

Data Path : Z:\VOASRV\HPCHEM1\MSVOA\_F\DATA\VF012319\  
 Data File : VF061482.D  
 Acq On : 23 Jan 2019 14:51  
 Operator : VA/AP  
 Sample : K1216-01  
 Misc : 5.01g/5mL/MSVOA-F/SOIL  
 ALS Vial : 6 Sample Multiplier: 1

Instrument :  
 MSVOA\_F  
 ClientSampleId :  
 MULCH-1

Quant Time: Jan 24 02:54:57 2019  
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA\_F\METHODS\82F011519S.M  
 Quant Title : SW846 8260  
 QLast Update : Wed Jan 16 04:51:59 2019  
 Response via : Initial Calibration

| Internal Standards         | R.T.  | QIon | Response | Conc  | Units | Dev(Min) |
|----------------------------|-------|------|----------|-------|-------|----------|
| 1) Pentafluorobenzene      | 4.86  | 168  | 99980    | 50.00 | ug/l  | 0.00     |
| 34) 1,4-Difluorobenzene    | 5.58  | 114  | 171333   | 50.00 | ug/l  | -0.01    |
| 63) Chlorobenzene-d5       | 9.76  | 117  | 116286   | 50.00 | ug/l  | 0.00     |
| 72) 1,4-Dichlorobenzene-d4 | 12.54 | 152  | 37765    | 50.00 | ug/l  | 0.00     |

| System Monitoring Compounds | R.T.  | QIon | Response | Conc  | Units   | Dev(Min) |
|-----------------------------|-------|------|----------|-------|---------|----------|
| 33) 1,2-Dichloroethane-d4   | 4.83  | 65   | 79552    | 64.45 | ug/l    | 0.00     |
| Spiked Amount               |       |      | Recovery | =     | 128.90% |          |
| 35) Dibromofluoromethane    | 4.10  | 113  | 90639    | 67.04 | ug/l    | 0.00     |
| Spiked Amount               |       |      | Recovery | =     | 134.08% |          |
| 50) Toluene-d8              | 7.54  | 98   | 175029   | 47.25 | ug/l    | 0.00     |
| Spiked Amount               |       |      | Recovery | =     | 94.50%  |          |
| 62) 4-Bromofluorobenzene    | 11.40 | 95   | 57187    | 33.04 | ug/l    | 0.00     |
| Spiked Amount               |       |      | Recovery | =     | 66.08%  |          |

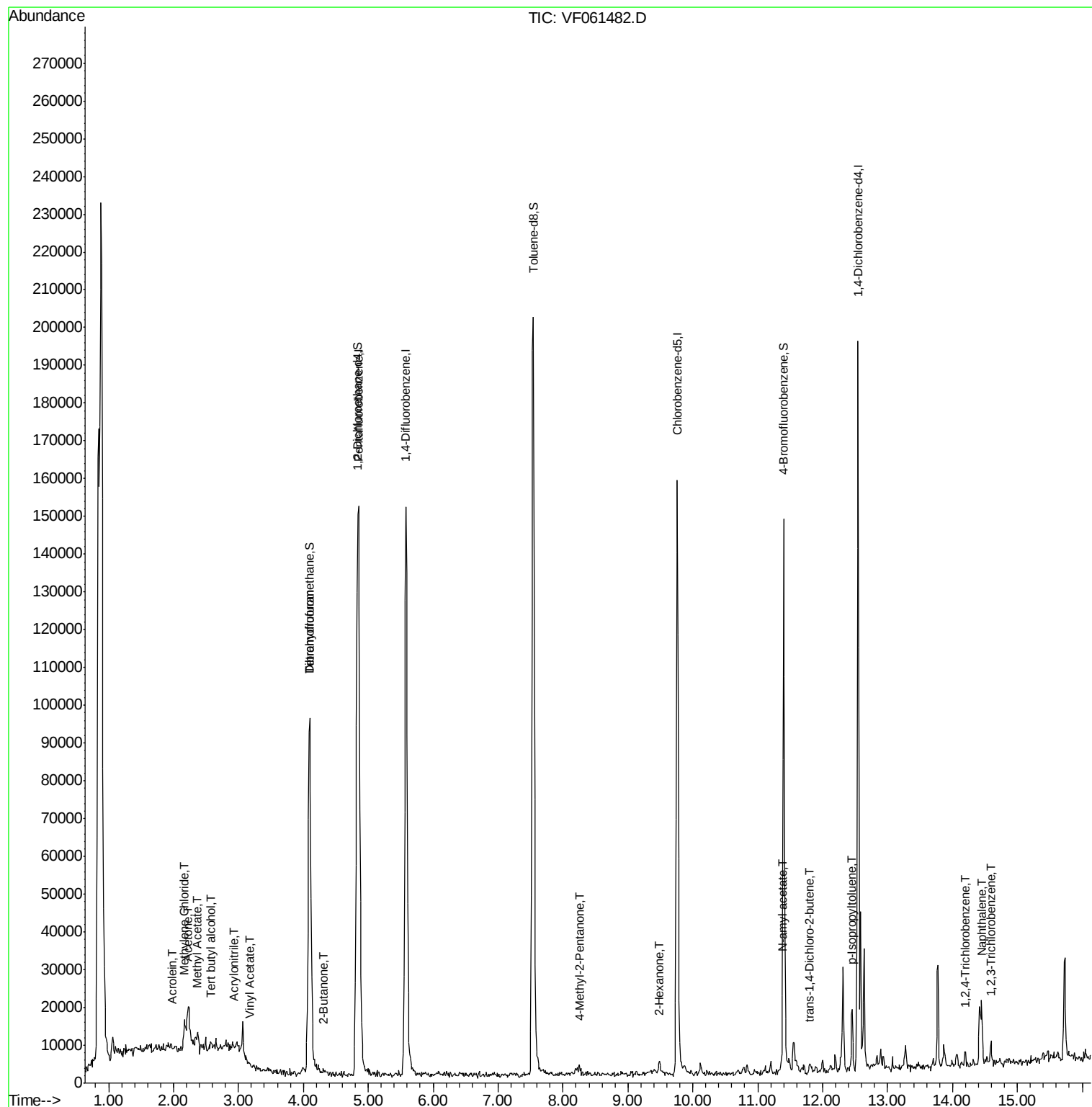
| Target Compounds               | R.T.  | QIon | Response | Conc      | Units  | Qvalue |
|--------------------------------|-------|------|----------|-----------|--------|--------|
| 11) Tert butyl alcohol         | 2.57  | 59   | 472      | 9.034     | ug/l # | 1      |
| 13) Acrolein                   | 1.99  | 56   | 459      | 20.114    | ug/l   | 86     |
| 14) Allyl chloride             | 2.10  | 41   | 226      | Below Cal | #      | 80     |
| 15) Acrylonitrile              | 2.94  | 53   | 636      | 4.752     | ug/l # | 86     |
| 16) Acetone                    | 2.23  | 43   | 8525     | 34.426    | ug/l   | 96     |
| 18) Methyl Acetate             | 2.35  | 43   | 2395     | 4.877     | ug/l   | 93     |
| 20) Methylene Chloride         | 2.18  | 84   | 3319     | 2.271     | ug/l   | 94     |
| 23) Vinyl Acetate              | 3.18  | 43   | 1215     | 4.056     | ug/l # | 78     |
| 25) 2-Butanone                 | 4.32  | 43   | 2272     | 5.517     | ug/l # | 82     |
| 29) Tetrahydrofuran            | 4.10  | 42   | 1130     | 6.373     | ug/l # | 38     |
| 51) 4-Methyl-2-Pentanone       | 8.25  | 43   | 1827     | 2.494     | ug/l # | 69     |
| 59) 2-Hexanone                 | 9.49  | 43   | 2771     | 5.424     | ug/l   | 72     |
| 74) N-amyl acetate             | 11.37 | 43   | 2538     | 3.494     | ug/l # | 85     |
| 81) trans-1,4-Dichloro-2-buten | 11.78 | 75   | 270      | 1.580     | ug/l # | 19     |
| 86) p-Isopropyltoluene         | 12.45 | 119  | 10003    | 3.497     | ug/l   | 87     |
| 93) 1,2,4-Trichlorobenzene     | 14.19 | 180  | 1035     | 1.218     | ug/l   | 76     |
| 95) Naphthalene                | 14.45 | 128  | 8110     | 5.022     | ug/l   | 100    |
| 96) 1,2,3-Trichlorobenzene     | 14.60 | 180  | 962      | 1.223     | ug/l   | 86     |

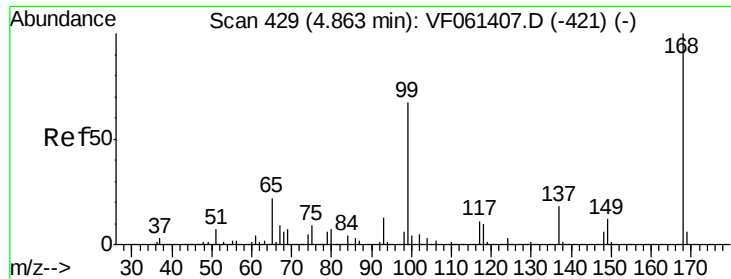
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\V0ASRV\HPCHEM1\MSVOA\_F\DATA\VF012319\  
Data File : VF061482.D  
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Sample : K1216-01  
Misc : 5.01g/5mL/MSVOA-F/SOIL  
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Quant Time: Jan 24 02:54:57 2019  
Quant Method : Z:\V0ASRV\HPCHEM1\MSVOA\_F\METHODS\82F011519S.M  
Quant Title : SW846 8260  
QLast Update : Wed Jan 16 04:51:59 2019  
Response via : Initial Calibration





#1

Pentafluorobenzene

Concen: 50.000 ug/l

RT: 4.86 min Scan# 429

Delta R.T. -0.00 min

Lab File: VF061482.D

Acq: 23 Jan 2019 14:51

Instrument :

MSVOA\_F

ClientSampleId :

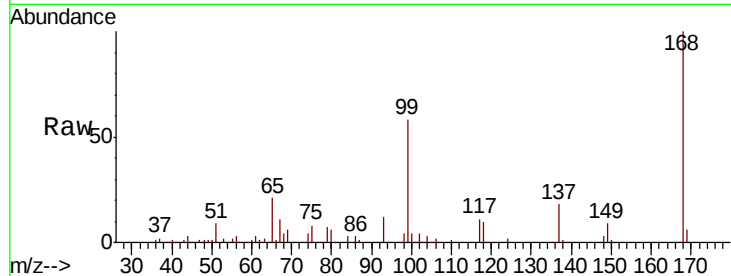
MULCH-1

Tgt Ion:168 Resp: 99980

Ion Ratio Lower Upper

168 100

99 57.8 53.5 80.3



Abundance Ion 168.00 (167.70 to 168.70): VF0

Ion 99.00 (98.70 to 99.70): VF0

4.86

30000

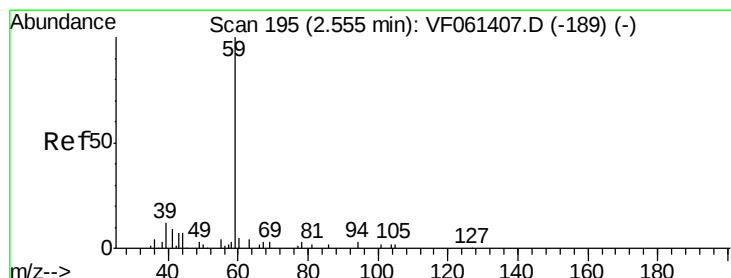
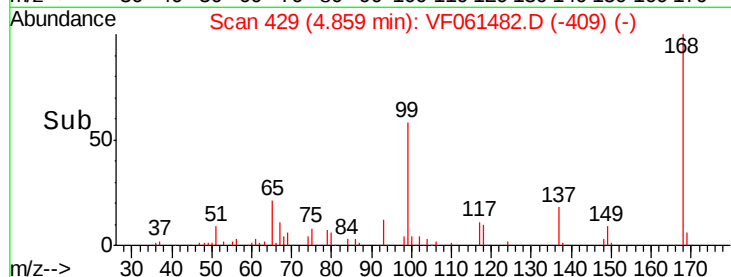
20000

10000

0

Time-->

4.70 4.80 4.90 5.00



#11

Tert butyl alcohol

Concen: 9.034 ug/l

RT: 2.57 min Scan# 197

Delta R.T. 0.02 min

Lab File: VF061482.D

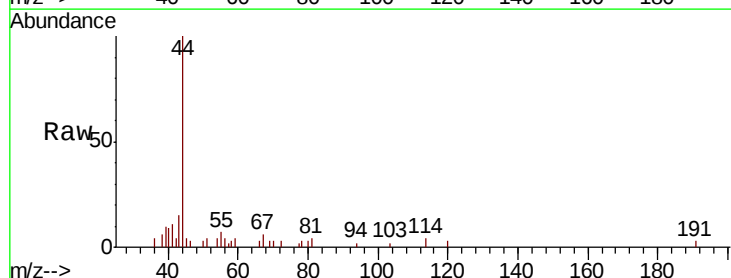
Acq: 23 Jan 2019 14:51

Tgt Ion: 59 Resp: 472

Ion Ratio Lower Upper

59 100

57 58.7 11.9 17.9#



Abundance Ion 59.00 (58.70 to 59.70): VF0

Ion 57.00 (56.70 to 57.70): VF0

2.57

200

150

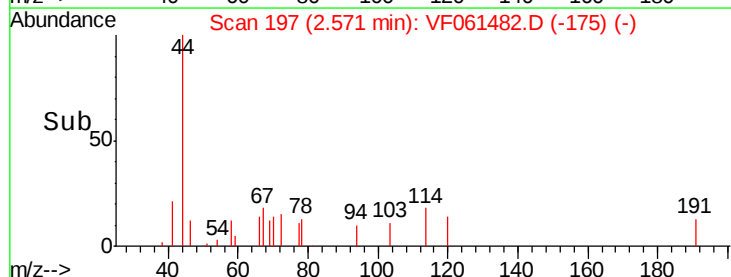
100

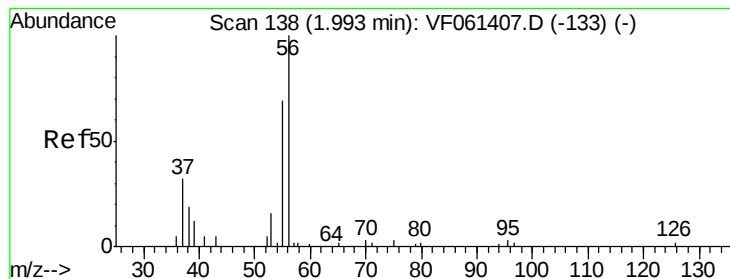
50

0

Time-->

2.50 2.55 2.60





#13

Acrolein

Concen: 20.114 ug/l

RT: 1.99 min Scan# 138

Delta R.T. -0.00 min

Lab File: VF061482.D

Acq: 23 Jan 2019 14:51

Instrument :

MSVOA\_F

ClientSampleId :

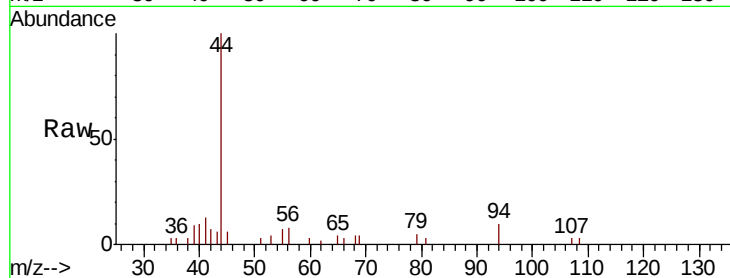
MULCH-1

Tgt Ion: 56 Resp: 459

Ion Ratio Lower Upper

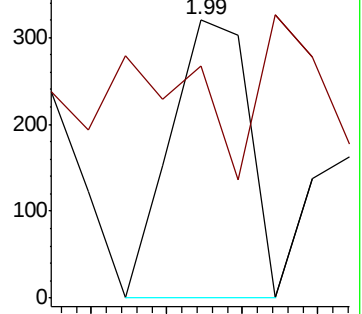
56 100

55 83.2 57.5 86.3

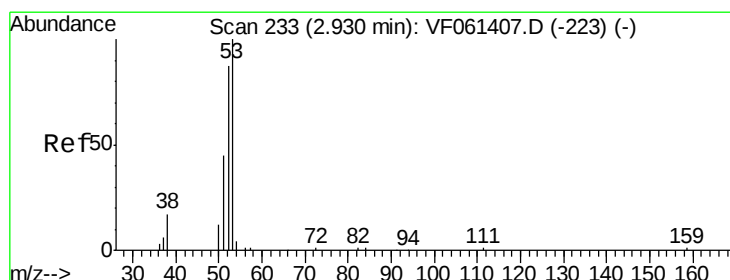
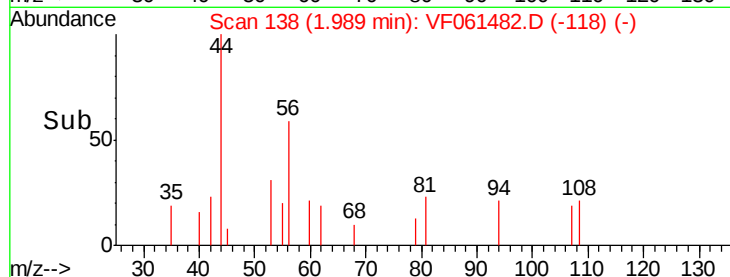


Abundance Ion 56.00 (55.70 to 56.70): VF0

Ion 55.00 (54.70 to 55.70): VF0



Time-->



#15

Acrylonitrile

Concen: 4.752 ug/l

RT: 2.94 min Scan# 234

Delta R.T. 0.01 min

Lab File: VF061482.D

Acq: 23 Jan 2019 14:51

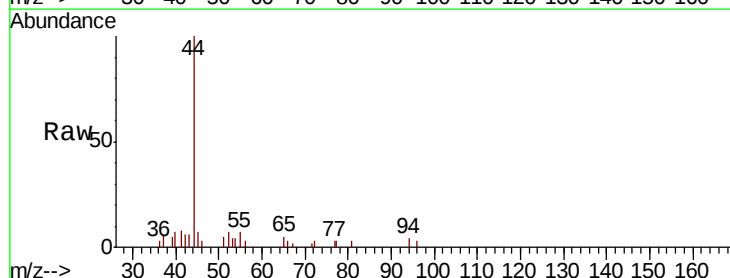
Tgt Ion: 53 Resp: 636

Ion Ratio Lower Upper

53 100

52 94.2 69.6 104.4

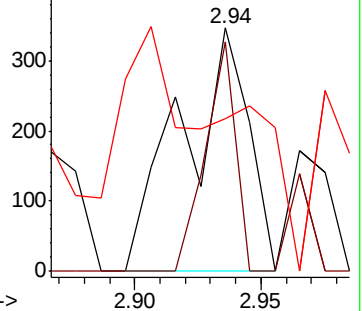
51 62.8 36.8 55.2#



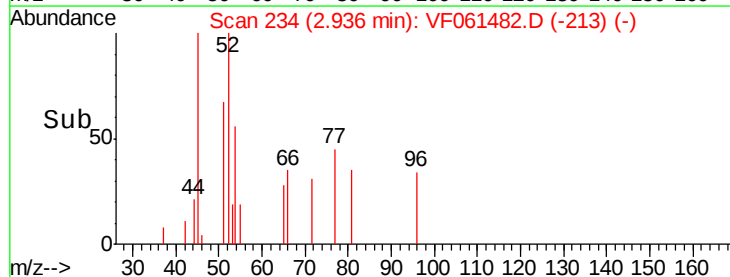
Abundance Ion 53.00 (52.70 to 53.70): VF0

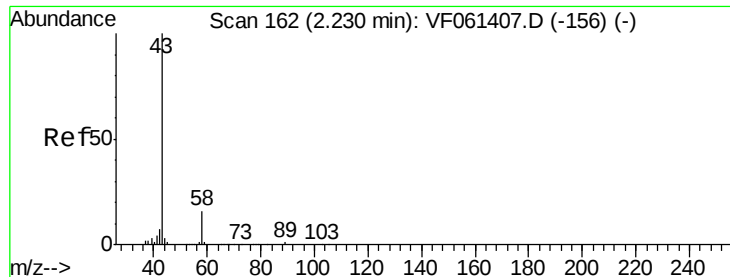
Ion 52.00 (51.70 to 52.70): VF0

Ion 51.00 (50.70 to 51.70): VF0



Time-->

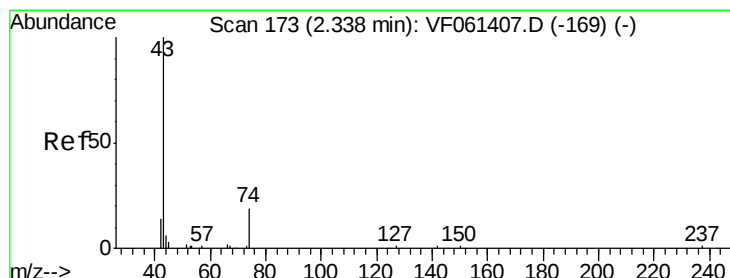
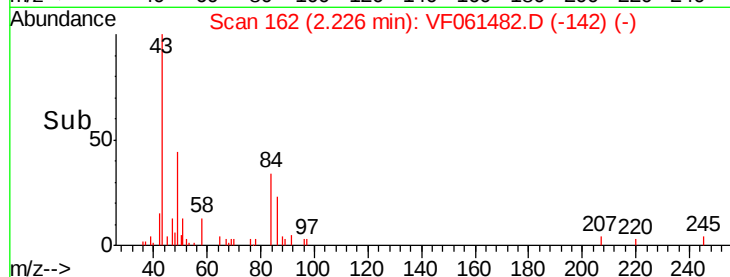
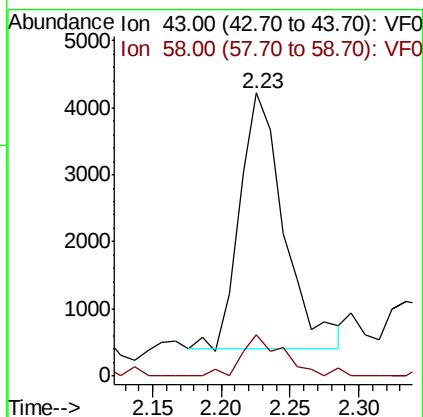
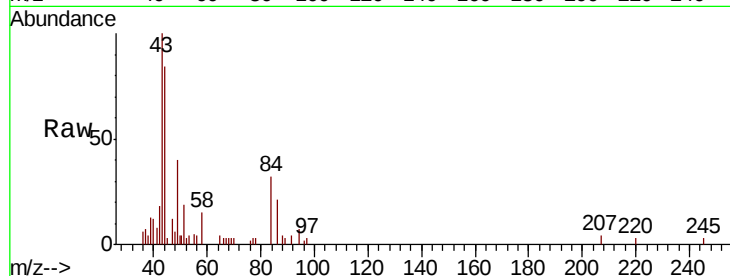




#16  
Acetone  
Concen: 34.426 ug/l  
RT: 2.23 min Scan# 162  
Delta R.T. -0.00 min  
Lab File: VF061482.D  
Acq: 23 Jan 2019 14:51

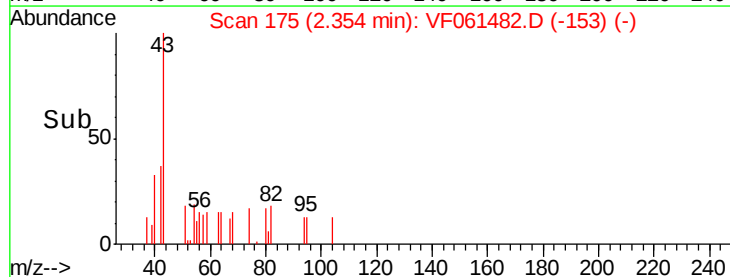
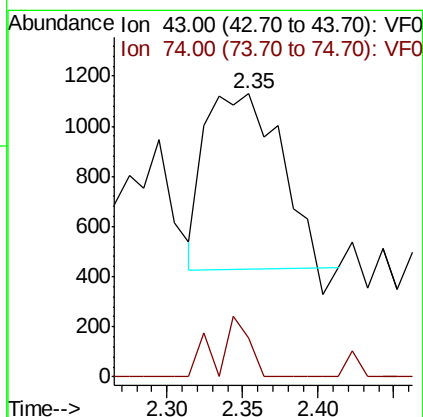
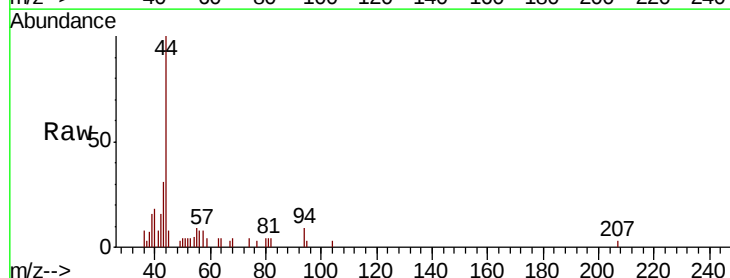
Instrument :  
MSVOA\_F  
ClientSampleId :  
MULCH-1

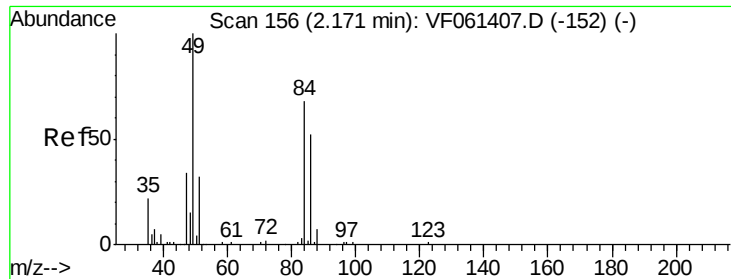
Tgt Ion: 43 Resp: 8525  
Ion Ratio Lower Upper  
43 100  
58 14.8 13.3 19.9



#18  
Methyl Acetate  
Concen: 4.877 ug/l  
RT: 2.35 min Scan# 175  
Delta R.T. 0.02 min  
Lab File: VF061482.D  
Acq: 23 Jan 2019 14:51

Tgt Ion: 43 Resp: 2395  
Ion Ratio Lower Upper  
43 100  
74 13.6 13.4 20.0





#20

Methylene Chloride

Concen: 2.271 ug/l

RT: 2.18 min Scan# 157

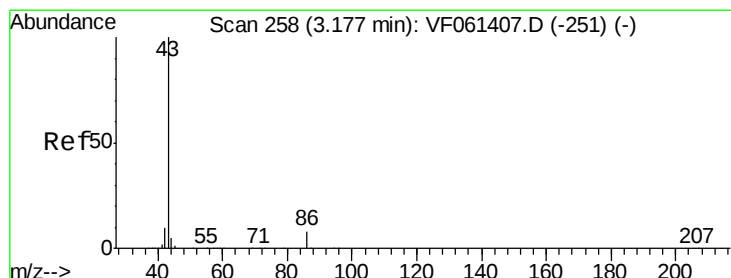
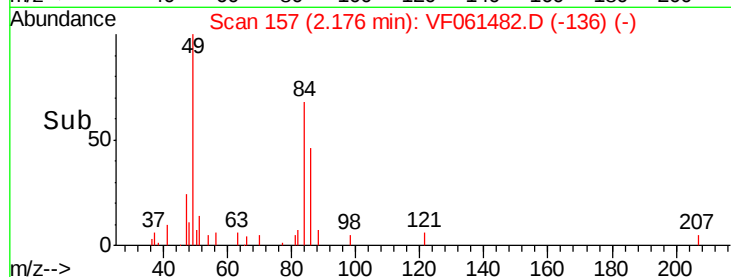
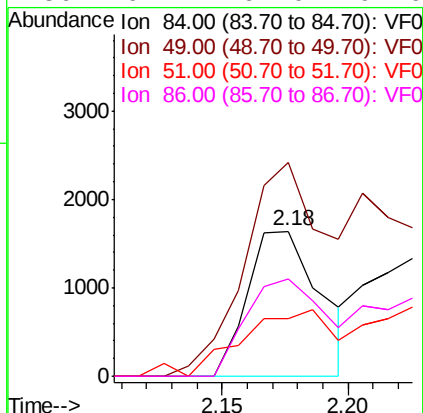
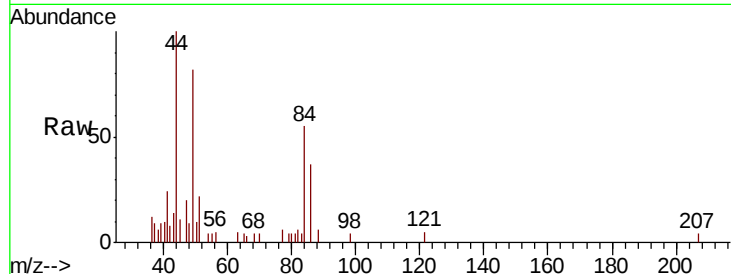
Delta R.T. 0.01 min

Lab File: VF061482.D

Acq: 23 Jan 2019 14:51

Instrument :  
MSVOA\_F  
ClientSampleId :  
MULCH-1

|          |       |       |       |
|----------|-------|-------|-------|
| Tgt Ion: | 84    | Resp: | 3319  |
| Ion      | Ratio | Lower | Upper |
| 84       | 100   |       |       |
| 49       | 147.4 | 120.0 | 180.0 |
| 51       | 40.0  | 38.6  | 58.0  |
| 86       | 67.2  | 61.0  | 91.6  |



#23

Vinyl Acetate

Concen: 4.056 ug/l

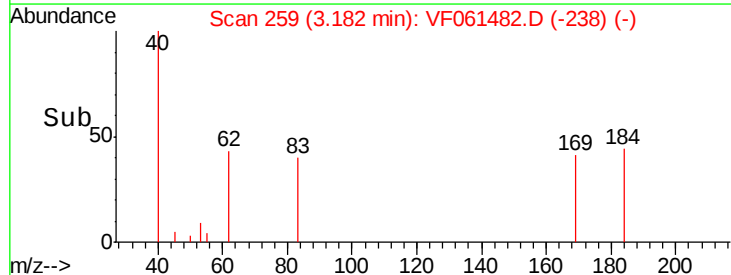
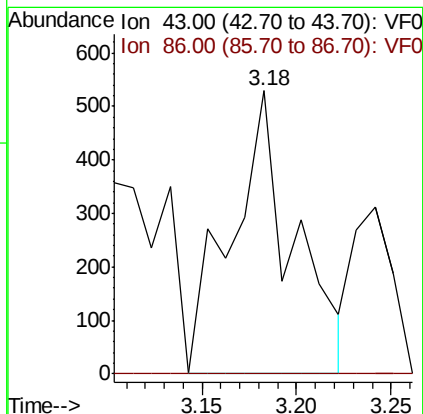
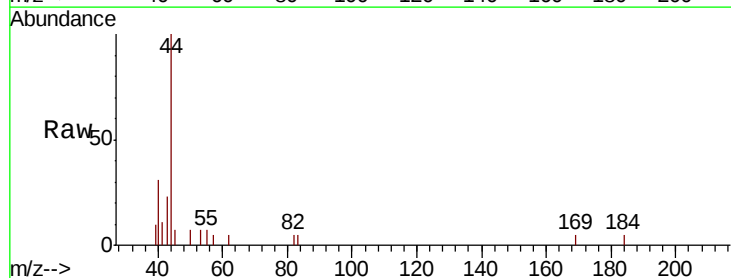
RT: 3.18 min Scan# 259

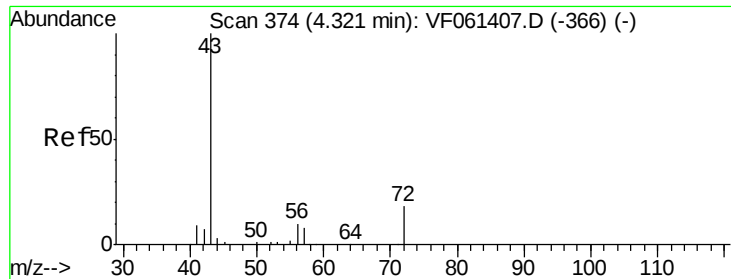
Delta R.T. 0.01 min

Lab File: VF061482.D

Acq: 23 Jan 2019 14:51

|          |       |       |       |
|----------|-------|-------|-------|
| Tgt Ion: | 43    | Resp: | 1215  |
| Ion      | Ratio | Lower | Upper |
| 43       | 100   |       |       |
| 86       | 0.0   | 6.2   | 9.4#  |





#25

2-Butanone

Concen: 5.517 ug/l

RT: 4.32 min Scan# 374

Delta R.T. -0.00 min

Lab File: VF061482.D

Acq: 23 Jan 2019 14:51

Instrument :

MSVOA\_F

ClientSampleId :

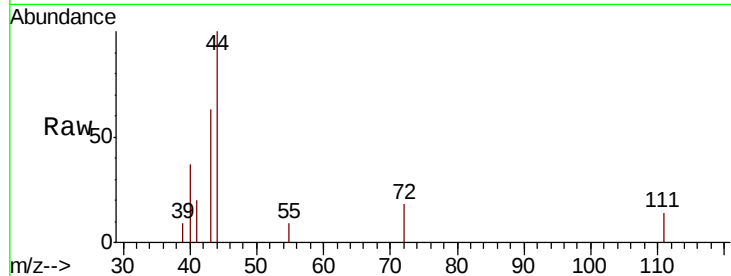
MULCH-1

Tgt Ion: 43 Resp: 2272

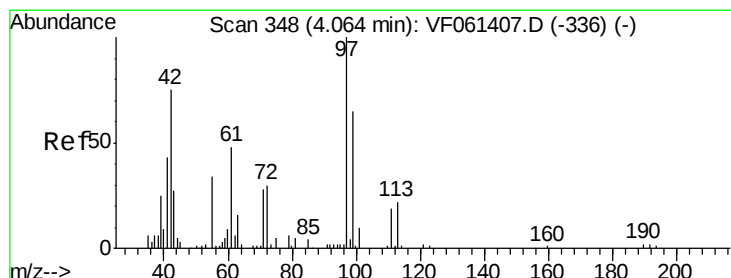
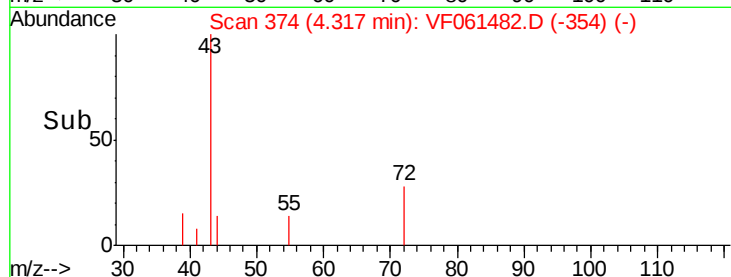
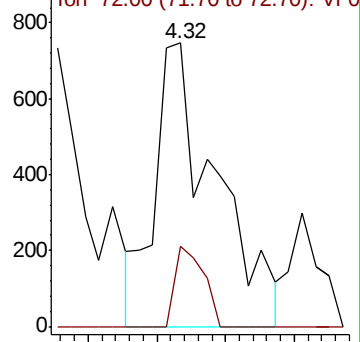
Ion Ratio Lower Upper

43 100

72 28.1 15.8 23.6#



Abundance Ion 43.00 (42.70 to 43.70): VF0



#29

Tetrahydrofuran

Concen: 6.373 ug/l

RT: 4.10 min Scan# 352

Delta R.T. 0.04 min

Lab File: VF061482.D

Acq: 23 Jan 2019 14:51

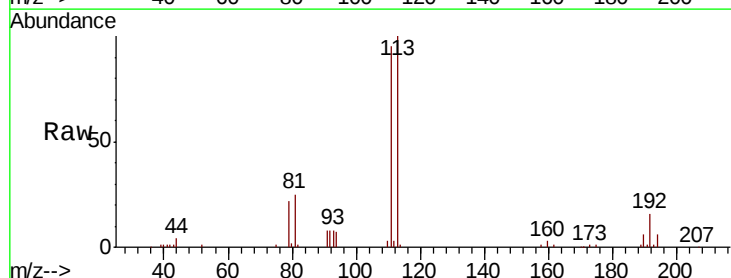
Tgt Ion: 42 Resp: 1130

Ion Ratio Lower Upper

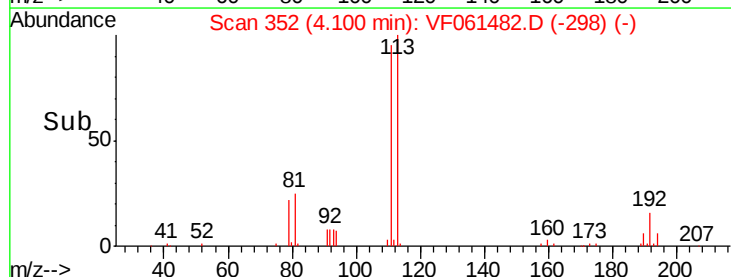
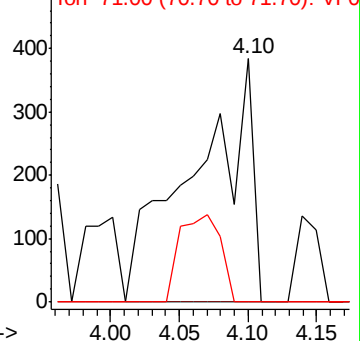
42 100

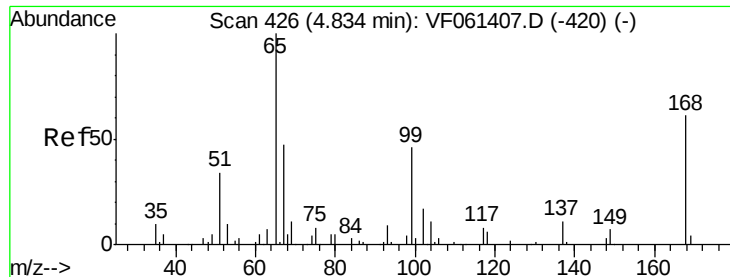
72 0.0 28.9 43.3#

71 0.0 29.6 44.4#



Abundance Ion 42.00 (41.70 to 42.70): VF0

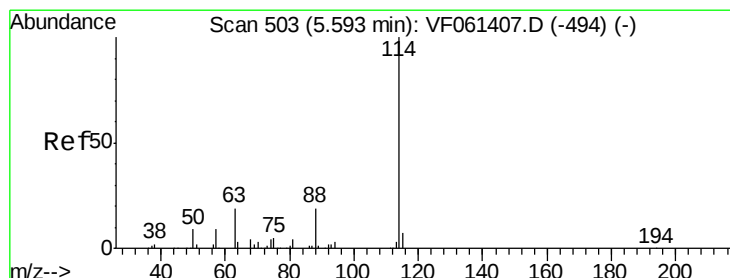
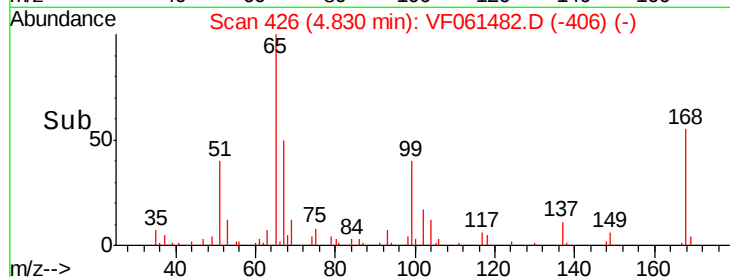
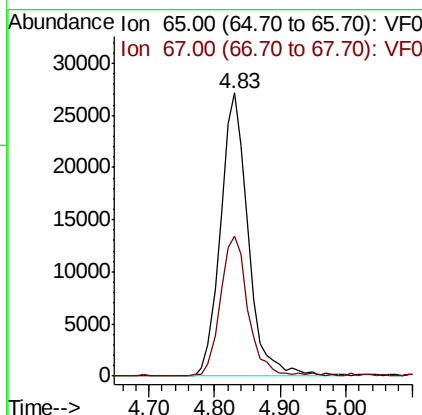
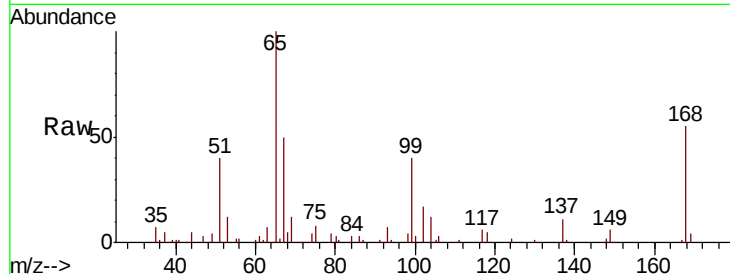




#33  
 1,2-Dichloroethane-d4  
 Concen: 64.447 ug/l  
 RT: 4.83 min Scan# 426  
 Delta R.T. -0.00 min  
 Lab File: VF061482.D  
 Acq: 23 Jan 2019 14:51

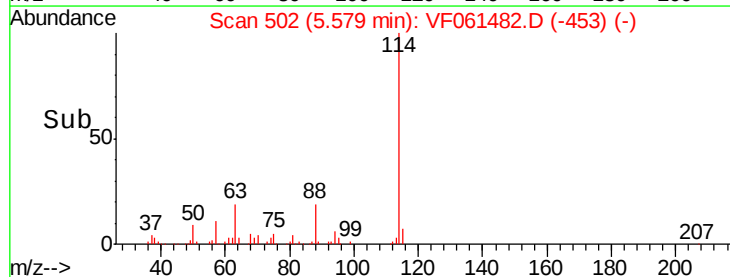
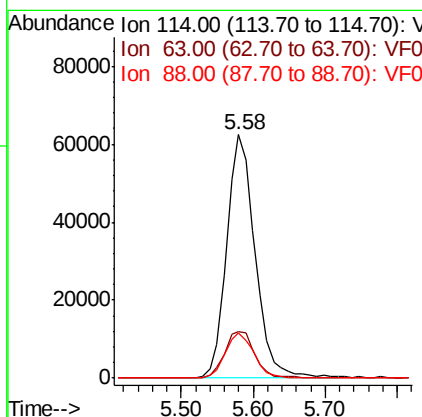
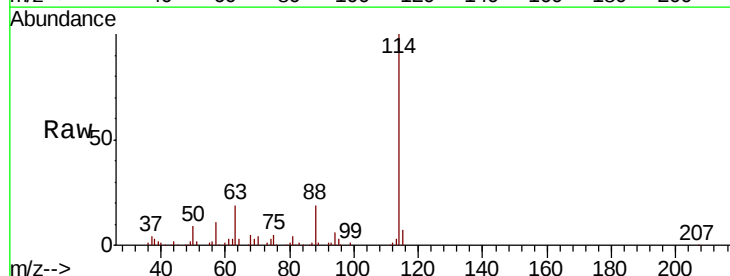
Instrument :  
 MSVOA\_F  
 ClientSampleId :  
 MULCH-1

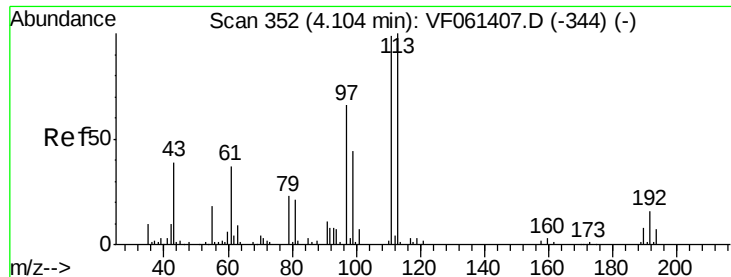
Tgt Ion: 65 Resp: 79552  
 Ion Ratio Lower Upper  
 65 100  
 67 49.6 0.0 99.8



#34  
 1,4-Difluorobenzene  
 Concen: 50.000 ug/l  
 RT: 5.58 min Scan# 502  
 Delta R.T. -0.01 min  
 Lab File: VF061482.D  
 Acq: 23 Jan 2019 14:51

Tgt Ion: 114 Resp: 171333  
 Ion Ratio Lower Upper  
 114 100  
 63 19.0 0.0 39.0  
 88 18.7 0.0 37.4





#35

Dibromofluoromethane

Concen: 67.042 ug/l

RT: 4.10 min Scan# 352

Delta R.T. -0.00 min

Lab File: VF061482.D

Acq: 23 Jan 2019 14:51

Instrument :

MSVOA\_F

ClientSampleId :

MULCH-1

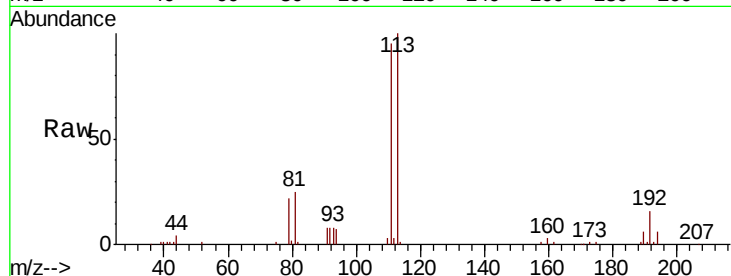
Tgt Ion:113 Resp: 90639

Ion Ratio Lower Upper

113 100

111 95.3 79.4 119.0

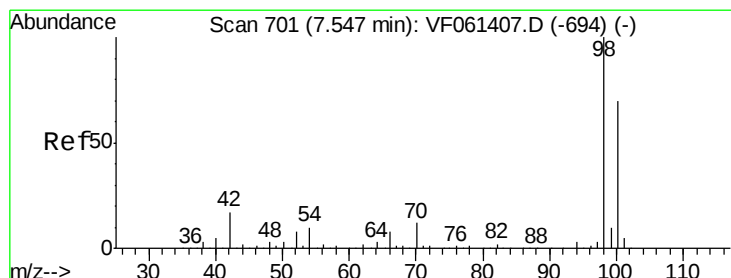
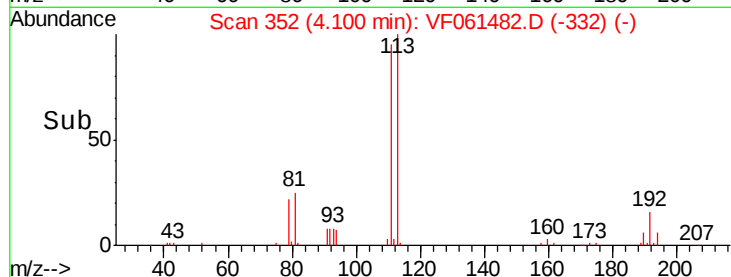
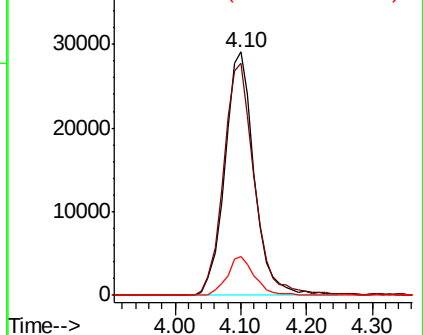
192 16.2 12.4 18.6



Abundance Ion 113.00 (112.70 to 113.70): V

Ion 111.00 (110.70 to 111.70): V

Ion 192.00 (191.70 to 192.70): V



#50

Toluene-d8

Concen: 47.252 ug/l

RT: 7.54 min Scan# 701

Delta R.T. -0.00 min

Lab File: VF061482.D

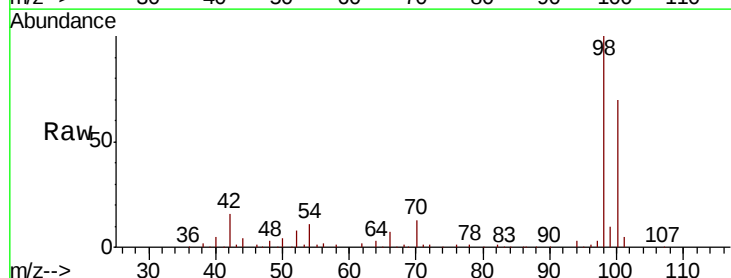
Acq: 23 Jan 2019 14:51

Tgt Ion: 98 Resp: 175029

Ion Ratio Lower Upper

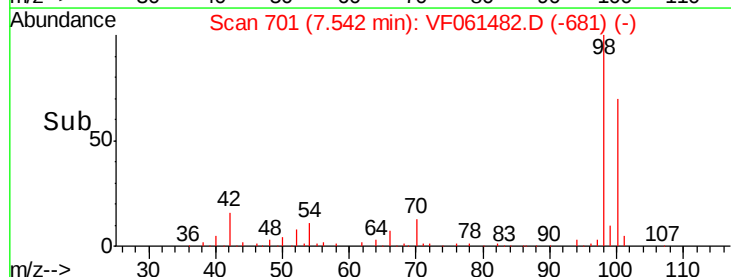
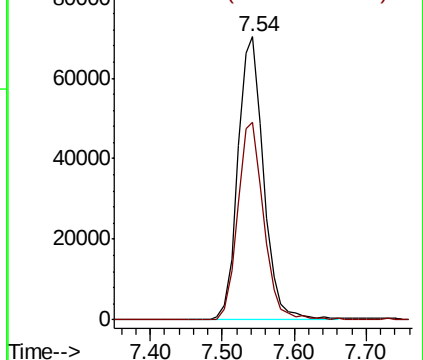
98 100

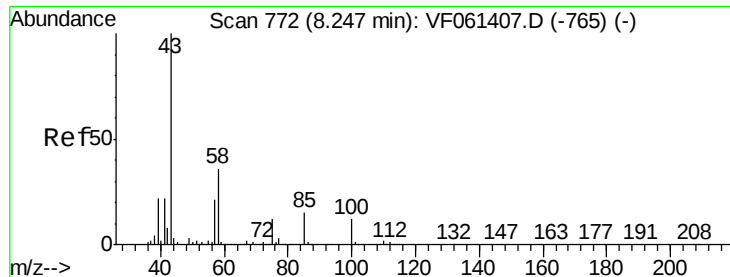
100 69.8 55.6 83.4



Abundance Ion 98.00 (97.70 to 98.70): VF0

Ion 100.00 (99.70 to 100.70): VF





#51

4-Methyl-2-Pentanone

Concen: 2.494 ug/l

RT: 8.25 min Scan# 773

Delta R.T. 0.01 min

Lab File: VF061482.D

Acq: 23 Jan 2019 14:51

Instrument :

MSVOA\_F

ClientSampleId :

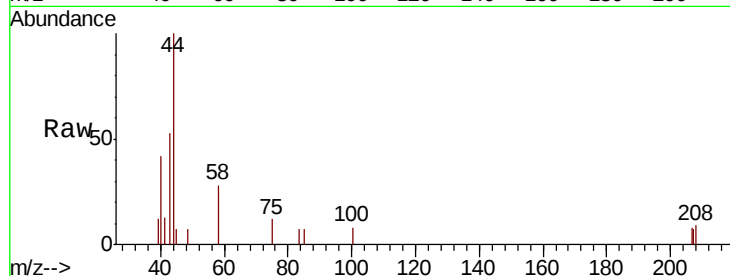
MULCH-1

Tgt Ion: 43 Resp: 1827

Ion Ratio Lower Upper

43 100

58 54.1 28.8 43.2#



Abundance Ion 43.00 (42.70 to 43.70): VF0

Ion 58.00 (57.70 to 58.70): VF0

8.25

800

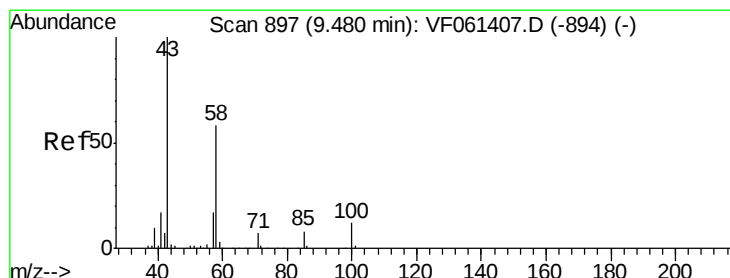
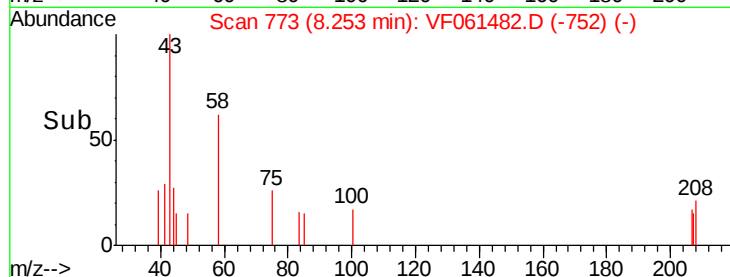
600

400

200

0

Time-->



#59

2-Hexanone

Concen: 5.424 ug/l

RT: 9.49 min Scan# 898

Delta R.T. 0.01 min

Lab File: VF061482.D

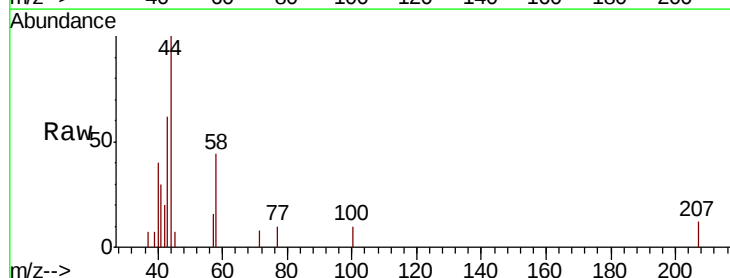
Acq: 23 Jan 2019 14:51

Tgt Ion: 43 Resp: 2771

Ion Ratio Lower Upper

43 100

58 71.3 25.9 77.6



Abundance Ion 43.00 (42.70 to 43.70): VF0

Ion 58.00 (57.70 to 58.70): VF0

9.49

1000

800

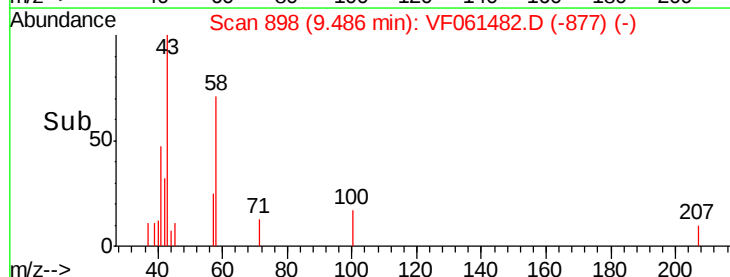
600

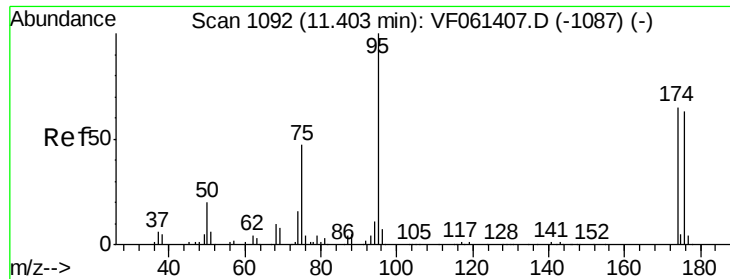
400

200

0

Time-->





#62

4-Bromofluorobenzene

Concen: 33.043 ug/l

RT: 11.40 min Scan# 1092

Delta R.T. -0.00 min

Lab File: VF061482.D

Acq: 23 Jan 2019 14:51

Instrument :

MSVOA\_F

ClientSampleId :

MULCH-1

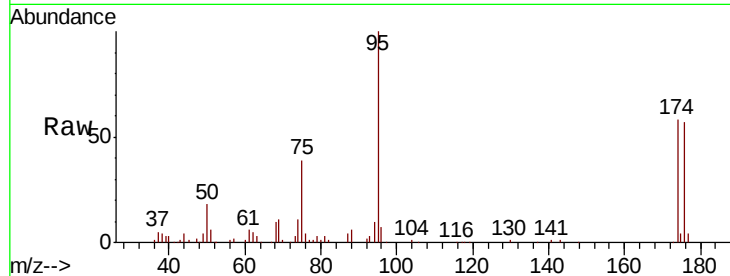
Tgt Ion: 95 Resp: 57187

Ion Ratio Lower Upper

95 100

174 58.0 0.0 130.4

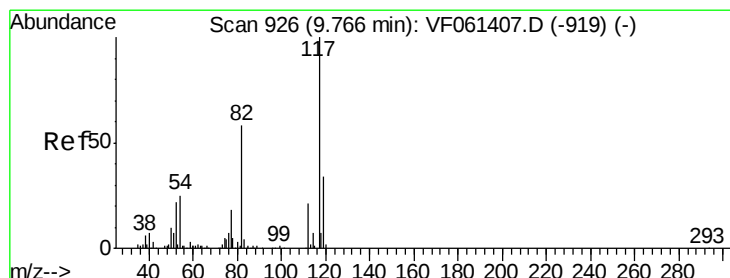
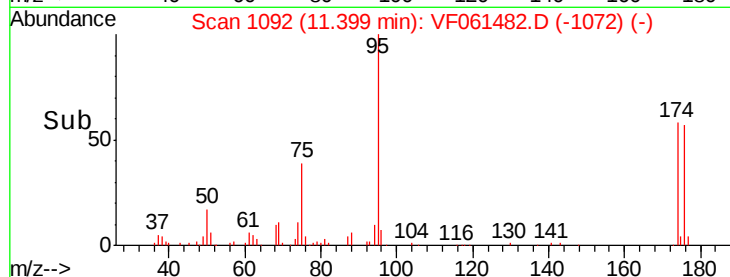
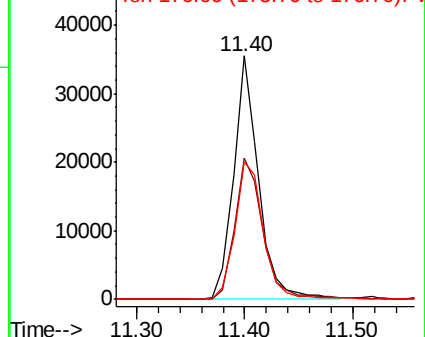
176 56.7 0.0 126.2



Abundance Ion 95.00 (94.70 to 95.70): VF0

Ion 174.00 (173.70 to 174.70): VF0

Ion 176.00 (175.70 to 176.70): VF0



#63

Chlorobenzene-d5

Concen: 50.000 ug/l

RT: 9.76 min Scan# 926

Delta R.T. -0.00 min

Lab File: VF061482.D

Acq: 23 Jan 2019 14:51

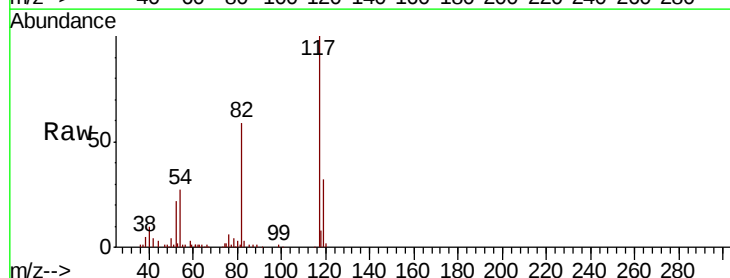
Tgt Ion: 117 Resp: 116286

Ion Ratio Lower Upper

117 100

82 59.4 46.4 69.6

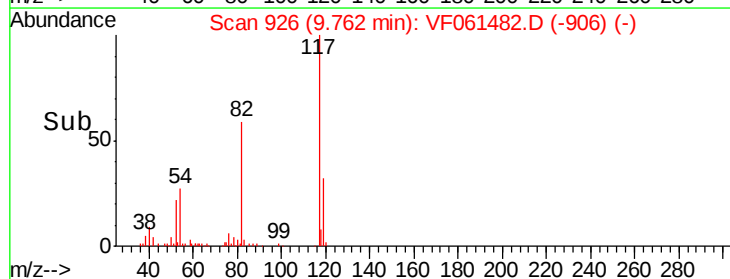
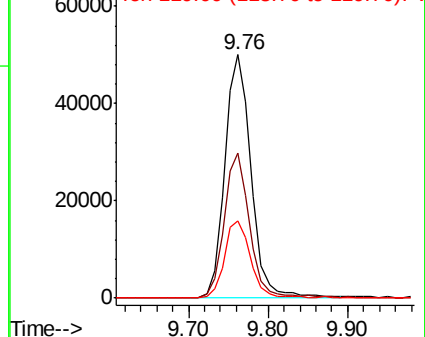
119 31.9 27.2 40.8

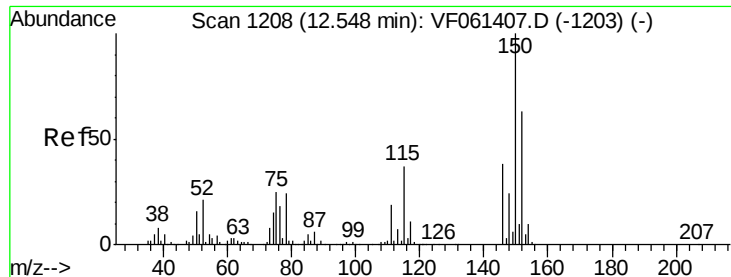


Abundance Ion 117.00 (116.70 to 117.70): VF0

Ion 82.00 (81.70 to 82.70): VF0

Ion 119.00 (118.70 to 119.70): VF0





#72

1,4-Dichlorobenzene-d4

Concen: 50.000 ug/l

RT: 12.54 min Scan# 1208

Delta R.T. -0.00 min

Lab File: VF061482.D

Acq: 23 Jan 2019 14:51

Instrument :

MSVOA\_F

ClientSampleId :

MULCH-1

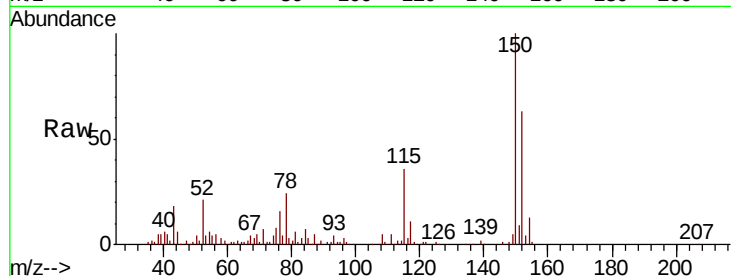
Tgt Ion:152 Resp: 37765

Ion Ratio Lower Upper

152 100

115 57.9 30.0 90.0

150 159.9 0.0 321.4

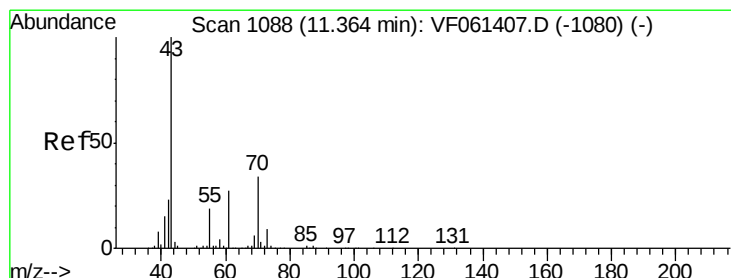
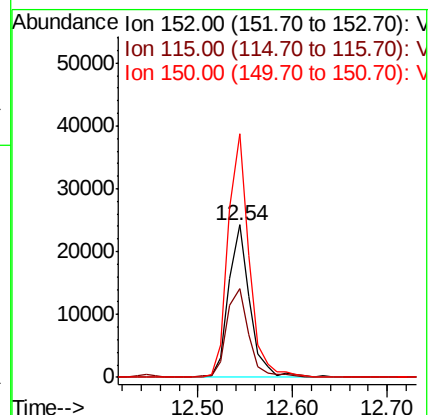
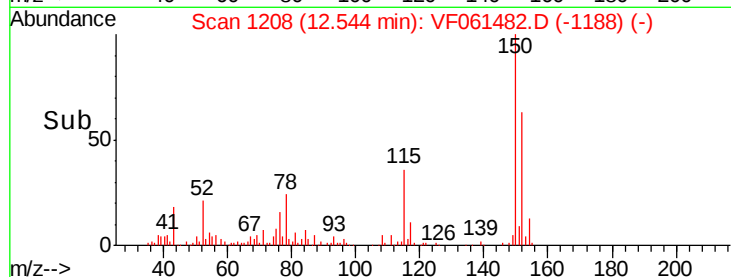


Abundance

Ion 152.00 (151.70 to 152.70): V

Ion 115.00 (114.70 to 115.70): V

Ion 150.00 (149.70 to 150.70): V



#74

N-ethyl acetate

Concen: 3.494 ug/l

RT: 11.37 min Scan# 1089

Delta R.T. 0.01 min

Lab File: VF061482.D

Acq: 23 Jan 2019 14:51

Tgt Ion: 43 Resp: 2538

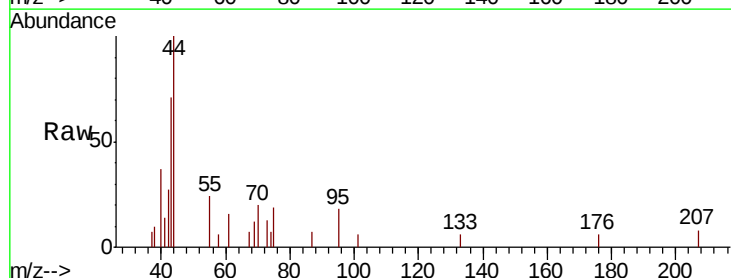
Ion Ratio Lower Upper

43 100

70 28.2 27.6 41.4

55 34.3 15.4 23.2#

61 22.7 21.8 32.6



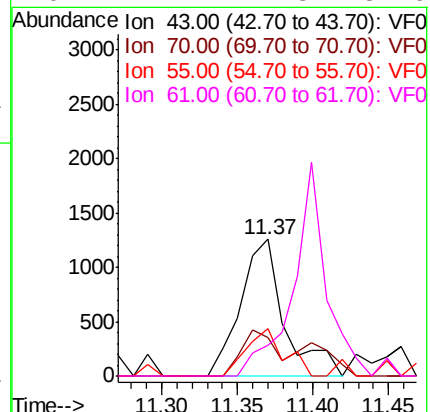
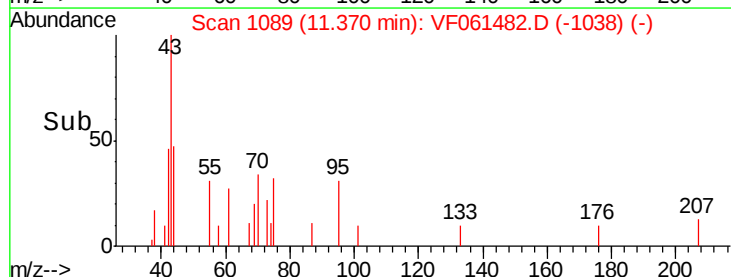
Abundance

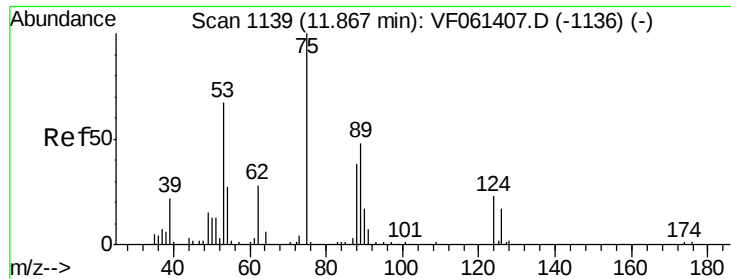
Ion 43.00 (42.70 to 43.70): VF0

Ion 70.00 (69.70 to 70.70): VF0

Ion 55.00 (54.70 to 55.70): VF0

Ion 61.00 (60.70 to 61.70): VF0

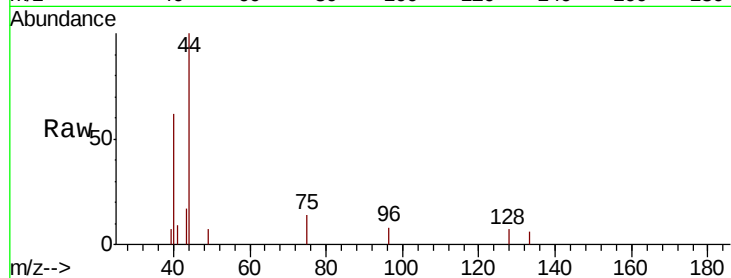




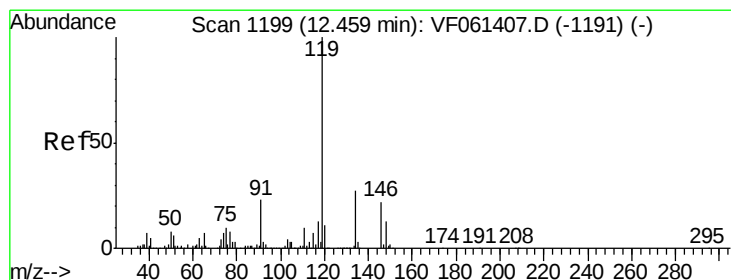
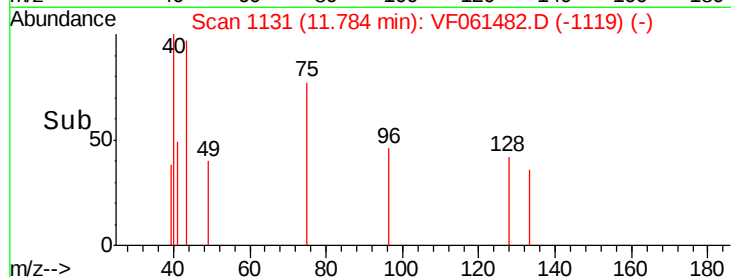
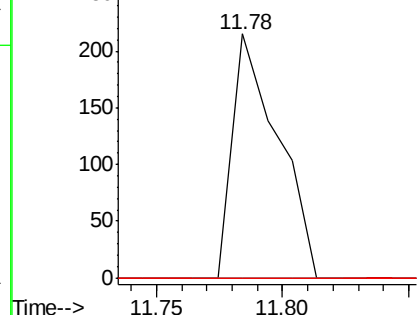
#81  
trans-1,4-Dichloro-2-butene  
Concen: 1.580 ug/l  
RT: 11.78 min Scan# 1131  
Delta R.T. -0.08 min  
Lab File: VF061482.D  
Acq: 23 Jan 2019 14:51

Instrument :  
MSVOA\_F  
ClientSampleId :  
MULCH-1

Tgt Ion: 75 Resp: 270  
Ion Ratio Lower Upper  
75 100  
53 0.0 57.8 86.6#  
89 0.0 40.7 61.1#

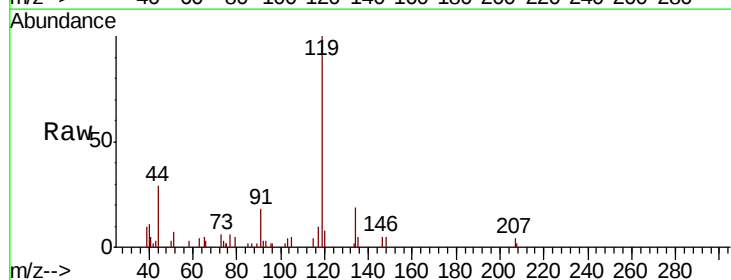


Abundance Ion 75.00 (74.70 to 75.70): VF0  
Ion 53.00 (52.70 to 53.70): VF0  
Ion 89.00 (88.70 to 89.70): VF0

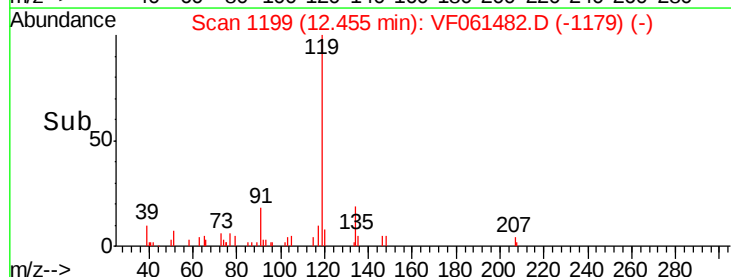
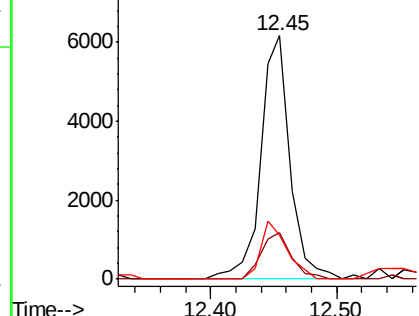


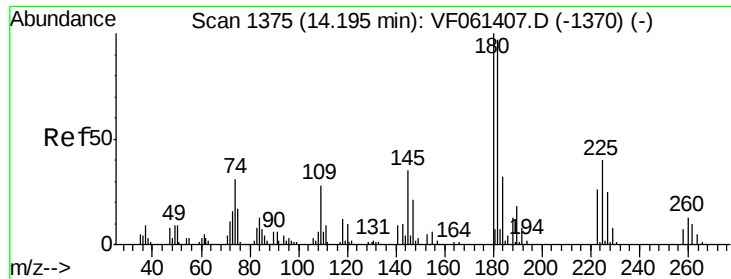
#86  
p-Isopropyltoluene  
Concen: 3.497 ug/l  
RT: 12.45 min Scan# 1199  
Delta R.T. -0.00 min  
Lab File: VF061482.D  
Acq: 23 Jan 2019 14:51

Tgt Ion: 119 Resp: 10003  
Ion Ratio Lower Upper  
119 100  
134 19.1 13.4 40.2  
91 18.1 11.4 34.2



Abundance Ion 119.00 (118.70 to 119.70): V  
Ion 134.00 (133.70 to 134.70): V  
Ion 91.00 (90.70 to 91.70): VF0

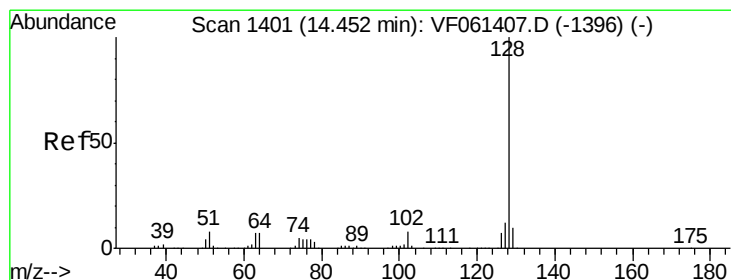
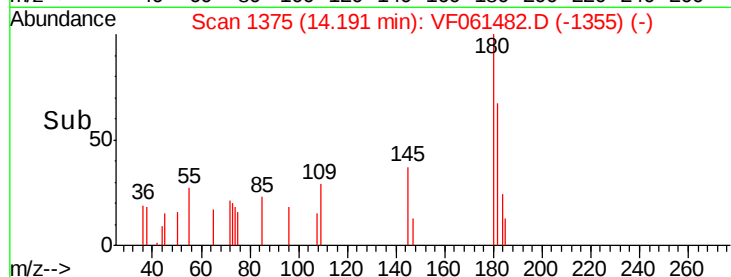
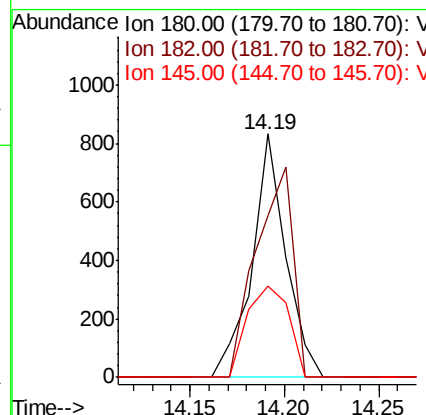
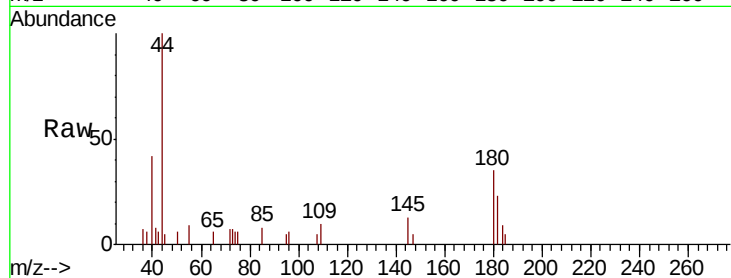




#93  
 1,2,4-Trichlorobenzene  
 Concen: 1.218 ug/l  
 RT: 14.19 min Scan# 1375  
 Delta R.T. -0.00 min  
 Lab File: VF061482.D  
 Acq: 23 Jan 2019 14:51

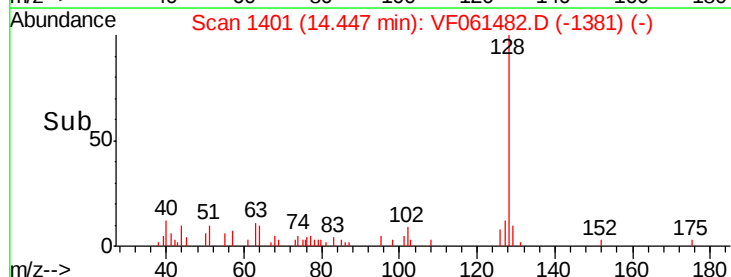
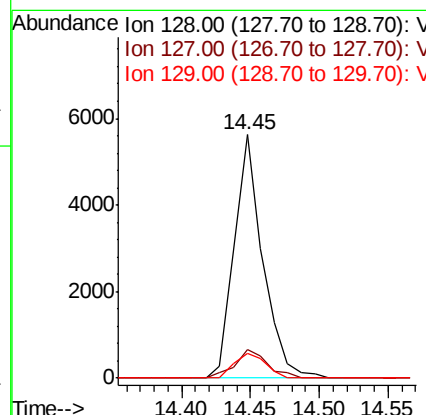
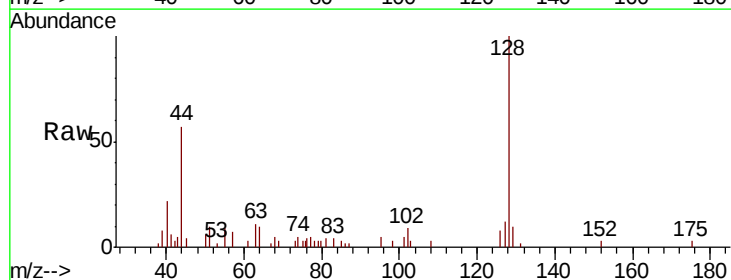
Instrument :  
 MSVOA\_F  
 ClientSampled :  
 MULCH-1

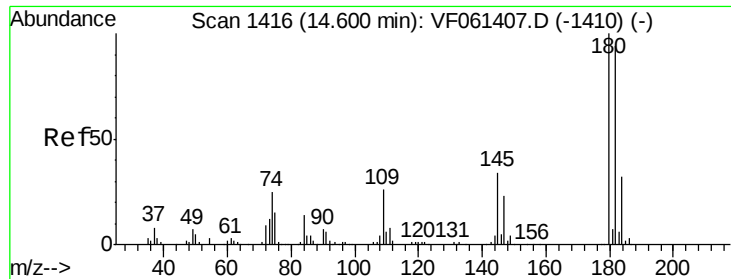
Tgt Ion:180 Resp: 1035  
 Ion Ratio Lower Upper  
 180 100  
 182 66.5 48.5 145.6  
 145 37.3 17.5 52.6



#95  
 Naphthalene  
 Concen: 5.022 ug/l  
 RT: 14.45 min Scan# 1401  
 Delta R.T. -0.00 min  
 Lab File: VF061482.D  
 Acq: 23 Jan 2019 14:51

Tgt Ion:128 Resp: 8110  
 Ion Ratio Lower Upper  
 128 100  
 127 11.8 9.5 14.3  
 129 10.3 8.4 12.6

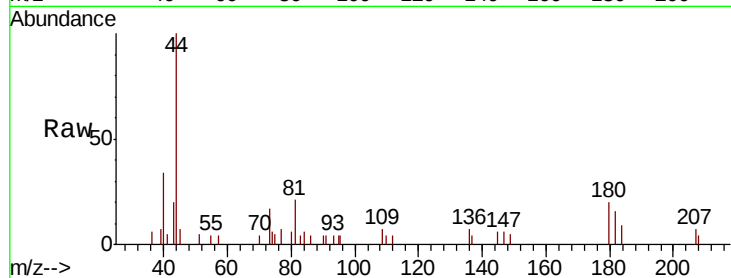




#96  
 1,2,3-Trichlorobenzene  
 Concen: 1.223 ug/l  
 RT: 14.60 min Scan# 1416  
 Delta R.T. -0.00 min  
 Lab File: VF061482.D  
 Acq: 23 Jan 2019 14:51

Instrument :  
 MSVOA\_F  
 ClientSampleId :  
 MULCH-1

| Tgt Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 180     | 100   |       |       |
| 182     | 78.7  | 47.0  | 141.2 |
| 145     | 29.1  | 17.1  | 51.2  |



Abundance

Ion 180.00 (179.70 to 180.70): V

Ion 182.00 (181.70 to 182.70): V

Ion 145.00 (144.70 to 145.70): V

