

Data Path : Z:\VOASRV\HPCHEM1\MSVOA F\DATA\VF022219\  
 Data File : VF061713.D  
 Acq On : 22 Feb 2019 17:28  
 Operator : VA/AP  
 Sample : K1595-07  
 Misc : 6.51a/5mL/MSVOA-F/SOIL  
 ALS Vial : 11 Sample Multiplier: 1

Instrument :  
 MSVOA\_F  
 ClientSampleId :  
 TP-MH-C02

Quant Time: Feb 23 01:45:59 2019  
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA\_F\METHODS\82F021319S.M  
 Quant Title : SW846 8260  
 QLast Update : Thu Feb 14 03:27:56 2019  
 Response via : Initial Calibration

| Internal Standards         | R.T. | QIon | Response | Conc  | Units | Dev(Min) |
|----------------------------|------|------|----------|-------|-------|----------|
| 1) Pentafluorobenzene      | 4.87 | 168  | 64       | 50.00 | ug/l  | -0.02    |
| 34) 1,4-Difluorobenzene    | 0.00 | 114  | 0        | 0.00  | ug/l  | -5.61    |
| 63) Chlorobenzene-d5       | 9.76 | 117  | 91       | 50.00 | ug/l  | -0.03    |
| 72) 1,4-Dichlorobenzene-d4 | 0.00 | 152  | 0        | 0.00  | ug/l  | -12.56   |

## System Monitoring Compounds

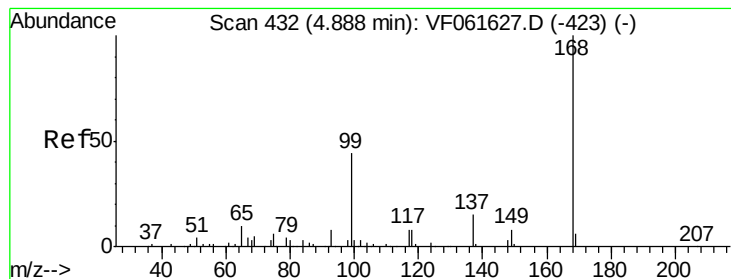
|                           |        |     |          |      |       |       |
|---------------------------|--------|-----|----------|------|-------|-------|
| 33) 1,2-Dichloroethane-d4 | 0.00   | 65  | 0        | 0.00 | ug/l  |       |
| Spiked Amount             | 50.000 |     | Recovery | =    | 0.00% |       |
| 35) Dibromofluoromethane  | 0.00   | 113 | 0        | 0.00 | ug/l  |       |
| Spiked Amount             | 50.000 |     | Recovery | =    | 0.00% |       |
| 50) Toluene-d8            | 7.51   | 98  | 70       | 0.00 | ug/l  | -0.05 |
| Spiked Amount             | 50.000 |     | Recovery | =    | 0.00% |       |
| 62) 4-Bromofluorobenzene  | 11.52  | 95  | 60       | 0.00 | ug/l  | 0.10  |
| Spiked Amount             | 50.000 |     | Recovery | =    | 0.00% |       |

## Target Compounds

|                              |      |    |     |           |        | Qvalue |
|------------------------------|------|----|-----|-----------|--------|--------|
| 3) Chloromethane             | 1.06 | 50 | 215 | 278.806   | ug/l # | 42     |
| 4) Vinyl Chloride            | 1.19 | 62 | 63  | 87.881    | ug/l # | 40     |
| 5) Bromomethane              | 1.31 | 94 | 486 | 985.031   | ug/l # | 3      |
| 6) Chloroethane              | 1.39 | 64 | 76  | 215.124   | ug/l # | 40     |
| 8) Diethyl Ether             | 1.52 | 74 | 106 | 486.462   | ug/l   | 65     |
| 12) 1,1-Dichloroethene       | 1.81 | 96 | 214 | 390.214   | ug/l # | 1      |
| 13) Acrolein                 | 2.03 | 56 | 381 | 11160.909 | ug/l   | 87     |
| 14) Allyl chloride           | 2.12 | 41 | 754 | 1120.415  | ug/l # | 70     |
| 15) Acrylonitrile            | 3.08 | 53 | 65  | 674.678   | ug/l # | 18     |
| 16) Acetone                  | 2.20 | 43 | 712 | 7070.833  | ug/l # | 46     |
| 17) Carbon Disulfide         | 1.92 | 76 | 77  | 44.667    | ug/l # | 73     |
| 18) Methyl Acetate           | 2.31 | 43 | 890 | 3923.433  | ug/l # | 59     |
| 19) Methyl tert-butyl Ether  | 2.29 | 73 | 67  | 71.484    | ug/l # | 57     |
| 20) Methylene Chloride       | 2.16 | 84 | 83  | 159.336   | ug/l # | 1      |
| 21) trans-1,2-Dichloroethene | 2.29 | 96 | 205 | 343.861   | ug/l # | 1      |
| 22) Diisopropyl ether        | 2.78 | 45 | 250 | 154.760   | ug/l # | 64     |
| 23) Vinyl Acetate            | 3.19 | 43 | 294 | 372.618   | ug/l # | 74     |
| 25) 2-Butanone               | 4.35 | 43 | 208 | 945.668   | ug/l # | 55     |
| 27) cis-1,2-Dichloroethene   | 3.49 | 96 | 64  | 81.787    | ug/l   | 1      |
| 29) Tetrahydrofuran          | 4.07 | 42 | 104 | 1040.320  | ug/l # | 33     |
| 30) Chloroform               | 3.77 | 83 | 61  | 54.869    | ug/l # | 18     |
| 31) Cyclohexane              | 3.68 | 56 | 60  | 56.695    | ug/l # | 16     |

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





#1

Pentafluorobenzene

Concen: 50.000 ug/l

RT: 4.87 min Scan# 430

Delta R.T. -0.02 min

Lab File: VF061713.D

Acq: 22 Feb 2019 17:28

Instrument :

MSVOA\_F

ClientSampleId :

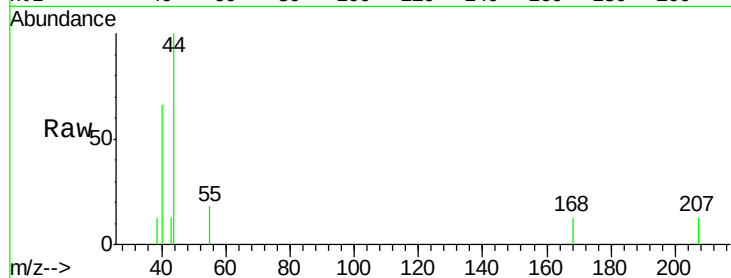
TP-MH-C02

Tot Ion:168 Resp: 64

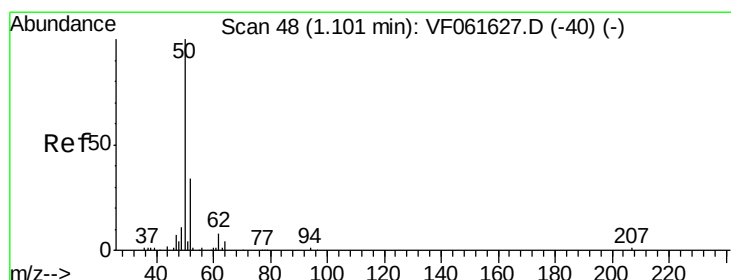
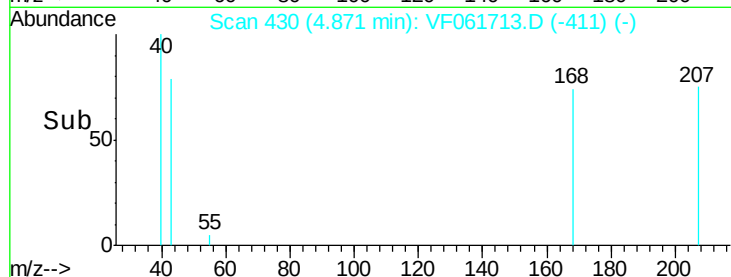
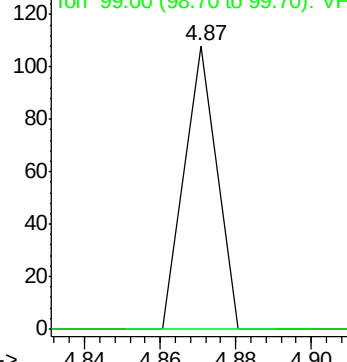
Ion Ratio Lower Upper

168 100

99 0.0 34.9 52.3#



Abundance Ion 168.00 (167.70 to 168.70): VF0



#3

Chloromethane

Concen: 278.806 ug/l

RT: 1.06 min Scan# 44

Delta R.T. -0.04 min

Lab File: VF061713.D

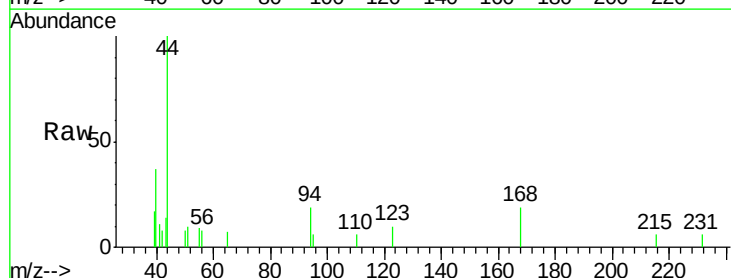
Acq: 22 Feb 2019 17:28

Tgt Ion: 50 Resp: 215

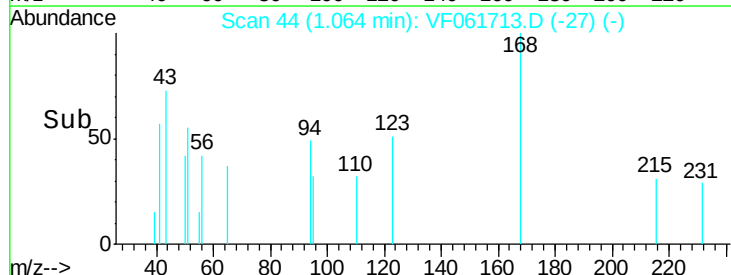
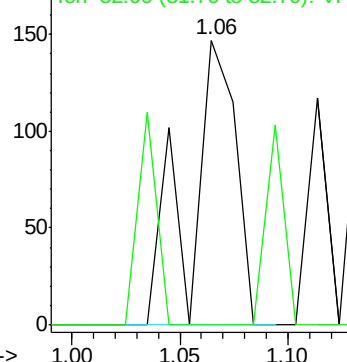
Ion Ratio Lower Upper

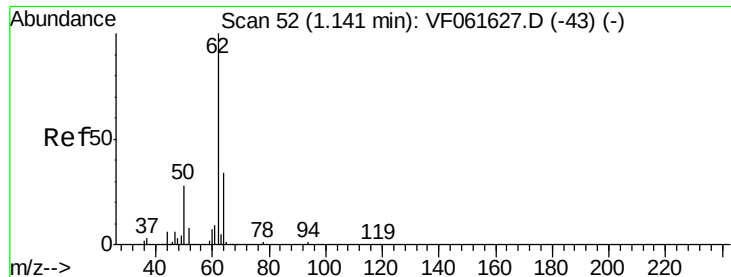
50 100

52 0.0 26.2 39.4#



Abundance Ion 50.00 (49.70 to 50.70): VF0





#4

Vinyl Chloride

Concen: 87.881 ug/l

RT: 1.19 min Scan# 57

Delta R.T. 0.05 min

Lab File: VF061713.D

Acq: 22 Feb 2019 17:28

Instrument :

MSVOA\_F

ClientSampled :

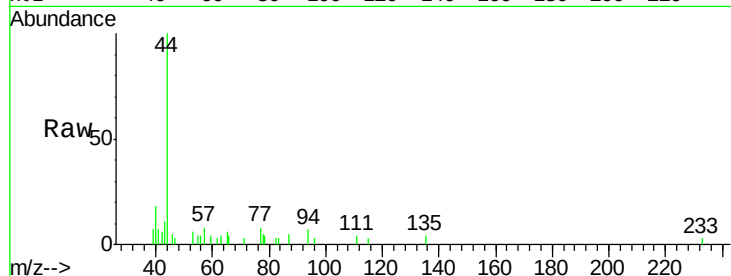
TP-MH-C02

Tot Ion: 62 Resp: 63

Ion Ratio Lower Upper

62 100

64 0.0 27.5 41.3#

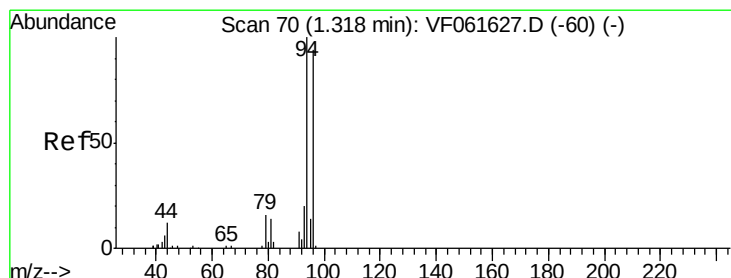
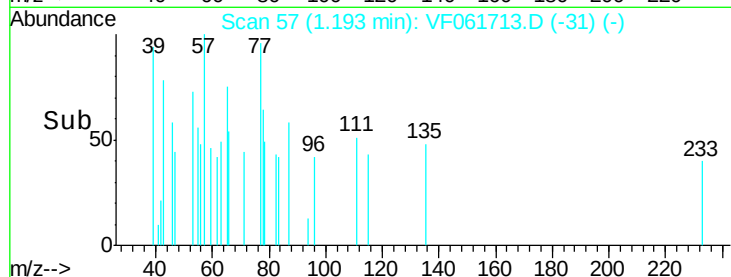


Abundance Ion 62.00 (61.70 to 62.70): VF0

Ion 64.00 (63.70 to 64.70): VF0

1.19

Time--> 1.16 1.18 1.20 1.22



#5

Bromomethane

Concen: 985.031 ug/l

RT: 1.31 min Scan# 69

Delta R.T. -0.01 min

Lab File: VF061713.D

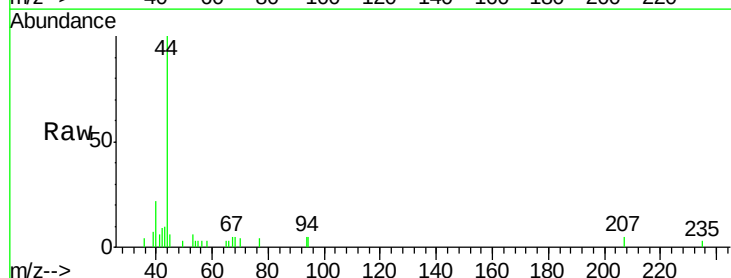
Acq: 22 Feb 2019 17:28

Tgt Ion: 94 Resp: 486

Ion Ratio Lower Upper

94 100

96 0.0 74.6 112.0#

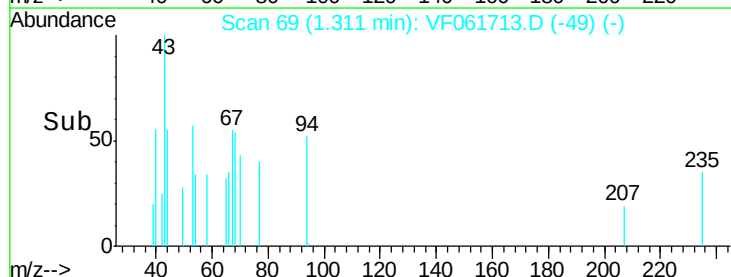


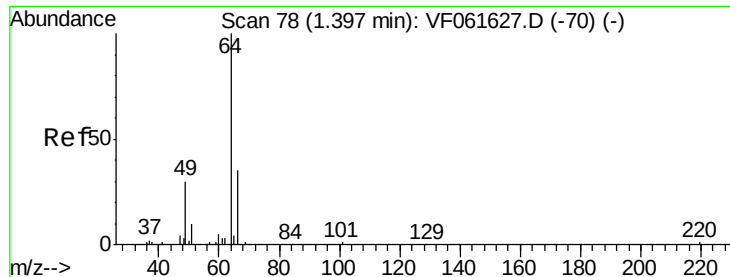
Abundance Ion 94.00 (93.70 to 94.70): VF0

Ion 96.00 (95.70 to 96.70): VF0

1.31

Time--> 1.25 1.30 1.35





#6

Chloroethane

Concen: 215.124 ug/l

RT: 1.39 min Scan# 77

Delta R.T. -0.01 min

Lab File: VF061713.D

Acq: 22 Feb 2019 17:28

Instrument :

MSVOA\_F

ClientSampleId :

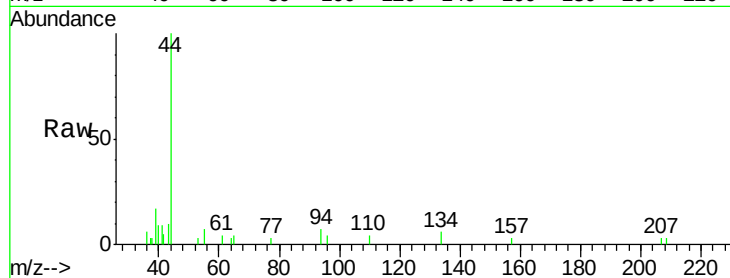
TP-MH-C02

Tot Ion: 64 Resp: 76

Ion Ratio Lower Upper

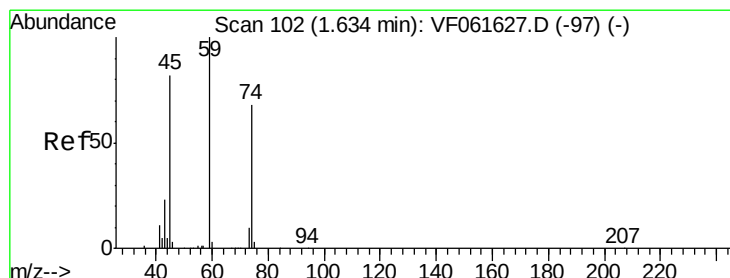
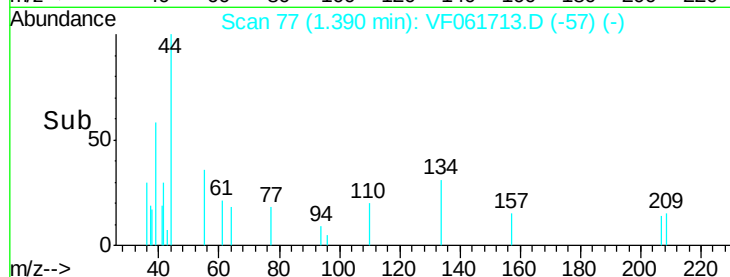
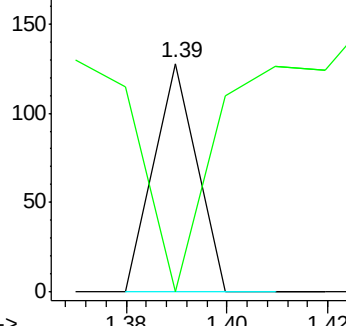
64 100

66 0.0 27.9 41.9#



Abundance Ion 64.00 (63.70 to 64.70): VF0

Ion 66.00 (65.70 to 66.70): VF0



#8

Diethyl Ether

Concen: 486.462 ug/l

RT: 1.52 min Scan# 90

Delta R.T. -0.12 min

Lab File: VF061713.D

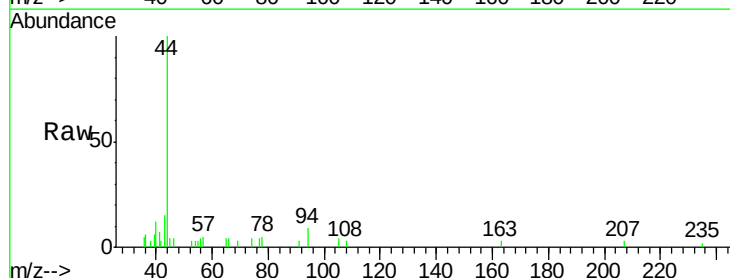
Acq: 22 Feb 2019 17:28

Tgt Ion: 74 Resp: 106

Ion Ratio Lower Upper

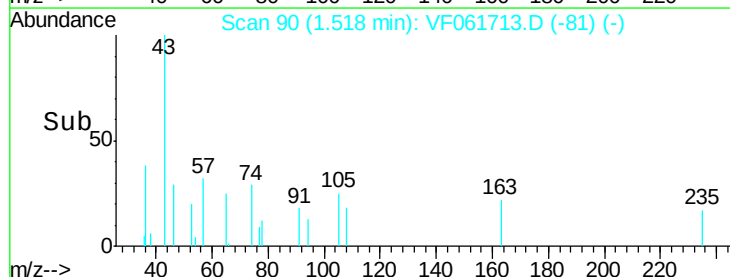
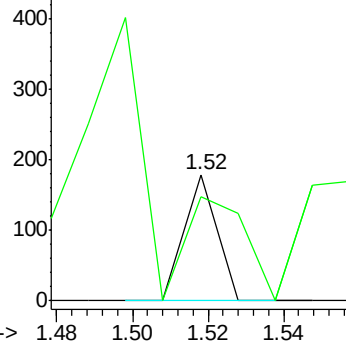
74 100

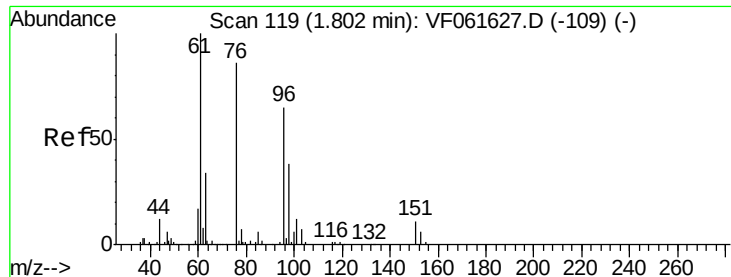
45 82.1 60.8 182.3



Abundance Ion 74.00 (73.70 to 74.70): VF0

Ion 45.00 (44.70 to 45.70): VF0





#12

1,1-Dichloroethene

Concen: 390.214 ug/l

RT: 1.81 min Scan# 120

Delta R.T. 0.01 min

Lab File: VF061713.D

Acq: 22 Feb 2019 17:28

Instrument :

MSVOA\_F

ClientSampleId :

TP-MH-C02

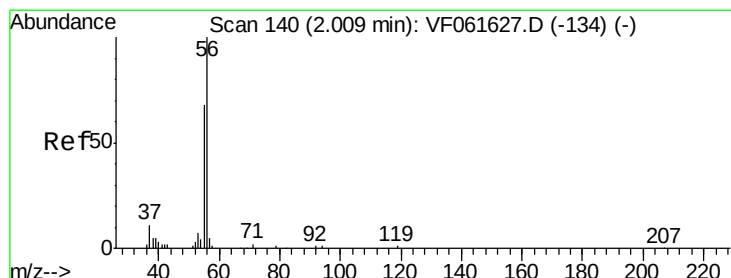
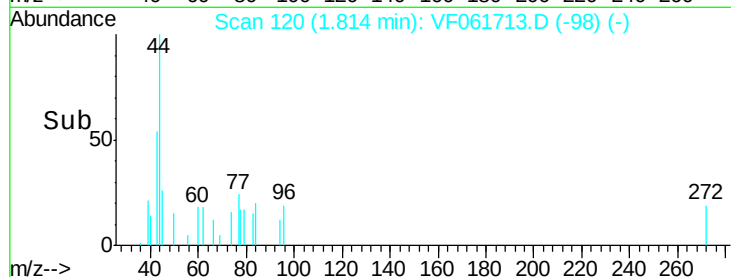
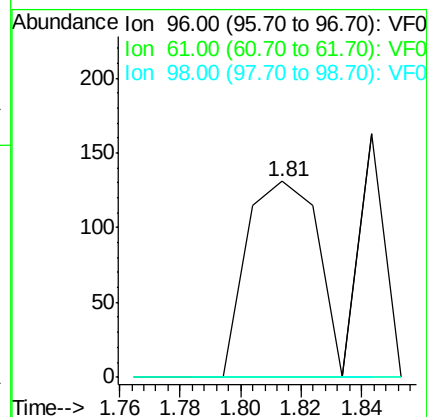
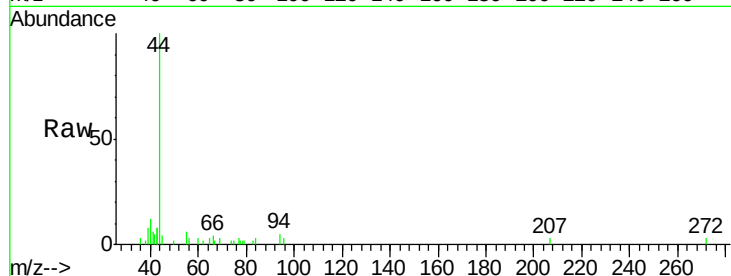
Tot Ion: 96 Resp: 214

Ion Ratio Lower Upper

96 100

61 0.0 122.6 184.0#

98 0.0 47.2 70.8#



#13

Acrolein

Concen: 11160.909 ug/l

RT: 2.03 min Scan# 142

Delta R.T. 0.02 min

Lab File: VF061713.D

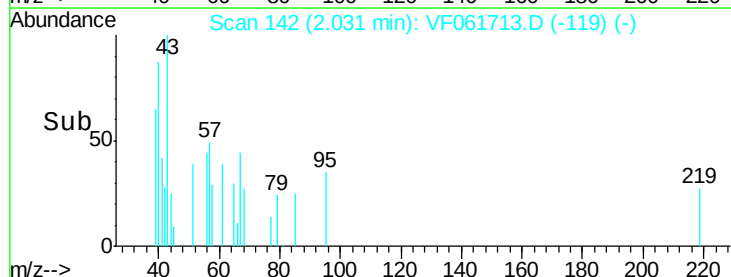
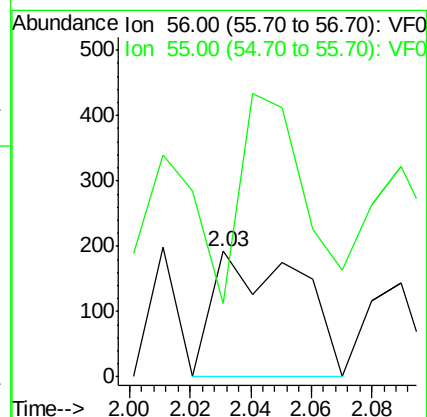
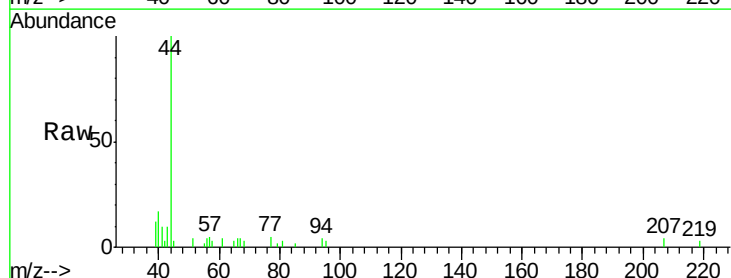
Acq: 22 Feb 2019 17:28

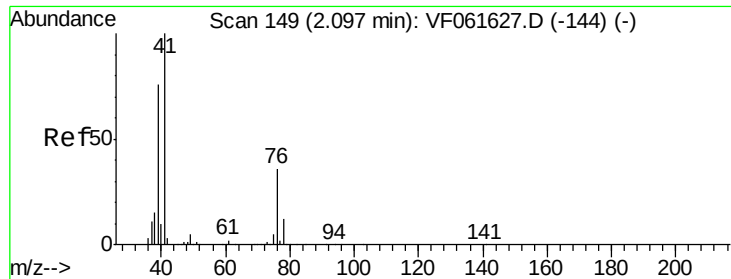
Tgt Ion: 56 Resp: 381

Ion Ratio Lower Upper

56 100

55 58.3 55.0 82.6

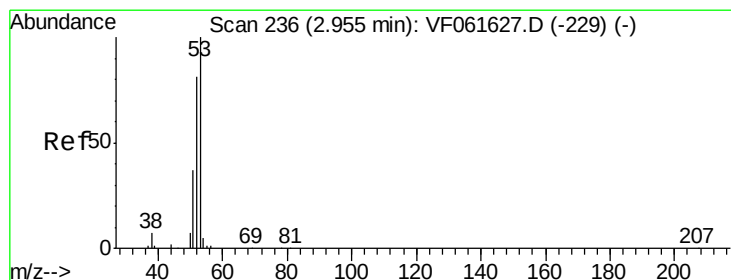
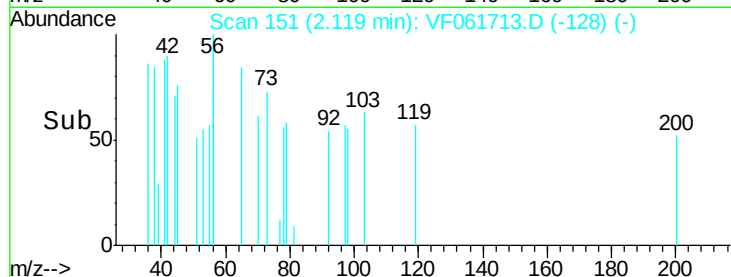
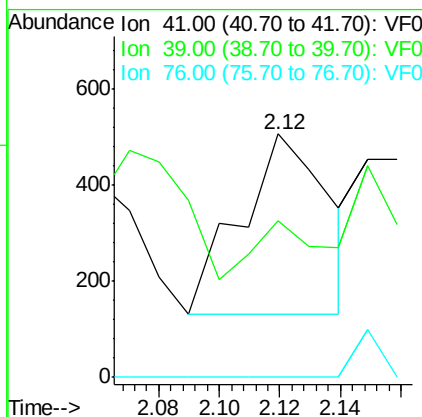
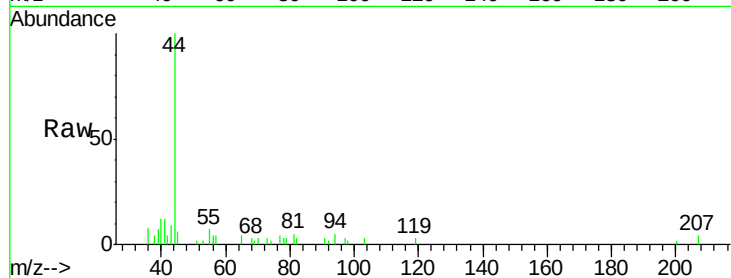




#14  
Allvl chloride  
Concen: 1120.415 ug/l  
RT: 2.12 min Scan# 151  
Delta R.T. 0.02 min  
Lab File: VF061713.D  
Acq: 22 Feb 2019 17:28

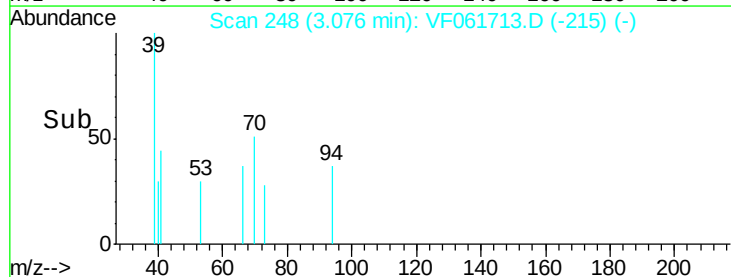
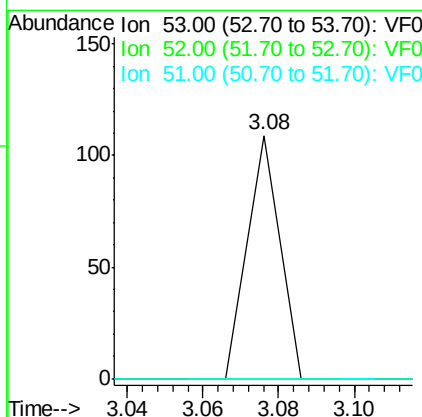
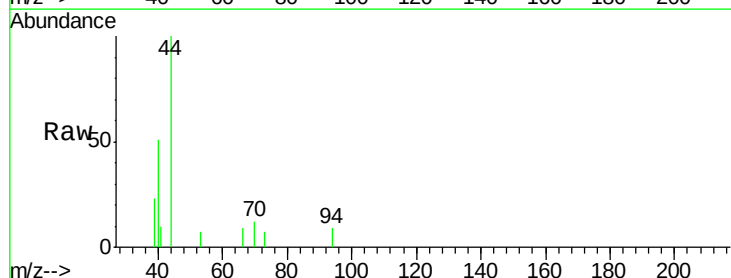
Instrument :  
MSVOA\_F  
ClientSampleId :  
TP-MH-C02

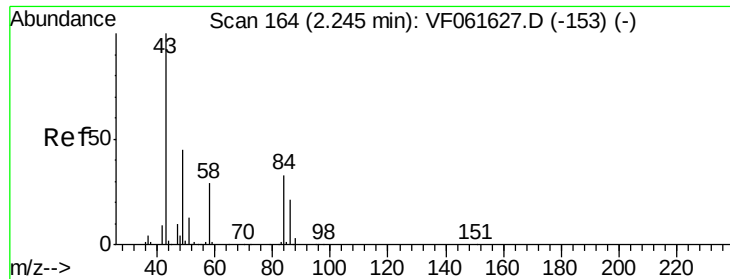
Tot Ion: 41 Resp: 754  
Ion Ratio Lower Upper  
41 100  
39 64.5 61.6 92.4  
76 0.0 30.3 45.5#



#15  
Acrylonitrile  
Concen: 674.678 ug/l  
RT: 3.08 min Scan# 248  
Delta R.T. 0.12 min  
Lab File: VF061713.D  
Acq: 22 Feb 2019 17:28

Tgt Ion: 53 Resp: 65  
Ion Ratio Lower Upper  
53 100  
52 0.0 64.6 97.0#  
51 0.0 29.8 44.8#

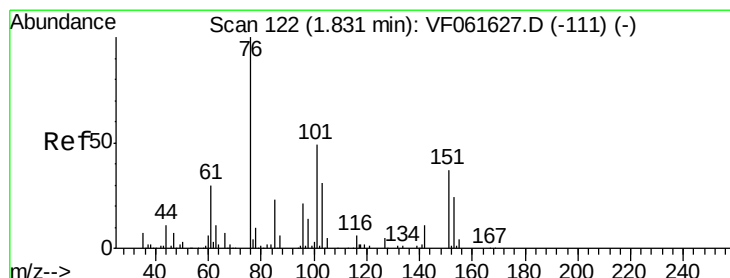
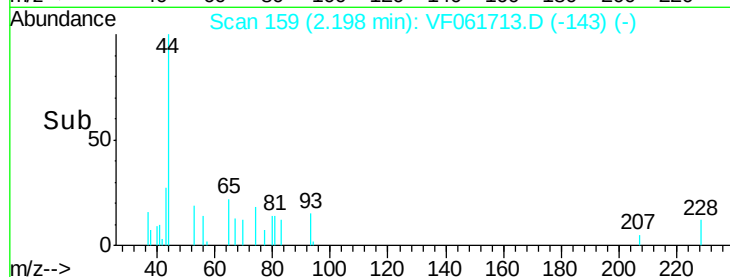
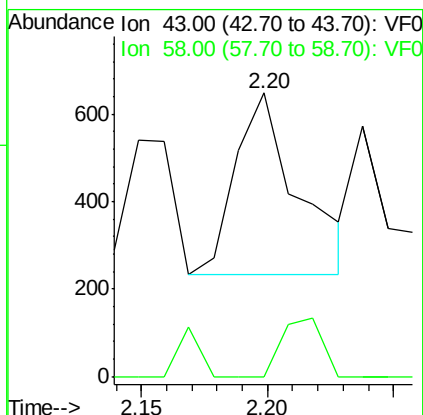
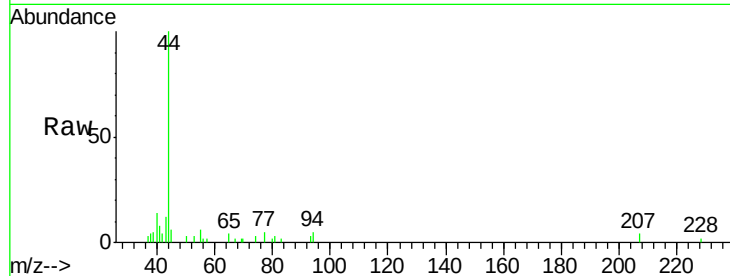




#16  
Acetone  
Concen: 7070.833 ug/l  
RT: 2.20 min Scan# 159  
Delta R.T. -0.05 min  
Lab File: VF061713.D  
Acq: 22 Feb 2019 17:28

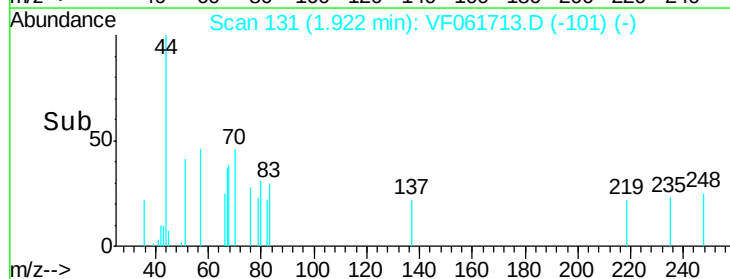
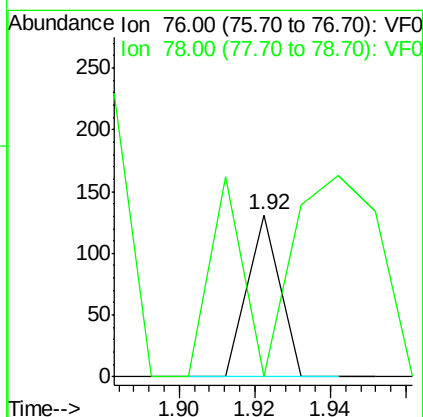
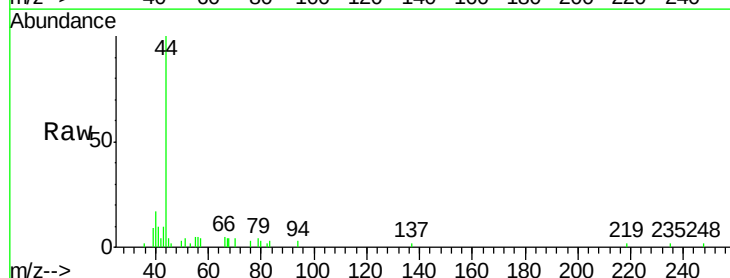
Instrument :  
MSVOA\_F  
ClientSampleId :  
TP-MH-C02

Tot Ion: 43 Resp: 712  
Ion Ratio Lower Upper  
43 100  
58 0.0 22.9 34.3#

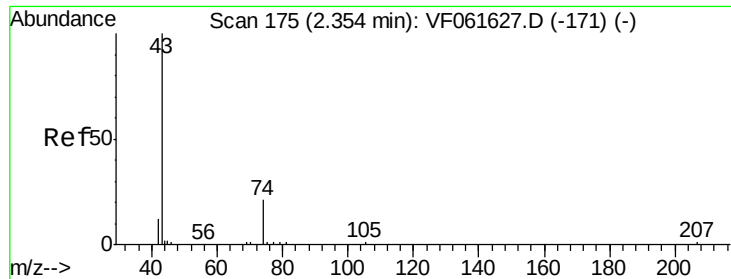


#17  
Carbon Disulfide  
Concen: 44.667 ug/l  
RT: 1.92 min Scan# 131  
Delta R.T. 0.09 min  
Lab File: VF061713.D  
Acq: 22 Feb 2019 17:28

Tgt Ion: 76 Resp: 77  
Ion Ratio Lower Upper  
76 100  
78 0.0 7.9 11.9#



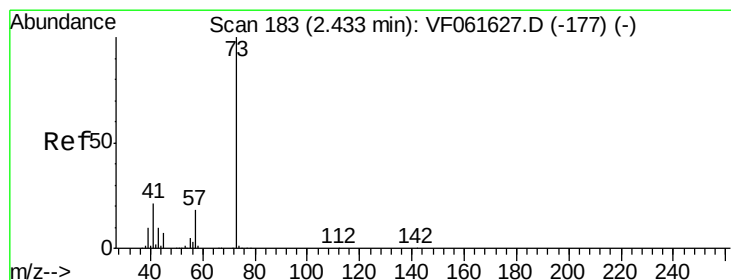
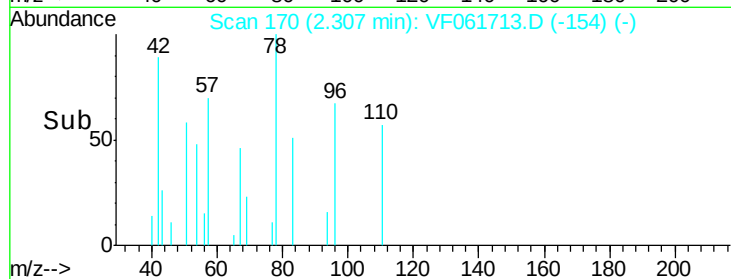
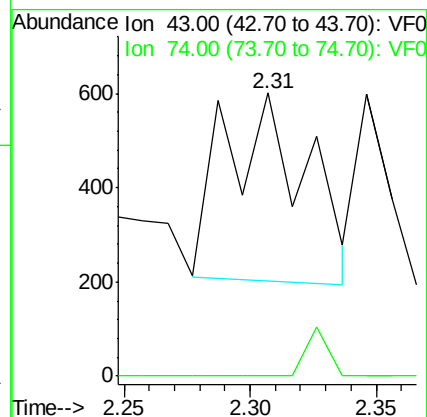
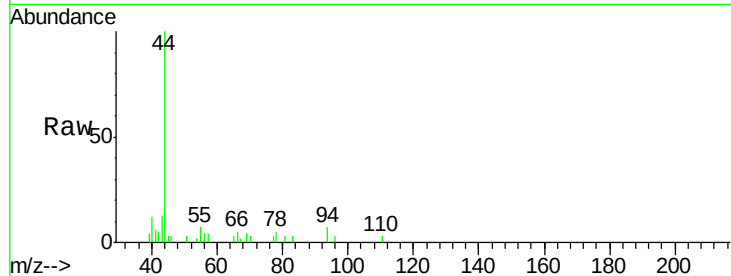




#18  
Methyl Acetate  
Concen: 3923.433 ug/l  
RT: 2.31 min Scan# 170  
Delta R.T. -0.05 min  
Lab File: VF061713.D  
Acq: 22 Feb 2019 17:28

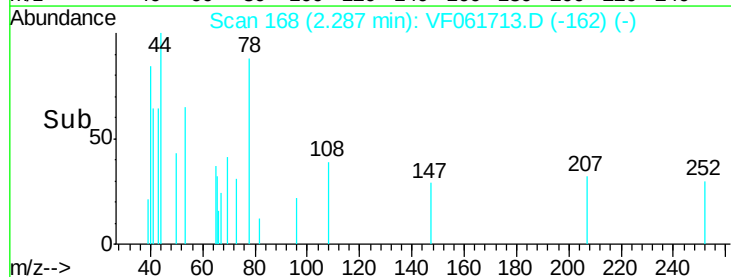
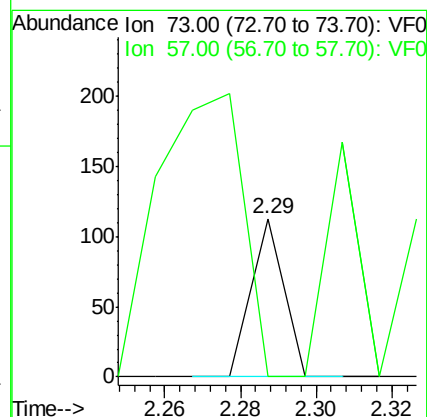
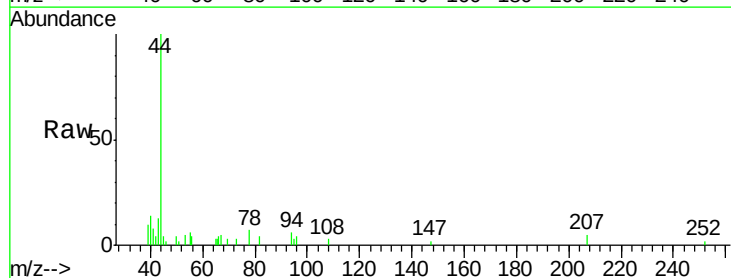
Instrument :  
MSVOA\_F  
ClientSampleId :  
TP-MH-C02

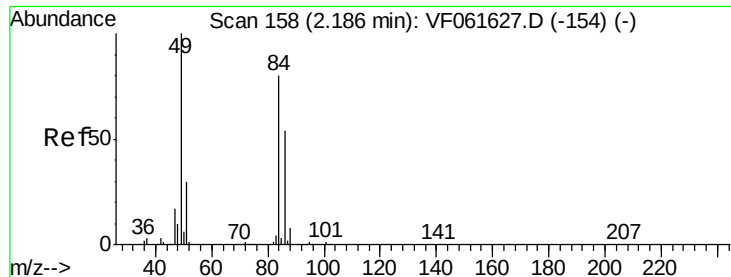
Tot Ion: 43 Resp: 890  
Ion Ratio Lower Upper  
43 100  
74 0.0 14.6 21.8#



#19  
Methyl tert-butyl Ether  
Concen: 71.484 ug/l  
RT: 2.29 min Scan# 168  
Delta R.T. -0.15 min  
Lab File: VF061713.D  
Acq: 22 Feb 2019 17:28

Tgt Ion: 73 Resp: 67  
Ion Ratio Lower Upper  
73 100  
57 0.0 15.8 23.8#





#20

Methylene Chloride

Concen: 159.336 ug/l

RT: 2.16 min Scan# 155

Delta R.T. -0.03 min

Lab File: VF061713.D

Acq: 22 Feb 2019 17:28

Instrument :

MSVOA\_F

ClientSampleId :

TP-MH-C02

Tot Ion: 84 Resp: 83

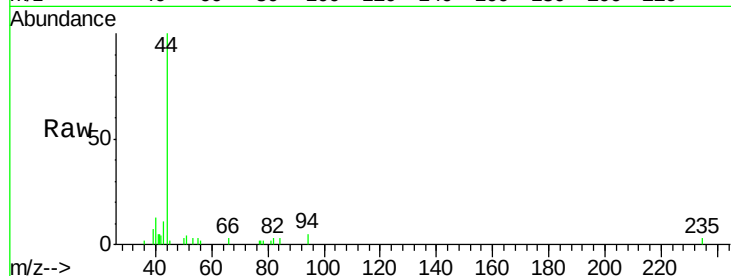
Ion Ratio Lower Upper

84 100

49 0.0 101.8 152.8#

51 124.8 31.1 46.7#

86 0.0 54.4 81.6#



Abundance Ion 84.00 (83.70 to 84.70): VF0

Ion 49.00 (48.70 to 49.70): VF0

Ion 51.00 (50.70 to 51.70): VF0

Ion 86.00 (85.70 to 86.70): VF0

250

200

150

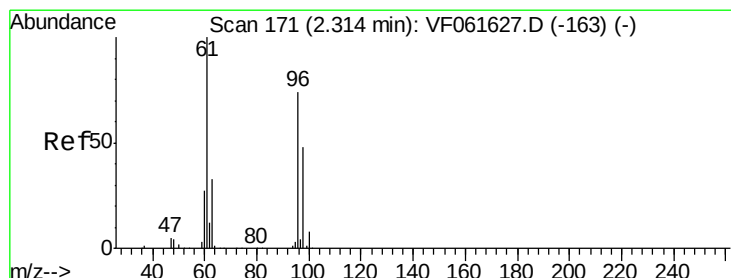
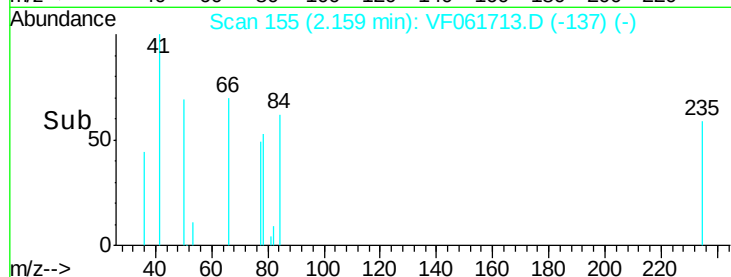
100

50

0

2.12 2.14 2.16 2.18

Time-->



#21

trans-1,2-Dichloroethene

Concen: 343.861 ug/l

RT: 2.29 min Scan# 168

Delta R.T. -0.03 min

Lab File: VF061713.D

Acq: 22 Feb 2019 17:28

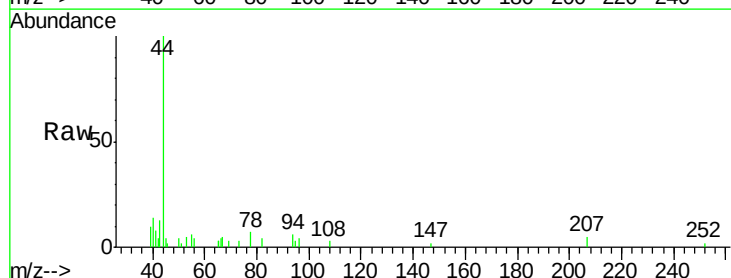
Tgt Ion: 96 Resp: 205

Ion Ratio Lower Upper

96 100

61 0.0 108.2 162.4#

98 0.0 52.2 78.2#



Abundance Ion 96.00 (95.70 to 96.70): VF0

Ion 61.00 (60.70 to 61.70): VF0

Ion 98.00 (97.70 to 98.70): VF0

250

200

150

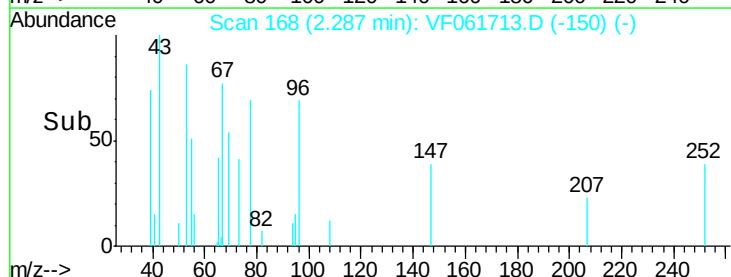
100

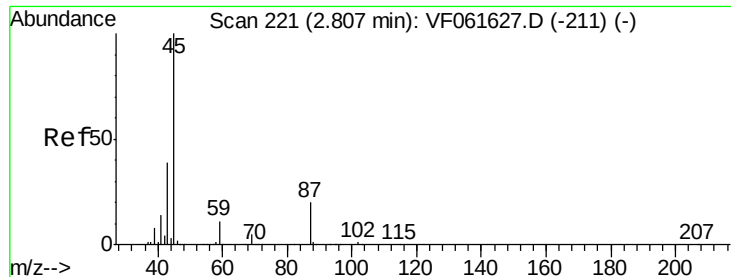
50

0

2.25 2.30

Time-->





#22

Diisopropyl ether

Concen: 154.760 ug/l

RT: 2.78 min Scan# 218

Delta R.T. -0.03 min

Lab File: VF061713.D

Acq: 22 Feb 2019 17:28

Instrument :

MSVOA\_F

ClientSampleId :

TP-MH-C02

Tot Ion: 45 Resp: 250

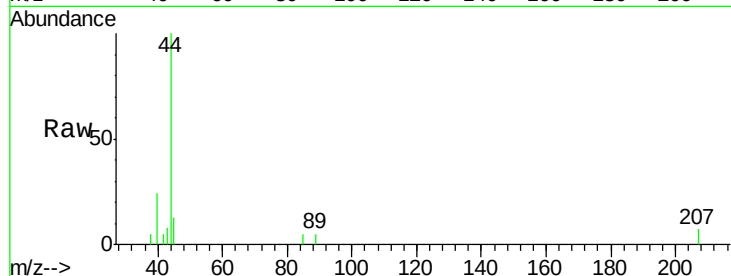
Ion Ratio Lower Upper

45 100

43 60.5 31.4 47.2#

87 0.0 16.3 24.5#

59 0.0 8.7 13.1#

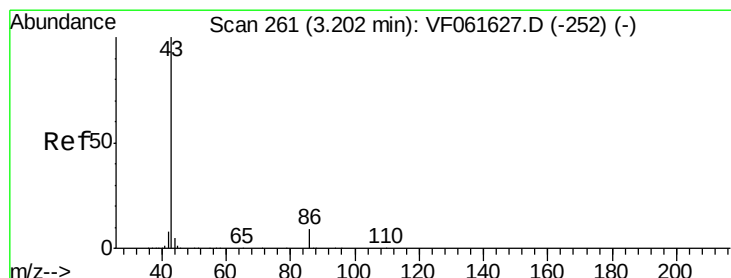
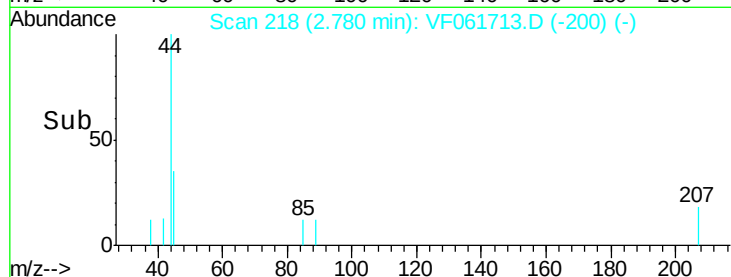
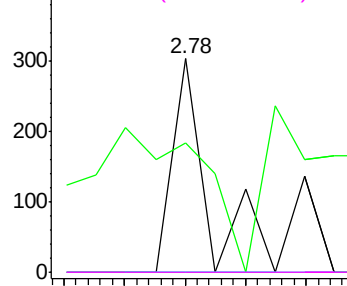


Abundance Ion 45.00 (44.70 to 45.70): VF0

Ion 43.00 (42.70 to 43.70): VF0

Ion 87.00 (86.70 to 87.70): VF0

Ion 59.00 (58.70 to 59.70): VF0



#23

Vinyl Acetate

Concen: 372.618 ug/l

RT: 3.19 min Scan# 260

Delta R.T. -0.01 min

Lab File: VF061713.D

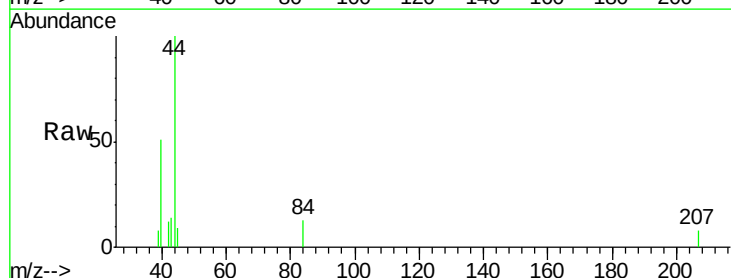
Acq: 22 Feb 2019 17:28

Tgt Ion: 43 Resp: 294

Ion Ratio Lower Upper

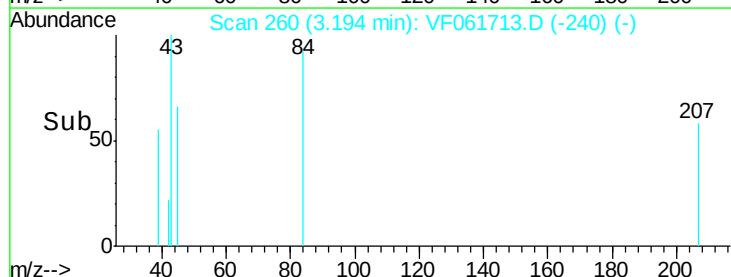
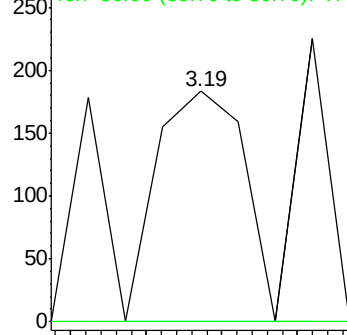
43 100

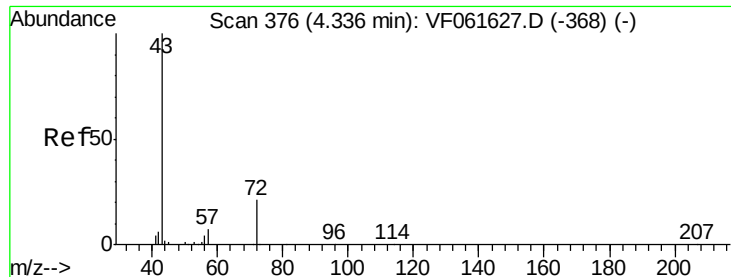
86 0.0 7.5 11.3#



Abundance Ion 43.00 (42.70 to 43.70): VF0

Ion 86.00 (85.70 to 86.70): VF0





#25

2-Butanone

Concen: 945.668 ug/l

RT: 4.35 min Scan# 377

Delta R.T. 0.01 min

Lab File: VF061713.D

Acq: 22 Feb 2019 17:28

Instrument :

MSVOA\_F

ClientSampleId :

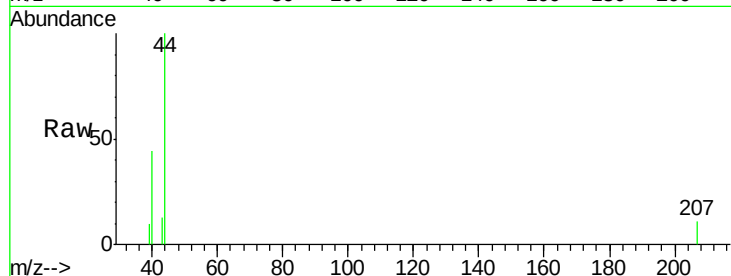
TP-MH-C02

Tot Ion: 43 Resp: 208

Ion Ratio Lower Upper

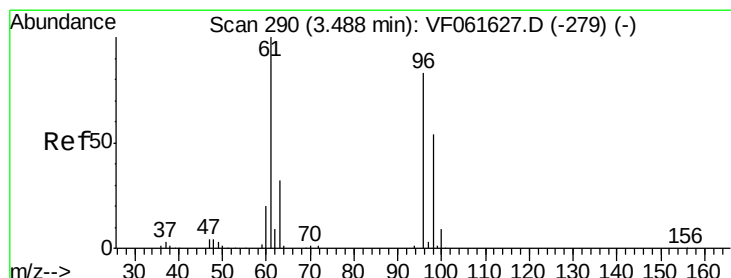
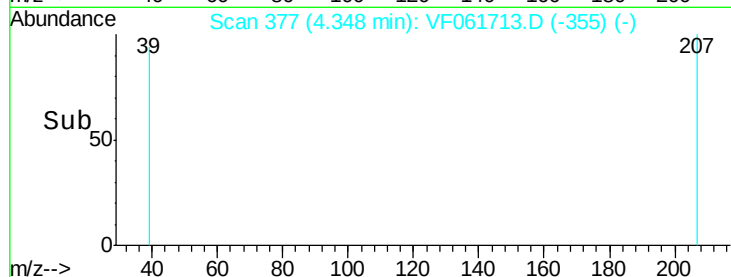
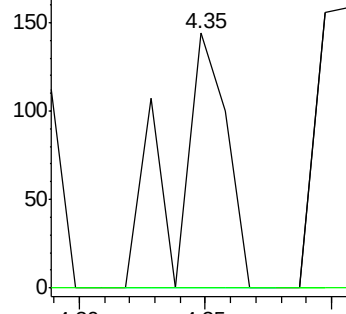
43 100

72 0.0 17.1 25.7#



Abundance Ion 43.00 (42.70 to 43.70): VF0

Ion 72.00 (71.70 to 72.70): VF0



#27

cis-1,2-Dichloroethene

Concen: 81.787 ug/l

RT: 3.49 min Scan# 290

Delta R.T. 0.00 min

Lab File: VF061713.D

Acq: 22 Feb 2019 17:28

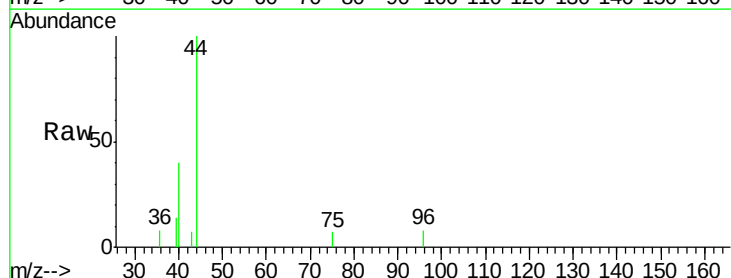
Tgt Ion: 96 Resp: 64

Ion Ratio Lower Upper

96 100

61 0.0 0.0 241.6

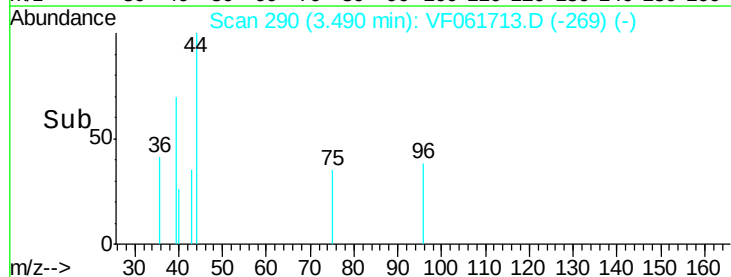
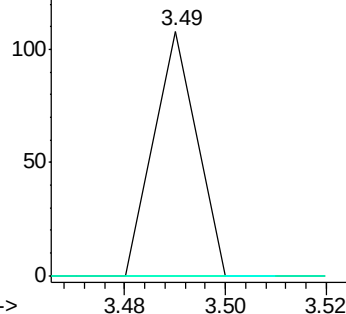
98 0.0 0.0 130.2

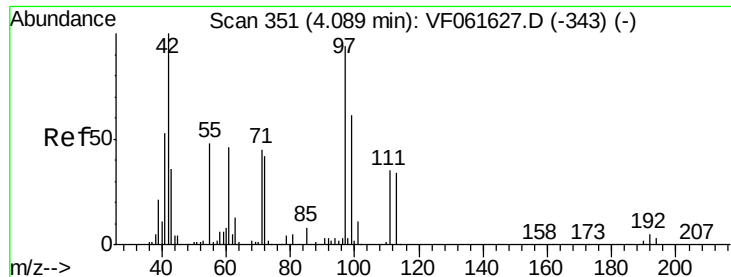


Abundance Ion 96.00 (95.70 to 96.70): VF0

Ion 61.00 (60.70 to 61.70): VF0

Ion 98.00 (97.70 to 98.70): VF0

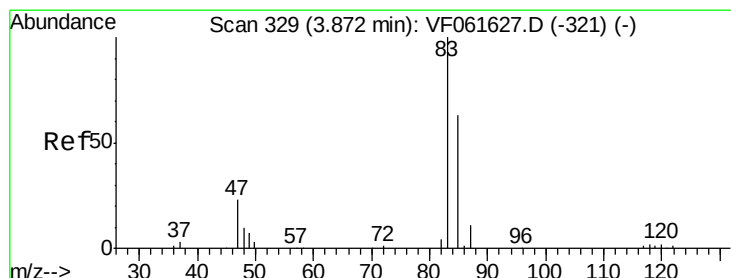
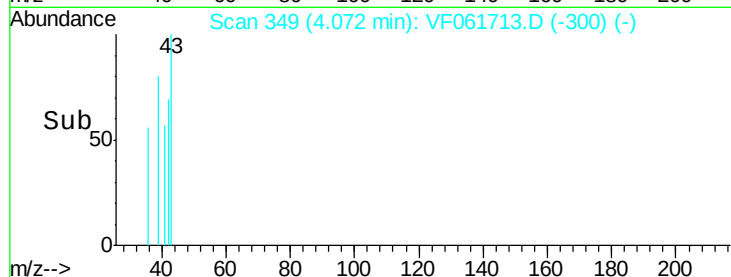
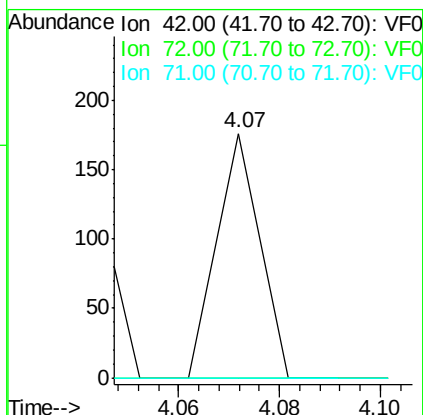
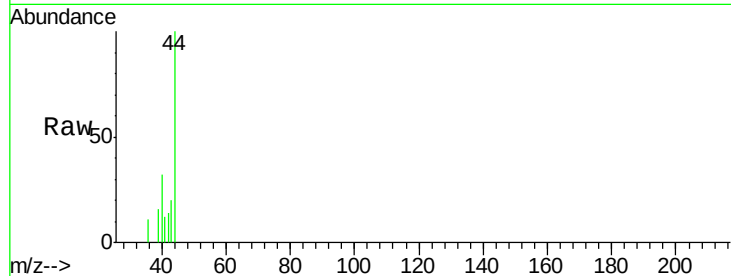




#29  
Tetrahydrofuran  
Concen: 1040.320 ug/l  
RT: 4.07 min Scan# 349  
Delta R.T. -0.02 min  
Lab File: VF061713.D  
Acq: 22 Feb 2019 17:28

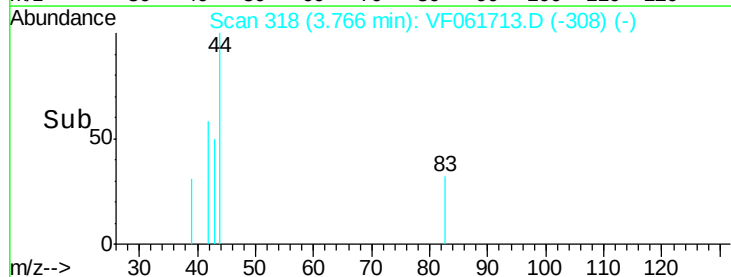
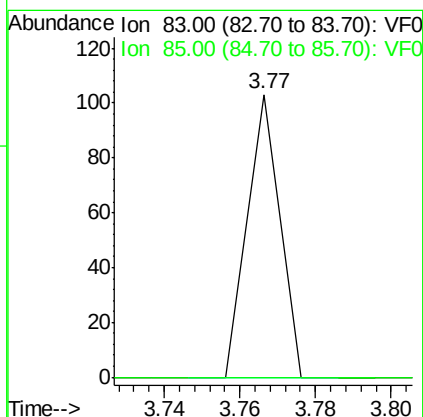
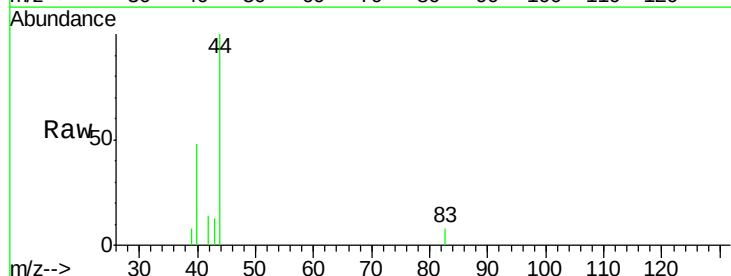
Instrument :  
MSVOA\_F  
ClientSampleId :  
TP-MH-C02

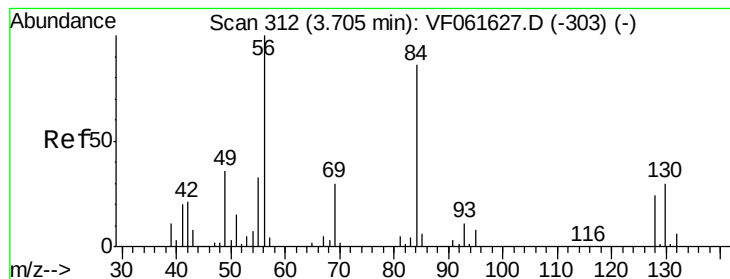
| Tot Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 42      | 100   |       |       |
| 72      | 0.0   | 35.2  | 52.8# |
| 71      | 0.0   | 32.9  | 49.3# |



#30  
Chloroform  
Concen: 54.869 ug/l  
RT: 3.77 min Scan# 318  
Delta R.T. -0.11 min  
Lab File: VF061713.D  
Acq: 22 Feb 2019 17:28

| Tgt Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 83      | 100   |       |       |
| 85      | 0.0   | 51.1  | 76.7# |





#31

Cyclohexane

Concen: 56.695 ug/l

RT: 3.68 min Scan# 309

Delta R.T. -0.03 min

Lab File: VF061713.D

Acq: 22 Feb 2019 17:28

Instrument :

MSVOA\_F

ClientSampleId :

TP-MH-C02

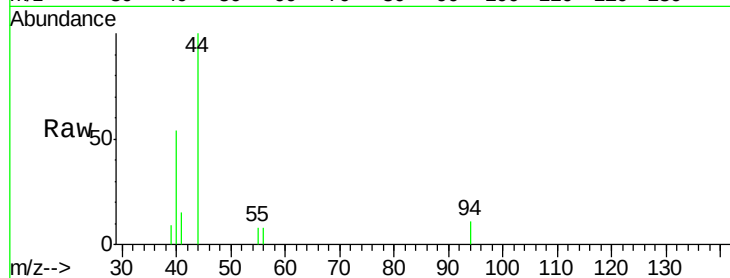
Tot Ion: 56 Resp: 60

Ion Ratio Lower Upper

56 100

69 0.0 23.8 35.8#

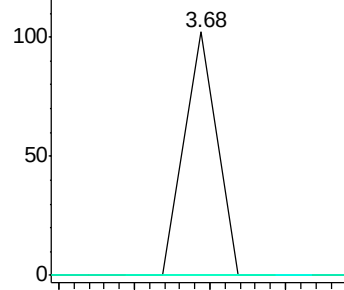
84 0.0 68.6 103.0#



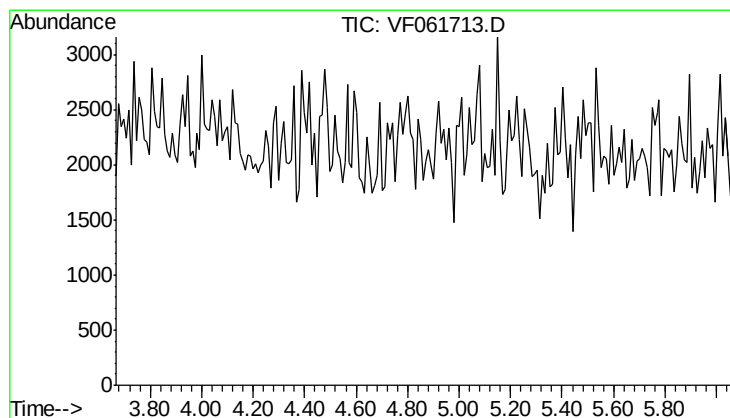
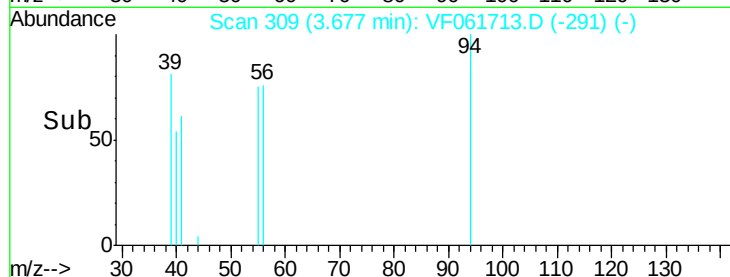
Abundance Ion 56.00 (55.70 to 56.70): VF0

Ion 69.00 (68.70 to 69.70): VF0

Ion 84.00 (83.70 to 84.70): VF0



Time-->



#33

1,2-Dichloroethane-d4

Concen: 0.000 ug/l

Expected RT: 4.86 min

Lab File: VF061713.D

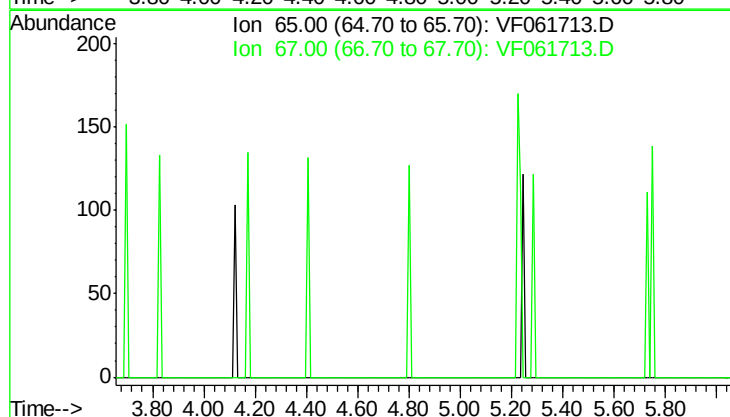
Acq: 22 Feb 2019 17:28

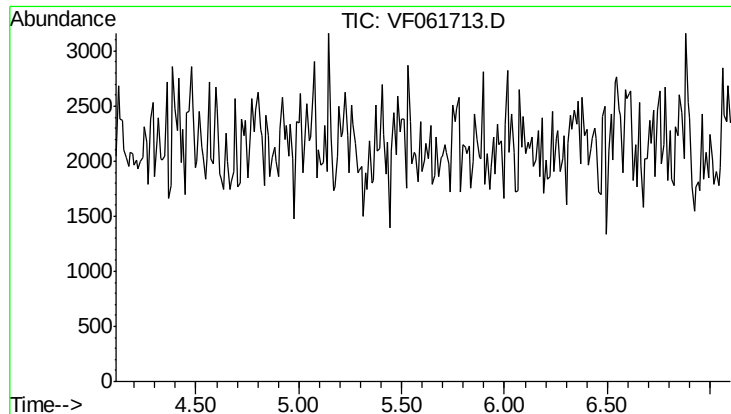
Tgt Ion: 65

Sig Exp Ratio

65 100

67 52.0

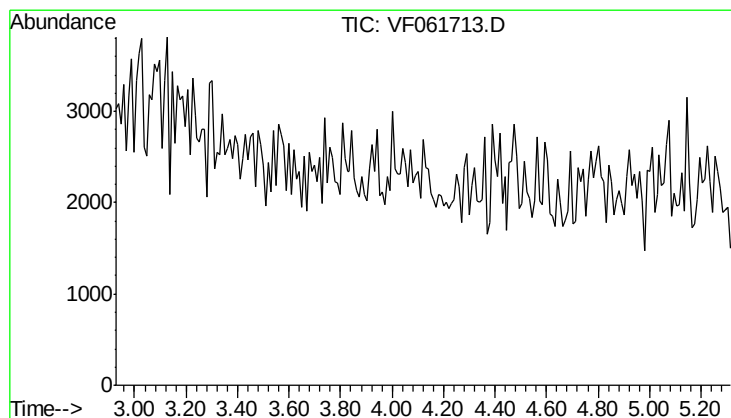
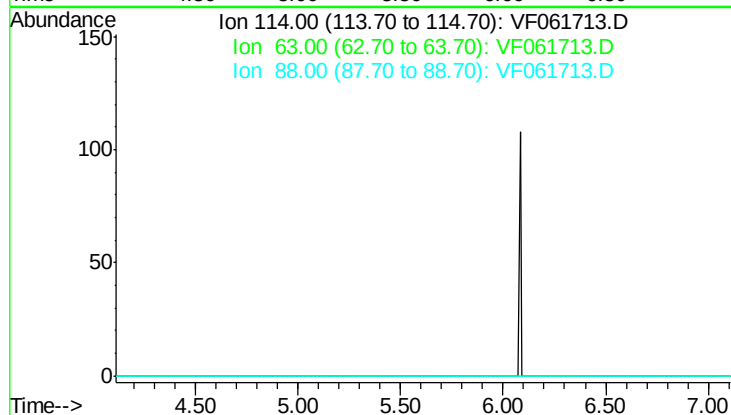




#34  
 1,4-Difluorobenzene  
 Concen: 0.000 ug/l  
 Expected RT: 5.61 min  
 Lab File: VF061713.D  
 Acq: 22 Feb 2019 17:28

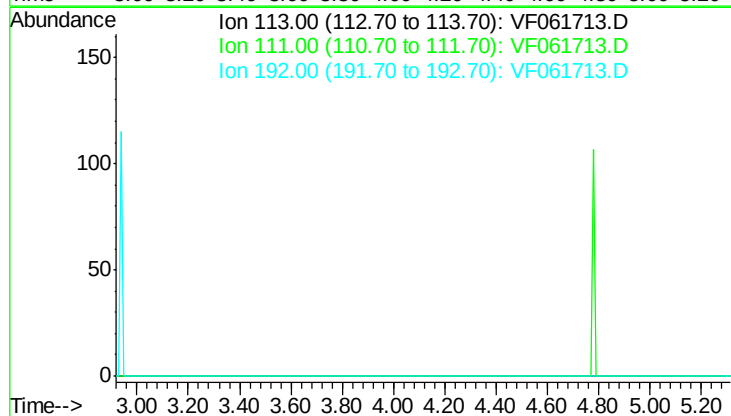
Instrument :  
 MSVOA\_F  
 ClientSampleId :  
 TP-MH-C02

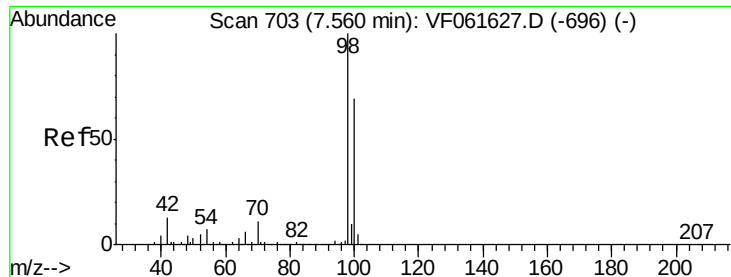
| Tot Ion | 114       |
|---------|-----------|
| Sig     | Exp Ratio |
| 114     | 100       |
| 63      | 18.3      |
| 88      | 17.2      |



#35  
 Dibromofluoromethane  
 Concen: 0.000 ug/l  
 Expected RT: 4.12 min  
 Lab File: VF061713.D  
 Acq: 22 Feb 2019 17:28

| Tgt Ion | 113       |
|---------|-----------|
| Sig     | Exp Ratio |
| 113     | 100       |
| 111     | 98.5      |
| 192     | 16.7      |





#50

Toluene-d8

Concen: 0.000 ug/l

RT: 7.51 min Scan# 698

Delta R.T. -0.05 min

Lab File: VF061713.D

Acq: 22 Feb 2019 17:28

Instrument :

MSVOA\_F

ClientSampleId :

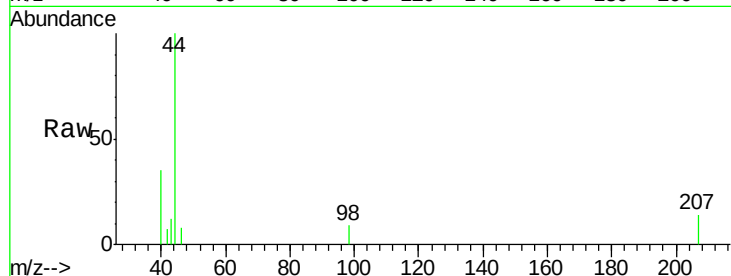
TP-MH-C02

Tot Ion: 98 Resp: 70

Ion Ratio Lower Upper

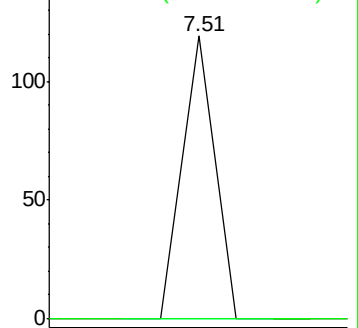
98 100

100 0.0 55.4 83.2#

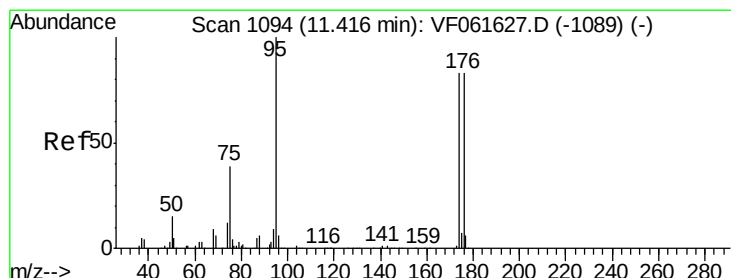
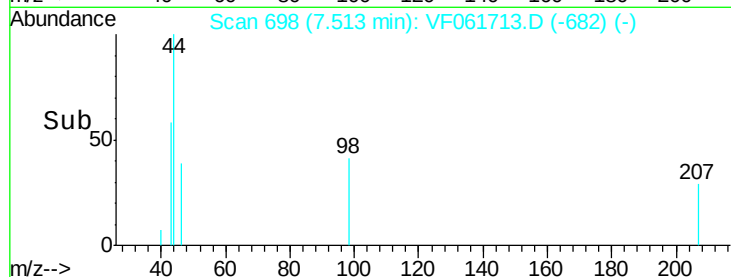


Abundance Ion 98.00 (97.70 to 98.70): VF0

Ion 100.00 (99.70 to 100.70): VF



Time-->



#62

4-Bromofluorobenzene

Concen: 0.000 ug/l

RT: 11.52 min Scan# 1104

Delta R.T. 0.10 min

Lab File: VF061713.D

Acq: 22 Feb 2019 17:28

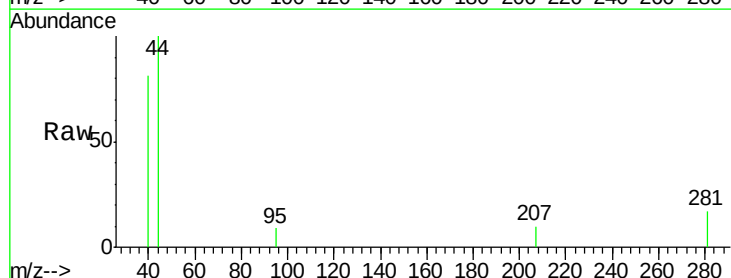
Tgt Ion: 95 Resp: 60

Ion Ratio Lower Upper

95 100

174 0.0 0.0 165.8

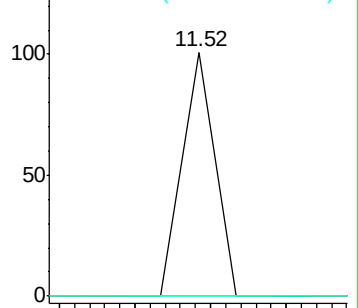
176 0.0 0.0 167.0



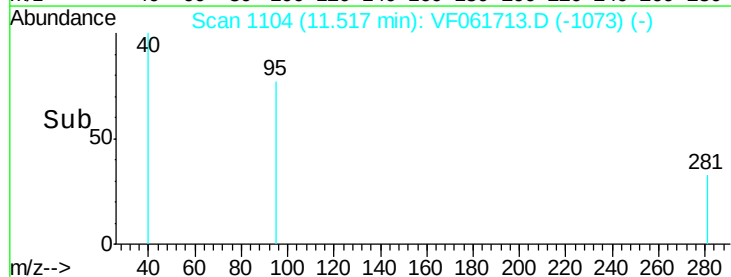
Abundance Ion 95.00 (94.70 to 95.70): VF0

Ion 174.00 (173.70 to 174.70): V

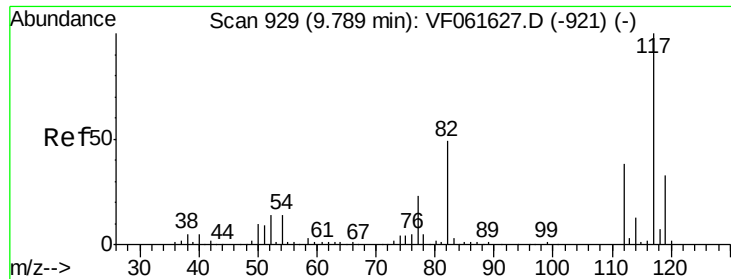
Ion 176.00 (175.70 to 176.70): V



Time-->



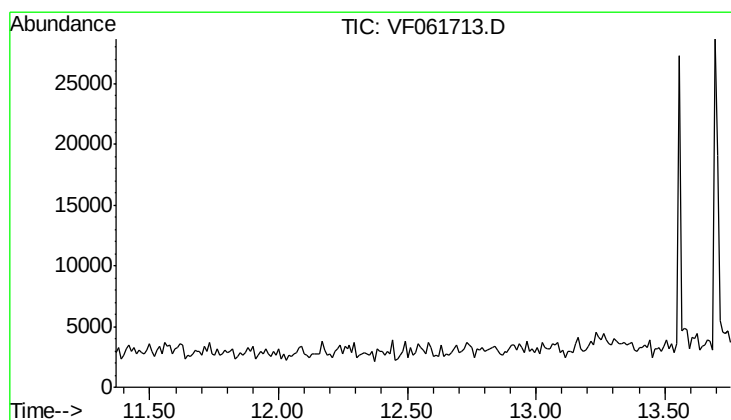
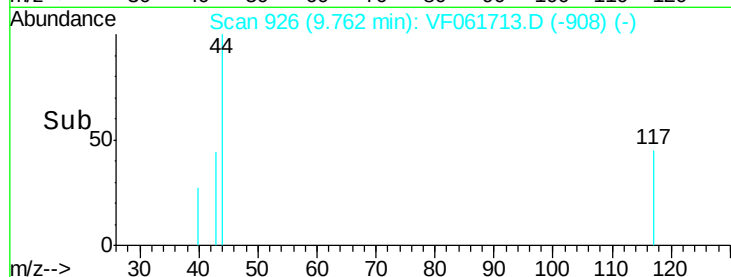
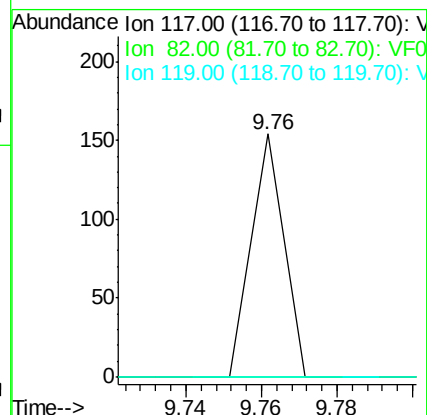
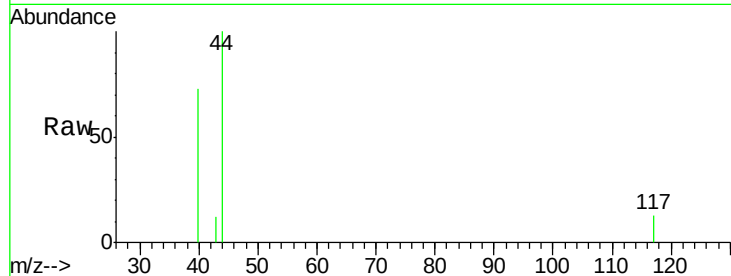




#63  
Chlorobenzene-d5  
Concen: 50.000 ug/l  
RT: 9.76 min Scan# 926  
Delta R.T. -0.03 min  
Lab File: VF061713.D  
Acq: 22 Feb 2019 17:28

Instrument :  
MSVOA\_F  
ClientSampleId :  
TP-MH-C02

Tot Ion:117 Resp: 91  
Ion Ratio Lower Upper  
117 100  
82 0.0 39.3 58.9#  
119 0.0 26.6 40.0#



#72  
1,4-Dichlorobenzene-d4  
Concen: 0.000 ug/l  
Expected RT: 12.56 min

Lab File: VF061713.D  
Acq: 22 Feb 2019 17:28

Tgt Ion: 152  
Sig Exp Ratio  
152 100  
115 48.5  
150 156.0

