

Data Path : Z:\VOASRV\HPCHEM1\MSVOA N\DATA\VN101419\  
 Data File : VN058758.D  
 Acq On : 14 Oct 2019 18:45  
 Operator : JC/SP  
 Sample : PB123940TB  
 Misc : 5.00mL/MSVOA N/WATER  
 ALS Vial : 18 Sample Multiplier: 1

Instrument :  
 MSVOA\_N  
 ClientSampleId :

Quant Time: Oct 15 03:15:04 2019  
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA\_N\METHODS\82N101319W.M  
 Quant Title : SW846 8260  
 QLast Update : Sat Oct 12 00:00:30 2019  
 Response via : Initial Calibration

| Internal Standards         | R.T.  | QIon | Response | Conc  | Units | Dev(Min) |
|----------------------------|-------|------|----------|-------|-------|----------|
| 1) Pentafluorobenzene      | 7.65  | 168  | 378507   | 50.00 | ug/l  | 0.00     |
| 34) 1,4-Difluorobenzene    | 8.57  | 114  | 643825   | 50.00 | ug/l  | 0.00     |
| 63) Chlorobenzene-d5       | 11.41 | 117  | 575653   | 50.00 | ug/l  | 0.00     |
| 72) 1,4-Dichlorobenzene-d4 | 13.35 | 152  | 232602   | 50.00 | ug/l  | 0.00     |

## System Monitoring Compounds

|                           |        |     |          |       |         |      |
|---------------------------|--------|-----|----------|-------|---------|------|
| 33) 1,2-Dichloroethane-d4 | 8.01   | 65  | 308554   | 58.23 | ug/l    | 0.00 |
| Spiked Amount             | 50.000 |     | Recovery | =     | 116.46% |      |
| 35) Dibromofluoromethane  | 7.57   | 113 | 212475   | 53.43 | ug/l    | 0.00 |
| Spiked Amount             | 50.000 |     | Recovery | =     | 106.86% |      |
| 50) Toluene-d8            | 10.08  | 98  | 767680   | 48.27 | ug/l    | 0.00 |
| Spiked Amount             | 50.000 |     | Recovery | =     | 96.54%  |      |
| 62) 4-Bromofluorobenzene  | 12.40  | 95  | 259375   | 43.09 | ug/l    | 0.00 |
| Spiked Amount             | 50.000 |     | Recovery | =     | 86.18%  |      |

## Target Compounds

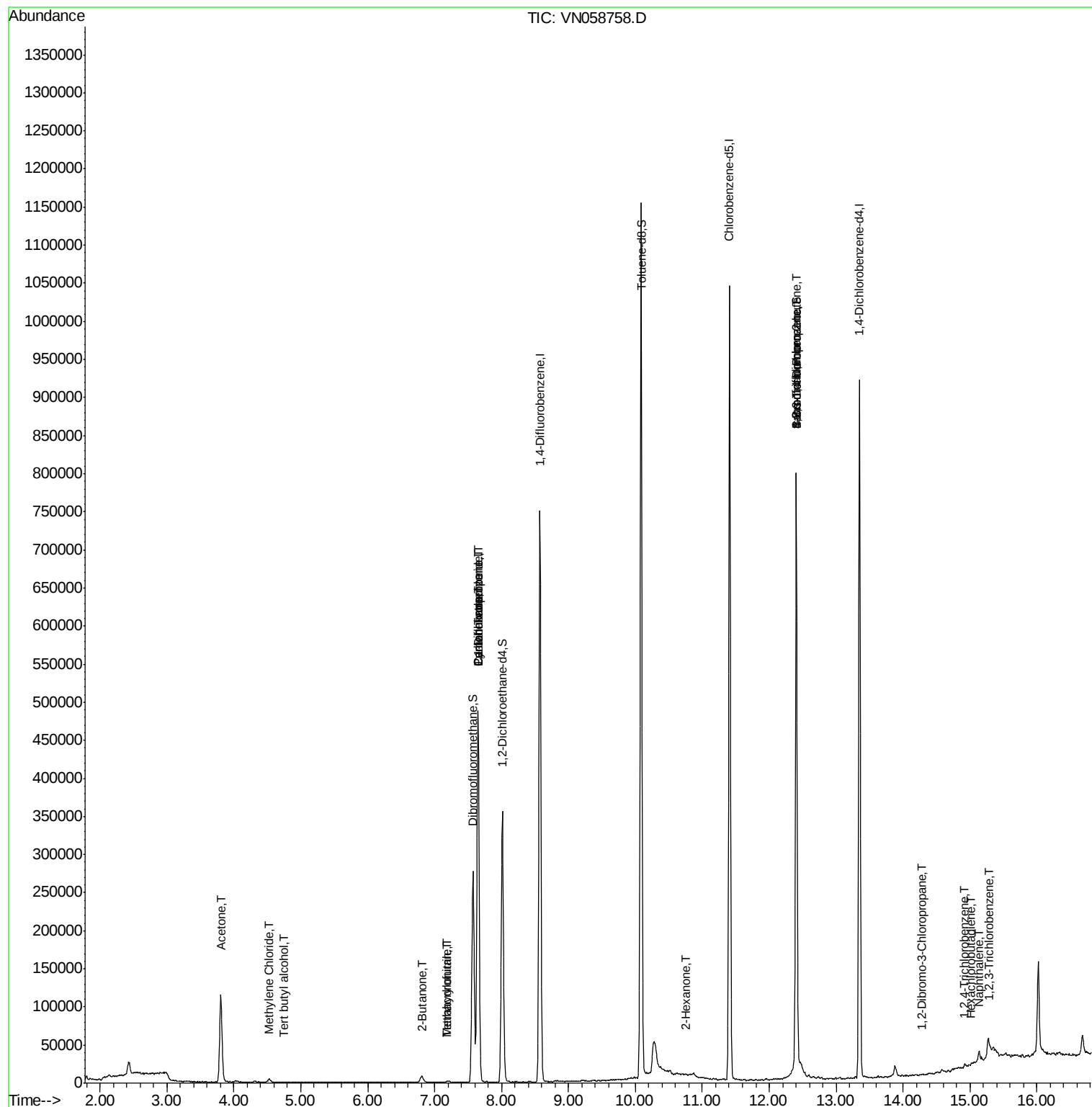
|                                |       |     |        |        |        | Qvalue |
|--------------------------------|-------|-----|--------|--------|--------|--------|
| 11) Tert butyl alcohol         | 4.74  | 59  | 181    | 0.211  | ug/l # | 72     |
| 16) Acetone                    | 3.80  | 43  | 6669   | 3.040  | ug/l # | 86     |
| 20) Methylene Chloride         | 4.54  | 84  | 2818   | 0.615  | ug/l # | 71     |
| 25) 2-Butanone                 | 6.82  | 43  | 1149   | 0.362  | ug/l   | 97     |
| 29) Tetrahydrofuran            | 7.20  | 42  | 666    | 0.325  | ug/l # | 48     |
| 31) Cyclohexane                | 7.65  | 56  | 9138   | 1.176  | ug/l # | 5      |
| 36) 1,1-Dichloropropene        | 7.65  | 75  | 32106  | 4.932  | ug/l # | 50     |
| 38) Carbon Tetrachloride       | 7.65  | 117 | 39455  | 6.219  | ug/l # | 17     |
| 41) Methacrylonitrile          | 7.20  | 41  | 817    | 0.265  | ug/l # | 1      |
| 59) 2-Hexanone                 | 10.75 | 43  | 1543   | 0.317  | ug/l   | 69     |
| 71) Bromoform                  | 12.40 | 173 | 1865   | 0.589  | ug/l # | 1      |
| 76) 1,2,3-Trichloropropane     | 12.40 | 75  | 140977 | 27.628 | ug/l # | 100    |
| 81) trans-1,4-Dichloro-2-buten | 12.40 | 75  | 140977 | 74.006 | ug/l # | 11     |
| 92) 1,2-Dibromo-3-Chloropropan | 14.27 | 75  | 782    | 0.603  | ug/l # | 14     |
| 93) 1,2,4-Trichlorobenzene     | 14.92 | 180 | 1797   | 0.400  | ug/l   | 95     |
| 94) Hexachlorobutadiene        | 15.00 | 225 | 486    | 0.205  | ug/l # | 44     |
| 95) Naphthalene                | 15.13 | 128 | 8109   | 0.628  | ug/l # | 93     |
| 96) 1,2,3-Trichlorobenzene     | 15.30 | 180 | 2315   | 0.528  | ug/l   | 91     |

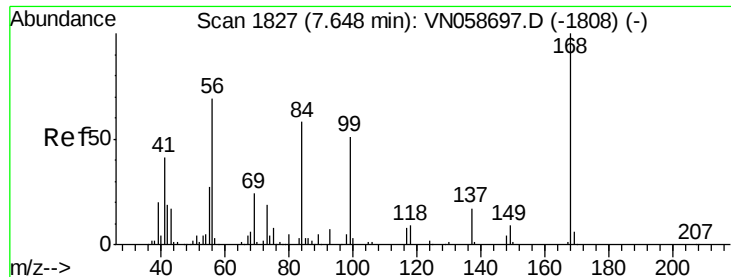
(#) = qualifier out of range (m) = manual integration (+) = signals summed

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MSVOA\_N  
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Quant Title : SW846 8260  
QLast Update : Sat Oct 12 00:00:30 2019  
Response via : Initial Calibration





#1

Pentafluorobenzene

Concen: 50.000 ug/l

RT: 7.65 min Scan# 1828

Delta R.T. 0.00 min

Lab File: VN058758.D

Acq: 14 Oct 2019 18:45

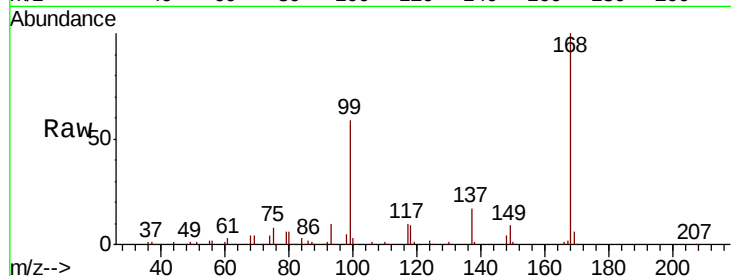
Instrument :  
MSVOA\_N  
ClientSampled :

Tot Ion:168 Resp: 378507

Ion Ratio Lower Upper

168 100

99 58.6 47.5 71.3



Abundance Ion 167.90 (167.60 to 168.60): V

Ion 98.90 (98.60 to 99.60): VN0

7.65

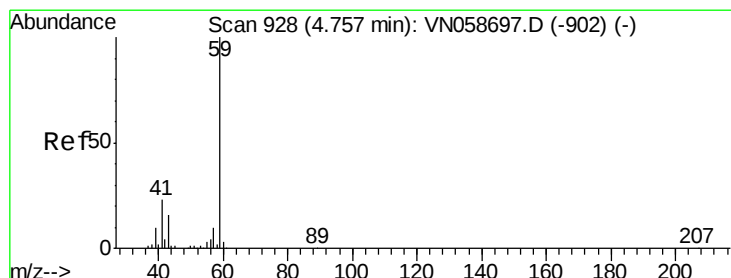
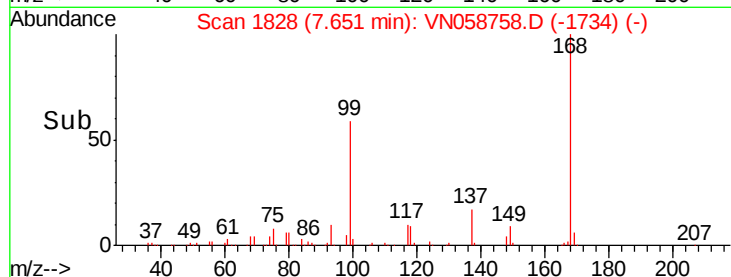
150000

100000

50000

0

Time-->



#11

Tert butyl alcohol

Concen: 0.211 ug/l

RT: 4.74 min Scan# 923

Delta R.T. -0.02 min

Lab File: VN058758.D

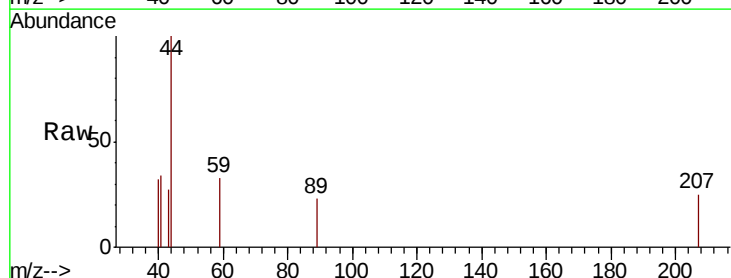
Acq: 14 Oct 2019 18:45

Tgt Ion: 59 Resp: 181

Ion Ratio Lower Upper

59 100

57 0.0 8.4 12.6#



Abundance Ion 59.00 (58.70 to 59.70): VN0

Ion 57.00 (56.70 to 57.70): VN0

4.74

250

200

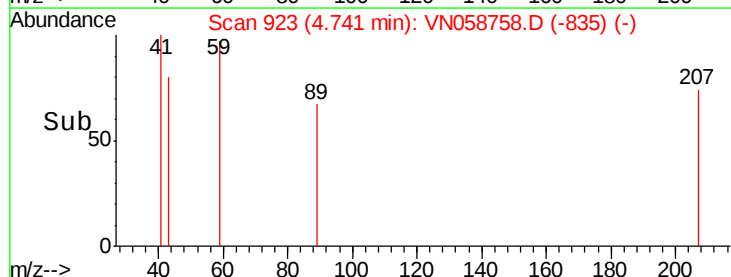
150

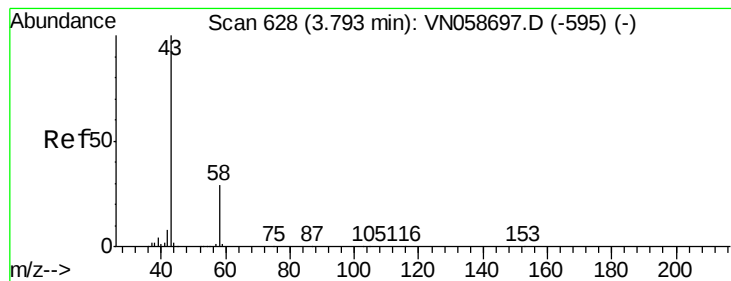
100

50

0

Time-->





#16

Acetone

Concen: 3.040 ug/l

RT: 3.80 min Scan# 630

Delta R.T. 0.01 min

Lab File: VN058758.D

Acq: 14 Oct 2019 18:45

Instrument :

MSVOA\_N

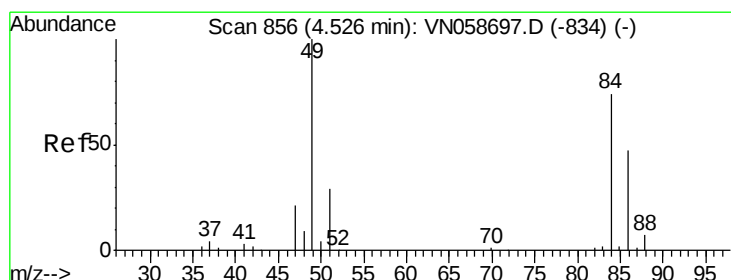
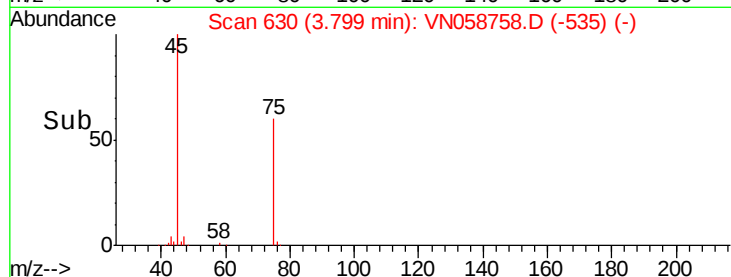
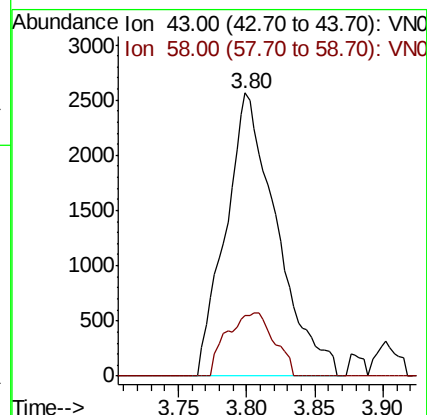
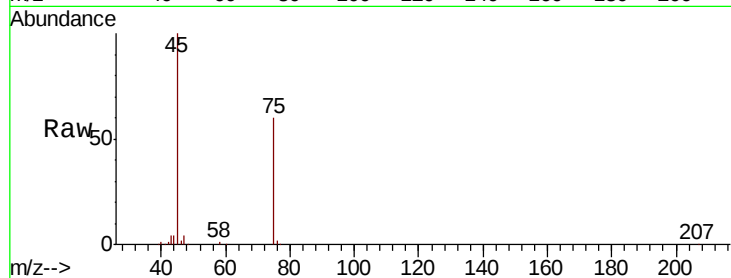
ClientSampleId :

Tot Ion: 43 Resp: 6669

Ion Ratio Lower Upper

43 100

58 21.4 23.3 34.9#



#20

Methylene Chloride

Concen: 0.615 ug/l

RT: 4.54 min Scan# 859

Delta R.T. 0.01 min

Lab File: VN058758.D

Acq: 14 Oct 2019 18:45

Tgt Ion: 84 Resp: 2818

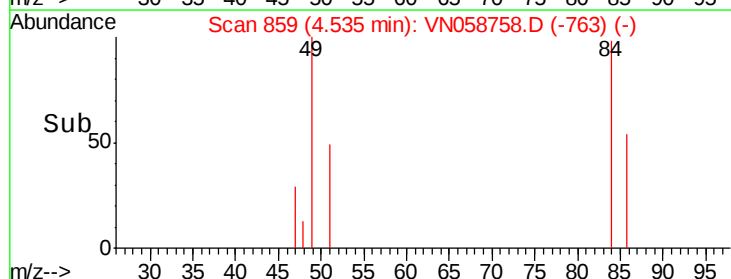
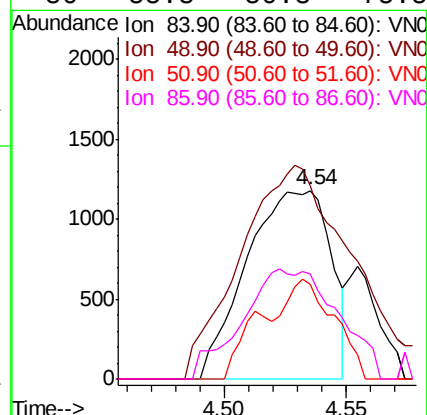
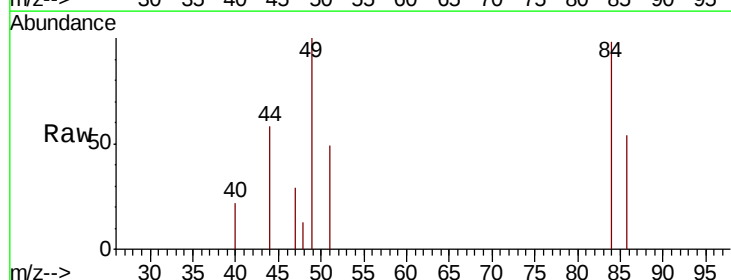
Ion Ratio Lower Upper

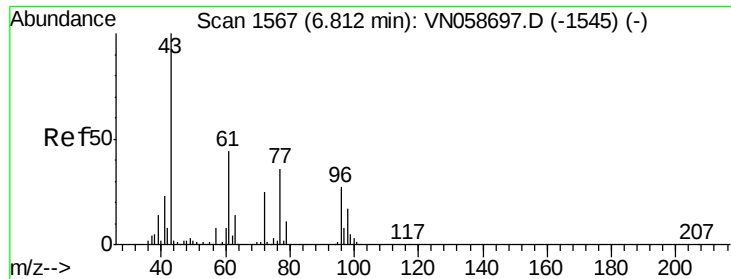
84 100

49 84.8 107.6 161.4#

51 50.3 31.4 47.0#

86 55.8 50.3 75.5





#25

2-Butanone

Concen: 0.362 ug/l

RT: 6.82 min Scan# 1570

Delta R.T. 0.01 min

Lab File: VN058758.D

Acq: 14 Oct 2019 18:45

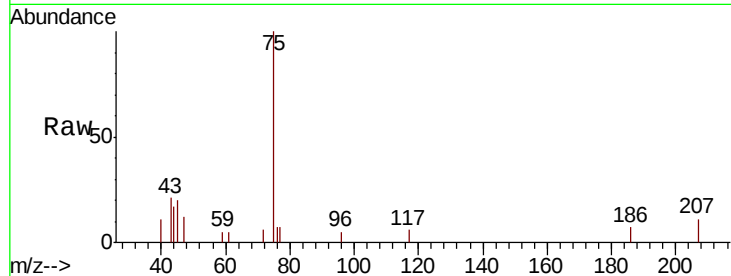
Instrument :  
MSVOA\_N  
ClientSampleId :

Tot Ion: 43 Resp: 1149

Ion Ratio Lower Upper

43 100

72 26.9 20.2 30.2



Abundance Ion 43.00 (42.70 to 43.70): VN058697.D (-1545) (-)

Ion 72.00 (71.70 to 72.70): VN058697.D (-1545) (-)

6.82

600

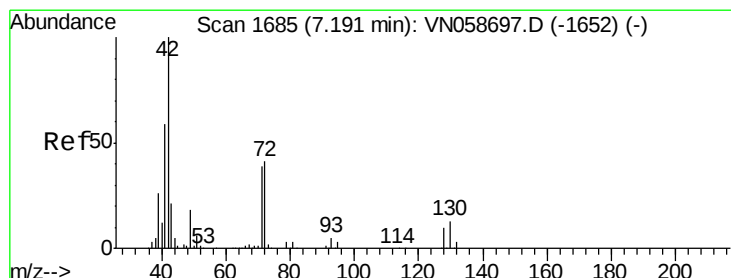
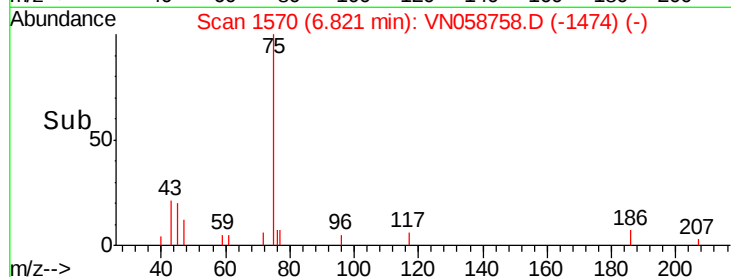
400

200

0

6.75 6.80

Time-->



#29

Tetrahydrofuran

Concen: 0.325 ug/l

RT: 7.20 min Scan# 1687

Delta R.T. 0.01 min

Lab File: VN058758.D

Acq: 14 Oct 2019 18:45

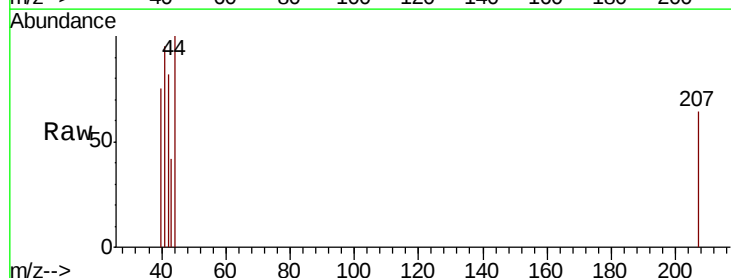
Tgt Ion: 42 Resp: 666

Ion Ratio Lower Upper

42 100

72 15.2 32.8 49.2#

71 0.0 31.1 46.7#



Abundance Ion 42.00 (41.70 to 42.70): VN058697.D (-1652) (-)

Ion 72.00 (71.70 to 72.70): VN058697.D (-1652) (-)

Ion 71.00 (70.70 to 71.70): VN058697.D (-1652) (-)

600

500

400

300

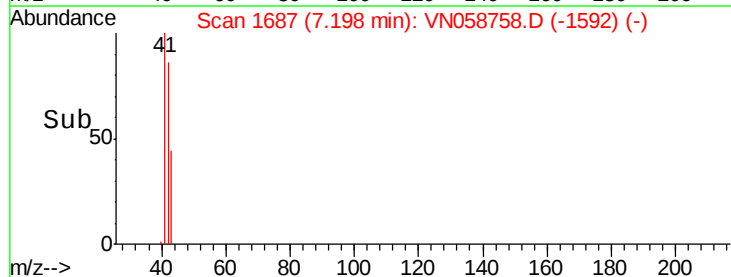
200

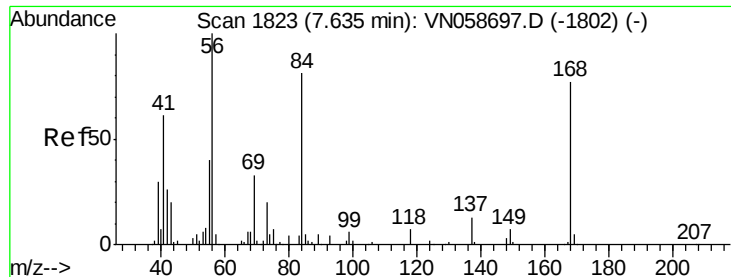
100

0

7.16 7.18 7.20 7.22

Time-->

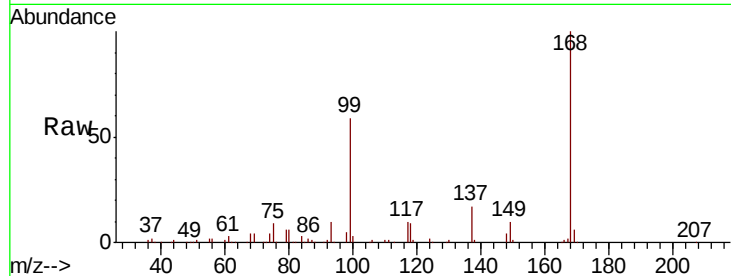




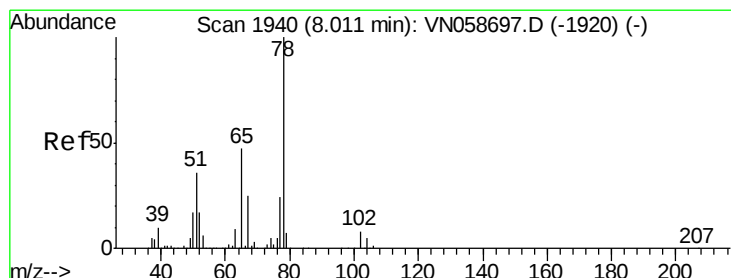
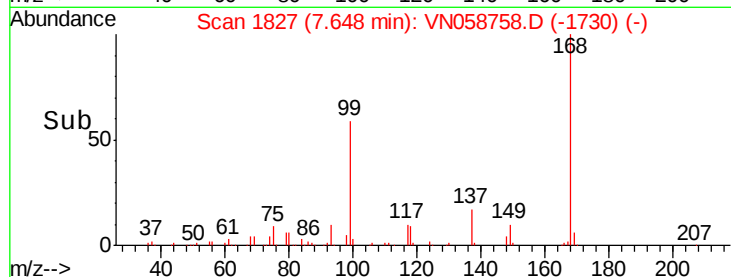
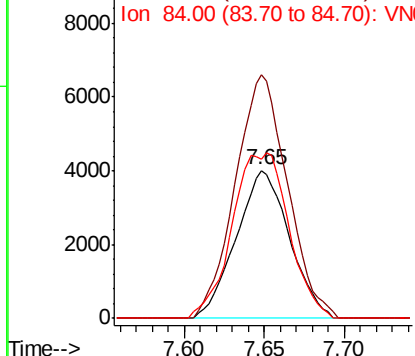
#31  
Cyclohexane  
Concen: 1.176 ug/l  
RT: 7.65 min Scan# 1827  
Delta R.T. 0.01 min  
Lab File: VN058758.D  
Acq: 14 Oct 2019 18:45

Instrument :  
MSVOA\_N  
ClientSampled :

Tot Ion: 56 Resp: 9138  
Ion Ratio Lower Upper  
56 100  
69 164.7 26.2 39.4#  
84 115.3 64.9 97.3#

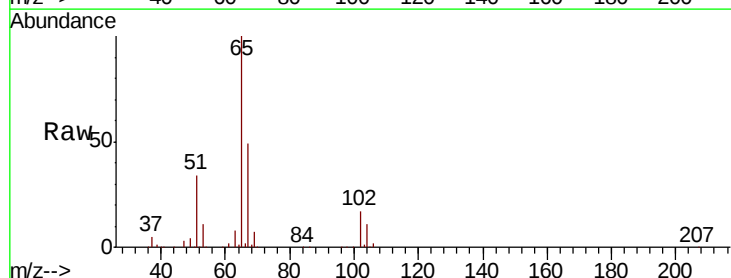


Abundance Ion 56.00 (55.70 to 56.70): VNC  
Ion 69.00 (68.70 to 69.70): VNC  
Ion 84.00 (83.70 to 84.70): VNC

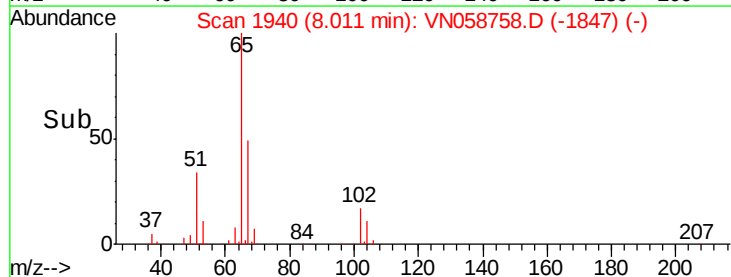
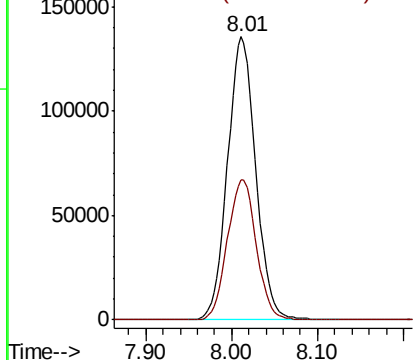


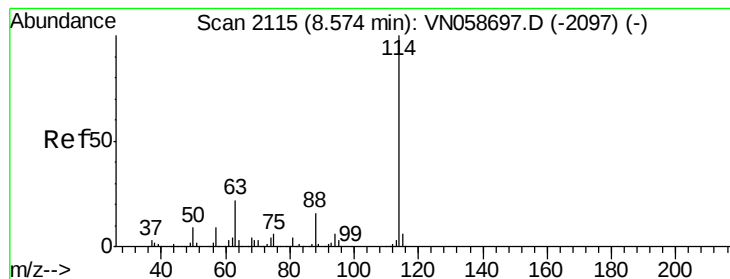
#33  
1,2-Dichloroethane-d4  
Concen: 58.228 ug/l  
RT: 8.01 min Scan# 1940  
Delta R.T. 0.00 min  
Lab File: VN058758.D  
Acq: 14 Oct 2019 18:45

Tgt Ion: 65 Resp: 308554  
Ion Ratio Lower Upper  
65 100  
67 50.7 0.0 103.8



Abundance Ion 64.90 (64.60 to 65.60): VNC  
Ion 66.90 (66.60 to 67.60): VNC





#34

1,4-Difluorobenzene

Concen: 50.000 ug/l

RT: 8.57 min Scan# 2115

Delta R.T. 0.00 min

Lab File: VN058758.D

Acq: 14 Oct 2019 18:45

Instrument :

MSVOA\_N

ClientSampleId :

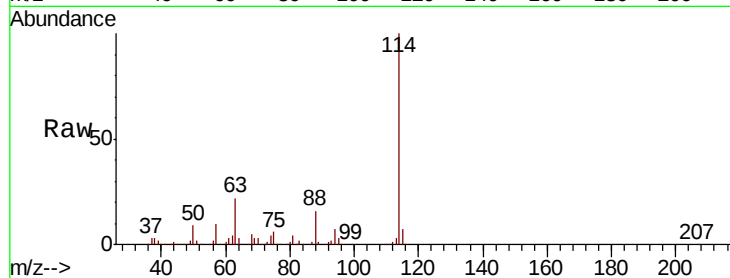
Tot Ion:114 Resp: 643825

Ion Ratio Lower Upper

114 100

63 21.8 0.0 43.8

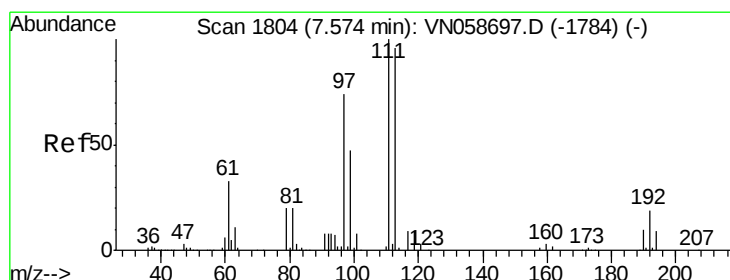
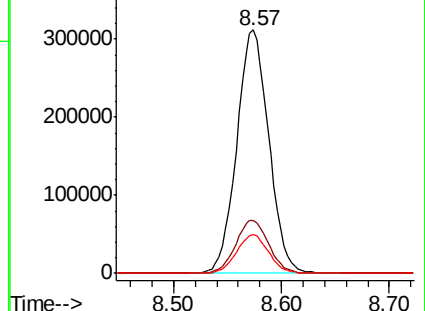
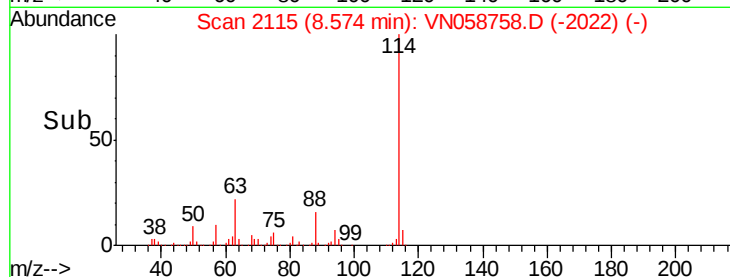
88 16.1 0.0 32.0



Abundance Ion 113.90 (113.60 to 114.60): V

Ion 63.00 (62.70 to 63.70): VN

Ion 87.90 (87.60 to 88.60): VN



#35

Dibromofluoromethane

Concen: 53.429 ug/l

RT: 7.57 min Scan# 1804

Delta R.T. 0.00 min

Lab File: VN058758.D

Acq: 14 Oct 2019 18:45

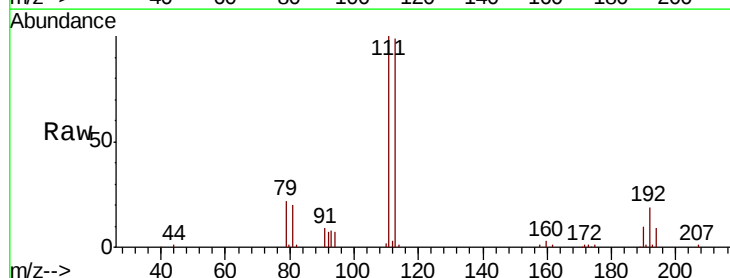
Tgt Ion:113 Resp: 212475

Ion Ratio Lower Upper

113 100

111 102.3 82.3 123.5

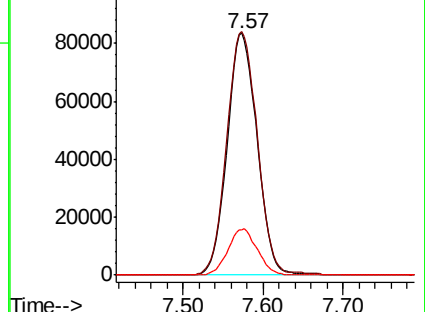
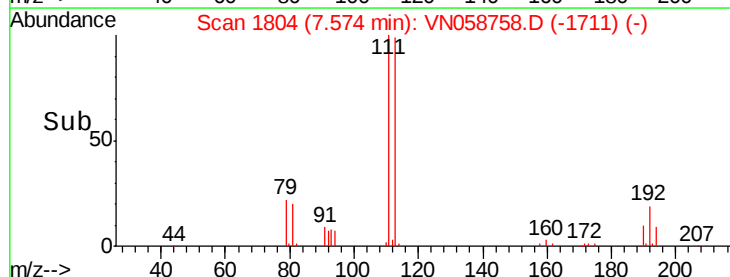
192 18.7 15.0 22.6

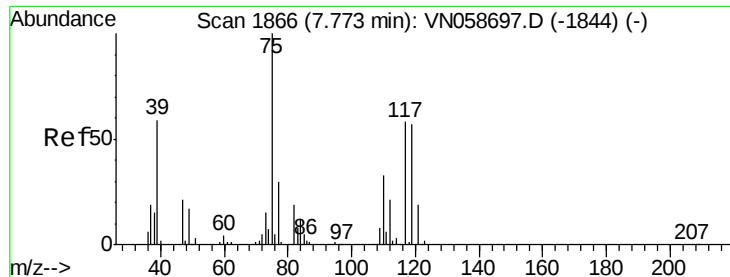


Abundance Ion 112.80 (112.50 to 113.50): V

Ion 110.80 (110.50 to 111.50): V

Ion 191.70 (191.40 to 192.40): V

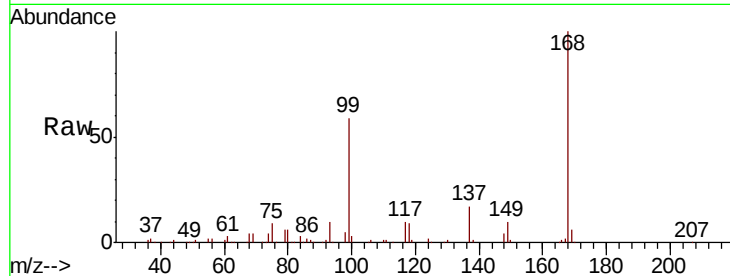




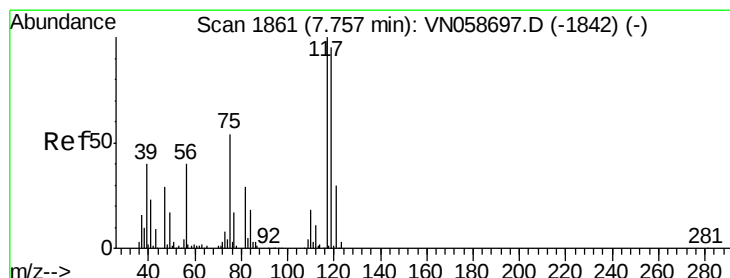
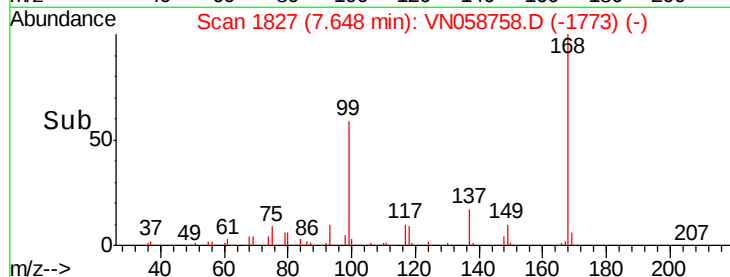
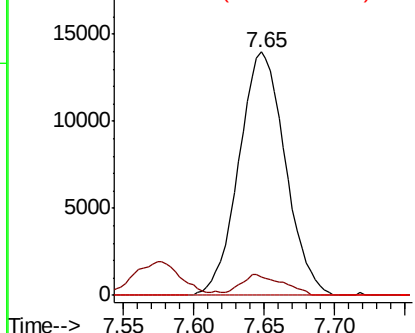
#36  
 1,1-Dichloropropene  
 Concen: 4.932 ug/l  
 RT: 7.65 min Scan# 1827  
 Delta R.T. -0.13 min  
 Lab File: VN058758.D  
 Acq: 14 Oct 2019 18:45

Instrument :  
 MSVOA\_N  
 ClientSampleId :

| Tot Ion   | 75    | Resp  | 32106 |
|-----------|-------|-------|-------|
| Ion Ratio | Lower | Upper |       |
| 75        | 100   |       |       |
| 110       | 7.8   | 16.6  | 49.8# |
| 77        | 0.0   | 24.6  | 37.0# |

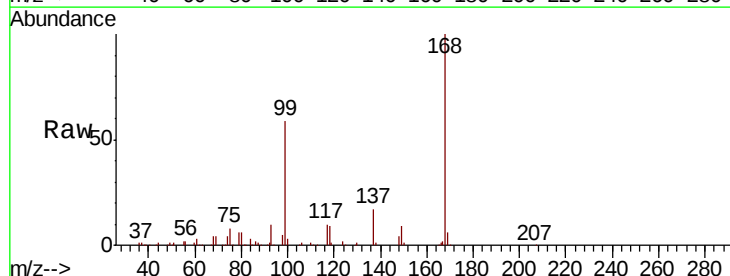


Abundance Ion 74.90 (74.60 to 75.60): VN0  
 Ion 109.90 (109.60 to 110.60): V  
 Ion 76.90 (76.60 to 77.60): VN0

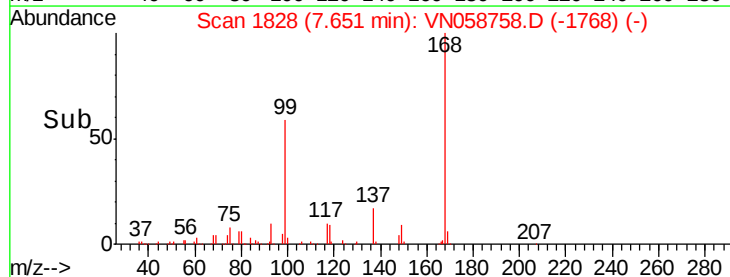
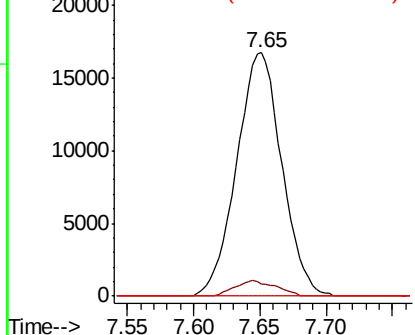


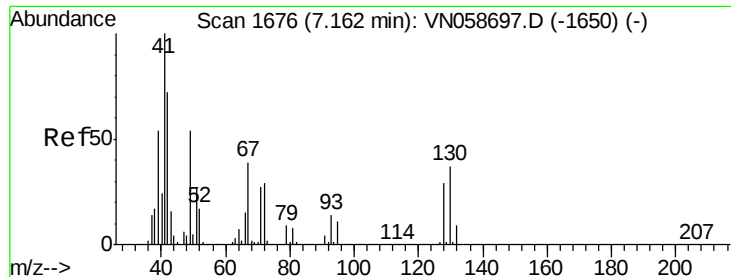
#38  
 Carbon Tetrachloride  
 Concen: 6.219 ug/l  
 RT: 7.65 min Scan# 1828  
 Delta R.T. -0.11 min  
 Lab File: VN058758.D  
 Acq: 14 Oct 2019 18:45

| Tgt Ion                                           | 117   | Resp  | 39455  |
|---------------------------------------------------|-------|-------|--------|
| Ion Ratio <td>Lower</td> <td>Upper</td> <td></td> | Lower | Upper |        |
| 117                                               | 100   |       |        |
| 119                                               | 5.1   | 75.7  | 113.5# |
| 121                                               | 0.0   | 23.9  | 35.9#  |



Abundance Ion 116.80 (116.50 to 117.50): V  
 Ion 118.80 (118.50 to 119.50): V  
 Ion 120.80 (120.50 to 121.50): V

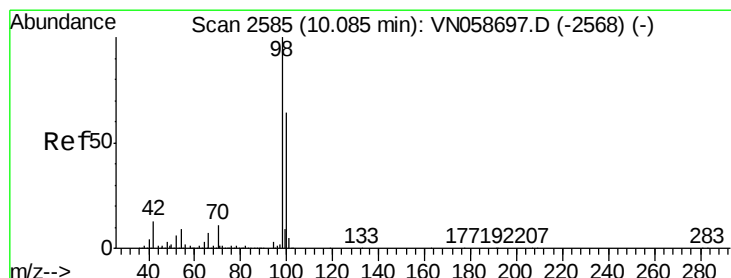
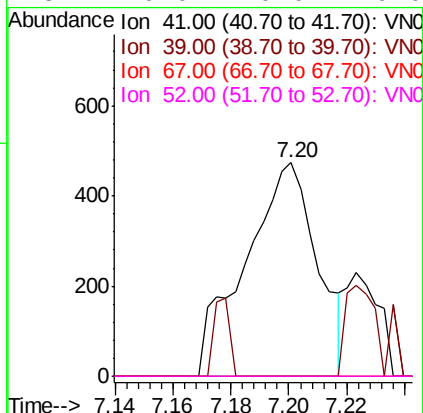
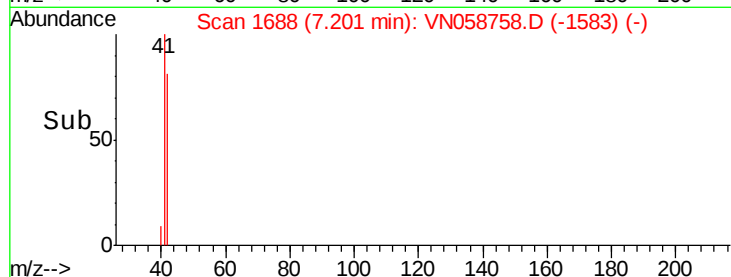
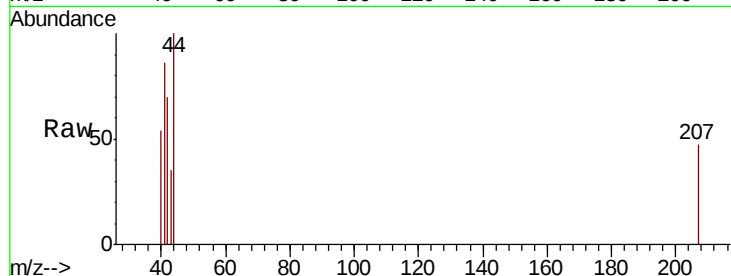




#41  
Methacrylonitrile  
Concen: 0.265 ug/l  
RT: 7.20 min Scan# 1688  
Delta R.T. 0.04 min  
Lab File: VN058758.D  
Acq: 14 Oct 2019 18:45

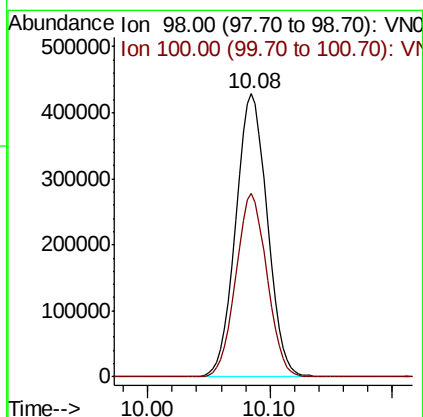
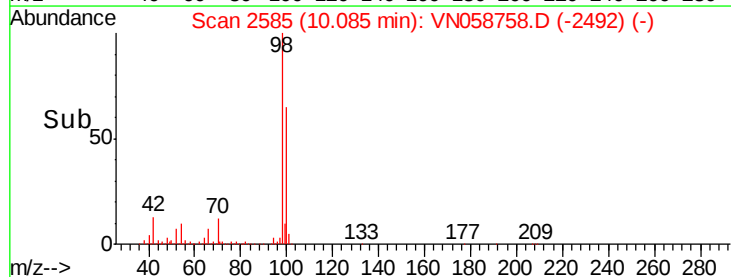
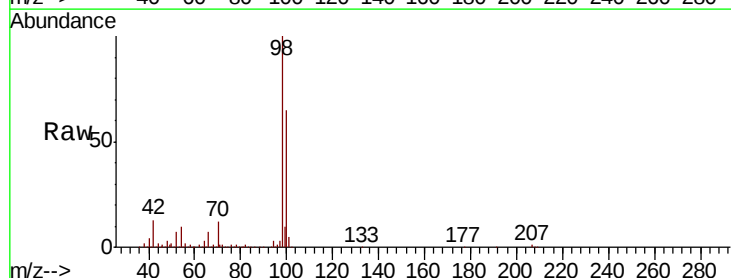
Instrument :  
MSVOA\_N  
ClientSampleId :

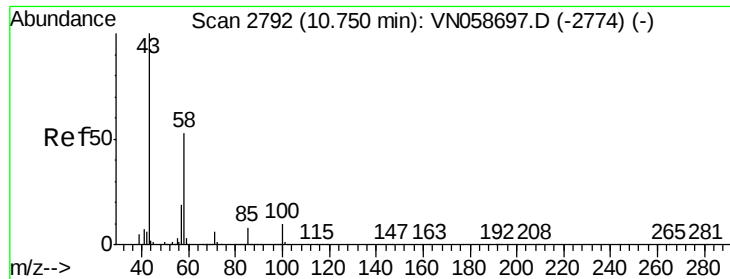
Tot Ion: 41 Resp: 817  
Ion Ratio Lower Upper  
41 100  
39 0.0 115.4 173.2#  
67 0.0 0.0 0.0  
52 0.0 0.0 0.0



#50  
Toluene-d8  
Concen: 48.274 ug/l  
RT: 10.08 min Scan# 2585  
Delta R.T. 0.00 min  
Lab File: VN058758.D  
Acq: 14 Oct 2019 18:45

Tgt Ion: 98 Resp: 767680  
Ion Ratio Lower Upper  
98 100  
100 63.9 51.1 76.7

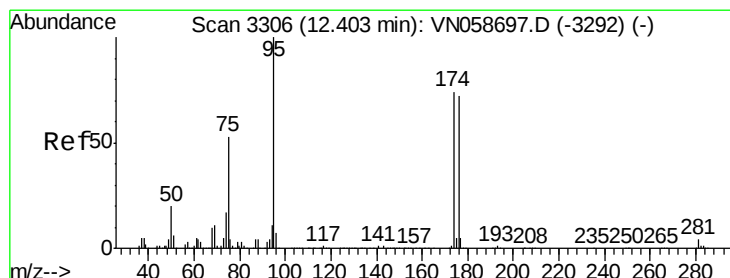
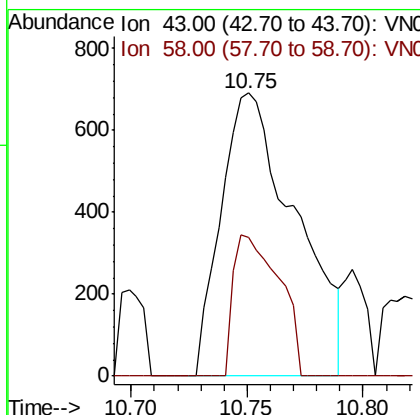
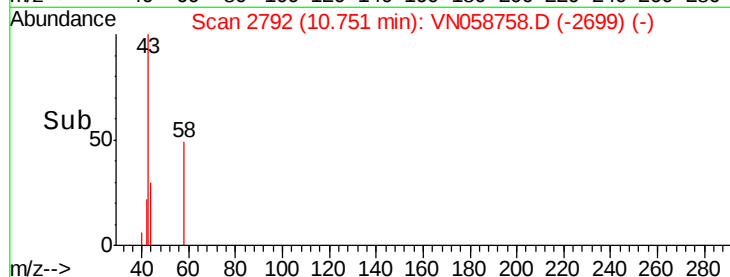
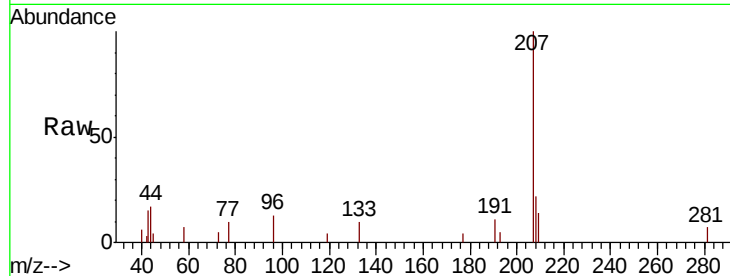




#59  
2-Hexanone  
Concen: 0.317 ug/l  
RT: 10.75 min Scan# 2792  
Delta R.T. 0.00 min  
Lab File: VN058758.D  
Acq: 14 Oct 2019 18:45

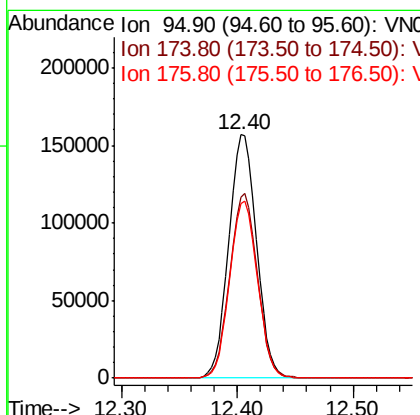
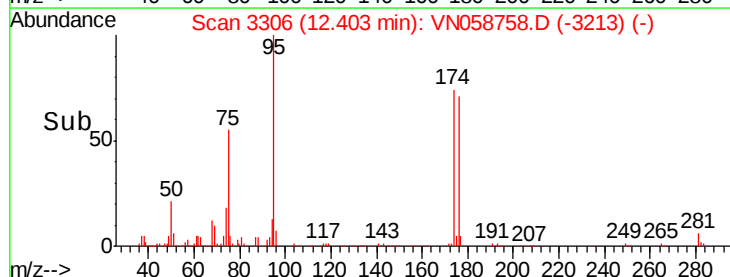
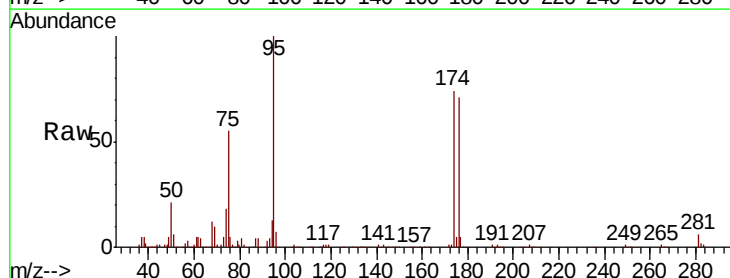
Instrument :  
MSVOA\_N  
ClientSampleId :

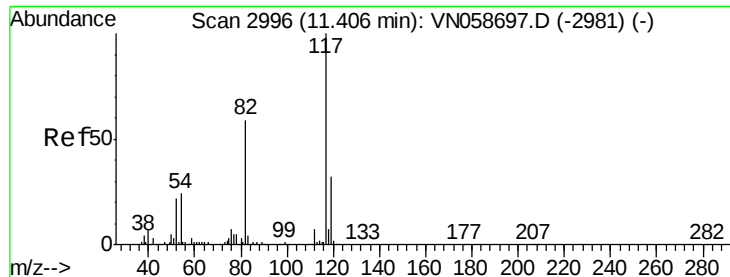
Tot Ion: 43 Resp: 1543  
Ion Ratio Lower Upper  
43 100  
58 30.4 26.1 78.3



#62  
4-Bromofluorobenzene  
Concen: 43.089 ug/l  
RT: 12.40 min Scan# 3306  
Delta R.T. 0.00 min  
Lab File: VN058758.D  
Acq: 14 Oct 2019 18:45

Tgt Ion: 95 Resp: 259375  
Ion Ratio Lower Upper  
95 100  
174 75.4 0.0 150.4  
176 73.1 0.0 146.8

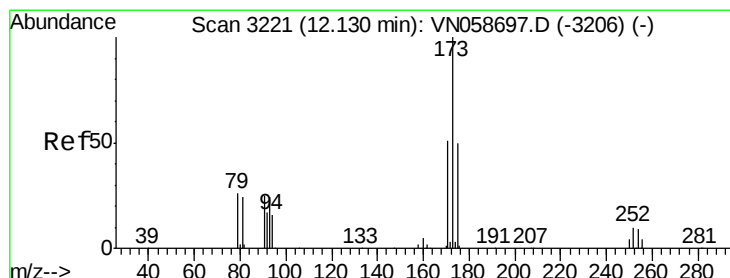
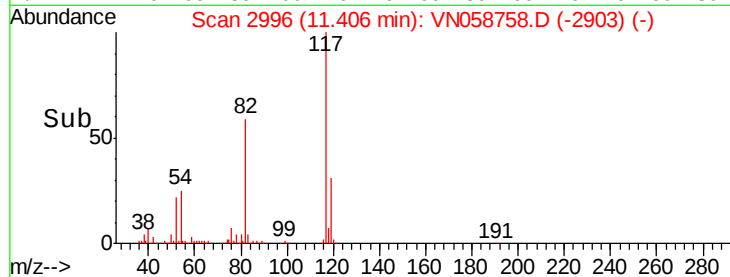
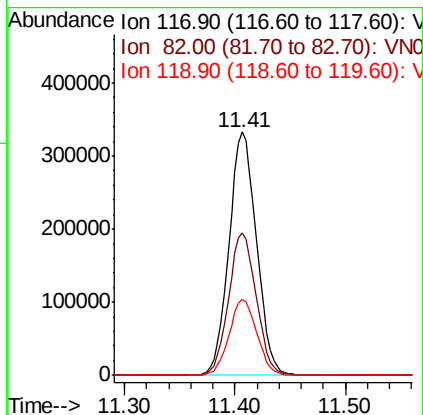
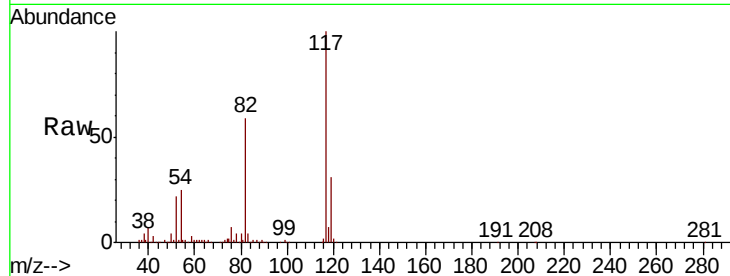




#63  
Chlorobenzene-d5  
Concen: 50.000 ug/l  
RT: 11.41 min Scan# 2996  
Delta R.T. 0.00 min  
Lab File: VN058758.D  
Acq: 14 Oct 2019 18:45

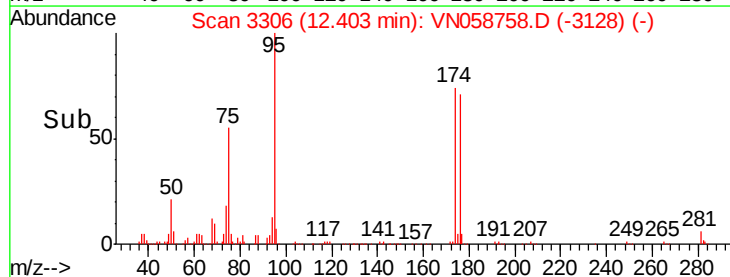
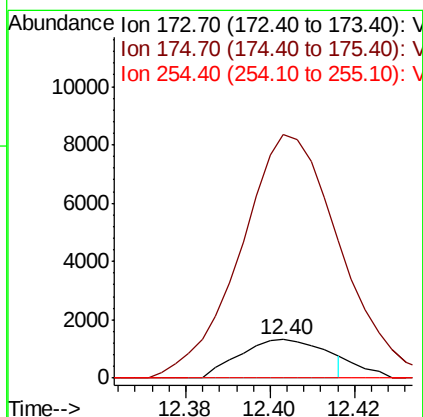
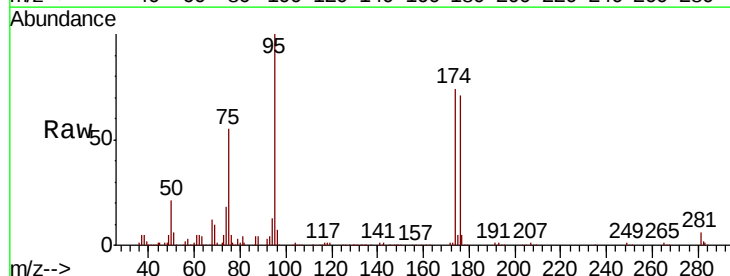
Instrument :  
MSVOA\_N  
ClientSampled :

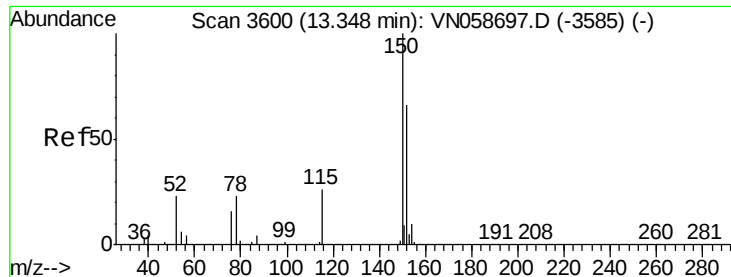
Tot Ion:117 Resp: 575653  
Ion Ratio Lower Upper  
117 100  
82 58.7 47.0 70.4  
119 31.3 25.4 38.2



#71  
Bromoform  
Concen: 0.589 ug/l  
RT: 12.40 min Scan# 3306  
Delta R.T. 0.27 min  
Lab File: VN058758.D  
Acq: 14 Oct 2019 18:45

Tgt Ion:173 Resp: 1865  
Ion Ratio Lower Upper  
173 100  
175 638.2 24.6 73.8#  
254 0.0 0.1 0.1#





#72

1,4-Dichlorobenzene-d4

Concen: 50.000 ug/l

RT: 13.35 min Scan# 3600

Delta R.T. 0.00 min

Lab File: VN058758.D

Acq: 14 Oct 2019 18:45

Instrument :

MSVOA\_N

ClientSampleId :

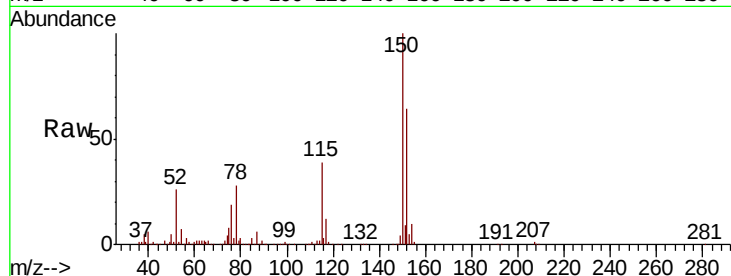
Tot Ion:152 Resp: 232602

Ion Ratio Lower Upper

152 100

115 60.7 30.4 91.2

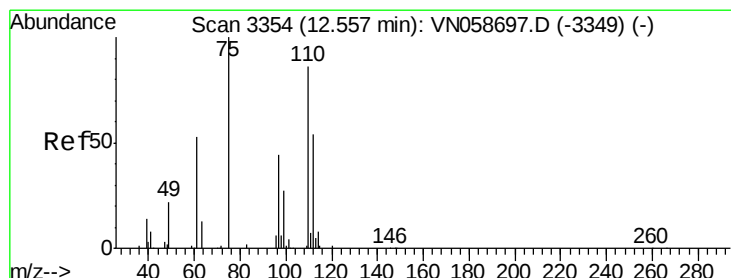
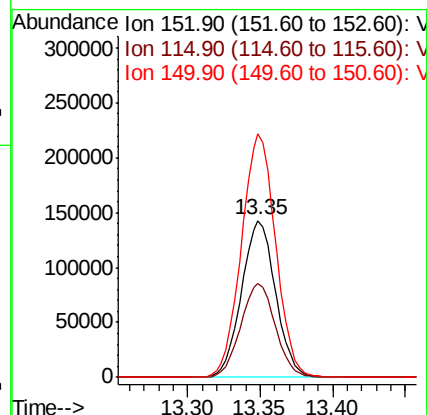
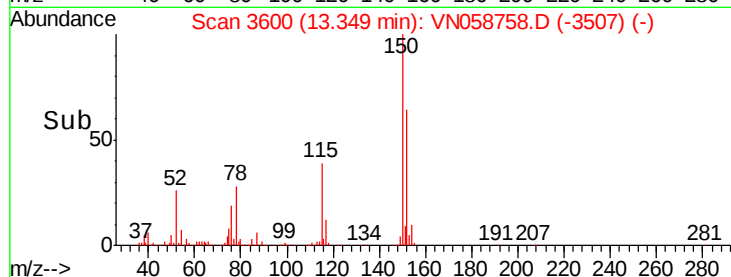
150 156.5 0.0 345.4



Abundance Ion 151.90 (151.60 to 152.60): V

Ion 114.90 (114.60 to 115.60): V

Ion 149.90 (149.60 to 150.60): V



#76

1,2,3-Trichloropropane

Concen: 27.628 ug/l

RT: 12.40 min Scan# 3306

Delta R.T. -0.15 min

Lab File: VN058758.D

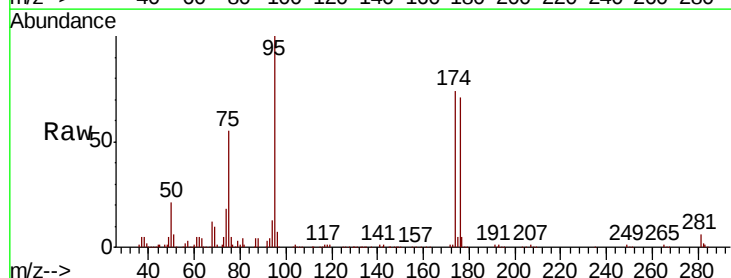
Acq: 14 Oct 2019 18:45

Tgt Ion: 75 Resp: 140977

Ion Ratio Lower Upper

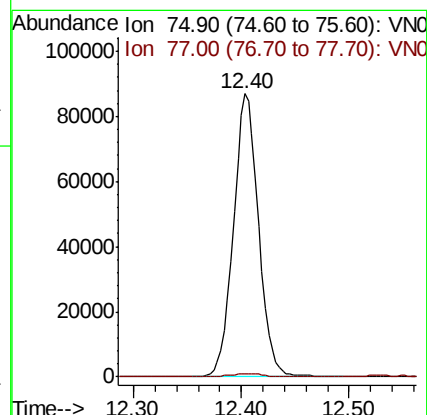
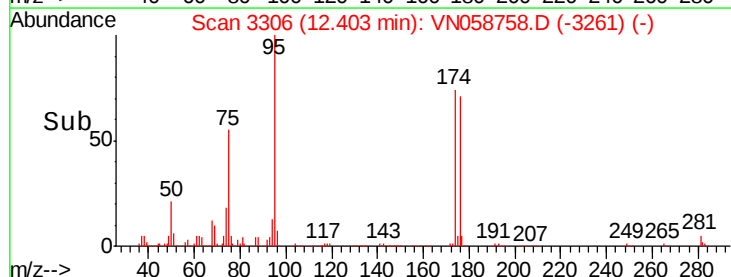
75 100

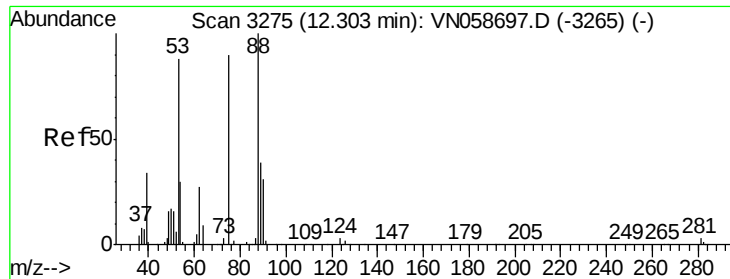
77 1.4 0.0 0.0#



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: 74.006 ug/l

RT: 12.40 min Scan# 3306

Delta R.T. 0.10 min

Lab File: VN058758.D

Acq: 14 Oct 2019 18:45

Instrument :

MSVOA\_N

ClientSampled :

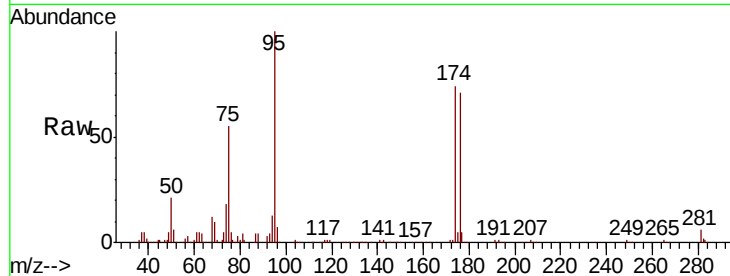
Tot Ion: 75 Resp: 140977

Ion Ratio Lower Upper

75 100

53 0.0 78.4 117.6#

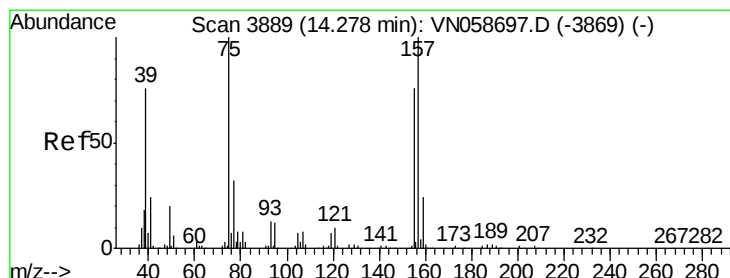
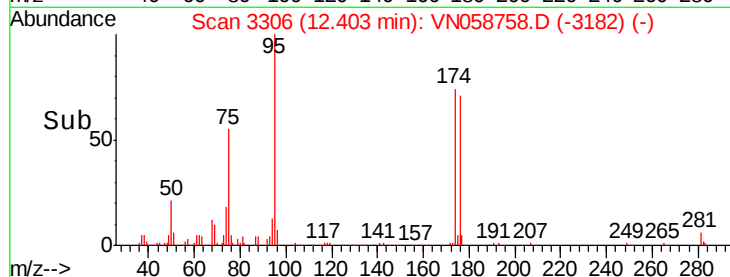
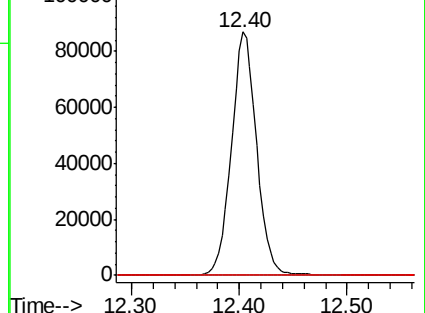
89 0.0 34.9 52.3#



Abundance Ion 74.90 (74.60 to 75.60): VN0

Ion 53.00 (52.70 to 53.70): VN0

Ion 88.90 (88.60 to 89.60): VN0



#92

1,2-Dibromo-3-Chloropropane

Concen: 0.603 ug/l

RT: 14.27 min Scan# 3888

Delta R.T. -0.00 min

Lab File: VN058758.D

Acq: 14 Oct 2019 18:45

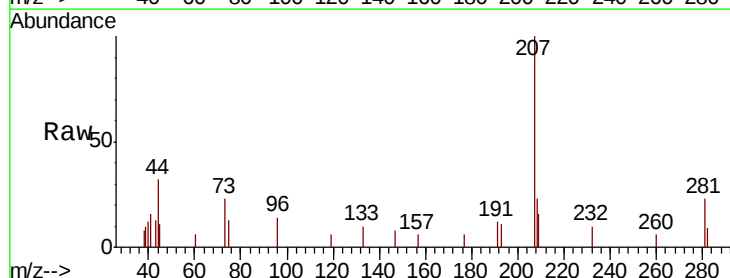
Tgt Ion: 75 Resp: 782

Ion Ratio Lower Upper

75 100

155 0.0 37.9 113.6#

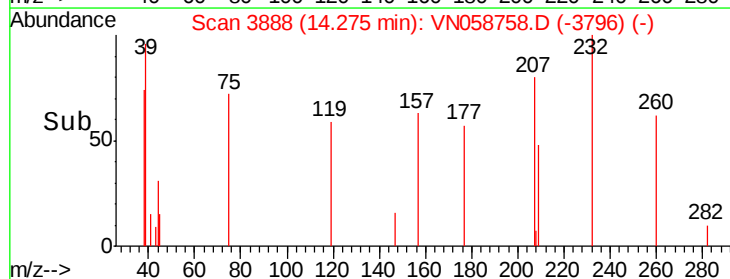
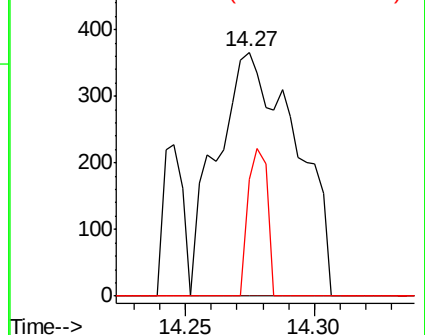
157 14.7 49.4 148.2#

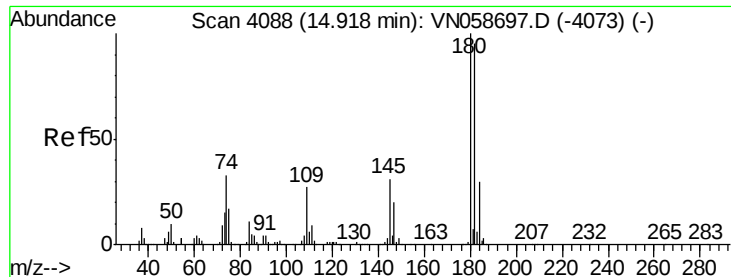


Abundance Ion 74.90 (74.60 to 75.60): VN0

Ion 154.80 (154.50 to 155.50): V

Ion 156.80 (156.50 to 157.50): V

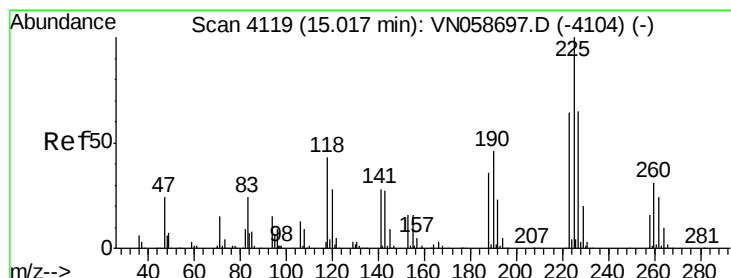
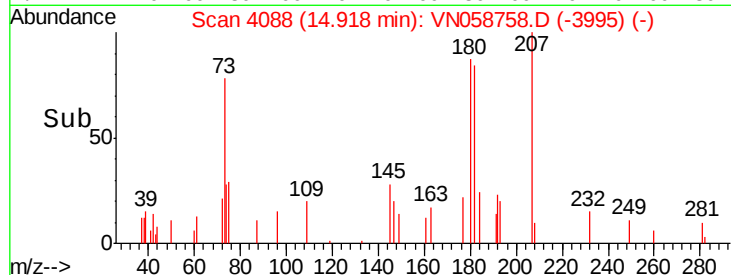
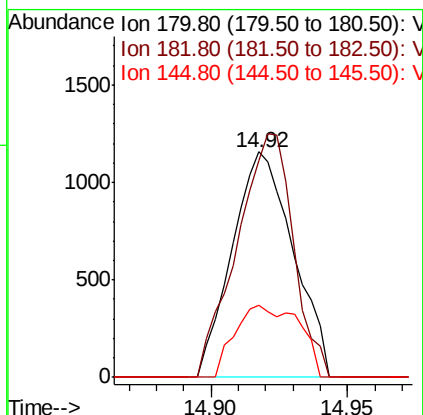
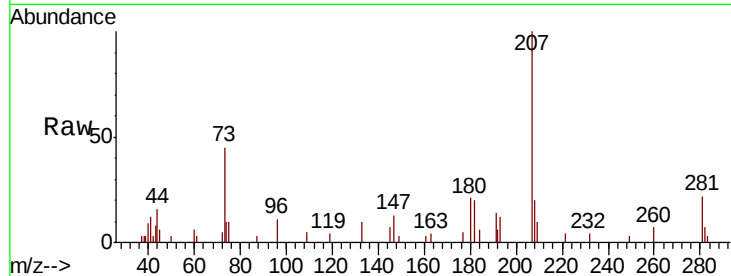




#93  
 1,2,4-Trichlorobenzene  
 Concen: 0.400 ug/l  
 RT: 14.92 min Scan# 4088  
 Delta R.T. 0.00 min  
 Lab File: VN058758.D  
 Acq: 14 Oct 2019 18:45

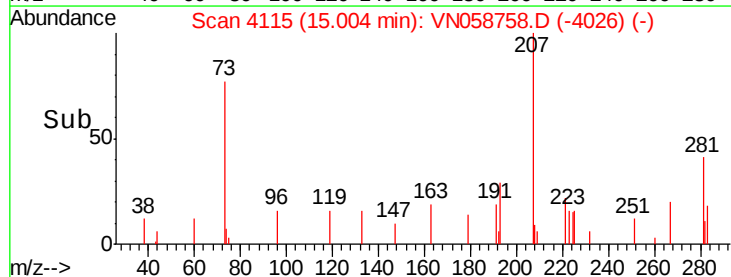
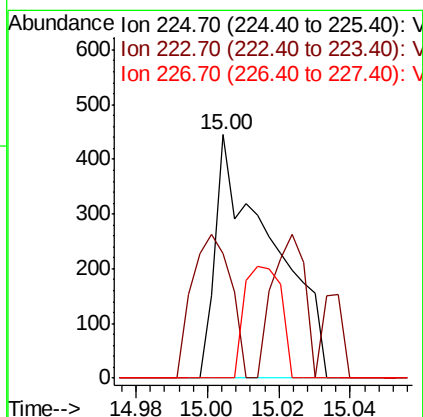
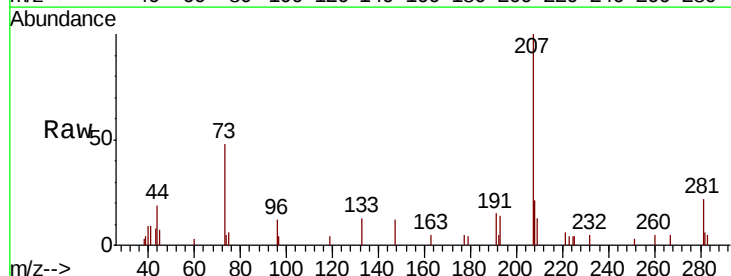
Instrument :  
 MSVOA\_N  
 ClientSampleId :

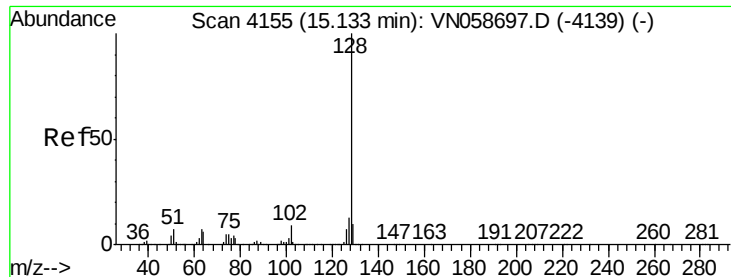
Tot Ion:180 Resp: 1797  
 Ion Ratio Lower Upper  
 180 100  
 182 99.3 47.4 142.2  
 145 33.6 15.4 46.2



#94  
 Hexachlorobutadiene  
 Concen: 0.205 ug/l  
 RT: 15.00 min Scan# 4115  
 Delta R.T. -0.01 min  
 Lab File: VN058758.D  
 Acq: 14 Oct 2019 18:45

Tgt Ion:225 Resp: 486  
 Ion Ratio Lower Upper  
 225 100  
 223 40.7 32.3 96.8  
 227 0.0 32.4 97.0#





#95

Naphthalene

Concen: 0.628 ug/l

RT: 15.13 min Scan# 4155

Delta R.T. 0.00 min

Lab File: VN058758.D

Acq: 14 Oct 2019 18:45

Instrument :

MSVOA\_N

ClientSampleId :

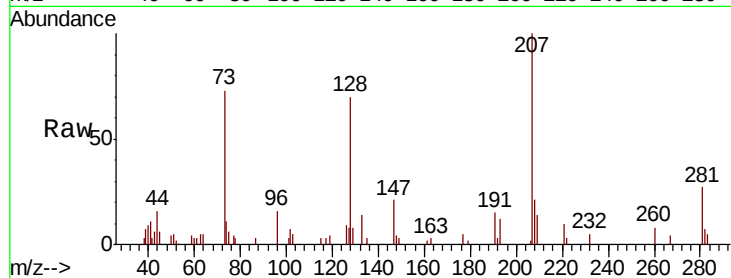
Tot Ion:128 Resp: 8109

Ion Ratio Lower Upper

128 100

127 9.0 10.2 15.4#

129 9.0 8.5 12.7

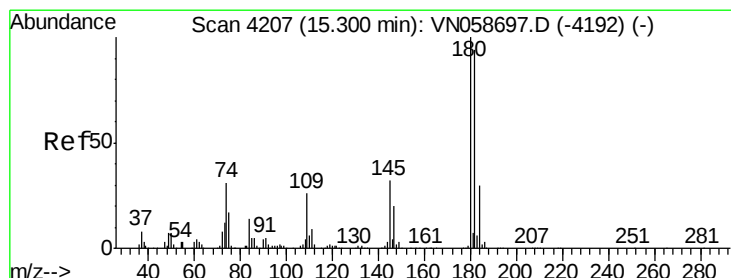
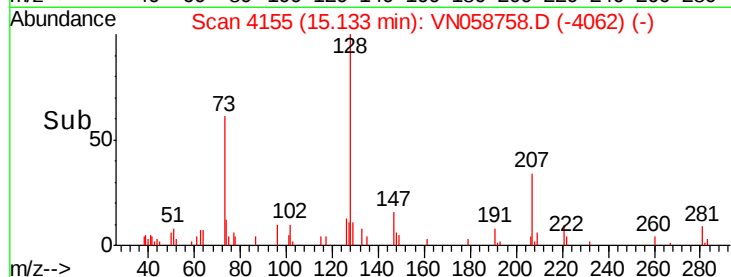
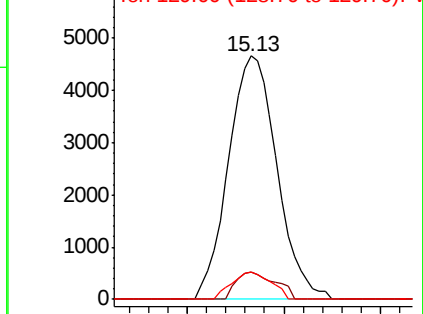


Abundance

Ion 128.00 (127.70 to 128.70): V

Ion 127.00 (126.70 to 127.70): V

Ion 129.00 (128.70 to 129.70): V



#96

1,2,3-Trichlorobenzene

Concen: 0.528 ug/l

RT: 15.30 min Scan# 4206

Delta R.T. -0.00 min

Lab File: VN058758.D

Acq: 14 Oct 2019 18:45

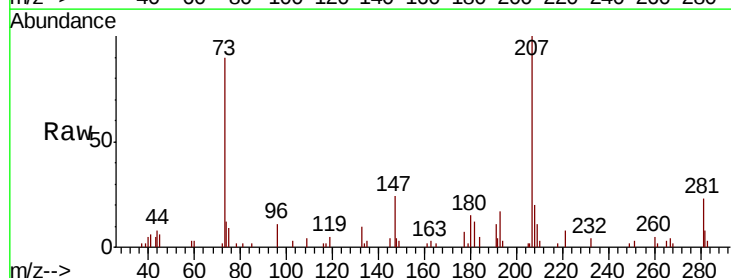
Tgt Ion:180 Resp: 2315

Ion Ratio Lower Upper

180 100

182 90.2 47.3 142.0

145 43.5 16.2 48.6



Abundance

Ion 179.80 (179.50 to 180.50): V

Ion 181.80 (181.50 to 182.50): V

Ion 144.90 (144.60 to 145.60): V

