

Data Path : Z:\VOASRV\HPCHEM1\MSVOA N\DATA\VN032619\  
 Data File : VN054696.D  
 Acq On : 26 Mar 2019 14:06  
 Operator : JC/SP  
 Sample : K2081-23  
 Misc : 5.00mL/MSVOA N/WATER  
 ALS Vial : 13 Sample Multiplier: 1

Instrument :  
 MSVOA\_N  
 ClientSampleId :

Quant Time: Mar 27 04:07:11 2019  
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA\_N\METHODS\82N032019W.M  
 Quant Title : SW846 8260  
 QLast Update : Fri Mar 22 02:09:07 2019  
 Response via : Initial Calibration

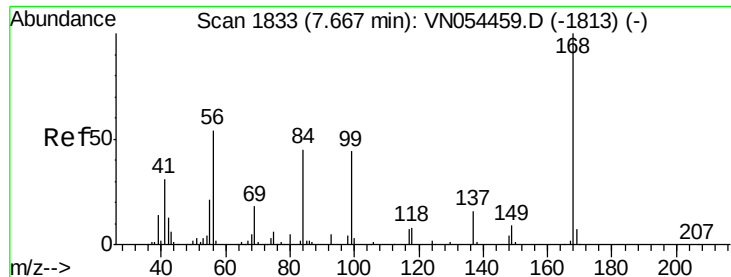
| Internal Standards         | R.T.  | QIon | Response | Conc  | Units | Dev(Min) |
|----------------------------|-------|------|----------|-------|-------|----------|
| 1) Pentafluorobenzene      | 7.67  | 168  | 527777   | 50.00 | ug/l  | 0.00     |
| 34) 1,4-Difluorobenzene    | 8.59  | 114  | 875270   | 50.00 | ug/l  | 0.00     |
| 63) Chlorobenzene-d5       | 11.41 | 117  | 746468   | 50.00 | ug/l  | 0.00     |
| 72) 1,4-Dichlorobenzene-d4 | 13.34 | 152  | 271523   | 50.00 | ug/l  | 0.00     |

| System Monitoring Compounds | R.T.  | QIon | Response | Conc  | Units   | Dev(Min) |
|-----------------------------|-------|------|----------|-------|---------|----------|
| 33) 1,2-Dichloroethane-d4   | 8.03  | 65   | 353732   | 53.88 | ug/l    | 0.00     |
| Spiked Amount               |       |      | Recovery | =     | 107.76% |          |
| 35) Dibromofluoromethane    | 7.59  | 113  | 272745   | 48.37 | ug/l    | 0.00     |
| Spiked Amount               |       |      | Recovery | =     | 96.74%  |          |
| 50) Toluene-d8              | 10.09 | 98   | 1043301  | 49.21 | ug/l    | 0.00     |
| Spiked Amount               |       |      | Recovery | =     | 98.42%  |          |
| 62) 4-Bromofluorobenzene    | 12.40 | 95   | 327622   | 45.42 | ug/l    | 0.00     |
| Spiked Amount               |       |      | Recovery | =     | 90.84%  |          |

| Target Compounds               | R.T.  | QIon | Response | Conc      | Units  | Qvalue |
|--------------------------------|-------|------|----------|-----------|--------|--------|
| 11) Tert butyl alcohol         | 4.82  | 59   | 150      | 0.377     | ug/l # | 70     |
| 13) Acrolein                   | 3.61  | 56   | 294      | 0.536     | ug/l   | 85     |
| 16) Acetone                    | 3.82  | 43   | 10561    | 5.351     | ug/l # | 82     |
| 18) Methyl Acetate             | 4.35  | 43   | 2877     | 0.654     | ug/l # | 53     |
| 20) Methylene Chloride         | 4.55  | 84   | 18196    | 3.128     | ug/l # | 76     |
| 25) 2-Butanone                 | 6.86  | 43   | 987      | 0.390     | ug/l # | 71     |
| 29) Tetrahydrofuran            | 7.23  | 42   | 890      | 0.542     | ug/l # | 48     |
| 31) Cyclohexane                | 7.67  | 56   | 12313    | Below Cal | #      | 34     |
| 36) 1,1-Dichloropropene        | 7.66  | 75   | 39744    | 4.856     | ug/l # | 49     |
| 38) Carbon Tetrachloride       | 7.67  | 117  | 49698    | 6.249     | ug/l # | 16     |
| 43) Isopropyl Acetate          | 8.17  | 43   | 15168    | 1.543     | ug/l # | 95     |
| 45) 1,2-Dichloropropane        | 9.27  | 63   | 1759     | 0.280     | ug/l # | 43     |
| 48) Methyl methacrylate        | 9.18  | 41   | 6651     | 1.247     | ug/l # | 11     |
| 51) 4-Methyl-2-Pentanone       | 9.99  | 43   | 5140     | 0.943     | ug/l   | 88     |
| 53) t-1,3-Dichloropropene      | 10.11 | 75   | 285      | 2.265     | ug/l # | 21     |
| 54) cis-1,3-Dichloropropene    | 9.90  | 75   | 55202    | 6.188     | ug/l # | 71     |
| 57) 1,3-Dichloropropane        | 10.77 | 76   | 10397    | 1.156     | ug/l # | 43     |
| 59) 2-Hexanone                 | 10.77 | 43   | 174891   | 49.147    | ug/l # | 47     |
| 71) Bromoform                  | 12.39 | 173  | 411      | 2.325     | ug/l # | 28     |
| 74) N-amyl acetate             | 11.88 | 43   | 17241    | 2.740     | ug/l # | 50     |
| 76) 1,2,3-Trichloropropane     | 12.40 | 75   | 166637   | 38.675    | ug/l # | 100    |
| 81) trans-1,4-Dichloro-2-buten | 12.40 | 75   | 166637   | 128.040   | ug/l # | 11     |

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





#1

Pentafluorobenzene

Concen: 50.000 ug/l

RT: 7.67 min Scan# 1833

Delta R.T. -0.00 min

Lab File: VN054696.D

Acq: 26 Mar 2019 14:06

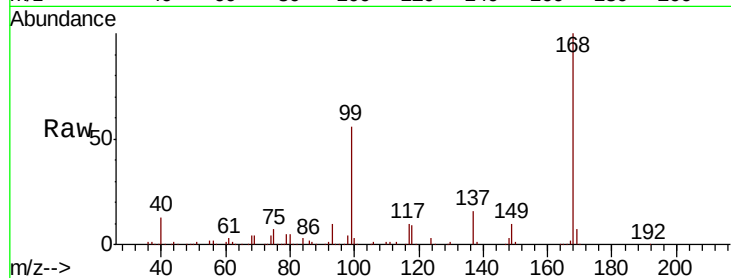
Instrument :  
MSVOA\_N  
ClientSampled :

Tot Ion:168 Resp: 527777

Ion Ratio Lower Upper

168 100

99 56.3 37.1 55.7#



Abundance Ion 167.90 (167.60 to 168.60): V

Ion 98.90 (98.60 to 99.60): VN

7.67

200000

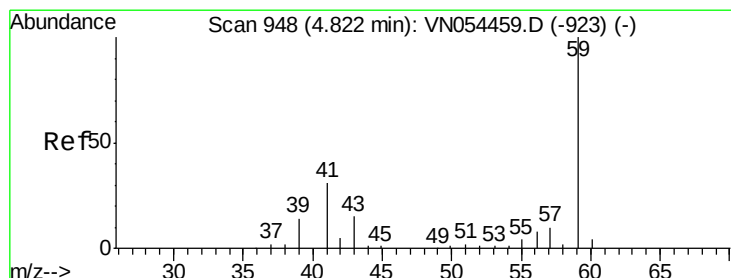
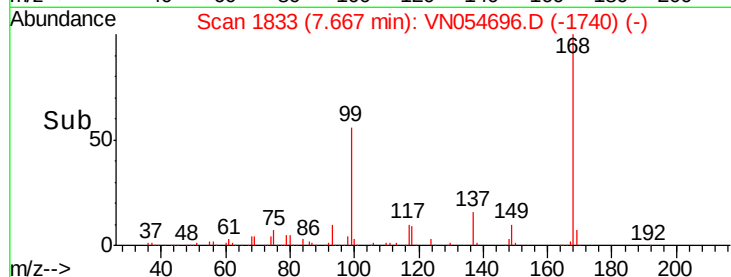
150000

100000

50000

0

Time-->



#11

Tert butyl alcohol

Concen: 0.377 ug/l

RT: 4.82 min Scan# 946

Delta R.T. -0.01 min

Lab File: VN054696.D

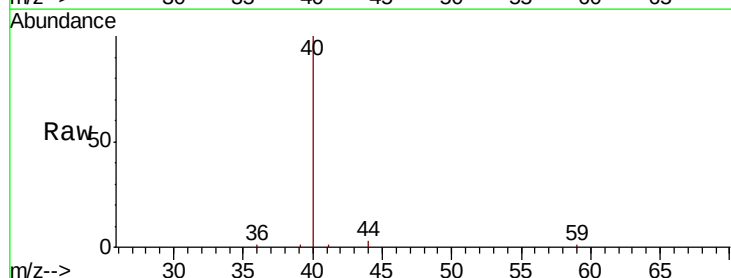
Acq: 26 Mar 2019 14:06

Tgt Ion: 59 Resp: 150

Ion Ratio Lower Upper

59 100

57 0.0 9.0 13.6#



Abundance Ion 59.00 (58.70 to 59.70): VN

Ion 57.00 (56.70 to 57.70): VN

4.82

250

200

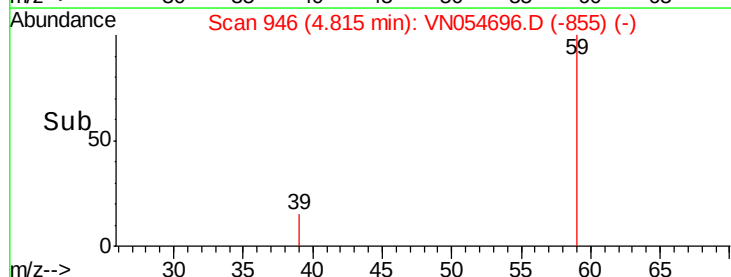
150

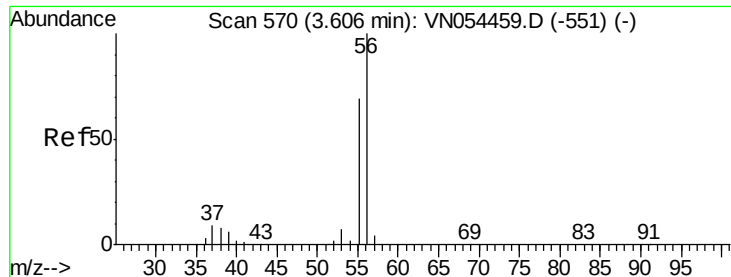
100

50

0

Time-->





#13

Acrolein

Concen: 0.536 ug/l

RT: 3.61 min Scan# 570

Delta R.T. -0.00 min

Lab File: VN054696.D

Acq: 26 Mar 2019 14:06

Instrument :

MSVOA\_N

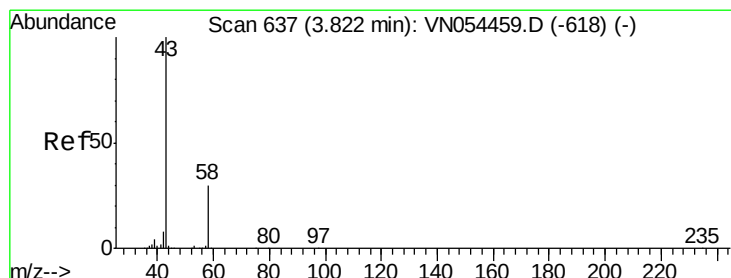
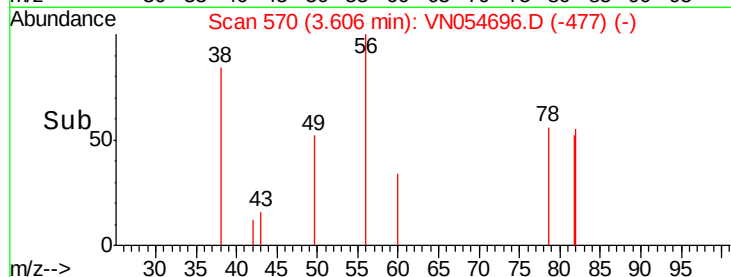
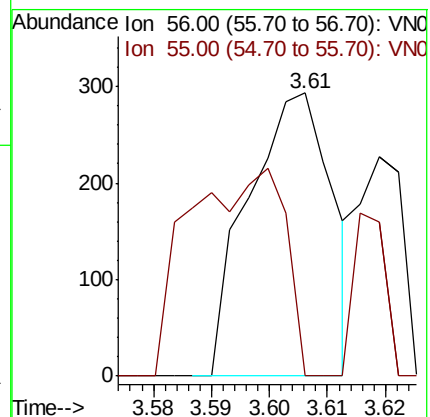
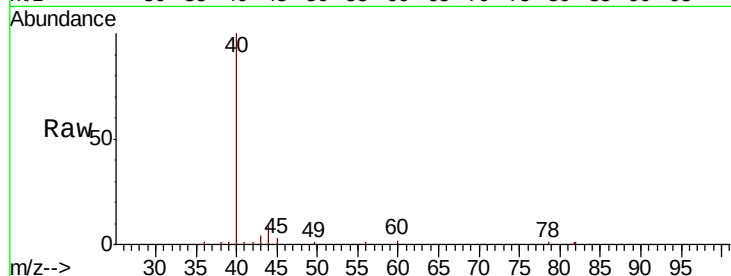
ClientSampled :

Tot Ion: 56 Resp: 294

Ion Ratio Lower Upper

56 100

55 83.7 56.7 85.1



#16

Acetone

Concen: 5.351 ug/l

RT: 3.82 min Scan# 638

Delta R.T. 0.00 min

Lab File: VN054696.D

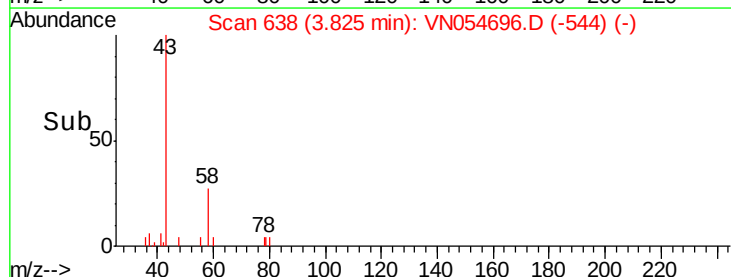
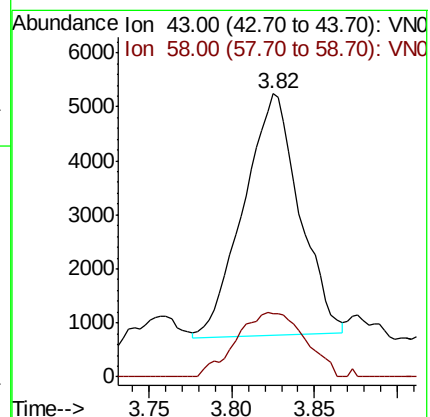
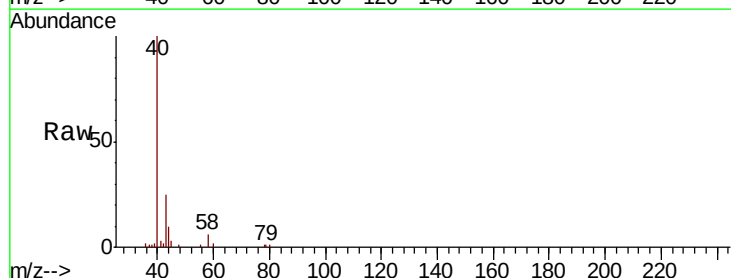
Acq: 26 Mar 2019 14:06

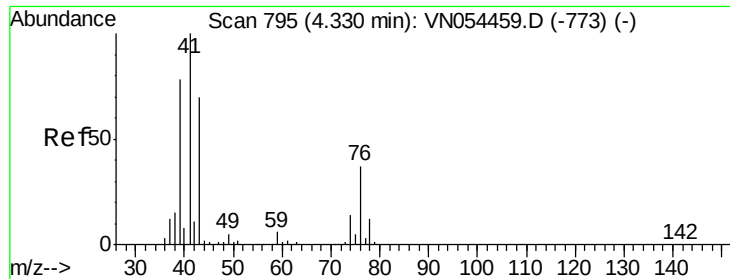
Tgt Ion: 43 Resp: 10561

Ion Ratio Lower Upper

43 100

58 26.5 29.9 44.9#

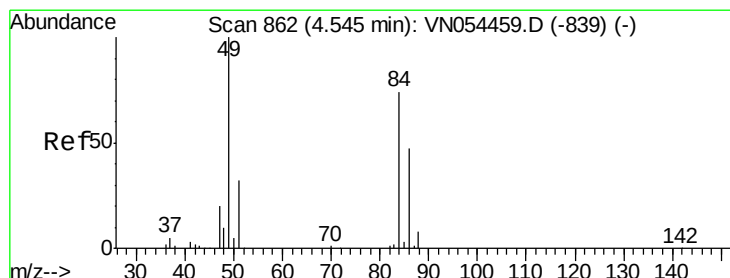
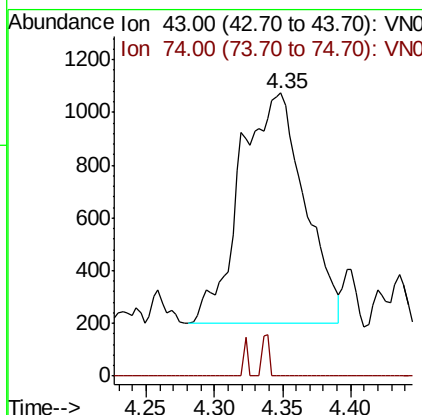
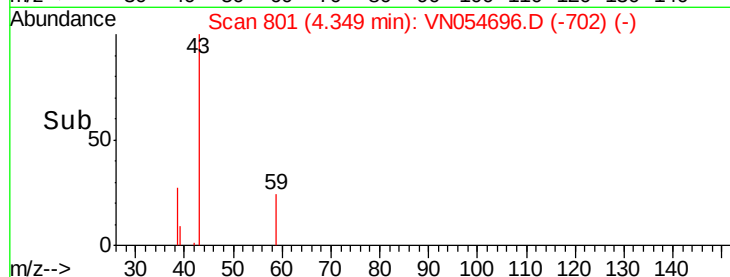
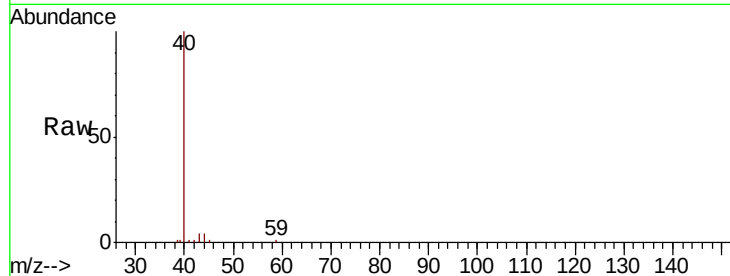




#18  
Methyl Acetate  
Concen: 0.654 ug/l  
RT: 4.35 min Scan# 801  
Delta R.T. 0.02 min  
Lab File: VN054696.D  
Acq: 26 Mar 2019 14:06

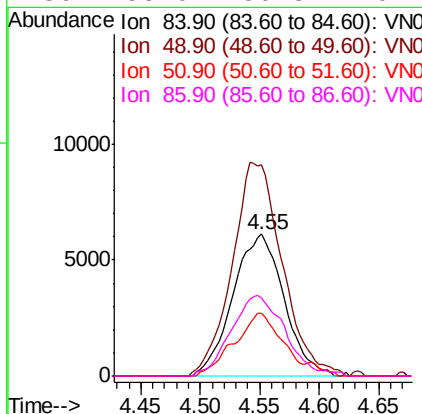
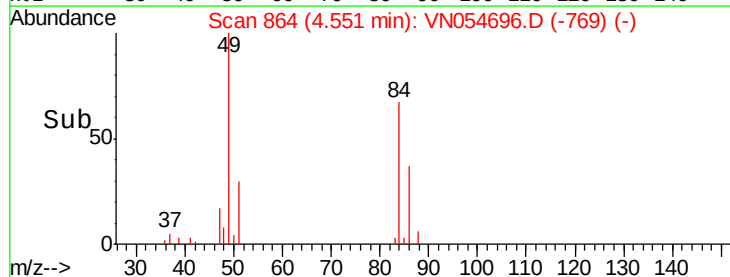
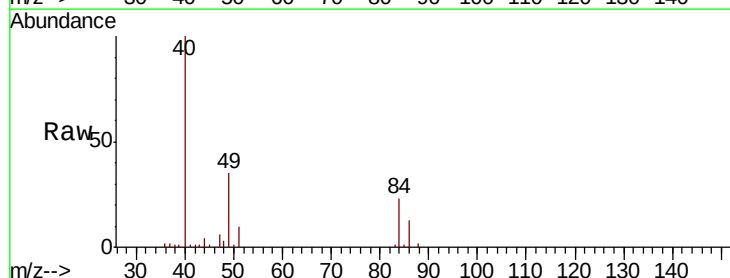
Instrument :  
MSVOA\_N  
ClientSampled :

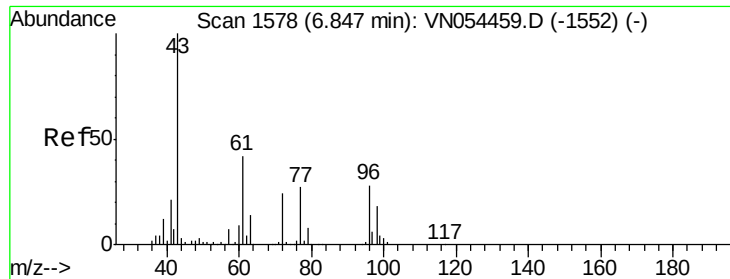
Tot Ion: 43 Resp: 2877  
Ion Ratio Lower Upper  
43 100  
74 2.1 20.8 31.2#



#20  
Methylene Chloride  
Concen: 3.128 ug/l  
RT: 4.55 min Scan# 864  
Delta R.T. 0.01 min  
Lab File: VN054696.D  
Acq: 26 Mar 2019 14:06

Tgt Ion: 84 Resp: 18196  
Ion Ratio Lower Upper  
84 100  
49 149.0 89.7 134.5#  
51 44.7 28.2 42.4#  
86 55.0 50.8 76.2





#25

2-Butanone

Concen: 0.390 ug/l

RT: 6.86 min Scan# 1583

Delta R.T. 0.02 min

Lab File: VN054696.D

Acq: 26 Mar 2019 14:06

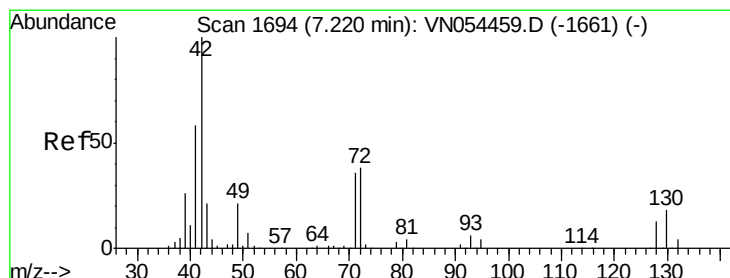
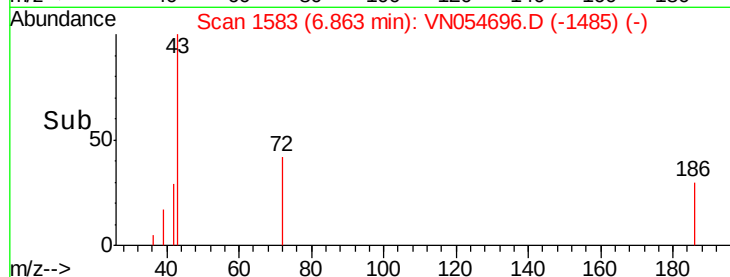
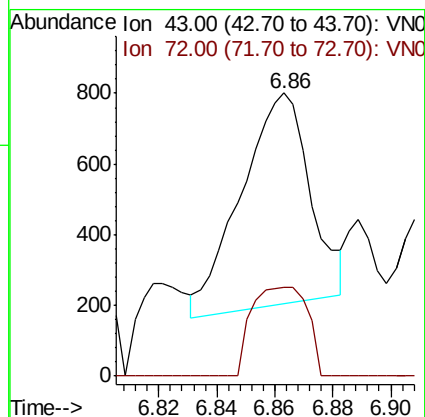
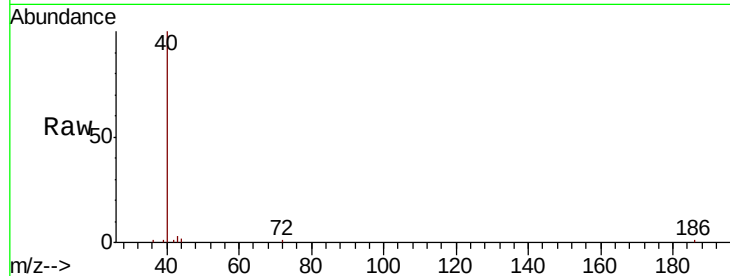
Instrument :  
MSVOA\_N  
ClientSampled :

Tot Ion: 43 Resp: 987

Ion Ratio Lower Upper

43 100

72 44.4 23.0 34.6#



#29

Tetrahydrofuran

Concen: 0.542 ug/l

RT: 7.23 min Scan# 1696

Delta R.T. 0.01 min

Lab File: VN054696.D

Acq: 26 Mar 2019 14:06

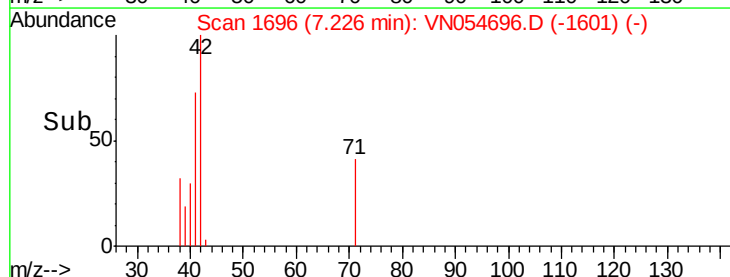
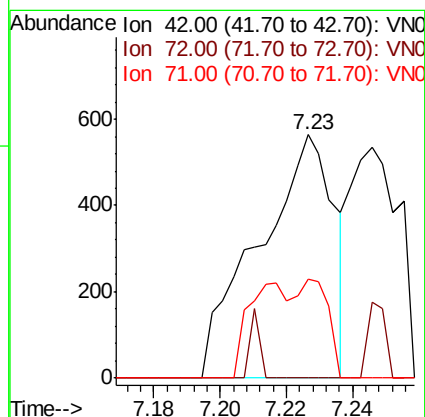
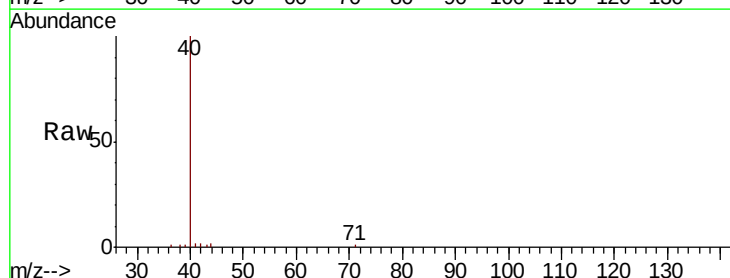
Tgt Ion: 42 Resp: 890

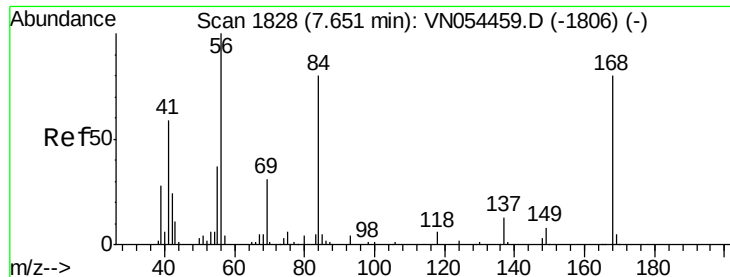
Ion Ratio Lower Upper

42 100

72 3.5 37.8 56.6#

71 20.6 36.2 54.2#





#31

Cyclohexane

Concen: Below Cal

RT: 7.67 min Scan# 1833

Delta R.T. 0.02 min

Lab File: VN054696.D

Acq: 26 Mar 2019 14:06

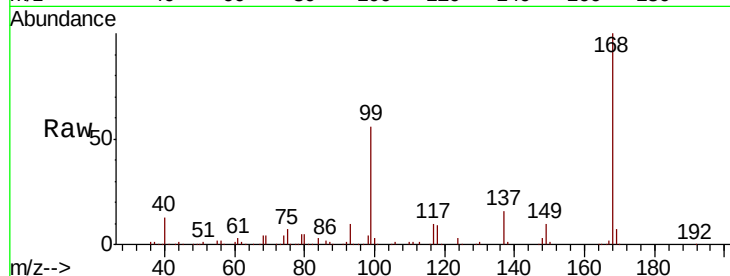
Instrument :

MSVOA\_N

ClientSampleId :

Tot Ion: 56 Resp: 12313

| Ion | Ratio | Lower | Upper |
|-----|-------|-------|-------|
| 56  | 100   |       |       |
| 69  | 152.2 | 27.8  | 41.6# |
| 84  | 107.4 | 74.6  | 111.8 |

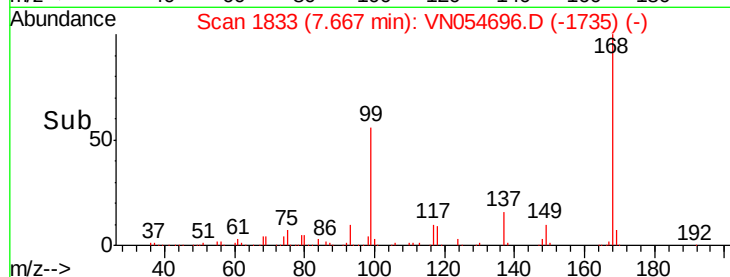


Abundance Ion 56.00 (55.70 to 56.70): VN054459.D (-1806) (-)

Ion 69.00 (68.70 to 69.70): VN054459.D (-1806) (-)

Ion 84.00 (83.70 to 84.70): VN054459.D (-1806) (-)

Time-->

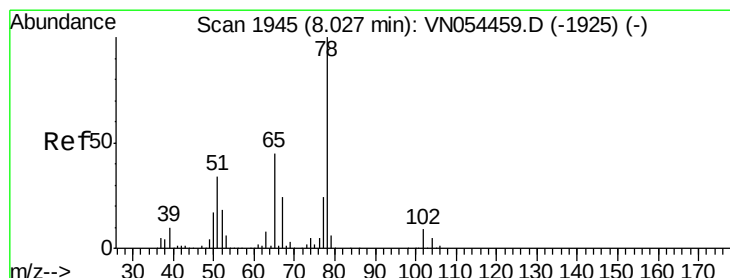


Abundance Ion 56.00 (55.70 to 56.70): VN054696.D (-1735) (-)

Ion 69.00 (68.70 to 69.70): VN054696.D (-1735) (-)

Ion 84.00 (83.70 to 84.70): VN054696.D (-1735) (-)

Time-->



#33

1,2-Dichloroethane-d4

Concen: 53.884 ug/l

RT: 8.03 min Scan# 1945

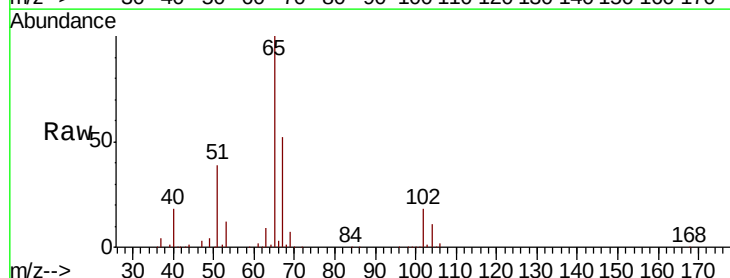
Delta R.T. -0.00 min

Lab File: VN054696.D

Acq: 26 Mar 2019 14:06

Tgt Ion: 65 Resp: 353732

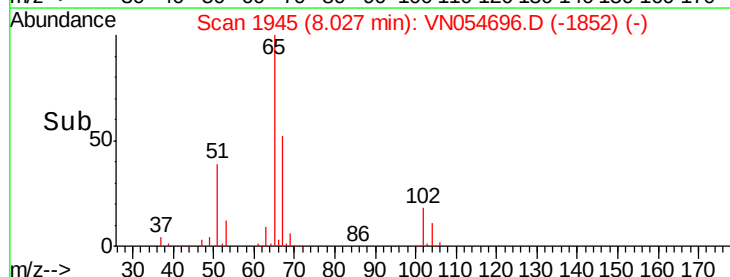
| Ion | Ratio | Lower | Upper |
|-----|-------|-------|-------|
| 65  | 100   |       |       |
| 67  | 51.5  | 0.0   | 104.6 |



Abundance Ion 64.90 (64.60 to 65.60): VN054459.D (-1925) (-)

Ion 66.90 (66.60 to 67.60): VN054459.D (-1925) (-)

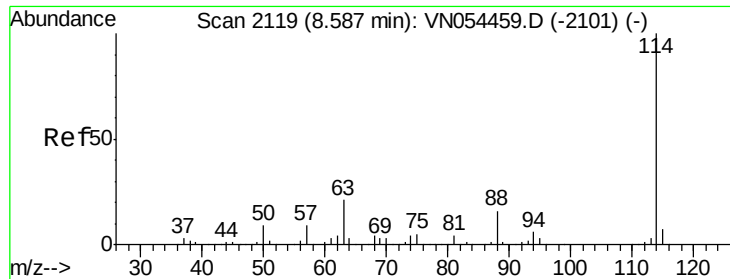
Time-->



Abundance Ion 64.90 (64.60 to 65.60): VN054696.D (-1852) (-)

Ion 66.90 (66.60 to 67.60): VN054696.D (-1852) (-)

Time-->



#34

1,4-Difluorobenzene

Concen: 50.000 ug/l

RT: 8.59 min Scan# 2119

Delta R.T. -0.00 min

Lab File: VN054696.D

Acq: 26 Mar 2019 14:06

Instrument :

MSVOA\_N

ClientSampleId :

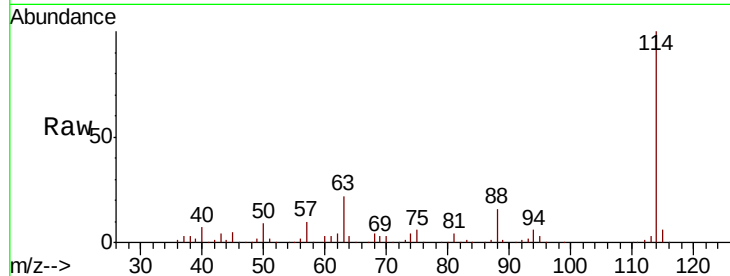
Tot Ion:114 Resp: 875270

Ion Ratio Lower Upper

114 100

63 22.4 0.0 35.2

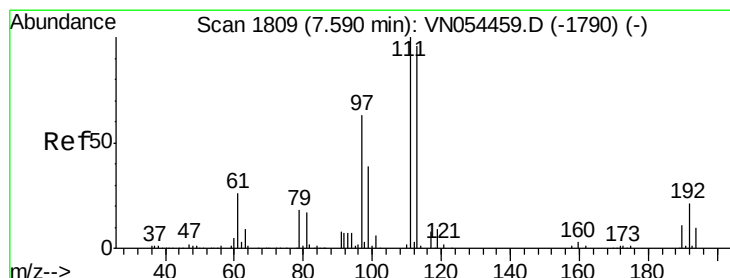
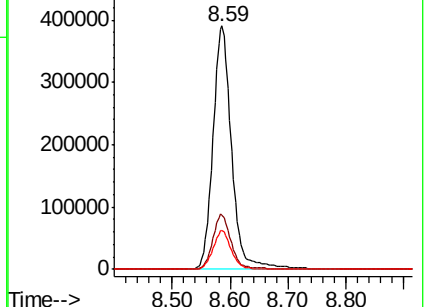
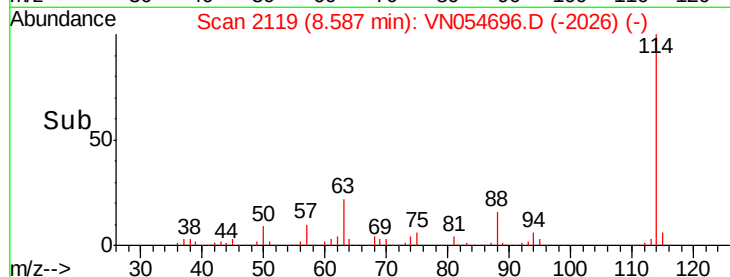
88 16.1 0.0 30.2



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: 48.368 ug/l

RT: 7.59 min Scan# 1810

Delta R.T. 0.00 min

Lab File: VN054696.D

Acq: 26 Mar 2019 14:06

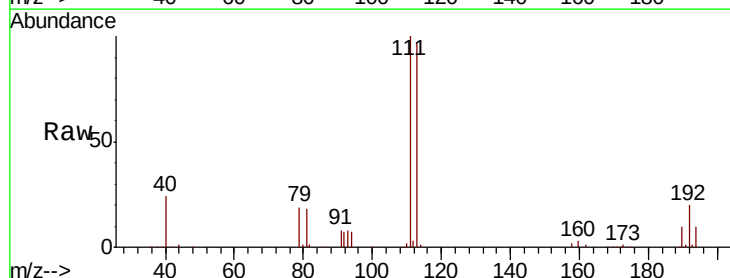
Tgt Ion:113 Resp: 272745

Ion Ratio Lower Upper

113 100

111 104.0 82.2 123.4

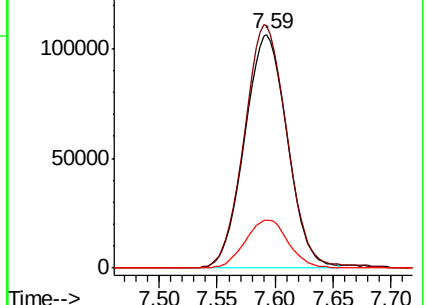
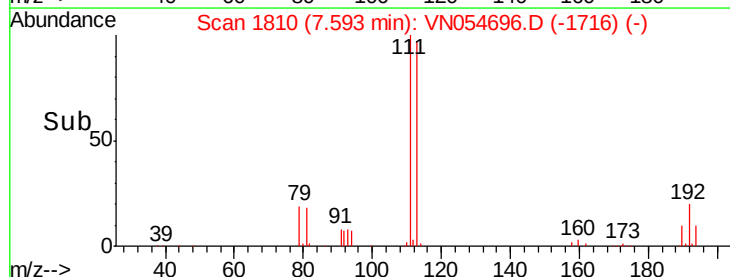
192 20.7 19.2 28.8



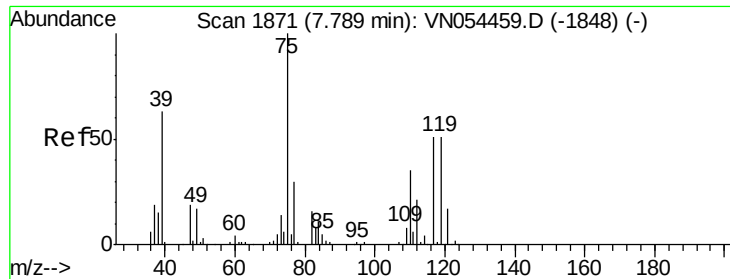
Abundance Ion 112.80 (112.50 to 113.50): V

Ion 110.80 (110.50 to 111.50): V

Ion 191.70 (191.40 to 192.40): V



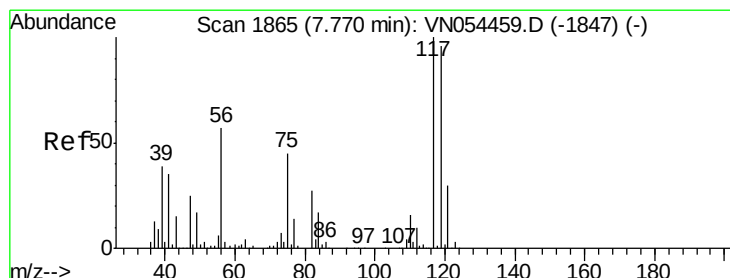
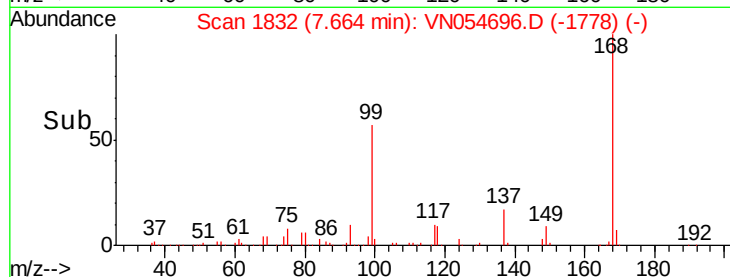
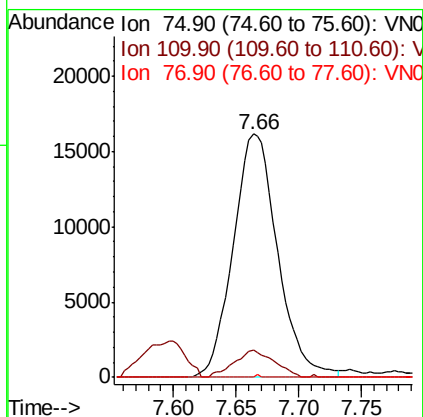
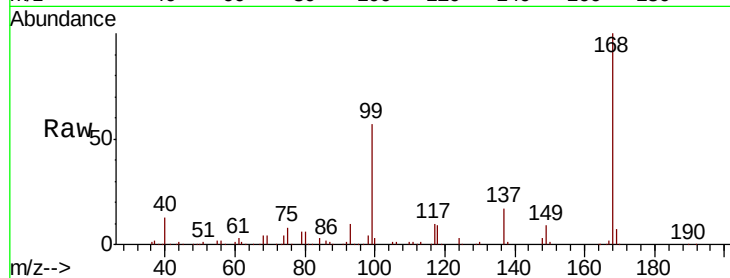




#36  
 1,1-Dichloropropene  
 Concen: 4.856 ug/l  
 RT: 7.66 min Scan# 1832  
 Delta R.T. -0.13 min  
 Lab File: VN054696.D  
 Acq: 26 Mar 2019 14:06

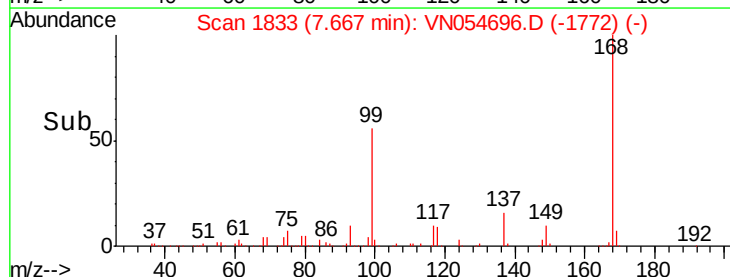
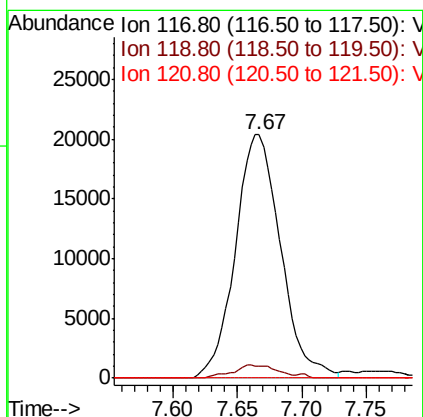
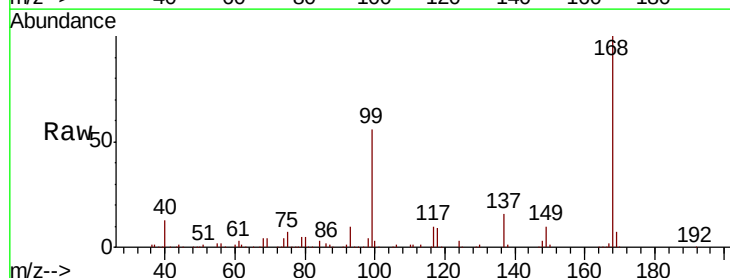
Instrument :  
 MSVOA\_N  
 ClientSampleId :

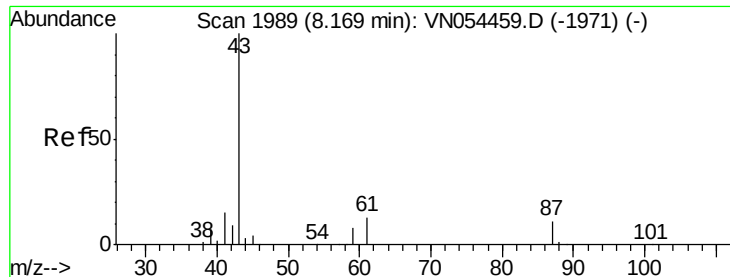
Tot Ion: 75 Resp: 39744  
 Ion Ratio Lower Upper  
 75 100  
 110 10.0 19.1 57.5#  
 77 0.1 25.0 37.4#



#38  
 Carbon Tetrachloride  
 Concen: 6.249 ug/l  
 RT: 7.67 min Scan# 1833  
 Delta R.T. -0.10 min  
 Lab File: VN054696.D  
 Acq: 26 Mar 2019 14:06

Tgt Ion: 117 Resp: 49698  
 Ion Ratio Lower Upper  
 117 100  
 119 4.9 76.3 114.5#  
 121 0.0 24.6 36.8#





#43

Isopropyl Acetate

Concen: 1.543 ug/l

RT: 8.17 min Scan# 1989

Delta R.T. -0.00 min

Lab File: VN054696.D

Acq: 26 Mar 2019 14:06

Instrument :

MSVOA\_N

ClientSampled :

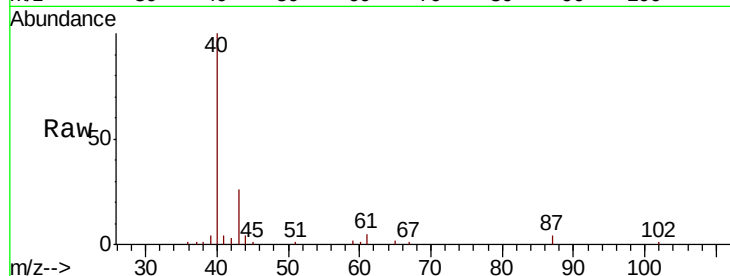
Tot Ion: 43 Resp: 15168

Ion Ratio Lower Upper

43 100

61 21.1 15.8 23.8

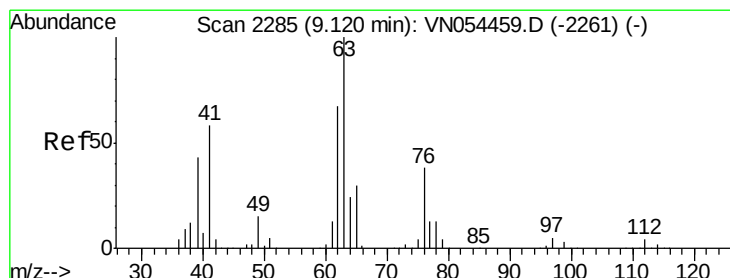
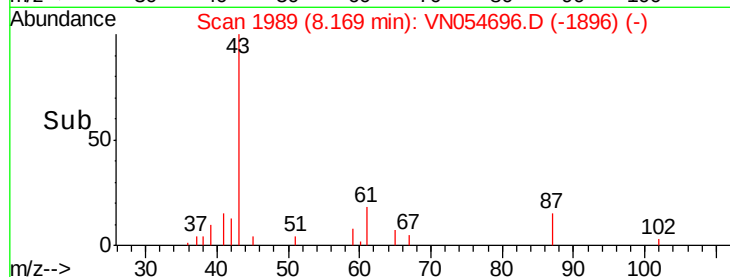
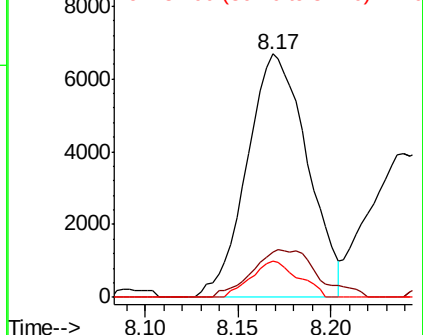
87 11.7 12.0 18.0#



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



#45

1,2-Dichloropropane

Concen: 0.280 ug/l

RT: 9.27 min Scan# 2331

Delta R.T. 0.15 min

Lab File: VN054696.D

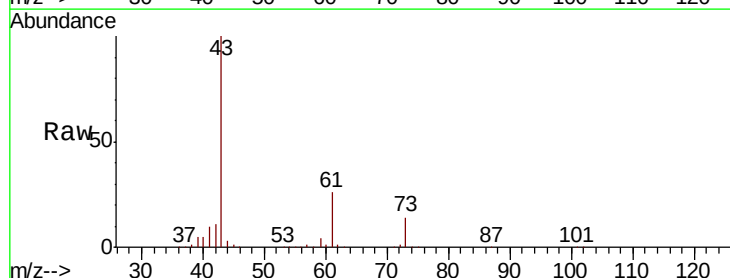
Acq: 26 Mar 2019 14:06

Tgt Ion: 63 Resp: 1759

Ion Ratio Lower Upper

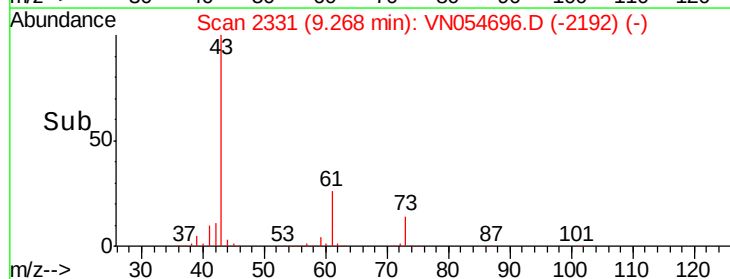
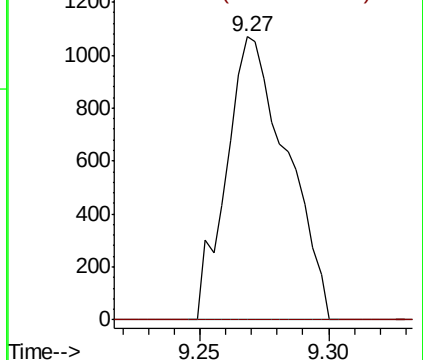
63 100

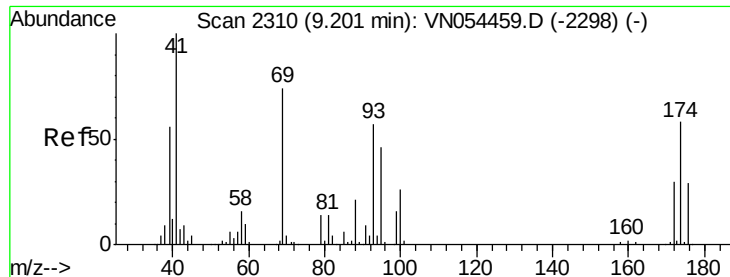
65 0.0 25.0 37.6#



Abundance Ion 62.90 (62.60 to 63.60): VN0

Ion 64.90 (64.60 to 65.60): VN0

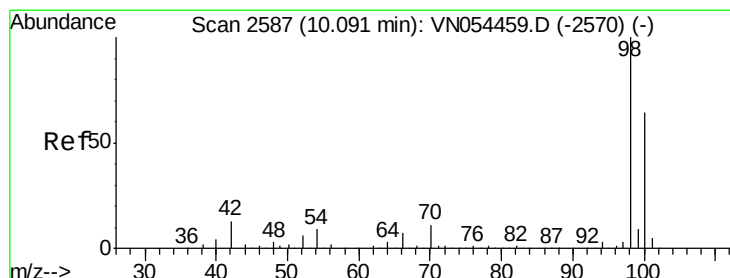
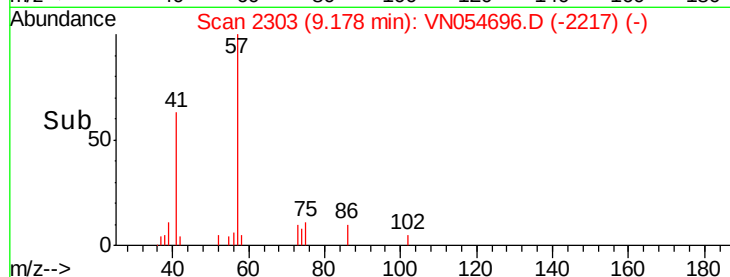
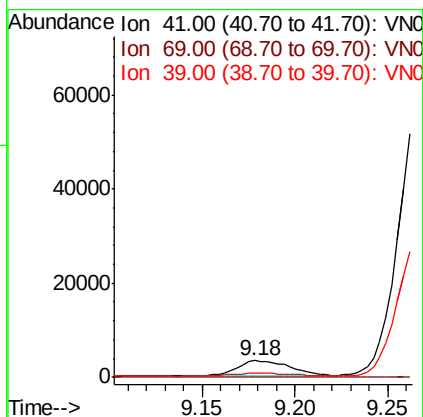
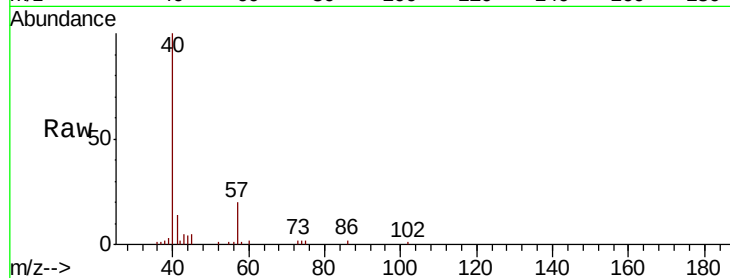




#48  
Methvl methacrylate  
Concen: 1.247 ug/l  
RT: 9.18 min Scan# 2303  
Delta R.T. -0.02 min  
Lab File: VN054696.D  
Acq: 26 Mar 2019 14:06

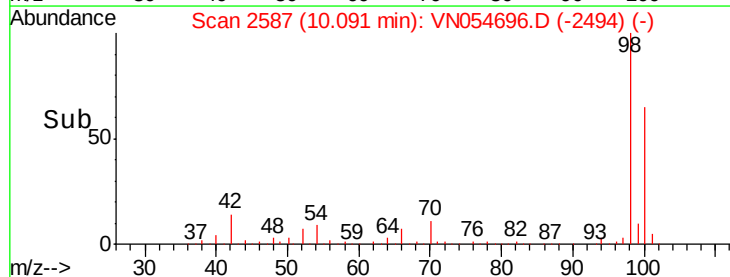
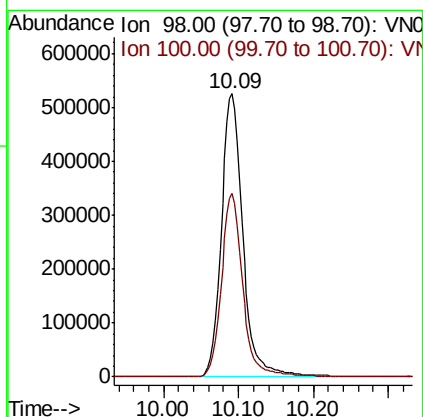
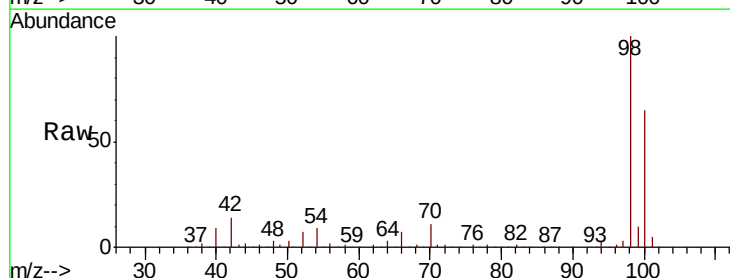
Instrument :  
MSVOA\_N  
ClientSampleId :

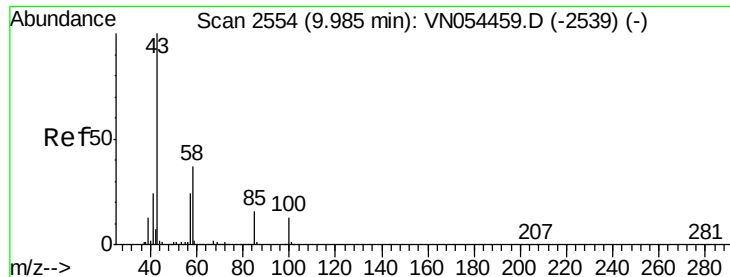
Tot Ion: 41 Resp: 6651  
Ion Ratio Lower Upper  
41 100  
69 0.0 72.6 108.8#  
39 0.0 47.5 71.3#



#50  
Toluene-d8  
Concen: 49.215 ug/l  
RT: 10.09 min Scan# 2587  
Delta R.T. -0.00 min  
Lab File: VN054696.D  
Acq: 26 Mar 2019 14:06

Tgt Ion: 98 Resp: 1043301  
Ion Ratio Lower Upper  
98 100  
100 64.4 51.2 76.8

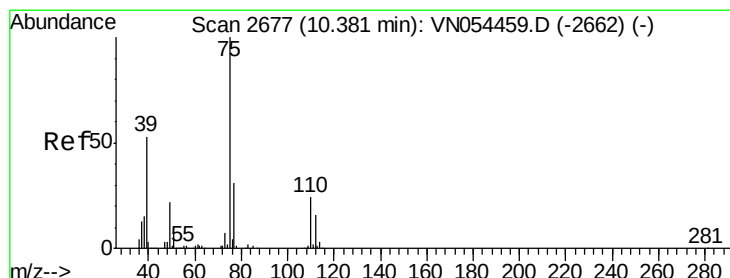
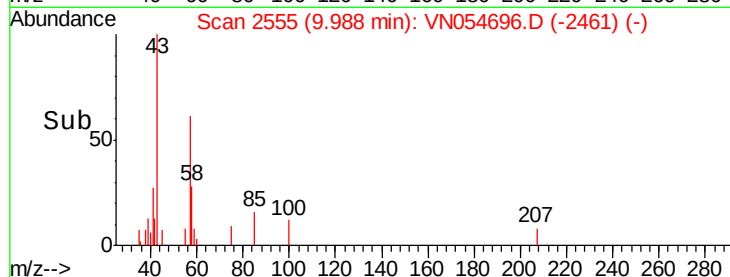
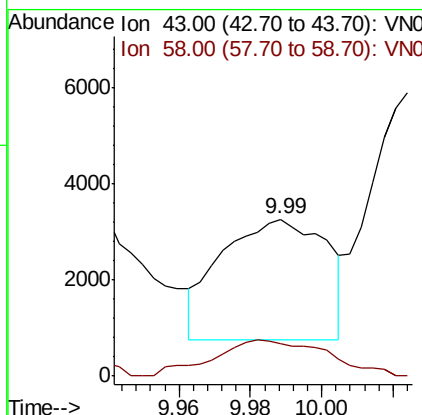
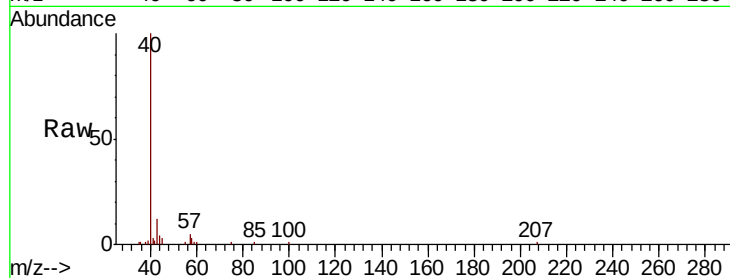




#51  
 4-Methyl-2-Pentanone  
 Concen: 0.943 ug/l  
 RT: 9.99 min Scan# 2555  
 Delta R.T. 0.00 min  
 Lab File: VN054696.D  
 Acq: 26 Mar 2019 14:06

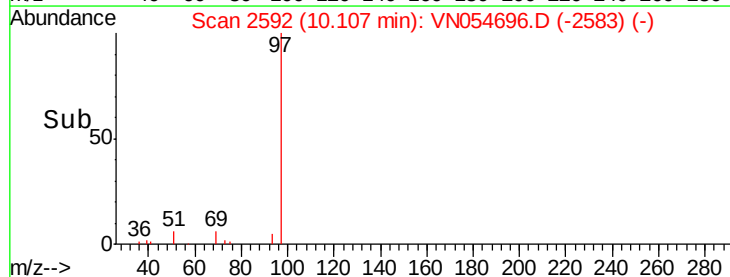
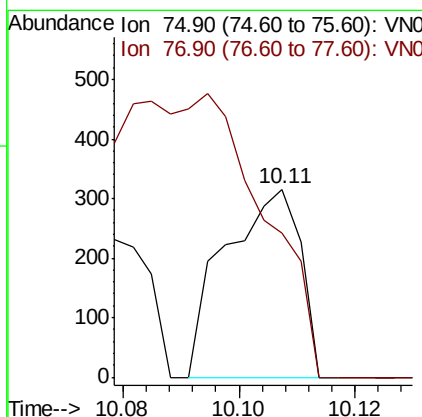
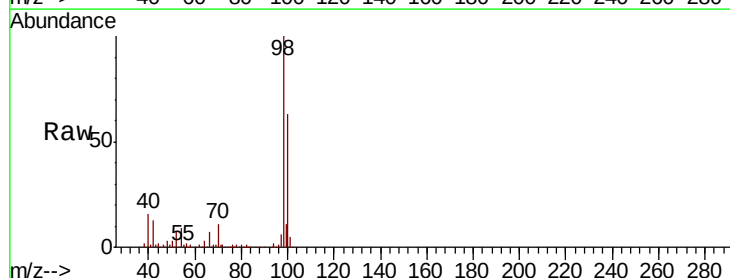
Instrument :  
 MSVOA\_N  
 ClientSampled :

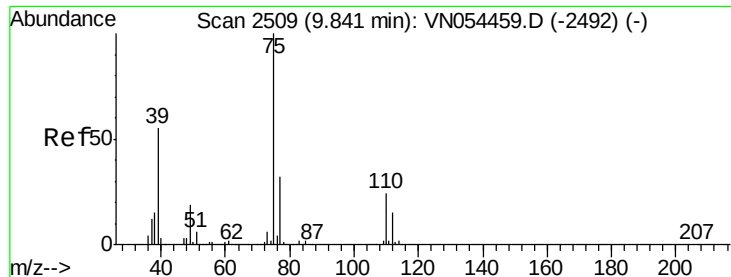
Tot Ion: 43 Resp: 5140  
 Ion Ratio Lower Upper  
 43 100  
 58 32.4 31.8 47.6



#53  
 t-1,3-Dichloropropene  
 Concen: 2.265 ug/l  
 RT: 10.11 min Scan# 2592  
 Delta R.T. -0.27 min  
 Lab File: VN054696.D  
 Acq: 26 Mar 2019 14:06

Tgt Ion: 75 Resp: 285  
 Ion Ratio Lower Upper  
 75 100  
 77 76.6 25.8 38.8#





#54

cis-1,3-Dichloropropene

Concen: 6.188 ug/l

RT: 9.90 min Scan# 2529

Delta R.T. 0.06 min

Lab File: VN054696.D

Acq: 26 Mar 2019 14:06

Instrument :

MSVOA\_N

ClientSampleId :

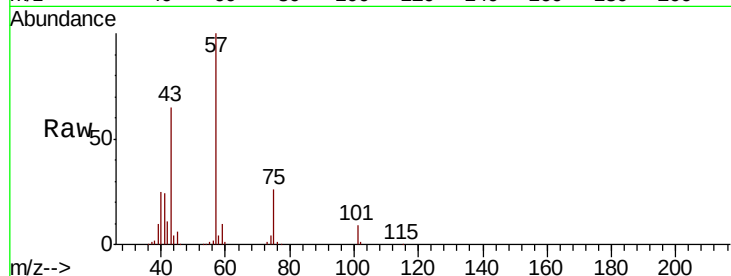
Tot Ion: 75 Resp: 55202

Ion Ratio Lower Upper

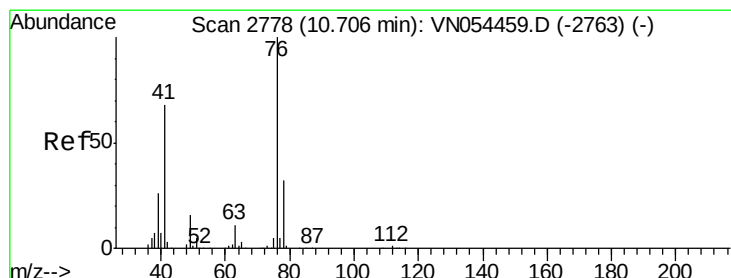
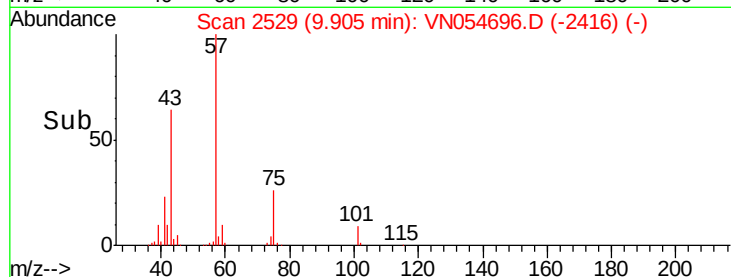
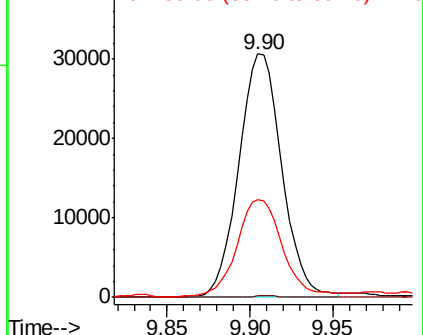
75 100

77 0.6 25.4 38.0#

39 39.5 37.2 55.8



Abundance Ion 74.90 (74.60 to 75.60): VN0  
Ion 76.90 (76.60 to 77.60): VN0  
Ion 39.00 (38.70 to 39.70): VN0



#57

1,3-Dichloropropane

Concen: 1.156 ug/l

RT: 10.77 min Scan# 2797

Delta R.T. 0.06 min

Lab File: VN054696.D

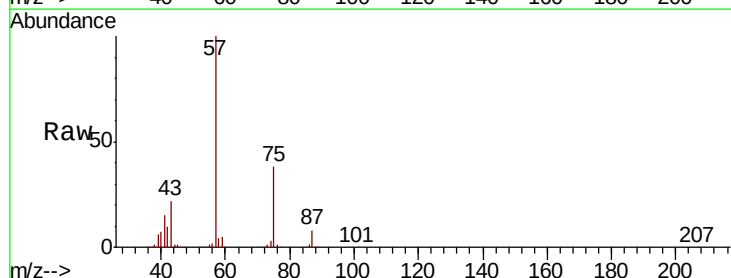
Acq: 26 Mar 2019 14:06

Tgt Ion: 76 Resp: 10397

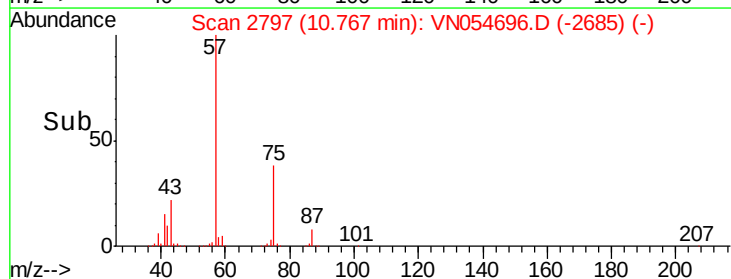
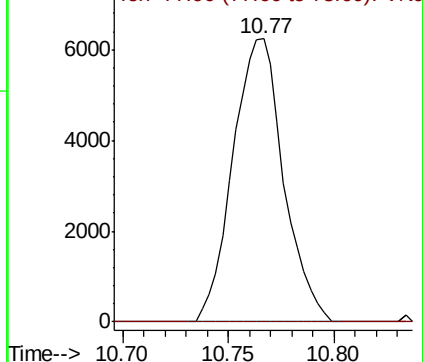
Ion Ratio Lower Upper

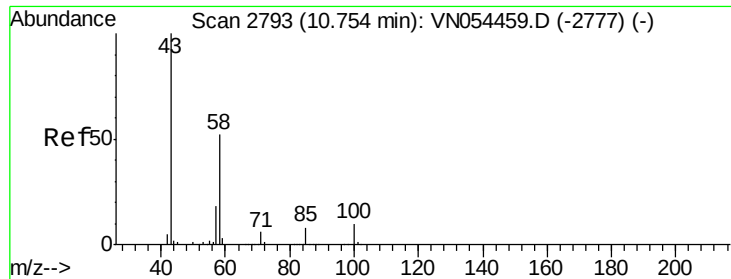
76 100

78 0.0 25.7 38.5#



Abundance Ion 75.90 (75.60 to 76.60): VN0  
Ion 77.90 (77.60 to 78.60): VN0

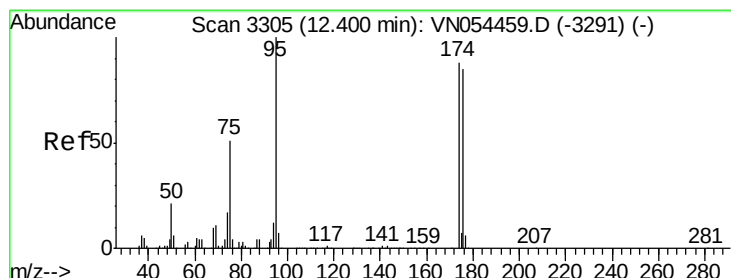
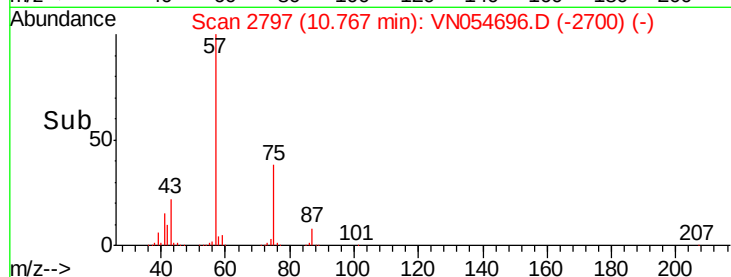
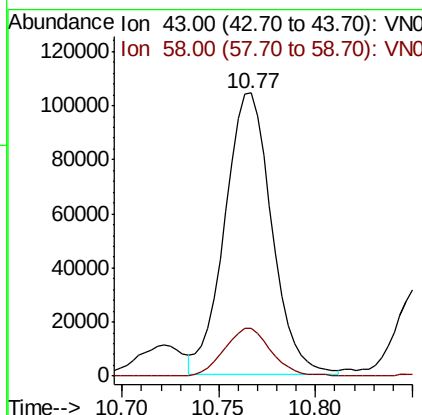
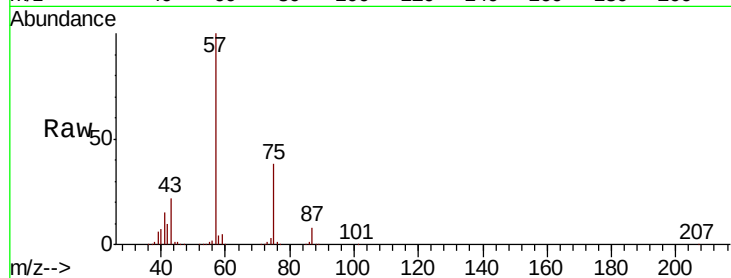




#59  
2-Hexanone  
Concen: 49.147 ug/l  
RT: 10.77 min Scan# 2797  
Delta R.T. 0.01 min  
Lab File: VN054696.D  
Acq: 26 Mar 2019 14:06

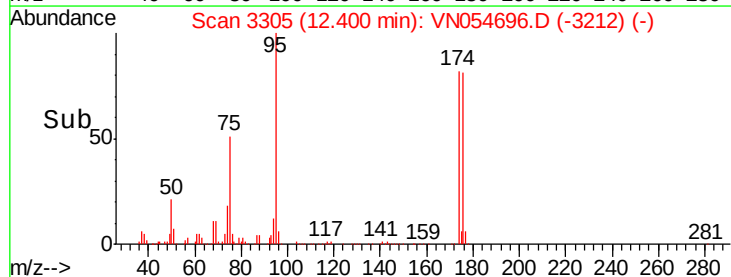
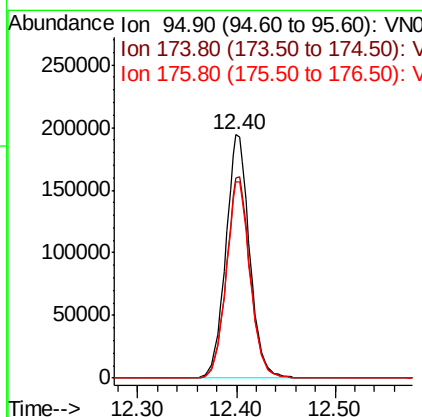
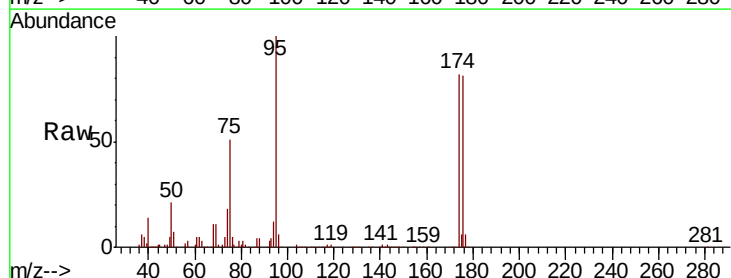
Instrument :  
MSVOA\_N  
ClientSampleId :

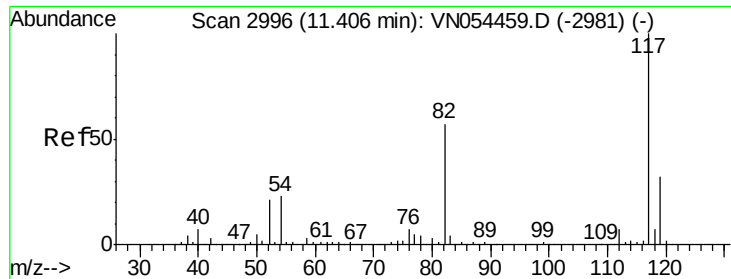
Tot Ion: 43 Resp: 174891  
Ion Ratio Lower Upper  
43 100  
58 17.4 28.0 83.9#



#62  
4-Bromofluorobenzene  
Concen: 45.417 ug/l  
RT: 12.40 min Scan# 3305  
Delta R.T. -0.00 min  
Lab File: VN054696.D  
Acq: 26 Mar 2019 14:06

Tgt Ion: 95 Resp: 327622  
Ion Ratio Lower Upper  
95 100  
174 82.7 0.0 191.0  
176 80.3 0.0 187.4

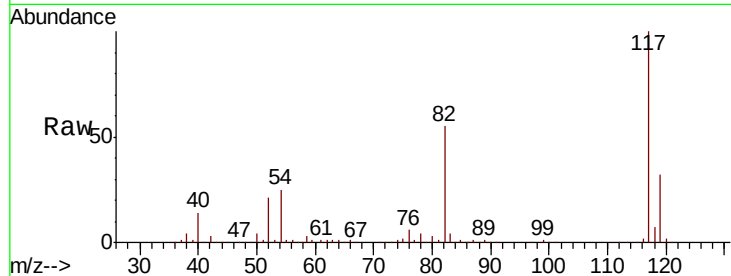




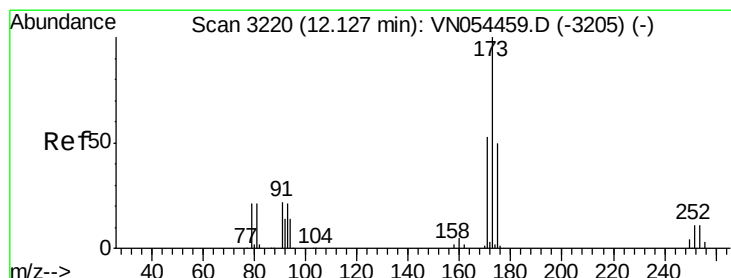
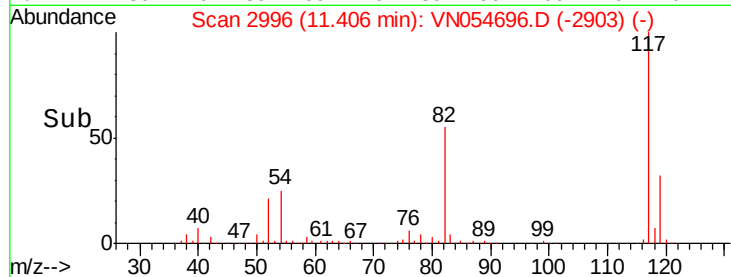
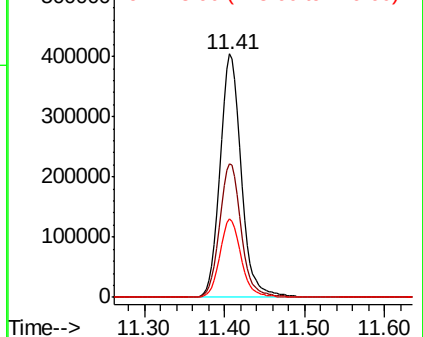
#63  
Chlorobenzene-d5  
Concen: 50.000 ug/l  
RT: 11.41 min Scan# 2996  
Delta R.T. -0.00 min  
Lab File: VN054696.D  
Acq: 26 Mar 2019 14:06

Instrument :  
MSVOA\_N  
ClientSampled :

Tot Ion:117 Resp: 746468  
Ion Ratio Lower Upper  
117 100  
82 55.1 40.0 60.0  
119 32.3 25.8 38.6

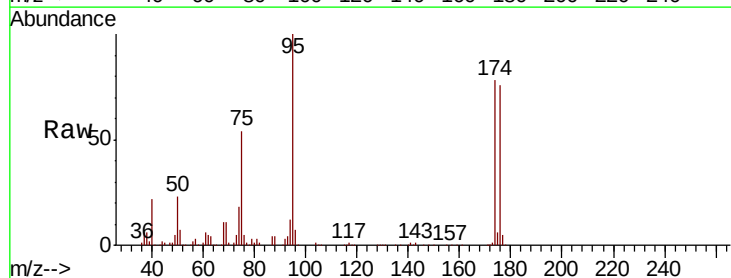


Abundance Ion 116.90 (116.60 to 117.60): V  
Ion 82.00 (81.70 to 82.70): V  
Ion 118.90 (118.60 to 119.60): V

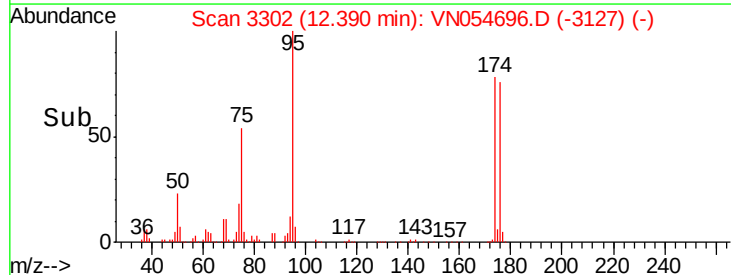
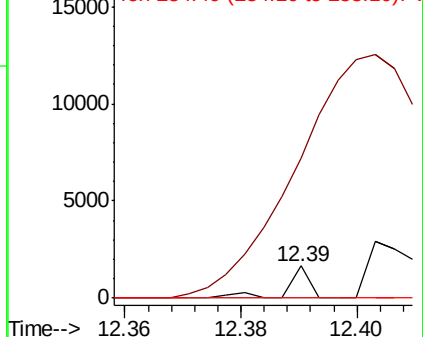


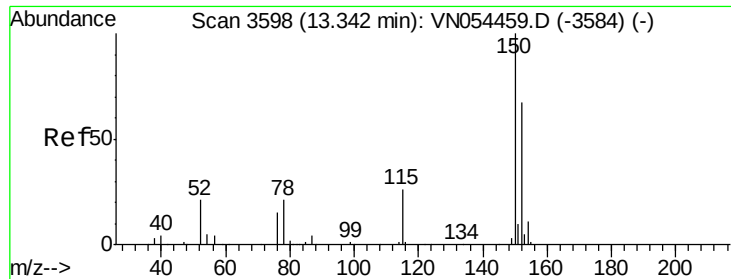
#71  
Bromoform  
Concen: 2.325 ug/l  
RT: 12.39 min Scan# 3302  
Delta R.T. 0.26 min  
Lab File: VN054696.D  
Acq: 26 Mar 2019 14:06

Tgt Ion:173 Resp: 411  
Ion Ratio Lower Upper  
173 100  
175 0.0 24.4 73.2#  
254 0.0 0.1 0.1#



Abundance Ion 172.70 (172.40 to 173.40): V  
Ion 174.70 (174.40 to 175.40): V  
Ion 254.40 (254.10 to 255.10): V



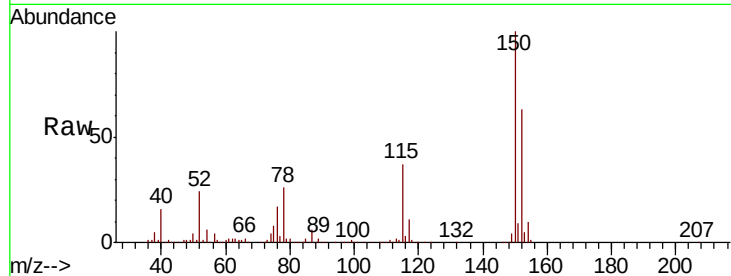


#72

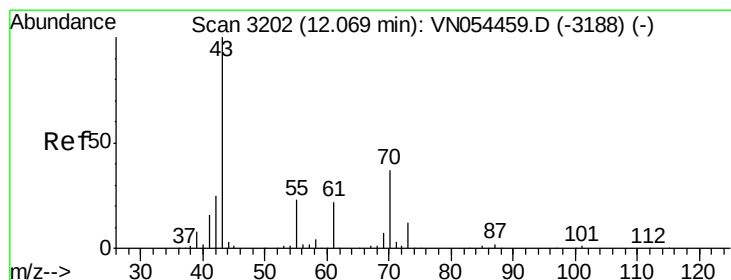
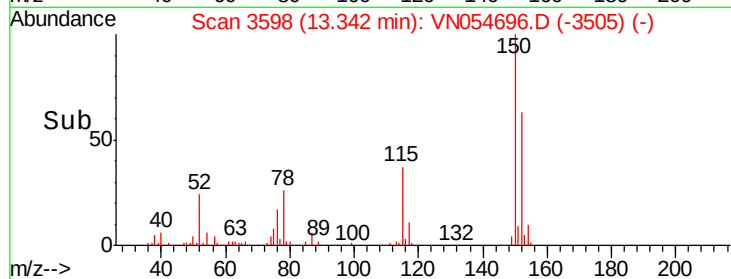
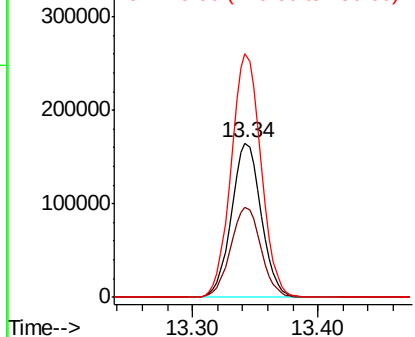
1,4-Dichlorobenzene-d4  
Concen: 50.000 ug/l  
RT: 13.34 min Scan# 3598  
Delta R.T. -0.00 min  
Lab File: VN054696.D  
Acq: 26 Mar 2019 14:06

Instrument :  
MSVOA\_N  
ClientSampleId :

Tot Ion:152 Resp: 271523  
Ion Ratio Lower Upper  
152 100  
115 59.4 27.2 81.6  
150 158.6 0.0 349.2



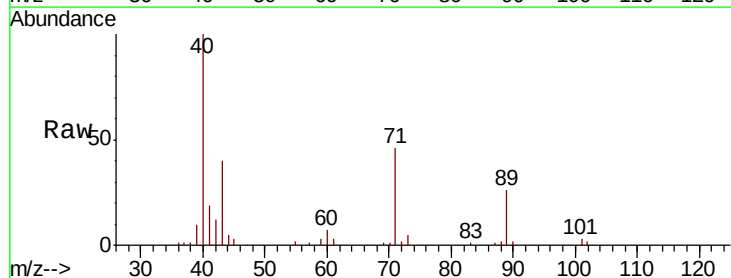
Abundance Ion 151.90 (151.60 to 152.60): V  
Ion 114.90 (114.60 to 115.60): V  
Ion 149.90 (149.60 to 150.60): V



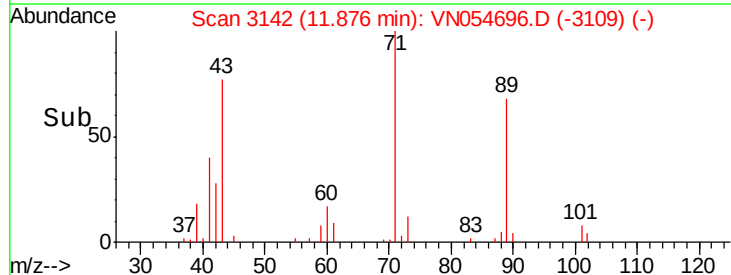
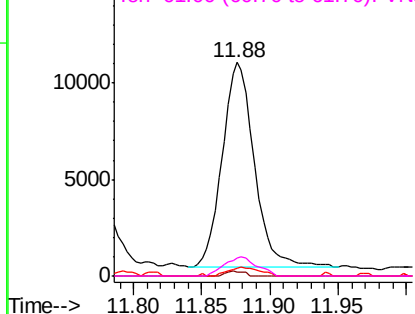
#74

N-ethyl acetate  
Concen: 2.740 ug/l  
RT: 11.88 min Scan# 3142  
Delta R.T. -0.19 min  
Lab File: VN054696.D  
Acq: 26 Mar 2019 14:06

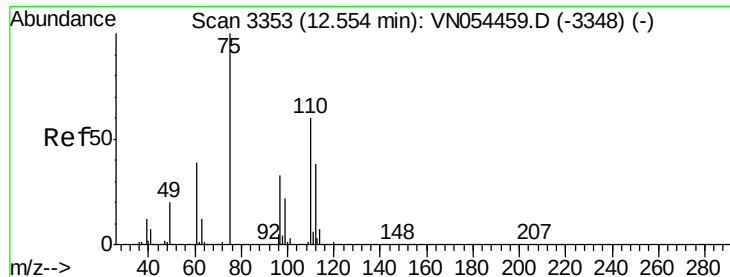
Tgt Ion: 43 Resp: 17241  
Ion Ratio Lower Upper  
43 100  
70 1.4 35.4 53.0#  
55 4.3 19.8 29.6#  
61 9.4 19.8 29.6#



Abundance Ion 43.00 (42.70 to 43.70): VNO  
Ion 70.00 (69.70 to 70.70): VNO  
Ion 55.00 (54.70 to 55.70): VNO  
Ion 61.00 (60.70 to 61.70): VNO







#76

1,2,3-Trichloropropane

Concen: 38.675 ug/l

RT: 12.40 min Scan# 3305

Delta R.T. -0.15 min

Lab File: VN054696.D

Acq: 26 Mar 2019 14:06

Instrument :

MSVOA\_N

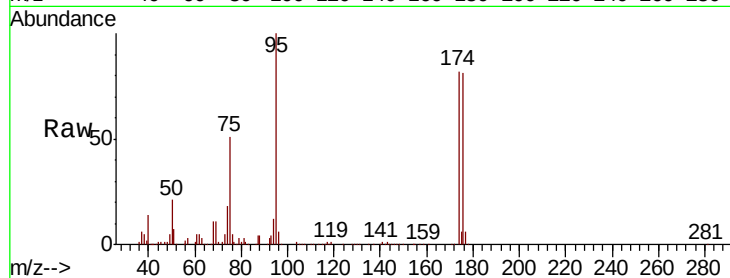
ClientSampled :

Tot Ion: 75 Resp: 166637

Ion Ratio Lower Upper

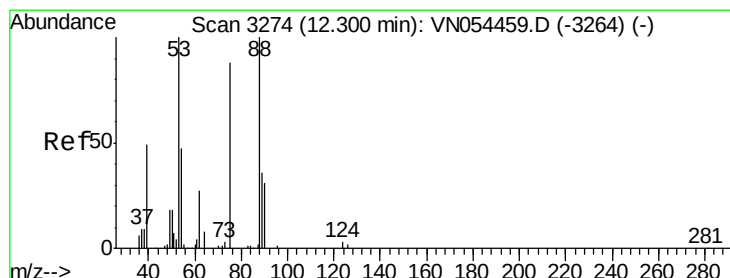
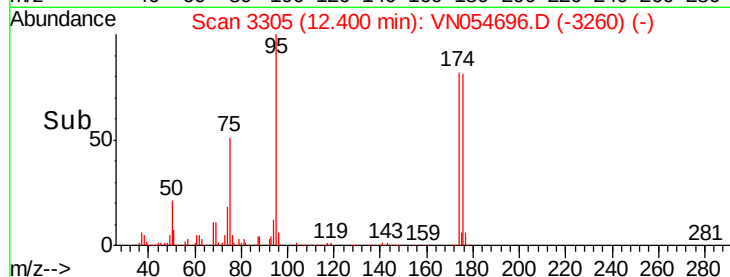
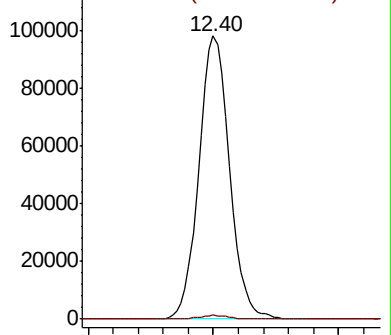
75 100

77 1.3 0.0 0.0#



Abundance Ion 74.90 (74.60 to 75.60): VN0

Ion 77.00 (76.70 to 77.70): VN0



#81

trans-1,4-Dichloro-2-butene

Concen: 128.040 ug/l

RT: 12.40 min Scan# 3305

Delta R.T. 0.10 min

Lab File: VN054696.D

Acq: 26 Mar 2019 14:06

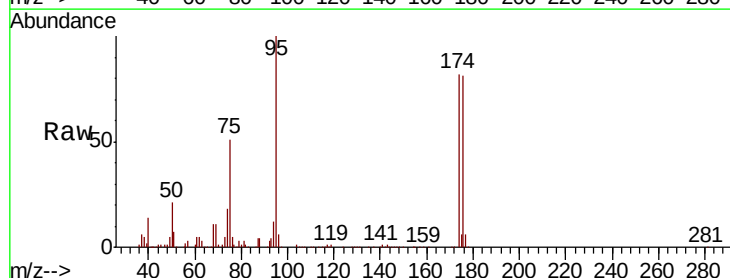
Tgt Ion: 75 Resp: 166637

Ion Ratio Lower Upper

75 100

53 0.0 76.2 114.2#

89 0.0 39.2 58.8#



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

