

Data Path : Z:\VOASRV\HPCHEM1\MSVOA N\DATA\VN033019\  
 Data File : VN054838.D  
 Acq On : 31 Mar 2019 7:56  
 Operator : JC/SP  
 Sample : K2164-07  
 Misc : 5.00mL/MSVOA N/WATER  
 ALS Vial : 48 Sample Multiplier: 1

Instrument :  
 MSVOA\_N  
 ClientSampleId :  
 MW-7

Quant Time: Apr 01 01:42:56 2019  
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA\_N\METHODS\82N032919W.M  
 Quant Title : SW846 8260  
 QLast Update : Sat Mar 30 00:48:18 2019  
 Response via : Initial Calibration

| Internal Standards         | R.T.  | QIon | Response | Conc  | Units | Dev(Min) |
|----------------------------|-------|------|----------|-------|-------|----------|
| 1) Pentafluorobenzene      | 7.67  | 168  | 530889   | 50.00 | ug/l  | 0.00     |
| 34) 1,4-Difluorobenzene    | 8.59  | 114  | 866357   | 50.00 | ug/l  | 0.00     |
| 63) Chlorobenzene-d5       | 11.41 | 117  | 710709   | 50.00 | ug/l  | 0.00     |
| 72) 1,4-Dichlorobenzene-d4 | 13.35 | 152  | 246863   | 50.00 | ug/l  | 0.00     |

## System Monitoring Compounds

|                           |        |     |          |       |        |      |
|---------------------------|--------|-----|----------|-------|--------|------|
| 33) 1,2-Dichloroethane-d4 | 8.03   | 65  | 352877   | 49.31 | ug/l   | 0.00 |
| Spiked Amount             | 50.000 |     | Recovery | =     | 98.62% |      |
| 35) Dibromofluoromethane  | 7.59   | 113 | 274370   | 47.50 | ug/l   | 0.00 |
| Spiked Amount             | 50.000 |     | Recovery | =     | 95.00% |      |
| 50) Toluene-d8            | 10.09  | 98  | 1023778  | 47.68 | ug/l   | 0.00 |
| Spiked Amount             | 50.000 |     | Recovery | =     | 95.36% |      |
| 62) 4-Bromofluorobenzene  | 12.40  | 95  | 305845   | 42.83 | ug/l   | 0.00 |
| Spiked Amount             | 50.000 |     | Recovery | =     | 85.66% |      |

## Target Compounds

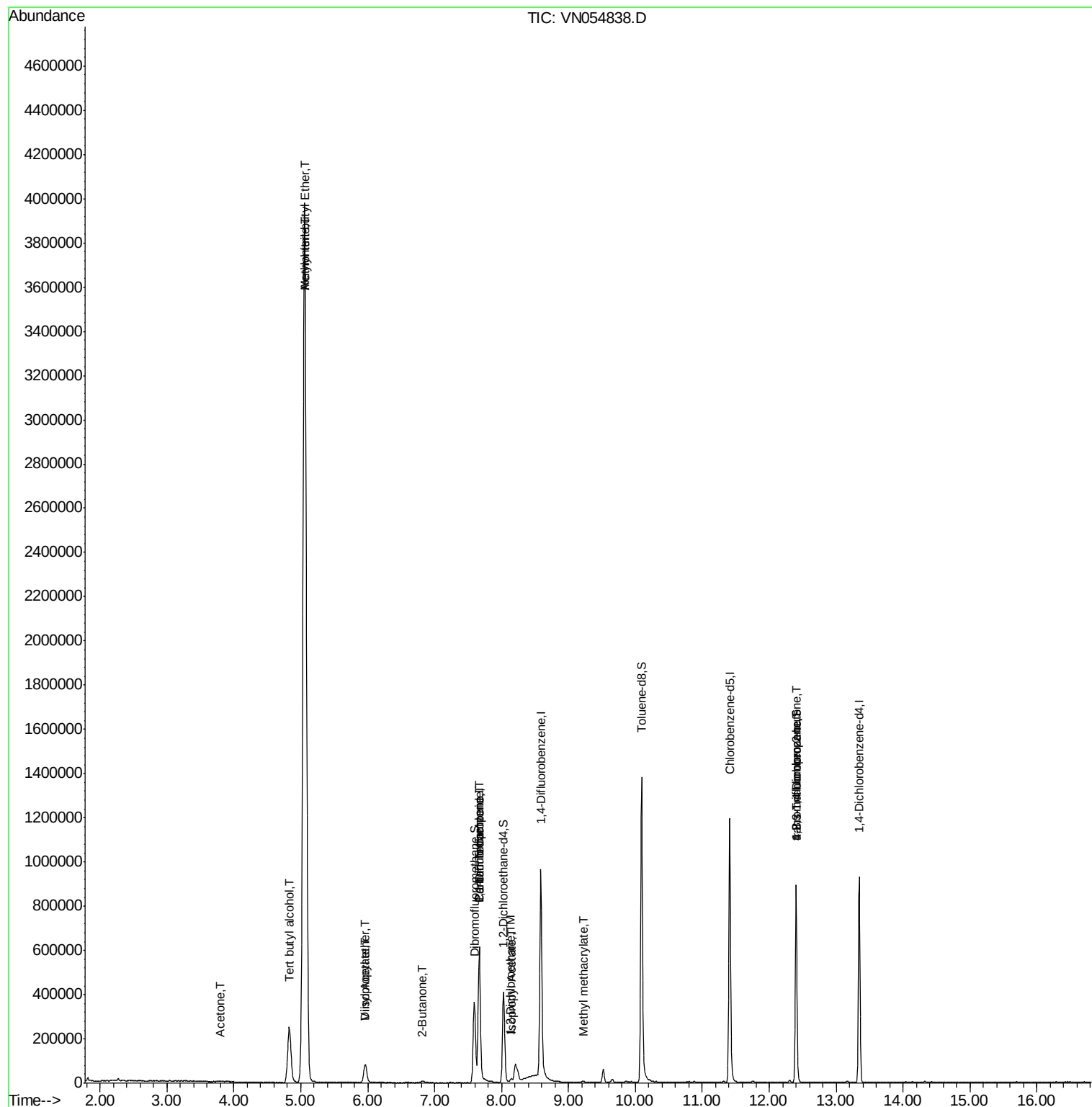
|                                |       |     |         |           |        | Qvalue |
|--------------------------------|-------|-----|---------|-----------|--------|--------|
| 5) Bromomethane                | 2.58  | 94  | 232     | Below Cal | #      | 75     |
| 11) Tert butyl alcohol         | 4.83  | 59  | 422770  | 1133.832  | ug/l # | 70     |
| 15) Acrylonitrile              | 5.06  | 53  | 74602   | 35.996    | ug/l # | 30     |
| 16) Acetone                    | 3.79  | 43  | 600     | 0.352     | ug/l # | 38     |
| 18) Methyl Acetate             | 4.34  | 43  | 2120    | Below Cal | #      | 49     |
| 19) Methyl tert-butyl Ether    | 5.06  | 73  | 6505989 | 445.693   | ug/l   | 93     |
| 22) Diisopropyl ether          | 5.97  | 45  | 113935  | 5.604     | ug/l # | 85     |
| 23) Vinyl Acetate              | 5.96  | 43  | 58669   | 4.147     | ug/l # | 74     |
| 25) 2-Butanone                 | 6.81  | 43  | 3382    | 1.341     | ug/l # | 46     |
| 31) Cyclohexane                | 7.66  | 56  | 11067   | Below Cal | #      | 1      |
| 36) 1,1-Dichloropropene        | 7.67  | 75  | 40808   | 5.055     | ug/l # | 42     |
| 38) Carbon Tetrachloride       | 7.67  | 117 | 48728   | 6.215     | ug/l # | 17     |
| 42) 1,2-Dichloroethane         | 8.13  | 62  | 5682    | 0.689     | ug/l   | 83     |
| 43) Isopropyl Acetate          | 8.16  | 43  | 2026    | 0.211     | ug/l # | 60     |
| 48) Methyl methacrylate        | 9.22  | 41  | 2197    | 0.421     | ug/l # | 17     |
| 75) 1,1,2,2-Tetrachloroethane  | 12.55 | 83  | 65      | Below Cal | #      | 26     |
| 76) 1,2,3-Trichloropropane     | 12.40 | 75  | 159071  | 37.092    | ug/l # | 100    |
| 81) trans-1,4-Dichloro-2-buten | 12.40 | 75  | 159071  | 144.277   | ug/l # | 11     |
| 83) tert-Butylbenzene          | 12.99 | 119 | 1511    | Below Cal |        | 72     |
| 94) Hexachlorobutadiene        | 15.01 | 225 | 63      | Below Cal | #      | 19     |

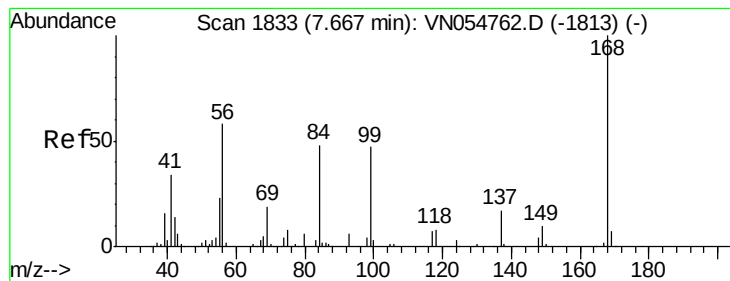
(#) = qualifier out of range (m) = manual integration (+) = signals summed

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QLast Update : Sat Mar 30 00:48:18 2019  
Response via : Initial Calibration





#1

Pentafluorobenzene

Concen: 50.000 ug/l

RT: 7.67 min Scan# 1833

Delta R.T. -0.00 min

Lab File: VN054838.D

Acq: 31 Mar 2019 7:56

Instrument :

MSVOA\_N

ClientSampleId :

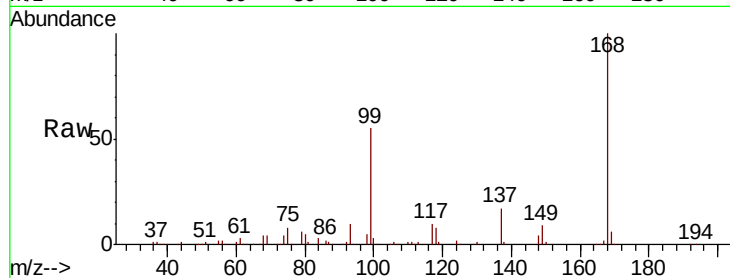
MW-7

Tot Ion:168 Resp: 530889

Ion Ratio Lower Upper

168 100

99 54.9 37.1 55.7



Abundance Ion 167.90 (167.60 to 168.60): V

Ion 98.90 (98.60 to 99.60): VNO

7.67

250000

200000

150000

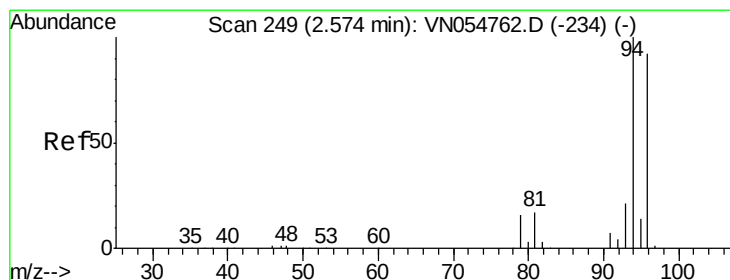
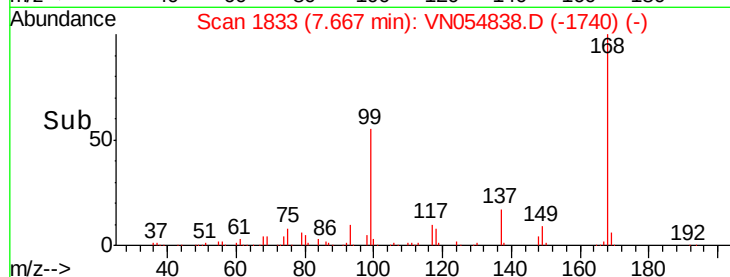
100000

50000

0

Time-->

7.60 7.70 7.80



#5

Bromomethane

Concen: Below Cal

RT: 2.58 min Scan# 250

Delta R.T. 0.00 min

Lab File: VN054838.D

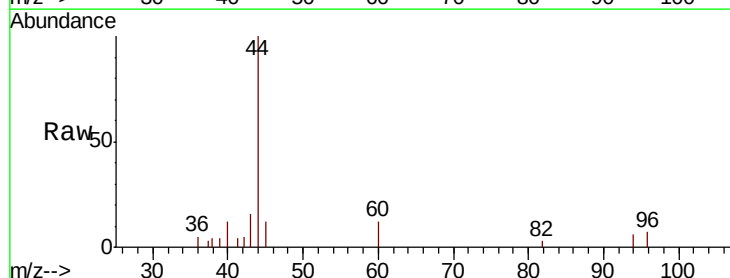
Acq: 31 Mar 2019 7:56

Tgt Ion: 94 Resp: 232

Ion Ratio Lower Upper

94 100

96 120.9 77.0 115.4#



Abundance Ion 93.90 (93.60 to 94.60): VNO

Ion 95.90 (95.60 to 96.60): VNO

2.58

400

300

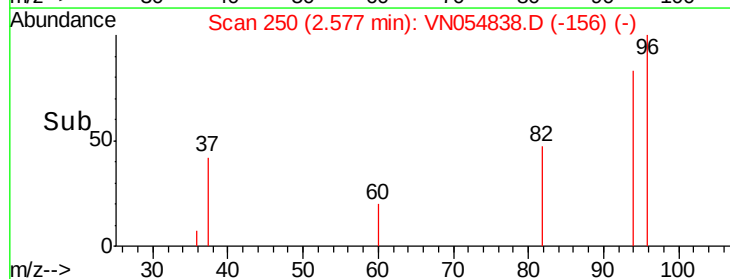
200

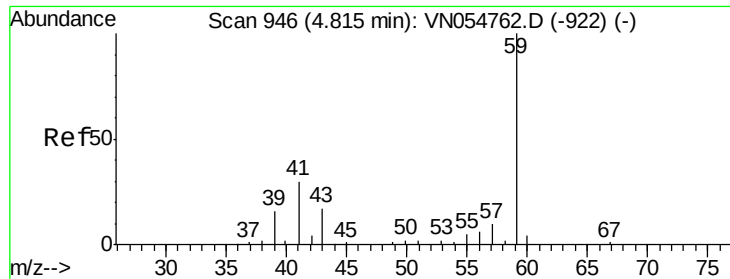
100

0

Time-->

2.56 2.57 2.58 2.59



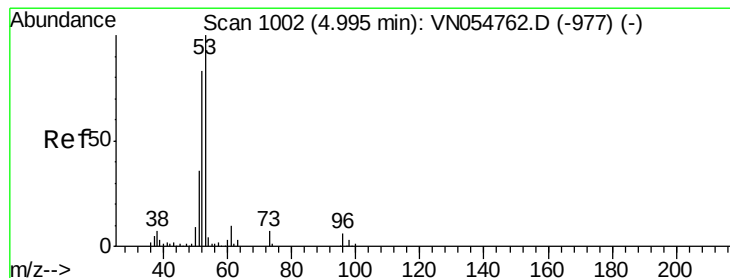
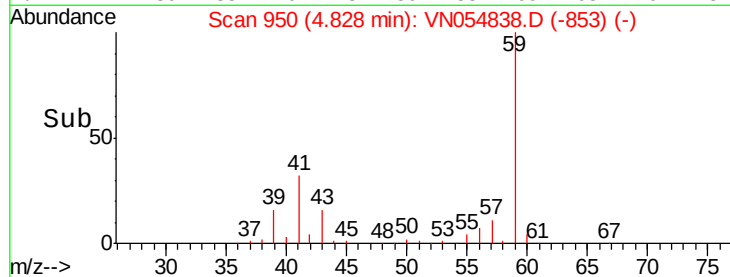
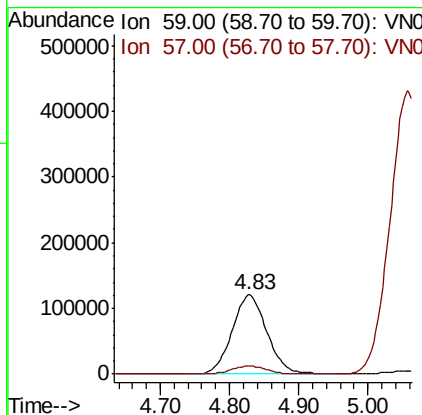
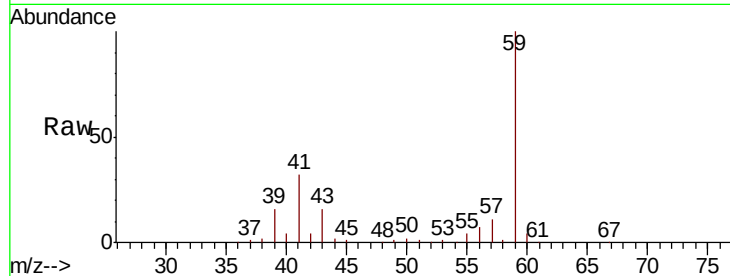


#11

Tert butyl alcohol  
 Concen: 1133.832 ug/l  
 RT: 4.83 min Scan# 950  
 Delta R.T. 0.01 min  
 Lab File: VN054838.D  
 Acq: 31 Mar 2019 7:56

Instrument :  
 MSVOA\_N  
 ClientSampleId :  
 MW-7

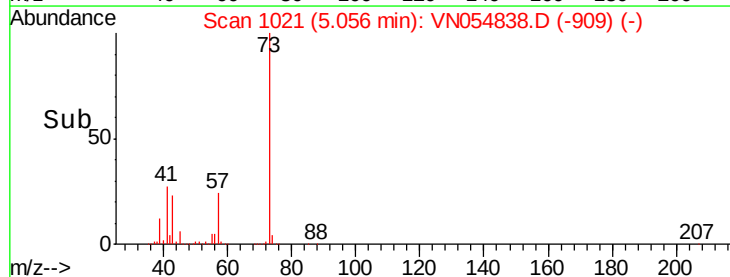
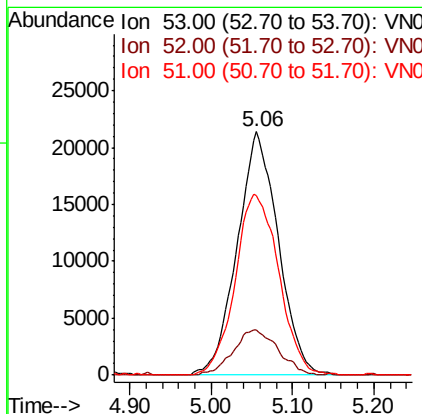
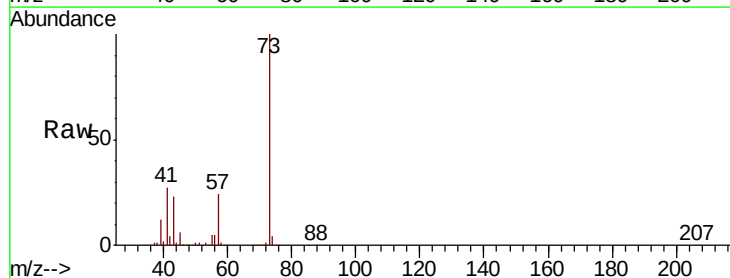
Tot Ion: 59 Resp: 422770  
 Ion Ratio Lower Upper  
 59 100  
 57 0.0 9.0 13.6#

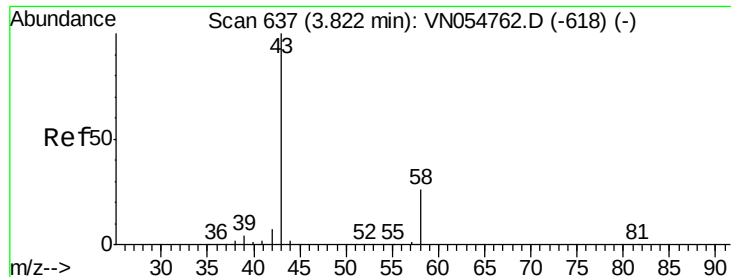


#15

Acrylonitrile  
 Concen: 35.996 ug/l  
 RT: 5.06 min Scan# 1021  
 Delta R.T. 0.06 min  
 Lab File: VN054838.D  
 Acq: 31 Mar 2019 7:56

Tgt Ion: 53 Resp: 74602  
 Ion Ratio Lower Upper  
 53 100  
 52 20.3 66.4 99.6#  
 51 79.0 29.6 44.4#





#16

Acetone

Concen: 0.352 ug/l

RT: 3.79 min Scan# 628

Delta R.T. -0.03 min

Lab File: VN054838.D

Acq: 31 Mar 2019 7:56

Instrument :

MSVOA\_N

ClientSampled :

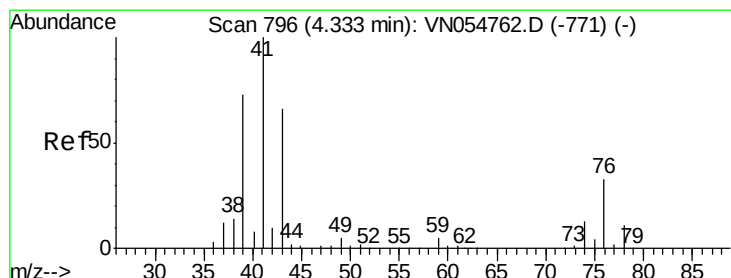
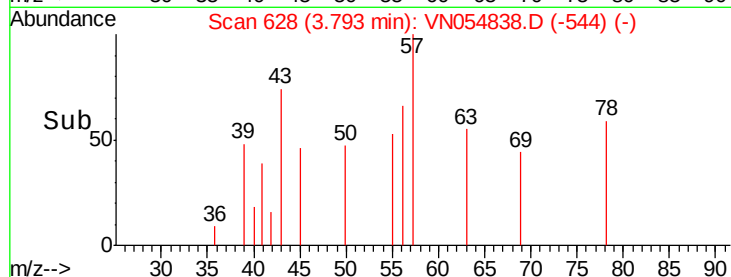
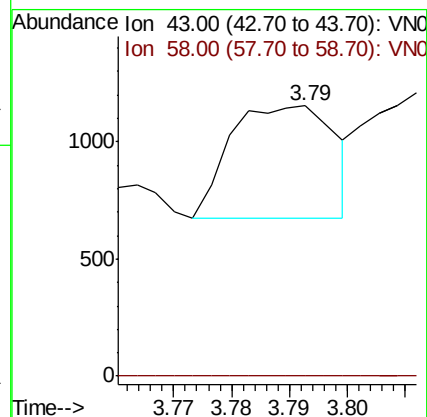
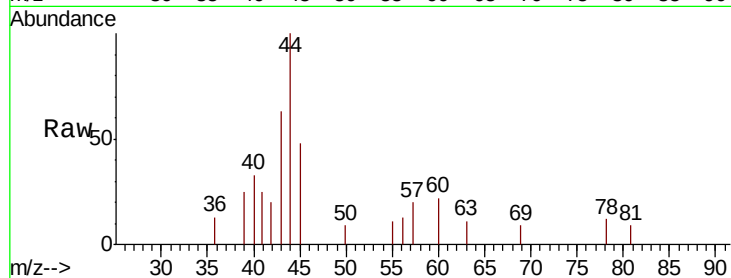
MW-7

Tot Ion: 43 Resp: 600

Ion Ratio Lower Upper

43 100

58 0.0 29.9 44.9#



#18

Methyl Acetate

Concen: Below Cal

RT: 4.34 min Scan# 799

Delta R.T. 0.01 min

Lab File: VN054838.D

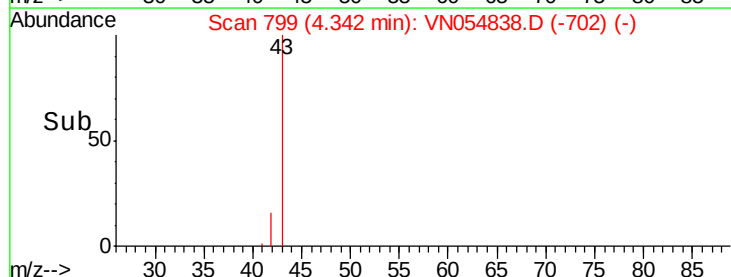
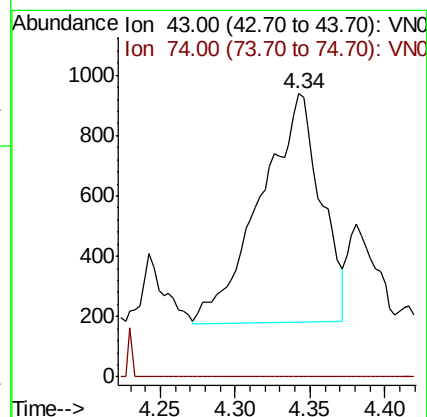
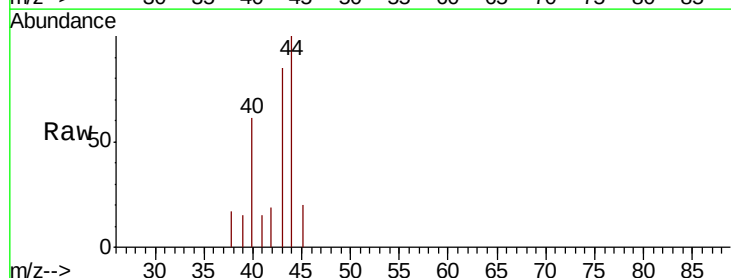
Acq: 31 Mar 2019 7:56

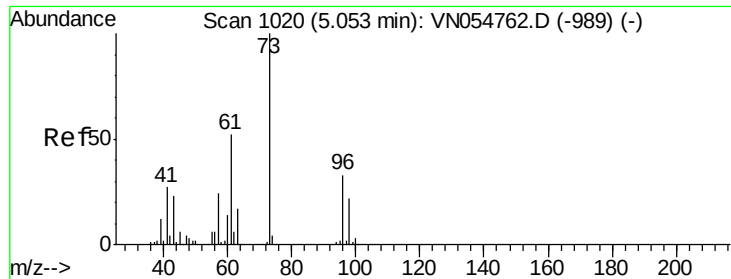
Tgt Ion: 43 Resp: 2120

Ion Ratio Lower Upper

43 100

74 0.0 20.8 31.2#

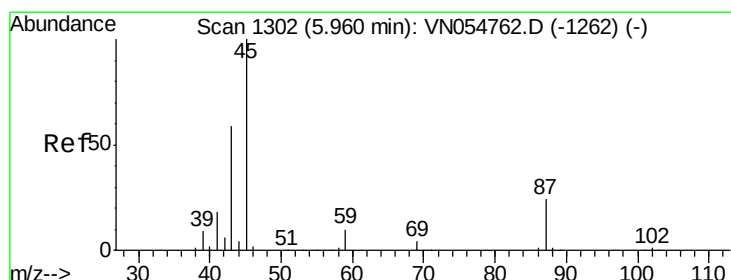
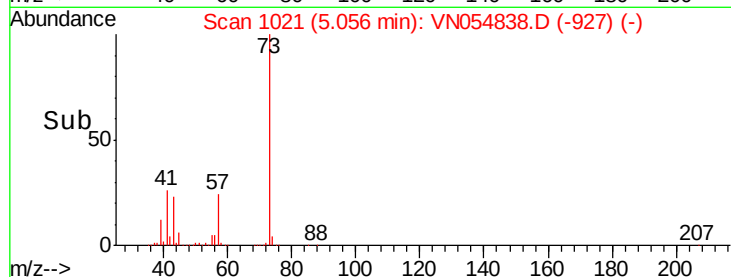
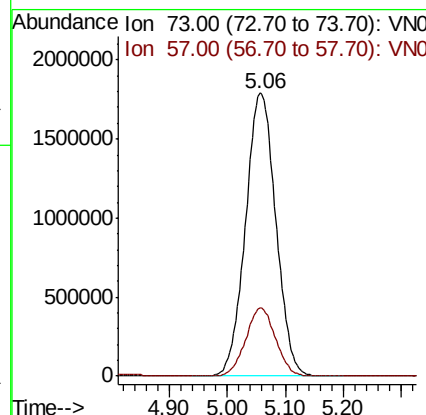
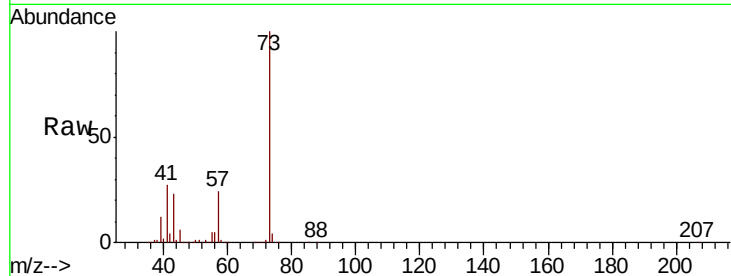




#19  
Methyl tert-butyl Ether  
Concen: 445.693 ug/l  
RT: 5.06 min Scan# 1021  
Delta R.T. 0.00 min  
Lab File: VN054838.D  
Acq: 31 Mar 2019 7:56

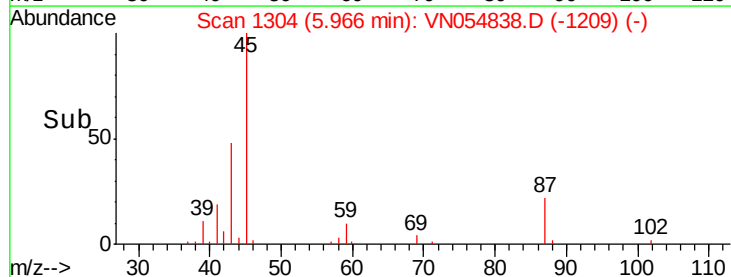
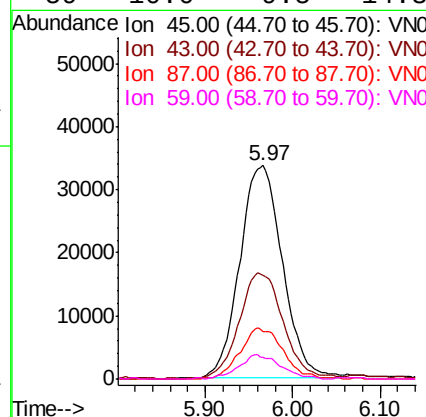
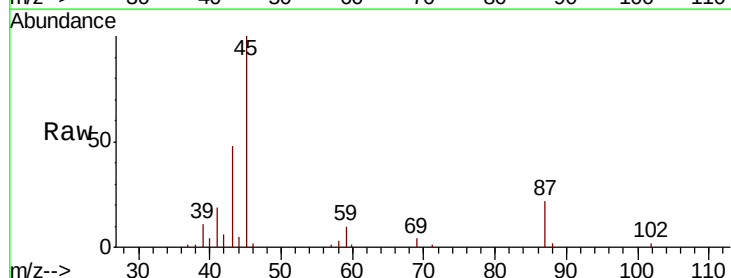
Instrument :  
MSVOA\_N  
ClientSampleId :  
MW-7

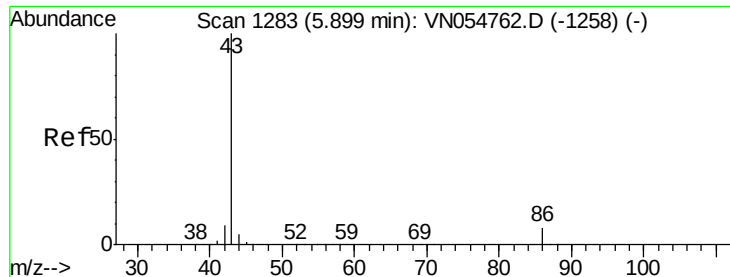
Tot Ion: 73 Resp: 6505989  
Ion Ratio Lower Upper  
73 100  
57 24.0 16.8 25.2



#22  
Diisopropyl ether  
Concen: 5.604 ug/l  
RT: 5.97 min Scan# 1304  
Delta R.T. 0.01 min  
Lab File: VN054838.D  
Acq: 31 Mar 2019 7:56

Tgt Ion: 45 Resp: 113935  
Ion Ratio Lower Upper  
45 100  
43 47.9 48.2 72.2#  
87 22.0 24.9 37.3#  
59 10.0 9.5 14.3

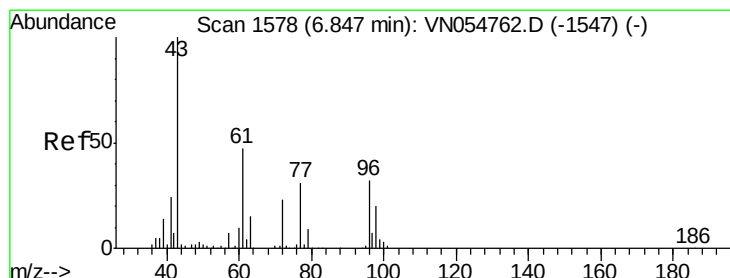
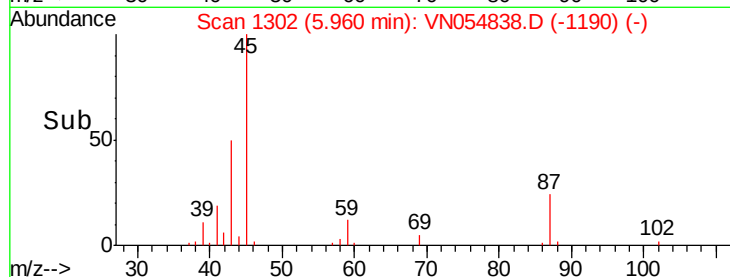
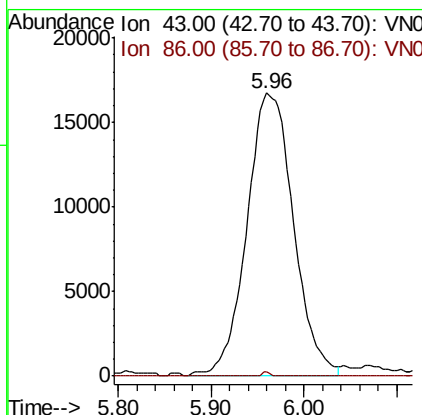
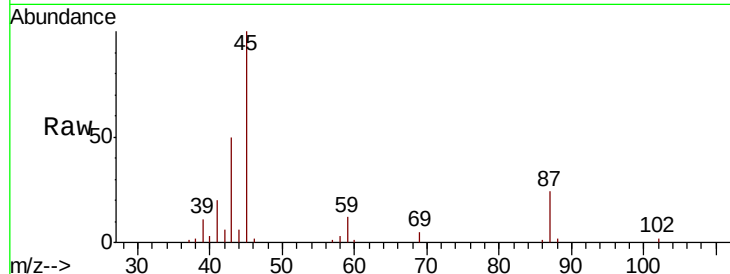




#23  
 Vinyl Acetate  
 Concen: 4.147 ug/l  
 RT: 5.96 min Scan# 1302  
 Delta R.T. 0.06 min  
 Lab File: VN054838.D  
 Acq: 31 Mar 2019 7:56

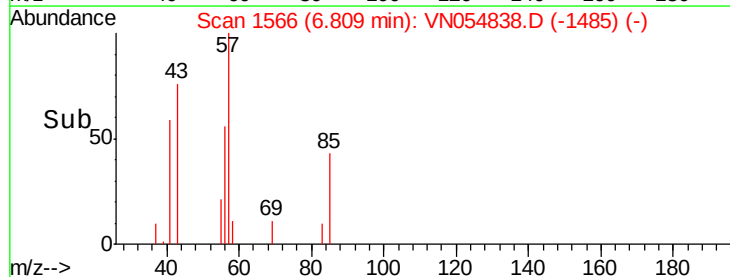
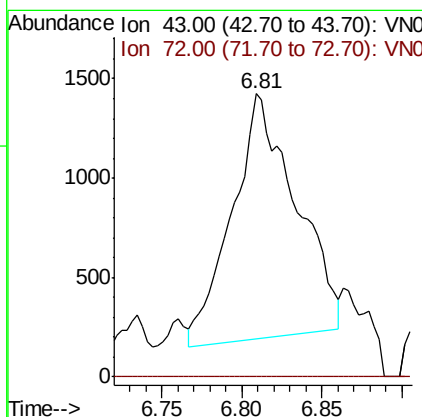
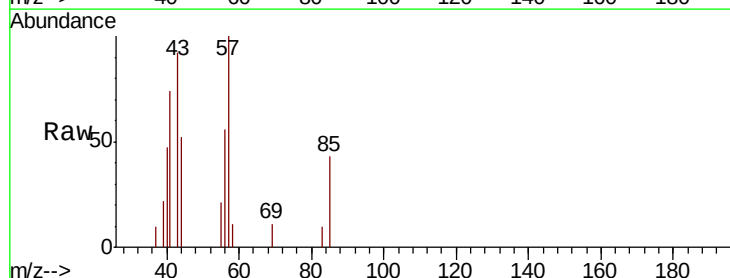
Instrument :  
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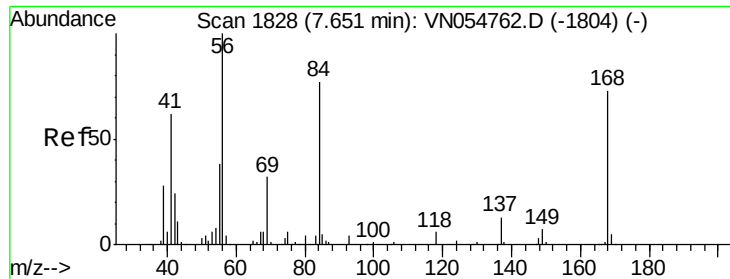
Tot Ion: 43 Resp: 58669  
 Ion Ratio Lower Upper  
 43 100  
 86 1.5 9.1 13.7#



#25  
 2-Butanone  
 Concen: 1.341 ug/l  
 RT: 6.81 min Scan# 1566  
 Delta R.T. -0.04 min  
 Lab File: VN054838.D  
 Acq: 31 Mar 2019 7:56

Tgt Ion: 43 Resp: 3382  
 Ion Ratio Lower Upper  
 43 100  
 72 0.0 23.0 34.6#





#31

Cyclohexane

Concen: Below Cal

RT: 7.66 min Scan# 1831

Delta R.T. 0.01 min

Lab File: VN054838.D

Acq: 31 Mar 2019 7:56

Instrument :  
MSVOA\_N  
ClientSampled :  
MW-7

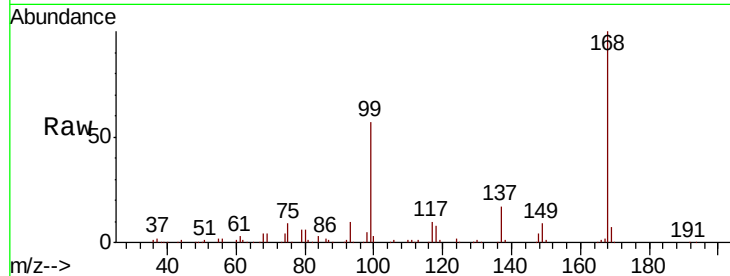
Tot Ion: 56 Resp: 11067

Ion Ratio Lower Upper

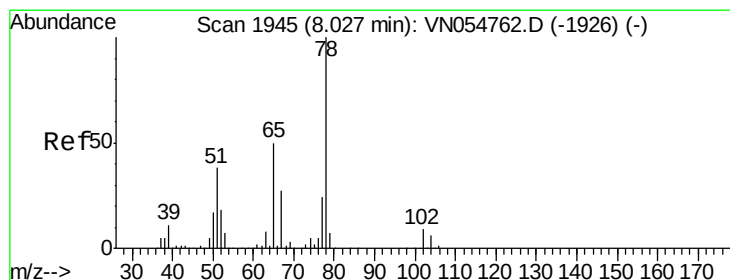
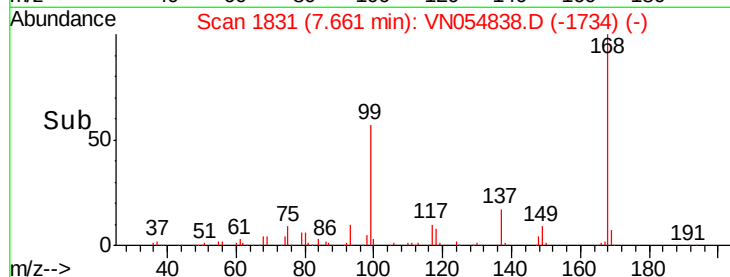
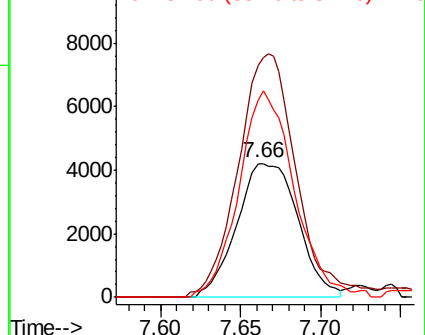
56 100

69 169.5 27.8 41.6#

84 147.6 74.6 111.8#



Abundance Ion 56.00 (55.70 to 56.70): VN0  
Ion 69.00 (68.70 to 69.70): VN0  
Ion 84.00 (83.70 to 84.70): VN0



#33

1,2-Dichloroethane-d4

Concen: 49.308 ug/l

RT: 8.03 min Scan# 1946

Delta R.T. 0.00 min

Lab File: VN054838.D

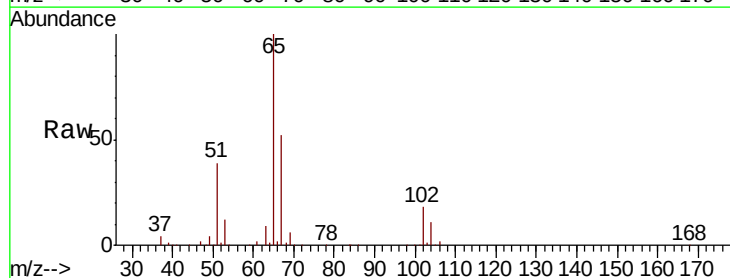
Acq: 31 Mar 2019 7:56

Tgt Ion: 65 Resp: 352877

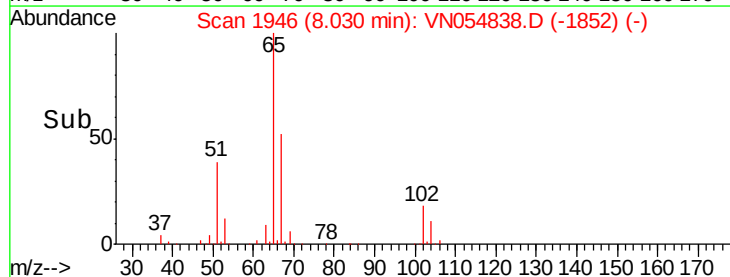
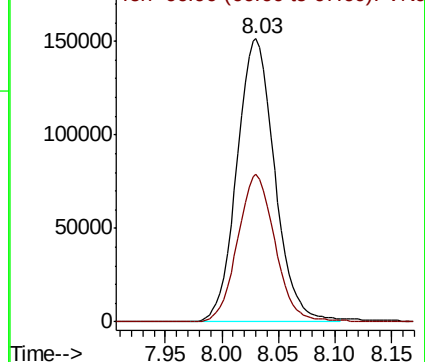
Ion Ratio Lower Upper

65 100

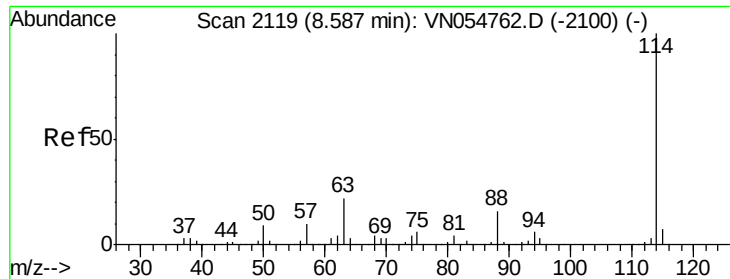
67 51.7 0.0 104.6



Abundance Ion 64.90 (64.60 to 65.60): VN0  
Ion 66.90 (66.60 to 67.60): VN0



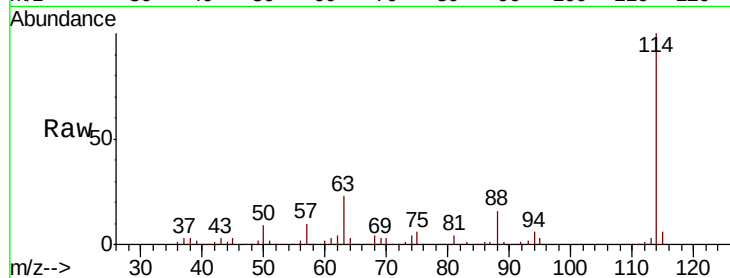




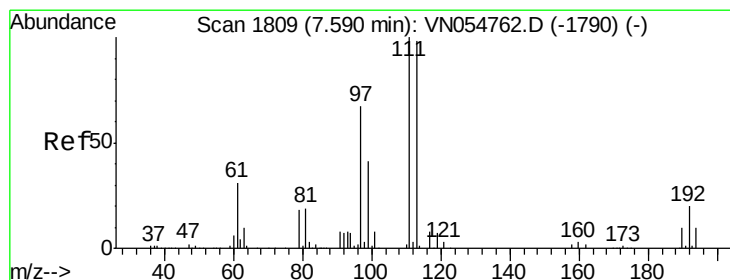
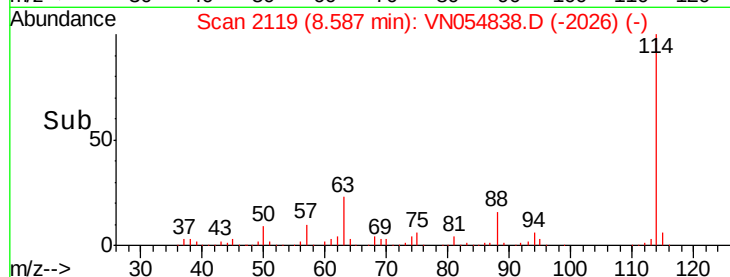
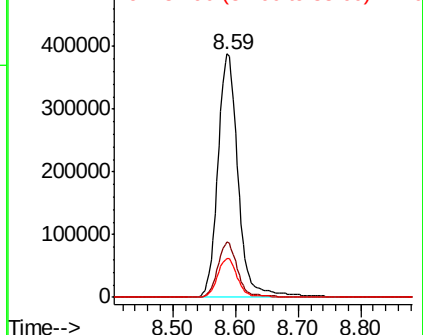
#34  
 1,4-Difluorobenzene  
 Concen: 50.000 ug/l  
 RT: 8.59 min Scan# 2119  
 Delta R.T. -0.00 min  
 Lab File: VN054838.D  
 Acq: 31 Mar 2019 7:56

Instrument :  
 MSVOA\_N  
 ClientSampled :  
 MW-7

| Tot Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 114     | 100   |       |       |
| 63      | 22.8  | 0.0   | 35.2  |
| 88      | 15.9  | 0.0   | 30.2  |

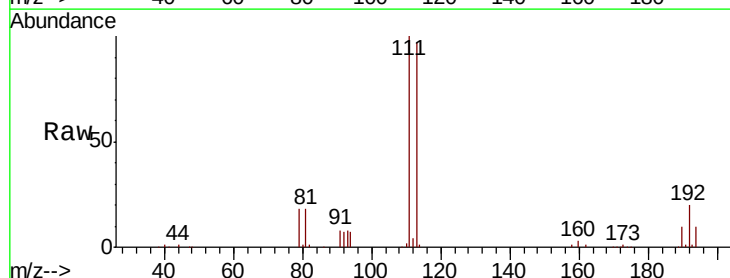


Abundance Ion 113.90 (113.60 to 114.60): V  
 Ion 63.00 (62.70 to 63.70): VN  
 Ion 87.90 (87.60 to 88.60): VN

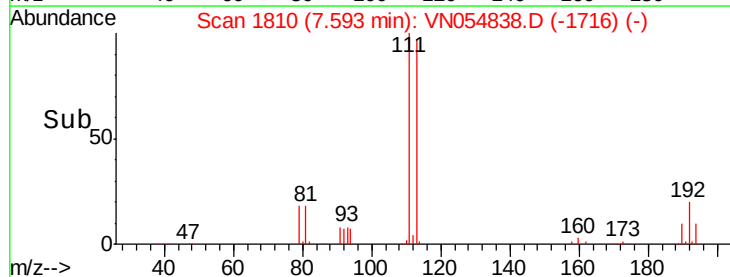
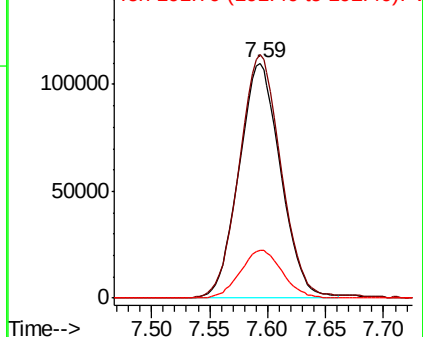


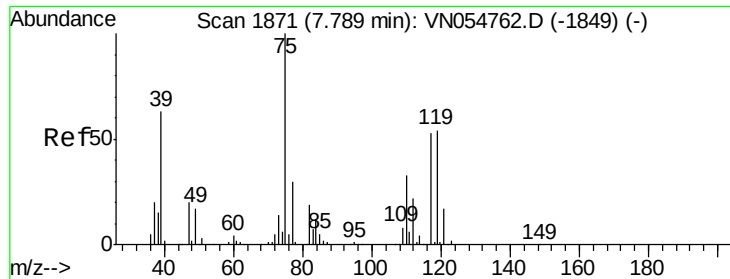
#35  
 Dibromofluoromethane  
 Concen: 47.502 ug/l  
 RT: 7.59 min Scan# 1810  
 Delta R.T. 0.00 min  
 Lab File: VN054838.D  
 Acq: 31 Mar 2019 7:56

| Tgt Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 113     | 100   |       |       |
| 111     | 104.9 | 82.2  | 123.4 |
| 192     | 20.8  | 19.2  | 28.8  |



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: 5.055 ug/l

RT: 7.67 min Scan# 1833

Delta R.T. -0.12 min

Lab File: VN054838.D

Acq: 31 Mar 2019 7:56

Instrument :

MSVOA\_N

ClientSampleId :

MW-7

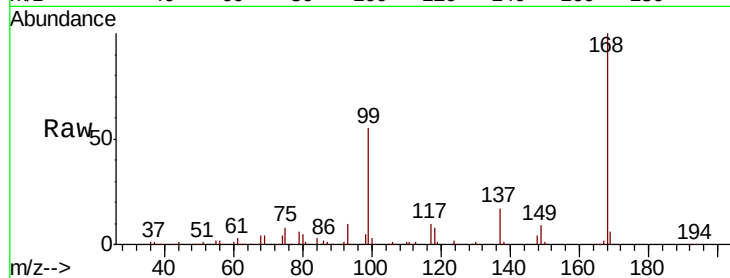
Tot Ion: 75 Resp: 40808

Ion Ratio Lower Upper

75 100

110 2.0 19.1 57.5#

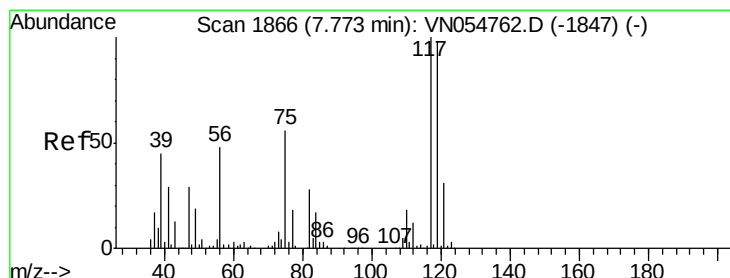
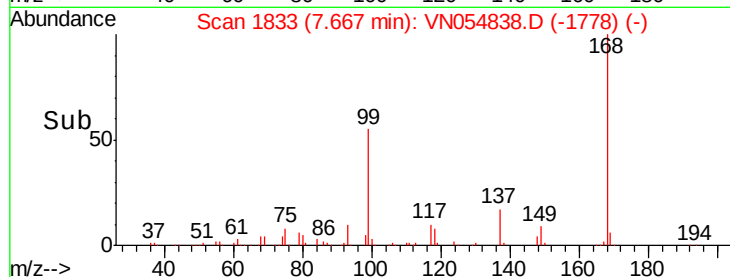
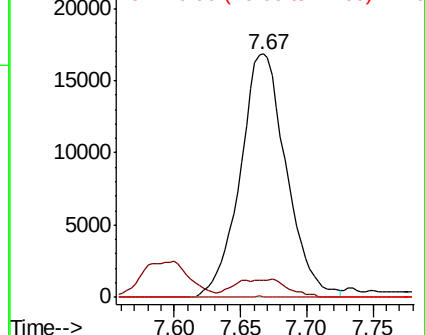
77 0.1 25.0 37.4#



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: 6.215 ug/l

RT: 7.67 min Scan# 1833

Delta R.T. -0.11 min

Lab File: VN054838.D

Acq: 31 Mar 2019 7:56

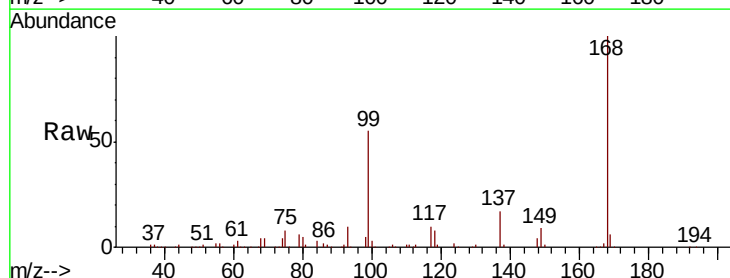
Tgt Ion: 117 Resp: 48728

Ion Ratio Lower Upper

117 100

119 5.6 76.3 114.5#

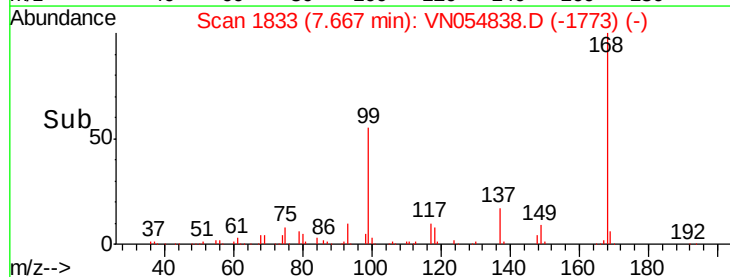
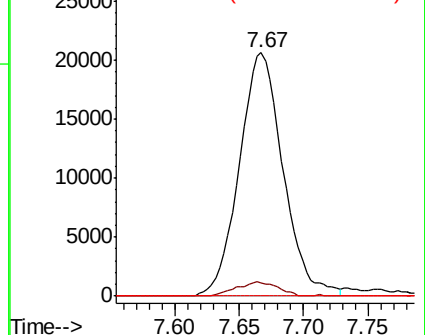
121 0.0 24.6 36.8#

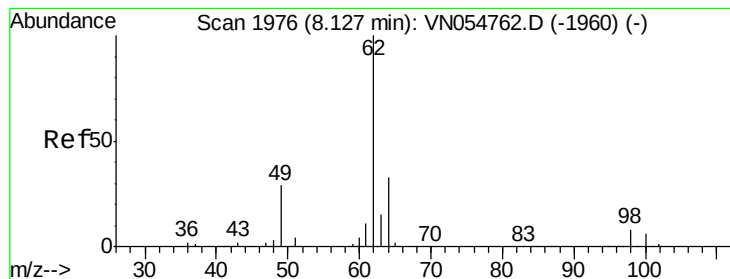


Abundance Ion 116.80 (116.50 to 117.50): V

Ion 118.80 (118.50 to 119.50): V

Ion 120.80 (120.50 to 121.50): V





#42

1,2-Dichloroethane

Concen: 0.689 ug/l

RT: 8.13 min Scan# 1976

Delta R.T. -0.00 min

Lab File: VN054838.D

Acq: 31 Mar 2019 7:56

Instrument :

MSVOA\_N

ClientSampled :

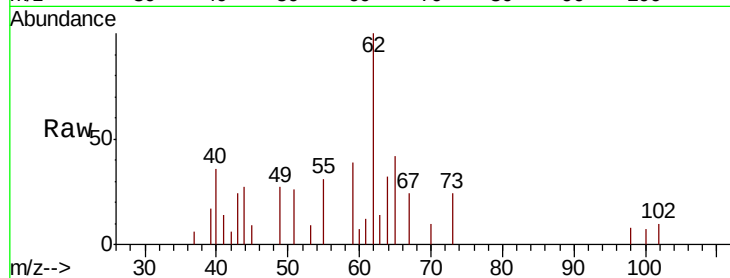
MW-7

Tot Ion: 62 Resp: 5682

Ion Ratio Lower Upper

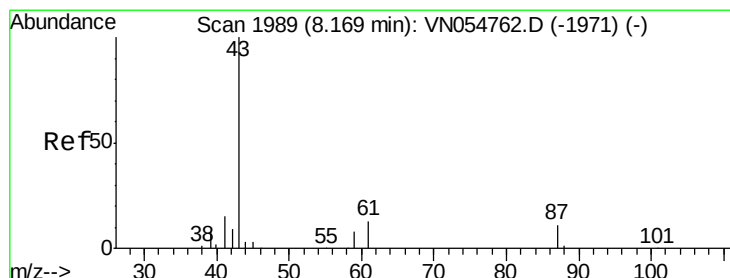
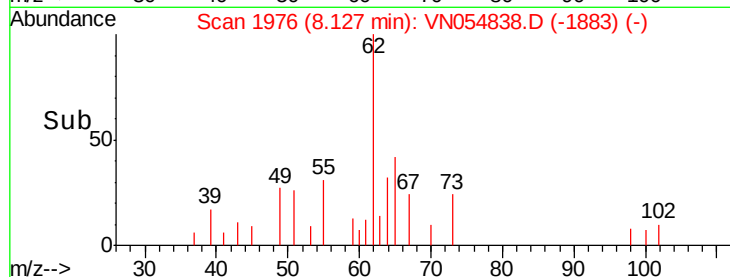
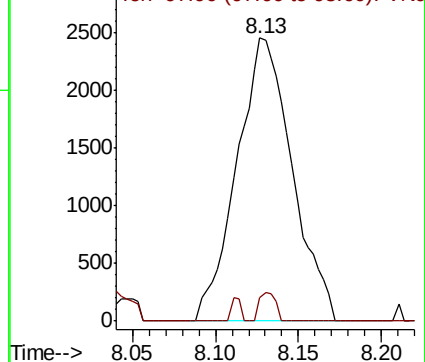
62 100

98 2.9 0.0 18.4



Abundance Ion 61.90 (61.60 to 62.60): VN0

Ion 97.90 (97.60 to 98.60): VN0



#43

Isopropyl Acetate

Concen: 0.211 ug/l

RT: 8.16 min Scan# 1985

Delta R.T. -0.01 min

Lab File: VN054838.D

Acq: 31 Mar 2019 7:56

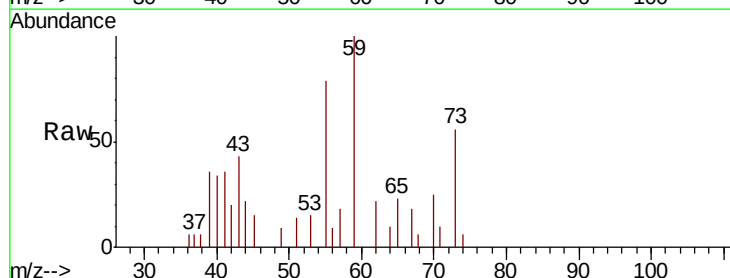
Tgt Ion: 43 Resp: 2026

Ion Ratio Lower Upper

43 100

61 0.0 15.8 23.8#

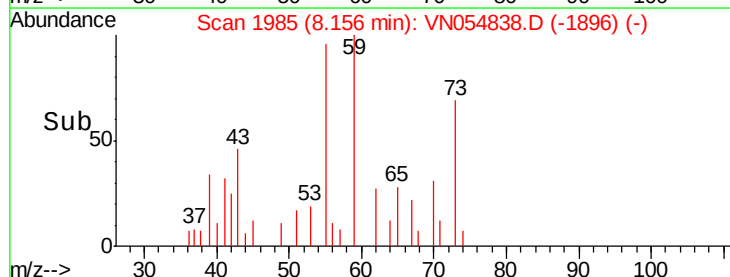
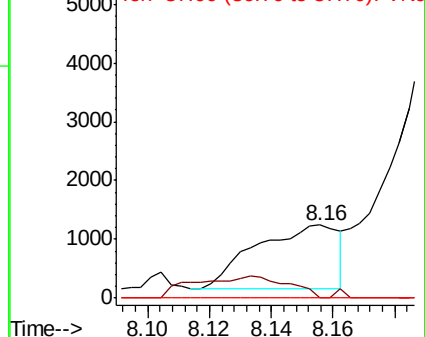
87 0.0 12.0 18.0#

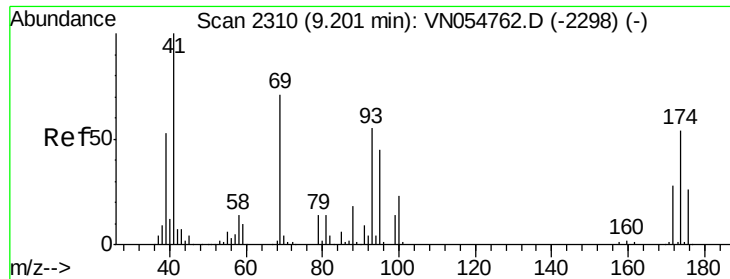


Abundance Ion 43.00 (42.70 to 43.70): VN0

Ion 61.00 (60.70 to 61.70): VN0

Ion 87.00 (86.70 to 87.70): VN0





#48

Methvl methacrylate

Concen: 0.421 ug/l

RT: 9.22 min Scan# 2315

Delta R.T. 0.02 min

Lab File: VN054838.D

Acq: 31 Mar 2019 7:56

Instrument :

MSVOA\_N

ClientSampleId :

MW-7

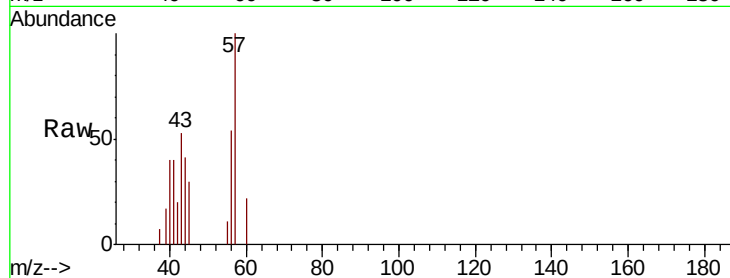
Tot Ion: 41 Resp: 2197

Ion Ratio Lower Upper

41 100

69 0.0 72.6 108.8#

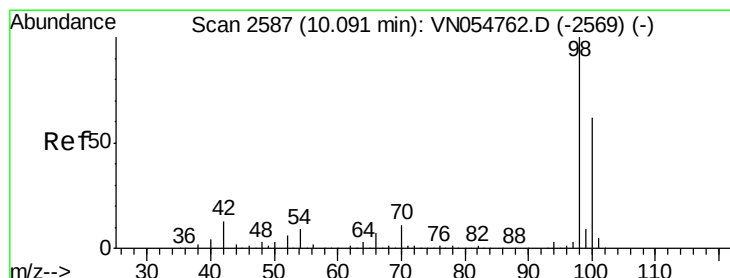
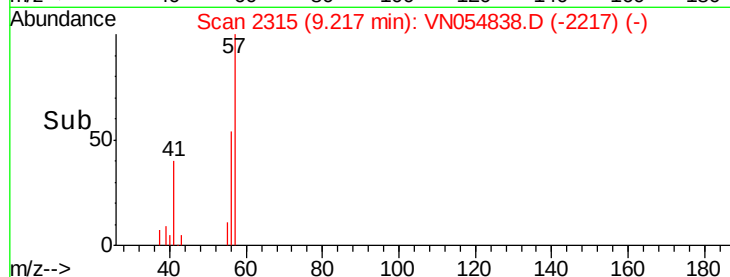
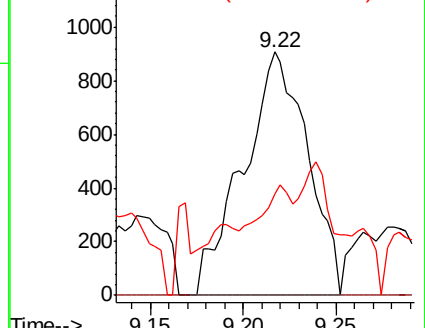
39 12.2 47.5 71.3#



Abundance Ion 41.00 (40.70 to 41.70): VN0

Ion 69.00 (68.70 to 69.70): VN0

Ion 39.00 (38.70 to 39.70): VN0



#50

Toluene-d8

Concen: 47.676 ug/l

RT: 10.09 min Scan# 2587

Delta R.T. -0.00 min

Lab File: VN054838.D

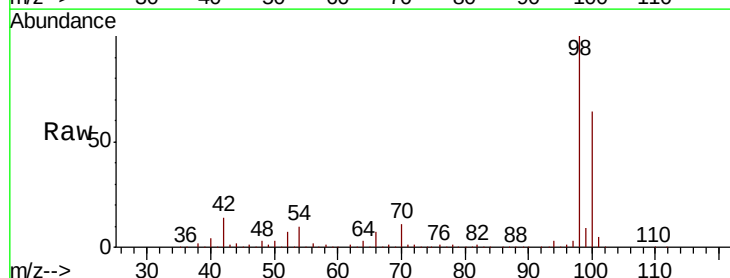
Acq: 31 Mar 2019 7:56

Tgt Ion: 98 Resp: 1023778

Ion Ratio Lower Upper

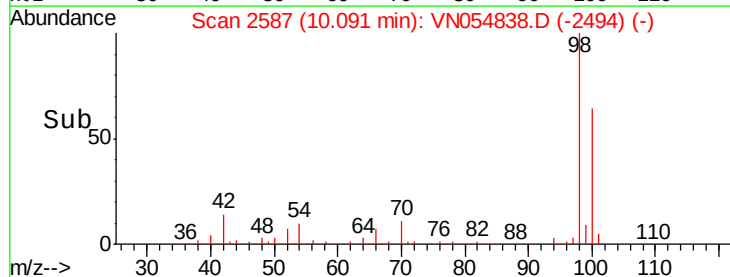
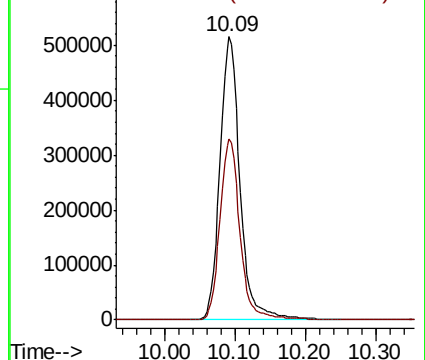
98 100

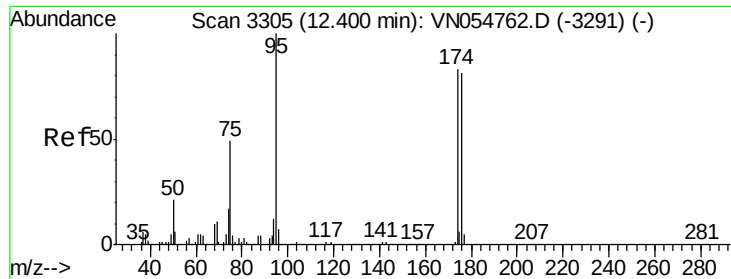
100 63.9 51.2 76.8



Abundance Ion 98.00 (97.70 to 98.70): VN0

Ion 100.00 (99.70 to 100.70): VN0

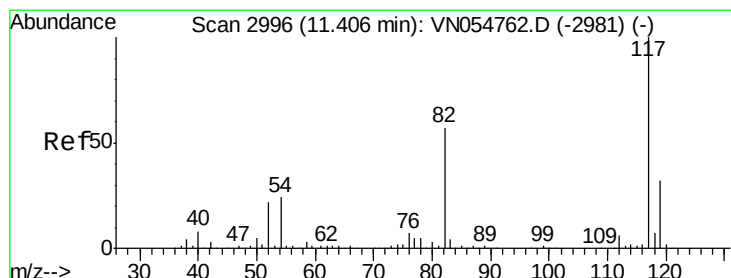
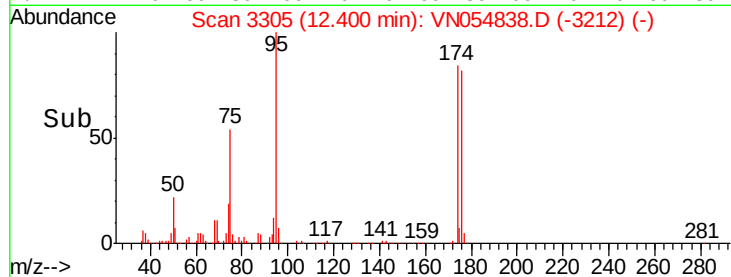
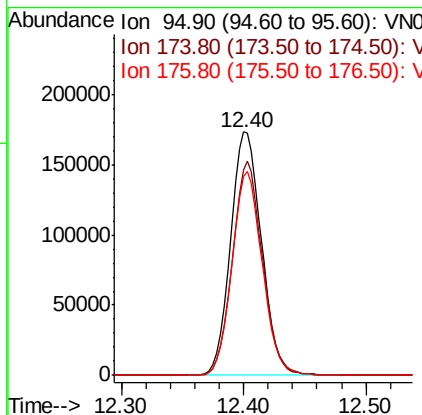
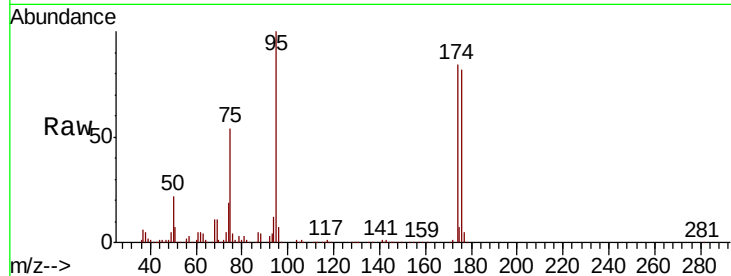




#62  
4-Bromofluorobenzene  
Concen: 42.826 ug/l  
RT: 12.40 min Scan# 3305  
Delta R.T. -0.00 min  
Lab File: VN054838.D  
Acq: 31 Mar 2019 7:56

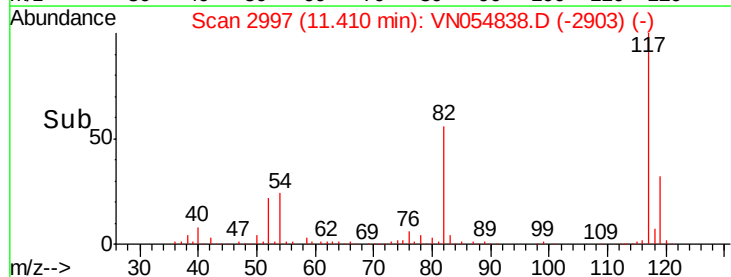
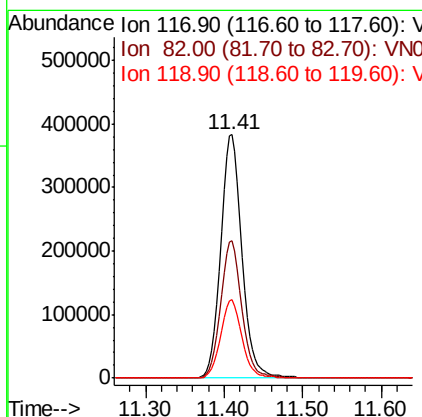
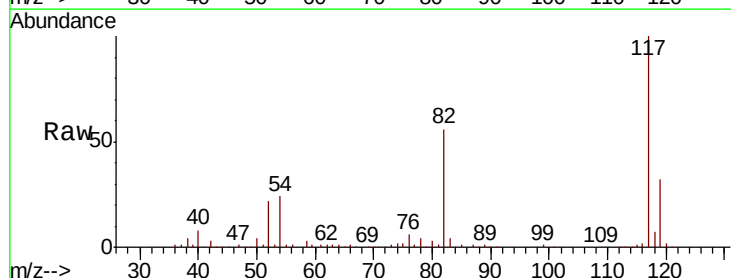
Instrument :  
MSVOA\_N  
ClientSampleId :  
MW-7

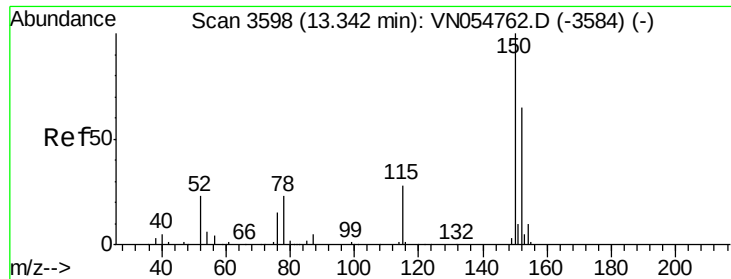
Tot Ion: 95 Resp: 305845  
Ion Ratio Lower Upper  
95 100  
174 85.0 0.0 191.0  
176 81.8 0.0 187.4



#63  
Chlorobenzene-d5  
Concen: 50.000 ug/l  
RT: 11.41 min Scan# 2997  
Delta R.T. 0.00 min  
Lab File: VN054838.D  
Acq: 31 Mar 2019 7:56

Tgt Ion: 117 Resp: 710709  
Ion Ratio Lower Upper  
117 100  
82 56.5 40.0 60.0  
119 32.0 25.8 38.6





#72

1,4-Dichlorobenzene-d4

Concen: 50.000 ug/l

RT: 13.35 min Scan# 3599

Delta R.T. 0.00 min

Lab File: VN054838.D

Acq: 31 Mar 2019 7:56

Instrument :

MSVOA\_N

ClientSampled :

MW-7

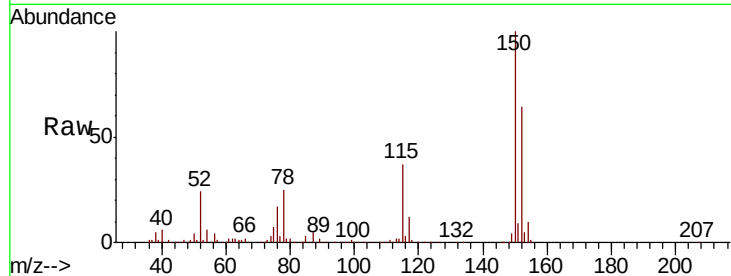
Tot Ion:152 Resp: 246863

Ion Ratio Lower Upper

152 100

115 58.5 27.2 81.6

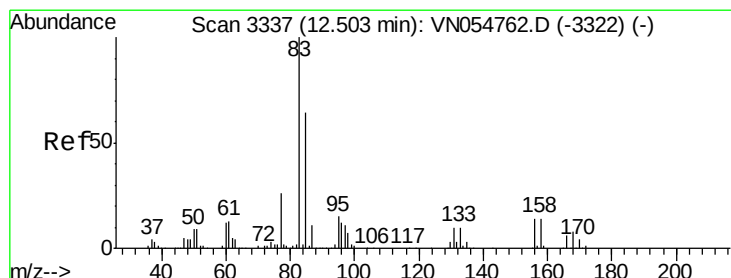
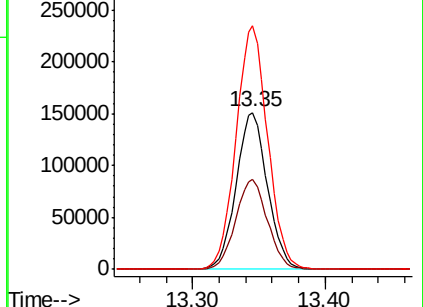
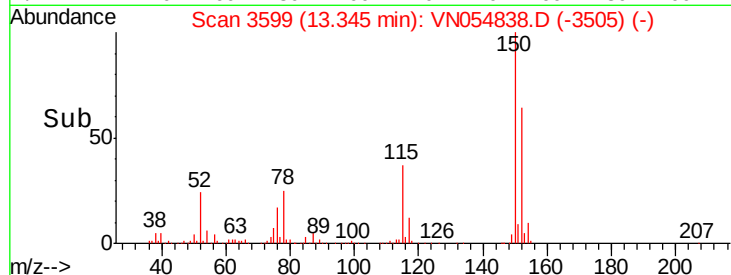
150 157.0 0.0 349.2



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



#75

1,1,2,2-Tetrachloroethane

Concen: Below Cal

RT: 12.55 min Scan# 3351

Delta R.T. 0.05 min

Lab File: VN054838.D

Acq: 31 Mar 2019 7:56

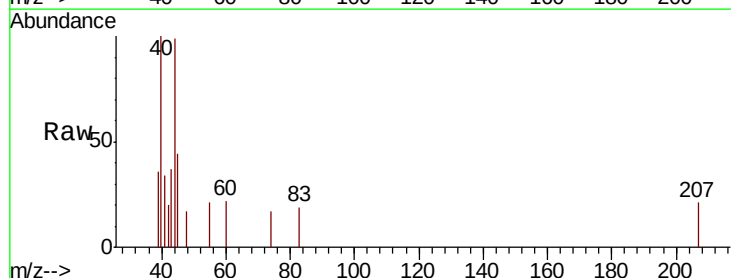
Tgt Ion: 83 Resp: 65

Ion Ratio Lower Upper

83 100

131 0.0 5.8 17.4#

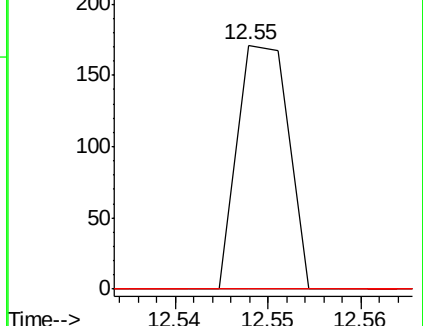
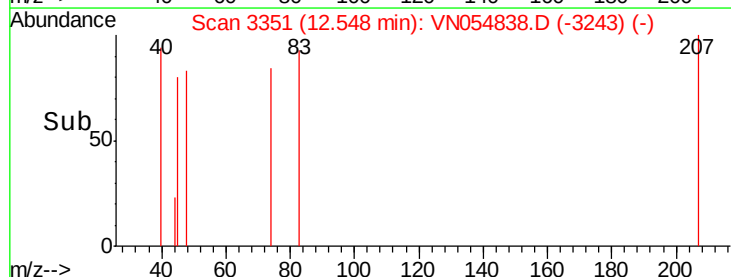
85 0.0 32.2 96.6#

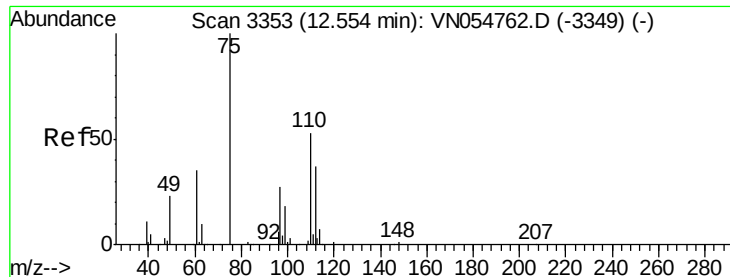


Abundance Ion 82.90 (82.60 to 83.60): V

Ion 130.80 (130.50 to 131.50): V

Ion 84.90 (84.60 to 85.60): V





#76

1,2,3-Trichloropropane

Concen: 37.092 ug/l

RT: 12.40 min Scan# 3305

Delta R.T. -0.15 min

Lab File: VN054838.D

Acq: 31 Mar 2019 7:56

Instrument :

MSVOA\_N

ClientSampleId :

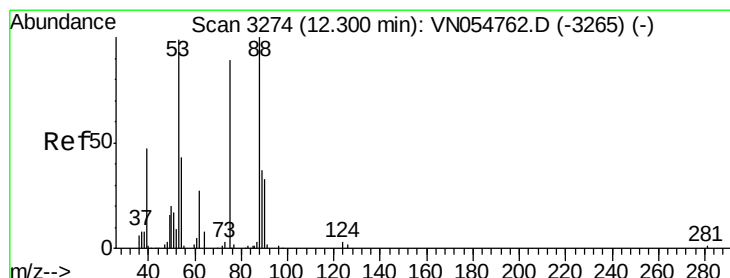
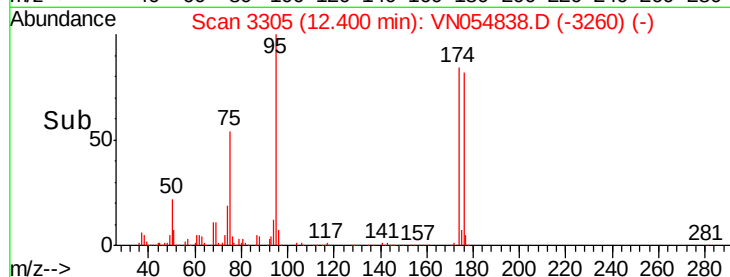
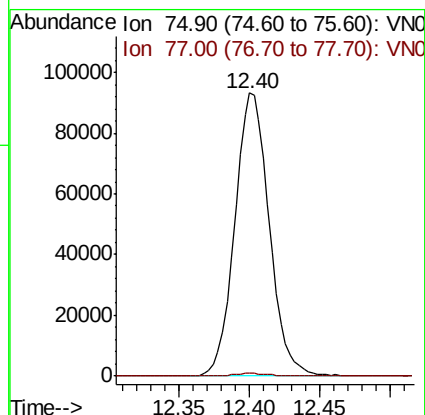
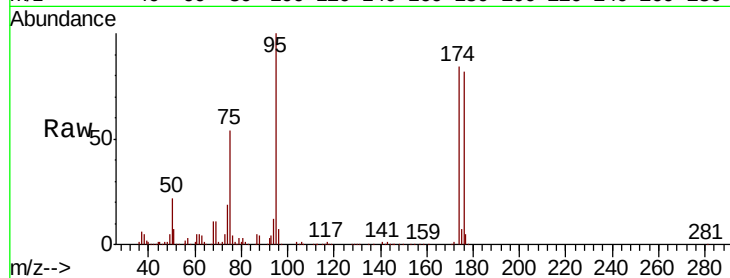
MW-7

Tot Ion: 75 Resp: 159071

Ion Ratio Lower Upper

75 100

77 1.0 0.0 0.0#



#81

trans-1,4-Dichloro-2-butene

Concen: 144.277 ug/l

RT: 12.40 min Scan# 3305

Delta R.T. 0.10 min

Lab File: VN054838.D

Acq: 31 Mar 2019 7:56

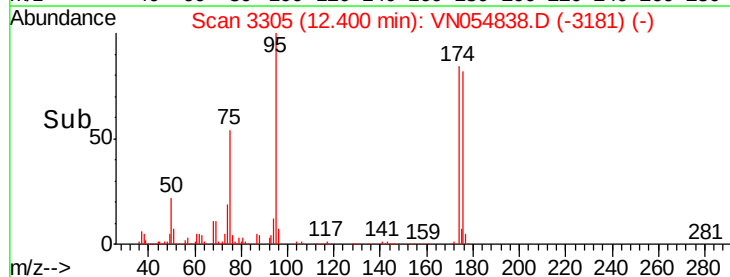
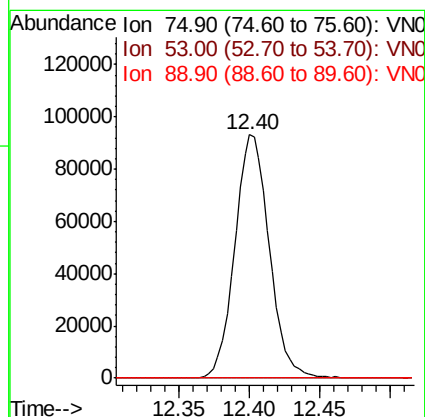
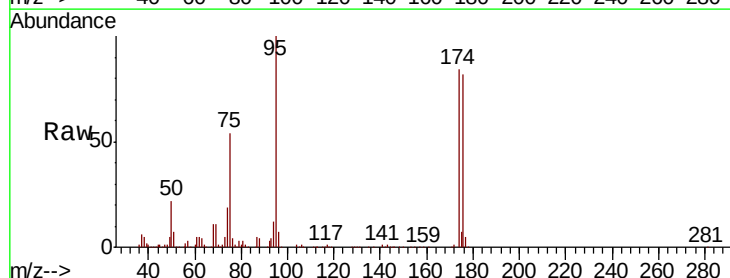
Tgt Ion: 75 Resp: 159071

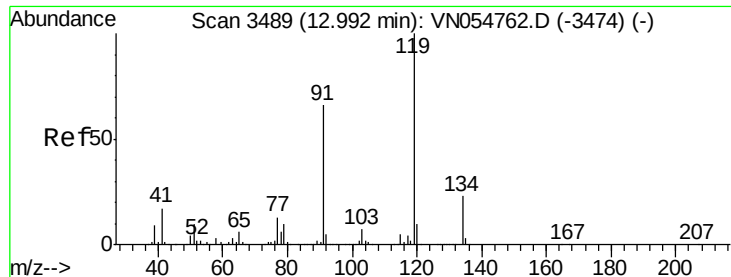
Ion Ratio Lower Upper

75 100

53 0.2 76.2 114.2#

89 0.0 39.2 58.8#

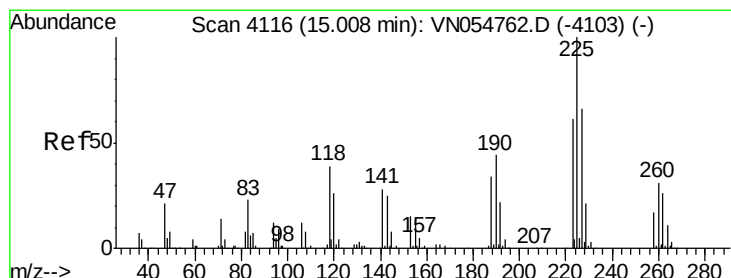
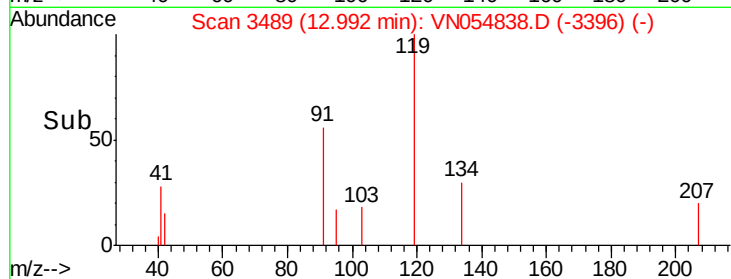
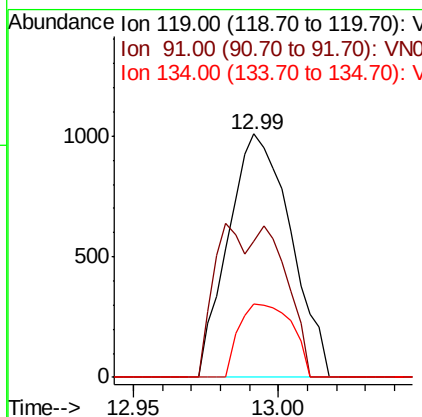
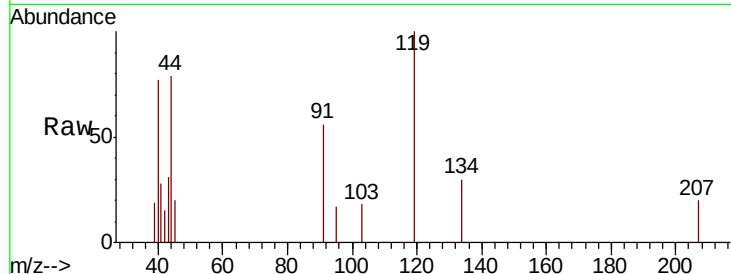




#83  
 tert-Butylbenzene  
 Concen: Below Cal  
 RT: 12.99 min Scan# 3489  
 Delta R.T. 0.00 min  
 Lab File: VN054838.D  
 Acq: 31 Mar 2019 7:56

Instrument :  
 MSVOA\_N  
 ClientSampled :  
 MW-7

Tot Ion:119 Resp: 1511  
 Ion Ratio Lower Upper  
 119 100  
 91 32.2 30.9 92.8  
 134 25.3 13.2 39.6



#94  
 Hexachlorobutadiene  
 Concen: Below Cal  
 RT: 15.01 min Scan# 4116  
 Delta R.T. 0.00 min  
 Lab File: VN054838.D  
 Acq: 31 Mar 2019 7:56

Tgt Ion:225 Resp: 63  
 Ion Ratio Lower Upper  
 225 100  
 223 0.0 31.1 93.5#  
 227 0.0 31.9 95.9#

