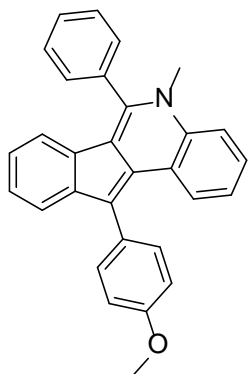
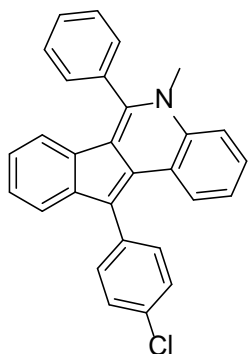


5-Methyl-6,11-diphenyl-5*H*-indeno[1,2-*c*]quinoline (**3a**). ^1H NMR (400 MHz, CDCl_3): δ 8.06 (d, $J = 7.9$ Hz, 1H), 7.59-7.50 (m, 7H), 7.46-7.31 (m, 6H), 7.23 (t, $J = 7.2$ Hz, 1H), 7.08 (t, $J = 7.4$ Hz, 1H), 6.88 (t, $J = 7.3$ Hz, 1H), 6.31 (d, $J = 7.8$ Hz, 1H), 3.47 (s, 3H). ^{13}C NMR (100 MHz, CDCl_3): δ 144.1, 142.5, 138.7, 136.1, 135.5, 130.6, 129.5, 129.0, 128.8, 126.6, 125.6, 125.4, 124.3, 123.0, 120.6, 120.4, 120.0, 118.3, 116.2, 115.5, 36.2. HRMS (ESI) calcd for $\text{C}_{29}\text{H}_{22}\text{N}^+$: 384.1747 ($\text{M} + \text{H}^+$), found: 384.1753.

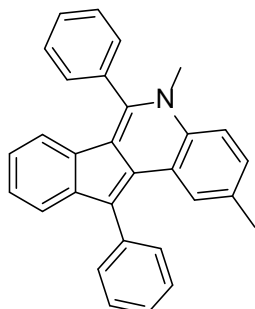


11-(4-Methoxyphenyl)-5-methyl-6-phenyl-5*H*-indeno[1,2-*c*]quinoline (**3b**). ^1H NMR (400 MHz, CDCl_3): δ 8.09 (d, $J = 8.1$ Hz, 1H), 7.64-7.36 (m, 10H), 7.25-7.20 (m, 1H), 7.14-7.08 (m, 3H), 6.90-6.86 (m, 1H), 6.32 (d, $J = 7.9$ Hz, 1H), 3.91 (s, 3H), 3.56 (s, 3H). ^{13}C NMR (100 MHz, CDCl_3): δ 158.4, 143.9, 142.7, 136.2, 135.6, 132.7, 131.6, 130.8, 129.5, 129.1, 126.5, 125.6, 125.4, 124.3, 123.2, 123.0, 120.6, 120.3, 119.8, 118.3, 116.2, 115.4, 114.3, 113.9, 55.3, 36.3. HRMS (ESI) calcd for $\text{C}_{30}\text{H}_{24}\text{NO}^+$: 414.1852 ($\text{M} + \text{H}^+$), found: 414.1870.

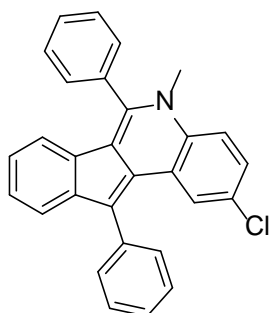


11-(4-Chlorophenyl)-5-methyl-6-phenyl-5*H*-indeno[1,2-*c*]quinoline (**3c**). ^1H NMR (400 MHz, CDCl_3): δ 8.06-8.03 (m, 1H), 7.67-7.66 (m, 3H), 7.56-7.50 (m, 7H), 7.46-7.40 (m, 2H), 7.26-7.22 (m, 1H), 7.19-7.15 (m, 1H), 6.90 (d, $J = 7.1$ Hz, 1H), 6.32 (d, $J = 8.0$ Hz, 1H), 3.62 (s, 3H). ^{13}C NMR (100 MHz, CDCl_3): δ 144.3, 142.2, 137.3, 136.1, 135.5,

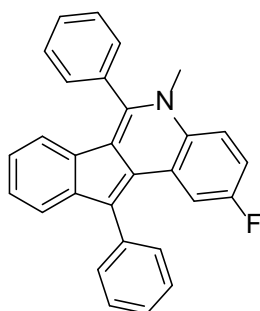
132.3, 132.1, 130.6, 129.7, 129.6, 129.1, 126.8, 125.8, 125.6, 124.5, 123.2, 122.9, 120.7, 120.5, 118.5, 118.0, 116.3, 115.7, 36.4. HRMS (ESI) calcd for $C_{29}H_{21}ClN^+$: 418.1357 ($M + H^+$), found: 418.1361.



2,5-Dimethyl-6,11-diphenyl-5*H*-indeno[1,2-*c*]quinoline (**3d**). 1H NMR (400 MHz, $CDCl_3$): δ 7.86 (s, 1H), 7.63-7.38 (m, 12H), 7.24-7.19 (m, 2H), 6.87 (t, $J = 7.6$ Hz, 1H), 6.32 (d, $J = 8.0$ Hz, 1H), 3.54 (s, 3H), 2.22 (s, 3H). ^{13}C NMR (100 MHz, $CDCl_3$): δ 143.9, 142.3, 138.8, 135.6, 134.1, 132.5, 130.6, 129.5, 129.1, 128.6, 127.7, 126.5, 125.8, 125.5, 124.2, 123.0, 120.6, 120.2, 119.7, 118.3, 116.0, 115.4, 36.3, 21.0. HRMS (ESI) calcd for $C_{30}H_{24}N^+$: 398.1903 ($M + H^+$), found: 398.1904.

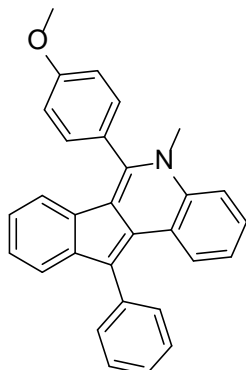


2-Chloro-5-methyl-6,11-diphenyl-5*H*-indeno[1,2-*c*]quinoline (**3e**). 1H NMR (400 MHz, $CDCl_3$): δ 7.99-7.98 (m, 1H), 7.65-7.53 (m, 7H), 7.47-7.45 (m, 4H), 7.38-7.36 (m, 1H), 7.30-7.21 (m, 2H), 6.91 (t, $J = 7.6$ Hz, 1H), 6.32 (d, $J = 8.0$ Hz, 1H), 3.52 (s, 3H). ^{13}C NMR (100 MHz, $CDCl_3$): δ 143.9, 142.3, 137.8, 135.2, 134.7, 131.5, 130.3, 129.7, 129.6, 129.0, 128.9, 128.5, 127.0, 126.4, 124.8, 124.6, 124.3, 124.2, 121.3, 120.9, 120.7, 118.6, 116.8, 116.4, 36.4. HRMS (ESI) calcd for $C_{29}H_{21}ClN^+$: 418.1357 ($M + H^+$), found: 418.1351.

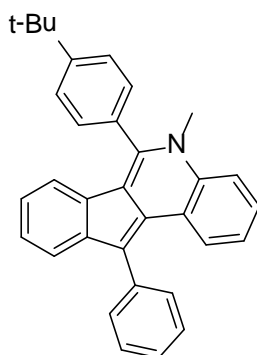


2-Fluoro-5-methyl-6,11-diphenyl-5*H*-indeno[1,2-*c*]quinoline (**3f**). 1H NMR (400 MHz, $CDCl_3$): δ 7.71-7.64 (m, 4H), 7.59-7.44 (m, 9H), 7.26-7.22 (m, 1H), 7.12-7.07 (m, 1H), 6.93-6.89 (m, 1H), 6.33 (d, $J = 8.0$ Hz, 1H), 3.91 (s, 3H), 3.56 (s, 3H). ^{13}C NMR (100

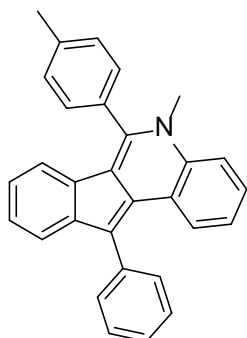
MHz, CDCl₃): δ 158.4 (d, $J_{CF} = 241.1$ Hz), 144.0, 142.2, 137.9, 135.3, 132.7, 130.5, 129.7, 129.6, 129.1, 128.9, 127.0, 124.6, 124.5, 121.0, 120.7 (d, $^3J_{CF} = 6.5$ Hz), 118.6, 117.1 (d, $^3J_{CF} = 8.7$ Hz), 115.5, 114.0 (d, $^2J_{CF} = 24.0$ Hz), 110.8 (d, $^2J_{CF} = 23.6$ Hz), 36.6. HRMS (ESI) calcd for C₂₉H₂₁N⁺: 402.1653 (M + H⁺), found: 402.1656.



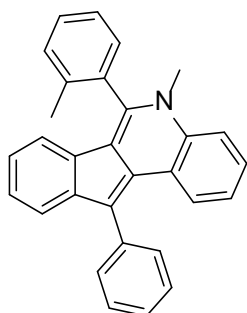
6-(4-Methoxyphenyl)-5-methyl-11-phenyl-5H-indeno[1,2-c]quinoline (**3g**). ¹H NMR (400 MHz, CDCl₃): δ 8.06 (d, $J = 8.0$ Hz, 1H), 7.61-7.59 (m, 2H), 7.55-7.51 (m, 2H), 7.48-7.35 (m, 6H), 7.26-7.22 (m, 1H), 7.12-7.08 (m, 3H), 6.93 (t, $J = 7.8$ Hz, 1H), 6.47 (d, $J = 7.4$ Hz, 1H), 3.93 (s, 3H), 3.54 (s, 3H). ¹³C NMR (100 MHz, CDCl₃): δ 160.4, 144.1, 142.4, 138.8, 136.2, 130.6, 130.4, 129.2, 128.8, 127.6, 126.5, 125.6, 125.4, 124.3, 123.0, 122.9, 120.7, 120.4, 119.9, 118.3, 116.6, 115.6, 114.9, 55.4, 36.2. HRMS (ESI) calcd for C₃₀H₂₄NO⁺: 414.1852 (M + H⁺), found: 414.1850.



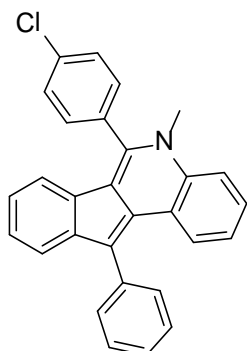
6-(4-*tert*-Butylphenyl)-5-methyl-11-phenyl-5H-indeno[1,2-c]quinoline (**3h**). ¹H NMR (400 MHz, CDCl₃): δ 8.07 (d, $J = 8.1$ Hz, 1H), 7.62 (d, $J = 8.2$ Hz, 4H), 7.55-7.49 (m, 3H), 7.45-7.39 (m, 5H), 7.25-7.21 (m, 1H), 7.11 (t, $J = 7.8$ Hz, 1H), 6.88 (t, $J = 7.8$ Hz, 1H), 6.33 (t, $J = 7.9$ Hz, 1H), 3.58 (s, 3H), 1.47 (s, 9H). ¹³C NMR (100 MHz, CDCl₃): δ 152.8, 144.4, 142.4, 138.8, 136.2, 132.5, 130.7, 129.2, 128.7, 128.7, 126.5, 126.4, 125.7, 125.4, 124.2, 123.1, 123.0, 120.7, 120.3, 119.9, 118.2, 116.4, 115.5, 36.4, 35.0, 31.4. HRMS (ESI) calcd for C₃₃H₃₀N⁺: 440.2373 (M + H⁺), found: 440.2370.



5-Methyl-11-phenyl-6-(*p*-tolyl)-5*H*-indeno[1,2-*c*]quinoline (**3i**). ^1H NMR (400 MHz, CDCl_3): δ 8.07-8.05 (m, 1H), 7.62-7.36 (m, 12H), 7.26-7.19 (m, 1H), 7.12-7.09 (m, 1H), 6.93-6.89 (m, 1H), 6.42 (d, $J = 7.9$ Hz, 1H), 3.56 (s, 3H), 2.55 (s, 3H). ^{13}C NMR (100 MHz, CDCl_3): δ 144.4, 142.4, 139.5, 138.8, 136.2, 132.6, 130.7, 130.2, 129.2, 128.9, 128.8, 126.5, 125.7, 125.5, 124.3, 123.1, 123.0, 120.7, 120.3, 119.9, 118.3, 116.3, 115.5, 36.3, 21.6. HRMS (ESI) calcd for $\text{C}_{30}\text{H}_{24}\text{N}^+$: 398.1903 ($\text{M} + \text{H}^+$), found: 398.1884.

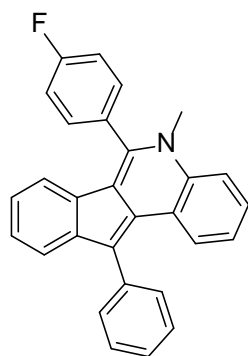


5-Methyl-11-phenyl-6-(*o*-tolyl)-5*H*-indeno[1,2-*c*]quinoline (**3j**). ^1H NMR (400 MHz, CDCl_3): δ 8.09 (d, $J = 8.1$ Hz, 1H), 7.63-7.36 (m, 12H), 7.23 (t, $J = 7.2$ Hz, 1H), 7.12 (t, $J = 7.6$ Hz, 1H), 6.90 (t, $J = 7.5$ Hz, 1H), 6.27 (d, $J = 7.9$ Hz, 1H), 3.58 (s, 3H), 2.15 (s, 3H). ^{13}C NMR (100 MHz, CDCl_3): δ 143.5, 142.5, 138.7, 136.8, 136.1, 135.0, 130.9, 130.7, 129.9, 129.2, 129.0, 128.8, 127.1, 126.5, 125.8, 125.3, 124.3, 123.2, 123.0, 120.5, 120.2, 120.1, 118.3, 115.9, 115.5, 35.4, 19.3. HRMS (ESI) calcd for $\text{C}_{30}\text{H}_{24}\text{N}^+$: 398.1903 ($\text{M} + \text{H}^+$), found: 398.1904.

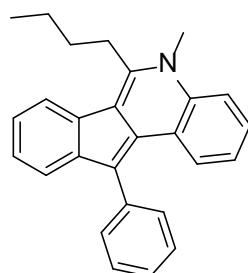


6-(4-Chlorophenyl)-5-methyl-11-phenyl-5*H*-indeno[1,2-*c*]quinoline (**3k**). ^1H NMR (400 MHz, CDCl_3): δ 8.04 (d, $J = 8.1$ Hz, 1H), 7.65-7.39 (m, 12H), 7.28-7.23 (m, 1H), 7.12 (t, $J = 7.6$ Hz, 1H), 6.95 (t, $J = 7.6$ Hz, 1H), 6.42 (d, $J = 7.8$ Hz, 1H), 3.58 (s, 3H). ^{13}C NMR (100 MHz, CDCl_3): δ 142.7, 142.6, 138.5, 136.1, 135.8, 134.0, 130.7, 130.6, 130.0, 128.8, 126.7, 125.8, 125.4, 124.6, 123.2, 123.0, 120.6, 120.5, 118.5, 116.5, 115.5, 36.4. HRMS

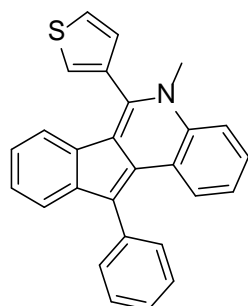
(ESI) calcd for $C_{29}H_{21}ClN^+$: 418.1357 ($M + H^+$), found: 418.1345.



6-(4-Fluorophenyl)-5-methyl-11-phenyl-5*H*-indeno[1,2-*c*]quinoline (**3l**). 1H NMR (400 MHz, $CDCl_3$): δ 8.05 (d, $J = 8.1$ Hz, 1H), 7.60-7.20 (m, 13H), 7.11 (t, $J = 7.4$ Hz, 1H), 6.93 (t, $J = 7.6$ Hz, 1H), 6.35 (d, $J = 7.9$ Hz, 1H), 3.52 (s, 3H). ^{13}C NMR (100 MHz, $CDCl_3$): δ 163.3 (d, $J_{CF} = 248.8$ Hz), 142.9, 142.6, 138.5, 136.1, 131.5, 131.2, 131.1, 130.6, 129.0, 128.8, 126.7, 125.7, 125.4, 124.5, 123.1, 123.0, 120.5 (d, $^3J_{CF} = 7.7$ Hz), 120.4, 118.5, 116.8 (d, $^2J_{CF} = 21.6$ Hz), 116.7, 115.5, 36.2. HRMS (ESI) calcd for $C_{29}H_{21}FN^+$: 402.1653 ($M + H^+$), found: 402.1648.

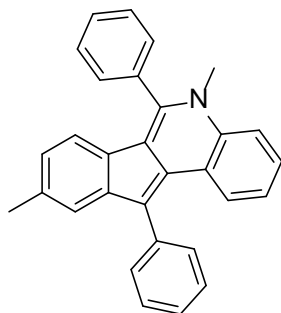


6-Butyl-5-methyl-11-phenyl-5*H*-indeno[1,2-*c*]quinoline (**3m**). 1H NMR (400 MHz, $CDCl_3$): δ 8.03-8.95 (m, 2H), 7.59-7.51 (m, 5H), 7.44-7.28 (m, 5H), 7.04 (t, $J = 7.2$ Hz, 1H), 3.78 (s, 3H), 3.38 (m, 2H), 1.92-1.84 (m, 2H), 1.72-1.63 (m, 2H), 1.07 (t, $J = 7.6$ Hz, 3H). ^{13}C NMR (100 MHz, $CDCl_3$): δ 146.5, 142.4, 138.9, 136.3, 130.8, 128.8, 128.3, 126.5, 126.4, 125.7, 125.4, 123.9, 122.9, 122.7, 120.9, 120.7, 119.1, 118.8, 115.3, 115.0, 34.4, 30.5, 30.2, 23.1, 13.9. HRMS (ESI) calcd for $C_{27}H_{26}N^+$: 364.2060 ($M + H^+$), found: 364.2038.

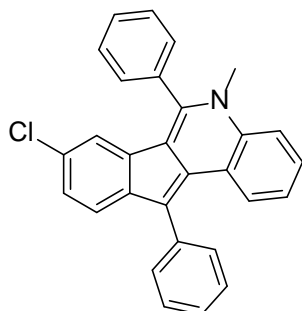


5-Methyl-11-phenyl-6-(thiophen-3-yl)-5*H*-indeno[1,2-*c*]quinoline (**3n**). 1H NMR (400 MHz, $CDCl_3$): δ 8.04 (d, $J = 8.1$ Hz, 1H), 7.68-7.66 (m, 1H), 7.61-7.59 (m, 2H), 7.55-7.37 (m, 7H), 7.28-7.24 (m, 1H), 7.21-7.20 (m, 1H), 7.11 (t, $J = 7.7$ Hz, 1H), 6.98 (t, $J = 7.5$ Hz, 1H), 6.49 (d, $J = 7.9$ Hz, 1H), 3.61 (s, 3H). ^{13}C NMR (100 MHz, $CDCl_3$): δ 142.5, 139.2, 138.6, 136.2, 135.3, 130.6, 129.0, 128.8, 128.0, 127.8, 126.6, 126.0, 125.7,

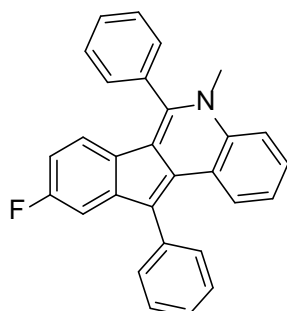
125.2, 124.5, 123.1, 123.0, 120.6, 120.4, 120.3, 118.4, 117.2, 115.5, 36.2. HRMS (ESI) calcd for $C_{27}H_{20}NS^+$: 390.1311 ($M + H^+$), found: 390.1335.



5,9-Dimethyl-6,11-diphenyl-5*H*-indeno[1,2-*c*]quinoline (**3o**). 1H NMR (400 MHz, $CDCl_3$): δ 8.03 (d, $J = 8.1$ Hz, 1H), 7.63-7.35 (m, 12H), 7.23 (s, 1H), 7.09 (t, $J = 7.9$ Hz, 1H), 6.73 (d, $J = 8.0$ Hz, 1H), 6.21 (d, $J = 8.0$ Hz, 1H), 3.56 (s, 3H), 2.36 (s, 3H). ^{13}C NMR (100 MHz, $CDCl_3$): δ 143.3, 142.9, 138.9, 136.1, 135.7, 134.2, 130.7, 129.5, 129.2, 128.8, 126.8, 126.5, 126.4, 125.7, 123.0, 122.9, 121.9, 120.4, 119.9, 118.4, 116.3, 115.4, 36.3, 21.8. HRMS (ESI) calcd for $C_{30}H_{24}N^+$: 398.1903 ($M + H^+$), found: 398.1884.

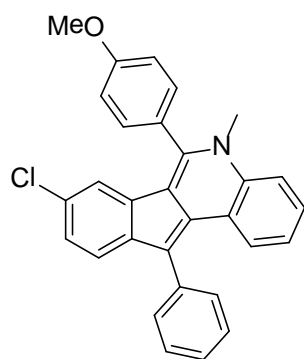


8-Chloro-5-methyl-6,11-diphenyl-5*H*-indeno[1,2-*c*]quinoline (**3p**). 1H NMR (400 MHz, $CDCl_3$): δ 8.05 (d, $J = 8.1$ Hz, 1H), 7.65-7.49 (m, 8H), 7.44-7.39 (m, 5H), 7.13 (t, $J = 7.7$ Hz, 1H), 6.82 (d, $J = 8.4$ Hz, 1H), 6.18 (d, $J = 8.5$ Hz, 1H), 3.57 (s, 3H). ^{13}C NMR (100 MHz, $CDCl_3$): δ 144.6, 143.5, 138.0, 136.0, 135.1, 130.6, 130.3, 129.8, 129.6, 128.9, 127.2, 126.9, 126.8, 126.7, 125.8, 123.4, 122.9, 121.5, 120.3, 119.1, 117.8, 115.7, 115.6, 36.4. HRMS (ESI) calcd for $C_{29}H_{21}ClN^+$: 418.1357 ($M + H^+$), found: 418.1331.

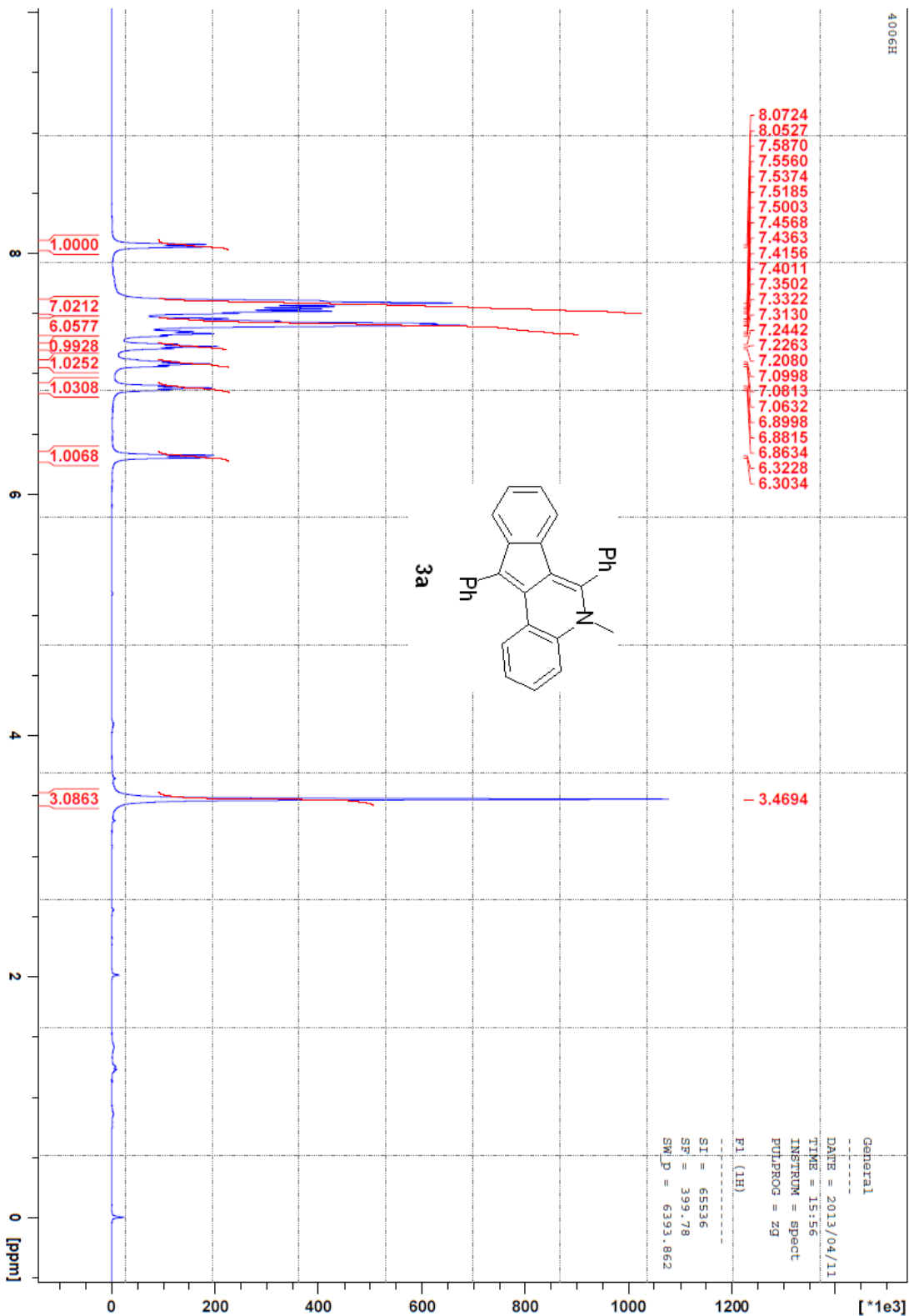


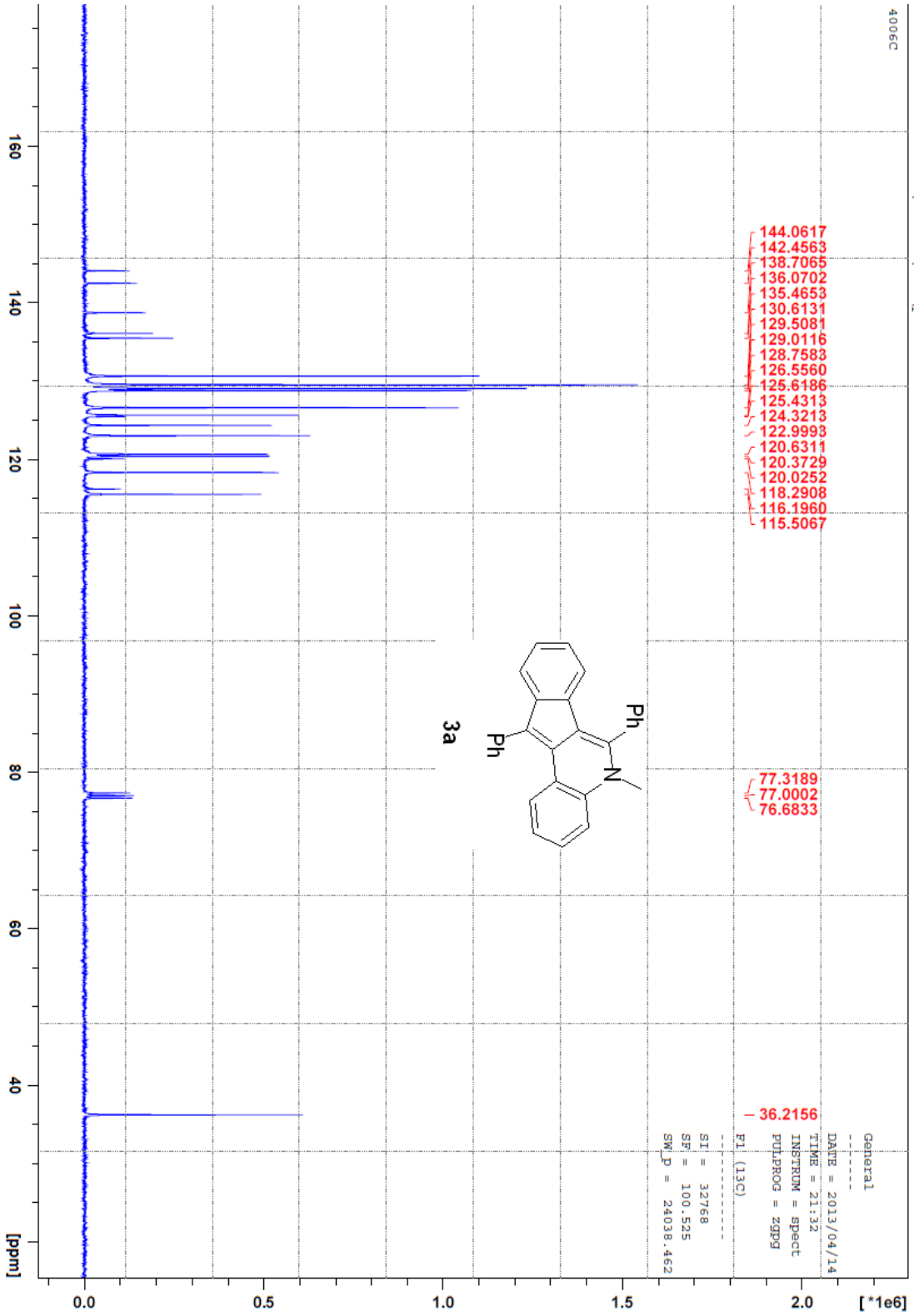
9-Fluoro-5-methyl-6,11-diphenyl-5*H*-indeno[1,2-*c*]quinoline (**3q**). 1H NMR (400 MHz, $CDCl_3$): δ 8.07 (d, $J = 8.0$ Hz, 1H), 7.66-7.39 (m, 12H), 7.15-7.06 (m, 2H), 6.62-6.57 (m, 1H), 6.23-6.19 (m, 1H), 3.58 (s, 3H). ^{13}C NMR (100 MHz, $CDCl_3$): δ 161.4 (d, $J_{CF} = 239.5$ Hz), 143.9, 143.8, 138.5, 136.0, 135.3, 130.5, 129.7, 129.6, 129.0, 128.9, 127.1, 126.9, 126.8, 125.8, 125.2, 123.2, 122.6, 121.6 (d, $^3J_{CF} = 9.4$ Hz), 119.5, 115.7, 115.6, 108.1 (d, $^2J_{CF} = 24.0$ Hz), 103.7 (d, $^2J_{CF} = 22.7$ Hz), 36.4. HRMS (ESI) calcd for

$C_{29}H_{21}FN^+$: 402.1653 (M + H⁺), found: 402.1663.

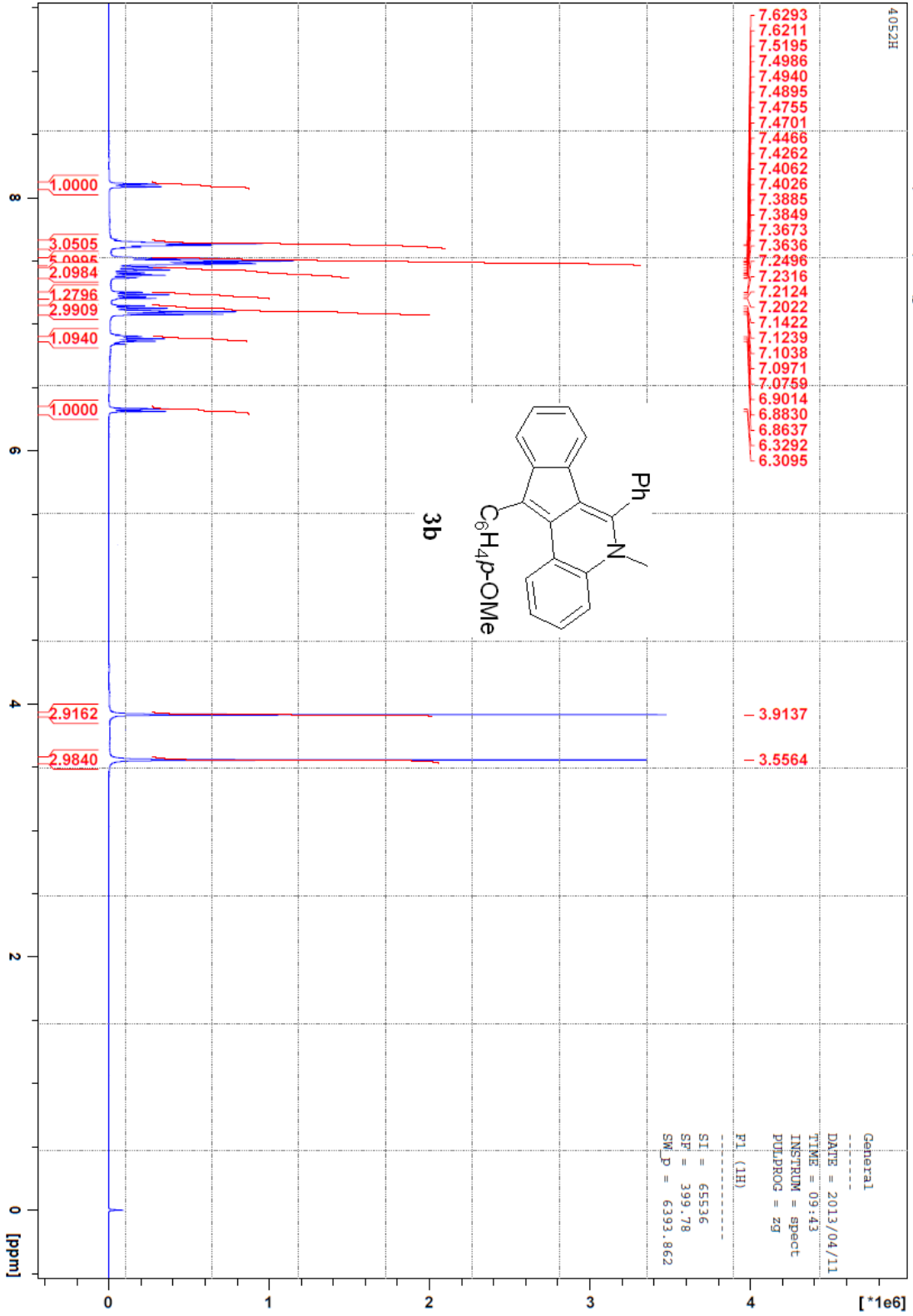


8-Chloro-6-(4-methoxyphenyl)-5-methyl-11-phenyl-5*H*-indeno[1,2-*c*]quinoline (**3r**). ¹H NMR (400 MHz, CDCl₃): δ 8.03 (d, *J* = 8.0 Hz, 1H), 7.58-7.51 (m, 5H), 7.45-7.33 (m, 6H), 7.19-7.10 (m, 4H), 6.38 (s, 1H), 3.97 (s, 3H), 3.60 (s, 3H). ¹³C NMR (100 MHz, CDCl₃): δ 160.7, 145.1, 140.5, 138.3, 136.2, 130.6, 130.3, 130.2, 128.8, 127.1, 126.8, 126.7, 125.9, 125.6, 124.3, 123.4, 123.1, 120.5, 119.3, 119.1, 115.8, 115.1, 55.6, 36.4. HRMS (ESI) calcd for C₃₀H₂₃ClNO⁺: 448.1463 (M + H⁺), found: 448.1461.

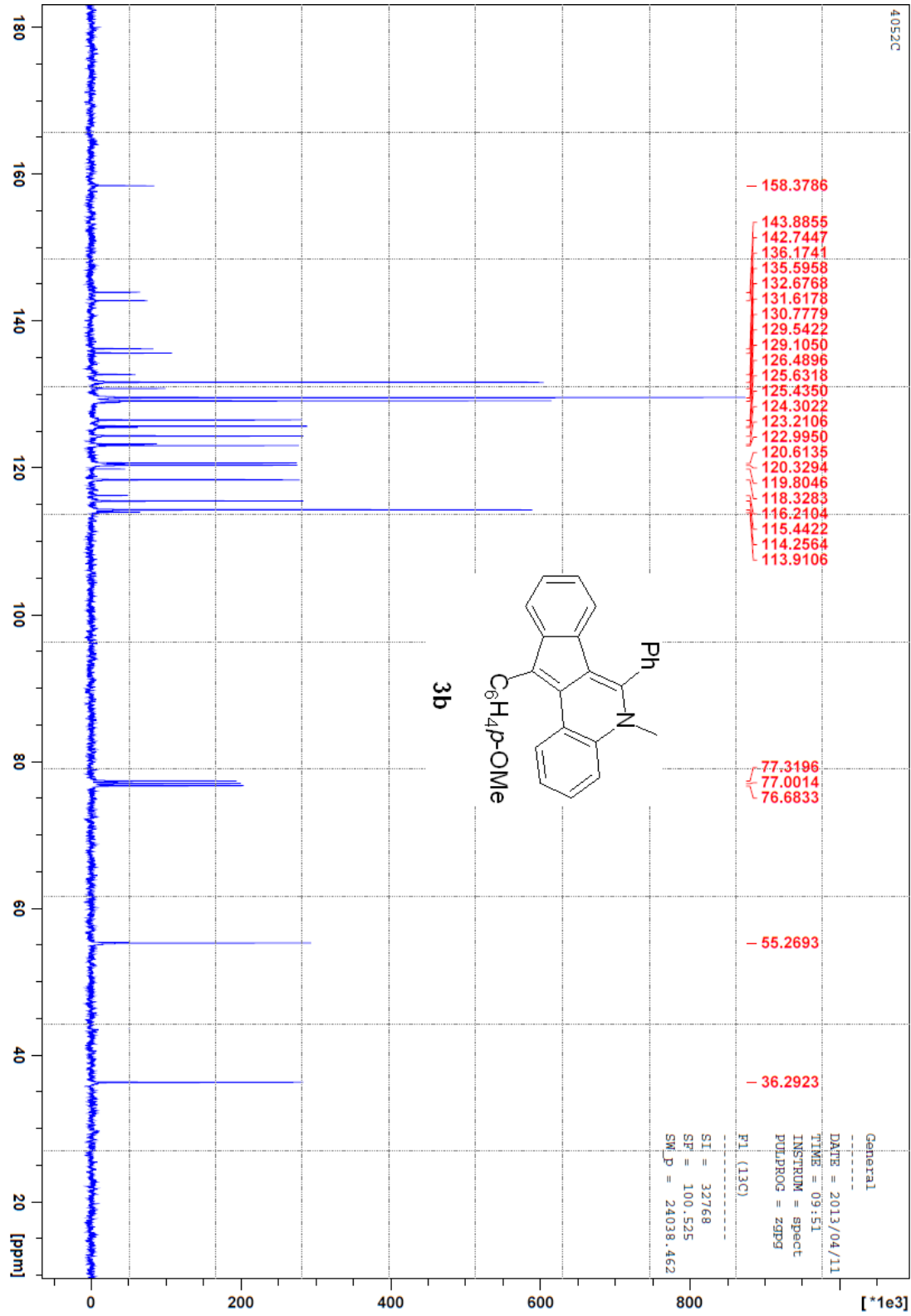


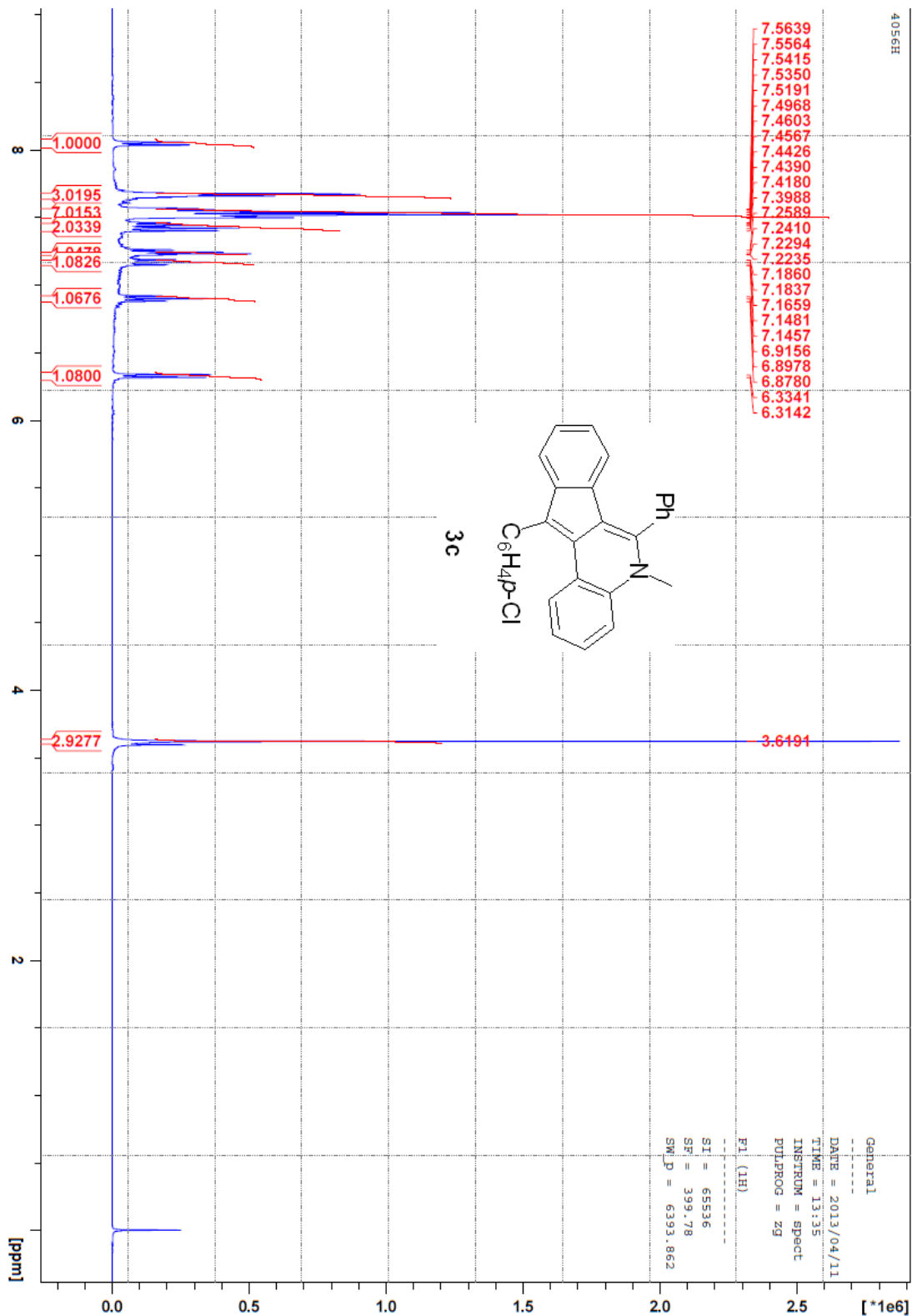


4052H

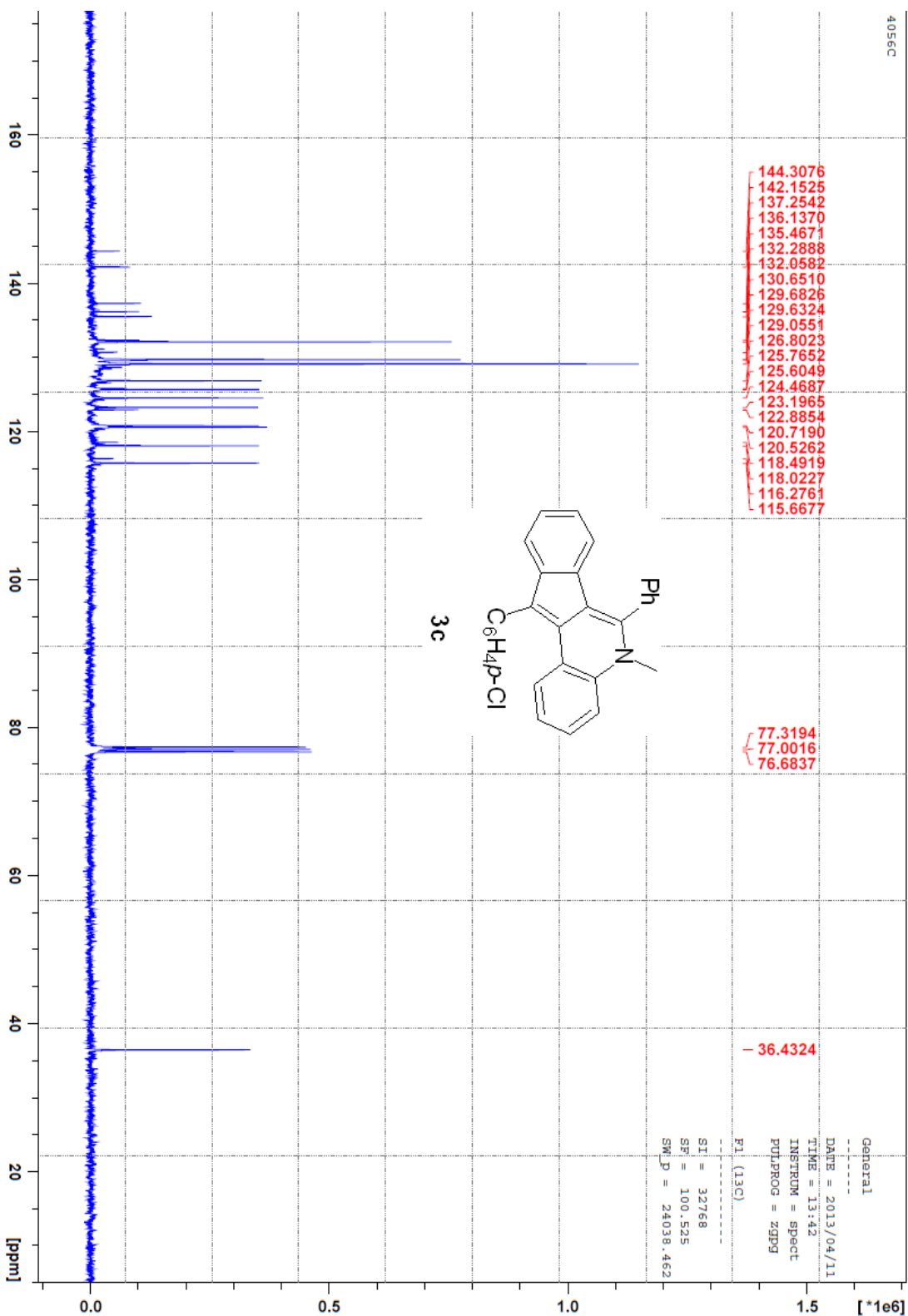


4052C

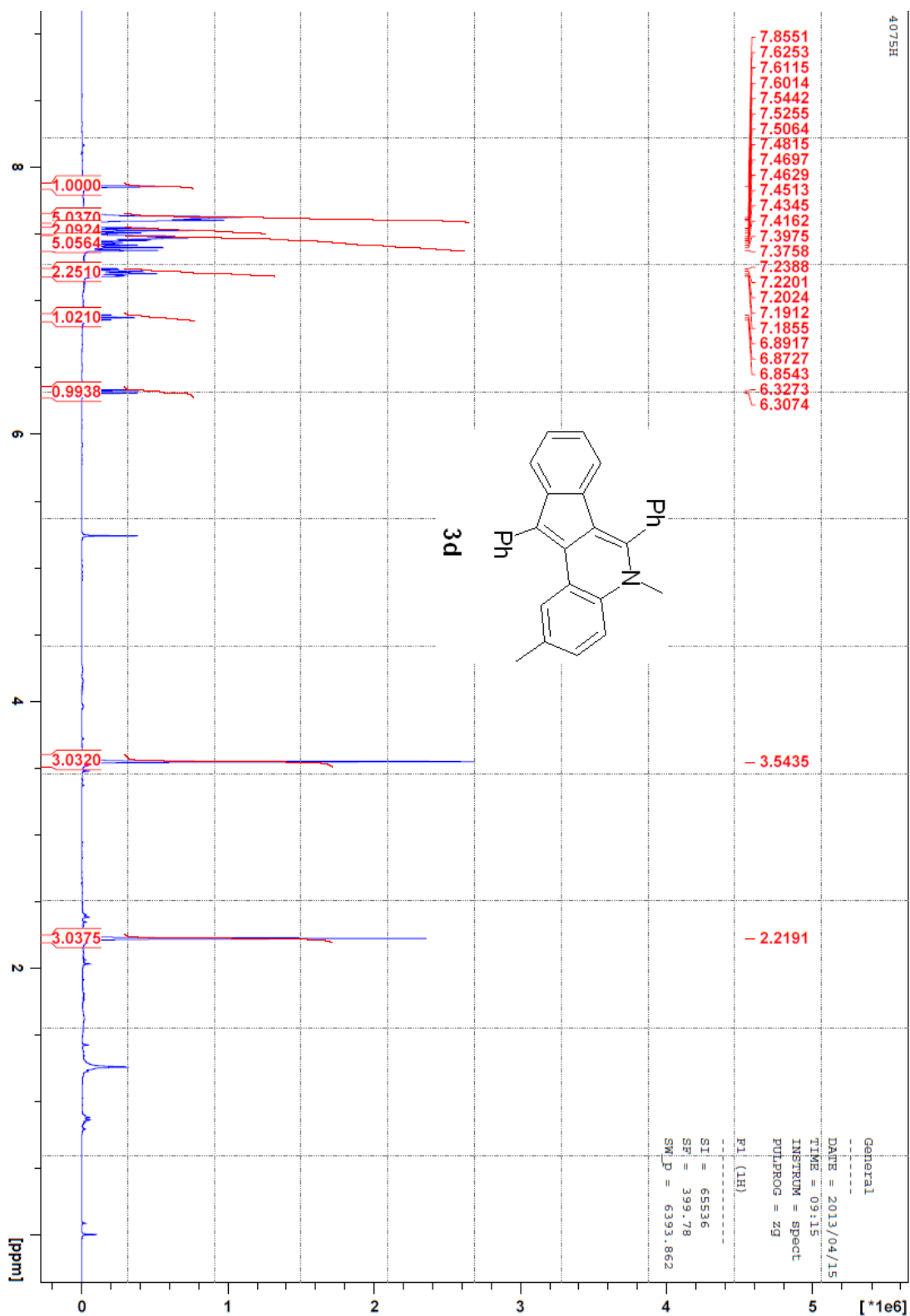




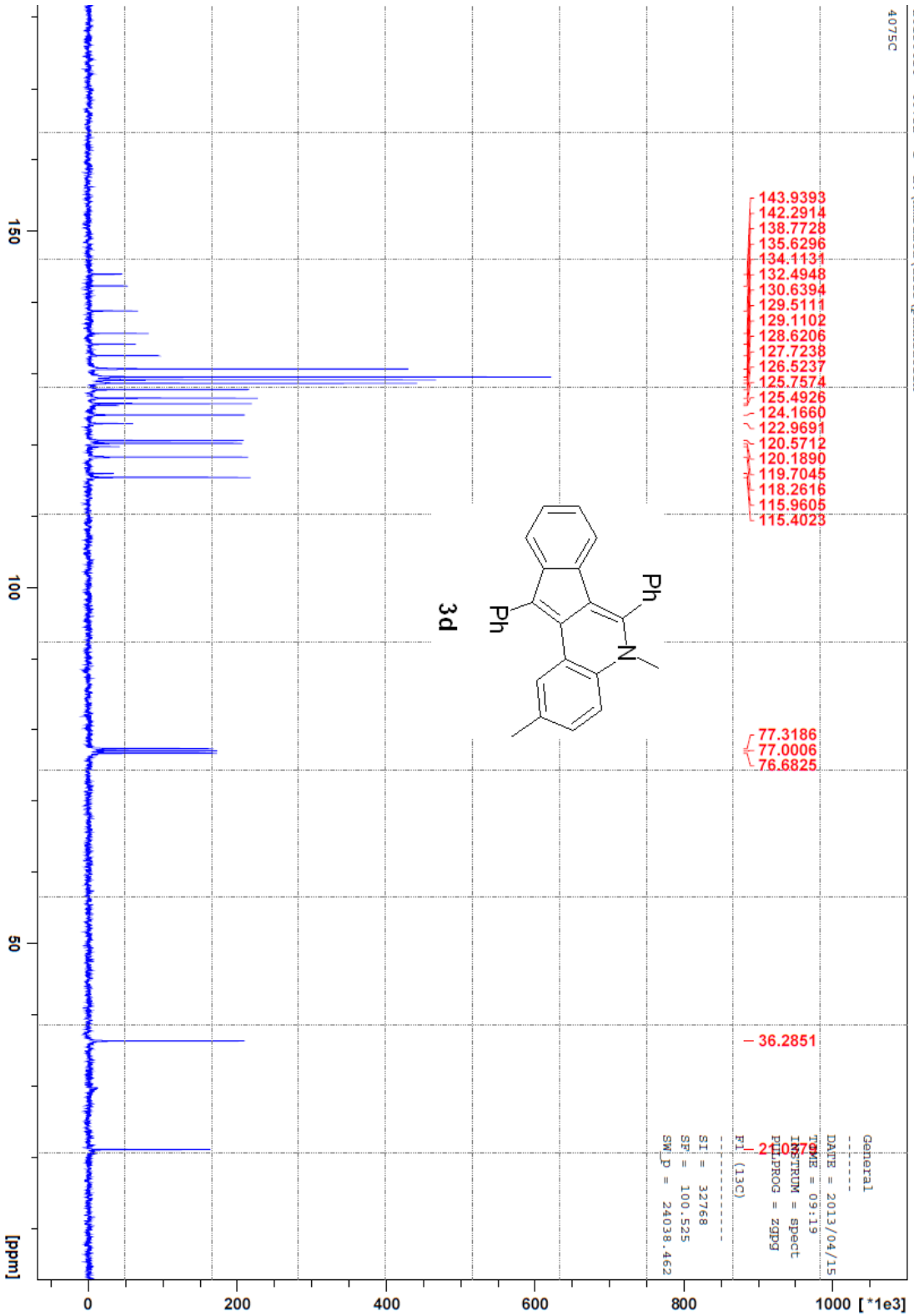
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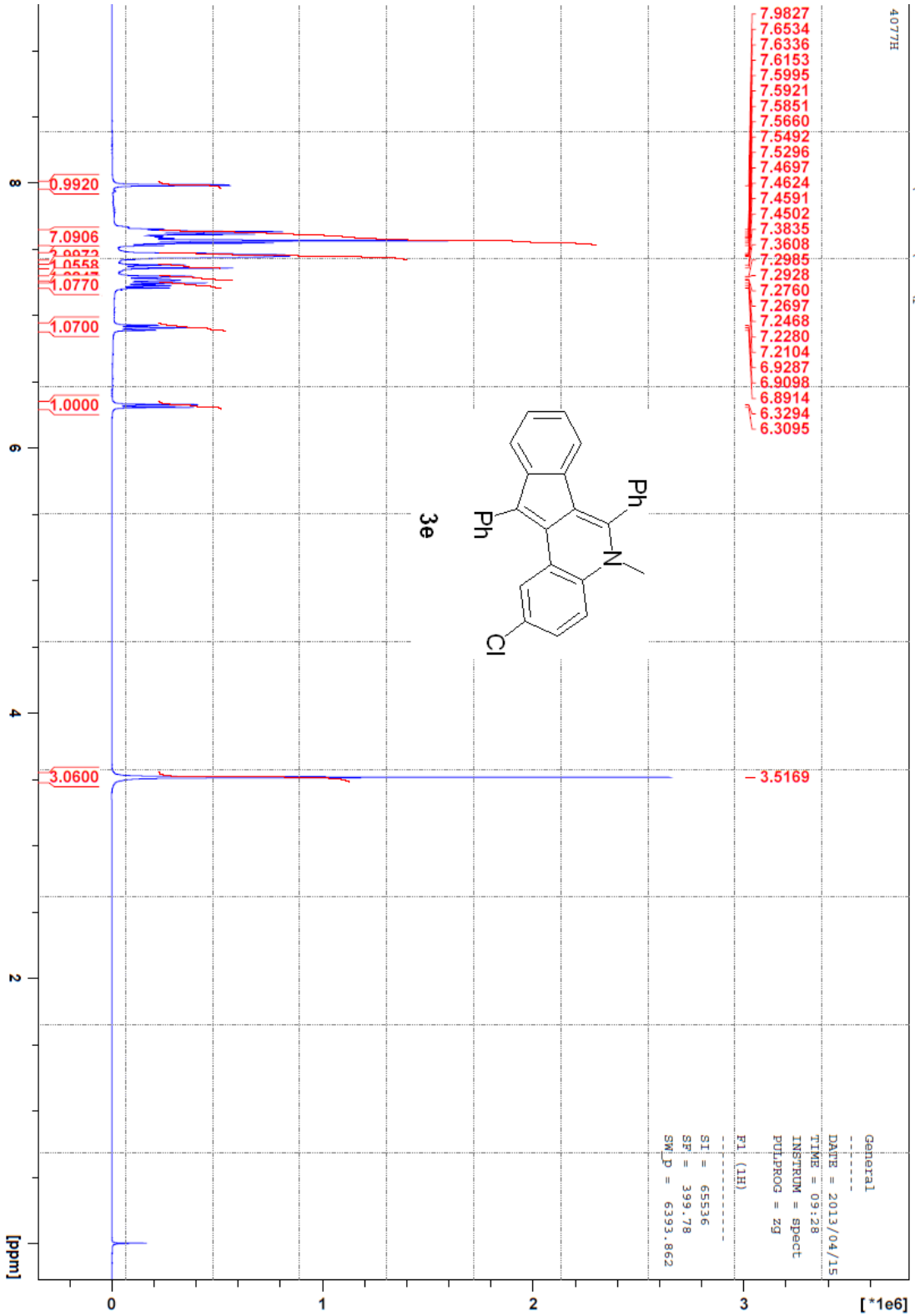


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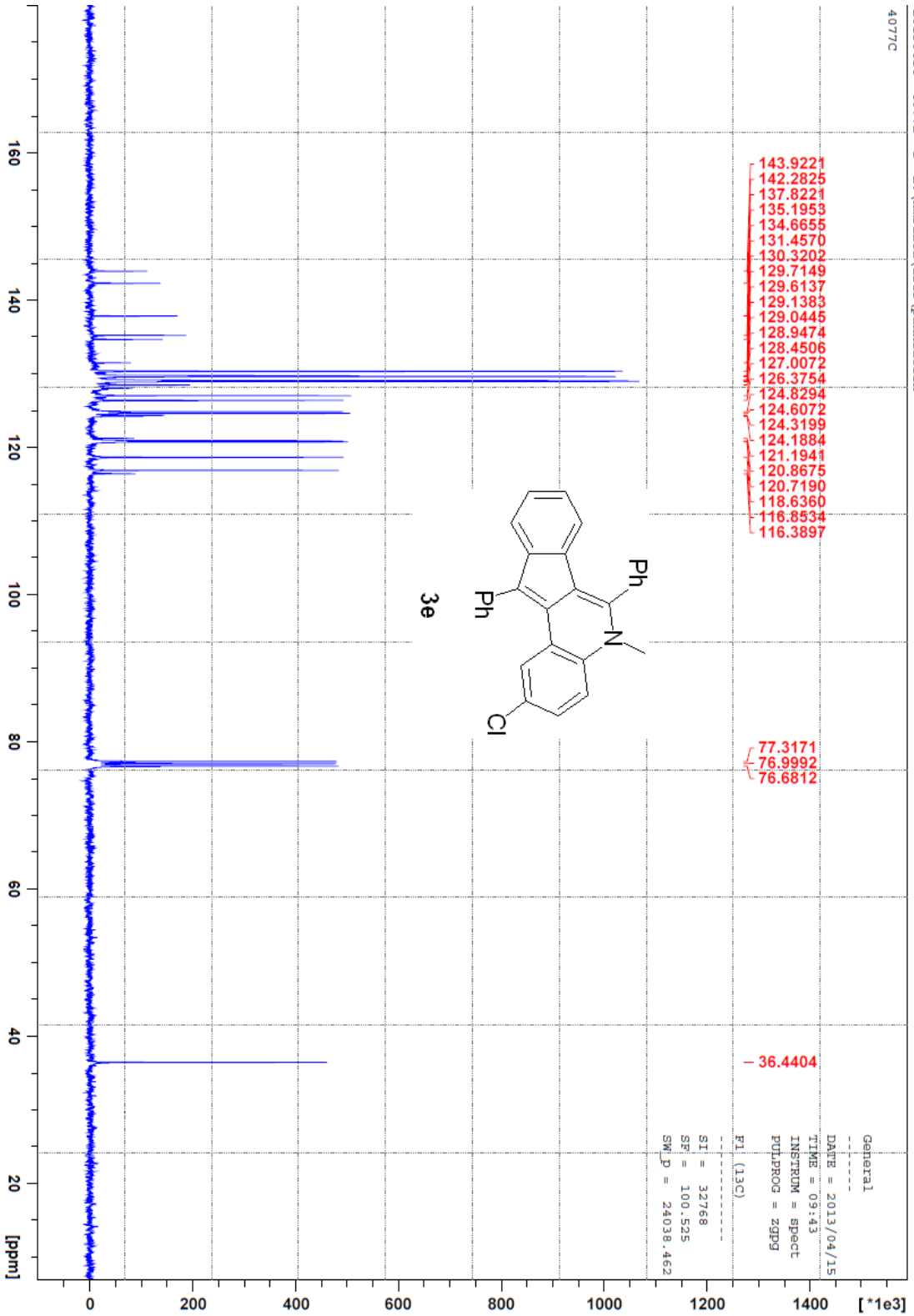


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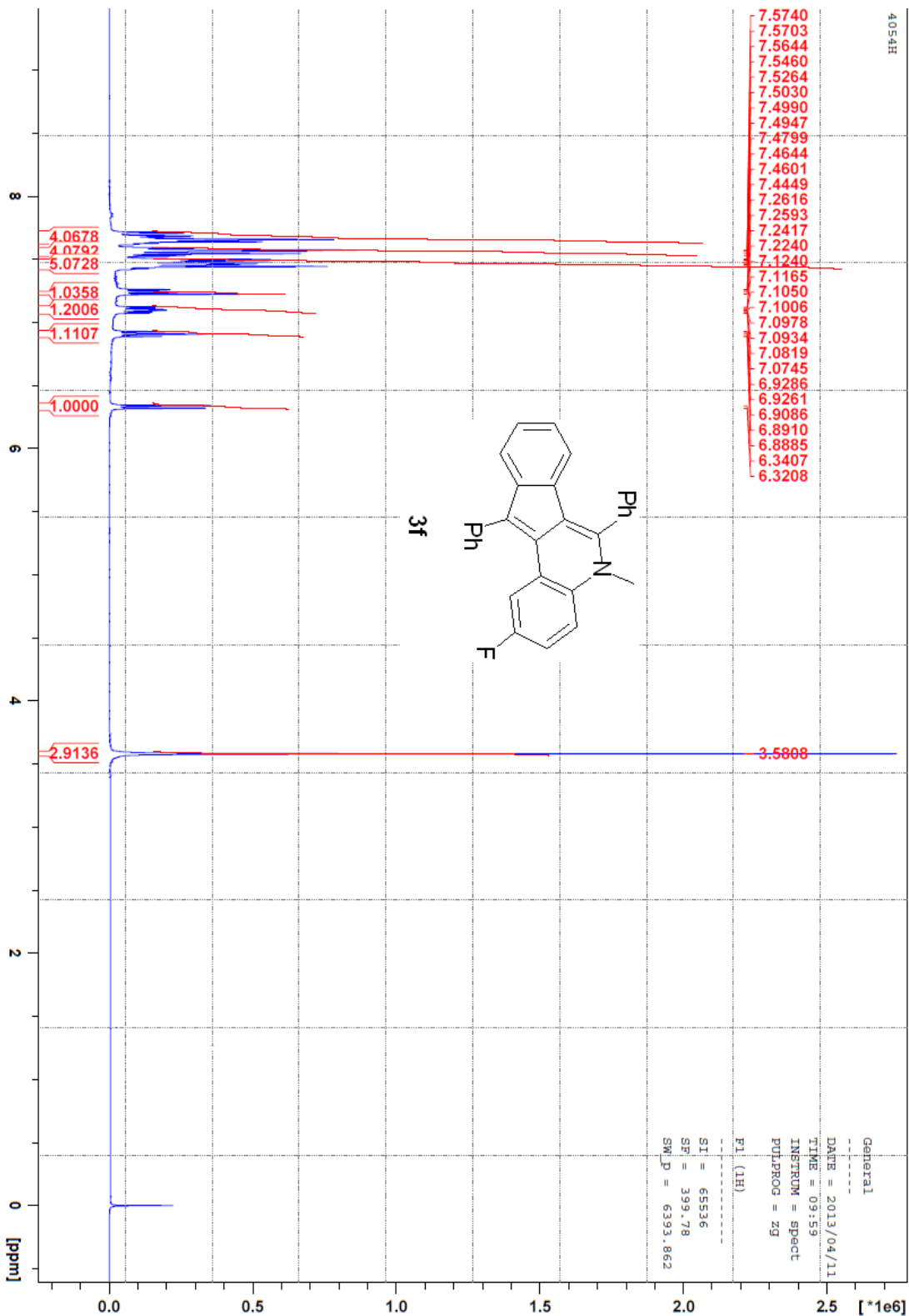


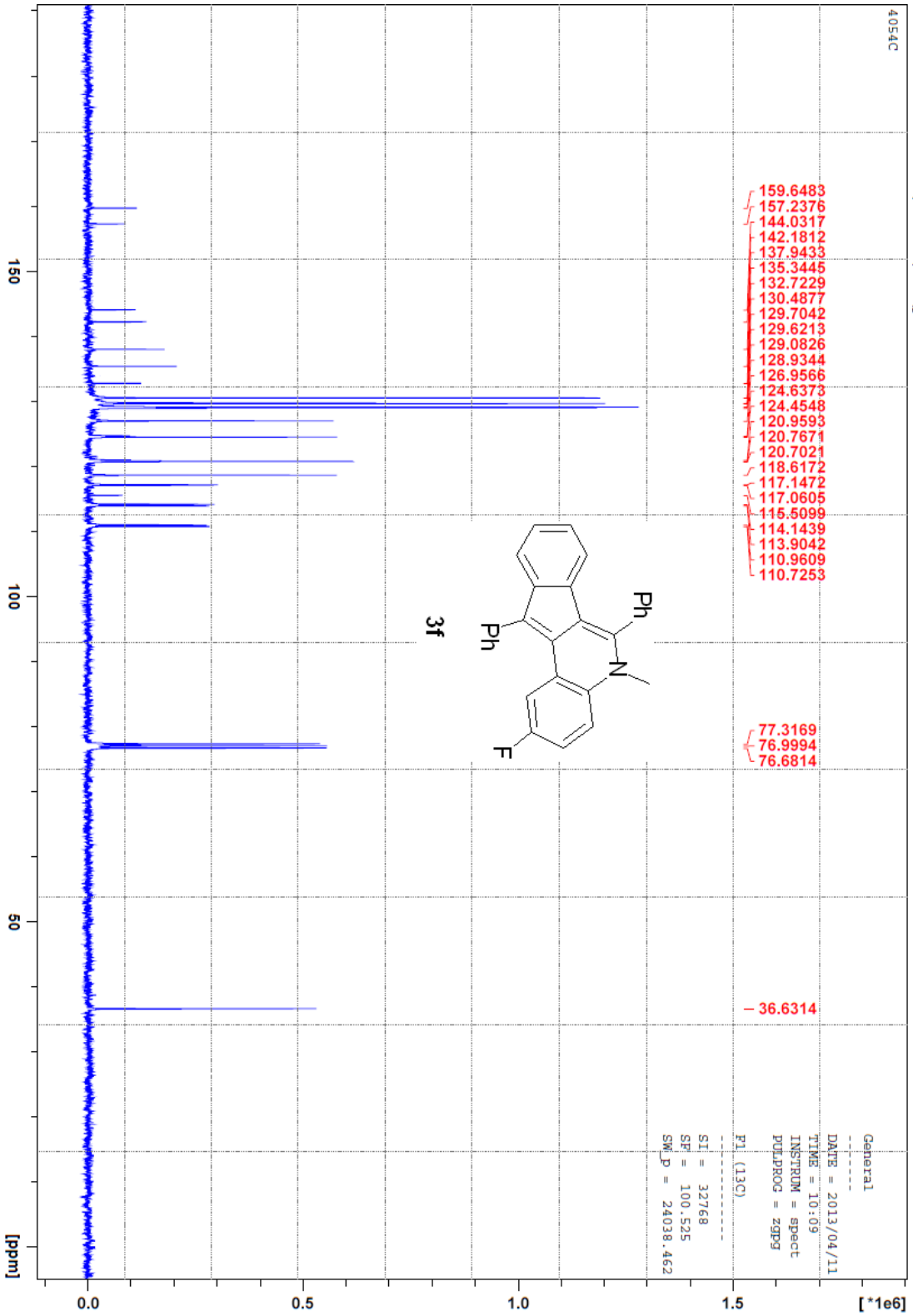


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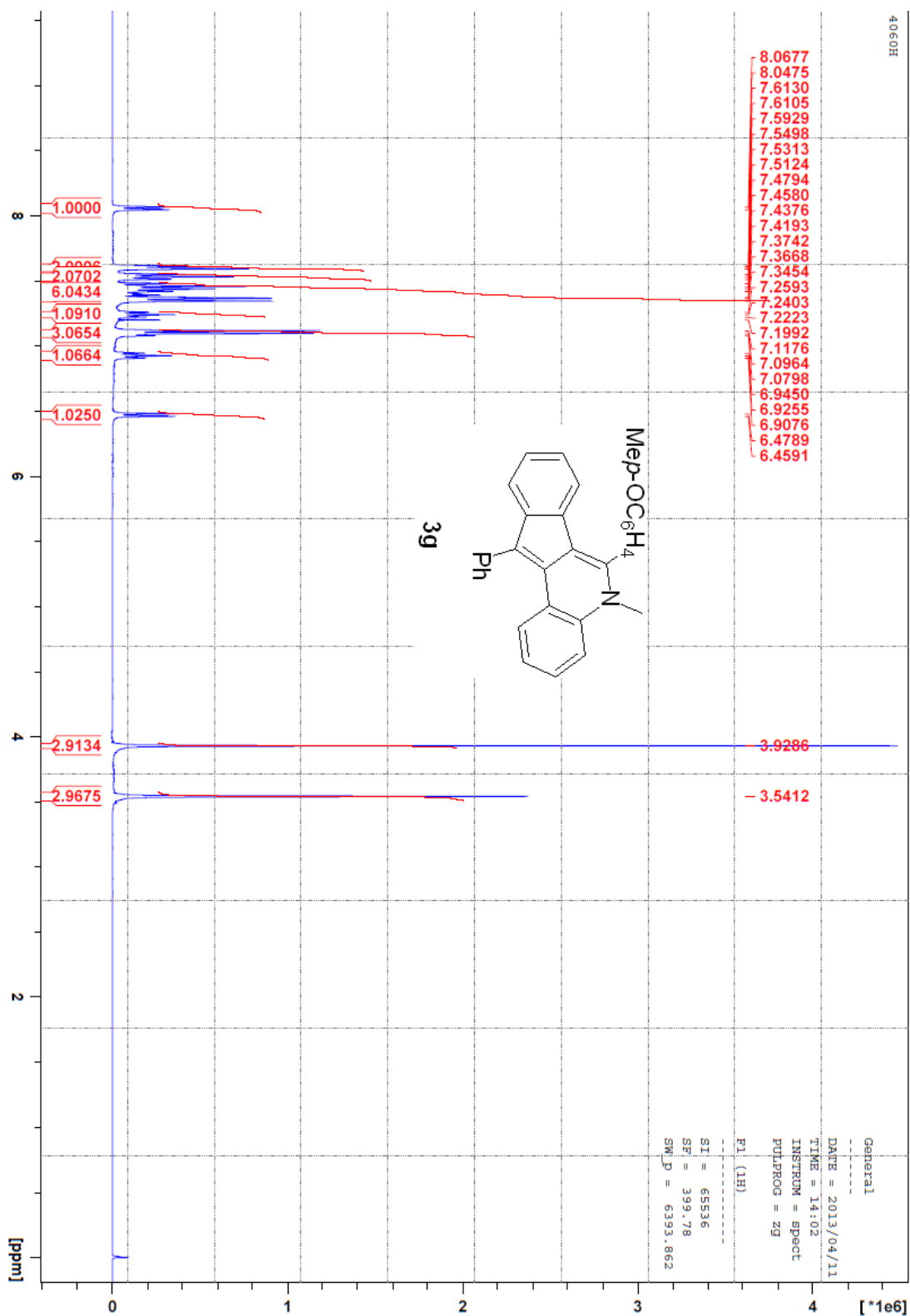


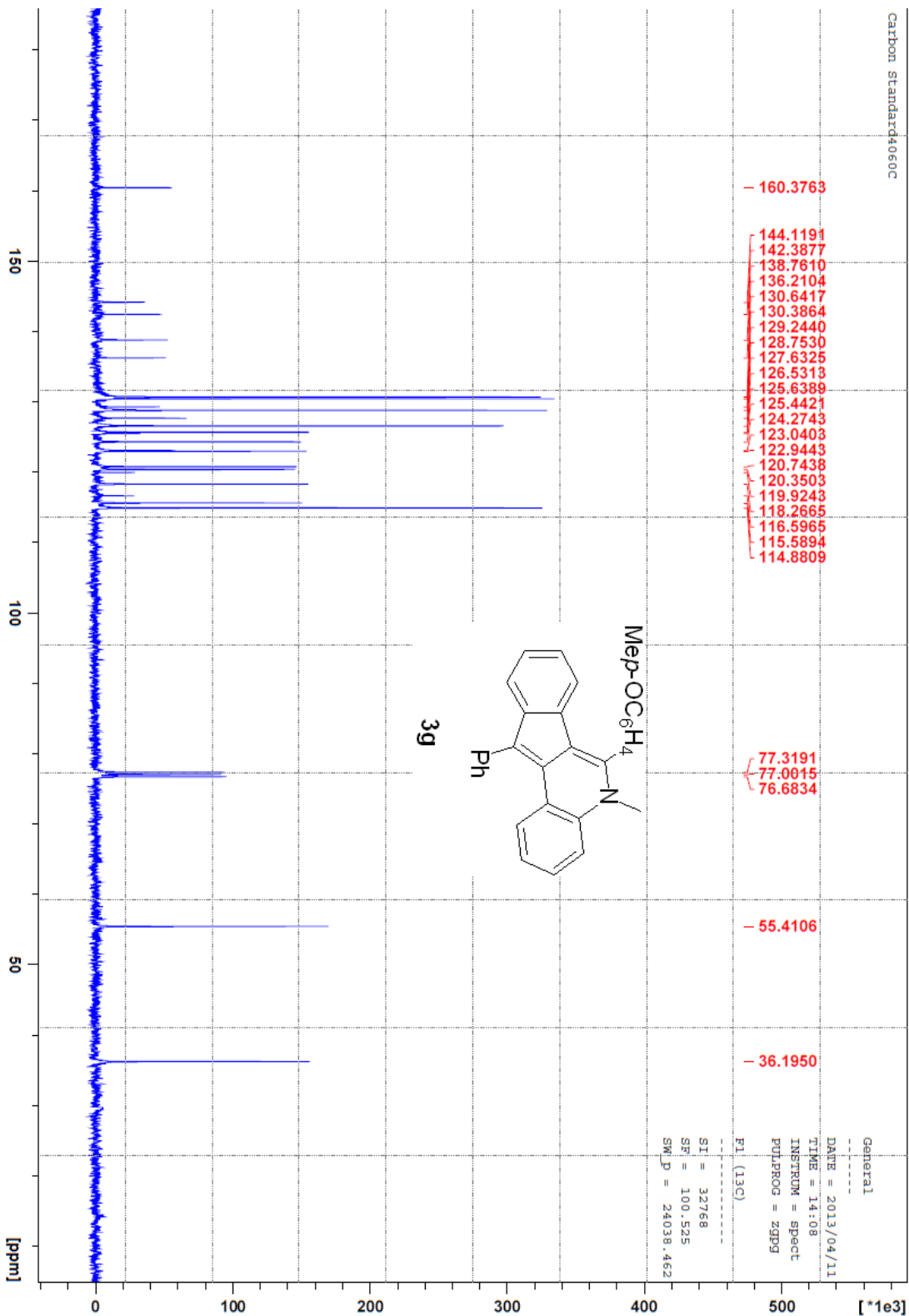
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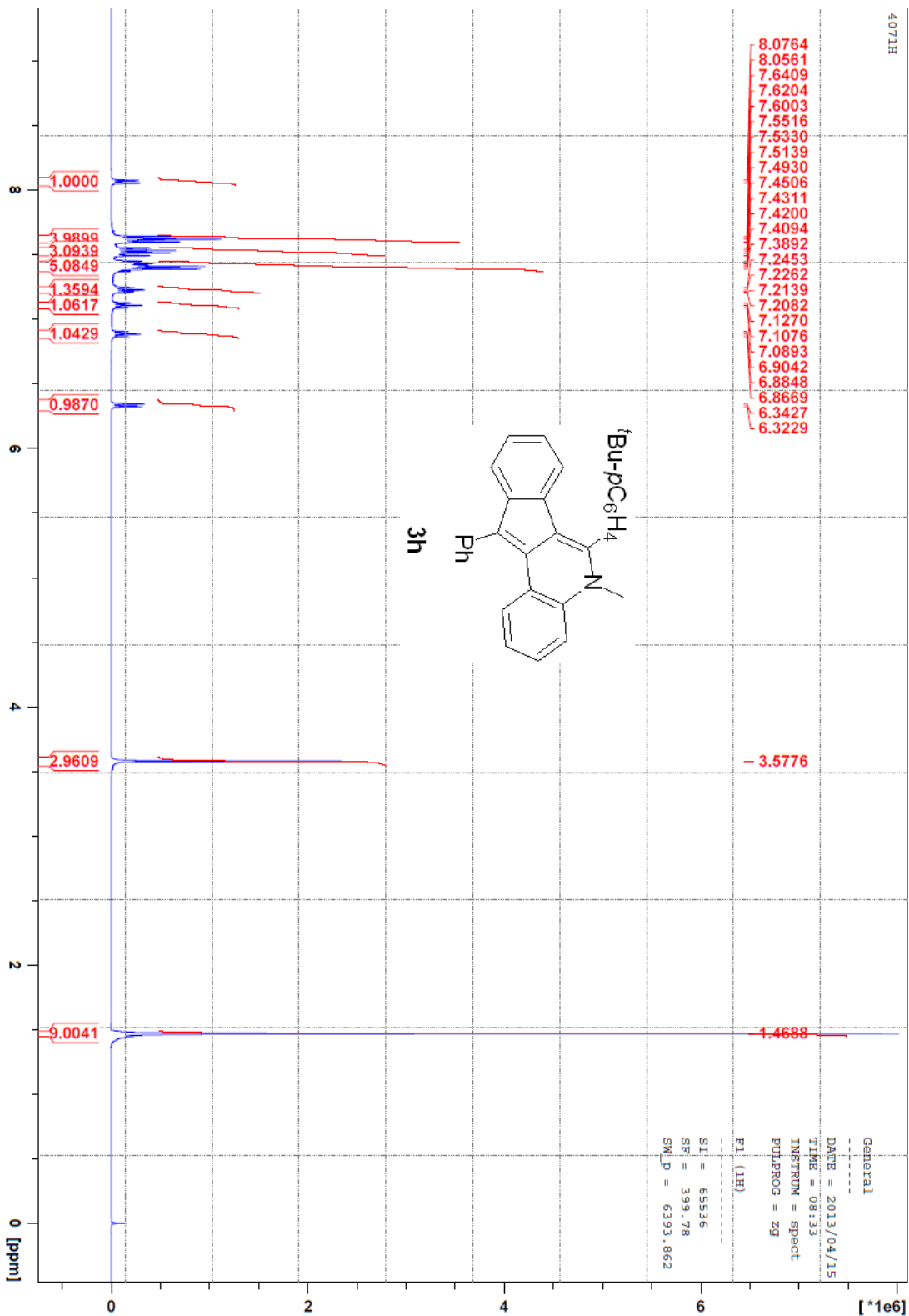


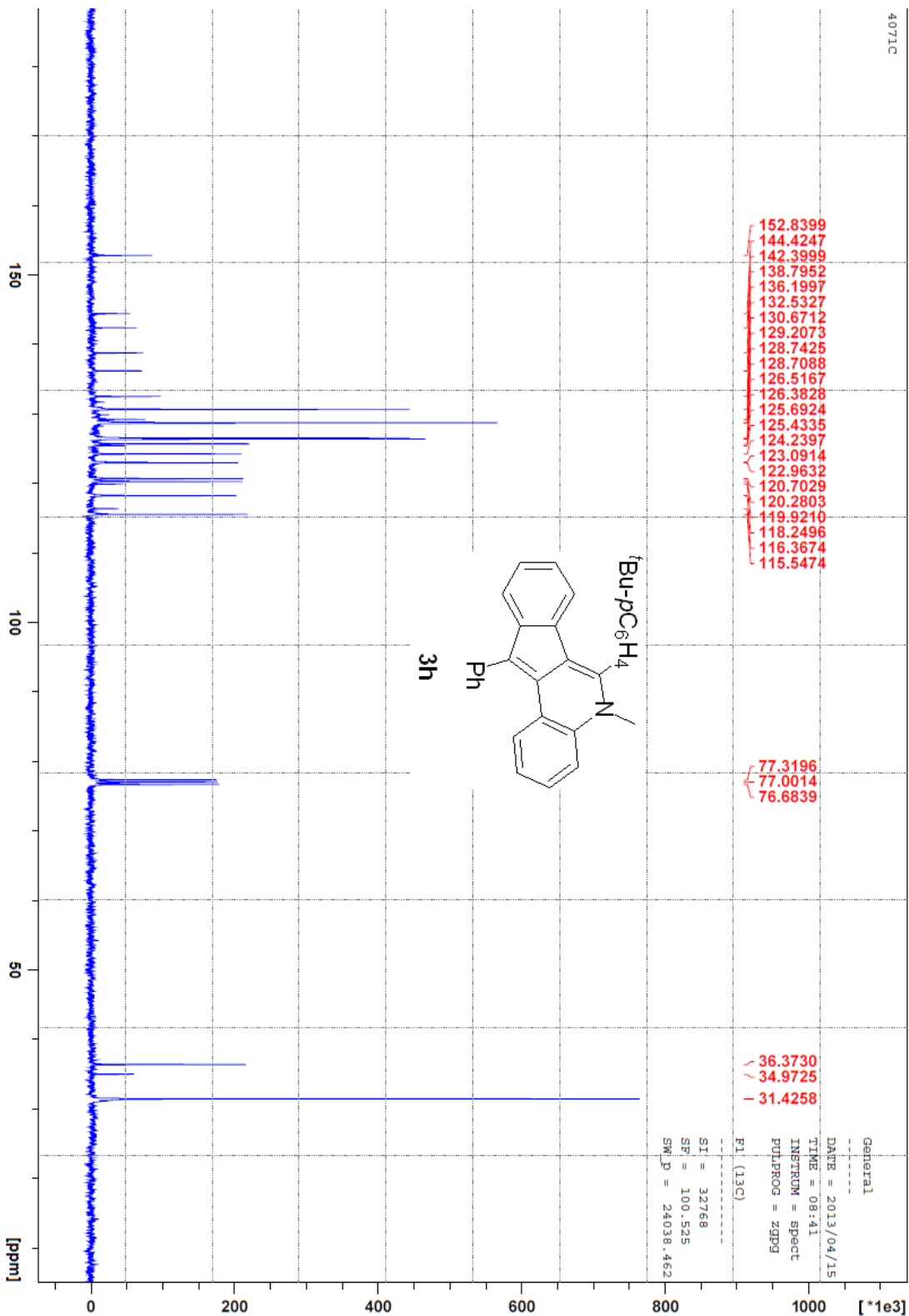


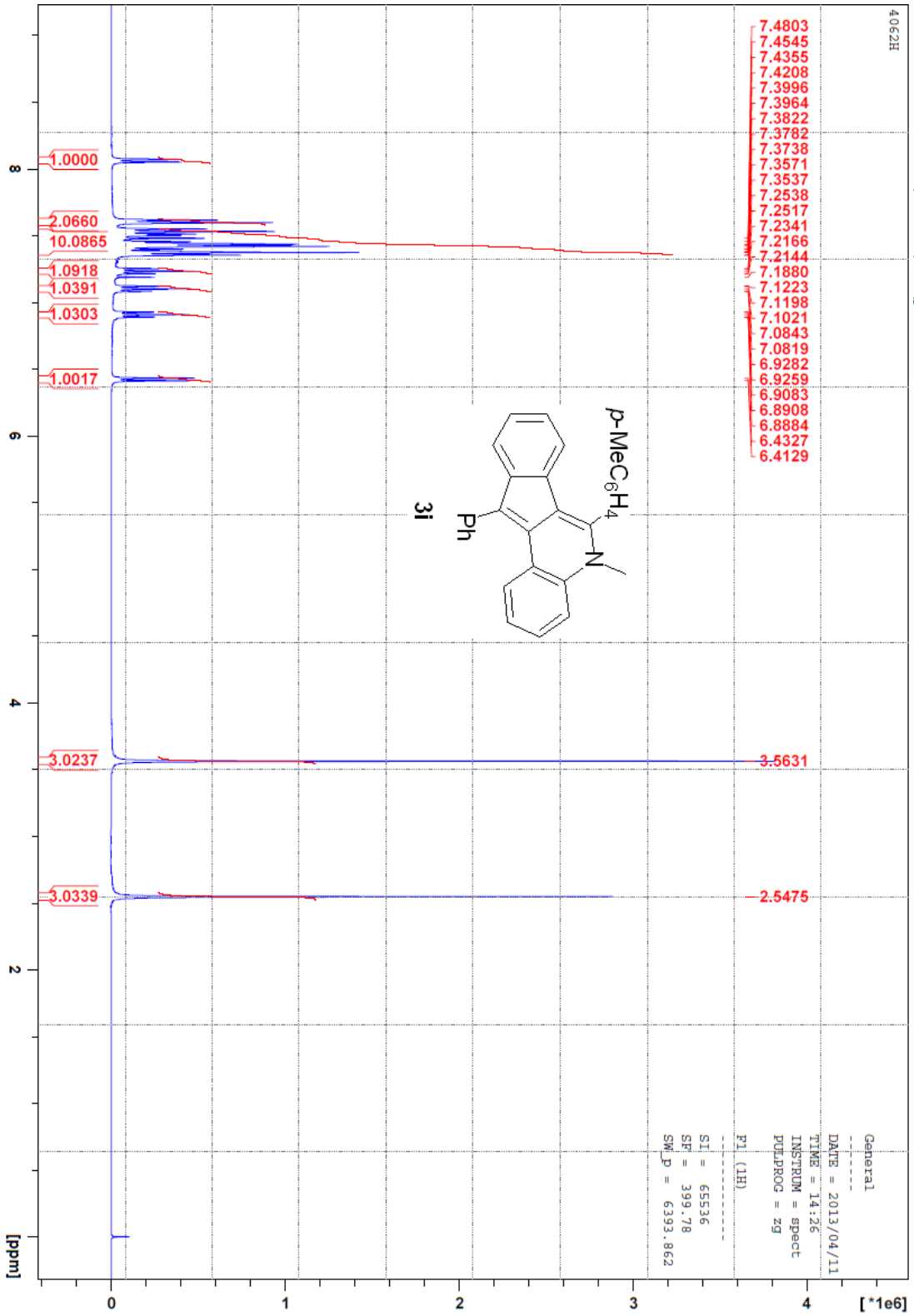
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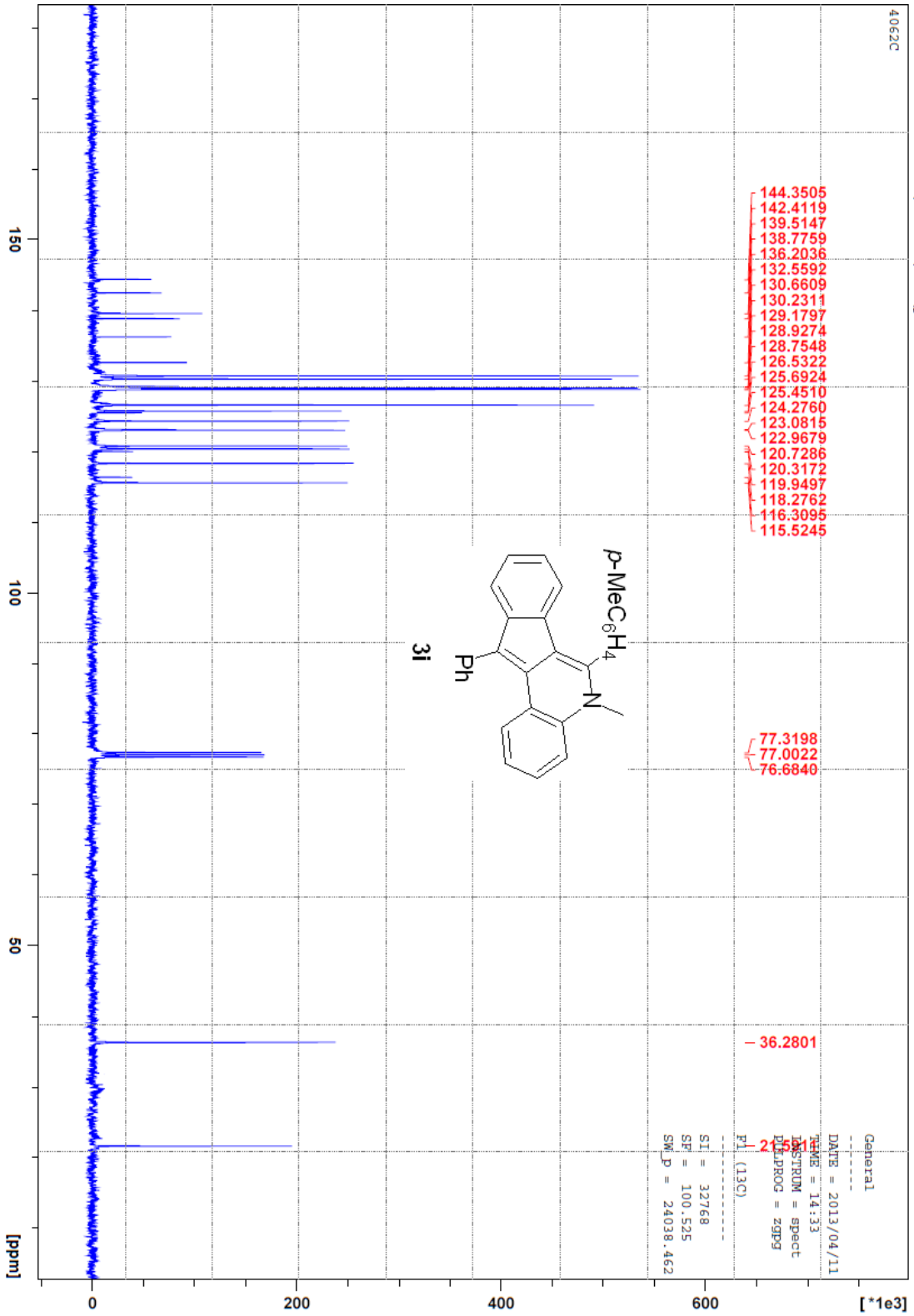


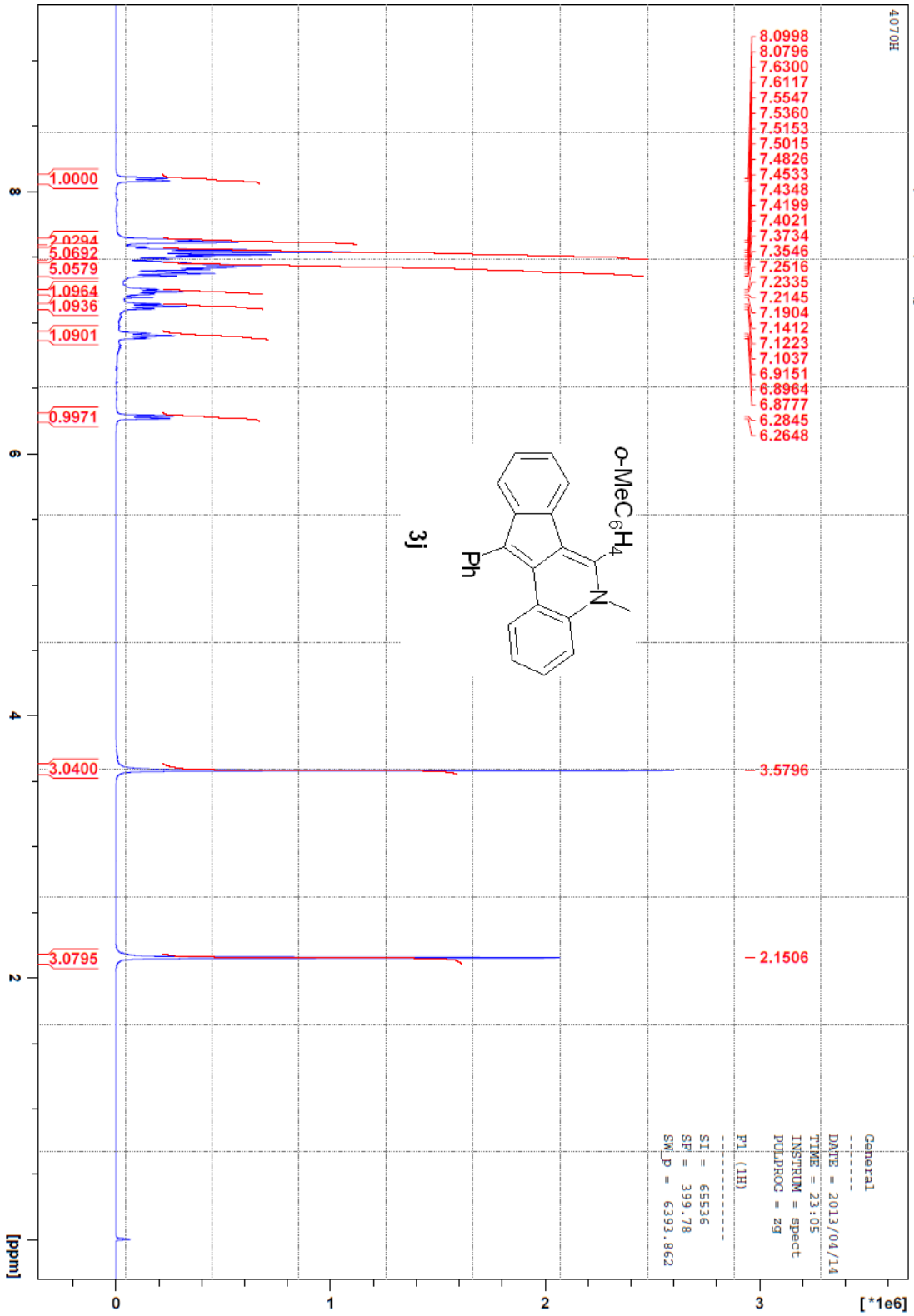


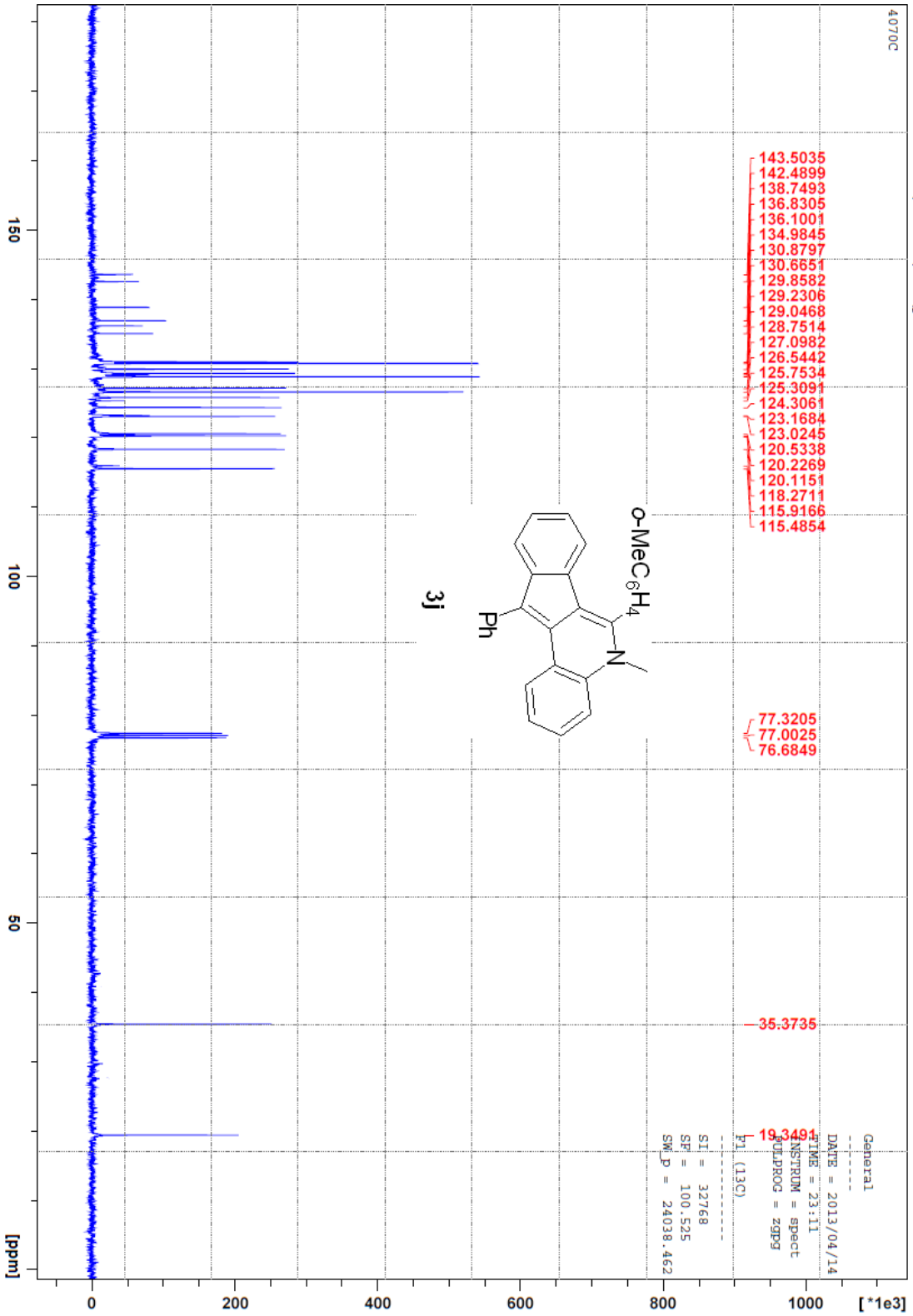


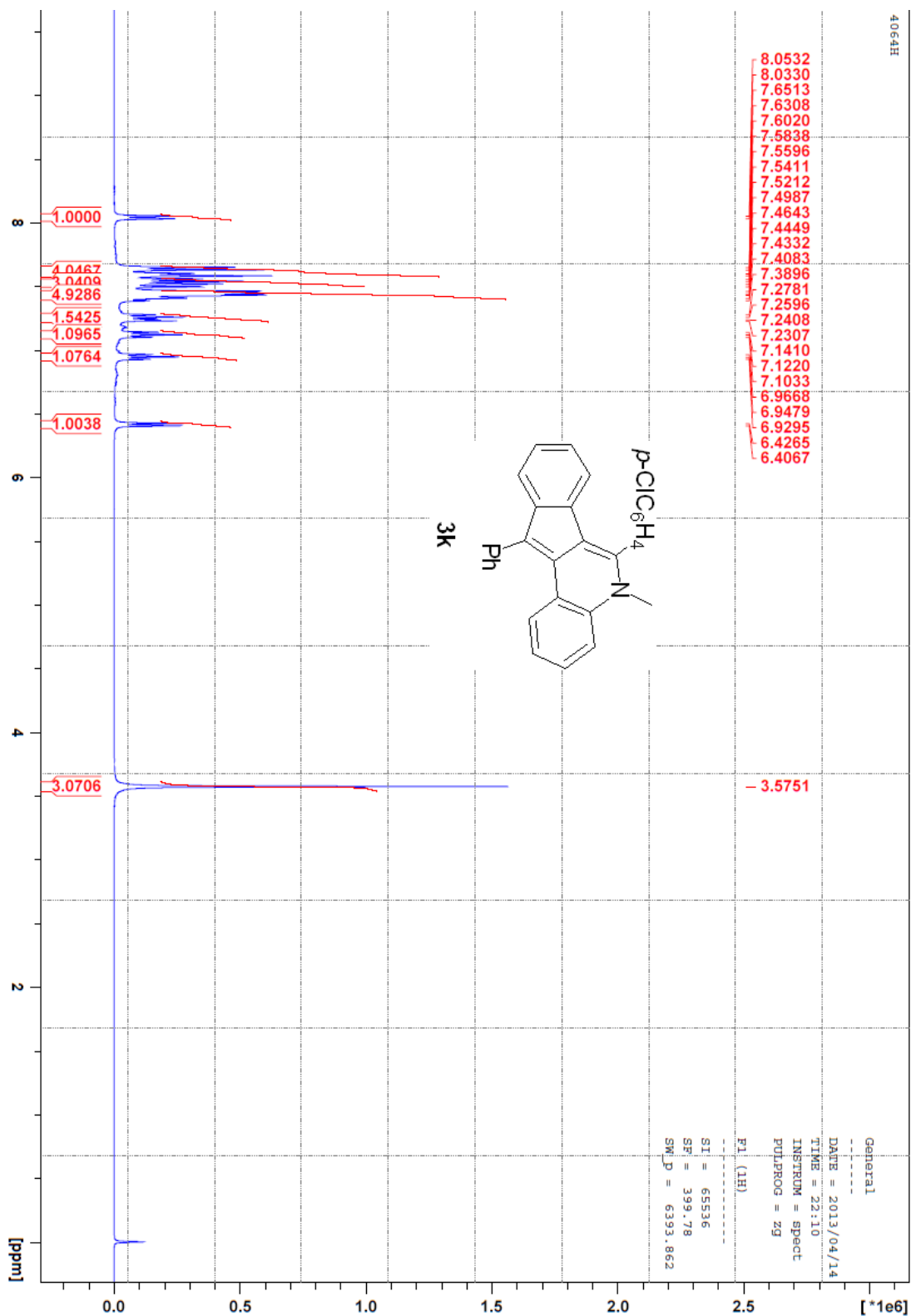


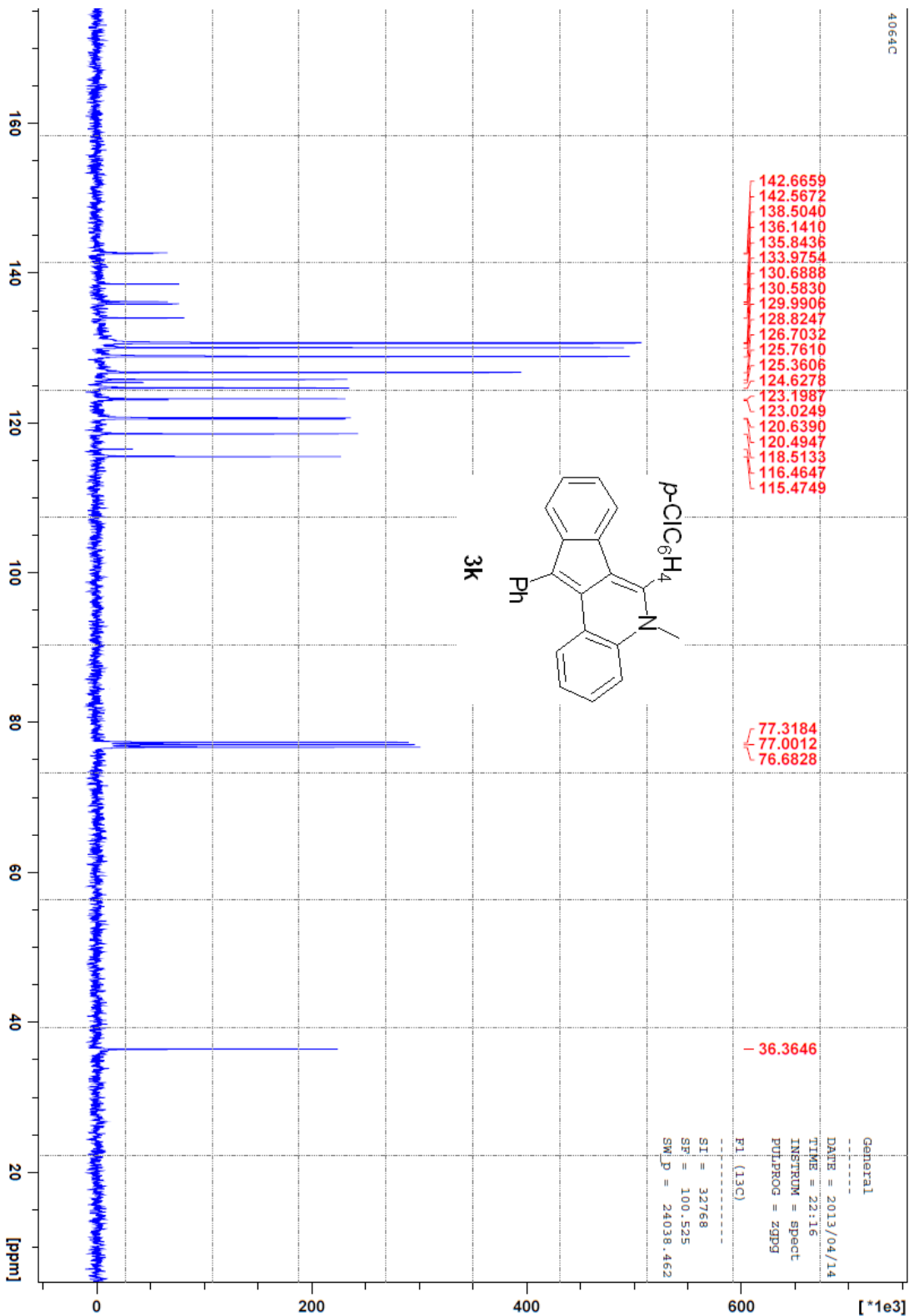


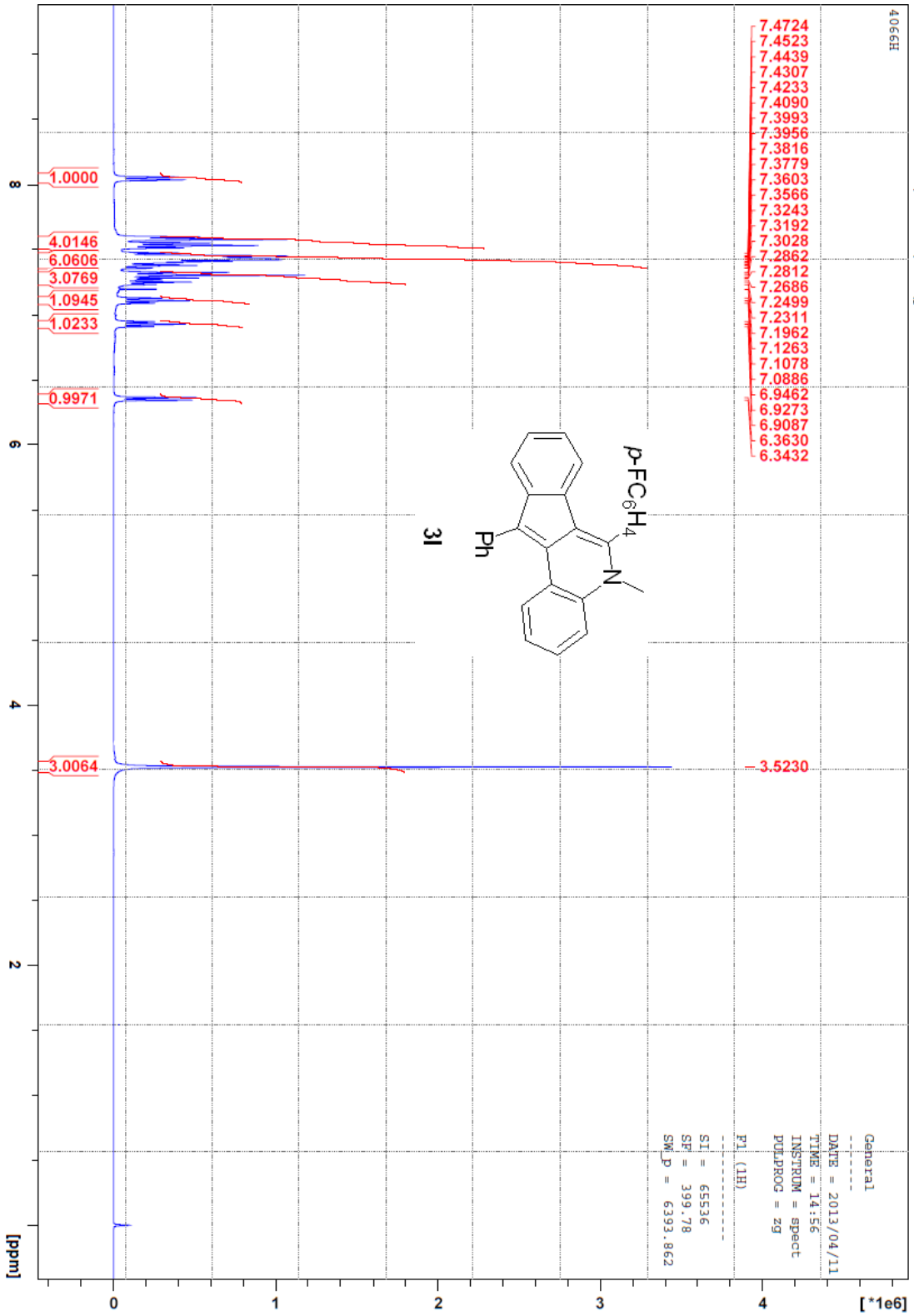


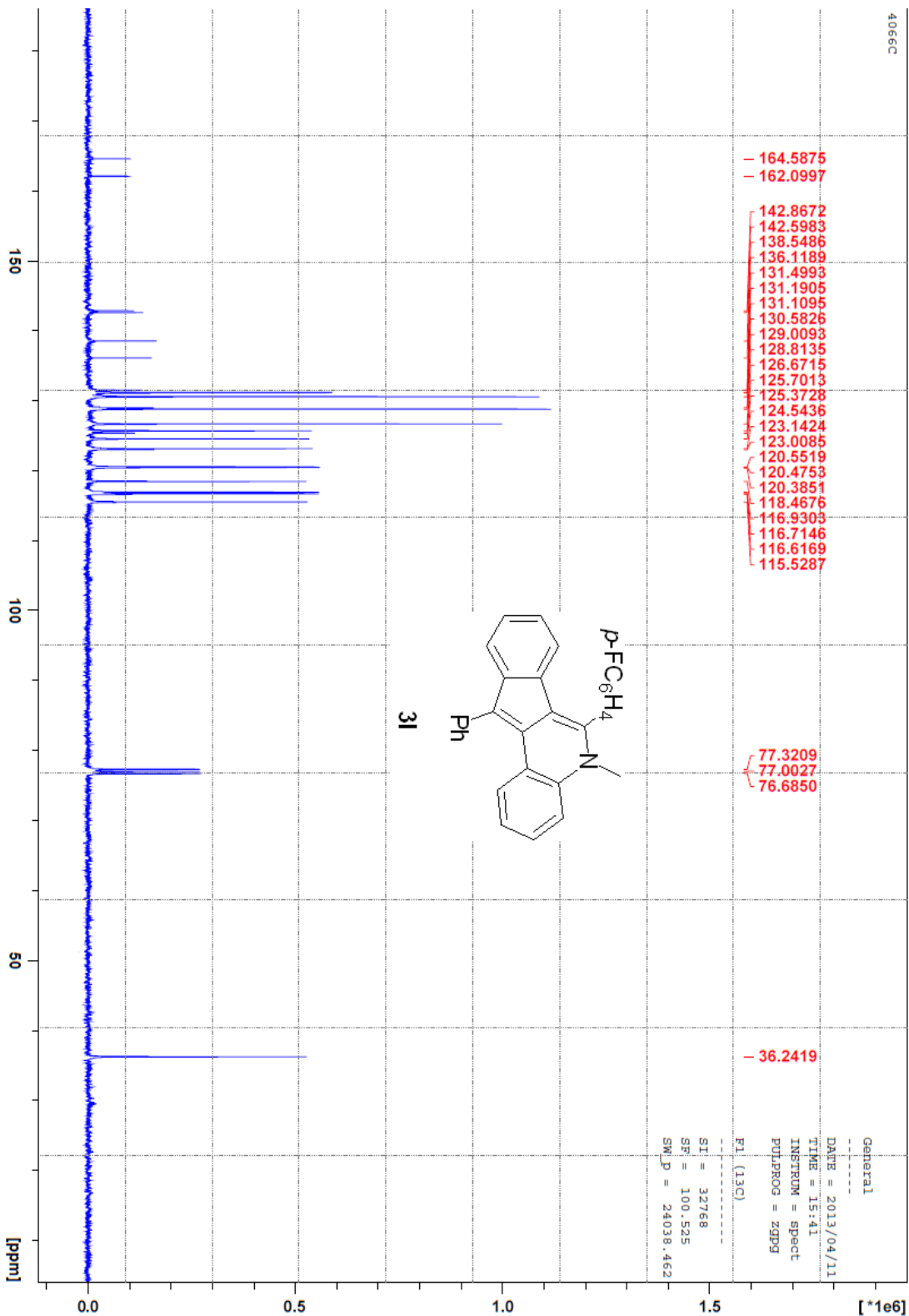




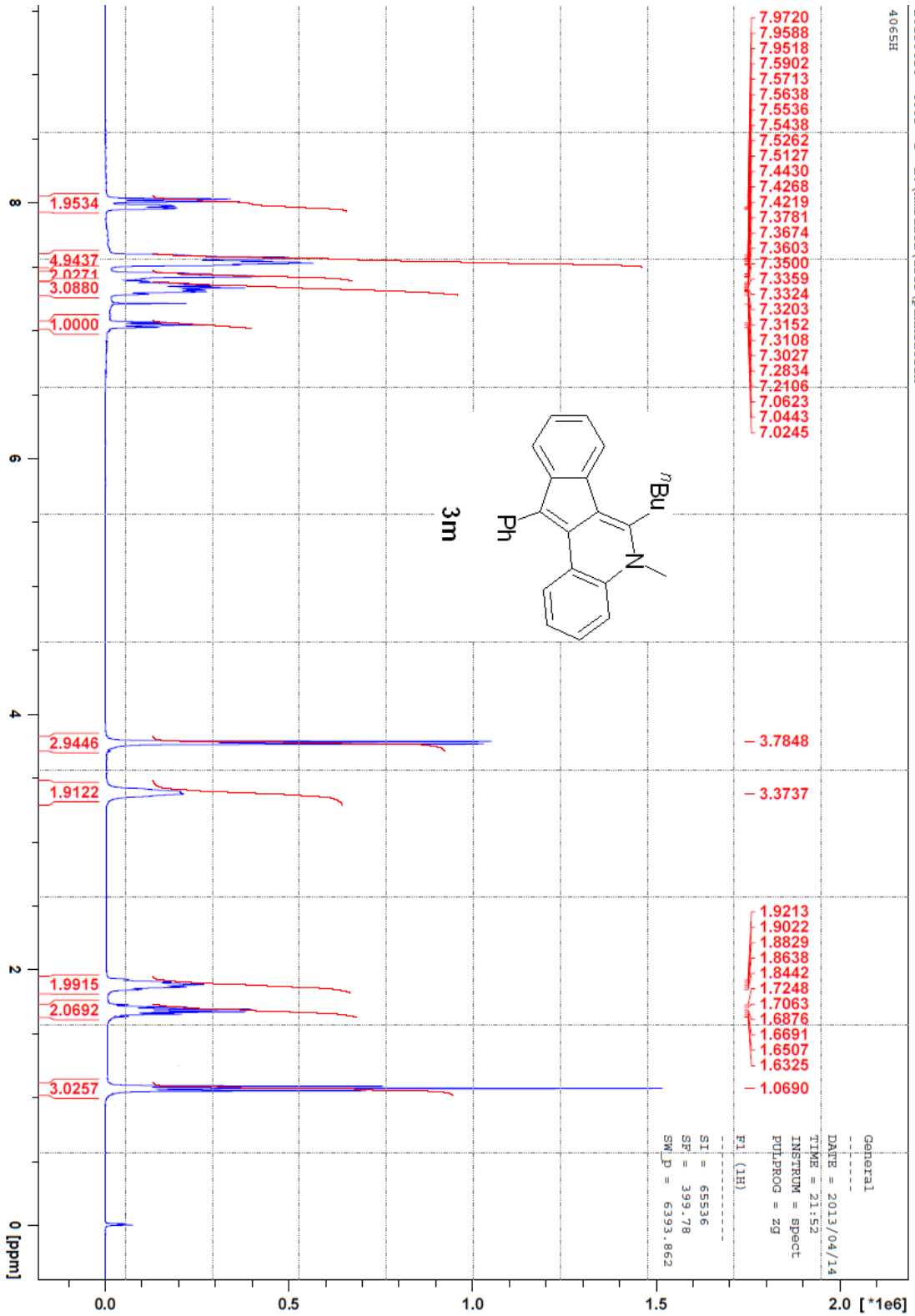


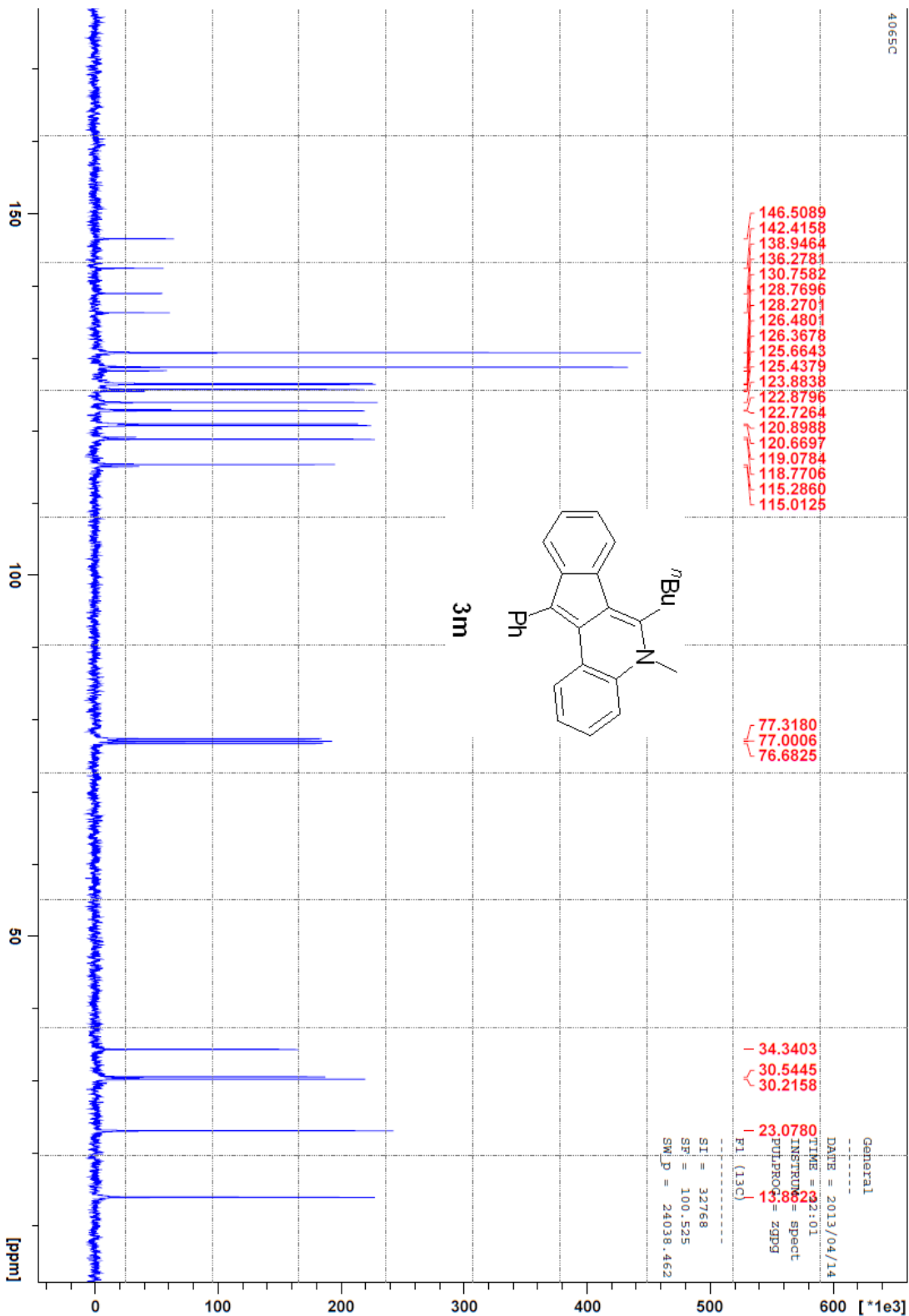




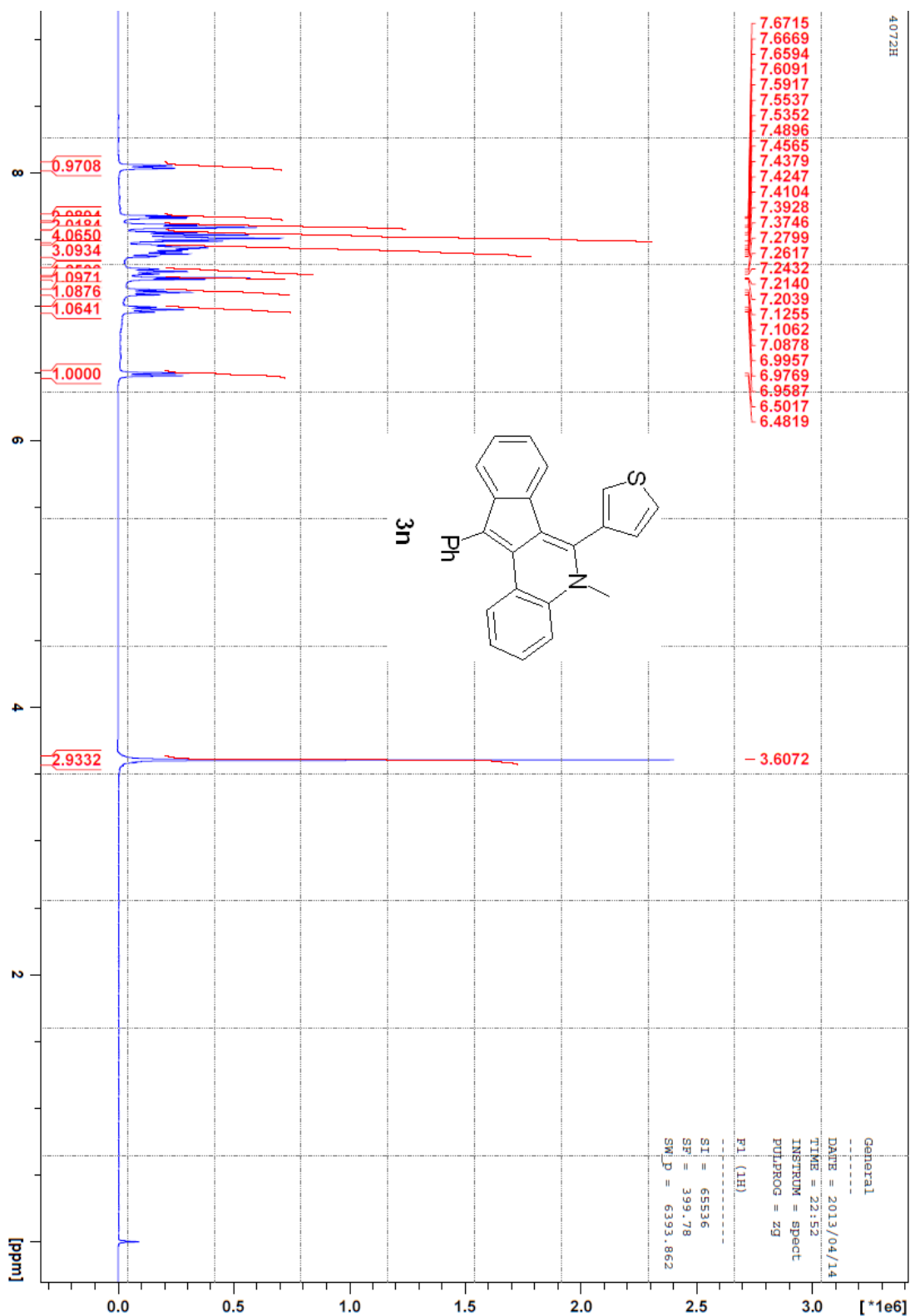


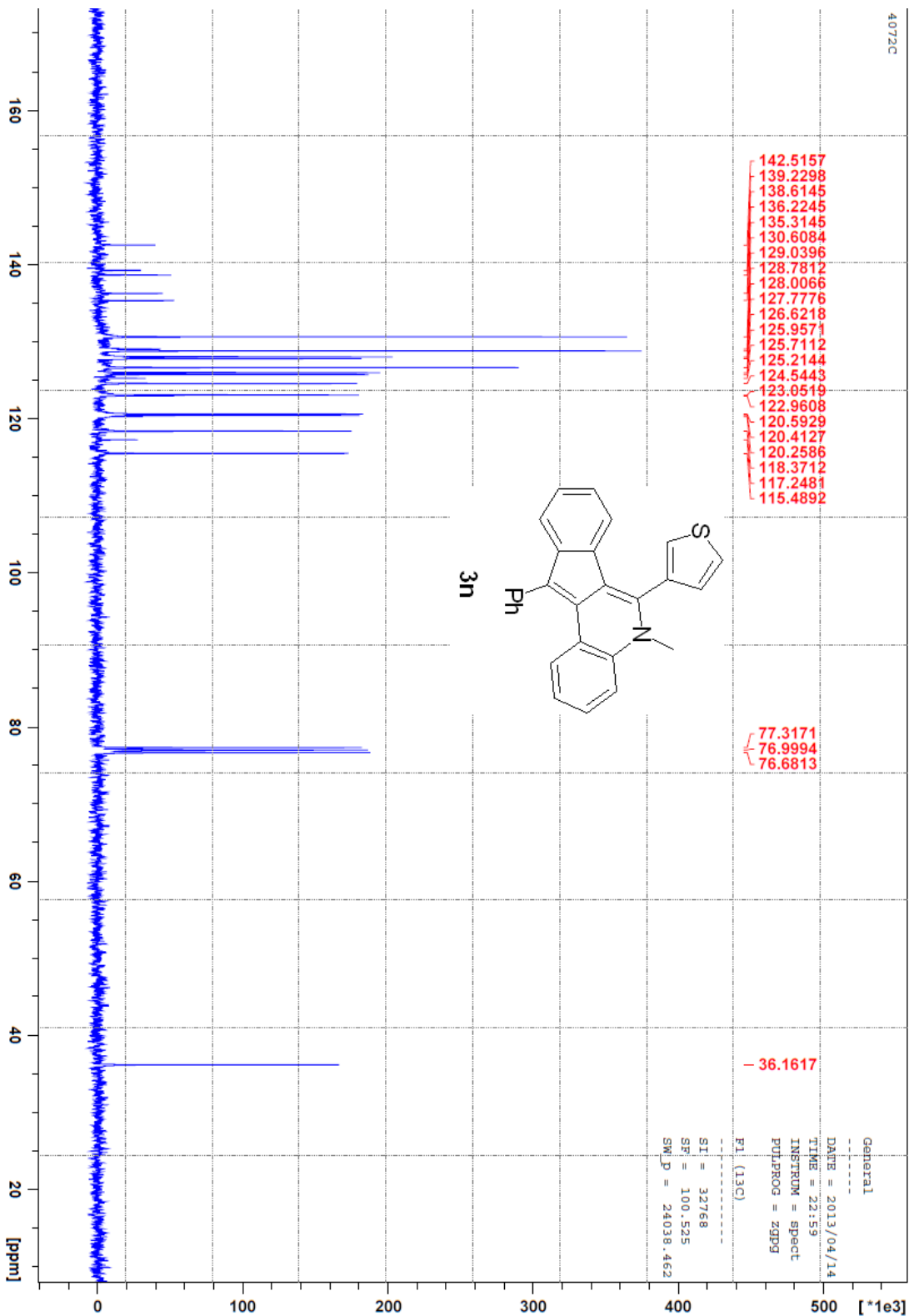
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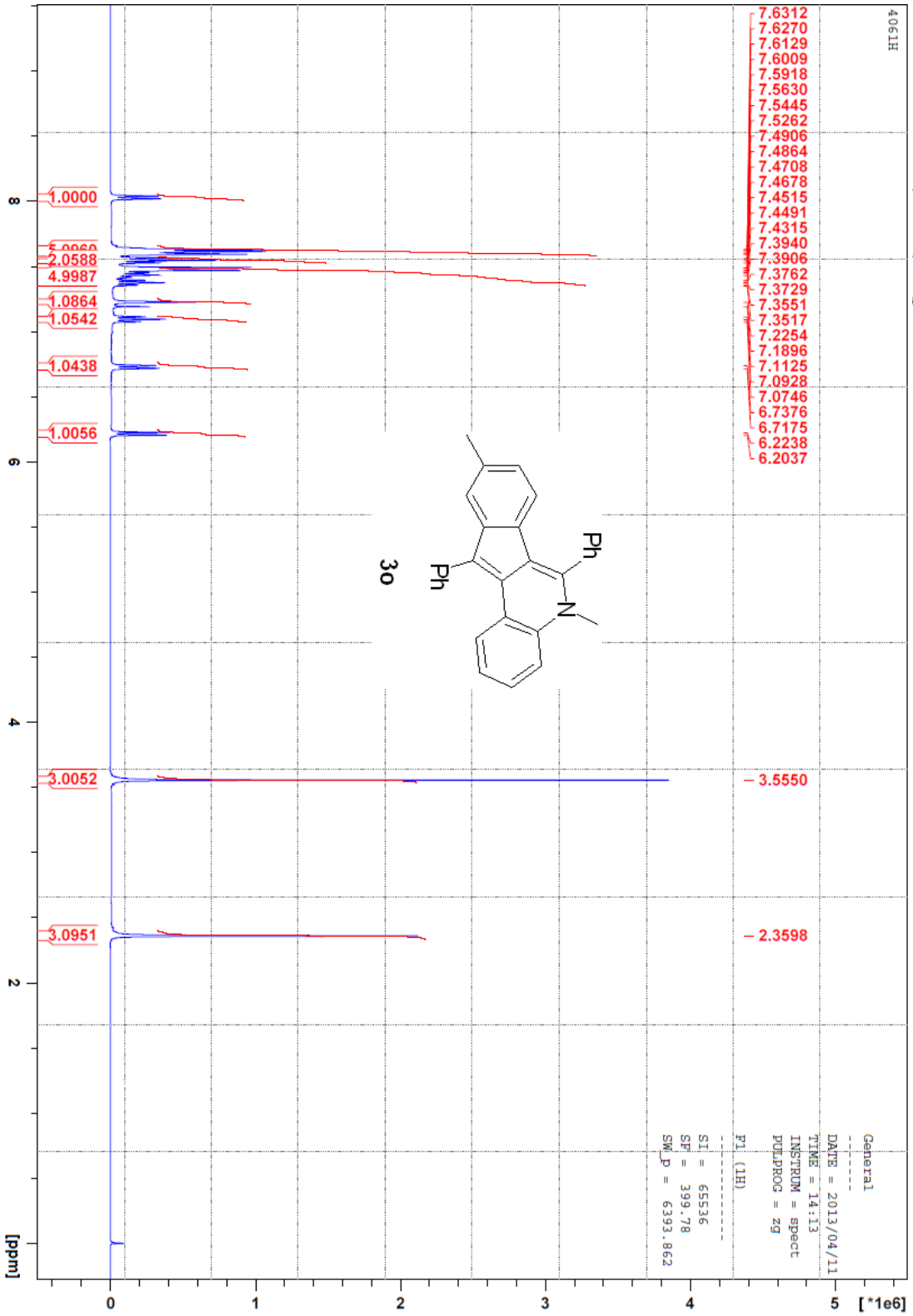




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