

Data Path : Z:\VOASRV\HPCHEM1\MSVOA U\DATA\U110419\  
 Data File : VU035610.D  
 Acq On : 04 Nov 2019 16:07  
 Operator : JC/SP  
 Sample : K5656-09DL 4X  
 Misc : 25.0mL/MSVOA U/WATER  
 ALS Vial : 14 Sample Multiplier: 1

Instrument :  
 MSVOA\_U  
 ClientSampleId :  
 A5457DL

Quant Time: Nov 05 10:31:01 2019  
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA\_U\METHOD\SOMUTR110419WMA.M  
 Quant Title : TRACE VOA SOM01.0  
 QLast Update : Tue Nov 05 02:35:58 2019  
 Response via : Initial Calibration

| Internal Standards         | R.T.  | QIon | Response | Conc | Units | Dev(Min) |
|----------------------------|-------|------|----------|------|-------|----------|
| 1) 1,4-Difluorobenzene     | 6.30  | 114  | 236424   | 5.00 | ug/L  | 0.00     |
| 28) Chlorobenzene-d5       | 9.45  | 117  | 262277   | 5.00 | ug/L  | 0.00     |
| 60) 1,4-Dichlorobenzene-d4 | 11.84 | 152  | 116232   | 5.00 | ug/L  | 0.00     |

## System Monitoring Compounds

|                                |        |       |          |          |      |         |
|--------------------------------|--------|-------|----------|----------|------|---------|
| 4) Vinyl Chloride-d3           | 1.61   | 65    | 110164   | 4.53     | ug/L | 0.00    |
| Spiked Amount                  | 5.000  | Range | 40 - 130 | Recovery | =    | 90.60%  |
| 7) Chloroethane-d5             | 1.93   | 69    | 95415    | 4.79     | ug/L | 0.00    |
| Spiked Amount                  | 5.000  | Range | 65 - 130 | Recovery | =    | 95.80%  |
| 11) 1,1-Dichloroethene-d2      | 2.59   | 63    | 145083   | 3.54     | ug/L | 0.00    |
| Spiked Amount                  | 5.000  | Range | 60 - 125 | Recovery | =    | 70.80%  |
| 20) 2-Butanone-d5              | 4.71   | 46    | 259972   | 48.38    | ug/L | 0.00    |
| Spiked Amount                  | 50.000 | Range | 40 - 130 | Recovery | =    | 96.76%  |
| 24) Chloroform-d               | 5.12   | 84    | 177491   | 4.58     | ug/L | 0.00    |
| Spiked Amount                  | 5.000  | Range | 70 - 125 | Recovery | =    | 91.60%  |
| 26) 1,2-Dichloroethane-d4      | 5.75   | 65    | 96767    | 4.75     | ug/L | 0.00    |
| Spiked Amount                  | 5.000  | Range | 70 - 130 | Recovery | =    | 95.00%  |
| 32) Benzene-d6                 | 5.77   | 84    | 385379   | 4.67     | ug/L | 0.00    |
| Spiked Amount                  | 5.000  | Range | 70 - 125 | Recovery | =    | 93.40%  |
| 36) 1,2-Dichloropropane-d6     | 6.74   | 67    | 123471   | 4.63     | ug/L | 0.00    |
| Spiked Amount                  | 5.000  | Range | 60 - 140 | Recovery | =    | 92.60%  |
| 41) Toluene-d8                 | 7.93   | 98    | 350128   | 4.48     | ug/L | 0.00    |
| Spiked Amount                  | 5.000  | Range | 70 - 130 | Recovery | =    | 89.60%  |
| 43) trans-1,3-Dichloropropene- | 8.22   | 79    | 47067    | 4.41     | ug/L | 0.00    |
| Spiked Amount                  | 5.000  | Range | 55 - 130 | Recovery | =    | 88.20%  |
| 46) 2-Hexanone-d5              | 8.68   | 63    | 195697   | 46.84    | ug/L | 0.00    |
| Spiked Amount                  | 50.000 | Range | 45 - 130 | Recovery | =    | 93.68%  |
| 57) 1,1,2,2-Tetrachloroethane- | 10.79  | 84    | 105049   | 4.69     | ug/L | 0.00    |
| Spiked Amount                  | 5.000  | Range | 65 - 120 | Recovery | =    | 93.80%  |
| 64) 1,2-Dichlorobenzene-d4     | 12.22  | 152   | 116308   | 5.05     | ug/L | 0.00    |
| Spiked Amount                  | 5.000  | Range | 80 - 120 | Recovery | =    | 101.00% |

## Target Compounds

| Target Compounds            | R.T. | QIon | Response | Conc   | Units | Ovalue |
|-----------------------------|------|------|----------|--------|-------|--------|
| 6) Bromomethane             | 1.88 | 94   | 8520     | 0.497  | ug/L  | 93     |
| 12) 1,1-Dichloroethene      | 2.61 | 96   | 10046    | 0.483  | ug/L  | # 1    |
| 14) Carbon disulfide        | 2.82 | 76   | 115170   | 1.708  | ug/L  | 100    |
| 15) Methyl Acetate          | 3.00 | 43   | 92854    | 10.318 | ug/L  | 98     |
| 16) Methylene chloride      | 3.08 | 84   | 33098    | 1.343  | ug/L  | 97     |
| 17) Methyl tert-butyl Ether | 3.43 | 73   | 132467   | 2.719  | ug/L  | 99     |
| 21) 2-Butanone              | 4.79 | 43   | 43890    | 7.630  | ug/L  | 93     |
| 22) cis-1,2-Dichloroethene  | 4.72 | 96   | 38132    | 1.613  | ug/L  | 96     |
| 27) 1,2-Dichloroethane      | 5.84 | 62   | 32529    | 1.352  | ug/L  | 99     |
| 30) Cyclohexane             | 5.43 | 56   | 91825    | 2.660  | ug/L  | 97     |
| 33) Benzene                 | 5.82 | 78   | 120577   | 1.306  | ug/L  | 100    |
| 34) Trichloroethene         | 6.58 | 95   | 20266    | 0.858  | ug/L  | 97     |
| 35) Methylcyclohexane       | 6.80 | 83   | 174342   | 4.845  | ug/L  | 100    |
| 40) 4-Methyl-2-pentanone    | 7.84 | 43   | 84345    | 6.031  | ug/L  | 97     |
| 42) Toluene                 | 8.01 | 91   | 383838   | 3.952  | ug/L  | 99     |
| 47) Tetrachloroethene       | 8.58 | 164  | 23053    | 1.120  | ug/L  | 96     |
| 48) 2-Hexanone              | 8.74 | 43   | 67078    | 6.749  | ug/L  | 95     |

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Sample : K5656-09DL 4X  
Misc : 25.0mL/MSVOA U/WATER  
ALS Vial : 14 Sample Multiplier: 1

Instrument :  
MSVOA\_U  
ClientSampleId :  
A5457DL

Quant Time: Nov 05 10:31:01 2019  
Quant Method : Z:\VOASRV\HPCHEM1\MSVOA\_U\METHOD\SOMUTR110419WMA.M  
Quant Title : TRACE VOA SOM01.0  
QLast Update : Tue Nov 05 02:35:58 2019  
Response via : Initial Calibration

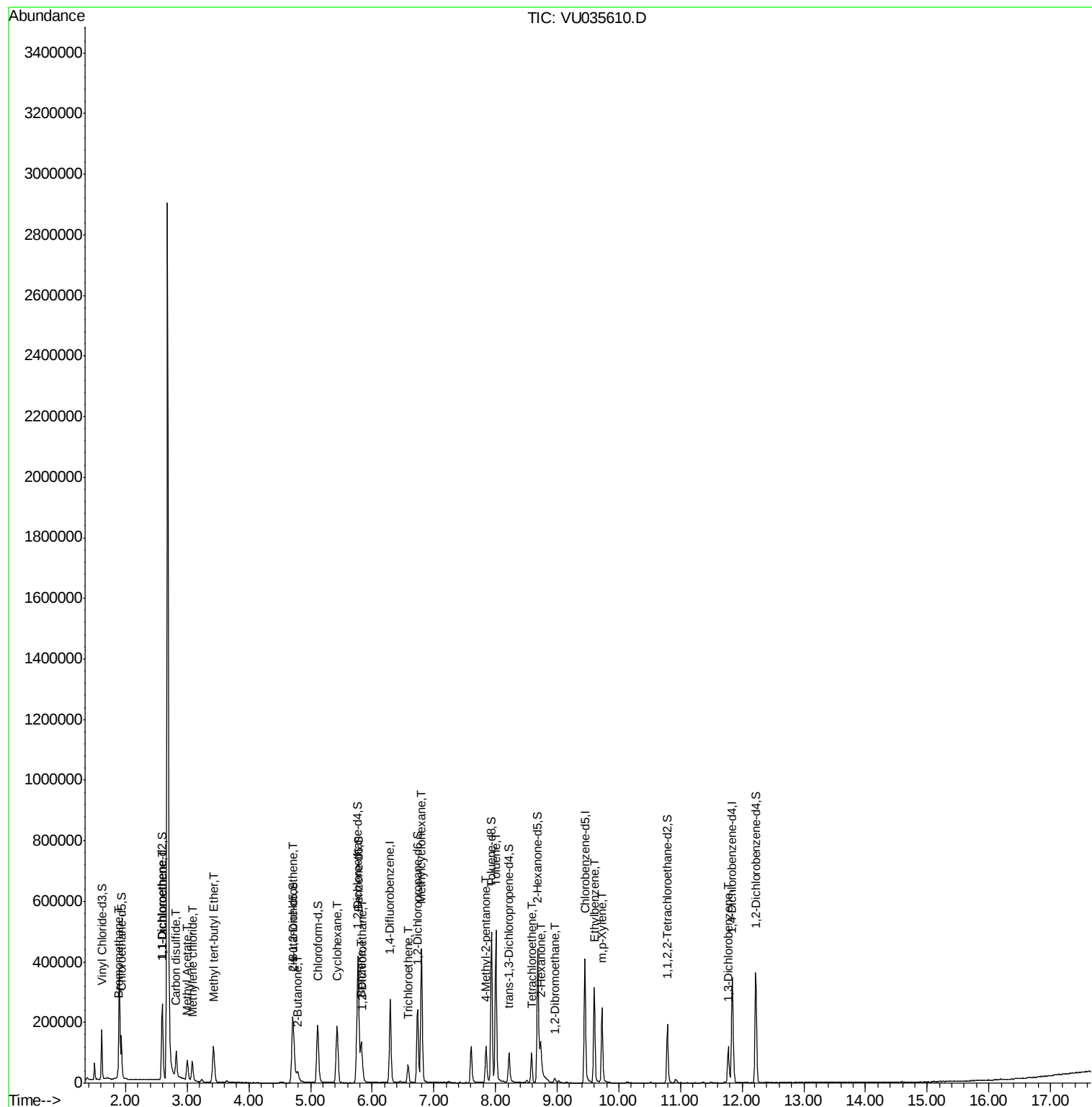
| Internal Standards      | R.T.  | QIon | Response | Conc  | Units  | Dev(Min) |
|-------------------------|-------|------|----------|-------|--------|----------|
| 50) 1,2-Dibromoethane   | 8.96  | 107  | 7581     | 0.459 | ug/L # | 90       |
| 52) Ethylbenzene        | 9.60  | 91   | 229764   | 2.248 | ug/L   | 99       |
| 53) m,p-Xylene          | 9.73  | 106  | 73736    | 1.905 | ug/L   | 97       |
| 62) 1,3-Dichlorobenzene | 11.77 | 146  | 59797    | 1.530 | ug/L   | 98       |

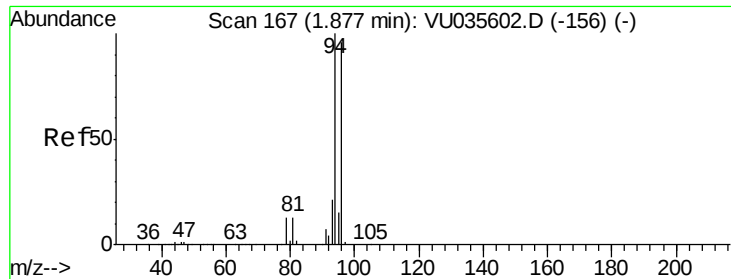
(#) = qualifier out of range (m) = manual integration (+) = signals summed

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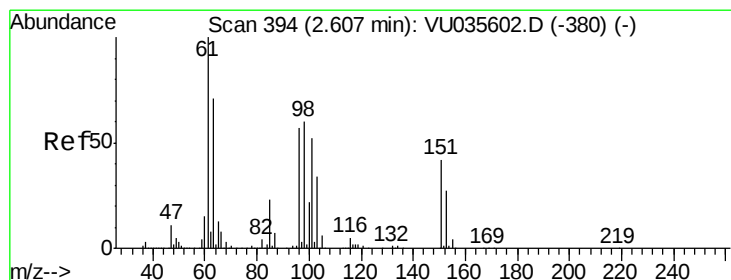
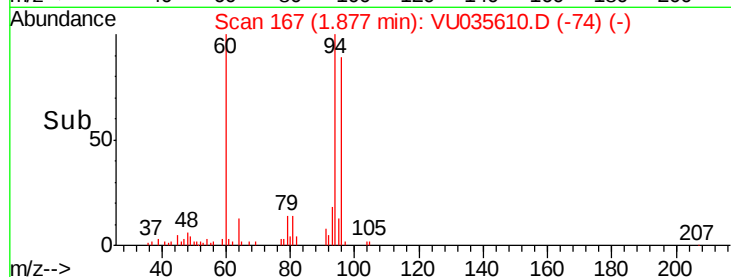
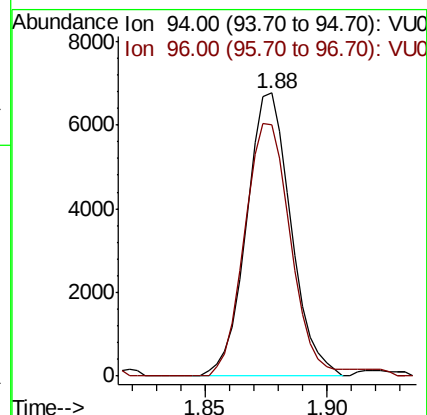
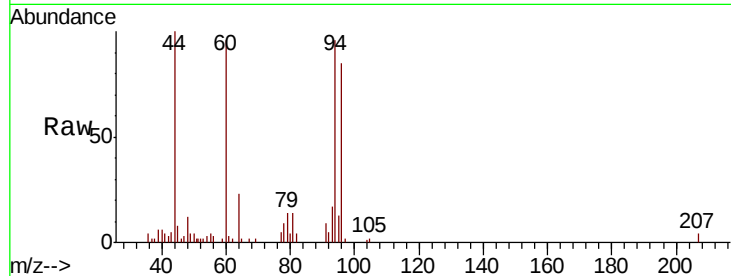




#6  
 Bromomethane  
 Concen: 0.497 ug/L  
 RT: 1.88 min Scan# 167  
 Delta R.T. 0.00 min  
 Lab File: VU035610.D  
 Acq: 04 Nov 2019 16:07

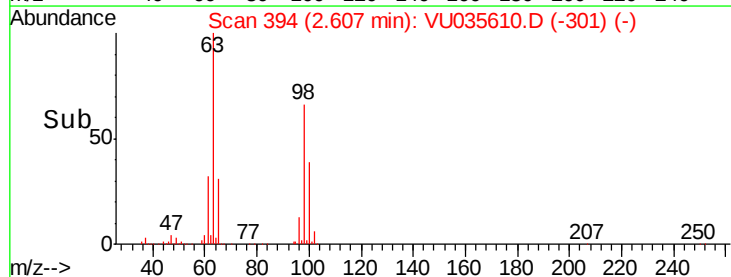
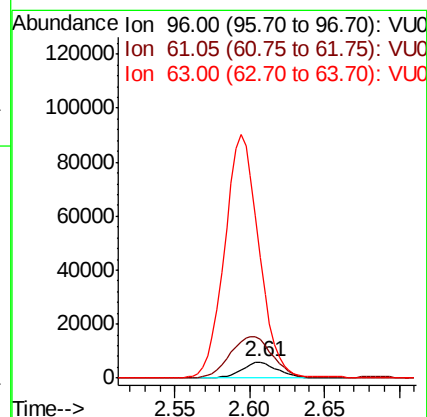
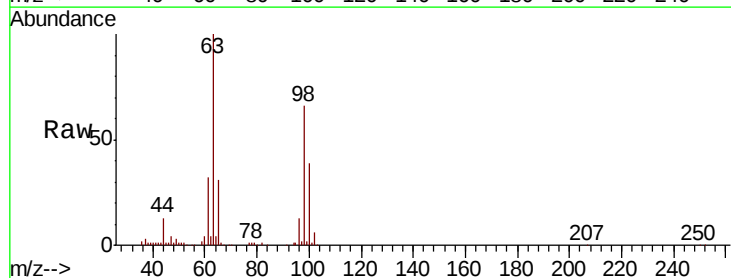
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 A5457DL

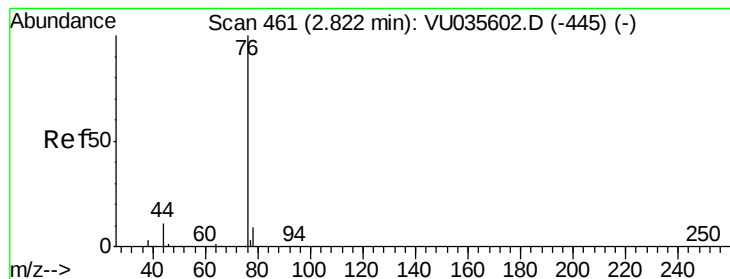
Tot Ion: 94 Resp: 8520  
 Ion Ratio Lower Upper  
 94 100  
 96 89.0 66.8 124.2



#12  
 1,1-Dichloroethene  
 Concen: 0.483 ug/L  
 RT: 2.61 min Scan# 394  
 Delta R.T. 0.00 min  
 Lab File: VU035610.D  
 Acq: 04 Nov 2019 16:07

Tgt Ion: 96 Resp: 10046  
 Ion Ratio Lower Upper  
 96 100  
 61 235.5 123.1 228.5#  
 63 742.6 87.8 163.0#





#14

Carbon disulfide

Concen: 1.708 ug/L

RT: 2.82 min Scan# 460

Delta R.T. -0.00 min

Lab File: VU035610.D

Acq: 04 Nov 2019 16:07

Instrument :

MSVOA\_U

ClientSampleId :

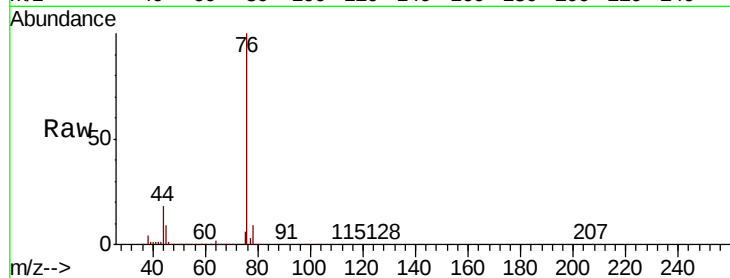
A5457DL

Tot Ion: 76 Resp: 115170

Ion Ratio Lower Upper

76 100

78 9.2 7.4 11.0



Abundance Ion 76.05 (75.75 to 76.75): VU035610.D (-445) (-)

Ion 78.00 (77.70 to 78.70): VU035610.D (-445) (-)

2.82

60000

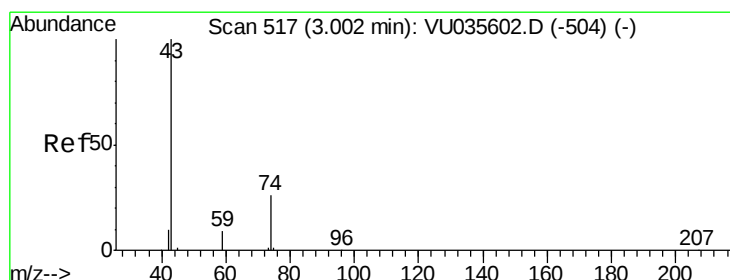
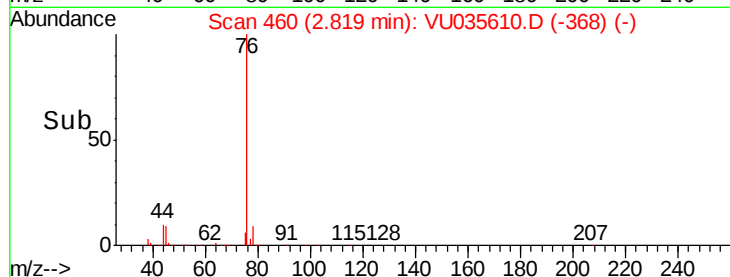
40000

20000

0

Time-->

2.80 2.90



#15

Methyl Acetate

Concen: 10.318 ug/L

RT: 3.00 min Scan# 516

Delta R.T. -0.00 min

Lab File: VU035610.D

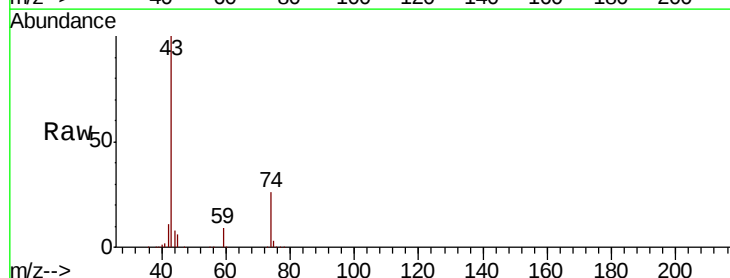
Acq: 04 Nov 2019 16:07

Tgt Ion: 43 Resp: 92854

Ion Ratio Lower Upper

43 100

74 25.4 21.0 31.6



Abundance Ion 43.05 (42.75 to 43.75): VU035610.D (-424) (-)

Ion 74.05 (73.75 to 74.75): VU035610.D (-424) (-)

3.00

50000

40000

30000

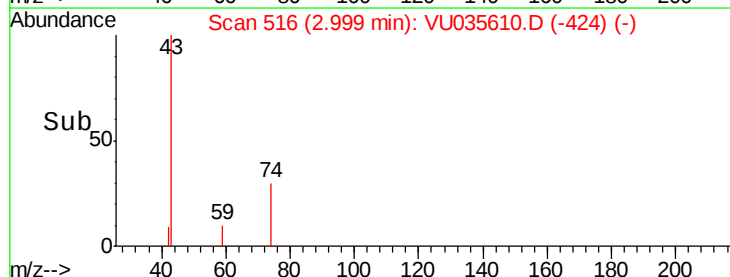
20000

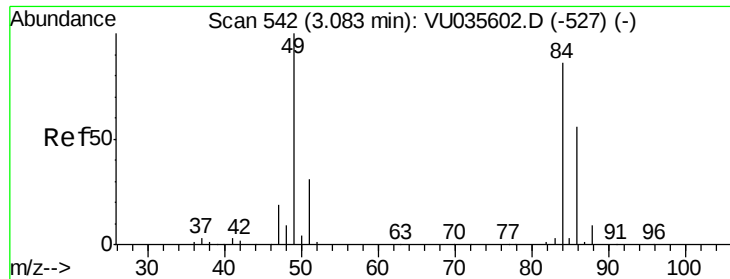
10000

0

Time-->

2.90 2.95 3.00 3.05 3.10

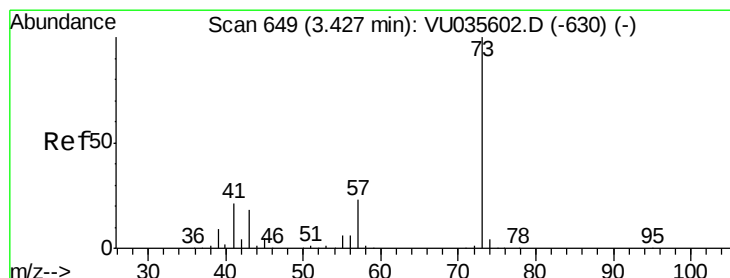
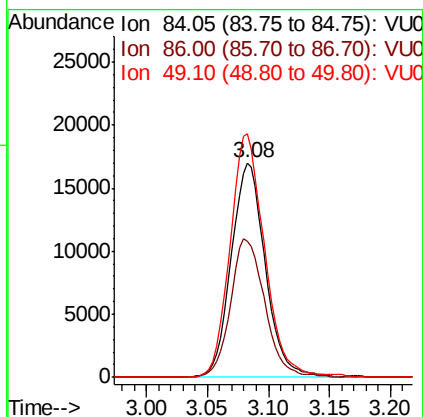
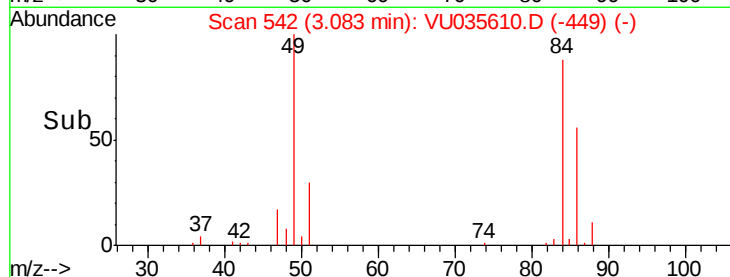
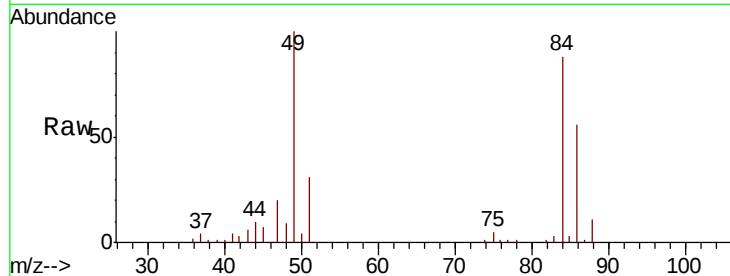




#16  
Methvlene chloride  
Concen: 1.343 ug/L  
RT: 3.08 min Scan# 542  
Delta R.T. 0.00 min  
Lab File: VU035610.D  
Acq: 04 Nov 2019 16:07

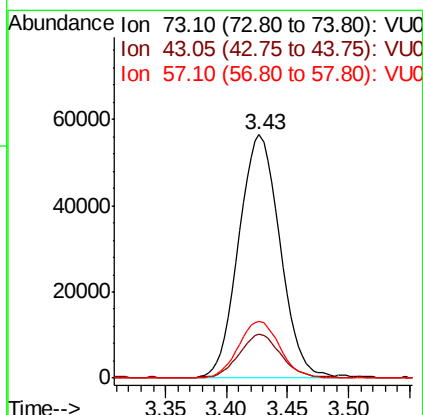
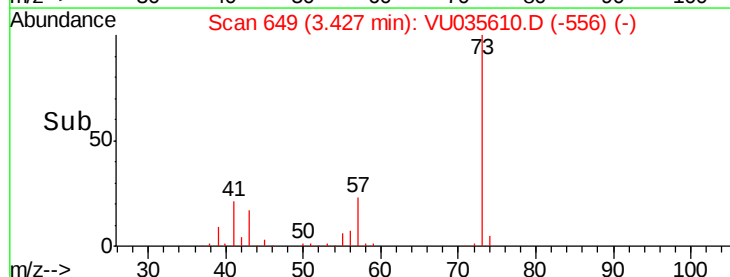
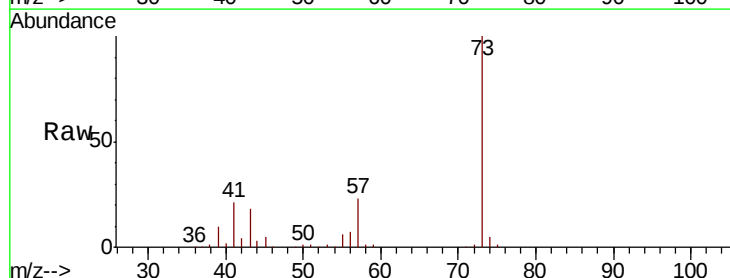
Instrument :  
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A5457DL

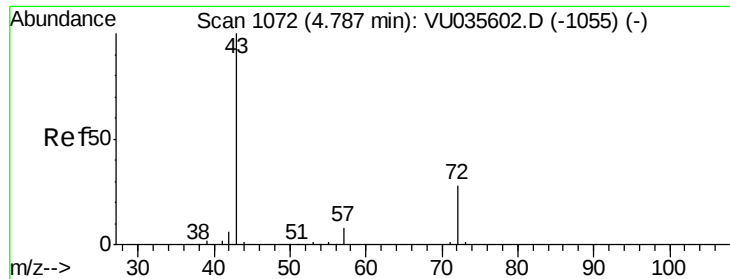
Tot Ion: 84 Resp: 33098  
Ion Ratio Lower Upper  
84 100  
86 63.6 45.8 85.2  
49 113.5 81.9 152.1



#17  
Methyl tert-butyl Ether  
Concen: 2.719 ug/L  
RT: 3.43 min Scan# 649  
Delta R.T. 0.00 min  
Lab File: VU035610.D  
Acq: 04 Nov 2019 16:07

Tgt Ion: 73 Resp: 132467  
Ion Ratio Lower Upper  
73 100  
43 17.7 14.4 21.6  
57 23.4 18.2 27.2

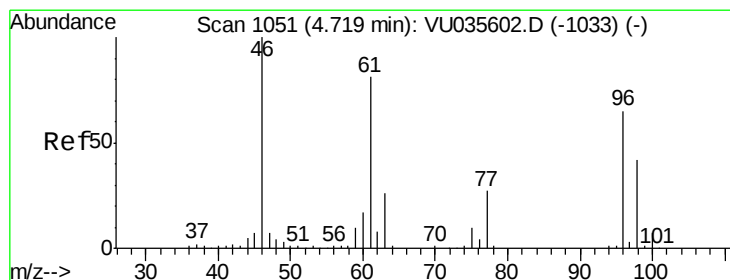
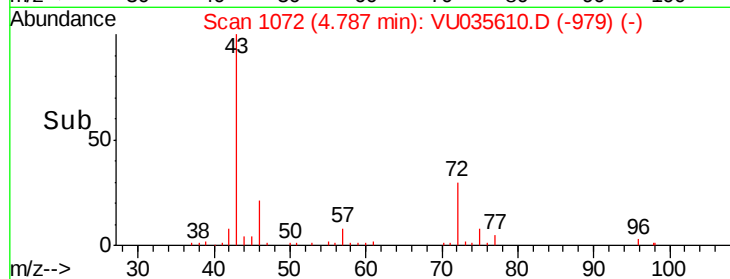
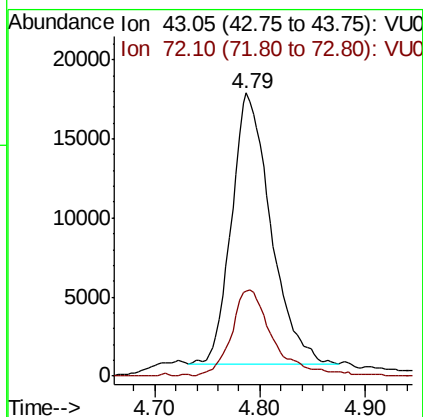
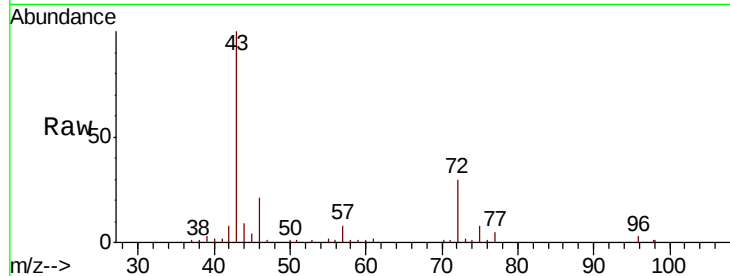




#21  
 2-Butanone  
 Concen: 7.630 ug/L  
 RT: 4.79 min Scan# 1072  
 Delta R.T. 0.00 min  
 Lab File: VU035610.D  
 Acq: 04 Nov 2019 16:07

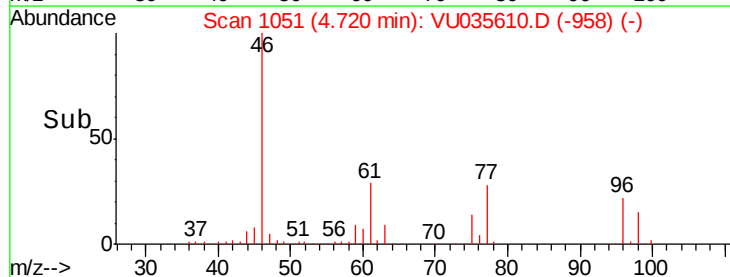
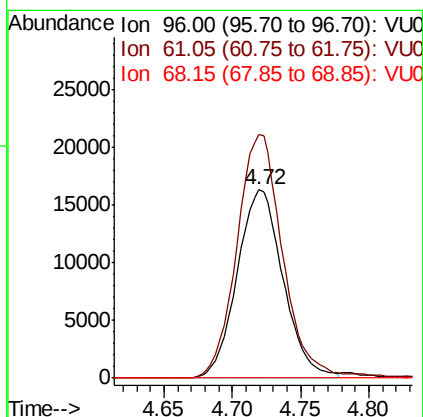
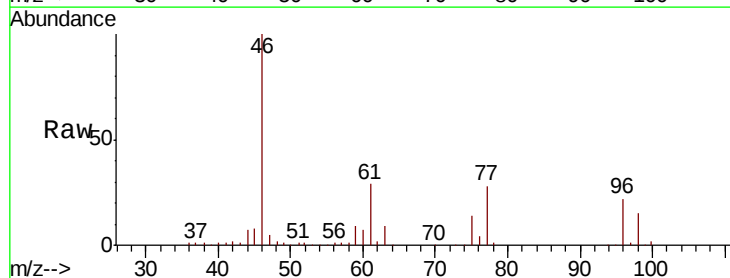
Instrument :  
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 A5457DL

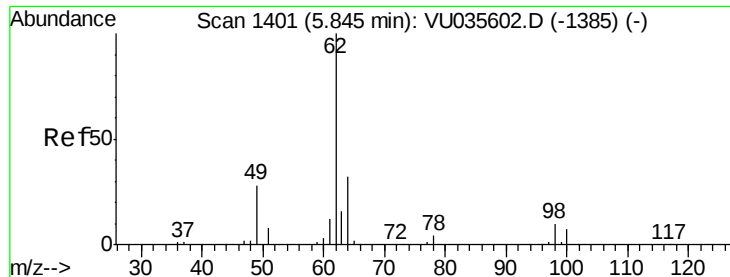
Tot Ion: 43 Resp: 43890  
 Ion Ratio Lower Upper  
 43 100  
 72 32.4 14.3 42.9



#22  
 cis-1,2-Dichloroethene  
 Concen: 1.613 ug/L  
 RT: 4.72 min Scan# 1051  
 Delta R.T. 0.00 min  
 Lab File: VU035610.D  
 Acq: 04 Nov 2019 16:07

Tgt Ion: 96 Resp: 38132  
 Ion Ratio Lower Upper  
 96 100  
 61 129.1 87.0 161.6  
 68 0.0 0.0 0.0





#27

1,2-Dichloroethane

Concen: 1.352 ug/L

RT: 5.84 min Scan# 1401

Delta R.T. 0.00 min

Lab File: VU035610.D

Acq: 04 Nov 2019 16:07

Instrument :

MSVOA\_U

ClientSampleId :

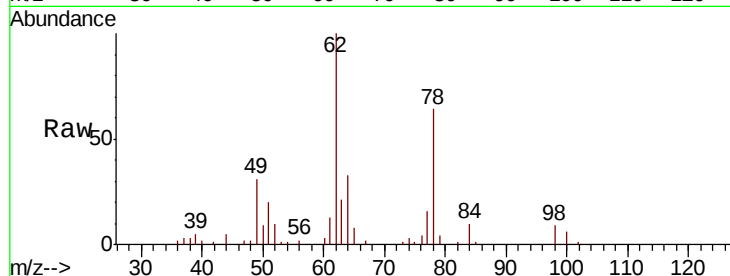
A5457DL

Tot Ion: 62 Resp: 32529

Ion Ratio Lower Upper

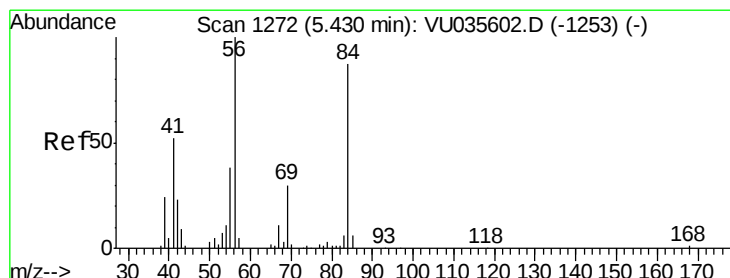
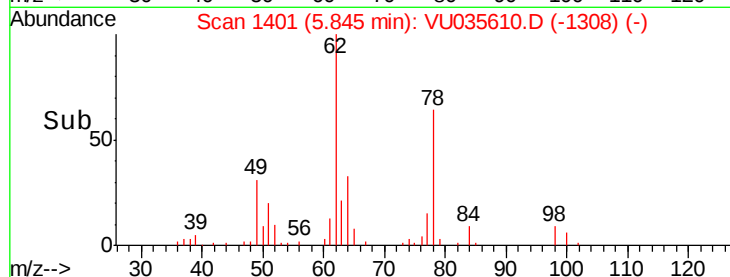
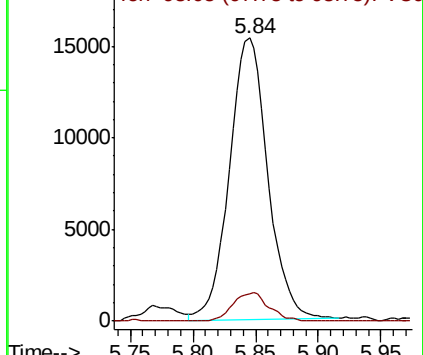
62 100

98 9.5 8.0 12.0



Abundance Ion 62.00 (61.70 to 62.70): VU035610.D (-1308) (-)

Ion 98.05 (97.75 to 98.75): VU035610.D (-1308) (-)



#30

Cyclohexane

Concen: 2.660 ug/L

RT: 5.43 min Scan# 1272

Delta R.T. 0.00 min

Lab File: VU035610.D

Acq: 04 Nov 2019 16:07

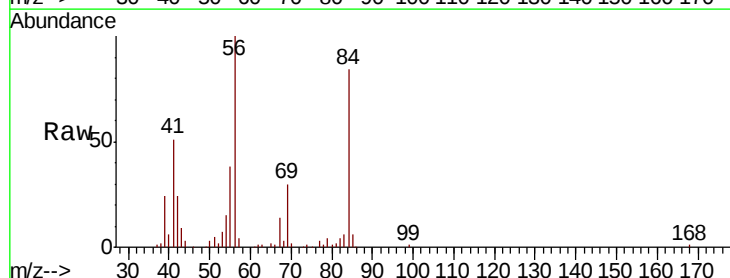
Tgt Ion: 56 Resp: 91825

Ion Ratio Lower Upper

56 100

69 29.2 24.6 37.0

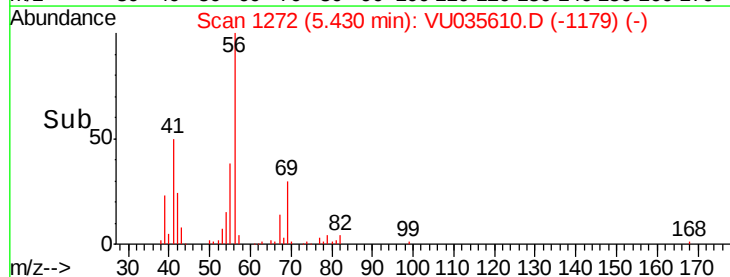
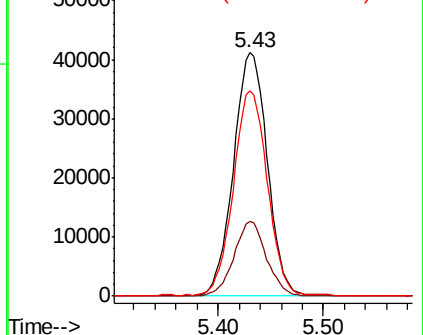
84 83.8 69.7 104.5

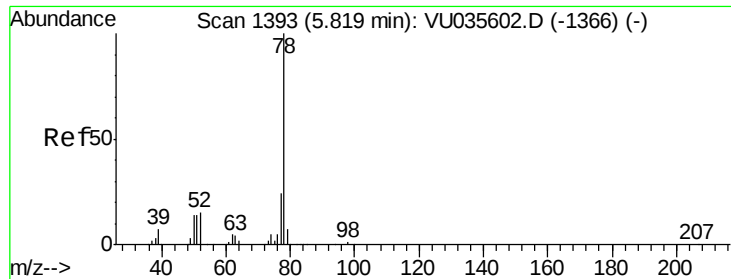


Abundance Ion 56.10 (55.80 to 56.80): VU035610.D (-1179) (-)

Ion 69.15 (68.85 to 69.85): VU035610.D (-1179) (-)

Ion 84.15 (83.85 to 84.85): VU035610.D (-1179) (-)





#33

Benzene

Concen: 1.306 ug/L

RT: 5.82 min Scan# 1393

Delta R.T. 0.00 min

Lab File: VU035610.D

Acq: 04 Nov 2019 16:07

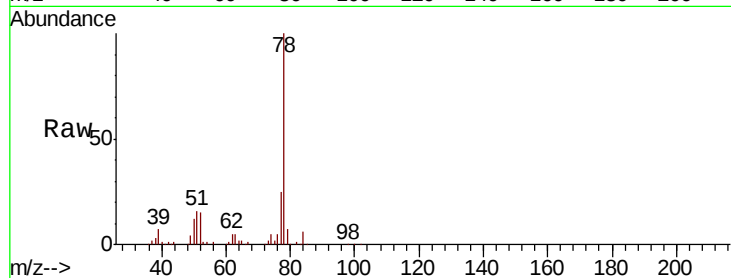
Instrument :

MSVOA\_U

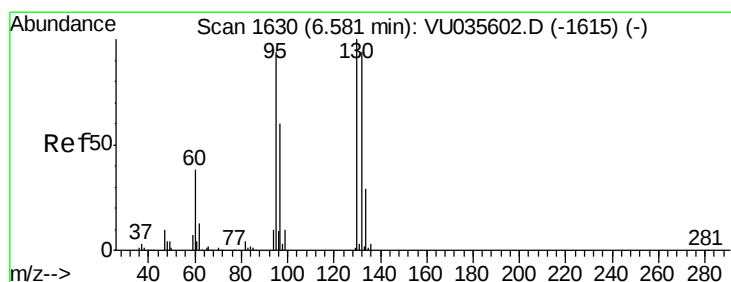
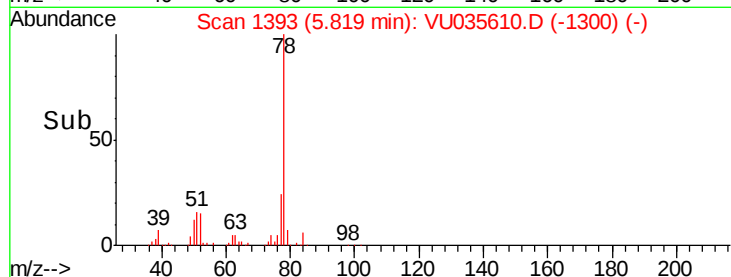
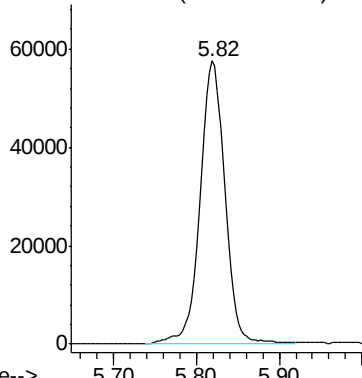
ClientSampleId :

A5457DL

Tgt Ion: 78 Resp: 120577



Abundance Ion 78.10 (77.80 to 78.80): VU0



#34

Trichloroethene

Concen: 0.858 ug/L

RT: 6.58 min Scan# 1631

Delta R.T. 0.00 min

Lab File: VU035610.D

Acq: 04 Nov 2019 16:07

Tgt Ion: 95 Resp: 20266

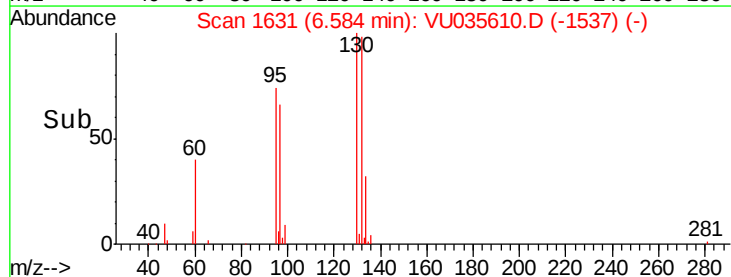
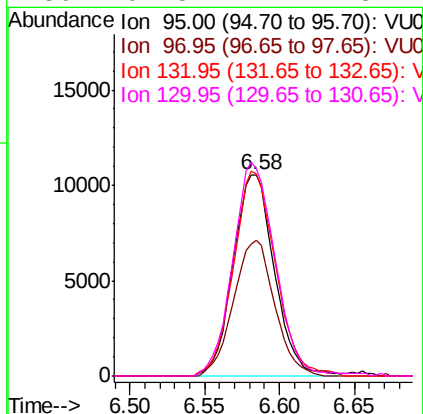
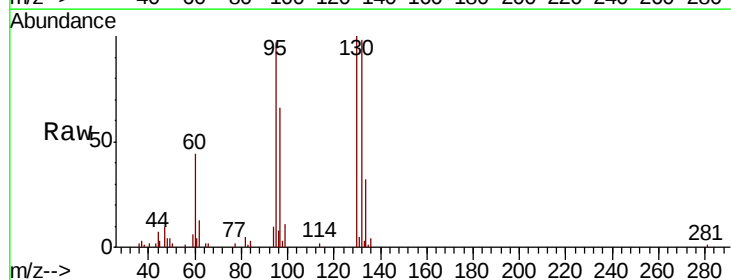
| Ion | Ratio | Lower | Upper |
|-----|-------|-------|-------|
| 95  | 100   |       |       |
| 97  | 67.5  | 44.5  | 82.7  |
| 132 | 100.4 | 69.9  | 129.7 |
| 130 | 102.8 | 74.1  | 137.7 |

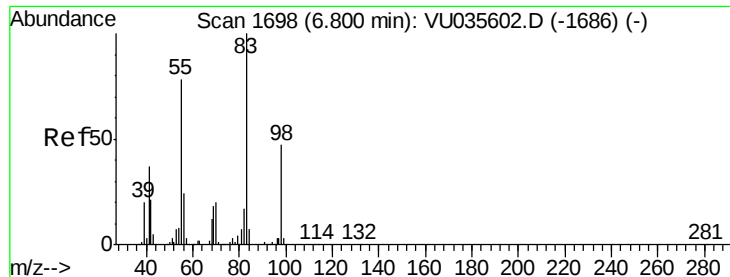
Abundance Ion 95.00 (94.70 to 95.70): VU0

Ion 96.95 (96.65 to 97.65): VU0

Ion 131.95 (131.65 to 132.65): V

Ion 129.95 (129.65 to 130.65): V

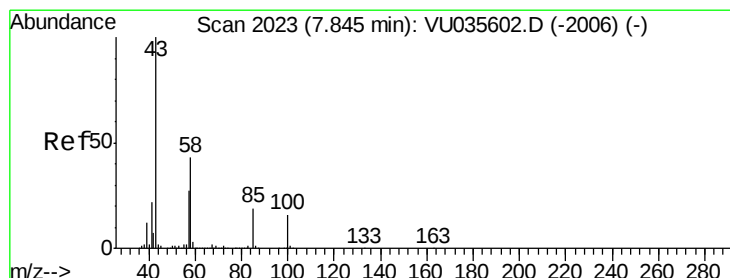
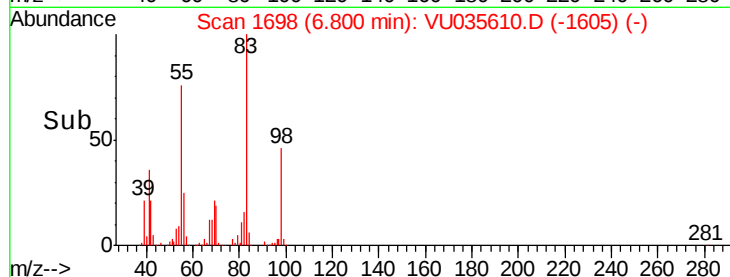
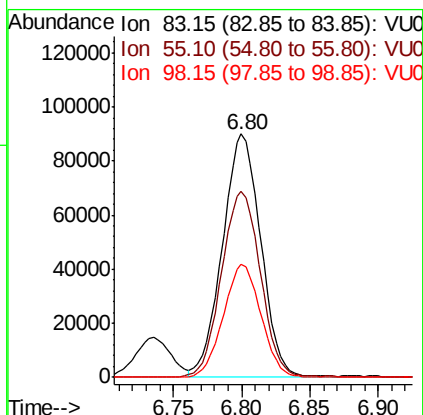
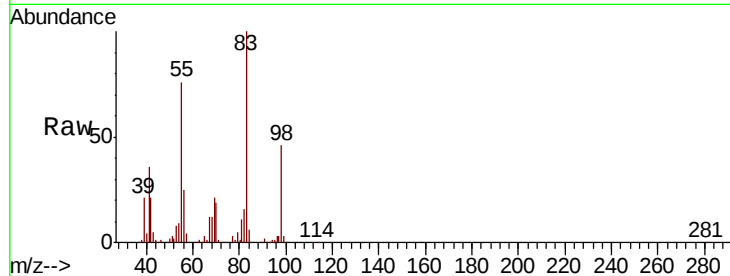




#35  
Methylcyclohexane  
Concen: 4.845 ug/L  
RT: 6.80 min Scan# 1698  
Delta R.T. 0.00 min  
Lab File: VU035610.D  
Acq: 04 Nov 2019 16:07

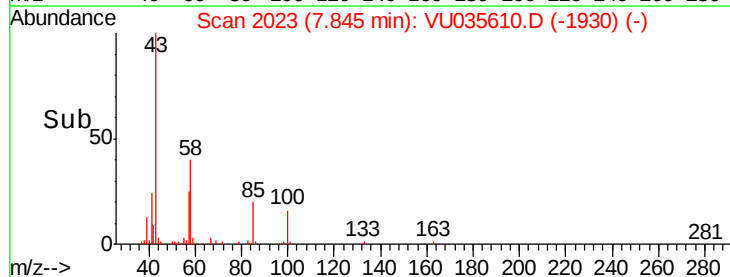
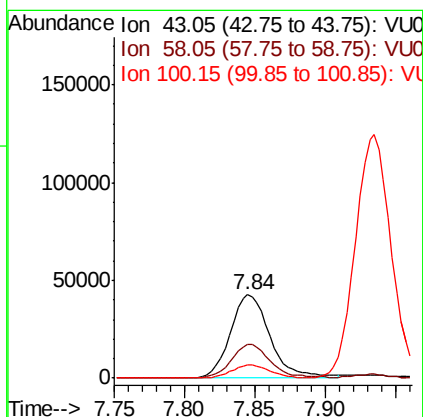
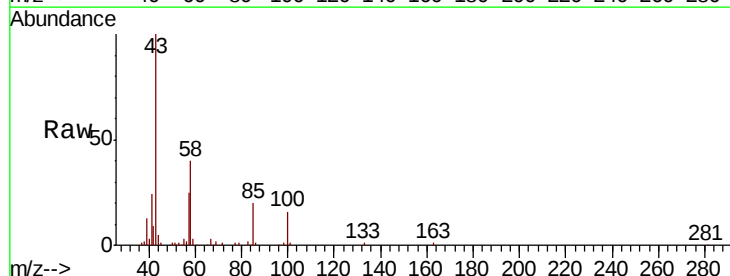
Instrument :  
MSVOA\_U  
ClientSampleId :  
A5457DL

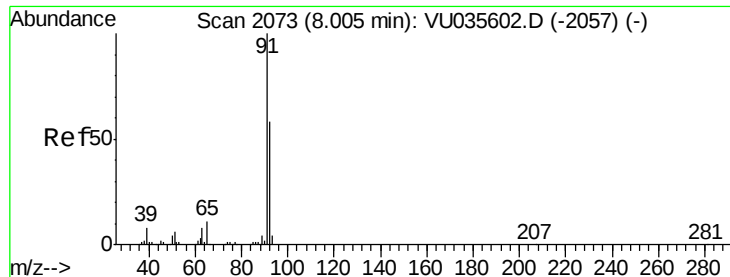
Tot Ion: 83 Resp: 174342  
Ion Ratio Lower Upper  
83 100  
55 78.1 62.6 93.8  
98 45.9 37.2 55.8



#40  
4-Methyl-2-pentanone  
Concen: 6.031 ug/L  
RT: 7.84 min Scan# 2023  
Delta R.T. 0.00 min  
Lab File: VU035610.D  
Acq: 04 Nov 2019 16:07

Tgt Ion: 43 Resp: 84345  
Ion Ratio Lower Upper  
43 100  
58 39.8 33.4 50.2  
100 15.1 12.7 19.1





#42

Toluene

Concen: 3.952 ug/L

RT: 8.01 min Scan# 2073

Delta R.T. 0.00 min

Lab File: VU035610.D

Acq: 04 Nov 2019 16:07

Instrument :

MSVOA\_U

ClientSampleId :

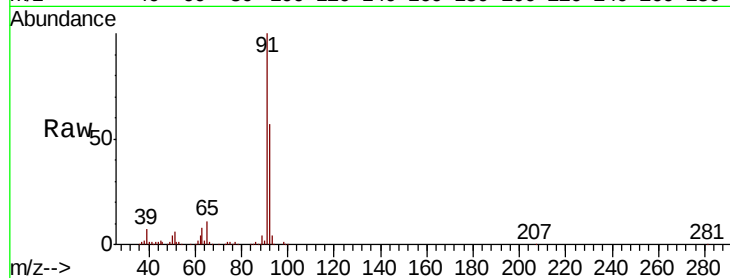
A5457DL

Tot Ion: 91 Resp: 383838

Ion Ratio Lower Upper

91 100

92 57.0 40.5 75.3



Abundance Ion 91.15 (90.85 to 91.85): VU035610.D (-1980) (-)

Ion 92.15 (91.85 to 92.85): VU035610.D (-1980) (-)

8.01

250000

200000

150000

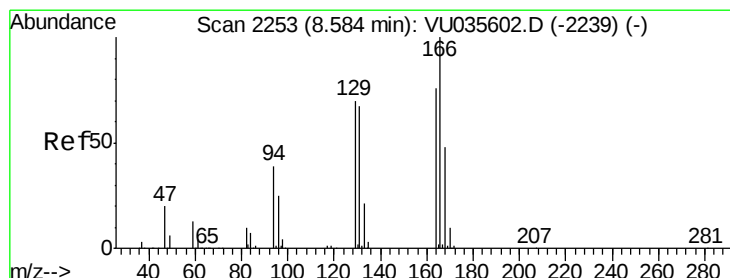
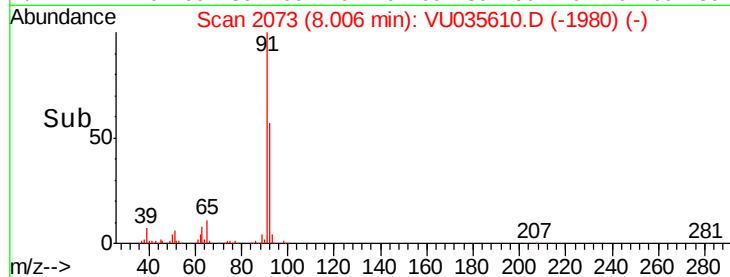
100000

50000

0

Time-->

7.90 8.00 8.10



#47

Tetrachloroethene

Concen: 1.120 ug/L

RT: 8.58 min Scan# 2253

Delta R.T. 0.00 min

Lab File: VU035610.D

Acq: 04 Nov 2019 16:07

Tgt Ion: 164 Resp: 23053

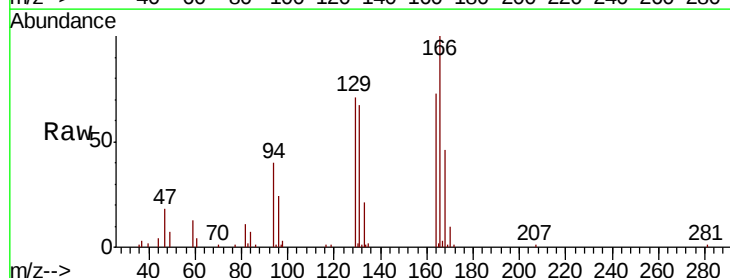
Ion Ratio Lower Upper

164 100

129 97.0 64.7 120.1

131 91.5 61.6 114.4

166 136.5 91.8 170.4



Abundance Ion 163.90 (163.60 to 164.60): VU035610.D (-2160) (-)

Ion 128.95 (128.65 to 129.65): VU035610.D (-2160) (-)

Ion 130.95 (130.65 to 131.65): VU035610.D (-2160) (-)

Ion 165.90 (165.60 to 166.60): VU035610.D (-2160) (-)

25000

20000

15000

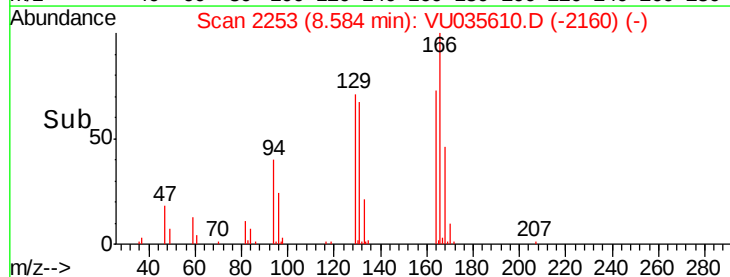
10000

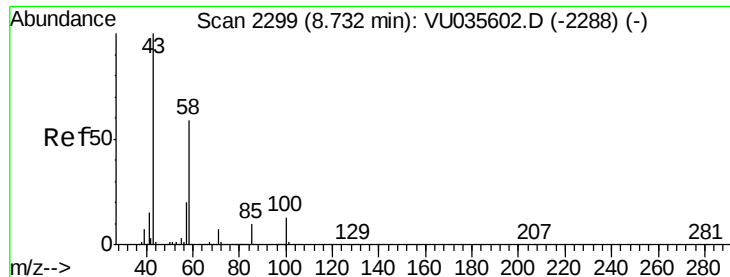
5000

0

Time-->

8.50 8.55 8.60 8.65

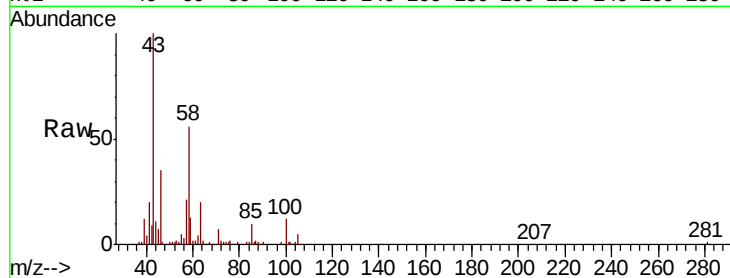




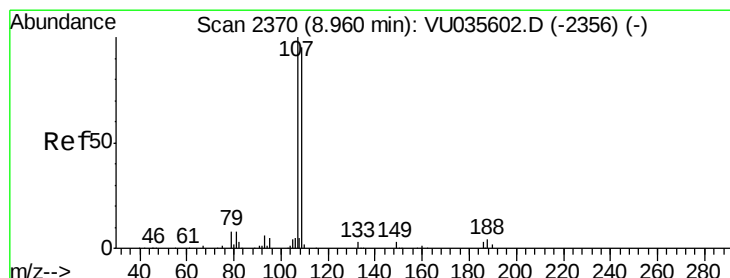
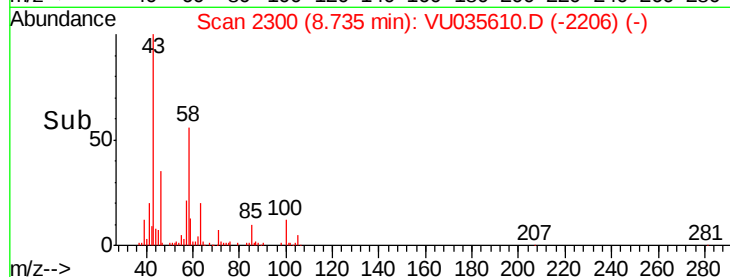
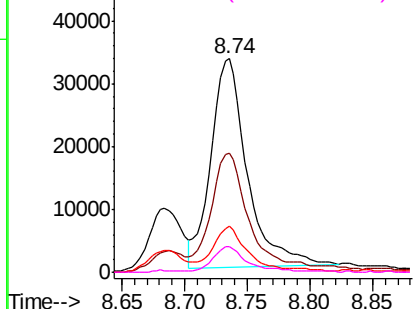
#48  
 2-Hexanone  
 Concen: 6.749 ug/L  
 RT: 8.74 min Scan# 2300  
 Delta R.T. 0.00 min  
 Lab File: VU035610.D  
 Acq: 04 Nov 2019 16:07

Instrument :  
 MSVOA\_U  
 ClientSampleID :  
 A5457DL

|          |       |       |       |
|----------|-------|-------|-------|
| Tot Ion: | 43    | Resp: | 67078 |
| Ion      | Ratio | Lower | Upper |
| 43       | 100   |       |       |
| 58       | 49.9  | 44.1  | 66.1  |
| 57       | 18.1  | 15.1  | 22.7  |
| 100      | 11.0  | 9.4   | 14.2  |

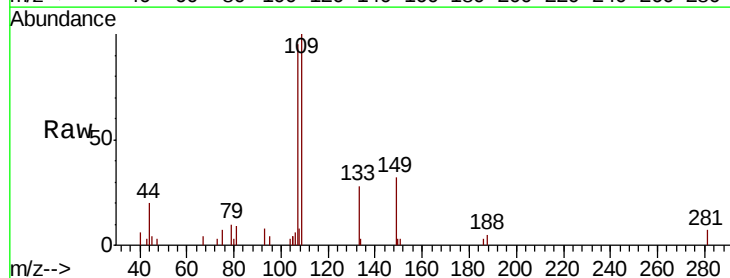


Abundance Ion 43.05 (42.75 to 43.75): VU035610.D (-2299) (-)  
 Ion 58.05 (57.75 to 58.75): VU035610.D (-2299) (-)  
 Ion 57.20 (56.90 to 57.90): VU035610.D (-2299) (-)  
 Ion 100.15 (99.85 to 100.85): VU035610.D (-2299) (-)

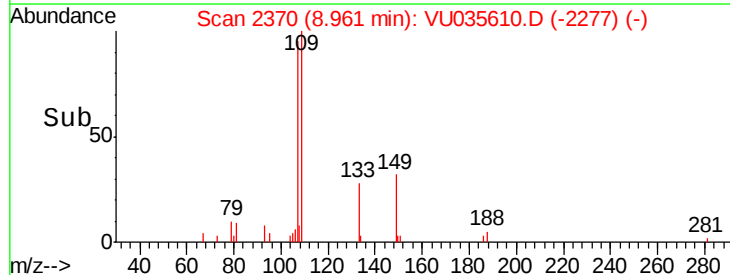
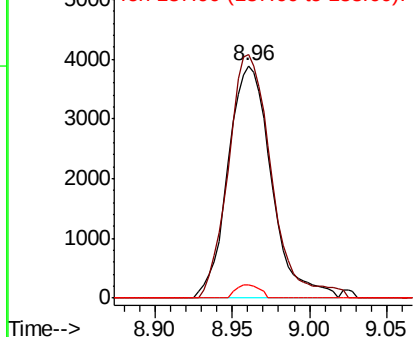


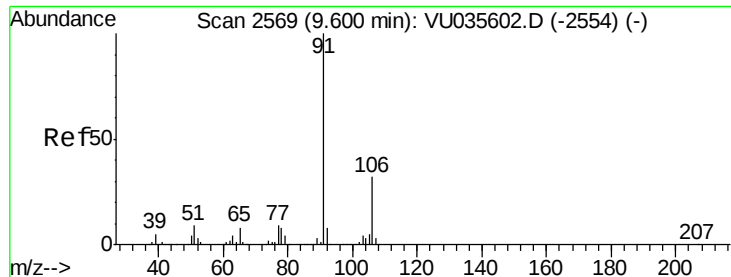
#50  
 1,2-Dibromoethane  
 Concen: 0.459 ug/L  
 RT: 8.96 min Scan# 2370  
 Delta R.T. 0.00 min  
 Lab File: VU035610.D  
 Acq: 04 Nov 2019 16:07

|          |       |       |       |
|----------|-------|-------|-------|
| Tgt Ion: | 107   | Resp: | 7581  |
| Ion      | Ratio | Lower | Upper |
| 107      | 100   |       |       |
| 109      | 104.9 | 66.5  | 123.5 |
| 188      | 5.5   | 3.1   | 4.7#  |



Abundance Ion 106.95 (106.65 to 107.65): VU035610.D (-2369) (-)  
 Ion 109.00 (108.70 to 109.70): VU035610.D (-2369) (-)  
 Ion 187.90 (187.60 to 188.60): VU035610.D (-2369) (-)





#52

Ethylbenzene

Concen: 2.248 ug/L

RT: 9.60 min Scan# 2569

Delta R.T. 0.00 min

Lab File: VU035610.D

Acq: 04 Nov 2019 16:07

Instrument :

MSVOA\_U

ClientSampleId :

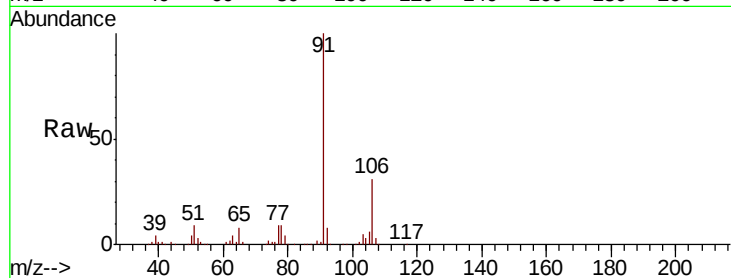
A5457DL

Tot Ion: 91 Resp: 229764

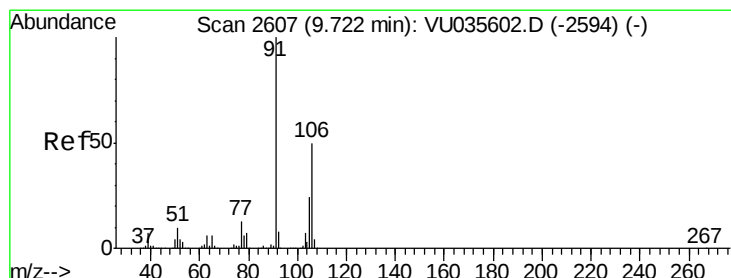
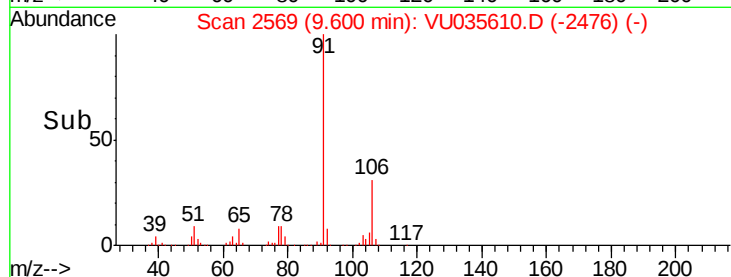
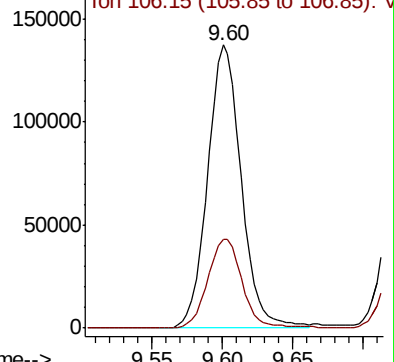
Ion Ratio Lower Upper

91 100

106 31.4 22.4 41.6



Abundance Ion 91.15 (90.85 to 91.85): VU035610.D (-2554) (-)



#53

m,p-Xylene

Concen: 1.905 ug/L

RT: 9.73 min Scan# 2608

Delta R.T. 0.00 min

Lab File: VU035610.D

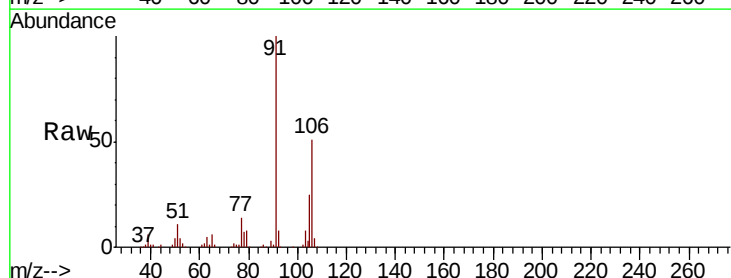
Acq: 04 Nov 2019 16:07

Tgt Ion: 106 Resp: 73736

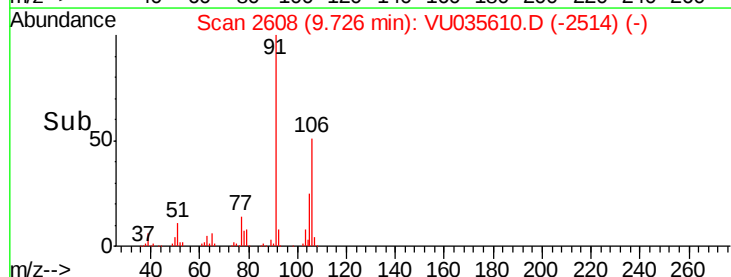
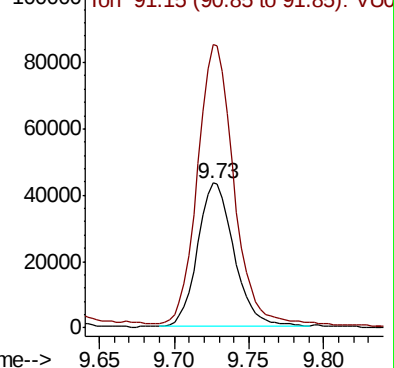
Ion Ratio Lower Upper

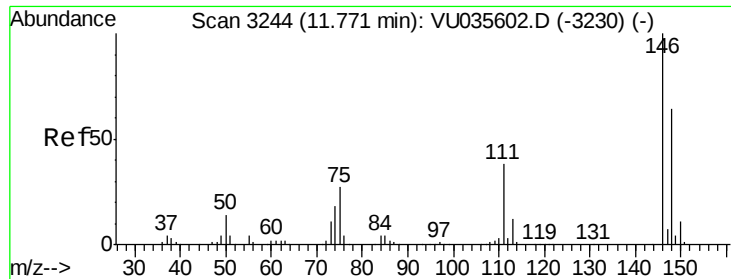
106 100

91 195.3 139.4 259.0



Abundance Ion 106.15 (105.85 to 106.85): VU035610.D (-2594) (-)





#62

1,3-Dichlorobenzene

Concen: 1.530 ug/L

RT: 11.77 min Scan# 3245

Delta R.T. 0.00 min

Lab File: VU035610.D

Acq: 04 Nov 2019 16:07

Instrument :

MSVOA\_U

ClientSampleId :

A5457DL

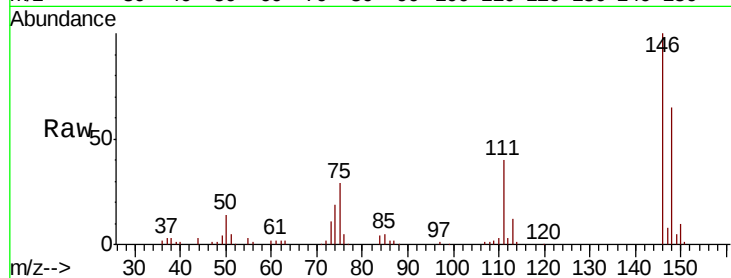
Tot Ion:146 Resp: 59797

Ion Ratio Lower Upper

146 100

111 40.4 26.7 49.5

148 64.9 44.5 82.7



Abundance Ion 145.95 (145.65 to 146.65): V

Ion 111.00 (110.70 to 111.70): V

Ion 148.00 (147.70 to 148.70): V

