

Data Path : Z:\VOASRV\HPCHEM1\MSVOA X\DATA\VX062419\  
 Data File : VX010404.D  
 Acq On : 24 Jun 2019 11:44  
 Operator : JC/SP  
 Sample : K3473-06  
 Misc : 5.0mL/MSVOA X/WATER  
 ALS Vial : 5 Sample Multiplier: 1

Instrument :  
 MSVOA\_X  
 ClientSampleId :  
 FB

Quant Time: Jun 25 03:36:11 2019  
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA\_X\METHOD\82X061919W.M  
 Quant Title : SW846 8260  
 QLast Update : Thu Jun 20 03:31:56 2019  
 Response via : Initial Calibration

| Internal Standards         | R.T.  | QIon | Response | Conc  | Units | Dev(Min) |
|----------------------------|-------|------|----------|-------|-------|----------|
| 1) Pentafluorobenzene      | 5.67  | 168  | 311225   | 50.00 | ug/l  | 0.00     |
| 34) 1,4-Difluorobenzene    | 6.86  | 114  | 469458   | 50.00 | ug/l  | 0.00     |
| 63) Chlorobenzene-d5       | 10.11 | 117  | 414243   | 50.00 | ug/l  | 0.00     |
| 72) 1,4-Dichlorobenzene-d4 | 12.08 | 152  | 190538   | 50.00 | ug/l  | 0.00     |

## System Monitoring Compounds

|                           |        |     |          |       |         |      |
|---------------------------|--------|-----|----------|-------|---------|------|
| 33) 1,2-Dichloroethane-d4 | 6.06   | 65  | 140515   | 48.15 | ug/l    | 0.00 |
| Spiked Amount             | 50.000 |     | Recovery | =     | 96.30%  |      |
| 35) Dibromofluoromethane  | 5.50   | 113 | 146708   | 51.08 | ug/l    | 0.00 |
| Spiked Amount             | 50.000 |     | Recovery | =     | 102.16% |      |
| 50) Toluene-d8            | 8.71   | 98  | 549821   | 50.03 | ug/l    | 0.00 |
| Spiked Amount             | 50.000 |     | Recovery | =     | 100.06% |      |
| 62) 4-Bromofluorobenzene  | 11.13  | 95  | 181784   | 45.82 | ug/l    | 0.00 |
| Spiked Amount             | 50.000 |     | Recovery | =     | 91.64%  |      |

## Target Compounds

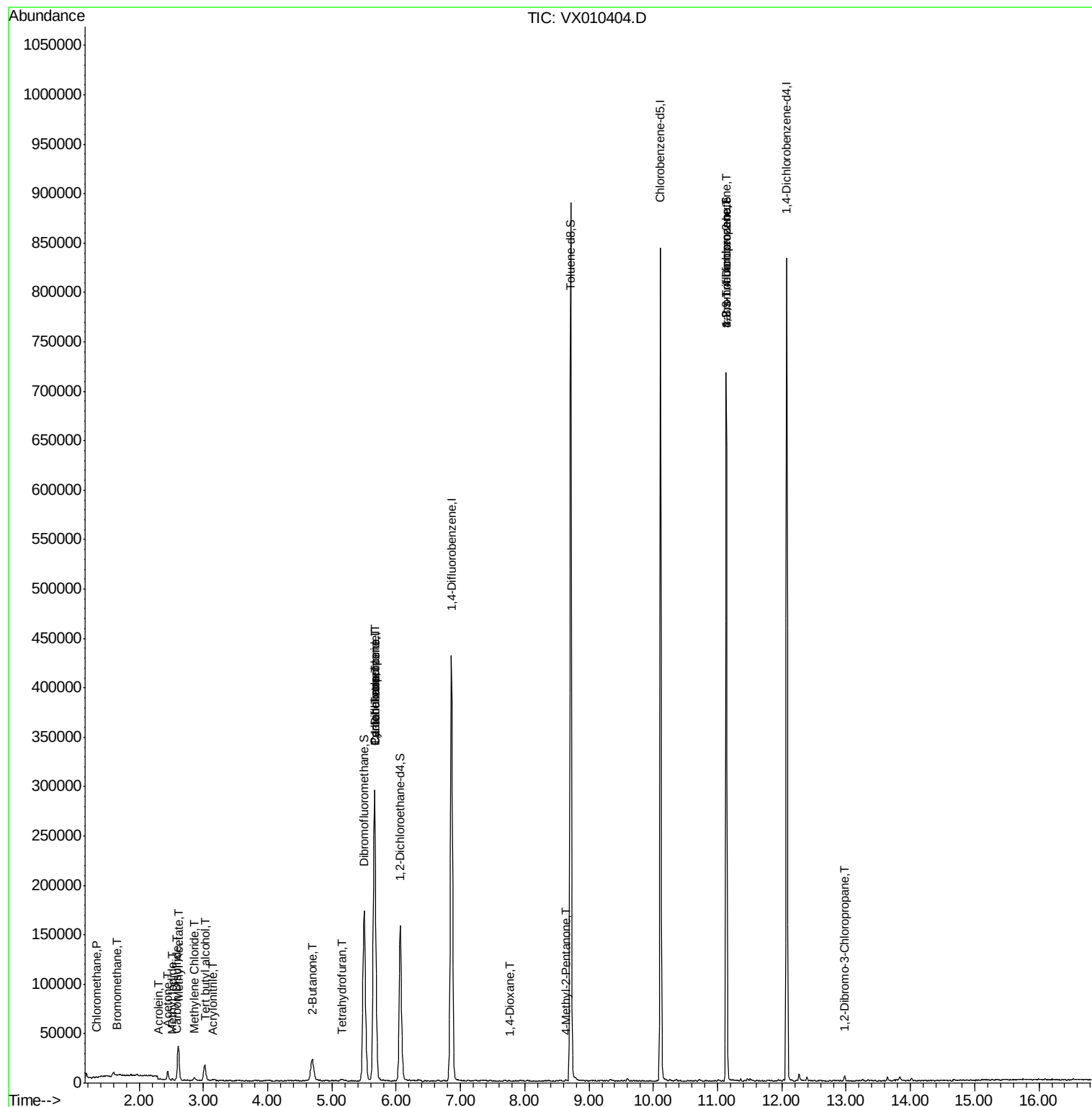
|                                |       |     |       |        | Qvalue |    |
|--------------------------------|-------|-----|-------|--------|--------|----|
| 3) Chloromethane               | 1.33  | 50  | 759   | 0.301  | ug/l   | 89 |
| 5) Bromomethane                | 1.65  | 94  | 504   | 0.375  | ug/l # | 55 |
| 10) Methyl Iodide              | 2.51  | 142 | 1303  | 0.344  | ug/l   | 97 |
| 11) Tert butyl alcohol         | 3.03  | 59  | 10266 | 13.445 | ug/l # | 83 |
| 13) Acrolein                   | 2.30  | 56  | 350   | 0.691  | ug/l # | 80 |
| 15) Acrylonitrile              | 3.15  | 53  | 574   | 0.380  | ug/l # | 63 |
| 16) Acetone                    | 2.45  | 43  | 9550  | 6.530  | ug/l   | 98 |
| 17) Carbon Disulfide           | 2.57  | 76  | 1734  | 0.240  | ug/l   | 96 |
| 18) Methyl Acetate             | 2.60  | 43  | 9053  | 3.106  | ug/l # | 48 |
| 20) Methylene Chloride         | 2.86  | 84  | 1484  | 0.493  | ug/l # | 83 |
| 25) 2-Butanone                 | 4.70  | 43  | 2632  | 1.227  | ug/l # | 83 |
| 29) Tetrahydrofuran            | 5.15  | 42  | 1554  | 1.170  | ug/l # | 46 |
| 31) Cyclohexane                | 5.67  | 56  | 5282  | 1.253  | ug/l # | 1  |
| 36) 1,1-Dichloropropene        | 5.67  | 75  | 18447 | 4.945  | ug/l # | 48 |
| 38) Carbon Tetrachloride       | 5.67  | 117 | 27171 | 6.726  | ug/l # | 15 |
| 49) 1,4-Dioxane                | 7.76  | 88  | 95    | 1.117  | ug/l # | 1  |
| 51) 4-Methyl-2-Pentanone       | 8.64  | 43  | 1164  | 0.287  | ug/l # | 78 |
| 76) 1,2,3-Trichloropropane     | 11.13 | 75  | 84243 | 24.263 | ug/l # | 33 |
| 81) trans-1,4-Dichloro-2-buten | 11.13 | 75  | 84243 | 56.603 | ug/l # | 16 |
| 92) 1,2-Dibromo-3-Chloropropan | 12.97 | 75  | 727   | 0.788  | ug/l # | 1  |

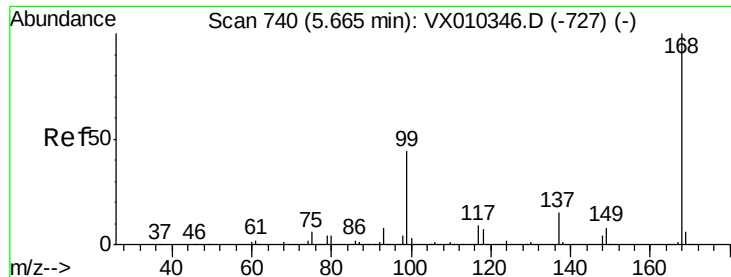
(#) = qualifier out of range (m) = manual integration (+) = signals summed

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Response via : Initial Calibration

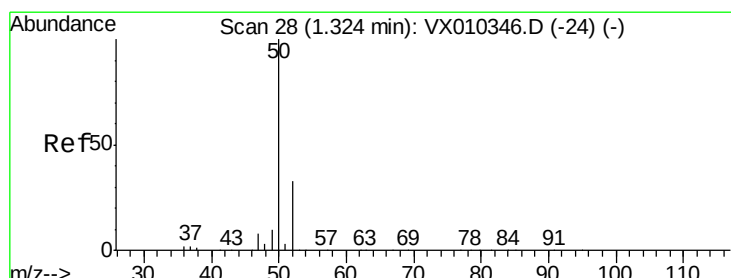
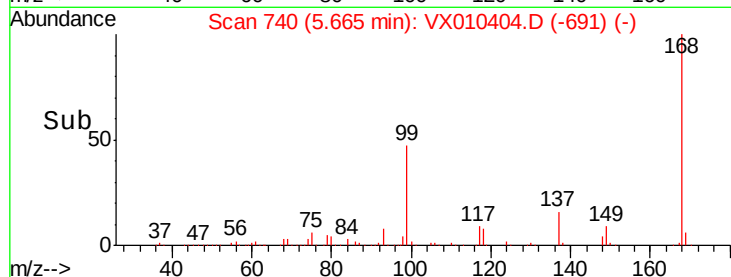
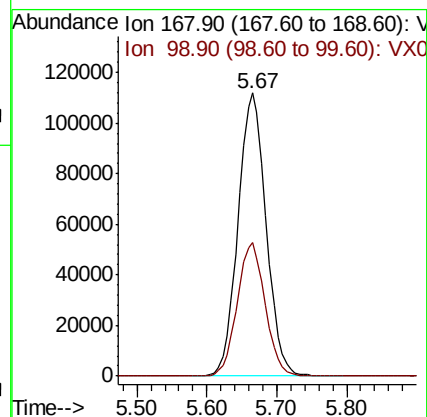
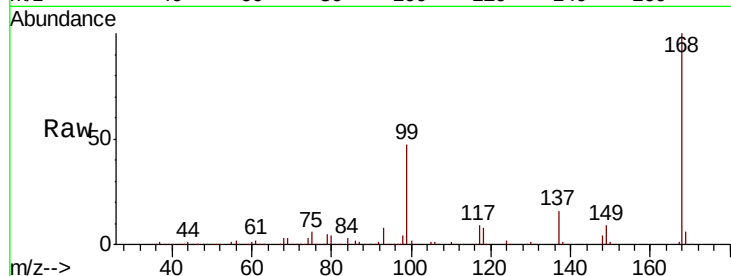




#1  
Pentafluorobenzene  
Concen: 50.000 ug/l  
RT: 5.67 min Scan# 740  
Delta R.T. 0.00 min  
Lab File: VX010404.D  
Acq: 24 Jun 2019 11:44

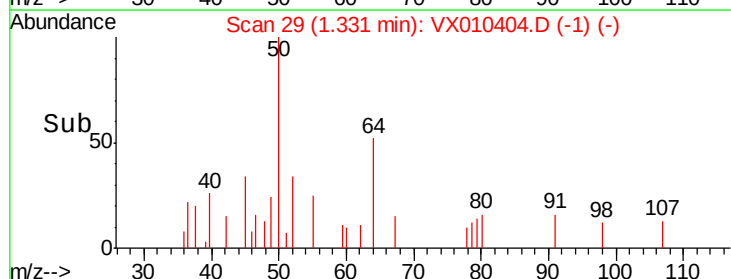
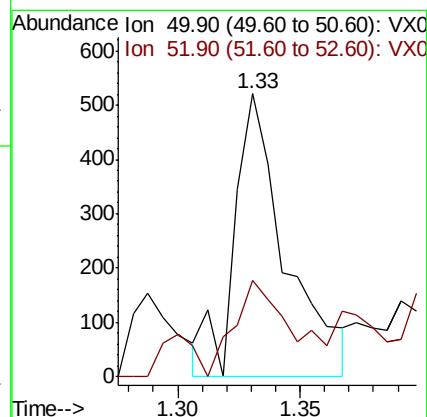
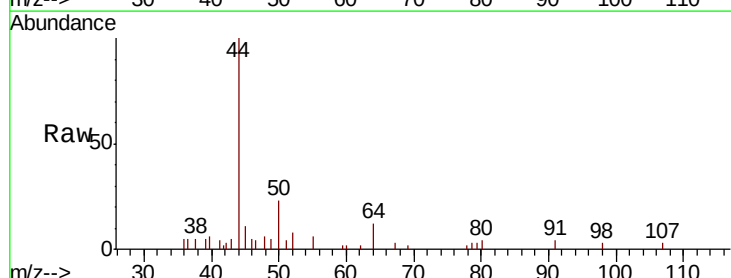
Instrument :  
MSVOA\_X  
ClientSampleId :  
FB

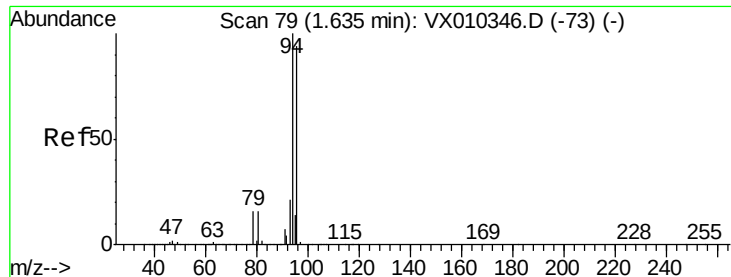
Tot Ion:168 Resp: 311225  
Ion Ratio Lower Upper  
168 100  
99 47.0 35.5 53.3



#3  
Chloromethane  
Concen: 0.301 ug/l  
RT: 1.33 min Scan# 29  
Delta R.T. 0.01 min  
Lab File: VX010404.D  
Acq: 24 Jun 2019 11:44

Tgt Ion: 50 Resp: 759  
Ion Ratio Lower Upper  
50 100  
52 26.6 26.5 39.7





#5

Bromomethane

Concen: 0.375 ug/l

RT: 1.65 min Scan# 82

Delta R.T. 0.02 min

Lab File: VX010404.D

Acq: 24 Jun 2019 11:44

Instrument :

MSVOA\_X

ClientSampled :

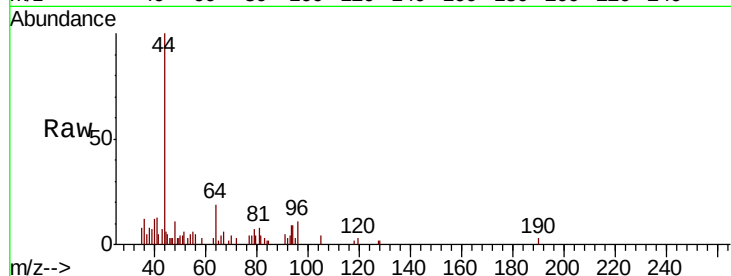
FB

Tot Ion: 94 Resp: 504

Ion Ratio Lower Upper

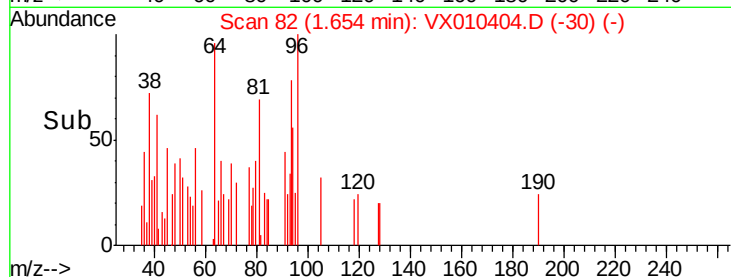
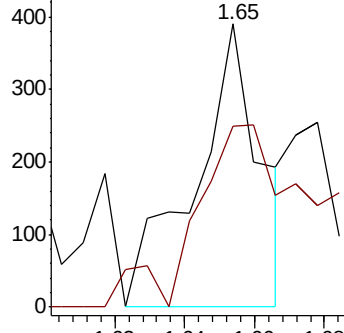
94 100

96 51.0 75.5 113.3#

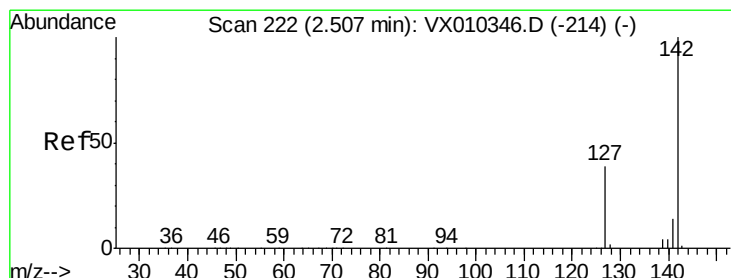


Abundance Ion 93.90 (93.60 to 94.60): VX0

Ion 95.90 (95.60 to 96.60): VX0



Time-->



#10

Methyl Iodide

Concen: 0.344 ug/l

RT: 2.51 min Scan# 223

Delta R.T. 0.01 min

Lab File: VX010404.D

Acq: 24 Jun 2019 11:44

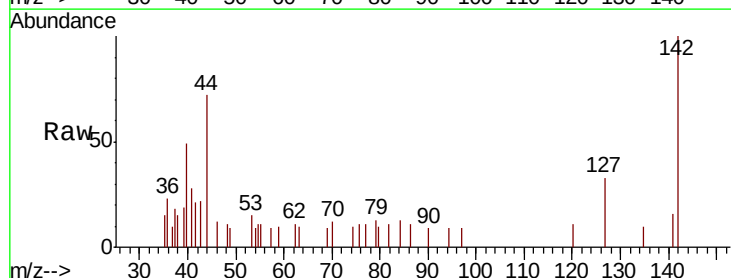
Tgt Ion: 142 Resp: 1303

Ion Ratio Lower Upper

142 100

127 40.2 31.1 46.7

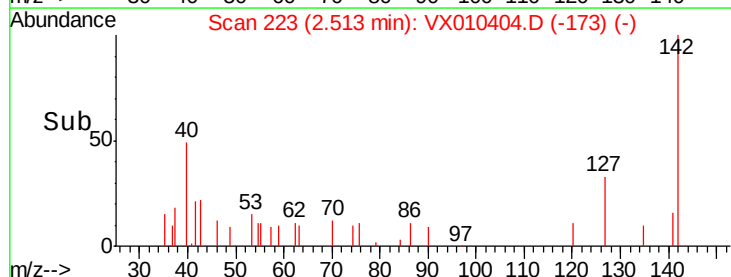
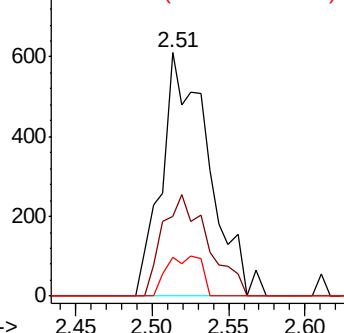
141 12.1 11.2 16.8



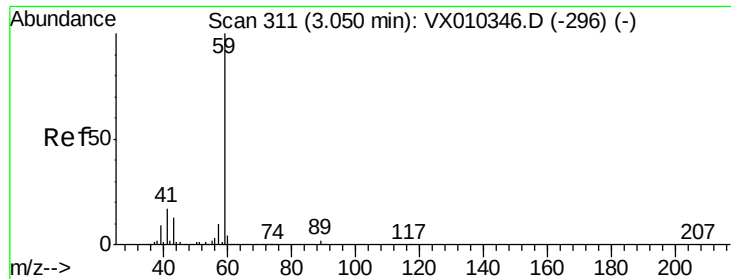
Abundance Ion 141.80 (141.50 to 142.50): V

Ion 126.80 (126.50 to 127.50): V

Ion 140.80 (140.50 to 141.50): V



Time-->

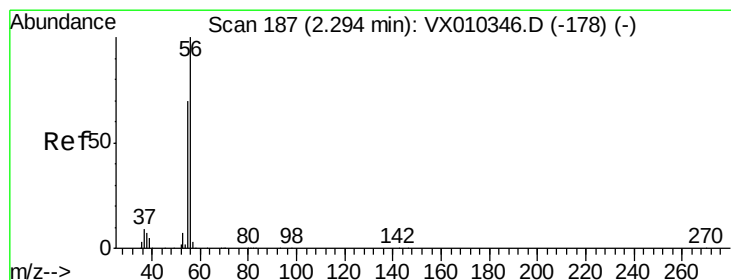
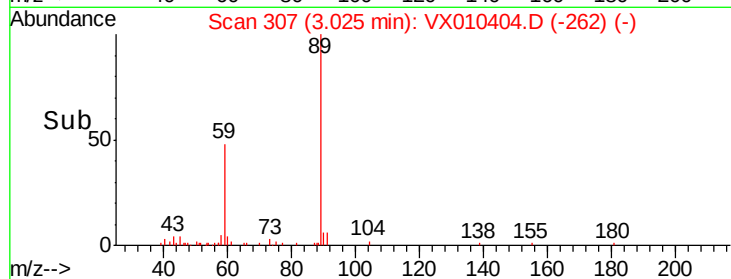
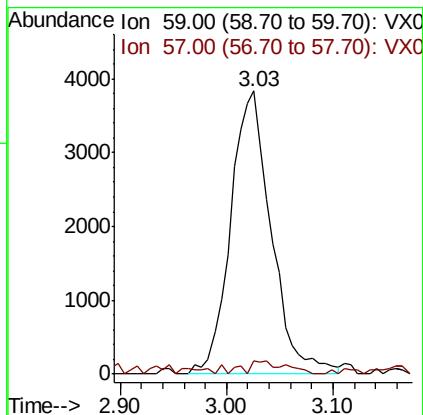
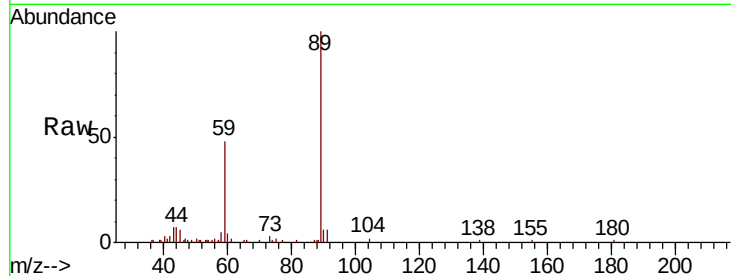


#11

Tert butyl alcohol  
 Concen: 13.445 ug/l  
 RT: 3.03 min Scan# 307  
 Delta R.T. -0.02 min  
 Lab File: VX010404.D  
 Acq: 24 Jun 2019 11:44

Instrument :  
 MSVOA\_X  
 ClientSampled :  
 FB

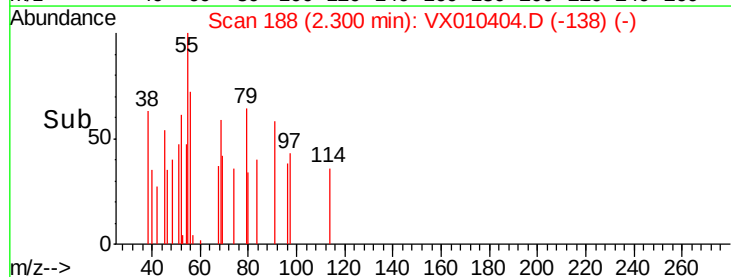
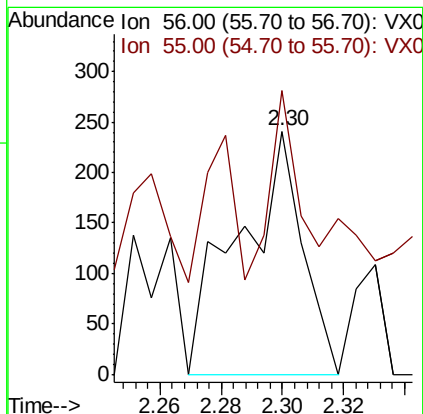
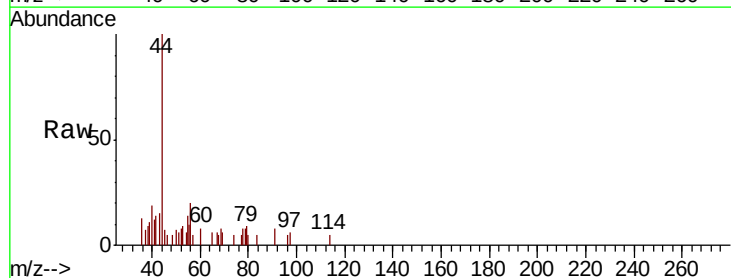
Tot Ion: 59 Resp: 10266  
 Ion Ratio Lower Upper  
 59 100  
 57 3.2 7.7 11.5#

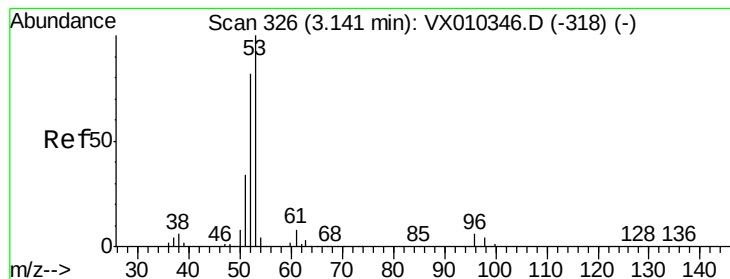


#13

Acrolein  
 Concen: 0.691 ug/l  
 RT: 2.30 min Scan# 188  
 Delta R.T. 0.01 min  
 Lab File: VX010404.D  
 Acq: 24 Jun 2019 11:44

Tgt Ion: 56 Resp: 350  
 Ion Ratio Lower Upper  
 56 100  
 55 87.7 56.9 85.3#





#15

Acrylonitrile

Concen: 0.380 ug/l

RT: 3.15 min Scan# 327

Delta R.T. 0.01 min

Lab File: VX010404.D

Acq: 24 Jun 2019 11:44

Instrument :

MSVOA\_X

ClientSampled :

FB

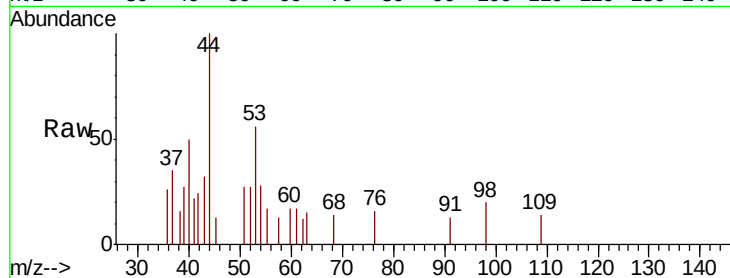
Tot Ion: 53 Resp: 574

Ion Ratio Lower Upper

53 100

52 57.7 65.5 98.3#

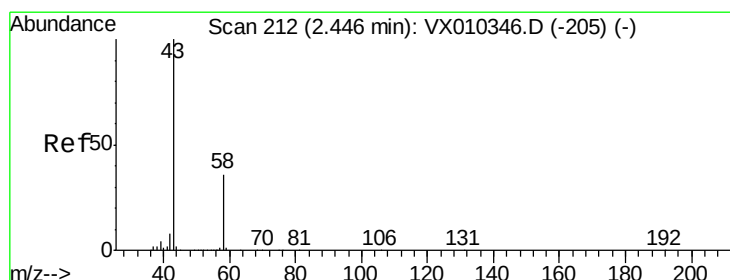
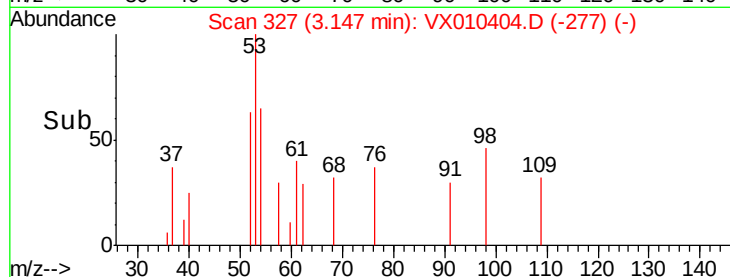
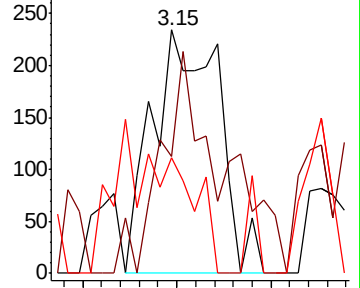
51 0.0 28.2 42.4#



Abundance Ion 53.00 (52.70 to 53.70): VX0

Ion 52.00 (51.70 to 52.70): VX0

Ion 51.00 (50.70 to 51.70): VX0



#16

Acetone

Concen: 6.530 ug/l

RT: 2.45 min Scan# 212

Delta R.T. 0.00 min

Lab File: VX010404.D

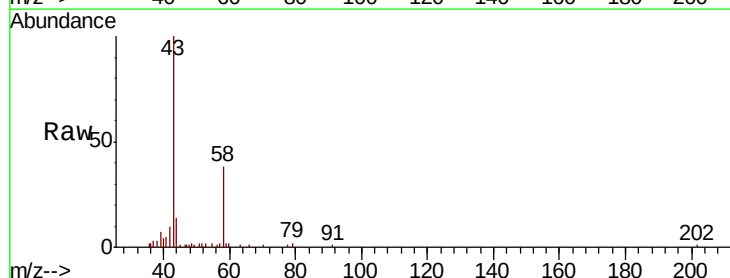
Acq: 24 Jun 2019 11:44

Tgt Ion: 43 Resp: 9550

Ion Ratio Lower Upper

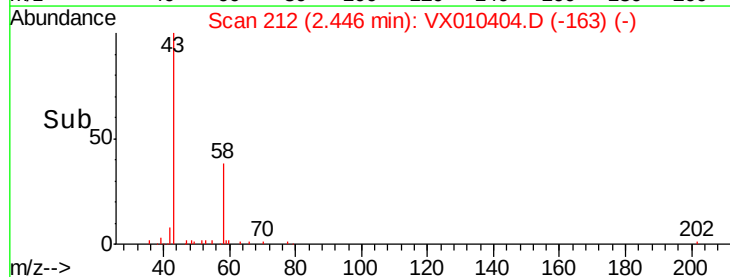
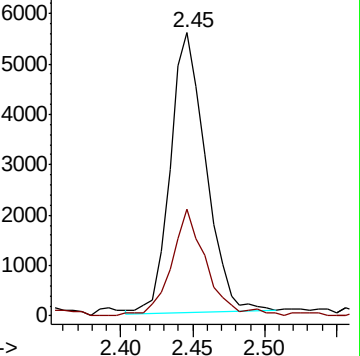
43 100

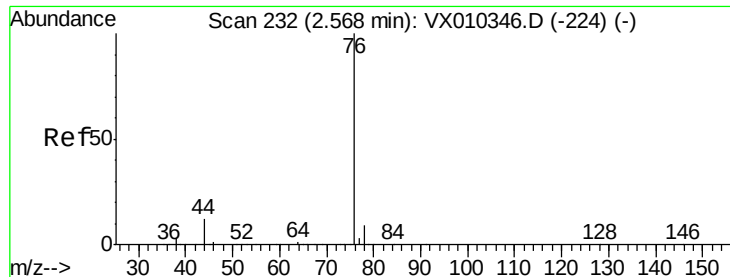
58 37.4 28.9 43.3



Abundance Ion 43.00 (42.70 to 43.70): VX0

Ion 58.00 (57.70 to 58.70): VX0





#17

Carbon Disulfide

Concen: 0.240 ug/l

RT: 2.57 min Scan# 233

Delta R.T. 0.01 min

Lab File: VX010404.D

Acq: 24 Jun 2019 11:44

Instrument :

MSVOA\_X

ClientSampleId :

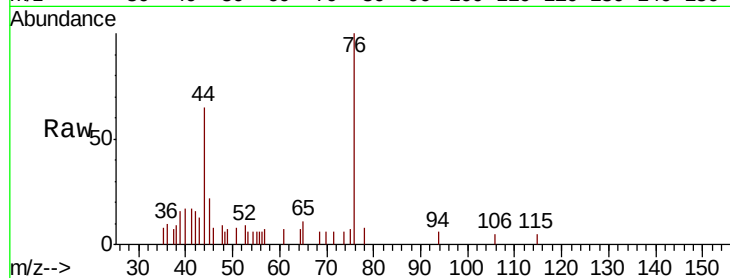
FB

Tot Ion: 76 Resp: 1734

Ion Ratio Lower Upper

76 100

78 7.7 7.3 10.9



Abundance Ion 75.90 (75.60 to 76.60): VX0

Ion 77.90 (77.60 to 78.60): VX0

2.57

1200

1000

800

600

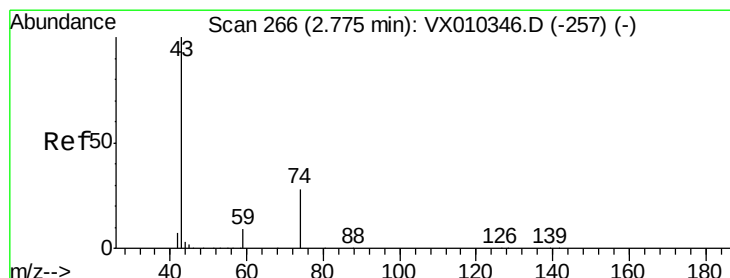
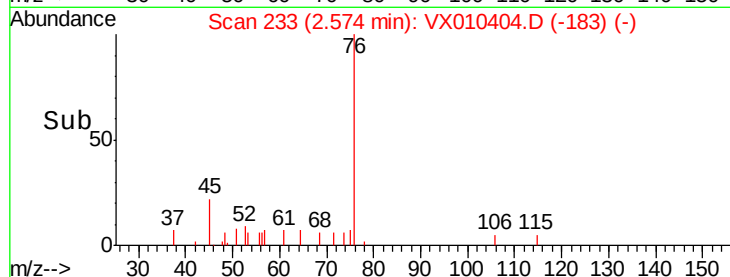
400

200

0

Time-->

2.50 2.55 2.60 2.65



#18

Methyl Acetate

Concen: 3.106 ug/l

RT: 2.60 min Scan# 238

Delta R.T. -0.17 min

Lab File: VX010404.D

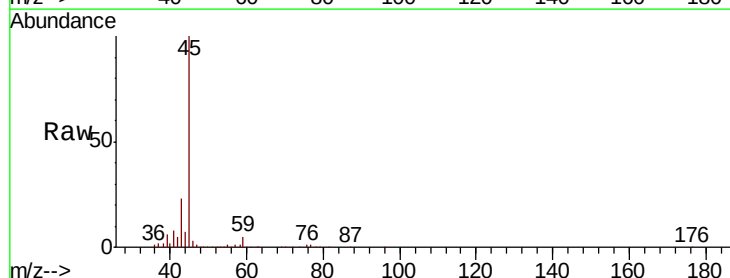
Acq: 24 Jun 2019 11:44

Tgt Ion: 43 Resp: 9053

Ion Ratio Lower Upper

43 100

74 0.0 21.3 31.9#



Abundance Ion 43.00 (42.70 to 43.70): VX0

Ion 74.00 (73.70 to 74.70): VX0

2.60

5000

4000

3000

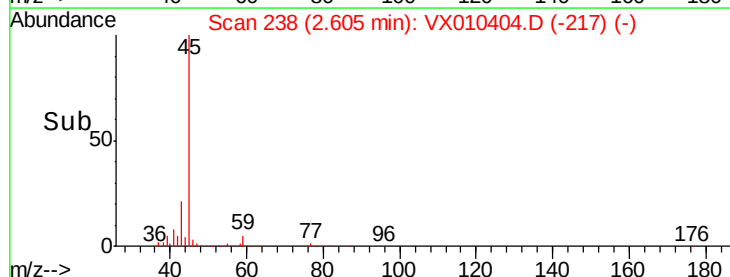
2000

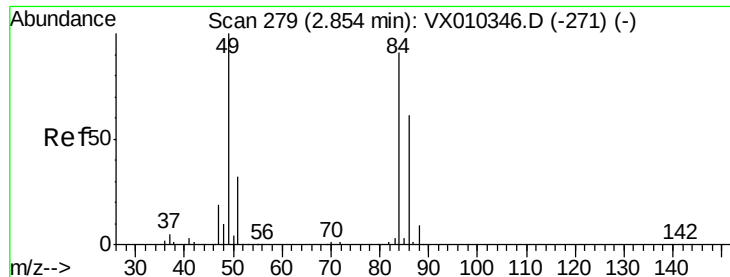
1000

0

Time-->

2.50 2.55 2.60 2.65 2.70

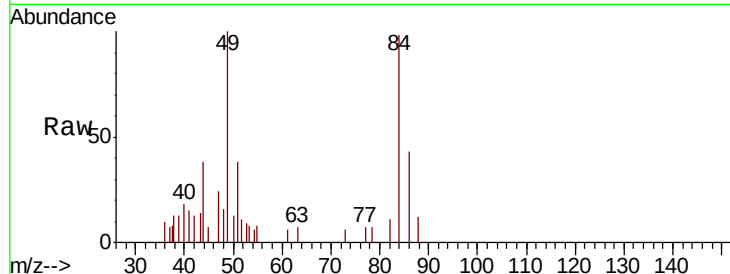




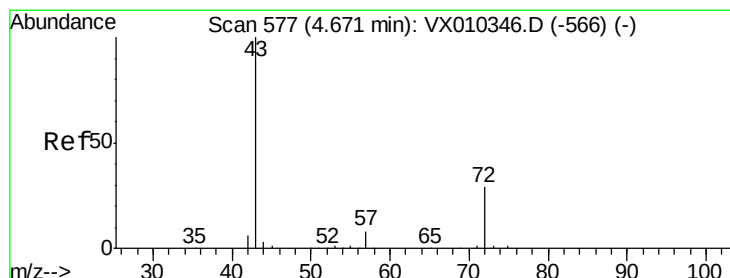
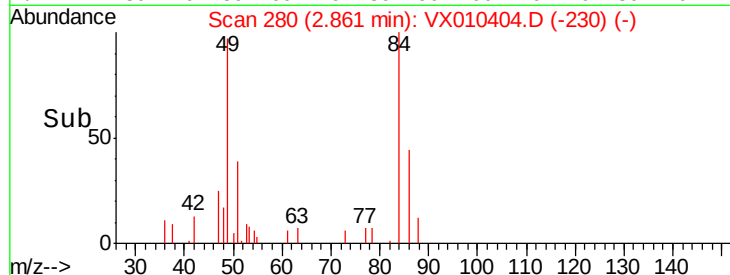
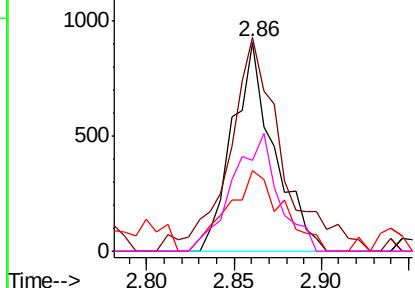
#20  
Methylene Chloride  
Concen: 0.493 ug/l  
RT: 2.86 min Scan# 280  
Delta R.T. 0.01 min  
Lab File: VX010404.D  
Acq: 24 Jun 2019 11:44

Instrument :  
MSVOA\_X  
ClientSampled :  
FB

Tot Ion: 84 Resp: 1484  
Ion Ratio Lower Upper  
84 100  
49 95.4 87.5 131.3  
51 38.6 27.7 41.5  
86 43.6 53.4 80.0#

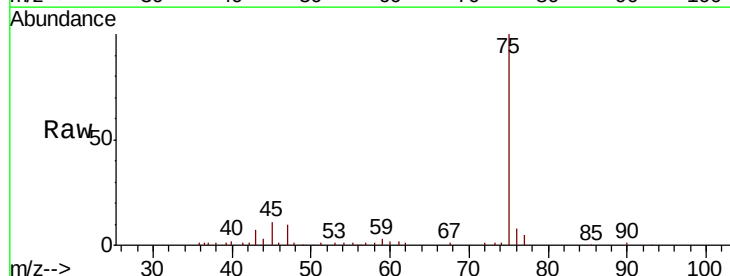


Abundance Ion 83.90 (83.60 to 84.60): VX0  
Ion 48.90 (48.60 to 49.60): VX0  
Ion 50.90 (50.60 to 51.60): VX0  
Ion 85.90 (85.60 to 86.60): VX0

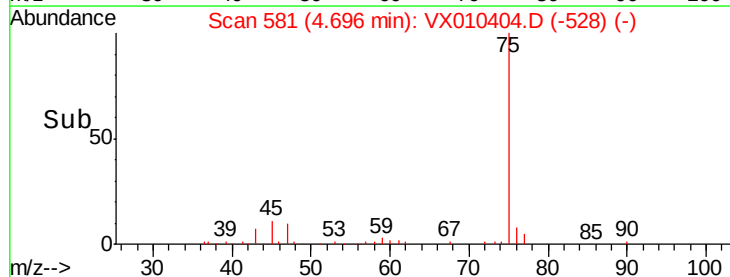
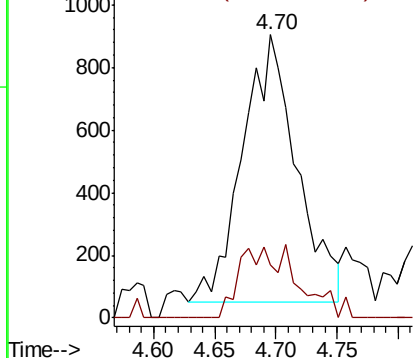


#25  
2-Butanone  
Concen: 1.227 ug/l  
RT: 4.70 min Scan# 581  
Delta R.T. 0.02 min  
Lab File: VX010404.D  
Acq: 24 Jun 2019 11:44

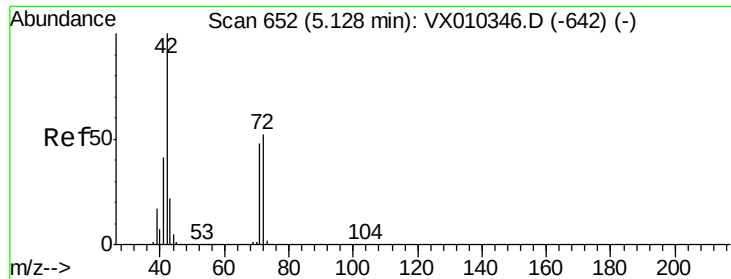
Tgt Ion: 43 Resp: 2632  
Ion Ratio Lower Upper  
43 100  
72 20.1 23.3 34.9#



Abundance Ion 43.00 (42.70 to 43.70): VX0  
Ion 72.00 (71.70 to 72.70): VX0



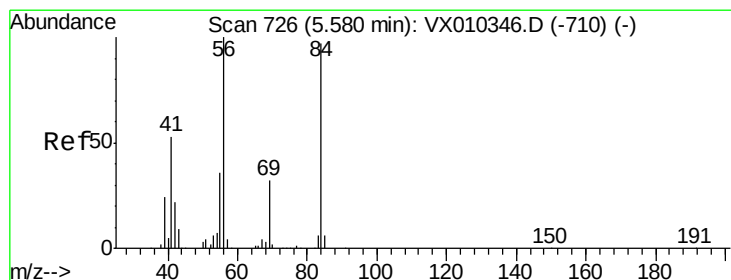
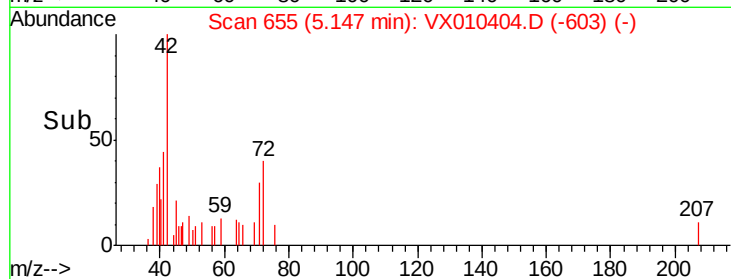
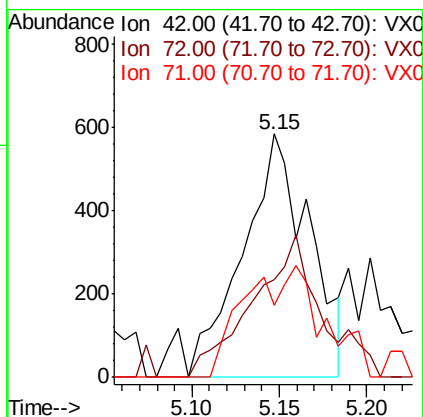
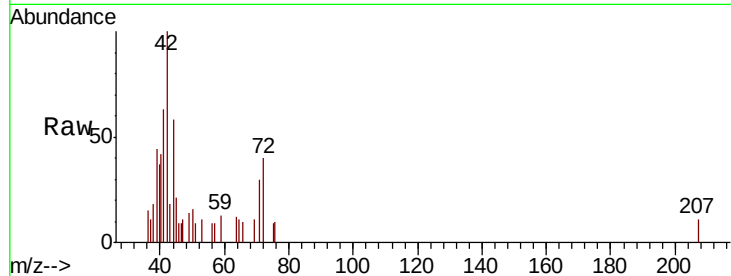




#29  
Tetrahydrofuran  
Concen: 1.170 ug/l  
RT: 5.15 min Scan# 655  
Delta R.T. 0.02 min  
Lab File: VX010404.D  
Acq: 24 Jun 2019 11:44

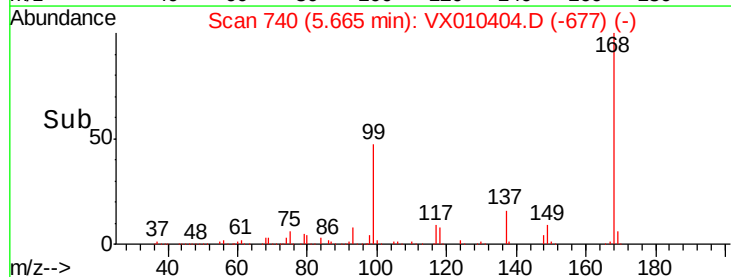
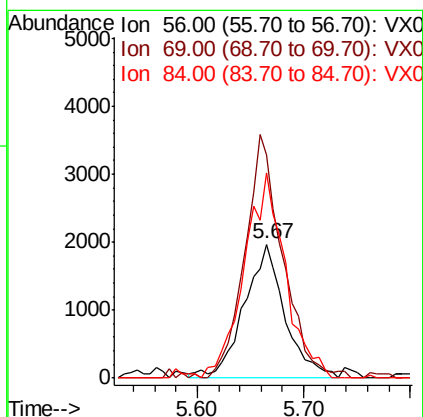
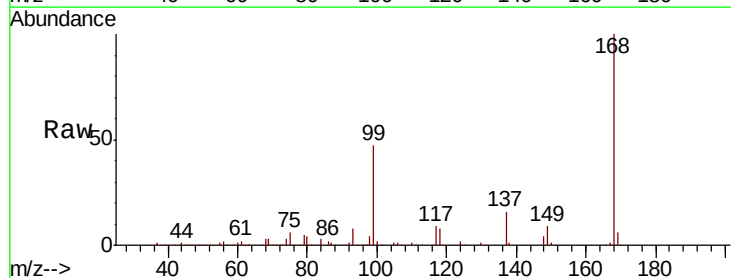
Instrument :  
MSVOA\_X  
ClientSampleId :  
FB

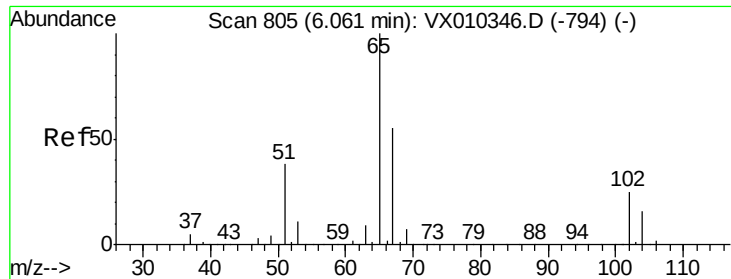
| Tot Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 42      | 100   |       |       |
| 72      | 0.0   | 40.6  | 60.8# |
| 71      | 24.6  | 37.8  | 56.8# |



#31  
Cyclohexane  
Concen: 1.253 ug/l  
RT: 5.67 min Scan# 740  
Delta R.T. 0.09 min  
Lab File: VX010404.D  
Acq: 24 Jun 2019 11:44

| Tgt Ion | Ratio | Lower | Upper  |
|---------|-------|-------|--------|
| 56      | 100   |       |        |
| 69      | 165.9 | 25.9  | 38.9#  |
| 84      | 152.9 | 78.0  | 117.0# |

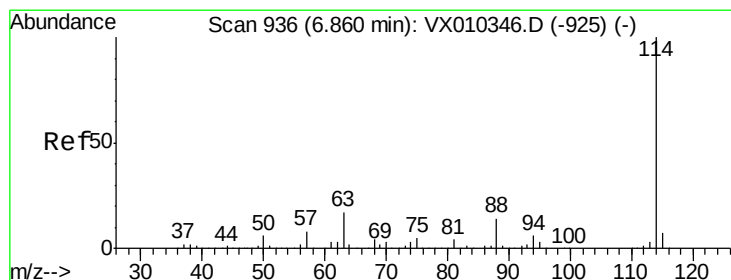
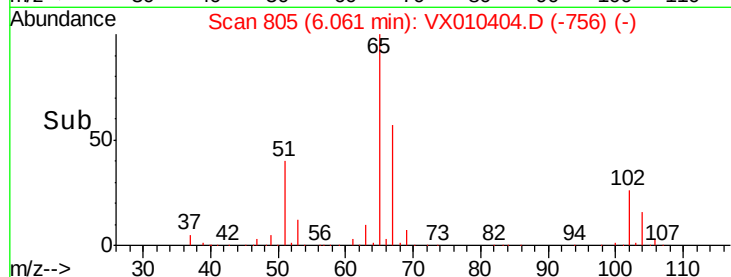
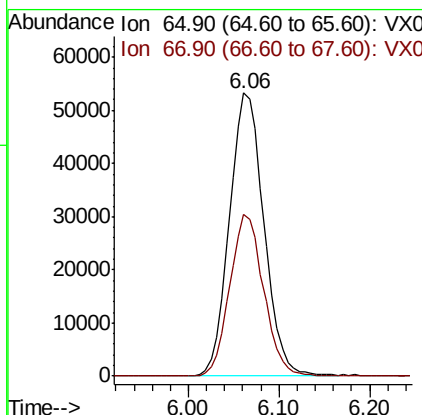
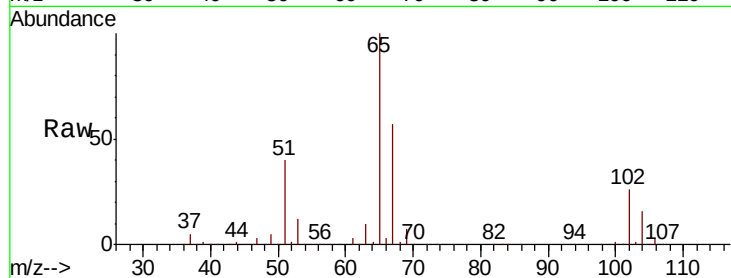




#33  
 1,2-Dichloroethane-d4  
 Concen: 48.154 ug/l  
 RT: 6.06 min Scan# 805  
 Delta R.T. 0.00 min  
 Lab File: VX010404.D  
 Acq: 24 Jun 2019 11:44

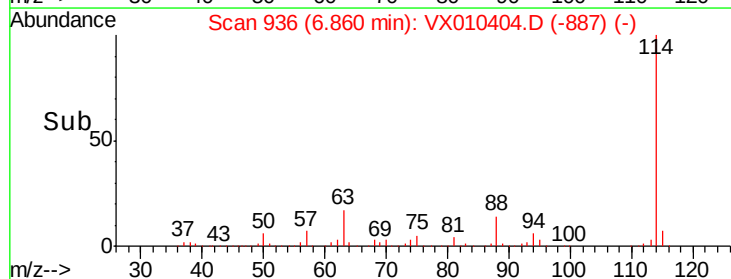
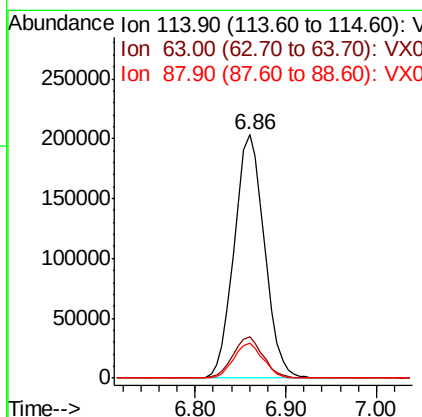
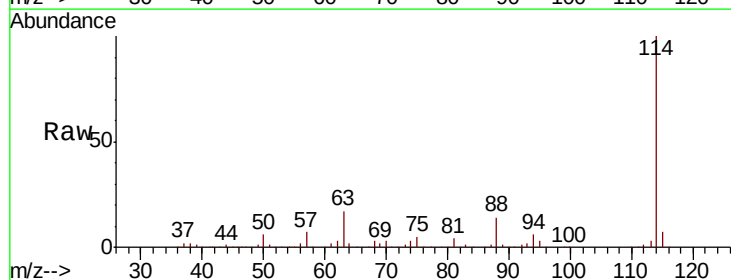
Instrument :  
 MSVOA\_X  
 ClientSampleId :  
 FB

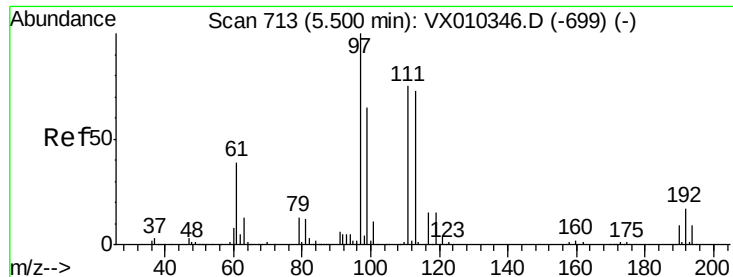
Tot Ion: 65 Resp: 140515  
 Ion Ratio Lower Upper  
 65 100  
 67 56.1 0.0 110.2



#34  
 1,4-Difluorobenzene  
 Concen: 50.000 ug/l  
 RT: 6.86 min Scan# 936  
 Delta R.T. 0.00 min  
 Lab File: VX010404.D  
 Acq: 24 Jun 2019 11:44

Tgt Ion: 114 Resp: 469458  
 Ion Ratio Lower Upper  
 114 100  
 63 16.9 0.0 33.8  
 88 14.1 0.0 27.6

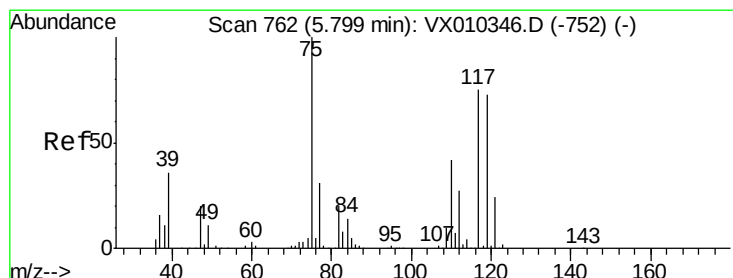
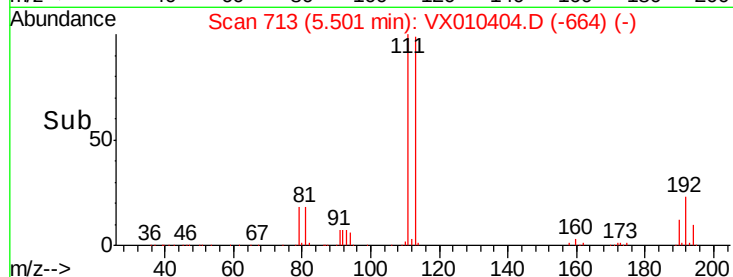
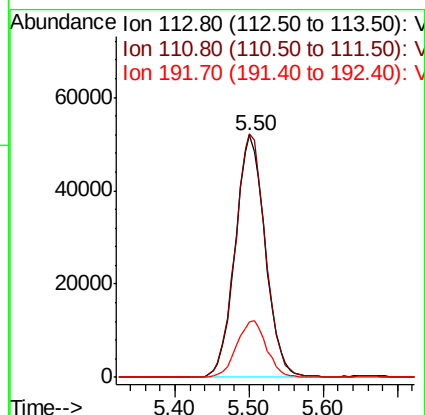
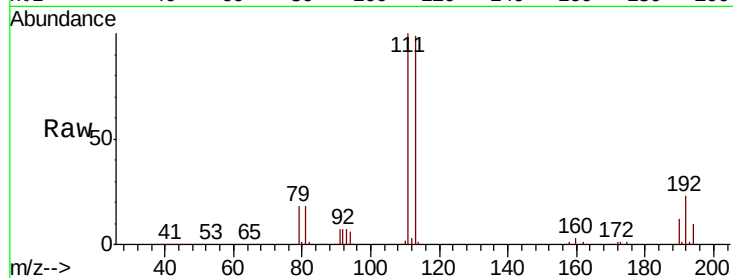




#35  
 Dibromofluoromethane  
 Concen: 51.077 ug/l  
 RT: 5.50 min Scan# 713  
 Delta R.T. 0.00 min  
 Lab File: VX010404.D  
 Acq: 24 Jun 2019 11:44

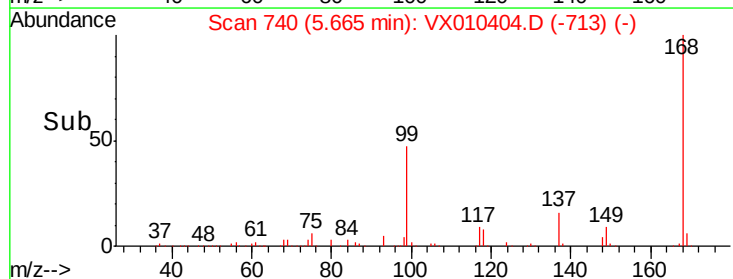
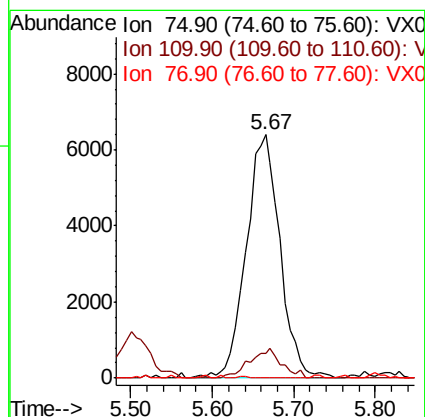
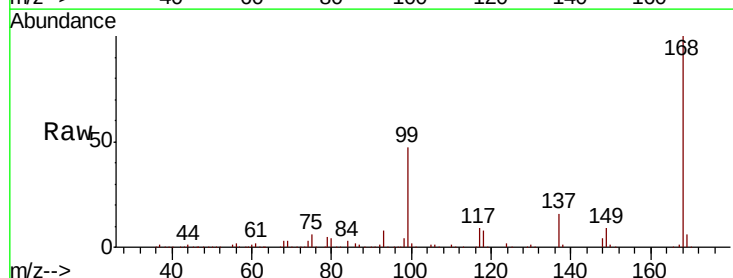
Instrument :  
 MSVOA\_X  
 ClientSampleId :  
 FB

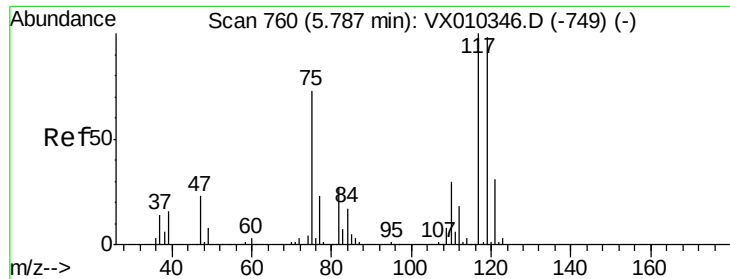
Tot Ion:113 Resp: 146708  
 Ion Ratio Lower Upper  
 113 100  
 111 101.2 81.2 121.8  
 192 23.5 18.6 27.8



#36  
 1,1-Dichloropropene  
 Concen: 4.945 ug/l  
 RT: 5.67 min Scan# 740  
 Delta R.T. -0.13 min  
 Lab File: VX010404.D  
 Acq: 24 Jun 2019 11:44

Tgt Ion: 75 Resp: 18447  
 Ion Ratio Lower Upper  
 75 100  
 110 11.6 20.8 62.2#  
 77 0.0 25.4 38.0#





#38

Carbon Tetrachloride

Concen: 6.726 ug/l

RT: 5.67 min Scan# 740

Delta R.T. -0.12 min

Lab File: VX010404.D

Acq: 24 Jun 2019 11:44

Instrument :

MSVOA\_X

ClientSampleId :

FB

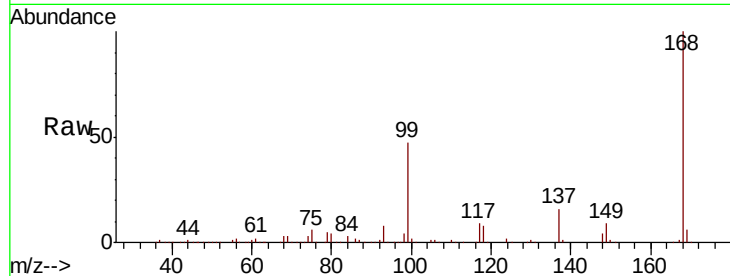
Tot Ion:117 Resp: 27171

Ion Ratio Lower Upper

117 100

119 4.4 78.2 117.4#

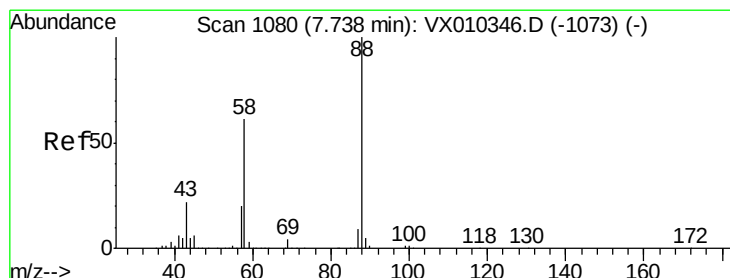
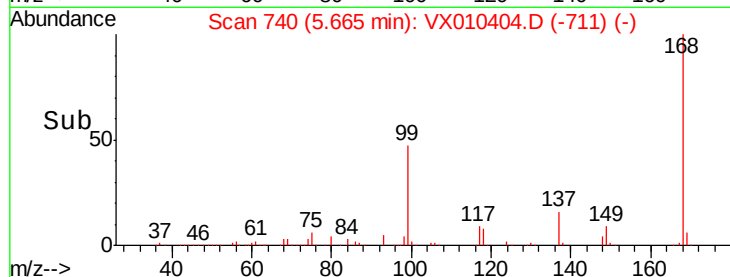
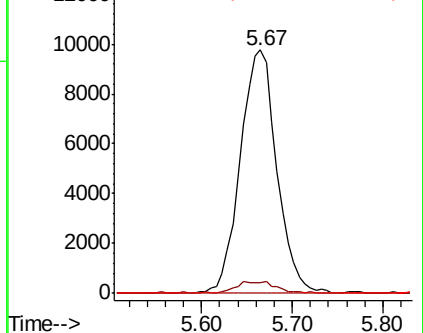
121 0.0 24.7 37.1#



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



#49

1,4-Dioxane

Concen: 1.117 ug/l

RT: 7.76 min Scan# 1083

Delta R.T. 0.02 min

Lab File: VX010404.D

Acq: 24 Jun 2019 11:44

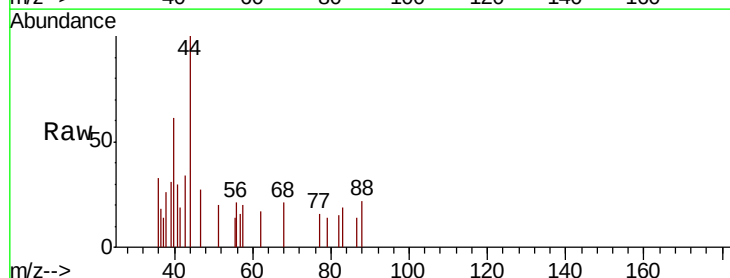
Tgt Ion: 88 Resp: 95

Ion Ratio Lower Upper

88 100

43 513.7 20.2 30.2#

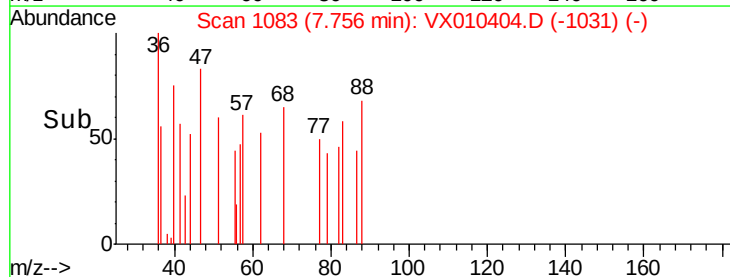
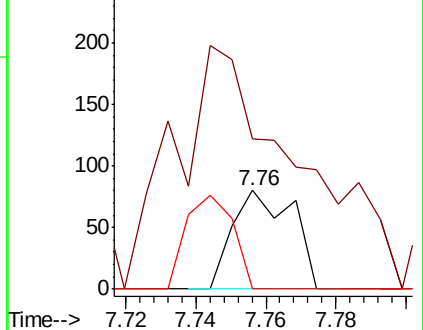
58 74.7 49.5 74.3#

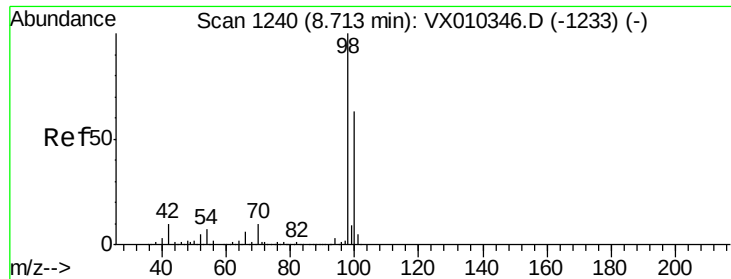


Abundance Ion 88.00 (87.70 to 88.70): VX0

Ion 43.00 (42.70 to 43.70): VX0

Ion 58.00 (57.70 to 58.70): VX0

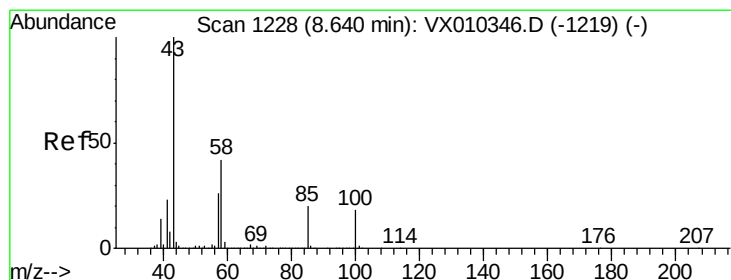
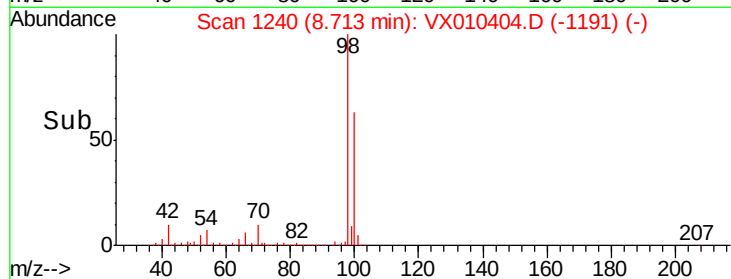
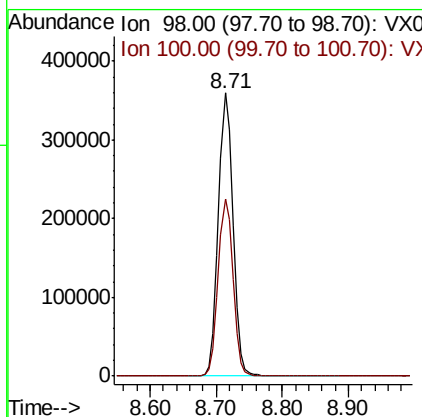
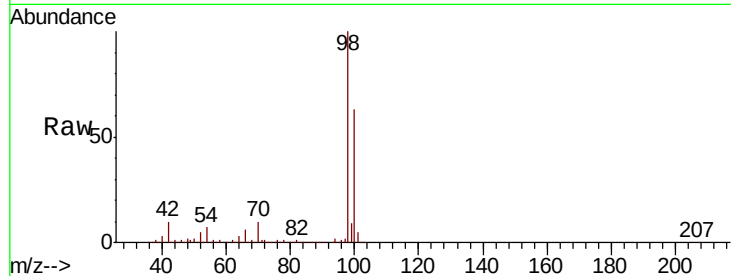




#50  
Toluene-d8  
Concen: 50.034 ug/l  
RT: 8.71 min Scan# 1240  
Delta R.T. 0.00 min  
Lab File: VX010404.D  
Acq: 24 Jun 2019 11:44

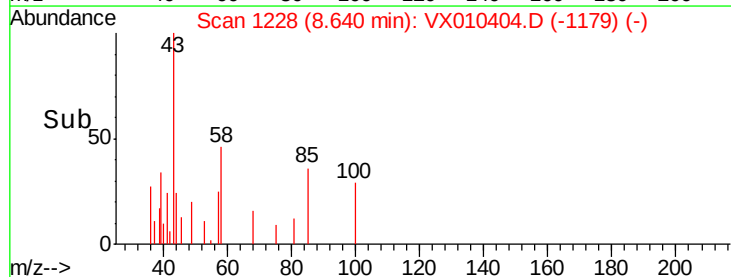
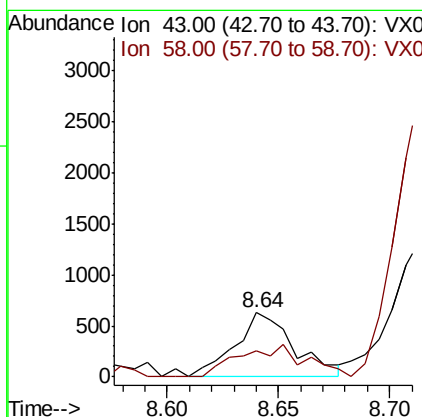
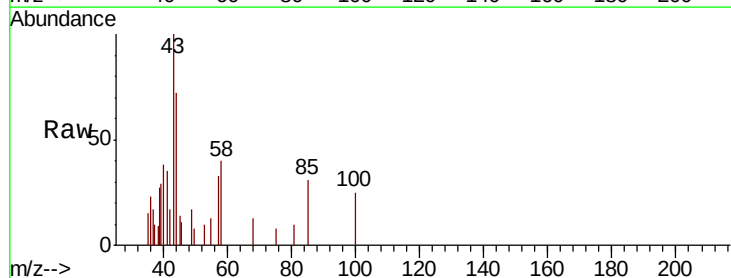
Instrument :  
MSVOA\_X  
ClientSampled :  
FB

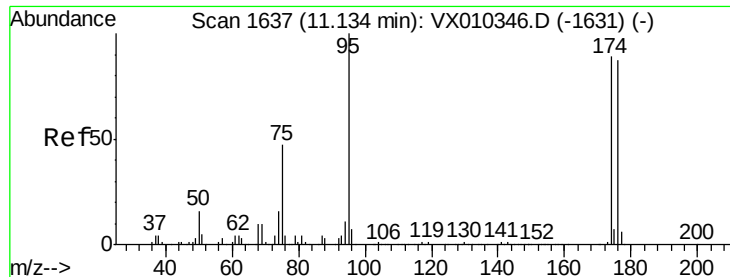
Tot Ion: 98 Resp: 549821  
Ion Ratio Lower Upper  
98 100  
100 63.7 51.6 77.4



#51  
4-Methyl-2-Pentanone  
Concen: 0.287 ug/l  
RT: 8.64 min Scan# 1228  
Delta R.T. 0.00 min  
Lab File: VX010404.D  
Acq: 24 Jun 2019 11:44

Tgt Ion: 43 Resp: 1164  
Ion Ratio Lower Upper  
43 100  
58 56.0 33.5 50.3#





#62

4-Bromofluorobenzene

Concen: 45.821 ug/l

RT: 11.13 min Scan# 1637

Delta R.T. 0.00 min

Lab File: VX010404.D

Acq: 24 Jun 2019 11:44

Instrument :

MSVOA\_X

ClientSampled :

FB

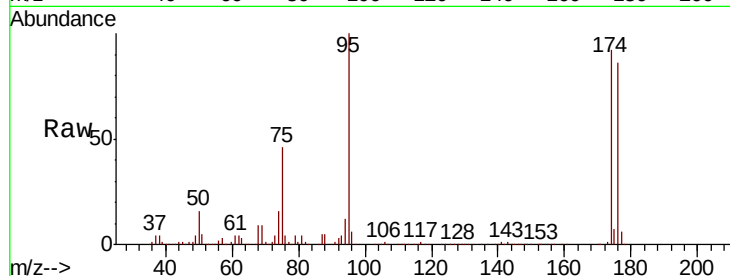
Tot Ion: 95 Resp: 181784

Ion Ratio Lower Upper

95 100

174 95.2 0.0 187.6

176 91.7 0.0 184.0



Abundance Ion 94.90 (94.60 to 95.60): VX010346.D (-1631) (-)

Ion 173.80 (173.50 to 174.50): VX010346.D (-1631) (-)

Ion 175.80 (175.50 to 176.50): VX010346.D (-1631) (-)

11.13

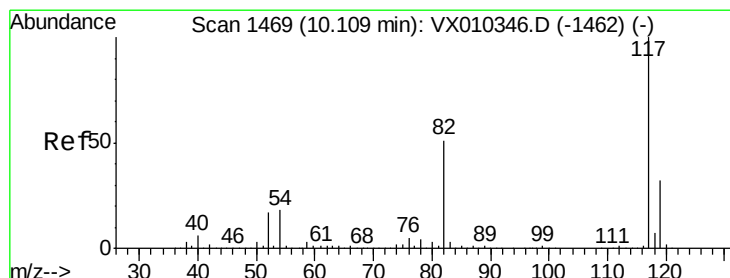
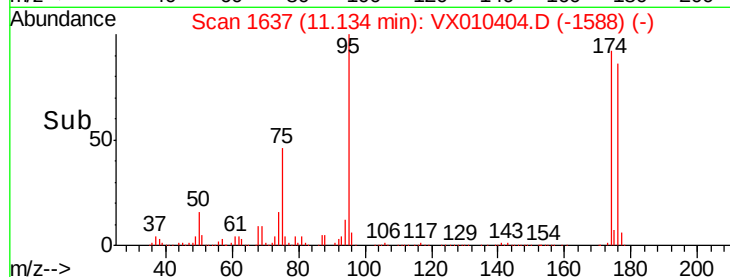
150000

100000

50000

0

Time-->



#63

Chlorobenzene-d5

Concen: 50.000 ug/l

RT: 10.11 min Scan# 1469

Delta R.T. 0.00 min

Lab File: VX010404.D

Acq: 24 Jun 2019 11:44

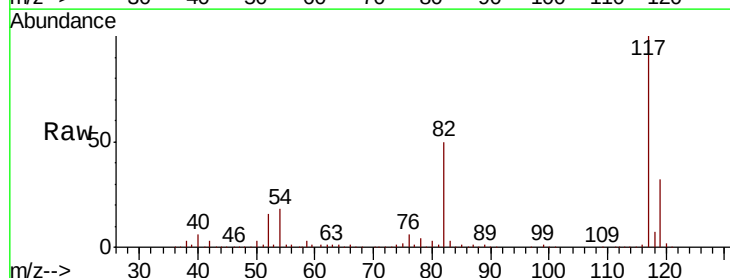
Tgt Ion: 117 Resp: 414243

Ion Ratio Lower Upper

117 100

82 50.3 41.2 61.8

119 31.8 25.5 38.3



Abundance Ion 116.90 (116.60 to 117.60): VX010346.D (-1462) (-)

Ion 82.00 (81.70 to 82.70): VX010346.D (-1462) (-)

Ion 118.90 (118.60 to 119.60): VX010346.D (-1462) (-)

10.11

400000

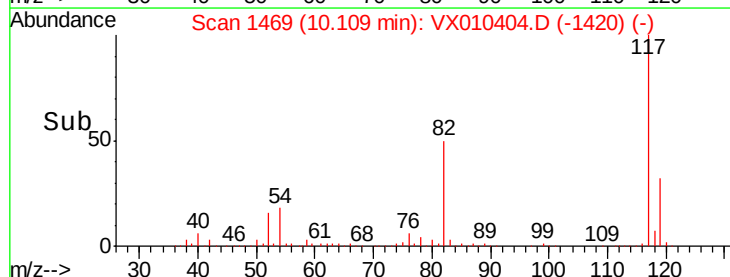
300000

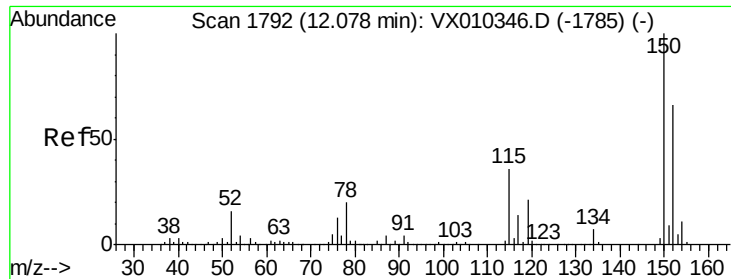
200000

100000

0

Time-->





#72

1,4-Dichlorobenzene-d4

Concen: 50.000 ug/l

RT: 12.08 min Scan# 1792

Delta R.T. 0.00 min

Lab File: VX010404.D

Acq: 24 Jun 2019 11:44

Instrument :

MSVOA\_X

ClientSampled :

FB

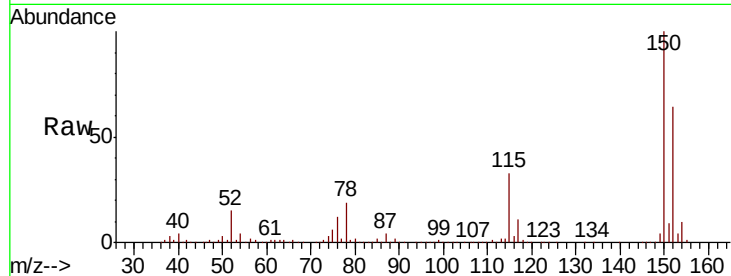
Tot Ion:152 Resp: 190538

Ion Ratio Lower Upper

152 100

115 53.4 38.6 115.7

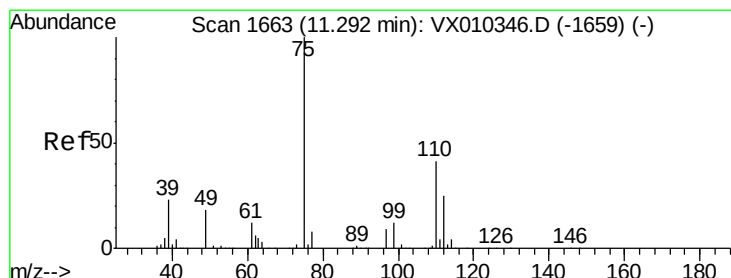
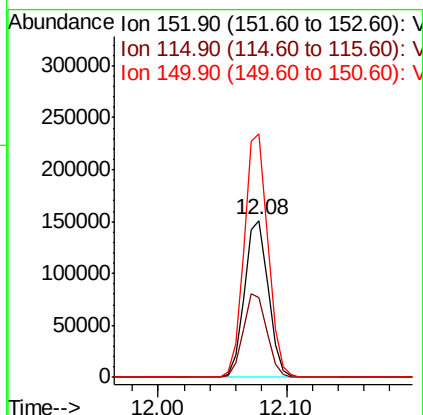
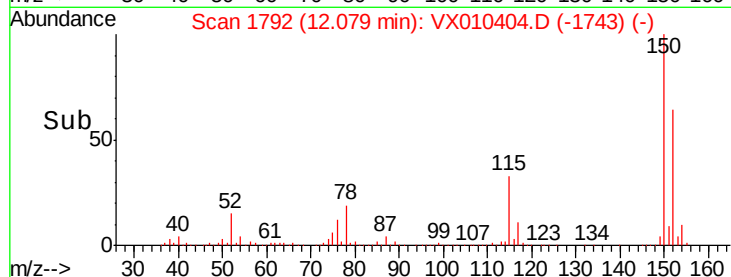
150 155.0 0.0 347.4



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: 24.263 ug/l

RT: 11.13 min Scan# 1637

Delta R.T. -0.16 min

Lab File: VX010404.D

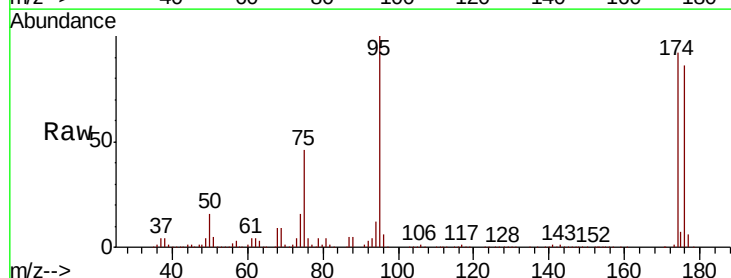
Acq: 24 Jun 2019 11:44

Tgt Ion: 75 Resp: 84243

Ion Ratio Lower Upper

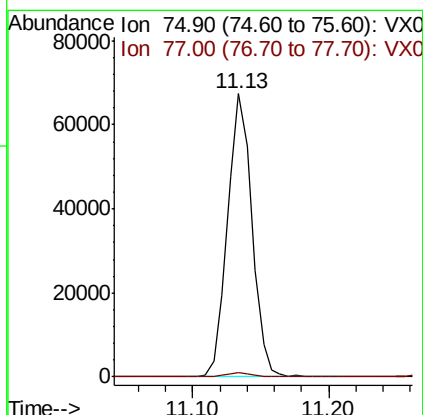
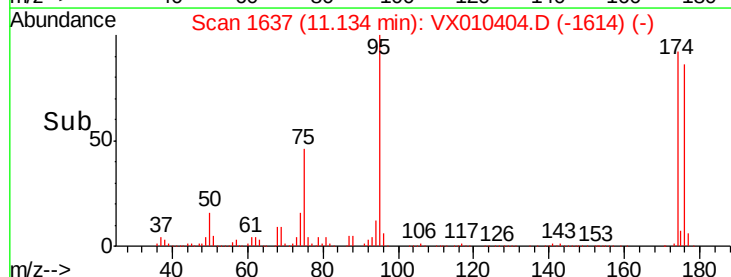
75 100

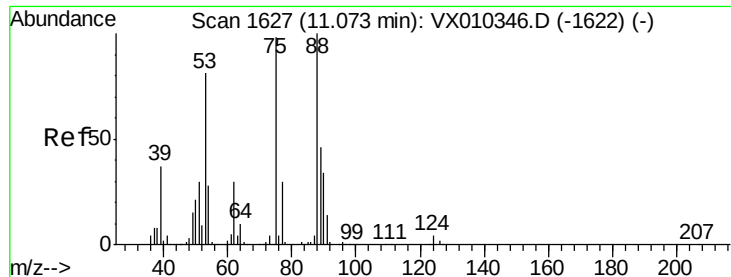
77 1.5 22.6 67.8#



Abundance Ion 74.90 (74.60 to 75.60): VX0

Ion 77.00 (76.70 to 77.70): VX0





#81

trans-1,4-Dichloro-2-butene

Concen: 56.603 ug/l

RT: 11.13 min Scan# 1637

Delta R.T. 0.06 min

Lab File: VX010404.D

Acq: 24 Jun 2019 11:44

Instrument :

MSVOA\_X

ClientSampled :

FB

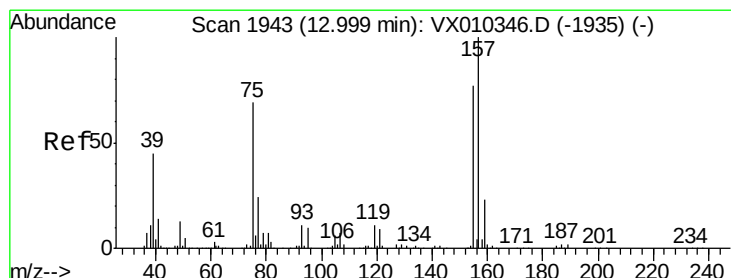
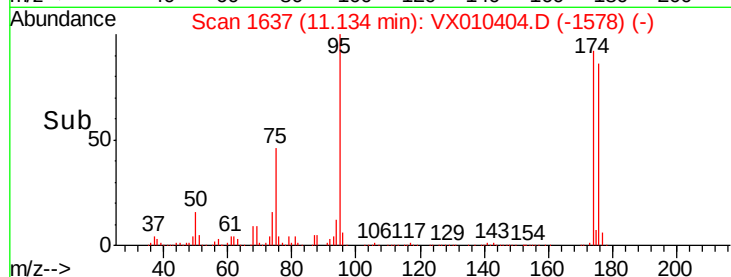
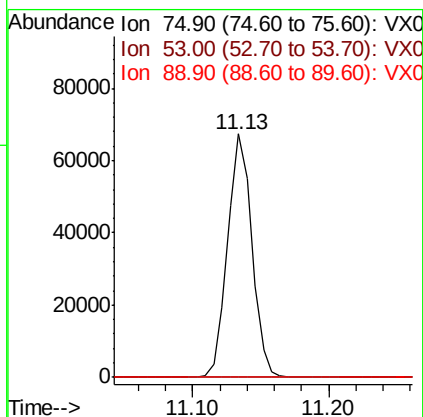
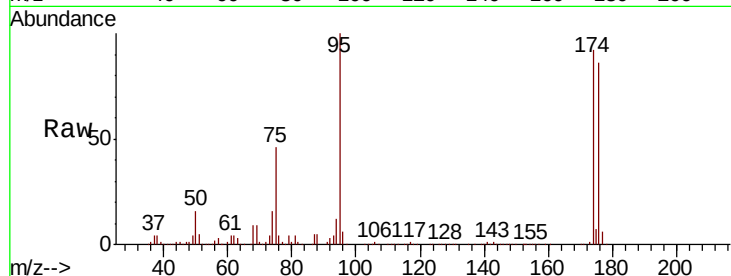
Tot Ion: 75 Resp: 84243

Ion Ratio Lower Upper

75 100

53 0.1 66.1 99.1#

89 0.0 37.8 56.6#



#92

1,2-Dibromo-3-Chloropropane

Concen: 0.788 ug/l

RT: 12.97 min Scan# 1939

Delta R.T. -0.02 min

Lab File: VX010404.D

Acq: 24 Jun 2019 11:44

Tgt Ion: 75 Resp: 727

Ion Ratio Lower Upper

75 100

155 0.0 54.4 163.1#

157 0.0 69.5 208.3#

