

Data Path : Z:\VOASRV\HPCHEM1\MSVOA L\DATA\VL050219\  
 Data File : VL033642.D  
 Acq On : 3 May 2019 00:24  
 Operator : SY/AP  
 Sample : K2628-09  
 Misc : 400ml/MSVOA L  
 ALS Vial : 1 Sample Multiplier: 1

Instrument :  
 MSVOA\_L  
 ClientSampleId :  
 A-9

Manual Integrations  
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Quant Time: May 03 09:02:00 2019  
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA L\METHODS\VL050119AIR.M  
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA\_L Thu May 03 09:02:00 2019  
 QLast Update : Thu May 02 06:29:02 2019  
 Response via : Initial Calibration

| Internal Standards      | R.T.  | QIon | Response | Conc  | Units | Dev(Min) |
|-------------------------|-------|------|----------|-------|-------|----------|
| 1) Bromochloromethane   | 5.76  | 49   | 865178   | 10.00 | ppbv  | 0.00     |
| 33) 1,4-Difluorobenzene | 7.28  | 114  | 1972219  | 10.00 | ppbv  | 0.00     |
| 55) Chlorobenzene-d5    | 12.23 | 117  | 1987958  | 10.00 | ppbv  | 0.00     |

## System Monitoring Compounds

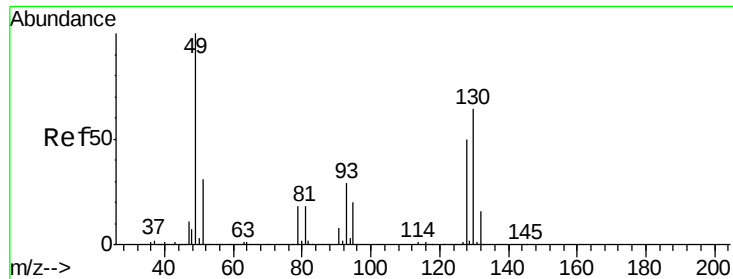
|                             |        |       |          |          |      |         |          |
|-----------------------------|--------|-------|----------|----------|------|---------|----------|
| 68) 1-Bromo-4-Fluorobenzene | 14.57  | 95    | 1625779  | 10.74    | ppbv | 0.00    | MMDadoda |
| Spiked Amount               | 10.000 | Range | 65 - 135 | Recovery | =    | 107.40% |          |

## Target Compounds

| Target Compounds               | R.T. | QIon | Response | Conc   | Units  | Ovalue              |
|--------------------------------|------|------|----------|--------|--------|---------------------|
| 2) Dichlorodifluoromethane     | 3.08 | 85   | 49328m   | 0.378  | ppbv   |                     |
| 3) Chlorodifluoromethane       | 3.01 | 51   | 47565m   | 0.460  | ppbv   | 5/4/2019 7:18:59 AM |
| 4) Chloromethane               | 3.17 | 50   | 27123    | 0.481  | ppbv   | 92                  |
| 11) Trichlorofluoromethane     | 4.00 | 101  | 44148    | 0.285  | ppbv   | 94                  |
| 12) 1,1,2-Trichlorotrifluoroet | 4.55 | 101  | 8014     | 0.075  | ppbv   | 88                  |
| 13) Ethanol                    | 3.64 | 45   | 611223   | 45.513 | ppbv   | 99                  |
| 15) Acetone                    | 3.90 | 43   | 405126   | 3.846  | ppbv   | 99                  |
| 19) Isopropyl Alcohol          | 4.03 | 45   | 157588   | 2.180  | ppbv # | 91                  |
| 20) Methylene Chloride         | 4.41 | 84   | 35691    | 0.869  | ppbv   | 95                  |
| 26) Hexane                     | 5.78 | 57   | 40187m   | 0.477  | ppbv   |                     |
| 34) 2-Butanone                 | 5.33 | 43   | 25174m   | 0.208  | ppbv   |                     |
| 35) Carbon Tetrachloride       | 7.12 | 117  | 10835m   | 0.069  | ppbv   |                     |
| 53) Toluene                    | 9.94 | 91   | 1121053  | 5.286  | ppbv   | 100                 |

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





#1

Bromochloromethane

Concen: 10.000 ppbv

RT: 5.76 min Scan# 877

Delta R.T. 0.00 min

Lab File: VL033642.D

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Instrument :

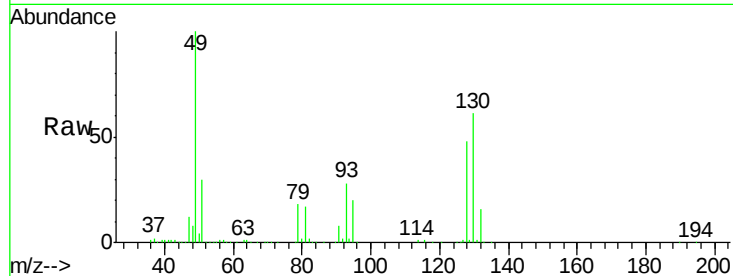
MSVOA\_L

ClientSampled :

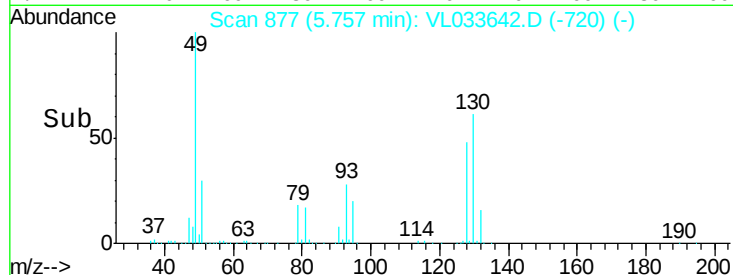
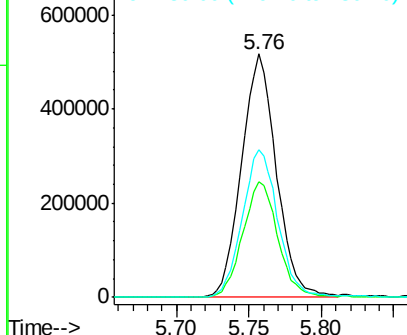
A-9

|           |       |       |        |
|-----------|-------|-------|--------|
| Tot Ion:  | 49    | Resp: | 865178 |
| Ion Ratio | Lower | Upper |        |
| 49        | 100   |       |        |
| 128       | 48.4  | 25.0  | 75.0   |
| 130       | 62.4  | 31.9  | 95.9   |

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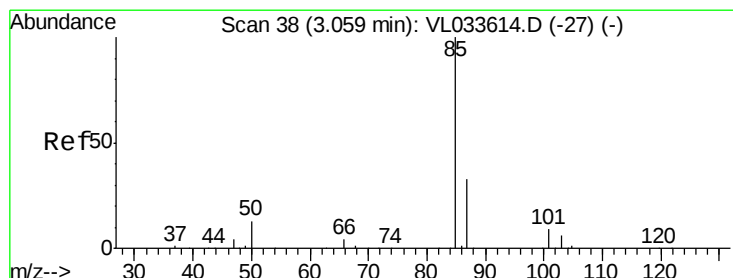


Abundance Ion 49.10 (48.80 to 49.80): VL0  
Ion 128.00 (127.70 to 128.70): V  
Ion 130.00 (129.70 to 130.70): V



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#2

Dichlorodifluoromethane

Concen: 0.378 ppbv m

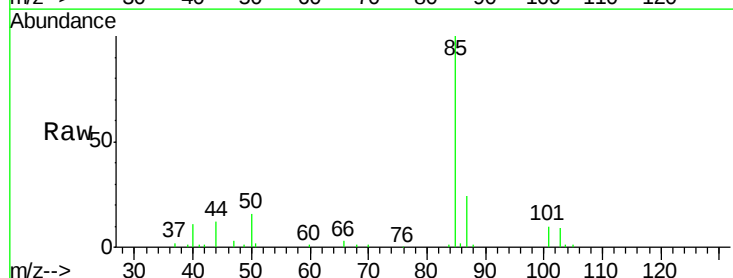
RT: 3.08 min Scan# 44

Delta R.T. 0.02 min

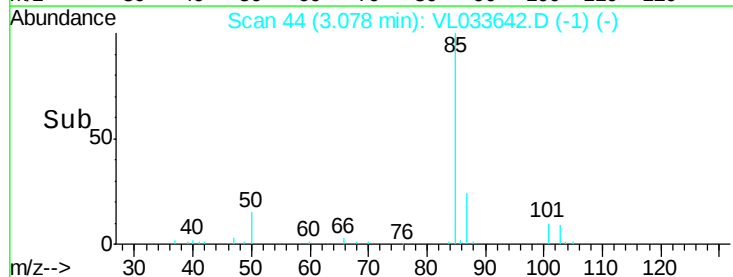
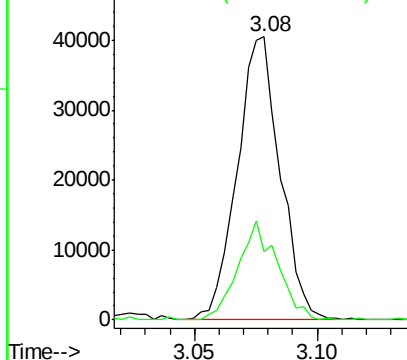
Lab File: VL033642.D

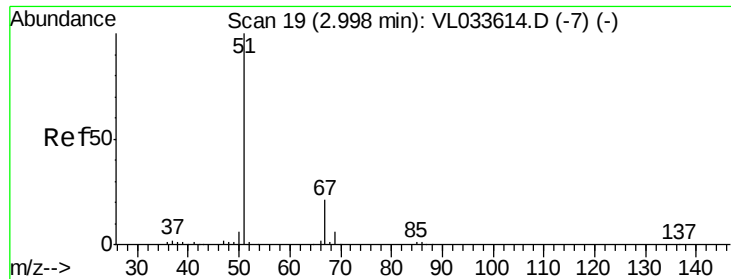
Acq: 3 May 2019 00:24

|           |       |       |       |
|-----------|-------|-------|-------|
| Tgt Ion:  | 85    | Resp: | 49328 |
| Ion Ratio | Lower | Upper |       |
| 85        | 100   |       |       |
| 87        | 24.3  | 26.8  | 40.2# |



Abundance Ion 85.00 (84.70 to 85.70): VL0  
Ion 87.00 (86.70 to 87.70): VL0





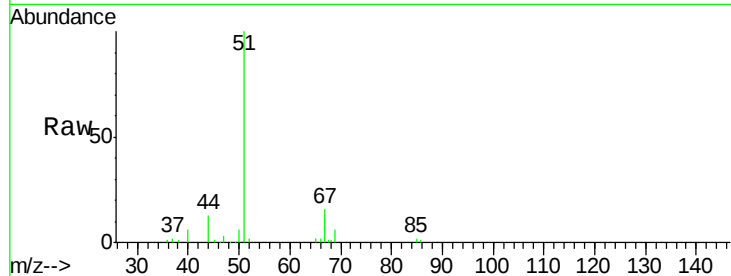
#3

Chlorodifluoromethane  
Concen: 0.460 ppbv  
RT: 3.01 min Scan# 24  
Delta R.T. 0.02 min  
Lab File: VL033642.D  
Acq: 3 May 2019 00:24

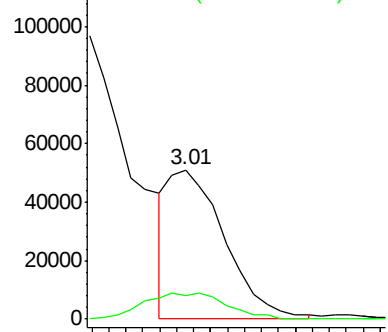
Instrument :  
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ClientSampled :  
A-9

Tot Ion: 51 Resp: 47565  
Ion Ratio Lower Upper  
51 100  
67 26.0 15.6 23.4#

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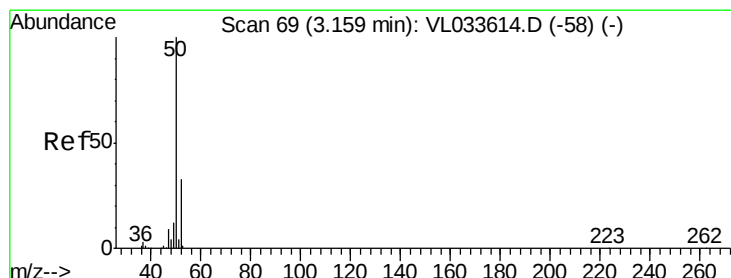
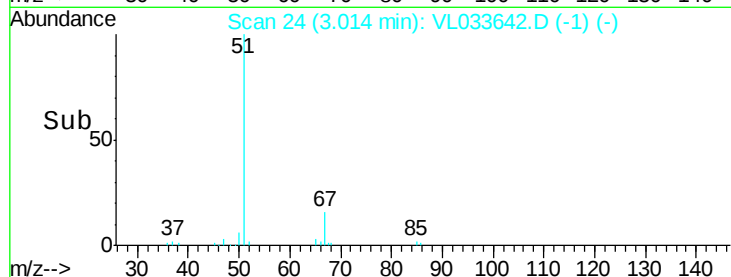


Abundance Ion 51.00 (50.70 to 51.70): VL0  
Ion 67.00 (66.70 to 67.70): VL0



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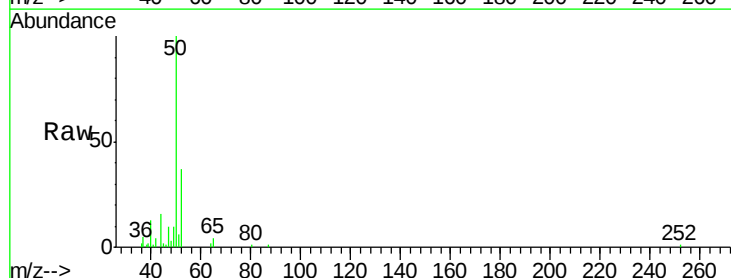
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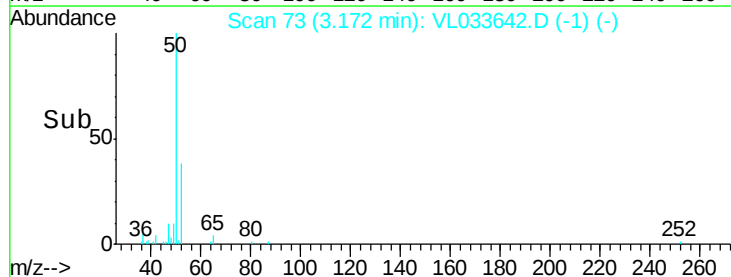
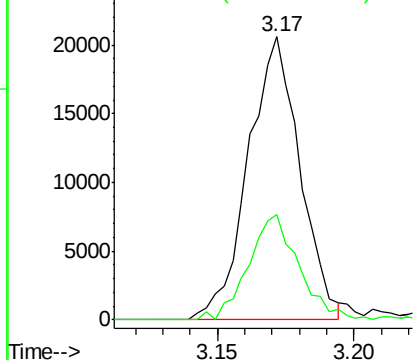
#4

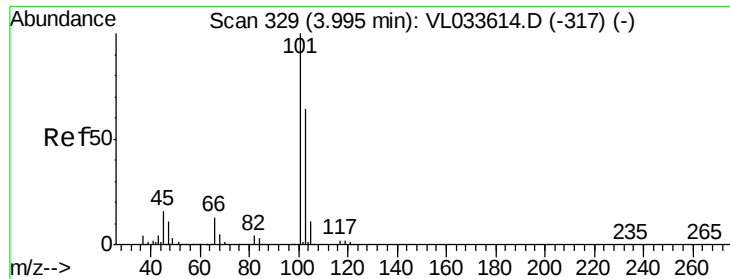
Chloromethane  
Concen: 0.481 ppbv  
RT: 3.17 min Scan# 73  
Delta R.T. 0.01 min  
Lab File: VL033642.D  
Acq: 3 May 2019 00:24

Tgt Ion: 50 Resp: 27123  
Ion Ratio Lower Upper  
50 100  
52 37.2 26.0 39.0



Abundance Ion 50.10 (49.80 to 50.80): VL0  
Ion 52.10 (51.80 to 52.80): VL0



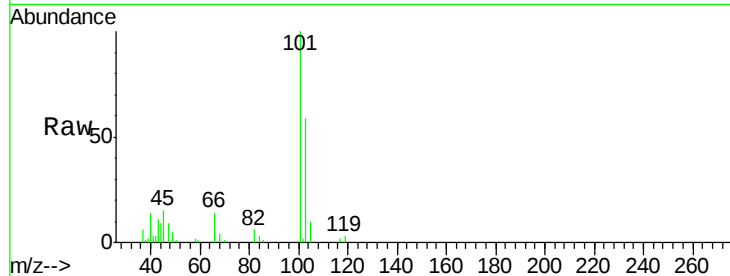


#11  
 Trichlorofluoromethane  
 Concen: 0.285 ppbv  
 RT: 4.00 min Scan# 332  
 Delta R.T. 0.01 min  
 Lab File: VL033642.D  
 Acq: 3 May 2019 00:24

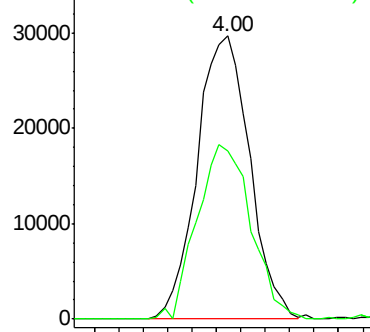
Instrument :  
 MSVOA\_L  
 ClientSampleId :  
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Tot Ion:101 Resp: 44148  
 Ion Ratio Lower Upper  
 101 100  
 103 59.3 51.2 76.8

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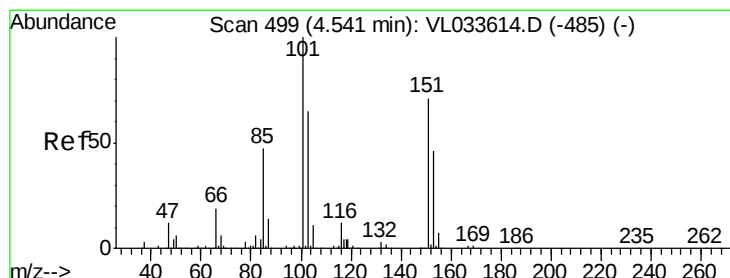
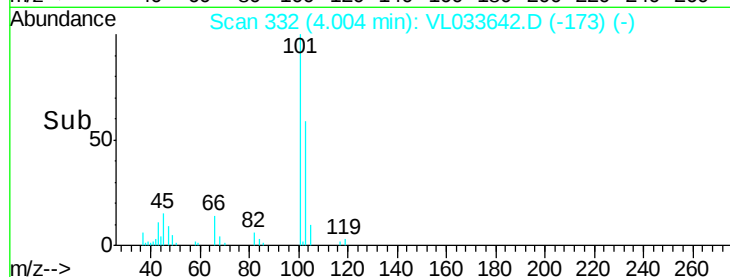


Abundance Ion 101.00 (100.70 to 101.70): V  
 Ion 103.00 (102.70 to 103.70): V



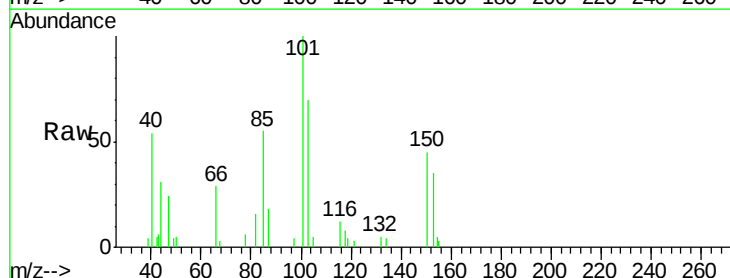
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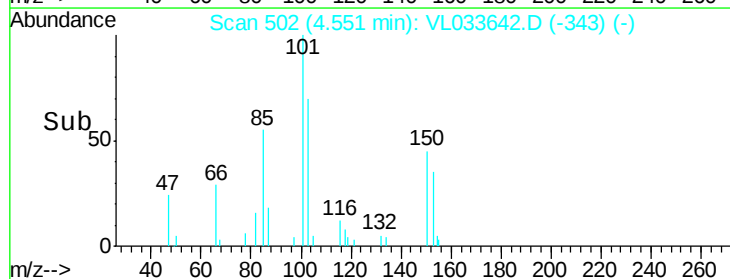
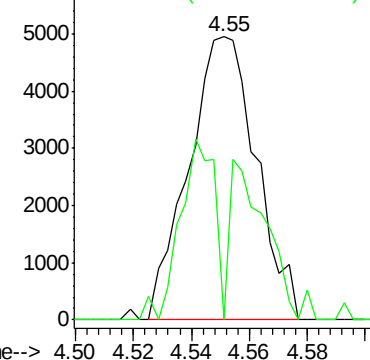


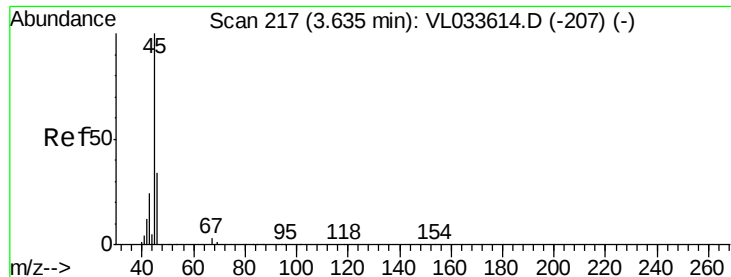
#12  
 1,1,2-Trichlorotrifluoroethane  
 Concen: 0.075 ppbv  
 RT: 4.55 min Scan# 502  
 Delta R.T. 0.01 min  
 Lab File: VL033642.D  
 Acq: 3 May 2019 00:24

Tgt Ion:101 Resp: 8014  
 Ion Ratio Lower Upper  
 101 100  
 151 64.1 59.2 88.8



Abundance Ion 101.00 (100.70 to 101.70): V  
 Ion 151.00 (150.70 to 151.70): V



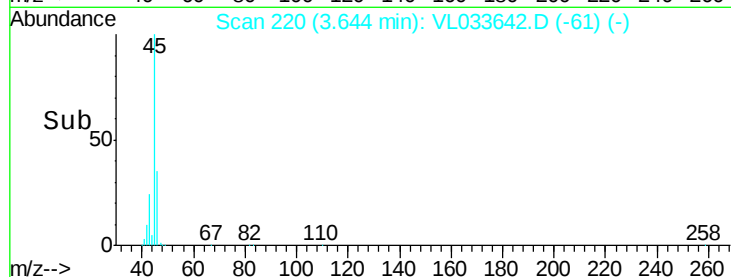
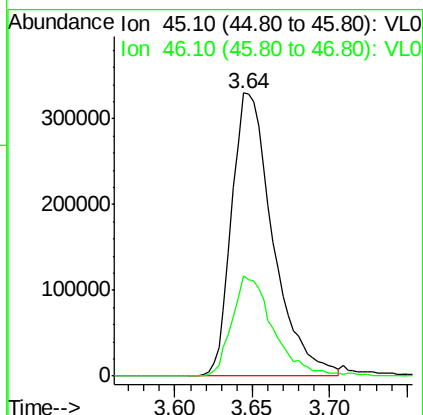
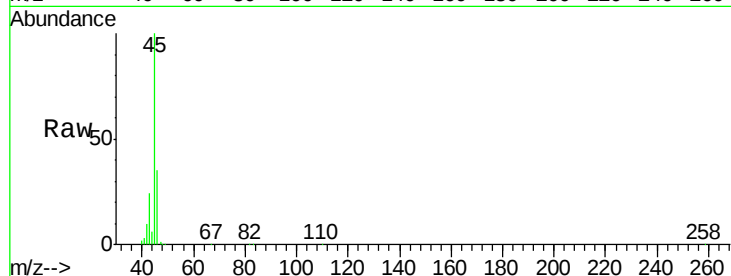


#13  
Ethanol  
Concen: 45.513 ppbv  
RT: 3.64 min Scan# 220  
Delta R.T. 0.01 min  
Lab File: VL033642.D  
Acq: 3 May 2019 00:24

Instrument :  
MSVOA\_L  
ClientSampled :  
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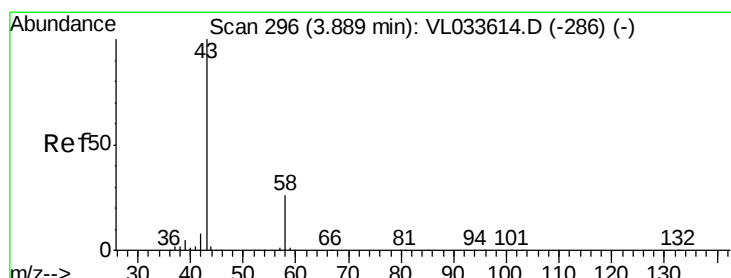
| Tot Ion | 45     | 46   | Ratio | Lower | Upper |
|---------|--------|------|-------|-------|-------|
| Resp    | 611223 |      |       |       |       |
| Ion     | 100    | 35.9 |       |       |       |
|         |        |      | 14.6  | 58.2  |       |

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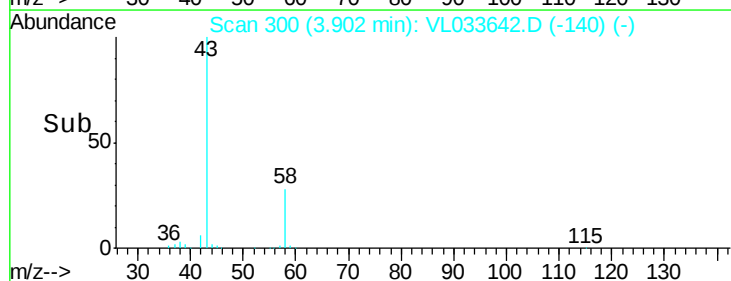
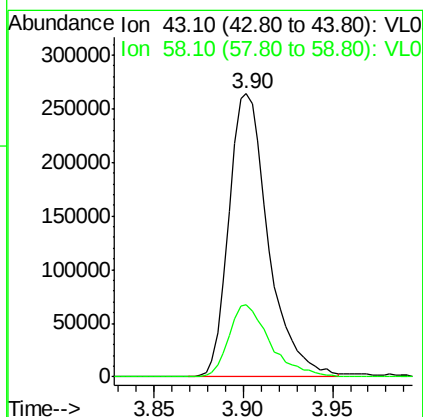
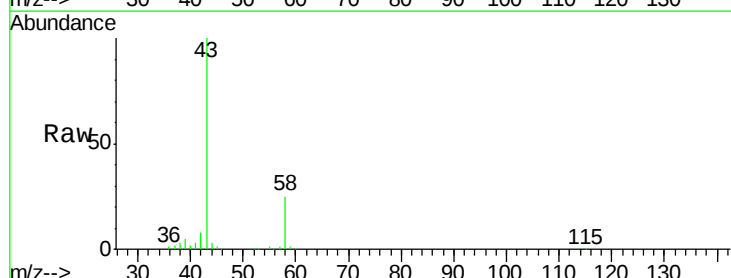
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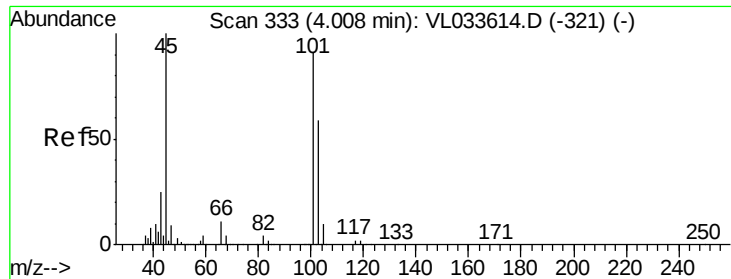
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#15  
Acetone  
Concen: 3.846 ppbv  
RT: 3.90 min Scan# 300  
Delta R.T. 0.01 min  
Lab File: VL033642.D  
Acq: 3 May 2019 00:24

| Tgt Ion | 43     | 58   | Ratio | Lower | Upper |
|---------|--------|------|-------|-------|-------|
| Resp    | 405126 |      |       |       |       |
| Ion     | 100    | 26.8 |       |       |       |
|         |        |      | 21.2  | 31.8  |       |



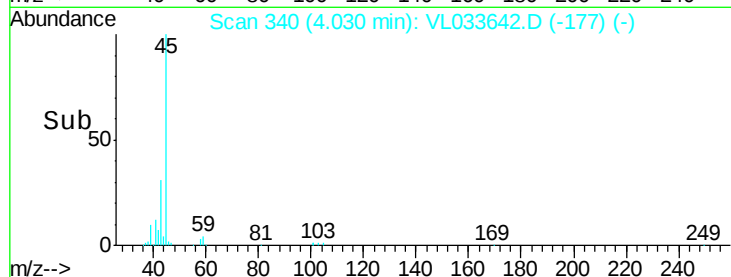
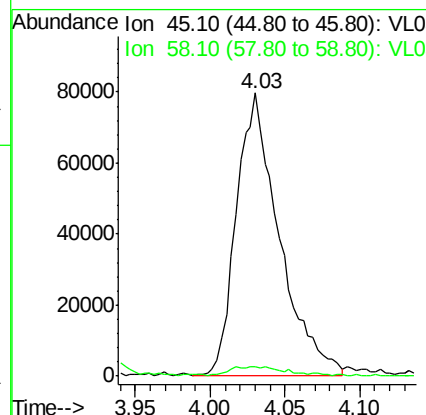
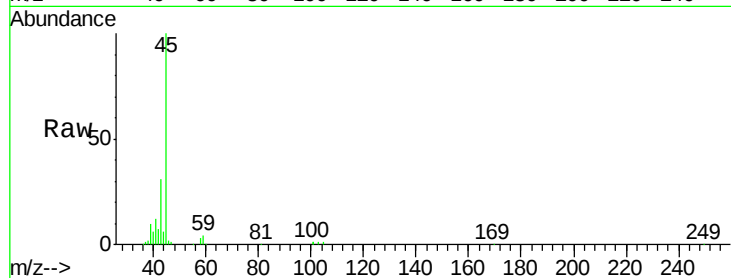


#19  
Isopropyl Alcohol  
Concen: 2.180 ppbv  
RT: 4.03 min Scan# 340  
Delta R.T. 0.02 min  
Lab File: VL033642.D  
Acq: 3 May 2019 00:24

Instrument :  
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ClientSampleId :  
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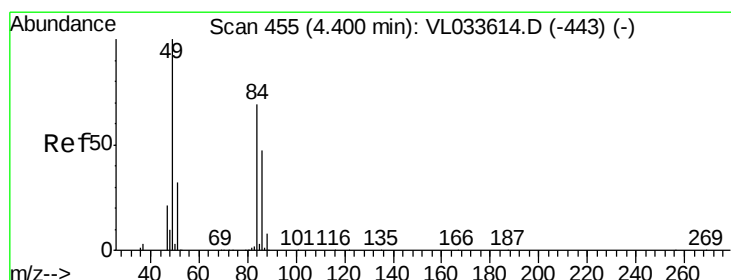
Tot Ion: 45 Resp: 157588  
Ion Ratio Lower Upper  
45 100  
58 5.4 1.8 2.6#

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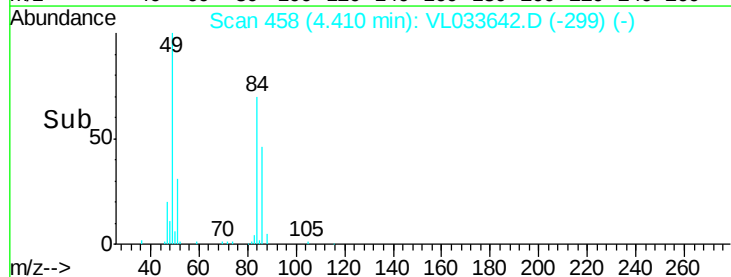
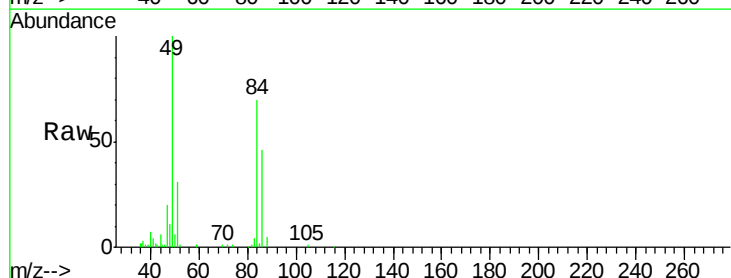
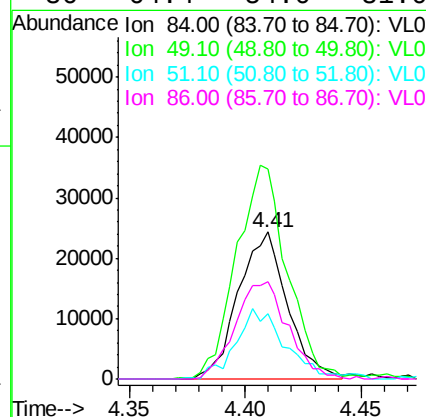
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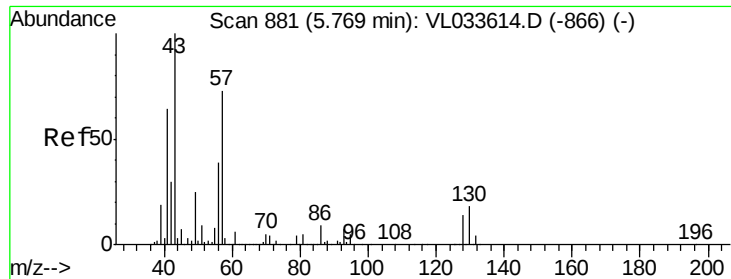
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#20  
Methylene Chloride  
Concen: 0.869 ppbv  
RT: 4.41 min Scan# 458  
Delta R.T. 0.01 min  
Lab File: VL033642.D  
Acq: 3 May 2019 00:24

Tgt Ion: 84 Resp: 35691  
Ion Ratio Lower Upper  
84 100  
49 138.1 116.2 174.2  
51 42.9 37.0 55.6  
86 64.4 54.0 81.0



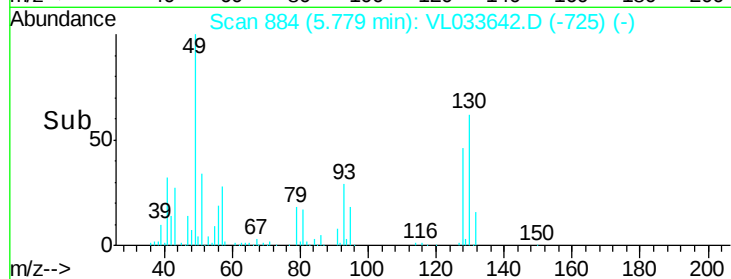
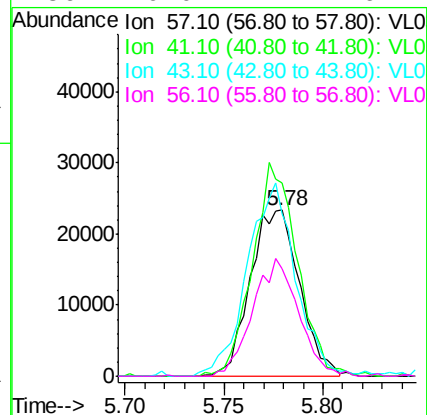
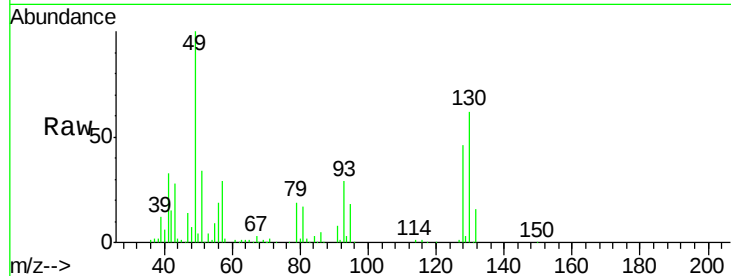


#26  
Hexane  
Concen: 0.477 ppbv m  
RT: 5.78 min Scan# 884  
Delta R.T. 0.01 min  
Lab File: VL033642.D  
Acq: 3 May 2019 00:24

Instrument :  
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ClientSampled :  
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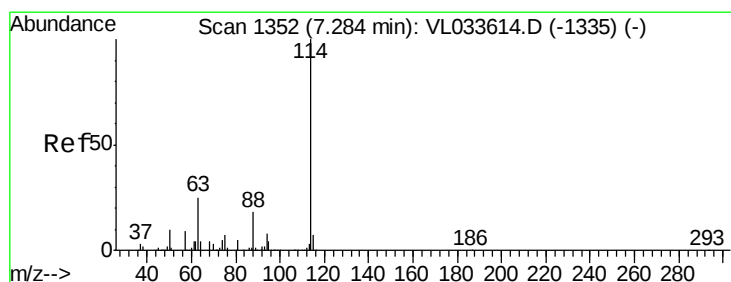
| Tot Ion | 57    | Resp  | 40187  |
|---------|-------|-------|--------|
| Ion     | Ratio | Lower | Upper  |
| 57      | 100   |       |        |
| 41      | 117.5 | 70.6  | 106.0# |
| 43      | 0.0   | 186.0 | 279.0# |
| 56      | 0.0   | 42.7  | 64.1#  |

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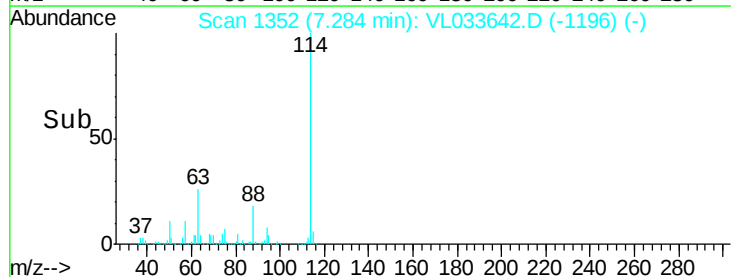
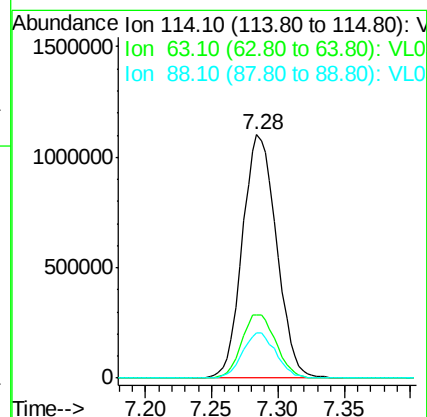
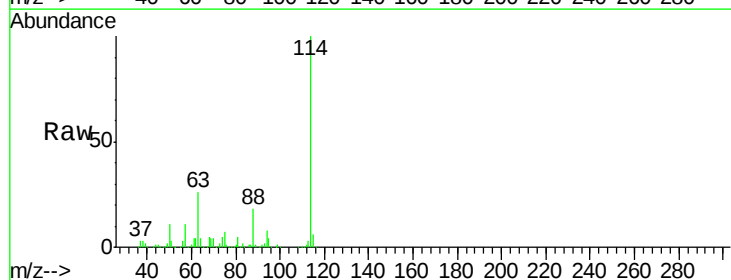
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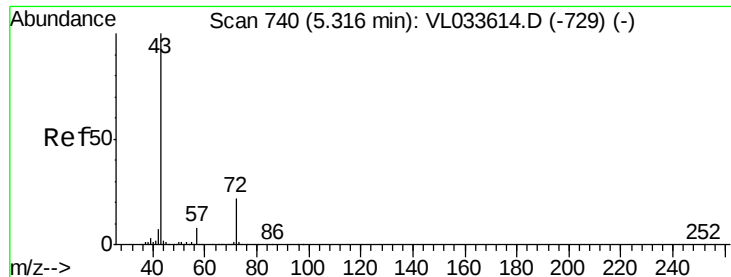
5/4/2019 7:18:59 AM



#33  
1,4-Difluorobenzene  
Concen: 10.000 ppbv  
RT: 7.28 min Scan# 1352  
Delta R.T. 0.00 min  
Lab File: VL033642.D  
Acq: 3 May 2019 00:24

| Tgt Ion | 114   | Resp  | 1972219 |
|---------|-------|-------|---------|
| Ion     | Ratio | Lower | Upper   |
| 114     | 100   |       |         |
| 63      | 26.5  | 21.1  | 31.7    |
| 88      | 18.3  | 14.2  | 21.4    |



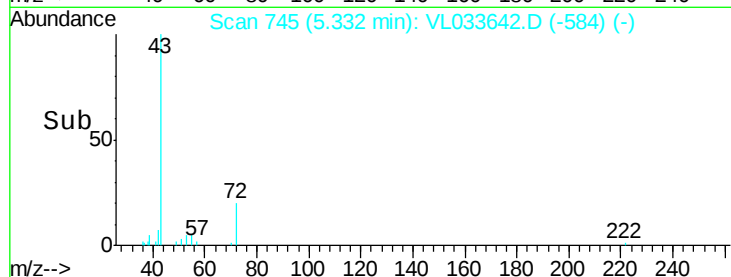
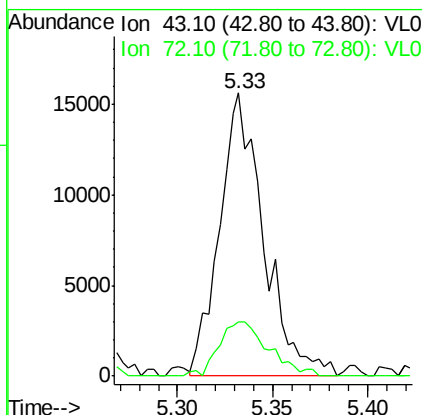
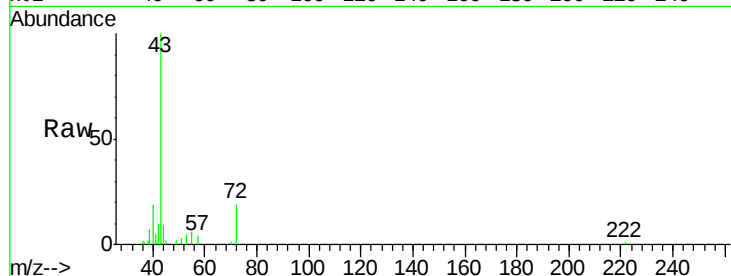


#34  
2-Butanone  
Concen: 0.208 ppbv m  
RT: 5.33 min Scan# 745  
Delta R.T. 0.02 min  
Lab File: VL033642.D  
Acq: 3 May 2019 00:24

Instrument :  
MSVOA\_L  
ClientSampled :  
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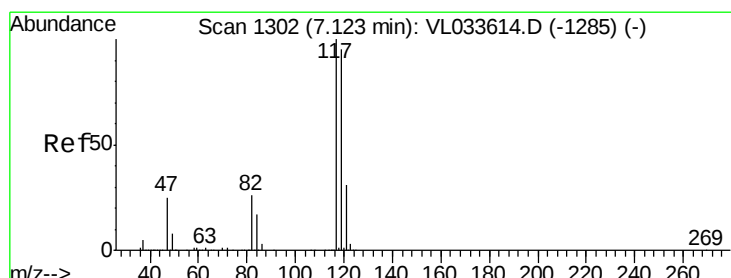
| Tot Ion   | 43   | Resp  | 25174 |
|-----------|------|-------|-------|
| Ion Ratio | 100  | Lower | Upper |
| 72        | 21.7 | 17.8  | 26.8  |

Manual Integrations  
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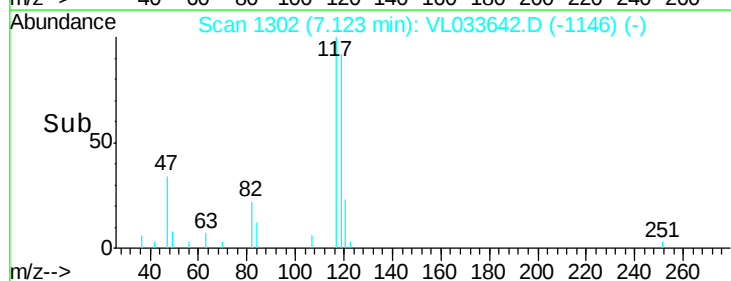
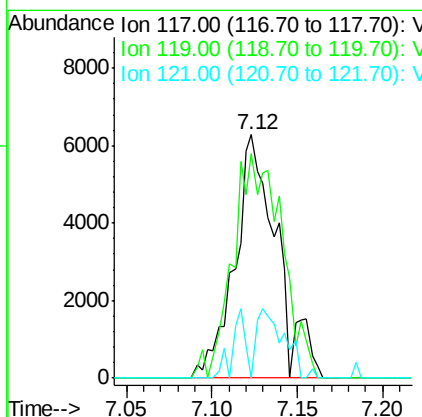
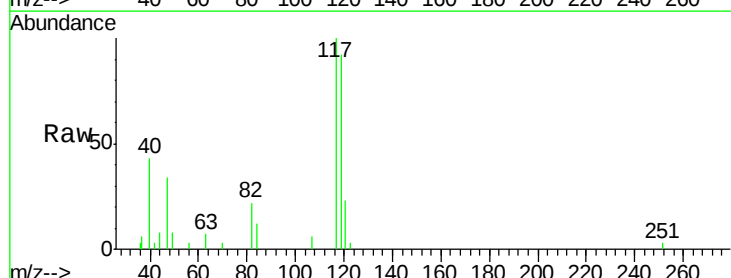
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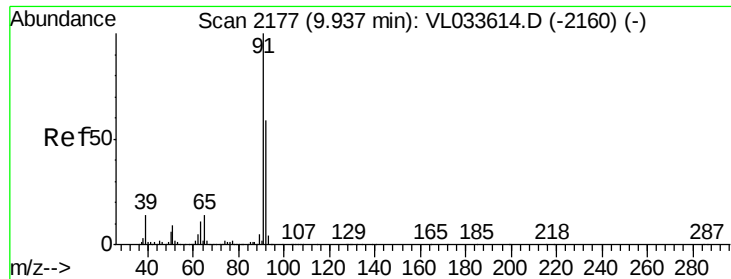
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#35  
Carbon Tetrachloride  
Concen: 0.069 ppbv m  
RT: 7.12 min Scan# 1302  
Delta R.T. 0.00 min  
Lab File: VL033642.D  
Acq: 3 May 2019 00:24

| Tgt Ion   | 117  | Resp  | 10835 |
|-----------|------|-------|-------|
| Ion Ratio | 100  | Lower | Upper |
| 119       | 92.1 | 76.2  | 114.4 |
| 121       | 0.0  | 24.9  | 37.3# |





#53

Toluene

Concen: 5.286 ppbv

RT: 9.94 min Scan# 2178

Delta R.T. 0.00 min

Lab File: VL033642.D

Acq: 3 May 2019 00:24

Instrument :

MSVOA\_L

ClientSampled :

A-9

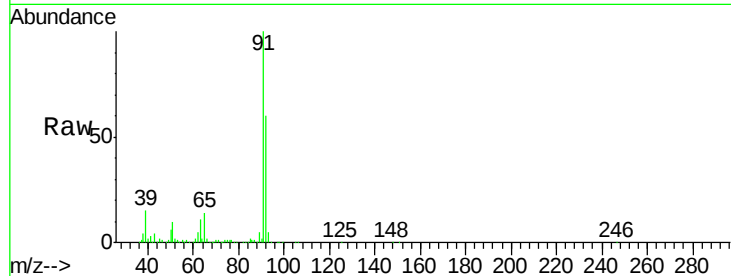
Tot Ion: 91 Resp: 1121053

Ion Ratio Lower Upper

91 100

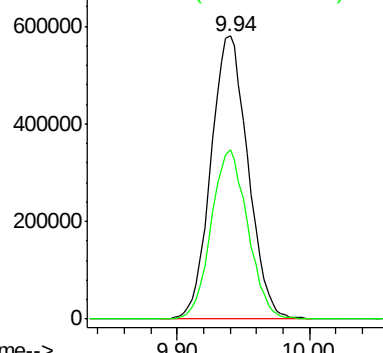
92 59.4 47.8 71.6

Manual Integrations  
APPROVED



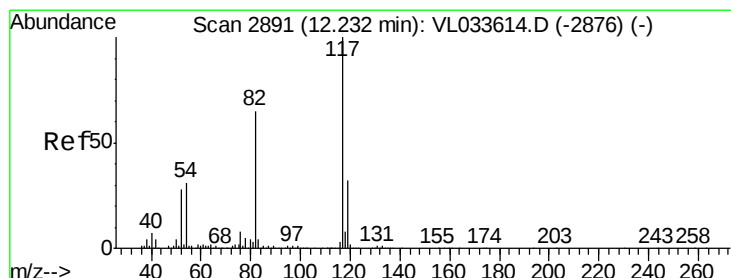
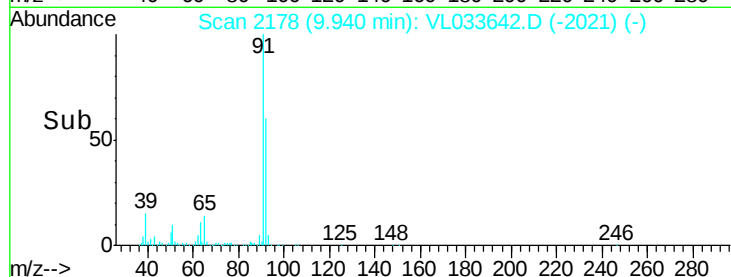
Abundance Ion 91.10 (90.80 to 91.80): VL0

Ion 92.10 (91.80 to 92.80): VL0



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#55

Chlorobenzene-d5

Concen: 10.000 ppbv

RT: 12.23 min Scan# 2891

Delta R.T. 0.00 min

Lab File: VL033642.D

Acq: 3 May 2019 00:24

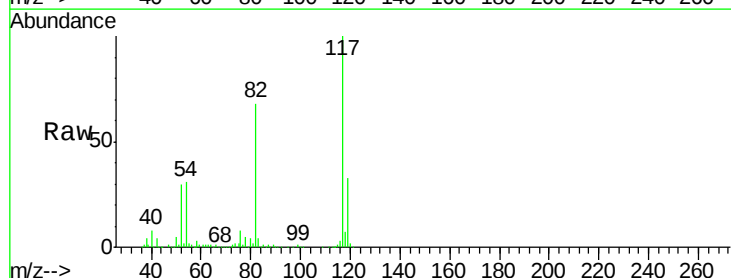
Tgt Ion: 117 Resp: 1987958

Ion Ratio Lower Upper

117 100

82 68.2 52.6 78.8

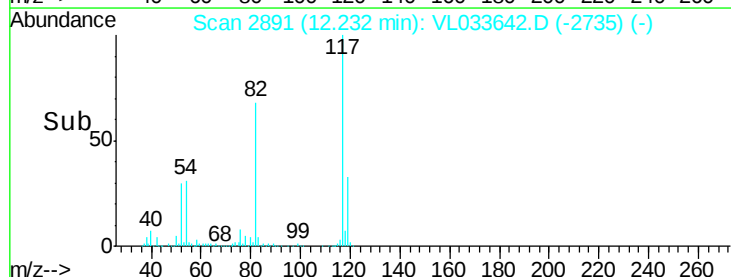
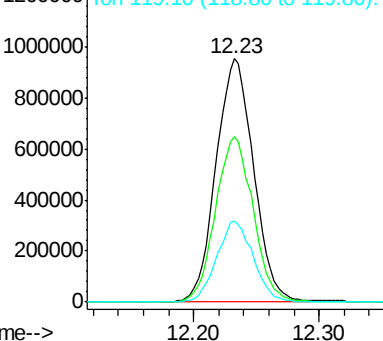
119 32.6 28.3 42.5

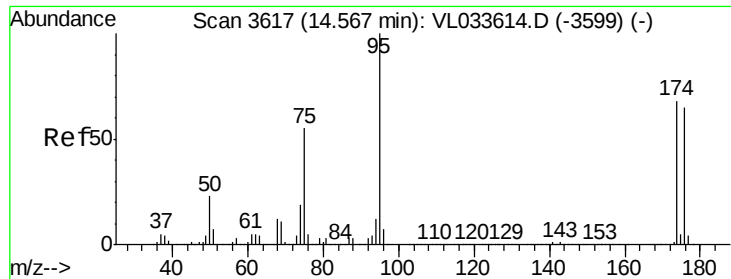


Abundance Ion 117.10 (116.80 to 117.80): V

Ion 82.10 (81.80 to 82.80): VL0

Ion 119.10 (118.80 to 119.80): V



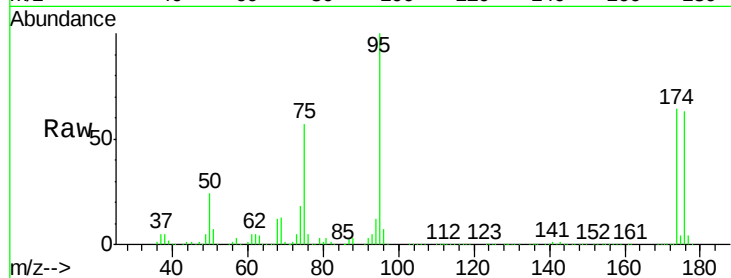


#68  
 1-Bromo-4-Fluorobenzene  
 Concen: 10.742 ppbv  
 RT: 14.57 min Scan# 3618  
 Delta R.T. 0.00 min  
 Lab File: VL033642.D  
 Acq: 3 May 2019 00:24

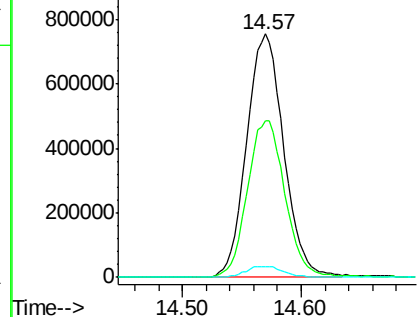
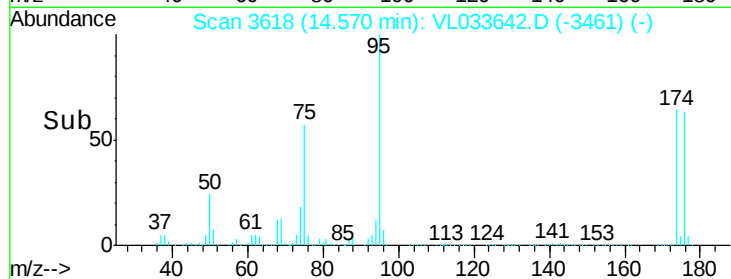
Instrument :  
 MSVOA\_L  
 ClientSampleId :  
 A-9

Tot Ion: 95 Resp: 1625779  
 Ion Ratio Lower Upper  
 95 100  
 174 66.1 53.9 80.9  
 175 4.7 4.0 6.0

Manual Integrations  
 APPROVED



Abundance Ion 95.10 (94.80 to 95.80): VL0  
 Ion 174.00 (173.70 to 174.70): V  
 Ion 175.00 (174.70 to 175.70): V



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