LSC Area Percent Report

Data Path : Z:\HPCHEM1\BNA F\DATA\BF120417\
Data File : BF101090.D
Acq On : 4 Dec 2017 11:48
Operator : SJ/JU
Sample : I6620-01
Misc :
ALS Vial : 6 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** SB-1(0-2)-20171128

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:\HPCHEM1\BNA_F\METHODS\8270-BF113017.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 | 5.075 | 504 | 508 | 519 | rBV | 66529 | 90762 | 6.35% | 0.444% |
| 2 | 5.469 | 570 | 575 | 578 | rBV | 1282665 | 1219132 | 85.34% | 5.966% |
| 3 | 6.481 | 742 | 747 | 754 | rBV | 1132944 | 1281134 | 89.68% | 6.269% |
| 4 | 6.616 | 766 | 770 | 773 | rBV | 1343145 | 1300958 | 91.06% | 6.366% |
| 5 | 6.845 | 806 | 809 | 813 | rBV | 388909 | 290726 | 20.35% | 1.423% |
| 6 | 7.004 | 832 | 836 | 839 | rBV | 1224034 | 1012053 | 70.84% | 4.952% |
| 7 | 7.410 | 900 | 905 | 908 | rBV | 780666 | 785721 | 55.00% | 3.845% |
| 8 | 8.128 | 1023 | 1027 | 1030 | rBV | 484743 | 385737 | 27.00% | 1.888% |
| 9 | 9.204 | 1205 | 1210 | 1213 | rBV | 1717592 | 1428624 | 100.00% | 6.991% |
| 10 | 9.275 | 1218 | 1222 | 1225 | rVV | 24074 | 16491 | 1.15% | 0.081% |
| 11 | 9.592 | 1273 | 1276 | 1284 | rVB | 125355 | 109765 | 7.68% | 0.537% |
| 12 | 9.745 | 1298 | 1302 | 1305 | rBV | 62413 | 52123 | 3.65% | 0.255% |
| 13 | 9.804 | 1309 | 1312 | 1316 | rVV | 44240 | 35525 | 2.49% | 0.174% |
| 14 | 9.880 | 1322 | 1325 | 1329 | rBV2 | 457158 | 417561 | 29.23% | 2.043% |
| 15 | 9.916 | 1329 | 1331 | 1334 | rVB | 29808 | 22840 | 1.60% | 0.112% |
| 16 | 10.086 | 1357 | 1360 | 1364 | rVB | 20882 | 21220 | 1.49% | 0.104% |
| 17 | 10.304 | 1395 | 1397 | 1400 | rVB | 43347 | 30911 | 2.16% | 0.151% |
| 18 | 10.427 | 1415 | 1418 | 1422 | rVB | 28877 | 27257 | 1.91% | 0.133% |
| 19 | 10.674 | 1456 | 1460 | 1463 | rBV | 994759 | 870287 | 60.92% | 4.259% |
| 20 | 10.774 | 1474 | 1477 | 1486 | rBV3 | 31025 | 39964 | 2.80% | 0.196% |
| 21 | 11.174 | 1542 | 1545 | 1549 | rBV | 25425 | 24582 | 1.72% | 0.120% |
| 22 | 11.221 | 1549 | 1553 | 1556 | rVV3 | 21539 | 23700 | 1.66% | 0.116% |
| 23 | 11.269 | 1556 | 1561 | 1565 | rVB | 17429 | 19217 | 1.35% | 0.094% |
| 24 | 11.374 | 1575 | 1579 | 1581 | rBV | 482301 | 475395 | 33.28% | 2.326% |
| 25 | 11.398 | 1581 | 1583 | 1586 | rVV | 437771 | 324727 | 22.73% | 1.589% |
| 26 | 11.445 | 1586 | 1591 | 1594 | rVB | 122801 | 95899 | 6.71% | 0.469% |
| 27 | 11.604 | 1611 | 1618 | 1625 | rBV2 | 51982 | 64846 | 4.54% | 0.317% |
| 28 | 11.874 | 1661 | 1664 | 1665 | rBV | 60464 | 58572 | 4.10% | 0.287% |
| 29 | 11.898 | 1665 | 1668 | 1671 | rVV2 | 108207 | 128210 | 8.97% | 0.627% |
| 30 | 11.945 | 1674 | 1676 | 1679 | rVB | 37952 | 31016 | 2.17% | 0.152% |
| 31 | 11.986 | 1679 | 1683 | 1685 | rBV2 | 97972 | 108620 | 7.60% | 0.532% |
| 32 | 12.004 | 1685 | 1686 | 1690 | rVB | 46961 | 36403 | 2.55% | 0.178% |
| 33 | 12.168 | 1711 | 1714 | 1716 | rBV | 43822 | 37046 | 2.59% | 0.181% |
| 34 | 12.198 | 1716 | 1719 | 1723 | rVB | 53836 | 44419 | 3.11% | 0.217% |

LSC Area Percent Report

Data Path : Z:\HPCHEM1\BNA F\DATA\BF120417\
Data File : BF101090.D
Acq On : 4 Dec 2017 11:48
Operator : SJ/JU
Sample : I6620-01
Misc :
ALS Vial : 6 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** SB-1(0-2)-20171128

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:\HPCHEM1\BNA_F\METHODS\8270-BF113017.M
Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 35 | 12.315 | 1733 | 1739 | 1742 | rBV2 | 18640 | 23199 | 1.62% | 0.114% |
| 36 | 12.421 | 1752 | 1757 | 1759 | rBV | 50797 | 55702 | 3.90% | 0.273% |
| 37 | 12.510 | 1769 | 1772 | 1776 | rBV | 66115 | 67134 | 4.70% | 0.329% |
| 38 | 12.586 | 1781 | 1785 | 1789 | rBV | 796230 | 736647 | 51.56% | 3.605% |
| 39 | 12.651 | 1794 | 1796 | 1798 | rBV | 22644 | 18847 | 1.32% | 0.092% |
| 40 | 12.674 | 1798 | 1800 | 1804 | rBV2 | 53817 | 50744 | 3.55% | 0.248% |
| 41 | 12.739 | 1805 | 1811 | 1813 | rVV3 | 26567 | 36478 | 2.55% | 0.178% |
| 42 | 12.815 | 1818 | 1824 | 1830 | rVV | 658135 | 751340 | 52.59% | 3.677% |
| 43 | 12.863 | 1830 | 1832 | 1837 | rVB2 | 40654 | 45881 | 3.21% | 0.225% |
| 44 | 12.957 | 1839 | 1848 | 1851 | rBV | 1365479 | 1325671 | 92.79% | 6.487% |
| 45 | 13.033 | 1854 | 1861 | 1865 | rBV2 | 58192 | 107372 | 7.52% | 0.525% |
| 46 | 13.121 | 1872 | 1876 | 1877 | rBV3 | 59881 | 70755 | 4.95% | 0.346% |
| 47 | 13.145 | 1877 | 1880 | 1883 | rVB2 | 69780 | 79275 | 5.55% | 0.388% |
| 48 | 13.210 | 1888 | 1891 | 1893 | rBV | 41434 | 34692 | 2.43% | 0.170% |
| 49 | 13.245 | 1893 | 1897 | 1900 | rBV2 | 78639 | 90181 | 6.31% | 0.441% |
| 50 | 13.339 | 1910 | 1913 | 1916 | rVB | 46428 | 35725 | 2.50% | 0.175% |
| 51 | 13.368 | 1916 | 1918 | 1922 | rBV2 | 42849 | 43780 | 3.06% | 0.214% |
| 52 | 13.521 | 1940 | 1944 | 1946 | rBV5 | 17445 | 23051 | 1.61% | 0.113% |
| 53 | 13.651 | 1963 | 1966 | 1971 | rVB | 110799 | 103820 | 7.27% | 0.508% |
| 54 | 13.762 | 1980 | 1985 | 1987 | rBV2 | 81899 | 91582 | 6.41% | 0.448% |
| 55 | 13.786 | 1987 | 1989 | 1992 | rVV | 63672 | 70481 | 4.93% | 0.345% |
| 56 | 13.815 | 1992 | 1994 | 1995 | rVV | 72543 | 61655 | 4.32% | 0.302% |
| 57 | 13.839 | 1995 | 1998 | 2000 | rVV3 | 177014 | 193147 | 13.52% | 0.945% |
| 58 | 13.862 | 2000 | 2002 | 2005 | rVB | 98412 | 84775 | 5.93% | 0.415% |
| 59 | 13.980 | 2019 | 2022 | 2023 | rBV3 | 40896 | 34916 | 2.44% | 0.171% |
| 60 | 14.009 | 2023 | 2027 | 2031 | rVV2 | 510145 | 817708 | 57.24% | 4.001% |
| 61 | 14.039 | 2031 | 2032 | 2039 | rVV | 328051 | 278503 | 19.49% | 1.363% |
| 62 | 14.121 | 2043 | 2046 | 2048 | rVV | 40950 | 39647 | 2.78% | 0.194% |
| 63 | 14.162 | 2050 | 2053 | 2058 | rVV6 | 46758 | 76327 | 5.34% | 0.373% |
| 64 | 14.239 | 2062 | 2066 | 2069 | rVB2 | 39506 | 56305 | 3.94% | 0.276% |
| 65 | 14.274 | 2069 | 2072 | 2074 | rBV3 | 24677 | 22544 | 1.58% | 0.110% |
| 66 | 14.357 | 2083 | 2086 | 2089 | rBV3 | 27752 | 36702 | 2.57% | 0.180% |
| 67 | 14.398 | 2089 | 2093 | 2096 | rVV | 90510 | 102683 | 7.19% | 0.502% |
| 68 | 14.433 | 2096 | 2099 | 2103 | rVV2 | 49323 | 65066 | 4.55% | 0.318% |
| 69 | 14.474 | 2103 | 2106 | 2108 | rVV3 | 47308 | 71185 | 4.98% | 0.348% |
| 70 | 14.527 | 2112 | 2115 | 2117 | rVV | 56903 | 75228 | 5.27% | 0.368% |
| 71 | 14.545 | 2117 | 2118 | 2121 | rVV | 52355 | 50720 | 3.55% | 0.248% |

LSC Area Percent Report

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Data File : BF101090.D
Acq On : 4 Dec 2017 11:48
Operator : SJ/JU
Sample : I6620-01
Misc :
ALS Vial : 6 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** SB-1(0-2)-20171128

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:\HPCHEM1\BNA_F\METHODS\8270-BF113017.M
Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | 14.598 | 2125 | 2127 | 2129 | rVV | 50166 | 54063 | 3.78% | 0.265% |
| 73 | 14.645 | 2133 | 2135 | 2138 | rVB3 | 18161 | 16534 | 1.16% | 0.081% |
| 74 | 14.715 | 2144 | 2147 | 2149 | rBV | 25747 | 20052 | 1.40% | 0.098% |
| 75 | 14.898 | 2173 | 2178 | 2185 | rVB4 | 41443 | 78367 | 5.49% | 0.383% |
| 76 | 14.968 | 2185 | 2190 | 2194 | rBV4 | 23459 | 39973 | 2.80% | 0.196% |
| 77 | 15.062 | 2200 | 2206 | 2209 | rBV | 421858 | 662728 | 46.39% | 3.243% |
| 78 | 15.133 | 2216 | 2218 | 2220 | rVB | 23039 | 18941 | 1.33% | 0.093% |
| 79 | 15.168 | 2220 | 2224 | 2227 | rBV | 80012 | 85362 | 5.98% | 0.418% |
| 80 | 15.256 | 2235 | 2239 | 2240 | rBV2 | 31464 | 38824 | 2.72% | 0.190% |
| 81 | 15.362 | 2253 | 2257 | 2263 | rVB | 254496 | 344971 | 24.15% | 1.688% |
| 82 | 15.427 | 2263 | 2268 | 2273 | rBV | 360990 | 427386 | 29.92% | 2.091% |
| 83 | 15.492 | 2274 | 2279 | 2282 | rVV | 265940 | 361666 | 25.32% | 1.770% |
| 84 | 15.521 | 2282 | 2284 | 2290 | rVB2 | 129193 | 161796 | 11.33% | 0.792% |
| 85 | 15.656 | 2304 | 2307 | 2311 | rBV4 | 13393 | 17006 | 1.19% | 0.083% |
| 86 | 15.804 | 2329 | 2332 | 2336 | rVB | 23094 | 31466 | 2.20% | 0.154% |
| 87 | 15.921 | 2348 | 2352 | 2357 | rBV5 | 23800 | 41830 | 2.93% | 0.205% |
| 88 | 15.968 | 2357 | 2360 | 2365 | rBV5 | 41764 | 75057 | 5.25% | 0.367% |
| 89 | 16.051 | 2371 | 2374 | 2378 | rBV2 | 21603 | 29151 | 2.04% | 0.143% |
| 90 | 16.409 | 2431 | 2435 | 2441 | rVB6 | 22100 | 46267 | 3.24% | 0.226% |
| 91 | 16.521 | 2450 | 2454 | 2458 | rBV7 | 18931 | 33068 | 2.31% | 0.162% |
| 92 | 16.621 | 2469 | 2471 | 2477 | rVB3 | 19029 | 24571 | 1.72% | 0.120% |
| 93 | 16.774 | 2490 | 2497 | 2500 | rBV2 | 31608 | 73474 | 5.14% | 0.360% |
| 94 | 16.809 | 2500 | 2503 | 2505 | rVV2 | 13457 | 19424 | 1.36% | 0.095% |
| 95 | 16.974 | 2524 | 2531 | 2538 | rVB | 201912 | 382831 | 26.80% | 1.873% |
| 96 | 17.145 | 2555 | 2560 | 2564 | rVB2 | 34354 | 59203 | 4.14% | 0.290% |
| 97 | 17.203 | 2564 | 2570 | 2577 | rBV4 | 31954 | 74908 | 5.24% | 0.367% |
| 98 | 17.421 | 2599 | 2607 | 2616 | rBV | 148445 | 312032 | 21.84% | 1.527% |
| 99 | 17.662 | 2642 | 2648 | 2652 | rBV3 | 27125 | 64263 | 4.50% | 0.314% |

Sum of corrected areas: 20436125

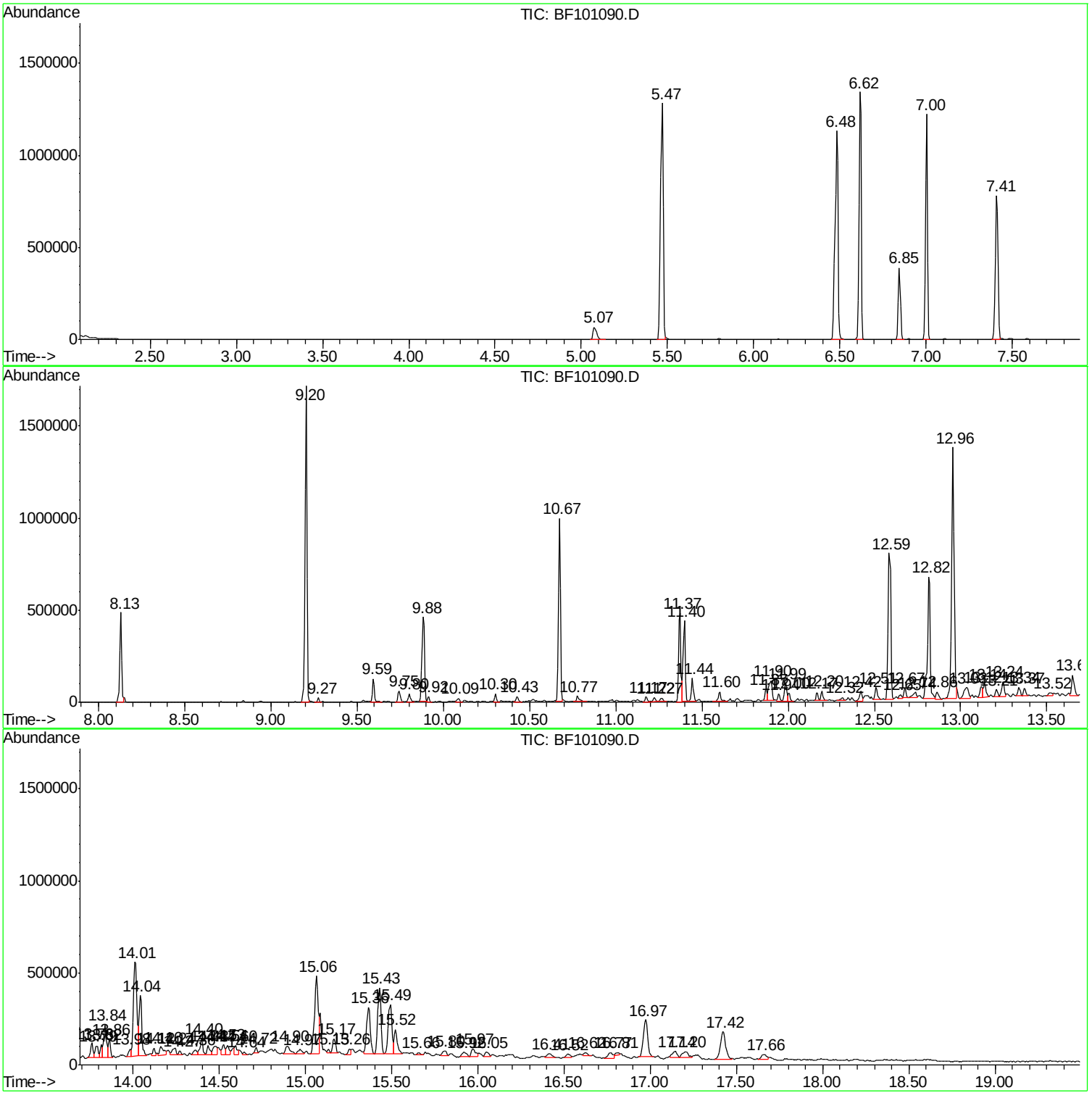
LSC Report - Integrated Chromatogram

Data Path : Z:\HPCHEM1\BNA F\DATA\BF120417\
Data File : BF101090.D
Acq On : 4 Dec 2017 11:48
Operator : SJ/JU
Sample : I6620-01
Misc :
ALS Vial : 6 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** SB-1(0-2)-20171128

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF113017.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

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



Data Path : Z:\HPCHEM1\BNA F\DATA\BF120417\
Data File : BF101090.D
Acq On : 4 Dec 2017 11:48
Operator : SJ/JU
Sample : I6620-01
Misc :
ALS Vial : 6 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** SB-1(0-2)-20171128

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF113017.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

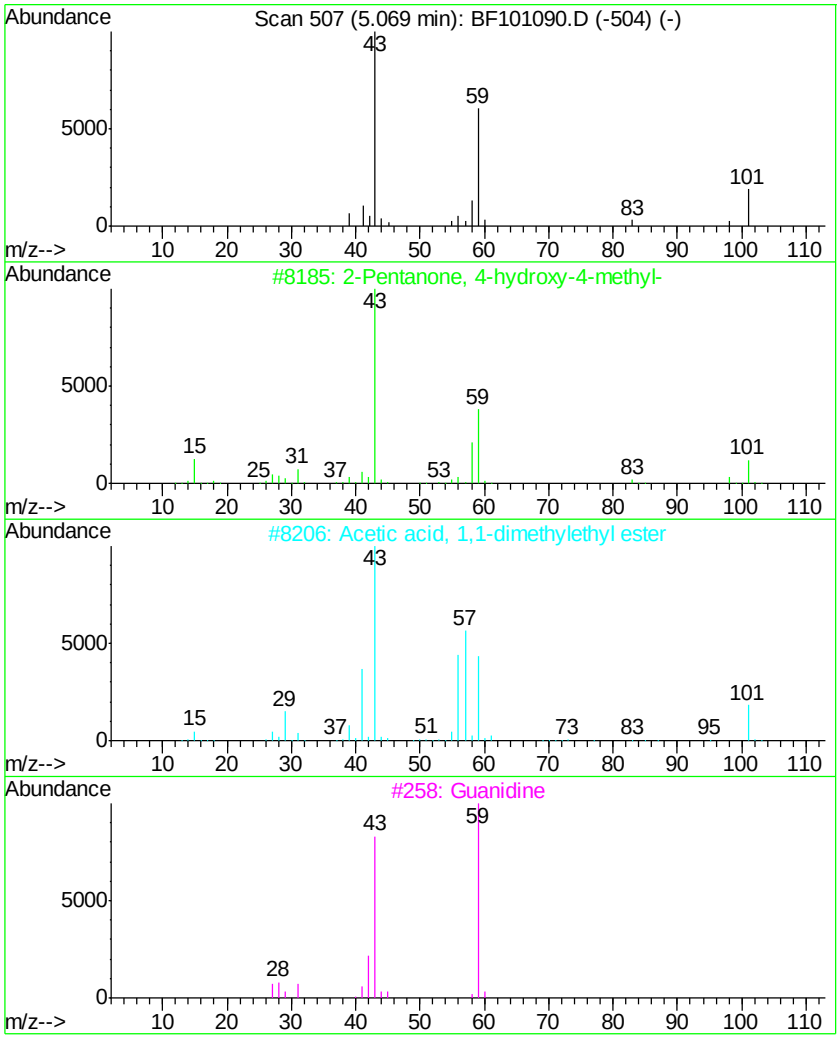
TIC Library : C:\DATABASE\NIST11.L
TIC Integration Parameters: LSCINT.P

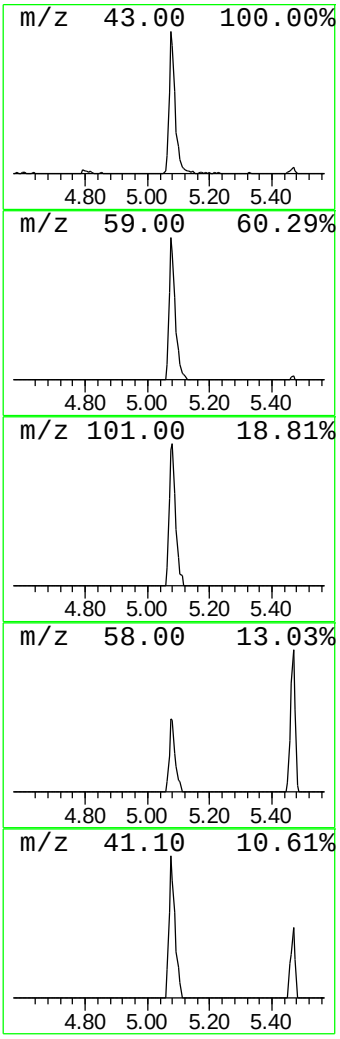
**********

Peak Number 1 2-Pentanone, 4-hydroxy-4-me... Concentration Rank 4

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 5.07 | 6.24 ng | 90762 | 1,4-Dichlorobenzene-d4 | 6.85 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | 2-Pentanone, 4-hydroxy-4-methyl- | 116 | C6H12O2 | 000123-42-2 | 59 |
| 2 | Acetic acid, 1,1-dimethylethyl e... | 116 | C6H12O2 | 000540-88-5 | 38 |
| 3 | Guanidine | 59 | CH5N3 | 000113-00-8 | 9 |
| 4 | 2,3-Butanedione, monooxime | 101 | C4H7NO2 | 000057-71-6 | 9 |
| 5 | Propane, 2-methyl-2-(1-methyleth... | 116 | C7H16O | 017348-59-3 | 9 |



Data Path : Z:\HPCHEM1\BNA F\DATA\BF120417\
Data File : BF101090.D
Acq On : 4 Dec 2017 11:48
Operator : SJ/JU
Sample : I6620-01
Misc :
ALS Vial : 6 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** SB-1(0-2)-20171128

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF113017.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

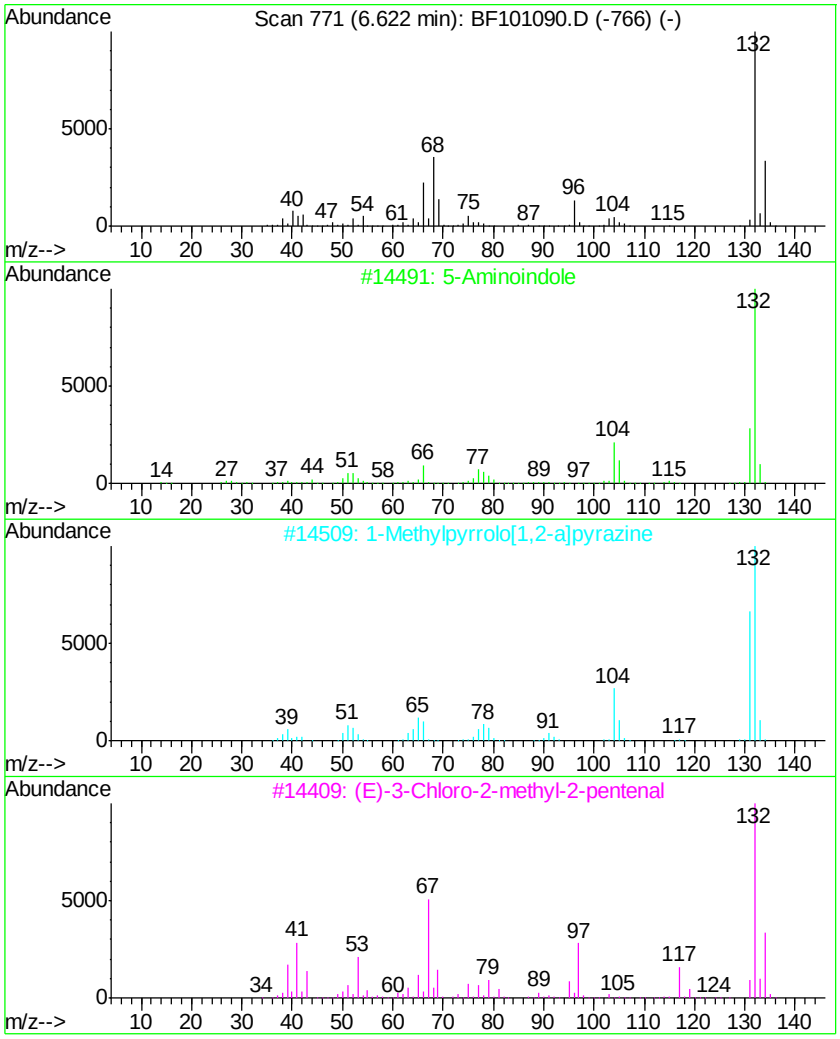
TIC Library : C:\DATABASE\NIST11.L
TIC Integration Parameters: LSCINT.P

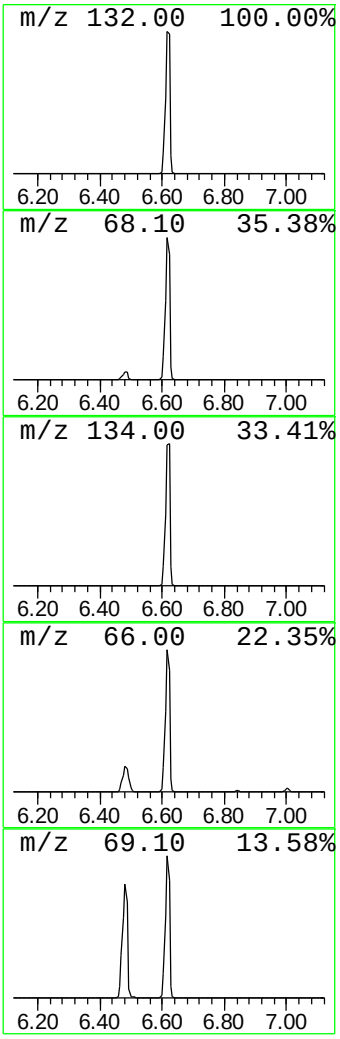
**********

Peak Number 2 unknown6.62 Concentration Rank 1

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 6.62 | 89.50 ng | 1300960 | 1,4-Dichlorobenzene-d4 | 6.85 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | 5-Aminoindole | 132 | C8H8N2 | 005192-03-0 | 12 |
| 2 | 1-Methylpyrrolo[1,2-a]pyrazine | 132 | C8H8N2 | 064608-59-9 | 9 |
| 3 | (E)-3-Chloro-2-methyl-2-pentenal | 132 | C6H9ClO | 031357-76-3 | 9 |
| 4 | 1H-Benzimidazole, 2-methyl- | 132 | C8H8N2 | 000615-15-6 | 9 |
| 5 | 4-Methylpyrrolo[1,2-a]pyrazine | 132 | C8H8N2 | 064608-60-2 | 9 |



Data Path : Z:\HPCHEM1\BNA F\DATA\BF120417\
Data File : BF101090.D
Acq On : 4 Dec 2017 11:48
Operator : SJ/JU
Sample : I6620-01
Misc :
ALS Vial : 6 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** SB-1(0-2)-20171128

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF113017.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

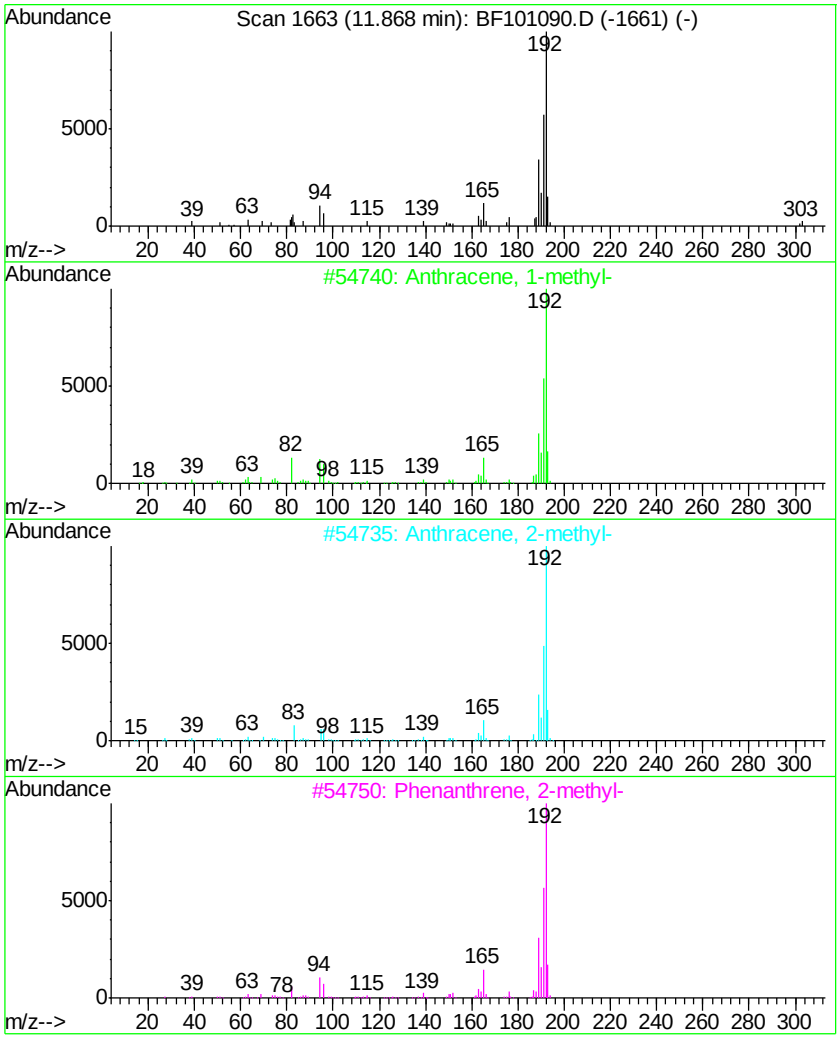
TIC Library : C:\DATABASE\NIST11.L
TIC Integration Parameters: LSCINT.P

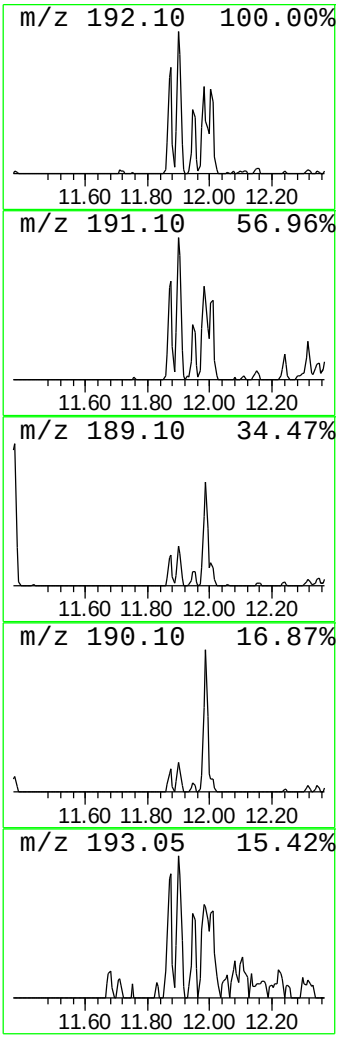
**********

Peak Number 4 Anthracene, 1-methyl- Concentration Rank 20

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 11.87 | 2.46 ng | 58572 | Phenanthrene-d10 | 11.37 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Anthracene, 1-methyl- | 192 | C15H12 | 000610-48-0 | 93 |
| 2 | Anthracene, 2-methyl- | 192 | C15H12 | 000613-12-7 | 92 |
| 3 | Phenanthrene, 2-methyl- | 192 | C15H12 | 002531-84-2 | 90 |
| 4 | Anthracene, 9-methyl- | 192 | C15H12 | 000779-02-2 | 90 |
| 5 | 1H-Cyclopropa[l]phenanthrene,1a,... | 192 | C15H12 | 000949-41-7 | 81 |



Data Path : Z:\HPCHEM1\BNA F\DATA\BF120417\
Data File : BF101090.D
Acq On : 4 Dec 2017 11:48
Operator : SJ/JU
Sample : I6620-01
Misc :
ALS Vial : 6 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** SB-1(0-2)-20171128

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF113017.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

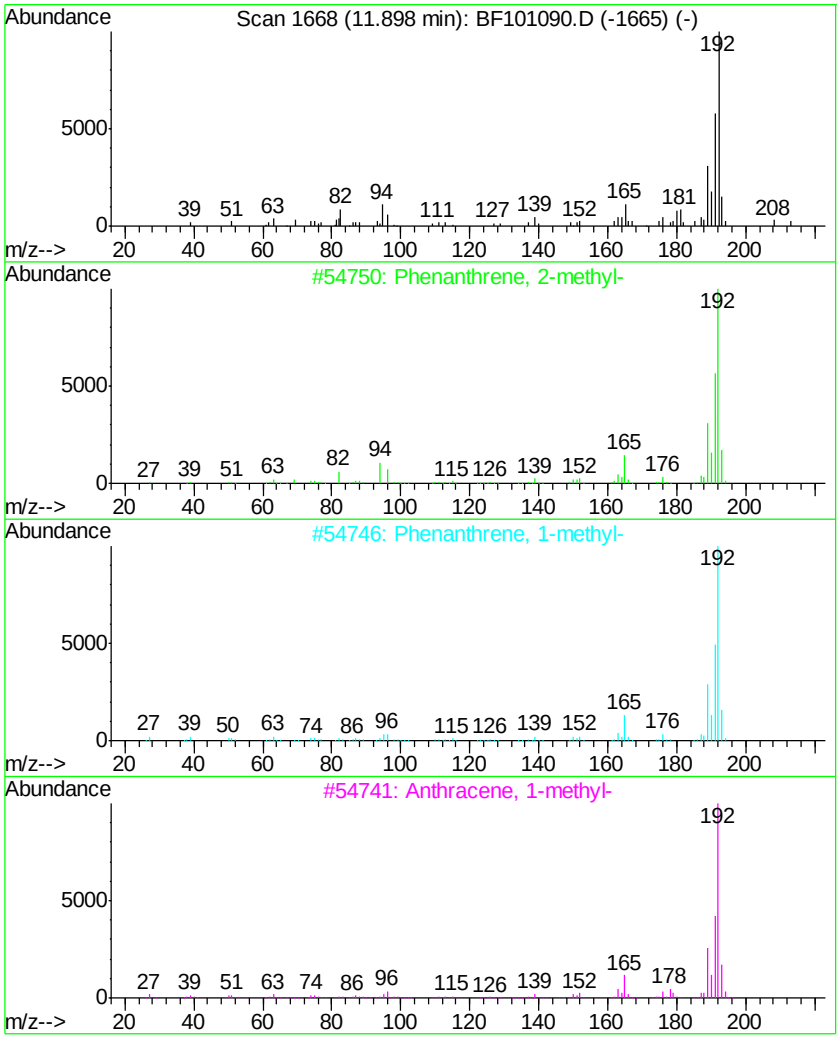
TIC Library : C:\DATABASE\NIST11.L
TIC Integration Parameters: LSCINT.P

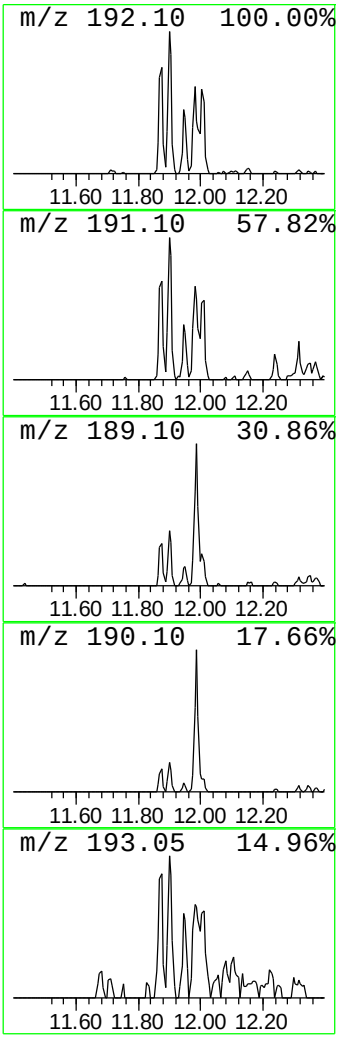
**********

Peak Number 5 Phenanthrene, 2-methyl- Concentration Rank 5

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 11.90 | 5.39 ng | 128210 | Phenanthrene-d10 | 11.37 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Phenanthrene, 2-methyl- | 192 | C15H12 | 002531-84-2 | 95 |
| 2 | Phenanthrene, 1-methyl- | 192 | C15H12 | 000832-69-9 | 94 |
| 3 | Anthracene, 1-methyl- | 192 | C15H12 | 000610-48-0 | 92 |
| 4 | Naphtho[2,3-b]norbornadiene | 192 | C15H12 | 107426-38-0 | 89 |
| 5 | 1H-Cyclopropa[l]phenanthrene,1a,... | 192 | C15H12 | 000949-41-7 | 89 |



Data Path : Z:\HPCHEM1\BNA F\DATA\BF120417\
Data File : BF101090.D
Acq On : 4 Dec 2017 11:48
Operator : SJ/JU
Sample : I6620-01
Misc :
ALS Vial : 6 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** SB-1(0-2)-20171128

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF113017.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

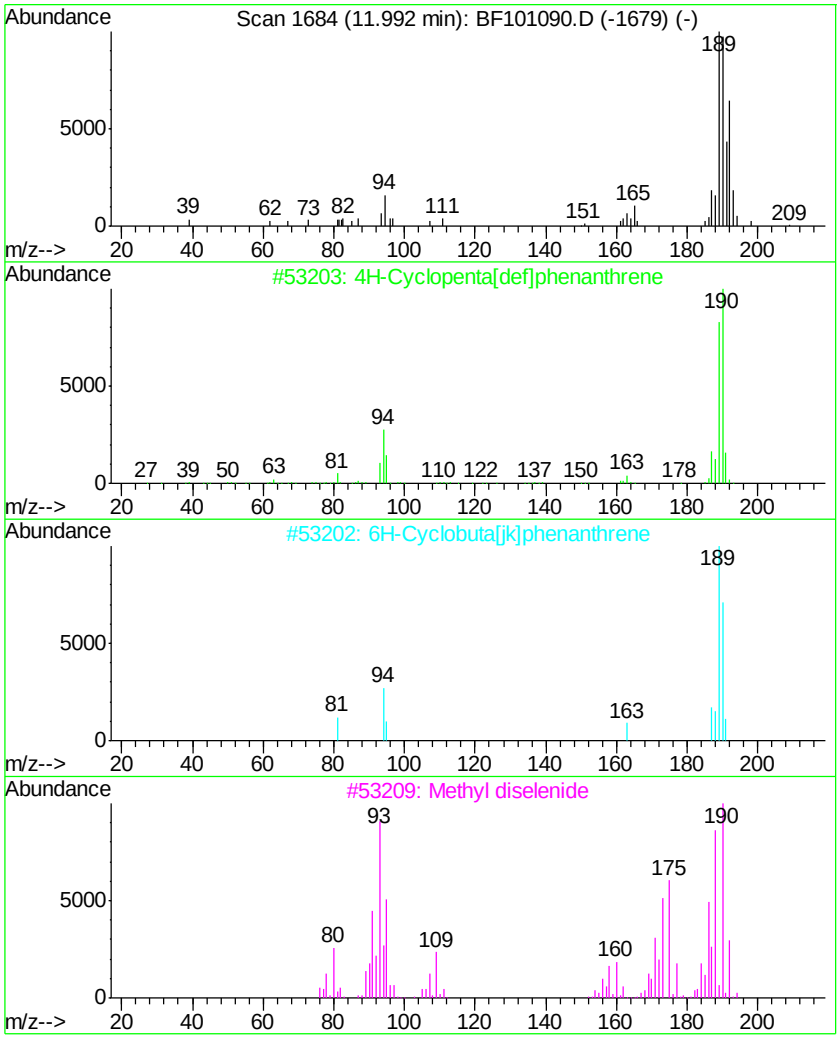
TIC Library : C:\DATABASE\NIST11.L
TIC Integration Parameters: LSCINT.P

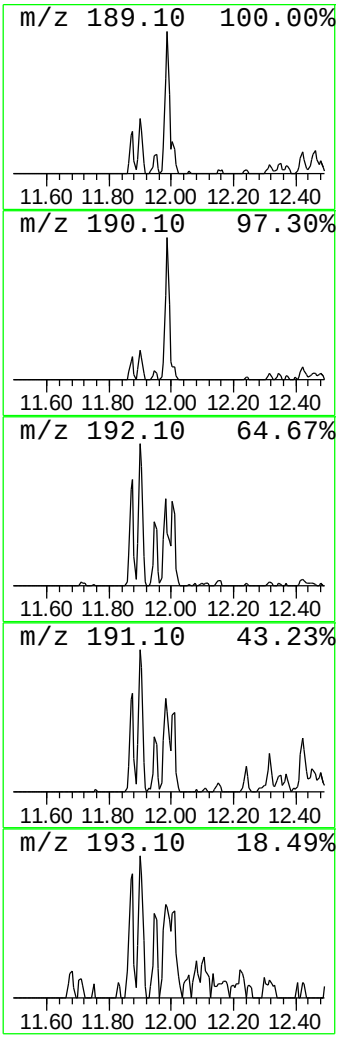
**********

Peak Number 6 4H-Cyclopenta[def]phenanthrene Concentration Rank 8

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 11.99 | 4.57 ng | 108620 | Phenanthrene-d10 | 11.37 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | 4H-Cyclopenta[def]phenanthrene | 190 | C15H10 | 000203-64-5 | 93 |
| 2 | 6H-Cyclobuta[jk]phenanthrene | 190 | C15H10 | 083469-43-6 | 53 |
| 3 | Methyl diselenide | 190 | C2H6Se2 | 007101-31-7 | 38 |
| 4 | 2,2'-Bis(4,5-dimethylimidazole) | 190 | C10H14N4 | 069286-06-2 | 38 |
| 5 | Carbonic acid, ethyl 2-formyl-4,... | 262 | C10H8Cl2O4 | 1000331-34-4 | 33 |



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Data File : BF101090.D
Acq On : 4 Dec 2017 11:48
Operator : SJ/JU
Sample : I6620-01
Misc :
ALS Vial : 6 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** SB-1(0-2)-20171128

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF113017.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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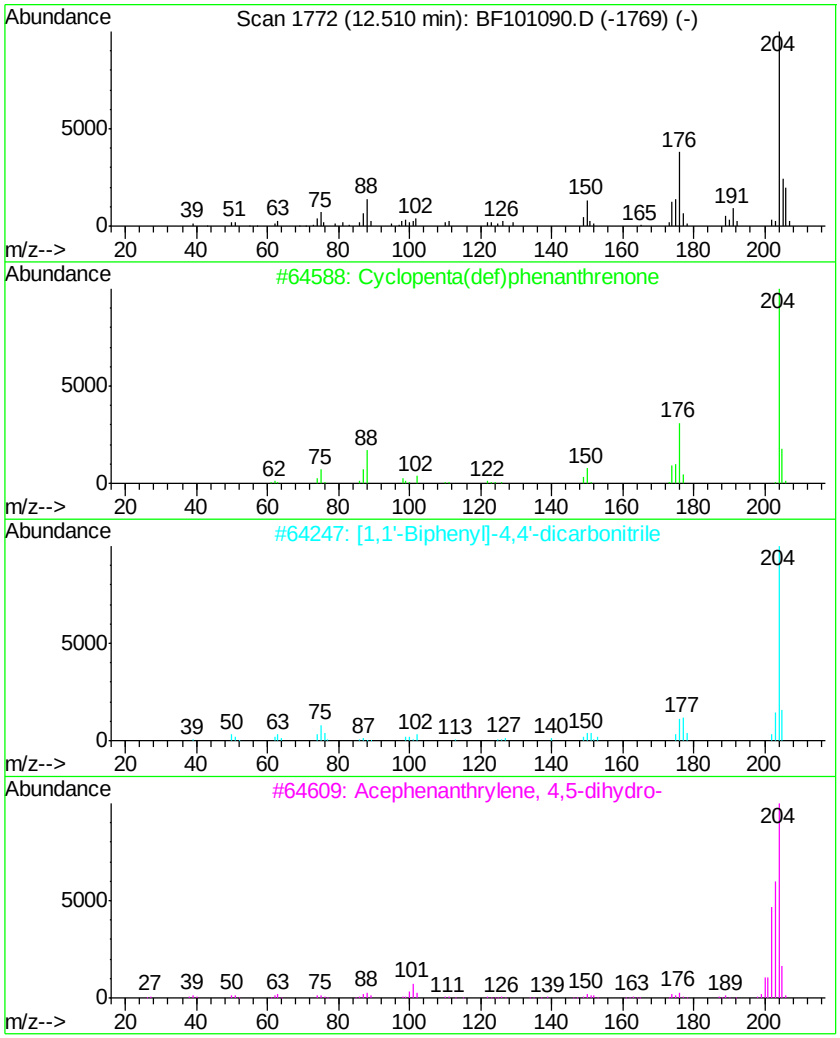
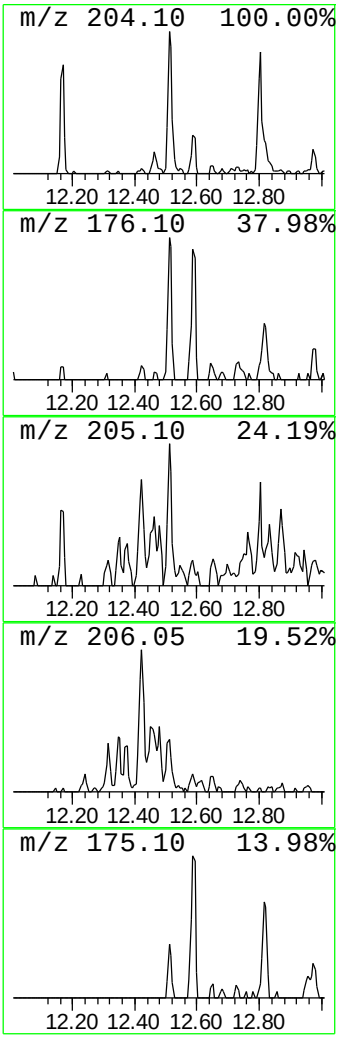
Peak Number 7 Cyclopenta(def)phenanthrenone Concentration Rank 15

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 12.51 | 2.82 ng | 67134 | Phenanthrene-d10 | 11.37 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Cyclopenta(def)phenanthrenone | 204 | C15H8O | 005737-13-3 | 95 |
| 2 | [1,1'-Biphenyl]-4,4'-dicarbonitrile | 204 | C14H8N2 | 001591-30-6 | 47 |
| 3 | Acephenanthrylene, 4,5-dihydro- | 204 | C16H12 | 006232-48-0 | 47 |
| 4 | 3,4-Biphenyldicarbonitrile | 204 | C14H8N2 | 004128-63-6 | 45 |
| 5 | [1,1'-Biphenyl]-2,2'-dicarbonitrile | 204 | C14H8N2 | 004341-02-0 | 43 |



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Data File : BF101090.D
Acq On : 4 Dec 2017 11:48
Operator : SJ/JU
Sample : I6620-01
Misc :
ALS Vial : 6 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** SB-1(0-2)-20171128

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF113017.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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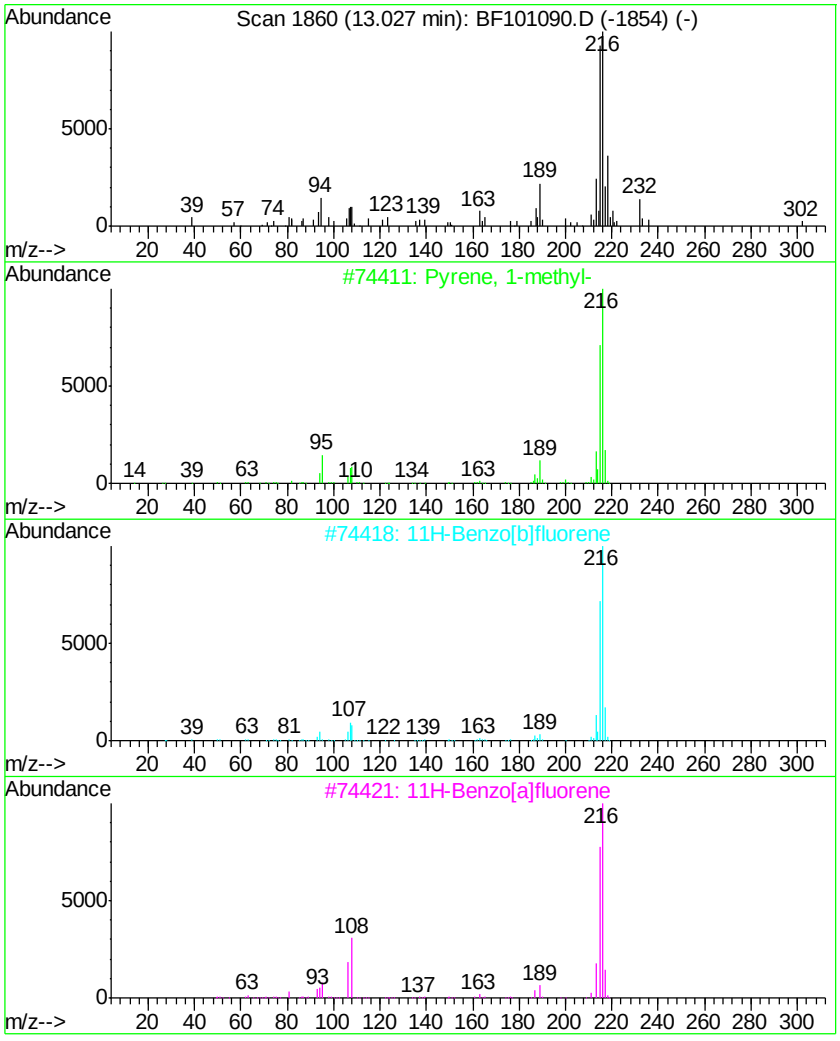
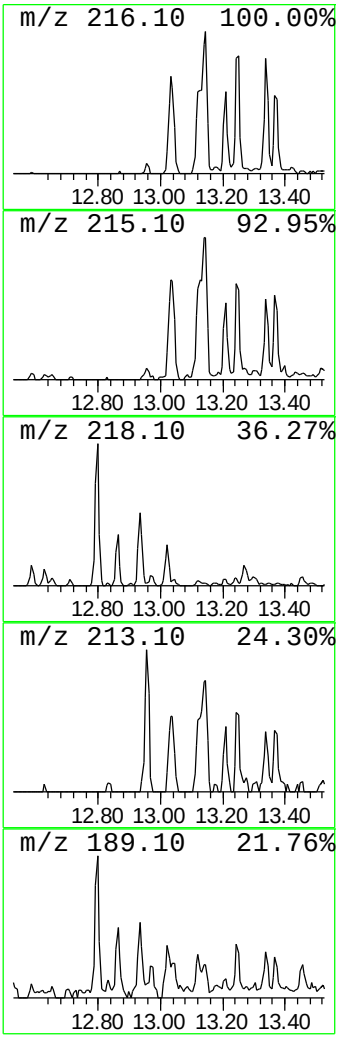
Peak Number 8 Pyrene, 1-methyl- Concentration Rank 16

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 13.03 | 2.63 ng | 107372 | Chrysene-d12 | 14.02 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Pyrene, 1-methyl- | 216 | C17H12 | 002381-21-7 | 94 |
| 2 | 11H-Benzo[b]fluorene | 216 | C17H12 | 000243-17-4 | 91 |
| 3 | 11H-Benzo[a]fluorene | 216 | C17H12 | 000238-84-6 | 87 |
| 4 | 7H-Benzo[c]fluorene | 216 | C17H12 | 000205-12-9 | 83 |
| 5 | Fluoranthene, 2-methyl- | 216 | C17H12 | 033543-31-6 | 81 |



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Data File : BF101090.D
Acq On : 4 Dec 2017 11:48
Operator : SJ/JU
Sample : I6620-01
Misc :
ALS Vial : 6 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** SB-1(0-2)-20171128

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF113017.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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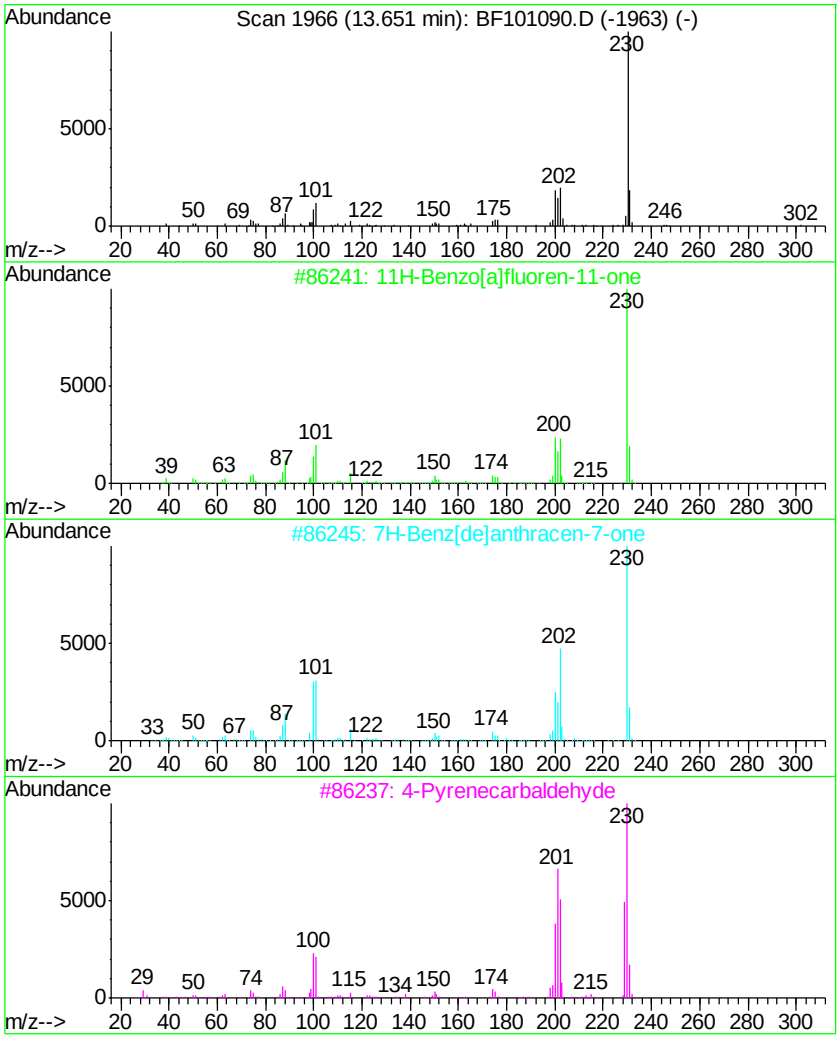
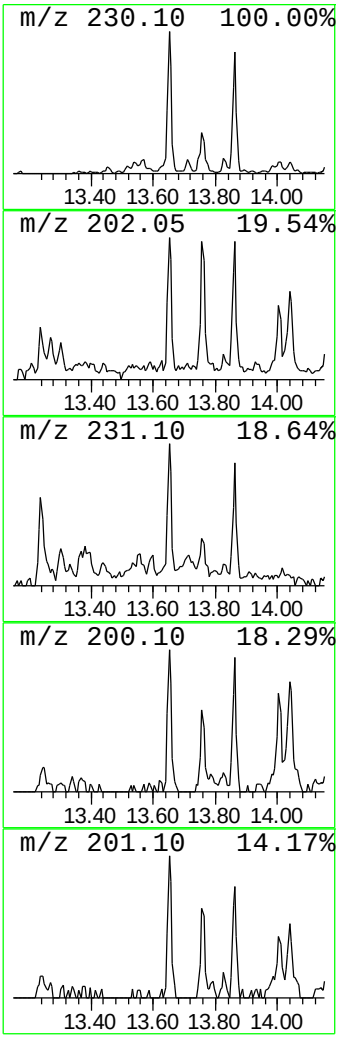
Peak Number 9 11H-Benzo[a]fluoren-11-one Concentration Rank 18

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 13.65 | 2.54 ng | 103820 | Chrysene-d12 | 14.02 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | 11H-Benzo[a]fluoren-11-one | 230 | C17H10O | 000479-79-8 | 98 |
| 2 | 7H-Benz[de]anthracen-7-one | 230 | C17H10O | 000082-05-3 | 91 |
| 3 | 4-Pyrenecarbaldehyde | 230 | C17H10O | 022245-51-8 | 86 |
| 4 | 1-Pyrenecarboxaldehyde | 230 | C17H10O | 003029-19-4 | 80 |
| 5 | 6H-Benz[de]anthracen-6-one | 230 | C17H10O | 080252-14-8 | 72 |



Data Path : Z:\HPCHEM1\BNA F\DATA\BF120417\
Data File : BF101090.D
Acq On : 4 Dec 2017 11:48
Operator : SJ/JU
Sample : I6620-01
Misc :
ALS Vial : 6 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** SB-1(0-2)-20171128

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF113017.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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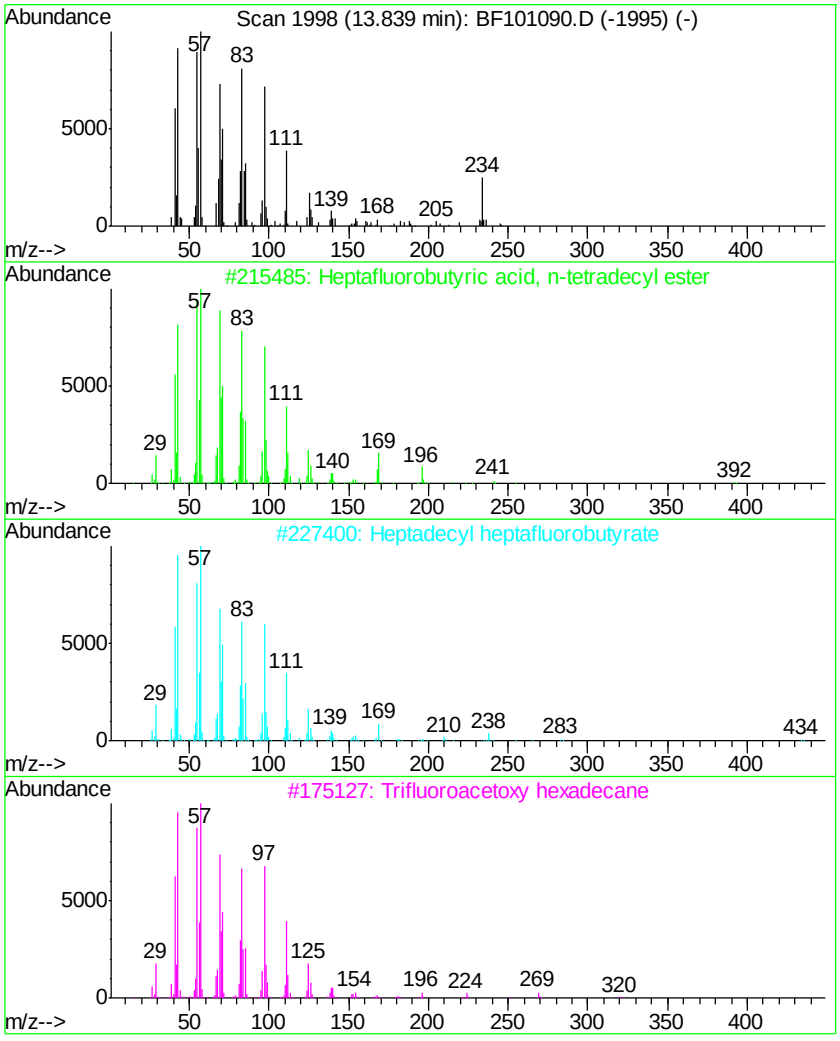
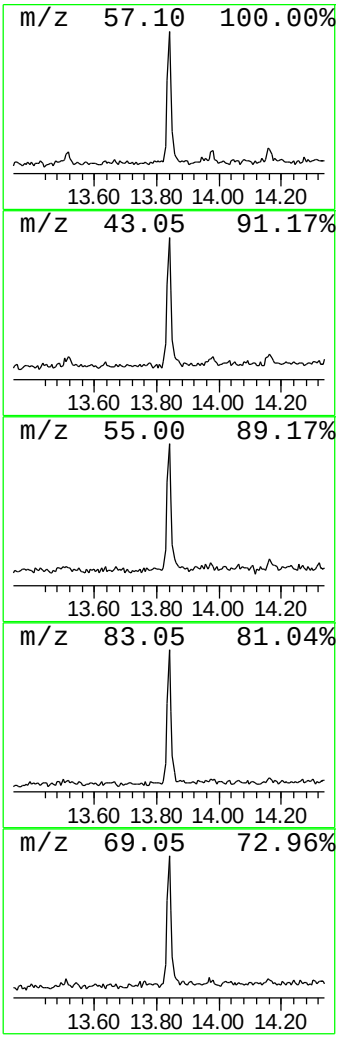
Peak Number 10 Heptafluorobutyric acid, n-... Concentration Rank 6

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 13.84 | 4.72 ng | 193147 | Chrysene-d12 | 14.02 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Heptafluorobutyric acid, n-tetra... | 410 | C18H29F7O2 | 007365-36-8 | 93 |
| 2 | Heptadecyl heptafluorobutyrate | 452 | C21H35F7O2 | 959085-66-6 | 90 |
| 3 | Trifluoroacetoxy hexadecane | 338 | C18H33F3O2 | 006222-03-3 | 90 |
| 4 | 11-Tricosene | 322 | C23H46 | 052078-56-5 | 90 |
| 5 | Trichloroacetic acid, pentadecyl... | 372 | C17H31Cl3O2 | 074339-53-0 | 90 |



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Acq On : 4 Dec 2017 11:48
Operator : SJ/JU
Sample : I6620-01
Misc :
ALS Vial : 6 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** SB-1(0-2)-20171128

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF113017.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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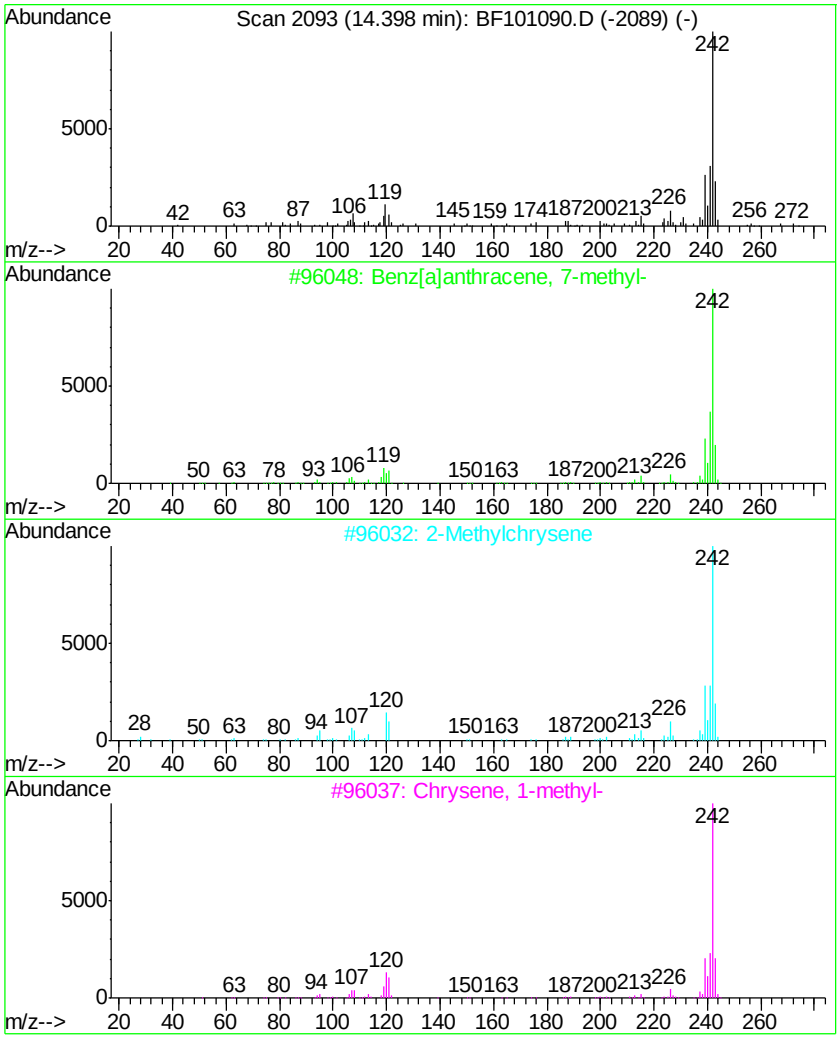
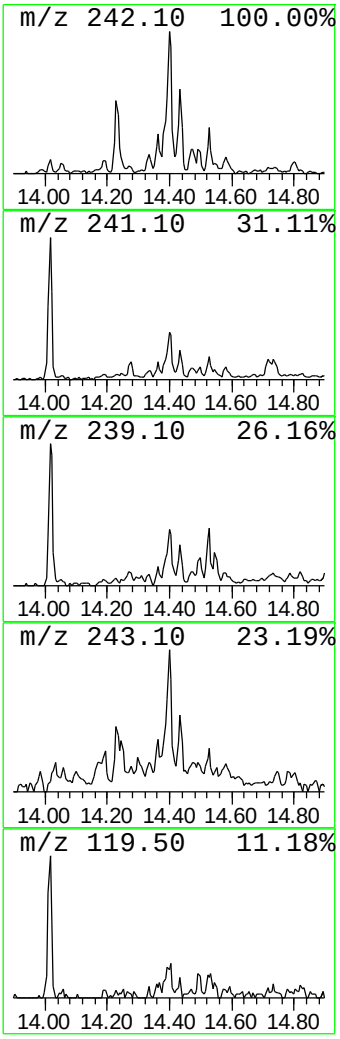
Peak Number 11 Benz[a]anthracene, 7-methyl- Concentration Rank 19

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 14.40 | 2.51 ng | 102683 | Chrysene-d12 | 14.02 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Benz[a]anthracene, 7-methyl- | 242 | C19H14 | 002541-69-7 | 95 |
| 2 | 2-Methylchrysene | 242 | C19H14 | 003351-32-4 | 90 |
| 3 | Chrysene, 1-methyl- | 242 | C19H14 | 003351-28-8 | 90 |
| 4 | Chrysene, 6-methyl- | 242 | C19H14 | 001705-85-7 | 81 |
| 5 | Benz[a]anthracene, 8-methyl- | 242 | C19H14 | 002381-31-9 | 81 |



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Acq On : 4 Dec 2017 11:48
Operator : SJ/JU
Sample : I6620-01
Misc :
ALS Vial : 6 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** SB-1(0-2)-20171128

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF113017.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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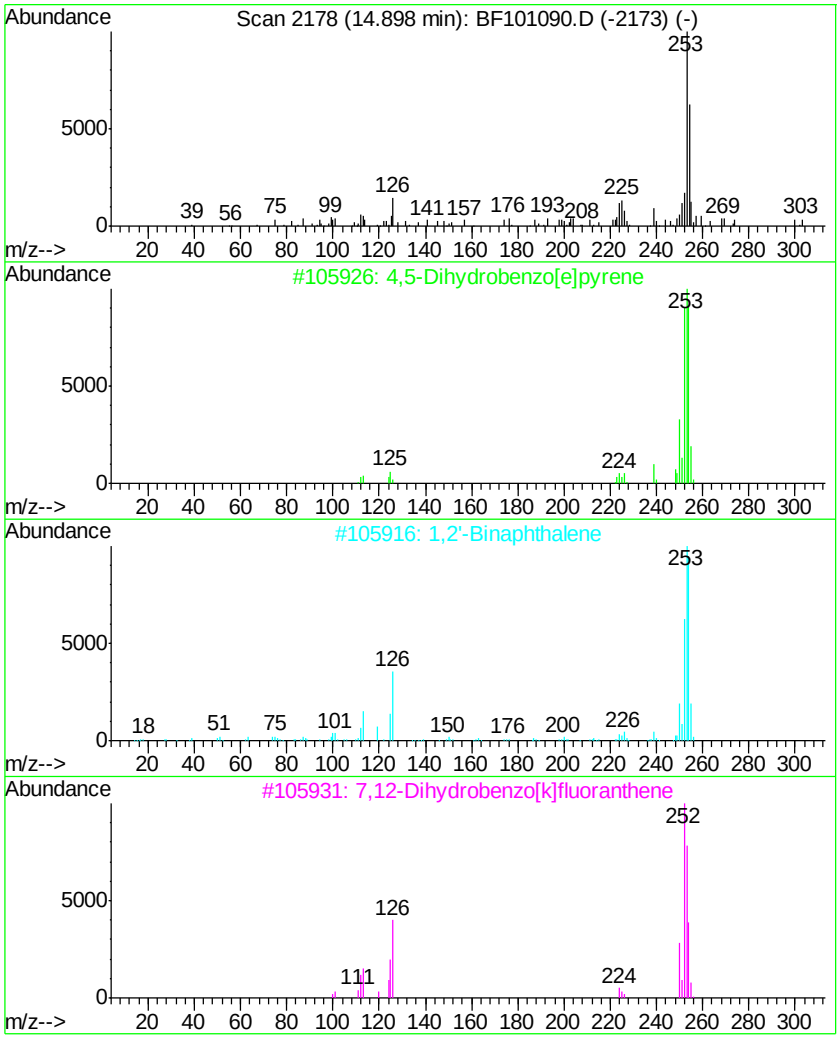
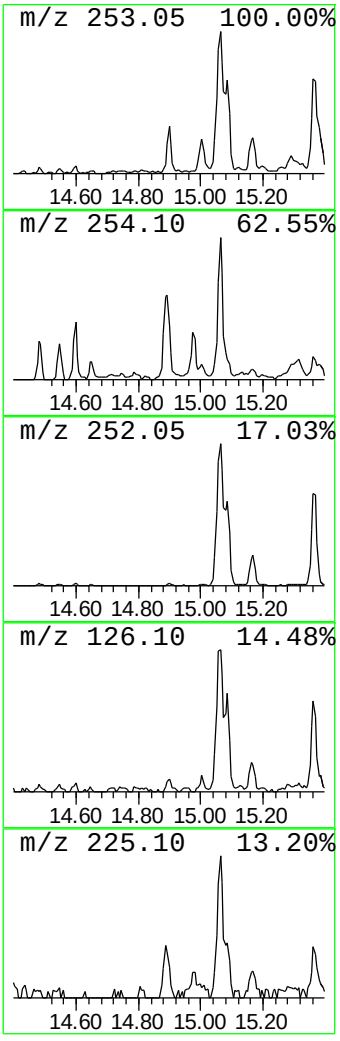
Peak Number 12 4,5-Dihydrobenzo[e]pyrene Concentration Rank 9

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 14.90 | 4.33 ng | 78367 | Perylene-d12 | 15.49 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | 4,5-Dihydrobenzo[e]pyrene | 254 | C20H14 | 095676-42-9 | 81 |
| 2 | 1,2'-Binaphthalene | 254 | C20H14 | 004325-74-0 | 74 |
| 3 | 7,12-Dihydrobenzo[k]fluoranthene | 254 | C20H14 | 1000080-17-7 | 74 |
| 4 | 9H-Fluorene, 9-(phenylmethylene)- | 254 | C20H14 | 001836-87-9 | 72 |
| 5 | 1,2-Dihydrobenzo[b]fluoranthene | 254 | C20H14 | 100516-13-0 | 72 |



Data Path : Z:\HPCHEM1\BNA F\DATA\BF120417\
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Acq On : 4 Dec 2017 11:48
Operator : SJ/JU
Sample : I6620-01
Misc :
ALS Vial : 6 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** SB-1(0-2)-20171128

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF113017.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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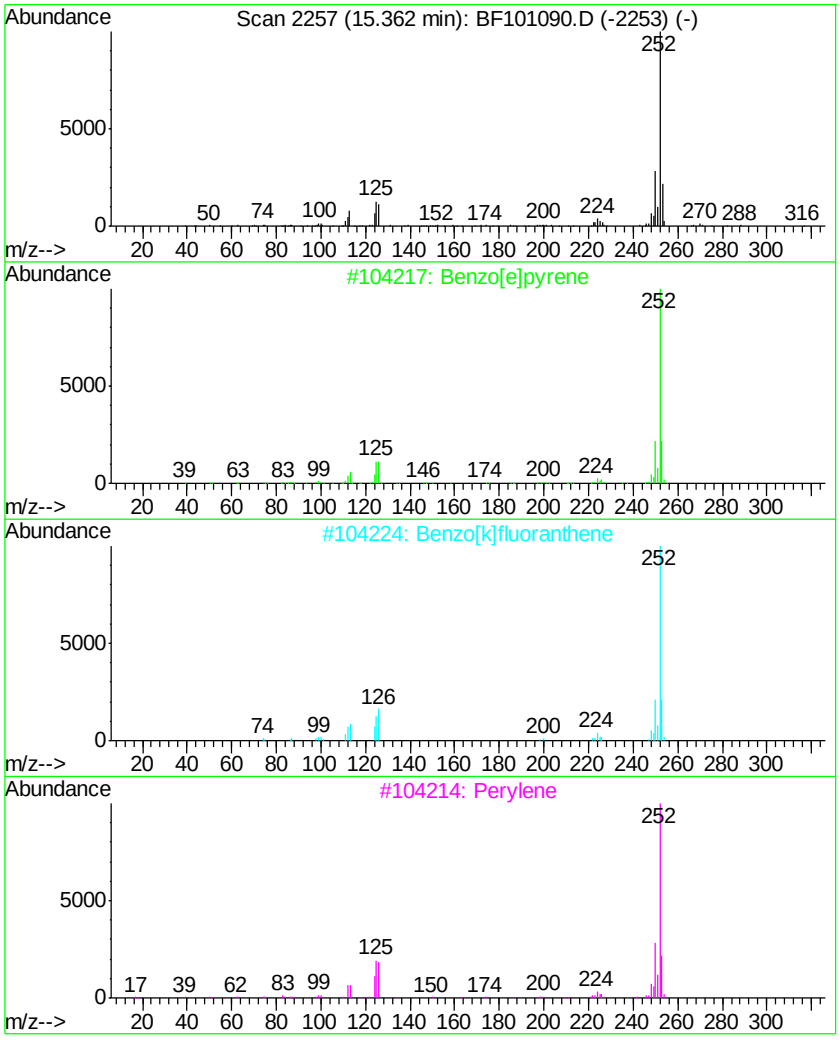
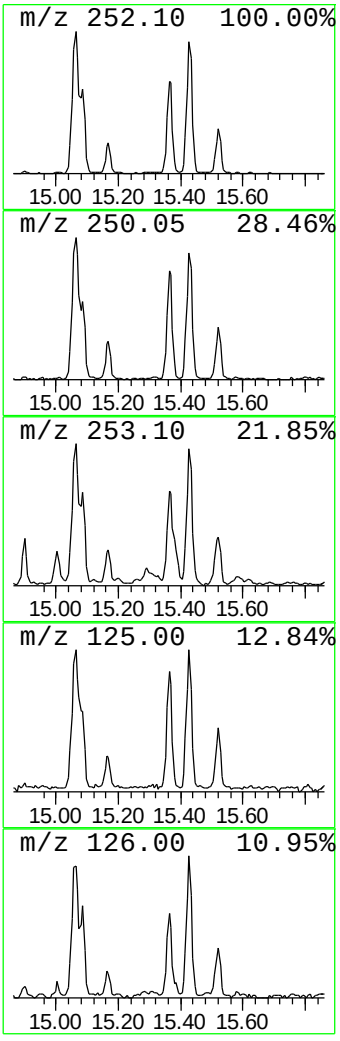
Peak Number 14 Benzo[e]pyrene Concentration Rank 3

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 15.36 | 19.08 ng | 344971 | Perylene-d12 | 15.49 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Benzo[e]pyrene | 252 | C20H12 | 000192-97-2 | 99 |
| 2 | Benzo[k]fluoranthene | 252 | C20H12 | 000207-08-9 | 97 |
| 3 | Perylene | 252 | C20H12 | 000198-55-0 | 97 |
| 4 | Benzo[j]fluoranthene | 252 | C20H12 | 000205-82-3 | 96 |
| 5 | Benzo[a]pyrene | 252 | C20H12 | 000050-32-8 | 95 |



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Acq On : 4 Dec 2017 11:48
Operator : SJ/JU
Sample : I6620-01
Misc :
ALS Vial : 6 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** SB-1(0-2)-20171128

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Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

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

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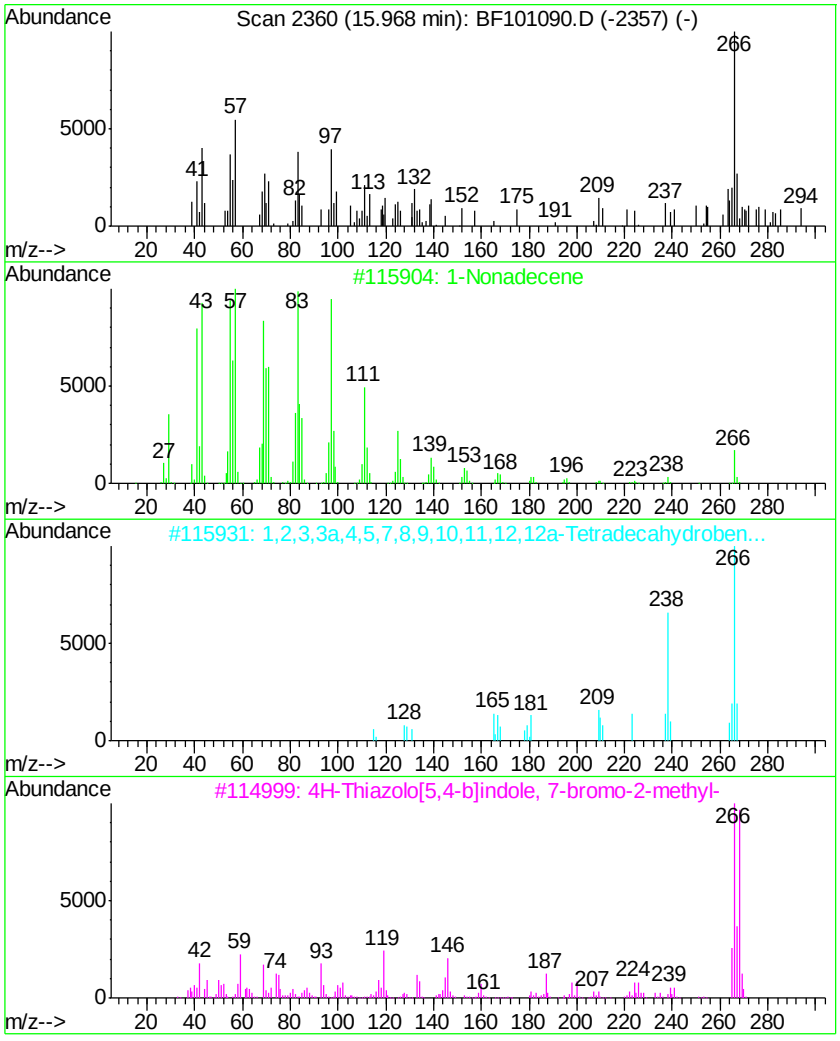
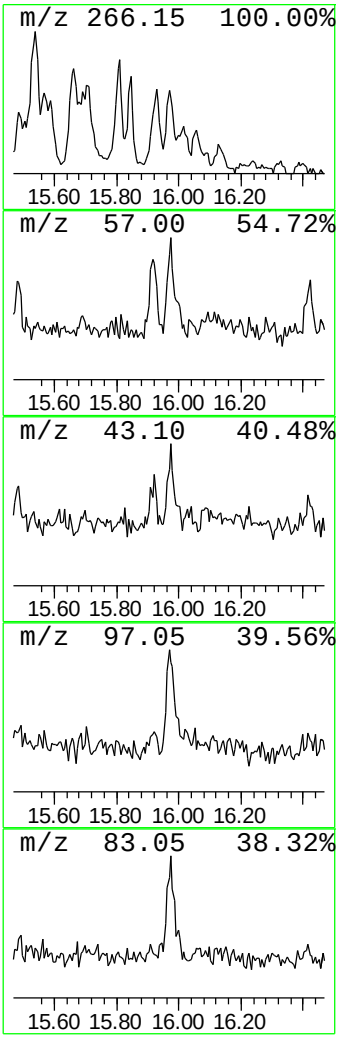
Peak Number 15 1-Nonadecene Concentration Rank 10

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 15.97 | 4.15 ng | 75057 | Perylene-d12 | 15.49 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | 1-Nonadecene | 266 | C19H38 | 018435-45-5 | 64 |
| 2 | 1,2,3,3a,4,5,7,8,9,10,11,12,12a-... | 266 | C20H26 | 095676-40-7 | 49 |
| 3 | 4H-Thiazolo[5,4-b]indole, 7-brom... | 266 | C10H7BrN2S | 1000337-12-4 | 43 |
| 4 | 3-Chloro-11-methyl-11H-indolo[3,... | 266 | C16H11ClN2 | 155249-46-0 | 43 |
| 5 | 9,10-Anthracenedione, 1,4-bis(am... | 266 | C16H14N2O2 | 077862-13-6 | 43 |



Data Path : Z:\HPCHEM1\BNA F\DATA\BF120417\
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Operator : SJ/JU
Sample : I6620-01
Misc :
ALS Vial : 6 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** SB-1(0-2)-20171128

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF113017.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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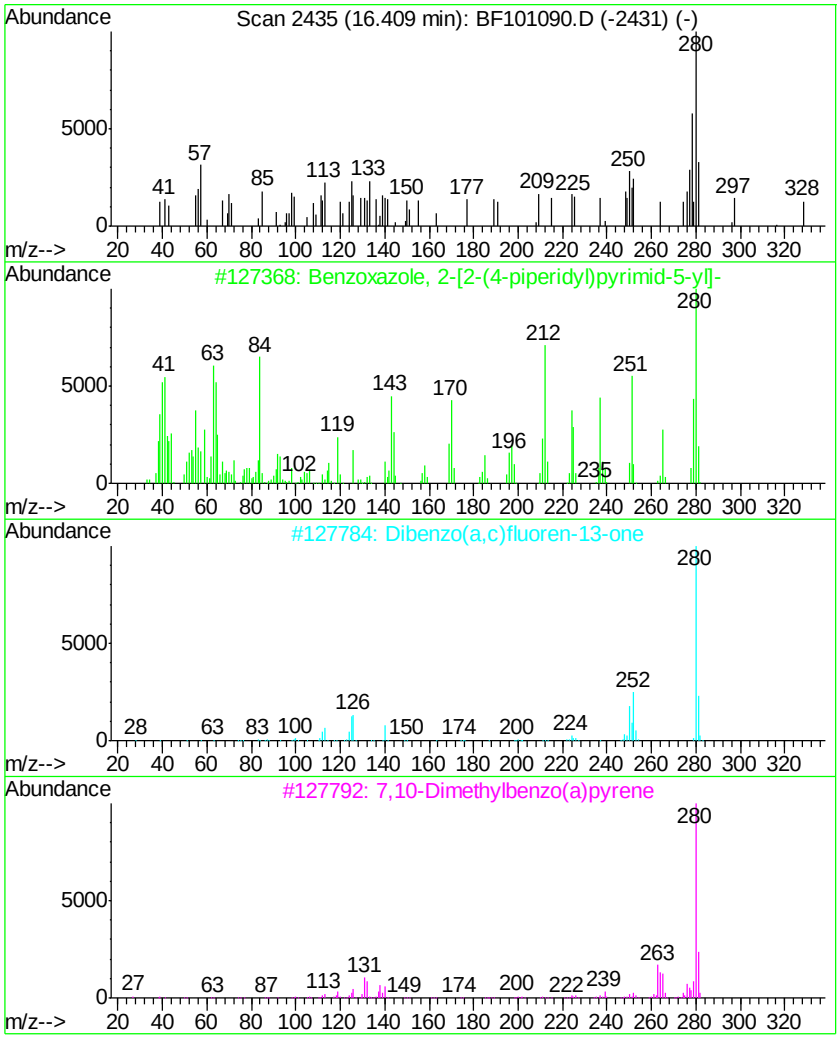
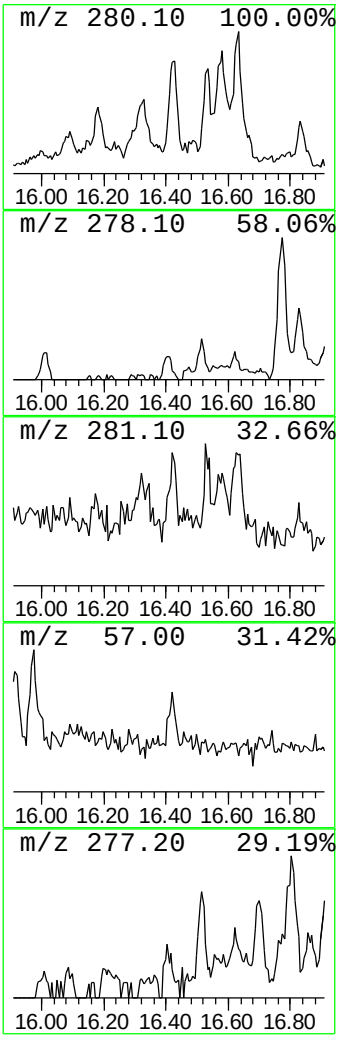
Peak Number 16 Benzoxazole, 2-[2-(4-piperi... Concentration Rank 17

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 16.41 | 2.56 ng | 46267 | Perylene-d12 | 15.49 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Benzoxazole, 2-[2-(4-piperidyl)p... | 280 | C16H16N4O | 1000294-14-8 | 50 |
| 2 | Dibenzo(a,c)fluoren-13-one | 280 | C21H12O | 063041-47-4 | 46 |
| 3 | 7,10-Dimethylbenzo(a)pyrene | 280 | C22H16 | 063104-33-6 | 38 |
| 4 | Aspidospermidine, 1,2-didehydro-... | 280 | C19H24N2 | 056245-51-3 | 38 |
| 5 | Estra-1,3,5,7,9-pentaen-17-one, ... | 280 | C19H20O2 | 003907-67-3 | 35 |



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Operator : SJ/JU
Sample : I6620-01
Misc :
ALS Vial : 6 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** SB-1(0-2)-20171128

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF113017.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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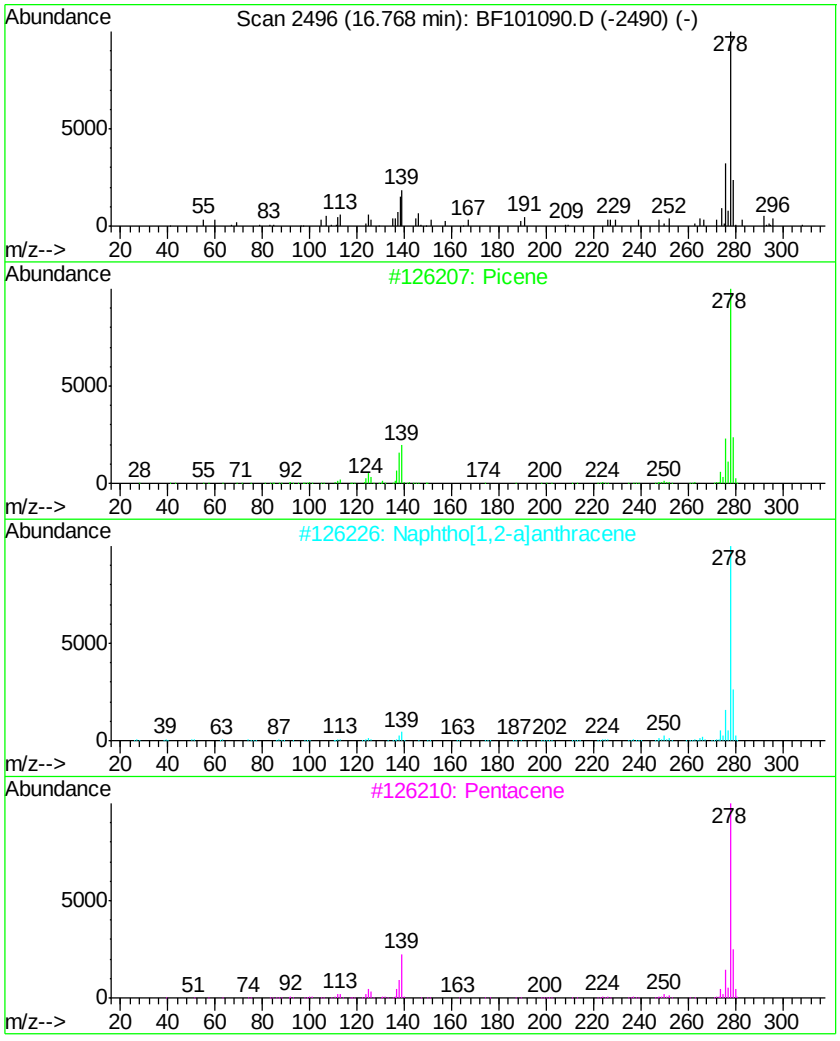
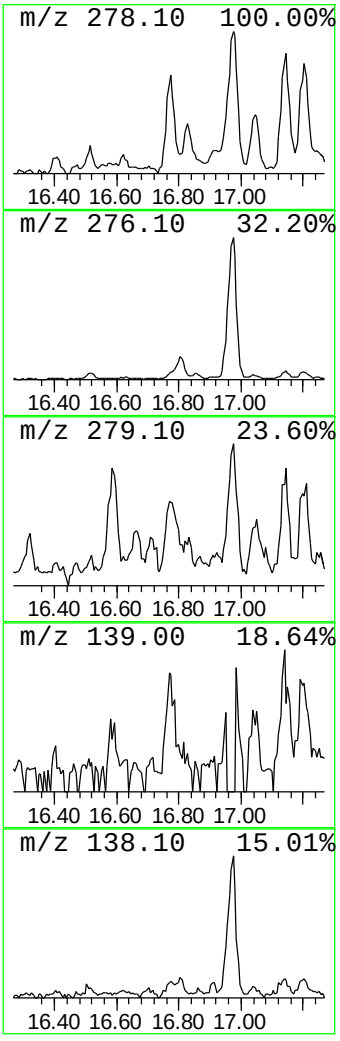
Peak Number 17 Picene Concentration Rank 12

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 16.77 | 4.06 ng | 73474 | Perylene-d12 | 15.49 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Picene | 278 | C22H14 | 000213-46-7 | 89 |
| 2 | Naphtho[1,2-a]anthracene | 278 | C22H14 | 000195-06-2 | 81 |
| 3 | Pentacene | 278 | C22H14 | 000135-48-8 | 76 |
| 4 | Benzo[b]chrysene | 278 | C22H14 | 000214-17-5 | 76 |
| 5 | Dibenz[a,h]anthracene | 278 | C22H14 | 000053-70-3 | 76 |



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Operator : SJ/JU
Sample : I6620-01
Misc :
ALS Vial : 6 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** SB-1(0-2)-20171128

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF113017.M
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TIC Library : C:\DATABASE\NIST11.L
TIC Integration Parameters: LSCINT.P

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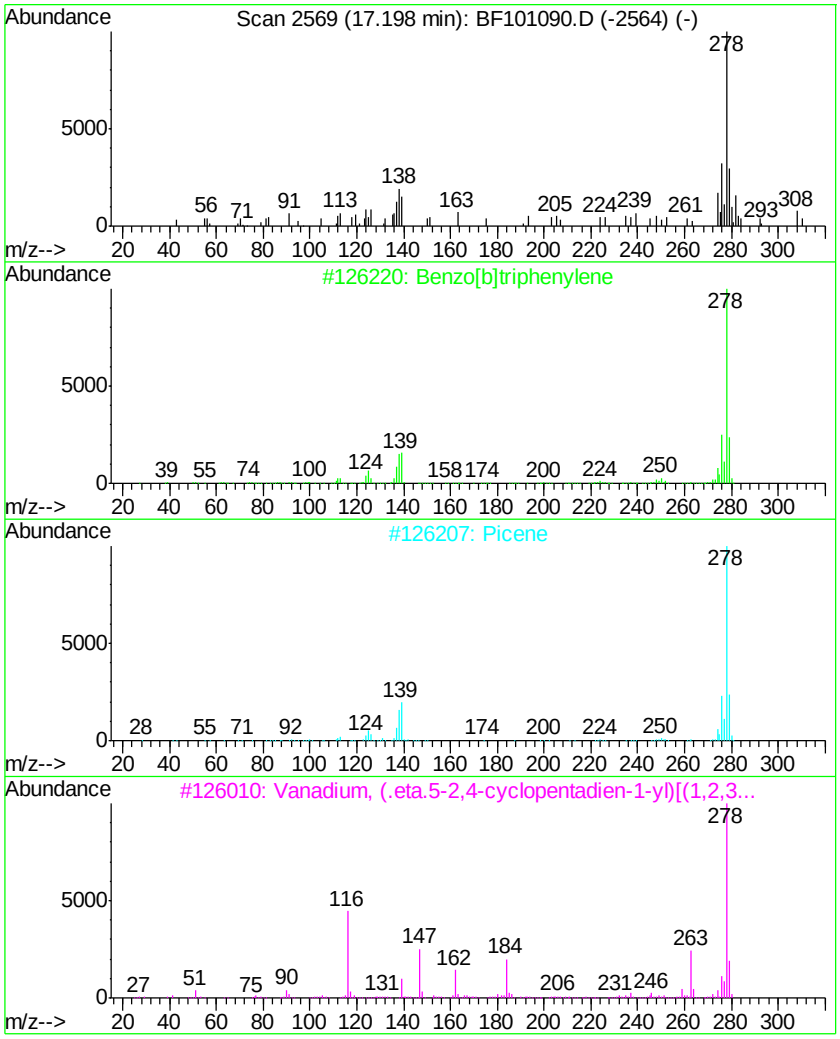
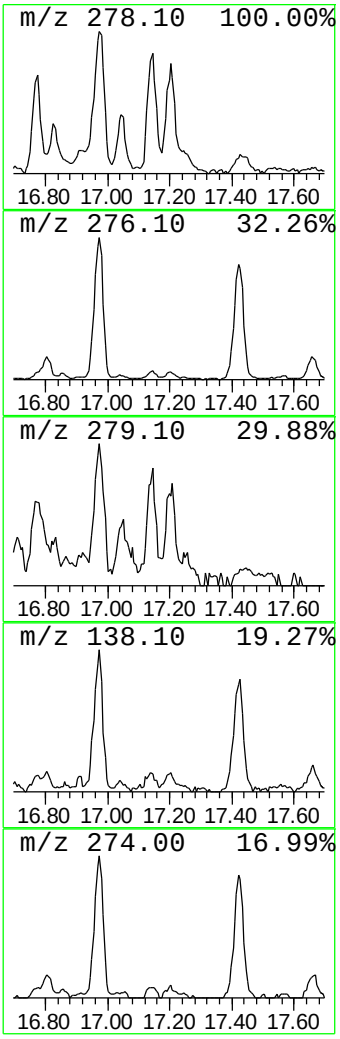
Peak Number 19 Benzo[b]triphenylene Concentration Rank 11

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 17.20 | 4.14 ng | 74908 | Perylene-d12 | 15.49 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Benzo[b]triphenylene | 278 | C22H14 | 000215-58-7 | 92 |
| 2 | Picene | 278 | C22H14 | 000213-46-7 | 60 |
| 3 | Vanadium, (.eta.5-2,4-cyclopenta... | 278 | C17H23V | 126948-97-8 | 53 |
| 4 | Benzo[b]chrysene | 278 | C22H14 | 000214-17-5 | 53 |
| 5 | Dibenz[a,h]anthracene | 278 | C22H14 | 000053-70-3 | 53 |



Tentatively Identified Compound (LSC) summary

Data Path : Z:\HPCHEM1\BNA_F\DATA\BF120417\
Data File : BF101090.D
Acq On : 4 Dec 2017 11:48
Operator : SJ/JU
Sample : I6620-01
Misc :
ALS Vial : 6 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** SB-1(0-2)-20171128

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF113017.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 |
| 2-Pentanone, 4-hy... | 5.07 | 6.2 | ng | 90762 | 1 | 6.85 | 290726 | 20.0 |
| unknown6.62 | 6.62 | 89.5 | ng | 1300960 | 1 | 6.85 | 290726 | 20.0 |
| Anthracene, 1-met... | 11.87 | 2.5 | ng | 58572 | 4 | 11.37 | 475395 | 20.0 |
| Phenanthrene, 2-m... | 11.90 | 5.4 | ng | 128210 | 4 | 11.37 | 475395 | 20.0 |
| 4H-Cyclopenta[def... | 11.99 | 4.6 | ng | 108620 | 4 | 11.37 | 475395 | 20.0 |
| Cyclopenta(def)ph... | 12.51 | 2.8 | ng | 67134 | 4 | 11.37 | 475395 | 20.0 |
| Pyrene, 1-methyl- | 13.03 | 2.6 | ng | 107372 | 5 | 14.02 | 817708 | 20.0 |
| 11H-Benzo[a]fluor... | 13.65 | 2.5 | ng | 103820 | 5 | 14.02 | 817708 | 20.0 |
| Heptafluorobutyri... | 13.84 | 4.7 | ng | 193147 | 5 | 14.02 | 817708 | 20.0 |
| Benz[a]anthracene... | 14.40 | 2.5 | ng | 102683 | 5 | 14.02 | 817708 | 20.0 |
| 4,5-Dihydrobenzo[... | 14.90 | 4.3 | ng | 78367 | 6 | 15.49 | 361666 | 20.0 |
| Benzo[e]pyrene | 15.36 | 19.1 | ng | 344971 | 6 | 15.49 | 361666 | 20.0 |
| 1-Nonadecene | 15.97 | 4.2 | ng | 75057 | 6 | 15.49 | 361666 | 20.0 |
| Benzoxazole, 2-[2... | 16.41 | 2.6 | ng | 46267 | 6 | 15.49 | 361666 | 20.0 |
| Picene | 16.77 | 4.1 | ng | 73474 | 6 | 15.49 | 361666 | 20.0 |
| Benzo[b]triphenylene | 17.20 | 4.1 | ng | 74908 | 6 | 15.49 | 361666 | 20.0 |