

Data Path : Z:\VOASRV\HPCHEM1\MSVOA X\DATA\VX061220\  
 Data File : VX016731.D  
 Acq On : 12 Jun 2020 16:18  
 Operator : JC/SP  
 Sample : L3004-02 40X  
 Misc : 5.0mL/MSVOA X/WATER  
 ALS Vial : 14 Sample Multiplier: 1

Instrument :  
 MSVOA\_X  
 ClientSampleId :

Quant Time: Jun 13 04:30:46 2020  
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA\_X\METHOD\82X052720W.M  
 Quant Title : SW846 8260  
 QLast Update : Wed May 27 16:31:05 2020  
 Response via : Initial Calibration

| Internal Standards         | R.T.  | QIon | Response | Conc  | Units | Dev(Min) |
|----------------------------|-------|------|----------|-------|-------|----------|
| 1) Pentafluorobenzene      | 5.63  | 168  | 225493   | 50.00 | ug/l  | 0.00     |
| 34) 1,4-Difluorobenzene    | 6.83  | 114  | 350597   | 50.00 | ug/l  | 0.00     |
| 63) Chlorobenzene-d5       | 10.10 | 117  | 361962   | 50.00 | ug/l  | 0.00     |
| 72) 1,4-Dichlorobenzene-d4 | 12.06 | 152  | 185464   | 50.00 | ug/l  | 0.00     |

## System Monitoring Compounds

|                           |        |     |          |       |         |      |
|---------------------------|--------|-----|----------|-------|---------|------|
| 33) 1,2-Dichloroethane-d4 | 6.03   | 65  | 133914   | 47.82 | ug/l    | 0.00 |
| Spiked Amount             | 50.000 |     | Recovery | =     | 95.64%  |      |
| 35) Dibromofluoromethane  | 5.46   | 113 | 111922   | 51.84 | ug/l    | 0.00 |
| Spiked Amount             | 50.000 |     | Recovery | =     | 103.68% |      |
| 50) Toluene-d8            | 8.70   | 98  | 435121   | 51.78 | ug/l    | 0.00 |
| Spiked Amount             | 50.000 |     | Recovery | =     | 103.56% |      |
| 62) 4-Bromofluorobenzene  | 11.12  | 95  | 173424   | 53.42 | ug/l    | 0.00 |
| Spiked Amount             | 50.000 |     | Recovery | =     | 106.84% |      |

## Target Compounds

|                                |       |     |        |        |        | Qvalue |
|--------------------------------|-------|-----|--------|--------|--------|--------|
| 4) Vinyl Chloride              | 1.39  | 62  | 254721 | 89.818 | ug/l   | 100    |
| 11) Tert butyl alcohol         | 3.01  | 59  | 313    | 0.436  | ug/l # | 72     |
| 12) 1,1-Dichloroethene         | 2.36  | 96  | 1236   | 0.570  | ug/l # | 52     |
| 13) Acrolein                   | 2.26  | 56  | 159    | 0.521  | ug/l # | 1      |
| 16) Acetone                    | 2.42  | 43  | 960    | 0.782  | ug/l # | 76     |
| 20) Methylene Chloride         | 2.83  | 84  | 1083   | 0.427  | ug/l   | 99     |
| 21) trans-1,2-Dichloroethene   | 3.15  | 96  | 829    | 0.345  | ug/l # | 49     |
| 25) 2-Butanone                 | 4.64  | 43  | 450    | 0.216  | ug/l # | 49     |
| 27) cis-1,2-Dichloroethene     | 4.57  | 96  | 250943 | 90.383 | ug/l   | 88     |
| 31) Cyclohexane                | 5.63  | 56  | 3963   | 1.018  | ug/l # | 1      |
| 36) 1,1-Dichloropropene        | 5.63  | 75  | 15219  | 4.585  | ug/l # | 51     |
| 38) Carbon Tetrachloride       | 5.63  | 117 | 20598  | 5.905  | ug/l # | 18     |
| 40) Benzene                    | 6.12  | 78  | 2990   | 0.302  | ug/l   | 95     |
| 44) Trichloroethene            | 7.19  | 130 | 993    | 0.317  | ug/l   | 68     |
| 52) Toluene                    | 8.77  | 92  | 4336   | 0.696  | ug/l   | 91     |
| 65) Chlorobenzene              | 10.12 | 112 | 65948  | 8.937  | ug/l   | 97     |
| 76) 1,2,3-Trichloropropane     | 11.12 | 75  | 84039  | 20.615 | ug/l # | 35     |
| 81) trans-1,4-Dichloro-2-buten | 11.12 | 75  | 84039  | 50.710 | ug/l # | 14     |
| 87) 1,3-Dichlorobenzene        | 12.01 | 146 | 4412   | 0.756  | ug/l   | 94     |
| 88) 1,4-Dichlorobenzene        | 12.08 | 146 | 33130  | 5.548  | ug/l   | 93     |
| 91) 1,2-Dichlorobenzene        | 12.38 | 146 | 138760 | 24.528 | ug/l   | 98     |

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





#1

Pentafluorobenzene

Concen: 50.000 ug/l

RT: 5.63 min Scan# 745

Delta R.T. 0.00 min

Lab File: VX016731.D

Acq: 12 Jun 2020 16:18

Instrument :

MSVOA\_X

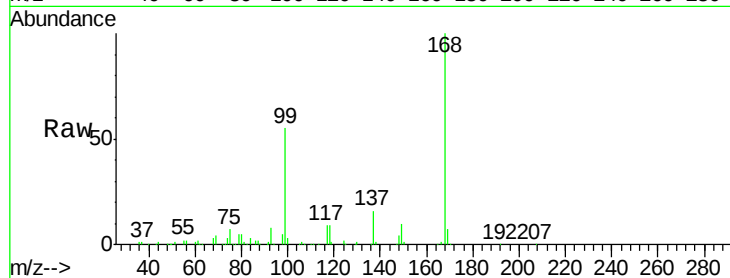
ClientSampleId :

Tot Ion:168 Resp: 225493

Ion Ratio Lower Upper

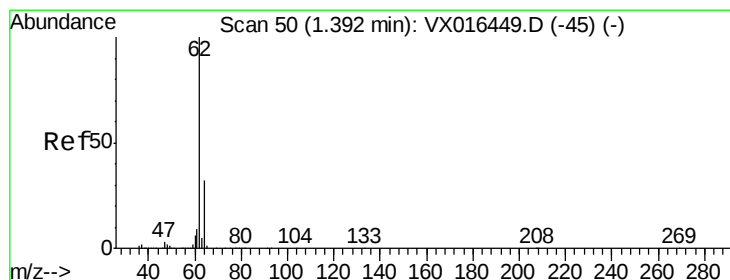
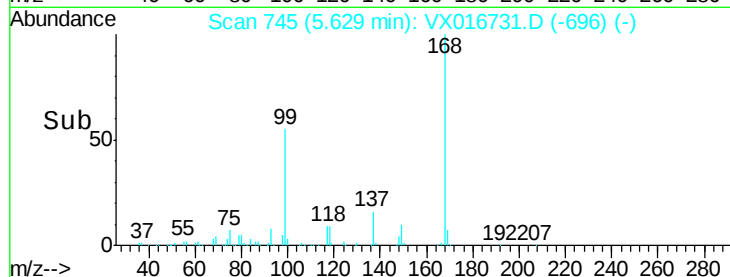
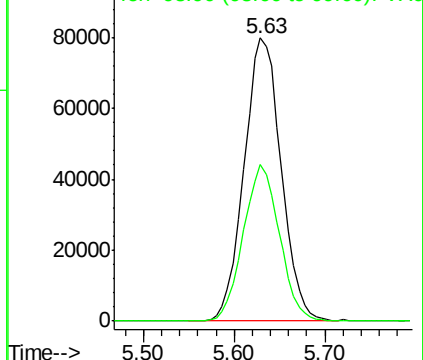
168 100

99 55.4 45.2 67.8



Abundance Ion 167.90 (167.60 to 168.60): V

Ion 98.90 (98.60 to 99.60): VX0



#4

Vinyl Chloride

Concen: 89.818 ug/l

RT: 1.39 min Scan# 50

Delta R.T. 0.00 min

Lab File: VX016731.D

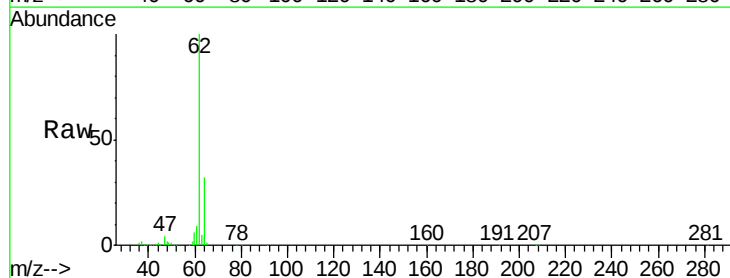
Acq: 12 Jun 2020 16:18

Tgt Ion: 62 Resp: 254721

Ion Ratio Lower Upper

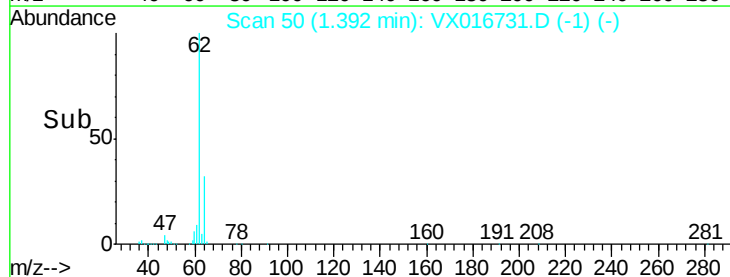
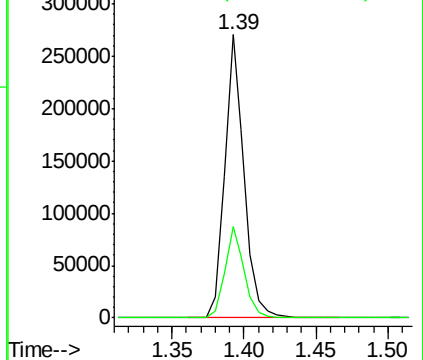
62 100

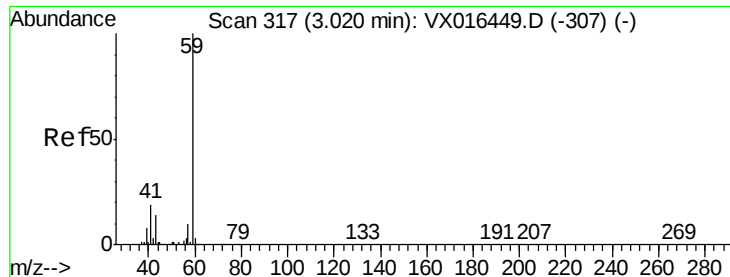
64 32.2 25.9 38.9



Abundance Ion 61.90 (61.60 to 62.60): VX0

Ion 63.90 (63.60 to 64.60): VX0



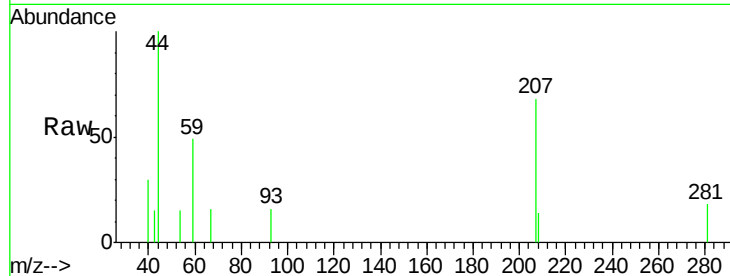


#11

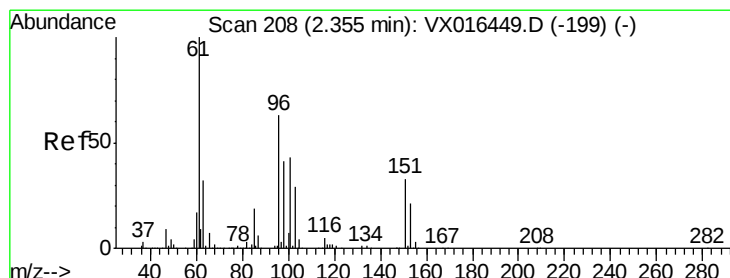
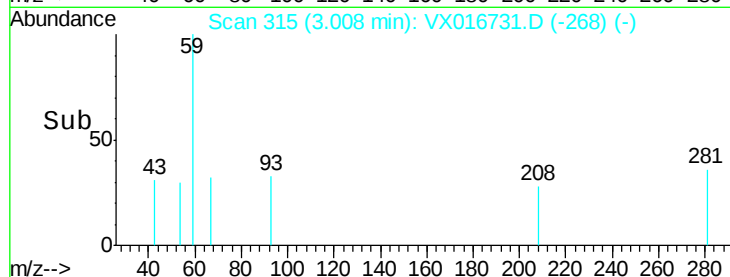
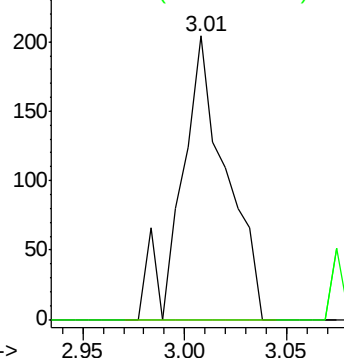
Tert butyl alcohol  
Concen: 0.436 ug/l  
RT: 3.01 min Scan# 315  
Delta R.T. -0.01 min  
Lab File: VX016731.D  
Acq: 12 Jun 2020 16:18

Instrument :  
MSVOA\_X  
ClientSampled :

Tot Ion: 59 Resp: 313  
Ion Ratio Lower Upper  
59 100  
57 0.0 8.2 12.4#



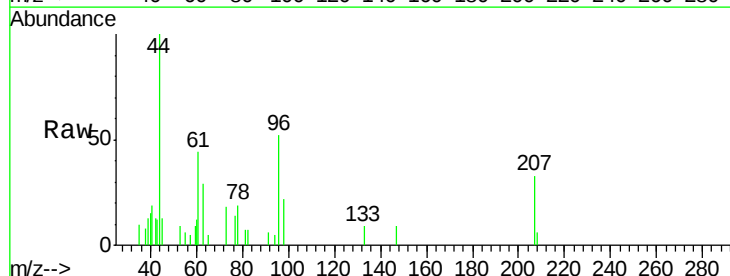
Abundance Ion 59.00 (58.70 to 59.70): VX0  
Ion 57.00 (56.70 to 57.70): VX0



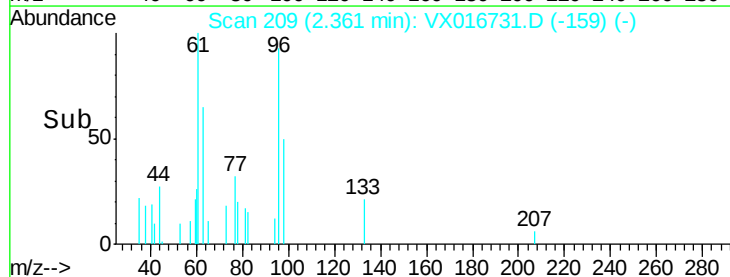
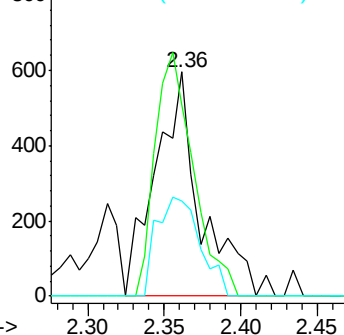
#12

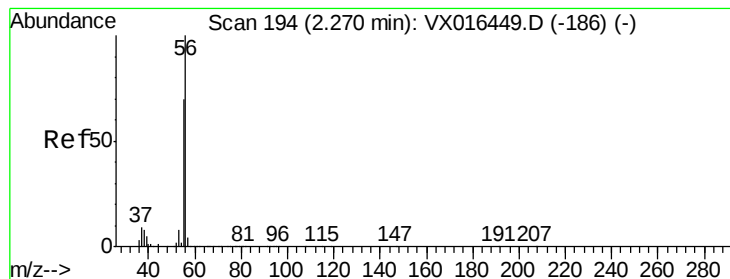
1,1-Dichloroethene  
Concen: 0.570 ug/l  
RT: 2.36 min Scan# 209  
Delta R.T. 0.01 min  
Lab File: VX016731.D  
Acq: 12 Jun 2020 16:18

Tgt Ion: 96 Resp: 1236  
Ion Ratio Lower Upper  
96 100  
61 85.2 126.6 189.8#  
98 42.7 51.3 76.9#



Abundance Ion 95.90 (95.60 to 96.60): VX0  
Ion 60.90 (60.60 to 61.60): VX0  
Ion 97.90 (97.60 to 98.60): VX0





#13

Acrolein

Concen: 0.521 ug/l

RT: 2.26 min Scan# 192

Delta R.T. -0.01 min

Lab File: VX016731.D

Acq: 12 Jun 2020 16:18

Instrument :

MSVOA\_X

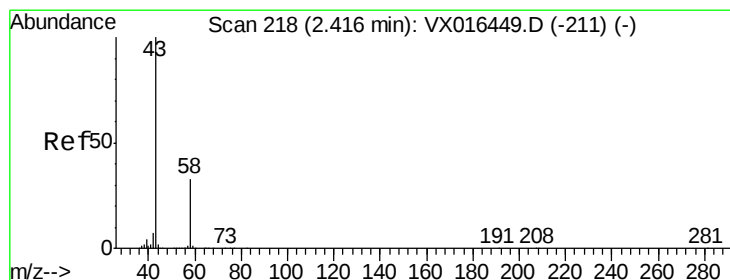
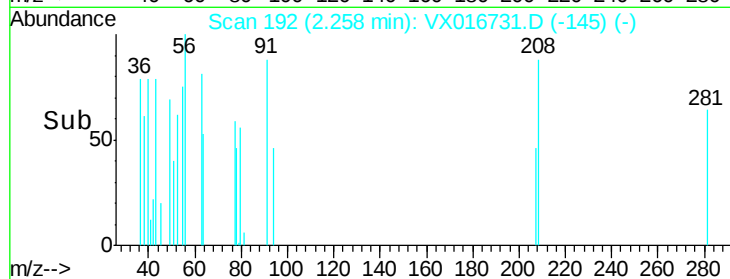
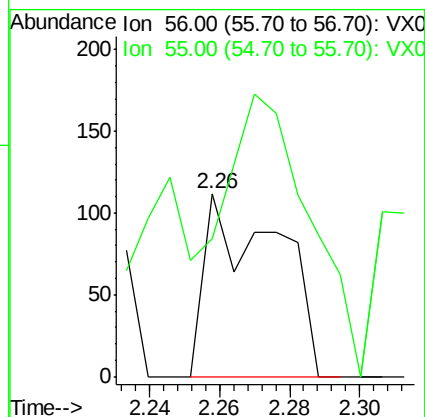
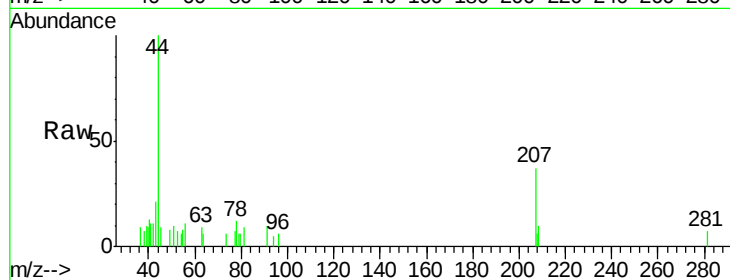
ClientSampled :

Tot Ion: 56 Resp: 159

Ion Ratio Lower Upper

56 100

55 186.2 58.3 87.5#



#16

Acetone

Concen: 0.782 ug/l

RT: 2.42 min Scan# 218

Delta R.T. 0.00 min

Lab File: VX016731.D

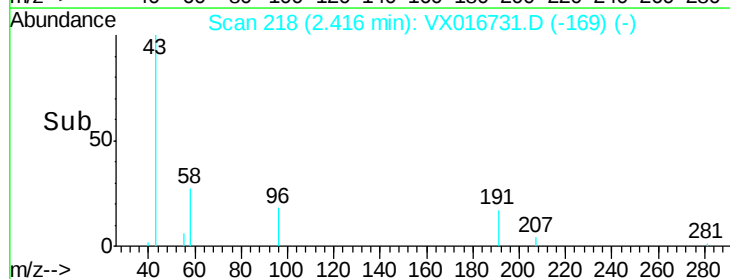
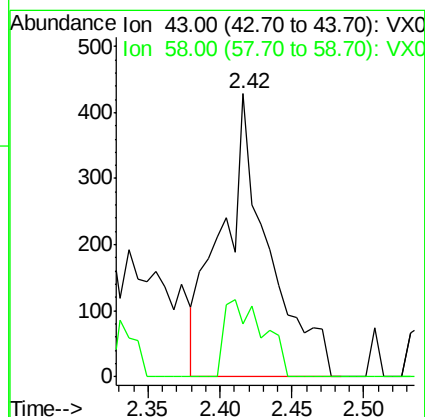
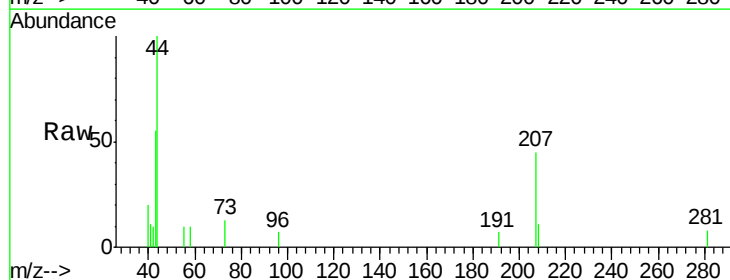
Acq: 12 Jun 2020 16:18

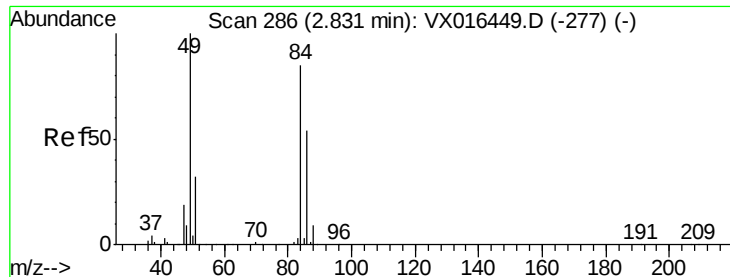
Tgt Ion: 43 Resp: 960

Ion Ratio Lower Upper

43 100

58 18.9 26.1 39.1#





#20

Methylene Chloride

Concen: 0.427 ug/l

RT: 2.83 min Scan# 286

Delta R.T. 0.00 min

Lab File: VX016731.D

Acq: 12 Jun 2020 16:18

Instrument :  
MSVOA\_X  
ClientSampleId :

Tot Ion: 84 Resp: 1083

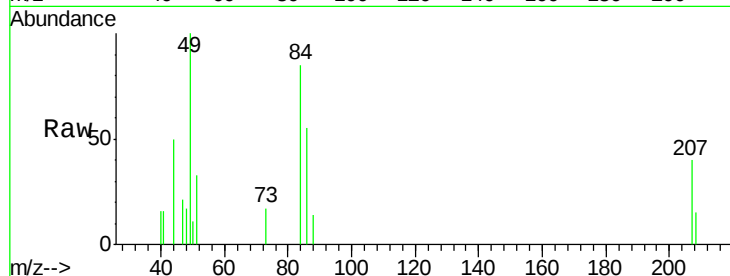
| Ion | Ratio | Lower | Upper |
|-----|-------|-------|-------|
| 84  | 100   |       |       |
| 49  | 117.5 | 94.5  | 141.7 |
| 51  | 38.2  | 30.2  | 45.4  |
| 86  | 64.7  | 51.1  | 76.7  |

84 100

49 117.5 94.5 141.7

51 38.2 30.2 45.4

86 64.7 51.1 76.7



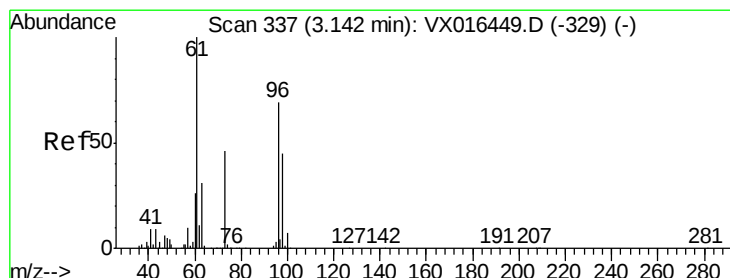
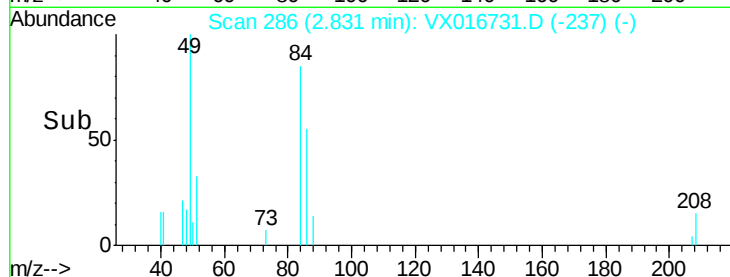
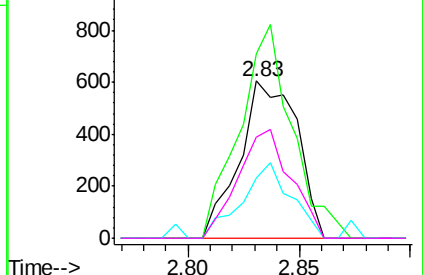
Abundance Ion 83.90 (83.60 to 84.60): VX0

Ion 48.90 (48.60 to 49.60): VX0

Ion 50.90 (50.60 to 51.60): VX0

Ion 85.90 (85.60 to 86.60): VX0

Time-->



#21

trans-1,2-Dichloroethene

Concen: 0.345 ug/l

RT: 3.15 min Scan# 338

Delta R.T. 0.01 min

Lab File: VX016731.D

Acq: 12 Jun 2020 16:18

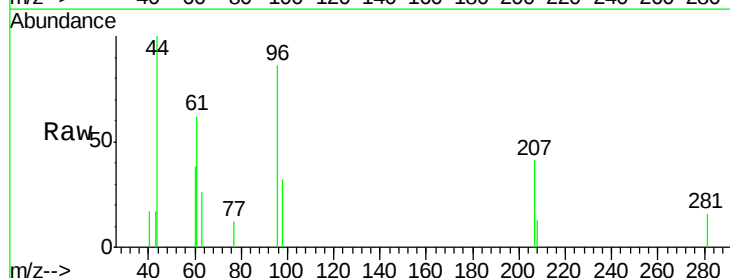
Tgt Ion: 96 Resp: 829

| Ion | Ratio | Lower | Upper  |
|-----|-------|-------|--------|
| 96  | 100   |       |        |
| 61  | 72.5  | 115.3 | 172.9# |
| 98  | 36.8  | 51.9  | 77.9#  |

96 100

61 72.5 115.3 172.9#

98 36.8 51.9 77.9#

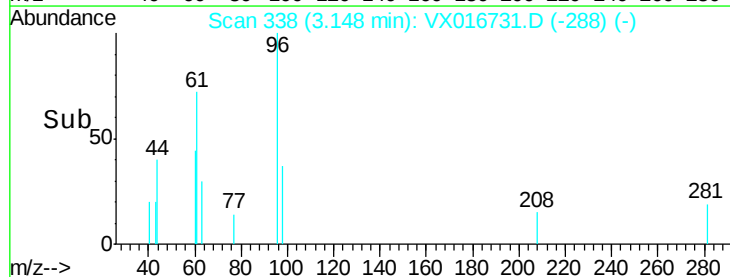
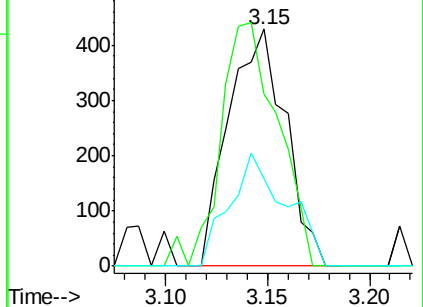


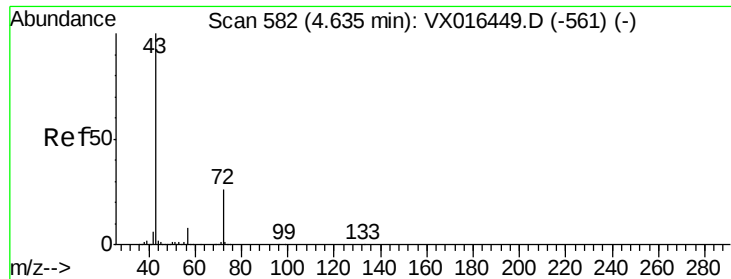
Abundance Ion 95.90 (95.60 to 96.60): VX0

Ion 60.90 (60.60 to 61.60): VX0

Ion 97.90 (97.60 to 98.60): VX0

Time-->





#25

2-Butanone

Concen: 0.216 ug/l

RT: 4.64 min Scan# 583

Delta R.T. 0.01 min

Lab File: VX016731.D

Acq: 12 Jun 2020 16:18

Instrument :

MSVOA\_X

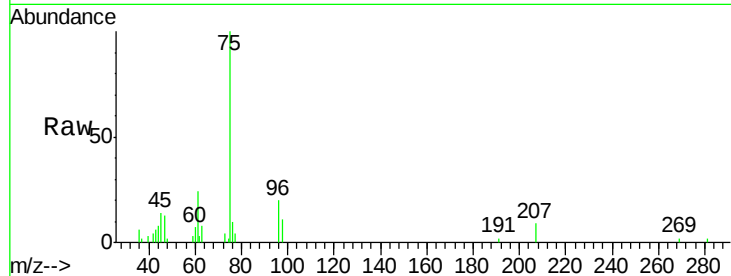
ClientSampleId :

Tot Ion: 43 Resp: 450

Ion Ratio Lower Upper

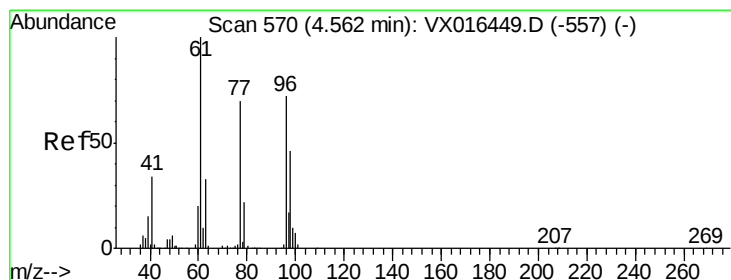
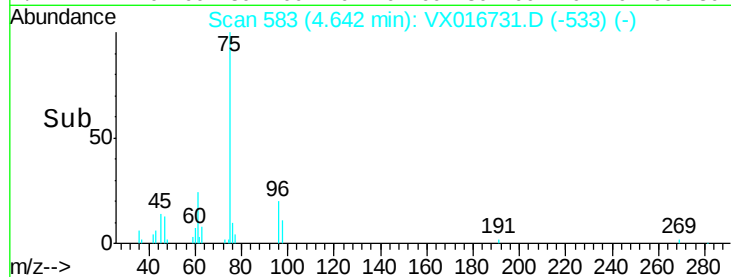
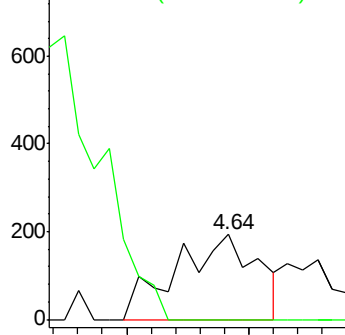
43 100

72 0.0 21.0 31.6#



Abundance Ion 43.00 (42.70 to 43.70): VX0

Ion 72.00 (71.70 to 72.70): VX0



#27

cis-1,2-Dichloroethene

Concen: 90.383 ug/l

RT: 4.57 min Scan# 571

Delta R.T. 0.01 min

Lab File: VX016731.D

Acq: 12 Jun 2020 16:18

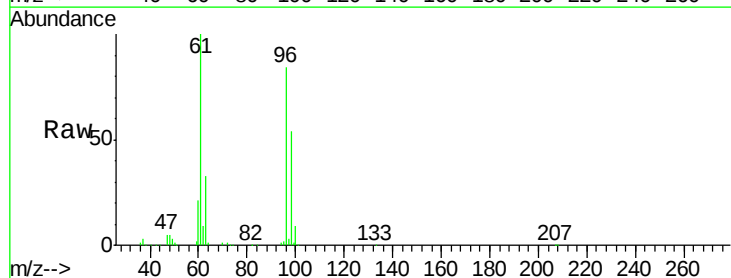
Tgt Ion: 96 Resp: 250943

Ion Ratio Lower Upper

96 100

61 121.3 0.0 284.6

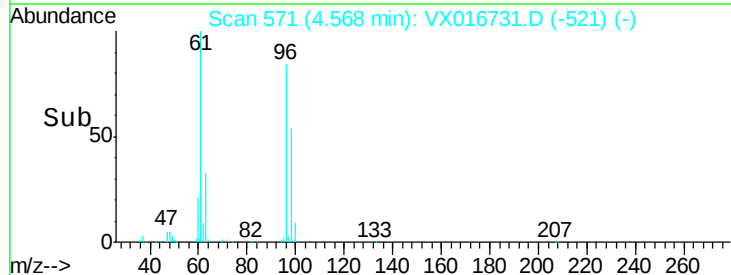
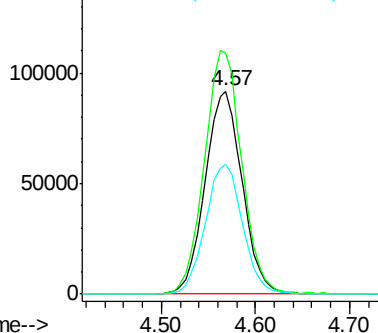
98 64.5 0.0 127.2

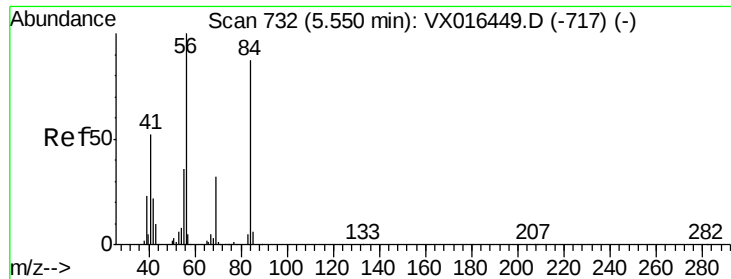


Abundance Ion 95.90 (95.60 to 96.60): VX0

Ion 60.90 (60.60 to 61.60): VX0

Ion 97.90 (97.60 to 98.60): VX0

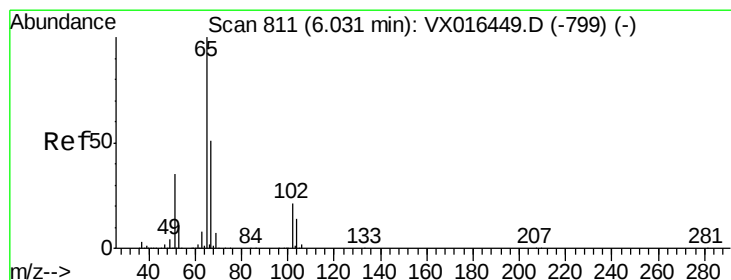
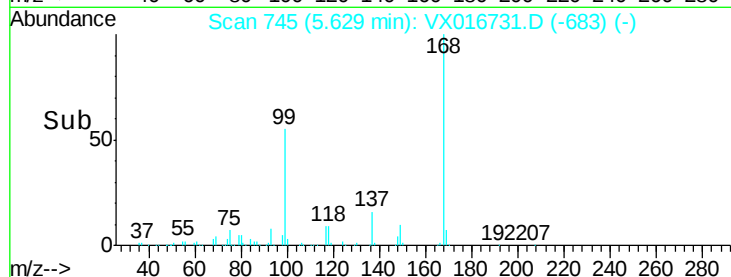
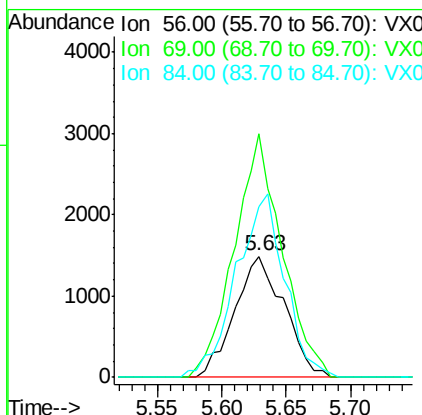
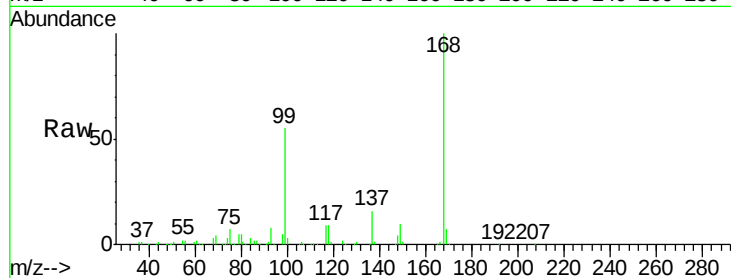




#31  
Cyclohexane  
Concen: 1.018 ug/l  
RT: 5.63 min Scan# 745  
Delta R.T. 0.08 min  
Lab File: VX016731.D  
Acq: 12 Jun 2020 16:18

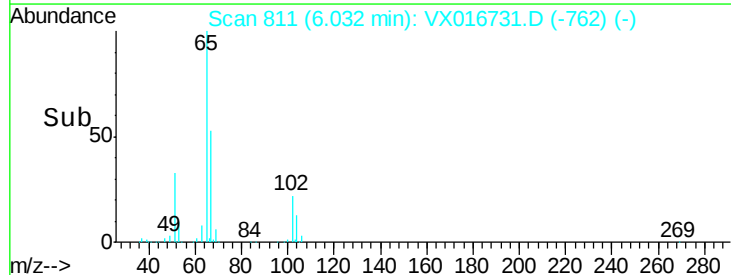
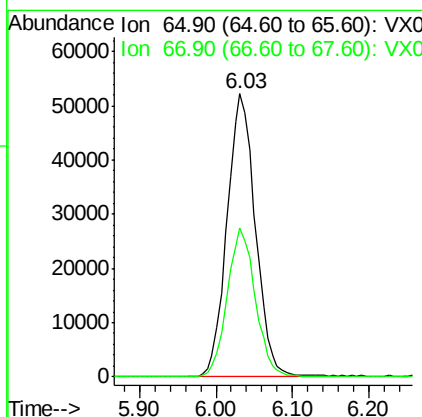
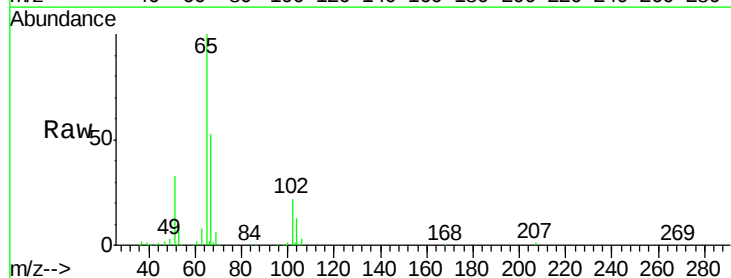
Instrument :  
MSVOA\_X  
ClientSampleId :

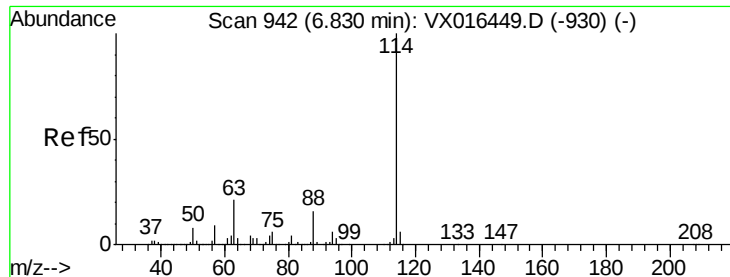
Tot Ion: 56 Resp: 3963  
Ion Ratio Lower Upper  
56 100  
69 200.6 25.7 38.5#  
84 141.0 70.0 105.0#



#33  
1,2-Dichloroethane-d4  
Concen: 47.821 ug/l  
RT: 6.03 min Scan# 811  
Delta R.T. 0.00 min  
Lab File: VX016731.D  
Acq: 12 Jun 2020 16:18

Tgt Ion: 65 Resp: 133914  
Ion Ratio Lower Upper  
65 100  
67 52.0 0.0 104.8





#34

1,4-Difluorobenzene

Concen: 50.000 ug/l

RT: 6.83 min Scan# 942

Delta R.T. 0.00 min

Lab File: VX016731.D

Acq: 12 Jun 2020 16:18

Instrument :

MSVOA\_X

ClientSampleId :

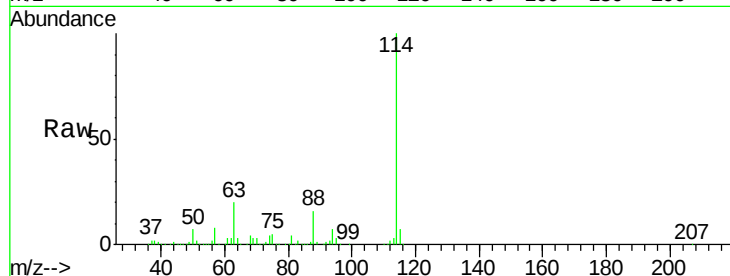
Tot Ion:114 Resp: 350597

Ion Ratio Lower Upper

114 100

63 19.9 0.0 42.6

88 15.8 0.0 32.8



Abundance Ion 113.90 (113.60 to 114.60): V

Ion 63.00 (62.70 to 63.70): VX0

Ion 87.90 (87.60 to 88.60): VX0

200000

150000

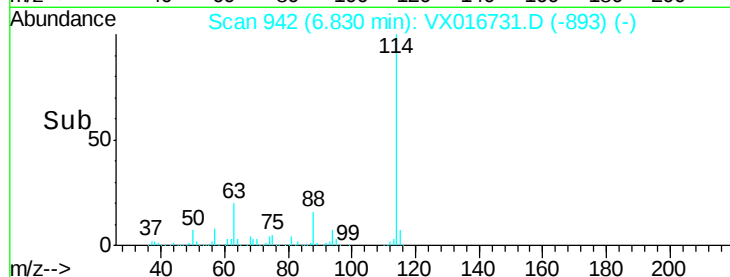
100000

50000

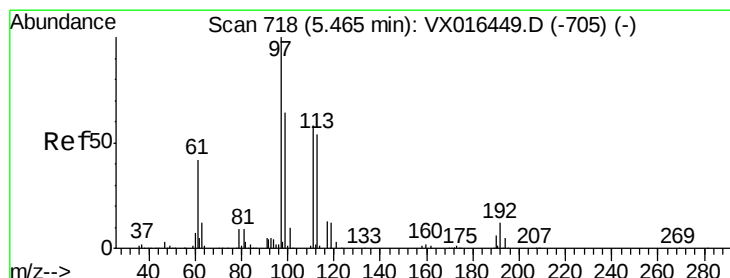
0

6.83

6.70 6.80 6.90



Time-->



#35

Dibromofluoromethane

Concen: 51.845 ug/l

RT: 5.46 min Scan# 718

Delta R.T. 0.00 min

Lab File: VX016731.D

Acq: 12 Jun 2020 16:18

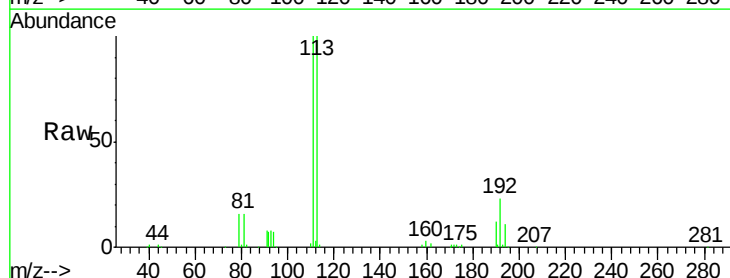
Tgt Ion:113 Resp: 111922

Ion Ratio Lower Upper

113 100

111 102.2 83.0 124.6

192 22.9 17.7 26.5



Abundance Ion 112.80 (112.50 to 113.50): V

Ion 110.80 (110.50 to 111.50): V

Ion 191.70 (191.40 to 192.40): V

50000

40000

30000

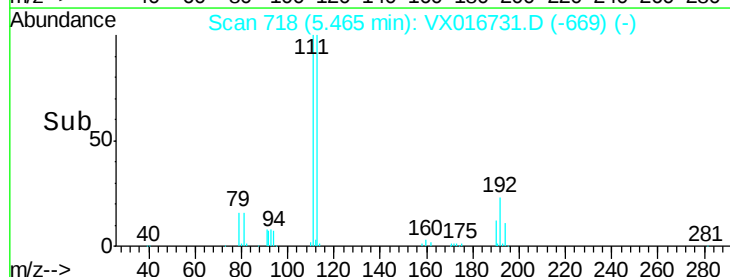
20000

10000

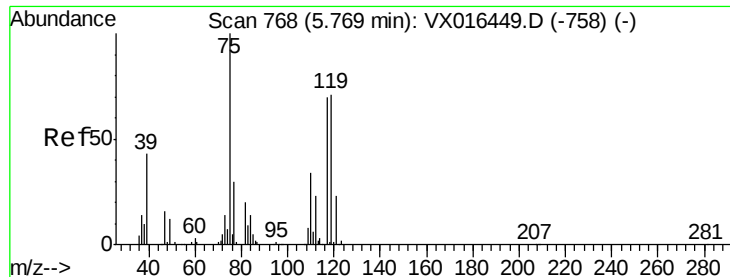
0

5.46

5.30 5.40 5.50 5.60



Time-->



#36

1,1-Dichloropropene

Concen: 4.585 ug/l

RT: 5.63 min Scan# 745

Delta R.T. -0.14 min

Lab File: VX016731.D

Acq: 12 Jun 2020 16:18

Instrument :

MSVOA\_X

ClientSampleId :

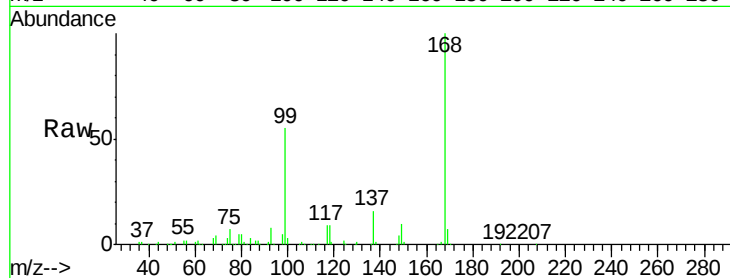
Tot Ion: 75 Resp: 15219

Ion Ratio Lower Upper

75 100

110 9.8 17.4 52.3#

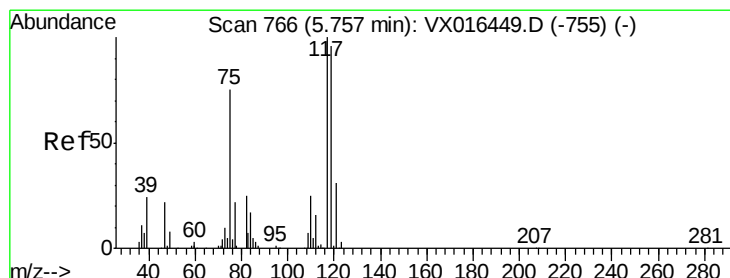
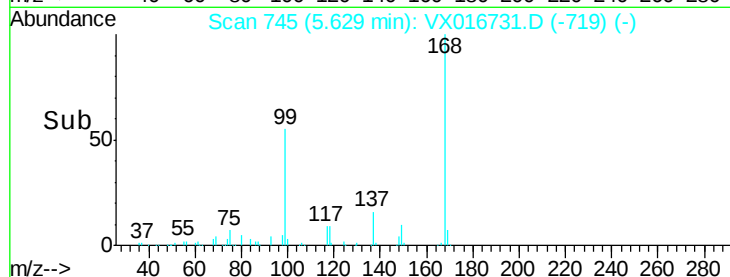
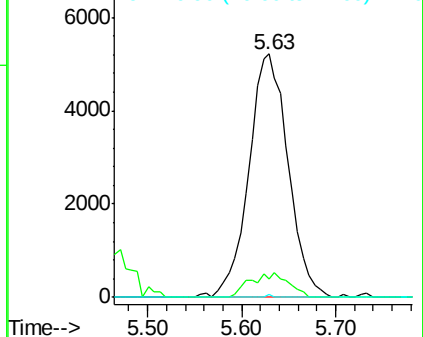
77 0.1 24.2 36.4#



Abundance Ion 74.90 (74.60 to 75.60): VX0

Ion 109.90 (109.60 to 110.60): V

Ion 76.90 (76.60 to 77.60): VX0



#38

Carbon Tetrachloride

Concen: 5.905 ug/l

RT: 5.63 min Scan# 745

Delta R.T. -0.13 min

Lab File: VX016731.D

Acq: 12 Jun 2020 16:18

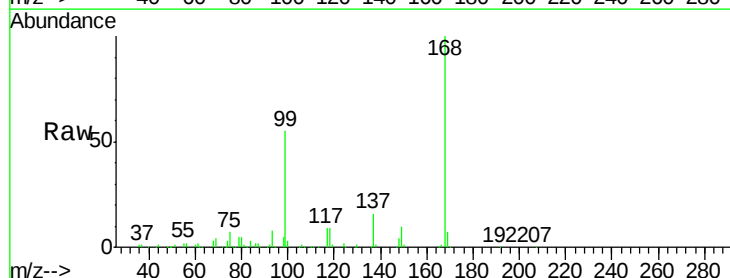
Tgt Ion:117 Resp: 20598

Ion Ratio Lower Upper

117 100

119 7.4 76.3 114.5#

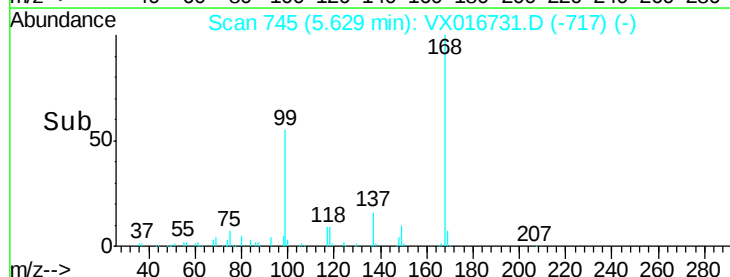
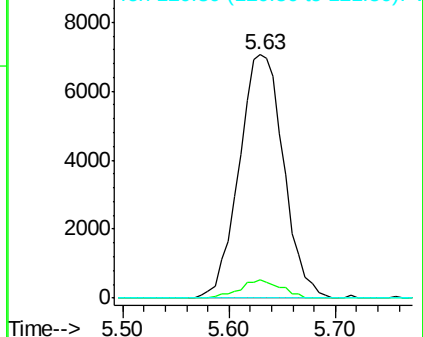
121 0.0 24.6 37.0#

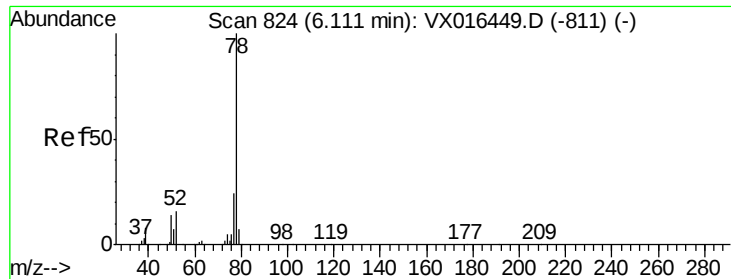


Abundance Ion 116.80 (116.50 to 117.50): V

Ion 118.80 (118.50 to 119.50): V

Ion 120.80 (120.50 to 121.50): V





#40

Benzene

Concen: 0.302 ug/l

RT: 6.12 min Scan# 825

Delta R.T. 0.01 min

Lab File: VX016731.D

Acq: 12 Jun 2020 16:18

Instrument :

MSVOA\_X

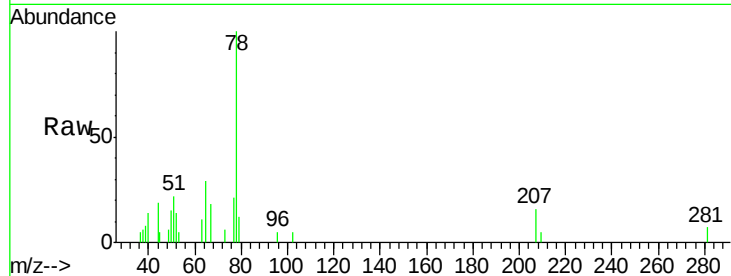
ClientSampled :

Tot Ion: 78 Resp: 2990

Ion Ratio Lower Upper

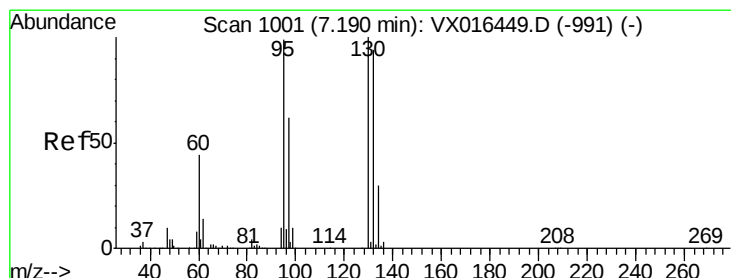
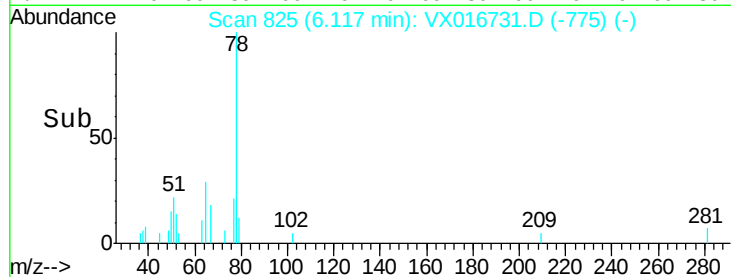
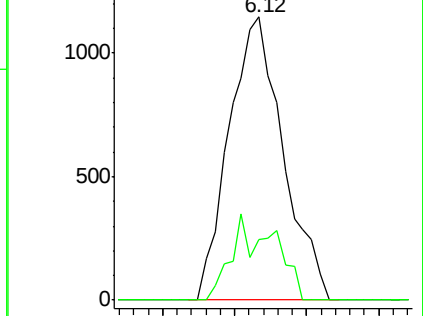
78 100

77 21.3 18.9 28.3



Abundance Ion 78.00 (77.70 to 78.70): VX0

Ion 77.00 (76.70 to 77.70): VX0



#44

Trichloroethene

Concen: 0.317 ug/l

RT: 7.19 min Scan# 1001

Delta R.T. 0.00 min

Lab File: VX016731.D

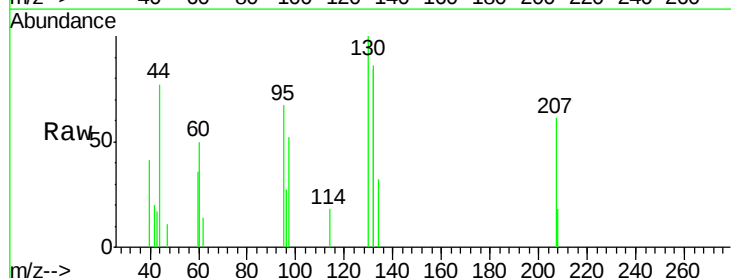
Acq: 12 Jun 2020 16:18

Tgt Ion:130 Resp: 993

Ion Ratio Lower Upper

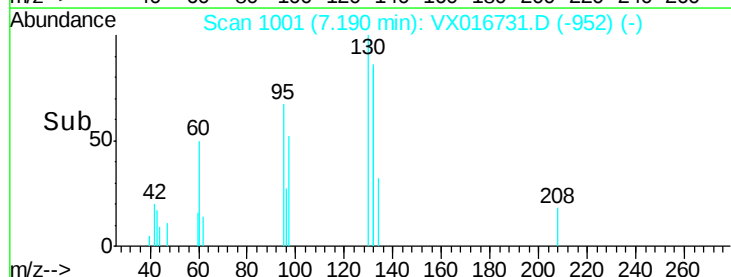
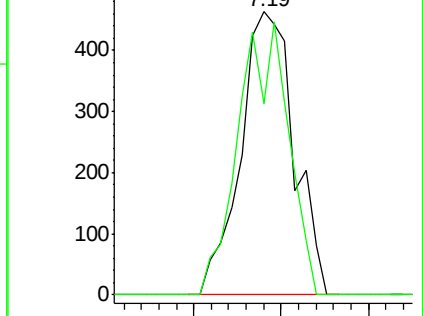
130 100

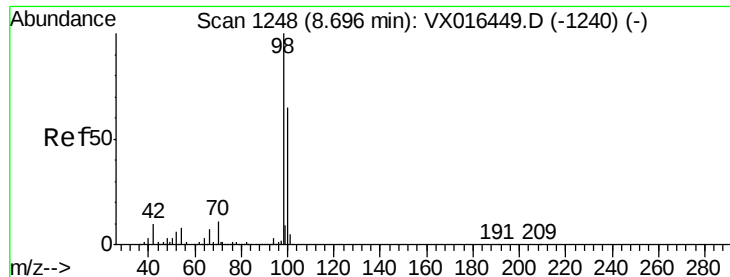
95 67.4 0.0 198.2



Abundance Ion 129.80 (129.50 to 130.50): V

Ion 94.90 (94.60 to 95.60): VX0

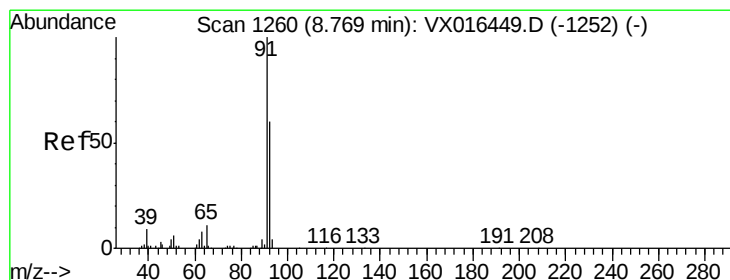
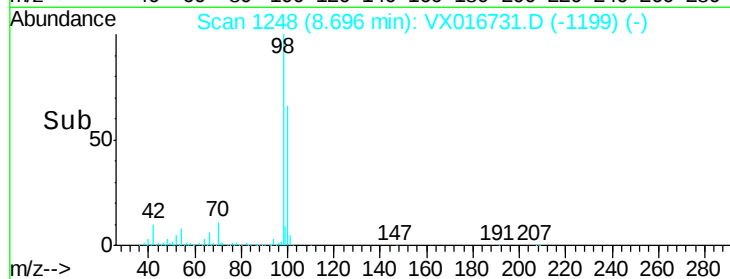
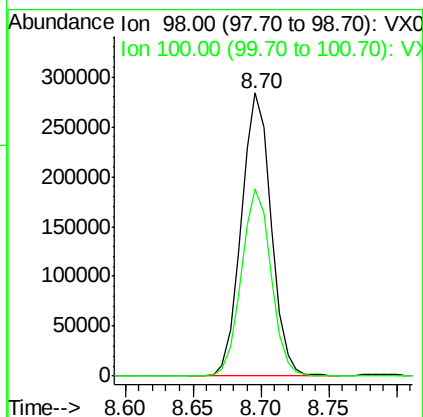
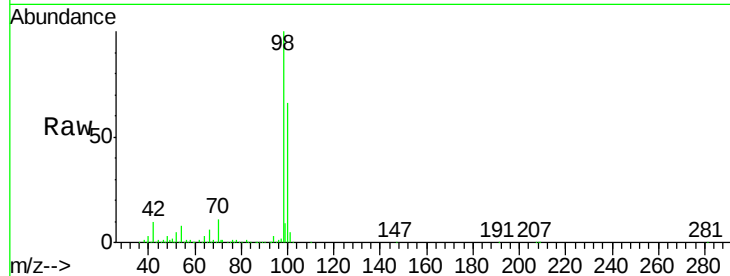




#50  
Toluene-d8  
Concen: 51.785 ug/l  
RT: 8.70 min Scan# 1248  
Delta R.T. 0.00 min  
Lab File: VX016731.D  
Acq: 12 Jun 2020 16:18

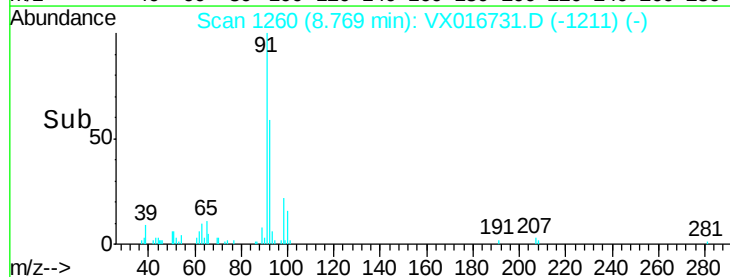
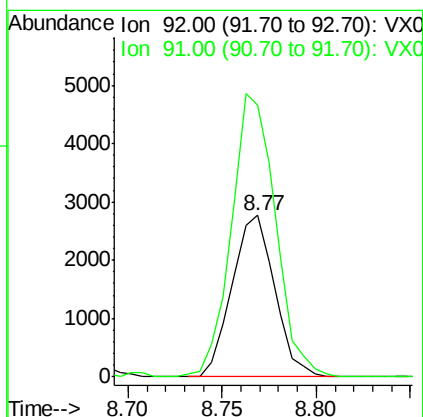
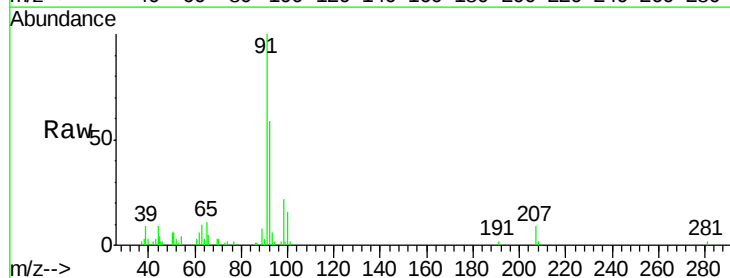
Instrument :  
MSVOA\_X  
ClientSampleId :

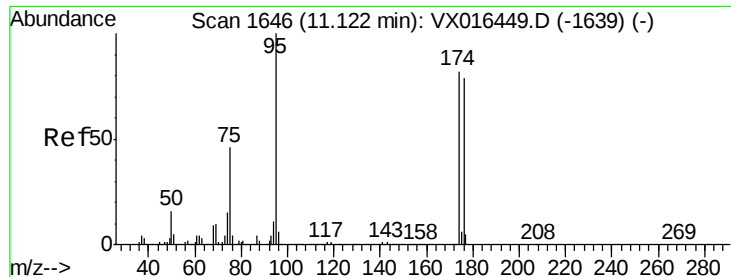
Tot Ion: 98 Resp: 435121  
Ion Ratio Lower Upper  
98 100  
100 66.0 53.8 80.6



#52  
Toluene  
Concen: 0.696 ug/l  
RT: 8.77 min Scan# 1260  
Delta R.T. 0.00 min  
Lab File: VX016731.D  
Acq: 12 Jun 2020 16:18

Tgt Ion: 92 Resp: 4336  
Ion Ratio Lower Upper  
92 100  
91 181.5 135.0 202.4





#62

4-Bromofluorobenzene

Concen: 53.416 ug/l

RT: 11.12 min Scan# 1646

Delta R.T. 0.00 min

Lab File: VX016731.D

Acq: 12 Jun 2020 16:18

Instrument :

MSVOA\_X

ClientSampleId :

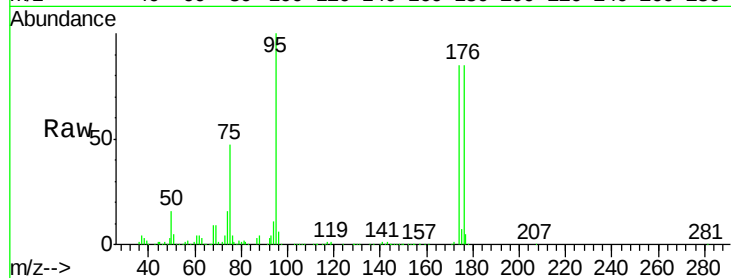
Tot Ion: 95 Resp: 173424

Ion Ratio Lower Upper

95 100

174 85.9 0.0 163.0

176 84.4 0.0 156.8



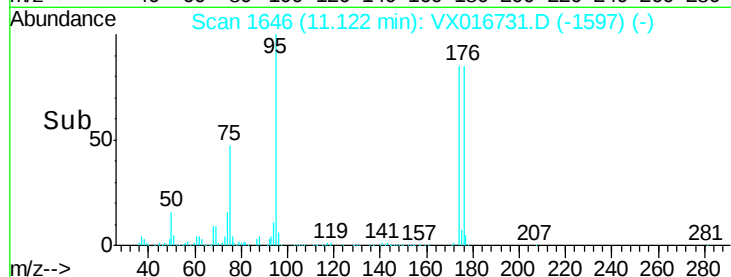
Abundance Ion 94.90 (94.60 to 95.60): VX016449.D (-1639) (-)

Ion 173.80 (173.50 to 174.50): VX016449.D (-1639) (-)

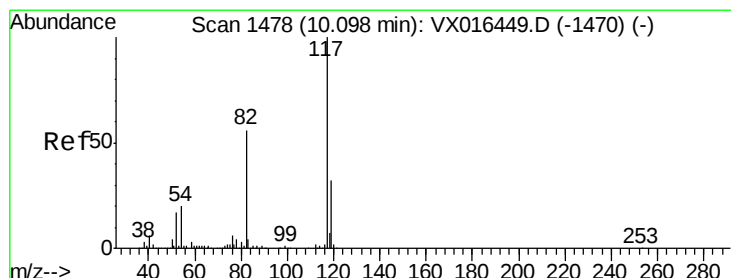
Ion 175.80 (175.50 to 176.50): VX016449.D (-1639) (-)

11.12

11.10 11.20



Time-->



#63

Chlorobenzene-d5

Concen: 50.000 ug/l

RT: 10.10 min Scan# 1478

Delta R.T. 0.00 min

Lab File: VX016731.D

Acq: 12 Jun 2020 16:18

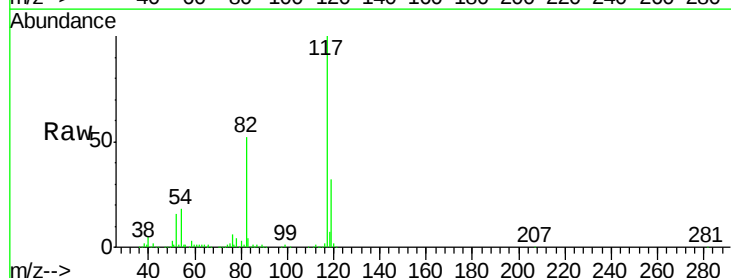
Tgt Ion: 117 Resp: 361962

Ion Ratio Lower Upper

117 100

82 52.4 45.0 67.6

119 31.8 25.8 38.8



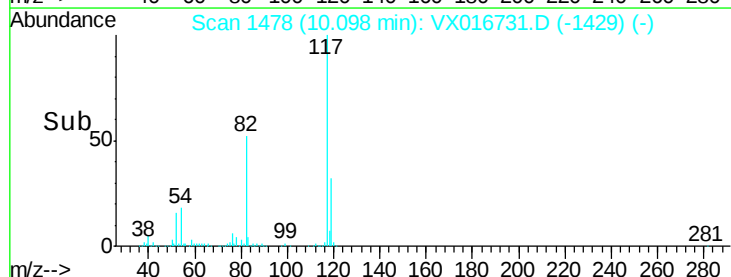
Abundance Ion 116.90 (116.60 to 117.60): VX016449.D (-1470) (-)

Ion 82.00 (81.70 to 82.70): VX016449.D (-1470) (-)

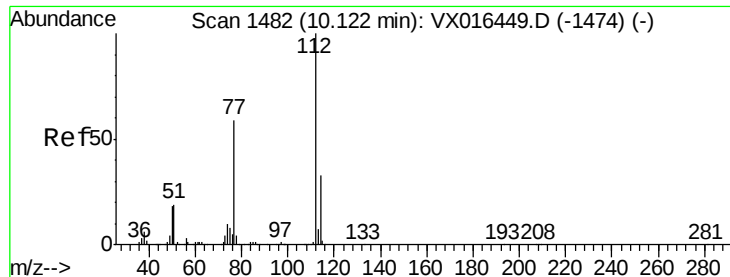
Ion 118.90 (118.60 to 119.60): VX016449.D (-1470) (-)

10.10

10.00 10.20



Time-->



#65

Chlorobenzene

Concen: 8.937 ug/l

RT: 10.12 min Scan# 1482

Delta R.T. 0.00 min

Lab File: VX016731.D

Acq: 12 Jun 2020 16:18

Instrument :

MSVOA\_X

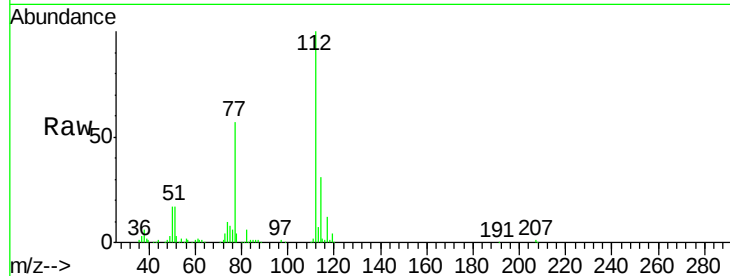
ClientSampled :

Tot Ion:112 Resp: 65948

Ion Ratio Lower Upper

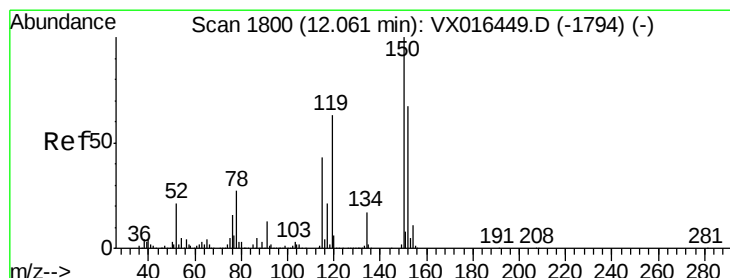
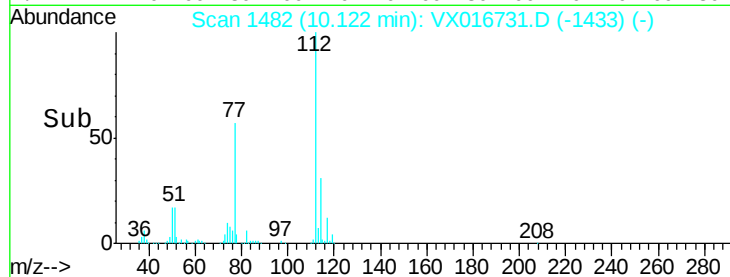
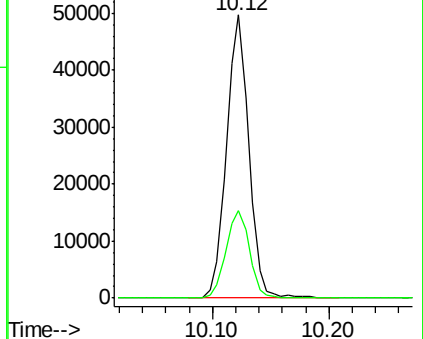
112 100

114 30.8 26.0 39.0



Abundance Ion 111.90 (111.60 to 112.60): V

Ion 113.90 (113.60 to 114.60): V



#72

1,4-Dichlorobenzene-d4

Concen: 50.000 ug/l

RT: 12.06 min Scan# 1800

Delta R.T. 0.00 min

Lab File: VX016731.D

Acq: 12 Jun 2020 16:18

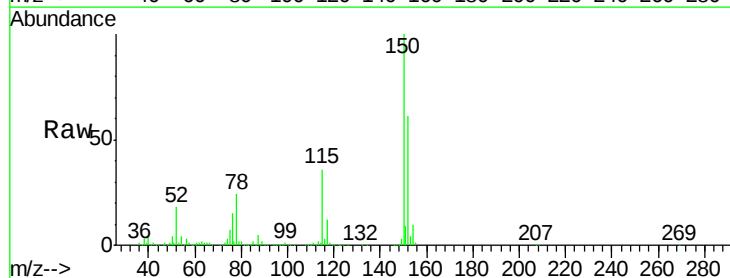
Tgt Ion:152 Resp: 185464

Ion Ratio Lower Upper

152 100

115 58.0 39.9 119.6

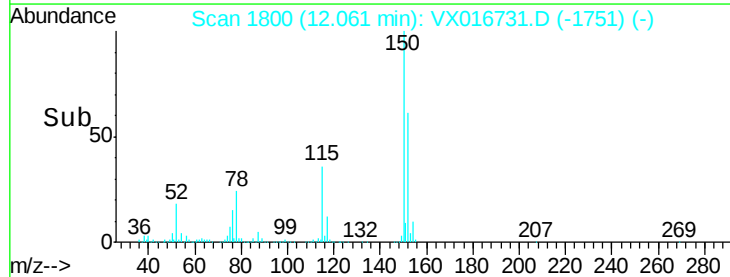
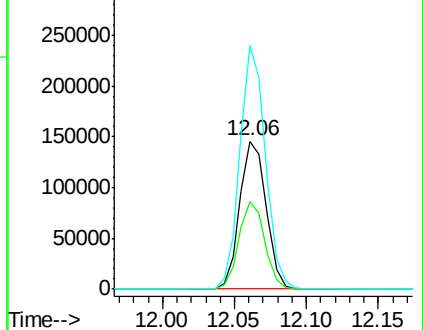
150 159.3 0.0 341.0

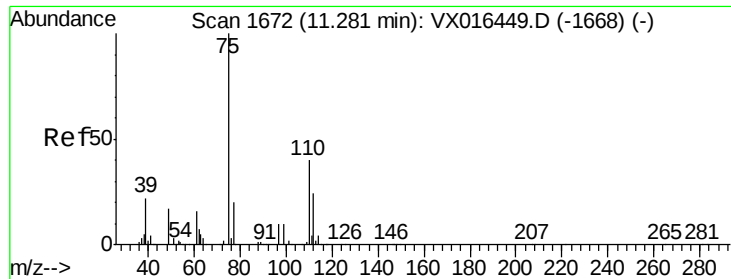


Abundance Ion 151.90 (151.60 to 152.60): V

Ion 114.90 (114.60 to 115.60): V

Ion 149.90 (149.60 to 150.60): V





#76

1,2,3-Trichloropropane

Concen: 20.615 ug/l

RT: 11.12 min Scan# 1646

Delta R.T. -0.16 min

Lab File: VX016731.D

Acq: 12 Jun 2020 16:18

Instrument :

MSVOA\_X

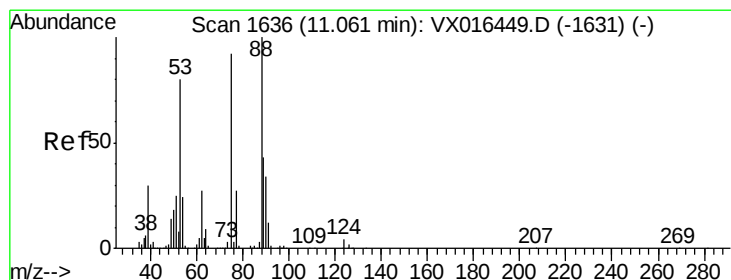
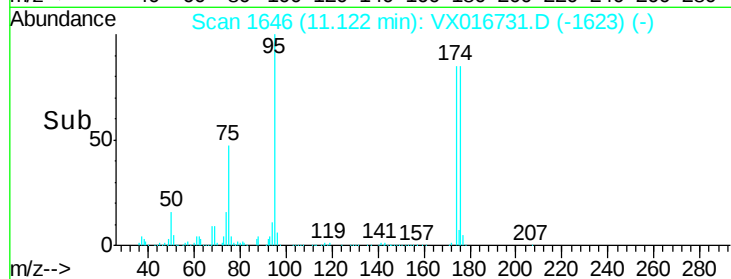
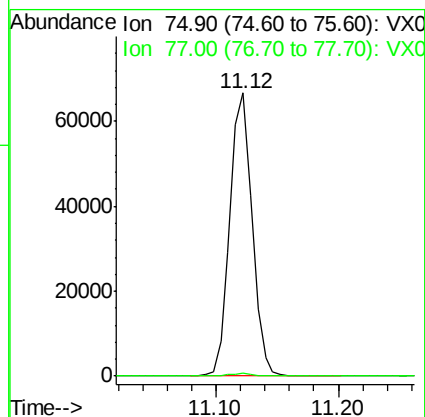
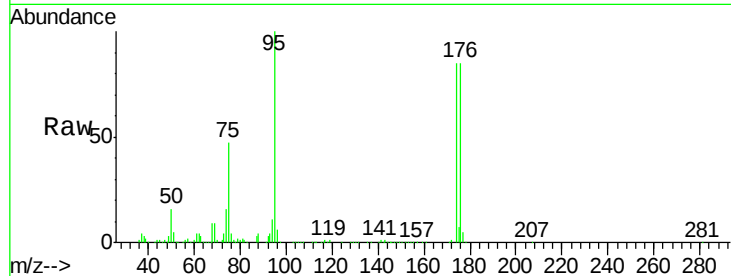
ClientSampleId :

Tot Ion: 75 Resp: 84039

Ion Ratio Lower Upper

75 100

77 1.3 21.3 63.7#



#81

trans-1,4-Dichloro-2-butene

Concen: 50.710 ug/l

RT: 11.12 min Scan# 1646

Delta R.T. 0.06 min

Lab File: VX016731.D

Acq: 12 Jun 2020 16:18

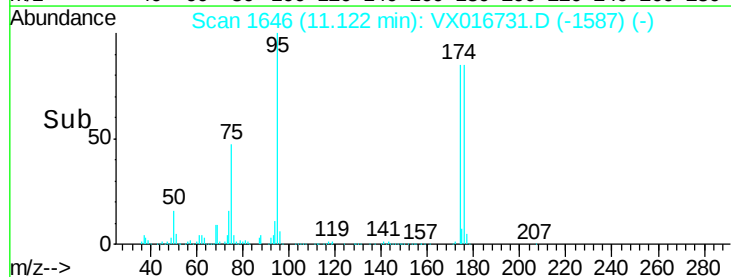
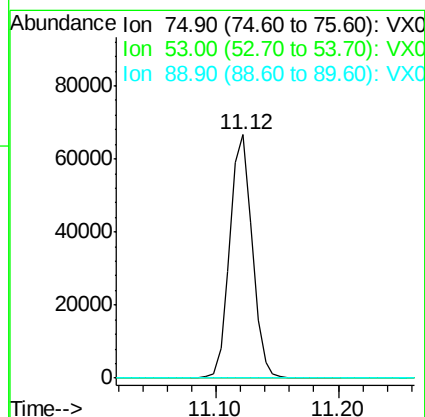
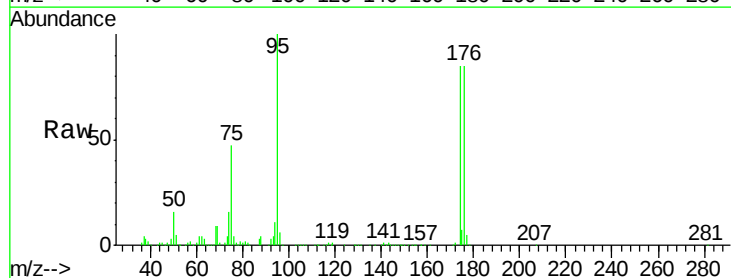
Tgt Ion: 75 Resp: 84039

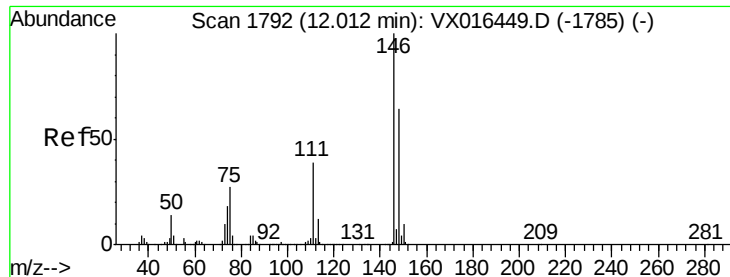
Ion Ratio Lower Upper

75 100

53 0.1 71.3 106.9#

89 0.0 36.6 55.0#

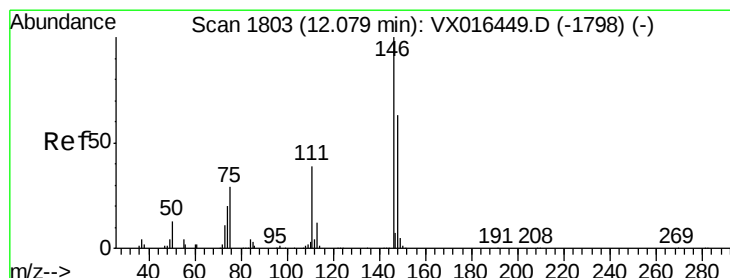
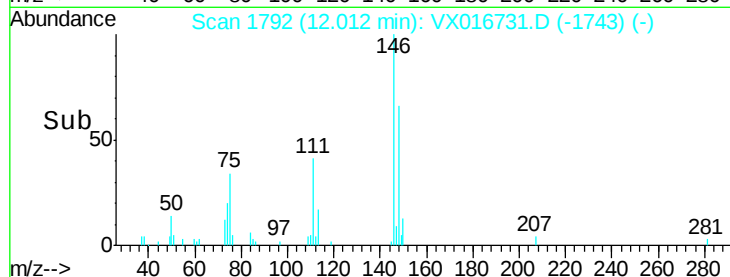
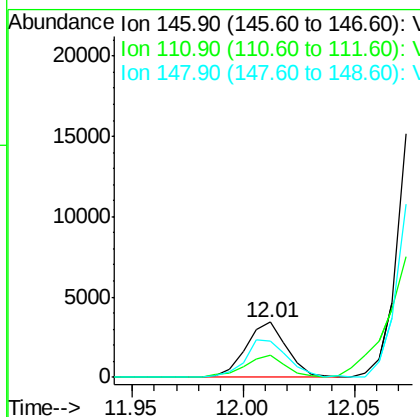
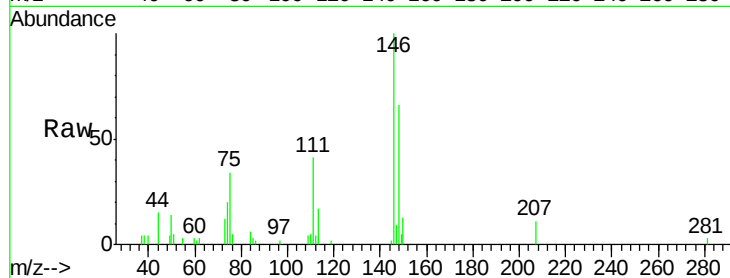




#87  
 1,3-Dichlorobenzene  
 Concen: 0.756 ug/l  
 RT: 12.01 min Scan# 1792  
 Delta R.T. 0.00 min  
 Lab File: VX016731.D  
 Acq: 12 Jun 2020 16:18

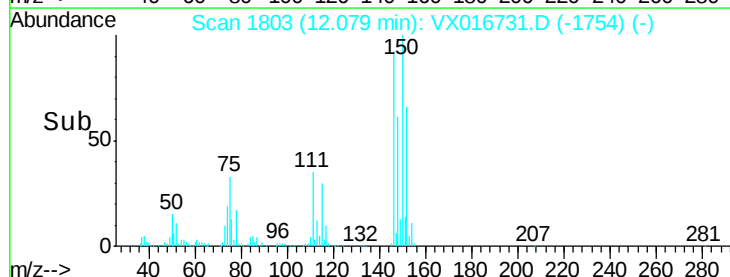
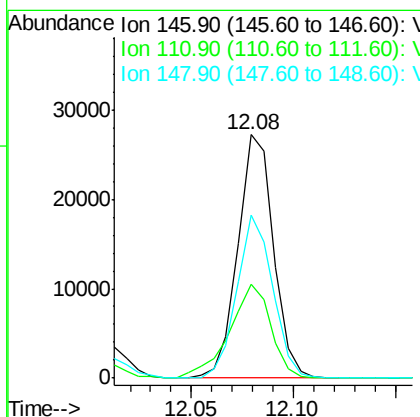
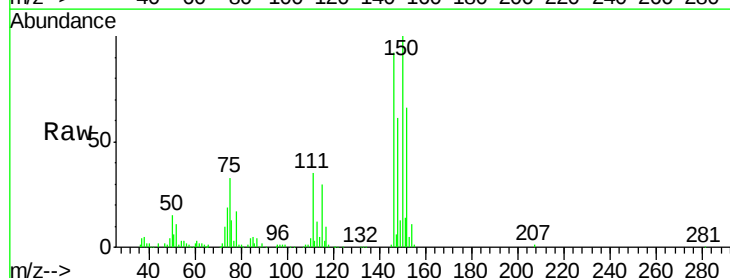
Instrument :  
 MSVOA\_X  
 ClientSampleId :

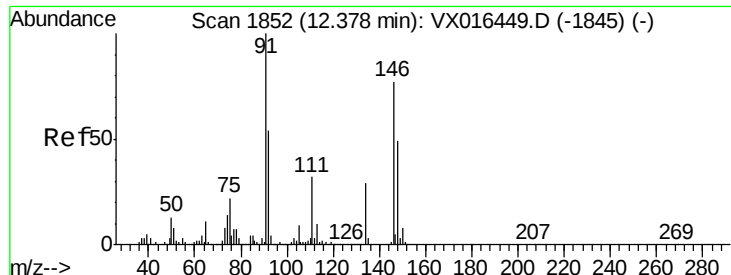
Tot Ion:146 Resp: 4412  
 Ion Ratio Lower Upper  
 146 100  
 111 40.6 20.0 60.0  
 148 71.1 31.9 95.5



#88  
 1,4-Dichlorobenzene  
 Concen: 5.548 ug/l  
 RT: 12.08 min Scan# 1803  
 Delta R.T. 0.00 min  
 Lab File: VX016731.D  
 Acq: 12 Jun 2020 16:18

Tgt Ion:146 Resp: 33130  
 Ion Ratio Lower Upper  
 146 100  
 111 45.0 19.4 58.2  
 148 67.0 31.4 94.3





#91

1,2-Dichlorobenzene

Concen: 24.528 ug/l

RT: 12.38 min Scan# 1852

Delta R.T. 0.00 min

Lab File: VX016731.D

Acq: 12 Jun 2020 16:18

Instrument :

MSVOA\_X

ClientSampleId :

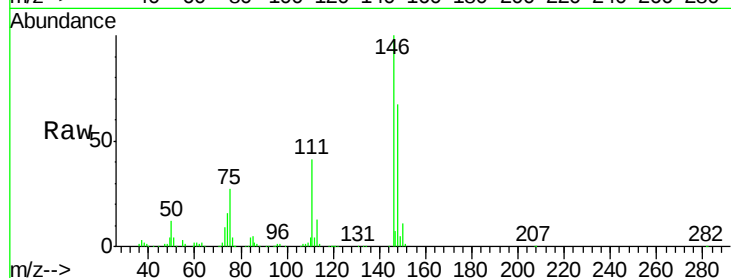
Tot Ion:146 Resp: 138760

Ion Ratio Lower Upper

146 100

111 41.6 21.4 64.3

148 65.3 31.9 95.7



Abundance Ion 145.90 (145.60 to 146.60): V

Ion 110.90 (110.60 to 111.60): V

Ion 147.90 (147.60 to 148.60): V

