acetate
Concen: 11.47 ppbv
RT: 14.906 min Scan# 1845
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion: 61 Resp: 39549

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 61 | 100 | | |
| 43 | 1298.3 | 1288.3 | 1308.3 |
| 70 | 74.2 | 64.2 | 84.2 |

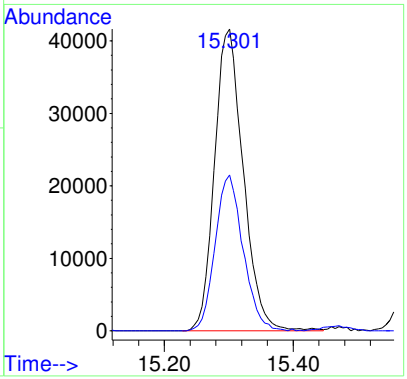


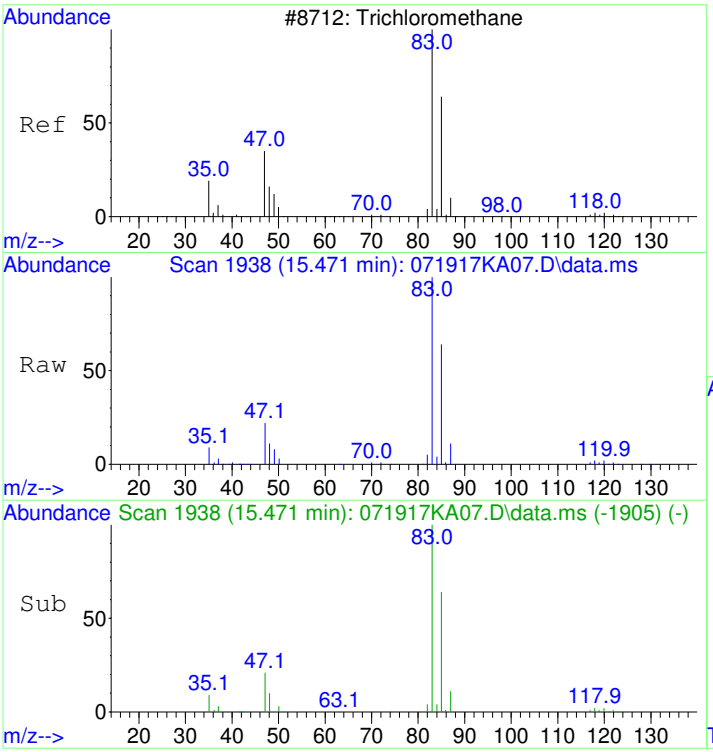



#27
Tetrahydrofuran
Concen: 11.27 ppbv
RT: 15.301 min Scan# 1910
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion: 42 Resp: 129124

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 42 | 100 | | |
| 72 | 50.1 | 30.1 | 70.1 |

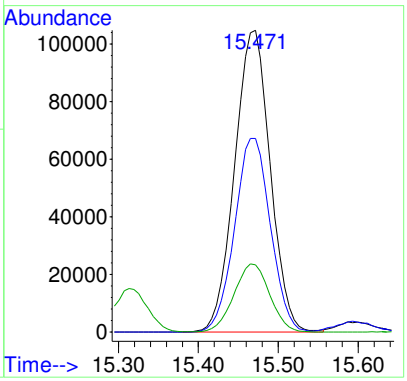


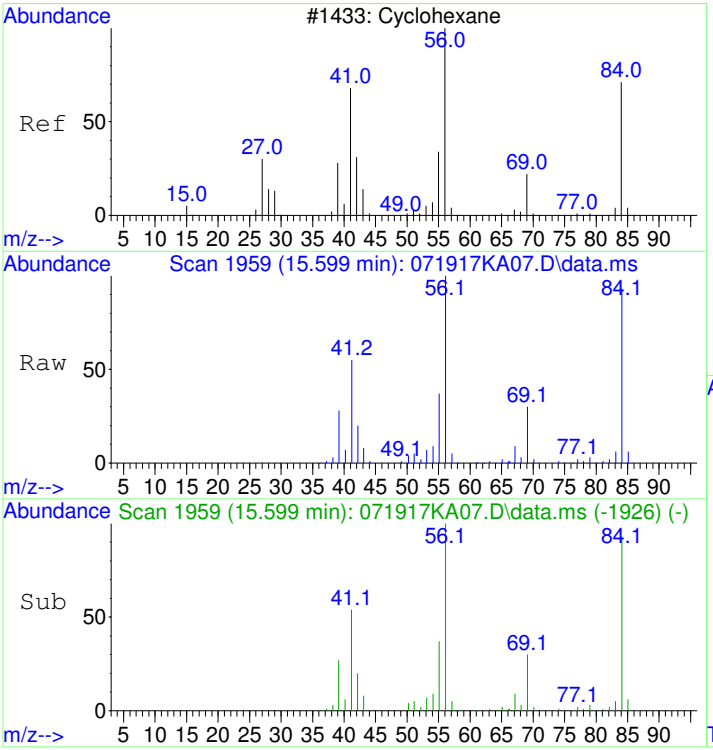




#28
Chloroform
Concen: 10.99 ppbv
RT: 15.471 min Scan# 1938
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion: 83 Resp: 324241

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 83 | 100 | | |
| 85 | 64.6 | 44.6 | 84.6 |
| 47 | 22.7 | 2.7 | 42.7 |

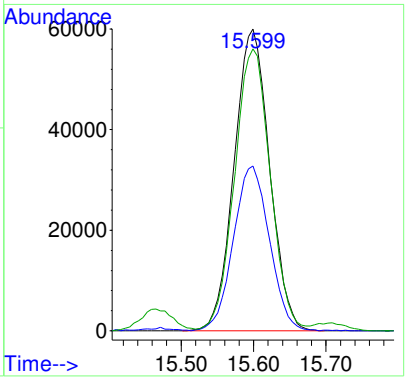


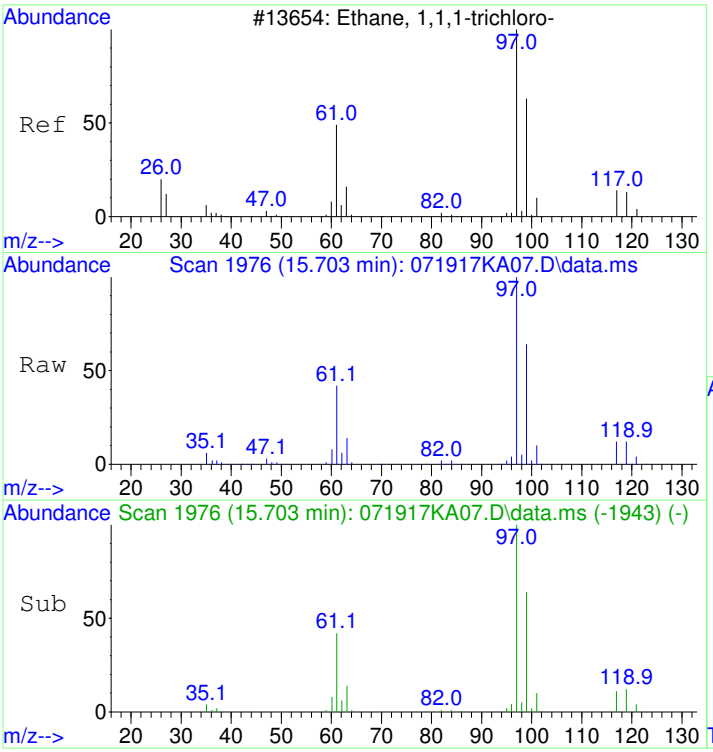



#29
Cyclohexane
Concen: 11.67 ppbv
RT: 15.599 min Scan# 1959
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion: 56 Resp: 204054

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 56 | 100 | | |
| 41 | 55.5 | 35.5 | 75.5 |
| 84 | 96.7 | 76.7 | 116.7 |

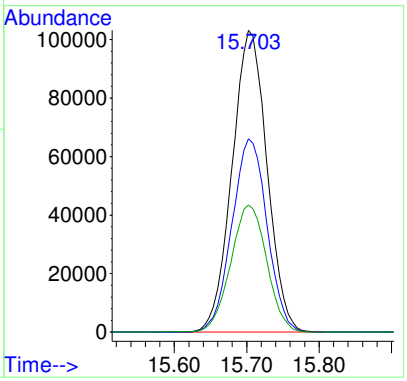


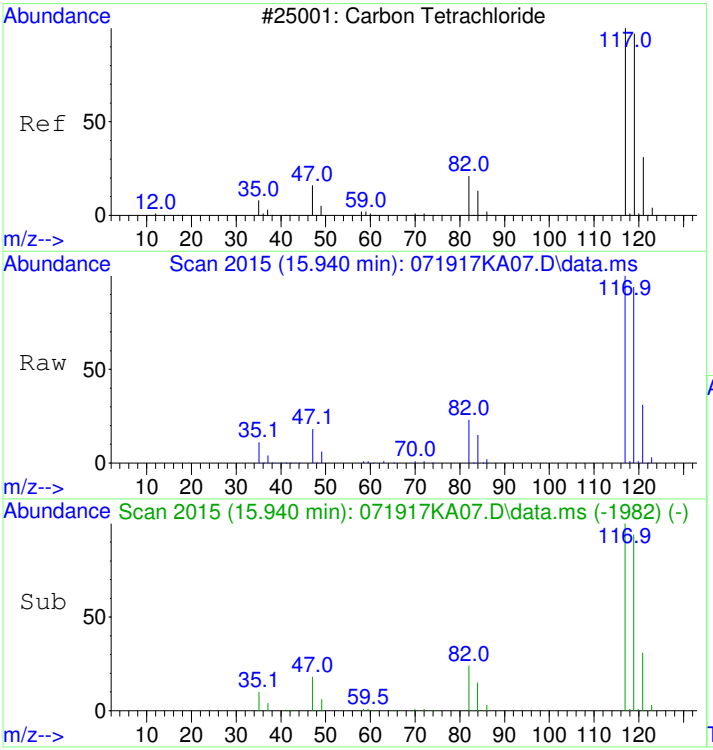




#30
1,1,1-Trichloroethane
Concen: 10.63 ppbv
RT: 15.703 min Scan# 1976
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion: 97 Resp: 345528

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 97 | 100 | | |
| 99 | 64.6 | 44.6 | 84.6 |
| 61 | 43.4 | 23.4 | 63.4 |

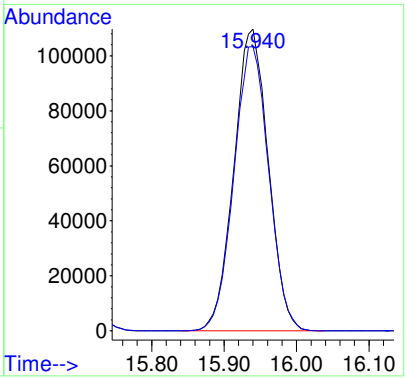


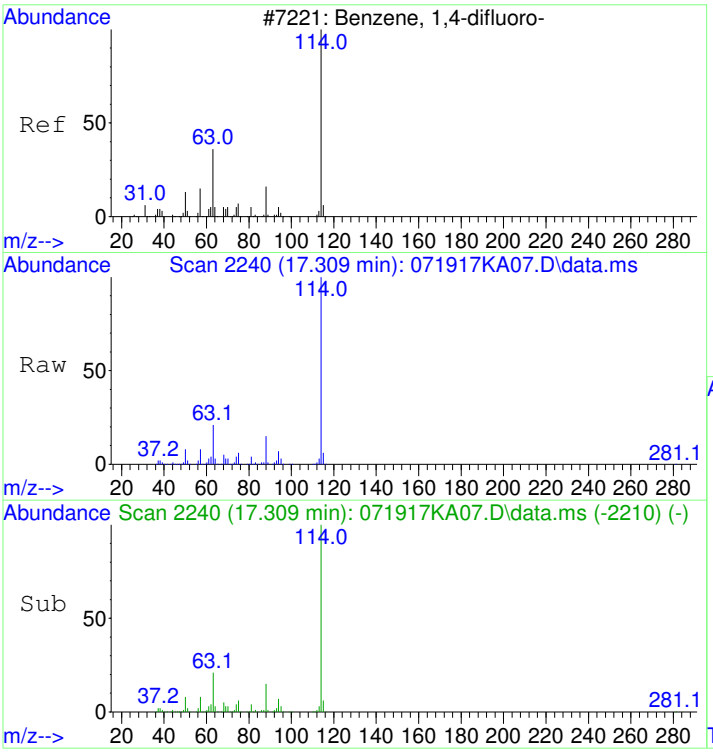



#31
Carbon tetrachloride
Concen: 10.74 ppbv
RT: 15.940 min Scan# 2015
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion:117 Resp: 362244

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 117 | 100 | | |
| 119 | 95.5 | 75.5 | 115.5 |

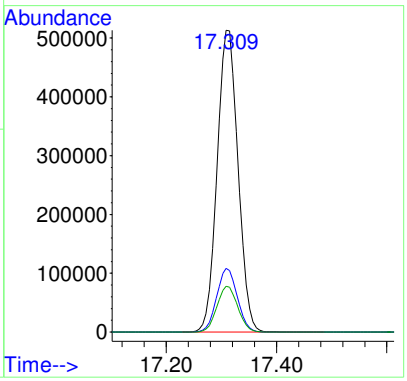


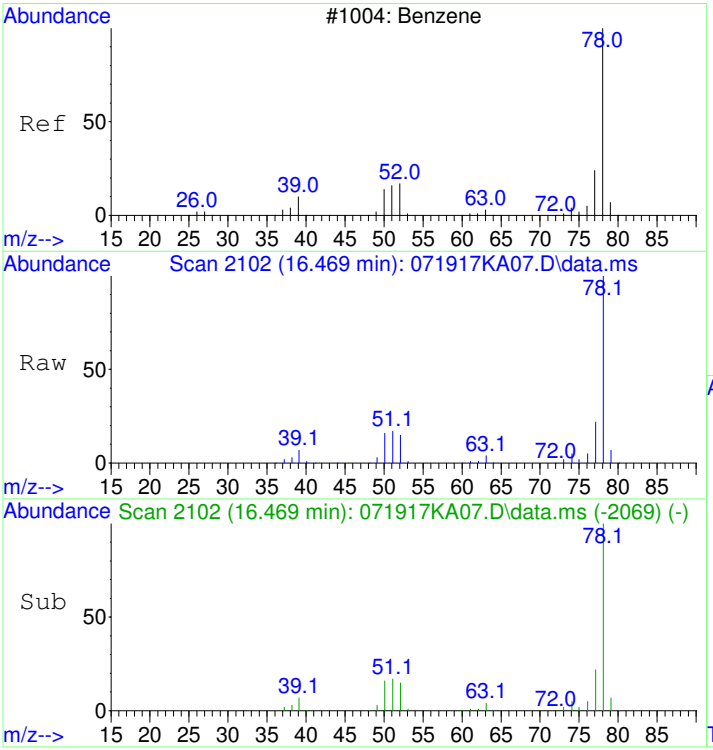




#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 17.309 min Scan# 2240
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion:114 Resp: 1346899

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 114 | 100 | | |
| 63 | 20.8 | 0.8 | 40.8 |
| 88 | 15.1 | 0.0 | 35.1 |

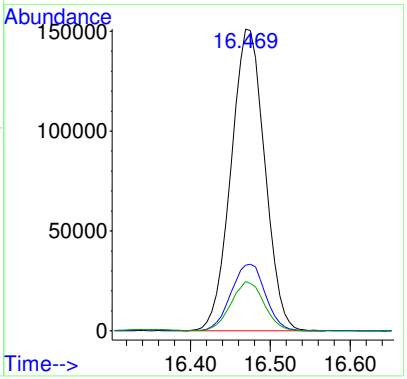


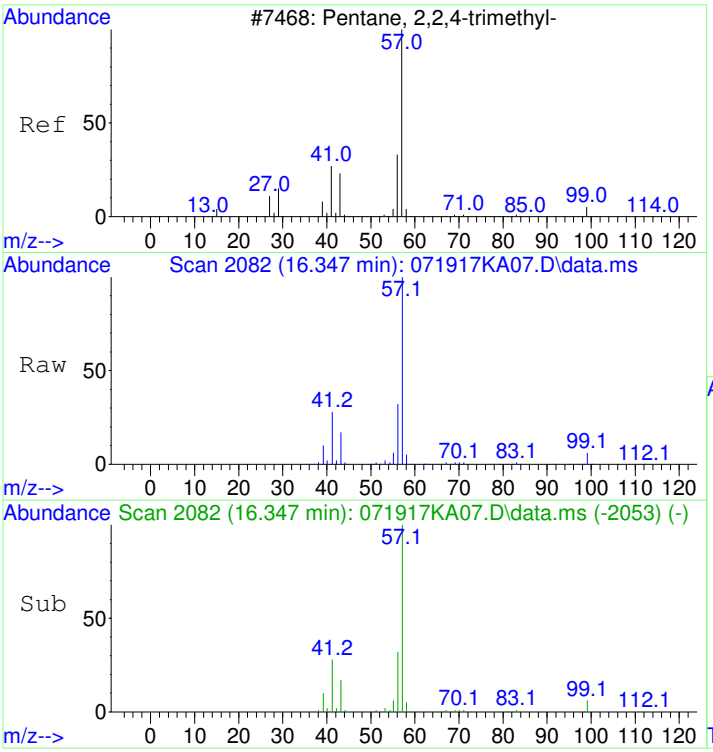



#33
Benzene
Concen: 11.50 ppbv
RT: 16.469 min Scan# 2102
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion: 78 Resp: 441860

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 78 | 100 | | |
| 77 | 22.6 | 2.6 | 42.6 |
| 50 | 16.1 | 0.0 | 36.1 |

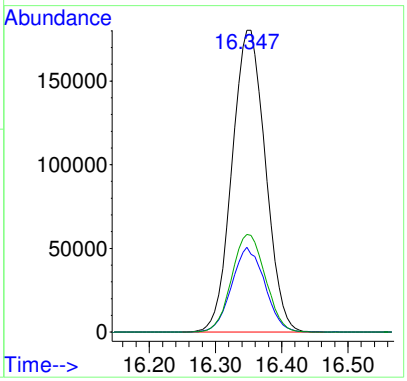


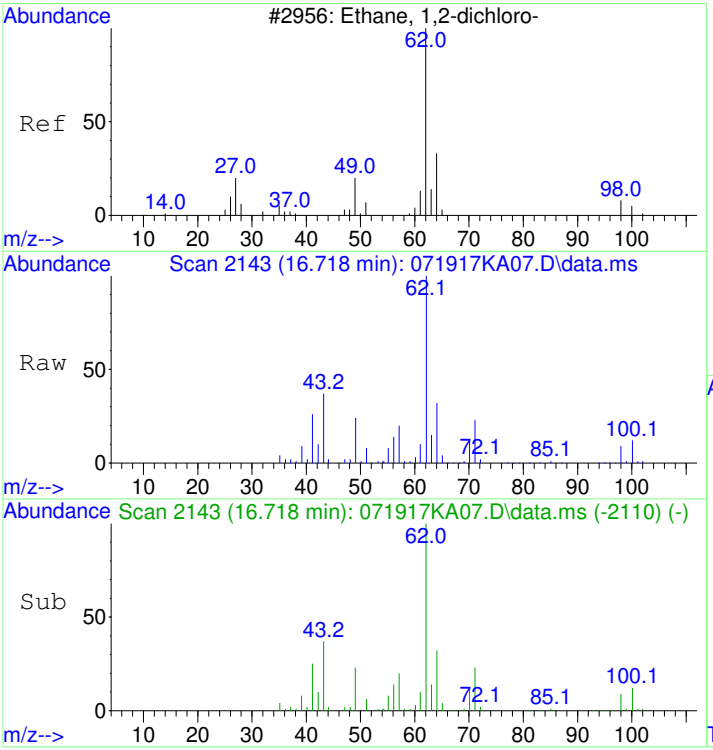




#34
2,2,4-Trimethylpentane
Concen: 12.09 ppbv
RT: 16.347 min Scan# 2082
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion: 57 Resp: 630483

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 57 | 100 | | |
| 41 | 27.9 | 7.9 | 47.9 |
| 56 | 32.8 | 12.8 | 52.8 |

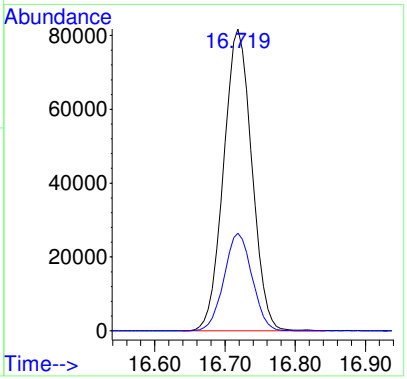


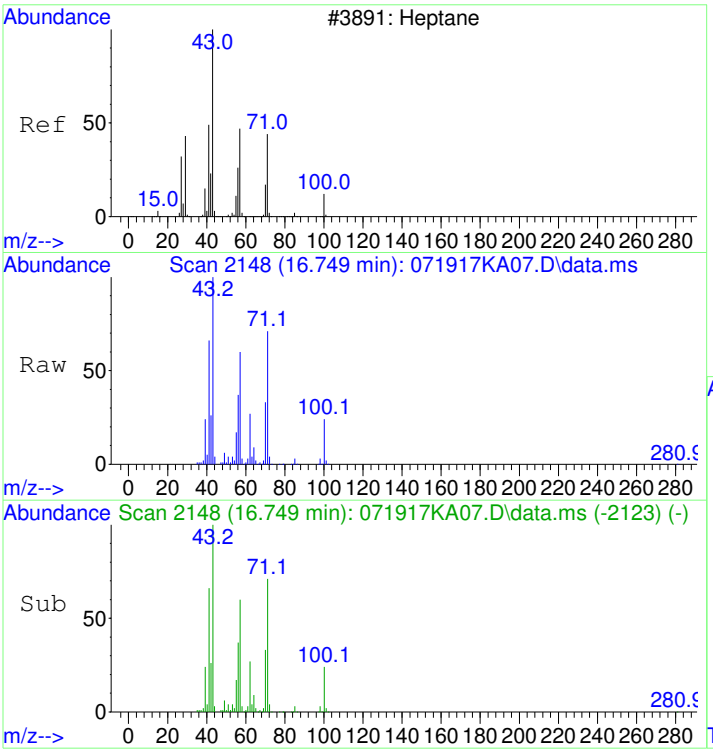



#35
1,2-Dichloroethane
Concen: 11.05 ppbv
RT: 16.718 min Scan# 2143
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion: 62 Resp: 228313

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 62 | 100 | | |
| 64 | 32.1 | 12.1 | 52.1 |

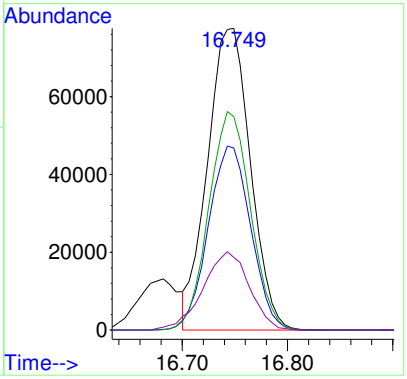


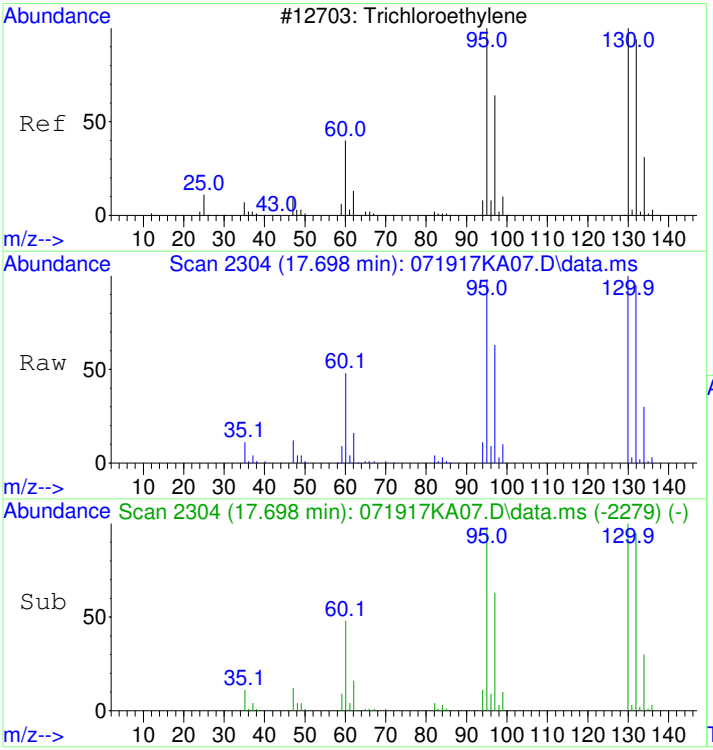




#36
Heptane
Concen: 12.12 ppbv
RT: 16.749 min Scan# 2148
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion: 43 Resp: 220278

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 43 | 100 | | |
| 57 | 60.2 | 40.2 | 80.2 |
| 71 | 70.1 | 50.1 | 90.1 |
| 100 | 27.9 | 7.9 | 47.9 |

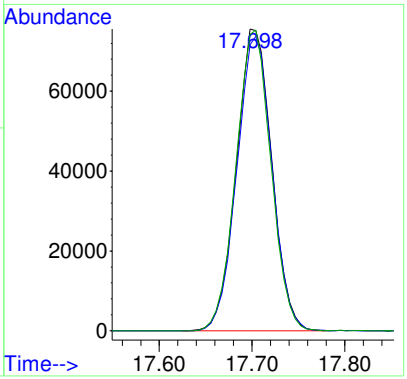


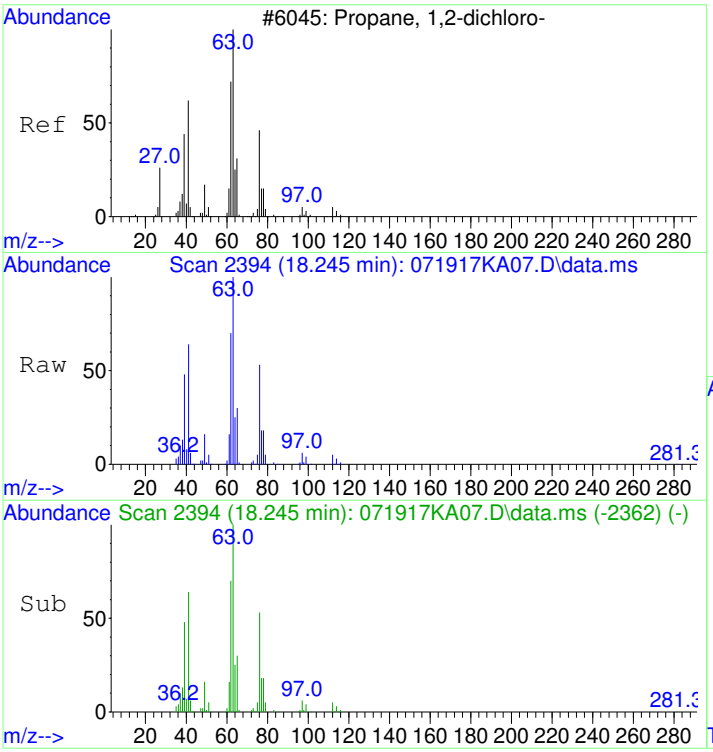



#37
Trichloroethene
Concen: 11.87 ppbv
RT: 17.698 min Scan# 2304
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion:130 Resp: 200432

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 130 | 100 | | |
| 132 | 97.0 | 77.0 | 117.0 |
| 95 | 98.3 | 78.3 | 118.3 |

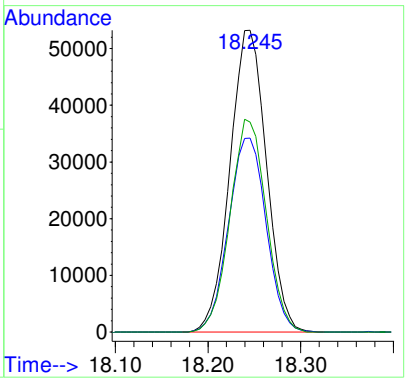


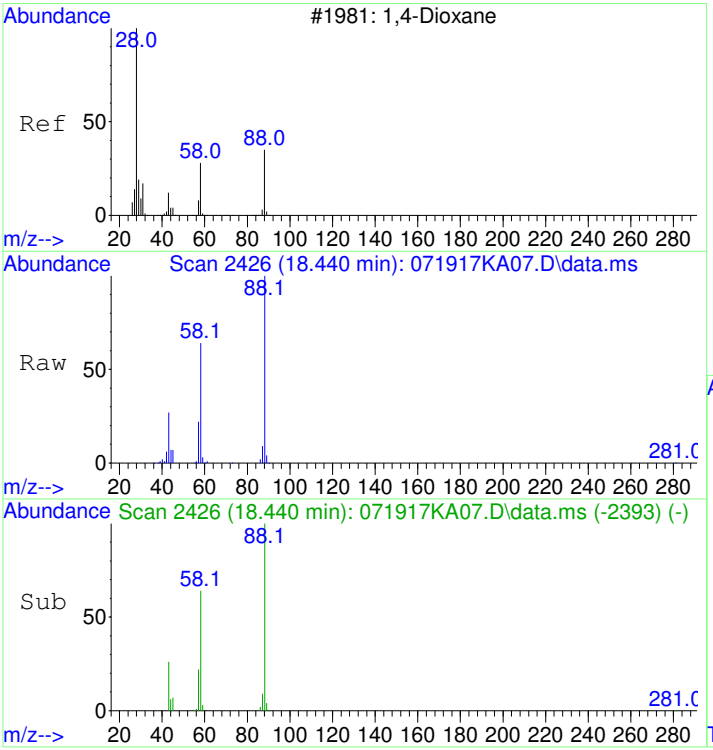




#38
1,2-Dichloropropane
Concen: 11.57 ppbv
RT: 18.245 min Scan# 2394
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion: 63 Resp: 146136

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 63 | 100 | | |
| 41 | 66.1 | 46.1 | 86.1 |
| 62 | 69.8 | 49.8 | 89.8 |

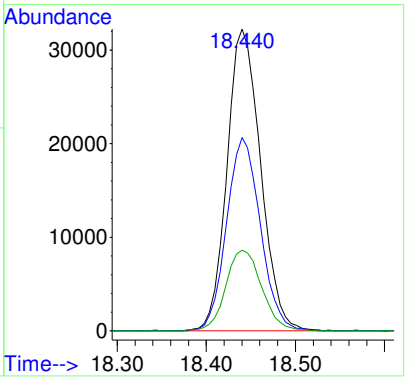


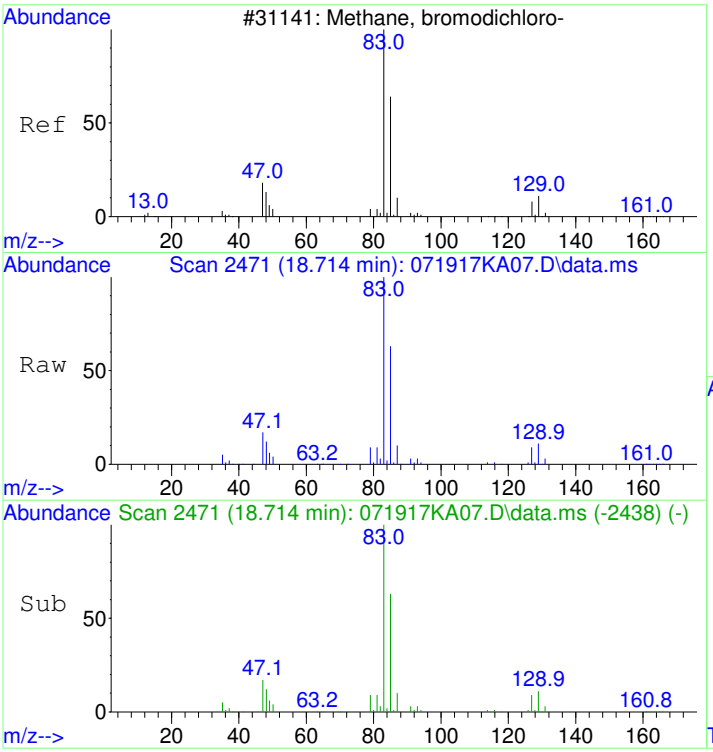



#39
1,4-Dioxane
Concen: 11.38 ppbv
RT: 18.440 min Scan# 2426
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion: 88 Resp: 84349

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 88 | 100 | | |
| 58 | 64.6 | 44.6 | 84.6 |
| 43 | 28.6 | 8.6 | 48.6 |

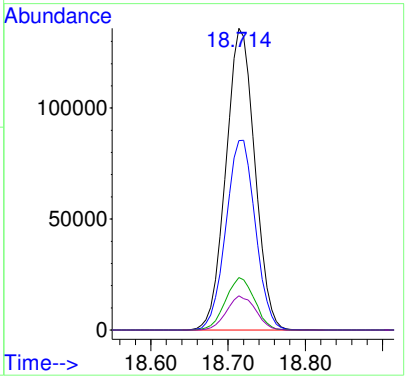


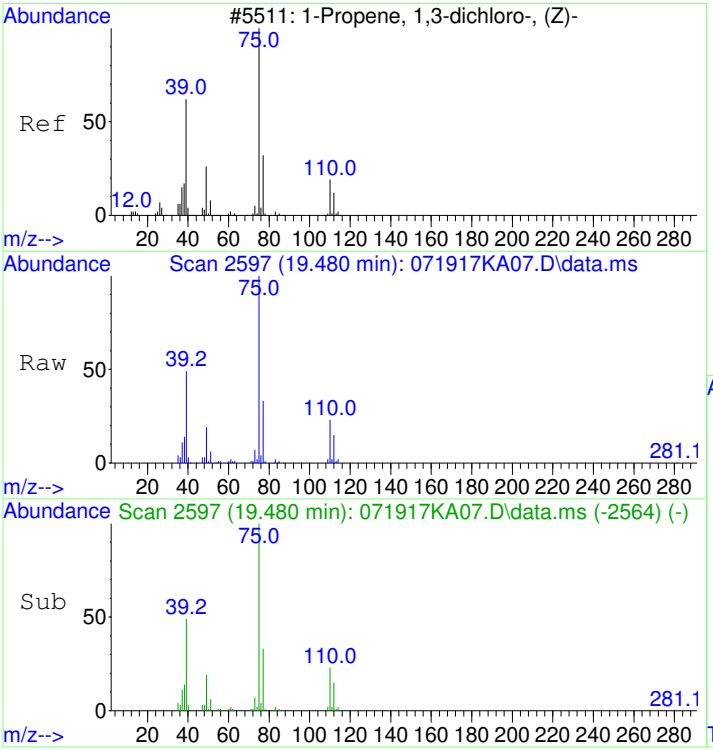




#40
Bromodichloromethane
Concen: 11.06 ppbv
RT: 18.714 min Scan# 2471
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion: 83 Resp: 353930

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 83 | 100 | | |
| 85 | 64.0 | 44.0 | 84.0 |
| 47 | 17.6 | 0.0 | 37.6 |
| 129 | 11.4 | 0.0 | 31.4 |

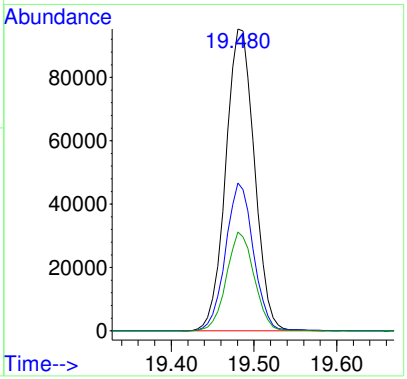


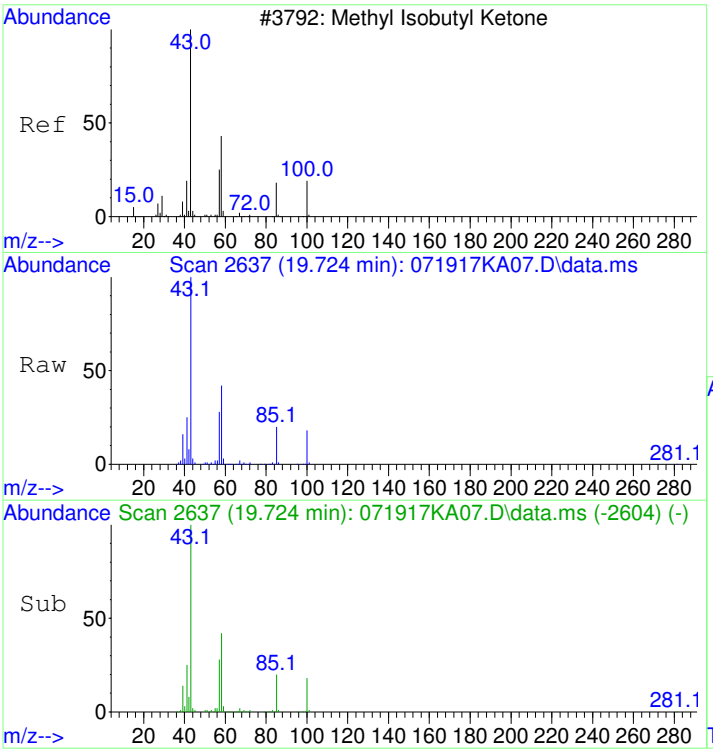



#41
cis-1,3-Dichloropropene
Concen: 11.99 ppbv
RT: 19.480 min Scan# 2597
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion: 75 Resp: 229254

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 75 | 100 | | |
| 39 | 47.7 | 27.7 | 67.7 |
| 77 | 31.6 | 11.6 | 51.6 |

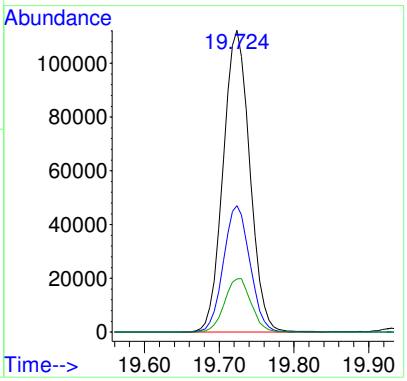


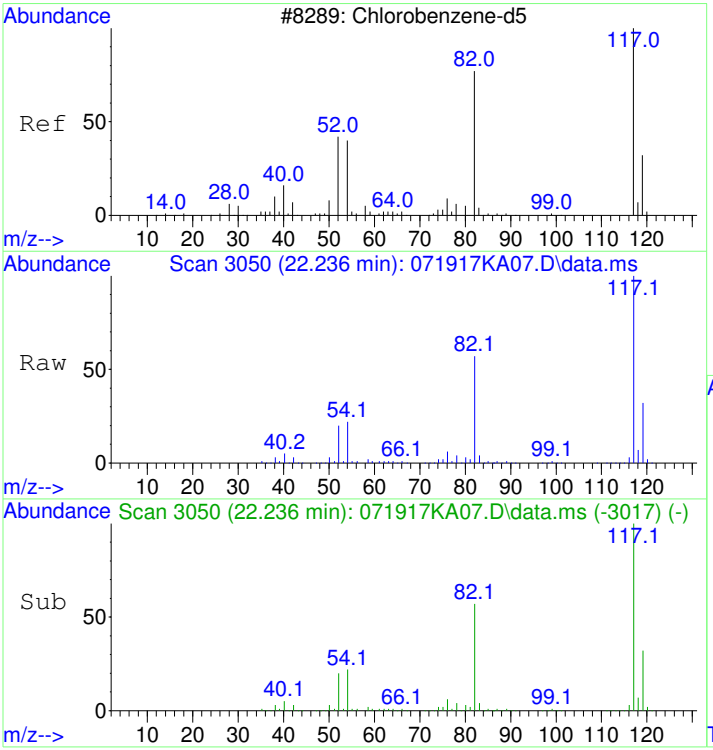




#42
4-Methyl-2-pentanone (MIBK)
Concen: 12.03 ppbv
RT: 19.724 min Scan# 2637
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion: 43 Resp: 277920

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 43 | 100 | | |
| 58 | 41.6 | 21.6 | 61.6 |
| 100 | 17.6 | 0.0 | 37.6 |

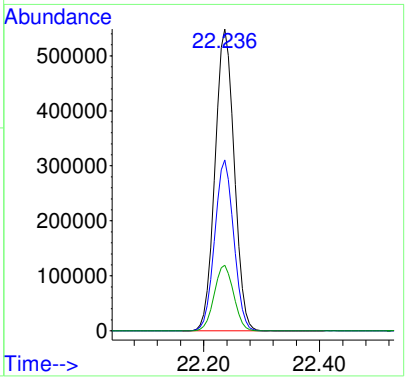


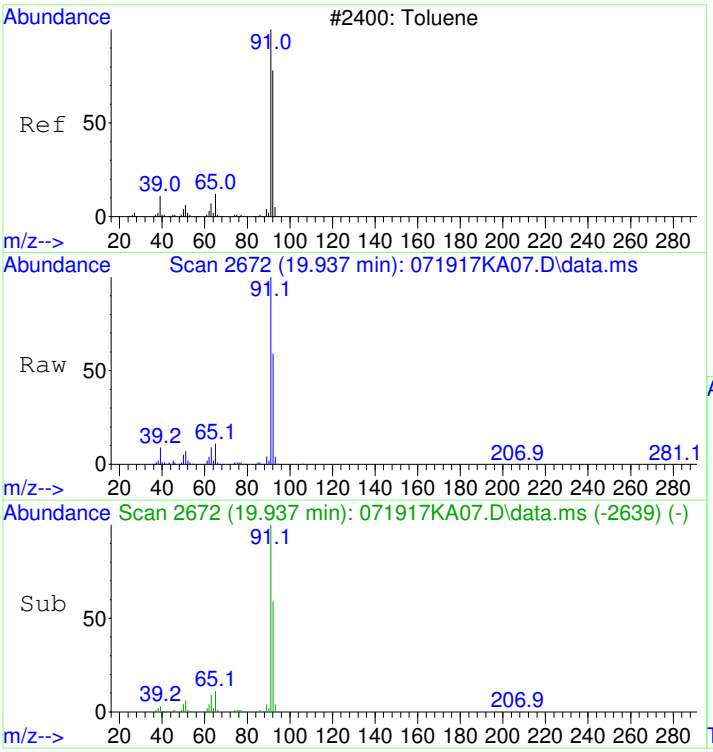



#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 22.236 min Scan# 3050
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion:117 Resp: 1264435

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 117 | 100 | | |
| 82 | 56.2 | 36.2 | 76.2 |
| 54 | 22.0 | 2.0 | 42.0 |

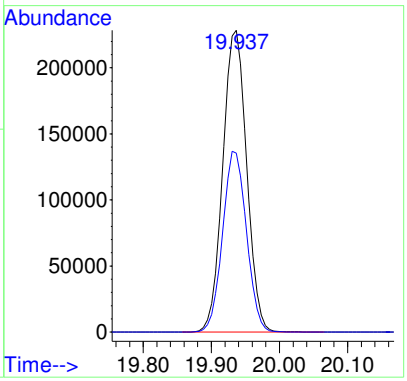


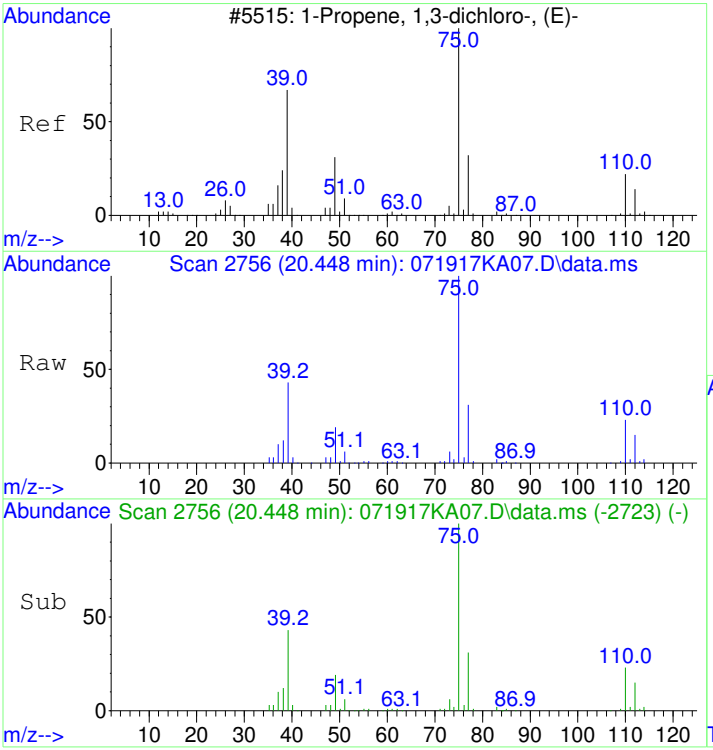




#44
Toluene
Concen: 11.87 ppbv
RT: 19.937 min Scan# 2672
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion: 91 Resp: 554990

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 91 | 100 | | |
| 92 | 59.9 | 39.9 | 79.9 |

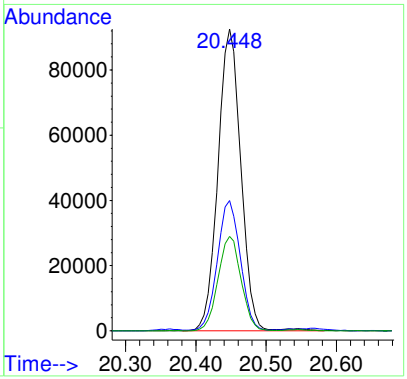


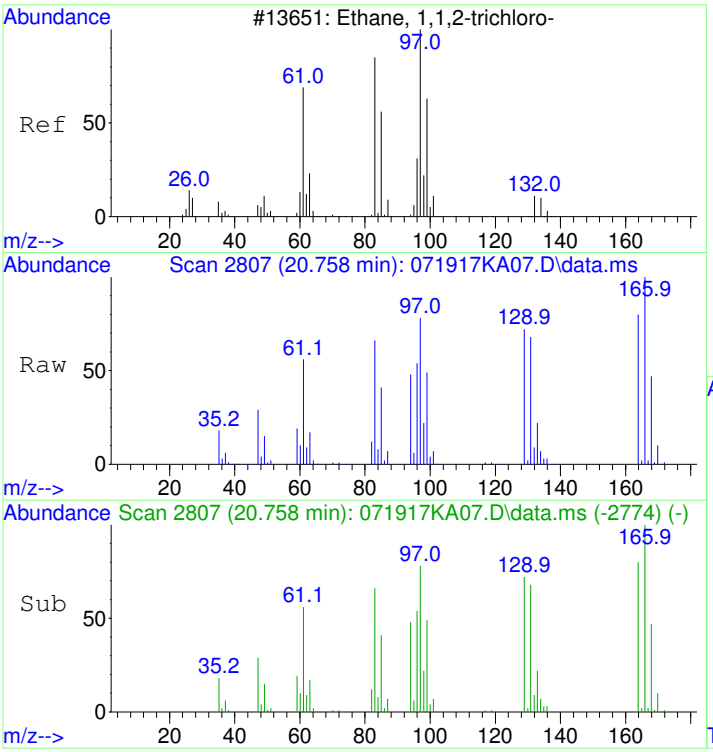



#45
trans-1,3-Dichloropropene
Concen: 10.80 ppbv
RT: 20.448 min Scan# 2756
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion: 75 Resp: 210135

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 75 | 100 | | |
| 39 | 44.8 | 24.8 | 64.8 |
| 77 | 31.4 | 11.4 | 51.4 |

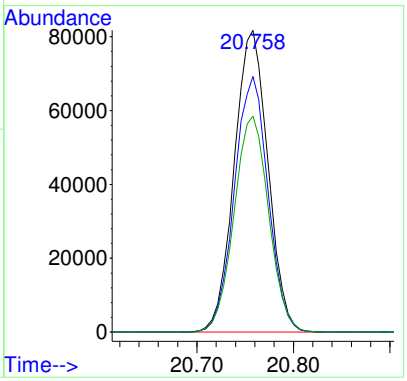


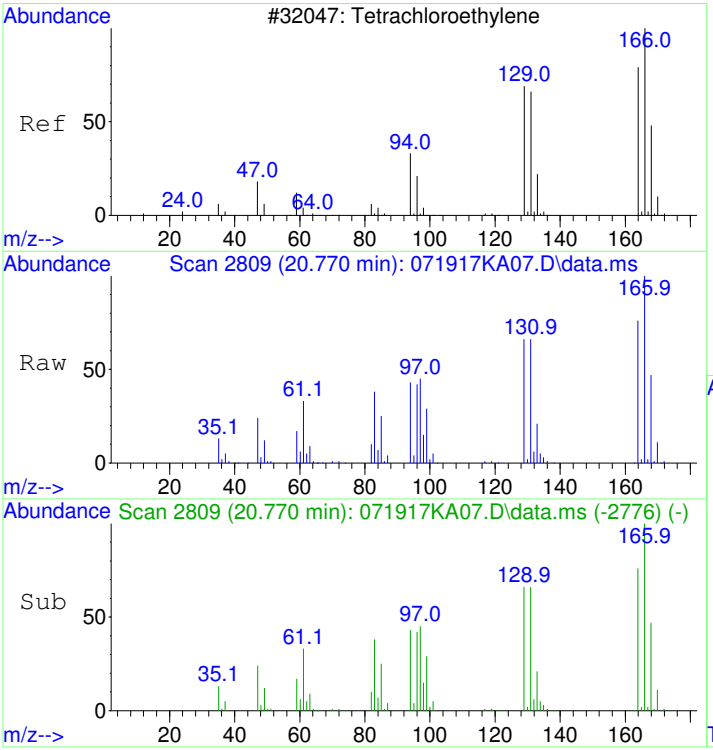




#46
1,1,2-Trichloroethane
Concen: 11.61 ppbv
RT: 20.758 min Scan# 2807
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion: 97 Resp: 198754

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 97 | 100 | | |
| 83 | 84.5 | 64.5 | 104.5 |
| 61 | 73.5 | 53.5 | 93.5 |

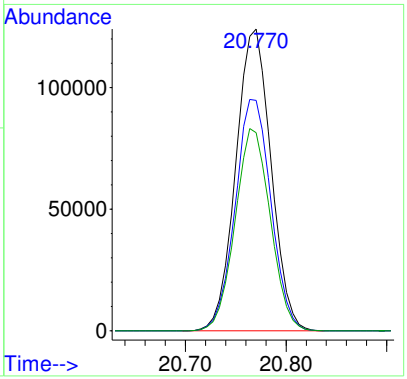


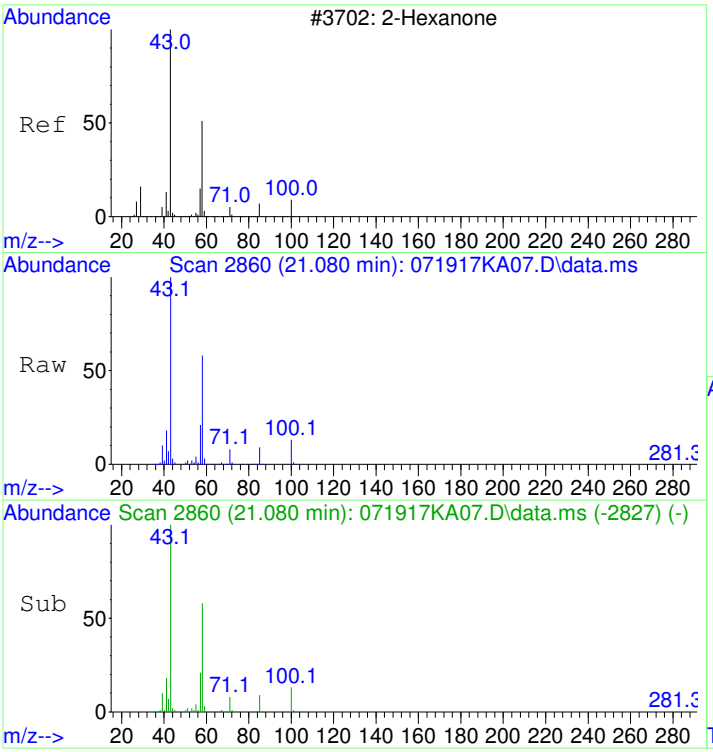



#47
Tetrachloroethene
Concen: 11.61 ppbv
RT: 20.770 min Scan# 2809
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion:166 Resp: 301309

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 166 | 100 | | |
| 164 | 77.9 | 57.9 | 97.9 |
| 131 | 67.0 | 47.0 | 87.0 |

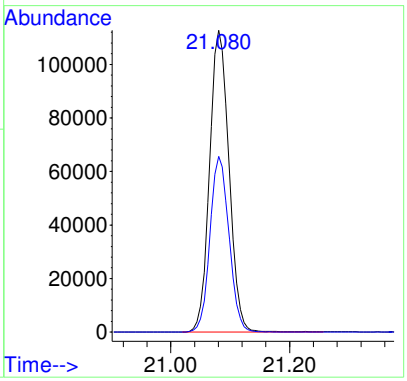


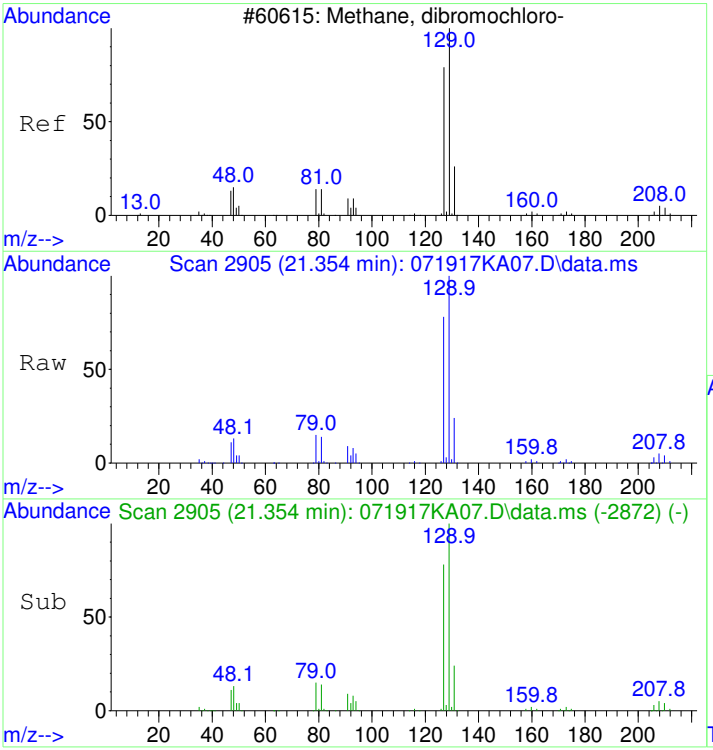




#48
2-Hexanone
Concen: 11.88 ppbv
RT: 21.080 min Scan# 2860
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion: 43 Resp: 255819

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 43 | 100 | | |
| 58 | 56.8 | 36.8 | 76.8 |

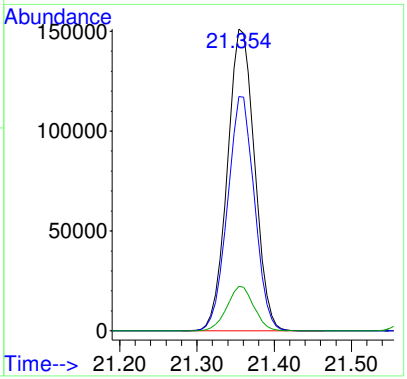


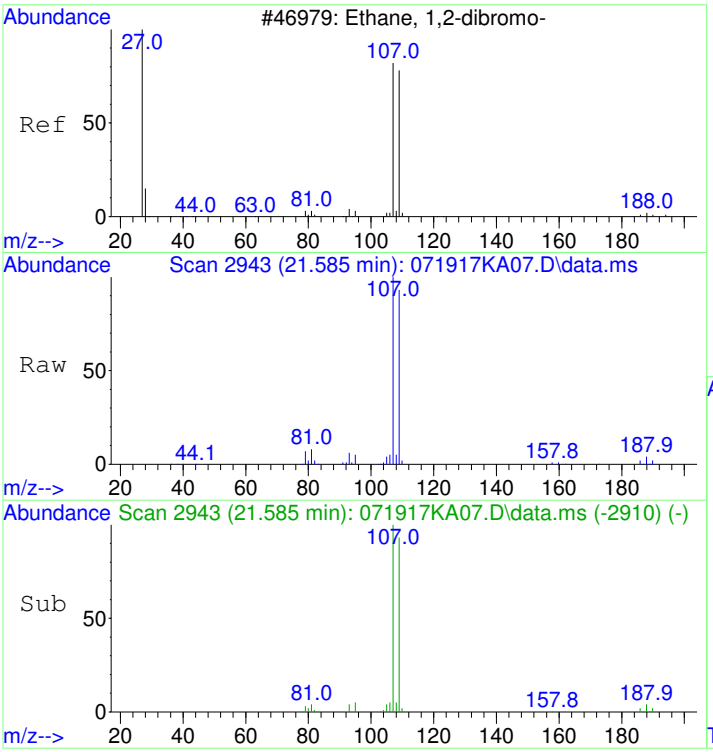



#49
Chlorodibromomethane
Concen: 11.43 ppbv
RT: 21.354 min Scan# 2905
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion:129 Resp: 370336

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 129 | 100 | | |
| 127 | 76.9 | 56.9 | 96.9 |
| 79 | 14.6 | 0.0 | 34.6 |

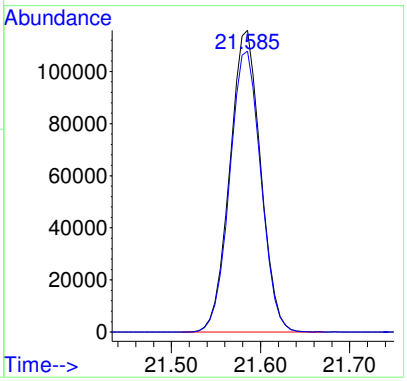


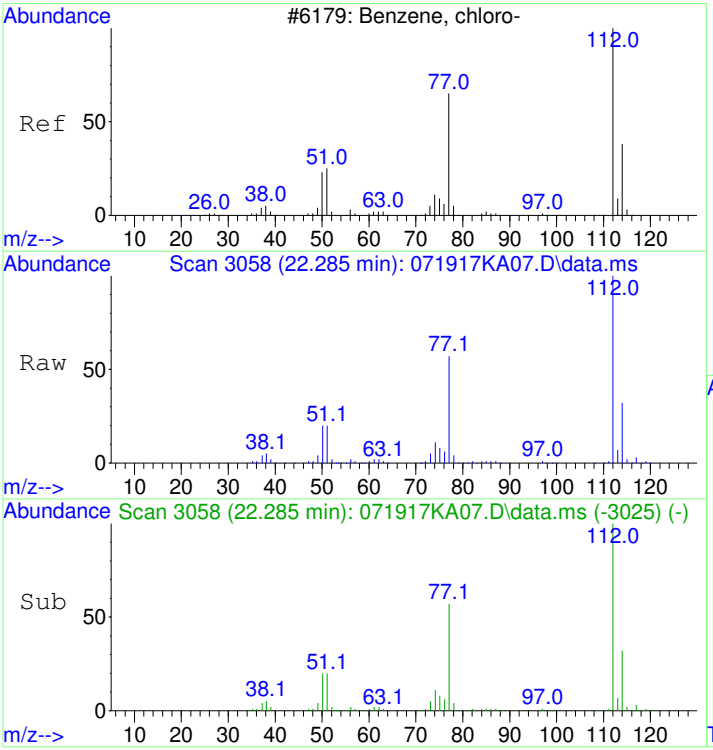




#50
1,2-Dibromoethane (EDB)
Concen: 11.76 ppbv
RT: 21.585 min Scan# 2943
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion:107 Resp: 277208

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 107 | 100 | | |
| 109 | 94.2 | 74.2 | 114.2 |

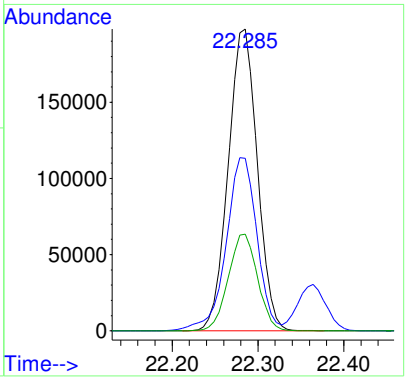


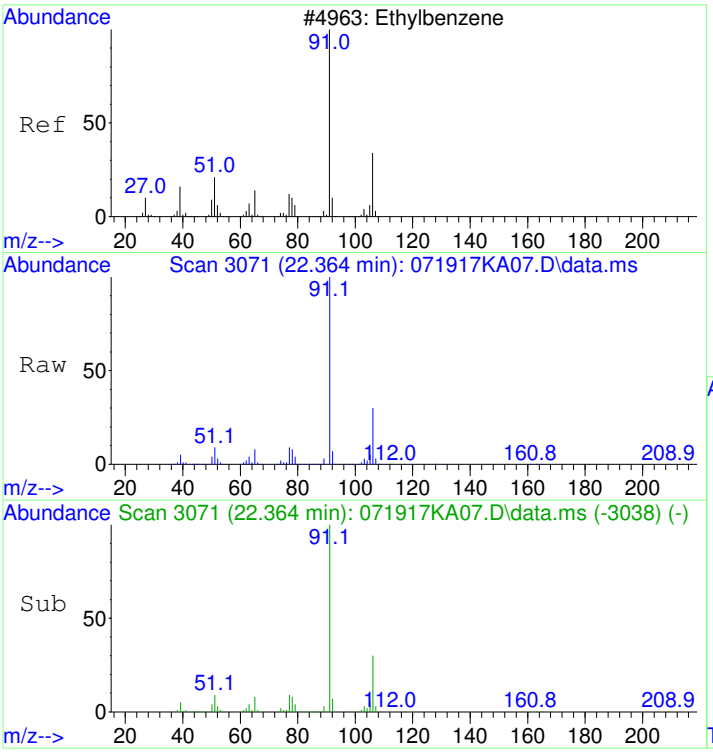



#51
Chlorobenzene
Concen: 11.38 ppbv
RT: 22.285 min Scan# 3058
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion:112 Resp: 467487

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 112 | 100 | | |
| 77 | 60.8 | 40.8 | 80.8 |
| 114 | 32.1 | 12.1 | 52.1 |

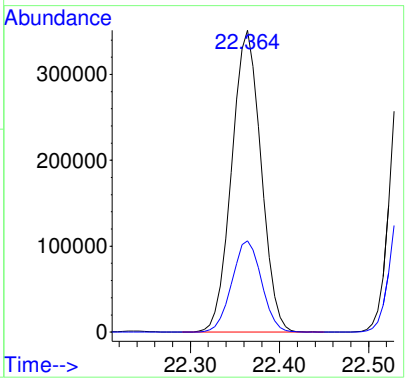


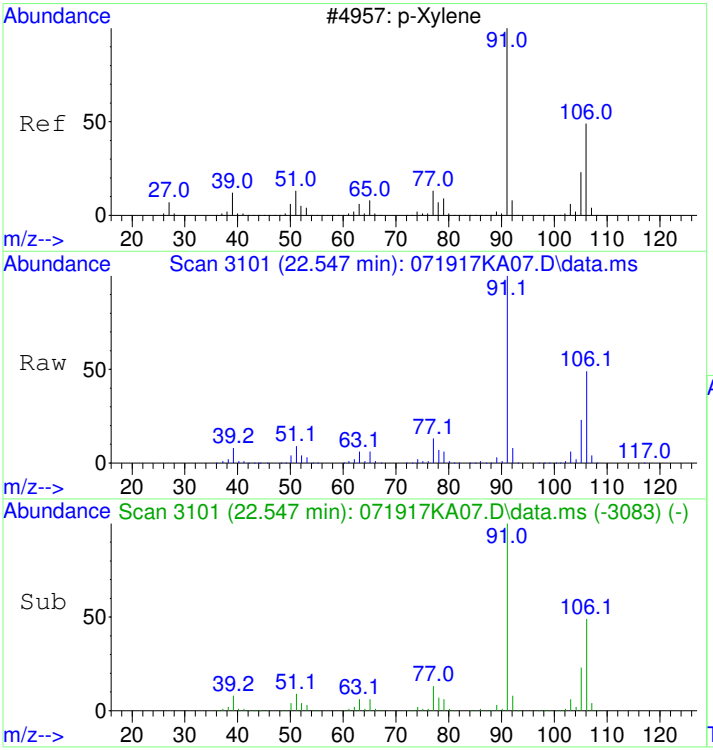




#52
Ethylbenzene
Concen: 11.78 ppbv
RT: 22.364 min Scan# 3071
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion: 91 Resp: 801525

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 91 | 100 | | |
| 106 | 30.5 | 10.5 | 50.5 |

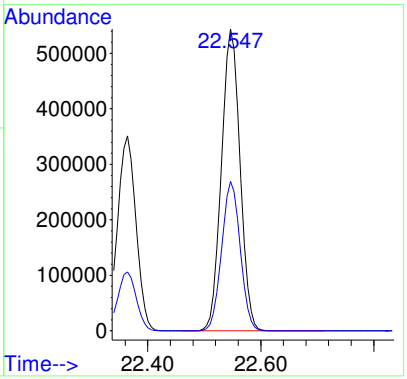


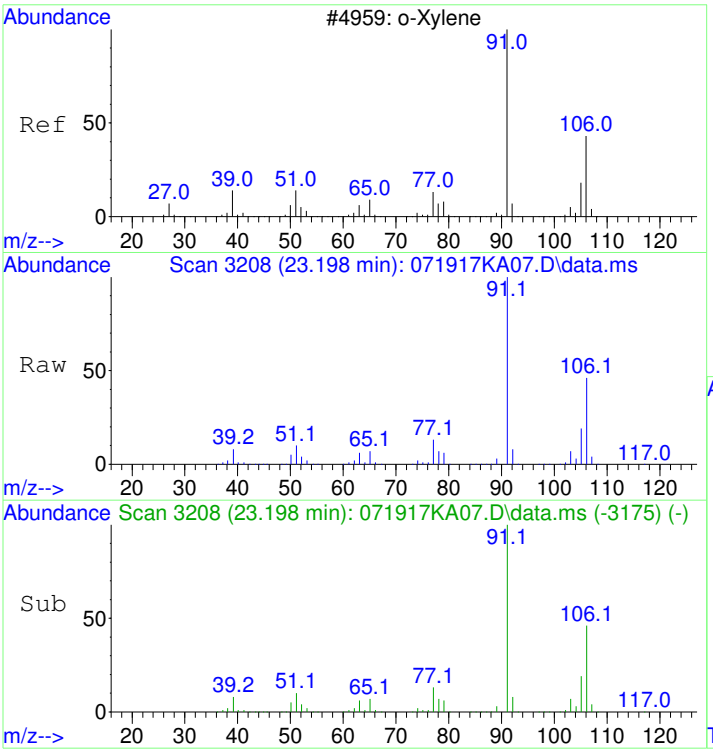



#53
m&p-Xylene
Concen: 23.65 ppbv
RT: 22.547 min Scan# 3101
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion: 91 Resp: 1243939

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 91 | 100 | | |
| 106 | 49.3 | 29.3 | 69.3 |

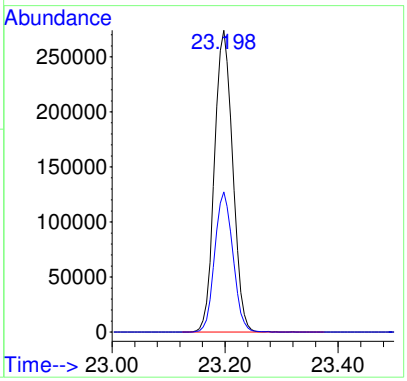


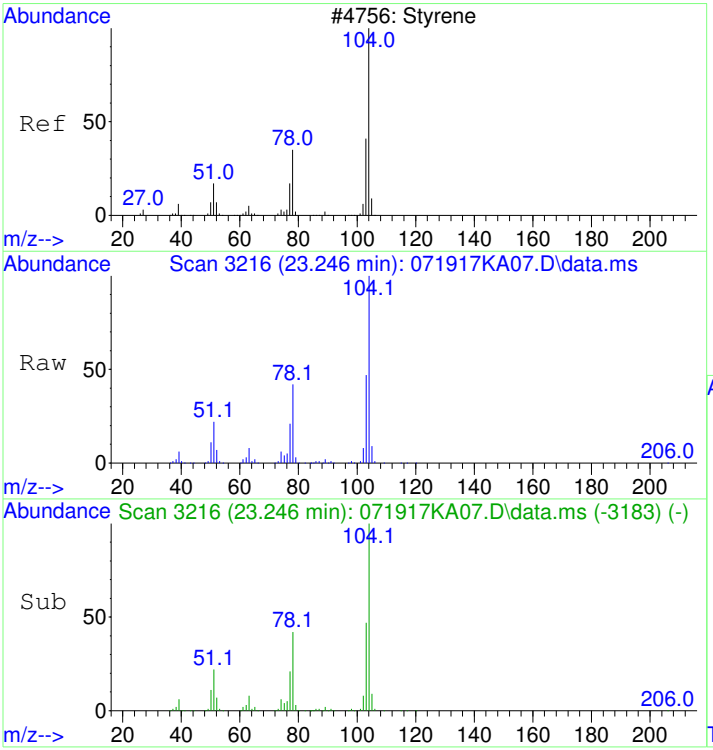




#54
o-Xylene
Concen: 12.26 ppbv
RT: 23.198 min Scan# 3208
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion: 91 Resp: 614106

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 91 | 100 | | |
| 106 | 46.3 | 26.3 | 66.3 |

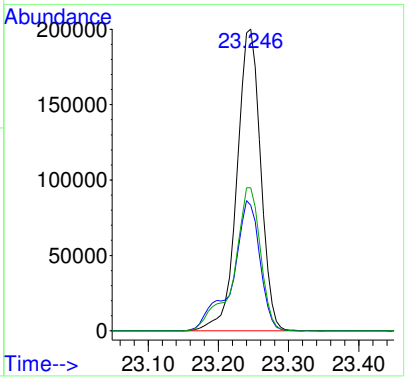


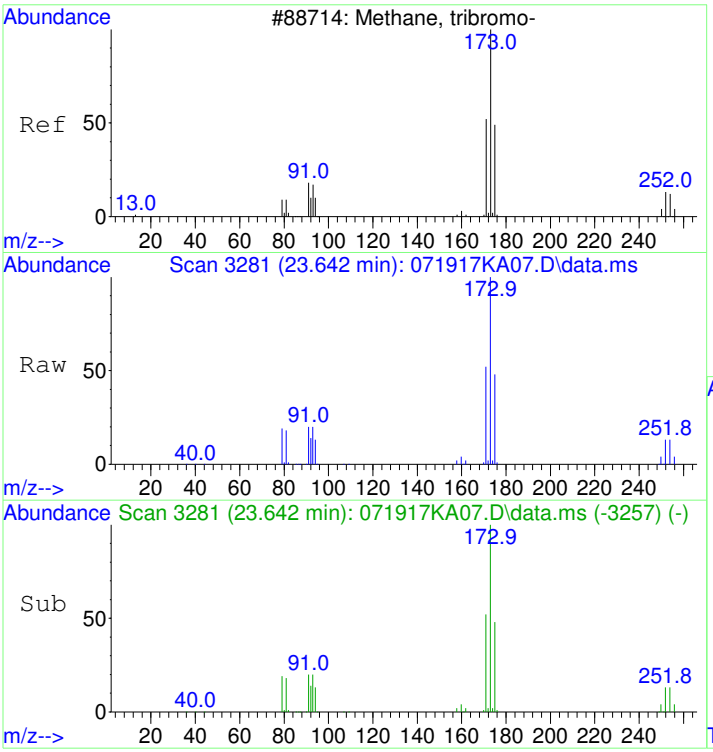



#55
Styrene
Concen: 11.45 ppbv
RT: 23.246 min Scan# 3216
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion:104 Resp: 468263

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 104 | 100 | | |
| 78 | 50.4 | 30.4 | 70.4 |
| 103 | 53.8 | 33.8 | 73.8 |

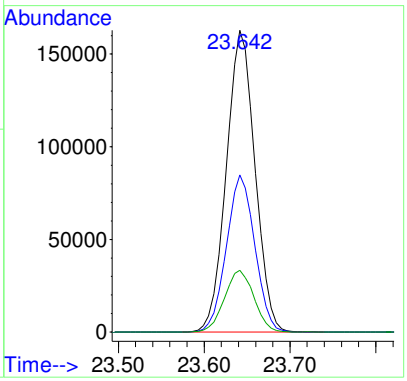


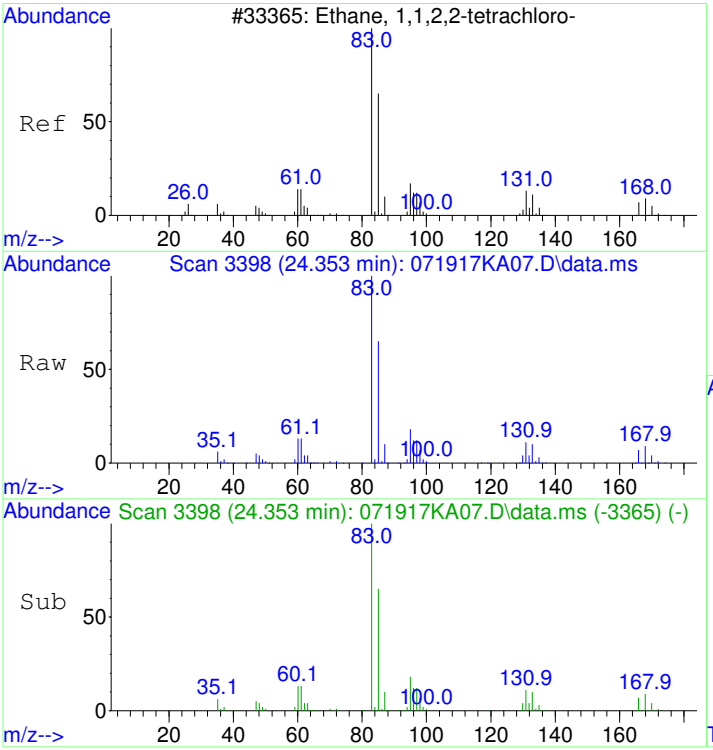




#56
Bromoform
Concen: 11.68 ppbv
RT: 23.642 min Scan# 3281
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion:173 Resp: 377104

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 173 | 100 | | |
| 171 | 51.6 | 31.6 | 71.6 |
| 91 | 21.1 | 1.1 | 41.1 |

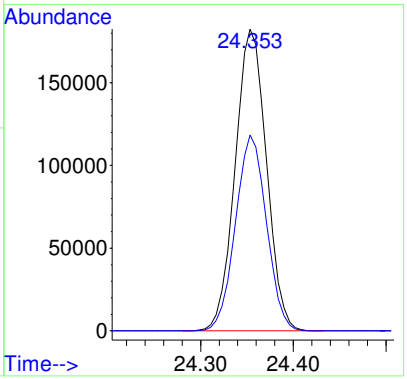


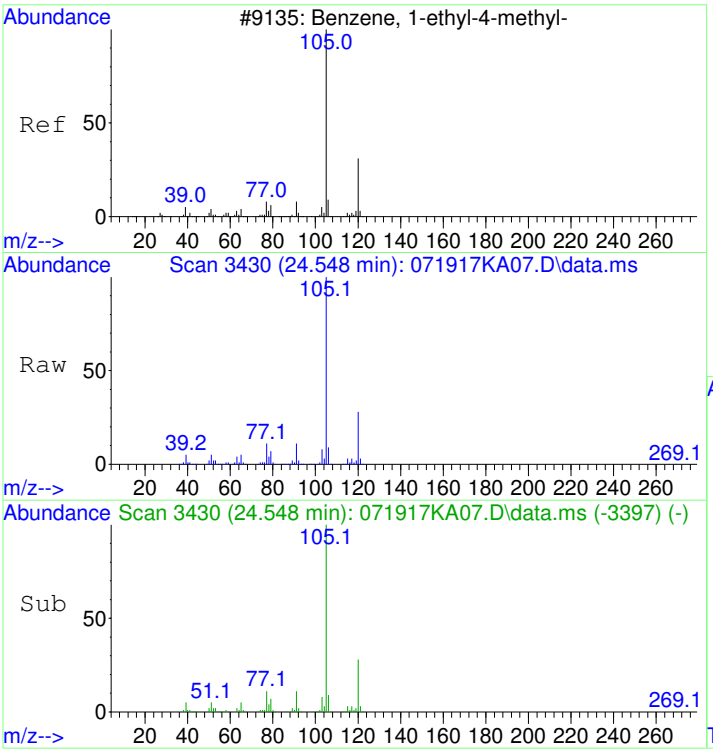



#57
1,1,2,2-Tetrachloroethane
Concen: 11.14 ppbv
RT: 24.353 min Scan# 3398
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion: 83 Resp: 428450

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 83 | 100 | | |
| 85 | 64.1 | 44.1 | 84.1 |

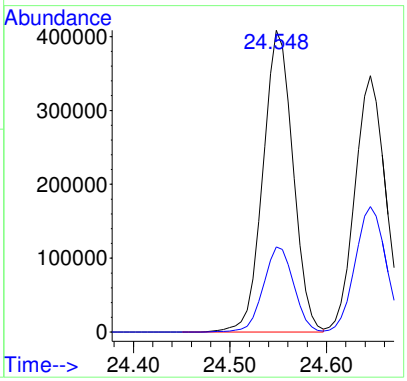


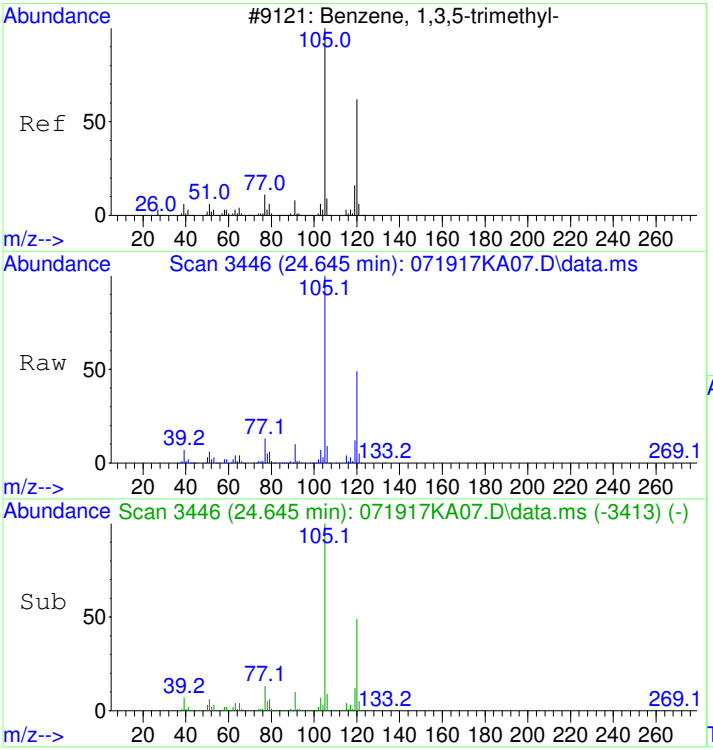




#58
4-Ethyltoluene
Concen: 12.17 ppbv
RT: 24.548 min Scan# 3430
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion:105 Resp: 879504

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 105 | 100 | | |
| 120 | 28.7 | 8.7 | 48.7 |

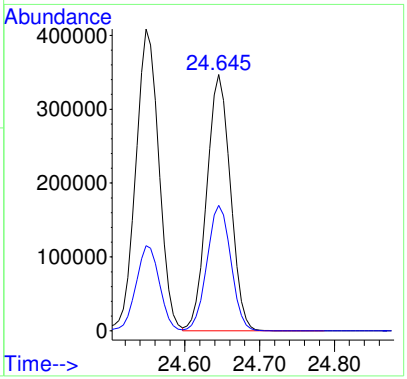


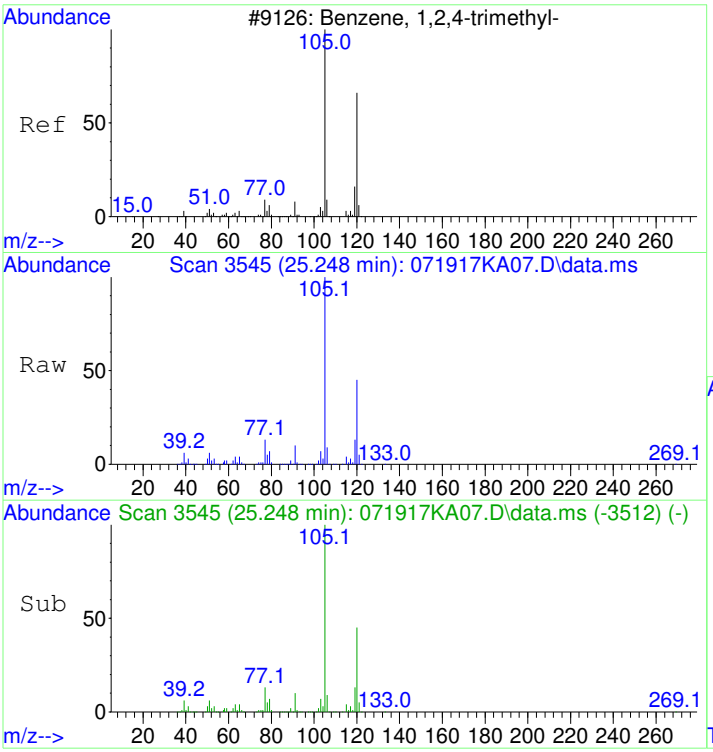



#59
1,3,5-Trimethylbenzene
Concen: 11.84 ppbv
RT: 24.645 min Scan# 3446
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion:105 Resp: 762235

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 105 | 100 | | |
| 120 | 49.4 | 29.4 | 69.4 |

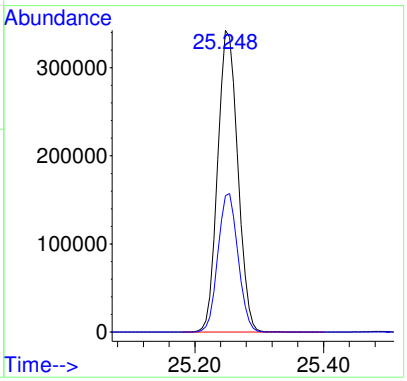


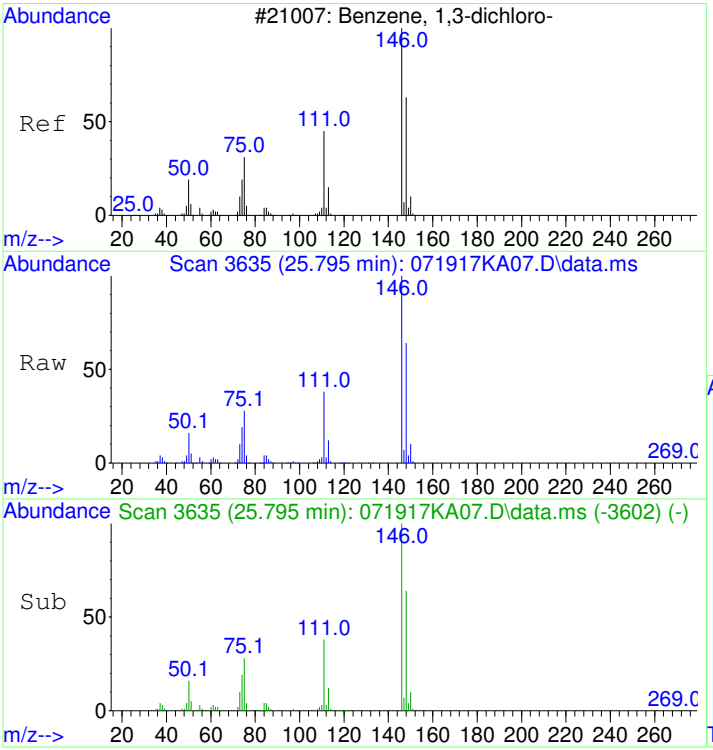




#60
1,2,4-Trimethylbenzene
Concen: 12.28 ppbv
RT: 25.248 min Scan# 3545
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion:105 Resp: 742372

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 105 | 100 | | |
| 120 | 45.9 | 25.9 | 65.9 |

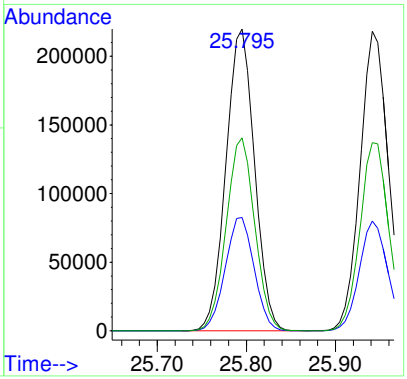


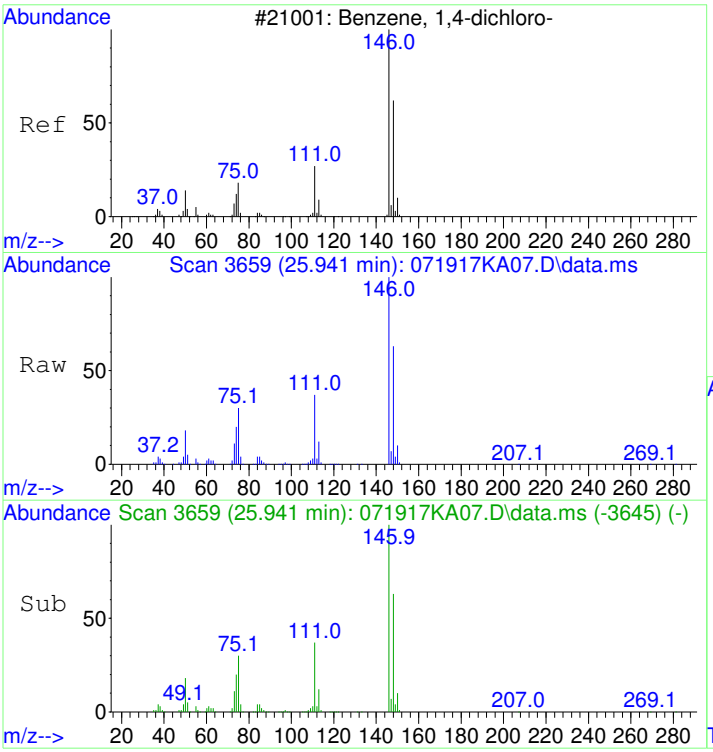



#61
1,3-Dichlorobenzene
Concen: 11.26 ppbv
RT: 25.795 min Scan# 3635
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion:146 Resp: 488560

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 146 | 100 | | |
| 111 | 38.0 | 18.0 | 58.0 |
| 148 | 63.9 | 43.9 | 83.9 |

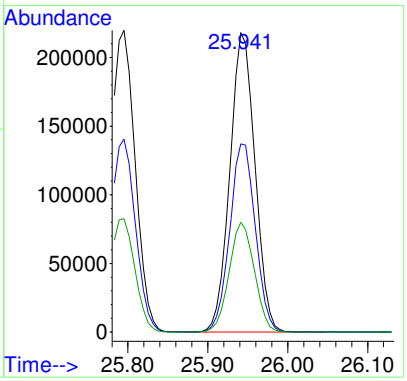


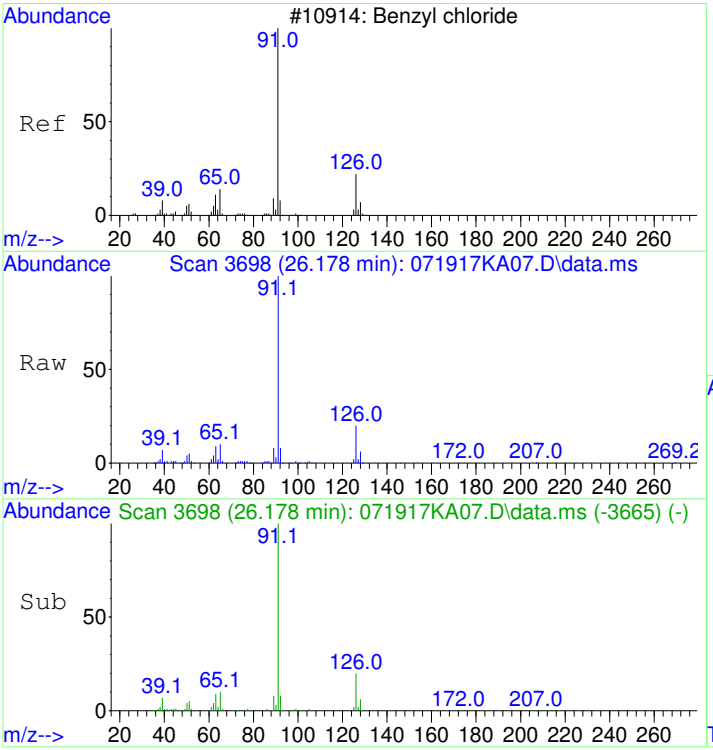




#62
1,4-Dichlorobenzene
Concen: 11.36 ppbv
RT: 25.941 min Scan# 3659
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion:146 Resp: 477001

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 146 | 100 | | |
| 148 | 64.0 | 44.0 | 84.0 |
| 111 | 36.7 | 16.7 | 56.7 |

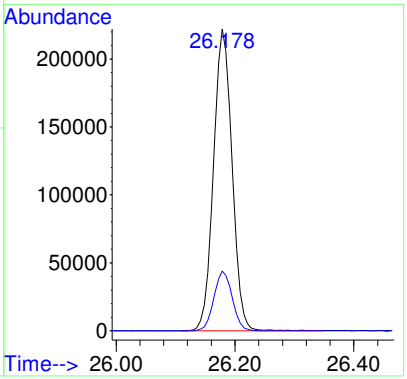


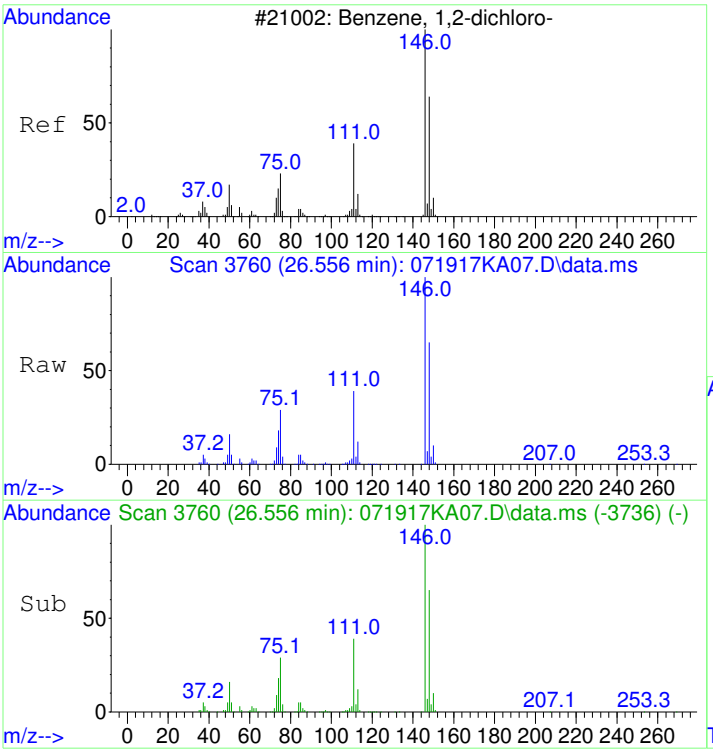



#63
Benzyl chloride
Concen: 13.00 ppbv
RT: 26.178 min Scan# 3698
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion: 91 Resp: 481705

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 91 | 100 | | |
| 126 | 19.4 | 0.0 | 39.4 |

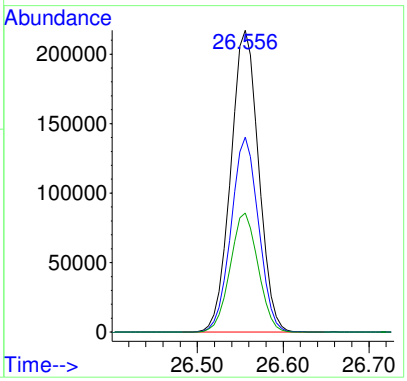


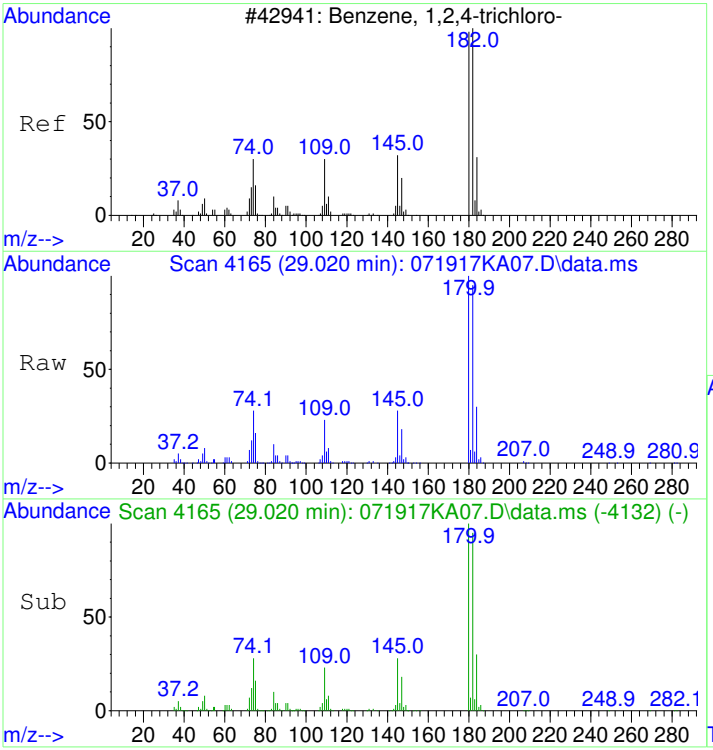




#64
1,2-Dichlorobenzene
Concen: 11.30 ppbv
RT: 26.556 min Scan# 3760
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion:146 Resp: 490260

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 146 | 100 | | |
| 148 | 63.5 | 43.5 | 83.5 |
| 111 | 39.4 | 19.4 | 59.4 |

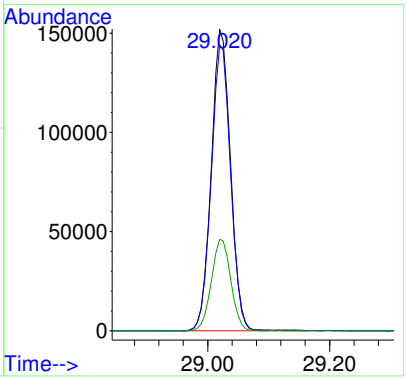


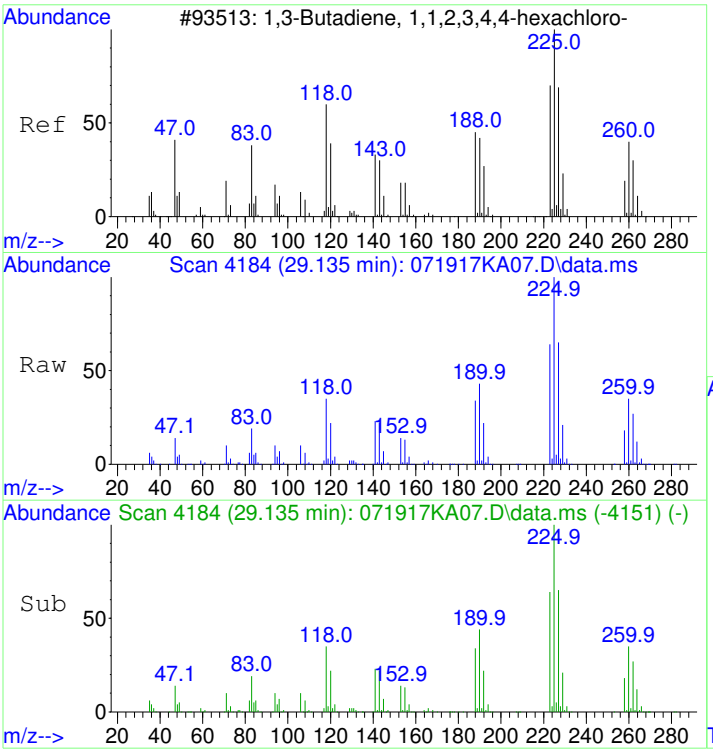



#65
1,2,4-Trichlorobenzene
Concen: 9.35 ppbv
RT: 29.020 min Scan# 4165
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion:180 Resp: 333114

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 180 | 100 | | |
| 182 | 95.4 | 75.3 | 115.3 |
| 184 | 30.6 | 10.6 | 50.6 |

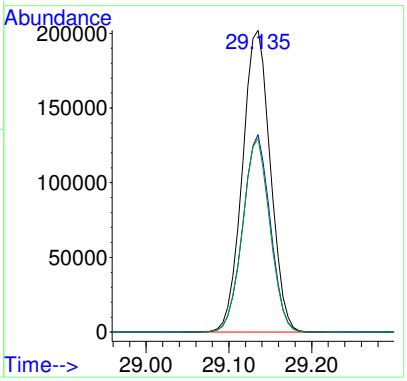



#66
Hexachlorobutadiene
Concen: 10.46 ppbv
RT: 29.135 min Scan# 4184
Delta R.T. 0.000 min
Lab File: 071917KA07.D
Acq: 19 Jul 2017 9:37 pm

Tgt Ion:225 Resp: 474827

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 225 | 100 | | |
| 227 | 64.3 | 44.3 | 84.3 |
| 223 | 62.7 | 42.7 | 82.7 |



# S17G076-CAL5

Data Path : D:\msdchem\1\2017\DATA\071917KA_FSAA\
Data File : 071917KA08.D
InstName : HP5973K
Acq On : 19 Jul 2017 10:28 pm
Operator : LLH
Sample : S17G076-CAL5
Misc : 15ppbv 1729077
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Jul 20 09:10:00 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:09:52 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) BROMOCHLOROMETHANE | 15.313 | 49 | 402628 | 19.80 | ppbv | 0.00 |
| 32) 1,4-DIFLUOROBENZENE | 17.308 | 114 | 1377920 | 19.60 | ppbv | 0.00 |
| 43) CHLOROBENZENE-d5 | 22.236 | 117 | 1303229 | 19.60 | ppbv | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 2) Propene | 4.217 | 41 | 161186 | 17.76 | ppbv | 98 |
| 3) Dichlorodifluoromethane | 4.308 | 85 | 726239 | 16.29 | ppbv | 100 |
| 4) 1,2-Dichlorotetrafluor... | 4.642 | 85 | 682817 | 15.80 | ppbv | 100 |
| 5) Chloromethane | 4.855 | 50 | 197415 | 17.25 | ppbv | 100 |
| 6) Vinyl chloride | 5.153 | 62 | 238675 | 16.89 | ppbv | 99 |
| 7) 1,3-Butadiene | 5.239 | 54 | 169028 | 16.80 | ppbv | 98 |
| 8) Bromomethane | 6.163 | 94 | 191404 | 16.17 | ppbv | 99 |
| 9) Chloroethane | 6.486 | 64 | 111280 | 15.98 | ppbv | 98 |
| 10) Bromoethene | 7.052 | 106 | 192516 | 17.09 | ppbv | 99 |
| 11) Trichlorofluoromethane | 7.149 | 101 | 644524 | 15.01 | ppbv | 100 |
| 12) 1,1,2-Trichloro-1,2,2-... | 8.901 | 151 | 338809 | 14.08 | ppbv | 100 |
| 13) 1,1-Dichloroethene | 9.035 | 61 | 302849 | 16.95 | ppbv | 99 |
| 14) Acetone | 9.680 | 43 | 307554 | 16.98 | ppbv | 99 |
| 15) Carbon disulfide | 9.716 | 76 | 589230 | 16.16 | ppbv | 100 |
| 16) 2-Propanol | 10.288 | 45 | 231063 | 18.94 | ppbv | 95 |
| 17) Allyl chloride | 10.623 | 41 | 213985 | 18.54 | ppbv | 100 |
| 18) Dichloromethane | 11.213 | 49 | 197697 | 13.34 | ppbv | 99 |
| 19) tert-Butyl methyl ethe... | 11.827 | 73 | 573062 | 18.40 | ppbv | 100 |
| 20) trans-1,2-Dichloroethene | 11.882 | 61 | 298362 | 17.12 | ppbv | 99 |
| 21) Hexane | 12.417 | 57 | 302706 | 17.67 | ppbv | 99 |
| 22) 1,1-Dichloroethane | 13.293 | 63 | 358374 | 15.06 | ppbv | 100 |
| 23) Vinyl acetate | 13.445 | 43 | 360451 | 20.57 | ppbv | 99 |
| 24) cis-1,2-Dichloroethene | 14.759 | 61 | 263781 | 17.35 | ppbv | 99 |
| 25) 2-Butanone (MEK) | 14.887 | 72 | 103473 | 17.85 | ppbv | 100 |
| 26) Ethyl acetate | 14.905 | 61 | 60741 | 17.34 | ppbv | 99 |
| 27) Tetrahydrofuran | 15.295 | 42 | 199746 | 17.16 | ppbv | 100 |
| 28) Chloroform | 15.471 | 83 | 491532 | 16.39 | ppbv | 100 |
| 29) Cyclohexane | 15.599 | 56 | 312621 | 17.59 | ppbv | 99 |
| 30) 1,1,1-Trichloroethane | 15.702 | 97 | 525933 | 15.92 | ppbv | 100 |
| 31) Carbon tetrachloride | 15.940 | 117 | 548856 | 16.01 | ppbv | 100 |
| 33) Benzene | 16.469 | 78 | 674591 | 17.17 | ppbv | 100 |
| 34) 2,2,4-Trimethylpentane | 16.347 | 57 | 976778 | 18.31 | ppbv | 99 |
| 35) 1,2-Dichloroethane | 16.718 | 62 | 344414 | 16.30 | ppbv | 100 |
| 36) Heptane | 16.743 | 43 | 337126 | 18.12 | ppbv | 99 |
| 37) Trichloroethene | 17.704 | 130 | 311340 | 18.02 | ppbv | 99 |
| 38) 1,2-Dichloropropane | 18.245 | 63 | 226159 | 17.50 | ppbv | 99 |
| 39) 1,4-Dioxane | 18.440 | 88 | 133415 | 17.60 | ppbv | 99 |
| 40) Bromodichloromethane | 18.714 | 83 | 541961 | 16.56 | ppbv | 100 |
| 41) cis-1,3-Dichloropropene | 19.480 | 75 | 361885 | 18.50 | ppbv | 100 |
| 42) 4-Methyl-2-pentanone (... | 19.724 | 43 | 431480 | 18.25 | ppbv | 99 |
| 44) Toluene | 19.937 | 91 | 861634 | 17.89 | ppbv | 100 |
| 45) trans-1,3-Dichloropropene | 20.448 | 75 | 336138 | 16.77 | ppbv | 99 |
| 46) 1,1,2-Trichloroethane | 20.758 | 97 | 305019 | 17.28 | ppbv | 99 |
| 47) Tetrachloroethene | 20.764 | 166 | 469113 | 17.53 | ppbv | 99 |
| 48) 2-Hexanone | 21.080 | 43 | 401162 | 18.08 | ppbv | 100 |
| 49) Chlorodibromomethane | 21.360 | 129 | 575463 | 17.23 | ppbv | 100 |
| 50) 1,2-Dibromoethane (EDB) | 21.585 | 107 | 433703 | 17.84 | ppbv | 100 |
| 51) Chlorobenzene | 22.285 | 112 | 715036 | 16.89 | ppbv | 100 |
| 52) Ethylbenzene | 22.364 | 91 | 1246694 | 17.77 | ppbv | 100 |
| 53) m&p-Xylene | 22.546 | 91 | 1935499 | 35.70 | ppbv | 99 |
| 54) o-Xylene | 23.197 | 91 | 962328 | 18.64 | ppbv | 99 |

Data Path : D:\msdchem\1\2017\DATA\071917KA_FSAA\
Data File : 071917KA08.D
InstName : HP5973K
Acq On : 19 Jul 2017 10:28 pm
Operator : LLH
Sample : S17G076-CAL5
Misc : 15ppbv 1729077
ALS Vial : 32 Sample Multiplier: 1

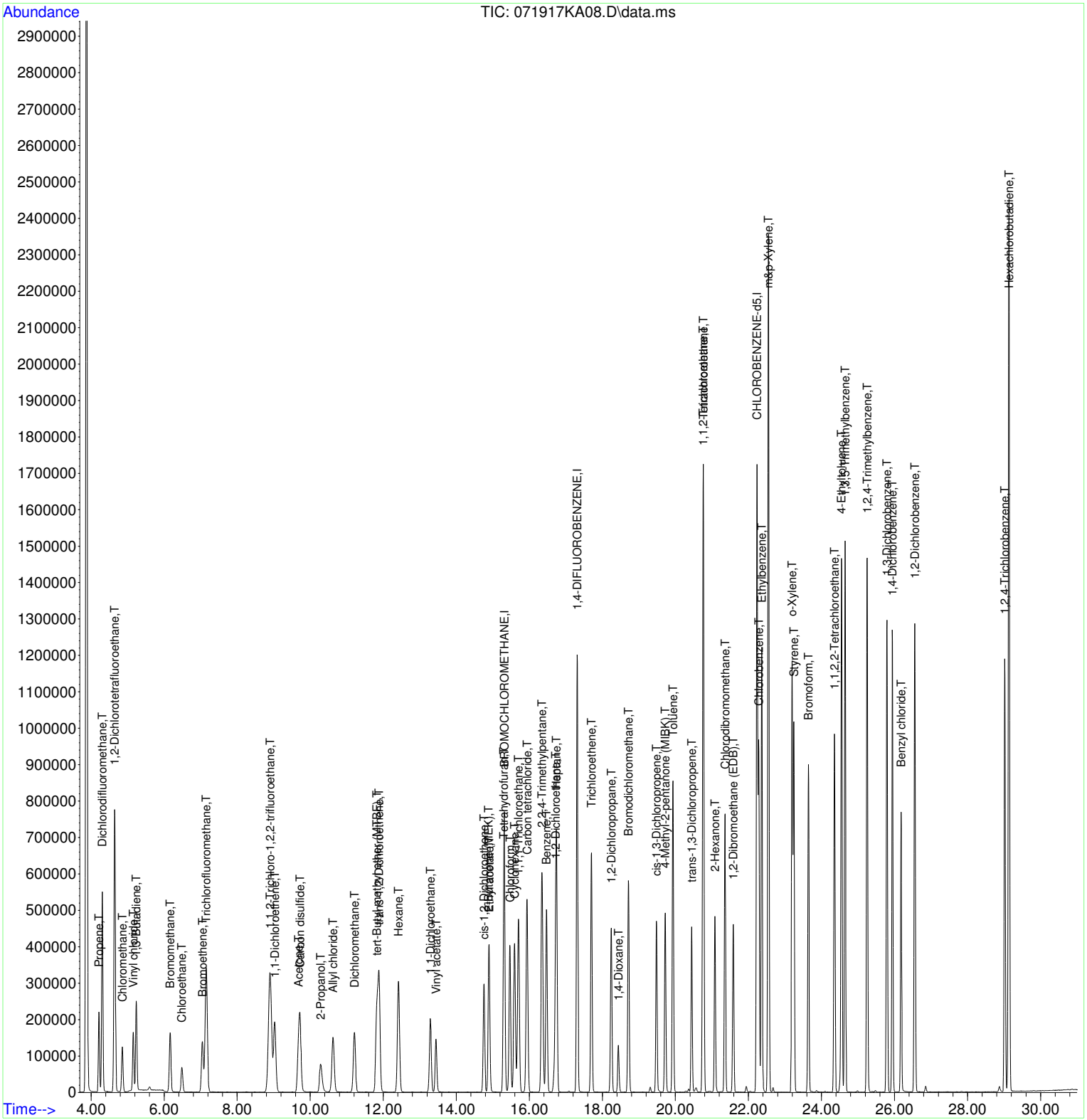
Quant Time: Jul 20 09:10:00 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:09:52 2017
Response via : Initial Calibration

| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 55) | Styrene | 23.246 | 104 | 730852 | 17.33 | ppbv | 100 |
| 56) | Bromoform | 23.641 | 173 | 597640 | 17.96 | ppbv | 100 |
| 57) | 1,1,2,2-Tetrachloroethane | 24.353 | 83 | 665252 | 16.78 | ppbv | 100 |
| 58) | 4-Ethyltoluene | 24.548 | 105 | 1386269 | 18.61 | ppbv | 100 |
| 59) | 1,3,5-Trimethylbenzene | 24.645 | 105 | 1188733 | 17.91 | ppbv | 100 |
| 60) | 1,2,4-Trimethylbenzene | 25.254 | 105 | 1167410 | 18.74 | ppbv | 100 |
| 61) | 1,3-Dichlorobenzene | 25.795 | 146 | 774341 | 17.32 | ppbv | 100 |
| 62) | 1,4-Dichlorobenzene | 25.947 | 146 | 754900 | 17.44 | ppbv | 99 |
| 63) | Benzyl chloride | 26.178 | 91 | 782641 | 20.50 | ppbv | 100 |
| 64) | 1,2-Dichlorobenzene | 26.555 | 146 | 771768 | 17.26 | ppbv | 100 |
| 65) | 1,2,4-Trichlorobenzene | 29.019 | 180 | 537093 | 14.62 | ppbv | 100 |
| 66) | Hexachlorobutadiene | 29.135 | 225 | 745329 | 15.92 | ppbv | 100 |

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

Data Path : D:\msdchem\1\2017\DATA\071917KA_FSAA\
Data File : 071917KA08.D
InstName : HP5973K
Acq On : 19 Jul 2017 10:28 pm
Operator : LLH
Sample : S17G076-CAL5
Misc : 15ppbv 1729077
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Jul 20 09:10:00 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:09:52 2017
Response via : Initial Calibration



# S17G076-CAL6

Data Path : D:\msdchem\1\2017\DATA\071917KA_FSAA\
Data File : 071917KA09.D
InstName : HP5973K
Acq On : 19 Jul 2017 11:19 pm
Operator : LLH
Sample : S17G076-CAL6
Misc : 20ppbv 1729078
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Jul 20 09:10:49 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:10:42 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) BROMOCHLOROMETHANE | 15.313 | 49 | 412629 | 19.80 | ppbv | | 0.00 |
| 32) 1,4-DIFLUOROBENZENE | 17.309 | 114 | 1429914 | 19.60 | ppbv | | 0.00 |
| 43) CHLOROBENZENE-d5 | 22.236 | 117 | 1356826 | 19.60 | ppbv | | 0.00 |
| Target Compounds | | | | | | | Qvalue |
| 2) Propene | 4.217 | 41 | 226079 | 23.77 | ppbv | | 98 |
| 3) Dichlorodifluoromethane | 4.308 | 85 | 990251 | 21.25 | ppbv | | 100 |
| 4) 1,2-Dichlorotetrafluor... | 4.643 | 85 | 933893 | 20.65 | ppbv | | 99 |
| 5) Chloromethane | 4.855 | 50 | 271600 | 22.67 | ppbv | | 100 |
| 6) Vinyl chloride | 5.154 | 62 | 327113 | 21.93 | ppbv | | 99 |
| 7) 1,3-Butadiene | 5.239 | 54 | 229347 | 21.56 | ppbv | | 100 |
| 8) Bromomethane | 6.163 | 94 | 264880 | 21.61 | ppbv | | 100 |
| 9) Chloroethane | 6.492 | 64 | 153945 | 21.25 | ppbv | | 98 |
| 10) Bromoethene | 7.046 | 106 | 270207 | 23.23 | ppbv | | 98 |
| 11) Trichlorofluoromethane | 7.155 | 101 | 879294 | 19.67 | ppbv | | 100 |
| 12) 1,1,2-Trichloro-1,2,2-... | 8.901 | 151 | 464841 | 18.67 | ppbv | | 100 |
| 13) 1,1-Dichloroethene | 9.029 | 61 | 419850 | 22.61 | ppbv | | 99 |
| 14) Acetone | 9.674 | 43 | 422884 | 22.31 | ppbv | | 99 |
| 15) Carbon disulfide | 9.716 | 76 | 812406 | 21.39 | ppbv | | 99 |
| 16) 2-Propanol | 10.288 | 45 | 327179 | 25.78 | ppbv | | 93 |
| 17) Allyl chloride | 10.629 | 41 | 297761 | 24.69 | ppbv | | 99 |
| 18) Dichloromethane | 11.213 | 49 | 271698 | 17.61 | ppbv | | 99 |
| 19) tert-Butyl methyl ethe... | 11.827 | 73 | 806470 | 25.01 | ppbv | | 100 |
| 20) trans-1,2-Dichloroethene | 11.888 | 61 | 408724 | 22.55 | ppbv | | 99 |
| 21) Hexane | 12.417 | 57 | 421633 | 23.64 | ppbv | | 98 |
| 22) 1,1-Dichloroethane | 13.287 | 63 | 498528 | 20.19 | ppbv | | 100 |
| 23) Vinyl acetate | 13.439 | 43 | 509765 | 27.76 | ppbv | | 100 |
| 24) cis-1,2-Dichloroethene | 14.753 | 61 | 367670 | 23.31 | ppbv | | 97 |
| 25) 2-Butanone (MEK) | 14.893 | 72 | 143929 | 23.83 | ppbv | | 98 |
| 26) Ethyl acetate | 14.899 | 61 | 85756 | 23.59 | ppbv | # | 95 |
| 27) Tetrahydrofuran | 15.295 | 42 | 276128 | 22.68 | ppbv | | 98 |
| 28) Chloroform | 15.465 | 83 | 673290 | 21.52 | ppbv | | 100 |
| 29) Cyclohexane | 15.599 | 56 | 434708 | 23.46 | ppbv | | 98 |
| 30) 1,1,1-Trichloroethane | 15.702 | 97 | 722014 | 20.98 | ppbv | | 99 |
| 31) Carbon tetrachloride | 15.940 | 117 | 754944 | 21.22 | ppbv | | 99 |
| 33) Benzene | 16.475 | 78 | 933527 | 22.16 | ppbv | | 99 |
| 34) 2,2,4-Trimethylpentane | 16.347 | 57 | 1357518 | 23.70 | ppbv | | 98 |
| 35) 1,2-Dichloroethane | 16.718 | 62 | 473373 | 20.89 | ppbv | | 100 |
| 36) Heptane | 16.743 | 43 | 463695 | 23.10 | ppbv | | 99 |
| 37) Trichloroethene | 17.698 | 130 | 436296 | 23.70 | ppbv | | 99 |
| 38) 1,2-Dichloropropane | 18.245 | 63 | 314078 | 22.71 | ppbv | | 98 |
| 39) 1,4-Dioxane | 18.440 | 88 | 183873 | 23.24 | ppbv | | 98 |
| 40) Bromodichloromethane | 18.714 | 83 | 745899 | 21.24 | ppbv | | 100 |
| 41) cis-1,3-Dichloropropene | 19.480 | 75 | 510709 | 24.48 | ppbv | | 100 |
| 42) 4-Methyl-2-pentanone (... | 19.724 | 43 | 595393 | 23.55 | ppbv | | 99 |
| 44) Toluene | 19.937 | 91 | 1200287 | 23.24 | ppbv | | 100 |
| 45) trans-1,3-Dichloropropene | 20.448 | 75 | 470754 | 22.12 | ppbv | | 99 |
| 46) 1,1,2-Trichloroethane | 20.758 | 97 | 429660 | 22.75 | ppbv | | 98 |
| 47) Tetrachloroethene | 20.770 | 166 | 661048 | 23.06 | ppbv | | 99 |
| 48) 2-Hexanone | 21.080 | 43 | 552885 | 23.42 | ppbv | | 98 |
| 49) Chlorodibromomethane | 21.360 | 129 | 795735 | 22.27 | ppbv | | 100 |
| 50) 1,2-Dibromoethane (EDB) | 21.585 | 107 | 605606 | 23.44 | ppbv | | 100 |
| 51) Chlorobenzene | 22.285 | 112 | 999734 | 22.22 | ppbv | | 98 |
| 52) Ethylbenzene | 22.364 | 91 | 1725406 | 22.94 | ppbv | | 100 |
| 53) m&p-Xylene | 22.547 | 91 | 2673273 | 45.90 | ppbv | | 99 |
| 54) o-Xylene | 23.197 | 91 | 1336627 | 24.09 | ppbv | | 99 |

Data Path : D:\msdchem\1\2017\DATA\071917KA_FSAA\
Data File : 071917KA09.D
InstName : HP5973K
Acq On : 19 Jul 2017 11:19 pm
Operator : LLH
Sample : S17G076-CAL6
Misc : 20ppbv 1729078
ALS Vial : 32 Sample Multiplier: 1

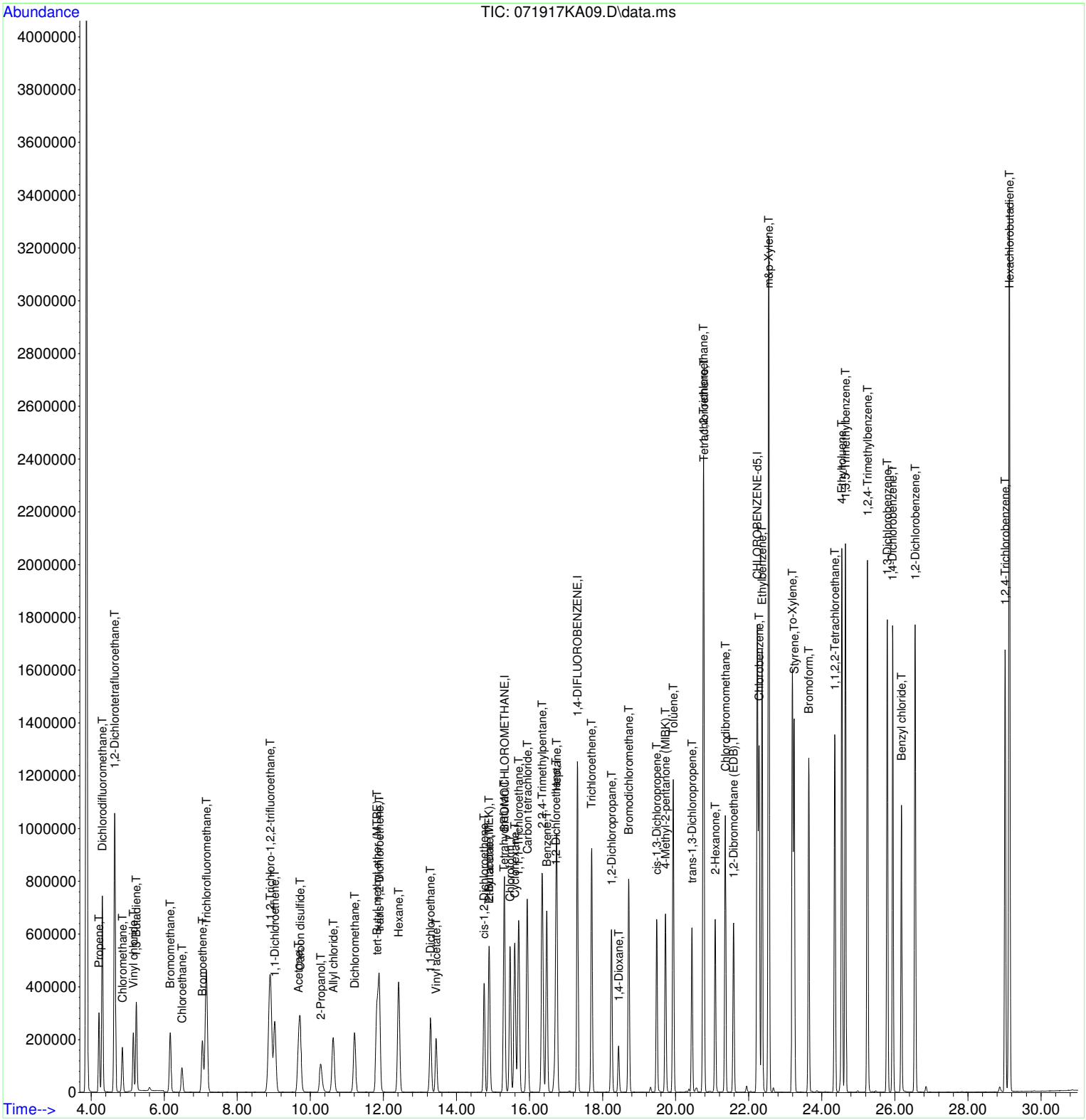
Quant Time: Jul 20 09:10:49 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:10:42 2017
Response via : Initial Calibration

| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 55) | Styrene | 23.246 | 104 | 1015736 | 22.58 | ppbv | 99 |
| 56) | Bromoform | 23.642 | 173 | 837921 | 23.56 | ppbv | 99 |
| 57) | 1,1,2,2-Tetrachloroethane | 24.353 | 83 | 928057 | 21.86 | ppbv | 100 |
| 58) | 4-Ethyltoluene | 24.548 | 105 | 1926916 | 24.16 | ppbv | 99 |
| 59) | 1,3,5-Trimethylbenzene | 24.645 | 105 | 1645432 | 23.13 | ppbv | 99 |
| 60) | 1,2,4-Trimethylbenzene | 25.254 | 105 | 1632891 | 24.52 | ppbv | 99 |
| 61) | 1,3-Dichlorobenzene | 25.795 | 146 | 1081022 | 22.86 | ppbv | 100 |
| 62) | 1,4-Dichlorobenzene | 25.941 | 146 | 1049274 | 23.01 | ppbv | 100 |
| 63) | Benzyl chloride | 26.178 | 91 | 1105705 | 27.56 | ppbv | 99 |
| 64) | 1,2-Dichlorobenzene | 26.556 | 146 | 1069515 | 22.53 | ppbv | 100 |
| 65) | 1,2,4-Trichlorobenzene | 29.019 | 180 | 766736 | 20.59 | ppbv | 100 |
| 66) | Hexachlorobutadiene | 29.135 | 225 | 1035422 | 20.71 | ppbv | 100 |

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

Data Path : D:\msdchem\1\2017\DATA\071917KA_FSAA\
Data File : 071917KA09.D
InstName : HP5973K
Acq On : 19 Jul 2017 11:19 pm
Operator : LLH
Sample : S17G076-CAL6
Misc : 20ppbv 1729078
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Jul 20 09:10:49 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:10:42 2017
Response via : Initial Calibration



# S17G076-SCV1

Data Path : D:\msdchem\1\2017\DATA\071917KA_FSAA\
Data File : 071917KA10.D
InstName : HP5973K
Acq On : 20 Jul 2017 12:10 am
Operator : LLH
Sample : S17G076-SCV1
Misc : 10ppbv 1729080
ALS Vial : 38 Sample Multiplier: 1

Quant Time: Jul 20 09:12:36 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) BROMOCHLOROMETHANE | 15.313 | 49 | 418874 | 19.80 | ppbv | | 0.00 |
| 32) 1,4-DIFLUOROBENZENE | 17.308 | 114 | 1451999 | 19.60 | ppbv | | 0.00 |
| 43) CHLOROBENZENE-d5 | 22.236 | 117 | 1368562 | 19.60 | ppbv | | 0.00 |
| Target Compounds | | | | | | | Qvalue |
| 2) Propene | 4.223 | 41 | 118248 | 11.93 | ppbv | | 99 |
| 3) Dichlorodifluoromethane | 4.308 | 85 | 549196 | 11.36 | ppbv | | 100 |
| 4) 1,2-Dichlorotetrafluor... | 4.642 | 85 | 525359 | 11.21 | ppbv | | 99 |
| 5) Chloromethane | 4.855 | 50 | 148887 | 11.98 | ppbv | | 100 |
| 6) Vinyl chloride | 5.153 | 62 | 184742 | 11.84 | ppbv | | 98 |
| 7) 1,3-Butadiene | 5.239 | 54 | 120488 | 10.82 | ppbv | | 99 |
| 8) Bromomethane | 6.169 | 94 | 153211 | 12.15 | ppbv | | 100 |
| 9) Chloroethane | 6.492 | 64 | 89910 | 12.02 | ppbv | | 98 |
| 10) Bromoethene | 7.052 | 106 | 142799 | 11.97 | ppbv | | 100 |
| 11) Trichlorofluoromethane | 7.155 | 101 | 487004 | 10.54 | ppbv | | 100 |
| 12) 1,1,2-Trichloro-1,2,2-... | 8.901 | 151 | 259539 | 10.15 | ppbv | | 99 |
| 13) 1,1-Dichloroethene | 9.029 | 61 | 226985 | 11.84 | ppbv | | 99 |
| 14) Acetone | 9.680 | 43 | 229546 | 11.67 | ppbv | | 99 |
| 15) Carbon disulfide | 9.716 | 76 | 430310 | 10.95 | ppbv | | 100 |
| 16) 2-Propanol | 10.294 | 45 | 128362 | 9.80 | ppbv | | 100 |
| 17) Allyl chloride | 10.623 | 41 | 156891 | 12.53 | ppbv | | 100 |
| 18) Dichloromethane | 11.207 | 49 | 152868 | 9.59 | ppbv | | 98 |
| 19) tert-Butyl methyl ethe... | 11.839 | 73 | 425619 | 12.81 | ppbv | | 100 |
| 20) trans-1,2-Dichloroethene | 11.888 | 61 | 218068 | 11.64 | ppbv | | 98 |
| 21) Hexane | 12.417 | 57 | 227970 | 12.36 | ppbv | | 98 |
| 22) 1,1-Dichloroethane | 13.293 | 63 | 273776 | 10.75 | ppbv | | 100 |
| 23) Vinyl acetate | 13.445 | 43 | 87189 | 4.57 | ppbv | | 100 |
| 24) cis-1,2-Dichloroethene | 14.753 | 61 | 202370 | 12.44 | ppbv | | 97 |
| 25) 2-Butanone (MEK) | 14.887 | 72 | 75988 | 12.16 | ppbv | | 99 |
| 26) Ethyl acetate | 14.905 | 61 | 46263 | 12.27 | ppbv | # | 92 |
| 27) Tetrahydrofuran | 15.295 | 42 | 144561 | 11.46 | ppbv | | 99 |
| 28) Chloroform | 15.471 | 83 | 371607 | 11.47 | ppbv | | 100 |
| 29) Cyclohexane | 15.593 | 56 | 233490 | 12.17 | ppbv | | 99 |
| 30) 1,1,1-Trichloroethane | 15.702 | 97 | 398906 | 11.19 | ppbv | | 99 |
| 31) Carbon tetrachloride | 15.934 | 117 | 414286 | 11.28 | ppbv | | 99 |
| 33) Benzene | 16.475 | 78 | 514658 | 11.64 | ppbv | | 99 |
| 34) 2,2,4-Trimethylpentane | 16.347 | 57 | 718423 | 11.94 | ppbv | | 99 |
| 35) 1,2-Dichloroethane | 16.718 | 62 | 260138 | 10.93 | ppbv | | 100 |
| 36) Heptane | 16.743 | 43 | 242211 | 11.46 | ppbv | | 98 |
| 37) Trichloroethene | 17.704 | 130 | 239519 | 12.46 | ppbv | | 99 |
| 38) 1,2-Dichloropropane | 18.239 | 63 | 172798 | 11.93 | ppbv | | 98 |
| 39) 1,4-Dioxane | 18.440 | 88 | 111402 | 13.78 | ppbv | | 99 |
| 40) Bromodichloromethane | 18.714 | 83 | 398174 | 10.79 | ppbv | | 99 |
| 41) cis-1,3-Dichloropropene | 19.480 | 75 | 273217 | 12.52 | ppbv | | 100 |
| 42) 4-Methyl-2-pentanone (... | 19.724 | 43 | 330787 | 12.52 | ppbv | | 100 |
| 44) Toluene | 19.937 | 91 | 657222 | 12.26 | ppbv | | 100 |
| 45) trans-1,3-Dichloropropene | 20.448 | 75 | 253842 | 11.59 | ppbv | | 99 |
| 46) 1,1,2-Trichloroethane | 20.758 | 97 | 230276 | 11.74 | ppbv | | 99 |
| 47) Tetrachloroethene | 20.770 | 166 | 352784 | 11.85 | ppbv | | 100 |
| 48) 2-Hexanone | 21.080 | 43 | 295959 | 12.20 | ppbv | | 99 |
| 49) Chlorodibromomethane | 21.354 | 129 | 414451 | 11.20 | ppbv | | 100 |
| 50) 1,2-Dibromoethane (EDB) | 21.585 | 107 | 325356 | 12.22 | ppbv | | 100 |
| 51) Chlorobenzene | 22.285 | 112 | 546104 | 11.78 | ppbv | | 99 |
| 52) Ethylbenzene | 22.364 | 91 | 934239 | 11.96 | ppbv | | 100 |
| 53) m&p-Xylene | 22.546 | 91 | 1438827 | 23.77 | ppbv | | 99 |
| 54) o-Xylene | 23.197 | 91 | 712980 | 12.34 | ppbv | | 99 |

Data Path : D:\msdchem\1\2017\DATA\071917KA_FSAA\
Data File : 071917KA10.D
InstName : HP5973K
Acq On : 20 Jul 2017 12:10 am
Operator : LLH
Sample : S17G076-SCV1
Misc : 10ppbv 1729080
ALS Vial : 38 Sample Multiplier: 1

Quant Time: Jul 20 09:12:36 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 55) Styrene | 23.246 | 104 | 540361 | 11.63 ppbv | 99 |
| 56) Bromoform | 23.641 | 173 | 421282 | 11.43 ppbv | 100 |
| 57) 1,1,2,2-Tetrachloroethane | 24.353 | 83 | 480975 | 10.91 ppbv | 100 |
| 58) 4-Ethyltoluene | 24.548 | 105 | 1023717 | 12.37 ppbv | 99 |
| 59) 1,3,5-Trimethylbenzene | 24.645 | 105 | 871213 | 11.80 ppbv | 99 |
| 60) 1,2,4-Trimethylbenzene | 25.254 | 105 | 836317 | 12.11 ppbv | 100 |
| 61) 1,3-Dichlorobenzene | 25.795 | 146 | 576887 | 11.90 ppbv | 100 |
| 62) 1,4-Dichlorobenzene | 25.941 | 146 | 571281 | 12.28 ppbv | 99 |
| 63) Benzyl chloride | 26.178 | 91 | 492445 | 12.06 ppbv | 100 |
| 64) 1,2-Dichlorobenzene | 26.555 | 146 | 570593 | 11.70 ppbv | 100 |
| 65) 1,2,4-Trichlorobenzene | 29.019 | 180 | 413816 | 11.31 ppbv | 99 |
| 66) Hexachlorobutadiene | 29.135 | 225 | 516462 | 9.97 ppbv | 100 |

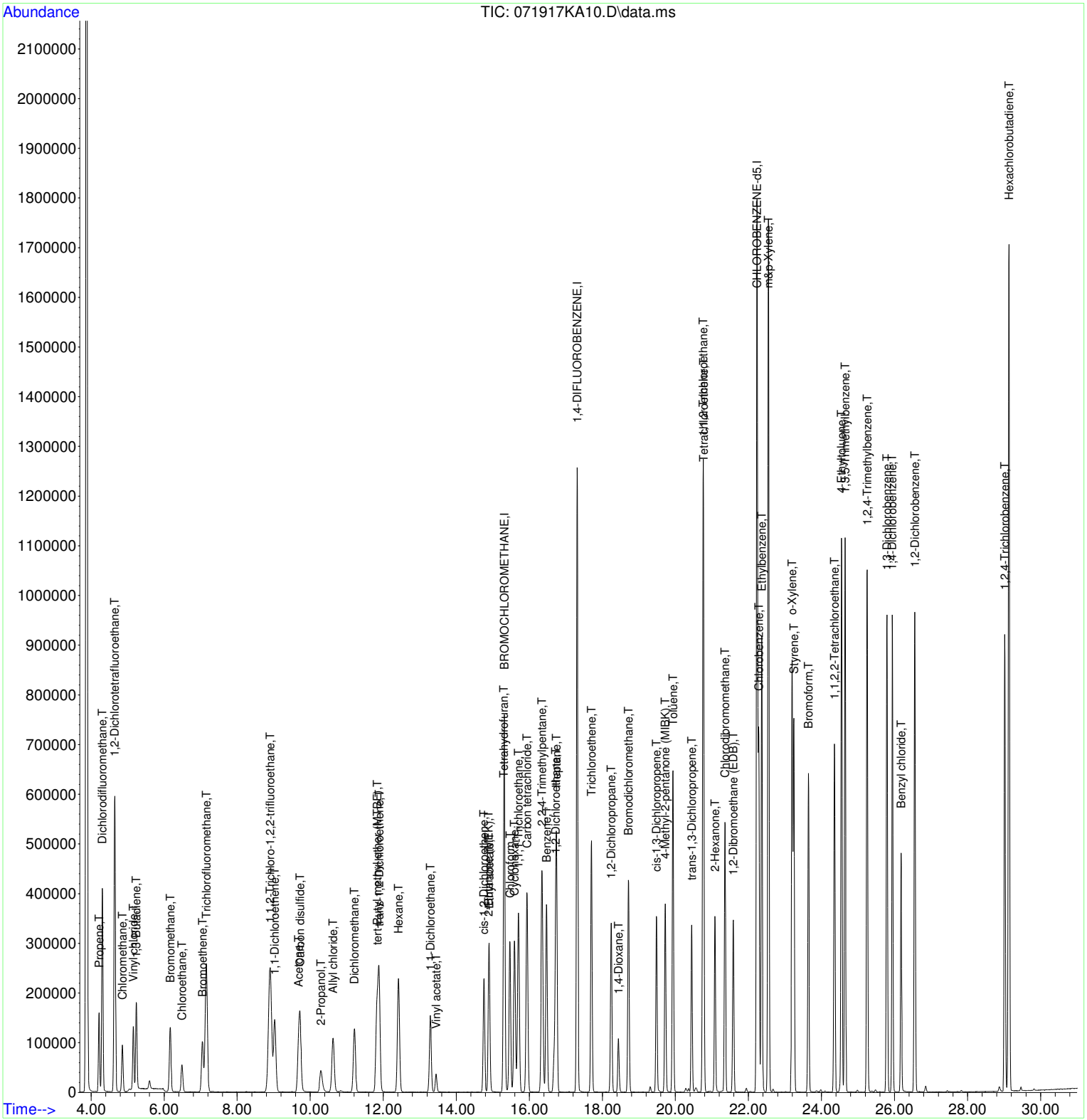
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\071917KA_FSAA\
Data File : 071917KA10.D
InstName : HP5973K
Acq On : 20 Jul 2017 12:10 am
Operator : LLH
Sample : S17G076-SCV1
Misc : 10ppbv 1729080
ALS Vial : 38 Sample Multiplier: 1

Quant Time: Jul 20 09:12:36 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration



# SEQUENCE

# S17G091

# ANALYST / REVIEWER - DATA REVIEW CHECKLIST

| | | | |
|---|---|---|---|
| BATCH #: | B17G071 | SEQUENCE #: | S17G091 07/20/17 |
| BATCH #: | N / A | ANALYSIS: | TO15 HP5973K |

| | CHECKLIST ITEM | N/A | ANALYST Y/N | REVIEWER Y/N | IDENTIFY OUTLIERS / COMMENTS |
|---|---|---|---|---|---|
| DOCUMENTATION | ANALYST: Bench sheet(s) attached?<br>REVIEWER: Bench sheet(s) reviewed? | ☐ | Y | Y | |
| | ANALYST: Sequence log(s) attached?<br>REVIEWER: Sequence log(s) reviewed? | ☐ | Y | Y | |
| | ANALYST: Every run has a PDF in LIMS?<br>REVIEWER: Every PDF reviewed? | ☐ | Y | Y | |
| INITIAL CALIBRATION | Date of Initial Calibration used:<br>If applicable, note date of "Last Update" in Comments. | 07/19/2017<br>Thur July 20, 2017 09:11:28 | | | ICAL : Benzyl chloride<br>SCV : Vinyl Acetate; 1,4-Dioxane |
| | Initial Calibration ID (LIMS number): | 1707015 | | | |
| | ICAL within QC criteria? | ☑ | | | |
| | SCV within QC criteria? | ☑ | | | |
| INSTRUMENT / QC CHECKS | Tune or degradation checks within QC criteria? | ☐ | Y | Y | PASSED |
| | CCV(s) within QC criteria? | ☐ | Y | Y | OK |
| | QLS(s) within QC criteria? | ☐ | Y | Y | Benzyl chloride = 45% |
| | CB(s) or storage blank(s) within QC criteria? | ☑ | | | |
| | Other instrument checks within QC criteria?<br>Specify if applicable. | ☑ | | | |
| BATCH QCs | Method blanks < 1/2 QL? | ☐ | Y | Y | CLEAN |
| | LCS(s) or SRM(s) within QC criteria? | ☐ | Y | Y | OK |
| | MSs/MSDs and/or DUPs within QC criteria? | ☐ | Y | Y | |
| | Other method-specific QCs within QC criteria?<br>Specify if applicable. | ☑ | | | |

# ANALYST / REVIEWER - DATA REVIEW CHECKLIST

| | | | |
|---|---|---|---|
| BATCH #: | B17G071 | SEQUENCE #: | S17G091 07/20/17 |
| BATCH #: | N / A | ANALYSIS: | TO15 HP5973K |

| | CHECKLIST ITEM | N/A | ANALYST Y/N | REVIEWER Y/N | IDENTIFY OUTLIERS / COMMENTS |
|---|---|---|---|---|---|
| IS / SS | Internal standards within QC criteria? | ☐ | Y | Y | IBL2 had #2 IS out high |
| | Surrogates within QC criteria? | ☑ | | | |
| SAMPLE DATA | Were samples prepared & analyzed within holding time? | ☐ | Y | Y | |
| | If samples need to be re-run, were RE(s) made in LIMS? | ☐ | Y | Y | some samples were >LR - will rerun |
| | Do any samples need to be re-digested or re-extracted? | ☑ | | | |
| | Were all data qualifiers appropriately applied? | ☐ | Y | Y | |
| | Are problems, anomalies, discrepancies documented in LIMS? Specify if applicable. | ☑ | | | |
| MANUAL INT | Were manual integrations performed and documented? Specify if applicable. | ☐ | Y | Y | |

| | | |
|---|---|---|
| APPROVALS | ANALYST INITIALS & DATE: | LLH 07/21/17 |
| | REVIEWED BY: | Ziyad Rajabi (affiliate) Digitally signed by Ziyad Rajabi (affiliate) Date: 2017.07.21 12:47:57 -07'00' SIGN HERE |

COMMENTS

*** Dichloromethane contamination slightly above 1/2 MDL, see Discrepancy Report D15-011. LLH 07/20/17

# Injection Log

Directory: d:\msdchem\1\2017\DATA\072017K_FSAA

Table of Contents

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 31 | 072017K01.D | 1. | S17G091-TUN1 | BFB 1538040 | 20 Jul 2017 09:42 |
| 2 | 32 | 072017K02.D | 1. | S17G091-CCV1@B17G071-BS1 | 10ppbv 1729076@1729079 | 20 Jul 2017 10:32 |
| 3 | 31 | 072017K03.D | 1. | S17G091-CRL1 | 1.0ppbv 1729073 | 20 Jul 2017 11:21 |
| 4 | 33 | 072017K04.D | 1. | B17G071-BLK1 | 200ml BLANK | 20 Jul 2017 12:13 |
| 5 | 11 | 072017K05.D | 204.42 | 1707035-01RE1 | 20ml 2ND CAN #1589E | 20 Jul 2017 13:02 |
| 6 | 12 | 072017K06.D | 2.86 | 1707035-02RE1 | 20ml 2ND CAN #870 | 20 Jul 2017 13:51 |
| 7 | 13 | 072017K07.D | 1. | 1707035-02 | 200ml AMCO-EFF-0719-046 TEDLAR | 20 Jul 2017 14:42 |
| 8 | 33 | 072017K08.D | 1. | S17G091-IBL1 | 200ml BLANK | 20 Jul 2017 15:34 |
| 9 | 11 | 072017K09.D | 204.42 | 1707035-01 | 200ml AMCO INF-0719-046 2ND CAN #1589E | 20 Jul 2017 16:25 |
| 10 | 11 | 072017K10.D | 204.42 | B17G071-DUP1 | 200ml 1707035-01 | 20 Jul 2017 17:17 |
| 11 | 33 | 072017K11.D | 1. | S17G091-IBL2 | 200ml BLANK | 20 Jul 2017 18:08 |
| 12 | 14 | 072017K12.D | 2.07 | 1707040-06 | 200ml F5-054-4ft | 20 Jul 2017 18:59 |
| 13 | 15 | 072017K13.D | 2.07 | 1707040-07 | 200ml F5-060-4ft | 20 Jul 2017 19:51 |
| 14 | 16 | 072017K14.D | 2.23 | 1707040-01 | 20ml SG135-10 | 20 Jul 2017 20:41 |
| 15 | 16 | 072017K15.D | 2.23 | B17G071-DUP2 | 20ml 1707040-01 | 20 Jul 2017 21:29 |
| 16 | 33 | 072017K16.D | 1. | S17G091-IBL3 | 200ml BLANK | 20 Jul 2017 22:21 |
| 17 | 17 | 072017K17.D | 2.99 | 1707040-02 | 20ml SG137-6 | 20 Jul 2017 23:10 |
| 18 | 18 | 072017K18.D | 3.33 | 1707040-03 | 20ml SG137-10 | 20 Jul 2017 23:59 |
| 19 | 19 | 072017K19.D | 2.52 | 1707040-04 | 20ml SG128-6 | 21 Jul 2017 00:49 |
| 20 | 10 | 072017K20.D | 2.12 | 1707040-05 | 20ml SG126-6 | 21 Jul 2017 01:38 |
| 21 | 33 | 072017K21.D | 1. | S17G091-IBL4 | 200ml BLANK | 21 Jul 2017 02:29 |

GC/MS QA-QC Check Report

Table of Contents

Tune File : D:\msdchem\1\2017\DATA\072017K_FSAA\072017K01.D
Tune Time : 20 Jul 2017 9:42 am

Daily Calibration File : D:\msdchem\1\2017\DATA\072017K_FSAA\072017K02.D

| File | Sample | Surrogate Recovery % | | | Internal Standard Responses | | |
|---|---|---|---|---|---|---|---|
| | | | | | 384034 | 1341590 | 1305020 |
| 072017K02.D | S17G091-CCV1 | | 384034 | 1341586 | 1305022 | | |
| 072017K03.D | S17G091-CRL1 | | 374802 | 1331410 | 1239705 | | |
| 072017K04.D | B17G071-BLK1 | | 354909 | 1280928 | 1175778 | | |
| 072017K05.D | 1707035-01RE1 | | 355453 | 1297586 | 1256690 | | |
| 072017K06.D | 1707035-02RE1 | | 475806 | 1847740 | 1672714 | | |
| 072017K07.D | 1707035-02 | | 420356 | 1665269 | 1552587 | | |
| 072017K08.D | S17G091-IBL1 | | 384618 | 1530045 | 1383000 | | |
| 072017K09.D | 1707035-01 | | 391595 | 1542153 | 1574832 | | |
| 072017K10.D | B17G071-DUP1 | | 473204 | 1837557 | 1789028 | | |
| 072017K11.D | S17G091-IBL2 | | 493076 | 1929945* | 1718607 | | |
| 072017K12.D | 1707040-06 | | 437609 | 1684715 | 1535109 | | |
| 072017K13.D | 1707040-07 | | 387323 | 1496601 | 1407148 | | |
| 072017K14.D | 1707040-01 | | 368887 | 1400016 | 1282244 | | |
| 072017K15.D | B17G071-DUP2 | | 362218 | 1370186 | 1251907 | | |
| 072017K16.D | S17G091-IBL3 | | 343294 | 1324287 | 1211500 | | |
| 072017K17.D | 1707040-02 | | 349564 | 1314616 | 1222784 | | |
| 072017K18.D | 1707040-03 | | 348288 | 1294882 | 1186827 | | |
| 072017K19.D | 1707040-04 | | 348774 | 1285862 | 1185952 | | |
| 072017K20.D | 1707040-05 | | 341492 | 1253356 | 1162846 | | |
| 072017K21.D | | | | | | | |

```
         S17G091-IBL4        321513    1219219    1113637
-------------------------------------------------------------------------
(fails) - fails 24hr time check   * - fails criteria

    Created: Fri Jul 21 12:13:53 2017  HP5973K
```

# Analysis Sequence

**S17G091**

**Project:** R17S62
R17S65
**Analysis:** VOCs, Soil Gas

**Instrument:** HP5973K **Calibration ID:** 1707015 Printed: 07/21/2017 12:11 pm

| Lab Number | Sample Name | Order | Analyzed Date | STD ID | ISTD ID | Sequenced By | File ID | Comments |
|---|---|---|---|---|---|---|---|---|
| S17G091-TUN1 | MS Tune | 1 | 7/20/17 9:42 | 1538040 | | LLH | 072017K01.D | |
| S17G091-CCV1 | CCV | 2 | 7/20/17 10:32 | 1729076 | | LLH | 072017K02.D | |
| B17G071-BS1 | LCS | 3 | 7/20/17 10:32 | | | LLH | 072017K02.D | |
| S17G091-CRL1 | CRL | 4 | 7/20/17 11:21 | 1729073 | | LLH | 072017K03.D | |
| B17G071-BLK1 | Blank | 5 | 7/20/17 12:13 | | 1705046 | LLH | 072017K04.D | |
| 1707035-01RE1 A | AMCO-INF-0719-046 | 6 | 7/20/17 13:02 | | 1705046 | LLH | 072017K05.D | |
| 1707035-02RE1 A | AMCO-EFF-0719-046 | 7 | 7/20/17 13:51 | | 1705046 | LLH | 072017K06.D | |
| 1707035-02 A | AMCO-EFF-0719-046 | 8 | 7/20/17 14:42 | | 1705046 | LLH | 072017K07.D | |
| S17G091-IBL1 | Instrument Blank | 9 | 7/20/17 15:34 | | 1705046 | LLH | 072017K08.D | |
| 1707035-01 A | AMCO-INF-0719-046 | 10 | 7/20/17 16:25 | | 1705046 | LLH | 072017K09.D | |
| B17G071-DUP1 | Duplicate | 11 | 7/20/17 17:17 | | 1705046 | LLH | 072017K10.D | |
| S17G091-IBL2 | Instrument Blank | 12 | 7/20/17 18:08 | | 1705046 | LLH | 072017K11.D | |
| 1707040-06 A | F5-054-4ft | 13 | 7/20/17 18:59 | | 1705046 | LLH | 072017K12.D | |
| 1707040-07 A | F5-060-4ft | 14 | 7/20/17 19:51 | | 1705046 | LLH | 072017K13.D | |
| 1707040-01 A | SG135-10 | 15 | 7/20/17 20:41 | | 1705046 | LLH | 072017K14.D | |
| B17G071-DUP2 | Duplicate | 16 | 7/20/17 21:29 | | 1705046 | LLH | 072017K15.D | |
| S17G091-IBL3 | Instrument Blank | 17 | 7/20/17 22:21 | | 1705046 | LLH | 072017K16.D | |
| 1707040-02 A | SG137-6 | 18 | 7/20/17 23:10 | | 1705046 | LLH | 072017K17.D | |
| 1707040-03 A | SG137-10 | 19 | 7/20/17 23:59 | | 1705046 | LLH | 072017K18.D | |
| 1707040-04 A | SG128-6 | 20 | 7/21/17 0:49 | | 1705046 | LLH | 072017K19.D | |
| 1707040-05 A | SG126-6 | 21 | 7/21/17 1:38 | | 1705046 | LLH | 072017K20.D | |

# Analysis Sequence

**S17G091**

**(Continued)**

**Project:** R17S62
R17S65

**Analysis:** VOCs, Soil Gas

**Instrument:** HP5973K **Calibration ID:** 1707015 Printed: 07/21/2017 12:11 pm

| Lab Number | Sample Name | Order | Analyzed Date | STD ID | ISTD ID | Sequenced By | File ID | Comments |
|---|---|---|---|---|---|---|---|---|
| S17G091-IBL4 | Instrument Blank | 22 | 7/21/17 2:29 | | 1705046 | LLH | 072017K21.D | |

**Sequence Comments**

**Reagents**

| Reagent # | Description |
|---|---|

# Sequence Report

| ID | Name | Pos. | Int Std | Cal Std | Sample | Method | Inject | Status |
|---|---|---|---|---|---|---|---|---|
| | BFB | T1 | 40 | 40 | 50 | TO-15_A.CTD3 | 7/20/2017 9:42:48 AM | Completed |
| | CCV1 | T2 | 40 | 0 | 100 | TO-15_A.CTD3 | 7/20/2017 10:32:41 AM | Completed |
| | CRL1 | T1 | 40 | 0 | 20 | TO-15_A.CTD3 | 7/20/2017 11:21:47 AM | Completed |
| | BLANK | T3 | 40 | 0 | 200 | TO-15_A.CTD3 | 7/20/2017 12:13:12 PM | Completed |
| | 1707035-01RE1 2ND | T1 | 40 | 0 | 20 | TO-15_A.CTD3 | 7/20/2017 1:02:18 PM | Completed |
| | 1707035-02RE1 2ND | T2 | 40 | 0 | 20 | TO-15_A.CTD3 | 7/20/2017 1:51:22 PM | Completed |
| | 1707035-02 TEDLAR | T3 | 40 | 0 | 200 | TO-15_A.CTD3 | 7/20/2017 2:42:52 PM | Completed |
| | IBL1 | T3 | 40 | 0 | 200 | TO-15_A.CTD3 | 7/20/2017 3:34:21 PM | Completed |
| | 1707035-01 2ND | T1 | 40 | 0 | 200 | TO-15_A.CTD3 | 7/20/2017 4:25:44 PM | Completed |
| | 1707035-01 2ND DUP | T1 | 40 | 0 | 200 | TO-15_A.CTD3 | 7/20/2017 5:17:09 PM | Completed |
| | IBL2 | T3 | 40 | 0 | 200 | TO-15_A.CTD3 | 7/20/2017 6:08:38 PM | Completed |
| | 1707040-06 | T4 | 40 | 0 | 200 | TO-15_A.CTD3 | 7/20/2017 6:59:55 PM | Completed |
| | 1707040-07 | T5 | 40 | 0 | 200 | TO-15_A.CTD3 | 7/20/2017 7:51:35 PM | Completed |
| | 1707040-01 | T6 | 40 | 0 | 20 | TO-15_A.CTD3 | 7/20/2017 8:40:59 PM | Completed |
| | 1707040-01 DUP | T6 | 40 | 0 | 20 | TO-15_A.CTD3 | 7/20/2017 9:29:57 PM | Completed |
| | IBL3 | T3 | 40 | 0 | 200 | TO-15_A.CTD3 | 7/20/2017 10:21:26 PM | Completed |
| | 1707040-02 | T7 | 40 | 0 | 20 | TO-15_A.CTD3 | 7/20/2017 11:10:21 PM | Completed |
| | 1707040-03 | T8 | 40 | 0 | 20 | TO-15_A.CTD3 | 7/20/2017 11:59:35 PM | Completed |
| | 1707040-04 | T9 | 40 | 0 | 20 | TO-15_A.CTD3 | 7/21/2017 12:49:05 AM | Completed |
| | 1707040-05 | T10 | 40 | 0 | 20 | TO-15_A.CTD3 | 7/21/2017 1:38:13 AM | Completed |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | IBL4 | T3 | 40 | 0 | 200 | TO-15_A.CTD3 | 7/21/2017 2:29:43 AM | Completed |

# SEQUENCE DATA

# S17G091

# S17G091-TUN1

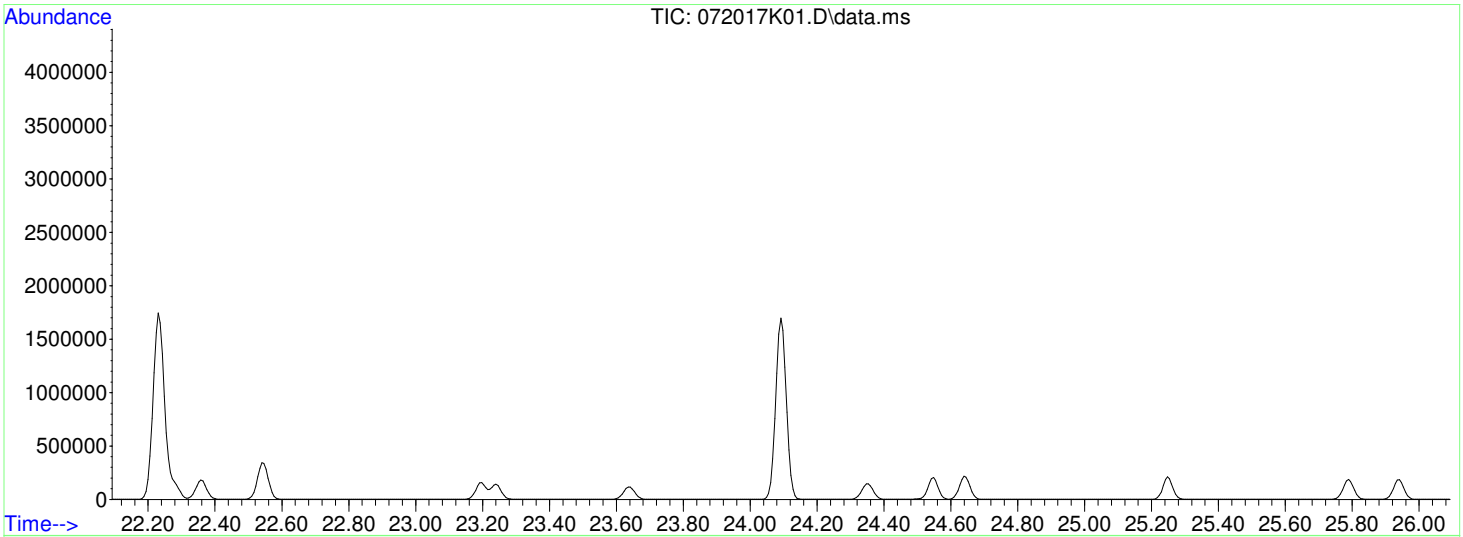
Table of Contents

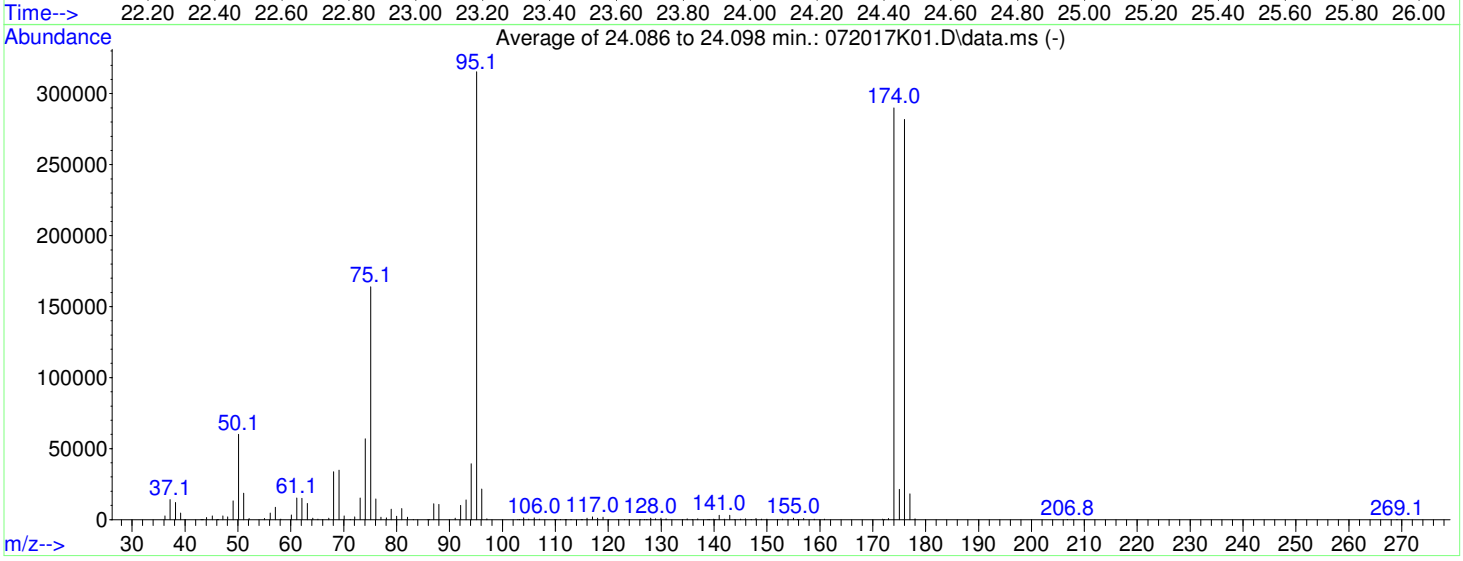
Data Path : D:\msdchem\1\2017\DATA\072017K_FSAA\
Data File : 072017K01.D
InstName : HP5973K
Acq On : 20 Jul 2017 9:42 am
Operator : LLH
Sample : S17G091-TUN1
Misc : BFB 1538040
ALS Vial : 31 Sample Multiplier: 1

**REVIEWED**
**By LLH at 10:24 am, Jul 20, 2017**

Integration File: lscint.p

Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Title : TO15
Last Update : Thu Jul 20 09:11:28 2017



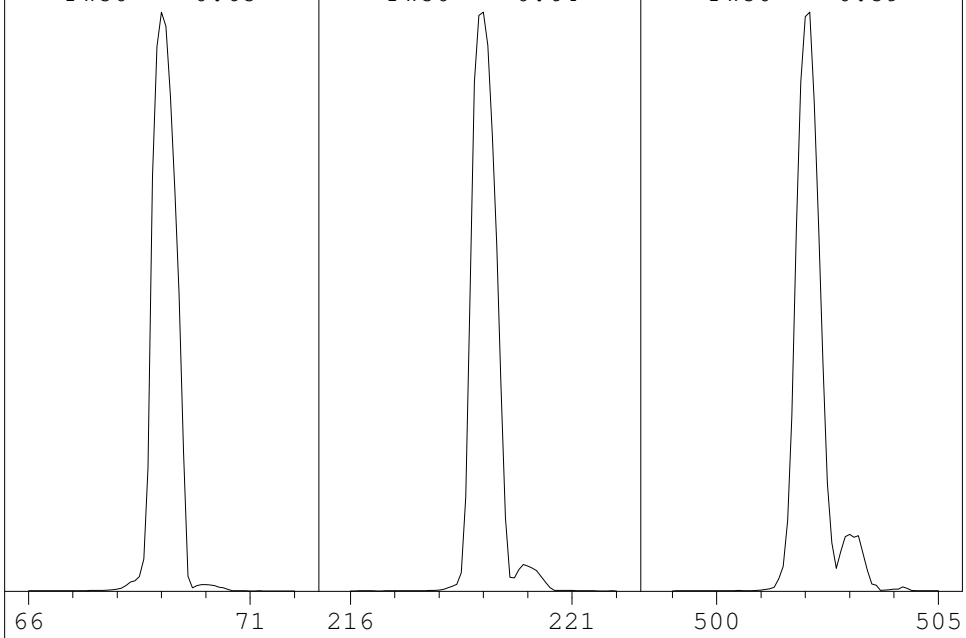




AutoFind: Scans 3354, 3355, 3356; Background Corrected with Scan 3343

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 50 | 95 | 8 | 40 | 19.0 | 60075 | PASS |
| 75 | 95 | 30 | 66 | 52.0 | 164075 | PASS |
| 95 | 95 | 100 | 100 | 100.0 | 315541 | PASS |
| 96 | 95 | 5 | 9 | 6.8 | 21427 | PASS |
| 173 | 174 | 0.00 | 2 | 0.3 | 741 | PASS |
| 174 | 95 | 50 | 120 | 91.9 | 290069 | PASS |
| 175 | 174 | 4 | 9 | 7.4 | 21341 | PASS |
| 176 | 174 | 93 | 101 | 97.2 | 281920 | PASS |
| 177 | 176 | 5 | 9 | 6.5 | 18205 | PASS |

Thu Jul 20 09:16:36 2017 Instrum
C:\msdchem\1\5973N\BFB072017.u US03960556

| Mass | 69.00 | Mass | 219.00 | Mass | 502.10 |
|---|---|---|---|---|---|
| Ab | 682014 | Ab | 433326 | Ab | 50039 |
| Pw50 | 0.65 | Pw50 | 0.64 | Pw50 | 0.59 |

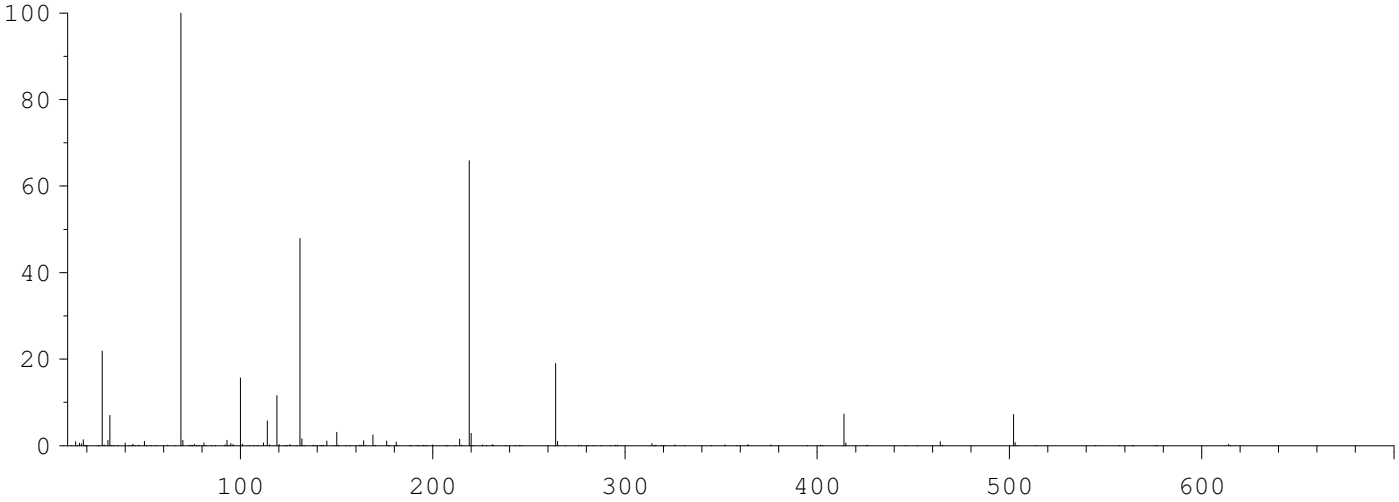



| | | | |
|---|---|---|---|
| Ion Pol | Pos | MassGain | 67 |
| | | MassOffs | -7 |
| Emission | 34.6 | AmuGain | 1998 |
| EIEnrgy | 69.9 | AmuOffs | 128 |
| Filament | 1 | Wid219 | -0.012 |
| | | DC Pol | Pos |
| Repeller | 31.46 | | |
| IonFcus | 90.2 | HEDEnab | On |
| EntLens | 14.5 | EMVolts | 1176 |
| EntOffs | 19.07 | | |
| | | Samples | 8 |
| PFTBA | Open | Averages | 3 |
| | | Stepsize | 0.10 |

Temperatures and Pressures:

| | | | |
|---|---|---|---|
| MS Source | 230 | Turbo Speed | 100 |
| MS Quad | 150 | | |

Scan: 10.00 - 700.00 Samples: 8 Thresh: 100 Step: 0.10
158 peaks Base: 69.00 Abundance: 620224




| Mass | Abund | Rel Abund | Iso Mass | Iso Abund | Iso Ratio |
|---|---|---|---|---|---|
| 69.00 | 620224 | 100.00 | 70.00 | 7431 | 1.20 |
| 219.00 | 408320 | 65.83 | 220.00 | 17608 | 4.31 |
| 502.10 | 44824 | 7.23 | 503.00 | 4527 | 10.10 |

Air/Water Check: H20~1.36% N2~21.88% O2~7.02% CO2~0.31% N2/H2O~1610.45%

Column(1) Flow: 1.496 Column(2): 0 ml/min. Interface Temp: 230

Ramp Criteria:
Ion Focus Maximum 90 volts using ion 502; EM Gain 327668
Repeller Maximum 35 volts using ion 219; Gain Factor 3.28

MassGain Values(Samples): 69(3) 67(2) 67(1) 67(0) 67(FS)

| TARGET MASS: | 50 | 69 | 131 | 219 | 414 | 502 | 800 |
|---|---|---|---|---|---|---|---|
| Amu Offset: | 128.0 | 128.0 | 128.0 | 128.0 | 128.0 | 128.0 | 128.0 |
| Entrance Lens Offset: | 19.1 | 19.1 | 19.1 | 19.1 | 19.1 | 19.1 | 19.1 |

# S17G091-CCV1

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\072017K_FSAA\
Data File : 072017K02.D
InstName : HP5973K
Acq On : 20 Jul 2017 10:32 am
Operator : LLH
Sample : S17G091-CCV1@B17G071-BS1
Misc : 10ppbv 1729076@1729079
ALS Vial : 32 Sample Multiplier: 1

**REVIEWED**
**By LLH at 11:56 am, Jul 20, 2017**

Quant Time: Jul 20 11:04:53 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | BROMOCHLOROMETHANE | 1.000 | 1.000 | 0.0 | 97 | 0.00 |
| 2 | T | Propene | 0.468 | 0.454 | 3.0 | 93 | 0.00 |
| 3 | T | Dichlorodifluoromethane | 2.285 | 2.269 | 0.7 | 98 | 0.00 |
| 4 | T | 1,2-Dichlorotetrafluoroetha | 2.215 | 2.183 | 1.4 | 97 | 0.00 |
| 5 | T | Chloromethane | 0.587 | 0.563 | 4.1 | 94 | 0.00 |
| 6 | T | Vinyl chloride | 0.738 | 0.707 | 4.2 | 94 | 0.00 |
| 7 | T | 1,3-Butadiene | 0.526 | 0.496 | 5.7 | 93 | 0.00 |
| 8 | T | Bromomethane | 0.596 | 0.596 | 0.0 | 99 | 0.00 |
| 9 | T | Chloroethane | 0.354 | 0.351 | 0.8 | 100 | 0.00 |
| 10 | T | Bromoethene | 0.564 | 0.591 | -4.8 | 102 | 0.00 |
| 11 | T | Trichlorofluoromethane | 2.185 | 2.212 | -1.2 | 100 | 0.00 |
| 12 | T | 1,1,2-Trichloro-1,2,2-trifl | 1.209 | 1.214 | -0.4 | 100 | 0.00 |
| 13 | T | 1,1-Dichloroethene | 0.906 | 0.954 | -5.3 | 99 | 0.00 |
| 14 | T | Acetone | 0.930 | 0.915 | 1.6 | 97 | 0.00 |
| 15 | T | Carbon disulfide | 1.858 | 1.844 | 0.8 | 98 | 0.00 |
| 16 | T | 2-Propanol | 0.619 | 0.673 | -8.7 | 99 | 0.00 |
| 17 | T | Allyl chloride | 0.592 | 0.626 | -5.7 | 98 | 0.00 |
| 18 | T | Dichloromethane | 0.753 | 0.691 | 8.2 | 98 | 0.00 |
| 19 | T | tert-Butyl methyl ether (MT | 1.570 | 1.728 | -10.1 | 100 | 0.00 |
| 20 | T | trans-1,2-Dichloroethene | 0.885 | 0.906 | -2.4 | 99 | 0.00 |
| 21 | T | Hexane | 0.872 | 0.936 | -7.3 | 97 | 0.00 |
| 22 | T | 1,1-Dichloroethane | 1.204 | 1.208 | -0.3 | 98 | 0.00 |
| 23 | T | Vinyl acetate | 0.902 | 1.030 | -14.2 | 97 | 0.00 |
| 24 | T | cis-1,2-Dichloroethene | 0.769 | 0.825 | -7.3 | 98 | 0.00 |
| 25 | T | 2-Butanone (MEK) | 0.295 | 0.313 | -6.1 | 98 | 0.00 |
| 26 | T | Ethyl acetate | 0.178 | 0.179 | -0.6 | 96 | 0.00 |
| 27 | T | Tetrahydrofuran | 0.597 | 0.612 | -2.5 | 97 | 0.00 |
| 28 | T | Chloroform | 1.532 | 1.540 | -0.5 | 99 | 0.00 |
| 29 | T | Cyclohexane | 0.907 | 0.956 | -5.4 | 97 | 0.00 |
| 30 | T | 1,1,1-Trichloroethane | 1.684 | 1.728 | -2.6 | 100 | 0.00 |
| 31 | T | Carbon tetrachloride | 1.736 | 1.786 | -2.9 | 99 | 0.00 |
| 32 | I | 1,4-DIFLUOROBENZENE | 1.000 | 1.000 | 0.0 | 100 | 0.00 |
| 33 | T | Benzene | 0.597 | 0.592 | 0.8 | 98 | 0.00 |
| 34 | T | 2,2,4-Trimethylpentane | 0.812 | 0.850 | -4.7 | 98 | 0.00 |
| 35 | T | 1,2-Dichloroethane | 0.321 | 0.319 | 0.6 | 99 | 0.00 |
| 36 | T | Heptane | 0.285 | 0.289 | -1.4 | 96 | 0.00 |
| 37 | T | Trichloroethene | 0.260 | 0.267 | -2.7 | 100 | 0.00 |
| 38 | T | 1,2-Dichloropropane | 0.195 | 0.197 | -1.0 | 99 | 0.00 |
| 39 | T | 1,4-Dioxane | 0.109 | 0.116 | -6.4 | 100 | 0.00 |
| 40 | T | Bromodichloromethane | 0.498 | 0.492 | 1.2 | 99 | 0.00 |
| 41 | T | cis-1,3-Dichloropropene | 0.294 | 0.317 | -7.8 | 99 | 0.00 |
| 42 | T | 4-Methyl-2-pentanone (MIBK) | 0.357 | 0.373 | -4.5 | 97 | 0.00 |
| 43 | I | CHLOROBENZENE-d5 | 1.000 | 1.000 | 0.0 | 103 | 0.00 |
| 44 | T | Toluene | 0.768 | 0.766 | 0.3 | 99 | 0.00 |
| 45 | T | trans-1,3-Dichloropropene | 0.314 | 0.326 | -3.8 | 100 | 0.00 |
| 46 | T | 1,1,2-Trichloroethane | 0.281 | 0.271 | 3.6 | 99 | 0.00 |
| 47 | T | Tetrachloroethene | 0.426 | 0.417 | 2.1 | 99 | 0.00 |
| 48 | T | 2-Hexanone | 0.347 | 0.354 | -2.0 | 97 | 0.00 |
| 49 | T | Chlorodibromomethane | 0.530 | 0.521 | 1.7 | 100 | 0.00 |
| 50 | T | 1,2-Dibromoethane (EDB) | 0.381 | 0.380 | 0.3 | 100 | 0.00 |
| 51 | T | Chlorobenzene | 0.664 | 0.633 | 4.7 | 99 | 0.00 |

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\072017K_FSAA\
Data File : 072017K02.D
InstName : HP5973K
Acq On : 20 Jul 2017 10:32 am
Operator : LLH
Sample : S17G091-CCV1@B17G071-BS1
Misc : 10ppbv 1729076@1729079
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Jul 20 11:04:53 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T | Ethylbenzene | 1.118 | 1.101 | 1.5 | 100 | 0.00 |
| 53 | T | m&p-Xylene | 0.867 | 0.857 | 1.2 | 99 | 0.00 |
| 54 | T | o-Xylene | 0.827 | 0.860 | -4.0 | 99 | 0.00 |
| 55 | T | Styrene | 0.666 | 0.674 | -1.2 | 99 | 0.00 |
| 56 | T | Bromoform | 0.528 | 0.534 | -1.1 | 101 | 0.00 |
| 57 | T | 1,1,2,2-Tetrachloroethane | 0.631 | 0.606 | 4.0 | 99 | 0.00 |
| 58 | T | 4-Ethyltoluene | 1.185 | 1.271 | -7.3 | 100 | 0.00 |
| 59 | T | 1,3,5-Trimethylbenzene | 1.058 | 1.063 | -0.5 | 99 | 0.00 |
| 60 | T | 1,2,4-Trimethylbenzene | 0.989 | 1.050 | -6.2 | 100 | 0.00 |
| 61 | T | 1,3-Dichlorobenzene | 0.695 | 0.699 | -0.6 | 100 | 0.00 |
| 62 | T | 1,4-Dichlorobenzene | 0.666 | 0.678 | -1.8 | 100 | 0.00 |
| 63 | T | Benzyl chloride | 0.585 | 0.661 | -13.0 | 101 | 0.00 |
| 64 | T | 1,2-Dichlorobenzene | 0.698 | 0.709 | -1.6 | 100 | 0.00 |
| 65 | T | 1,2,4-Trichlorobenzene | 0.524 | 0.546 | -4.2 | 103 | 0.00 |
| 66 | T | Hexachlorobutadiene | 0.742 | 0.734 | 1.1 | 102 | 0.00 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Data Path : D:\msdchem\1\2017\DATA\072017K_FSAA\
Data File : 072017K02.D
InstName : HP5973K
Acq On : 20 Jul 2017 10:32 am
Operator : LLH
Sample : S17G091-CCV1@B17G071-BS1
Misc : 10ppbv 1729076@1729079
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Jul 20 11:04:53 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) BROMOCHLOROMETHANE | 15.313 | 49 | 384034 | 19.80 | ppbv | | 0.00 |
| 32) 1,4-DIFLUOROBENZENE | 17.309 | 114 | 1341586 | 19.60 | ppbv | | 0.00 |
| 43) CHLOROBENZENE-d5 | 22.236 | 117 | 1305022 | 19.60 | ppbv | | 0.00 |
| Target Compounds | | | | | | | Qvalue |
| 2) Propene | 4.223 | 41 | 96934 | 10.67 | ppbv | | 98 |
| 3) Dichlorodifluoromethane | 4.308 | 85 | 466485 | 10.52 | ppbv | | 100 |
| 4) 1,2-Dichlorotetrafluor... | 4.649 | 85 | 427629 | 9.95 | ppbv | | 98 |
| 5) Chloromethane | 4.855 | 50 | 120054 | 10.54 | ppbv | | 100 |
| 6) Vinyl chloride | 5.154 | 62 | 146652 | 10.25 | ppbv | | 99 |
| 7) 1,3-Butadiene | 5.245 | 54 | 102014 | 10.00 | ppbv | | 98 |
| 8) Bromomethane | 6.163 | 94 | 123601 | 10.69 | ppbv | | 99 |
| 9) Chloroethane | 6.492 | 64 | 71563 | 10.44 | ppbv | | 98 |
| 10) Bromoethene | 7.052 | 106 | 123886 | 11.32 | ppbv | | 99 |
| 11) Trichlorofluoromethane | 7.149 | 101 | 429012 | 10.12 | ppbv | | 100 |
| 12) 1,1,2-Trichloro-1,2,2-... | 8.907 | 151 | 221332 | 9.44 | ppbv | | 99 |
| 13) 1,1-Dichloroethene | 9.029 | 61 | 190602 | 10.85 | ppbv | | 99 |
| 14) Acetone | 9.686 | 43 | 195182 | 10.82 | ppbv | | 100 |
| 15) Carbon disulfide | 9.722 | 76 | 379040 | 10.52 | ppbv | | 100 |
| 16) 2-Propanol | 10.294 | 45 | 143688 | 11.97 | ppbv | | 100 |
| 17) Allyl chloride | 10.623 | 41 | 133656 | 11.64 | ppbv | | 100 |
| 18) Dichloromethane | 11.207 | 49 | 129914 | 8.89 | ppbv | | 99 |
| 19) tert-Butyl methyl ethe... | 11.839 | 73 | 361998 | 11.89 | ppbv | | 100 |
| 20) trans-1,2-Dichloroethene | 11.888 | 61 | 193251 | 11.25 | ppbv | | 99 |
| 21) Hexane | 12.423 | 57 | 190706 | 11.28 | ppbv | | 100 |
| 22) 1,1-Dichloroethane | 13.287 | 63 | 231919 | 9.93 | ppbv | | 100 |
| 23) Vinyl acetate | 13.445 | 43 | 219678 | 12.56 | ppbv | | 100 |
| 24) cis-1,2-Dichloroethene | 14.753 | 61 | 166408 | 11.16 | ppbv | | 99 |
| 25) 2-Butanone (MEK) | 14.893 | 72 | 65495 | 11.43 | ppbv | | 100 |
| 26) Ethyl acetate | 14.906 | 61 | 37905 | 10.97 | ppbv | # | 96 |
| 27) Tetrahydrofuran | 15.295 | 42 | 124605 | 10.77 | ppbv | | 98 |
| 28) Chloroform | 15.465 | 83 | 319661 | 10.76 | ppbv | | 99 |
| 29) Cyclohexane | 15.599 | 56 | 198494 | 11.28 | ppbv | | 99 |
| 30) 1,1,1-Trichloroethane | 15.703 | 97 | 345182 | 10.57 | ppbv | | 99 |
| 31) Carbon tetrachloride | 15.940 | 117 | 360229 | 10.70 | ppbv | | 99 |
| 33) Benzene | 16.469 | 78 | 433766 | 10.62 | ppbv | | 99 |
| 34) 2,2,4-Trimethylpentane | 16.347 | 57 | 616886 | 11.10 | ppbv | | 99 |
| 35) 1,2-Dichloroethane | 16.718 | 62 | 226794 | 10.31 | ppbv | | 100 |
| 36) Heptane | 16.743 | 43 | 211917 | 10.85 | ppbv | | 98 |
| 37) Trichloroethene | 17.704 | 130 | 201072 | 11.32 | ppbv | | 99 |
| 38) 1,2-Dichloropropane | 18.239 | 63 | 144001 | 10.76 | ppbv | | 99 |
| 39) 1,4-Dioxane | 18.440 | 88 | 83948 | 11.24 | ppbv | | 98 |
| 40) Bromodichloromethane | 18.714 | 83 | 350413 | 10.28 | ppbv | | 100 |
| 41) cis-1,3-Dichloropropene | 19.480 | 75 | 226007 | 11.21 | ppbv | | 99 |
| 42) 4-Methyl-2-pentanone (... | 19.724 | 43 | 270614 | 11.09 | ppbv | | 99 |
| 44) Toluene | 19.931 | 91 | 550728 | 10.77 | ppbv | | 100 |
| 45) trans-1,3-Dichloropropene | 20.448 | 75 | 210253 | 10.07 | ppbv | | 99 |
| 46) 1,1,2-Trichloroethane | 20.752 | 97 | 196909 | 10.53 | ppbv | | 100 |
| 47) Tetrachloroethene | 20.764 | 166 | 299685 | 10.56 | ppbv | | 99 |
| 48) 2-Hexanone | 21.080 | 43 | 247720 | 10.71 | ppbv | | 99 |
| 49) Chlorodibromomethane | 21.354 | 129 | 371169 | 10.52 | ppbv | | 100 |
| 50) 1,2-Dibromoethane (EDB) | 21.579 | 107 | 278385 | 10.96 | ppbv | | 99 |
| 51) Chlorobenzene | 22.279 | 112 | 463468 | 10.48 | ppbv | | 100 |
| 52) Ethylbenzene | 22.364 | 91 | 799166 | 10.73 | ppbv | | 99 |
| 53) m&p-Xylene | 22.547 | 91 | 1232772 | 21.36 | ppbv | | 100 |
| 54) o-Xylene | 23.197 | 91 | 606629 | 11.01 | ppbv | | 99 |

Data Path : D:\msdchem\1\2017\DATA\072017K_FSAA\
Data File : 072017K02.D
InstName : HP5973K
Acq On : 20 Jul 2017 10:32 am
Operator : LLH
Sample : S17G091-CCV1@B17G071-BS1
Misc : 10ppbv 1729076@1729079
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Jul 20 11:04:53 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 55) Styrene | 23.240 | 104 | 462221 | 10.43 ppbv | 100 |
| 56) Bromoform | 23.642 | 173 | 380666 | 10.83 ppbv | 100 |
| 57) 1,1,2,2-Tetrachloroethane | 24.353 | 83 | 423585 | 10.08 ppbv | 99 |
| 58) 4-Ethyltoluene | 24.548 | 105 | 879806 | 11.15 ppbv | 100 |
| 59) 1,3,5-Trimethylbenzene | 24.645 | 105 | 757438 | 10.75 ppbv | 100 |
| 60) 1,2,4-Trimethylbenzene | 25.248 | 105 | 741230 | 11.26 ppbv | 100 |
| 61) 1,3-Dichlorobenzene | 25.789 | 146 | 488846 | 10.57 ppbv | 100 |
| 62) 1,4-Dichlorobenzene | 25.941 | 146 | 478773 | 10.79 ppbv | 100 |
| 63) Benzyl chloride | 26.178 | 91 | 484151 | 12.44 ppbv | 100 |
| 64) 1,2-Dichlorobenzene | 26.556 | 146 | 491221 | 10.56 ppbv | 100 |
| 65) 1,2,4-Trichlorobenzene | 29.019 | 180 | 341879 | 9.80 ppbv | 99 |
| 66) Hexachlorobutadiene | 29.129 | 225 | 484066 | 9.80 ppbv | 100 |

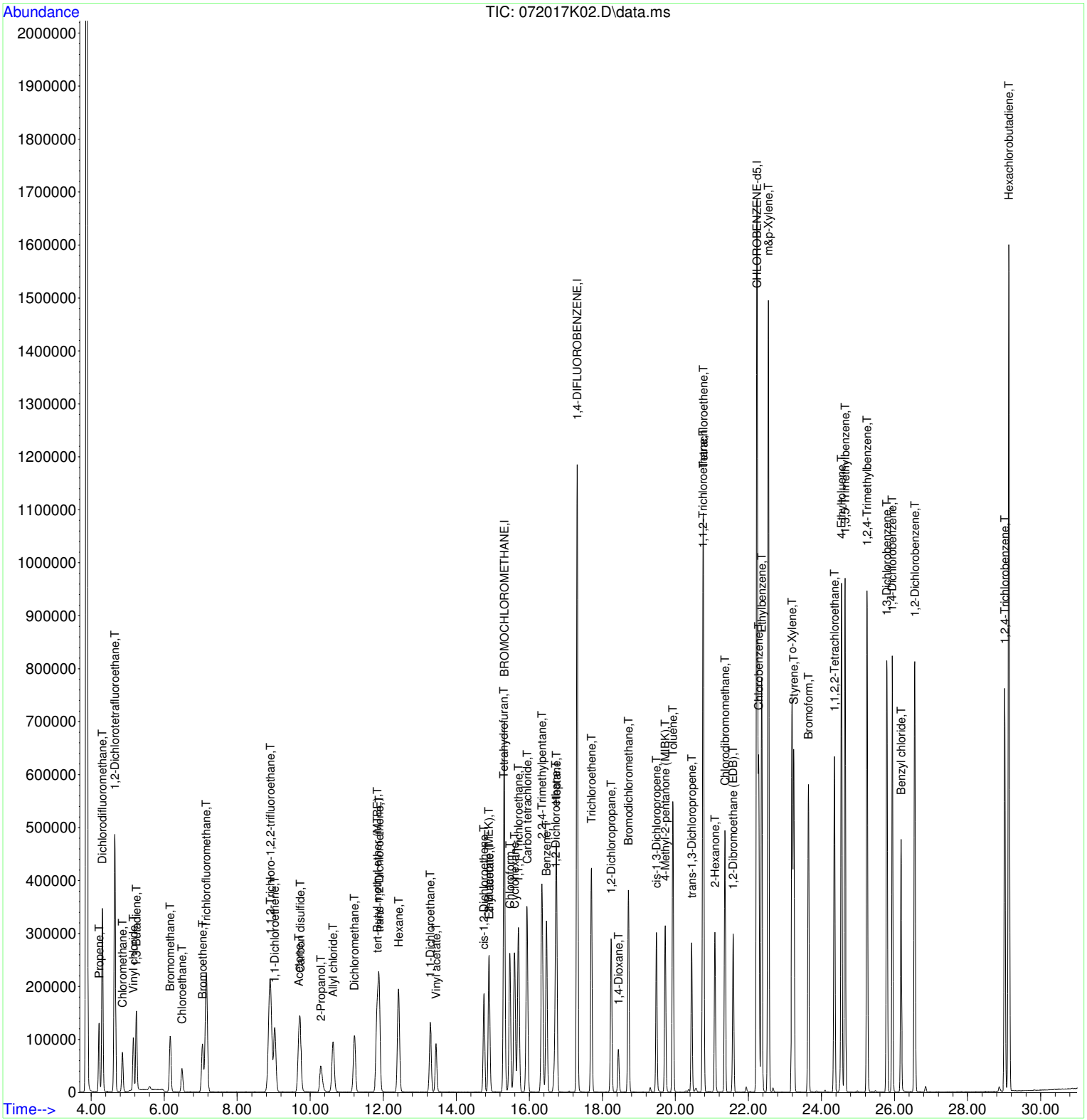
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\072017K_FSAA\
Data File : 072017K02.D
InstName : HP5973K
Acq On : 20 Jul 2017 10:32 am
Operator : LLH
Sample : S17G091-CCV1@B17G071-BS1
Misc : 10ppbv 1729076@1729079
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Jul 20 11:04:53 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration



**REVIEWED**
**By LLH at 11:57 am, Jul 20, 2017**

## LCS REPORT

Instrument Name: HP5973K
Sample Name: S17G091-CCV1@B17G071-BS1
Misc Info: 10ppbv 1729076@1729079
Date Acquired: 7/20/2017 10:32
QLast Update: Thu Jul 20 09:11:28 2017
Operator: LLH

| # | Name | Ret Time | Amount | Concentration | %R | QC | LIMIT | STATUS |
|---|---|---|---|---|---|---|---|---|
| 1) | BROMOCHLOROMETHANE | 15.31 | #N/A | 19.80 | #N/A | 70.0 | 130.0 | #N/A |
| 2) | Propene | 4.22 | 11.00 | 10.67 | 97% | 72.0 | 121.0 | pass |
| 3) | Dichlorodifluoromethane | 4.31 | 10.60 | 10.52 | 99% | 68.0 | 129.0 | pass |
| 4) | 1,2-Dichlorotetrafluoroethane | 4.65 | 10.10 | 9.95 | 99% | 67.0 | 127.0 | pass |
| 5) | Chloromethane | 4.86 | 11.00 | 10.54 | 96% | 70.0 | 123.0 | pass |
| 6) | Vinyl chloride | 5.15 | 10.70 | 10.25 | 96% | 69.0 | 125.0 | pass |
| 7) | 1,3-Butadiene | 5.24 | 10.60 | 10.00 | 94% | 75.0 | 121.0 | pass |
| 8) | Bromomethane | 6.16 | 10.70 | 10.69 | 100% | 66.0 | 125.0 | pass |
| 9) | Chloroethane | 6.49 | 10.50 | 10.44 | 99% | 67.0 | 125.0 | pass |
| 10) | Bromoethene | 7.05 | 10.80 | 11.32 | 105% | 68.0 | 124.0 | pass |
| 11) | Trichlorofluoromethane | 7.15 | 10.00 | 10.12 | 101% | 68.0 | 133.0 | pass |
| 12) | 1,1,2-Trichloro-1,2,2-trifluoroethane | 8.91 | 9.40 | 9.44 | 100% | 64.0 | 125.0 | pass |
| 13) | 1,1-Dichloroethene | 9.03 | 10.30 | 10.85 | 105% | 73.0 | 128.0 | pass |
| 14) | Acetone | 9.69 | 11.00 | 10.82 | 98% | 67.0 | 141.0 | pass |
| 15) | Carbon disulfide | 9.72 | 10.60 | 10.52 | 99% | 45.0 | 158.0 | pass |
| 16) | 2-Propanol | 10.29 | 11.00 | 11.97 | 109% | 72.0 | 132.0 | pass |
| 17) | Allyl chloride | 10.62 | 11.00 | 11.64 | 106% | 75.0 | 132.0 | pass |
| 18) | Dichloromethane | 11.21 | 9.70 | 8.89 | 92% | 73.0 | 116.0 | pass |
| 19) | tert-Butyl methyl ether (MTBE) | 11.84 | 10.80 | 11.89 | 110% | 74.0 | 131.0 | pass |
| 20) | trans-1,2-Dichloroethene | 11.89 | 11.00 | 11.25 | 102% | 80.0 | 123.0 | pass |
| 21) | Hexane | 12.42 | 10.50 | 11.28 | 107% | 75.0 | 124.0 | pass |
| 22) | 1,1-Dichloroethane | 13.29 | 9.90 | 9.93 | 100% | 72.0 | 125.0 | pass |
| 23) | Vinyl acetate | 13.45 | 11.00 | 12.56 | 114% | 31.0 | 171.0 | pass |
| 24) | cis-1,2-Dichloroethene | 14.75 | 10.40 | 11.16 | 107% | 77.0 | 129.0 | pass |
| 25) | 2-Butanone (MEK) | 14.89 | 10.80 | 11.43 | 106% | 69.0 | 137.0 | pass |
| 26) | Ethyl acetate | 14.91 | 10.90 | 10.97 | 101% | 75.0 | 127.0 | pass |
| 27) | Tetrahydrofuran | 15.29 | 10.50 | 10.77 | 103% | 78.0 | 120.0 | pass |
| 28) | Chloroform | 15.47 | 10.70 | 10.76 | 101% | 77.0 | 126.0 | pass |
| 29) | Cyclohexane | 15.60 | 10.70 | 11.28 | 105% | 76.0 | 124.0 | pass |
| 30) | 1,1,1-Trichloroethane | 15.70 | 10.30 | 10.57 | 103% | 74.0 | 133.0 | pass |
| 31) | Carbon tetrachloride | 15.94 | 10.40 | 10.70 | 103% | 71.0 | 141.0 | pass |
| 32) | 1,4-DIFLUOROBENZENE | 17.31 | #N/A | 19.60 | #N/A | 70.0 | 130.0 | #N/A |
| 33) | Benzene | 16.47 | 10.70 | 10.62 | 99% | 81.0 | 125.0 | pass |
| 34) | 2,2,4-Trimethylpentane | 16.35 | 10.60 | 11.10 | 105% | 82.0 | 125.0 | pass |
| 35) | 1,2-Dichloroethane | 16.72 | 10.40 | 10.31 | 99% | 61.0 | 153.0 | pass |
| 36) | Heptane | 16.74 | 10.70 | 10.85 | 101% | 80.0 | 129.0 | pass |
| 37) | Trichloroethene | 17.70 | 11.00 | 11.32 | 103% | 73.0 | 128.0 | pass |
| 38) | 1,2-Dichloropropane | 18.24 | 10.70 | 10.76 | 101% | 77.0 | 129.0 | pass |
| 39) | 1,4-Dioxane | 18.44 | 10.60 | 11.24 | 106% | 58.0 | 140.0 | pass |
| 40) | Bromodichloromethane | 18.71 | 10.40 | 10.28 | 99% | 76.0 | 137.0 | pass |
| 41) | cis-1,3-Dichloropropene | 19.48 | 10.40 | 11.21 | 108% | 80.0 | 136.0 | pass |
| 42) | 4-Methyl-2-pentanone (MIBK) | 19.72 | 10.60 | 11.09 | 105% | 65.0 | 140.0 | pass |
| 43) | CHLOROBENZENE-d5 | 22.24 | #N/A | 19.60 | #N/A | 70.0 | 130.0 | #N/A |
| 44) | Toluene | 19.93 | 10.80 | 10.77 | 100% | 78.0 | 133.0 | pass |
| 45) | trans-1,3-Dichloropropene | 20.45 | 9.70 | 10.07 | 104% | 79.0 | 146.0 | pass |
| 46) | 1,1,2-Trichloroethane | 20.75 | 10.90 | 10.53 | 97% | 74.0 | 134.0 | pass |
| 47) | Tetrachloroethene | 20.76 | 10.80 | 10.56 | 98% | 73.0 | 130.0 | pass |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 48) | 2-Hexanone | 21.08 | 10.50 | 10.71 | 102% | 50.0 | 162.0 | pass |
| 49) | Chlorodibromomethane | 21.35 | 10.70 | 10.52 | 98% | 81.0 | 135.0 | pass |
| 50) | 1,2-Dibromoethane (EDB) | 21.58 | 11.00 | 10.96 | 100% | 78.0 | 133.0 | pass |
| 51) | Chlorobenzene | 22.28 | 11.00 | 10.48 | 95% | 81.0 | 126.0 | pass |
| 52) | Ethylbenzene | 22.36 | 10.90 | 10.73 | 98% | 82.0 | 130.0 | pass |
| 53) | m&p-Xylene | 22.55 | 21.60 | 21.36 | 99% | 82.0 | 131.0 | pass |
| 54) | o-Xylene | 23.20 | 10.60 | 11.01 | 104% | 82.0 | 132.0 | pass |
| 55) | Styrene | 23.24 | 10.30 | 10.43 | 101% | 65.0 | 141.0 | pass |
| 56) | Bromoform | 23.64 | 10.70 | 10.83 | 101% | 84.0 | 137.0 | pass |
| 57) | 1,1,2,2-Tetrachloroethane | 24.35 | 10.50 | 10.08 | 96% | 73.0 | 127.0 | pass |
| 58) | 4-Ethyltoluene | 24.55 | 10.40 | 11.15 | 107% | 81.0 | 127.0 | pass |
| 59) | 1,3,5-Trimethylbenzene | 24.65 | 10.70 | 10.75 | 101% | 77.0 | 132.0 | pass |
| 60) | 1,2,4-Trimethylbenzene | 25.25 | 10.60 | 11.26 | 106% | 78.0 | 131.0 | pass |
| 61) | 1,3-Dichlorobenzene | 25.79 | 10.50 | 10.57 | 101% | 79.0 | 124.0 | pass |
| 62) | 1,4-Dichlorobenzene | 25.94 | 10.60 | 10.79 | 102% | 75.0 | 127.0 | pass |
| 63) | Benzyl chloride | 26.18 | 11.00 | 12.44 | 113% | 67.0 | 156.0 | pass |
| 64) | 1,2-Dichlorobenzene | 26.56 | 10.40 | 10.56 | 102% | 77.0 | 124.0 | pass |
| 65) | 1,2,4-Trichlorobenzene | 29.02 | 9.40 | 9.80 | 104% | 55.0 | 132.0 | pass |
| 66) | Hexachlorobutadiene | 29.14 | 9.90 | 9.80 | 99% | 52.0 | 131.0 | pass |

# B17G071-BS1

Data Path : D:\msdchem\1\2017\DATA\072017K_FSAA\
Data File : 072017K02.D
InstName : HP5973K
Acq On : 20 Jul 2017 10:32 am
Operator : LLH
Sample : S17G091-CCV1@B17G071-BS1
Misc : 10ppbv 1729076@1729079
ALS Vial : 32 Sample Multiplier: 1

**REVIEWED**
**By LLH at 11:56 am, Jul 20, 2017**

Quant Time: Jul 20 11:04:53 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | BROMOCHLOROMETHANE | 1.000 | 1.000 | 0.0 | 97 | 0.00 |
| 2 | T | Propene | 0.468 | 0.454 | 3.0 | 93 | 0.00 |
| 3 | T | Dichlorodifluoromethane | 2.285 | 2.269 | 0.7 | 98 | 0.00 |
| 4 | T | 1,2-Dichlorotetrafluoroetha | 2.215 | 2.183 | 1.4 | 97 | 0.00 |
| 5 | T | Chloromethane | 0.587 | 0.563 | 4.1 | 94 | 0.00 |
| 6 | T | Vinyl chloride | 0.738 | 0.707 | 4.2 | 94 | 0.00 |
| 7 | T | 1,3-Butadiene | 0.526 | 0.496 | 5.7 | 93 | 0.00 |
| 8 | T | Bromomethane | 0.596 | 0.596 | 0.0 | 99 | 0.00 |
| 9 | T | Chloroethane | 0.354 | 0.351 | 0.8 | 100 | 0.00 |
| 10 | T | Bromoethene | 0.564 | 0.591 | -4.8 | 102 | 0.00 |
| 11 | T | Trichlorofluoromethane | 2.185 | 2.212 | -1.2 | 100 | 0.00 |
| 12 | T | 1,1,2-Trichloro-1,2,2-trifl | 1.209 | 1.214 | -0.4 | 100 | 0.00 |
| 13 | T | 1,1-Dichloroethene | 0.906 | 0.954 | -5.3 | 99 | 0.00 |
| 14 | T | Acetone | 0.930 | 0.915 | 1.6 | 97 | 0.00 |
| 15 | T | Carbon disulfide | 1.858 | 1.844 | 0.8 | 98 | 0.00 |
| 16 | T | 2-Propanol | 0.619 | 0.673 | -8.7 | 99 | 0.00 |
| 17 | T | Allyl chloride | 0.592 | 0.626 | -5.7 | 98 | 0.00 |
| 18 | T | Dichloromethane | 0.753 | 0.691 | 8.2 | 98 | 0.00 |
| 19 | T | tert-Butyl methyl ether (MT | 1.570 | 1.728 | -10.1 | 100 | 0.00 |
| 20 | T | trans-1,2-Dichloroethene | 0.885 | 0.906 | -2.4 | 99 | 0.00 |
| 21 | T | Hexane | 0.872 | 0.936 | -7.3 | 97 | 0.00 |
| 22 | T | 1,1-Dichloroethane | 1.204 | 1.208 | -0.3 | 98 | 0.00 |
| 23 | T | Vinyl acetate | 0.902 | 1.030 | -14.2 | 97 | 0.00 |
| 24 | T | cis-1,2-Dichloroethene | 0.769 | 0.825 | -7.3 | 98 | 0.00 |
| 25 | T | 2-Butanone (MEK) | 0.295 | 0.313 | -6.1 | 98 | 0.00 |
| 26 | T | Ethyl acetate | 0.178 | 0.179 | -0.6 | 96 | 0.00 |
| 27 | T | Tetrahydrofuran | 0.597 | 0.612 | -2.5 | 97 | 0.00 |
| 28 | T | Chloroform | 1.532 | 1.540 | -0.5 | 99 | 0.00 |
| 29 | T | Cyclohexane | 0.907 | 0.956 | -5.4 | 97 | 0.00 |
| 30 | T | 1,1,1-Trichloroethane | 1.684 | 1.728 | -2.6 | 100 | 0.00 |
| 31 | T | Carbon tetrachloride | 1.736 | 1.786 | -2.9 | 99 | 0.00 |
| 32 | I | 1,4-DIFLUOROBENZENE | 1.000 | 1.000 | 0.0 | 100 | 0.00 |
| 33 | T | Benzene | 0.597 | 0.592 | 0.8 | 98 | 0.00 |
| 34 | T | 2,2,4-Trimethylpentane | 0.812 | 0.850 | -4.7 | 98 | 0.00 |
| 35 | T | 1,2-Dichloroethane | 0.321 | 0.319 | 0.6 | 99 | 0.00 |
| 36 | T | Heptane | 0.285 | 0.289 | -1.4 | 96 | 0.00 |
| 37 | T | Trichloroethene | 0.260 | 0.267 | -2.7 | 100 | 0.00 |
| 38 | T | 1,2-Dichloropropane | 0.195 | 0.197 | -1.0 | 99 | 0.00 |
| 39 | T | 1,4-Dioxane | 0.109 | 0.116 | -6.4 | 100 | 0.00 |
| 40 | T | Bromodichloromethane | 0.498 | 0.492 | 1.2 | 99 | 0.00 |
| 41 | T | cis-1,3-Dichloropropene | 0.294 | 0.317 | -7.8 | 99 | 0.00 |
| 42 | T | 4-Methyl-2-pentanone (MIBK) | 0.357 | 0.373 | -4.5 | 97 | 0.00 |
| 43 | I | CHLOROBENZENE-d5 | 1.000 | 1.000 | 0.0 | 103 | 0.00 |
| 44 | T | Toluene | 0.768 | 0.766 | 0.3 | 99 | 0.00 |
| 45 | T | trans-1,3-Dichloropropene | 0.314 | 0.326 | -3.8 | 100 | 0.00 |
| 46 | T | 1,1,2-Trichloroethane | 0.281 | 0.271 | 3.6 | 99 | 0.00 |
| 47 | T | Tetrachloroethene | 0.426 | 0.417 | 2.1 | 99 | 0.00 |
| 48 | T | 2-Hexanone | 0.347 | 0.354 | -2.0 | 97 | 0.00 |
| 49 | T | Chlorodibromomethane | 0.530 | 0.521 | 1.7 | 100 | 0.00 |
| 50 | T | 1,2-Dibromoethane (EDB) | 0.381 | 0.380 | 0.3 | 100 | 0.00 |
| 51 | T | Chlorobenzene | 0.664 | 0.633 | 4.7 | 99 | 0.00 |

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\072017K_FSAA\
Data File : 072017K02.D
InstName : HP5973K
Acq On : 20 Jul 2017 10:32 am
Operator : LLH
Sample : S17G091-CCV1@B17G071-BS1
Misc : 10ppbv 1729076@1729079
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Jul 20 11:04:53 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T | Ethylbenzene | 1.118 | 1.101 | 1.5 | 100 | 0.00 |
| 53 | T | m&p-Xylene | 0.867 | 0.857 | 1.2 | 99 | 0.00 |
| 54 | T | o-Xylene | 0.827 | 0.860 | -4.0 | 99 | 0.00 |
| 55 | T | Styrene | 0.666 | 0.674 | -1.2 | 99 | 0.00 |
| 56 | T | Bromoform | 0.528 | 0.534 | -1.1 | 101 | 0.00 |
| 57 | T | 1,1,2,2-Tetrachloroethane | 0.631 | 0.606 | 4.0 | 99 | 0.00 |
| 58 | T | 4-Ethyltoluene | 1.185 | 1.271 | -7.3 | 100 | 0.00 |
| 59 | T | 1,3,5-Trimethylbenzene | 1.058 | 1.063 | -0.5 | 99 | 0.00 |
| 60 | T | 1,2,4-Trimethylbenzene | 0.989 | 1.050 | -6.2 | 100 | 0.00 |
| 61 | T | 1,3-Dichlorobenzene | 0.695 | 0.699 | -0.6 | 100 | 0.00 |
| 62 | T | 1,4-Dichlorobenzene | 0.666 | 0.678 | -1.8 | 100 | 0.00 |
| 63 | T | Benzyl chloride | 0.585 | 0.661 | -13.0 | 101 | 0.00 |
| 64 | T | 1,2-Dichlorobenzene | 0.698 | 0.709 | -1.6 | 100 | 0.00 |
| 65 | T | 1,2,4-Trichlorobenzene | 0.524 | 0.546 | -4.2 | 103 | 0.00 |
| 66 | T | Hexachlorobutadiene | 0.742 | 0.734 | 1.1 | 102 | 0.00 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Data Path : D:\msdchem\1\2017\DATA\072017K_FSAA\
Data File : 072017K02.D
InstName : HP5973K
Acq On : 20 Jul 2017 10:32 am
Operator : LLH
Sample : S17G091-CCV1@B17G071-BS1
Misc : 10ppbv 1729076@1729079
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Jul 20 11:04:53 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

| | Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | | |
| 1) | BROMOCHLOROMETHANE | 15.313 | 49 | 384034 | 19.80 | ppbv | | 0.00 |
| 32) | 1,4-DIFLUOROBENZENE | 17.309 | 114 | 1341586 | 19.60 | ppbv | | 0.00 |
| 43) | CHLOROBENZENE-d5 | 22.236 | 117 | 1305022 | 19.60 | ppbv | | 0.00 |
| Target Compounds | | | | | | | | Qvalue |
| 2) | Propene | 4.223 | 41 | 96934 | 10.67 | ppbv | | 98 |
| 3) | Dichlorodifluoromethane | 4.308 | 85 | 466485 | 10.52 | ppbv | | 100 |
| 4) | 1,2-Dichlorotetrafluor... | 4.649 | 85 | 427629 | 9.95 | ppbv | | 98 |
| 5) | Chloromethane | 4.855 | 50 | 120054 | 10.54 | ppbv | | 100 |
| 6) | Vinyl chloride | 5.154 | 62 | 146652 | 10.25 | ppbv | | 99 |
| 7) | 1,3-Butadiene | 5.245 | 54 | 102014 | 10.00 | ppbv | | 98 |
| 8) | Bromomethane | 6.163 | 94 | 123601 | 10.69 | ppbv | | 99 |
| 9) | Chloroethane | 6.492 | 64 | 71563 | 10.44 | ppbv | | 98 |
| 10) | Bromoethene | 7.052 | 106 | 123886 | 11.32 | ppbv | | 99 |
| 11) | Trichlorofluoromethane | 7.149 | 101 | 429012 | 10.12 | ppbv | | 100 |
| 12) | 1,1,2-Trichloro-1,2,2-... | 8.907 | 151 | 221332 | 9.44 | ppbv | | 99 |
| 13) | 1,1-Dichloroethene | 9.029 | 61 | 190602 | 10.85 | ppbv | | 99 |
| 14) | Acetone | 9.686 | 43 | 195182 | 10.82 | ppbv | | 100 |
| 15) | Carbon disulfide | 9.722 | 76 | 379040 | 10.52 | ppbv | | 100 |
| 16) | 2-Propanol | 10.294 | 45 | 143688 | 11.97 | ppbv | | 100 |
| 17) | Allyl chloride | 10.623 | 41 | 133656 | 11.64 | ppbv | | 100 |
| 18) | Dichloromethane | 11.207 | 49 | 129914 | 8.89 | ppbv | | 99 |
| 19) | tert-Butyl methyl ethe... | 11.839 | 73 | 361998 | 11.89 | ppbv | | 100 |
| 20) | trans-1,2-Dichloroethene | 11.888 | 61 | 193251 | 11.25 | ppbv | | 99 |
| 21) | Hexane | 12.423 | 57 | 190706 | 11.28 | ppbv | | 100 |
| 22) | 1,1-Dichloroethane | 13.287 | 63 | 231919 | 9.93 | ppbv | | 100 |
| 23) | Vinyl acetate | 13.445 | 43 | 219678 | 12.56 | ppbv | | 100 |
| 24) | cis-1,2-Dichloroethene | 14.753 | 61 | 166408 | 11.16 | ppbv | | 99 |
| 25) | 2-Butanone (MEK) | 14.893 | 72 | 65495 | 11.43 | ppbv | | 100 |
| 26) | Ethyl acetate | 14.906 | 61 | 37905 | 10.97 | ppbv | # | 96 |
| 27) | Tetrahydrofuran | 15.295 | 42 | 124605 | 10.77 | ppbv | | 98 |
| 28) | Chloroform | 15.465 | 83 | 319661 | 10.76 | ppbv | | 99 |
| 29) | Cyclohexane | 15.599 | 56 | 198494 | 11.28 | ppbv | | 99 |
| 30) | 1,1,1-Trichloroethane | 15.703 | 97 | 345182 | 10.57 | ppbv | | 99 |
| 31) | Carbon tetrachloride | 15.940 | 117 | 360229 | 10.70 | ppbv | | 99 |
| 33) | Benzene | 16.469 | 78 | 433766 | 10.62 | ppbv | | 99 |
| 34) | 2,2,4-Trimethylpentane | 16.347 | 57 | 616886 | 11.10 | ppbv | | 99 |
| 35) | 1,2-Dichloroethane | 16.718 | 62 | 226794 | 10.31 | ppbv | | 100 |
| 36) | Heptane | 16.743 | 43 | 211917 | 10.85 | ppbv | | 98 |
| 37) | Trichloroethene | 17.704 | 130 | 201072 | 11.32 | ppbv | | 99 |
| 38) | 1,2-Dichloropropane | 18.239 | 63 | 144001 | 10.76 | ppbv | | 99 |
| 39) | 1,4-Dioxane | 18.440 | 88 | 83948 | 11.24 | ppbv | | 98 |
| 40) | Bromodichloromethane | 18.714 | 83 | 350413 | 10.28 | ppbv | | 100 |
| 41) | cis-1,3-Dichloropropene | 19.480 | 75 | 226007 | 11.21 | ppbv | | 99 |
| 42) | 4-Methyl-2-pentanone (... | 19.724 | 43 | 270614 | 11.09 | ppbv | | 99 |
| 44) | Toluene | 19.931 | 91 | 550728 | 10.77 | ppbv | | 100 |
| 45) | trans-1,3-Dichloropropene | 20.448 | 75 | 210253 | 10.07 | ppbv | | 99 |
| 46) | 1,1,2-Trichloroethane | 20.752 | 97 | 196909 | 10.53 | ppbv | | 100 |
| 47) | Tetrachloroethene | 20.764 | 166 | 299685 | 10.56 | ppbv | | 99 |
| 48) | 2-Hexanone | 21.080 | 43 | 247720 | 10.71 | ppbv | | 99 |
| 49) | Chlorodibromomethane | 21.354 | 129 | 371169 | 10.52 | ppbv | | 100 |
| 50) | 1,2-Dibromoethane (EDB) | 21.579 | 107 | 278385 | 10.96 | ppbv | | 99 |
| 51) | Chlorobenzene | 22.279 | 112 | 463468 | 10.48 | ppbv | | 100 |
| 52) | Ethylbenzene | 22.364 | 91 | 799166 | 10.73 | ppbv | | 99 |
| 53) | m&p-Xylene | 22.547 | 91 | 1232772 | 21.36 | ppbv | | 100 |
| 54) | o-Xylene | 23.197 | 91 | 606629 | 11.01 | ppbv | | 99 |

Data Path : D:\msdchem\1\2017\DATA\072017K_FSAA\
Data File : 072017K02.D
InstName : HP5973K
Acq On : 20 Jul 2017 10:32 am
Operator : LLH
Sample : S17G091-CCV1@B17G071-BS1
Misc : 10ppbv 1729076@1729079
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Jul 20 11:04:53 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 55) Styrene | 23.240 | 104 | 462221 | 10.43 ppbv | 100 |
| 56) Bromoform | 23.642 | 173 | 380666 | 10.83 ppbv | 100 |
| 57) 1,1,2,2-Tetrachloroethane | 24.353 | 83 | 423585 | 10.08 ppbv | 99 |
| 58) 4-Ethyltoluene | 24.548 | 105 | 879806 | 11.15 ppbv | 100 |
| 59) 1,3,5-Trimethylbenzene | 24.645 | 105 | 757438 | 10.75 ppbv | 100 |
| 60) 1,2,4-Trimethylbenzene | 25.248 | 105 | 741230 | 11.26 ppbv | 100 |
| 61) 1,3-Dichlorobenzene | 25.789 | 146 | 488846 | 10.57 ppbv | 100 |
| 62) 1,4-Dichlorobenzene | 25.941 | 146 | 478773 | 10.79 ppbv | 100 |
| 63) Benzyl chloride | 26.178 | 91 | 484151 | 12.44 ppbv | 100 |
| 64) 1,2-Dichlorobenzene | 26.556 | 146 | 491221 | 10.56 ppbv | 100 |
| 65) 1,2,4-Trichlorobenzene | 29.019 | 180 | 341879 | 9.80 ppbv | 99 |
| 66) Hexachlorobutadiene | 29.129 | 225 | 484066 | 9.80 ppbv | 100 |

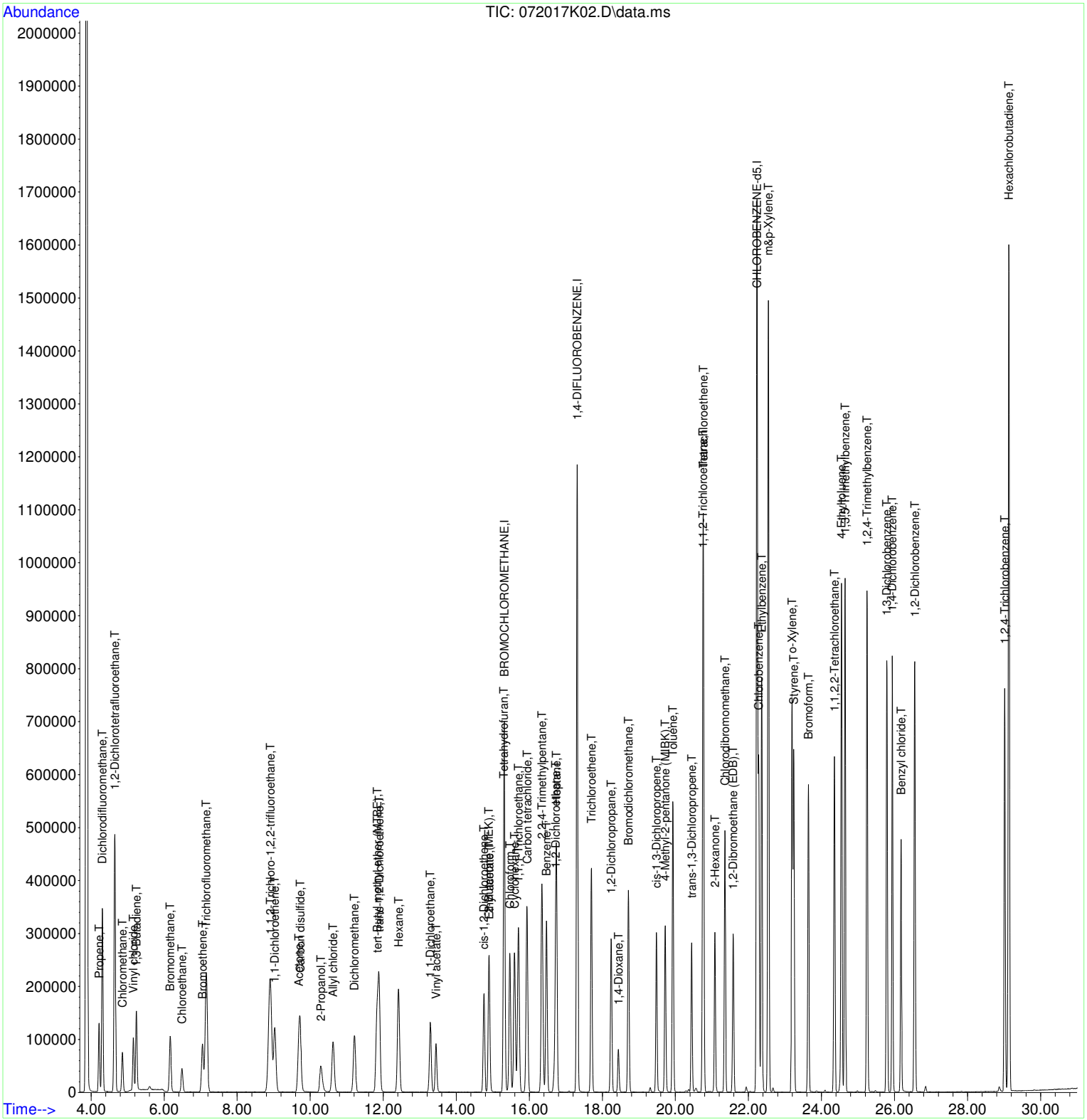
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\072017K_FSAA\
Data File : 072017K02.D
InstName : HP5973K
Acq On : 20 Jul 2017 10:32 am
Operator : LLH
Sample : S17G091-CCV1@B17G071-BS1
Misc : 10ppbv 1729076@1729079
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Jul 20 11:04:53 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration



**REVIEWED**
**By LLH at 11:57 am, Jul 20, 2017**

## LCS REPORT

Instrument Name: HP5973K
Sample Name: S17G091-CCV1@B17G071-BS1
Misc Info: 10ppbv 1729076@1729079
Date Acquired: 7/20/2017 10:32
QLast Update: Thu Jul 20 09:11:28 2017
Operator: LLH

| # | Name | Ret Time | Amount | Concentration | %R | QC | LIMIT | STATUS |
|---|---|---|---|---|---|---|---|---|
| 1) | BROMOCHLOROMETHANE | 15.31 | #N/A | 19.80 | #N/A | 70.0 | 130.0 | #N/A |
| 2) | Propene | 4.22 | 11.00 | 10.67 | 97% | 72.0 | 121.0 | pass |
| 3) | Dichlorodifluoromethane | 4.31 | 10.60 | 10.52 | 99% | 68.0 | 129.0 | pass |
| 4) | 1,2-Dichlorotetrafluoroethane | 4.65 | 10.10 | 9.95 | 99% | 67.0 | 127.0 | pass |
| 5) | Chloromethane | 4.86 | 11.00 | 10.54 | 96% | 70.0 | 123.0 | pass |
| 6) | Vinyl chloride | 5.15 | 10.70 | 10.25 | 96% | 69.0 | 125.0 | pass |
| 7) | 1,3-Butadiene | 5.24 | 10.60 | 10.00 | 94% | 75.0 | 121.0 | pass |
| 8) | Bromomethane | 6.16 | 10.70 | 10.69 | 100% | 66.0 | 125.0 | pass |
| 9) | Chloroethane | 6.49 | 10.50 | 10.44 | 99% | 67.0 | 125.0 | pass |
| 10) | Bromoethene | 7.05 | 10.80 | 11.32 | 105% | 68.0 | 124.0 | pass |
| 11) | Trichlorofluoromethane | 7.15 | 10.00 | 10.12 | 101% | 68.0 | 133.0 | pass |
| 12) | 1,1,2-Trichloro-1,2,2-trifluoroethane | 8.91 | 9.40 | 9.44 | 100% | 64.0 | 125.0 | pass |
| 13) | 1,1-Dichloroethene | 9.03 | 10.30 | 10.85 | 105% | 73.0 | 128.0 | pass |
| 14) | Acetone | 9.69 | 11.00 | 10.82 | 98% | 67.0 | 141.0 | pass |
| 15) | Carbon disulfide | 9.72 | 10.60 | 10.52 | 99% | 45.0 | 158.0 | pass |
| 16) | 2-Propanol | 10.29 | 11.00 | 11.97 | 109% | 72.0 | 132.0 | pass |
| 17) | Allyl chloride | 10.62 | 11.00 | 11.64 | 106% | 75.0 | 132.0 | pass |
| 18) | Dichloromethane | 11.21 | 9.70 | 8.89 | 92% | 73.0 | 116.0 | pass |
| 19) | tert-Butyl methyl ether (MTBE) | 11.84 | 10.80 | 11.89 | 110% | 74.0 | 131.0 | pass |
| 20) | trans-1,2-Dichloroethene | 11.89 | 11.00 | 11.25 | 102% | 80.0 | 123.0 | pass |
| 21) | Hexane | 12.42 | 10.50 | 11.28 | 107% | 75.0 | 124.0 | pass |
| 22) | 1,1-Dichloroethane | 13.29 | 9.90 | 9.93 | 100% | 72.0 | 125.0 | pass |
| 23) | Vinyl acetate | 13.45 | 11.00 | 12.56 | 114% | 31.0 | 171.0 | pass |
| 24) | cis-1,2-Dichloroethene | 14.75 | 10.40 | 11.16 | 107% | 77.0 | 129.0 | pass |
| 25) | 2-Butanone (MEK) | 14.89 | 10.80 | 11.43 | 106% | 69.0 | 137.0 | pass |
| 26) | Ethyl acetate | 14.91 | 10.90 | 10.97 | 101% | 75.0 | 127.0 | pass |
| 27) | Tetrahydrofuran | 15.29 | 10.50 | 10.77 | 103% | 78.0 | 120.0 | pass |
| 28) | Chloroform | 15.47 | 10.70 | 10.76 | 101% | 77.0 | 126.0 | pass |
| 29) | Cyclohexane | 15.60 | 10.70 | 11.28 | 105% | 76.0 | 124.0 | pass |
| 30) | 1,1,1-Trichloroethane | 15.70 | 10.30 | 10.57 | 103% | 74.0 | 133.0 | pass |
| 31) | Carbon tetrachloride | 15.94 | 10.40 | 10.70 | 103% | 71.0 | 141.0 | pass |
| 32) | 1,4-DIFLUOROBENZENE | 17.31 | #N/A | 19.60 | #N/A | 70.0 | 130.0 | #N/A |
| 33) | Benzene | 16.47 | 10.70 | 10.62 | 99% | 81.0 | 125.0 | pass |
| 34) | 2,2,4-Trimethylpentane | 16.35 | 10.60 | 11.10 | 105% | 82.0 | 125.0 | pass |
| 35) | 1,2-Dichloroethane | 16.72 | 10.40 | 10.31 | 99% | 61.0 | 153.0 | pass |
| 36) | Heptane | 16.74 | 10.70 | 10.85 | 101% | 80.0 | 129.0 | pass |
| 37) | Trichloroethene | 17.70 | 11.00 | 11.32 | 103% | 73.0 | 128.0 | pass |
| 38) | 1,2-Dichloropropane | 18.24 | 10.70 | 10.76 | 101% | 77.0 | 129.0 | pass |
| 39) | 1,4-Dioxane | 18.44 | 10.60 | 11.24 | 106% | 58.0 | 140.0 | pass |
| 40) | Bromodichloromethane | 18.71 | 10.40 | 10.28 | 99% | 76.0 | 137.0 | pass |
| 41) | cis-1,3-Dichloropropene | 19.48 | 10.40 | 11.21 | 108% | 80.0 | 136.0 | pass |
| 42) | 4-Methyl-2-pentanone (MIBK) | 19.72 | 10.60 | 11.09 | 105% | 65.0 | 140.0 | pass |
| 43) | CHLOROBENZENE-d5 | 22.24 | #N/A | 19.60 | #N/A | 70.0 | 130.0 | #N/A |
| 44) | Toluene | 19.93 | 10.80 | 10.77 | 100% | 78.0 | 133.0 | pass |
| 45) | trans-1,3-Dichloropropene | 20.45 | 9.70 | 10.07 | 104% | 79.0 | 146.0 | pass |
| 46) | 1,1,2-Trichloroethane | 20.75 | 10.90 | 10.53 | 97% | 74.0 | 134.0 | pass |
| 47) | Tetrachloroethene | 20.76 | 10.80 | 10.56 | 98% | 73.0 | 130.0 | pass |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 48) | 2-Hexanone | 21.08 | 10.50 | 10.71 | 102% | 50.0 | 162.0 | pass |
| 49) | Chlorodibromomethane | 21.35 | 10.70 | 10.52 | 98% | 81.0 | 135.0 | pass |
| 50) | 1,2-Dibromoethane (EDB) | 21.58 | 11.00 | 10.96 | 100% | 78.0 | 133.0 | pass |
| 51) | Chlorobenzene | 22.28 | 11.00 | 10.48 | 95% | 81.0 | 126.0 | pass |
| 52) | Ethylbenzene | 22.36 | 10.90 | 10.73 | 98% | 82.0 | 130.0 | pass |
| 53) | m&p-Xylene | 22.55 | 21.60 | 21.36 | 99% | 82.0 | 131.0 | pass |
| 54) | o-Xylene | 23.20 | 10.60 | 11.01 | 104% | 82.0 | 132.0 | pass |
| 55) | Styrene | 23.24 | 10.30 | 10.43 | 101% | 65.0 | 141.0 | pass |
| 56) | Bromoform | 23.64 | 10.70 | 10.83 | 101% | 84.0 | 137.0 | pass |
| 57) | 1,1,2,2-Tetrachloroethane | 24.35 | 10.50 | 10.08 | 96% | 73.0 | 127.0 | pass |
| 58) | 4-Ethyltoluene | 24.55 | 10.40 | 11.15 | 107% | 81.0 | 127.0 | pass |
| 59) | 1,3,5-Trimethylbenzene | 24.65 | 10.70 | 10.75 | 101% | 77.0 | 132.0 | pass |
| 60) | 1,2,4-Trimethylbenzene | 25.25 | 10.60 | 11.26 | 106% | 78.0 | 131.0 | pass |
| 61) | 1,3-Dichlorobenzene | 25.79 | 10.50 | 10.57 | 101% | 79.0 | 124.0 | pass |
| 62) | 1,4-Dichlorobenzene | 25.94 | 10.60 | 10.79 | 102% | 75.0 | 127.0 | pass |
| 63) | Benzyl chloride | 26.18 | 11.00 | 12.44 | 113% | 67.0 | 156.0 | pass |
| 64) | 1,2-Dichlorobenzene | 26.56 | 10.40 | 10.56 | 102% | 77.0 | 124.0 | pass |
| 65) | 1,2,4-Trichlorobenzene | 29.02 | 9.40 | 9.80 | 104% | 55.0 | 132.0 | pass |
| 66) | Hexachlorobutadiene | 29.14 | 9.90 | 9.80 | 99% | 52.0 | 131.0 | pass |

# S17G091-CRL1

**REVIEWED**
**By LLH at 11:56 am, Jul 20, 2017**

## QLS REPORT

Instrument Name: HP5973K
Sample Name: S17G091-CRL1
Misc Info: 1.0ppbv 1729073
Date Acquired: 7/20/2017 11:21
QLast Update: Thu Jul 20 09:11:28 2017
Operator: LLH

1 OUT - nontarget

| # | Name | Ret Time | Amount | Concentration | %R | QC | LIMIT | STATUS | TYPE |
|---|---|---|---|---|---|---|---|---|---|
| 1) | BROMOCHLOROMETHANE | 15.31 | #N/A | 19.80 | #N/A | 60.0 | 140.0 | #N/A | Internal |
| 2) | Propene | 4.22 | 1.10 | 1.12 | 101% | 60.0 | 140.0 | pass | Subset |
| 3) | Dichlorodifluoromethane | 4.31 | 1.06 | 1.11 | 105% | 60.0 | 140.0 | pass | Primary |
| 4) | 1,2-Dichlorotetrafluoroethane | 4.65 | 1.01 | 1.07 | 106% | 60.0 | 140.0 | pass | Primary |
| 5) | Chloromethane | 4.86 | 1.10 | 1.16 | 105% | 60.0 | 140.0 | pass | Primary |
| 6) | Vinyl chloride | 5.16 | 1.07 | 1.12 | 104% | 60.0 | 140.0 | pass | Primary |
| 7) | 1,3-Butadiene | 5.24 | 1.06 | 1.11 | 104% | 60.0 | 140.0 | pass | Subset |
| 8) | Bromomethane | 6.17 | 1.07 | 1.12 | 105% | 60.0 | 140.0 | pass | Primary |
| 9) | Chloroethane | 6.49 | 1.05 | 1.09 | 104% | 60.0 | 140.0 | pass | Primary |
| 10) | Bromoethene | 7.06 | 1.08 | 1.14 | 106% | 60.0 | 140.0 | pass | Subset |
| 11) | Trichlorofluoromethane | 7.15 | 1.00 | 1.08 | 108% | 60.0 | 140.0 | pass | Primary |
| 12) | 1,1,2-Trichloro-1,2,2-trifluoroethane | 8.89 | 0.94 | 1.01 | 107% | 60.0 | 140.0 | pass | Primary |
| 13) | 1,1-Dichloroethene | 9.03 | 1.03 | 0.98 | 95% | 60.0 | 140.0 | pass | Primary |
| 14) | Acetone | 9.72 | 1.10 | 1.13 | 103% | 60.0 | 140.0 | pass | Subset |
| 15) | Carbon disulfide | 9.72 | 1.06 | 1.11 | 105% | 60.0 | 140.0 | pass | Subset |
| 16) | 2-Propanol | 10.33 | 1.10 | 1.11 | 101% | 60.0 | 140.0 | pass | Subset |
| 17) | Allyl chloride | 10.63 | 1.10 | 0.98 | 89% | 60.0 | 140.0 | pass | Subset |
| 18) | Dichloromethane | 11.21 | 0.97 | 1.20 | 124% | 60.0 | 140.0 | pass | Primary |
| 19) | tert-Butyl methyl ether (MTBE) | 11.87 | 1.08 | 0.94 | 87% | 60.0 | 140.0 | pass | Subset |
| 20) | trans-1,2-Dichloroethene | 11.88 | 1.10 | 1.09 | 100% | 60.0 | 140.0 | pass | Subset |
| 21) | Hexane | 12.41 | 1.05 | 0.87 | 82% | 60.0 | 140.0 | pass | Subset |
| 22) | 1,1-Dichloroethane | 13.29 | 0.99 | 0.97 | 98% | 60.0 | 140.0 | pass | Primary |
| 23) | Vinyl acetate | 13.45 | 1.10 | 0.76 | 69% | 60.0 | 140.0 | pass | Subset |
| 24) | cis-1,2-Dichloroethene | 14.76 | 1.04 | 0.92 | 88% | 60.0 | 140.0 | pass | Primary |
| 25) | 2-Butanone (MEK) | 14.91 | 1.08 | 0.91 | 85% | 60.0 | 140.0 | pass | Subset |
| 26) | Ethyl acetate | 14.92 | 1.09 | 0.97 | 89% | 60.0 | 140.0 | pass | Subset |
| 27) | Tetrahydrofuran | 15.33 | 1.05 | 0.96 | 92% | 60.0 | 140.0 | pass | Subset |
| 28) | Chloroform | 15.46 | 1.07 | 1.07 | 100% | 60.0 | 140.0 | pass | Primary |
| 29) | Cyclohexane | 15.60 | 1.07 | 0.94 | 88% | 60.0 | 140.0 | pass | Subset |
| 30) | 1,1,1-Trichloroethane | 15.70 | 1.03 | 1.04 | 101% | 60.0 | 140.0 | pass | Primary |
| 31) | Carbon tetrachloride | 15.93 | 1.04 | 1.04 | 100% | 60.0 | 140.0 | pass | Primary |
| 32) | 1,4-DIFLUOROBENZENE | 17.31 | #N/A | 19.60 | #N/A | 60.0 | 140.0 | #N/A | Internal |
| 33) | Benzene | 16.47 | 1.07 | 0.98 | 91% | 60.0 | 140.0 | pass | Primary |
| 34) | 2,2,4-Trimethylpentane | 16.35 | 1.06 | 0.84 | 80% | 60.0 | 140.0 | pass | Subset |
| 35) | 1,2-Dichloroethane | 16.71 | 1.04 | 1.00 | 97% | 60.0 | 140.0 | pass | Primary |
| 36) | Heptane | 16.74 | 1.07 | 0.87 | 82% | 60.0 | 140.0 | pass | Subset |
| 37) | Trichloroethene | 17.70 | 1.10 | 1.01 | 92% | 60.0 | 140.0 | pass | Primary |
| 38) | 1,2-Dichloropropane | 18.25 | 1.07 | 1.00 | 94% | 60.0 | 140.0 | pass | Primary |
| 39) | 1,4-Dioxane | 18.45 | 1.06 | 0.89 | 84% | 60.0 | 140.0 | pass | Subset |
| 40) | Bromodichloromethane | 18.71 | 1.04 | 1.00 | 96% | 60.0 | 140.0 | pass | Subset |
| 41) | cis-1,3-Dichloropropene | 19.48 | 1.04 | 0.80 | 77% | 60.0 | 140.0 | pass | Primary |
| 42) | 4-Methyl-2-pentanone (MIBK) | 19.73 | 1.06 | 0.87 | 82% | 60.0 | 140.0 | pass | Subset |
| 43) | CHLOROBENZENE-d5 | 22.24 | #N/A | 19.60 | #N/A | 60.0 | 140.0 | #N/A | Internal |
| 44) | Toluene | 19.94 | 1.08 | 0.89 | 83% | 60.0 | 140.0 | pass | Primary |
| 45) | trans-1,3-Dichloropropene | 20.45 | 0.97 | 0.75 | 78% | 60.0 | 140.0 | pass | Primary |
| 46) | 1,1,2-Trichloroethane | 20.76 | 1.09 | 1.00 | 92% | 60.0 | 140.0 | pass | Primary |
| 47) | Tetrachloroethene | 20.77 | 1.08 | 0.98 | 90% | 60.0 | 140.0 | pass | Primary |
| 48) | 2-Hexanone | 21.09 | 1.05 | 0.78 | 74% | 60.0 | 140.0 | pass | Subset |
| 49) | Chlorodibromomethane | 21.35 | 1.07 | 0.97 | 91% | 60.0 | 140.0 | pass | Subset |
| 50) | 1,2-Dibromoethane (EDB) | 21.59 | 1.10 | 0.96 | 87% | 60.0 | 140.0 | pass | Primary |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 51) | Chlorobenzene | 22.28 | 1.10 | 1.05 | 96% | 60.0 | 140.0 | pass | Primary | |
| 52) | Ethylbenzene | 22.36 | 1.09 | 0.93 | 86% | 60.0 | 140.0 | pass | Primary | |
| 53) | m&p-Xylene | 22.55 | 2.16 | 1.81 | 84% | 60.0 | 140.0 | pass | Primary | |
| 54) | o-Xylene | 23.20 | 1.06 | 0.78 | 73% | 60.0 | 140.0 | pass | Primary | |
| 55) | Styrene | 23.25 | 1.03 | 0.81 | 78% | 60.0 | 140.0 | pass | Primary | |
| 56) | Bromoform | 23.64 | 1.07 | 0.88 | 83% | 60.0 | 140.0 | pass | Subset | |
| 57) | 1,1,2,2-Tetrachloroethane | 24.35 | 1.05 | 0.95 | 90% | 60.0 | 140.0 | pass | Primary | |
| 58) | 4-Ethyltoluene | 24.55 | 1.04 | 0.68 | 65% | 60.0 | 140.0 | pass | Subset | |
| 59) | 1,3,5-Trimethylbenzene | 24.65 | 1.07 | 0.86 | 80% | 60.0 | 140.0 | pass | Primary | |
| 60) | 1,2,4-Trimethylbenzene | 25.25 | 1.06 | 0.74 | 70% | 60.0 | 140.0 | pass | Primary | |
| 61) | 1,3-Dichlorobenzene | 25.79 | 1.05 | 0.90 | 86% | 60.0 | 140.0 | pass | Primary | |
| 62) | 1,4-Dichlorobenzene | 25.94 | 1.06 | 0.88 | 83% | 60.0 | 140.0 | pass | Primary | |
| 63) | Benzyl chloride | 26.18 | 1.10 | 0.50 | 45% | 60.0 | 140.0 | FAIL | Subset | NT |
| 64) | 1,2-Dichlorobenzene | 26.56 | 1.04 | 0.91 | 87% | 60.0 | 140.0 | pass | Primary | |
| 65) | 1,2,4-Trichlorobenzene | 29.02 | 0.94 | 0.92 | 98% | 60.0 | 140.0 | pass | Primary | |
| 66) | Hexachlorobutadiene | 29.13 | 0.99 | 0.97 | 98% | 60.0 | 140.0 | pass | Primary | |

Data Path : D:\msdchem\1\2017\DATA\072017K_FSAA\
Data File : 072017K03.D
InstName : HP5973K
Acq On : 20 Jul 2017 11:21 am
Operator : LLH
Sample : S17G091-CRL1
Misc : 1.0ppbv 1729073
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Jul 20 11:54:48 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) BROMOCHLOROMETHANE | 15.313 | 49 | 374802 | 19.80 | ppbv | | 0.00 |
| 32) 1,4-DIFLUOROBENZENE | 17.308 | 114 | 1331410 | 19.60 | ppbv | | 0.00 |
| 43) CHLOROBENZENE-d5 | 22.236 | 117 | 1239705 | 19.60 | ppbv | | 0.00 |
| Target Compounds | | | | | | | Qvalue |
| 2) Propene | 4.223 | 41 | 9893 | 1.12 | ppbv | | 95 |
| 3) Dichlorodifluoromethane | 4.308 | 85 | 48176 | 1.11 | ppbv | | 99 |
| 4) 1,2-Dichlorotetrafluor... | 4.648 | 85 | 44738 | 1.07 | ppbv | | 99 |
| 5) Chloromethane | 4.861 | 50 | 12885 | 1.16 | ppbv | | 99 |
| 6) Vinyl chloride | 5.159 | 62 | 15589 | 1.12 | ppbv | | 96 |
| 7) 1,3-Butadiene | 5.238 | 54 | 11009 | 1.11 | ppbv | | 84 |
| 8) Bromomethane | 6.169 | 94 | 12629 | 1.12 | ppbv | | 98 |
| 9) Chloroethane | 6.486 | 64 | 7282 | 1.09 | ppbv | | 94 |
| 10) Bromoethene | 7.057 | 106 | 12209 | 1.14 | ppbv | | 97 |
| 11) Trichlorofluoromethane | 7.155 | 101 | 44866 | 1.08 | ppbv | | 98 |
| 12) 1,1,2-Trichloro-1,2,2-... | 8.895 | 151 | 23090 | 1.01 | ppbv | | 98 |
| 13) 1,1-Dichloroethene | 9.029 | 61 | 16809 | 0.98 | ppbv | | 98 |
| 14) Acetone | 9.716 | 43 | 19890 | 1.13 | ppbv | | 99 |
| 15) Carbon disulfide | 9.716 | 76 | 39114 | 1.11 | ppbv | | 96 |
| 16) 2-Propanol | 10.330 | 45 | 13041 | 1.11 | ppbv | | 84 |
| 17) Allyl chloride | 10.629 | 41 | 10968 | 0.98 | ppbv | # | 92 |
| 18) Dichloromethane | 11.213 | 49 | 17109 | 1.20 | ppbv | | 98 |
| 19) tert-Butyl methyl ethe... | 11.870 | 73 | 27818 | 0.94 | ppbv | | 97 |
| 20) trans-1,2-Dichloroethene | 11.882 | 61 | 18343 | 1.09 | ppbv | | 100 |
| 21) Hexane | 12.411 | 57 | 14286 | 0.87 | ppbv | | 90 |
| 22) 1,1-Dichloroethane | 13.287 | 63 | 22222 | 0.97 | ppbv | | 97 |
| 23) Vinyl acetate | 13.451 | 43 | 12905 | 0.76 | ppbv | | 96 |
| 24) cis-1,2-Dichloroethene | 14.759 | 61 | 13385 | 0.92 | ppbv | | 98 |
| 25) 2-Butanone (MEK) | 14.905 | 72 | 5110 | 0.91 | ppbv | # | 89 |
| 26) Ethyl acetate | 14.917 | 61 | 3260 | 0.97 | ppbv | # | 94 |
| 27) Tetrahydrofuran | 15.325 | 42 | 10863 | 0.96 | ppbv | | 100 |
| 28) Chloroform | 15.459 | 83 | 31154 | 1.07 | ppbv | | 99 |
| 29) Cyclohexane | 15.605 | 56 | 16204 | 0.94 | ppbv | | 97 |
| 30) 1,1,1-Trichloroethane | 15.702 | 97 | 33300 | 1.04 | ppbv | | 100 |
| 31) Carbon tetrachloride | 15.933 | 117 | 34326 | 1.04 | ppbv | | 100 |
| 33) Benzene | 16.469 | 78 | 39605 | 0.98 | ppbv | | 99 |
| 34) 2,2,4-Trimethylpentane | 16.347 | 57 | 46606 | 0.84 | ppbv | | 95 |
| 35) 1,2-Dichloroethane | 16.712 | 62 | 21907 | 1.00 | ppbv | | 100 |
| 36) Heptane | 16.743 | 43 | 16953 | 0.87 | ppbv | | 97 |
| 37) Trichloroethene | 17.698 | 130 | 17847 | 1.01 | ppbv | | 99 |
| 38) 1,2-Dichloropropane | 18.245 | 63 | 13340 | 1.00 | ppbv | | 99 |
| 39) 1,4-Dioxane | 18.452 | 88 | 6633 | 0.89 | ppbv | | 98 |
| 40) Bromodichloromethane | 18.714 | 83 | 33865 | 1.00 | ppbv | | 100 |
| 41) cis-1,3-Dichloropropene | 19.480 | 75 | 16063 | 0.80 | ppbv | | 99 |
| 42) 4-Methyl-2-pentanone (... | 19.730 | 43 | 20981 | 0.87 | ppbv | | 98 |
| 44) Toluene | 19.936 | 91 | 43366 | 0.89 | ppbv | | 99 |
| 45) trans-1,3-Dichloropropene | 20.447 | 75 | 14924 | 0.75 | ppbv | | 97 |
| 46) 1,1,2-Trichloroethane | 20.758 | 97 | 17778 | 1.00 | ppbv | | 98 |
| 47) Tetrachloroethene | 20.770 | 166 | 26341 | 0.98 | ppbv | | 99 |
| 48) 2-Hexanone | 21.086 | 43 | 17044 | 0.78 | ppbv | | 94 |
| 49) Chlorodibromomethane | 21.354 | 129 | 32462 | 0.97 | ppbv | | 99 |
| 50) 1,2-Dibromoethane (EDB) | 21.585 | 107 | 23092 | 0.96 | ppbv | | 100 |
| 51) Chlorobenzene | 22.279 | 112 | 44209 | 1.05 | ppbv | # | 78 |
| 52) Ethylbenzene | 22.364 | 91 | 66023 | 0.93 | ppbv | | 100 |
| 53) m&p-Xylene | 22.546 | 91 | 99479 | 1.81 | ppbv | | 100 |
| 54) o-Xylene | 23.197 | 91 | 40718 | 0.78 | ppbv | | 99 |

Data Path : D:\msdchem\1\2017\DATA\072017K_FSAA\
Data File : 072017K03.D
InstName : HP5973K
Acq On : 20 Jul 2017 11:21 am
Operator : LLH
Sample : S17G091-CRL1
Misc : 1.0ppbv 1729073
ALS Vial : 31 Sample Multiplier: 1

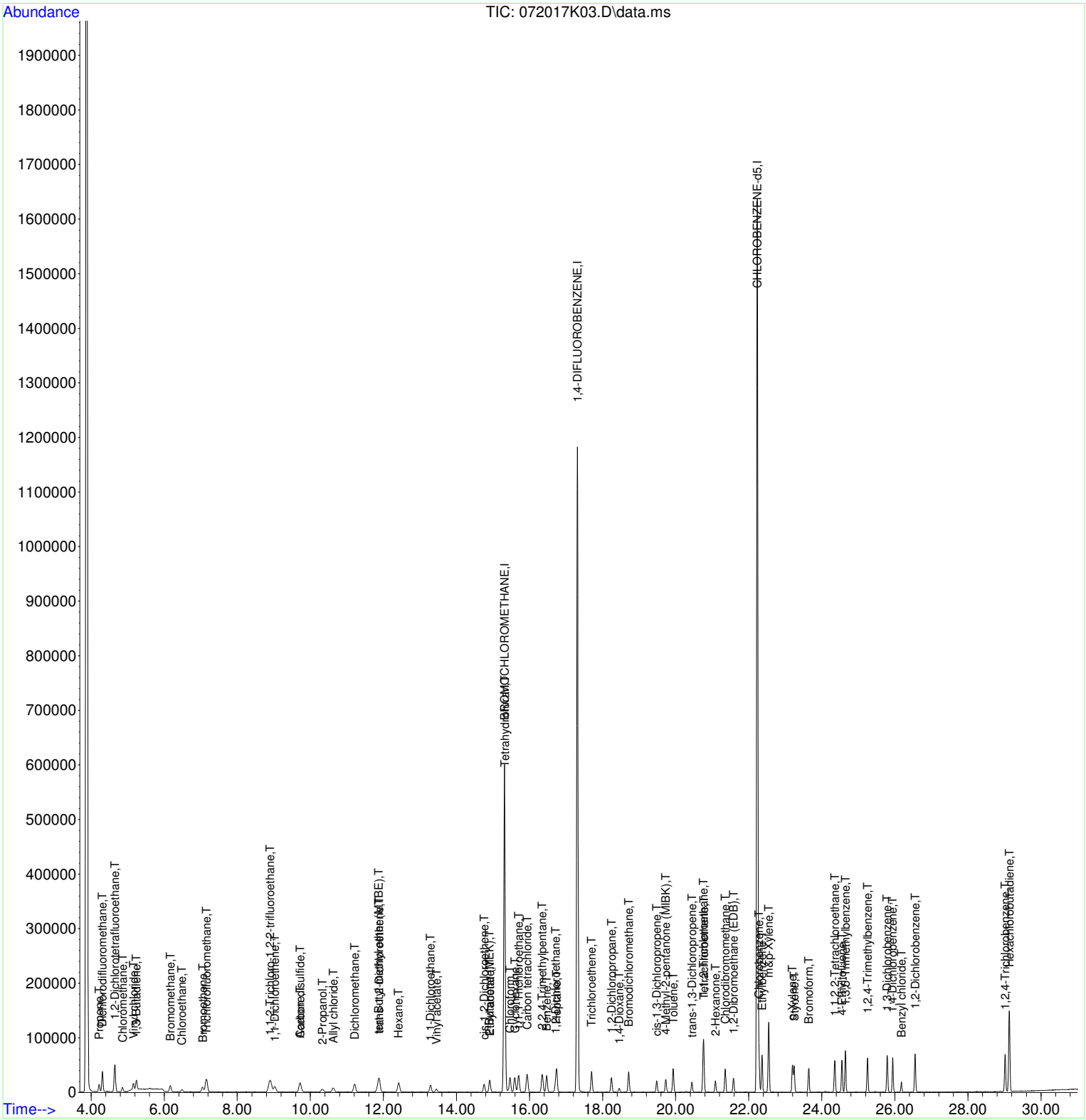
Quant Time: Jul 20 11:54:48 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 55) Styrene | 23.246 | 104 | 33978 | 0.81 ppbv | 99 |
| 56) Bromoform | 23.641 | 173 | 29535 | 0.88 ppbv | 98 |
| 57) 1,1,2,2-Tetrachloroethane | 24.353 | 83 | 37753 | 0.95 ppbv | 98 |
| 58) 4-Ethyltoluene | 24.554 | 105 | 50588 | 0.68 ppbv | 99 |
| 59) 1,3,5-Trimethylbenzene | 24.645 | 105 | 57590 | 0.86 ppbv | 100 |
| 60) 1,2,4-Trimethylbenzene | 25.253 | 105 | 46253 | 0.74 ppbv | 99 |
| 61) 1,3-Dichlorobenzene | 25.789 | 146 | 39593 | 0.90 ppbv | 99 |
| 62) 1,4-Dichlorobenzene | 25.941 | 146 | 37223 | 0.88 ppbv | 99 |
| 63) Benzyl chloride | 26.178 | 91 | 18504 | 0.50 ppbv | 96 |
| 64) 1,2-Dichlorobenzene | 26.555 | 146 | 40091 | 0.91 ppbv | 98 |
| 65) 1,2,4-Trichlorobenzene | 29.019 | 180 | 30450 | 0.92 ppbv | 99 |
| 66) Hexachlorobutadiene | 29.135 | 225 | 45540 | 0.97 ppbv | 98 |

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

Data Path : D:\msdchem\1\2017\DATA\072017K_FSAA\
Data File : 072017K03.D
InstName : HP5973K
Acq On : 20 Jul 2017 11:21 am
Operator : LLH
Sample : S17G091-CRL1
Misc : 1.0ppbv 1729073
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Jul 20 11:54:48 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration



# B17G071-BLK1

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2017\DATA\072017K_FSAA\
Data File : 072017K04.D
InstName : HP5973K
Acq On : 20 Jul 2017 12:13 pm
Operator : LLH
Sample : B17G071-BLK1
Misc : 200ml BLANK
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Jul 20 12:45:28 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| Internal Standards | | | | | |
| 1) BROMOCHLOROMETHANE | 15.313 | 49 | 354909 | 19.80 ppbv | 0.00 |
| 32) 1,4-DIFLUOROBENZENE | 17.309 | 114 | 1280928 | 19.60 ppbv | 0.00 |
| 43) CHLOROBENZENE-d5 | 22.236 | 117 | 1175778 | 19.60 ppbv | 0.00 |

| Target Compounds | Qvalue |
|---|---|

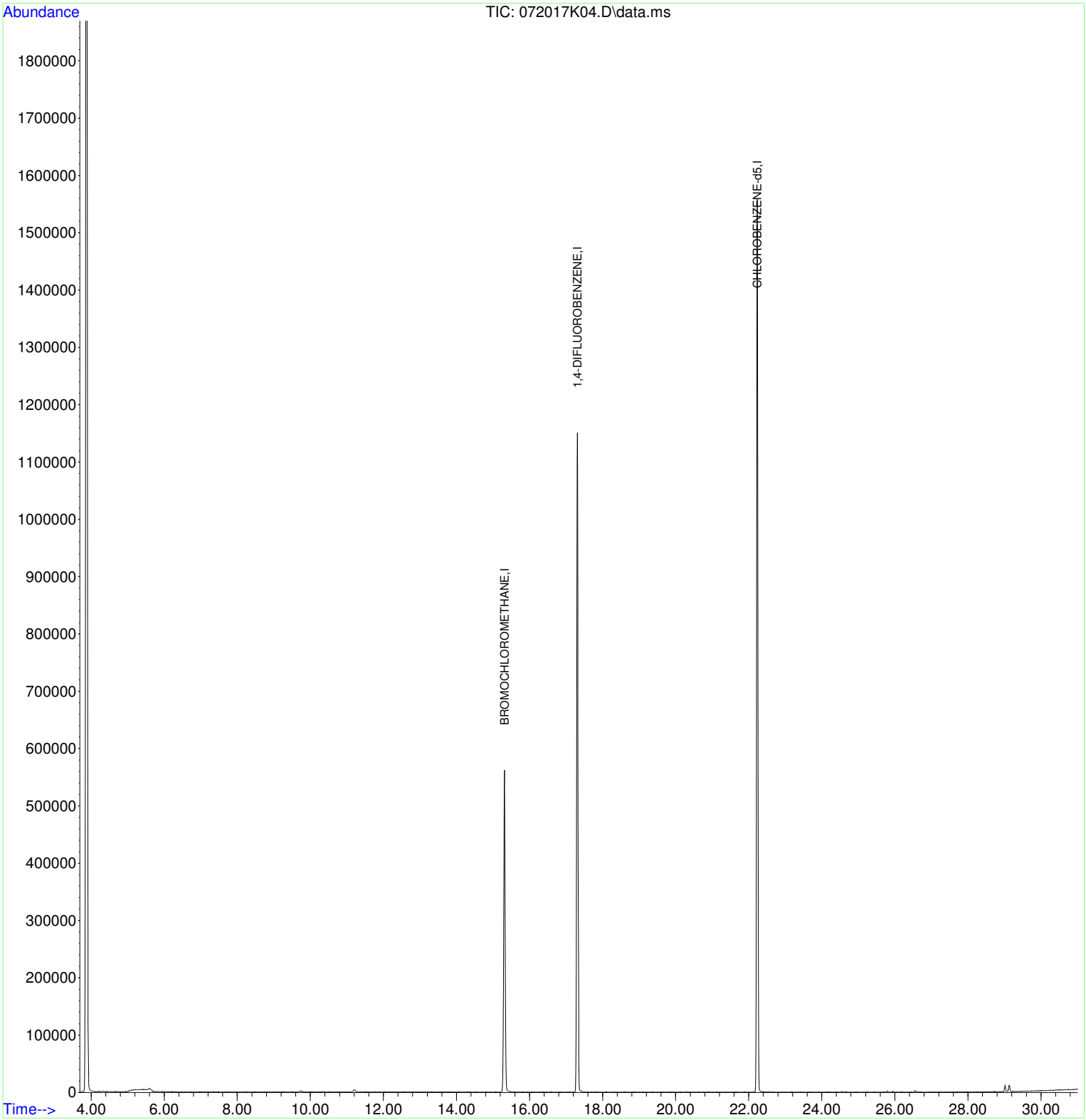
(#) = qualifier out of range (m) = manual integration (+) = signals summed

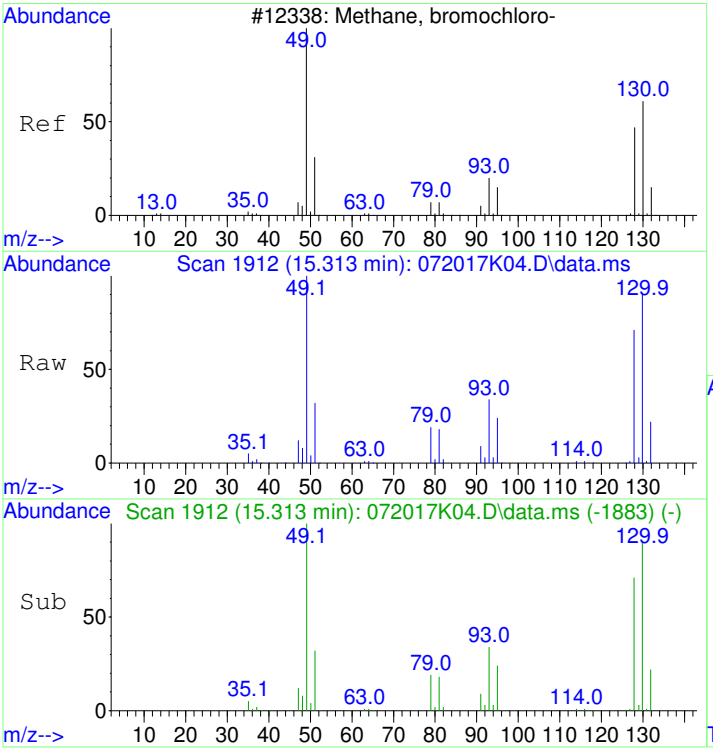
**REVIEWED**
**By LLH at 12:45 pm, Jul 20, 2017**

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\072017K_FSAA\
Data File : 072017K04.D
InstName : HP5973K
Acq On : 20 Jul 2017 12:13 pm
Operator : LLH
Sample : B17G071-BLK1
Misc : 200ml BLANK
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Jul 20 12:45:28 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

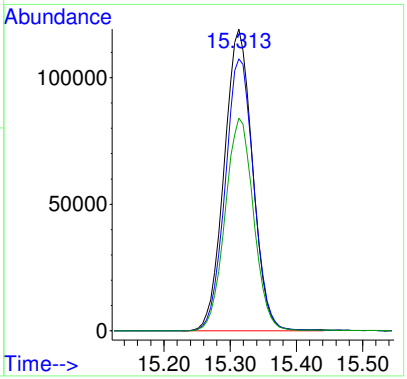


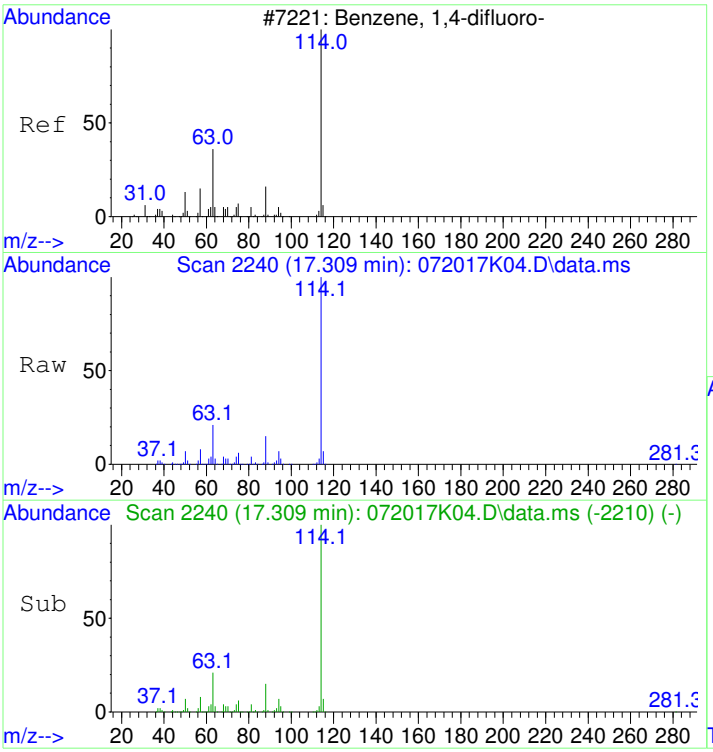



#1
BROMOCHLOROMETHANE
Concen: 19.80 ppbv
RT: 15.313 min Scan# 1912
Delta R.T. 0.000 min
Lab File: 072017K04.D
Acq: 20 Jul 2017 12:13 pm

Tgt Ion: 49 Resp: 354909

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 130 | 90.8 | 67.2 | 107.2 |
| 128 | 70.8 | 47.6 | 87.6 |

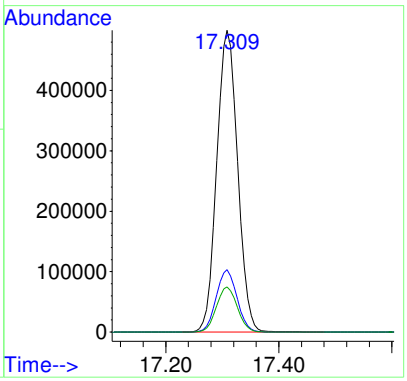


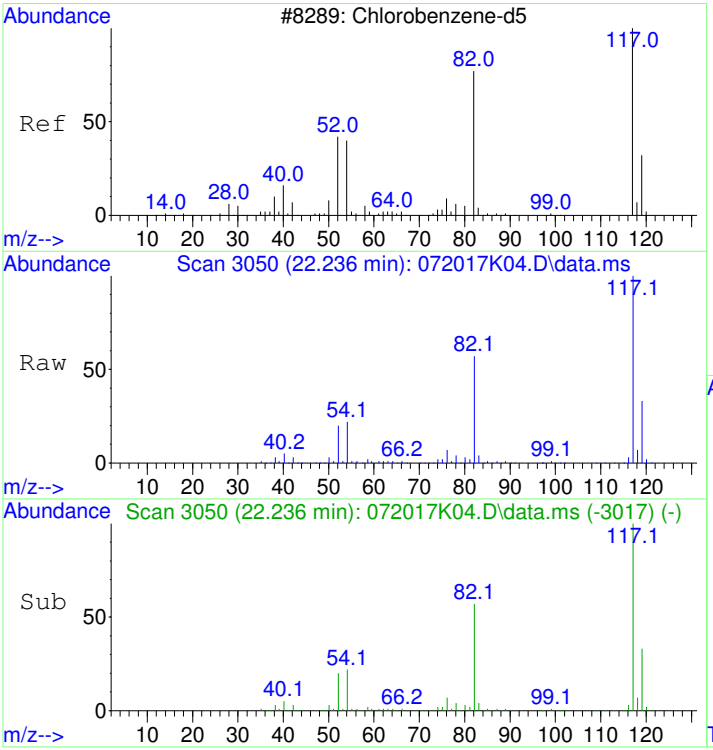




#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 17.309 min Scan# 2240
Delta R.T. -0.000 min
Lab File: 072017K04.D
Acq: 20 Jul 2017 12:13 pm

Tgt Ion:114 Resp: 1280928

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 114 | 100 | | |
| 63 | 20.5 | 0.8 | 40.8 |
| 88 | 15.0 | 0.0 | 35.1 |

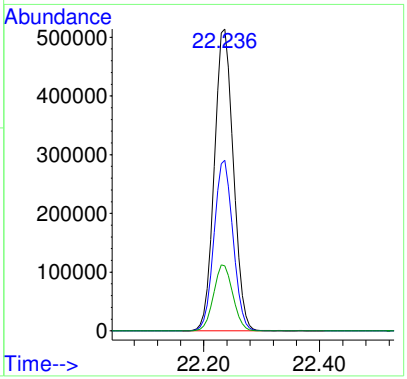





#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 22.236 min Scan# 3050
Delta R.T. -0.000 min
Lab File: 072017K04.D
Acq: 20 Jul 2017 12:13 pm

Tgt Ion:117 Resp: 1175778

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 117 | 100 | | |
| 82 | 56.4 | 36.2 | 76.2 |
| 54 | 22.0 | 2.0 | 42.0 |



# S17G091-IBL1

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2017\DATA\072017K_FSAA\
Data File : 072017K08.D
InstName : HP5973K
Acq On : 20 Jul 2017 3:34 pm
Operator : LLH
Sample : S17G091-IBL1
Misc : 200ml BLANK
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Jul 20 16:06:19 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) BROMOCHLOROMETHANE | 15.313 | 49 | 384618 | 19.80 | ppbv | 0.00 |
| 32) 1,4-DIFLUOROBENZENE | 17.308 | 114 | 1530045 | 19.60 | ppbv | 0.00 |
| 43) CHLOROBENZENE-d5 | 22.236 | 117 | 1383000 | 19.60 | ppbv | 0.00 |

| Target Compounds | Qvalue |
|---|---|

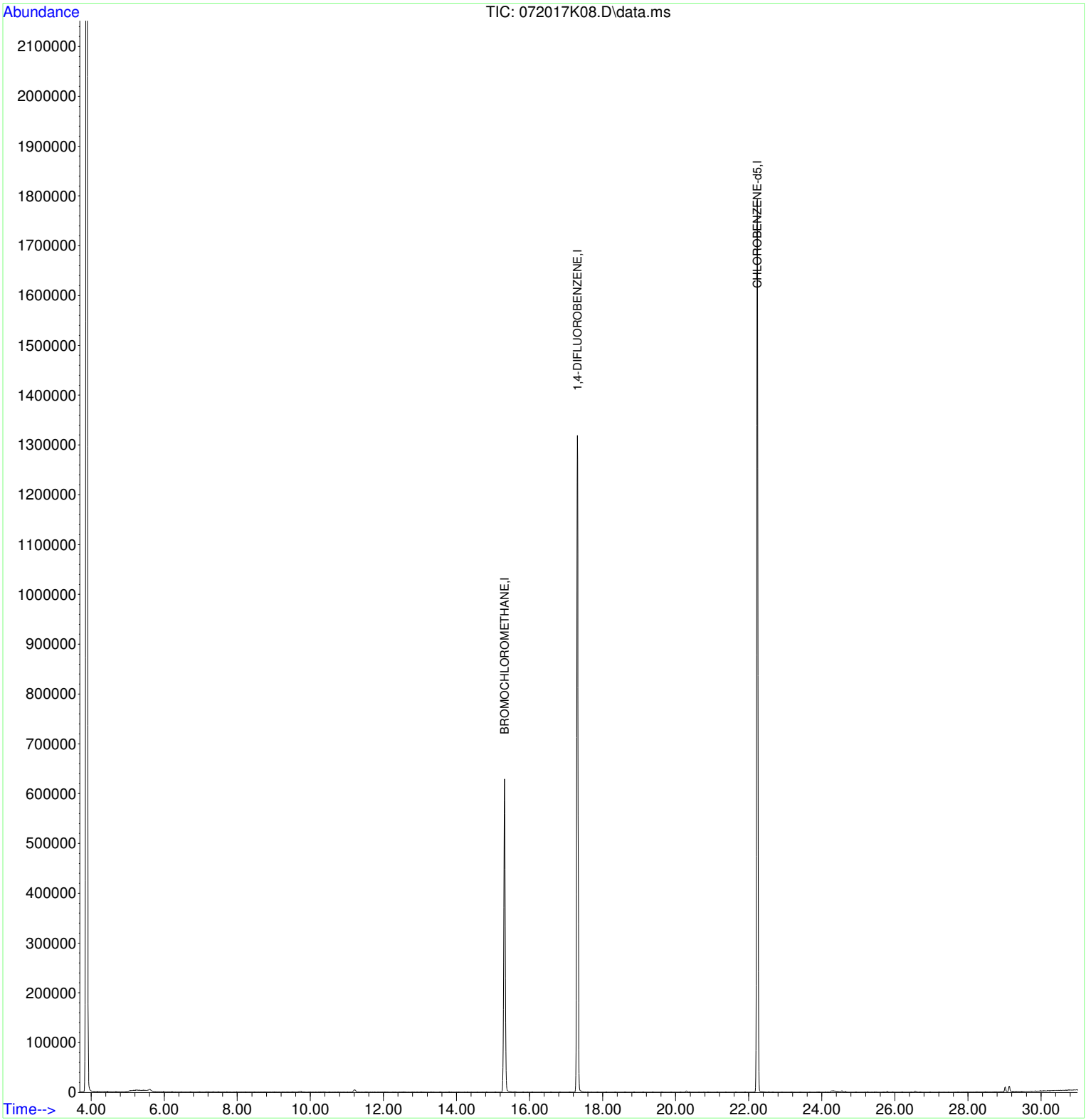
(#) = qualifier out of range (m) = manual integration (+) = signals summed

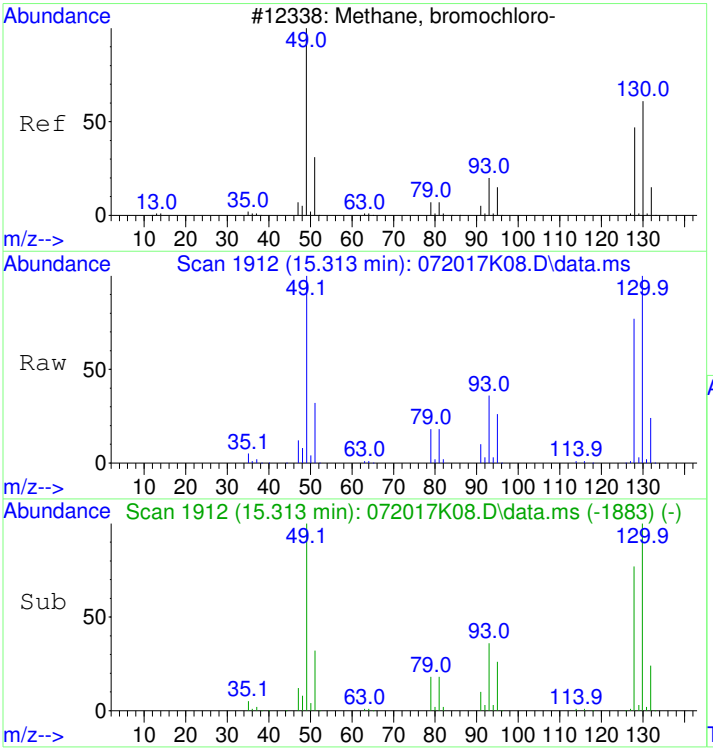
**REVIEWED**
**By LLH at 4:06 pm, Jul 20, 2017**

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\072017K_FSAA\
Data File : 072017K08.D
InstName : HP5973K
Acq On : 20 Jul 2017 3:34 pm
Operator : LLH
Sample : S17G091-IBL1
Misc : 200ml BLANK
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Jul 20 16:06:19 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

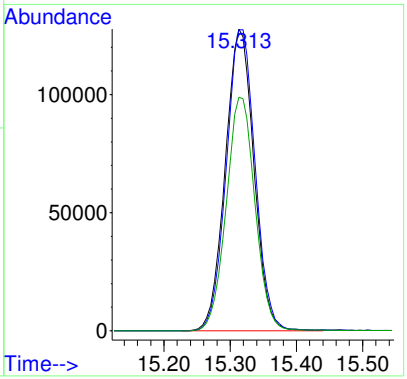


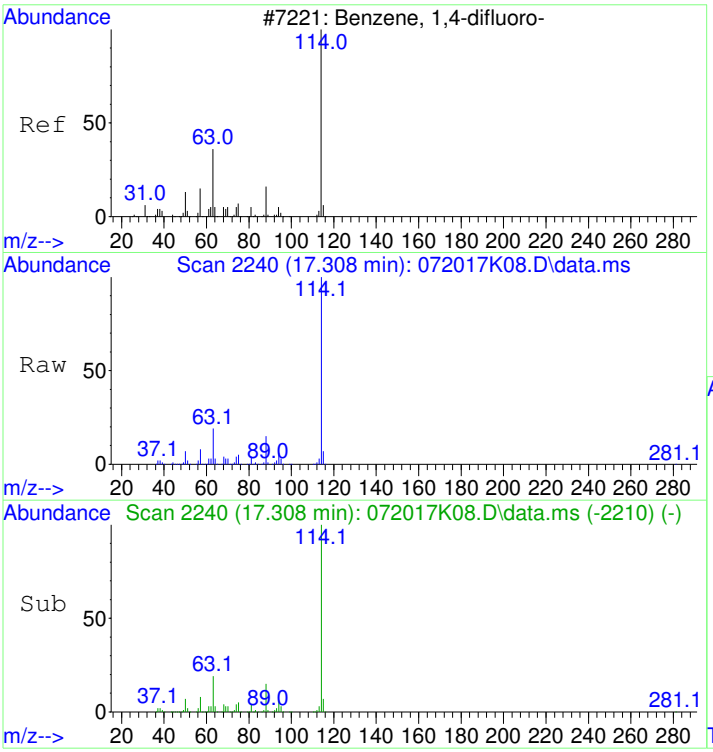



#1
BROMOCHLOROMETHANE
Concen: 19.80 ppbv
RT: 15.313 min Scan# 1912
Delta R.T. 0.000 min
Lab File: 072017K08.D
Acq: 20 Jul 2017 3:34 pm

Tgt Ion: 49 Resp: 384618

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 130 | 100.5 | 67.2 | 107.2 |
| 128 | 77.7 | 47.6 | 87.6 |

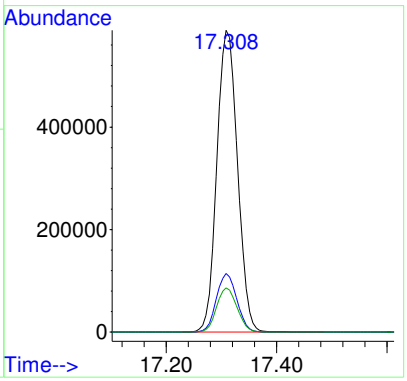


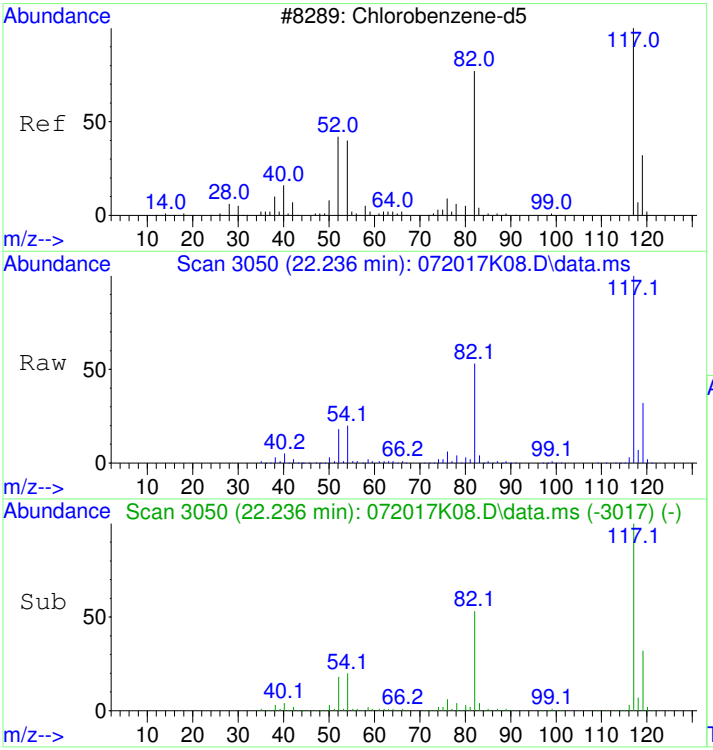




#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 17.308 min Scan# 2240
Delta R.T. -0.000 min
Lab File: 072017K08.D
Acq: 20 Jul 2017 3:34 pm

Tgt Ion:114 Resp: 1530045

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 114 | 100 | | |
| 63 | 19.2 | 0.8 | 40.8 |
| 88 | 14.5 | 0.0 | 35.1 |

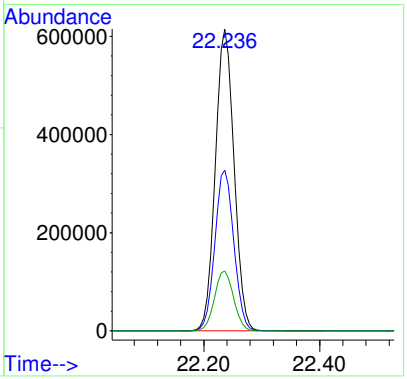





#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 22.236 min Scan# 3050
Delta R.T. -0.000 min
Lab File: 072017K08.D
Acq: 20 Jul 2017 3:34 pm

Tgt Ion:117 Resp: 1383000

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 117 | 100 | | |
| 82 | 53.9 | 36.2 | 76.2 |
| 54 | 20.2 | 2.0 | 42.0 |



# S17G091-IBL2

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2017\DATA\072017K_FSAA\
Data File : 072017K11.D
InstName : HP5973K
Acq On : 20 Jul 2017 6:08 pm
Operator : LLH
Sample : S17G091-IBL2
Misc : 200ml BLANK
ALS Vial : 33 Sample Multiplier: 1

#2 IS out high

Quant Time: Jul 21 09:27:34 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) | |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) BROMOCHLOROMETHANE | 15.313 | 49 | 493076 | 19.80 ppbv | 0.00 | |
| 32) 1,4-DIFLUOROBENZENE | 17.308 | 114 | 1929945 | 19.60 ppbv | 0.00 | IS ↑ |
| 43) CHLOROBENZENE-d5 | 22.236 | 117 | 1718607 | 19.60 ppbv | 0.00 | |

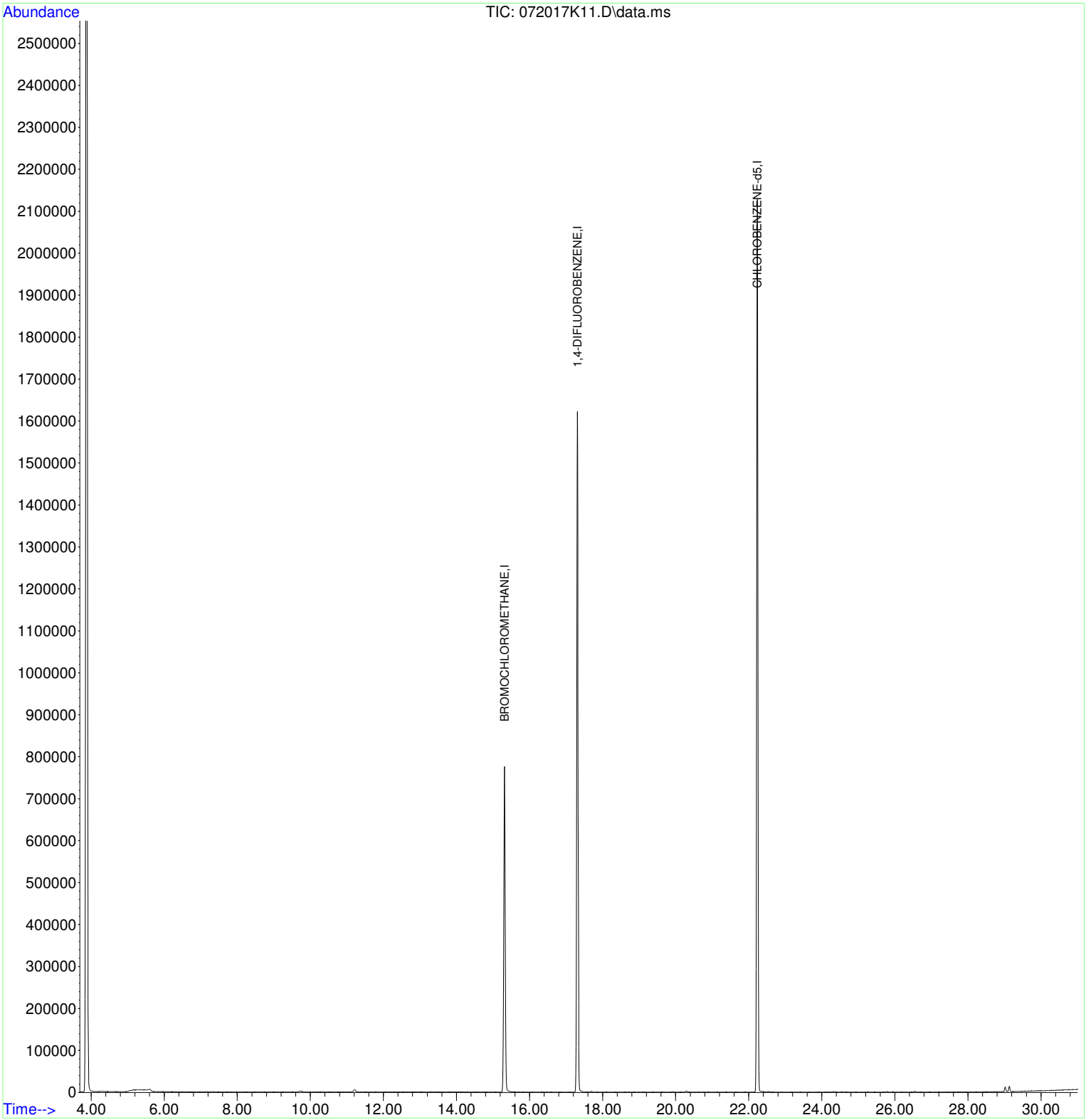
| Target Compounds | Qvalue |
|---|---|

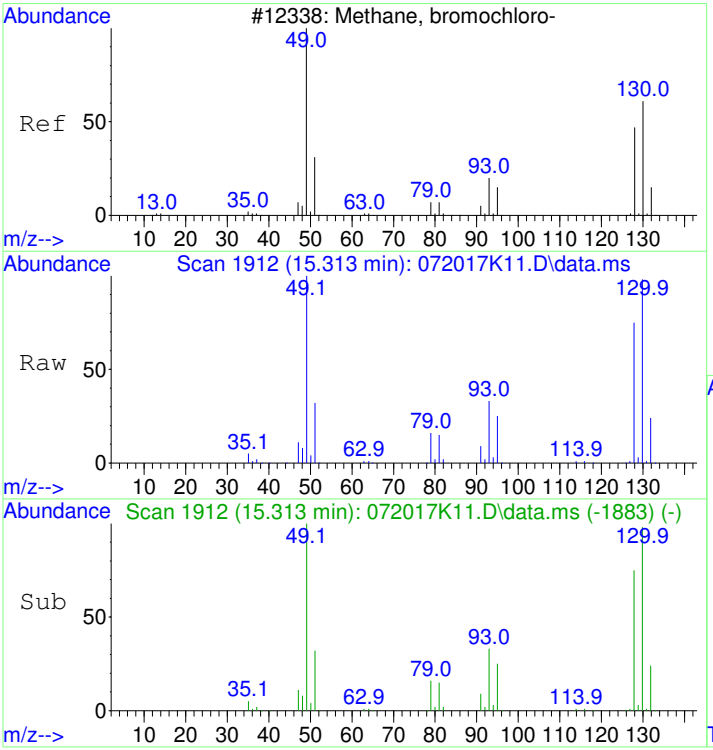
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\072017K_FSAA\
Data File : 072017K11.D
InstName : HP5973K
Acq On : 20 Jul 2017 6:08 pm
Operator : LLH
Sample : S17G091-IBL2
Misc : 200ml BLANK
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Jul 21 09:27:34 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

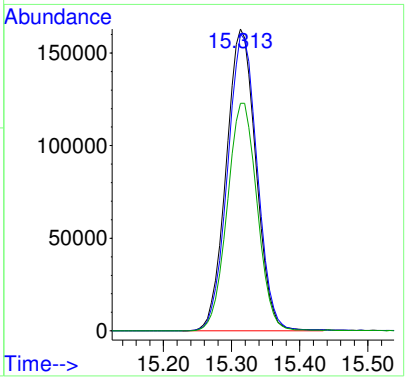


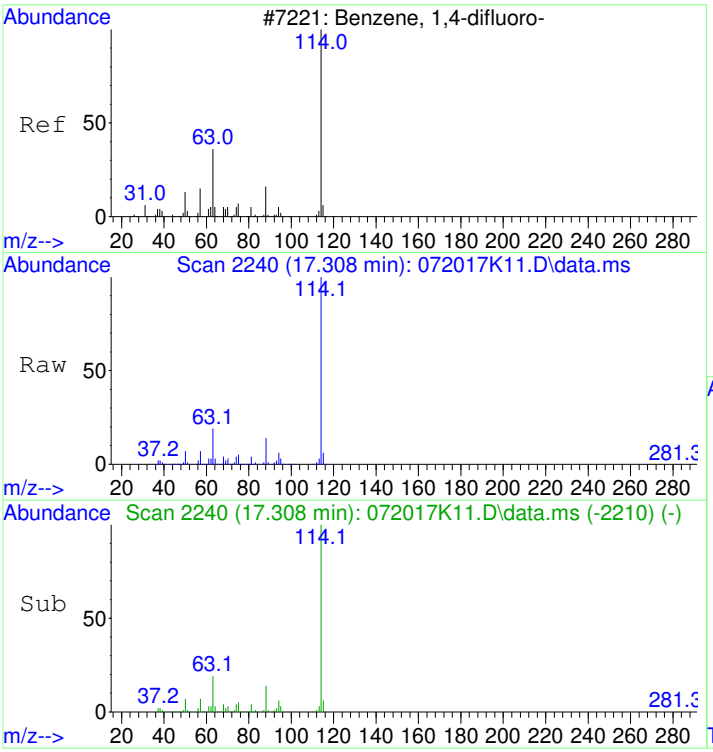



#1
BROMOCHLOROMETHANE
Concen: 19.80 ppbv
RT: 15.313 min Scan# 1912
Delta R.T. 0.000 min
Lab File: 072017K11.D
Acq: 20 Jul 2017 6:08 pm

Tgt Ion: 49 Resp: 493076

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 130 | 97.9 | 67.2 | 107.2 |
| 128 | 75.8 | 47.6 | 87.6 |

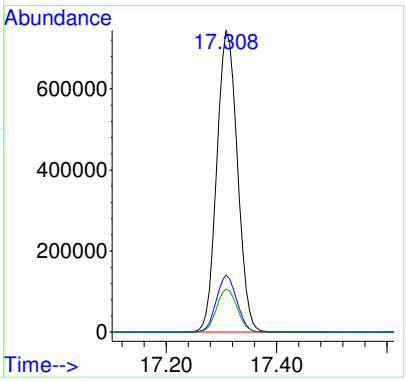


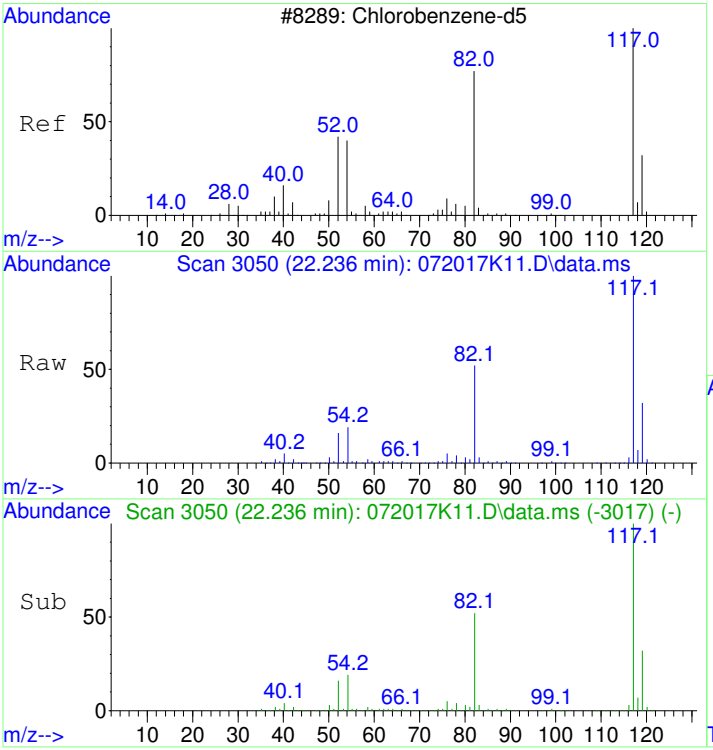




#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 17.308 min Scan# 2240
Delta R.T. -0.000 min
Lab File: 072017K11.D
Acq: 20 Jul 2017 6:08 pm

Tgt Ion:114 Resp: 1929945

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 114 | 100 | | |
| 63 | 18.7 | 0.8 | 40.8 |
| 88 | 14.2 | 0.0 | 35.1 |

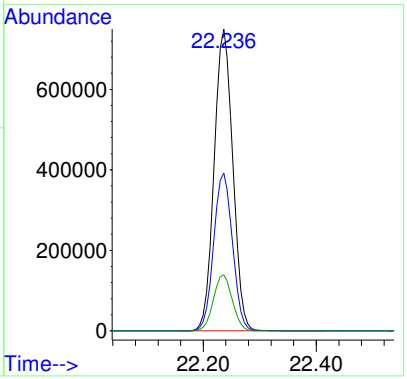





#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 22.236 min Scan# 3050
Delta R.T. -0.000 min
Lab File: 072017K11.D
Acq: 20 Jul 2017 6:08 pm

Tgt Ion:117 Resp: 1718607

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 117 | 100 | | |
| 82 | 52.7 | 36.2 | 76.2 |
| 54 | 18.8 | 2.0 | 42.0 |



# 1707040-06

Data Path : D:\msdchem\1\2017\DATA\072017K_FSAA\
Data File : 072017K12.D
InstName : HP5973K
Acq On : 20 Jul 2017 6:59 pm
Operator : LLH
Sample : 1707040-06
Misc : 200ml F5-054-4ft
ALS Vial : 14 Sample Multiplier: 2.07

REPORT

Quant Time: Jul 21 09:40:35 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| Internal Standards | | | | | |
| 1) BROMOCHLOROMETHANE | 15.313 | 49 | 437609 | 19.80 ppbv | 0.00 |
| 32) 1,4-DIFLUOROBENZENE | 17.308 | 114 | 1684715 | 19.60 ppbv | 0.00 |
| 43) CHLOROBENZENE-d5 | 22.236 | 117 | 1535109 | 19.60 ppbv | 0.00 |
| Target Compounds | | | | | Qvalue |
| 14) Acetone | 9.698 | 43 | 42131 | 2.05 ppbv | 95 |
| 24) cis-1,2-Dichloroethene | 14.759 | 61 | 26306 | 1.55 ppbv | 92 |
| 28) Chloroform | 15.465 | 83 | 32647 | 0.96 ppbv | 98 |
| 37) Trichloroethene | 17.704 | 130 | 73074 | 3.28 ppbv | 98 |
| 47) Tetrachloroethene | 20.770 | 166 | 20645 | 0.62 ppbv | 97 |

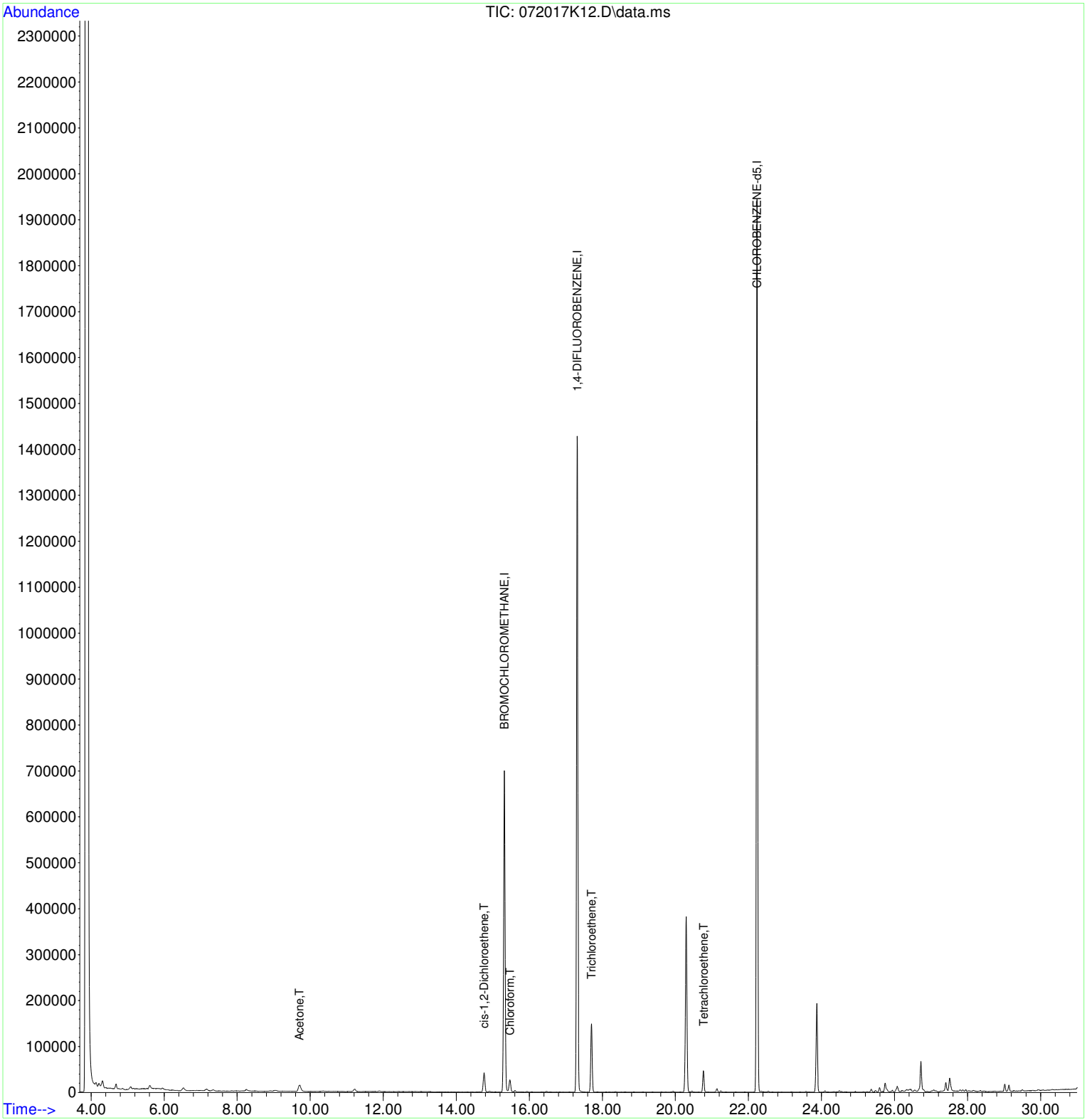
(#) = qualifier out of range (m) = manual integration (+) = signals summed

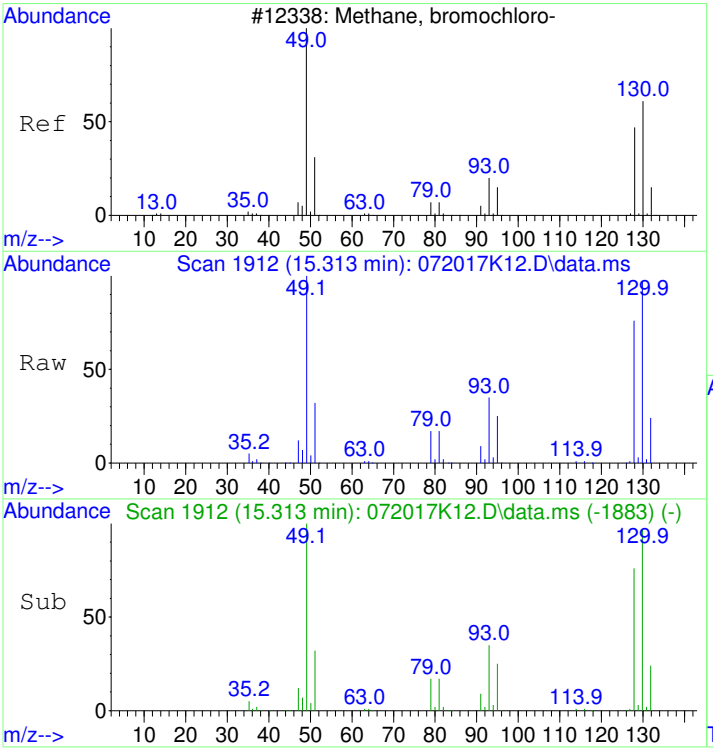
**REVIEWED**
**By LLH at 12:00 pm, Jul 21, 2017**

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\072017K_FSAA\
Data File : 072017K12.D
InstName : HP5973K
Acq On : 20 Jul 2017 6:59 pm
Operator : LLH
Sample : 1707040-06
Misc : 200ml F5-054-4ft
ALS Vial : 14 Sample Multiplier: 2.07

Quant Time: Jul 21 09:40:35 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

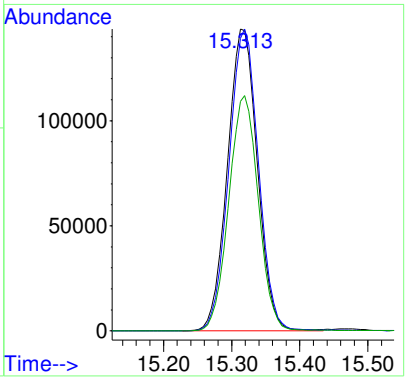


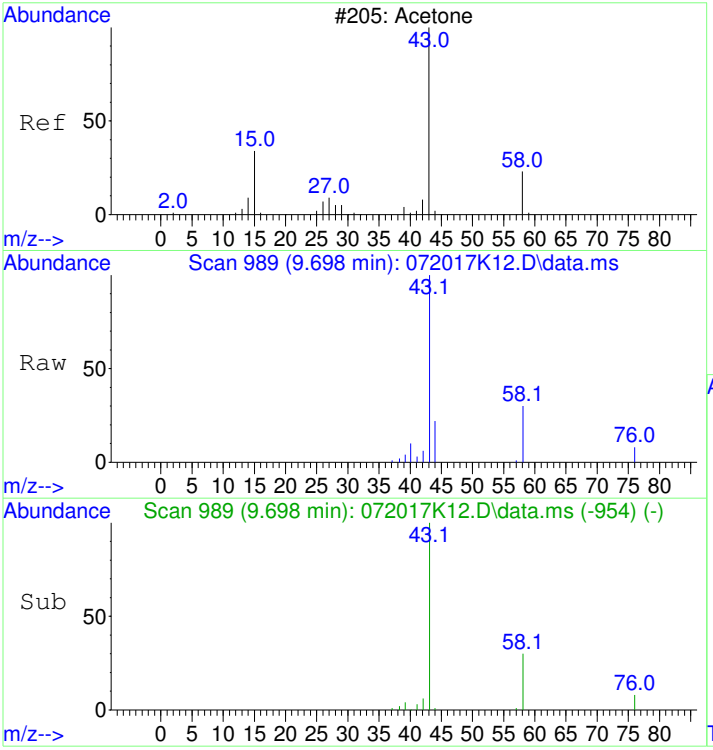



#1
BROMOCHLOROMETHANE
Concen: 19.80 ppbv
RT: 15.313 min Scan# 1912
Delta R.T. -0.000 min
Lab File: 072017K12.D
Acq: 20 Jul 2017 6:59 pm

Tgt Ion: 49 Resp: 437609

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 130 | 98.5 | 67.2 | 107.2 |
| 128 | 77.0 | 47.6 | 87.6 |

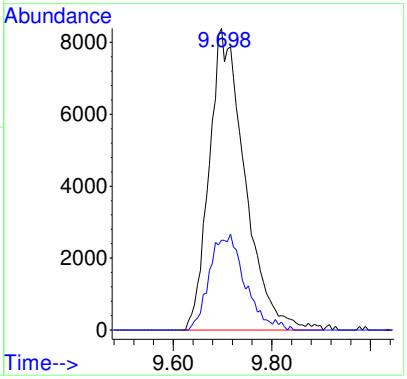


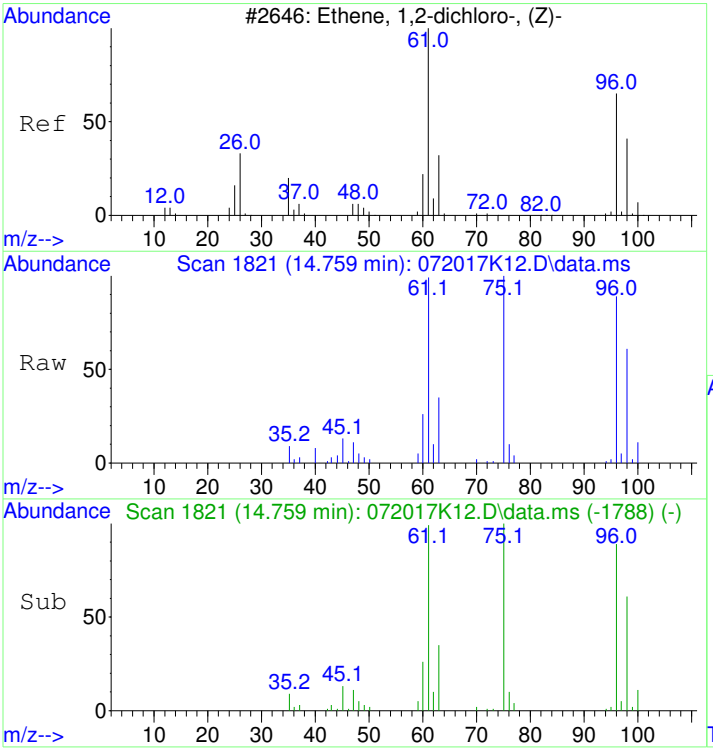




#14
Acetone
Concen: 2.05 ppbv
RT: 9.698 min Scan# 989
Delta R.T. 0.012 min
Lab File: 072017K12.D
Acq: 20 Jul 2017 6:59 pm

Tgt Ion: 43 Resp: 42131

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 43 | 100 | | |
| 58 | 31.6 | 9.0 | 49.0 |

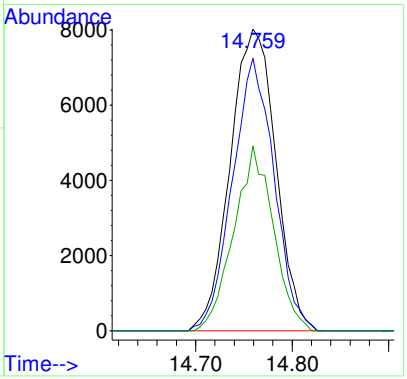


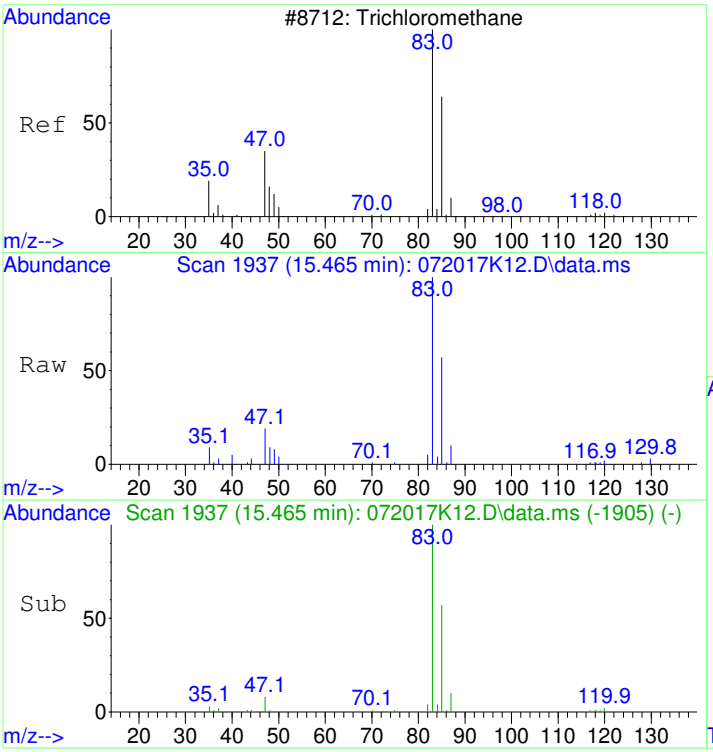



#24
cis-1,2-Dichloroethene
Concen: 1.55 ppbv
RT: 14.759 min Scan# 1821
Delta R.T. -0.000 min
Lab File: 072017K12.D
Acq: 20 Jul 2017 6:59 pm

Tgt Ion: 61 Resp: 26306

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 61 | 100 | | |
| 96 | 82.7 | 56.2 | 96.2 |
| 98 | 53.1 | 27.8 | 67.8 |

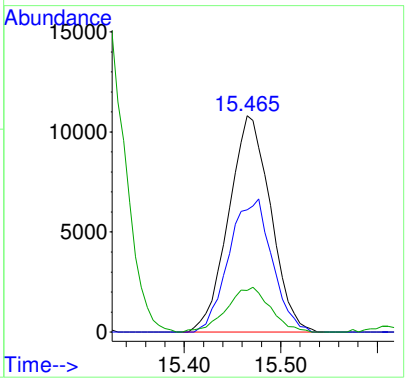


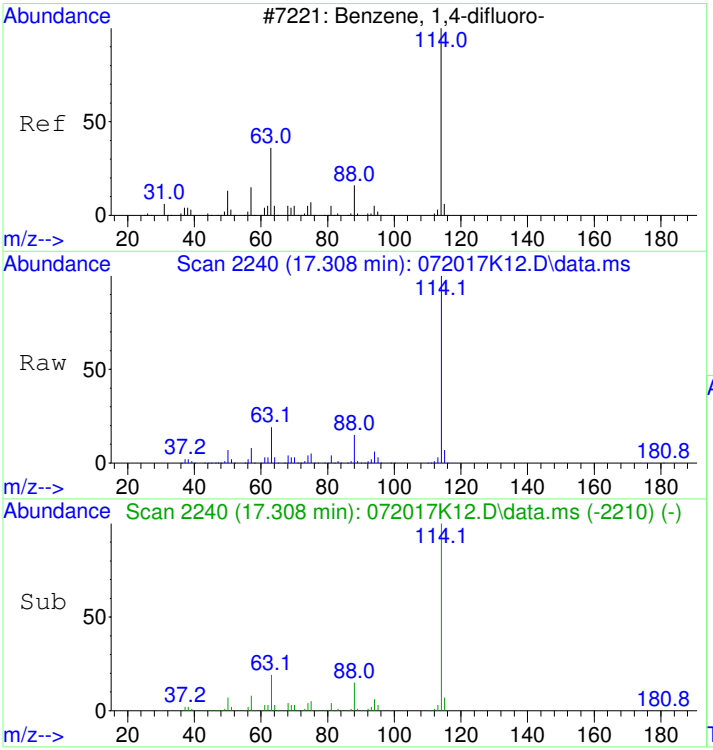




#28
Chloroform
Concen: 0.96 ppbv
RT: 15.465 min Scan# 1937
Delta R.T. -0.006 min
Lab File: 072017K12.D
Acq: 20 Jul 2017 6:59 pm

Tgt Ion: 83 Resp: 32647

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 83 | 100 | | |
| 85 | 63.1 | 44.6 | 84.6 |
| 47 | 21.5 | 2.7 | 42.7 |

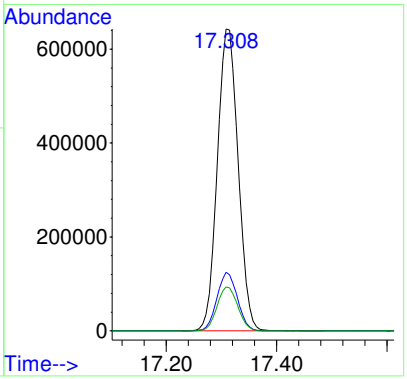


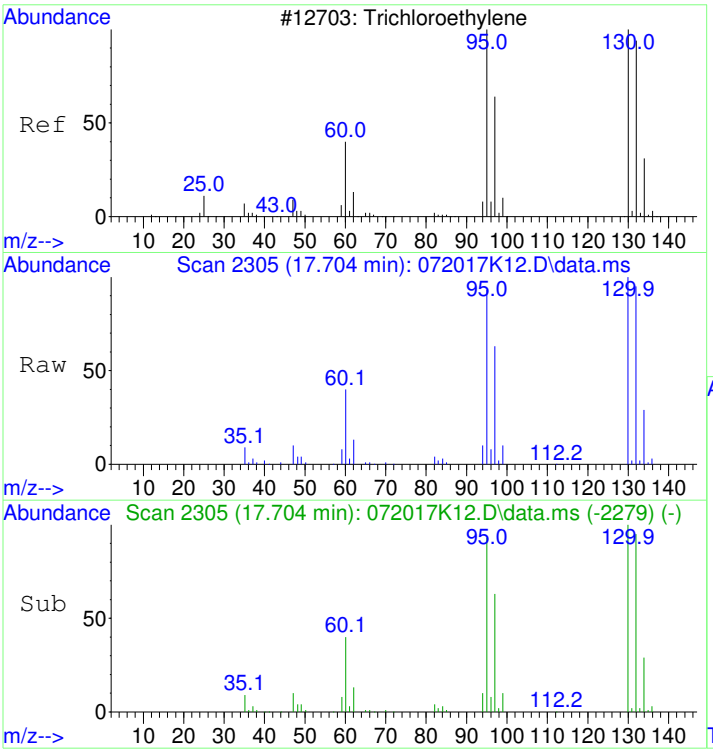



#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 17.308 min Scan# 2240
Delta R.T. -0.000 min
Lab File: 072017K12.D
Acq: 20 Jul 2017 6:59 pm

Tgt Ion:114 Resp: 1684715

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 114 | 100 | | |
| 63 | 19.0 | 0.8 | 40.8 |
| 88 | 14.5 | 0.0 | 35.1 |

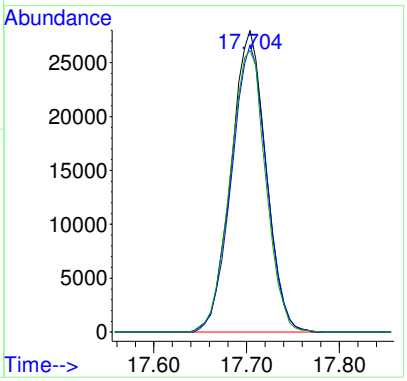


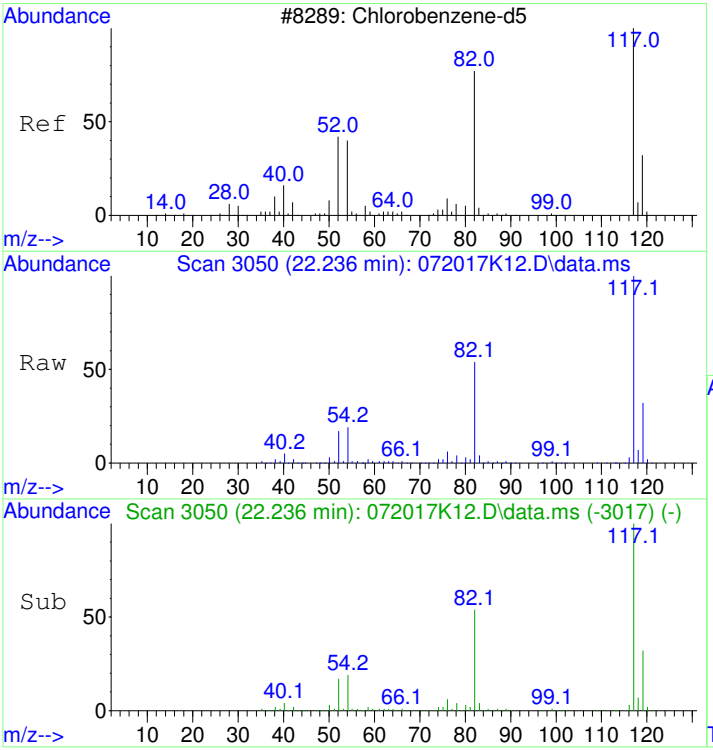




#37
Trichloroethene
Concen: 3.28 ppbv
RT: 17.704 min Scan# 2305
Delta R.T. 0.006 min
Lab File: 072017K12.D
Acq: 20 Jul 2017 6:59 pm

Tgt Ion:130 Resp: 73074

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 130 | 100 | | |
| 132 | 95.8 | 77.0 | 117.0 |
| 95 | 95.4 | 78.3 | 118.3 |

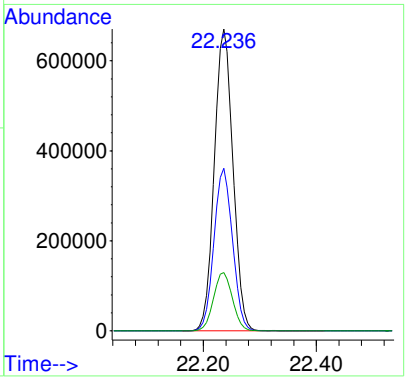


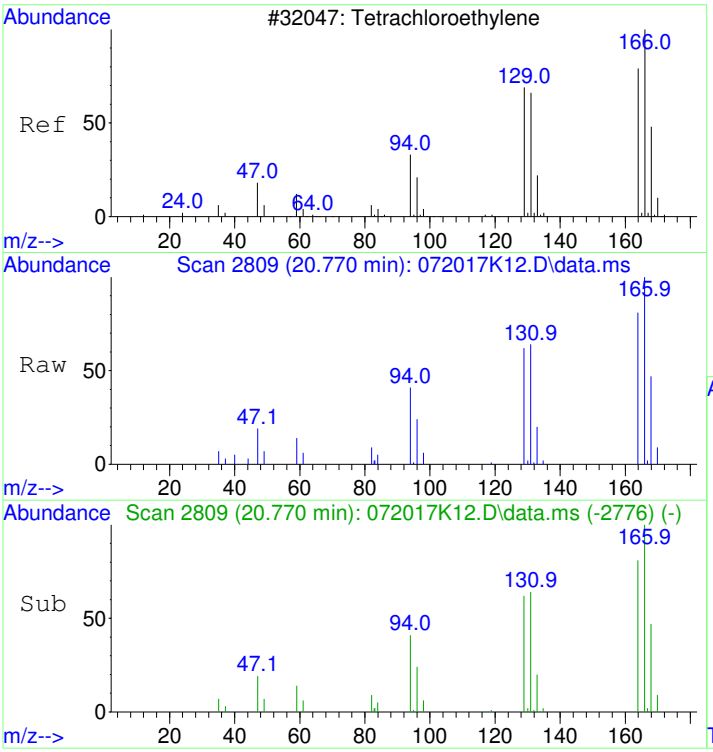



#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 22.236 min Scan# 3050
Delta R.T. -0.000 min
Lab File: 072017K12.D
Acq: 20 Jul 2017 6:59 pm

Tgt Ion:117 Resp: 1535109

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 117 | 100 | | |
| 82 | 53.7 | 36.2 | 76.2 |
| 54 | 19.6 | 2.0 | 42.0 |

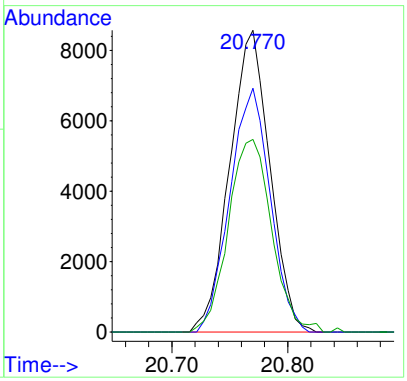



#47
Tetrachloroethene
Concen: 0.62 ppbv
RT: 20.770 min Scan# 2809
Delta R.T. -0.000 min
Lab File: 072017K12.D
Acq: 20 Jul 2017 6:59 pm

Tgt Ion:166 Resp: 20645

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 166 | 100 | | |
| 164 | 81.3 | 57.9 | 97.9 |
| 131 | 69.0 | 47.0 | 87.0 |



# 1707040-07

Data Path : D:\msdchem\1\2017\DATA\072017K_FSAA\
Data File : 072017K13.D
InstName : HP5973K
Acq On : 20 Jul 2017 7:51 pm
Operator : LLH
Sample : 1707040-07
Misc : 200ml F5-060-4ft
ALS Vial : 15 Sample Multiplier: 2.07

REPORT

rerun 50ml for TCE

Quant Time: Jul 21 09:41:00 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) | |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) BROMOCHLOROMETHANE | 15.319 | 49 | 387323 | 19.80 | ppbv | 0.00 | |
| 32) 1,4-DIFLUOROBENZENE | 17.308 | 114 | 1496601 | 19.60 | ppbv | 0.00 | |
| 43) CHLOROBENZENE-d5 | 22.236 | 117 | 1407148 | 19.60 | ppbv | 0.00 | |
| Target Compounds | | | | | | Qvalue | |
| 14) Acetone | 9.710 | 43 | 31585 | 1.74 | ppbv | 98 | |
| 24) cis-1,2-Dichloroethene | 14.759 | 61 | 18741 | 1.25 | ppbv | 97 | |
| 28) Chloroform | 15.471 | 83 | 45738 | 1.53 | ppbv | 98 | |
| 37) Trichloroethene | 17.704 | 130 | 692480 | 34.95 | ppbv | 99 | oc |
| 47) Tetrachloroethene | 20.764 | 166 | 470686 | 15.38 | ppbv | 99 | |

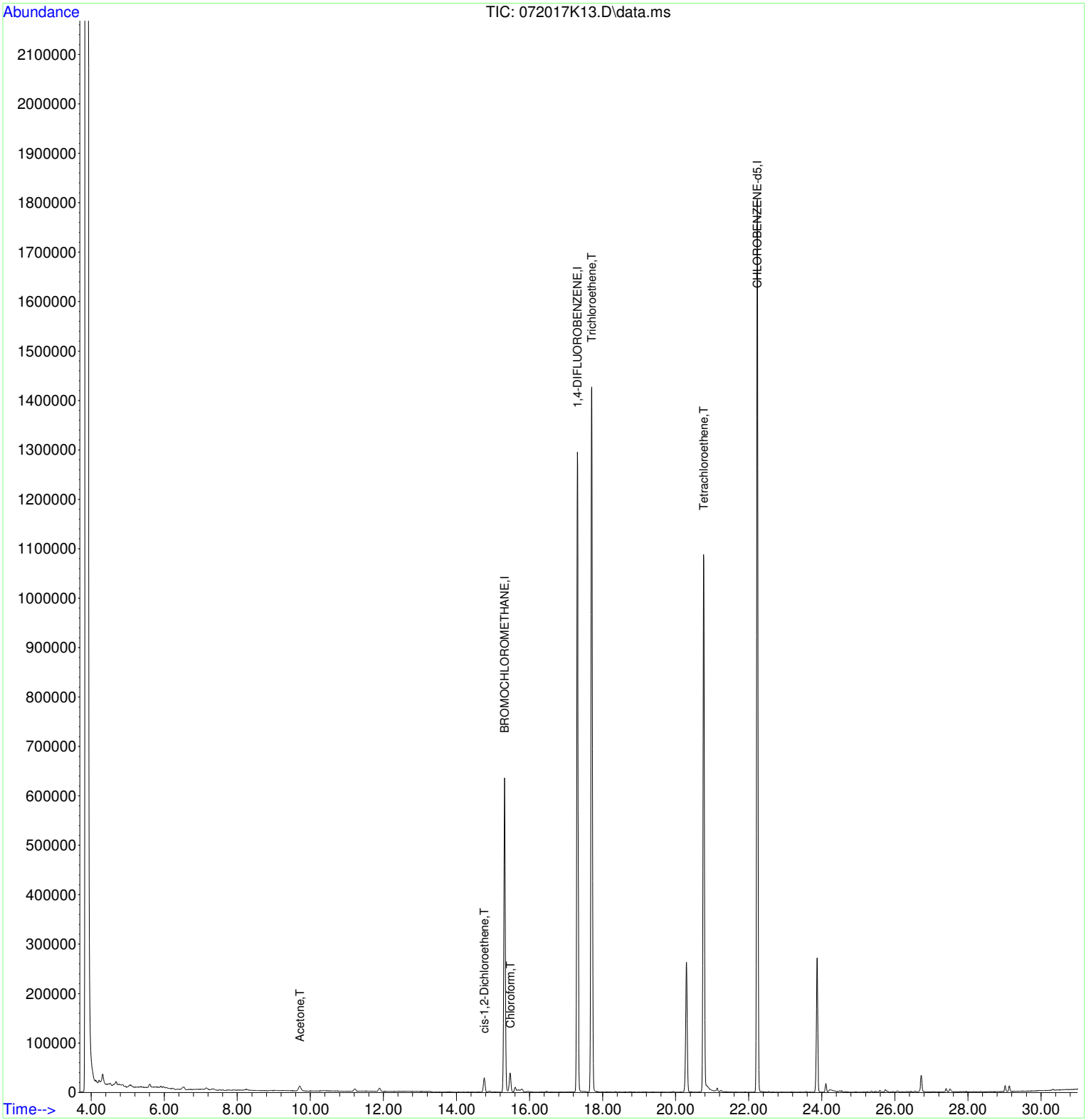
(#) = qualifier out of range (m) = manual integration (+) = signals summed

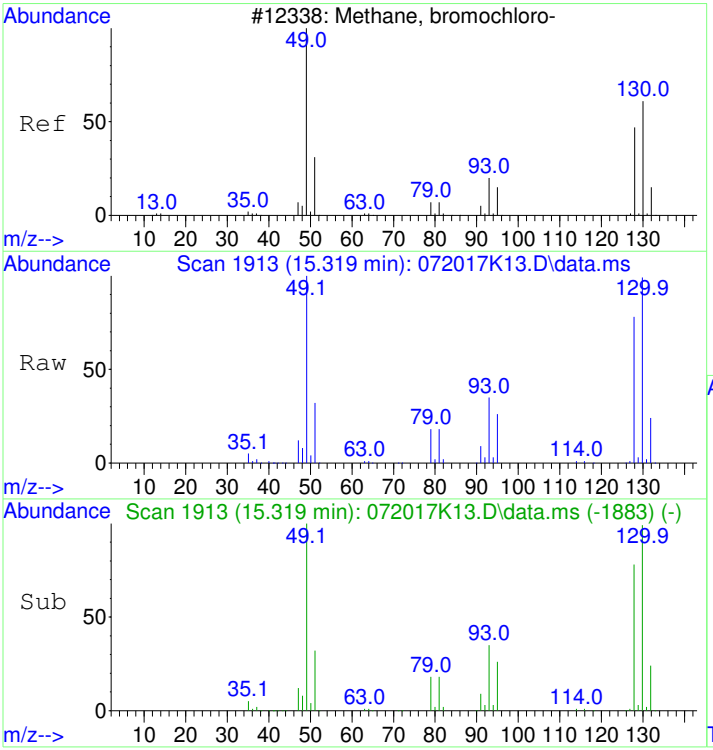
**REVIEWED**
**By LLH at 12:00 pm, Jul 21, 2017**

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\072017K_FSAA\
Data File : 072017K13.D
InstName : HP5973K
Acq On : 20 Jul 2017 7:51 pm
Operator : LLH
Sample : 1707040-07
Misc : 200ml F5-060-4ft
ALS Vial : 15 Sample Multiplier: 2.07

Quant Time: Jul 21 09:41:00 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

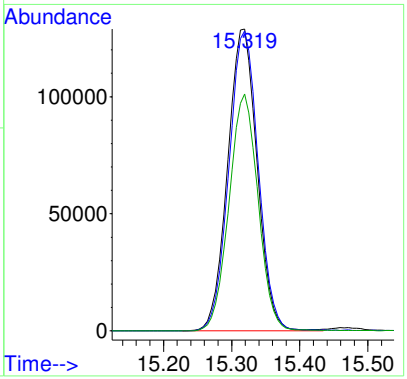


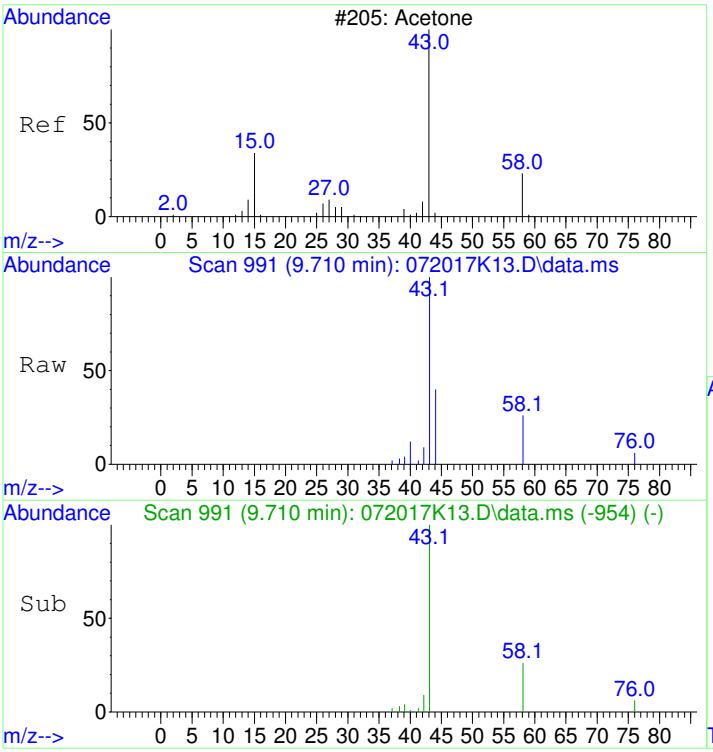



#1
BROMOCHLOROMETHANE
Concen: 19.80 ppbv
RT: 15.319 min Scan# 1913
Delta R.T. 0.006 min
Lab File: 072017K13.D
Acq: 20 Jul 2017 7:51 pm

Tgt Ion: 49 Resp: 387323

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 130 | 98.8 | 67.2 | 107.2 |
| 128 | 77.1 | 47.6 | 87.6 |

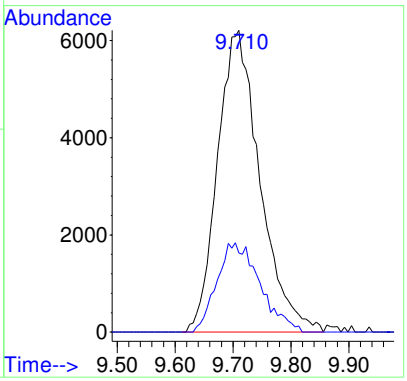


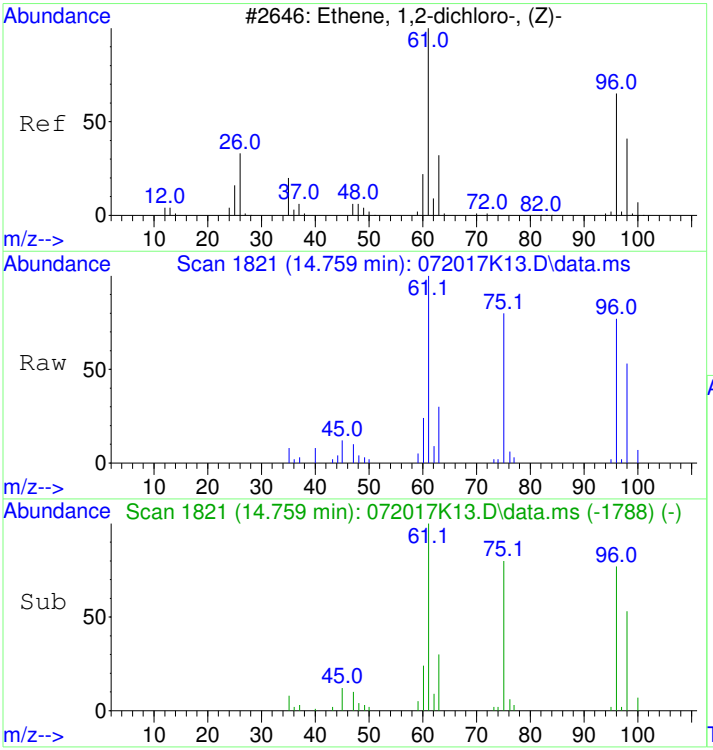




#14
Acetone
Concen: 1.74 ppbv
RT: 9.710 min Scan# 991
Delta R.T. 0.024 min
Lab File: 072017K13.D
Acq: 20 Jul 2017 7:51 pm

Tgt Ion: 43 Resp: 31585

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 43 | 100 | | |
| 58 | 30.0 | 9.0 | 49.0 |

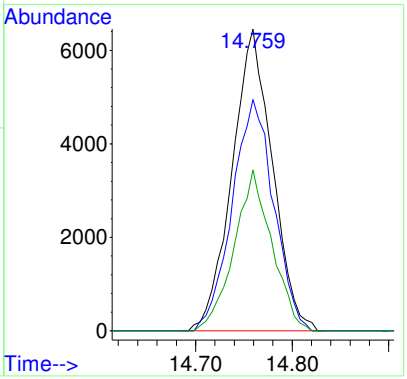


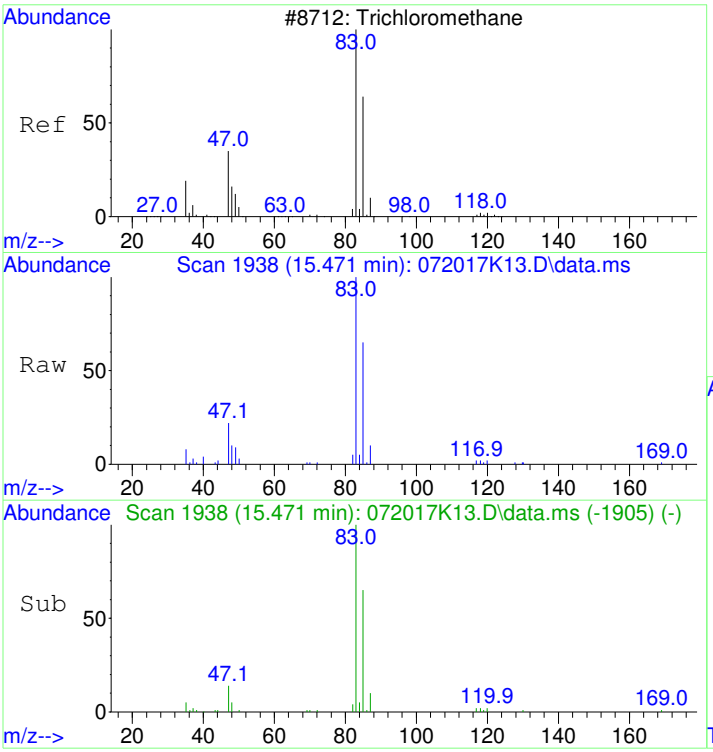



#24
cis-1,2-Dichloroethene
Concen: 1.25 ppbv
RT: 14.759 min Scan# 1821
Delta R.T. -0.000 min
Lab File: 072017K13.D
Acq: 20 Jul 2017 7:51 pm

Tgt Ion: 61 Resp: 18741

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 61 | 100 | | |
| 96 | 79.1 | 56.2 | 96.2 |
| 98 | 49.9 | 27.8 | 67.8 |

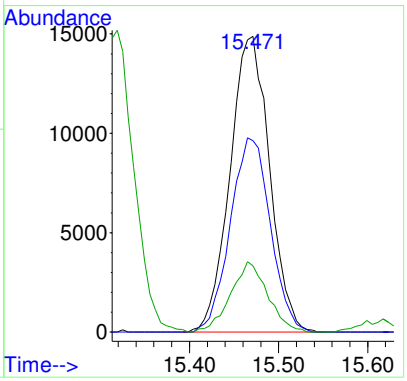


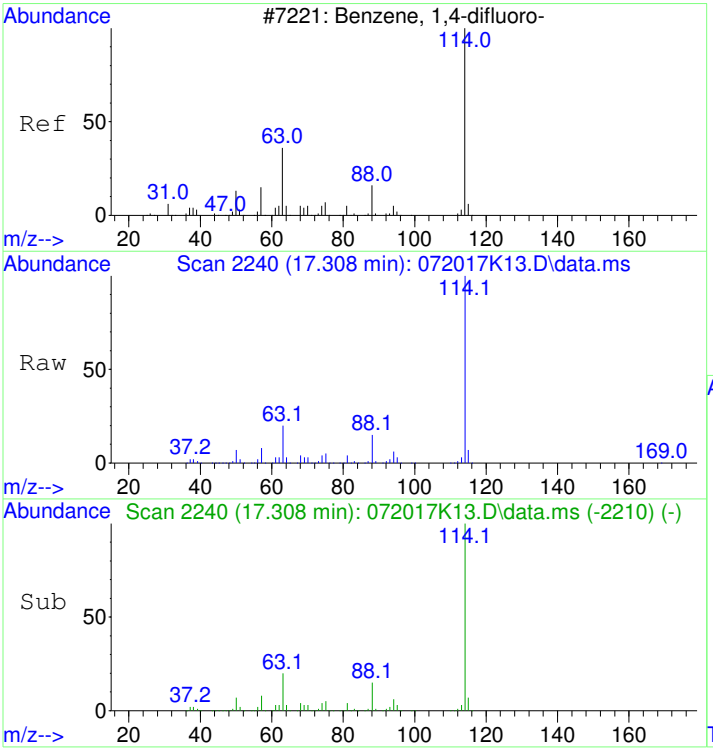




#28
Chloroform
Concen: 1.53 ppbv
RT: 15.471 min Scan# 1938
Delta R.T. -0.000 min
Lab File: 072017K13.D
Acq: 20 Jul 2017 7:51 pm

Tgt Ion: 83 Resp: 45738

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 83 | 100 | | |
| 85 | 66.6 | 44.6 | 84.6 |
| 47 | 22.2 | 2.7 | 42.7 |

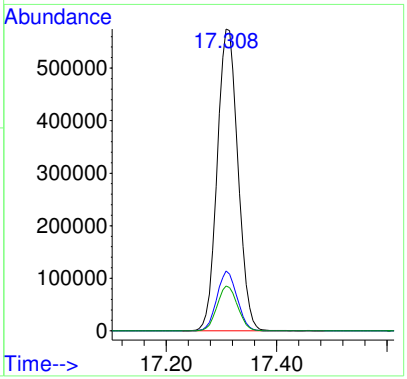


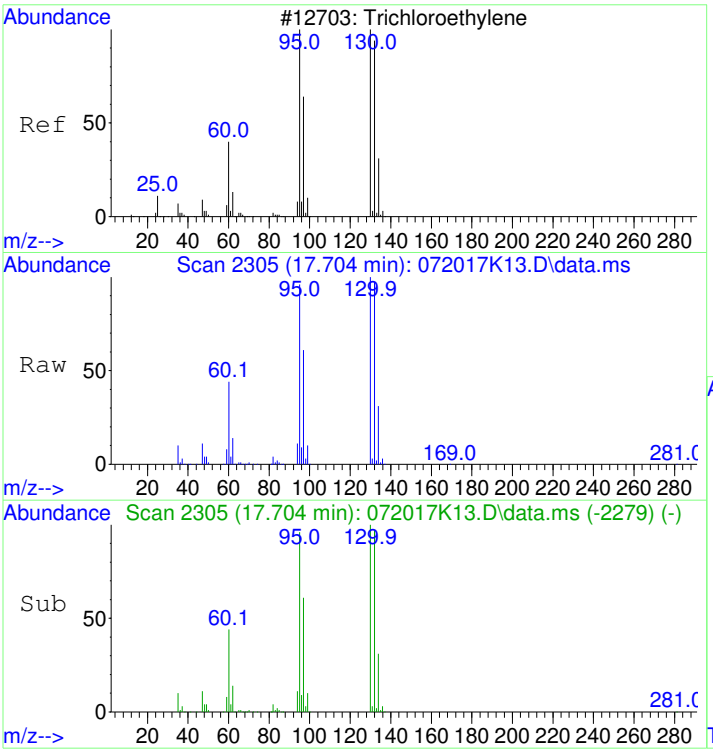



#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 17.308 min Scan# 2240
Delta R.T. -0.000 min
Lab File: 072017K13.D
Acq: 20 Jul 2017 7:51 pm

Tgt Ion:114 Resp: 1496601

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 114 | 100 | | |
| 63 | 19.3 | 0.8 | 40.8 |
| 88 | 14.6 | 0.0 | 35.1 |

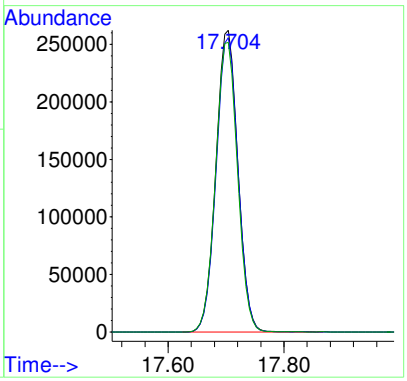


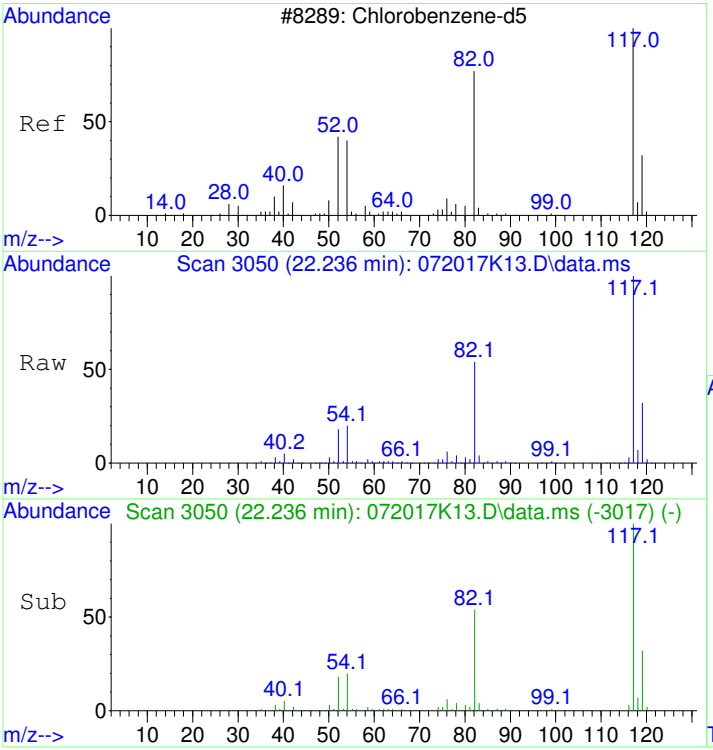




#37
Trichloroethene
Concen: 34.95 ppbv
RT: 17.704 min Scan# 2305
Delta R.T. 0.006 min
Lab File: 072017K13.D
Acq: 20 Jul 2017 7:51 pm

Tgt Ion:130 Resp: 692480

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 130 | 100 | | |
| 132 | 97.3 | 77.0 | 117.0 |
| 95 | 96.1 | 78.3 | 118.3 |

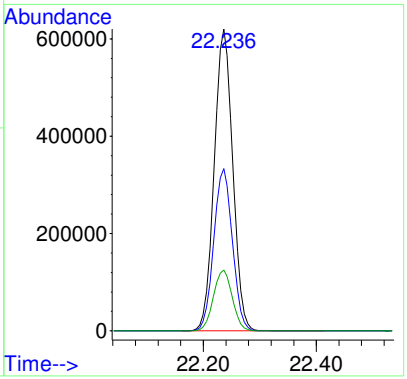


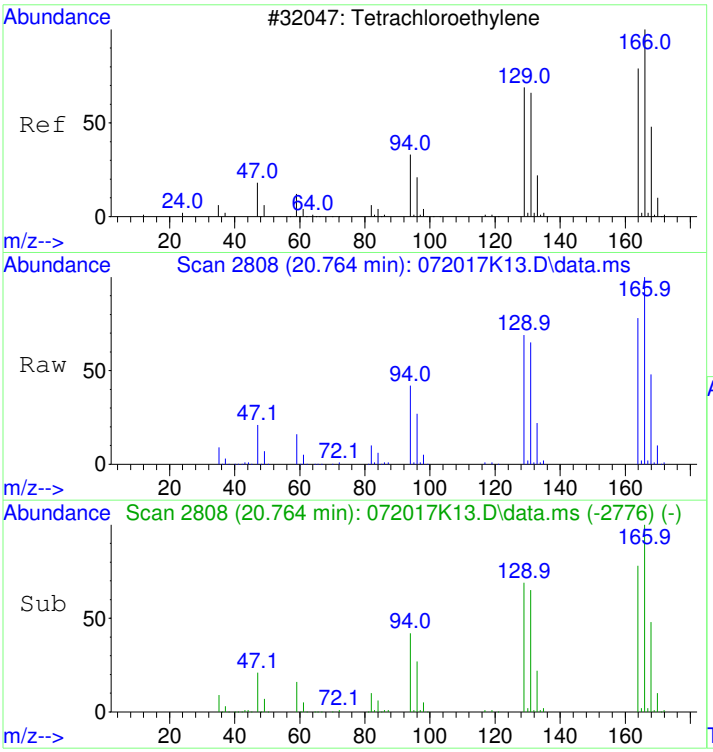



#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 22.236 min Scan# 3050
Delta R.T. -0.000 min
Lab File: 072017K13.D
Acq: 20 Jul 2017 7:51 pm

Tgt Ion:117 Resp: 1407148

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 117 | 100 | | |
| 82 | 54.2 | 36.2 | 76.2 |
| 54 | 20.5 | 2.0 | 42.0 |

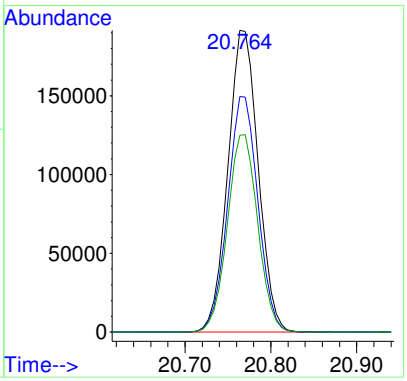



#47
Tetrachloroethene
Concen: 15.38 ppbv
RT: 20.764 min Scan# 2808
Delta R.T. -0.006 min
Lab File: 072017K13.D
Acq: 20 Jul 2017 7:51 pm

Tgt Ion:166 Resp: 470686

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 166 | 100 | | |
| 164 | 77.9 | 57.9 | 97.9 |
| 131 | 65.5 | 47.0 | 87.0 |



# 1707040-01

Data Path : D:\msdchem\1\2017\DATA\072017K_FSAA\
Data File : 072017K14.D
InstName : HP5973K
Acq On : 20 Jul 2017 8:41 pm
Operator : LLH
Sample : 1707040-01
Misc : 20ml SG135-10
ALS Vial : 16 Sample Multiplier: 2.23

REPORT

rerun 2nd can dil'n for >LR

Quant Time: Jul 21 09:41:49 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

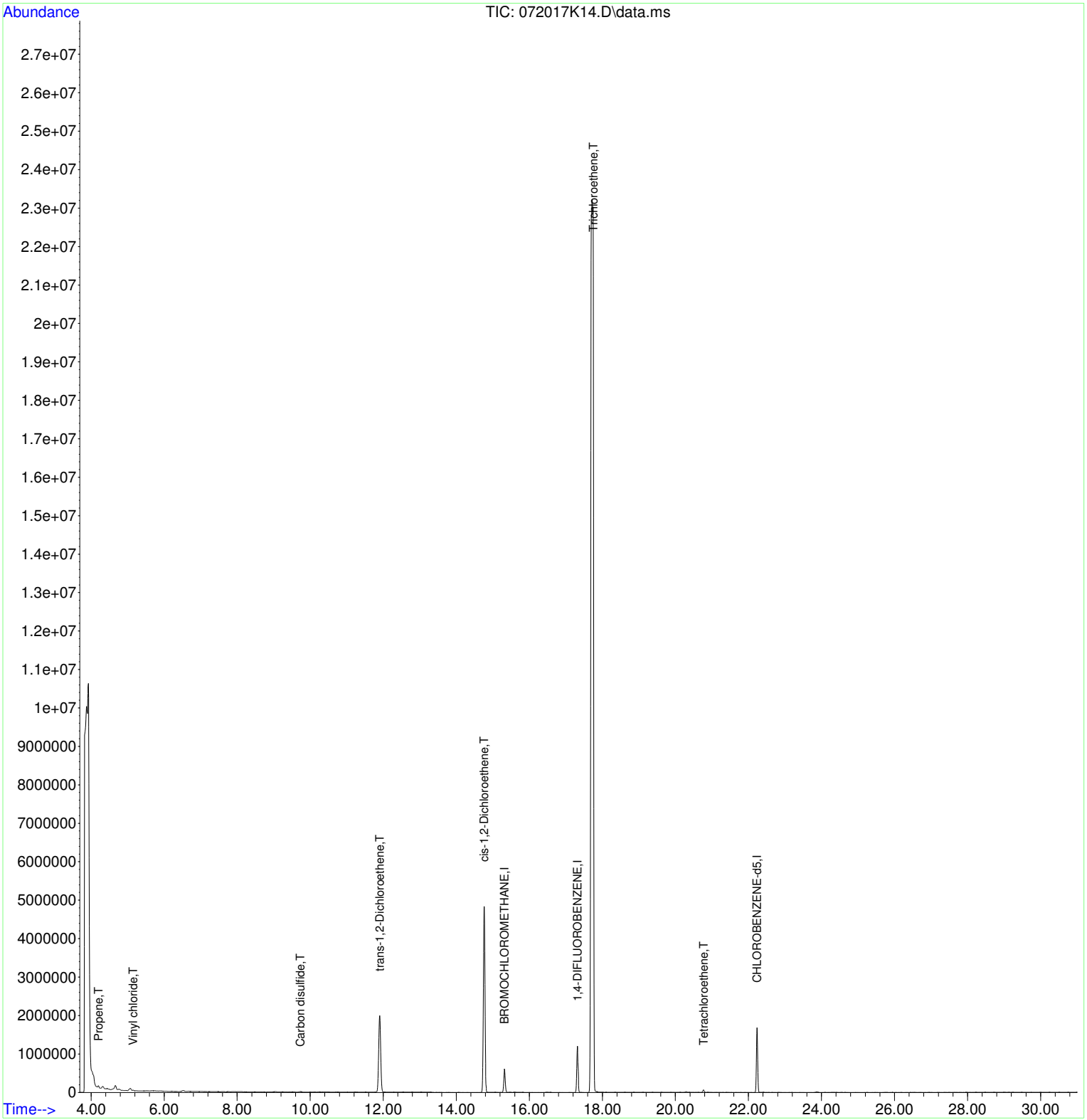
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) | | |
|---|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | | |
| 1) BROMOCHLOROMETHANE | 15.319 | 49 | 368887 | 19.80 | ppbv | 0.00 | | |
| 32) 1,4-DIFLUOROBENZENE | 17.314 | 114 | 1400016 | 19.60 | ppbv | 0.00 | | |
| 43) CHLOROBENZENE-d5 | 22.236 | 117 | 1282244 | 19.60 | ppbv | 0.00 | | |
| Target Compounds | | | | | | | Qvalue | |
| 2) Propene | 4.204 | 41 | 20728 | 2.37 | ppbv | # | 54 | |
| 6) Vinyl chloride | 5.147 | 62 | 32523 | 2.37 | ppbv | | 98 | |
| 15) Carbon disulfide | 9.722 | 76 | 31300 | 0.90 | ppbv | # | 77 | |
| 20) trans-1,2-Dichloroethene | 11.900 | 61 | 2130129 | 129.15 | ppbv | | 95 | OC |
| 24) cis-1,2-Dichloroethene | 14.759 | 61 | 4197059 | 293.07 | ppbv | | 92 | OC |
| 37) Trichloroethene | 17.753 | 130 | 18572671 | 1001.92 | ppbv | | 96 | OC |
| 47) Tetrachloroethene | 20.770 | 166 | 27952 | 1.00 | ppbv | | 99 | |

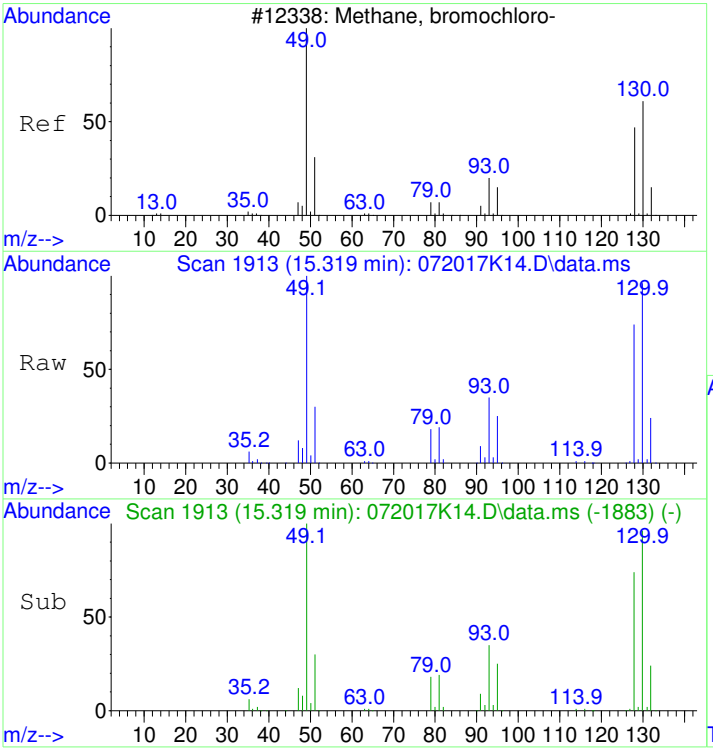
(#) = qualifier out of range (m) = manual integration (+) = signals summed

**REVIEWED**
***By LLH at 12:01 pm, Jul 21, 2017***

Data Path : D:\msdchem\1\2017\DATA\072017K_FSAA\
Data File : 072017K14.D
InstName : HP5973K
Acq On : 20 Jul 2017 8:41 pm
Operator : LLH
Sample : 1707040-01
Misc : 20ml SG135-10
ALS Vial : 16 Sample Multiplier: 2.23

Quant Time: Jul 21 09:41:49 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

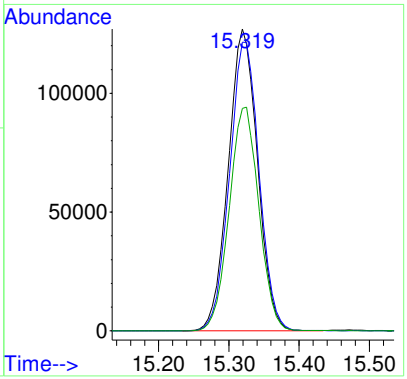


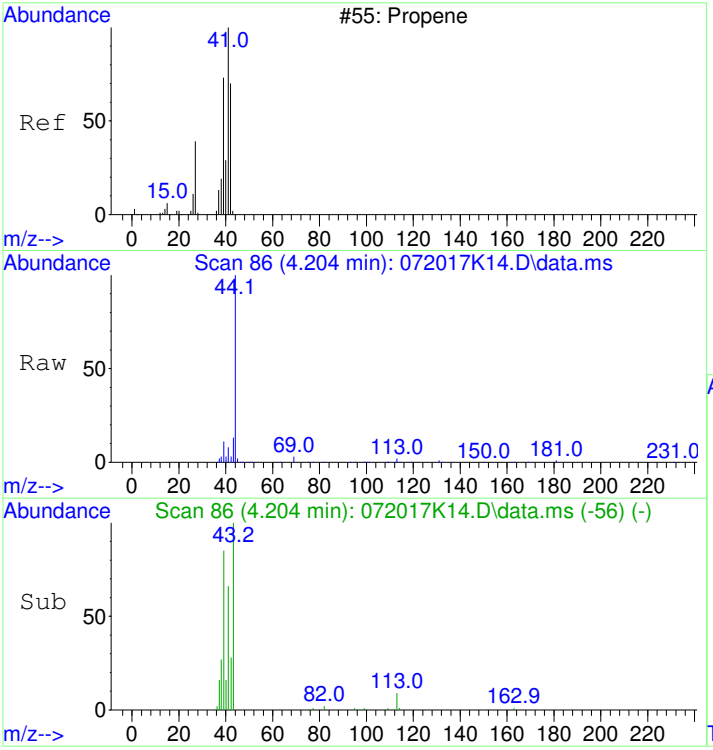



#1
BROMOCHLOROMETHANE
Concen: 19.80 ppbv
RT: 15.319 min Scan# 1913
Delta R.T. 0.006 min
Lab File: 072017K14.D
Acq: 20 Jul 2017 8:41 pm

Tgt Ion: 49 Resp: 368887

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 130 | 96.8 | 67.2 | 107.2 |
| 128 | 75.1 | 47.6 | 87.6 |

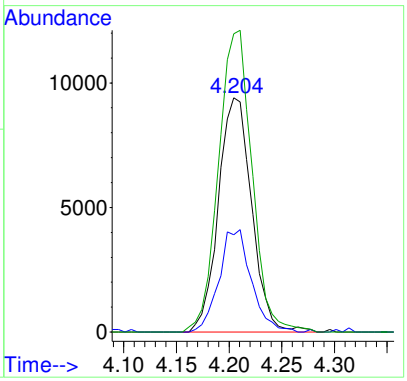


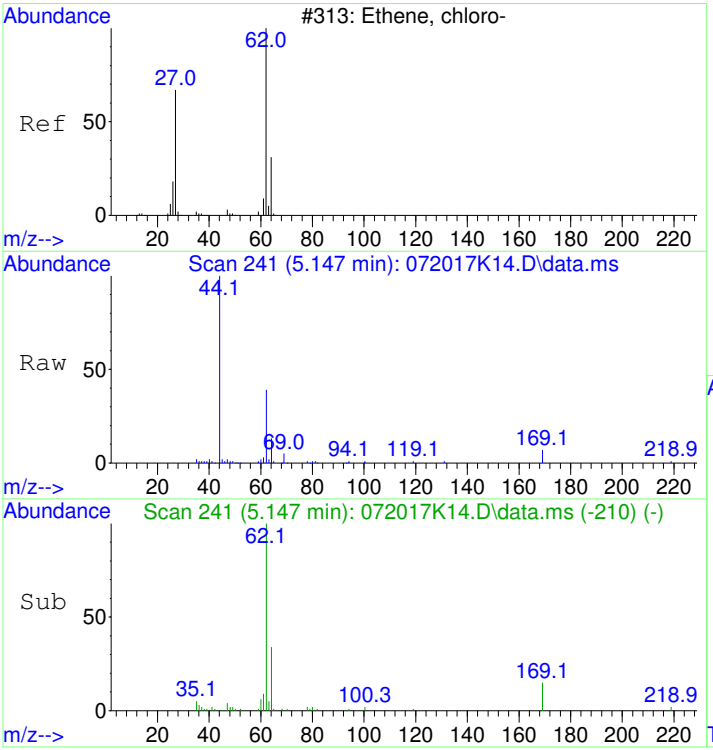

#2
Propene
Concen: 2.37 ppbv
RT: 4.204 min Scan# 86
Delta R.T. -0.018 min
Lab File: 072017K14.D
Acq: 20 Jul 2017 8:41 pm

Tgt Ion: 41 Resp: 20728

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 41 | 100 | | |
| 42 | 42.3 | 44.0 | 84.0# |
| 39 | 129.5 | 57.2 | 97.2# |



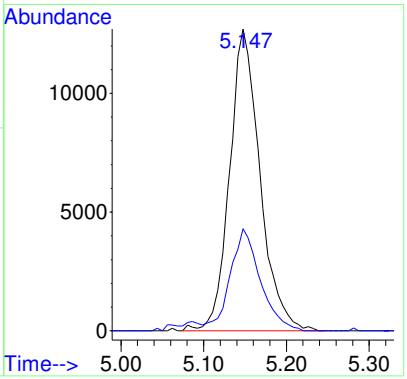

ok

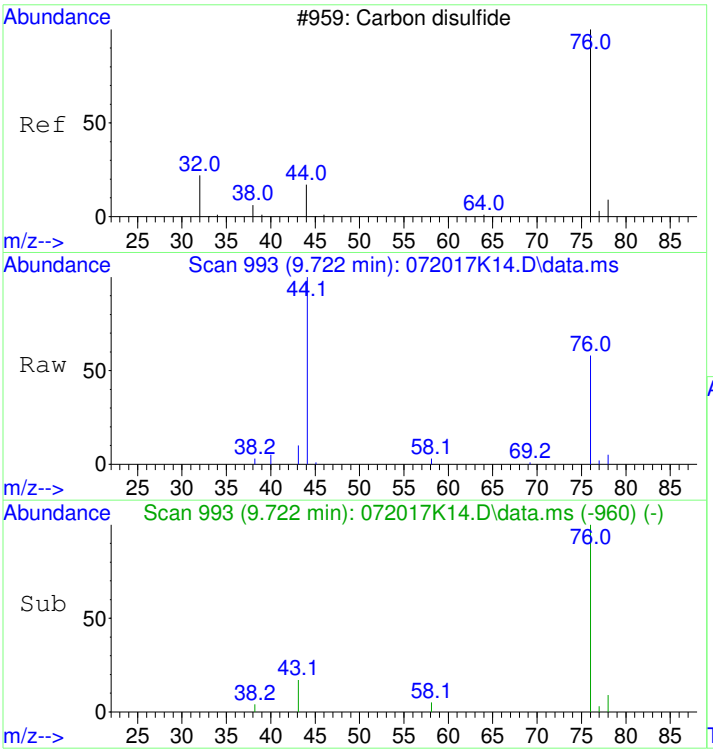



#6
Vinyl chloride
Concen: 2.37 ppbv
RT: 5.147 min Scan# 241
Delta R.T. -0.012 min
Lab File: 072017K14.D
Acq: 20 Jul 2017 8:41 pm

Tgt Ion: 62 Resp: 32523

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 62 | 100 | | |
| 64 | 32.7 | 11.8 | 51.8 |

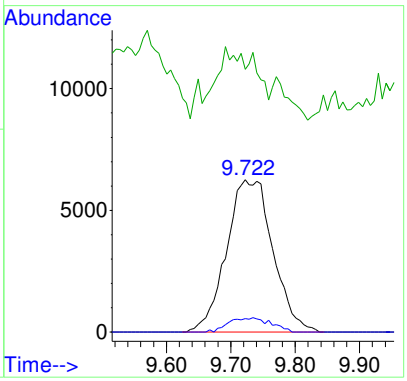


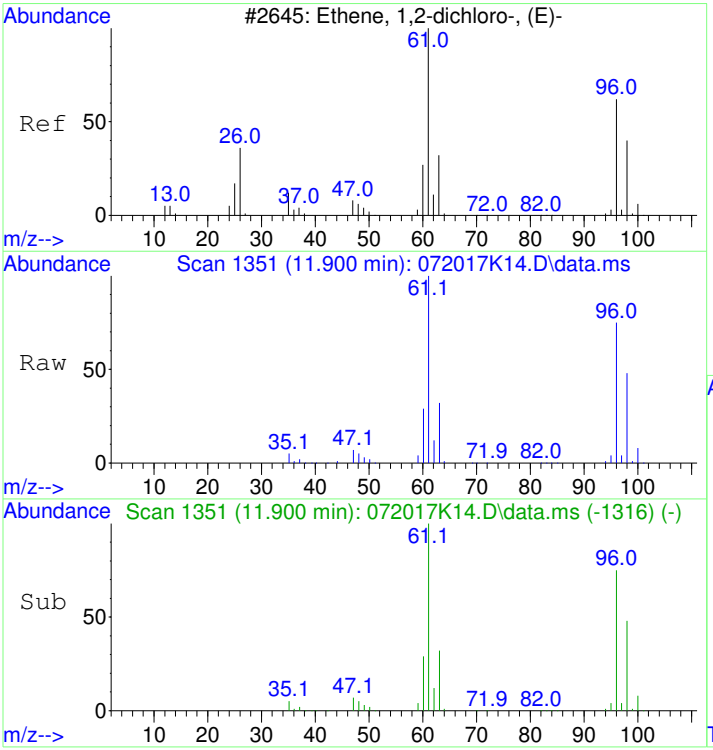

#15
Carbon disulfide
Concen: 0.90 ppbv
RT: 9.722 min Scan# 993
Delta R.T. -0.000 min
Lab File: 072017K14.D
Acq: 20 Jul 2017 8:41 pm

Tgt Ion: 76 Resp: 31300

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 76 | 100 | | |
| 78 | 8.6 | 0.0 | 29.0 |
| 44 | 0.0 | 0.0 | 34.8 |



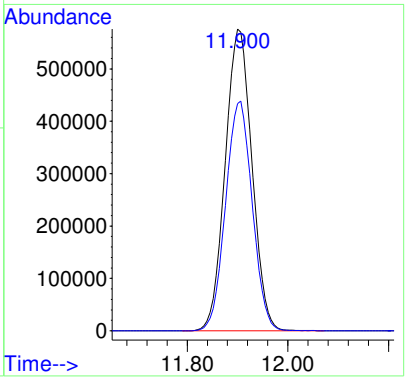

ok

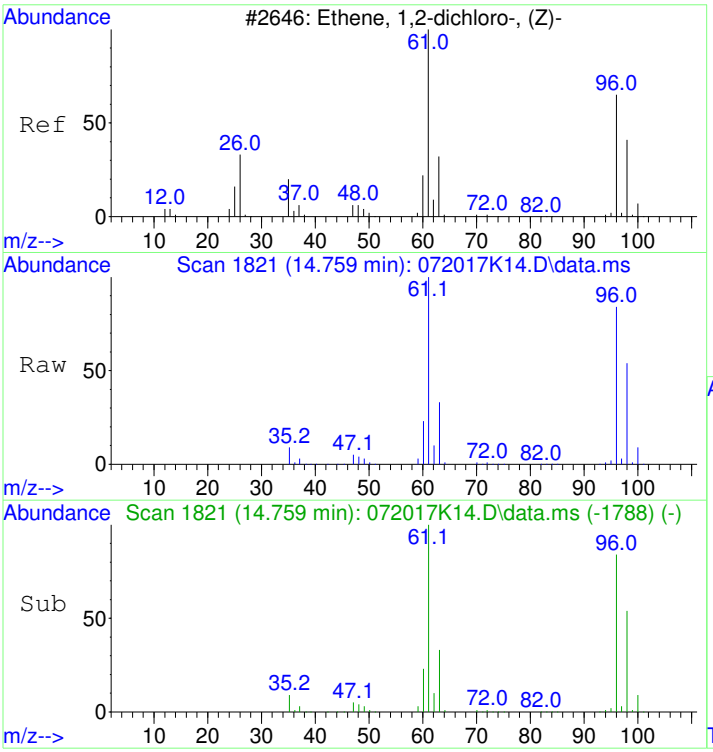



#20
trans-1,2-Dichloroethene
Concen: 129.15 ppbv
RT: 11.900 min Scan# 1351
Delta R.T. 0.012 min
Lab File: 072017K14.D
Acq: 20 Jul 2017 8:41 pm

Tgt Ion: 61 Resp: 2130129

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 61 | 100 | | |
| 96 | 75.8 | 51.3 | 91.3 |

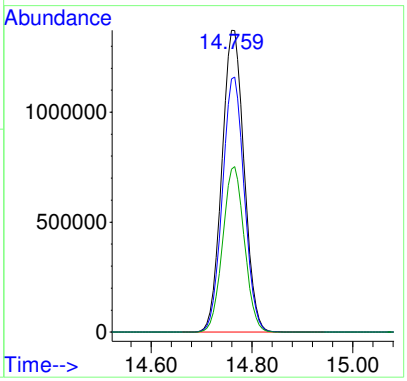


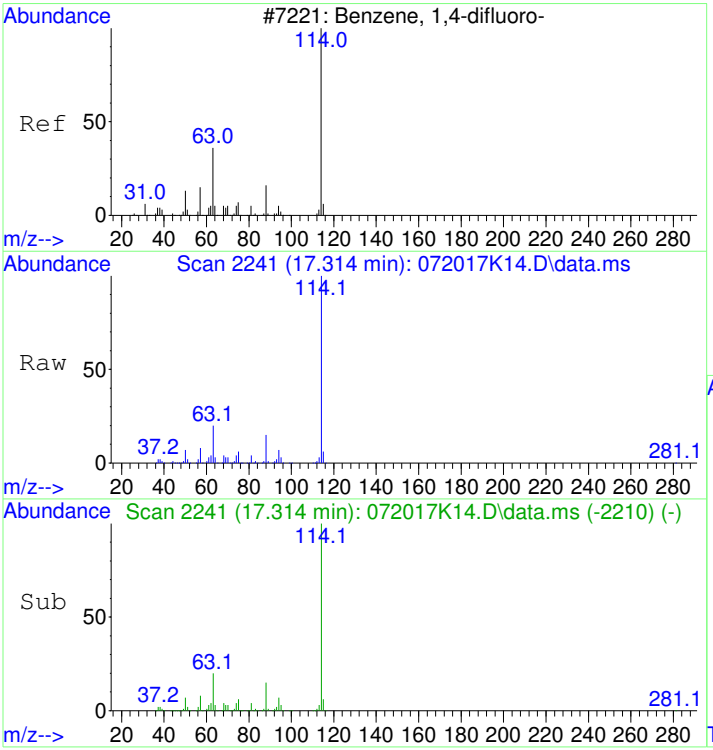




#24
cis-1,2-Dichloroethene
Concen: 293.07 ppbv
RT: 14.759 min Scan# 1821
Delta R.T. -0.000 min
Lab File: 072017K14.D
Acq: 20 Jul 2017 8:41 pm

Tgt Ion: 61 Resp: 4197059

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 61 | 100 | | |
| 96 | 83.2 | 56.2 | 96.2 |
| 98 | 53.6 | 27.8 | 67.8 |

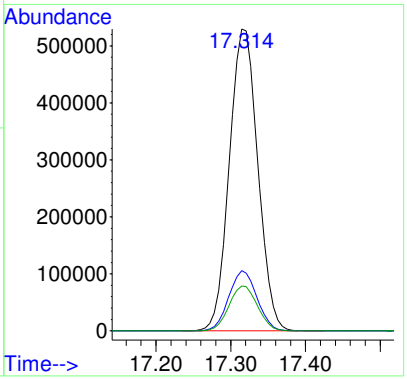


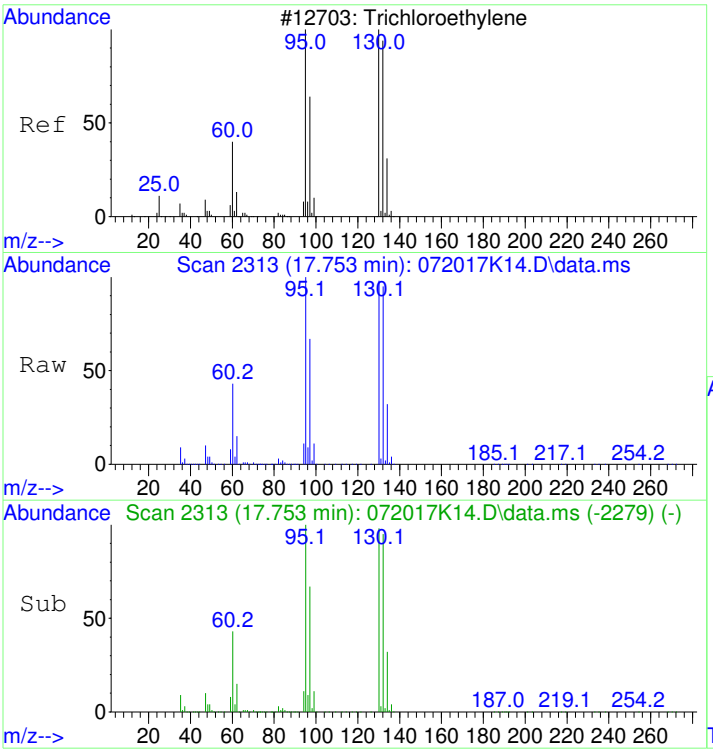



#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 17.314 min Scan# 2241
Delta R.T. 0.006 min
Lab File: 072017K14.D
Acq: 20 Jul 2017 8:41 pm

Tgt Ion:114 Resp: 1400016

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 114 | 100 | | |
| 63 | 19.7 | 0.8 | 40.8 |
| 88 | 14.8 | 0.0 | 35.1 |

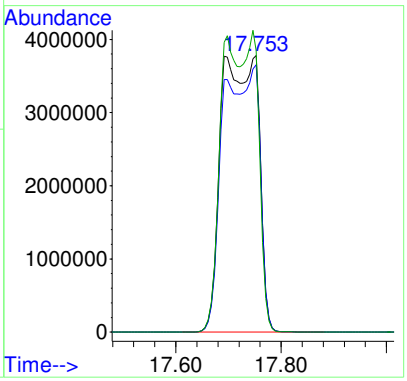


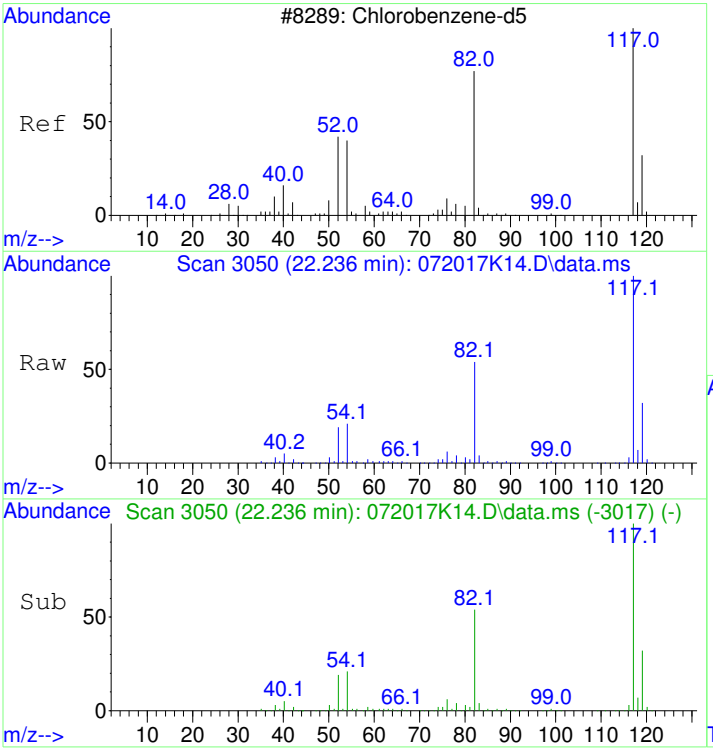




#37
Trichloroethene
Concen: 1001.92 ppbv
RT: 17.753 min Scan# 2313
Delta R.T. 0.055 min
Lab File: 072017K14.D
Acq: 20 Jul 2017 8:41 pm

Tgt Ion:130 Resp:18572671

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 130 | 100 | | |
| 132 | 94.8 | 77.0 | 117.0 |
| 95 | 104.4 | 78.3 | 118.3 |

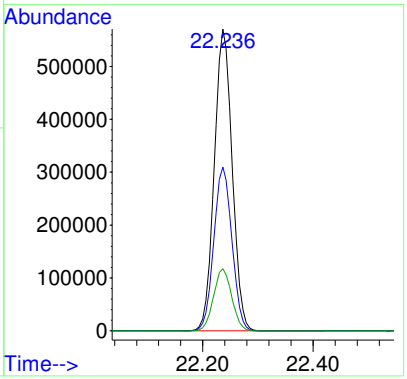


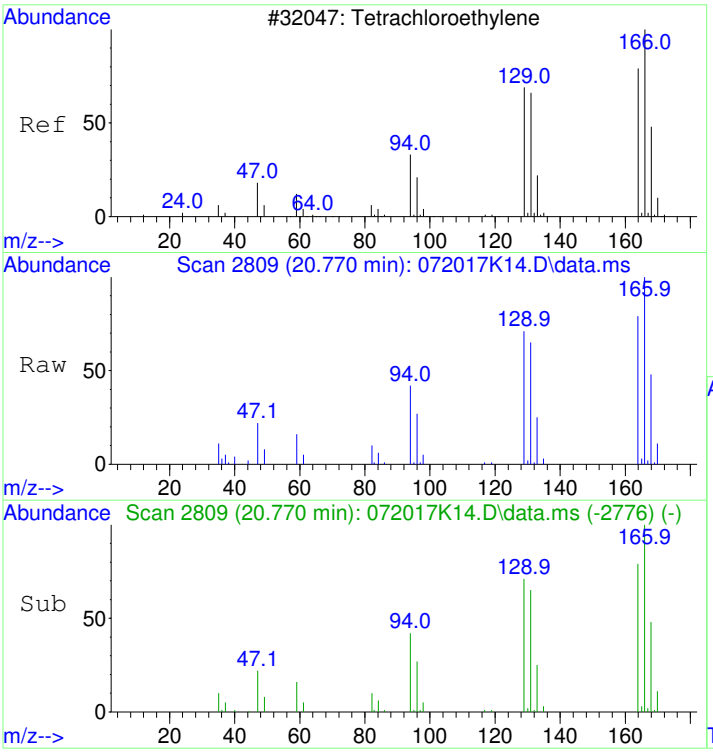



#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 22.236 min Scan# 3050
Delta R.T. -0.000 min
Lab File: 072017K14.D
Acq: 20 Jul 2017 8:41 pm

Tgt Ion:117 Resp: 1282244

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 117 | 100 | | |
| 82 | 54.8 | 36.2 | 76.2 |
| 54 | 20.9 | 2.0 | 42.0 |

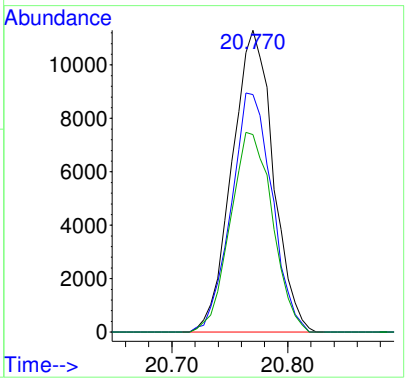



#47
Tetrachloroethene
Concen: 1.00 ppbv
RT: 20.770 min Scan# 2809
Delta R.T. -0.000 min
Lab File: 072017K14.D
Acq: 20 Jul 2017 8:41 pm

Tgt Ion:166 Resp: 27952

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 166 | 100 | | |
| 164 | 78.5 | 57.9 | 97.9 |
| 131 | 67.7 | 47.0 | 87.0 |



# B17G071-DUP2

Data Path : D:\msdchem\1\2017\DATA\072017K_FSAA\
Data File : 072017K15.D
InstName : HP5973K
Acq On : 20 Jul 2017 9:29 pm
Operator : LLH
Sample : B17G071-DUP2
Misc : 20ml 1707040-01
ALS Vial : 16 Sample Multiplier: 2.23

REPORT

Quant Time: Jul 21 09:28:26 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) | |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) BROMOCHLOROMETHANE | 15.319 | 49 | 362218 | 19.80 | ppbv | 0.00 | |
| 32) 1,4-DIFLUOROBENZENE | 17.321 | 114 | 1370186 | 19.60 | ppbv | 0.01 | |
| 43) CHLOROBENZENE-d5 | 22.236 | 117 | 1251907 | 19.60 | ppbv | 0.00 | |
| Target Compounds | | | | | | Qvalue | |
| 2) Propene | 4.210 | 41 | 18277 | 2.13 | ppbv # | 53 | |
| 6) Vinyl chloride | 5.147 | 62 | 29946 | 2.22 | ppbv | 95 | |
| 15) Carbon disulfide | 9.734 | 76 | 30753 | 0.90 | ppbv # | 44 | |
| 20) trans-1,2-Dichloroethene | 11.906 | 61 | 2088724 | 128.97 | ppbv | 95 | OC |
| 24) cis-1,2-Dichloroethene | 14.765 | 61 | 4125961 | 293.41 | ppbv | 92 | OC |
| 37) Trichloroethene | 17.752 | 130 | 18599085 | 1025.19 | ppbv | 96 | OC |
| 47) Tetrachloroethene | 20.770 | 166 | 26514 | 0.97 | ppbv | 99 | |

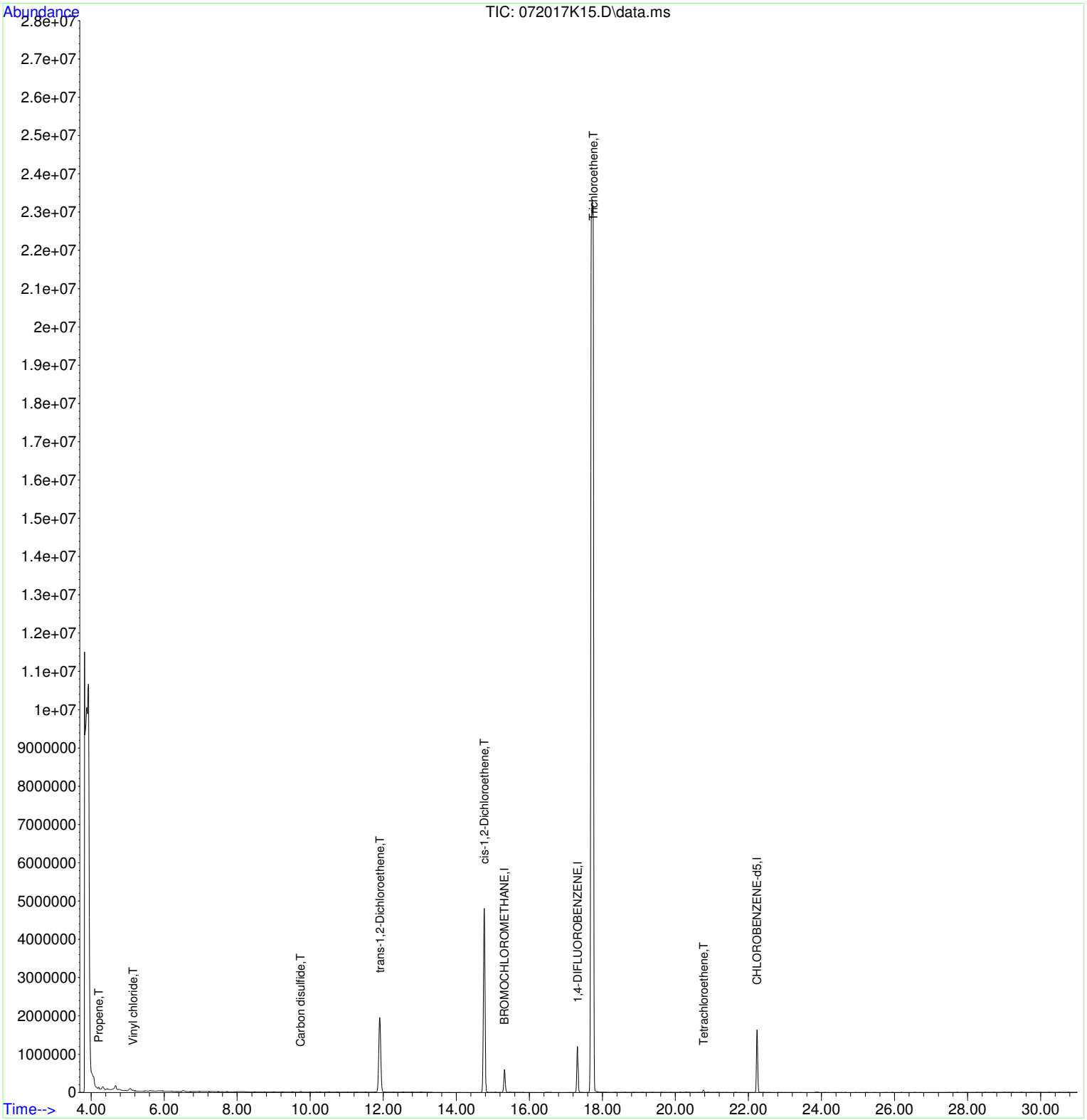
(#) = qualifier out of range (m) = manual integration (+) = signals summed

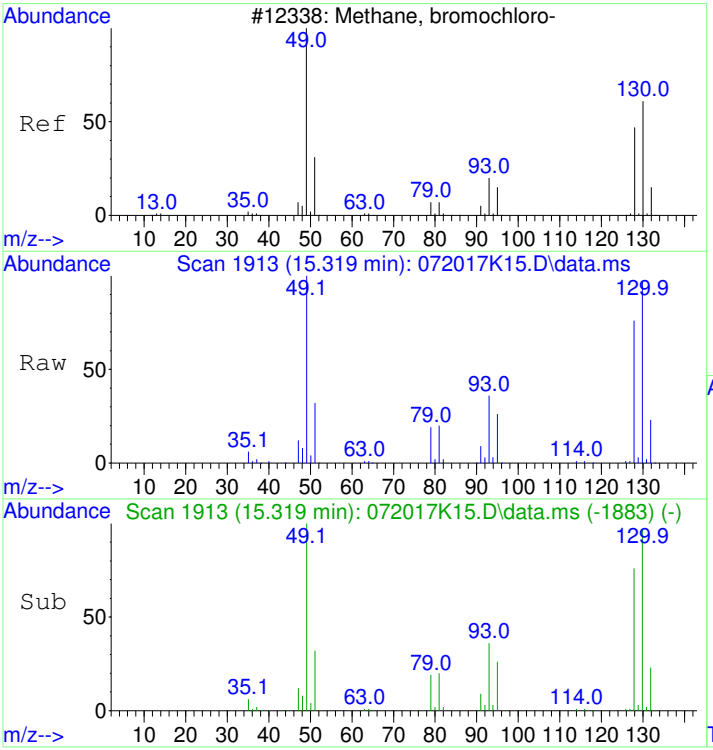
**REVIEWED**
**By LLH at 12:02 pm, Jul 21, 2017**

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\072017K_FSAA\
Data File : 072017K15.D
InstName : HP5973K
Acq On : 20 Jul 2017 9:29 pm
Operator : LLH
Sample : B17G071-DUP2
Misc : 20ml 1707040-01
ALS Vial : 16 Sample Multiplier: 2.23

Quant Time: Jul 21 09:28:26 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

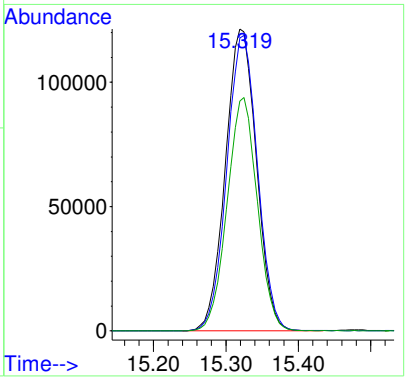


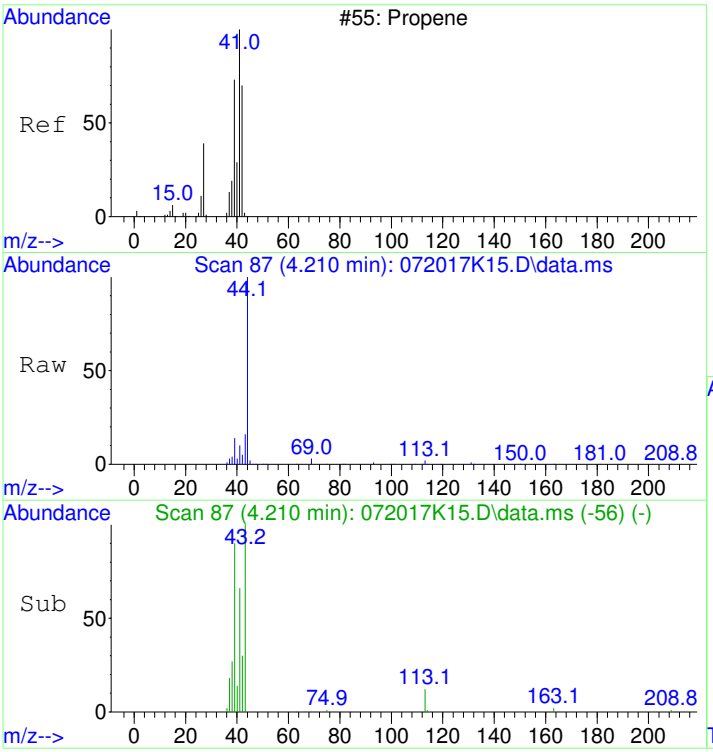



#1
BROMOCHLOROMETHANE
Concen: 19.80 ppbv
RT: 15.319 min Scan# 1913
Delta R.T. 0.006 min
Lab File: 072017K15.D
Acq: 20 Jul 2017 9:29 pm

Tgt Ion: 49 Resp: 362218

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 130 | 96.7 | 67.2 | 107.2 |
| 128 | 75.0 | 47.6 | 87.6 |

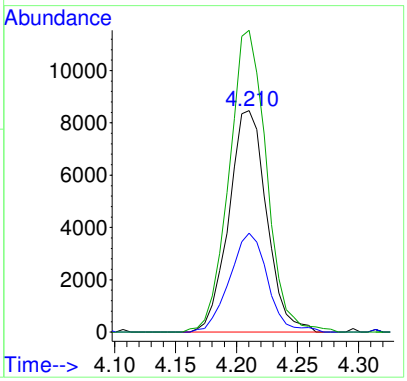


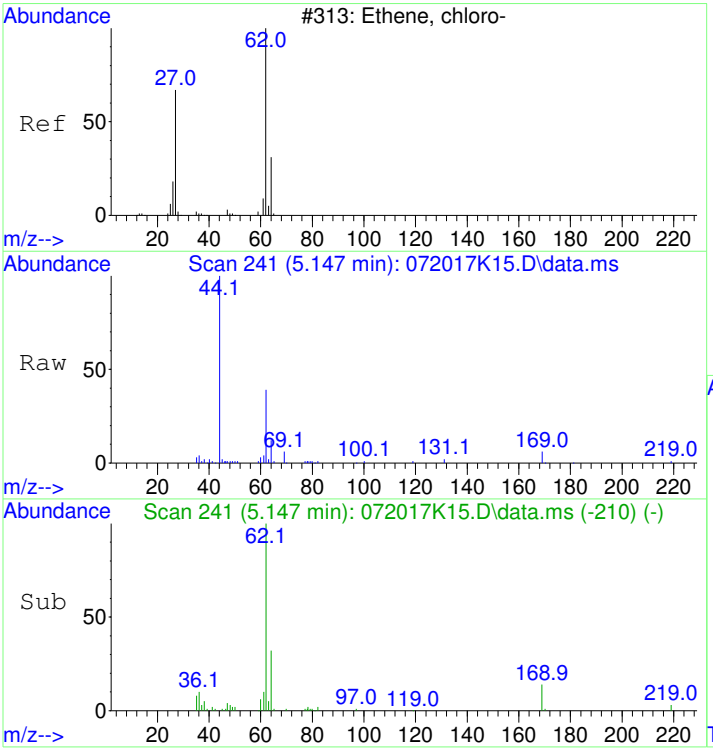

#2
Propene
Concen: 2.13 ppbv
RT: 4.210 min Scan# 87
Delta R.T. -0.012 min
Lab File: 072017K15.D
Acq: 20 Jul 2017 9:29 pm

Tgt Ion: 41 Resp: 18277

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 41 | 100 | | |
| 42 | 45.0 | 44.0 | 84.0 |
| 39 | 134.8 | 57.2 | 97.2# |



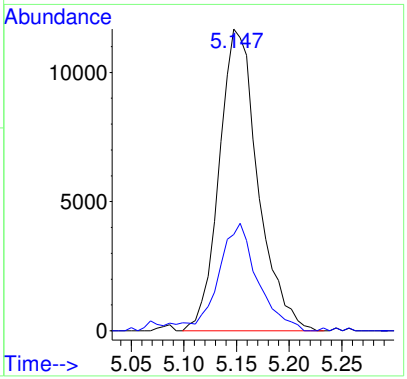

ok

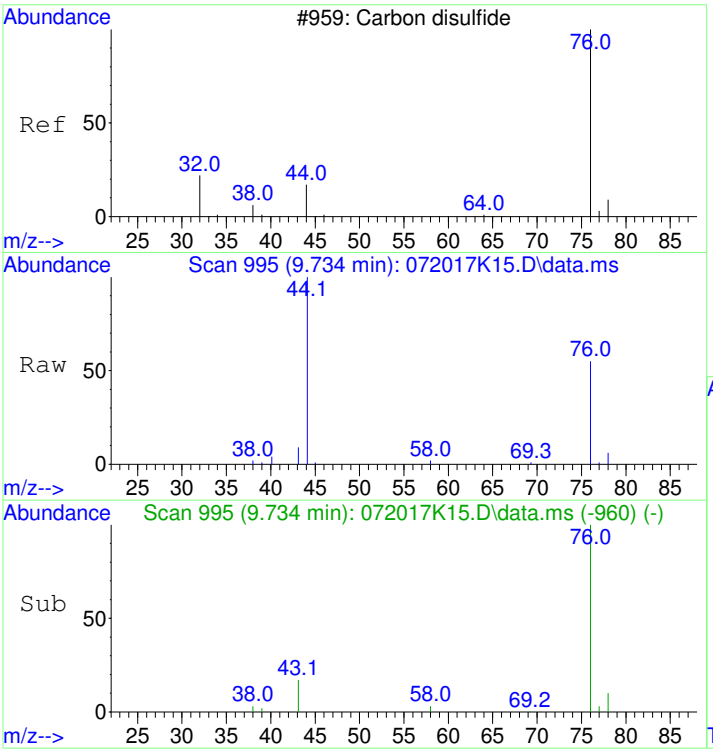



#6
Vinyl chloride
Concen: 2.22 ppbv
RT: 5.147 min Scan# 241
Delta R.T. -0.012 min
Lab File: 072017K15.D
Acq: 20 Jul 2017 9:29 pm

Tgt Ion: 62 Resp: 29946

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 62 | 100 | | |
| 64 | 34.8 | 11.8 | 51.8 |

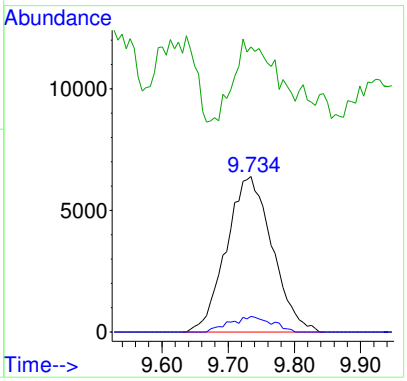


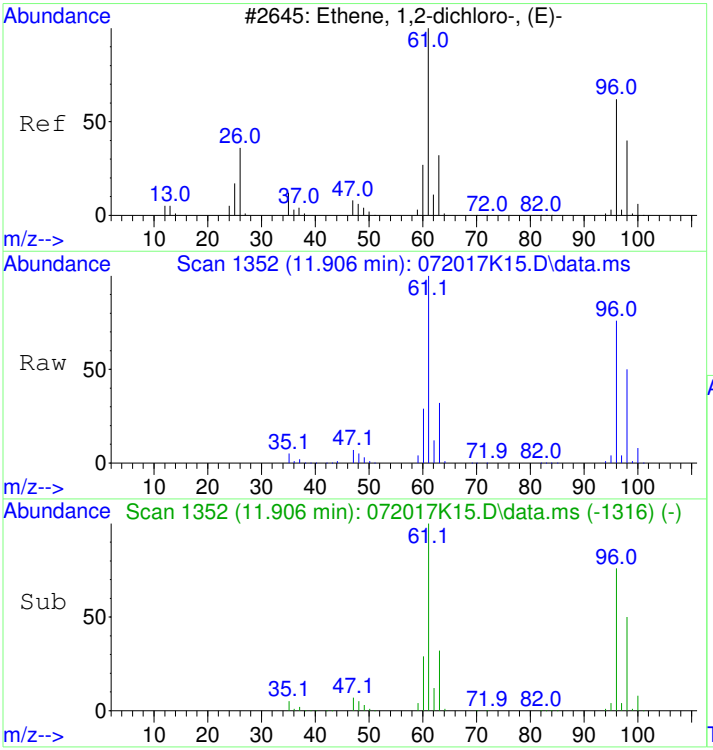

#15
Carbon disulfide
Concen: 0.90 ppbv
RT: 9.734 min Scan# 995
Delta R.T. 0.012 min
Lab File: 072017K15.D
Acq: 20 Jul 2017 9:29 pm

Tgt Ion: 76 Resp: 30753

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 76 | 100 | | |
| 78 | 9.2 | 0.0 | 29.0 |
| 44 | 52.0 | 0.0 | 34.8# |



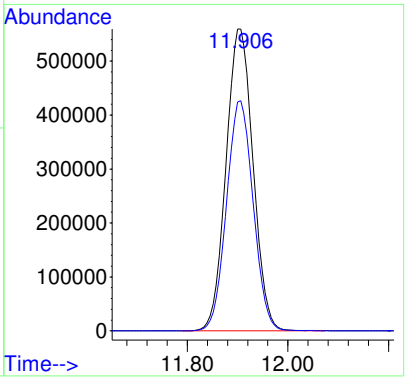

ok

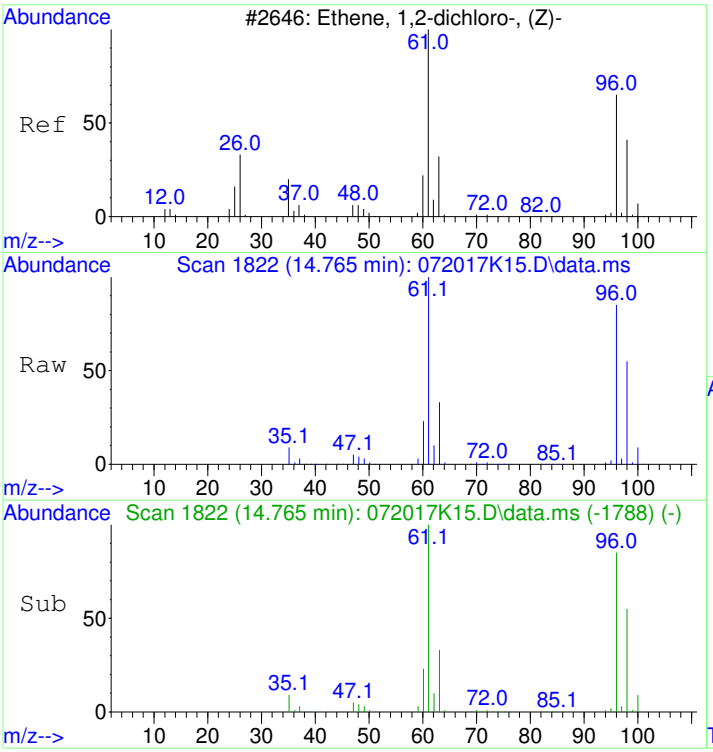



#20
trans-1,2-Dichloroethene
Concen: 128.97 ppbv
RT: 11.906 min Scan# 1352
Delta R.T. 0.018 min
Lab File: 072017K15.D
Acq: 20 Jul 2017 9:29 pm

Tgt Ion: 61 Resp: 2088724

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 61 | 100 | | |
| 96 | 75.3 | 51.3 | 91.3 |

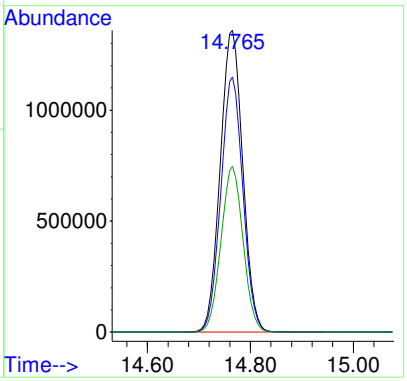


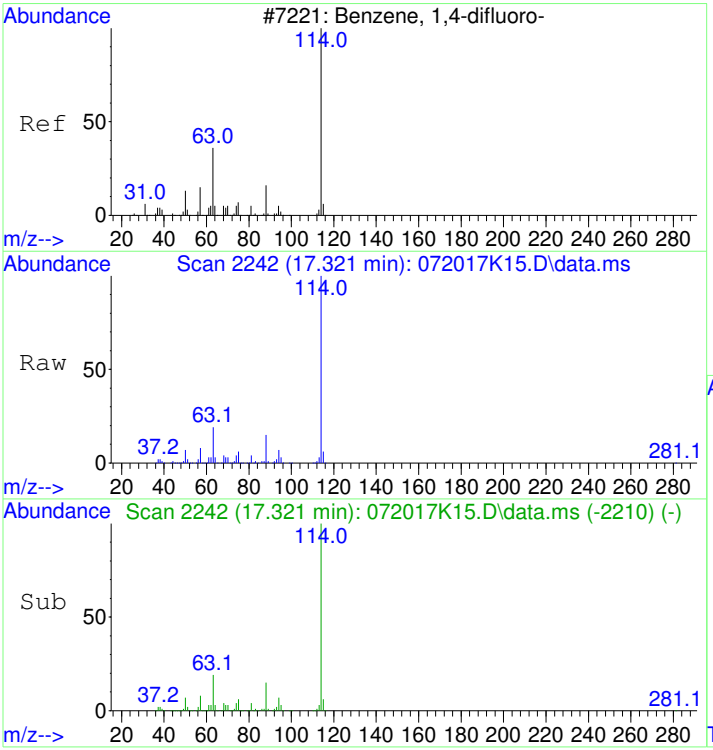




#24
cis-1,2-Dichloroethene
Concen: 293.41 ppbv
RT: 14.765 min Scan# 1822
Delta R.T. 0.006 min
Lab File: 072017K15.D
Acq: 20 Jul 2017 9:29 pm

Tgt Ion: 61 Resp: 4125961

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 61 | 100 | | |
| 96 | 83.1 | 56.2 | 96.2 |
| 98 | 53.8 | 27.8 | 67.8 |

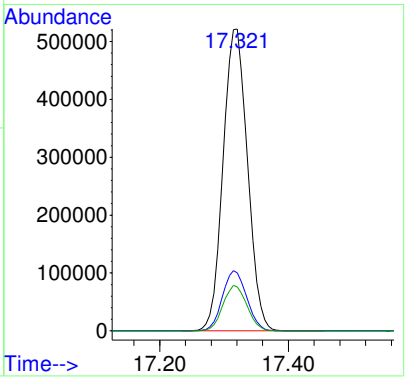


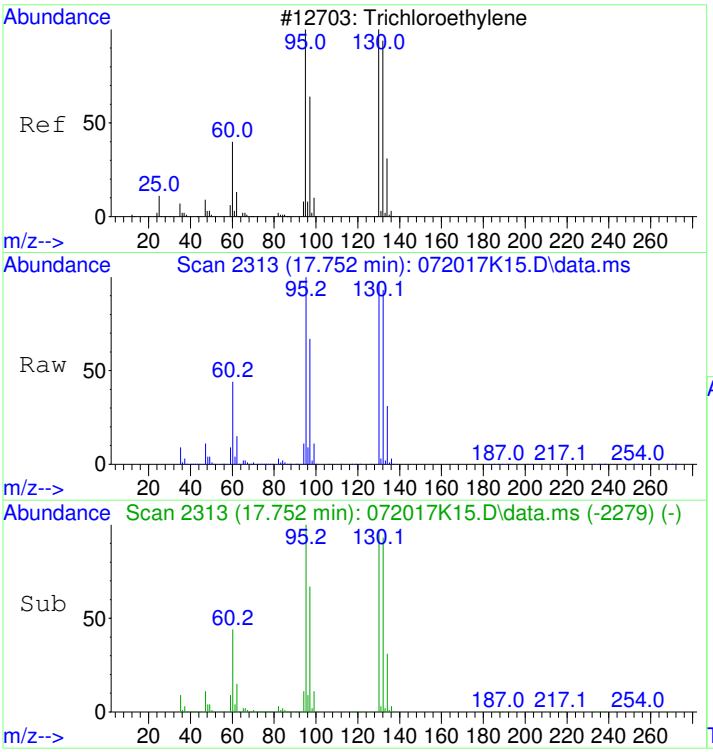



#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 17.321 min Scan# 2242
Delta R.T. 0.012 min
Lab File: 072017K15.D
Acq: 20 Jul 2017 9:29 pm

Tgt Ion:114 Resp: 1370186

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 114 | 100 | | |
| 63 | 19.8 | 0.8 | 40.8 |
| 88 | 14.8 | 0.0 | 35.1 |

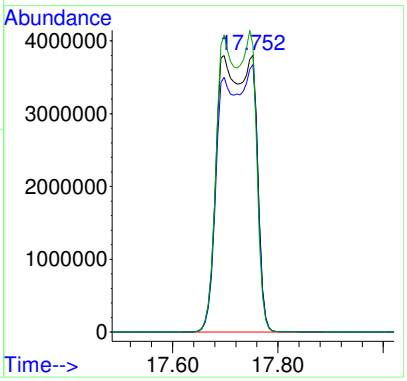


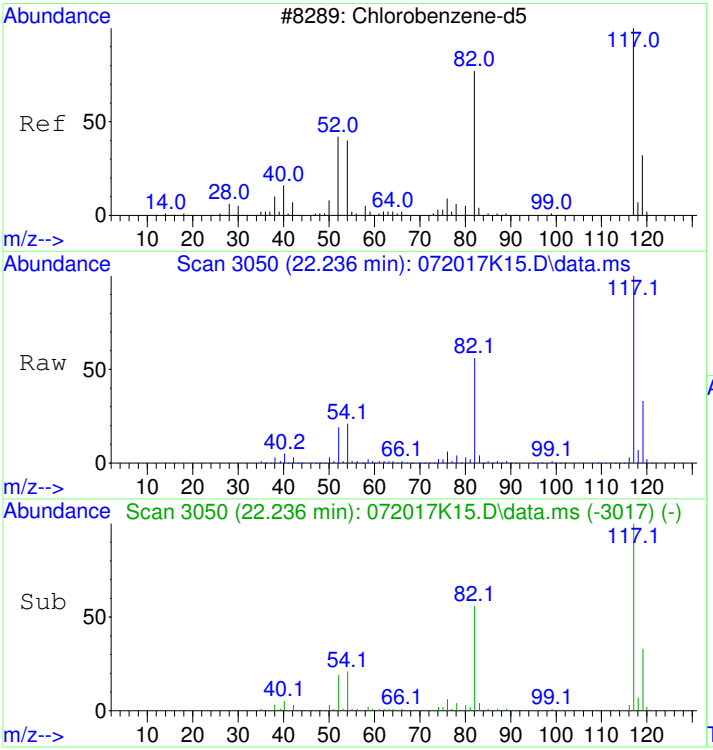




#37
Trichloroethene
Concen: 1025.19 ppbv
RT: 17.752 min Scan# 2313
Delta R.T. 0.055 min
Lab File: 072017K15.D
Acq: 20 Jul 2017 9:29 pm

Tgt Ion:130 Resp:18599085

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 130 | 100 | | |
| 132 | 94.8 | 77.0 | 117.0 |
| 95 | 104.5 | 78.3 | 118.3 |

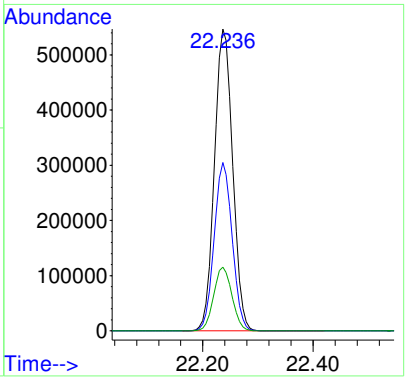


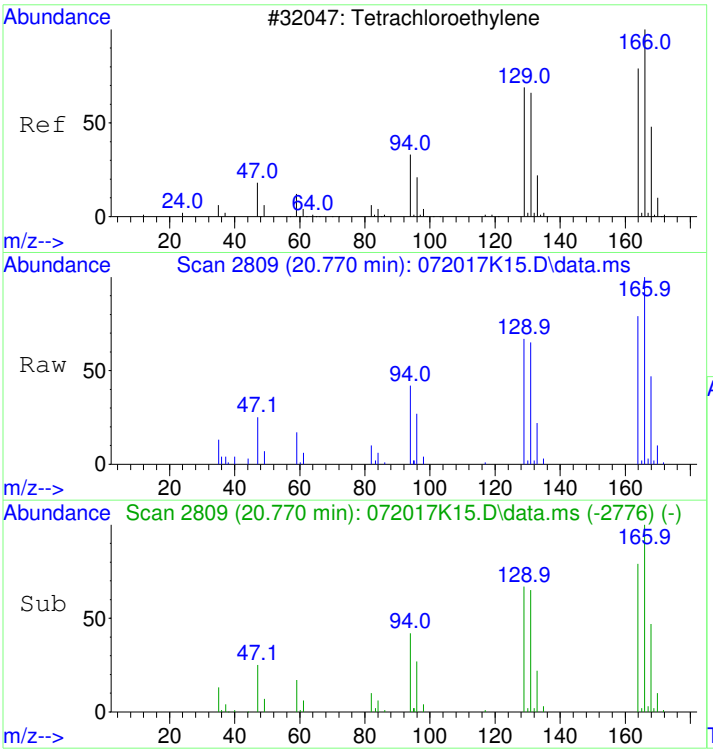



#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 22.236 min Scan# 3050
Delta R.T. -0.000 min
Lab File: 072017K15.D
Acq: 20 Jul 2017 9:29 pm

Tgt Ion:117 Resp: 1251907

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 117 | 100 | | |
| 82 | 55.1 | 36.2 | 76.2 |
| 54 | 21.2 | 2.0 | 42.0 |

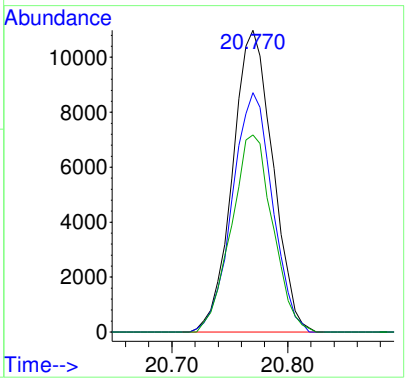



#47
Tetrachloroethene
Concen: 0.97 ppbv
RT: 20.770 min Scan# 2809
Delta R.T. -0.000 min
Lab File: 072017K15.D
Acq: 20 Jul 2017 9:29 pm

Tgt Ion:166 Resp: 26514

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 166 | 100 | | |
| 164 | 79.2 | 57.9 | 97.9 |
| 131 | 67.1 | 47.0 | 87.0 |



# S17G091-IBL3

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2017\DATA\072017K_FSAA\
Data File : 072017K16.D
InstName : HP5973K
Acq On : 20 Jul 2017 10:21 pm
Operator : LLH
Sample : S17G091-IBL3
Misc : 200ml BLANK
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Jul 21 09:28:37 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) BROMOCHLOROMETHANE | 15.313 | 49 | 343294 | 19.80 | ppbv | 0.00 |
| 32) 1,4-DIFLUOROBENZENE | 17.308 | 114 | 1324287 | 19.60 | ppbv | 0.00 |
| 43) CHLOROBENZENE-d5 | 22.236 | 117 | 1211500 | 19.60 | ppbv | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 37) Trichloroethene | 17.704 | 130 | 19771 | 1.13 | ppbv | 99 |

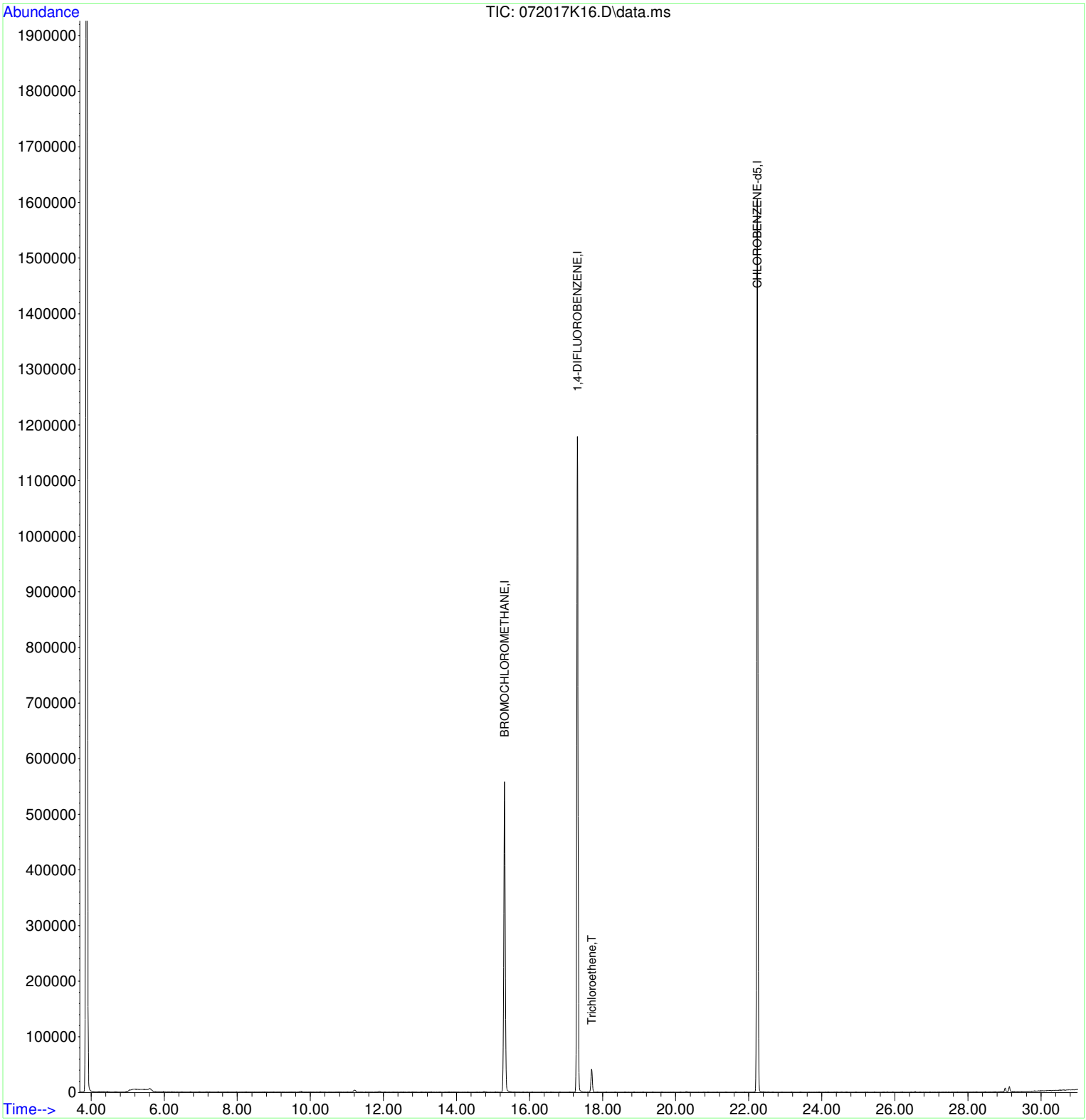
CARRY OVER

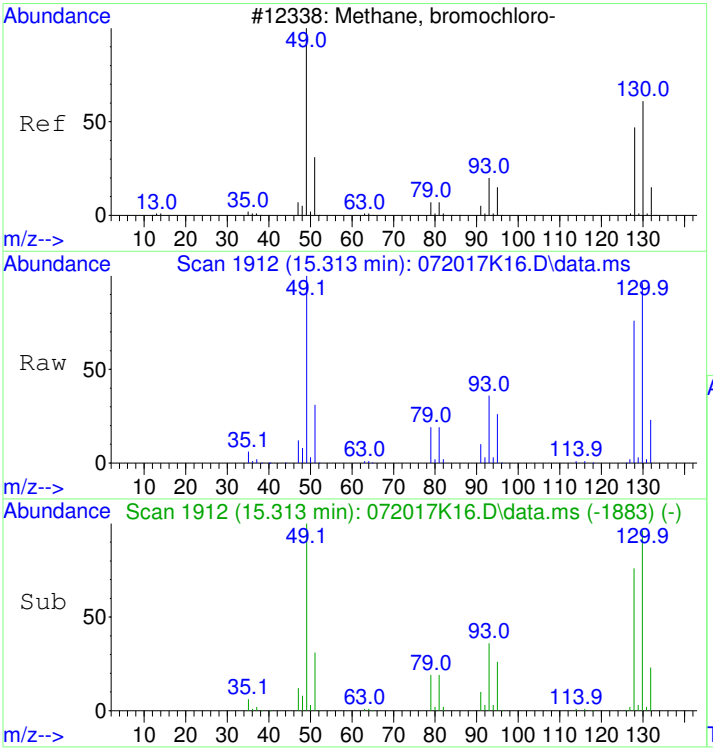
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\072017K_FSAA\
Data File : 072017K16.D
InstName : HP5973K
Acq On : 20 Jul 2017 10:21 pm
Operator : LLH
Sample : S17G091-IBL3
Misc : 200ml BLANK
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Jul 21 09:28:37 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

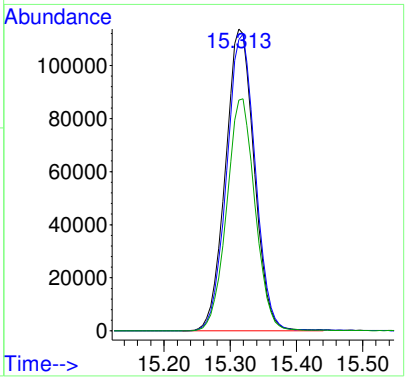


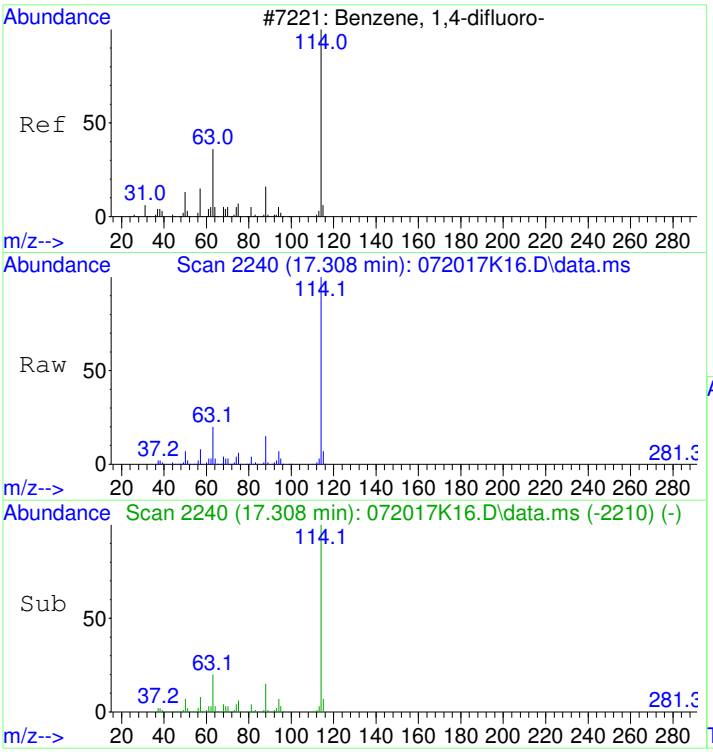



#1
BROMOCHLOROMETHANE
Concen: 19.80 ppbv
RT: 15.313 min Scan# 1912
Delta R.T. 0.000 min
Lab File: 072017K16.D
Acq: 20 Jul 2017 10:21 pm

Tgt Ion: 49 Resp: 343294

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 130 | 97.6 | 67.2 | 107.2 |
| 128 | 75.8 | 47.6 | 87.6 |

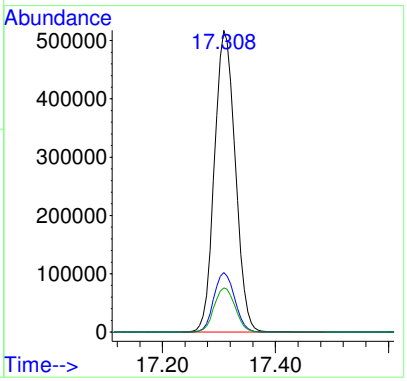


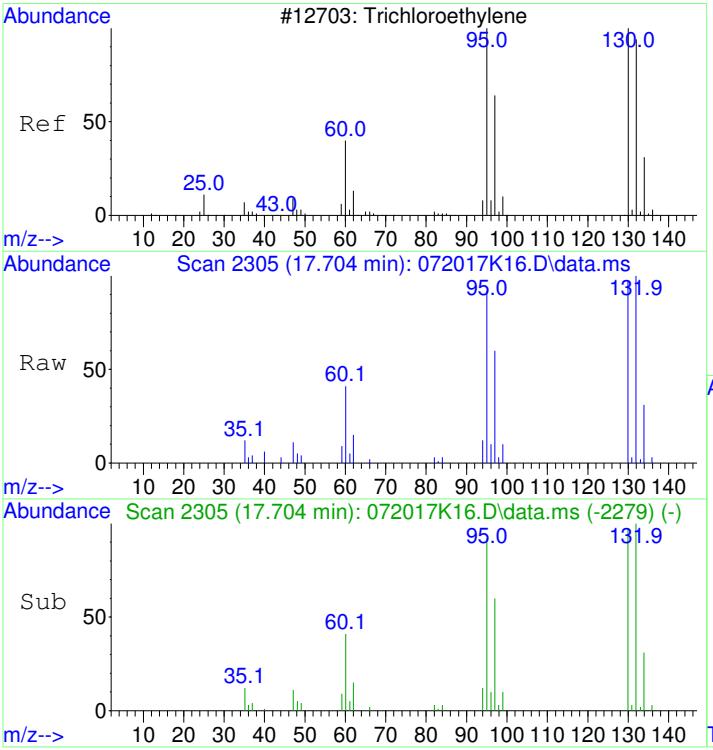




#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 17.308 min Scan# 2240
Delta R.T. -0.000 min
Lab File: 072017K16.D
Acq: 20 Jul 2017 10:21 pm

Tgt Ion:114 Resp: 1324287

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 114 | 100 | | |
| 63 | 19.8 | 0.8 | 40.8 |
| 88 | 14.8 | 0.0 | 35.1 |

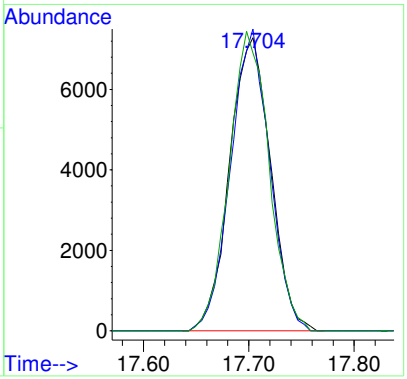


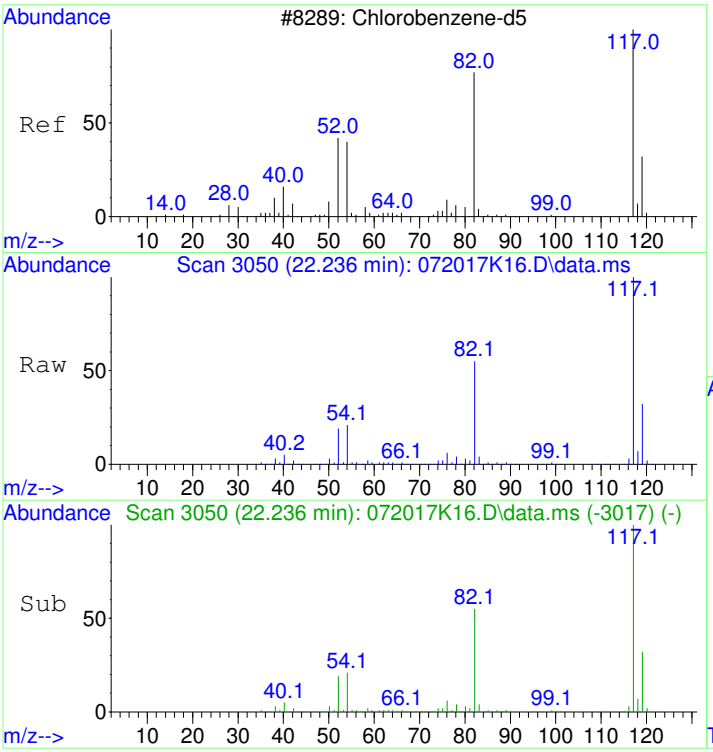



#37
Trichloroethene
Concen: 1.13 ppbv
RT: 17.704 min Scan# 2305
Delta R.T. 0.006 min
Lab File: 072017K16.D
Acq: 20 Jul 2017 10:21 pm

Tgt Ion:130 Resp: 19771

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 130 | 100 | | |
| 132 | 97.3 | 77.0 | 117.0 |
| 95 | 99.1 | 78.3 | 118.3 |

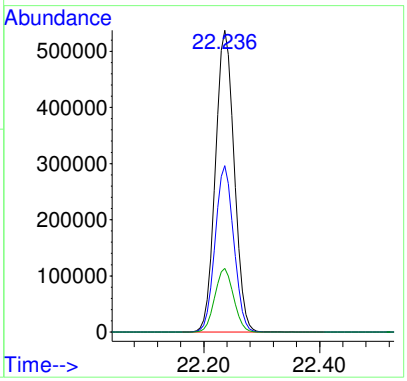



#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 22.236 min Scan# 3050
Delta R.T. -0.000 min
Lab File: 072017K16.D
Acq: 20 Jul 2017 10:21 pm

Tgt Ion:117 Resp: 1211500

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 117 | 100 | | |
| 82 | 54.7 | 36.2 | 76.2 |
| 54 | 21.0 | 2.0 | 42.0 |



# 1707040-02

Data Path : D:\msdchem\1\2017\DATA\072017K_FSAA\
Data File : 072017K17.D
InstName : HP5973K
Acq On : 20 Jul 2017 11:10 pm
Operator : LLH
Sample : 1707040-02
Misc : 20ml SG137-6
ALS Vial : 17 Sample Multiplier: 2.99

REPORT

rerun 2nd can dil'n for >LR

Quant Time: Jul 21 09:43:12 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) | |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) BROMOCHLOROMETHANE | 15.319 | 49 | 349564 | 19.80 | ppbv | 0.00 | |
| 32) 1,4-DIFLUOROBENZENE | 17.315 | 114 | 1314616 | 19.60 | ppbv | 0.00 | |
| 43) CHLOROBENZENE-d5 | 22.236 | 117 | 1222784 | 19.60 | ppbv | 0.00 | |
| Target Compounds | | | | | | Qvalue | |
| 2) Propene | 4.211 | 41 | 14799 | 1.79 | ppbv # | 54 | |
| 20) trans-1,2-Dichloroethene | 11.900 | 61 | 351593 | 22.50 | ppbv | 96 | oc |
| 24) cis-1,2-Dichloroethene | 14.759 | 61 | 255726 | 18.84 | ppbv | 96 | |
| 28) Chloroform | 15.471 | 83 | 15876 | 0.59 | ppbv | 99 | |
| 37) Trichloroethene | 17.728 | 130 | 15435889 | 886.80 | ppbv | 96 | oc |

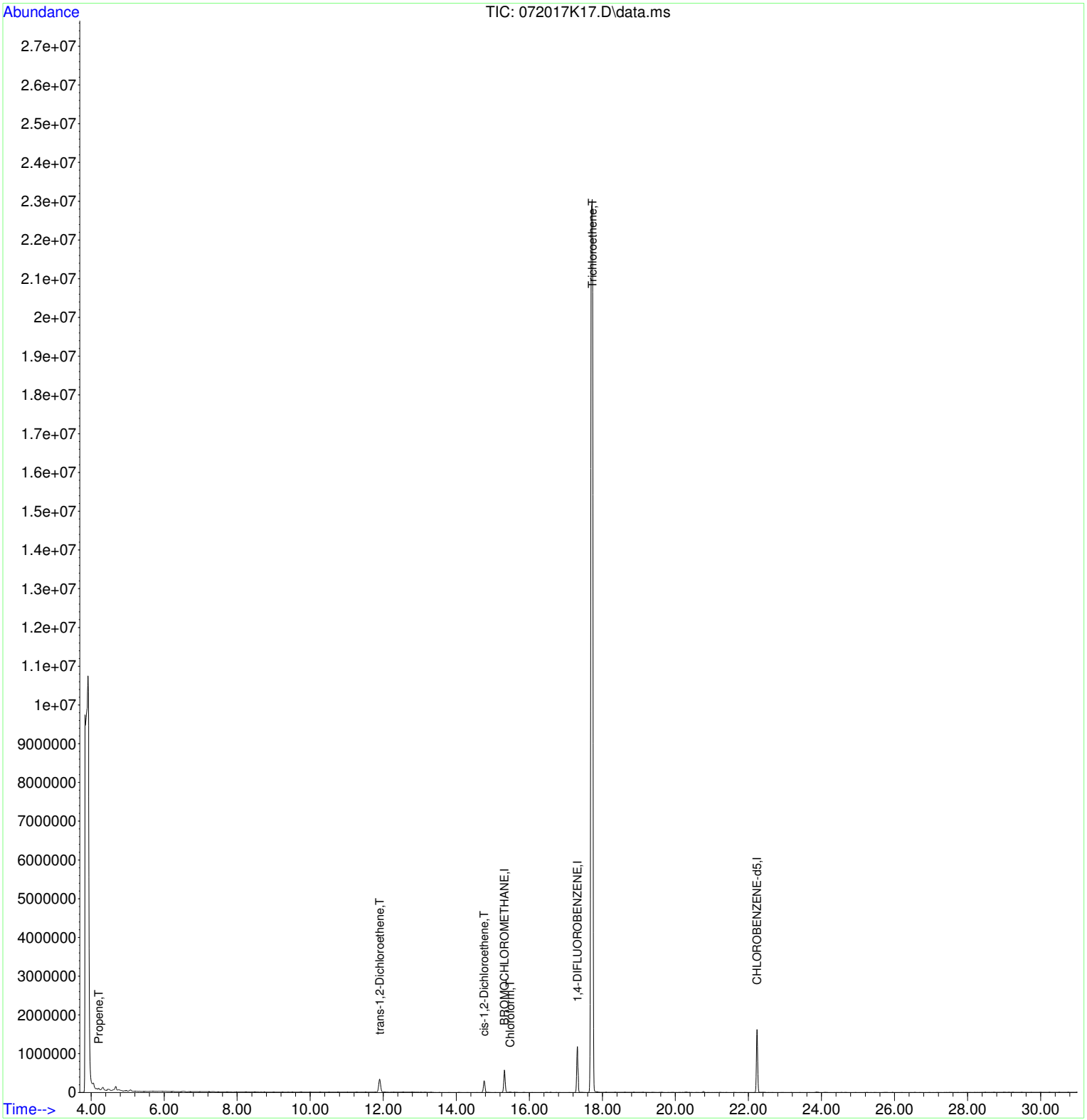
(#) = qualifier out of range (m) = manual integration (+) = signals summed

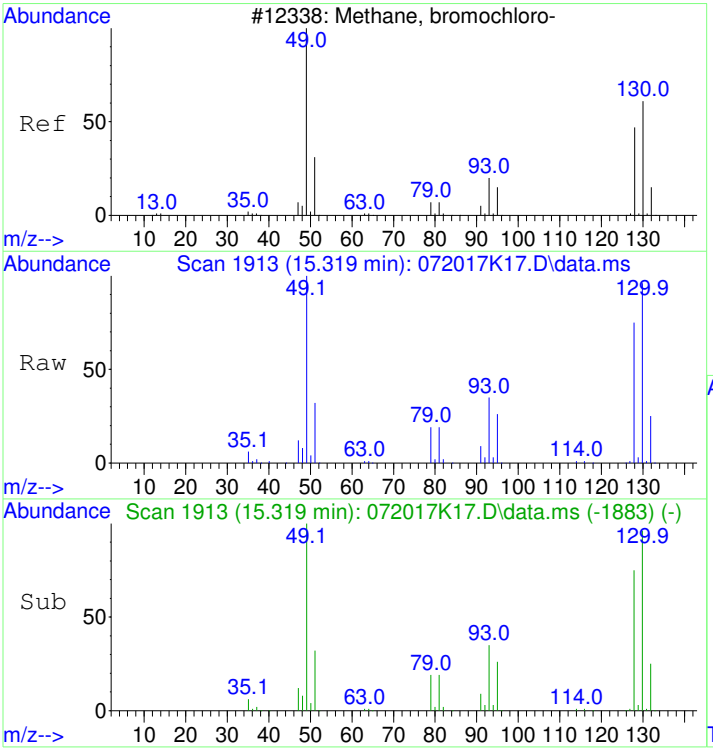
**REVIEWED**
***By LLH at 12:02 pm, Jul 21, 2017***

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\072017K_FSAA\
Data File : 072017K17.D
InstName : HP5973K
Acq On : 20 Jul 2017 11:10 pm
Operator : LLH
Sample : 1707040-02
Misc : 20ml SG137-6
ALS Vial : 17 Sample Multiplier: 2.99

Quant Time: Jul 21 09:43:12 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

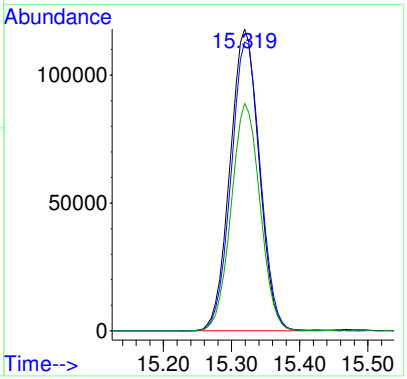


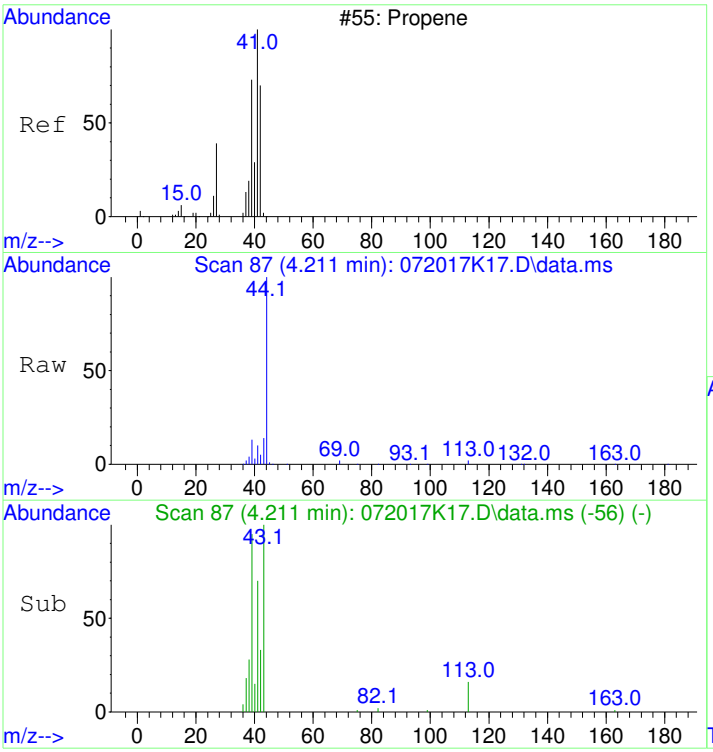



#1
BROMOCHLOROMETHANE
Concen: 19.80 ppbv
RT: 15.319 min Scan# 1913
Delta R.T. 0.006 min
Lab File: 072017K17.D
Acq: 20 Jul 2017 11:10 pm

Tgt Ion: 49 Resp: 349564

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 130 | 96.2 | 67.2 | 107.2 |
| 128 | 74.8 | 47.6 | 87.6 |

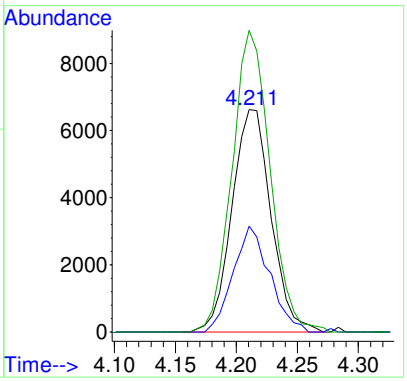


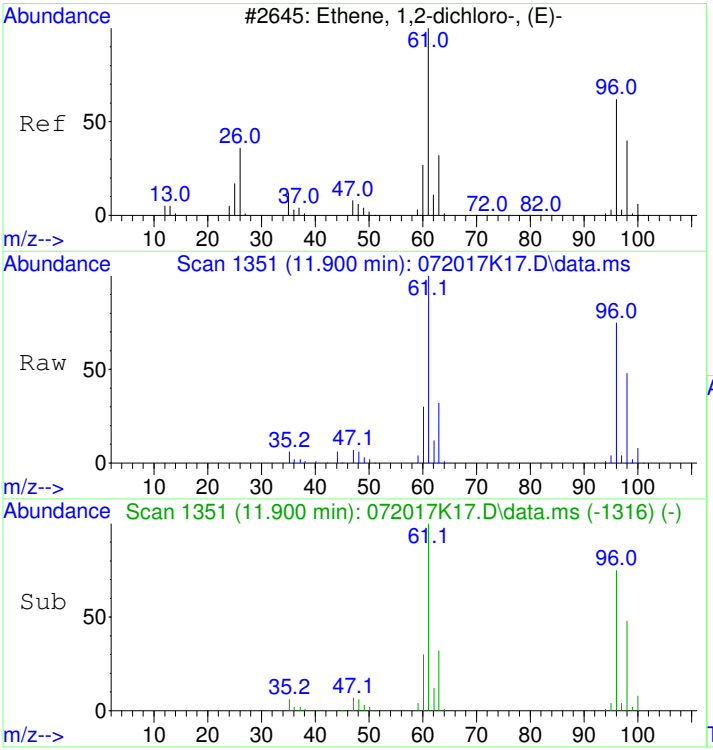

#2
Propene
Concen: 1.79 ppbv
RT: 4.211 min Scan# 87
Delta R.T. -0.012 min
Lab File: 072017K17.D
Acq: 20 Jul 2017 11:10 pm

Tgt Ion: 41 Resp: 14799

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 41 | 100 | | |
| 42 | 44.4 | 44.0 | 84.0 |
| 39 | 131.9 | 57.2 | 97.2# |



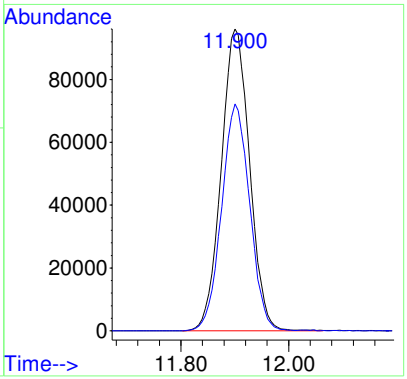

ok

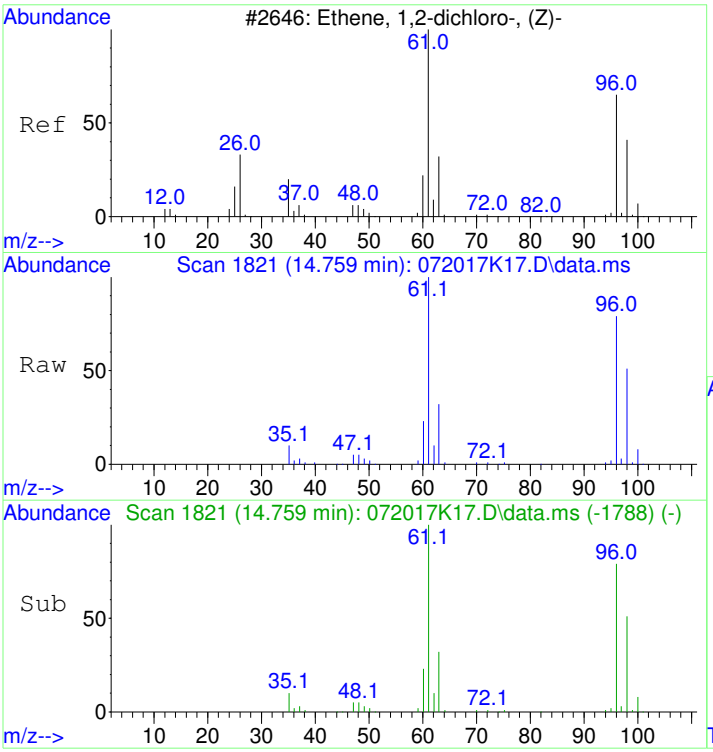



#20
trans-1,2-Dichloroethene
Concen: 22.50 ppbv
RT: 11.900 min Scan# 1351
Delta R.T. 0.012 min
Lab File: 072017K17.D
Acq: 20 Jul 2017 11:10 pm

Tgt Ion: 61 Resp: 351593

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 61 | 100 | | |
| 96 | 74.5 | 51.3 | 91.3 |

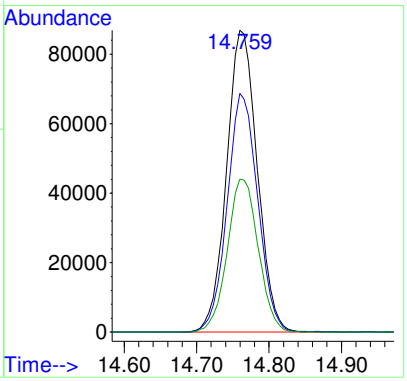


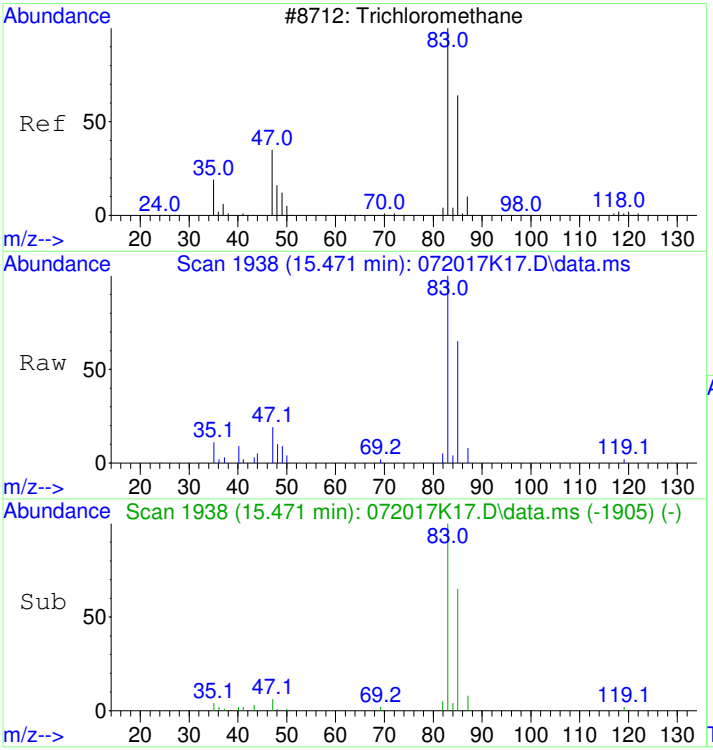




#24
cis-1,2-Dichloroethene
Concen: 18.84 ppbv
RT: 14.759 min Scan# 1821
Delta R.T. -0.000 min
Lab File: 072017K17.D
Acq: 20 Jul 2017 11:10 pm

Tgt Ion: 61 Resp: 255726

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 61 | 100 | | |
| 96 | 78.9 | 56.2 | 96.2 |
| 98 | 51.1 | 27.8 | 67.8 |

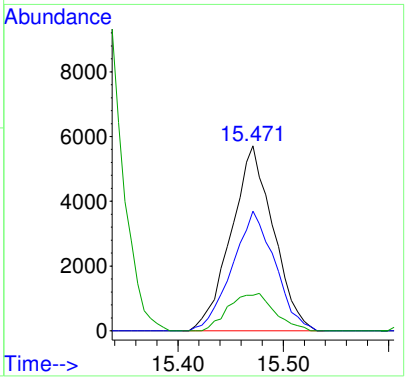


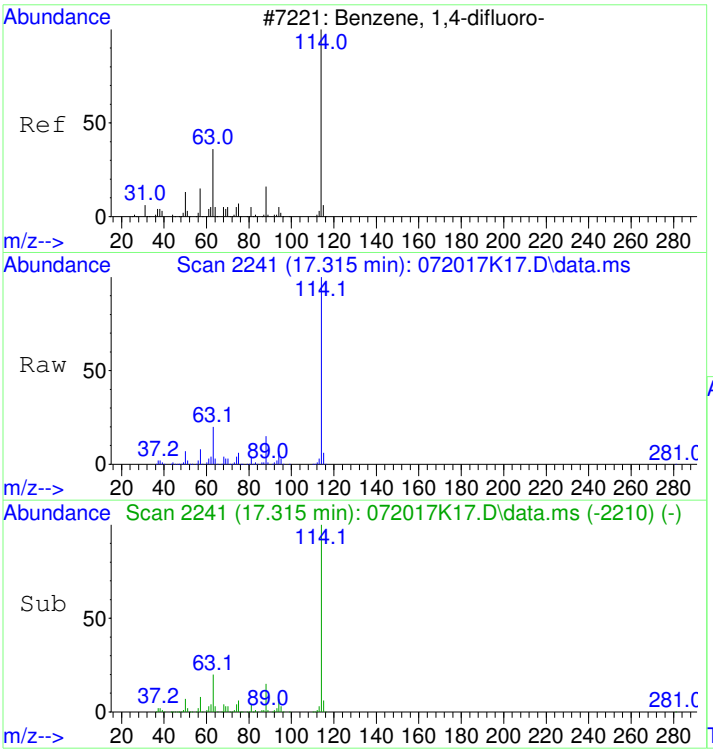



#28
Chloroform
Concen: 0.59 ppbv
RT: 15.471 min Scan# 1938
Delta R.T. -0.000 min
Lab File: 072017K17.D
Acq: 20 Jul 2017 11:10 pm

Tgt Ion: 83 Resp: 15876

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 83 | 100 | | |
| 85 | 65.6 | 44.6 | 84.6 |
| 47 | 22.2 | 2.7 | 42.7 |

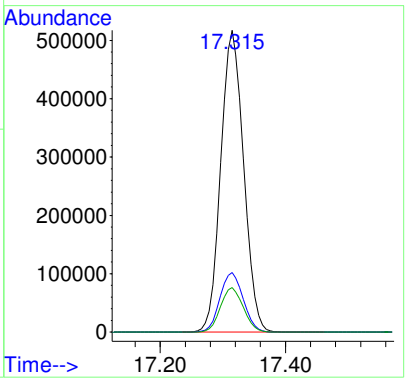


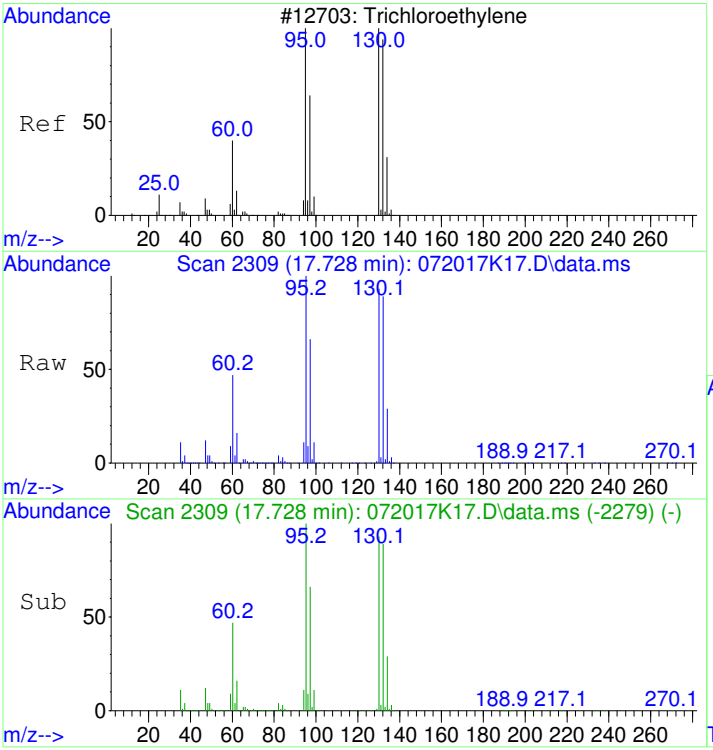




#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 17.315 min Scan# 2241
Delta R.T. 0.006 min
Lab File: 072017K17.D
Acq: 20 Jul 2017 11:10 pm

Tgt Ion:114 Resp: 1314616

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 114 | 100 | | |
| 63 | 20.1 | 0.8 | 40.8 |
| 88 | 14.7 | 0.0 | 35.1 |

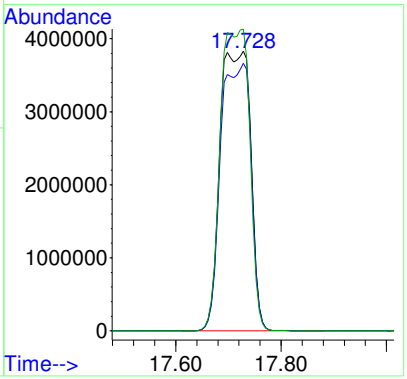


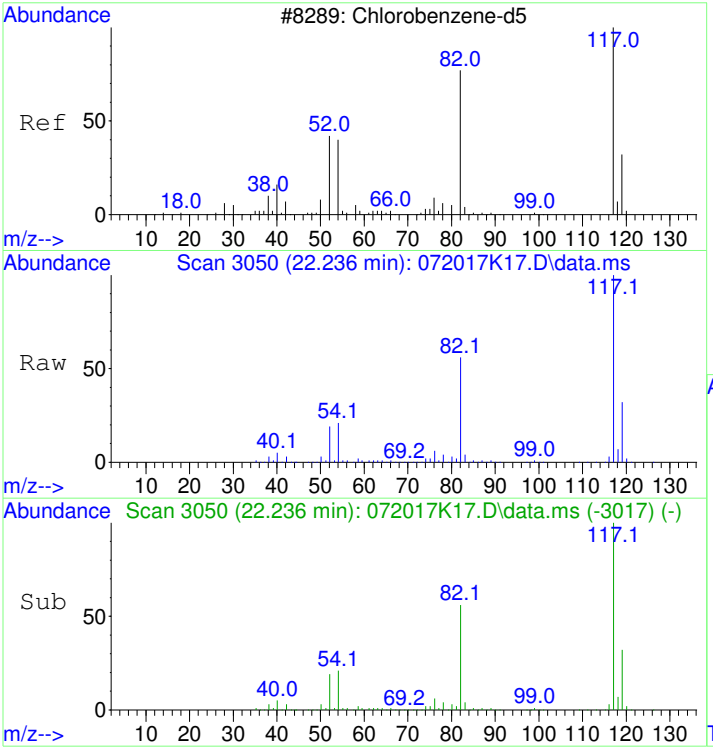



#37
Trichloroethene
Concen: 886.80 ppbv
RT: 17.728 min Scan# 2309
Delta R.T. 0.030 min
Lab File: 072017K17.D
Acq: 20 Jul 2017 11:10 pm

Tgt Ion:130 Resp:15435889

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 130 | 100 | | |
| 132 | 94.3 | 77.0 | 117.0 |
| 95 | 103.5 | 78.3 | 118.3 |

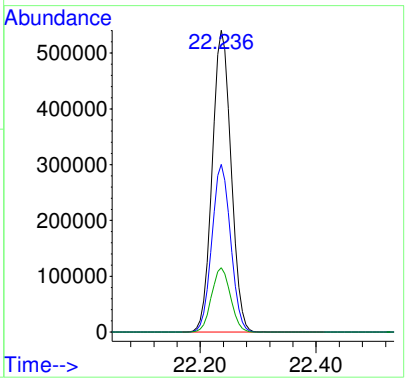



#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 22.236 min Scan# 3050
Delta R.T. -0.000 min
Lab File: 072017K17.D
Acq: 20 Jul 2017 11:10 pm

Tgt Ion:117 Resp: 1222784

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 117 | 100 | | |
| 82 | 55.3 | 36.2 | 76.2 |
| 54 | 21.4 | 2.0 | 42.0 |



# 1707040-03

Data Path : D:\msdchem\1\2017\DATA\072017K_FSAA\
Data File : 072017K18.D
InstName : HP5973K
Acq On : 20 Jul 2017 11:59 pm
Operator : LLH
Sample : 1707040-03
Misc : 20ml SG137-10
ALS Vial : 18 Sample Multiplier: 3.33

REPORT

rerun 2nd can dil'n for >LR

Quant Time: Jul 21 09:44:46 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) | |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) BROMOCHLOROMETHANE | 15.319 | 49 | 348288 | 19.80 | ppbv | 0.00 | |
| 32) 1,4-DIFLUOROBENZENE | 17.315 | 114 | 1294882 | 19.60 | ppbv | 0.00 | |
| 43) CHLOROBENZENE-d5 | 22.236 | 117 | 1186827 | 19.60 | ppbv | 0.00 | |
| Target Compounds | | | | | | Qvalue | |
| 2) Propene | 4.205 | 41 | 7678 | 0.93 | ppbv # | 55 | |
| 14) Acetone | 9.741 | 43 | 8138 | 0.50 | ppbv | 93 | |
| 20) trans-1,2-Dichloroethene | 11.900 | 61 | 390828 | 25.10 | ppbv | 97 | OC |
| 24) cis-1,2-Dichloroethene | 14.760 | 61 | 816098 | 60.36 | ppbv | 96 | OC |
| 28) Chloroform | 15.471 | 83 | 13893 | 0.52 | ppbv | 98 | |
| 37) Trichloroethene | 17.728 | 130 | 15474559 | 902.57 | ppbv | 96 | OC |
| 47) Tetrachloroethene | 20.770 | 166 | 11866 | 0.46 | ppbv | 98 | |

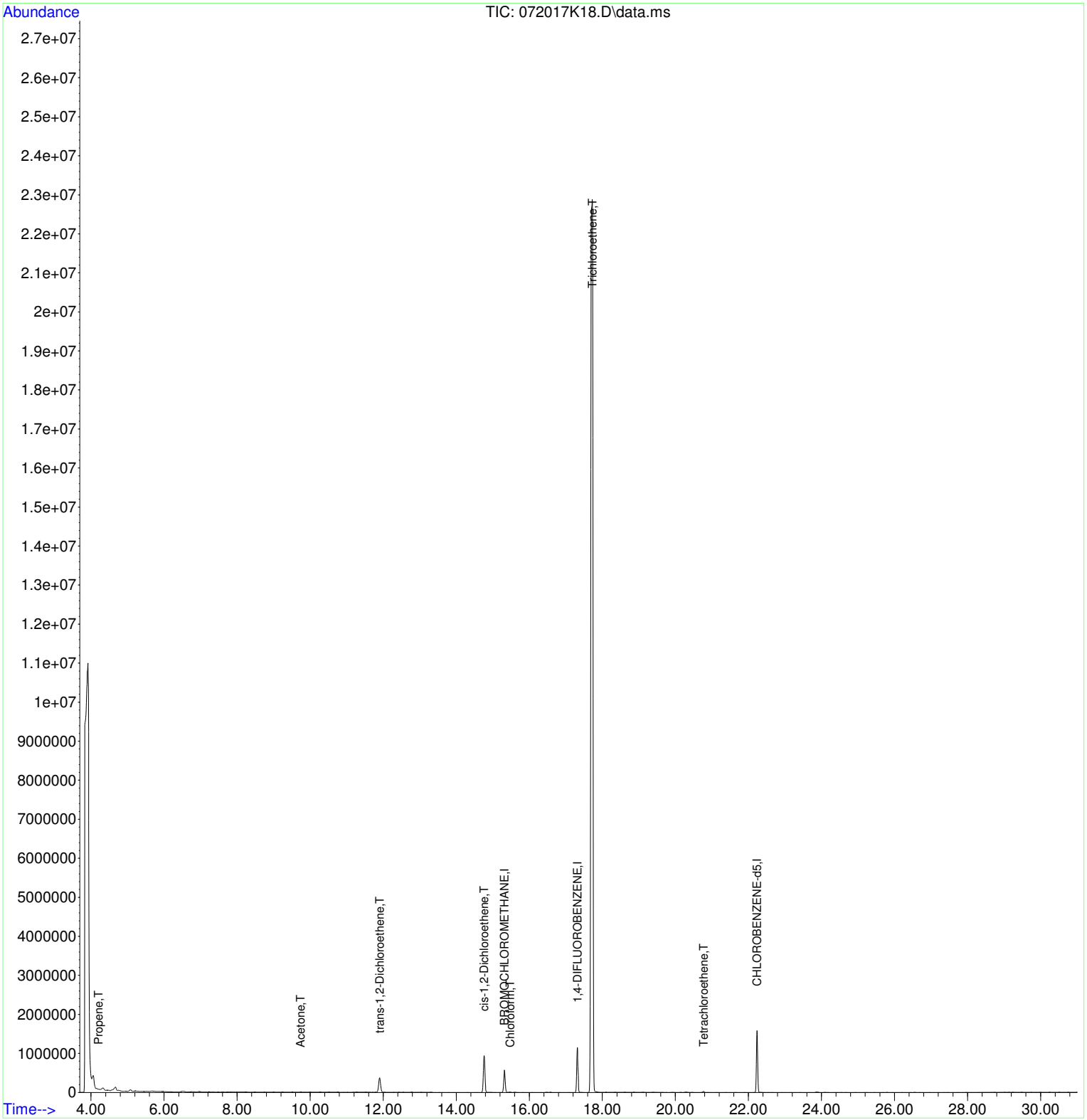
(#) = qualifier out of range (m) = manual integration (+) = signals summed

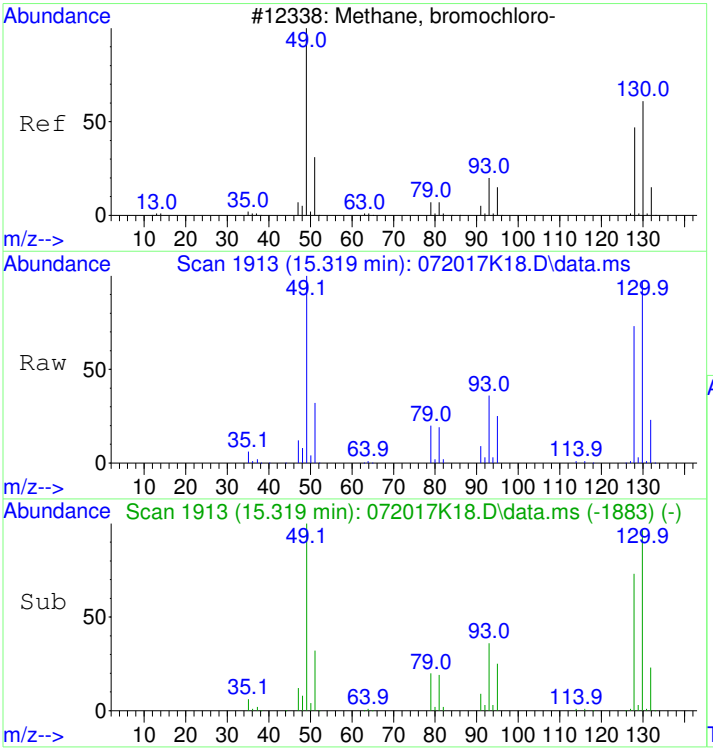
**REVIEWED**
***By LLH at 12:03 pm, Jul 21, 2017***

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\072017K_FSAA\
Data File : 072017K18.D
InstName : HP5973K
Acq On : 20 Jul 2017 11:59 pm
Operator : LLH
Sample : 1707040-03
Misc : 20ml SG137-10
ALS Vial : 18 Sample Multiplier: 3.33

Quant Time: Jul 21 09:44:46 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

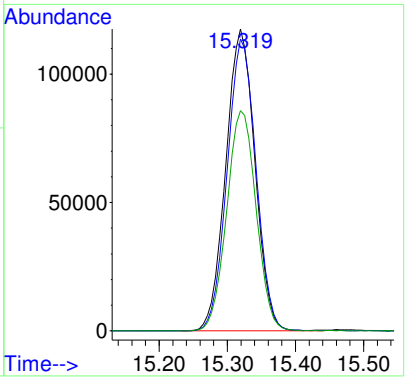


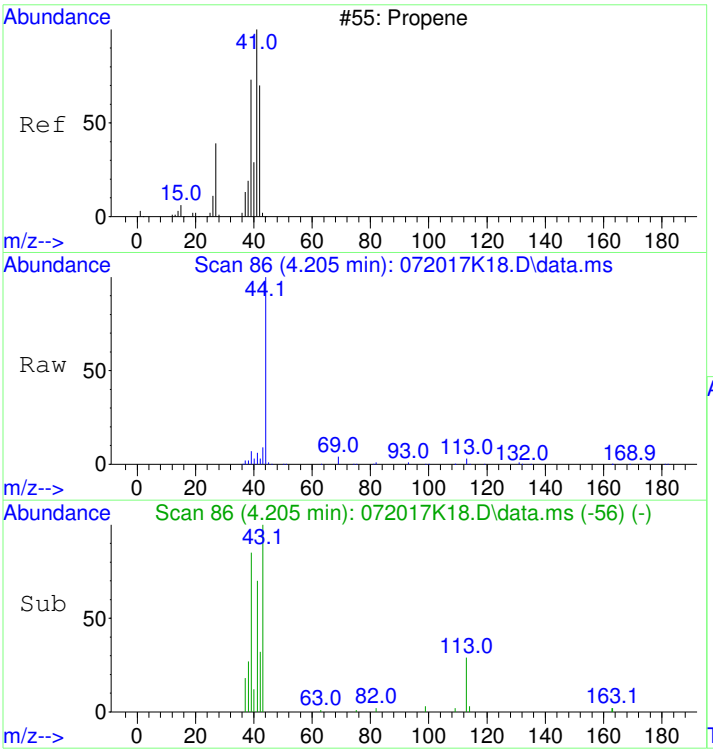



#1
BROMOCHLOROMETHANE
Concen: 19.80 ppbv
RT: 15.319 min Scan# 1913
Delta R.T. 0.006 min
Lab File: 072017K18.D
Acq: 20 Jul 2017 11:59 pm

Tgt Ion: 49 Resp: 348288

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 130 | 95.7 | 67.2 | 107.2 |
| 128 | 73.6 | 47.6 | 87.6 |

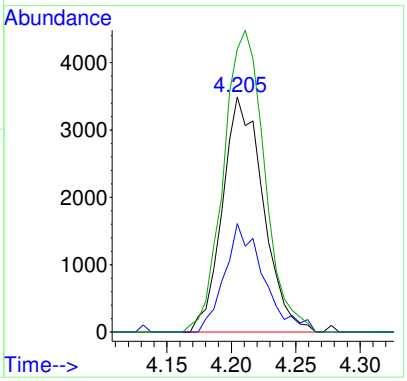


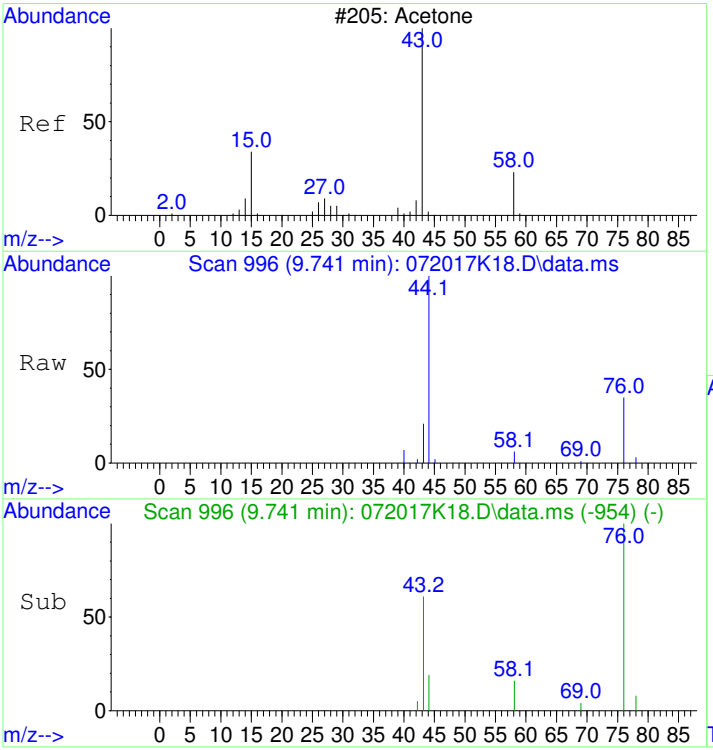

#2
Propene
Concen: 0.93 ppbv
RT: 4.205 min Scan# 86
Delta R.T. -0.018 min
Lab File: 072017K18.D
Acq: 20 Jul 2017 11:59 pm

Tgt Ion: 41 Resp: 7678

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 41 | 100 | | |
| 42 | 44.3 | 44.0 | 84.0 |
| 39 | 129.7 | 57.2 | 97.2# |



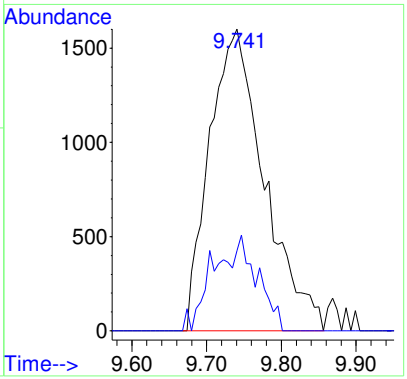

ok

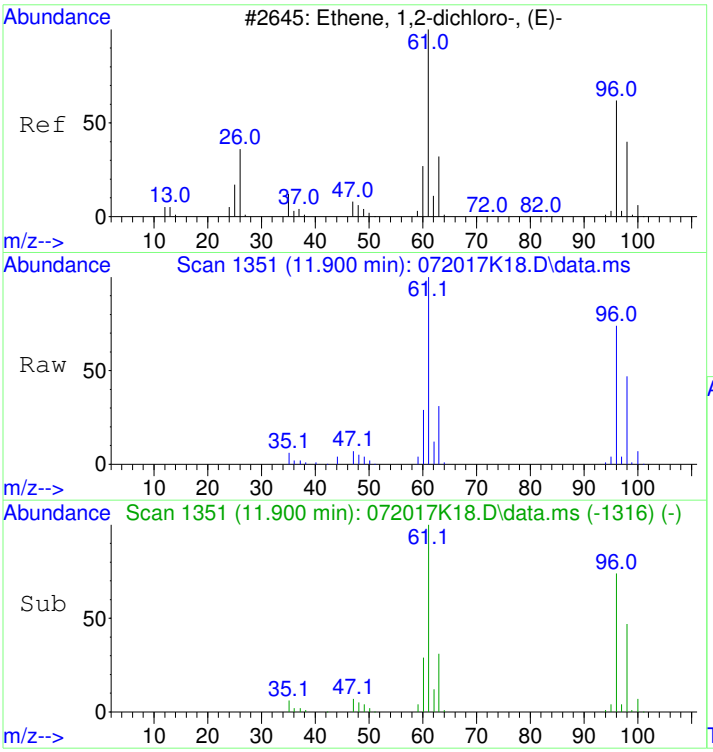



#14
Acetone
Concen: 0.50 ppbv
RT: 9.741 min Scan# 996
Delta R.T. 0.055 min
Lab File: 072017K18.D
Acq: 20 Jul 2017 11:59 pm

Tgt Ion: 43 Resp: 8138

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 43 | 100 | | |
| 58 | 25.2 | 9.0 | 49.0 |

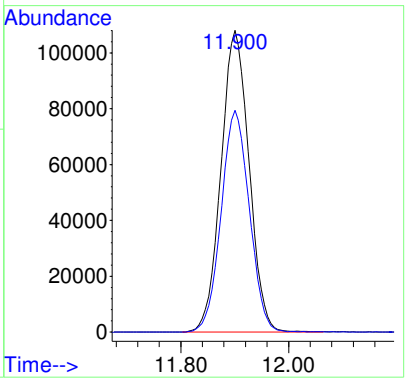


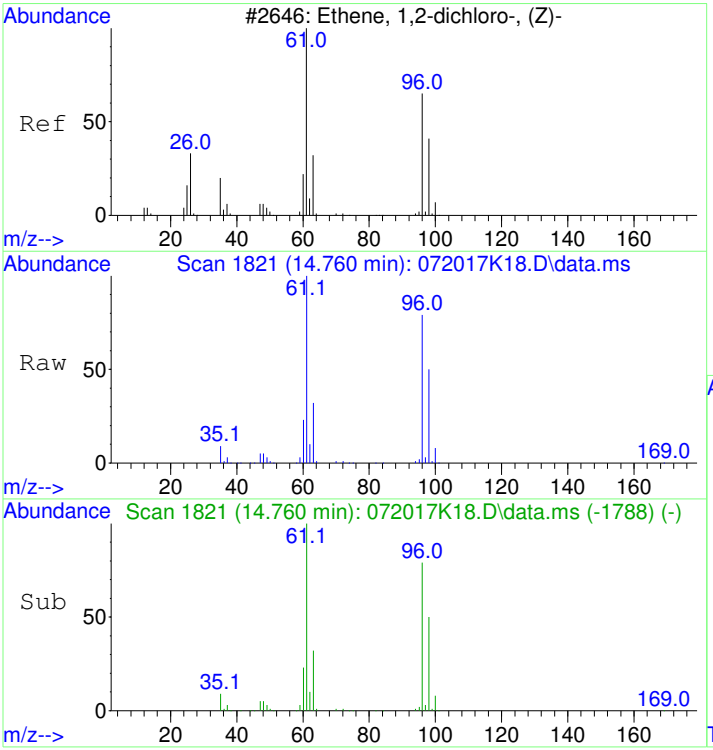




#20
trans-1,2-Dichloroethene
Concen: 25.10 ppbv
RT: 11.900 min Scan# 1351
Delta R.T. 0.012 min
Lab File: 072017K18.D
Acq: 20 Jul 2017 11:59 pm

Tgt Ion: 61 Resp: 390828

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 61 | 100 | | |
| 96 | 73.8 | 51.3 | 91.3 |

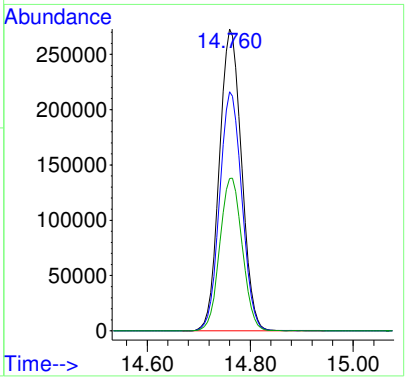


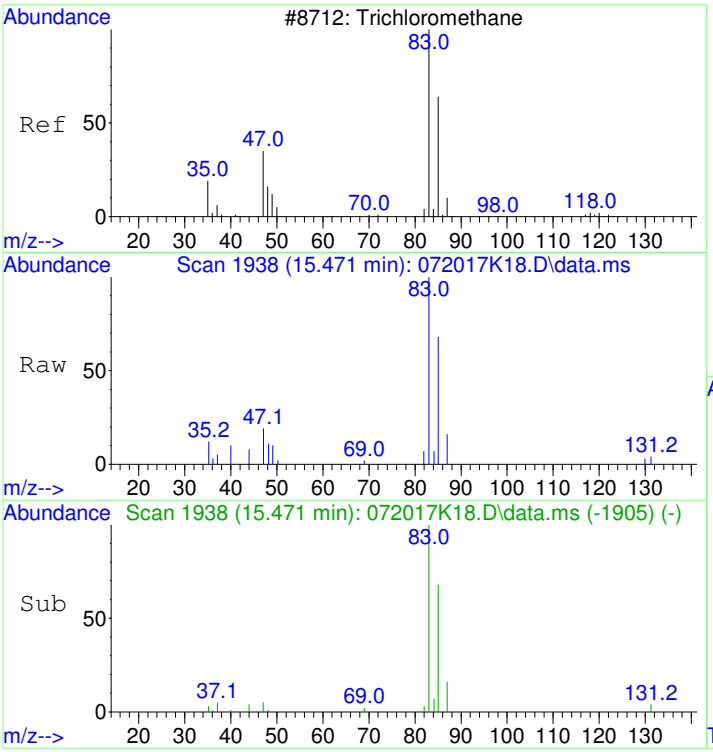



#24
cis-1,2-Dichloroethene
Concen: 60.36 ppbv
RT: 14.760 min Scan# 1821
Delta R.T. 0.000 min
Lab File: 072017K18.D
Acq: 20 Jul 2017 11:59 pm

Tgt Ion: 61 Resp: 816098

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 61 | 100 | | |
| 96 | 79.4 | 56.2 | 96.2 |
| 98 | 51.2 | 27.8 | 67.8 |

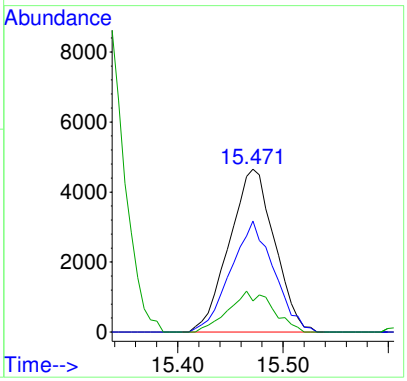


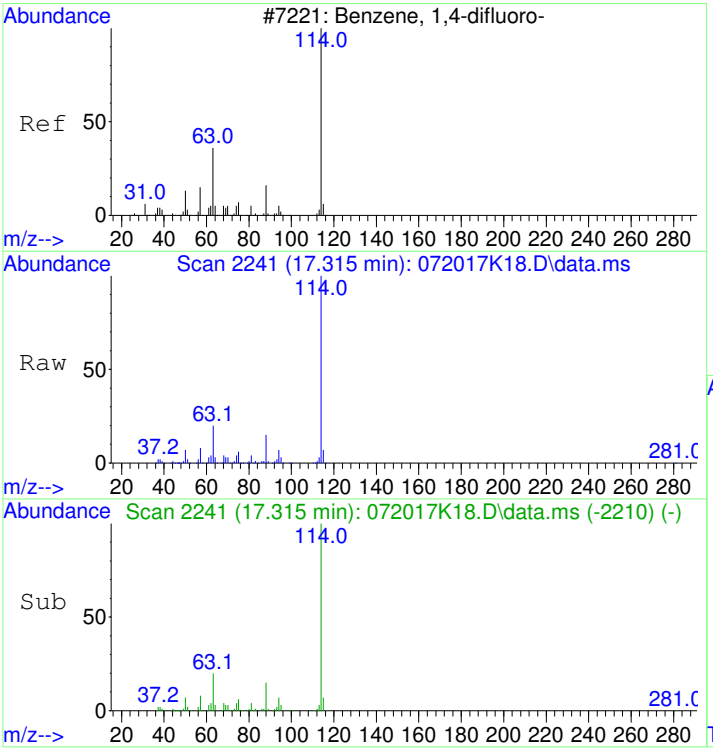




#28
Chloroform
Concen: 0.52 ppbv
RT: 15.471 min Scan# 1938
Delta R.T. 0.000 min
Lab File: 072017K18.D
Acq: 20 Jul 2017 11:59 pm

Tgt Ion: 83 Resp: 13893

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 83 | 100 | | |
| 85 | 65.2 | 44.6 | 84.6 |
| 47 | 24.5 | 2.7 | 42.7 |

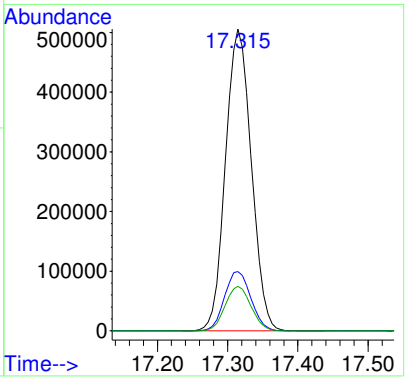


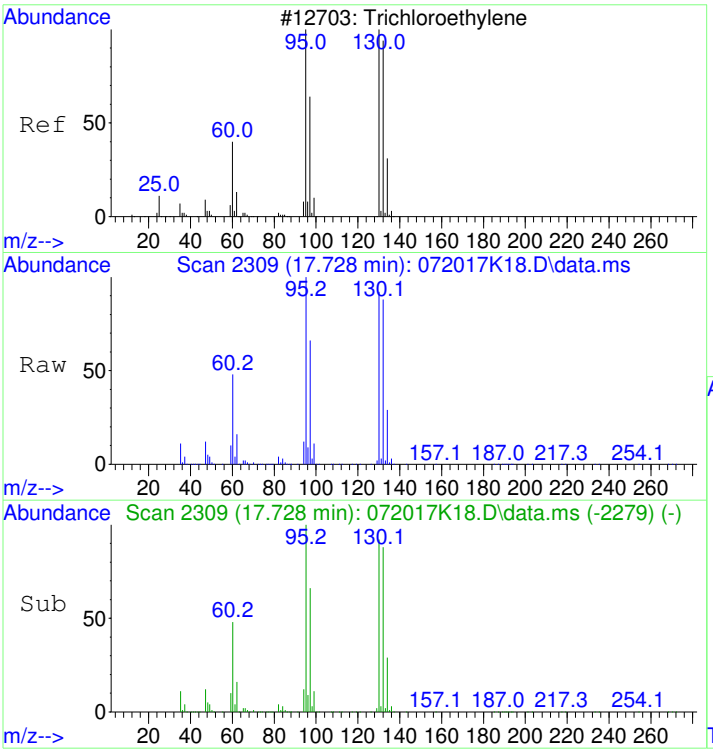



#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 17.315 min Scan# 2241
Delta R.T. 0.006 min
Lab File: 072017K18.D
Acq: 20 Jul 2017 11:59 pm

Tgt Ion:114 Resp: 1294882

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 114 | 100 | | |
| 63 | 20.0 | 0.8 | 40.8 |
| 88 | 14.7 | 0.0 | 35.1 |

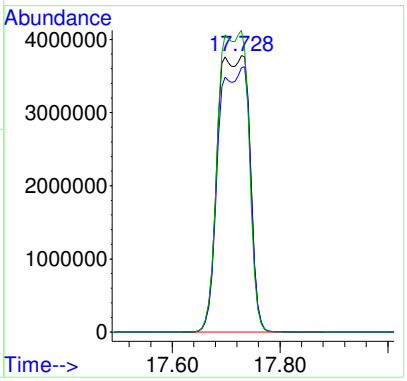


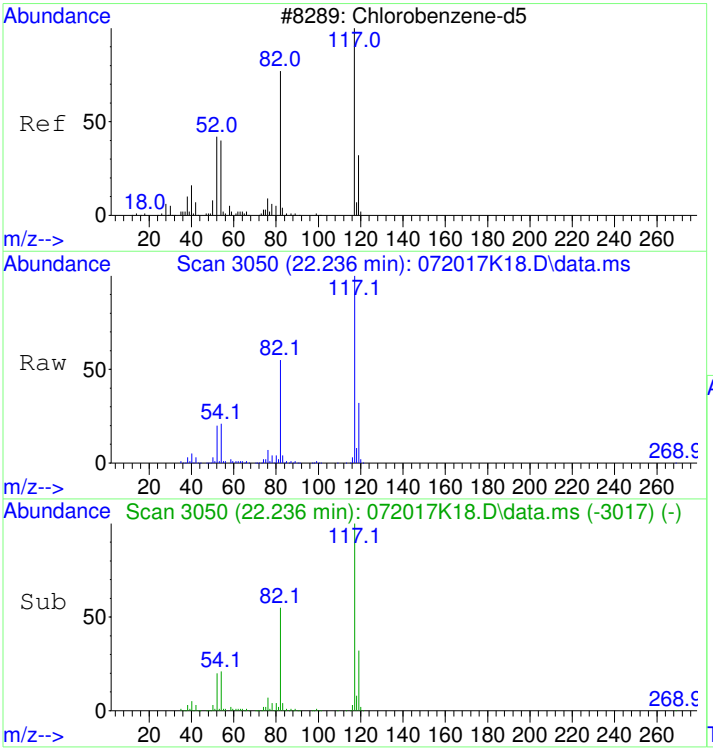




#37
Trichloroethene
Concen: 902.57 ppbv
RT: 17.728 min Scan# 2309
Delta R.T. 0.030 min
Lab File: 072017K18.D
Acq: 20 Jul 2017 11:59 pm

Tgt Ion:130 Resp:15474559

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 130 | 100 | | |
| 132 | 94.5 | 77.0 | 117.0 |
| 95 | 104.1 | 78.3 | 118.3 |

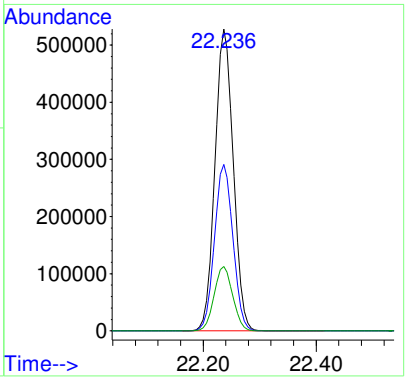


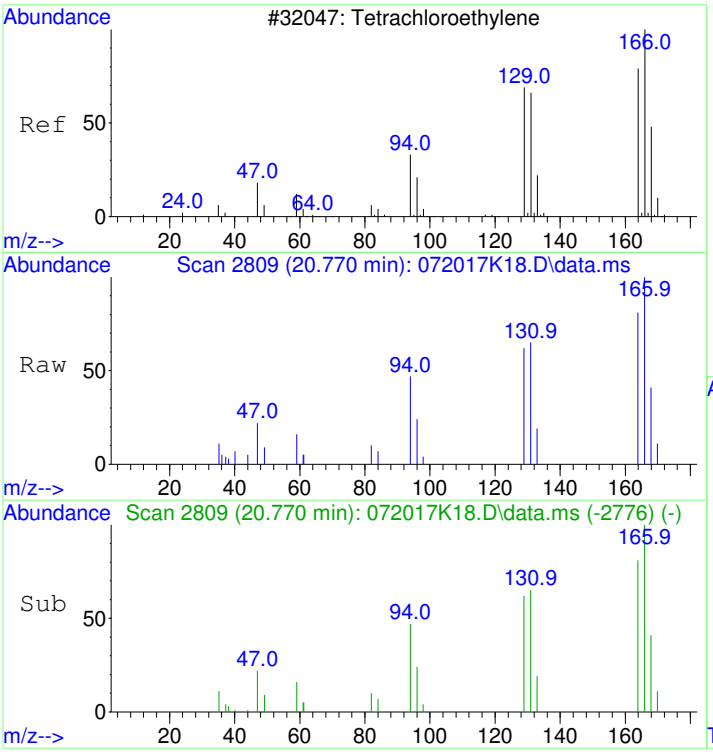



#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 22.236 min Scan# 3050
Delta R.T. 0.000 min
Lab File: 072017K18.D
Acq: 20 Jul 2017 11:59 pm

Tgt Ion:117 Resp: 1186827

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 117 | 100 | | |
| 82 | 55.5 | 36.2 | 76.2 |
| 54 | 21.6 | 2.0 | 42.0 |

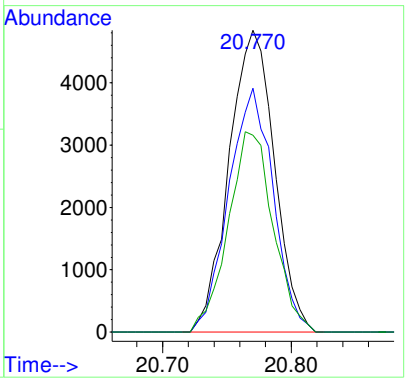



#47
Tetrachloroethene
Concen: 0.46 ppbv
RT: 20.770 min Scan# 2809
Delta R.T. 0.000 min
Lab File: 072017K18.D
Acq: 20 Jul 2017 11:59 pm

Tgt Ion:166 Resp: 11866

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 166 | 100 | | |
| 164 | 79.3 | 57.9 | 97.9 |
| 131 | 65.7 | 47.0 | 87.0 |



# 1707040-04

Data Path : D:\msdchem\1\2017\DATA\072017K_FSAA\
Data File : 072017K19.D
InstName : HP5973K
Acq On : 21 Jul 2017 12:49 am
Operator : LLH
Sample : 1707040-04
Misc : 20ml SG128-6
ALS Vial : 19 Sample Multiplier: 2.52

REPORT

rerun 2nd can dil'n for >LR

Quant Time: Jul 21 09:45:49 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

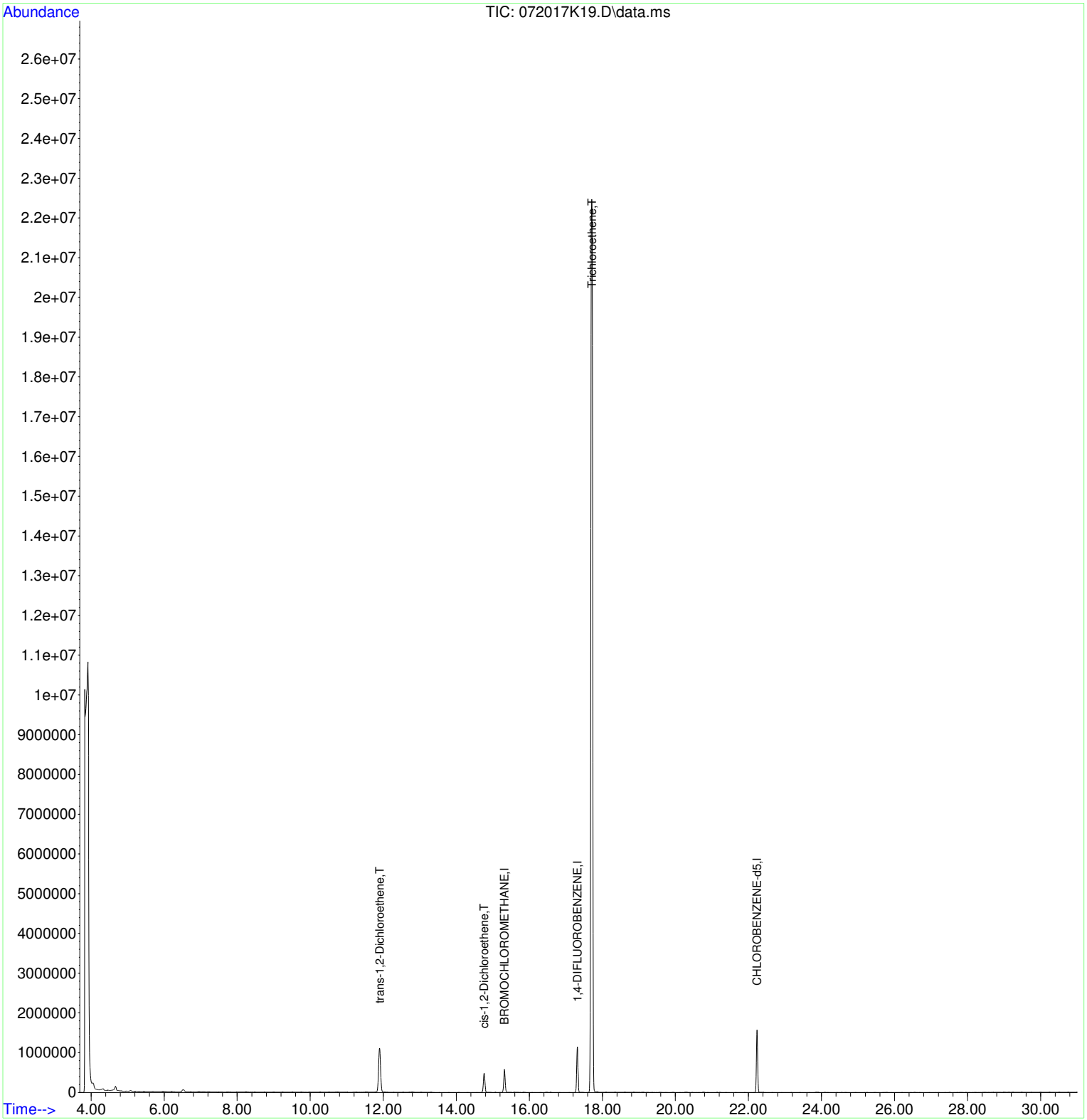
| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) | | |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) BROMOCHLOROMETHANE | 15.319 | 49 | 348774 | 19.80 ppbv | 0.00 | | |
| 32) 1,4-DIFLUOROBENZENE | 17.315 | 114 | 1285862 | 19.60 ppbv | 0.00 | | |
| 43) CHLOROBENZENE-d5 | 22.236 | 117 | 1185952 | 19.60 ppbv | 0.00 | | |
| Target Compounds | | | | | | Qvalue | |
| 20) trans-1,2-Dichloroethene | 11.900 | 61 | 1192941 | 76.50 ppbv | | 97 | oc |
| 24) cis-1,2-Dichloroethene | 14.759 | 61 | 414772 | 30.63 ppbv | | 97 | oc |
| 37) Trichloroethene | 17.716 | 130 | 13454999 | 790.28 ppbv | | 97 | oc |

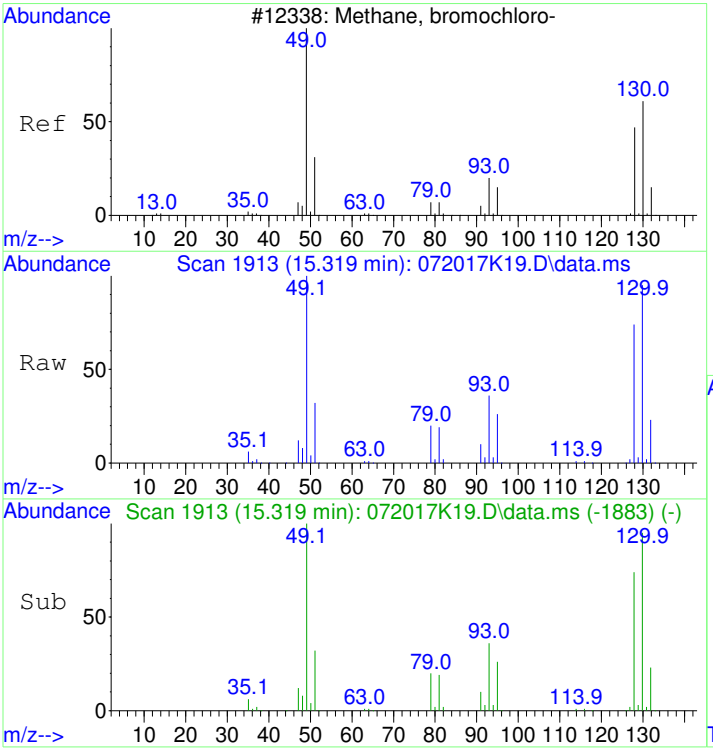
(#) = qualifier out of range (m) = manual integration (+) = signals summed

**REVIEWED**
**By LLH at 12:03 pm, Jul 21, 2017**

Data Path : D:\msdchem\1\2017\DATA\072017K_FSAA\
Data File : 072017K19.D
InstName : HP5973K
Acq On : 21 Jul 2017 12:49 am
Operator : LLH
Sample : 1707040-04
Misc : 20ml SG128-6
ALS Vial : 19 Sample Multiplier: 2.52

Quant Time: Jul 21 09:45:49 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

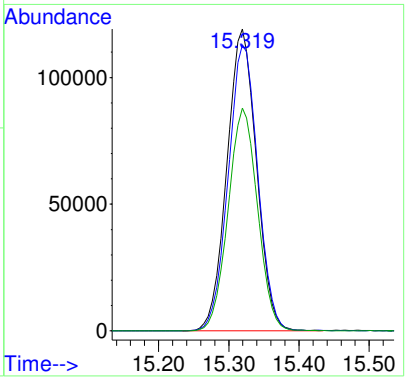


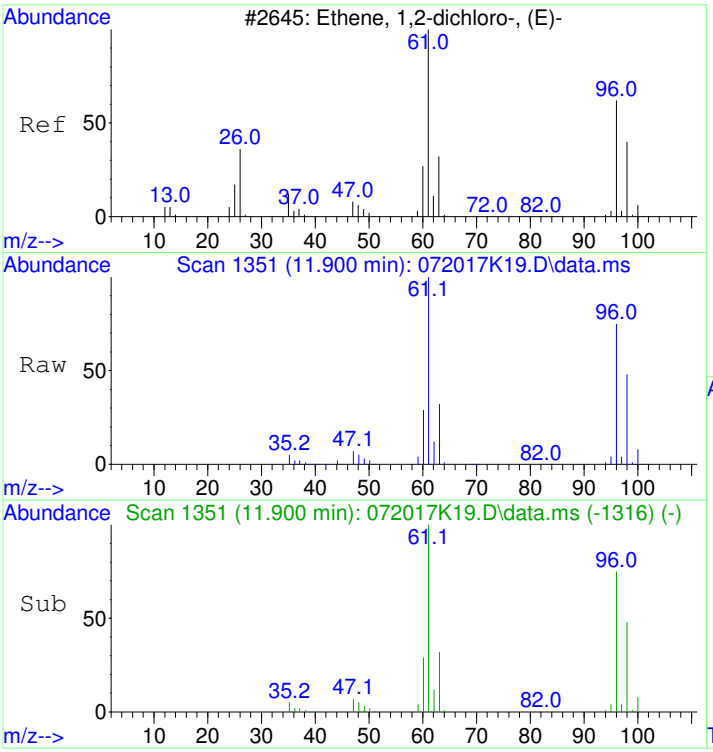



#1
BROMOCHLOROMETHANE
Concen: 19.80 ppbv
RT: 15.319 min Scan# 1913
Delta R.T. 0.006 min
Lab File: 072017K19.D
Acq: 21 Jul 2017 12:49 am

Tgt Ion: 49 Resp: 348774

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 130 | 94.8 | 67.2 | 107.2 |
| 128 | 73.4 | 47.6 | 87.6 |

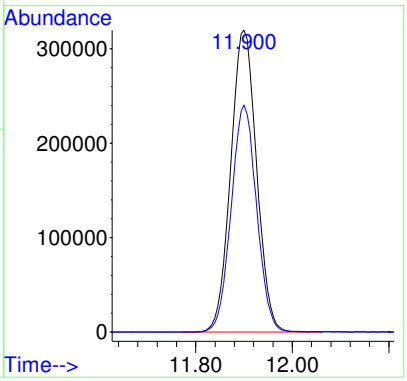


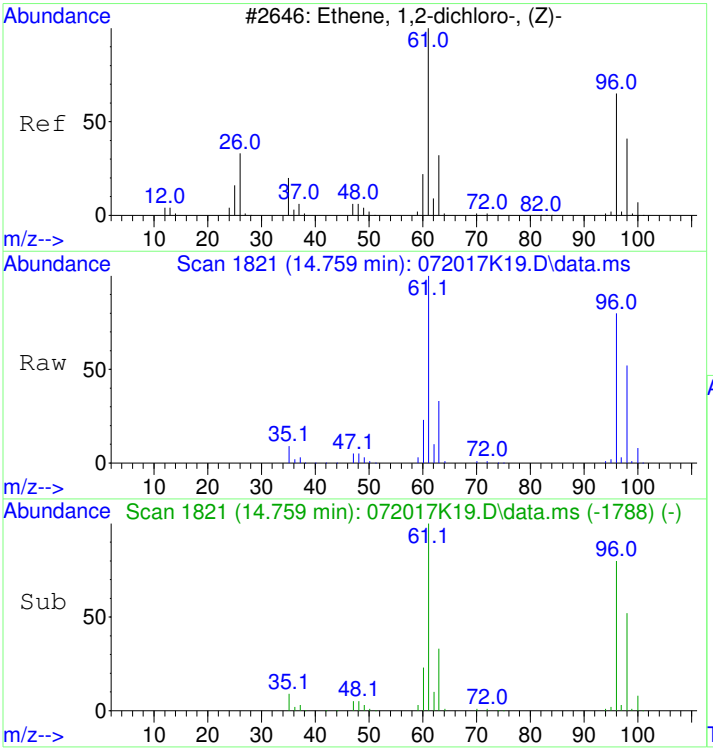




#20
trans-1,2-Dichloroethene
Concen: 76.50 ppbv
RT: 11.900 min Scan# 1351
Delta R.T. 0.012 min
Lab File: 072017K19.D
Acq: 21 Jul 2017 12:49 am

Tgt Ion: 61 Resp: 1192941

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 61 | 100 | | |
| 96 | 73.9 | 51.3 | 91.3 |

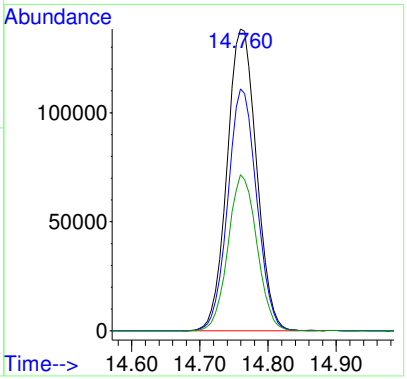


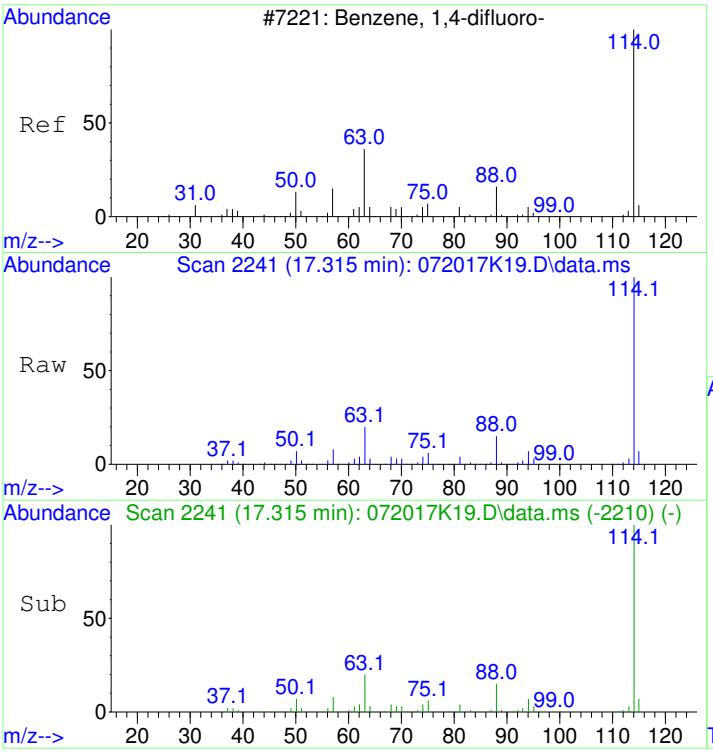



#24
cis-1,2-Dichloroethene
Concen: 30.63 ppbv
RT: 14.759 min Scan# 1821
Delta R.T. -0.000 min
Lab File: 072017K19.D
Acq: 21 Jul 2017 12:49 am

Tgt Ion: 61 Resp: 414772

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 61 | 100 | | |
| 96 | 78.8 | 56.2 | 96.2 |
| 98 | 50.7 | 27.8 | 67.8 |

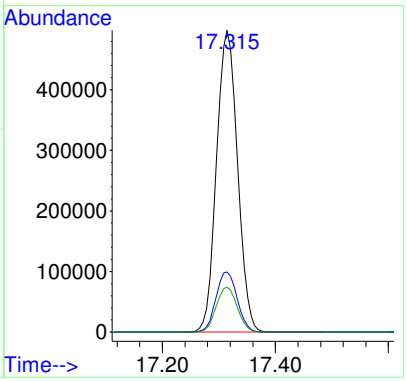


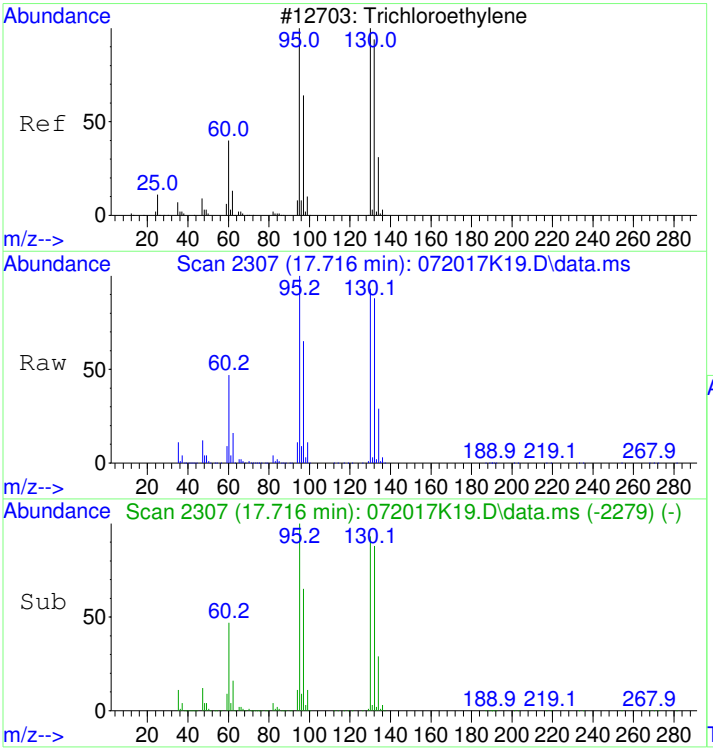




#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 17.315 min Scan# 2241
Delta R.T. 0.006 min
Lab File: 072017K19.D
Acq: 21 Jul 2017 12:49 am

Tgt Ion:114 Resp: 1285862

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 114 | 100 | | |
| 63 | 20.2 | 0.8 | 40.8 |
| 88 | 14.9 | 0.0 | 35.1 |

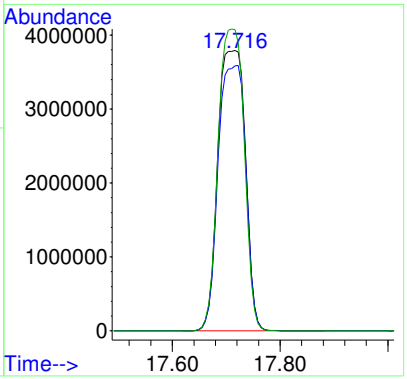


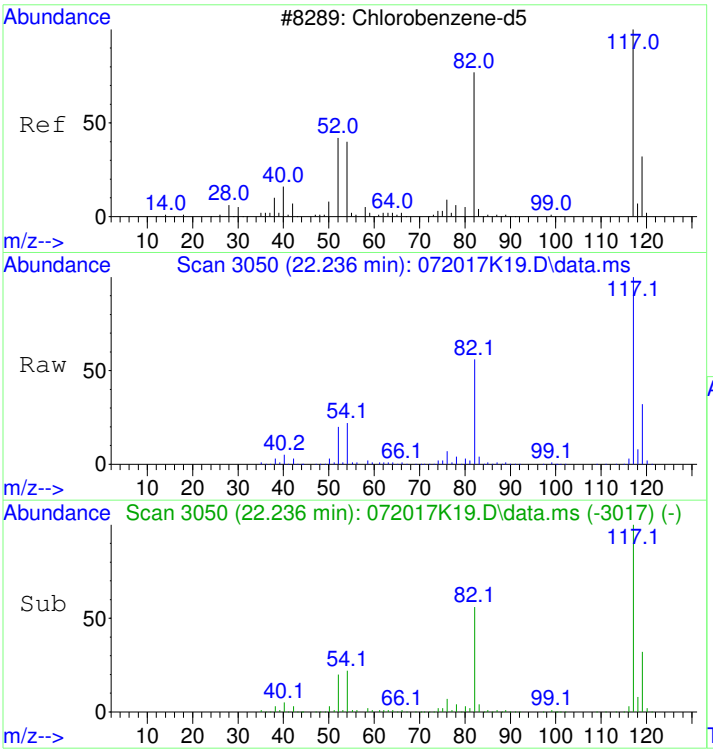



#37
Trichloroethene
Concen: 790.28 ppbv
RT: 17.716 min Scan# 2307
Delta R.T. 0.018 min
Lab File: 072017K19.D
Acq: 21 Jul 2017 12:49 am

Tgt Ion:130 Resp:13454999

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 130 | 100 | | |
| 132 | 94.5 | 77.0 | 117.0 |
| 95 | 101.8 | 78.3 | 118.3 |

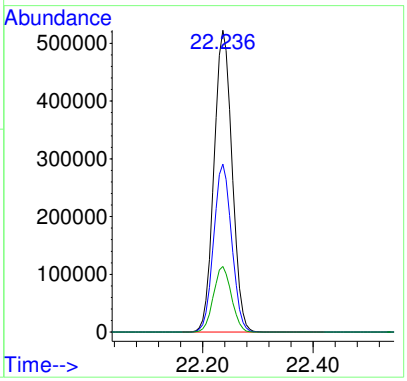



#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 22.236 min Scan# 3050
Delta R.T. -0.000 min
Lab File: 072017K19.D
Acq: 21 Jul 2017 12:49 am

Tgt Ion:117 Resp: 1185952

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 117 | 100 | | |
| 82 | 55.5 | 36.2 | 76.2 |
| 54 | 21.6 | 2.0 | 42.0 |



# S17G091-IBL4

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2017\DATA\072017K_FSAA\
Data File : 072017K21.D
InstName : HP5973K
Acq On : 21 Jul 2017 2:29 am
Operator : LLH
Sample : S17G091-IBL4
Misc : 200ml BLANK
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Jul 21 09:30:10 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

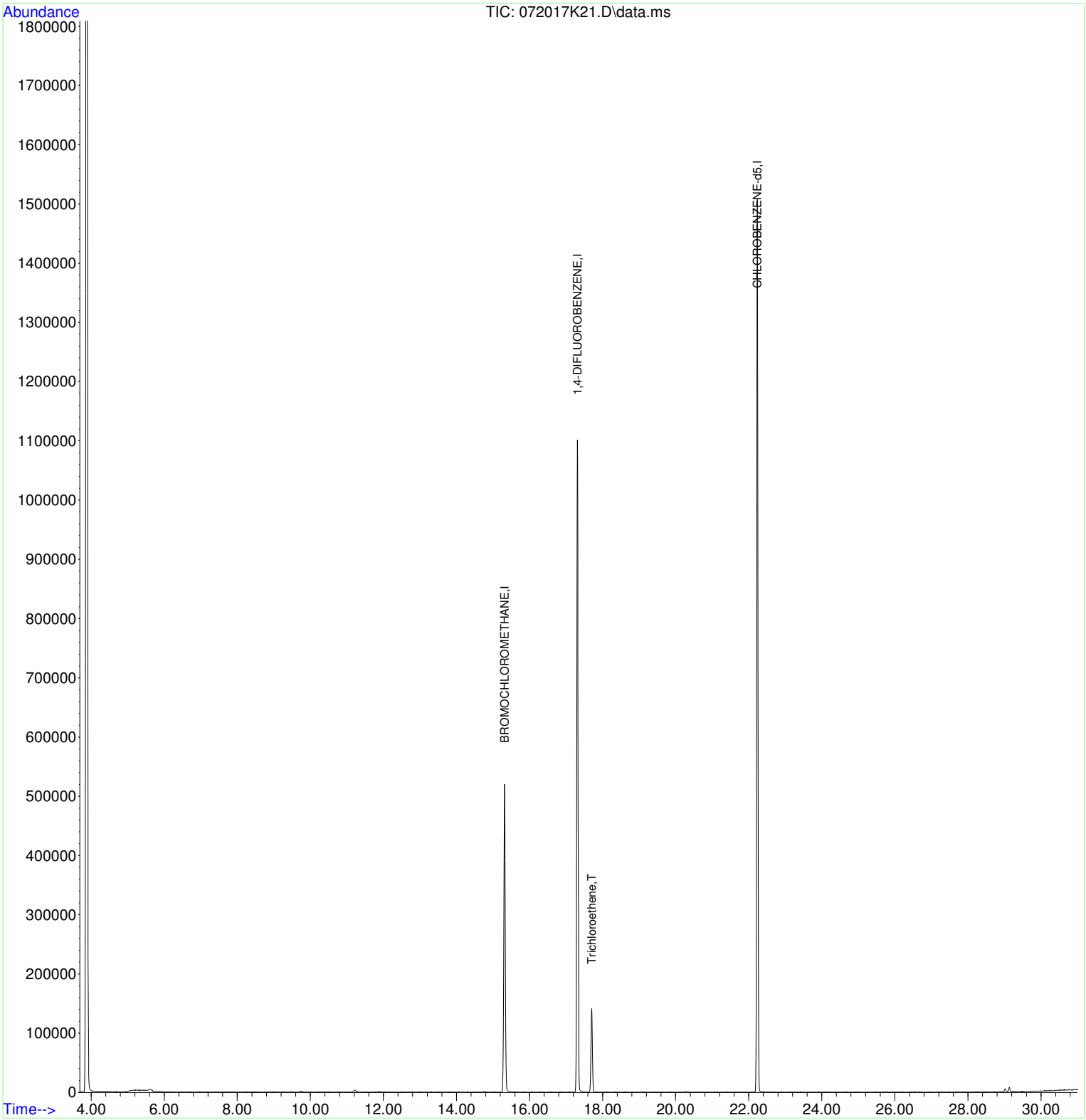
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) | |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) BROMOCHLOROMETHANE | 15.313 | 49 | 321513 | 19.80 | ppbv | 0.00 | |
| 32) 1,4-DIFLUOROBENZENE | 17.308 | 114 | 1219219 | 19.60 | ppbv | 0.00 | |
| 43) CHLOROBENZENE-d5 | 22.236 | 117 | 1113637 | 19.60 | ppbv | 0.00 | |
| Target Compounds | | | | | | Qvalue | |
| 37) Trichloroethene | 17.704 | 130 | 66124 | 4.10 | ppbv | 99 | CARRY OVER |

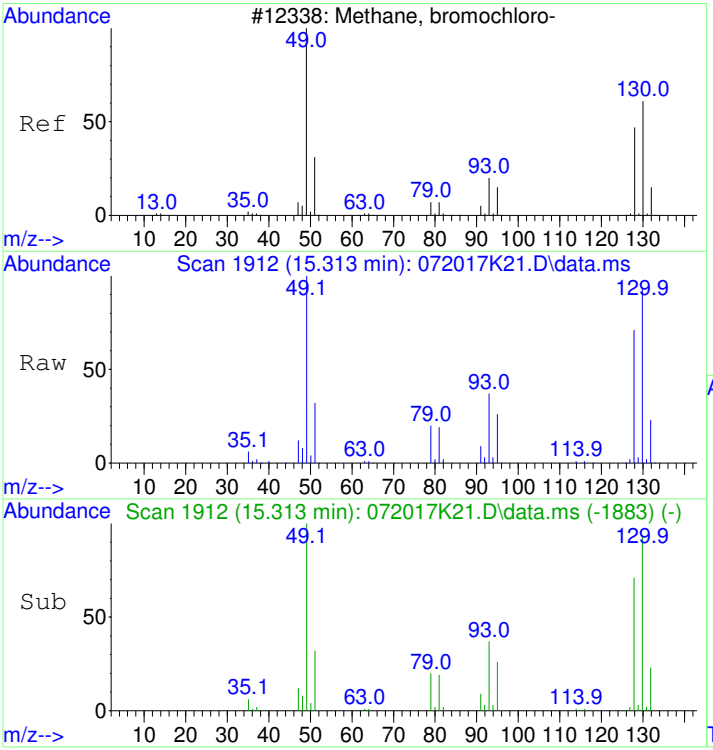
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\072017K_FSAA\
Data File : 072017K21.D
InstName : HP5973K
Acq On : 21 Jul 2017 2:29 am
Operator : LLH
Sample : S17G091-IBL4
Misc : 200ml BLANK
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Jul 21 09:30:10 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

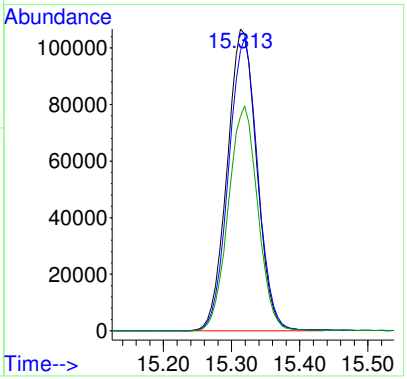


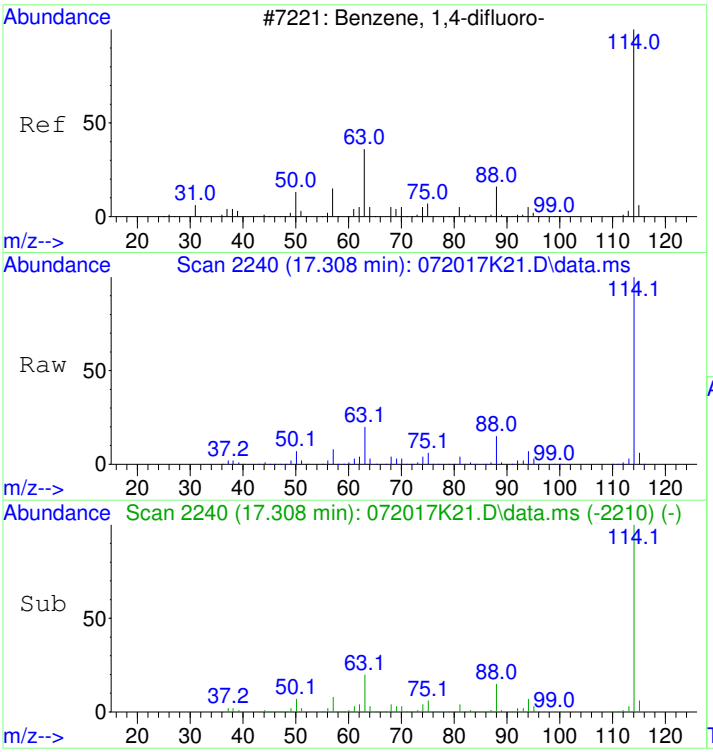



#1
BROMOCHLOROMETHANE
Concen: 19.80 ppbv
RT: 15.313 min Scan# 1912
Delta R.T. 0.000 min
Lab File: 072017K21.D
Acq: 21 Jul 2017 2:29 am

Tgt Ion: 49 Resp: 321513

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 130 | 95.3 | 67.2 | 107.2 |
| 128 | 74.0 | 47.6 | 87.6 |

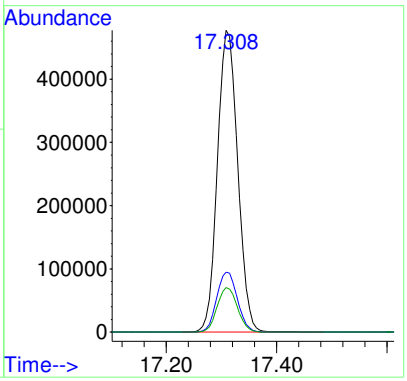


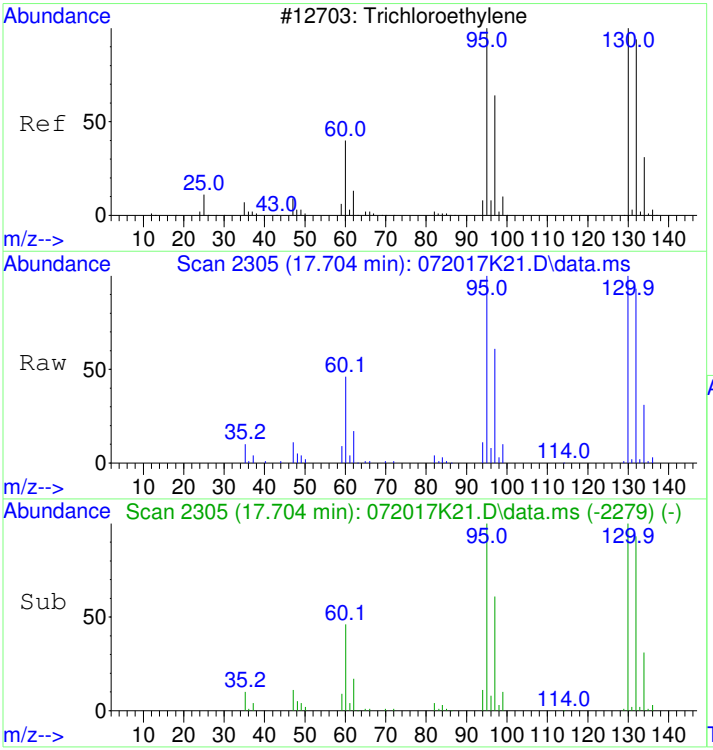




#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 17.308 min Scan# 2240
Delta R.T. -0.000 min
Lab File: 072017K21.D
Acq: 21 Jul 2017 2:29 am

Tgt Ion:114 Resp: 1219219

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 114 | 100 | | |
| 63 | 20.2 | 0.8 | 40.8 |
| 88 | 14.7 | 0.0 | 35.1 |

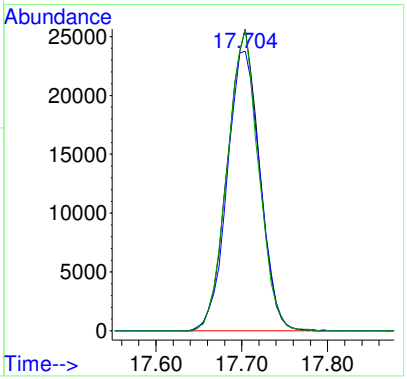


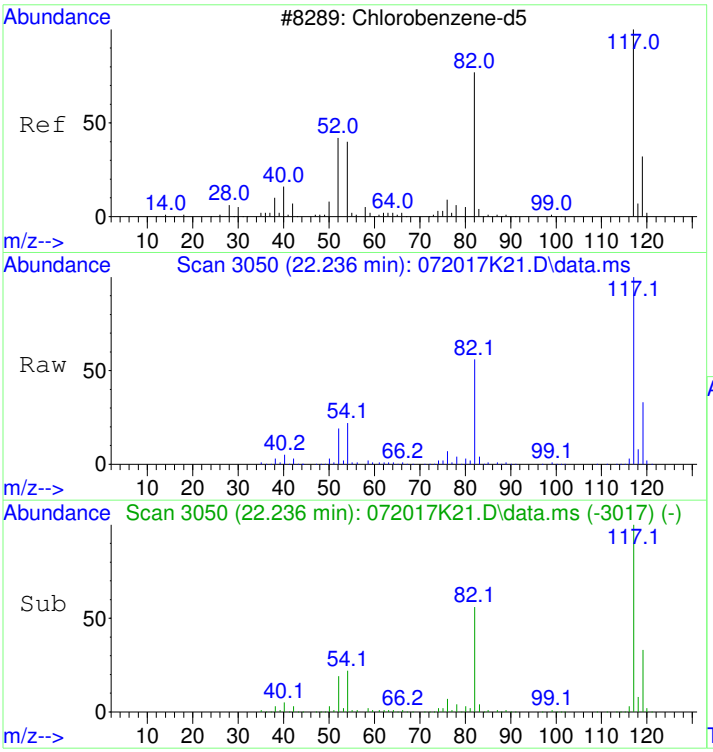



#37
Trichloroethene
Concen: 4.10 ppbv
RT: 17.704 min Scan# 2305
Delta R.T. 0.006 min
Lab File: 072017K21.D
Acq: 21 Jul 2017 2:29 am

Tgt Ion:130 Resp: 66124

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 130 | 100 | | |
| 132 | 95.8 | 77.0 | 117.0 |
| 95 | 98.0 | 78.3 | 118.3 |

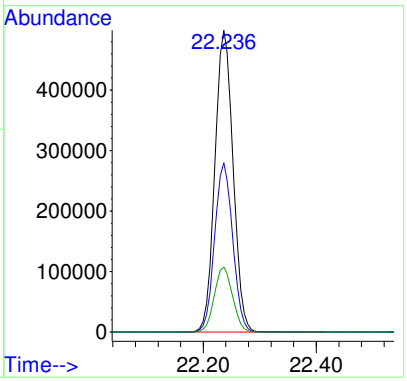



#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 22.236 min Scan# 3050
Delta R.T. -0.000 min
Lab File: 072017K21.D
Acq: 21 Jul 2017 2:29 am

Tgt Ion:117 Resp: 1113637

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 117 | 100 | | |
| 82 | 55.8 | 36.2 | 76.2 |
| 54 | 21.7 | 2.0 | 42.0 |



# SEQUENCE

# S17G101

# ANALYST / REVIEWER - DATA REVIEW CHECKLIST

| | | | |
|---|---|---|---|
| BATCH #: | B17G093 | SEQUENCE #: | S17G101 07/24/17 |
| BATCH #: | N / A | ANALYSIS: | TO15 HP5973K |

| | CHECKLIST ITEM | N/A | ANALYST Y/N | REVIEWER Y/N | IDENTIFY OUTLIERS / COMMENTS |
|---|---|---|---|---|---|
| DOCUMENTATION | ANALYST: Bench sheet(s) attached?<br>REVIEWER: Bench sheet(s) reviewed? | ☐ | Y | Y | |
| | ANALYST: Sequence log(s) attached?<br>REVIEWER: Sequence log(s) reviewed? | ☐ | Y | Y | |
| | ANALYST: Every run has a PDF in LIMS?<br>REVIEWER: Every PDF reviewed? | ☐ | Y | Y | |
| INITIAL CALIBRATION | Date of Initial Calibration used:<br>If applicable, note date of "Last Update" in Comments. | 07/19/2017<br>Thur July 20, 2017 09:11:28 | | | ICAL : Benzyl chloride<br>SCV : Vinyl Acetate; 1,4-Dioxane |
| | Initial Calibration ID (LIMS number): | 1707015 | | | |
| | ICAL within QC criteria? | ✔ | | | |
| | SCV within QC criteria? | ✔ | | | |
| INSTRUMENT / QC CHECKS | Tune or degradation checks within QC criteria? | ☐ | Y | Y | PASSED |
| | CCV(s) within QC criteria? | ☐ | Y | Y | OK |
| | QLS(s) within QC criteria? | ☐ | Y | Y | see comments |
| | CB(s) or storage blank(s) within QC criteria? | ✔ | | | |
| | Other instrument checks within QC criteria?<br>Specify if applicable. | ✔ | | | |
| BATCH QCs | Method blanks < 1/2 QL? | ☐ | Y | Y | DCM = 4.18 ppbv (NT for this sequqnce) |
| | LCS(s) or SRM(s) within QC criteria? | ☐ | Y | Y | DCM = 125% (in Background) |
| | MSs/MSDs and/or DUPs within QC criteria? | ☐ | Y | Y | |
| | Other method-specific QCs within QC criteria?<br>Specify if applicable. | ✔ | | | |

# ANALYST / REVIEWER - DATA REVIEW CHECKLIST

| | | | |
|---|---|---|---|
| BATCH #: | B17G093 | SEQUENCE #: | S17G101 07/24/17 |
| BATCH #: | N / A | ANALYSIS: | TO15 HP5973K |

| | CHECKLIST ITEM | N/A | ANALYST Y/N | REVIEWER Y/N | IDENTIFY OUTLIERS / COMMENTS |
|---|---|---|---|---|---|
| IS / SS | Internal standards within QC criteria? | ☐ | Y | Y | |
| | Surrogates within QC criteria? | ☑ | | | |
| SAMPLE DATA | Were samples prepared & analyzed within holding time? | ☐ | Y | Y | |
| | If samples need to be re-run, were RE(s) made in LIMS? | ☐ | Y | Y | some samples were too dilute or >LR - will rerun |
| | Do any samples need to be re-digested or re-extracted? | ☑ | | | |
| | Were all data qualifiers appropriately applied? | ☐ | Y | Y | |
| | Are problems, anomalies, discrepancies documented in LIMS? Specify if applicable. | ☑ | | | |
| MANUAL INT | Were manual integrations performed and documented? Specify if applicable. | ☑ | | | |

| | | |
|---|---|---|
| APPROVALS | ANALYST INITIALS & DATE: | LLH 07/25/17 |
| | REVIEWED BY: | Ziyad Rajabi (affiliate) Digitally signed by Ziyad Rajabi (affiliate) Date: 2017.07.25 16:04:49 -07'00' SIGN HERE |

COMMENTS

*** Dichloromethane contamination slightly above 1/2 MDL, see Discrepancy Report D15-011. LLH 07/20/17

## QLS: DCM = 497%; VA = 57%; 4-EthylTol = 58%; Benzyl chloride = 42% - NT for this sequence LLH 07/25/17

# Injection Log

Directory: d:\MSDCHEM\1\2017\DATA\072417KA_FSAA

Table of Contents

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 31 | 072417KA01.D | 1. | S17G101-TUN1 | BFB 1538040 | 24 Jul 2017 15:19 |
| 2 | 32 | 072417KA02.D | 1. | S17G101-CCV1@B17G093-BS1 | 10ppbv 1729076@1729079 | 24 Jul 2017 16:09 |
| 3 | 31 | 072417KA03.D | 1. | S17G101-CRL1 | 1.0ppbv 1729073 | 24 Jul 2017 16:58 |
| 4 | 33 | 072417KA04.D | 1. | B17G093-BLK1 | 200ml BLANK CAN #03 - Nitrogen | 24 Jul 2017 17:49 |
| 5 | 35 | 072417KA05.D | 1. | IB - AIR CHECK | 200ml BLANK CAN #33 - Tank #2 | 24 Jul 2017 18:40 |
| 6 | 15 | 072417KA06.D | 2.07 | 1707040-07RE1 | 50ml ORIG CAN #1983 | 24 Jul 2017 19:29 |
| 7 | 16 | 072417KA07.D | 188.42 | 1707040-01RE1 | 20ml 2ND CAN #874 | 24 Jul 2017 20:18 |
| 8 | 17 | 072417KA08.D | 251.66 | 1707040-02RE1 | 20ml 2ND CAN #877 | 24 Jul 2017 21:07 |
| 9 | 18 | 072417KA09.D | 278.46 | 1707040-03RE1 | 20ml 2ND CAN #1087 | 24 Jul 2017 21:57 |
| 10 | 11 | 072417KA10.D | 1. | S17G101-IBL1 | 200ml CAN #670 | 24 Jul 2017 22:48 |
| 11 | 19 | 072417KA11.D | 210.25 | 1707040-04RE1 | 20ml 2ND CAN #1105 | 24 Jul 2017 23:37 |
| 12 | 10 | 072417KA12.D | 176.44 | 1707040-05RE2 | 30ml 2ND CAN #1113 | 25 Jul 2017 00:27 |
| 13 | 10 | 072417KA13.D | 176.44 | B17G093-DUP1 | 30ml 1707040-05RE2 | 25 Jul 2017 01:16 |
| 14 | 11 | 072417KA14.D | 3.5 | 1707040-05RE1 | 40ml ORIG CAN #632 | 25 Jul 2017 02:05 |
| 15 | 12 | 072417KA15.D | 1. | S17G101-IBL2 | 200ml CAN #670 | 25 Jul 2017 02:56 |
| 16 | 37 | 072417KA16.D | 1.5 | 1707044-01 | 200ml CAN #771 >LR in SIM | 25 Jul 2017 03:47 |
| 17 | 37 | 072417KA17.D | 1.5 | B17G093-DUP2 | 200ml 1707044-01 | 25 Jul 2017 04:39 |
| 18 | 13 | 072417KA18.D | 1. | S17G101-IBL3 | 200ml CAN #1109 | 25 Jul 2017 05:30 |
| 19 | 14 | 072417KA19.D | 1. | S17G101-IBL4 | 200ml CAN #1119 | 25 Jul 2017 06:21 |
| 20 | 15 | 072417KA20.D | 2.07 | 1707040-07RE2 | 20ml ORIG CAN #1983 | 25 Jul 2017 09:34 |
| 21 | 16 | 072417KA21.D | 188.42 | 1707040-01RE2 | 200ml 2ND CAN #874 | 25 Jul 2017 10:25 |
| 22 | 17 | 072417KA22.D | 251.66 | 1707040-02RE2 | 200ml 2ND CAN #877 | 25 Jul 2017 11:17 |
| 23 | 18 | 072417KA23.D | 278.46 | 1707040-03RE2 | 200ml 2ND CAN #1087 | 25 Jul 2017 12:08 |
| 24 | 19 | 072417KA24.D | 210.25 | 1707040-04RE2 | 200ml 2ND CAN #1105 | 25 Jul 2017 12:59 |
| 25 | 33 | 072417KA25.D | 1. | S17G101-IBL5 | 200ml BLANK CAN #03 - Nitrogen | 25 Jul 2017 13:51 |
| 26 | 16 | 072417KA26.D | 418.29 | 1707040-01RE3 | 20ml 2ND CAN #874 REPRESS | 25 Jul 2017 14:40 |

GC/MS QA-QC Check Report

Table of Contents

Tune File : D:\msdchem\1\2017\DATA\072417KA_FSAA\072417KA01.D
Tune Time : 24 Jul 2017 3:19 pm

Daily Calibration File : D:\msdchem\1\2017\DATA\072417KA_FSAA\072417KA02.D

| File | Sample | Surrogate Recovery % | | Internal Standard Responses | |
|---|---|---|---|---|---|
| | | | 353345 | 1255940 | 1187910 |
| 072417KA02.D | S17G101-CCV1 | 353345 | 1255941 | 1187907 | |
| 072417KA03.D | S17G101-CRL1 | 343885 | 1247012 | 1135588 | |
| 072417KA04.D | B17G093-BLK1 | 326823 | 1205367 | 1097778 | |
| 072417KA05.D | IB - AIR CHECK | 315767 | 1170317 | 1065189 | |
| 072417KA06.D | 1707040-07RE1 | 321551 | 1165849 | 1078921 | |
| 072417KA07.D | 1707040-01RE1 | 329596 | 1193568 | 1076871 | |
| 072417KA08.D | 1707040-02RE1 | 324447 | 1201100 | 1095503 | |
| 072417KA09.D | 1707040-03RE1 | 324101 | 1205695 | 1097593 | |
| 072417KA10.D | S17G101-IBL1 | 312348 | 1171672 | 1065213 | |
| 072417KA11.D | 1707040-04RE1 | 322324 | 1203488 | 1092009 | |
| 072417KA12.D | 1707040-05RE2 | 325933 | 1222098 | 1105180 | |
| 072417KA13.D | B17G093-DUP1 | 324031 | 1224617 | 1103344 | |
| 072417KA14.D | 1707040-05RE1 | 327031 | 1191531 | 1098245 | |
| 072417KA15.D | S17G101-IBL2 | 310949 | 1164668 | 1062495 | |
| 072417KA16.D | 1707044-01 | 320828 | 1184598 | 1114779 | |
| 072417KA17.D | B17G093-DUP2 | 335236 | 1226443 | 1150800 | |
| 072417KA18.D | S17G101-IBL3 | 324203 | 1189830 | 1084876 | |
| 072417KA19.D | S17G101-IBL4 | 312365 | 1168815 | 1063589 | |
| 072417KA20.D | 1707040-07RE2 | 323459 | 1196333 | 1098490 | |

```
072417KA21.D
         1707040-01RE2       328935    1243407    1133885  NOT USED
-------------------------------------------------------------------------
072417KA22.D
         1707040-02RE2       331333    1300797    1178782
-------------------------------------------------------------------------
072417KA23.D
         1707040-03RE2       335191    1325319    1200512
-------------------------------------------------------------------------
072417KA24.D
         1707040-04RE2       329757    1312343    1186214
-------------------------------------------------------------------------
072417KA25.D
         S17G101-IBL5        297962    1192134    1083501
-------------------------------------------------------------------------
072417KA26.D
         1707040-01RE3       306866    1202601    1086004
-------------------------------------------------------------------------
(fails) - fails 24hr time check   * - fails criteria

    Created: Tue Jul 25 15:17:21 2017  HP5973K
```

# Analysis Sequence

## S17G101

**Project:** R17S62
R17S65
**Analysis:** VOCs, Soil Gas

**Instrument:** HP5973K **Calibration ID:** 1707015 Printed: 07/25/2017 3:28 pm

| Lab Number | Sample Name | Order | Analyzed Date | STD ID | ISTD ID | Sequenced By | File ID | Comments |
|---|---|---|---|---|---|---|---|---|
| S17G101-TUN1 | MS Tune | 1 | 7/24/17 15:19 | 1538040 | | LLH | 072417KA01.D | |
| S17G101-CCV1 | CCV | 2 | 7/24/17 16:09 | 1729076 | | LLH | 072417KA02.D | |
| B17G093-BS1 | LCS | 3 | 7/24/17 16:09 | | | LLH | 072417KA02.D | |
| S17G101-CRL1 | CRL | 4 | 7/24/17 16:58 | 1729073 | | LLH | 072417KA03.D | |
| B17G093-BLK1 | Blank | 5 | 7/24/17 17:49 | | 1705046 | LLH | 072417KA04.D | |
| 1707040-07RE1 A | F5-060-4ft | 6 | 7/24/17 19:29 | | 1705046 | LLH | 072417KA06.D | |
| 1707040-01RE1 A | SG135-10 | 7 | 7/24/17 20:18 | | 1705046 | LLH | 072417KA07.D | |
| 1707040-02RE1 A | SG137-6 | 8 | 7/24/17 21:07 | | 1705046 | LLH | 072417KA08.D | |
| 1707040-03RE1 A | SG137-10 | 9 | 7/24/17 21:57 | | 1705046 | LLH | 072417KA09.D | |
| S17G101-IBL1 | Instrument Blank | 10 | 7/24/17 22:48 | | 1705046 | LLH | 072417KA10.D | |
| 1707040-04RE1 A | SG128-6 | 11 | 7/24/17 23:37 | | 1705046 | LLH | 072417KA11.D | |
| 1707040-05RE2 A | SG126-6 | 12 | 7/25/17 0:27 | | 1705046 | LLH | 072417KA12.D | |
| 1707040-05RE1 A | SG126-6 | 13 | 7/25/17 2:05 | | 1705046 | LLH | 072417KA14.D | |
| B17G093-DUP1 | Duplicate | 14 | 7/25/17 1:16 | | 1705046 | LLH | 072417KA13.D | |
| S17G101-IBL2 | Instrument Blank | 15 | 7/25/17 2:56 | | 1705046 | LLH | 072417KA15.D | |
| 1707044-01 A | AMCO-IA1-24hr-001 | 16 | 7/25/17 3:47 | | 1705046 | LLH | 072417KA16.D | |
| B17G093-DUP2 | Duplicate | 17 | 7/25/17 4:39 | | 1705046 | LLH | 072417KA17.D | |
| S17G101-IBL3 | Instrument Blank | 18 | 7/25/17 5:30 | | 1705046 | LLH | 072417KA18.D | |
| S17G101-IBL4 | Instrument Blank | 19 | 7/25/17 6:21 | | 1705046 | LLH | 072417KA19.D | |
| 1707040-07RE2 A | F5-060-4ft | 20 | 7/25/17 9:34 | | 1705046 | LLH | 072417KA20.D | |
| 1707040-01RE2 A | SG135-10 | 21 | 7/25/17 10:25 | | 1705046 | LLH | 072417KA21.D | |

# Analysis Sequence

**S17G101**

**(Continued)**

**Project:** R17S62
R17S65

**Analysis:** VOCs, Soil Gas

**Instrument:** HP5973K **Calibration ID:** 1707015 Printed: 07/25/2017 3:28 pm

| Lab Number | Sample Name | Order | Analyzed Date | STD ID | ISTD ID | Sequenced By | File ID | Comments |
|---|---|---|---|---|---|---|---|---|
| 1707040-02RE2 A | SG137-6 | 22 | 7/25/17 11:17 | | 1705046 | LLH | 072417KA22.D | |
| 1707040-03RE2 A | SG137-10 | 23 | 7/25/17 12:08 | | 1705046 | LLH | 072417KA23.D | |
| 1707040-04RE2 A | SG128-6 | 24 | 7/25/17 12:59 | | 1705046 | LLH | 072417KA24.D | |
| S17G101-IBL5 | Instrument Blank | 25 | 7/25/17 13:51 | | 1705046 | LLH | 072417KA25.D | |
| 1707040-01RE3 A | SG135-10 | 26 | 7/25/17 14:40 | | 1705046 | LLH | 072417KA26.D | |

**Sequence Comments**

**Reagents**

| Reagent # | Description |
|---|---|

# Sequence Report

| I | Name | Pos. | Int Std | Cal Std | Sample | Method | Inject | Status |
|---|---|---|---|---|---|---|---|---|
| | BFB | T1 | 40 | 40 | 50 | TO-15_A.CTD3 | 7/24/2017 3:19:48 PM | Completed |
| | CCV1 | T2 | 40 | 0 | 100 | TO-15_A.CTD3 | 7/24/2017 4:09:27 PM | Completed |
| | CRL1 | T1 | 40 | 0 | 20 | TO-15_A.CTD3 | 7/24/2017 4:58:36 PM | Completed |
| | BLANK | T3 | 40 | 0 | 200 | TO-15_A.CTD3 | 7/24/2017 5:49:38 PM | Completed |
| | IB - AIR CHECK | T5 | 40 | 0 | 200 | TO-15_A.CTD3 | 7/24/2017 6:40:55 PM | Completed |
| | 1707040-07RE1 | T5 | 40 | 0 | 50 | TO-15_A.CTD3 | 7/24/2017 7:29:36 PM | Completed |
| | 1707040-01RE1 2ND | T6 | 40 | 0 | 20 | TO-15_A.CTD3 | 7/24/2017 8:18:35 PM | Completed |
| | 1707040-02RE1 2ND | T7 | 40 | 0 | 20 | TO-15_A.CTD3 | 7/24/2017 9:07:46 PM | Completed |
| | 1707040-03RE1 2ND | T8 | 40 | 0 | 20 | TO-15_A.CTD3 | 7/24/2017 9:57:13 PM | Completed |
| | IBL CAN #670 | T1 | 40 | 0 | 200 | TO-15_A.CTD3 | 7/24/2017 10:48:34 PM | Completed |
| | 1707040-04RE1 2ND | T9 | 40 | 0 | 20 | TO-15_A.CTD3 | 7/24/2017 11:37:34 PM | Completed |
| | 1707040-05RE2 2ND | T10 | 40 | 0 | 30 | TO-15_A.CTD3 | 7/25/2017 12:27:12 AM | Completed |
| | 1707040-05RE2 DUP 2ND | T10 | 40 | 0 | 30 | TO-15_A.CTD3 | 7/25/2017 1:16:39 AM | Completed |
| | 1707040-05RE1 | T11 | 40 | 0 | 40 | TO-15_A.CTD3 | 7/25/2017 2:05:14 AM | Completed |
| | IBL CAN #1071 | T2 | 40 | 0 | 200 | TO-15_A.CTD3 | 7/25/2017 2:56:31 AM | Completed |
| | 1707044-01 | T7 | 40 | 0 | 200 | TO-15_A.CTD3 | 7/25/2017 3:47:54 AM | Completed |
| | 1707044-01 DUP | T7 | 40 | 0 | 200 | TO-15_A.CTD3 | 7/25/2017 4:39:20 AM | Completed |
| | IBL CAN #1109 | T3 | 40 | 0 | 200 | TO-15_A.CTD3 | 7/25/2017 5:30:39 AM | Completed |
| | IBL CAN #1119 | T4 | 40 | 0 | 200 | TO-15_A.CTD3 | 7/25/2017 6:21:57 AM | Completed |
| | 1707040-07RE2 | T5 | 40 | 0 | 20 | TO-15_A.CTD3 | 7/25/2017 9:34:16 AM | Completed |
| | 1707040-01RE2 2ND | T6 | 40 | 0 | 200 | TO-15_A.CTD3 | 7/25/2017 10:25:45 AM | Completed |
| | 1707040-02RE2 2ND | T7 | 40 | 0 | 200 | TO-15_A.CTD3 | 7/25/2017 11:17:03 AM | Completed |
| | 1707040-03RE2 2ND | T8 | 40 | 0 | 200 | TO-15_A.CTD3 | 7/25/2017 12:08:26 PM | Completed |
| | 1707040-04RE2 2ND | T9 | 40 | 0 | 200 | TO-15_A.CTD3 | 7/25/2017 12:59:50 PM | Completed |
| | IBL | T3 | 40 | 0 | 200 | TO-15_A.CTD3 | 7/25/2017 1:51:07 PM | Completed |
| | 1707040-01RE3 2ND | T6 | 40 | 0 | 20 | TO-15_A.CTD3 | 7/25/2017 2:40:22 PM | Completed |

# SEQUENCE DATA

# S17G101

# S17G101-TUN1

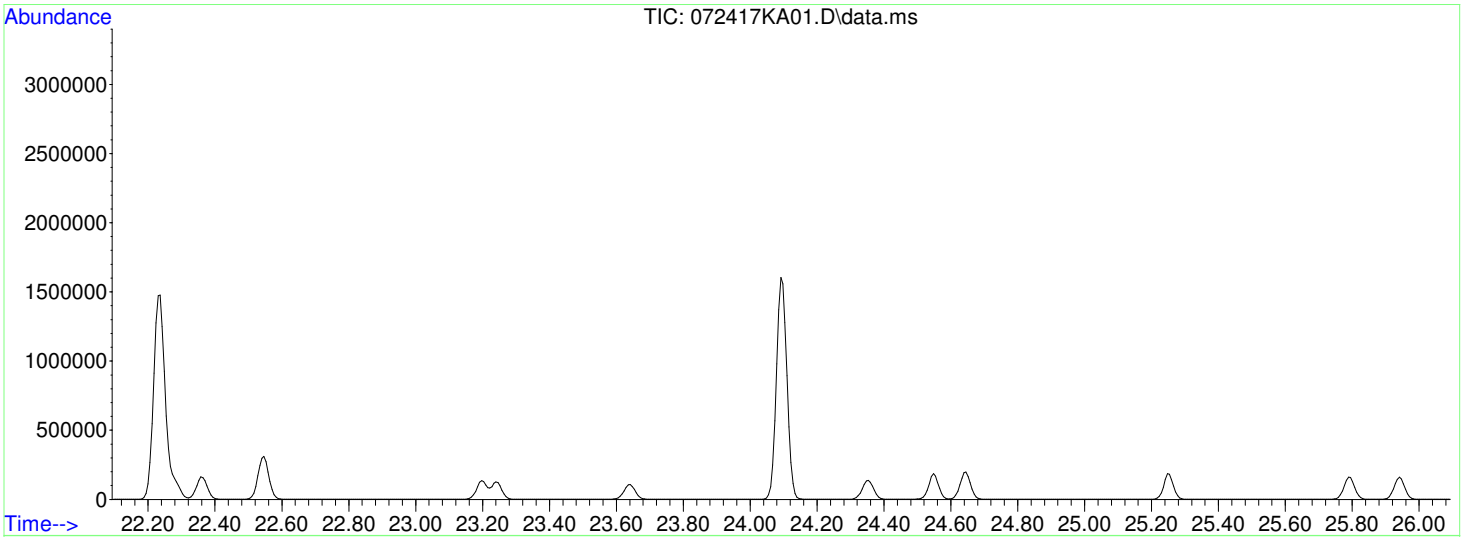
Table of Contents

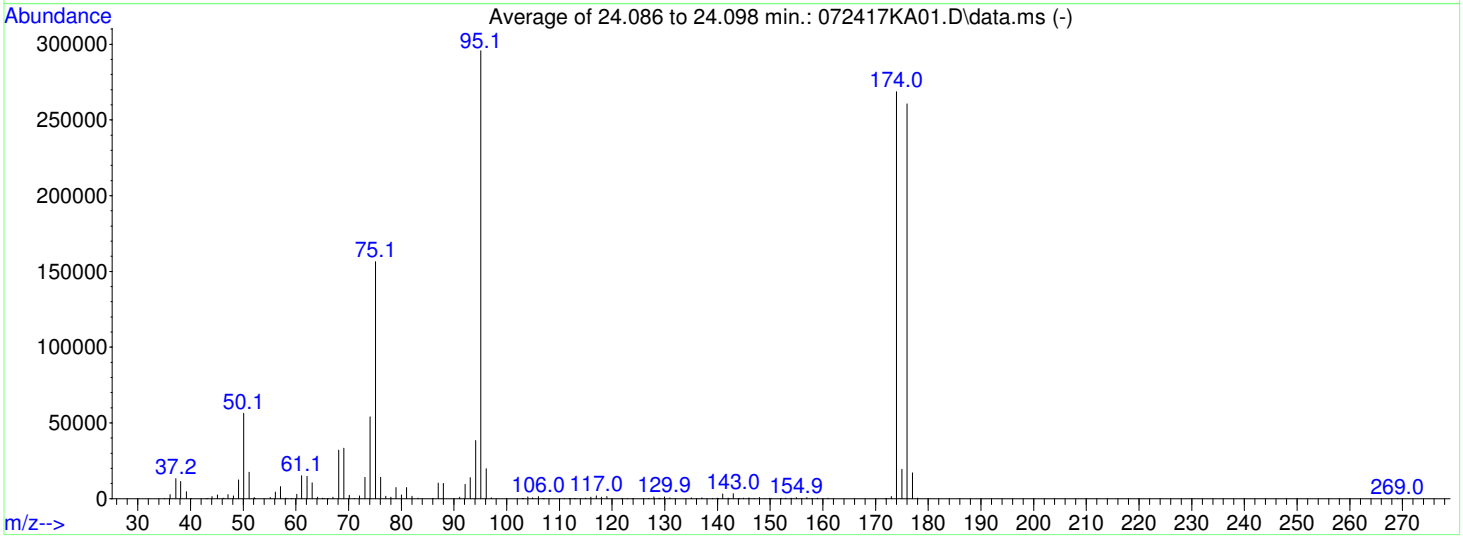
Data Path : D:\msdchem\1\2017\DATA\072417KA_FSAA\
Data File : 072417KA01.D
InstName : HP5973K
Acq On : 24 Jul 2017 3:19 pm
Operator : LLH
Sample : S17G101-TUN1
Misc : BFB 1538040
ALS Vial : 31 Sample Multiplier: 1

**REVIEWED**
**By LLH at 4:45 pm, Jul 24, 2017**

Integration File: lscint.p

Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Title : TO15
Last Update : Thu Jul 20 09:11:28 2017



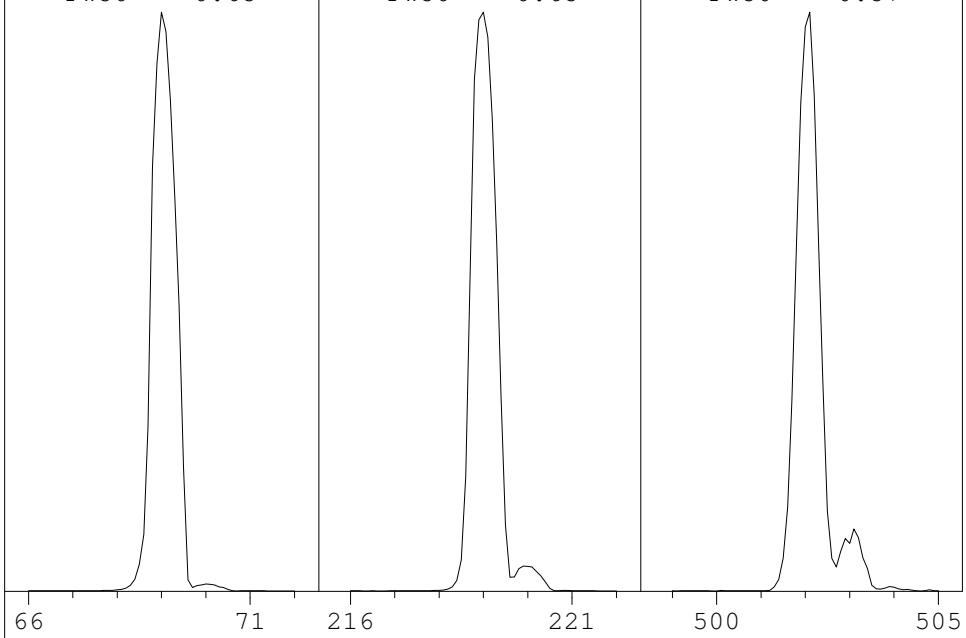




AutoFind: Scans 3354, 3355, 3356; Background Corrected with Scan 3343

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 50 | 95 | 8 | 40 | 19.1 | 56365 | PASS |
| 75 | 95 | 30 | 66 | 52.9 | 156373 | PASS |
| 95 | 95 | 100 | 100 | 100.0 | 295787 | PASS |
| 96 | 95 | 5 | 9 | 6.7 | 19739 | PASS |
| 173 | 174 | 0.00 | 2 | 0.5 | 1408 | PASS |
| 174 | 95 | 50 | 120 | 90.8 | 268544 | PASS |
| 175 | 174 | 4 | 9 | 7.2 | 19363 | PASS |
| 176 | 174 | 93 | 101 | 97.1 | 260629 | PASS |
| 177 | 176 | 5 | 9 | 6.6 | 17091 | PASS |

Mon Jul 24 09:06:22 2017 Instrum
C:\msdchem\1\5973N\BFB072417.u US03960556

| Mass | 69.00 | Mass | 219.00 | Mass | 502.10 |
|---|---|---|---|---|---|
| Ab | 745653 | Ab | 477387 | Ab | 57692 |
| Pw50 | 0.65 | Pw50 | 0.65 | Pw50 | 0.57 |

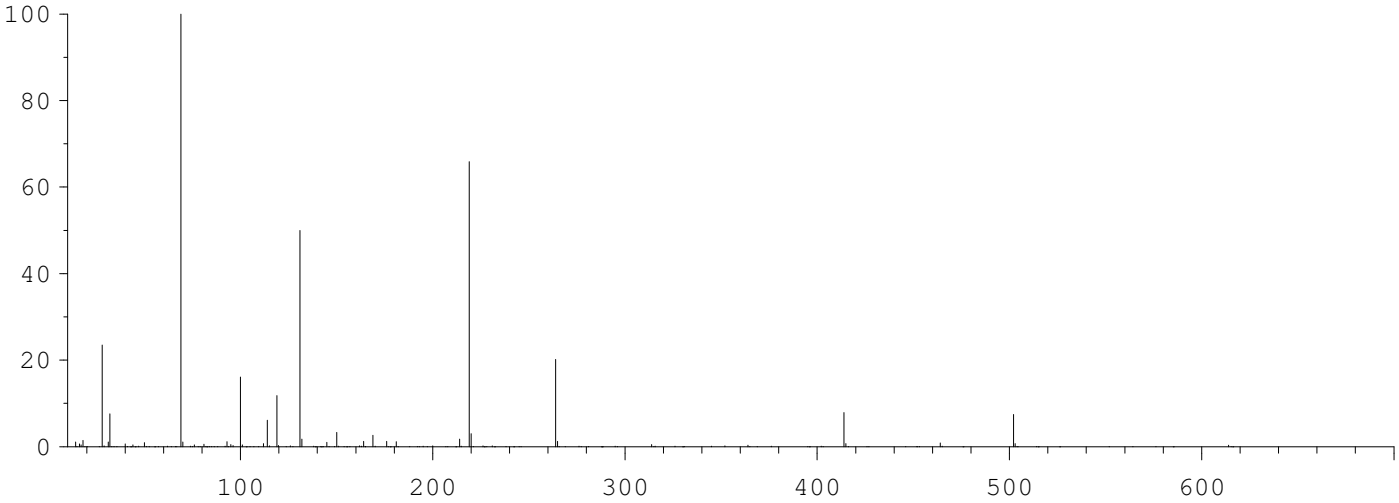



| | | | |
|---|---|---|---|
| Ion Pol | Pos | MassGain | 67 |
| | | MassOffs | -7 |
| Emission | 34.6 | AmuGain | 1998 |
| EIEnrgy | 69.9 | AmuOffs | 128 |
| Filament | 1 | Wid219 | -0.012 |
| | | DC Pol | Pos |
| Repeller | 31.46 | | |
| IonFcus | 90.2 | HEDEnab | On |
| EntLens | 14.5 | EMVolts | 1176 |
| EntOffs | 19.07 | | |
| | | Samples | 8 |
| PFTBA | Open | Averages | 3 |
| | | Stepsize | 0.10 |

Temperatures and Pressures:

| | | | |
|---|---|---|---|
| MS Source | 230 | Turbo Speed | 100 |
| MS Quad | 150 | | |

Scan: 10.00 - 700.00 Samples: 8 Thresh: 100 Step: 0.10
166 peaks Base: 69.00 Abundance: 674560




| Mass | Abund | Rel Abund | Iso Mass | Iso Abund | Iso Ratio |
|---|---|---|---|---|---|
| 69.00 | 674560 | 100.00 | 70.00 | 7468 | 1.11 |
| 219.00 | 444288 | 65.86 | 220.00 | 20432 | 4.60 |
| 502.10 | 50232 | 7.45 | 503.10 | 4767 | 9.49 |

Air/Water Check: H20~1.45% N2~23.46% O2~7.61% CO2~0.39% N2/H2O~1619.65%

Column(1) Flow: 1.496 Column(2): 0 ml/min. Interface Temp: 230

Ramp Criteria:
Ion Focus Maximum 90 volts using ion 502; EM Gain 329961
Repeller Maximum 35 volts using ion 219; Gain Factor 3.30

MassGain Values(Samples): 69(3) 67(2) 67(1) 67(0) 67(FS)

| TARGET MASS: | 50 | 69 | 131 | 219 | 414 | 502 | 800 |
|---|---|---|---|---|---|---|---|
| Amu Offset: | 128.0 | 128.0 | 128.0 | 128.0 | 128.0 | 128.0 | 128.0 |
| Entrance Lens Offset: | 19.1 | 19.1 | 19.1 | 19.1 | 19.1 | 19.1 | 19.1 |

# S17G101-CCV1

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\072417KA_FSAA\
Data File : 072417KA02.D
InstName : HP5973K
Acq On : 24 Jul 2017 4:09 pm
Operator : LLH
Sample : S17G101-CCV1@B17G093-BS1
Misc : 10ppbv 1729076@1729079
ALS Vial : 32 Sample Multiplier: 1

**REVIEWED**
**By LLH at 4:42 pm, Jul 24, 2017**

Quant Time: Jul 24 16:40:59 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | BROMOCHLOROMETHANE | 1.000 | 1.000 | 0.0 | 89 | 0.00 |
| 2 | T | Propene | 0.468 | 0.434 | 7.3 | 82 | 0.00 |
| 3 | T | Dichlorodifluoromethane | 2.285 | 2.317 | -1.4 | 92 | 0.00 |
| 4 | T | 1,2-Dichlorotetrafluoroetha | 2.215 | 2.165 | 2.3 | 88 | 0.00 |
| 5 | T | Chloromethane | 0.587 | 0.534 | 9.0 | 82 | 0.00 |
| 6 | T | Vinyl chloride | 0.738 | 0.693 | 6.1 | 85 | 0.00 |
| 7 | T | 1,3-Butadiene | 0.526 | 0.485 | 7.8 | 84 | 0.00 |
| 8 | T | Bromomethane | 0.596 | 0.593 | 0.5 | 91 | 0.00 |
| 9 | T | Chloroethane | 0.354 | 0.339 | 4.2 | 89 | 0.00 |
| 10 | T | Bromoethene | 0.564 | 0.573 | -1.6 | 91 | -0.01 |
| 11 | T | Trichlorofluoromethane | 2.185 | 2.302 | -5.4 | 96 | 0.00 |
| 12 | T | 1,1,2-Trichloro-1,2,2-trifl | 1.209 | 1.236 | -2.2 | 93 | 0.00 |
| 13 | T | 1,1-Dichloroethene | 0.906 | 0.911 | -0.6 | 87 | 0.00 |
| 14 | T | Acetone | 0.930 | 0.897 | 3.5 | 88 | 0.00 |
| 15 | T | Carbon disulfide | 1.858 | 1.819 | 2.1 | 89 | 0.00 |
| 16 | T | 2-Propanol | 0.619 | 0.608 | 1.8 | 82 | 0.00 |
| 17 | T | Allyl chloride | 0.592 | 0.591 | 0.2 | 85 | 0.00 |
| 18 | T | Dichloromethane | 0.753 | 0.943 | -25.2 | 123 | 0.00 |
| 19 | T | tert-Butyl methyl ether (MT | 1.570 | 1.667 | -6.2 | 89 | 0.00 |
| 20 | T | trans-1,2-Dichloroethene | 0.885 | 0.897 | -1.4 | 90 | 0.00 |
| 21 | T | Hexane | 0.872 | 0.903 | -3.6 | 86 | 0.00 |
| 22 | T | 1,1-Dichloroethane | 1.204 | 1.185 | 1.6 | 89 | 0.00 |
| 23 | T | Vinyl acetate | 0.902 | 0.964 | -6.9 | 84 | 0.00 |
| 24 | T | cis-1,2-Dichloroethene | 0.769 | 0.790 | -2.7 | 87 | 0.00 |
| 25 | T | 2-Butanone (MEK) | 0.295 | 0.306 | -3.7 | 88 | 0.00 |
| 26 | T | Ethyl acetate | 0.178 | 0.178 | 0.0 | 87 | 0.00 |
| 27 | T | Tetrahydrofuran | 0.597 | 0.603 | -1.0 | 88 | 0.00 |
| 28 | T | Chloroform | 1.532 | 1.583 | -3.3 | 93 | 0.00 |
| 29 | T | Cyclohexane | 0.907 | 0.927 | -2.2 | 87 | 0.00 |
| 30 | T | 1,1,1-Trichloroethane | 1.684 | 1.789 | -6.2 | 95 | 0.00 |
| 31 | T | Carbon tetrachloride | 1.736 | 1.860 | -7.1 | 95 | 0.00 |
| 32 | I | 1,4-DIFLUOROBENZENE | 1.000 | 1.000 | 0.0 | 93 | 0.00 |
| 33 | T | Benzene | 0.597 | 0.581 | 2.7 | 90 | 0.00 |
| 34 | T | 2,2,4-Trimethylpentane | 0.812 | 0.810 | 0.2 | 87 | 0.00 |
| 35 | T | 1,2-Dichloroethane | 0.321 | 0.322 | -0.3 | 94 | 0.00 |
| 36 | T | Heptane | 0.285 | 0.284 | 0.4 | 88 | 0.00 |
| 37 | T | Trichloroethene | 0.260 | 0.259 | 0.4 | 91 | 0.00 |
| 38 | T | 1,2-Dichloropropane | 0.195 | 0.188 | 3.6 | 88 | 0.00 |
| 39 | T | 1,4-Dioxane | 0.109 | 0.109 | 0.0 | 88 | 0.00 |
| 40 | T | Bromodichloromethane | 0.498 | 0.495 | 0.6 | 93 | 0.00 |
| 41 | T | cis-1,3-Dichloropropene | 0.294 | 0.306 | -4.1 | 89 | 0.00 |
| 42 | T | 4-Methyl-2-pentanone (MIBK) | 0.357 | 0.355 | 0.6 | 87 | 0.00 |
| 43 | I | CHLOROBENZENE-d5 | 1.000 | 1.000 | 0.0 | 94 | 0.00 |
| 44 | T | Toluene | 0.768 | 0.780 | -1.6 | 92 | 0.00 |
| 45 | T | trans-1,3-Dichloropropene | 0.314 | 0.323 | -2.9 | 90 | 0.00 |
| 46 | T | 1,1,2-Trichloroethane | 0.281 | 0.276 | 1.8 | 92 | 0.00 |
| 47 | T | Tetrachloroethene | 0.426 | 0.431 | -1.2 | 94 | 0.00 |
| 48 | T | 2-Hexanone | 0.347 | 0.346 | 0.3 | 86 | 0.00 |
| 49 | T | Chlorodibromomethane | 0.530 | 0.537 | -1.3 | 94 | 0.00 |
| 50 | T | 1,2-Dibromoethane (EDB) | 0.381 | 0.385 | -1.0 | 93 | 0.00 |
| 51 | T | Chlorobenzene | 0.664 | 0.650 | 2.1 | 93 | 0.00 |

Data Path : D:\msdchem\1\2017\DATA\072417KA_FSAA\
Data File : 072417KA02.D
InstName : HP5973K
Acq On : 24 Jul 2017 4:09 pm
Operator : LLH
Sample : S17G101-CCV1@B17G093-BS1
Misc : 10ppbv 1729076@1729079
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Jul 24 16:40:59 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|
| 52 T | Ethylbenzene | 1.118 | 1.118 | 0.0 | 92 | 0.00 |
| 53 T | m&p-Xylene | 0.867 | 0.880 | -1.5 | 93 | 0.00 |
| 54 T | o-Xylene | 0.827 | 0.886 | -7.1 | 93 | 0.00 |
| 55 T | Styrene | 0.666 | 0.685 | -2.9 | 91 | 0.00 |
| 56 T | Bromoform | 0.528 | 0.556 | -5.3 | 96 | 0.00 |
| 57 T | 1,1,2,2-Tetrachloroethane | 0.631 | 0.618 | 2.1 | 92 | 0.00 |
| 58 T | 4-Ethyltoluene | 1.185 | 1.295 | -9.3 | 93 | 0.00 |
| 59 T | 1,3,5-Trimethylbenzene | 1.058 | 1.106 | -4.5 | 94 | 0.00 |
| 60 T | 1,2,4-Trimethylbenzene | 0.989 | 1.084 | -9.6 | 94 | 0.00 |
| 61 T | 1,3-Dichlorobenzene | 0.695 | 0.716 | -3.0 | 93 | 0.00 |
| 62 T | 1,4-Dichlorobenzene | 0.666 | 0.692 | -3.9 | 93 | 0.00 |
| 63 T | Benzyl chloride | 0.585 | 0.649 | -10.9 | 90 | 0.00 |
| 64 T | 1,2-Dichlorobenzene | 0.698 | 0.730 | -4.6 | 94 | 0.00 |
| 65 T | 1,2,4-Trichlorobenzene | 0.524 | 0.548 | -4.6 | 94 | 0.00 |
| 66 T | Hexachlorobutadiene | 0.742 | 0.775 | -4.4 | 98 | 0.00 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Data Path : D:\msdchem\1\2017\DATA\072417KA_FSAA\
Data File : 072417KA02.D
InstName : HP5973K
Acq On : 24 Jul 2017 4:09 pm
Operator : LLH
Sample : S17G101-CCV1@B17G093-BS1
Misc : 10ppbv 1729076@1729079
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Jul 24 16:40:59 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) BROMOCHLOROMETHANE | 15.313 | 49 | 353345 | 19.80 | ppbv | 0.00 |
| 32) 1,4-DIFLUOROBENZENE | 17.308 | 114 | 1255941 | 19.60 | ppbv | 0.00 |
| 43) CHLOROBENZENE-d5 | 22.236 | 117 | 1187907 | 19.60 | ppbv | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 2) Propene | 4.217 | 41 | 85211 | 10.19 | ppbv | 98 |
| 3) Dichlorodifluoromethane | 4.308 | 85 | 438291 | 10.75 | ppbv | 100 |
| 4) 1,2-Dichlorotetrafluor... | 4.642 | 85 | 390155 | 9.87 | ppbv | 98 |
| 5) Chloromethane | 4.855 | 50 | 104860 | 10.00 | ppbv | 99 |
| 6) Vinyl chloride | 5.153 | 62 | 132408 | 10.06 | ppbv | 99 |
| 7) 1,3-Butadiene | 5.239 | 54 | 91664 | 9.76 | ppbv | 97 |
| 8) Bromomethane | 6.163 | 94 | 113227 | 10.64 | ppbv | 100 |
| 9) Chloroethane | 6.486 | 64 | 63507 | 10.07 | ppbv | 99 |
| 10) Bromoethene | 7.045 | 106 | 110347 | 10.96 | ppbv | 99 |
| 11) Trichlorofluoromethane | 7.149 | 101 | 410805 | 10.54 | ppbv | 99 |
| 12) 1,1,2-Trichloro-1,2,2-... | 8.901 | 151 | 207295 | 9.61 | ppbv | 99 |
| 13) 1,1-Dichloroethene | 9.029 | 61 | 167405 | 10.35 | ppbv | 99 |
| 14) Acetone | 9.686 | 43 | 176122 | 10.61 | ppbv | 99 |
| 15) Carbon disulfide | 9.716 | 76 | 344111 | 10.38 | ppbv | 99 |
| 16) 2-Propanol | 10.294 | 45 | 119335 | 10.80 | ppbv | 97 |
| 17) Allyl chloride | 10.617 | 41 | 116065 | 10.99 | ppbv | 98 |
| 18) Dichloromethane | 11.207 | 49 | 163261 | 12.15 | ppbv | 98 |
| 19) tert-Butyl methyl ethe... | 11.827 | 73 | 321199 | 11.46 | ppbv | 99 |
| 20) trans-1,2-Dichloroethene | 11.888 | 61 | 176033 | 11.14 | ppbv | 99 |
| 21) Hexane | 12.411 | 57 | 169138 | 10.87 | ppbv | 99 |
| 22) 1,1-Dichloroethane | 13.287 | 63 | 209358 | 9.74 | ppbv | 100 |
| 23) Vinyl acetate | 13.439 | 43 | 189141 | 11.75 | ppbv | 99 |
| 24) cis-1,2-Dichloroethene | 14.753 | 61 | 146679 | 10.69 | ppbv | 98 |
| 25) 2-Butanone (MEK) | 14.893 | 72 | 58975 | 11.19 | ppbv | 99 |
| 26) Ethyl acetate | 14.905 | 61 | 34556 | 10.87 | ppbv | 100 |
| 27) Tetrahydrofuran | 15.295 | 42 | 113026 | 10.62 | ppbv | 98 |
| 28) Chloroform | 15.465 | 83 | 302263 | 11.06 | ppbv | 99 |
| 29) Cyclohexane | 15.593 | 56 | 176932 | 10.93 | ppbv | 99 |
| 30) 1,1,1-Trichloroethane | 15.702 | 97 | 328764 | 10.94 | ppbv | 99 |
| 31) Carbon tetrachloride | 15.934 | 117 | 345202 | 11.14 | ppbv | 99 |
| 33) Benzene | 16.469 | 78 | 398068 | 10.41 | ppbv | 100 |
| 34) 2,2,4-Trimethylpentane | 16.347 | 57 | 550333 | 10.57 | ppbv | 99 |
| 35) 1,2-Dichloroethane | 16.718 | 62 | 214547 | 10.42 | ppbv | 99 |
| 36) Heptane | 16.743 | 43 | 194422 | 10.64 | ppbv | 99 |
| 37) Trichloroethene | 17.698 | 130 | 182735 | 10.99 | ppbv | 99 |
| 38) 1,2-Dichloropropane | 18.239 | 63 | 128700 | 10.28 | ppbv | 99 |
| 39) 1,4-Dioxane | 18.440 | 88 | 74341 | 10.63 | ppbv | 99 |
| 40) Bromodichloromethane | 18.714 | 83 | 329982 | 10.34 | ppbv | 100 |
| 41) cis-1,3-Dichloropropene | 19.480 | 75 | 203865 | 10.80 | ppbv | 99 |
| 42) 4-Methyl-2-pentanone (... | 19.718 | 43 | 241316 | 10.56 | ppbv | 99 |
| 44) Toluene | 19.930 | 91 | 510535 | 10.97 | ppbv | 99 |
| 45) trans-1,3-Dichloropropene | 20.448 | 75 | 189656 | 9.98 | ppbv | 98 |
| 46) 1,1,2-Trichloroethane | 20.758 | 97 | 182017 | 10.70 | ppbv | 100 |
| 47) Tetrachloroethene | 20.764 | 166 | 282116 | 10.92 | ppbv | 99 |
| 48) 2-Hexanone | 21.080 | 43 | 220029 | 10.45 | ppbv | 100 |
| 49) Chlorodibromomethane | 21.354 | 129 | 348024 | 10.84 | ppbv | 99 |
| 50) 1,2-Dibromoethane (EDB) | 21.579 | 107 | 256680 | 11.10 | ppbv | 99 |
| 51) Chlorobenzene | 22.279 | 112 | 433053 | 10.76 | ppbv | 100 |
| 52) Ethylbenzene | 22.364 | 91 | 738559 | 10.90 | ppbv | 100 |
| 53) m&p-Xylene | 22.546 | 91 | 1152202 | 21.93 | ppbv | 100 |
| 54) o-Xylene | 23.197 | 91 | 569028 | 11.35 | ppbv | 100 |

Data Path : D:\msdchem\1\2017\DATA\072417KA_FSAA\
Data File : 072417KA02.D
InstName : HP5973K
Acq On : 24 Jul 2017 4:09 pm
Operator : LLH
Sample : S17G101-CCV1@B17G093-BS1
Misc : 10ppbv 1729076@1729079
ALS Vial : 32 Sample Multiplier: 1

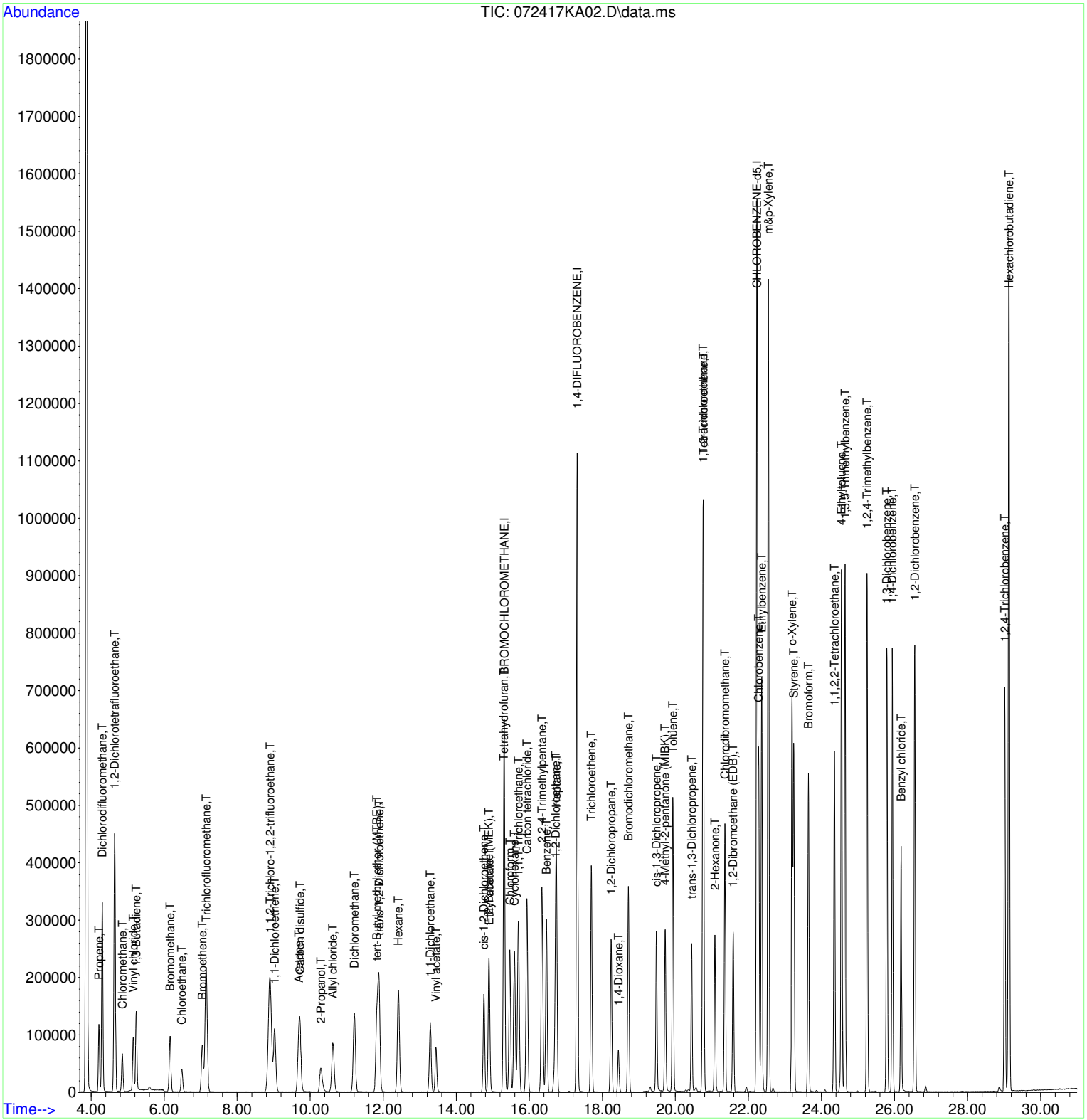
Quant Time: Jul 24 16:40:59 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 55) Styrene | 23.240 | 104 | 427727 | 10.60 ppbv | 99 |
| 56) Bromoform | 23.641 | 173 | 360430 | 11.26 ppbv | 100 |
| 57) 1,1,2,2-Tetrachloroethane | 24.353 | 83 | 393404 | 10.28 ppbv | 100 |
| 58) 4-Ethyltoluene | 24.548 | 105 | 816563 | 11.37 ppbv | 99 |
| 59) 1,3,5-Trimethylbenzene | 24.645 | 105 | 716945 | 11.18 ppbv | 100 |
| 60) 1,2,4-Trimethylbenzene | 25.248 | 105 | 696108 | 11.61 ppbv | 100 |
| 61) 1,3-Dichlorobenzene | 25.789 | 146 | 455597 | 10.82 ppbv | 100 |
| 62) 1,4-Dichlorobenzene | 25.941 | 146 | 444417 | 11.00 ppbv | 100 |
| 63) Benzyl chloride | 26.178 | 91 | 432502 | 12.21 ppbv | 100 |
| 64) 1,2-Dichlorobenzene | 26.555 | 146 | 459931 | 10.87 ppbv | 100 |
| 65) 1,2,4-Trichlorobenzene | 29.019 | 180 | 312063 | 9.82 ppbv | 99 |
| 66) Hexachlorobutadiene | 29.135 | 225 | 464826 | 10.34 ppbv | 100 |

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

Data Path : D:\msdchem\1\2017\DATA\072417KA_FSAA\
Data File : 072417KA02.D
InstName : HP5973K
Acq On : 24 Jul 2017 4:09 pm
Operator : LLH
Sample : S17G101-CCV1@B17G093-BS1
Misc : 10ppbv 1729076@1729079
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Jul 24 16:40:59 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration



**REVIEWED**
**By LLH at 4:42 pm, Jul 24, 2017**

## LCS REPORT

Instrument Name: HP5973K
Sample Name: S17G101-CCV1@B17G093-BS1
Misc Info: 10ppbv 1729076@1729079
Date Acquired: 7/24/2017 16:09
QLast Update: Thu Jul 20 09:11:28 2017
Operator: LLH

1 OUT - nontarget

| # | Name | Ret Time | Amount | Concentration | %R | QC | LIMIT | STATUS |
|---|---|---|---|---|---|---|---|---|
| 1) | BROMOCHLOROMETHANE | 15.31 | #N/A | 19.80 | #N/A | 70.0 | 130.0 | #N/A |
| 2) | Propene | 4.22 | 11.00 | 10.19 | 93% | 72.0 | 121.0 | pass |
| 3) | Dichlorodifluoromethane | 4.31 | 10.60 | 10.75 | 101% | 68.0 | 129.0 | pass |
| 4) | 1,2-Dichlorotetrafluoroethane | 4.64 | 10.10 | 9.87 | 98% | 67.0 | 127.0 | pass |
| 5) | Chloromethane | 4.86 | 11.00 | 10.00 | 91% | 70.0 | 123.0 | pass |
| 6) | Vinyl chloride | 5.15 | 10.70 | 10.06 | 94% | 69.0 | 125.0 | pass |
| 7) | 1,3-Butadiene | 5.24 | 10.60 | 9.76 | 92% | 75.0 | 121.0 | pass |
| 8) | Bromomethane | 6.16 | 10.70 | 10.64 | 99% | 66.0 | 125.0 | pass |
| 9) | Chloroethane | 6.49 | 10.50 | 10.07 | 96% | 67.0 | 125.0 | pass |
| 10) | Bromoethene | 7.05 | 10.80 | 10.96 | 102% | 68.0 | 124.0 | pass |
| 11) | Trichlorofluoromethane | 7.15 | 10.00 | 10.54 | 105% | 68.0 | 133.0 | pass |
| 12) | 1,1,2-Trichloro-1,2,2-trifluoroethane | 8.90 | 9.40 | 9.61 | 102% | 64.0 | 125.0 | pass |
| 13) | 1,1-Dichloroethene | 9.03 | 10.30 | 10.35 | 101% | 73.0 | 128.0 | pass |
| 14) | Acetone | 9.69 | 11.00 | 10.61 | 96% | 67.0 | 141.0 | pass |
| 15) | Carbon disulfide | 9.72 | 10.60 | 10.38 | 98% | 45.0 | 158.0 | pass |
| 16) | 2-Propanol | 10.29 | 11.00 | 10.80 | 98% | 72.0 | 132.0 | pass |
| 17) | Allyl chloride | 10.62 | 11.00 | 10.99 | 100% | 75.0 | 132.0 | pass |
| 18) | Dichloromethane | 11.21 | 9.70 | 12.15 | 125% | 73.0 | 116.0 | FAIL |
| 19) | tert-Butyl methyl ether (MTBE) | 11.83 | 10.80 | 11.46 | 106% | 74.0 | 131.0 | pass |
| 20) | trans-1,2-Dichloroethene | 11.89 | 11.00 | 11.14 | 101% | 80.0 | 123.0 | pass |
| 21) | Hexane | 12.41 | 10.50 | 10.87 | 104% | 75.0 | 124.0 | pass |
| 22) | 1,1-Dichloroethane | 13.29 | 9.90 | 9.74 | 98% | 72.0 | 125.0 | pass |
| 23) | Vinyl acetate | 13.44 | 11.00 | 11.75 | 107% | 31.0 | 171.0 | pass |
| 24) | cis-1,2-Dichloroethene | 14.75 | 10.40 | 10.69 | 103% | 77.0 | 129.0 | pass |
| 25) | 2-Butanone (MEK) | 14.89 | 10.80 | 11.19 | 104% | 69.0 | 137.0 | pass |
| 26) | Ethyl acetate | 14.91 | 10.90 | 10.87 | 100% | 75.0 | 127.0 | pass |
| 27) | Tetrahydrofuran | 15.29 | 10.50 | 10.62 | 101% | 78.0 | 120.0 | pass |
| 28) | Chloroform | 15.47 | 10.70 | 11.06 | 103% | 77.0 | 126.0 | pass |
| 29) | Cyclohexane | 15.59 | 10.70 | 10.93 | 102% | 76.0 | 124.0 | pass |
| 30) | 1,1,1-Trichloroethane | 15.70 | 10.30 | 10.94 | 106% | 74.0 | 133.0 | pass |
| 31) | Carbon tetrachloride | 15.93 | 10.40 | 11.14 | 107% | 71.0 | 141.0 | pass |
| 32) | 1,4-DIFLUOROBENZENE | 17.31 | #N/A | 19.60 | #N/A | 70.0 | 130.0 | #N/A |
| 33) | Benzene | 16.47 | 10.70 | 10.41 | 97% | 81.0 | 125.0 | pass |
| 34) | 2,2,4-Trimethylpentane | 16.35 | 10.60 | 10.57 | 100% | 82.0 | 125.0 | pass |
| 35) | 1,2-Dichloroethane | 16.72 | 10.40 | 10.42 | 100% | 61.0 | 153.0 | pass |
| 36) | Heptane | 16.74 | 10.70 | 10.64 | 99% | 80.0 | 129.0 | pass |
| 37) | Trichloroethene | 17.70 | 11.00 | 10.99 | 100% | 73.0 | 128.0 | pass |
| 38) | 1,2-Dichloropropane | 18.24 | 10.70 | 10.28 | 96% | 77.0 | 129.0 | pass |
| 39) | 1,4-Dioxane | 18.44 | 10.60 | 10.63 | 100% | 58.0 | 140.0 | pass |
| 40) | Bromodichloromethane | 18.71 | 10.40 | 10.34 | 99% | 76.0 | 137.0 | pass |
| 41) | cis-1,3-Dichloropropene | 19.48 | 10.40 | 10.80 | 104% | 80.0 | 136.0 | pass |
| 42) | 4-Methyl-2-pentanone (MIBK) | 19.72 | 10.60 | 10.56 | 100% | 65.0 | 140.0 | pass |
| 43) | CHLOROBENZENE-d5 | 22.24 | #N/A | 19.60 | #N/A | 70.0 | 130.0 | #N/A |
| 44) | Toluene | 19.93 | 10.80 | 10.97 | 102% | 78.0 | 133.0 | pass |
| 45) | trans-1,3-Dichloropropene | 20.45 | 9.70 | 9.98 | 103% | 79.0 | 146.0 | pass |
| 46) | 1,1,2-Trichloroethane | 20.76 | 10.90 | 10.70 | 98% | 74.0 | 134.0 | pass |
| 47) | Tetrachloroethene | 20.76 | 10.80 | 10.92 | 101% | 73.0 | 130.0 | pass |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 48) | 2-Hexanone | 21.08 | 10.50 | 10.45 | 100% | 50.0 | 162.0 | pass |
| 49) | Chlorodibromomethane | 21.35 | 10.70 | 10.84 | 101% | 81.0 | 135.0 | pass |
| 50) | 1,2-Dibromoethane (EDB) | 21.58 | 11.00 | 11.10 | 101% | 78.0 | 133.0 | pass |
| 51) | Chlorobenzene | 22.28 | 11.00 | 10.76 | 98% | 81.0 | 126.0 | pass |
| 52) | Ethylbenzene | 22.36 | 10.90 | 10.90 | 100% | 82.0 | 130.0 | pass |
| 53) | m&p-Xylene | 22.55 | 21.60 | 21.93 | 102% | 82.0 | 131.0 | pass |
| 54) | o-Xylene | 23.20 | 10.60 | 11.35 | 107% | 82.0 | 132.0 | pass |
| 55) | Styrene | 23.24 | 10.30 | 10.60 | 103% | 65.0 | 141.0 | pass |
| 56) | Bromoform | 23.64 | 10.70 | 11.26 | 105% | 84.0 | 137.0 | pass |
| 57) | 1,1,2,2-Tetrachloroethane | 24.35 | 10.50 | 10.28 | 98% | 73.0 | 127.0 | pass |
| 58) | 4-Ethyltoluene | 24.55 | 10.40 | 11.37 | 109% | 81.0 | 127.0 | pass |
| 59) | 1,3,5-Trimethylbenzene | 24.65 | 10.70 | 11.18 | 105% | 77.0 | 132.0 | pass |
| 60) | 1,2,4-Trimethylbenzene | 25.25 | 10.60 | 11.61 | 110% | 78.0 | 131.0 | pass |
| 61) | 1,3-Dichlorobenzene | 25.79 | 10.50 | 10.82 | 103% | 79.0 | 124.0 | pass |
| 62) | 1,4-Dichlorobenzene | 25.94 | 10.60 | 11.00 | 104% | 75.0 | 127.0 | pass |
| 63) | Benzyl chloride | 26.18 | 11.00 | 12.21 | 111% | 67.0 | 156.0 | pass |
| 64) | 1,2-Dichlorobenzene | 26.56 | 10.40 | 10.87 | 104% | 77.0 | 124.0 | pass |
| 65) | 1,2,4-Trichlorobenzene | 29.02 | 9.40 | 9.82 | 105% | 55.0 | 132.0 | pass |
| 66) | Hexachlorobutadiene | 29.13 | 9.90 | 10.34 | 104% | 52.0 | 131.0 | pass |

# B17G093-BS1

Data Path : D:\msdchem\1\2017\DATA\072417KA_FSAA\
Data File : 072417KA02.D
InstName : HP5973K
Acq On : 24 Jul 2017 4:09 pm
Operator : LLH
Sample : S17G101-CCV1@B17G093-BS1
Misc : 10ppbv 1729076@1729079
ALS Vial : 32 Sample Multiplier: 1

**REVIEWED**
**By LLH at 4:42 pm, Jul 24, 2017**

Quant Time: Jul 24 16:40:59 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | BROMOCHLOROMETHANE | 1.000 | 1.000 | 0.0 | 89 | 0.00 |
| 2 | T | Propene | 0.468 | 0.434 | 7.3 | 82 | 0.00 |
| 3 | T | Dichlorodifluoromethane | 2.285 | 2.317 | -1.4 | 92 | 0.00 |
| 4 | T | 1,2-Dichlorotetrafluoroetha | 2.215 | 2.165 | 2.3 | 88 | 0.00 |
| 5 | T | Chloromethane | 0.587 | 0.534 | 9.0 | 82 | 0.00 |
| 6 | T | Vinyl chloride | 0.738 | 0.693 | 6.1 | 85 | 0.00 |
| 7 | T | 1,3-Butadiene | 0.526 | 0.485 | 7.8 | 84 | 0.00 |
| 8 | T | Bromomethane | 0.596 | 0.593 | 0.5 | 91 | 0.00 |
| 9 | T | Chloroethane | 0.354 | 0.339 | 4.2 | 89 | 0.00 |
| 10 | T | Bromoethene | 0.564 | 0.573 | -1.6 | 91 | -0.01 |
| 11 | T | Trichlorofluoromethane | 2.185 | 2.302 | -5.4 | 96 | 0.00 |
| 12 | T | 1,1,2-Trichloro-1,2,2-trifl | 1.209 | 1.236 | -2.2 | 93 | 0.00 |
| 13 | T | 1,1-Dichloroethene | 0.906 | 0.911 | -0.6 | 87 | 0.00 |
| 14 | T | Acetone | 0.930 | 0.897 | 3.5 | 88 | 0.00 |
| 15 | T | Carbon disulfide | 1.858 | 1.819 | 2.1 | 89 | 0.00 |
| 16 | T | 2-Propanol | 0.619 | 0.608 | 1.8 | 82 | 0.00 |
| 17 | T | Allyl chloride | 0.592 | 0.591 | 0.2 | 85 | 0.00 |
| 18 | T | Dichloromethane | 0.753 | 0.943 | -25.2 | 123 | 0.00 |
| 19 | T | tert-Butyl methyl ether (MT | 1.570 | 1.667 | -6.2 | 89 | 0.00 |
| 20 | T | trans-1,2-Dichloroethene | 0.885 | 0.897 | -1.4 | 90 | 0.00 |
| 21 | T | Hexane | 0.872 | 0.903 | -3.6 | 86 | 0.00 |
| 22 | T | 1,1-Dichloroethane | 1.204 | 1.185 | 1.6 | 89 | 0.00 |
| 23 | T | Vinyl acetate | 0.902 | 0.964 | -6.9 | 84 | 0.00 |
| 24 | T | cis-1,2-Dichloroethene | 0.769 | 0.790 | -2.7 | 87 | 0.00 |
| 25 | T | 2-Butanone (MEK) | 0.295 | 0.306 | -3.7 | 88 | 0.00 |
| 26 | T | Ethyl acetate | 0.178 | 0.178 | 0.0 | 87 | 0.00 |
| 27 | T | Tetrahydrofuran | 0.597 | 0.603 | -1.0 | 88 | 0.00 |
| 28 | T | Chloroform | 1.532 | 1.583 | -3.3 | 93 | 0.00 |
| 29 | T | Cyclohexane | 0.907 | 0.927 | -2.2 | 87 | 0.00 |
| 30 | T | 1,1,1-Trichloroethane | 1.684 | 1.789 | -6.2 | 95 | 0.00 |
| 31 | T | Carbon tetrachloride | 1.736 | 1.860 | -7.1 | 95 | 0.00 |
| 32 | I | 1,4-DIFLUOROBENZENE | 1.000 | 1.000 | 0.0 | 93 | 0.00 |
| 33 | T | Benzene | 0.597 | 0.581 | 2.7 | 90 | 0.00 |
| 34 | T | 2,2,4-Trimethylpentane | 0.812 | 0.810 | 0.2 | 87 | 0.00 |
| 35 | T | 1,2-Dichloroethane | 0.321 | 0.322 | -0.3 | 94 | 0.00 |
| 36 | T | Heptane | 0.285 | 0.284 | 0.4 | 88 | 0.00 |
| 37 | T | Trichloroethene | 0.260 | 0.259 | 0.4 | 91 | 0.00 |
| 38 | T | 1,2-Dichloropropane | 0.195 | 0.188 | 3.6 | 88 | 0.00 |
| 39 | T | 1,4-Dioxane | 0.109 | 0.109 | 0.0 | 88 | 0.00 |
| 40 | T | Bromodichloromethane | 0.498 | 0.495 | 0.6 | 93 | 0.00 |
| 41 | T | cis-1,3-Dichloropropene | 0.294 | 0.306 | -4.1 | 89 | 0.00 |
| 42 | T | 4-Methyl-2-pentanone (MIBK) | 0.357 | 0.355 | 0.6 | 87 | 0.00 |
| 43 | I | CHLOROBENZENE-d5 | 1.000 | 1.000 | 0.0 | 94 | 0.00 |
| 44 | T | Toluene | 0.768 | 0.780 | -1.6 | 92 | 0.00 |
| 45 | T | trans-1,3-Dichloropropene | 0.314 | 0.323 | -2.9 | 90 | 0.00 |
| 46 | T | 1,1,2-Trichloroethane | 0.281 | 0.276 | 1.8 | 92 | 0.00 |
| 47 | T | Tetrachloroethene | 0.426 | 0.431 | -1.2 | 94 | 0.00 |
| 48 | T | 2-Hexanone | 0.347 | 0.346 | 0.3 | 86 | 0.00 |
| 49 | T | Chlorodibromomethane | 0.530 | 0.537 | -1.3 | 94 | 0.00 |
| 50 | T | 1,2-Dibromoethane (EDB) | 0.381 | 0.385 | -1.0 | 93 | 0.00 |
| 51 | T | Chlorobenzene | 0.664 | 0.650 | 2.1 | 93 | 0.00 |

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\072417KA_FSAA\
Data File : 072417KA02.D
InstName : HP5973K
Acq On : 24 Jul 2017 4:09 pm
Operator : LLH
Sample : S17G101-CCV1@B17G093-BS1
Misc : 10ppbv 1729076@1729079
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Jul 24 16:40:59 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|
| 52 T | Ethylbenzene | 1.118 | 1.118 | 0.0 | 92 | 0.00 |
| 53 T | m&p-Xylene | 0.867 | 0.880 | -1.5 | 93 | 0.00 |
| 54 T | o-Xylene | 0.827 | 0.886 | -7.1 | 93 | 0.00 |
| 55 T | Styrene | 0.666 | 0.685 | -2.9 | 91 | 0.00 |
| 56 T | Bromoform | 0.528 | 0.556 | -5.3 | 96 | 0.00 |
| 57 T | 1,1,2,2-Tetrachloroethane | 0.631 | 0.618 | 2.1 | 92 | 0.00 |
| 58 T | 4-Ethyltoluene | 1.185 | 1.295 | -9.3 | 93 | 0.00 |
| 59 T | 1,3,5-Trimethylbenzene | 1.058 | 1.106 | -4.5 | 94 | 0.00 |
| 60 T | 1,2,4-Trimethylbenzene | 0.989 | 1.084 | -9.6 | 94 | 0.00 |
| 61 T | 1,3-Dichlorobenzene | 0.695 | 0.716 | -3.0 | 93 | 0.00 |
| 62 T | 1,4-Dichlorobenzene | 0.666 | 0.692 | -3.9 | 93 | 0.00 |
| 63 T | Benzyl chloride | 0.585 | 0.649 | -10.9 | 90 | 0.00 |
| 64 T | 1,2-Dichlorobenzene | 0.698 | 0.730 | -4.6 | 94 | 0.00 |
| 65 T | 1,2,4-Trichlorobenzene | 0.524 | 0.548 | -4.6 | 94 | 0.00 |
| 66 T | Hexachlorobutadiene | 0.742 | 0.775 | -4.4 | 98 | 0.00 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Data Path : D:\msdchem\1\2017\DATA\072417KA_FSAA\
Data File : 072417KA02.D
InstName : HP5973K
Acq On : 24 Jul 2017 4:09 pm
Operator : LLH
Sample : S17G101-CCV1@B17G093-BS1
Misc : 10ppbv 1729076@1729079
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Jul 24 16:40:59 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) BROMOCHLOROMETHANE | 15.313 | 49 | 353345 | 19.80 | ppbv | 0.00 |
| 32) 1,4-DIFLUOROBENZENE | 17.308 | 114 | 1255941 | 19.60 | ppbv | 0.00 |
| 43) CHLOROBENZENE-d5 | 22.236 | 117 | 1187907 | 19.60 | ppbv | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 2) Propene | 4.217 | 41 | 85211 | 10.19 | ppbv | 98 |
| 3) Dichlorodifluoromethane | 4.308 | 85 | 438291 | 10.75 | ppbv | 100 |
| 4) 1,2-Dichlorotetrafluor... | 4.642 | 85 | 390155 | 9.87 | ppbv | 98 |
| 5) Chloromethane | 4.855 | 50 | 104860 | 10.00 | ppbv | 99 |
| 6) Vinyl chloride | 5.153 | 62 | 132408 | 10.06 | ppbv | 99 |
| 7) 1,3-Butadiene | 5.239 | 54 | 91664 | 9.76 | ppbv | 97 |
| 8) Bromomethane | 6.163 | 94 | 113227 | 10.64 | ppbv | 100 |
| 9) Chloroethane | 6.486 | 64 | 63507 | 10.07 | ppbv | 99 |
| 10) Bromoethene | 7.045 | 106 | 110347 | 10.96 | ppbv | 99 |
| 11) Trichlorofluoromethane | 7.149 | 101 | 410805 | 10.54 | ppbv | 99 |
| 12) 1,1,2-Trichloro-1,2,2-... | 8.901 | 151 | 207295 | 9.61 | ppbv | 99 |
| 13) 1,1-Dichloroethene | 9.029 | 61 | 167405 | 10.35 | ppbv | 99 |
| 14) Acetone | 9.686 | 43 | 176122 | 10.61 | ppbv | 99 |
| 15) Carbon disulfide | 9.716 | 76 | 344111 | 10.38 | ppbv | 99 |
| 16) 2-Propanol | 10.294 | 45 | 119335 | 10.80 | ppbv | 97 |
| 17) Allyl chloride | 10.617 | 41 | 116065 | 10.99 | ppbv | 98 |
| 18) Dichloromethane | 11.207 | 49 | 163261 | 12.15 | ppbv | 98 |
| 19) tert-Butyl methyl ethe... | 11.827 | 73 | 321199 | 11.46 | ppbv | 99 |
| 20) trans-1,2-Dichloroethene | 11.888 | 61 | 176033 | 11.14 | ppbv | 99 |
| 21) Hexane | 12.411 | 57 | 169138 | 10.87 | ppbv | 99 |
| 22) 1,1-Dichloroethane | 13.287 | 63 | 209358 | 9.74 | ppbv | 100 |
| 23) Vinyl acetate | 13.439 | 43 | 189141 | 11.75 | ppbv | 99 |
| 24) cis-1,2-Dichloroethene | 14.753 | 61 | 146679 | 10.69 | ppbv | 98 |
| 25) 2-Butanone (MEK) | 14.893 | 72 | 58975 | 11.19 | ppbv | 99 |
| 26) Ethyl acetate | 14.905 | 61 | 34556 | 10.87 | ppbv | 100 |
| 27) Tetrahydrofuran | 15.295 | 42 | 113026 | 10.62 | ppbv | 98 |
| 28) Chloroform | 15.465 | 83 | 302263 | 11.06 | ppbv | 99 |
| 29) Cyclohexane | 15.593 | 56 | 176932 | 10.93 | ppbv | 99 |
| 30) 1,1,1-Trichloroethane | 15.702 | 97 | 328764 | 10.94 | ppbv | 99 |
| 31) Carbon tetrachloride | 15.934 | 117 | 345202 | 11.14 | ppbv | 99 |
| 33) Benzene | 16.469 | 78 | 398068 | 10.41 | ppbv | 100 |
| 34) 2,2,4-Trimethylpentane | 16.347 | 57 | 550333 | 10.57 | ppbv | 99 |
| 35) 1,2-Dichloroethane | 16.718 | 62 | 214547 | 10.42 | ppbv | 99 |
| 36) Heptane | 16.743 | 43 | 194422 | 10.64 | ppbv | 99 |
| 37) Trichloroethene | 17.698 | 130 | 182735 | 10.99 | ppbv | 99 |
| 38) 1,2-Dichloropropane | 18.239 | 63 | 128700 | 10.28 | ppbv | 99 |
| 39) 1,4-Dioxane | 18.440 | 88 | 74341 | 10.63 | ppbv | 99 |
| 40) Bromodichloromethane | 18.714 | 83 | 329982 | 10.34 | ppbv | 100 |
| 41) cis-1,3-Dichloropropene | 19.480 | 75 | 203865 | 10.80 | ppbv | 99 |
| 42) 4-Methyl-2-pentanone (... | 19.718 | 43 | 241316 | 10.56 | ppbv | 99 |
| 44) Toluene | 19.930 | 91 | 510535 | 10.97 | ppbv | 99 |
| 45) trans-1,3-Dichloropropene | 20.448 | 75 | 189656 | 9.98 | ppbv | 98 |
| 46) 1,1,2-Trichloroethane | 20.758 | 97 | 182017 | 10.70 | ppbv | 100 |
| 47) Tetrachloroethene | 20.764 | 166 | 282116 | 10.92 | ppbv | 99 |
| 48) 2-Hexanone | 21.080 | 43 | 220029 | 10.45 | ppbv | 100 |
| 49) Chlorodibromomethane | 21.354 | 129 | 348024 | 10.84 | ppbv | 99 |
| 50) 1,2-Dibromoethane (EDB) | 21.579 | 107 | 256680 | 11.10 | ppbv | 99 |
| 51) Chlorobenzene | 22.279 | 112 | 433053 | 10.76 | ppbv | 100 |
| 52) Ethylbenzene | 22.364 | 91 | 738559 | 10.90 | ppbv | 100 |
| 53) m&p-Xylene | 22.546 | 91 | 1152202 | 21.93 | ppbv | 100 |
| 54) o-Xylene | 23.197 | 91 | 569028 | 11.35 | ppbv | 100 |

Data Path : D:\msdchem\1\2017\DATA\072417KA_FSAA\
Data File : 072417KA02.D
InstName : HP5973K
Acq On : 24 Jul 2017 4:09 pm
Operator : LLH
Sample : S17G101-CCV1@B17G093-BS1
Misc : 10ppbv 1729076@1729079
ALS Vial : 32 Sample Multiplier: 1

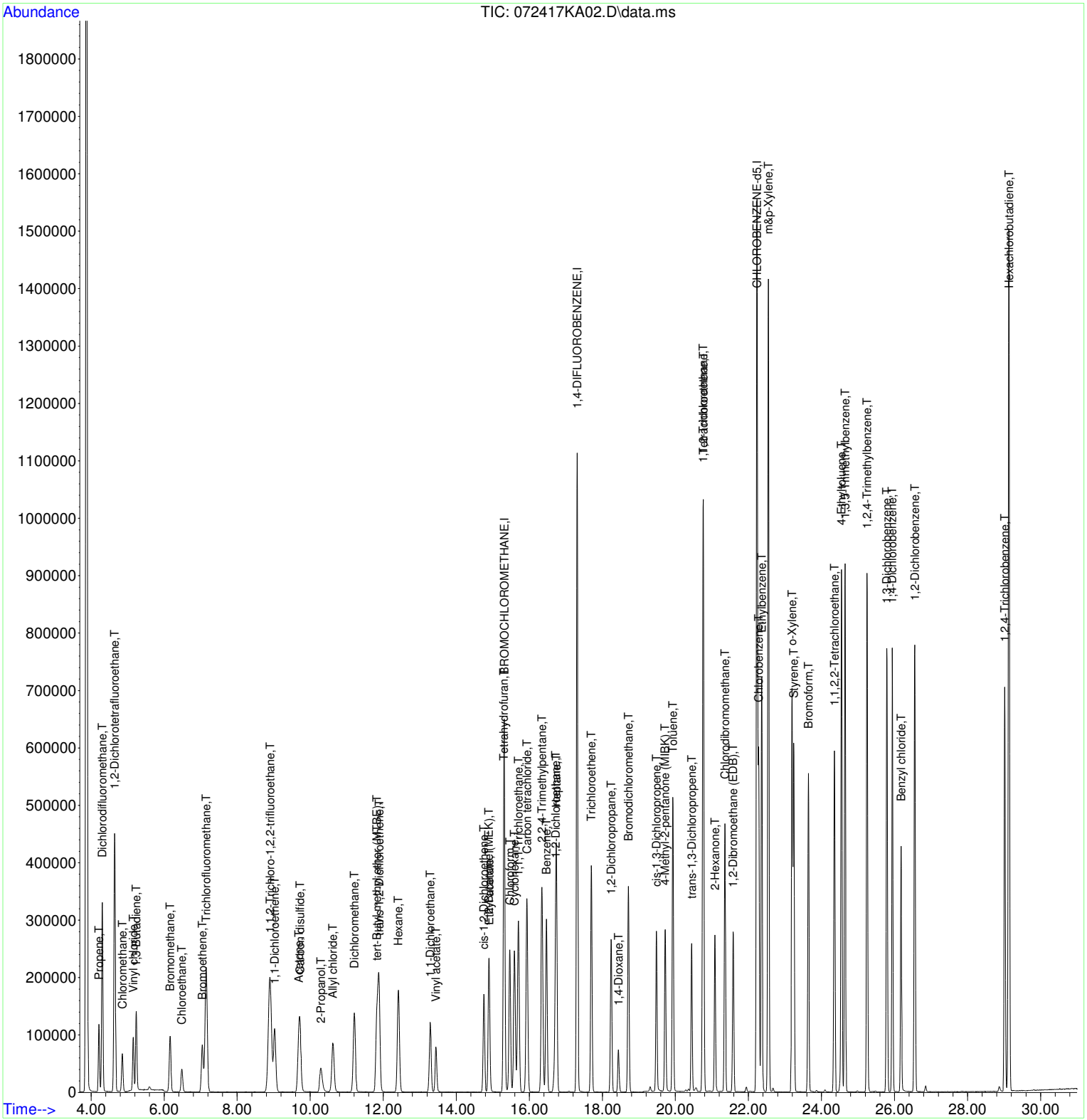
Quant Time: Jul 24 16:40:59 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 55) Styrene | 23.240 | 104 | 427727 | 10.60 ppbv | 99 |
| 56) Bromoform | 23.641 | 173 | 360430 | 11.26 ppbv | 100 |
| 57) 1,1,2,2-Tetrachloroethane | 24.353 | 83 | 393404 | 10.28 ppbv | 100 |
| 58) 4-Ethyltoluene | 24.548 | 105 | 816563 | 11.37 ppbv | 99 |
| 59) 1,3,5-Trimethylbenzene | 24.645 | 105 | 716945 | 11.18 ppbv | 100 |
| 60) 1,2,4-Trimethylbenzene | 25.248 | 105 | 696108 | 11.61 ppbv | 100 |
| 61) 1,3-Dichlorobenzene | 25.789 | 146 | 455597 | 10.82 ppbv | 100 |
| 62) 1,4-Dichlorobenzene | 25.941 | 146 | 444417 | 11.00 ppbv | 100 |
| 63) Benzyl chloride | 26.178 | 91 | 432502 | 12.21 ppbv | 100 |
| 64) 1,2-Dichlorobenzene | 26.555 | 146 | 459931 | 10.87 ppbv | 100 |
| 65) 1,2,4-Trichlorobenzene | 29.019 | 180 | 312063 | 9.82 ppbv | 99 |
| 66) Hexachlorobutadiene | 29.135 | 225 | 464826 | 10.34 ppbv | 100 |

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

Data Path : D:\msdchem\1\2017\DATA\072417KA_FSAA\
Data File : 072417KA02.D
InstName : HP5973K
Acq On : 24 Jul 2017 4:09 pm
Operator : LLH
Sample : S17G101-CCV1@B17G093-BS1
Misc : 10ppbv 1729076@1729079
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Jul 24 16:40:59 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration



**REVIEWED**
**By LLH at 4:42 pm, Jul 24, 2017**

## LCS REPORT

Instrument Name: HP5973K
Sample Name: S17G101-CCV1@B17G093-BS1
Misc Info: 10ppbv 1729076@1729079
Date Acquired: 7/24/2017 16:09
QLast Update: Thu Jul 20 09:11:28 2017
Operator: LLH

1 OUT - nontarget

| # | Name | Ret Time | Amount | Concentration | %R | QC | LIMIT | STATUS |
|---|---|---|---|---|---|---|---|---|
| 1) | BROMOCHLOROMETHANE | 15.31 | #N/A | 19.80 | #N/A | 70.0 | 130.0 | #N/A |
| 2) | Propene | 4.22 | 11.00 | 10.19 | 93% | 72.0 | 121.0 | pass |
| 3) | Dichlorodifluoromethane | 4.31 | 10.60 | 10.75 | 101% | 68.0 | 129.0 | pass |
| 4) | 1,2-Dichlorotetrafluoroethane | 4.64 | 10.10 | 9.87 | 98% | 67.0 | 127.0 | pass |
| 5) | Chloromethane | 4.86 | 11.00 | 10.00 | 91% | 70.0 | 123.0 | pass |
| 6) | Vinyl chloride | 5.15 | 10.70 | 10.06 | 94% | 69.0 | 125.0 | pass |
| 7) | 1,3-Butadiene | 5.24 | 10.60 | 9.76 | 92% | 75.0 | 121.0 | pass |
| 8) | Bromomethane | 6.16 | 10.70 | 10.64 | 99% | 66.0 | 125.0 | pass |
| 9) | Chloroethane | 6.49 | 10.50 | 10.07 | 96% | 67.0 | 125.0 | pass |
| 10) | Bromoethene | 7.05 | 10.80 | 10.96 | 102% | 68.0 | 124.0 | pass |
| 11) | Trichlorofluoromethane | 7.15 | 10.00 | 10.54 | 105% | 68.0 | 133.0 | pass |
| 12) | 1,1,2-Trichloro-1,2,2-trifluoroethane | 8.90 | 9.40 | 9.61 | 102% | 64.0 | 125.0 | pass |
| 13) | 1,1-Dichloroethene | 9.03 | 10.30 | 10.35 | 101% | 73.0 | 128.0 | pass |
| 14) | Acetone | 9.69 | 11.00 | 10.61 | 96% | 67.0 | 141.0 | pass |
| 15) | Carbon disulfide | 9.72 | 10.60 | 10.38 | 98% | 45.0 | 158.0 | pass |
| 16) | 2-Propanol | 10.29 | 11.00 | 10.80 | 98% | 72.0 | 132.0 | pass |
| 17) | Allyl chloride | 10.62 | 11.00 | 10.99 | 100% | 75.0 | 132.0 | pass |
| 18) | Dichloromethane | 11.21 | 9.70 | 12.15 | 125% | 73.0 | 116.0 | FAIL |
| 19) | tert-Butyl methyl ether (MTBE) | 11.83 | 10.80 | 11.46 | 106% | 74.0 | 131.0 | pass |
| 20) | trans-1,2-Dichloroethene | 11.89 | 11.00 | 11.14 | 101% | 80.0 | 123.0 | pass |
| 21) | Hexane | 12.41 | 10.50 | 10.87 | 104% | 75.0 | 124.0 | pass |
| 22) | 1,1-Dichloroethane | 13.29 | 9.90 | 9.74 | 98% | 72.0 | 125.0 | pass |
| 23) | Vinyl acetate | 13.44 | 11.00 | 11.75 | 107% | 31.0 | 171.0 | pass |
| 24) | cis-1,2-Dichloroethene | 14.75 | 10.40 | 10.69 | 103% | 77.0 | 129.0 | pass |
| 25) | 2-Butanone (MEK) | 14.89 | 10.80 | 11.19 | 104% | 69.0 | 137.0 | pass |
| 26) | Ethyl acetate | 14.91 | 10.90 | 10.87 | 100% | 75.0 | 127.0 | pass |
| 27) | Tetrahydrofuran | 15.29 | 10.50 | 10.62 | 101% | 78.0 | 120.0 | pass |
| 28) | Chloroform | 15.47 | 10.70 | 11.06 | 103% | 77.0 | 126.0 | pass |
| 29) | Cyclohexane | 15.59 | 10.70 | 10.93 | 102% | 76.0 | 124.0 | pass |
| 30) | 1,1,1-Trichloroethane | 15.70 | 10.30 | 10.94 | 106% | 74.0 | 133.0 | pass |
| 31) | Carbon tetrachloride | 15.93 | 10.40 | 11.14 | 107% | 71.0 | 141.0 | pass |
| 32) | 1,4-DIFLUOROBENZENE | 17.31 | #N/A | 19.60 | #N/A | 70.0 | 130.0 | #N/A |
| 33) | Benzene | 16.47 | 10.70 | 10.41 | 97% | 81.0 | 125.0 | pass |
| 34) | 2,2,4-Trimethylpentane | 16.35 | 10.60 | 10.57 | 100% | 82.0 | 125.0 | pass |
| 35) | 1,2-Dichloroethane | 16.72 | 10.40 | 10.42 | 100% | 61.0 | 153.0 | pass |
| 36) | Heptane | 16.74 | 10.70 | 10.64 | 99% | 80.0 | 129.0 | pass |
| 37) | Trichloroethene | 17.70 | 11.00 | 10.99 | 100% | 73.0 | 128.0 | pass |
| 38) | 1,2-Dichloropropane | 18.24 | 10.70 | 10.28 | 96% | 77.0 | 129.0 | pass |
| 39) | 1,4-Dioxane | 18.44 | 10.60 | 10.63 | 100% | 58.0 | 140.0 | pass |
| 40) | Bromodichloromethane | 18.71 | 10.40 | 10.34 | 99% | 76.0 | 137.0 | pass |
| 41) | cis-1,3-Dichloropropene | 19.48 | 10.40 | 10.80 | 104% | 80.0 | 136.0 | pass |
| 42) | 4-Methyl-2-pentanone (MIBK) | 19.72 | 10.60 | 10.56 | 100% | 65.0 | 140.0 | pass |
| 43) | CHLOROBENZENE-d5 | 22.24 | #N/A | 19.60 | #N/A | 70.0 | 130.0 | #N/A |
| 44) | Toluene | 19.93 | 10.80 | 10.97 | 102% | 78.0 | 133.0 | pass |
| 45) | trans-1,3-Dichloropropene | 20.45 | 9.70 | 9.98 | 103% | 79.0 | 146.0 | pass |
| 46) | 1,1,2-Trichloroethane | 20.76 | 10.90 | 10.70 | 98% | 74.0 | 134.0 | pass |
| 47) | Tetrachloroethene | 20.76 | 10.80 | 10.92 | 101% | 73.0 | 130.0 | pass |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 48) | 2-Hexanone | 21.08 | 10.50 | 10.45 | 100% | 50.0 | 162.0 | pass |
| 49) | Chlorodibromomethane | 21.35 | 10.70 | 10.84 | 101% | 81.0 | 135.0 | pass |
| 50) | 1,2-Dibromoethane (EDB) | 21.58 | 11.00 | 11.10 | 101% | 78.0 | 133.0 | pass |
| 51) | Chlorobenzene | 22.28 | 11.00 | 10.76 | 98% | 81.0 | 126.0 | pass |
| 52) | Ethylbenzene | 22.36 | 10.90 | 10.90 | 100% | 82.0 | 130.0 | pass |
| 53) | m&p-Xylene | 22.55 | 21.60 | 21.93 | 102% | 82.0 | 131.0 | pass |
| 54) | o-Xylene | 23.20 | 10.60 | 11.35 | 107% | 82.0 | 132.0 | pass |
| 55) | Styrene | 23.24 | 10.30 | 10.60 | 103% | 65.0 | 141.0 | pass |
| 56) | Bromoform | 23.64 | 10.70 | 11.26 | 105% | 84.0 | 137.0 | pass |
| 57) | 1,1,2,2-Tetrachloroethane | 24.35 | 10.50 | 10.28 | 98% | 73.0 | 127.0 | pass |
| 58) | 4-Ethyltoluene | 24.55 | 10.40 | 11.37 | 109% | 81.0 | 127.0 | pass |
| 59) | 1,3,5-Trimethylbenzene | 24.65 | 10.70 | 11.18 | 105% | 77.0 | 132.0 | pass |
| 60) | 1,2,4-Trimethylbenzene | 25.25 | 10.60 | 11.61 | 110% | 78.0 | 131.0 | pass |
| 61) | 1,3-Dichlorobenzene | 25.79 | 10.50 | 10.82 | 103% | 79.0 | 124.0 | pass |
| 62) | 1,4-Dichlorobenzene | 25.94 | 10.60 | 11.00 | 104% | 75.0 | 127.0 | pass |
| 63) | Benzyl chloride | 26.18 | 11.00 | 12.21 | 111% | 67.0 | 156.0 | pass |
| 64) | 1,2-Dichlorobenzene | 26.56 | 10.40 | 10.87 | 104% | 77.0 | 124.0 | pass |
| 65) | 1,2,4-Trichlorobenzene | 29.02 | 9.40 | 9.82 | 105% | 55.0 | 132.0 | pass |
| 66) | Hexachlorobutadiene | 29.13 | 9.90 | 10.34 | 104% | 52.0 | 131.0 | pass |

# S17G101-CRL1

**REVIEWED**
**By LLH at 9:11 am, Jul 25, 2017**

**QLS REPORT**

Instrument Name: HP5973K
Sample Name: S17G101-CRL1
Misc Info: 1.0ppbv 1729073
Date Acquired: 7/24/2017 16:58
QLast Update: Thu Jul 20 09:11:28 2017
Operator: LLH

4 OUT (3 nontarget)

| # | Name | Ret Time | Amount | Concentration | %R | QC | LIMIT | STATUS | TYPE | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1) | BROMOCHLOROMETHANE | 15.31 | #N/A | 19.80 | #N/A | 60.0 | 140.0 | #N/A | Internal | |
| 2) | Propene | 4.22 | 1.10 | 1.01 | 91% | 60.0 | 140.0 | pass | Subset | |
| 3) | Dichlorodifluoromethane | 4.31 | 1.06 | 1.15 | 109% | 60.0 | 140.0 | pass | Primary | |
| 4) | 1,2-Dichlorotetrafluoroethane | 4.64 | 1.01 | 1.06 | 105% | 60.0 | 140.0 | pass | Primary | |
| 5) | Chloromethane | 4.85 | 1.10 | 1.09 | 99% | 60.0 | 140.0 | pass | Primary | |
| 6) | Vinyl chloride | 5.15 | 1.07 | 1.07 | 100% | 60.0 | 140.0 | pass | Primary | |
| 7) | 1,3-Butadiene | 5.24 | 1.06 | 1.08 | 102% | 60.0 | 140.0 | pass | Subset | |
| 8) | Bromomethane | 6.16 | 1.07 | 1.09 | 102% | 60.0 | 140.0 | pass | Primary | |
| 9) | Chloroethane | 6.48 | 1.05 | 1.03 | 98% | 60.0 | 140.0 | pass | Primary | |
| 10) | Bromoethene | 7.05 | 1.08 | 1.02 | 95% | 60.0 | 140.0 | pass | Subset | |
| 11) | Trichlorofluoromethane | 7.15 | 1.00 | 1.08 | 108% | 60.0 | 140.0 | pass | Primary | |
| 12) | 1,1,2-Trichloro-1,2,2-trifluoroethane | 8.89 | 0.94 | 1.01 | 108% | 60.0 | 140.0 | pass | Primary | |
| 13) | 1,1-Dichloroethene | 9.02 | 1.03 | 0.87 | 84% | 60.0 | 140.0 | pass | Primary | |
| 14) | Acetone | 9.72 | 1.10 | 1.04 | 95% | 60.0 | 140.0 | pass | Subset | |
| 15) | Carbon disulfide | 9.72 | 1.06 | 1.09 | 102% | 60.0 | 140.0 | pass | Subset | |
| 16) | 2-Propanol | 10.33 | 1.10 | 0.78 | 71% | 60.0 | 140.0 | pass | Subset | |
| 17) | Allyl chloride | 10.62 | 1.10 | 0.84 | 76% | 60.0 | 140.0 | pass | Subset | |
| 18) | Dichloromethane | 11.21 | 0.97 | 4.82 | 497% | 60.0 | 140.0 | FAIL | Primary | |
| 19) | tert-Butyl methyl ether (MTBE) | 11.86 | 1.08 | 0.84 | 78% | 60.0 | 140.0 | pass | Subset | |
| 20) | trans-1,2-Dichloroethene | 11.89 | 1.10 | 1.02 | 93% | 60.0 | 140.0 | pass | Subset | |
| 21) | Hexane | 12.41 | 1.05 | 0.75 | 72% | 60.0 | 140.0 | pass | Subset | |
| 22) | 1,1-Dichloroethane | 13.29 | 0.99 | 0.93 | 94% | 60.0 | 140.0 | pass | Primary | |
| 23) | Vinyl acetate | 13.45 | 1.10 | 0.63 | 57% | 60.0 | 140.0 | FAIL | Subset | NT |
| 24) | cis-1,2-Dichloroethene | 14.75 | 1.04 | 0.81 | 78% | 60.0 | 140.0 | pass | Primary | |
| 25) | 2-Butanone (MEK) | 14.91 | 1.08 | 0.85 | 79% | 60.0 | 140.0 | pass | Subset | |
| 26) | Ethyl acetate | 14.92 | 1.09 | 0.83 | 76% | 60.0 | 140.0 | pass | Subset | |
| 27) | Tetrahydrofuran | 15.32 | 1.05 | 1.10 | 104% | 60.0 | 140.0 | pass | Subset | |
| 28) | Chloroform | 15.46 | 1.07 | 1.08 | 101% | 60.0 | 140.0 | pass | Primary | |
| 29) | Cyclohexane | 15.59 | 1.07 | 0.83 | 78% | 60.0 | 140.0 | pass | Subset | |
| 30) | 1,1,1-Trichloroethane | 15.71 | 1.03 | 1.04 | 101% | 60.0 | 140.0 | pass | Primary | |
| 31) | Carbon tetrachloride | 15.93 | 1.04 | 1.06 | 102% | 60.0 | 140.0 | pass | Primary | |
| 32) | 1,4-DIFLUOROBENZENE | 17.31 | #N/A | 19.60 | #N/A | 60.0 | 140.0 | #N/A | Internal | |
| 33) | Benzene | 16.47 | 1.07 | 0.91 | 85% | 60.0 | 140.0 | pass | Primary | |
| 34) | 2,2,4-Trimethylpentane | 16.35 | 1.06 | 0.72 | 68% | 60.0 | 140.0 | pass | Subset | |
| 35) | 1,2-Dichloroethane | 16.71 | 1.04 | 0.97 | 93% | 60.0 | 140.0 | pass | Primary | |
| 36) | Heptane | 16.75 | 1.07 | 0.77 | 72% | 60.0 | 140.0 | pass | Subset | |
| 37) | Trichloroethene | 17.70 | 1.10 | 0.98 | 89% | 60.0 | 140.0 | pass | Primary | |
| 38) | 1,2-Dichloropropane | 18.24 | 1.07 | 0.91 | 85% | 60.0 | 140.0 | pass | Primary | |
| 39) | 1,4-Dioxane | 18.46 | 1.06 | 0.74 | 70% | 60.0 | 140.0 | pass | Subset | |
| 40) | Bromodichloromethane | 18.71 | 1.04 | 0.98 | 94% | 60.0 | 140.0 | pass | Subset | |
| 41) | cis-1,3-Dichloropropene | 19.48 | 1.04 | 0.70 | 68% | 60.0 | 140.0 | pass | Primary | |
| 42) | 4-Methyl-2-pentanone (MIBK) | 19.73 | 1.06 | 0.72 | 68% | 60.0 | 140.0 | pass | Subset | |
| 43) | CHLOROBENZENE-d5 | 22.24 | #N/A | 19.60 | #N/A | 60.0 | 140.0 | #N/A | Internal | |
| 44) | Toluene | 19.93 | 1.08 | 0.82 | 76% | 60.0 | 140.0 | pass | Primary | |
| 45) | trans-1,3-Dichloropropene | 20.45 | 0.97 | 0.67 | 69% | 60.0 | 140.0 | pass | Primary | |
| 46) | 1,1,2-Trichloroethane | 20.76 | 1.09 | 0.98 | 90% | 60.0 | 140.0 | pass | Primary | |
| 47) | Tetrachloroethene | 20.76 | 1.08 | 0.93 | 86% | 60.0 | 140.0 | pass | Primary | |
| 48) | 2-Hexanone | 21.09 | 1.05 | 0.64 | 61% | 60.0 | 140.0 | pass | Subset | |
| 49) | Chlorodibromomethane | 21.35 | 1.07 | 0.95 | 89% | 60.0 | 140.0 | pass | Subset | |
| 50) | 1,2-Dibromoethane (EDB) | 21.59 | 1.10 | 0.93 | 84% | 60.0 | 140.0 | pass | Primary | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 51) | Chlorobenzene | 22.28 | 1.10 | 1.02 | 93% | 60.0 | 140.0 | pass | Primary | |
| 52) | Ethylbenzene | 22.36 | 1.09 | 0.88 | 81% | 60.0 | 140.0 | pass | Primary | |
| 53) | m&p-Xylene | 22.55 | 2.16 | 1.72 | 80% | 60.0 | 140.0 | pass | Primary | |
| 54) | o-Xylene | 23.20 | 1.06 | 0.68 | 64% | 60.0 | 140.0 | pass | Primary | |
| 55) | Styrene | 23.24 | 1.03 | 0.72 | 70% | 60.0 | 140.0 | pass | Primary | |
| 56) | Bromoform | 23.64 | 1.07 | 0.88 | 82% | 60.0 | 140.0 | pass | Subset | |
| 57) | 1,1,2,2-Tetrachloroethane | 24.35 | 1.05 | 0.90 | 85% | 60.0 | 140.0 | pass | Primary | |
| 58) | 4-Ethyltoluene | 24.55 | 1.04 | 0.61 | 58% | 60.0 | 140.0 | FAIL | Subset | NT |
| 59) | 1,3,5-Trimethylbenzene | 24.65 | 1.07 | 0.80 | 74% | 60.0 | 140.0 | pass | Primary | |
| 60) | 1,2,4-Trimethylbenzene | 25.25 | 1.06 | 0.66 | 62% | 60.0 | 140.0 | pass | Primary | |
| 61) | 1,3-Dichlorobenzene | 25.79 | 1.05 | 0.86 | 82% | 60.0 | 140.0 | pass | Primary | |
| 62) | 1,4-Dichlorobenzene | 25.95 | 1.06 | 0.81 | 77% | 60.0 | 140.0 | pass | Primary | |
| 63) | Benzyl chloride | 26.18 | 1.10 | 0.47 | 42% | 60.0 | 140.0 | FAIL | Subset | NT |
| 64) | 1,2-Dichlorobenzene | 26.55 | 1.04 | 0.85 | 82% | 60.0 | 140.0 | pass | Primary | |
| 65) | 1,2,4-Trichlorobenzene | 29.02 | 0.94 | 0.94 | 100% | 60.0 | 140.0 | pass | Primary | |
| 66) | Hexachlorobutadiene | 29.13 | 0.99 | 1.02 | 103% | 60.0 | 140.0 | pass | Primary | |

Data Path : D:\msdchem\1\2017\DATA\072417KA_FSAA\
Data File : 072417KA03.D
InstName : HP5973K
Acq On : 24 Jul 2017 4:58 pm
Operator : LLH
Sample : S17G101-CRL1
Misc : 1.0ppbv 1729073
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Jul 25 09:10:07 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) BROMOCHLOROMETHANE | 15.313 | 49 | 343885 | 19.80 | ppbv | | 0.00 |
| 32) 1,4-DIFLUOROBENZENE | 17.308 | 114 | 1247012 | 19.60 | ppbv | | 0.00 |
| 43) CHLOROBENZENE-d5 | 22.236 | 117 | 1135588 | 19.60 | ppbv | | 0.00 |
| Target Compounds | | | | | | | Qvalue |
| 2) Propene | 4.223 | 41 | 8187 | 1.01 | ppbv | | 95 |
| 3) Dichlorodifluoromethane | 4.308 | 85 | 45649 | 1.15 | ppbv | | 98 |
| 4) 1,2-Dichlorotetrafluor... | 4.642 | 85 | 40762 | 1.06 | ppbv | | 98 |
| 5) Chloromethane | 4.849 | 50 | 11141 | 1.09 | ppbv | | 99 |
| 6) Vinyl chloride | 5.153 | 62 | 13715 | 1.07 | ppbv | | 95 |
| 7) 1,3-Butadiene | 5.239 | 54 | 9845 | 1.08 | ppbv | | 83 |
| 8) Bromomethane | 6.163 | 94 | 11303 | 1.09 | ppbv | | 97 |
| 9) Chloroethane | 6.480 | 64 | 6313 | 1.03 | ppbv | | 96 |
| 10) Bromoethene | 7.051 | 106 | 10008 | 1.02 | ppbv | | 100 |
| 11) Trichlorofluoromethane | 7.149 | 101 | 40958 | 1.08 | ppbv | | 98 |
| 12) 1,1,2-Trichloro-1,2,2-... | 8.895 | 151 | 21269 | 1.01 | ppbv | | 94 |
| 13) 1,1-Dichloroethene | 9.023 | 61 | 13685 | 0.87 | ppbv | | 99 |
| 14) Acetone | 9.722 | 43 | 16815 | 1.04 | ppbv | | 98 |
| 15) Carbon disulfide | 9.716 | 76 | 35060 | 1.09 | ppbv | | 95 |
| 16) 2-Propanol | 10.331 | 45 | 8384 | 0.78 | ppbv | | 75 |
| 17) Allyl chloride | 10.616 | 41 | 8618 | 0.84 | ppbv | | 95 |
| 18) Dichloromethane | 11.213 | 49 | 63108 | 4.82 | ppbv | | 97 |
| 19) tert-Butyl methyl ethe... | 11.858 | 73 | 22891 | 0.84 | ppbv | | 99 |
| 20) trans-1,2-Dichloroethene | 11.894 | 61 | 15716 | 1.02 | ppbv | | 100 |
| 21) Hexane | 12.411 | 57 | 11415 | 0.75 | ppbv | | 87 |
| 22) 1,1-Dichloroethane | 13.287 | 63 | 19509 | 0.93 | ppbv | | 98 |
| 23) Vinyl acetate | 13.445 | 43 | 9893 | 0.63 | ppbv | | 99 |
| 24) cis-1,2-Dichloroethene | 14.753 | 61 | 10838 | 0.81 | ppbv | | 95 |
| 25) 2-Butanone (MEK) | 14.911 | 72 | 4351 | 0.85 | ppbv | # | 93 |
| 26) Ethyl acetate | 14.918 | 61 | 2579 | 0.83 | ppbv | # | 93 |
| 27) Tetrahydrofuran | 15.319 | 42 | 11353 | 1.10 | ppbv | | 99 |
| 28) Chloroform | 15.459 | 83 | 28785 | 1.08 | ppbv | | 99 |
| 29) Cyclohexane | 15.593 | 56 | 13098 | 0.83 | ppbv | | 96 |
| 30) 1,1,1-Trichloroethane | 15.708 | 97 | 30557 | 1.04 | ppbv | | 100 |
| 31) Carbon tetrachloride | 15.934 | 117 | 31923 | 1.06 | ppbv | | 99 |
| 33) Benzene | 16.469 | 78 | 34587 | 0.91 | ppbv | | 99 |
| 34) 2,2,4-Trimethylpentane | 16.353 | 57 | 37100 | 0.72 | ppbv | | 93 |
| 35) 1,2-Dichloroethane | 16.712 | 62 | 19818 | 0.97 | ppbv | | 100 |
| 36) Heptane | 16.749 | 43 | 13897 | 0.77 | ppbv | | 98 |
| 37) Trichloroethene | 17.698 | 130 | 16100 | 0.98 | ppbv | | 96 |
| 38) 1,2-Dichloropropane | 18.239 | 63 | 11303 | 0.91 | ppbv | | 96 |
| 39) 1,4-Dioxane | 18.458 | 88 | 5118 | 0.74 | ppbv | | 95 |
| 40) Bromodichloromethane | 18.714 | 83 | 30932 | 0.98 | ppbv | | 99 |
| 41) cis-1,3-Dichloropropene | 19.480 | 75 | 13182 | 0.70 | ppbv | | 98 |
| 42) 4-Methyl-2-pentanone (... | 19.730 | 43 | 16271 | 0.72 | ppbv | | 95 |
| 44) Toluene | 19.930 | 91 | 36361 | 0.82 | ppbv | | 98 |
| 45) trans-1,3-Dichloropropene | 20.448 | 75 | 12210 | 0.67 | ppbv | | 98 |
| 46) 1,1,2-Trichloroethane | 20.758 | 97 | 15976 | 0.98 | ppbv | | 96 |
| 47) Tetrachloroethene | 20.764 | 166 | 23056 | 0.93 | ppbv | | 99 |
| 48) 2-Hexanone | 21.086 | 43 | 12931 | 0.64 | ppbv | | 92 |
| 49) Chlorodibromomethane | 21.354 | 129 | 29238 | 0.95 | ppbv | | 99 |
| 50) 1,2-Dibromoethane (EDB) | 21.585 | 107 | 20533 | 0.93 | ppbv | | 98 |
| 51) Chlorobenzene | 22.279 | 112 | 39422 | 1.02 | ppbv | # | 77 |
| 52) Ethylbenzene | 22.364 | 91 | 57070 | 0.88 | ppbv | | 100 |
| 53) m&p-Xylene | 22.546 | 91 | 86423 | 1.72 | ppbv | | 98 |
| 54) o-Xylene | 23.197 | 91 | 32685 | 0.68 | ppbv | | 99 |

Data Path : D:\msdchem\1\2017\DATA\072417KA_FSAA\
Data File : 072417KA03.D
InstName : HP5973K
Acq On : 24 Jul 2017 4:58 pm
Operator : LLH
Sample : S17G101-CRL1
Misc : 1.0ppbv 1729073
ALS Vial : 31 Sample Multiplier: 1

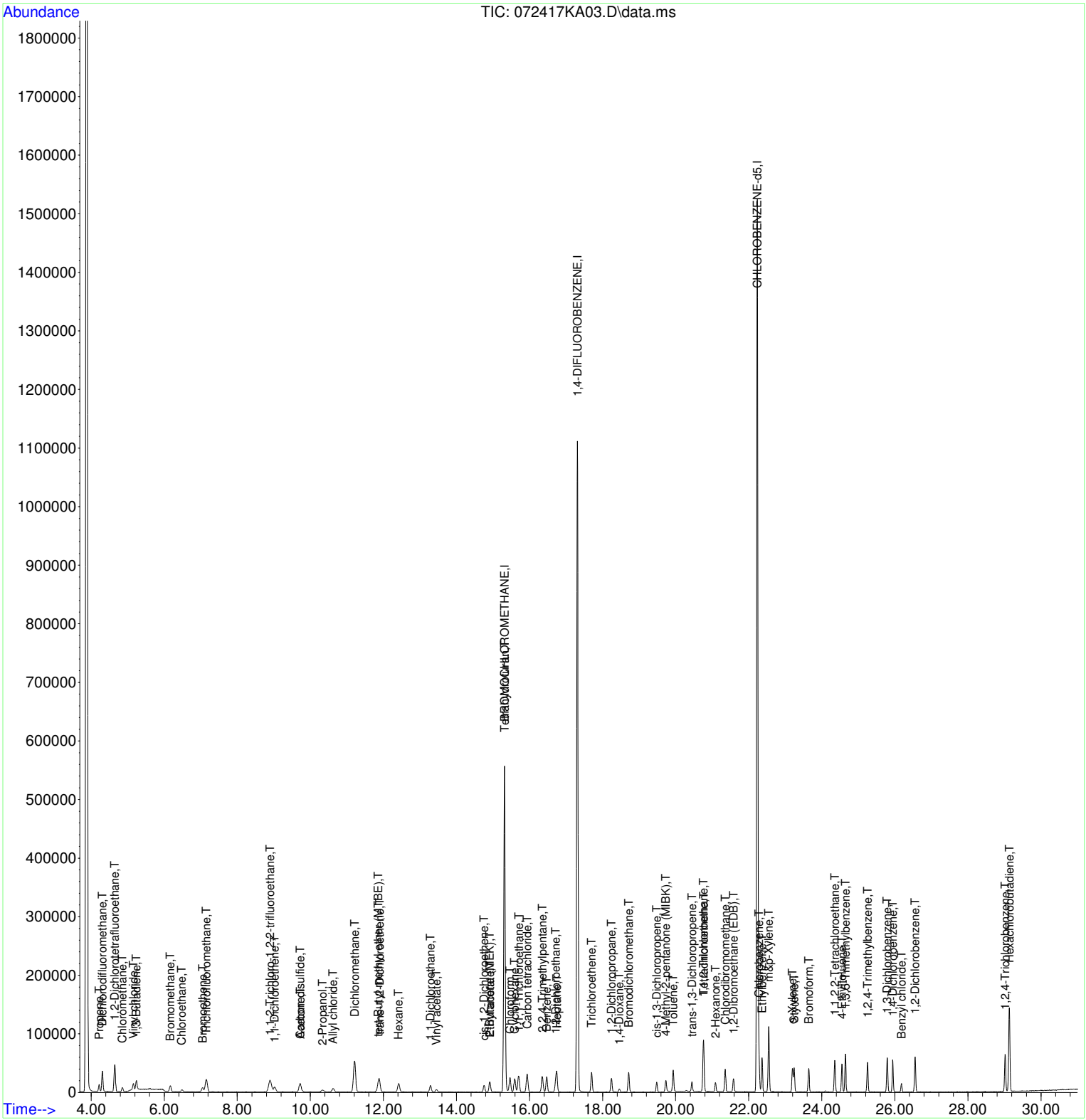
Quant Time: Jul 25 09:10:07 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 55) Styrene | 23.240 | 104 | 27723 | 0.72 ppbv | 100 |
| 56) Bromoform | 23.641 | 173 | 26786 | 0.88 ppbv | 99 |
| 57) 1,1,2,2-Tetrachloroethane | 24.353 | 83 | 32817 | 0.90 ppbv | 96 |
| 58) 4-Ethyltoluene | 24.554 | 105 | 41559 | 0.61 ppbv | 99 |
| 59) 1,3,5-Trimethylbenzene | 24.645 | 105 | 48828 | 0.80 ppbv | 99 |
| 60) 1,2,4-Trimethylbenzene | 25.254 | 105 | 37944 | 0.66 ppbv | 100 |
| 61) 1,3-Dichlorobenzene | 25.789 | 146 | 34731 | 0.86 ppbv | 98 |
| 62) 1,4-Dichlorobenzene | 25.947 | 146 | 31402 | 0.81 ppbv | 99 |
| 63) Benzyl chloride | 26.178 | 91 | 15799 | 0.47 ppbv | 99 |
| 64) 1,2-Dichlorobenzene | 26.549 | 146 | 34554 | 0.85 ppbv | 97 |
| 65) 1,2,4-Trichlorobenzene | 29.019 | 180 | 28480 | 0.94 ppbv | 100 |
| 66) Hexachlorobutadiene | 29.135 | 225 | 43995 | 1.02 ppbv | 98 |

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

Data Path : D:\msdchem\1\2017\DATA\072417KA_FSAA\
Data File : 072417KA03.D
InstName : HP5973K
Acq On : 24 Jul 2017 4:58 pm
Operator : LLH
Sample : S17G101-CRL1
Misc : 1.0ppbv 1729073
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Jul 25 09:10:07 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration



# B17G093-BLK1

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2017\DATA\072417KA_FSAA\
Data File : 072417KA04.D
InstName : HP5973K
Acq On : 24 Jul 2017 5:49 pm
Operator : LLH
Sample : B17G093-BLK1
Misc : 200ml BLANK CAN #03 - Nitrogen
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Jul 25 09:12:32 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) BROMOCHLOROMETHANE | 15.313 | 49 | 326823 | 19.80 | ppbv | 0.00 |
| 32) 1,4-DIFLUOROBENZENE | 17.308 | 114 | 1205367 | 19.60 | ppbv | 0.00 |
| 43) CHLOROBENZENE-d5 | 22.236 | 117 | 1097778 | 19.60 | ppbv | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 18) Dichloromethane | 11.207 | 49 | 52009 | 4.18 | ppbv | 99 |

NT

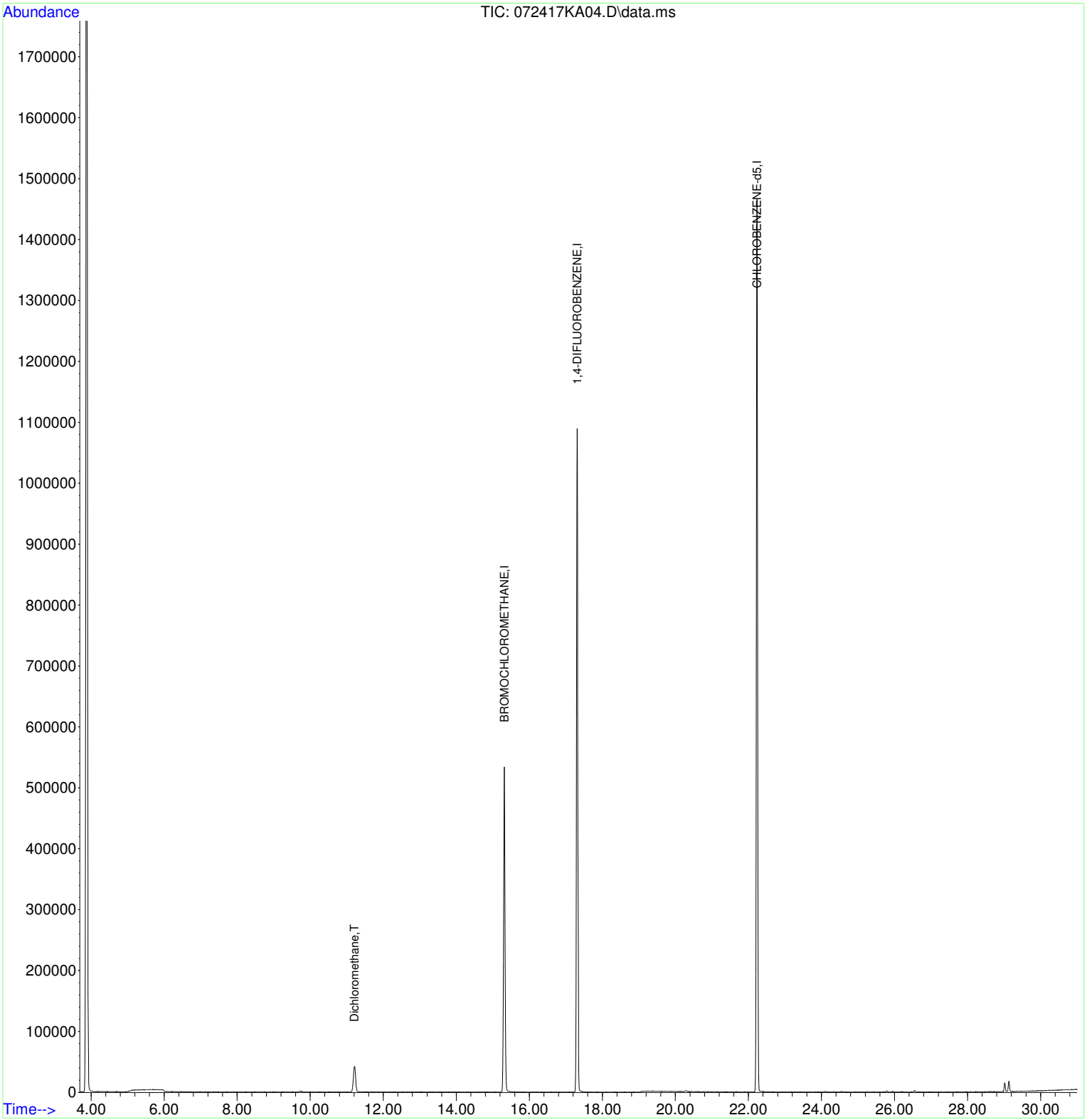
(#) = qualifier out of range (m) = manual integration (+) = signals summed

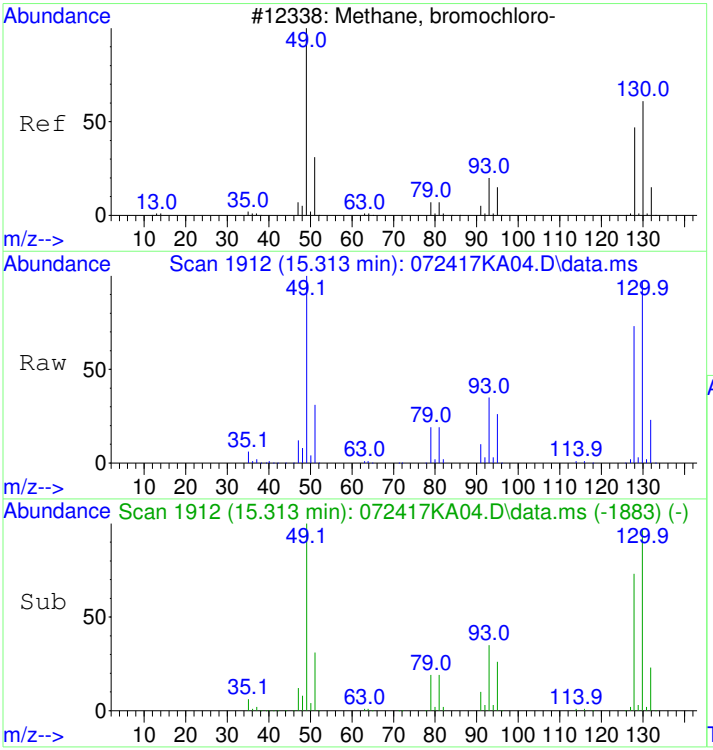
**REVIEWED**
**By LLH at 9:12 am, Jul 25, 2017**

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\072417KA_FSAA\
Data File : 072417KA04.D
InstName : HP5973K
Acq On : 24 Jul 2017 5:49 pm
Operator : LLH
Sample : B17G093-BLK1
Misc : 200ml BLANK CAN #03 - Nitrogen
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Jul 25 09:12:32 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

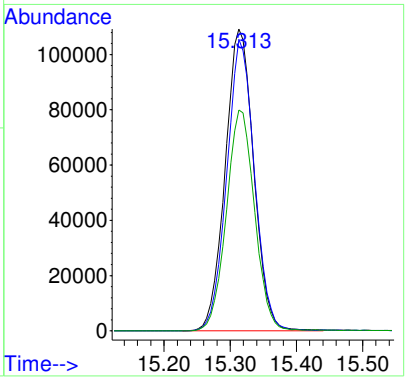


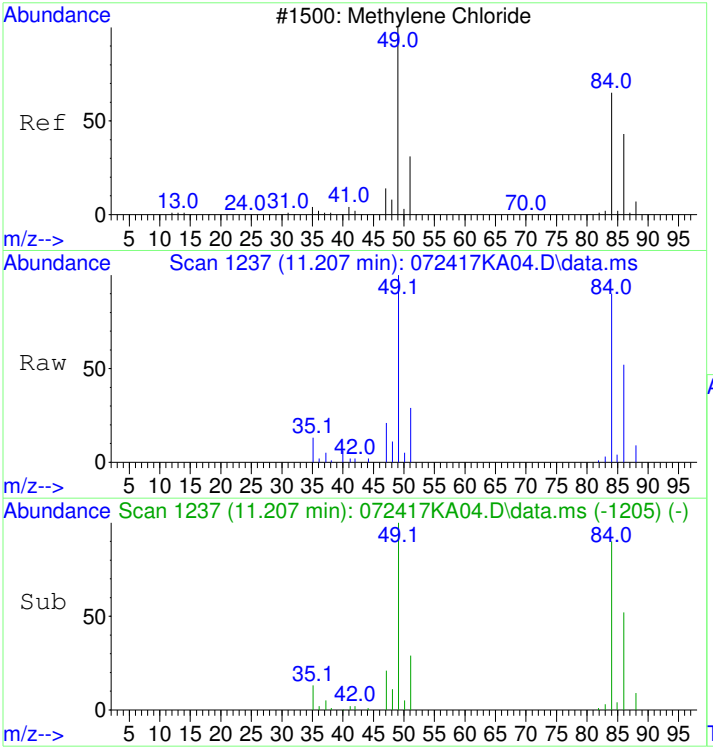



#1
BROMOCHLOROMETHANE
Concen: 19.80 ppbv
RT: 15.313 min Scan# 1912
Delta R.T. -0.000 min
Lab File: 072417KA04.D
Acq: 24 Jul 2017 5:49 pm

Tgt Ion: 49 Resp: 326823

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 130 | 93.4 | 67.2 | 107.2 |
| 128 | 72.4 | 47.6 | 87.6 |

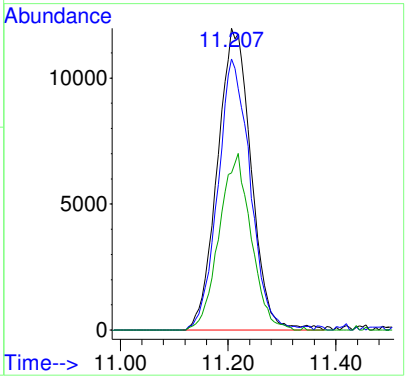


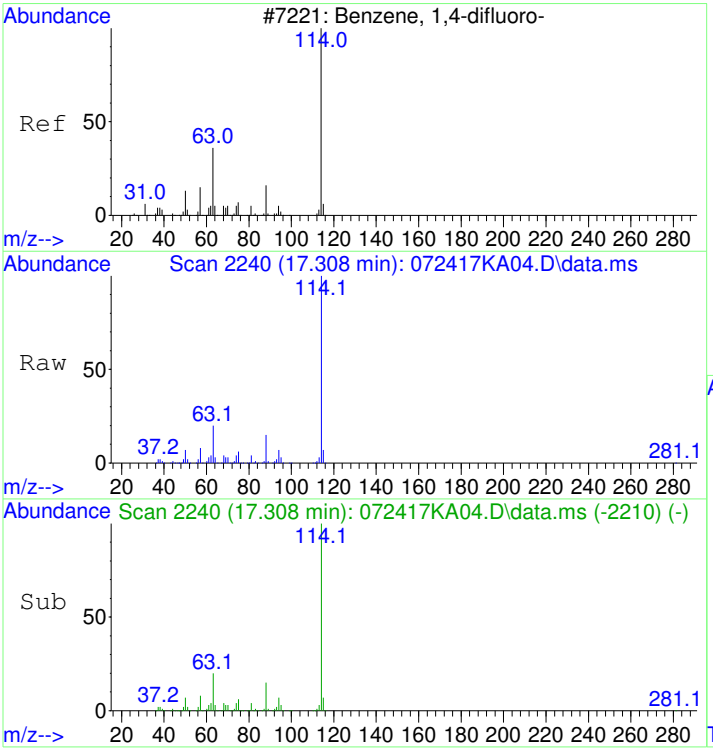




#18
Dichloromethane
Concen: 4.18 ppbv
RT: 11.207 min Scan# 1237
Delta R.T. -0.006 min
Lab File: 072417KA04.D
Acq: 24 Jul 2017 5:49 pm

Tgt Ion: 49 Resp: 52009

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 84 | 86.3 | 66.5 | 106.5 |
| 86 | 55.2 | 34.5 | 74.5 |

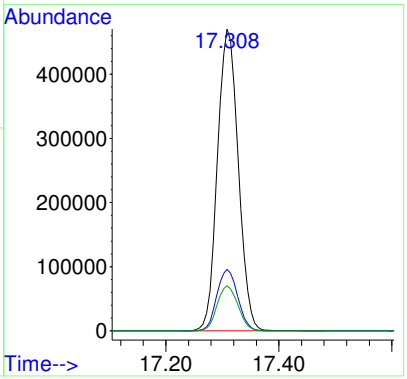


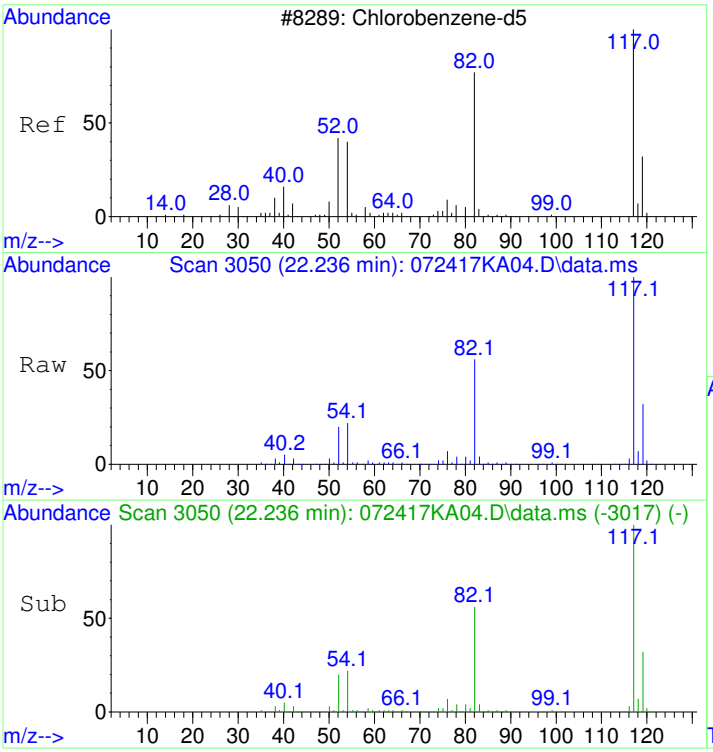



#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 17.308 min Scan# 2240
Delta R.T. -0.000 min
Lab File: 072417KA04.D
Acq: 24 Jul 2017 5:49 pm

Tgt Ion:114 Resp: 1205367

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 114 | 100 | | |
| 63 | 20.4 | 0.8 | 40.8 |
| 88 | 15.0 | 0.0 | 35.1 |

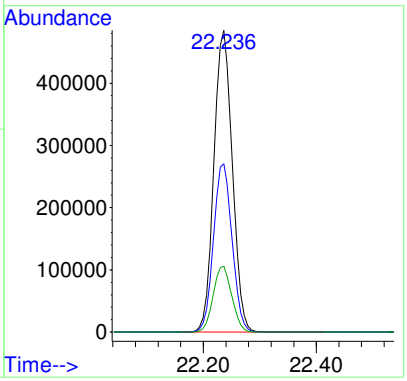



#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 22.236 min Scan# 3050
Delta R.T. -0.000 min
Lab File: 072417KA04.D
Acq: 24 Jul 2017 5:49 pm

Tgt Ion:117 Resp: 1097778

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 117 | 100 | | |
| 82 | 56.1 | 36.2 | 76.2 |
| 54 | 22.0 | 2.0 | 42.0 |



# 1707040-01RE1

Quantitation Report (Not Reviewed)

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\072417KA_FSAA\
Data File : 072417KA07.D
InstName : HP5973K
Acq On : 24 Jul 2017 8:18 pm
Operator : LLH
Sample : 1707040-01RE1
Misc : 20ml 2ND CAN #874
ALS Vial : 16 Sample Multiplier: 188.42

report trans/cis12DCE

rerun 20ml 2nd can repress

Quant Time: Jul 25 09:15:16 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) | |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) BROMOCHLOROMETHANE | 15.313 | 49 | 329596 | 19.80 | ppbv | 0.00 | |
| 32) 1,4-DIFLUOROBENZENE | 17.309 | 114 | 1193568 | 19.60 | ppbv | 0.00 | |
| 43) CHLOROBENZENE-d5 | 22.236 | 117 | 1076871 | 19.60 | ppbv | 0.00 | |
| Target Compounds | | | | | | Qvalue | |
| 18) Dichloromethane | 11.213 | 49 | 51473 | 4.11 | ppbv | 96 | NT |
| 20) trans-1,2-Dichloroethene | 11.900 | 61 | 22663 | 1.54 | ppbv | 95 | |
| 24) cis-1,2-Dichloroethene | 14.766 | 61 | 41611 | 3.25 | ppbv | 97 | |
| 37) Trichloroethene | 17.704 | 130 | 630480 | 39.89 | ppbv | 100 | OC |

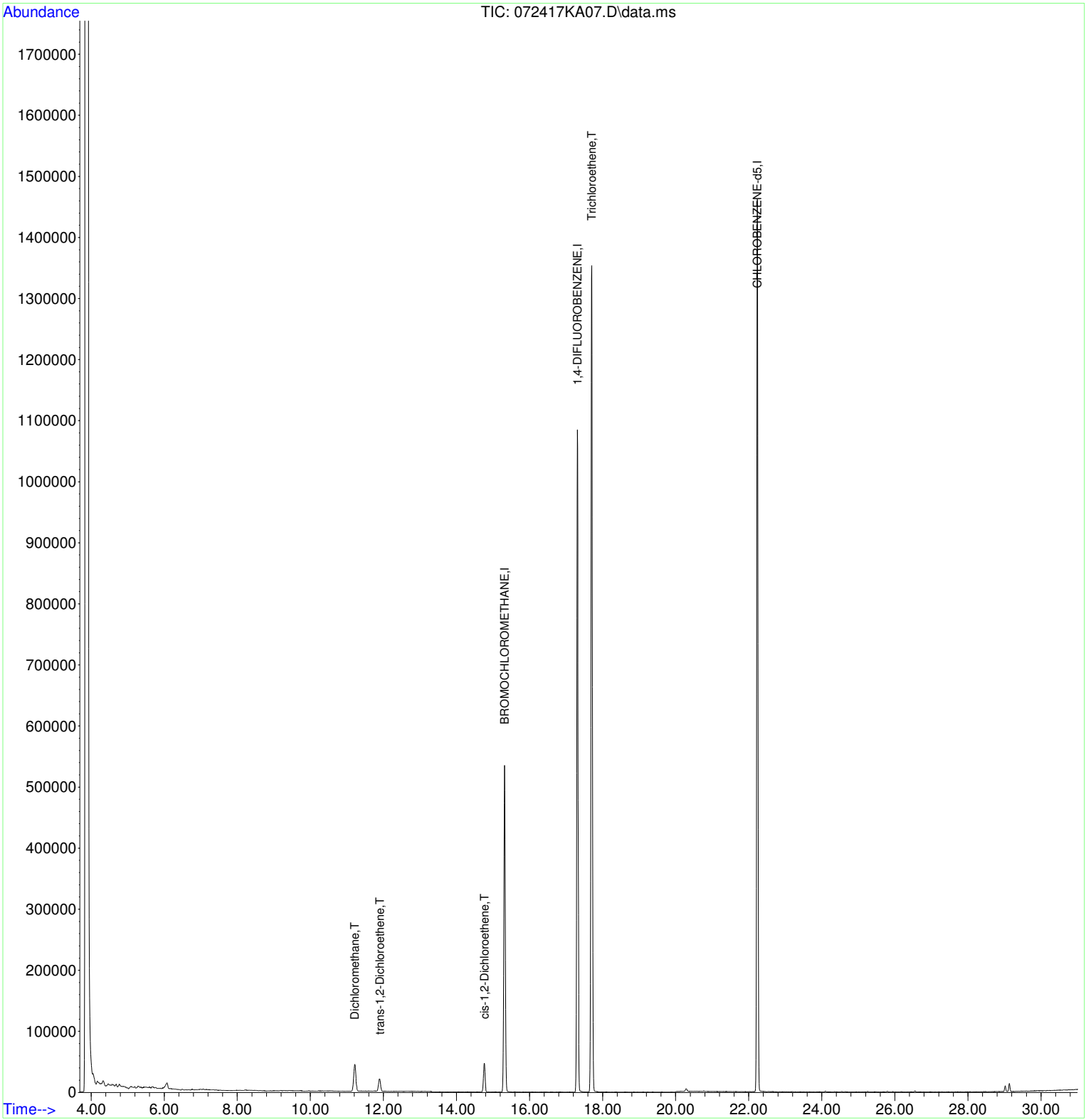
(#) = qualifier out of range (m) = manual integration (+) = signals summed

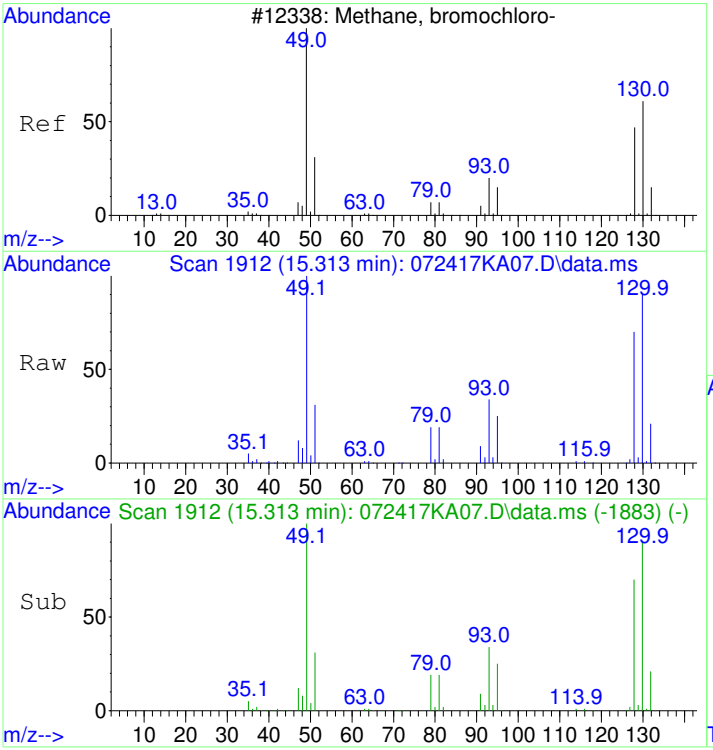
**REVIEWED**
***By LLH at 9:57 am, Jul 25, 2017***

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\072417KA_FSAA\
Data File : 072417KA07.D
InstName : HP5973K
Acq On : 24 Jul 2017 8:18 pm
Operator : LLH
Sample : 1707040-01RE1
Misc : 20ml 2ND CAN #874
ALS Vial : 16 Sample Multiplier: 188.42

Quant Time: Jul 25 09:15:16 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

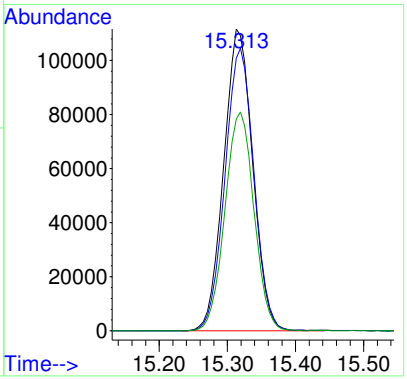


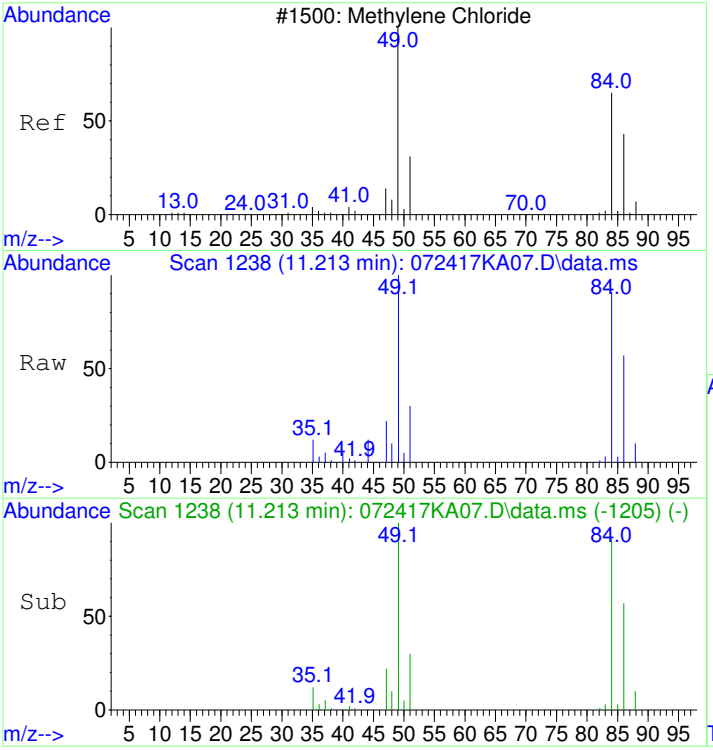



#1
BROMOCHLOROMETHANE
Concen: 19.80 ppbv
RT: 15.313 min Scan# 1912
Delta R.T. 0.000 min
Lab File: 072417KA07.D
Acq: 24 Jul 2017 8:18 pm

Tgt Ion: 49 Resp: 329596

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 130 | 93.5 | 67.2 | 107.2 |
| 128 | 72.6 | 47.6 | 87.6 |

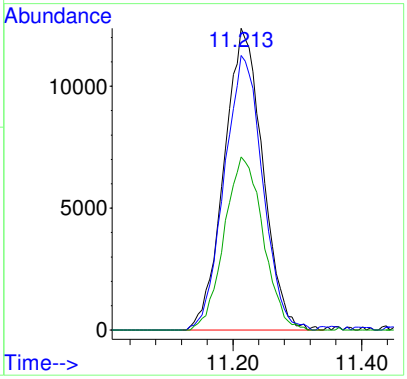


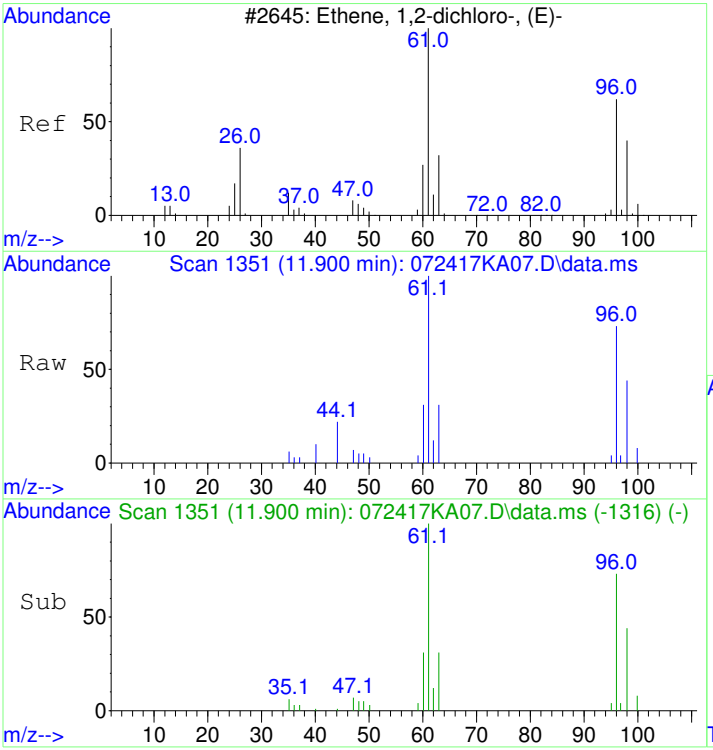




#18
Dichloromethane
Concen: 4.11 ppbv
RT: 11.213 min Scan# 1238
Delta R.T. -0.000 min
Lab File: 072417KA07.D
Acq: 24 Jul 2017 8:18 pm

Tgt Ion: 49 Resp: 51473

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 84 | 90.3 | 66.5 | 106.5 |
| 86 | 57.7 | 34.5 | 74.5 |

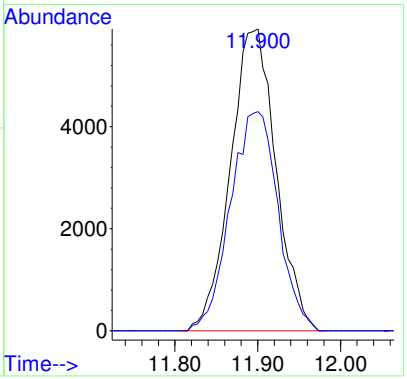


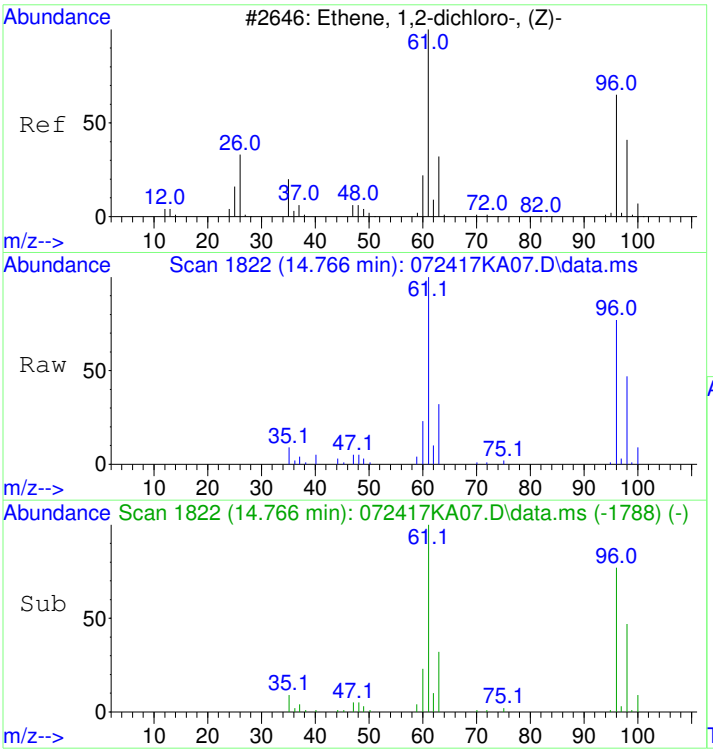



#20
trans-1,2-Dichloroethene
Concen: 1.54 ppbv
RT: 11.900 min Scan# 1351
Delta R.T. 0.012 min
Lab File: 072417KA07.D
Acq: 24 Jul 2017 8:18 pm

Tgt Ion: 61 Resp: 22663

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 61 | 100 | | |
| 96 | 75.8 | 51.3 | 91.3 |

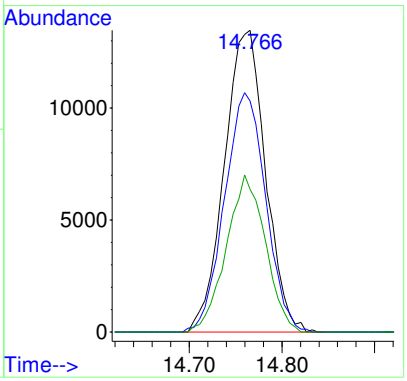


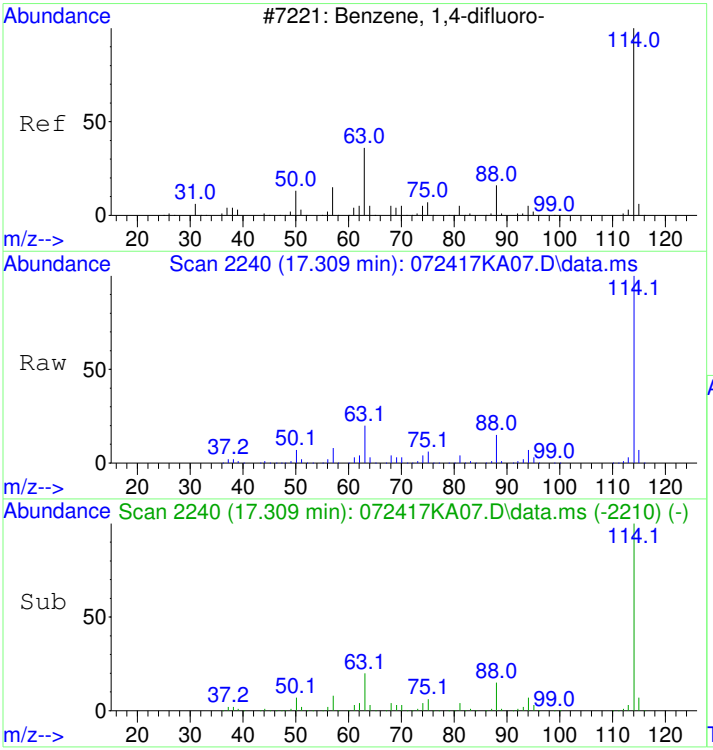




#24
cis-1,2-Dichloroethene
Concen: 3.25 ppbv
RT: 14.766 min Scan# 1822
Delta R.T. 0.006 min
Lab File: 072417KA07.D
Acq: 24 Jul 2017 8:18 pm

Tgt Ion: 61 Resp: 41611

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 61 | 100 | | |
| 96 | 79.3 | 56.2 | 96.2 |
| 98 | 49.3 | 27.8 | 67.8 |

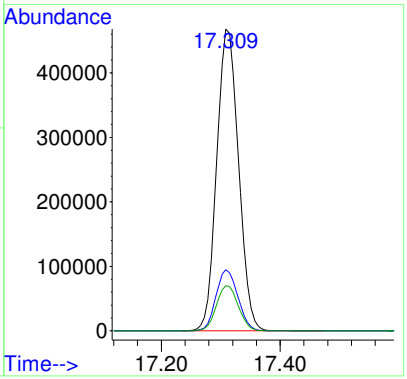


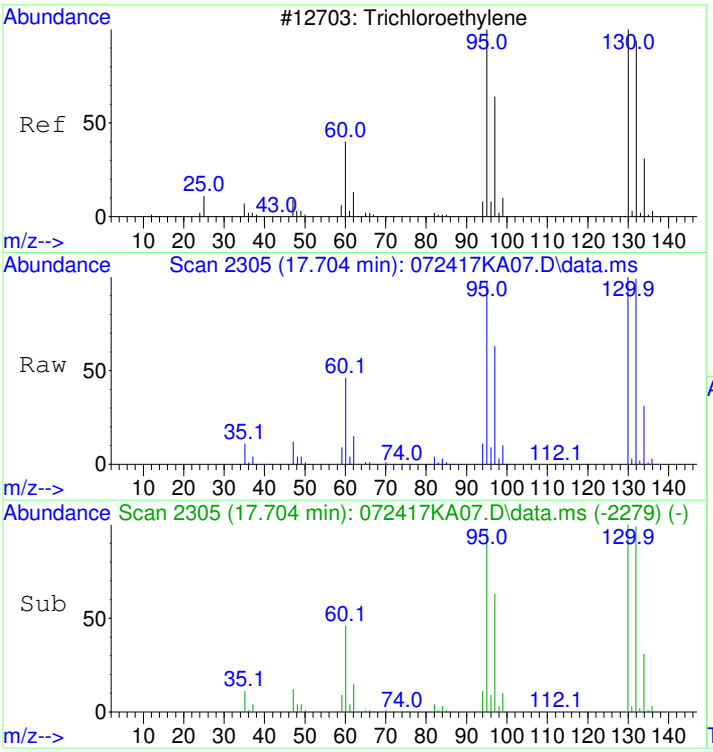



#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 17.309 min Scan# 2240
Delta R.T. -0.000 min
Lab File: 072417KA07.D
Acq: 24 Jul 2017 8:18 pm

Tgt Ion:114 Resp: 1193568

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 114 | 100 | | |
| 63 | 20.2 | 0.8 | 40.8 |
| 88 | 15.0 | 0.0 | 35.1 |

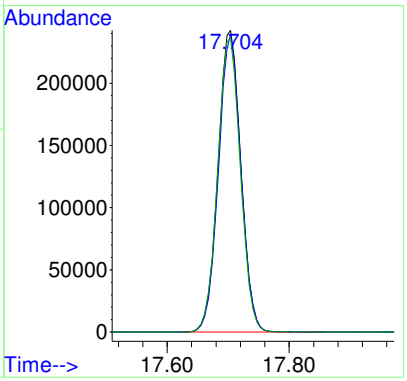


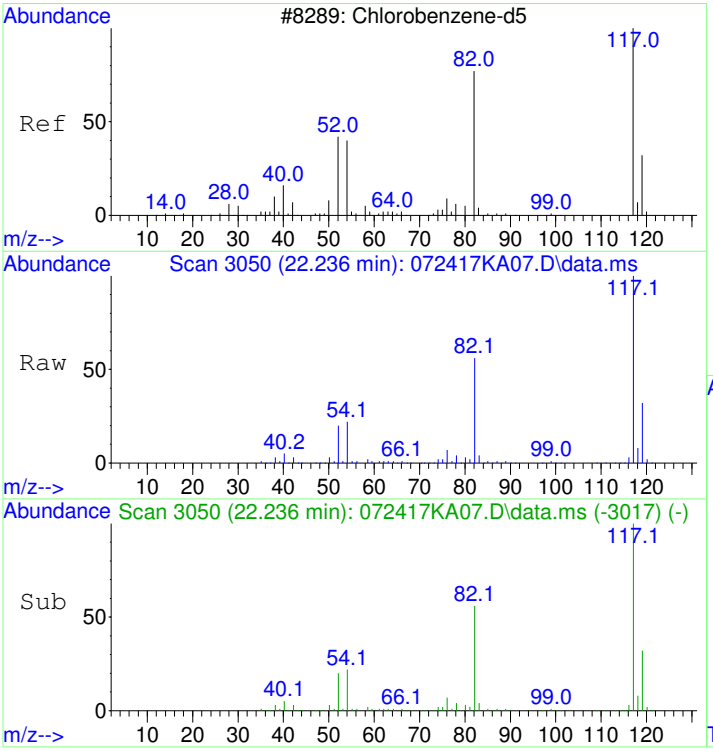




#37
Trichloroethene
Concen: 39.89 ppbv
RT: 17.704 min Scan# 2305
Delta R.T. 0.006 min
Lab File: 072417KA07.D
Acq: 24 Jul 2017 8:18 pm

Tgt Ion:130 Resp: 630480

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 130 | 100 | | |
| 132 | 97.1 | 77.0 | 117.0 |
| 95 | 97.4 | 78.3 | 118.3 |

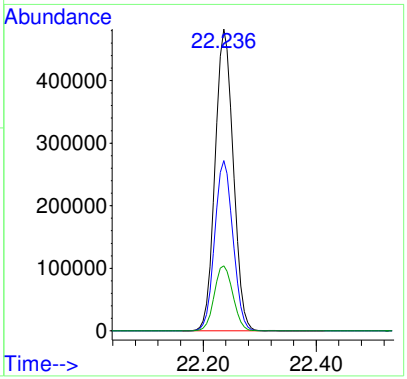





#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 22.236 min Scan# 3050
Delta R.T. -0.000 min
Lab File: 072417KA07.D
Acq: 24 Jul 2017 8:18 pm

Tgt Ion:117 Resp: 1076871

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 117 | 100 | | |
| 82 | 56.6 | 36.2 | 76.2 |
| 54 | 22.1 | 2.0 | 42.0 |



# 1707040-02RE1

Data Path : D:\msdchem\1\2017\DATA\072417KA_FSAA\
Data File : 072417KA08.D
InstName : HP5973K
Acq On : 24 Jul 2017 9:07 pm
Operator : LLH
Sample : 1707040-02RE1
Misc : 20ml 2ND CAN #877
ALS Vial : 17 Sample Multiplier: 251.66

report TCE
rerun 200ml 2nd can for trans12DCE

Quant Time: Jul 25 09:16:47 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) BROMOCHLOROMETHANE | 15.313 | 49 | 324447 | 19.80 | ppbv | 0.00 |
| 32) 1,4-DIFLUOROBENZENE | 17.308 | 114 | 1201100 | 19.60 | ppbv | 0.00 |
| 43) CHLOROBENZENE-d5 | 22.236 | 117 | 1095503 | 19.60 | ppbv | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 18) Dichloromethane | 11.213 | 49 | 52440 | 4.25 | ppbv | 96 NT |
| 37) Trichloroethene | 17.698 | 130 | 242058 | 15.22 | ppbv | 99 |

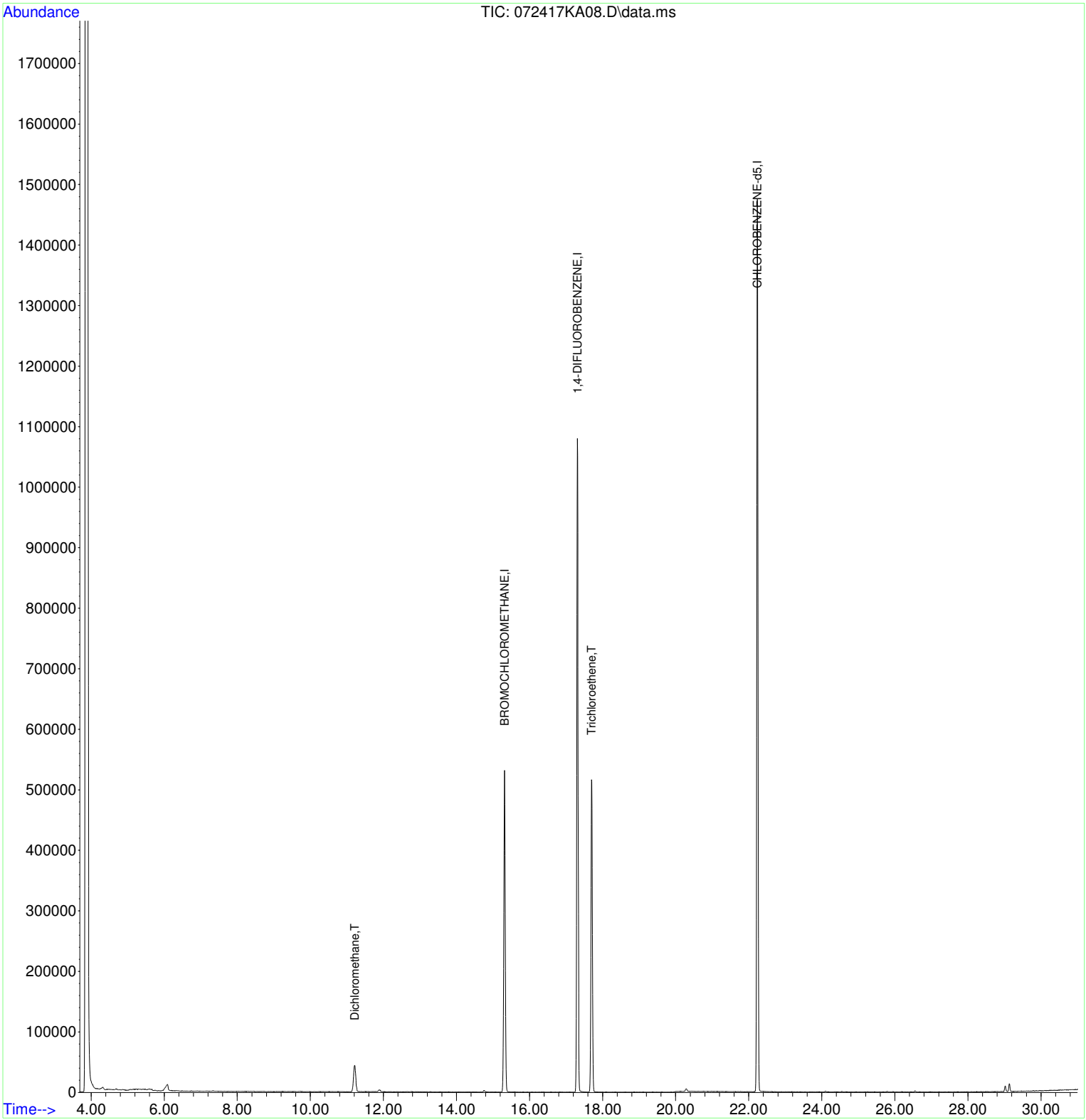
(#) = qualifier out of range (m) = manual integration (+) = signals summed

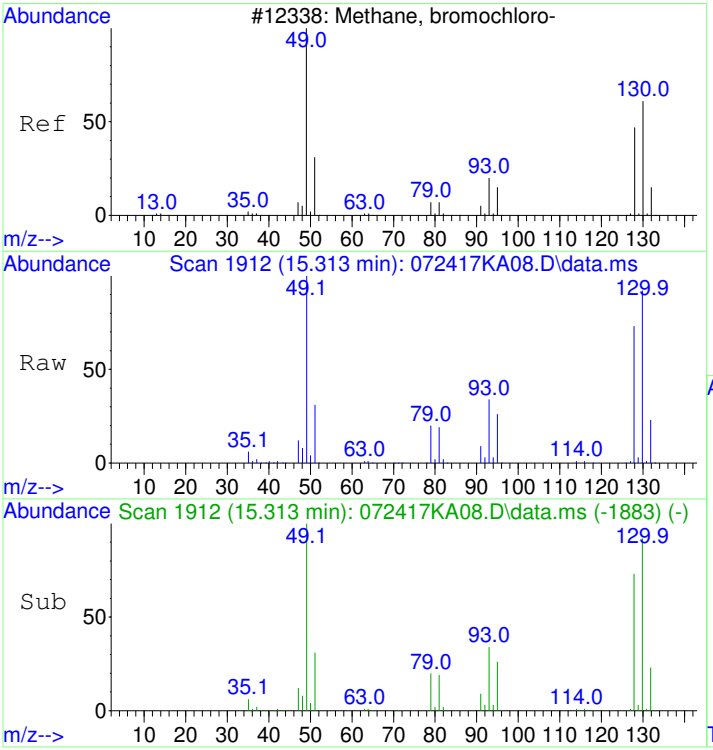
**REVIEWED**
***By LLH at 9:58 am, Jul 25, 2017***

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\072417KA_FSAA\
Data File : 072417KA08.D
InstName : HP5973K
Acq On : 24 Jul 2017 9:07 pm
Operator : LLH
Sample : 1707040-02RE1
Misc : 20ml 2ND CAN #877
ALS Vial : 17 Sample Multiplier: 251.66

Quant Time: Jul 25 09:16:47 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

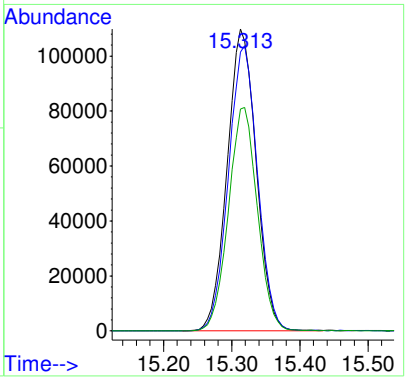


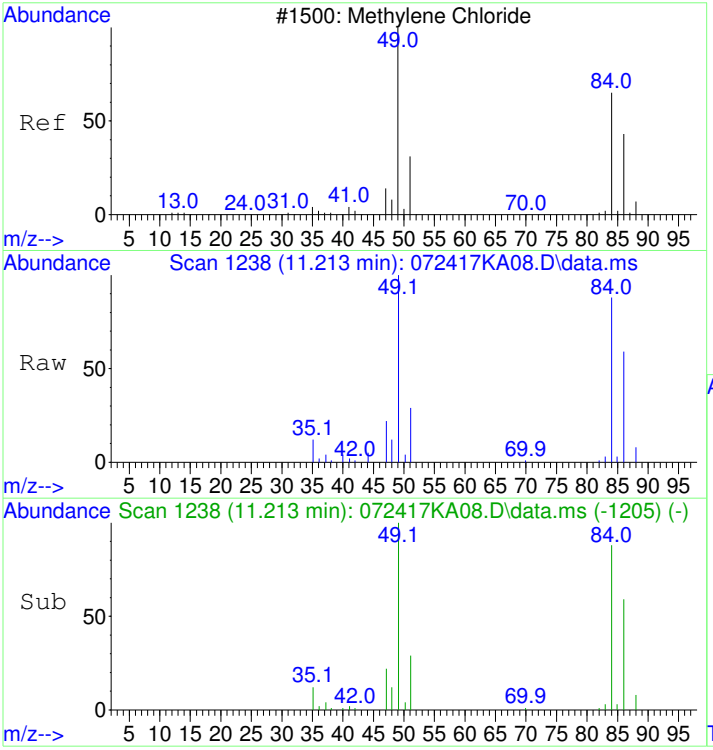



#1
BROMOCHLOROMETHANE
Concen: 19.80 ppbv
RT: 15.313 min Scan# 1912
Delta R.T. -0.000 min
Lab File: 072417KA08.D
Acq: 24 Jul 2017 9:07 pm

Tgt Ion: 49 Resp: 324447

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 130 | 94.5 | 67.2 | 107.2 |
| 128 | 73.6 | 47.6 | 87.6 |

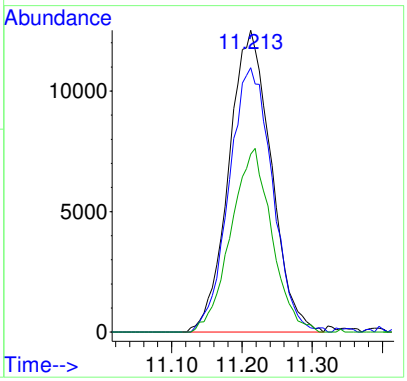


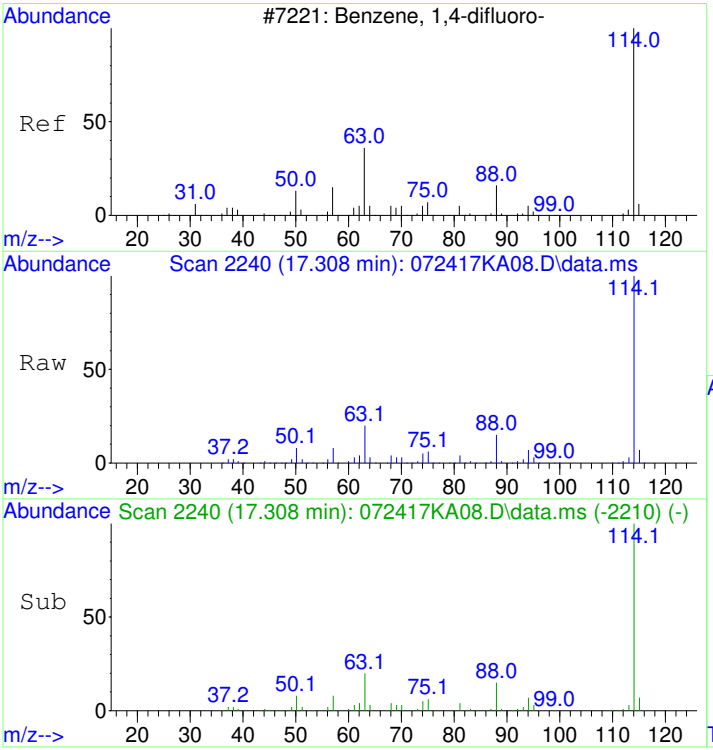




#18
Dichloromethane
Concen: 4.25 ppbv
RT: 11.213 min Scan# 1238
Delta R.T. -0.000 min
Lab File: 072417KA08.D
Acq: 24 Jul 2017 9:07 pm

Tgt Ion: 49 Resp: 52440

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 84 | 89.6 | 66.5 | 106.5 |
| 86 | 58.9 | 34.5 | 74.5 |

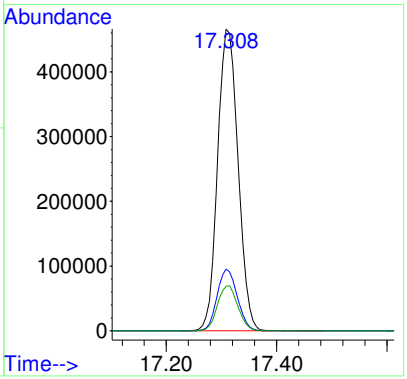


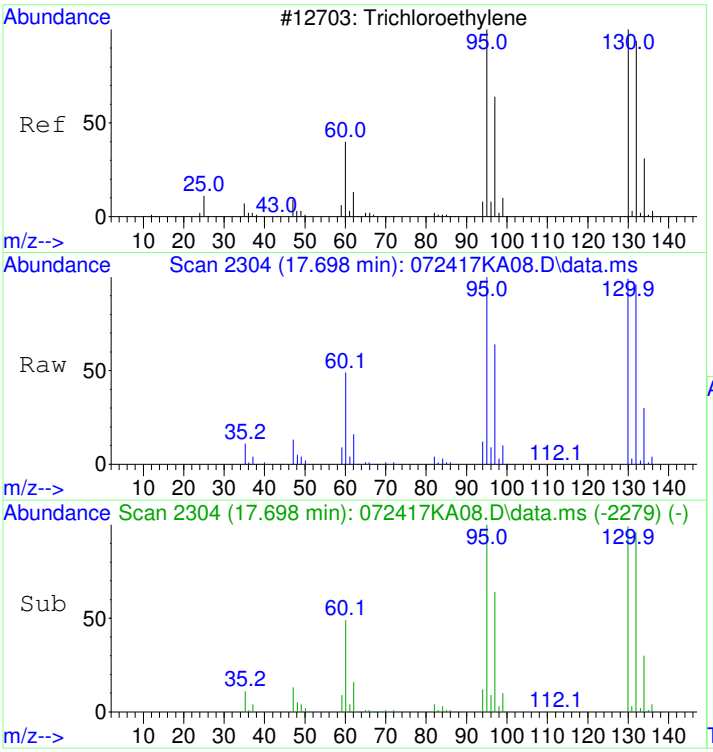



#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 17.308 min Scan# 2240
Delta R.T. -0.000 min
Lab File: 072417KA08.D
Acq: 24 Jul 2017 9:07 pm

Tgt Ion:114 Resp: 1201100

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 114 | 100 | | |
| 63 | 20.2 | 0.8 | 40.8 |
| 88 | 14.9 | 0.0 | 35.1 |

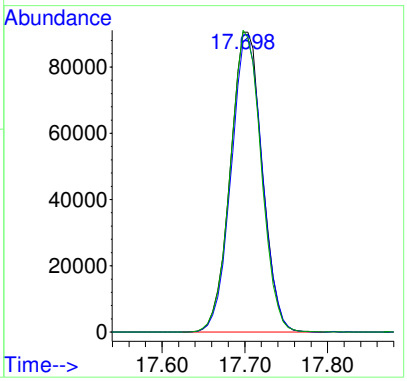


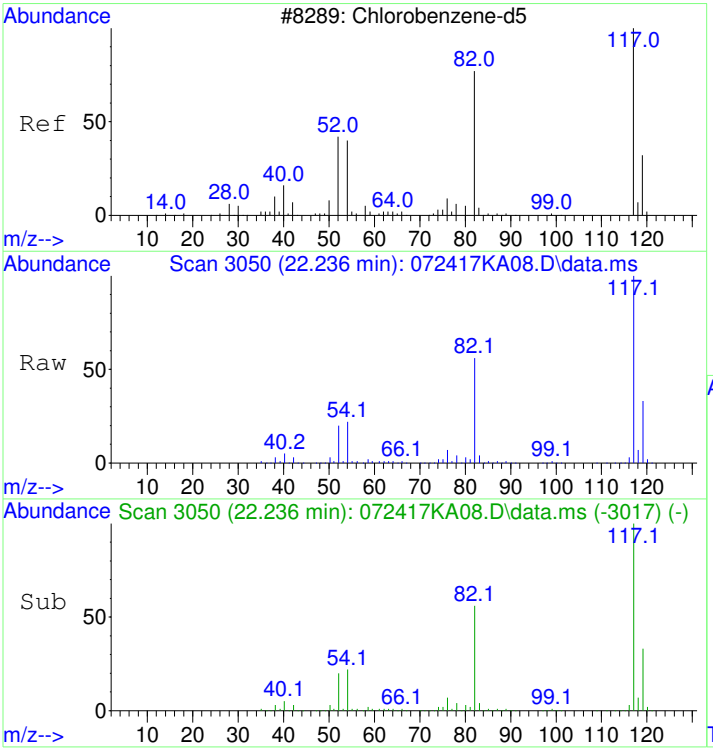




#37
Trichloroethene
Concen: 15.22 ppbv
RT: 17.698 min Scan# 2304
Delta R.T. -0.000 min
Lab File: 072417KA08.D
Acq: 24 Jul 2017 9:07 pm

Tgt Ion:130 Resp: 242058

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 130 | 100 | | |
| 132 | 96.4 | 77.0 | 117.0 |
| 95 | 97.5 | 78.3 | 118.3 |

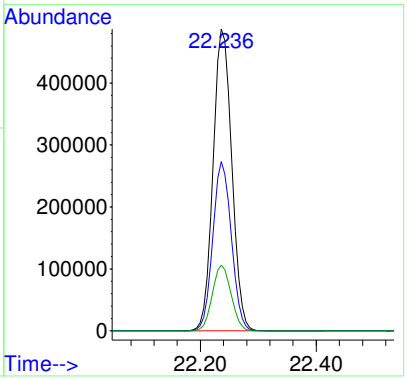





#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 22.236 min Scan# 3050
Delta R.T. -0.000 min
Lab File: 072417KA08.D
Acq: 24 Jul 2017 9:07 pm

Tgt Ion:117 Resp: 1095503

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 117 | 100 | | |
| 82 | 55.6 | 36.2 | 76.2 |
| 54 | 21.8 | 2.0 | 42.0 |



# 1707040-03RE1

Data Path : D:\msdchem\1\2017\DATA\072417KA_FSAA\
Data File : 072417KA09.D
InstName : HP5973K
Acq On : 24 Jul 2017 9:57 pm
Operator : LLH
Sample : 1707040-03RE1
Misc : 20ml 2ND CAN #1087
ALS Vial : 18 Sample Multiplier: 278.46

report TCE

rerun 200ml 2nd can for trans/cis12DCE

Quant Time: Jul 25 09:18:28 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) BROMOCHLOROMETHANE | 15.319 | 49 | 324101 | 19.80 | ppbv | 0.00 |
| 32) 1,4-DIFLUOROBENZENE | 17.315 | 114 | 1205695 | 19.60 | ppbv | 0.00 |
| 43) CHLOROBENZENE-d5 | 22.236 | 117 | 1097593 | 19.60 | ppbv | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 18) Dichloromethane | 11.213 | 49 | 54115 | 4.39 | ppbv | 98 NT |
| 37) Trichloroethene | 17.704 | 130 | 213279 | 13.36 | ppbv | 99 |

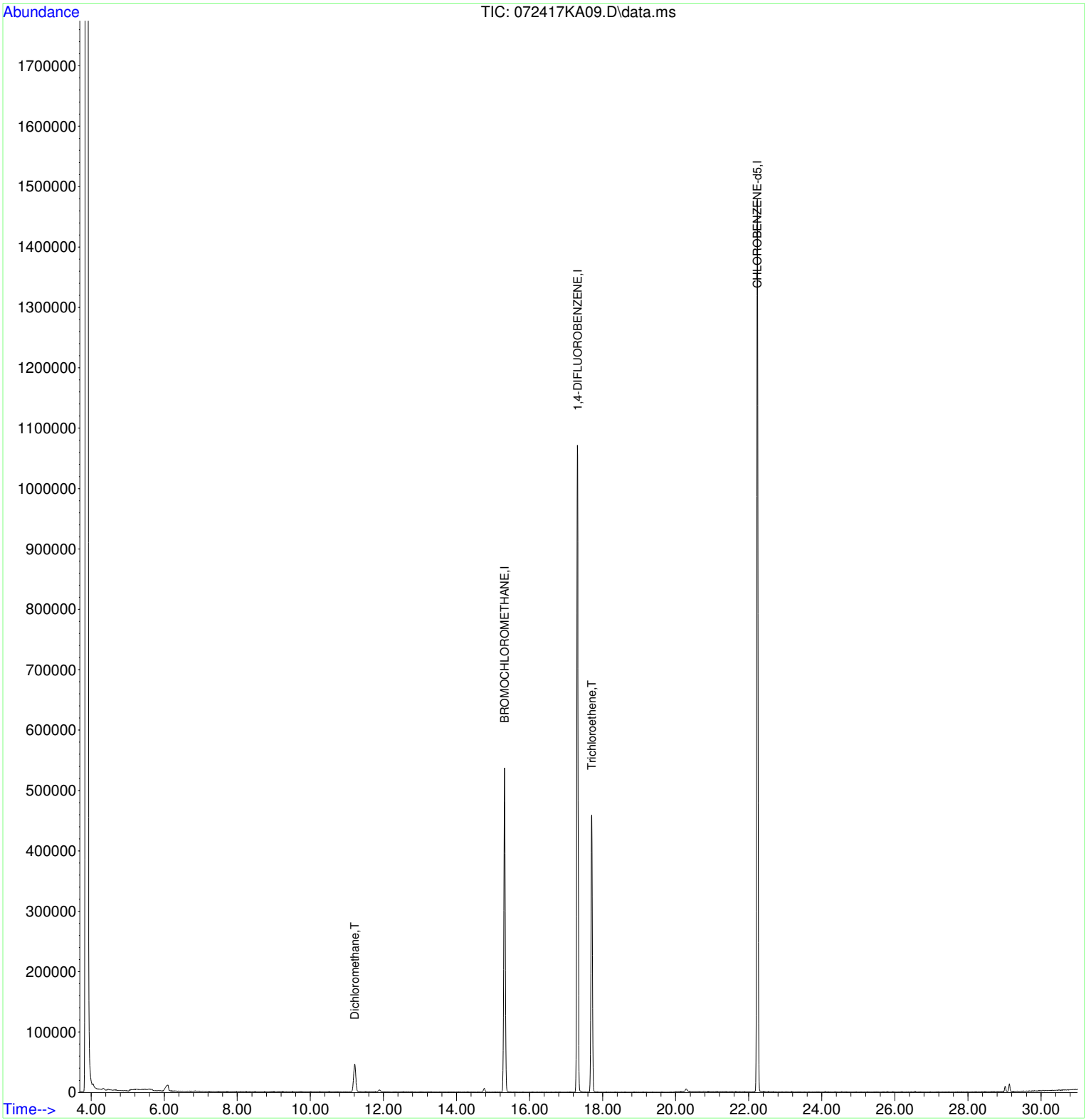
(#) = qualifier out of range (m) = manual integration (+) = signals summed

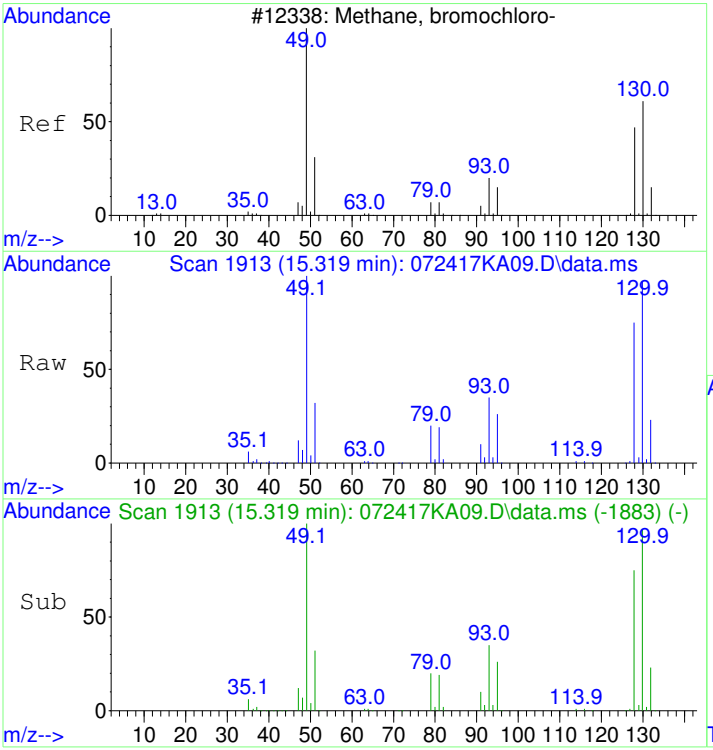
**REVIEWED**
**By LLH at 9:58 am, Jul 25, 2017**

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\072417KA_FSAA\
Data File : 072417KA09.D
InstName : HP5973K
Acq On : 24 Jul 2017 9:57 pm
Operator : LLH
Sample : 1707040-03RE1
Misc : 20ml 2ND CAN #1087
ALS Vial : 18 Sample Multiplier: 278.46

Quant Time: Jul 25 09:18:28 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

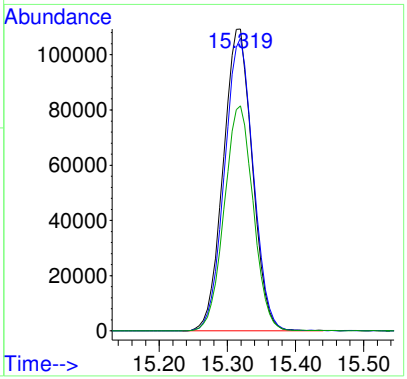


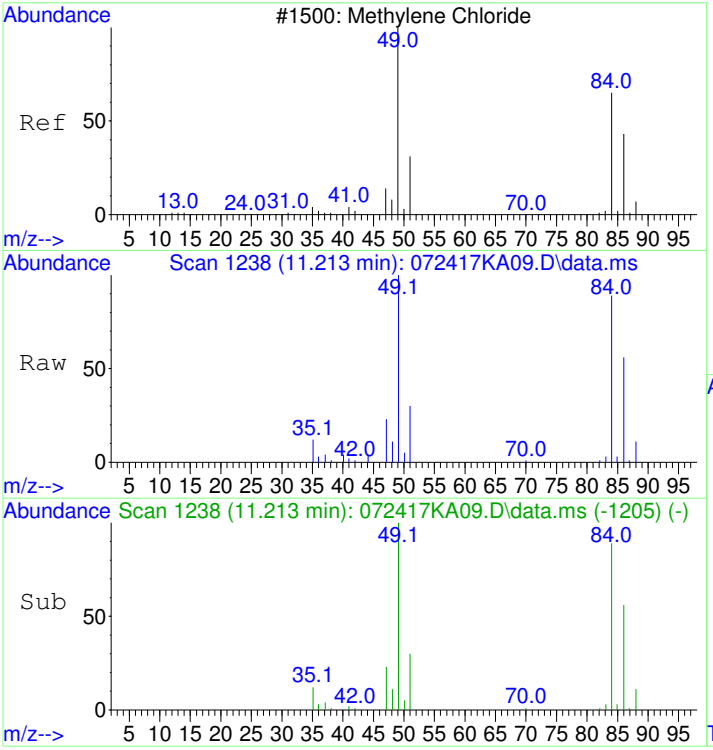



#1
BROMOCHLOROMETHANE
Concen: 19.80 ppbv
RT: 15.319 min Scan# 1913
Delta R.T. 0.006 min
Lab File: 072417KA09.D
Acq: 24 Jul 2017 9:57 pm

Tgt Ion: 49 Resp: 324101

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 130 | 95.6 | 67.2 | 107.2 |
| 128 | 74.2 | 47.6 | 87.6 |

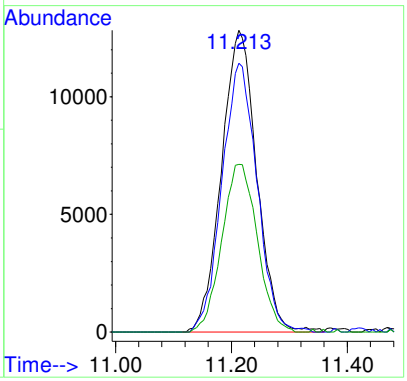


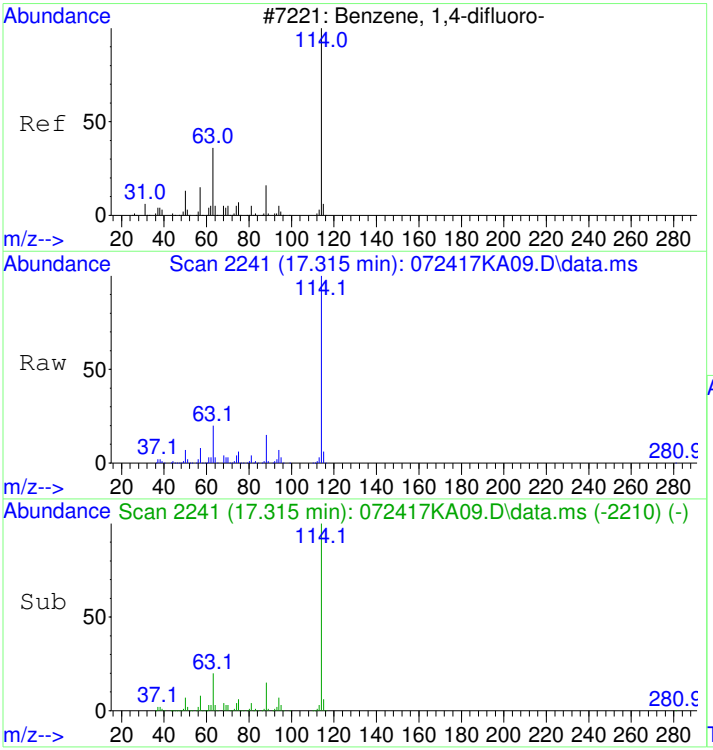




#18
Dichloromethane
Concen: 4.39 ppbv
RT: 11.213 min Scan# 1238
Delta R.T. -0.000 min
Lab File: 072417KA09.D
Acq: 24 Jul 2017 9:57 pm

Tgt Ion: 49 Resp: 54115

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 84 | 88.9 | 66.5 | 106.5 |
| 86 | 56.1 | 34.5 | 74.5 |

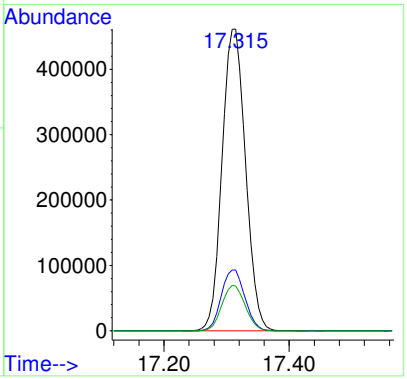


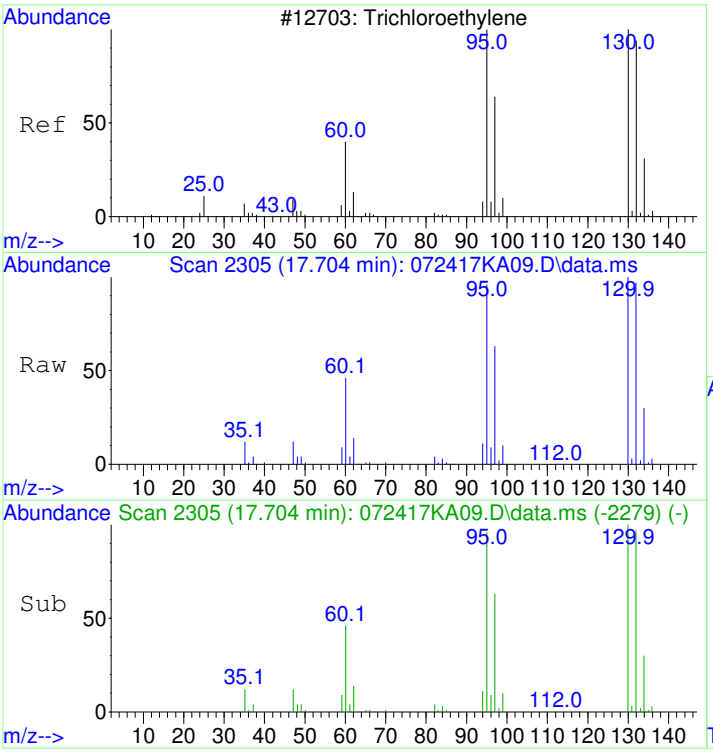



#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 17.315 min Scan# 2241
Delta R.T. 0.006 min
Lab File: 072417KA09.D
Acq: 24 Jul 2017 9:57 pm

Tgt Ion:114 Resp: 1205695

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 114 | 100 | | |
| 63 | 20.3 | 0.8 | 40.8 |
| 88 | 14.9 | 0.0 | 35.1 |

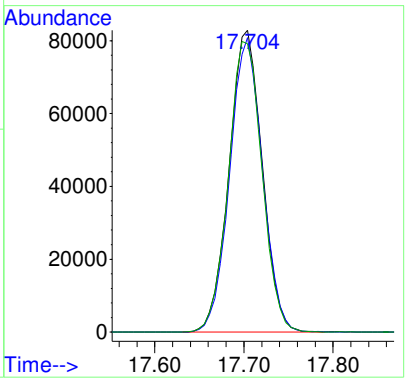


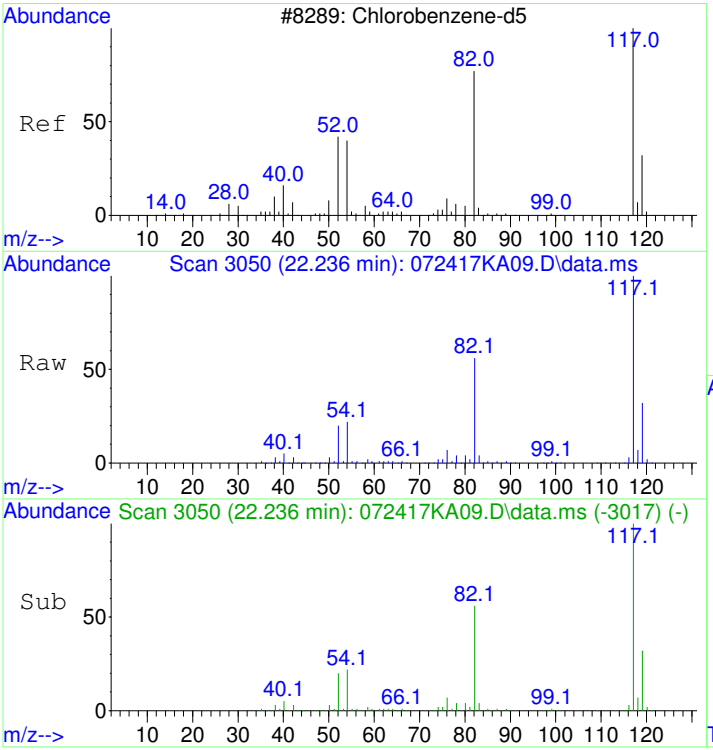




#37
Trichloroethene
Concen: 13.36 ppbv
RT: 17.704 min Scan# 2305
Delta R.T. 0.006 min
Lab File: 072417KA09.D
Acq: 24 Jul 2017 9:57 pm

Tgt Ion:130 Resp: 213279

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 130 | 100 | | |
| 132 | 96.1 | 77.0 | 117.0 |
| 95 | 97.7 | 78.3 | 118.3 |

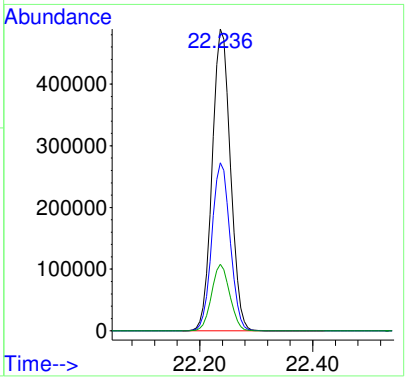





#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 22.236 min Scan# 3050
Delta R.T. 0.000 min
Lab File: 072417KA09.D
Acq: 24 Jul 2017 9:57 pm

Tgt Ion:117 Resp: 1097593

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 117 | 100 | | |
| 82 | 55.8 | 36.2 | 76.2 |
| 54 | 21.9 | 2.0 | 42.0 |



# S17G101-IBL1

Quantitation Report (Not Reviewed)

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\072417KA_FSAA\
Data File : 072417KA10.D
InstName : HP5973K
Acq On : 24 Jul 2017 10:48 pm
Operator : LLH
Sample : S17G101-IBL1
Misc : 200ml CAN #670
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jul 25 09:19:34 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| Internal Standards | | | | | |
| 1) BROMOCHLOROMETHANE | 15.313 | 49 | 312348 | 19.80 ppbv | 0.00 |
| 32) 1,4-DIFLUOROBENZENE | 17.308 | 114 | 1171672 | 19.60 ppbv | 0.00 |
| 43) CHLOROBENZENE-d5 | 22.236 | 117 | 1065213 | 19.60 ppbv | 0.00 |
| Target Compounds | | | | | Qvalue |
| 18) Dichloromethane | 11.213 | 49 | 51645 | 4.35 ppbv | 97 |

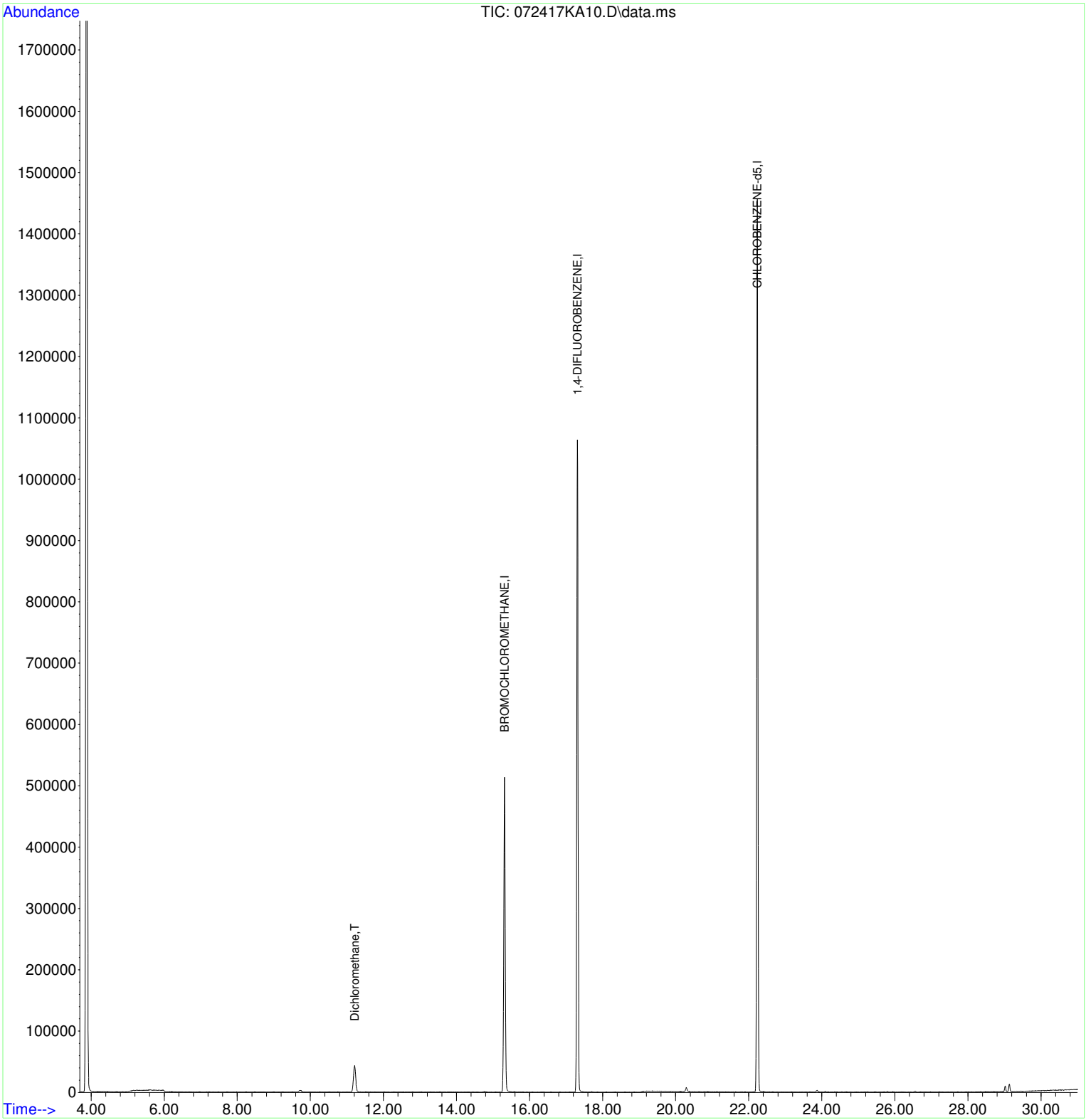
NT

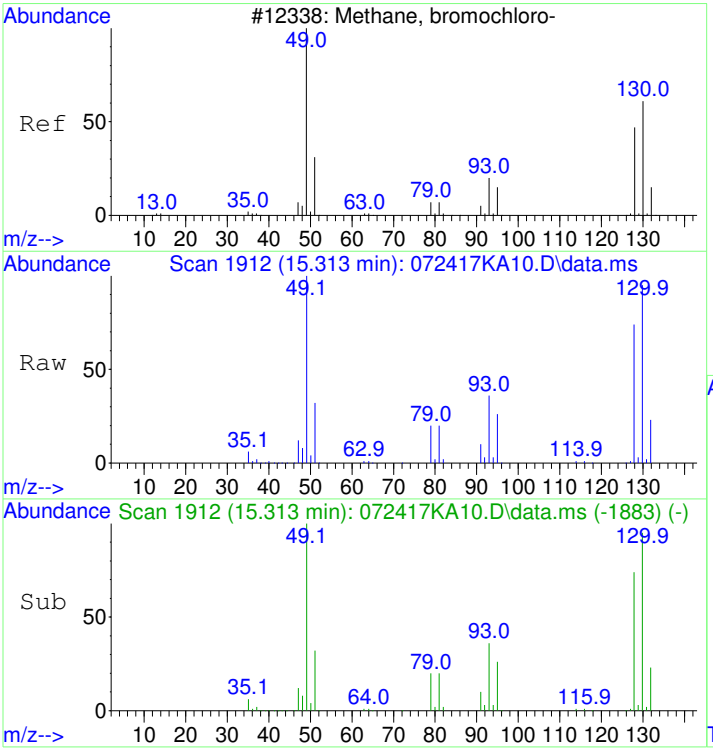
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\072417KA_FSAA\
Data File : 072417KA10.D
InstName : HP5973K
Acq On : 24 Jul 2017 10:48 pm
Operator : LLH
Sample : S17G101-IBL1
Misc : 200ml CAN #670
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jul 25 09:19:34 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

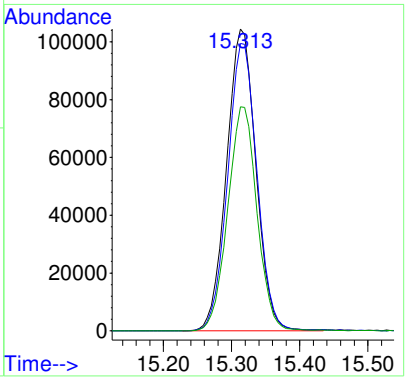


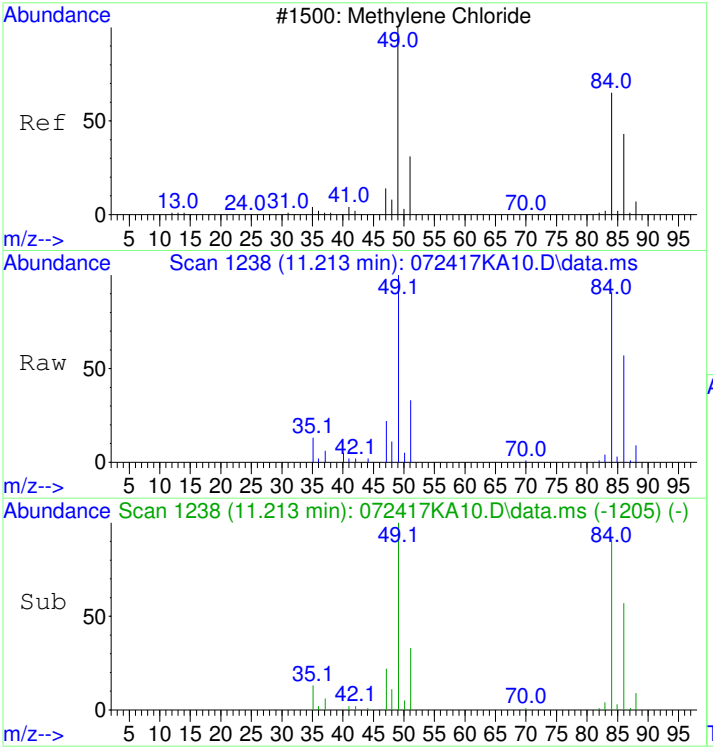



#1
BROMOCHLOROMETHANE
Concen: 19.80 ppbv
RT: 15.313 min Scan# 1912
Delta R.T. 0.000 min
Lab File: 072417KA10.D
Acq: 24 Jul 2017 10:48 pm

Tgt Ion: 49 Resp: 312348

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 130 | 94.8 | 67.2 | 107.2 |
| 128 | 73.8 | 47.6 | 87.6 |

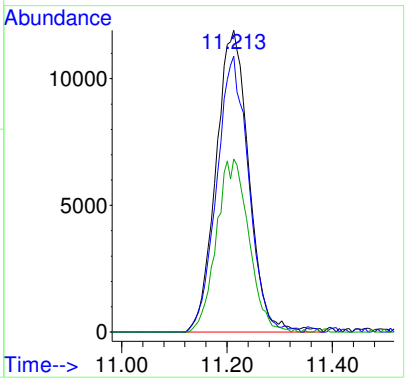


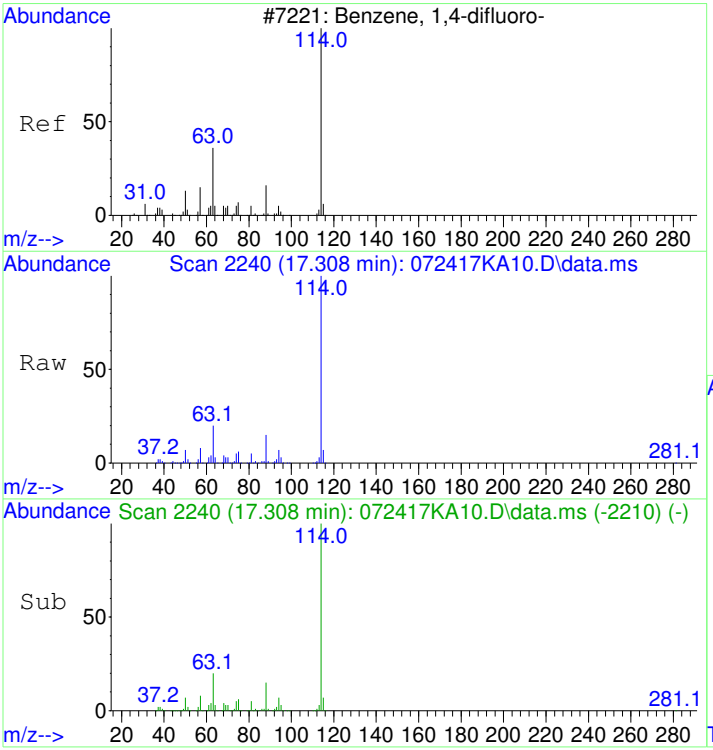




#18
Dichloromethane
Concen: 4.35 ppbv
RT: 11.213 min Scan# 1238
Delta R.T. -0.000 min
Lab File: 072417KA10.D
Acq: 24 Jul 2017 10:48 pm

Tgt Ion: 49 Resp: 51645

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 84 | 88.8 | 66.5 | 106.5 |
| 86 | 56.6 | 34.5 | 74.5 |

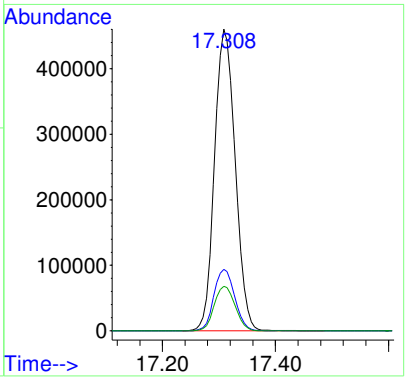


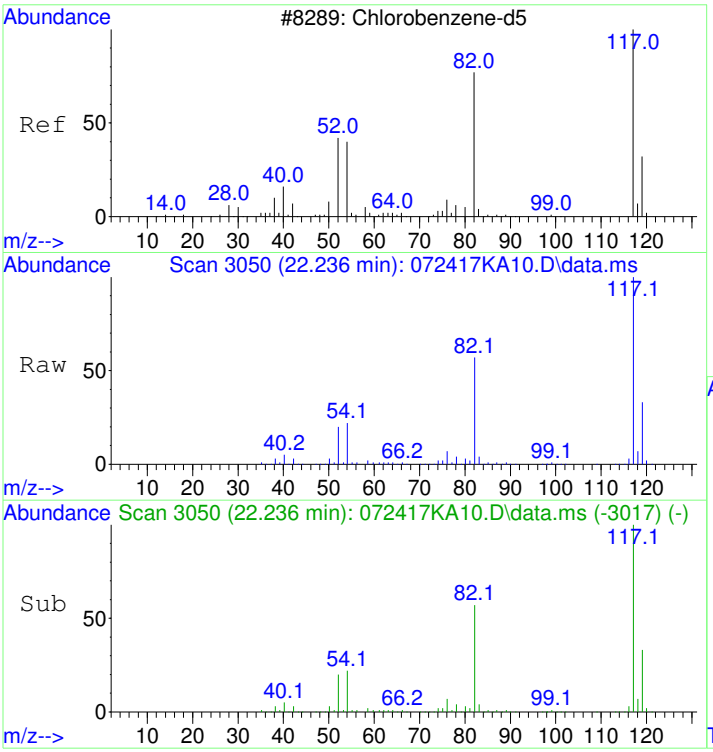



#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 17.308 min Scan# 2240
Delta R.T. -0.000 min
Lab File: 072417KA10.D
Acq: 24 Jul 2017 10:48 pm

Tgt Ion:114 Resp: 1171672

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 114 | 100 | | |
| 63 | 20.5 | 0.8 | 40.8 |
| 88 | 14.9 | 0.0 | 35.1 |

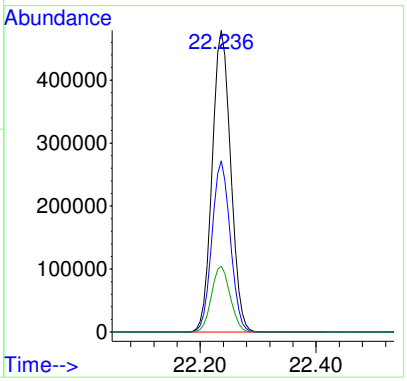



#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 22.236 min Scan# 3050
Delta R.T. -0.000 min
Lab File: 072417KA10.D
Acq: 24 Jul 2017 10:48 pm

Tgt Ion:117 Resp: 1065213

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 117 | 100 | | |
| 82 | 56.3 | 36.2 | 76.2 |
| 54 | 22.0 | 2.0 | 42.0 |



# 1707040-04RE1

Data Path : D:\msdchem\1\2017\DATA\072417KA_FSAA\
Data File : 072417KA11.D
InstName : HP5973K
Acq On : 24 Jul 2017 11:37 pm
Operator : LLH
Sample : 1707040-04RE1
Misc : 20ml 2ND CAN #1105
ALS Vial : 19 Sample Multiplier: 210.25

report TCE
rerun 200ml 2nd can for trans/cis12DCE

Quant Time: Jul 25 09:19:57 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) | |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) BROMOCHLOROMETHANE | 15.313 | 49 | 322324 | 19.80 | ppbv | 0.00 | |
| 32) 1,4-DIFLUOROBENZENE | 17.308 | 114 | 1203488 | 19.60 | ppbv | 0.00 | |
| 43) CHLOROBENZENE-d5 | 22.236 | 117 | 1092009 | 19.60 | ppbv | 0.00 | |
| Target Compounds | | | | | | Qvalue | |
| 18) Dichloromethane | 11.213 | 49 | 54878 | 4.48 | ppbv | 98 | NT |
| 20) trans-1,2-Dichloroethene | 11.894 | 61 | 10577 | 0.73 | ppbv | 98 | |
| 37) Trichloroethene | 17.704 | 130 | 158859 | 9.97 | ppbv | 99 | |

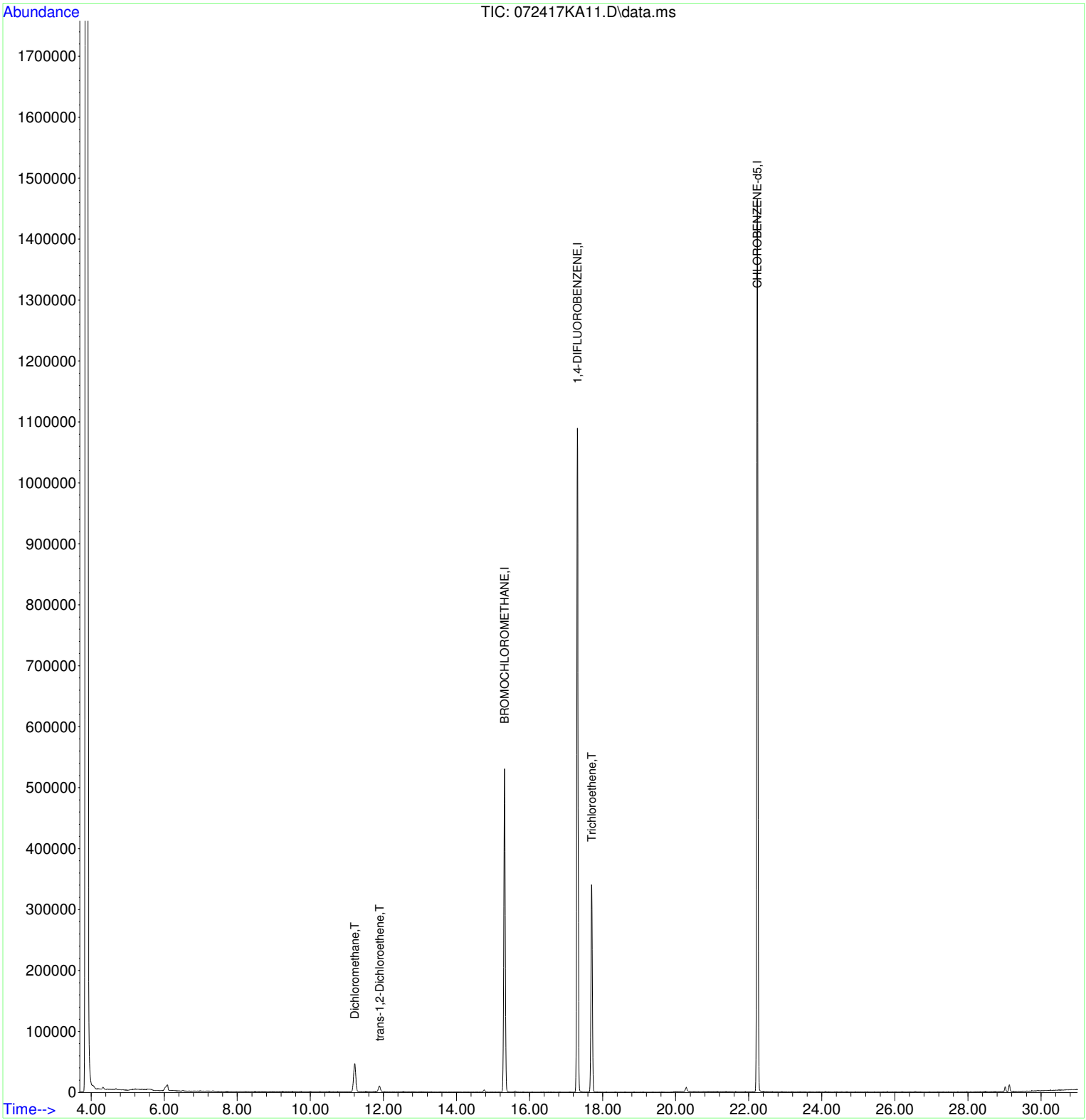
(#) = qualifier out of range (m) = manual integration (+) = signals summed

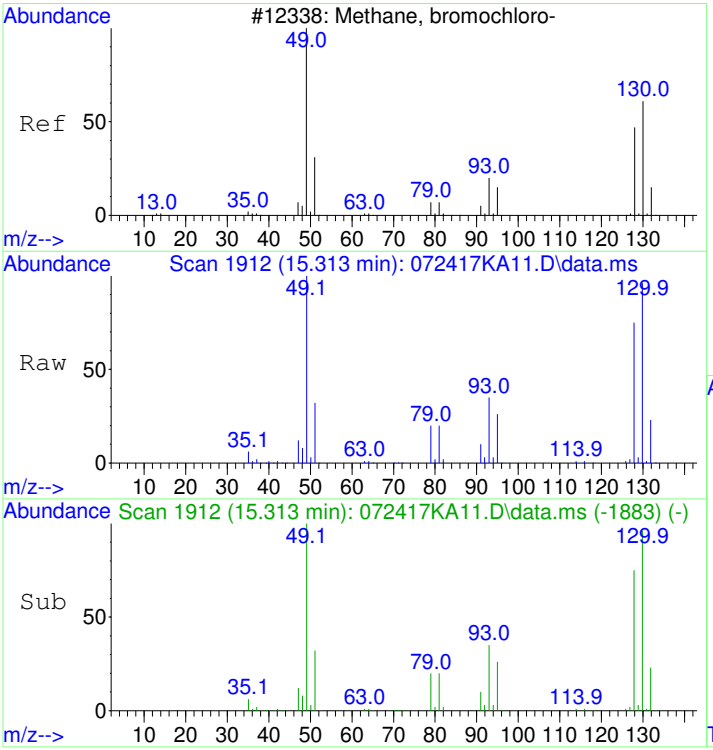
**REVIEWED**
**By LLH at 10:01 am, Jul 25, 2017**

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\072417KA_FSAA\
Data File : 072417KA11.D
InstName : HP5973K
Acq On : 24 Jul 2017 11:37 pm
Operator : LLH
Sample : 1707040-04RE1
Misc : 20ml 2ND CAN #1105
ALS Vial : 19 Sample Multiplier: 210.25

Quant Time: Jul 25 09:19:57 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

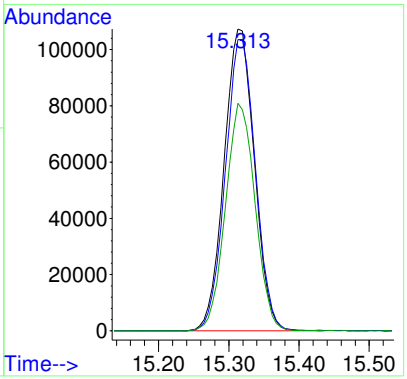


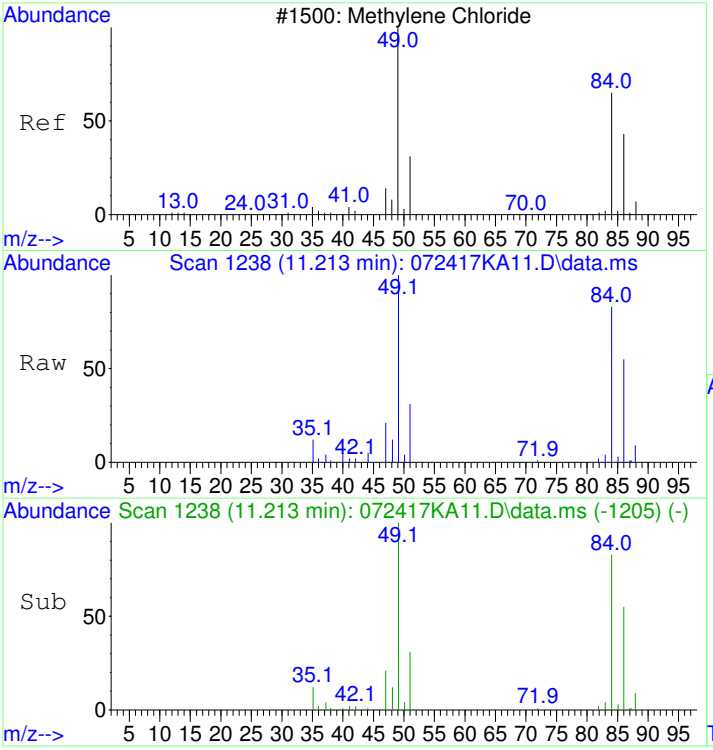



#1
BROMOCHLOROMETHANE
Concen: 19.80 ppbv
RT: 15.313 min Scan# 1912
Delta R.T. 0.000 min
Lab File: 072417KA11.D
Acq: 24 Jul 2017 11:37 pm

Tgt Ion: 49 Resp: 322324

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 130 | 95.9 | 67.2 | 107.2 |
| 128 | 73.8 | 47.6 | 87.6 |

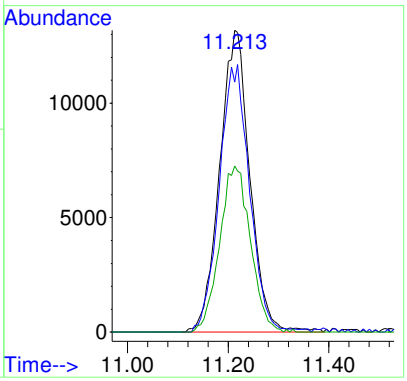


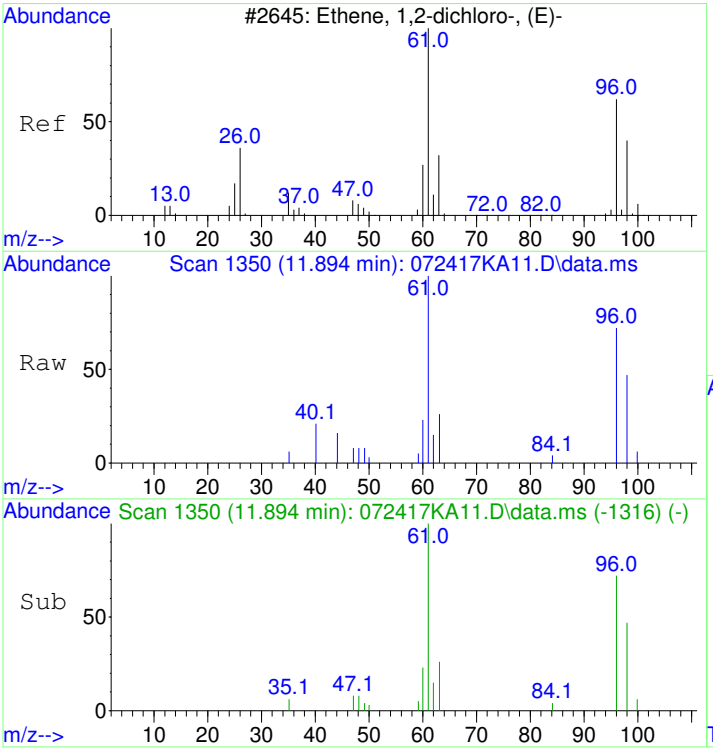




#18
Dichloromethane
Concen: 4.48 ppbv
RT: 11.213 min Scan# 1238
Delta R.T. -0.000 min
Lab File: 072417KA11.D
Acq: 24 Jul 2017 11:37 pm

Tgt Ion: 49 Resp: 54878

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 84 | 89.0 | 66.5 | 106.5 |
| 86 | 55.9 | 34.5 | 74.5 |

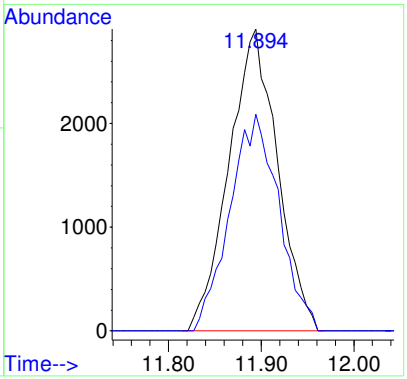


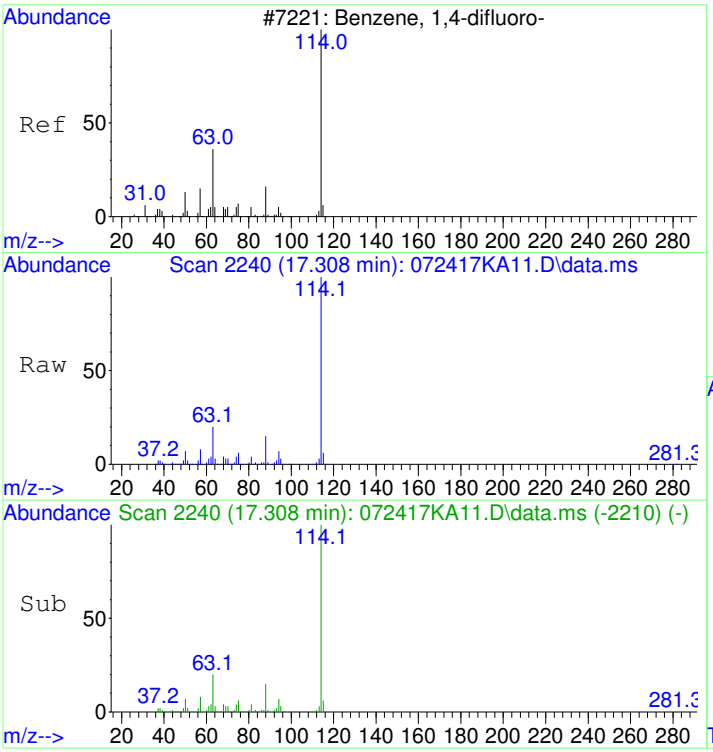



#20
trans-1,2-Dichloroethene
Concen: 0.73 ppbv
RT: 11.894 min Scan# 1350
Delta R.T. 0.006 min
Lab File: 072417KA11.D
Acq: 24 Jul 2017 11:37 pm

Tgt Ion: 61 Resp: 10577

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 61 | 100 | | |
| 96 | 72.6 | 51.3 | 91.3 |

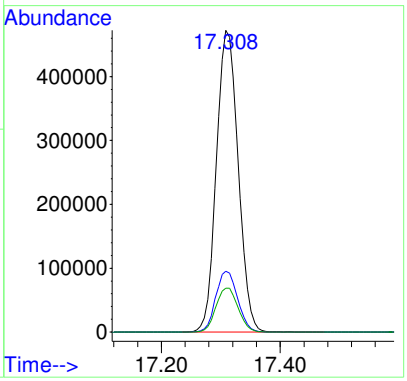


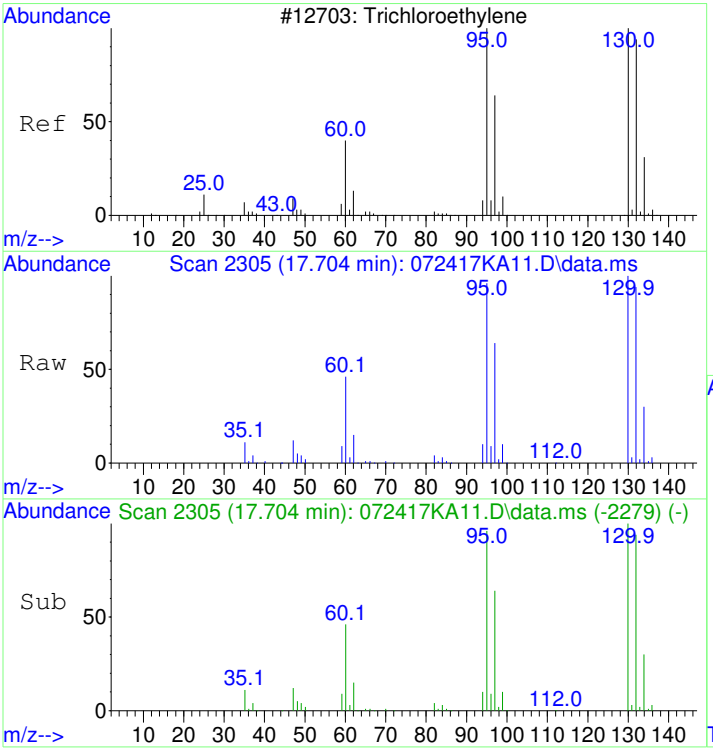




#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 17.308 min Scan# 2240
Delta R.T. -0.000 min
Lab File: 072417KA11.D
Acq: 24 Jul 2017 11:37 pm

Tgt Ion:114 Resp: 1203488

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 114 | 100 | | |
| 63 | 20.3 | 0.8 | 40.8 |
| 88 | 14.8 | 0.0 | 35.1 |

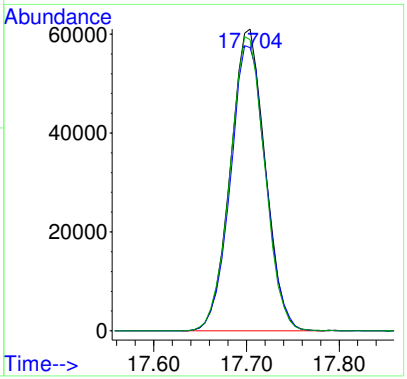


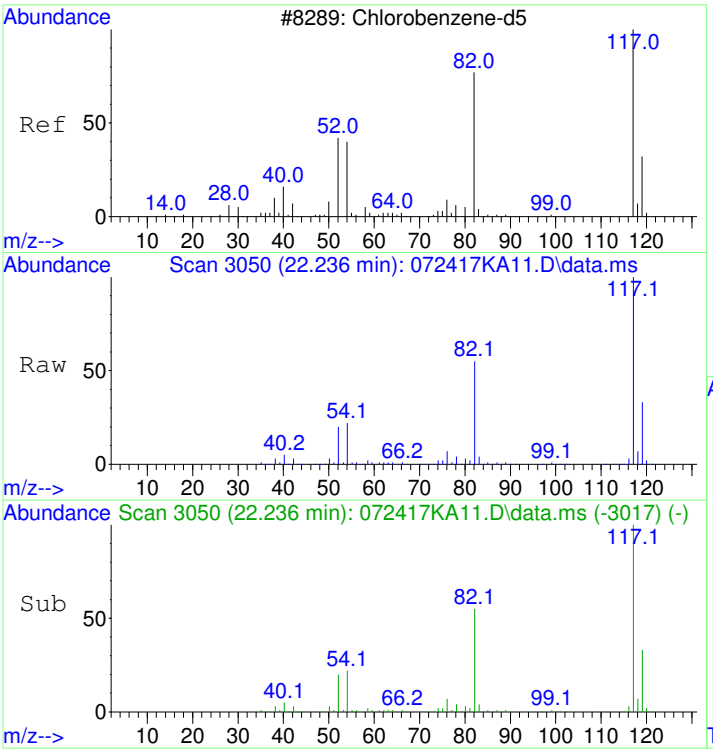



#37
Trichloroethene
Concen: 9.97 ppbv
RT: 17.704 min Scan# 2305
Delta R.T. 0.006 min
Lab File: 072417KA11.D
Acq: 24 Jul 2017 11:37 pm

Tgt Ion:130 Resp: 158859

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 130 | 100 | | |
| 132 | 95.8 | 77.0 | 117.0 |
| 95 | 97.4 | 78.3 | 118.3 |

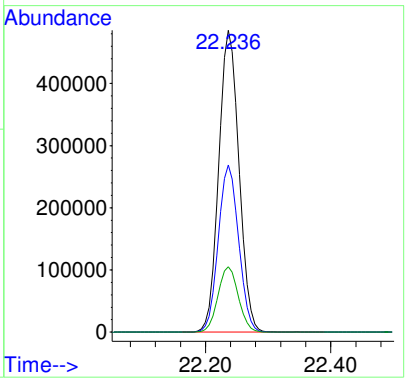



#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 22.236 min Scan# 3050
Delta R.T. -0.000 min
Lab File: 072417KA11.D
Acq: 24 Jul 2017 11:37 pm

Tgt Ion:117 Resp: 1092009

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 117 | 100 | | |
| 82 | 55.6 | 36.2 | 76.2 |
| 54 | 21.8 | 2.0 | 42.0 |



# 1707040-05RE2

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2017\DATA\072417KA_FSAA\
Data File : 072417KA12.D
InstName : HP5973K
Acq On : 25 Jul 2017 12:27 am
Operator : LLH
Sample : 1707040-05RE2
Misc : 30ml 2ND CAN #1113
ALS Vial : 10 Sample Multiplier: 176.44

report TCE

Quant Time: Jul 25 09:21:08 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) BROMOCHLOROMETHANE | 15.319 | 49 | 325933 | 19.80 | ppbv | 0.00 |
| 32) 1,4-DIFLUOROBENZENE | 17.308 | 114 | 1222098 | 19.60 | ppbv | 0.00 |
| 43) CHLOROBENZENE-d5 | 22.236 | 117 | 1105180 | 19.60 | ppbv | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 18) Dichloromethane | 11.213 | 49 | 56725 | 4.58 | ppbv | 96 NT |
| 37) Trichloroethene | 17.704 | 130 | 194223 | 12.00 | ppbv | 100 |

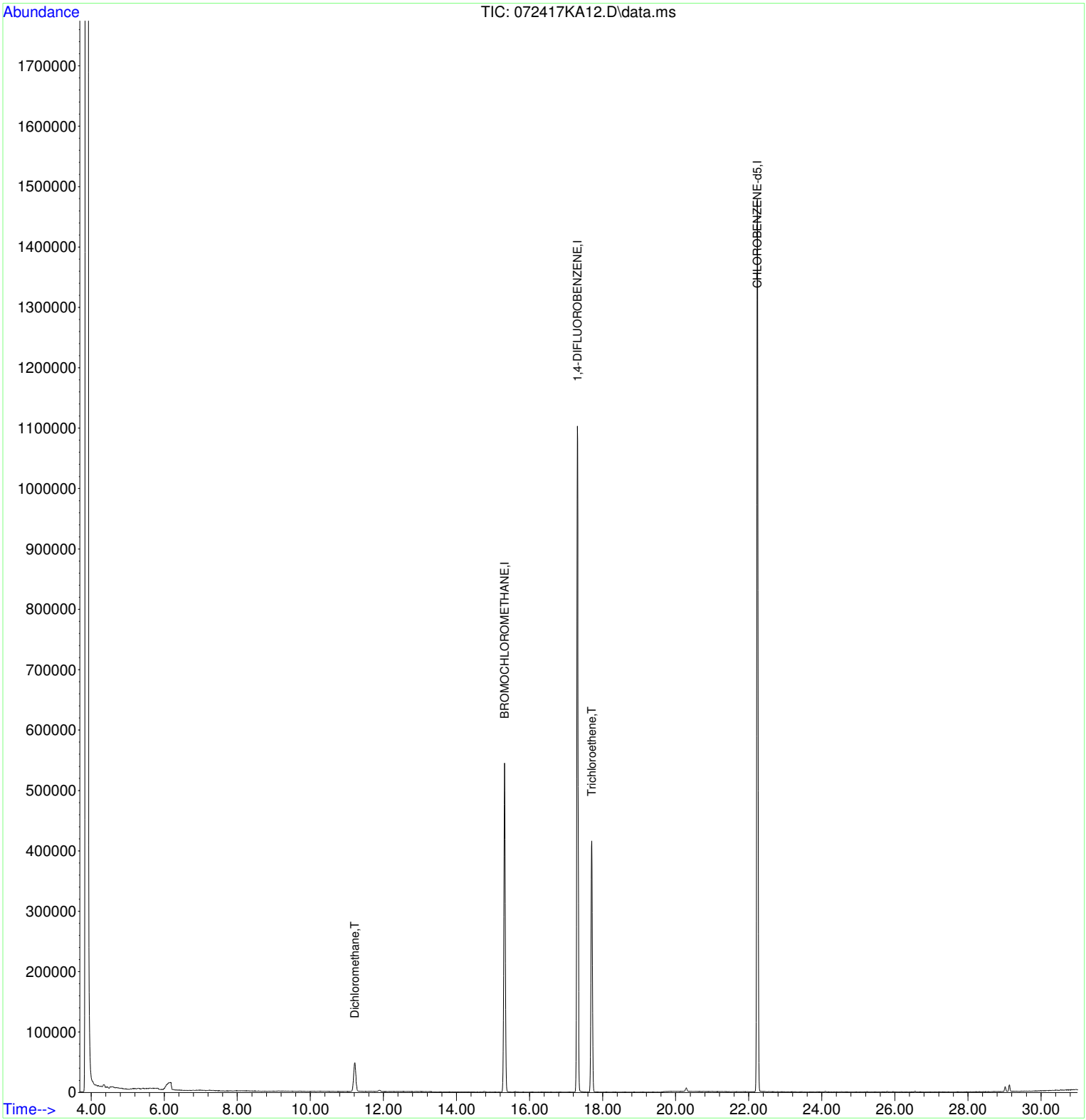
(#) = qualifier out of range (m) = manual integration (+) = signals summed

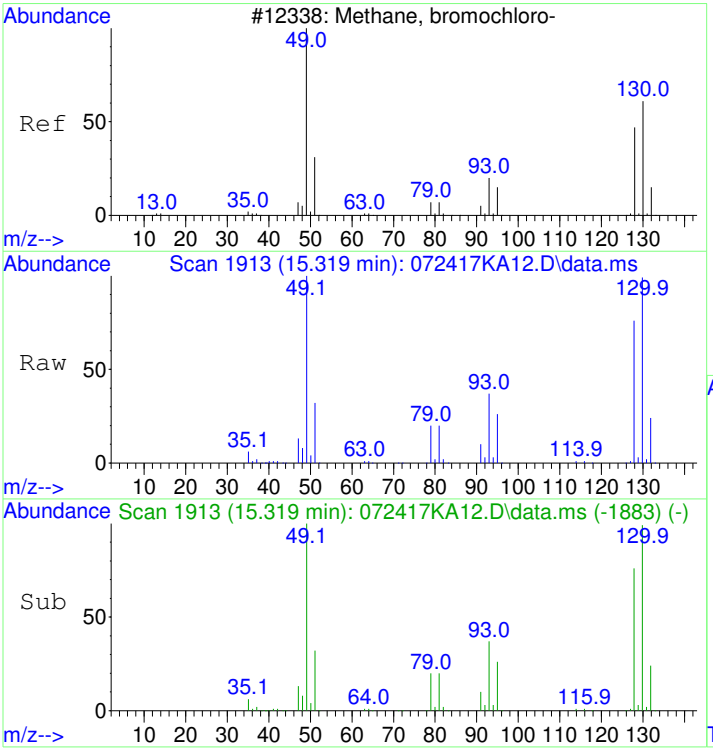
**REVIEWED**
**By LLH at 10:01 am, Jul 25, 2017**

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\072417KA_FSAA\
Data File : 072417KA12.D
InstName : HP5973K
Acq On : 25 Jul 2017 12:27 am
Operator : LLH
Sample : 1707040-05RE2
Misc : 30ml 2ND CAN #1113
ALS Vial : 10 Sample Multiplier: 176.44

Quant Time: Jul 25 09:21:08 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

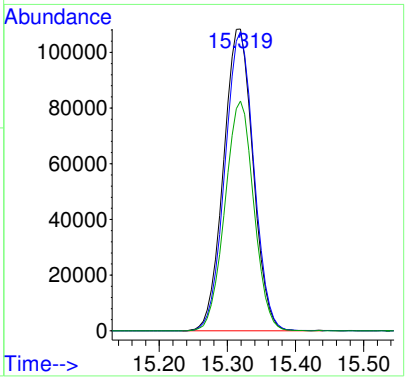


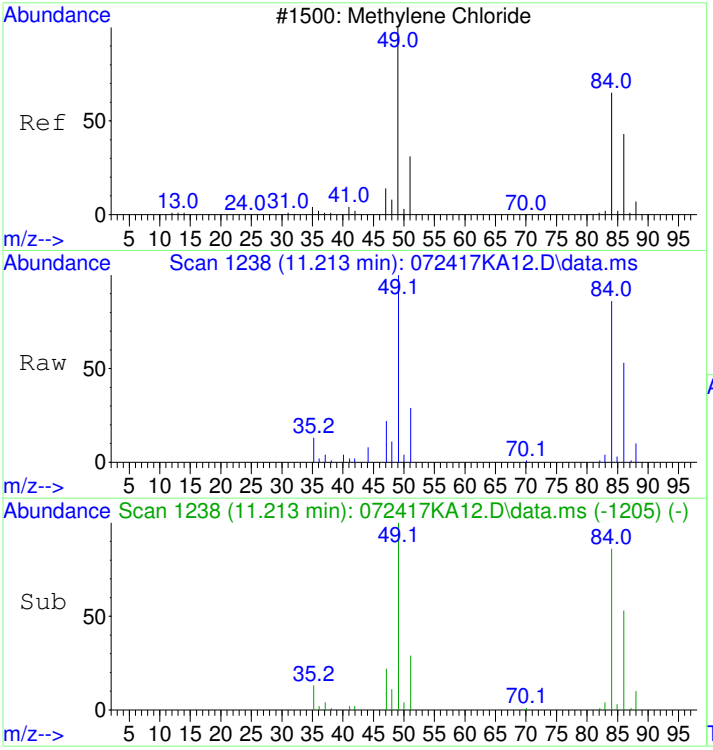



#1
BROMOCHLOROMETHANE
Concen: 19.80 ppbv
RT: 15.319 min Scan# 1913
Delta R.T. 0.006 min
Lab File: 072417KA12.D
Acq: 25 Jul 2017 12:27 am

Tgt Ion: 49 Resp: 325933

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 130 | 96.7 | 67.2 | 107.2 |
| 128 | 74.4 | 47.6 | 87.6 |

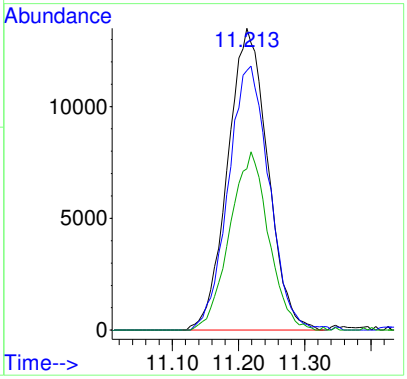


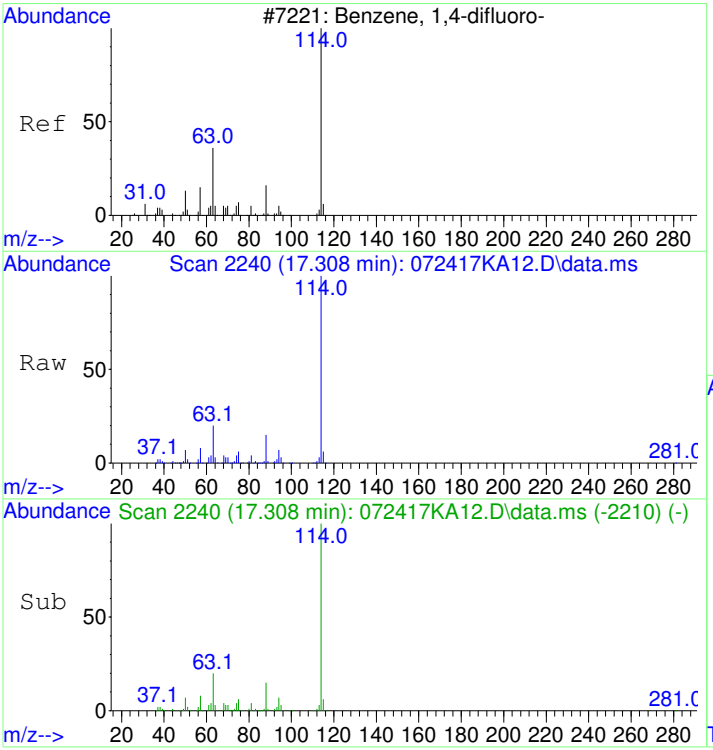




#18
Dichloromethane
Concen: 4.58 ppbv
RT: 11.213 min Scan# 1238
Delta R.T. -0.000 min
Lab File: 072417KA12.D
Acq: 25 Jul 2017 12:27 am

Tgt Ion: 49 Resp: 56725

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 84 | 89.5 | 66.5 | 106.5 |
| 86 | 57.3 | 34.5 | 74.5 |

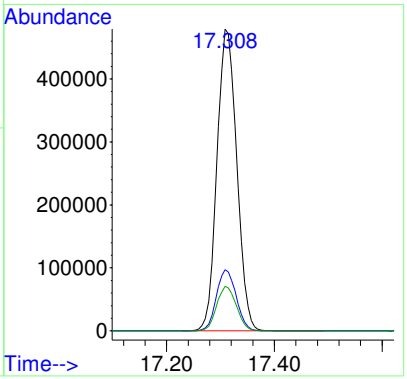


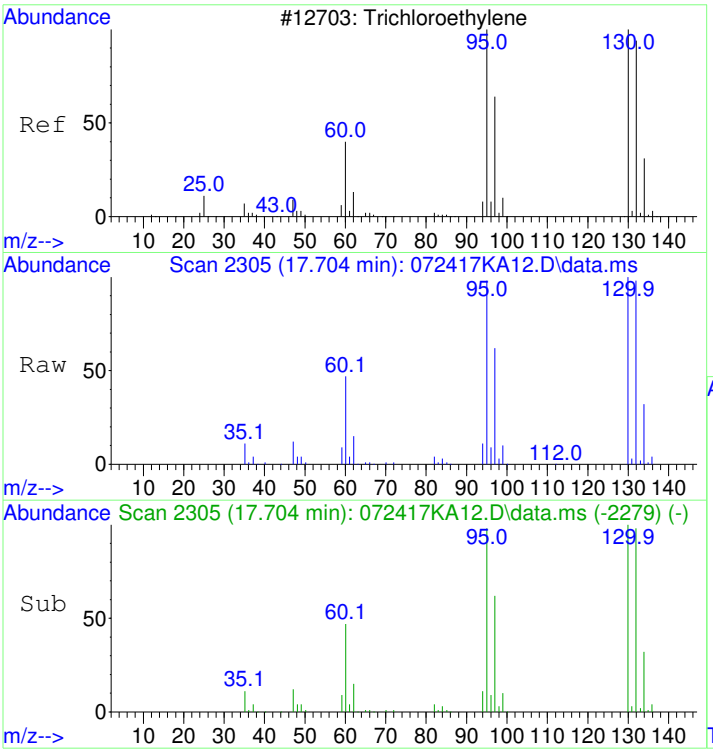



#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 17.308 min Scan# 2240
Delta R.T. -0.000 min
Lab File: 072417KA12.D
Acq: 25 Jul 2017 12:27 am

Tgt Ion:114 Resp: 1222098

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 114 | 100 | | |
| 63 | 20.2 | 0.8 | 40.8 |
| 88 | 14.7 | 0.0 | 35.1 |

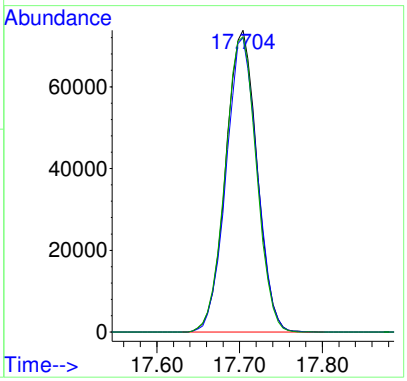


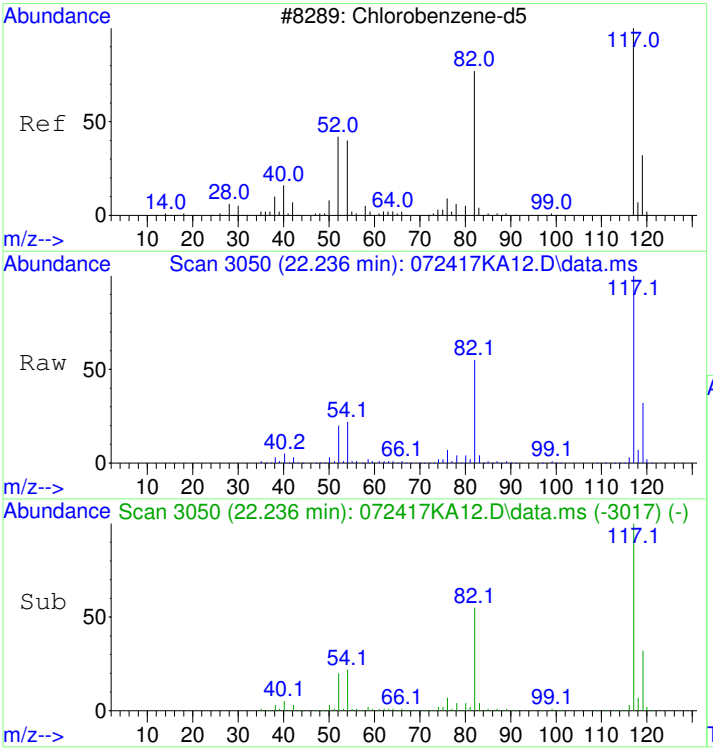




#37
Trichloroethene
Concen: 12.00 ppbv
RT: 17.704 min Scan# 2305
Delta R.T. 0.006 min
Lab File: 072417KA12.D
Acq: 25 Jul 2017 12:27 am

Tgt Ion:130 Resp: 194223

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 130 | 100 | | |
| 132 | 96.7 | 77.0 | 117.0 |
| 95 | 98.0 | 78.3 | 118.3 |

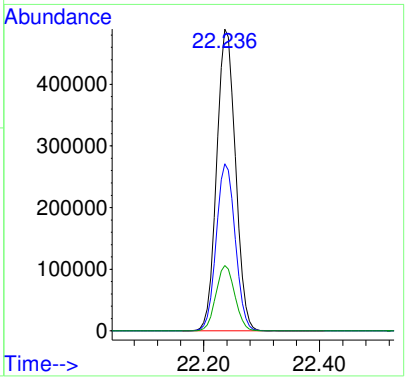





#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 22.236 min Scan# 3050
Delta R.T. -0.000 min
Lab File: 072417KA12.D
Acq: 25 Jul 2017 12:27 am

Tgt Ion:117 Resp: 1105180

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 117 | 100 | | |
| 82 | 55.8 | 36.2 | 76.2 |
| 54 | 21.8 | 2.0 | 42.0 |



# 1707040-05RE1

Data Path : D:\msdchem\1\2017\DATA\072417KA_FSAA\
Data File : 072417KA14.D
InstName : HP5973K
Acq On : 25 Jul 2017 2:05 am
Operator : LLH
Sample : 1707040-05RE1
Misc : 40ml ORIG CAN #632
ALS Vial : 11 Sample Multiplier: 3.5

REPORT

see -05RE2 for TCE

Quant Time: Jul 25 09:22:09 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) | |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) BROMOCHLOROMETHANE | 15.319 | 49 | 327031 | 19.80 | ppbv | 0.00 | |
| 32) 1,4-DIFLUOROBENZENE | 17.315 | 114 | 1191531 | 19.60 | ppbv | 0.00 | |
| 43) CHLOROBENZENE-d5 | 22.236 | 117 | 1098245 | 19.60 | ppbv | 0.00 | |
| Target Compounds | | | | | | Qvalue | |
| 18) Dichloromethane | 11.219 | 49 | 56393 | 4.53 | ppbv | 98 | NT |
| 20) trans-1,2-Dichloroethene | 11.906 | 61 | 142225 | 9.73 | ppbv | 98 | |
| 24) cis-1,2-Dichloroethene | 14.766 | 61 | 43653 | 3.44 | ppbv | 96 | |
| 28) Chloroform | 15.471 | 83 | 12235 | 0.48 | ppbv | 97 | |
| 37) Trichloroethene | 17.710 | 130 | 11479091 | 727.60 | ppbv | 98 | OC |

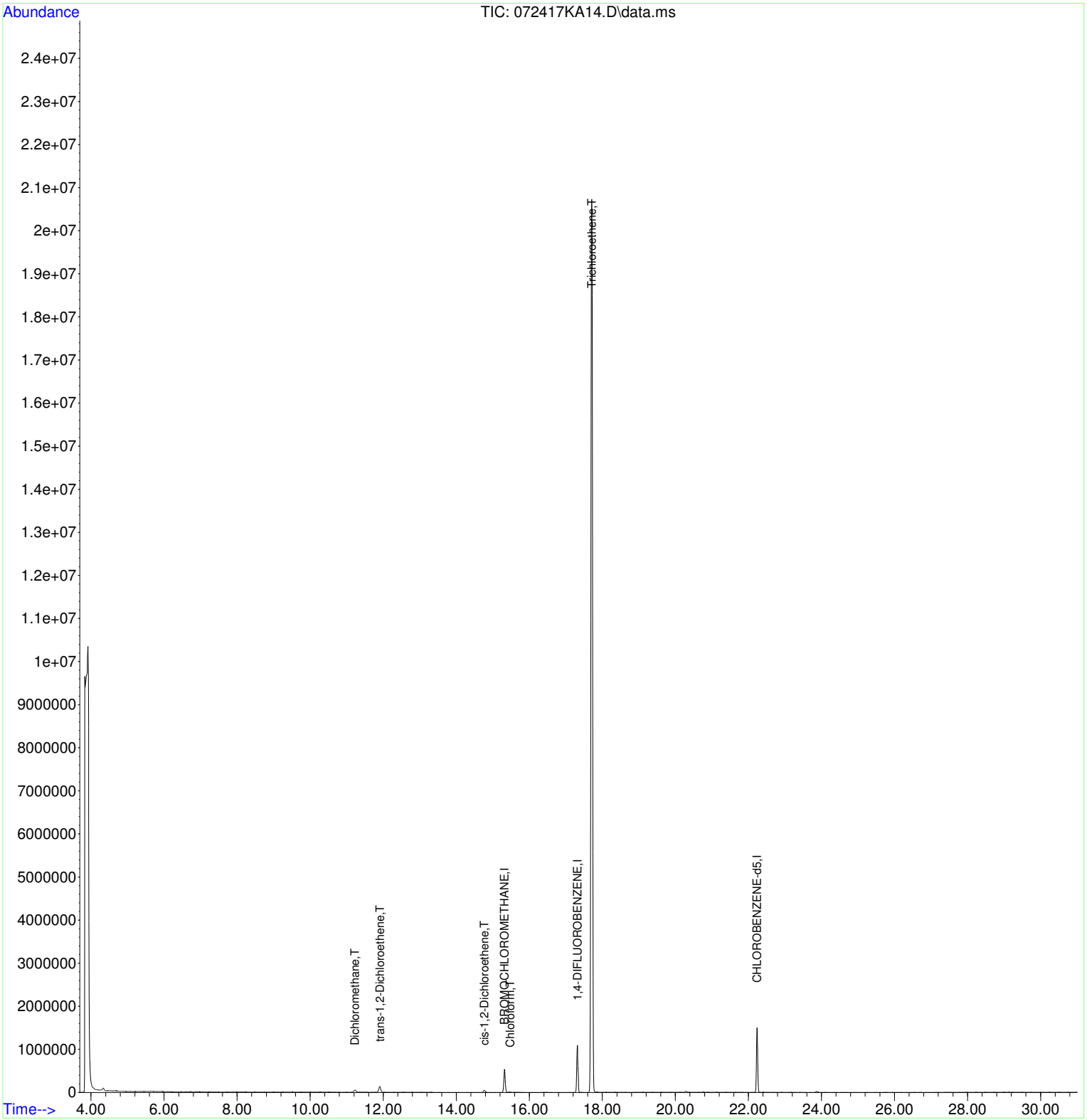
(#) = qualifier out of range (m) = manual integration (+) = signals summed

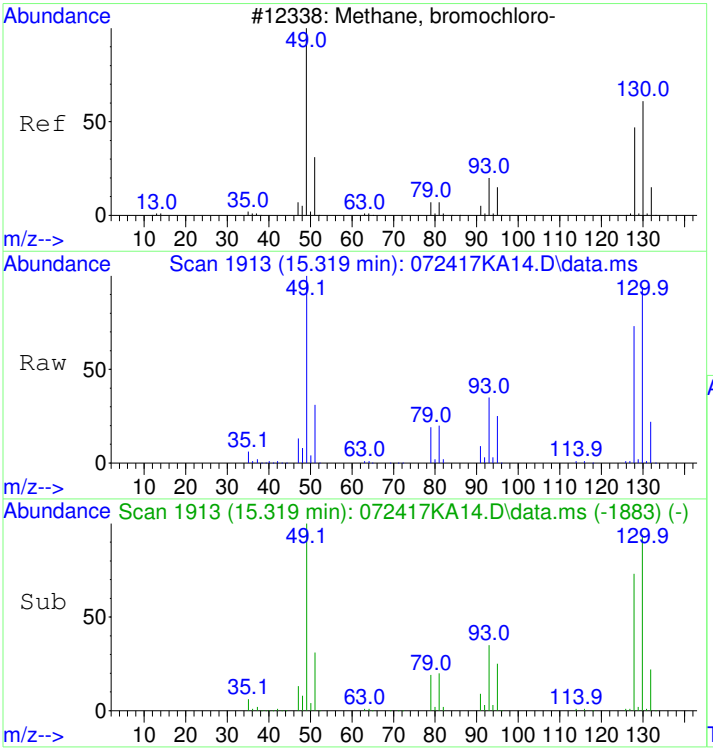
**REVIEWED**
**By LLH at 10:04 am, Jul 25, 2017**

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\072417KA_FSAA\
Data File : 072417KA14.D
InstName : HP5973K
Acq On : 25 Jul 2017 2:05 am
Operator : LLH
Sample : 1707040-05RE1
Misc : 40ml ORIG CAN #632
ALS Vial : 11 Sample Multiplier: 3.5

Quant Time: Jul 25 09:22:09 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

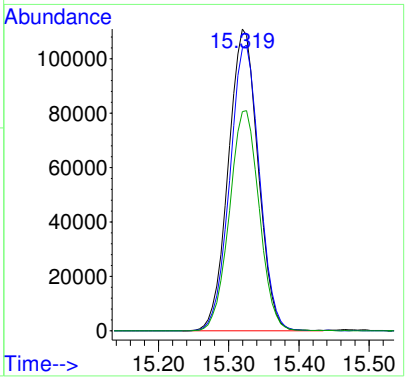


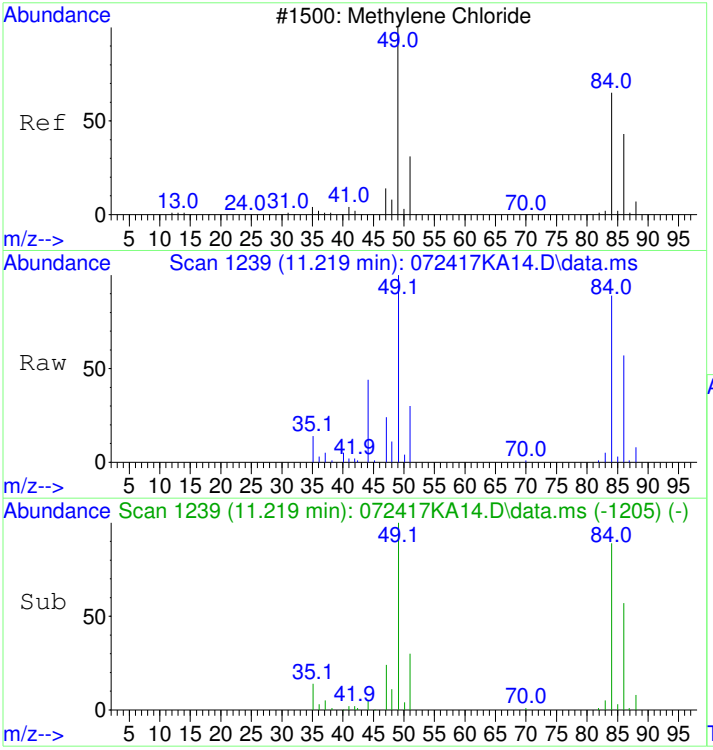



#1
BROMOCHLOROMETHANE
Concen: 19.80 ppbv
RT: 15.319 min Scan# 1913
Delta R.T. 0.006 min
Lab File: 072417KA14.D
Acq: 25 Jul 2017 2:05 am

Tgt Ion: 49 Resp: 327031

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 130 | 94.2 | 67.2 | 107.2 |
| 128 | 73.2 | 47.6 | 87.6 |

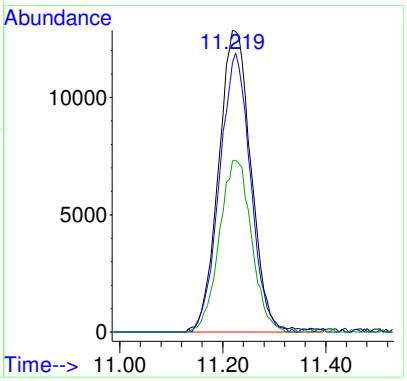


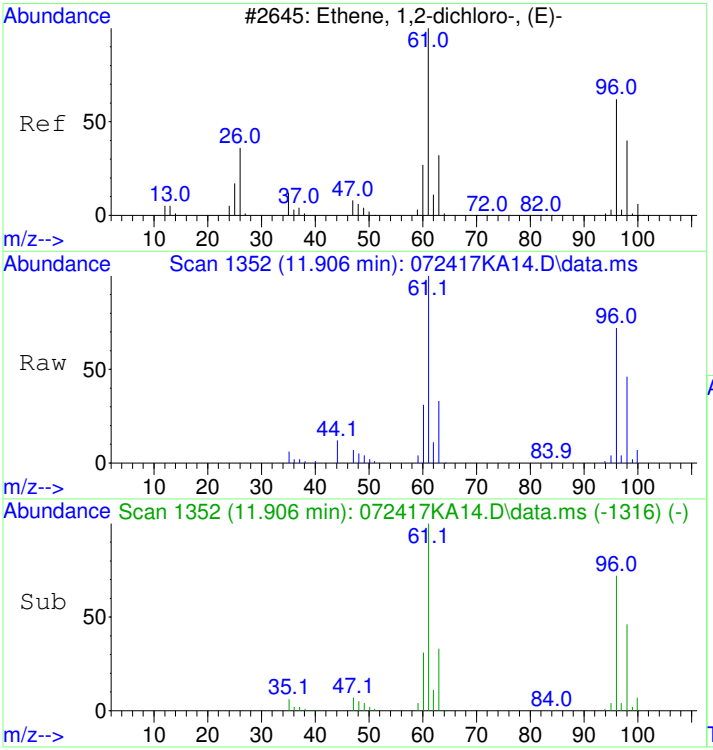




#18
Dichloromethane
Concen: 4.53 ppbv
RT: 11.219 min Scan# 1239
Delta R.T. 0.006 min
Lab File: 072417KA14.D
Acq: 25 Jul 2017 2:05 am

Tgt Ion: 49 Resp: 56393

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 84 | 88.0 | 66.5 | 106.5 |
| 86 | 56.3 | 34.5 | 74.5 |

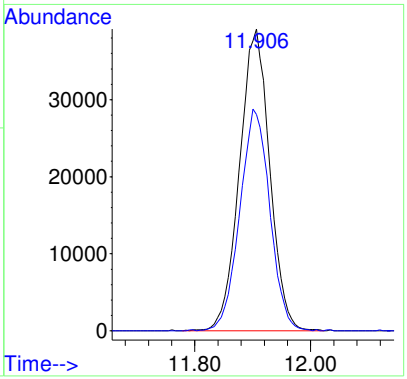


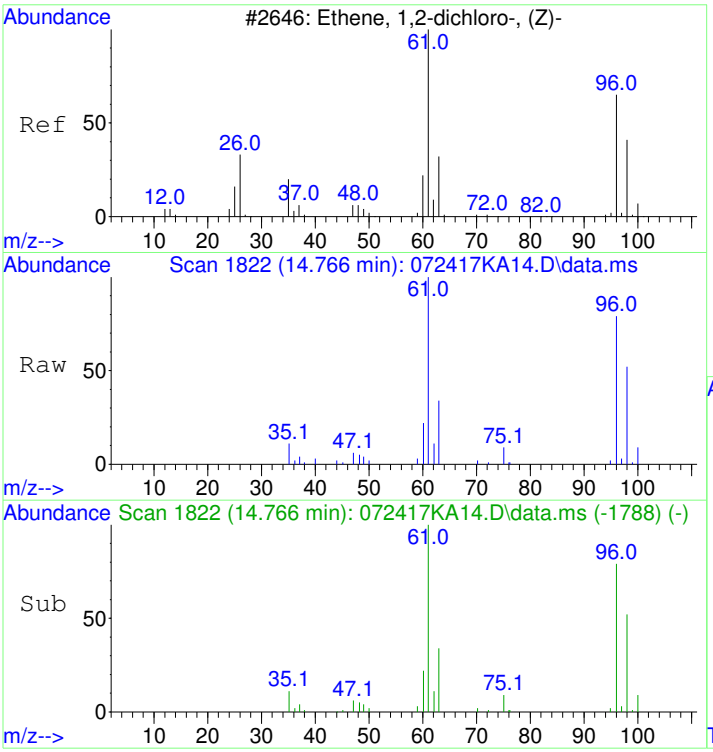



#20
trans-1,2-Dichloroethene
Concen: 9.73 ppbv
RT: 11.906 min Scan# 1352
Delta R.T. 0.018 min
Lab File: 072417KA14.D
Acq: 25 Jul 2017 2:05 am

Tgt Ion: 61 Resp: 142225

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 61 | 100 | | |
| 96 | 73.0 | 51.3 | 91.3 |

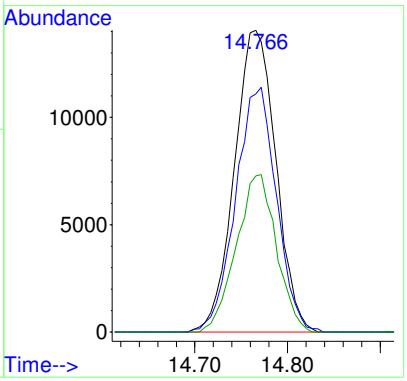


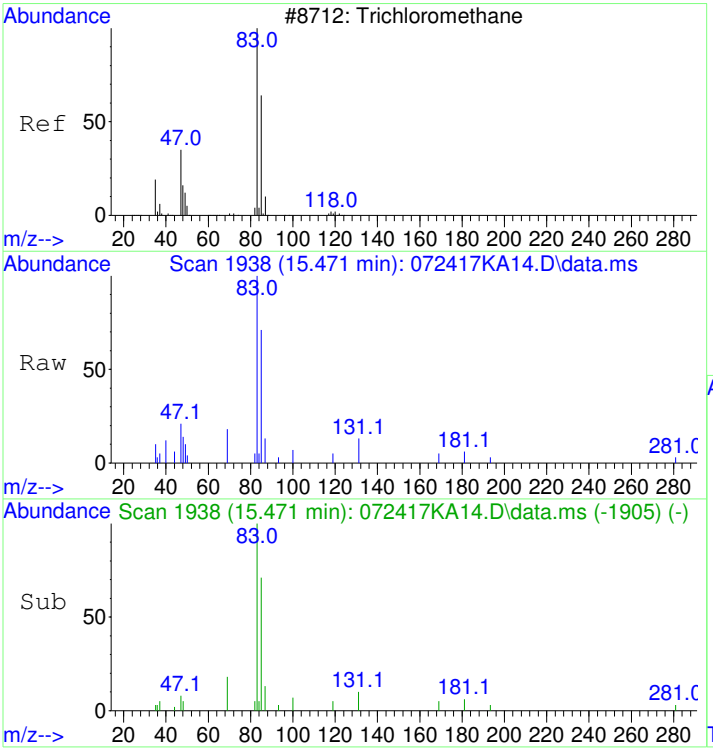




#24
cis-1,2-Dichloroethene
Concen: 3.44 ppbv
RT: 14.766 min Scan# 1822
Delta R.T. 0.006 min
Lab File: 072417KA14.D
Acq: 25 Jul 2017 2:05 am

Tgt Ion: 61 Resp: 43653

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 61 | 100 | | |
| 96 | 80.0 | 56.2 | 96.2 |
| 98 | 50.4 | 27.8 | 67.8 |

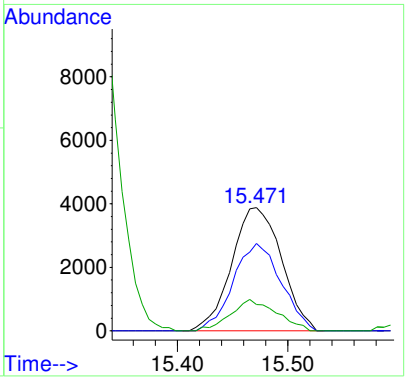


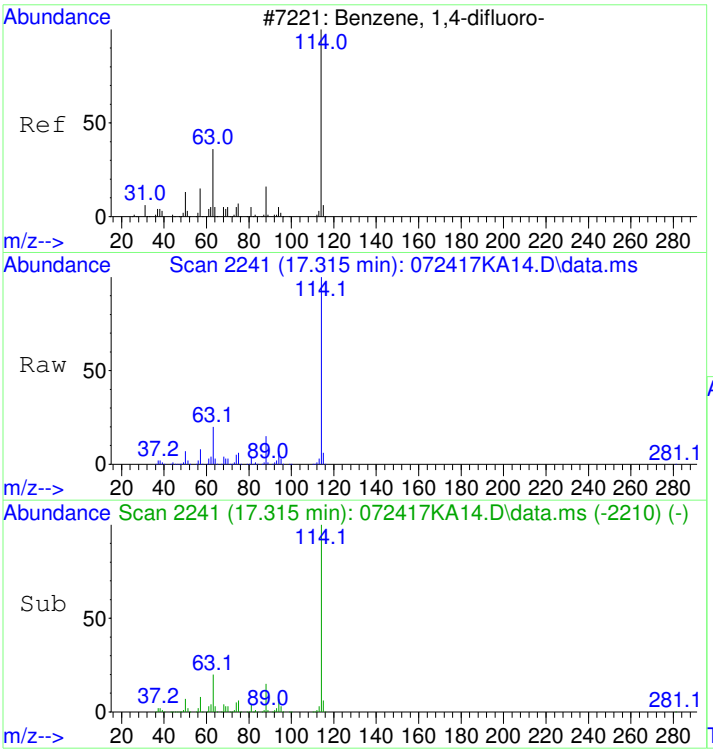



#28
Chloroform
Concen: 0.48 ppbv
RT: 15.471 min Scan# 1938
Delta R.T. 0.000 min
Lab File: 072417KA14.D
Acq: 25 Jul 2017 2:05 am

Tgt Ion: 83 Resp: 12235

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 83 | 100 | | |
| 85 | 67.9 | 44.6 | 84.6 |
| 47 | 23.4 | 2.7 | 42.7 |

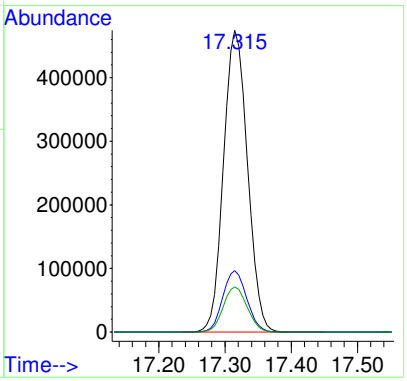


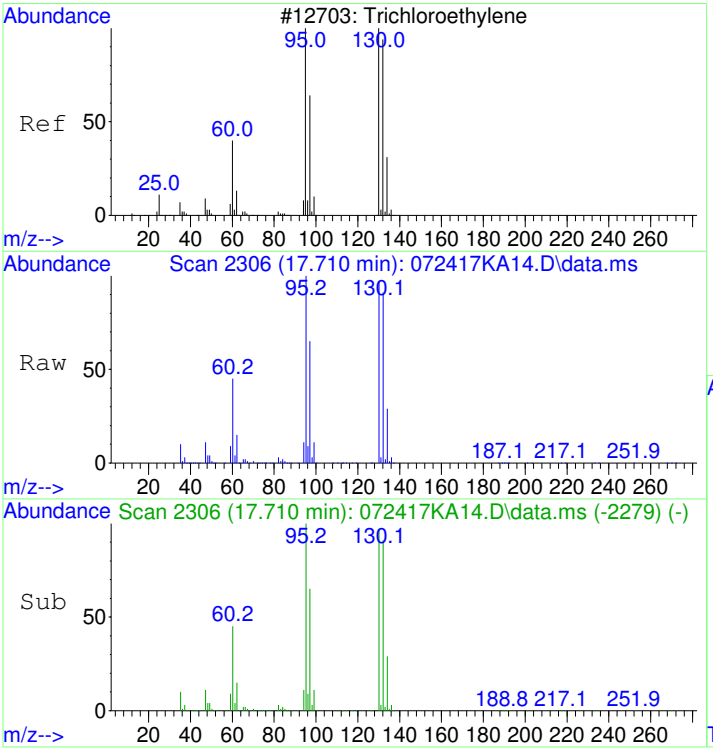




#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 17.315 min Scan# 2241
Delta R.T. 0.006 min
Lab File: 072417KA14.D
Acq: 25 Jul 2017 2:05 am

Tgt Ion:114 Resp: 1191531

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 114 | 100 | | |
| 63 | 20.3 | 0.8 | 40.8 |
| 88 | 14.9 | 0.0 | 35.1 |

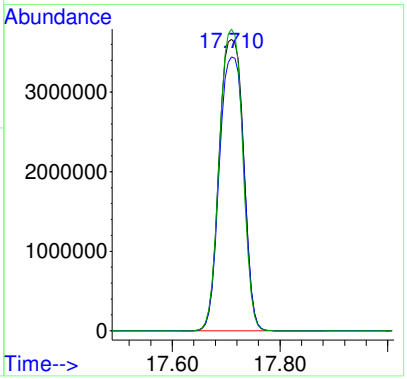


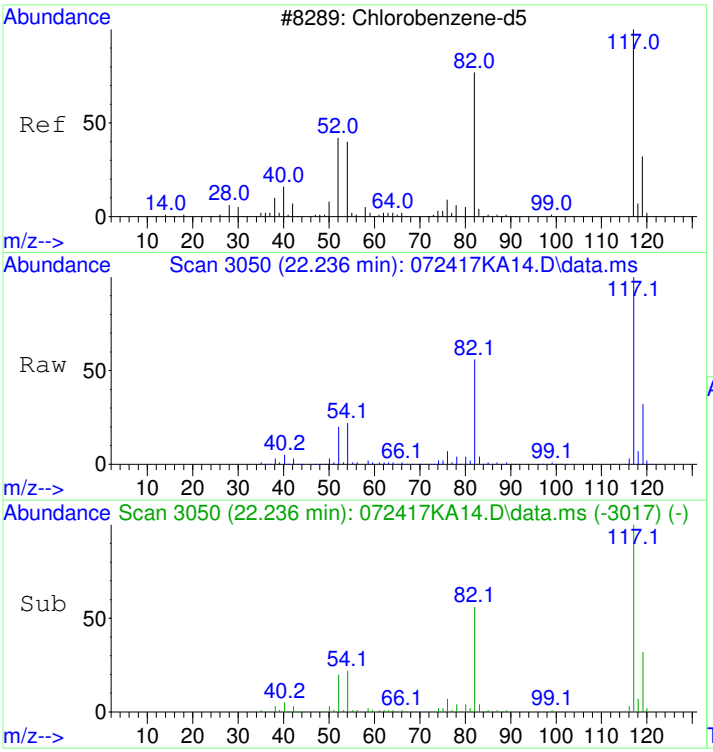



#37
Trichloroethene
Concen: 727.60 ppbv
RT: 17.710 min Scan# 2306
Delta R.T. 0.012 min
Lab File: 072417KA14.D
Acq: 25 Jul 2017 2:05 am

Tgt Ion:130 Resp:11479091

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 130 | 100 | | |
| 132 | 94.5 | 77.0 | 117.0 |
| 95 | 99.2 | 78.3 | 118.3 |

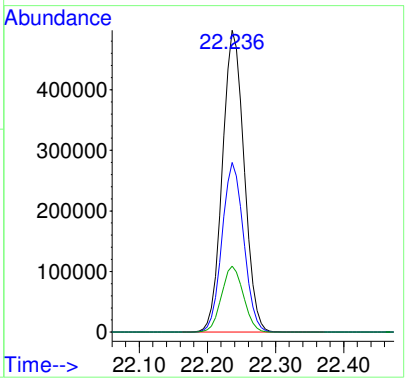



#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 22.236 min Scan# 3050
Delta R.T. 0.000 min
Lab File: 072417KA14.D
Acq: 25 Jul 2017 2:05 am

Tgt Ion:117 Resp: 1098245

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 117 | 100 | | |
| 82 | 56.1 | 36.2 | 76.2 |
| 54 | 22.0 | 2.0 | 42.0 |



# B17G093-DUP1

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2017\DATA\072417KA_FSAA\
Data File : 072417KA13.D
InstName : HP5973K
Acq On : 25 Jul 2017 1:16 am
Operator : LLH
Sample : B17G093-DUP1
Misc : 30ml 1707040-05RE2
ALS Vial : 10 Sample Multiplier: 176.44

REPORT

Quant Time: Jul 25 09:21:42 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) BROMOCHLOROMETHANE | 15.313 | 49 | 324031 | 19.80 | ppbv | 0.00 |
| 32) 1,4-DIFLUOROBENZENE | 17.315 | 114 | 1224617 | 19.60 | ppbv | 0.00 |
| 43) CHLOROBENZENE-d5 | 22.236 | 117 | 1103344 | 19.60 | ppbv | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 18) Dichloromethane | 11.213 | 49 | 57039 | 4.63 | ppbv | 95 NT |
| 37) Trichloroethene | 17.704 | 130 | 201911 | 12.45 | ppbv | 99 |

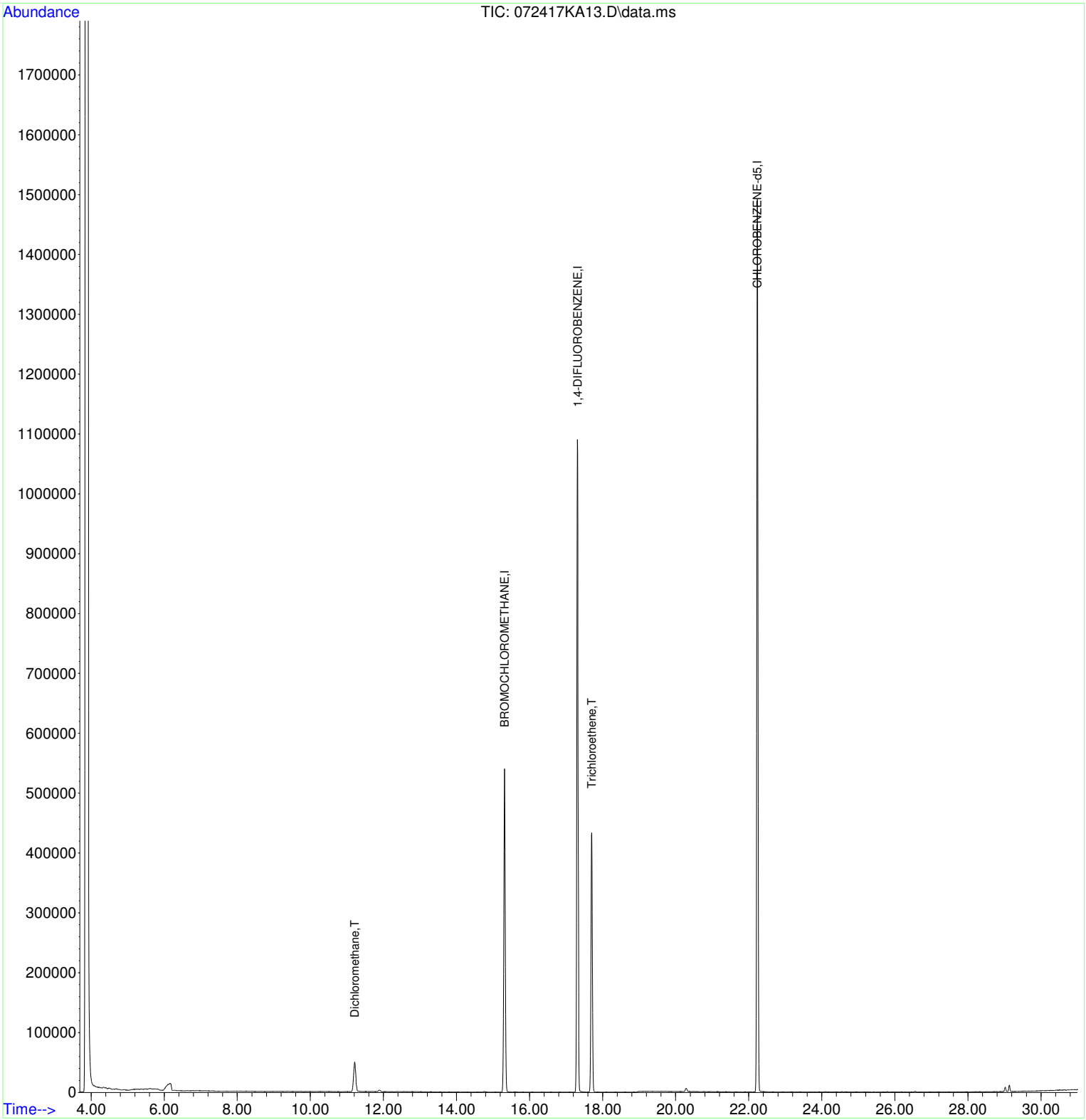
(#) = qualifier out of range (m) = manual integration (+) = signals summed

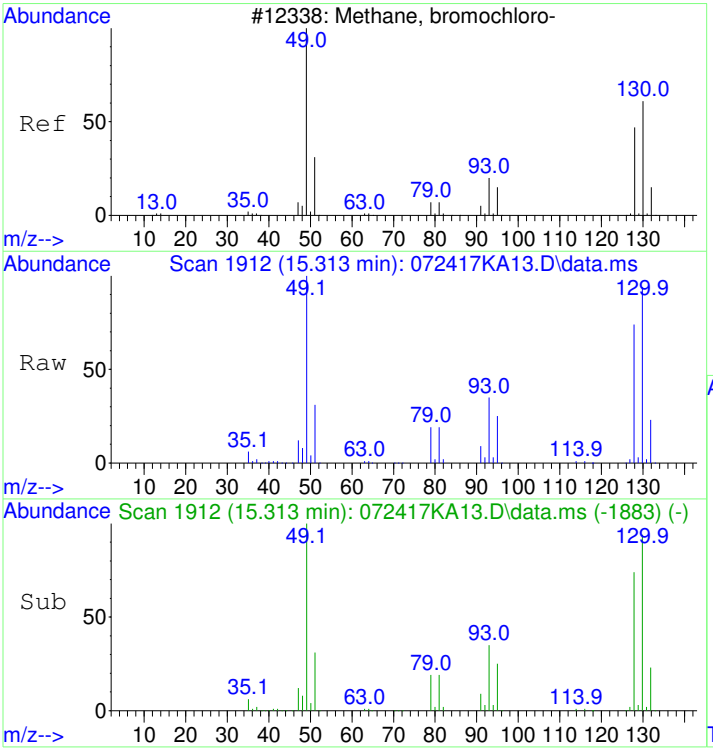
**REVIEWED**
**By LLH at 10:02 am, Jul 25, 2017**

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\072417KA_FSAA\
Data File : 072417KA13.D
InstName : HP5973K
Acq On : 25 Jul 2017 1:16 am
Operator : LLH
Sample : B17G093-DUP1
Misc : 30ml 1707040-05RE2
ALS Vial : 10 Sample Multiplier: 176.44

Quant Time: Jul 25 09:21:42 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

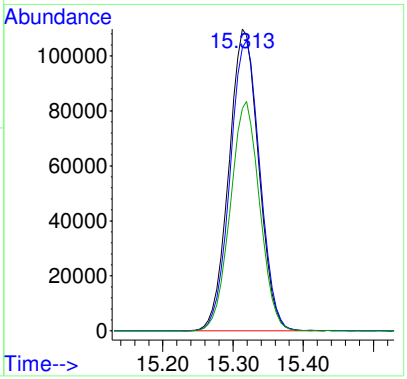


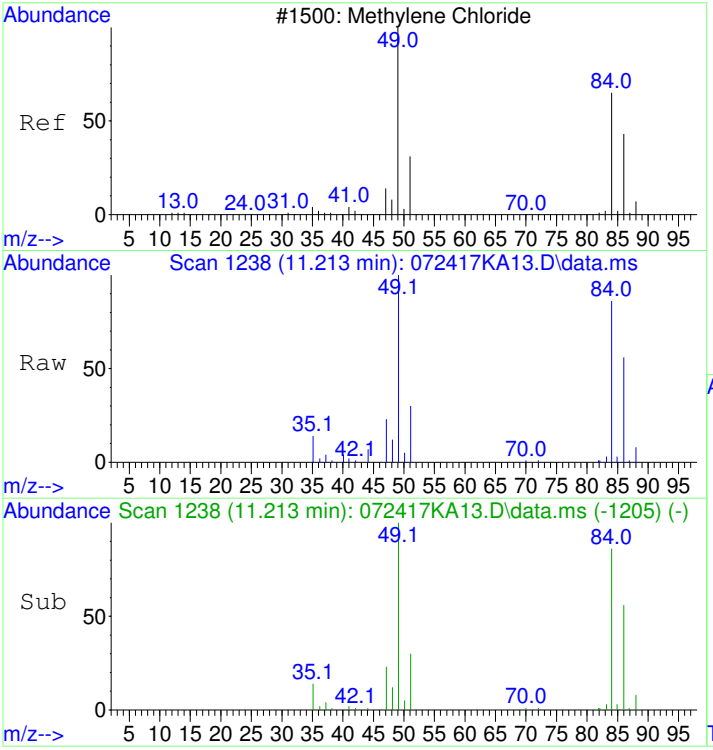



#1
BROMOCHLOROMETHANE
Concen: 19.80 ppbv
RT: 15.313 min Scan# 1912
Delta R.T. 0.000 min
Lab File: 072417KA13.D
Acq: 25 Jul 2017 1:16 am

Tgt Ion: 49 Resp: 324031

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 130 | 96.2 | 67.2 | 107.2 |
| 128 | 74.9 | 47.6 | 87.6 |

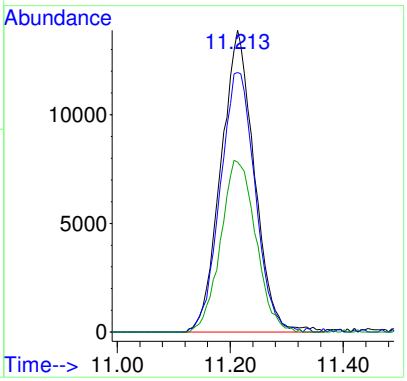


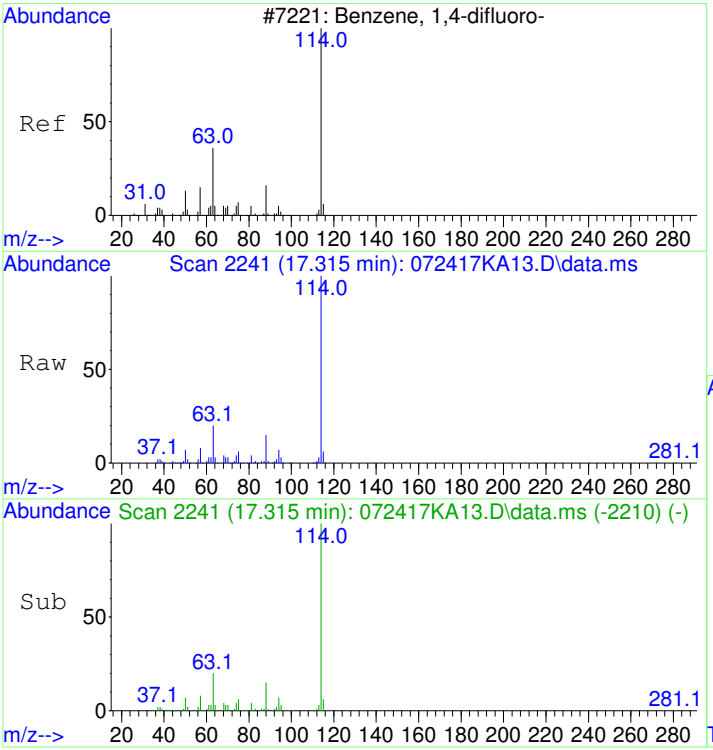




#18
Dichloromethane
Concen: 4.63 ppbv
RT: 11.213 min Scan# 1238
Delta R.T. -0.000 min
Lab File: 072417KA13.D
Acq: 25 Jul 2017 1:16 am

Tgt Ion: 49 Resp: 57039

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 84 | 89.8 | 66.5 | 106.5 |
| 86 | 59.7 | 34.5 | 74.5 |

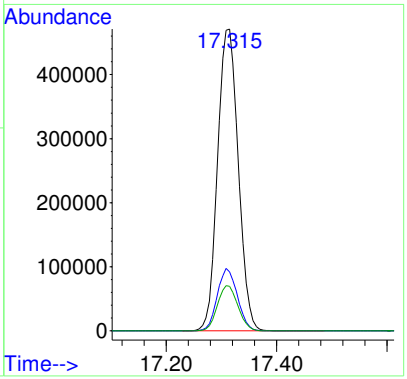


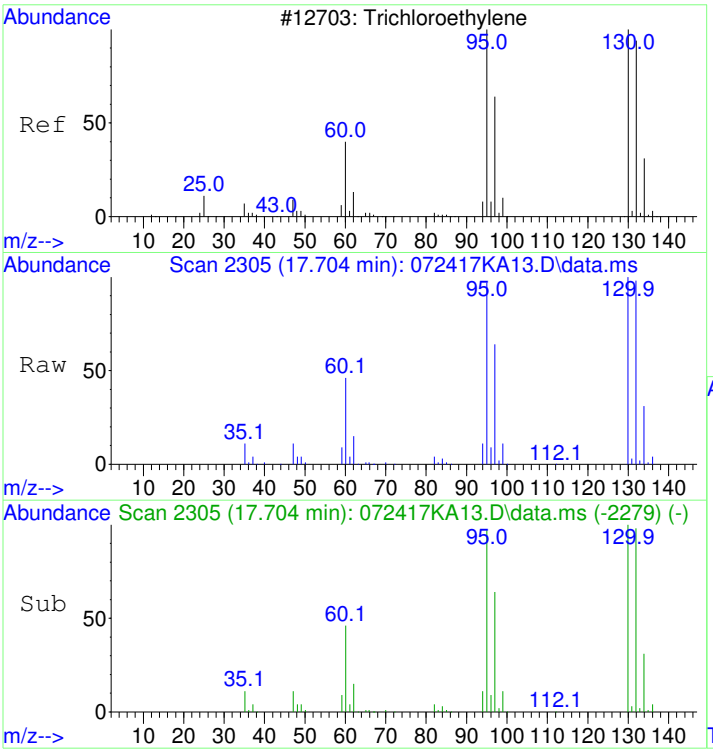



#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 17.315 min Scan# 2241
Delta R.T. 0.006 min
Lab File: 072417KA13.D
Acq: 25 Jul 2017 1:16 am

Tgt Ion:114 Resp: 1224617

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 114 | 100 | | |
| 63 | 20.0 | 0.8 | 40.8 |
| 88 | 14.8 | 0.0 | 35.1 |

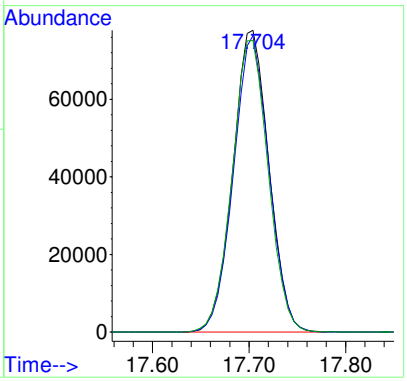


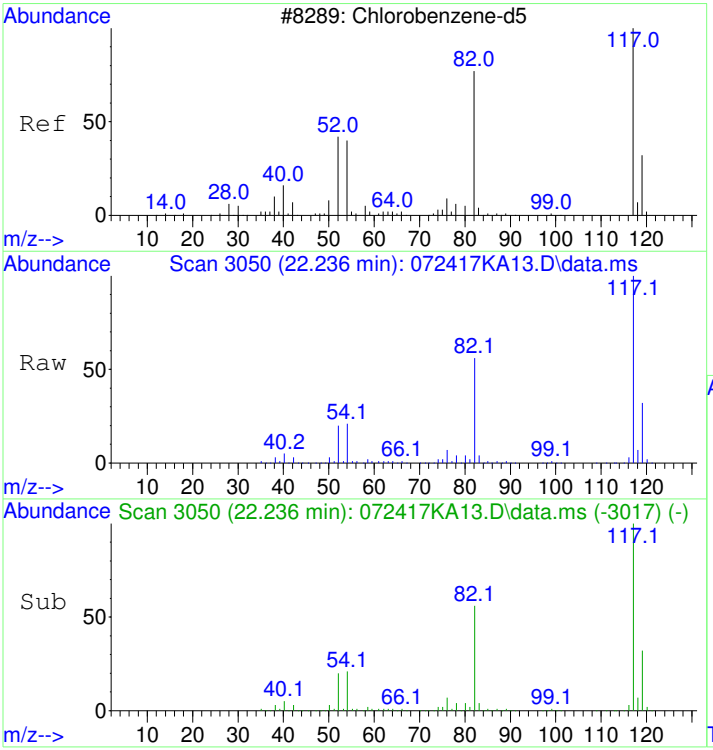




#37
Trichloroethene
Concen: 12.45 ppbv
RT: 17.704 min Scan# 2305
Delta R.T. 0.006 min
Lab File: 072417KA13.D
Acq: 25 Jul 2017 1:16 am

Tgt Ion:130 Resp: 201911

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 130 | 100 | | |
| 132 | 96.5 | 77.0 | 117.0 |
| 95 | 96.8 | 78.3 | 118.3 |

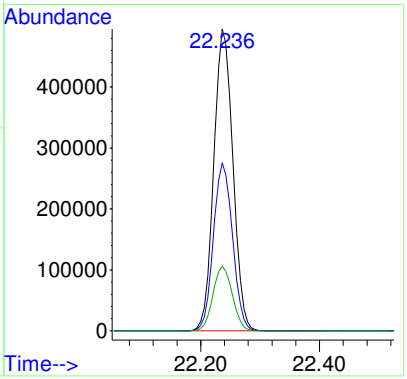





#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 22.236 min Scan# 3050
Delta R.T. -0.000 min
Lab File: 072417KA13.D
Acq: 25 Jul 2017 1:16 am

Tgt Ion:117 Resp: 1103344

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 117 | 100 | | |
| 82 | 55.7 | 36.2 | 76.2 |
| 54 | 21.7 | 2.0 | 42.0 |



# S17G101-IBL2

Quantitation Report (Not Reviewed)

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\072417KA_FSAA\
Data File : 072417KA15.D
InstName : HP5973K
Acq On : 25 Jul 2017 2:56 am
Operator : LLH
Sample : S17G101-IBL2
Misc : 200ml CAN #670
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jul 25 09:23:53 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

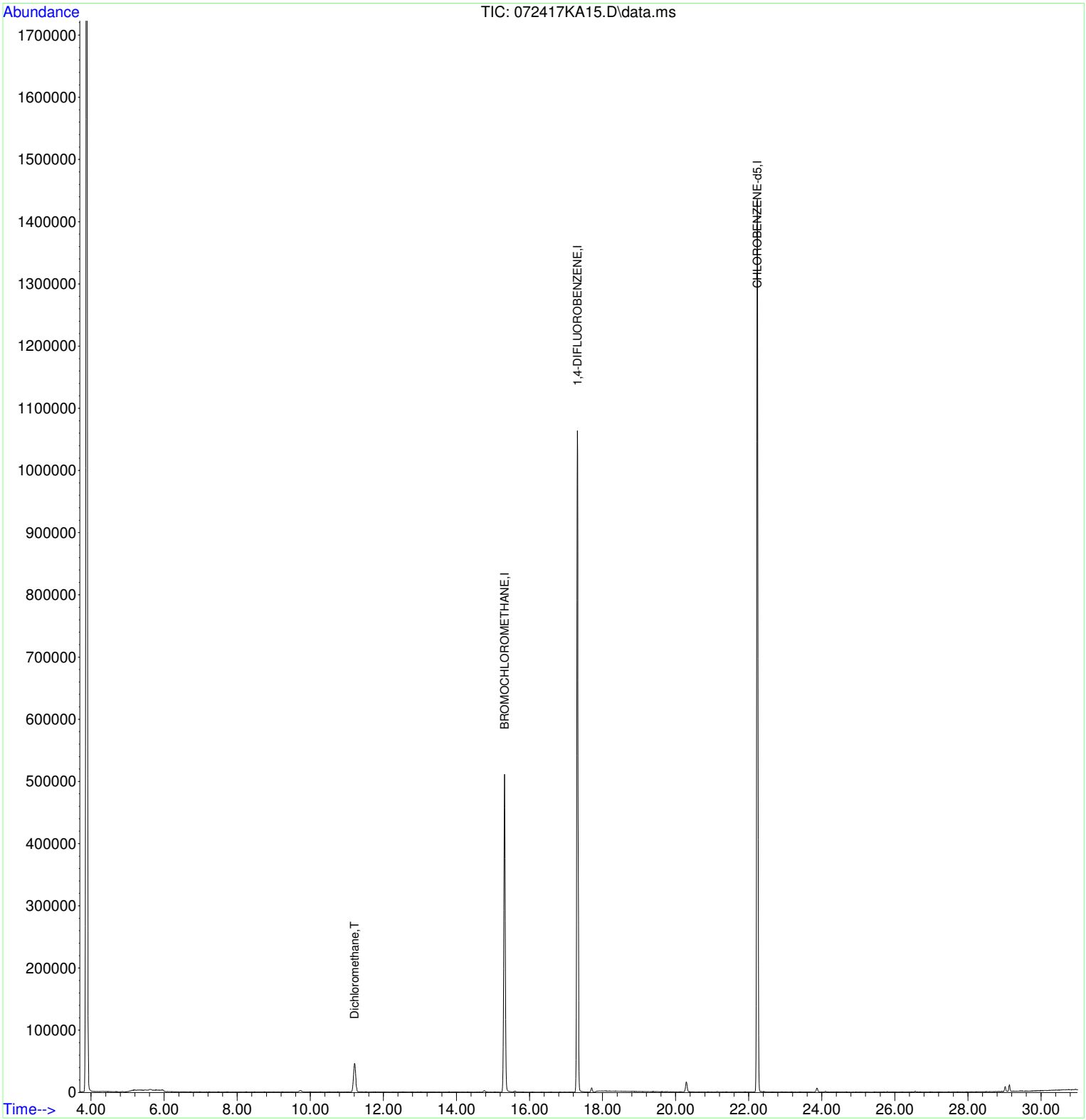
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) | |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) BROMOCHLOROMETHANE | 15.313 | 49 | 310949 | 19.80 | ppbv | 0.00 | |
| 32) 1,4-DIFLUOROBENZENE | 17.309 | 114 | 1164668 | 19.60 | ppbv | 0.00 | |
| 43) CHLOROBENZENE-d5 | 22.236 | 117 | 1062495 | 19.60 | ppbv | 0.00 | |
| Target Compounds | | | | | | Qvalue | |
| 18) Dichloromethane | 11.207 | 49 | 55000 | 4.65 | ppbv | 97 | NT |

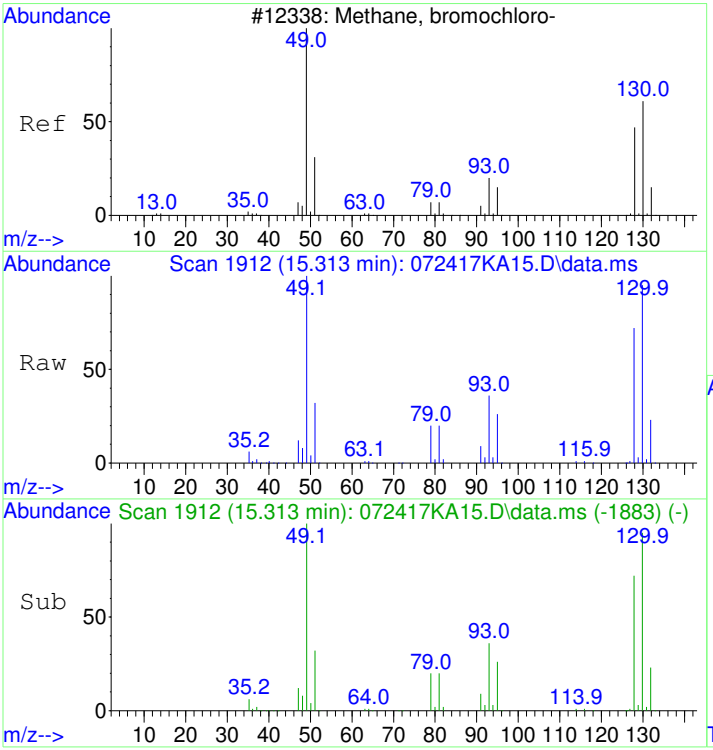
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\072417KA_FSAA\
Data File : 072417KA15.D
InstName : HP5973K
Acq On : 25 Jul 2017 2:56 am
Operator : LLH
Sample : S17G101-IBL2
Misc : 200ml CAN #670
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jul 25 09:23:53 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

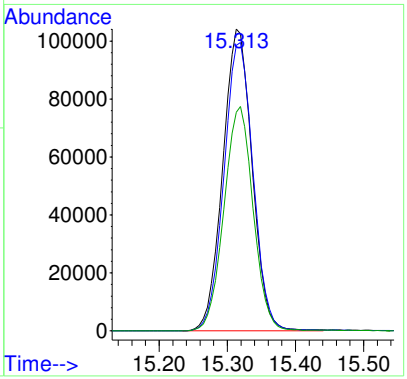


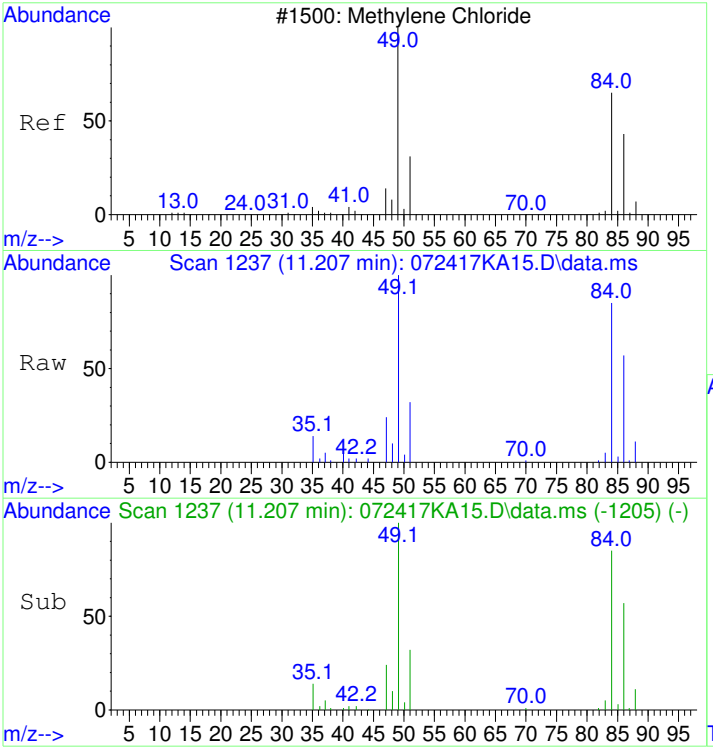



#1
BROMOCHLOROMETHANE
Concen: 19.80 ppbv
RT: 15.313 min Scan# 1912
Delta R.T. 0.000 min
Lab File: 072417KA15.D
Acq: 25 Jul 2017 2:56 am

Tgt Ion: 49 Resp: 310949

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 130 | 94.9 | 67.2 | 107.2 |
| 128 | 73.9 | 47.6 | 87.6 |

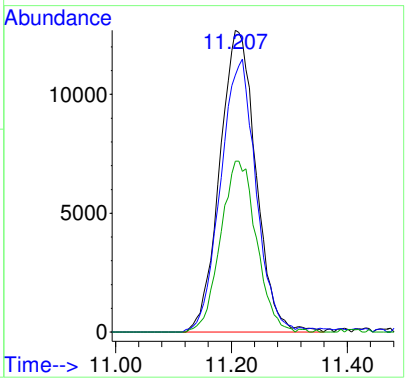


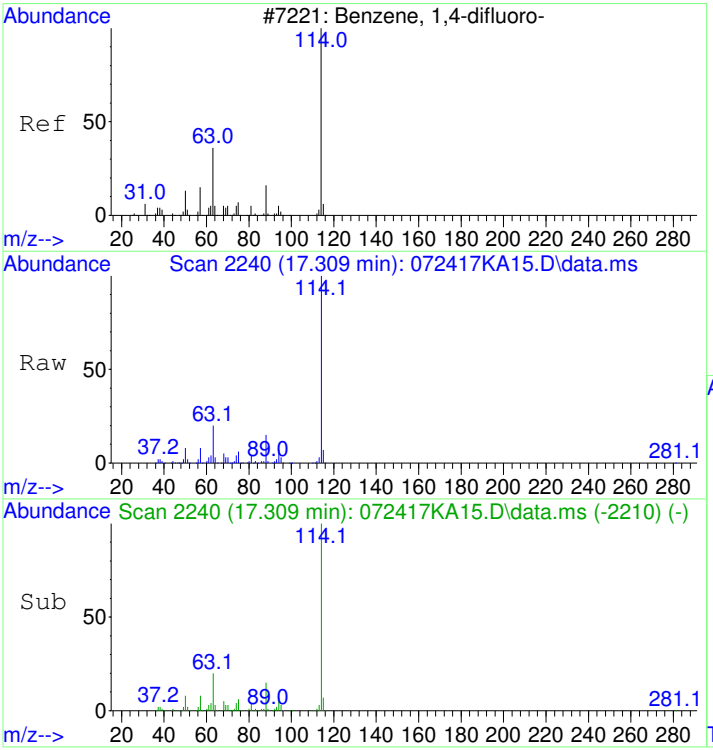




#18
Dichloromethane
Concen: 4.65 ppbv
RT: 11.207 min Scan# 1237
Delta R.T. -0.006 min
Lab File: 072417KA15.D
Acq: 25 Jul 2017 2:56 am

Tgt Ion: 49 Resp: 55000

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 84 | 89.5 | 66.5 | 106.5 |
| 86 | 56.1 | 34.5 | 74.5 |

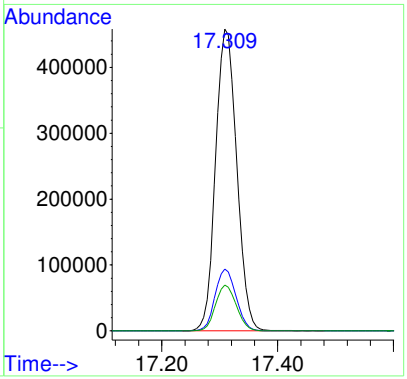


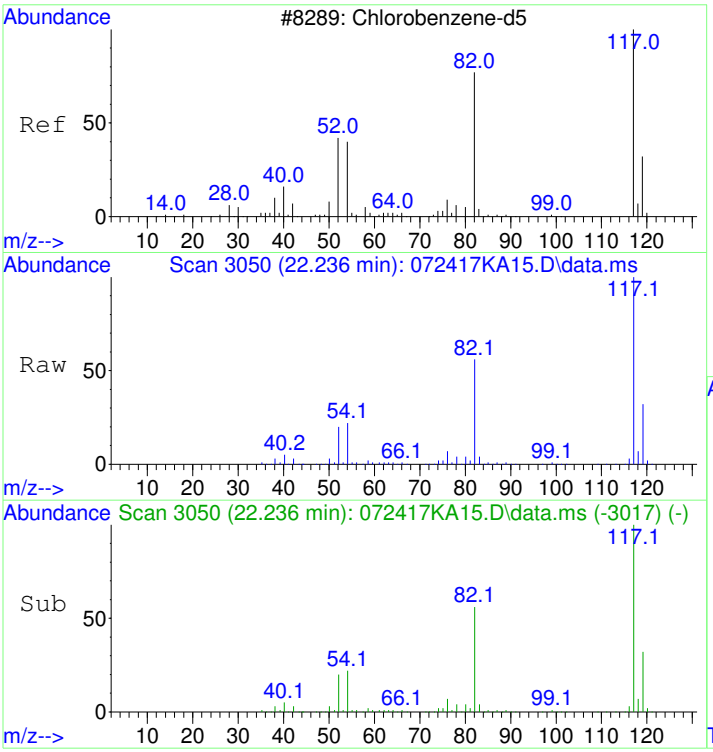



#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 17.309 min Scan# 2240
Delta R.T. 0.000 min
Lab File: 072417KA15.D
Acq: 25 Jul 2017 2:56 am

Tgt Ion:114 Resp: 1164668

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 114 | 100 | | |
| 63 | 20.3 | 0.8 | 40.8 |
| 88 | 14.9 | 0.0 | 35.1 |

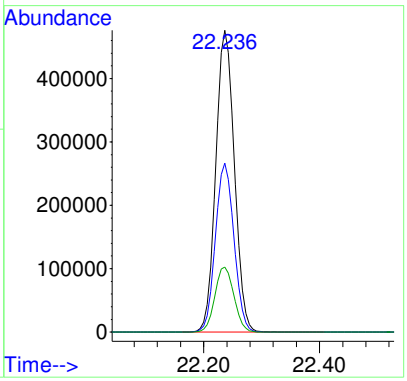



#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 22.236 min Scan# 3050
Delta R.T. 0.000 min
Lab File: 072417KA15.D
Acq: 25 Jul 2017 2:56 am

Tgt Ion:117 Resp: 1062495

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 117 | 100 | | |
| 82 | 55.9 | 36.2 | 76.2 |
| 54 | 22.1 | 2.0 | 42.0 |



# S17G101-IBL3

Quantitation Report (Not Reviewed)

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\072417KA_FSAA\
Data File : 072417KA18.D
InstName : HP5973K
Acq On : 25 Jul 2017 5:30 am
Operator : LLH
Sample : S17G101-IBL3
Misc : 200ml CAN #1109
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jul 25 09:25:39 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) BROMOCHLOROMETHANE | 15.313 | 49 | 324203 | 19.80 | ppbv | 0.00 |
| 32) 1,4-DIFLUOROBENZENE | 17.309 | 114 | 1189830 | 19.60 | ppbv | 0.00 |
| 43) CHLOROBENZENE-d5 | 22.236 | 117 | 1084876 | 19.60 | ppbv | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 18) Dichloromethane | 11.207 | 49 | 62284 | 5.05 | ppbv | 96 |

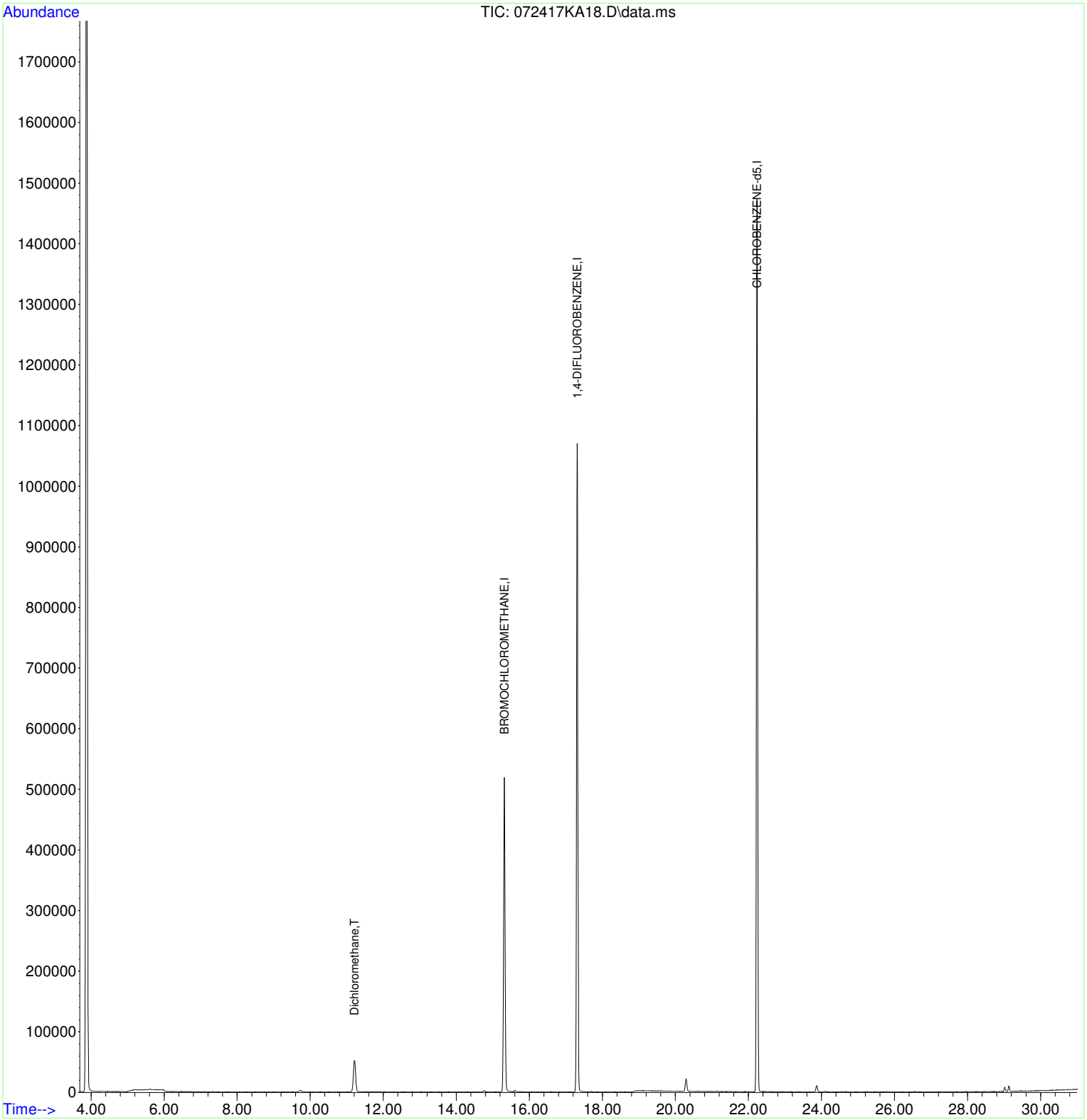
NT

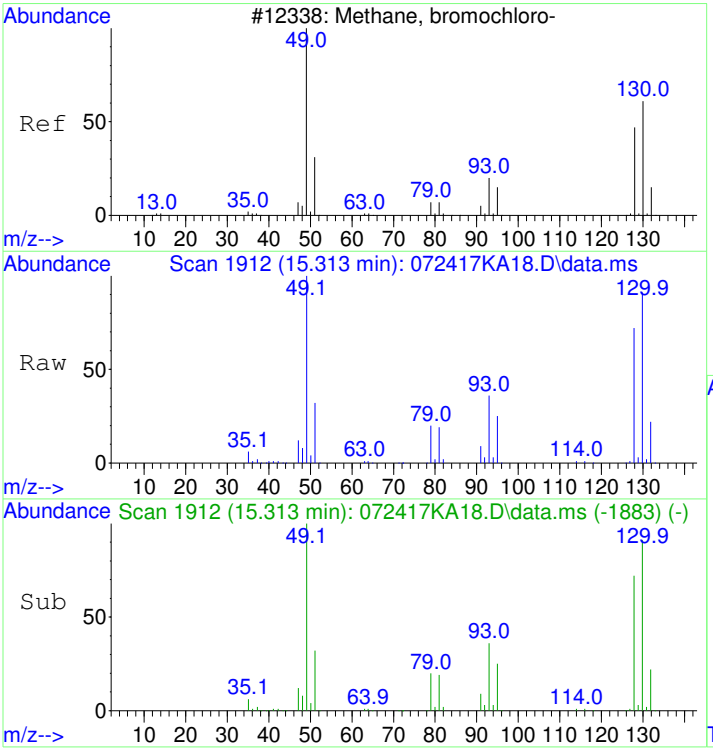
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\072417KA_FSAA\
Data File : 072417KA18.D
InstName : HP5973K
Acq On : 25 Jul 2017 5:30 am
Operator : LLH
Sample : S17G101-IBL3
Misc : 200ml CAN #1109
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jul 25 09:25:39 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

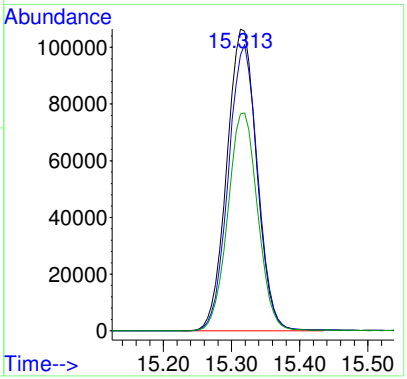


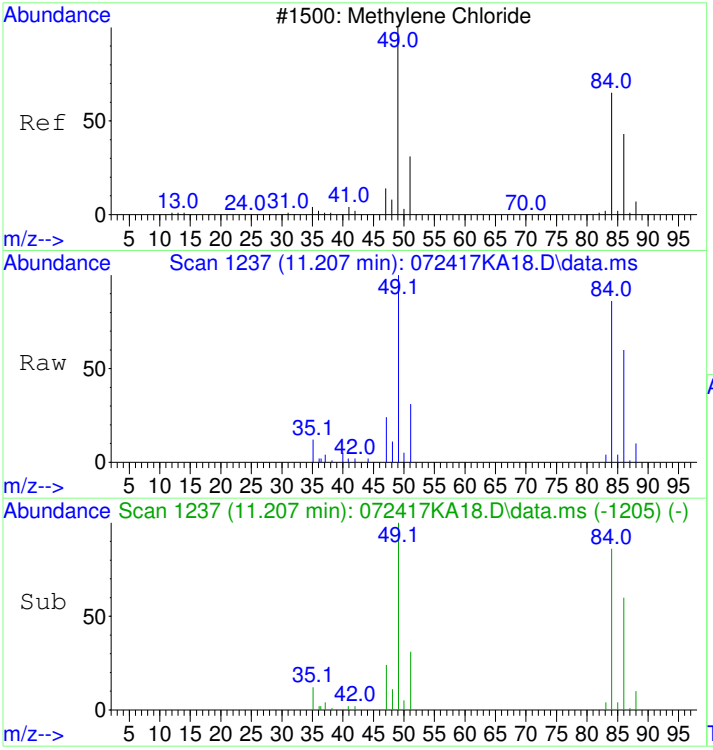



#1
BROMOCHLOROMETHANE
Concen: 19.80 ppbv
RT: 15.313 min Scan# 1912
Delta R.T. 0.000 min
Lab File: 072417KA18.D
Acq: 25 Jul 2017 5:30 am

Tgt Ion: 49 Resp: 324203

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 130 | 92.8 | 67.2 | 107.2 |
| 128 | 72.1 | 47.6 | 87.6 |

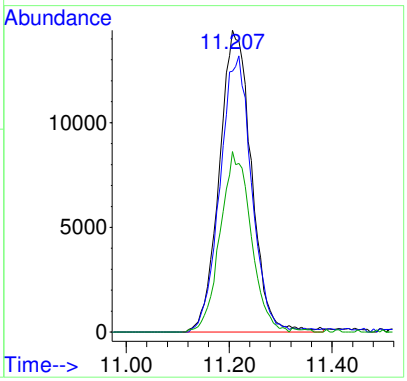


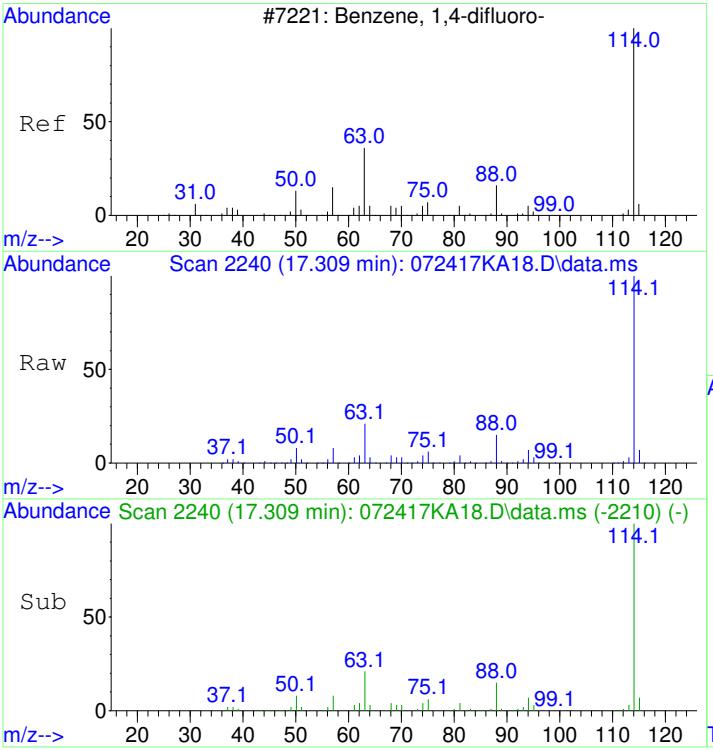




#18
Dichloromethane
Concen: 5.05 ppbv
RT: 11.207 min Scan# 1237
Delta R.T. -0.006 min
Lab File: 072417KA18.D
Acq: 25 Jul 2017 5:30 am

Tgt Ion: 49 Resp: 62284

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 84 | 90.8 | 66.5 | 106.5 |
| 86 | 57.4 | 34.5 | 74.5 |

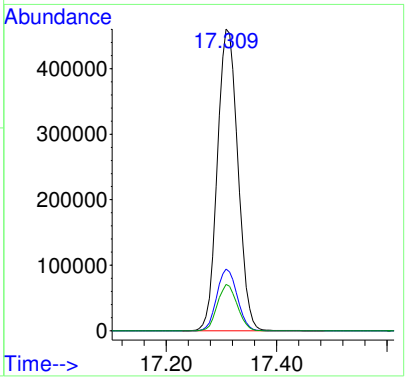


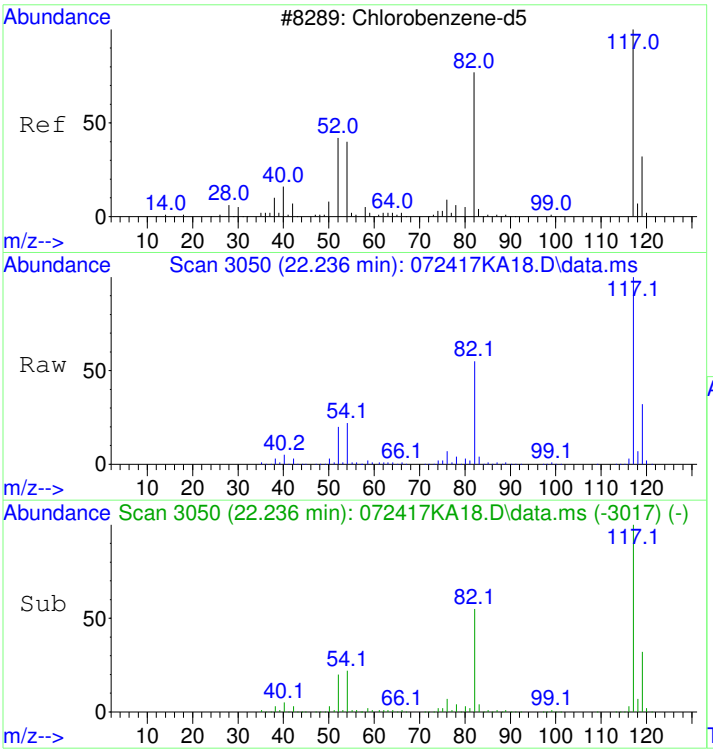



#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 17.309 min Scan# 2240
Delta R.T. -0.000 min
Lab File: 072417KA18.D
Acq: 25 Jul 2017 5:30 am

Tgt Ion:114 Resp: 1189830

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 114 | 100 | | |
| 63 | 20.4 | 0.8 | 40.8 |
| 88 | 14.9 | 0.0 | 35.1 |

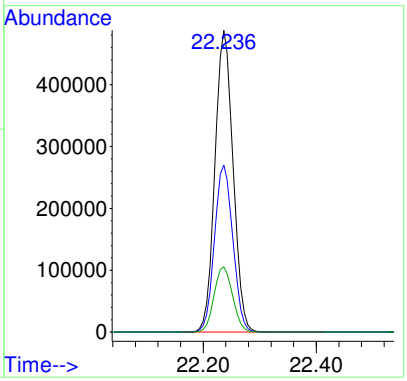



#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 22.236 min Scan# 3050
Delta R.T. -0.000 min
Lab File: 072417KA18.D
Acq: 25 Jul 2017 5:30 am

Tgt Ion:117 Resp: 1084876

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 117 | 100 | | |
| 82 | 56.1 | 36.2 | 76.2 |
| 54 | 22.1 | 2.0 | 42.0 |



# S17G101-IBL4

Quantitation Report (Not Reviewed)

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\072417KA_FSAA\
Data File : 072417KA19.D
InstName : HP5973K
Acq On : 25 Jul 2017 6:21 am
Operator : LLH
Sample : S17G101-IBL4
Misc : 200ml CAN #1119
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jul 25 09:25:51 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

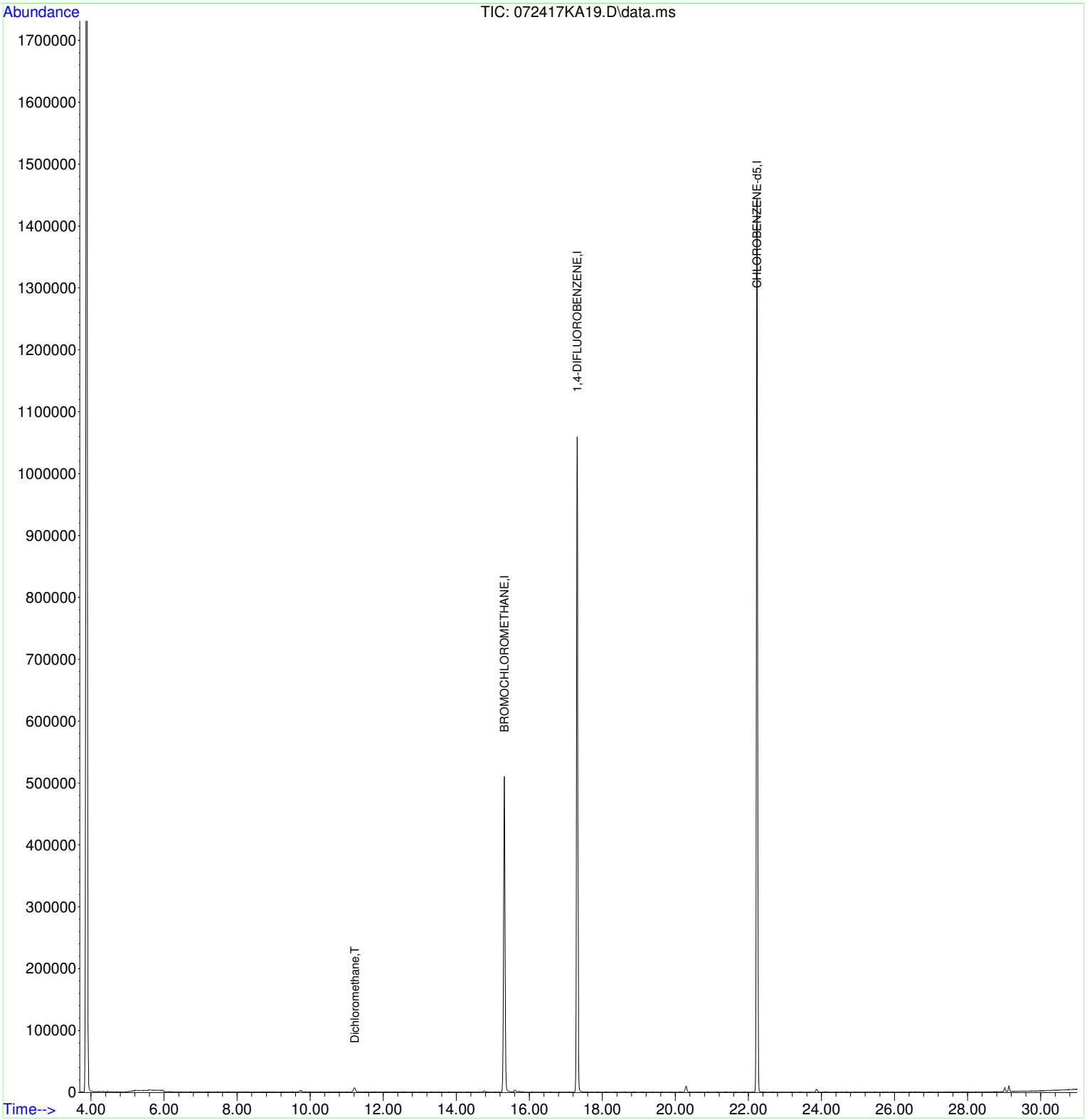
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) BROMOCHLOROMETHANE | 15.313 | 49 | 312365 | 19.80 | ppbv | 0.00 |
| 32) 1,4-DIFLUOROBENZENE | 17.309 | 114 | 1168815 | 19.60 | ppbv | 0.00 |
| 43) CHLOROBENZENE-d5 | 22.236 | 117 | 1063589 | 19.60 | ppbv | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 18) Dichloromethane | 11.219 | 49 | 8195 | 0.69 | ppbv | 97 NT |

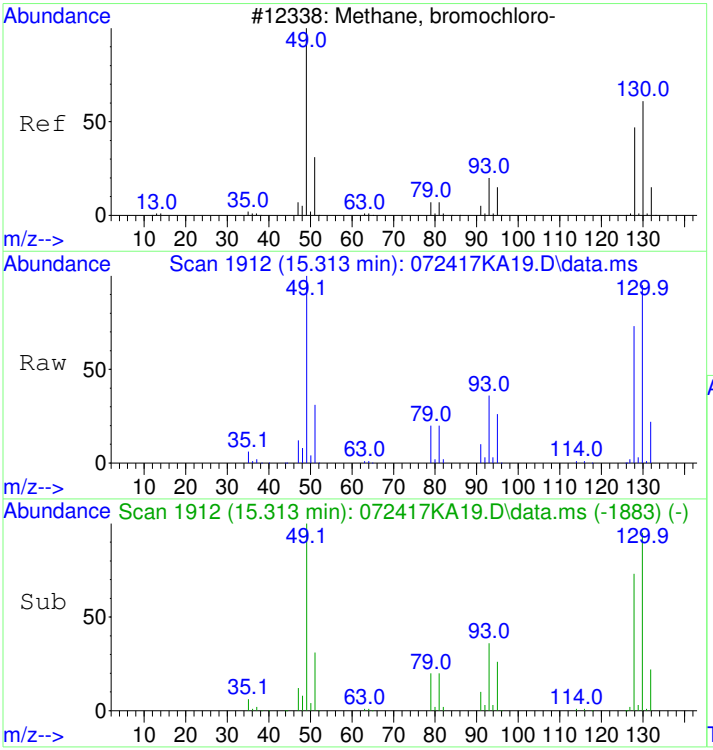
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\072417KA_FSAA\
Data File : 072417KA19.D
InstName : HP5973K
Acq On : 25 Jul 2017 6:21 am
Operator : LLH
Sample : S17G101-IBL4
Misc : 200ml CAN #1119
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jul 25 09:25:51 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

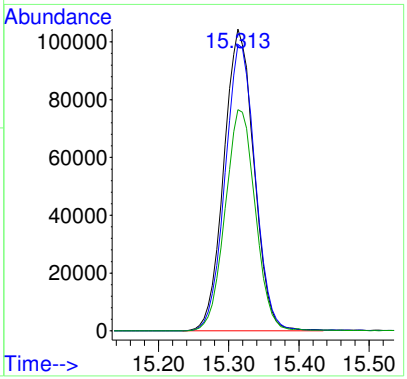


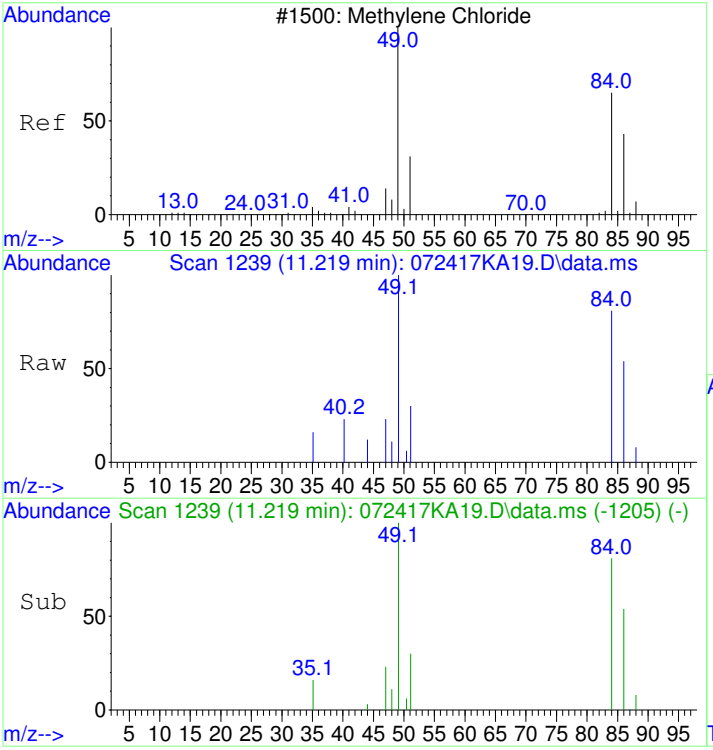



#1
BROMOCHLOROMETHANE
Concen: 19.80 ppbv
RT: 15.313 min Scan# 1912
Delta R.T. 0.000 min
Lab File: 072417KA19.D
Acq: 25 Jul 2017 6:21 am

Tgt Ion: 49 Resp: 312365

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 130 | 94.5 | 67.2 | 107.2 |
| 128 | 73.4 | 47.6 | 87.6 |

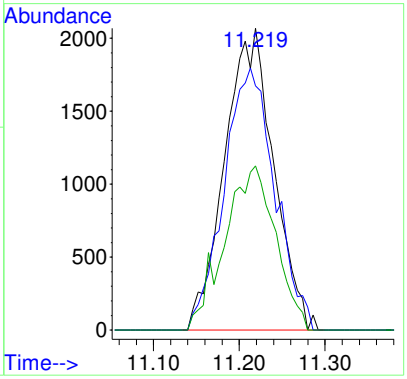


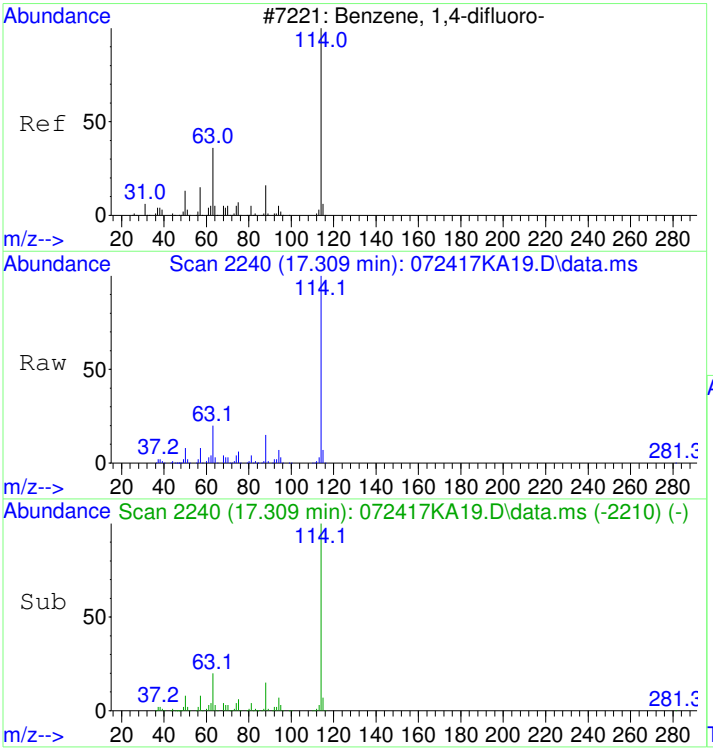




#18
Dichloromethane
Concen: 0.69 ppbv
RT: 11.219 min Scan# 1239
Delta R.T. 0.006 min
Lab File: 072417KA19.D
Acq: 25 Jul 2017 6:21 am

Tgt Ion: 49 Resp: 8195

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 84 | 90.0 | 66.5 | 106.5 |
| 86 | 56.5 | 34.5 | 74.5 |

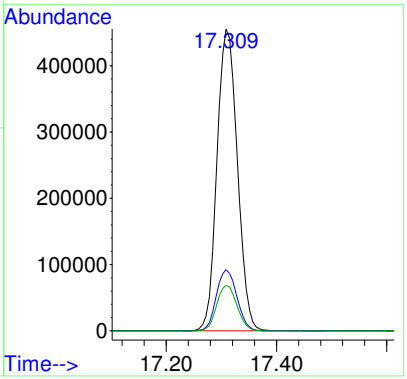


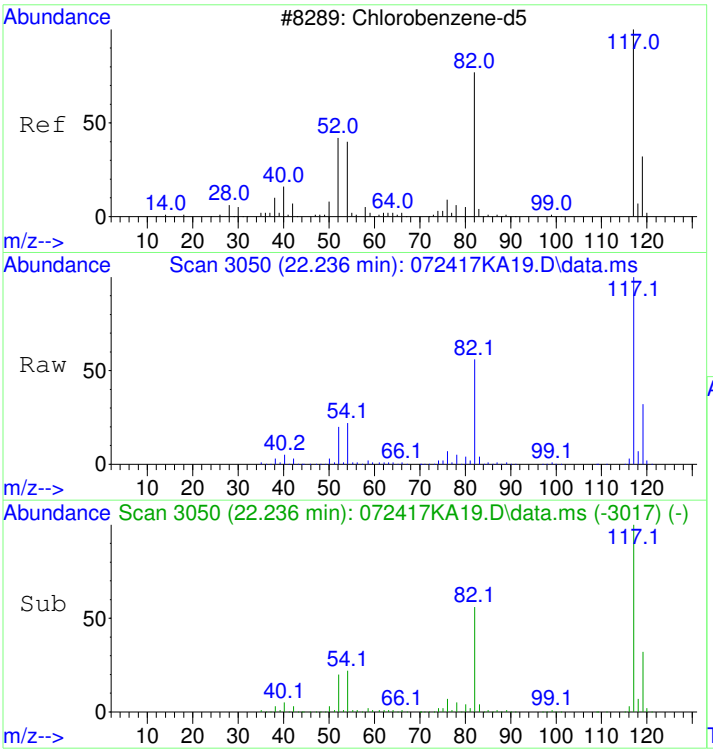



#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 17.309 min Scan# 2240
Delta R.T. 0.000 min
Lab File: 072417KA19.D
Acq: 25 Jul 2017 6:21 am

Tgt Ion:114 Resp: 1168815

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 114 | 100 | | |
| 63 | 20.4 | 0.8 | 40.8 |
| 88 | 15.0 | 0.0 | 35.1 |

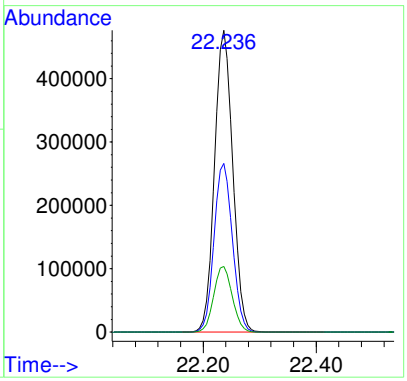



#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 22.236 min Scan# 3050
Delta R.T. 0.000 min
Lab File: 072417KA19.D
Acq: 25 Jul 2017 6:21 am

Tgt Ion:117 Resp: 1063589

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 117 | 100 | | |
| 82 | 56.3 | 36.2 | 76.2 |
| 54 | 22.1 | 2.0 | 42.0 |



# 1707040-07RE2

Data Path : D:\msdchem\1\2017\DATA\072417KA_FSAA\
Data File : 072417KA20.D
InstName : HP5973K
Acq On : 25 Jul 2017 9:34 am
Operator : LLH
Sample : 1707040-07RE2
Misc : 20ml ORIG CAN #1983
ALS Vial : 15 Sample Multiplier: 2.07

report TCE

Quant Time: Jul 25 10:31:46 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) BROMOCHLOROMETHANE | 15.313 | 49 | 323459 | 19.80 | ppbv | 0.00 |
| 32) 1,4-DIFLUOROBENZENE | 17.308 | 114 | 1196333 | 19.60 | ppbv | 0.00 |
| 43) CHLOROBENZENE-d5 | 22.230 | 117 | 1098490 | 19.60 | ppbv | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 24) cis-1,2-Dichloroethene | 14.747 | 61 | 6892 | 0.55 | ppbv | 96 |
| 37) Trichloroethene | 17.698 | 130 | 246225 | 15.54 | ppbv | 100 |
| 47) Tetrachloroethene | 20.764 | 166 | 25669 | 1.07 | ppbv | 98 |

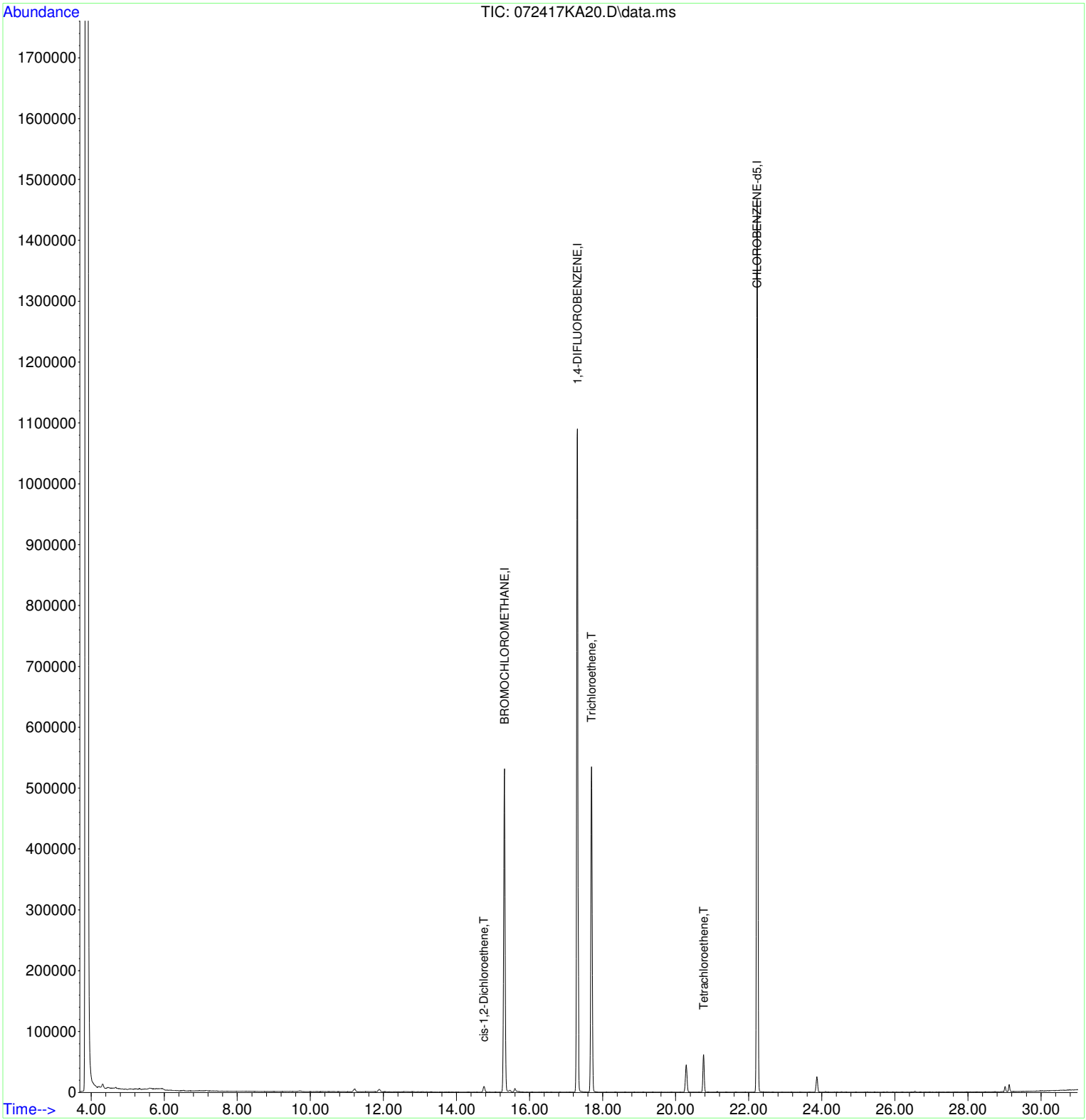
(#) = qualifier out of range (m) = manual integration (+) = signals summed

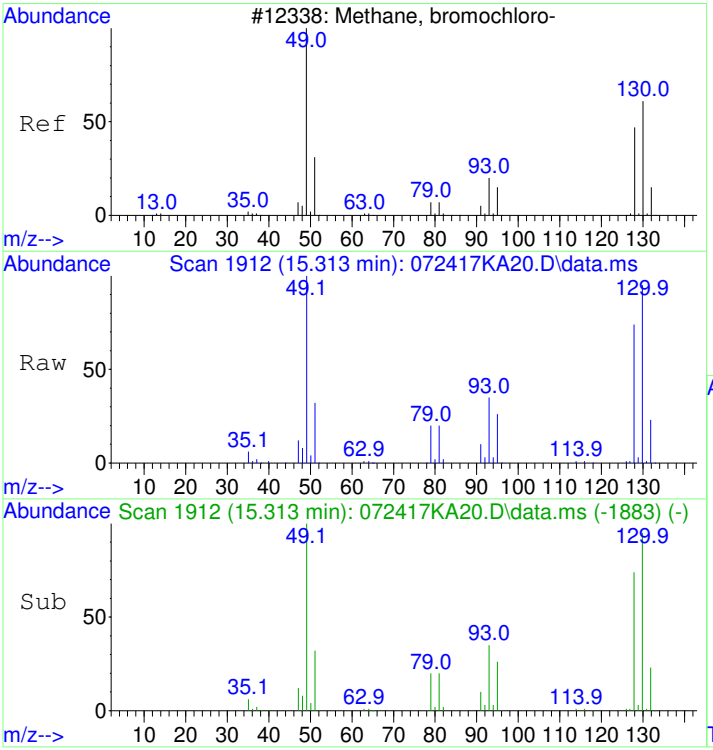
**REVIEWED**
**By LLH at 10:33 am, Jul 25, 2017**

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\072417KA_FSAA\
Data File : 072417KA20.D
InstName : HP5973K
Acq On : 25 Jul 2017 9:34 am
Operator : LLH
Sample : 1707040-07RE2
Misc : 20ml ORIG CAN #1983
ALS Vial : 15 Sample Multiplier: 2.07

Quant Time: Jul 25 10:31:46 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

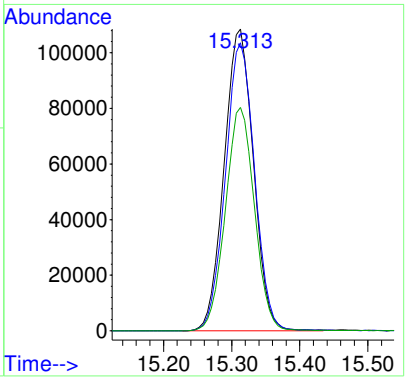


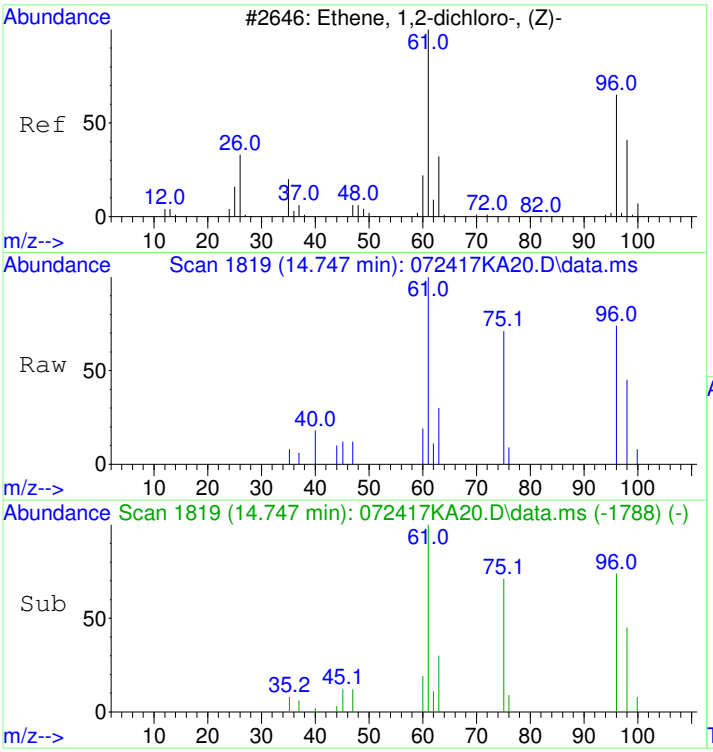



#1
BROMOCHLOROMETHANE
Concen: 19.80 ppbv
RT: 15.313 min Scan# 1912
Delta R.T. -0.000 min
Lab File: 072417KA20.D
Acq: 25 Jul 2017 9:34 am

Tgt Ion: 49 Resp: 323459

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 130 | 94.9 | 67.2 | 107.2 |
| 128 | 73.5 | 47.6 | 87.6 |

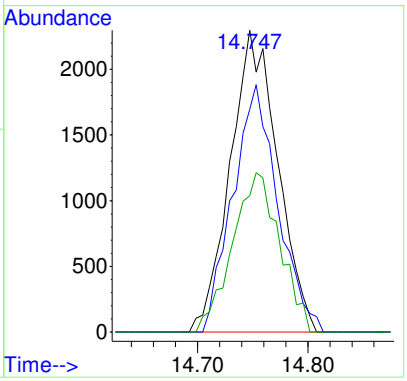


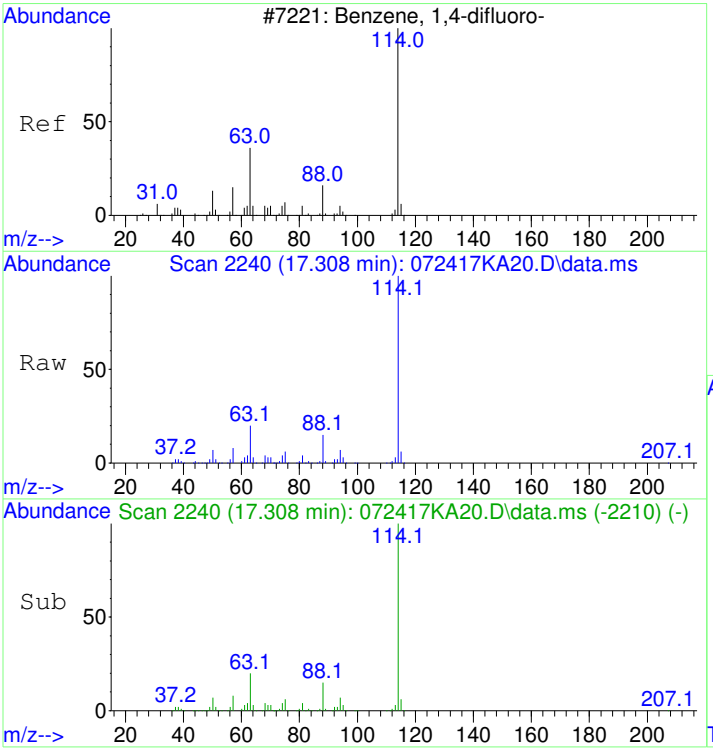




#24
cis-1,2-Dichloroethene
Concen: 0.55 ppbv
RT: 14.747 min Scan# 1819
Delta R.T. -0.012 min
Lab File: 072417KA20.D
Acq: 25 Jul 2017 9:34 am

Tgt Ion: 61 Resp: 6892

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 61 | 100 | | |
| 96 | 77.7 | 56.2 | 96.2 |
| 98 | 52.4 | 27.8 | 67.8 |

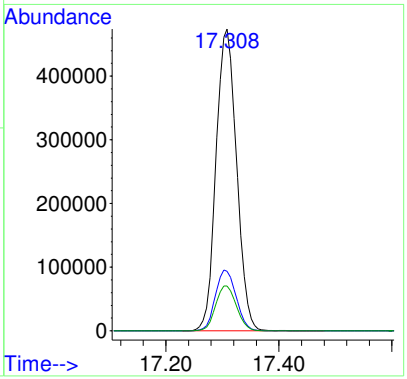


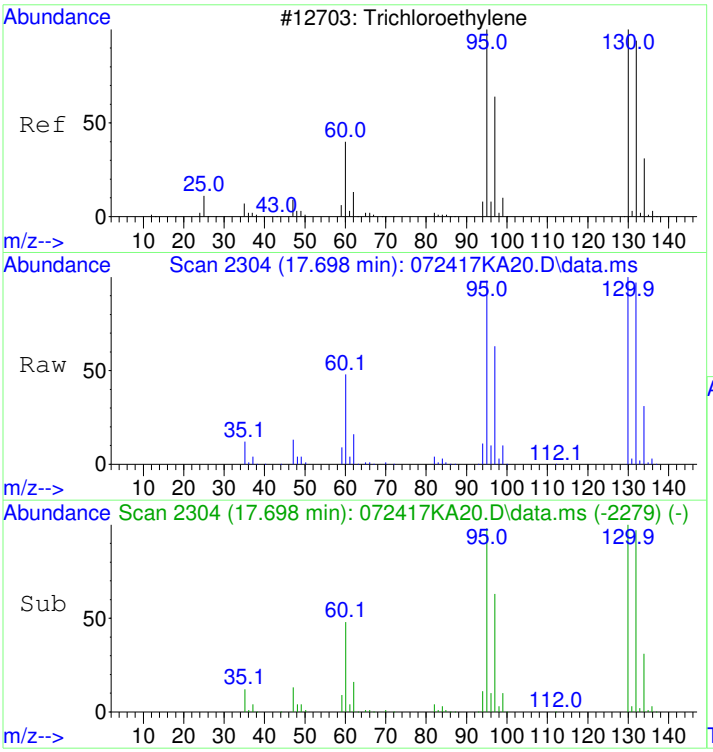



#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 17.308 min Scan# 2240
Delta R.T. -0.000 min
Lab File: 072417KA20.D
Acq: 25 Jul 2017 9:34 am

Tgt Ion:114 Resp: 1196333

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 114 | 100 | | |
| 63 | 20.4 | 0.8 | 40.8 |
| 88 | 15.0 | 0.0 | 35.1 |

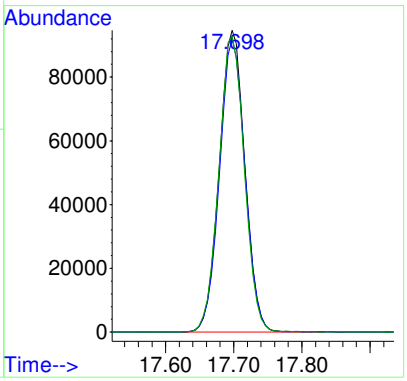


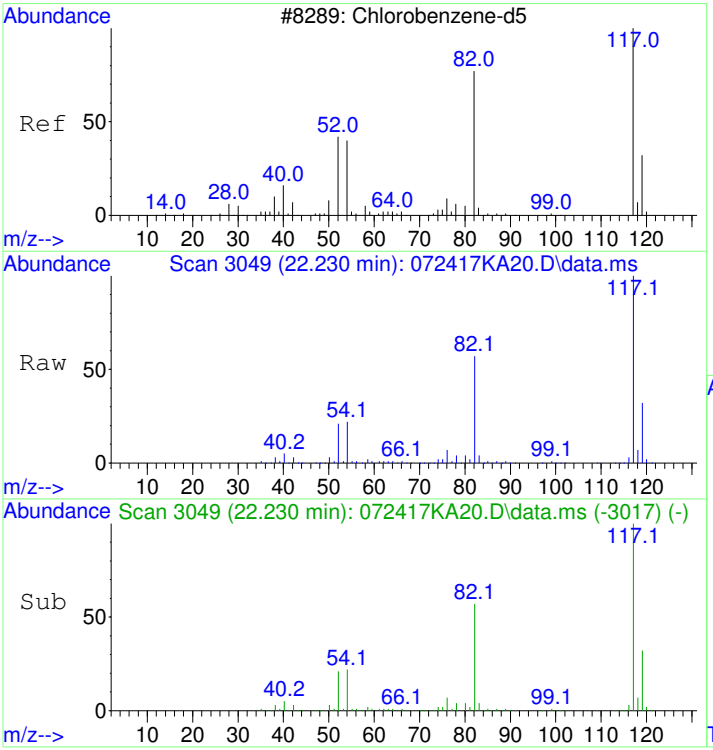




#37
Trichloroethene
Concen: 15.54 ppbv
RT: 17.698 min Scan# 2304
Delta R.T. -0.000 min
Lab File: 072417KA20.D
Acq: 25 Jul 2017 9:34 am

Tgt Ion:130 Resp: 246225

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 130 | 100 | | |
| 132 | 96.8 | 77.0 | 117.0 |
| 95 | 97.9 | 78.3 | 118.3 |

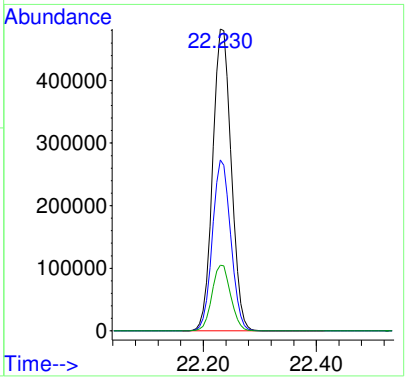


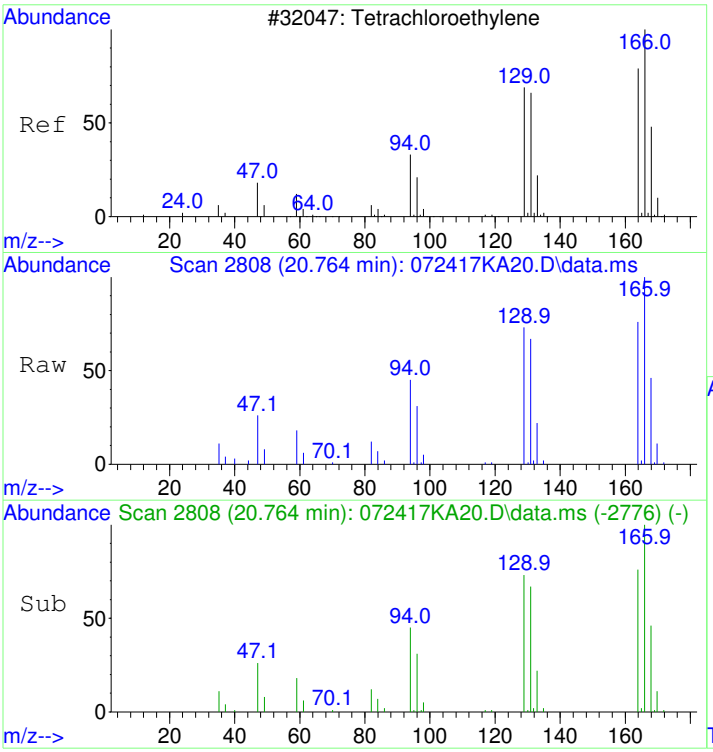



#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 22.230 min Scan# 3049
Delta R.T. -0.006 min
Lab File: 072417KA20.D
Acq: 25 Jul 2017 9:34 am

Tgt Ion:117 Resp: 1098490

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 117 | 100 | | |
| 82 | 56.0 | 36.2 | 76.2 |
| 54 | 21.8 | 2.0 | 42.0 |

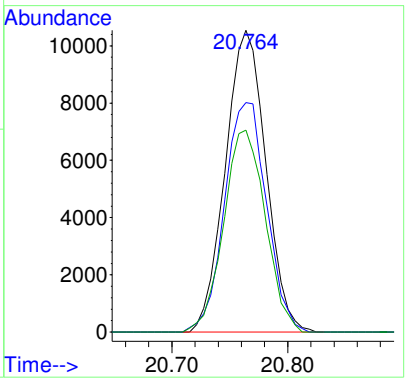



#47
Tetrachloroethene
Concen: 1.07 ppbv
RT: 20.764 min Scan# 2808
Delta R.T. -0.006 min
Lab File: 072417KA20.D
Acq: 25 Jul 2017 9:34 am

Tgt Ion:166 Resp: 25669

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 166 | 100 | | |
| 164 | 79.1 | 57.9 | 97.9 |
| 131 | 68.7 | 47.0 | 87.0 |



# 1707040-02RE2

Data Path : D:\msdchem\1\2017\DATA\072417KA_FSAA\
Data File : 072417KA22.D
InstName : HP5973K
Acq On : 25 Jul 2017 11:17 am
Operator : LLH
Sample : 1707040-02RE2
Misc : 200ml 2ND CAN #877
ALS Vial : 17 Sample Multiplier: 251.66

report trans12DCE

see -02RE1 for TCE

Quant Time: Jul 25 11:48:24 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) | |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) BROMOCHLOROMETHANE | 15.319 | 49 | 331333 | 19.80 | ppbv | 0.00 | |
| 32) 1,4-DIFLUOROBENZENE | 17.315 | 114 | 1300797 | 19.60 | ppbv | 0.00 | |
| 43) CHLOROBENZENE-d5 | 22.242 | 117 | 1178782 | 19.60 | ppbv | 0.00 | |
| Target Compounds | | | | | | Qvalue | |
| 18) Dichloromethane | 11.213 | 49 | 14951 | 1.19 | ppbv | 94 | NT |
| 20) trans-1,2-Dichloroethene | 11.888 | 61 | 40564 | 2.74 | ppbv | 93 | |
| 24) cis-1,2-Dichloroethene | 14.766 | 61 | 26115 | 2.03 | ppbv | 93 | |
| 37) Trichloroethene | 17.704 | 130 | 2980518 | 173.05 | ppbv | 97 | oc |

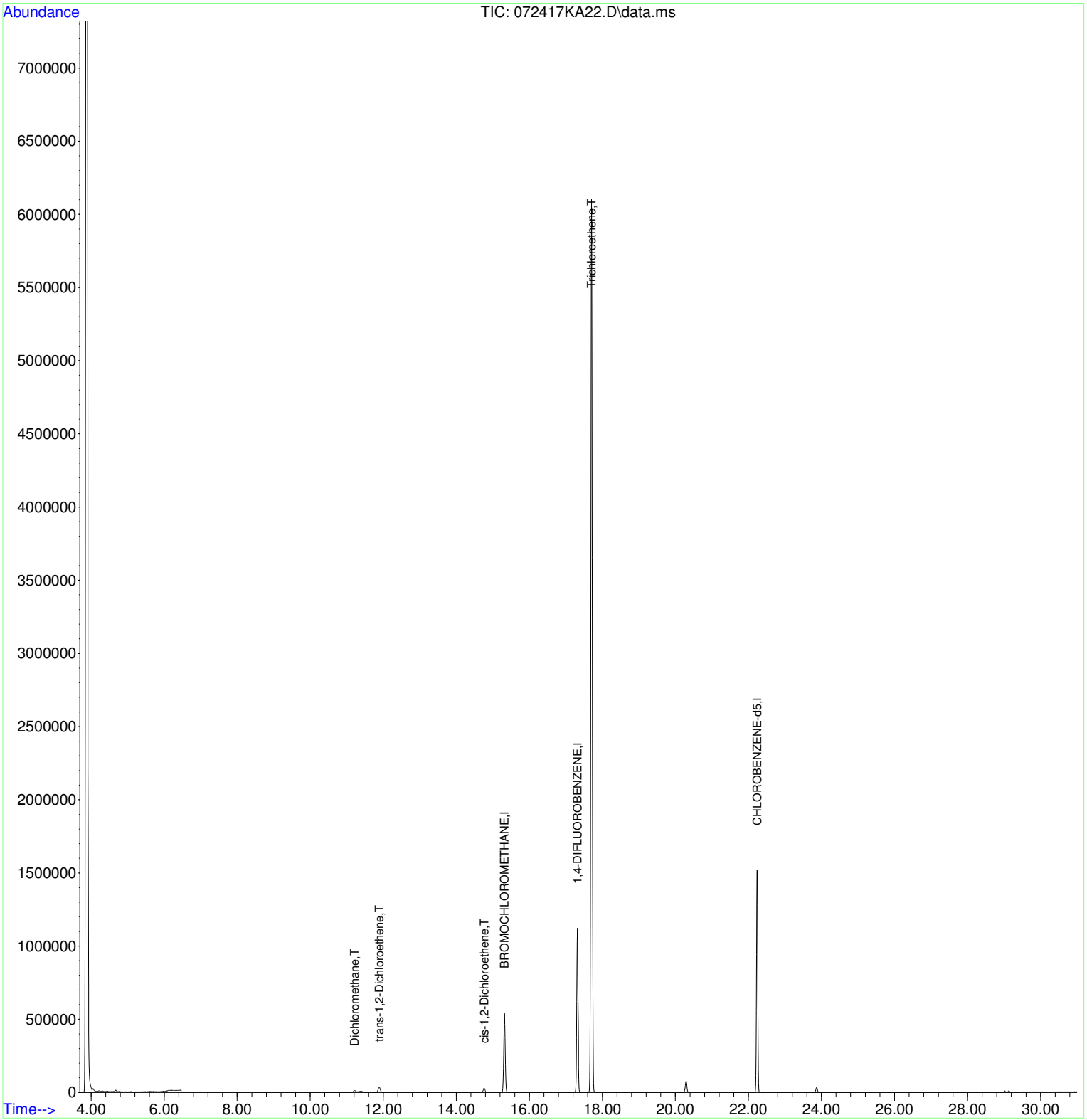
(#) = qualifier out of range (m) = manual integration (+) = signals summed

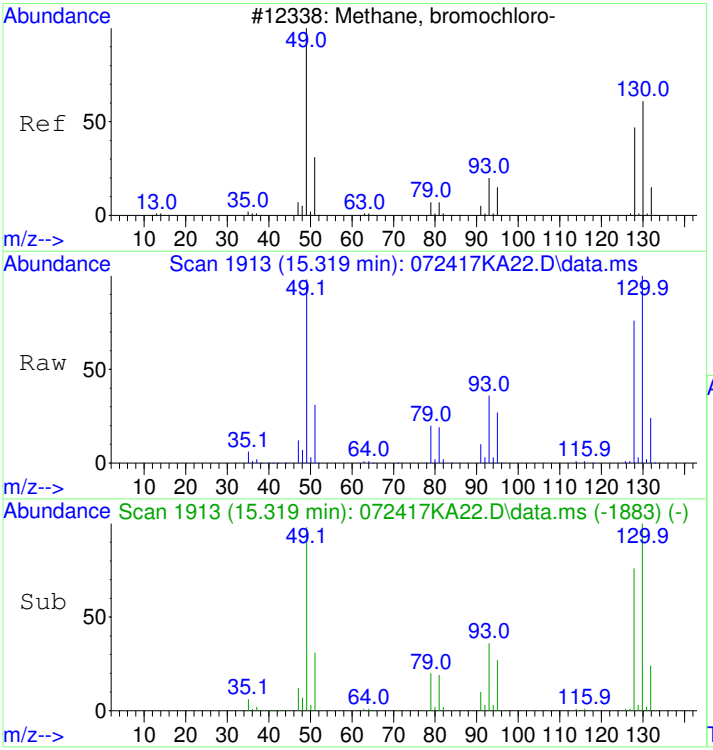
**REVIEWED**
**By LLH at 11:49 am, Jul 25, 2017**

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\072417KA_FSAA\
Data File : 072417KA22.D
InstName : HP5973K
Acq On : 25 Jul 2017 11:17 am
Operator : LLH
Sample : 1707040-02RE2
Misc : 200ml 2ND CAN #877
ALS Vial : 17 Sample Multiplier: 251.66

Quant Time: Jul 25 11:48:24 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

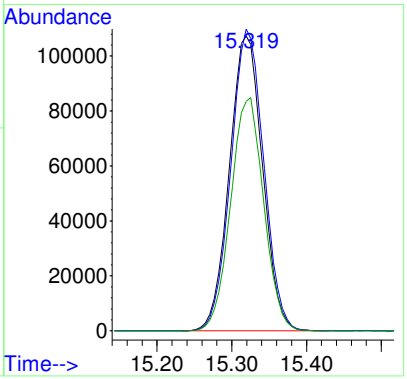


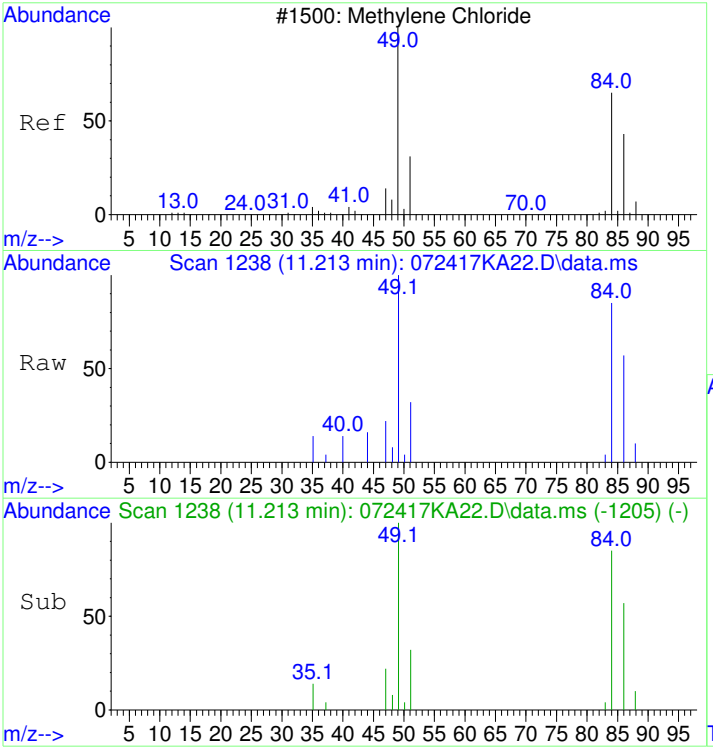



#1
BROMOCHLOROMETHANE
Concen: 19.80 ppbv
RT: 15.319 min Scan# 1913
Delta R.T. 0.006 min
Lab File: 072417KA22.D
Acq: 25 Jul 2017 11:17 am

Tgt Ion: 49 Resp: 331333

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 130 | 101.1 | 67.2 | 107.2 |
| 128 | 78.5 | 47.6 | 87.6 |

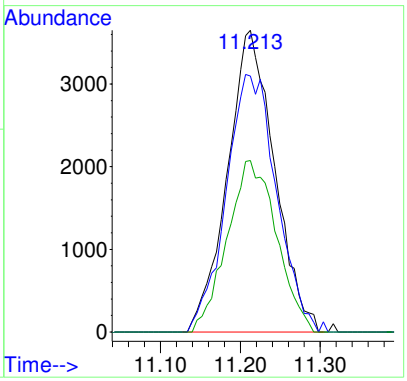


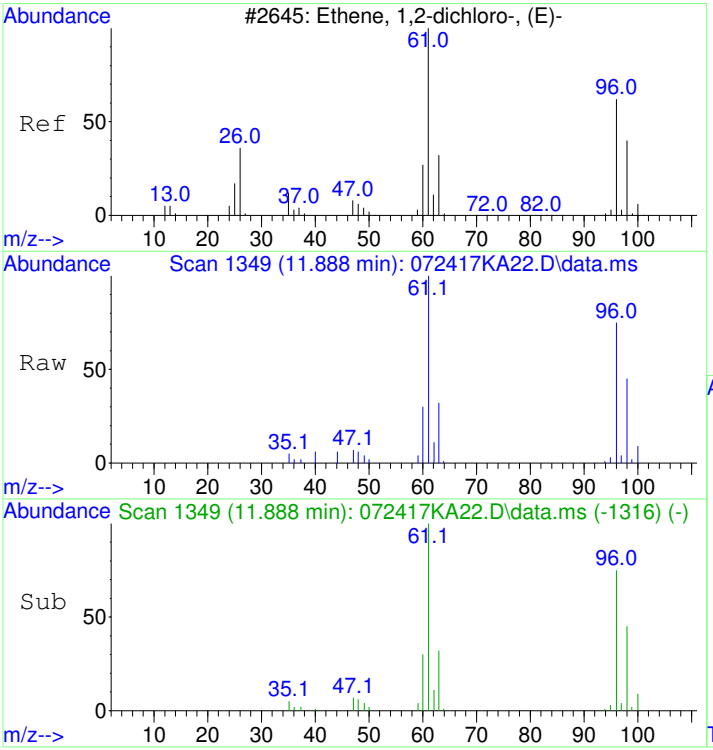




#18
Dichloromethane
Concen: 1.19 ppbv
RT: 11.213 min Scan# 1238
Delta R.T. -0.000 min
Lab File: 072417KA22.D
Acq: 25 Jul 2017 11:17 am

Tgt Ion: 49 Resp: 14951

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 84 | 91.3 | 66.5 | 106.5 |
| 86 | 59.3 | 34.5 | 74.5 |

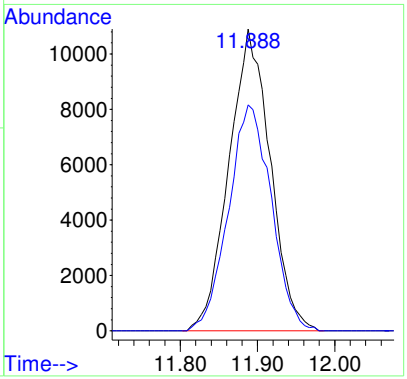


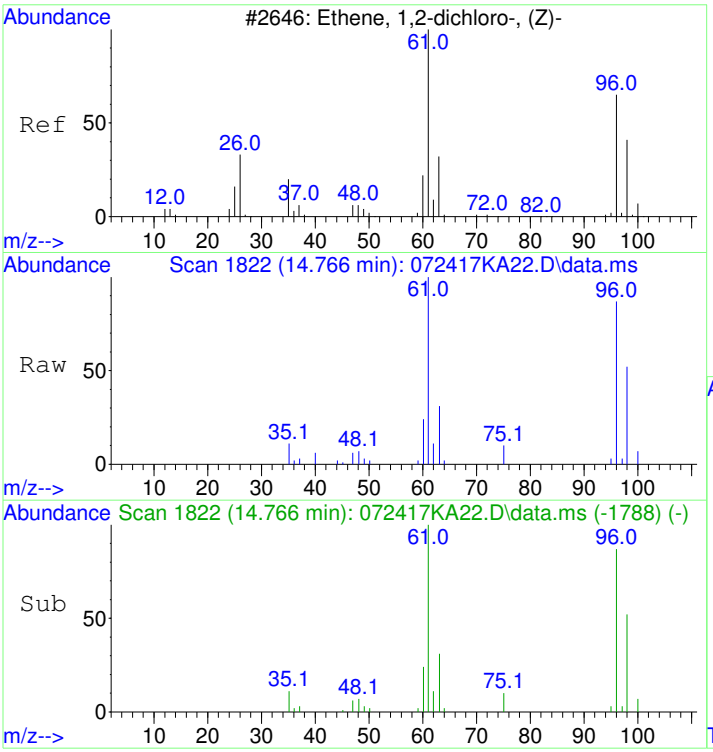



#20
trans-1,2-Dichloroethene
Concen: 2.74 ppbv
RT: 11.888 min Scan# 1349
Delta R.T. -0.000 min
Lab File: 072417KA22.D
Acq: 25 Jul 2017 11:17 am

Tgt Ion: 61 Resp: 40564

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 61 | 100 | | |
| 96 | 77.5 | 51.3 | 91.3 |

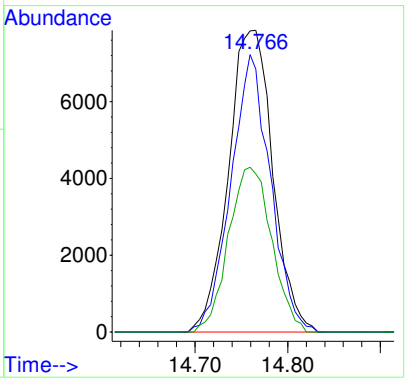


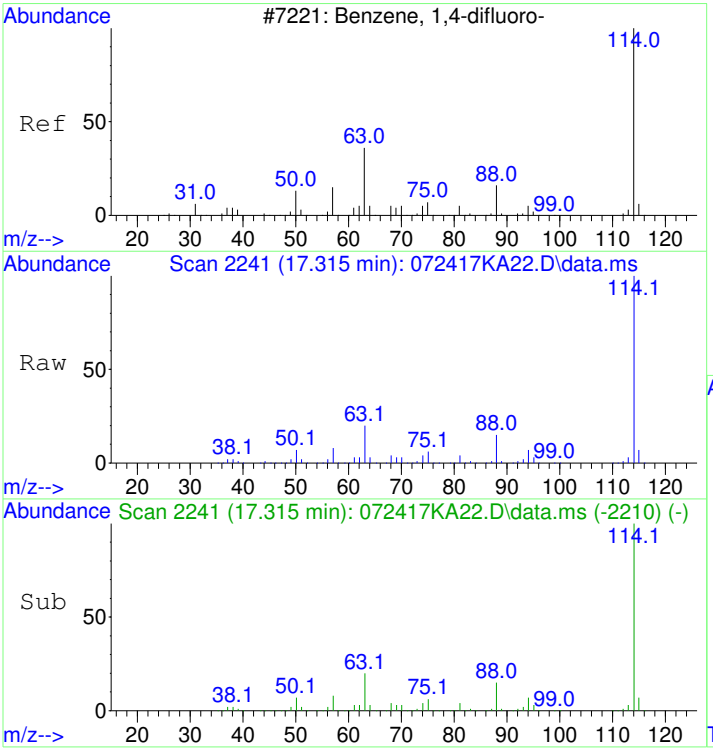




#24
cis-1,2-Dichloroethene
Concen: 2.03 ppbv
RT: 14.766 min Scan# 1822
Delta R.T. 0.006 min
Lab File: 072417KA22.D
Acq: 25 Jul 2017 11:17 am

Tgt Ion: 61 Resp: 26115

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 61 | 100 | | |
| 96 | 81.9 | 56.2 | 96.2 |
| 98 | 53.1 | 27.8 | 67.8 |

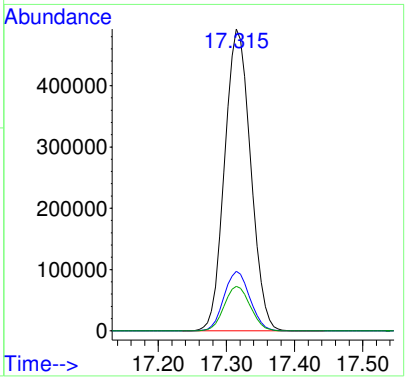


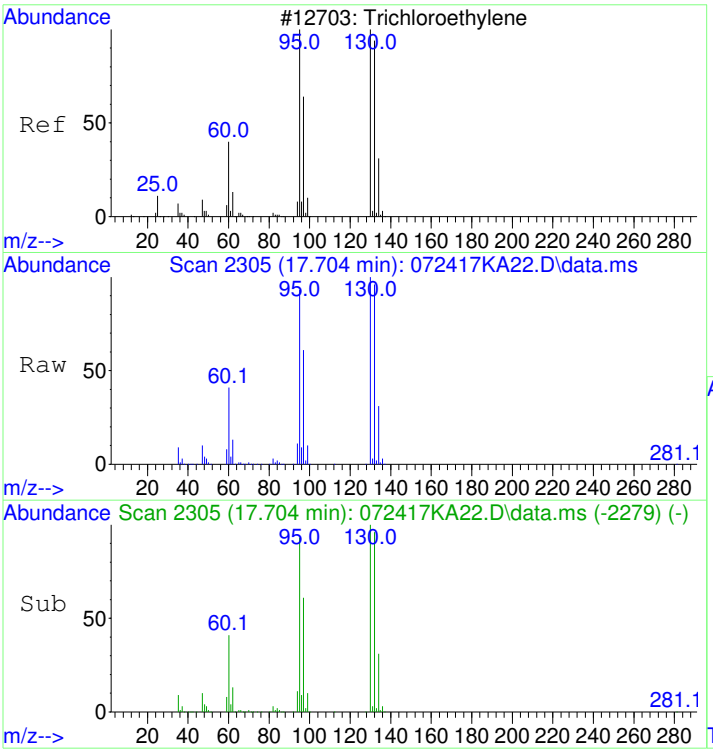



#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 17.315 min Scan# 2241
Delta R.T. 0.006 min
Lab File: 072417KA22.D
Acq: 25 Jul 2017 11:17 am

Tgt Ion:114 Resp: 1300797

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 114 | 100 | | |
| 63 | 19.7 | 0.8 | 40.8 |
| 88 | 14.8 | 0.0 | 35.1 |

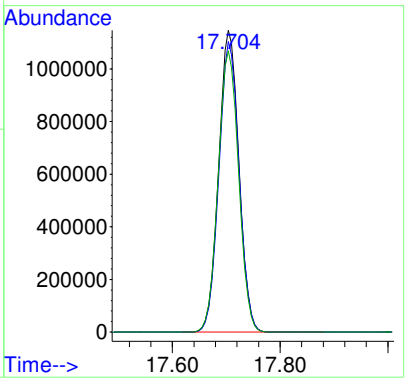


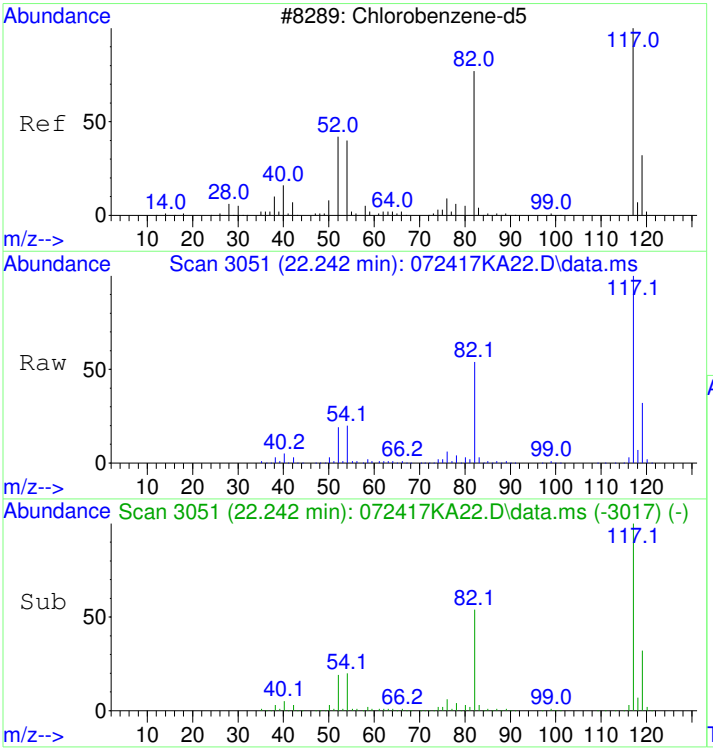




#37
Trichloroethene
Concen: 173.05 ppbv
RT: 17.704 min Scan# 2305
Delta R.T. 0.006 min
Lab File: 072417KA22.D
Acq: 25 Jul 2017 11:17 am

Tgt Ion:130 Resp: 2980518

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 130 | 100 | | |
| 132 | 96.0 | 77.0 | 117.0 |
| 95 | 94.2 | 78.3 | 118.3 |

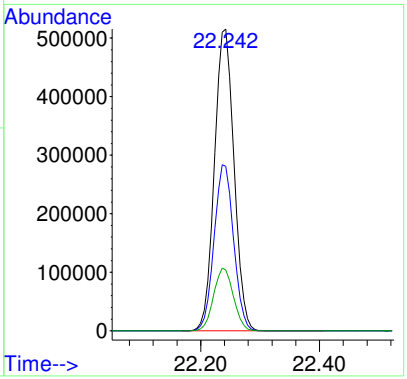





#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 22.242 min Scan# 3051
Delta R.T. 0.006 min
Lab File: 072417KA22.D
Acq: 25 Jul 2017 11:17 am

Tgt Ion:117 Resp: 1178782

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 117 | 100 | | |
| 82 | 54.9 | 36.2 | 76.2 |
| 54 | 20.9 | 2.0 | 42.0 |



# 1707040-03RE2

Data Path : D:\msdchem\1\2017\DATA\072417KA_FSAA\
Data File : 072417KA23.D
InstName : HP5973K
Acq On : 25 Jul 2017 12:08 pm
Operator : LLH
Sample : 1707040-03RE2
Misc : 200ml 2ND CAN #1087
ALS Vial : 18 Sample Multiplier: 278.46

report trans/cis12DCE
see -03RE1 for TCE

Quant Time: Jul 25 13:32:16 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) BROMOCHLOROMETHANE | 15.319 | 49 | 335191 | 19.80 | ppbv | 0.00 |
| 32) 1,4-DIFLUOROBENZENE | 17.315 | 114 | 1325319 | 19.60 | ppbv | 0.00 |
| 43) CHLOROBENZENE-d5 | 22.242 | 117 | 1200512 | 19.60 | ppbv | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 18) Dichloromethane | 11.207 | 49 | 6024 | 0.47 | ppbv | 95 |
| 20) trans-1,2-Dichloroethene | 11.888 | 61 | 42376 | 2.83 | ppbv | 95 |
| 24) cis-1,2-Dichloroethene | 14.760 | 61 | 79795 | 6.13 | ppbv | 94 |
| 37) Trichloroethene | 17.704 | 130 | 2746266 | 156.50 | ppbv | 98 OC |

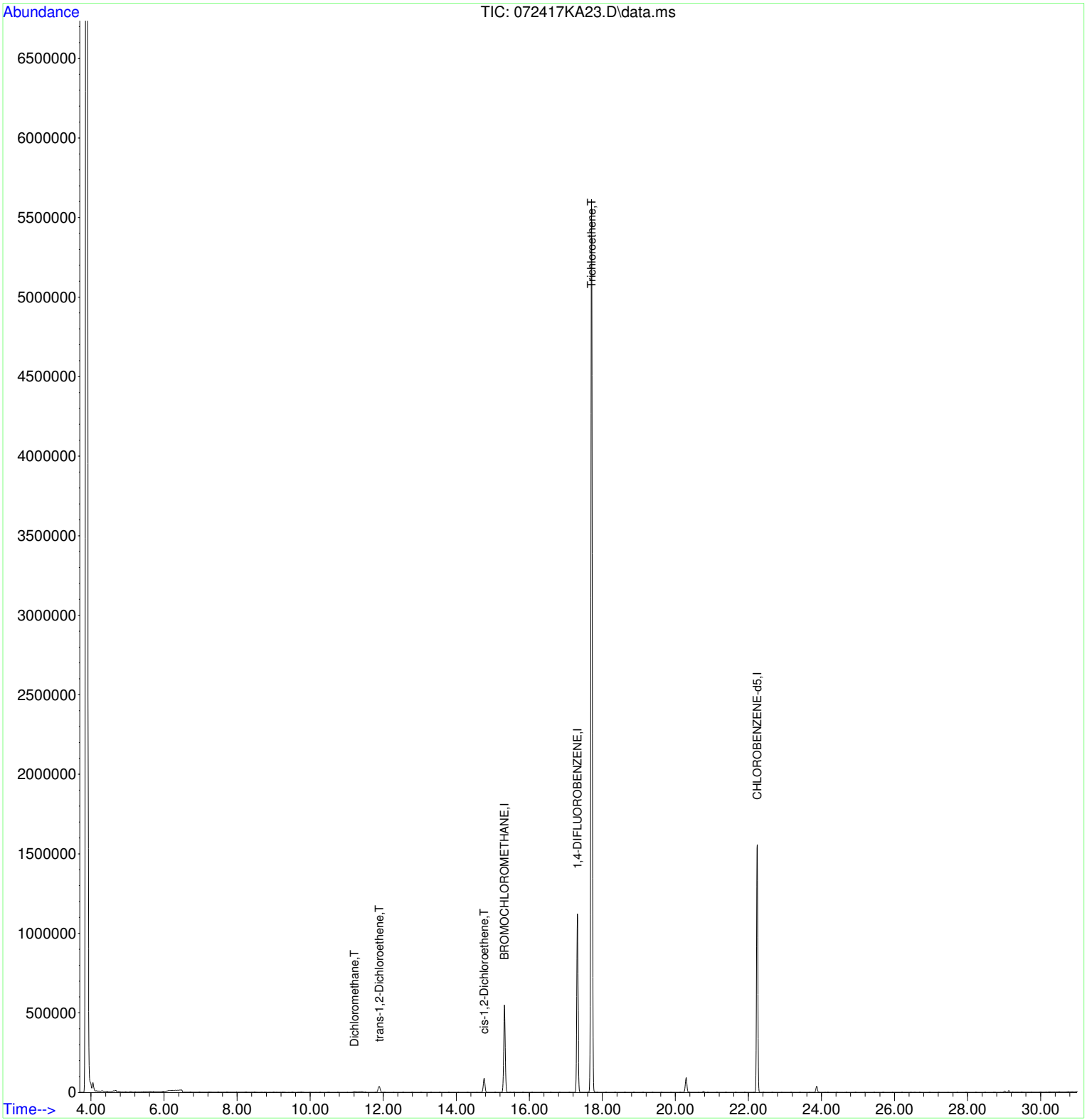
(#) = qualifier out of range (m) = manual integration (+) = signals summed

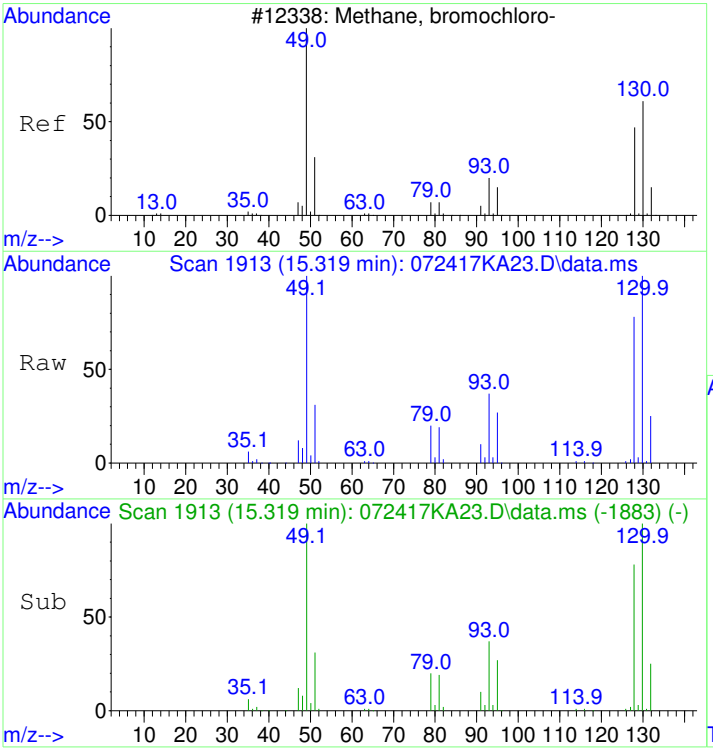
**REVIEWED**
**By LLH at 1:38 pm, Jul 25, 2017**

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\072417KA_FSAA\
Data File : 072417KA23.D
InstName : HP5973K
Acq On : 25 Jul 2017 12:08 pm
Operator : LLH
Sample : 1707040-03RE2
Misc : 200ml 2ND CAN #1087
ALS Vial : 18 Sample Multiplier: 278.46

Quant Time: Jul 25 13:32:16 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

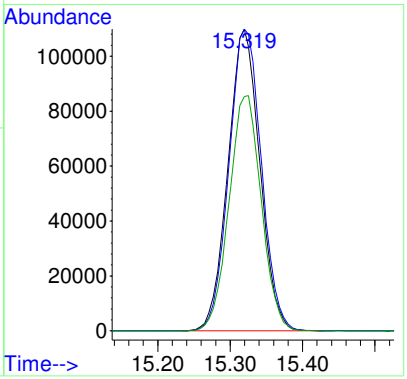


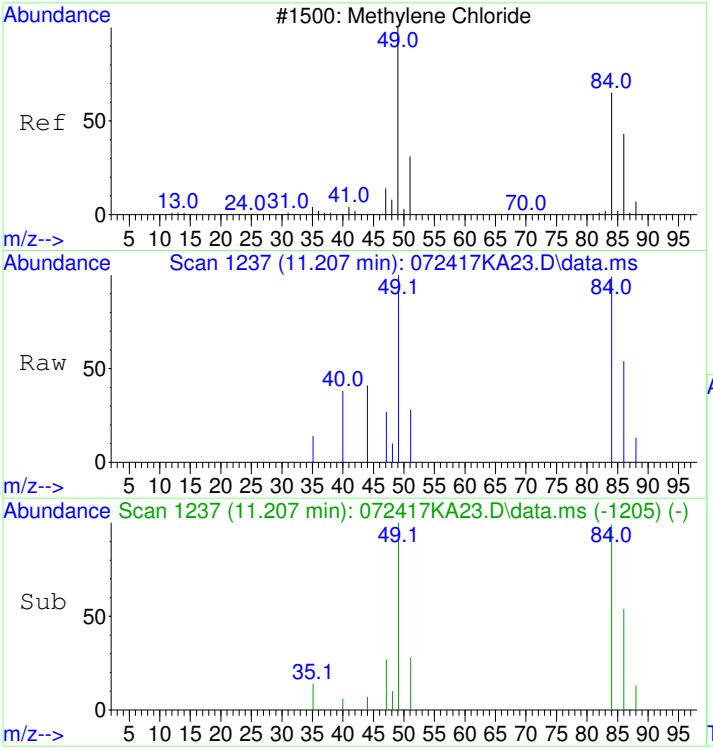



#1
BROMOCHLOROMETHANE
Concen: 19.80 ppbv
RT: 15.319 min Scan# 1913
Delta R.T. 0.006 min
Lab File: 072417KA23.D
Acq: 25 Jul 2017 12:08 pm

Tgt Ion: 49 Resp: 335191

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 130 | 102.0 | 67.2 | 107.2 |
| 128 | 78.9 | 47.6 | 87.6 |

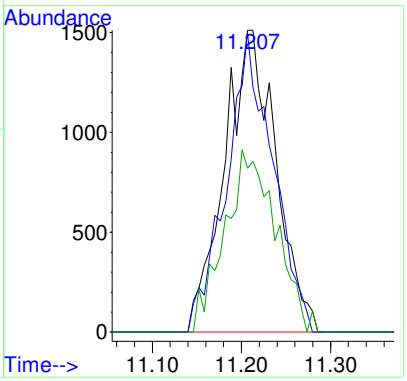


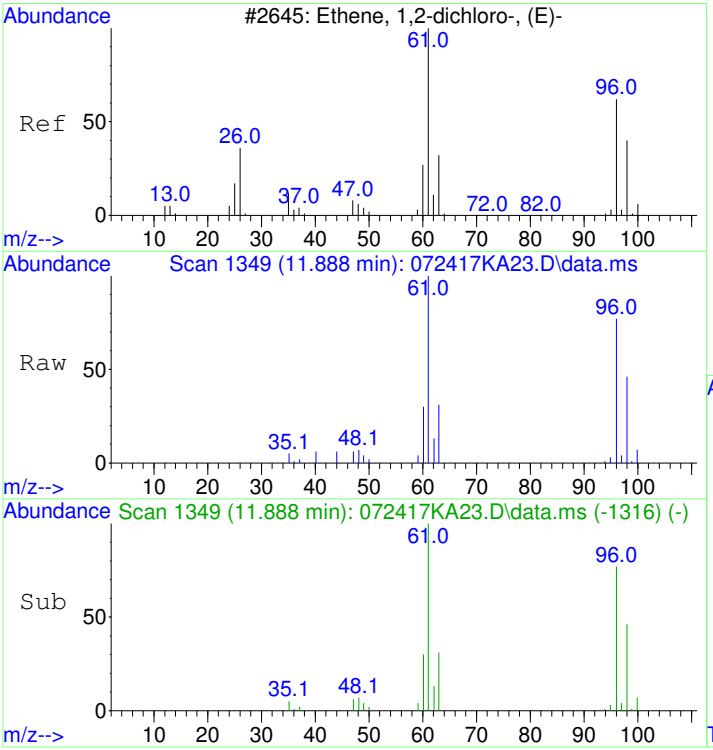




#18
Dichloromethane
Concen: 0.47 ppbv
RT: 11.207 min Scan# 1237
Delta R.T. -0.006 min
Lab File: 072417KA23.D
Acq: 25 Jul 2017 12:08 pm

Tgt Ion: 49 Resp: 6024

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 84 | 89.7 | 66.5 | 106.5 |
| 86 | 60.2 | 34.5 | 74.5 |

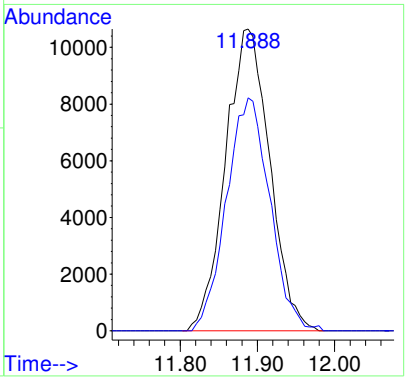


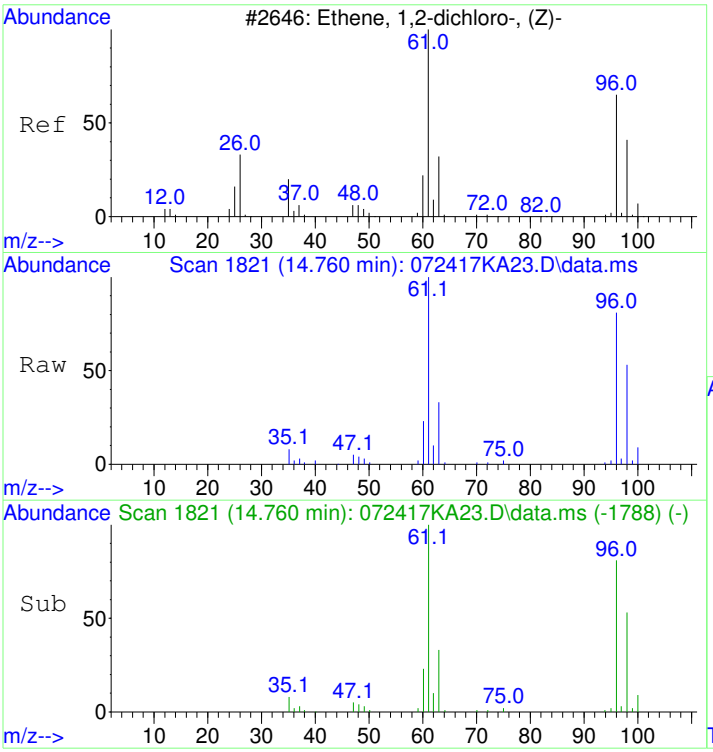



#20
trans-1,2-Dichloroethene
Concen: 2.83 ppbv
RT: 11.888 min Scan# 1349
Delta R.T. 0.000 min
Lab File: 072417KA23.D
Acq: 25 Jul 2017 12:08 pm

Tgt Ion: 61 Resp: 42376

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 61 | 100 | | |
| 96 | 75.8 | 51.3 | 91.3 |

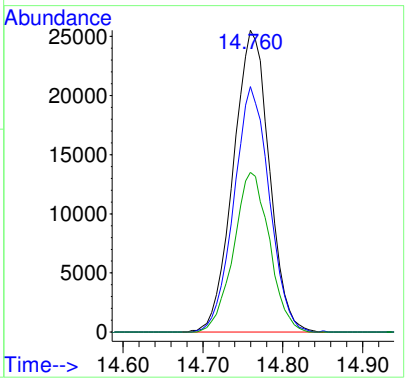


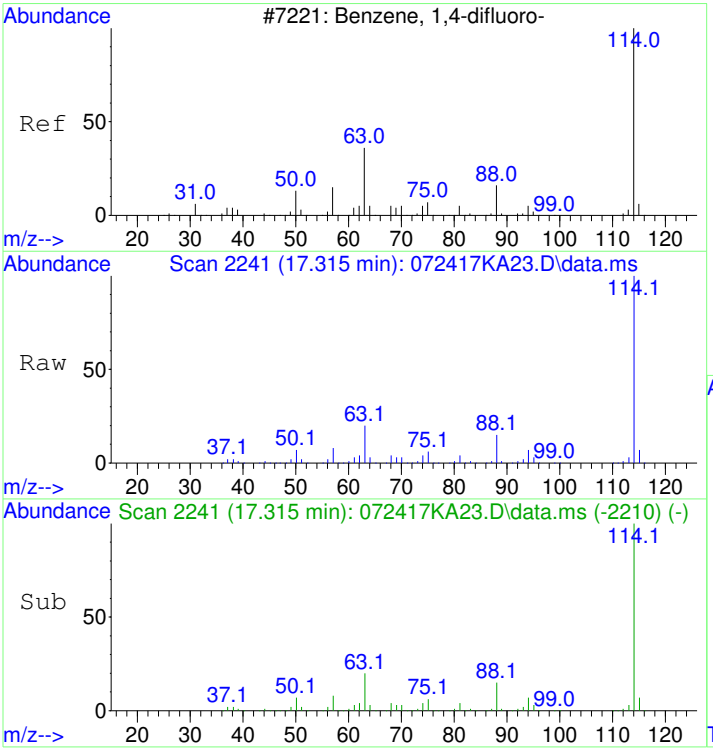




#24
cis-1,2-Dichloroethene
Concen: 6.13 ppbv
RT: 14.760 min Scan# 1821
Delta R.T. 0.000 min
Lab File: 072417KA23.D
Acq: 25 Jul 2017 12:08 pm

Tgt Ion: 61 Resp: 79795

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 61 | 100 | | |
| 96 | 80.2 | 56.2 | 96.2 |
| 98 | 52.6 | 27.8 | 67.8 |

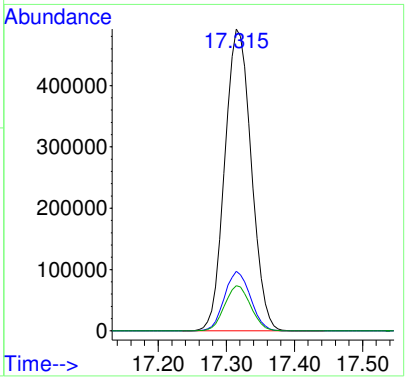


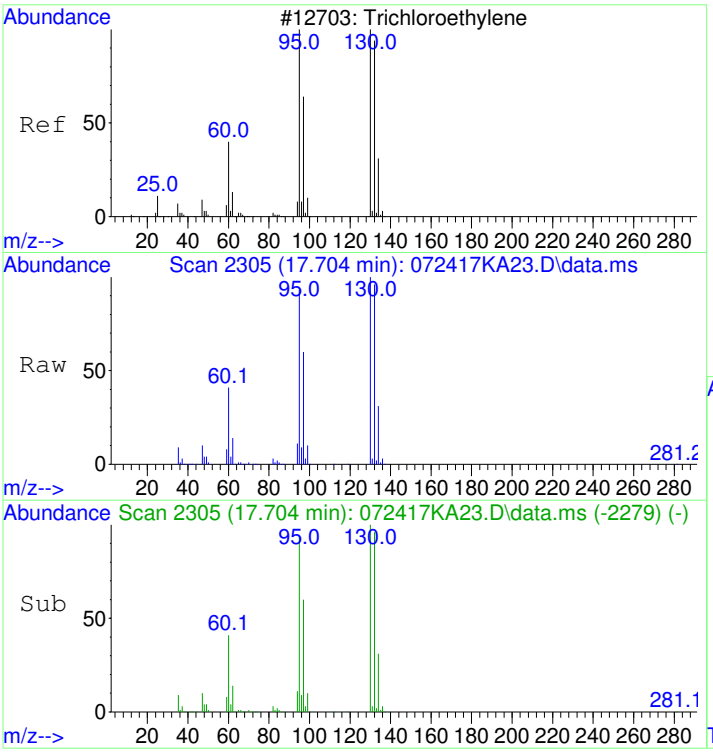



#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 17.315 min Scan# 2241
Delta R.T. 0.006 min
Lab File: 072417KA23.D
Acq: 25 Jul 2017 12:08 pm

Tgt Ion:114 Resp: 1325319

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 114 | 100 | | |
| 63 | 19.4 | 0.8 | 40.8 |
| 88 | 14.7 | 0.0 | 35.1 |

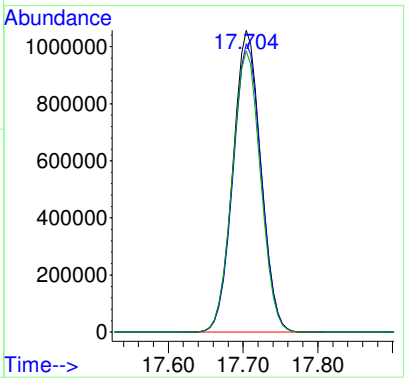


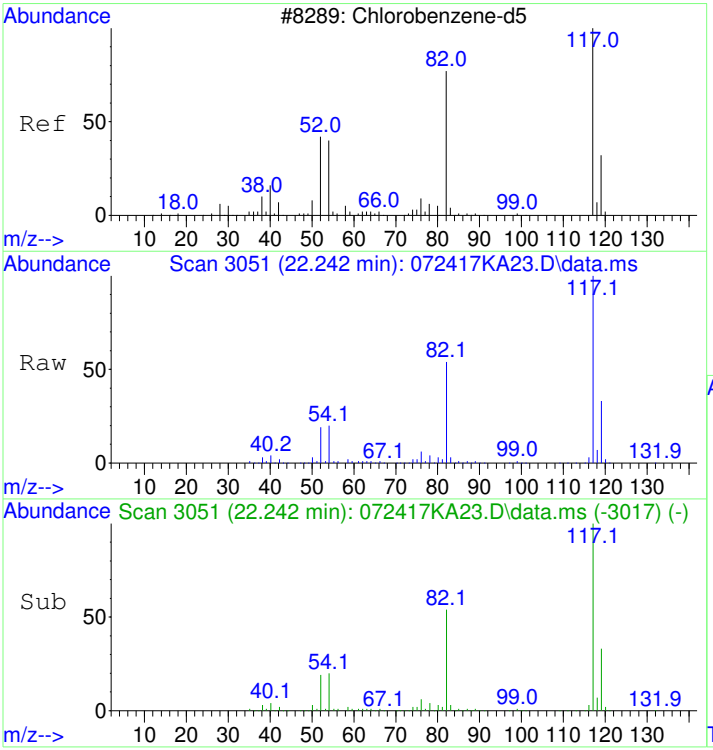




#37
Trichloroethene
Concen: 156.50 ppbv
RT: 17.704 min Scan# 2305
Delta R.T. 0.006 min
Lab File: 072417KA23.D
Acq: 25 Jul 2017 12:08 pm

Tgt Ion:130 Resp: 2746266

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 130 | 100 | | |
| 132 | 96.4 | 77.0 | 117.0 |
| 95 | 94.2 | 78.3 | 118.3 |

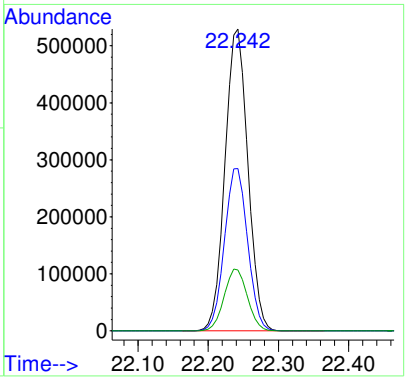





#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 22.242 min Scan# 3051
Delta R.T. 0.006 min
Lab File: 072417KA23.D
Acq: 25 Jul 2017 12:08 pm

Tgt Ion:117 Resp: 1200512

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 117 | 100 | | |
| 82 | 54.4 | 36.2 | 76.2 |
| 54 | 20.7 | 2.0 | 42.0 |



# 1707040-04RE2

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2017\DATA\072417KA_FSAA\
Data File : 072417KA24.D
InstName : HP5973K
Acq On : 25 Jul 2017 12:59 pm
Operator : LLH
Sample : 1707040-04RE2
Misc : 200ml 2ND CAN #1105
ALS Vial : 19 Sample Multiplier: 210.25

report trans/cis12DCE

see -04RE1 for TCE

Quant Time: Jul 25 13:38:55 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) BROMOCHLOROMETHANE | 15.319 | 49 | 329757 | 19.80 | ppbv | 0.00 |
| 32) 1,4-DIFLUOROBENZENE | 17.315 | 114 | 1312343 | 19.60 | ppbv | 0.00 |
| 43) CHLOROBENZENE-d5 | 22.242 | 117 | 1186214 | 19.60 | ppbv | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 20) trans-1,2-Dichloroethene | 11.888 | 61 | 138248 | 9.38 | ppbv | 94 |
| 24) cis-1,2-Dichloroethene | 14.760 | 61 | 41874 | 3.27 | ppbv | 95 |
| 37) Trichloroethene | 17.704 | 130 | 1974515 | 113.63 | ppbv | 98 OC |

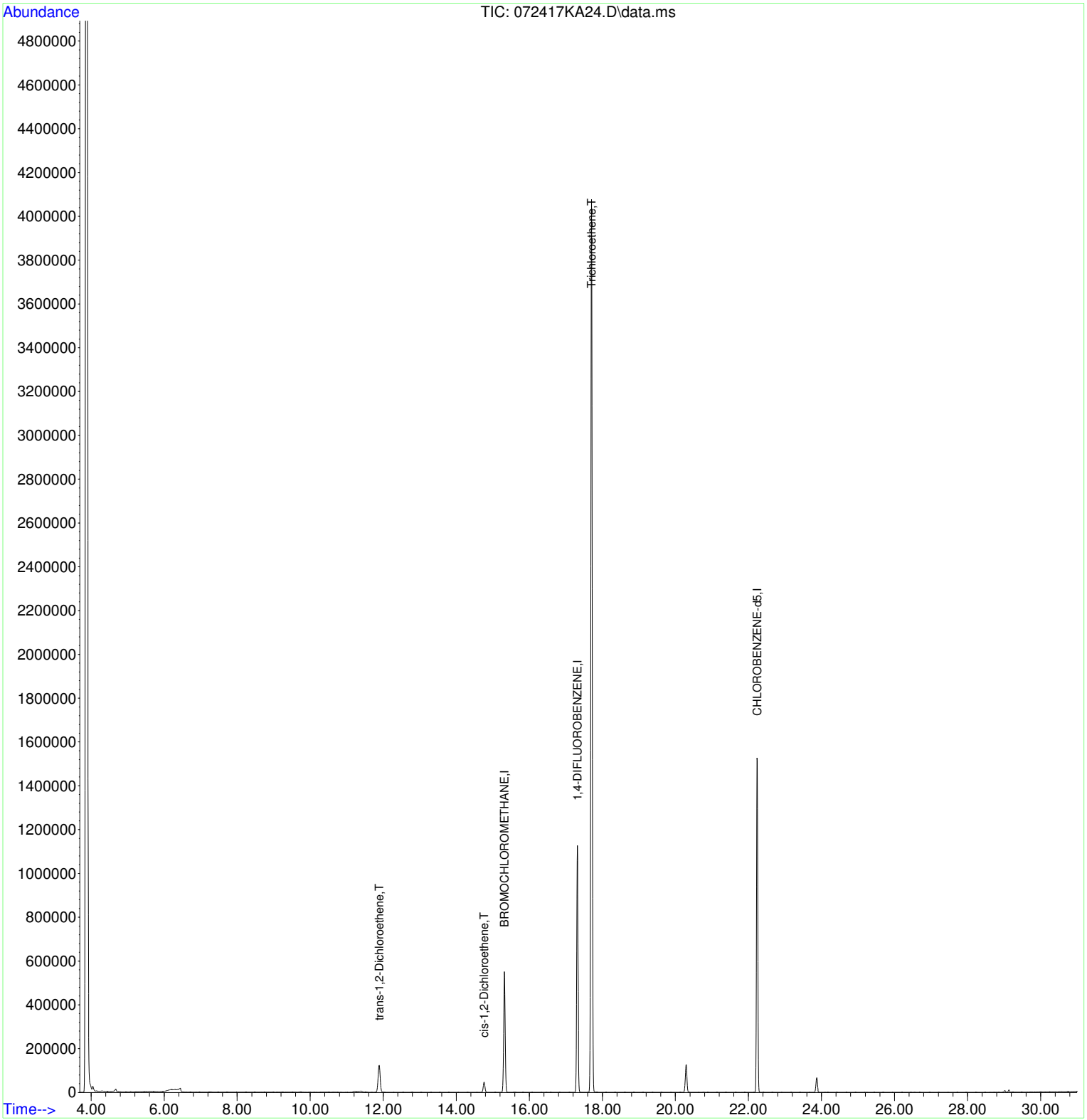
(#) = qualifier out of range (m) = manual integration (+) = signals summed

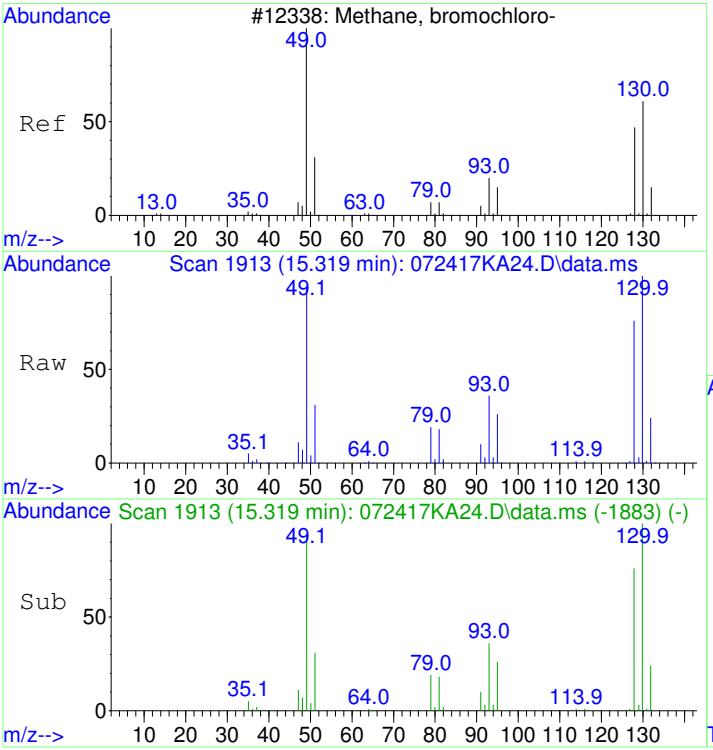
**REVIEWED**
***By LLH at 1:40 pm, Jul 25, 2017***

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\072417KA_FSAA\
Data File : 072417KA24.D
InstName : HP5973K
Acq On : 25 Jul 2017 12:59 pm
Operator : LLH
Sample : 1707040-04RE2
Misc : 200ml 2ND CAN #1105
ALS Vial : 19 Sample Multiplier: 210.25

Quant Time: Jul 25 13:38:55 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

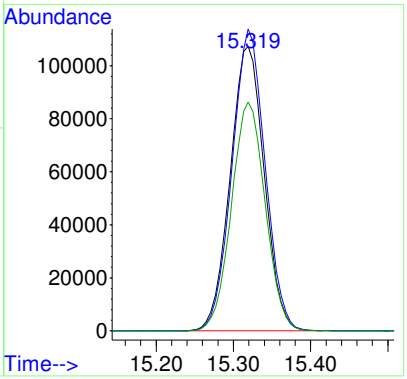


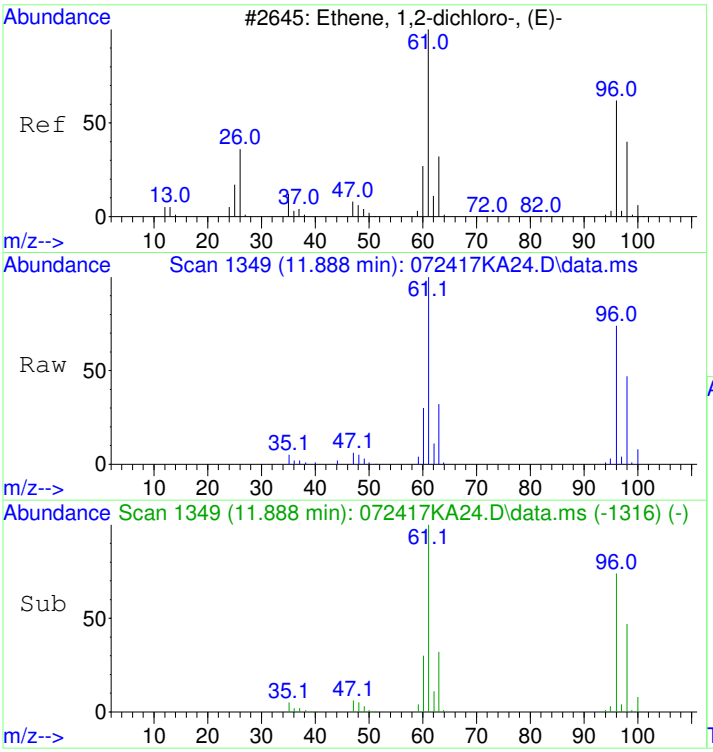



#1
BROMOCHLOROMETHANE
Concen: 19.80 ppbv
RT: 15.319 min Scan# 1913
Delta R.T. 0.006 min
Lab File: 072417KA24.D
Acq: 25 Jul 2017 12:59 pm

Tgt Ion: 49 Resp: 329757

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 130 | 102.9 | 67.2 | 107.2 |
| 128 | 79.6 | 47.6 | 87.6 |

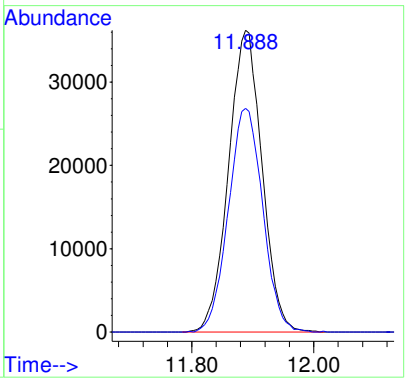


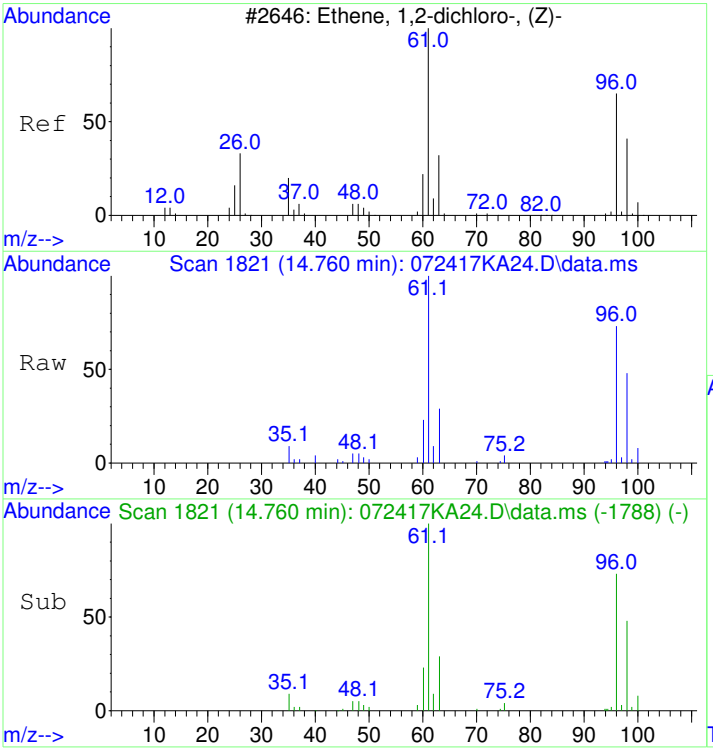




#20
trans-1,2-Dichloroethene
Concen: 9.38 ppbv
RT: 11.888 min Scan# 1349
Delta R.T. -0.000 min
Lab File: 072417KA24.D
Acq: 25 Jul 2017 12:59 pm

Tgt Ion: 61 Resp: 138248

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 61 | 100 | | |
| 96 | 76.0 | 51.3 | 91.3 |

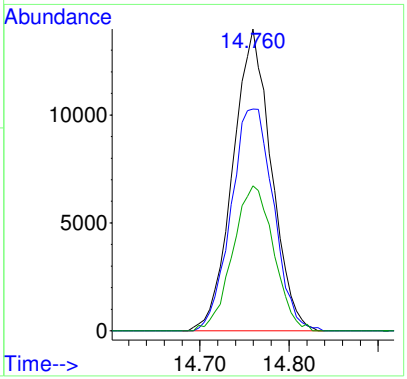


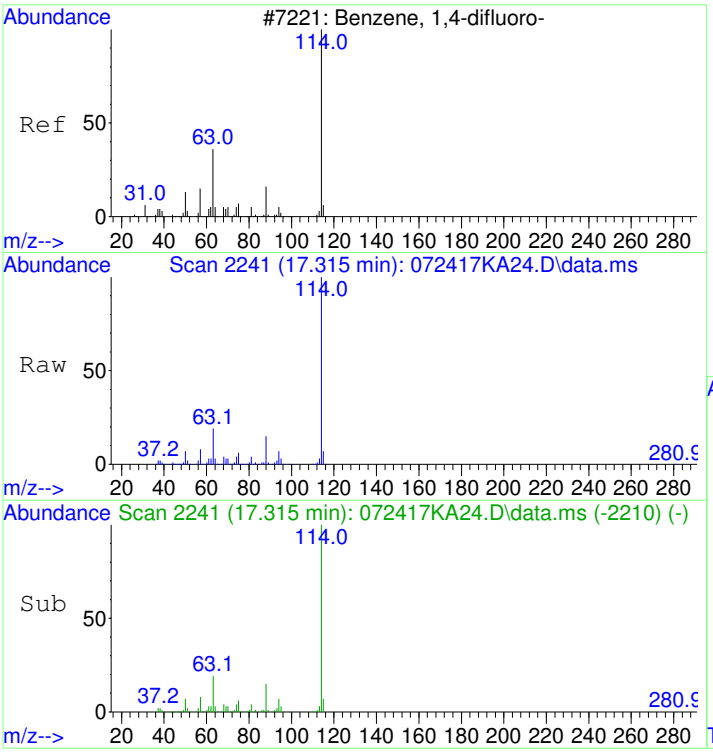



#24
cis-1,2-Dichloroethene
Concen: 3.27 ppbv
RT: 14.760 min Scan# 1821
Delta R.T. -0.000 min
Lab File: 072417KA24.D
Acq: 25 Jul 2017 12:59 pm

Tgt Ion: 61 Resp: 41874

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 61 | 100 | | |
| 96 | 81.2 | 56.2 | 96.2 |
| 98 | 51.0 | 27.8 | 67.8 |

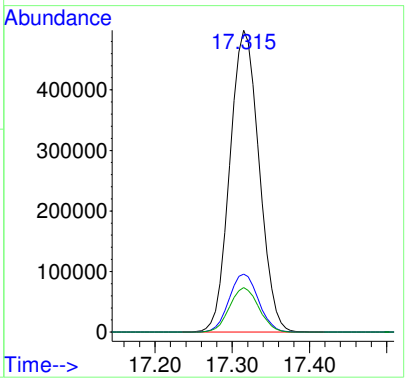


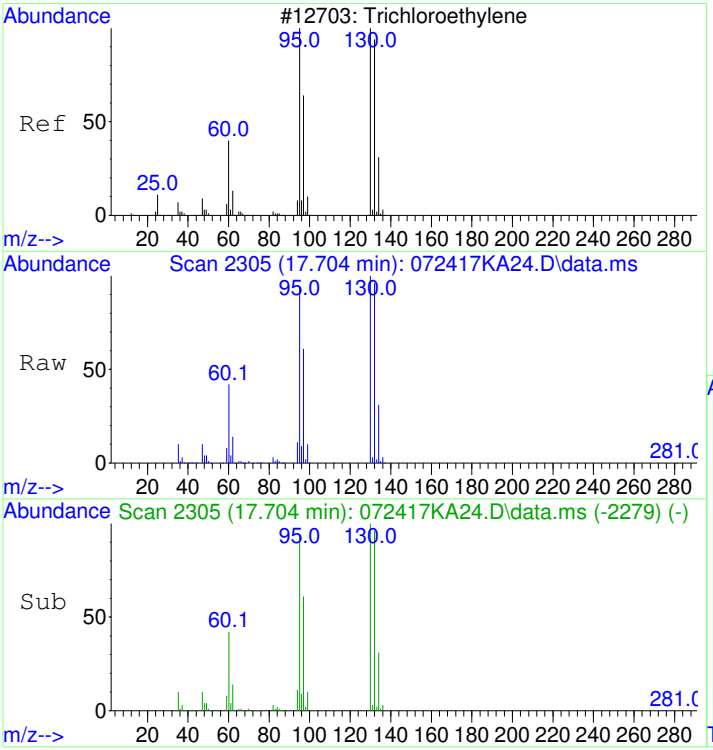




#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 17.315 min Scan# 2241
Delta R.T. 0.006 min
Lab File: 072417KA24.D
Acq: 25 Jul 2017 12:59 pm

Tgt Ion:114 Resp: 1312343

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 114 | 100 | | |
| 63 | 19.3 | 0.8 | 40.8 |
| 88 | 14.7 | 0.0 | 35.1 |

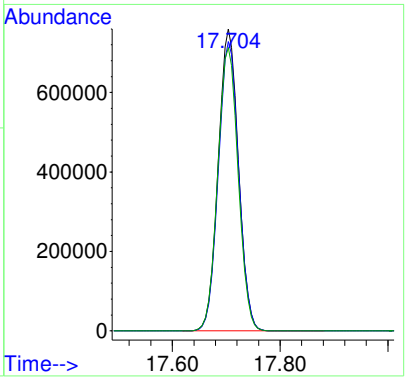


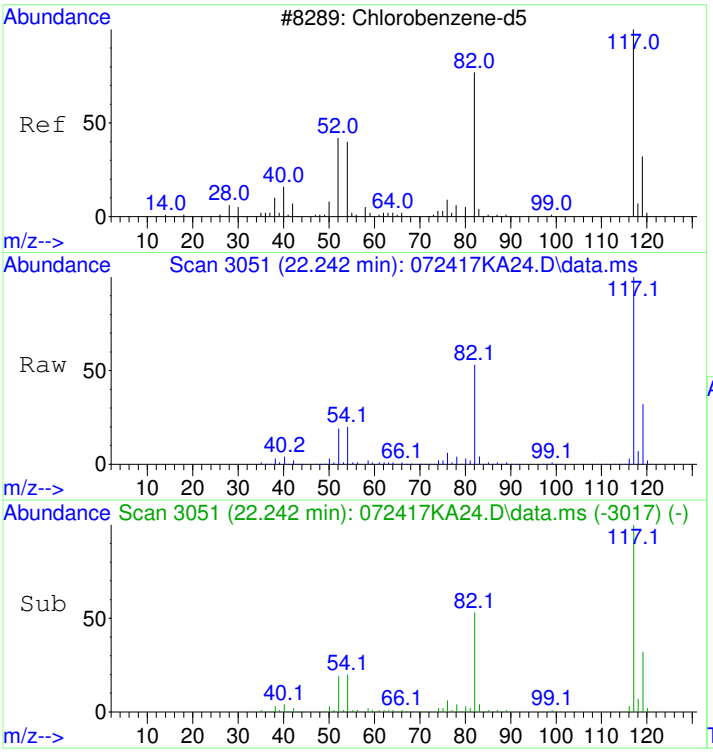



#37
Trichloroethene
Concen: 113.63 ppbv
RT: 17.704 min Scan# 2305
Delta R.T. 0.006 min
Lab File: 072417KA24.D
Acq: 25 Jul 2017 12:59 pm

Tgt Ion:130 Resp: 1974515

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 130 | 100 | | |
| 132 | 96.4 | 77.0 | 117.0 |
| 95 | 94.7 | 78.3 | 118.3 |

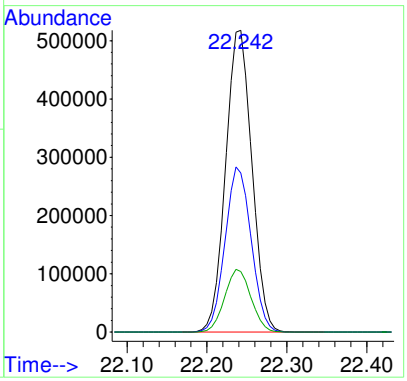



#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 22.242 min Scan# 3051
Delta R.T. 0.006 min
Lab File: 072417KA24.D
Acq: 25 Jul 2017 12:59 pm

Tgt Ion:117 Resp: 1186214

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 117 | 100 | | |
| 82 | 54.3 | 36.2 | 76.2 |
| 54 | 20.8 | 2.0 | 42.0 |



# S17G101-IBL5

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2017\DATA\072417KA_FSAA\
Data File : 072417KA25.D
InstName : HP5973K
Acq On : 25 Jul 2017 1:51 pm
Operator : LLH
Sample : S17G101-IBL5
Misc : 200ml BLANK CAN #03 - Nitrogen
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Jul 25 14:58:39 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) BROMOCHLOROMETHANE | 15.313 | 49 | 297962 | 19.80 | ppbv | 0.00 |
| 32) 1,4-DIFLUOROBENZENE | 17.309 | 114 | 1192134 | 19.60 | ppbv | 0.00 |
| 43) CHLOROBENZENE-d5 | 22.236 | 117 | 1083501 | 19.60 | ppbv | 0.00 |

Target Compounds Qvalue

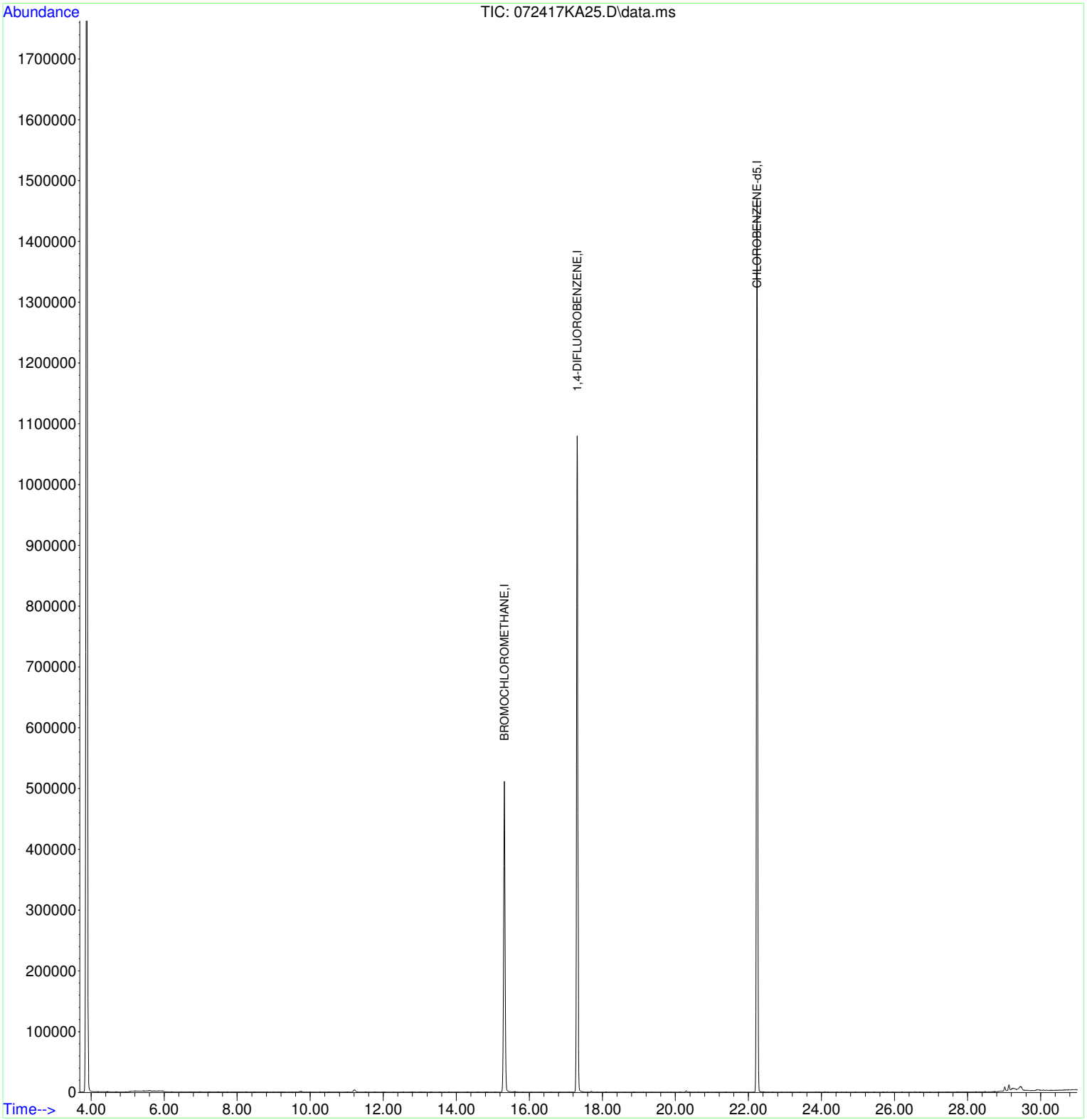
(#) = qualifier out of range (m) = manual integration (+) = signals summed

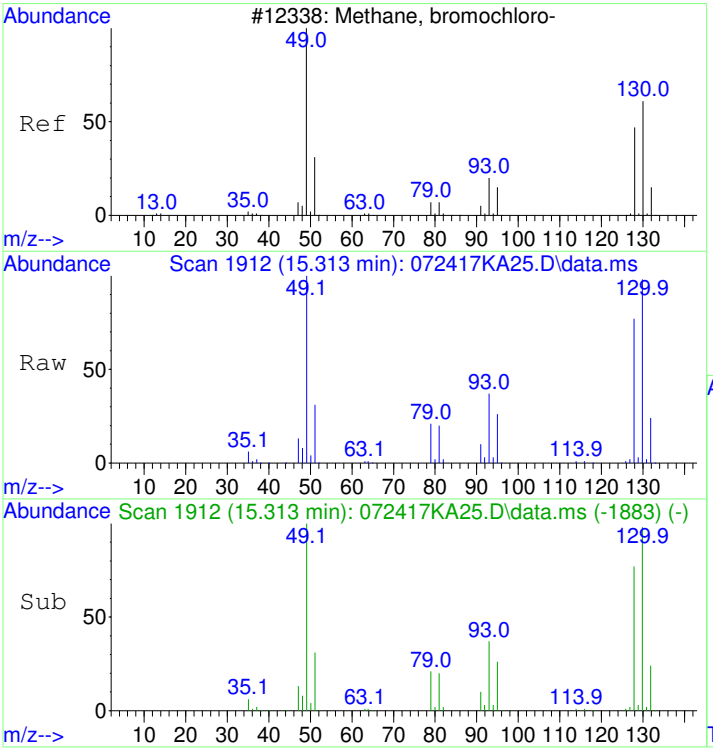
**REVIEWED**
**By LLH at 2:58 pm, Jul 25, 2017**

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\072417KA_FSAA\
Data File : 072417KA25.D
InstName : HP5973K
Acq On : 25 Jul 2017 1:51 pm
Operator : LLH
Sample : S17G101-IBL5
Misc : 200ml BLANK CAN #03 - Nitrogen
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Jul 25 14:58:39 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

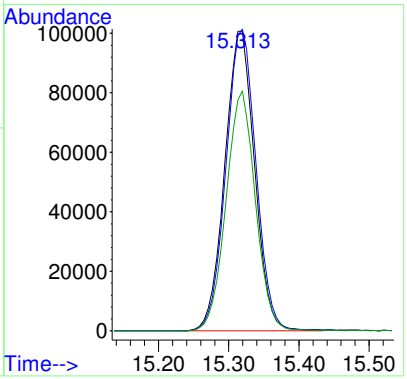


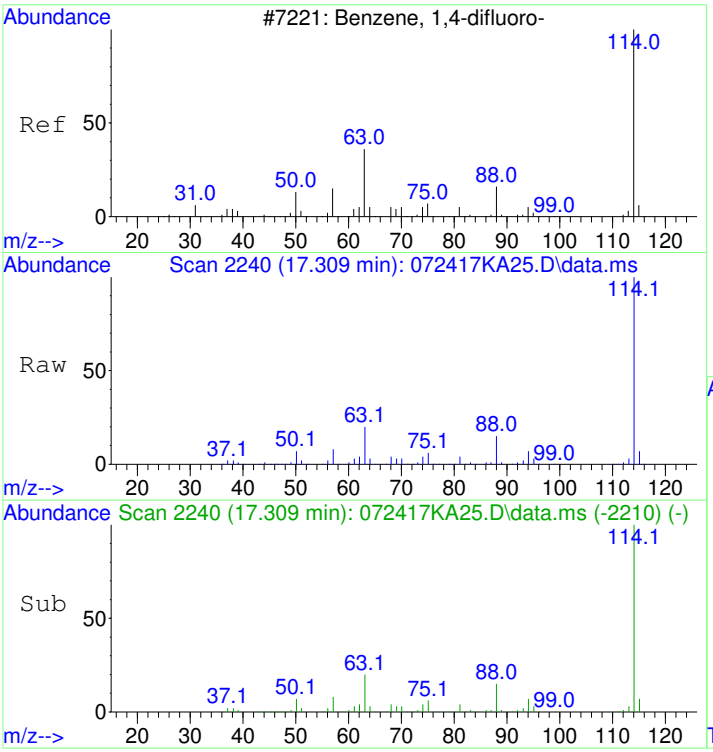



#1
BROMOCHLOROMETHANE
Concen: 19.80 ppbv
RT: 15.313 min Scan# 1912
Delta R.T. 0.000 min
Lab File: 072417KA25.D
Acq: 25 Jul 2017 1:51 pm

Tgt Ion: 49 Resp: 297962

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 130 | 101.1 | 67.2 | 107.2 |
| 128 | 78.8 | 47.6 | 87.6 |

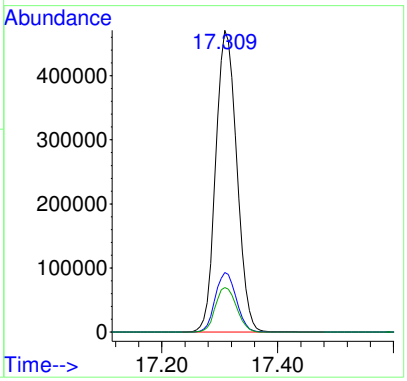


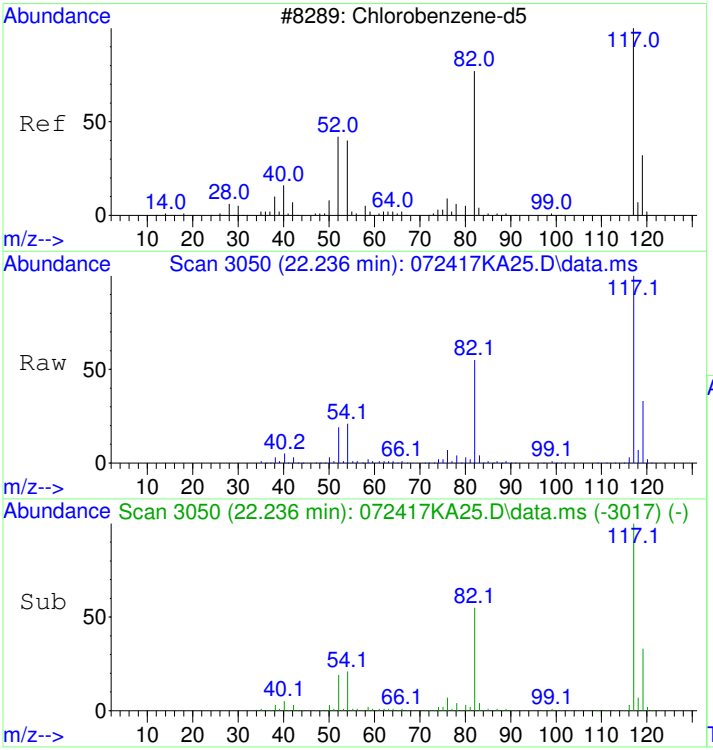




#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 17.309 min Scan# 2240
Delta R.T. -0.000 min
Lab File: 072417KA25.D
Acq: 25 Jul 2017 1:51 pm

Tgt Ion:114 Resp: 1192134

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 114 | 100 | | |
| 63 | 19.7 | 0.8 | 40.8 |
| 88 | 14.8 | 0.0 | 35.1 |

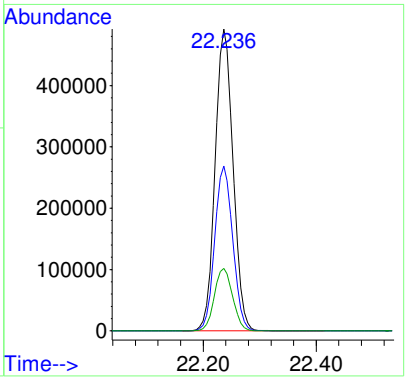





#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 22.236 min Scan# 3050
Delta R.T. -0.000 min
Lab File: 072417KA25.D
Acq: 25 Jul 2017 1:51 pm

Tgt Ion:117 Resp: 1083501

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 117 | 100 | | |
| 82 | 54.9 | 36.2 | 76.2 |
| 54 | 21.0 | 2.0 | 42.0 |



# 1707040-01RE3

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2017\DATA\072417KA_FSAA\
Data File : 072417KA26.D
InstName : HP5973K
Acq On : 25 Jul 2017 2:40 pm
Operator : LLH
Sample : 1707040-01RE3
Misc : 20ml 2ND CAN #874 REPRESS
ALS Vial : 16 Sample Multiplier: 418.29

report TCE

Quant Time: Jul 25 15:13:47 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| Internal Standards | | | | | |
| 1) BROMOCHLOROMETHANE | 15.313 | 49 | 306866 | 19.80 ppbv | 0.00 |
| 32) 1,4-DIFLUOROBENZENE | 17.308 | 114 | 1202601 | 19.60 ppbv | 0.00 |
| 43) CHLOROBENZENE-d5 | 22.236 | 117 | 1086004 | 19.60 ppbv | 0.00 |
| Target Compounds | | | | | Qvalue |
| 20) trans-1,2-Dichloroethene | 11.888 | 61 | 8605 | 0.63 ppbv | 93 |
| 24) cis-1,2-Dichloroethene | 14.759 | 61 | 14338 | 1.20 ppbv | 95 |
| 37) Trichloroethene | 17.704 | 130 | 267271 | 16.79 ppbv | 99 |

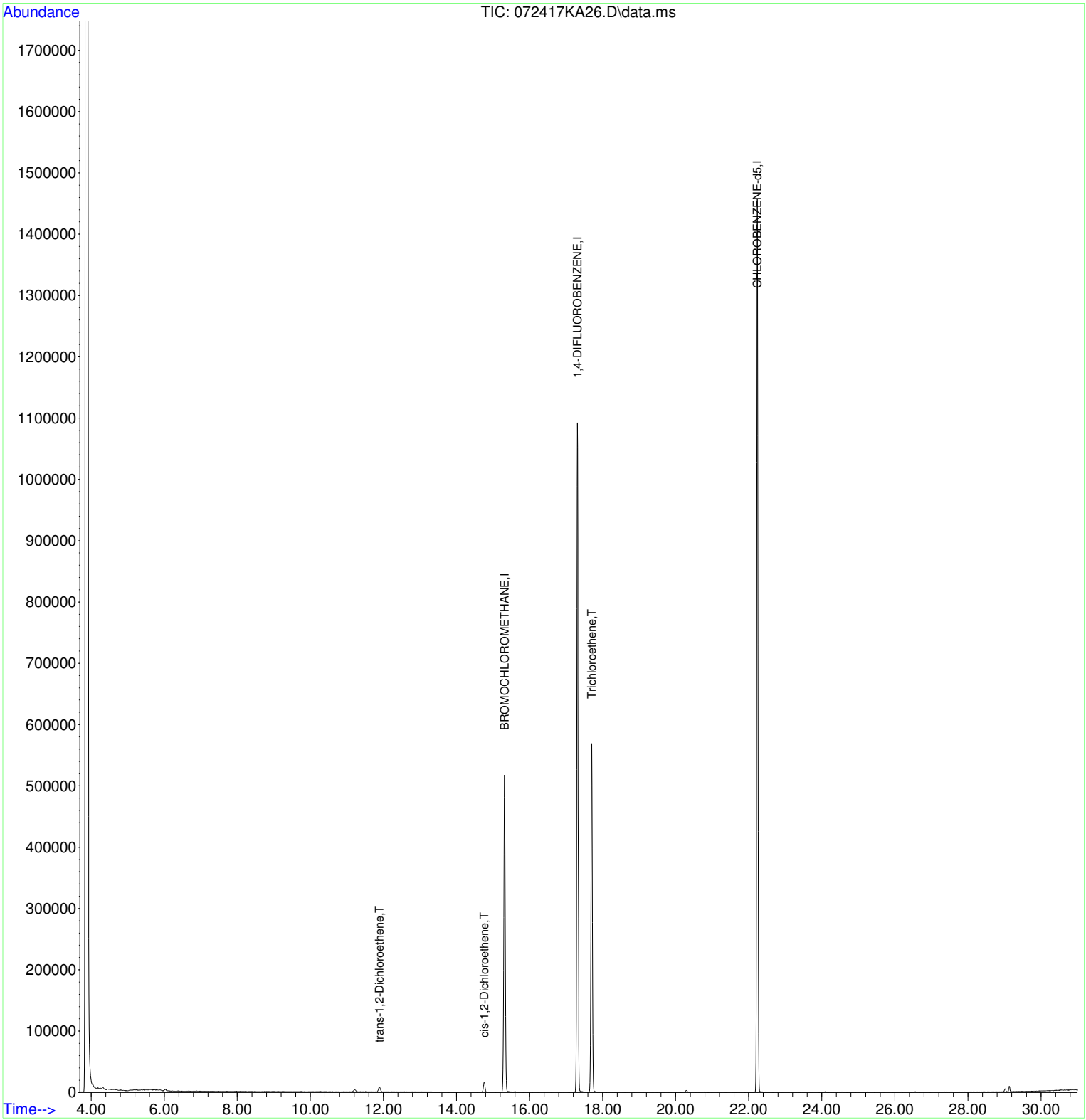
(#) = qualifier out of range (m) = manual integration (+) = signals summed

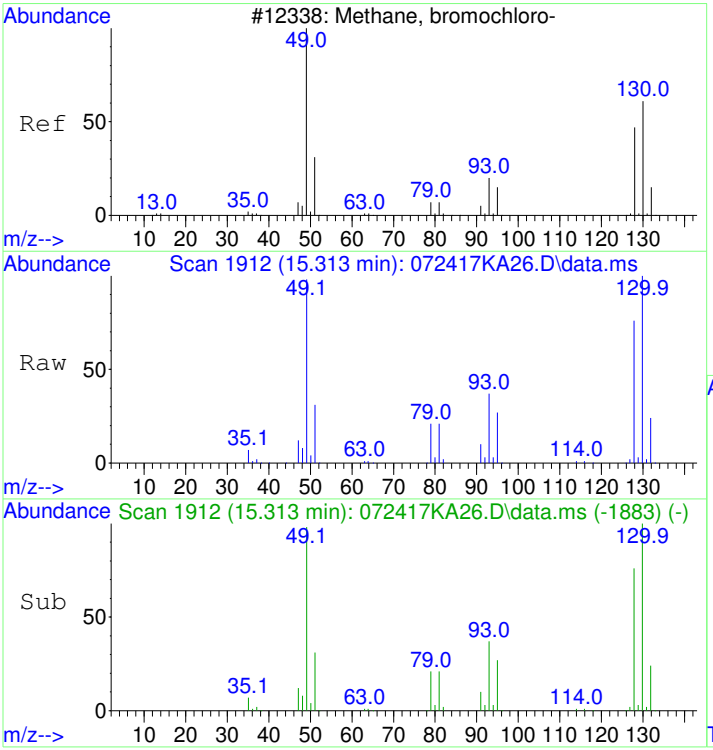
**REVIEWED**
**By LLH at 3:14 pm, Jul 25, 2017**

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\072417KA_FSAA\
Data File : 072417KA26.D
InstName : HP5973K
Acq On : 25 Jul 2017 2:40 pm
Operator : LLH
Sample : 1707040-01RE3
Misc : 20ml 2ND CAN #874 REPRESS
ALS Vial : 16 Sample Multiplier: 418.29

Quant Time: Jul 25 15:13:47 2017
Quant Method : D:\msdchem\1\2017\METHOD\071917K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 20 09:11:28 2017
Response via : Initial Calibration

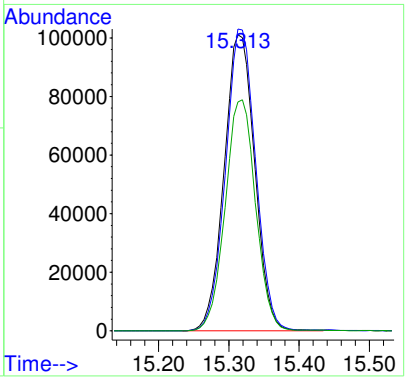


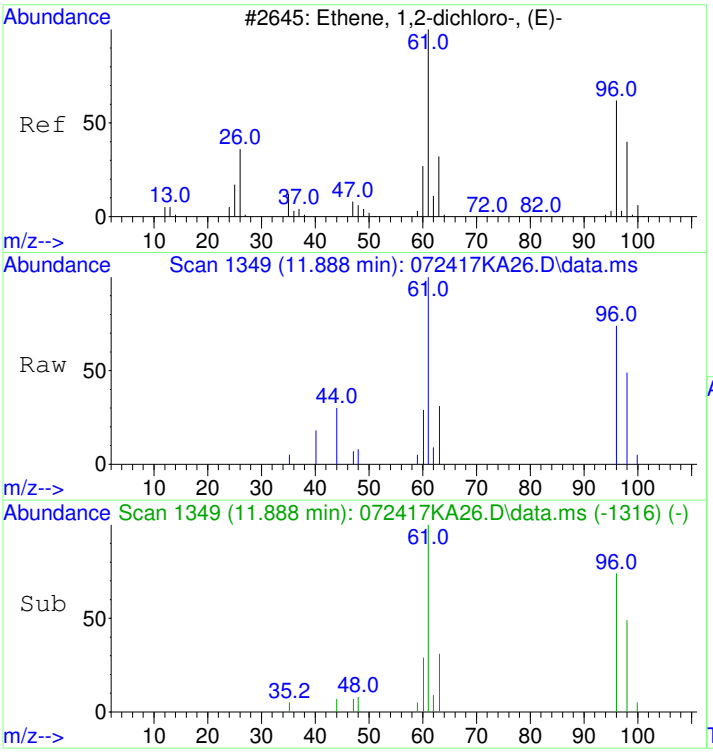



#1
BROMOCHLOROMETHANE
Concen: 19.80 ppbv
RT: 15.313 min Scan# 1912
Delta R.T. -0.000 min
Lab File: 072417KA26.D
Acq: 25 Jul 2017 2:40 pm

Tgt Ion: 49 Resp: 306866

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 130 | 100.2 | 67.2 | 107.2 |
| 128 | 77.5 | 47.6 | 87.6 |

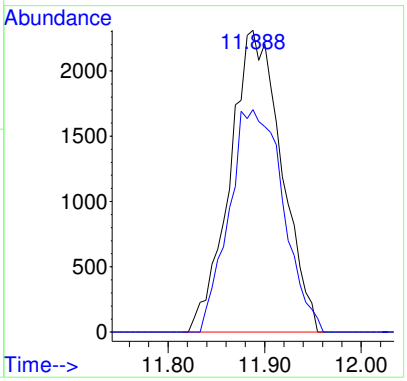


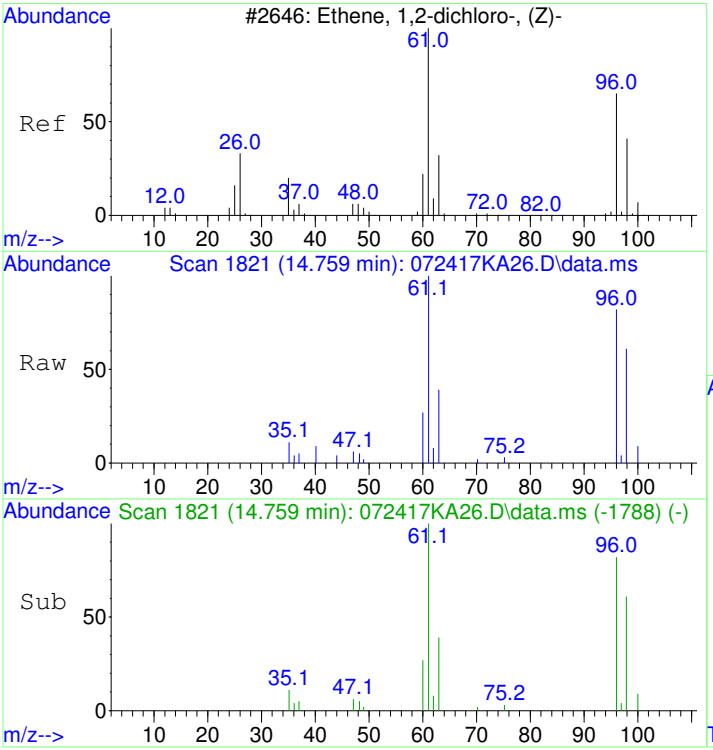




#20
trans-1,2-Dichloroethene
Concen: 0.63 ppbv
RT: 11.888 min Scan# 1349
Delta R.T. -0.000 min
Lab File: 072417KA26.D
Acq: 25 Jul 2017 2:40 pm

Tgt Ion: 61 Resp: 8605

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 61 | 100 | | |
| 96 | 77.0 | 51.3 | 91.3 |

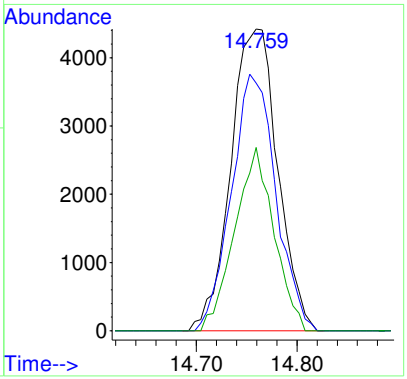


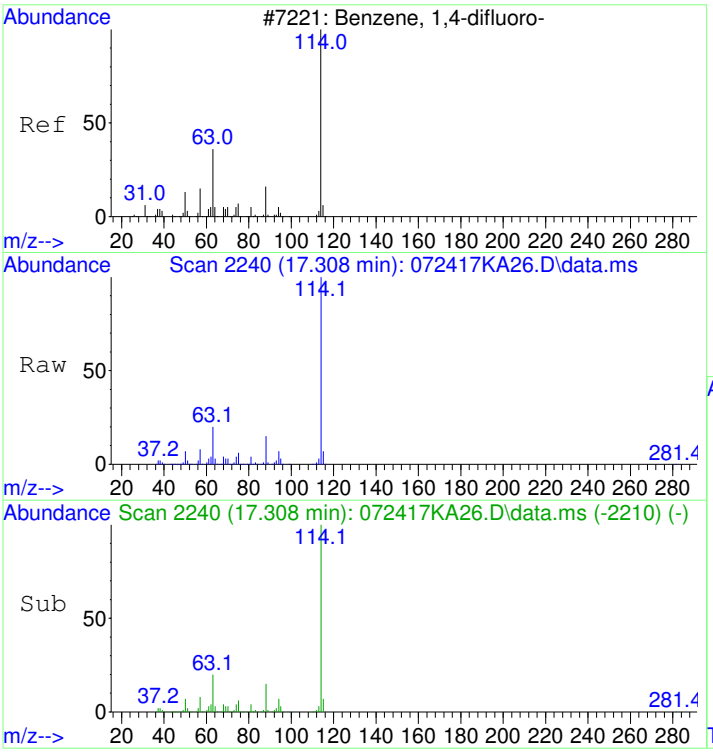



#24
cis-1,2-Dichloroethene
Concen: 1.20 ppbv
RT: 14.759 min Scan# 1821
Delta R.T. -0.000 min
Lab File: 072417KA26.D
Acq: 25 Jul 2017 2:40 pm

Tgt Ion: 61 Resp: 14338

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 61 | 100 | | |
| 96 | 80.5 | 56.2 | 96.2 |
| 98 | 50.6 | 27.8 | 67.8 |

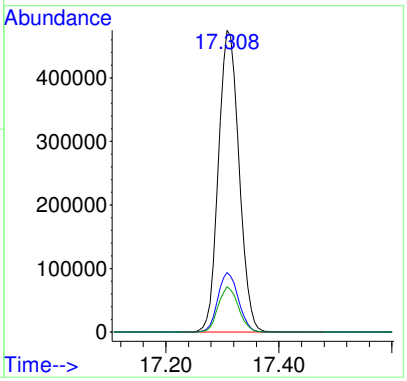


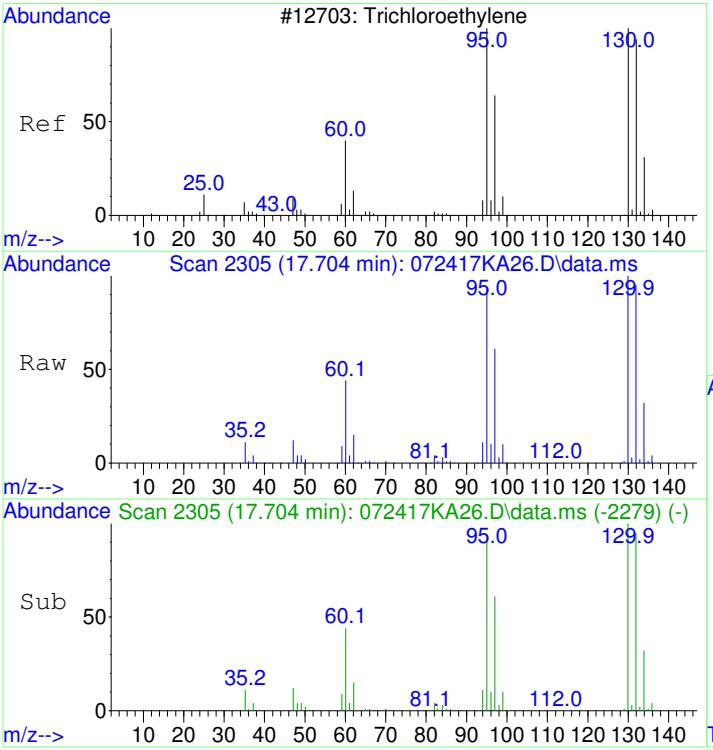




#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 17.308 min Scan# 2240
Delta R.T. -0.000 min
Lab File: 072417KA26.D
Acq: 25 Jul 2017 2:40 pm

Tgt Ion:114 Resp: 1202601

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 114 | 100 | | |
| 63 | 19.6 | 0.8 | 40.8 |
| 88 | 14.7 | 0.0 | 35.1 |

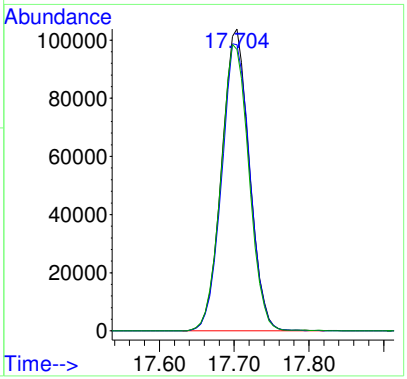


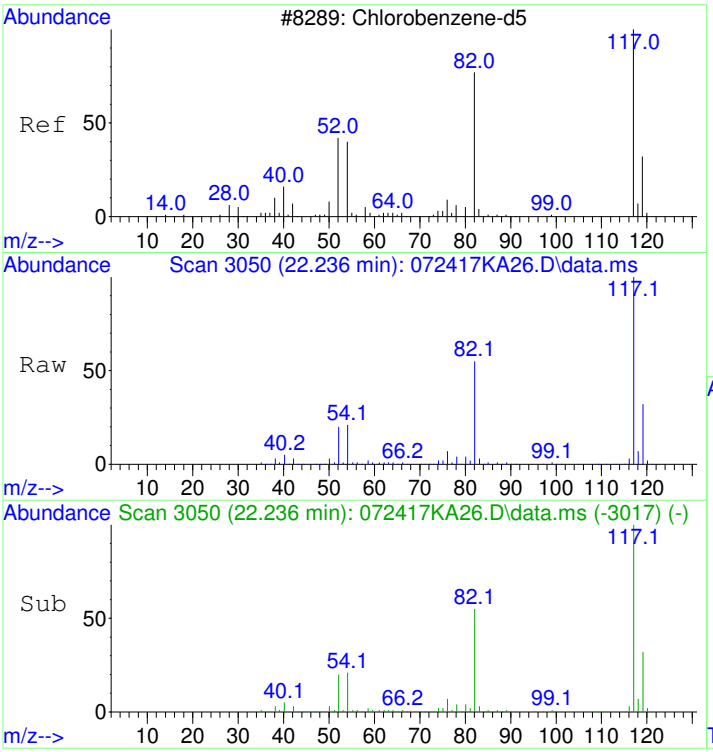



#37
Trichloroethene
Concen: 16.79 ppbv
RT: 17.704 min Scan# 2305
Delta R.T. 0.006 min
Lab File: 072417KA26.D
Acq: 25 Jul 2017 2:40 pm

Tgt Ion:130 Resp: 267271

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 130 | 100 | | |
| 132 | 96.7 | 77.0 | 117.0 |
| 95 | 96.0 | 78.3 | 118.3 |

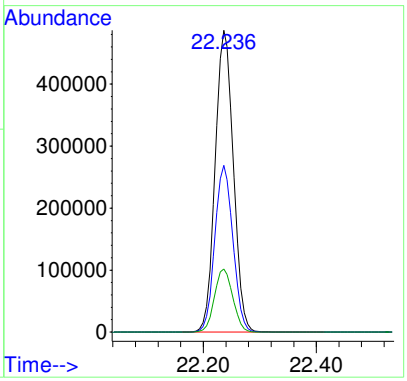



#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 22.236 min Scan# 3050
Delta R.T. -0.000 min
Lab File: 072417KA26.D
Acq: 25 Jul 2017 2:40 pm

Tgt Ion:117 Resp: 1086004

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 117 | 100 | | |
| 82 | 55.0 | 36.2 | 76.2 |
| 54 | 21.1 | 2.0 | 42.0 |



# Cannister Certifications

# 1707040-01

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2017\DATA\022217K_FSAA\
Data File : 022217K06.D
InstName : HP5973K
Acq On : 22 Feb 2017 2:40 pm
Operator : LLH
Sample : CAN #669
Misc : 200ml RECERTIFICATION
ALS Vial : 21 Sample Multiplier: 1

CLEAN

Quant Time: Feb 22 15:55:32 2017
Quant Method : D:\msdchem\1\2017\METHOD\020217K_TO15AA.M
Quant Title : TO15
QLast Update : Fri Feb 03 14:13:09 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| Internal Standards | | | | | |
| 1) BROMOCHLOROMETHANE | 15.313 | 49 | 1116698 | 19.60 ppbv | 0.00 |
| 32) 1,4-DIFLUOROBENZENE | 17.309 | 114 | 3281321 | 19.80 ppbv | 0.00 |
| 43) CHLOROBENZENE-d5 | 22.236 | 117 | 3010740 | 20.00 ppbv | 0.00 |

Target Compounds Qvalue

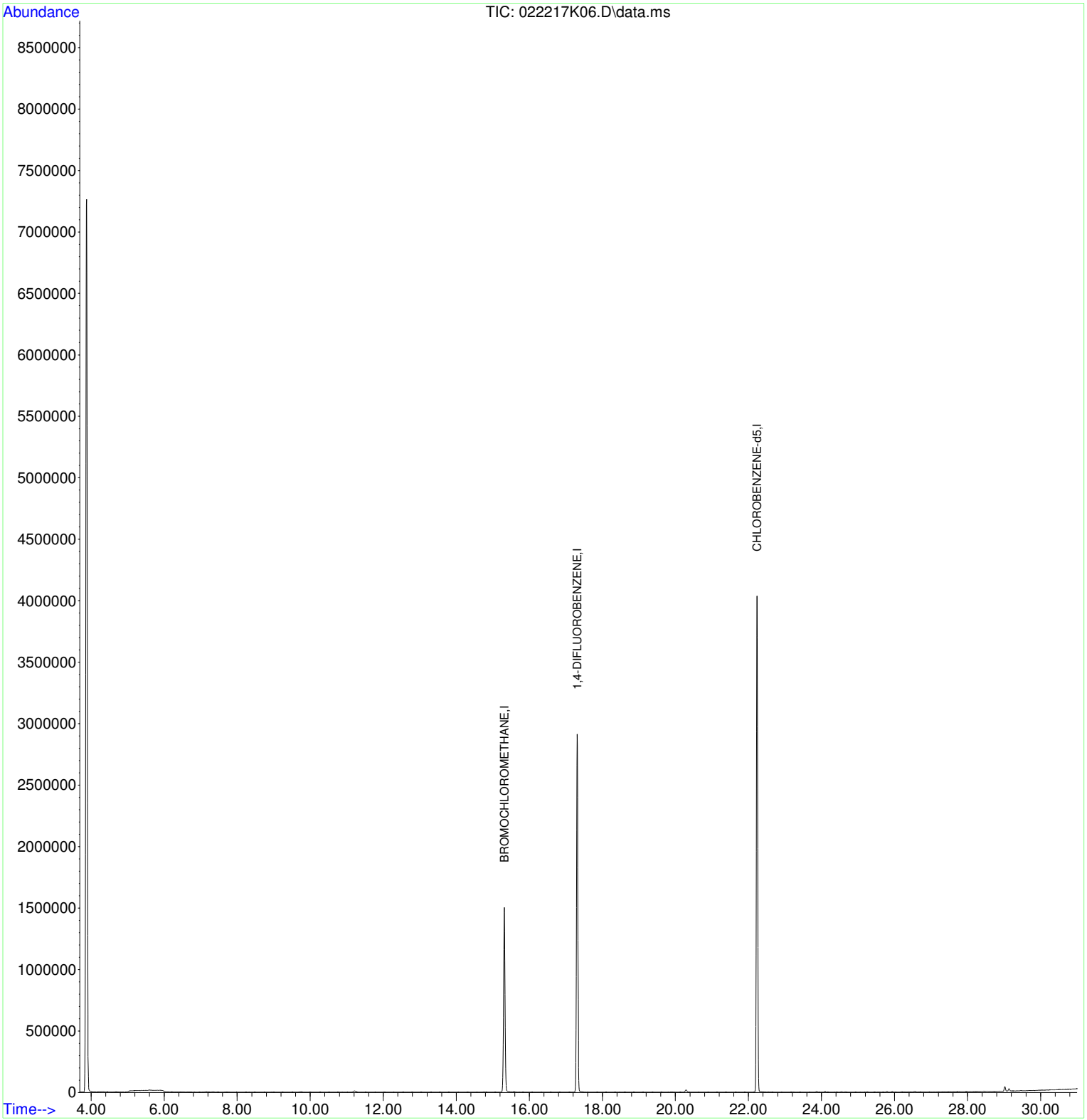
(#) = qualifier out of range (m) = manual integration (+) = signals summed

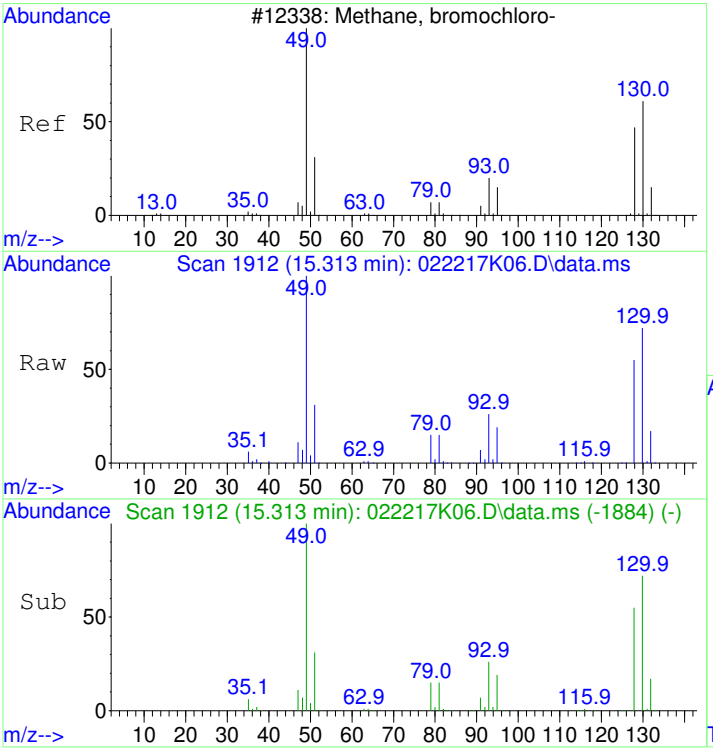
**REVIEWED**
**By LLH at 3:56 pm, Feb 22, 2017**

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\022217K_FSAA\
Data File : 022217K06.D
InstName : HP5973K
Acq On : 22 Feb 2017 2:40 pm
Operator : LLH
Sample : CAN #669
Misc : 200ml RECERTIFICATION
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Feb 22 15:55:32 2017
Quant Method : D:\msdchem\1\2017\METHOD\020217K_TO15AA.M
Quant Title : TO15
QLast Update : Fri Feb 03 14:13:09 2017
Response via : Initial Calibration

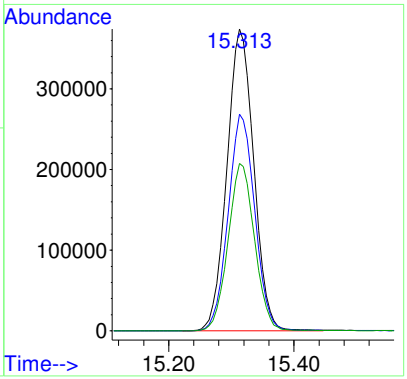


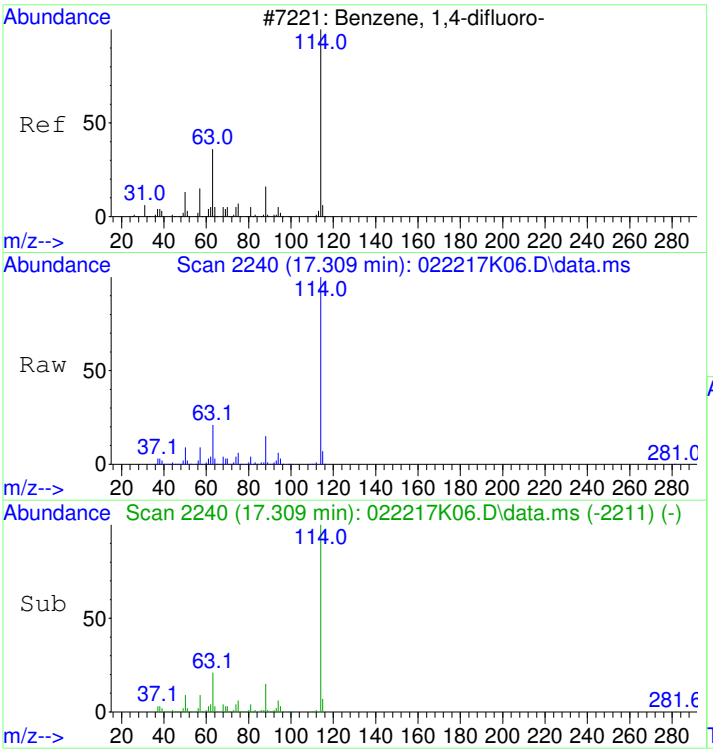



#1
BROMOCHLOROMETHANE
Concen: 19.60 ppbv
RT: 15.313 min Scan# 1912
Delta R.T. -0.006 min
Lab File: 022217K06.D
Acq: 22 Feb 2017 2:40 pm

Tgt Ion: 49 Resp: 1116698

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 130 | 71.2 | 53.9 | 93.9 |
| 128 | 54.6 | 37.0 | 77.0 |

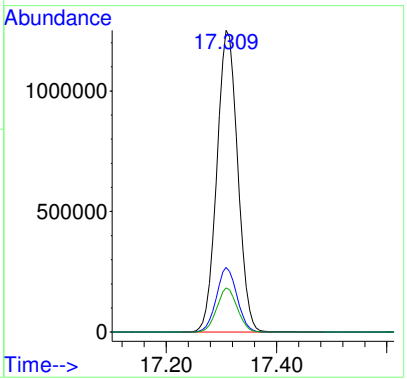


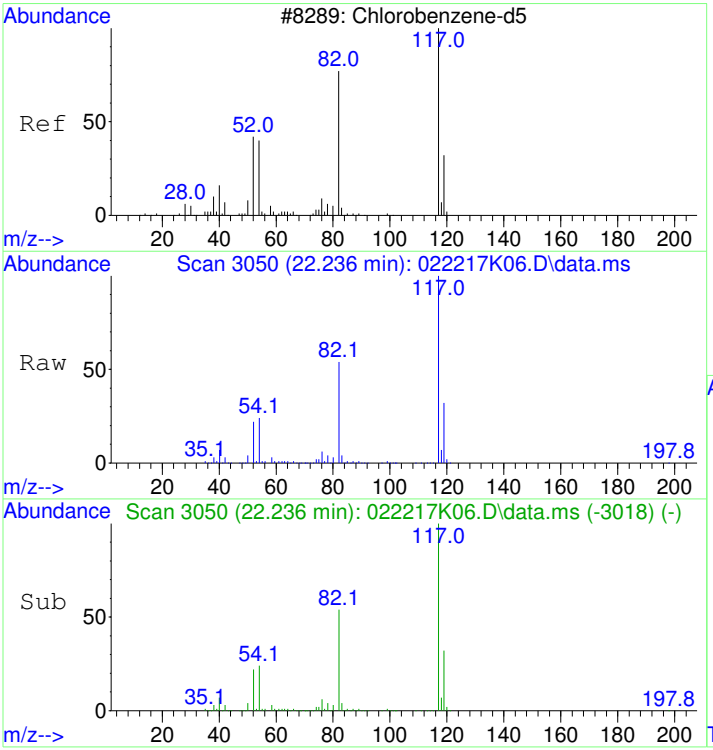




#32
1,4-DIFLUOROBENZENE
Concen: 19.80 ppbv
RT: 17.309 min Scan# 2240
Delta R.T. -0.006 min
Lab File: 022217K06.D
Acq: 22 Feb 2017 2:40 pm

Tgt Ion:114 Resp: 3281321

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 114 | 100 | | |
| 63 | 21.2 | 0.2 | 40.2 |
| 88 | 14.3 | 0.0 | 34.1 |

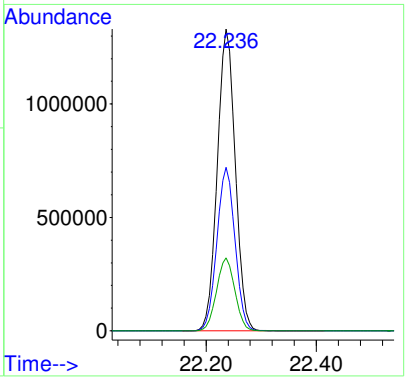





#43
CHLOROBENZENE-d5
Concen: 20.00 ppbv
RT: 22.236 min Scan# 3050
Delta R.T. -0.006 min
Lab File: 022217K06.D
Acq: 22 Feb 2017 2:40 pm

Tgt Ion:117 Resp: 3010740

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 117 | 100 | | |
| 82 | 54.5 | 33.4 | 73.4 |
| 54 | 24.5 | 2.4 | 42.4 |



Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2017\DATA\041417K_FSAA\
Data File : 041417K09.D
InstName : HP5973K
Acq On : 14 Apr 2017 12:11 pm
Operator : LLH
Sample : CAN #874
Misc : 200ml RECERTIFICATION
ALS Vial : 14 Sample Multiplier: 1

CLEAN

Quant Time: Apr 17 09:41:17 2017
Quant Method : D:\msdchem\1\2017\METHOD\041017K_TO15AA.M
Quant Title : TO15
QLast Update : Tue Apr 11 10:42:08 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) BROMOCHLOROMETHANE | 15.319 | 49 | 852044 | 20.00 | ppbv | 0.00 |
| 32) 1,4-DIFLUOROBENZENE | 17.308 | 114 | 2273570 | 18.80 | ppbv | 0.00 |
| 43) CHLOROBENZENE-d5 | 22.236 | 117 | 2124540 | 20.00 | ppbv | 0.00 |

Target Compounds Qvalue

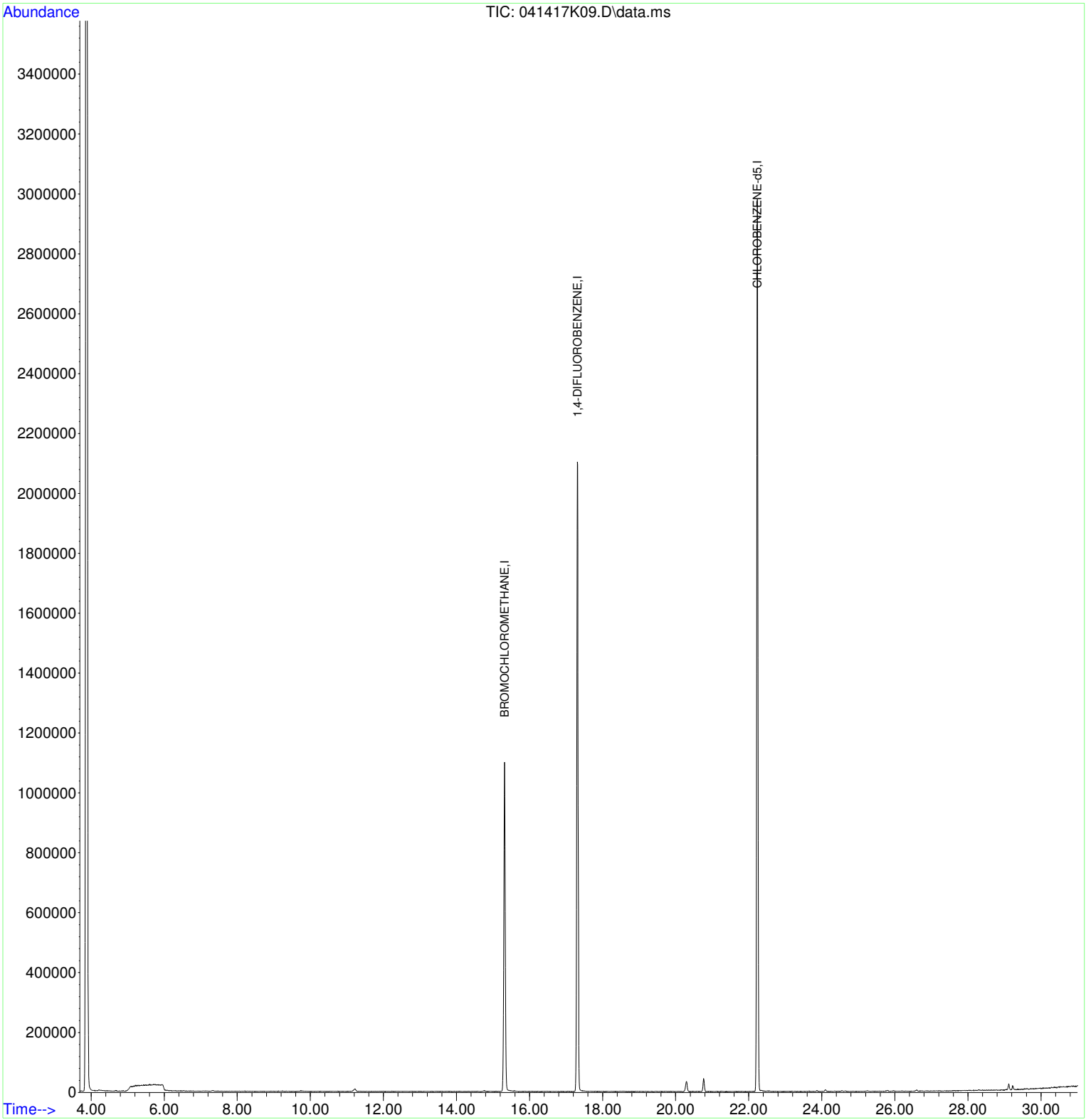
(#) = qualifier out of range (m) = manual integration (+) = signals summed

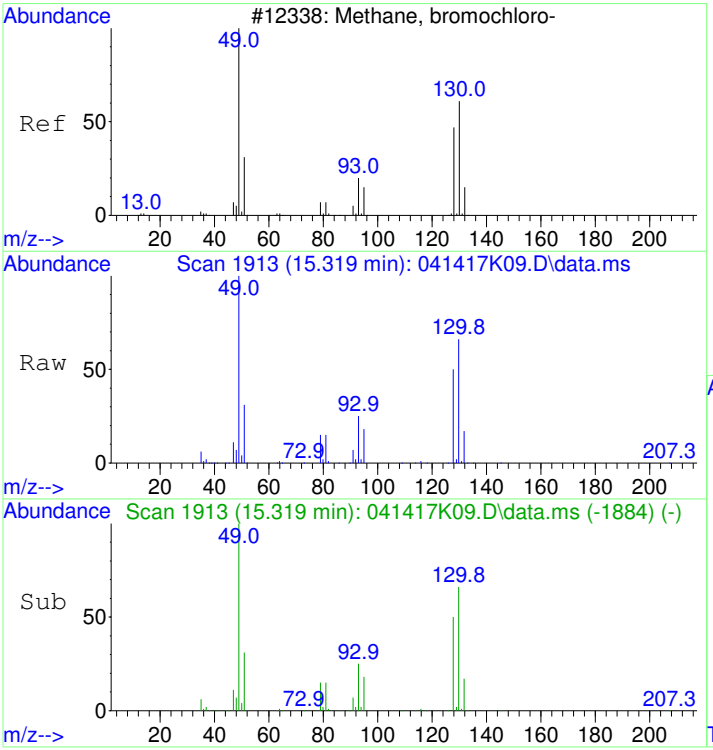
**REVIEWED**
**By LLH at 9:41 am, Apr 17, 2017**

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\041417K_FSAA\
Data File : 041417K09.D
InstName : HP5973K
Acq On : 14 Apr 2017 12:11 pm
Operator : LLH
Sample : CAN #874
Misc : 200ml RECERTIFICATION
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 17 09:41:17 2017
Quant Method : D:\msdchem\1\2017\METHOD\041017K_TO15AA.M
Quant Title : TO15
QLast Update : Tue Apr 11 10:42:08 2017
Response via : Initial Calibration

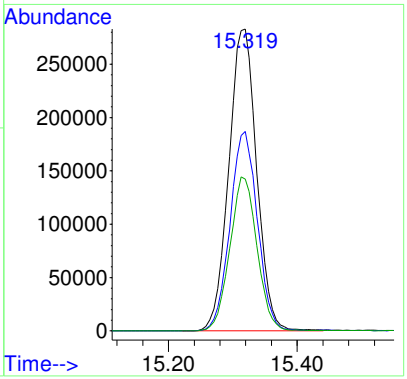


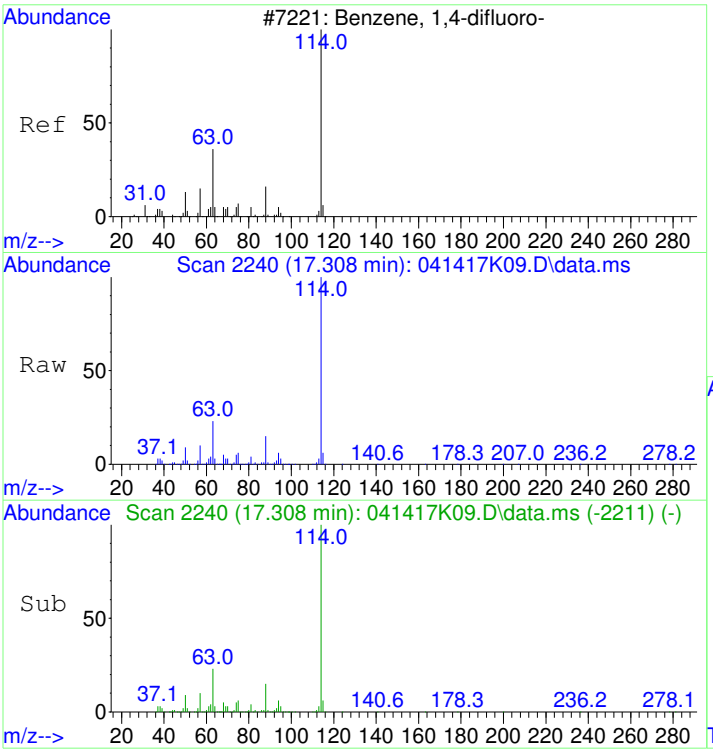



#1
BROMOCHLOROMETHANE
Concen: 20.00 ppbv
RT: 15.319 min Scan# 1913
Delta R.T. 0.000 min
Lab File: 041417K09.D
Acq: 14 Apr 2017 12:11 pm

Tgt Ion: 49 Resp: 852044

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 130 | 65.0 | 54.1 | 94.1 |
| 128 | 49.7 | 37.5 | 77.5 |

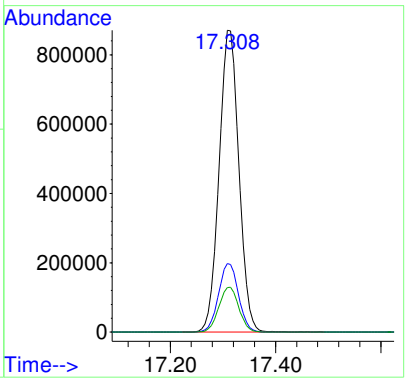


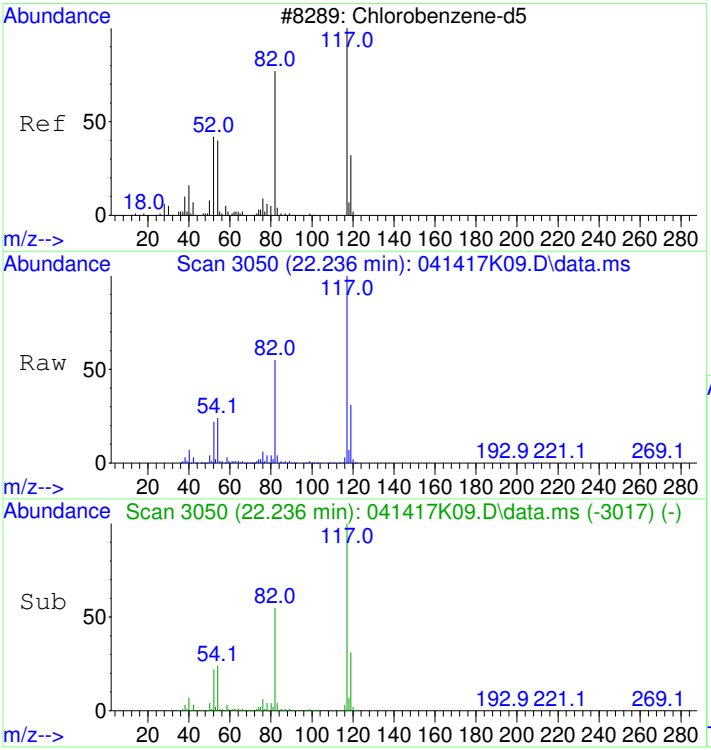




#32
1,4-DIFLUOROBENZENE
Concen: 18.80 ppbv
RT: 17.308 min Scan# 2240
Delta R.T. -0.006 min
Lab File: 041417K09.D
Acq: 14 Apr 2017 12:11 pm

Tgt Ion:114 Resp: 2273570

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 114 | 100 | | |
| 63 | 22.9 | 0.4 | 40.4 |
| 88 | 15.0 | 0.0 | 34.6 |

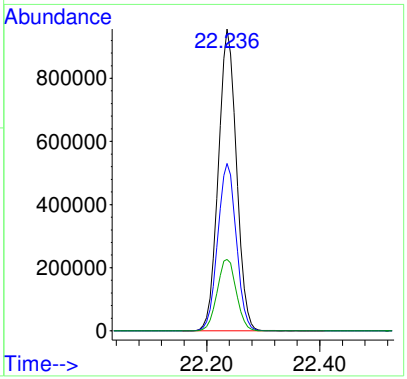





#43
CHLOROBENZENE-d5
Concen: 20.00 ppbv
RT: 22.236 min Scan# 3050
Delta R.T. -0.000 min
Lab File: 041417K09.D
Acq: 14 Apr 2017 12:11 pm

Tgt Ion:117 Resp: 2124540

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 117 | 100 | | |
| 82 | 56.8 | 34.5 | 74.5 |
| 54 | 25.0 | 0.2 | 40.2 |



Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2017\DATA\022217K_FSAA\
Data File : 022217K06.D
InstName : HP5973K
Acq On : 22 Feb 2017 2:40 pm
Operator : LLH
Sample : CAN #669
Misc : 200ml RECERTIFICATION
ALS Vial : 21 Sample Multiplier: 1

CLEAN

Quant Time: Feb 22 15:55:32 2017
Quant Method : D:\msdchem\1\2017\METHOD\020217K_TO15AA.M
Quant Title : TO15
QLast Update : Fri Feb 03 14:13:09 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| Internal Standards | | | | | |
| 1) BROMOCHLOROMETHANE | 15.313 | 49 | 1116698 | 19.60 ppbv | 0.00 |
| 32) 1,4-DIFLUOROBENZENE | 17.309 | 114 | 3281321 | 19.80 ppbv | 0.00 |
| 43) CHLOROBENZENE-d5 | 22.236 | 117 | 3010740 | 20.00 ppbv | 0.00 |

Target Compounds Qvalue

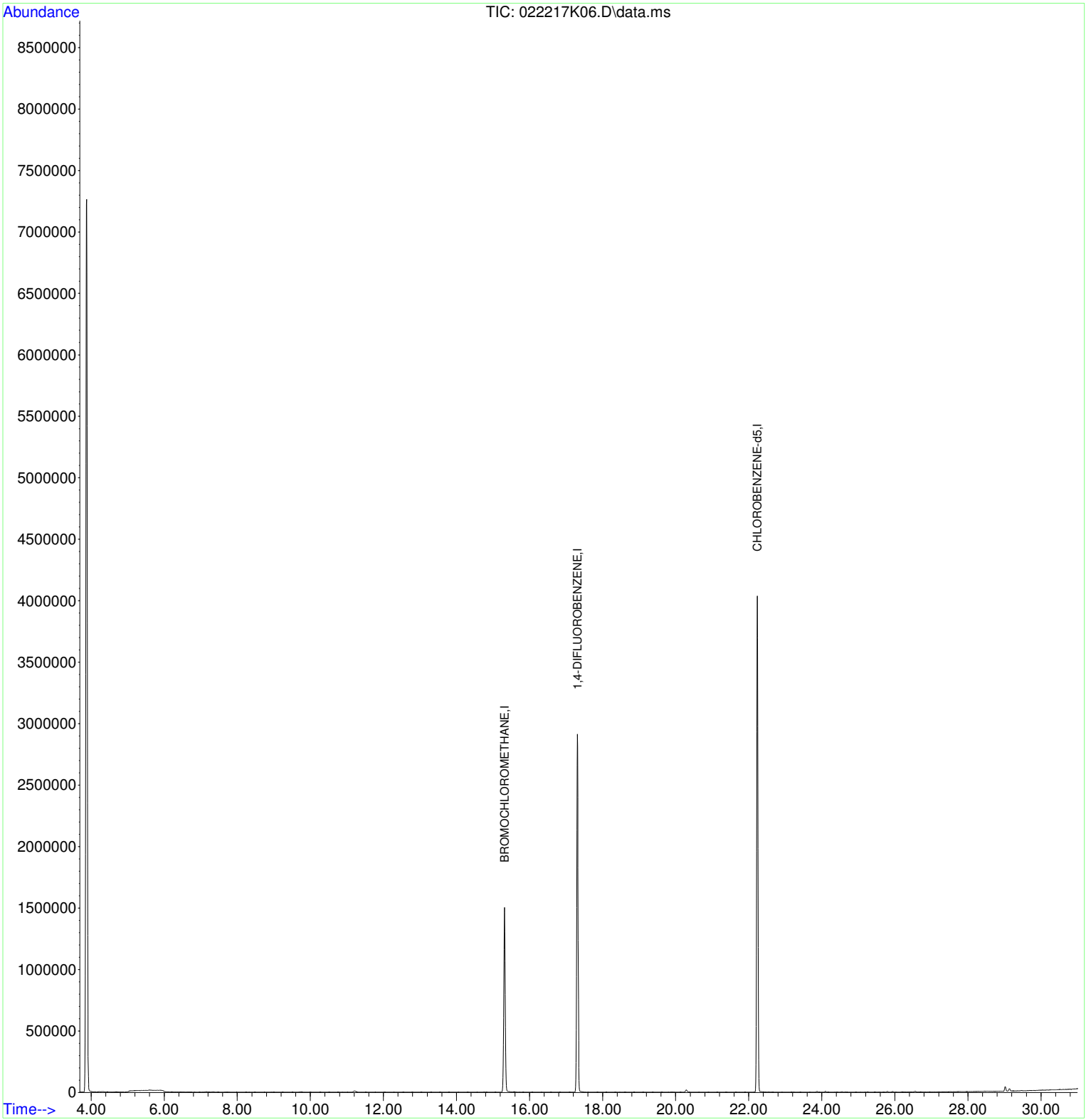
(#) = qualifier out of range (m) = manual integration (+) = signals summed

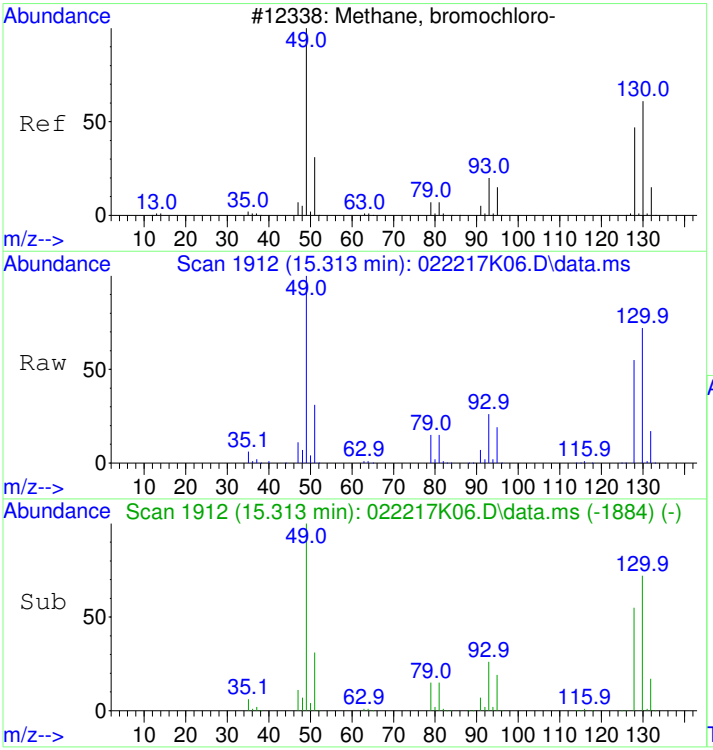
**REVIEWED**
**By LLH at 3:56 pm, Feb 22, 2017**

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\022217K_FSAA\
Data File : 022217K06.D
InstName : HP5973K
Acq On : 22 Feb 2017 2:40 pm
Operator : LLH
Sample : CAN #669
Misc : 200ml RECERTIFICATION
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Feb 22 15:55:32 2017
Quant Method : D:\msdchem\1\2017\METHOD\020217K_TO15AA.M
Quant Title : TO15
QLast Update : Fri Feb 03 14:13:09 2017
Response via : Initial Calibration

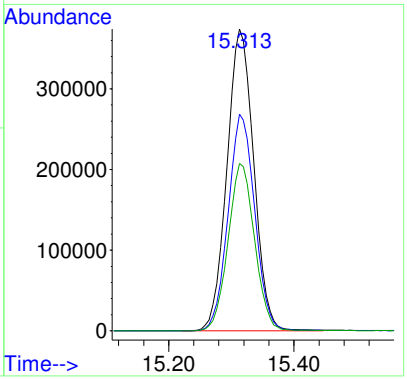


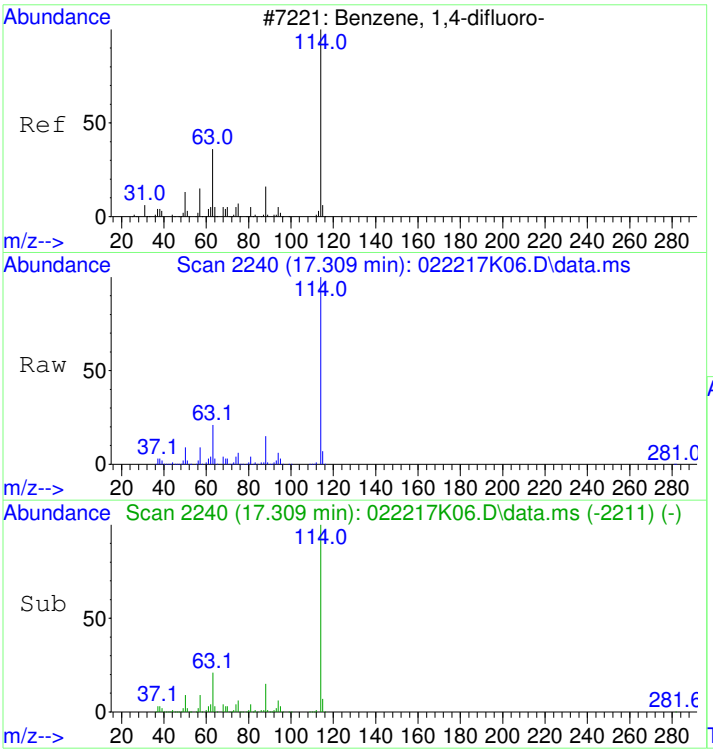



#1
BROMOCHLOROMETHANE
Concen: 19.60 ppbv
RT: 15.313 min Scan# 1912
Delta R.T. -0.006 min
Lab File: 022217K06.D
Acq: 22 Feb 2017 2:40 pm

Tgt Ion: 49 Resp: 1116698

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 130 | 71.2 | 53.9 | 93.9 |
| 128 | 54.6 | 37.0 | 77.0 |

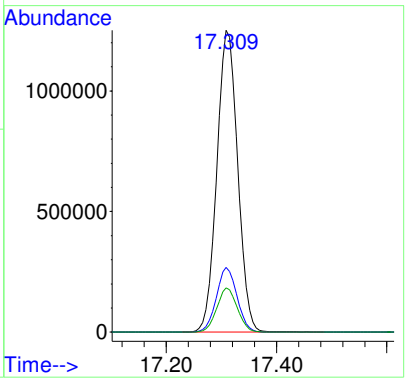


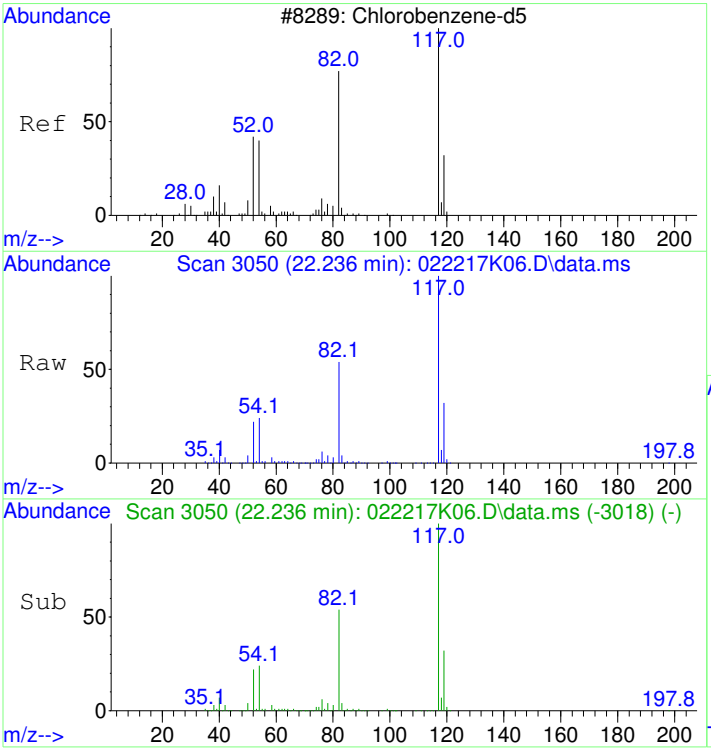




#32
1,4-DIFLUOROBENZENE
Concen: 19.80 ppbv
RT: 17.309 min Scan# 2240
Delta R.T. -0.006 min
Lab File: 022217K06.D
Acq: 22 Feb 2017 2:40 pm

Tgt Ion:114 Resp: 3281321

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 114 | 100 | | |
| 63 | 21.2 | 0.2 | 40.2 |
| 88 | 14.3 | 0.0 | 34.1 |

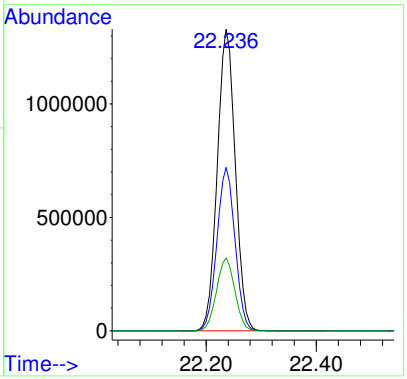





#43
CHLOROBENZENE-d5
Concen: 20.00 ppbv
RT: 22.236 min Scan# 3050
Delta R.T. -0.006 min
Lab File: 022217K06.D
Acq: 22 Feb 2017 2:40 pm

Tgt Ion:117 Resp: 3010740

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 117 | 100 | | |
| 82 | 54.5 | 33.4 | 73.4 |
| 54 | 24.5 | 2.4 | 42.4 |



Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2017\DATA\041417K_FSAA\
Data File : 041417K09.D
InstName : HP5973K
Acq On : 14 Apr 2017 12:11 pm
Operator : LLH
Sample : CAN #874
Misc : 200ml RECERTIFICATION
ALS Vial : 14 Sample Multiplier: 1

CLEAN

Quant Time: Apr 17 09:41:17 2017
Quant Method : D:\msdchem\1\2017\METHOD\041017K_TO15AA.M
Quant Title : TO15
QLast Update : Tue Apr 11 10:42:08 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) BROMOCHLOROMETHANE | 15.319 | 49 | 852044 | 20.00 | ppbv | 0.00 |
| 32) 1,4-DIFLUOROBENZENE | 17.308 | 114 | 2273570 | 18.80 | ppbv | 0.00 |
| 43) CHLOROBENZENE-d5 | 22.236 | 117 | 2124540 | 20.00 | ppbv | 0.00 |

Target Compounds Qvalue

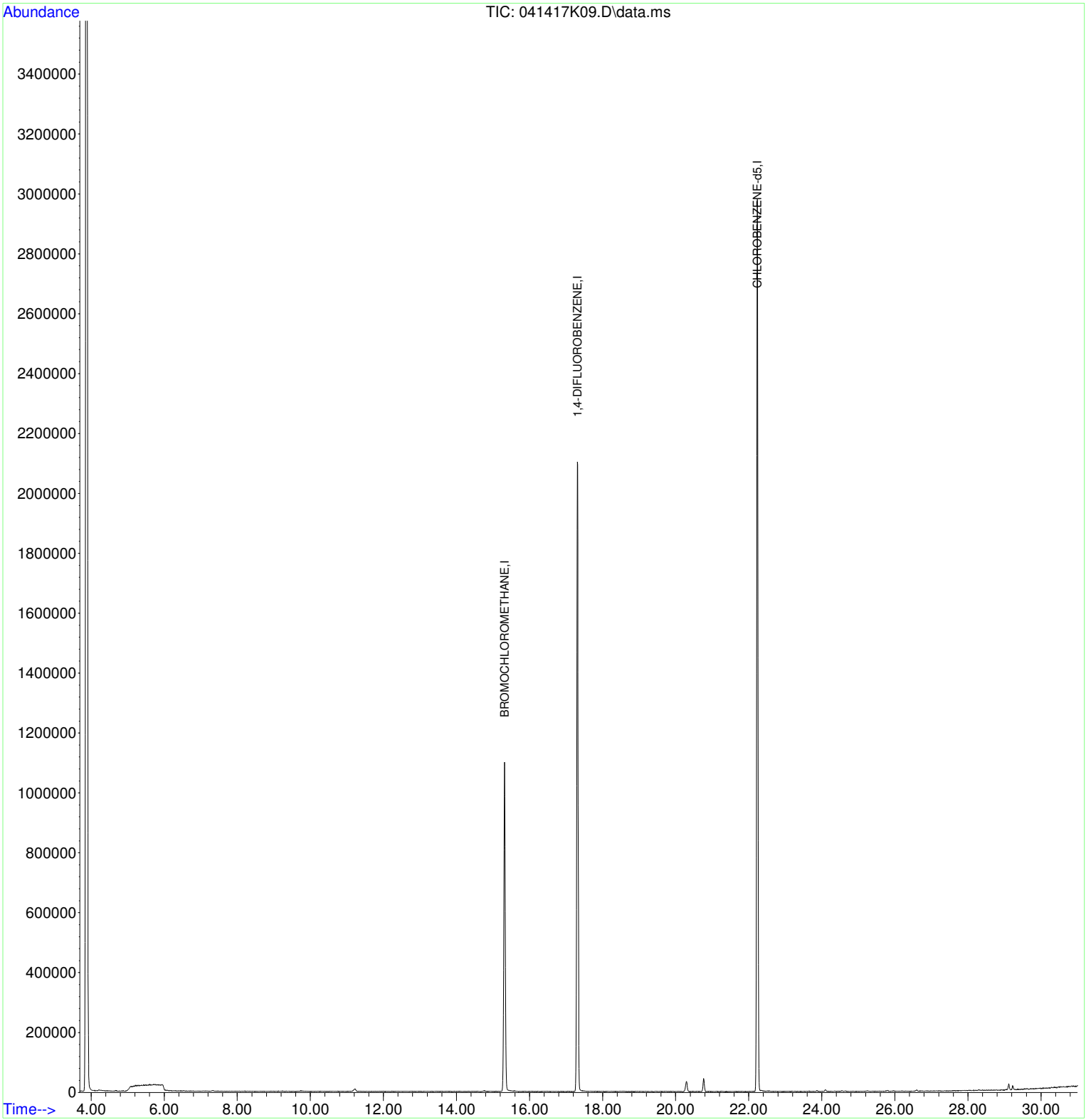
(#) = qualifier out of range (m) = manual integration (+) = signals summed

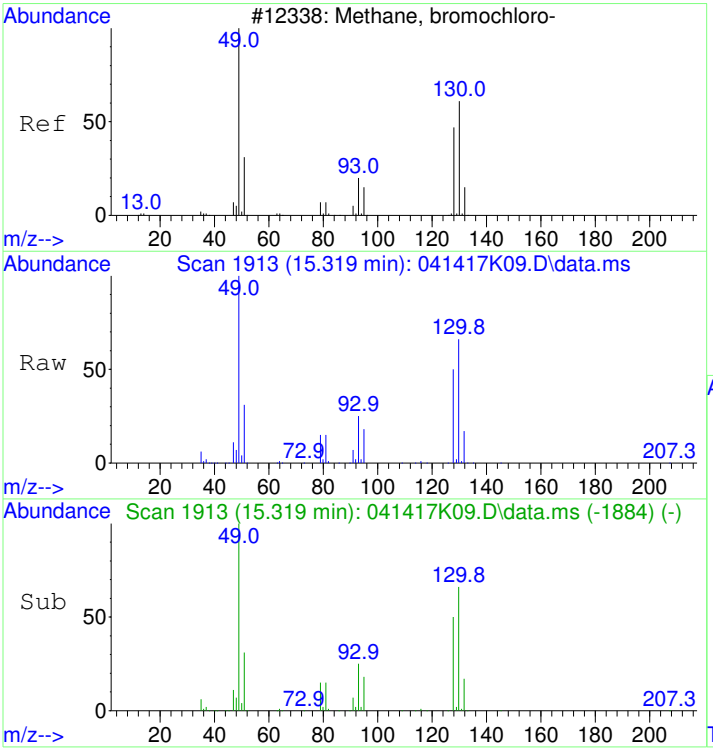
**REVIEWED**
**By LLH at 9:41 am, Apr 17, 2017**

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\041417K_FSAA\
Data File : 041417K09.D
InstName : HP5973K
Acq On : 14 Apr 2017 12:11 pm
Operator : LLH
Sample : CAN #874
Misc : 200ml RECERTIFICATION
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 17 09:41:17 2017
Quant Method : D:\msdchem\1\2017\METHOD\041017K_TO15AA.M
Quant Title : TO15
QLast Update : Tue Apr 11 10:42:08 2017
Response via : Initial Calibration

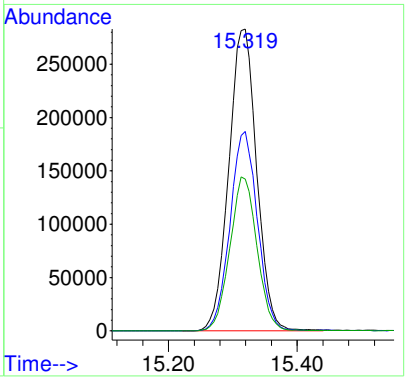


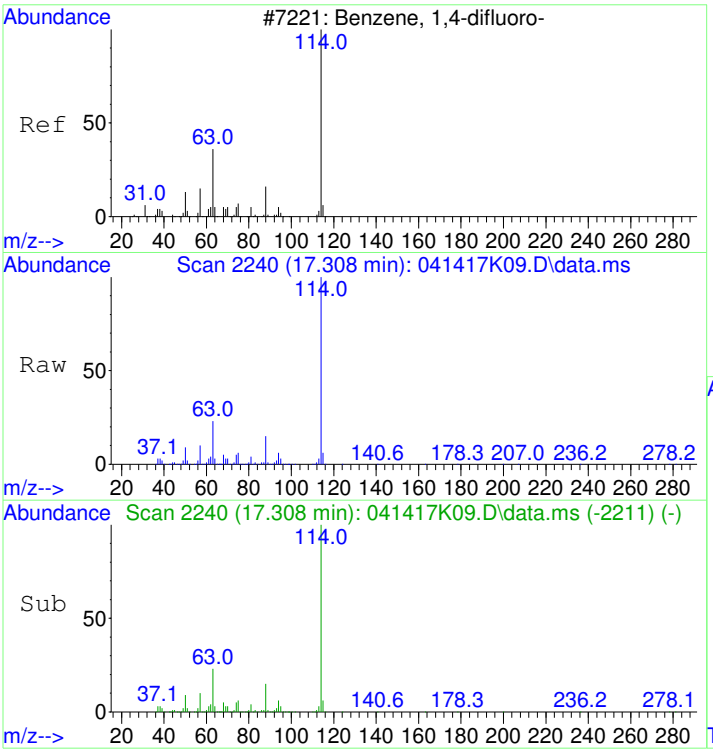



#1
BROMOCHLOROMETHANE
Concen: 20.00 ppbv
RT: 15.319 min Scan# 1913
Delta R.T. 0.000 min
Lab File: 041417K09.D
Acq: 14 Apr 2017 12:11 pm

Tgt Ion: 49 Resp: 852044

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 130 | 65.0 | 54.1 | 94.1 |
| 128 | 49.7 | 37.5 | 77.5 |

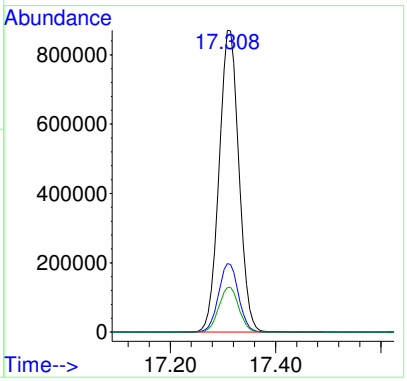


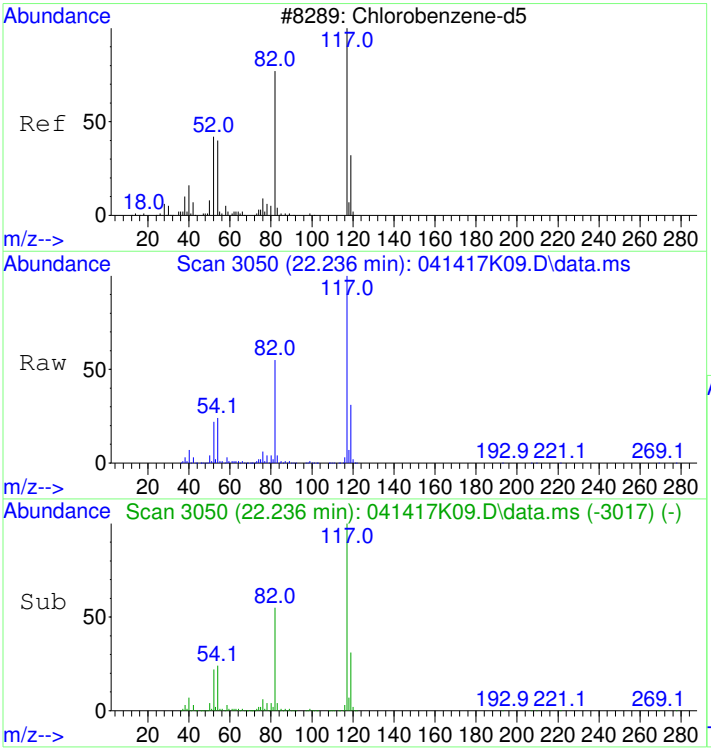




#32
1,4-DIFLUOROBENZENE
Concen: 18.80 ppbv
RT: 17.308 min Scan# 2240
Delta R.T. -0.006 min
Lab File: 041417K09.D
Acq: 14 Apr 2017 12:11 pm

Tgt Ion:114 Resp: 2273570

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 114 | 100 | | |
| 63 | 22.9 | 0.4 | 40.4 |
| 88 | 15.0 | 0.0 | 34.6 |

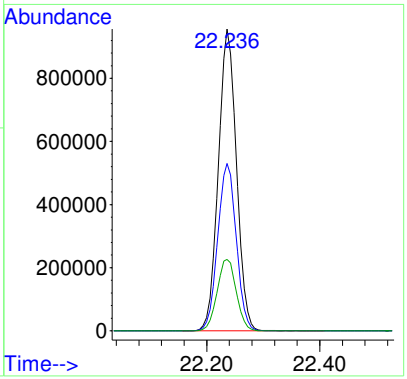





#43
CHLOROBENZENE-d5
Concen: 20.00 ppbv
RT: 22.236 min Scan# 3050
Delta R.T. -0.000 min
Lab File: 041417K09.D
Acq: 14 Apr 2017 12:11 pm

Tgt Ion:117 Resp: 2124540

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 117 | 100 | | |
| 82 | 56.8 | 34.5 | 74.5 |
| 54 | 25.0 | 0.2 | 40.2 |



# 1707040-02

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2017\DATA\021717K_FSAA\
Data File : 021717K08.D
InstName : HP5973K
Acq On : 17 Feb 2017 6:22 pm
Operator : LLH
Sample : CAN #1062
Misc : 200ml RECERTIFICATION
ALS Vial : 12 Sample Multiplier: 1

CLEAN

Quant Time: Feb 20 11:13:36 2017
Quant Method : D:\msdchem\1\2017\METHOD\020217K_TO15AA.M
Quant Title : TO15
QLast Update : Fri Feb 03 14:13:09 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| Internal Standards | | | | | |
| 1) BROMOCHLOROMETHANE | 15.325 | 49 | 1020892 | 19.60 ppbv | 0.00 |
| 32) 1,4-DIFLUOROBENZENE | 17.321 | 114 | 3065175 | 19.80 ppbv | 0.00 |
| 43) CHLOROBENZENE-d5 | 22.242 | 117 | 2806782 | 20.00 ppbv | 0.00 |

Target Compounds Qvalue

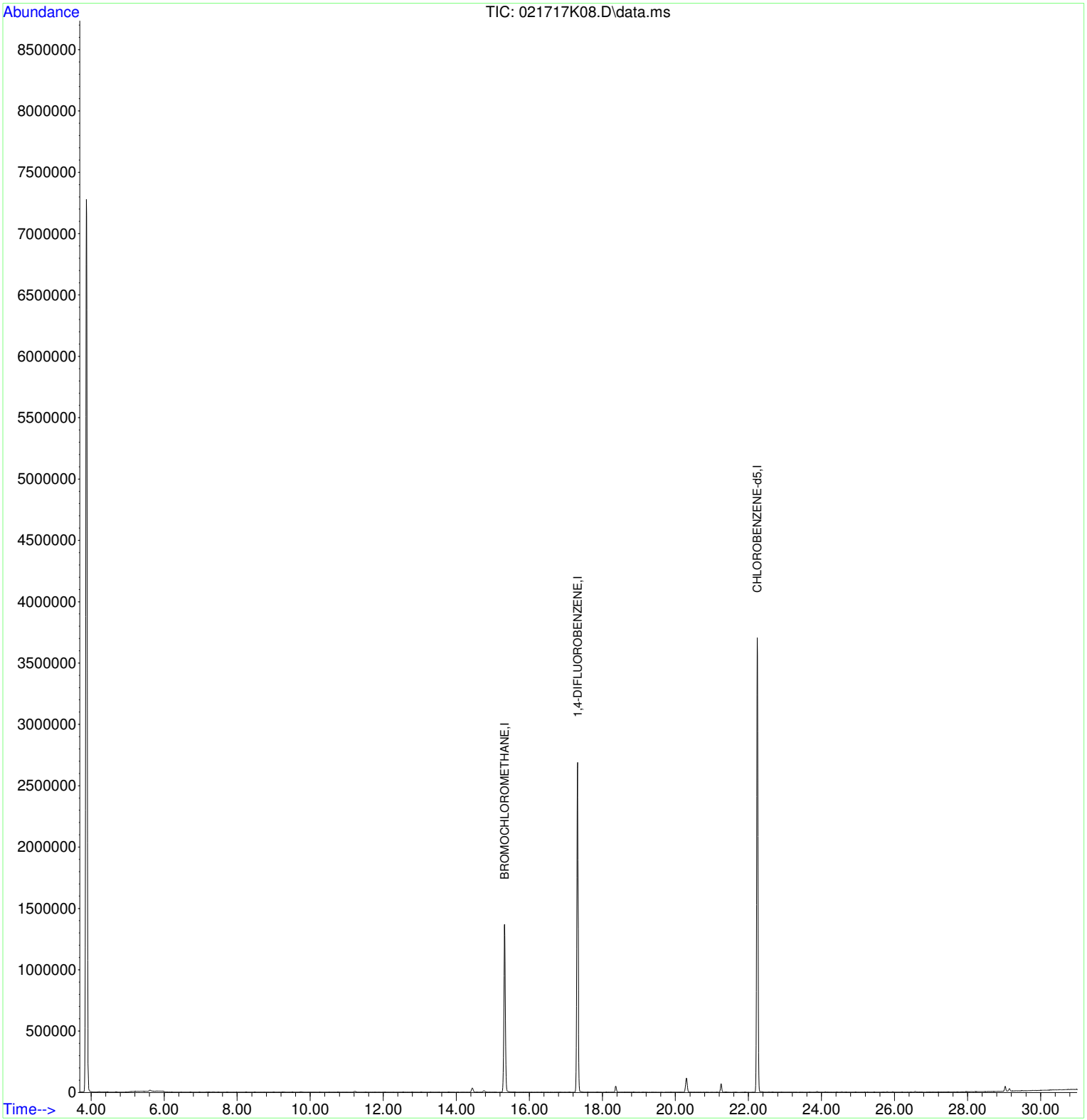
(#) = qualifier out of range (m) = manual integration (+) = signals summed

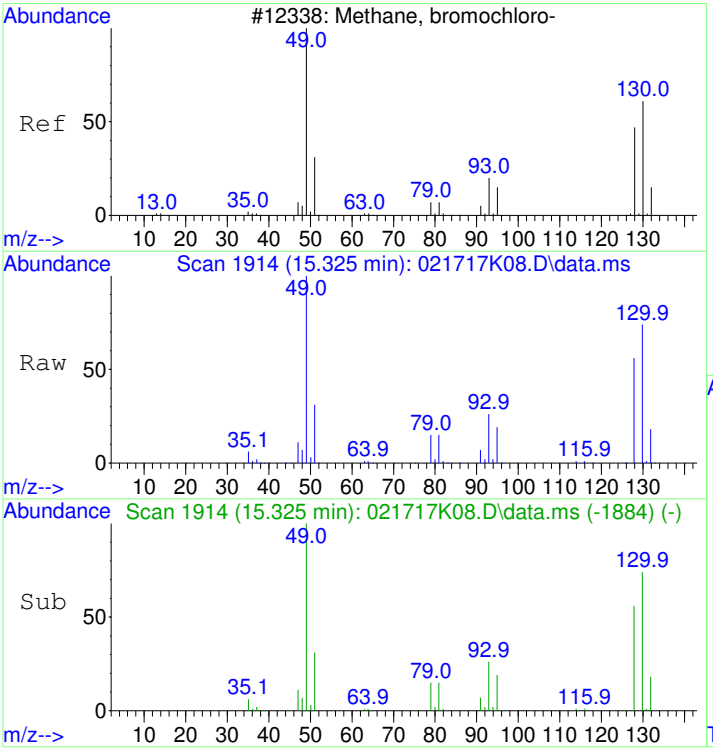
**REVIEWED**
**By LLH at 11:13 am, Feb 20, 2017**

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\021717K_FSAA\
Data File : 021717K08.D
InstName : HP5973K
Acq On : 17 Feb 2017 6:22 pm
Operator : LLH
Sample : CAN #1062
Misc : 200ml RECERTIFICATION
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Feb 20 11:13:36 2017
Quant Method : D:\msdchem\1\2017\METHOD\020217K_TO15AA.M
Quant Title : TO15
QLast Update : Fri Feb 03 14:13:09 2017
Response via : Initial Calibration

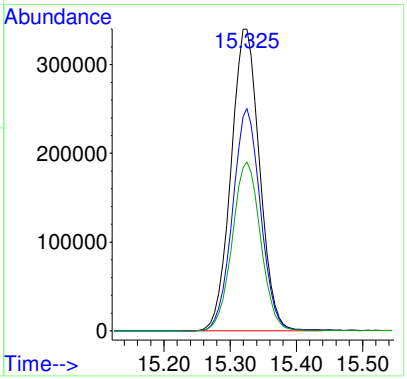


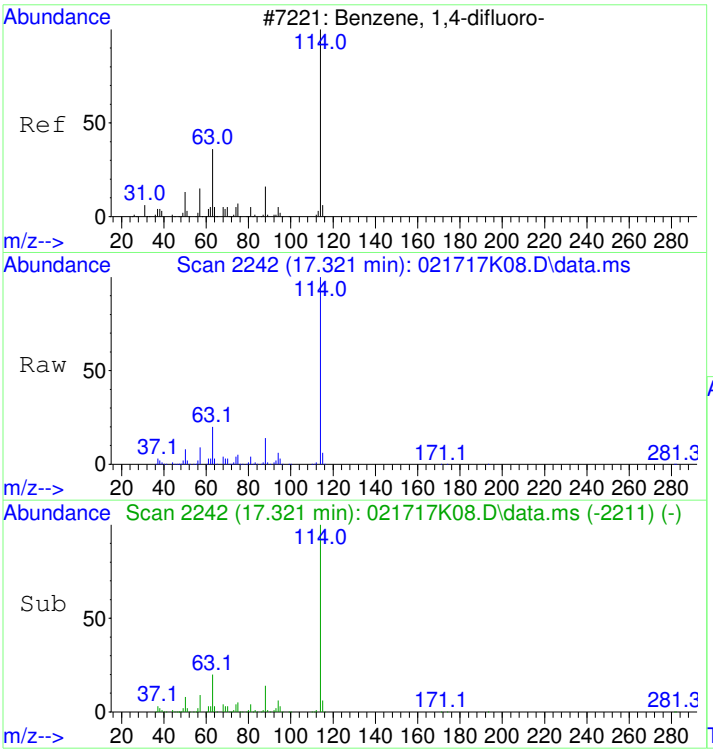



#1
BROMOCHLOROMETHANE
Concen: 19.60 ppbv
RT: 15.325 min Scan# 1914
Delta R.T. 0.006 min
Lab File: 021717K08.D
Acq: 17 Feb 2017 6:22 pm

Tgt Ion: 49 Resp: 1020892

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 130 | 72.2 | 53.9 | 93.9 |
| 128 | 55.6 | 37.0 | 77.0 |

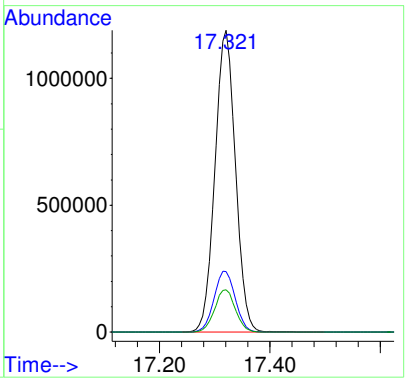


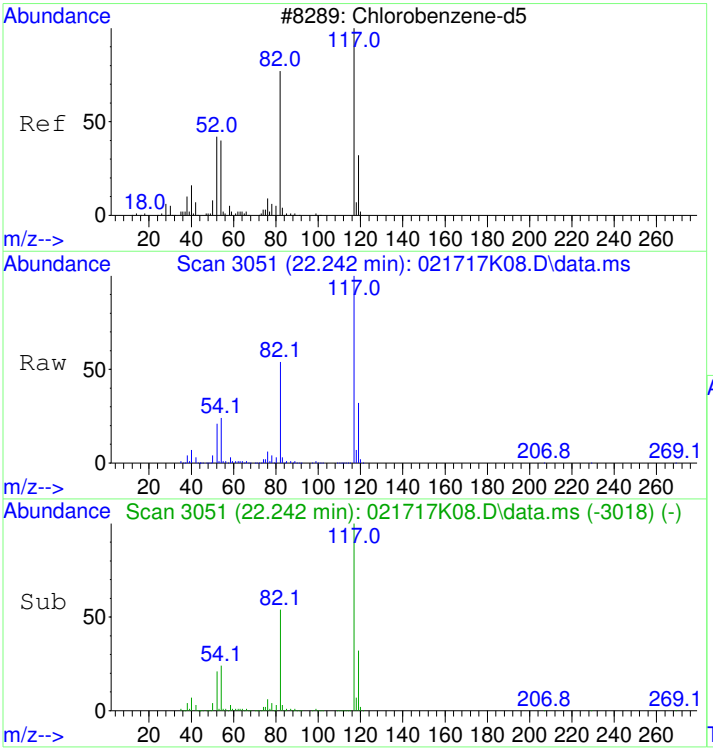




#32
1,4-DIFLUOROBENZENE
Concen: 19.80 ppbv
RT: 17.321 min Scan# 2242
Delta R.T. 0.006 min
Lab File: 021717K08.D
Acq: 17 Feb 2017 6:22 pm

Tgt Ion:114 Resp: 3065175

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 114 | 100 | | |
| 63 | 20.9 | 0.2 | 40.2 |
| 88 | 14.3 | 0.0 | 34.1 |

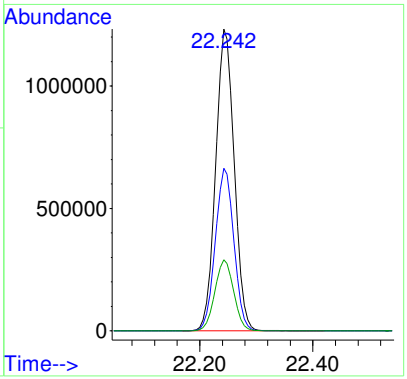





#43
CHLOROBENZENE-d5
Concen: 20.00 ppbv
RT: 22.242 min Scan# 3051
Delta R.T. 0.000 min
Lab File: 021717K08.D
Acq: 17 Feb 2017 6:22 pm

Tgt Ion:117 Resp: 2806782

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 117 | 100 | | |
| 82 | 54.1 | 33.4 | 73.4 |
| 54 | 23.8 | 2.4 | 42.4 |



Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2017\DATA\041417K_FSAA\
Data File : 041417K10.D
InstName : HP5973K
Acq On : 14 Apr 2017 12:57 pm
Operator : LLH
Sample : CAN #877
Misc : 200ml RECERTIFICATION
ALS Vial : 15 Sample Multiplier: 1

CLEAN

Quant Time: Apr 17 09:41:37 2017
Quant Method : D:\msdchem\1\2017\METHOD\041017K_TO15AA.M
Quant Title : TO15
QLast Update : Tue Apr 11 10:42:08 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) BROMOCHLOROMETHANE | 15.313 | 49 | 842270 | 20.00 | ppbv | 0.00 |
| 32) 1,4-DIFLUOROBENZENE | 17.308 | 114 | 2250970 | 18.80 | ppbv | 0.00 |
| 43) CHLOROBENZENE-d5 | 22.236 | 117 | 2105163 | 20.00 | ppbv | 0.00 |

Target Compounds Qvalue

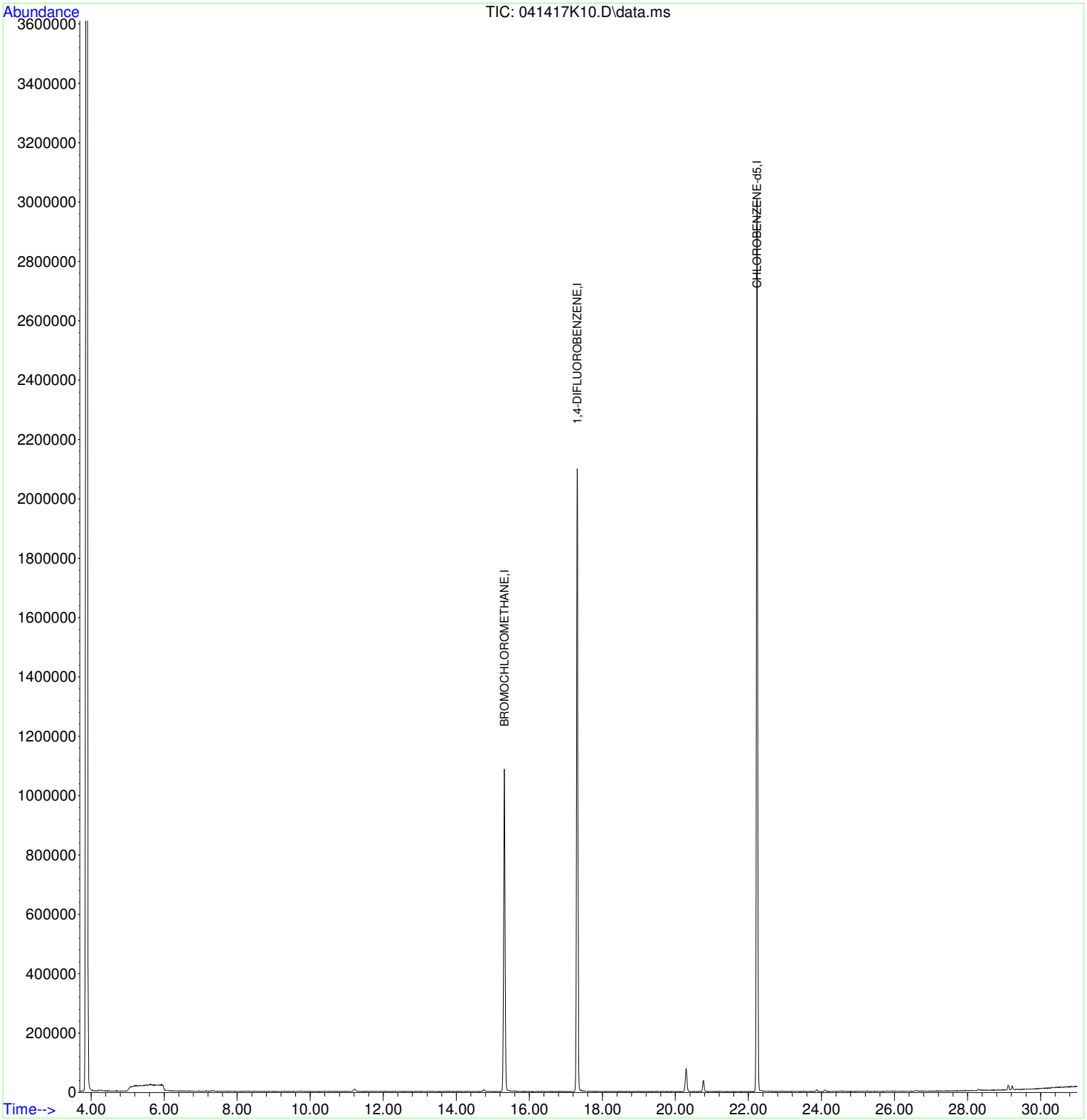
(#) = qualifier out of range (m) = manual integration (+) = signals summed

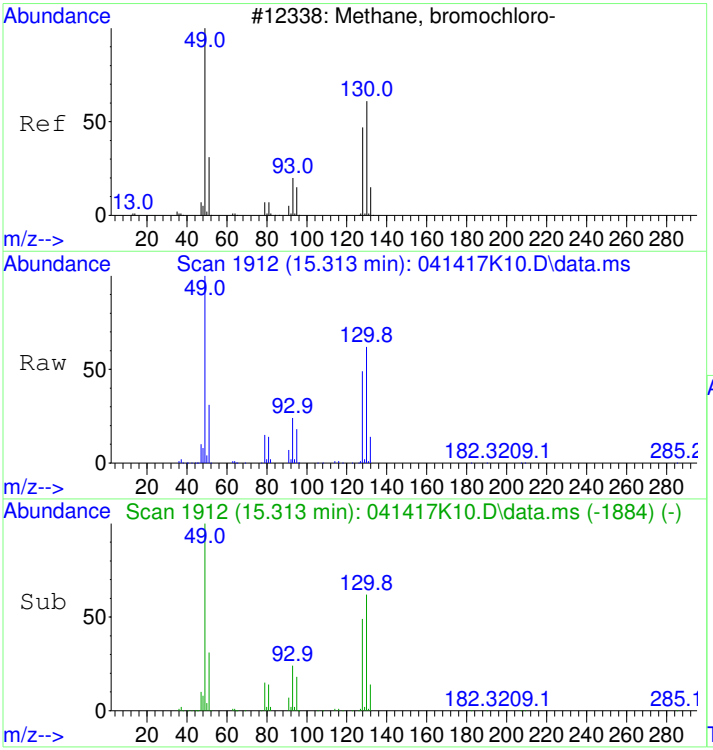
**REVIEWED**
**By LLH at 9:41 am, Apr 17, 2017**

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\041417K_FSAA\
Data File : 041417K10.D
InstName : HP5973K
Acq On : 14 Apr 2017 12:57 pm
Operator : LLH
Sample : CAN #877
Misc : 200ml RECERTIFICATION
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Apr 17 09:41:37 2017
Quant Method : D:\msdchem\1\2017\METHOD\041017K_TO15AA.M
Quant Title : TO15
QLast Update : Tue Apr 11 10:42:08 2017
Response via : Initial Calibration

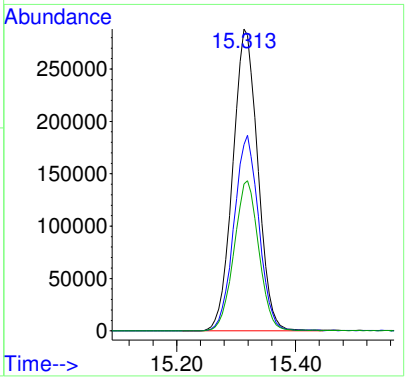


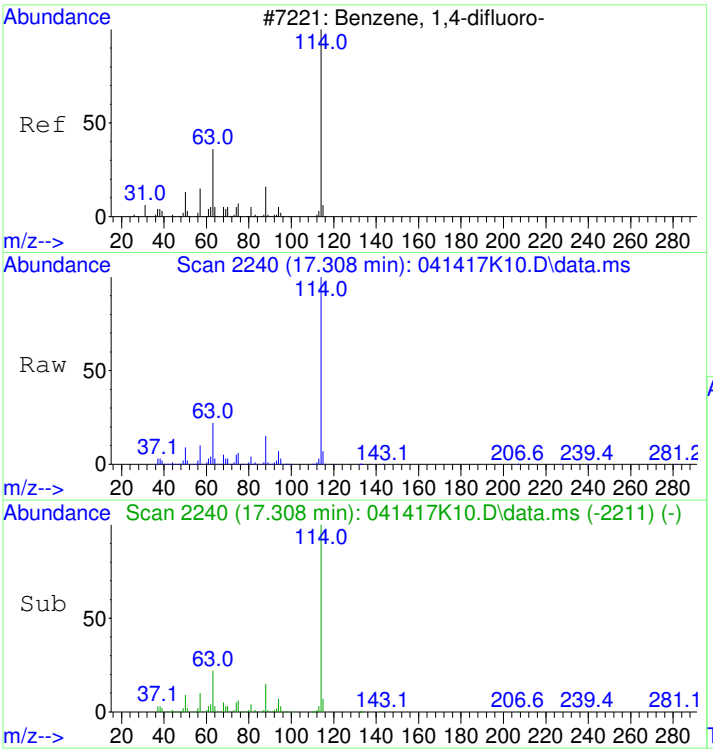



#1
BROMOCHLOROMETHANE
Concen: 20.00 ppbv
RT: 15.313 min Scan# 1912
Delta R.T. -0.006 min
Lab File: 041417K10.D
Acq: 14 Apr 2017 12:57 pm

Tgt Ion: 49 Resp: 842270

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 130 | 64.4 | 54.1 | 94.1 |
| 128 | 49.3 | 37.5 | 77.5 |

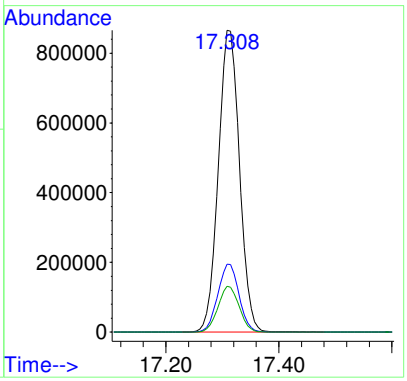


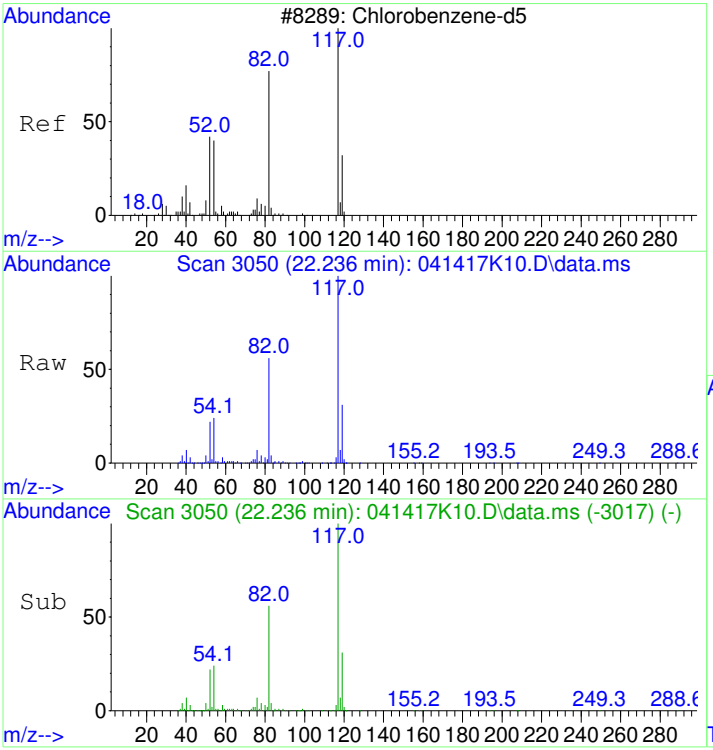




#32
1,4-DIFLUOROBENZENE
Concen: 18.80 ppbv
RT: 17.308 min Scan# 2240
Delta R.T. -0.006 min
Lab File: 041417K10.D
Acq: 14 Apr 2017 12:57 pm

Tgt Ion:114 Resp: 2250970

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 114 | 100 | | |
| 63 | 22.5 | 0.4 | 40.4 |
| 88 | 15.1 | 0.0 | 34.6 |

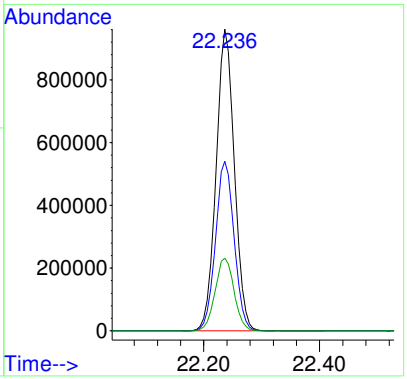





#43
CHLOROBENZENE-d5
Concen: 20.00 ppbv
RT: 22.236 min Scan# 3050
Delta R.T. -0.000 min
Lab File: 041417K10.D
Acq: 14 Apr 2017 12:57 pm

Tgt Ion:117 Resp: 2105163

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 117 | 100 | | |
| 82 | 57.4 | 34.5 | 74.5 |
| 54 | 25.0 | 0.2 | 40.2 |



Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2017\DATA\021717K_FSAA\
Data File : 021717K08.D
InstName : HP5973K
Acq On : 17 Feb 2017 6:22 pm
Operator : LLH
Sample : CAN #1062
Misc : 200ml RECERTIFICATION
ALS Vial : 12 Sample Multiplier: 1

CLEAN

Quant Time: Feb 20 11:13:36 2017
Quant Method : D:\msdchem\1\2017\METHOD\020217K_TO15AA.M
Quant Title : TO15
QLast Update : Fri Feb 03 14:13:09 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| Internal Standards | | | | | |
| 1) BROMOCHLOROMETHANE | 15.325 | 49 | 1020892 | 19.60 ppbv | 0.00 |
| 32) 1,4-DIFLUOROBENZENE | 17.321 | 114 | 3065175 | 19.80 ppbv | 0.00 |
| 43) CHLOROBENZENE-d5 | 22.242 | 117 | 2806782 | 20.00 ppbv | 0.00 |

Target Compounds Qvalue

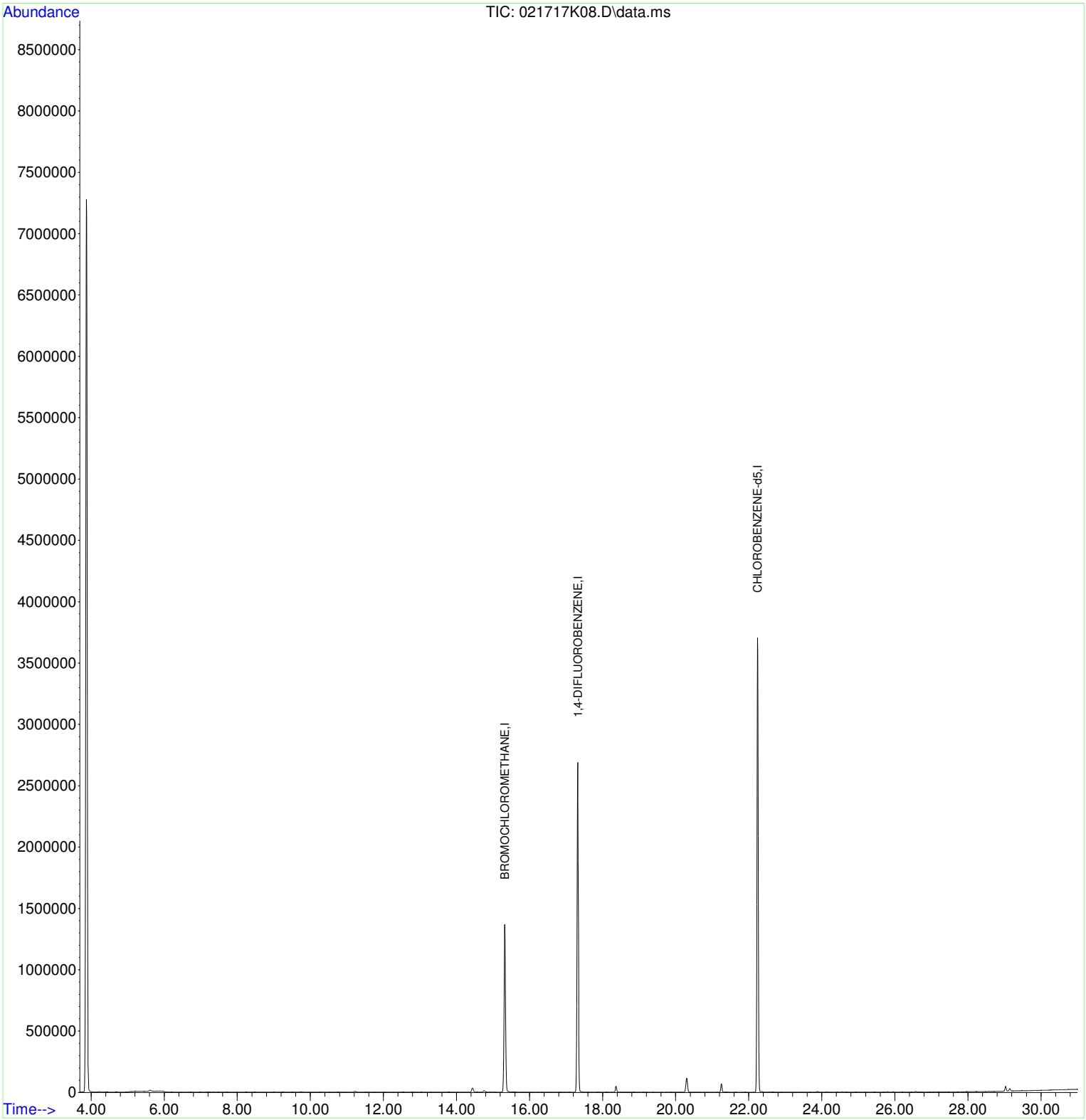
(#) = qualifier out of range (m) = manual integration (+) = signals summed

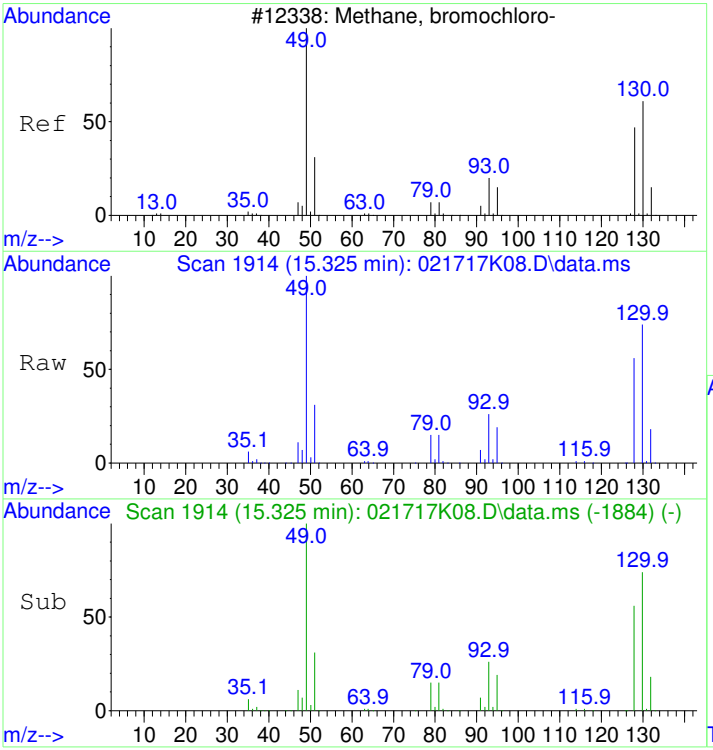
**REVIEWED**
**By LLH at 11:13 am, Feb 20, 2017**

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\021717K_FSAA\
Data File : 021717K08.D
InstName : HP5973K
Acq On : 17 Feb 2017 6:22 pm
Operator : LLH
Sample : CAN #1062
Misc : 200ml RECERTIFICATION
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Feb 20 11:13:36 2017
Quant Method : D:\msdchem\1\2017\METHOD\020217K_TO15AA.M
Quant Title : TO15
QLast Update : Fri Feb 03 14:13:09 2017
Response via : Initial Calibration

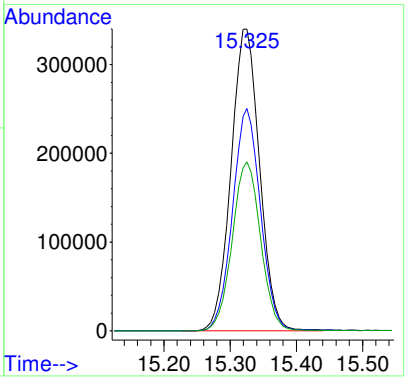


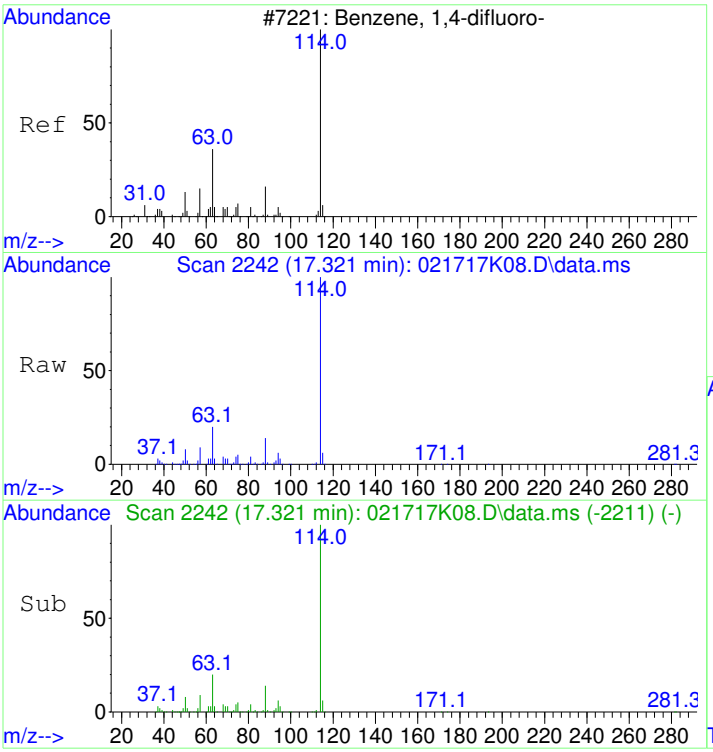



#1
BROMOCHLOROMETHANE
Concen: 19.60 ppbv
RT: 15.325 min Scan# 1914
Delta R.T. 0.006 min
Lab File: 021717K08.D
Acq: 17 Feb 2017 6:22 pm

Tgt Ion: 49 Resp: 1020892

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 130 | 72.2 | 53.9 | 93.9 |
| 128 | 55.6 | 37.0 | 77.0 |

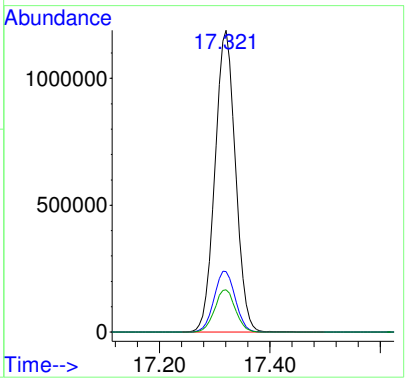


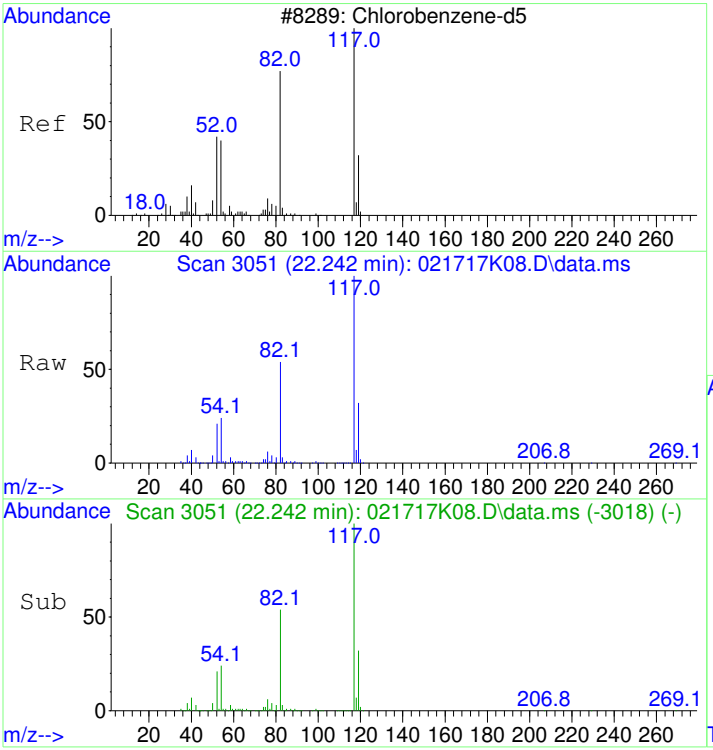




#32
1,4-DIFLUOROBENZENE
Concen: 19.80 ppbv
RT: 17.321 min Scan# 2242
Delta R.T. 0.006 min
Lab File: 021717K08.D
Acq: 17 Feb 2017 6:22 pm

Tgt Ion:114 Resp: 3065175

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 114 | 100 | | |
| 63 | 20.9 | 0.2 | 40.2 |
| 88 | 14.3 | 0.0 | 34.1 |

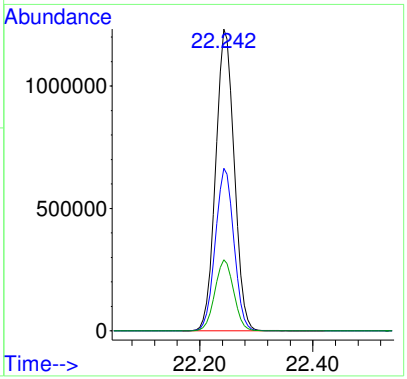





#43
CHLOROBENZENE-d5
Concen: 20.00 ppbv
RT: 22.242 min Scan# 3051
Delta R.T. 0.000 min
Lab File: 021717K08.D
Acq: 17 Feb 2017 6:22 pm

Tgt Ion:117 Resp: 2806782

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 117 | 100 | | |
| 82 | 54.1 | 33.4 | 73.4 |
| 54 | 23.8 | 2.4 | 42.4 |



Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2017\DATA\041417K_FSAA\
Data File : 041417K10.D
InstName : HP5973K
Acq On : 14 Apr 2017 12:57 pm
Operator : LLH
Sample : CAN #877
Misc : 200ml RECERTIFICATION
ALS Vial : 15 Sample Multiplier: 1

CLEAN

Quant Time: Apr 17 09:41:37 2017
Quant Method : D:\msdchem\1\2017\METHOD\041017K_TO15AA.M
Quant Title : TO15
QLast Update : Tue Apr 11 10:42:08 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) BROMOCHLOROMETHANE | 15.313 | 49 | 842270 | 20.00 | ppbv | 0.00 |
| 32) 1,4-DIFLUOROBENZENE | 17.308 | 114 | 2250970 | 18.80 | ppbv | 0.00 |
| 43) CHLOROBENZENE-d5 | 22.236 | 117 | 2105163 | 20.00 | ppbv | 0.00 |

Target Compounds Qvalue

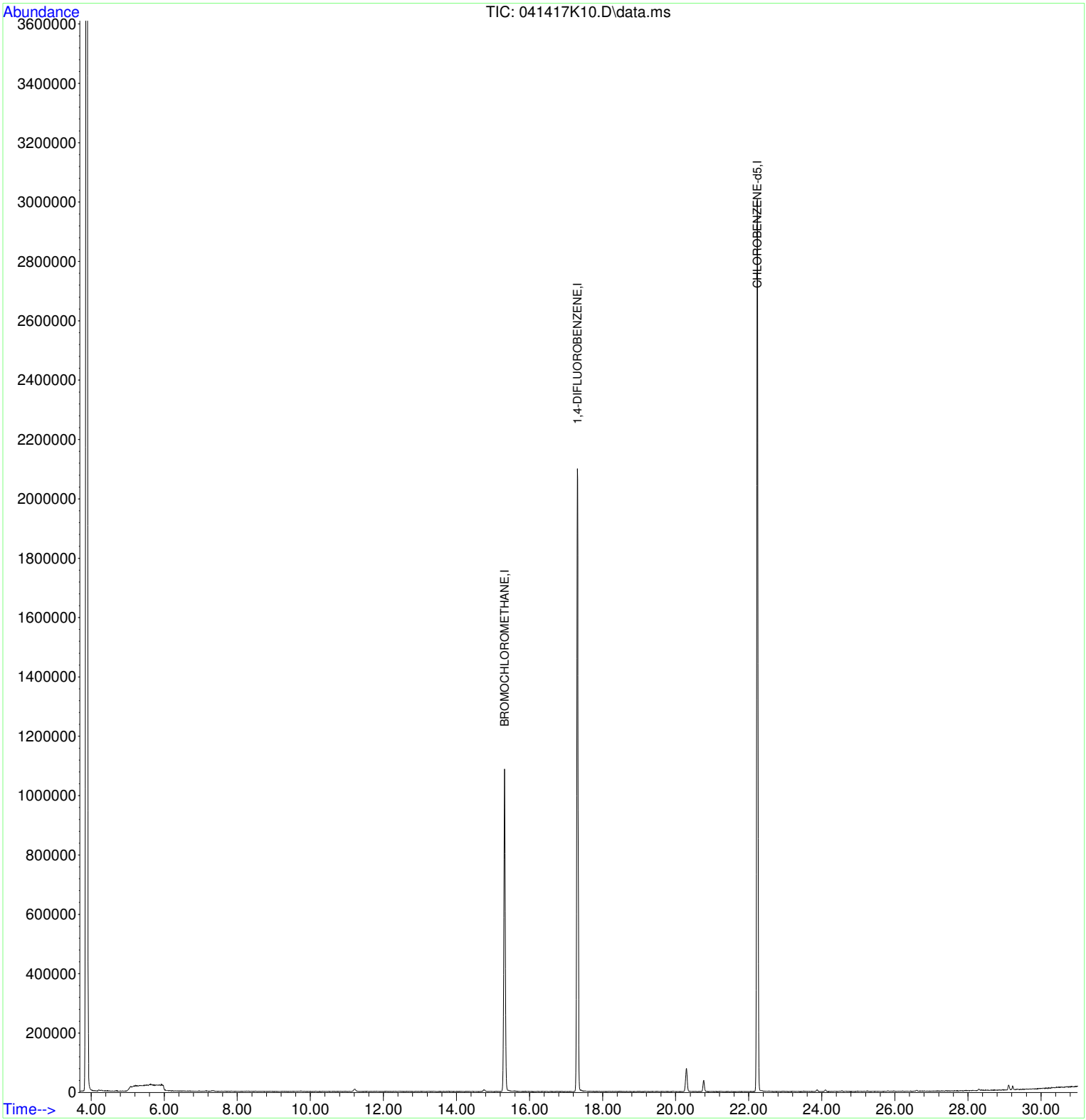
(#) = qualifier out of range (m) = manual integration (+) = signals summed

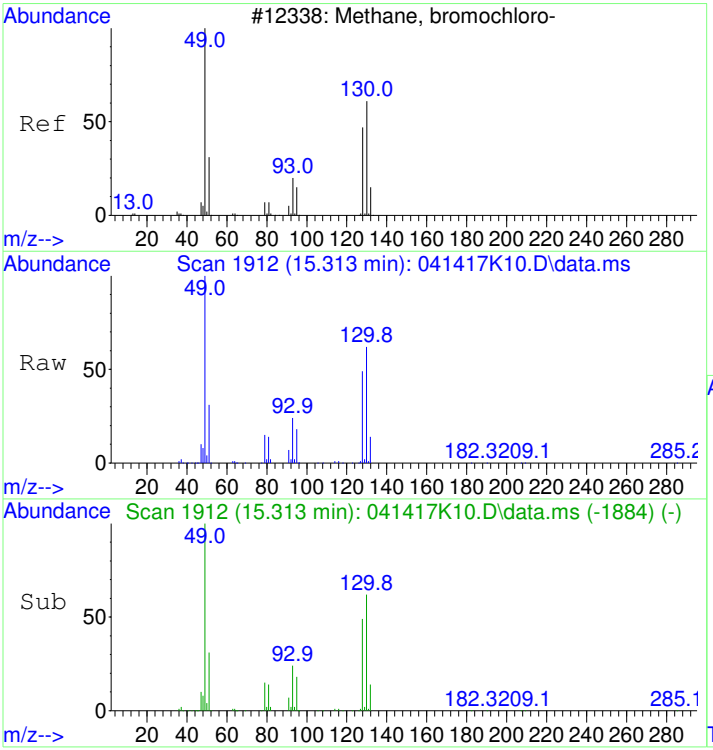
**REVIEWED**
**By LLH at 9:41 am, Apr 17, 2017**

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\041417K_FSAA\
Data File : 041417K10.D
InstName : HP5973K
Acq On : 14 Apr 2017 12:57 pm
Operator : LLH
Sample : CAN #877
Misc : 200ml RECERTIFICATION
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Apr 17 09:41:37 2017
Quant Method : D:\msdchem\1\2017\METHOD\041017K_TO15AA.M
Quant Title : TO15
QLast Update : Tue Apr 11 10:42:08 2017
Response via : Initial Calibration

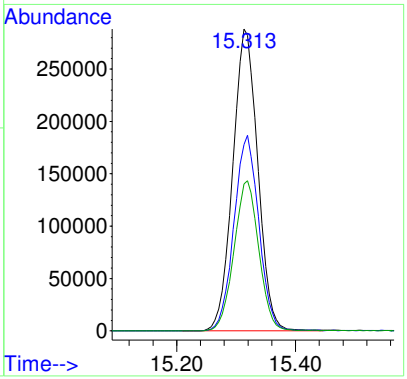


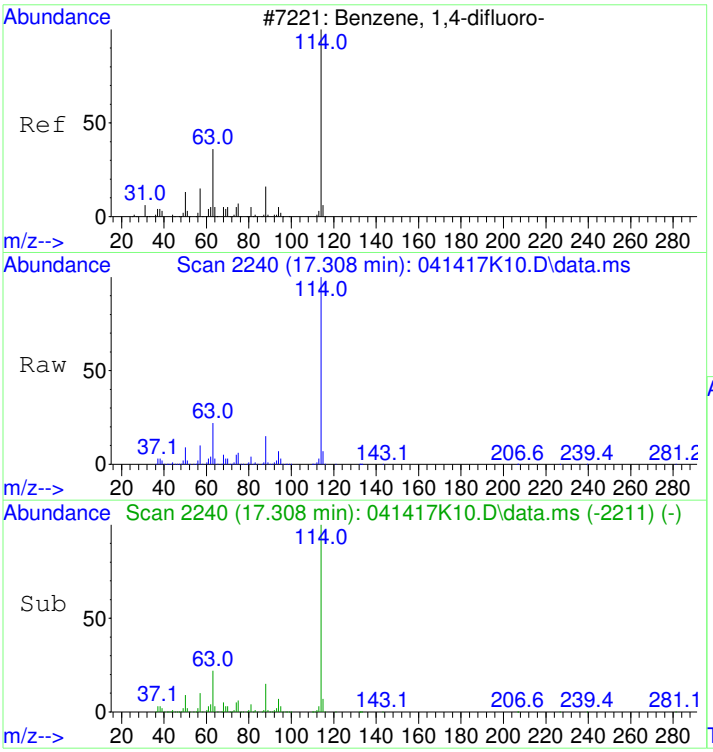



#1
BROMOCHLOROMETHANE
Concen: 20.00 ppbv
RT: 15.313 min Scan# 1912
Delta R.T. -0.006 min
Lab File: 041417K10.D
Acq: 14 Apr 2017 12:57 pm

Tgt Ion: 49 Resp: 842270

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 130 | 64.4 | 54.1 | 94.1 |
| 128 | 49.3 | 37.5 | 77.5 |

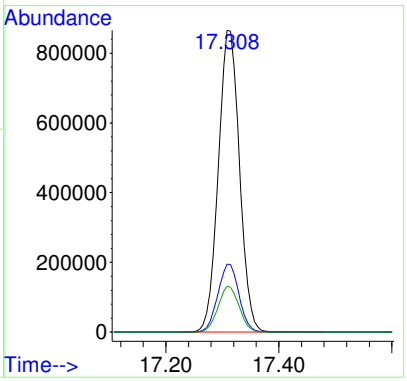


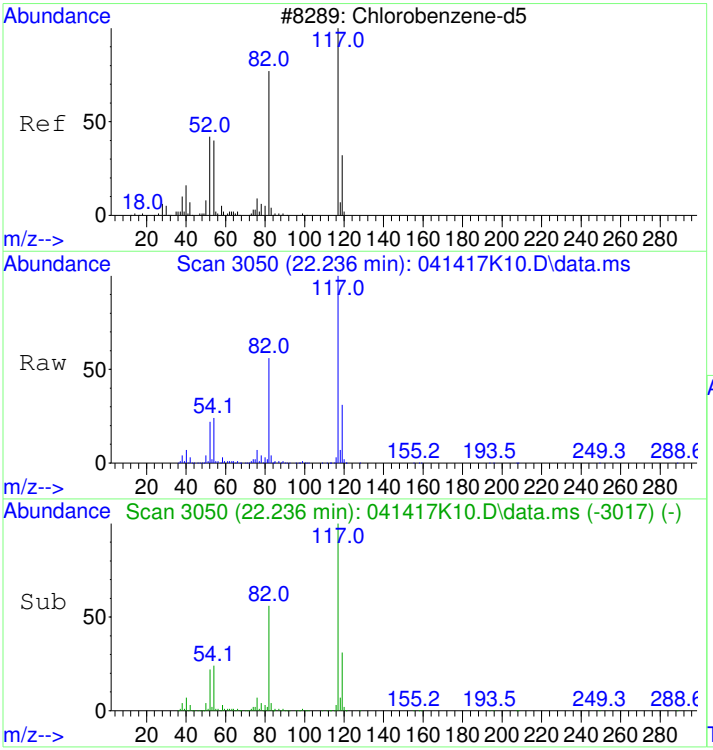




#32
1,4-DIFLUOROBENZENE
Concen: 18.80 ppbv
RT: 17.308 min Scan# 2240
Delta R.T. -0.006 min
Lab File: 041417K10.D
Acq: 14 Apr 2017 12:57 pm

Tgt Ion:114 Resp: 2250970

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 114 | 100 | | |
| 63 | 22.5 | 0.4 | 40.4 |
| 88 | 15.1 | 0.0 | 34.6 |

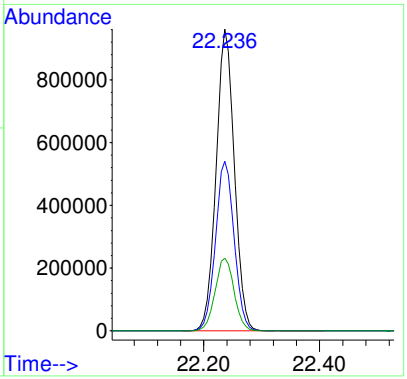





#43
CHLOROBENZENE-d5
Concen: 20.00 ppbv
RT: 22.236 min Scan# 3050
Delta R.T. -0.000 min
Lab File: 041417K10.D
Acq: 14 Apr 2017 12:57 pm

Tgt Ion:117 Resp: 2105163

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 117 | 100 | | |
| 82 | 57.4 | 34.5 | 74.5 |
| 54 | 25.0 | 0.2 | 40.2 |



# 1707040-03

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2017\DATA\021717K_FSAA\
Data File : 021717K18.D
InstName : HP5973K
Acq On : 18 Feb 2017 2:59 am
Operator : LLH
Sample : CAN #1979
Misc : 200ml RECERTIFICATION
ALS Vial : 12 Sample Multiplier: 1

CLEAN

Quant Time: Feb 20 11:16:54 2017
Quant Method : D:\msdchem\1\2017\METHOD\020217K_TO15AA.M
Quant Title : TO15
QLast Update : Fri Feb 03 14:13:09 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| Internal Standards | | | | | |
| 1) BROMOCHLOROMETHANE | 15.319 | 49 | 986915 | 19.60 ppbv | 0.00 |
| 32) 1,4-DIFLUOROBENZENE | 17.315 | 114 | 2875750 | 19.80 ppbv | 0.00 |
| 43) CHLOROBENZENE-d5 | 22.242 | 117 | 2668048 | 20.00 ppbv | 0.00 |

Target Compounds Qvalue

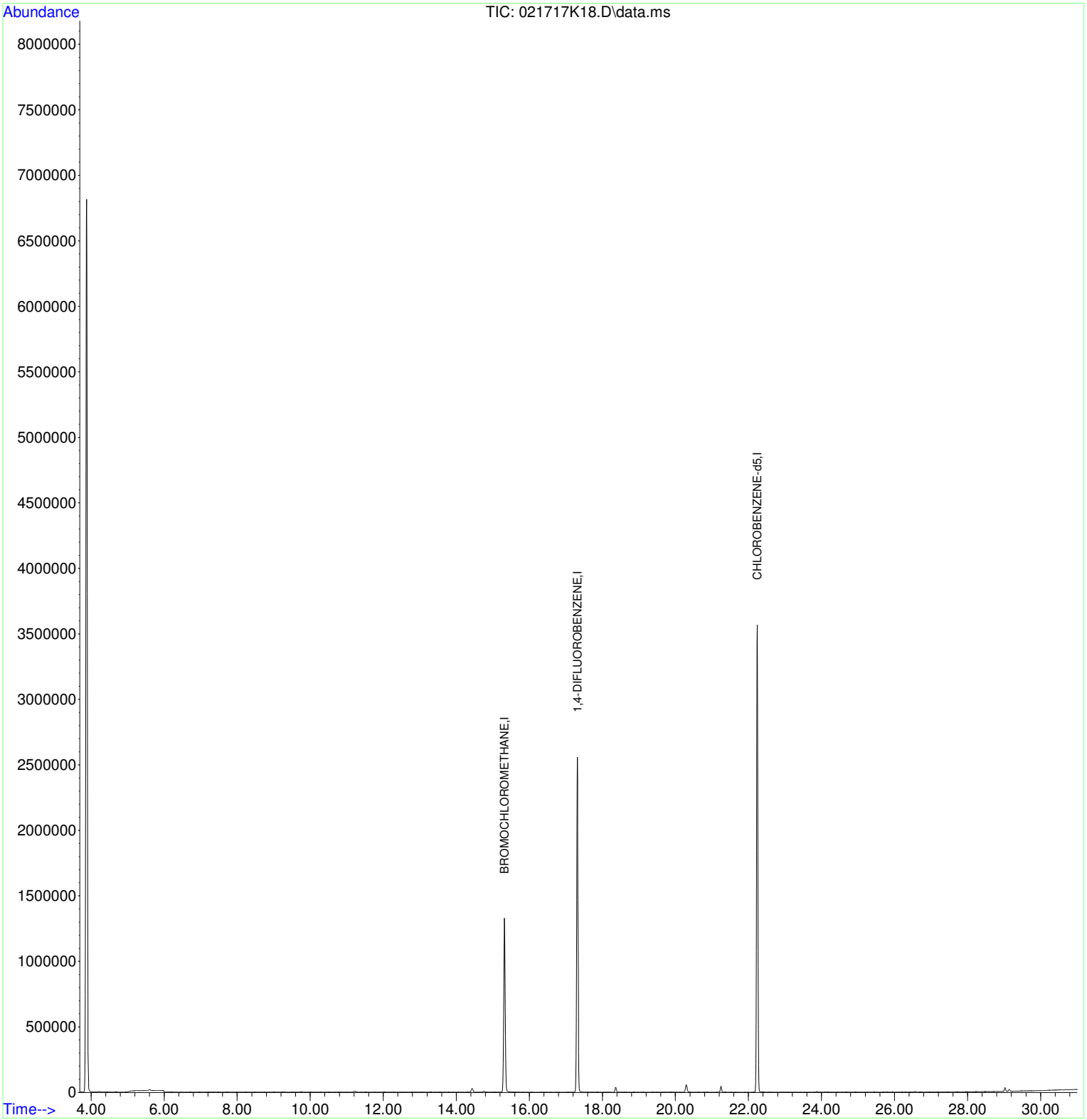
(#) = qualifier out of range (m) = manual integration (+) = signals summed

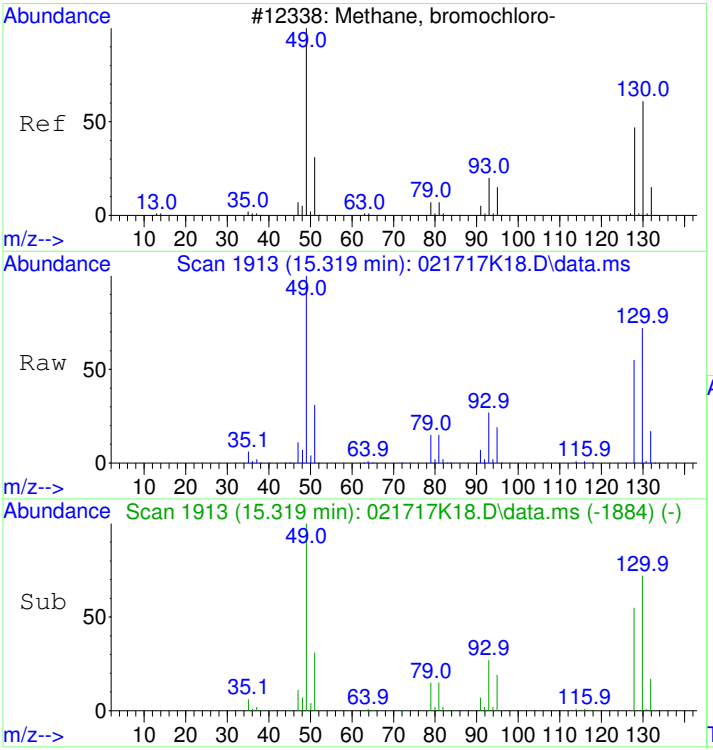
**REVIEWED**
**By LLH at 11:17 am, Feb 20, 2017**

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\021717K_FSAA\
Data File : 021717K18.D
InstName : HP5973K
Acq On : 18 Feb 2017 2:59 am
Operator : LLH
Sample : CAN #1979
Misc : 200ml RECERTIFICATION
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Feb 20 11:16:54 2017
Quant Method : D:\msdchem\1\2017\METHOD\020217K_TO15AA.M
Quant Title : TO15
QLast Update : Fri Feb 03 14:13:09 2017
Response via : Initial Calibration

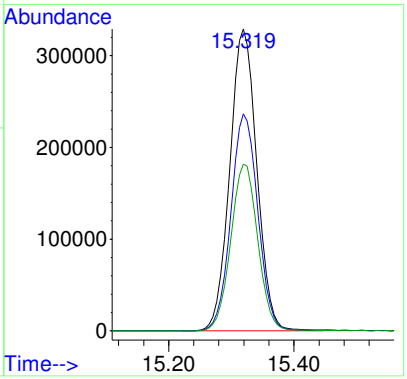


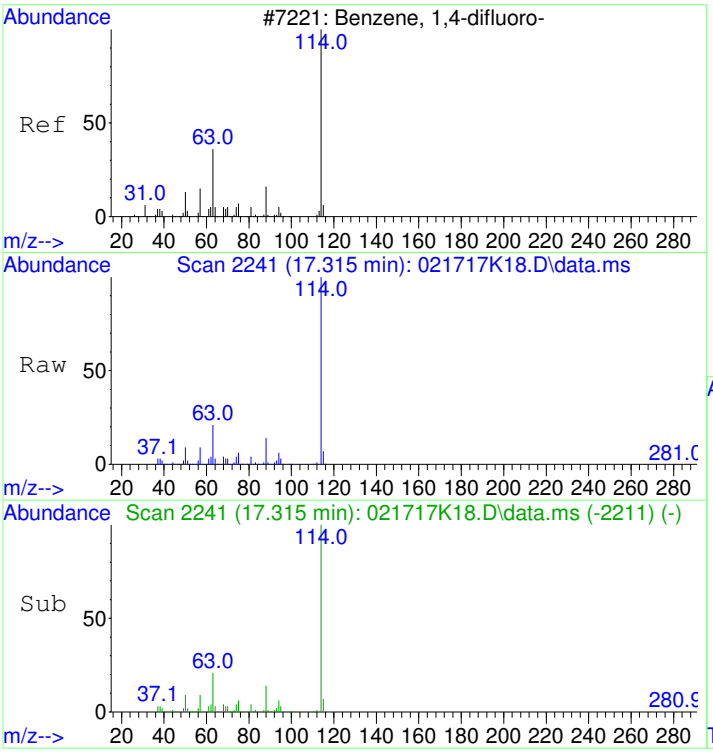



#1
BROMOCHLOROMETHANE
Concen: 19.60 ppbv
RT: 15.319 min Scan# 1913
Delta R.T. 0.000 min
Lab File: 021717K18.D
Acq: 18 Feb 2017 2:59 am

Tgt Ion: 49 Resp: 986915

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 130 | 71.6 | 53.9 | 93.9 |
| 128 | 55.3 | 37.0 | 77.0 |

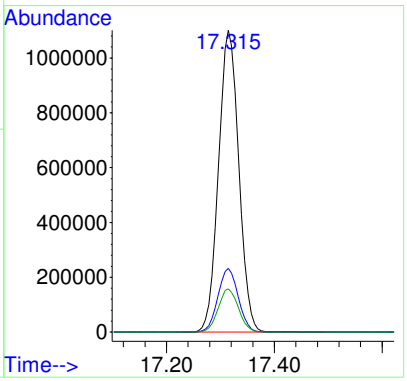


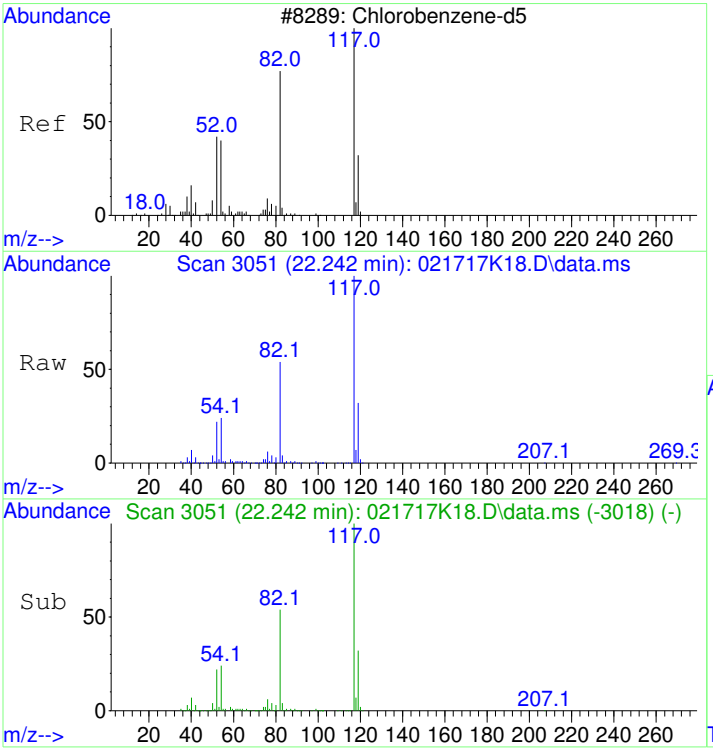




#32
1,4-DIFLUOROBENZENE
Concen: 19.80 ppbv
RT: 17.315 min Scan# 2241
Delta R.T. 0.000 min
Lab File: 021717K18.D
Acq: 18 Feb 2017 2:59 am

Tgt Ion:114 Resp: 2875750

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 114 | 100 | | |
| 63 | 21.2 | 0.2 | 40.2 |
| 88 | 14.3 | 0.0 | 34.1 |

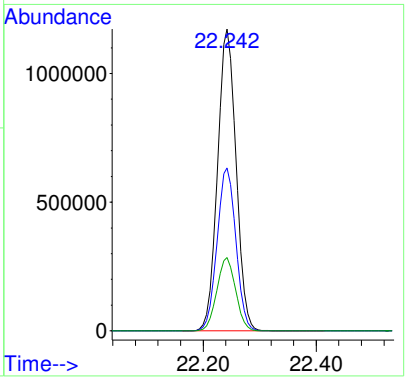





#43
CHLOROBENZENE-d5
Concen: 20.00 ppbv
RT: 22.242 min Scan# 3051
Delta R.T. 0.000 min
Lab File: 021717K18.D
Acq: 18 Feb 2017 2:59 am

Tgt Ion:117 Resp: 2668048

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 117 | 100 | | |
| 82 | 54.8 | 33.4 | 73.4 |
| 54 | 24.6 | 2.4 | 42.4 |



Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2017\DATA\041417K_FSAA\
Data File : 041417K11.D
InstName : HP5973K
Acq On : 14 Apr 2017 1:43 pm
Operator : LLH
Sample : CAN #1087
Misc : 200ml RECERTIFICATION
ALS Vial : 16 Sample Multiplier: 1

CLEAN

Quant Time: Apr 17 09:41:58 2017
Quant Method : D:\msdchem\1\2017\METHOD\041017K_TO15AA.M
Quant Title : TO15
QLast Update : Tue Apr 11 10:42:08 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) BROMOCHLOROMETHANE | 15.319 | 49 | 819686 | 20.00 | ppbv | 0.00 |
| 32) 1,4-DIFLUOROBENZENE | 17.315 | 114 | 2190525 | 18.80 | ppbv | 0.00 |
| 43) CHLOROBENZENE-d5 | 22.236 | 117 | 2043591 | 20.00 | ppbv | 0.00 |

Target Compounds Qvalue

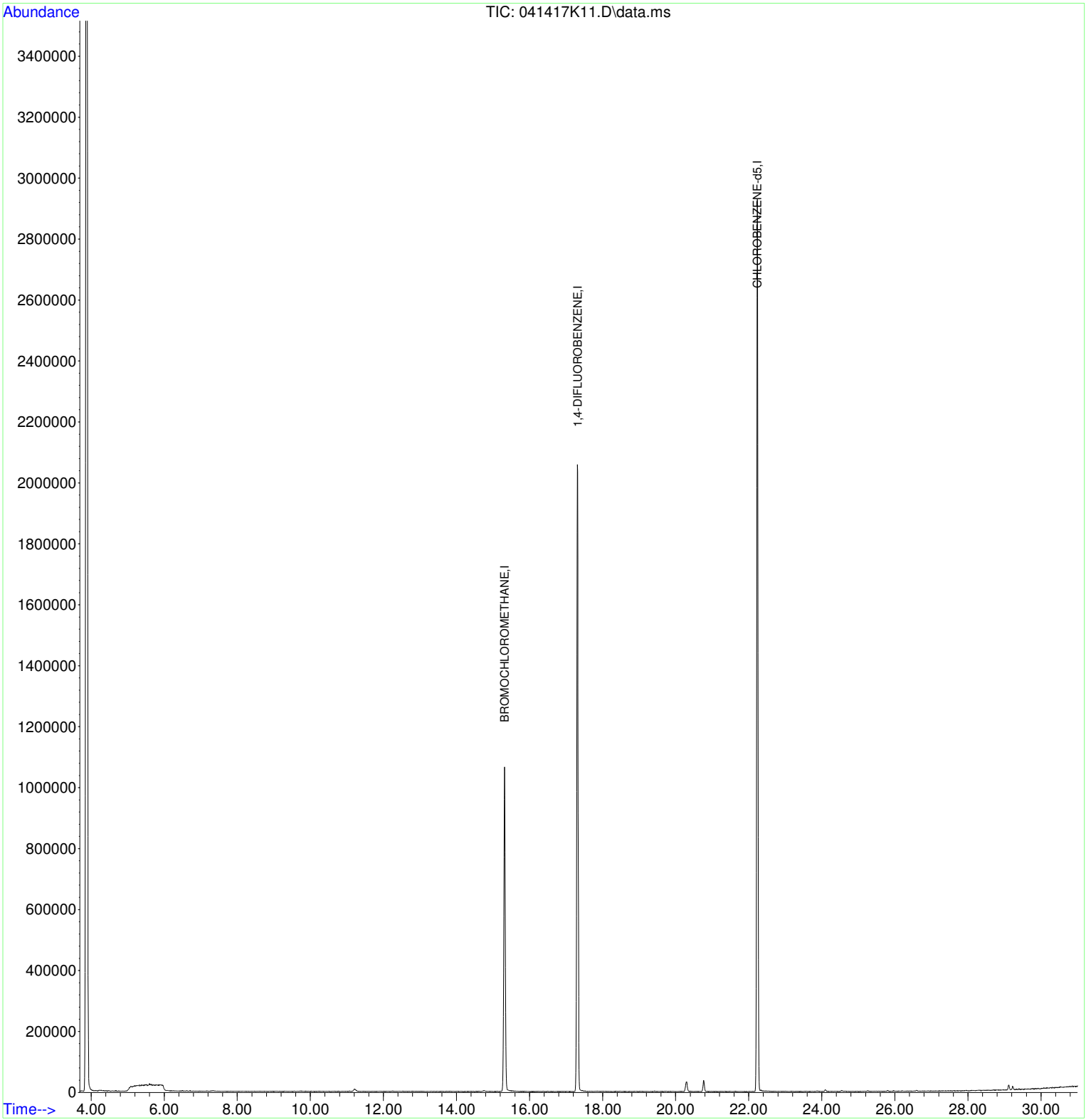
(#) = qualifier out of range (m) = manual integration (+) = signals summed

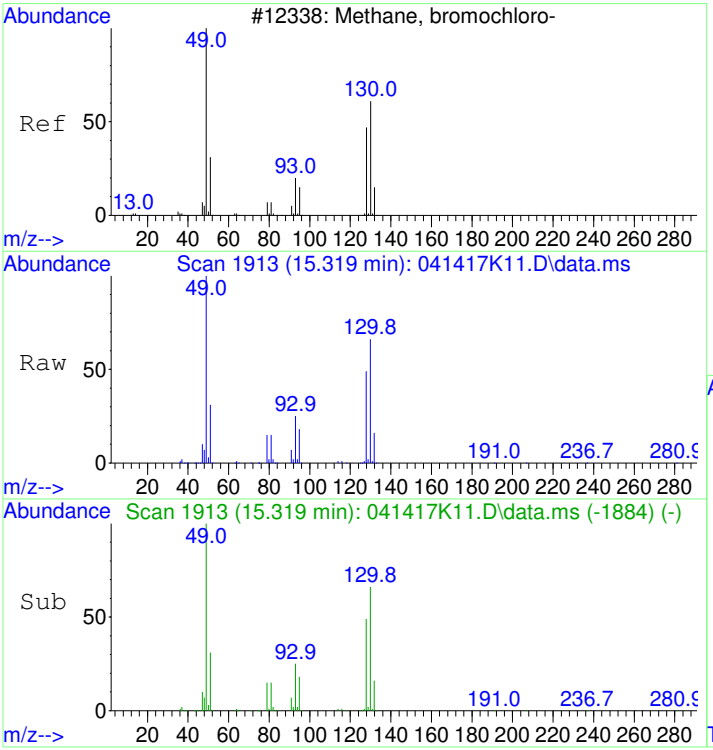
**REVIEWED**
**By LLH at 9:42 am, Apr 17, 2017**

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\041417K_FSAA\
Data File : 041417K11.D
InstName : HP5973K
Acq On : 14 Apr 2017 1:43 pm
Operator : LLH
Sample : CAN #1087
Misc : 200ml RECERTIFICATION
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Apr 17 09:41:58 2017
Quant Method : D:\msdchem\1\2017\METHOD\041017K_TO15AA.M
Quant Title : TO15
QLast Update : Tue Apr 11 10:42:08 2017
Response via : Initial Calibration

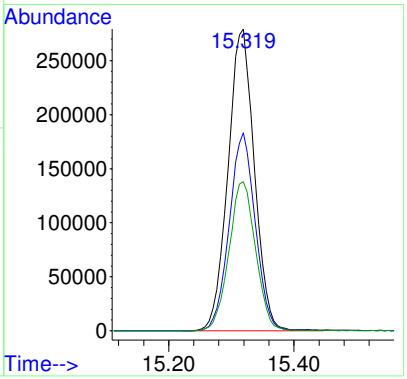


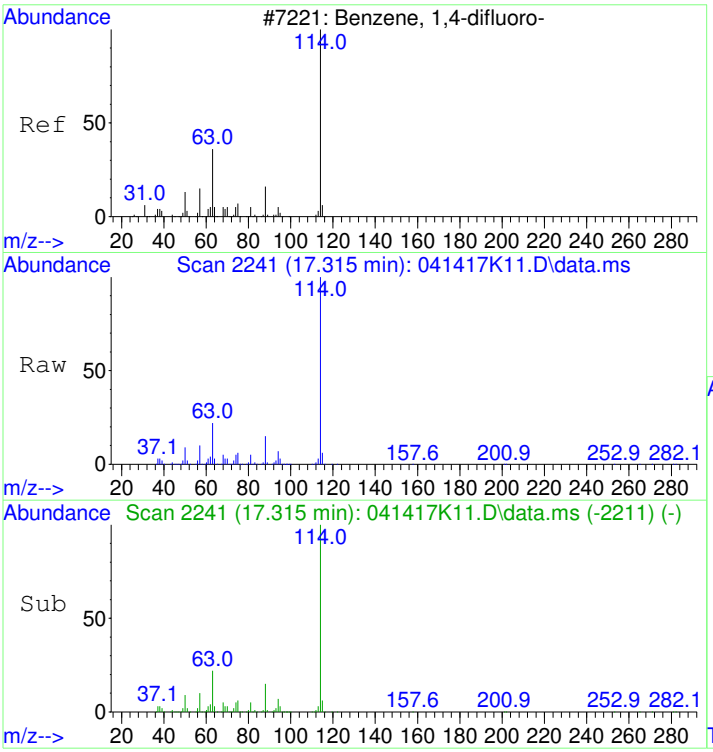



#1
BROMOCHLOROMETHANE
Concen: 20.00 ppbv
RT: 15.319 min Scan# 1913
Delta R.T. 0.000 min
Lab File: 041417K11.D
Acq: 14 Apr 2017 1:43 pm

Tgt Ion: 49 Resp: 819686

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 130 | 64.7 | 54.1 | 94.1 |
| 128 | 49.8 | 37.5 | 77.5 |

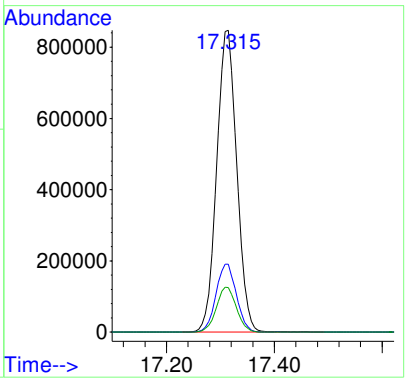


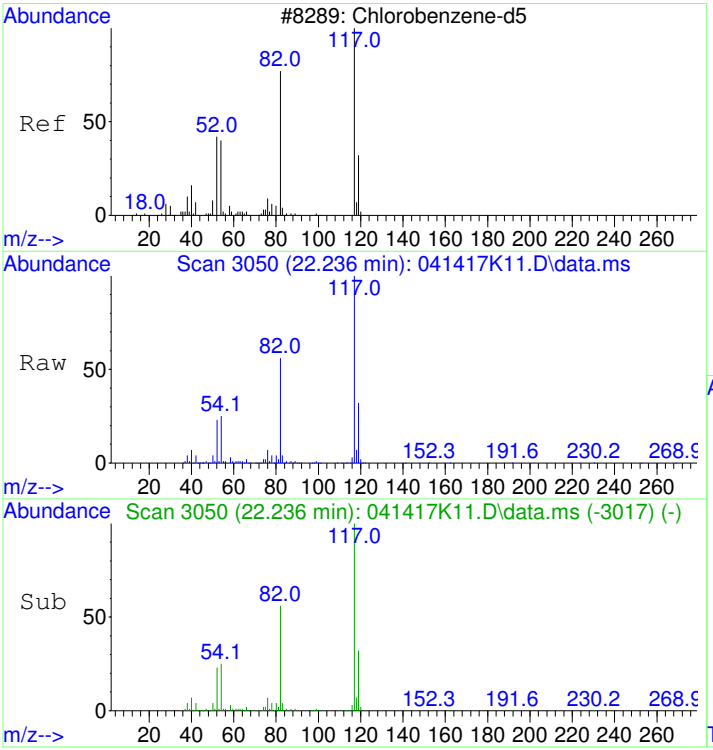




#32
1,4-DIFLUOROBENZENE
Concen: 18.80 ppbv
RT: 17.315 min Scan# 2241
Delta R.T. 0.000 min
Lab File: 041417K11.D
Acq: 14 Apr 2017 1:43 pm

Tgt Ion:114 Resp: 2190525

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 114 | 100 | | |
| 63 | 22.9 | 0.4 | 40.4 |
| 88 | 14.8 | 0.0 | 34.6 |

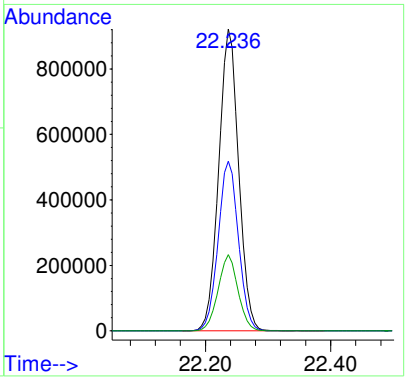





#43
CHLOROBENZENE-d5
Concen: 20.00 ppbv
RT: 22.236 min Scan# 3050
Delta R.T. 0.000 min
Lab File: 041417K11.D
Acq: 14 Apr 2017 1:43 pm

Tgt Ion:117 Resp: 2043591

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 117 | 100 | | |
| 82 | 57.2 | 34.5 | 74.5 |
| 54 | 25.1 | 0.2 | 40.2 |



Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2017\DATA\021717K_FSAA\
Data File : 021717K18.D
InstName : HP5973K
Acq On : 18 Feb 2017 2:59 am
Operator : LLH
Sample : CAN #1979
Misc : 200ml RECERTIFICATION
ALS Vial : 12 Sample Multiplier: 1

CLEAN

Quant Time: Feb 20 11:16:54 2017
Quant Method : D:\msdchem\1\2017\METHOD\020217K_TO15AA.M
Quant Title : TO15
QLast Update : Fri Feb 03 14:13:09 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) BROMOCHLOROMETHANE | 15.319 | 49 | 986915 | 19.60 | ppbv | 0.00 |
| 32) 1,4-DIFLUOROBENZENE | 17.315 | 114 | 2875750 | 19.80 | ppbv | 0.00 |
| 43) CHLOROBENZENE-d5 | 22.242 | 117 | 2668048 | 20.00 | ppbv | 0.00 |

Target Compounds Qvalue

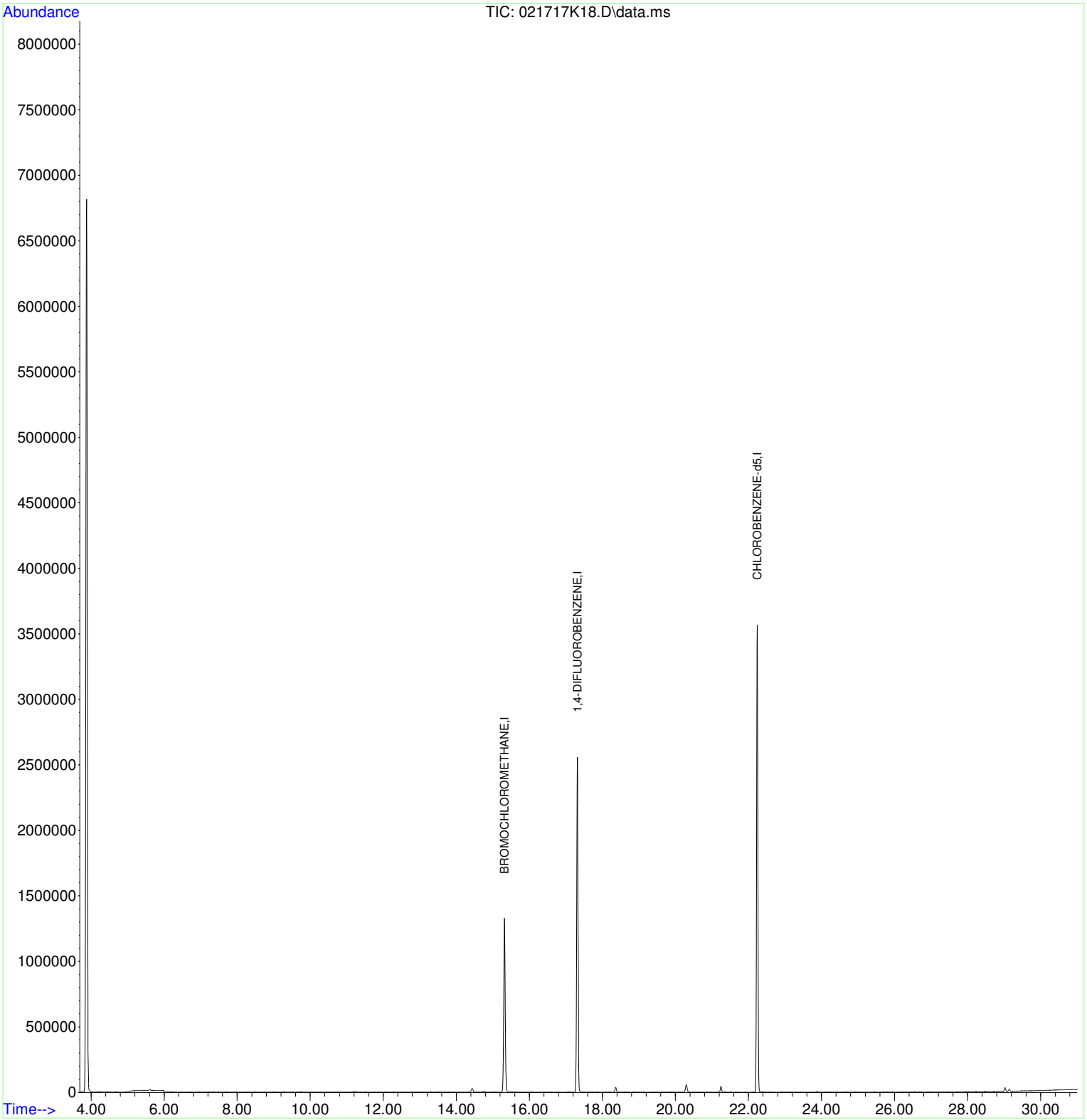
(#) = qualifier out of range (m) = manual integration (+) = signals summed

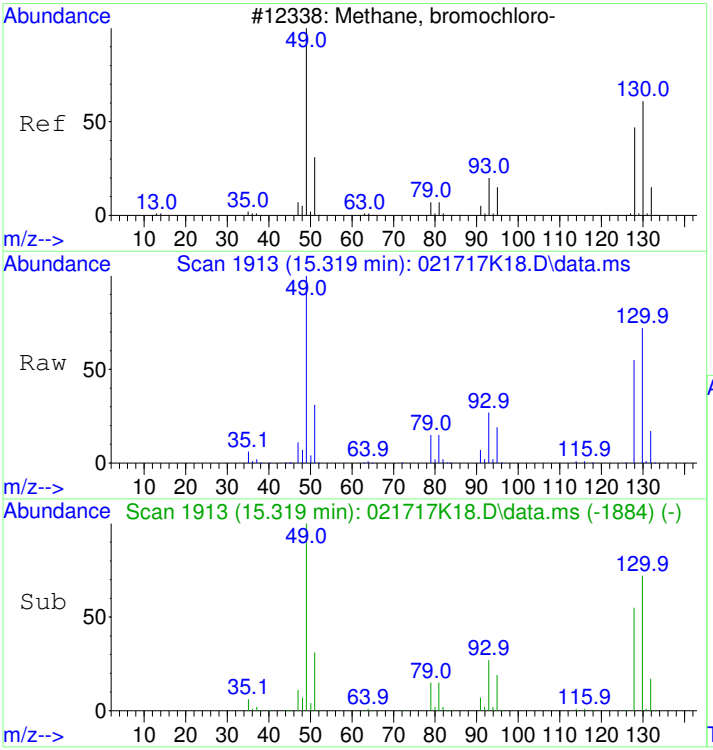
**REVIEWED**
**By LLH at 11:17 am, Feb 20, 2017**

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\021717K_FSAA\
Data File : 021717K18.D
InstName : HP5973K
Acq On : 18 Feb 2017 2:59 am
Operator : LLH
Sample : CAN #1979
Misc : 200ml RECERTIFICATION
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Feb 20 11:16:54 2017
Quant Method : D:\msdchem\1\2017\METHOD\020217K_TO15AA.M
Quant Title : TO15
QLast Update : Fri Feb 03 14:13:09 2017
Response via : Initial Calibration

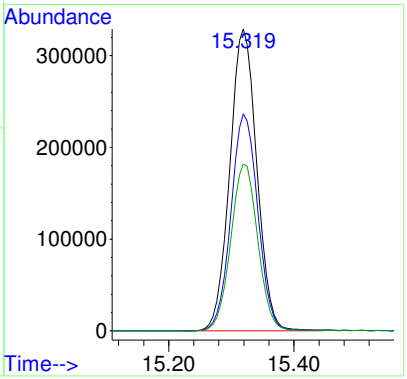


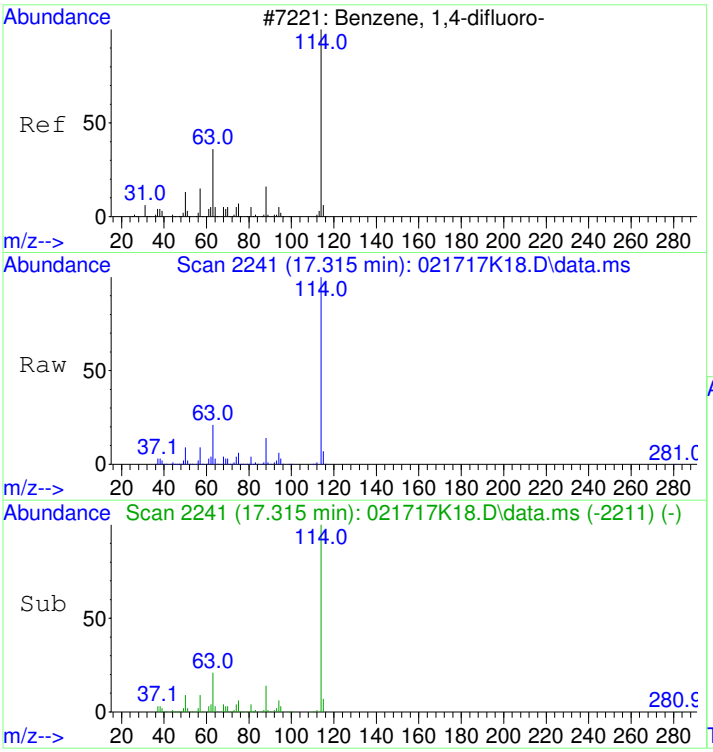



#1
BROMOCHLOROMETHANE
Concen: 19.60 ppbv
RT: 15.319 min Scan# 1913
Delta R.T. 0.000 min
Lab File: 021717K18.D
Acq: 18 Feb 2017 2:59 am

Tgt Ion: 49 Resp: 986915

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 130 | 71.6 | 53.9 | 93.9 |
| 128 | 55.3 | 37.0 | 77.0 |

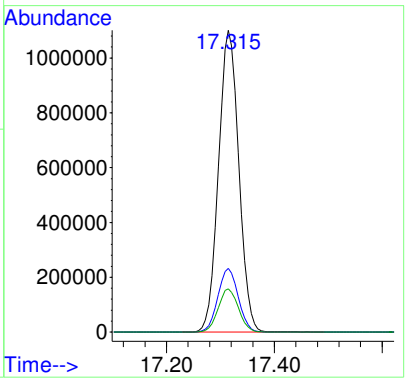


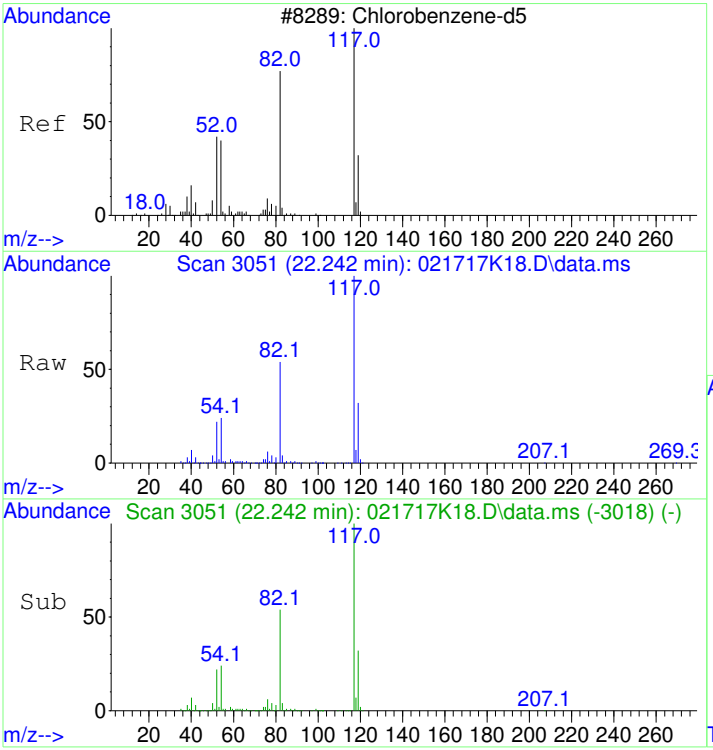




#32
1,4-DIFLUOROBENZENE
Concen: 19.80 ppbv
RT: 17.315 min Scan# 2241
Delta R.T. 0.000 min
Lab File: 021717K18.D
Acq: 18 Feb 2017 2:59 am

Tgt Ion:114 Resp: 2875750

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 114 | 100 | | |
| 63 | 21.2 | 0.2 | 40.2 |
| 88 | 14.3 | 0.0 | 34.1 |

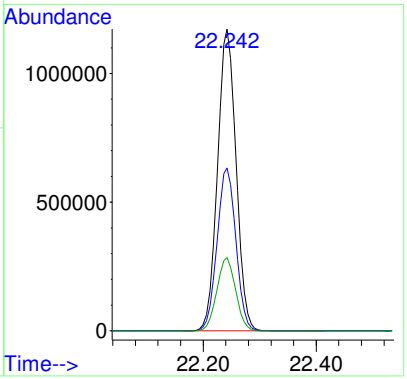





#43
CHLOROBENZENE-d5
Concen: 20.00 ppbv
RT: 22.242 min Scan# 3051
Delta R.T. 0.000 min
Lab File: 021717K18.D
Acq: 18 Feb 2017 2:59 am

Tgt Ion:117 Resp: 2668048

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 117 | 100 | | |
| 82 | 54.8 | 33.4 | 73.4 |
| 54 | 24.6 | 2.4 | 42.4 |



Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2017\DATA\041417K_FSAA\
Data File : 041417K11.D
InstName : HP5973K
Acq On : 14 Apr 2017 1:43 pm
Operator : LLH
Sample : CAN #1087
Misc : 200ml RECERTIFICATION
ALS Vial : 16 Sample Multiplier: 1

CLEAN

Quant Time: Apr 17 09:41:58 2017
Quant Method : D:\msdchem\1\2017\METHOD\041017K_TO15AA.M
Quant Title : TO15
QLast Update : Tue Apr 11 10:42:08 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) BROMOCHLOROMETHANE | 15.319 | 49 | 819686 | 20.00 | ppbv | 0.00 |
| 32) 1,4-DIFLUOROBENZENE | 17.315 | 114 | 2190525 | 18.80 | ppbv | 0.00 |
| 43) CHLOROBENZENE-d5 | 22.236 | 117 | 2043591 | 20.00 | ppbv | 0.00 |

Target Compounds Qvalue

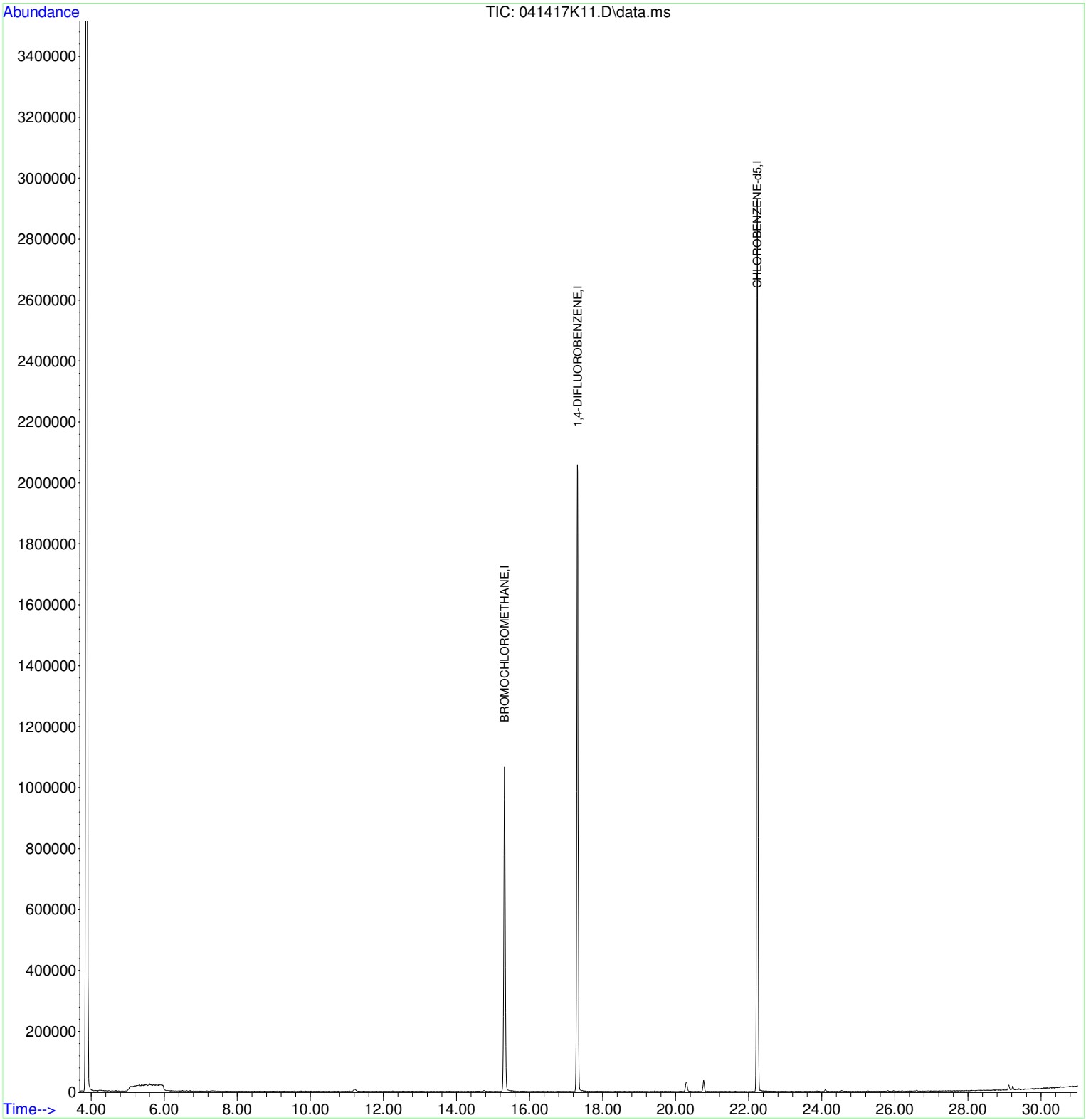
(#) = qualifier out of range (m) = manual integration (+) = signals summed

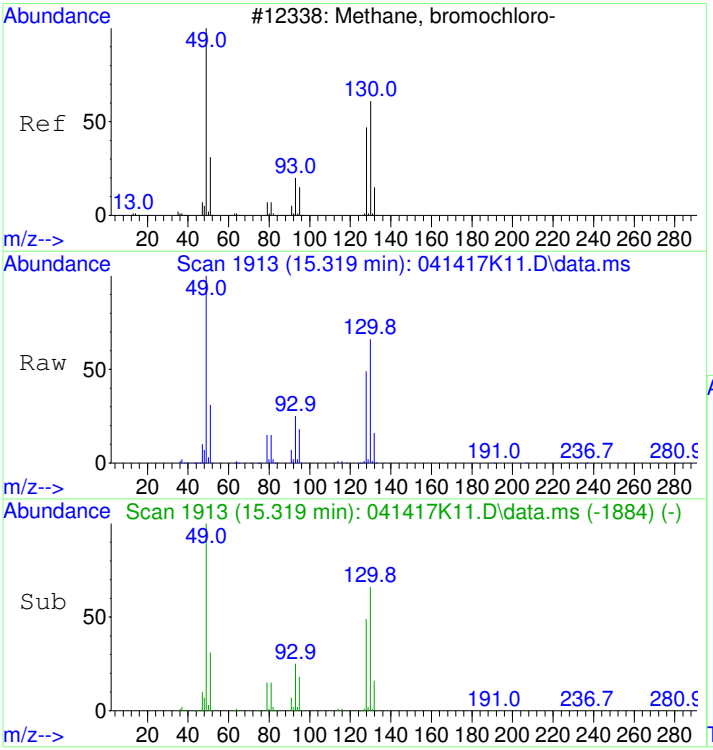
**REVIEWED**
**By LLH at 9:42 am, Apr 17, 2017**

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\041417K_FSAA\
Data File : 041417K11.D
InstName : HP5973K
Acq On : 14 Apr 2017 1:43 pm
Operator : LLH
Sample : CAN #1087
Misc : 200ml RECERTIFICATION
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Apr 17 09:41:58 2017
Quant Method : D:\msdchem\1\2017\METHOD\041017K_TO15AA.M
Quant Title : TO15
QLast Update : Tue Apr 11 10:42:08 2017
Response via : Initial Calibration

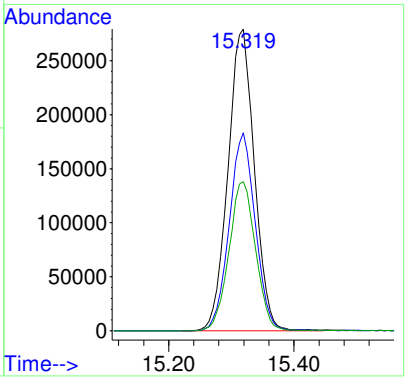


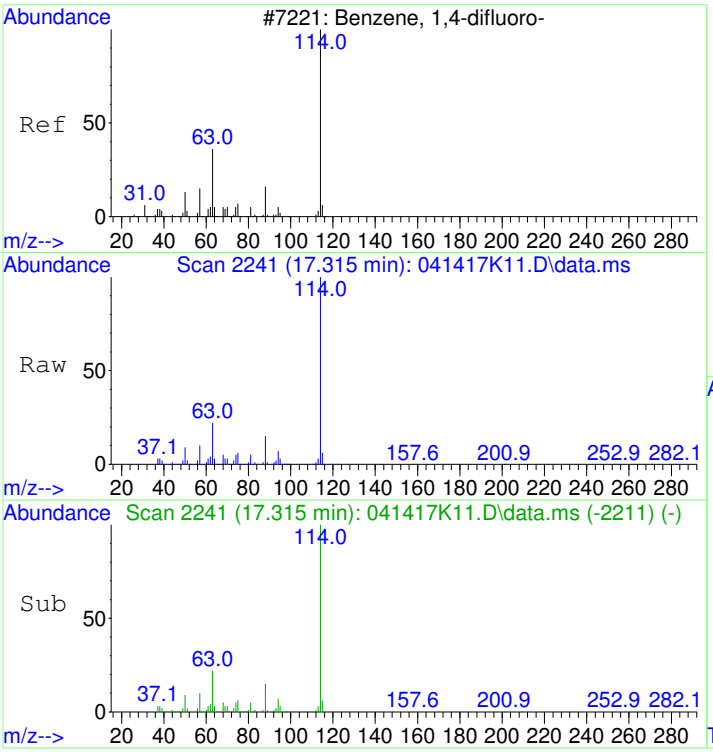



#1
BROMOCHLOROMETHANE
Concen: 20.00 ppbv
RT: 15.319 min Scan# 1913
Delta R.T. 0.000 min
Lab File: 041417K11.D
Acq: 14 Apr 2017 1:43 pm

Tgt Ion: 49 Resp: 819686

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 130 | 64.7 | 54.1 | 94.1 |
| 128 | 49.8 | 37.5 | 77.5 |

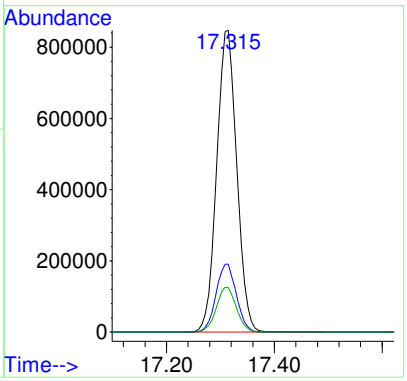


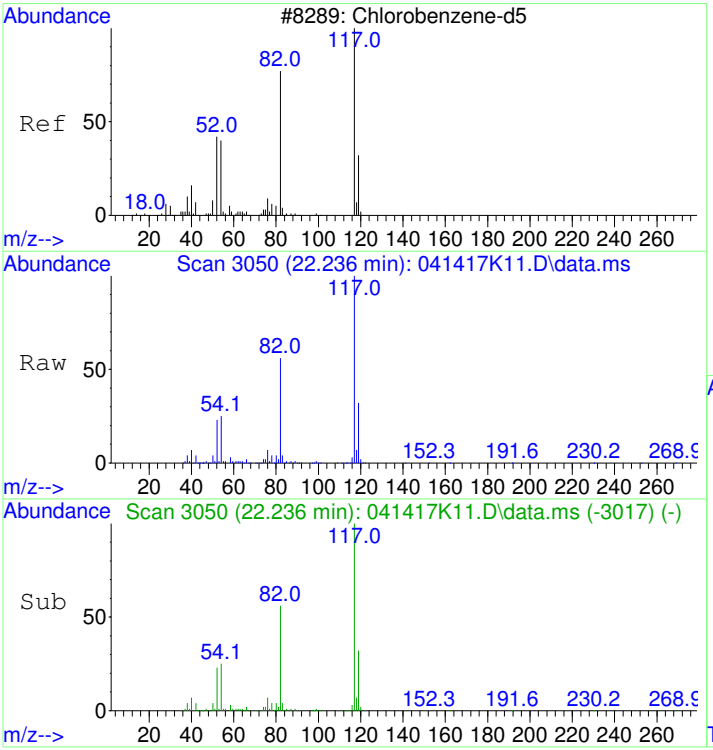




#32
1,4-DIFLUOROBENZENE
Concen: 18.80 ppbv
RT: 17.315 min Scan# 2241
Delta R.T. 0.000 min
Lab File: 041417K11.D
Acq: 14 Apr 2017 1:43 pm

Tgt Ion:114 Resp: 2190525

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 114 | 100 | | |
| 63 | 22.9 | 0.4 | 40.4 |
| 88 | 14.8 | 0.0 | 34.6 |

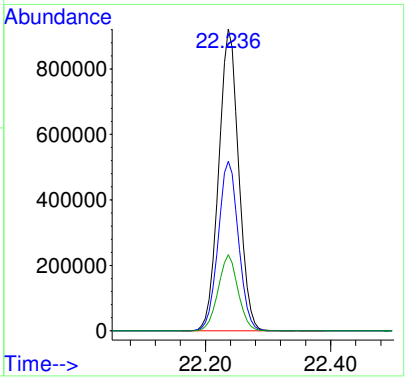





#43
CHLOROBENZENE-d5
Concen: 20.00 ppbv
RT: 22.236 min Scan# 3050
Delta R.T. 0.000 min
Lab File: 041417K11.D
Acq: 14 Apr 2017 1:43 pm

Tgt Ion:117 Resp: 2043591

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 117 | 100 | | |
| 82 | 57.2 | 34.5 | 74.5 |
| 54 | 25.1 | 0.2 | 40.2 |



# 1707040-04

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2017\DATA\021717K_FSAA\
Data File : 021717K09.D
InstName : HP5973K
Acq On : 17 Feb 2017 7:14 pm
Operator : LLH
Sample : CAN #1095
Misc : 200ml RECERTIFICATION
ALS Vial : 13 Sample Multiplier: 1

CLEAN

Quant Time: Feb 20 11:13:56 2017
Quant Method : D:\msdchem\1\2017\METHOD\020217K_TO15AA.M
Quant Title : TO15
QLast Update : Fri Feb 03 14:13:09 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| Internal Standards | | | | | |
| 1) BROMOCHLOROMETHANE | 15.319 | 49 | 1019347 | 19.60 ppbv | 0.00 |
| 32) 1,4-DIFLUOROBENZENE | 17.315 | 114 | 3028133 | 19.80 ppbv | 0.00 |
| 43) CHLOROBENZENE-d5 | 22.242 | 117 | 2789991 | 20.00 ppbv | 0.00 |

Target Compounds Qvalue

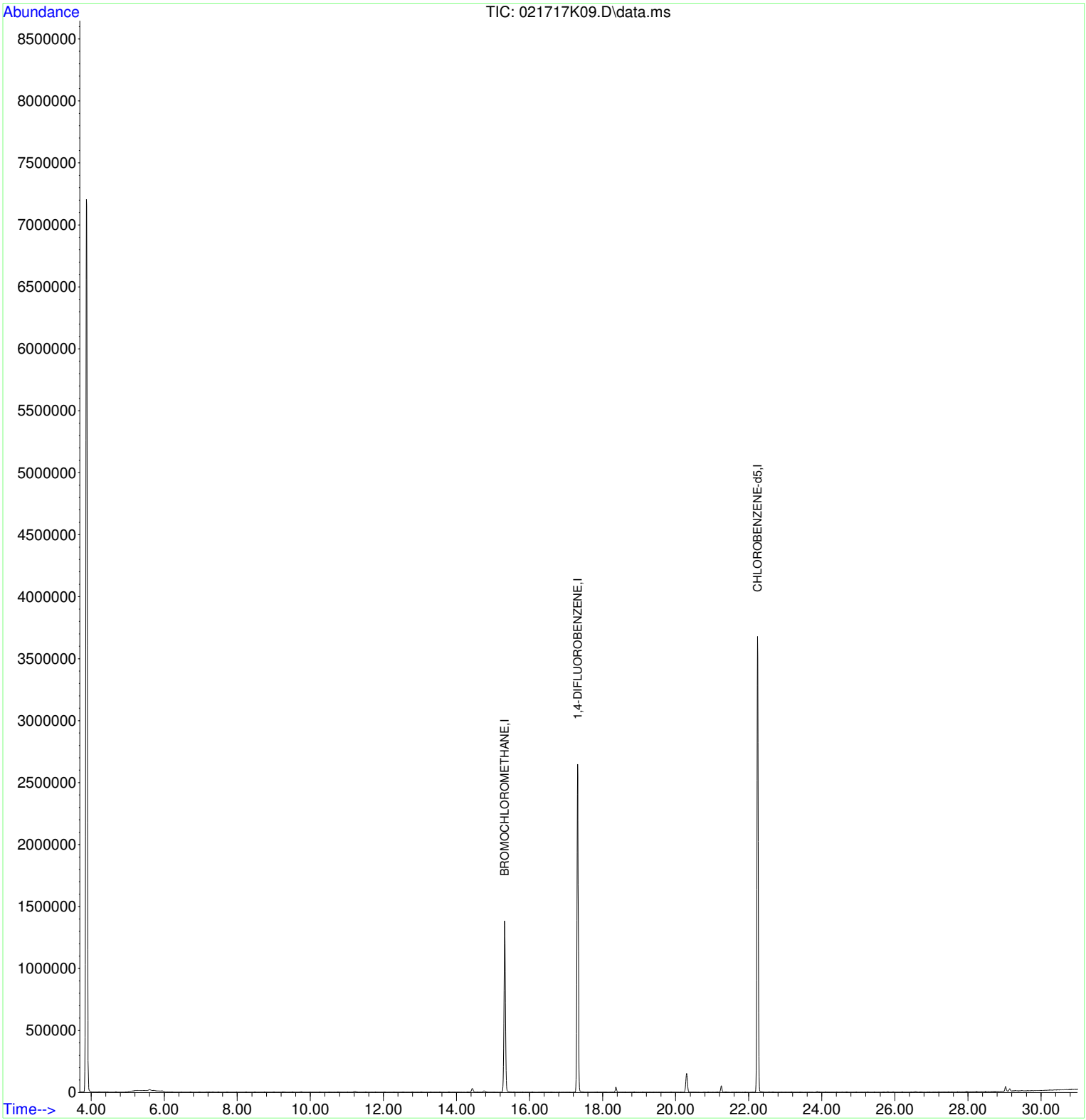
(#) = qualifier out of range (m) = manual integration (+) = signals summed

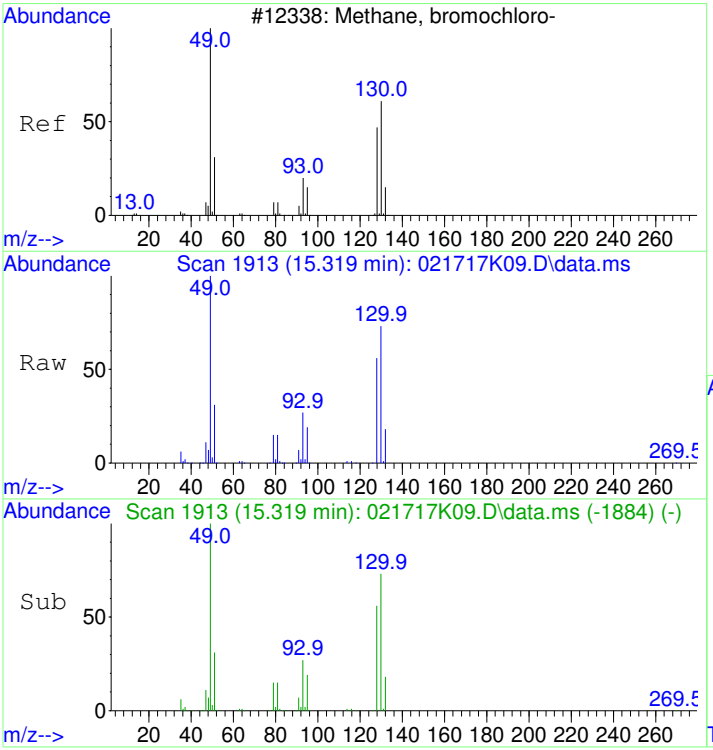
**REVIEWED**
**By LLH at 11:14 am, Feb 20, 2017**

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\021717K_FSAA\
Data File : 021717K09.D
InstName : HP5973K
Acq On : 17 Feb 2017 7:14 pm
Operator : LLH
Sample : CAN #1095
Misc : 200ml RECERTIFICATION
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Feb 20 11:13:56 2017
Quant Method : D:\msdchem\1\2017\METHOD\020217K_TO15AA.M
Quant Title : TO15
QLast Update : Fri Feb 03 14:13:09 2017
Response via : Initial Calibration

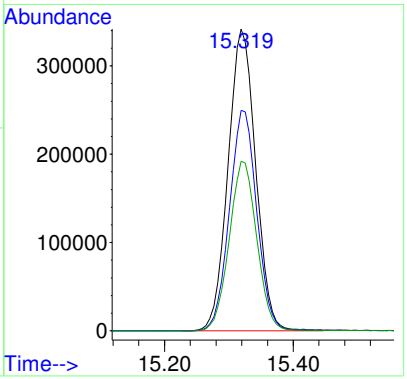


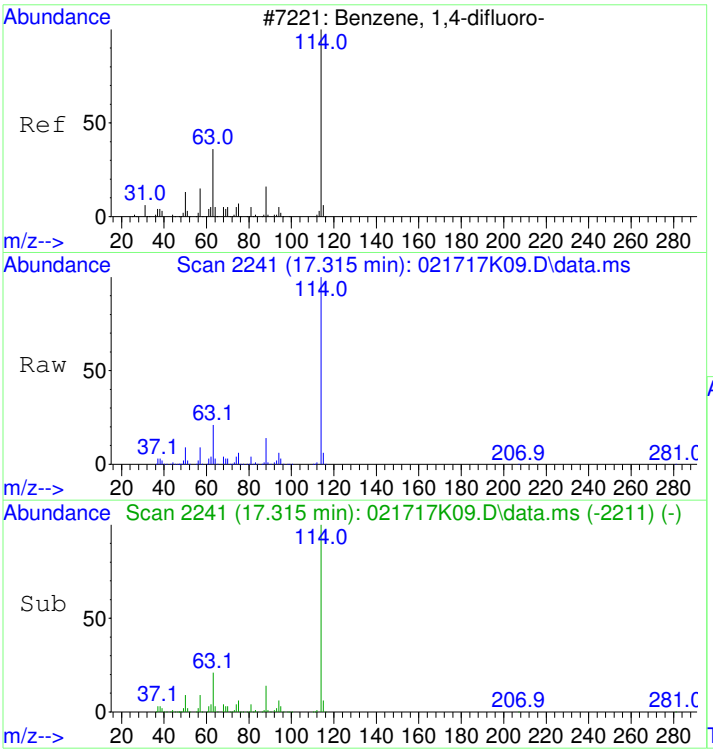



#1
BROMOCHLOROMETHANE
Concen: 19.60 ppbv
RT: 15.319 min Scan# 1913
Delta R.T. 0.000 min
Lab File: 021717K09.D
Acq: 17 Feb 2017 7:14 pm

Tgt Ion: 49 Resp: 1019347

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 130 | 72.5 | 53.9 | 93.9 |
| 128 | 56.0 | 37.0 | 77.0 |

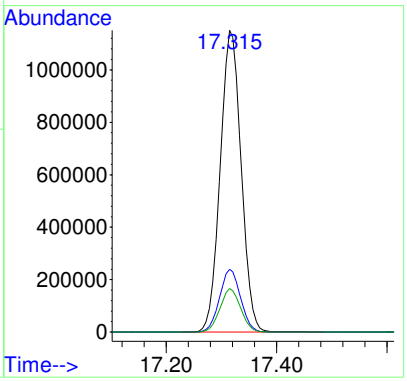


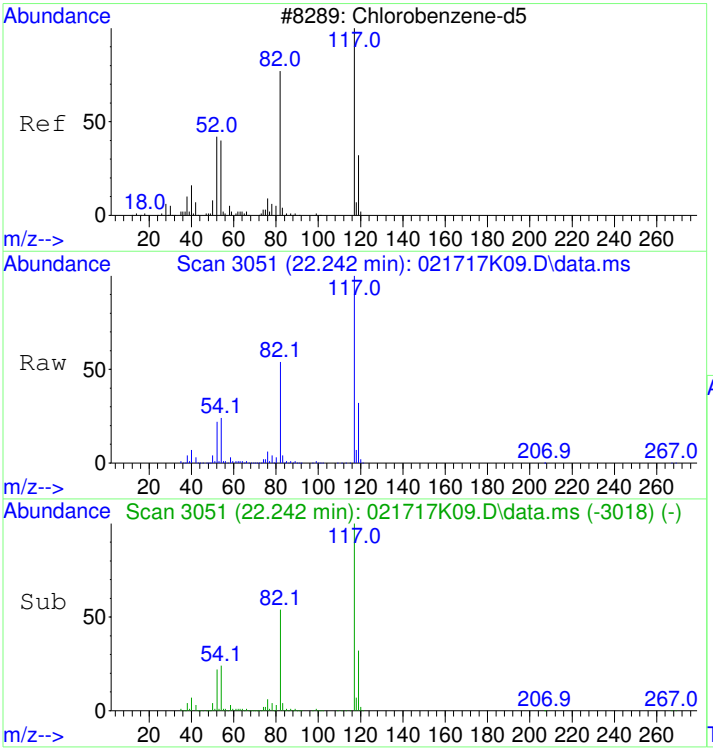




#32
1,4-DIFLUOROBENZENE
Concen: 19.80 ppbv
RT: 17.315 min Scan# 2241
Delta R.T. 0.000 min
Lab File: 021717K09.D
Acq: 17 Feb 2017 7:14 pm

Tgt Ion:114 Resp: 3028133

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 114 | 100 | | |
| 63 | 20.8 | 0.2 | 40.2 |
| 88 | 14.2 | 0.0 | 34.1 |

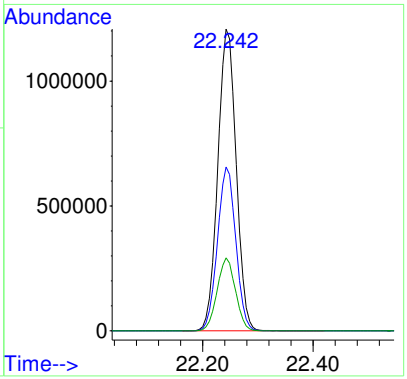





#43
CHLOROBENZENE-d5
Concen: 20.00 ppbv
RT: 22.242 min Scan# 3051
Delta R.T. 0.000 min
Lab File: 021717K09.D
Acq: 17 Feb 2017 7:14 pm

Tgt Ion:117 Resp: 2789991

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 117 | 100 | | |
| 82 | 54.2 | 33.4 | 73.4 |
| 54 | 24.1 | 2.4 | 42.4 |



Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2017\DATA\041417K_FSAA\
Data File : 041417K12.D
InstName : HP5973K
Acq On : 14 Apr 2017 2:29 pm
Operator : LLH
Sample : CAN #1105
Misc : 200ml RECERTIFICATION
ALS Vial : 17 Sample Multiplier: 1

CLEAN

Quant Time: Apr 17 09:42:18 2017
Quant Method : D:\msdchem\1\2017\METHOD\041017K_TO15AA.M
Quant Title : TO15
QLast Update : Tue Apr 11 10:42:08 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| Internal Standards | | | | | |
| 1) BROMOCHLOROMETHANE | 15.313 | 49 | 824957 | 20.00 ppbv | 0.00 |
| 32) 1,4-DIFLUOROBENZENE | 17.315 | 114 | 2180433 | 18.80 ppbv | 0.00 |
| 43) CHLOROBENZENE-d5 | 22.236 | 117 | 2039827 | 20.00 ppbv | 0.00 |

Target Compounds Qvalue

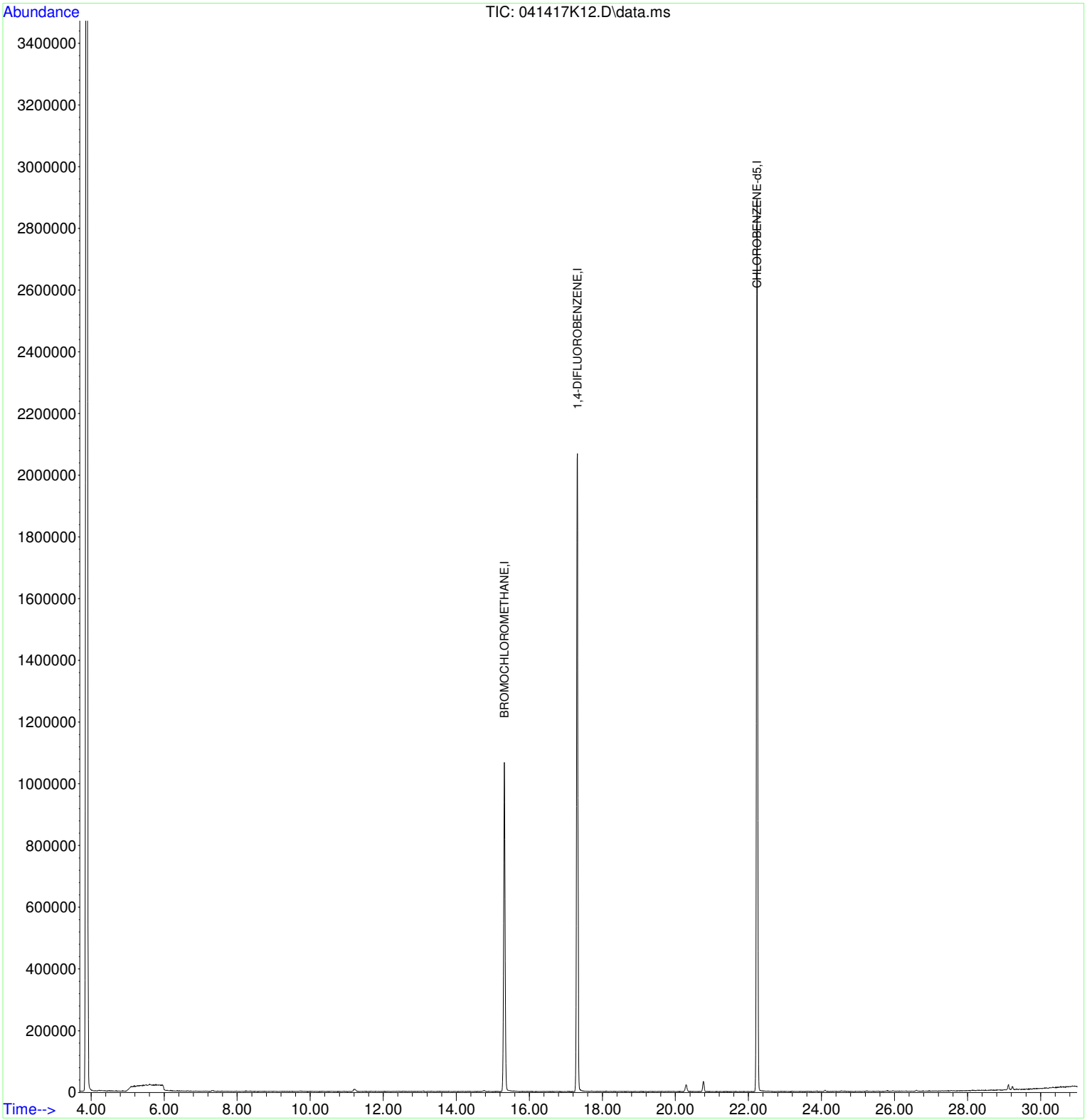
(#) = qualifier out of range (m) = manual integration (+) = signals summed

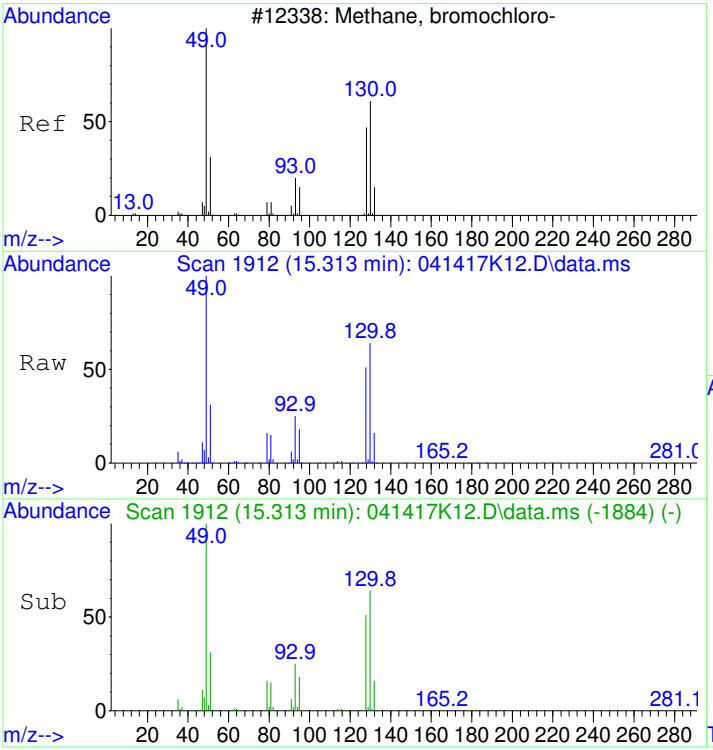
**REVIEWED**
**By LLH at 9:42 am, Apr 17, 2017**

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\041417K_FSAA\
Data File : 041417K12.D
InstName : HP5973K
Acq On : 14 Apr 2017 2:29 pm
Operator : LLH
Sample : CAN #1105
Misc : 200ml RECERTIFICATION
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Apr 17 09:42:18 2017
Quant Method : D:\msdchem\1\2017\METHOD\041017K_TO15AA.M
Quant Title : TO15
QLast Update : Tue Apr 11 10:42:08 2017
Response via : Initial Calibration

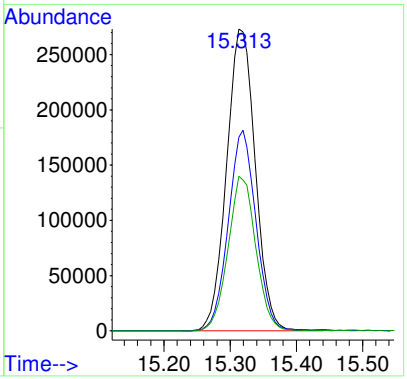


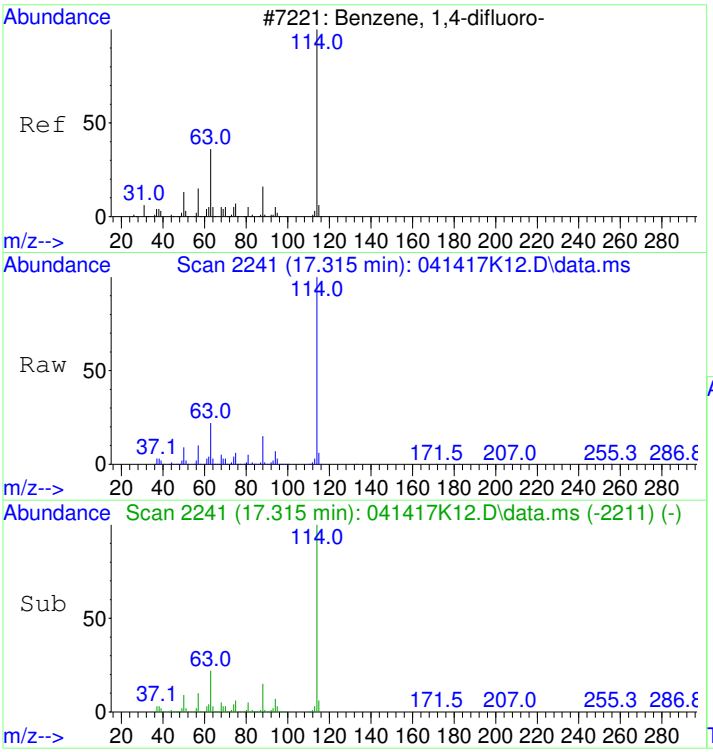



#1
BROMOCHLOROMETHANE
Concen: 20.00 ppbv
RT: 15.313 min Scan# 1912
Delta R.T. -0.006 min
Lab File: 041417K12.D
Acq: 14 Apr 2017 2:29 pm

Tgt Ion: 49 Resp: 824957

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 130 | 63.9 | 54.1 | 94.1 |
| 128 | 49.5 | 37.5 | 77.5 |

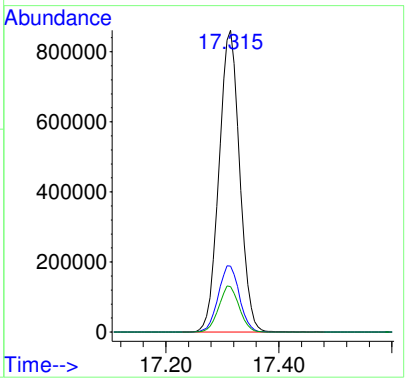


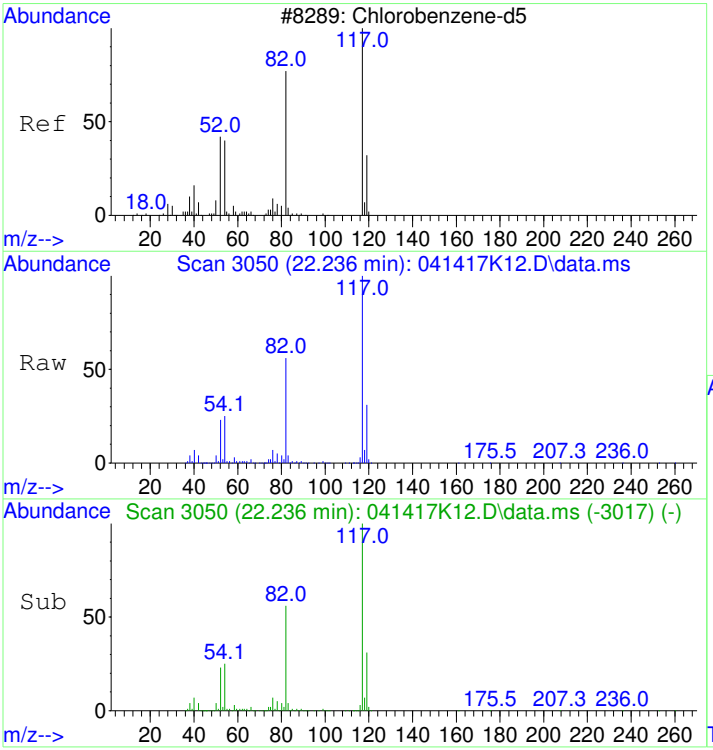




#32
1,4-DIFLUOROBENZENE
Concen: 18.80 ppbv
RT: 17.315 min Scan# 2241
Delta R.T. -0.000 min
Lab File: 041417K12.D
Acq: 14 Apr 2017 2:29 pm

Tgt Ion:114 Resp: 2180433

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 114 | 100 | | |
| 63 | 22.6 | 0.4 | 40.4 |
| 88 | 15.1 | 0.0 | 34.6 |

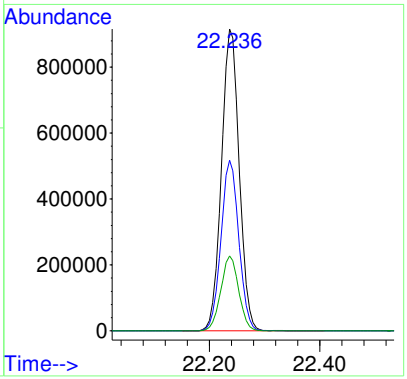





#43
CHLOROBENZENE-d5
Concen: 20.00 ppbv
RT: 22.236 min Scan# 3050
Delta R.T. -0.000 min
Lab File: 041417K12.D
Acq: 14 Apr 2017 2:29 pm

Tgt Ion:117 Resp: 2039827

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 117 | 100 | | |
| 82 | 56.8 | 34.5 | 74.5 |
| 54 | 25.0 | 0.2 | 40.2 |



Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2017\DATA\021717K_FSAA\
Data File : 021717K09.D
InstName : HP5973K
Acq On : 17 Feb 2017 7:14 pm
Operator : LLH
Sample : CAN #1095
Misc : 200ml RECERTIFICATION
ALS Vial : 13 Sample Multiplier: 1

CLEAN

Quant Time: Feb 20 11:13:56 2017
Quant Method : D:\msdchem\1\2017\METHOD\020217K_TO15AA.M
Quant Title : TO15
QLast Update : Fri Feb 03 14:13:09 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| Internal Standards | | | | | |
| 1) BROMOCHLOROMETHANE | 15.319 | 49 | 1019347 | 19.60 ppbv | 0.00 |
| 32) 1,4-DIFLUOROBENZENE | 17.315 | 114 | 3028133 | 19.80 ppbv | 0.00 |
| 43) CHLOROBENZENE-d5 | 22.242 | 117 | 2789991 | 20.00 ppbv | 0.00 |

Target Compounds Qvalue

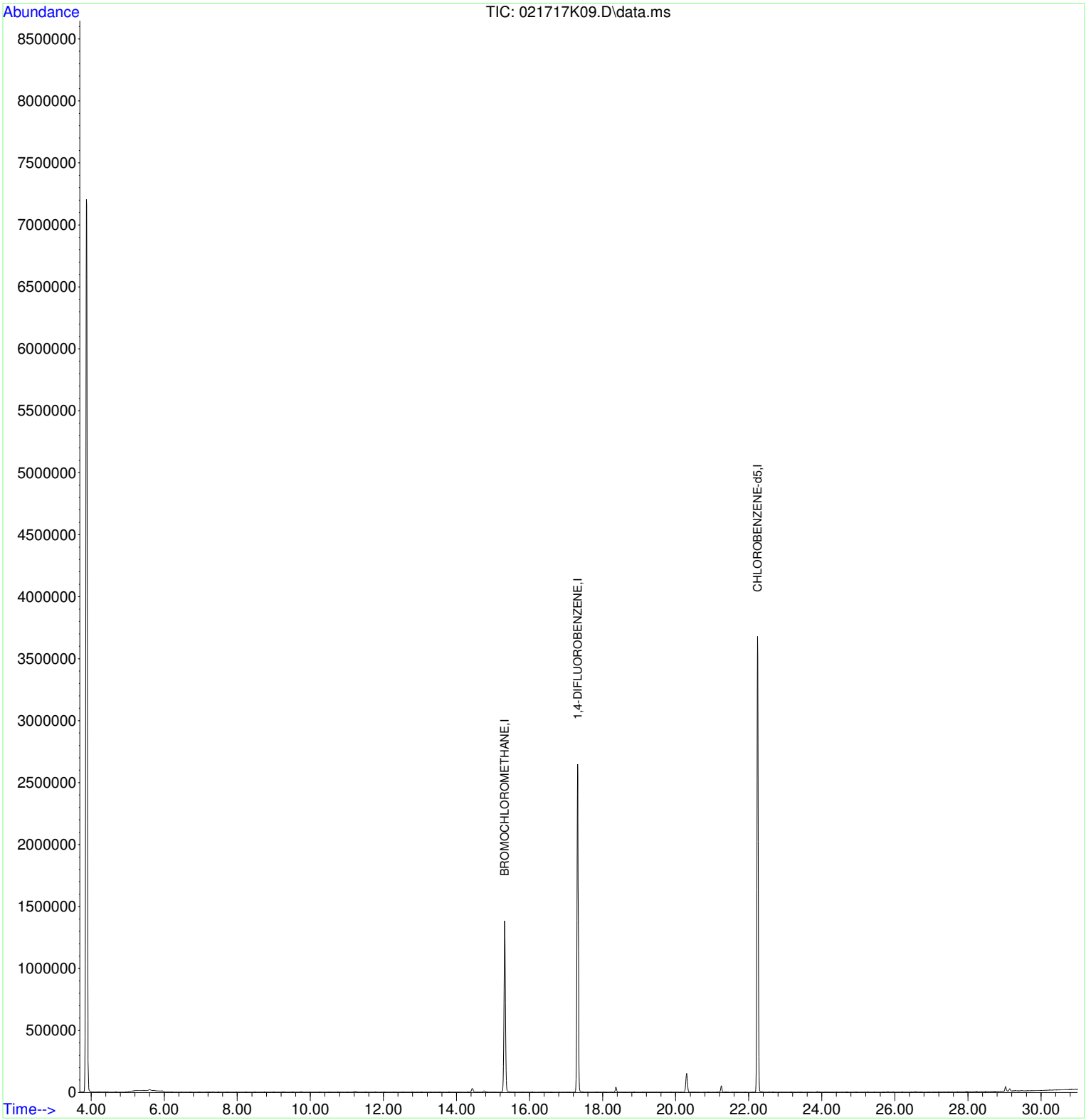
(#) = qualifier out of range (m) = manual integration (+) = signals summed

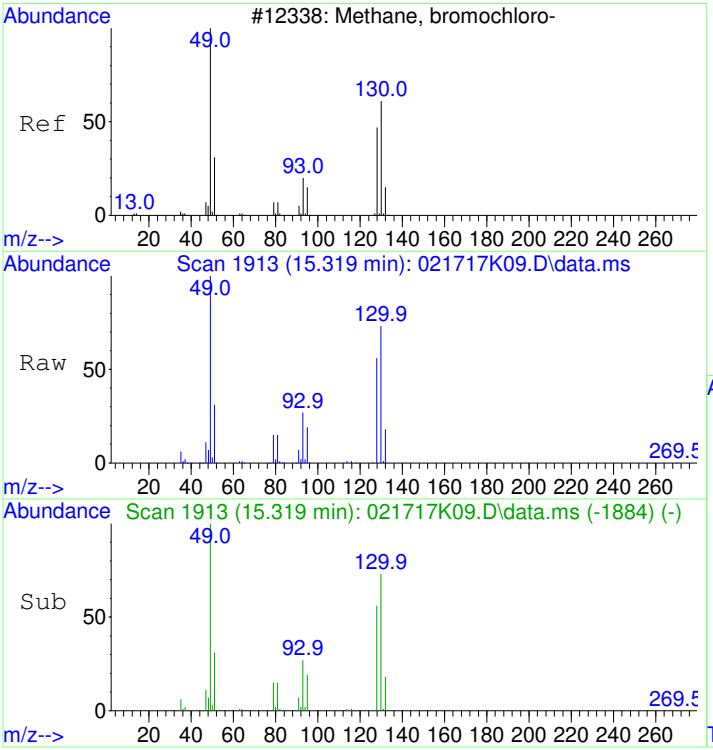
**REVIEWED**
**By LLH at 11:14 am, Feb 20, 2017**

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\021717K_FSAA\
Data File : 021717K09.D
InstName : HP5973K
Acq On : 17 Feb 2017 7:14 pm
Operator : LLH
Sample : CAN #1095
Misc : 200ml RECERTIFICATION
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Feb 20 11:13:56 2017
Quant Method : D:\msdchem\1\2017\METHOD\020217K_TO15AA.M
Quant Title : TO15
QLast Update : Fri Feb 03 14:13:09 2017
Response via : Initial Calibration

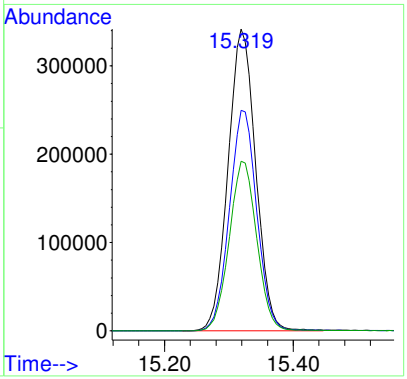


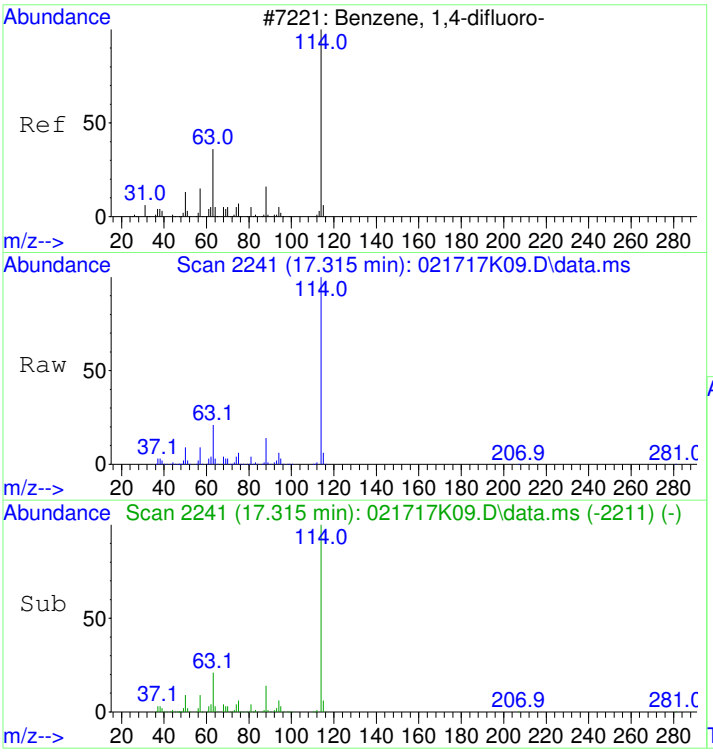



#1
BROMOCHLOROMETHANE
Concen: 19.60 ppbv
RT: 15.319 min Scan# 1913
Delta R.T. 0.000 min
Lab File: 021717K09.D
Acq: 17 Feb 2017 7:14 pm

Tgt Ion: 49 Resp: 1019347

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 130 | 72.5 | 53.9 | 93.9 |
| 128 | 56.0 | 37.0 | 77.0 |

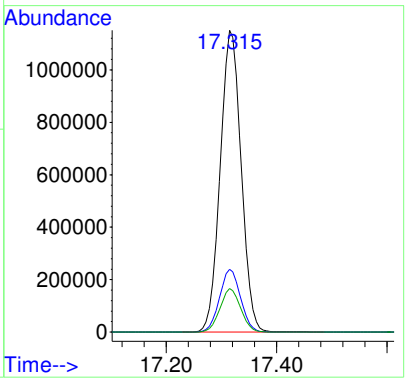


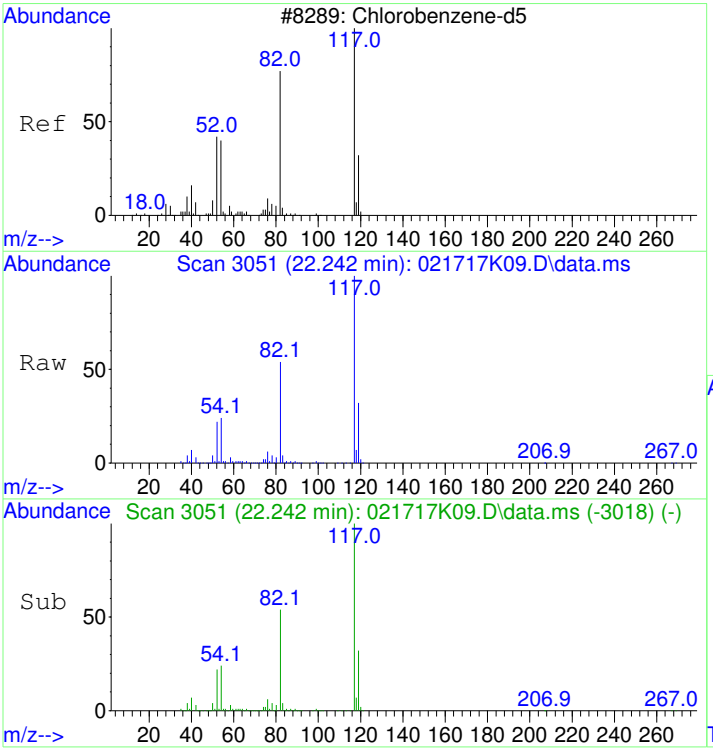




#32
1,4-DIFLUOROBENZENE
Concen: 19.80 ppbv
RT: 17.315 min Scan# 2241
Delta R.T. 0.000 min
Lab File: 021717K09.D
Acq: 17 Feb 2017 7:14 pm

Tgt Ion:114 Resp: 3028133

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 114 | 100 | | |
| 63 | 20.8 | 0.2 | 40.2 |
| 88 | 14.2 | 0.0 | 34.1 |

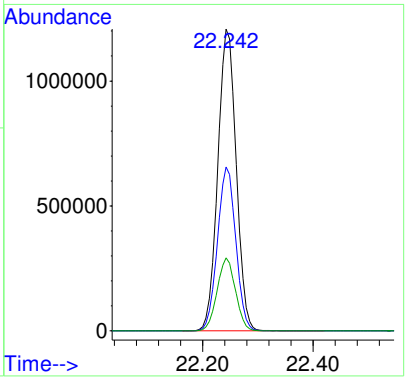





#43
CHLOROBENZENE-d5
Concen: 20.00 ppbv
RT: 22.242 min Scan# 3051
Delta R.T. 0.000 min
Lab File: 021717K09.D
Acq: 17 Feb 2017 7:14 pm

Tgt Ion:117 Resp: 2789991

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 117 | 100 | | |
| 82 | 54.2 | 33.4 | 73.4 |
| 54 | 24.1 | 2.4 | 42.4 |



Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2017\DATA\041417K_FSAA\
Data File : 041417K12.D
InstName : HP5973K
Acq On : 14 Apr 2017 2:29 pm
Operator : LLH
Sample : CAN #1105
Misc : 200ml RECERTIFICATION
ALS Vial : 17 Sample Multiplier: 1

CLEAN

Quant Time: Apr 17 09:42:18 2017
Quant Method : D:\msdchem\1\2017\METHOD\041017K_TO15AA.M
Quant Title : TO15
QLast Update : Tue Apr 11 10:42:08 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| Internal Standards | | | | | |
| 1) BROMOCHLOROMETHANE | 15.313 | 49 | 824957 | 20.00 ppbv | 0.00 |
| 32) 1,4-DIFLUOROBENZENE | 17.315 | 114 | 2180433 | 18.80 ppbv | 0.00 |
| 43) CHLOROBENZENE-d5 | 22.236 | 117 | 2039827 | 20.00 ppbv | 0.00 |

Target Compounds Qvalue

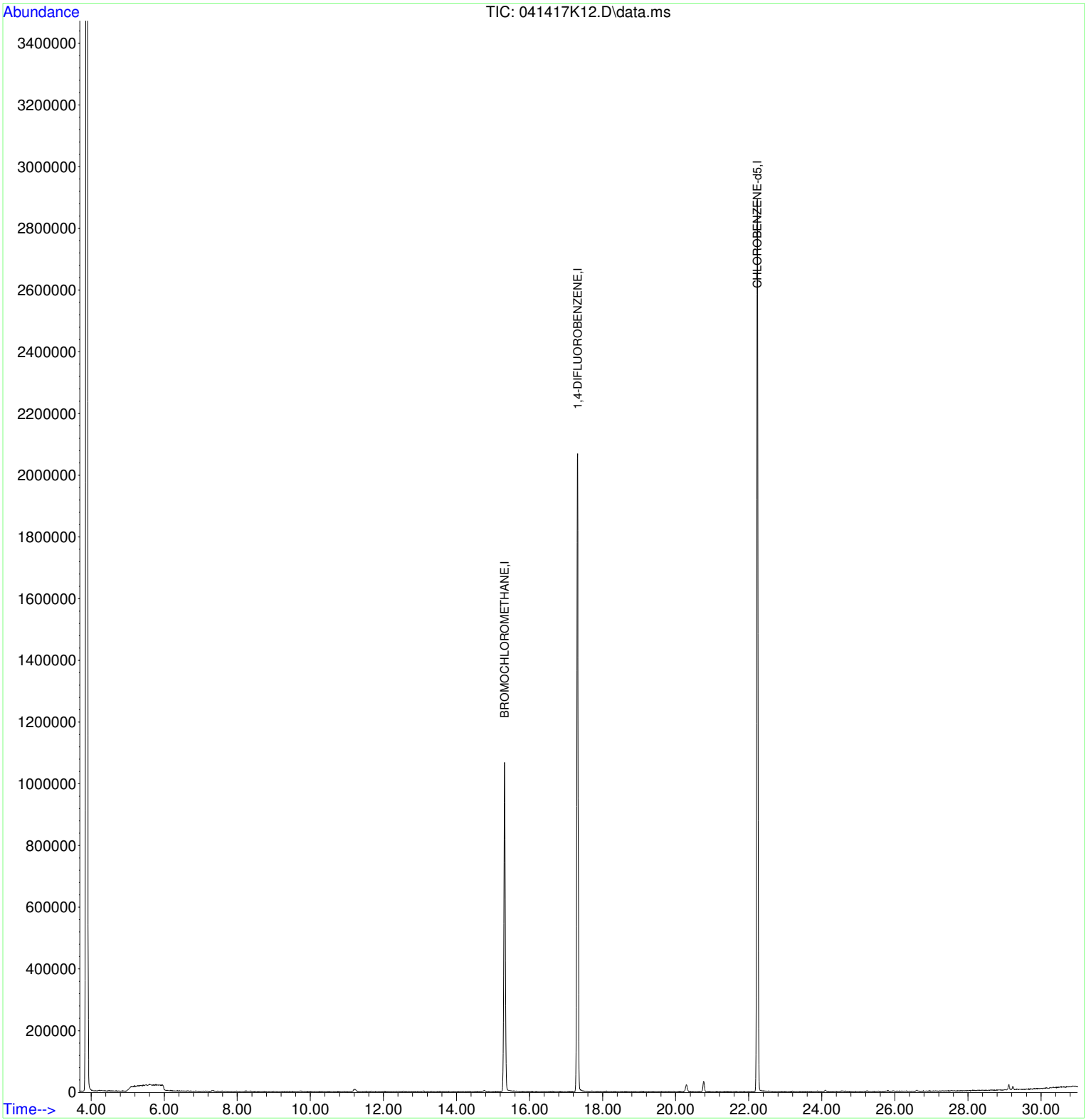
(#) = qualifier out of range (m) = manual integration (+) = signals summed

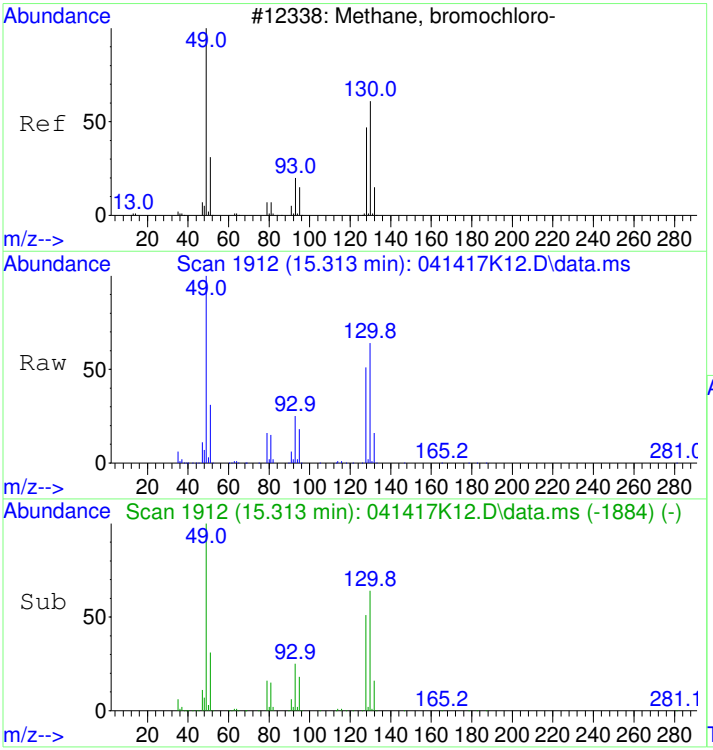
**REVIEWED**
**By LLH at 9:42 am, Apr 17, 2017**

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\041417K_FSAA\
Data File : 041417K12.D
InstName : HP5973K
Acq On : 14 Apr 2017 2:29 pm
Operator : LLH
Sample : CAN #1105
Misc : 200ml RECERTIFICATION
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Apr 17 09:42:18 2017
Quant Method : D:\msdchem\1\2017\METHOD\041017K_TO15AA.M
Quant Title : TO15
QLast Update : Tue Apr 11 10:42:08 2017
Response via : Initial Calibration

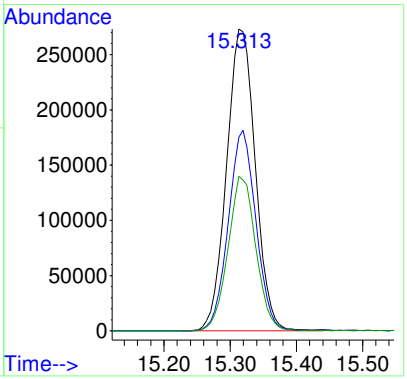


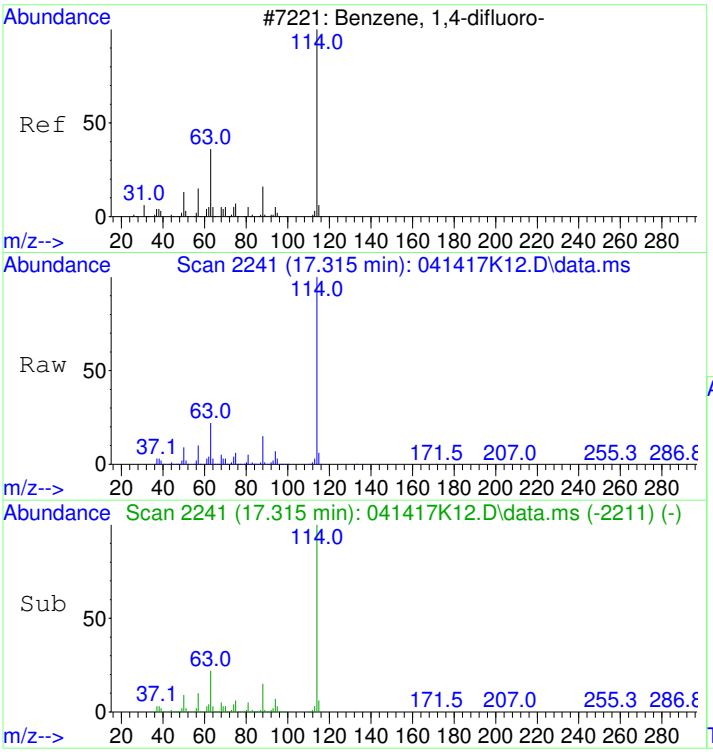



#1
BROMOCHLOROMETHANE
Concen: 20.00 ppbv
RT: 15.313 min Scan# 1912
Delta R.T. -0.006 min
Lab File: 041417K12.D
Acq: 14 Apr 2017 2:29 pm

Tgt Ion: 49 Resp: 824957

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 130 | 63.9 | 54.1 | 94.1 |
| 128 | 49.5 | 37.5 | 77.5 |

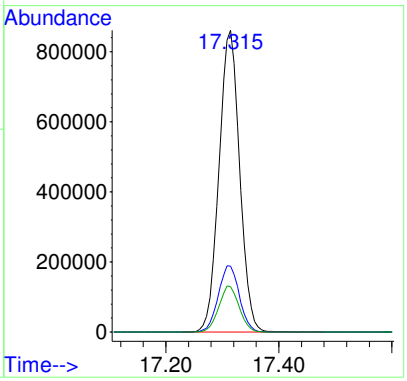


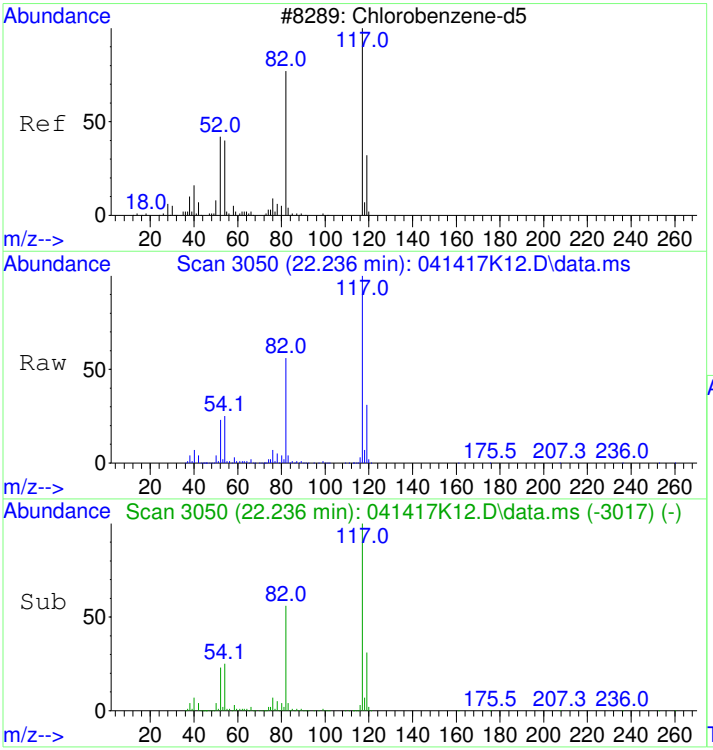




#32
1,4-DIFLUOROBENZENE
Concen: 18.80 ppbv
RT: 17.315 min Scan# 2241
Delta R.T. -0.000 min
Lab File: 041417K12.D
Acq: 14 Apr 2017 2:29 pm

Tgt Ion:114 Resp: 2180433

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 114 | 100 | | |
| 63 | 22.6 | 0.4 | 40.4 |
| 88 | 15.1 | 0.0 | 34.6 |

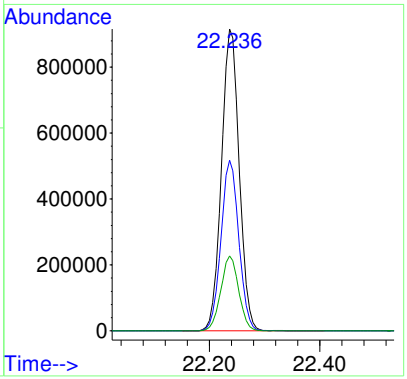





#43
CHLOROBENZENE-d5
Concen: 20.00 ppbv
RT: 22.236 min Scan# 3050
Delta R.T. -0.000 min
Lab File: 041417K12.D
Acq: 14 Apr 2017 2:29 pm

Tgt Ion:117 Resp: 2039827

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 117 | 100 | | |
| 82 | 56.8 | 34.5 | 74.5 |
| 54 | 25.0 | 0.2 | 40.2 |



# 1707040-05

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2017\DATA\021717K_FSAA\
Data File : 021717K13.D
InstName : HP5973K
Acq On : 17 Feb 2017 10:40 pm
Operator : LLH
Sample : CAN #632
Misc : 200ml RECERTIFICATION
ALS Vial : 17 Sample Multiplier: 1

CLEAN

Quant Time: Feb 20 11:15:12 2017
Quant Method : D:\msdchem\1\2017\METHOD\020217K_TO15AA.M
Quant Title : TO15
QLast Update : Fri Feb 03 14:13:09 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) BROMOCHLOROMETHANE | 15.319 | 49 | 1007484 | 19.60 | ppbv | 0.00 |
| 32) 1,4-DIFLUOROBENZENE | 17.315 | 114 | 2971969 | 19.80 | ppbv | 0.00 |
| 43) CHLOROBENZENE-d5 | 22.242 | 117 | 2725774 | 20.00 | ppbv | 0.00 |

Target Compounds Qvalue

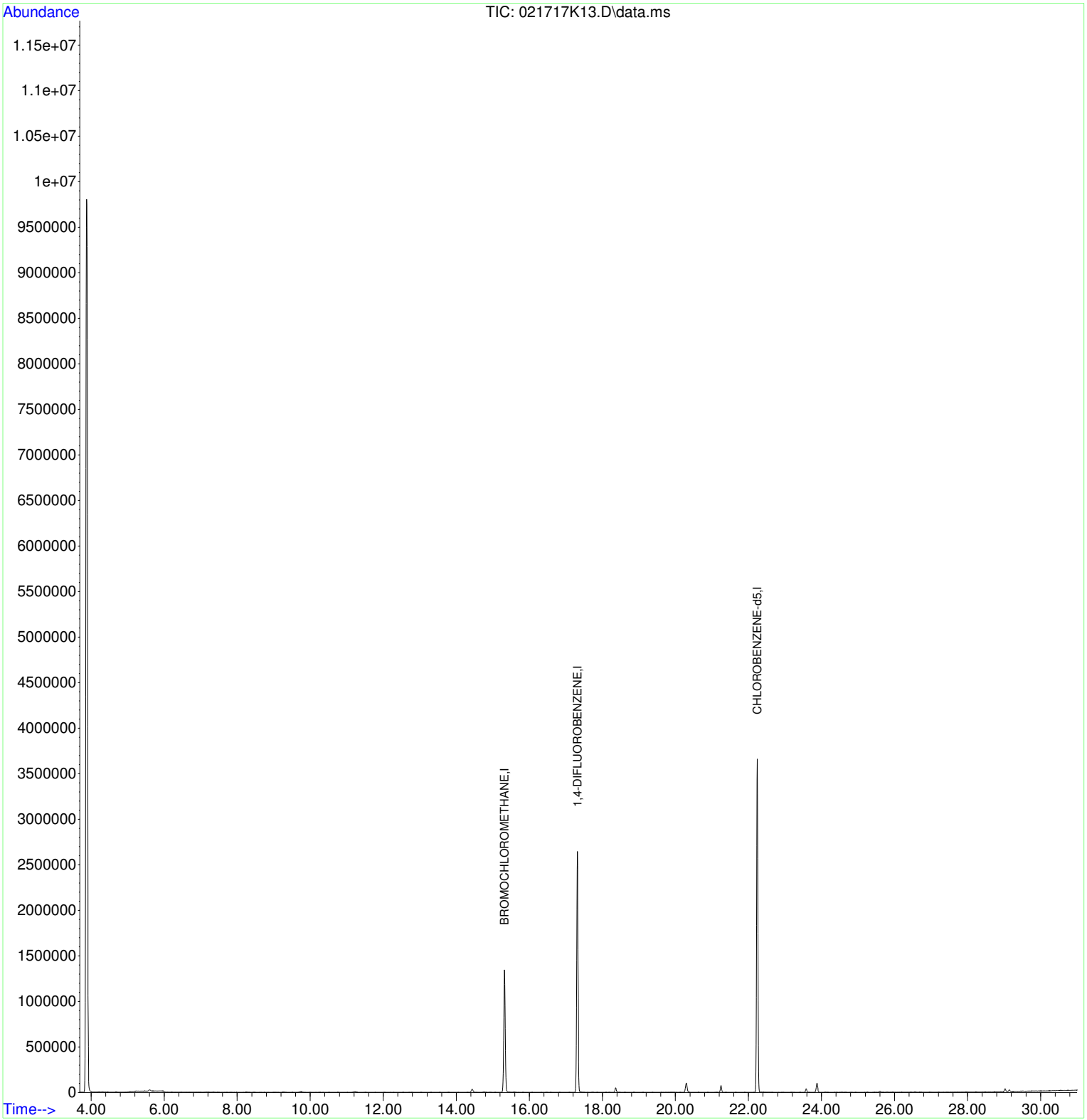
(#) = qualifier out of range (m) = manual integration (+) = signals summed

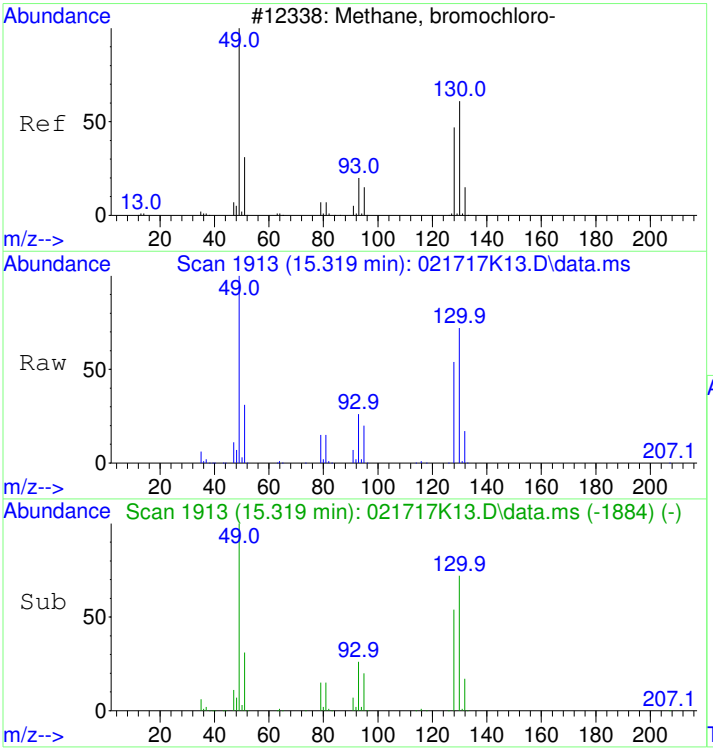
**REVIEWED**
**By LLH at 11:15 am, Feb 20, 2017**

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\021717K_FSAA\
Data File : 021717K13.D
InstName : HP5973K
Acq On : 17 Feb 2017 10:40 pm
Operator : LLH
Sample : CAN #632
Misc : 200ml RECERTIFICATION
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Feb 20 11:15:12 2017
Quant Method : D:\msdchem\1\2017\METHOD\020217K_TO15AA.M
Quant Title : TO15
QLast Update : Fri Feb 03 14:13:09 2017
Response via : Initial Calibration

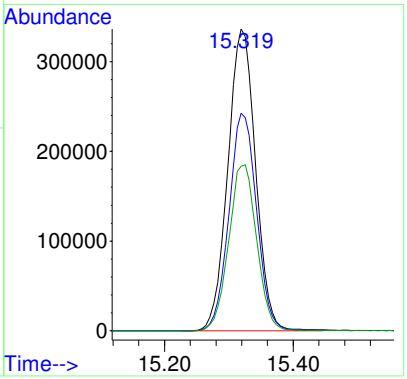


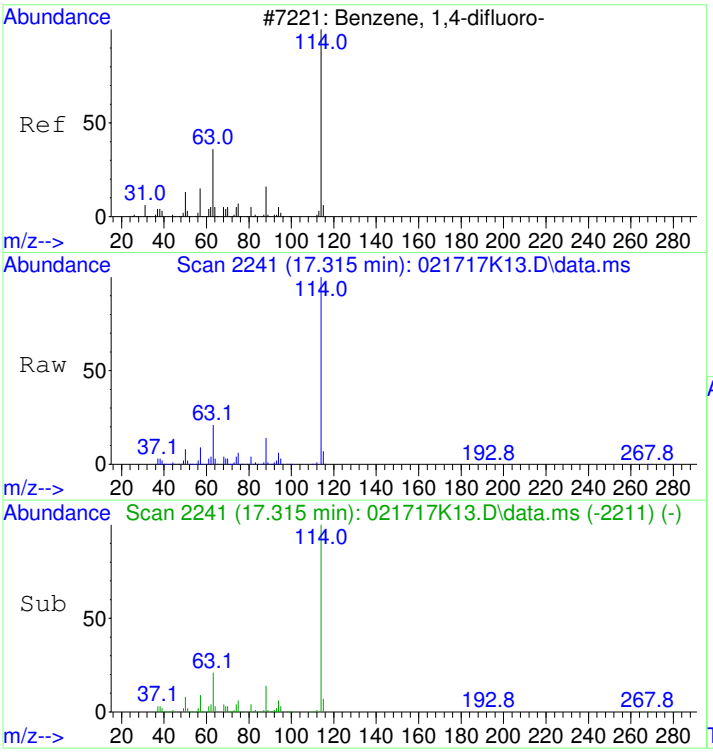



#1
BROMOCHLOROMETHANE
Concen: 19.60 ppbv
RT: 15.319 min Scan# 1913
Delta R.T. 0.000 min
Lab File: 021717K13.D
Acq: 17 Feb 2017 10:40 pm

Tgt Ion: 49 Resp: 1007484

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 130 | 71.9 | 53.9 | 93.9 |
| 128 | 55.4 | 37.0 | 77.0 |

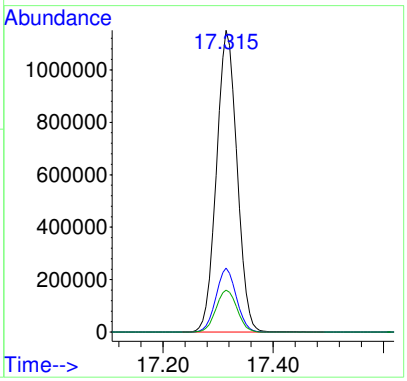


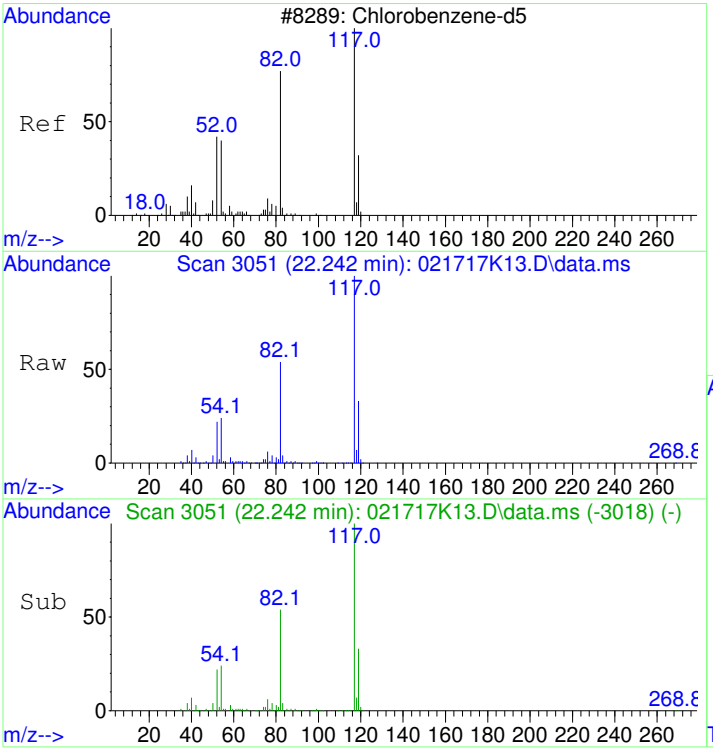




#32
1,4-DIFLUOROBENZENE
Concen: 19.80 ppbv
RT: 17.315 min Scan# 2241
Delta R.T. 0.000 min
Lab File: 021717K13.D
Acq: 17 Feb 2017 10:40 pm

Tgt Ion:114 Resp: 2971969

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 114 | 100 | | |
| 63 | 21.1 | 0.2 | 40.2 |
| 88 | 14.3 | 0.0 | 34.1 |

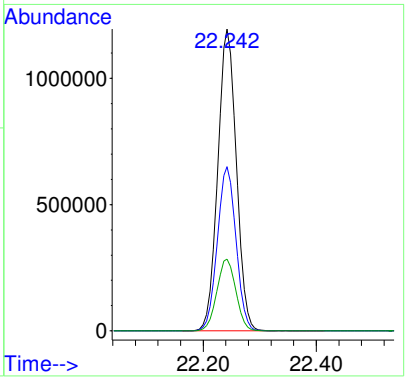





#43
CHLOROBENZENE-d5
Concen: 20.00 ppbv
RT: 22.242 min Scan# 3051
Delta R.T. 0.000 min
Lab File: 021717K13.D
Acq: 17 Feb 2017 10:40 pm

Tgt Ion:117 Resp: 2725774

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 117 | 100 | | |
| 82 | 54.6 | 33.4 | 73.4 |
| 54 | 24.3 | 2.4 | 42.4 |



Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2017\DATA\041417K_FSAA\
Data File : 041417K13.D
InstName : HP5973K
Acq On : 14 Apr 2017 3:16 pm
Operator : LLH
Sample : CAN #1113
Misc : 200ml RECERTIFICATION
ALS Vial : 18 Sample Multiplier: 1

CLEAN

Quant Time: Apr 17 09:42:37 2017
Quant Method : D:\msdchem\1\2017\METHOD\041017K_TO15AA.M
Quant Title : TO15
QLast Update : Tue Apr 11 10:42:08 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) BROMOCHLOROMETHANE | 15.319 | 49 | 802708 | 20.00 | ppbv | 0.00 |
| 32) 1,4-DIFLUOROBENZENE | 17.315 | 114 | 2122233 | 18.80 | ppbv | 0.00 |
| 43) CHLOROBENZENE-d5 | 22.236 | 117 | 1976644 | 20.00 | ppbv | 0.00 |

Target Compounds Qvalue

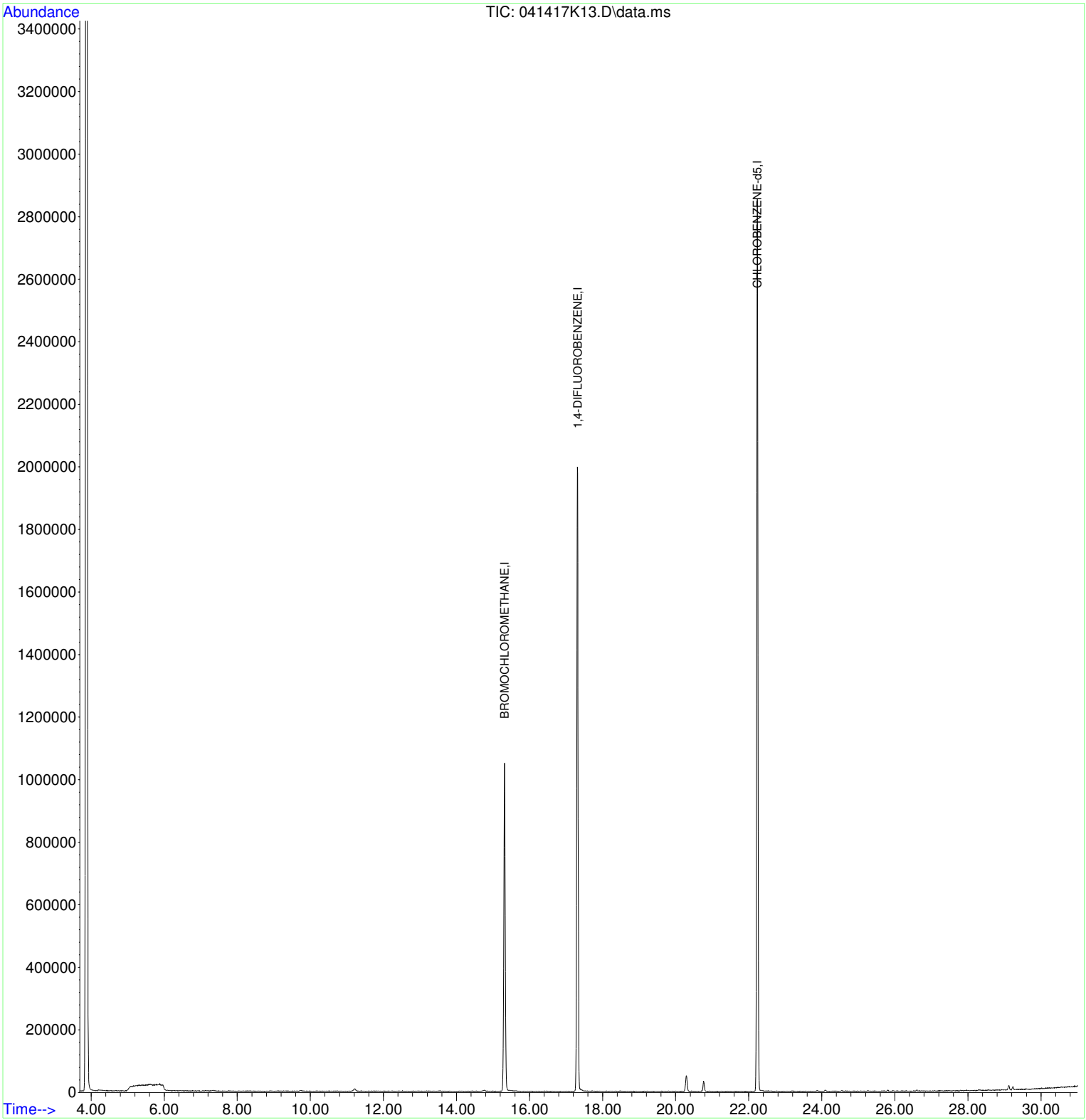
(#) = qualifier out of range (m) = manual integration (+) = signals summed

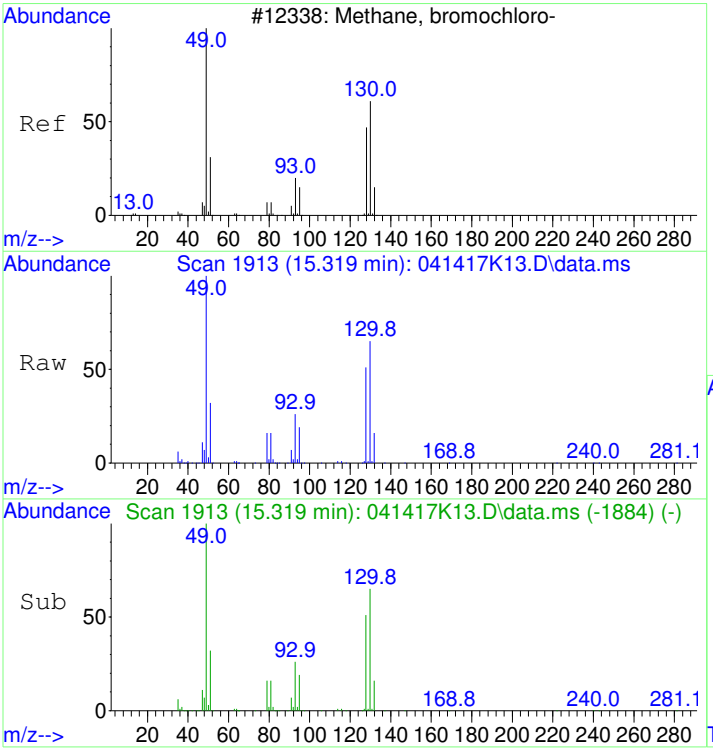
**REVIEWED**
**By LLH at 9:42 am, Apr 17, 2017**

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\041417K_FSAA\
Data File : 041417K13.D
InstName : HP5973K
Acq On : 14 Apr 2017 3:16 pm
Operator : LLH
Sample : CAN #1113
Misc : 200ml RECERTIFICATION
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Apr 17 09:42:37 2017
Quant Method : D:\msdchem\1\2017\METHOD\041017K_TO15AA.M
Quant Title : TO15
QLast Update : Tue Apr 11 10:42:08 2017
Response via : Initial Calibration

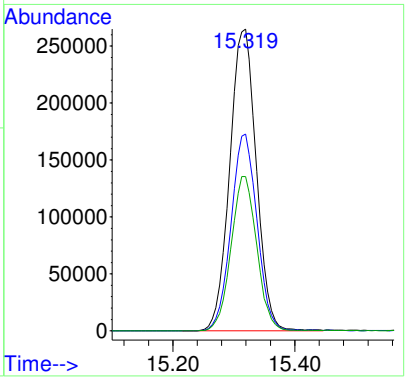


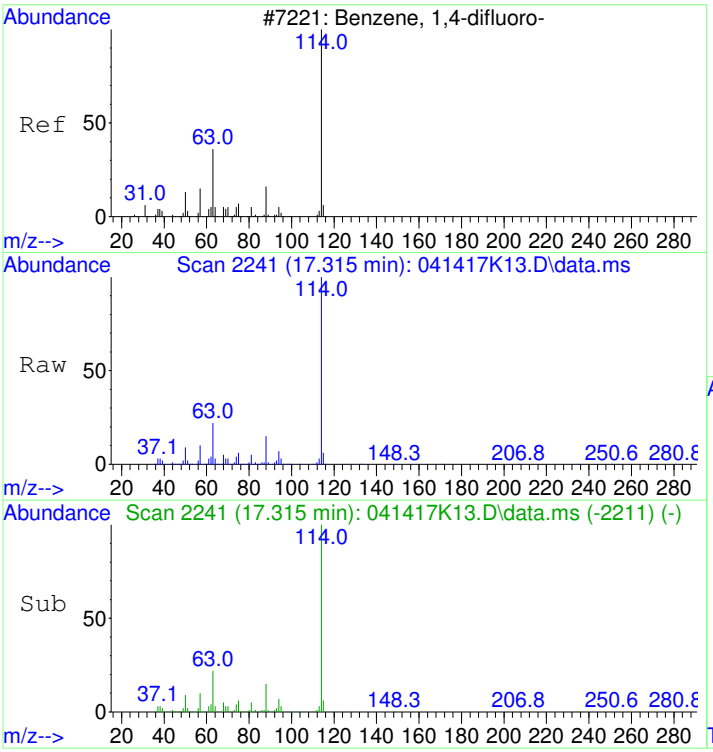



#1
BROMOCHLOROMETHANE
Concen: 20.00 ppbv
RT: 15.319 min Scan# 1913
Delta R.T. 0.000 min
Lab File: 041417K13.D
Acq: 14 Apr 2017 3:16 pm

Tgt Ion: 49 Resp: 802708

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 130 | 63.9 | 54.1 | 94.1 |
| 128 | 49.4 | 37.5 | 77.5 |

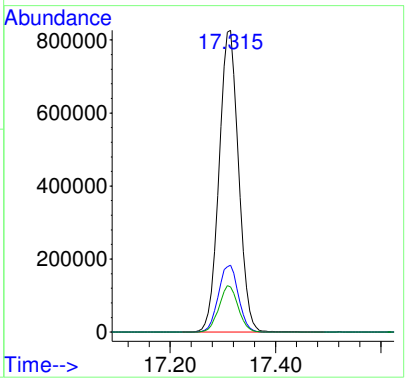


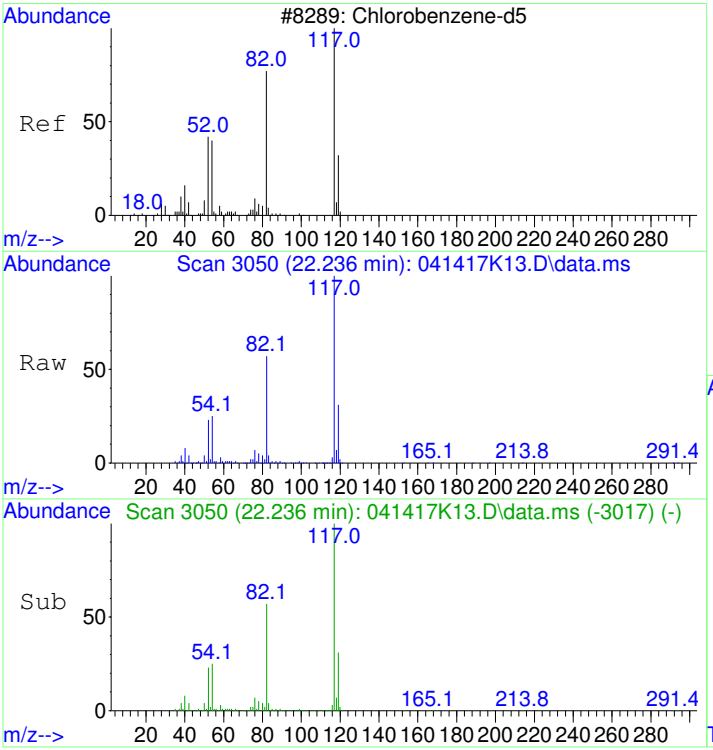




#32
1,4-DIFLUOROBENZENE
Concen: 18.80 ppbv
RT: 17.315 min Scan# 2241
Delta R.T. -0.000 min
Lab File: 041417K13.D
Acq: 14 Apr 2017 3:16 pm

Tgt Ion:114 Resp: 2122233

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 114 | 100 | | |
| 63 | 22.9 | 0.4 | 40.4 |
| 88 | 15.2 | 0.0 | 34.6 |

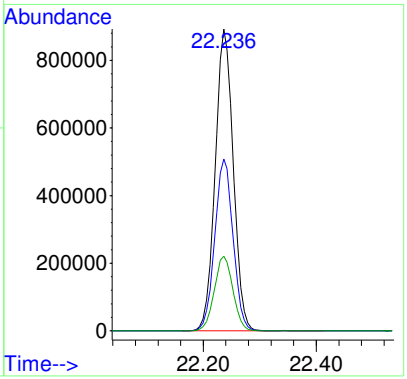





#43
CHLOROBENZENE-d5
Concen: 20.00 ppbv
RT: 22.236 min Scan# 3050
Delta R.T. -0.000 min
Lab File: 041417K13.D
Acq: 14 Apr 2017 3:16 pm

Tgt Ion:117 Resp: 1976644

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 117 | 100 | | |
| 82 | 57.6 | 34.5 | 74.5 |
| 54 | 25.5 | 0.2 | 40.2 |



Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2017\DATA\021717K_FSAA\
Data File : 021717K13.D
InstName : HP5973K
Acq On : 17 Feb 2017 10:40 pm
Operator : LLH
Sample : CAN #632
Misc : 200ml RECERTIFICATION
ALS Vial : 17 Sample Multiplier: 1

CLEAN

Quant Time: Feb 20 11:15:12 2017
Quant Method : D:\msdchem\1\2017\METHOD\020217K_TO15AA.M
Quant Title : TO15
QLast Update : Fri Feb 03 14:13:09 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) BROMOCHLOROMETHANE | 15.319 | 49 | 1007484 | 19.60 | ppbv | 0.00 |
| 32) 1,4-DIFLUOROBENZENE | 17.315 | 114 | 2971969 | 19.80 | ppbv | 0.00 |
| 43) CHLOROBENZENE-d5 | 22.242 | 117 | 2725774 | 20.00 | ppbv | 0.00 |

Target Compounds Qvalue

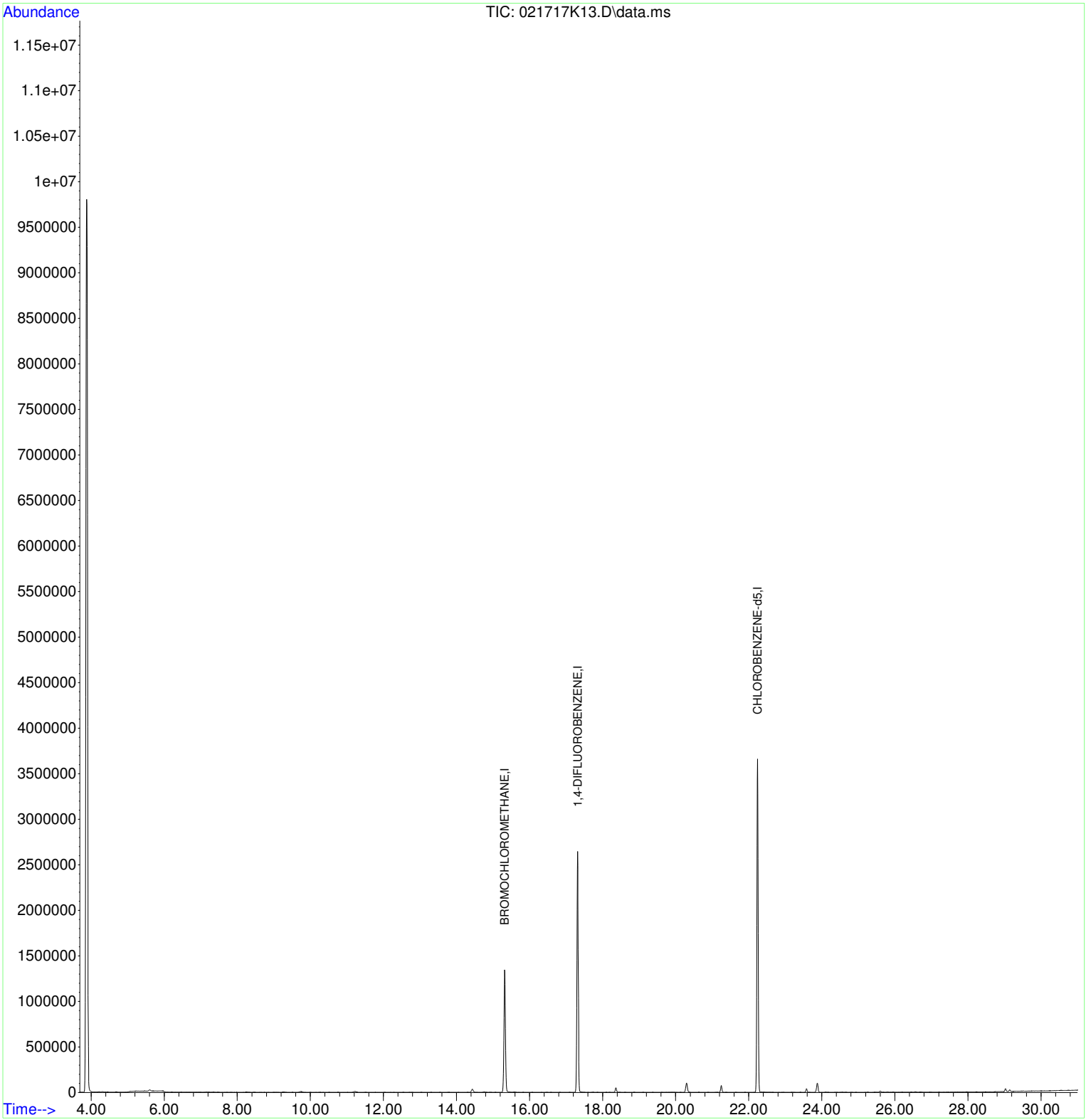
(#) = qualifier out of range (m) = manual integration (+) = signals summed

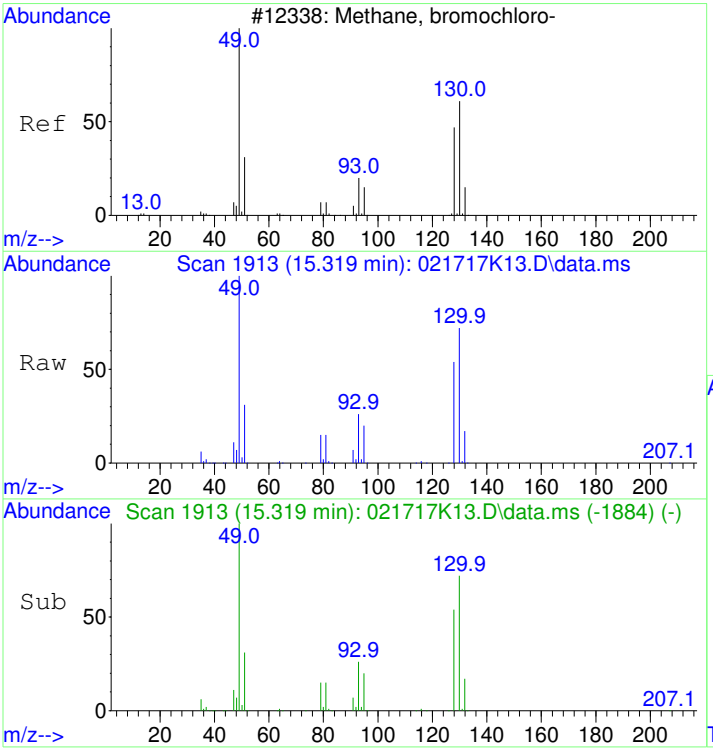
**REVIEWED**
**By LLH at 11:15 am, Feb 20, 2017**

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\021717K_FSAA\
Data File : 021717K13.D
InstName : HP5973K
Acq On : 17 Feb 2017 10:40 pm
Operator : LLH
Sample : CAN #632
Misc : 200ml RECERTIFICATION
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Feb 20 11:15:12 2017
Quant Method : D:\msdchem\1\2017\METHOD\020217K_TO15AA.M
Quant Title : TO15
QLast Update : Fri Feb 03 14:13:09 2017
Response via : Initial Calibration

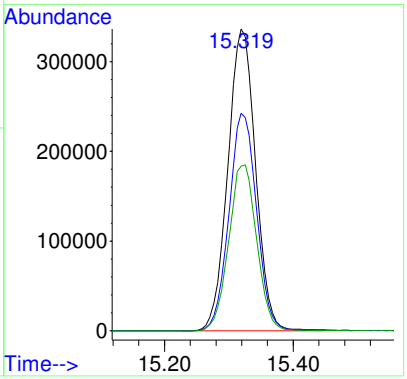


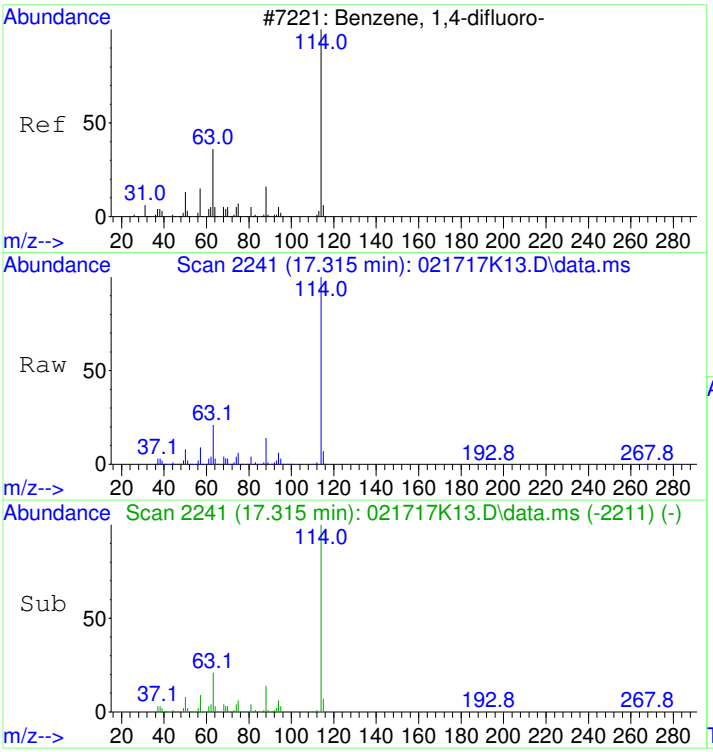



#1
BROMOCHLOROMETHANE
Concen: 19.60 ppbv
RT: 15.319 min Scan# 1913
Delta R.T. 0.000 min
Lab File: 021717K13.D
Acq: 17 Feb 2017 10:40 pm

Tgt Ion: 49 Resp: 1007484

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 130 | 71.9 | 53.9 | 93.9 |
| 128 | 55.4 | 37.0 | 77.0 |

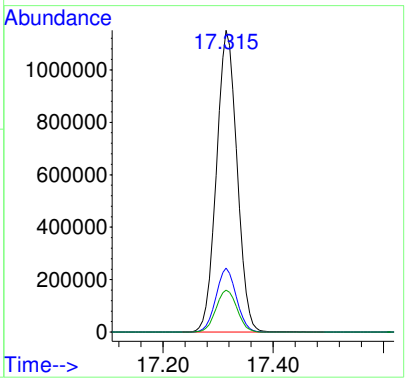


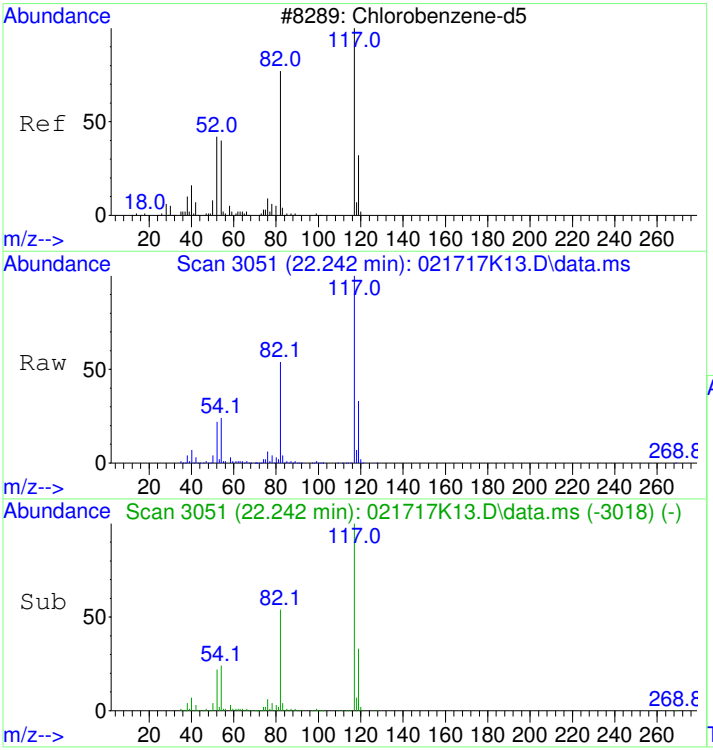




#32
1,4-DIFLUOROBENZENE
Concen: 19.80 ppbv
RT: 17.315 min Scan# 2241
Delta R.T. 0.000 min
Lab File: 021717K13.D
Acq: 17 Feb 2017 10:40 pm

Tgt Ion:114 Resp: 2971969

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 114 | 100 | | |
| 63 | 21.1 | 0.2 | 40.2 |
| 88 | 14.3 | 0.0 | 34.1 |

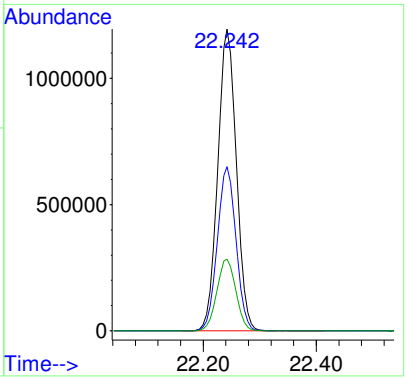





#43
CHLOROBENZENE-d5
Concen: 20.00 ppbv
RT: 22.242 min Scan# 3051
Delta R.T. 0.000 min
Lab File: 021717K13.D
Acq: 17 Feb 2017 10:40 pm

Tgt Ion:117 Resp: 2725774

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 117 | 100 | | |
| 82 | 54.6 | 33.4 | 73.4 |
| 54 | 24.3 | 2.4 | 42.4 |



Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2017\DATA\041417K_FSAA\
Data File : 041417K13.D
InstName : HP5973K
Acq On : 14 Apr 2017 3:16 pm
Operator : LLH
Sample : CAN #1113
Misc : 200ml RECERTIFICATION
ALS Vial : 18 Sample Multiplier: 1

CLEAN

Quant Time: Apr 17 09:42:37 2017
Quant Method : D:\msdchem\1\2017\METHOD\041017K_TO15AA.M
Quant Title : TO15
QLast Update : Tue Apr 11 10:42:08 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| Internal Standards | | | | | |
| 1) BROMOCHLOROMETHANE | 15.319 | 49 | 802708 | 20.00 ppbv | 0.00 |
| 32) 1,4-DIFLUOROBENZENE | 17.315 | 114 | 2122233 | 18.80 ppbv | 0.00 |
| 43) CHLOROBENZENE-d5 | 22.236 | 117 | 1976644 | 20.00 ppbv | 0.00 |

Target Compounds Qvalue

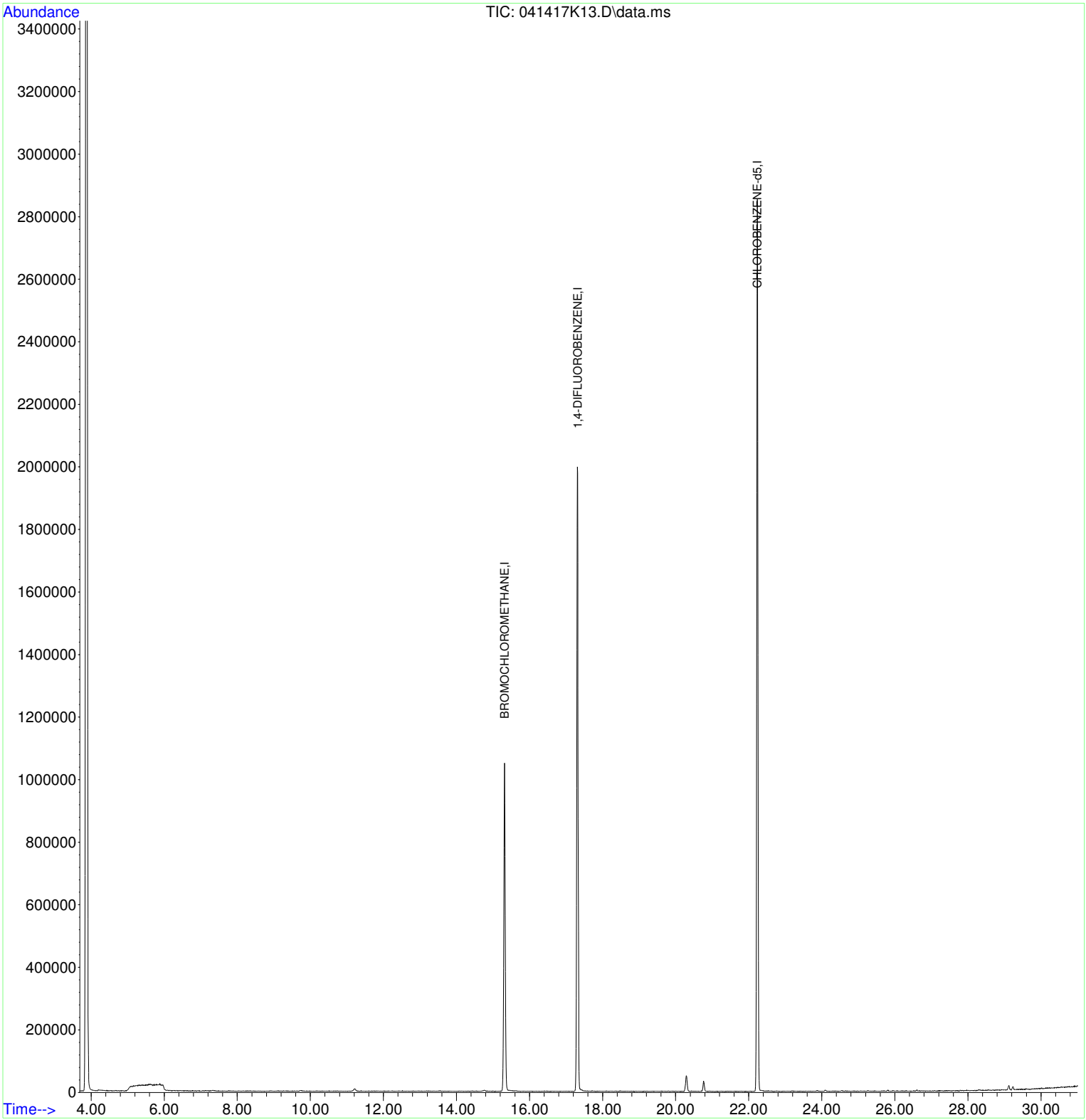
(#) = qualifier out of range (m) = manual integration (+) = signals summed

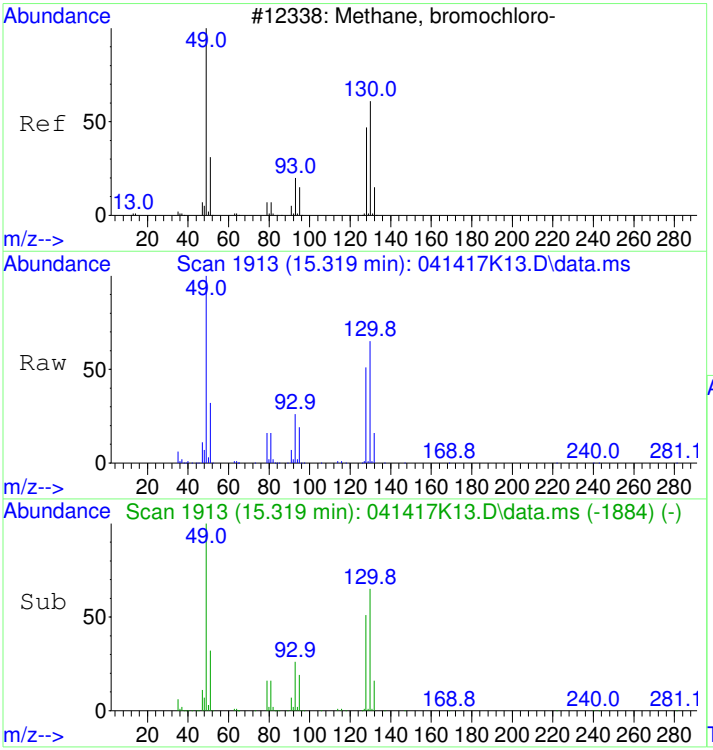
**REVIEWED**
**By LLH at 9:42 am, Apr 17, 2017**

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\041417K_FSAA\
Data File : 041417K13.D
InstName : HP5973K
Acq On : 14 Apr 2017 3:16 pm
Operator : LLH
Sample : CAN #1113
Misc : 200ml RECERTIFICATION
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Apr 17 09:42:37 2017
Quant Method : D:\msdchem\1\2017\METHOD\041017K_TO15AA.M
Quant Title : TO15
QLast Update : Tue Apr 11 10:42:08 2017
Response via : Initial Calibration

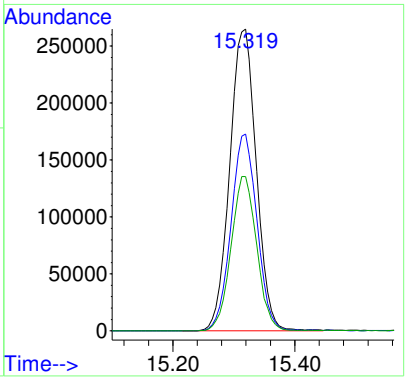


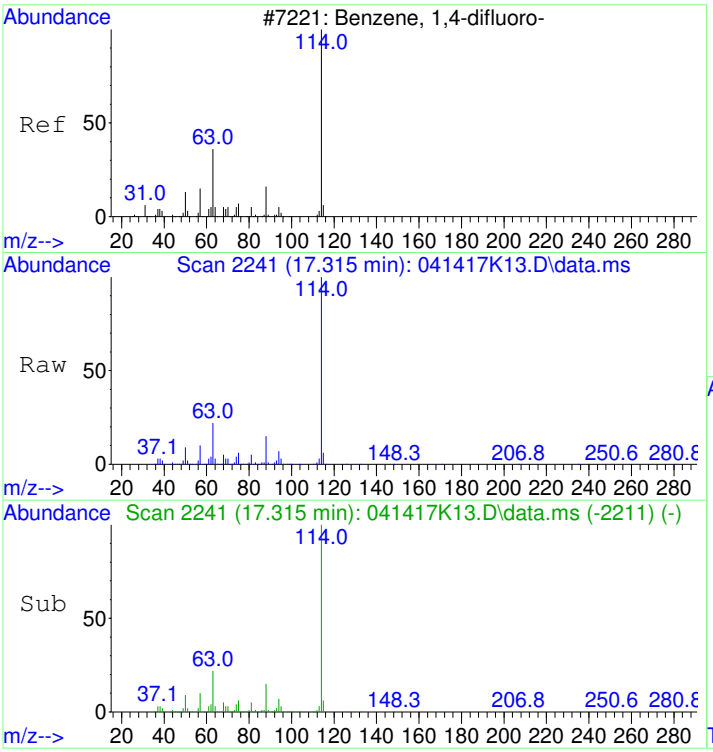



#1
BROMOCHLOROMETHANE
Concen: 20.00 ppbv
RT: 15.319 min Scan# 1913
Delta R.T. 0.000 min
Lab File: 041417K13.D
Acq: 14 Apr 2017 3:16 pm

Tgt Ion: 49 Resp: 802708

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 130 | 63.9 | 54.1 | 94.1 |
| 128 | 49.4 | 37.5 | 77.5 |

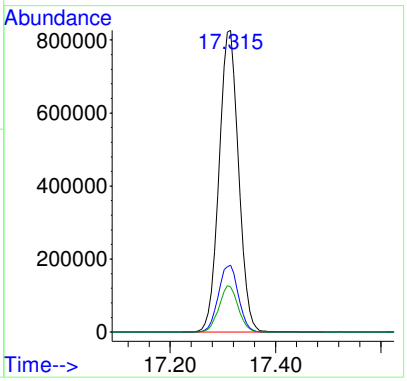


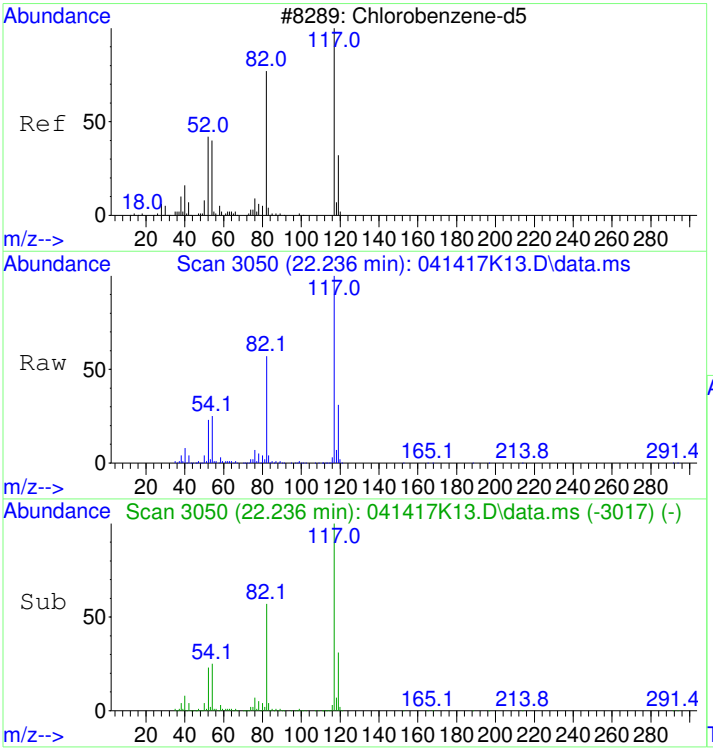




#32
1,4-DIFLUOROBENZENE
Concen: 18.80 ppbv
RT: 17.315 min Scan# 2241
Delta R.T. -0.000 min
Lab File: 041417K13.D
Acq: 14 Apr 2017 3:16 pm

Tgt Ion:114 Resp: 2122233

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 114 | 100 | | |
| 63 | 22.9 | 0.4 | 40.4 |
| 88 | 15.2 | 0.0 | 34.6 |

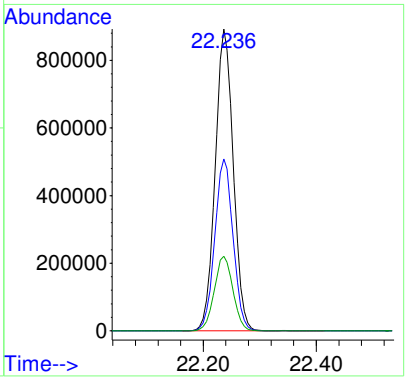





#43
CHLOROBENZENE-d5
Concen: 20.00 ppbv
RT: 22.236 min Scan# 3050
Delta R.T. -0.000 min
Lab File: 041417K13.D
Acq: 14 Apr 2017 3:16 pm

Tgt Ion:117 Resp: 1976644

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 117 | 100 | | |
| 82 | 57.6 | 34.5 | 74.5 |
| 54 | 25.5 | 0.2 | 40.2 |



# 1707040-06

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2017\DATA\021717K_FSAA\
Data File : 021717K07.D
InstName : HP5973K
Acq On : 17 Feb 2017 5:31 pm
Operator : LLH
Sample : CAN #896
Misc : 200ml RECERTIFICATION
ALS Vial : 11 Sample Multiplier: 1

CLEAN

Quant Time: Feb 20 11:13:17 2017
Quant Method : D:\msdchem\1\2017\METHOD\020217K_TO15AA.M
Quant Title : TO15
QLast Update : Fri Feb 03 14:13:09 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) BROMOCHLOROMETHANE | 15.325 | 49 | 1022653 | 19.60 | ppbv | 0.00 |
| 32) 1,4-DIFLUOROBENZENE | 17.315 | 114 | 3032075 | 19.80 | ppbv | 0.00 |
| 43) CHLOROBENZENE-d5 | 22.242 | 117 | 2789945 | 20.00 | ppbv | 0.00 |

Target Compounds Qvalue

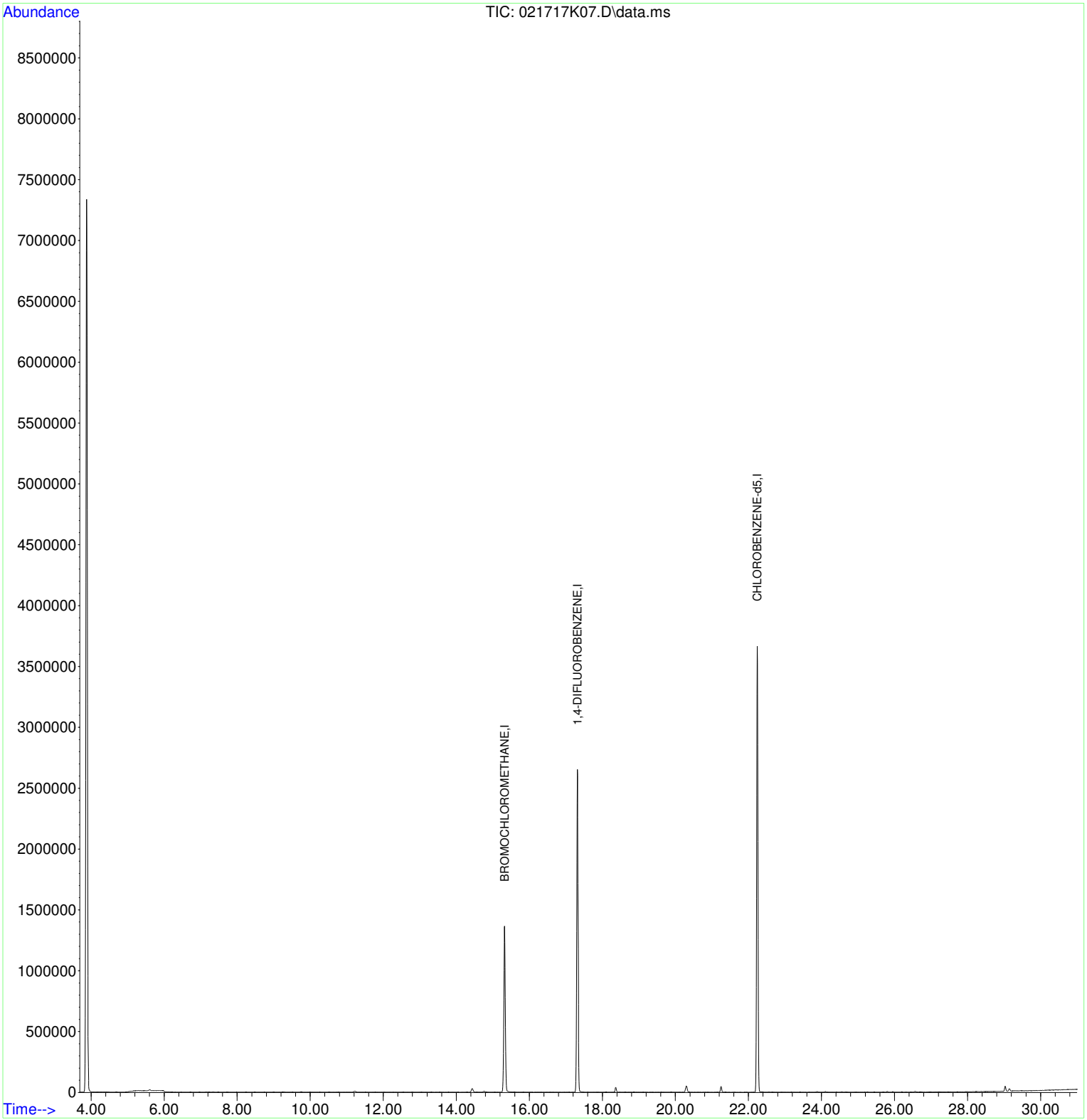
(#) = qualifier out of range (m) = manual integration (+) = signals summed

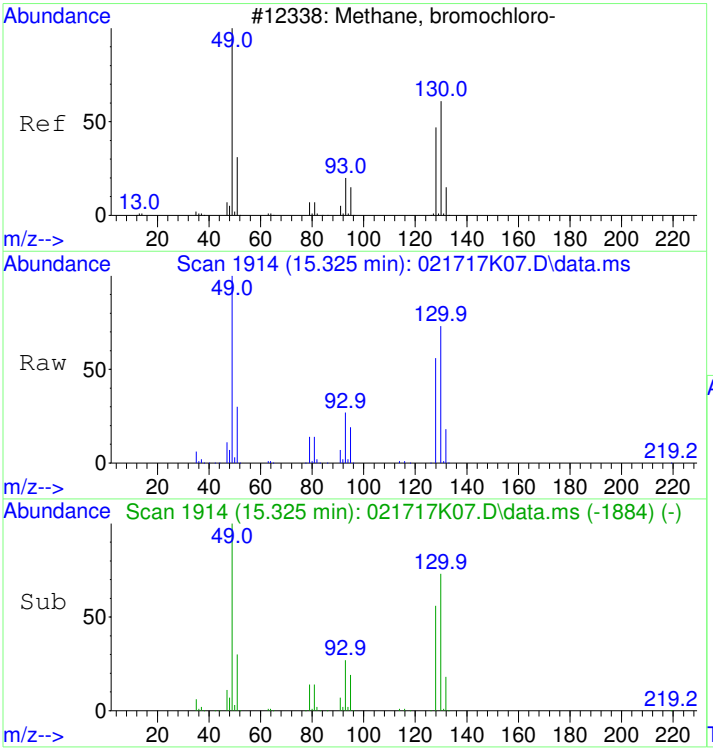
**REVIEWED**
**By LLH at 11:13 am, Feb 20, 2017**

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\021717K_FSAA\
Data File : 021717K07.D
InstName : HP5973K
Acq On : 17 Feb 2017 5:31 pm
Operator : LLH
Sample : CAN #896
Misc : 200ml RECERTIFICATION
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Feb 20 11:13:17 2017
Quant Method : D:\msdchem\1\2017\METHOD\020217K_TO15AA.M
Quant Title : TO15
QLast Update : Fri Feb 03 14:13:09 2017
Response via : Initial Calibration

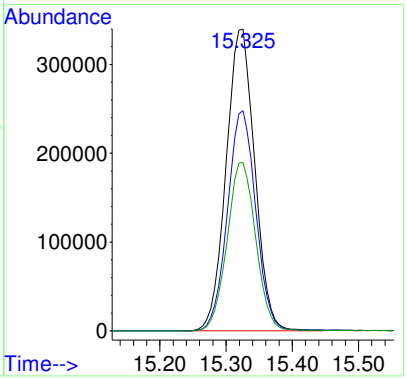


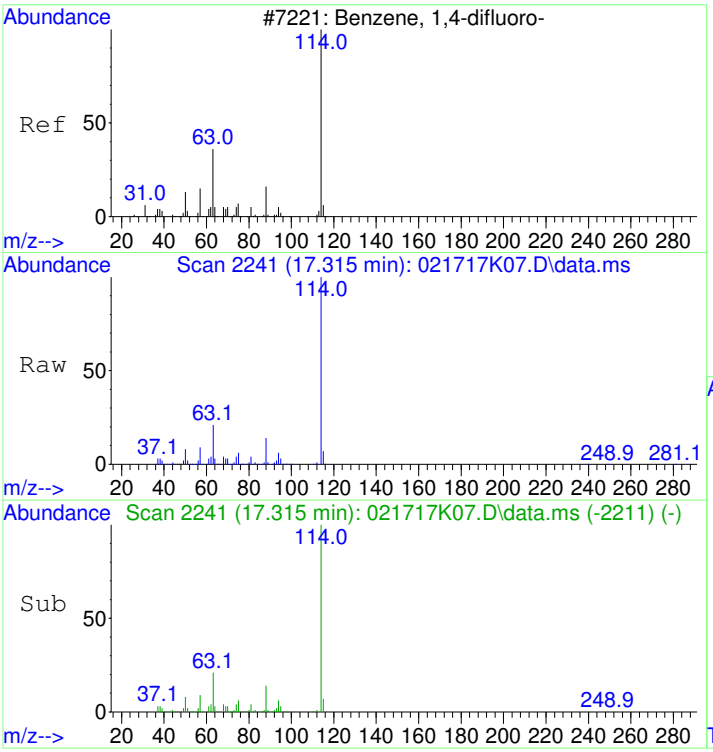



#1
BROMOCHLOROMETHANE
Concen: 19.60 ppbv
RT: 15.325 min Scan# 1914
Delta R.T. 0.006 min
Lab File: 021717K07.D
Acq: 17 Feb 2017 5:31 pm

Tgt Ion: 49 Resp: 1022653

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 130 | 72.3 | 53.9 | 93.9 |
| 128 | 55.8 | 37.0 | 77.0 |

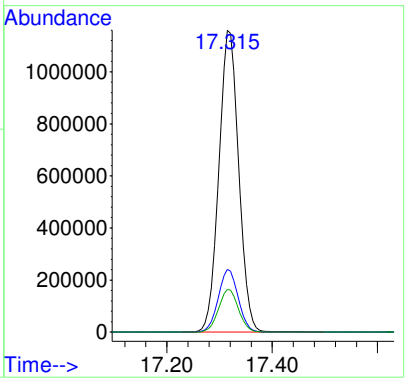


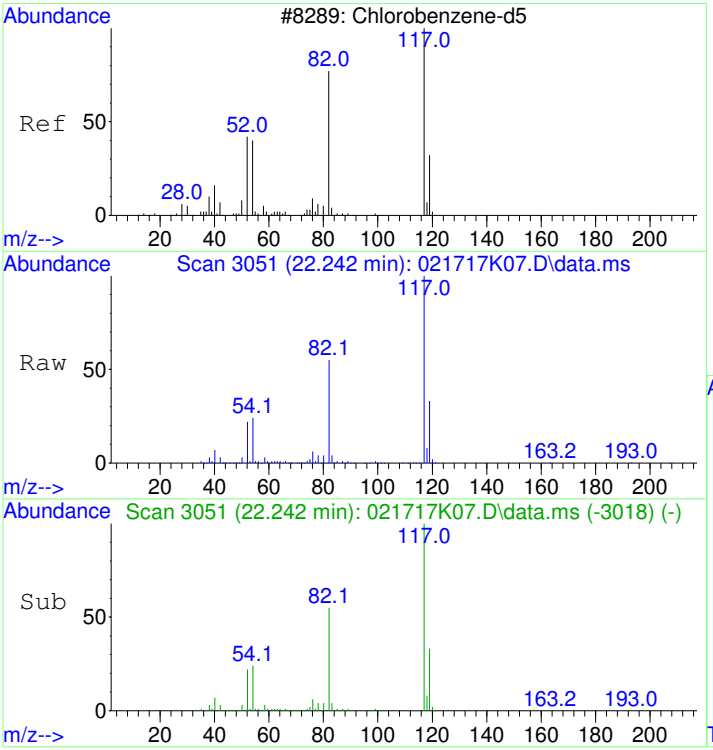




#32
1,4-DIFLUOROBENZENE
Concen: 19.80 ppbv
RT: 17.315 min Scan# 2241
Delta R.T. 0.000 min
Lab File: 021717K07.D
Acq: 17 Feb 2017 5:31 pm

Tgt Ion:114 Resp: 3032075

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 114 | 100 | | |
| 63 | 20.9 | 0.2 | 40.2 |
| 88 | 14.2 | 0.0 | 34.1 |

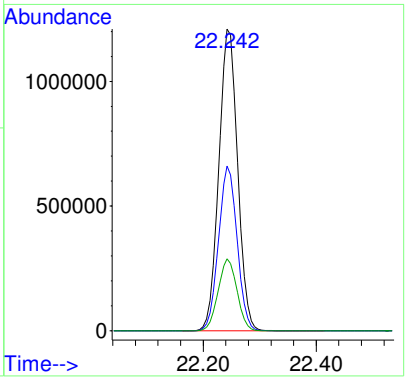





#43
CHLOROBENZENE-d5
Concen: 20.00 ppbv
RT: 22.242 min Scan# 3051
Delta R.T. 0.000 min
Lab File: 021717K07.D
Acq: 17 Feb 2017 5:31 pm

Tgt Ion:117 Resp: 2789945

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 117 | 100 | | |
| 82 | 54.1 | 33.4 | 73.4 |
| 54 | 24.0 | 2.4 | 42.4 |



# 1707040-07

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2017\DATA\021617K_FSAA\
Data File : 021617K12.D
InstName : HP5973K
Acq On : 16 Feb 2017 8:33 pm
Operator : LLH
Sample : CAN #1983
Misc : 200ml RECERTIFICATION
ALS Vial : 23 Sample Multiplier: 1

CLEAN

Quant Time: Feb 17 12:10:54 2017
Quant Method : D:\msdchem\1\2017\METHOD\020217K_TO15AA.M
Quant Title : TO15
QLast Update : Fri Feb 03 14:13:09 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| Internal Standards | | | | | |
| 1) BROMOCHLOROMETHANE | 15.319 | 49 | 1067966 | 19.60 ppbv | 0.00 |
| 32) 1,4-DIFLUOROBENZENE | 17.315 | 114 | 3221267 | 19.80 ppbv | 0.00 |
| 43) CHLOROBENZENE-d5 | 22.242 | 117 | 2935062 | 20.00 ppbv | 0.00 |

Target Compounds Qvalue

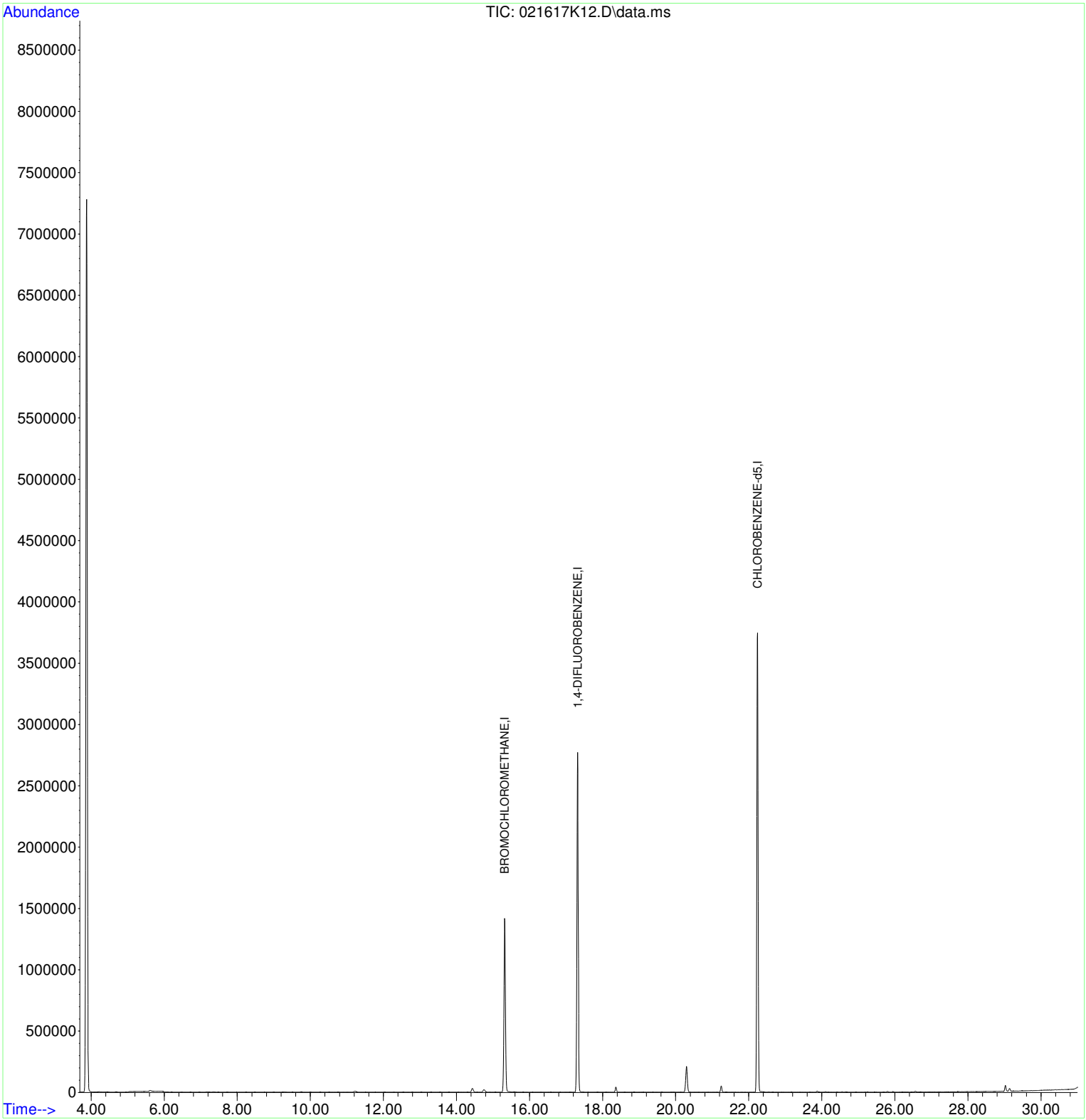
(#) = qualifier out of range (m) = manual integration (+) = signals summed

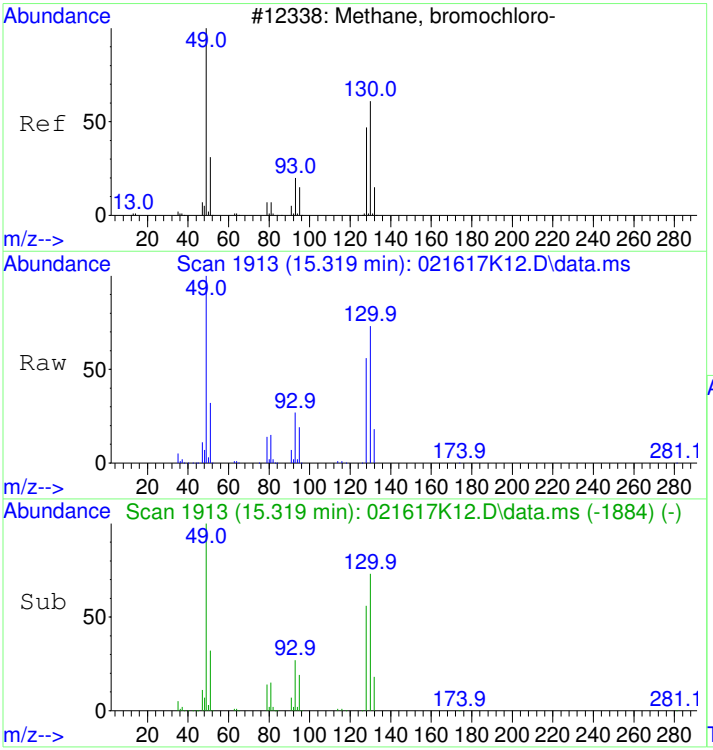
**REVIEWED**
**By LLH at 12:11 pm, Feb 17, 2017**

Table of Contents

Data Path : D:\msdchem\1\2017\DATA\021617K_FSAA\
Data File : 021617K12.D
InstName : HP5973K
Acq On : 16 Feb 2017 8:33 pm
Operator : LLH
Sample : CAN #1983
Misc : 200ml RECERTIFICATION
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Feb 17 12:10:54 2017
Quant Method : D:\msdchem\1\2017\METHOD\020217K_TO15AA.M
Quant Title : TO15
QLast Update : Fri Feb 03 14:13:09 2017
Response via : Initial Calibration

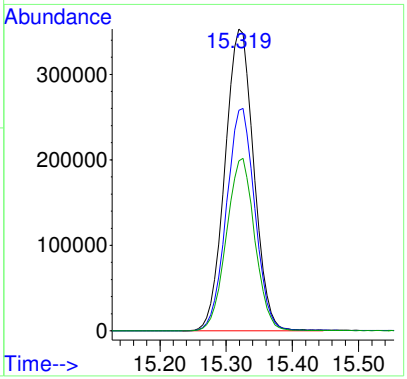


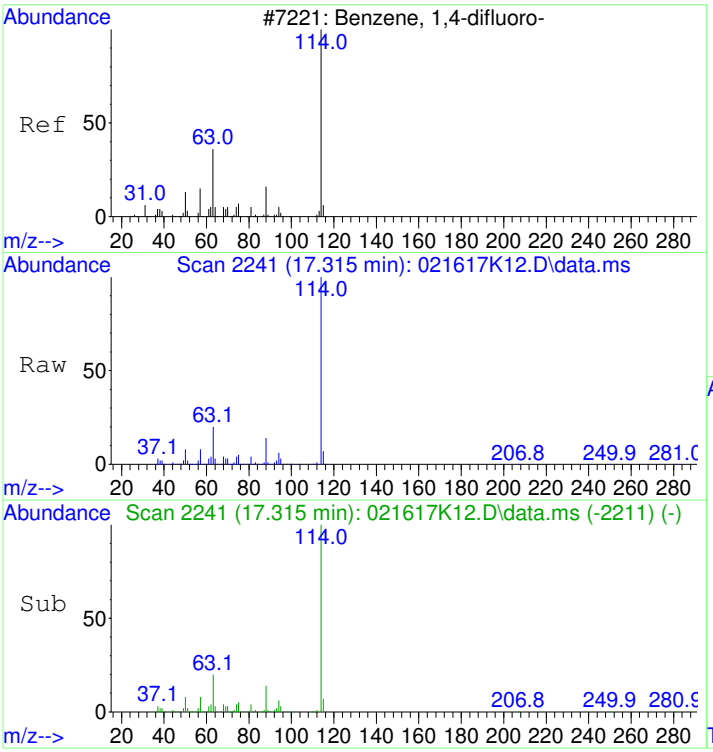



#1
BROMOCHLOROMETHANE
Concen: 19.60 ppbv
RT: 15.319 min Scan# 1913
Delta R.T. 0.000 min
Lab File: 021617K12.D
Acq: 16 Feb 2017 8:33 pm

Tgt Ion: 49 Resp: 1067966

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 130 | 72.7 | 53.9 | 93.9 |
| 128 | 56.3 | 37.0 | 77.0 |

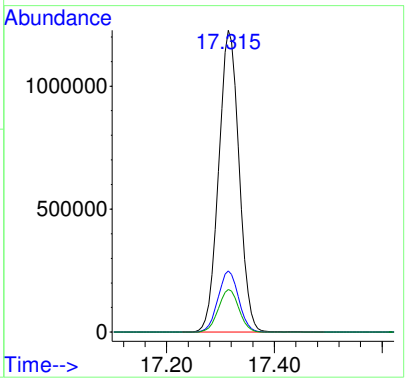


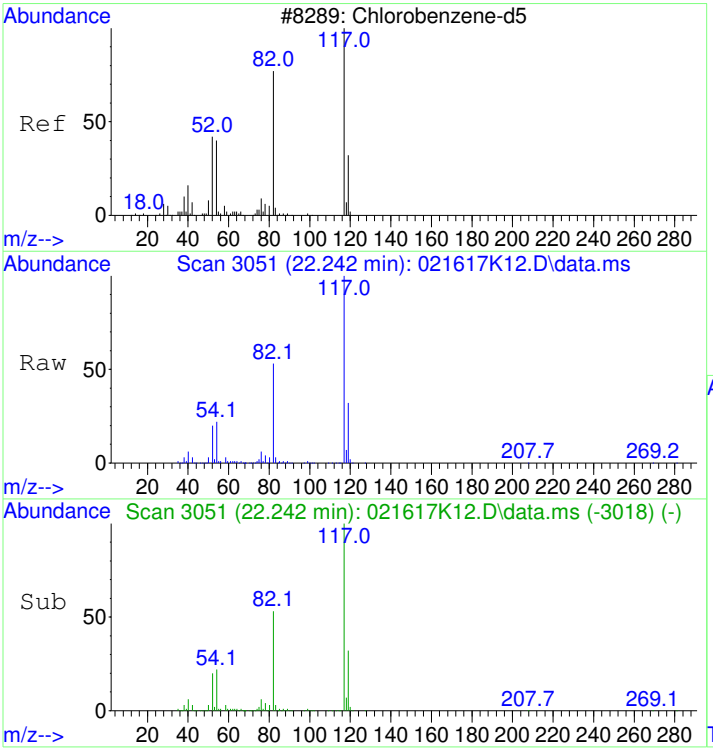




#32
1,4-DIFLUOROBENZENE
Concen: 19.80 ppbv
RT: 17.315 min Scan# 2241
Delta R.T. 0.000 min
Lab File: 021617K12.D
Acq: 16 Feb 2017 8:33 pm

Tgt Ion:114 Resp: 3221267

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 114 | 100 | | |
| 63 | 20.5 | 0.2 | 40.2 |
| 88 | 14.1 | 0.0 | 34.1 |

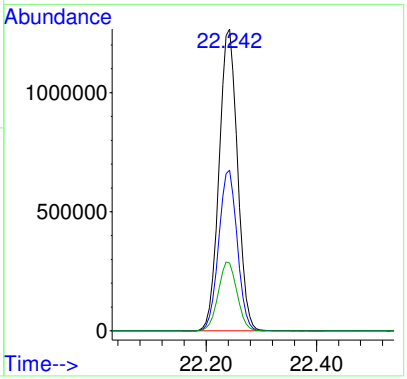





#43
CHLOROBENZENE-d5
Concen: 20.00 ppbv
RT: 22.242 min Scan# 3051
Delta R.T. 0.000 min
Lab File: 021617K12.D
Acq: 16 Feb 2017 8:33 pm

Tgt Ion:117 Resp: 2935062

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 117 | 100 | | |
| 82 | 53.6 | 33.4 | 73.4 |
| 54 | 23.3 | 2.4 | 42.4 |



THE LINDE GROUP

**SHIPPED TO:** USEPA Region 9
1337 S. 46th St. Bldg 201
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**PAGE:** 1 of 1

1538040

AU007498

## CERTIFICATE OF ANALYSIS

WH 9/15/15

| | | | |
|---|---|---|---|
| **Sales#:** | 113219488 | **Cylinder Size:** | 6A (3.2" X 9.4") |
| **Production#:** | 1350390 | **Cylinder # :** | LC-104244 |
| **Certification Date:** | Sep-01-2015 | **Cylinder Pressure:** | 1700 psig |
| **P.O.# :** | 104725-Restek | **Cylinder Valve:** | CGA 180 / Aluminum |
| **Blend Type:** | CERTIFIED | **Cylinder Volume:** | 0.8 Liter |
| **Material#:** | 24087971 | **Cylinder Material:** | Aluminum |
| **Traceability:** | NIST by weight | **Gas Volume:** | 98 Liters |
| **Expiration Date:** | Sep-01-2016 | **Blend Tolerance:** | 10% Relative |
| **Do NOT use under:** | 150 psig | **Analytical Accuracy:** | 10% Relative |
| **Part Number:** | 34424 | **NIST Traceable Certificate#:** | 15-54610 |

| COMPONENT | CAS NUMBER | REQUESTED CONC | CERTIFIED CONC |
|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 100 ppb | 107 ppb |
| Nitrogen | 7727-37-9 | Balance | Balance |

**ANALYST:** Lou Lorenzetti

**DATE:** Sep-01-2015

Linde Gas North America LLC

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# APPENDIX C.
# DOCUMENTATION OF EXTENDED USE

| | LIMS ID | Manu. Expiration Date | Reagent LIMS ID |
|---|---|---|---|
| Material, Expired | 1538040 | 09/01/16 | |
| Analysis: TO15 | SOP # 311 | Rev. 3 | |

| | | | |
|---|---|---|---|
| Analysis Date: | Instrument: | | Analyst: |
| Criteria: | | | |

| Analyte | Ave Response, Expired | Comparison (explain in criteria section) | Fail criteria? |
|---|---|---|---|
| | | | |
| * See attached | TIC page | for BFB | response |
| | | | |
| | | | |
| File ID (1) | | | |
| File ID (2) | | | |
| File ID (3) | | | |

Notes: Please refer to SOP 893 section 4.4 for extended use of BFB.

| Approval Signatures | Approve (Y/N) | Signature | Print Name |
|---|---|---|---|
| Group Leader/Supervisor | Y | | Ziyad Rajab |
| Technical Director | Y | | Richard Bauer |
| Lab QAO | Y | Barbara Bates | Barbara Bates |
| | | LAB QAO Signature Date | 9-27-2016 |

The use of this exact layout is not required; however, the form title must be used. Clarity of the criteria and notes are of particular importance for extended due to the variety of materials and their intended use.

Extended expiration date: 9/1/17

# Library Search Compound Report

Data Path : C:\msdchem\1\2016\data\083116_FSAA\
Data File : 083116N01.D
Acq On : 31 Aug 2016 10:26 am
Operator : LLH
Sample : S16H139-TUN1
Misc : BFB 1538040
ALS Vial : 31 Sample Multiplier: 1

Quant Method : C:\msdchem\1\2016\method\082516N_TO15AA.M
Quant Title : TO15

TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

**********
Peak Number 1 Benzene, 1-bromo-3-fluoro- Concentration Rank 1

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 24.173 | 13.18 ppbv | 5968750 | CHLOROBENZENE-d5 | 22.335 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Benzene, 1-bromo-3-fluoro- | 174 | C6H4BrF | 001073-06-9 | 95 |
| 2 | Benzene, 1-bromo-2-fluoro- | 174 | C6H4BrF | 001072-85-1 | 94 |
| 3 | Benzene, 1-bromo-2-fluoro- | 174 | C6H4BrF | 001072-85-1 | 94 |
| 4 | Benzene, 1-bromo-2-fluoro- | 174 | C6H4BrF | 001072-85-1 | 94 |
| 5 | p-Bromofluorobenzene | 174 | C6H4BrF | 000460-00-4 | 90 |

# Analytical Standard Record

## EPA Region 9 Laboratory

## 1538040

| | | | |
|---|---|---|---|
| **Description:** | TO/14A GC/MS Tuning Mix, Stock 100pp | **Expires:** | 09/01/17 |
| **Standard Type:** | Other Solution | **Prepared:** | 09/01/15 |
| **Solvent:** | Nitrogen | **Prepared By:** | Liza Hernandez |
| **Final Volume (mls):** | 104000 | **Department:** | Air |
| **Vials:** | 1 | **Last Edit:** | 09/28/16 09:39 by LLH |
| **Vendor:** | Linde Spectra | **Lot Numbe** | 1350390 |

Part #34424 Bar Code# AU007498 Cylinder # LC-104244
Do not use under 150psig.
Extended expiration date to 09/01/17 from the original exp date of 09/01/16. LLH 09/28/16

| Analyte | CAS Number | Concentration (ppm) |
|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 0.107 |

# Analytical Standard Record
## EPA Region 9 Laboratory
## 1639001

| | | | |
|---|---|---|---|
| **Description:** | TO-14A 39 Component Mix Standard | **Expires:** | 09/02/17 |
| **Standard Type:** | Other Solution | **Prepared:** | 09/02/16 |
| **Solvent:** | Nitrogen | **Prepared By:** | ** Vendor ** |
| **Final Volume (mls):** | 98000 | **Department:** | Air |
| **Vials:** | 1 | **Last Edit:** | 09/19/16 10:47 by LLH |
| **Vendor:** | Linde Spectra | **Lot Numb** | 1389094 |

Cylinder # AB-105715 39 component AU008424
Part # 34400

| Analyte | CAS Number | Concentration (ppm) |
|---|---|---|
| 1,2-Dibromoethane (EDB) | 106-93-4 | 1.1 |
| 1,1,1-Trichloroethane | 71-55-6 | 1.03 |
| Benzene | 71-43-2 | 1.07 |
| 1,4-Dichlorobenzene | 106-46-7 | 1.06 |
| 1,3-Dichlorobenzene | 541-73-1 | 1.05 |
| 1,3,5-Trimethylbenzene | 108-67-8 | 1.07 |
| 1,2-Dichlorotetrafluoroethane | 76-14-2 | 1.01 |
| 1,2-Dichloropropane | 78-87-5 | 1.07 |
| Carbon tetrachloride | 56-23-5 | 1.04 |
| 1,2-Dichlorobenzene | 95-50-1 | 1.04 |
| Chlorobenzene | 108-90-7 | 1.1 |
| 1,2,4-Trimethylbenzene | 95-63-6 | 1.06 |
| 1,2,4-Trichlorobenzene | 120-82-1 | 0.94 |
| 1,1-Dichloroethene | 75-35-4 | 1.03 |
| 1,1-Dichloroethane | 75-34-3 | 0.99 |
| 1,1,2-Trichloroethane | 79-00-5 | 1.09 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 0.94 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 1.05 |
| 1,2-Dichloroethane | 107-06-2 | 1.04 |
| Ethylbenzene | 100-41-4 | 1.09 |
| Trichlorofluoromethane | 75-69-4 | 1 |
| Trichloroethene | 79-01-6 | 1.1 |
| trans-1,3-Dichloropropene | 10061-02-6 | 0.97 |
| Toluene | 108-88-3 | 1.08 |
| Tetrachloroethene | 127-18-4 | 1.08 |
| Styrene | 100-42-5 | 1.03 |
| o-Xylene | 95-47-6 | 1.06 |
| Bromomethane | 74-83-9 | 1.07 |
| Hexachlorobutadiene | 87-68-3 | 0.99 |
| Vinyl chloride | 75-01-4 | 1.07 |

**Analytical Standard Record**

**EPA Region 9 Laboratory**

**1639001**

| | | |
|---|---|---|
| Dichloromethane | 75-09-2 | 0.97 |
| Dichlorodifluoromethane | 75-71-8 | 1.06 |
| cis-1,3-Dichloropropene | 10061-01-5 | 1.04 |
| cis-1,2-Dichloroethene | 156-59-2 | 1.04 |
| Chloromethane | 74-87-3 | 1.1 |
| Chloroform | 67-66-3 | 1.07 |
| Chloroethane | 75-00-3 | 1.05 |
| m&p-Xylene | 179601-23-1 | 2.16 |

SCAN PRIMARY AU008424 1639001

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Ultra/ultra

## CERTIFICATE OF ANALYSIS

| | | | |
|---|---|---|---|
| **Sales#:** | 114376313 | **Cylinder Size:** | 185 (3.2" X 9.4") |
| **Production#:** | 1389094 | **Cylinder # :** | AB-105715 |
| **Certification Date:** | Sep-02-2016 | **Cylinder Pressure:** | 1700 psig |
| **P.O.# :** | 113911-Restek | **Cylinder Valve:** | CGA 180 / Aluminum |
| **Blend Type:** | CERTIFIED | **Cylinder Volume:** | 0.8 Liter |
| **Material#:** | 24086371 | **Cylinder Material:** | Aluminum |
| **Traceability:** | NIST by weight | **Gas Volume:** | 98 Liters |
| **Expiration Date:** | Sep-02-2017 | **Blend Tolerance:** | 10% Relative |
| **Do NOT use under:** | 150 psig | **Analytical Accuracy:** | 5% Relative |
| **Part Number:** | 34400 | **NIST Traceable Certificate#:** | 16-57530 |

| COMPONENT | CAS NUMBER | REQUESTED CONC | CERTIFIED CONC |
|---|---|---|---|
| Freon-12 Dichlorodifluoromethane | 75-71-8 | 1.00 ppm | 1.06 ppm |
| Chloromethane | 74-87-3 | 1.00 ppm | 1.10 ppm |
| Freon-114 Dichlorotetrafluoromethane | 76-14-2 | 1.00 ppm | 1.01 ppm |
| Vinyl Chloride | 75-01-4 | 1.00 ppm | 1.07 ppm |
| Bromomethane | 74-83-9 | 1.00 ppm | 1.07 ppm |
| Chloroethane | 75-00-3 | 1.00 ppm | 1.05 ppm |
| Freon-11 Trichlorofluoromethane | 75-69-4 | 1.00 ppm | 1.00 ppm |
| 1,1-Dichloroethene | 75-35-4 | 1.00 ppm | 1.03 ppm |
| Methylene Chloride Dichloromethane | 75-09-2 | 1.00 ppm | 0.97 ppm |
| Freon-113 112-Trichloro-122-trifluoromethane | 76-13-1 | 1.00 ppm | 0.94 ppm |
| 1,1-Dichloroethane | 75-34-3 | 1.00 ppm | 0.99 ppm |
| Cis-1,2-Dichloroethylene | 156-59-2 | 1.00 ppm | 1.04 ppm |
| Chloroform | 67-66-3 | 1.00 ppm | 1.07 ppm |
| 1,2-Dichloroethane | 107-06-2 | 1.00 ppm | 1.04 ppm |
| 1,1,1-Trichloroethane | 71-55-6 | 1.00 ppm | 1.03 ppm |
| Benzene | 71-43-2 | 1.00 ppm | 1.07 ppm |
| Carbon Tetrachloride | 56-23-5 | 1.00 ppm | 1.04 ppm |
| 1,2-Dichloropropane | 78-87-5 | 1.00 ppm | 1.07 ppm |
| Trichloroethylene | 79-01-6 | 1.00 ppm | 1.10 ppm |
| Cis-1,3-Dichloropropene | 10061-01-5 | 1.00 ppm | 1.04 ppm |
| Trans-1,3-Dichloropropene | 10061-02-6 | 1.00 ppm | 0.97 ppm |
| 1,1,2-Trichloroethane | 79-00-5 | 1.00 ppm | 1.09 ppm |
| Toluene | 108-88-3 | 1.00 ppm | 1.08 ppm |
| 1,2-Dibromoethane EDB | 106-93-4 | 1.00 ppm | 1.10 ppm |
| Tetrachloroethylene | 127-18-4 | 1.00 ppm | 1.08 ppm |
| Chlorobenzene | 108-90-7 | 1.00 ppm | 1.10 ppm |
| Ethylbenzene | 100-41-4 | 1.00 ppm | 1.09 ppm |
| P-Xylene | 106-42-3 | 1.00 ppm | 1.08 ppm |

2.16

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163900 1

Linde

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**PAGE:** 2 of 2

## CERTIFICATE OF ANALYSIS

| | | | |
|---|---|---|---|
| **Sales#:** | 114376313 | **Cylinder Size:** | 185 (3.2" X 9.4") |
| **Production#:** | 1389094 | **Cylinder # :** | AB-105715 |
| **Certification Date:** | Sep-02-2016 | **Cylinder Pressure:** | 1700 psig |
| **P.O.# :** | 113911-Restek | **Cylinder Valve:** | CGA 180 / Aluminum |
| **Blend Type:** | CERTIFIED | **Cylinder Volume:** | 0.8 Liter |
| **Material#:** | 24086371 | **Cylinder Material:** | Aluminum |
| **Traceability:** | NIST by weight | **Gas Volume:** | 98 Liters |
| **Expiration Date:** | Sep-02-2017 | **Blend Tolerance:** | 10% Relative |
| **Do NOT use under:** | 150 psig | **Analytical Accuracy:** | 5% Relative |
| **Part Number:** | 34400 | **NIST Traceable Certificate#:** | 16-57530 |

| COMPONENT | CAS NUMBER | REQUESTED CONC | CERTIFIED CONC |
|---|---|---|---|
| M-Xylene | 108-38-3 | 1.00 ppm | 1.08 ppm |
| Styrene | 100-42-5 | 1.00 ppm | 1.03 ppm |
| O-Xylene | 95-47-6 | 1.00 ppm | 1.06 ppm |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 1.00 ppm | 1.05 ppm |
| 1,3,5-Trimethylbenzene | 108-67-8 | 1.00 ppm | 1.07 ppm |
| 1,2,4-Trimethylbenzene | 95-63-6 | 1.00 ppm | 1.06 ppm |
| 1,3-Dichlorobenzene | 541-73-1 | 1.00 ppm | 1.05 ppm |
| 1,4-Dichlorobenzene | 106-46-7 | 1.00 ppm | 1.06 ppm |
| 1,2-Dichlorobenzene | 95-50-1 | 1.00 ppm | 1.04 ppm |
| 1,2,4-Trichlorobenzene | 120-82-1 | 1.00 ppm | 0.94 ppm |
| Hexachloro-1,3-Butadiene | 87-68-3 | 1.00 ppm | 0.99 ppm |
| Nitrogen | 7727-37-9 | Balance | Balance |

Source Identification Number: 304354

**ANALYST:** Justin Kutz

**DATE:** Sep-02-2016

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LM 9/23/16

## CERTIFICATE OF ANALYSIS

| | | | |
|---|---|---|---|
| **Sales#:** | 114412305 | **Cylinder Size:** | 185 (3.2" X 9.4") |
| **Production#:** | 1390211 | **Cylinder # :** | AB-105850 |
| **Certification Date:** | Sep-13-2016 | **Cylinder Pressure:** | 1700 psig |
| **P.O.# :** | 114198-Restek | **Cylinder Valve:** | CGA 180 / Aluminum |
| **Blend Type:** | CERTIFIED | **Cylinder Volume:** | 0.8 Liter |
| **Material#:** | 24086373 | **Cylinder Material:** | Aluminum |
| **Traceability:** | NIST by weight | **Gas Volume:** | 98 Liters |
| **Expiration Date:** | Sep-13-2017 | **Blend Tolerance:** | 10% Relative |
| **Do NOT use under:** | 150 psig | **Analytical Accuracy:** | 5% Relative |
| **Part Number:** | 34434 | **NIST Traceable Certificate#:** | 16-57530 |

| COMPONENT | CAS NUMBER | REQUESTED CONC | CERTIFIED CONC |
|---|---|---|---|
| Propylene | 115-07-1 | 1.00 ppm | 1.10 ppm |
| 1,3-Butadiene | 106-99-0 | 1.00 ppm | 1.06 ppm |
| Vinyl Bromide Bromoethene | 593-60-2 | 1.00 ppm | 1.08 ppm |
| Acetone | 67-64-1 | 1.00 ppm | 1.10 ppm |
| Isopropyl Alcohol 2 Propanol | 67-63-0 | 1.00 ppm | 1.10 ppm |
| Carbon Disulfide (Analytical Accuracy ± 10%) | 75-15-0 | 1.00 ppm | 1.06 ppm |
| Allyl Chloride | 107-05-1 | 1.00 ppm | 1.10 ppm |
| Trans-1,2-Dichloroethene | 156-60-5 | 1.00 ppm | 1.10 ppm |
| Methyl Tert-Butyl Ether | 1634-04-4 | 1.00 ppm | 1.08 ppm |
| Vinyl Acetate | 108-05-4 | 1.00 ppm | 1.10 ppm |
| Methyl Ethyl Ketone 2-Butanone | 78-93-3 | 1.00 ppm | 1.08 ppm |
| n-Hexane | 110-54-3 | 1.00 ppm | 1.05 ppm |
| Ethyl Acetate | 141-78-6 | 1.00 ppm | 1.09 ppm |
| Tetrahydrofuran | 109-99-9 | 1.00 ppm | 1.05 ppm |
| Cyclohexane | 110-82-7 | 1.00 ppm | 1.07 ppm |
| Bromodichloromethane | 75-27-4 | 1.00 ppm | 1.04 ppm |
| 1,4-Dioxane | 123-91-1 | 1.00 ppm | 1.06 ppm |
| 2,2,4-Trimethylpentane | 540-84-1 | 1.00 ppm | 1.06 ppm |
| n-Heptane | 142-82-5 | 1.00 ppm | 1.07 ppm |
| Methyl Isobutyl Ketone 4-Methyl-2-pentanone | 108-10-1 | 1.00 ppm | 1.06 ppm |
| Methyl Butyl Ketone 2-Hexanone | 591-78-6 | 1.00 ppm | 1.05 ppm |
| Dibromochloromethane | 124-48-1 | 1.00 ppm | 1.07 ppm |
| Bromoform | 75-25-2 | 1.00 ppm | 1.07 ppm |

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**PAGE:** 2 of 2

## CERTIFICATE OF ANALYSIS

| | | | |
|---|---|---|---|
| **Sales#:** | 114412305 | **Cylinder Size:** | 185 (3.2" X 9.4") |
| **Production#:** | 1390211 | **Cylinder # :** | AB-105850 |
| **Certification Date:** | Sep-13-2016 | **Cylinder Pressure:** | 1700 psig |
| **P.O.# :** | 114198-Restek | **Cylinder Valve:** | CGA 180 / Aluminum |
| **Blend Type:** | CERTIFIED | **Cylinder Volume:** | 0.8 Liter |
| **Material#:** | 24086373 | **Cylinder Material:** | Aluminum |
| **Traceability:** | NIST by weight | **Gas Volume:** | 98 Liters |
| **Expiration Date:** | Sep-13-2017 | **Blend Tolerance:** | 10% Relative |
| **Do NOT use under:** | 150 psig | **Analytical Accuracy:** | 5% Relative |
| **Part Number:** | 34434 | **NIST Traceable Certificate#:** | 16-57530 |

| COMPONENT | CAS NUMBER | REQUESTED CONC | CERTIFIED CONC |
|---|---|---|---|
| 4-Ethyltoluene | 622-96-8 | 1.00 ppm | 1.04 ppm |
| Benzyl Chloride (Analytical Accuracy ± 10%) | 100-44-7 | 1.00 ppm | 1.10 ppm |
| Nitrogen | 7727-37-9 | Balance | Balance |

Source Identification Number: 304061

**ANALYST:** Lou Lorenzetti

**DATE:** Sep-13-2016

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# Analytical Standard Record

## EPA Region 9 Laboratory

## 1639114

| | | | |
|---|---|---|---|
| **Description:** | TO-15 25 Compound Subset Standard, 1pp | **Expires:** | 09/13/17 |
| **Standard Type:** | Other Solution | **Prepared:** | 09/13/16 |
| **Solvent:** | Nitrogen | **Prepared By:** | ** Vendor ** |
| **Final Volume (mls):** | 98000 | **Department:** | Air |
| **Vials:** | 1 | **Last Edit:** | 11/14/16 10:07 by EM |
| **Vendor:** | Linde Spectra | **Lot Numbe** | 1390211 |

Linde Spectra via Restek; Cylinder# AB-105850; Bar code: AU008489
Part #34434

| Analyte | CAS Number | Concentration (ppm) |
|---|---|---|
| Bromoform | 75-25-2 | 1.07 |
| 1,4-Dioxane | 123-91-1 | 1.06 |
| 2,2,4-Trimethylpentane | 540-84-1 | 1.06 |
| 2-Butanone (MEK) | 78-93-3 | 1.08 |
| 2-Hexanone | 591-78-6 | 1.05 |
| 2-Propanol | 67-63-0 | 1.1 |
| 4-Ethyltoluene | 622-96-8 | 1.04 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | 1.06 |
| Acetone | 67-64-1 | 1.1 |
| Allyl chloride | 107-05-1 | 1.1 |
| Benzyl chloride | 100-44-7 | 1.1 |
| 1,3-Butadiene | 106-99-0 | 1.06 |
| Bromoethene | 593-60-2 | 1.08 |
| Vinyl acetate | 108-05-4 | 1.1 |
| Carbon disulfide | 75-15-0 | 1.06 |
| Chlorodibromomethane | 124-48-1 | 1.07 |
| Cyclohexane | 110-82-7 | 1.07 |
| Ethyl acetate | 141-78-6 | 1.09 |
| Heptane | 142-82-5 | 1.07 |
| Hexane | 110-54-3 | 1.05 |
| Propene | 115-07-1 | 1.1 |
| tert-Butyl methyl ether (MTBE) | 1634-04-4 | 1.08 |
| Tetrahydrofuran | 109-99-9 | 1.05 |
| trans-1,2-Dichloroethene | 156-60-5 | 1.1 |
| Bromodichloromethane | 75-27-4 | 1.04 |

# Analytical Standard Record

## EPA Region 9 Laboratory

## 1639115

| | | | |
|---|---|---|---|
| **Description:** | TO-15 25 Compound Subset Standarc | **Expires:** | 09/13/17 |
| **Standard Type:** | Other Solution | **Prepared:** | 09/13/16 |
| **Solvent:** | Nitrogen | **Prepared By:** | ** Vendor ** |
| **Final Volume (mls):** | 98000 | **Department:** | Air |
| **Vials:** | 1 | **Last Edit:** | 09/23/16 11:42 by LLH |
| **Vendor:** | Linde Spectra | **Lot Numb** | 1390212 |

Linde/Spectra via Restek; Cylinder# AB-104709; Bar code: AU008490
Part # 34435 Material # 24087388

| Analyte | CAS Number | Concentration (ppm) |
|---|---|---|
| Bromoform | 75-25-2 | 0.108 |
| 1,4-Dioxane | 123-91-1 | 0.093 |
| 2,2,4-Trimethylpentane | 540-84-1 | 0.106 |
| 2-Butanone (MEK) | 78-93-3 | 0.107 |
| 2-Hexanone | 591-78-6 | 0.097 |
| 2-Propanol | 67-63-0 | 0.09 |
| 4-Ethyltoluene | 622-96-8 | 0.103 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | 0.101 |
| Acetone | 67-64-1 | 0.11 |
| Allyl chloride | 107-05-1 | 0.11 |
| Benzyl chloride | 100-44-7 | 0.103 |
| 1,3-Butadiene | 106-99-0 | 0.103 |
| Bromoethene | 593-60-2 | 0.104 |
| Vinyl acetate | 108-05-4 | 0.108 |
| Carbon disulfide | 75-15-0 | 0.107 |
| Chlorodibromomethane | 124-48-1 | 0.107 |
| Cyclohexane | 110-82-7 | 0.107 |
| Ethyl acetate | 141-78-6 | 0.107 |
| Heptane | 142-82-5 | 0.106 |
| Hexane | 110-54-3 | 0.105 |
| Propene | 115-07-1 | 0.11 |
| tert-Butyl methyl ether (MTBE) | 1634-04-4 | 0.107 |
| Tetrahydrofuran | 109-99-9 | 0.102 |
| trans-1,2-Dichloroethene | 156-60-5 | 0.11 |
| Bromodichloromethane | 75-27-4 | 0.106 |

SIM SUBSET SCV 1639115

THE LINDE GROUP M100 8490 Linde

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**PAGE:** 1 of 2

## CERTIFICATE OF ANALYSIS

| | | | |
|---|---|---|---|
| **Sales#:** | 114412275 | **Cylinder Size:** | 185 (3.2" X 9.4") |
| **Production#:** | 1390212 | **Cylinder # :** | AB-104709 |
| **Certification Date:** | Sep-13-2016 | **Cylinder Pressure:** | 1700 psig |
| **P.O.# :** | 114195-Restek | **Cylinder Valve:** | CGA 180 / Aluminum |
| **Blend Type:** | CERTIFIED | **Cylinder Volume:** | 0.8 Liter |
| **Material#:** | 24087388 | **Cylinder Material:** | Aluminum |
| **Traceability:** | NIST by weight | **Gas Volume:** | 98 Liters |
| **Expiration Date:** | Sep-13-2017 | **Blend Tolerance:** | 10% Relative |
| **Do NOT use under:** | 150 psig | **Analytical Accuracy:** | 10% Relative |
| **Part Number:** | 34435 | **NIST Traceable Certificate#:** | 16-57530 |

| COMPONENT | CAS NUMBER | REQUESTED CONC | CERTIFIED CONC |
|---|---|---|---|
| Propylene | 115-07-1 | 100 ppb | 110 ppb |
| 1,3-Butadiene | 106-99-0 | 100 ppb | 103 ppb |
| Vinyl Bromide Bromoethene | 593-60-2 | 100 ppb | 104 ppb |
| Acetone | 67-64-1 | 100 ppb | 110 ppb |
| Isopropyl Alcohol 2-Propanol | 67-63-0 | 100 ppb | 90 ppb |
| Carbon Disulfide (Analytical Accuracy ± 20%) | 75-15-0 | 100 ppb | 107 ppb |
| Allyl Chloride | 107-05-1 | 100 ppb | 110 ppb |
| Trans-1,2-Dichloroethene | 156-60-5 | 100 ppb | 110 ppb |
| Methyl Tert-Butyl Ether | 1634-04-4 | 100 ppb | 107 ppb |
| Vinyl Acetate | 108-05-4 | 100 ppb | 108 ppb |
| Methyl Ethyl Ketone 2-Butanone | 78-93-3 | 100 ppb | 107 ppb |
| n-Hexane | 110-54-3 | 100 ppb | 105 ppb |
| Ethyl Acetate | 141-78-6 | 100 ppb | 107 ppb |
| Tetrahydrofuran | 109-99-9 | 100 ppb | 102 ppb |
| Cyclohexane | 110-82-7 | 100 ppb | 107 ppb |
| Bromodichloromethane | 75-27-4 | 100 ppb | 106 ppb |
| 1,4-Dioxane | 123-91-1 | 100 ppb | 93 ppb |
| 2,2,4-Trimethylpentane | 540-84-1 | 100 ppb | 106 ppb |
| n-Heptane | 142-82-5 | 100 ppb | 106 ppb |
| Methyl Isobutyl Ketone 4-Methyl-2-Pentanone | 108-10-1 | 100 ppb | 101 ppb |
| Methyl Butyl Ketone 2-Hexanone | 591-78-6 | 100 ppb | 97 ppb |
| Dibromochloromethane | 124-48-1 | 100 ppb | 107 ppb |
| Bromoform | 75-25-2 | 100 ppb | 108 ppb |

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Richmond, CA 94804

**PAGE:** 2 of 2

## CERTIFICATE OF ANALYSIS

| | | | |
|---|---|---|---|
| **Sales#:** | 114412275 | **Cylinder Size:** | 185 (3.2" X 9.4") |
| **Production#:** | 1390212 | **Cylinder # :** | AB-104709 |
| **Certification Date:** | Sep-13-2016 | **Cylinder Pressure:** | 1700 psig |
| **P.O.# :** | 114195-Restek | **Cylinder Valve:** | CGA 180 / Aluminum |
| **Blend Type:** | CERTIFIED | **Cylinder Volume:** | 0.8 Liter |
| **Material#:** | 24087388 | **Cylinder Material:** | Aluminum |
| **Traceability:** | NIST by weight | **Gas Volume:** | 98 Liters |
| **Expiration Date:** | Sep-13-2017 | **Blend Tolerance:** | 10% Relative |
| **Do NOT use under:** | 150 psig | **Analytical Accuracy:** | 10% Relative |
| **Part Number:** | 34435 | **NIST Traceable Certificate#:** | 16-57530 |

| COMPONENT | CAS NUMBER | REQUESTED CONC | CERTIFIED CONC |
|---|---|---|---|
| 4-Ethyltoluene | 622-96-8 | 100 ppb | 103 ppb |
| Benzyl Chloride (Analytical Accuracy ± 20%) | 100-44-7 | 100 ppb | 103 ppb |
| Nitrogen | 7727-37-9 | Balance | Balance |

Source Identification Number: 303025

**ANALYST:** Lou Lorenzetti

**DATE:** Sep-13-2016

Linde Gas North America LLC

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an Air Liquide company

1705046

**Airgas Specialty Gases**
Airgas USA, LLC
6141 Easton Road
Bldg 1
Plumsteadville, PA 18949
Airgas.com

AU078841

# CERTIFICATE OF ANALYSIS

## Grade of Product: CERTIFIED STANDARD-SPEC

| | | | |
|---|---|---|---|
| Part Number: | X04NI99CA98C000 | Reference Number: | 160-400820971-1 |
| Cylinder Number: | ST0000167096 | Cylinder Volume: | 98.0 LG |
| Laboratory: | 124 - Plumsteadville - PA | Cylinder Pressure: | 1800 PSIG |
| Analysis Date: | Jan 12, 2017 | Valve Outlet: | 180 |
| Lot Number: | 160-400820971-1 | | |

**Expiration Date: Jan 12, 2018**

CH 01/31/17

Product composition verified by direct comparison to calibration standards traceable to N.I.S.T. weights and/or N.I.S.T. Gas Mixture reference materials.

## ANALYTICAL RESULTS

| Component | Req Conc | Actual Concentration (Mole %) | Analytical Uncertainty |
|---|---|---|---|
| 1,4 DIFLUOROBENZENE | 100.00 PPB | 98.00 PPB | +/- 10% |
| BROMOCHLOROMETHANE | 100.00 PPB | 99.00 PPB | +/- 10% |
| CHLOROBENZENE-D5 | 100.00 PPB | 98.00 PPB | +/- 10% |
| NITROGEN | Balance | | |

**Permanent Notes:** RESTEK P/N 26353

**Approved for Release**

# Analytical Standard Record

## EPA Region 9 Laboratory

## 1705046

| | | | |
|---|---|---|---|
| **Description:** | TO-14A Internal Standard Mix, Stock | **Expires:** | 01/12/18 |
| **Standard Type:** | Other Solution | **Prepared:** | 01/12/17 |
| **Solvent:** | Nitrogen | **Prepared By:** | ** Vendor ** |
| **Final Volume (mls):** | 98000 | **Department:** | Air |
| **Vials:** | 1 | **Last Edit:** | 03/23/17 10:37 by LLH |
| **Vendor:** | Scott/Air Liquide | **Lot Numb** | 160-40082097-1 |

Part # 26353, Cylinder #: ST0000167096 AU008841

| Analyte | CAS Number | Concentration (ppm) |
|---|---|---|
| Chlorobenzene-d5 | 3114-55-4 | 0.098 |
| Bromochloromethane | 74-97-5 | 0.099 |
| 1,4-Difluorobenzene | 540-36-3 | 0.098 |

# Analytical Standard Record

## EPA Region 9 Laboratory

## 1707044

| | | | |
|---|---|---|---|
| **Description:** | TO-14A Internal Standard Mix, Stock | **Expires:** | 01/26/18 |
| **Standard Type:** | Other Solution | **Prepared:** | 01/26/17 |
| **Solvent:** | Nitrogen | **Prepared By:** | ** Vendor ** |
| **Final Volume (mls):** | 110000 | **Department:** | Air |
| **Vials:** | 1 | **Last Edit:** | 02/13/17 13:25 by LLH |
| **Vendor:** | Scott/Air Liquide | **Lot Numb** | 160-400844159-1 |

Part # 26353, Cylinder #: ST0000167301 AU008897

| Analyte | CAS Number | Concentration (ppm) |
|---|---|---|
| Chlorobenzene-d5 | 3114-55-4 | 0.11 |
| Bromochloromethane | 74-97-5 | 0.11 |
| 1,4-Difluorobenzene | 540-36-3 | 0.1 |

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1Std 1707044

**Airgas Specialty Ga**
Airgas USA, LLC
6141 Easton Road
Bldg 1
Plumsteadville, PA 18949
Airgas.com

AU008897

# CERTIFICATE OF ANALYSIS

## Grade of Product: CERTIFIED STANDARD-SPEC

| | | | |
|---|---|---|---|
| Part Number: | X04NI99CA98C000 | Reference Number: | 160-400844159-1 |
| Cylinder Number: | ST0000167301 | Cylinder Volume: | 3.7 LG |
| Laboratory: | 124 - Plumsteadville - PA | Cylinder Pressure: | 1800 PSIG NO |
| Analysis Date: | Jan 26, 2017 | Valve Outlet: | 180 |
| Lot Number: | 160-400844159-1 | | |

**Expiration Date: Jan 26, 2018**

Product composition verified by direct comparison to calibration standards traceable to N.I.S.T. weights and/or N.I.S.T. Gas Mixture reference materials.

## ANALYTICAL RESULTS

| Component | Req Conc | Actual Concentration (Mole %) | Analytical Uncertainty |
|---|---|---|---|
| 1,4 DIFLUOROBENZENE | 100.00 PPB | 100.00 PPB | +/- 10% |
| BROMOCHLOROMETHANE | 100.00 PPB | 110.00 PPB | +/- 10% |
| CHLOROBENZENE-D5 | 100.00 PPB | 110.00 PPB | +/- 10% |
| NITROGEN | Balance | | |

**Permanent Notes:** RESTEK P/N 26353

Approved for Release

# Analytical Standard Record

## EPA Region 9 Laboratory

## 1719047

| | | | |
|---|---|---|---|
| **Description:** | TO-14A 39 Component Mix Standard | **Expires:** | 04/28/18 |
| **Standard Type:** | Analyte Spike | **Prepared:** | 04/28/17 |
| **Solvent:** | Nitrogen | **Prepared By:** | ** Vendor ** |
| **Final Volume (mls):** | 98000 | **Department:** | Air |
| **Vials:** | 1 | **Last Edit:** | 05/09/17 16:30 by LLH |
| **Vendor:** | Linde Spectra | **Lot Numb** | 1415285 |

Cylinder # AB-106486 39 component AU009149
CAT NO. 34421 LINDE

| Analyte | CAS Number | Concentration (ppm) |
|---|---|---|
| 1,2-Dibromoethane (EDB) | 106-93-4 | 0.11 |
| 1,1,1-Trichloroethane | 71-55-6 | 0.109 |
| Benzene | 71-43-2 | 0.11 |
| 1,4-Dichlorobenzene | 106-46-7 | 0.106 |
| 1,3-Dichlorobenzene | 541-73-1 | 0.105 |
| 1,3,5-Trimethylbenzene | 108-67-8 | 0.11 |
| 1,2-Dichlorotetrafluoroethane | 76-14-2 | 0.106 |
| 1,2-Dichloropropane | 78-87-5 | 0.11 |
| Carbon tetrachloride | 56-23-5 | 0.11 |
| 1,2-Dichlorobenzene | 95-50-1 | 0.103 |
| Chlorobenzene | 108-90-7 | 0.11 |
| 1,2,4-Trimethylbenzene | 95-63-6 | 0.105 |
| 1,2,4-Trichlorobenzene | 120-82-1 | 0.09 |
| 1,1-Dichloroethene | 75-35-4 | 0.109 |
| 1,1-Dichloroethane | 75-34-3 | 0.104 |
| 1,1,2-Trichloroethane | 79-00-5 | 0.11 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 0.099 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 0.11 |
| 1,2-Dichloroethane | 107-06-2 | 0.109 |
| Ethylbenzene | 100-41-4 | 0.11 |
| Trichlorofluoromethane | 75-69-4 | 0.101 |
| Trichloroethene | 79-01-6 | 0.11 |
| trans-1,3-Dichloropropene | 10061-02-6 | 0.11 |
| Toluene | 108-88-3 | 0.11 |
| Tetrachloroethene | 127-18-4 | 0.11 |
| Styrene | 100-42-5 | 0.106 |
| o-Xylene | 95-47-6 | 0.11 |
| Bromomethane | 74-83-9 | 0.11 |
| Hexachlorobutadiene | 87-68-3 | 0.09 |
| Vinyl chloride | 75-01-4 | 0.11 |

**Analytical Standard Record**

**EPA Region 9 Laboratory**

**1719047**

| | | |
|---|---|---|
| Dichloromethane | 75-09-2 | 0.103 |
| Dichlorodifluoromethane | 75-71-8 | 0.11 |
| cis-1,3-Dichloropropene | 10061-01-5 | 0.11 |
| cis-1,2-Dichloroethene | 156-59-2 | 0.11 |
| Chloromethane | 74-87-3 | 0.11 |
| Chloroform | 67-66-3 | 0.11 |
| Chloroethane | 75-00-3 | 0.11 |
| m&p-Xylene | 179601-23-1 | 0.22 |

SIM PRIMARY SCV AU009149 1719047

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**PAGE:** 1 of 2

WK05 | 09/17

## CERTIFICATE OF ANALYSIS

| | | | |
|---|---|---|---|
| **Sales#:** | 115135916 | **Cylinder Size:** | 185 (3.2" X 9.4") |
| **Production#:** | 1415285 | **Cylinder # :** | AB-106486 |
| **Certification Date:** | Apr-28-2017 | **Cylinder Pressure:** | 1700 psig |
| **P.O.# :** | 120488-Restek | **Cylinder Valve:** | CGA 180 / Aluminum |
| **Blend Type:** | CERTIFIED | **Cylinder Volume:** | 0.8 Liter |
| **Material#:** | 24087264 | **Cylinder Material:** | Aluminum |
| **Traceability:** | NIST by weight | **Gas Volume:** | 98 Liters |
| **Expiration Date:** | Apr-28-2018 | **Blend Tolerance:** | 10% Relative |
| **Do NOT use under:** | 150 psig | **Analytical Accuracy:** | 10% Relative |
| **Part Number:** | 34421 | **NIST Traceable Certificate#:** | 16-61708 |

| COMPONENT | CAS NUMBER | REQUESTED CONC | CERTIFIED CONC |
|---|---|---|---|
| Freon-12 Dichlorodifluoromethane | 75-71-8 | 100 ppb | 110 ppb |
| Chloromethane | 74-87-3 | 100 ppb | 110 ppb |
| Freon-114 Dichlorotetrafluoroethane | 76-14-2 | 100 ppb | 106 ppb |
| Vinyl Chloride | 75-01-4 | 100 ppb | 110 ppb |
| Bromomethane | 74-83-9 | 100 ppb | 110 ppb |
| Chloroethane | 75-00-3 | 100 ppb | 110 ppb |
| Freon-11 Trichlorofluoromethane | 75-69-4 | 100 ppb | 101 ppb |
| 1,1-Dichloroethene | 75-35-4 | 100 ppb | 109 ppb |
| Methylene Chloride | 75-09-2 | 100 ppb | 103 ppb |
| Freon-113 112-trichloro-122-trifluoro methane | 76-13-1 | 100 ppb | 99 ppb |
| 1,1-Dichloroethane | 75-34-3 | 100 ppb | 104 ppb |
| Cis-1,2-Dichloroethylene | 156-59-2 | 100 ppb | 110 ppb |
| Chloroform | 67-66-3 | 100 ppb | 110 ppb |
| 1,2-Dichloroethane | 107-06-2 | 100 ppb | 109 ppb |
| 1,1,1-Trichloroethane | 71-55-6 | 100 ppb | 109 ppb |
| Benzene | 71-43-2 | 100 ppb | 110 ppb |
| Carbon Tetrachloride | 56-23-5 | 100 ppb | 110 ppb |
| 1,2-Dichloropropane | 78-87-5 | 100 ppb | 110 ppb |
| Trichloroethylene | 79-01-6 | 100 ppb | 110 ppb |
| Cis-1,3-Dichloropropene | 10061-01-5 | 100 ppb | 110 ppb |
| Trans-1,3-Dichloropropene | 10061-02-6 | 100 ppb | 110 ppb |
| 1,1,2-Trichloroethane | 79-00-5 | 100 ppb | 110 ppb |
| Toluene | 108-88-3 | 100 ppb | 110 ppb |
| 1,2-Dibromoethane | 106-93-4 | 100 ppb | 110 ppb |
| Tetrachloroethylene | 127-18-4 | 100 ppb | 110 ppb |
| Chlorobenzene | 108-90-7 | 100 ppb | 110 ppb |
| Ethylbenzene | 100-41-4 | 100 ppb | 110 ppb |
| P-Xylene | 106-42-3 | 100 ppb | 110 ppb |

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**PAGE:** 2 of 2

## CERTIFICATE OF ANALYSIS

| | | | |
|---|---|---|---|
| **Sales#:** | 115135916 | **Cylinder Size:** | 185 (3.2" X 9.4") |
| **Production#:** | 1415285 | **Cylinder # :** | AB-106486 |
| **Certification Date:** | Apr-28-2017 | **Cylinder Pressure:** | 1700 psig |
| **P.O.# :** | 120488-Restek | **Cylinder Valve:** | CGA 180 / Aluminum |
| **Blend Type:** | CERTIFIED | **Cylinder Volume:** | 0.8 Liter |
| **Material#:** | 24087264 | **Cylinder Material:** | Aluminum |
| **Traceability:** | NIST by weight | **Gas Volume:** | 98 Liters |
| **Expiration Date:** | Apr-28-2018 | **Blend Tolerance:** | 10% Relative |
| **Do NOT use under:** | 150 psig | **Analytical Accuracy:** | 10% Relative |
| **Part Number:** | 34421 | **NIST Traceable Certificate#:** | 16-61708 |

| COMPONENT | CAS NUMBER | REQUESTED CONC | CERTIFIED CONC |
|---|---|---|---|
| M-Xylene | 108-38-3 | 100 ppb | 110 ppb |
| Styrene | 100-42-5 | 100 ppb | 106 ppb |
| O-Xylene | 95-47-6 | 100 ppb | 110 ppb |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 100 ppb | 110 ppb |
| 1,3,5-Trimethylbenzene | 108-67-8 | 100 ppb | 110 ppb |
| 1,2,4-Trimethylbenzene | 95-63-6 | 100 ppb | 105 ppb |
| 1,3-Dichlorobenzene | 541-73-1 | 100 ppb | 105 ppb |
| 1,4-Dichlorobenzene | 106-46-7 | 100 ppb | 106 ppb |
| 1,2-Dichlorobenzene | 95-50-1 | 100 ppb | 103 ppb |
| 1,2,4-Trichlorobenzene | 120-82-1 | 100 ppb | 90 ppb |
| Hexachloro-1,3-Butadiene | 87-68-3 | 100 ppb | 90 ppb |
| Nitrogen | 7727-37-9 | Balance | Balance |

Source Identification Number: 308296

**ANALYST:** Justin Kutz

**DATE:** Apr-28-2017

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# Analytical Standard Record
## EPA Region 9 Laboratory
## 1725117

| | | | |
|---|---|---|---|
| **Description:** | TO-15 SCV Std, 10 ppbv | **Expires:** | 07/21/17 |
| **Standard Type:** | Other Solution | **Prepared:** | 06/22/17 |
| **Solvent:** | Zero Grade Air | **Prepared By:** | Liza Hernandez |
| **Final Volume (mls):** | 2000 | **Department:** | Air |
| **Vials:** | 1 | **Last Edit:** | 06/22/17 15:13 by LLH |
| **Vendor:** | *Prepared* | **Lot Numb** | - |

| Analyte | CAS Number | Concentration (ppm) |
|---|---|---|
| 1,3-Butadiene | 106-99-0 | 0.0103 |
| Bromoethene | 593-60-2 | 0.0104 |
| Bromodichloromethane | 75-27-4 | 0.0106 |
| Benzyl chloride | 100-44-7 | 0.0103 |
| Benzene | 71-43-2 | 0.011 |
| Allyl chloride | 107-05-1 | 0.011 |
| Acetone | 67-64-1 | 0.011 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | 0.0101 |
| 4-Ethyltoluene | 622-96-8 | 0.0103 |
| 2-Propanol | 67-63-0 | 0.009 |
| 2-Hexanone | 591-78-6 | 0.0097 |
| 2-Butanone (MEK) | 78-93-3 | 0.0107 |
| 2,2,4-Trimethylpentane | 540-84-1 | 0.0106 |
| 1,4-Dioxane | 123-91-1 | 0.0093 |
| 1,1,1-Trichloroethane | 71-55-6 | 0.0109 |
| 1,2-Dibromoethane (EDB) | 106-93-4 | 0.011 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 0.011 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 0.0099 |
| 1,1,2-Trichloroethane | 79-00-5 | 0.011 |
| 1,1-Dichloroethane | 75-34-3 | 0.0104 |
| 1,1-Dichloroethene | 75-35-4 | 0.0109 |
| 1,4-Dichlorobenzene | 106-46-7 | 0.0106 |
| 1,2,4-Trimethylbenzene | 95-63-6 | 0.0105 |
| 1,3-Dichlorobenzene | 541-73-1 | 0.0105 |
| 1,2-Dichlorobenzene | 95-50-1 | 0.0103 |
| 1,2-Dichloroethane | 107-06-2 | 0.0109 |
| 1,2-Dichloropropane | 78-87-5 | 0.011 |
| 1,2-Dichlorotetrafluoroethane | 76-14-2 | 0.0106 |
| 1,3,5-Trimethylbenzene | 108-67-8 | 0.011 |
| Carbon disulfide | 75-15-0 | 0.0107 |

# Analytical Standard Record
## EPA Region 9 Laboratory
## 1725117

| | | |
|---|---|---|
| 1,2,4-Trichlorobenzene | 120-82-1 | 0.009 |
| Tetrahydrofuran | 109-99-9 | 0.0102 |
| Bromoform | 75-25-2 | 0.0108 |
| m&p-Xylene | 179601-23-1 | 0.022 |
| o-Xylene | 95-47-6 | 0.011 |
| Propene | 115-07-1 | 0.011 |
| Styrene | 100-42-5 | 0.0106 |
| Hexachlorobutadiene | 87-68-3 | 0.009 |
| Tetrachloroethene | 127-18-4 | 0.011 |
| Heptane | 142-82-5 | 0.0106 |
| Toluene | 108-88-3 | 0.011 |
| trans-1,2-Dichloroethene | 156-60-5 | 0.011 |
| trans-1,3-Dichloropropene | 10061-02-6 | 0.011 |
| Trichloroethene | 79-01-6 | 0.011 |
| Trichlorofluoromethane | 75-69-4 | 0.0101 |
| Vinyl acetate | 108-05-4 | 0.0108 |
| tert-Butyl methyl ether (MTBE) | 1634-04-4 | 0.0107 |
| cis-1,2-Dichloroethene | 156-59-2 | 0.011 |
| Vinyl chloride | 75-01-4 | 0.011 |
| Carbon tetrachloride | 56-23-5 | 0.011 |
| Chlorobenzene | 108-90-7 | 0.011 |
| Chlorodibromomethane | 124-48-1 | 0.0107 |
| Chloroethane | 75-00-3 | 0.011 |
| Hexane | 110-54-3 | 0.0105 |
| Chloromethane | 74-87-3 | 0.011 |
| Bromomethane | 74-83-9 | 0.011 |
| cis-1,3-Dichloropropene | 10061-01-5 | 0.011 |
| Cyclohexane | 110-82-7 | 0.0107 |
| Dichlorodifluoromethane | 75-71-8 | 0.011 |
| Dichloromethane | 75-09-2 | 0.0103 |
| Ethyl acetate | 141-78-6 | 0.0107 |
| Ethylbenzene | 100-41-4 | 0.011 |
| Chloroform | 67-66-3 | 0.011 |

**Parent Standards used in this standard:**

| Standard | Description | Prepared | Prepared By | Expires | Last Edit | (mls) |
|---|---|---|---|---|---|---|
| 1719047 | TO-14A 39 Component Mix Stand | 04/28/17 | ** Vendor ** | 04/28/18 | 05/09/17 16:30 by LLH | 200 |
| 1639115 | TO-15 25 Compound Subset Stand | 09/13/16 | ** Vendor ** | 09/13/17 | 09/23/16 11:42 by LLH | 200 |

# Analytical Standard Record
## EPA Region 9 Laboratory
## 1727029

| | | | |
|---|---|---|---|
| **Description:** | TO-15 LOW Std, 10 ppbv | **Expires:** | 08/02/17 |
| **Standard Type:** | Other Solution | **Prepared:** | 07/03/17 |
| **Solvent:** | Zero Grade Air | **Prepared By:** | Liza Hernandez |
| **Final Volume (mls):** | 2500 | **Department:** | Air |
| **Vials:** | 2 | **Last Edit:** | 07/03/17 13:14 by LLH |
| **Vendor:** | *Prepared* | **Lot Numb** | - |

| Analyte | CAS Number | Concentration (ppm) |
|---|---|---|
| 1,3-Butadiene | 106-99-0 | 0.0106 |
| Bromoethene | 593-60-2 | 0.0108 |
| Bromodichloromethane | 75-27-4 | 0.0104 |
| Benzyl chloride | 100-44-7 | 0.011 |
| Benzene | 71-43-2 | 0.0107 |
| Allyl chloride | 107-05-1 | 0.011 |
| Acetone | 67-64-1 | 0.011 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | 0.0106 |
| 4-Ethyltoluene | 622-96-8 | 0.0104 |
| 2-Propanol | 67-63-0 | 0.011 |
| 2-Hexanone | 591-78-6 | 0.0105 |
| 2-Butanone (MEK) | 78-93-3 | 0.0108 |
| 2,2,4-Trimethylpentane | 540-84-1 | 0.0106 |
| 1,4-Dioxane | 123-91-1 | 0.0106 |
| 1,1,1-Trichloroethane | 71-55-6 | 0.0103 |
| 1,2-Dibromoethane (EDB) | 106-93-4 | 0.011 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 0.0105 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 0.0094 |
| 1,1,2-Trichloroethane | 79-00-5 | 0.0109 |
| 1,1-Dichloroethane | 75-34-3 | 0.0099 |
| 1,1-Dichloroethene | 75-35-4 | 0.0103 |
| 1,4-Dichlorobenzene | 106-46-7 | 0.0106 |
| 1,2,4-Trimethylbenzene | 95-63-6 | 0.0106 |
| 1,3-Dichlorobenzene | 541-73-1 | 0.0105 |
| 1,2-Dichlorobenzene | 95-50-1 | 0.0104 |
| 1,2-Dichloroethane | 107-06-2 | 0.0104 |
| 1,2-Dichloropropane | 78-87-5 | 0.0107 |
| 1,2-Dichlorotetrafluoroethane | 76-14-2 | 0.0101 |
| 1,3,5-Trimethylbenzene | 108-67-8 | 0.0107 |
| Carbon disulfide | 75-15-0 | 0.0106 |

# Analytical Standard Record
## EPA Region 9 Laboratory
## 1727029

| | | |
|---|---|---|
| 1,2,4-Trichlorobenzene | 120-82-1 | 0.0094 |
| Tetrahydrofuran | 109-99-9 | 0.0105 |
| Bromoform | 75-25-2 | 0.0107 |
| m&p-Xylene | 179601-23-1 | 0.0216 |
| o-Xylene | 95-47-6 | 0.0106 |
| Propene | 115-07-1 | 0.011 |
| Styrene | 100-42-5 | 0.0103 |
| Hexachlorobutadiene | 87-68-3 | 0.0099 |
| Tetrachloroethene | 127-18-4 | 0.0108 |
| Heptane | 142-82-5 | 0.0107 |
| Toluene | 108-88-3 | 0.0108 |
| trans-1,2-Dichloroethene | 156-60-5 | 0.011 |
| trans-1,3-Dichloropropene | 10061-02-6 | 0.0097 |
| Trichloroethene | 79-01-6 | 0.011 |
| Trichlorofluoromethane | 75-69-4 | 0.01 |
| Vinyl acetate | 108-05-4 | 0.011 |
| tert-Butyl methyl ether (MTBE) | 1634-04-4 | 0.0108 |
| cis-1,2-Dichloroethene | 156-59-2 | 0.0104 |
| Vinyl chloride | 75-01-4 | 0.0107 |
| Carbon tetrachloride | 56-23-5 | 0.0104 |
| Chlorobenzene | 108-90-7 | 0.011 |
| Chlorodibromomethane | 124-48-1 | 0.0107 |
| Chloroethane | 75-00-3 | 0.0105 |
| Hexane | 110-54-3 | 0.0105 |
| Chloromethane | 74-87-3 | 0.011 |
| Bromomethane | 74-83-9 | 0.0107 |
| cis-1,3-Dichloropropene | 10061-01-5 | 0.0104 |
| Cyclohexane | 110-82-7 | 0.0107 |
| Dichlorodifluoromethane | 75-71-8 | 0.0106 |
| Dichloromethane | 75-09-2 | 0.0097 |
| Ethyl acetate | 141-78-6 | 0.0109 |
| Ethylbenzene | 100-41-4 | 0.0109 |
| Chloroform | 67-66-3 | 0.0107 |

**Parent Standards used in this standard:**

| Standard | Description | Prepared | Prepared By | Expires | Last Edit | (mls) |
|---|---|---|---|---|---|---|
| 1639001 | TO-14A 39 Component Mix Stand | 09/02/16 | ** Vendor ** | 09/02/17 | 09/19/16 10:47 by LLH | 25 |
| 1639114 | TO-15 25 Compound Subset Stand | 09/13/16 | ** Vendor ** | 09/13/17 | 11/14/16 10:07 by EM | 25 |

# Analytical Standard Record
## EPA Region 9 Laboratory
## 1727030

| | | | |
|---|---|---|---|
| **Description:** | TO-15 CAL Std, 20 ppbv | **Expires:** | 08/02/17 |
| **Standard Type:** | Analyte Spike | **Prepared:** | 07/03/17 |
| **Solvent:** | Zero Grade Air | **Prepared By:** | Liza Hernandez |
| **Final Volume (mls):** | 2500 | **Department:** | Air |
| **Vials:** | 2 | **Last Edit:** | 07/03/17 13:15 by LLH |
| **Vendor:** | *Prepared* | **Lot Numb** | - |

| Analyte | CAS Number | Concentration (ppm) |
|---|---|---|
| 1,3-Butadiene | 106-99-0 | 0.0212 |
| Bromoethene | 593-60-2 | 0.0216 |
| Bromodichloromethane | 75-27-4 | 0.0208 |
| Benzyl chloride | 100-44-7 | 0.022 |
| Benzene | 71-43-2 | 0.0214 |
| Allyl chloride | 107-05-1 | 0.022 |
| Acetone | 67-64-1 | 0.022 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | 0.0212 |
| 4-Ethyltoluene | 622-96-8 | 0.0208 |
| 2-Propanol | 67-63-0 | 0.022 |
| 2-Hexanone | 591-78-6 | 0.021 |
| 2-Butanone (MEK) | 78-93-3 | 0.0216 |
| 2,2,4-Trimethylpentane | 540-84-1 | 0.0212 |
| 1,4-Dioxane | 123-91-1 | 0.0212 |
| 1,1,1-Trichloroethane | 71-55-6 | 0.0206 |
| 1,2-Dibromoethane (EDB) | 106-93-4 | 0.022 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 0.021 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 0.0188 |
| 1,1,2-Trichloroethane | 79-00-5 | 0.0218 |
| 1,1-Dichloroethane | 75-34-3 | 0.0198 |
| 1,1-Dichloroethene | 75-35-4 | 0.0206 |
| 1,4-Dichlorobenzene | 106-46-7 | 0.0212 |
| 1,2,4-Trimethylbenzene | 95-63-6 | 0.0212 |
| 1,3-Dichlorobenzene | 541-73-1 | 0.021 |
| 1,2-Dichlorobenzene | 95-50-1 | 0.0208 |
| 1,2-Dichloroethane | 107-06-2 | 0.0208 |
| 1,2-Dichloropropane | 78-87-5 | 0.0214 |
| 1,2-Dichlorotetrafluoroethane | 76-14-2 | 0.0202 |
| 1,3,5-Trimethylbenzene | 108-67-8 | 0.0214 |
| Carbon disulfide | 75-15-0 | 0.0212 |

# Analytical Standard Record
## EPA Region 9 Laboratory
## 1727030

| | | |
|---|---|---|
| 1,2,4-Trichlorobenzene | 120-82-1 | 0.0188 |
| Tetrahydrofuran | 109-99-9 | 0.021 |
| Bromoform | 75-25-2 | 0.0214 |
| m&p-Xylene | 179601-23-1 | 0.0432 |
| o-Xylene | 95-47-6 | 0.0212 |
| Propene | 115-07-1 | 0.022 |
| Styrene | 100-42-5 | 0.0206 |
| Hexachlorobutadiene | 87-68-3 | 0.0198 |
| Tetrachloroethene | 127-18-4 | 0.0216 |
| Heptane | 142-82-5 | 0.0214 |
| Toluene | 108-88-3 | 0.0216 |
| trans-1,2-Dichloroethene | 156-60-5 | 0.022 |
| trans-1,3-Dichloropropene | 10061-02-6 | 0.0194 |
| Trichloroethene | 79-01-6 | 0.022 |
| Trichlorofluoromethane | 75-69-4 | 0.02 |
| Vinyl acetate | 108-05-4 | 0.022 |
| tert-Butyl methyl ether (MTBE) | 1634-04-4 | 0.0216 |
| cis-1,2-Dichloroethene | 156-59-2 | 0.0208 |
| Vinyl chloride | 75-01-4 | 0.0214 |
| Carbon tetrachloride | 56-23-5 | 0.0208 |
| Chlorobenzene | 108-90-7 | 0.022 |
| Chlorodibromomethane | 124-48-1 | 0.0214 |
| Chloroethane | 75-00-3 | 0.021 |
| Hexane | 110-54-3 | 0.021 |
| Chloromethane | 74-87-3 | 0.022 |
| Bromomethane | 74-83-9 | 0.0214 |
| cis-1,3-Dichloropropene | 10061-01-5 | 0.0208 |
| Cyclohexane | 110-82-7 | 0.0214 |
| Dichlorodifluoromethane | 75-71-8 | 0.0212 |
| Dichloromethane | 75-09-2 | 0.0194 |
| Ethyl acetate | 141-78-6 | 0.0218 |
| Ethylbenzene | 100-41-4 | 0.0218 |
| Chloroform | 67-66-3 | 0.0214 |

**Parent Standards used in this standard:**

| Standard | Description | Prepared | Prepared By | Expires | Last Edit | (mls) |
|---|---|---|---|---|---|---|
| 1639001 | TO-14A 39 Component Mix Stand | 09/02/16 | ** Vendor ** | 09/02/17 | 09/19/16 10:47 by LLH | 50 |
| 1639114 | TO-15 25 Compound Subset Stand | 09/13/16 | ** Vendor ** | 09/13/17 | 11/14/16 10:07 by EM | 50 |

# Analytical Standard Record
## EPA Region 9 Laboratory
## 1727058

| | | | |
|---|---|---|---|
| **Description:** | TO-15 LCS 10 ppbv (VIRTUAL) | **Expires:** | 08/02/17 |
| **Standard Type:** | Analyte Spike | **Prepared:** | 07/05/17 |
| **Solvent:** | Zero Grade Air | **Prepared By:** | Liza Hernandez |
| **Final Volume (mls):** | 200 | **Department:** | Air |
| **Vials:** | 1 | **Last Edit:** | 07/05/17 09:14 by LLH |
| **Vendor:** | *Prepared* | **Lot Numb** | - |

| Analyte | CAS Number | Concentration (ppm) |
|---|---|---|
| Acetone | 67-64-1 | 0.022 |
| 1,4-Dioxane | 123-91-1 | 0.0212 |
| 2,2,4-Trimethylpentane | 540-84-1 | 0.0212 |
| 2-Butanone (MEK) | 78-93-3 | 0.0216 |
| 2-Hexanone | 591-78-6 | 0.021 |
| 2-Propanol | 67-63-0 | 0.022 |
| Bromoform | 75-25-2 | 0.0214 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | 0.0212 |
| 1,3-Dichlorobenzene | 541-73-1 | 0.021 |
| Allyl chloride | 107-05-1 | 0.022 |
| Benzene | 71-43-2 | 0.0214 |
| Benzyl chloride | 100-44-7 | 0.022 |
| Bromochloromethane | 74-97-5 | 0.022 |
| Bromodichloromethane | 75-27-4 | 0.0208 |
| 1,1,1-Trichloroethane | 71-55-6 | 0.0206 |
| 4-Ethyltoluene | 622-96-8 | 0.0208 |
| 1,2-Dichlorobenzene | 95-50-1 | 0.0208 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 0.021 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 0.0188 |
| 1,1,2-Trichloroethane | 79-00-5 | 0.0218 |
| 1,1-Dichloroethane | 75-34-3 | 0.0198 |
| 1,1-Dichloroethene | 75-35-4 | 0.0206 |
| 1,2,4-Trichlorobenzene | 120-82-1 | 0.0188 |
| 1,4-Difluorobenzene | 540-36-3 | 0.02 |
| 1,2-Dibromoethane (EDB) | 106-93-4 | 0.022 |
| 1,4-Dichlorobenzene | 106-46-7 | 0.0212 |
| 1,2-Dichloroethane | 107-06-2 | 0.0208 |
| 1,2-Dichloropropane | 78-87-5 | 0.0214 |
| 1,2-Dichlorotetrafluoroethane | 76-14-2 | 0.0202 |
| 1,3,5-Trimethylbenzene | 108-67-8 | 0.0214 |

**Analytical Standard Record**

**EPA Region 9 Laboratory**

**1727058**

| | | |
|---|---|---|
| 1,3-Butadiene | 106-99-0 | 0.0212 |
| Bromomethane | 74-83-9 | 0.0214 |
| 1,2,4-Trimethylbenzene | 95-63-6 | 0.0212 |
| Tetrahydrofuran | 109-99-9 | 0.021 |
| Hexane | 110-54-3 | 0.021 |
| m&p-Xylene | 179601-23-1 | 0.0432 |
| o-Xylene | 95-47-6 | 0.0212 |
| Propene | 115-07-1 | 0.022 |
| Styrene | 100-42-5 | 0.0206 |
| Bromoethene | 593-60-2 | 0.0216 |
| Tetrachloroethene | 127-18-4 | 0.0216 |
| Ethylbenzene | 100-41-4 | 0.0218 |
| Toluene | 108-88-3 | 0.0216 |
| trans-1,2-Dichloroethene | 156-60-5 | 0.022 |
| trans-1,3-Dichloropropene | 10061-02-6 | 0.0194 |
| Trichloroethene | 79-01-6 | 0.022 |
| Trichlorofluoromethane | 75-69-4 | 0.02 |
| Vinyl acetate | 108-05-4 | 0.022 |
| tert-Butyl methyl ether (MTBE) | 1634-04-4 | 0.0216 |
| cis-1,2-Dichloroethene | 156-59-2 | 0.0208 |
| Carbon disulfide | 75-15-0 | 0.0212 |
| Carbon tetrachloride | 56-23-5 | 0.0208 |
| Chlorobenzene | 108-90-7 | 0.022 |
| Chlorobenzene-d5 | 3114-55-4 | 0.022 |
| Chlorodibromomethane | 124-48-1 | 0.0214 |
| Chloroethane | 75-00-3 | 0.021 |
| Hexachlorobutadiene | 87-68-3 | 0.0198 |
| Chloromethane | 74-87-3 | 0.022 |
| Heptane | 142-82-5 | 0.0214 |
| cis-1,3-Dichloropropene | 10061-01-5 | 0.0208 |
| Cyclohexane | 110-82-7 | 0.0214 |
| Dichlorodifluoromethane | 75-71-8 | 0.0212 |
| Dichloromethane | 75-09-2 | 0.0194 |
| Ethyl acetate | 141-78-6 | 0.0218 |
| Vinyl chloride | 75-01-4 | 0.0214 |
| Chloroform | 67-66-3 | 0.0214 |

# Analytical Standard Record

## EPA Region 9 Laboratory

## 1727058

**Parent Standards used in this standard:**

| Standard | Description | Prepared | Prepared By | Expires | Last Edit | (mls) |
|---|---|---|---|---|---|---|
| 1707044 | TO-14A Internal Standard Mix, Sto | 01/26/17 | ** Vendor ** | 01/26/18 | 02/13/17 13:25 by LLH | 40 |
| 1727030 | TO-15 CAL Std, 20 ppbv | 07/03/17 | Liza Hernandez | 08/02/17 | 07/03/17 13:15 by LLH | 200 |

# Analytical Standard Record

## EPA Region 9 Laboratory

## 1729073

| | | | |
|---|---|---|---|
| **Description:** | TO-15 CAL1 1.0 ppbv (VIRTUAL) - | **Expires:** | 08/02/17 |
| **Standard Type:** | Other Solution | **Prepared:** | 07/19/17 |
| **Solvent:** | Zero Grade Air | **Prepared By:** | Liza Hernandez |
| **Final Volume (mls):** | 200 | **Department:** | Air |
| **Vials:** | 1 | **Last Edit:** | 07/19/17 16:03 by LLH |
| **Vendor:** | *Prepared* | **Lot Numb** | - |

| Analyte | CAS Number | Concentration (ppm) |
|---|---|---|
| Acetone | 67-64-1 | 0.0011 |
| 1,4-Dioxane | 123-91-1 | 0.00106 |
| 2,2,4-Trimethylpentane | 540-84-1 | 0.00106 |
| 2-Butanone (MEK) | 78-93-3 | 0.00108 |
| 2-Hexanone | 591-78-6 | 0.00105 |
| 2-Propanol | 67-63-0 | 0.0011 |
| Bromoform | 75-25-2 | 0.00107 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | 0.00106 |
| 1,3-Dichlorobenzene | 541-73-1 | 0.00105 |
| Allyl chloride | 107-05-1 | 0.0011 |
| Benzene | 71-43-2 | 0.00107 |
| Benzyl chloride | 100-44-7 | 0.0011 |
| Bromochloromethane | 74-97-5 | 0.0198 |
| Bromodichloromethane | 75-27-4 | 0.00104 |
| 1,1,1-Trichloroethane | 71-55-6 | 0.00103 |
| 4-Ethyltoluene | 622-96-8 | 0.00104 |
| 1,2-Dichlorobenzene | 95-50-1 | 0.00104 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 0.00105 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 0.00094 |
| 1,1,2-Trichloroethane | 79-00-5 | 0.00109 |
| 1,1-Dichloroethane | 75-34-3 | 0.00099 |
| 1,1-Dichloroethene | 75-35-4 | 0.00103 |
| 1,2,4-Trichlorobenzene | 120-82-1 | 0.00094 |
| 1,4-Difluorobenzene | 540-36-3 | 0.0196 |
| 1,2-Dibromoethane (EDB) | 106-93-4 | 0.0011 |
| 1,4-Dichlorobenzene | 106-46-7 | 0.00106 |
| 1,2-Dichloroethane | 107-06-2 | 0.00104 |
| 1,2-Dichloropropane | 78-87-5 | 0.00107 |
| 1,2-Dichlorotetrafluoroethane | 76-14-2 | 0.00101 |
| 1,3,5-Trimethylbenzene | 108-67-8 | 0.00107 |

**Analytical Standard Record**

**EPA Region 9 Laboratory**

**1729073**

| | | |
|---|---|---|
| 1,3-Butadiene | 106-99-0 | 0.00106 |
| Bromomethane | 74-83-9 | 0.00107 |
| 1,2,4-Trimethylbenzene | 95-63-6 | 0.00106 |
| Tetrahydrofuran | 109-99-9 | 0.00105 |
| Hexane | 110-54-3 | 0.00105 |
| m&p-Xylene | 179601-23-1 | 0.00216 |
| o-Xylene | 95-47-6 | 0.00106 |
| Propene | 115-07-1 | 0.0011 |
| Styrene | 100-42-5 | 0.00103 |
| Bromoethene | 593-60-2 | 0.00108 |
| Tetrachloroethene | 127-18-4 | 0.00108 |
| Ethylbenzene | 100-41-4 | 0.00109 |
| Toluene | 108-88-3 | 0.00108 |
| trans-1,2-Dichloroethene | 156-60-5 | 0.0011 |
| trans-1,3-Dichloropropene | 10061-02-6 | 0.00097 |
| Trichloroethene | 79-01-6 | 0.0011 |
| Trichlorofluoromethane | 75-69-4 | 0.001 |
| Vinyl acetate | 108-05-4 | 0.0011 |
| tert-Butyl methyl ether (MTBE) | 1634-04-4 | 0.00108 |
| cis-1,2-Dichloroethene | 156-59-2 | 0.00104 |
| Carbon disulfide | 75-15-0 | 0.00106 |
| Carbon tetrachloride | 56-23-5 | 0.00104 |
| Chlorobenzene | 108-90-7 | 0.0011 |
| Chlorobenzene-d5 | 3114-55-4 | 0.0196 |
| Chlorodibromomethane | 124-48-1 | 0.00107 |
| Chloroethane | 75-00-3 | 0.00105 |
| Hexachlorobutadiene | 87-68-3 | 0.00099 |
| Chloromethane | 74-87-3 | 0.0011 |
| Heptane | 142-82-5 | 0.00107 |
| cis-1,3-Dichloropropene | 10061-01-5 | 0.00104 |
| Cyclohexane | 110-82-7 | 0.00107 |
| Dichlorodifluoromethane | 75-71-8 | 0.00106 |
| Dichloromethane | 75-09-2 | 0.00097 |
| Ethyl acetate | 141-78-6 | 0.00109 |
| Vinyl chloride | 75-01-4 | 0.00107 |
| Chloroform | 67-66-3 | 0.00107 |

# Analytical Standard Record

## EPA Region 9 Laboratory

## 1729073

**Parent Standards used in this standard:**

| Standard | Description | Prepared | Prepared By | Expires | Last Edit | (mls) |
|---|---|---|---|---|---|---|
| 1727029 | TO-15 LOW Std, 10 ppbv | 07/03/17 | Liza Hernandez | 08/02/17 | 07/03/17 13:14 by LLH | 20 |
| 1705046 | TO-14A Internal Standard Mix, Sto | 01/12/17 | ** Vendor ** | 01/12/18 | 03/23/17 10:37 by LLH | 40 |

# Analytical Standard Record

## EPA Region 9 Laboratory

## 1729074

| | | | |
|---|---|---|---|
| **Description:** | TO-15 CAL2 2.0 ppbv (VIRTUAL) | **Expires:** | 08/02/17 |
| **Standard Type:** | Other Solution | **Prepared:** | 07/19/17 |
| **Solvent:** | Zero Grade Air | **Prepared By:** | Liza Hernandez |
| **Final Volume (mls):** | 200 | **Department:** | Air |
| **Vials:** | 1 | **Last Edit:** | 07/19/17 16:06 by LLH |
| **Vendor:** | *Prepared* | **Lot Numb** | - |

| Analyte | CAS Number | Concentration (ppm) |
|---|---|---|
| Acetone | 67-64-1 | 0.0022 |
| 1,4-Dioxane | 123-91-1 | 0.00212 |
| 2,2,4-Trimethylpentane | 540-84-1 | 0.00212 |
| 2-Butanone (MEK) | 78-93-3 | 0.00216 |
| 2-Hexanone | 591-78-6 | 0.0021 |
| 2-Propanol | 67-63-0 | 0.0022 |
| Bromoform | 75-25-2 | 0.00214 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | 0.00212 |
| 1,3-Dichlorobenzene | 541-73-1 | 0.0021 |
| Allyl chloride | 107-05-1 | 0.0022 |
| Benzene | 71-43-2 | 0.00214 |
| Benzyl chloride | 100-44-7 | 0.0022 |
| Bromochloromethane | 74-97-5 | 0.0198 |
| Bromodichloromethane | 75-27-4 | 0.00208 |
| 1,1,1-Trichloroethane | 71-55-6 | 0.00206 |
| 4-Ethyltoluene | 622-96-8 | 0.00208 |
| 1,2-Dichlorobenzene | 95-50-1 | 0.00208 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 0.0021 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 0.00188 |
| 1,1,2-Trichloroethane | 79-00-5 | 0.00218 |
| 1,1-Dichloroethane | 75-34-3 | 0.00198 |
| 1,1-Dichloroethene | 75-35-4 | 0.00206 |
| 1,2,4-Trichlorobenzene | 120-82-1 | 0.00188 |
| 1,4-Difluorobenzene | 540-36-3 | 0.0196 |
| 1,2-Dibromoethane (EDB) | 106-93-4 | 0.0022 |
| 1,4-Dichlorobenzene | 106-46-7 | 0.00212 |
| 1,2-Dichloroethane | 107-06-2 | 0.00208 |
| 1,2-Dichloropropane | 78-87-5 | 0.00214 |
| 1,2-Dichlorotetrafluoroethane | 76-14-2 | 0.00202 |
| 1,3,5-Trimethylbenzene | 108-67-8 | 0.00214 |

**Analytical Standard Record**

**EPA Region 9 Laboratory**

**1729074**

| | | |
|---|---|---|
| 1,3-Butadiene | 106-99-0 | 0.00212 |
| Bromomethane | 74-83-9 | 0.00214 |
| 1,2,4-Trimethylbenzene | 95-63-6 | 0.00212 |
| Tetrahydrofuran | 109-99-9 | 0.0021 |
| Hexane | 110-54-3 | 0.0021 |
| m&p-Xylene | 179601-23-1 | 0.00432 |
| o-Xylene | 95-47-6 | 0.00212 |
| Propene | 115-07-1 | 0.0022 |
| Styrene | 100-42-5 | 0.00206 |
| Bromoethene | 593-60-2 | 0.00216 |
| Tetrachloroethene | 127-18-4 | 0.00216 |
| Ethylbenzene | 100-41-4 | 0.00218 |
| Toluene | 108-88-3 | 0.00216 |
| trans-1,2-Dichloroethene | 156-60-5 | 0.0022 |
| trans-1,3-Dichloropropene | 10061-02-6 | 0.00194 |
| Trichloroethene | 79-01-6 | 0.0022 |
| Trichlorofluoromethane | 75-69-4 | 0.002 |
| Vinyl acetate | 108-05-4 | 0.0022 |
| tert-Butyl methyl ether (MTBE) | 1634-04-4 | 0.00216 |
| cis-1,2-Dichloroethene | 156-59-2 | 0.00208 |
| Carbon disulfide | 75-15-0 | 0.00212 |
| Carbon tetrachloride | 56-23-5 | 0.00208 |
| Chlorobenzene | 108-90-7 | 0.0022 |
| Chlorobenzene-d5 | 3114-55-4 | 0.0196 |
| Chlorodibromomethane | 124-48-1 | 0.00214 |
| Chloroethane | 75-00-3 | 0.0021 |
| Hexachlorobutadiene | 87-68-3 | 0.00198 |
| Chloromethane | 74-87-3 | 0.0022 |
| Heptane | 142-82-5 | 0.00214 |
| cis-1,3-Dichloropropene | 10061-01-5 | 0.00208 |
| Cyclohexane | 110-82-7 | 0.00214 |
| Dichlorodifluoromethane | 75-71-8 | 0.00212 |
| Dichloromethane | 75-09-2 | 0.00194 |
| Ethyl acetate | 141-78-6 | 0.00218 |
| Vinyl chloride | 75-01-4 | 0.00214 |
| Chloroform | 67-66-3 | 0.00214 |

# Analytical Standard Record

## EPA Region 9 Laboratory

## 1729074

**Parent Standards used in this standard:**

| Standard | Description | Prepared | Prepared By | Expires | Last Edit | (mls) |
|---|---|---|---|---|---|---|
| 1705046 | TO-14A Internal Standard Mix, Sto | 01/12/17 | ** Vendor ** | 01/12/18 | 03/23/17 10:37 by LLH | 40 |
| 1727030 | TO-15 CAL Std, 20 ppbv | 07/03/17 | Liza Hernandez | 08/02/17 | 07/03/17 13:15 by LLH | 20 |

# Analytical Standard Record

## EPA Region 9 Laboratory

## 1729075

| | | | |
|---|---|---|---|
| **Description:** | TO-15 CAL3 5.0 ppbv (VIRTUAL) | **Expires:** | 08/02/17 |
| **Standard Type:** | Other Solution | **Prepared:** | 07/19/17 |
| **Solvent:** | Zero Grade Air | **Prepared By:** | Liza Hernandez |
| **Final Volume (mls):** | 200 | **Department:** | Air |
| **Vials:** | 1 | **Last Edit:** | 07/19/17 16:07 by LLH |
| **Vendor:** | *Prepared* | **Lot Numb** | - |

| Analyte | CAS Number | Concentration (ppm) |
|---|---|---|
| Acetone | 67-64-1 | 0.0055 |
| 1,4-Dioxane | 123-91-1 | 0.0053 |
| 2,2,4-Trimethylpentane | 540-84-1 | 0.0053 |
| 2-Butanone (MEK) | 78-93-3 | 0.0054 |
| 2-Hexanone | 591-78-6 | 0.00525 |
| 2-Propanol | 67-63-0 | 0.0055 |
| Bromoform | 75-25-2 | 0.00535 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | 0.0053 |
| 1,3-Dichlorobenzene | 541-73-1 | 0.00525 |
| Allyl chloride | 107-05-1 | 0.0055 |
| Benzene | 71-43-2 | 0.00535 |
| Benzyl chloride | 100-44-7 | 0.0055 |
| Bromochloromethane | 74-97-5 | 0.0198 |
| Bromodichloromethane | 75-27-4 | 0.0052 |
| 1,1,1-Trichloroethane | 71-55-6 | 0.00515 |
| 4-Ethyltoluene | 622-96-8 | 0.0052 |
| 1,2-Dichlorobenzene | 95-50-1 | 0.0052 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 0.00525 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 0.0047 |
| 1,1,2-Trichloroethane | 79-00-5 | 0.00545 |
| 1,1-Dichloroethane | 75-34-3 | 0.00495 |
| 1,1-Dichloroethene | 75-35-4 | 0.00515 |
| 1,2,4-Trichlorobenzene | 120-82-1 | 0.0047 |
| 1,4-Difluorobenzene | 540-36-3 | 0.0196 |
| 1,2-Dibromoethane (EDB) | 106-93-4 | 0.0055 |
| 1,4-Dichlorobenzene | 106-46-7 | 0.0053 |
| 1,2-Dichloroethane | 107-06-2 | 0.0052 |
| 1,2-Dichloropropane | 78-87-5 | 0.00535 |
| 1,2-Dichlorotetrafluoroethane | 76-14-2 | 0.00505 |
| 1,3,5-Trimethylbenzene | 108-67-8 | 0.00535 |

**Analytical Standard Record**

**EPA Region 9 Laboratory**

**1729075**

| | | |
|---|---|---|
| 1,3-Butadiene | 106-99-0 | 0.0053 |
| Bromomethane | 74-83-9 | 0.00535 |
| 1,2,4-Trimethylbenzene | 95-63-6 | 0.0053 |
| Tetrahydrofuran | 109-99-9 | 0.00525 |
| Hexane | 110-54-3 | 0.00525 |
| m&p-Xylene | 179601-23-1 | 0.0108 |
| o-Xylene | 95-47-6 | 0.0053 |
| Propene | 115-07-1 | 0.0055 |
| Styrene | 100-42-5 | 0.00515 |
| Bromoethene | 593-60-2 | 0.0054 |
| Tetrachloroethene | 127-18-4 | 0.0054 |
| Ethylbenzene | 100-41-4 | 0.00545 |
| Toluene | 108-88-3 | 0.0054 |
| trans-1,2-Dichloroethene | 156-60-5 | 0.0055 |
| trans-1,3-Dichloropropene | 10061-02-6 | 0.00485 |
| Trichloroethene | 79-01-6 | 0.0055 |
| Trichlorofluoromethane | 75-69-4 | 0.005 |
| Vinyl acetate | 108-05-4 | 0.0055 |
| tert-Butyl methyl ether (MTBE) | 1634-04-4 | 0.0054 |
| cis-1,2-Dichloroethene | 156-59-2 | 0.0052 |
| Carbon disulfide | 75-15-0 | 0.0053 |
| Carbon tetrachloride | 56-23-5 | 0.0052 |
| Chlorobenzene | 108-90-7 | 0.0055 |
| Chlorobenzene-d5 | 3114-55-4 | 0.0196 |
| Chlorodibromomethane | 124-48-1 | 0.00535 |
| Chloroethane | 75-00-3 | 0.00525 |
| Hexachlorobutadiene | 87-68-3 | 0.00495 |
| Chloromethane | 74-87-3 | 0.0055 |
| Heptane | 142-82-5 | 0.00535 |
| cis-1,3-Dichloropropene | 10061-01-5 | 0.0052 |
| Cyclohexane | 110-82-7 | 0.00535 |
| Dichlorodifluoromethane | 75-71-8 | 0.0053 |
| Dichloromethane | 75-09-2 | 0.00485 |
| Ethyl acetate | 141-78-6 | 0.00545 |
| Vinyl chloride | 75-01-4 | 0.00535 |
| Chloroform | 67-66-3 | 0.00535 |

# Analytical Standard Record

## EPA Region 9 Laboratory

## 1729075

**Parent Standards used in this standard:**

| Standard | Description | Prepared | Prepared By | Expires | Last Edit | (mls) |
|---|---|---|---|---|---|---|
| 1705046 | TO-14A Internal Standard Mix, Sto | 01/12/17 | ** Vendor ** | 01/12/18 | 03/23/17 10:37 by LLH | 40 |
| 1727030 | TO-15 CAL Std, 20 ppbv | 07/03/17 | Liza Hernandez | 08/02/17 | 07/03/17 13:15 by LLH | 50 |

# Analytical Standard Record

## EPA Region 9 Laboratory

## 1729076

| | | | |
|---|---|---|---|
| **Description:** | TO-15 CAL4 10 ppbv (VIRTUAL) - | **Expires:** | 08/02/17 |
| **Standard Type:** | Other Solution | **Prepared:** | 07/19/17 |
| **Solvent:** | Zero Grade Air | **Prepared By:** | Liza Hernandez |
| **Final Volume (mls):** | 200 | **Department:** | Air |
| **Vials:** | 1 | **Last Edit:** | 07/19/17 16:08 by LLH |
| **Vendor:** | *Prepared* | **Lot Numb** | - |

| Analyte | CAS Number | Concentration (ppm) |
|---|---|---|
| Acetone | 67-64-1 | 0.011 |
| 1,4-Dioxane | 123-91-1 | 0.0106 |
| 2,2,4-Trimethylpentane | 540-84-1 | 0.0106 |
| 2-Butanone (MEK) | 78-93-3 | 0.0108 |
| 2-Hexanone | 591-78-6 | 0.0105 |
| 2-Propanol | 67-63-0 | 0.011 |
| Bromoform | 75-25-2 | 0.0107 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | 0.0106 |
| 1,3-Dichlorobenzene | 541-73-1 | 0.0105 |
| Allyl chloride | 107-05-1 | 0.011 |
| Benzene | 71-43-2 | 0.0107 |
| Benzyl chloride | 100-44-7 | 0.011 |
| Bromochloromethane | 74-97-5 | 0.0198 |
| Bromodichloromethane | 75-27-4 | 0.0104 |
| 1,1,1-Trichloroethane | 71-55-6 | 0.0103 |
| 4-Ethyltoluene | 622-96-8 | 0.0104 |
| 1,2-Dichlorobenzene | 95-50-1 | 0.0104 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 0.0105 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 0.0094 |
| 1,1,2-Trichloroethane | 79-00-5 | 0.0109 |
| 1,1-Dichloroethane | 75-34-3 | 0.0099 |
| 1,1-Dichloroethene | 75-35-4 | 0.0103 |
| 1,2,4-Trichlorobenzene | 120-82-1 | 0.0094 |
| 1,4-Difluorobenzene | 540-36-3 | 0.0196 |
| 1,2-Dibromoethane (EDB) | 106-93-4 | 0.011 |
| 1,4-Dichlorobenzene | 106-46-7 | 0.0106 |
| 1,2-Dichloroethane | 107-06-2 | 0.0104 |
| 1,2-Dichloropropane | 78-87-5 | 0.0107 |
| 1,2-Dichlorotetrafluoroethane | 76-14-2 | 0.0101 |
| 1,3,5-Trimethylbenzene | 108-67-8 | 0.0107 |

**Analytical Standard Record**

**EPA Region 9 Laboratory**

**1729076**

| | | |
|---|---|---|
| 1,3-Butadiene | 106-99-0 | 0.0106 |
| Bromomethane | 74-83-9 | 0.0107 |
| 1,2,4-Trimethylbenzene | 95-63-6 | 0.0106 |
| Tetrahydrofuran | 109-99-9 | 0.0105 |
| Hexane | 110-54-3 | 0.0105 |
| m&p-Xylene | 179601-23-1 | 0.0216 |
| o-Xylene | 95-47-6 | 0.0106 |
| Propene | 115-07-1 | 0.011 |
| Styrene | 100-42-5 | 0.0103 |
| Bromoethene | 593-60-2 | 0.0108 |
| Tetrachloroethene | 127-18-4 | 0.0108 |
| Ethylbenzene | 100-41-4 | 0.0109 |
| Toluene | 108-88-3 | 0.0108 |
| trans-1,2-Dichloroethene | 156-60-5 | 0.011 |
| trans-1,3-Dichloropropene | 10061-02-6 | 0.0097 |
| Trichloroethene | 79-01-6 | 0.011 |
| Trichlorofluoromethane | 75-69-4 | 0.01 |
| Vinyl acetate | 108-05-4 | 0.011 |
| tert-Butyl methyl ether (MTBE) | 1634-04-4 | 0.0108 |
| cis-1,2-Dichloroethene | 156-59-2 | 0.0104 |
| Carbon disulfide | 75-15-0 | 0.0106 |
| Carbon tetrachloride | 56-23-5 | 0.0104 |
| Chlorobenzene | 108-90-7 | 0.011 |
| Chlorobenzene-d5 | 3114-55-4 | 0.0196 |
| Chlorodibromomethane | 124-48-1 | 0.0107 |
| Chloroethane | 75-00-3 | 0.0105 |
| Hexachlorobutadiene | 87-68-3 | 0.0099 |
| Chloromethane | 74-87-3 | 0.011 |
| Heptane | 142-82-5 | 0.0107 |
| cis-1,3-Dichloropropene | 10061-01-5 | 0.0104 |
| Cyclohexane | 110-82-7 | 0.0107 |
| Dichlorodifluoromethane | 75-71-8 | 0.0106 |
| Dichloromethane | 75-09-2 | 0.0097 |
| Ethyl acetate | 141-78-6 | 0.0109 |
| Vinyl chloride | 75-01-4 | 0.0107 |
| Chloroform | 67-66-3 | 0.0107 |

# Analytical Standard Record

## EPA Region 9 Laboratory

## 1729076

**Parent Standards used in this standard:**

| Standard | Description | Prepared | Prepared By | Expires | Last Edit | (mls) |
|---|---|---|---|---|---|---|
| 1705046 | TO-14A Internal Standard Mix, Sto | 01/12/17 | ** Vendor ** | 01/12/18 | 03/23/17 10:37 by LLH | 40 |
| 1727030 | TO-15 CAL Std, 20 ppbv | 07/03/17 | Liza Hernandez | 08/02/17 | 07/03/17 13:15 by LLH | 100 |

# Analytical Standard Record
## EPA Region 9 Laboratory
## 1729077

| | | | |
|---|---|---|---|
| **Description:** | TO-15 CAL5 15 ppbv (VIRTUAL) | **Expires:** | 08/02/17 |
| **Standard Type:** | Other Solution | **Prepared:** | 07/19/17 |
| **Solvent:** | Zero Grade Air | **Prepared By:** | Liza Hernandez |
| **Final Volume (mls):** | 200 | **Department:** | Air |
| **Vials:** | 1 | **Last Edit:** | 07/19/17 16:09 by LLH |
| **Vendor:** | *Prepared* | **Lot Numb** | - |

| Analyte | CAS Number | Concentration (ppm) |
|---|---|---|
| Acetone | 67-64-1 | 0.0165 |
| 1,4-Dioxane | 123-91-1 | 0.0159 |
| 2,2,4-Trimethylpentane | 540-84-1 | 0.0159 |
| 2-Butanone (MEK) | 78-93-3 | 0.0162 |
| 2-Hexanone | 591-78-6 | 0.0158 |
| 2-Propanol | 67-63-0 | 0.0165 |
| Bromoform | 75-25-2 | 0.016 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | 0.0159 |
| 1,3-Dichlorobenzene | 541-73-1 | 0.0158 |
| Allyl chloride | 107-05-1 | 0.0165 |
| Benzene | 71-43-2 | 0.016 |
| Benzyl chloride | 100-44-7 | 0.0165 |
| Bromochloromethane | 74-97-5 | 0.0198 |
| Bromodichloromethane | 75-27-4 | 0.0156 |
| 1,1,1-Trichloroethane | 71-55-6 | 0.0154 |
| 4-Ethyltoluene | 622-96-8 | 0.0156 |
| 1,2-Dichlorobenzene | 95-50-1 | 0.0156 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 0.0158 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 0.0141 |
| 1,1,2-Trichloroethane | 79-00-5 | 0.0164 |
| 1,1-Dichloroethane | 75-34-3 | 0.0148 |
| 1,1-Dichloroethene | 75-35-4 | 0.0154 |
| 1,2,4-Trichlorobenzene | 120-82-1 | 0.0141 |
| 1,4-Difluorobenzene | 540-36-3 | 0.0196 |
| 1,2-Dibromoethane (EDB) | 106-93-4 | 0.0165 |
| 1,4-Dichlorobenzene | 106-46-7 | 0.0159 |
| 1,2-Dichloroethane | 107-06-2 | 0.0156 |
| 1,2-Dichloropropane | 78-87-5 | 0.016 |
| 1,2-Dichlorotetrafluoroethane | 76-14-2 | 0.0152 |
| 1,3,5-Trimethylbenzene | 108-67-8 | 0.016 |

**Analytical Standard Record**

**EPA Region 9 Laboratory**

**1729077**

| | | |
|---|---|---|
| 1,3-Butadiene | 106-99-0 | 0.0159 |
| Bromomethane | 74-83-9 | 0.016 |
| 1,2,4-Trimethylbenzene | 95-63-6 | 0.0159 |
| Tetrahydrofuran | 109-99-9 | 0.0158 |
| Hexane | 110-54-3 | 0.0158 |
| m&p-Xylene | 179601-23-1 | 0.0324 |
| o-Xylene | 95-47-6 | 0.0159 |
| Propene | 115-07-1 | 0.0165 |
| Styrene | 100-42-5 | 0.0154 |
| Bromoethene | 593-60-2 | 0.0162 |
| Tetrachloroethene | 127-18-4 | 0.0162 |
| Ethylbenzene | 100-41-4 | 0.0164 |
| Toluene | 108-88-3 | 0.0162 |
| trans-1,2-Dichloroethene | 156-60-5 | 0.0165 |
| trans-1,3-Dichloropropene | 10061-02-6 | 0.0146 |
| Trichloroethene | 79-01-6 | 0.0165 |
| Trichlorofluoromethane | 75-69-4 | 0.015 |
| Vinyl acetate | 108-05-4 | 0.0165 |
| tert-Butyl methyl ether (MTBE) | 1634-04-4 | 0.0162 |
| cis-1,2-Dichloroethene | 156-59-2 | 0.0156 |
| Carbon disulfide | 75-15-0 | 0.0159 |
| Carbon tetrachloride | 56-23-5 | 0.0156 |
| Chlorobenzene | 108-90-7 | 0.0165 |
| Chlorobenzene-d5 | 3114-55-4 | 0.0196 |
| Chlorodibromomethane | 124-48-1 | 0.016 |
| Chloroethane | 75-00-3 | 0.0158 |
| Hexachlorobutadiene | 87-68-3 | 0.0148 |
| Chloromethane | 74-87-3 | 0.0165 |
| Heptane | 142-82-5 | 0.016 |
| cis-1,3-Dichloropropene | 10061-01-5 | 0.0156 |
| Cyclohexane | 110-82-7 | 0.016 |
| Dichlorodifluoromethane | 75-71-8 | 0.0159 |
| Dichloromethane | 75-09-2 | 0.0146 |
| Ethyl acetate | 141-78-6 | 0.0164 |
| Vinyl chloride | 75-01-4 | 0.016 |
| Chloroform | 67-66-3 | 0.016 |

# Analytical Standard Record

## EPA Region 9 Laboratory

## 1729077

**Parent Standards used in this standard:**

| Standard | Description | Prepared | Prepared By | Expires | Last Edit | (mls) |
|---|---|---|---|---|---|---|
| 1705046 | TO-14A Internal Standard Mix, Sto | 01/12/17 | ** Vendor ** | 01/12/18 | 03/23/17 10:37 by LLH | 40 |
| 1727030 | TO-15 CAL Std, 20 ppbv | 07/03/17 | Liza Hernandez | 08/02/17 | 07/03/17 13:15 by LLH | 150 |

# Analytical Standard Record
## EPA Region 9 Laboratory
## 1729078

| | | | |
|---|---|---|---|
| **Description:** | TO-15 CAL6 20 ppbv (VIRTUAL) | **Expires:** | 08/02/17 |
| **Standard Type:** | Other Solution | **Prepared:** | 07/19/17 |
| **Solvent:** | Zero Grade Air | **Prepared By:** | Liza Hernandez |
| **Final Volume (mls):** | 200 | **Department:** | Air |
| **Vials:** | 1 | **Last Edit:** | 07/19/17 16:10 by LLH |
| **Vendor:** | *Prepared* | **Lot Numb** | - |

| Analyte | CAS Number | Concentration (ppm) |
|---|---|---|
| Acetone | 67-64-1 | 0.022 |
| 1,4-Dioxane | 123-91-1 | 0.0212 |
| 2,2,4-Trimethylpentane | 540-84-1 | 0.0212 |
| 2-Butanone (MEK) | 78-93-3 | 0.0216 |
| 2-Hexanone | 591-78-6 | 0.021 |
| 2-Propanol | 67-63-0 | 0.022 |
| Bromoform | 75-25-2 | 0.0214 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | 0.0212 |
| 1,3-Dichlorobenzene | 541-73-1 | 0.021 |
| Allyl chloride | 107-05-1 | 0.022 |
| Benzene | 71-43-2 | 0.0214 |
| Benzyl chloride | 100-44-7 | 0.022 |
| Bromochloromethane | 74-97-5 | 0.0198 |
| Bromodichloromethane | 75-27-4 | 0.0208 |
| 1,1,1-Trichloroethane | 71-55-6 | 0.0206 |
| 4-Ethyltoluene | 622-96-8 | 0.0208 |
| 1,2-Dichlorobenzene | 95-50-1 | 0.0208 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 0.021 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 0.0188 |
| 1,1,2-Trichloroethane | 79-00-5 | 0.0218 |
| 1,1-Dichloroethane | 75-34-3 | 0.0198 |
| 1,1-Dichloroethene | 75-35-4 | 0.0206 |
| 1,2,4-Trichlorobenzene | 120-82-1 | 0.0188 |
| 1,4-Difluorobenzene | 540-36-3 | 0.0196 |
| 1,2-Dibromoethane (EDB) | 106-93-4 | 0.022 |
| 1,4-Dichlorobenzene | 106-46-7 | 0.0212 |
| 1,2-Dichloroethane | 107-06-2 | 0.0208 |
| 1,2-Dichloropropane | 78-87-5 | 0.0214 |
| 1,2-Dichlorotetrafluoroethane | 76-14-2 | 0.0202 |
| 1,3,5-Trimethylbenzene | 108-67-8 | 0.0214 |

**Analytical Standard Record**

**EPA Region 9 Laboratory**

**1729078**

| | | |
|---|---|---|
| 1,3-Butadiene | 106-99-0 | 0.0212 |
| Bromomethane | 74-83-9 | 0.0214 |
| 1,2,4-Trimethylbenzene | 95-63-6 | 0.0212 |
| Tetrahydrofuran | 109-99-9 | 0.021 |
| Hexane | 110-54-3 | 0.021 |
| m&p-Xylene | 179601-23-1 | 0.0432 |
| o-Xylene | 95-47-6 | 0.0212 |
| Propene | 115-07-1 | 0.022 |
| Styrene | 100-42-5 | 0.0206 |
| Bromoethene | 593-60-2 | 0.0216 |
| Tetrachloroethene | 127-18-4 | 0.0216 |
| Ethylbenzene | 100-41-4 | 0.0218 |
| Toluene | 108-88-3 | 0.0216 |
| trans-1,2-Dichloroethene | 156-60-5 | 0.022 |
| trans-1,3-Dichloropropene | 10061-02-6 | 0.0194 |
| Trichloroethene | 79-01-6 | 0.022 |
| Trichlorofluoromethane | 75-69-4 | 0.02 |
| Vinyl acetate | 108-05-4 | 0.022 |
| tert-Butyl methyl ether (MTBE) | 1634-04-4 | 0.0216 |
| cis-1,2-Dichloroethene | 156-59-2 | 0.0208 |
| Carbon disulfide | 75-15-0 | 0.0212 |
| Carbon tetrachloride | 56-23-5 | 0.0208 |
| Chlorobenzene | 108-90-7 | 0.022 |
| Chlorobenzene-d5 | 3114-55-4 | 0.0196 |
| Chlorodibromomethane | 124-48-1 | 0.0214 |
| Chloroethane | 75-00-3 | 0.021 |
| Hexachlorobutadiene | 87-68-3 | 0.0198 |
| Chloromethane | 74-87-3 | 0.022 |
| Heptane | 142-82-5 | 0.0214 |
| cis-1,3-Dichloropropene | 10061-01-5 | 0.0208 |
| Cyclohexane | 110-82-7 | 0.0214 |
| Dichlorodifluoromethane | 75-71-8 | 0.0212 |
| Dichloromethane | 75-09-2 | 0.0194 |
| Ethyl acetate | 141-78-6 | 0.0218 |
| Vinyl chloride | 75-01-4 | 0.0214 |
| Chloroform | 67-66-3 | 0.0214 |

# Analytical Standard Record

## EPA Region 9 Laboratory

## 1729078

**Parent Standards used in this standard:**

| Standard | Description | Prepared | Prepared By | Expires | Last Edit | (mls) |
|---|---|---|---|---|---|---|
| 1705046 | TO-14A Internal Standard Mix, Sto | 01/12/17 | ** Vendor ** | 01/12/18 | 03/23/17 10:37 by LLH | 40 |
| 1727030 | TO-15 CAL Std, 20 ppbv | 07/03/17 | Liza Hernandez | 08/02/17 | 07/03/17 13:15 by LLH | 200 |

# Analytical Standard Record
## EPA Region 9 Laboratory
## 1729079

| | | | |
|---|---|---|---|
| **Description:** | TO-15 LCS 10 ppbv (VIRTUAL) | **Expires:** | 08/02/17 |
| **Standard Type:** | Analyte Spike | **Prepared:** | 07/19/17 |
| **Solvent:** | Zero Grade Air | **Prepared By:** | Liza Hernandez |
| **Final Volume (mls):** | 200 | **Department:** | Air |
| **Vials:** | 1 | **Last Edit:** | 07/19/17 16:11 by LLH |
| **Vendor:** | *Prepared* | **Lot Numb** | - |

| Analyte | CAS Number | Concentration (ppm) |
|---|---|---|
| Acetone | 67-64-1 | 0.022 |
| 1,4-Dioxane | 123-91-1 | 0.0212 |
| 2,2,4-Trimethylpentane | 540-84-1 | 0.0212 |
| 2-Butanone (MEK) | 78-93-3 | 0.0216 |
| 2-Hexanone | 591-78-6 | 0.021 |
| 2-Propanol | 67-63-0 | 0.022 |
| Bromoform | 75-25-2 | 0.0214 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | 0.0212 |
| 1,3-Dichlorobenzene | 541-73-1 | 0.021 |
| Allyl chloride | 107-05-1 | 0.022 |
| Benzene | 71-43-2 | 0.0214 |
| Benzyl chloride | 100-44-7 | 0.022 |
| Bromochloromethane | 74-97-5 | 0.0198 |
| Bromodichloromethane | 75-27-4 | 0.0208 |
| 1,1,1-Trichloroethane | 71-55-6 | 0.0206 |
| 4-Ethyltoluene | 622-96-8 | 0.0208 |
| 1,2-Dichlorobenzene | 95-50-1 | 0.0208 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 0.021 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 0.0188 |
| 1,1,2-Trichloroethane | 79-00-5 | 0.0218 |
| 1,1-Dichloroethane | 75-34-3 | 0.0198 |
| 1,1-Dichloroethene | 75-35-4 | 0.0206 |
| 1,2,4-Trichlorobenzene | 120-82-1 | 0.0188 |
| 1,4-Difluorobenzene | 540-36-3 | 0.0196 |
| 1,2-Dibromoethane (EDB) | 106-93-4 | 0.022 |
| 1,4-Dichlorobenzene | 106-46-7 | 0.0212 |
| 1,2-Dichloroethane | 107-06-2 | 0.0208 |
| 1,2-Dichloropropane | 78-87-5 | 0.0214 |
| 1,2-Dichlorotetrafluoroethane | 76-14-2 | 0.0202 |
| 1,3,5-Trimethylbenzene | 108-67-8 | 0.0214 |

**Analytical Standard Record**

**EPA Region 9 Laboratory**

**1729079**

| | | |
|---|---|---|
| 1,3-Butadiene | 106-99-0 | 0.0212 |
| Bromomethane | 74-83-9 | 0.0214 |
| 1,2,4-Trimethylbenzene | 95-63-6 | 0.0212 |
| Tetrahydrofuran | 109-99-9 | 0.021 |
| Hexane | 110-54-3 | 0.021 |
| m&p-Xylene | 179601-23-1 | 0.0432 |
| o-Xylene | 95-47-6 | 0.0212 |
| Propene | 115-07-1 | 0.022 |
| Styrene | 100-42-5 | 0.0206 |
| Bromoethene | 593-60-2 | 0.0216 |
| Tetrachloroethene | 127-18-4 | 0.0216 |
| Ethylbenzene | 100-41-4 | 0.0218 |
| Toluene | 108-88-3 | 0.0216 |
| trans-1,2-Dichloroethene | 156-60-5 | 0.022 |
| trans-1,3-Dichloropropene | 10061-02-6 | 0.0194 |
| Trichloroethene | 79-01-6 | 0.022 |
| Trichlorofluoromethane | 75-69-4 | 0.02 |
| Vinyl acetate | 108-05-4 | 0.022 |
| tert-Butyl methyl ether (MTBE) | 1634-04-4 | 0.0216 |
| cis-1,2-Dichloroethene | 156-59-2 | 0.0208 |
| Carbon disulfide | 75-15-0 | 0.0212 |
| Carbon tetrachloride | 56-23-5 | 0.0208 |
| Chlorobenzene | 108-90-7 | 0.022 |
| Chlorobenzene-d5 | 3114-55-4 | 0.0196 |
| Chlorodibromomethane | 124-48-1 | 0.0214 |
| Chloroethane | 75-00-3 | 0.021 |
| Hexachlorobutadiene | 87-68-3 | 0.0198 |
| Chloromethane | 74-87-3 | 0.022 |
| Heptane | 142-82-5 | 0.0214 |
| cis-1,3-Dichloropropene | 10061-01-5 | 0.0208 |
| Cyclohexane | 110-82-7 | 0.0214 |
| Dichlorodifluoromethane | 75-71-8 | 0.0212 |
| Dichloromethane | 75-09-2 | 0.0194 |
| Ethyl acetate | 141-78-6 | 0.0218 |
| Vinyl chloride | 75-01-4 | 0.0214 |
| Chloroform | 67-66-3 | 0.0214 |

# Analytical Standard Record

## EPA Region 9 Laboratory

## 1729079

**Parent Standards used in this standard:**

| Standard | Description | Prepared | Prepared By | Expires | Last Edit | (mls) |
|---|---|---|---|---|---|---|
| 1705046 | TO-14A Internal Standard Mix, Sto | 01/12/17 | ** Vendor ** | 01/12/18 | 03/23/17 10:37 by LLH | 40 |
| 1727030 | TO-15 CAL Std, 20 ppbv | 07/03/17 | Liza Hernandez | 08/02/17 | 07/03/17 13:15 by LLH | 200 |

# Analytical Standard Record
## EPA Region 9 Laboratory
## 1729080

| | | | |
|---|---|---|---|
| **Description:** | TO-15 SCV 10 ppbv (VIRTUAL) | **Expires:** | 07/21/17 |
| **Standard Type:** | Analyte Spike | **Prepared:** | 07/19/17 |
| **Solvent:** | Zero Grade Air | **Prepared By:** | Liza Hernandez |
| **Final Volume (mls):** | 200 | **Department:** | Air |
| **Vials:** | 1 | **Last Edit:** | 07/19/17 16:11 by LLH |
| **Vendor:** | *Prepared* | **Lot Numb** | - |

| Analyte | CAS Number | Concentration (ppm) |
|---|---|---|
| Acetone | 67-64-1 | 0.011 |
| 1,4-Dioxane | 123-91-1 | 0.0093 |
| 2,2,4-Trimethylpentane | 540-84-1 | 0.0106 |
| 2-Butanone (MEK) | 78-93-3 | 0.0107 |
| 2-Hexanone | 591-78-6 | 0.0097 |
| 2-Propanol | 67-63-0 | 0.009 |
| Bromoform | 75-25-2 | 0.0108 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | 0.0101 |
| 1,3-Dichlorobenzene | 541-73-1 | 0.0105 |
| Allyl chloride | 107-05-1 | 0.011 |
| Benzene | 71-43-2 | 0.011 |
| Benzyl chloride | 100-44-7 | 0.0103 |
| Bromochloromethane | 74-97-5 | 0.0198 |
| Bromodichloromethane | 75-27-4 | 0.0106 |
| 1,1,1-Trichloroethane | 71-55-6 | 0.0109 |
| 4-Ethyltoluene | 622-96-8 | 0.0103 |
| 1,2-Dichlorobenzene | 95-50-1 | 0.0103 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 0.011 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 0.0099 |
| 1,1,2-Trichloroethane | 79-00-5 | 0.011 |
| 1,1-Dichloroethane | 75-34-3 | 0.0104 |
| 1,1-Dichloroethene | 75-35-4 | 0.0109 |
| 1,2,4-Trichlorobenzene | 120-82-1 | 0.009 |
| 1,4-Difluorobenzene | 540-36-3 | 0.0196 |
| 1,2-Dibromoethane (EDB) | 106-93-4 | 0.011 |
| 1,4-Dichlorobenzene | 106-46-7 | 0.0106 |
| 1,2-Dichloroethane | 107-06-2 | 0.0109 |
| 1,2-Dichloropropane | 78-87-5 | 0.011 |
| 1,2-Dichlorotetrafluoroethane | 76-14-2 | 0.0106 |
| 1,3,5-Trimethylbenzene | 108-67-8 | 0.011 |

**Analytical Standard Record**

**EPA Region 9 Laboratory**

**1729080**

| | | |
|---|---|---|
| 1,3-Butadiene | 106-99-0 | 0.0103 |
| Bromomethane | 74-83-9 | 0.011 |
| 1,2,4-Trimethylbenzene | 95-63-6 | 0.0105 |
| Tetrahydrofuran | 109-99-9 | 0.0102 |
| Hexane | 110-54-3 | 0.0105 |
| m&p-Xylene | 179601-23-1 | 0.022 |
| o-Xylene | 95-47-6 | 0.011 |
| Propene | 115-07-1 | 0.011 |
| Styrene | 100-42-5 | 0.0106 |
| Bromoethene | 593-60-2 | 0.0104 |
| Tetrachloroethene | 127-18-4 | 0.011 |
| Ethylbenzene | 100-41-4 | 0.011 |
| Toluene | 108-88-3 | 0.011 |
| trans-1,2-Dichloroethene | 156-60-5 | 0.011 |
| trans-1,3-Dichloropropene | 10061-02-6 | 0.011 |
| Trichloroethene | 79-01-6 | 0.011 |
| Trichlorofluoromethane | 75-69-4 | 0.0101 |
| Vinyl acetate | 108-05-4 | 0.0108 |
| tert-Butyl methyl ether (MTBE) | 1634-04-4 | 0.0107 |
| cis-1,2-Dichloroethene | 156-59-2 | 0.011 |
| Carbon disulfide | 75-15-0 | 0.0107 |
| Carbon tetrachloride | 56-23-5 | 0.011 |
| Chlorobenzene | 108-90-7 | 0.011 |
| Chlorobenzene-d5 | 3114-55-4 | 0.0196 |
| Chlorodibromomethane | 124-48-1 | 0.0107 |
| Chloroethane | 75-00-3 | 0.011 |
| Hexachlorobutadiene | 87-68-3 | 0.009 |
| Chloromethane | 74-87-3 | 0.011 |
| Heptane | 142-82-5 | 0.0106 |
| cis-1,3-Dichloropropene | 10061-01-5 | 0.011 |
| Cyclohexane | 110-82-7 | 0.0107 |
| Dichlorodifluoromethane | 75-71-8 | 0.011 |
| Dichloromethane | 75-09-2 | 0.0103 |
| Ethyl acetate | 141-78-6 | 0.0107 |
| Vinyl chloride | 75-01-4 | 0.011 |
| Chloroform | 67-66-3 | 0.011 |

# Analytical Standard Record

## EPA Region 9 Laboratory

## 1729080

**Parent Standards used in this standard:**

| Standard | Description | Prepared | Prepared By | Expires | Last Edit | (mls) |
|---|---|---|---|---|---|---|
| 1725117 | TO-15 SCV Std, 10 ppbv | 06/22/17 | Liza Hernandez | 07/21/17 | 06/22/17 15:13 by LLH | 200 |
| 1705046 | TO-14A Internal Standard Mix, Sto | 01/12/17 | ** Vendor ** | 01/12/18 | 03/23/17 10:37 by LLH | 40 |