LSC Area Percent Report

Data Path : Z:\SVOASRV\HPCHEM1\BNA F\DATA\BF092519\
Data File : BF117254.D
Acq On : 25 Sep 2019 21:31
Operator : JU
Sample : K4657-04
Misc :
ALS Vial : 20 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** BU-03-092419

Integration Parameters: rteint.p
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 3 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : Z:\SVOASRV\HPCHEM1\BNA_F\METHODS\8270-BF091319.M
Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

Signal : TIC

| peak # | R.T. min | first scan | max scan | last scan | PK TY | peak height | corr. area | corr. % max. | % of total |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 5.034 | 498 | 501 | 508 | rVB | 7327 | 9692 | 1.24% | 0.112% |
| 2 | 5.446 | 567 | 571 | 582 | rBV | 635831 | 673448 | 86.22% | 7.763% |
| 3 | 6.457 | 739 | 743 | 761 | rBV | 733594 | 746009 | 95.51% | 8.600% |
| 4 | 6.587 | 761 | 765 | 774 | rVB | 878793 | 780755 | 99.96% | 9.000% |
| 5 | 6.816 | 800 | 804 | 812 | rBV | 222160 | 201214 | 25.76% | 2.319% |
| 6 | 6.969 | 826 | 830 | 846 | rBV | 695282 | 608668 | 77.93% | 7.016% |
| 7 | 7.375 | 895 | 899 | 922 | rBV | 419680 | 453497 | 58.06% | 5.228% |
| 8 | 8.098 | 1018 | 1022 | 1040 | rBV | 197471 | 240427 | 30.78% | 2.771% |
| 9 | 8.910 | 1157 | 1160 | 1167 | rBB | 9123 | 9211 | 1.18% | 0.106% |
| 10 | 9.169 | 1200 | 1204 | 1216 | rBV | 872858 | 781045 | 100.00% | 9.003% |
| 11 | 9.510 | 1258 | 1262 | 1265 | rBV | 10852 | 11415 | 1.46% | 0.132% |
| 12 | 9.563 | 1268 | 1271 | 1279 | rVB | 56215 | 58571 | 7.50% | 0.675% |
| 13 | 9.710 | 1293 | 1296 | 1303 | rBV | 21459 | 20917 | 2.68% | 0.241% |
| 14 | 9.845 | 1316 | 1319 | 1324 | rBV | 250504 | 228923 | 29.31% | 2.639% |
| 15 | 10.398 | 1410 | 1413 | 1420 | rVB2 | 8525 | 10550 | 1.35% | 0.122% |
| 16 | 10.639 | 1450 | 1454 | 1465 | rBV | 302561 | 322174 | 41.25% | 3.714% |
| 17 | 11.233 | 1552 | 1555 | 1561 | rVB | 14953 | 14589 | 1.87% | 0.168% |
| 18 | 11.333 | 1568 | 1572 | 1574 | rBV | 212908 | 190605 | 24.40% | 2.197% |
| 19 | 11.357 | 1574 | 1576 | 1583 | rVV | 174470 | 159962 | 20.48% | 1.844% |
| 20 | 11.416 | 1583 | 1586 | 1590 | rVV | 16475 | 17760 | 2.27% | 0.205% |
| 21 | 11.627 | 1618 | 1622 | 1624 | rBV3 | 9301 | 8777 | 1.12% | 0.101% |
| 22 | 11.669 | 1626 | 1629 | 1634 | rVV | 15655 | 14548 | 1.86% | 0.168% |
| 23 | 11.751 | 1639 | 1643 | 1647 | rVB2 | 9380 | 13201 | 1.69% | 0.152% |
| 24 | 11.792 | 1647 | 1650 | 1654 | rBV4 | 5156 | 8455 | 1.08% | 0.097% |
| 25 | 11.833 | 1654 | 1657 | 1659 | rBV | 40784 | 38244 | 4.90% | 0.441% |
| 26 | 11.863 | 1659 | 1662 | 1668 | rVB2 | 75439 | 87608 | 11.22% | 1.010% |
| 27 | 11.945 | 1673 | 1676 | 1679 | rVV2 | 48983 | 58265 | 7.46% | 0.672% |
| 28 | 11.969 | 1679 | 1680 | 1687 | rVB | 29717 | 25121 | 3.22% | 0.290% |
| 29 | 12.127 | 1703 | 1707 | 1711 | rBV | 25148 | 26738 | 3.42% | 0.308% |
| 30 | 12.169 | 1711 | 1714 | 1718 | rVB3 | 18203 | 20778 | 2.66% | 0.240% |
| 31 | 12.310 | 1736 | 1738 | 1741 | rBV2 | 10865 | 9407 | 1.20% | 0.108% |
| 32 | 12.386 | 1746 | 1751 | 1754 | rBV | 38151 | 38587 | 4.94% | 0.445% |
| 33 | 12.422 | 1754 | 1757 | 1759 | rVV3 | 14588 | 16798 | 2.15% | 0.194% |
| 34 | 12.480 | 1763 | 1767 | 1775 | rVB5 | 27448 | 37905 | 4.85% | 0.437% |

LSC Area Percent Report

Data Path : Z:\SVOASRV\HPCHEM1\BNA F\DATA\BF092519\
Data File : BF117254.D
Acq On : 25 Sep 2019 21:31
Operator : JU
Sample : K4657-04
Misc :
ALS Vial : 20 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** BU-03-092419

Integration Parameters: rteint.p
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 3 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : Z:\SVOASRV\HPCHEM1\BNA_F\METHODS\8270-BF091319.M
Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 35 | 12.545 | 1775 | 1778 | 1782 | rBV | 136466 | 133665 | 17.11% | 1.541% |
| 36 | 12.645 | 1792 | 1795 | 1800 | rBV2 | 16546 | 20786 | 2.66% | 0.240% |
| 37 | 12.698 | 1801 | 1804 | 1807 | rVV3 | 13175 | 12711 | 1.63% | 0.147% |
| 38 | 12.774 | 1812 | 1817 | 1824 | rBV | 203242 | 220643 | 28.25% | 2.543% |
| 39 | 12.827 | 1824 | 1826 | 1830 | rVB2 | 12505 | 15452 | 1.98% | 0.178% |
| 40 | 12.916 | 1837 | 1841 | 1844 | rBV | 698473 | 607462 | 77.78% | 7.002% |
| 41 | 12.998 | 1851 | 1855 | 1860 | rBV2 | 18673 | 31569 | 4.04% | 0.364% |
| 42 | 13.051 | 1862 | 1864 | 1867 | rBV2 | 9437 | 8578 | 1.10% | 0.099% |
| 43 | 13.086 | 1867 | 1870 | 1871 | rBV3 | 17001 | 19928 | 2.55% | 0.230% |
| 44 | 13.104 | 1871 | 1873 | 1876 | rVB2 | 24678 | 24444 | 3.13% | 0.282% |
| 45 | 13.169 | 1882 | 1884 | 1888 | rVB | 14301 | 11346 | 1.45% | 0.131% |
| 46 | 13.210 | 1888 | 1891 | 1897 | rVB2 | 27208 | 28804 | 3.69% | 0.332% |
| 47 | 13.298 | 1904 | 1906 | 1909 | rBV | 23070 | 22479 | 2.88% | 0.259% |
| 48 | 13.333 | 1909 | 1912 | 1915 | rVV | 20941 | 19761 | 2.53% | 0.228% |
| 49 | 13.480 | 1932 | 1937 | 1939 | rBV6 | 11141 | 14219 | 1.82% | 0.164% |
| 50 | 13.621 | 1958 | 1961 | 1964 | rVB | 13705 | 14673 | 1.88% | 0.169% |
| 51 | 13.727 | 1976 | 1979 | 1981 | rBV | 32562 | 32946 | 4.22% | 0.380% |
| 52 | 13.751 | 1981 | 1983 | 1986 | rVV2 | 18832 | 19638 | 2.51% | 0.226% |
| 53 | 13.810 | 1990 | 1993 | 2004 | rVB5 | 69815 | 140978 | 18.05% | 1.625% |
| 54 | 13.974 | 2017 | 2021 | 2024 | rBV2 | 234741 | 291816 | 37.36% | 3.364% |
| 55 | 13.998 | 2024 | 2025 | 2030 | rVB | 85563 | 69826 | 8.94% | 0.805% |
| 56 | 14.063 | 2033 | 2036 | 2038 | rBV4 | 11219 | 10564 | 1.35% | 0.122% |
| 57 | 14.127 | 2044 | 2047 | 2054 | rBV7 | 20191 | 40669 | 5.21% | 0.469% |
| 58 | 14.204 | 2058 | 2060 | 2063 | rBV4 | 10085 | 8407 | 1.08% | 0.097% |
| 59 | 14.363 | 2083 | 2087 | 2090 | rVB | 21573 | 21663 | 2.77% | 0.250% |
| 60 | 14.433 | 2096 | 2099 | 2101 | rBV3 | 22391 | 25007 | 3.20% | 0.288% |
| 61 | 14.557 | 2118 | 2120 | 2125 | rVB6 | 18398 | 17728 | 2.27% | 0.204% |
| 62 | 14.727 | 2147 | 2149 | 2152 | rVB2 | 15877 | 16579 | 2.12% | 0.191% |
| 63 | 14.804 | 2160 | 2162 | 2167 | rVB | 29358 | 31222 | 4.00% | 0.360% |
| 64 | 15.010 | 2194 | 2197 | 2203 | rBV | 51133 | 90995 | 11.65% | 1.049% |
| 65 | 15.057 | 2203 | 2205 | 2209 | rVB | 67393 | 71127 | 9.11% | 0.820% |
| 66 | 15.310 | 2244 | 2248 | 2253 | rVB | 44182 | 53014 | 6.79% | 0.611% |
| 67 | 15.374 | 2255 | 2259 | 2263 | rBV | 57002 | 72803 | 9.32% | 0.839% |
| 68 | 15.433 | 2264 | 2269 | 2275 | rBV | 142166 | 192660 | 24.67% | 2.221% |
| 69 | 15.851 | 2336 | 2340 | 2346 | rVB | 43279 | 59970 | 7.68% | 0.691% |
| 70 | 15.927 | 2348 | 2353 | 2361 | rVB | 21032 | 50938 | 6.52% | 0.587% |
| 71 | 16.621 | 2469 | 2471 | 2474 | rBV3 | 7266 | 10134 | 1.30% | 0.117% |

LSC Area Percent Report

Data Path : Z:\SVOASRV\HPCHEM1\BNA F\DATA\BF092519\
Data File : BF117254.D
Acq On : 25 Sep 2019 21:31
Operator : JU
Sample : K4657-04
Misc :
ALS Vial : 20 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** BU-03-092419

Integration Parameters: rteint.p
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 3 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : Z:\SVOASRV\HPCHEM1\BNA_F\METHODS\8270-BF091319.M
Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | 16.892 | 2512 | 2517 | 2526 | rVB6 | 25639 | 64775 | 8.29% | 0.747% |
| 73 | 17.333 | 2587 | 2592 | 2597 | rVB5 | 13332 | 30284 | 3.88% | 0.349% |
| 74 | 17.445 | 2605 | 2611 | 2621 | rVB5 | 37476 | 100880 | 12.92% | 1.163% |

Sum of corrected areas: 8675007

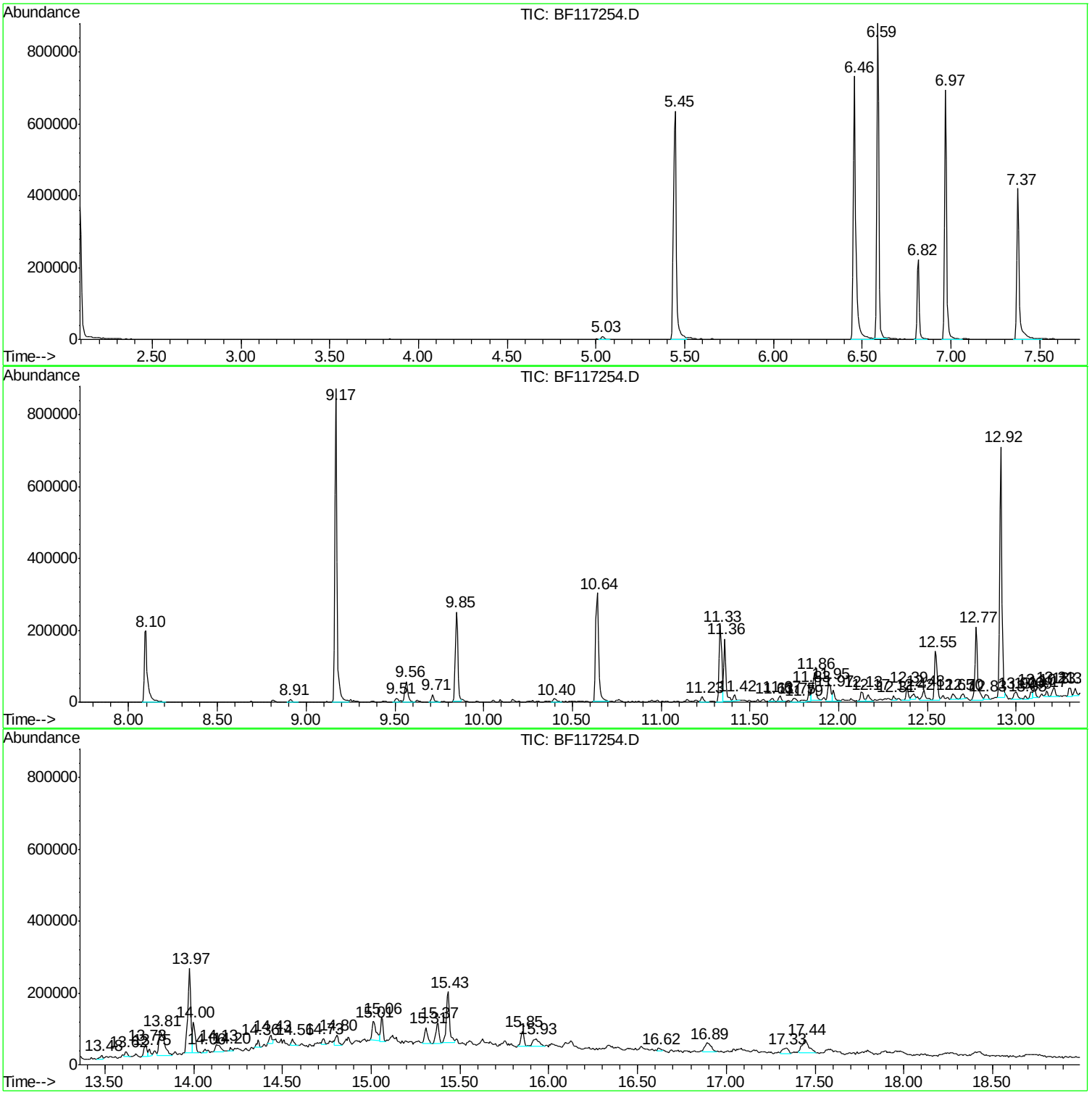
LSC Report - Integrated Chromatogram

Data Path : Z:\SVOASRV\HPCHEM1\BNA F\DATA\BF092519\
Data File : BF117254.D
Acq On : 25 Sep 2019 21:31
Operator : JU
Sample : K4657-04
Misc :
ALS Vial : 20 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** BU-03-092419

Quant Method : Z:\SVOASRV\HPCHEM1\BNA_F\METHODS\8270-BF091319.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST11.L
TIC Integration Parameters: LSCINT.P



# Library Search Compound Report

Data Path : Z:\SVOASRV\HPCHEM1\BNA F\DATA\BF092519\
Data File : BF117254.D
Acq On : 25 Sep 2019 21:31
Operator : JU
Sample : K4657-04
Misc :
ALS Vial : 20 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** BU-03-092419

Quant Method : Z:\SVOASRV\HPCHEM1\BNA_F\METHODS\8270-BF091319.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

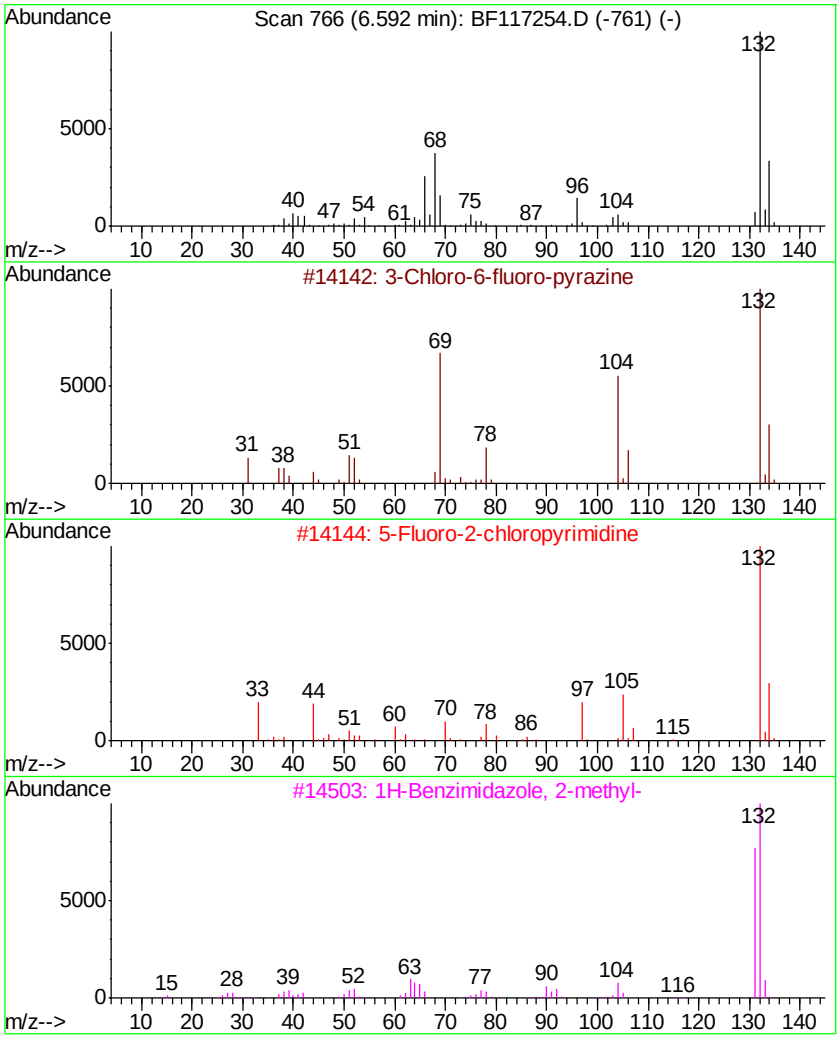
TIC Library : C:\DATABASE\NIST11.L
TIC Integration Parameters: LSCINT.P

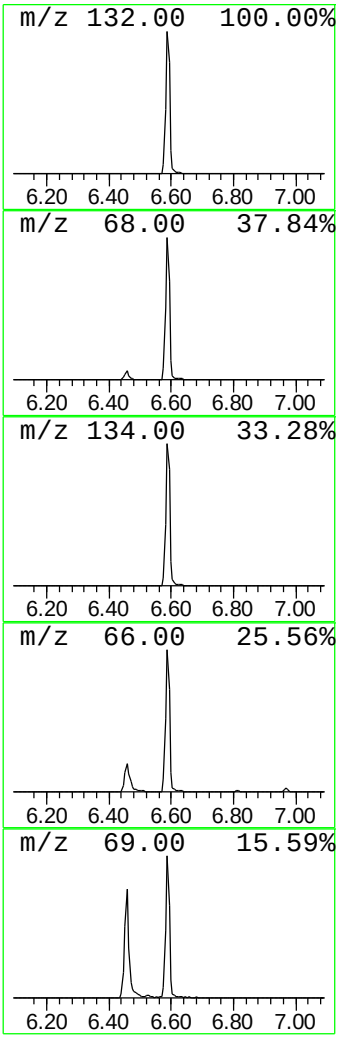
**********

Peak Number 1 unknown6.59 Concentration Rank 1

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 6.59 | 77.60 ng | 780755 | 1,4-Dichlorobenzene-d4 | 6.82 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | 3-Chloro-6-fluoro-pyrazine | 132 | C4H2ClFN2 | 1000146-10-7 | 27 |
| 2 | 5-Fluoro-2-chloropyrimidine | 132 | C4H2ClFN2 | 062802-42-0 | 12 |
| 3 | 1H-Benzimidazole, 2-methyl- | 132 | C8H8N2 | 000615-15-6 | 12 |
| 4 | Tranylcypromine-propionyl | 189 | C12H15NO | 1000123-86-3 | 10 |
| 5 | Bicyclo[4.2.0]octa-1,3,5-triene,... | 132 | C10H12 | 028749-81-7 | 9 |



Data Path : Z:\SVOASRV\HPCHEM1\BNA F\DATA\BF092519\
Data File : BF117254.D
Acq On : 25 Sep 2019 21:31
Operator : JU
Sample : K4657-04
Misc :
ALS Vial : 20 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** BU-03-092419

Quant Method : Z:\SVOASRV\HPCHEM1\BNA_F\METHODS\8270-BF091319.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

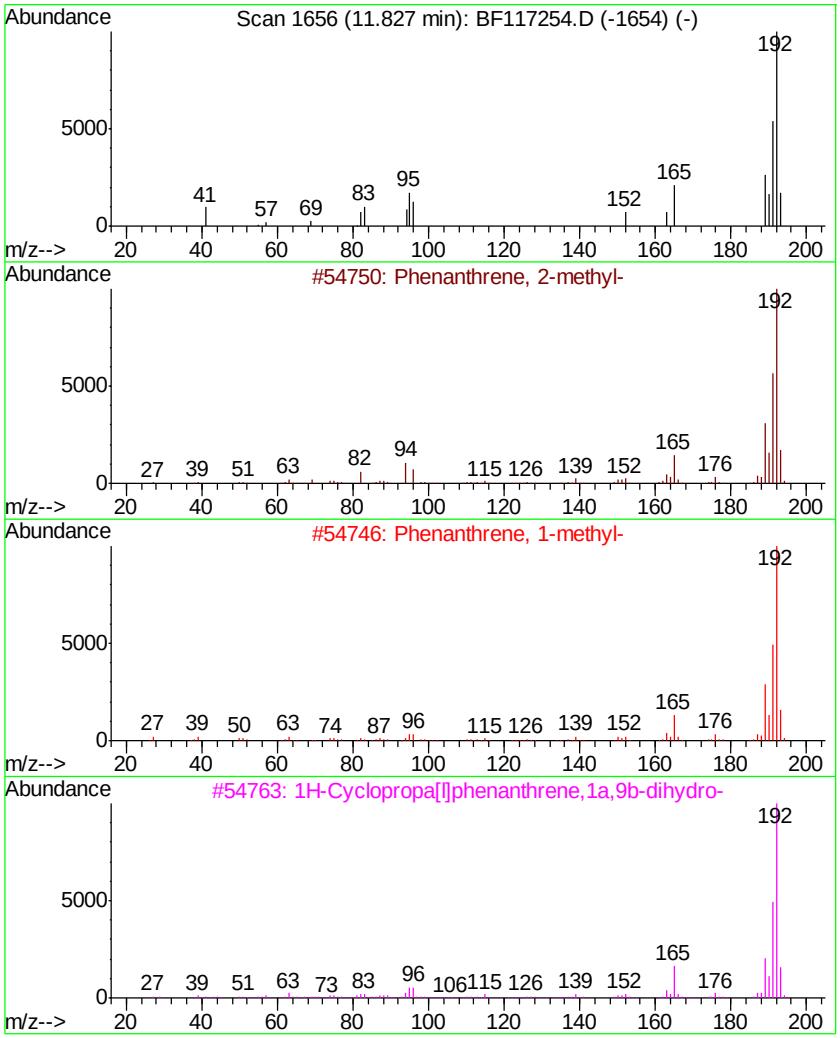
TIC Library : C:\DATABASE\NIST11.L
TIC Integration Parameters: LSCINT.P

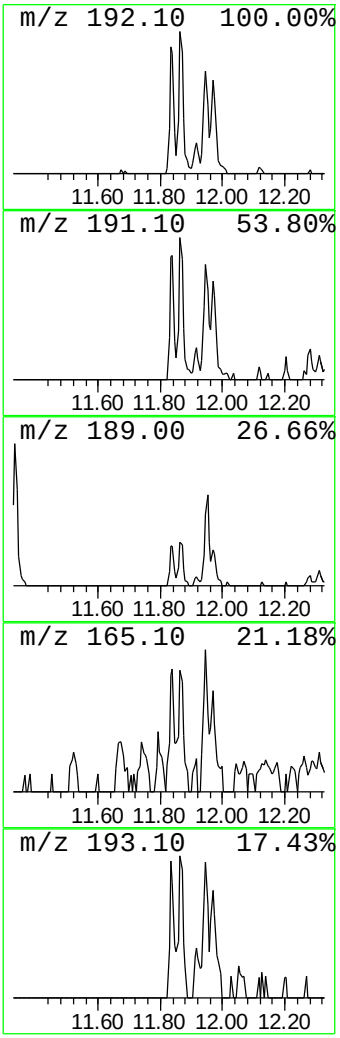
**********

Peak Number 3 Phenanthrene, 2-methyl- Concentration Rank 11

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 11.83 | 4.01 ng | 38244 | Phenanthrene-d10 | 11.33 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Phenanthrene, 2-methyl- | 192 | C15H12 | 002531-84-2 | 96 |
| 2 | Phenanthrene, 1-methyl- | 192 | C15H12 | 000832-69-9 | 94 |
| 3 | 1H-Cyclopropa[l]phenanthrene,1a,... | 192 | C15H12 | 000949-41-7 | 94 |
| 4 | Anthracene, 2-methyl- | 192 | C15H12 | 000613-12-7 | 94 |
| 5 | Anthracene, 1-methyl- | 192 | C15H12 | 000610-48-0 | 93 |



# Library Search Compound Report

Data Path : Z:\SVOASRV\HPCHEM1\BNA F\DATA\BF092519\
Data File : BF117254.D
Acq On : 25 Sep 2019 21:31
Operator : JU
Sample : K4657-04
Misc :
ALS Vial : 20 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** BU-03-092419

Quant Method : Z:\SVOASRV\HPCHEM1\BNA_F\METHODS\8270-BF091319.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

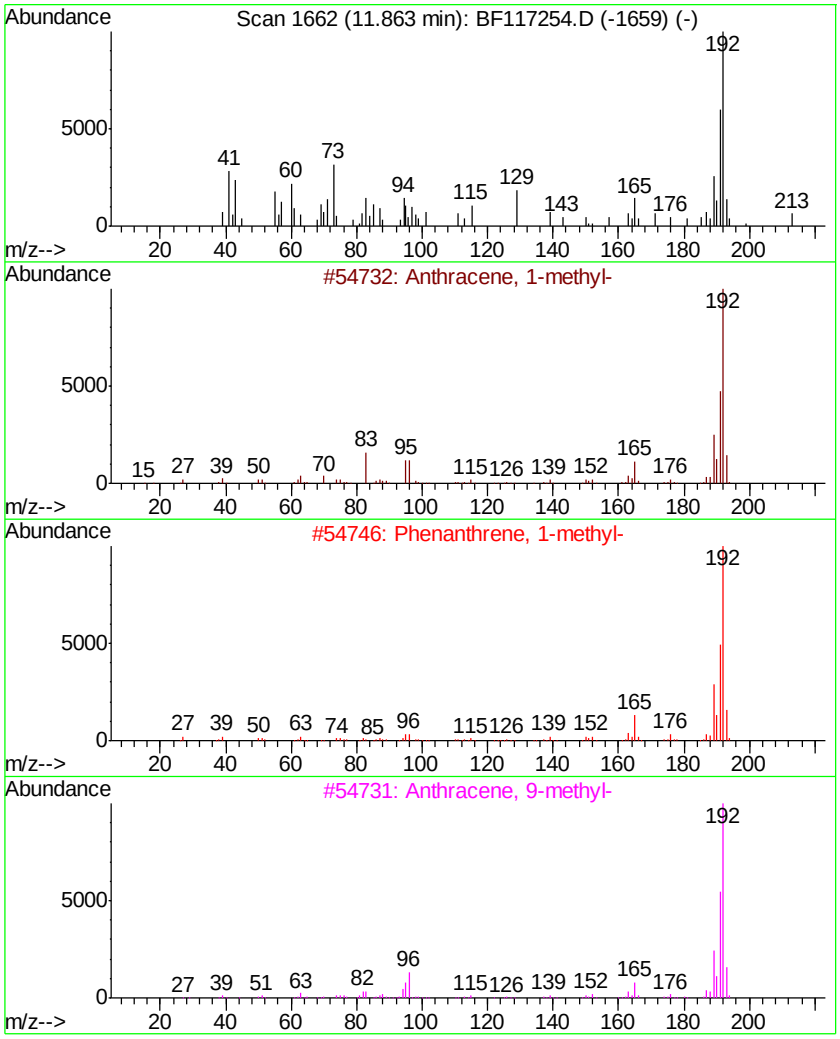
TIC Library : C:\DATABASE\NIST11.L
TIC Integration Parameters: LSCINT.P

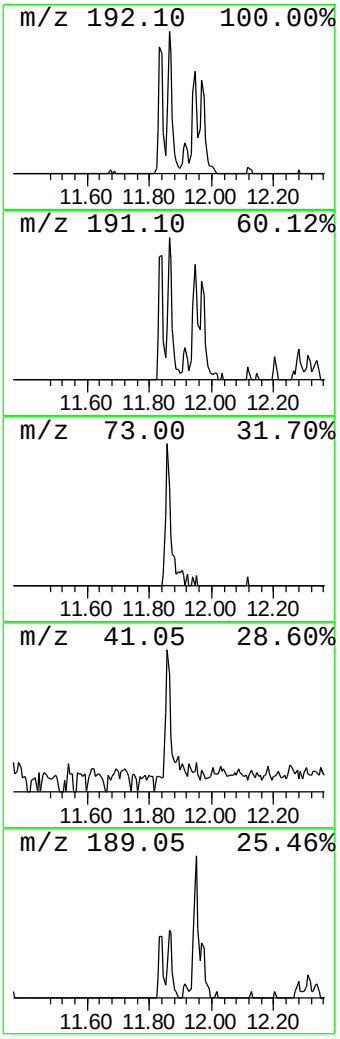
**********

Peak Number 4 Anthracene, 1-methyl- Concentration Rank 5

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 11.86 | 9.19 ng | 87608 | Phenanthrene-d10 | 11.33 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Anthracene, 1-methyl- | 192 | C15H12 | 000610-48-0 | 92 |
| 2 | Phenanthrene, 1-methyl- | 192 | C15H12 | 000832-69-9 | 92 |
| 3 | Anthracene, 9-methyl- | 192 | C15H12 | 000779-02-2 | 86 |
| 4 | Phenanthrene, 2-methyl- | 192 | C15H12 | 002531-84-2 | 86 |
| 5 | Anthracene, 2-methyl- | 192 | C15H12 | 000613-12-7 | 76 |



Data Path : Z:\SVOASRV\HPCHEM1\BNA F\DATA\BF092519\
Data File : BF117254.D
Acq On : 25 Sep 2019 21:31
Operator : JU
Sample : K4657-04
Misc :
ALS Vial : 20 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** BU-03-092419

Quant Method : Z:\SVOASRV\HPCHEM1\BNA_F\METHODS\8270-BF091319.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

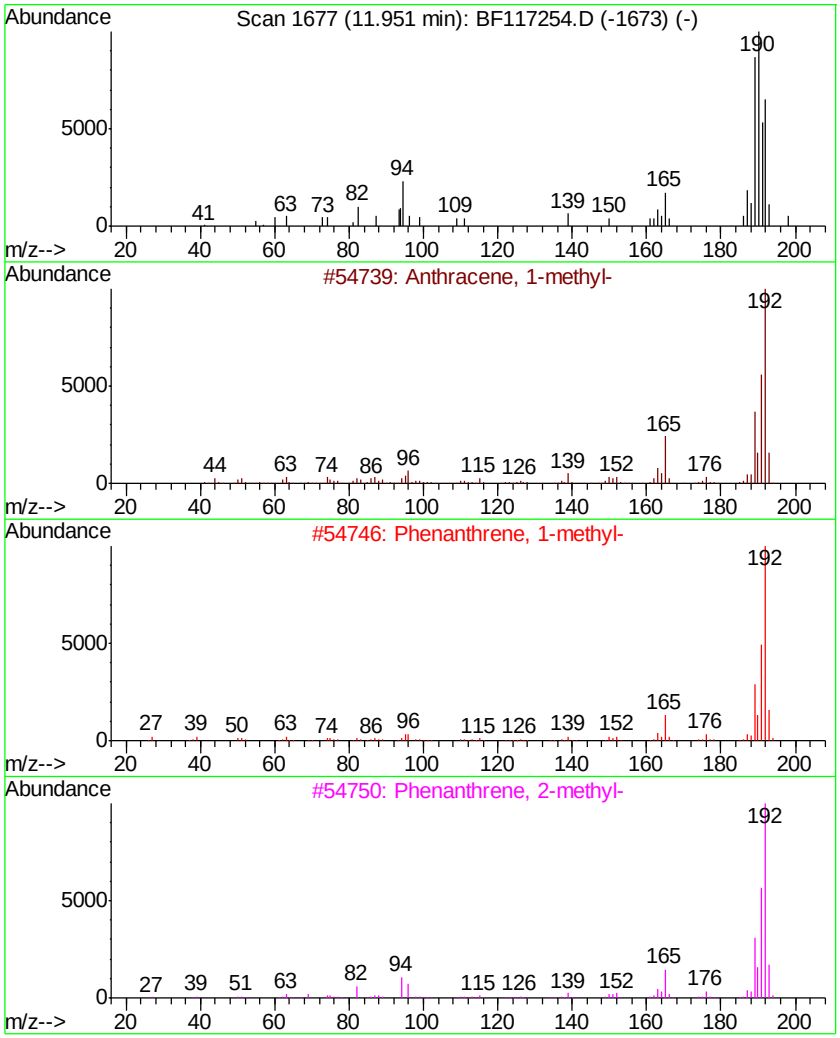
TIC Library : C:\DATABASE\NIST11.L
TIC Integration Parameters: LSCINT.P

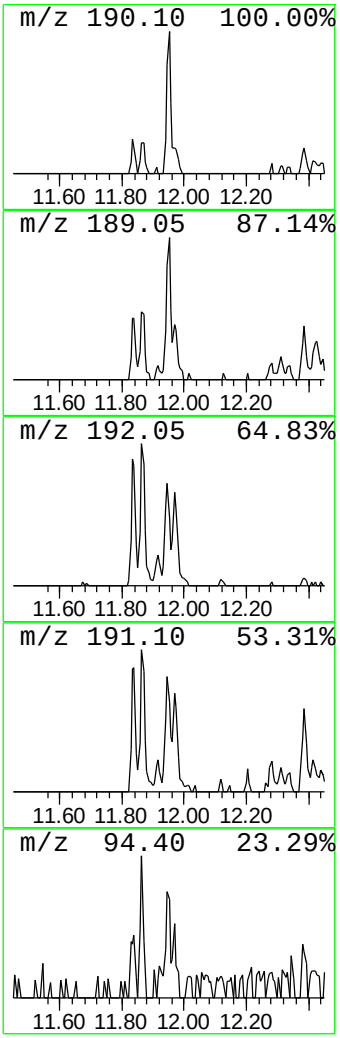
**********

Peak Number 5 Phenanthrene, 1-methyl- Concentration Rank 7

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 11.95 | 6.11 ng | 58265 | Phenanthrene-d10 | 11.33 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Anthracene, 1-methyl- | 192 | C15H12 | 000610-48-0 | 89 |
| 2 | Phenanthrene, 1-methyl- | 192 | C15H12 | 000832-69-9 | 64 |
| 3 | Phenanthrene, 2-methyl- | 192 | C15H12 | 002531-84-2 | 53 |
| 4 | 1H-Indene, 2-phenyl- | 192 | C15H12 | 004505-48-0 | 50 |
| 5 | 5H-Dibenzo[a,d]cycloheptene | 192 | C15H12 | 000256-81-5 | 50 |



Data Path : Z:\SVOASRV\HPCHEM1\BNA F\DATA\BF092519\
Data File : BF117254.D
Acq On : 25 Sep 2019 21:31
Operator : JU
Sample : K4657-04
Misc :
ALS Vial : 20 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** BU-03-092419

Quant Method : Z:\SVOASRV\HPCHEM1\BNA_F\METHODS\8270-BF091319.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

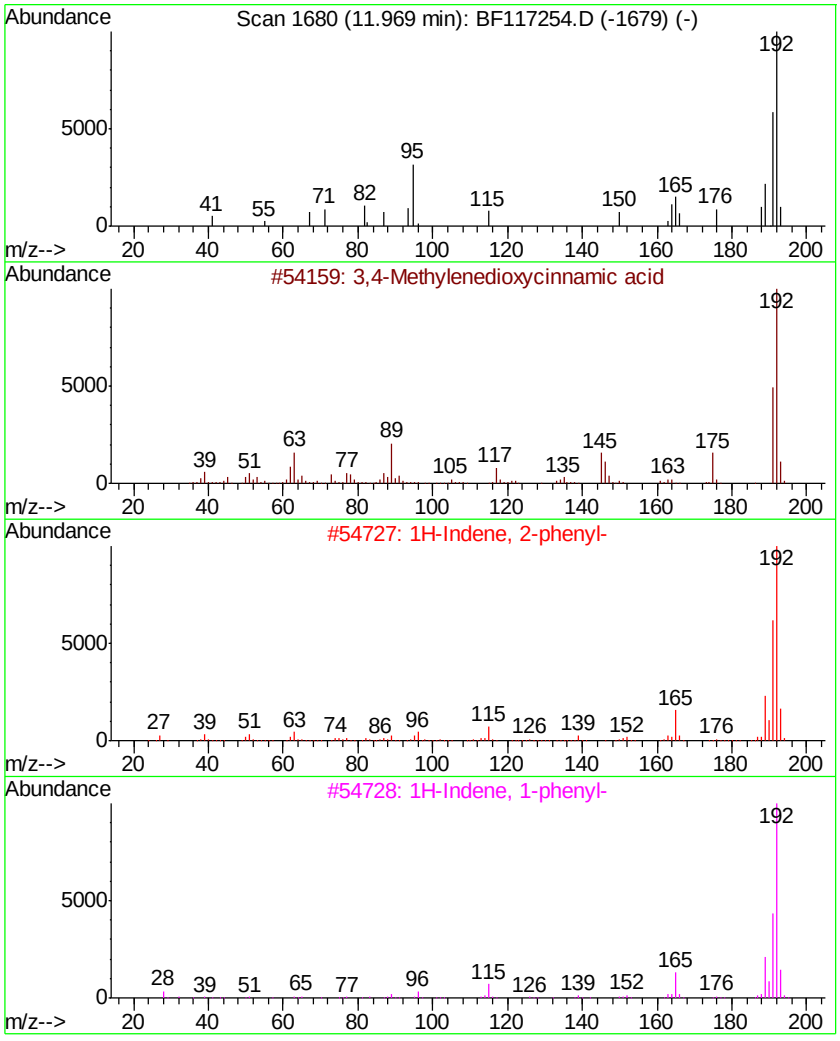
TIC Library : C:\DATABASE\NIST11.L
TIC Integration Parameters: LSCINT.P

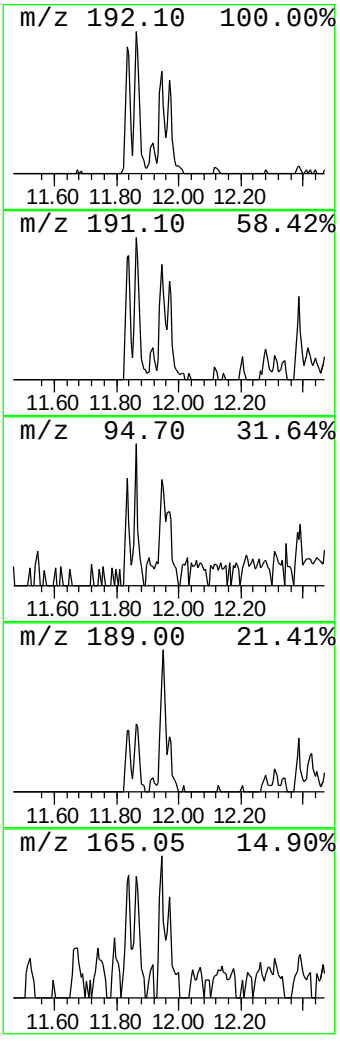
**********

Peak Number 6 3,4-Methylenedioxycinnamic ... Concentration Rank 16

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 11.97 | 2.64 ng | 25121 | Phenanthrene-d10 | 11.33 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | 3,4-Methylenedioxycinnamic acid | 192 | C10H8O4 | 002373-80-0 | 50 |
| 2 | 1H-Indene, 2-phenyl- | 192 | C15H12 | 004505-48-0 | 50 |
| 3 | 1H-Indene, 1-phenyl- | 192 | C15H12 | 001961-96-2 | 47 |
| 4 | 1-(3-Nitro-phenyl)-pyrrolidine | 192 | C10H12N2O2 | 1000300-34-7 | 43 |
| 5 | 1a,9b-Dihydro-1H-cyclopropa[a]an... | 192 | C15H12 | 006109-24-6 | 42 |



Data Path : Z:\SVOASRV\HPCHEM1\BNA F\DATA\BF092519\
Data File : BF117254.D
Acq On : 25 Sep 2019 21:31
Operator : JU
Sample : K4657-04
Misc :
ALS Vial : 20 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** BU-03-092419

Quant Method : Z:\SVOASRV\HPCHEM1\BNA_F\METHODS\8270-BF091319.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

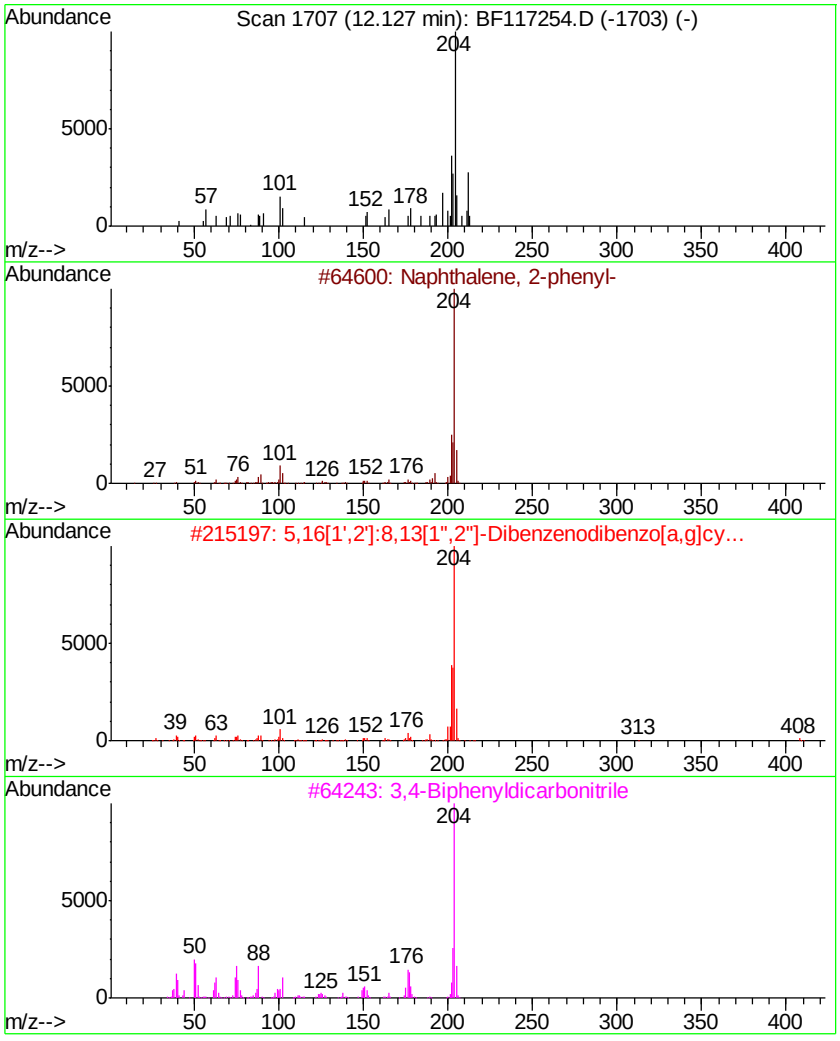
TIC Library : C:\DATABASE\NIST11.L
TIC Integration Parameters: LSCINT.P

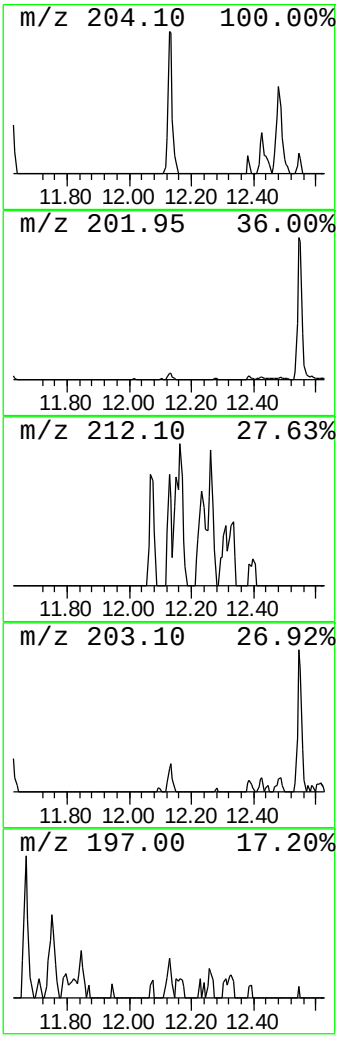
**********

Peak Number 7 Naphthalene, 2-phenyl- Concentration Rank 14

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 12.13 | 2.81 ng | 26738 | Phenanthrene-d10 | 11.33 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Naphthalene, 2-phenyl- | 204 | C16H12 | 000612-94-2 | 90 |
| 2 | 5,16[1',2']:8,13[1'',2'']-Dibenz... | 408 | C32H24 | 005672-97-9 | 53 |
| 3 | 3,4-Biphenyldicarbonitrile | 204 | C14H8N2 | 004128-63-6 | 52 |
| 4 | Tricyclo[8.2.2.2(4,7)]hexadeca-2... | 204 | C16H12 | 006572-60-7 | 49 |
| 5 | [1,1'-Biphenyl]-4,4'-dicarbonitrile | 204 | C14H8N2 | 001591-30-6 | 47 |



Data Path : Z:\SVOASRV\HPCHEM1\BNA F\DATA\BF092519\
Data File : BF117254.D
Acq On : 25 Sep 2019 21:31
Operator : JU
Sample : K4657-04
Misc :
ALS Vial : 20 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** BU-03-092419

Quant Method : Z:\SVOASRV\HPCHEM1\BNA_F\METHODS\8270-BF091319.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

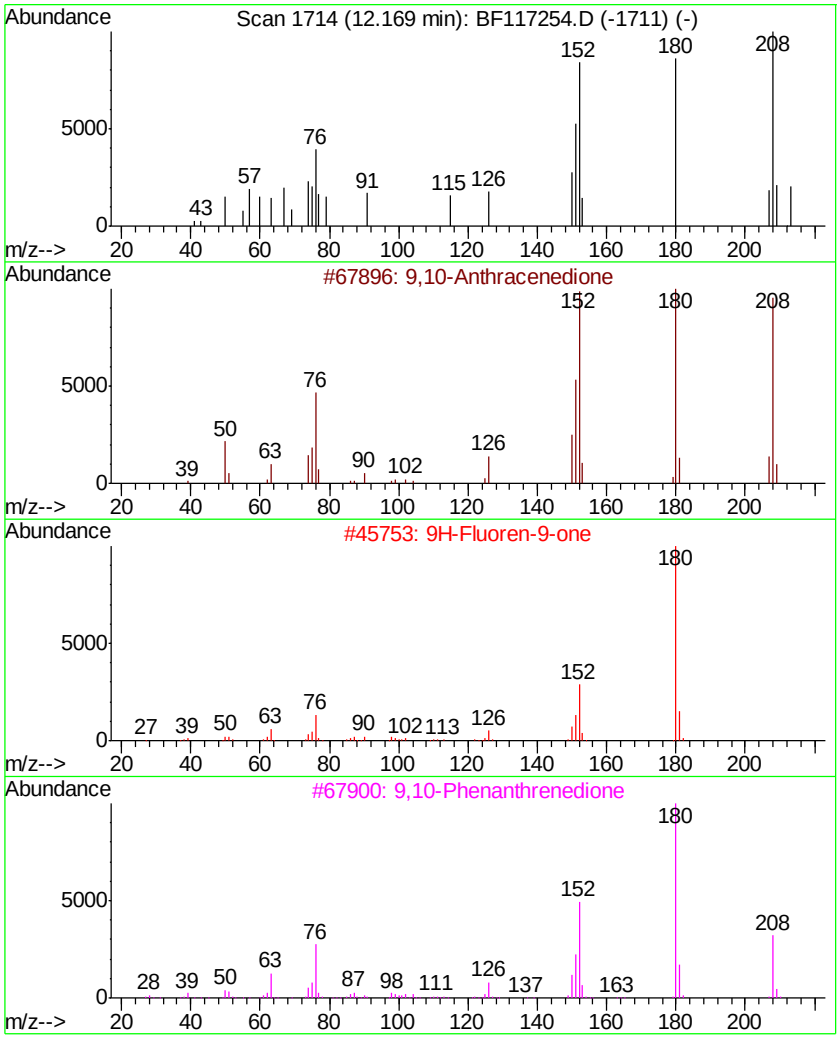
TIC Library : C:\DATABASE\NIST11.L
TIC Integration Parameters: LSCINT.P

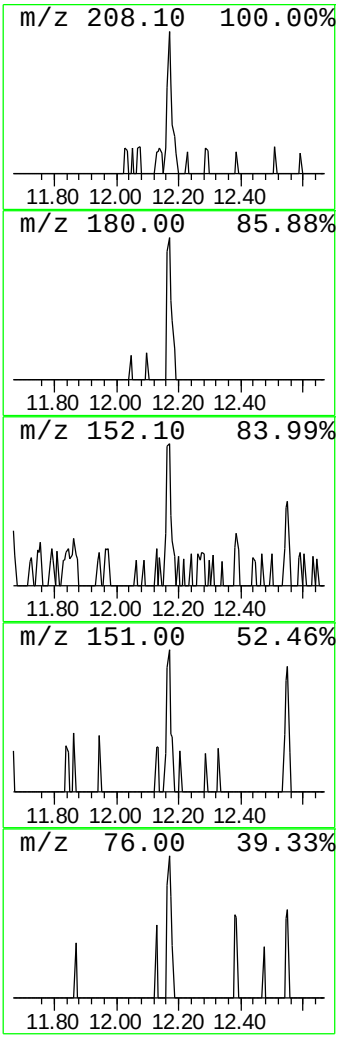
**********

Peak Number 8 9,10-Anthracenedione Concentration Rank 19

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 12.17 | 2.18 ng | 20778 | Phenanthrene-d10 | 11.33 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | 9,10-Anthracenedione | 208 | C14H8O2 | 000084-65-1 | 93 |
| 2 | 9H-Fluoren-9-one | 180 | C13H8O | 000486-25-9 | 64 |
| 3 | 9,10-Phenanthrenedione | 208 | C14H8O2 | 000084-11-7 | 47 |
| 4 | 1H-Phenalen-1-one | 180 | C13H8O | 000548-39-0 | 47 |
| 5 | Benzo[c]cinnoline | 180 | C12H8N2 | 000230-17-1 | 47 |



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Data File : BF117254.D
Acq On : 25 Sep 2019 21:31
Operator : JU
Sample : K4657-04
Misc :
ALS Vial : 20 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** BU-03-092419

Quant Method : Z:\SVOASRV\HPCHEM1\BNA_F\METHODS\8270-BF091319.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

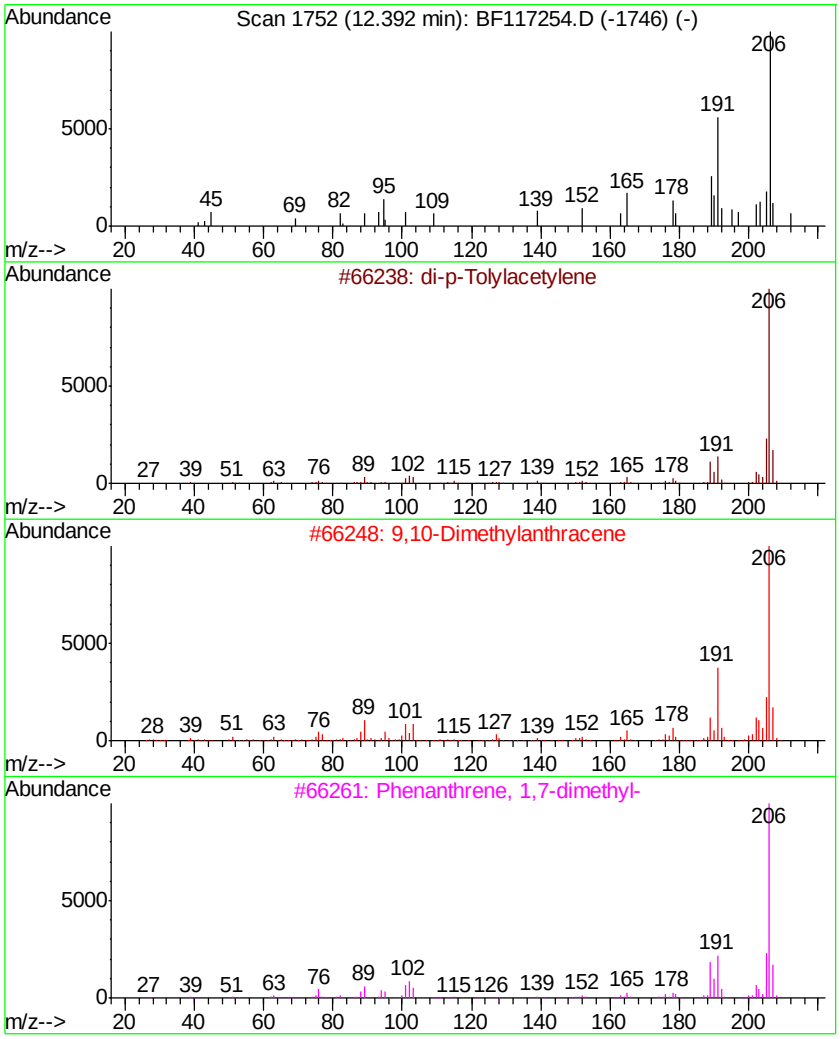
TIC Library : C:\DATABASE\NIST11.L
TIC Integration Parameters: LSCINT.P

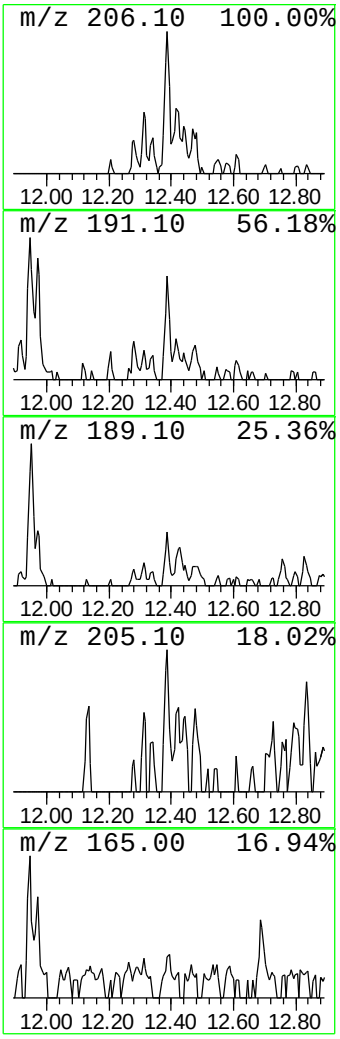
**********

Peak Number 9 di-p-Tolylacetylene Concentration Rank 10

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 12.39 | 4.05 ng | 38587 | Phenanthrene-d10 | 11.33 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | di-p-Tolylacetylene | 206 | C16H14 | 002789-88-0 | 94 |
| 2 | 9,10-Dimethylanthracene | 206 | C16H14 | 000781-43-1 | 89 |
| 3 | Phenanthrene, 1,7-dimethyl- | 206 | C16H14 | 000483-87-4 | 87 |
| 4 | Phenanthrene, 2,3-dimethyl- | 206 | C16H14 | 003674-65-5 | 87 |
| 5 | Phenanthrene, 2,5-dimethyl- | 206 | C16H14 | 003674-66-6 | 87 |



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Data File : BF117254.D
Acq On : 25 Sep 2019 21:31
Operator : JU
Sample : K4657-04
Misc :
ALS Vial : 20 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** BU-03-092419

Quant Method : Z:\SVOASRV\HPCHEM1\BNA_F\METHODS\8270-BF091319.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

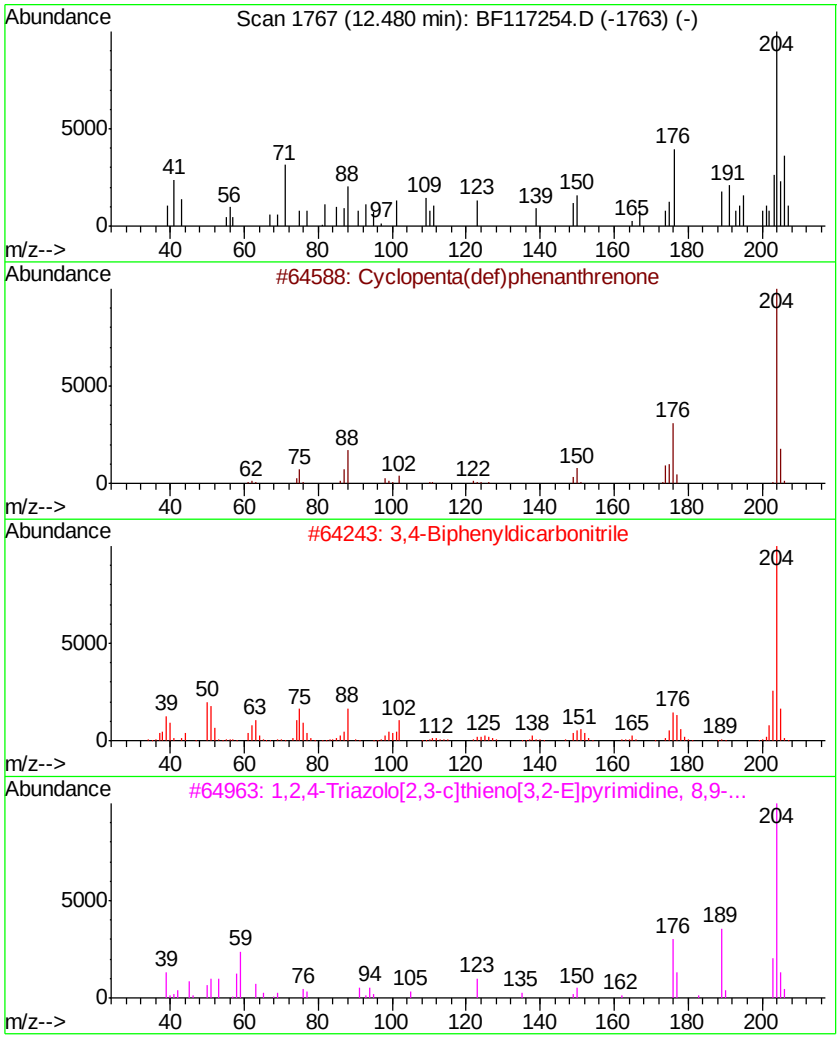
TIC Library : C:\DATABASE\NIST11.L
TIC Integration Parameters: LSCINT.P

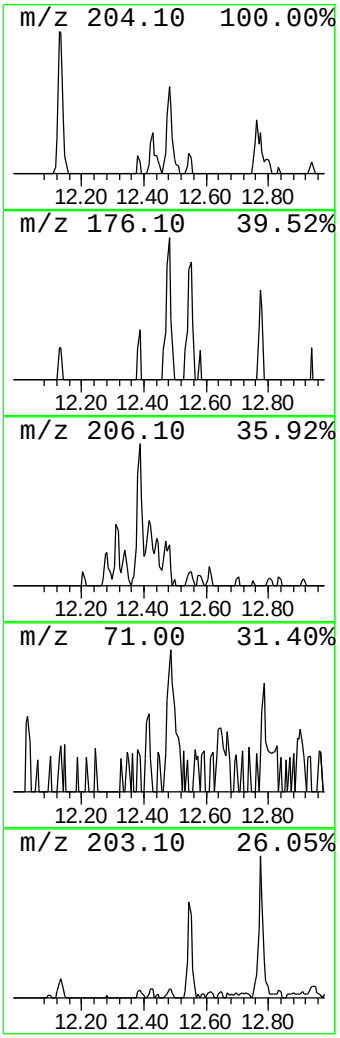
**********

Peak Number 10 Cyclopenta(def)phenanthrenone Concentration Rank 12

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 12.48 | 3.98 ng | 37905 | Phenanthrene-d10 | 11.33 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Cyclopenta(def)phenanthrenone | 204 | C15H8O | 005737-13-3 | 58 |
| 2 | 3,4-Biphenyldicarbonitrile | 204 | C14H8N2 | 004128-63-6 | 47 |
| 3 | 1,2,4-Triazolo[2,3-c]thieno[3,2-... | 204 | C9H8N4S | 113246-88-1 | 47 |
| 4 | Pyrimidine, 2-chloro-4-methyl-6-... | 204 | C11H9ClN2 | 032785-40-3 | 47 |
| 5 | Naphthalene, 2-phenyl- | 204 | C16H12 | 000612-94-2 | 46 |



Data Path : Z:\SVOASRV\HPCHEM1\BNA F\DATA\BF092519\
Data File : BF117254.D
Acq On : 25 Sep 2019 21:31
Operator : JU
Sample : K4657-04
Misc :
ALS Vial : 20 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** BU-03-092419

Quant Method : Z:\SVOASRV\HPCHEM1\BNA_F\METHODS\8270-BF091319.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

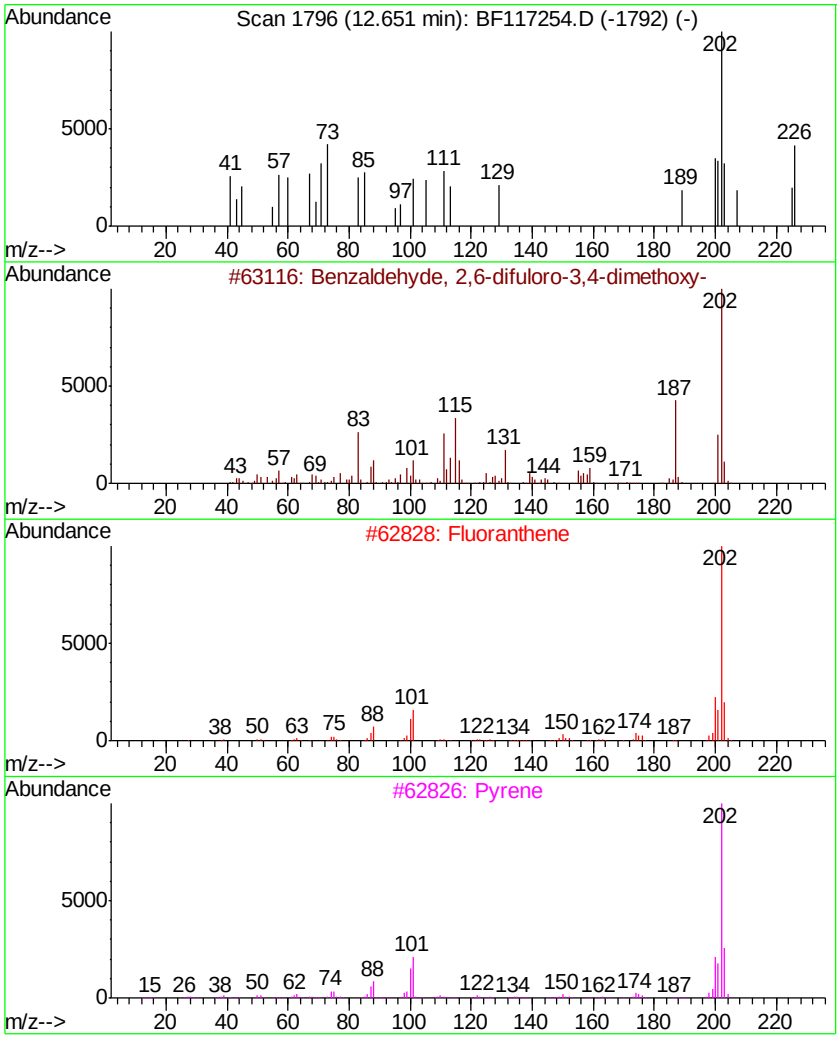
TIC Library : C:\DATABASE\NIST11.L
TIC Integration Parameters: LSCINT.P

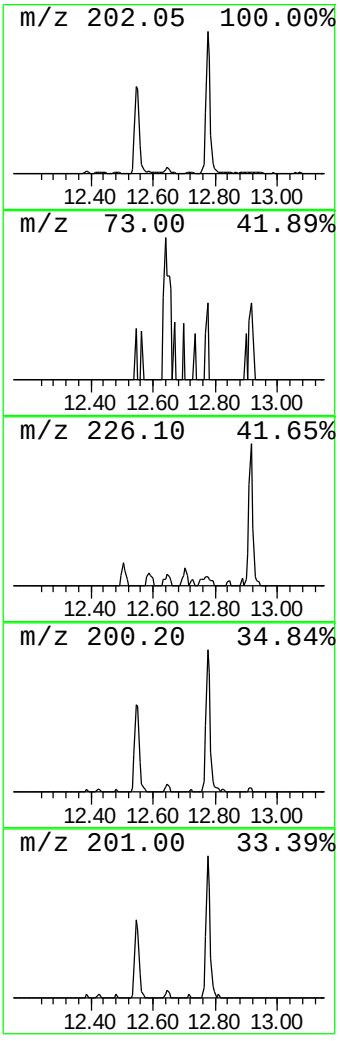
**********

Peak Number 11 unknown12.65 Concentration Rank 18

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 12.65 | 2.18 ng | 20786 | Phenanthrene-d10 | 11.33 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Benzaldehyde, 2,6-difuloro-3,4-d... | 202 | C9H8F2O3 | 152434-99-6 | 35 |
| 2 | Fluoranthene | 202 | C16H10 | 000206-44-0 | 25 |
| 3 | Pyrene | 202 | C16H10 | 000129-00-0 | 25 |
| 4 | Pyrazinecarboxylic acid, 3,5-dia... | 202 | C6H7ClN4O2 | 001458-01-1 | 9 |
| 5 | Benzene, 1-chloro-2,4-dinitro- | 202 | C6H3ClN2O4 | 000097-00-7 | 9 |



Library Search Compound Report

Data Path : Z:\SVOASRV\HPCHEM1\BNA F\DATA\BF092519\
Data File : BF117254.D
Acq On : 25 Sep 2019 21:31
Operator : JU
Sample : K4657-04
Misc :
ALS Vial : 20 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** BU-03-092419

Quant Method : Z:\SVOASRV\HPCHEM1\BNA_F\METHODS\8270-BF091319.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST11.L
TIC Integration Parameters: LSCINT.P

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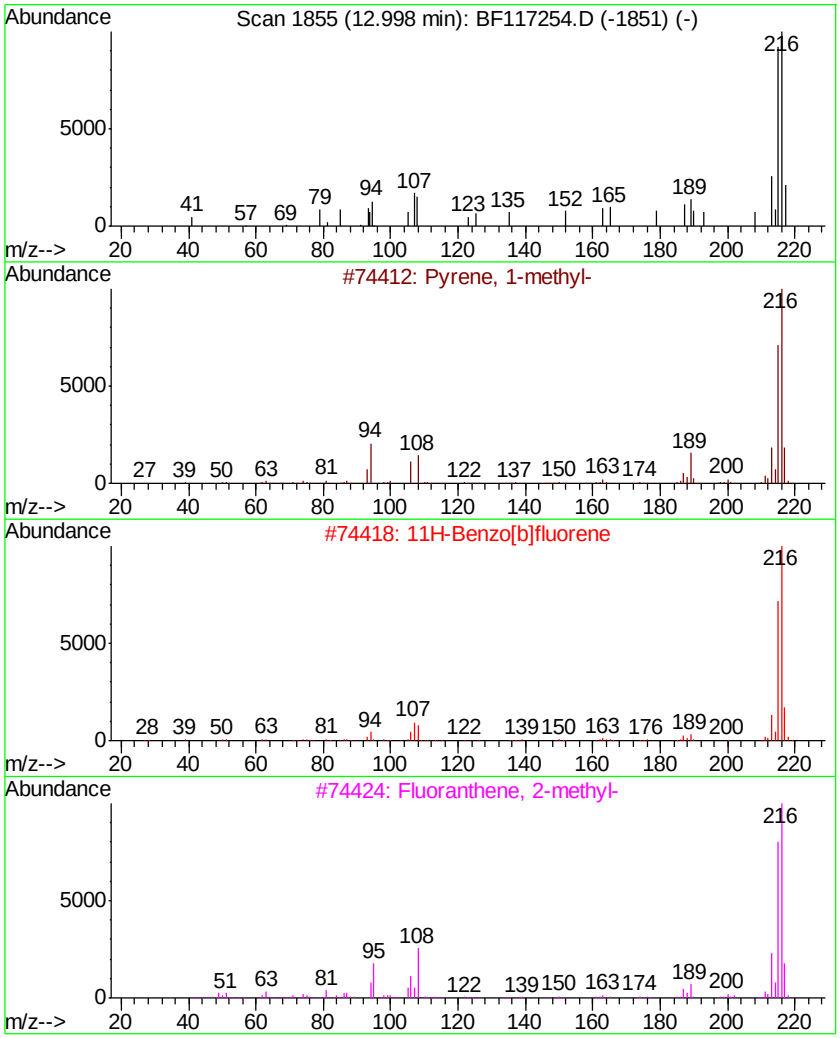
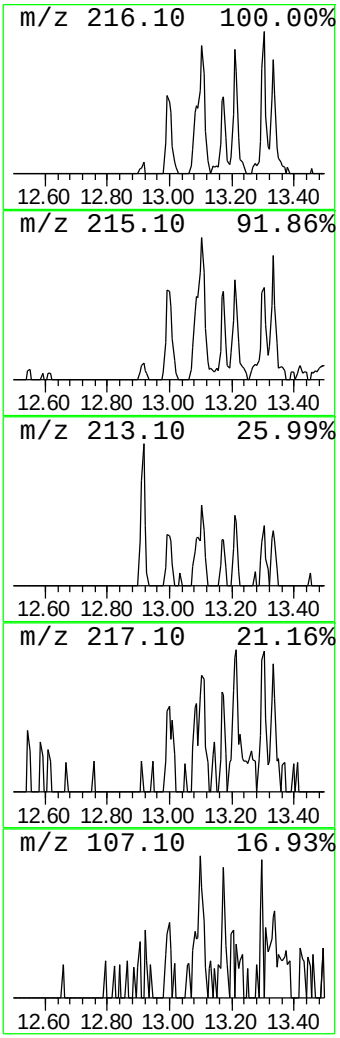
Peak Number 12 Pyrene, 1-methyl- Concentration Rank 20

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 13.00 | 2.16 ng | 31569 | Chrysene-d12 | 13.97 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Pyrene, 1-methyl- | 216 | C17H12 | 002381-21-7 | 87 |
| 2 | 11H-Benzo[b]fluorene | 216 | C17H12 | 000243-17-4 | 81 |
| 3 | Fluoranthene, 2-methyl- | 216 | C17H12 | 033543-31-6 | 64 |
| 4 | 11H-Benzo[a]fluorene | 216 | C17H12 | 000238-84-6 | 64 |
| 5 | 7H-Benzo[c]fluorene | 216 | C17H12 | 000205-12-9 | 59 |



Data Path : Z:\SVOASRV\HPCHEM1\BNA F\DATA\BF092519\
Data File : BF117254.D
Acq On : 25 Sep 2019 21:31
Operator : JU
Sample : K4657-04
Misc :
ALS Vial : 20 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** BU-03-092419

Quant Method : Z:\SVOASRV\HPCHEM1\BNA_F\METHODS\8270-BF091319.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST11.L
TIC Integration Parameters: LSCINT.P

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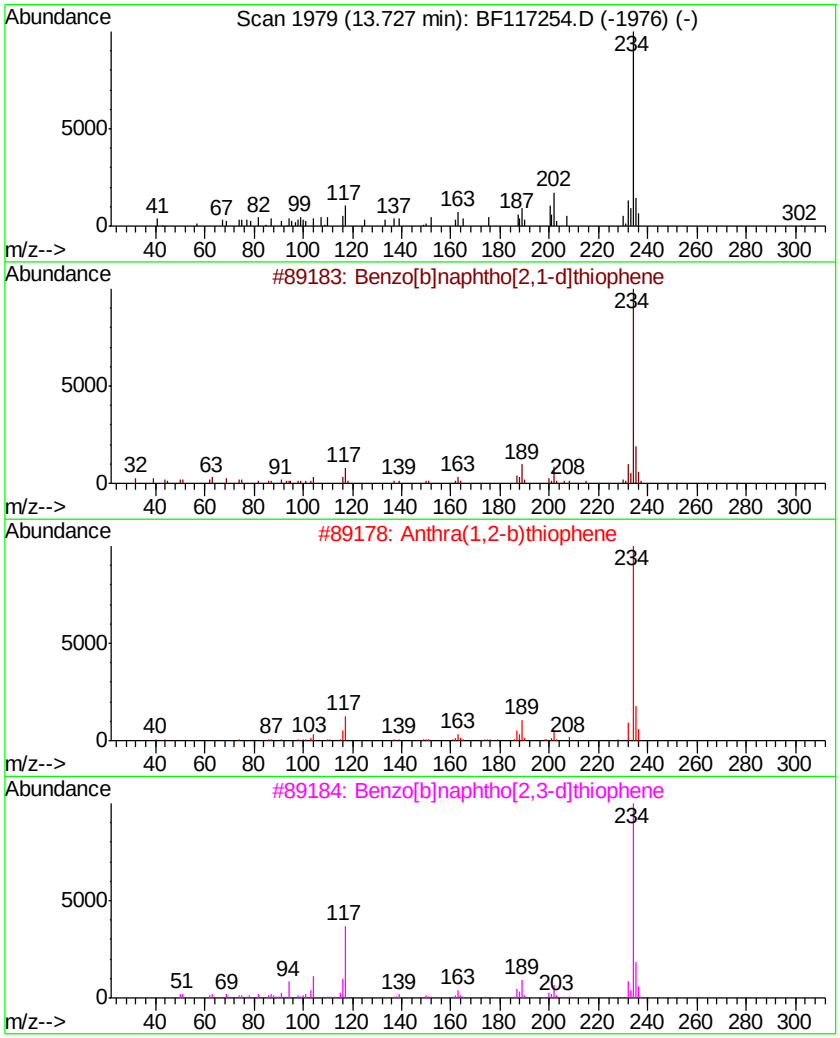
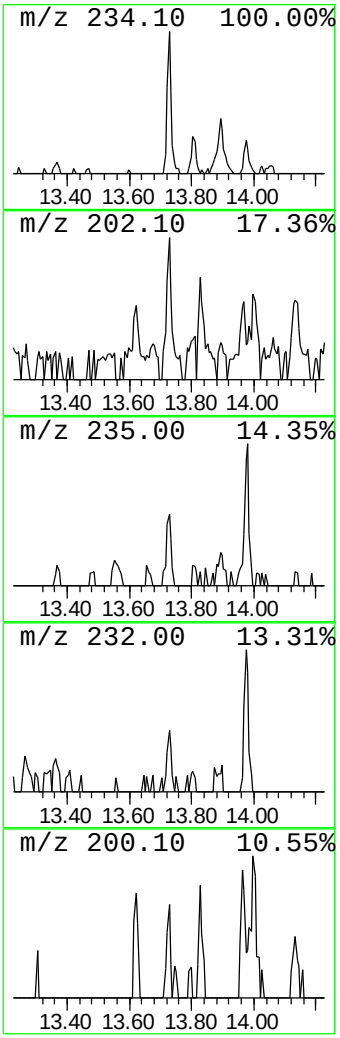
Peak Number 13 Benzo[b]naphtho[2,1-d]thiop... Concentration Rank 17

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 13.73 | 2.26 ng | 32946 | Chrysene-d12 | 13.97 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Benzo[b]naphtho[2,1-d]thiophene | 234 | C16H10S | 000239-35-0 | 91 |
| 2 | Anthra(1,2-b)thiophene | 234 | C16H10S | 000227-86-1 | 81 |
| 3 | Benzo[b]naphtho[2,3-d]thiophene | 234 | C16H10S | 000243-46-9 | 74 |
| 4 | Benzo[b]naphtho[1,2-d]thiophene | 234 | C16H10S | 000205-43-6 | 72 |
| 5 | 2,4-Diamino-5,6,7,8-tetrahydro-9... | 234 | C11H14N4S | 042159-81-9 | 62 |



Data Path : Z:\SVOASRV\HPCHEM1\BNA F\DATA\BF092519\
Data File : BF117254.D
Acq On : 25 Sep 2019 21:31
Operator : JU
Sample : K4657-04
Misc :
ALS Vial : 20 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** BU-03-092419

Quant Method : Z:\SVOASRV\HPCHEM1\BNA_F\METHODS\8270-BF091319.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST11.L
TIC Integration Parameters: LSCINT.P

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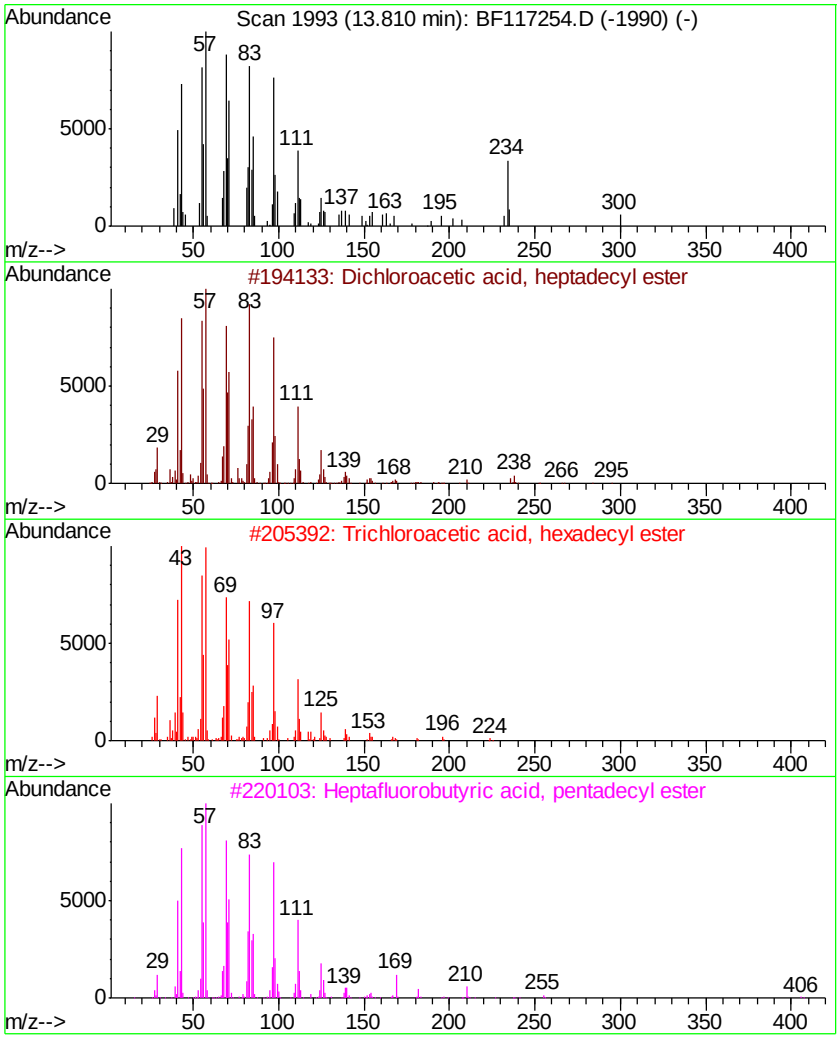
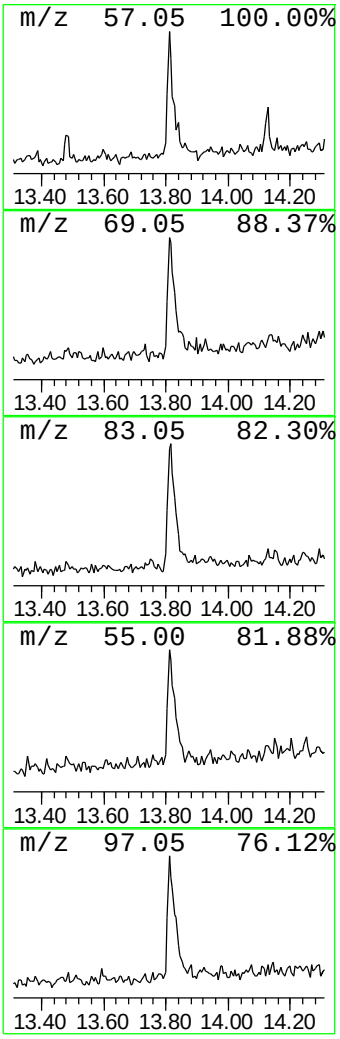
Peak Number 14 Dichloroacetic acid, heptad... Concentration Rank 4

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 13.81 | 9.66 ng | 140978 | Chrysene-d12 | 13.97 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Dichloroacetic acid, heptadecyl ... | 366 | C19H36Cl2O2 | 1000282-98-2 | 91 |
| 2 | Trichloroacetic acid, hexadecyl ... | 386 | C18H33Cl3O2 | 074339-54-1 | 90 |
| 3 | Heptafluorobutyric acid, pentade... | 424 | C19H31F7O2 | 959261-23-5 | 90 |
| 4 | Heptadecyl heptafluorobutyrate | 452 | C21H35F7O2 | 959085-66-6 | 90 |
| 5 | Trichloroacetic acid, pentadecyl... | 372 | C17H31Cl3O2 | 074339-53-0 | 87 |



Data Path : Z:\SVOASRV\HPCHEM1\BNA F\DATA\BF092519\
Data File : BF117254.D
Acq On : 25 Sep 2019 21:31
Operator : JU
Sample : K4657-04
Misc :
ALS Vial : 20 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** BU-03-092419

Quant Method : Z:\SVOASRV\HPCHEM1\BNA_F\METHODS\8270-BF091319.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST11.L
TIC Integration Parameters: LSCINT.P

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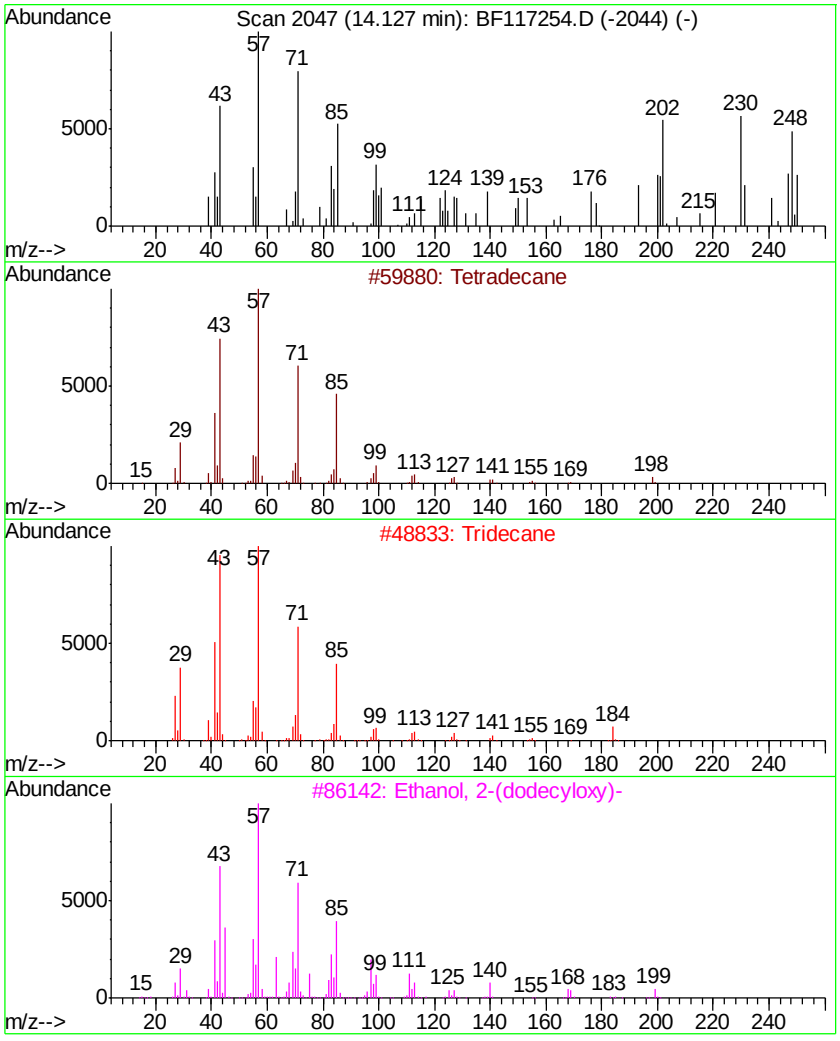
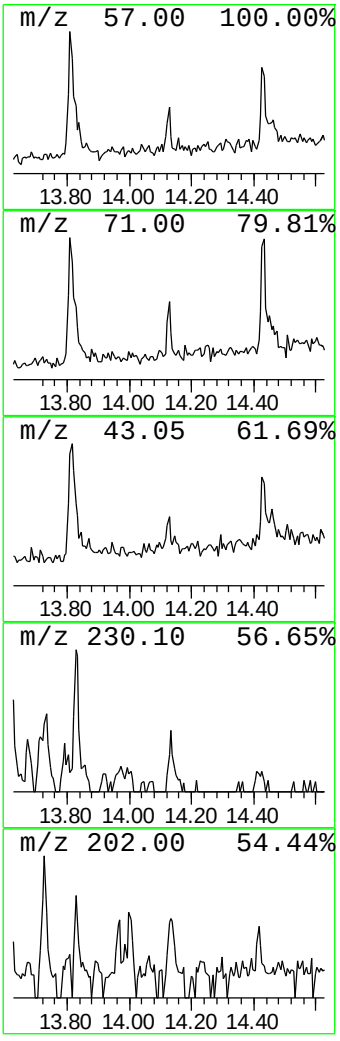
Peak Number 15 unknown14.13 Concentration Rank 15

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 14.13 | 2.79 ng | 40669 | Chrysene-d12 | 13.97 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Tetradecane | 198 | C14H30 | 000629-59-4 | 22 |
| 2 | Tridecane | 184 | C13H28 | 000629-50-5 | 22 |
| 3 | Ethanol, 2-(dodecyloxy)- | 230 | C14H30O2 | 004536-30-5 | 22 |
| 4 | Decane, 2,3,6-trimethyl- | 184 | C13H28 | 062238-12-4 | 22 |
| 5 | Octadecane, 1-iodo- | 380 | C18H37I | 000629-93-6 | 22 |



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Data File : BF117254.D
Acq On : 25 Sep 2019 21:31
Operator : JU
Sample : K4657-04
Misc :
ALS Vial : 20 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** BU-03-092419

Quant Method : Z:\SVOASRV\HPCHEM1\BNA_F\METHODS\8270-BF091319.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST11.L
TIC Integration Parameters: LSCINT.P

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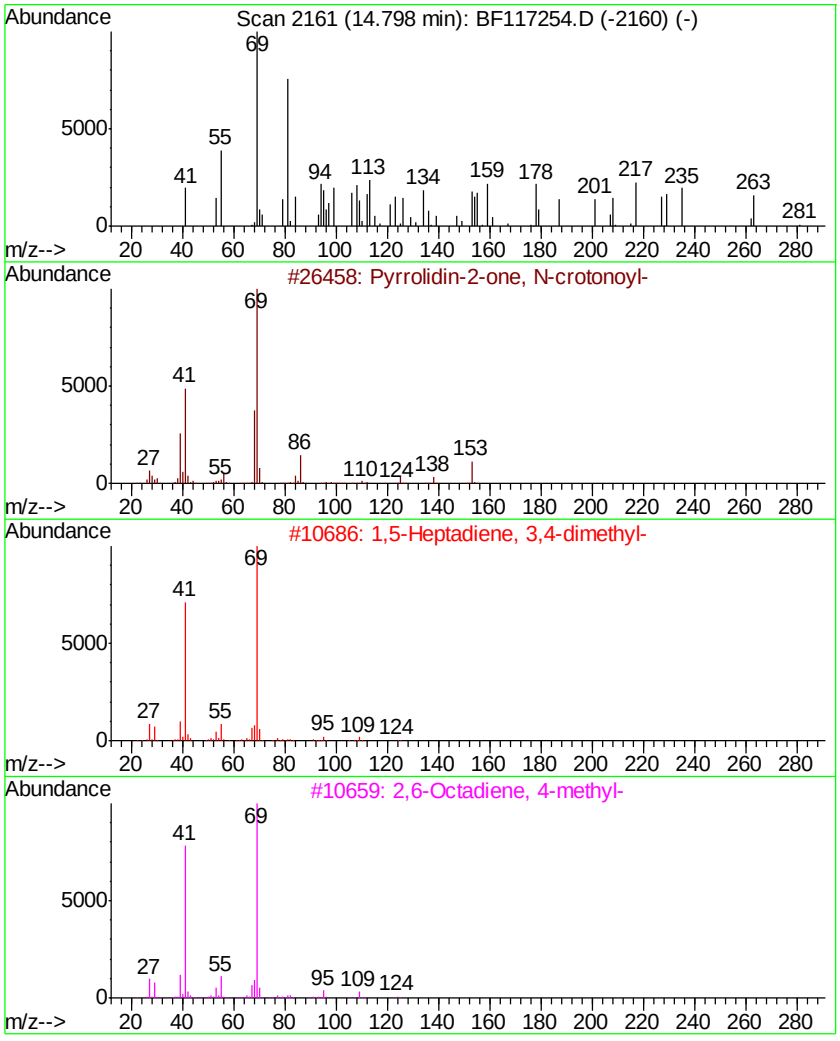
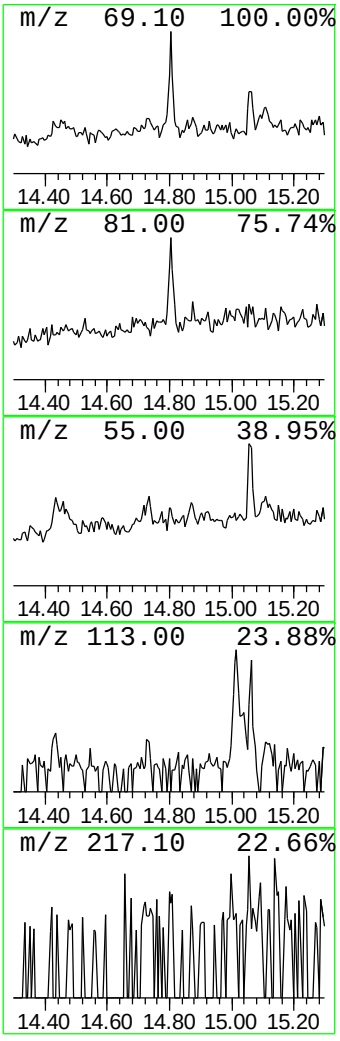
Peak Number 16 unknown14.80 Concentration Rank 13

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 14.80 | 3.24 ng | 31222 | Perylene-d12 | 15.43 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Pyrrolidin-2-one, N-crotonoyl- | 153 | C8H11NO2 | 1000156-44-4 | 49 |
| 2 | 1,5-Heptadiene, 3,4-dimethyl- | 124 | C9H16 | 1000061-77-9 | 47 |
| 3 | 2,6-Octadiene, 4-methyl- | 124 | C9H16 | 074498-94-5 | 47 |
| 4 | 2-Methyl-4-bromo-1-butene | 148 | C5H9Br | 020038-12-4 | 47 |
| 5 | 1,6-Octadiene, 3,5-dimethyl-, tr... | 138 | C10H18 | 074630-87-8 | 47 |



Data Path : Z:\SVOASRV\HPCHEM1\BNA F\DATA\BF092519\
Data File : BF117254.D
Acq On : 25 Sep 2019 21:31
Operator : JU
Sample : K4657-04
Misc :
ALS Vial : 20 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** BU-03-092419

Quant Method : Z:\SVOASRV\HPCHEM1\BNA_F\METHODS\8270-BF091319.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST11.L
TIC Integration Parameters: LSCINT.P

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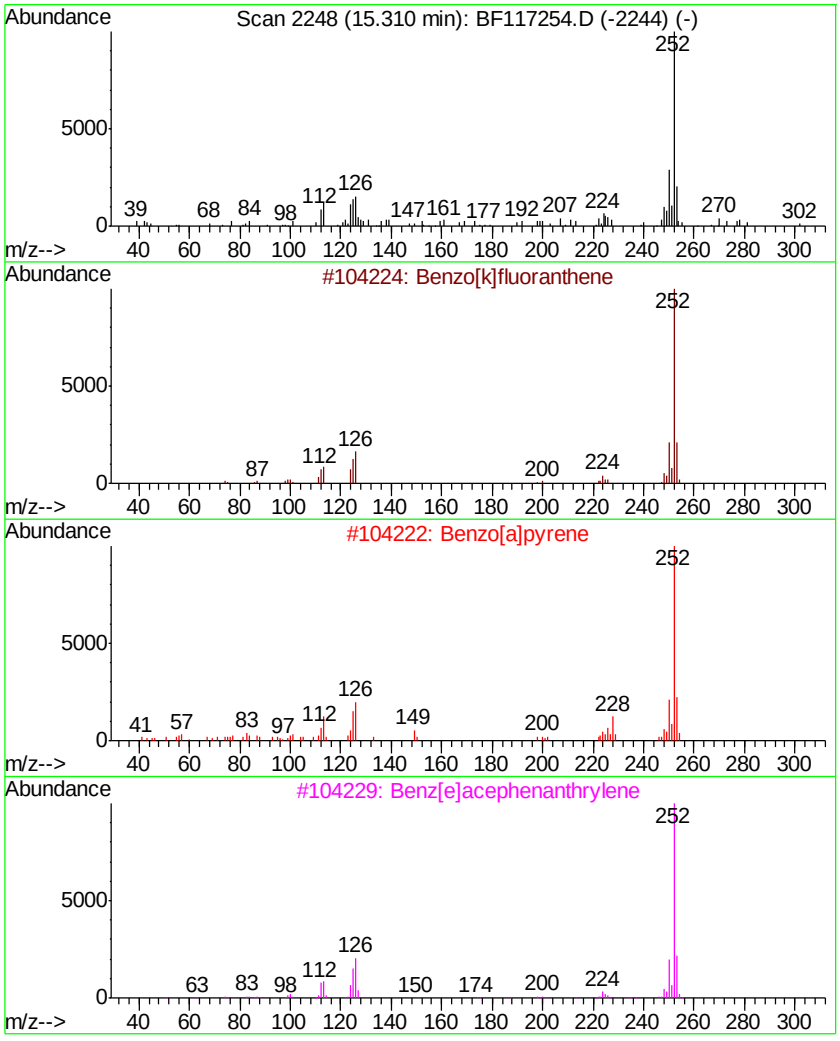
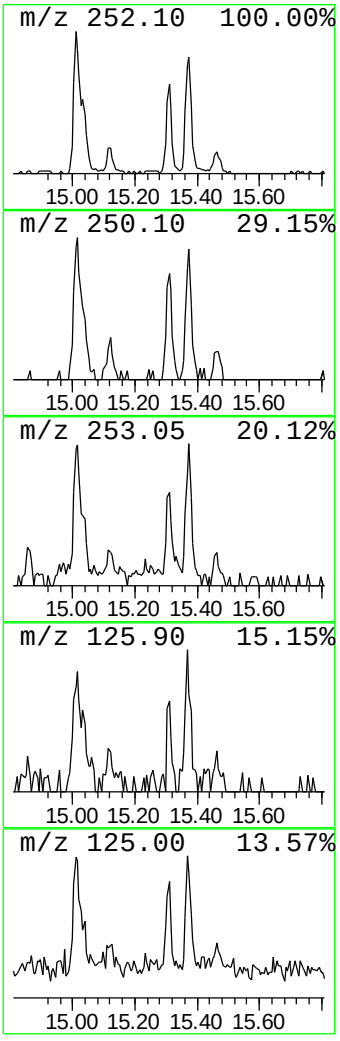
Peak Number 17 Perylene Concentration Rank 8

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 15.31 | 5.50 ng | 53014 | Perylene-d12 | 15.43 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Benzo[k]fluoranthene | 252 | C20H12 | 000207-08-9 | 94 |
| 2 | Benzo[a]pyrene | 252 | C20H12 | 000050-32-8 | 90 |
| 3 | Benz[e]acephenanthrylene | 252 | C20H12 | 000205-99-2 | 76 |
| 4 | Perylene | 252 | C20H12 | 000198-55-0 | 76 |
| 5 | Benzo[j]fluoranthene | 252 | C20H12 | 000205-82-3 | 76 |



Library Search Compound Report

Data Path : Z:\SVOASRV\HPCHEM1\BNA F\DATA\BF092519\
Data File : BF117254.D
Acq On : 25 Sep 2019 21:31
Operator : JU
Sample : K4657-04
Misc :
ALS Vial : 20 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** BU-03-092419

Quant Method : Z:\SVOASRV\HPCHEM1\BNA_F\METHODS\8270-BF091319.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST11.L
TIC Integration Parameters: LSCINT.P

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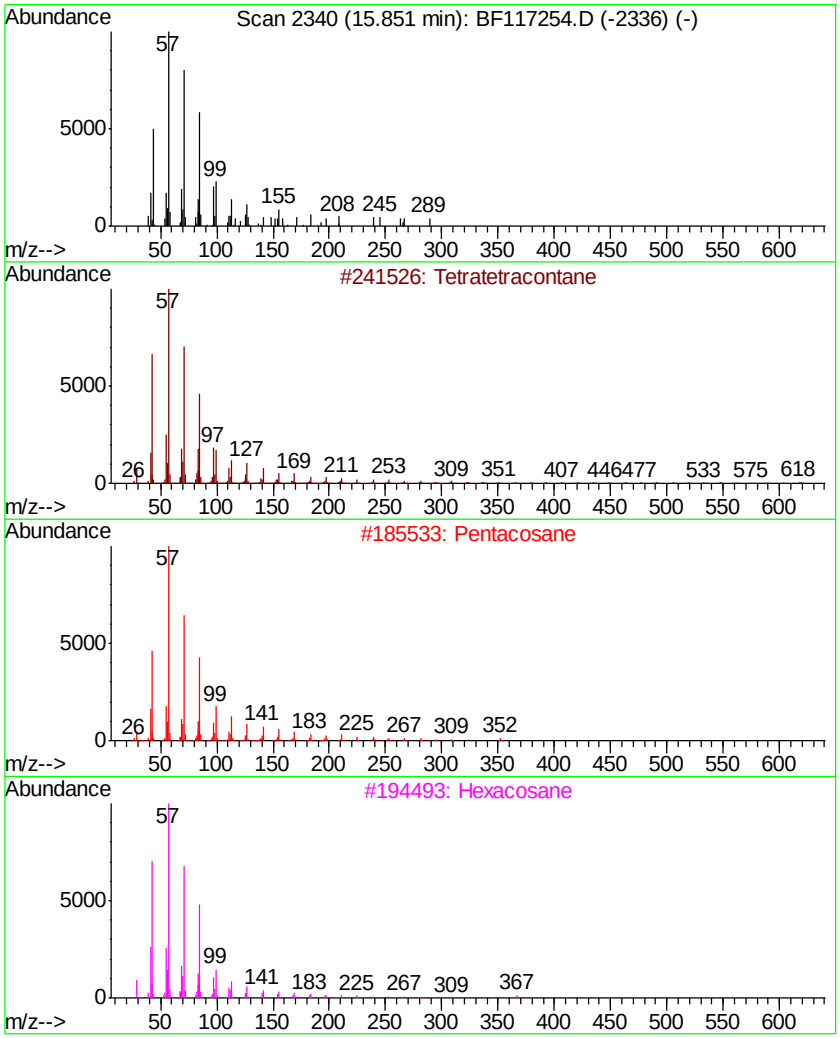
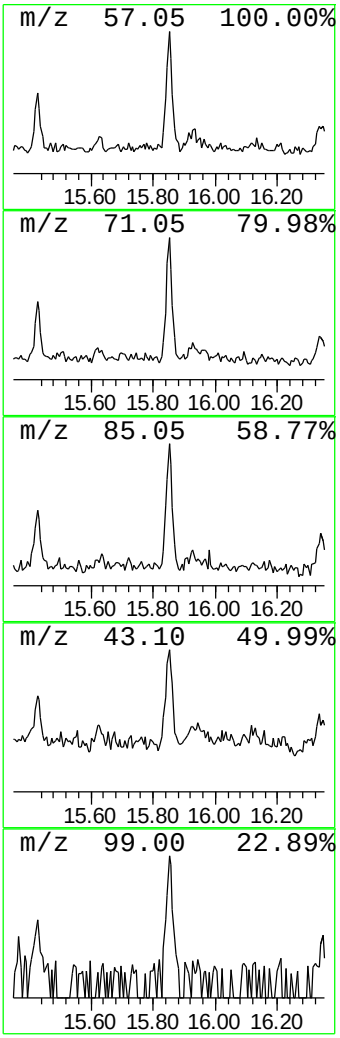
Peak Number 18 Tetratetracontane Concentration Rank 6

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 15.85 | 6.23 ng | 59970 | Perylene-d12 | 15.43 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Tetratetracontane | 619 | C44H90 | 007098-22-8 | 78 |
| 2 | Pentacosane | 352 | C25H52 | 000629-99-2 | 72 |
| 3 | Hexacosane | 366 | C26H54 | 000630-01-3 | 72 |
| 4 | Octacosane | 394 | C28H58 | 000630-02-4 | 72 |
| 5 | Triacontane | 422 | C30H62 | 000638-68-6 | 72 |



Library Search Compound Report

Data Path : Z:\SVOASRV\HPCHEM1\BNA F\DATA\BF092519\
Data File : BF117254.D
Acq On : 25 Sep 2019 21:31
Operator : JU
Sample : K4657-04
Misc :
ALS Vial : 20 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** BU-03-092419

Quant Method : Z:\SVOASRV\HPCHEM1\BNA_F\METHODS\8270-BF091319.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

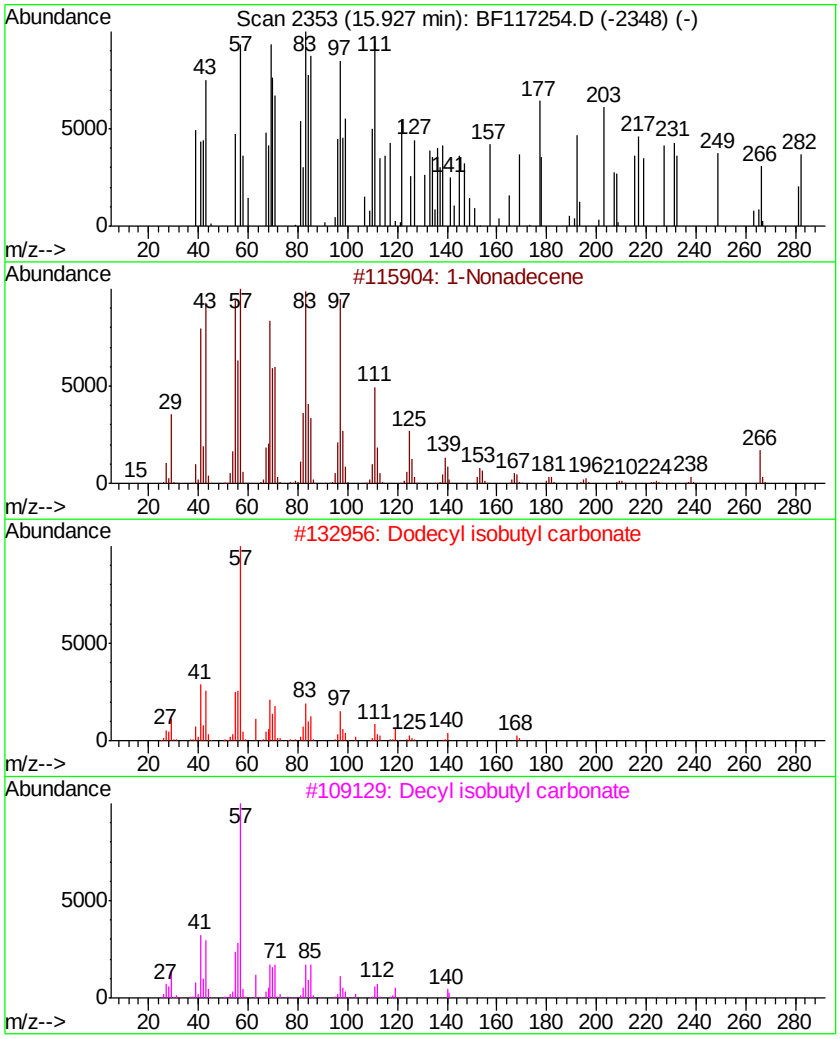
TIC Library : C:\DATABASE\NIST11.L
TIC Integration Parameters: LSCINT.P

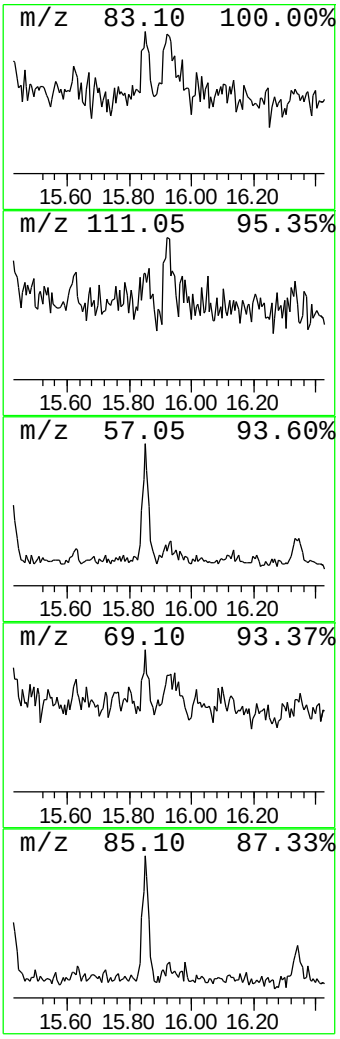
**********

Peak Number 19 unknown15.93 Concentration Rank 9

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 15.93 | 5.29 ng | 50938 | Perylene-d12 | 15.43 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | 1-Nonadecene | 266 | C19H38 | 018435-45-5 | 41 |
| 2 | Dodecyl isobutyl carbonate | 286 | C17H34O3 | 959067-22-2 | 38 |
| 3 | Decyl isobutyl carbonate | 258 | C15H30O3 | 959226-07-4 | 35 |
| 4 | Dichloroacetic acid, undecyl ester | 282 | C13H24Cl2O2 | 090146-85-3 | 35 |
| 5 | Oxalic acid, isobutyl tetradecyl... | 342 | C20H38O4 | 1000309-37-9 | 35 |



Data Path : Z:\SVOASRV\HPCHEM1\BNA F\DATA\BF092519\
Data File : BF117254.D
Acq On : 25 Sep 2019 21:31
Operator : JU
Sample : K4657-04
Misc :
ALS Vial : 20 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** BU-03-092419

Quant Method : Z:\SVOASRV\HPCHEM1\BNA_F\METHODS\8270-BF091319.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

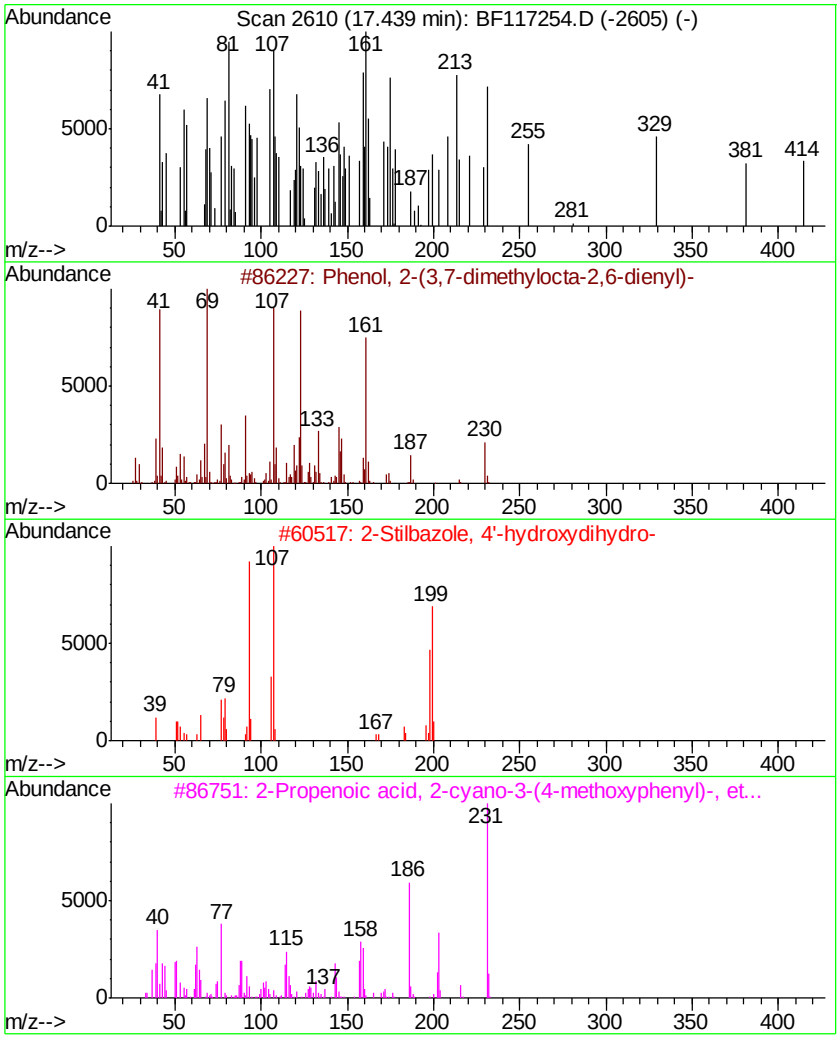
TIC Library : C:\DATABASE\NIST11.L
TIC Integration Parameters: LSCINT.P

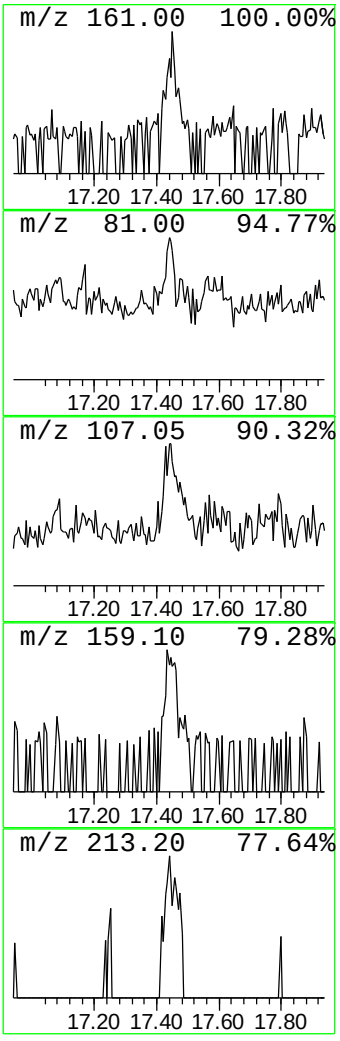
**********

Peak Number 20 unknown17.44 Concentration Rank 3

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 17.44 | 10.47 ng | 100880 | Perylene-d12 | 15.43 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Phenol, 2-(3,7-dimethylocta-2,6-... | 230 | C16H22O | 010232-02-7 | 10 |
| 2 | 2-Stilbazole, 4'-hydroxydihydro- | 199 | C13H13NO | 085666-07-5 | 10 |
| 3 | 2-Propenoic acid, 2-cyano-3-(4-m... | 231 | C13H13NO3 | 002286-29-5 | 10 |
| 4 | 3-Buten-2-ol, 4-(2,6,6-trimethyl... | 194 | C13H22O | 022029-76-1 | 10 |
| 5 | 9,19-Cyclolanostan-3-ol, acetate... | 470 | C32H54O2 | 004575-74-0 | 10 |



# Tentatively Identified Compound (LSC) summary

Data Path : Z:\SVOASRV\HPCHEM1\BNA_F\DATA\BF092519\
Data File : BF117254.D
Acq On : 25 Sep 2019 21:31
Operator : JU
Sample : K4657-04
Misc :
ALS Vial : 20 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** BU-03-092419

Quant Method : Z:\SVOASRV\HPCHEM1\BNA_F\METHODS\8270-BF091319.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST11.L
TIC Integration Parameters: LSCINT.P

| | | | | | Internal Standard | | | |
|---|---|---|---|---|---|---|---|---|
| TIC Top Hit name | RT | EstConc | Units | Response | # | RT | Resp | Conc |
| unknown6.59 | 6.59 | 77.6 | ng | 780755 | 1 | 6.82 | 201214 | 20.0 |
| Phenanthrene, 2-m... | 11.83 | 4.0 | ng | 38244 | 4 | 11.33 | 190605 | 20.0 |
| Anthracene, 1-met... | 11.86 | 9.2 | ng | 87608 | 4 | 11.33 | 190605 | 20.0 |
| Phenanthrene, 1-m... | 11.95 | 6.1 | ng | 58265 | 4 | 11.33 | 190605 | 20.0 |
| 3,4-Methylenediox... | 11.97 | 2.6 | ng | 25121 | 4 | 11.33 | 190605 | 20.0 |
| Naphthalene, 2-ph... | 12.13 | 2.8 | ng | 26738 | 4 | 11.33 | 190605 | 20.0 |
| 9,10-Anthracenedione | 12.17 | 2.2 | ng | 20778 | 4 | 11.33 | 190605 | 20.0 |
| di-p-Tolylacetylene | 12.39 | 4.0 | ng | 38587 | 4 | 11.33 | 190605 | 20.0 |
| Cyclopenta(def)ph... | 12.48 | 4.0 | ng | 37905 | 4 | 11.33 | 190605 | 20.0 |
| unknown12.65 | 12.65 | 2.2 | ng | 20786 | 4 | 11.33 | 190605 | 20.0 |
| Pyrene, 1-methyl- | 13.00 | 2.2 | ng | 31569 | 5 | 13.97 | 291816 | 20.0 |
| Benzo[b]naphtho[2... | 13.73 | 2.3 | ng | 32946 | 5 | 13.97 | 291816 | 20.0 |
| Dichloroacetic ac... | 13.81 | 9.7 | ng | 140978 | 5 | 13.97 | 291816 | 20.0 |
| unknown14.13 | 14.13 | 2.8 | ng | 40669 | 5 | 13.97 | 291816 | 20.0 |
| unknown14.80 | 14.80 | 3.2 | ng | 31222 | 6 | 15.43 | 192660 | 20.0 |
| Perylene | 15.31 | 5.5 | ng | 53014 | 6 | 15.43 | 192660 | 20.0 |
| Tetratetracontane | 15.85 | 6.2 | ng | 59970 | 6 | 15.43 | 192660 | 20.0 |
| unknown15.93 | 15.93 | 5.3 | ng | 50938 | 6 | 15.43 | 192660 | 20.0 |
| unknown17.44 | 17.44 | 10.5 | ng | 100880 | 6 | 15.43 | 192660 | 20.0 |