

Data Path : Z:\VOASRV\HPCHEM1\MSVOA D\DATA\VD101619\  
 Data File : VD063991.D  
 Acq On : 16 Oct 2019 17:11  
 Operator : VA/SY  
 Sample : K5401-01  
 Misc : 4.41G/5.00ml/MSVOA D/SOIL  
 ALS Vial : 13 Sample Multiplier: 1

Instrument :  
 MSVOA\_D  
 ClientSampleId :

Quant Time: Oct 16 18:09:39 2019  
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA\_D\METHOD\82D100219S.M  
 Quant Title : SW846 8260  
 QLast Update : Sat Oct 05 03:51:17 2019  
 Response via : Initial Calibration

| Internal Standards         | R.T.  | QIon | Response | Conc  | Units | Dev(Min) |
|----------------------------|-------|------|----------|-------|-------|----------|
| 1) Pentafluorobenzene      | 7.98  | 168  | 17729    | 50.00 | ug/l  | 0.00     |
| 34) 1,4-Difluorobenzene    | 8.87  | 114  | 33971    | 50.00 | ug/l  | 0.00     |
| 63) Chlorobenzene-d5       | 11.65 | 117  | 32965    | 50.00 | ug/l  | 0.00     |
| 72) 1,4-Dichlorobenzene-d4 | 13.58 | 152  | 17244    | 50.00 | ug/l  | 0.00     |

| System Monitoring Compounds | R.T.  | QIon | Response | Conc  | Units   | Dev(Min) |
|-----------------------------|-------|------|----------|-------|---------|----------|
| 33) 1,2-Dichloroethane-d4   | 8.33  | 65   | 14947    | 86.60 | ug/l    | 0.00     |
| Spiked Amount               |       |      | Recovery | =     | 173.20% |          |
| 35) Dibromofluoromethane    | 7.93  | 113  | 10619    | 51.15 | ug/l    | 0.01     |
| Spiked Amount               |       |      | Recovery | =     | 102.30% |          |
| 50) Toluene-d8              | 10.34 | 98   | 39708    | 47.12 | ug/l    | 0.00     |
| Spiked Amount               |       |      | Recovery | =     | 94.24%  |          |
| 62) 4-Bromofluorobenzene    | 12.64 | 95   | 14152    | 48.33 | ug/l    | 0.00     |
| Spiked Amount               |       |      | Recovery | =     | 96.66%  |          |

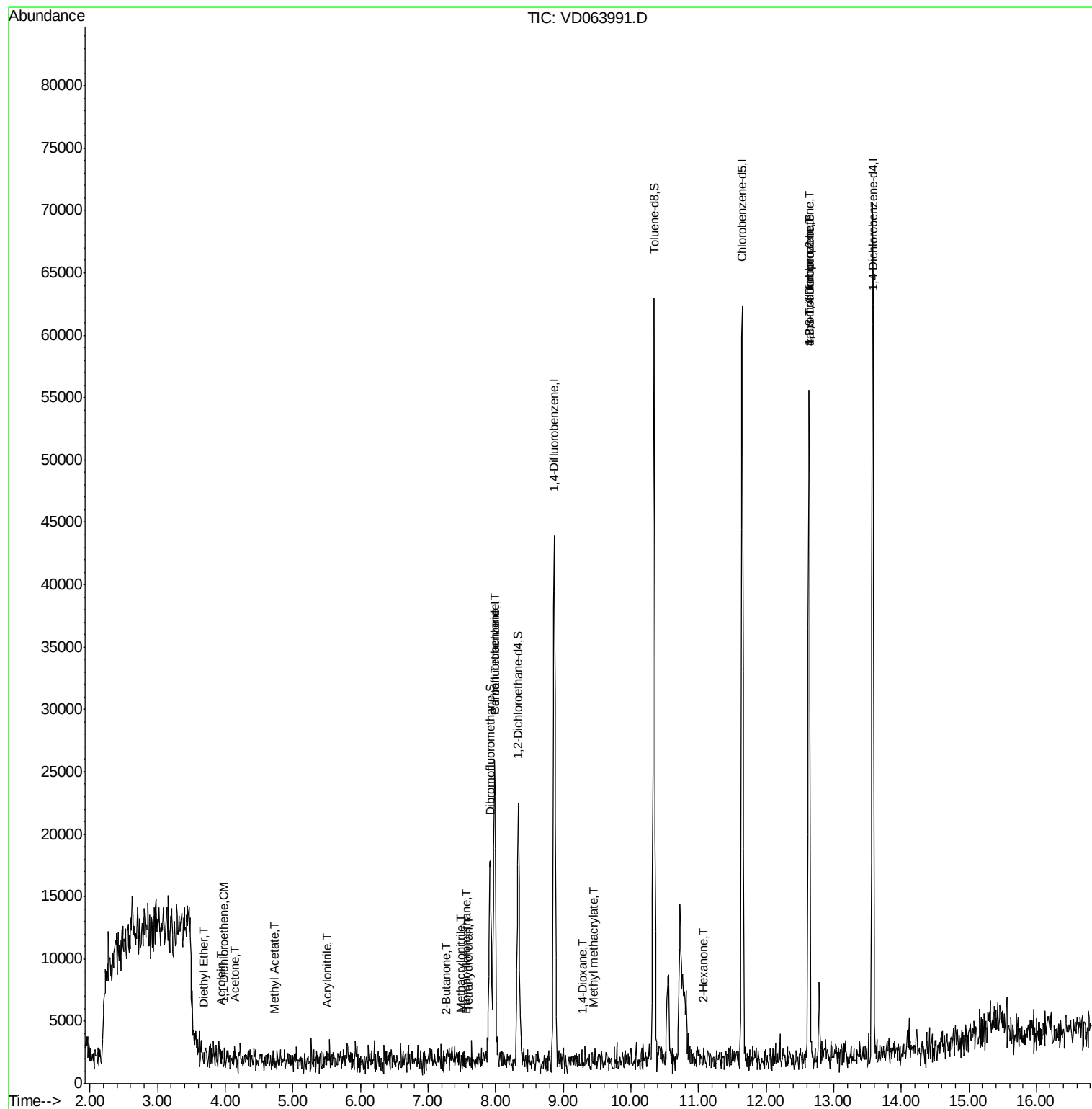
| Target Compounds               | R.T.  | QIon | Response | Conc      | Units  | Qvalue |
|--------------------------------|-------|------|----------|-----------|--------|--------|
| 3) Chloromethane               | 2.21  | 50   | 298      | Below Cal | #      | 40     |
| 8) Diethyl Ether               | 3.68  | 74   | 122      | 1.415     | ug/l   | 72     |
| 11) Tert butyl alcohol         | 5.39  | 59   | 54       | Below Cal | #      | 71     |
| 12) 1,1-Dichloroethene         | 3.99  | 96   | 187      | 1.259     | ug/l # | 1      |
| 13) Acrolein                   | 3.94  | 56   | 77       | 4.995     | ug/l # | 1      |
| 15) Acrylonitrile              | 5.50  | 53   | 59       | 1.552     | ug/l # | 17     |
| 16) Acetone                    | 4.14  | 43   | 57       | 1.268     | ug/l # | 42     |
| 18) Methyl Acetate             | 4.73  | 43   | 274      | 3.117     | ug/l # | 49     |
| 20) Methylene Chloride         | 4.98  | 84   | 98       | Below Cal | #      | 7      |
| 25) 2-Butanone                 | 7.26  | 43   | 164      | 3.079     | ug/l # | 51     |
| 28) Bromochloromethane         | 7.56  | 49   | 68       | 2.418     | ug/l # | 10     |
| 29) Tetrahydrofuran            | 7.58  | 42   | 76       | 2.445     | ug/l # | 31     |
| 31) Cyclohexane                | 7.99  | 56   | 598      | Below Cal | #      | 16     |
| 37) Ethyl Acetate              | 7.26  | 43   | 164      | Below Cal | #      | 60     |
| 38) Carbon Tetrachloride       | 7.99  | 117  | 1895     | 6.037     | ug/l # | 15     |
| 41) Methacrylonitrile          | 7.48  | 41   | 133      | 1.847     | ug/l # | 31     |
| 48) Methyl methacrylate        | 9.45  | 41   | 265      | 2.123     | ug/l # | 29     |
| 49) 1,4-Dioxane                | 9.30  | 88   | 99       | 58.454    | ug/l # | 24     |
| 59) 2-Hexanone                 | 11.08 | 43   | 156      | 1.596     | ug/l   | 97     |
| 76) 1,2,3-Trichloropropane     | 12.64 | 75   | 8185     | 70.869    | ug/l # | 100    |
| 81) trans-1,4-Dichloro-2-buten | 12.64 | 75   | 8185     | 125.409   | ug/l # | 12     |
| 92) 1,2-Dibromo-3-Chloropropan | 14.54 | 75   | 59       | Below Cal | #      | 11     |

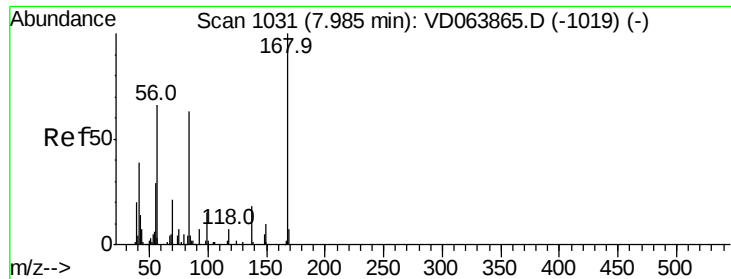
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\V0ASRV\HPCHEM1\MSVOA D\DATA\VD101619\  
Data File : VD063991.D  
Acq On : 16 Oct 2019 17:11  
Operator : VA/SY  
Sample : K5401-01  
Misc : 4.41G/5.00ml/MSVOA D/SOIL  
ALS Vial : 13 Sample Multiplier: 1

Instrument :  
MSVOA\_D  
ClientSampleId :

Quant Time: Oct 16 18:09:39 2019  
Quant Method : Z:\V0ASRV\HPCHEM1\MSVOA\_D\METHOD\82D100219S.M  
Quant Title : SW846 8260  
QLast Update : Sat Oct 05 03:51:17 2019  
Response via : Initial Calibration





#1

Pentafluorobenzene

Concen: 50.000 ug/l

RT: 7.98 min Scan# 1031

Delta R.T. -0.00 min

Lab File: VD063991.D

Acq: 16 Oct 2019 17:11

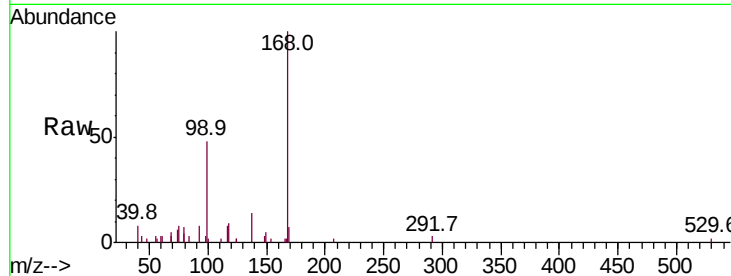
Instrument :  
MSVOA\_D  
ClientSampleId :

Tot Ion:168 Resp: 17729

Ion Ratio Lower Upper

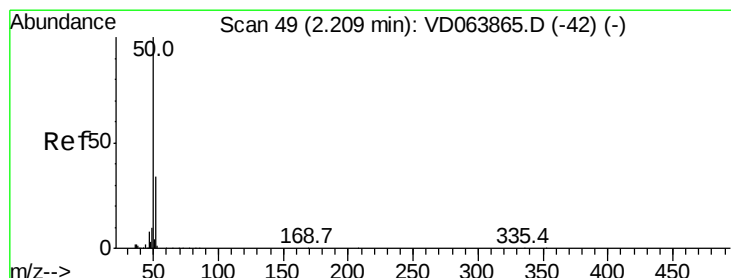
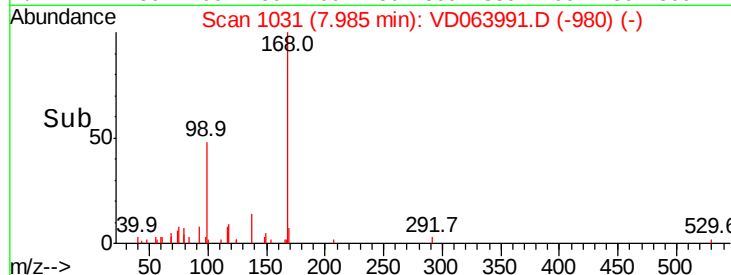
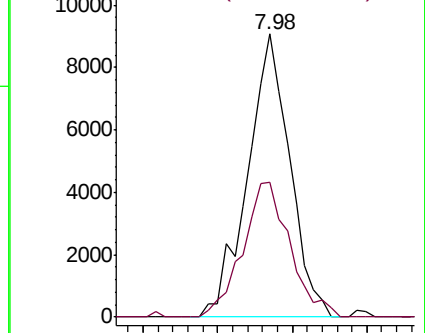
168 100

99 47.8 43.0 64.4



Abundance Ion 167.90 (167.60 to 168.60): V

Ion 98.90 (98.60 to 99.60): VDC



#3

Chloromethane

Concen: Below Cal

RT: 2.21 min Scan# 49

Delta R.T. 0.00 min

Lab File: VD063991.D

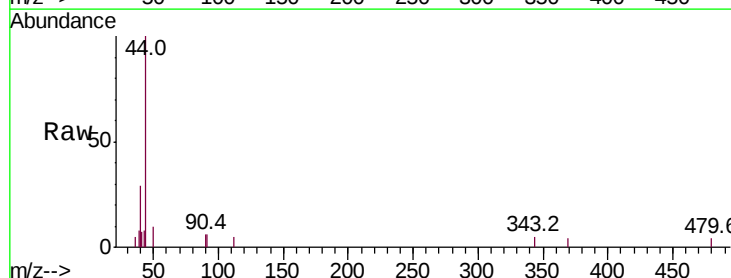
Acq: 16 Oct 2019 17:11

Tgt Ion: 50 Resp: 298

Ion Ratio Lower Upper

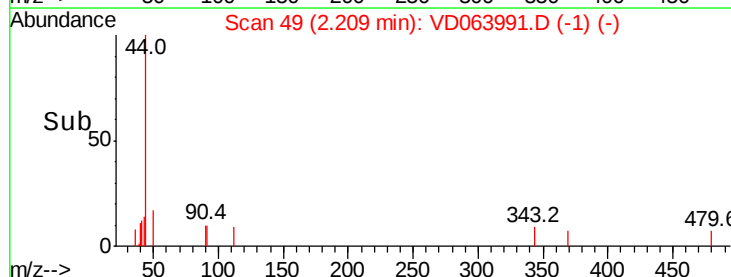
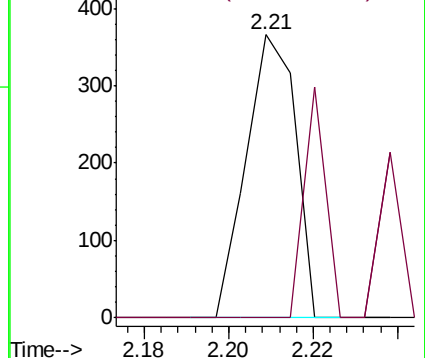
50 100

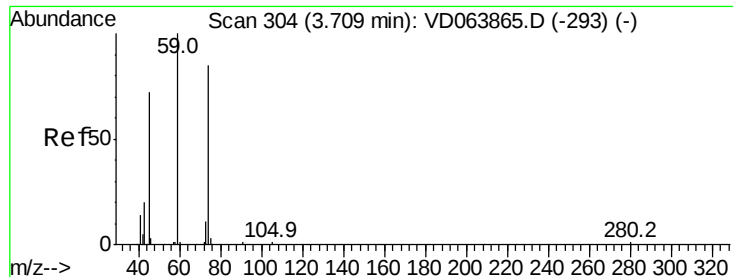
52 0.0 27.5 41.3#



Abundance Ion 49.90 (49.60 to 50.60): VDC

Ion 51.90 (51.60 to 52.60): VDC





#8

Diethyl Ether

Concen: 1.415 ug/l

RT: 3.68 min Scan# 299

Delta R.T. -0.03 min

Lab File: VD063991.D

Acq: 16 Oct 2019 17:11

Instrument :

MSVOA\_D

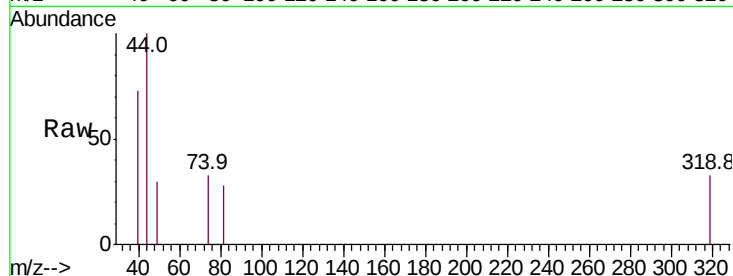
ClientSampled :

Tot Ion: 74 Resp: 122

Ion Ratio Lower Upper

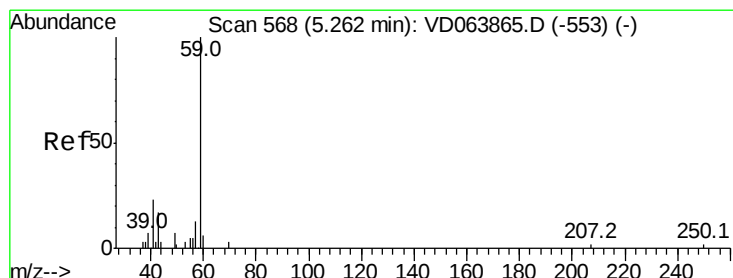
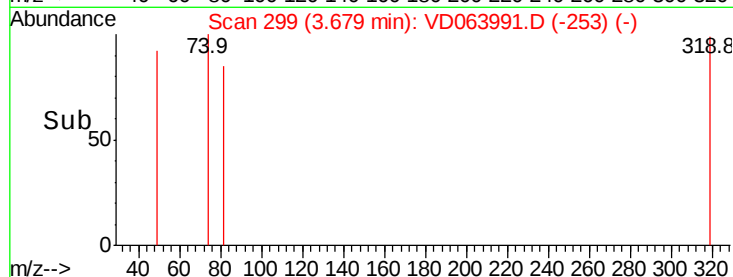
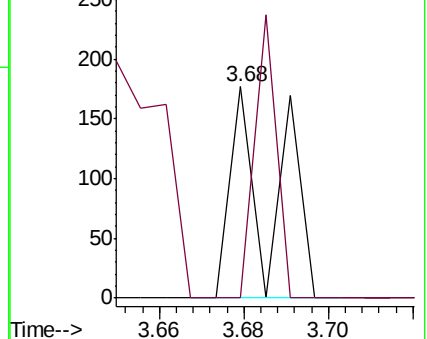
74 100

45 68.9 48.1 144.4



Abundance Ion 74.00 (73.70 to 74.70): VDC

Ion 45.00 (44.70 to 45.70): VDC



#11

Tert butyl alcohol

Concen: Below Cal

RT: 5.39 min Scan# 590

Delta R.T. 0.13 min

Lab File: VD063991.D

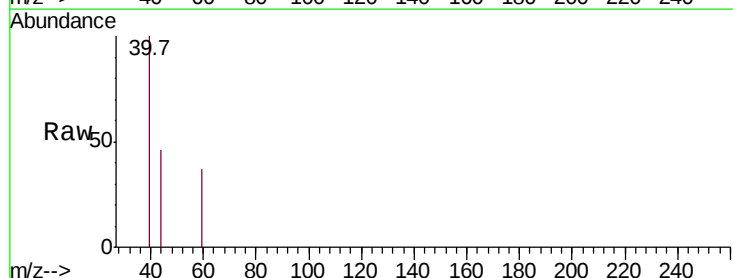
Acq: 16 Oct 2019 17:11

Tgt Ion: 59 Resp: 54

Ion Ratio Lower Upper

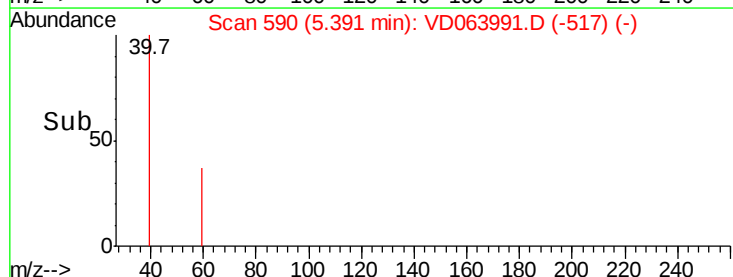
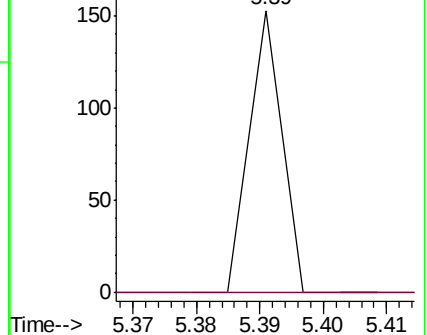
59 100

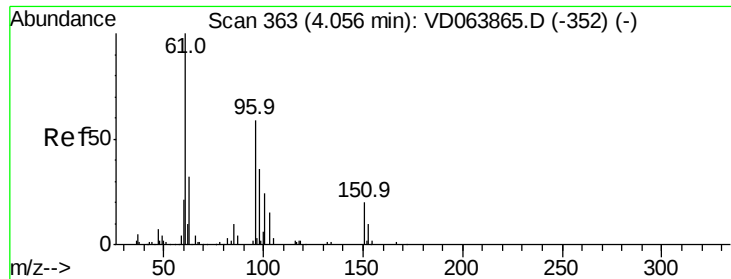
57 0.0 8.8 13.2#



Abundance Ion 59.00 (58.70 to 59.70): VDC

Ion 57.00 (56.70 to 57.70): VDC





#12

1,1-Dichloroethene

Concen: 1.259 ug/l

RT: 3.99 min Scan# 351

Delta R.T. -0.07 min

Lab File: VD063991.D

Acq: 16 Oct 2019 17:11

Instrument :  
MSVOA\_D  
ClientSampleId :

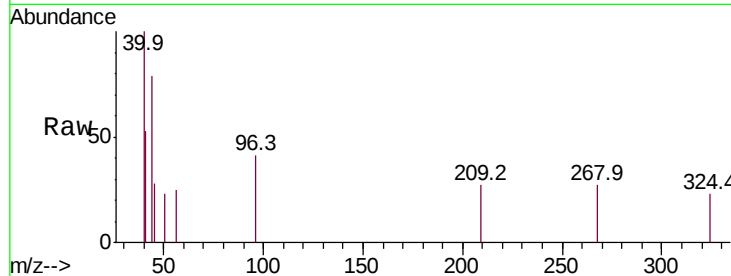
Tot Ion: 96 Resp: 187

Ion Ratio Lower Upper

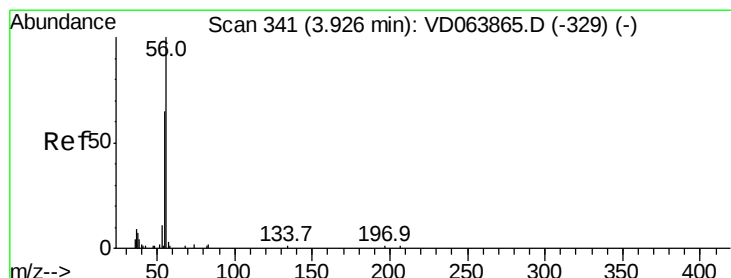
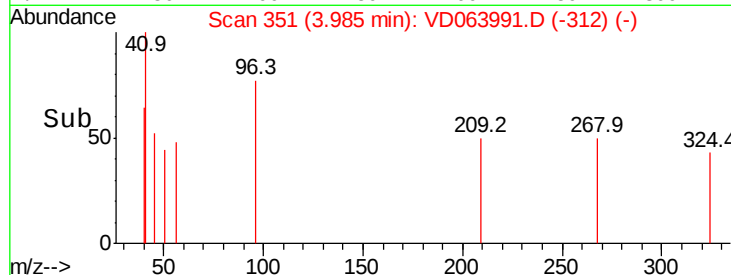
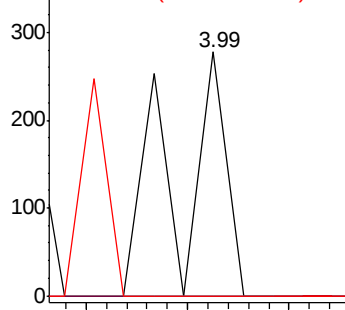
96 100

61 0.0 135.6 203.4#

98 0.0 49.2 73.8#



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



#13

Acrolein

Concen: 4.995 ug/l

RT: 3.94 min Scan# 343

Delta R.T. 0.01 min

Lab File: VD063991.D

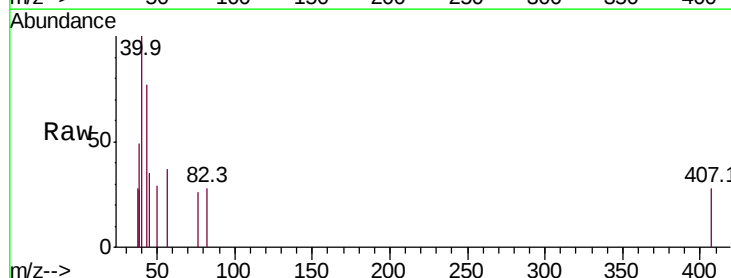
Acq: 16 Oct 2019 17:11

Tgt Ion: 56 Resp: 77

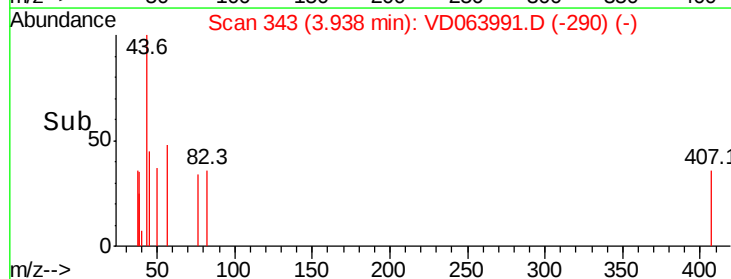
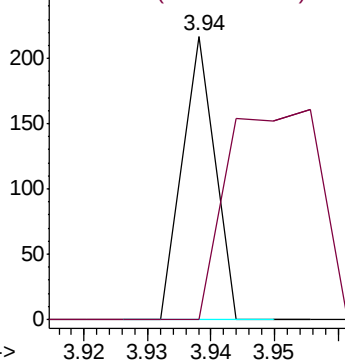
Ion Ratio Lower Upper

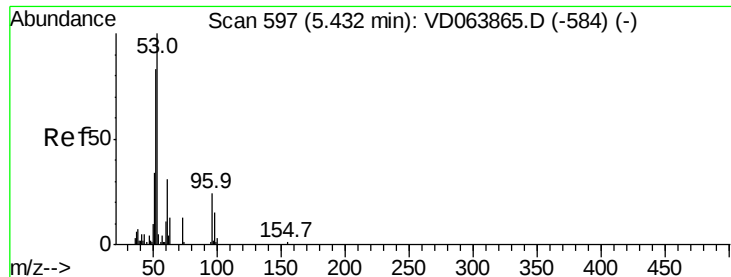
56 100

55 214.3 53.0 79.6#



Abundance Ion 56.00 (55.70 to 56.70): VDC  
Ion 55.00 (54.70 to 55.70): VDC





#15

Acrylonitrile

Concen: 1.552 ug/l

RT: 5.50 min Scan# 609

Delta R.T. 0.07 min

Lab File: VD063991.D

Acq: 16 Oct 2019 17:11

Instrument :

MSVOA\_D

ClientSampleId :

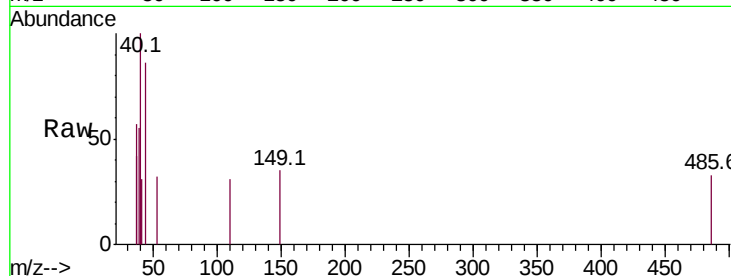
Tot Ion: 53 Resp: 59

Ion Ratio Lower Upper

53 100

52 0.0 67.3 100.9#

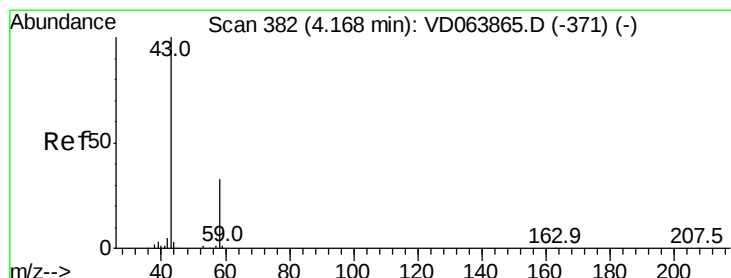
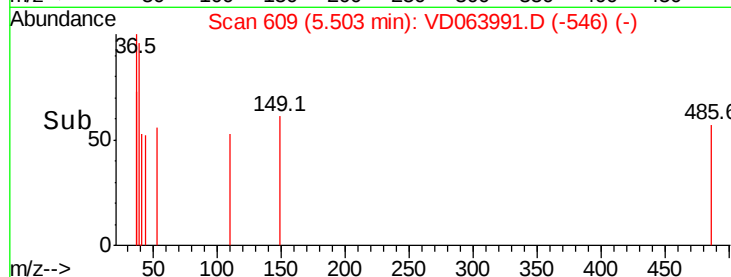
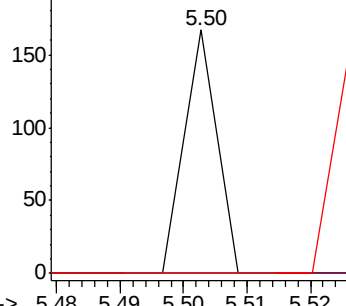
51 0.0 30.5 45.7#



Abundance Ion 53.00 (52.70 to 53.70): VDC

Ion 52.00 (51.70 to 52.70): VDC

Ion 51.00 (50.70 to 51.70): VDC



#16

Acetone

Concen: 1.268 ug/l

RT: 4.14 min Scan# 378

Delta R.T. -0.02 min

Lab File: VD063991.D

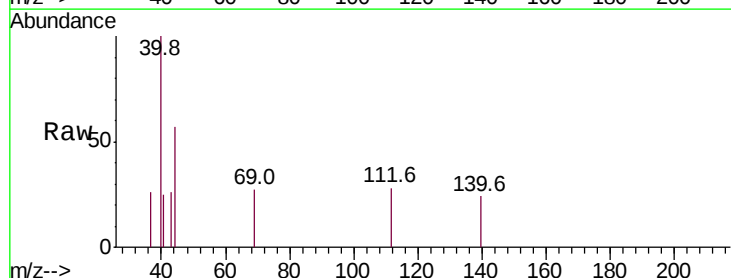
Acq: 16 Oct 2019 17:11

Tgt Ion: 43 Resp: 57

Ion Ratio Lower Upper

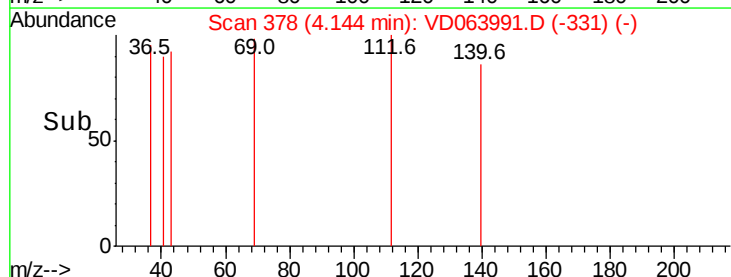
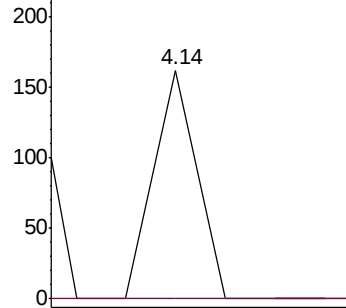
43 100

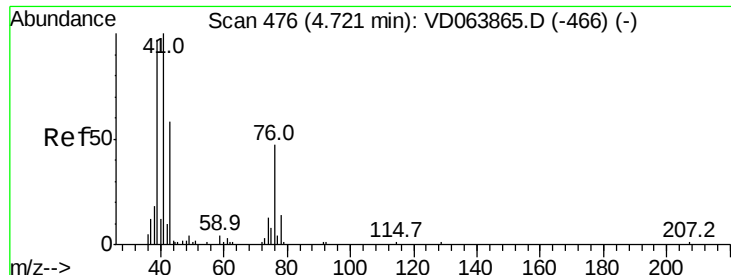
58 0.0 26.2 39.4#



Abundance Ion 43.00 (42.70 to 43.70): VDC

Ion 58.00 (57.70 to 58.70): VDC

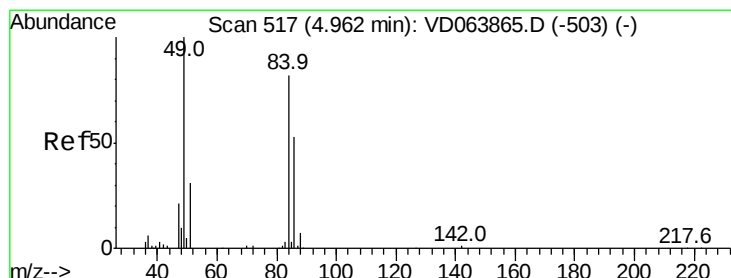
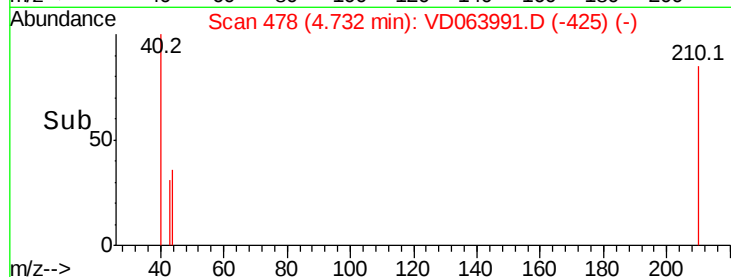
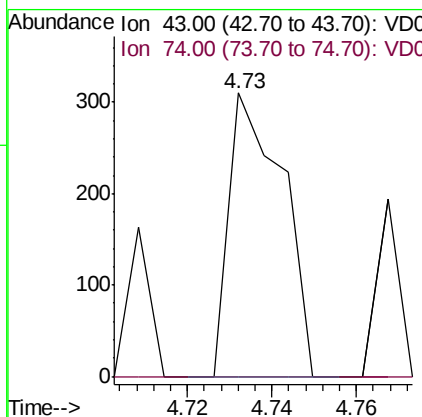
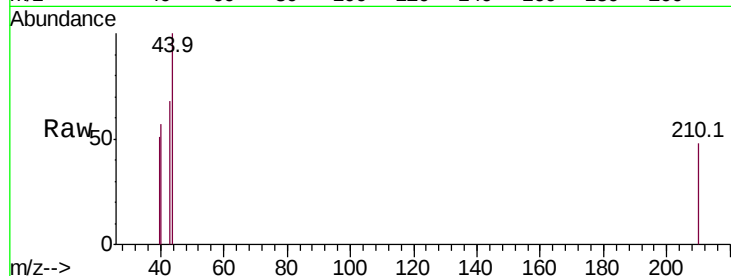




#18  
Methyl Acetate  
Concen: 3.117 ug/l  
RT: 4.73 min Scan# 478  
Delta R.T. 0.01 min  
Lab File: VD063991.D  
Acq: 16 Oct 2019 17:11

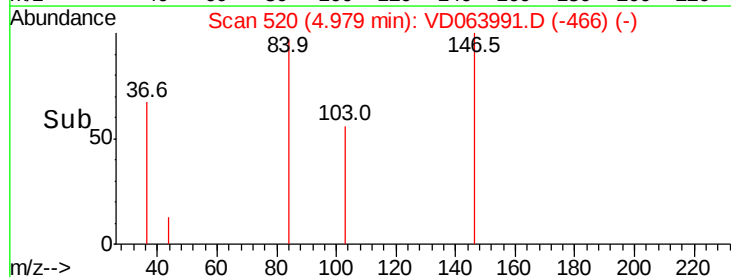
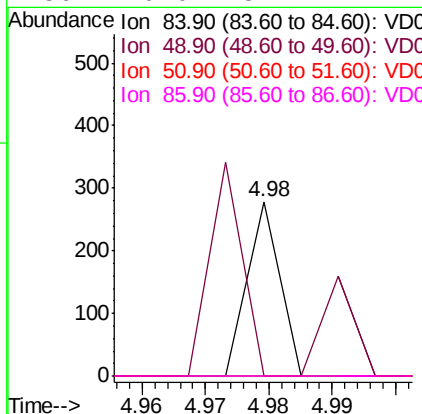
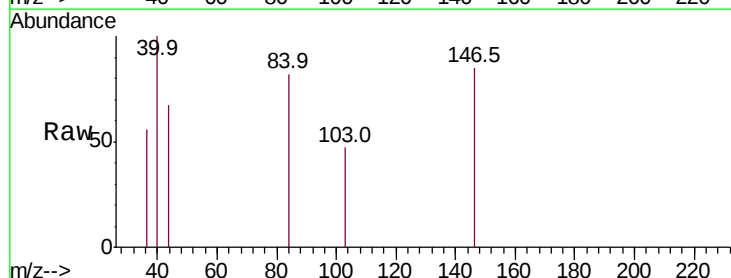
Instrument :  
MSVOA\_D  
ClientSampleId :

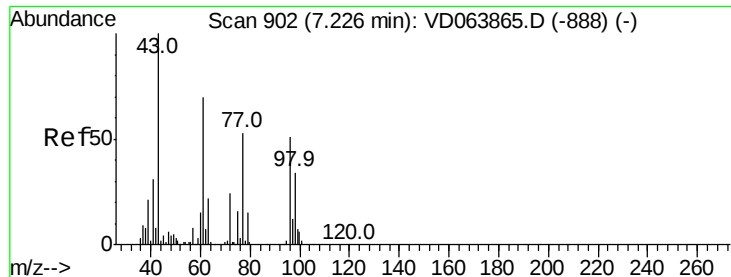
Tot Ion: 43 Resp: 274  
Ion Ratio Lower Upper  
43 100  
74 0.0 20.8 31.2#



#20  
Methylene Chloride  
Concen: Below Cal  
RT: 4.98 min Scan# 520  
Delta R.T. 0.02 min  
Lab File: VD063991.D  
Acq: 16 Oct 2019 17:11

Tgt Ion: 84 Resp: 98  
Ion Ratio Lower Upper  
84 100  
49 0.0 97.3 145.9#  
51 0.0 30.1 45.1#  
86 0.0 51.4 77.2#

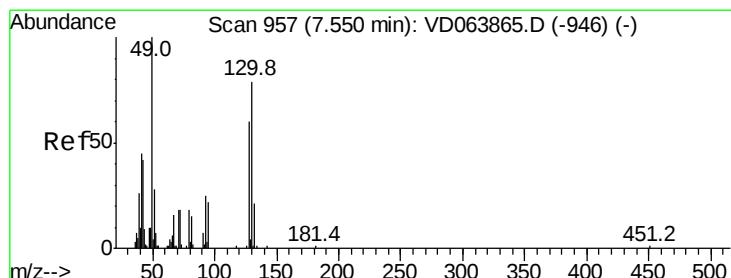
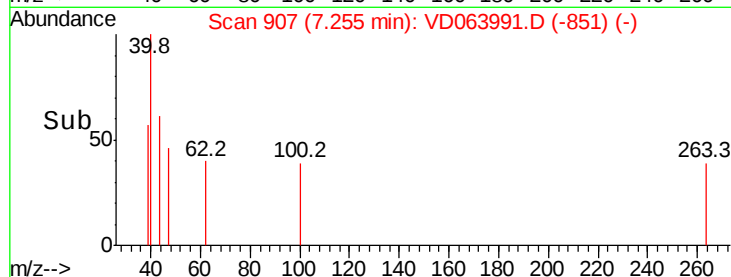
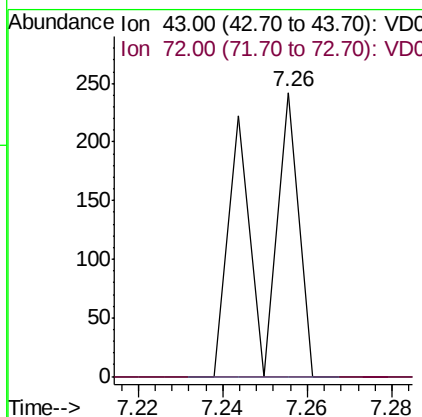
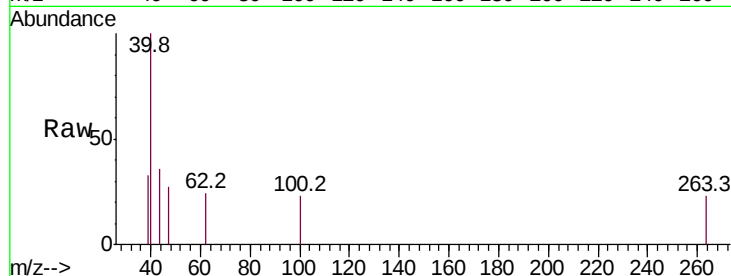




#25  
2-Butanone  
Concen: 3.079 ug/l  
RT: 7.26 min Scan# 907  
Delta R.T. 0.03 min  
Lab File: VD063991.D  
Acq: 16 Oct 2019 17:11

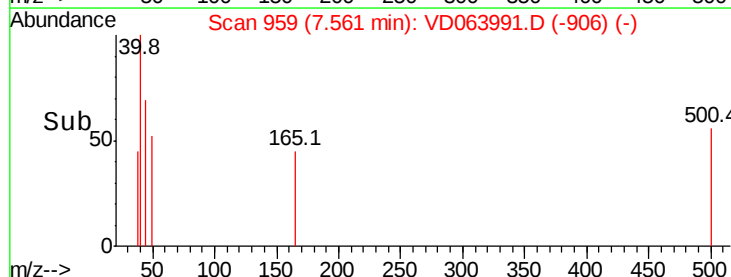
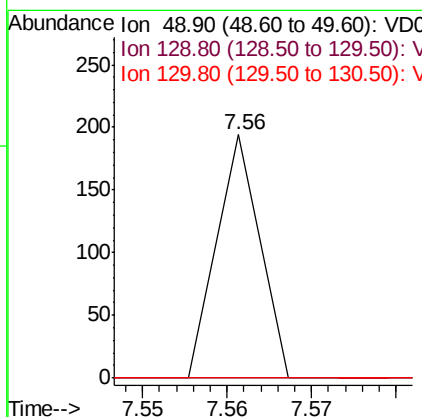
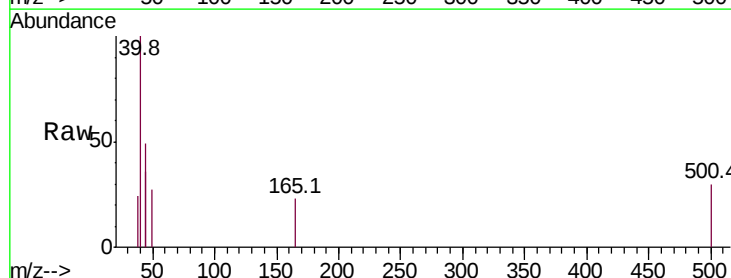
Instrument :  
MSVOA\_D  
ClientSampled :

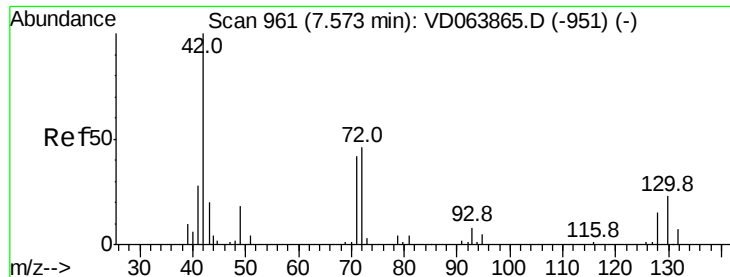
Tot Ion: 43 Resp: 164  
Ion Ratio Lower Upper  
43 100  
72 0.0 19.2 28.8#



#28  
Bromochloromethane  
Concen: 2.418 ug/l  
RT: 7.56 min Scan# 959  
Delta R.T. 0.01 min  
Lab File: VD063991.D  
Acq: 16 Oct 2019 17:11

Tgt Ion: 49 Resp: 68  
Ion Ratio Lower Upper  
49 100  
129 0.0 0.0 5.6  
130 0.0 66.8 100.2#





#29

Tetrahydrofuran

Concen: 2.445 ug/l

RT: 7.58 min Scan# 963

Delta R.T. 0.01 min

Lab File: VD063991.D

Acq: 16 Oct 2019 17:11

Instrument :

MSVOA\_D

ClientSampleId :

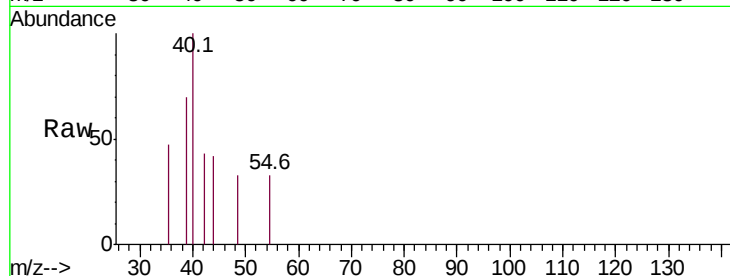
Tot Ion: 42 Resp: 76

Ion Ratio Lower Upper

42 100

72 0.0 37.6 56.4#

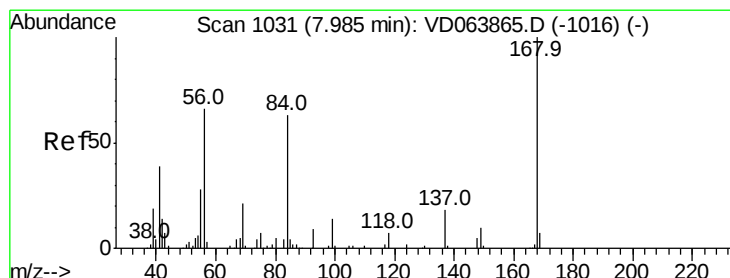
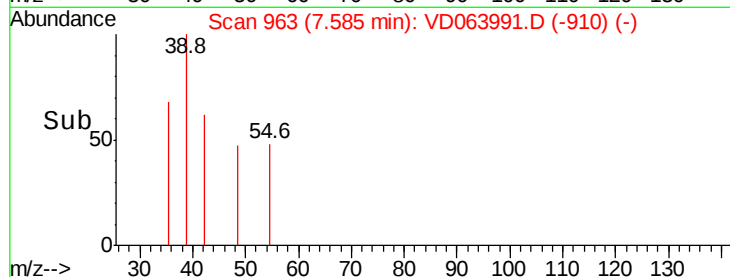
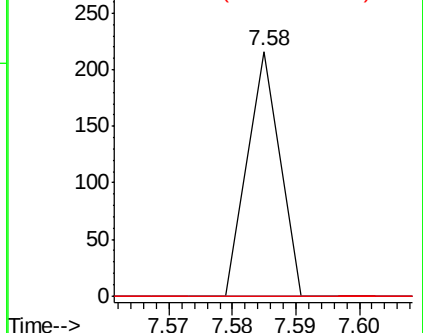
71 0.0 35.0 52.6#



Abundance Ion 42.00 (41.70 to 42.70): VDC

Ion 72.00 (71.70 to 72.70): VDC

Ion 71.00 (70.70 to 71.70): VDC



#31

Cyclohexane

Concen: Below Cal

RT: 7.99 min Scan# 1032

Delta R.T. 0.01 min

Lab File: VD063991.D

Acq: 16 Oct 2019 17:11

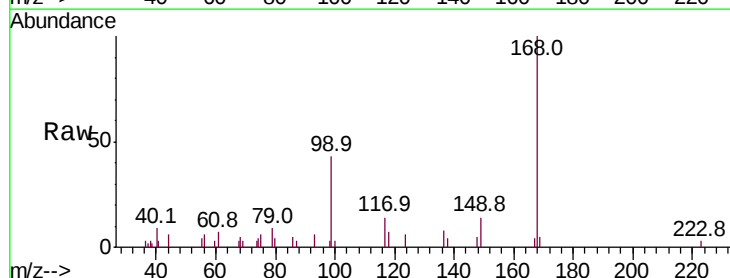
Tgt Ion: 56 Resp: 598

Ion Ratio Lower Upper

56 100

69 53.8 25.0 37.4#

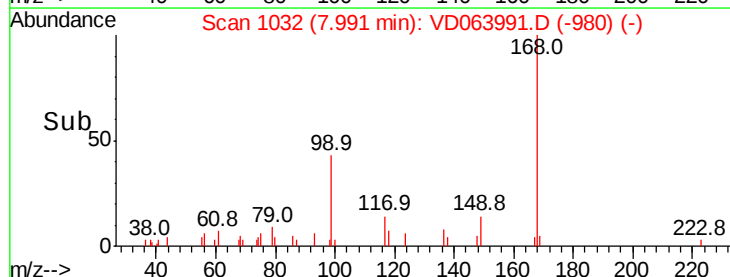
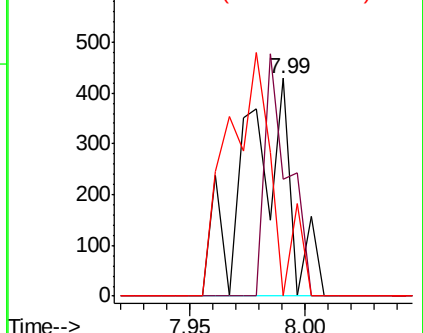
84 0.0 76.3 114.5#

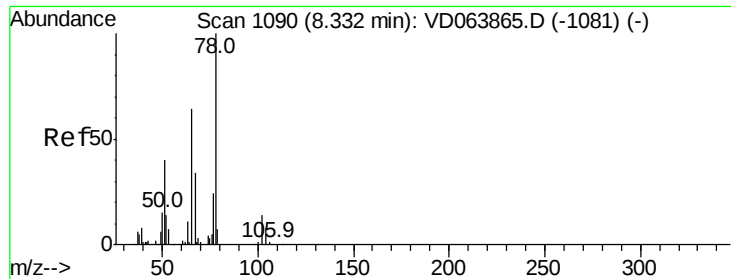


Abundance Ion 56.00 (55.70 to 56.70): VDC

Ion 69.00 (68.70 to 69.70): VDC

Ion 84.00 (83.70 to 84.70): VDC





#33

1,2-Dichloroethane-d4

Concen: 86.596 ug/l

RT: 8.33 min Scan# 1090

Delta R.T. -0.00 min

Lab File: VD063991.D

Acq: 16 Oct 2019 17:11

Instrument :

MSVOA\_D

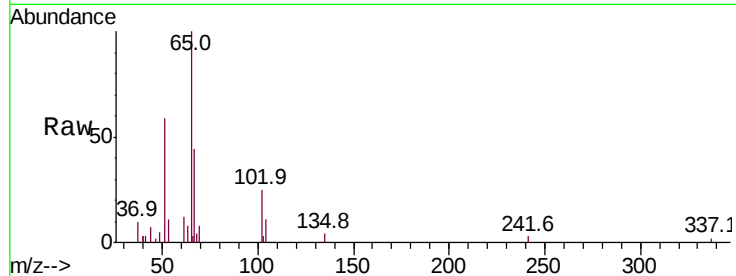
ClientSampleId :

Tot Ion: 65 Resp: 14947

Ion Ratio Lower Upper

65 100

67 59.0 0.0 106.4



Abundance Ion 64.90 (64.60 to 65.60): VDC

Ion 66.90 (66.60 to 67.60): VDC

8.33

6000

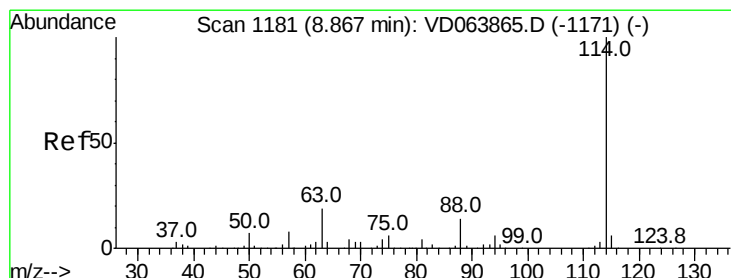
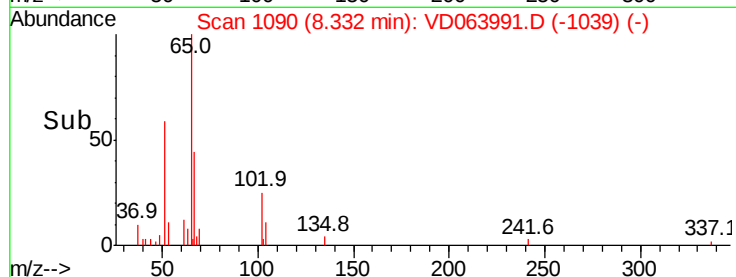
4000

2000

0

8.25 8.30 8.35 8.40

Time-->



#34

1,4-Difluorobenzene

Concen: 50.000 ug/l

RT: 8.87 min Scan# 1181

Delta R.T. -0.00 min

Lab File: VD063991.D

Acq: 16 Oct 2019 17:11

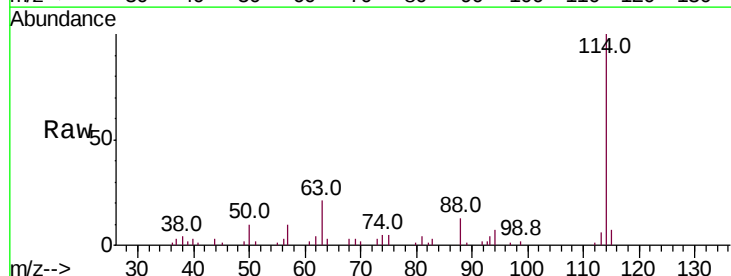
Tgt Ion: 114 Resp: 33971

Ion Ratio Lower Upper

114 100

63 20.9 0.0 38.4

88 13.5 0.0 27.4



Abundance Ion 113.90 (113.60 to 114.60): V

Ion 63.00 (62.70 to 63.70): VDC

Ion 87.90 (87.60 to 88.60): VDC

8.87

20000

15000

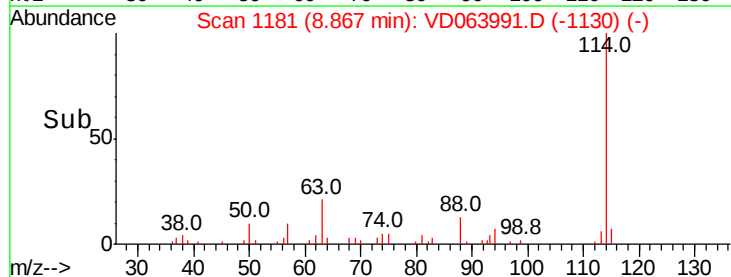
10000

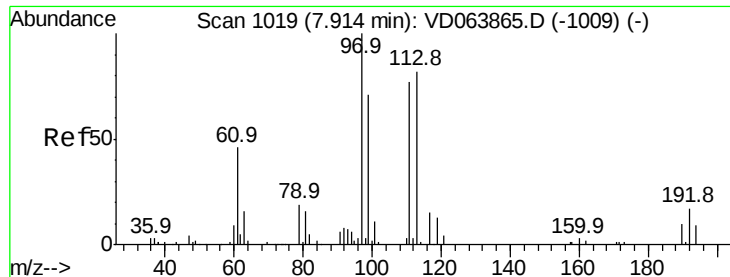
5000

0

8.80 8.85 8.90 8.95

Time-->

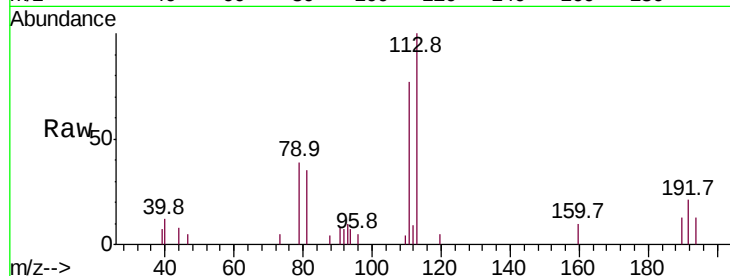




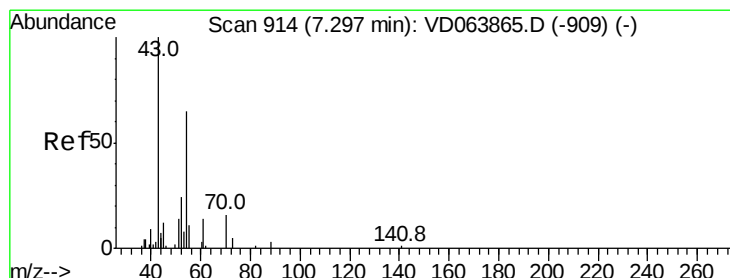
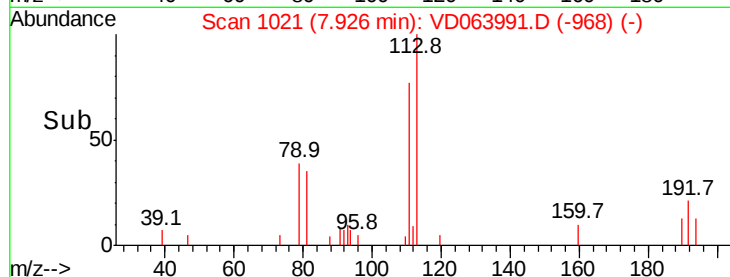
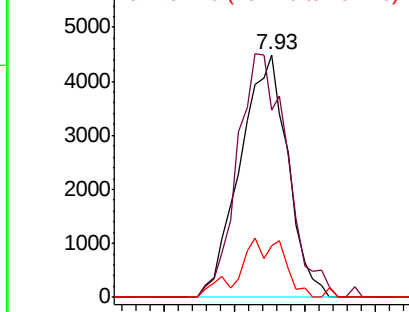
#35  
Dibromofluoromethane  
Concen: 51.149 ug/l  
RT: 7.93 min Scan# 1021  
Delta R.T. 0.01 min  
Lab File: VD063991.D  
Acq: 16 Oct 2019 17:11

Instrument :  
MSVOA\_D  
ClientSampleId :

Tot Ion:113 Resp: 10619  
Ion Ratio Lower Upper  
113 100  
111 104.3 82.6 123.8  
192 13.2 17.1 25.7#

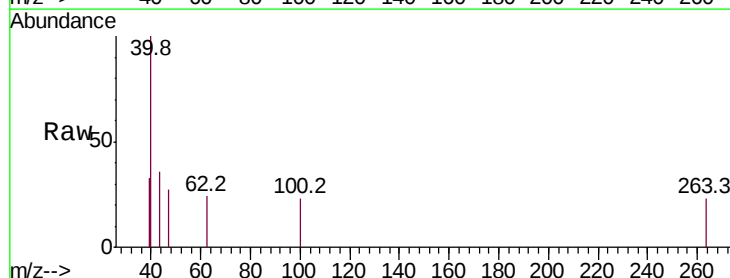


Abundance Ion 112.80 (112.50 to 113.50): V  
Ion 110.80 (110.50 to 111.50): V  
Ion 191.70 (191.40 to 192.40): V

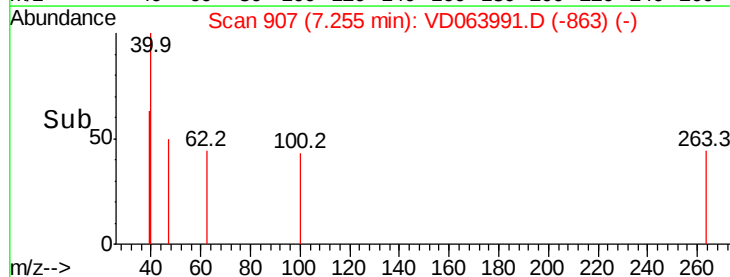
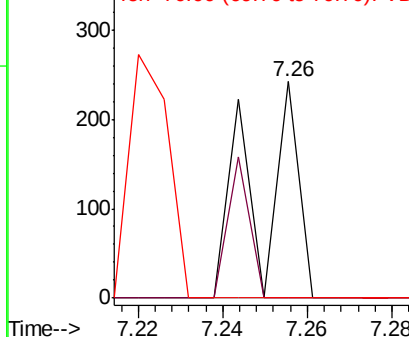


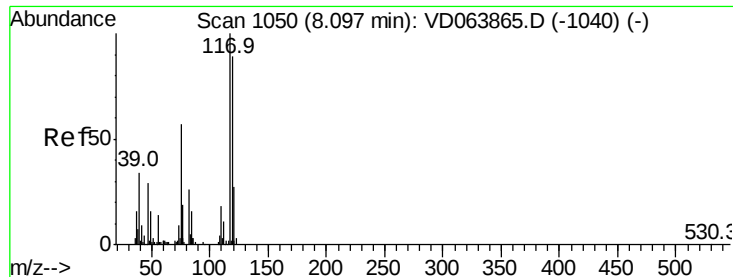
#37  
Ethyl Acetate  
Concen: Below Cal  
RT: 7.26 min Scan# 907  
Delta R.T. -0.04 min  
Lab File: VD063991.D  
Acq: 16 Oct 2019 17:11

Tgt Ion: 43 Resp: 164  
Ion Ratio Lower Upper  
43 100  
61 34.1 11.5 17.3#  
70 0.0 8.2 12.4#



Abundance Ion 43.00 (42.70 to 43.70): VDC  
Ion 60.90 (60.60 to 61.60): VDC  
Ion 70.00 (69.70 to 70.70): VDC

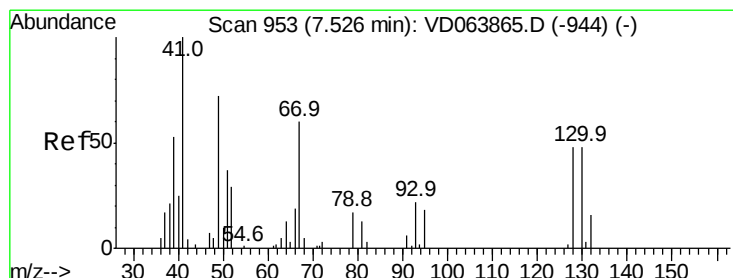
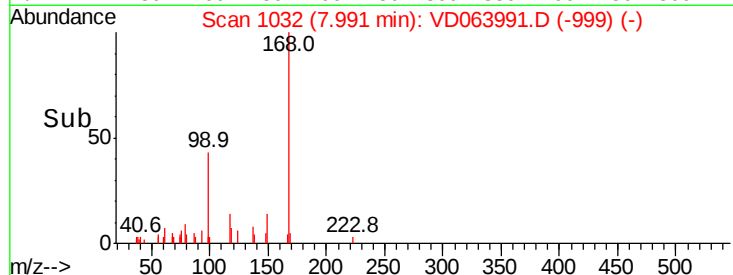
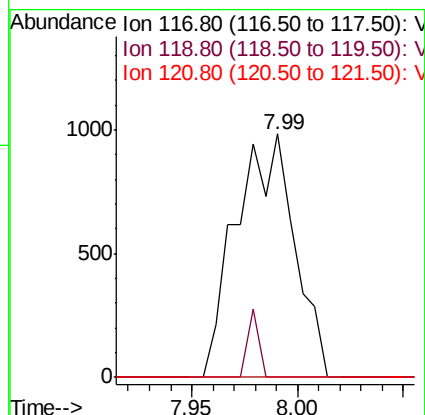
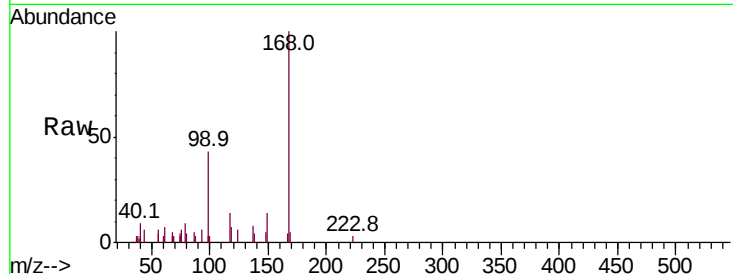




#38  
Carbon Tetrachloride  
Concen: 6.037 ug/l  
RT: 7.99 min Scan# 1032  
Delta R.T. -0.11 min  
Lab File: VD063991.D  
Acq: 16 Oct 2019 17:11

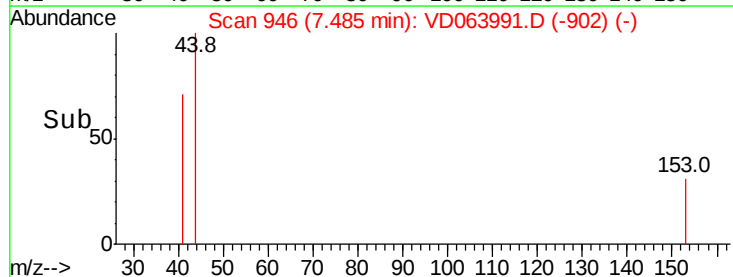
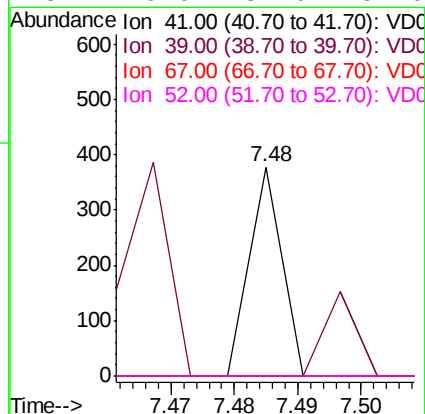
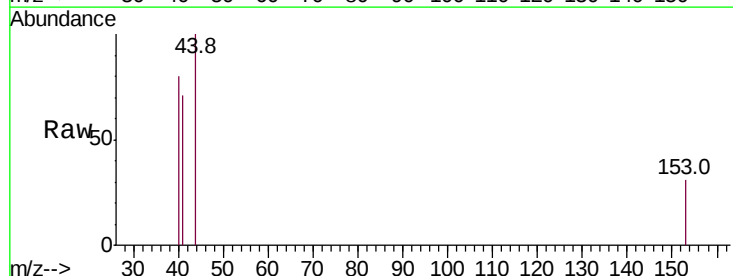
Instrument :  
MSVOA\_D  
ClientSampled :

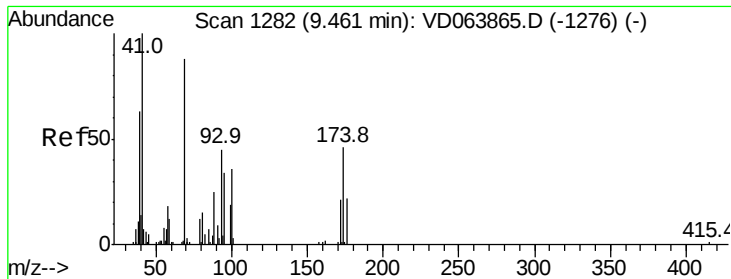
Tot Ion:117 Resp: 1895  
Ion Ratio Lower Upper  
117 100  
119 0.0 70.8 106.2#  
121 0.0 21.4 32.0#



#41  
Methacrylonitrile  
Concen: 1.847 ug/l  
RT: 7.48 min Scan# 946  
Delta R.T. -0.04 min  
Lab File: VD063991.D  
Acq: 16 Oct 2019 17:11

Tgt Ion: 41 Resp: 133  
Ion Ratio Lower Upper  
41 100  
39 40.6 52.6 78.8#  
67 0.0 74.2 111.2#  
52 0.0 34.0 51.0#

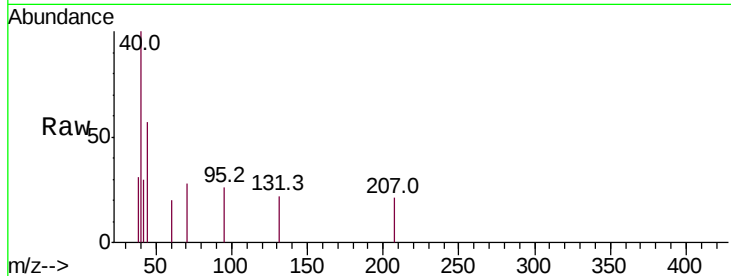




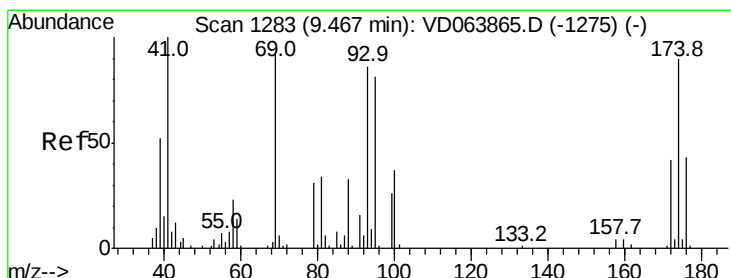
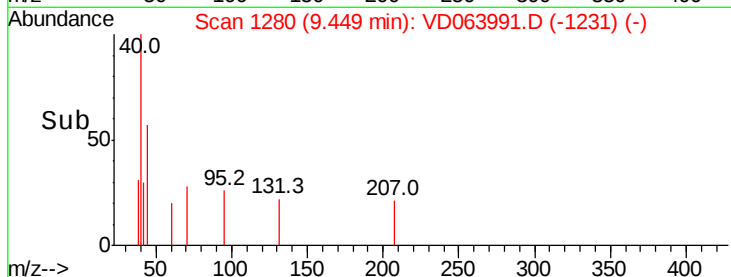
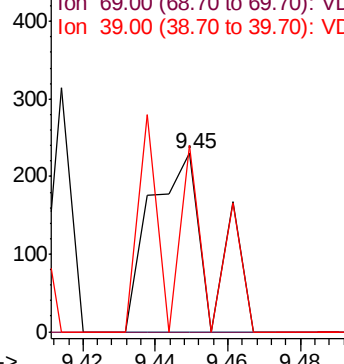
#48  
Methvl methacrylate  
Concen: 2.123 ug/l  
RT: 9.45 min Scan# 1280  
Delta R.T. -0.01 min  
Lab File: VD063991.D  
Acq: 16 Oct 2019 17:11

Instrument :  
MSVOA\_D  
ClientSampled :

Tot Ion: 41 Resp: 265  
Ion Ratio Lower Upper  
41 100  
69 0.0 75.1 112.7#  
39 37.4 50.2 75.2#

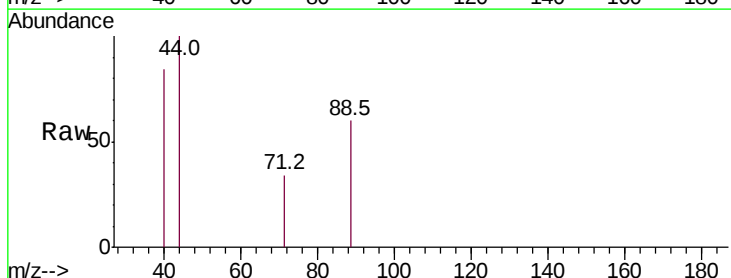


Abundance Ion 41.00 (40.70 to 41.70): VDC  
Ion 69.00 (68.70 to 69.70): VDC  
Ion 39.00 (38.70 to 39.70): VDC

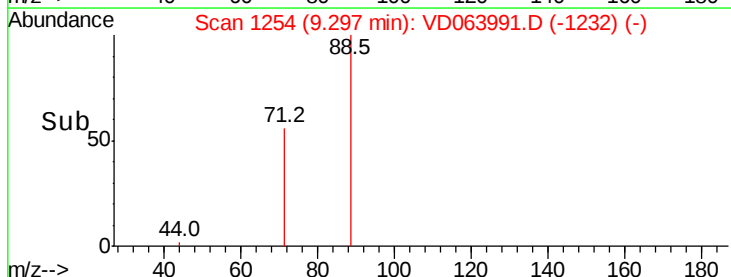
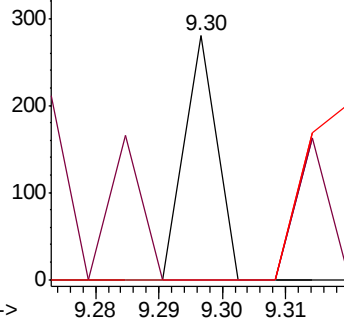


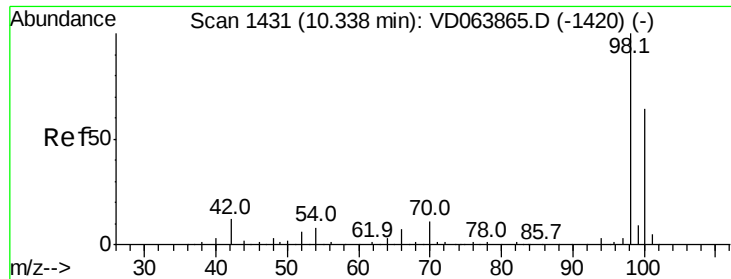
#49  
1,4-Dioxane  
Concen: 58.454 ug/l  
RT: 9.30 min Scan# 1254  
Delta R.T. -0.17 min  
Lab File: VD063991.D  
Acq: 16 Oct 2019 17:11

Tgt Ion: 88 Resp: 99  
Ion Ratio Lower Upper  
88 100  
43 0.0 27.6 41.4#  
58 0.0 54.1 81.1#



Abundance Ion 88.00 (87.70 to 88.70): VDC  
Ion 43.00 (42.70 to 43.70): VDC  
Ion 58.00 (57.70 to 58.70): VDC





#50

Toluene-d8

Concen: 47.123 ug/l

RT: 10.34 min Scan# 1432

Delta R.T. 0.01 min

Lab File: VD063991.D

Acq: 16 Oct 2019 17:11

Instrument :

MSVOA\_D

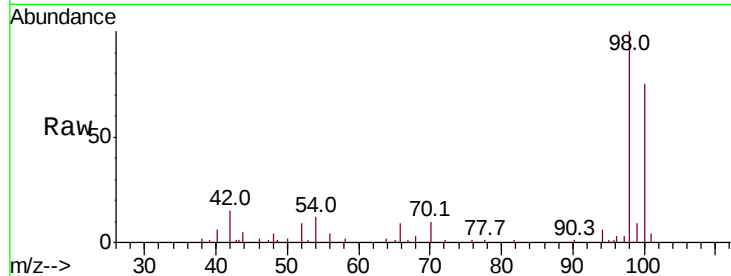
ClientSampleId :

Tot Ion: 98 Resp: 39708

Ion Ratio Lower Upper

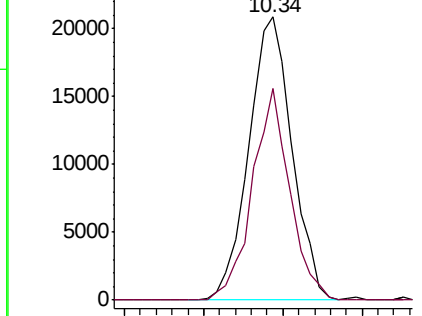
98 100

100 64.6 52.1 78.1

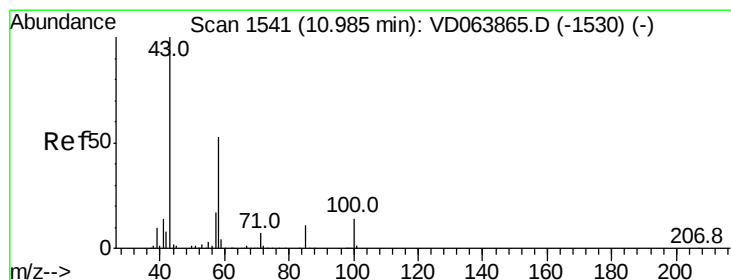
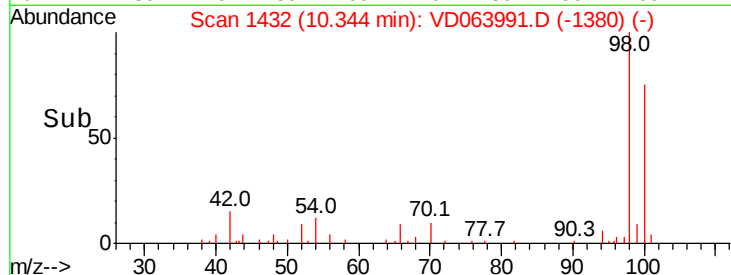


Abundance Ion 98.00 (97.70 to 98.70): VDC

Ion 100.00 (99.70 to 100.70): VDC



Time--> 10.25 10.30 10.35 10.40



#59

2-Hexanone

Concen: 1.596 ug/l

RT: 11.08 min Scan# 1557

Delta R.T. 0.09 min

Lab File: VD063991.D

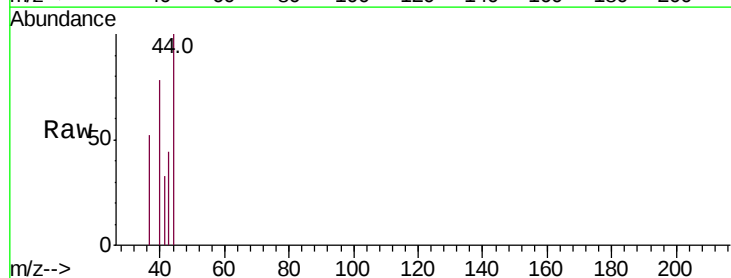
Acq: 16 Oct 2019 17:11

Tgt Ion: 43 Resp: 156

Ion Ratio Lower Upper

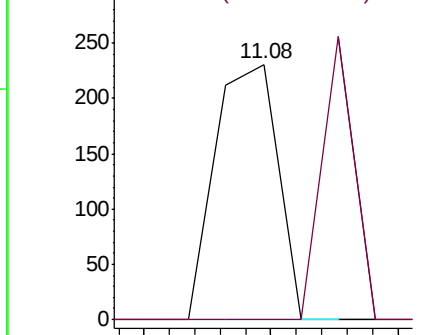
43 100

58 57.7 27.7 83.0

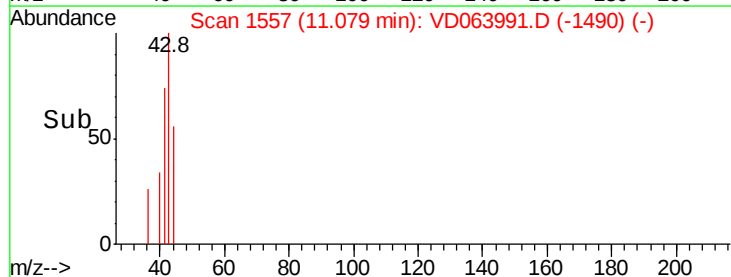


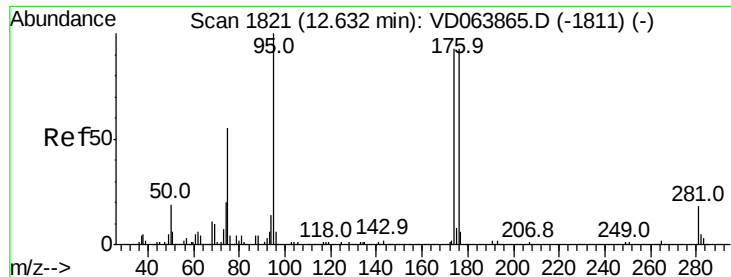
Abundance Ion 43.00 (42.70 to 43.70): VDC

Ion 58.00 (57.70 to 58.70): VDC



Time--> 11.06 11.08

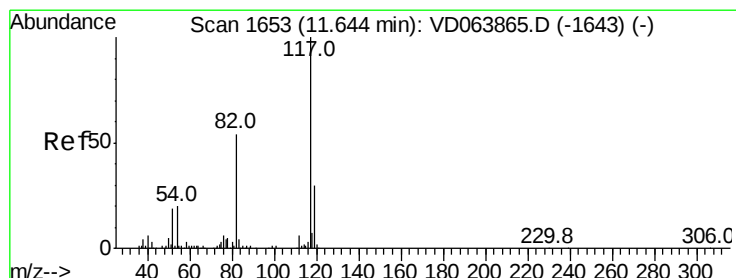
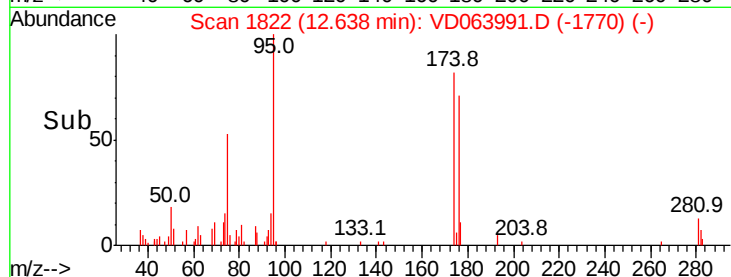
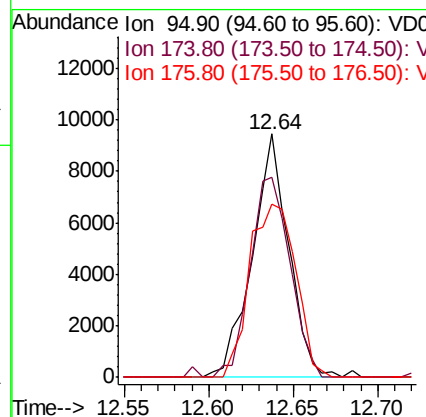
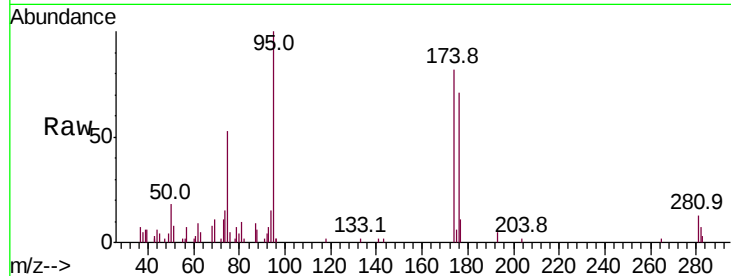




#62  
4-Bromofluorobenzene  
Concen: 48.330 ug/l  
RT: 12.64 min Scan# 1822  
Delta R.T. 0.01 min  
Lab File: VD063991.D  
Acq: 16 Oct 2019 17:11

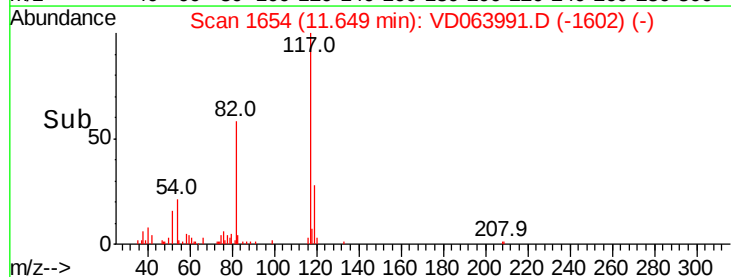
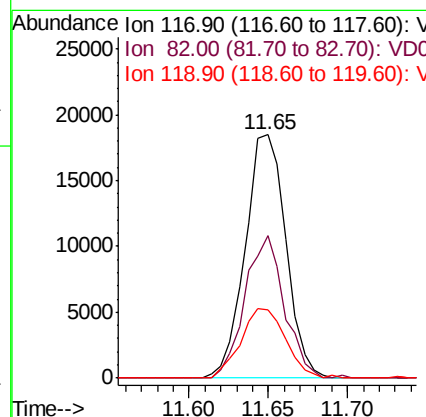
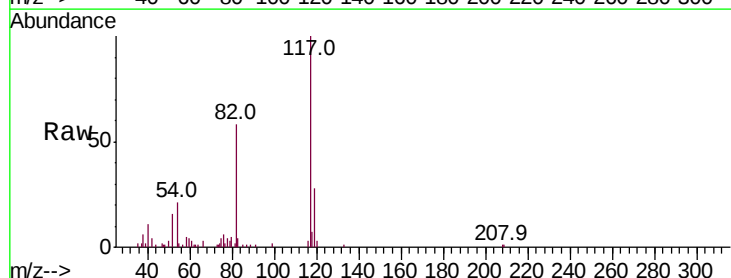
Instrument :  
MSVOA\_D  
ClientSampleId :

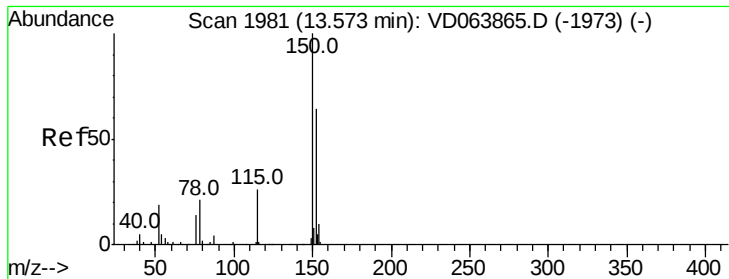
Tot Ion: 95 Resp: 14152  
Ion Ratio Lower Upper  
95 100  
174 90.6 0.0 186.4  
176 89.7 0.0 184.2



#63  
Chlorobenzene-d5  
Concen: 50.000 ug/l  
RT: 11.65 min Scan# 1654  
Delta R.T. 0.01 min  
Lab File: VD063991.D  
Acq: 16 Oct 2019 17:11

Tgt Ion: 117 Resp: 32965  
Ion Ratio Lower Upper  
117 100  
82 58.3 42.8 64.2  
119 28.2 24.4 36.6





#72

1,4-Dichlorobenzene-d4

Concen: 50.000 ug/l

RT: 13.58 min Scan# 1982

Delta R.T. 0.01 min

Lab File: VD063991.D

Acq: 16 Oct 2019 17:11

Instrument :

MSVOA\_D

ClientSampleId :

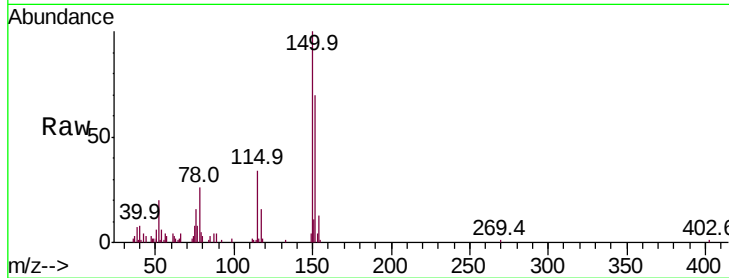
Tot Ion:152 Resp: 17244

Ion Ratio Lower Upper

152 100

115 55.5 25.9 77.7

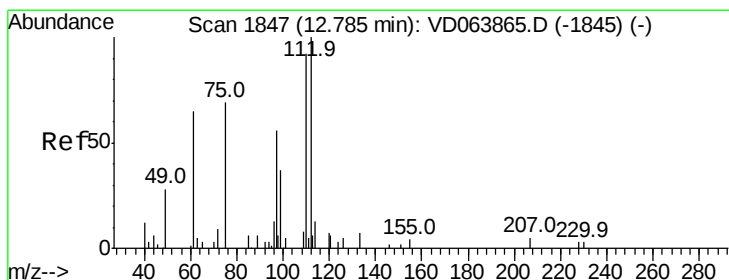
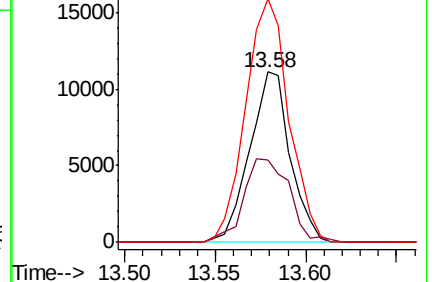
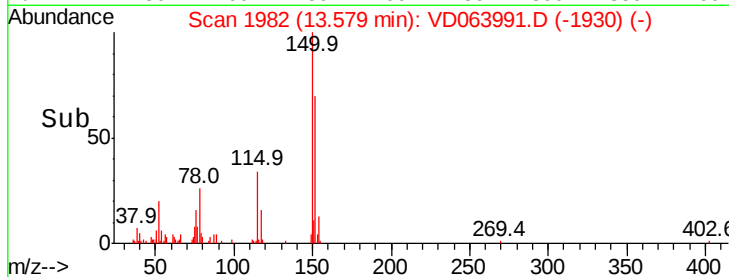
150 152.0 0.0 344.2



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: 70.869 ug/l

RT: 12.64 min Scan# 1822

Delta R.T. -0.15 min

Lab File: VD063991.D

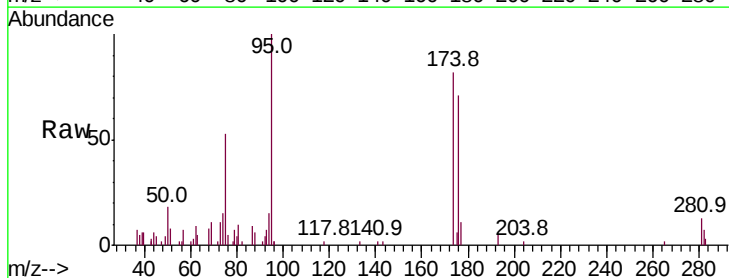
Acq: 16 Oct 2019 17:11

Tgt Ion: 75 Resp: 8185

Ion Ratio Lower Upper

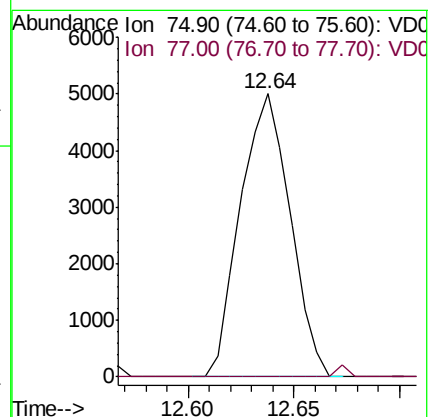
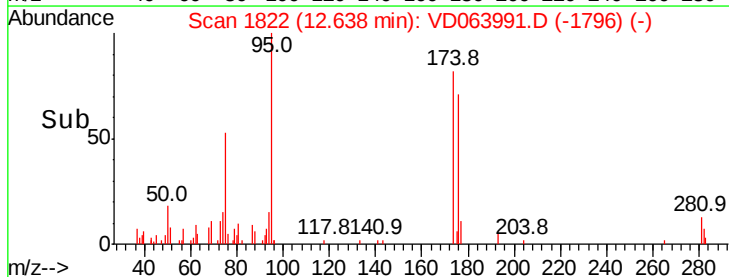
75 100

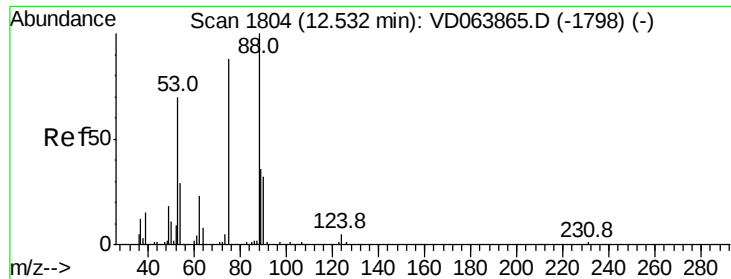
77 0.0 0.0 0.0



Abundance Ion 74.90 (74.60 to 75.60): V

Ion 77.00 (76.70 to 77.70): V





#81

trans-1,4-Dichloro-2-butene

Concen: 125.409 ug/l

RT: 12.64 min Scan# 1822

Delta R.T. 0.11 min

Lab File: VD063991.D

Acq: 16 Oct 2019 17:11

Instrument :

MSVOA\_D

ClientSampleId :

Tot Ion: 75 Resp: 8185

Ion Ratio Lower Upper

75 100

53 0.0 75.0 112.6#

89 0.0 38.2 57.4#

