

Data Path : Z:\VOASRV\HPCHEM1\MSVOA\_X\DATA\VX081619\  
 Data File : VX011612.D  
 Acq On : 17 Aug 2019 04:32  
 Operator : JC/SP  
 Sample : K4265-15  
 Misc : 5.0mL/MSVOA\_X/WATER  
 ALS Vial : 46 Sample Multiplier: 1

Instrument :  
 MSVOA\_X  
 ClientSampleId :  
 REACTOR-4-A3-(3.4)

Quant Time: Aug 19 01:19:34 2019  
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA\_X\METHOD\82X081519W.M  
 Quant Title : SW846 8260  
 QLast Update : Fri Aug 16 04:15:26 2019  
 Response via : Initial Calibration

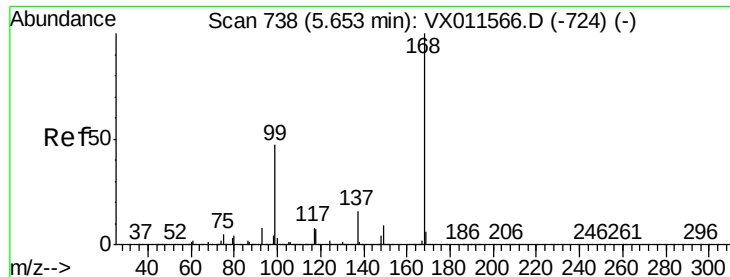
| Internal Standards         | R.T.  | QIon | Response | Conc  | Units | Dev(Min) |
|----------------------------|-------|------|----------|-------|-------|----------|
| 1) Pentafluorobenzene      | 5.66  | 168  | 443062   | 50.00 | ug/l  | 0.00     |
| 34) 1,4-Difluorobenzene    | 6.85  | 114  | 613322   | 50.00 | ug/l  | 0.00     |
| 63) Chlorobenzene-d5       | 10.11 | 117  | 553392   | 50.00 | ug/l  | 0.00     |
| 72) 1,4-Dichlorobenzene-d4 | 12.07 | 152  | 268900   | 50.00 | ug/l  | 0.00     |

|                             |        |     |          |       |         |      |
|-----------------------------|--------|-----|----------|-------|---------|------|
| System Monitoring Compounds |        |     |          |       |         |      |
| 33) 1,2-Dichloroethane-d4   | 6.06   | 65  | 213786   | 52.03 | ug/l    | 0.00 |
| Spiked Amount               | 50.000 |     | Recovery | =     | 104.06% |      |
| 35) Dibromofluoromethane    | 5.49   | 113 | 182531   | 45.50 | ug/l    | 0.00 |
| Spiked Amount               | 50.000 |     | Recovery | =     | 91.00%  |      |
| 50) Toluene-d8              | 8.71   | 98  | 709163   | 56.74 | ug/l    | 0.00 |
| Spiked Amount               | 50.000 |     | Recovery | =     | 113.48% |      |
| 62) 4-Bromofluorobenzene    | 11.13  | 95  | 247630   | 46.94 | ug/l    | 0.00 |
| Spiked Amount               | 50.000 |     | Recovery | =     | 93.88%  |      |

| Target Compounds               | R.T.  | QIon | Response | Conc   | Units  | Qvalue |
|--------------------------------|-------|------|----------|--------|--------|--------|
| 8) Diethyl Ether               | 2.19  | 74   | 723      | 0.372  | ug/l   | 91     |
| 11) Tert butyl alcohol         | 3.01  | 59   | 6355     | 6.304  | ug/l # | 86     |
| 13) Acrolein                   | 2.30  | 56   | 168      | 12.699 | ug/l   | 98     |
| 15) Acrylonitrile              | 3.14  | 53   | 535      | 0.232  | ug/l # | 59     |
| 16) Acetone                    | 2.43  | 43   | 12552    | 6.076  | ug/l   | 100    |
| 18) Methyl Acetate             | 2.77  | 43   | 5191     | 0.810  | ug/l # | 69     |
| 20) Methylene Chloride         | 2.85  | 84   | 3797     | 0.875  | ug/l   | 93     |
| 25) 2-Butanone                 | 4.68  | 43   | 2298     | 0.709  | ug/l # | 73     |
| 29) Tetrahydrofuran            | 5.14  | 42   | 1355     | 0.637  | ug/l # | 82     |
| 36) 1,1-Dichloropropene        | 5.65  | 75   | 24854    | 4.740  | ug/l # | 51     |
| 38) Carbon Tetrachloride       | 5.65  | 117  | 37853    | 6.552  | ug/l # | 16     |
| 43) Isopropyl Acetate          | 6.44  | 43   | 76647    | 8.143  | ug/l   | 99     |
| 48) Methyl methacrylate        | 7.68  | 41   | 4765     | 1.022  | ug/l # | 18     |
| 49) 1,4-Dioxane                | 7.73  | 88   | 76       | 0.613  | ug/l # | 1      |
| 51) 4-Methyl-2-Pentanone       | 8.61  | 43   | 71239    | 11.563 | ug/l # | 51     |
| 54) cis-1,3-Dichloropropene    | 8.61  | 75   | 34827    | 5.655  | ug/l # | 60     |
| 59) 2-Hexanone                 | 9.54  | 43   | 80325    | 16.907 | ug/l # | 51     |
| 68) m/p-Xylenes                | 10.35 | 106  | 1546     | 0.204  | ug/l   | 79     |
| 71) Bromoform                  | 11.01 | 173  | 99       | 3.313  | ug/l # | 28     |
| 76) 1,2,3-Trichloropropane     | 11.13 | 75   | 114345   | 22.425 | ug/l # | 36     |
| 81) trans-1,4-Dichloro-2-buten | 11.13 | 75   | 114345   | 59.784 | ug/l # | 11     |

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





#1

Pentafluorobenzene

Concen: 50.000 ug/l

RT: 5.66 min Scan# 739

Delta R.T. 0.01 min

Lab File: VX011612.D

Acq: 17 Aug 2019 04:32

Instrument :

MSVOA\_X

ClientSampleId :

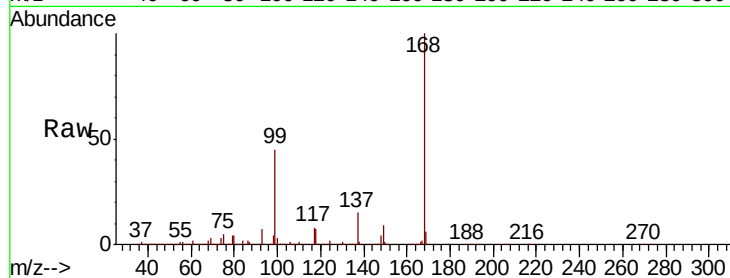
REACTOR-4-A3-(3.4)

Tgt Ion:168 Resp: 443062

Ion Ratio Lower Upper

168 100

99 45.3 37.3 55.9



Abundance Ion 167.90 (167.60 to 168.60): V

Ion 98.90 (98.60 to 99.60): VX0

5.66

150000

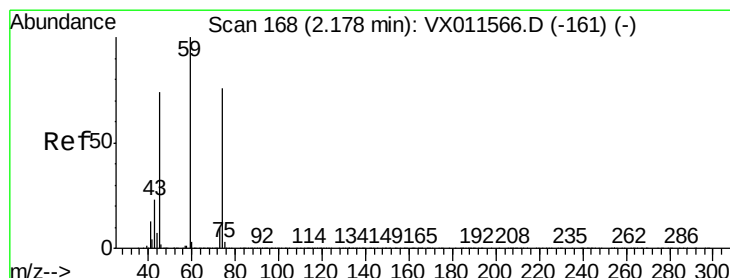
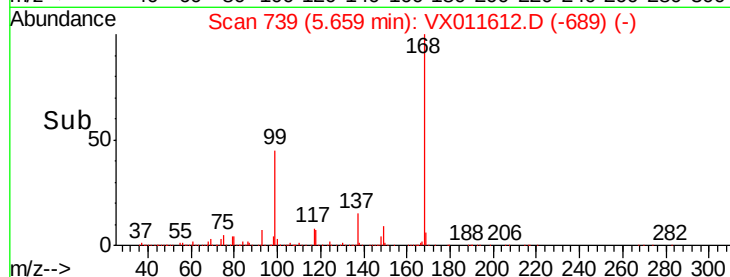
100000

50000

0

Time-->

5.50 5.60 5.70 5.80



#8

Diethyl Ether

Concen: 0.372 ug/l

RT: 2.19 min Scan# 170

Delta R.T. 0.01 min

Lab File: VX011612.D

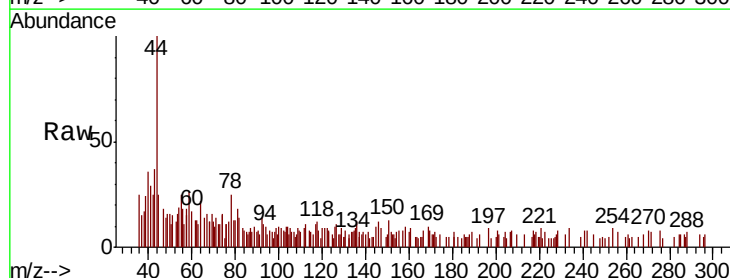
Acq: 17 Aug 2019 04:32

Tgt Ion: 74 Resp: 723

Ion Ratio Lower Upper

74 100

45 88.0 48.2 144.6



Abundance Ion 74.00 (73.70 to 74.70): VX0

Ion 45.00 (44.70 to 45.70): VX0

800

600

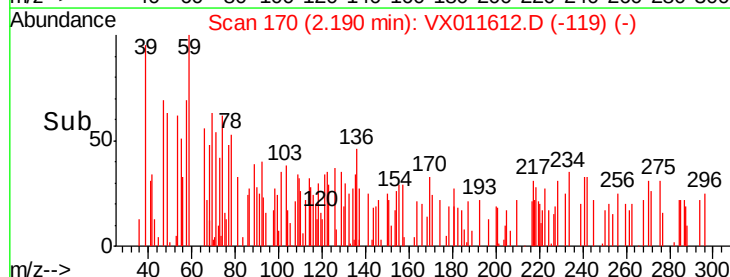
400

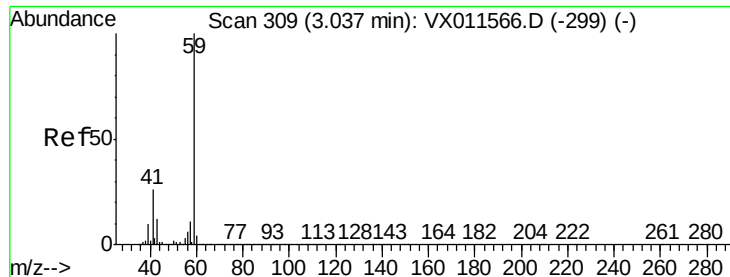
200

0

Time-->

2.10 2.15 2.20 2.25

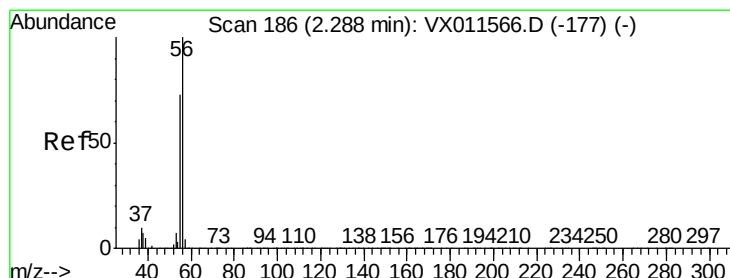
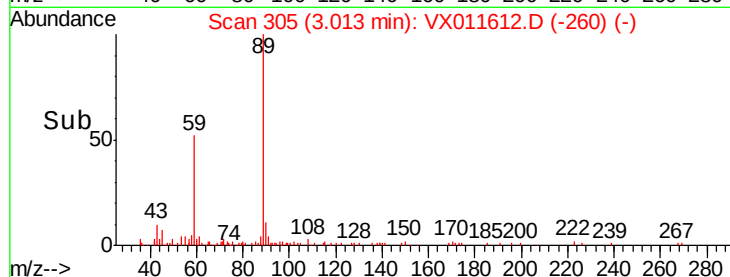
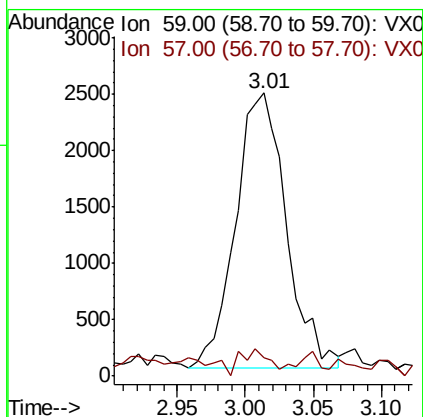
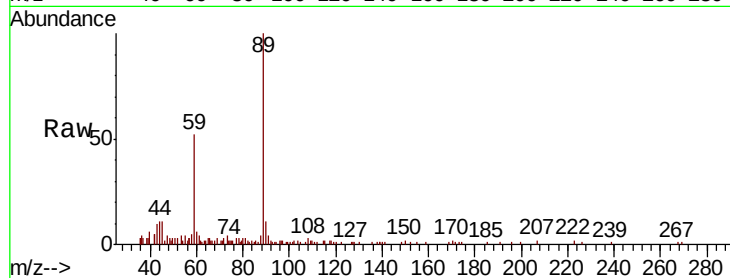




#11  
Tert butyl alcohol  
Concen: 6.304 ug/l  
RT: 3.01 min Scan# 305  
Delta R.T. -0.02 min  
Lab File: VX011612.D  
Acq: 17 Aug 2019 04:32

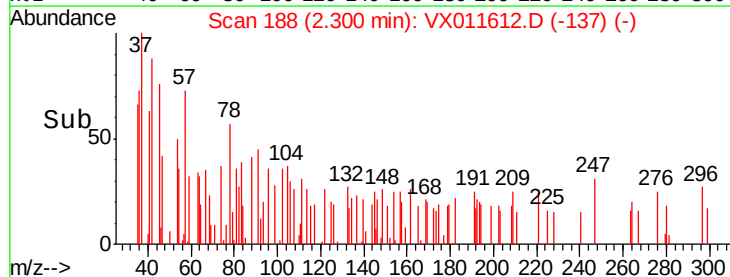
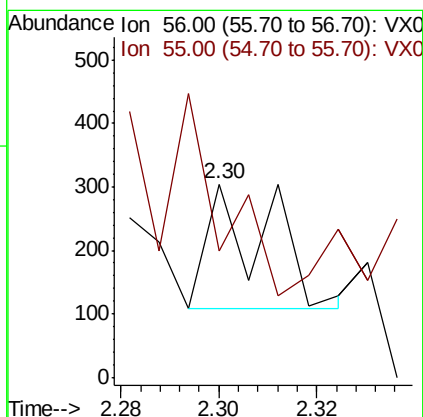
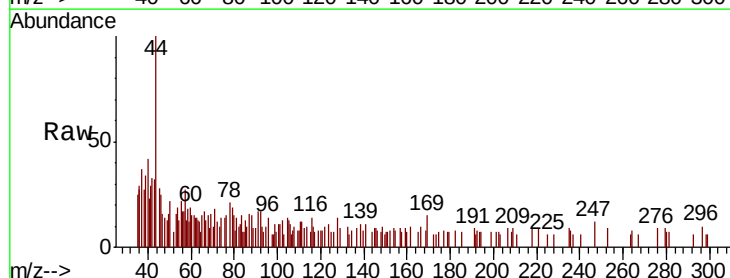
Instrument :  
MSVOA\_X  
ClientSampleId :  
REACTOR-4-A3-(3.4)

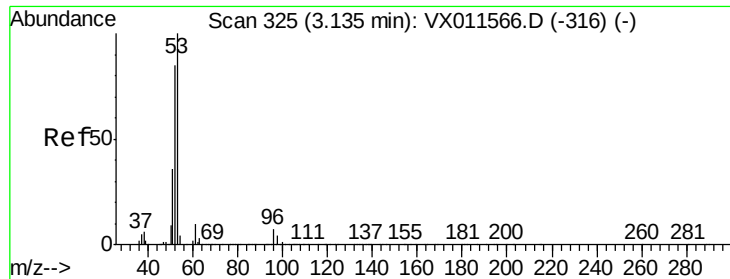
Tgt Ion: 59 Resp: 6355  
Ion Ratio Lower Upper  
59 100  
57 5.6 8.7 13.1#



#13  
Acrolein  
Concen: 12.699 ug/l  
RT: 2.30 min Scan# 188  
Delta R.T. 0.01 min  
Lab File: VX011612.D  
Acq: 17 Aug 2019 04:32

Tgt Ion: 56 Resp: 168  
Ion Ratio Lower Upper  
56 100  
55 71.4 55.5 83.3





#15

Acrylonitrile

Concen: 0.232 ug/l

RT: 3.14 min Scan# 325

Delta R.T. 0.00 min

Lab File: VX011612.D

Acq: 17 Aug 2019 04:32

Instrument :

MSVOA\_X

ClientSampleId :

REACTOR-4-A3-(3.4)

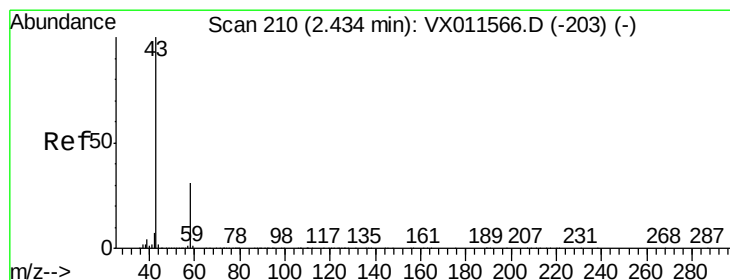
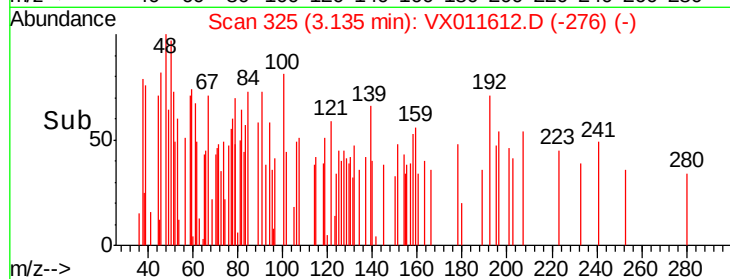
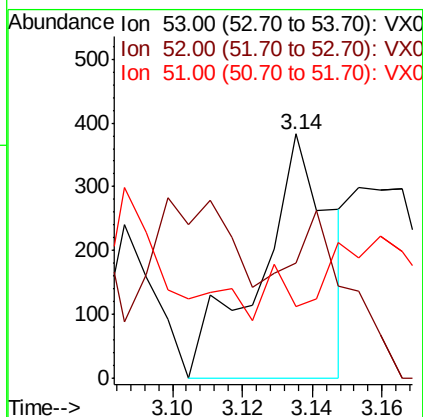
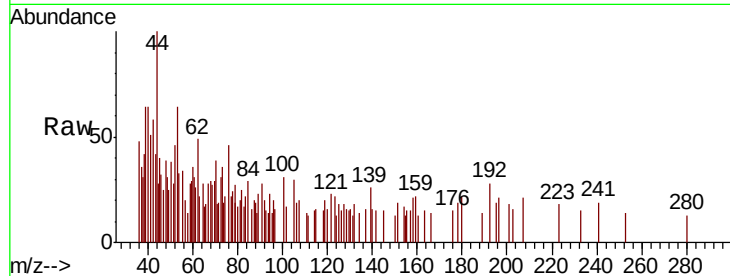
Tgt Ion: 53 Resp: 535

Ion Ratio Lower Upper

53 100

52 54.0 66.7 100.1#

51 0.0 28.7 43.1#



#16

Acetone

Concen: 6.076 ug/l

RT: 2.43 min Scan# 210

Delta R.T. 0.00 min

Lab File: VX011612.D

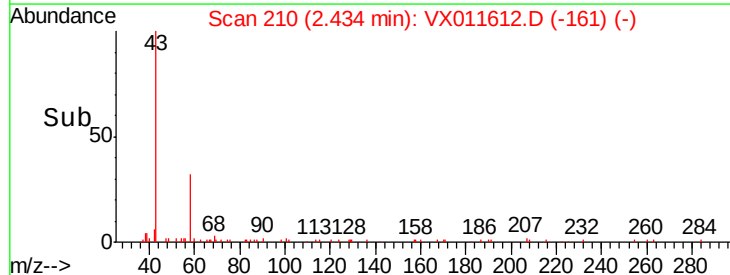
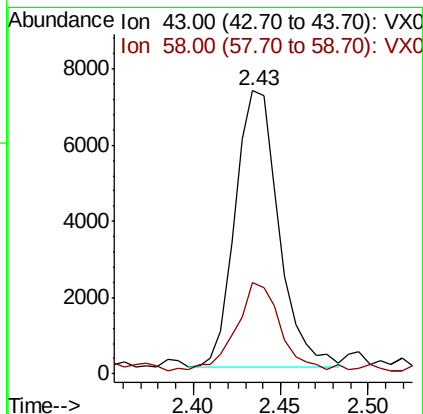
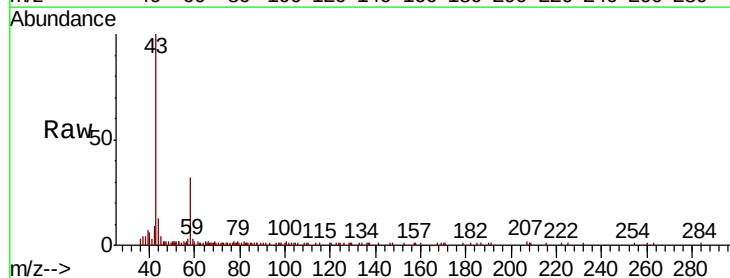
Acq: 17 Aug 2019 04:32

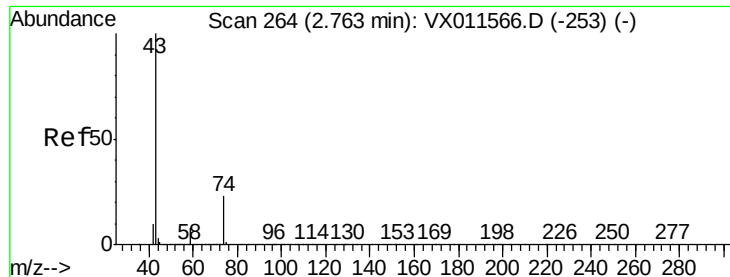
Tgt Ion: 43 Resp: 12552

Ion Ratio Lower Upper

43 100

58 31.5 25.2 37.8

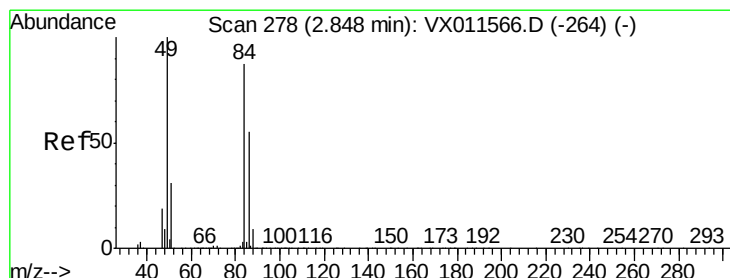
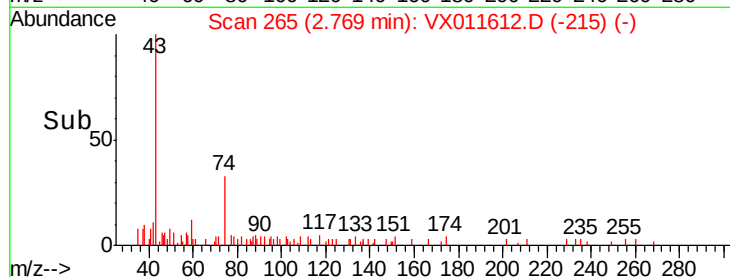
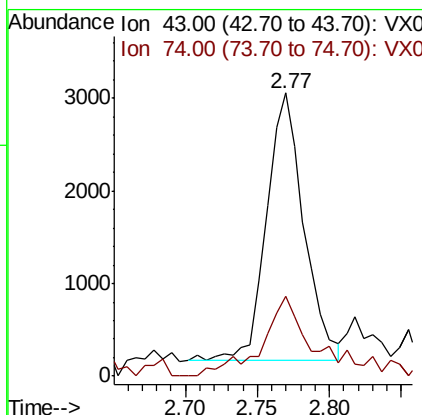
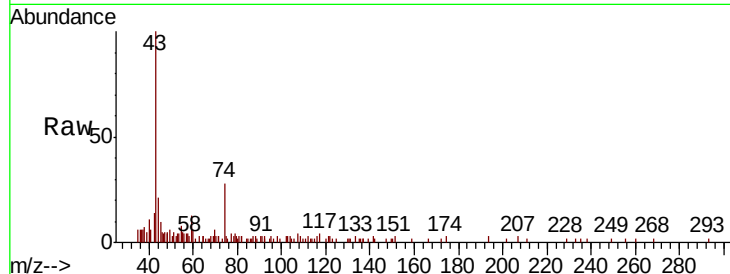




#18  
Methyl Acetate  
Concen: 0.810 ug/l  
RT: 2.77 min Scan# 265  
Delta R.T. 0.01 min  
Lab File: VX011612.D  
Acq: 17 Aug 2019 04:32

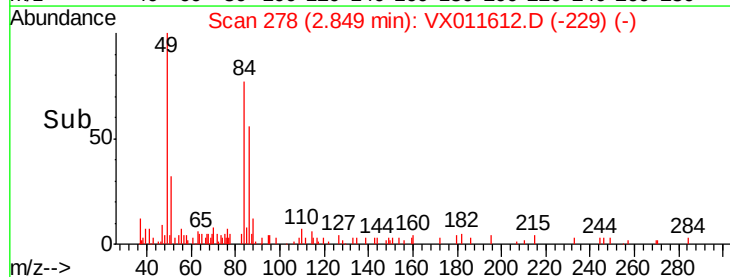
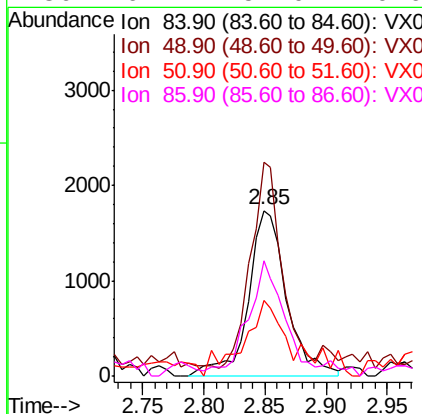
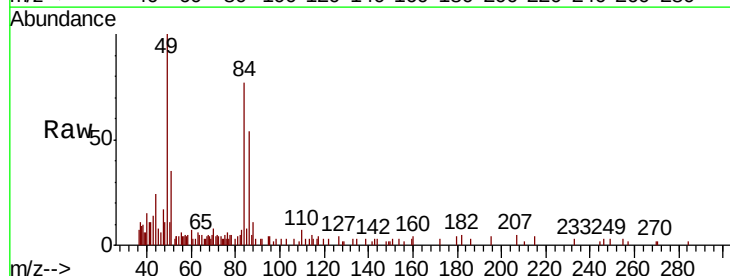
Instrument :  
MSVOA\_X  
ClientSampleId :  
REACTOR-4-A3-(3.4)

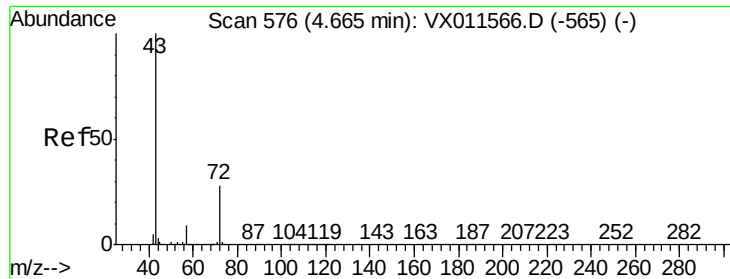
Tgt Ion: 43 Resp: 5191  
Ion Ratio Lower Upper  
43 100  
74 40.1 19.7 29.5#



#20  
Methylene Chloride  
Concen: 0.875 ug/l  
RT: 2.85 min Scan# 278  
Delta R.T. 0.00 min  
Lab File: VX011612.D  
Acq: 17 Aug 2019 04:32

Tgt Ion: 84 Resp: 3797  
Ion Ratio Lower Upper  
84 100  
49 126.2 92.4 138.6  
51 34.2 28.5 42.7  
86 67.1 51.0 76.6





#25

2-Butanone

Concen: 0.709 ug/l

RT: 4.68 min Scan# 579

Delta R.T. 0.02 min

Lab File: VX011612.D

Acq: 17 Aug 2019 04:32

Instrument :

MSVOA\_X

ClientSampleId :

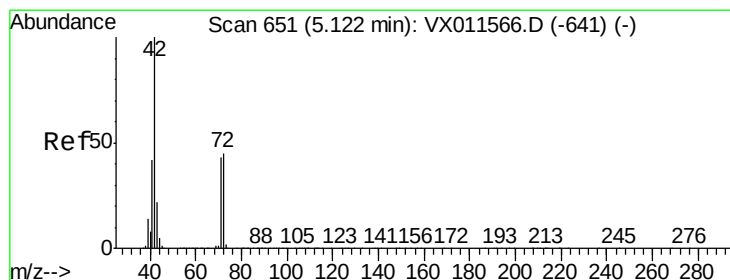
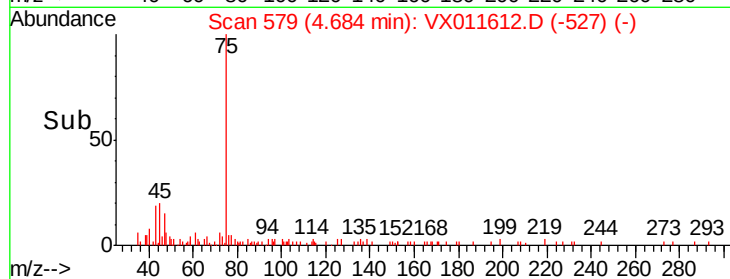
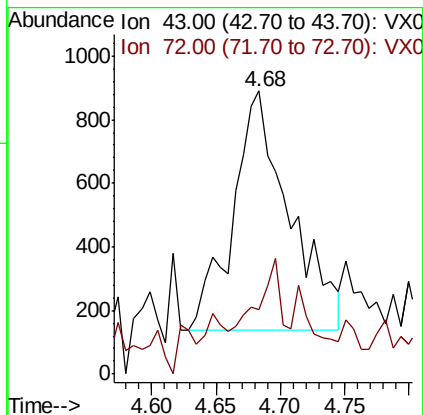
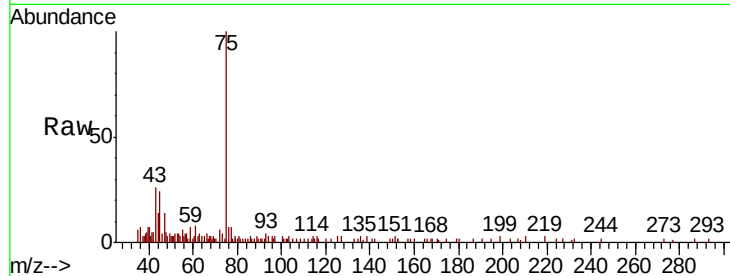
REACTOR-4-A3-(3.4)

Tgt Ion: 43 Resp: 2298

Ion Ratio Lower Upper

43 100

72 13.4 22.2 33.4#



#29

Tetrahydrofuran

Concen: 0.637 ug/l

RT: 5.14 min Scan# 654

Delta R.T. 0.02 min

Lab File: VX011612.D

Acq: 17 Aug 2019 04:32

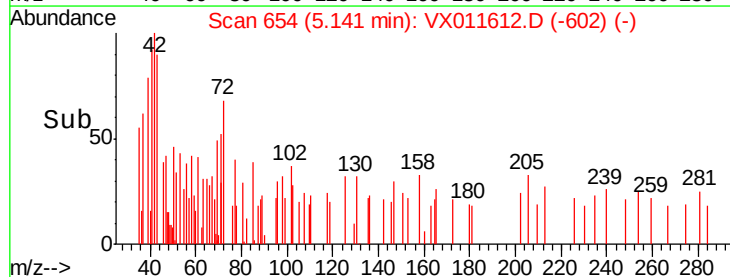
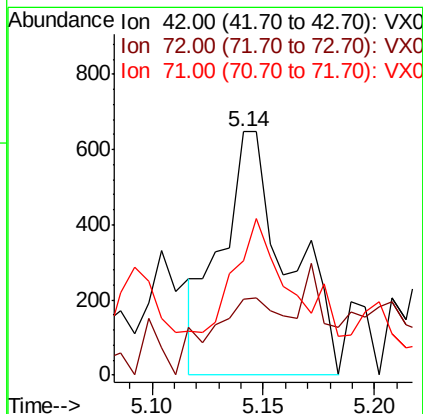
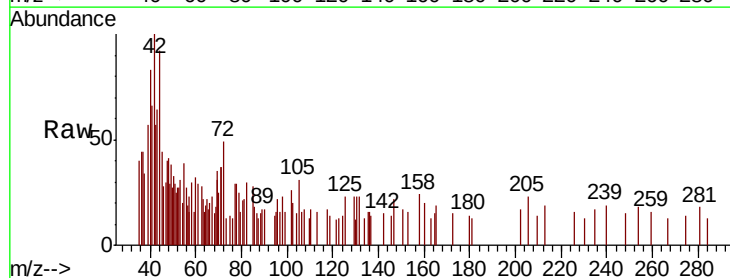
Tgt Ion: 42 Resp: 1355

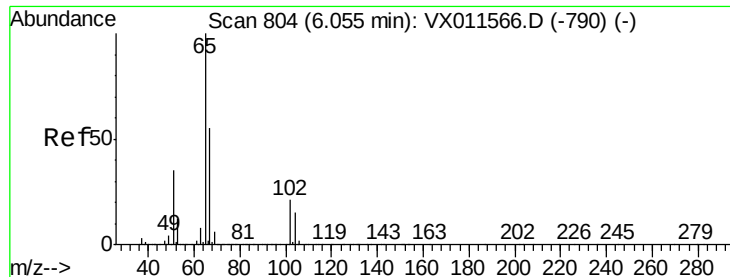
Ion Ratio Lower Upper

42 100

72 33.3 36.1 54.1#

71 53.1 33.8 50.8#

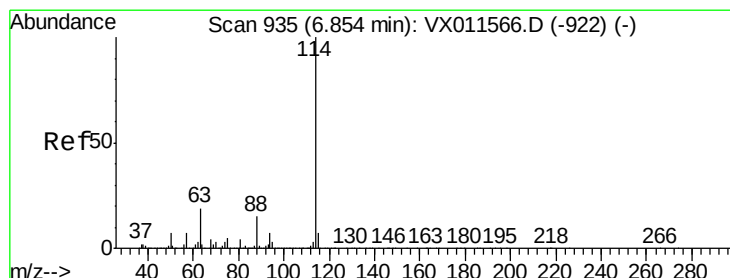
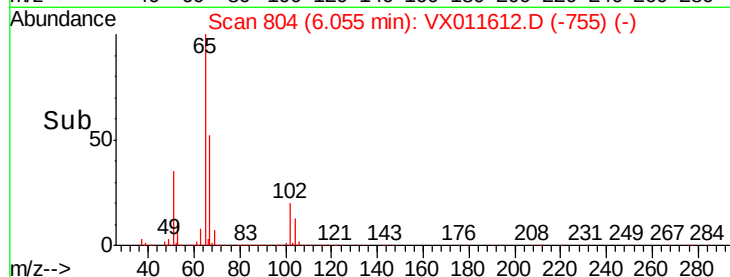
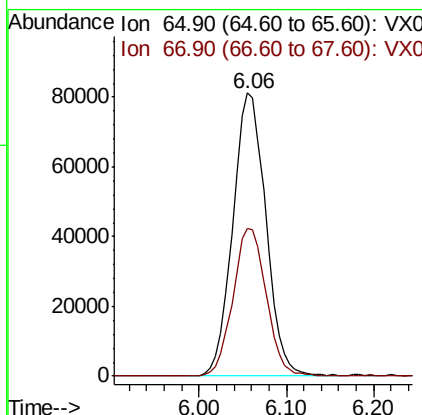
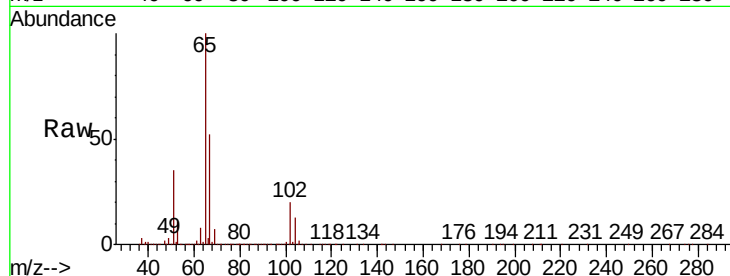




#33  
 1,2-Dichloroethane-d4  
 Concen: 52.031 ug/l  
 RT: 6.06 min Scan# 804  
 Delta R.T. 0.00 min  
 Lab File: VX011612.D  
 Acq: 17 Aug 2019 04:32

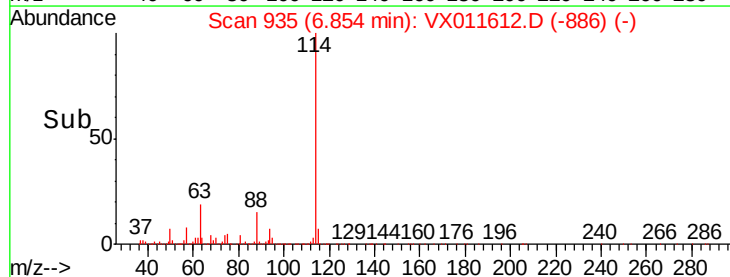
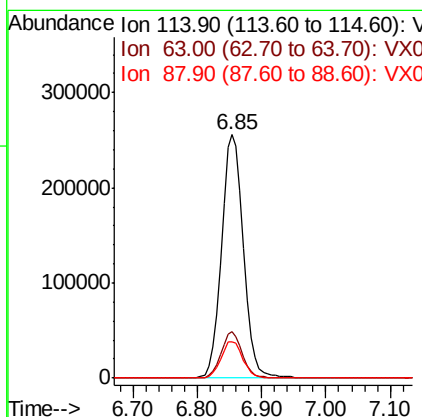
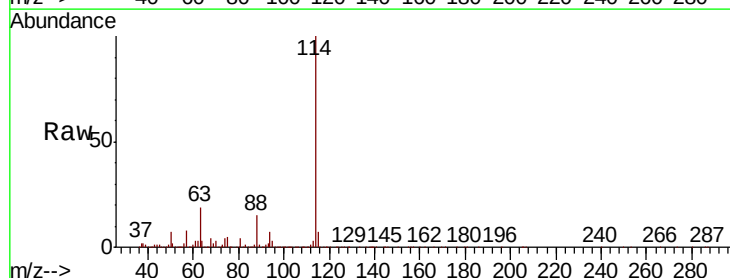
Instrument :  
 MSVOA\_X  
 ClientSampleId :  
 REACTOR-4-A3-(3.4)

Tgt Ion: 65 Resp: 213786  
 Ion Ratio Lower Upper  
 65 100  
 67 52.1 0.0 107.6

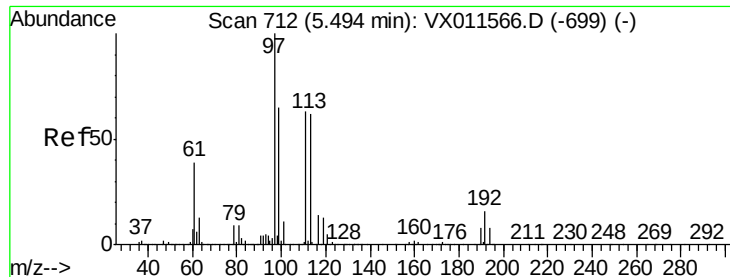


#34  
 1,4-Difluorobenzene  
 Concen: 50.000 ug/l  
 RT: 6.85 min Scan# 935  
 Delta R.T. 0.00 min  
 Lab File: VX011612.D  
 Acq: 17 Aug 2019 04:32

Tgt Ion: 114 Resp: 613322  
 Ion Ratio Lower Upper  
 114 100  
 63 19.0 0.0 37.8  
 88 14.7 0.0 30.2







#35

Dibromofluoromethane

Concen: 45.502 ug/l

RT: 5.49 min Scan# 712

Delta R.T. 0.00 min

Lab File: VX011612.D

Acq: 17 Aug 2019 04:32

Instrument :

MSVOA\_X

ClientSampleId :

REACTOR-4-A3-(3.4)

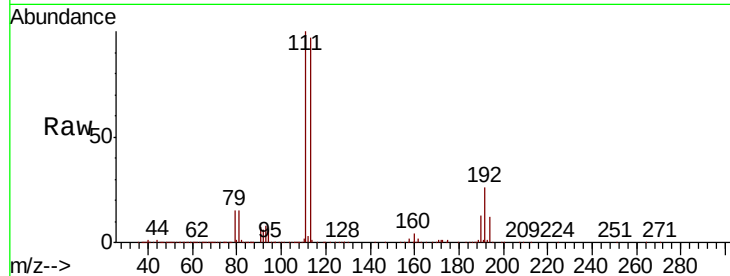
Tgt Ion:113 Resp: 182531

Ion Ratio Lower Upper

113 100

111 102.6 81.1 121.7

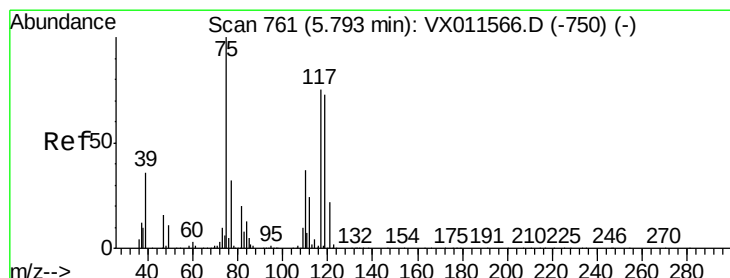
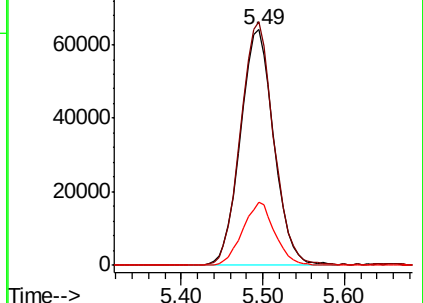
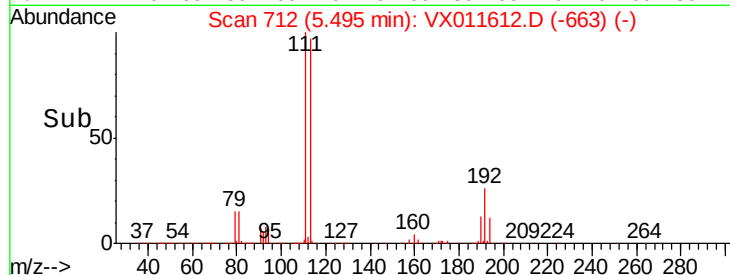
192 25.9 20.8 31.2



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



#36

1,1-Dichloropropene

Concen: 4.740 ug/l

RT: 5.65 min Scan# 738

Delta R.T. -0.14 min

Lab File: VX011612.D

Acq: 17 Aug 2019 04:32

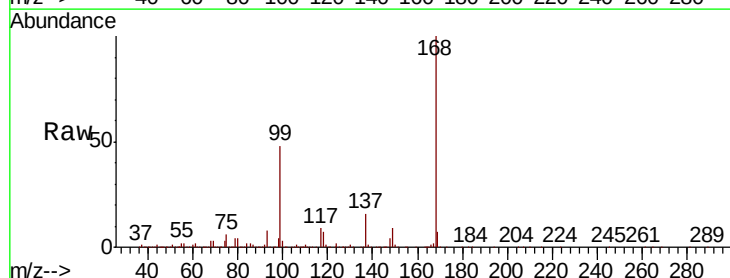
Tgt Ion: 75 Resp: 24854

Ion Ratio Lower Upper

75 100

110 11.9 19.4 58.1#

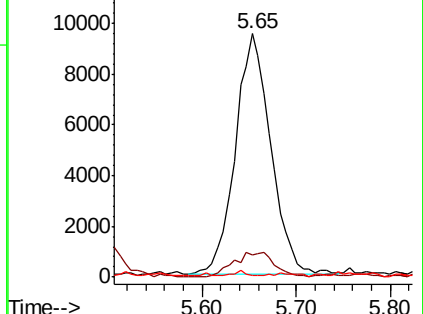
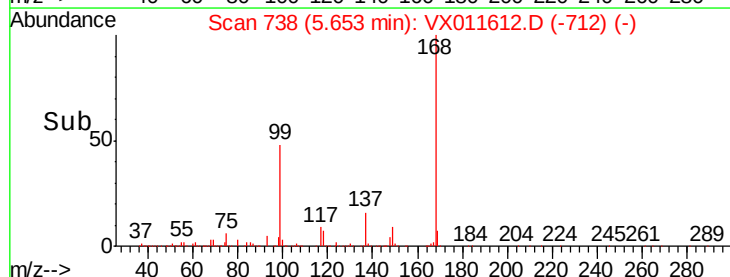
77 0.8 25.1 37.7#

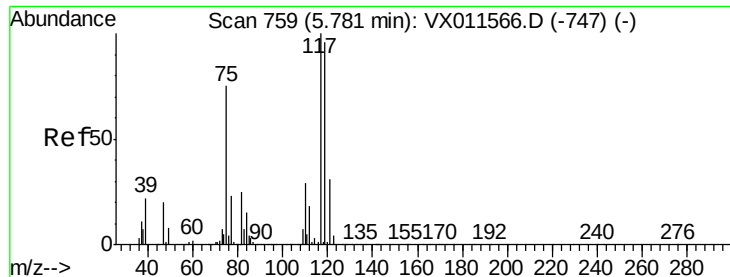


Abundance Ion 74.90 (74.60 to 75.60): VX0

Ion 109.90 (109.60 to 110.60): V

Ion 76.90 (76.60 to 77.60): VX0





#38

Carbon Tetrachloride

Concen: 6.552 ug/l

RT: 5.65 min Scan# 738

Delta R.T. -0.13 min

Lab File: VX011612.D

Acq: 17 Aug 2019 04:32

Instrument :

MSVOA\_X

ClientSampleId :

REACTOR-4-A3-(3.4)

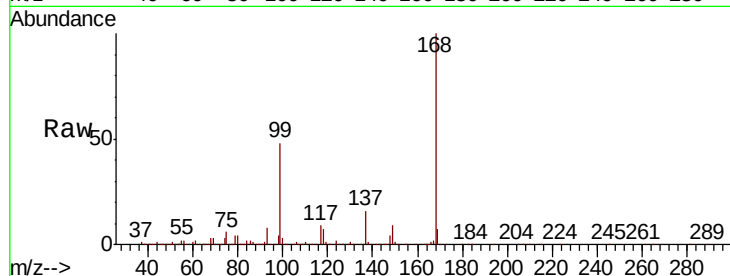
Tgt Ion:117 Resp: 37853

Ion Ratio Lower Upper

117 100

119 5.3 76.9 115.3#

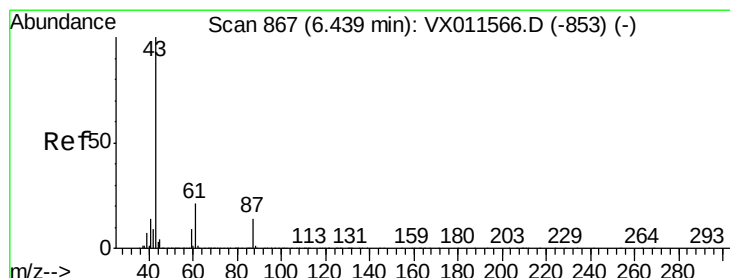
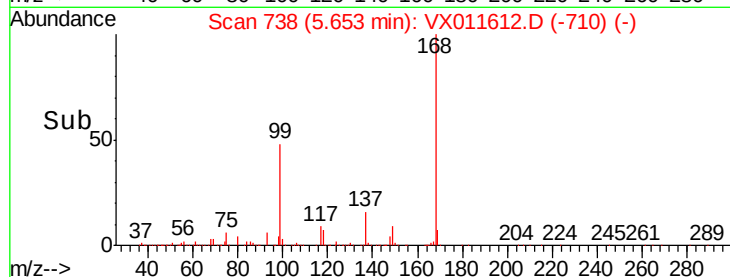
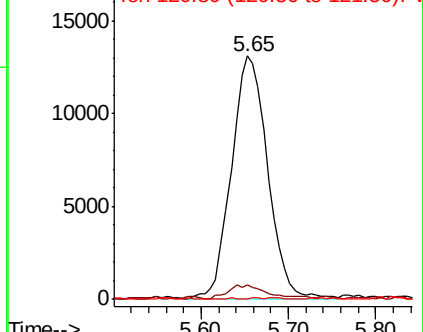
121 0.4 24.8 37.2#



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



#43

Isopropyl Acetate

Concen: 8.143 ug/l

RT: 6.44 min Scan# 867

Delta R.T. 0.00 min

Lab File: VX011612.D

Acq: 17 Aug 2019 04:32

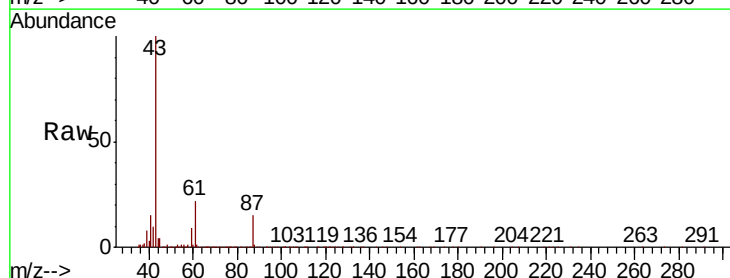
Tgt Ion: 43 Resp: 76647

Ion Ratio Lower Upper

43 100

61 21.2 16.6 24.8

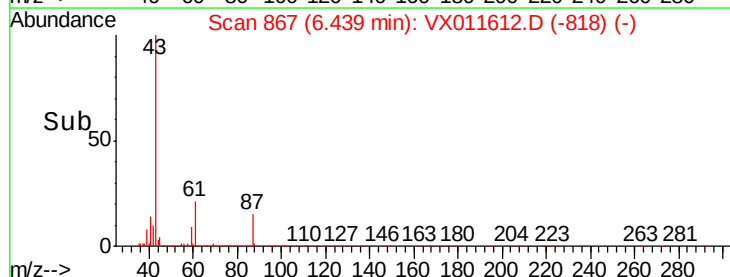
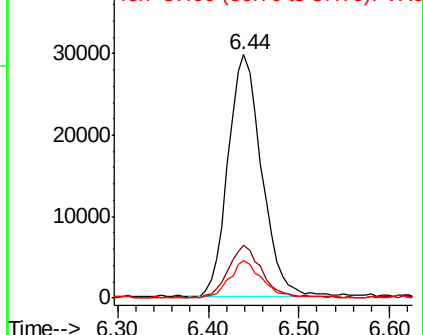
87 15.0 11.4 17.2

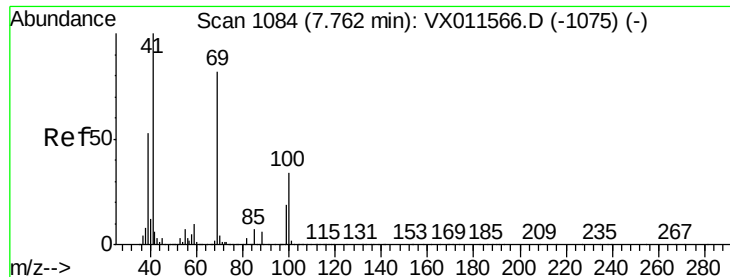


Abundance Ion 43.00 (42.70 to 43.70): VX0

Ion 61.00 (60.70 to 61.70): VX0

Ion 87.00 (86.70 to 87.70): VX0

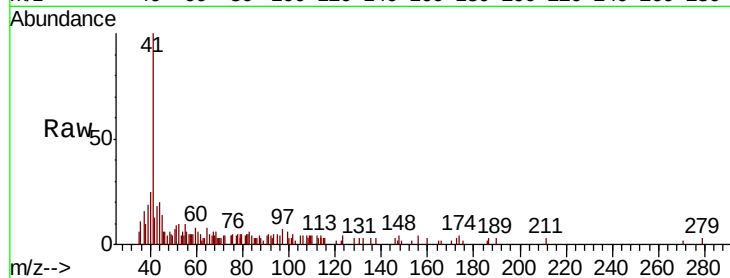




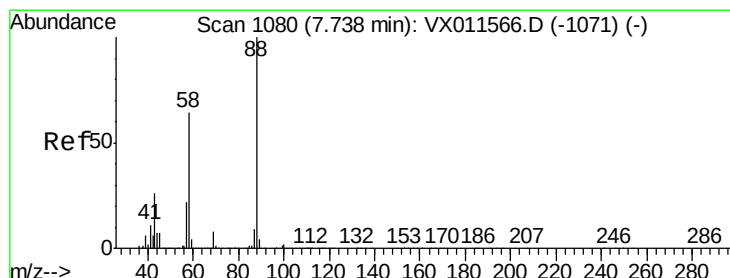
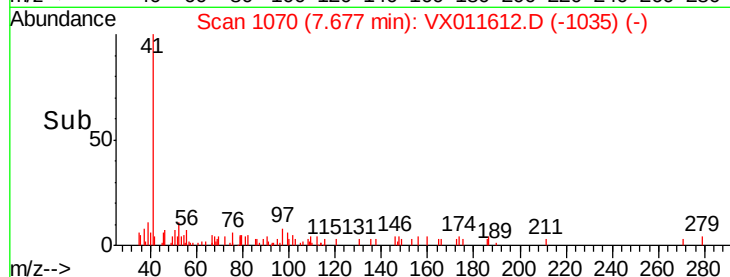
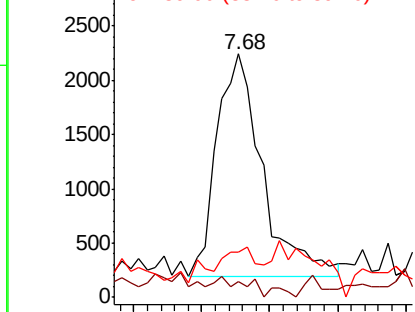
#48  
Methyl methacrylate  
Concen: 1.022 ug/l  
RT: 7.68 min Scan# 1070  
Delta R.T. -0.09 min  
Lab File: VX011612.D  
Acq: 17 Aug 2019 04:32

Instrument :  
MSVOA\_X  
ClientSampleId :  
REACTOR-4-A3-(3.4)

Tgt Ion: 41 Resp: 4765  
Ion Ratio Lower Upper  
41 100  
69 6.3 67.9 101.9#  
39 0.0 41.6 62.4#

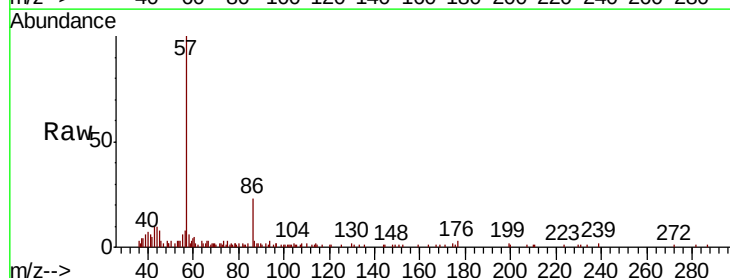


Abundance Ion 41.00 (40.70 to 41.70): VX0  
Ion 69.00 (68.70 to 69.70): VX0  
Ion 39.00 (38.70 to 39.70): VX0

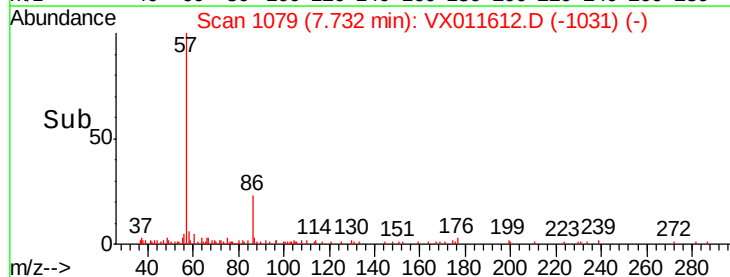
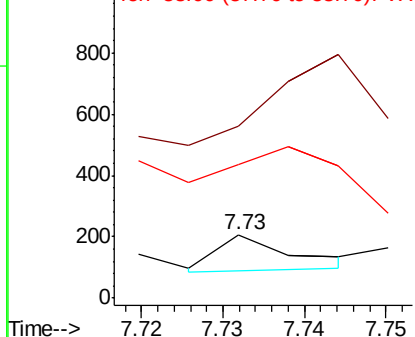


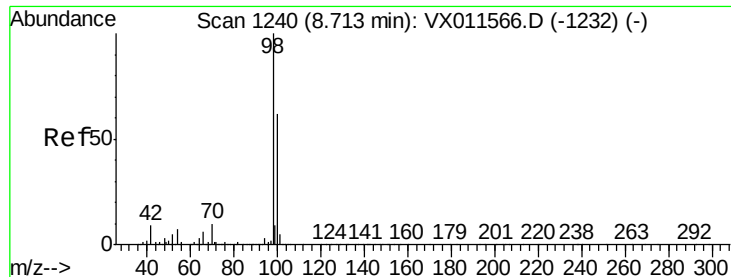
#49  
1,4-Dioxane  
Concen: 0.613 ug/l  
RT: 7.73 min Scan# 1079  
Delta R.T. -0.01 min  
Lab File: VX011612.D  
Acq: 17 Aug 2019 04:32

Tgt Ion: 88 Resp: 76  
Ion Ratio Lower Upper  
88 100  
43 0.0 23.4 35.0#  
58 1423.7 54.3 81.5#



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: 56.736 ug/l

RT: 8.71 min Scan# 1240

Delta R.T. 0.00 min

Lab File: VX011612.D

Acq: 17 Aug 2019 04:32

Instrument :

MSVOA\_X

ClientSampleId :

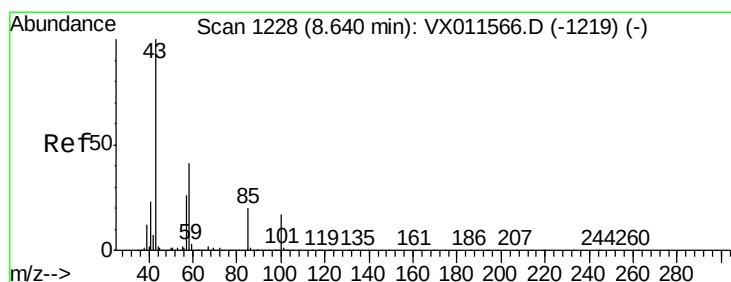
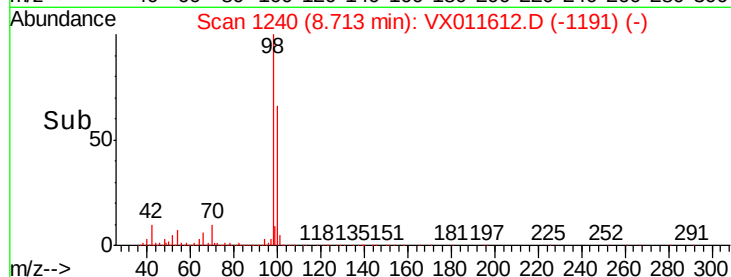
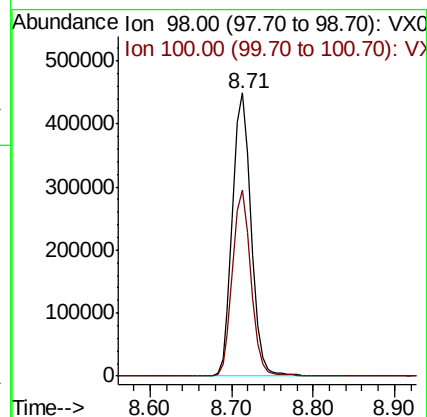
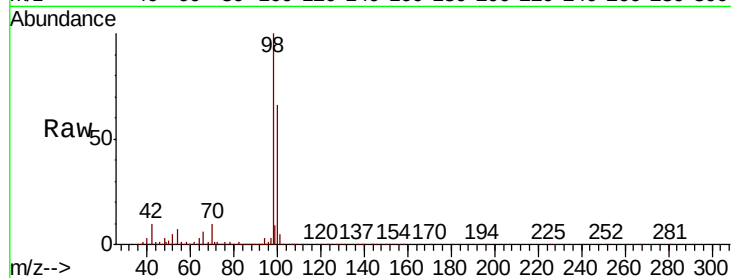
REACTOR-4-A3-(3.4)

Tgt Ion: 98 Resp: 709163

Ion Ratio Lower Upper

98 100

100 64.9 52.4 78.6



#51

4-Methyl-2-Pentanone

Concen: 11.563 ug/l

RT: 8.61 min Scan# 1223

Delta R.T. -0.03 min

Lab File: VX011612.D

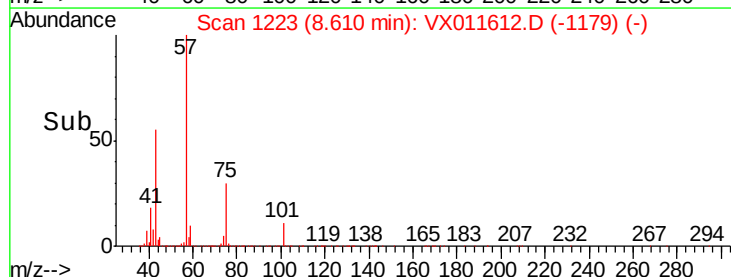
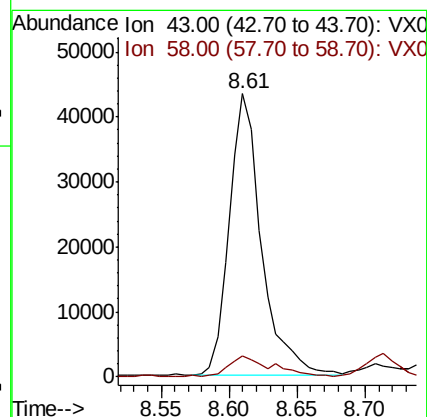
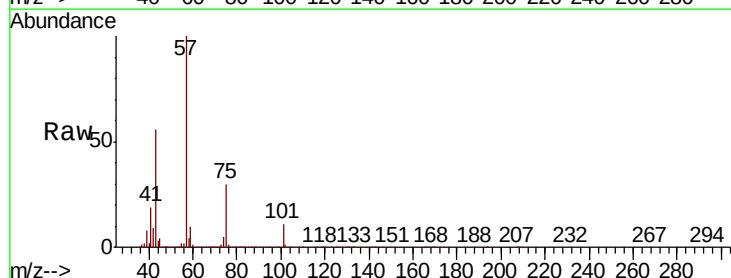
Acq: 17 Aug 2019 04:32

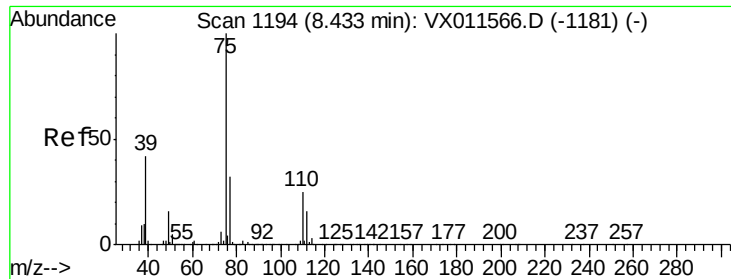
Tgt Ion: 43 Resp: 71239

Ion Ratio Lower Upper

43 100

58 9.5 31.8 47.6#





#54

cis-1,3-Dichloropropene

Concen: 5.655 ug/l

RT: 8.61 min Scan# 1223

Delta R.T. 0.18 min

Lab File: VX011612.D

Acq: 17 Aug 2019 04:32

Instrument :

MSVOA\_X

ClientSampleId :

REACTOR-4-A3-(3.4)

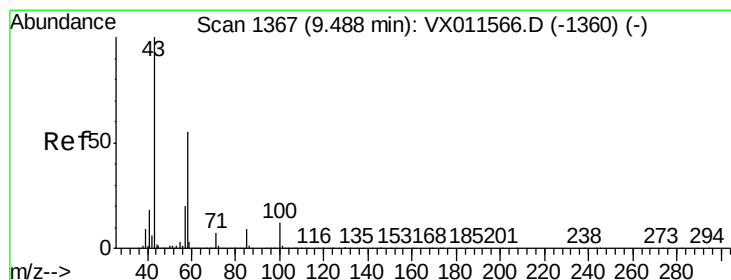
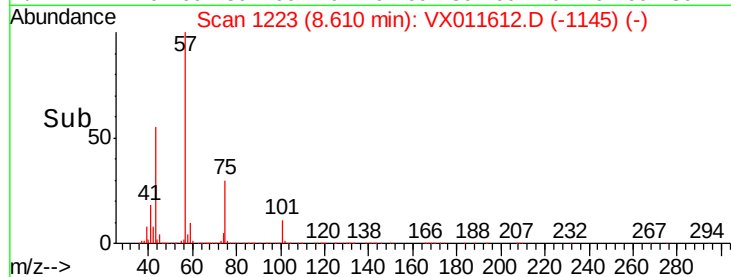
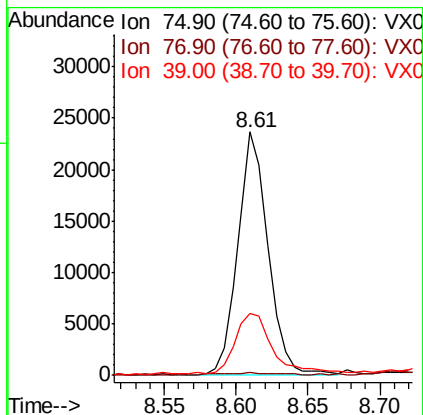
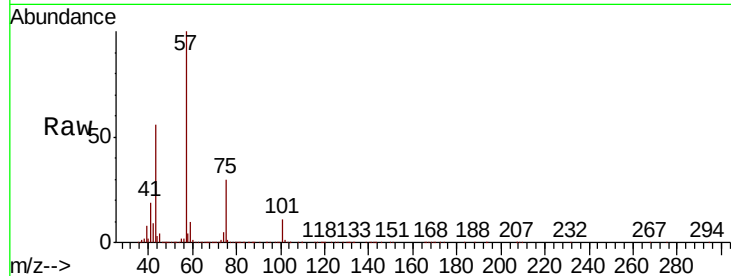
Tgt Ion: 75 Resp: 34827

Ion Ratio Lower Upper

75 100

77 0.9 25.5 38.3#

39 24.8 33.6 50.4#



#59

2-Hexanone

Concen: 16.907 ug/l

RT: 9.54 min Scan# 1375

Delta R.T. 0.05 min

Lab File: VX011612.D

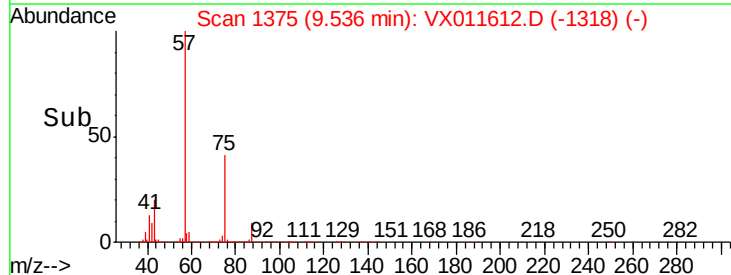
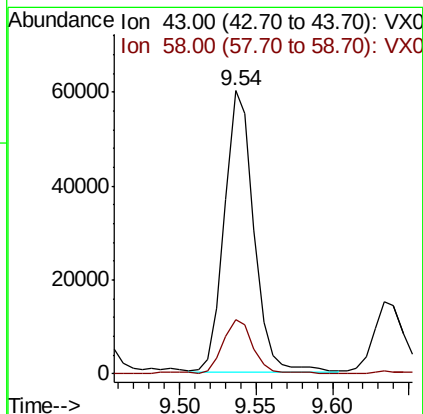
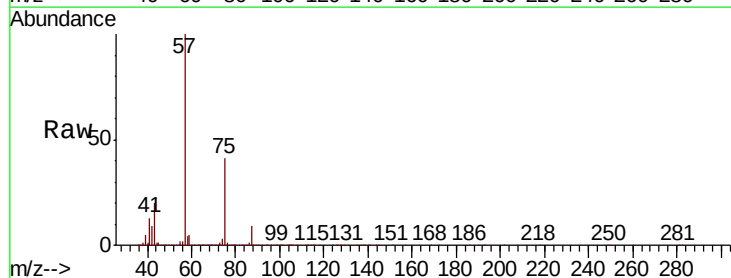
Acq: 17 Aug 2019 04:32

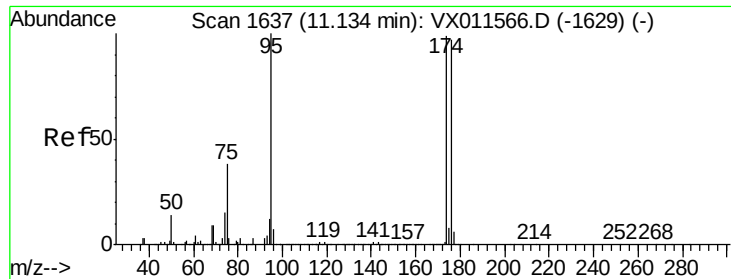
Tgt Ion: 43 Resp: 80325

Ion Ratio Lower Upper

43 100

58 19.4 27.5 82.4#





#62

4-Bromofluorobenzene

Concen: 46.937 ug/l

RT: 11.13 min Scan# 1637

Delta R.T. 0.00 min

Lab File: VX011612.D

Acq: 17 Aug 2019 04:32

Instrument :

MSVOA\_X

ClientSampleId :

REACTOR-4-A3-(3.4)

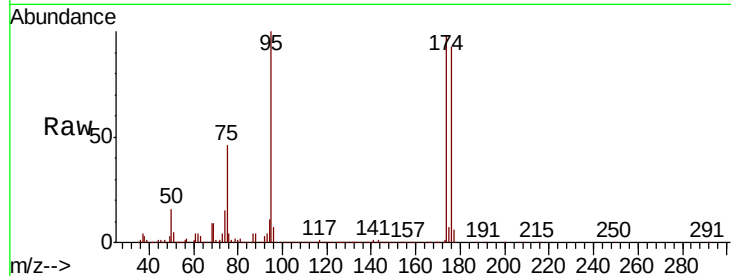
Tgt Ion: 95 Resp: 247630

Ion Ratio Lower Upper

95 100

174 101.0 0.0 200.6

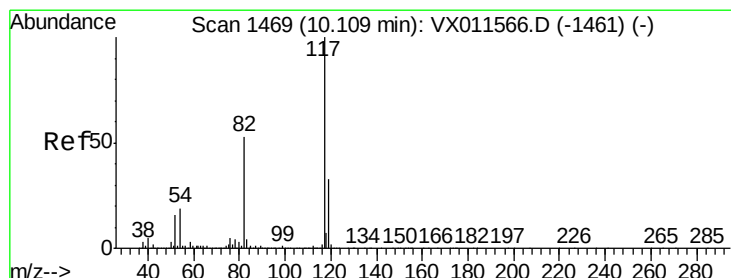
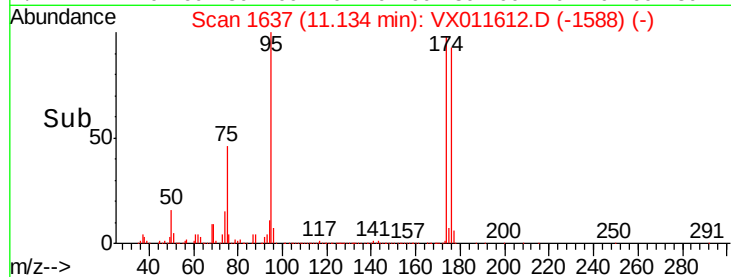
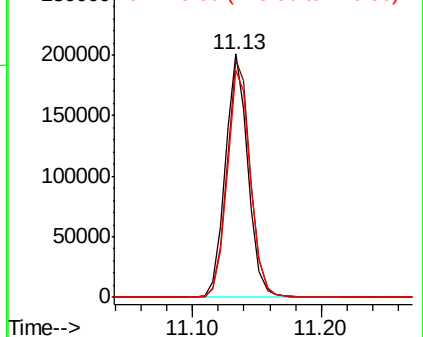
176 96.2 0.0 196.6



Abundance Ion 94.90 (94.60 to 95.60): VX0

Ion 173.80 (173.50 to 174.50): V

Ion 175.80 (175.50 to 176.50): V



#63

Chlorobenzene-d5

Concen: 50.000 ug/l

RT: 10.11 min Scan# 1469

Delta R.T. 0.00 min

Lab File: VX011612.D

Acq: 17 Aug 2019 04:32

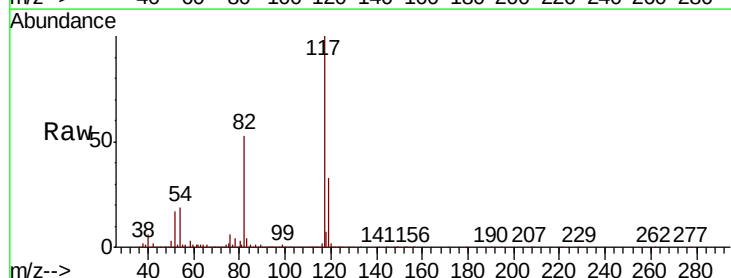
Tgt Ion: 117 Resp: 553392

Ion Ratio Lower Upper

117 100

82 53.2 42.0 63.0

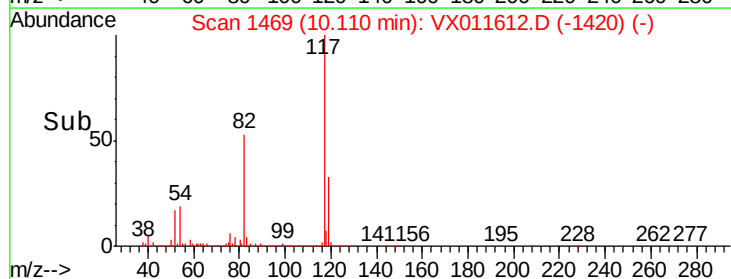
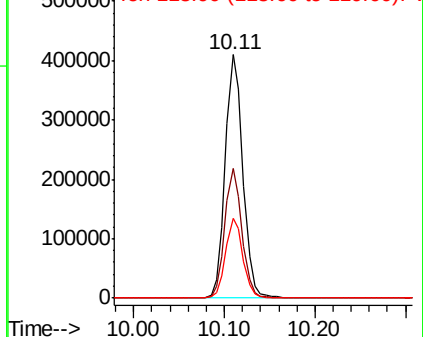
119 32.7 26.5 39.7

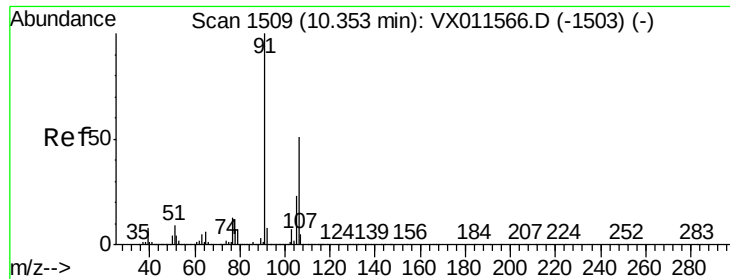


Abundance Ion 116.90 (116.60 to 117.60): V

Ion 82.00 (81.70 to 82.70): VX0

Ion 118.90 (118.60 to 119.60): V





#68

m/p-Xylenes

Concen: 0.204 ug/l

RT: 10.35 min Scan# 1508

Delta R.T. -0.01 min

Lab File: VX011612.D

Acq: 17 Aug 2019 04:32

Instrument :

MSVOA\_X

ClientSampleId :

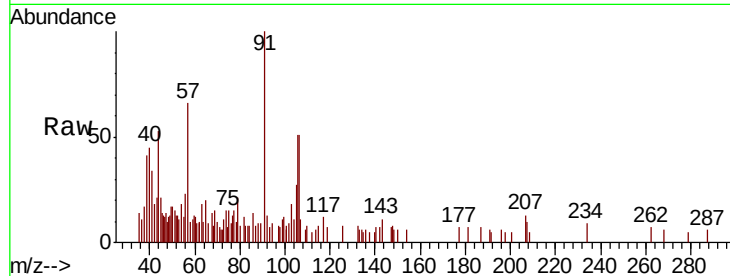
REACTOR-4-A3-(3.4)

Tgt Ion:106 Resp: 1546

Ion Ratio Lower Upper

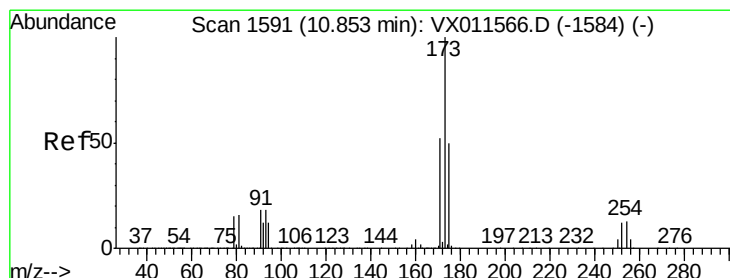
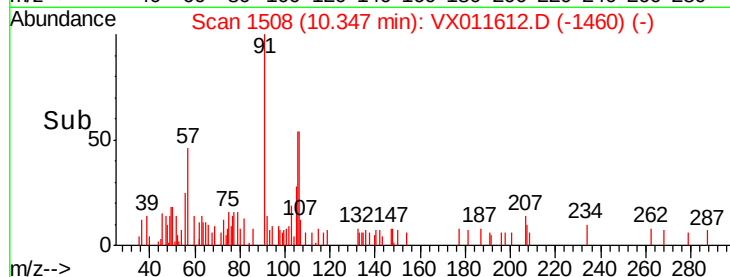
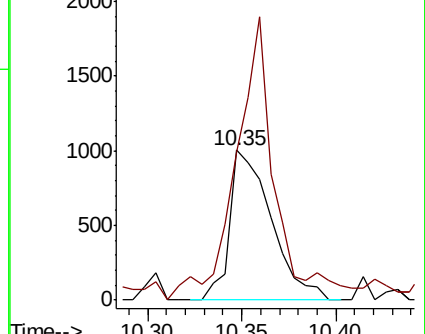
106 100

91 164.2 156.0 234.0



Abundance Ion 106.00 (105.70 to 106.70): V

Ion 91.00 (90.70 to 91.70): VX0



#71

Bromoform

Concen: 3.313 ug/l

RT: 11.01 min Scan# 1617

Delta R.T. 0.16 min

Lab File: VX011612.D

Acq: 17 Aug 2019 04:32

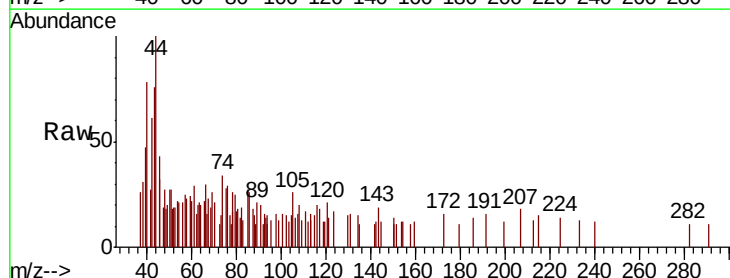
Tgt Ion:173 Resp: 99

Ion Ratio Lower Upper

173 100

175 0.0 24.9 74.7#

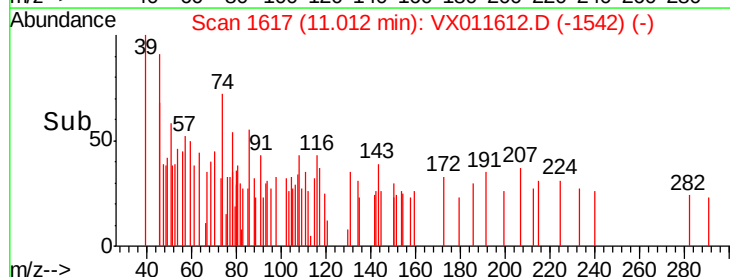
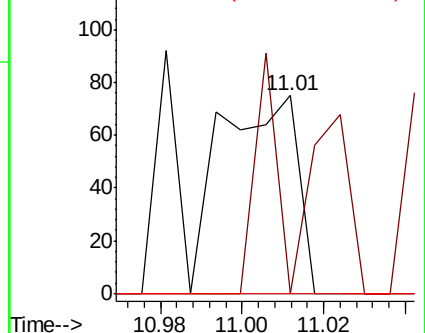
254 0.0 0.1 0.1#

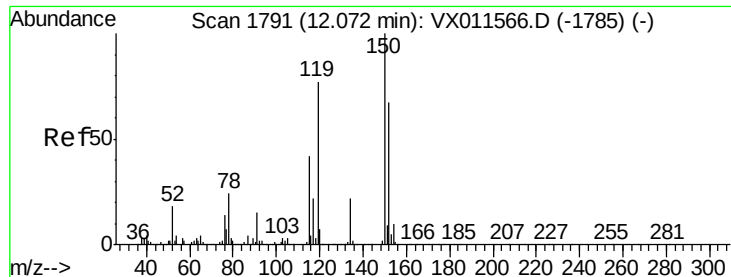


Abundance Ion 172.70 (172.40 to 173.40): V

Ion 174.70 (174.40 to 175.40): V

Ion 254.40 (254.10 to 255.10): V





#72

1,4-Dichlorobenzene-d4

Concen: 50.000 ug/l

RT: 12.07 min Scan# 1791

Delta R.T. 0.00 min

Lab File: VX011612.D

Acq: 17 Aug 2019 04:32

Instrument :

MSVOA\_X

ClientSampleId :

REACTOR-4-A3-(3.4)

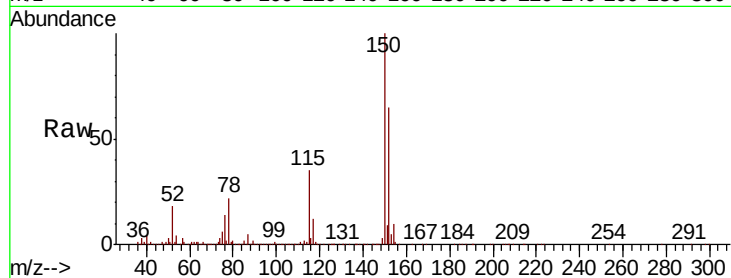
Tgt Ion:152 Resp: 268900

Ion Ratio Lower Upper

152 100

115 52.6 37.3 111.9

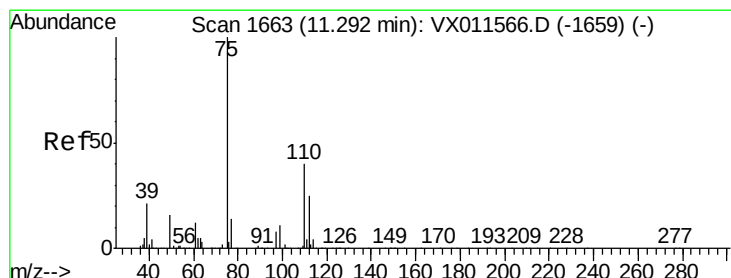
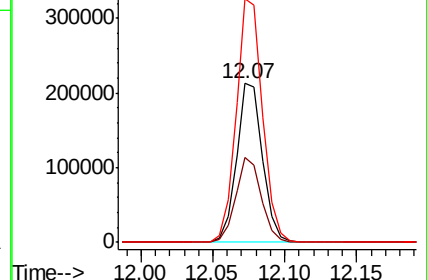
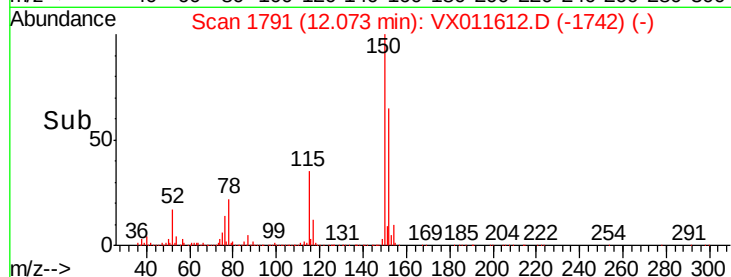
150 154.2 0.0 346.2



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: 22.425 ug/l

RT: 11.13 min Scan# 1637

Delta R.T. -0.16 min

Lab File: VX011612.D

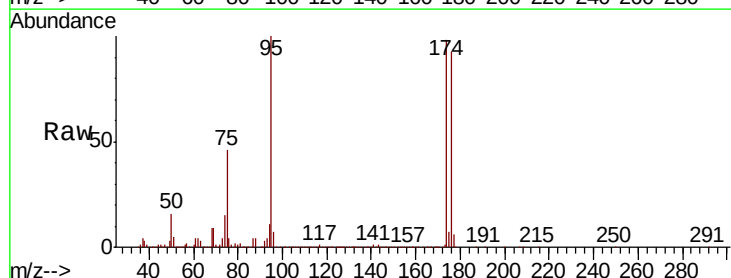
Acq: 17 Aug 2019 04:32

Tgt Ion: 75 Resp: 114345

Ion Ratio Lower Upper

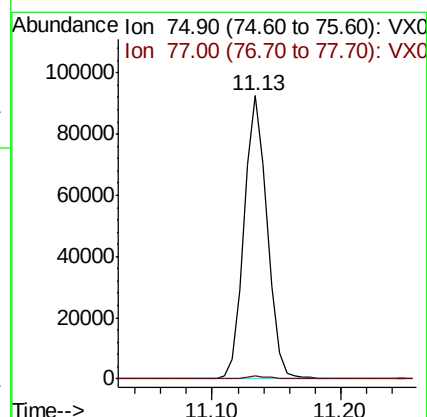
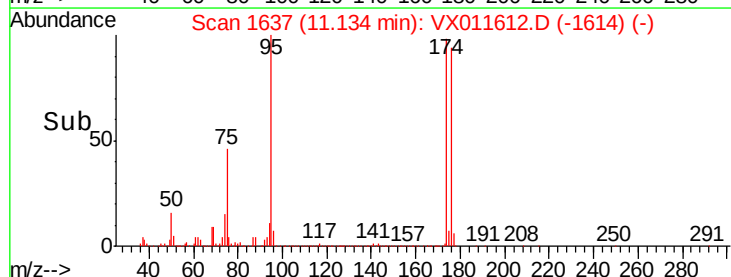
75 100

77 1.2 20.9 62.8#

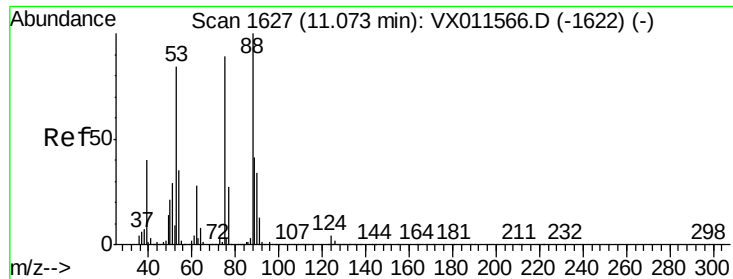


Abundance Ion 74.90 (74.60 to 75.60): VX0

Ion 77.00 (76.70 to 77.70): VX0







#81  
 trans-1,4-Dichloro-2-butene  
 Concen: 59.784 ug/l  
 RT: 11.13 min Scan# 1637  
 Delta R.T. 0.06 min  
 Lab File: VX011612.D  
 Acq: 17 Aug 2019 04:32

Instrument :  
 MSVOA\_X  
 ClientSampleId :  
 REACTOR-4-A3-(3.4)

Tgt Ion: 75 Resp: 114345  
 Ion Ratio Lower Upper  
 75 100  
 53 0.1 77.4 116.0#  
 89 0.3 37.3 55.9#

