

Data Path : Z:\VOASRV\HPCHEM1\MSVOA N\DATA\VN101518\  
 Data File : VN051871.D  
 Acq On : 15 Oct 2018 13:57  
 Operator : MD\SY  
 Sample : J5510-02  
 Misc : 5.00mL/MSVOA N/WATER  
 ALS Vial : 11 Sample Multiplier: 28

Instrument :  
 MSVOA\_N  
 ClientSampleId :

Quant Time: Oct 16 00:45:59 2018  
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA N\METHODS\624N101218W.M  
 Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS  
 QLast Update : Fri Oct 12 10:23:44 2018  
 Response via : Initial Calibration

| Internal Standards      | R.T.  | QIon | Response | Conc  | Units | Dev(Min) |
|-------------------------|-------|------|----------|-------|-------|----------|
| 1) Bromochloromethane   | 7.20  | 128  | 127776   | 30.00 | ug/l  | 0.00     |
| 28) 1,4-Difluorobenzene | 8.59  | 114  | 727475   | 30.00 | ug/l  | 0.00     |
| 57) Chlorobenzene-d5    | 11.41 | 117  | 619906   | 30.00 | ug/l  | 0.00     |

## System Monitoring Compounds

|                           |        |       |          |          |      |         |
|---------------------------|--------|-------|----------|----------|------|---------|
| 27) 1,2-Dichloroethane-d4 | 8.03   | 65    | 243392   | 31.30    | ug/l | 0.00    |
| Spiked Amount             | 30.000 | Range | 50 - 169 | Recovery | =    | 104.33% |
| 60) 4-Bromofluorobenzene  | 12.40  | 95    | 231685   | 25.92    | ug/l | 0.00    |
| Spiked Amount             | 30.000 | Range | 56 - 143 | Recovery | =    | 86.40%  |
| 63) Toluene-d8            | 10.09  | 98    | 829890   | 30.83    | ug/l | 0.00    |
| Spiked Amount             | 30.000 | Range | 66 - 137 | Recovery | =    | 102.77% |

## Target Compounds

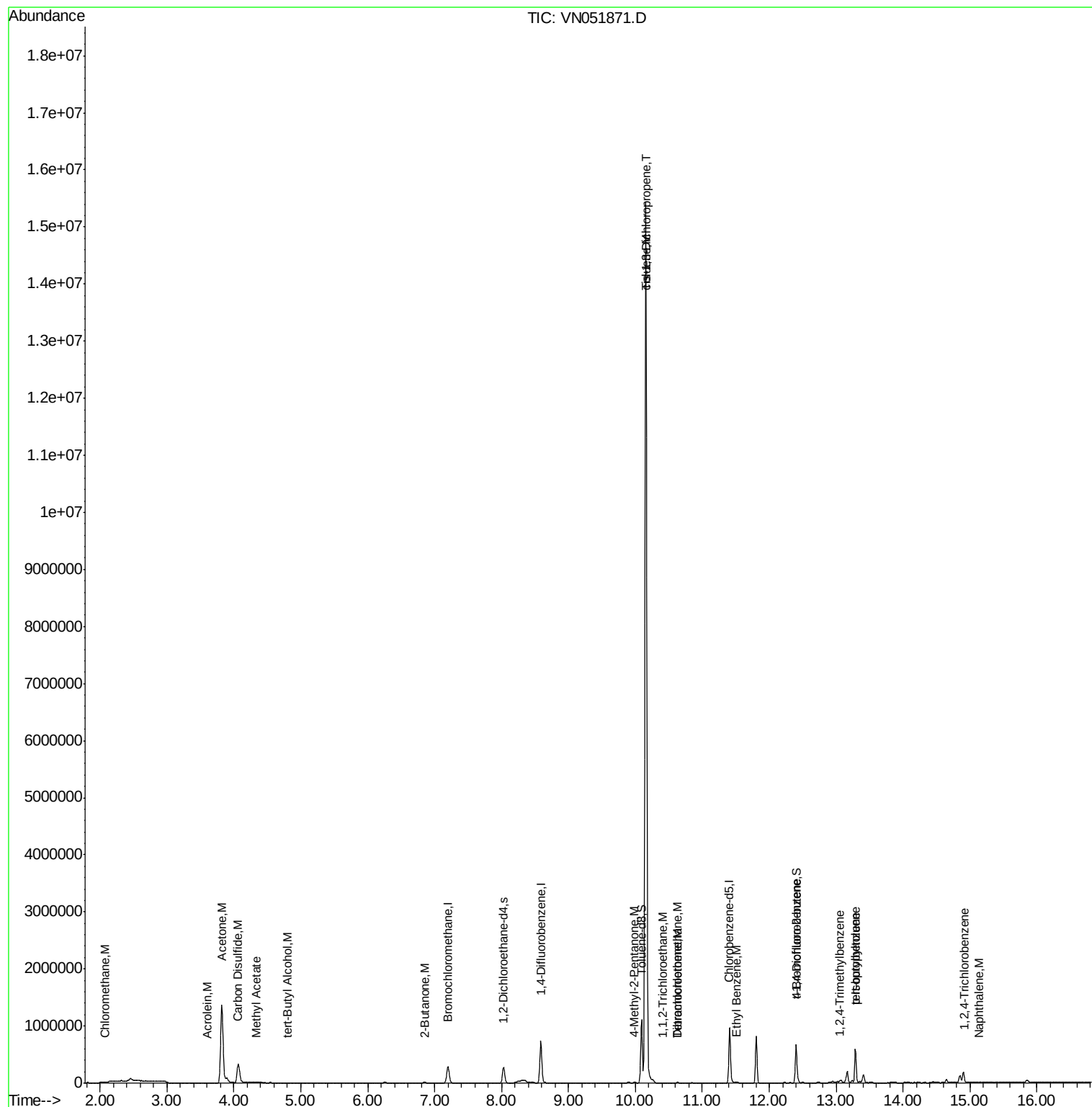
|                             |       |     |          |          | Ovalue |     |
|-----------------------------|-------|-----|----------|----------|--------|-----|
| 3) Chloromethane            | 2.06  | 50  | 1057     | 0.201    | ug/l   | 98  |
| 12) Methyl Acetate          | 4.33  | 43  | 2655     | 0.727    | ug/l # | 86  |
| 13) Acrolein                | 3.60  | 56  | 105      | 0.436    | ug/l # | 79  |
| 15) Acetone                 | 3.82  | 58  | 761753   | 1887.359 | ug/l   | 96  |
| 16) Carbon Disulfide        | 4.05  | 76  | 3945     | 0.255    | ug/l # | 95  |
| 23) tert-Butyl Alcohol      | 4.80  | 59  | 99       | 0.230    | ug/l # | 100 |
| 30) 2-Butanone              | 6.85  | 43  | 24597    | 12.550   | ug/l # | 97  |
| 49) cis-1,3-Dichloropropene | 10.16 | 75  | 80835    | 7.509    | ug/l # | 1   |
| 50) 1,1,2-Trichloroethane   | 10.42 | 97  | 1872     | 0.279    | ug/l # | 17  |
| 53) Dibromochloromethane    | 10.63 | 129 | 2051     | 0.248    | ug/l # | 9   |
| 58) 4-Methyl-2-Pentanone    | 9.99  | 43  | 11345    | 2.735    | ug/l # | 86  |
| 61) Tetrachloroethene       | 10.63 | 164 | 1890     | 0.238    | ug/l   | 93  |
| 62) Toluene                 | 10.16 | 91  | 12444316 | 404.088  | ug/l   | 98  |
| 66) Ethyl Benzene           | 11.51 | 91  | 10548    | 0.310    | ug/l   | 91  |
| 77) t-1,4-Dichloro-2-butene | 12.40 | 75  | 117226   | 62.893   | ug/l # | 12  |
| 79) tert-butylbenzene       | 13.29 | 119 | 340379   | 12.338   | ug/l   | 59  |
| 80) 1,2,4-Trimethylbenzene  | 13.04 | 105 | 7121     | 0.238    | ug/l   | 66  |
| 82) p-Isopropyltoluene      | 13.29 | 119 | 340379   | 10.540   | ug/l   | 98  |
| 89) 1,2,4-Trichlorobenzene  | 14.92 | 180 | 117      | 7.739    | ug/l # | 58  |
| 91) Naphthalene             | 15.13 | 128 | 2523     | 8.654    | ug/l # | 88  |

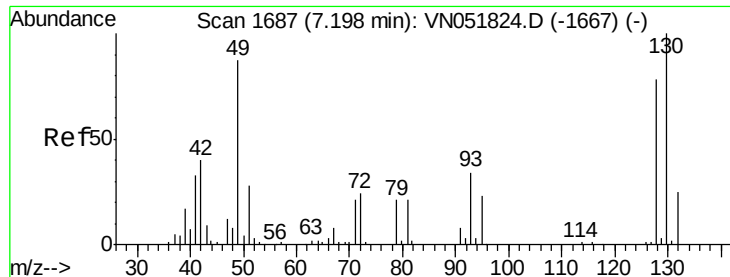
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\VOASRV\HPCHEM1\MSVOA N\DATA\VN101518\  
Data File : VN051871.D  
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Sample : J5510-02  
Misc : 5.00mL/MSVOA N/WATER  
ALS Vial : 11 Sample Multiplier: 28

Instrument :  
MSVOA\_N  
ClientSampleId :

Quant Time: Oct 16 00:45:59 2018  
Quant Method : Z:\VOASRV\HPCHEM1\MSVOA N\METHODS\624N101218W.M  
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS  
QLast Update : Fri Oct 12 10:23:44 2018  
Response via : Initial Calibration





#1

Bromochloromethane

Concen: 30.000 ug/l

RT: 7.20 min Scan# 1688

Delta R.T. 0.00 min

Lab File: VN051871.D

Acq: 15 Oct 2018 13:57

Instrument :  
MSVOA\_N  
ClientSampled :

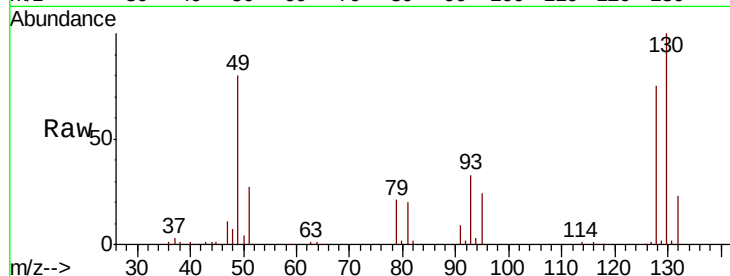
Tot Ion:128 Resp: 127776

Ion Ratio Lower Upper

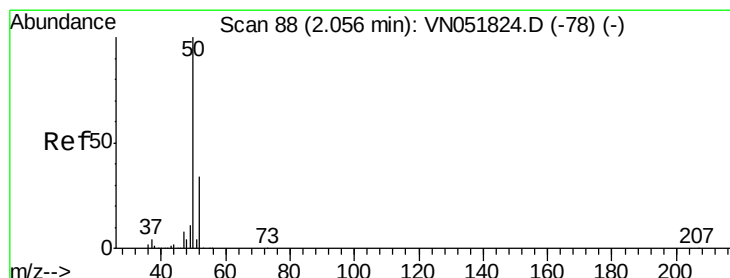
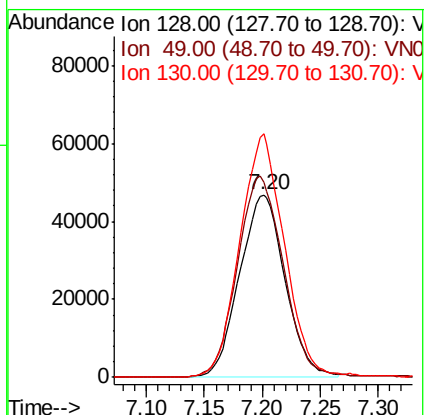
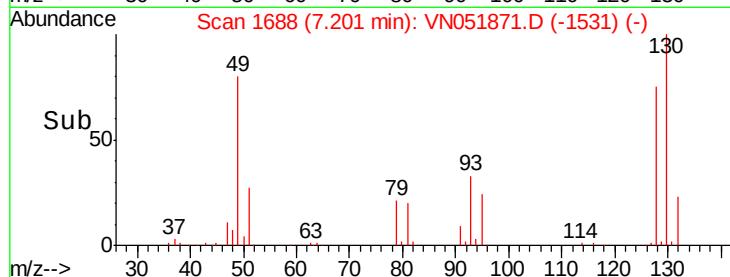
128 100

49 112.3 0.0 403.3

130 130.6 0.0 326.0



Abundance Ion 128.00 (127.70 to 128.70): V  
Ion 49.00 (48.70 to 49.70): V  
Ion 130.00 (129.70 to 130.70): V



#3

Chloromethane

Concen: 0.201 ug/l

RT: 2.06 min Scan# 89

Delta R.T. 0.00 min

Lab File: VN051871.D

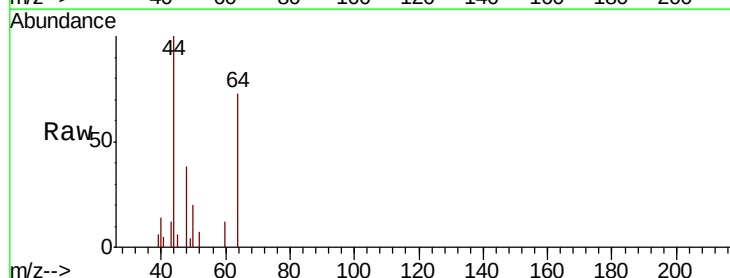
Acq: 15 Oct 2018 13:57

Tgt Ion: 50 Resp: 1057

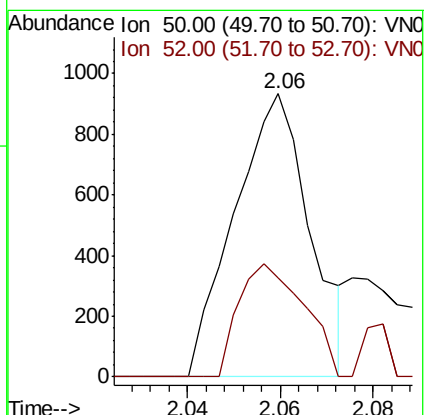
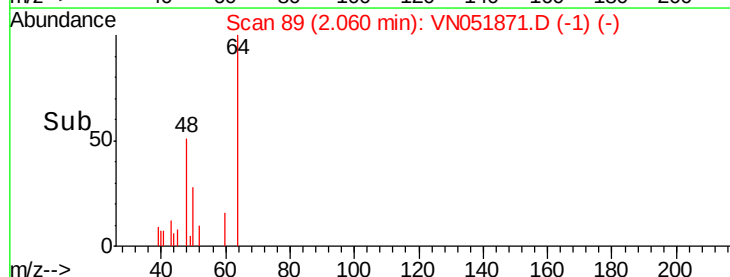
Ion Ratio Lower Upper

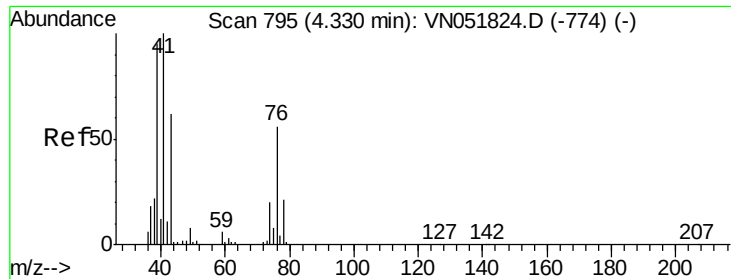
50 100

52 35.2 27.2 40.8



Abundance Ion 50.00 (49.70 to 50.70): V  
Ion 52.00 (51.70 to 52.70): V

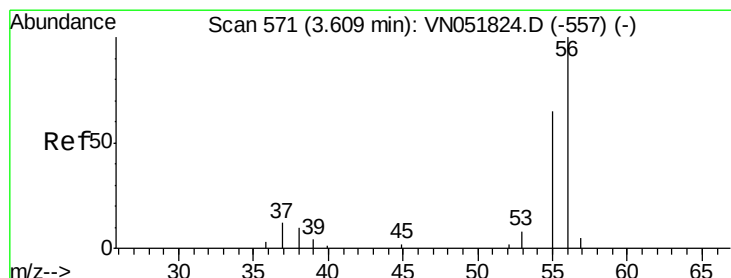
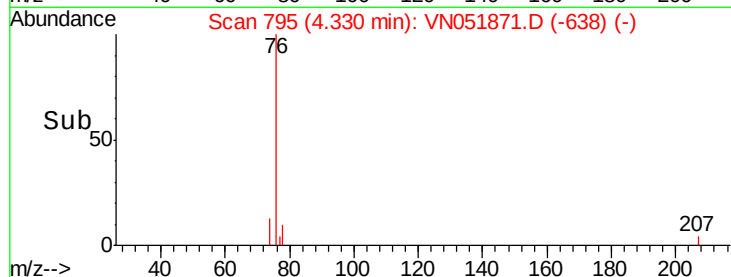
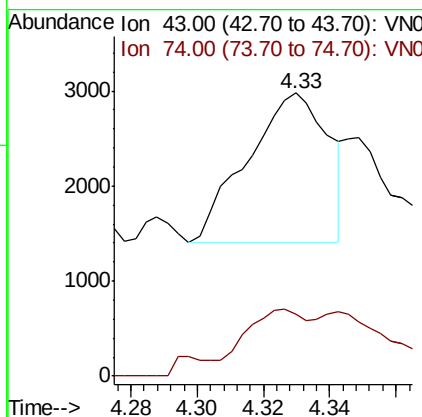
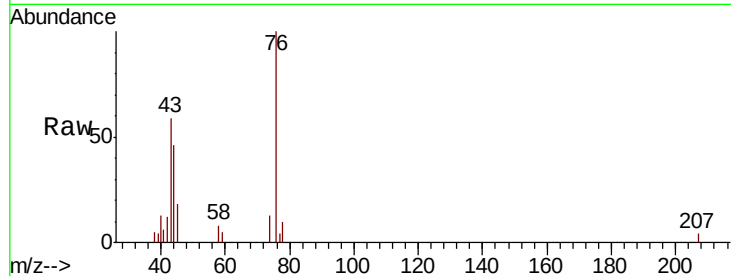




#12  
Methvl Acetate  
Concen: 0.727 ug/l  
RT: 4.33 min Scan# 795  
Delta R.T. 0.00 min  
Lab File: VN051871.D  
Acq: 15 Oct 2018 13:57

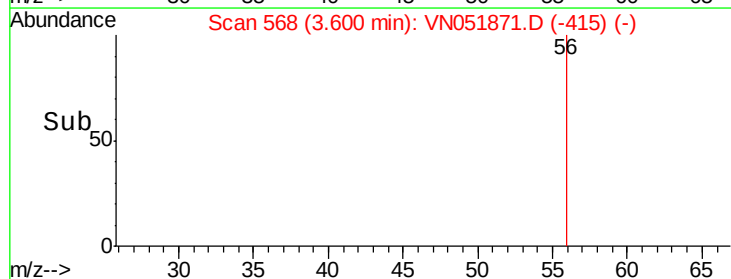
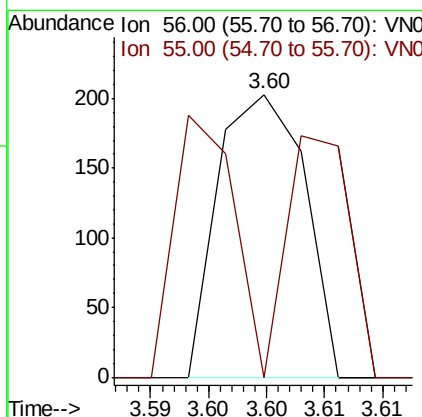
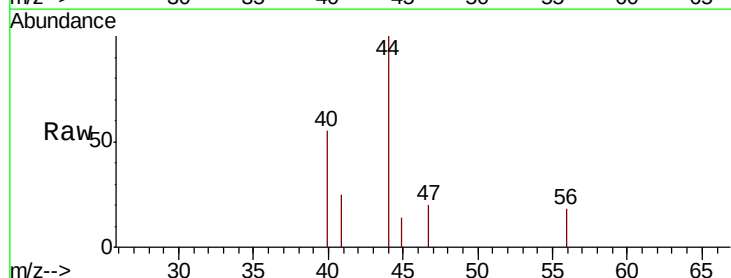
Instrument :  
MSVOA\_N  
ClientSampled :

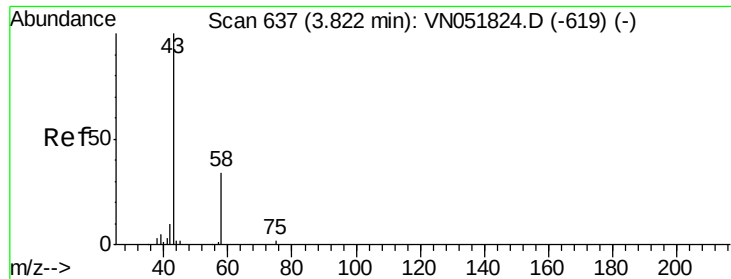
Tot Ion: 43 Resp: 2655  
Ion Ratio Lower Upper  
43 100  
74 20.0 21.8 32.6#



#13  
Acrolein  
Concen: 0.436 ug/l  
RT: 3.60 min Scan# 568  
Delta R.T. -0.01 min  
Lab File: VN051871.D  
Acq: 15 Oct 2018 13:57

Tgt Ion: 56 Resp: 105  
Ion Ratio Lower Upper  
56 100  
55 61.9 64.0 96.0#





#15

Acetone

Concen: 1887.359 ug/l

RT: 3.82 min Scan# 636

Delta R.T. -0.00 min

Lab File: VN051871.D

Acq: 15 Oct 2018 13:57

Instrument :

MSVOA\_N

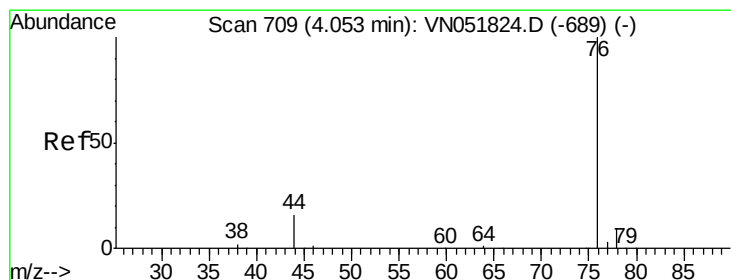
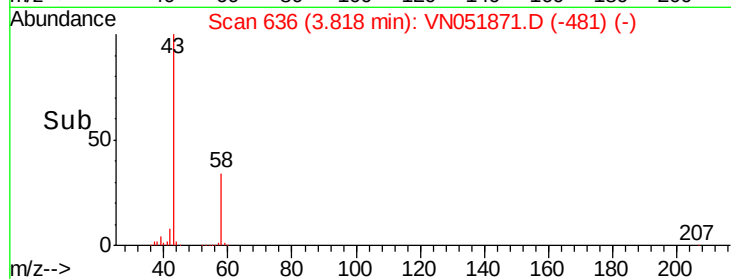
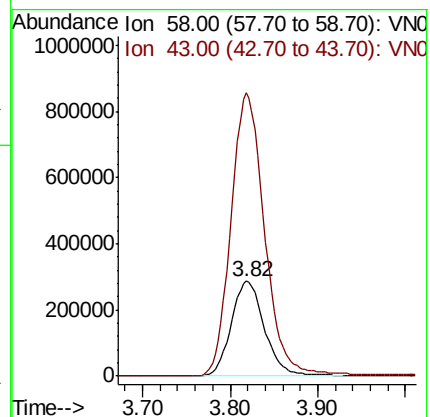
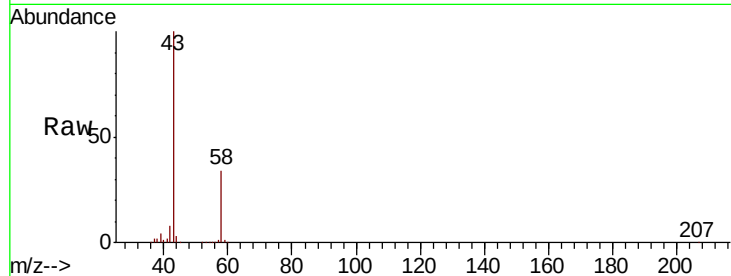
ClientSampled :

Tot Ion: 58 Resp: 761753

Ion Ratio Lower Upper

58 100

43 298.2 232.2 348.2



#16

Carbon Disulfide

Concen: 0.255 ug/l

RT: 4.05 min Scan# 708

Delta R.T. -0.00 min

Lab File: VN051871.D

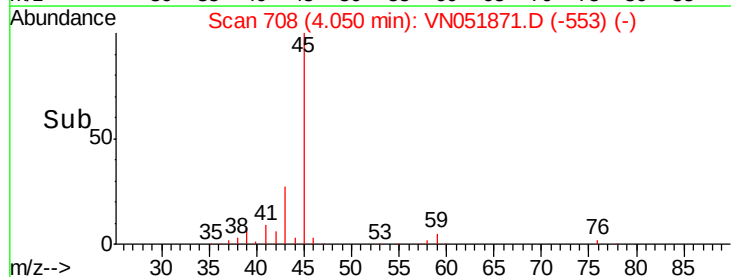
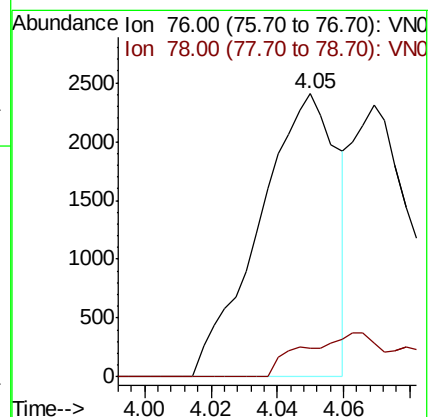
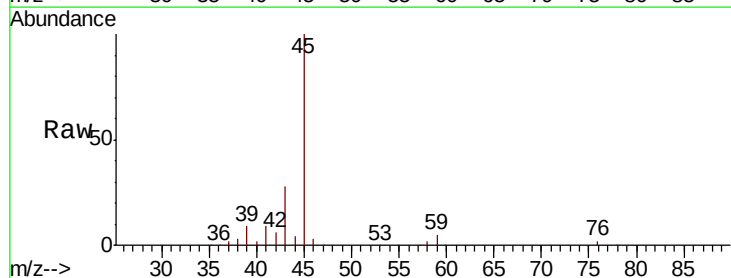
Acq: 15 Oct 2018 13:57

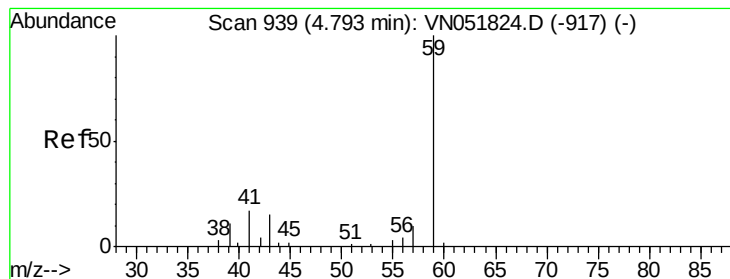
Tgt Ion: 76 Resp: 3945

Ion Ratio Lower Upper

76 100

78 10.1 6.7 10.1#



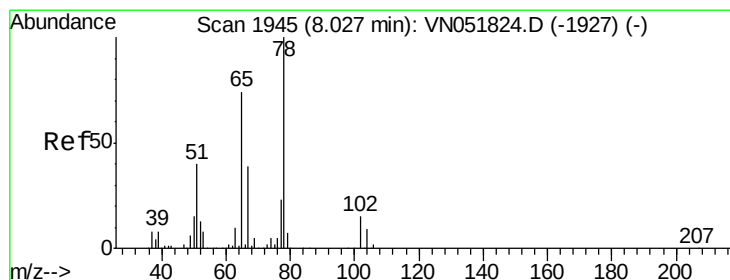
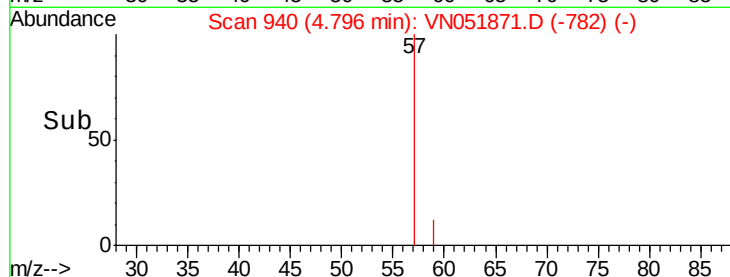
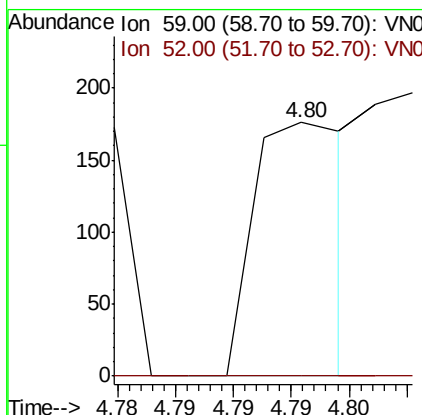
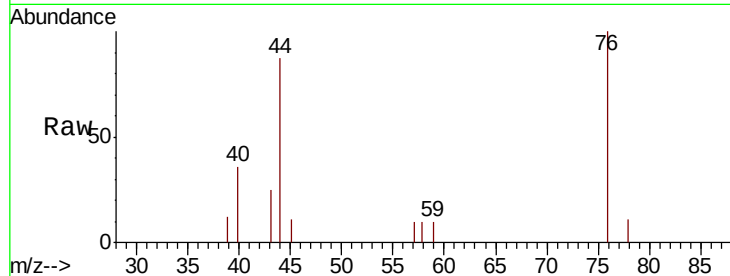


#23

tert-Butyl Alcohol  
 Concen: 0.230 ug/l  
 RT: 4.80 min Scan# 940  
 Delta R.T. 0.01 min  
 Lab File: VN051871.D  
 Acq: 15 Oct 2018 13:57

Instrument :  
 MSVOA\_N  
 ClientSampleId :

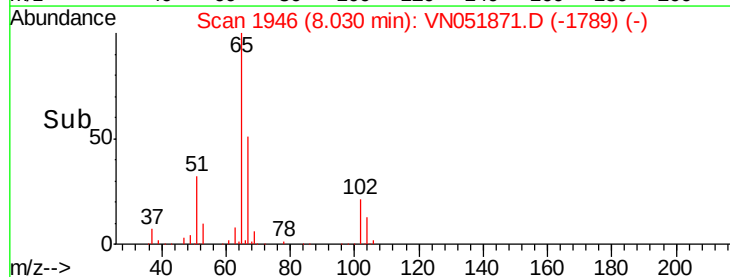
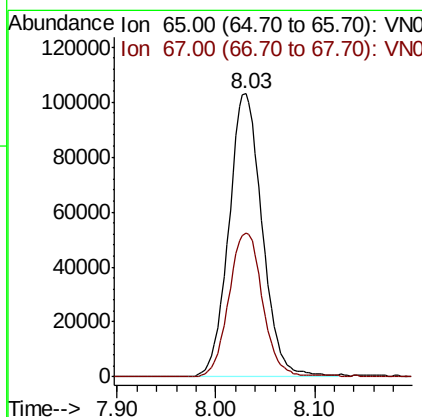
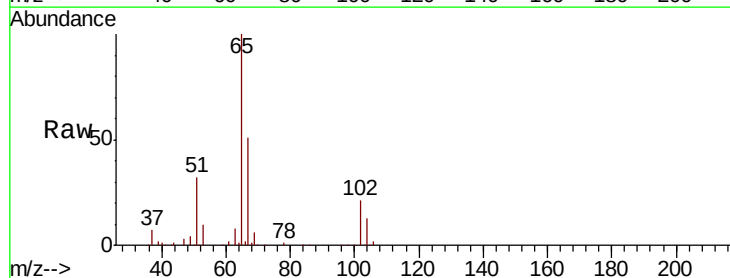
Tot Ion: 59 Resp: 99  
 Ion Ratio Lower Upper  
 59 100  
 52 0.0 0.0 0.0

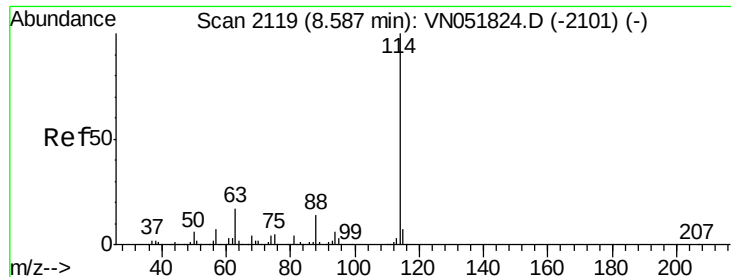


#27

1,2-Dichloroethane-d4  
 Concen: Below ug/l  
 RT: 8.03 min Scan# 1946  
 Delta R.T. 0.00 min  
 Lab File: VN051871.D  
 Acq: 15 Oct 2018 13:57

Tgt Ion: 65 Resp: 243392  
 Ion Ratio Lower Upper  
 65 100  
 67 51.4 41.8 62.8

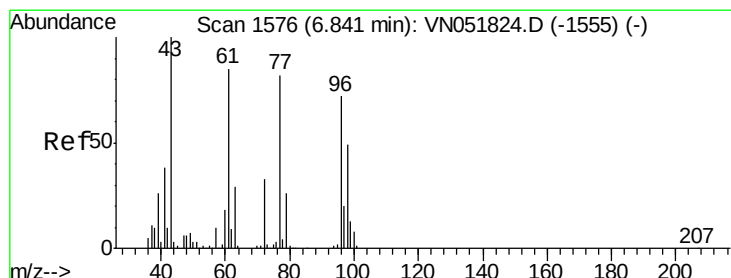
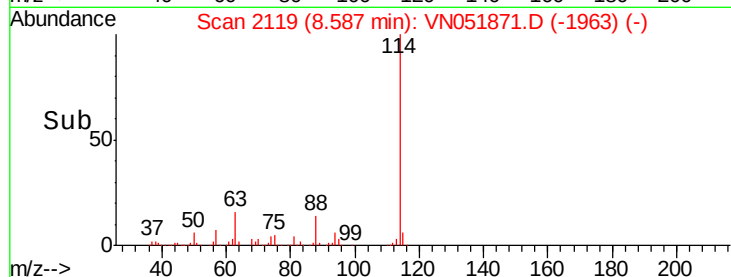
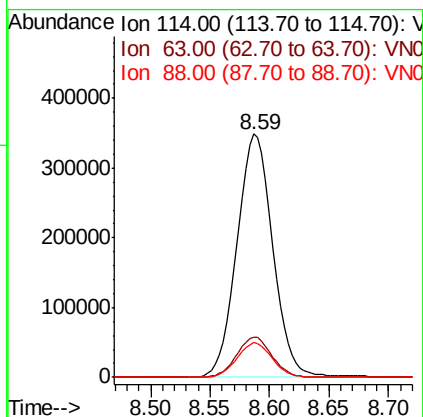
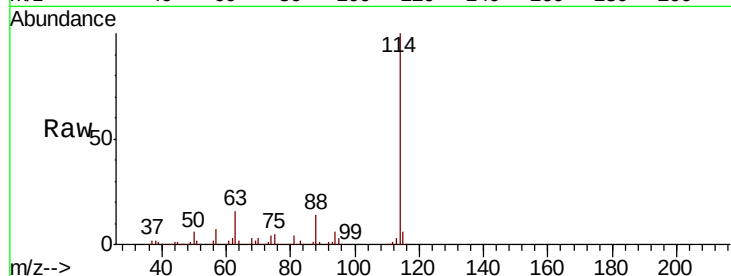




#28  
 1,4-Difluorobenzene  
 Concen: 30.000 ug/l  
 RT: 8.59 min Scan# 2119  
 Delta R.T. 0.00 min  
 Lab File: VN051871.D  
 Acq: 15 Oct 2018 13:57

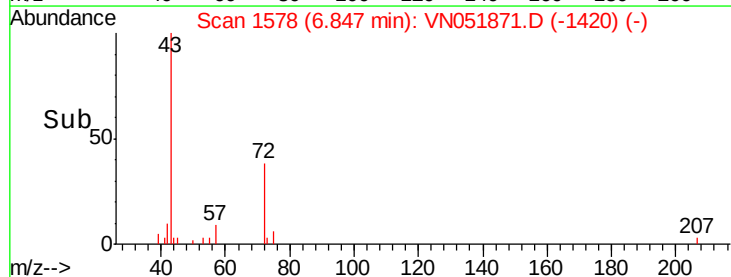
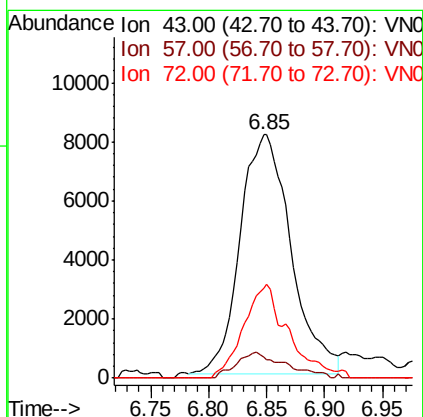
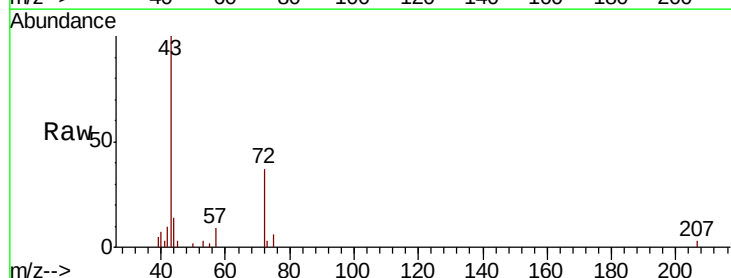
Instrument :  
 MSVOA\_N  
 ClientSampleId :

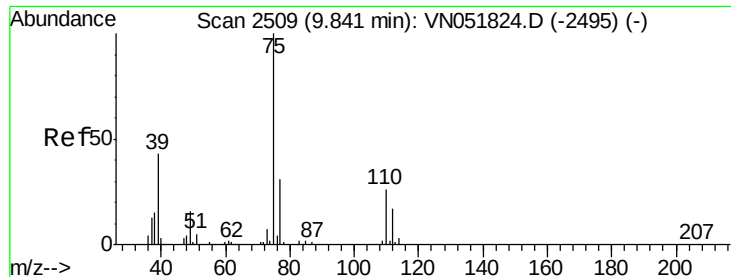
| Tot Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 114     | 100   |       |       |
| 63      | 16.3  | 16.2  | 24.2  |
| 88      | 14.1  | 12.2  | 18.4  |



#30  
 2-Butanone  
 Concen: 12.550 ug/l  
 RT: 6.85 min Scan# 1578  
 Delta R.T. 0.01 min  
 Lab File: VN051871.D  
 Acq: 15 Oct 2018 13:57

| Tgt Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 43      | 100   |       |       |
| 57      | 7.5   | 4.5   | 6.7#  |
| 72      | 25.8  | 21.5  | 32.3  |





#49

cis-1,3-Dichloropropene

Concen: 7.509 ug/l

RT: 10.16 min Scan# 2607

Delta R.T. 0.32 min

Lab File: VN051871.D

Acq: 15 Oct 2018 13:57

Instrument :

MSVOA\_N

ClientSampleId :

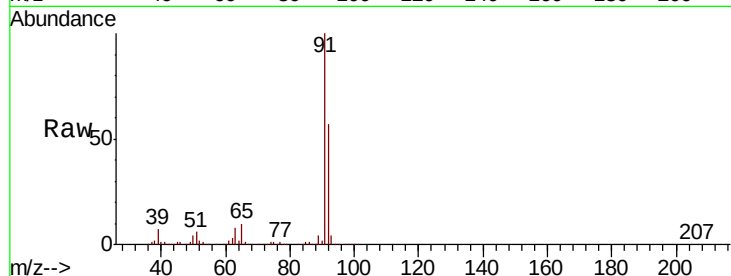
Tot Ion: 75 Resp: 80835

Ion Ratio Lower Upper

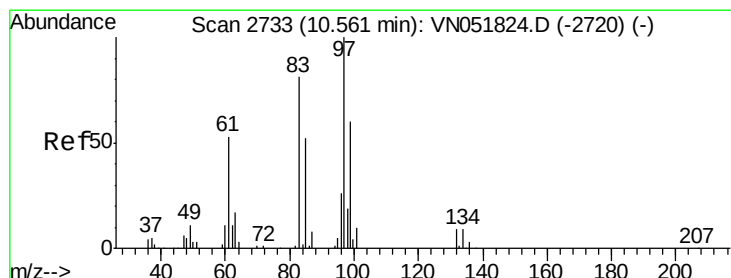
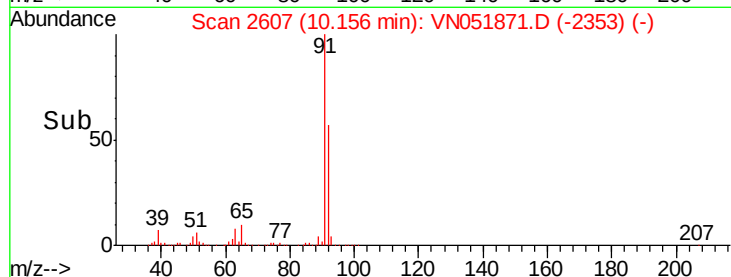
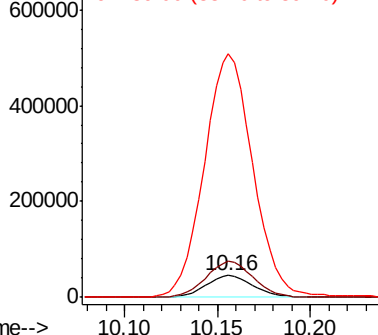
75 100

77 163.7 23.2 34.8#

39 1117.6 34.6 52.0#



Abundance Ion 75.00 (74.70 to 75.70): VN0  
Ion 77.00 (76.70 to 77.70): VN0  
Ion 39.00 (38.70 to 39.70): VN0



#50

1,1,2-Trichloroethane

Concen: 0.279 ug/l

RT: 10.42 min Scan# 2688

Delta R.T. -0.15 min

Lab File: VN051871.D

Acq: 15 Oct 2018 13:57

Tgt Ion: 97 Resp: 1872

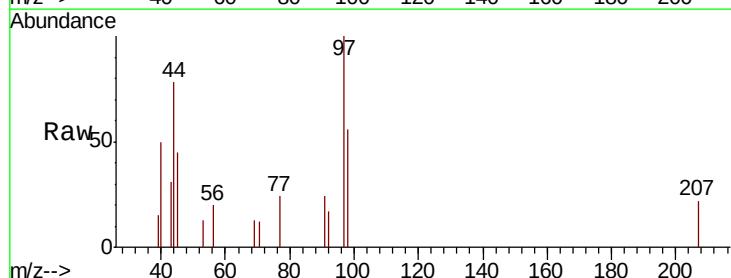
Ion Ratio Lower Upper

97 100

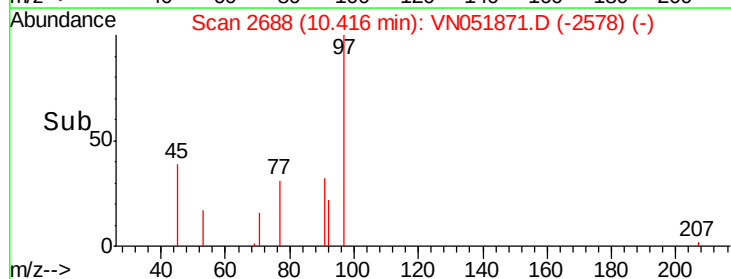
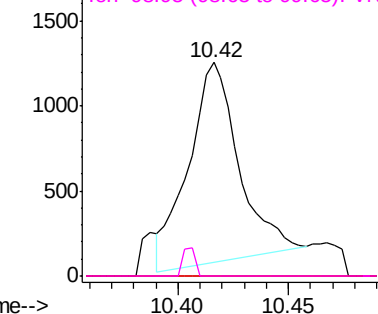
83 0.0 68.2 102.4#

85 0.0 42.5 63.7#

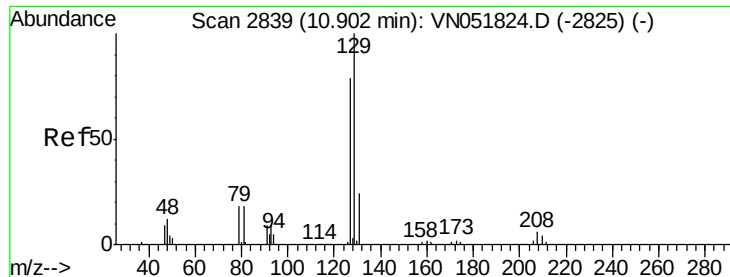
99 0.0 44.3 66.5#



Abundance Ion 97.00 (96.70 to 97.70): VN0  
Ion 82.95 (82.65 to 83.65): VN0  
Ion 84.95 (84.65 to 85.65): VN0  
Ion 98.95 (98.65 to 99.65): VN0







#53

Dibromochloromethane

Concen: 0.248 ug/l

RT: 10.63 min Scan# 2755

Delta R.T. -0.27 min

Lab File: VN051871.D

Acq: 15 Oct 2018 13:57

Instrument :

MSVOA\_N

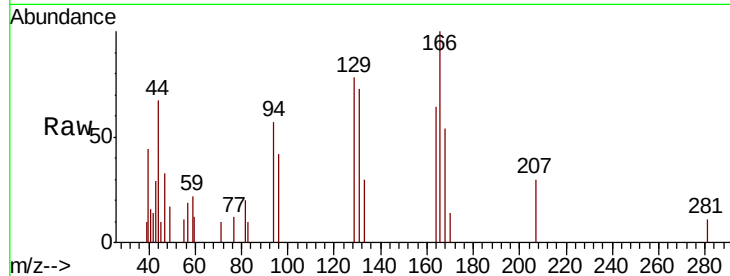
ClientSampled :

Tot Ion:129 Resp: 2051

Ion Ratio Lower Upper

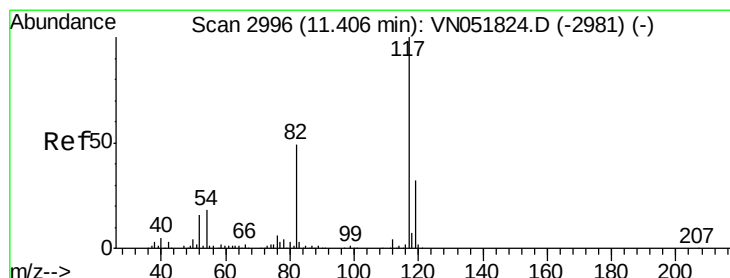
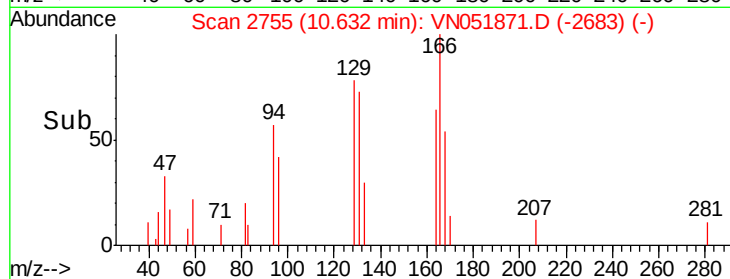
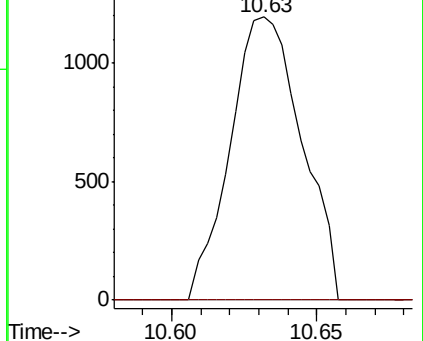
129 100

127 0.0 40.2 120.5#



Abundance Ion 129.00 (128.70 to 129.70): V

Ion 127.00 (126.70 to 127.70): V



#57

Chlorobenzene-d5

Concen: 30.000 ug/l

RT: 11.41 min Scan# 2997

Delta R.T. 0.00 min

Lab File: VN051871.D

Acq: 15 Oct 2018 13:57

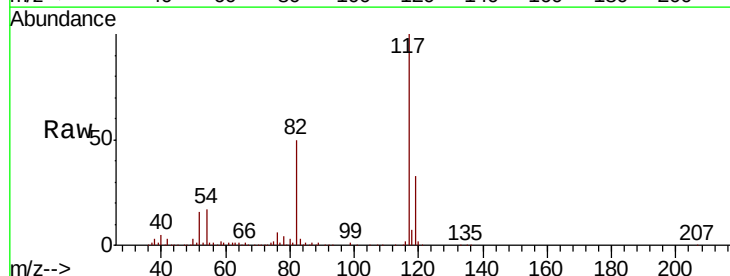
Tgt Ion:117 Resp: 619906

Ion Ratio Lower Upper

117 100

82 49.9 44.1 66.1

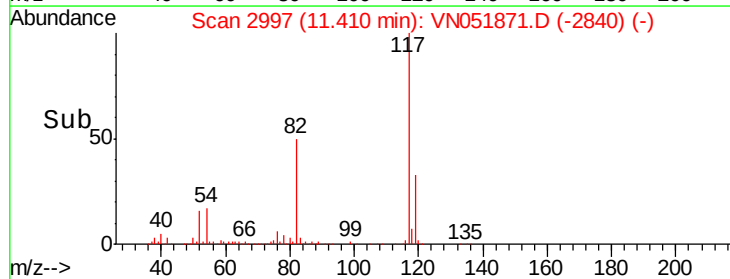
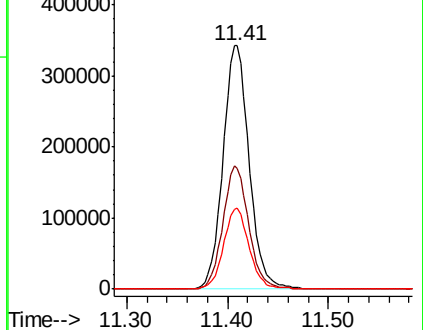
119 32.6 25.8 38.8

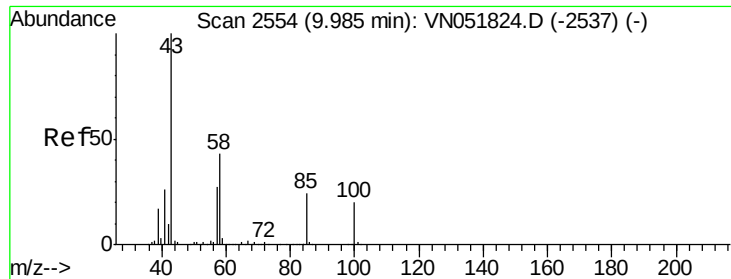


Abundance Ion 117.00 (116.70 to 117.70): V

Ion 82.00 (81.70 to 82.70): V

Ion 119.00 (118.70 to 119.70): V

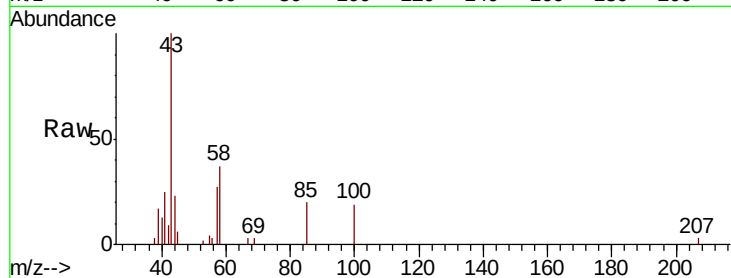




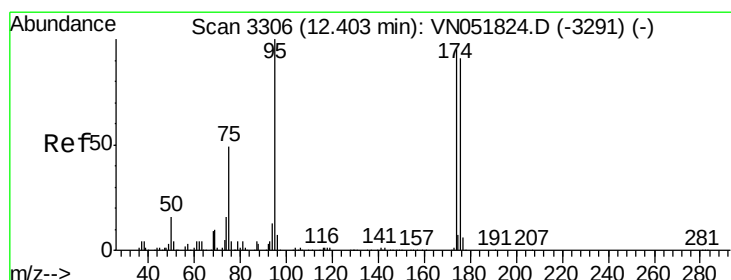
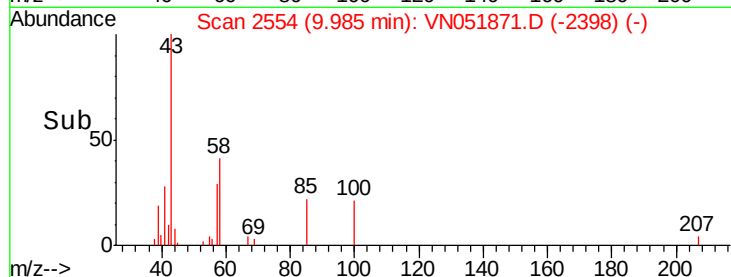
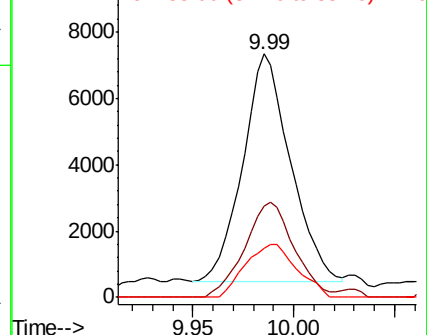
#58  
4-Methyl-2-Pentanone  
Concen: 2.735 ug/l  
RT: 9.99 min Scan# 2554  
Delta R.T. 0.00 min  
Lab File: VN051871.D  
Acq: 15 Oct 2018 13:57

Instrument :  
MSVOA\_N  
ClientSampleId :

| Tot Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 43      | 100   |       |       |
| 58      | 42.9  | 29.3  | 43.9  |
| 85      | 25.1  | 12.6  | 18.8  |

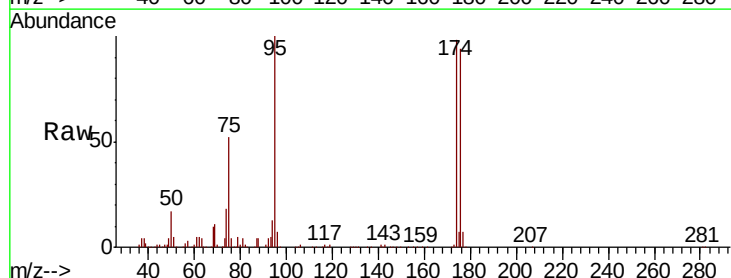


Abundance Ion 43.00 (42.70 to 43.70): VN0  
Ion 58.00 (57.70 to 58.70): VN0  
Ion 85.00 (84.70 to 85.70): VN0

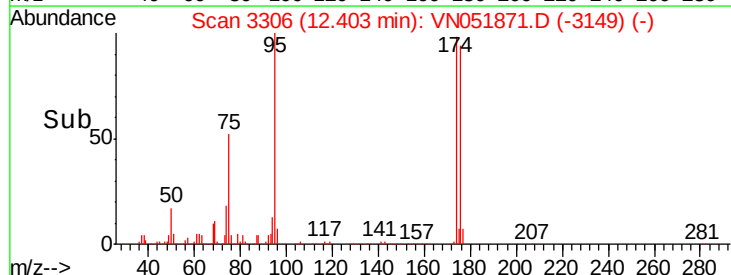
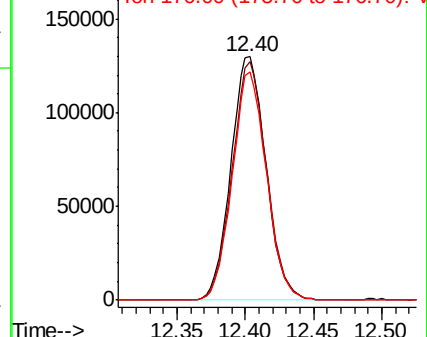


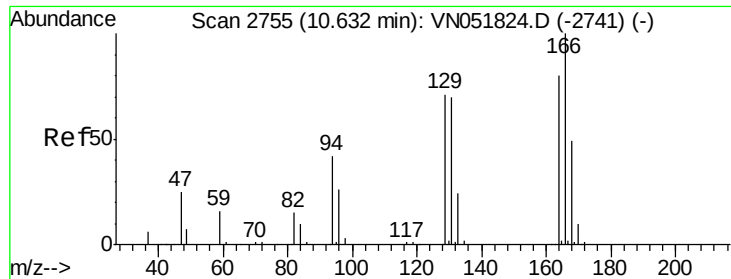
#60  
4-Bromofluorobenzene  
Concen: Below ug/l  
RT: 12.40 min Scan# 3306  
Delta R.T. 0.00 min  
Lab File: VN051871.D  
Acq: 15 Oct 2018 13:57

| Tgt Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 95      | 100   |       |       |
| 174     | 95.9  | 73.5  | 110.3 |
| 176     | 91.8  | 70.2  | 105.2 |



Abundance Ion 95.00 (94.70 to 95.70): VN0  
Ion 174.00 (173.70 to 174.70): V  
Ion 176.00 (175.70 to 176.70): V





#61

Tetrachloroethene

Concen: 0.238 ug/l

RT: 10.63 min Scan# 2753

Delta R.T. -0.01 min

Lab File: VN051871.D

Acq: 15 Oct 2018 13:57

Instrument :

MSVOA\_N

ClientSampleId :

Tot Ion:164 Resp: 1890

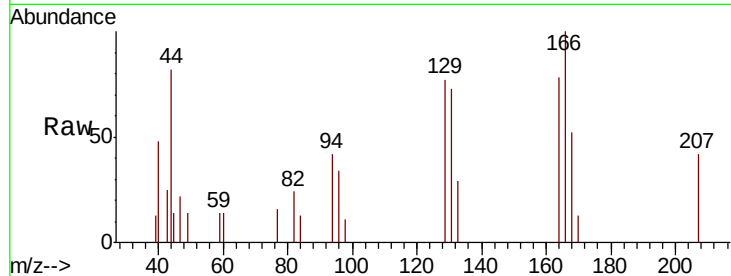
Ion Ratio Lower Upper

164 100

166 128.4 98.7 148.1

129 98.4 69.6 104.4

131 94.3 72.4 108.6

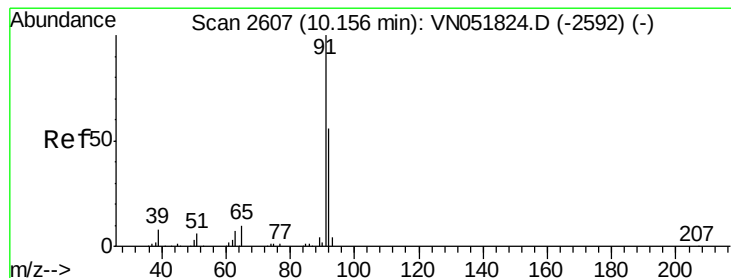
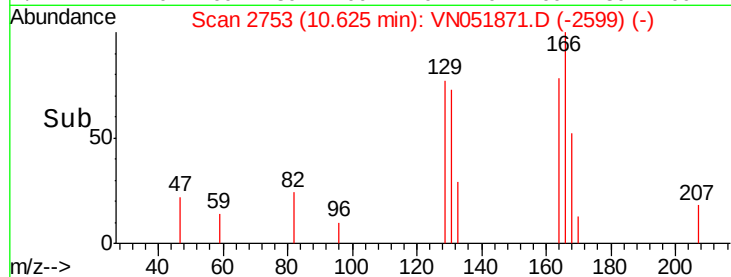
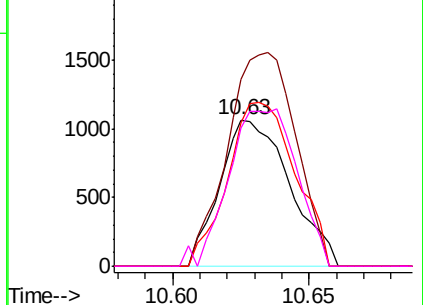


Abundance Ion 163.85 (163.55 to 164.55): V

Ion 165.80 (165.50 to 166.50): V

Ion 128.90 (128.60 to 129.60): V

Ion 130.90 (130.60 to 131.60): V



#62

Toluene

Concen: 404.088 ug/l

RT: 10.16 min Scan# 2607

Delta R.T. 0.00 min

Lab File: VN051871.D

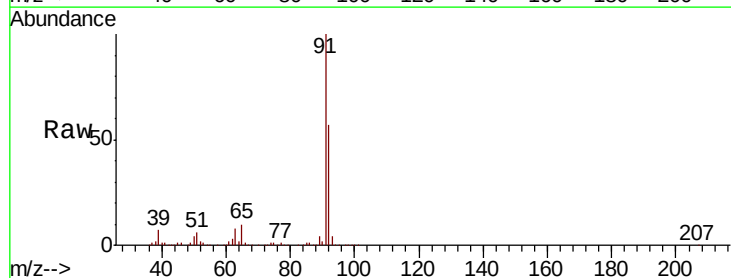
Acq: 15 Oct 2018 13:57

Tgt Ion: 91 Resp:12444316

Ion Ratio Lower Upper

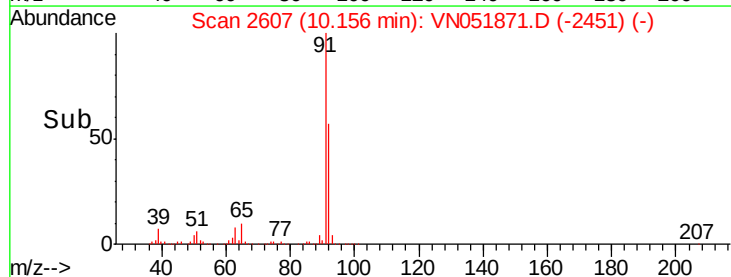
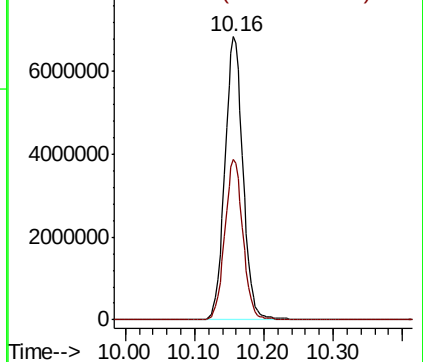
91 100

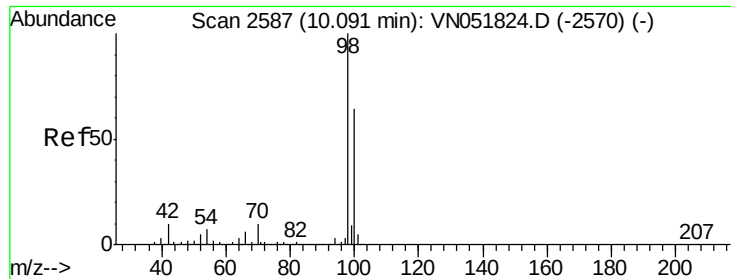
92 56.8 44.6 66.8



Abundance Ion 91.00 (90.70 to 91.70): VN0

Ion 92.00 (91.70 to 92.70): VN0





#63

Toluene-d8

Concen: 404.088 ug/l

RT: 10.09 min Scan# 2587

Delta R.T. 0.00 min

Lab File: VN051871.D

Acq: 15 Oct 2018 13:57

Instrument :

MSVOA\_N

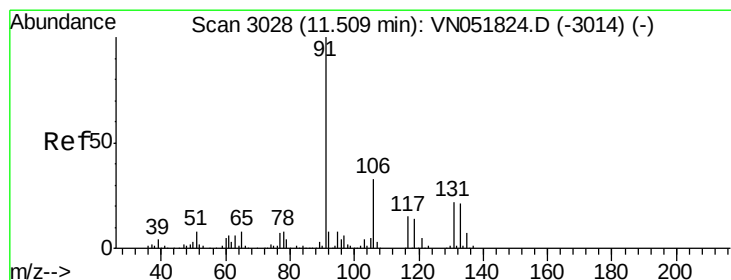
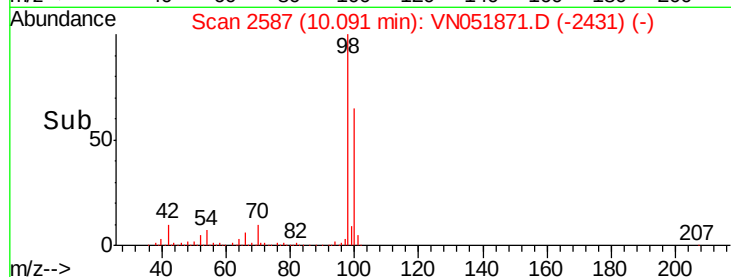
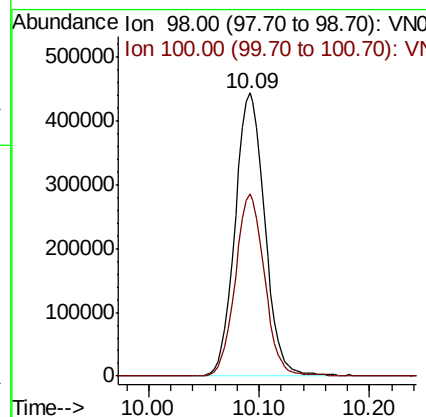
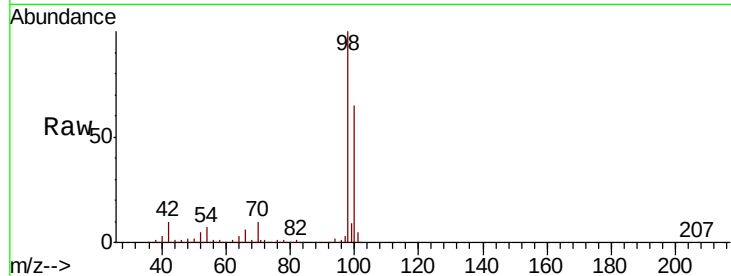
ClientSampled :

Tot Ion: 98 Resp: 829890

Ion Ratio Lower Upper

98 100

100 63.5 50.8 76.2



#66

Ethyl Benzene

Concen: 0.310 ug/l

RT: 11.51 min Scan# 3029

Delta R.T. 0.00 min

Lab File: VN051871.D

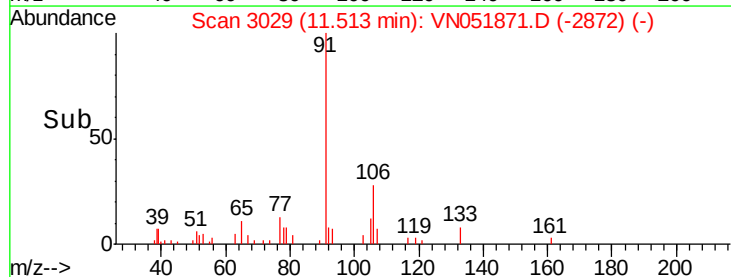
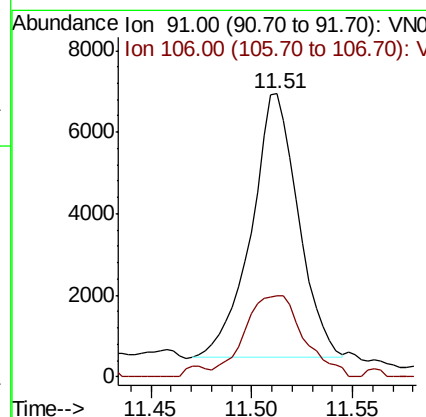
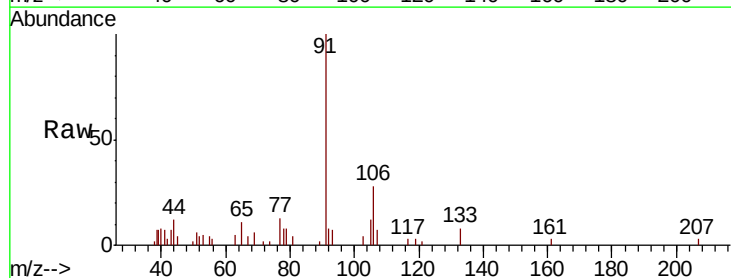
Acq: 15 Oct 2018 13:57

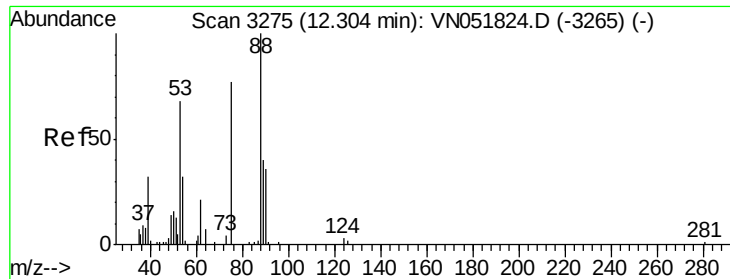
Tgt Ion: 91 Resp: 10548

Ion Ratio Lower Upper

91 100

106 27.2 25.9 38.9





#77

t-1,4-Dichloro-2-butene

Concen: 62.893 ug/l

RT: 12.40 min Scan# 3306

Delta R.T. 0.10 min

Lab File: VN051871.D

Acq: 15 Oct 2018 13:57

Instrument :

MSVOA\_N

ClientSampleId :

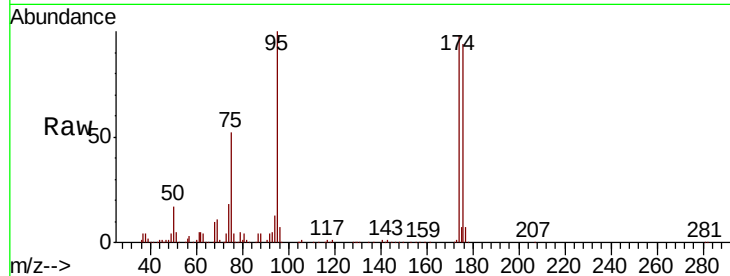
Tot Ion: 75 Resp: 117226

Ion Ratio Lower Upper

75 100

53 0.0 46.3 138.9#

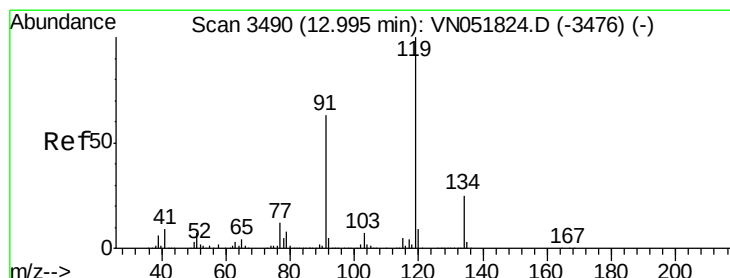
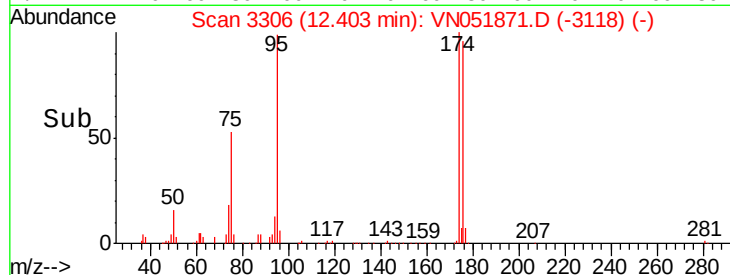
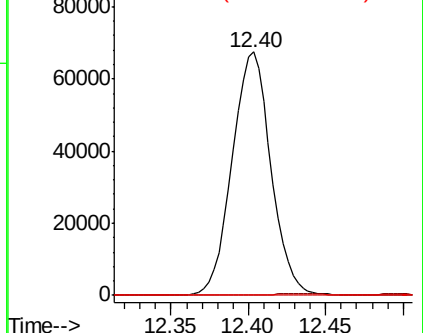
89 0.0 24.6 73.8#



Abundance Ion 75.00 (74.70 to 75.70): VN051871.D (-3306) (-)

Ion 53.00 (52.70 to 53.70): VN051871.D (-3306) (-)

Ion 89.00 (88.70 to 89.70): VN051871.D (-3306) (-)



#79

tert-butylbenzene

Concen: 12.338 ug/l

RT: 13.29 min Scan# 3581

Delta R.T. 0.29 min

Lab File: VN051871.D

Acq: 15 Oct 2018 13:57

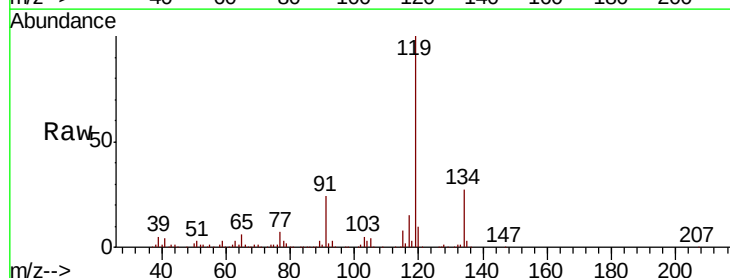
Tgt Ion: 119 Resp: 340379

Ion Ratio Lower Upper

119 100

91 23.5 0.0 131.6

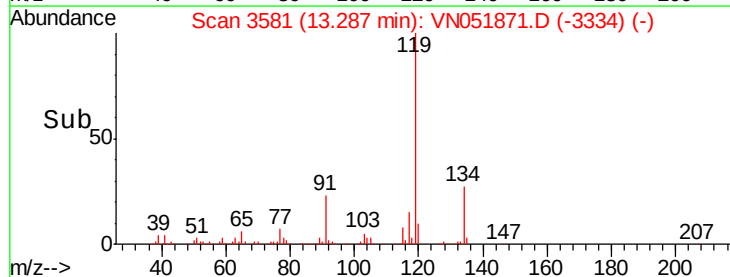
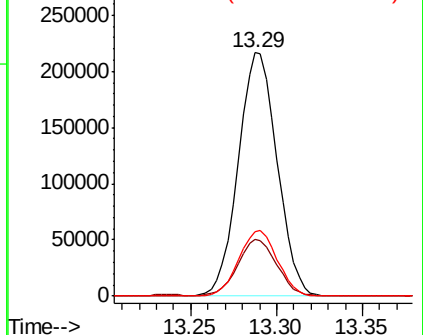
134 26.8 0.0 46.2

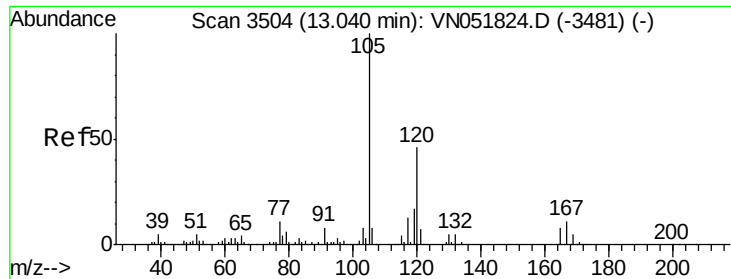


Abundance Ion 119.00 (118.70 to 119.70): VN051871.D (-3581) (-)

Ion 91.00 (90.70 to 91.70): VN051871.D (-3581) (-)

Ion 134.00 (133.70 to 134.70): VN051871.D (-3581) (-)

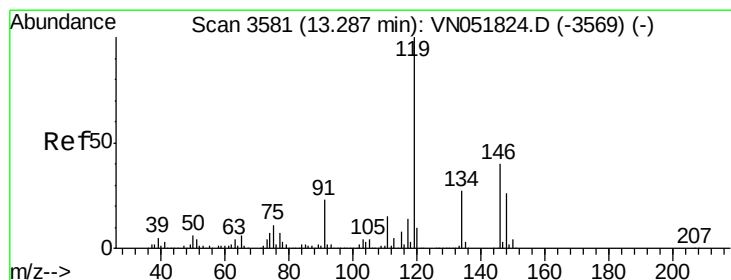
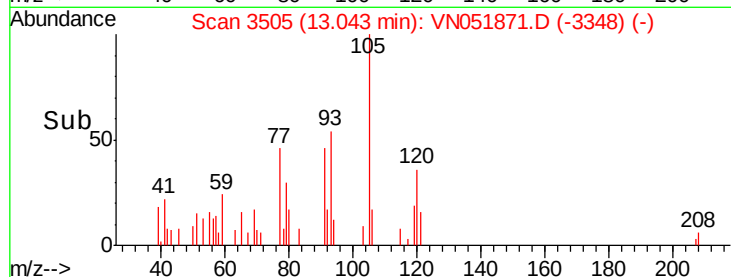
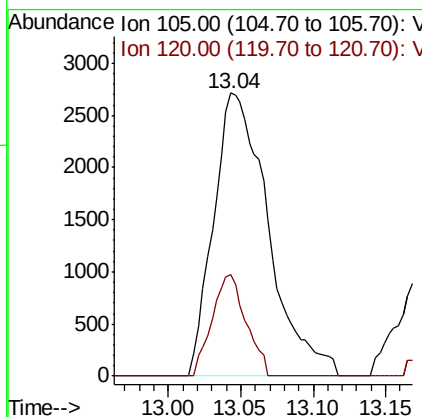
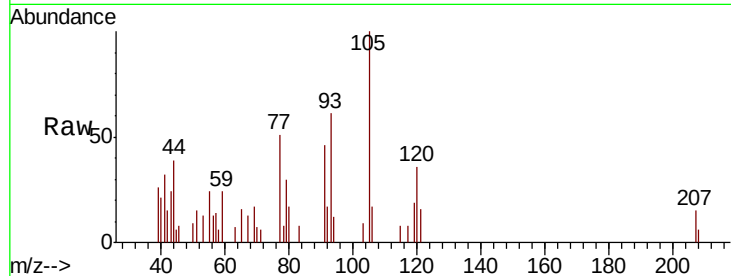




#80  
 1,2,4-Trimethylbenzene  
 Concen: 0.238 ug/l  
 RT: 13.04 min Scan# 3505  
 Delta R.T. 0.00 min  
 Lab File: VN051871.D  
 Acq: 15 Oct 2018 13:57

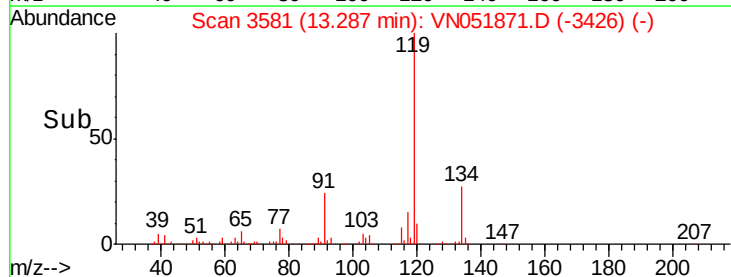
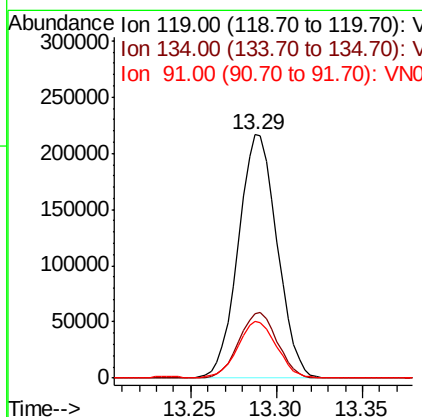
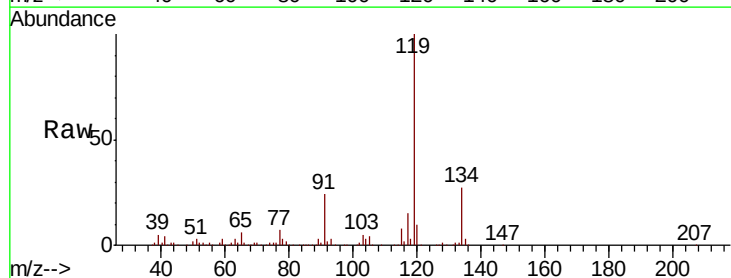
Instrument :  
 MSVOA\_N  
 ClientSampled :

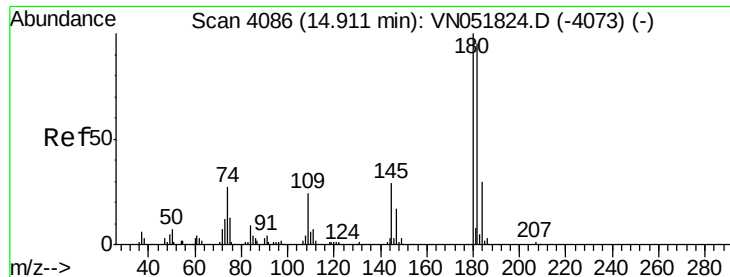
Tot Ion:105 Resp: 7121  
 Ion Ratio Lower Upper  
 105 100  
 120 22.4 0.0 89.6



#82  
 p-Isopropyltoluene  
 Concen: 10.540 ug/l  
 RT: 13.29 min Scan# 3581  
 Delta R.T. -0.00 min  
 Lab File: VN051871.D  
 Acq: 15 Oct 2018 13:57

Tgt Ion:119 Resp: 340379  
 Ion Ratio Lower Upper  
 119 100  
 134 26.8 0.0 53.6  
 91 23.5 0.0 52.0

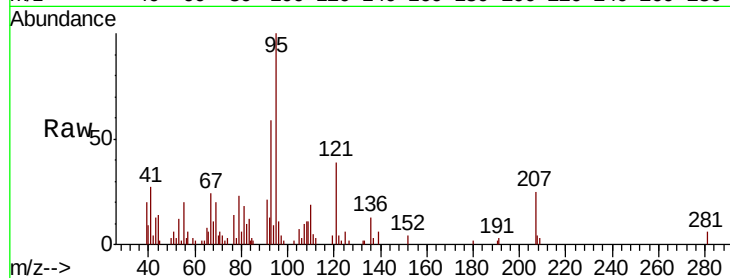




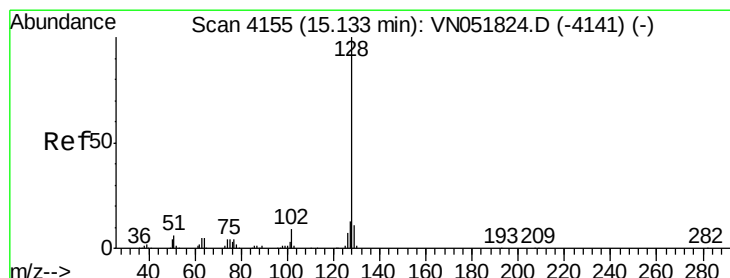
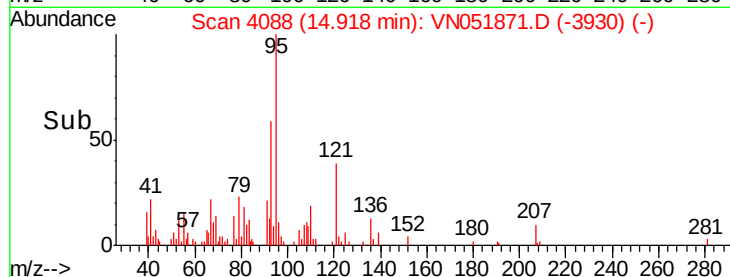
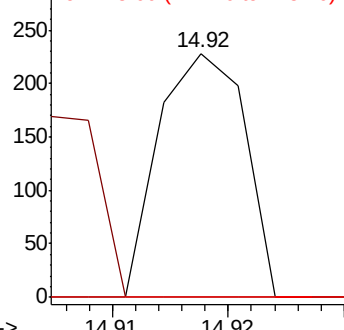
#89  
 1,2,4-Trichlorobenzene  
 Concen: 7.739 ug/l  
 RT: 14.92 min Scan# 4088  
 Delta R.T. 0.01 min  
 Lab File: VN051871.D  
 Acq: 15 Oct 2018 13:57

Instrument :  
 MSVOA\_N  
 ClientSampleId :

Tot Ion:180 Resp: 117  
 Ion Ratio Lower Upper  
 180 100  
 182 55.6 77.7 116.5#  
 145 50.4 23.4 35.2#

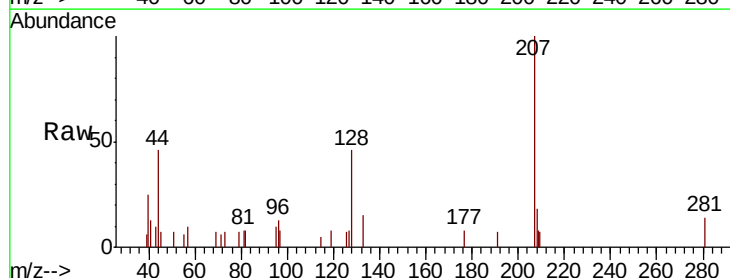


Abundance Ion 180.00 (179.70 to 180.70): V  
 Ion 182.00 (181.70 to 182.70): V  
 Ion 145.00 (144.70 to 145.70): V



#91  
 Naphthalene  
 Concen: 8.654 ug/l  
 RT: 15.13 min Scan# 4155  
 Delta R.T. 0.00 min  
 Lab File: VN051871.D  
 Acq: 15 Oct 2018 13:57

Tgt Ion:128 Resp: 2523  
 Ion Ratio Lower Upper  
 128 100  
 127 8.9 10.1 15.1#  
 129 4.6 8.4 12.6#



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

