

Supplemental information

This appendix contains Table 10 for E-factors comparison, the analytical data and the spectra of all synthesized pure products as well as two impure ones and the major side product which were encountered in some reactions i.e. the bis(indolyl)methane derivative obtained via the condensation of two aldehyde equivalents and indole. For each compound the spectra are in the following order:

1. IR spectrum
2. ¹H NMR spectrum
3. ¹³C NMR spectrum
4. MS parent peak shown as a graph of % abundance against m/z (in some cases all MS spectrum was shown when obtained using a direct probe).
5. Table of MS daughter peaks (the RMM of each neutral parent peak was calculated using ACD/ChemSketch 2016.1.1)

The analytical data is found beneath each respective spectrum. With regards to the *J* constants, these are always given as values with two decimal places because of the proximity of some peaks.

The E-factors in the table were calculated for some selected studies involving homogeneous and heterogeneous catalysts. None of these studies actually calculated and gave the E-factor values for their model reactions i.e. all values were calculated as per method reported in our paper. The reaction which was used for the calculation involved 4-methylbenzaldehyde (or benzaldehyde in cases when 4-methylbenzaldehyde was not used), indole and *N*-methylaniline i.e. the reactants used in our model reaction.

Table 10. E-factors comparison with different reported synthetic procedures

	Examples of heterogeneous catalysts					Examples of homogeneous catalysts	
	PMA-SiO ₂ – neat ⁷	RGO/ZnO in H ₂ O ¹⁹	Magnetite – neat ¹⁸	PANI-HBF ₄ – neat ¹⁶	Our catalyst	BDMS in ethanol ¹² solvent	SDS in water ¹⁵
Mass of reactants and solvents(g)	0.452 (1 mmol indole, 1 mmol 4-methylbenzaldehyde, 2 mmol <i>N</i> -methylaniline)	1.830 (1 mmol indole, 1 mmol benzaldehyde, 1 mmol <i>N</i> -methylaniline), 1.5 mL water solvent (during reaction)	0.344 (1 mmol indole, 1 mmol 4-methylbenzaldehyde, 1 mmol <i>N</i> -methylaniline)	0.377 (1 mmol indole, 1 mmol aldehyde, 1.3 mmol <i>N</i> -methylaniline)	1.428 (2.5 mmol indole, 2.5 mmol 4-methylbenzaldehyde, 5 mmol <i>N</i> -methylaniline)	1.241 (1 mmol indole, 1 mmol 4-methylbenzaldehyde, 2 mmol <i>N</i> -methylaniline, 1 mL ethanol)solvent (during reaction)	2.352 (1 mmol indole, 1 mmol benzaldehyde, 1.2 mmol <i>N</i> -methylaniline, 2 mL water)
Mass of catalyst (g)	0.910 (5 mol% of 10 wt% PMA/SiO ₂)	0.017 (5 wt% wrt reactants)	0.023 (10 mol%)	0.006 (5wt% wrt aldehyde)	0.300	0.022 (10 mol%)	0.058 (20 mol%)
Mass of product (g)	0.304 (93% yield)	0.283 (90% yield)	0.284 (87% yield)	0.307 (94% yield)	0.750 (92% yield)	0.280 (86% yield)	0.296 (94% yield)
Mass of waste (g) = mass of reactants + mass of catalyst – mass of product	1.058	1.547	0.060	0.070	0.378	0.983	2.114
Mass of recovered catalyst (g)	No recyclability or recoverability studies were performed (hence we cannot assume full recovery)	0.017 (complete recovery assumed because of no loss in activity)	0.023 (complete recovery assumed, although no comments on recovered mass were made)	0.006 (complete recovery assumed due to no yield decrease, although no comments on recovered mass were made)	0.300 (complete recovery, proven by weight measurements and AAS analysis)	0 (not recovered)	0 (not recovered)
E-factor (Mass of waste <i>excluding mass of catalyst if</i>	3.485	5.410 (considering that water is	0.213	0.227	0.504	3.512	7.152

<i>recovered</i>)/mass of product)		used as a non- reusable solvent)						
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Analytical data

(6a) 4-[1H-indol-3-yl(phenyl)methyl]-N-methylaniline. C₂₂H₂₀N₂. Brown solid. M.P.: 128 °C. (Hexane/EtOAc 8.5:1.5) IR (KBr, cm⁻¹): 3402 (w), 3363 (m), 3201 (m), 3163 (m), 3101 (m), 3080 (m), 3055 (m), 3022 (m), 2920 (m), 2864 (m), 1612 (m), 1516 (s), 1490 (s), 1452 (s), 1340 (m), 1309 (m), 1247 (m), 1219 (m), 1182 (w), 1145 (w), 1103 (m), 1055 (m), 1008 (m), 914 (w), 871 (w), 842 (m), 806 (m), 790 (m), 742 (s), 698 (s). ¹H NMR (500 MHz, CDCl₃) δ = 7.95 (br s, 1 H), 7.37 (d, *J* = 8.2 Hz, 1 H), 7.32 - 7.15 (m, 7 H), 7.07 (d, *J* = 8.5 Hz, 2 H), 7.00 (ddd, *J* = 8.2, 7.2, 0.9 Hz, 1 H), 6.61 (dd, *J* = 1.1, 2.3 Hz, 1 H), 6.57 (d, *J* = 8.5 Hz, 2 H), 5.60 (s, 1 H), 2.84 (s, 3 H). ¹³C NMR (126 MHz, CDCl₃) δ = 147.59, 144.72, 136.71, 132.94, 129.69, 128.92, 128.15, 127.08, 125.94, 123.96, 121.91, 120.55, 120.04, 119.22, 112.40, 110.97, 47.95, 30.89. MS(ES⁺): *m/z* = 313.11[M+H]⁺, 298.09, 22.08, 204.10, 196.10, 180.10.

(6b) 4-[1H-indol-3-yl(4-methylphenyl)methyl]-N-methylaniline. C₂₃H₂₂N₂. Brown solid. M.P.: 160 °C. (Hexane/EtOAc 8.5:1.5). IR (KBr, cm⁻¹): 3419 (w), 3375 (w), 3212 (w), 3186 (w), 3059 (w), 3039 (w), 3018 (w), 2997 (w), 2993 (w), 2941 (w), 2918 (w), 2862 (w), 2814 (w), 1683 (m), 1652 (m), 1616 (m), 1516 (s), 1506 (s), 1456 (m), 1338 (w), 1307 (w), 1219 (w), 1178 (w), 1147 (w), 1093 (w), 1008 (m), 808 (m), 792 (w), 769 (w), 738 (s). ¹H NMR (500 MHz, CDCl₃) δ = 7.91 (br s, 1 H), 7.33 (d, *J* = 8.2 Hz, 1 H), 7.25 (d, *J* = 7.9 Hz, 1 H), 7.14 (ddd, *J* = 0.9, 7.0, 7.9 Hz, 1H), 7.11 (d, *J* = 7.9 Hz, 2H), 7.06 (d, *J* = 7.9 Hz, 2H), 7.03 (d, *J* = 8.5 Hz, 2H), 6.97 (ddd, *J* = 0.9, 7.0, 8.2 Hz, 1 H), 6.58 (dd, *J* = 0.9, 2.4 Hz, 1H), 6.54 (d, *J* = 8.5 Hz, 2H), 5.53 (s, 1 H), 2.81 (s, 3 H), 2.31 (s, 3 H). ¹³C NMR (126 MHz, CDCl₃) δ = 147.53, 141.73, 136.69, 135.31, 133.19, 129.64, 128.85, 128.77, 127.10, 123.89, 121.86, 120.71, 120.06, 119.19, 112.38, 110.94, 47.52, 30.89, 21.02. MS(ES⁺): *m/z* = 327.15[M+H]⁺, 312.06, 297.04, 220.88, 210.15, 204.03.

(6c) 4-[1H-indol-3-yl(3-methylphenyl)methyl]-N-methylaniline. C₂₃H₂₂N₂. Brown solid. M.P.: 65 °C. (Hexane/EtOAc 8.5:1.5). IR (KBr, cm⁻¹): 3417 (m), 3379 (m), 3234 (br, m), 3101 (m), 3074 (m), 3059 (m), 3037 (m), 3018 (m), 2997 (m), 2985 (m), 2943 (m), 2910 (m), 2883 (m), 2866 (m), 1614 (m), 1519 (s), 1485 (m), 1456 (s), 1398 (m), 1338 (m), 1311 (m), 1253 (m), 1217 (m), 1178 (m), 1149 (m), 1097 (m), 1074 (m), 1014 (m), 840 (w), 804 (s), 788 (m), 775 (m), 742 (s), 667 (w), 615 (w), 597 (w). ¹H NMR (500 MHz, CDCl₃) δ = 7.90 (br s, 1 H), 7.33 (d, *J* = 8.2 Hz, 1 H), 7.26 (d, *J* = 7.9 Hz, 1 H), 7.17 - 7.12 (m, 2 H), 7.06 (s, 1 H), 7.04 (d, *J* = 8.5 Hz, 2 H), 7.02 - 6.95 (m, 3 H), 6.58 (dd, *J* = 1.1, 2.3 Hz, 1 H), 6.53 (d, *J* = 8.5 Hz, 2 H), 5.52 (s, 1 H), 3.61 (br s, 1 H), 2.81 (s, 3 H), 2.28 (s, 3 H). ¹³C NMR (126 MHz, CDCl₃) δ = 147.64, 144.72, 137.68, 136.76, 133.11, 129.75, 128.09, 127.21, 126.82, 126.04, 124.01, 121.95, 120.71, 120.13, 119.28, 112.44, 112.35, 111.01, 47.98, 30.95, 21.58. MS(ES⁺): *m/z* = 327.15[M+H]⁺, 312.06, 297.04, 220.88, 210.15, 204.03.

(6d) 4-[1H-indol-3-yl(2-nitrophenyl)methyl]-N-methylaniline. C₂₂H₁₉N₃O₂. Orange solid. M.P.: 71 °C. (Hexane/EtOAc 7:3). IR (KBr, cm⁻¹): 3412 (br, m), 3055 (w), 3010 (w), 2981 (w), 2924 (w), 2877 (w), 2812 (w), 1716 (w), 1614 (m), 1519 (s), 1506 (s), 1456 (m), 1350 (m), 1338 (m), 1317 (w), 1267 (w), 1255 (w), 1219 (w), 1182 (w), 1153 (w), 1093 (w), 1008 (w), 842 (w), 806 (w), 781 (w), 742 (m), 684 (w). ¹H NMR (500 MHz, CDCl₃) δ = 7.97 (br s, 1 H), 7.82 (dd, *J* = 1.2, 7.9 Hz, 1 H), 7.41 (td, *J* = 1.2, 7.6 Hz, 1 H), 7.36 - 7.32 (m, 2 H), 7.30 (td, *J* = 1.2, 7.6 Hz, 1 H), 7.22 (d, *J* = 7.9 Hz, 1 H), 7.16 (ddd, *J* = 1.1, 7.0, 7.9 Hz, 1 H), 7.04 - 6.98 (m, 3H), 6.57 (dd, *J* = 0.9, 2.1 Hz, 1 H), 6.54 (d, *J* = 8.5 Hz, 2 H), 6.29 (s, 1 H), 3.66 (br s, 1 H), 2.81 (s, 3 H). ¹³C NMR (126 MHz, CDCl₃) δ = 149.74, 147.95, 138.68, 136.75, 132.24, 131.35, 130.48, 130.14, 129.78, 127.03, 126.71, 124.33, 124.28, 122.22, 119.67, 119.52, 112.40, 111.12, 42.35, 30.75. MS(ES⁺): *m/z* = 358.07[M+H]⁺, 324.07, 241.09, 205.12, 122.01.

(6e) 4-[1H-indol-3-yl(3-nitrophenyl)methyl]-N-methylaniline. C₂₂H₁₉N₃O₂. Orange solid. M.P.: 64 °C. (Hexane/EtOAc 7:3). IR (KBr, cm⁻¹): 3410 (br, m), 3055 (w), 3012 (w), 2980 (w), 2927 (w), 2877 (w), 2816 (w), 1728 (w), 1614 (m), 1525 (s), 1506 (s), 1456 (s), 1348 (s), 1332 (m), 1246 (m), 1217 (w), 1178 (w), 1151 (w), 1093 (w), 1043 (w), 1008 (w), 923 (w), 904 (w), 837 (m), 806 (m), 742 (m), 731 (m), 688 (w). ¹H NMR (500 MHz, CDCl₃) δ = 8.11 (t, *J* = 2.1 Hz, 1 H), 8.05 (ddd, *J* = 0.9, 2.1, 8.3 Hz, 1 H), 8.02 (br s, 1 H), 7.57 (d, *J* = 7.6 Hz, 1 H), 7.42 (t, *J* = 7.9 Hz, 1 H), 7.36 (d, *J* = 8.1 Hz, 1 H), 7.21 - 7.15 (m, 2 H), 7.04 - 6.97 (m, 3 H), 6.60 (dd, *J* = 1.2, 2.4 Hz, 1 H), 6.56 (d, *J* = 8.5 Hz, 2 H), 5.66 (s, 1 H), 3.68 (br, s, 1 H), 2.82 (s, 3 H). ¹³C NMR (126 MHz, CDCl₃) δ = 148.44, 148.13, 147.13, 136.85, 131.18, 130.02, 129.66, 126.69, 124.13, 123.77, 122.33, 121.33, 119.67, 119.59, 119.24, 112.59, 112.52, 111.30, 47.78, 30.82. MS(ES⁺): *m/z* = 358.13[M+H]⁺, 251.10, 241.09, 221.12, 204.20.

(6f) 4-[1H-indol-3-yl(4-nitrophenyl)methyl]-N-methylaniline. C₂₂H₁₉N₃O₂. Orange solid. M.P.: 63 °C. (Hexane/EtOAc 7:3). IR (KBr, cm⁻¹): 3408 (br, m), 3101 (w), 3053 (w), 3014 (w), 2978 (w), 2931 (w), 2870 (w), 2816 (w), 1718 (m), 1612 (m), 1521 (s), 1506 (s), 1456 (m), 1344 (s), 1319 (m), 1244 (w), 1219 (w), 1184 (w), 1107 (w), 1045 (w), 1010 (w), 848 (w), 804 (m), 740 (m), 696 (w). ¹H NMR (500 MHz, CDCl₃) δ = 8.11 (d, *J* = 8.8 Hz, 2 H), 8.02 (br s, 1 H), 7.43 - 7.33 (m, 3 H), 7.23 - 7.14 (m, 2 H), 7.04 - 6.95 (m, 3 H), 6.59 (dd, *J* = 0.9, 2.4 Hz, 1 H), 6.55 (d, *J* = 8.5 Hz, 2 H), 5.64 (s, 1 H), 3.67 (s, 1H), 2.82 (s, 3 H). ¹³C NMR (126 MHz, CDCl₃) δ = 152.78, 148.21, 146.39, 136.87, 130.11, 129.80, 129.75, 126.74, 124.26, 123.61, 122.35, 119.71, 119.61, 118.96, 112.63, 111.43, 48.02, 30.85. MS(ES⁺): *m/z* = 358.11[M+H]⁺, 343.04, 251.02, 221.11, 204.26.

(6g) 4-[1H-indol-3-yl(2-methoxyphenyl)methyl]-N-methylaniline. C₂₃H₂₂N₂O. Brown solid. M.P.: 85 °C. (Hexane/EtOAc 7:3). IR (KBr, cm⁻¹): 3412 (s), 3059 (m), 3003 (m), 2933 (w), 2897 (w), 2835 (w), 2812 (w), 1726 (w), 1614 (s), 1597 (s), 1517 (s), 1487 (s), 1456 (s), 1436 (m), 1338 (m), 1317 (m), 1269 (m), 1242 (s), 1217 (m), 1186 (m), 1105 (m), 1051 (m), 1022 (m), 931 (w), 815 (m), 748 (s). ¹H NMR (500 MHz, CDCl₃) δ = 7.87 (br s, 1 H), 7.32 (d, *J* = 8.2 Hz, 1 H), 7.24 (d, *J* = 7.9 Hz, 1H), 7.19 - 7.10 (m, 2 H), 7.07 - 6.99 (m, 3 H), 6.96 (t, *J* = 7.6 Hz, 1 H), 6.89 (d, *J* = 6.9 Hz, 1 H), 6.81 (ddd, *J* = 0.9, 7.0, 8.2 Hz, 1 H), 6.57 (dd, *J* = 1.1, 2.3 Hz, 1 H), 6.52 (d, *J* = 8.5 Hz, 2 H), 5.98 (s, 3 H), 3.77 (s, 3 H). ¹³C NMR (126 MHz, CDCl₃) δ = 157.04, 147.33, 133.20, 133.11, 130.17, 129.91, 129.78, 127.28, 127.13, 124.01, 121.82, 120.47, 120.37, 120.14, 119.12, 112.46, 110.99, 110.72, 55.77, 40.26, 31.06. MS(ES⁺): *m/z* = 343.18[M+H]⁺, 328.10, 235.92, 226.12, 204.02.

(6h) 4-[1H-indol-3-yl(3-methoxyphenyl)methyl]-N-methylaniline. C₂₃H₂₂N₂O. Brown solid. M.P.: 124 °C. (Hexane/EtOAc 7:3). IR (KBr, cm⁻¹): 3406 (m), 3367 (s), 3169 (s), 3103 (s), 3084 (s), 3034 (s), 3003 (s), 2983 (s), 2958 (s), 2937 (s), 2922 (s), 2866 (s), 2833 (w), 1683 (w), 1604 (s), 1581 (s), 1539 (w), 1516 (s), 1506 (s), 1487 (s), 1456 (s), 1448 (s), 1433 (s), 1355 (m), 1338 (m), 1298 (m), 1263 (s), 1219 (m), 1139 (m), 1099 (m), 1045

(s), 1008 (m), 933 (m), 916 (m), 879 (m), 839 (m), 819 (m), 779 (s), 767 (s), 744 (s), 698 (s), 615 (m). ¹H NMR (500 MHz, CDCl₃) δ = 7.91 (br s, 1 H), 7.33 (d, *J* = 8.2 Hz, 1 H), 7.26 (d, *J* = 7.9 Hz, 1 H), 7.22 - 7.11 (m, 2 H), 7.05 (d, *J* = 8.5 Hz, 2 H), 6.98 (ddd, *J* = 0.9, 7.0, 8.2 Hz, 1 H), 6.83 (d, *J* = 7.6 Hz, 1 H), 6.80 (t, *J* = 2.3 Hz, 1 H), 6.73 (ddd, *J* = 0.6, 2.3, 8.2 Hz, 1 H), 6.60 (d, *J* = 1.5 Hz, 1 H), 6.54 (d, *J* = 8.5 Hz, 2 H), 5.53 (s, 1 H), 3.72 (s, 3 H), 2.81 (s, 3 H). ¹³C NMR (126 MHz, CDCl₃) δ = 159.57, 147.70, 146.54, 136.76, 132.82, 129.71, 129.13, 127.16, 124.00, 121.96, 121.59, 120.41, 120.06, 119.30, 115.01, 112.48, 111.19, 111.05, 55.16, 48.06, 30.95. MS(ES+): *m/z* = 343.18[M+H]⁺, 328.10, 235.92, 226.12, 204.02.

(6i) 4-[1H-indol-3-yl(4-methoxyphenyl)methyl]-N-methylaniline. C₂₃H₂₂N₂O. Brown solid. M.P.: 160 °C. (Hexane/EtOAc 7:3). IR (KBr, cm⁻¹): 3404 (w), 3373 (w), 3207 (w), 3182 (w), 3059 (w), 3034 (w), 3012 (w), 2931 (w), 2900 (w), 2860 (w), 2833 (w), 2812 (w), 1734 (w), 1683 (w), 1652 (w), 1610 (m), 1516 (s), 1506 (s), 1456 (s), 1338 (w), 1311 (w), 1298 (w), 1246 (m), 1219 (m), 1174 (m), 1105 (w), 1031 (m), 1008 (w), 840 (w), 810 (m), 792 (m). ¹H NMR (500 MHz, CDCl₃) δ = 7.92 (br s, 1 H), 7.34 (d, *J* = 8.2 Hz, 1 H), 7.24 (d, *J* = 7.9 Hz, 1 H), 7.17 - 7.11 (m, 3 H), 7.03 (d, *J* = 8.5 Hz, 2 H), 6.97 (ddd, *J* = 1.1, 7.1, 8.2 Hz, 1 H), 6.80 (d, *J* = 8.9 Hz, 2 H), 6.57 (dd, *J* = 0.9, 2.4 Hz, 1 H), 6.54 (d, *J* = 8.5 Hz, 2 H), 5.52 (s, 1 H), 3.77 (s, 3 H), 2.81 (s, 3 H). ¹³C NMR (126 MHz, CDCl₃) δ = 157.84, 147.63, 137.04, 136.80, 133.33, 129.88, 129.68, 127.14, 123.94, 121.95, 120.98, 120.15, 119.26, 113.59, 112.43, 111.03, 55.26, 47.15, 30.95. MS(ES+): *m/z* = 343.18[M+H]⁺, 328.10, 235.92, 226.12, 204.02.

(6j) 4-[1H-indol-3-yl(2-hydroxyphenyl)methyl]-N-methylaniline. C₂₂H₂₀N₂O. Brown solid. M.P.: 69 °C. (Hexane/EtOAc 7:3). IR (KBr, cm⁻¹): 3417 (br, m), 3057 (m), 3007 (m), 2981 (m), 2929 (m), 2904 (m), 2883 (m), 2814 (m), 1886 (w), 1732 (m), 1716 (m), 1614 (s), 1519 (s), 1506 (s), 1456 (s), 1417 (m), 1338 (m), 1265 (m), 1242 (m), 1219 (m), 1149 (m), 1091 (m), 1043 (m), 1010 (m), 937 (w), 875 (m), 829 (m), 794 (m), 748 (s), 704 (w), 667 (m), 611 (m). ¹H NMR (500 MHz, CDCl₃) δ = 8.01 (br s, 1 H), 7.36 (d, *J* = 8.2 Hz, 1 H), 7.31 (d, *J* = 7.9 Hz, 1 H), 7.20 - 7.13 (m, 2 H), 7.08 (d, *J* = 8.5 Hz, 2 H), 7.03 - 6.96 (m, 2 H), 6.86 - 6.81 (m, 2 H), 6.70 (dd, *J* = 1.1, 2.3 Hz, 1 H), 6.57 (d, *J* = 8.5 Hz, 2 H), 5.68 (s, 1 H), 2.82 (s, 3 H). ¹³C NMR (126 MHz, CDCl₃) δ = 154.09, 147.88, 136.97, 131.48, 130.62, 130.20, 129.83, 127.82, 127.02, 124.23, 122.29, 120.70, 119.96, 119.56, 118.27, 116.36, 113.08, 111.42, 42.51, 31.05. MS(ES+): *m/z* = 329.16[M+H]⁺, 220.28, 212.10, 196.09, 180.94, 165.14

(6k) 4-[1H-indol-3-yl(3-hydroxyphenyl)methyl]-N-methylaniline. C₂₂H₂₀N₂O. Brown solid. M.P.: 75 °C. (Hexane/EtOAc 7:3). IR (KBr, cm⁻¹): 3410 (br, m), 3331 (br, m), 3053, 3012, 2976, 2877, 2812, 1716, 1705, 1683, 1614, 1521, 1487 (w), 1456, 1373 (m), 1338 (m), 1317 (m), 1263 (m), 1242 (m), 1219 (w), 1180 (m), 1145 (m), 1136 (m), 1093 (m), 1043 (m), 1008 (m), 999 (w), 950 (w), 931 (w), 873 (w), 835 (m), 771, 740, 696, 607 (w). ¹H NMR (500 MHz, CDCl₃) δ = 7.92 (br s, 1 H), 7.33 (d, *J* = 7.9 Hz, 1 H), 7.25 (d, *J* = 7.9 Hz, 1 H), 7.17 - 7.09 (m, 2 H), 7.04 (d, *J* = 8.5 Hz, 2 H), 6.98 (ddd, *J* = 0.9, 7.0, 7.9 Hz, 1 H), 6.83 (d, *J* = 7.6 Hz, 1 H), 6.67 - 6.64 (m, 2 H), 6.60 (dd, *J* = 1.1, 2.3 Hz, 1 H), 6.54 (d, *J* = 8.5 Hz, 2 H), 5.51 (s, 1 H), 2.83 (s, 3 H). ¹³C NMR (126 MHz, CDCl₃) δ = 155.76, 147.50, 146.60, 136.68, 133.52, 129.70, 129.22, 127.10, 124.03, 121.74, 121.35, 120.03, 119.25, 116.38, 115.92, 113.02, 112.47, 111.01, 47.77, 30.95. MS(ES+): *m/z* = 329.16[M+H]⁺, 314.14, 221.20, 212.16, 204.16, 196.22.

(6l) 4-[1H-indol-3-yl(4-hydroxyphenyl)methyl]-N-methylaniline. C₂₂H₂₀N₂O. Brown solid. M.P.: 80 °C. (Hexane/EtOAc 7:3, 6:4). IR (KBr, cm⁻¹): 3406 (br, m), 3332 (m), 3053 (m), 3016 (m), 2980 (m), 2881 (m), 2810 (m), 1705 (m), 1612 (s), 1593 (m), 1510 (s), 1456 (s), 1417 (m), 1338 (m), 1240 (s), 1217 (s), 1170 (m), 1101 (m), 1043 (m), 1008 (m), 873 (w), 819 (m), 781 (m), 742 (s), 632 (w), 609 (w). ¹H NMR (500 MHz, CDCl₃) δ = 7.91 (br s, 1 H), 7.33 (d, *J* = 8.2 Hz, 1 H), 7.24 (d, *J* = 7.9 Hz, 1 H), 7.14 (t, *J* = 7.9 Hz, 1 H), 7.08 (d, *J* = 8.2 Hz, 2 H), 7.03 (d, *J* = 8.5 Hz, 2 H), 6.97 (t, *J* = 7.5 Hz, 1 H), 6.70 (d, *J* = 8.5 Hz, 2 H), 6.59 - 6.52 (m, 3 H), 5.50 (s, 1 H), 2.81 (s, 3 H). ¹H NMR (500 MHz, CDCl₃) δ = 7.91 (br s, 1 H), 7.33 (d, *J* = 8.2 Hz, 1 H), 7.24 (d, *J* = 7.9 Hz, 1 H), 7.14 (t, *J* = 7.9 Hz, 1 H), 7.08 (d, *J* = 8.2 Hz, 2 H), 7.03 (d, *J* = 8.5 Hz, 2 H), 6.97 (t, *J* = 7.5 Hz, 1 H), 6.70 (d, *J* = 8.5 Hz, 2 H), 6.59 - 6.52 (m, 3 H), 5.50 (s, 1 H), 2.81 (s, 3 H). ¹³C NMR (126 MHz, CDCl₃) δ = 153.82, 147.48, 136.71, 130.38, 129.99, 127.07, 123.89, 123.55, 121.92, 120.93, 119.98, 119.23, 114.99, 112.47, 111.02, 110.97, 47.09, 30.99. MS(ES+): *m/z* = 329.16[M+H]⁺, 314.14, 221.20, 212.10, 196.28.

(6m) 4-[1H-indol-3-yl(2-hydroxy-5-nitrophenyl)methyl]-N-methylaniline. C₂₂H₁₉N₃O₃. Orange-brown solid. M.P.: 101 °C. (Hexane/EtOAc 6:4). IR (KBr, cm⁻¹): 3417 (br, m), 3331 (s), 3053 (s), 3014 (s), 2980 (s), 2924 (s), 2881 (s), 2808 (s), 1699 (m), 1614 (s), 1585 (s), 1519 (s), 1456 (s), 1373 (s), 1338 (s), 1284 (br, s), 1180 (m), 1153 (m), 1126 (m), 1076 (m), 1045 (m), 1010 (m), 945 (w), 916 (w), 840 (s), 821 (s), 744 (s), 640 (m). ¹H NMR (500 MHz, CDCl₃) δ = 8.11 (br s, 1 H), 8.08 (dd, *J* = 3.1, 8.9 Hz, 1 H), 7.95 (d, *J* = 2.7 Hz, 1 H), 7.39 (d, *J* = 8.2 Hz, 1 H), 7.27 (d, *J* = 7.9 Hz, 1 H), 7.21 (t, *J* = 7.2 Hz, 1 H), 7.09 - 7.01 (m, 3 H), 6.73 (d, *J* = 1.5 Hz, 1 H), 6.62 - 6.55 (m, 3 H), 5.69 (s, 1 H), 2.83 (s, 3 H). ¹³C NMR (126 MHz, CDCl₃) δ = 148.21, 141.36, 136.96, 131.68, 129.91, 129.57, 126.58, 126.09, 124.12, 124.11, 122.53, 119.74, 119.41, 117.29, 116.28, 113.01, 111.46, 76.85, 42.03, 30.87. MS(ES+): *m/z* = 374.22[M+H]⁺, 364.38, 237.11, 108.27.

(6n) 4-[1H-indol-3-yl(4-bromophenyl)methyl]-N-methylaniline. C₂₂H₁₉BrN₂. Brown solid. M.P.: 139 °C. (Hexane/EtOAc 8:2). IR (KBr, cm⁻¹): 3416 (w), 3379 (m), 3226 (br, m), 3099 (m), 3074 (m), 3059 (m), 3037 (m), 3018 (m), 2997 (m), 2985 (m), 2937 (m), 2899 (m), 2883 (m), 2866 (m), 2814 (m), 1614 (m), 1519 (s), 1485 (s), 1456 (s), 1398 (w), 1338 (m), 1311 (m), 1263 (m), 1253 (m), 1217 (m), 1178 (m), 1147 (m), 1097 (m), 1074 (m), 1014 (s), 840 (w), 804 (s), 788 (s), 775 (s), 742 (s). ¹H NMR (500 MHz, CDCl₃) δ = 7.94 (br s, 1 H), 7.37 (d, *J* = 8.5 Hz, 2 H), 7.34 (d, *J* = 8.2 Hz, 1 H), 7.21 (d, *J* = 7.9 Hz, 1 H), 7.16 (ddd, *J* = 1.1, 7.0, 7.9 Hz, 1 H), 7.10 (d, *J* = 8.2 Hz, 2 H), 7.02 - 6.96 (m, 3 H), 6.56 (dd, *J* = 1.1, 2.3 Hz, 1 H), 6.54 (d, *J* = 8.5 Hz, 2 H), 5.51 (s, 1 H), 3.63 (br s, 1 H), 2.81 (s, 3 H). ¹³C NMR (126 MHz, CDCl₃) δ = 147.86, 143.90, 136.79, 132.28, 131.31, 130.79, 130.09, 129.71, 126.95, 124.06, 122.16, 120.06, 120.00, 119.46, 112.50, 111.16, 47.49, 30.92. MS(ES+): *m/z* = 393.05[M+1+H]⁺, 377.99, 285.96, 276.08, 221.12, 204.02.

(6o) 4-[1H-indol-3-yl(3,4-dichlorophenyl)methyl]-N-methylaniline. C₂₂H₁₈Cl₂N₂. Brown solid. M.P.: 68 °C. (Hexane/EtOAc 8:2). IR (KBr, cm⁻¹): 3410 (br, m), 3053 (w), 3014 (w), 2978 (w), 2927 (w), 2877 (w), 2812 (w), 1724 (w), 1612 (s), 1519 (s), 1467 (s), 1456 (s), 1444 (w), 1336 (w), 1317 (m), 1255 (m), 1217 (w), 1182 (w), 1149 (w), 1124 (w), 1093 (w), 1045 (w), 1028 (m), 1024 (w), 904 (w), 889 (w), 842 (w), 817 (m), 742 (s). ¹H NMR (500 MHz, CDCl₃) δ = 7.97 (br s, 1 H), 7.38 (d, *J* = 8.2 Hz, 1 H), 7.31 (d, *J* = 8.2 Hz, 1 H), 7.31 (d, *J* = 1.8 Hz, 1 H), 7.21 (d, *J* = 7.9 Hz, 1 H), 7.17 (ddd, *J* = 0.9, 7.0, 7.9 Hz, 1 H), 7.06 (dd, *J* = 1.8 Hz, 8.2 Hz, 1 H), 7.06 - 7.01

(m, 3 H), 6.61 (dd, $J = 0.9, 2.4$ Hz, 1 H), 6.55 (d, $J = 8.5$ Hz, 2 H), 5.54 (s, 1 H), 3.66 (br s, 1H), 2.82 (s, 3 H). ^{13}C NMR (126 MHz, CDCl_3) $\delta = 147.91, 145.18, 136.68, 132.10, 131.51, 130.75, 130.05, 129.84, 129.56, 128.35, 126.70, 123.97, 122.17, 119.73, 119.47, 119.39, 112.45, 111.12, 47.17, 30.78$. MS(ES+): $m/z = 383.10[\text{M}+1+\text{H}]^+, 368.03, 276.01, 266.07, 221.12, 203.96$.

(6p) 4-[1H-indol-3-yl(2,4-dichlorophenyl)methyl]-N-methylaniline. $\text{C}_{22}\text{H}_{18}\text{Cl}_2\text{N}_2$. Yellow solid. M.P.: 85 °C. (Hexane/EtOAc 8:2). IR (KBr, cm^{-1}): 3417 (br, s), 3057 (w), 3005 (w), 2924 (w), 2897 (w), 2883 (w), 2814 (w), 1614 (m), 1556 (w), 1519 (s), 1506 (s), 1456 (s), 1435 (s), 1417 (m), 1338 (w), 1317 (w), 1265 (w), 1244 (w), 1217 (w), 1182 (w), 1147 (w), 1124 (w), 1095 (w), 1047 (w), 1010 (w), 848 (w), 837 (w), 813 (w), 759 (s), 744 (s), 667 (w). ^1H NMR (500 MHz, CDCl_3) $\delta = 7.98$ (br s, 1 H), 7.43 (d, $J = 2.1$ Hz, 1 H), 7.37 (d, $J = 8.2$ Hz, 1 H), 7.24 - 7.18 (m, 2 H), 7.11 (dd, $J = 2.1, 8.2$ Hz, 1 H), 7.08 - 7.01 (m, 4 H), 6.61 - 6.56 (m, 3 H), 5.95 (s, 1 H), 2.85 (s, 3 H). ^{13}C NMR (126 MHz, CDCl_3) $\delta = 147.90, 140.76, 136.84, 134.81, 132.35, 131.45, 130.62, 129.85, 129.31, 126.88, 126.78, 124.29, 122.25, 119.77, 119.51, 119.14, 112.49, 111.19, 44.11, 30.89$. MS(ES+): $m/z = 383.07[\text{M}+1+\text{H}]^+, 366.07, 238.09, 214.09, 221.63, 221.12$.

(6q) 4-[1,3-benzodioxol-5-yl(1H-indol-3-yl)methyl]-N-methylaniline. $\text{C}_{23}\text{H}_{20}\text{N}_2\text{O}_2$. Yellow solid. M.P.: 175 °C. (Hexane/EtOAc 7:3). IR (KBr, cm^{-1}): 3412 (s), 3371 (m), 3217 (m), 3178 (m), 3101 (m), 3066 (m), 3034 (m), 2991 (m), 2943 (m), 2881 (m), 2858 (m), 2812 (m), 2781 (m), 1683 (s), 1616 (m), 1516 (s), 1498 (s), 1481 (s), 1456 (s), 1436 (s), 1367 (m), 1338 (m), 1311 (m), 1280 (m), 1255 (s), 1230 (s), 1176 (s), 1147 (w), 1116 (m), 1091 (m), 1035 (s), 1008 (m), 935 (s), 866 (w), 831 (m), 810 (m), 792 (s), 738 (s), 611 (w). ^1H NMR (500 MHz, CDCl_3) $\delta = 7.94$ (br s, 1 H), 7.36 (d, $J = 8.0$ Hz, 1 H), 7.30 (d, $J = 7.9$ Hz, 1 H), 7.18 (ddd, $J = 0.9, 7.0, 7.9$ Hz, 1 H), 7.07 (d, $J = 8.5$ Hz, 2 H), 7.02 (ddd, $J = 0.9, 7.0, 7.9$ Hz, 1 H), 6.75 (s, 1 H), 6.73 (s, 2 H), 6.63 (dd, $J = 1.1, 2.3$ Hz, 1 H), 6.58 (d, $J = 8.5$ Hz, 2 H), 5.93 (d, $J = 1.5$ Hz, 1H), 5.92 (d, $J = 1.5$ Hz, 1H), 5.51 (s, 1 H), 3.64 (br s, 1 H), 2.84 (s, 3 H). ^{13}C NMR (126 MHz, CDCl_3) $\delta = 147.67, 147.46, 145.69, 138.83, 136.74, 132.96, 129.55, 127.04, 123.85, 121.97, 121.80, 120.68, 120.05, 119.28, 112.38, 110.97, 109.53, 107.91, 100.76, 47.64, 30.89$. MS(ES+): $m/z = 358.05[\text{M}+\text{H}]^+, 347.20, 250.02, 239.92$.

(6r) 4-[cyclohexyl(1H-indol-3-yl)methyl]-N-methylaniline. $\text{C}_{22}\text{H}_{26}\text{N}_2$. Brown solid. M.P.: 70 °C. (Hexane/EtOAc 8:2; 7:3). IR (KBr, cm^{-1}): 3417 (br, s), 3053 (m), 3012 (m), 2920 (s), 2846 (s), 2810 (m), 1683 (s), 1614 (s), 1519 (s), 1456 (s), 1417 (w), 1338 (m), 1315 (m), 1261 (m), 1220 (w), 1182 (w), 1149 (w), 1122 (w) 1095 (w), 1008 (w), 960 (w), 923 (w), 831 (w), 788 (w), 738 (s), 617 (w). ^1H NMR (500 MHz, CDCl_3) $\delta = 7.90$ (br s, 1H), 7.57 (d, $J = 7.9$ Hz, 1 H), 7.29 (d, $J = 7.9$ Hz, 1 H), 7.15 - 7.08 (m, 3 H), 7.06 (d, $J = 2.4$ Hz, 1 H), 7.02 (t, $J = 7.5$ Hz, 1 H), 6.51 (d, $J = 8.5$ Hz, 2 H), 3.77 (d, $J = 9.8$ Hz, 1 H), 2.77 (s, 3 H), 2.10 - 2.01 (m, 1 H), 1.85 (d, $J = 11.9$ Hz, 1 H), 1.69 - 1.59 (m, 5 H), 1.28 - 1.23 (m, 1 H), 1.18 - 1.11 (m, 1 H), 1.00 - 0.89 (m, 2 H). ^{13}C NMR (126 MHz, CDCl_3) $\delta = 147.28, 136.25, 133.91, 129.11, 127.81, 121.67, 120.80, 120.26, 119.64, 119.06, 112.44, 110.98, 48.98, 42.69, 32.66, 32.16, 31.00, 26.77, 26.73$. MS(ES+): $m/z = 319.18[\text{M}+\text{H}]^+, 204.14, 130.07, 120.05, 77.06$.

(6s) 4-[1H-indol-3-yl(biphenyl-4-yl)methyl]-N-methylaniline. $\text{C}_{28}\text{H}_{24}\text{N}_2$. Light brown solid. M.P.: 190 °C. (Hexane/EtOAc 8.5:1.5). IR (KBr, cm^{-1}): 3417 (br, s), 3053 (m), 3012 (m), 2920 (s), 2846 (s), 2810 (m), 1683 (m), 1652 (m), 1614 (s), 1519 (s), 1485 (w), 1456 (s), 1417 (w), 1338 (m), 1315 (m), 1261 (m), 1220 (m), 1182 (m), 1149 (w), 1122 (w), 1095 (m), 1010 (w), 960 (w), 925 (w), 893 (w), 831 (m), 788 (m), 738 (s), 617 (w). ^1H NMR (500 MHz, CDCl_3) $\delta = 7.94$ (br s, 1 H), 7.62 - 7.54 (m, 2 H), 7.53 - 7.47 (m, 2 H), 7.44 - 7.38 (m, 2 H), 7.35 (d, $J = 8.2$ Hz, 1 H), 7.33 - 7.26 (m, 4 H), 7.16 (ddd, $J = 0.9, 7.0, 7.9$ Hz, 1 H), 7.08 (d, $J = 8.5$ Hz, 2 H), 6.99 (ddd, $J = 0.9, 7.1, 8.2$ Hz, 1 H), 6.64 (dd, $J = 0.9, 2.1$ Hz, 1 H), 6.56 (d, $J = 8.5$ Hz, 2 H), 5.60 (s, 1 H), 2.82 (s, 3 H). ^{13}C NMR (126 MHz, CDCl_3) $\delta = 147.72, 143.92, 141.12, 138.77, 136.77, 132.81, 129.74, 129.33, 128.71, 127.13, 127.00, 126.99, 126.91, 123.98, 122.03, 120.58, 120.13, 119.33, 112.43, 111.00, 47.67, 30.91$. MS(ES+): $m/z = 389.15[\text{M}+\text{H}]^+, 373.96, 280.37, 272.17, 221.12$.

(6u) 4-[1H-indol-3-yl(naphthalen-1-yl)methyl]-N-methylaniline. $\text{C}_{26}\text{H}_{22}\text{N}_2$. Brown solid. M.P.: 104 °C. (Hexane/EtOAc 8:2). IR (KBr, cm^{-1}): 3419 (s), 3350 (m), 3047 (m), 3012 (m), 2868 (m), 2810 (m), 1716 (m), 1683 (m), 1614 (m), 1519 (s), 1456 (s), 1417 (m), 1394 (m), 1338 (m), 1317 (m), 1263 (m), 1219 (m), 1180 (m), 1149 (m), 1105 (m), 1091 (m), 1049 (m), 1008 (w), 825 (m), 788 (m), 771 (m), 740 (s), 700 (m), 651 (w), 605 (w). ^1H NMR (500 MHz, CDCl_3) $\delta = 8.12$ (d, $J = 8.5$ Hz, 1 H), 7.91 - 7.88 (m, 1 H), 7.85 (dd, $J = 1.1, 8.4$ Hz, 1 H), 7.72 (d, $J = 8.2$ Hz, 1 H), 7.45 - 7.38 (m, 2 H), 7.36 - 7.34 (m, 1 H), 7.34 - 7.28 (m, 1 H), 7.26 (d, $J = 7.9$ Hz, 1H), 7.16 (dt, $J = 0.9, 7.6$ Hz, 1 H), 7.13 (d, $J = 7.0$ Hz, 1 H), 7.05 (d, $J = 8.5$ Hz, 2 H), 6.97 (t, $J = 7.5$ Hz, 1 H), 6.55 (d, $J = 8.5$ Hz, 2 H), 6.48 (dd, $J = 1.1, 2.3$ Hz, 1 H), 6.32 (s, 1 H), 2.81 (s, 3 H). ^{13}C NMR (126 MHz, CDCl_3) $\delta = 147.63, 140.33, 136.73, 133.93, 132.51, 131.95, 129.92, 128.58, 127.09, 126.86, 126.67, 125.82, 125.40, 125.23, 124.60, 124.45, 121.97, 120.50, 119.91, 119.28, 112.47, 110.99, 43.83, 30.87$. MS(ES+): $m/z = 361.14[\text{M}+\text{H}]^+, 254.10, 244.15, 229.06, 215.15, 202.07$.

(6v) N-ethyl-4-[1H-indol-3-yl(phenyl)methyl]aniline. $\text{C}_{23}\text{H}_{22}\text{N}_2$. Light brown solid. M.P.: 49 °C. (Hexane/EtOAc 8.5:1.5). IR (KBr, cm^{-1}): 3412 (br, s), 3082 (w), 3055 (w), 3022 (w), 3003 (w), 2968 (w), 2924 (w), 2870 (w), 1614 (s), 1519 (s), 1506 (s), 1492 (m), 1456 (s), 1417 (m), 1338 (m), 1317 (w), 1257 (w), 1217 (m), 1184 (w), 1147 (w), 1101 (w), 1093 (m), 1010 (w), 927 (w), 846 (w), 792 (w), 744 (s), 700 (m), 667 (w). ^1H NMR (500 MHz, CDCl_3) $\delta = 7.91$ (br s, 1 H), 7.33 (d, $J = 7.9$ Hz, 1 H), 7.29 - 7.21 (m, 5 H), 7.21 - 7.13 (m, 2 H), 7.03 (d, $J = 8.5$ Hz, 2 H), 6.97 (ddd, $J = 0.9, 7.0, 7.9$ Hz, 1 H), 6.57 (dd, $J = 1.2, 2.4$ Hz, 1 H), 6.54 (d, $J = 8.5$ Hz, 2 H), 5.56 (s, 1 H), 3.49 (br s, 1H), 3.13 (q, $J = 7.2$ Hz, 2 H), 1.24 (t, $J = 7.2$ Hz, 3 H). ^{13}C NMR (126 MHz, CDCl_3) $\delta = 146.83, 144.87, 136.80, 133.04, 129.86, 129.07, 128.28, 127.19, 126.08, 124.12, 122.01, 120.59, 120.15, 119.33, 112.86, 111.14, 48.08, 38.78, 15.06$. MS(ES+): $m/z = 327.14[\text{M}+\text{H}]^+, 295.22, 268.16, 243.16, 204.04, 193.05$.

(6w) N-ethyl-4-[1H-indol-3-yl(4-methylphenyl)methyl]aniline. $\text{C}_{24}\text{H}_{24}\text{N}_2$. Light brown solid. M.P.: 98 - 100 °C. (Hexane/EtOAc 8.5:1.5). IR (KBr, cm^{-1}): 3408 (br, s), 3049 (m), 3007 (m), 2972 (m), 2924 (m), 2868 (m), 1614 (s), 1519 (s), 1456 (s), 1417 (m), 1338 (m), 1251 (m), 1246 (m), 1217 (m), 1180 (m), 1147 (m), 1122 (m), 1093 (m), 1039 (w), 1010 (m), 929 (w), 842 (w), 744 (s), 667 (m). ^1H NMR (500 MHz, CDCl_3) $\delta = 7.91$ (br s, 1 H), 7.33 (d, $J = 8.2$ Hz, 1 H), 7.24 (d, $J = 7.9$ Hz, 1 H), 7.14 (ddd, $J = 0.9, 7.0, 7.7$ Hz, 1H), 7.11 (d, $J = 7.9$ Hz, 2H), 7.06 (d, $J = 7.9$ Hz, 2 H), 7.02 (d, $J = 8.5$ Hz, 2H), 6.97 (ddd, $J = 0.9, 7.0, 8.2$ Hz, 1H), 6.58 (dd, $J = 1.2, 2.4$ Hz, 1 H), 6.53 (d, $J = 8.5$ Hz, 2 H), 5.52 (s, 1 H), 3.12 (q, $J = 7.2$ Hz, 2 H), 2.31 (s, 3 H), 1.23 (t, $J = 7.2$ Hz, 3 H). ^{13}C NMR (126 MHz, CDCl_3) $\delta = 146.75, 141.80, 136.77, 135.38, 133.19, 129.73, 128.91, 128.85, 127.19, 123.96, 121.93, 120.83, 120.15, 119.25, 112.75, 110.99, 47.59, 38.72, 21.10, 15.03$. MS(ES+): $m/z = 341.22[\text{M}+\text{H}]^+, 312.16, 220.86, 204.14, 180.14$.

(6x) N-ethyl-4-[1H-indol-3-yl(4-nitrophenyl)methyl]aniline. C₂₃H₂₁N₃O₂. Orange solid. M.P.: 116 – 119 °C. (Hexane/EtOAc 7.5:2.5). IR (KBr, cm⁻¹): 3410 (br, s), 3105 (m), 3057 (m), 3020 (m), 2972 (m), 2929 (m), 2870 (m), 1732 (m), 1614 (s), 1608 (m), 1519 (s), 1489 (m), 1456 (s), 1417 (m), 1346 (s), 1267 (m), 1217 (m), 1184 (m), 1149 (m), 1109 (m), 1095 (m), 1049 (m), 1010 (m), 929 (w), 848 (w), 802 (m), 748 (s), 698 (m), 667 (m). ¹H NMR (500 MHz, CDCl₃) δ = 8.12 (d, *J* = 8.9 Hz, 2 H), 8.01 (br s, 1 H), 7.42 - 7.35 (m, 3 H), 7.21 - 7.16 (m, 2 H), 7.03 - 6.97 (m, 3 H), 6.59 (dd, *J* = 0.9, 2.4 Hz, 1 H), 6.55 (d, *J* = 8.5 Hz, 2 H), 5.64 (s, 1 H), 3.60 (br s, 1H), 3.14 (q, *J* = 7.2 Hz, 2 H), 1.25 (t, *J* = 7.2 Hz, 3 H). ¹³C NMR (126 MHz, CDCl₃) δ = 152.66, 147.27, 146.40, 136.80, 131.05, 129.75, 129.73, 126.71, 124.12, 123.57, 122.37, 119.70, 119.63, 119.08, 112.88, 111.29, 47.97, 38.60, 14.94. MS(ES+): *m/z* = 372.16[M+H]⁺, 343.11, 251.09, 221.11, 204.14.

(6y) N-ethyl-4-[1H-indol-3-yl(4-bromophenyl)methyl]aniline. C₂₃H₂₁N₂Br. Light brown solid. M.P.: 142 – 144 °C. (Hexane/EtOAc 8.5:1.5). IR (KBr, cm⁻¹): 3406 (br, s), 2953 (s), 2922 (s), 2850 (s), 1614 (s), 1514 (s), 1485 (s), 1456 (s), 1417 (s), 1336 (m), 1317 (m), 1255 (m), 1242 (m), 1176 (m), 1093 (m), 1070 (m), 1010 (m), 854 (w), 785 (m), 742 (m). ¹H NMR (500 MHz, CDCl₃) δ = 7.93 (br s, 1 H), 7.37 (d, *J* = 8.2 Hz, 2 H), 7.34 (d, *J* = 8.2 Hz, 1 H), 7.20 (d, *J* = 7.9 Hz, 1 H), 7.16 (ddd, *J* = 1.2, 7.0, 7.9 Hz, 1 H), 7.10 (d, *J* = 8.2 Hz, 2 H), 7.04 - 6.94 (m, 3 H), 6.56 (dd, *J* = 1.1, 2.3 Hz, 1 H), 6.53 (d, *J* = 8.5 Hz, 2 H), 5.50 (s, 1 H), 3.49 (br s, 1 H), 3.13 (q, *J* = 7.2 Hz, 2 H), 1.24 (t, *J* = 7.2 Hz, 3 H). ¹³C NMR (126 MHz, CDCl₃) δ = 146.98, 143.87, 136.77, 132.21, 131.28, 130.77, 129.71, 126.94, 124.03, 122.14, 120.07, 119.99, 119.83, 119.43, 112.78, 111.11, 47.46, 38.67, 15.00. MS(ES+): *m/z* = 407.07[M+1+H]⁺, 376.03, 283.95, 221.12, 204.02.

(6z) N-ethyl-4-[1H-indol-3-yl(3,4-dichlorophenyl)methyl]aniline. C₂₃H₂₁N₂Cl₂. Light brown solid. M.P.: 50 °C. (Hexane/EtOAc 8:2). IR (KBr, cm⁻¹): 3454 (s), 3410 (s), 3223 (w), 3049 (m), 3018 (m), 2970 (m), 2926 (m), 2870 (m), 1726 (m), 1614 (s), 1514 (s), 1467 (s), 1454 (s), 1415 (s), 1384 (m), 1323 (s), 1265 (s), 1217 (m), 1184 (m), 1147 (m), 1130 (m), 1095 (m), 1049 (w), 1029 (s), 1010 (w), 904 (w), 817 (s), 792 (s), 732 (s), 704 (s), 673 (m). ¹H NMR (500 MHz, CDCl₃) δ = 7.97 (br s, 1 H), 7.35 (d, *J* = 8.2 Hz, 1 H), 7.31 (d, *J* = 8.2 Hz, 1H), 7.31 (d, *J* = 2.1 Hz, 1H), 7.21 (d, *J* = 7.9 Hz, 1 H), 7.17 (ddd, *J* = 1.2 Hz, 7.0, 7.9 Hz, 1 H), 7.05 (dd, *J* = 2.1, 8.2 Hz, 1 H), 7.02 - 6.96 (m, 3 H), 6.57 (dd, *J* = 1.1, 2.3 Hz, 1 H), 6.54 (d, *J* = 8.5 Hz, 2 H), 5.50 (s, 1 H), 3.51 (br s, 1 H), 3.13 (q, *J* = 7.2 Hz, 2 H), 1.24 (t, *J* = 7.2 Hz, 3 H). ¹³C NMR (126 MHz, CDCl₃) δ = 147.13, 145.32, 136.80, 132.20, 131.64, 130.87, 130.17, 129.94, 129.71, 128.48, 126.81, 124.11, 122.28, 119.85, 119.57, 119.48, 112.93, 111.26, 47.28, 38.70, 14.99. MS(ES+): *m/z* = 397.14[M+1+H]⁺, 366.09, 274.00, 238.10, 221.13, 204.03.

(6aa) 4-[1H-indol-3-yl(phenyl)methyl]aniline. C₂₁H₁₈N₂. Brown solid. M.P.: 164 °C. (Hexane/EtOAc 8:2, 7:3). IR (KBr, cm⁻¹): 3423 (s), 3342 (s), 3251 (s), 3080 (m), 3057 (m), 3034 (m), 3016 (m), 2860 (m), 1683 (m), 1622 (m), 1516 (s), 1490 (s), 1456 (s), 1417 (m), 1338 (m), 1267 (m), 1234 (m), 1176 (m), 1157 (m), 1120 (m), 1089 (m), 1074 (m), 1051 (m), 1029 (m), 1006 (m), 929 (w), 871 (w), 846 (w), 837 (w), 808 (m), 802 (m), 790 (m), 742 (s), 694 (s), 607 (m). ¹H NMR (500 MHz, CDCl₃) δ = 7.92 (br s, 1H), 7.34 (d, *J* = 8.2 Hz, 1 H), 7.28 - 7.26 (m, 1 H), 7.25 - 7.21 (m, 4 H), 7.21 - 7.17 (m, 1 H), 7.17 - 7.13 (m, 1 H), 7.00 (d, *J* = 8.5 Hz, 2 H), 6.97 (ddd, *J* = 0.7, 7.0, 8.2 Hz, 1 H), 6.61 (d, *J* = 8.5 Hz, 2 H), 6.57 (dd, *J* = 1.1, 2.3 Hz, 1 H), 5.56 (s, 1 H), 3.71 (br s, 2H). ¹³C NMR (126 MHz, CDCl₃) δ = 144.65, 144.45, 136.78, 134.40, 129.87, 129.01, 128.27, 127.11, 126.10, 124.08, 122.02, 120.42, 120.08, 119.33, 115.30, 111.10, 48.07. MS(ES+): *m/z* = 299.14[M+H]⁺, 206.12, 182.06, 165.08.

(6bb) 4-[1H-indol-3-yl(4-methylphenyl)methyl]aniline. C₂₂H₂₀N₂. Brown solid. M.P.: 179 °C. (Hexane/EtOAc 8:2, 7:3). IR (KBr, cm⁻¹): 3419 (s), 3342 (s), 3269 (m), 3057 (m), 2997 (m), 2937 (m), 2918 (m), 2870 (m), 2837 (m), 1780 (w), 1734 (w), 1718 (w), 1701 (w), 1616 (m), 1593 (s), 1512 (s), 1485 (s), 1456 (s), 1429 (m), 1340 (m), 1315 (m), 1267 (s), 1253 (s), 1242 (s), 1217 (m), 1180 (m), 1153 (m), 1122 (m), 1089 (m), 1076 (m), 1029 (s), 1012 (m), 993 (m), 943 (w), 927 (w), 893 (w), 877 (w), 866 (w), 837 (m), 786 (m), 771 (s), 750 (s), 696 (m), 619 (m). ¹H NMR (500 MHz, CDCl₃) δ = 7.90 (br s, 1 H), 7.33 (d, *J* = 8.1 Hz, 1 H), 7.24 (d, *J* = 7.9 Hz, 1 H), 7.14 (ddd, *J* = 1.2, 7.0, 7.9 Hz, 1 H), 7.11 (d, *J* = 7.9 Hz, 2 H), 7.07 (d, *J* = 7.9 Hz, 2 H), 7.00 (d, *J* = 8.5 Hz, 2H), 6.97 (ddd, *J* = 1.2, 7.0, 8.1 Hz, 1 H), 6.60 (d, *J* = 8.5 Hz, 2 H), 6.57 (dd, *J* = 1.2, 2.4 Hz, 1 H), 3.61 (br s, 1H), 5.52 (s, 1 H), 2.31 (s, 3 H). ¹³C NMR (126 MHz, CDCl₃) δ = 144.44, 141.65, 136.77, 135.48, 134.59, 129.81, 128.96, 128.85, 127.14, 123.99, 121.98, 120.63, 120.11, 119.29, 115.22, 111.06, 47.64, 21.11. MS(ES+): *m/z* = 313.16[M+H]⁺, 220.28, 204.28, 196.09, 180.94, 180.74.

(6cc) 4-[1H-indol-3-yl(3-methylphenyl)methyl]aniline. C₂₂H₂₀N₂. Light brown solid. M.P.: 64 °C. (Hexane/EtOAc 8:2, 7:3). IR (KBr, cm⁻¹): 3408 (s), 3334 (s), 3213 (m), 3053 (m), 3032 (m), 3014 (m), 2920 (m), 2858 (m), 1724 (m), 1683 (m), 1616 (m), 1506 (s), 1489 (m), 1456 (s), 1436 (m), 1417 (m), 1373 (m), 1338 (m), 1246 (m), 1217 (m), 1176 (m), 1147 (w), 1122 (m), 1091 (m), 1041 (m), 1008 (m), 839 (w), 767 (m), 742 (s), 700 (s), 611 (m). ¹H NMR (500 MHz, CDCl₃) δ = 7.92 (br s, 1 H), 7.33 (d, *J* = 8.2 Hz, 1 H), 7.24 (d, *J* = 7.9 Hz, 1 H), 7.18 - 7.12 (m, 2 H), 7.05 (s, 1 H), 7.03 - 6.95 (m, 5 H), 6.61 (d, *J* = 8.5 Hz, 2 H), 6.57 (dd, *J* = 0.9, 2.4 Hz, 1 H), 5.52 (s, 1 H), 3.57 (br s, 2 H), 2.28 (s, 3 H). ¹³C NMR (126 MHz, CDCl₃) δ = 144.65, 144.50, 137.76, 136.80, 134.49, 129.88, 129.79, 128.17, 127.18, 126.92, 126.09, 124.12, 121.98, 120.46, 120.10, 119.30, 115.27, 111.14, 48.06, 21.62. MS(ES+): *m/z* = 313.16[M+H]⁺, 220.28, 204.28, 196.09, 180.94, 180.74.

(6dd) 4-[1H-indol-3-yl(4-nitrophenyl)methyl]aniline. C₂₁H₁₇N₃O₂. Orange solid. M.P.: 53 °C. (Hexane/EtOAc 8:2, 7:3, 6:4). IR (KBr, cm⁻¹): IR (KBr, cm⁻¹): 3417 (br, m), 3217 (m), 3107 (m), 3053 (m), 3034 (m), 3012 (m), 2956 (m), 2924 (m), 2854 (m), 1930 (w), 1892 (w), 1726 (m), 1620 (m), 1514 (s), 1487 (m), 1456 (m), 1417 (m), 1346 (s), 1265 (m), 1219 (m), 1180 (m), 1149 (w), 1124 (m), 1109 (m), 1049 (m), 1012 (m), 960 (w), 931 (w), 850 (m), 742 (s), 696 (m), 667 (m), 613 (m). ¹H NMR (500 MHz, CDCl₃) δ = 8.12 (d, *J* = 8.9 Hz, 2 H), 8.02 (br s, 1 H), 7.41 - 7.34 (m, 3 H), 7.22 - 7.15 (m, 2 H), 7.03 - 6.94 (m, 3 H), 6.63 (d, *J* = 8.5 Hz, 2 H), 6.58 (dd, *J* = 0.9, 2.4 Hz, 1 H), 5.65 (s, 1 H), 3.63 (br s, 2 H). ¹³C NMR (126 MHz, CDCl₃) δ = 152.48, 146.43, 145.15, 136.81, 132.47, 129.79, 129.75, 126.66, 124.13, 123.59, 122.38, 119.65, 119.64, 118.88, 115.35, 111.33, 47.98. Product had decomposed until mass spectrometry was performed.

(6ee) 4-[1H-indol-3-yl(3-methoxyphenyl)methyl]aniline. C₂₂H₂₀N₂O. Yellow solid. M.P.: 137 °C. (Hexane/EtOAc 8:2, 7:3, 6.5:3.5). IR (KBr, cm⁻¹): 3419 (s), 3404 (s), 3340 (s), 3275 (br, s), 3143 (s), 3057 (s), 2997 (s), 2937 (s), 2918 (s), 2870 (s), 2835 (s), 1734 (w), 1718 (w), 1701 (w), 1683 (m), 1652 (w), 1618 (s), 1593 (s), 1539 (w), 1512 (s), 1485 (s), 1467 (s), 1456 (s), 1452 (s), 1429 (s), 1419 (s), 1388 (w), 1340 (m), 1315 (m), 1265 (s), 1252 (s), 1242 (s), 1217 (m), 1180 (m), 1153 (m), 1122 (m), 1089 (m), 1076 (m), 1029 (s), 1012 (m), 993 (m), 943 (w), 927 (w), 893 (w), 877 (w), 866 (w), 837 (m), 808 (w), 786 (s), 771 (s), 750 (s), 696 (m), 619 (m), 607

(m). ¹H NMR (500 MHz, CDCl₃) δ = 7.92 (br s, 1 H), 7.33 (d, *J* = 8.2 Hz, 1 H), 7.25 (d, *J* = 7.9 Hz, 2 H), 7.20 - 7.13 (m, 2 H), 7.01 (d, *J* = 8.5 Hz, 2 H), 6.98 (ddd, *J* = 0.9, 7.2, 8.2 Hz, 1 H), 6.82 (d, *J* = 7.6 Hz, 1 H), 6.79 (t, *J* = 2.1 Hz, 1 H), 6.74 (ddd, *J* = 0.9, 2.5, 8.2 Hz, 1 H), 6.64 - 6.58 (m, 3 H), 5.53 (s, 1 H), 3.72 (s, 3 H). ¹³C NMR (126 MHz, CDCl₃) δ = 159.55, 146.29, 144.49, 136.73, 134.12, 129.78, 129.10, 127.10, 123.93, 121.99, 121.53, 120.32, 120.02, 119.31, 115.20, 114.96, 111.19, 110.99, 55.13, 48.05. MS(ES⁺): *m/z* = 329.16[M+H]⁺, 236.16, 221.13, 212.16, 196.95, 180.95.

(6ff) 4-[1*H*-indol-3-yl(4-methoxyphenyl)methyl]aniline. C₂₁H₂₀N₂O. Light red solid. M.P.: 80 °C. (Hexane/EtOAc 8:2, 7:3, 6.5:3.5). IR (KBr, cm⁻¹): 3441 (br, s), 3059 (m), 3034 (m), 2960 (m), 2931 (s), 2904 (m), 2858 (m), 2835 (m), 1888 (w), 1770 (w), 1732 (m), 1716 (m), 1699 (m), 1622 (s), 1614 (m), 1539 (m), 1519 (s), 1504 (s), 1456 (s), 1435 (m), 1417 (m), 1373 (m), 1338 (m), 1338 (m), 1298 (m), 1246 (m), 1219 (m), 1172 (m), 1123 (m), 1105 (m), 1087 (m), 1033 (m), 1008 (m), 929 (w), 873 (w), 842 (m), 810 (m), 790 (m), 773 (m), 759 (m), 738 (m), 667 (m). ¹H NMR (500 MHz, CDCl₃) δ = 7.92 (br s, 1 H), 7.33 (d, *J* = 8.2 Hz, 1 H), 7.23 (d, *J* = 7.9 Hz, 1 H), 7.19 - 7.12 (m, 3 H), 7.02 - 6.94 (m, 3 H), 6.81 (d, *J* = 8.9 Hz, 2 H), 6.61 (d, *J* = 8.5 Hz, 2 H), 6.56 (dd, *J* = 1.1, 2.3 Hz, 1 H), 5.51 (s, 1 H), 3.77 (s, 3 H), 3.58 (br s, 2 H). ¹³C NMR (126 MHz, CDCl₃) δ = 157.88, 144.47, 136.89, 136.80, 134.67, 129.88, 129.77, 127.10, 123.98, 121.97, 120.77, 120.11, 119.27, 115.21, 113.62, 111.08, 55.27, 47.20 (s). MS(ES⁺): *m/z* = 329.07[M+H]⁺, 236.14, 221.12, 212.14, 197.06, 168.24.

(6gg) 4-[1*H*-indol-3-yl(4-bromophenyl)methyl]aniline. C₂₁H₁₇BrN₂. Yellow solid. M.P.: 78 °C. (Hexane/EtOAc 8:2, 7:3). IR (KBr, cm⁻¹): 3408 (br, m), 3340 (m), 3051 (m), 3032 (m), 3012 (m), 2999 (m), 2978 (m), 2920 (m), 2858 (m), 1890 (w), 1734 (m), 1718 (m), 1701 (m), 1683 (m), 1616 (m), 1516 (s), 1506 (s), 1481 (m), 1456 (s), 1436 (m), 1417 (m), 1398 (m), 1373 (w), 1338 (m), 1257 (m), 1246 (m), 1217 (m), 1178 (m), 1149 (w), 1122 (w), 1093 (m), 1070 (m), 1047 (m), 1008 (m), 871 (w), 844 (w), 810 (m), 783 (m), 742 (m), 669 (m), 603 (m). ¹H NMR (500 MHz, CDCl₃) δ = 7.94 (br s, 1 H), 7.37 (d, *J* = 8.2 Hz, 2 H), 7.34 (d, *J* = 8.2 Hz, 1 H), 7.21 (d, *J* = 7.9 Hz, 1 H), 7.16 (ddd, *J* = 0.9, 7.1, 7.9 Hz, 1 H), 7.09 (d, *J* = 8.2 Hz, 2 H), 7.01 - 6.94 (m, 3 H), 6.61 (d, *J* = 8.5 Hz, 2 H), 6.55 (dd, *J* = 1.1, 2.3 Hz, 1 H), 5.50 (s, 1 H), 3.58 (br s, 2 H). ¹³C NMR (126 MHz, CDCl₃) δ = 144.67, 144.65, 143.63, 143.61, 136.68, 133.53, 131.23, 130.67, 129.69, 123.96, 122.09, 119.85, 119.82, 119.37, 115.16, 111.08, 47.40. MS(ES⁺): *m/z* = 378.04[M+H]⁺, 285.84, 221.13, 204.16, 180.09

(6hh) 4-[1*H*-indol-3-yl(3,4-dichlorophenyl)methyl]aniline. C₂₁H₁₆Cl₂N₂. Yellow solid. M.P.: 69 °C. (Hexane/EtOAc 8:2, 7:3). IR (KBr, cm⁻¹): 3444 (m), 3408 (m), 3224 (m), 3053 (m), 3003 (m), 2924 (w), 2866 (w), 1732 (m), 1716 (m), 1620 (m), 1514 (s), 1506 (s), 1467 (s), 1456 (s), 1417 (m), 1392 (m), 1338 (m), 1265 (m), 1219 (m), 1180 (m), 1130 (m), 1049 (m), 1029 (m), 1010 (m), 904 (m), 889 (m), 825 (m), 790 (m), 744 (s), 705 (m), 667 (m). ¹H NMR (500 MHz, CDCl₃) δ = 7.98 (br s, 1 H), 7.35 (d, *J* = 8.2 Hz, 1 H), 7.32 (d, *J* = 8.5 Hz, 1 H), 7.30 (d, *J* = 2.1 Hz, 1H) 7.21 (d, *J* = 7.9 Hz, 1 H), 7.17 (ddd, *J* = 0.9, 7.1, 7.9 Hz, 1 H), 7.04 (ddd, *J* = 0.6, 2.1, 8.3 Hz, 1 H), 7.00 (ddd, *J* = 1.1, 7.1, 8.2 Hz, 1 H), 6.96 (d, *J* = 8.5 Hz, 2 H), 6.62 (d, *J* = 8.5 Hz, 2 H), 6.57 (dd, *J* = 0.9, 2.4 Hz, 1 H), 5.50 (s, 1 H), 3.61 (br s, 2 H). ¹³C NMR (126 MHz, CDCl₃) δ = 145.01, 144.90, 136.72, 132.88, 132.17, 130.78, 130.11, 129.96, 129.68, 128.37, 126.70, 123.96, 122.26, 119.74, 119.54, 119.36, 115.24, 111.14, 47.22. MS(ES⁺): *m/z* = 367.10[M+H]⁺, 274.06, 250.06, 204.07, 180.09, 152.05.

(6II) 4-[1*H*-indol-3-yl(phenyl)methyl]-3-methylaniline. C₂₂H₂₀N₂. Brown solid. M.P.: 84 °C. (Hexane/EtOAc 7.5:2.5). IR (KBr, cm⁻¹): 3402 (s), 3325 (s), 3242 (br, s), 3078 (s), 3057 (s), 3016 (s), 2920 (m), 2887 (m), 1732 (m), 1620 (s), 1614 (s), 1583 (m), 1573 (m), 1519 (m), 1492 (s), 1456 (s), 1435 (m), 1417 (m), 1352 (m), 1338 (m), 1303 (m), 1273 (m), 1244 (m), 1217 (s), 1199 (s), 1184 (w), 1109 (w), 1101 (m), 1074 (m), 1051 (m), 1029 (m), 1006 (m), 952 (w), 923 (w), 912 (w), 869 (m), 835 (m), 817 (m), 798 (m), 752 (s), 696 (s), 667 (s), 653 (m), 623 (m), 609 (m). ¹H NMR (500 MHz, CDCl₃) δ = 7.90 (br s, 1 H), 7.33 (d, *J* = 8.2 Hz, 1 H), 7.27 - 7.13 (m, 7 H), 6.98 (ddd, *J* = 0.9, 7.0, 8.2 Hz, 1 H), 6.72 (d, *J* = 8.2 Hz, 1 H), 6.55 (d, *J* = 2.4 Hz, 1 H), 6.47 (dd, *J* = 0.9, 2.4 Hz, 1 H), 6.40 (dd, *J* = 2.4, 8.2 Hz, 1 H), 5.69 (s, 1 H), 2.22 (s, 3 H). ¹³C NMR (126 MHz, CDCl₃) δ = 144.30, 144.04, 137.28, 136.80, 132.69, 129.91, 129.18, 128.19, 127.17, 125.99, 124.24, 121.99, 120.13, 119.93, 119.28, 117.46, 112.75, 111.05, 44.45, 19.81. MS(ES⁺): *m/z* = 313.28[M+H]⁺, 196.16.

(6mm) 4-[1*H*-indol-3-yl(3-methylphenyl)methyl]-3-methylaniline. C₂₃H₂₂N₂. Yellow solid. M.P.: 64 °C. (Hexane/EtOAc 7.5:2.5). IR (KBr, cm⁻¹): 3402 (s), 3325 (s), 3219 (br, s), 3105 (s), 3043 (s), 3014 (s), 2993 (s), 2920 (s), 2866 (s), 1734 (m), 1683 (m), 1608 (s), 1606 (s), 1581 (s), 1516 (m), 1496 (s), 1456 (s), 1436 (s), 1379 (s), 1352 (m), 1338 (m), 1301 (m), 1273 (m), 1247 (m), 1217 (m), 1195 (m), 1166 (m), 1145 (m), 1124 (m), 1101 (m), 1049 (m), 1006 (m), 954 (m), 923 (w), 904 (w), 867 (m), 837 (m), 819 (m), 800 (m), 763 (s), 740 (s), 698 (s), 667 (s), 617 (s). ¹H NMR (500 MHz, CDCl₃) δ = 7.90 (br s, 1 H), 7.34 (d, *J* = 8.2 Hz, 1 H), 7.24 (d, *J* = 7.9 Hz, 1 H), 7.18 - 7.10 (m, 2 H), 7.02 - 6.94 (m, 4 H), 6.72 (d, *J* = 8.2 Hz, 1 H), 6.54 (d, *J* = 2.4 Hz, 1 H), 6.48 (dd, *J* = 1.1, 2.3 Hz, 1 H), 6.40 (dd, *J* = 2.4, 8.2 Hz, 1 H), 5.65 (s, 1 H), 2.27 (s, 3 H), 2.22 (s, 3 H). ¹³C NMR (126 MHz, CDCl₃) δ = 144.33, 143.97, 137.64, 137.27, 136.79, 132.75, 129.94, 129.91, 128.04, 127.22, 126.79, 126.26, 124.23, 121.97, 120.26, 119.95, 119.27, 117.40, 112.70, 111.03, 44.40, 21.57, 19.85. MS(ES⁺): *m/z* = 327.15[M+H]⁺, 312.06, 297.04, 220.88, 210.15, 204.03.

(6nn) 4-[1*H*-indol-3-yl(3-methoxyphenyl)methyl]-3-methylaniline. C₂₃H₂₂N₂O. Yellow solid. M.P.: 159 °C. (Hexane/EtOAc 5.5:4.5). IR (KBr, cm⁻¹): 3408 (s), 3331 (s), 3242 (br, s), 3078 (s), 3034 (s), 3010 (s), 3003 (s), 2960 (s), 2939 (s), 2910 (s), 2850 (m), 2835 (m), 2744 (m), 2729 (m), 1932 (w), 1886 (w), 1884 (w), 1734 (w), 1683 (m), 1622 (s), 1604 (s), 1581 (s), 1573 (s), 1539 (m), 1500 (s), 1489 (s), 1456 (s), 1431 (s), 1379 (w), 1354 (m), 1338 (m), 1303 (m), 1265 (s), 1219 (m), 1197 (m), 1165 (m), 1143 (m), 1095 (m), 1082 (m), 1045 (s), 1008 (m), 968 (w), 952 (m), 931 (m), 918 (m), 869 (s), 835 (m), 823 (m), 798 (m), 781 (s), 772 (s), 750 (s), 715 (m), 694 (s), 655 (s), 615 (s). ¹H NMR (500 MHz, CDCl₃) δ = 7.91 (br s, 1 H), 7.33 (d, *J* = 8.2 Hz, 1 H), 7.23 (d, *J* = 7.9 Hz, 1 H), 7.20 - 7.12 (m, 2 H), 6.98 (ddd, *J* = 0.9, 7.0, 8.2 Hz, 1 H), 6.78 (d, *J* = 7.3 Hz, 1 H), 6.76 - 6.71 (m, 3 H), 6.54 (d, *J* = 2.6 Hz, 1 H), 6.50 (dd, *J* = 1.1, 2.3 Hz, 1 H), 6.39 (dd, *J* = 2.6, 8.1 Hz, 1 H), 5.66 (s, 1 H), 3.72 (s, 3 H). ¹³C NMR (126 MHz, CDCl₃) δ = 159.57, 145.82, 144.41, 137.26, 136.77, 132.43, 129.84, 129.07, 127.18, 124.19, 121.98, 121.80, 119.98, 119.87, 119.28, 117.38, 115.20, 112.70, 111.12, 111.04, 55.13, 44.47, 19.82. MS(ES⁺): *m/z* = 343.30[M+H]⁺, 313.25, 236.17, 226.18, 196.19.

(6oo) 4-[1*H*-indol-3-yl(4-bromophenyl)methyl]-3-methylaniline. C₂₂H₁₉N₂Br. Yellow solid. M.P.: 130 - 131 °C. (Hexane/EtOAc 7:3). IR (KBr, cm⁻¹): 3406 (s), 3329 (s), 3201 (s), 3159 (s), 3101 (s), 3053 (s), 3037 (s), 3012 (s), 2978 (s), 2922 (s), 2870 (s), 1734 (m), 1718 (m), 1683 (m), 1616 (s), 1581 (m), 1541 (m), 1496 (s), 1485 (s), 1456 (s), 1400 (m), 1346 (m), 1338 (m), 1300 (m), 1273 (m), 1244 (m), 1217 (m), 1195 (m), 1180 (m), 1165 (m), 1122 (m), 1101 (m), 1070 (m), 1049 (m), 1010 (s), 950 (m), 939 (w), 925 (w), 920 (w), 864 (s), 848 (m), 835 (m), 817 (m), 800 (m), 786 (s), 740 (s), 702 (m), 630 (m), 615 (s). ¹H NMR (500 MHz, CDCl₃) δ = 7.95 (br s, 1 H), 7.37 (d, *J* = 8.2 Hz, 2 H), 7.35 (d, *J* = 8.2 Hz, 1 H), 7.20 (d, *J* = 7.9 Hz, 1 H), 7.16 (ddd, *J* = 0.9, 7.1, 7.9 Hz, 1 H), 7.05 (d, *J* = 8.2 Hz, 2 H), 6.99 (ddd, *J* = 0.9, 7.0, 8.2 Hz, 1 H), 6.67 (d, *J* = 8.1 Hz, 1 H), 6.55 (d, *J* = 2.6 Hz, 1

H), 6.47 (dd, $J = 1.2, 2.4$ Hz, 1 H), 6.40 (dd, $J = 2.6, 8.1$ Hz, 1 H), 5.64 (s, 1 H), 3.53 (br s, 2 H), 2.20 (s, 3 H). ^{13}C NMR (126 MHz, CDCl_3) $\delta = 144.65, 143.31, 137.33, 136.85, 132.07, 131.37, 131.05, 129.91, 127.03, 124.36, 122.22, 119.92, 119.87, 119.50, 119.48, 117.56, 112.85, 111.32, 44.00, 19.87$. MS(ES+): $m/z = 393.10[\text{M}+1+\text{H}]^+$, 286.08, 276.07, 204.20, 194.13, 180.08.

(6pp) 4-[1H-indol-3-yl(3,4-dichlorophenyl)methyl]-3-methylaniline. $\text{C}_{22}\text{H}_{18}\text{N}_2\text{Cl}_2$. Yellow solid. M.P.: 84 °C. (Hexane/EtOAc 7:3). IR (KBr, cm^{-1}): 3466 (s), 3410 (s), 3223 (m), 3057 (m), 3010 (s), 2976 (m), 2918 (m), 2868 (m), 1892 (w), 1728 (m), 1629 (s), 1582 (m), 1562 (m), 1504 (s), 1467 (s), 1456 (s), 1417 (m), 1392 (m), 1336 (m), 1309 (m), 1249 (m), 1215 (s), 1184 (m), 1130 (m), 1093 (m), 1049 (m), 1029 (m), 1010 (m), 950 (w), 927 (w), 902 (m), 860 (m), 794 (s), 748 (br, s), 705 (m), 667 (s), 621 (m). ^1H NMR (500 MHz, CDCl_3) $\delta = 7.97$ (br s, 1 H), 7.36 (d, $J = 8.2$ Hz, 1 H), 7.32 (d, $J = 8.2$ Hz, 1 H), 7.26 (d, 1 H), 7.23 - 7.15 (m, 2 H), 7.03 - 6.98 (m, 2 H), 6.66 (d, $J = 8.2$ Hz, 1 H), 6.55 (d, $J = 2.6$ Hz, 1 H), 6.48 (dd, $J = 0.9, 2.6$ Hz, 1 H), 6.41 (dd, $J = 2.6, 8.2$ Hz, 1 H), 5.64 (s, 1 H), 3.55 (br s, 2 H), 2.20 (s, 3 H). ^{13}C NMR (126 MHz, CDCl_3) $\delta = 144.76, 144.60, 137.15, 136.74, 136.73, 132.17, 131.24, 130.94, 130.06, 129.91, 129.71, 128.57, 126.79, 124.13, 122.24, 119.61, 119.50, 118.99, 117.39, 112.72, 111.13, 43.63, 19.70$. MS(ES+): $m/z = 383.29[\text{M}+\text{H}]^+$, 381.29, 276.10, 274.10, 266.10, 264.10.

(6qq) 4-[1H-indol-3-yl(phenyl)methyl]-2-methylaniline. $\text{C}_{22}\text{H}_{20}\text{N}_2$. Yellow solid. M.P.: 65 °C. (Hexane/EtOAc 7:3). IR (KBr, cm^{-1}): 3417 (br, s), 3219 (m), 3080 (m), 3055 (m), 3022 (m), 2980 (m), 2922 (m), 2899 (m), 2858 (m), 1734 (m), 1683 (m), 1652 (m), 1624 (m), 1612 (m), 1506 (s), 1490 (m), 1456 (s), 1417 (m), 1373 (w), 1354 (w), 1338 (m), 1265 (m), 1219 (m), 1153 (w), 1122 (w), 1093 (m), 1076 (w), 1049 (w), 1029 (w), 1010 (w), 894 (w), 808 (m), 792 (m), 740 (m), 702 (m), 611 (m). ^1H NMR (500 MHz, CDCl_3) $\delta = 7.92$ (br s, 1 H), 7.34 (d, $J = 8.2$ Hz, 1 H), 7.28 - 7.26 (m, 1 H), 7.25 - 7.21 (m, 4 H), 7.21 - 7.13 (m, 2 H), 6.97 (t, $J = 7.6$ Hz, 1 H), 6.93 (d, $J = 1.8$ Hz, H), 6.86 (dd, $J = 2.1, 7.9$ Hz, 1 H), 6.61 - 6.56 (m, 2 H), 5.54 (s, 1 H), 2.10 (s, 3 H). ^{13}C NMR (126 MHz, CDCl_3) $\delta = 144.67, 142.60, 136.69, 134.30, 131.02, 128.91, 128.15, 127.36, 127.08, 125.95, 123.96, 122.31, 121.91, 120.49, 120.01, 119.22, 114.97, 110.95, 48.04, 17.47$. MS(ES+): $m/z = 313.25[\text{M}+\text{H}]^+$, 206.18, 195.93.

(6rr) 4-[1H-indol-3-yl(3-methoxyphenyl)methyl]-2-methylaniline. $\text{C}_{23}\text{H}_{22}\text{N}_2\text{O}$. Yellow solid. M.P.: 135 °C. (Hexane/EtOAc 6:4). IR (KBr, cm^{-1}): 3417 (s), 3223 (m), 3049 (m), 3003 (m), 2956 (s), 2926 (s), 2856 (m), 2837 (m), 1732 (m), 1622 (s), 1606 (s), 1597 (s), 1581 (s), 1539 (w), 1504 (s), 1485 (s), 1456 (s), 1435 (s), 1417 (s), 1373 (w), 1338 (m), 1311 (m), 1265 (s), 1219 (m), 1149 (m), 1139 (m), 1122 (w), 1093 (m), 1047 (m), 1010 (w), 995 (w), 889 (w), 875 (w), 825 (w), 773 (m), 742 (s), 698 (m), 624 (w). ^1H NMR (500 MHz, CDCl_3) $\delta = 7.92$ (br s, 1 H), 7.33 (d, $J = 7.9$ Hz, 1 H), 7.26 (d, $J = 7.9$ Hz, 1 H), 7.20 - 7.12 (m, 2 H), 6.97 (ddd, $J = 0.9, 7.0, 7.9$ Hz, 1 H), 6.93 (d, $J = 2.0$ Hz, 1 H), 6.87 (dd, $J = 2.0, 8.2$ Hz, 1 H), 6.83 (d, $J = 7.9$ Hz, 1 H), 6.80 (t, $J = 2.4$ Hz, 1 H), 6.73 (ddd, $J = 0.8, 2.6, 8.2$ Hz, 1 H), 6.60 (dd, $J = 1.1, 2.3$ Hz, 1 H), 6.58 (d, $J = 8.2$ Hz, 1 H), 5.51 (s, 1 H), 3.73 (s, 3 H), 2.10 (s, 3 H). ^{13}C NMR (126 MHz, CDCl_3) $\delta = 159.55, 146.47, 142.71, 136.73, 134.17, 131.03, 129.12, 127.37, 127.15, 123.98, 123.97, 122.34, 121.95, 121.57, 120.36, 120.03, 119.28, 115.02, 111.14, 111.01, 55.15, 48.14, 17.54$. MS(ES+): $m/z = 343.30[\text{M}+\text{H}]^+$, 236.17, 226.18.

(6ss) 4-[1H-indol-3-yl(3,4-dichlorophenyl)methyl]-2-methylaniline. $\text{C}_{22}\text{H}_{18}\text{N}_2\text{Cl}_2$. Yellow solid. M.P.: 66 °C. (Hexane/EtOAc 7:3). IR (KBr, cm^{-1}): 3468 (s), 3415 (s), 3223 (m), 3057 (m), 3010 (s), 2976 (m), 2922 (w), 2868 (m), 1728 (w), 1620 (s), 1581 (m), 1504 (s), 1467 (s), 1456 (s), 1417 (m), 1392 (m), 1336 (s), 1309 (m), 1276 (m), 1265 (m), 1249 (m), 1130 (m), 1093 (m), 1047 (m), 1029 (s), 101 (m), 950 (w), 927 (w), 902 (m), 860 (m), 817 (m), 794 (s), 752 (br, s), 721 (m), 667 (s), 621 (m). ^1H NMR (500 MHz, CDCl_3) $\delta = 7.97$ (br s, 1 H), 7.36 (d, $J = 8.2$ Hz, 1 H), 7.33 - 7.29 (m, 2 H), 7.21 (d, $J = 7.9$ Hz, 1 H), 7.17 (ddd, $J = 1.2, 7.0, 7.7$ Hz, 1 H), 7.05 (dd, $J = 2.4$ Hz, 8.3 Hz, 1 H), 7.00 (ddd, $J = 0.9, 7.0, 8.2$ Hz, 1 H), 6.88 (d, $J = 2.1$ Hz, 1 H), 6.82 (dd, $J = 2.1, 7.9$ Hz, 1 H), 6.60 (d, $J = 7.9$ Hz, 1 H), 6.58 (dd, $J = 1.2, 2.4$ Hz, 1 H), 5.48 (s, 1 H), 3.55 (br s, 2 H), 2.11 (s, 3 H). ^{13}C NMR (126 MHz, CDCl_3) $\delta = 145.20, 143.12, 136.75, 133.00, 132.17, 130.92, 130.82, 130.12, 129.92, 128.41, 127.29, 126.78, 124.04, 122.50, 122.26, 119.78, 119.55, 119.44, 115.07, 111.16, 47.31, 17.53$. MS(ES+): $m/z = 383.29[\text{M}+\text{H}]^+$, 381.29, 276.10, 274.10, 266.10, 264.10.

(6tt) 4-[1H-indol-3-yl(phenyl)methyl]-N,N-dimethylaniline. $\text{C}_{23}\text{H}_{22}\text{N}_2$. White solid. M.P.: 162 °C. (Hexane/EtOAc 8.7:1.3). IR (KBr, cm^{-1}): 3394 (s), 3082 (m), 3057 (m), 3047 (m), 3020 (m), 3001 (m), 2873 (m), 2810 (m), 1683 (m), 1610 (m), 1521 (s), 1506 (s), 1510 (m), 1456 (s), 1415 (m), 1357 (m), 1334 (m), 1328 (m), 1294 (w), 1236 (m), 1219 (m), 1201 (m), 1186 (w), 1166 (w), 1122 (w), 1093 (m), 1064 (w), 1055 (w), 1010 (w), 947 (w), 927 (w), 912 (w), 877 (w), 842 (w), 827 (w), 813 (w), 798 (s), 788 (m), 742 (s), 725 (s), 696 (s), 601 (m). ^1H NMR (500 MHz, CDCl_3) $\delta = 7.34$ (d, $J = 7.9$ Hz, 1 H), 7.28 - 7.26 (m, 1 H), 7.25 - 7.22 (m, 4 H), 7.21 - 7.12 (m, 2 H), 7.09 (d, $J = 8.5$ Hz, 2 H), 6.97 (ddd, $J = 0.9, 7.0, 7.9$ Hz, 1 H), 6.67 (d, $J = 8.5$ Hz, 2 H), 6.58 (dd, $J = 1.1, 2.3$ Hz, 1 H), 5.58 (s, 1 H), 2.91 (s, 6 H). MS(ES+): $m/z = 327.10[\text{M}+\text{H}]^+$, 312.07, 235.13, 219.79, 204.17.

(6uu) 4-[1H-indol-3-yl(4-methylphenyl)methyl]-N,N-dimethylaniline. $\text{C}_{24}\text{H}_{24}\text{N}_2$. Yellow-brown solid. M.P.: 162 °C. (Hexane/EtOAc 8.7:1.3). IR (KBr, cm^{-1}): 3396 (m), 3207 (br, m), 3059 (m), 3047 (m), 3018 (m), 2995 (m), 2914 (m), 2891 (m), 2858 (m), 2816 (m), 1683 (m), 1616 (m), 1608 (m), 1516 (m), 1506 (s), 1456 (s), 1417 (m), 1357 (m), 1338 (m), 1317 (m), 1296 (w), 1236 (w), 1219 (m), 1199 (m), 1182 (w), 1161 (w), 1136 (m), 1122 (m), 1093 (m), 1055 (m), 1022 (w), 1008 (m), 941 (w), 925 (w), 856 (m), 835 (m), 800 (m), 773 (m), 761 (m), 734 (m), 630 (w). ^1H NMR (500 MHz, CDCl_3) $\delta = 7.91$ (br s, 1 H), 7.33 (d, $J = 8.2$ Hz, 1 H), 7.26 (d, $J = 7.9$ Hz, 1 H), 7.16 - 7.04 (m, 7 H), 6.97 (t, $J = 7.5$ Hz, 1 H), 6.60 (d, $J = 8.5$ Hz, 1 H), 5.54 (s, 1 H), 2.90 (s, 6 H), 2.31 (s, 3 H).

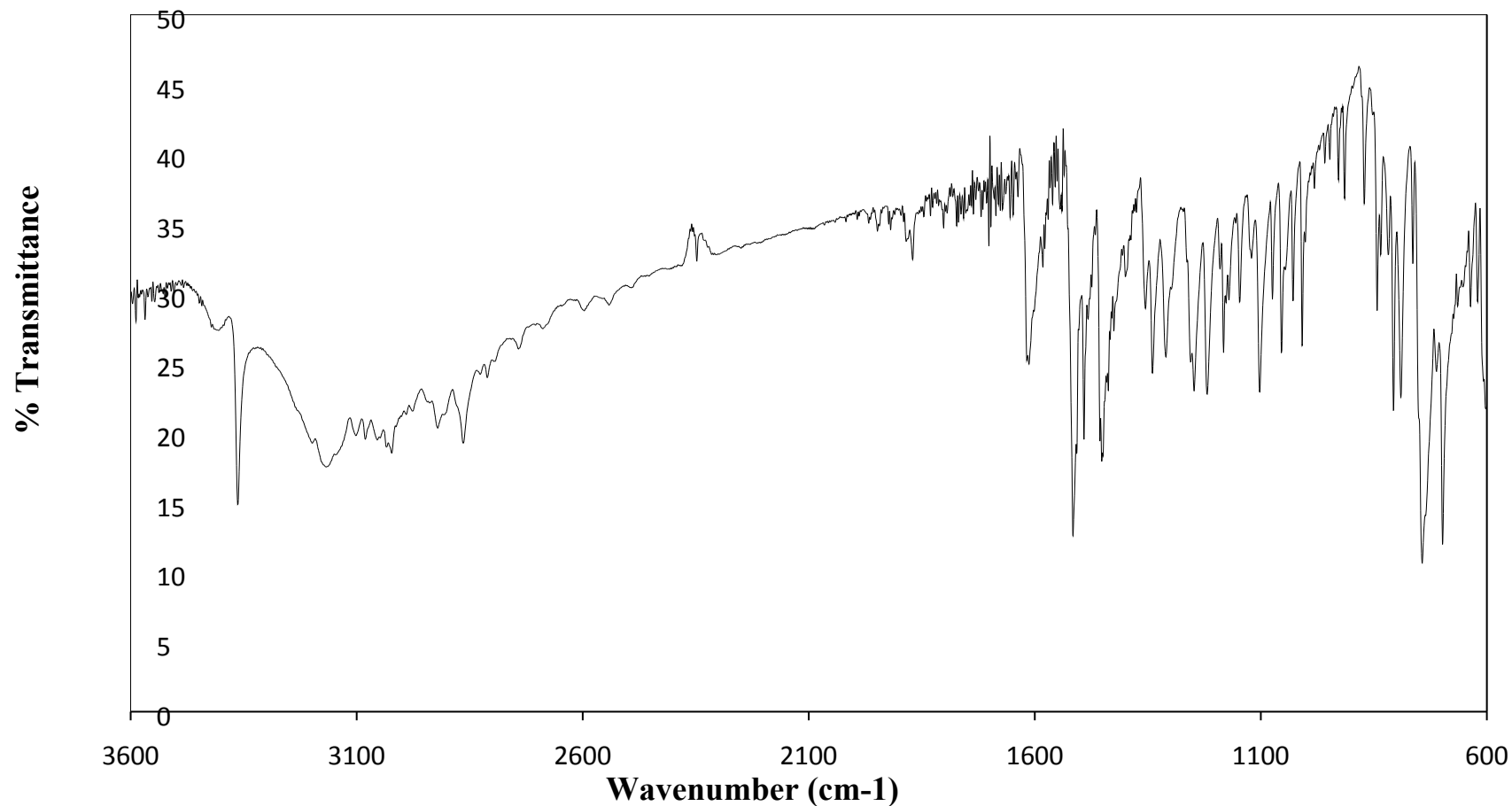
(6vv) 4-[1H-indol-3-yl(4-bromophenyl)methyl]-N,N-dimethylaniline. $\text{C}_{23}\text{H}_{21}\text{N}_2\text{Br}$. White solid. M.P.: 162 °C. (Hexane/EtOAc 8:2). IR (KBr, cm^{-1}): 3402 (m), 3213 (m), 3182 (m), 3105 (m), 3070 (m), 3059 (m), 3039 (m), 3014 (m), 2985 (m), 2962 (m), 2887 (m), 2848 (m), 2802 (m), 1734 (w), 1683 (m), 1614 (m), 1516 (s), 1506 (s), 1481 (m), 1471 (m), 1456 (s), 1398 (w), 1338 (m), 1321 (m), 1280 (w), 1242 (w), 1219 (m), 1199 (m), 1184 (w), 1159 (w), 1136 (m), 1095 (m), 1070 (m), 1051 (m), 1014 (m), 1008 (m), 941 (m), 929 (w), 858 (w), 839 (w), 815 (m), 806 (m), 798 (s), 788 (s), 765 (m), 742 (s), 669 (w), 617 (m). ^1H NMR (500 MHz, CDCl_3) $\delta = 7.93$ (br s, 1 H), 7.37 (d, $J = 8.2$ Hz, 2 H), 7.34 (d, $J = 7.9$ Hz, 1 H), 7.22 (d, $J = 7.9$ Hz, 1 H), 7.16 (ddd, $J = 0.9, 7.2, 7.9$ Hz, 1 H), 7.10 (d, $J = 8.2$ Hz, 2 H), 7.05 (d, $J = 8.5$ Hz, 2 H), 6.99 (ddd, $J = 0.9, 7.2, 8.2$ Hz, 1 H), 6.67 (d, $J = 8.5$ Hz, 2 H), 6.57 (dd, $J = 1.1, 2.3$ Hz, 1 H), 5.53 (s, 1 H), 2.92 (s, 6 H). ^{13}C NMR (126 MHz, CDCl_3) $\delta = 147.28, 136.29, 136.25(s), 133.91, 129.11, 127.81, 121.67, 121.61, 120.80, 120.25, 119.73, 119.64, 119.07, 118.99, 112.44, 110.98, 48.99, 31.00$. MS(ES+): $m/z = 407.28[\text{M}+\text{H}]^+$, 405.22, 290.16, 284.22, 257.33, 251.20, 158.07.

(6ww) 4-[(1-methyl-1H-indol-3-yl)(phenyl)methyl]-N-methylaniline. C₂₃H₂₂N₂. White solid. M.P.: 36 °C. (Hexane/EtOAc 9.5:0.5). IR (KBr, cm⁻¹): 3412 (m), 3049 (m), 3003 (m), 2924 (m), 2875 (m), 2854 (m), 2819 (w), 1614 (m), 1549 (w), 1519 (s), 1510 (m), 1483 (m), 1471 (m), 1423 (w), 1371 (m), 1345 (w), 1327 (m), 1323 (m), 1269 (w), 1217 (m), 1180 (w), 1153 (m), 1130 (w), 1118 (w), 1055 (w), 1012 (w), 852 (w), 810 (m), 796 (m), 752 (s), 740 (s), 667 (m). ¹H NMR (500 MHz, CDCl₃) δ = 7.27 (d, *J* = 8.2 Hz, 1 H), 7.24 (d, *J* = 7.9 Hz, 1 H), 7.16 (ddd, *J* = 0.9, 7.0, 7.6 Hz, 1 H), 7.12 (d, *J* = 7.9 Hz, 2 H), 7.06 (d, *J* = 7.9 Hz, 2 H), 7.03 (d, *J* = 8.5 Hz, 2 H), 6.95 (ddd, *J* = 0.9, 6.9 Hz, 8.0 Hz, 1 H), 6.54 (d, *J* = 8.5 Hz, 1 H), 6.42 (d, *J* = 0.9 Hz, 1 H), 5.52 (s, 1 H), 3.68 (s, 3 H), 3.67 (s, 1 H), 2.81 (s, 3 H), 2.31 (s, 3 H). ¹³C NMR (126 MHz, CDCl₃) δ = 147.71, 142.13, 137.61, 135.45, 133.45, 129.81, 129.08, 129.05, 128.99, 127.71, 121.64, 120.37, 119.37, 118.86, 112.48, 109.19, 47.74, 32.71, 30.93, 21.25. MS(ES⁺): *m/z* = 341.30[M+H]⁺, 234.17, 210.18.

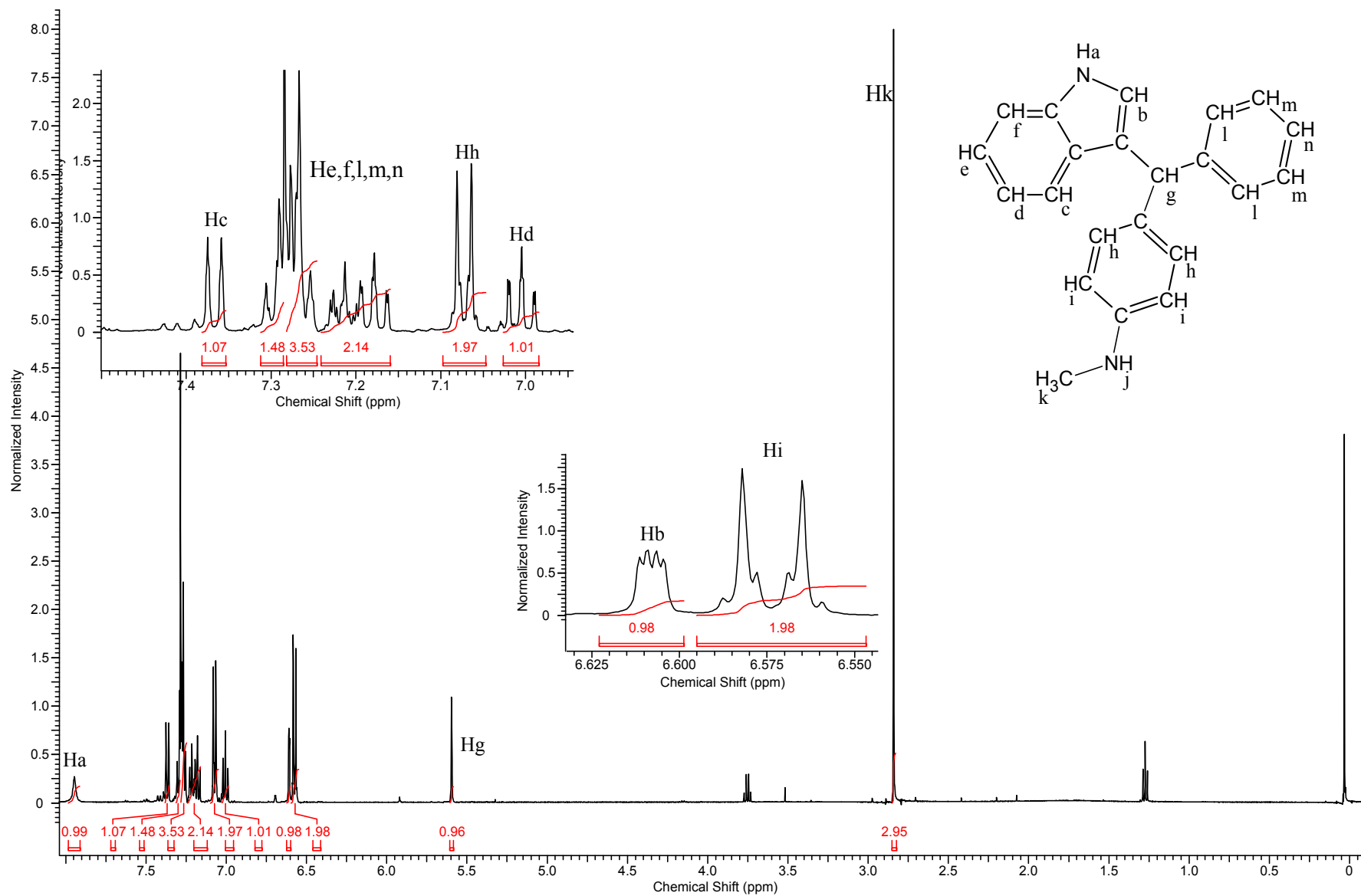
(6xx) 4-[(1-methyl-1H-indol-3-yl)(4-nitrophenyl)methyl]-N-methylaniline. C₂₃H₂₁N₃O₂. Orange-brown solid. M.P.: 61 °C. (Hexane/EtOAc 8.5:1.5). IR (KBr, cm⁻¹): 3419 (m), 3101 (w), 3049 (m), 3018 (s), 2929 (m), 2881 (m), 2814 (m), 1614 (s), 1602 (s), 1519 (s), 1485 (s), 1471 (s), 1423 (m), 1371 (m), 1342 (s), 1269 (m), 1217 (m), 1184 (m), 1155 (m), 1132 (m), 1109 (m), 1058 (m), 1014 (m), 925 (w), 871 (m), 850 (m), 806 (m), 742 (s), 709 (m), 698 (m), 667 (m), 628 (w), 603 (w). ¹H NMR (500 MHz, CDCl₃) δ = 8.11 (d, *J* = 8.9 Hz, 2 H), 7.42 (d, *J* = 8.9 Hz, 2 H), 7.30 (d, *J* = 8.2 Hz, 1 H), 7.21 (ddd, *J* = 1.2, 7.0, 7.9 Hz, 1 H), 7.16 (d, *J* = 7.9 Hz, 1 H), 7.03 - 6.96 (m, 3 H), 6.55 (d, *J* = 8.5 Hz, 2 H), 6.42 (d, *J* = 0.9 Hz, 1 H), 5.64 (s, 1 H), 3.71 (s, 3 H), 3.69 (br s, 1 H), 2.82 (s, 3 H). ¹³C NMR (126 MHz, CDCl₃) δ = 152.74, 148.05, 146.31, 137.49, 131.12, 129.66, 129.61, 128.70, 127.03, 123.48, 121.85, 119.70, 119.04, 117.44, 112.43, 109.29, 47.87, 32.67, 30.72. MS(ES⁺): *m/z* = 372.26[M+H]⁺, 257.33, 241.14.

[1] Using the secondary amine – *N*-Methylaniline

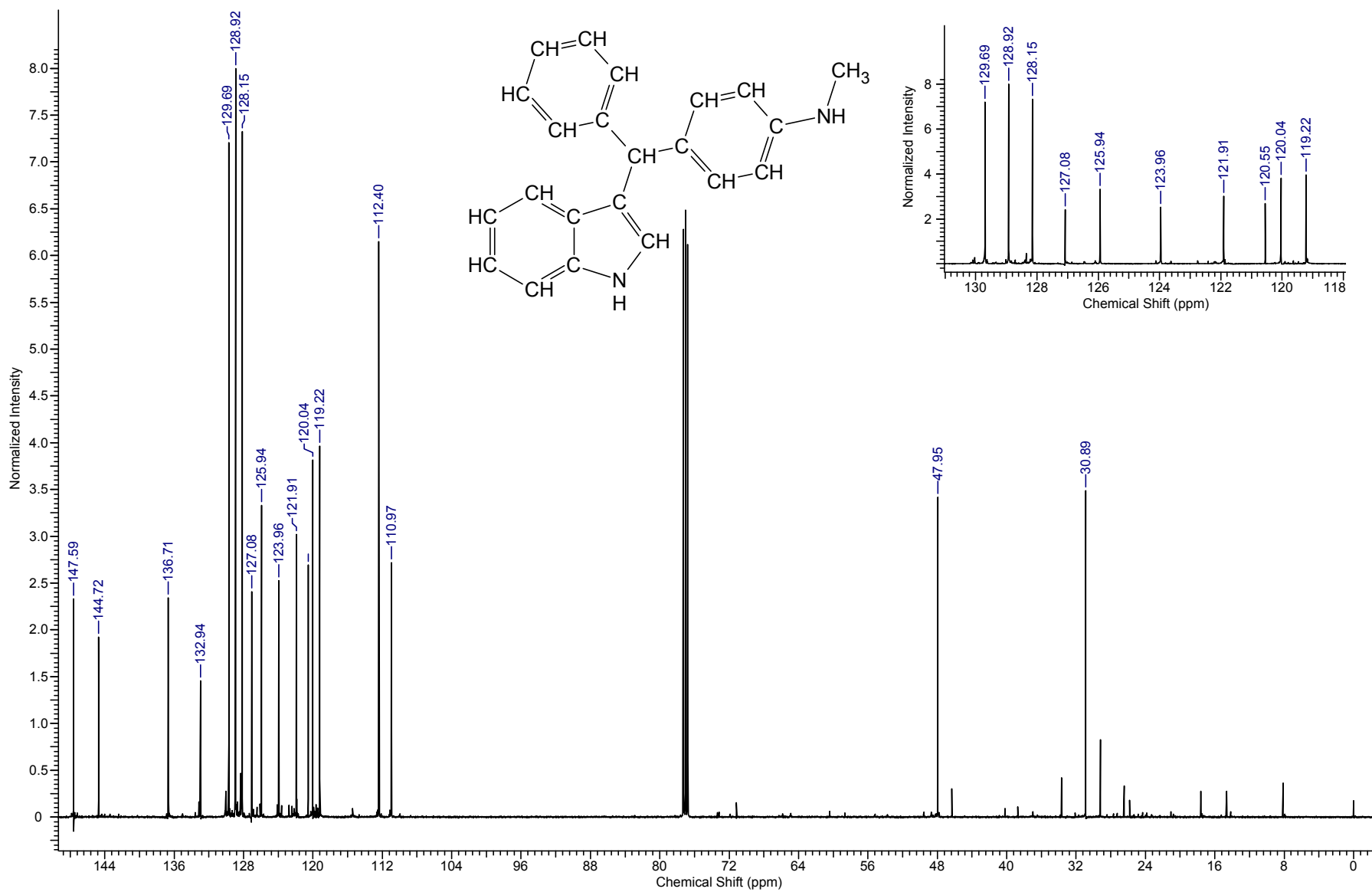
1.1 Benzaldehyde (1a) + indole (2a) + *N*-methylaniline (3a): (6a) 4-[1*H*-indol-3-yl(phenyl)methyl]-*N*-methylaniline



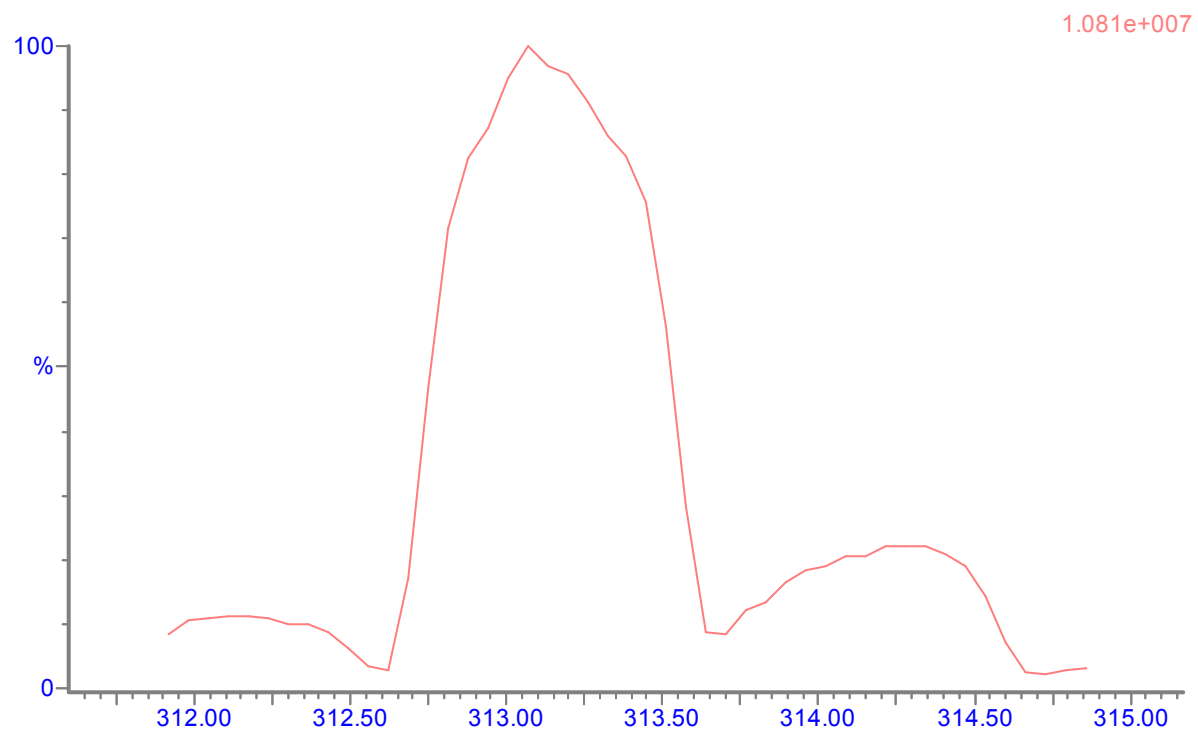
IR (KBr, cm^{-1}): 3402 (w), 3363 (m), 3201 (m), 3163 (m), 3101 (m), 3080 (m), 3055 (m), 3022 (m), 2920 (m), 2864 (m), 1612 (m), 1516 (s), 1490 (s), 1452 (s), 1340 (m), 1309 (m), 1247 (m), 1219 (m), 1182 (w), 1145 (w), 1103 (m), 1055 (m), 1008 (m), 914 (w), 871 (w), 842 (m), 806 (m), 790 (m), 742 (s), 698 (s).



¹H NMR (500MHz, CDCl₃) δ = 7.95 (br s, 1 H), 7.37 (d, J = 8.2 Hz, 1 H), 7.32 - 7.15 (m, 7 H), 7.07 (d, J = 8.5 Hz, 2 H), 7.00 (ddd, J = 8.2, 7.2, 0.9 Hz, 1 H), 6.61 (dd, J = 1.1, 2.3 Hz, 1 H), 6.57 (d, J = 8.5 Hz, 2 H), 5.60 (s, 1 H), 2.84 (s, 3 H).

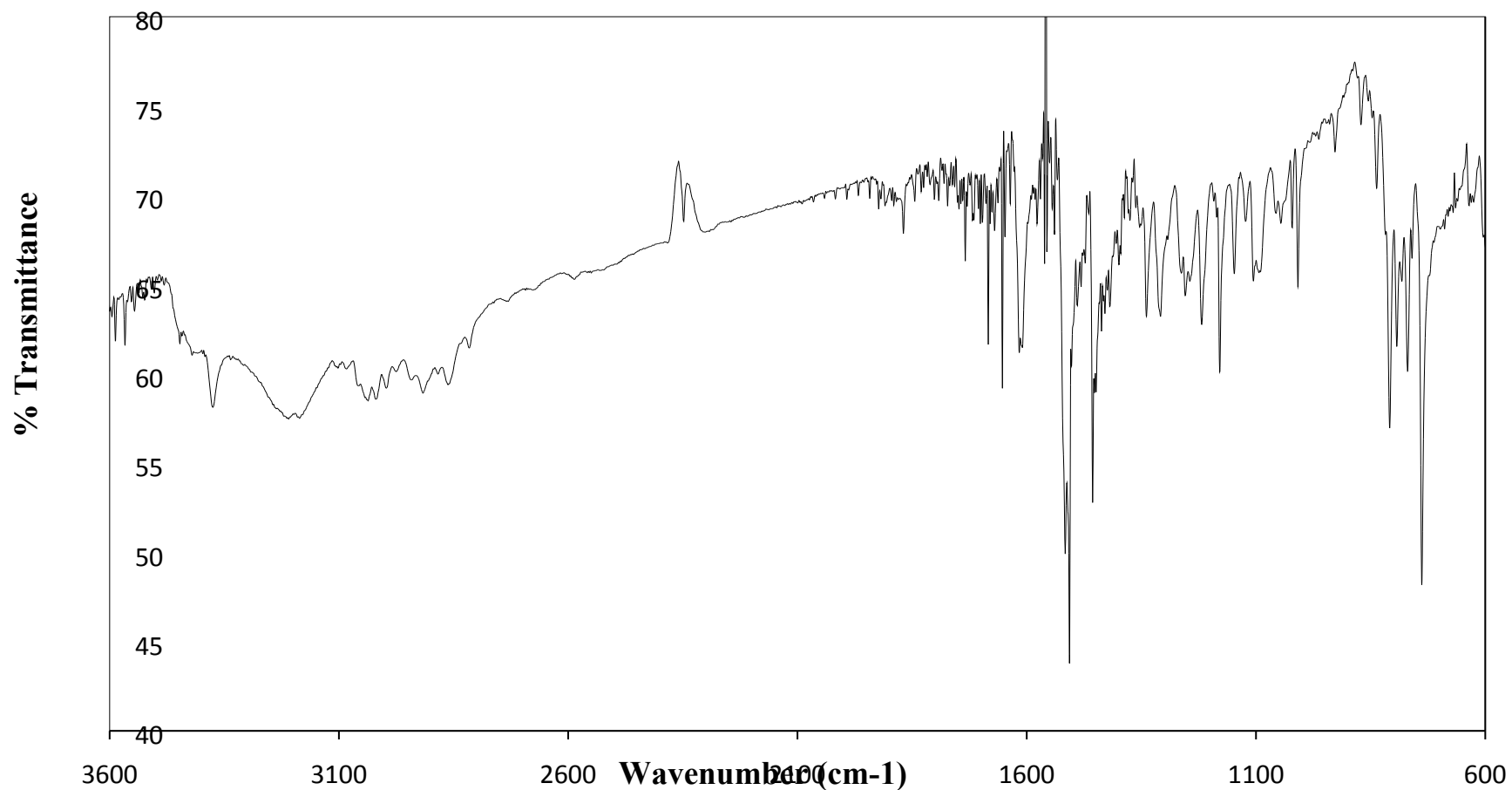


¹³C NMR (126 MHz, CDCl₃) δ = 147.59, 144.72, 136.71, 132.94, 129.69, 128.92, 128.15, 127.08, 125.94, 123.96, 121.91, 120.55, 120.04, 119.22, 112.40, 110.97, 47.95, 30.89.

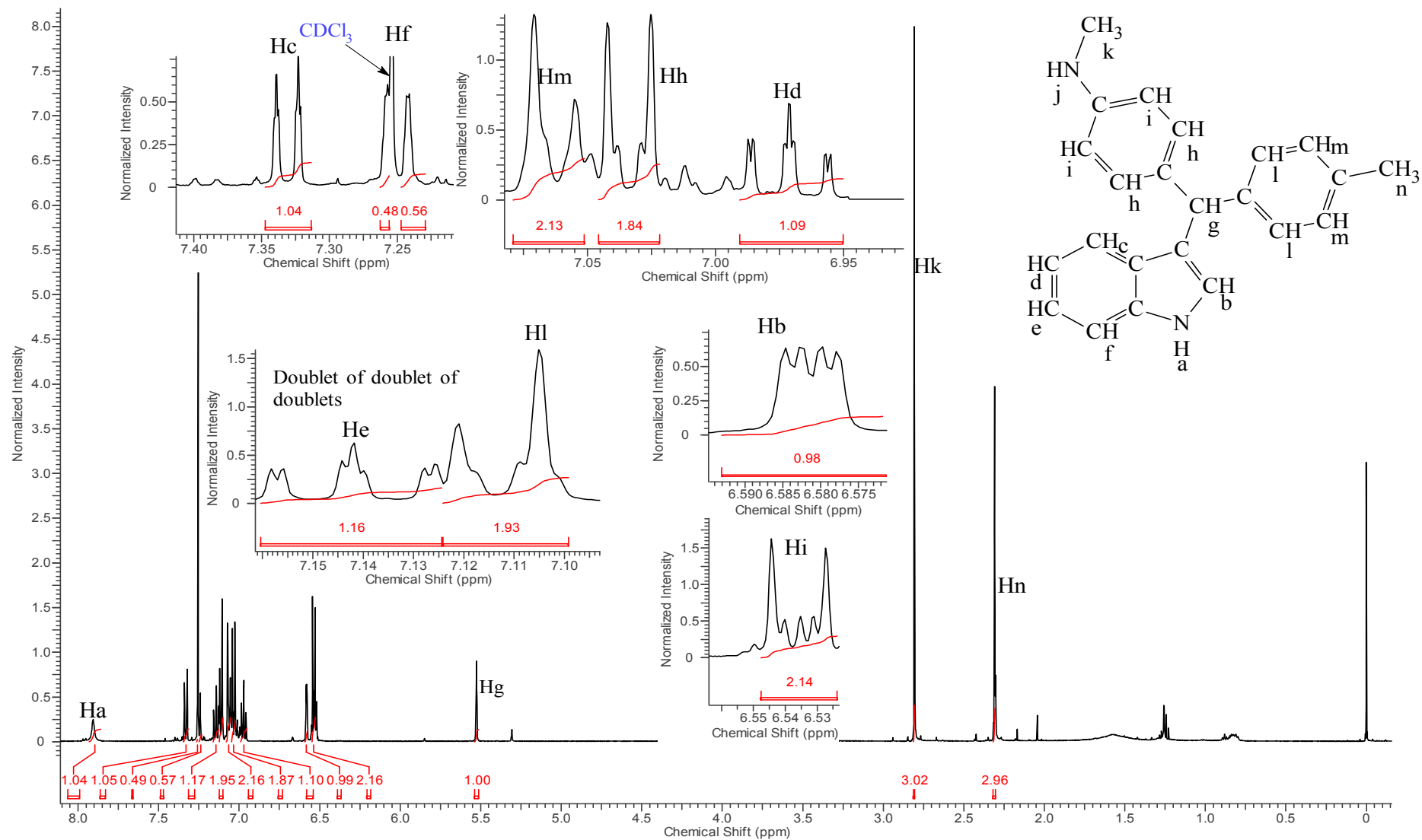


Formula Mass	Daughter number	Parent m/z	Cone Voltage (V)	Daughters	Collision Energy (eV)	Ion Mode
312.41	1	313.11	44	221.08	32	ES+
	2	313.11	44	298.09	20	ES+
	3	313.11	44	196.10	20	ES+
	4	313.11	44	204.10	52	ES+
	5	313.11	44	180.10	50	ES+

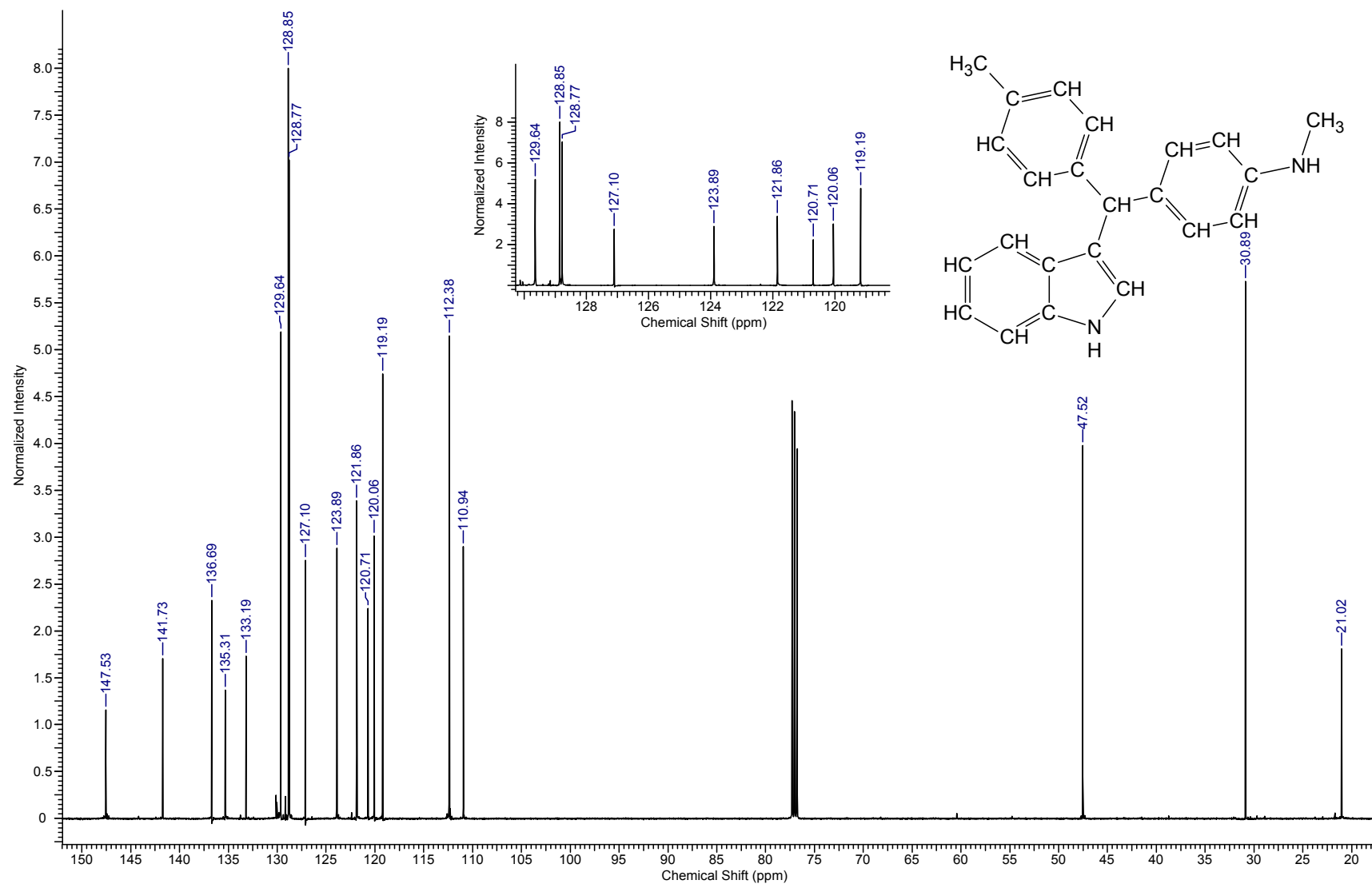
1.2 4-methylbenzaldehyde (1b) + indole (2a) + N-methylaniline (3a): (6b) 4-[1H-indol-3-yl(4-methylphenyl)methyl]-N-methylaniline.



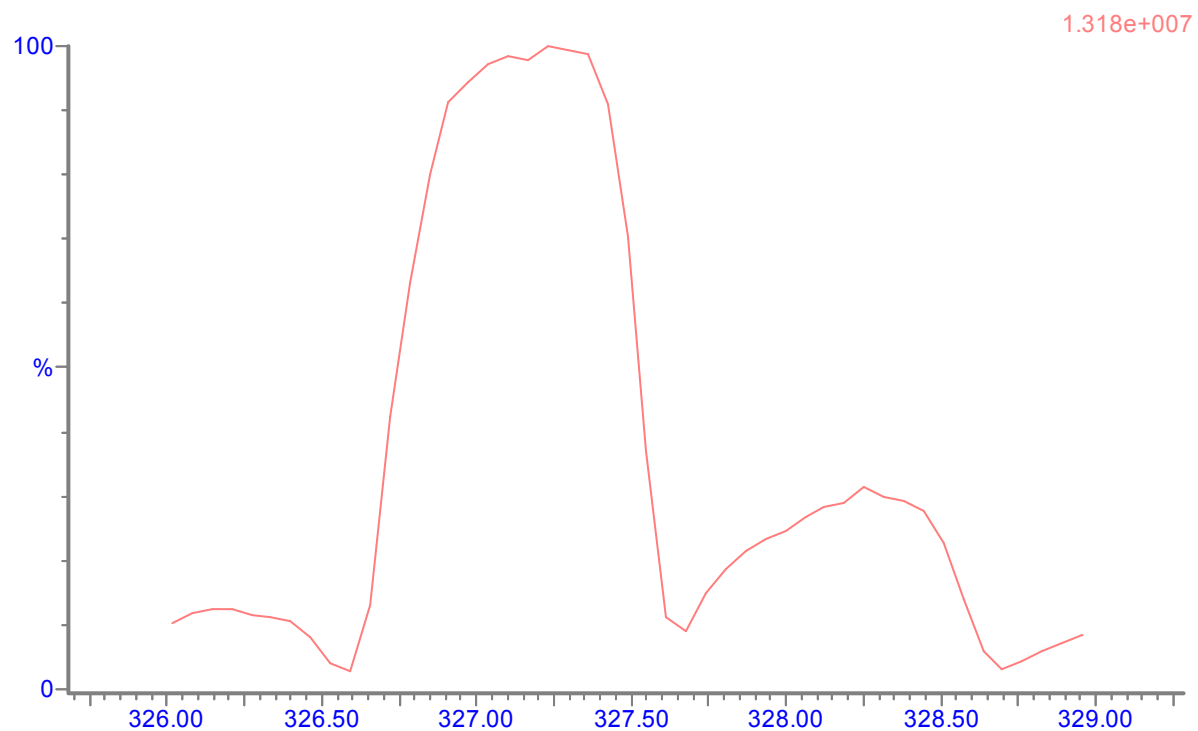
IR (KBr, cm^{-1}): 3419 (w), 3375 (w), 3212 (w), 3186 (w), 3059 (w), 3039 (w), 3018 (w), 2997 (w), 2993 (w), 2941 (w), 2918 (w), 2862 (w), 2814 (w), 1683 (m), 1652 (m), 1616 (m), 1516 (s), 1506 (s), 1456 (m), 1338 (w), 1307 (w), 1253 (w), 1219 (w), 1178 (w), 1147 (w), 1093 (w), 1008 (w), 808 (m), 792 (w), 769 (w), 738 (s).



¹H NMR (500 MHz, CDCl₃) δ = 7.91 (br s, 1 H), 7.33 (d, *J* = 8.2 Hz, 1 H), 7.25 (d, *J* = 7.9 Hz, 1 H), 7.14 (ddd, *J* = 0.9, 7.0, 7.9 Hz, 1H), 7.11 (d, *J* = 7.9 Hz, 2H), 7.06 (d, *J* = 7.9 Hz, 2H), 7.03 (d, *J* = 8.5 Hz, 2H), 6.97 (ddd, *J* = 0.9, 7.0, 8.2 Hz, 1 H), 6.58 (dd, *J* = 0.9, 2.4 Hz, 1H), 6.54 (d, *J* = 8.5 Hz, 2H), 5.53 (s, 1 H), 2.81 (s, 3 H), 2.31 (s, 3 H).

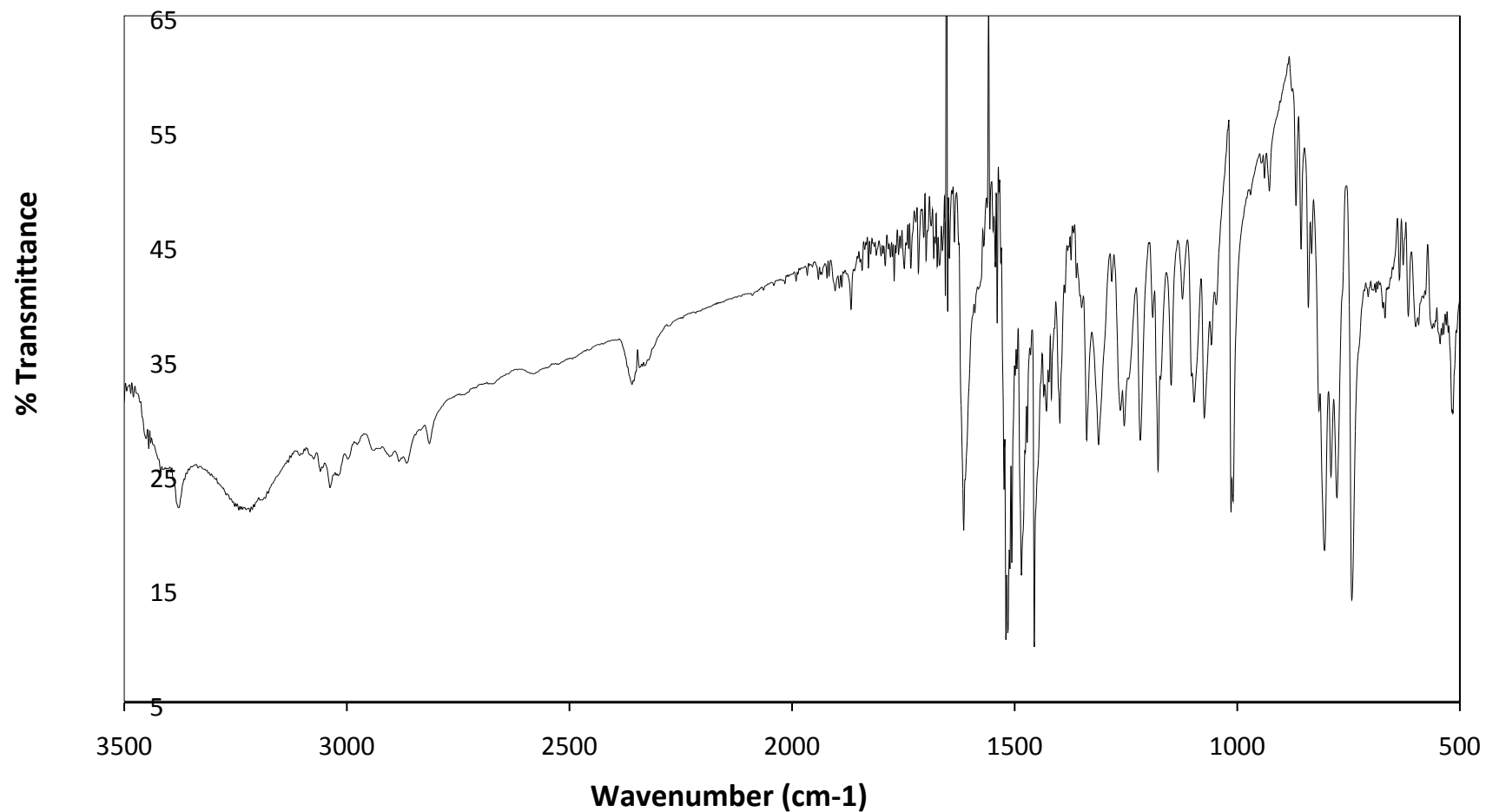


^{13}C NMR (126 MHz, CDCl_3) δ = 147.53, 141.73, 136.69, 135.31, 133.19, 129.64, 128.85, 128.77, 127.10, 123.89, 121.86, 120.71, 120.06, 119.19, 112.38, 110.94, 47.52, 30.89, 21.02.

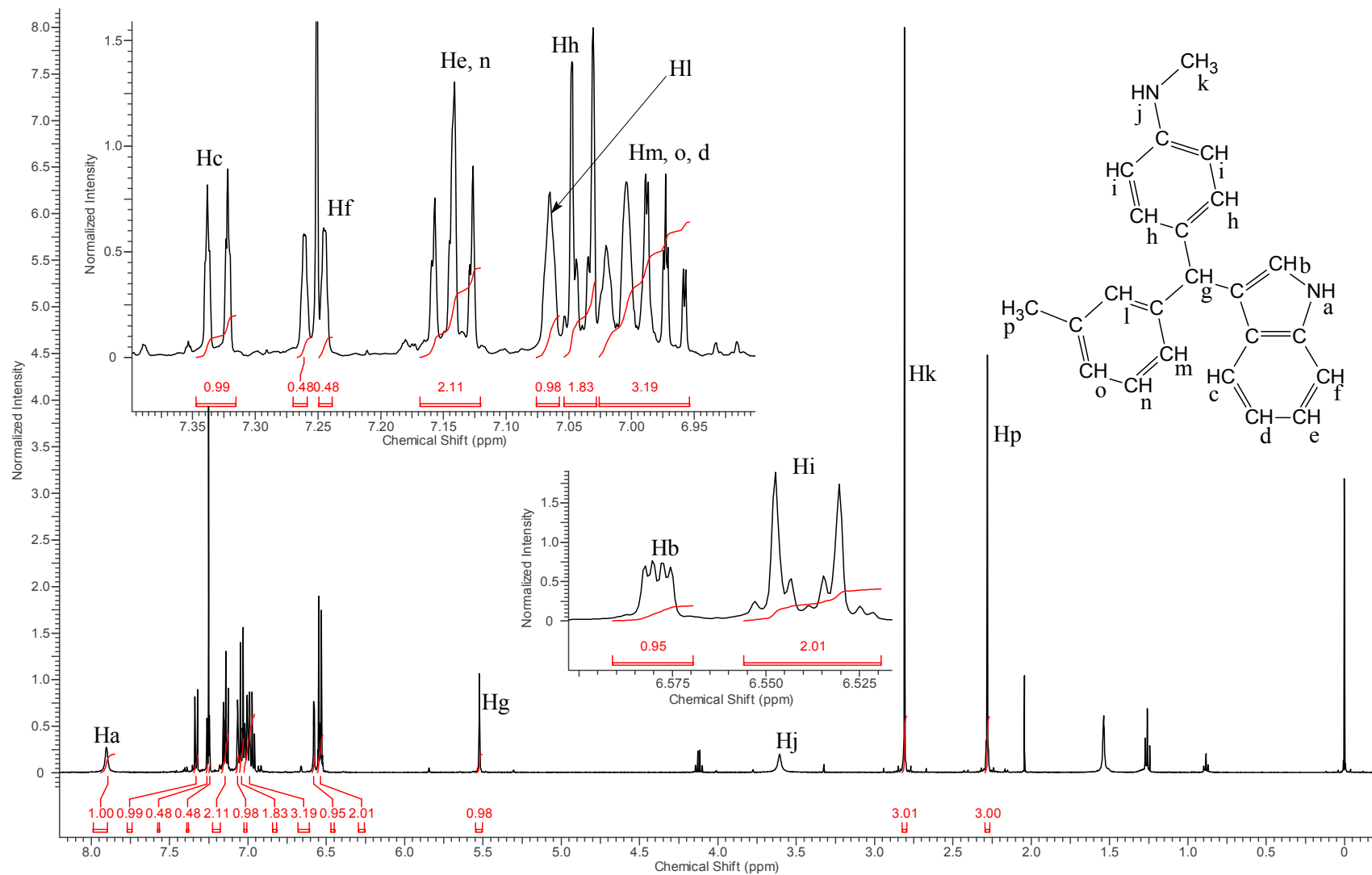


Formula Mass	Daughter number	Parent m/z	Cone Voltage (V)	Daughters	Collision Energy (eV)	Ion Mode
326.43	1	327.15	44	220.88	32	ES+
	2	327.15	44	312.06	22	ES+
	3	327.15	44	210.15	22	ES+
	4	327.15	44	204.03	58	ES+
	5	327.15	44	297.04	32	ES+

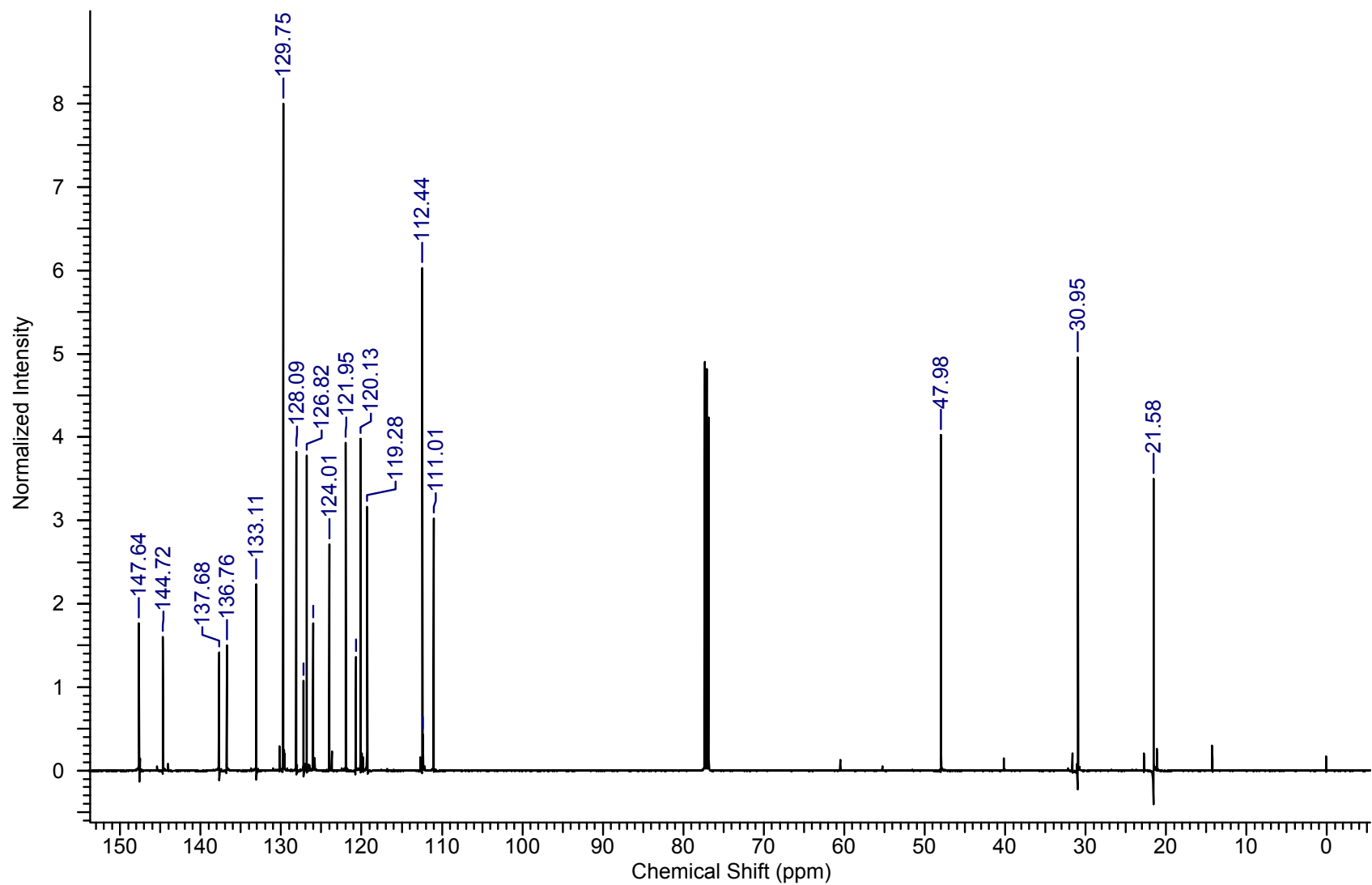
1.3 3-methylbenzaldehyde (1c) + indole (2a) + N-methylaniline (3a): (6c) 4-[1H-indol-3-yl(4-methylphenyl)methyl]-N-methylaniline



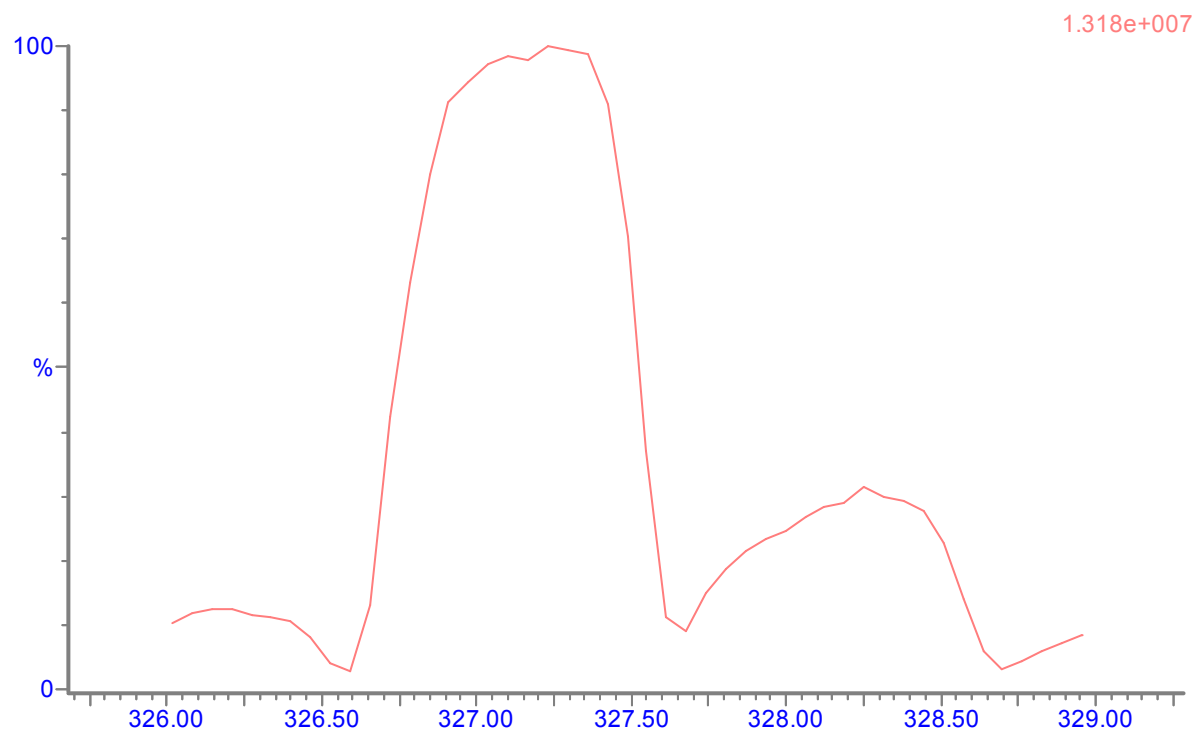
IR (KBr, cm^{-1}): 3417 (m), 3379 (m), 3234 (br, m), 3101 (m), 3074 (m), 3059 (m), 3037 (m), 3018 (m), 2997 (m), 2985 (m), 2943 (m), 2910 (m), 2883 (m), 2866 (m), 1614 (m), 1519 (s), 1485 (m), 1456 (s), 1398 (m), 1338 (m), 1311 (m), 1253 (m), 1217 (m), 1178 (m), 1149 (m), 1097 (m), 1074 (m), 1014 (m), 840 (w), 804 (s), 788 (m), 775 (m), 742 (s), 667 (w), 615 (w), 597 (w).



¹H NMR (500MHz, CDCl₃) δ = 7.90 (br s, 1 H), 7.33 (d, *J* = 8.2 Hz, 1 H), 7.26 (d, *J* = 7.9 Hz, 1 H), 7.17 - 7.12 (m, 2 H), 7.06 (s, 1 H), 7.04 (d, *J* = 8.5 Hz, 2 H), 7.02 - 6.95 (m, 3 H), 6.58 (dd, *J* = 1.1, 2.3 Hz, 1 H), 6.53 (d, *J* = 8.5 Hz, 2 H), 5.52 (s, 1 H), 3.61 (br s, 1 H), 2.81 (s, 3 H), 2.28 (s, 3 H).

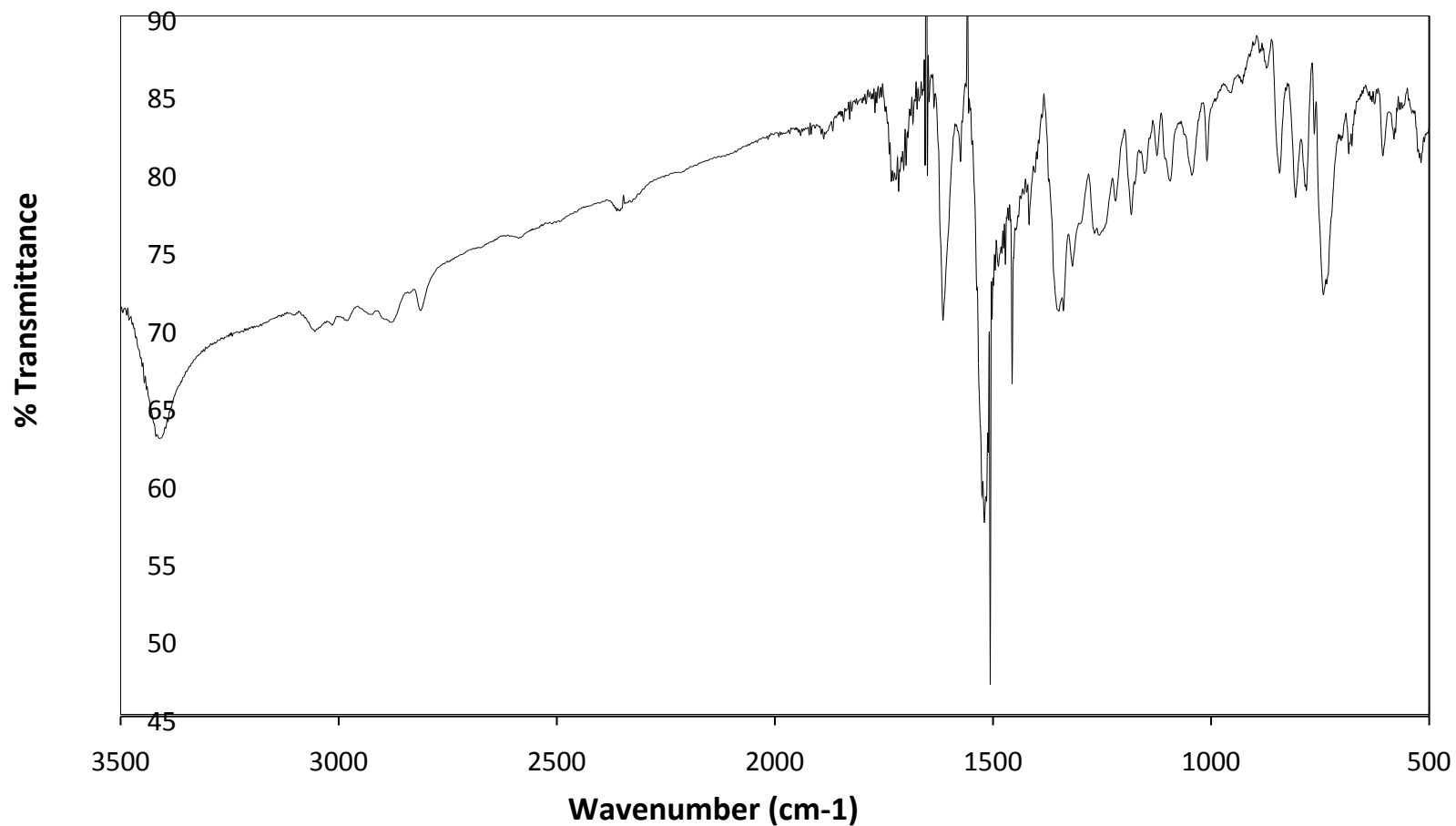


¹³C NMR (126 MHz, CDCl₃) δ = 147.64, 144.72, 137.68, 136.76, 133.11, 129.75, 128.09, 127.21, 126.82, 126.04, 124.01, 121.95, 120.71, 120.13, 119.28, 112.44, 112.35, 111.01, 47.98, 30.95, 21.58.

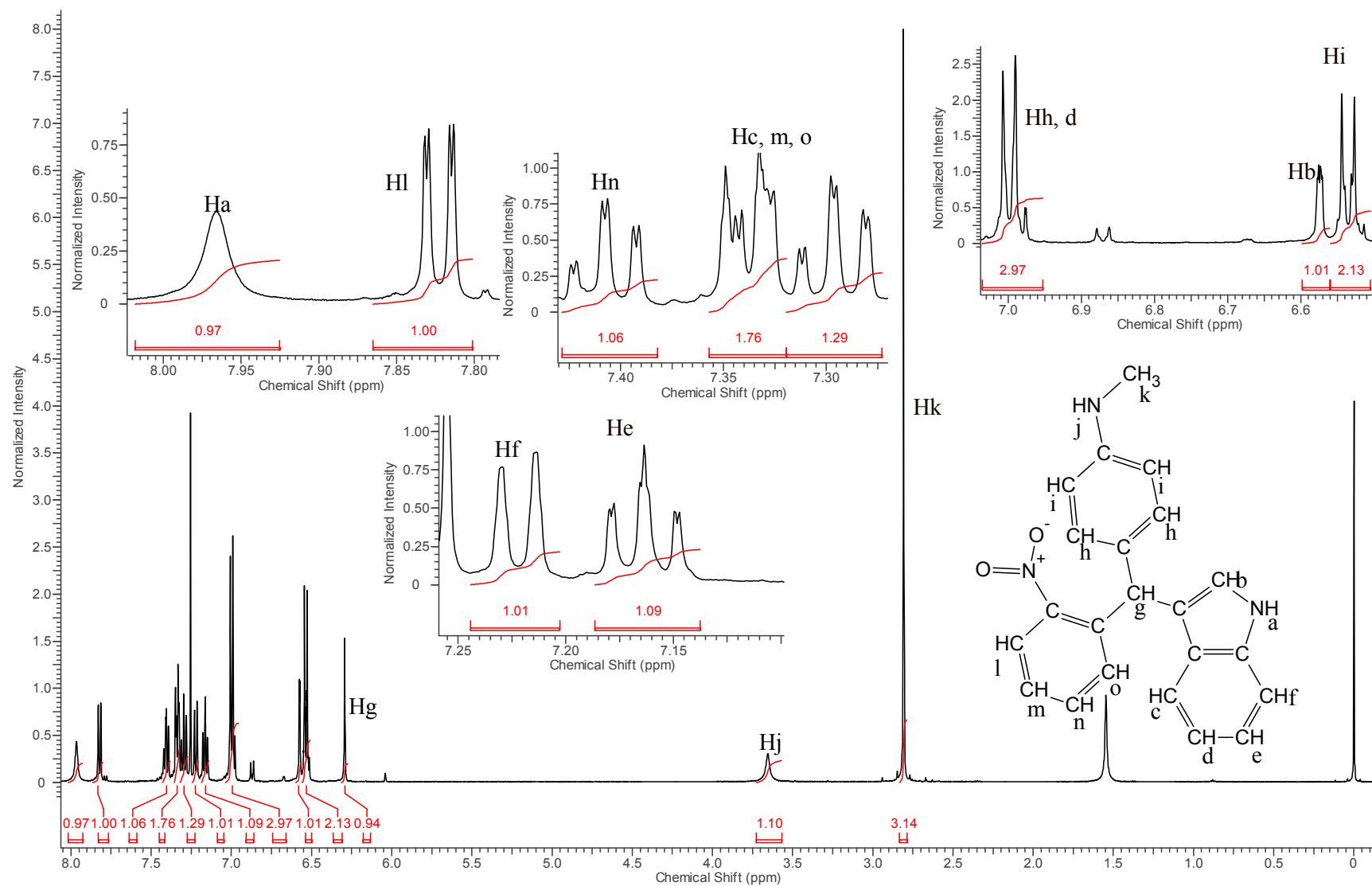


Formula Mass	Daughter number	Parent m/z	Cone Voltage (V)	Daughters	Collision Energy (eV)	Ion Mode
326.43	1	327.15	44	220.88	32	ES+
	2	327.15	44	312.06	22	ES+
	3	327.15	44	210.15	22	ES+
	4	327.15	44	204.03	58	ES+
	5	327.15	44	297.04	32	ES+

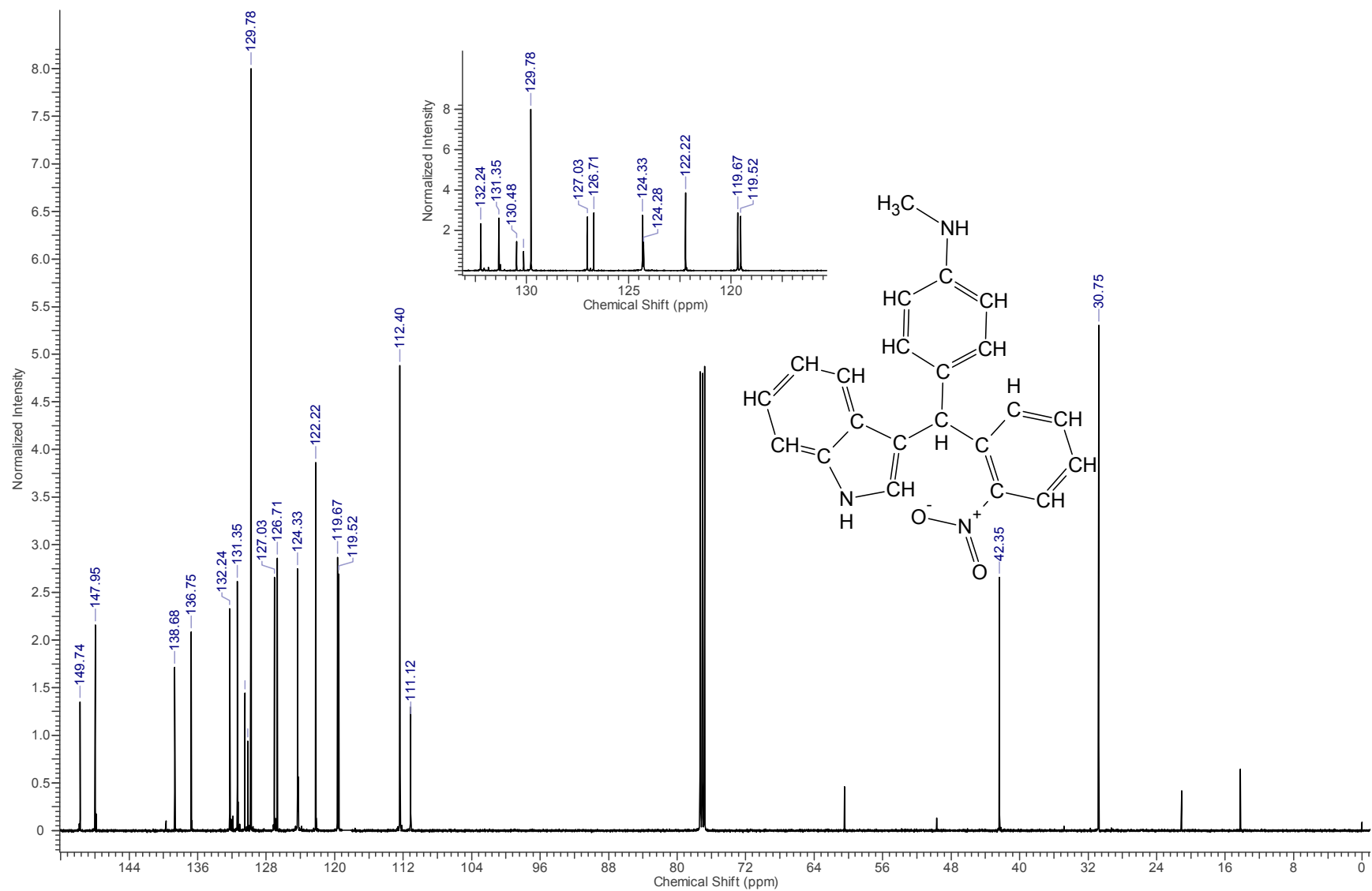
1.4 2-nitrobenzaldehyde (1d) + indole (2a) + N-methylaniline (3a): (6d) 4-[1H-indol-3-yl(2-nitrophenyl)methyl]-N-methylaniline



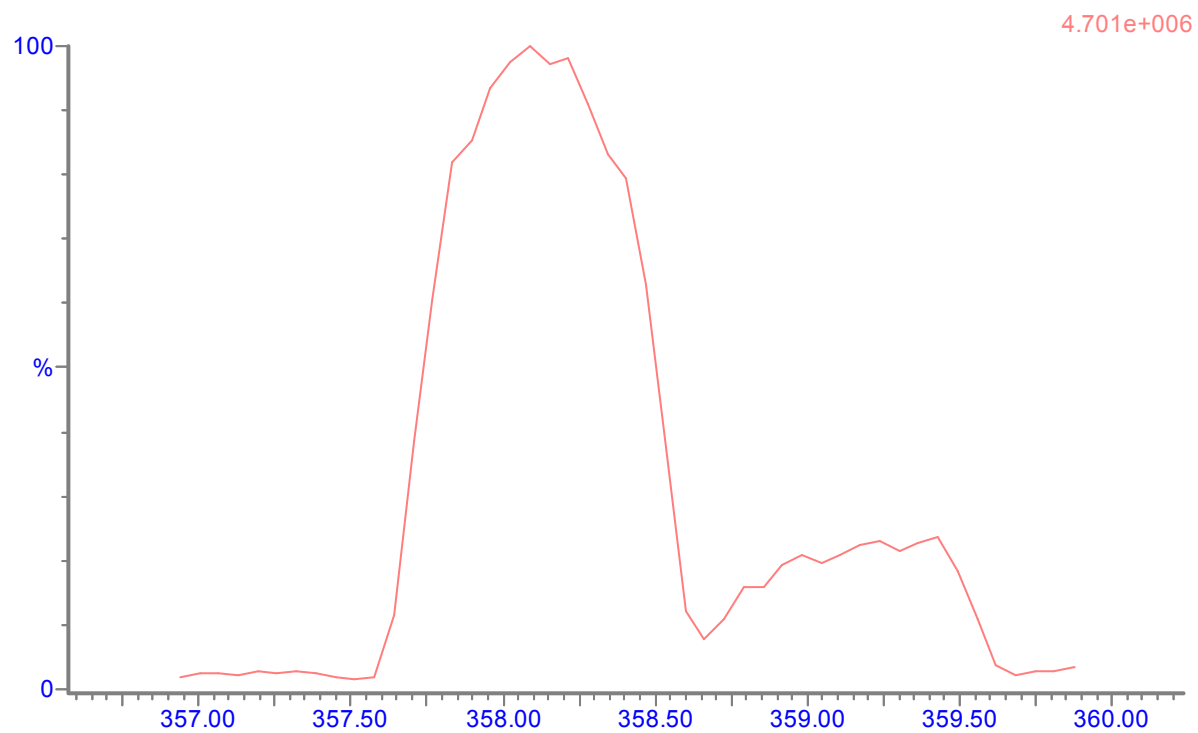
IR (KBr, cm^{-1}): 3412 (br, m), 3055 (w), 3010 (w), 2981 (w), 2924 (w), 2877 (w), 2812 (w), 1716 (w), 1614 (m), 1519 (s), 1506 (s), 1456 (m), 1350 (m), 1338 (m), 1317 (w), 1267 (w), 1255 (w), 1219 (w), 1182 (w), 1153 (w), 1093 (w), 1008 (w), 842 (w), 806 (w), 781 (w), 742 (m), 684 (w).



¹H NMR (500MHz, CDCl₃) δ = 7.97 (br s, 1 H), 7.82 (dd, J = 1.2, 7.9 Hz, 1 H), 7.41 (td, J = 1.2, 7.6 Hz, 1 H), 7.36 - 7.32 (m, 2 H), 7.30 (td, J = 1.2, 7.6 Hz, 1 H), 7.22 (d, J = 7.9 Hz, 1 H), 7.16 (ddd, J = 1.1, 7.0, 7.9 Hz, 1 H), 7.04 – 6.98 (m, 3H), 6.57 (dd, J = 0.9, 2.1 Hz, 1 H), 6.54 (d, J = 8.5 Hz, 2 H), 6.29 (s, 1 H), 3.66 (br s, 1 H), 2.81 (s, 3 H).

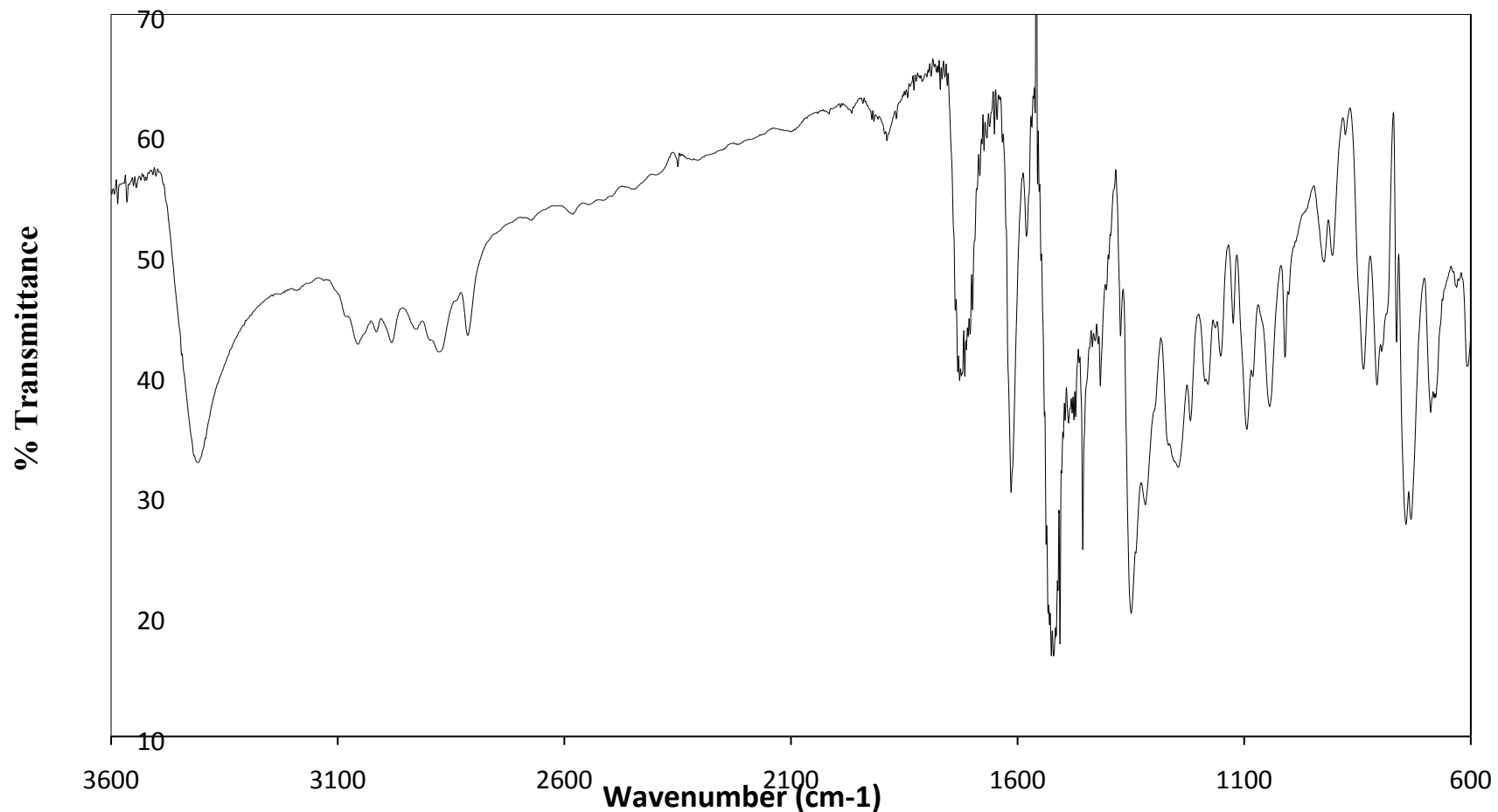


^{13}C NMR (126 MHz, CDCl_3) δ = 149.74, 147.95, 138.68, 136.75, 132.24, 131.35, 130.48, 130.14, 129.78, 127.03, 126.71, 124.33, 124.28, 122.22, 119.67, 119.52, 112.40, 111.12, 42.35, 30.75.

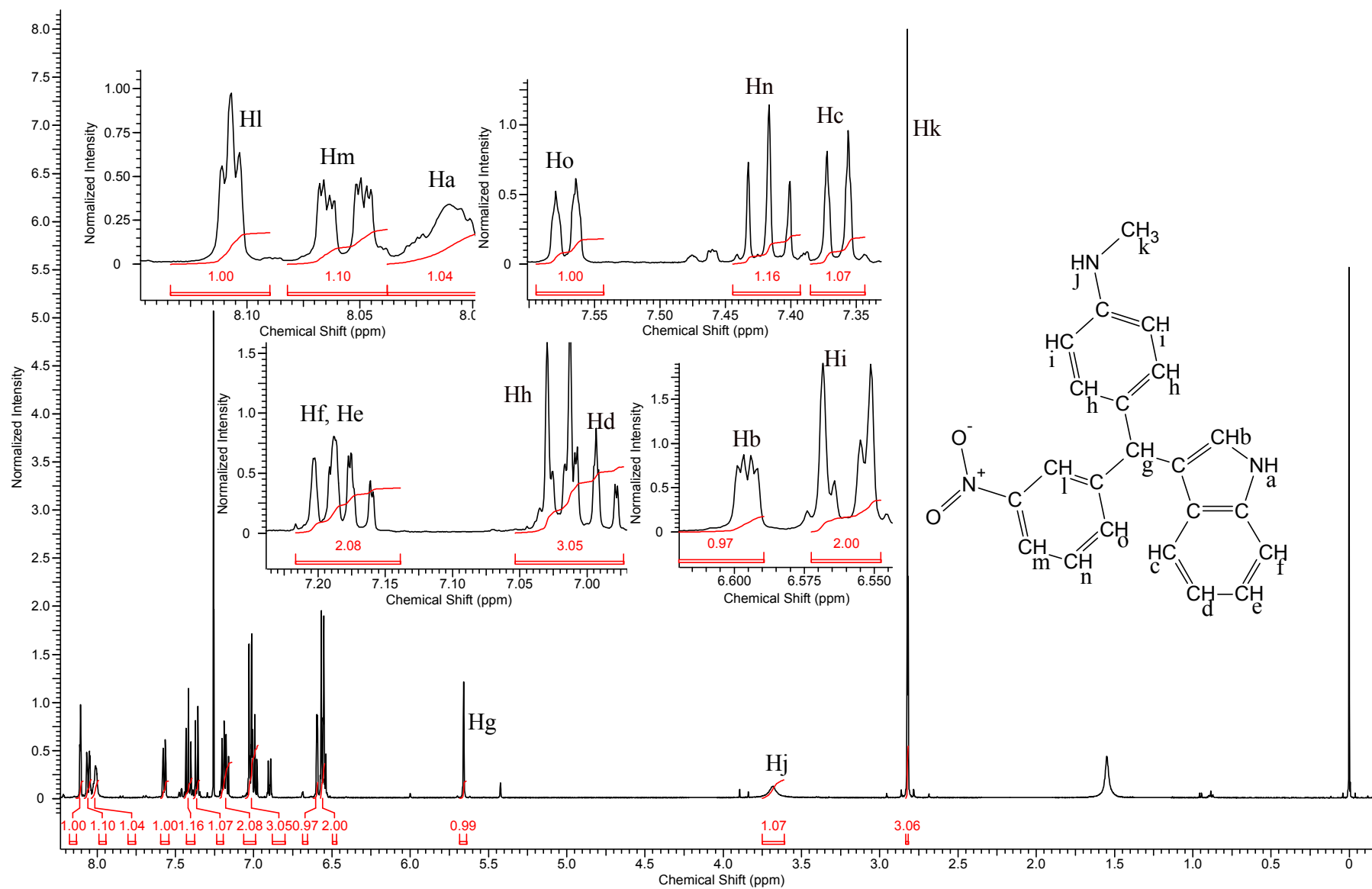


Formula Mass	Daughter number	Parent m/z	Cone Voltage (V)	Daughters	Collision Energy (eV)	Ion Mode
357.42	1	358.07	36	324.07	26	ES+
	2	358.07	36	122.01	28	ES+
	3	358.07	36	205.12	22	ES+
	4	358.07	36	241.09	20	ES+

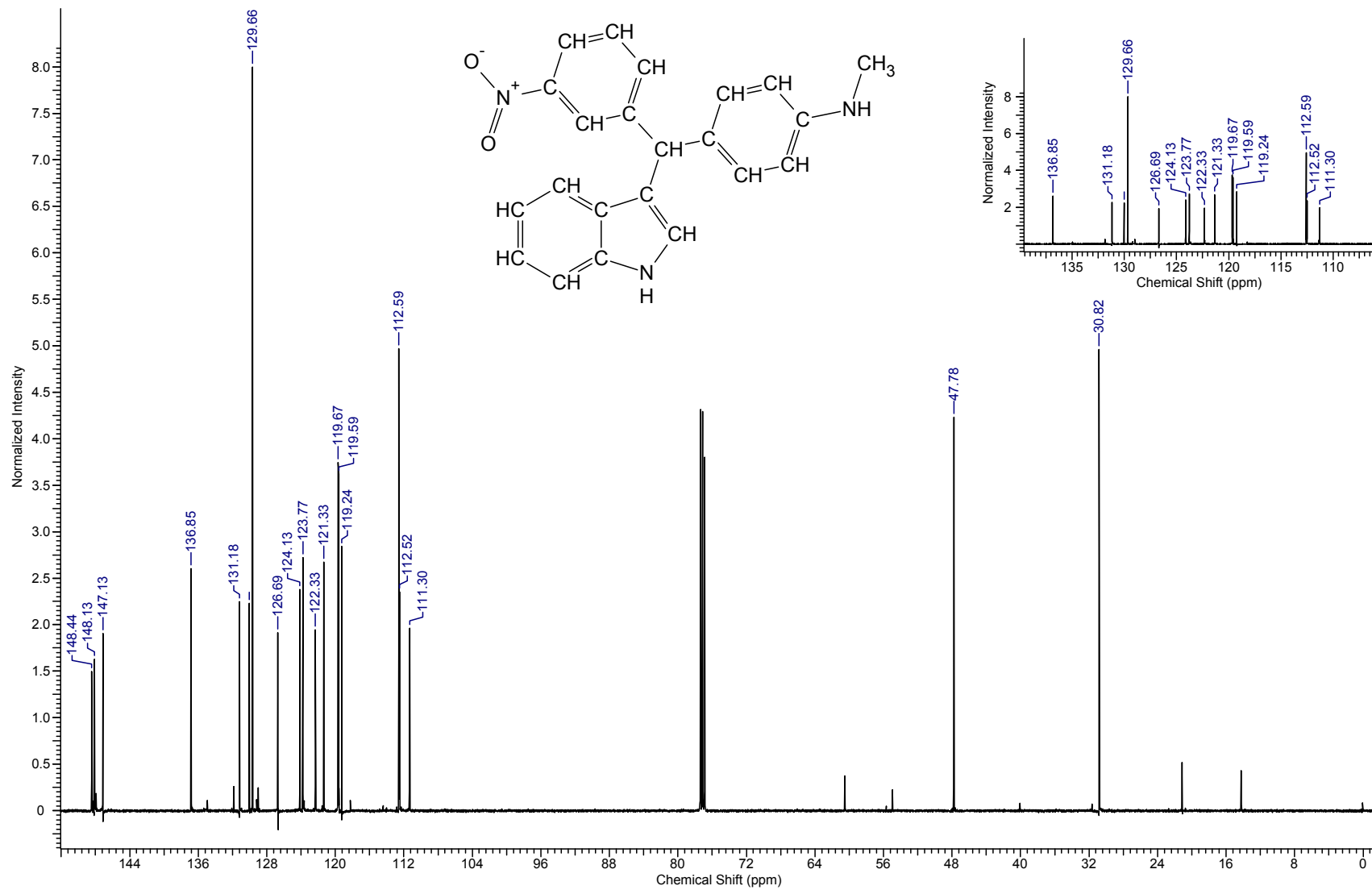
1.5 3-nitrobenzaldehyde (1e) + indole (2a) + N-methylaniline (3a): (6e) 4-[1*H*-indol-3-yl(3-nitrophenyl)methyl]-*N*-methylaniline



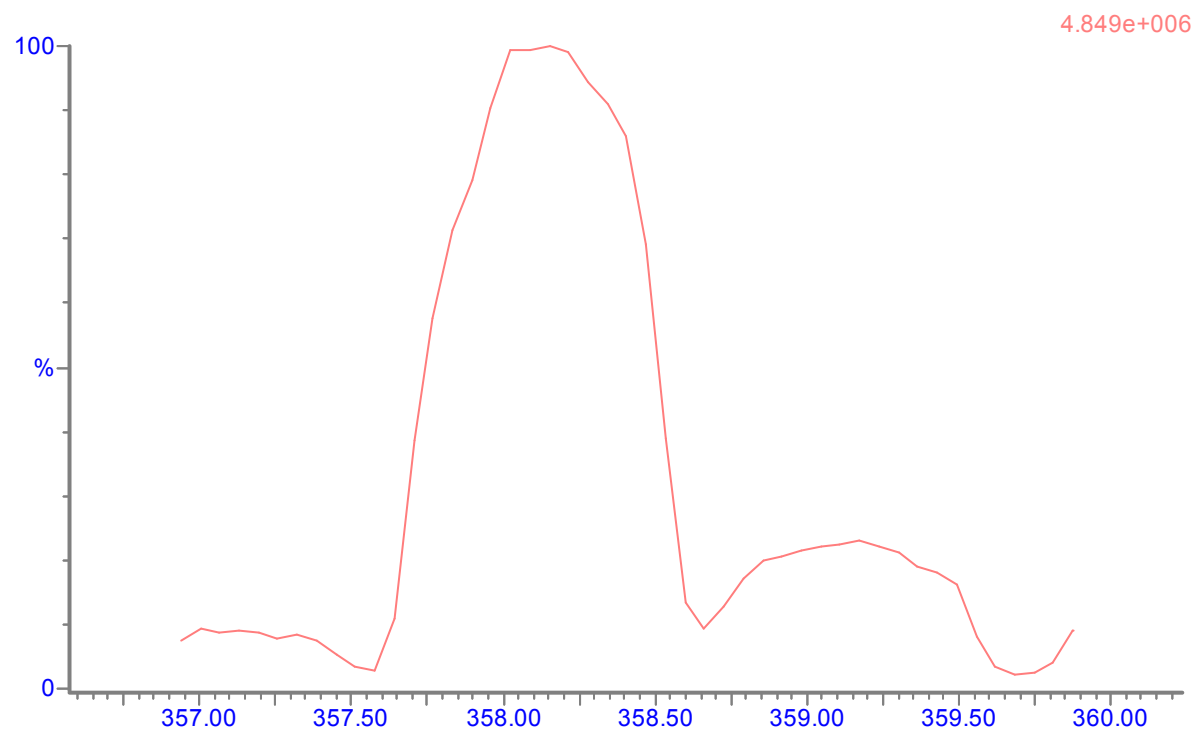
IR (KBr, cm^{-1}): 3410 (br, m), 3055 (w), 3012 (w), 2980 (w), 2927 (w), 2877 (w), 2816 (w), 1728 (m), 1614 (m), 1525 (s), 1506 (s), 1456 (s), 1348 (s), 1332 (m), 1246 (m), 1217 (w), 1178 (w), 1151 (w), 1093 (w), 1043 (w), 1008 (w), 923 (w), 904 (w), 837 (m), 806 (m), 742 (m), 731 (m), 688 (w).



¹H NMR (500MHz, CDCl₃) δ = 8.11 (t, J = 2.1 Hz, 1 H), 8.05 (ddd, J = 0.9, 2.1, 8.3 Hz, 1 H), 8.02 (br s, 1 H), 7.57 (d, J = 7.6 Hz, 1 H), 7.42 (t, J = 7.9 Hz, 1 H), 7.36 (d, J = 8.1 Hz, 1 H), 7.21 - 7.15 (m, 2 H), 7.04 - 6.97 (m, 3 H), 6.60 (dd, J = 1.2, 2.4 Hz, 1 H), 6.56 (d, J = 8.5 Hz, 2 H), 5.66 (s, 1 H), 3.68 (br, s, 1 H), 2.82 (s, 3 H).

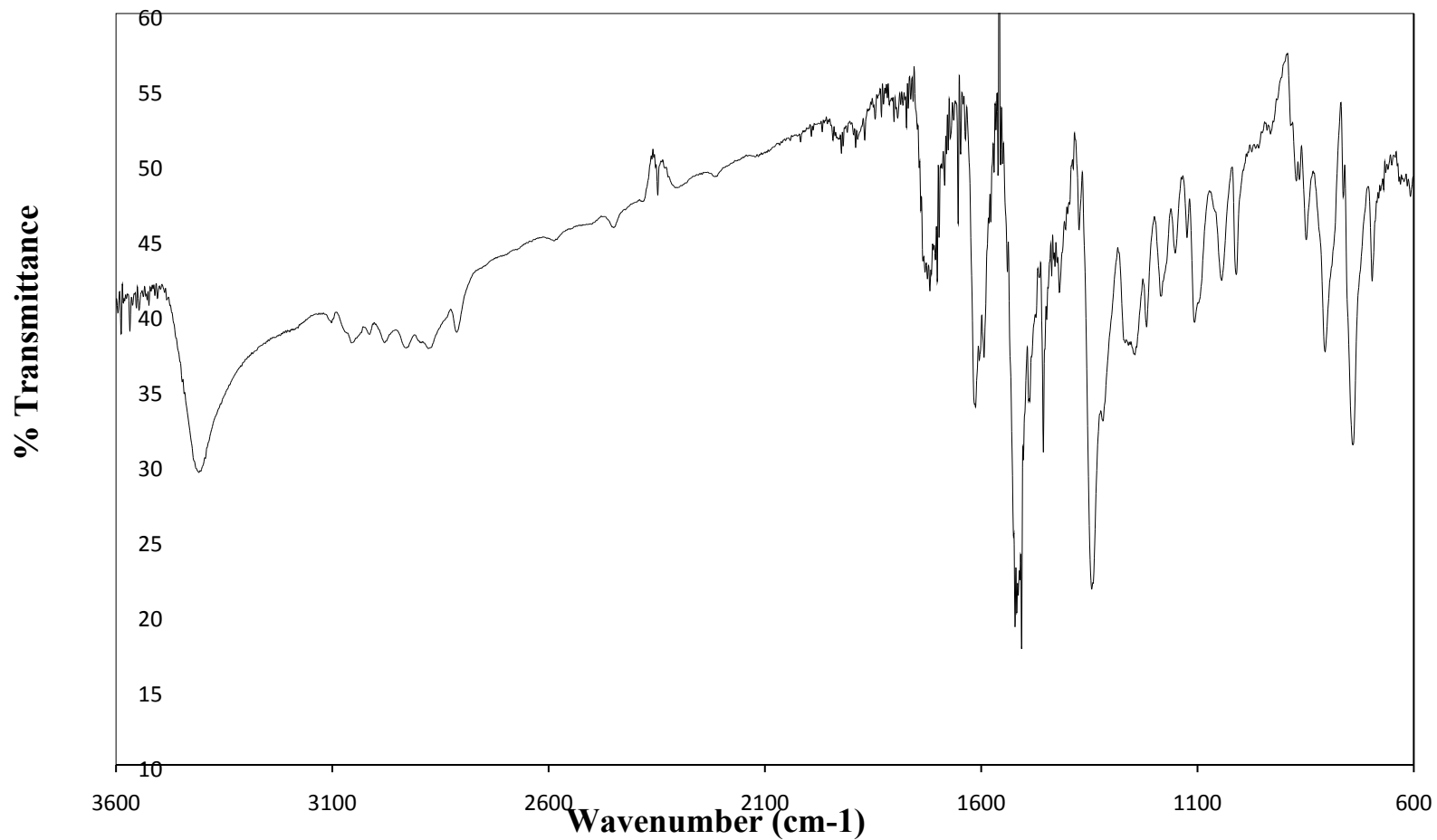


¹³C NMR (126 MHz, CDCl₃) δ = 148.44, 148.13, 147.13, 136.85, 131.18, 130.02, 129.66, 126.69, 124.13, 123.77, 122.33, 121.33, 119.67, 119.59, 119.24, 112.59, 112.52, 111.30, 47.78, 30.82.

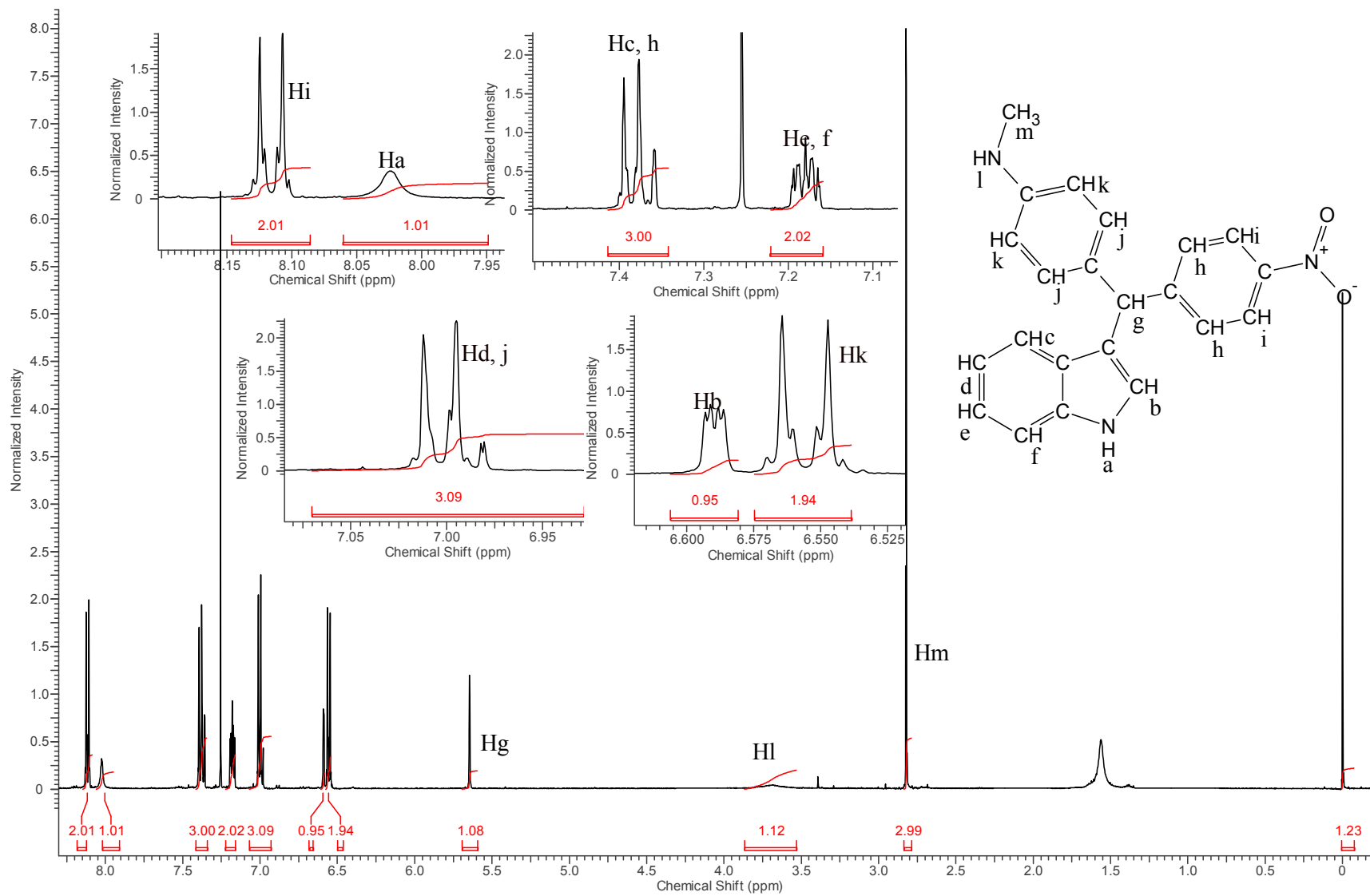


Formula/Mass	Daughter number	Parent m/z	Cone Voltage	Daughters	Collision Energy	Ion Mode
357.42	1	358.13	38	241.09	20	ES+
	2	358.13	38	221.12	34	ES+
	3	358.13	38	251.10	20	ES+
	4	358.13	38	204.20	52	ES+

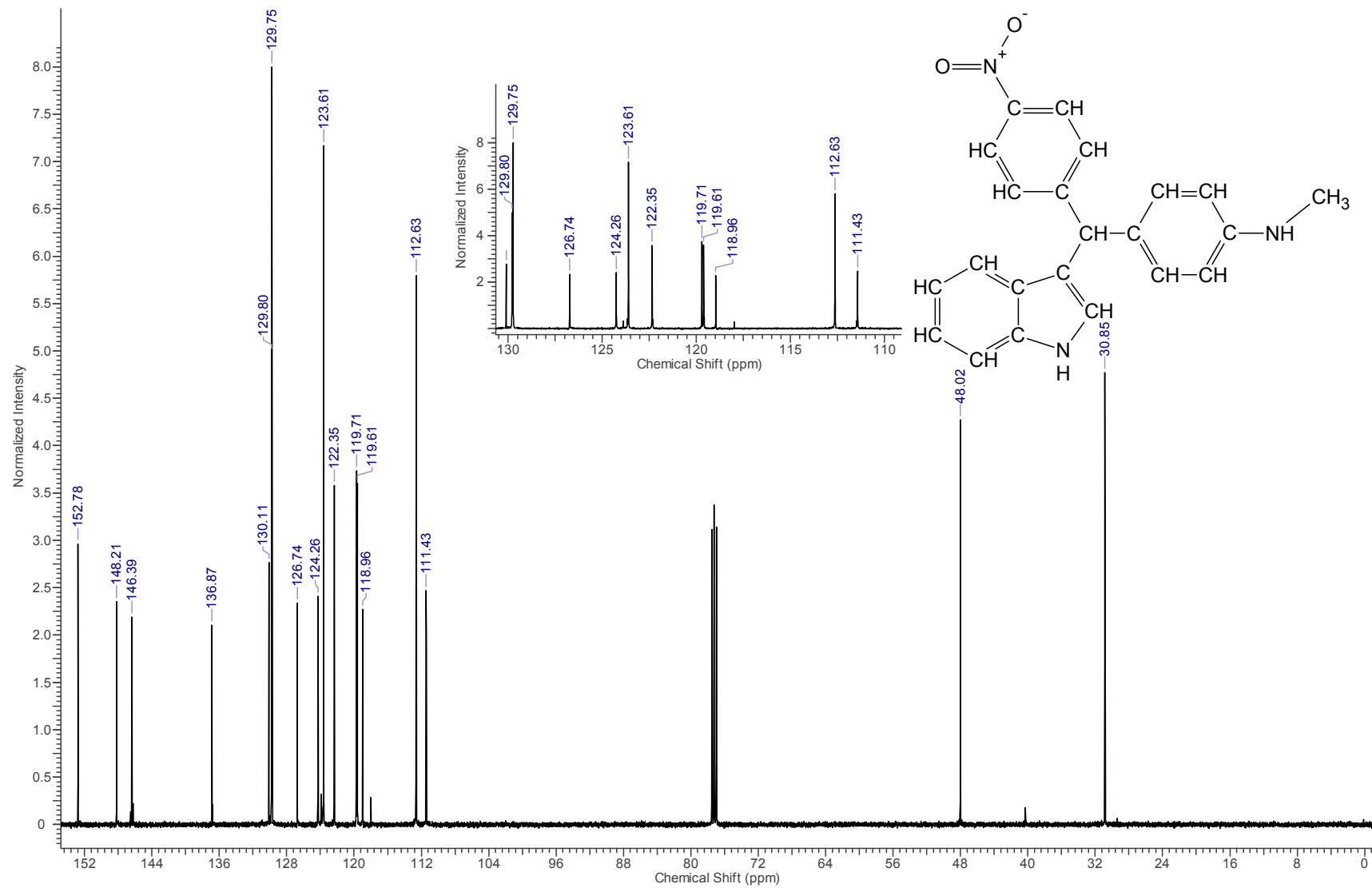
1.6 4-nitrobenzaldehyde (1f) + indole (2a) + N-methylaniline (3a): (6f) 4-[1*H*-indol-3-yl(4-nitrophenyl)methyl]-*N*-methylaniline



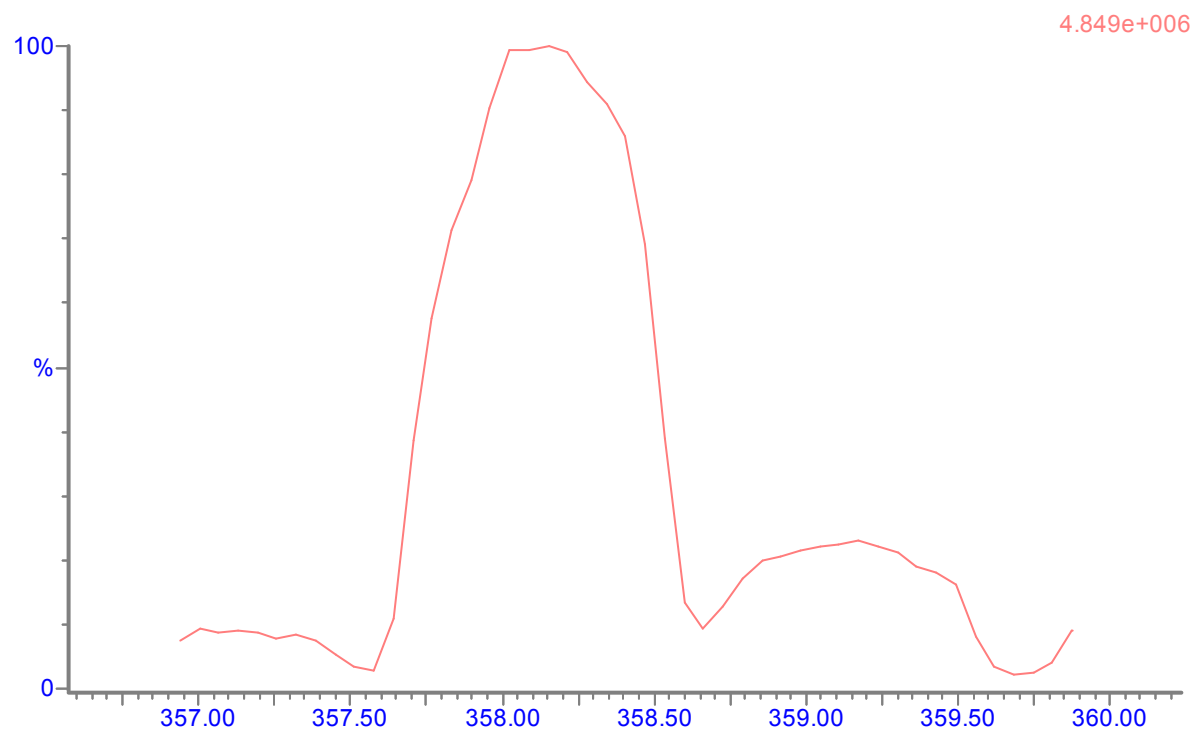
IR (KBr, cm⁻¹): 3408 (br, m), 3101 (w), 3053 (w), 3014 (w), 2978 (w), 2931 (w), 2870 (w), 2816 (w), 1718 (m), 1612 (m), 1521 (s), 1506 (s), 1456 (m), 1344 (s), 1319 (m), 1244 (w), 1219 (w), 1184 (w), 1107 (w), 1045 (w), 1010 (w), 848 (w), 804 (m), 740 (m), 696 (w).



¹H NMR (500MHz, CDCl₃) δ = 8.11(d, J = 8.8 Hz, 2 H), 8.02 (br s, 1 H), 7.43 - 7.33 (m, 3 H), 7.23 - 7.14 (m, 2 H), 7.04 - 6.95 (m, 3 H), 6.59 (dd, J = 0.9, 2.4 Hz, 1 H), 6.55 (d, J = 8.5 Hz, 2 H), 5.64 (s, 1 H), 3.67 (s, 1H), 2.82 (s, 3 H).

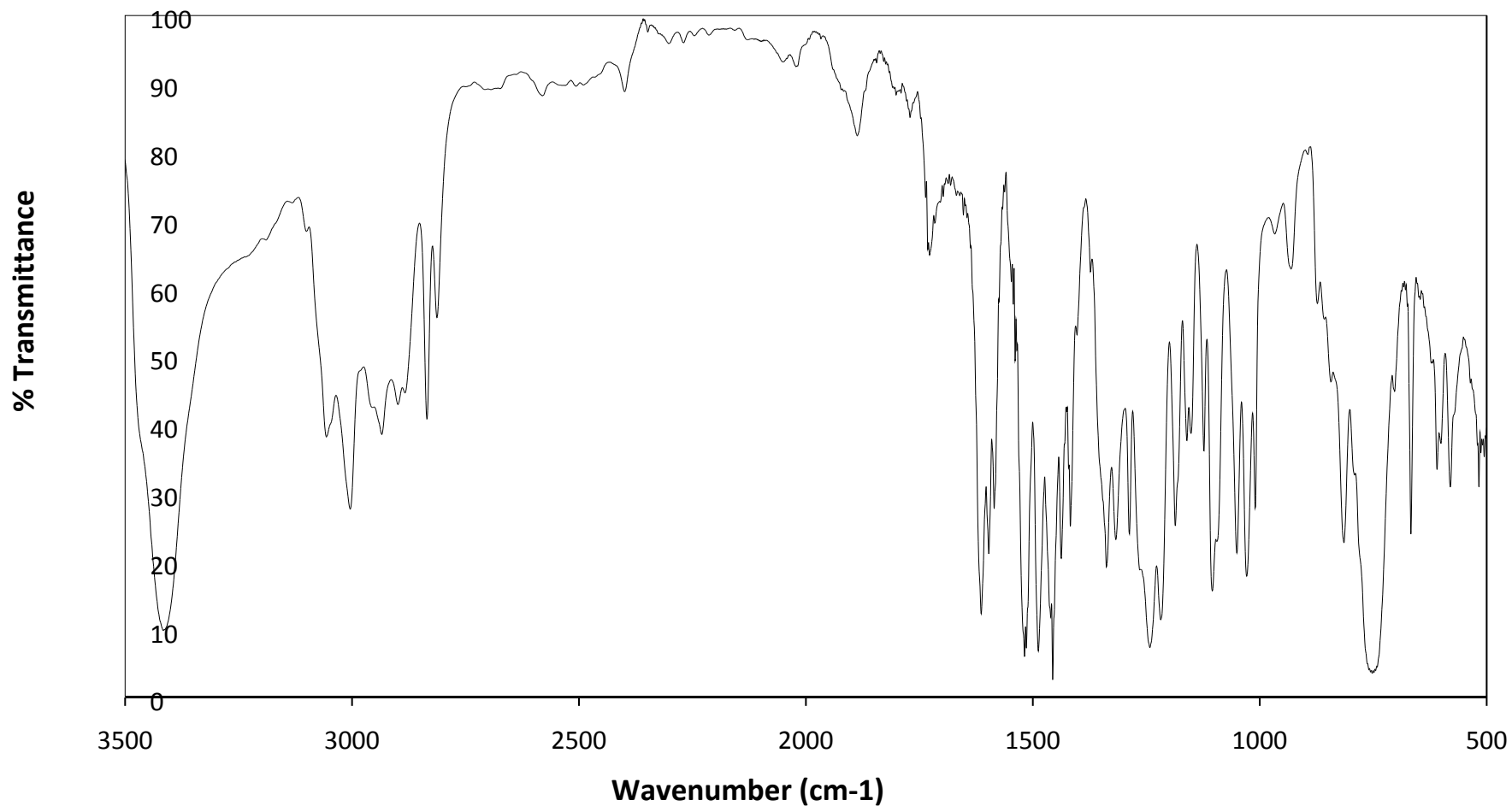


¹³C NMR (126 MHz, CDCl₃) δ = 152.78, 148.21, 146.39, 136.87, 130.11, 129.80, 129.75, 126.74, 124.26, 123.61, 122.35, 119.71, 119.61, 118.96, 112.63, 111.43, 48.02, 30.85.

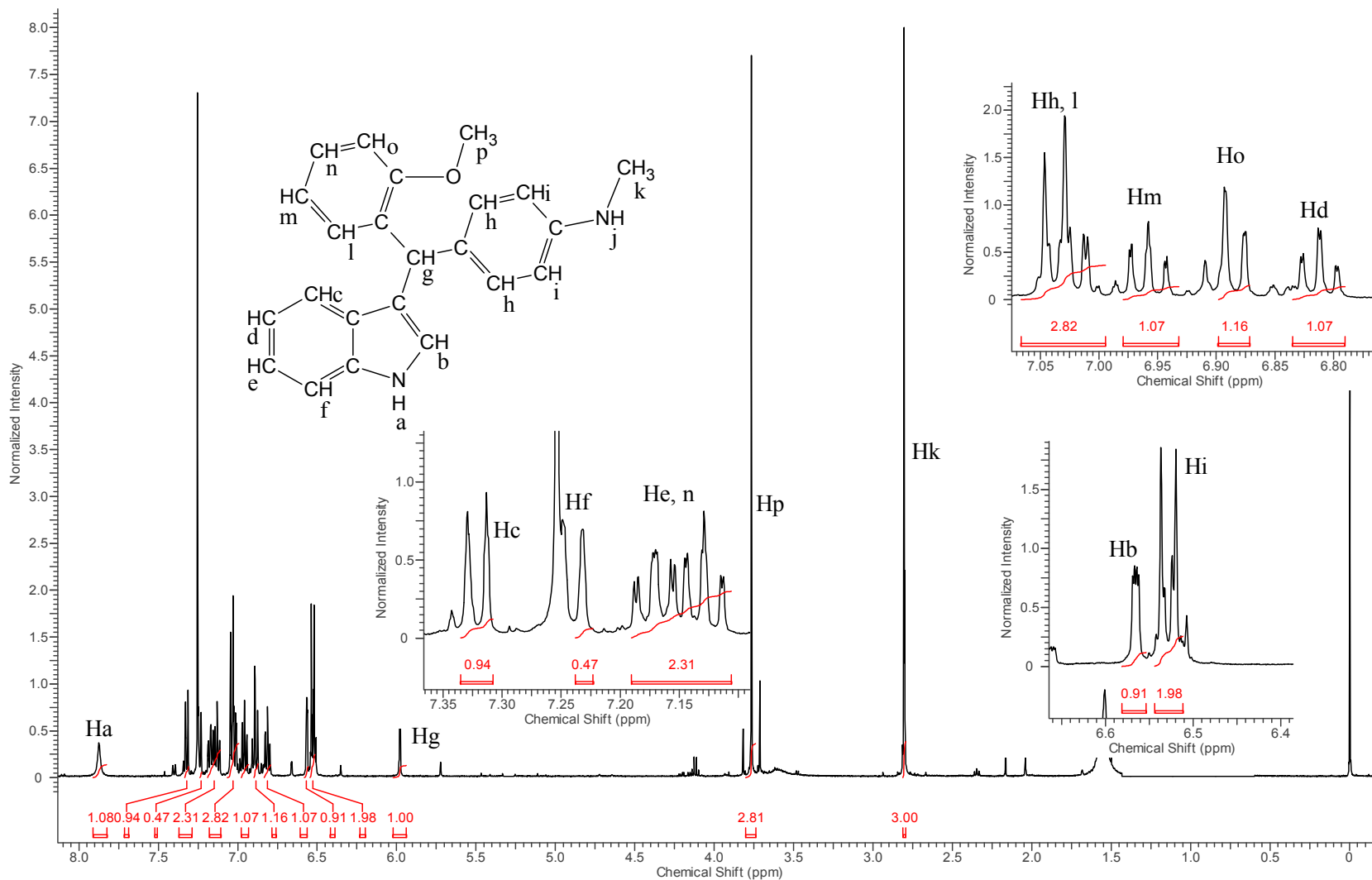


Formula Mass	Daughter number	Parent m/z	Cone Voltage (V)	Daughters	Collision Energy (eV)	Ion Mode
357.42	1	358.13	38	241.09	20	ES+
	2	358.13	38	221.12	34	ES+
	3	358.13	38	251.10	20	ES+
	4	358.13	38	204.20	52	ES+

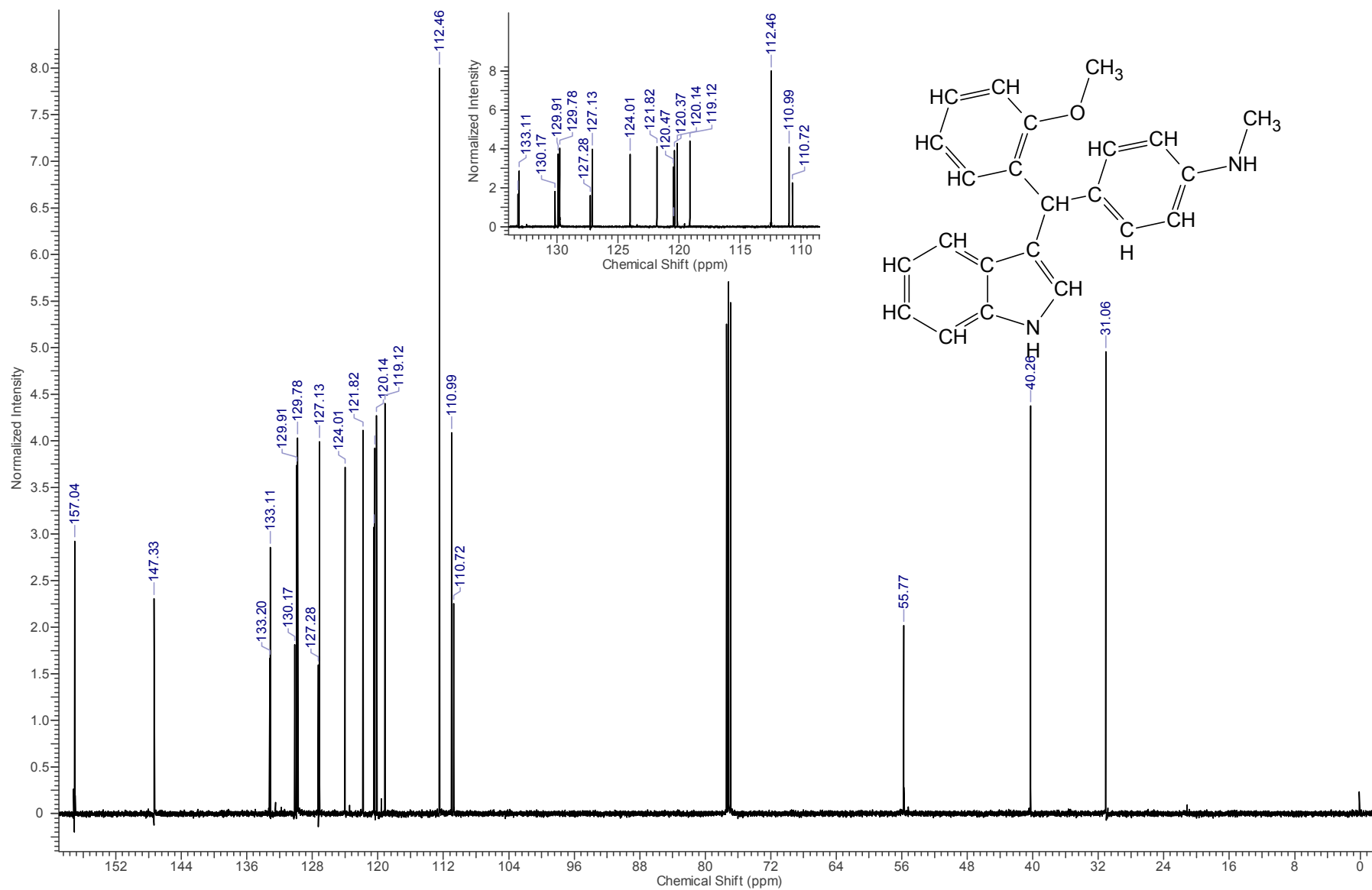
1.7 2-methoxybenzaldehyde (1g) + indole (2a) + N-methylaniline (3a): (6g) 4-[1H-indol-3-yl(2-methoxyphenyl)methyl]-N-methylaniline



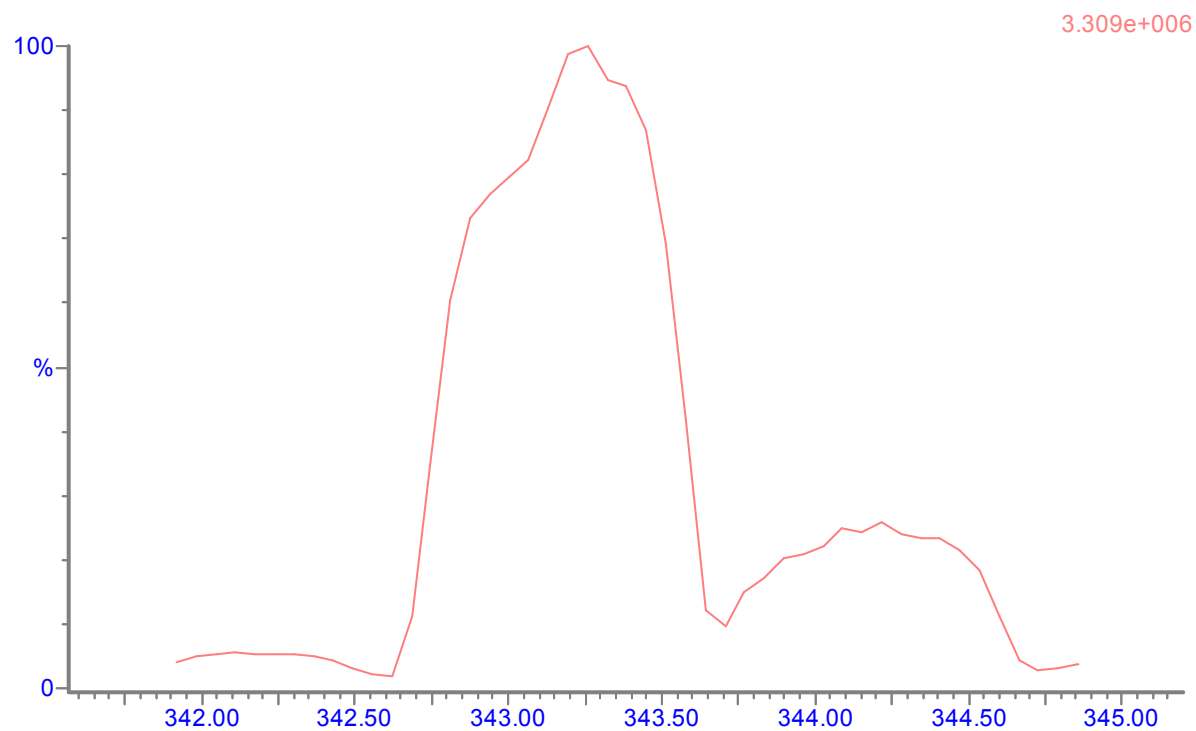
IR (KBr, cm^{-1}): 3412 (s), 3059 (m), 3003 (m), 2933 (w), 2897 (w), 2835 (w), 2812 (w), 1726 (w), 1614 (s), 1597 (s), 1517 (s), 1487 (s), 1456 (s), 1436 (m), 1338 (m), 1317 (m), 1269 (m), 1242 (s), 1217 (m), 1186 (m), 1105 (m), 1051 (m), 1022 (m), 931 (w), 815 (m), 748 (s).



¹H NMR (500MHz, CDCl₃) δ = 7.87 (br s, 1 H), 7.32 (d, *J* = 8.2 Hz, 1 H), 7.24 (d, *J* = 7.9 Hz, 1 H), 7.19 - 7.10 (m, 2 H), 7.07 - 6.99 (m, 3 H), 6.96 (t, *J* = 7.6 Hz, 1 H), 6.89 (d, *J* = 6.9 Hz, 1 H), 6.81 (ddd, *J* = 0.9, 7.0, 8.2 Hz, 1 H), 6.57 (dd, *J* = 1.1, 2.3 Hz, 1 H), 6.52 (d, *J* = 8.5 Hz, 2 H), 5.98 (s, 1 H), 3.77 (s, 3 H), 2.81 (s, 3 H).

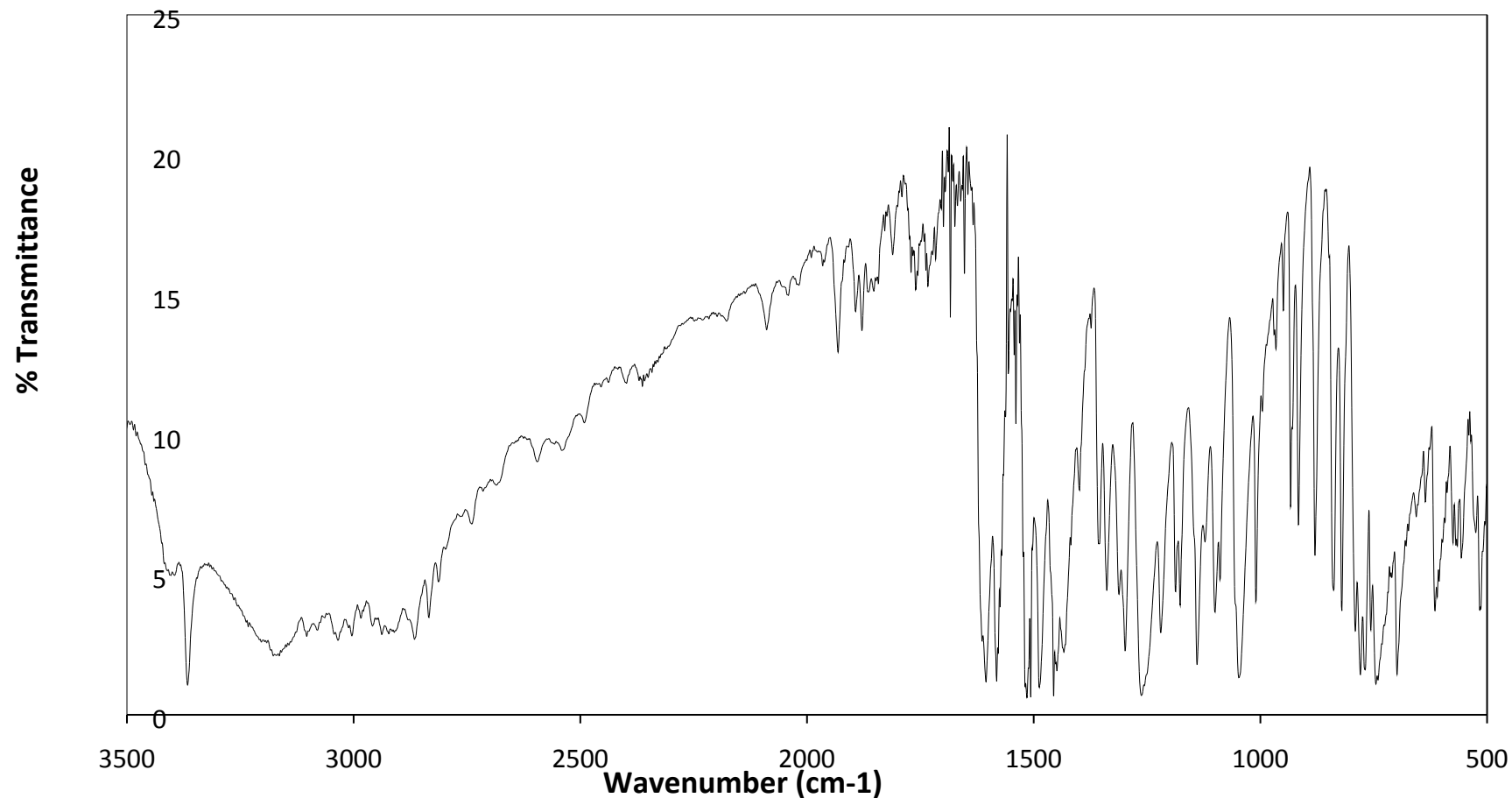


^{13}C NMR (126 MHz, CDCl_3) δ = 157.04, 147.33, 133.20, 133.11, 130.17, 129.91, 129.78, 127.28, 127.13, 124.01, 121.82, 120.47, 120.37, 120.14, 119.12, 112.46, 110.99, 110.72, 55.77, 40.26, 31.06.

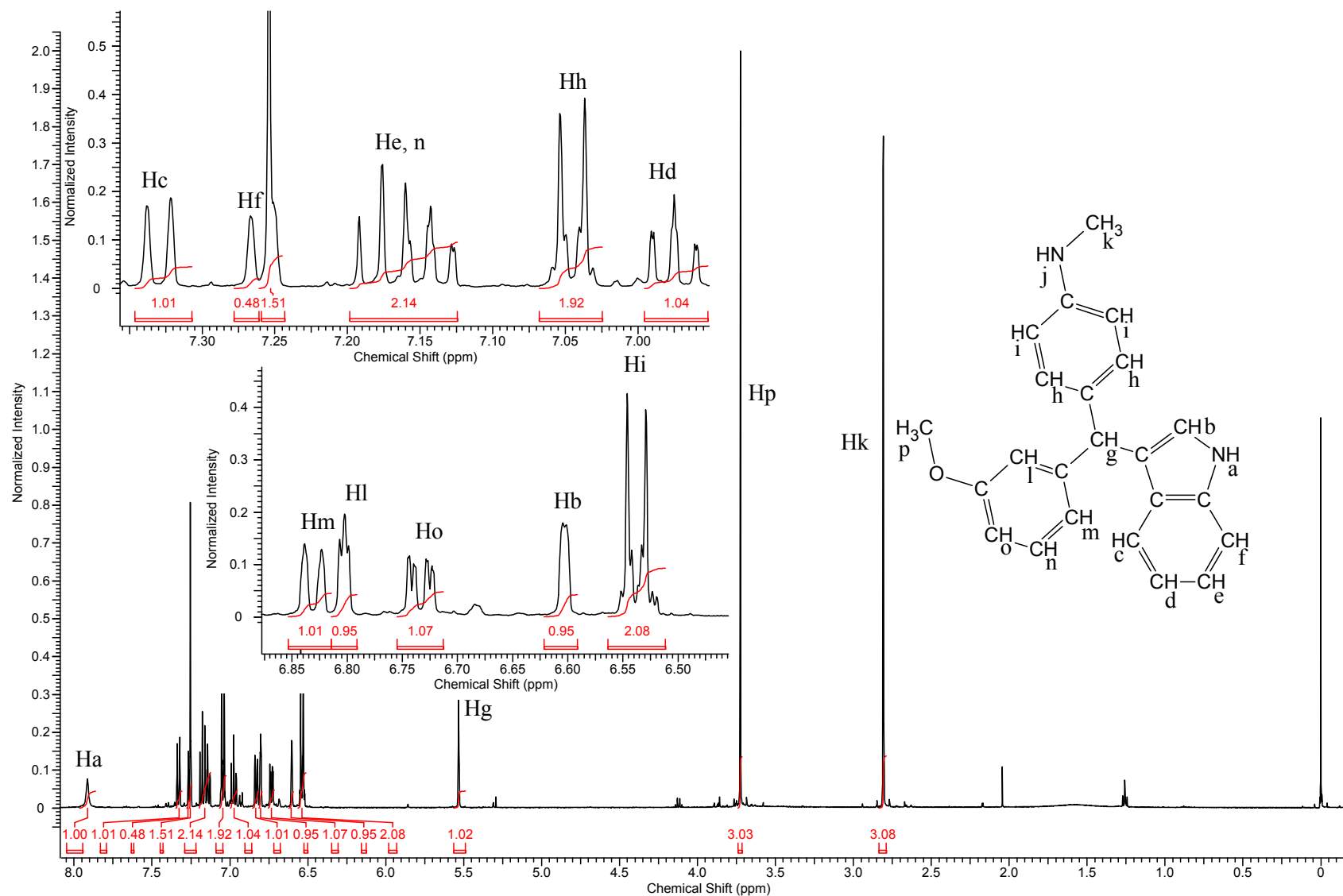


Formula Mass	Daughter number	Parent m/z	Cone Voltage (V)	Daughters	Collision Energy (eV)	Ion Mode
342.43	1	343.18	46	328.10	22	ES+
	2	343.18	46	226.12	24	ES+
	3	343.18	46	235.92	24	ES+
	4	343.18	46	204.02	70	ES+

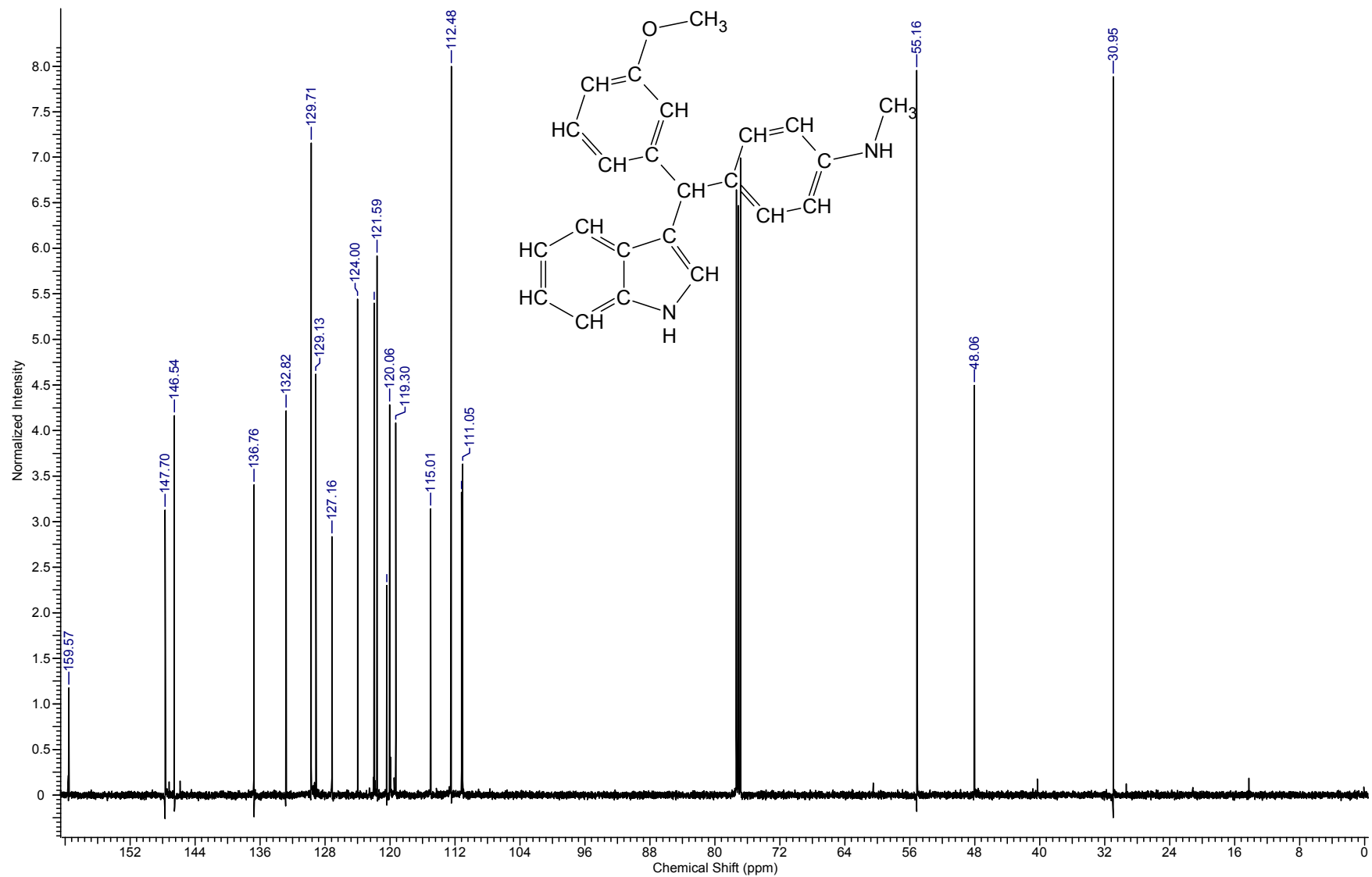
1.8 3-methoxybenzaldehyde (1h) + indole (2a) + N-methylaniline (3a): (6h) 4-[1H-indol-3-yl(3-methoxyphenyl)methyl]-N-methylaniline



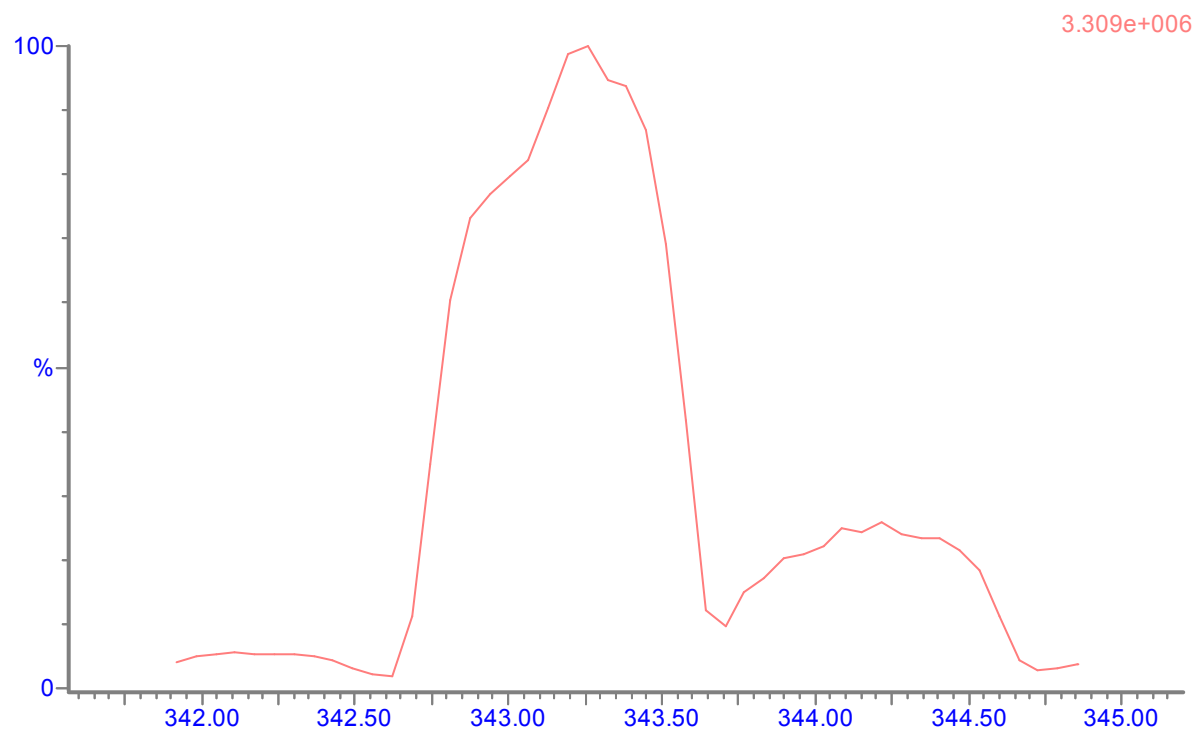
IR (KBr, cm^{-1}): 3406 (m), 3367 (s), 3169 (s), 3103 (s), 3084 (s), 3034 (s), 3003 (s), 2983 (s), 2958 (s), 2937 (s), 2922 (s), 2866 (s), 2833 (w), 1683 (w), 1604 (s), 1581 (s), 1539 (w), 1516 (s), 1506 (s), 1487 (s), 1456 (s), 1448 (s), 1433 (s), 1355 (m), 1338 (m), 1298 (m), 1263 (s), 1219 (m), 1139 (m), 1099 (m), 1045 (s), 1008 (m), 933 (m), 916 (m), 879 (m), 839 (m), 819 (m), 779 (s), 767 (s), 744 (s), 698 (s), 615 (m).



¹H NMR (500MHz, CDCl₃) δ = 7.91 (br s, 1 H), 7.33 (d, *J* = 8.2 Hz, 1 H), 7.26 (d, *J* = 7.9 Hz, 1 H), 7.22 - 7.11 (m, 2 H), 7.05 (d, *J* = 8.5 Hz, 2 H), 6.98 (ddd, *J* = 0.9, 7.0, 8.2 Hz, 1 H), 6.83 (d, *J* = 7.6 Hz, 1 H), 6.80 (t, *J* = 2.3 Hz, 1 H), 6.73 (ddd, *J* = 0.6, 2.3, 8.2 Hz, 1 H), 6.60 (d, *J* = 1.5 Hz, 1 H), 6.54 (d, *J* = 8.5 Hz, 2 H), 5.53 (s, 1 H), 3.72 (s, 3 H), 2.81 (s, 3 H).

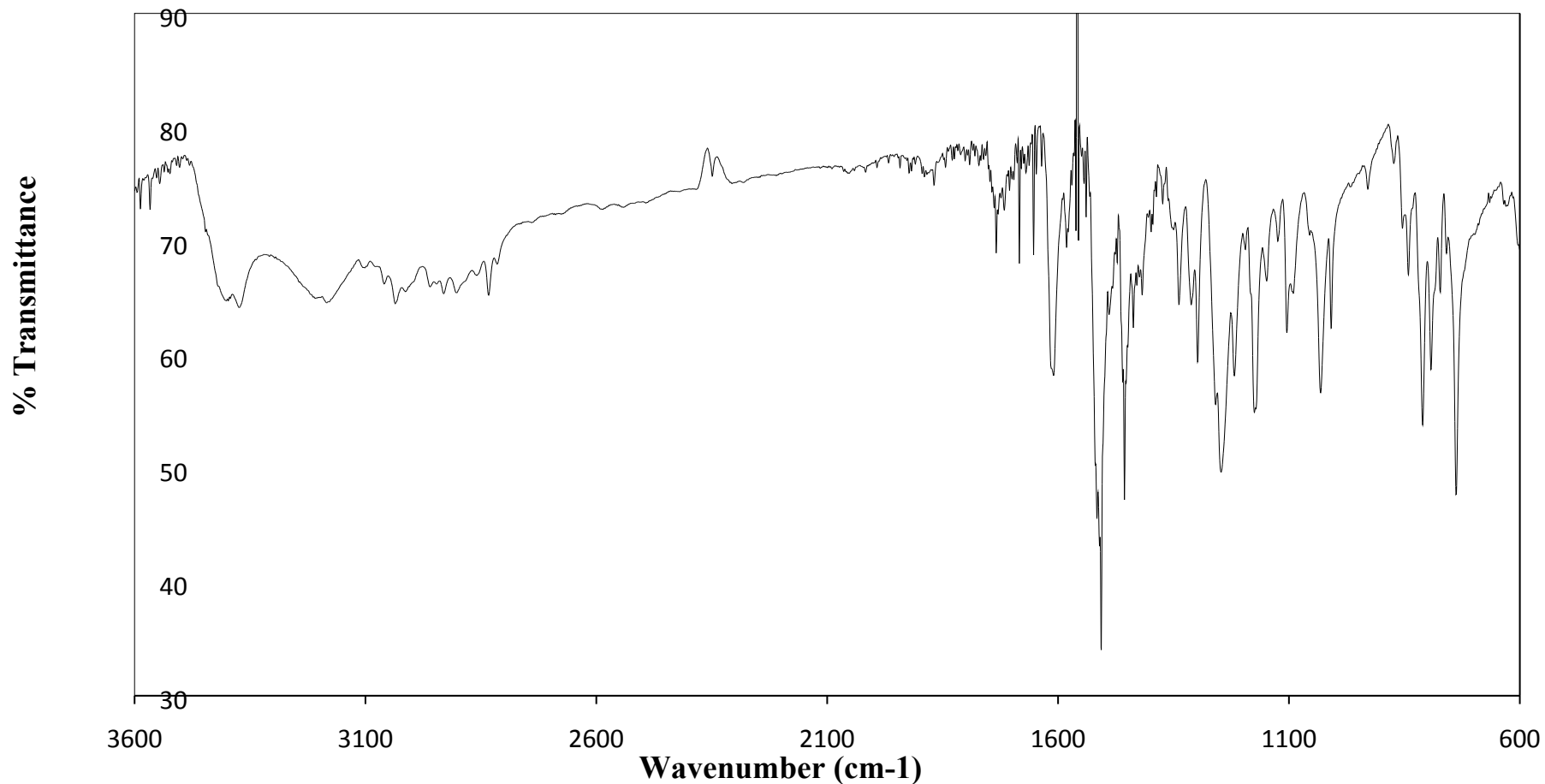


^{13}C NMR (126 MHz, CDCl_3) δ = 159.57, 147.70, 146.54, 136.76, 132.82, 129.71, 129.13, 127.16, 124.00, 121.96, 121.59, 120.41, 120.06, 119.30, 115.01, 112.48, 111.19, 111.05, 55.16, 48.06, 30.95.

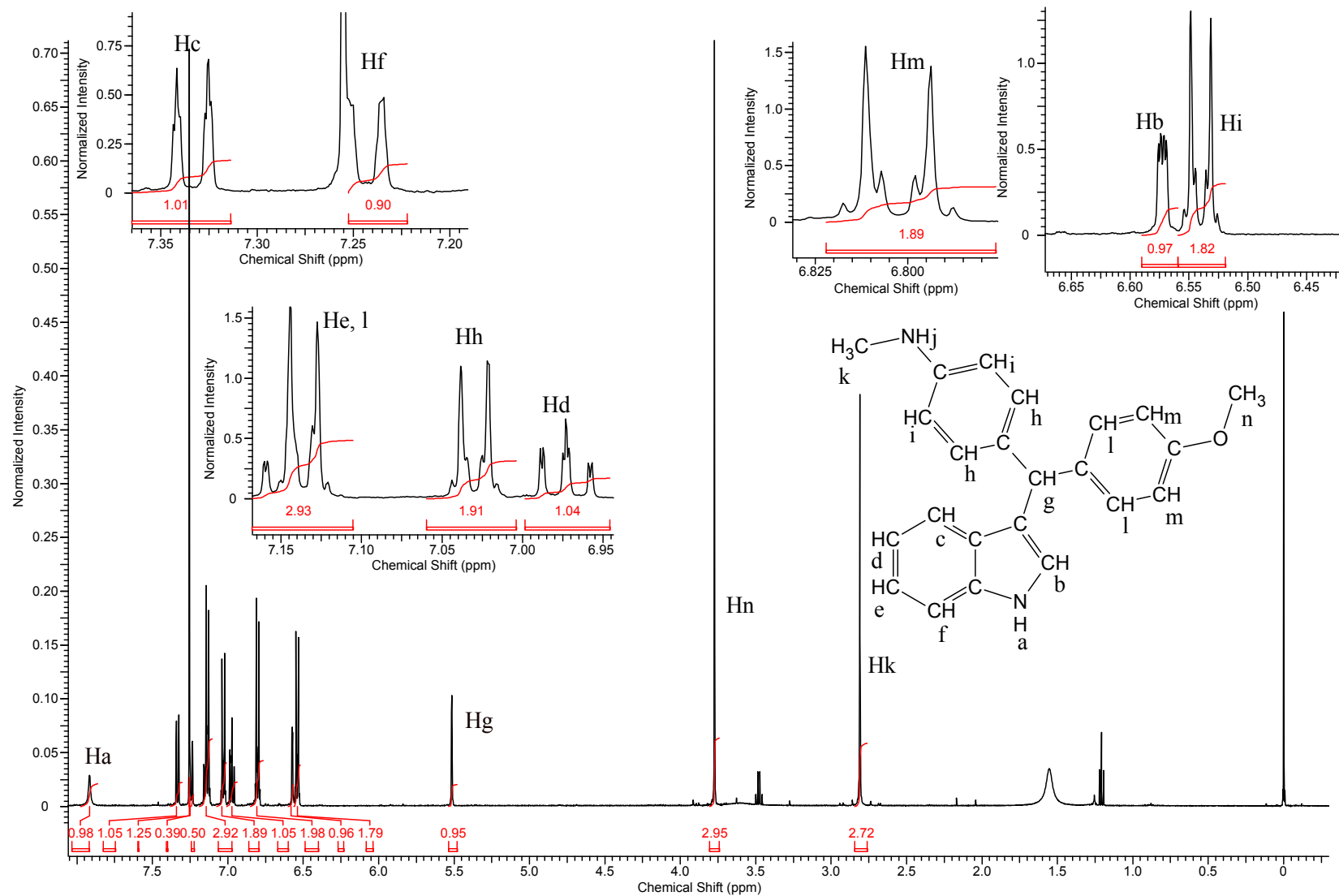


Formula Mass	Daughter number	Parent m/z	Cone Voltage (V)	Daughters	Collision Energy (eV)	Ion Mode
342.4	1	343.18	46	328.10	22	ES+
	2	343.18	46	226.12	24	ES+
	3	343.18	46	235.92	24	ES+
3	4	343.18	46	204.02	70	ES+

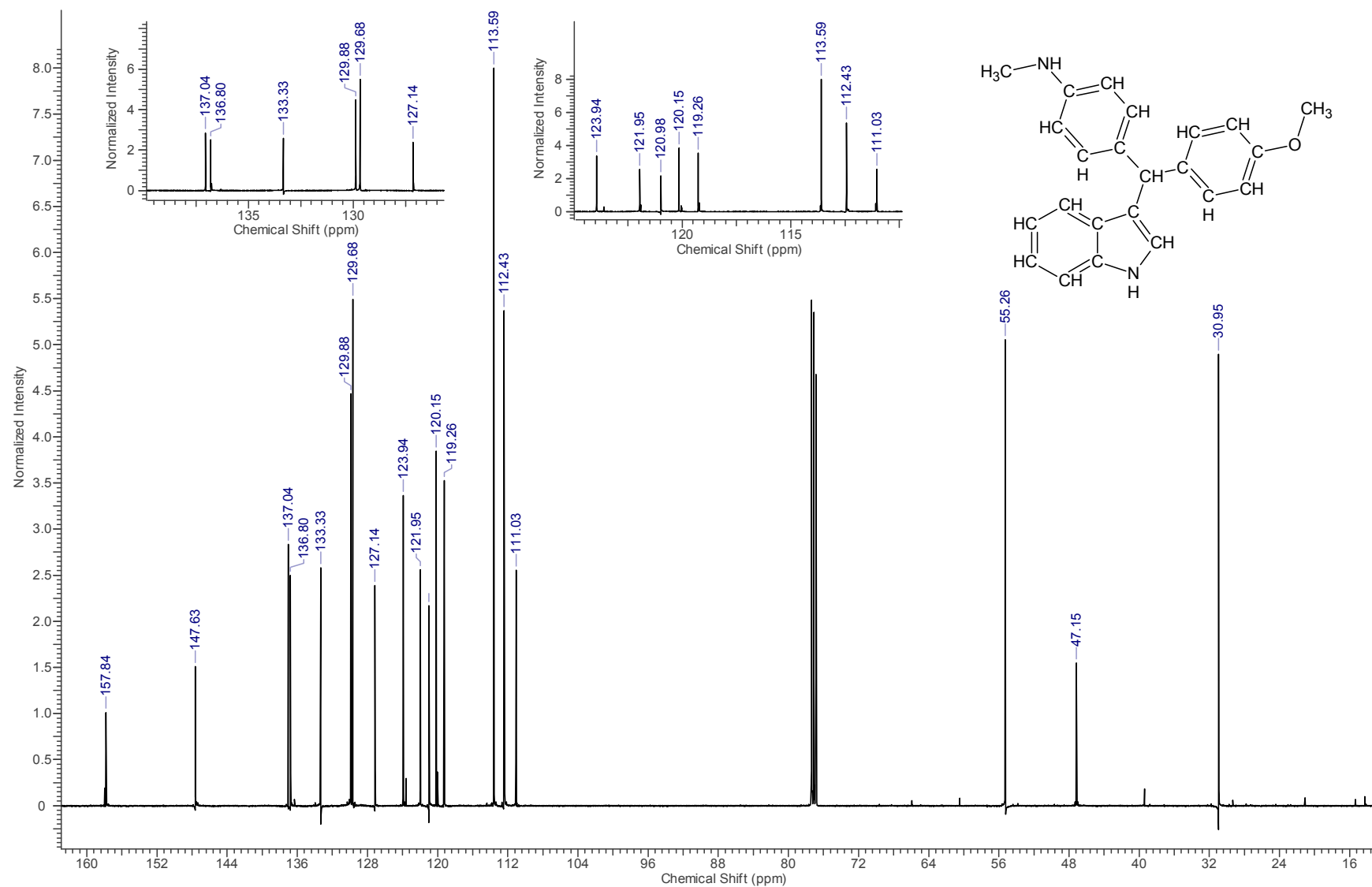
1.9 4-methoxybenzaldehyde (1i) + indole (2a) + N-methylaniline (3a): (6i) 4-[1H-indol-3-yl(4-methoxyphenyl)methyl]-N-methylaniline



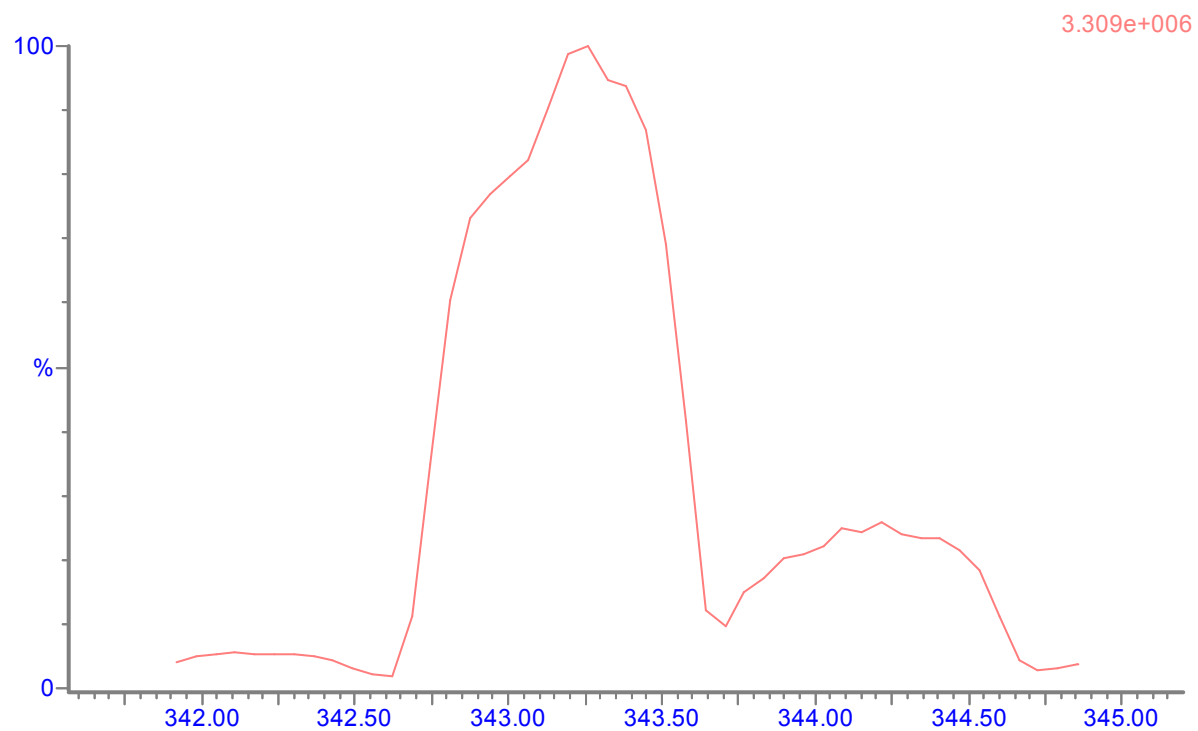
IR (KBr, cm⁻¹): 3404 (w), 3373 (w), 3207 (w), 3182 (w), 3059 (w), 3034 (w), 3012 (w), 2931 (w), 2900 (w), 2860 (w), 2833 (w), 2812 (w), 1734 (w), 1683 (w), 1652 (w), 1610 (m), 1516 (s), 1506 (s), 1456 (s), 1338 (w), 1311 (w), 1298 (w), 1246 (m), 1219 (m), 1174 (m), 1105 (w), 1031 (m), 1008 (w), 840 (w), 810 (m), 792 (m).



¹H NMR (500MHz, CDCl₃) δ = 7.92 (br s, 1 H), 7.34 (d, J = 8.2 Hz, 1 H), 7.24 (d, J = 7.9 Hz, 1 H), 7.17 - 7.11 (m, 3 H), 7.03 (d, J = 8.5 Hz, 2 H), 6.97 (ddd, J = 1.1, 7.1, 8.2 Hz, 1 H), 6.80 (d, J = 8.9 Hz, 2 H), 6.57 (dd, J = 0.9, 2.4 Hz, 1 H), 6.54 (d, J = 8.5 Hz, 2 H), 5.52 (s, 1 H), 3.77 (s, 3 H), 2.81 (s, 3 H).

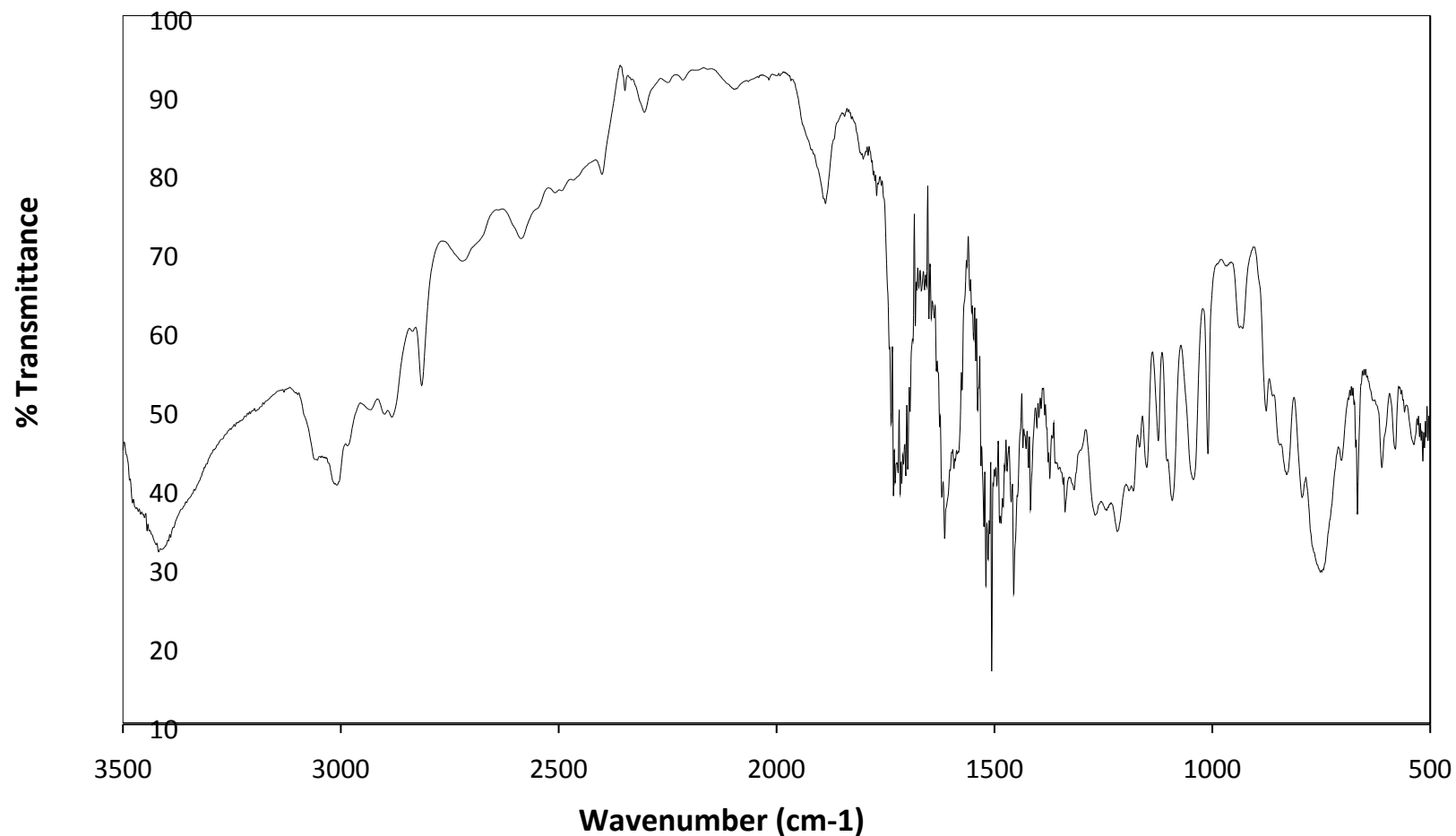


^{13}C NMR (126 MHz, CDCl_3) δ = 157.84, 147.63, 137.04, 136.80, 133.33, 129.88, 129.68, 127.14, 123.94, 121.95, 120.98, 120.15, 119.26, 113.59, 112.43, 111.03, 55.26, 47.15, 30.95.

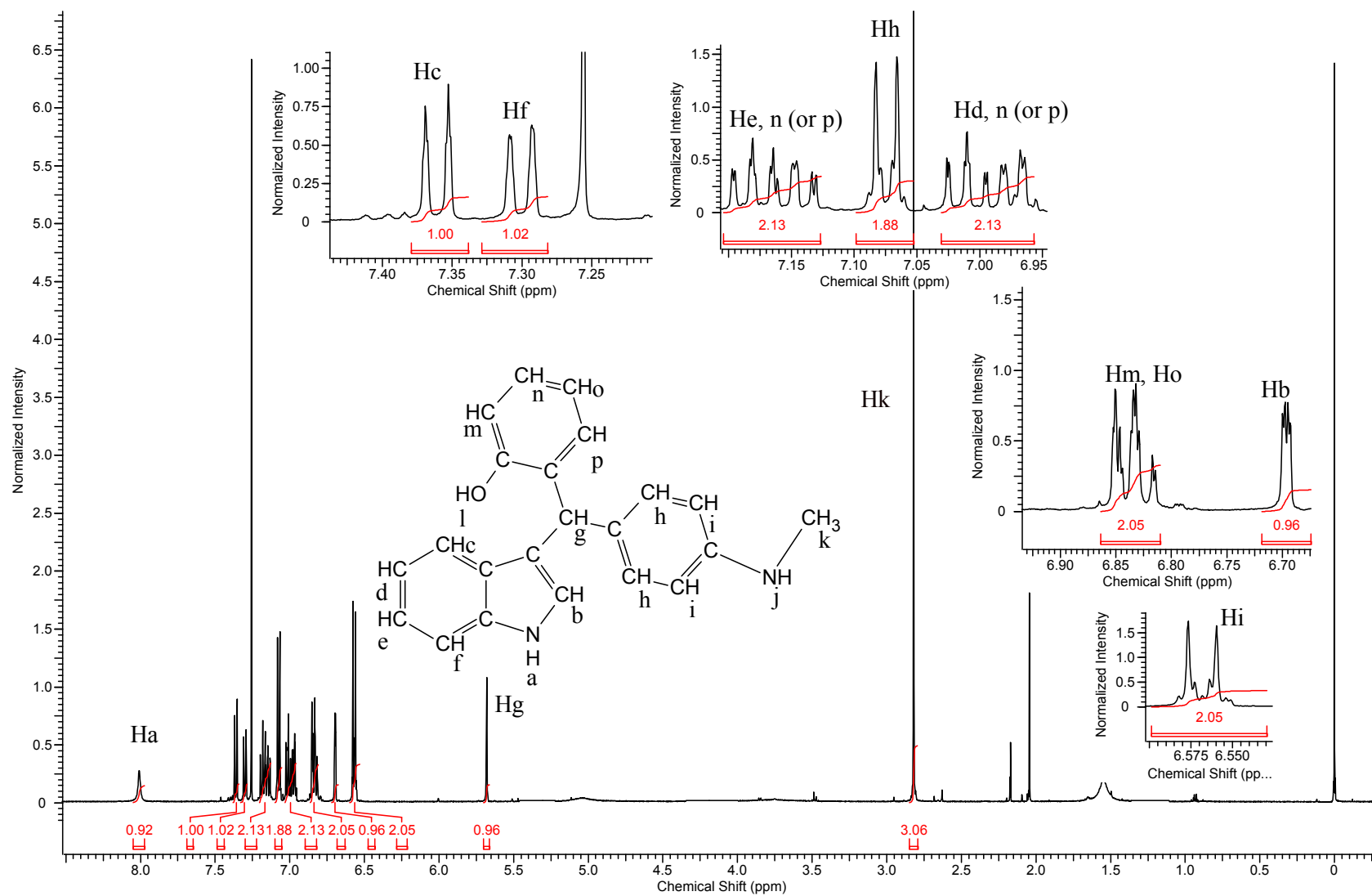


Formula Mass	Daughter number	Parent m/z	Cone Voltage (V)	Daughters	Collision Energy (eV)	Ion Mode
342.43	1	343.18	46	328.10	22	ES+
	2	343.18	46	226.12	24	ES+
	3	343.18	46	235.92	24	ES+
	4	343.18	46	204.02	70	ES+

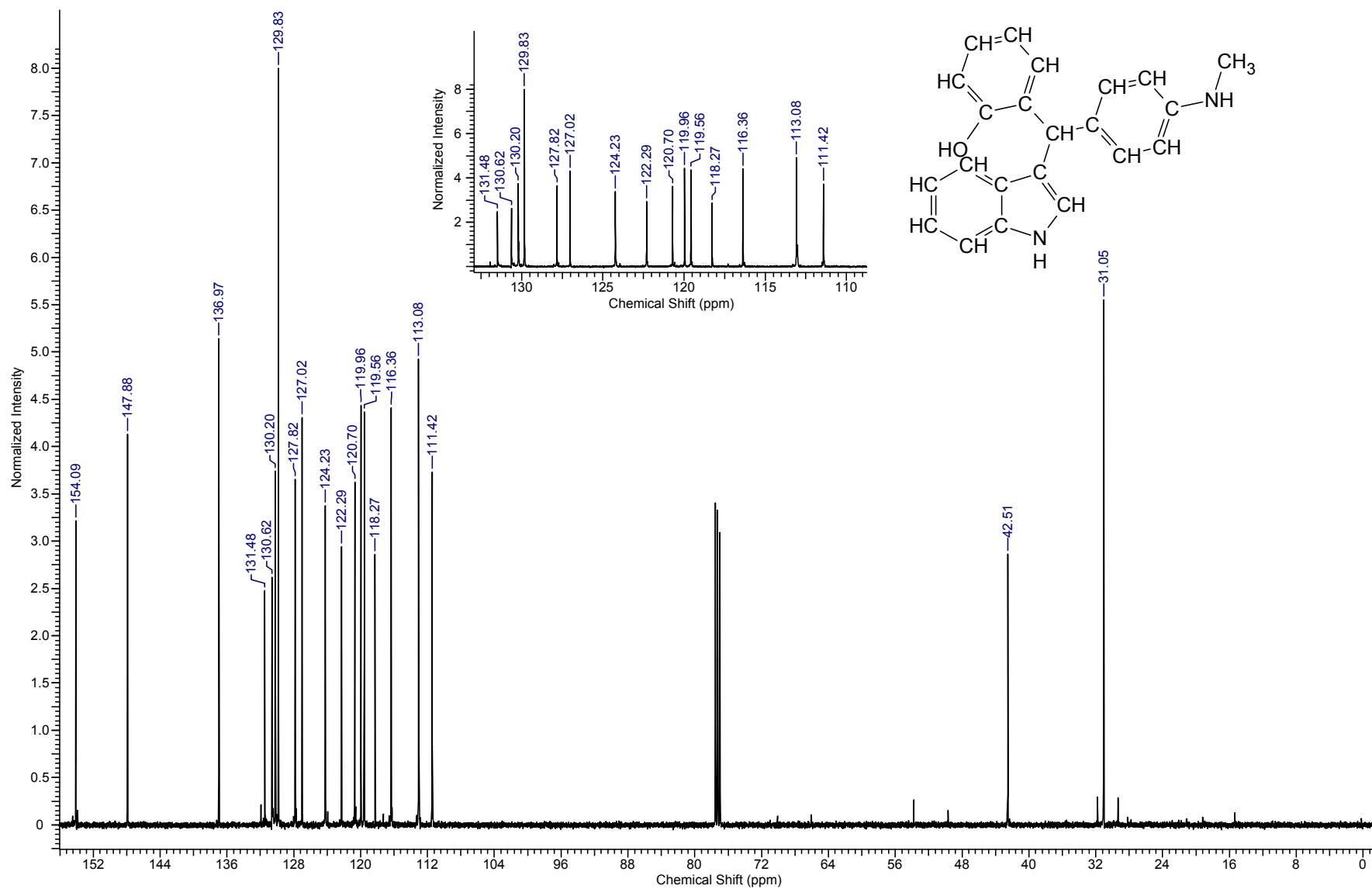
1.10 2-hydroxybenzaldehyde (1j) + indole (2a) + *N*-methylaniline (3a): (6j) 4-[1*H*-indol-3-yl(2-hydroxyphenyl)methyl]-*N*-methylaniline



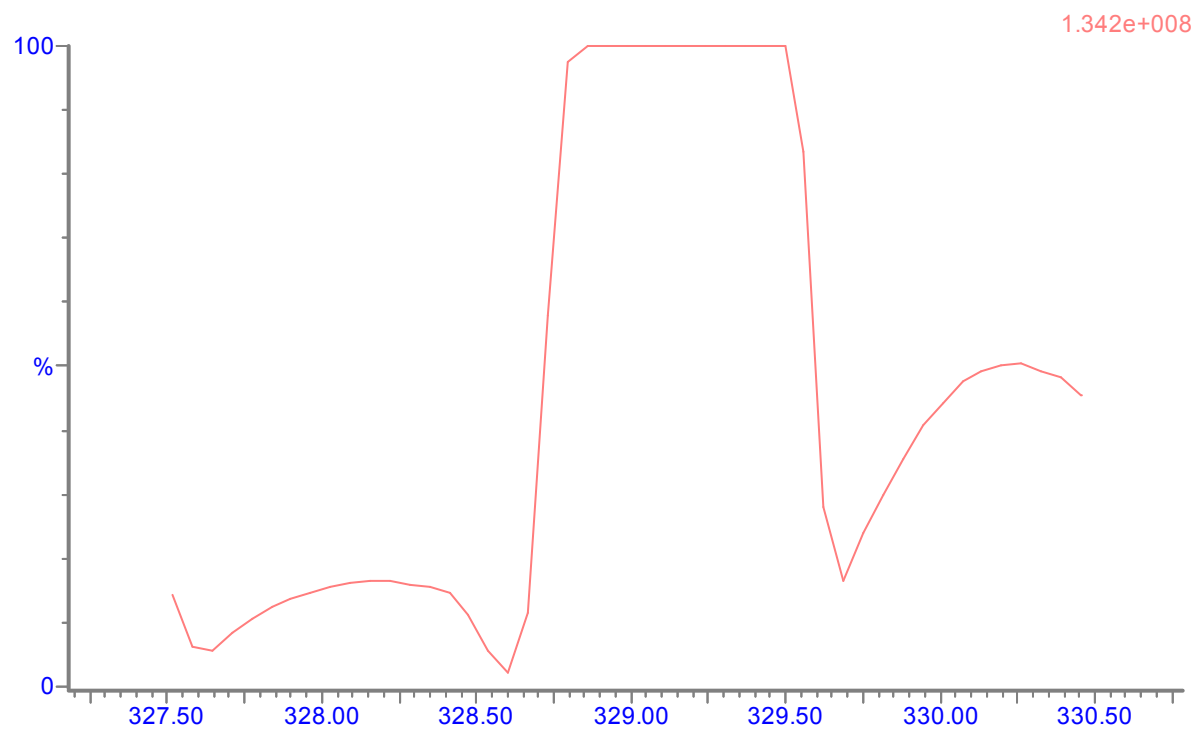
IR (KBr, cm⁻¹): 3417 (br, m), 3057 (m), 3007 (m), 2981 (m), 2929 (m), 2904 (m), 2883 (m), 2814 (m), 1886 (w), 1732 (m), 1716 (m), 1614 (s), 1519 (s), 1506 (s), 1456 (s), 1417 (m), 1338 (m), 1265 (m), 1242 (m), 1219 (m), 1149 (m), 1091 (m), 1043 (m), 1010 (m), 937 (w), 875 (m), 829 (m), 794 (m), 748 (s), 704 (w), 667 (m), 611 (m).



¹H NMR (500MHz, CDCl₃) δ = 8.01 (br s, 1 H), 7.36 (d, J = 8.2 Hz, 1 H), 7.31 (d, J = 7.9 Hz, 1 H), 7.20 - 7.13 (m, 2 H), 7.08 (d, J = 8.5 Hz, 2 H), 7.03 - 6.96 (m, 2 H), 6.86 - 6.81 (m, 2 H), 6.70 (dd, J = 1.1, 2.3 Hz, 1 H), 6.57 (d, J = 8.5 Hz, 2 H), 5.68 (s, 1 H), 2.82 (s, 3 H).

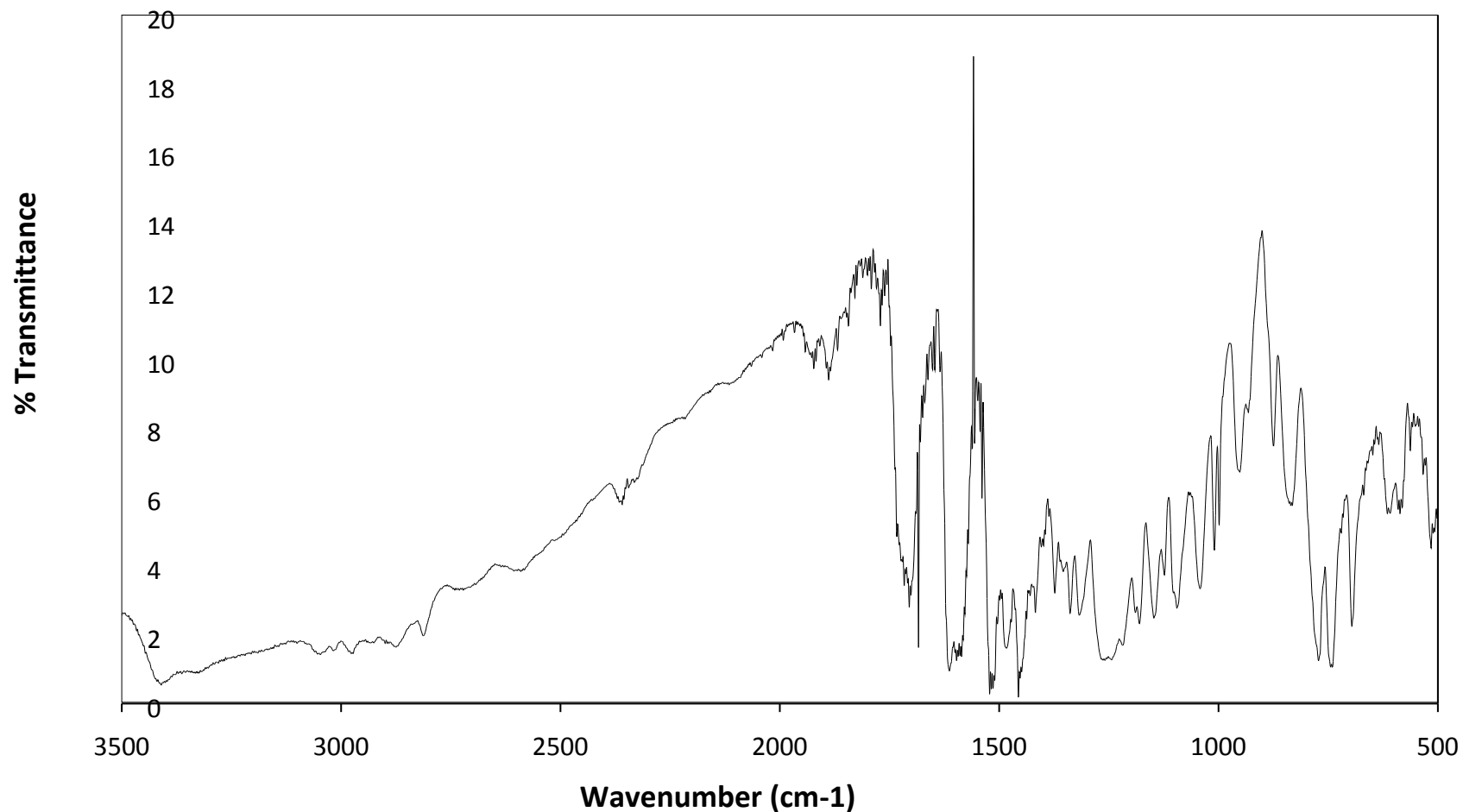


^{13}C NMR (126 MHz, CDCl_3) δ = 154.09, 147.88, 136.97, 131.48, 130.62, 130.20, 129.83, 127.82, 127.02, 124.23, 122.29, 120.70, 119.96, 119.56, 118.27, 116.36, 113.08, 111.42, 42.51, 31.05.

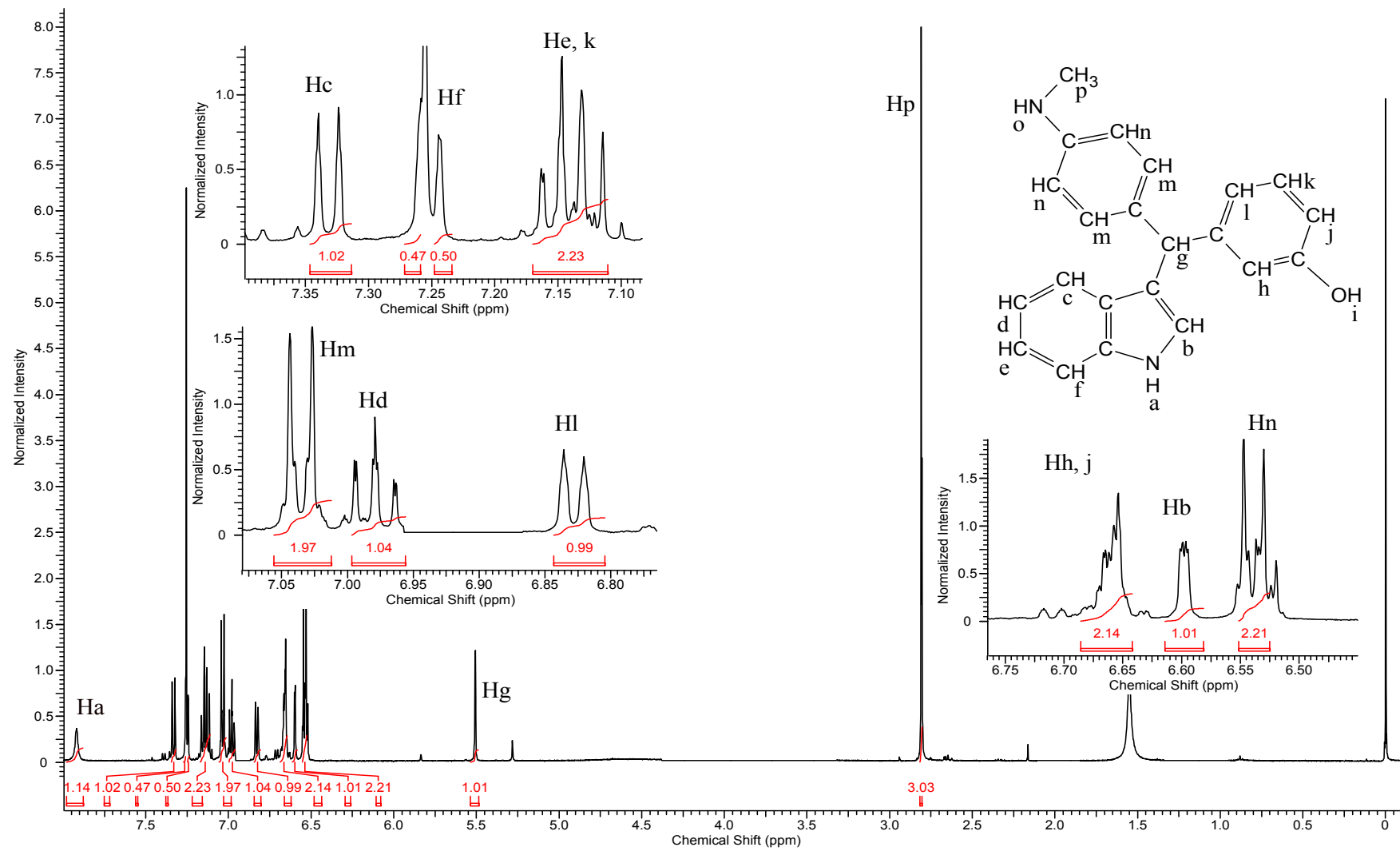


Formula Mass	Daughter number	Parent m/z	Cone Voltage (V)	Daughters	Collision Energy (eV)	Ion Mode
328.41	1	329.16	46	196.09	32	ES+
	2	329.16	46	212.10	22	ES+
	3	329.16	46	220.28	34	ES+
	4	329.16	46	180.94	34	ES+
	5	329.16	46	165.14	62	ES+

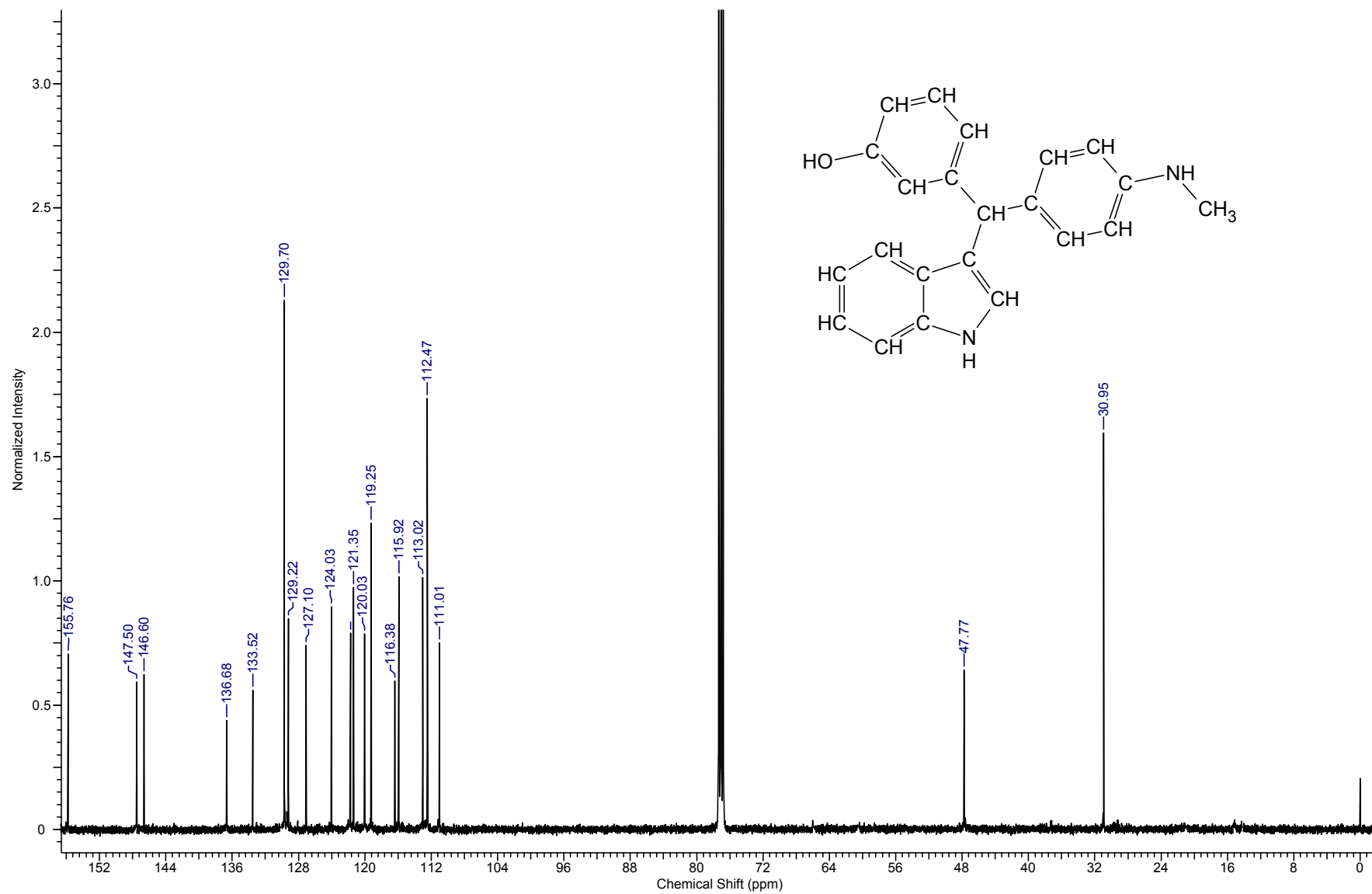
1.11 3-hydroxybenzaldehyde (1k) + indole (2a) + *N*-methylaniline (3a): (6k) 4-[1*H*-indol-3-yl(3-hydroxyphenyl)methyl]-*N*-methylaniline



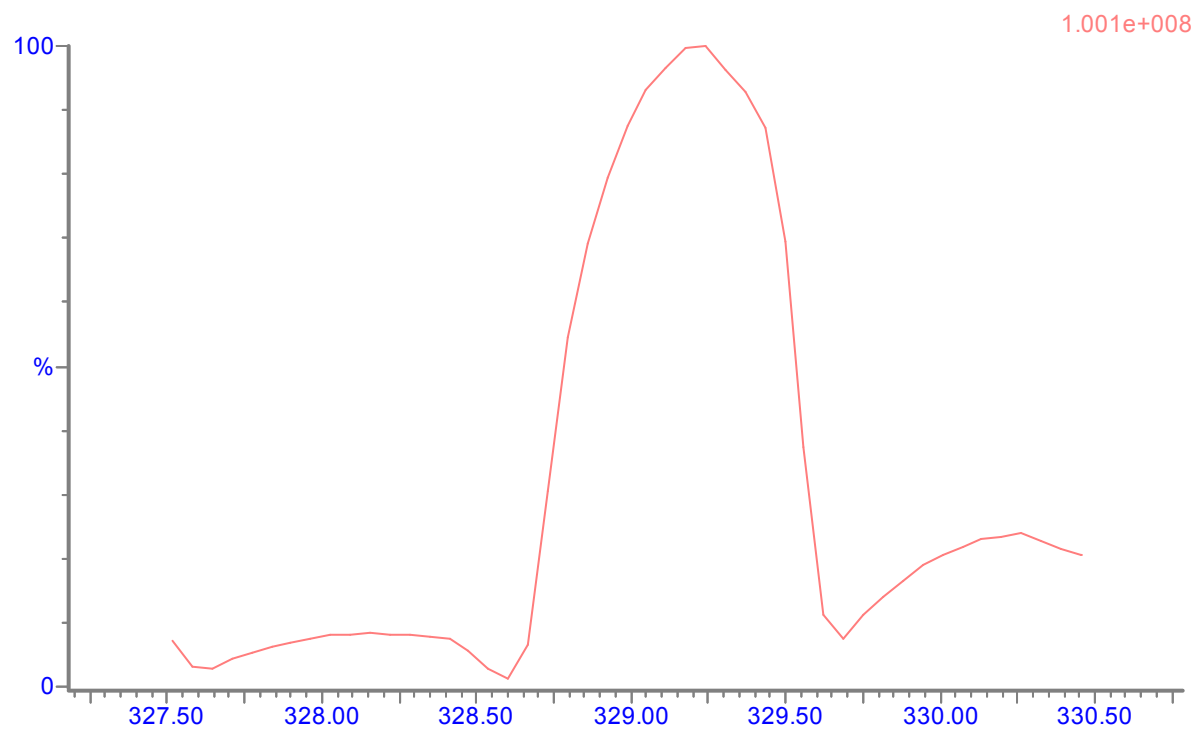
IR (KBr, cm^{-1}): 3410 (br, m), 3331 (br, m), 3053 (s), 3012 (s), 2976 (s), 2877 (s), 2812 (s), 1716 (s), 1705 (s), 1683 (s), 1614 (s), 1521 (s), 1487 (w), 1456 (s), 1373 (m), 1338 (m), 1317 (m), 1263 (m), 1242 (m), 1219 (w), 1180 (m), 1145 (m), 1136 (m), 1093 (m), 1043 (m), 1008 (m), 999 (w), 950 (w), 931 (w), 873 (w), 835 (m), 771 (s), 740 (s), 696 (s), 607 (w).



¹H NMR (500MHz, CDCl₃) δ = 7.92 (br s, 1 H), 7.33 (d, *J* = 7.9 Hz, 1 H), 7.25 (d, *J* = 7.9 Hz, 1 H), 7.17 – 7.09 (m, 2 H), 7.04 (d, *J* = 8.5 Hz, 2 H), 6.98 (ddd, *J* = 0.9, 7.0, 7.9 Hz, 1 H), 6.83 (d, *J* = 7.6 Hz, 1 H), 6.67 - 6.64 (m, 2 H), 6.60 (dd, *J* = 1.1, 2.3 Hz, 1 H), 6.54 (d, *J* = 8.5 Hz, 2 H), 5.51 (s, 1 H), 2.83 (s, 3 H).

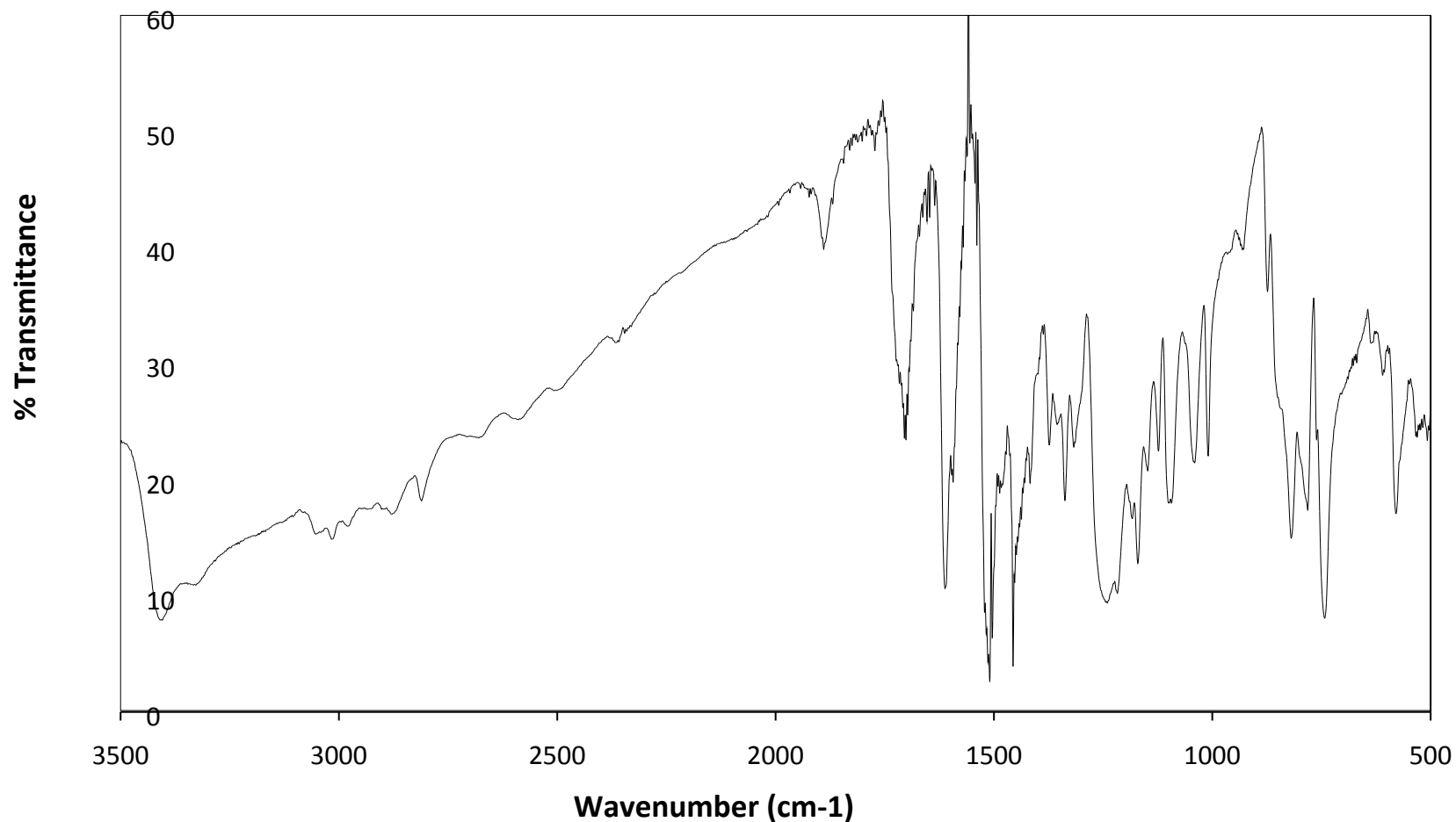


^{13}C NMR (126 MHz, CDCl_3) δ = 155.76, 147.50, 146.60, 136.68, 133.52, 129.70, 129.22, 127.10, 124.03, 121.74, 121.35, 120.03, 119.25, 116.38, 115.92, 113.02, 112.47, 111.01, 47.77, 30.95.

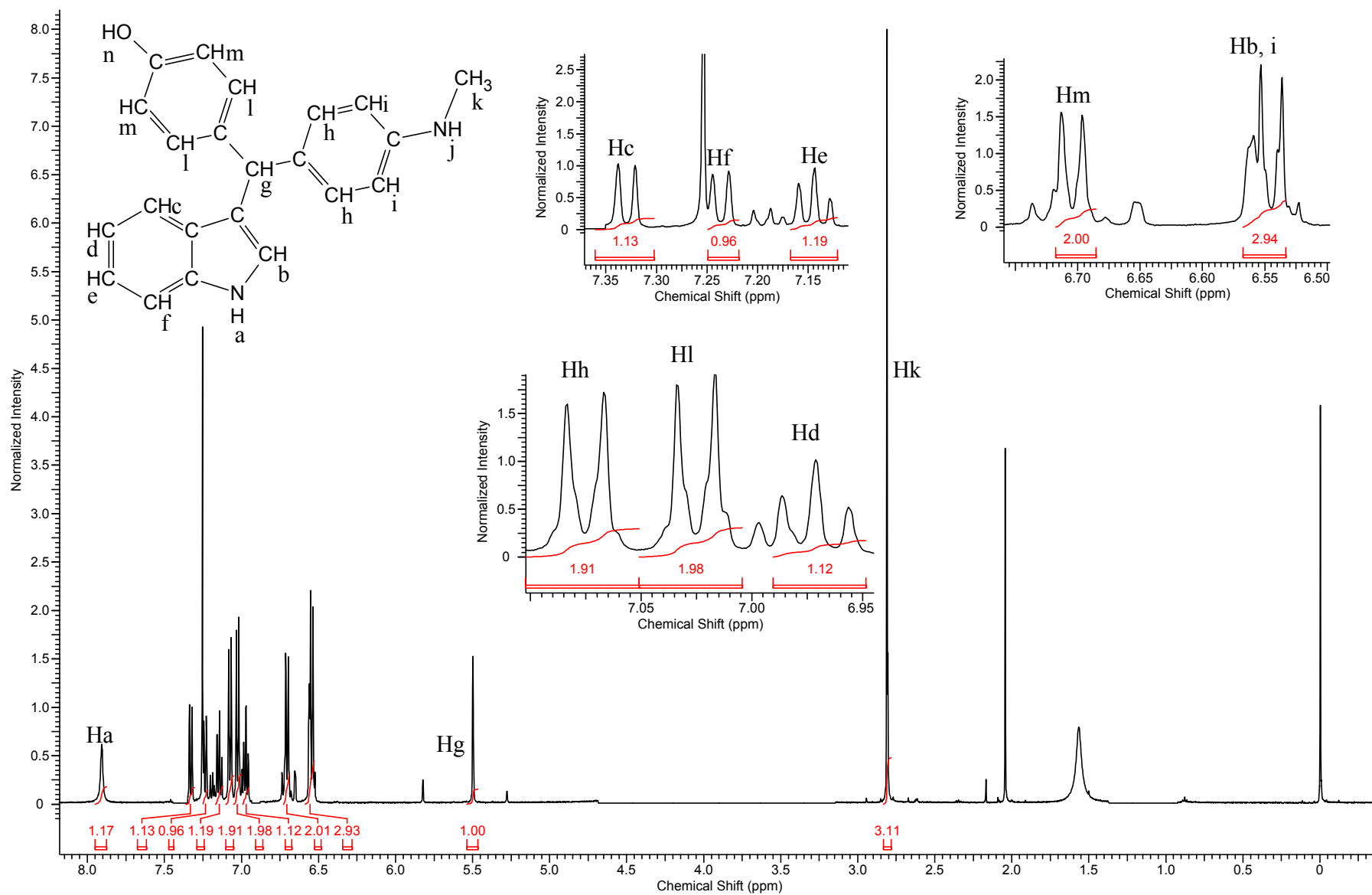


Formula Mass	Daughter number	Parent m/z	Cone Voltage (V)	Daughters	Collision Energy (eV)	Ion Mode
328.41	1	329.16	46	221.20	28	ES+
	2	329.16	46	212.16	22	ES+
	3	329.16	46	314.14	16	ES+
	4	329.16	46	196.22	38	ES+
	5	329.16	46	204.16	50	ES+

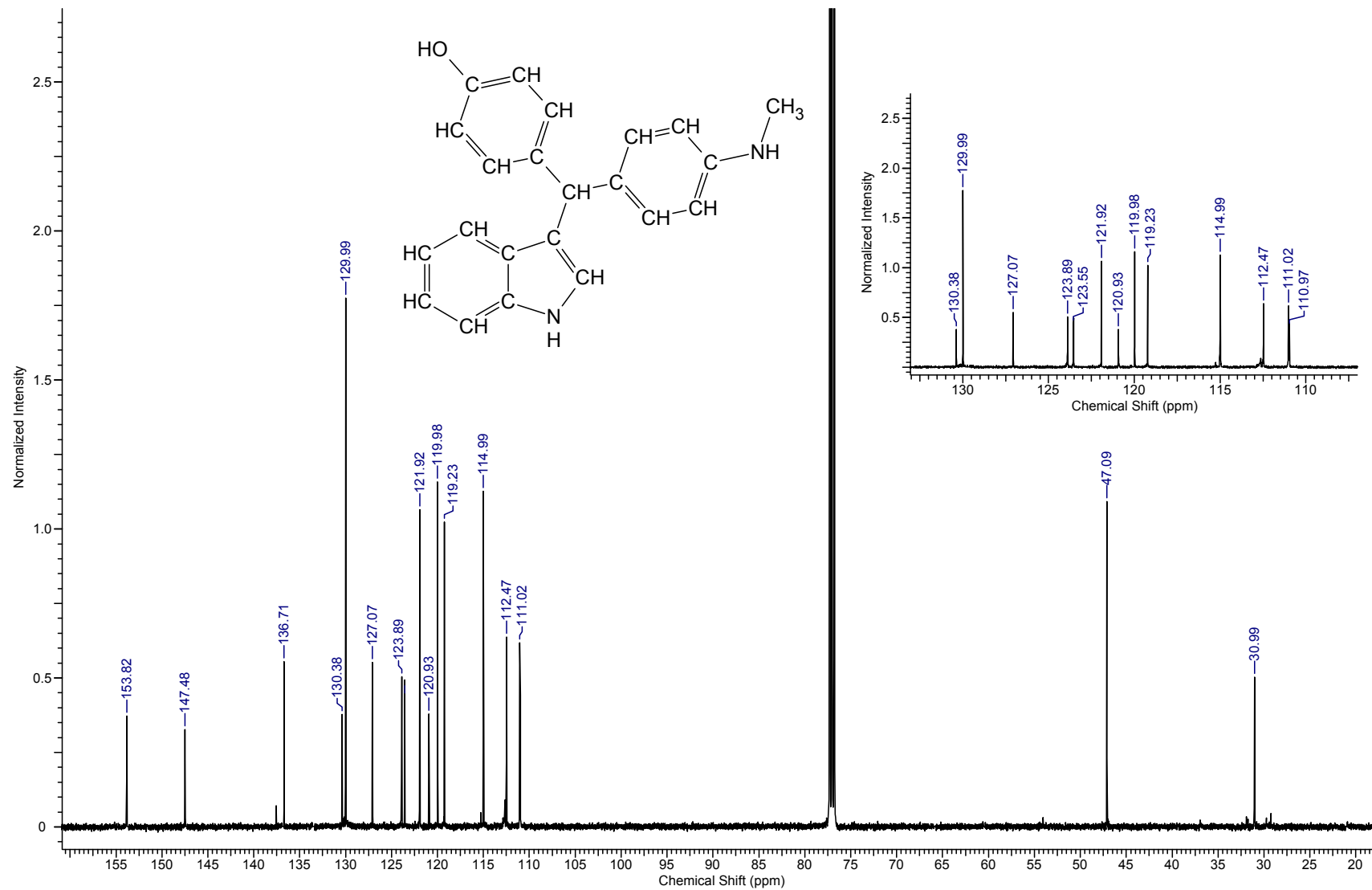
1.12 4-hydroxybenzaldehyde (1) + indole (2a) + *N*-Methylaniline (3a): (6l) 4-[1*H*-indol-3-yl(4-hydroxyphenyl)methyl]-*N*-methylaniline



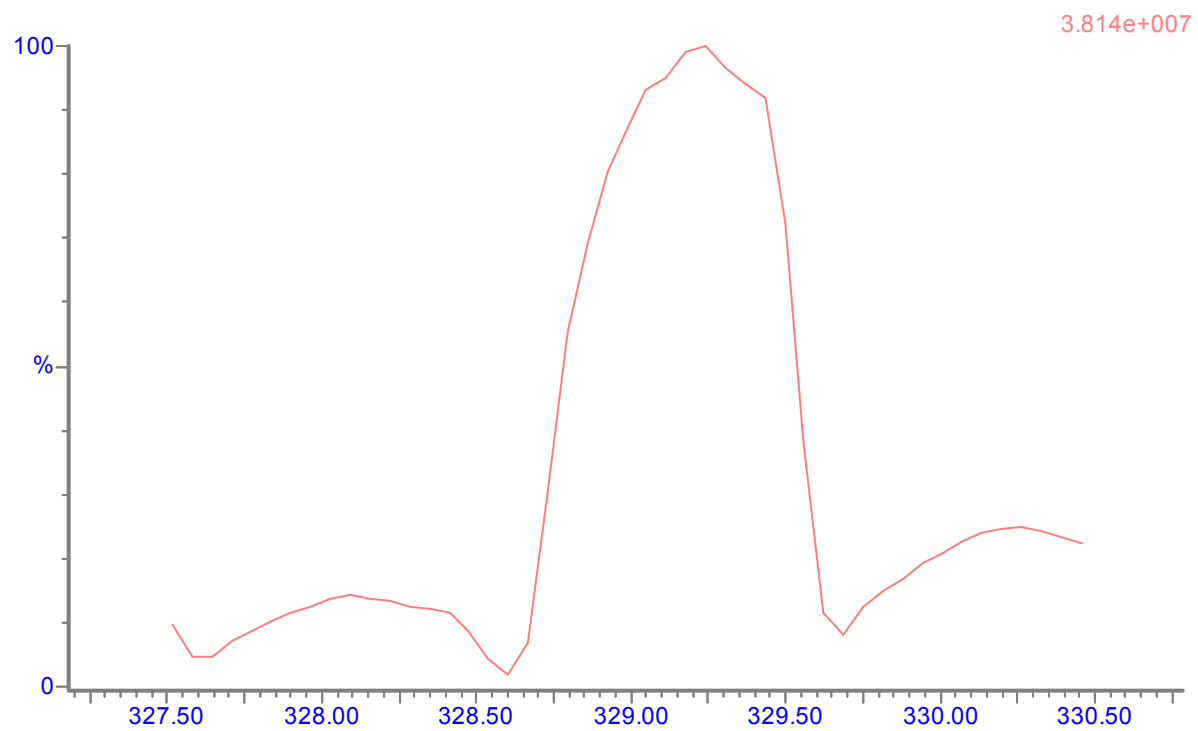
IR (KBr, cm⁻¹): 3406 (br, m), 3332 (m), 3053 (m), 3016 (m), 2980 (m), 2881 (m), 2810 (m), 1705 (m), 1612 (s), 1593 (m), 1510 (s), 1456 (s), 1417 (m), 1338 (m), 1240 (s), 1217 (s), 1170 (m), 1101 (m), 1043 (m), 1008 (m), 873 (w), 819 (m), 781 (m), 742 (s), 632 (w), 609 (w).



¹H NMR (500MHz, CDCl₃) δ = 7.91 (br s, 1 H), 7.33 (d, J = 8.2 Hz, 1 H), 7.24 (d, J = 7.9 Hz, 1 H), 7.14 (t, J = 7.9 Hz, 1 H), 7.08 (d, J = 8.2 Hz, 2 H), 7.03 (d, J = 8.5 Hz, 2 H), 6.97 (t, J = 7.5 Hz, 1 H), 6.70 (d, J = 8.5 Hz, 2 H), 6.59 - 6.52 (m, 3 H), 5.50 (s, 1 H), 2.81 (s, 3 H).

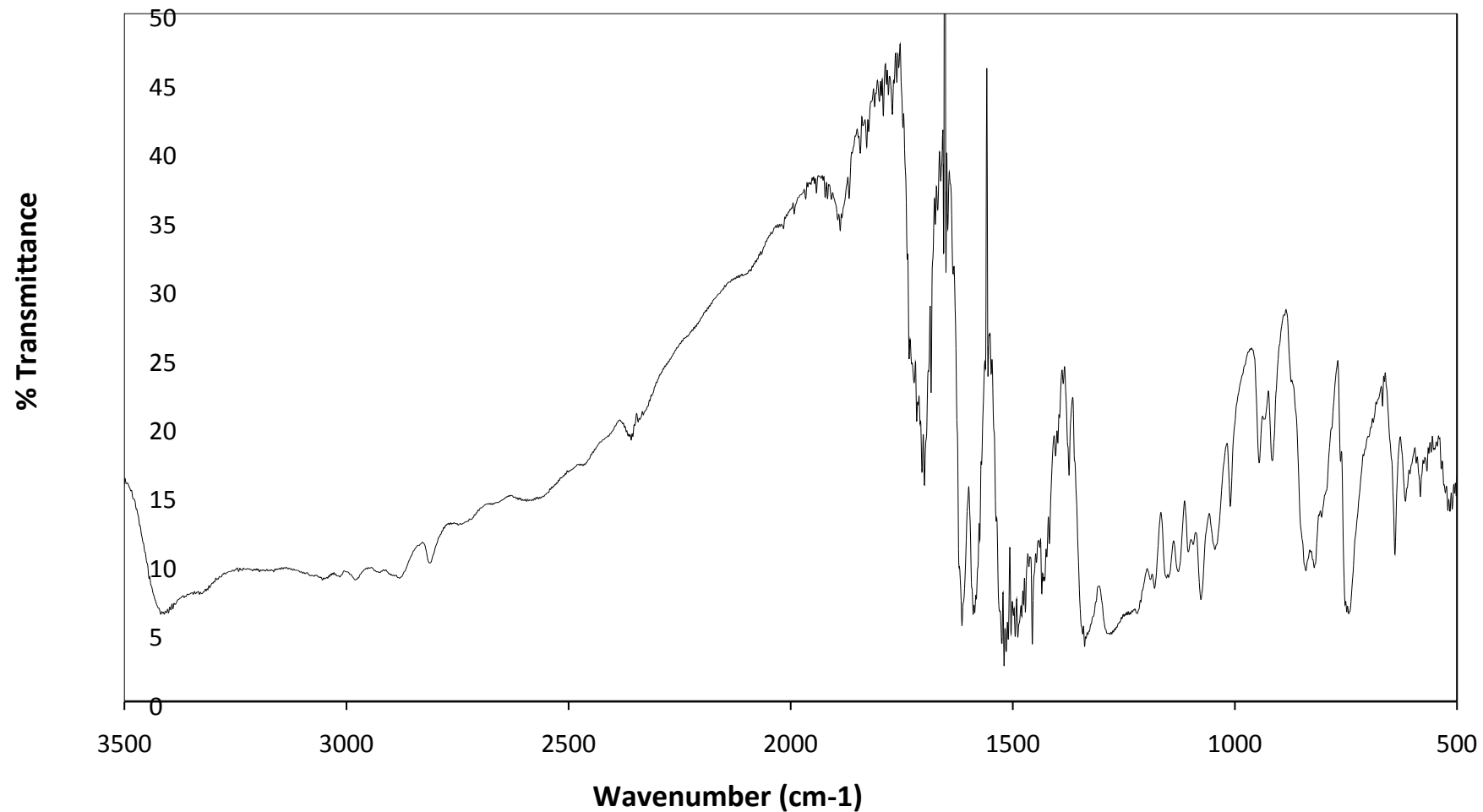


¹³C NMR (126 MHz, CDCl₃) δ = 153.82, 147.48, 136.71, 130.38, 129.99, 127.07, 123.89, 123.55, 121.92, 120.93, 119.98, 119.23, 114.99, 112.47, 111.02, 110.97, 47.09, 30.99.

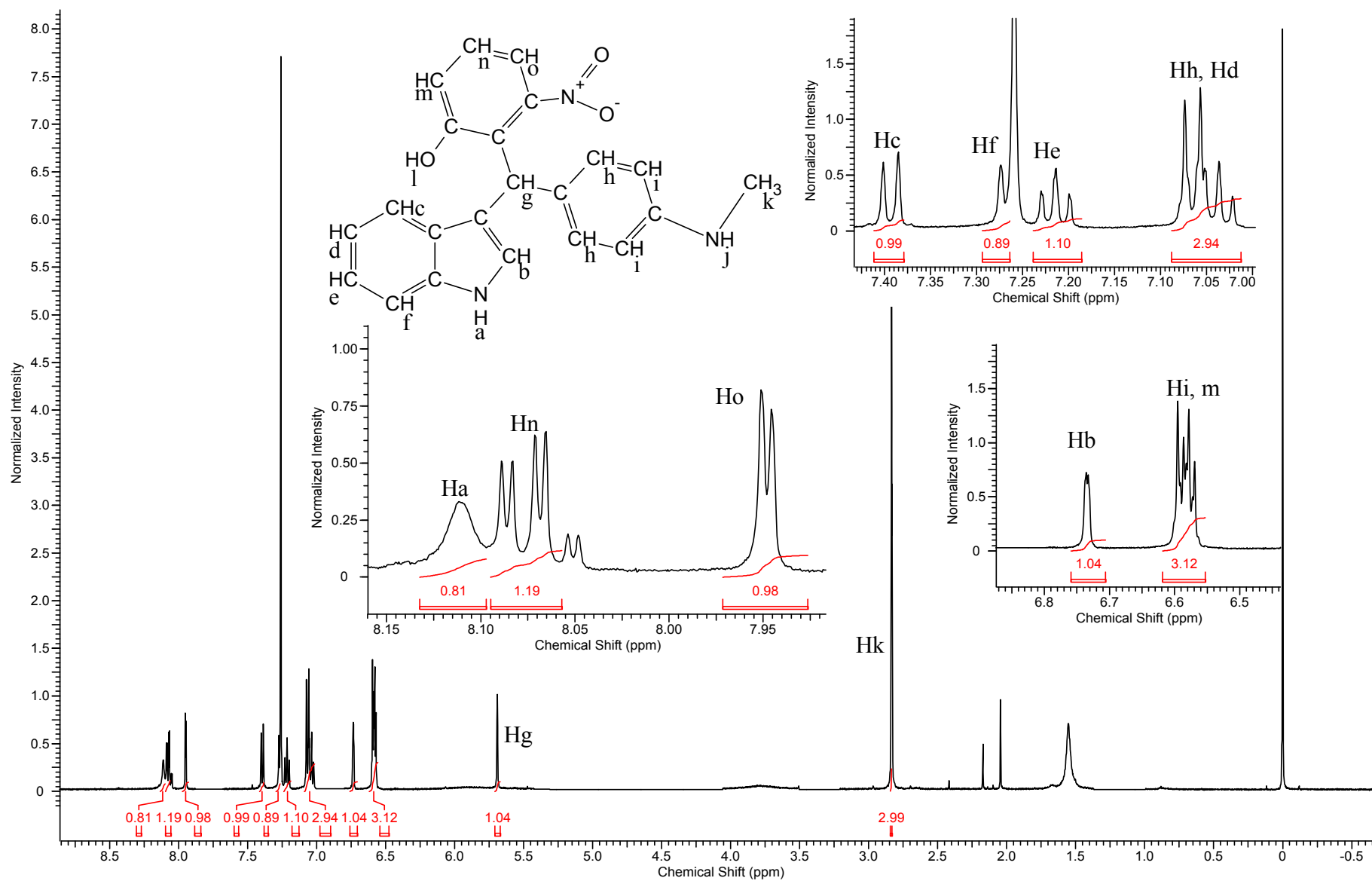


Formula Mass	Daughter number	Parent m/z	Cone Voltage (V)	Daughters	Collision Energy (eV)	Ion Mode
328.41	1	329.16	52	221.20	32	ES+
	2	329.16	52	212.10	24	ES+
	3	329.16	52	314.14	16	ES+
	4	329.16	52	196.28	38	ES+

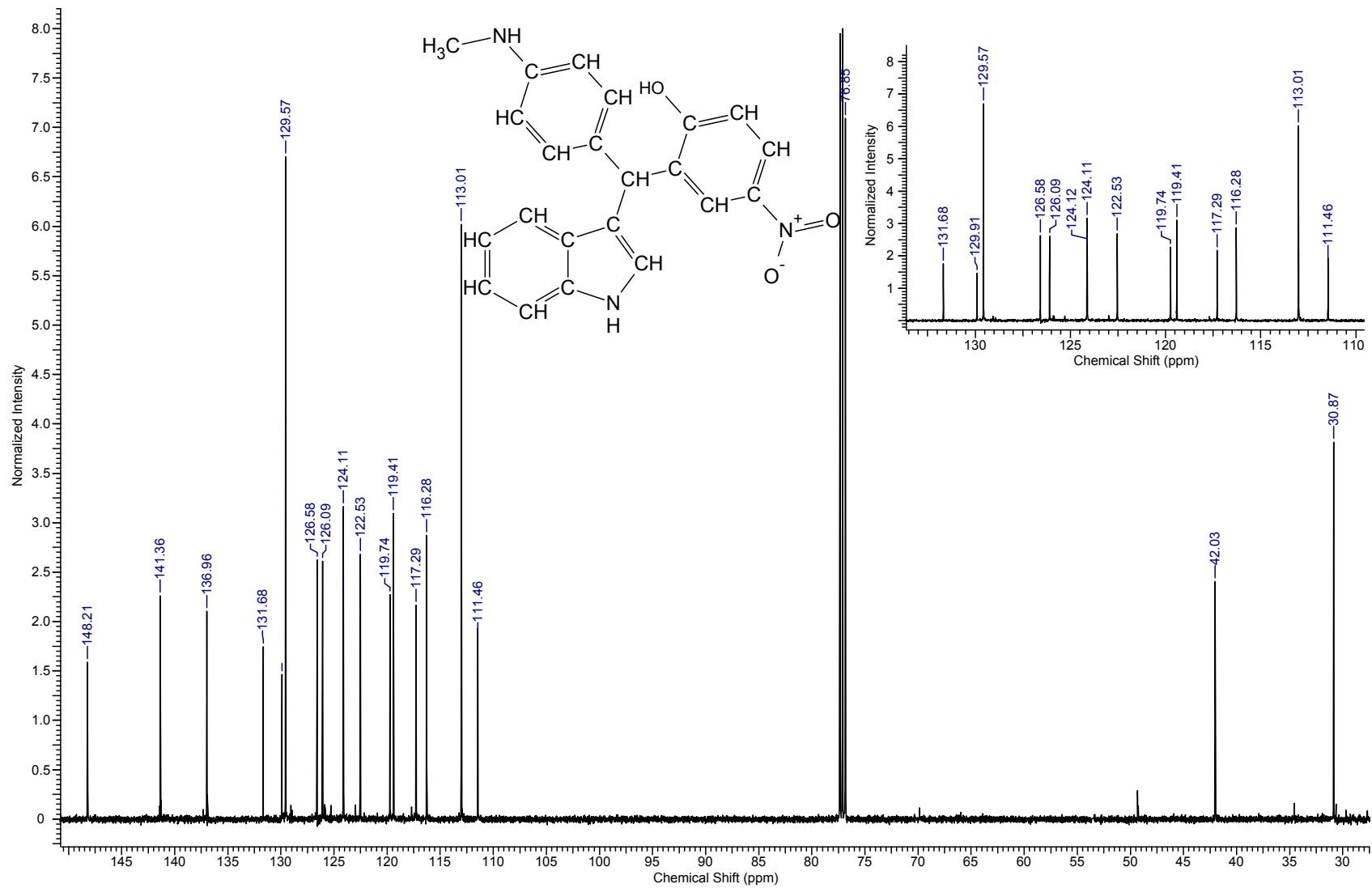
1.13 2-hydroxy-5-nitrobenzaldehyde (1m) + indole (2a) + N-methylaniline (3a): (6m) 4-[1H-indol-3-yl(2-hydroxy-5-nitrophenyl)methyl]-N-methylaniline



IR (KBr, cm⁻¹): 3417 (br, m), 3331 (s), 3053 (s), 3014 (s), 2980 (s), 2924 (s), 2881 (s), 2808 (s), 1699 (m), 1614 (s), 1585 (s), 1519 (s), 1456 (s), 1373 (s), 1338 (s), 1284 (br, s), 1180 (m), 1153 (m), 1126 (m), 1076 (m), 1045 (m), 1010 (m), 945 (w), 916 (w), 840 (s), 821 (s), 744 (s), 640 (m).

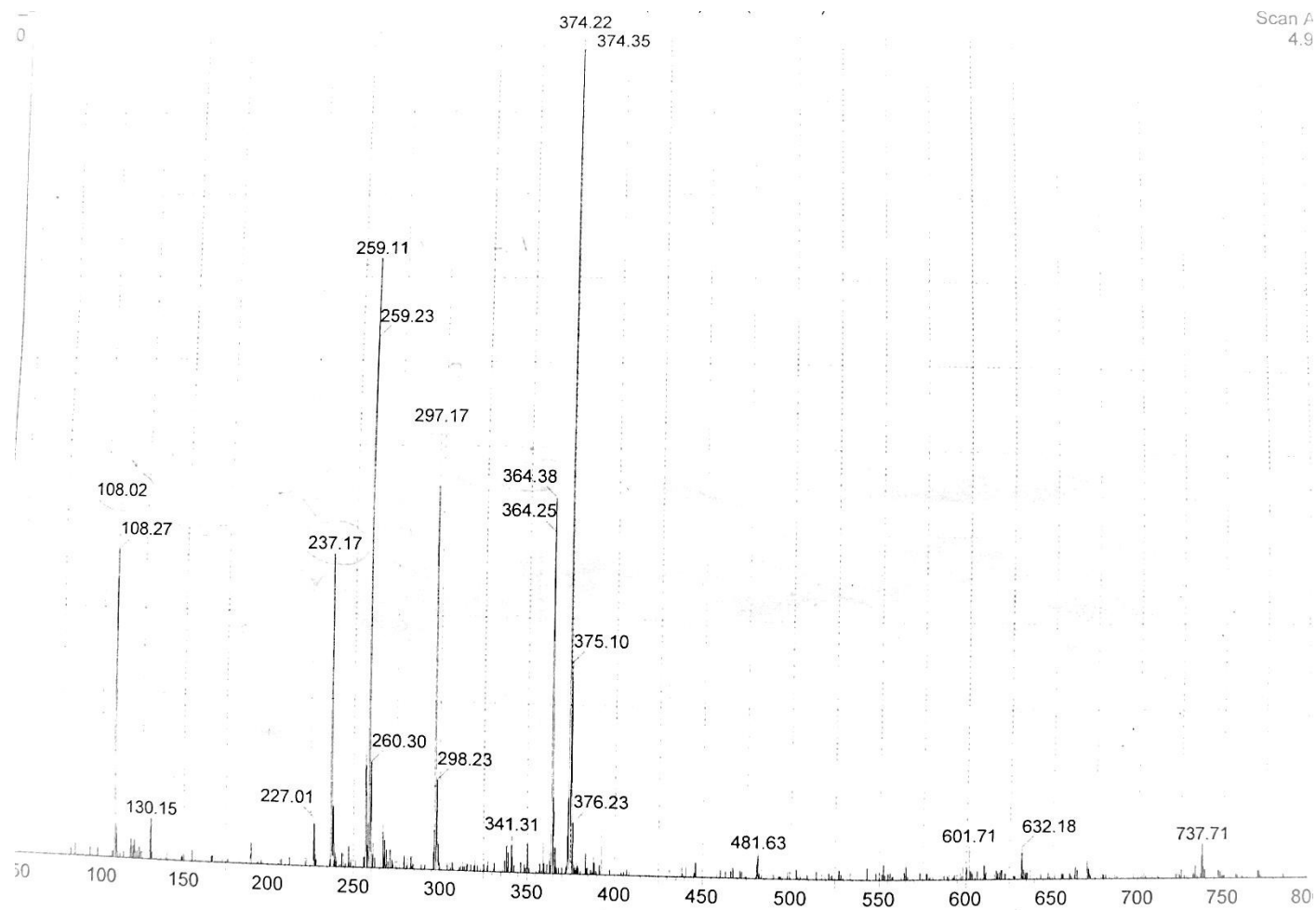


¹H NMR (500MHz, CDCl₃) δ = 8.11 (br s, 1 H), 8.08 (dd, *J* = 3.1, 8.9 Hz, 1 H), 7.95 (d, *J* = 2.7 Hz, 1 H), 7.39 (d, *J* = 8.2 Hz, 1 H), 7.27 (d, *J* = 7.9 Hz, 1 H), 7.21 (t, *J* = 7.2 Hz, 1 H), 7.09 - 7.01 (m, 3 H), 6.73 (d, *J* = 1.5 Hz, 1 H), 6.62 - 6.55 (m, 3 H), 5.69 (s, 1 H), 2.83 (s, 3 H).

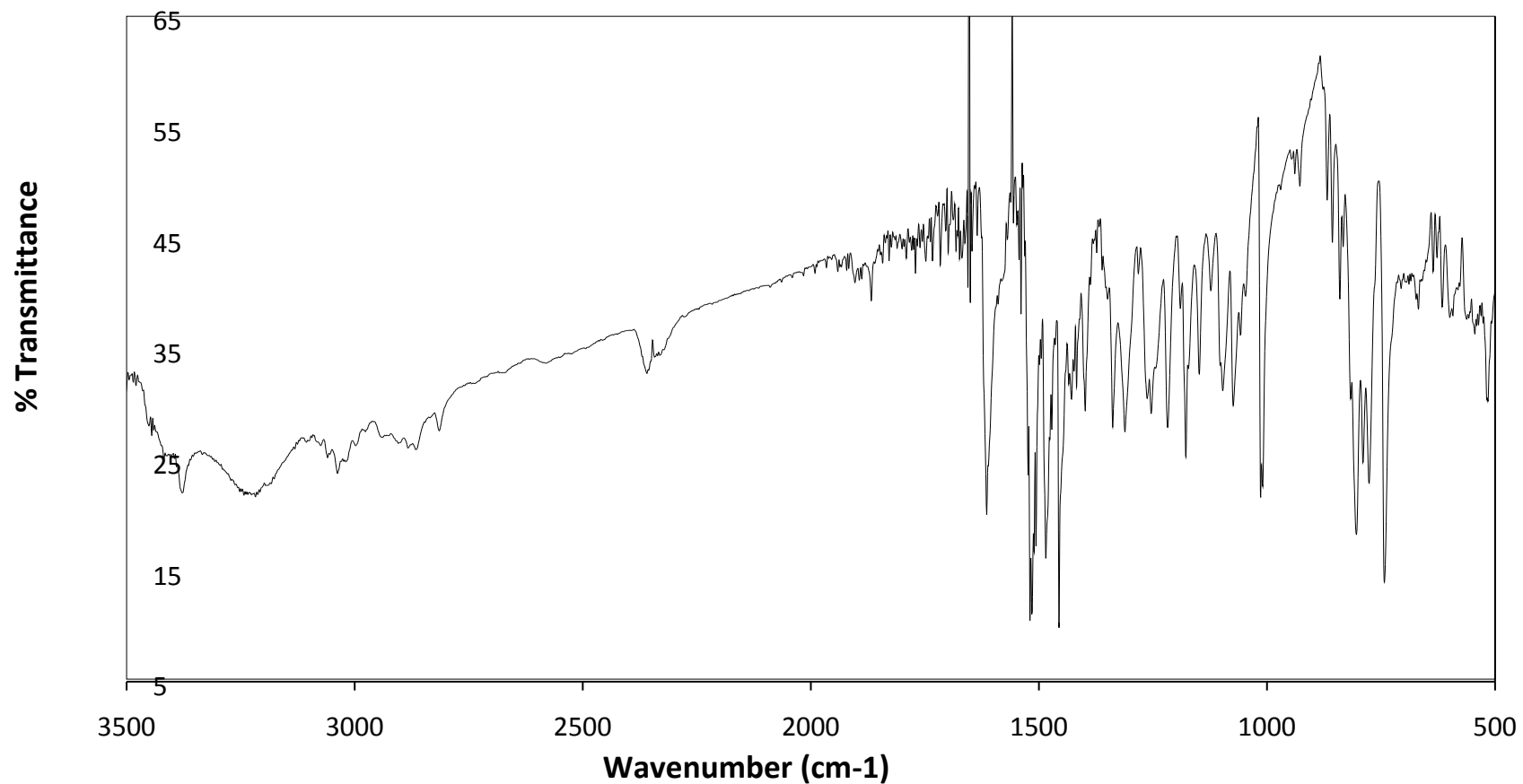


¹³C NMR (126 MHz, CDCl₃) δ = 148.21, 141.36, 136.96, 131.68, 129.91, 129.57, 126.58, 126.09, 124.12, 124.11, 122.53, 119.74, 119.41, 117.29, 116.28, 113.01, 111.46, 76.85, 42.03, 30.87.

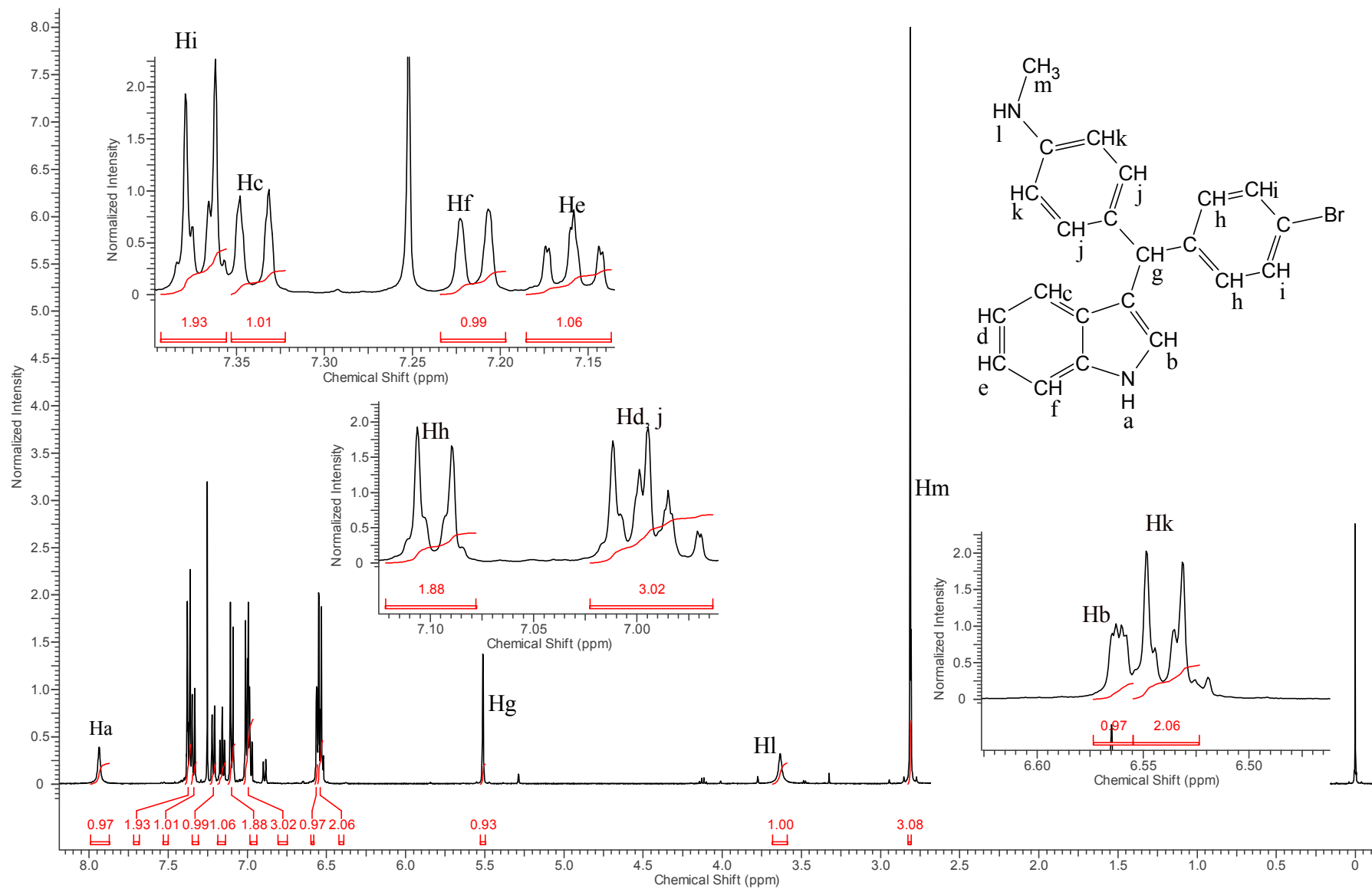
The mass spectrum of this compound was obtained using a direct probe. The following peaks were observed:



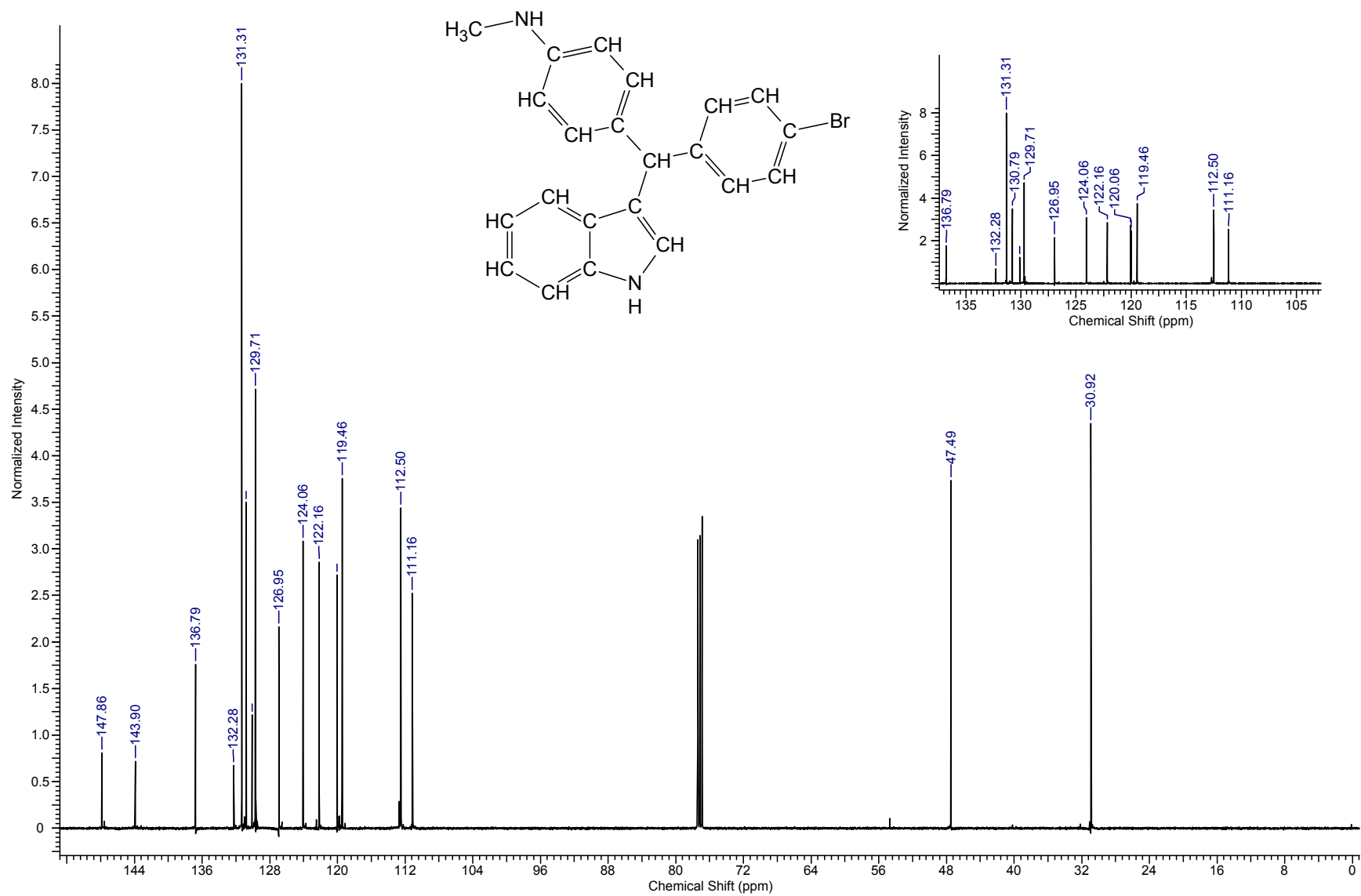
1.14 4-bromobenzaldehyde (1n) + indole (2a) + N-Methylaniline (3a): (6n) 4-[1H-indol-3-yl(4-bromophenyl)methyl]-N-methylaniline



IR (KBr, cm^{-1}): 3416 (w), 3379 (m), 3226 (br, m), 3099 (m), 3074 (m), 3059 (m), 3037 (m), 3018 (m), 2997 (m), 2985 (m), 2937 (m), 2899 (m), 2883 (m), 2866 (m), 2814 (m), 1614 (m), 1519 (s), 1485 (s), 1456 (s), 1398 (w), 1338 (m), 1311 (m), 1263 (m), 1253 (m), 1217 (m), 1178 (m), 1147 (m), 1097 (m), 1074 (m), 1014 (s), 840 (w), 804 (s), 788 (s), 775 (s), 742 (s).



¹H NMR (500MHz, CDCl₃) δ = 7.94 (br s, 1 H), 7.37 (d, J = 8.5 Hz, 2 H), 7.34 (d, J = 8.2 Hz, 1 H), 7.21 (d, J = 7.9 Hz, 1 H), 7.16 (ddd, J = 1.1, 7.0, 7.9 Hz, 1 H), 7.10 (d, J = 8.2 Hz, 2 H), 7.02 - 6.96 (m, 3 H), 6.56 (dd, J = 1.1, 2.3 Hz, 1 H), 6.54 (d, J = 8.5 Hz, 2 H), 5.51 (s, 1 H), 3.63 (br s, 1 H), 2.81 (s, 3 H).

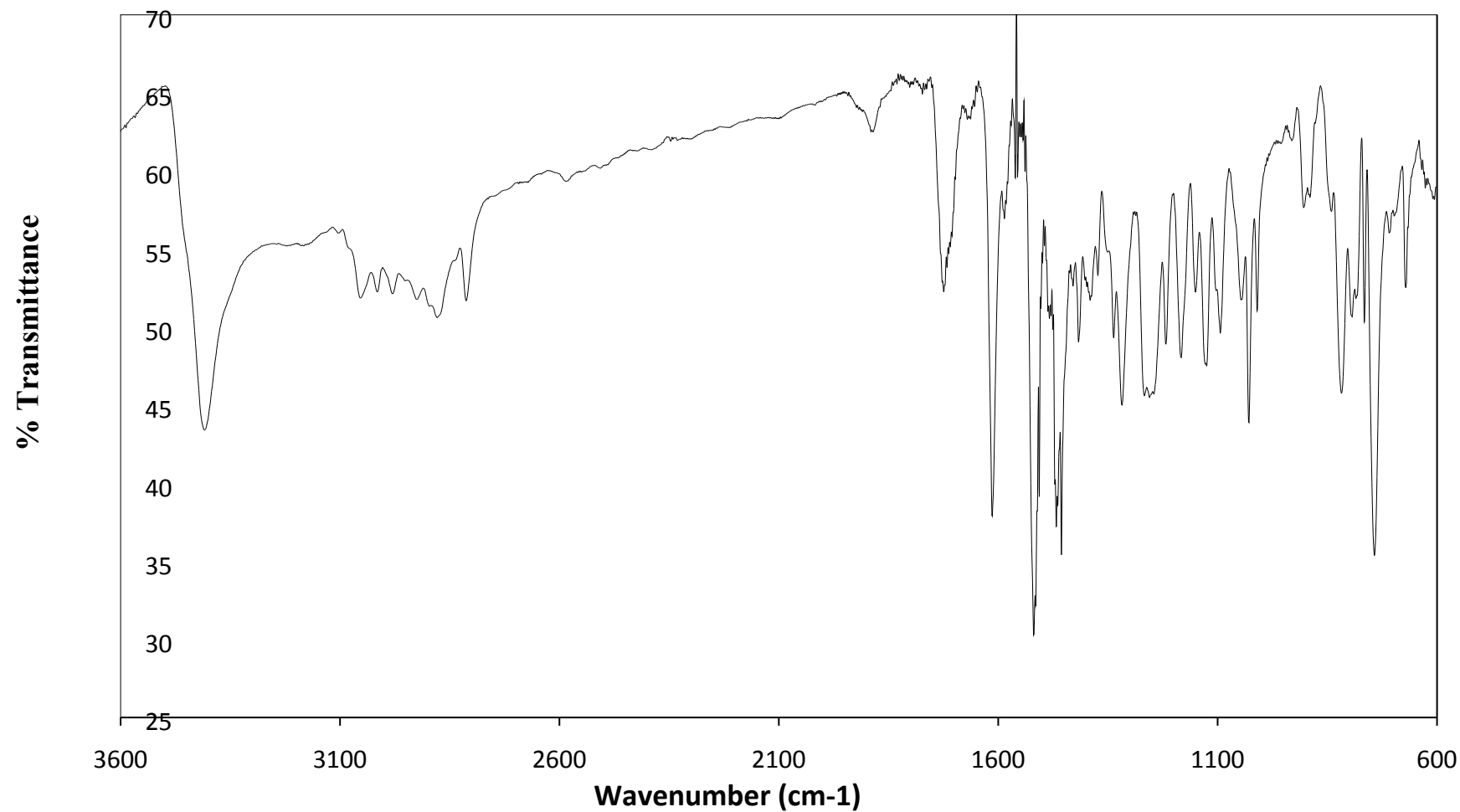


¹³C NMR (126 MHz, CDCl₃) δ = 147.86, 143.90, 136.79, 132.28, 131.31, 130.79, 130.09, 129.71, 126.95, 124.06, 122.16, 120.06, 120.00, 119.46, 112.50, 111.16, 47.49, 30.92.

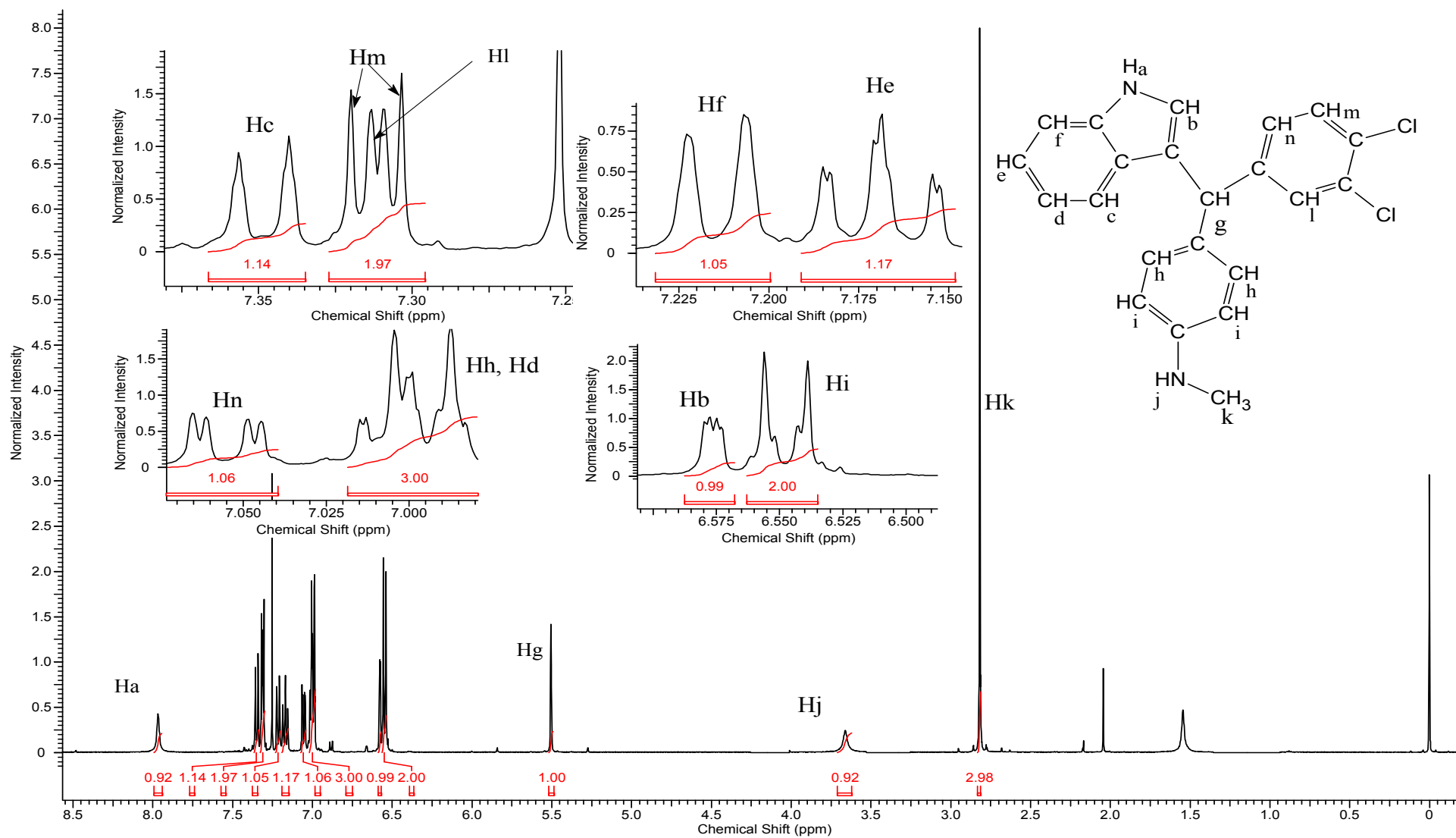


Formula Mass	Daughter number	Parent m/z	Cone Voltage (V)	Daughters	Collision Energy (eV)	Ion Mode
391.32	1	393.05	36	221.12	46	ES+
	2	393.05	36	377.99	22	ES+
	3	393.05	36	285.96	26	ES+
	4	393.05	36	204.02	66	ES+
	5	393.05	36	276.08	20	ES+

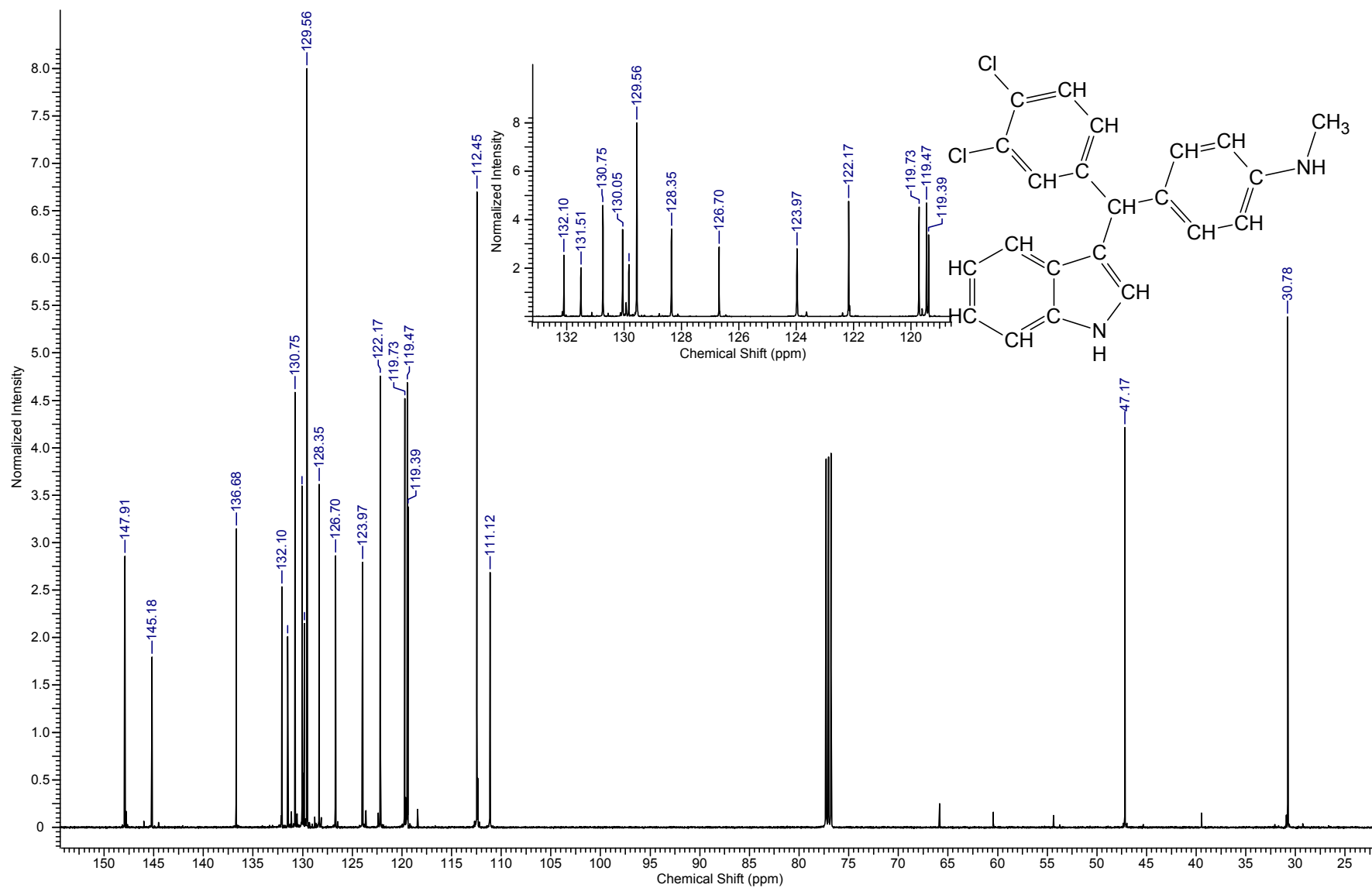
1.15 3,4-dichlorobenzaldehyde (1o) + indole (2a) + N-methylaniline (3a): (6o) 4-[1H-indol-3-yl(3,4-dichlorophenyl)methyl]-N-methylaniline



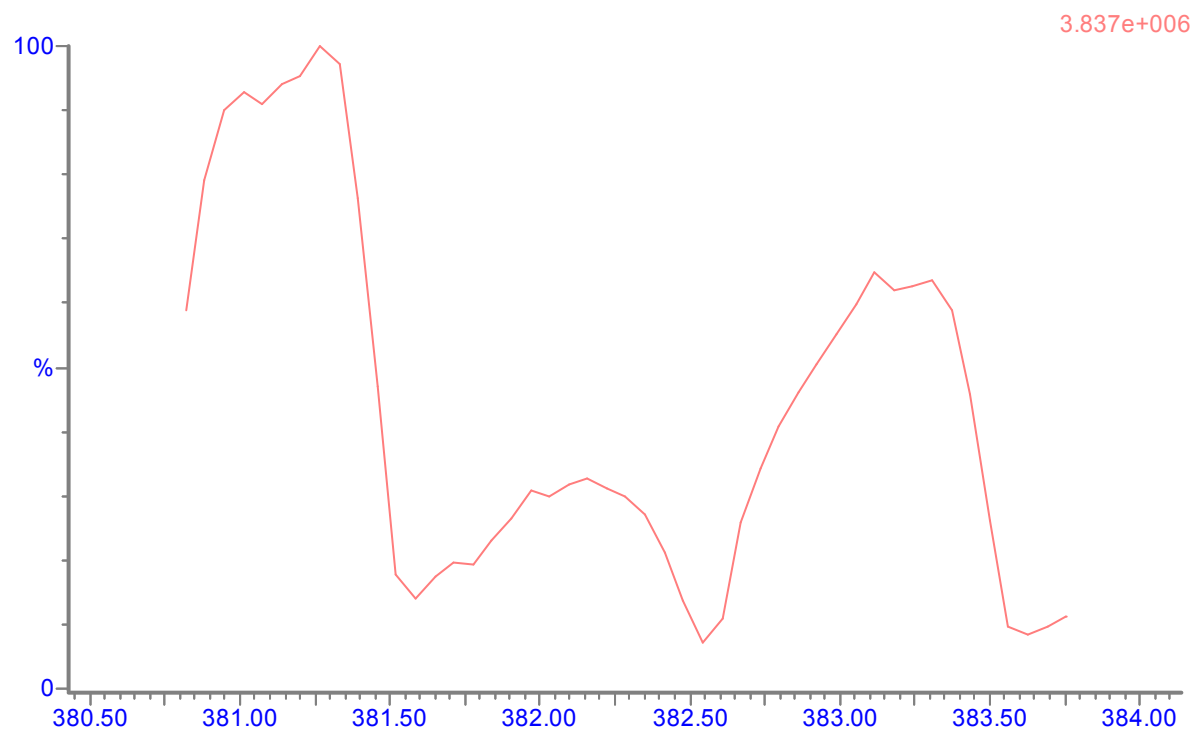
IR (KBr, cm^{-1}): 3410 (br, m), 3053 (w), 3014 (w), 2978 (w), 2927 (w), 2877 (w), 2812 (w), 1724 (w), 1612 (s), 1519 (s), 1467 (s), 1456 (s), 1444 (w), 1336 (w), 1317 (m), 1255 (m), 1217 (w), 1182 (w), 1149 (w), 1124 (w), 1093 (w), 1045 (w), 1028 (m), 1024 (w), 904 (w), 889 (w), 842 (w), 817 (m), 742 (s).



¹H NMR (500 MHz, CDCl₃) δ = 7.97 (br s, 1 H), 7.38 (d, *J* = 8.2 Hz, 1 H), 7.31 (d, *J* = 8.2 Hz, 1 H), 7.31 (d, *J* = 1.8 Hz, 1H) 7.21 (d, *J* = 7.9 Hz, 1 H), 7.17 (ddd, *J* = 0.9, 7.0, 7.9 Hz, 1 H), 7.06 (dd, *J* = 1.8 Hz, 8.2 Hz, 1 H), 7.06 - 7.01 (m, 3 H), 6.61 (dd, *J* = 0.9, 2.4 Hz, 1 H), 6.55 (d, *J* = 8.5 Hz, 2 H), 5.54 (s, 1 H), 3.66 (br s 1H), 2.82 (s, 3 H).

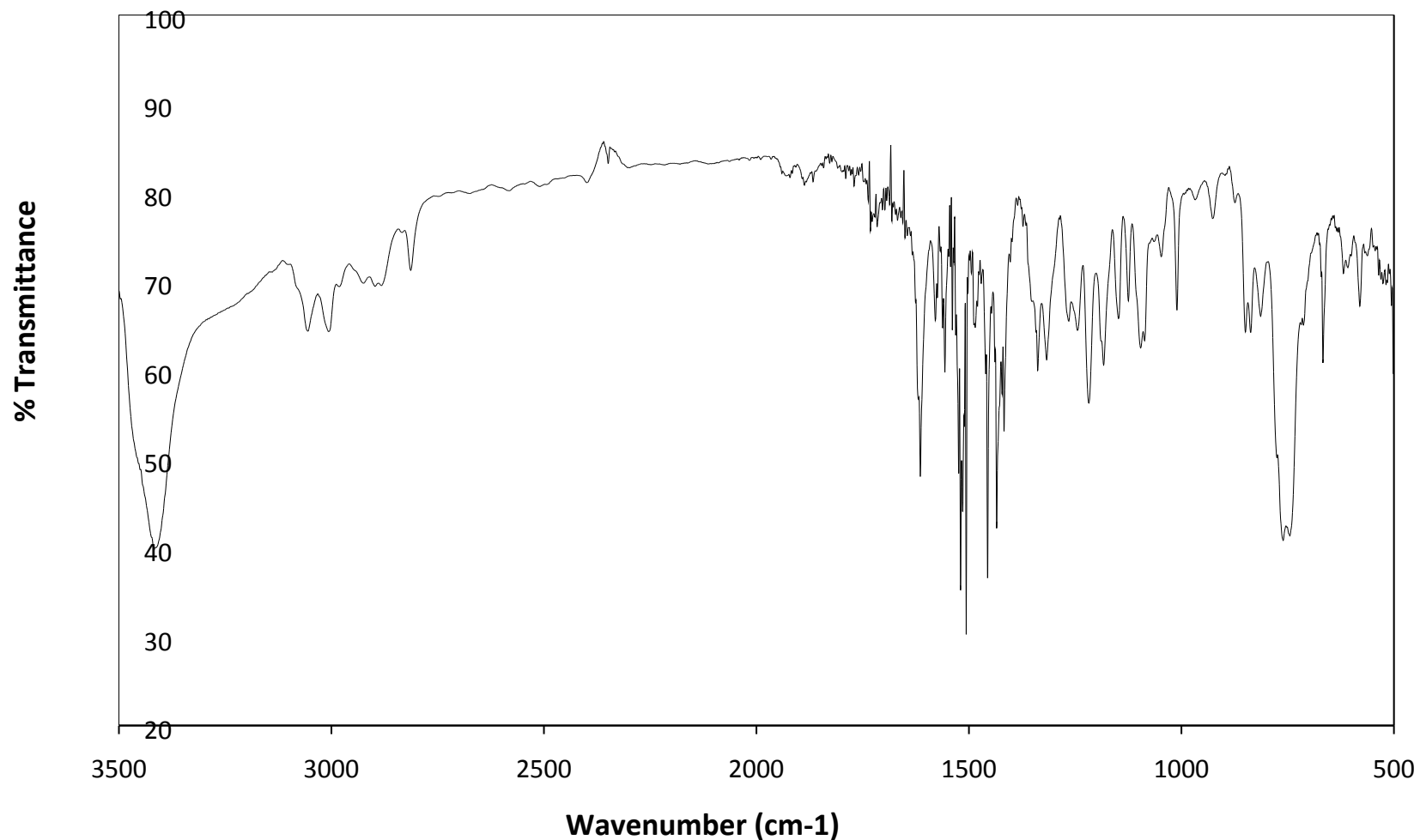


^{13}C NMR (126 MHz, CDCl_3) δ = 147.91, 145.18, 136.68, 132.10, 131.51, 130.75, 130.05, 129.84, 129.56, 128.35, 126.70, 123.97, 122.17, 119.73, 119.47, 119.39, 112.45, 111.12, 47.17, 30.78.

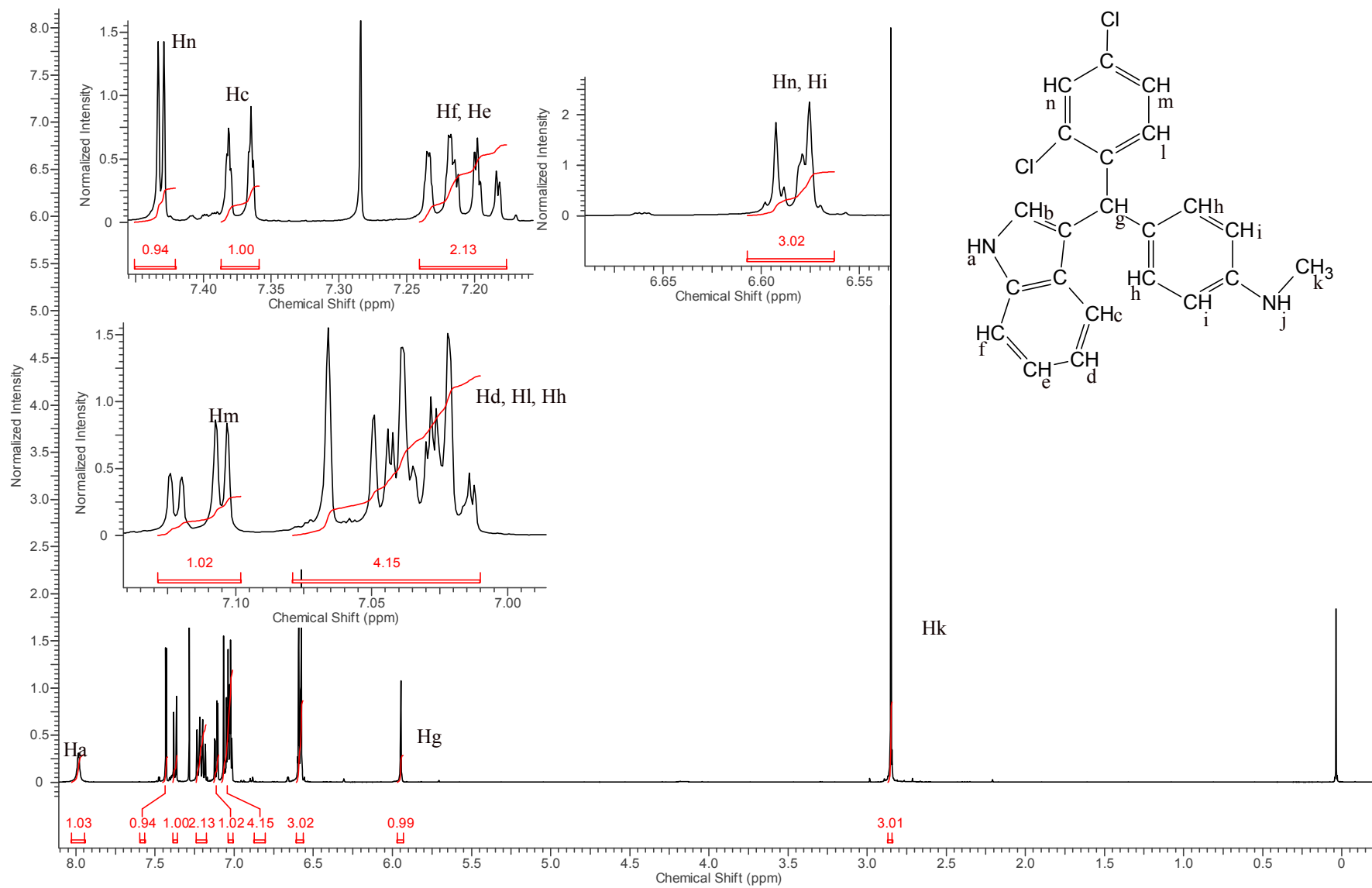


Formula Mass	Daughter number	Parent m/z	Cone Voltage (V)	Daughters	Collision Energy (eV)	Ion Mode
381.30	1	383.10	44	221.12	34	ES+
	2	383.10	44	368.03	24	ES+
	3	383.10	44	266.07	24	ES+
	4	383.10	44	276.01	22	ES+
	5	383.10	44	203.96	74	ES+

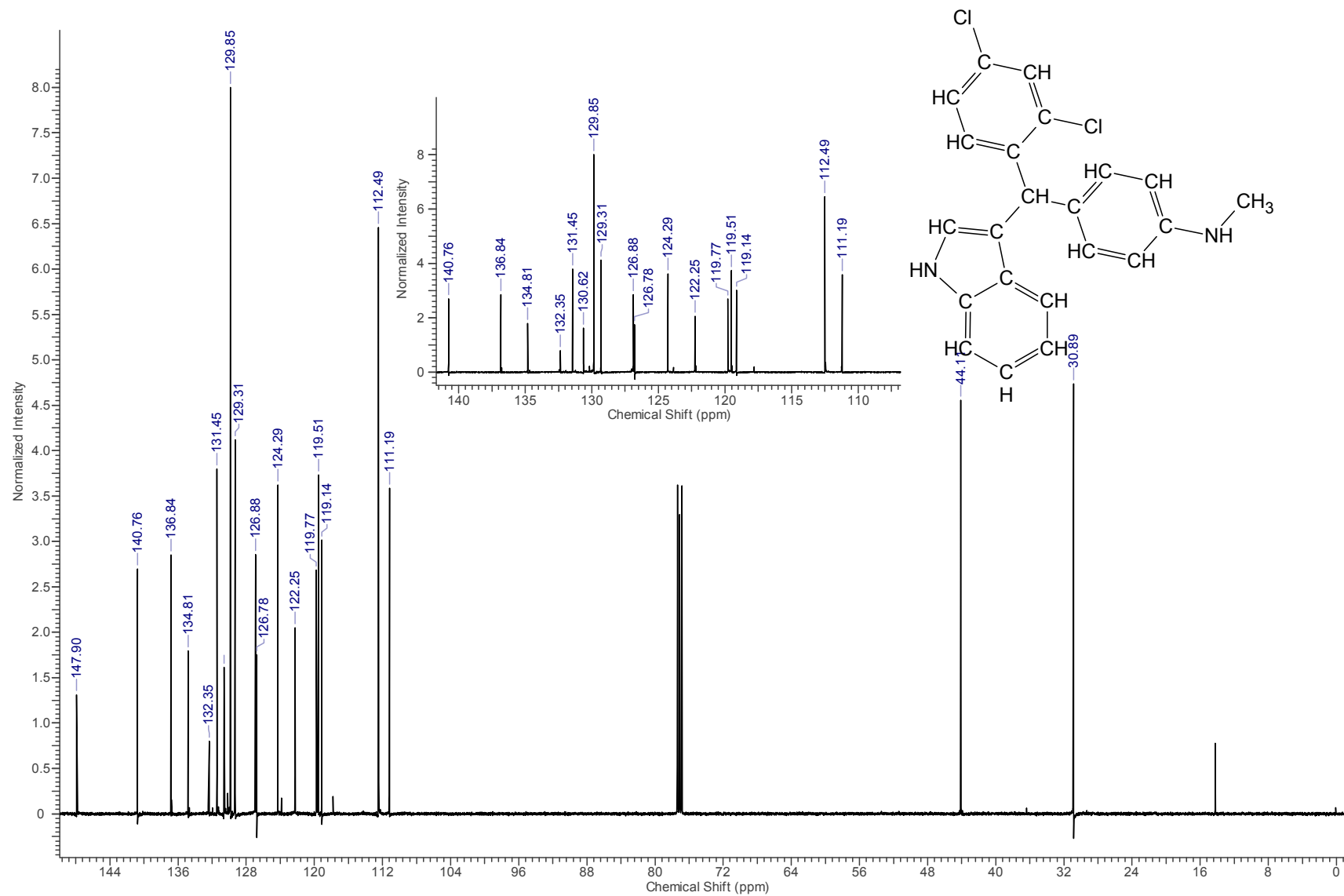
1.16 2,4-dichlorobenzaldehyde (1p) + indole (2a) + N-methylaniline (3a): (6p) 4-[1*H*-indol-3-yl(2,4-dichlorophenyl)methyl]-*N*-methylaniline



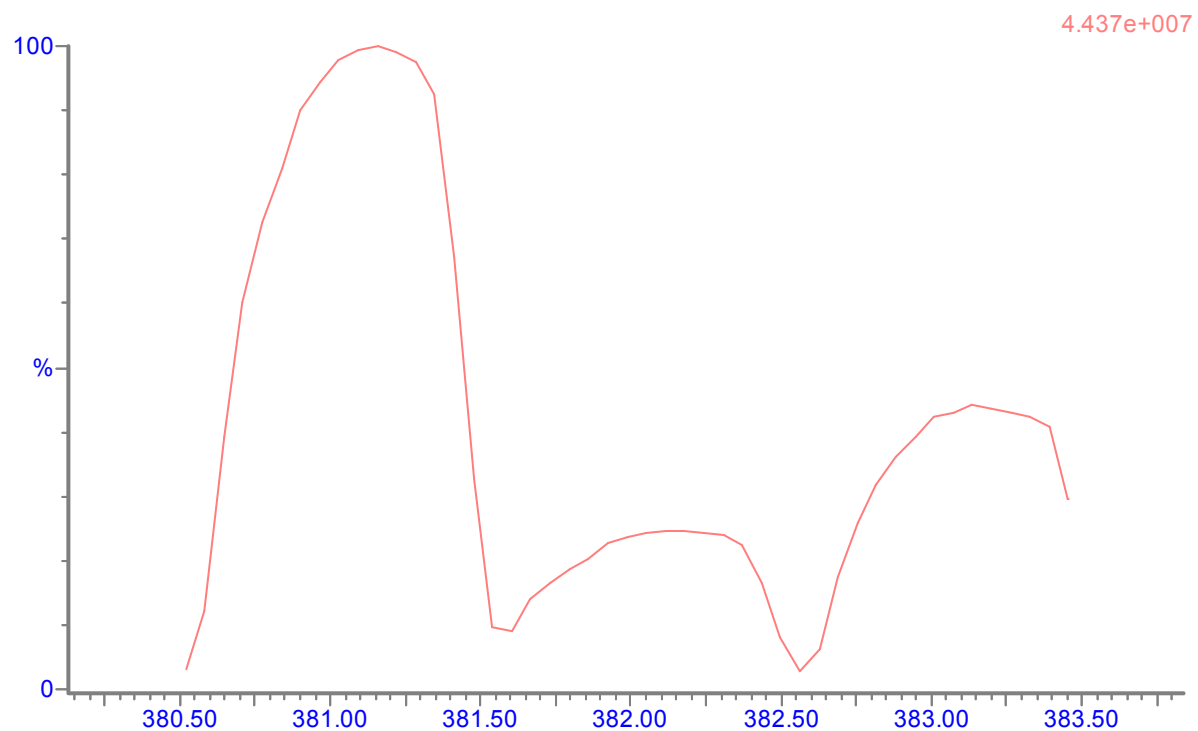
IR (KBr, cm^{-1}): 3417 (br, s), 3057 (w), 3005 (w), 2924 (w), 2897 (w), 2883 (w), 2814 (w), 1614 (m), 1556 (w), 1519 (s), 1506 (s), 1456 (s), 1435 (s), 1417 (m), 1338 (w), 1317 (w), 1265 (w), 1244 (w), 1217 (w), 1182 (w), 1147 (w), 1124 (w), 1095 (w), 1047 (w), 1010 (w), 848 (w), 837 (w), 813 (w), 759 (s), 744 (s), 667 (w).



¹H NMR (500 MHz, CDCl₃) δ = 7.98 (br s, 1 H), 7.43 (d, *J* = 2.1 Hz, 1 H), 7.37 (d, *J* = 8.2 Hz, 1 H), 7.24 - 7.18 (m, 2 H), 7.11 (dd, *J* = 2.1, 8.2, Hz, 1 H), 7.08 - 7.01 (m, 4 H), 6.61 - 6.56 (m, 3 H), 5.95 (s, 1 H), 2.85 (s, 3 H).

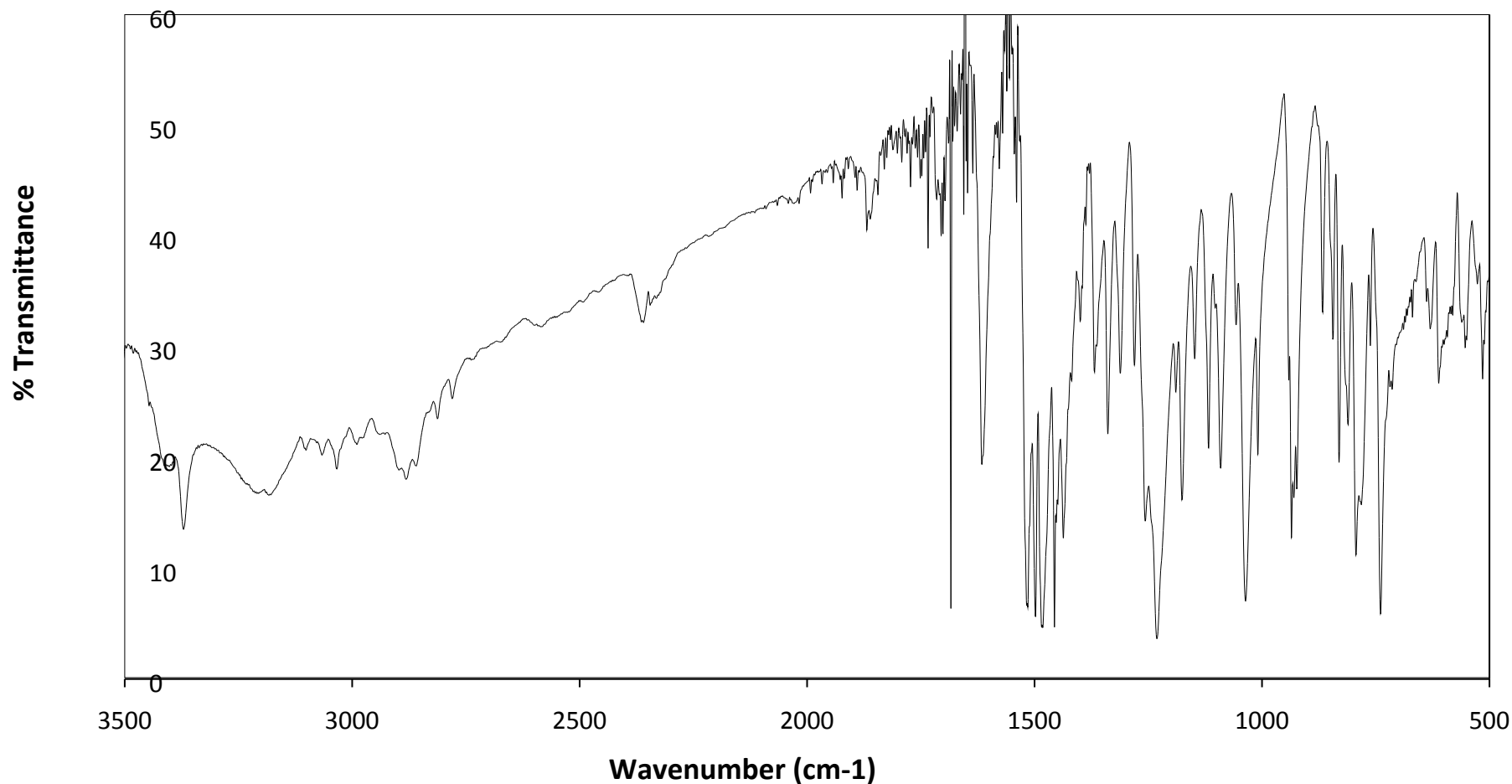


¹³C NMR (126 MHz, CDCl₃) δ = 147.90, 140.76, 136.84, 134.81, 132.35, 131.45, 130.62, 129.85, 129.31, 126.88, 126.78, 124.29, 122.25, 119.77, 119.51, 119.14, 112.49, 111.19, 44.11, 30.89.

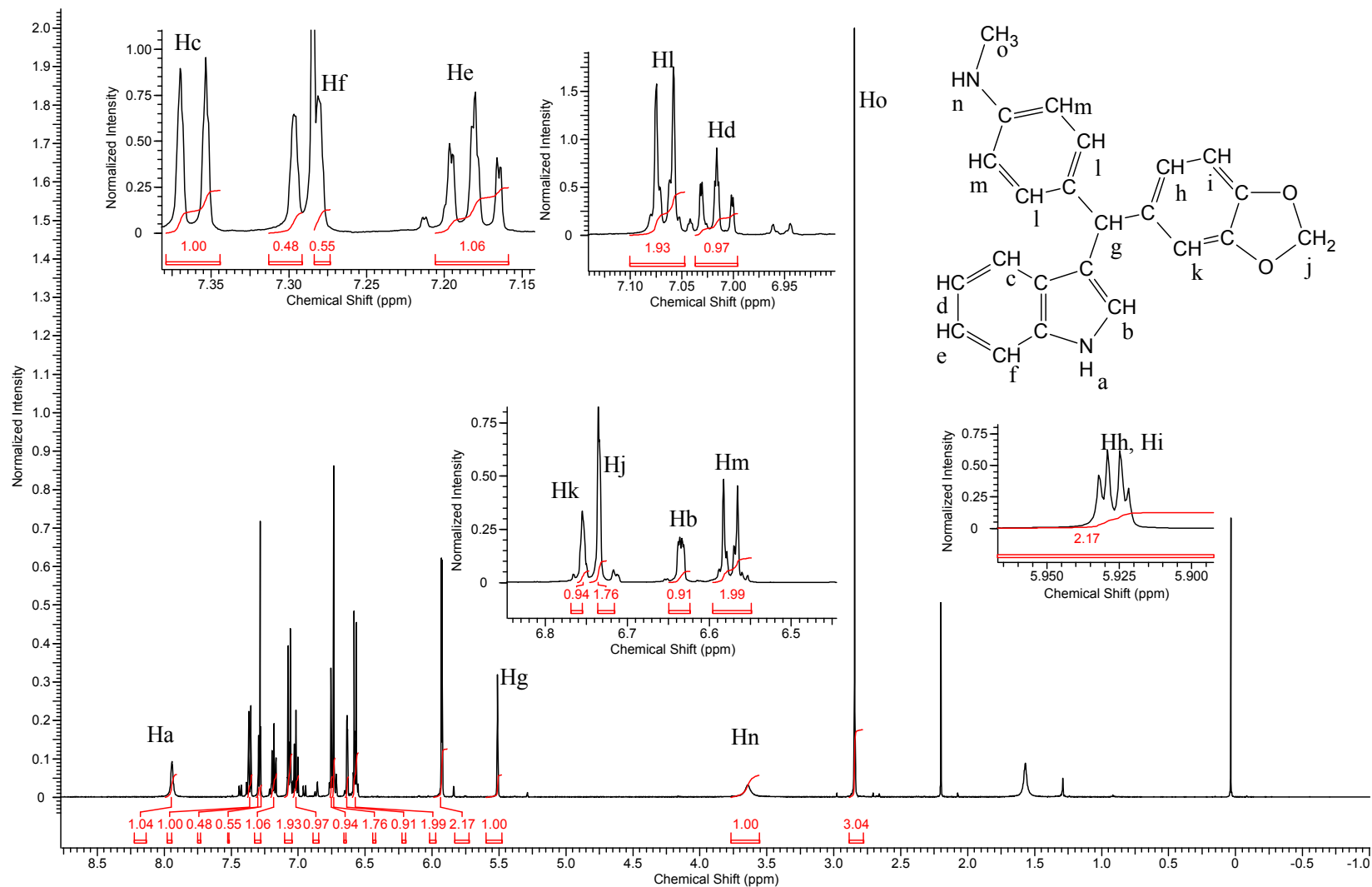


Formula Mass	Daughter number	Parent m/z	Cone Voltage (V)	Daughters	Collision Energy (eV)	Ion Mode
381.29	1	383.07	48	221.63	34	ES+
	2	383.07	48	221.12	38	ES+
	3	383.07	48	366.07	20	ES+
	4	383.07	48	238.09	42	ES+
	5	383.07	48	214.09	44	ES+

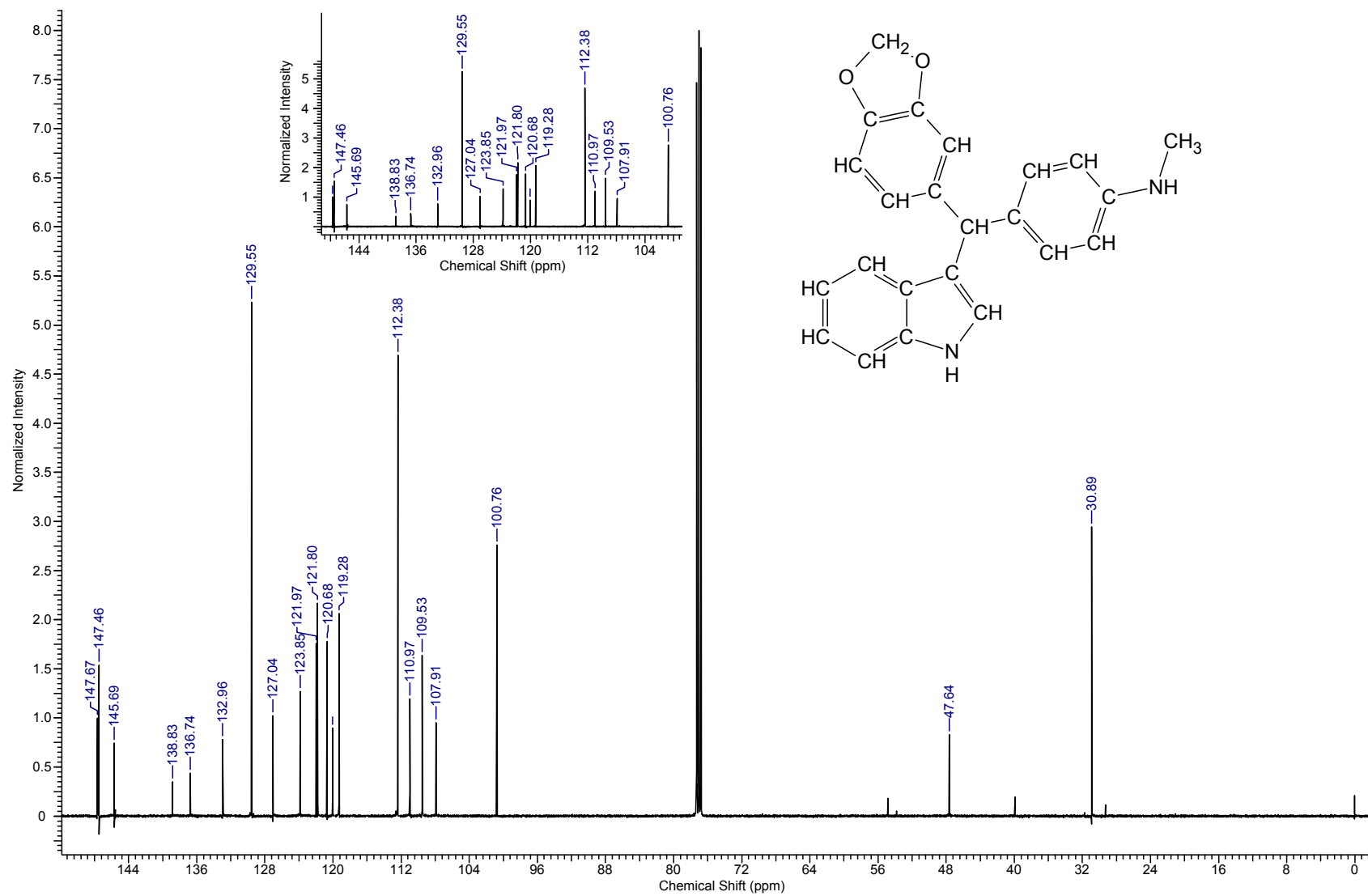
1.17 Piperonaldehyde (1q) + indole (2a) + N-methylaniline (3a): (6q) 4-[1,3-benzodioxol-5-yl(1H-indol-3-yl)methyl]-N-methylaniline



IR (KBr, cm^{-1}): 3412 (s), 3371 (m), 3217 (m), 3178 (m), 3101 (m), 3066 (m), 3034 (m), 2991 (m), 2943 (m), 2881 (m), 2858 (m), 2812 (m), 2781 (m), 1683 (s), 1616 (m), 1516 (s), 1498 (s), 1481 (s), 1456 (s), 1436 (s), 1367 (m), 1338 (m), 1311 (m), 1280 (m), 1255 (s), 1230 (s), 1176 (s), 1147 (w), 1116 (m), 1091 (m), 1035 (s), 1008 (m), 935 (s), 866 (w), 831 (m), 810 (m), 792 (s), 738 (s), 611 (w).

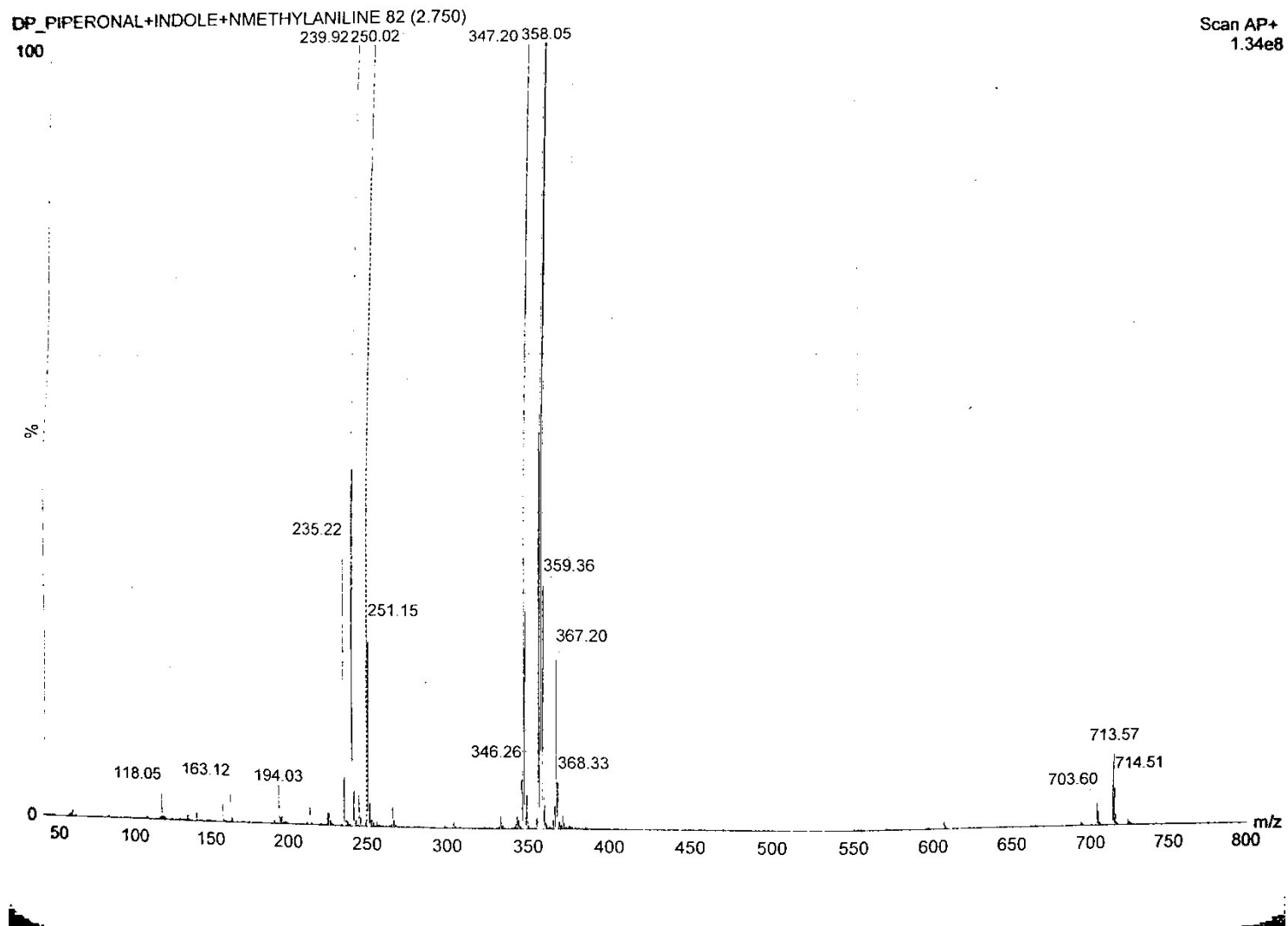


¹H NMR (500MHz, CDCl₃) δ = 7.94 (br s, 1 H), 7.36 (d, *J* = 8.0 Hz, 1 H), 7.30 (d, *J* = 7.9 Hz, 1 H), 7.18 (ddd, *J* = 0.9, 7.0, 7.9 Hz, 1 H), 7.07 (d, *J* = 8.5 Hz, 2 H), 7.02 (ddd, *J* = 0.9, 7.0, 7.9 Hz, 1 H), 6.75 (s, 1 H), 6.73 (s, 2 H), 6.63 (dd, *J* = 1.1, 2.3 Hz, 1 H), 6.58 (d, *J* = 8.5 Hz, 2 H), 5.93 (d, *J* = 1.53 Hz, 1H), 5.92 (d, *J* = 1.53 Hz, 1H), 5.51 (s, 1 H), 3.64 (br s, 1 H), 2.84 (s, 3 H).

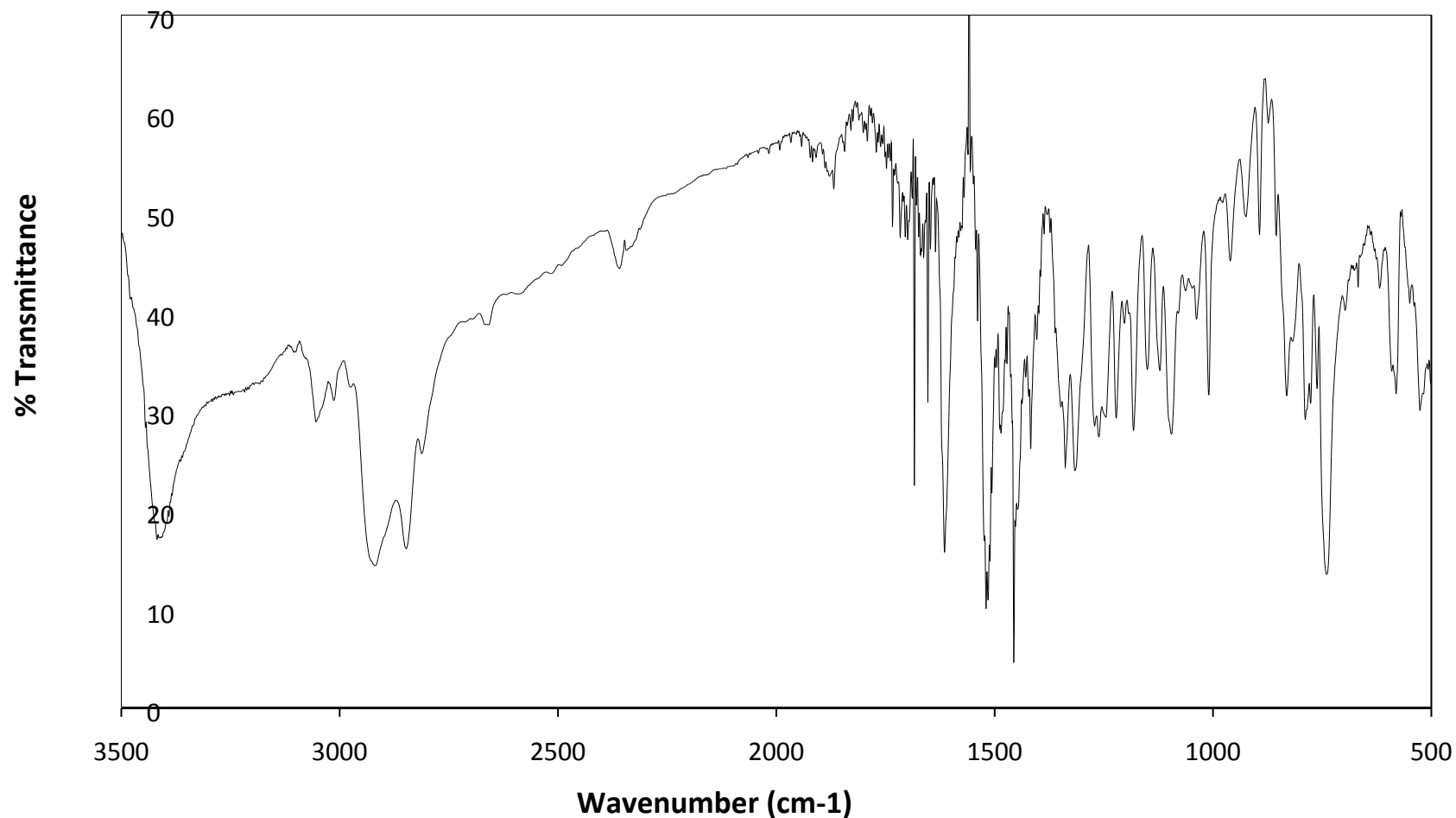


¹³C NMR (126 MHz, CDCl₃) δ = 147.67, 147.46, 145.69, 138.83, 136.74, 132.96, 129.55, 127.04, 123.85, 121.97, 121.80, 120.68, 120.05, 119.28, 112.38, 110.97, 109.53, 107.91, 100.76, 47.64, 30.89.

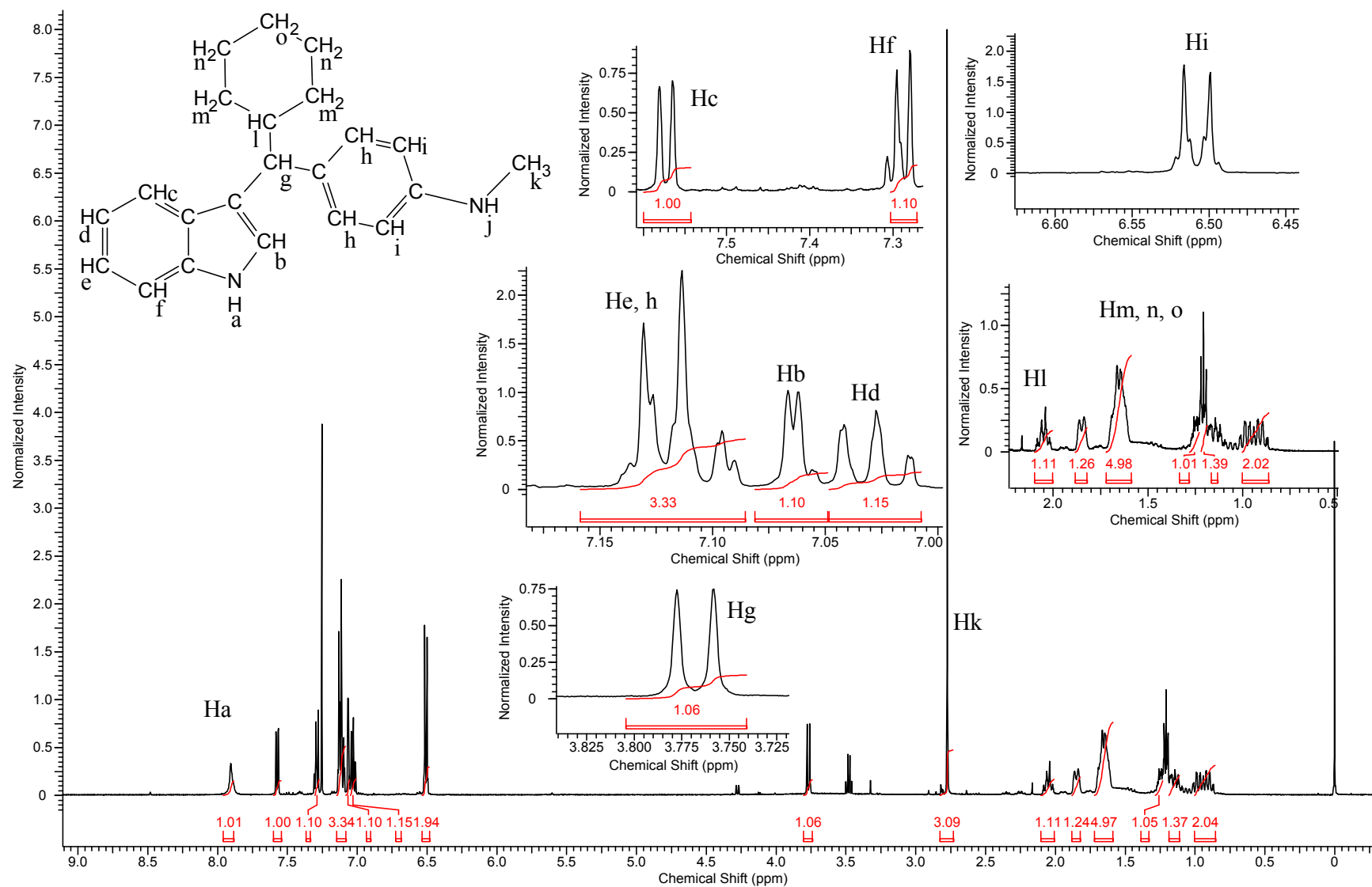
For this compound a direct probe was used to obtain the mass spectrum. The following peaks were obtained:



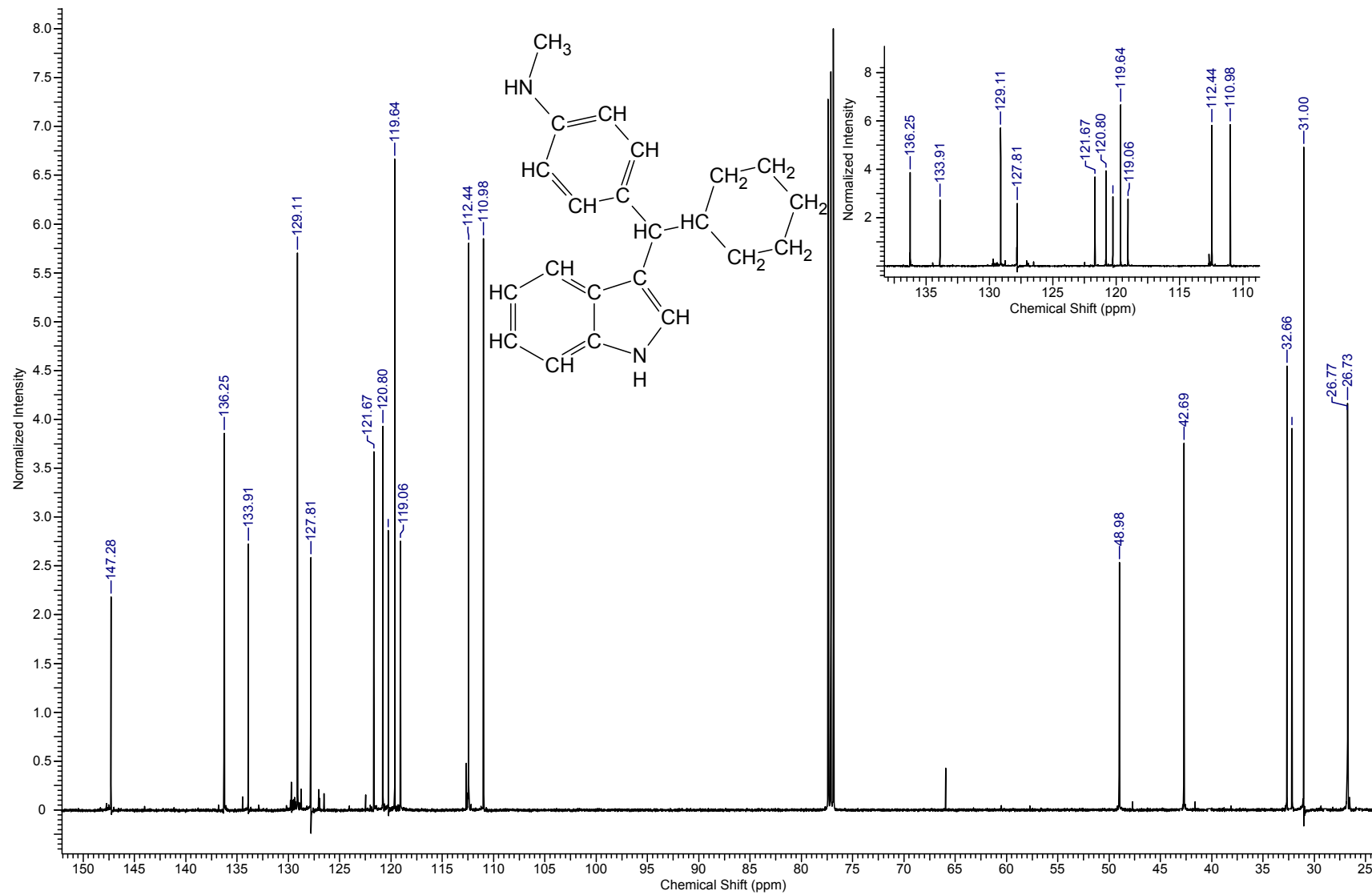
1.18 Cyclohexanecarboxaldehyde (1r) + indole (2a) + *N*-Methylaniline (3a): (6r) 4-[cyclohexyl(1*H*-indol-3-yl)methyl]-*N*-methylaniline



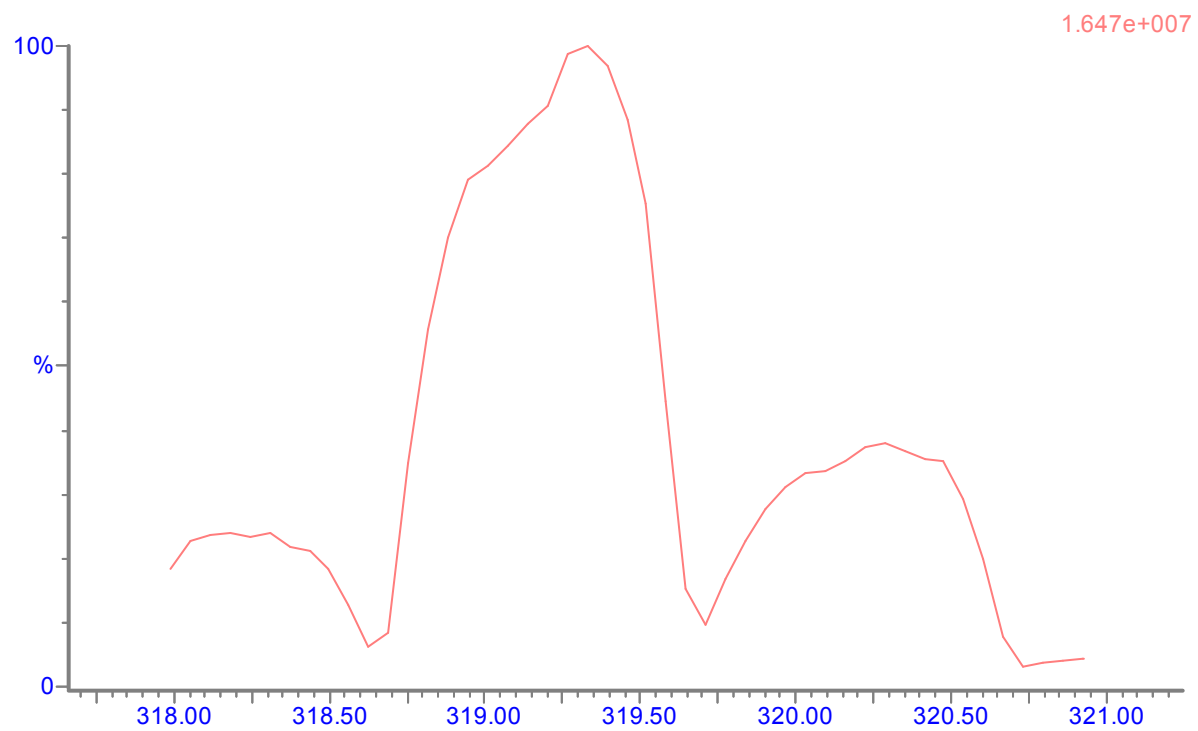
IR (KBr, cm⁻¹): 3417 (br, s), 3053 (m), 3012 (m), 2920 (s), 2846 (s), 2810 (m), 1683 (s), 1614 (s), 1519 (s), 1456 (s), 1417 (w), 1338 (m), 1315 (m), 1261 (m), 1220 (w), 1182 (w), 1149 (w), 1122 (w), 1095 (w), 1008 (w), 960 (w), 923 (w), 831 (w), 788 (w), 738 (s), 617 (w).



¹H NMR (500MHz, CDCl₃) δ = 7.90 (br s, 1H), 7.57 (d, *J* = 7.9 Hz, 1 H), 7.29 (d, *J* = 7.9 Hz, 1 H), 7.15 - 7.08 (m, 3 H), 7.06 (d, *J* = 2.4 Hz, 1 H), 7.02 (t, *J* = 7.5 Hz, 1 H), 6.51 (d, *J* = 8.5 Hz, 2 H), 3.77 (d, *J* = 9.8 Hz, 1 H), 2.77 (s, 3 H), 2.10 – 2.01 (m, 1 H), 1.85 (d, *J* = 11.9 Hz, 1 H), 1.69 – 1.59 (m, 5 H), 1.28 – 1.23 (m, 1 H), 1.18 – 1.11 (m, 1 H), 1.00 - 0.89 (m, 2 H).

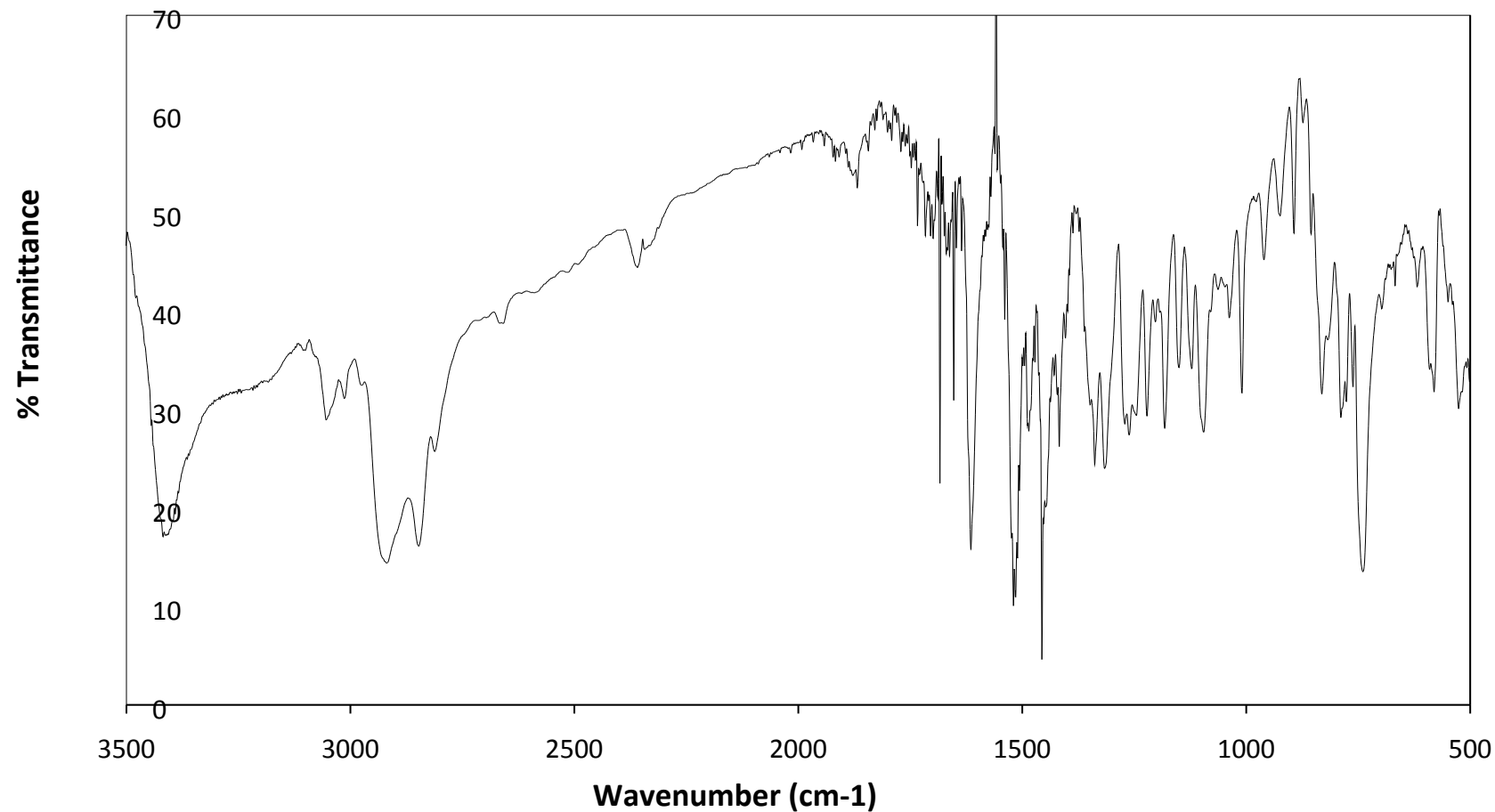


¹³C NMR (126 MHz, CDCl₃) δ = 147.28, 136.25, 133.91, 129.11, 127.81, 121.67, 120.80, 120.26, 119.64, 119.06, 112.44, 110.98, 48.98, 42.69, 32.66, 32.16, 31.00, 26.77, 26.73.

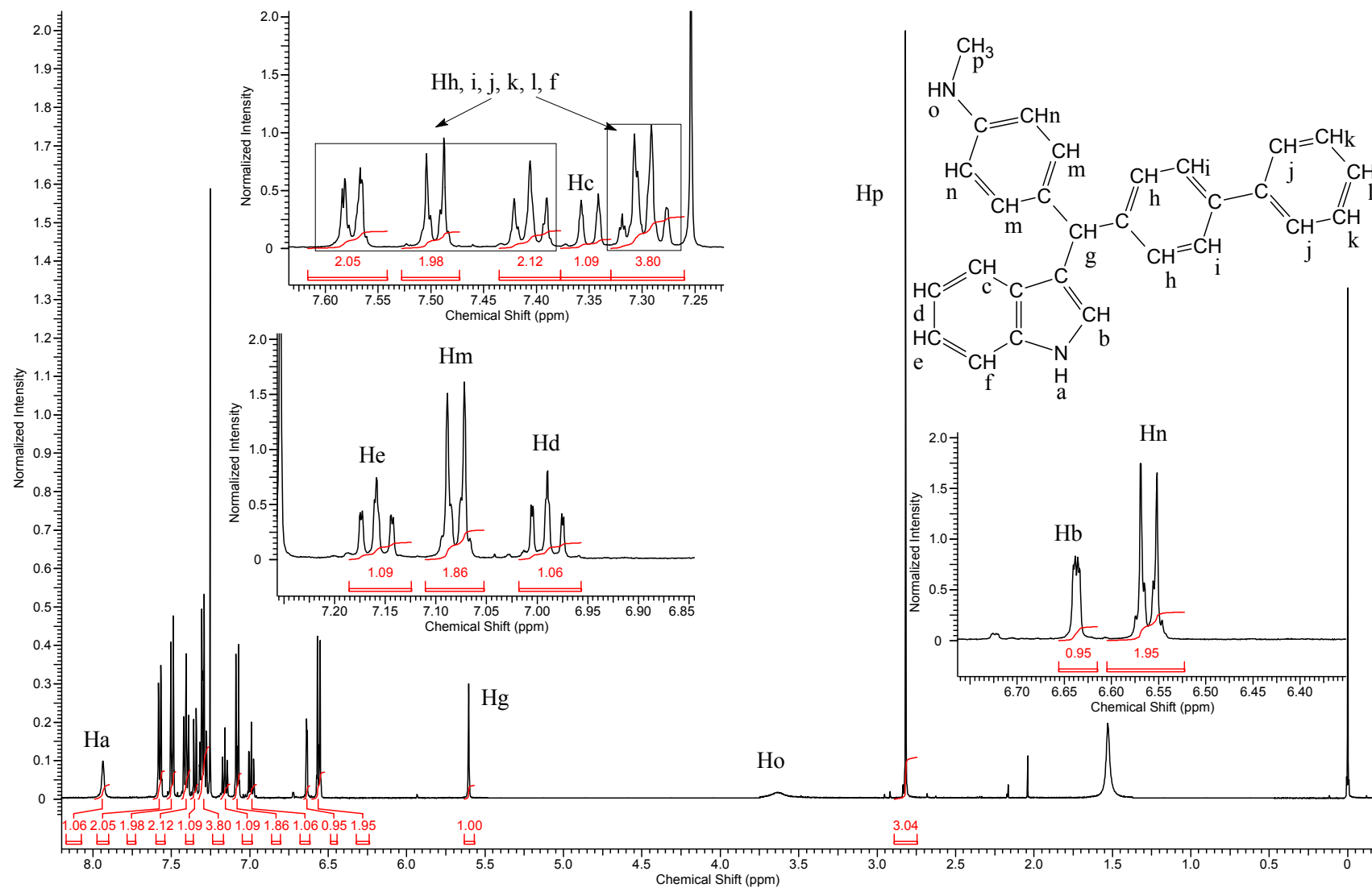


Formula Mass	Daughter number	Parent m/z	Cone Voltage (V)	Daughters	Collision Energy (eV)	Ion Mode
318.47	1	319.18	42	120.05	26	ES+
	2	319.18	42	130.07	22	ES+
	3	319.18	42	204.14	58	ES+
	4	319.18	42	77.06	76	ES+

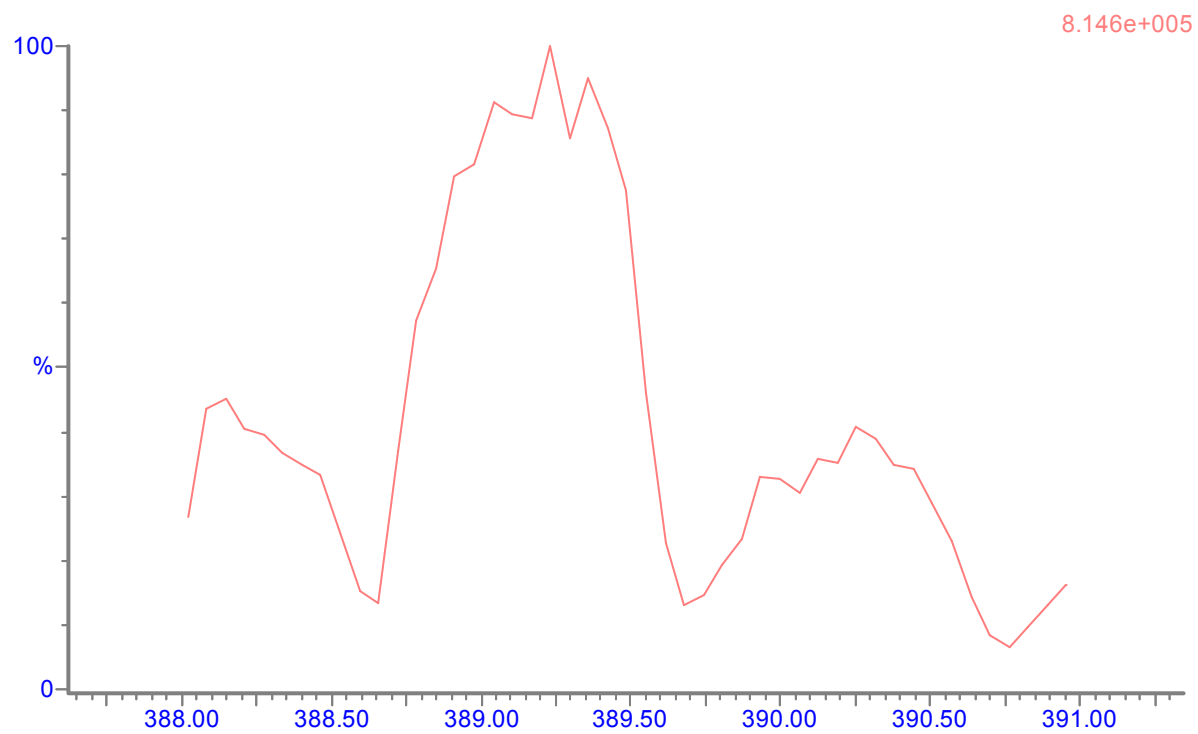
1.19 4-Biphenylcarboxaldehyde (1s) + indole (2a) + *N*-methylaniline (3a): (6s) 4-[1*H*-indol-3-yl(biphenyl-4-yl)methyl]-*N*-methylaniline



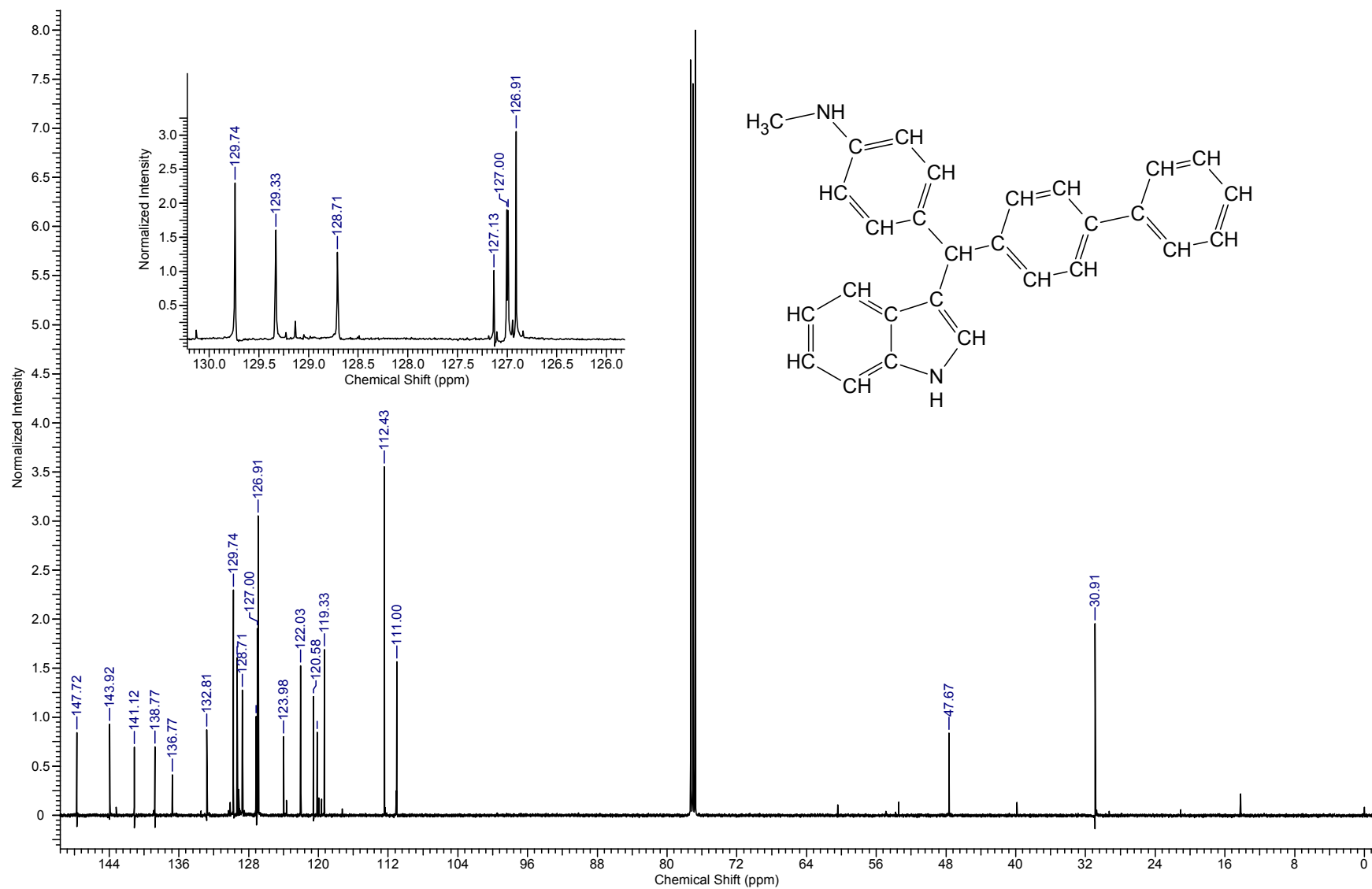
IR (KBr, cm^{-1}): 3417 (br, s), 3053 (m), 3012 (m), 2920 (s), 2846 (s), 2810 (m), 1683 (m), 1652 (m), 1614 (s), 1519 (s), 1485 (w), 1456 (s), 1417 (w), 1338 (m), 1315 (m), 1261 (m), 1220 (m), 1182 (m), 1149 (w), 1122 (w), 1095 (m), 1010 (w), 960 (w), 925 (w), 893 (w), 831 (m), 788 (m), 738 (s), 617 (w).



¹H NMR (500MHz, CDCl₃) δ = 7.94 (br s, 1 H), 7.62 - 7.54 (m, 2 H), 7.53 - 7.47 (m, 2 H), 7.44 - 7.38 (m, 2 H), 7.35 (d, J = 8.2 Hz, 1 H), 7.33 - 7.26 (m, 4 H), 7.16 (ddd, J = 0.9, 7.0, 7.9 Hz, 1 H), 7.08 (d, J = 8.5 Hz, 2 H), 6.99 (ddd, J = 0.9, 7.1, 8.2 Hz, 1 H), 6.64 (dd, J = 0.9, 2.1 Hz, 1 H), 6.56 (d, J = 8.5 Hz, 2 H), 5.60 (s, 1 H), 2.82 (s, 3 H).

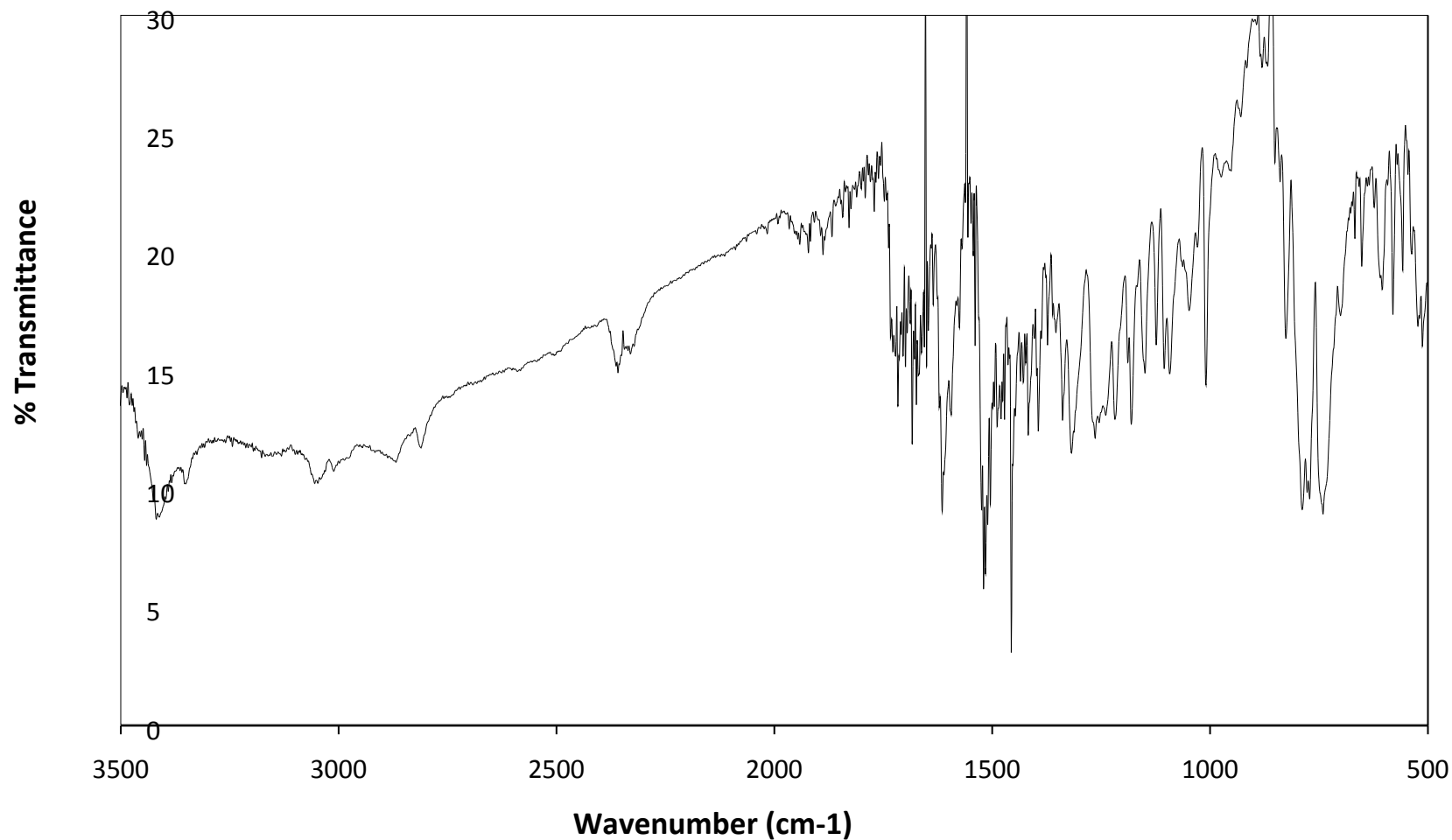


Formula Mass	Daughter number	Parent m/z	Cone Voltage (V)	Daughters	Collision Energy (eV)	Ion Mode
388.50	1	389.15	44	221.12	40	ES+
	2	389.15	44	373.96	28	ES+
	3	389.15	44	272.17	22	ES+
	4	389.15	44	280.37	46	ES+

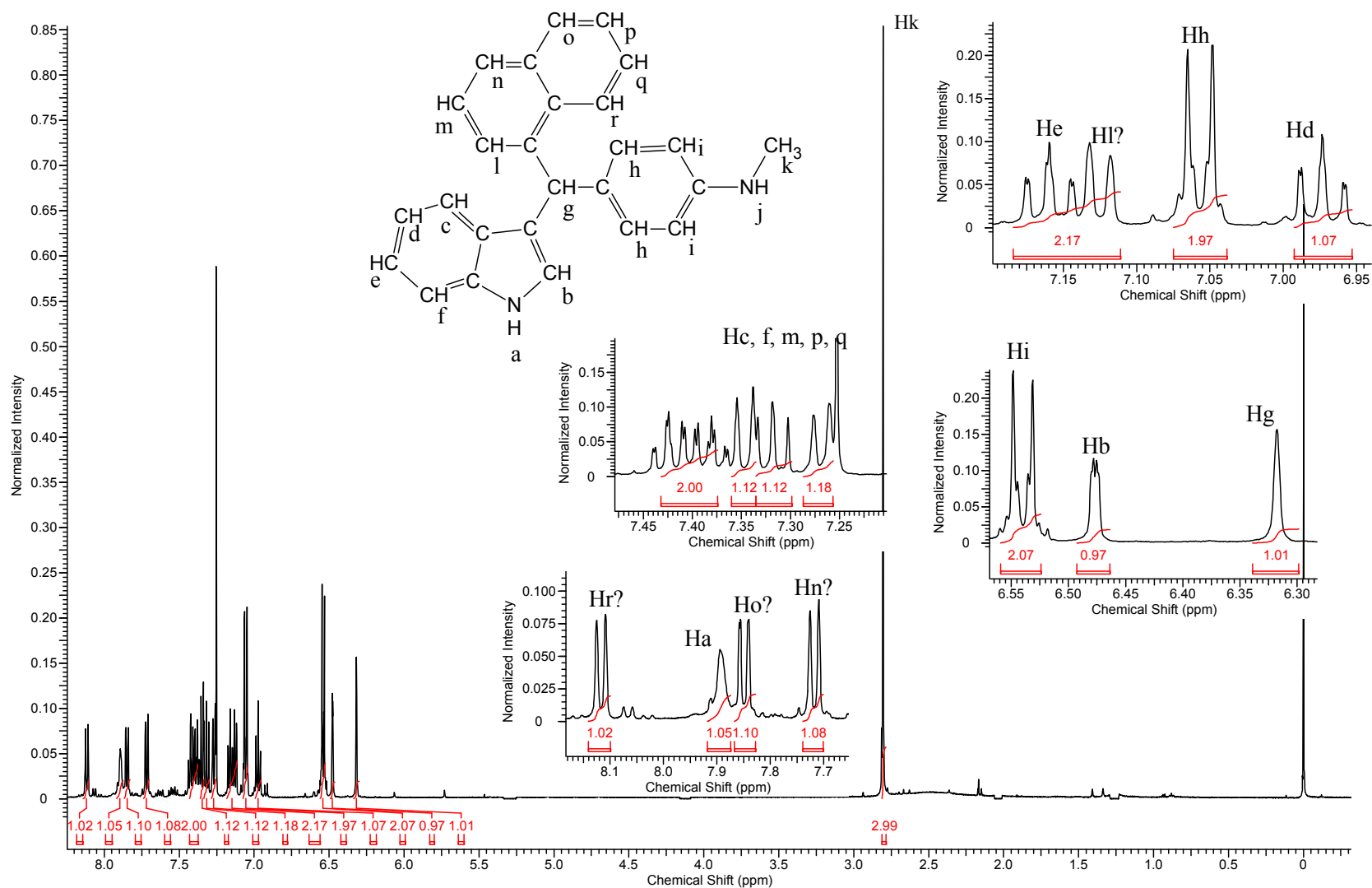


^{13}C NMR (126 MHz, CDCl_3) δ = 147.72, 143.92, 141.12, 138.77, 136.77, 132.81, 129.74, 129.33, 128.71, 127.13, 127.00, 126.99, 126.91, 123.98, 122.03, 120.58, 120.13, 119.33, 112.43, 111.00, 47.67, 30.91.

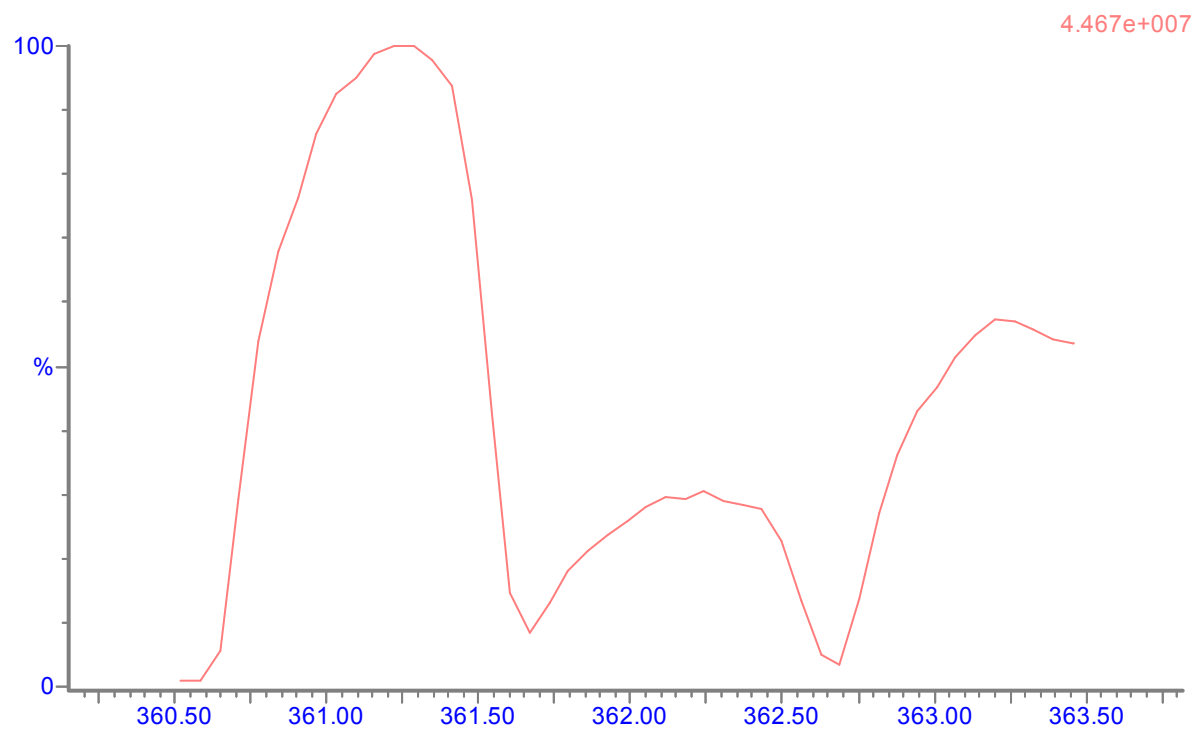
1.20 1-Naphthaldehyde (1u) + indole (2a) + N-methylaniline (3a): (6u) 4-[1*H*-indol-3-yl(naphthalen-1-yl)methyl]-*N*-methylaniline



IR (KBr, cm^{-1}): 3419 (s), 3350 (m), 3047 (m), 3012 (m), 2868 (m), 2810 (m), 1716 (m), 1683 (m), 1614 (m), 1519 (s), 1456 (s), 1417 (m), 1394 (m), 1338 (m), 1317 (m), 1263 (m), 1219 (m), 1180 (m), 1149 (m), 1105 (m), 1091 (m), 1049 (m), 1008 (w), 825 (m), 788 (m), 771 (m), 740 (s), 700 (m), 651 (w), 605 (w).



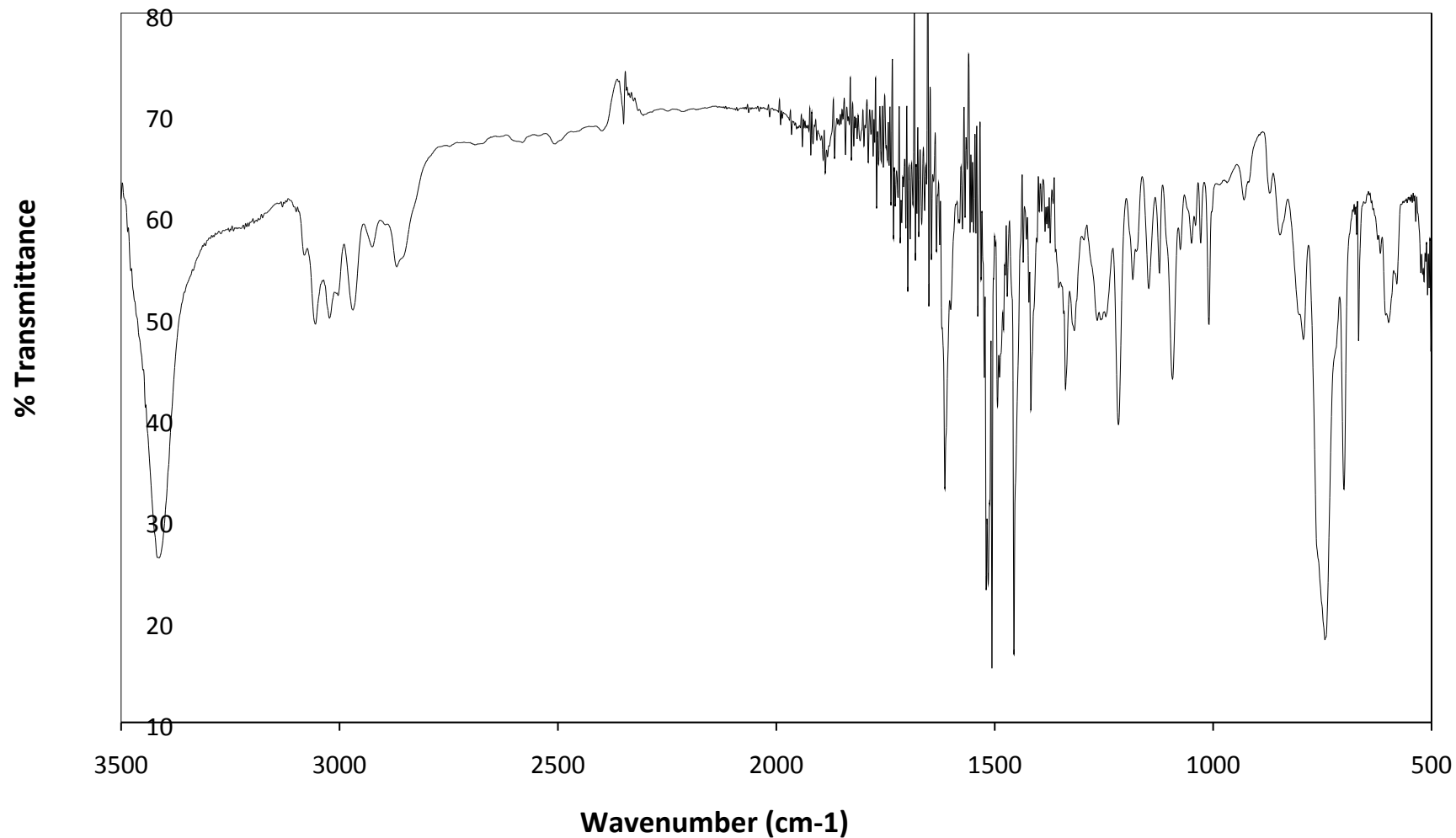
¹H NMR (500MHz, CDCl₃) δ = 8.12 (d, J = 8.5 Hz, 1 H), 7.91 - 7.88 (m, 1 H), 7.85 (dd, J = 1.1, 8.4 Hz, 1 H), 7.72 (d, J = 8.2 Hz, 1 H), 7.45 - 7.38 (m, 2 H), 7.36 - 7.34 (m, 1 H), 7.34 - 7.28 (m, 1 H), 7.26 (d, J = 7.9 Hz, 1 H), 7.16 (dt, J = 0.9, 7.6 Hz, 1 H), 7.13 (d, J = 7.0 Hz, 1 H), 7.05 (d, J = 8.5 Hz, 2 H), 6.97 (t, J = 7.5 Hz, 1 H), 6.55 (d, J = 8.5 Hz, 2 H), 6.48 (dd, J = 1.1, 2.3 Hz, 1 H), 6.32 (s, 1 H), 2.81 (s, 3 H).



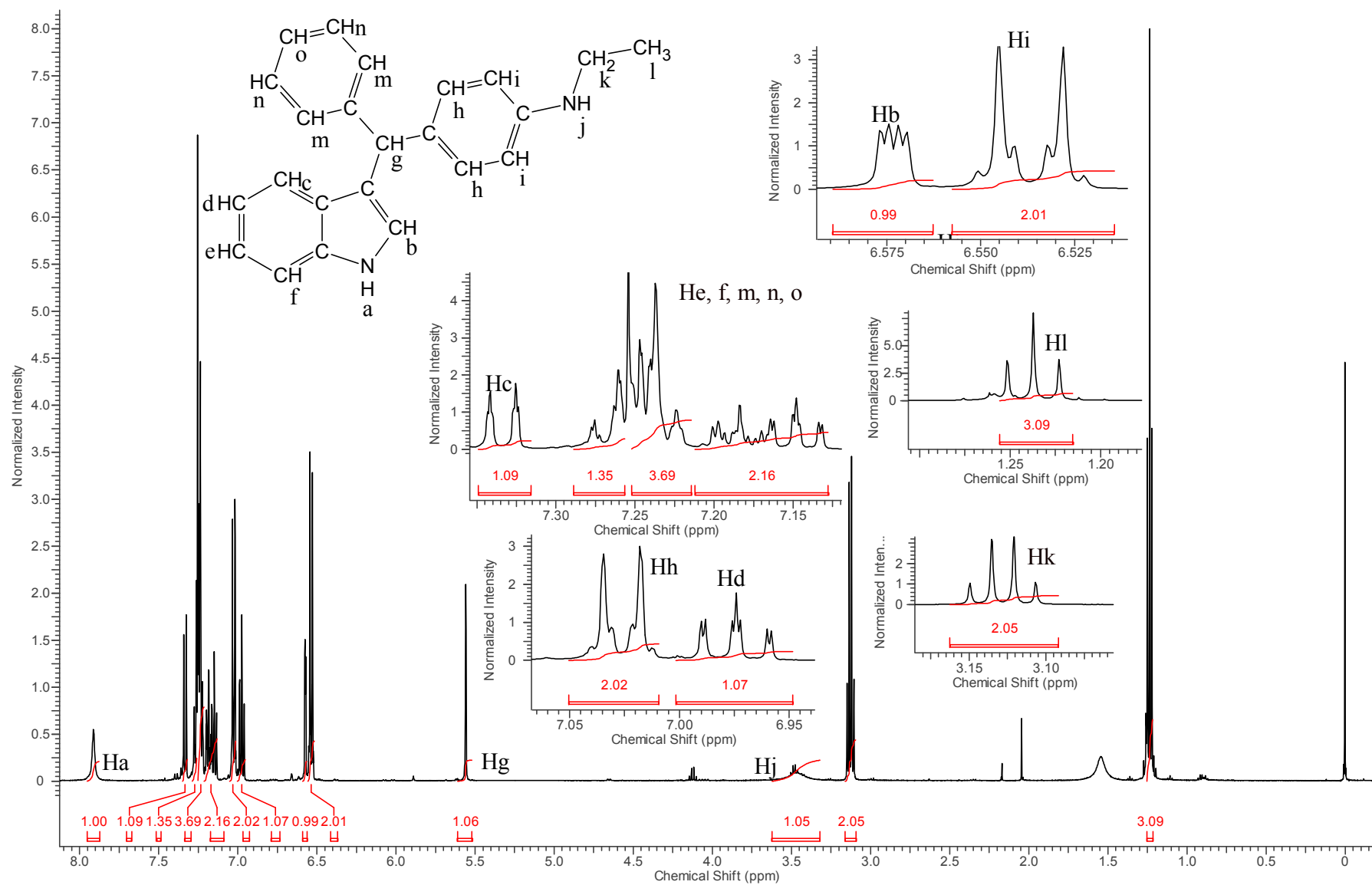
Formula Mass	Daughter number	Parent m/z	Cone Voltage (V)	Daughters	Collision Energy (eV)	Ion Mode
362.46	1	363.14	58	254.10	34	ES+
	2	363.14	58	244.15	32	ES+
	3	363.14	58	202.07	60	ES+
	4	363.14	58	229.06	48	ES+
	5	363.14	58	215.15	50	ES+

[2] Other Secondary Amines

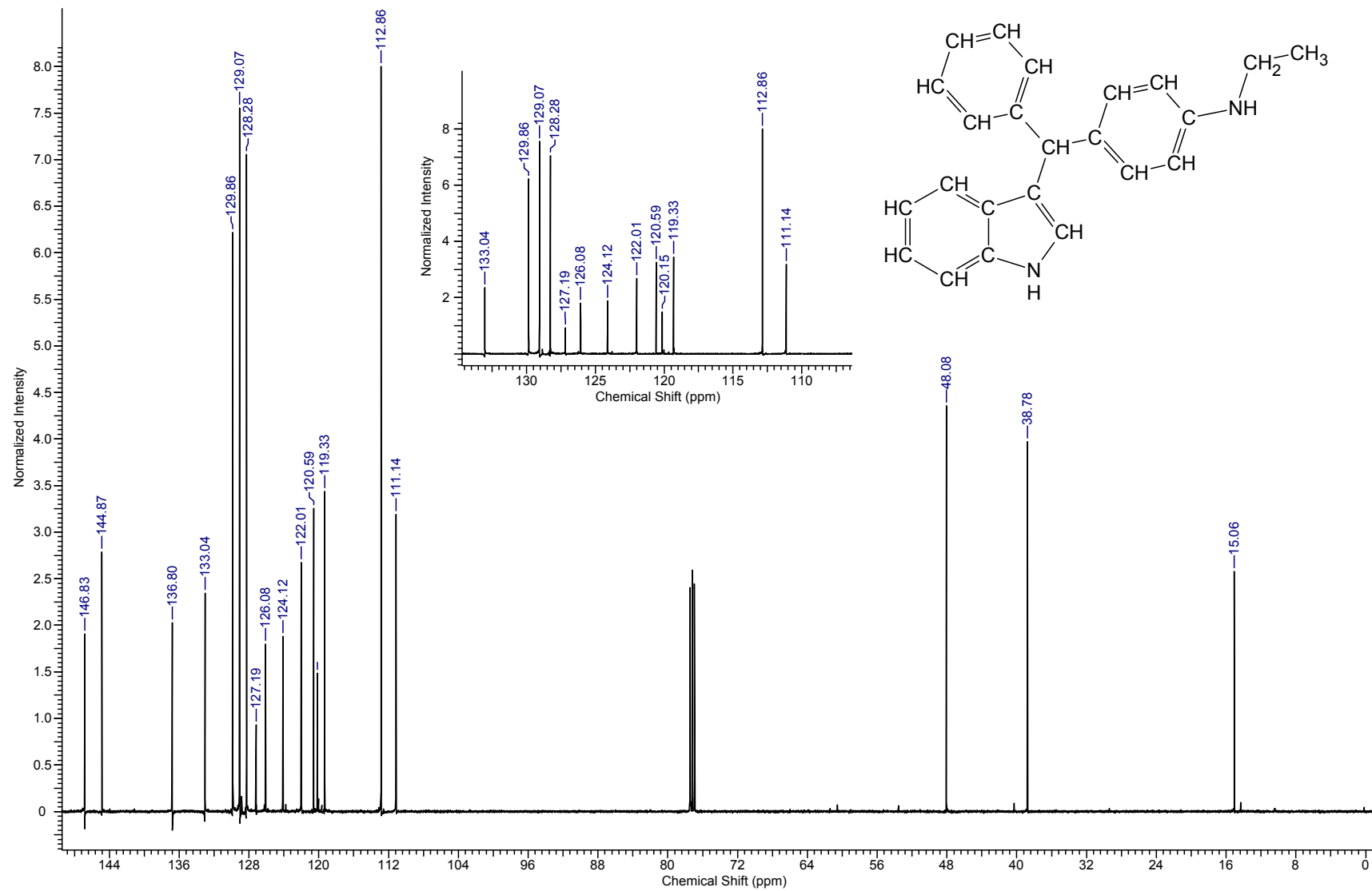
2.1 Benzaldehyde (1a) + indole (2a) + *N*-ethylaniline (3b): (6v) *N*-ethyl-4-[1*H*-indol-3-yl(phenyl)methyl]aniline



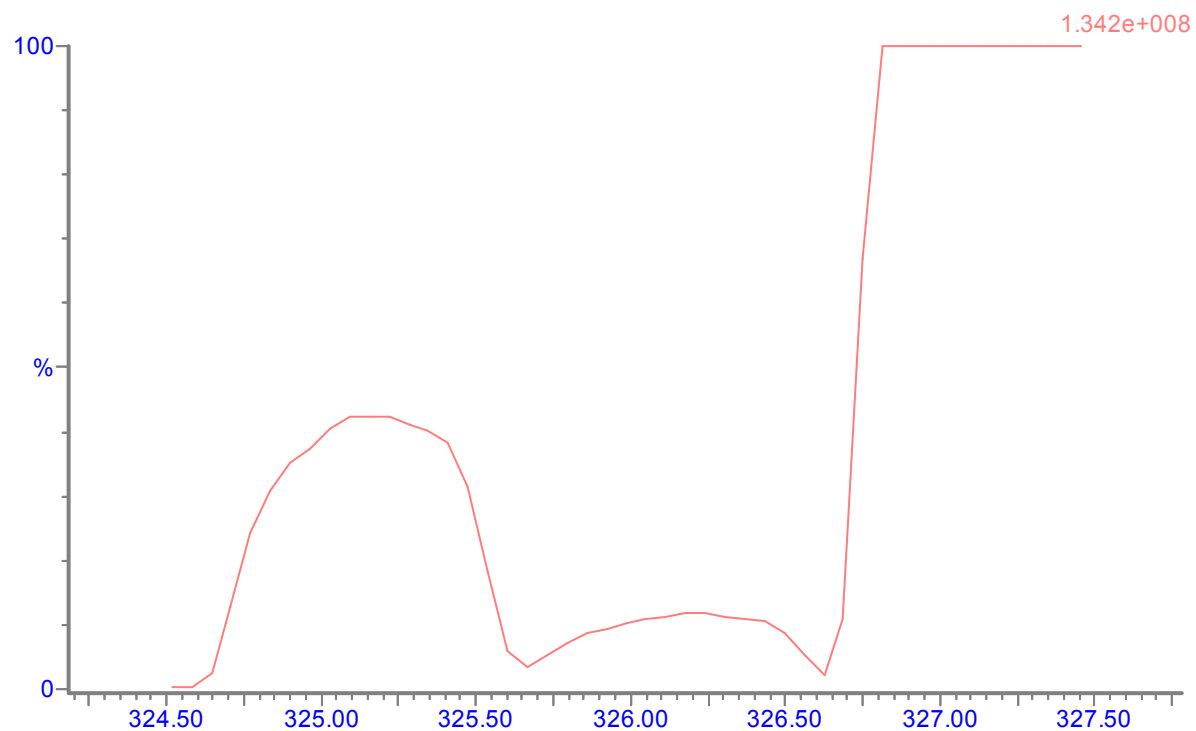
IR (KBr, cm⁻¹): 3412 (br, s), 3082 (w), 3055 (w), 3022 (w), 3003 (w), 2968 (w), 2924 (w), 2870 (w), 1614 (s), 1519 (s), 1506 (s), 1492 (m), 1456 (s), 1417 (m), 1338 (m), 1317 (w), 1257 (w), 1217 (m), 1184 (w), 1147 (w), 1101 (w), 1093 (m), 1010 (w), 927 (w), 846 (w), 792 (w), 744 (s), 700 (m), 667 (w).



¹H NMR (500MHz, CDCl₃) δ = 7.91 (br s, 1 H), 7.33 (d, J = 7.9 Hz, 1 H), 7.29 - 7.21 (m, 5 H), 7.21 - 7.13 (m, 2 H), 7.03 (d, J = 8.5 Hz, 2 H), 6.97 (ddd, J = 0.9, 7.0, 7.9 Hz, 1 H), 6.57 (dd, J = 1.2, 2.4 Hz, 1 H), 6.54 (d, J = 8.5 Hz, 2 H), 5.56 (s, 1 H), 3.49 (br s, 1H), 3.13 (q, J = 7.2 Hz, 2 H), 1.24 (t, J = 7.2 Hz, 3 H).

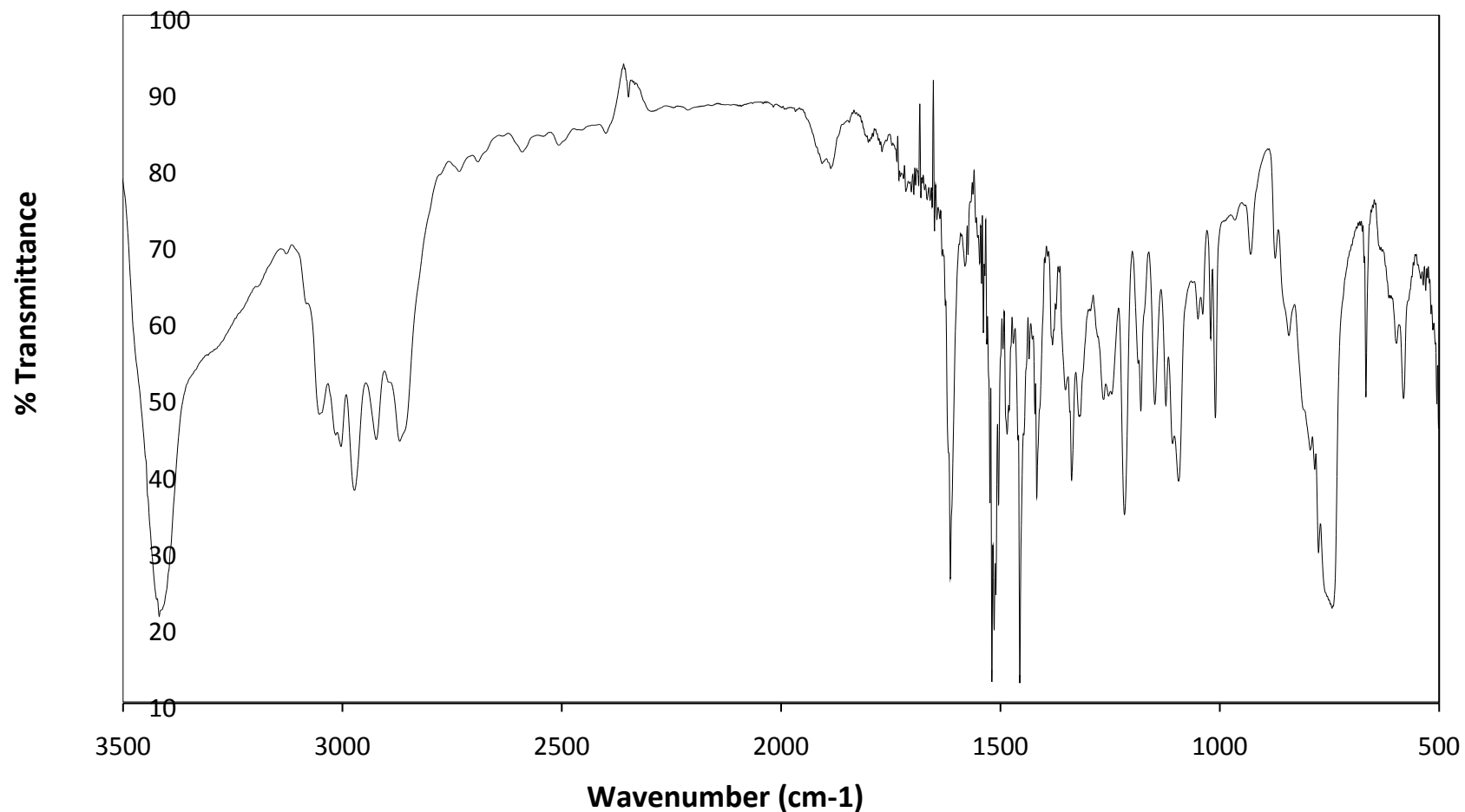


^{13}C NMR (126 MHz, CDCl_3) δ = 146.83, 144.87, 136.80, 133.04, 129.86, 129.07, 128.28, 127.19, 126.08, 124.12, 122.01, 120.59, 120.15, 119.33, 112.86, 111.14, 48.08, 38.78, 15.06.

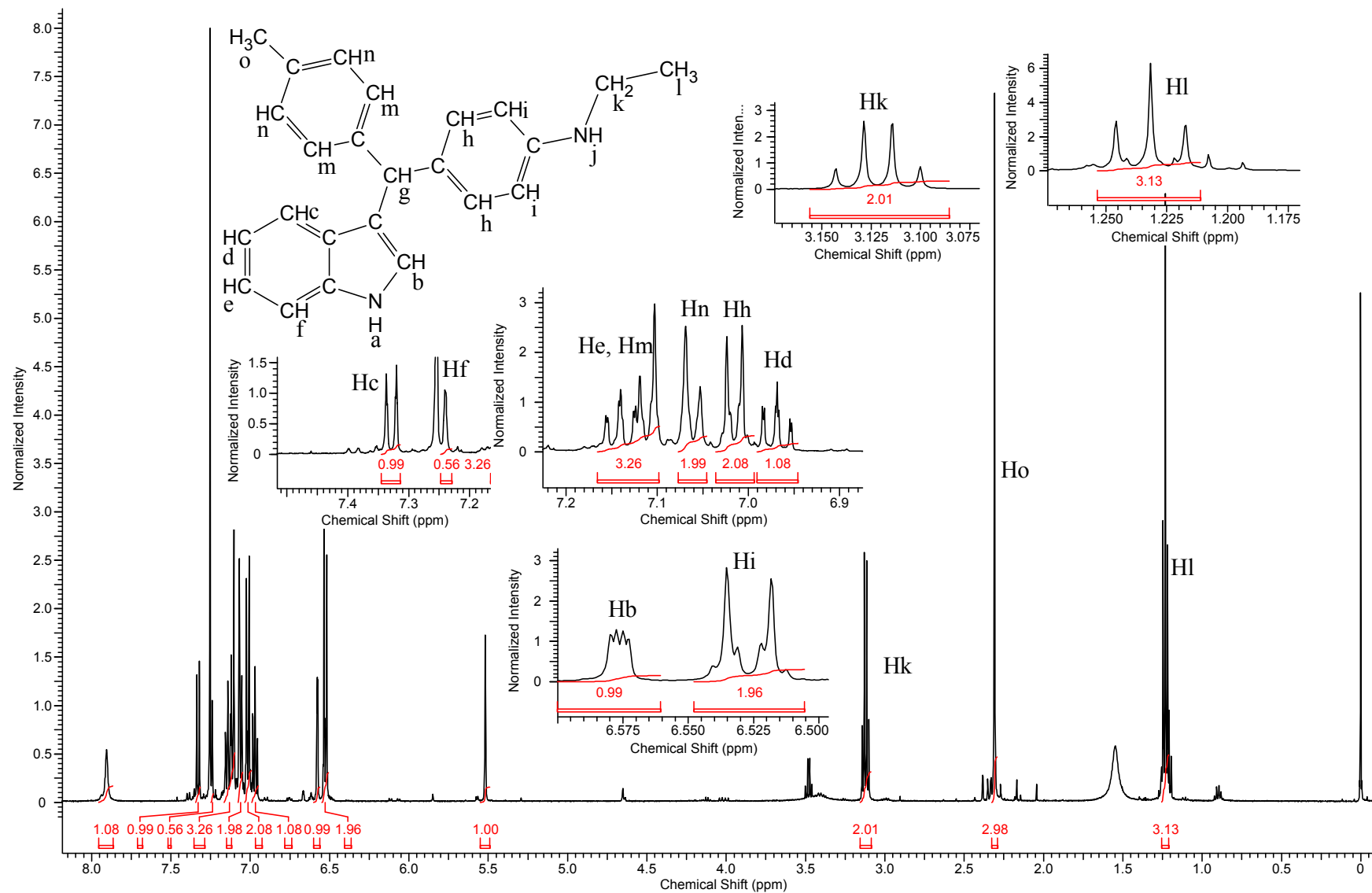


Formula Mass	Daughter number	Parent m/z	Cone Voltage (V)	Daughters	Collision Energy (eV)	Ion Mode
326.43	1	327.14	58	204.04	40	ES+
	2	327.14	58	295.22	42	ES+
	3	327.14	58	268.16	42	ES+
	4	327.14	58	193.05	40	ES+
	5	327.14	58	247.16	30	ES+

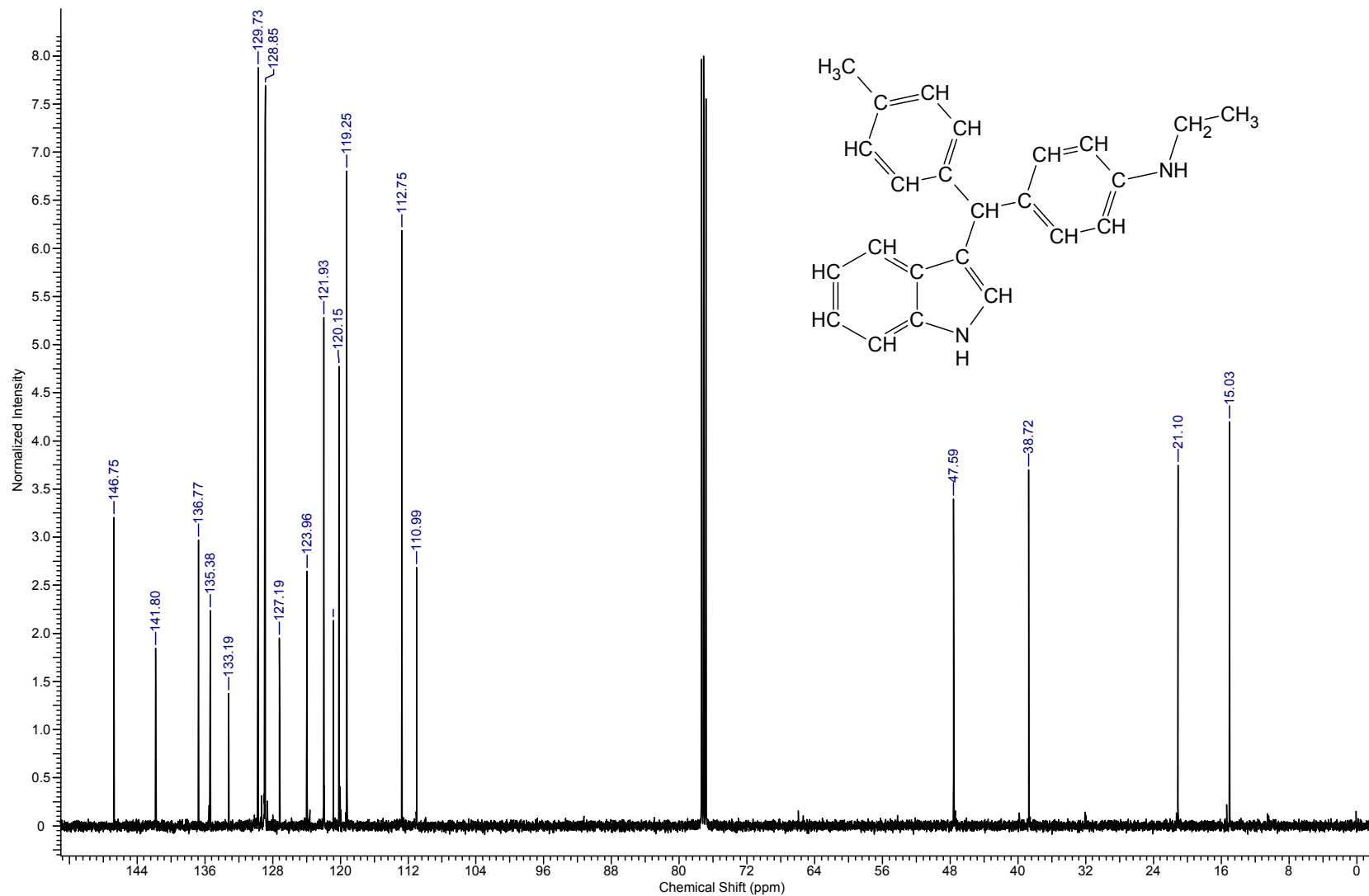
2.2 4-methylbenzaldehyde (1b) + indole (2a) + N-ethylaniline (3b): (6w) N-ethyl-4-[1H-indol-3-yl(4-methylphenyl)methyl]aniline



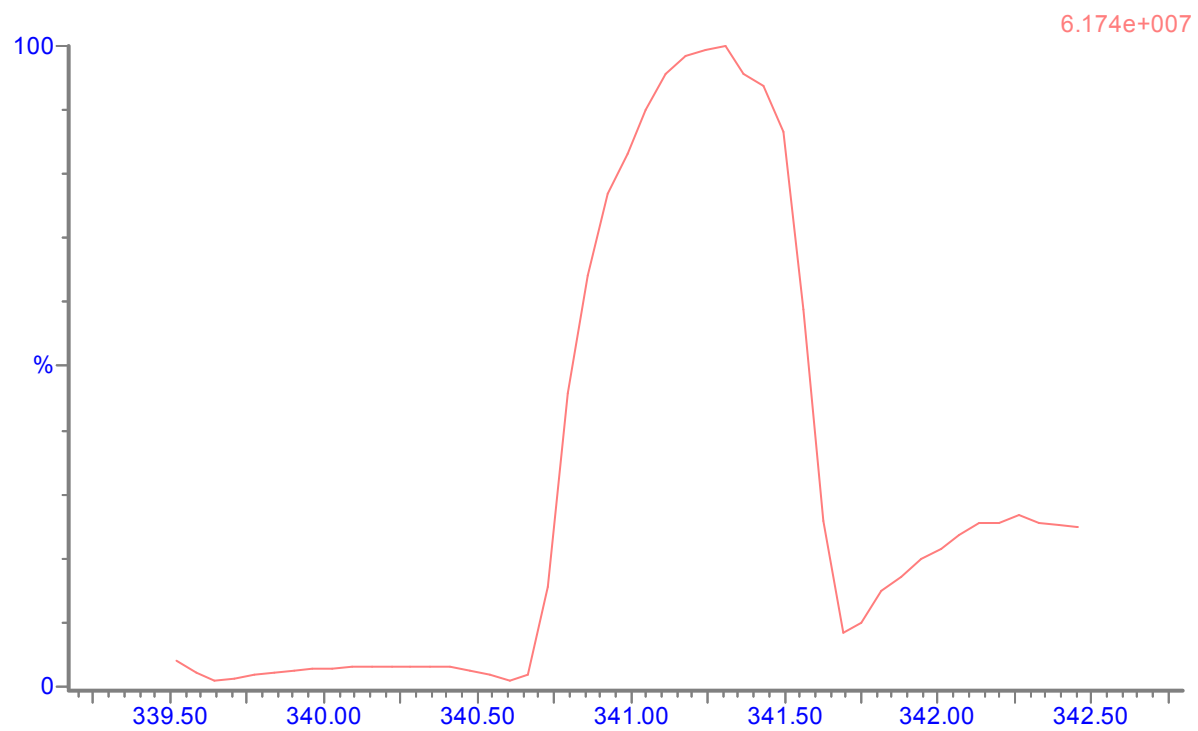
IR (KBr, cm⁻¹): 3408 (br, s), 3049 (m), 3007 (m), 2972 (m), 2924 (m), 2868 (m), 1614 (s), 1519 (s), 1456 (s), 1417 (m), 1338 (m), 1251 (m), 1246 (m), 1217 (m), 1180 (m), 1147 (m), 1122 (m), 1093 (m), 1039 (w), 1010 (m), 929 (w), 842 (w), 744 (s), 667 (m).



¹H NMR (500MHz, CDCl₃) δ = 7.91 (br s, 1 H), 7.33 (d, J = 8.2 Hz, 1 H), 7.24 (d, J = 7.9 Hz, 1 H), 7.14 (ddd, J = 0.9, 7.0, 7.7 Hz, 1H), 7.11 (d, J = 7.9 Hz, 2H), 7.06 (d, J = 7.9 Hz, 2 H), 7.02 (d, J = 8.5 Hz, 2H), 6.97 (ddd, J = 0.9, 7.0, 8.2 Hz, 1 H), 6.58 (dd, J = 1.2, 2.4 Hz, 1 H), 6.53 (d, J = 8.5 Hz, 2 H), 5.52 (s, 1 H), 3.12 (q, J = 7.2 Hz, 2 H), 2.31 (s, 3 H), 1.23 (t, J = 7.2 Hz, 3 H).

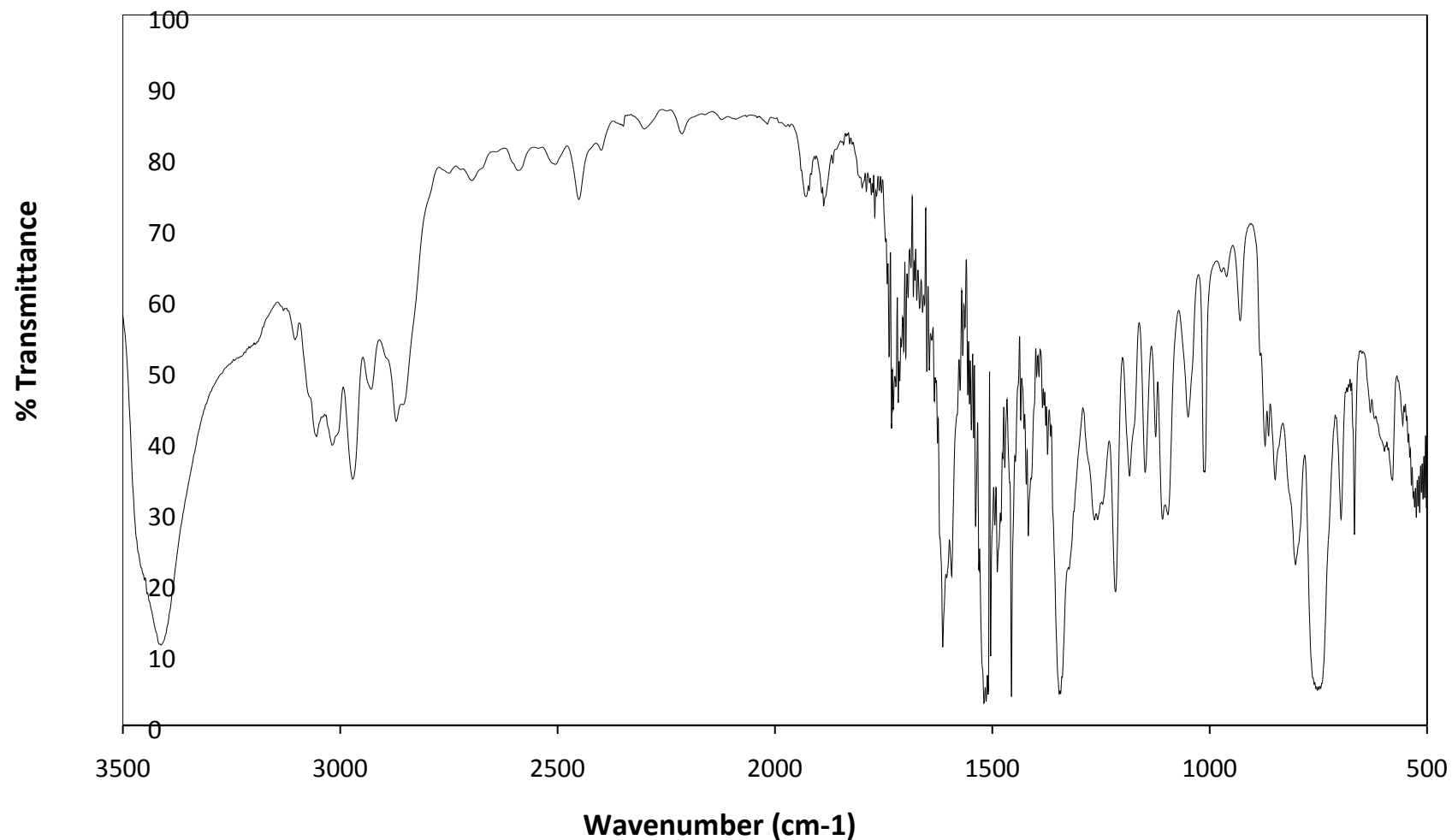


^{13}C NMR (126 MHz, CDCl_3) δ = 146.75, 141.80, 136.77, 135.38, 133.19, 129.73, 128.91, 128.85, 127.19, 123.96, 121.93, 120.83, 120.15, 119.25, 112.75, 110.99, 47.59, 38.72, 21.10, 15.03.

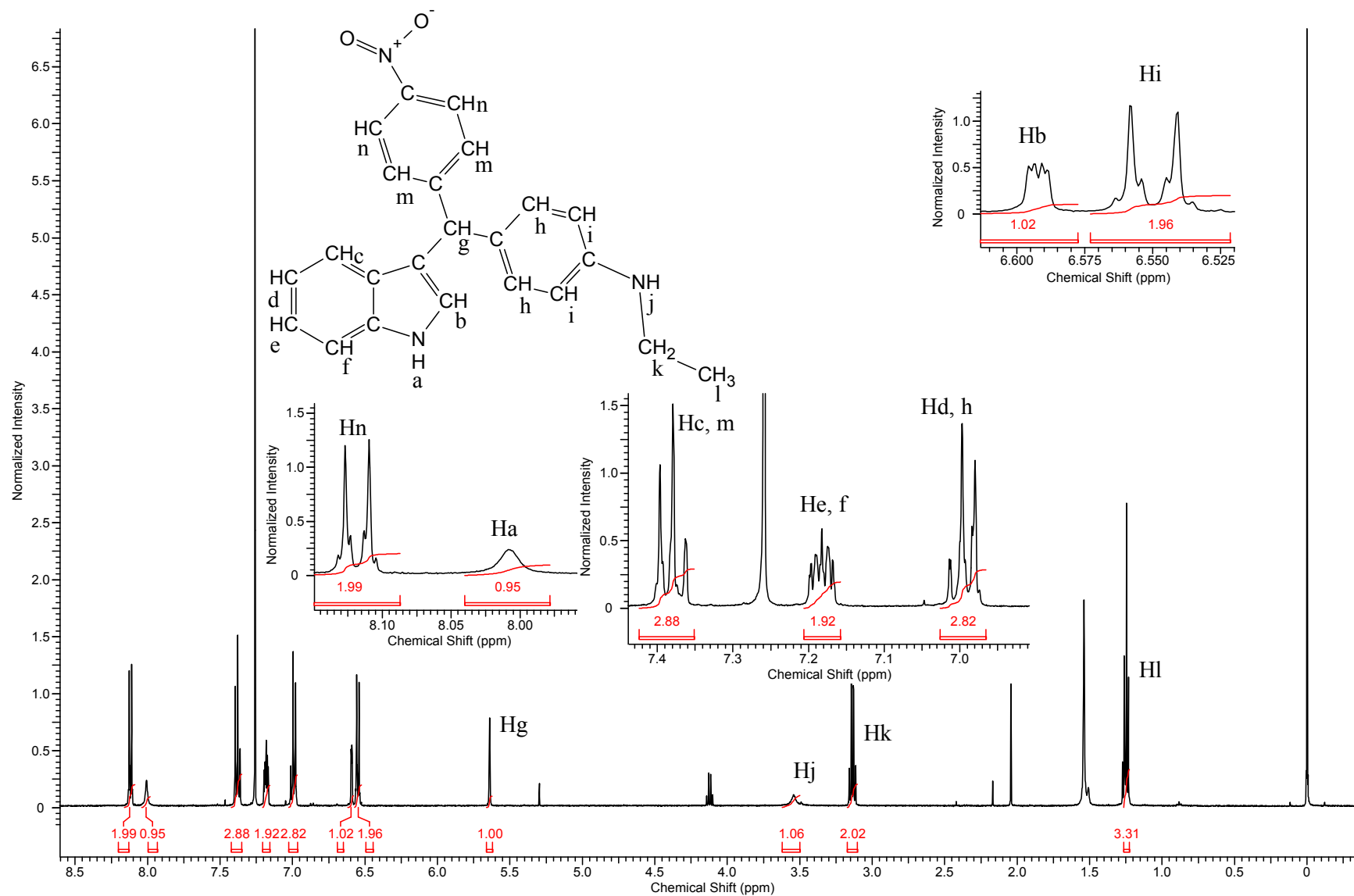


Formula Mass	Daughter number	Parent m/z	Cone Voltage (V)	Daughters	Collision Energy (eV)	Ion Mode
340.46	1	341.22	50	312.16	22	ES+
	2	341.22	50	220.86	38	ES+
	3	341.22	50	204.14	50	ES+
	4	341.22	50	180.14	44	ES+

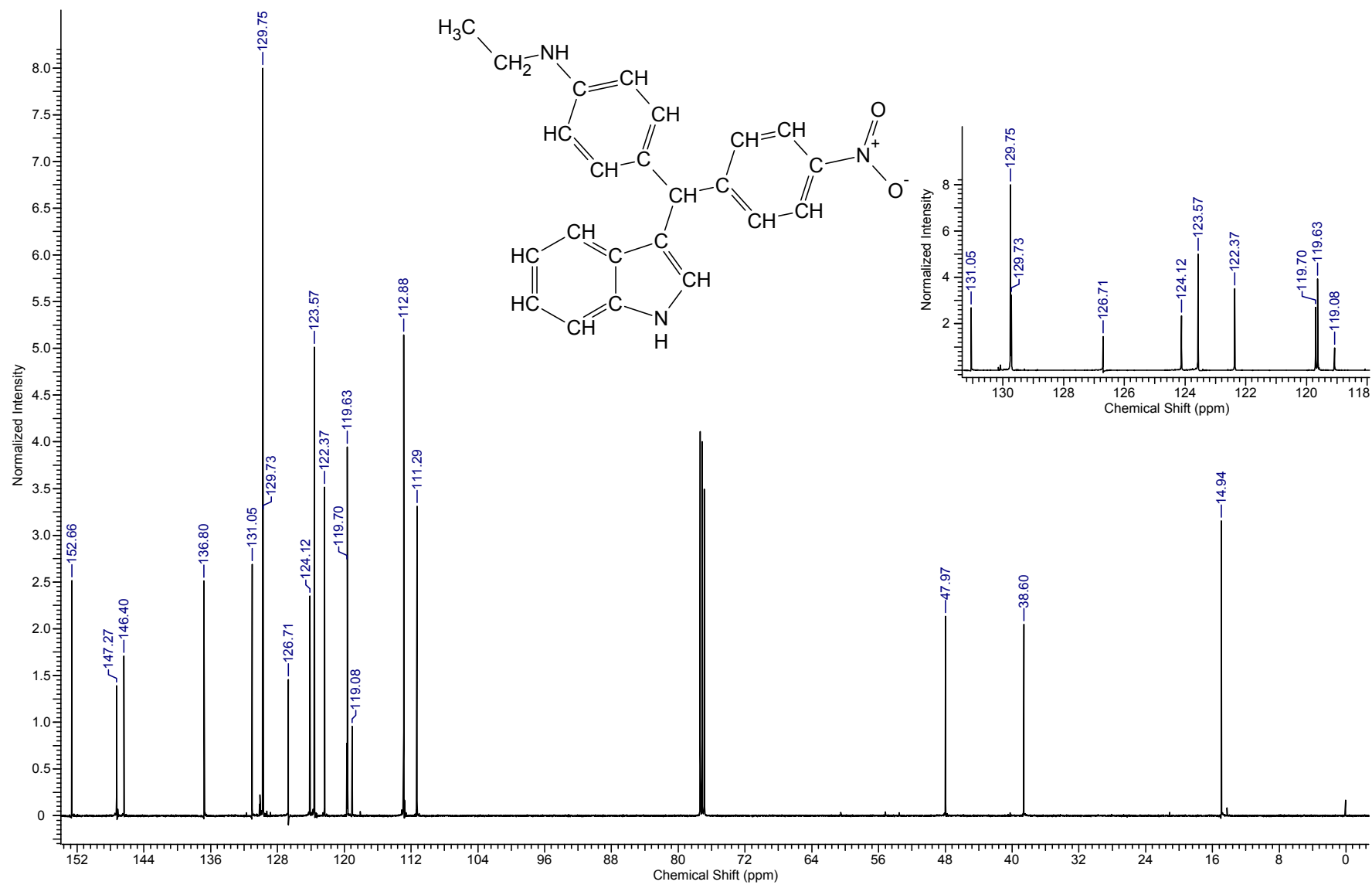
2.3 4-nitrobenzaldehyde (1f) + indole (2a) + N-ethylaniline (3b): (6x) N-ethyl-4-[1H-indol-3-yl(4-nitrophenyl)methyl]aniline



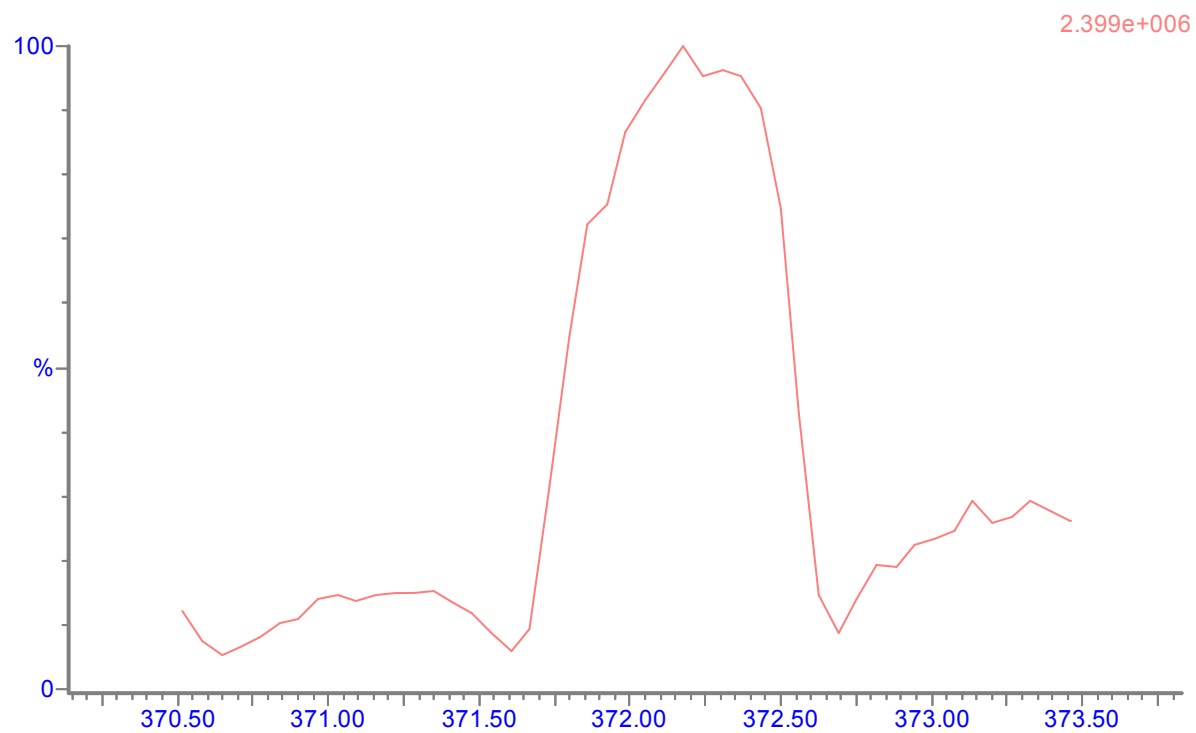
IR (KBr, cm^{-1}): 3410 (br, s), 3105 (m), 3057 (m), 3020 (m), 2972 (m), 2929 (m), 2870 (m), 1732 (m), 1614 (s), 1608 (m), 1519 (s), 1489 (m), 1456 (s), 1417 (m), 1346 (s), 1267 (m), 1217 (m), 1184 (m), 1149 (m), 1109 (m), 1095 (m), 1049 (m), 1010 (m), 929 (w), 848 (w), 802 (m), 748 (s), 698 (m), 667 (m).



¹H NMR (500 MHz, CDCl₃) δ = 8.12 (d, *J* = 8.9 Hz, 2 H), 8.01 (br s, 1 H), 7.42 - 7.35 (m, 3 H), 7.21 - 7.16 (m, 2 H), 7.03 - 6.97 (m, 3 H), 6.59 (dd, *J* = 0.9, 2.4 Hz, 1 H), 6.55 (d, *J* = 8.5 Hz, 2 H), 5.64 (s, 1 H), 3.60 (br s, 1H), 3.14 (q, *J* = 7.2 Hz, 2 H), 1.25 (t, *J* = 7.2 Hz, 3 H).

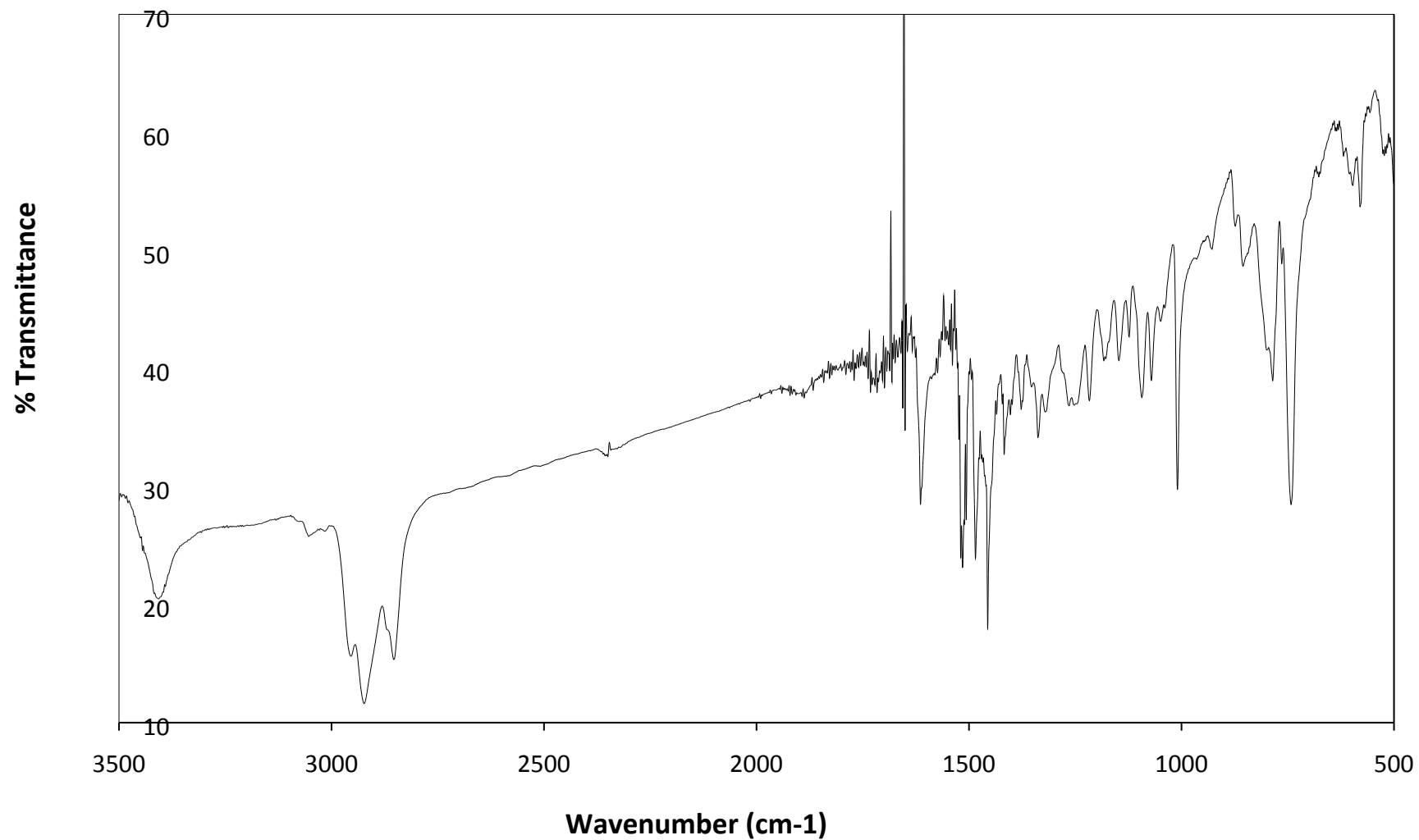


¹³C NMR (126 MHz, CDCl₃) δ = 152.66, 147.27, 146.40, 136.80, 131.05, 129.75, 129.73, 126.71, 124.12, 123.57, 122.37, 119.70, 119.63, 119.08, 112.88, 111.29, 47.97, 38.60, 14.94.

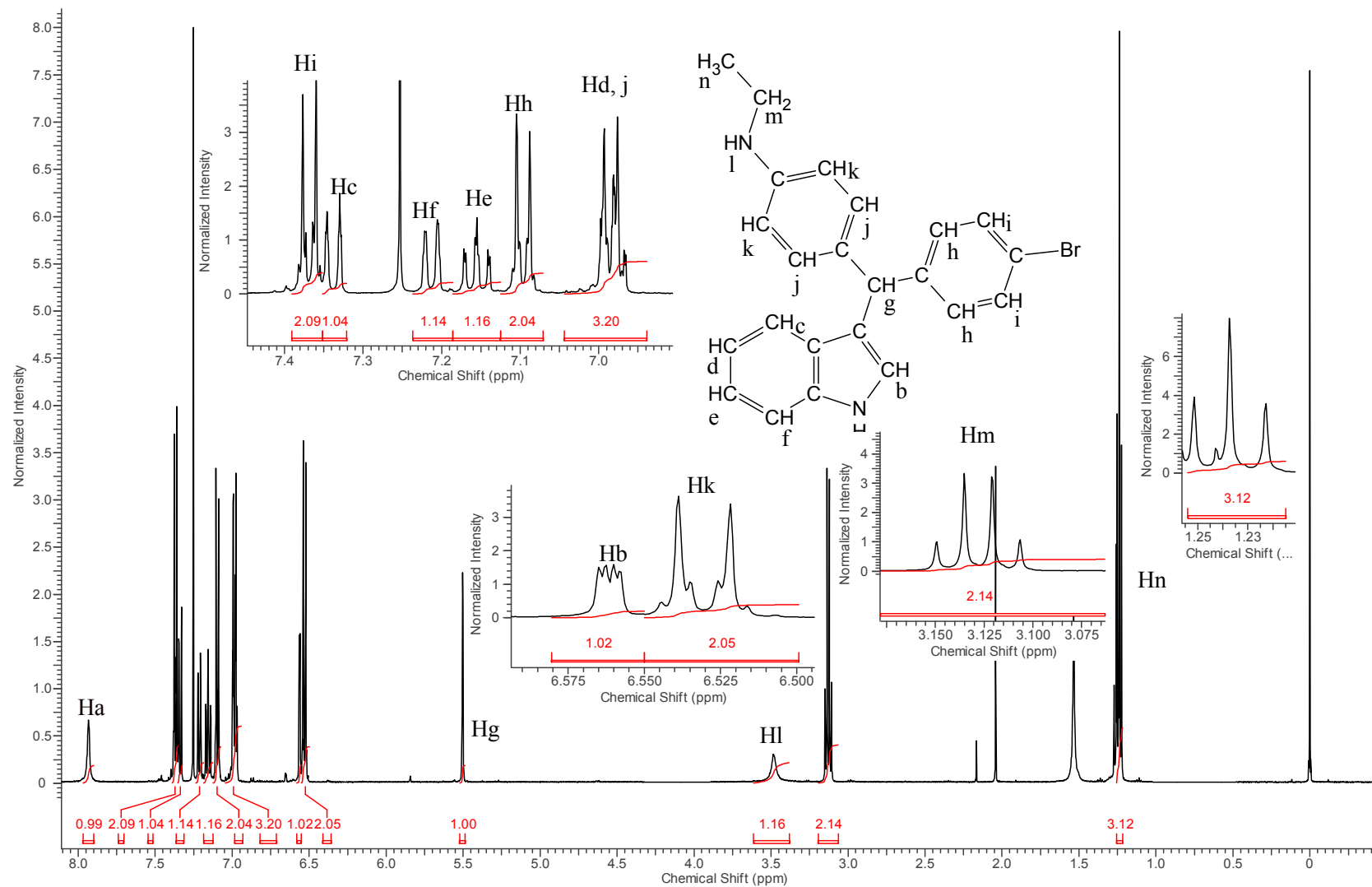


Formula Mass	Daughter number	Parent m/z	Cone Voltage (V)	Daughters	Collision Energy (eV)	Ion Mode
371.16	1	372.16	50	221.11	38	ES+
	2	372.16	50	343.11	22	ES+
	3	372.16	50	251.09	26	ES+
	4	372.16	50	204.14	64	ES+

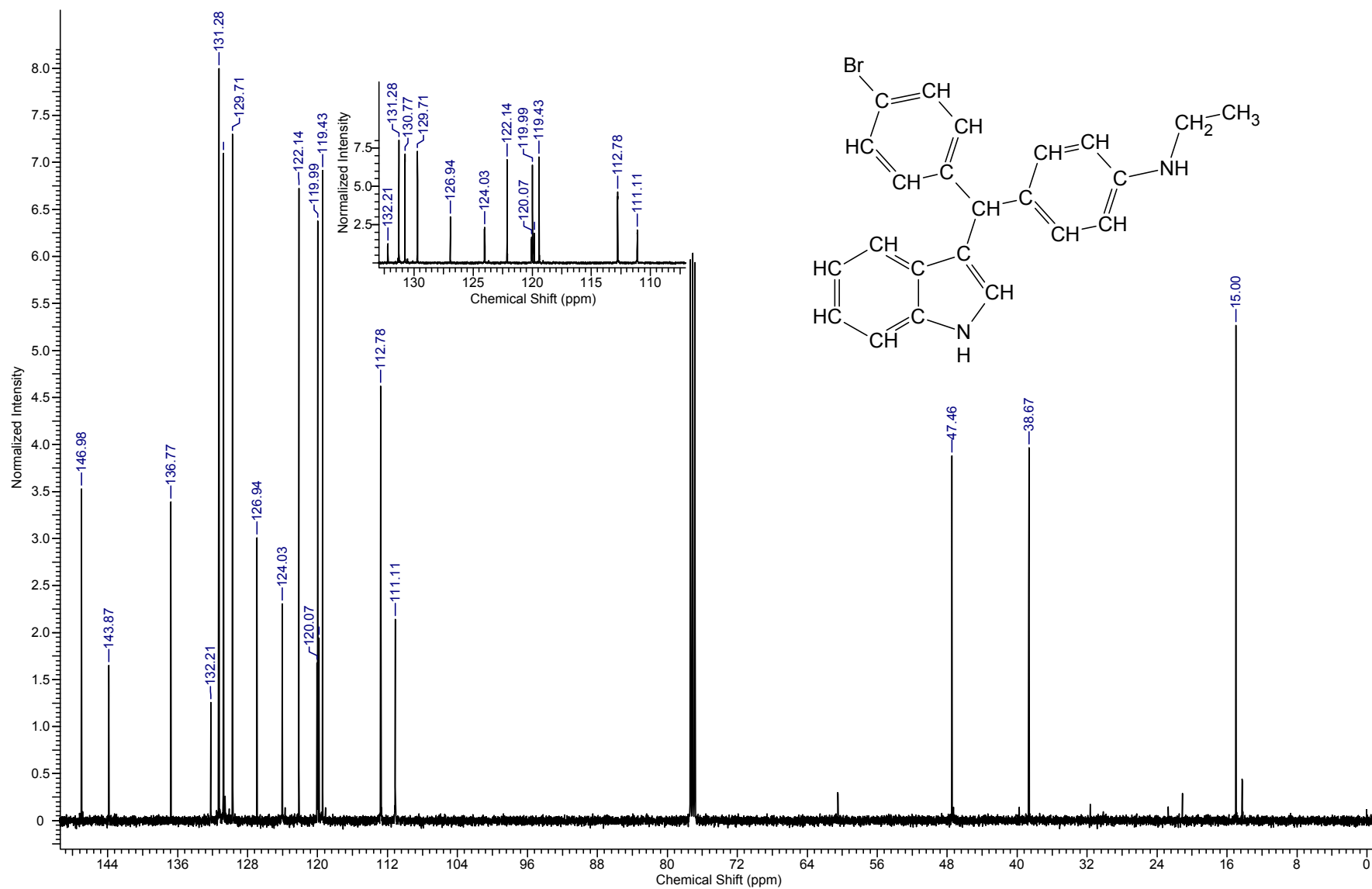
2.4 4-bromobenzaldehyde (1n) + indole (2a) + N-ethylaniline (3b): (6y) N-ethyl-4-[1H-indol-3-yl(4-bromophenyl)methyl]aniline



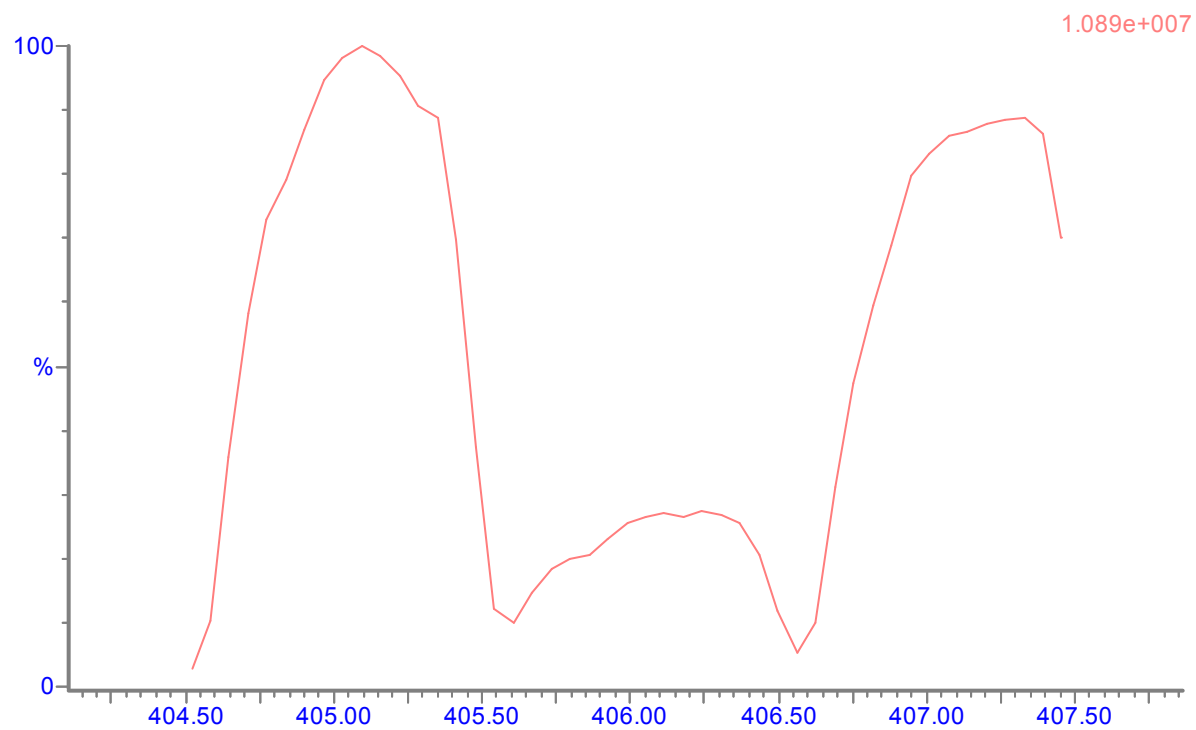
IR (KBr, cm^{-1}): 3406 (br, s), 2953 (s), 2922 (s), 2850 (s), 1614 (s), 1514 (s), 1485 (s), 1456 (s), 1417 (s), 1336 (m), 1317 (m), 1255 (m), 1242 (m), 1176 (m), 1093 (m), 1070 (m), 1010 (m), 854 (w), 785 (m), 742 (m).



¹H NMR (500MHz, CDCl₃) δ = 7.93 (br s, 1 H), 7.37 (d, *J* = 8.2 Hz, 2 H), 7.34 (d, *J* = 8.2 Hz, 1 H), 7.20 (d, *J* = 7.9 Hz, 1 H), 7.16 (ddd, *J* = 1.2, 7.0, 7.9 Hz, 1 H), 7.10 (d, *J* = 8.2 Hz, 2 H), 7.04 - 6.94 (m, 3 H), 6.56 (dd, *J* = 1.1, 2.3 Hz, 1 H), 6.53 (d, *J* = 8.5 Hz, 2 H), 5.50 (s, 1 H), 3.49 (br s, 1 H), 3.13 (q, *J* = 7.2 Hz, 2 H), 1.24 (t, *J* = 7.2 Hz, 3 H).

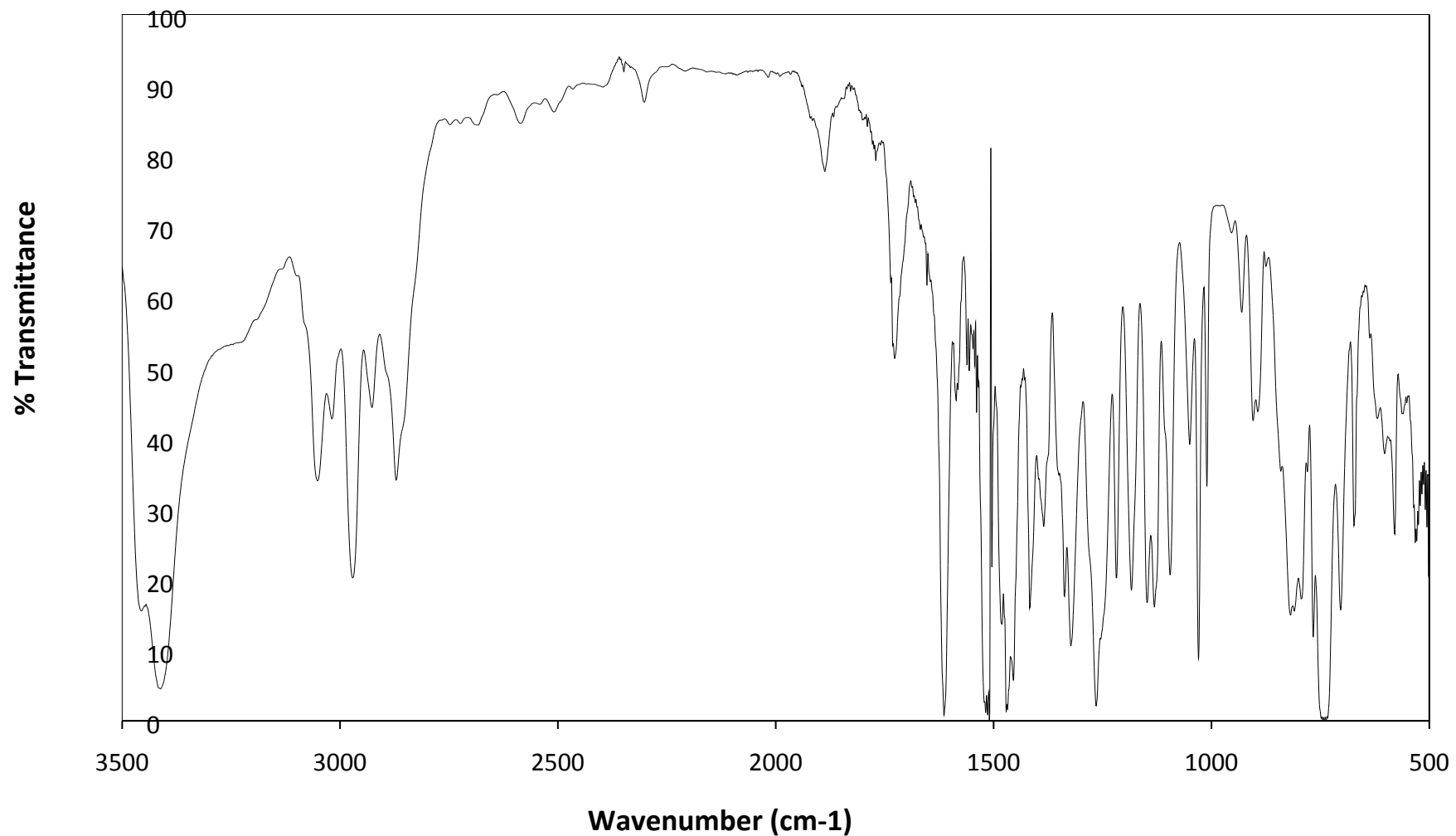


¹³C NMR (126 MHz, CDCl₃) δ = 146.98, 143.87, 136.77, 132.21, 131.28, 130.77, 129.71, 126.94, 124.03, 122.14, 120.07, 119.99, 119.83, 119.43, 112.78, 111.11, 47.46, 38.67, 15.00.

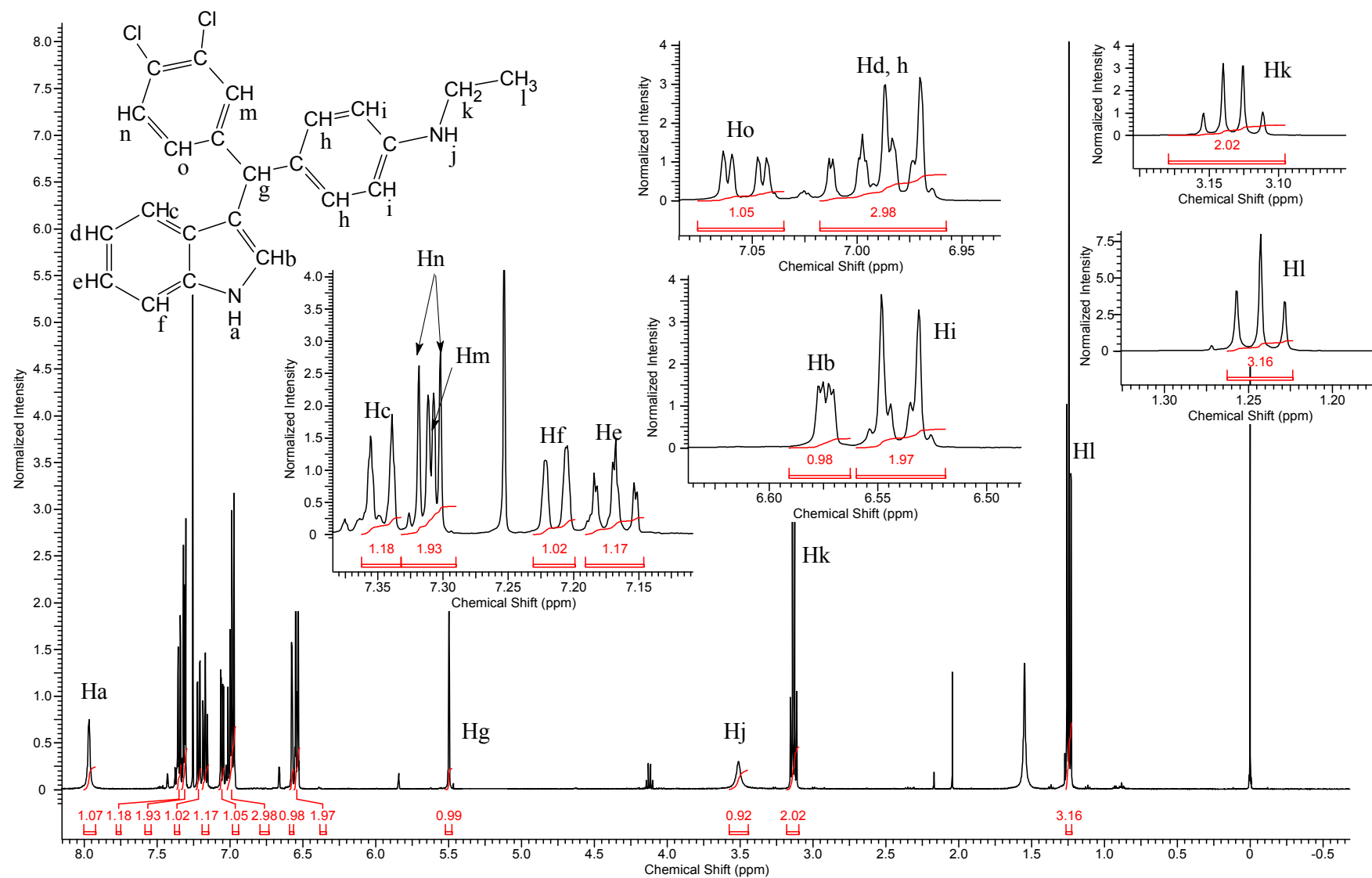


Formula Mass	Daughter number	Parent m/z	Cone Voltage (V)	Daughters	Collision Energy (eV)	Ion Mode
405.33	1	407.07	56	376.03	26	ES+
	2	407.07	56	221.12	42	ES+
	3	407.07	56	283.95	30	ES+
	4	407.07	56	204.02	70	ES+

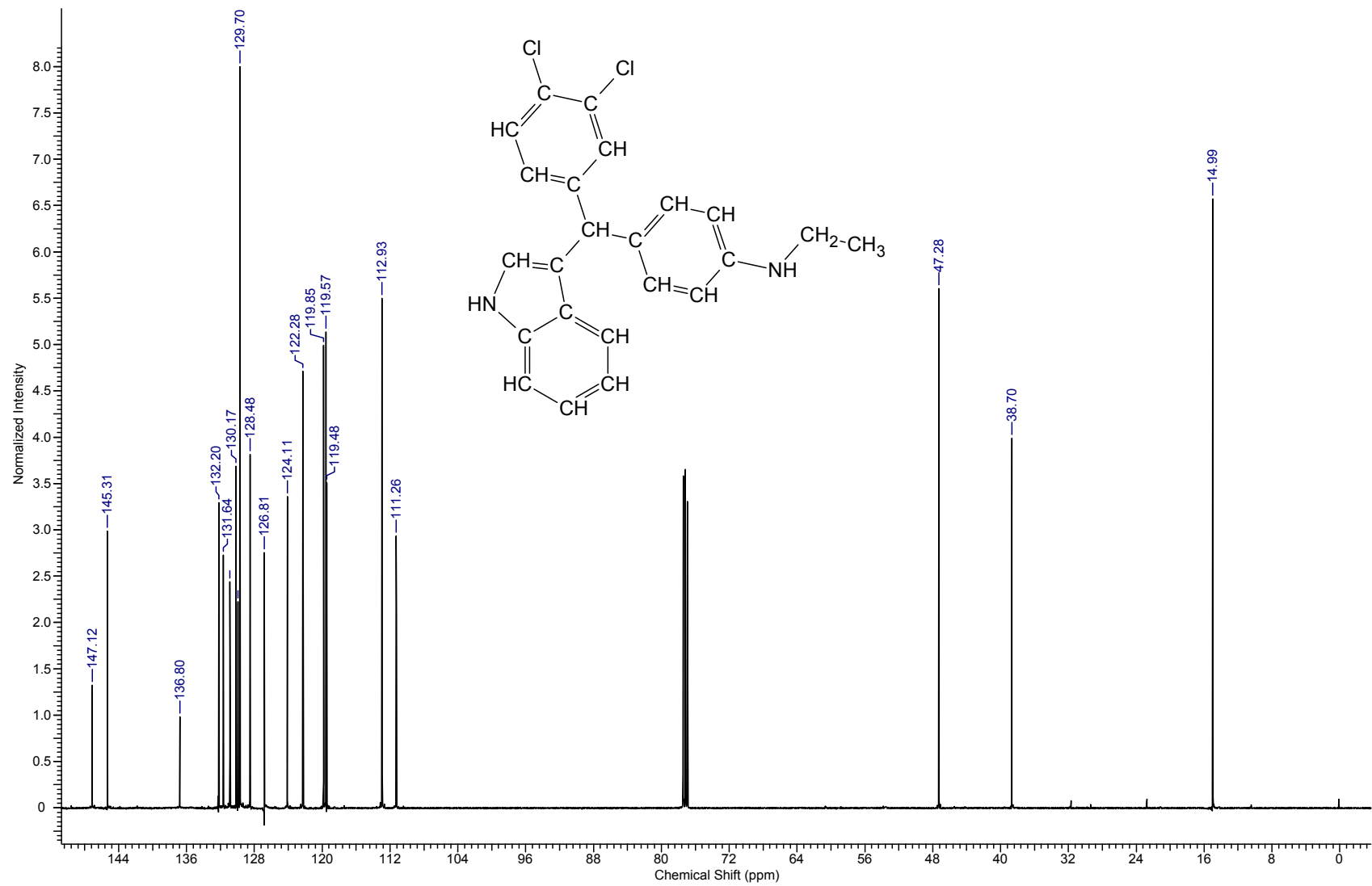
2.5 3,4-dichlorobenzaldehyde (1o) + indole (2a) + N-ethylaniline (3b): (6z) N-ethyl-4-[1H-indol-3-yl(3,4-dichlorophenyl)methyl]aniline



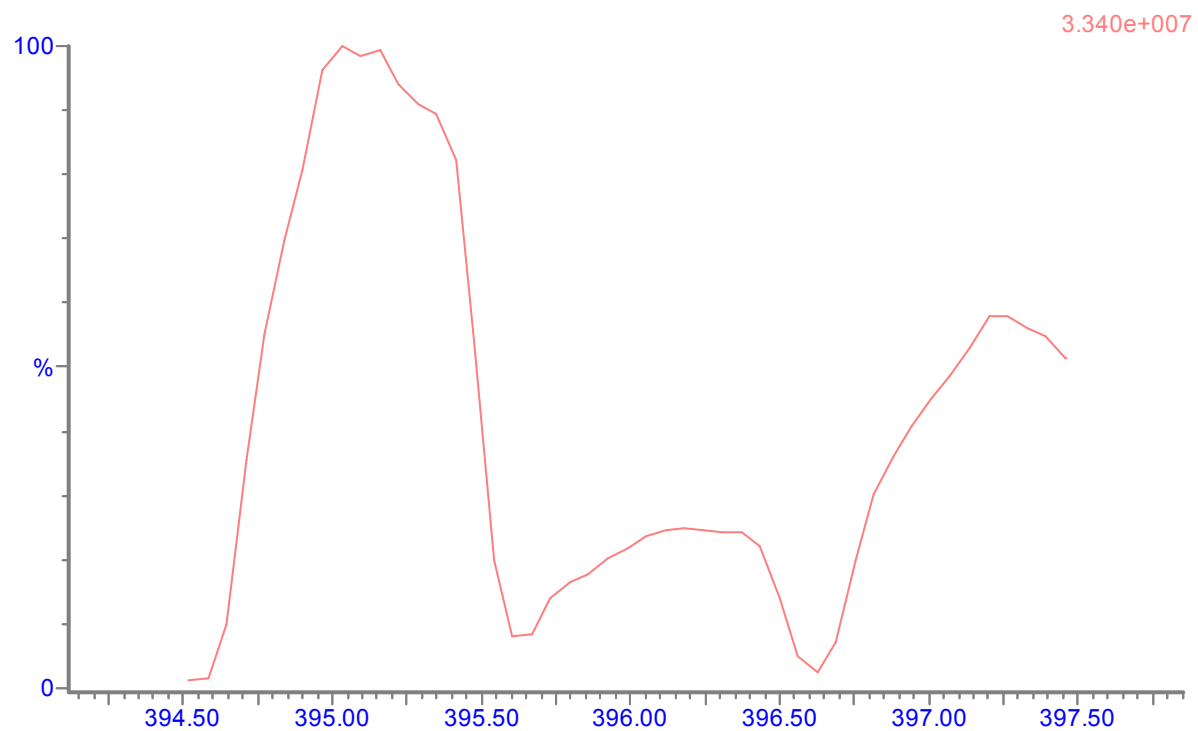
IR (KBr, cm⁻¹): 3454 (s), 3410 (s), 3223 (w), 3049 (m), 3018 (m), 2970 (m), 2926 (m), 2870 (m), 1726 (m), 1614 (s), 1514 (s), 1467 (s), 1454 (s), 1415 (s), 1384 (m), 1323 (s), 1265 (s), 1217 (m), 1184 (m), 1147 (m), 1130 (m), 1095 (m), 1049 (w), 1029 (s), 1010 (w), 904 (w), 817 (s), 792 (s), 732 (s), 704 (s), 673 (m).



¹H NMR (500MHz, CDCl₃) δ = 7.97 (br s, 1 H), 7.35 (d, *J* = 8.2 Hz, 1 H), 7.31 (d, *J* = 8.2 Hz, 1H), 7.31 (d, *J* = 2.1 Hz, 1H), 7.21 (d, *J* = 7.9 Hz, 1 H), 7.17 (ddd, *J* = 1.2 Hz, 7.0, 7.9 Hz, 1 H), 7.05 (dd, *J* = 2.1, 8.2 Hz, 1 H), 7.02 - 6.96 (m, 3 H), 6.57 (dd, *J* = 1.1, 2.3 Hz, 1 H), 6.54 (d, *J* = 8.5 Hz, 2 H), 5.50 (s, 1 H), 3.51 (br s, 1 H), 3.13 (q, *J* = 7.2 Hz, 2 H), 1.24 (t, *J* = 7.2 Hz, 3 H).



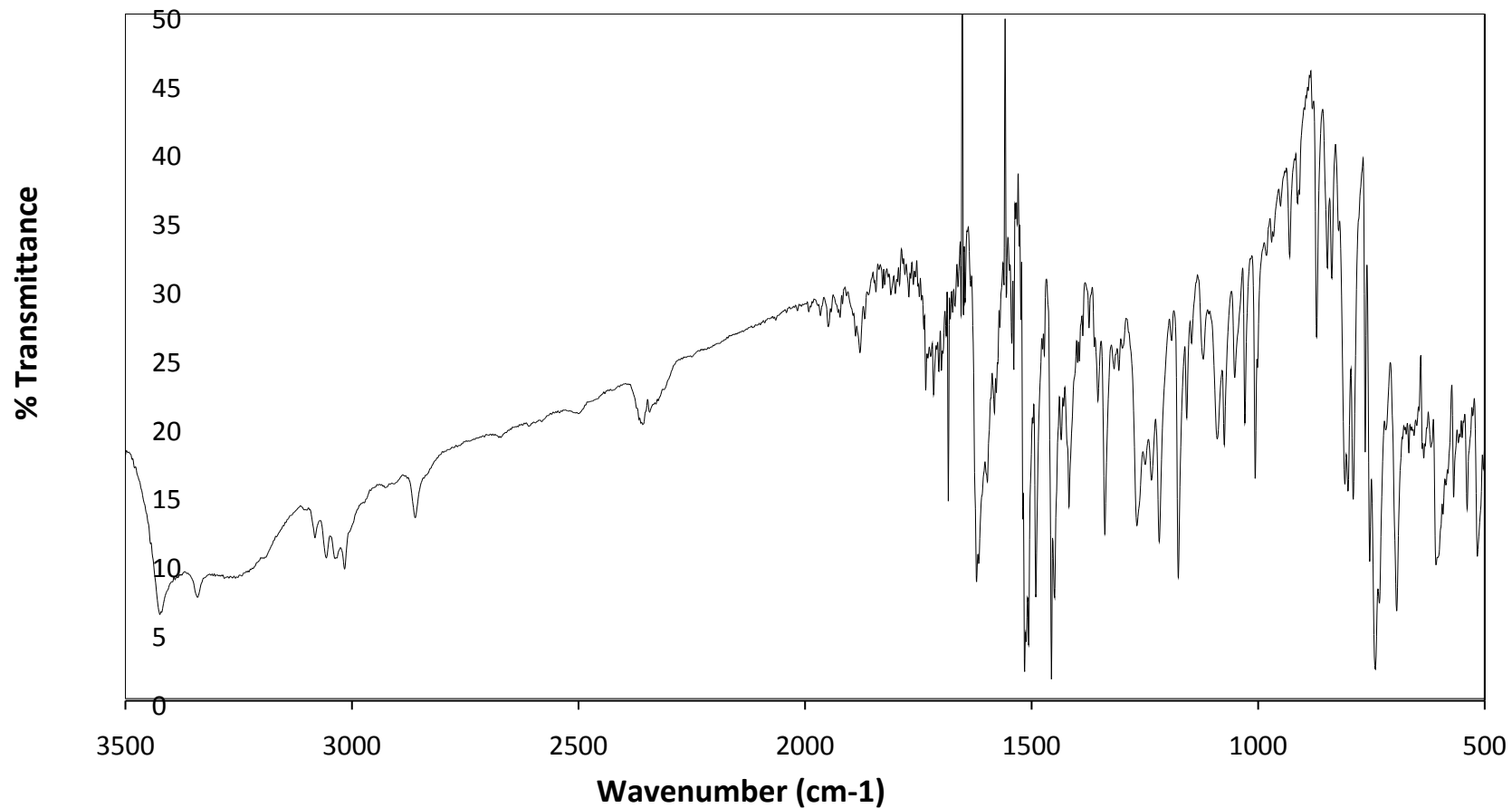
¹³C NMR (126 MHz, CDCl₃) δ = 147.13, 145.32, 136.80, 132.20, 131.64, 130.87, 130.17, 129.94, 129.71, 128.48, 126.81, 124.11, 122.28, 119.85, 119.57, 119.48, 112.93, 111.26, 47.28, 38.70, 14.99.



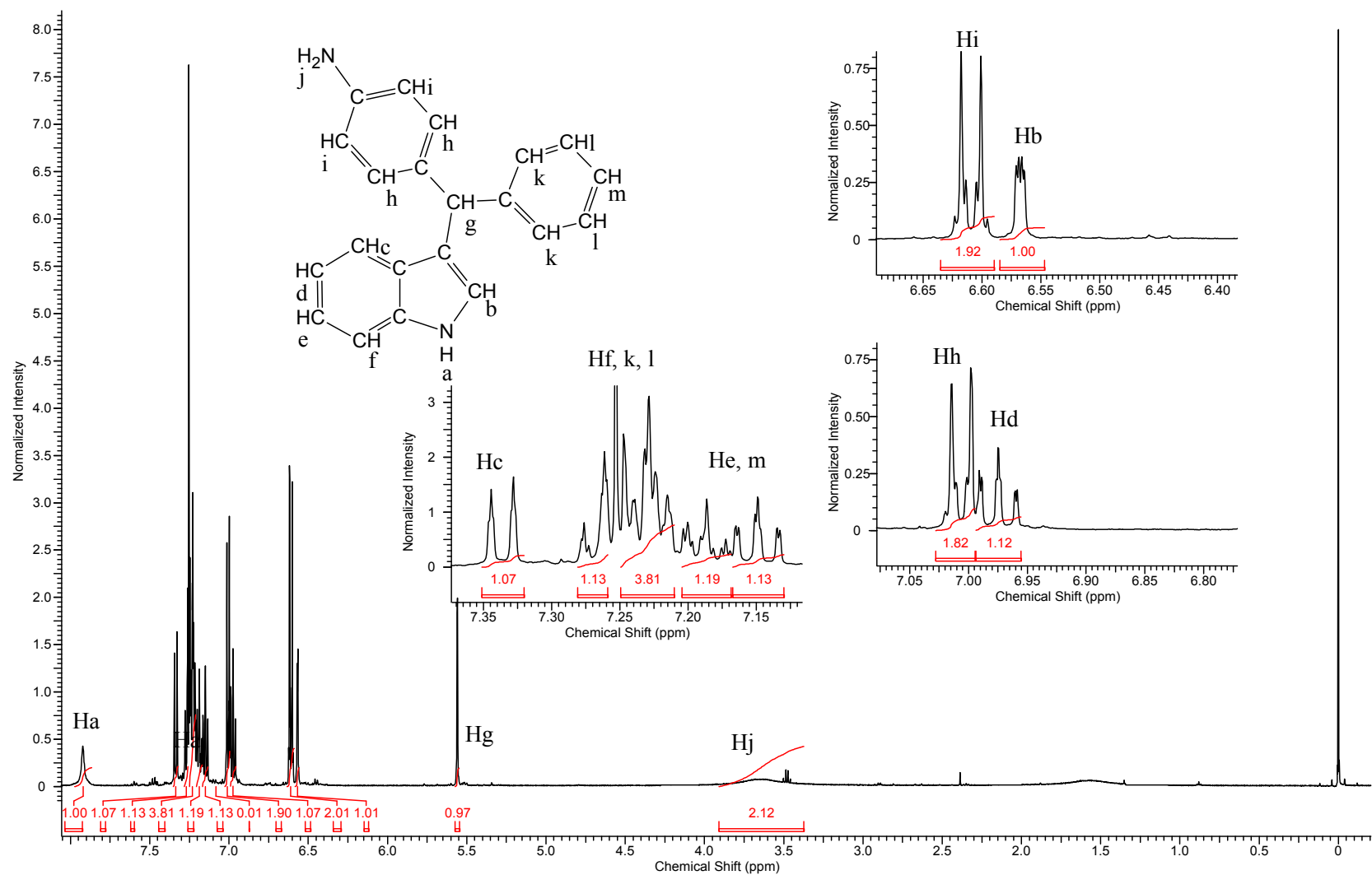
Formula Mass	Daughter Number	Parent m/z	Cone Voltage (V)	Daughters	Collision Energy (eV)	Ion Mode
395.32	1	397.14	42	221.13	36	ES+
	2	397.14	42	366.09	26	ES+
	3	397.14	42	274.00	28	ES+
	4	397.14	42	204.03	62	ES+
	5	397.14	42	238.10	42	ES+

[3] Primary Amines

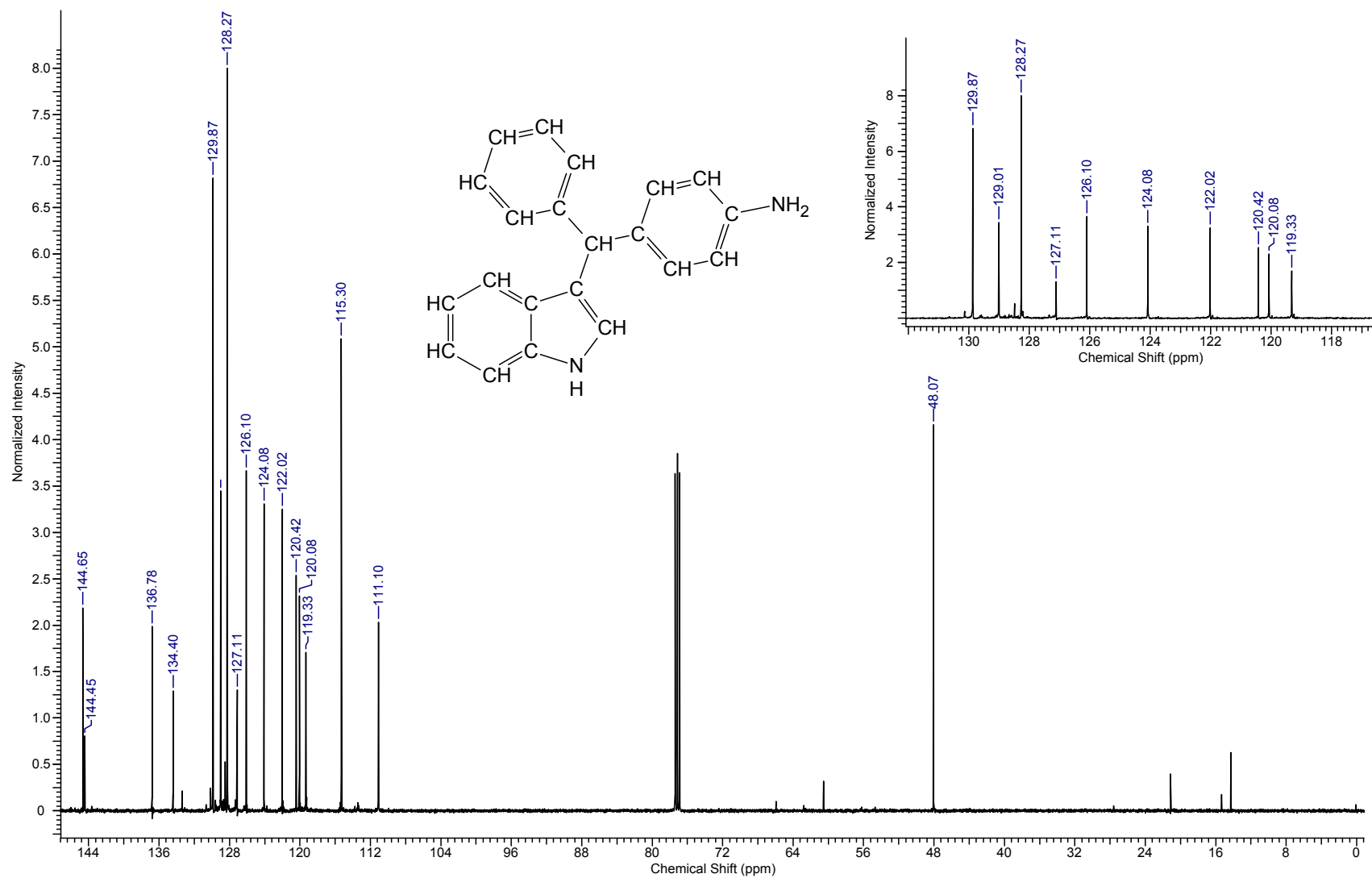
3.1 Benzaldehyde (1a) + indole (2a) + aniline (3e): (6aa) 4-[1H-indol-3-yl(phenyl)methyl]aniline



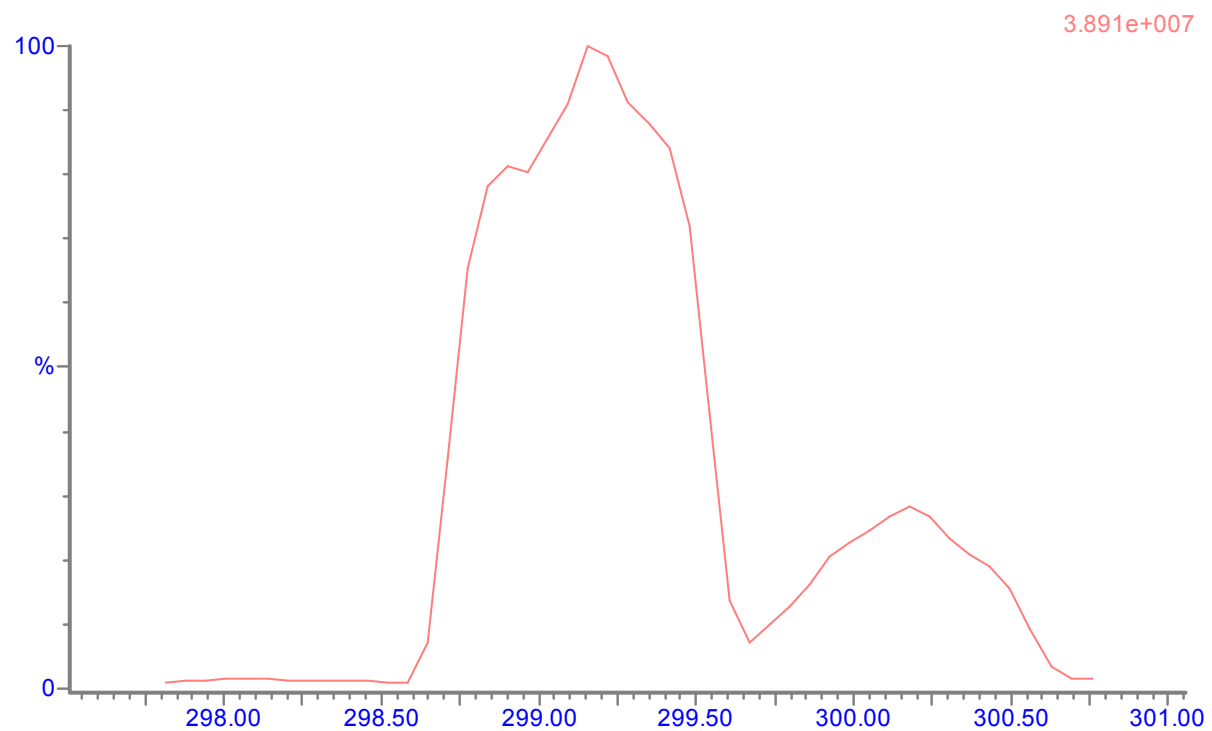
IR (KBr, cm⁻¹): 3423 (s), 3342 (s), 3251 (s), 3080 (m), 3057 (m), 3034 (m), 3016 (m), 2860 (m), 1683 (m), 1622 (m), 1516 (s), 1490 (s), 1456 (s), 1417 (m), 1338 (m), 1267 (m), 1234 (m), 1176 (m), 1157 (m), 1120 (m), 1089 (m), 1074 (m), 1051 (m), 1029 (m), 1006 (m), 929 (w), 871 (w), 846 (w), 837 (w), 808 (m), 802 (m), 790 (m), 742 (s), 694 (s), 607 (m).



¹H NMR (500MHz, CDCl₃) δ = 7.92 (br s, 1H), 7.34 (d, J = 8.2 Hz, 1 H), 7.28 - 7.26 (m, 1 H), 7.25 - 7.21 (m, 4 H), 7.21 - 7.17 (m, 1 H), 7.17 - 7.13 (m, 1 H), 7.00 (d, J = 8.5 Hz, 2 H), 6.97 (ddd, J = 0.7, 7.0, 8.2 Hz, 1 H), 6.61 (d, J = 8.5 Hz, 2 H), 6.57 (dd, J = 1.1, 2.3 Hz, 1 H), 5.56 (s, 1 H), 3.71 (br s, 2H).

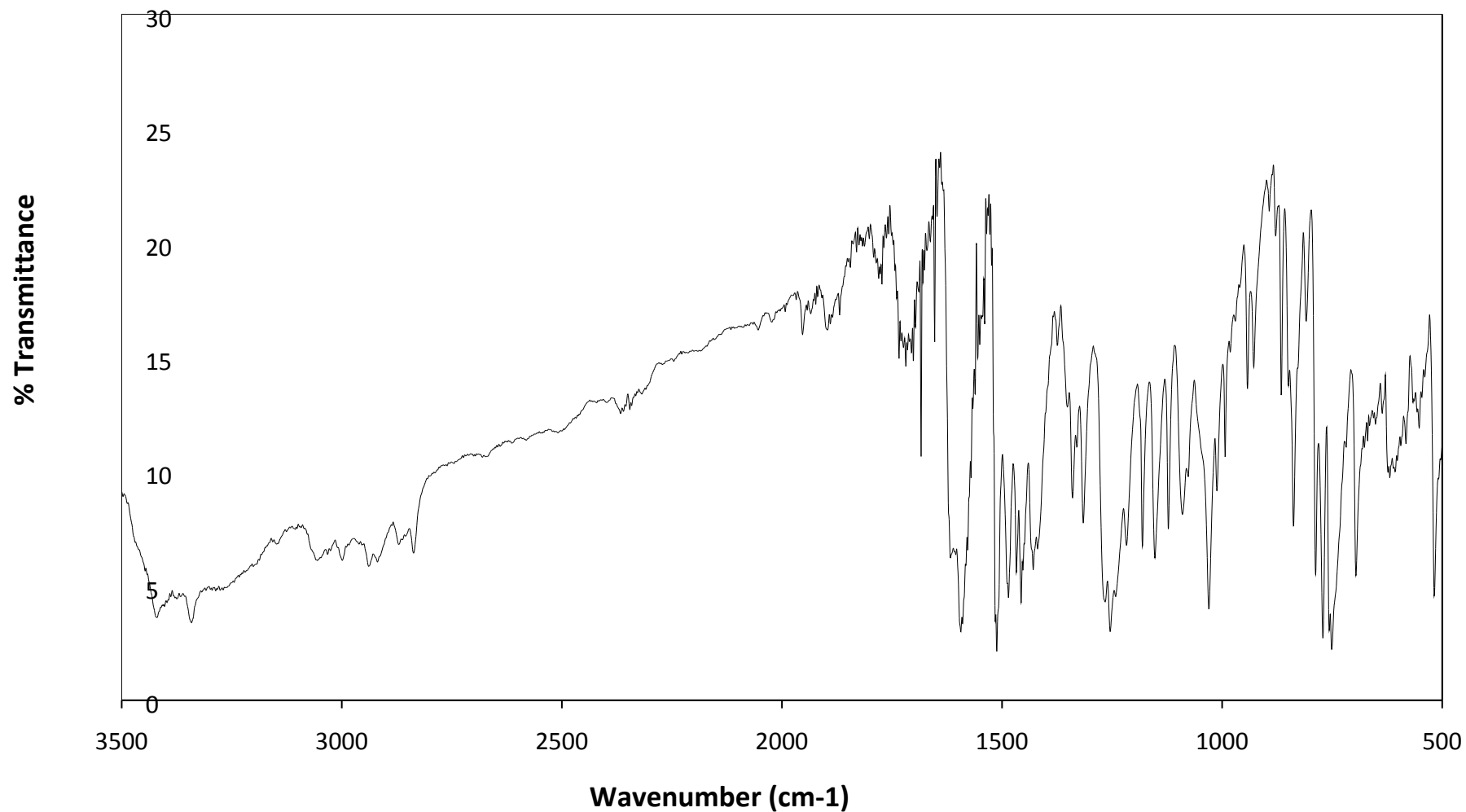


¹³C NMR (126 MHz, CDCl₃) δ = 144.65, 144.45, 136.78, 134.40, 129.87, 129.01, 128.27, 127.11, 126.10, 124.08, 122.02, 120.42, 120.08, 119.33, 115.30, 111.10, 48.07.

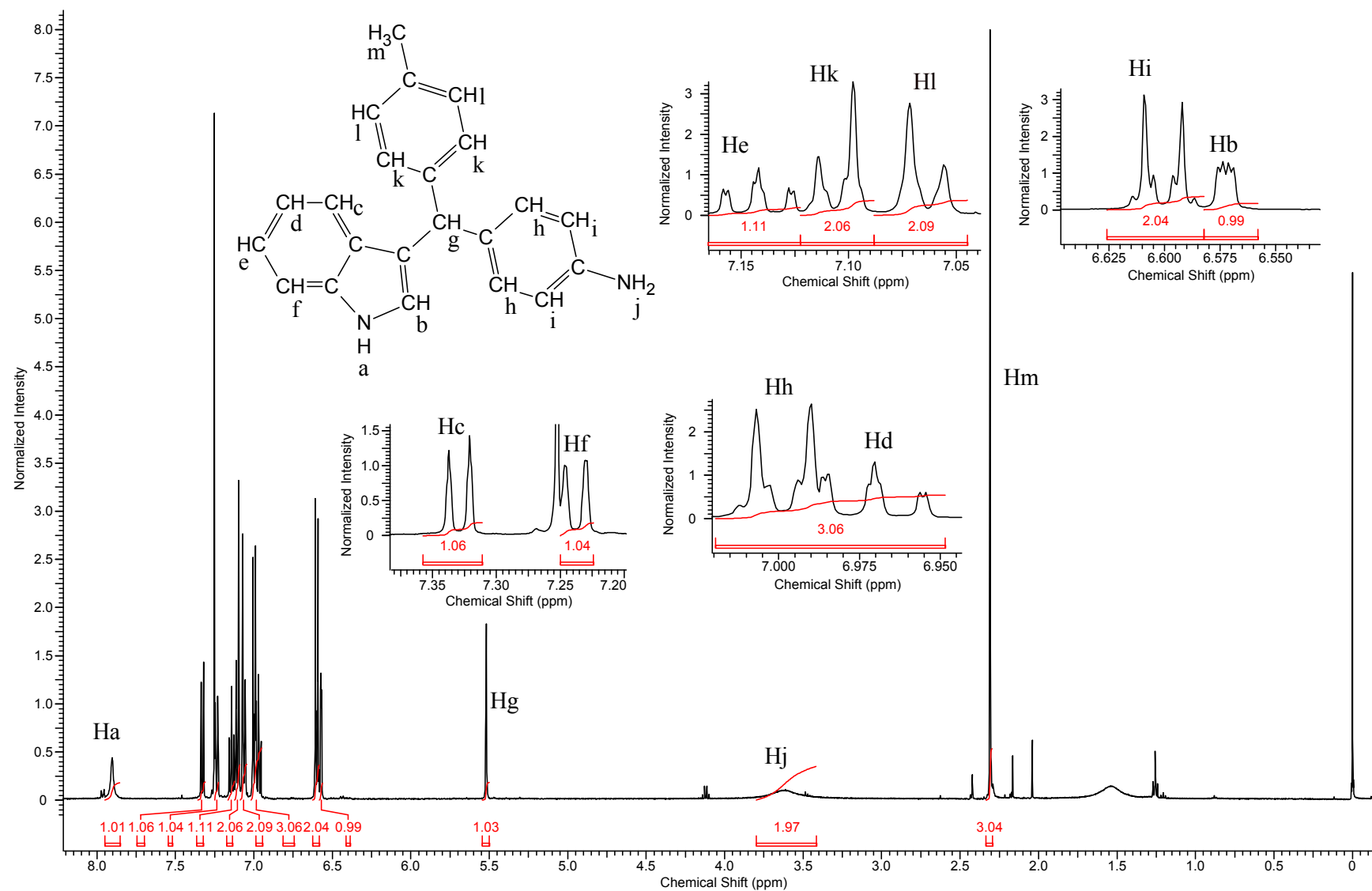


Formula Mass	Daughter number	Parent m/z	Cone Voltage (V)	Daughters	Collision Energy (eV)	Ion Mode
298.38	1	299.14	34	182.06	20	ES+
	2	299.14	34	206.12	18	ES+
	3	299.14	34	165.08	42	ES+

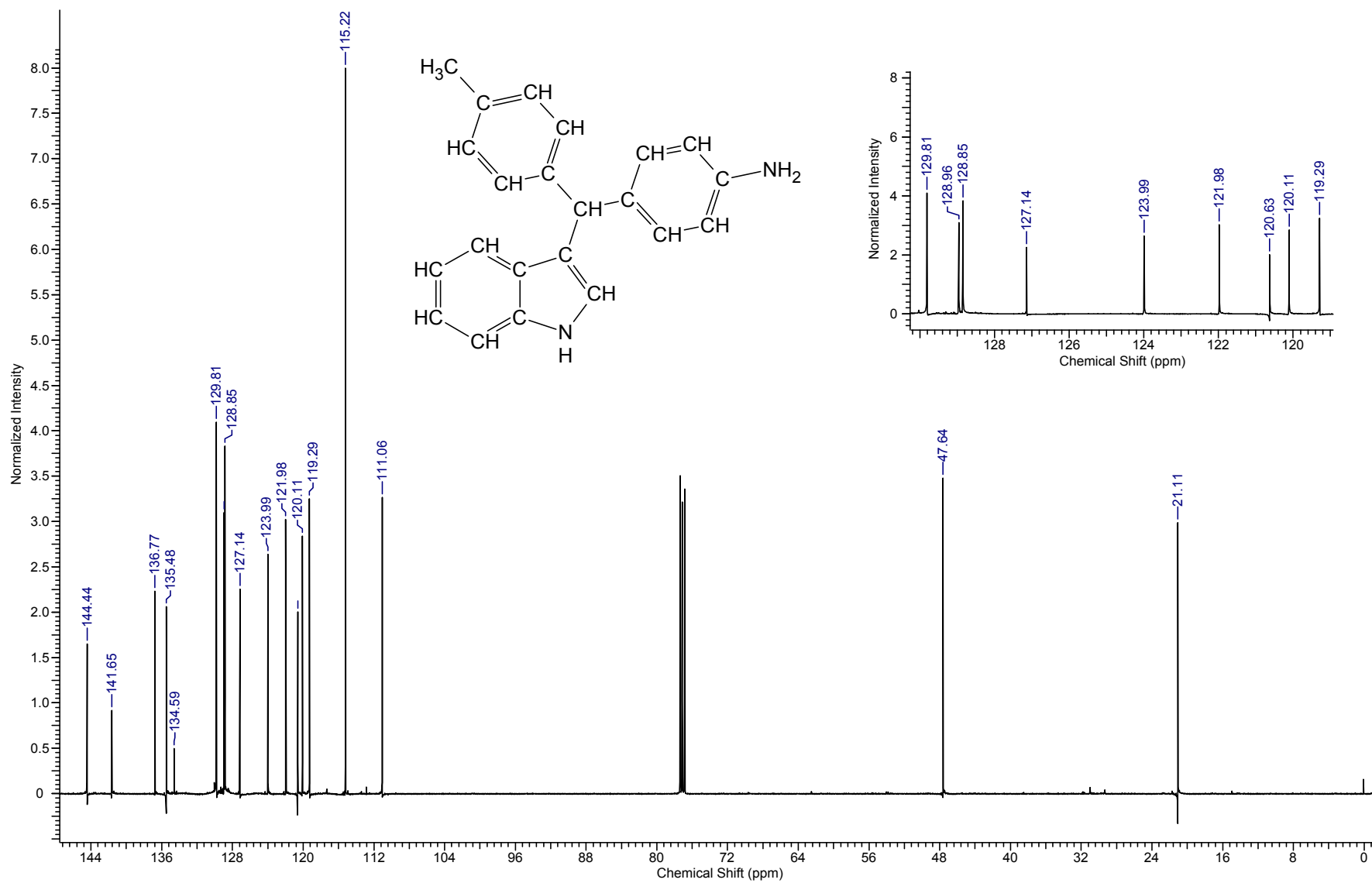
3.2 4-methylbenzaldehyde (1b) + indole (2a) + aniline (3e): (6bb) 4-[1*H*-indol-3-yl(4-methylphenyl)methyl]aniline



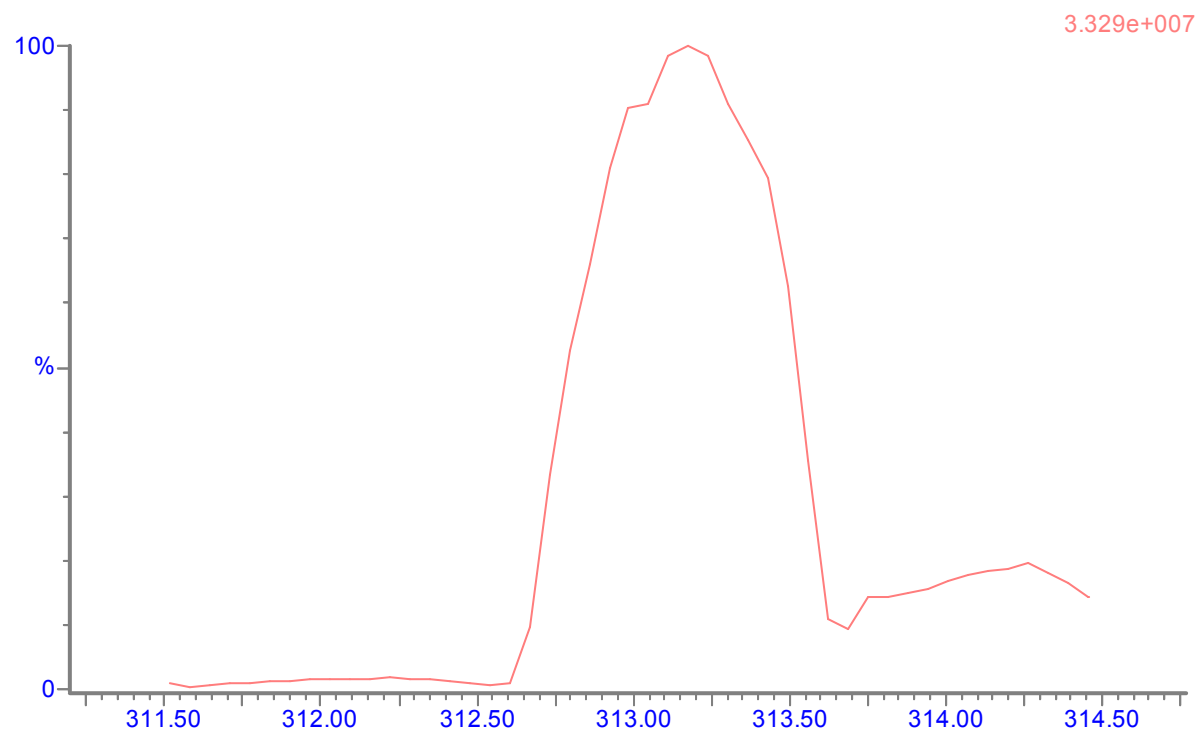
IR (KBr, cm⁻¹): 3419 (s), 3342 (s), 3269 (m), 3057 (m), 2997 (m), 2937 (m), 2918 (m), 2870 (m), 2837 (m), 1780 (w), 1734 (w), 1718 (w), 1701 (w), 1616 (m), 1593 (s), 1512 (s), 1485 (s), 1456 (s), 1429 (m), 1340 (m), 1315 (m), 1267 (s), 1253 (s), 1242 (s), 1217 (m), 1180 (m), 1153 (m), 1122 (m), 1089 (m), 1076 (m), 1029 (s), 1012 (m), 993 (m), 943 (w), 927 (w), 893 (w), 877 (w), 866 (w), 837 (m), 786 (m), 771 (s), 750 (s), 696 (m), 619 (m).



¹H NMR (500 MHz, CDCl₃) δ = 7.90 (br s, 1 H), 7.33 (d, *J* = 8.1 Hz, 1 H), 7.24 (d, *J* = 7.9 Hz, 1 H), 7.14 (ddd, *J* = 1.2, 7.0, 7.9 Hz, 1 H), 7.11 (d, *J* = 7.9 Hz, 2 H), 7.07 (d, *J* = 7.9 Hz, 2 H), 7.00 (d, *J* = 8.5 Hz, 2H), 6.97 (ddd, *J* = 1.2, 7.0, 8.1 Hz, 1 H), 6.60 (d, *J* = 8.5 Hz, 2 H), 6.57 (dd, *J* = 1.2, 2.4 Hz, 1 H), 3.61 (br s, 1H), 5.52 (s, 1 H), 2.31 (s, 3 H).

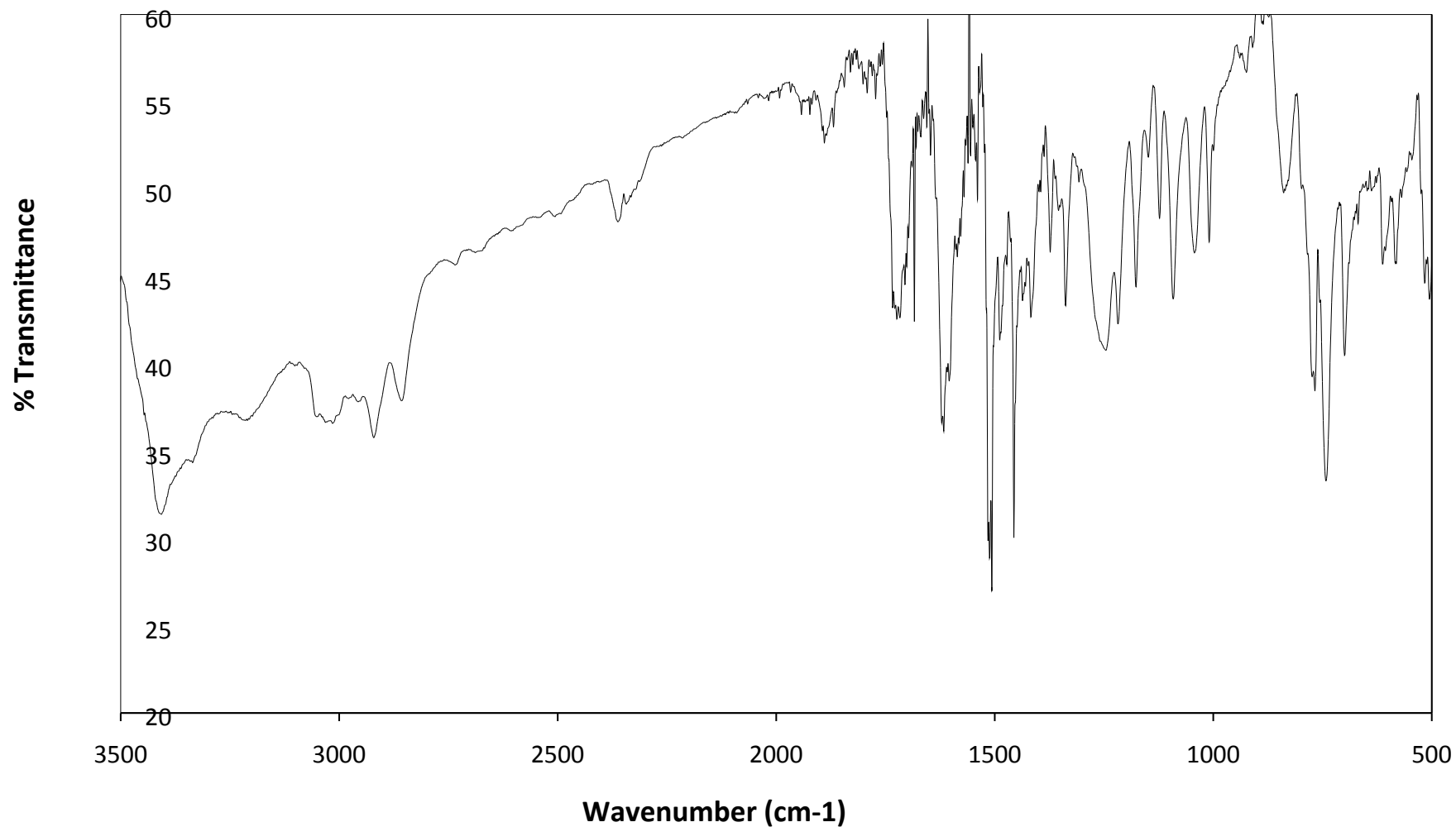


¹³C NMR (126 MHz, CDCl₃) δ = 144.44, 141.65, 136.77, 135.48, 134.59, 129.81, 128.96, 128.85, 127.14, 123.99, 121.98, 120.63, 120.11, 119.29, 115.22, 111.06, 47.64, 21.11.

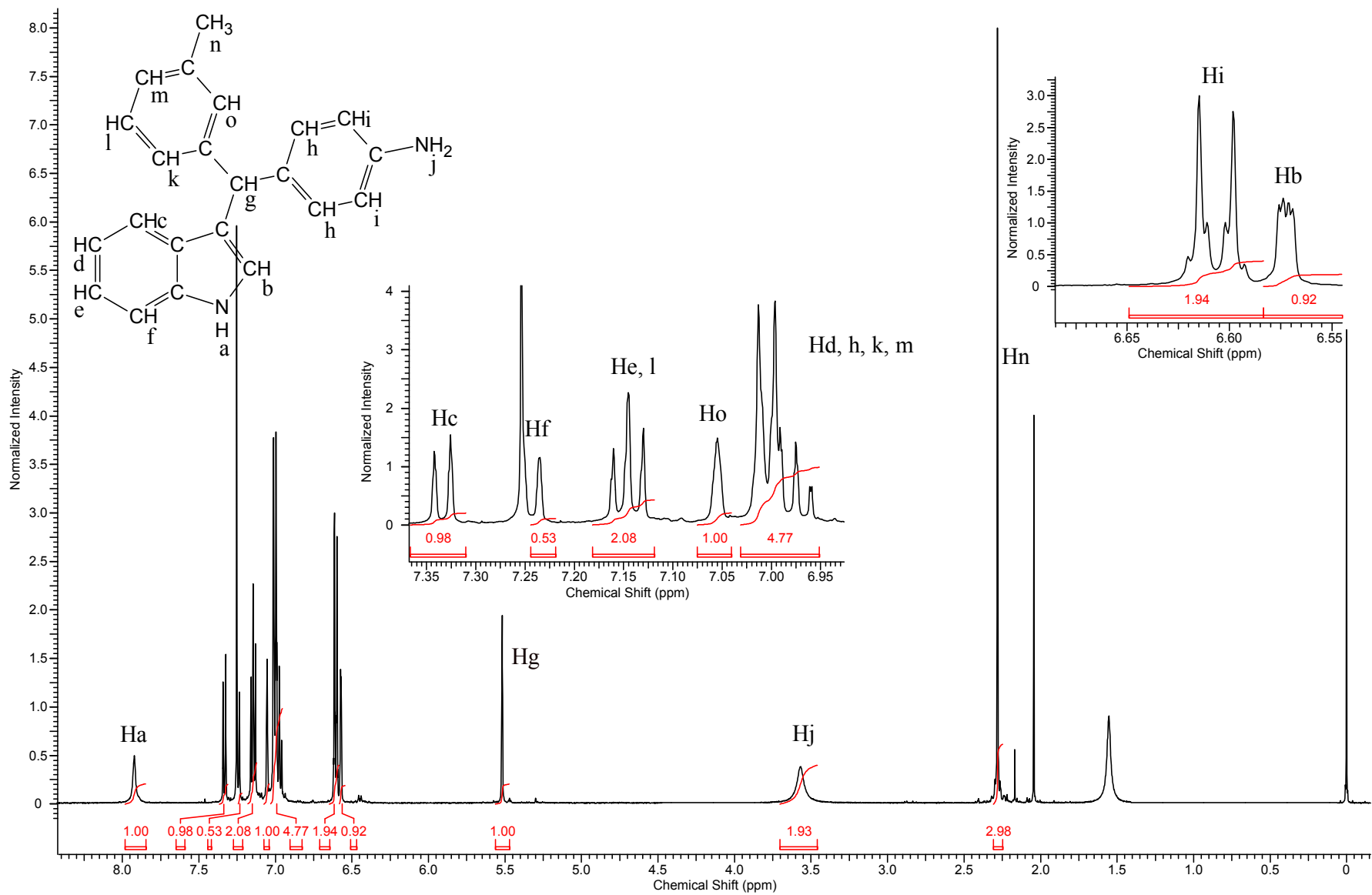


Formula Mass	Daughter number	Parent m/z	Cone Voltage (V)	Daughters	Collision Energy (eV)	Ion Mode
312.41	1	313.16	26	196.09	18	ES+
	2	313.16	26	220.28	18	ES+
	3	313.16	26	180.94	34	ES+
	4	313.16	26	180.74	52	ES+
	5	313.16	26	204.28	44	ES+

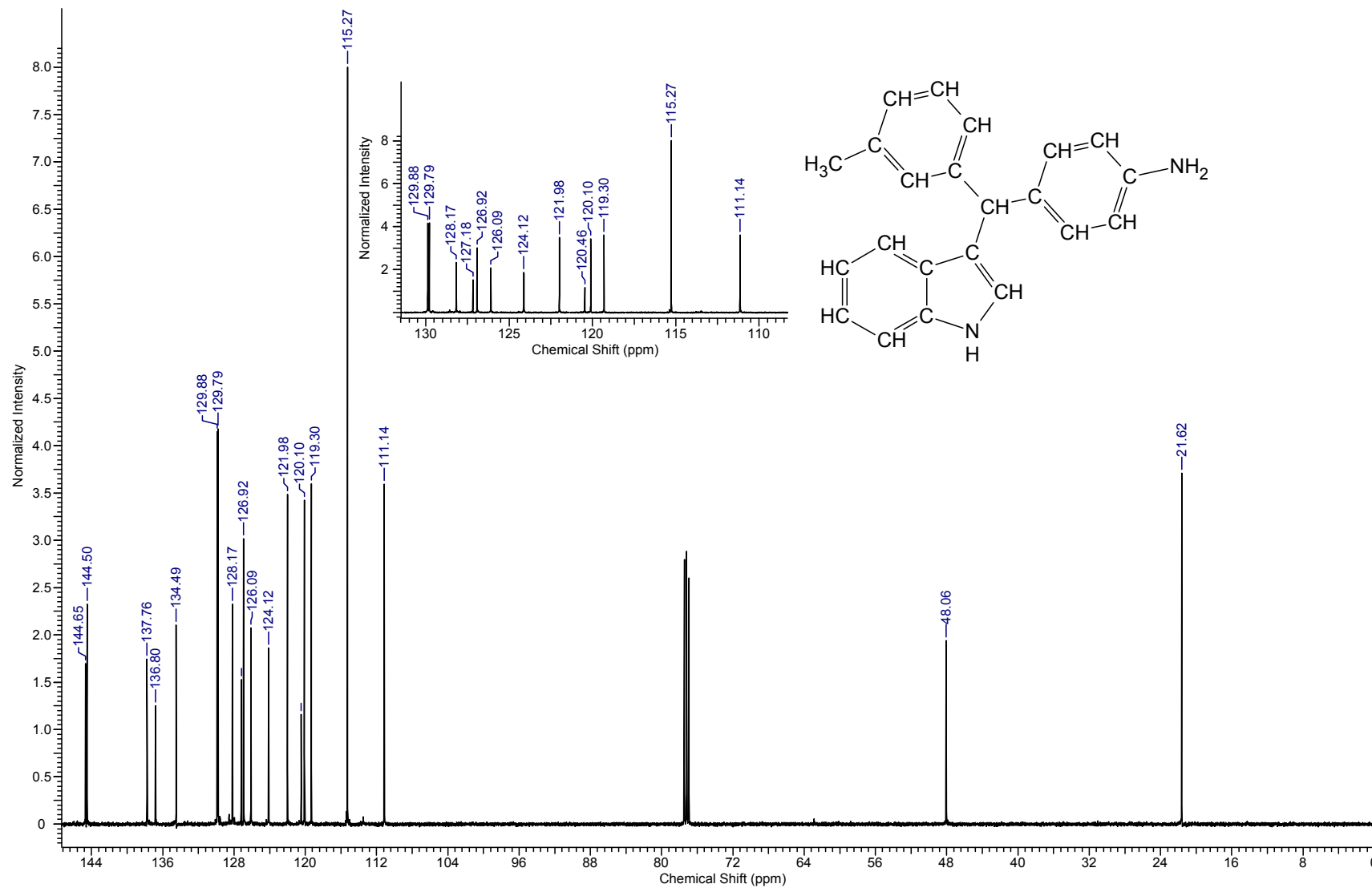
3.3 3-methylbenzaldehyde (1c) + indole (2a) + aniline (3e): (6cc) 4-[1*H*-indol-3-yl(3-methylphenyl)methyl]aniline



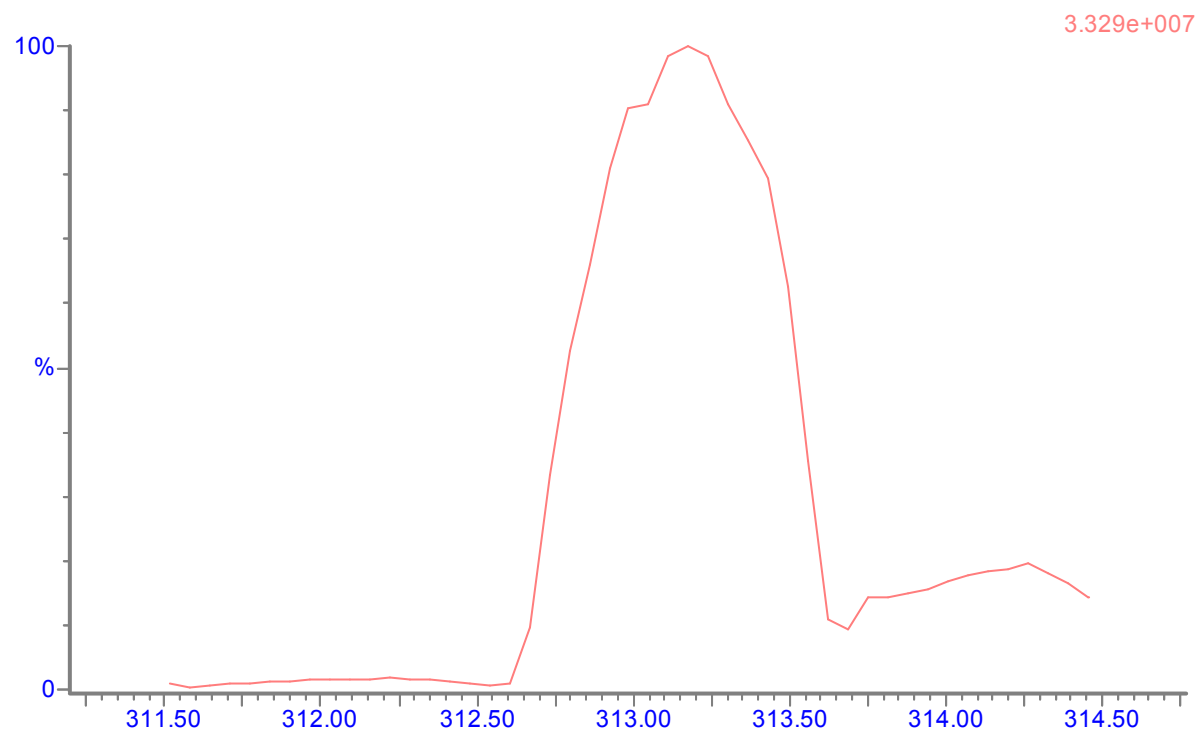
IR (KBr, cm^{-1}): 3408 (s), 3334 (s), 3213 (m), 3053 (m), 3032 (m), 3014 (m), 2920 (m), 2858 (m), 1724 (m), 1683 (m), 1616 (m), 1506 (s), 1489 (m), 1456 (s), 1436 (m), 1417 (m), 1373 (m), 1338 (m), 1246 (m), 1217 (m), 1176 (m), 1147 (w), 1122 (m), 1091 (m), 1041 (m), 1008 (m), 839 (w), 767 (m), 742 (s), 700 (s), 611 (m).



¹H NMR (500MHz, CDCl₃) δ = 7.92 (br s, 1 H), 7.33 (d, *J* = 8.2 Hz, 1 H), 7.24 (d, *J* = 7.9 Hz, 1 H), 7.18 - 7.12 (m, 2 H), 7.05 (s, 1 H), 7.03 - 6.95 (m, 5 H), 6.61 (d, *J* = 8.5 Hz, 2 H), 6.57 (dd, *J* = 0.9, 2.4 Hz, 1 H), 5.52 (s, 1 H), 3.57 (br s, 2 H), 2.28 (s, 3 H).

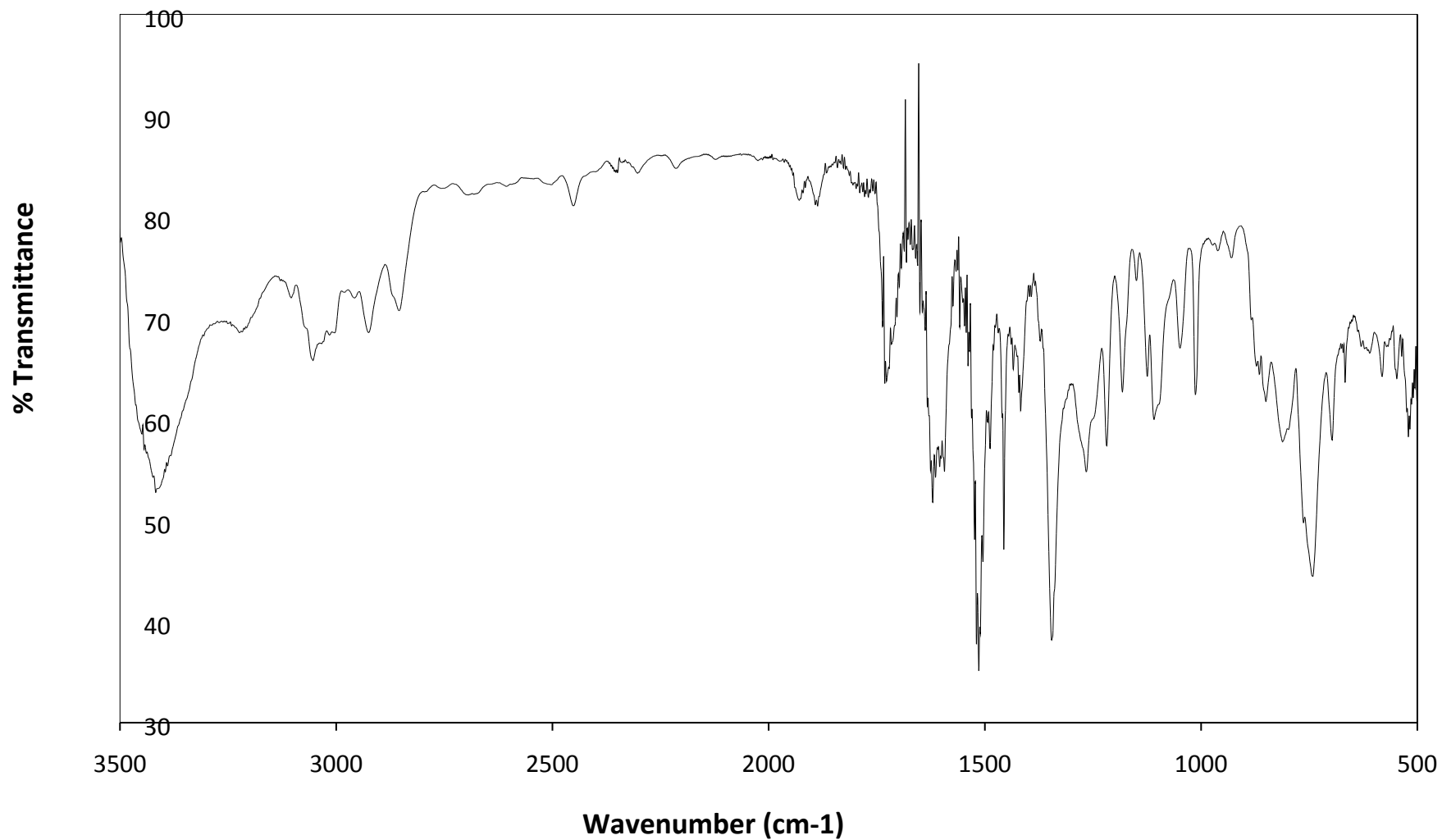


^{13}C NMR (126 MHz, CDCl_3) δ = 144.65, 144.50, 137.76, 136.80, 134.49, 129.88, 129.79, 128.17, 127.18, 126.92, 126.09, 124.12, 121.98, 120.46, 120.10, 119.30, 115.27, 111.14, 48.06, 21.62.

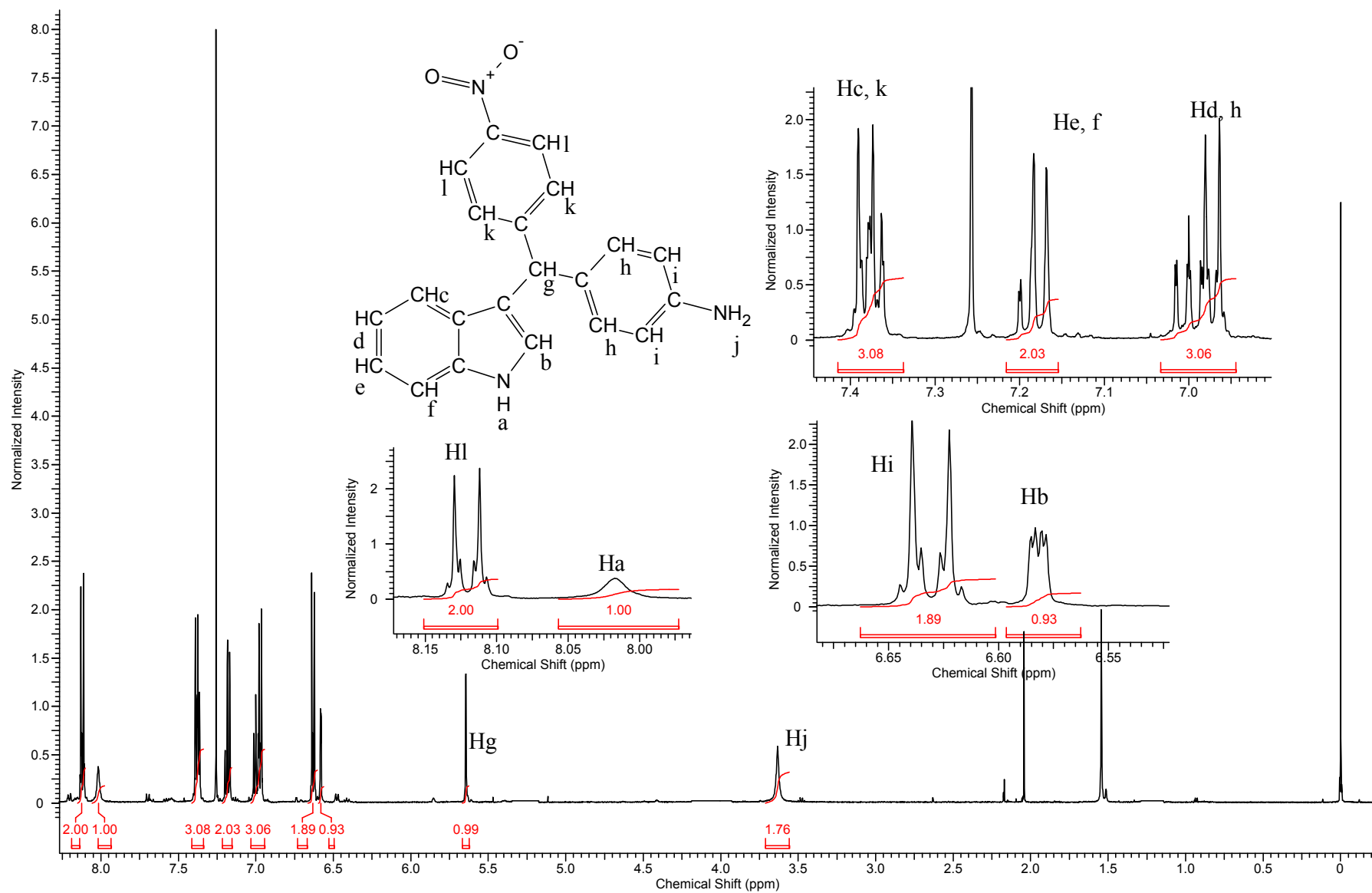


Formula Mass	Daughter number	Parent m/z	Cone Voltage (V)	Daughters	Collision Energy (eV)	Ion Mode
312.41	1	313.16	26	196.09	18	ES+
	2	313.16	26	220.28	18	ES+
	3	313.16	26	180.94	34	ES+
	4	313.16	26	180.74	52	ES+
	5	313.16	26	204.28	44	ES+

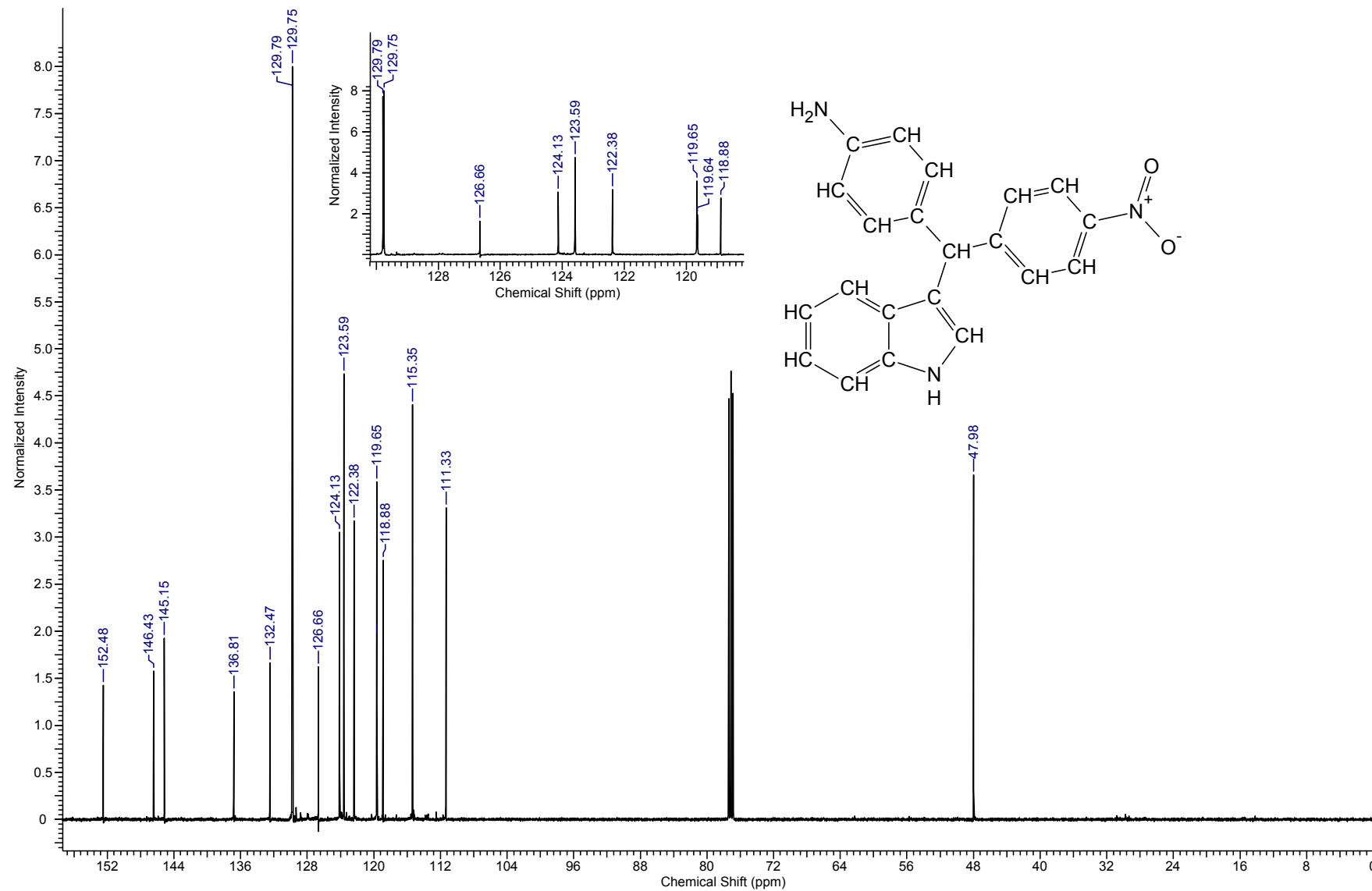
3.4 4-nitrobenzaldehyde (1f) + indole (2a) + aniline (3e): (6dd) 4-[1H-indol-3-yl(4-nitrophenyl)methyl]aniline



IR (KBr, cm^{-1}): 3417 (br, m), 3217 (m), 3107 (m), 3053 (m), 3034 (m), 3012 (m), 2956 (m), 2924 (m), 2854 (m), 1930 (w), 1892 (w), 1726 (m), 1620 (m), 1514 (s), 1487 (m), 1456 (m), 1417 (m), 1346 (s), 1265 (m), 1219 (m), 1180 (m), 1149 (w), 1124 (m), 1109 (m), 1049 (m), 1012 (m), 960 (w), 931 (w), 850 (m), 742 (s), 696 (m), 667 (m), 613 (m).

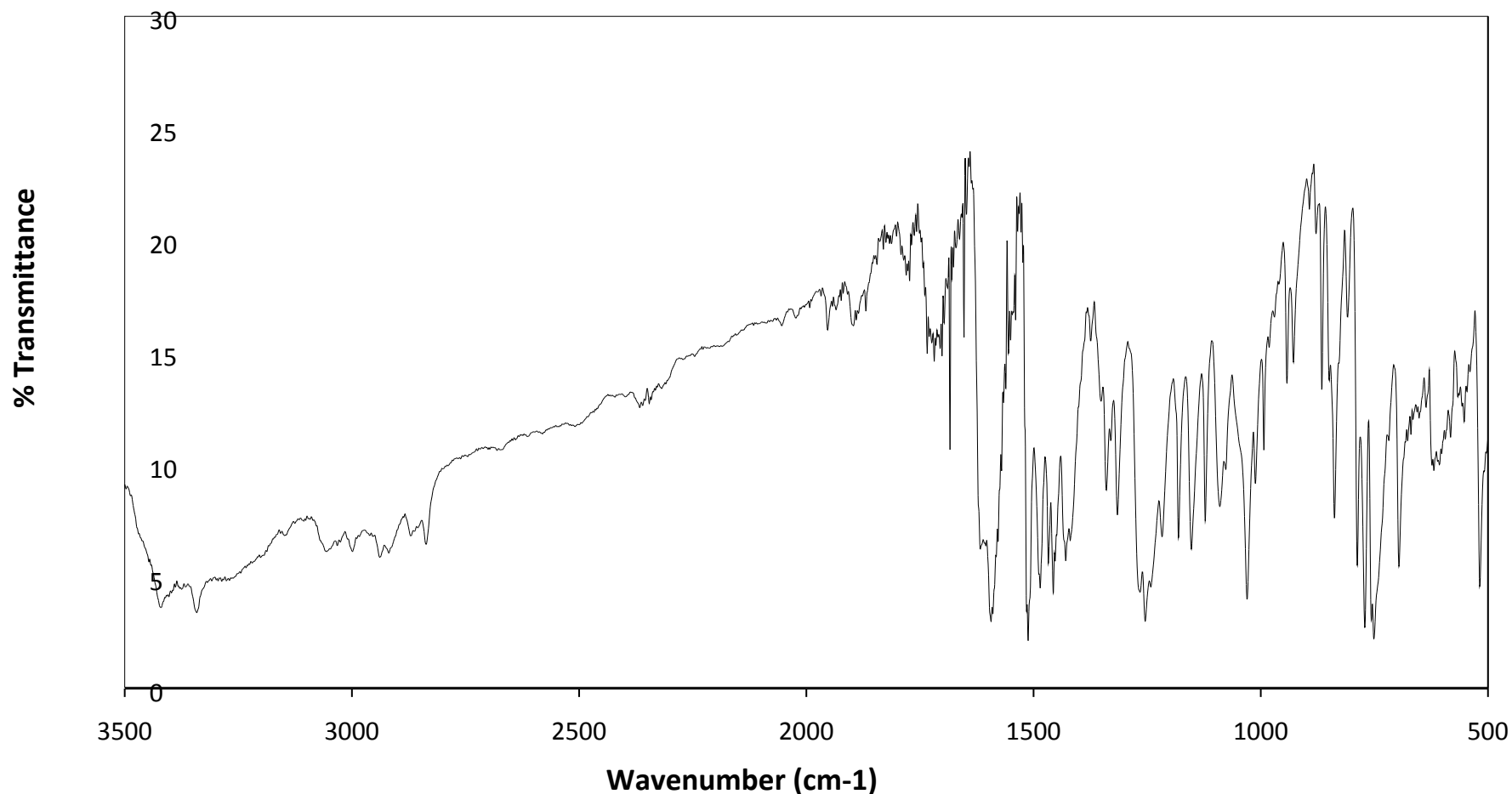


¹H NMR (500MHz, CDCl₃) δ = 8.12 (d, *J* = 8.9 Hz, 2 H), 8.02 (br s, 1 H), 7.41 - 7.34 (m, 3 H), 7.22 - 7.15 (m, 2 H), 7.03 - 6.94 (m, 3 H), 6.63 (d, *J* = 8.5 Hz, 2 H), 6.58 (dd, *J* = 0.9, 2.4 Hz, 1 H), 5.65 (s, 1 H), 3.63 (br s, 2 H).

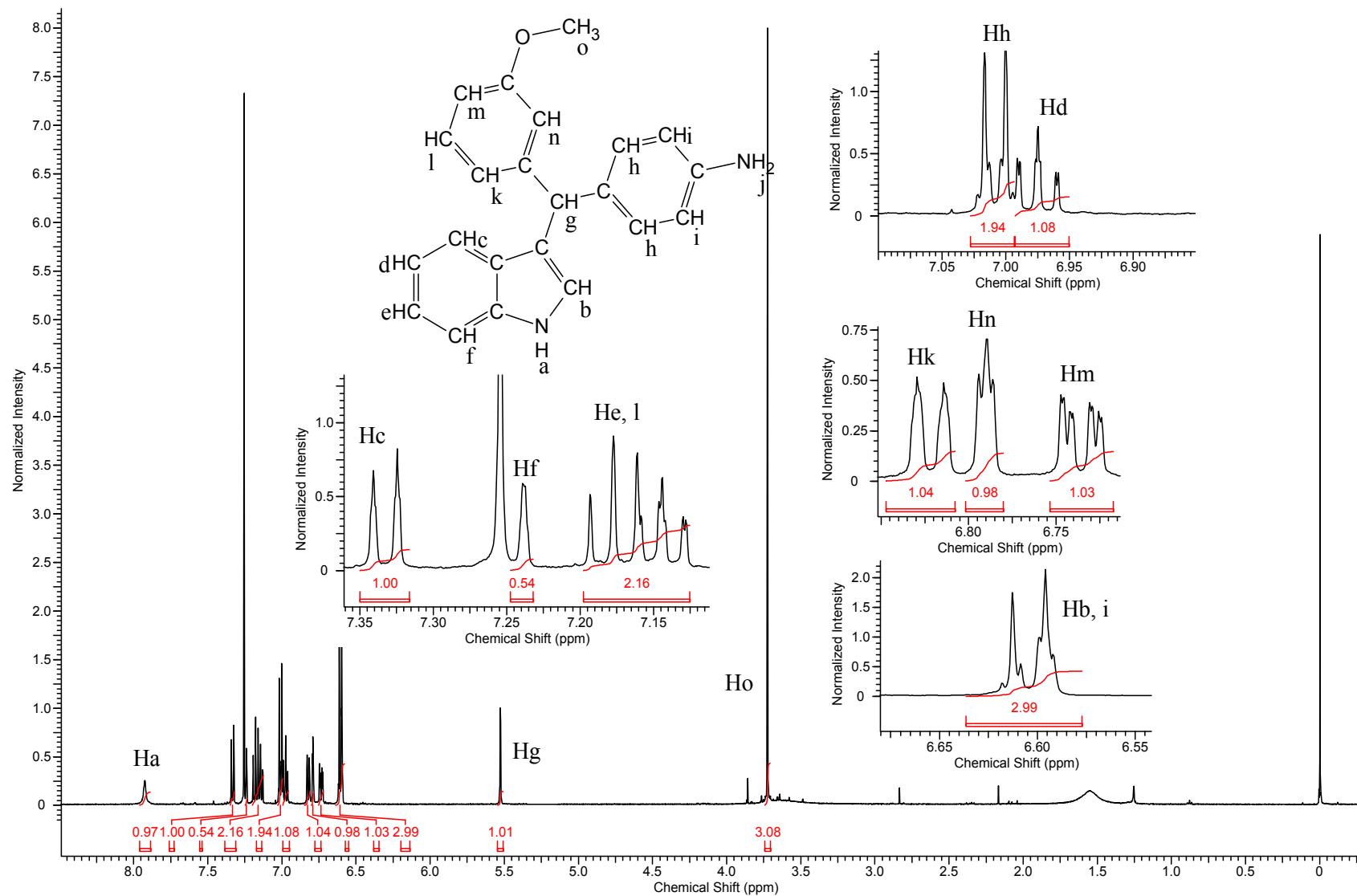


^{13}C NMR (126 MHz, CDCl_3) δ = 152.48, 146.43, 145.15, 136.81, 132.47, 129.79, 129.75, 126.66, 124.13, 123.59, 122.38, 119.65, 119.64, 118.88, 115.35, 111.33, 47.98.

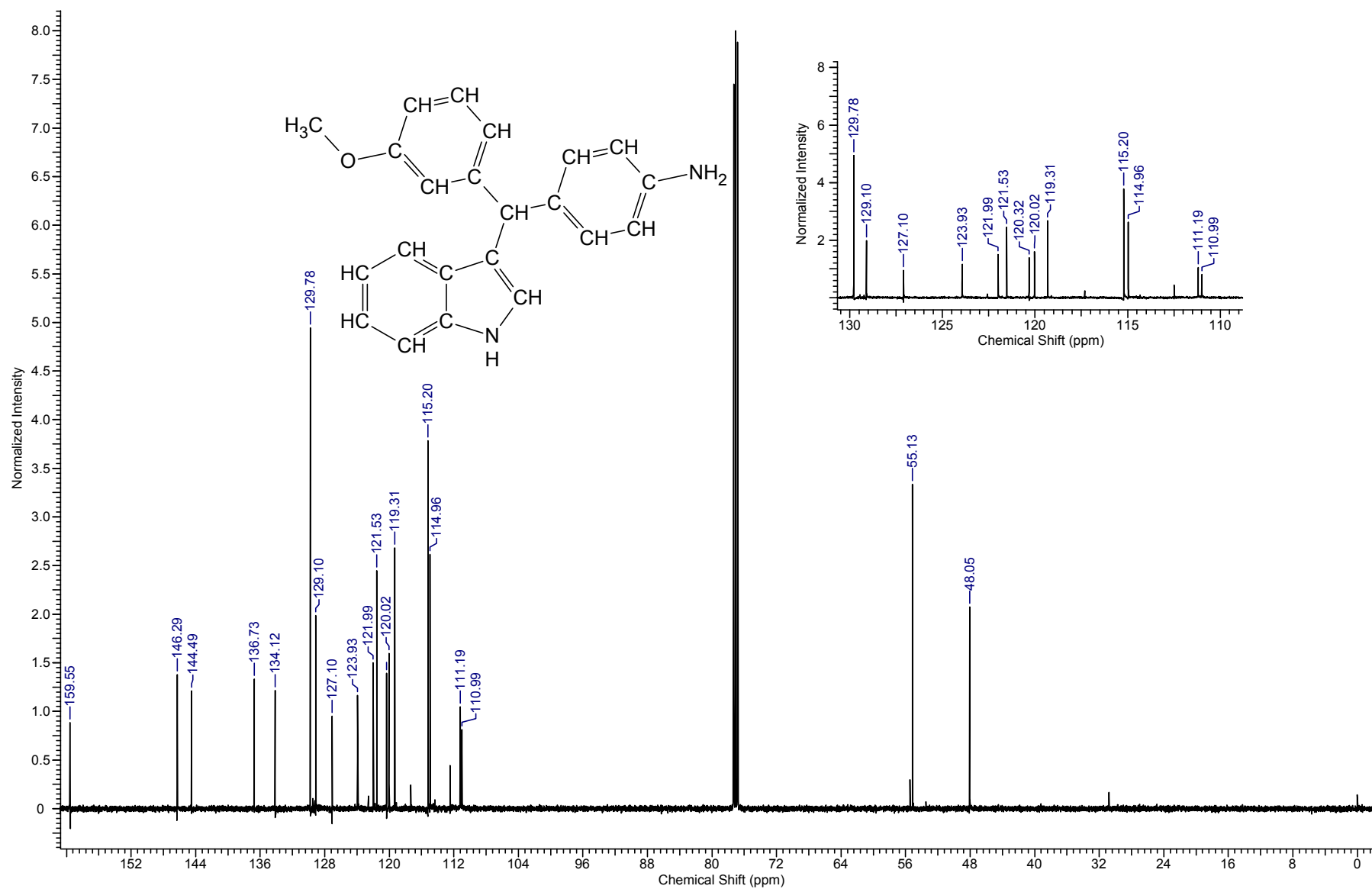
3.5 3-methoxybenzaldehyde (1h) + indole (2a) + aniline (3e): (6ee) 4-[1H-indol-3-yl(3-methoxyphenyl)methyl]aniline



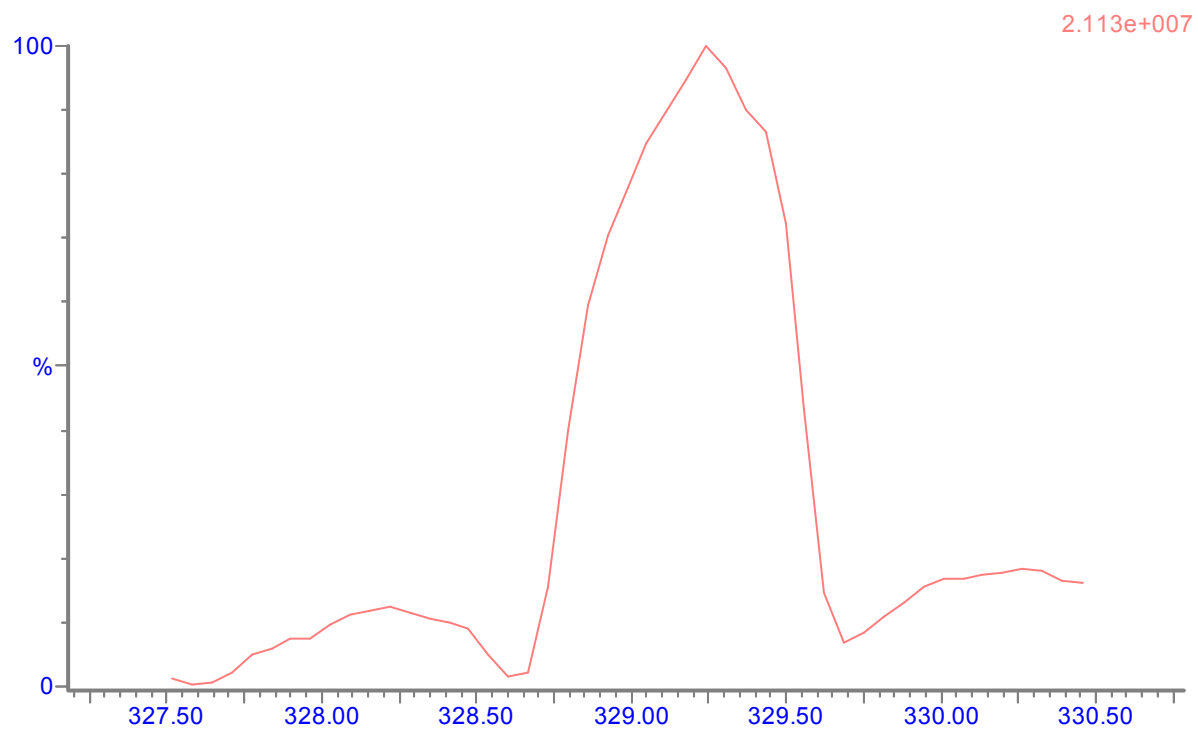
IR (KBr, cm⁻¹): 3419 (s), 3404 (s), 3340 (s), 3275 (br, s), 3143 (s), 3057 (s), 2997 (s), 2937 (s), 2918 (s), 2870 (s), 2835 (s), 1734 (w), 1718 (w), 1701 (w), 1683 (m), 1652 (w), 1618 (s), 1593 (s), 1539 (w), 1512 (s), 1485 (s), 1467 (s), 1456 (s), 1452 (s), 1429 (s), 1419 (s), 1388 (w), 1340 (m), 1315 (m), 1265 (s), 1252 (s), 1242 (s), 1217 (m), 1180 (m), 1153 (m), 1122 (m), 1089 (m), 1076 (m), 1029 (s), 1012 (m), 993 (m), 943 (w), 927 (w), 893 (w), 877 (w), 866 (w), 837 (m), 808 (w), 786 (s), 771 (s), 750 (s), 696 (m), 619 (m), 607 (m).



¹H NMR (500MHz, CDCl₃) δ = 7.92 (br s, 1 H), 7.33 (d, *J* = 8.2 Hz, 1 H), 7.25 (d, *J* = 7.9 Hz, 2 H), 7.20 - 7.13 (m, 2 H), 7.01 (d, *J* = 8.5 Hz, 2 H), 6.98 (ddd, *J* = 0.9, 7.2, 8.2 Hz, 1 H), 6.82 (d, *J* = 7.6 Hz, 1 H), 6.79 (t, *J* = 2.1 Hz, 1 H), 6.74 (ddd, *J* = 0.9, 2.5, 8.2 Hz, 1 H), 6.64 - 6.58 (m, 3 H), 5.53 (s, 1 H), 3.72 (s, 3 H).

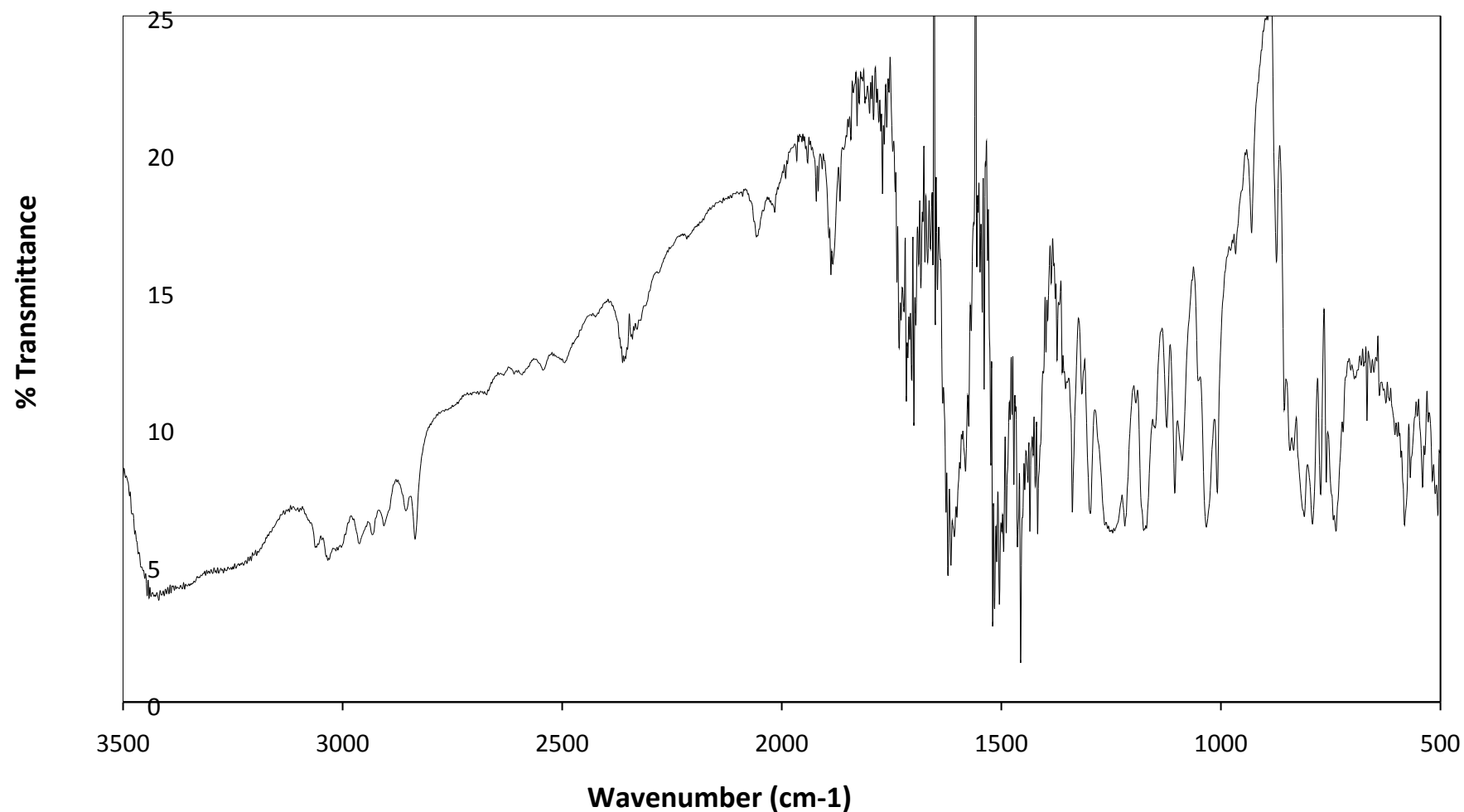


¹³C NMR (126 MHz, CDCl₃) δ = 159.55, 146.29, 144.49, 136.73, 134.12, 129.78, 129.10, 127.10, 123.93, 121.99, 121.53, 120.32, 120.02, 119.31, 115.20, 114.96, 111.19, 110.99, 55.13, 48.05.

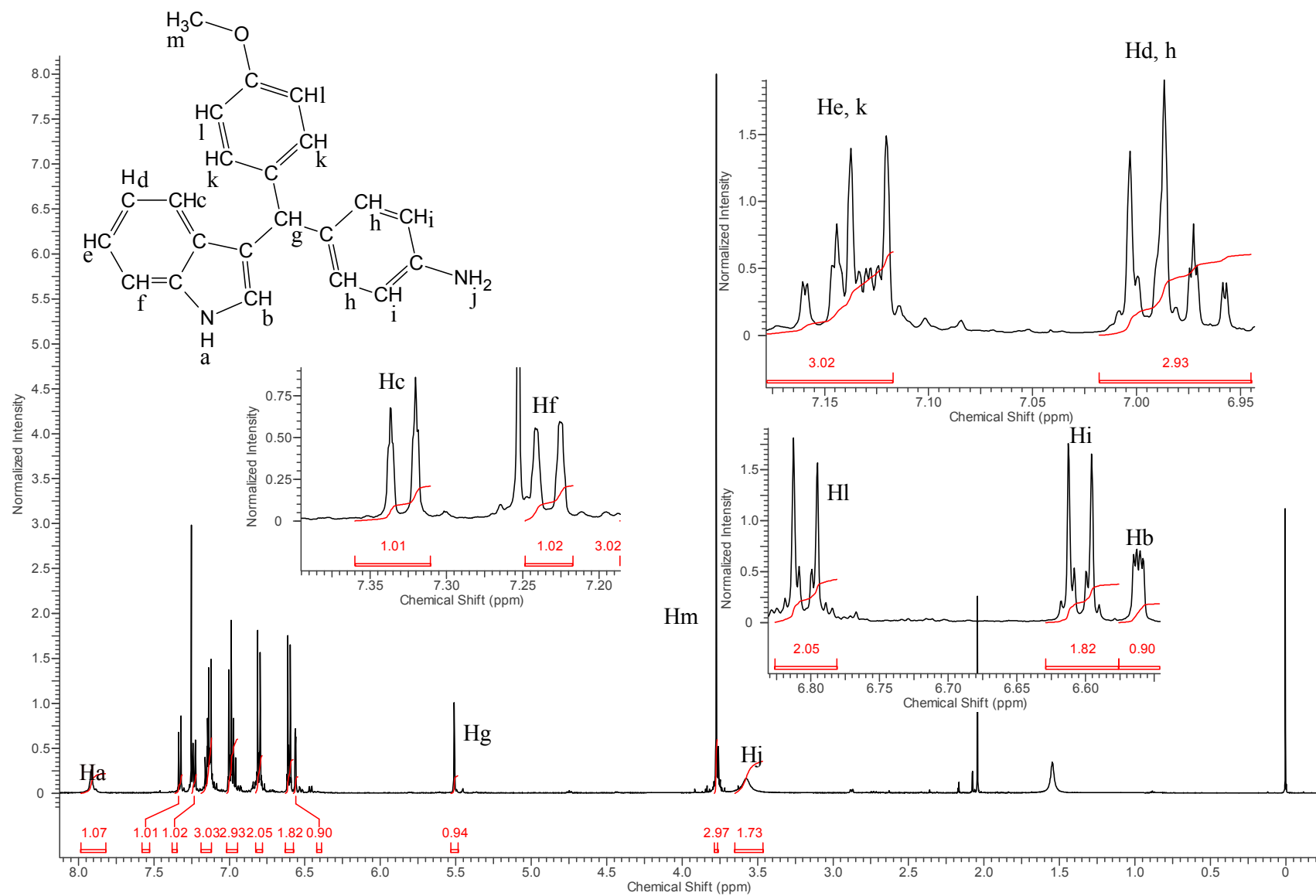


Formula Mass	Daughter number	Parent m/z	Cone Voltage (V)	Daughters	Collision Energy (eV)	Ion Mode
328.41	1	329.16	34	212.16	22	ES+
	2	329.16	34	236.16	22	ES+
	3	329.16	34	180.95	30	ES+
	4	329.16	34	221.13	18	ES+
	5	313.16	34	296.95	30	ES+

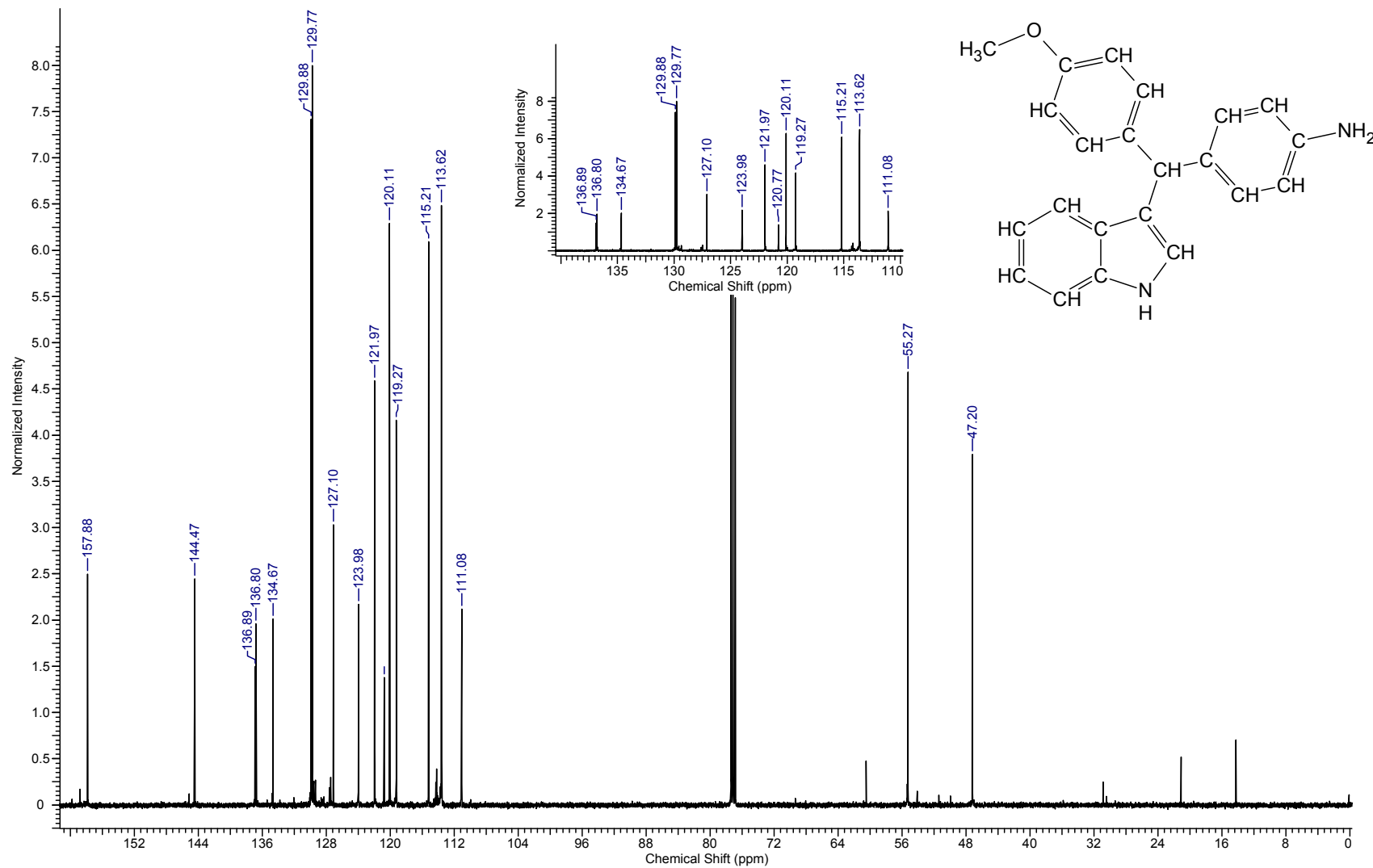
3.6 4-methoxybenzaldehyde (1i) + indole (2a) + aniline (3e): (6ff) 4-[1*H*-indol-3-yl(4-methoxyphenyl)methyl]aniline



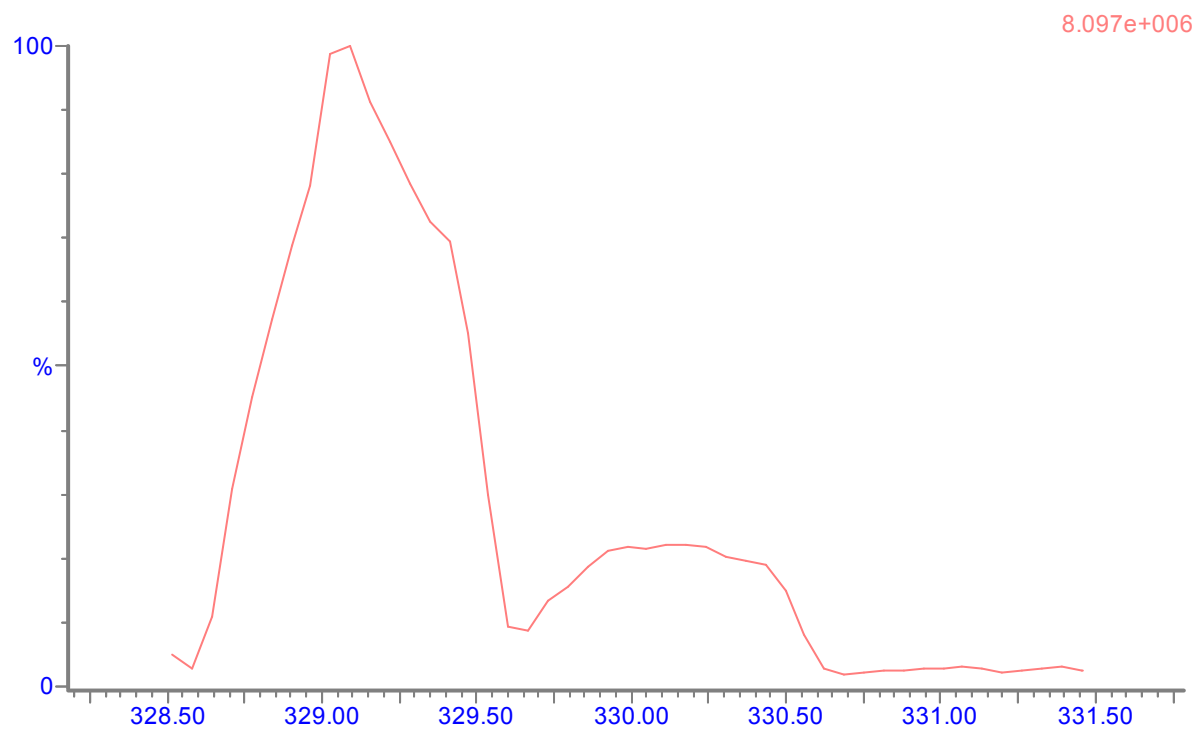
IR (KBr, cm⁻¹): 3441 (br, s), 3059 (m), 3034 (m), 2960 (m), 2931 (s), 2904 (m), 2858 (m), 2835 (m), 1888 (w), 1770 (w), 1732 (m), 1716 (m), 1699 (m), 1622 (s), 1614 (m), 1539 (m), 1519 (s), 1504 (s), 1456 (s), 1435 (m), 1417 (m), 1373 (m), 1338 (m), 1338 (m), 1298 (m), 1246 (m), 1219 (m), 1172 (m), 1123 (m), 1105 (m), 1087 (m), 1033 (m), 1008 (m), 929 (w), 873 (w), 842 (m), 810 (m), 790 (m), 773 (m), 759 (m), 738 (m), 667 (m).



¹H NMR (500MHz, CDCl₃) δ = 7.92 (br s, 1 H), 7.33 (d, *J* = 8.2 Hz, 1 H), 7.23 (d, *J* = 7.9 Hz, 1 H), 7.19 - 7.12 (m, 3 H), 7.02 - 6.94 (m, 3 H), 6.81 (d, *J* = 8.9 Hz, 2 H), 6.61 (d, *J* = 8.5 Hz, 2 H), 6.56 (dd, *J* = 1.1, 2.3 Hz, 1 H), 5.51 (s, 1 H), 3.77 (s, 3 H), 3.58 (br s, 2 H).

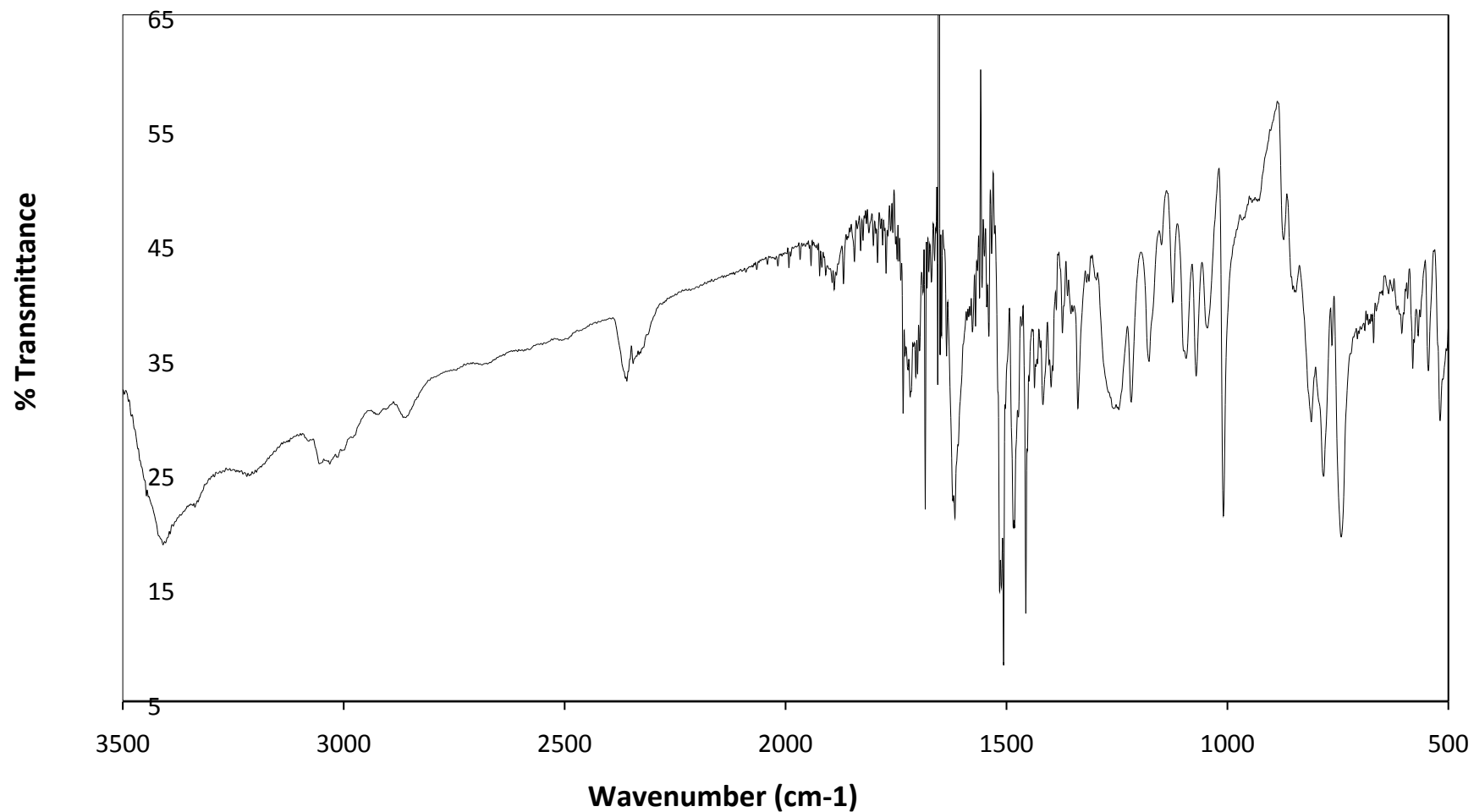


¹³C NMR (126 MHz, CDCl₃) δ = 157.88, 144.47, 136.89, 136.80, 134.67, 129.88, 129.77, 127.10, 123.98, 121.97, 120.77, 120.11, 119.27, 115.21, 113.62, 111.08, 55.27, 47.20.

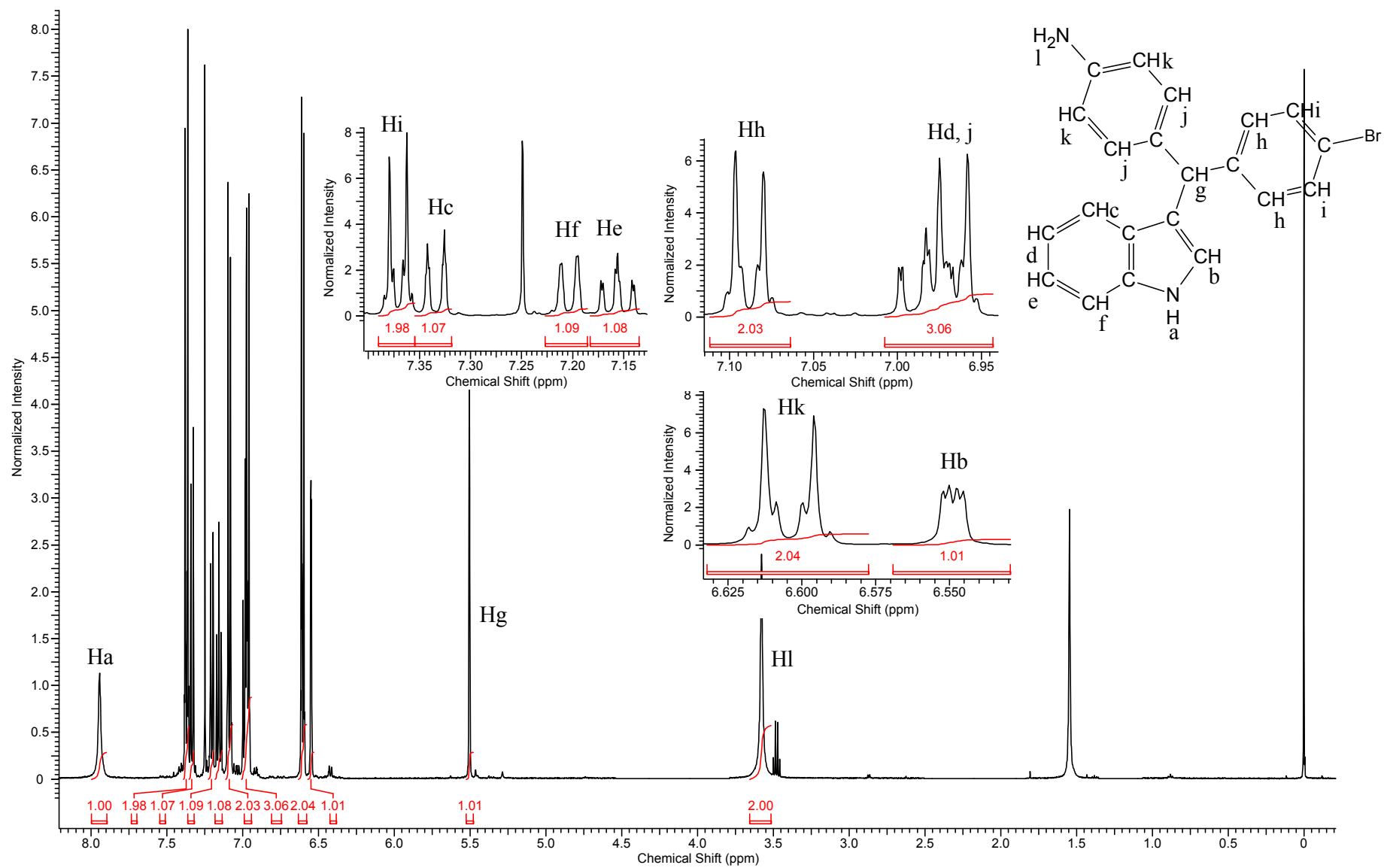


Formula Mass	Daughter number	Parent m/z	Cone Voltage (V)	Daughters	Collision Energy (eV)	Ion Mode
328.41	1	329.07	44	212.14	22	ES+
	2	329.07	44	236.14	22	ES+
	3	329.07	44	168.24	50	ES+
	4	329.07	44	197.06	36	ES+
	5	329.07	44	221.12	20	ES+

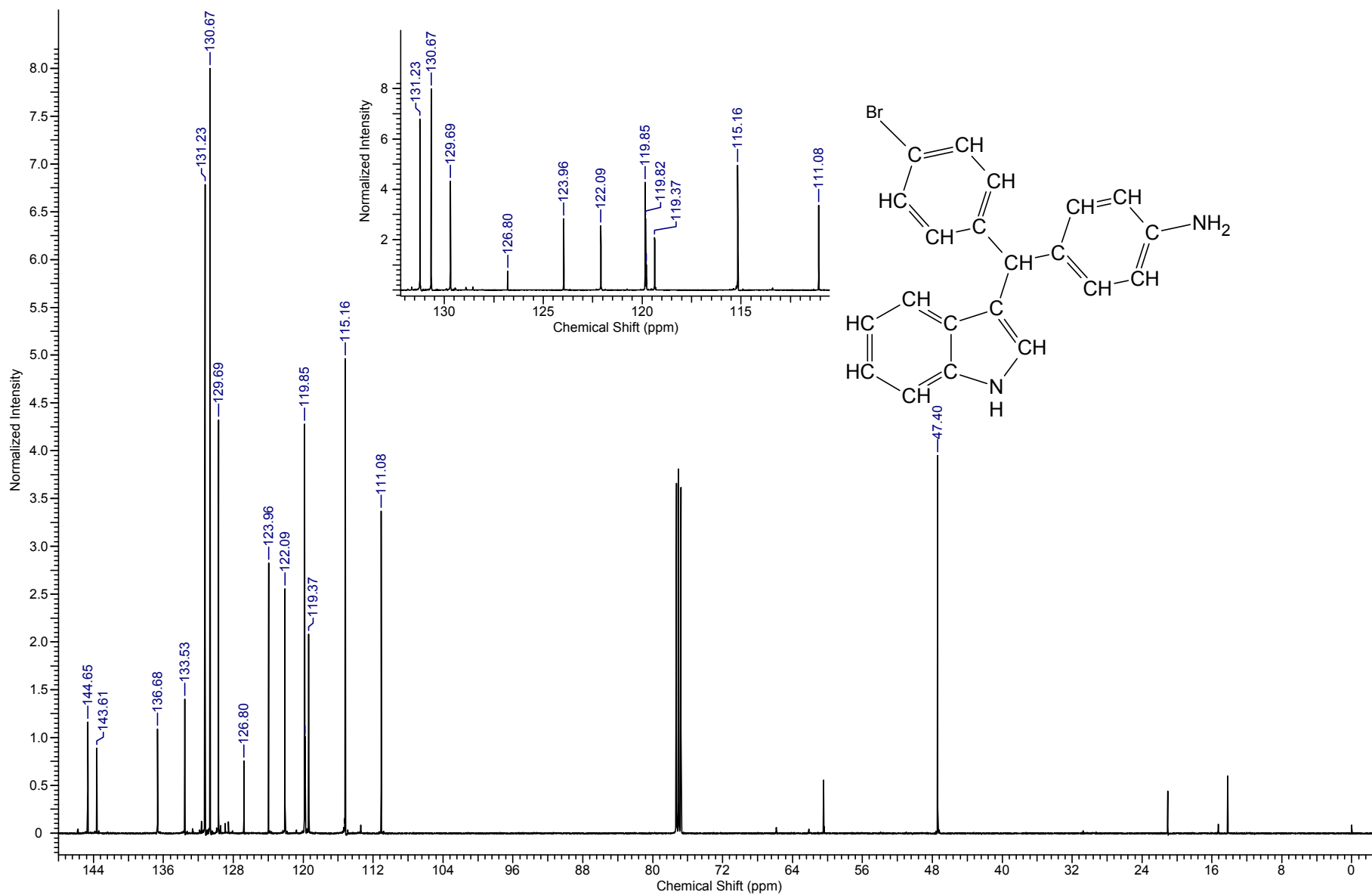
3.7 4-bromobenzaldehyde (1n) + indole (2a) + aniline (3e): (6gg) 4-[1H-indol-3-yl(4-bromophenyl)methyl]aniline



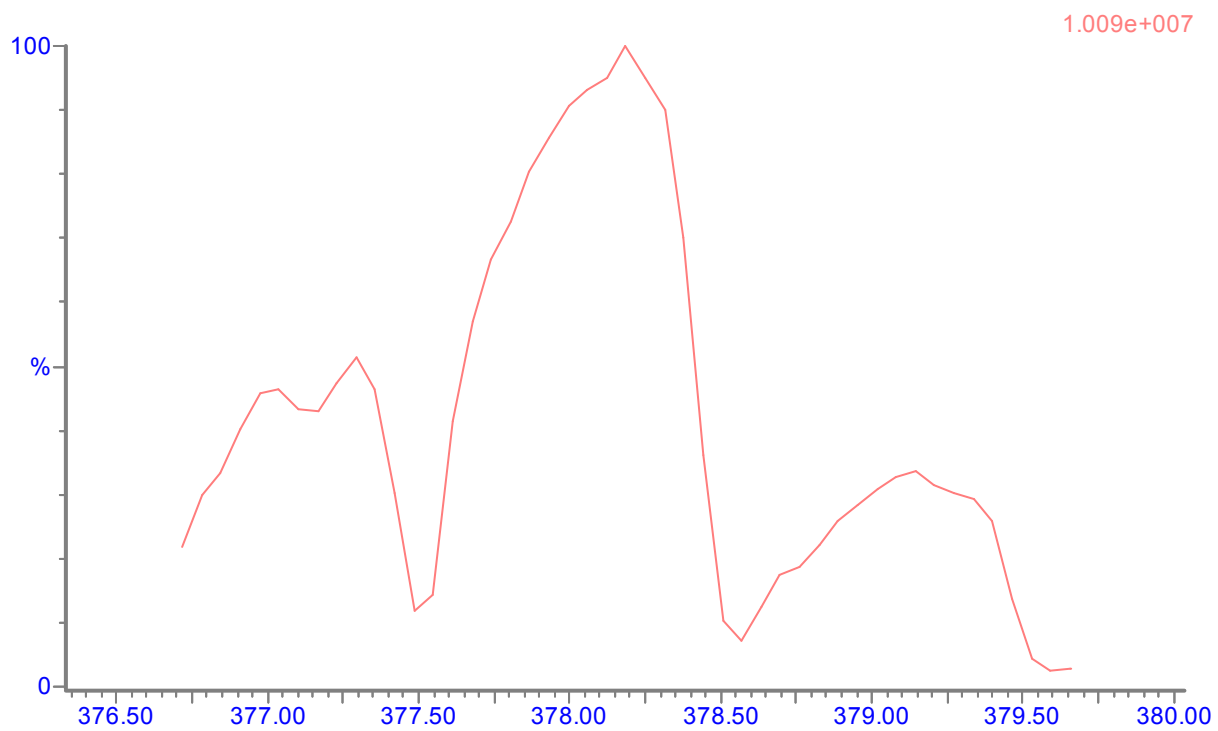
IR (KBr, cm⁻¹): 3408 (br, m), 3340 (m), 3051 (m), 3032 (m), 3012 (m), 2999 (m), 2978 (m), 2920 (m), 2858 (m), 1890 (w), 1734 (m), 1718 (m), 1701 (m), 1683 (m), 1616 (m), 1516 (s), 1506 (s), 1481 (m), 1456 (s), 1436 (m), 1417 (m), 1398 (m), 1373 (w), 1338 (m), 1257 (m), 1246 (m), 1217 (m), 1178 (m), 1149 (w), 1122 (w), 1093 (m), 1070 (m), 1047 (m), 1008 (m), 871 (w), 844 (w), 810 (m), 783 (m), 742 (m), 669 (m), 603 (m).



¹H NMR (500MHz, CDCl₃) δ = 7.94 (br s, 1 H), 7.37 (d, J = 8.2 Hz, 2 H), 7.34 (d, J = 8.2 Hz, 1 H), 7.21 (d, J = 7.9 Hz, 1 H), 7.16 (ddd, J = 0.9, 7.1, 7.9 Hz, 1 H), 7.09 (d, J = 8.2 Hz, 2 H), 7.01 - 6.94 (m, 3 H), 6.61 (d, J = 8.5 Hz, 2 H), 6.55 (dd, J = 1.1, 2.3 Hz, 1 H), 5.50 (s, 1 H), 3.58 (br s, 2 H).

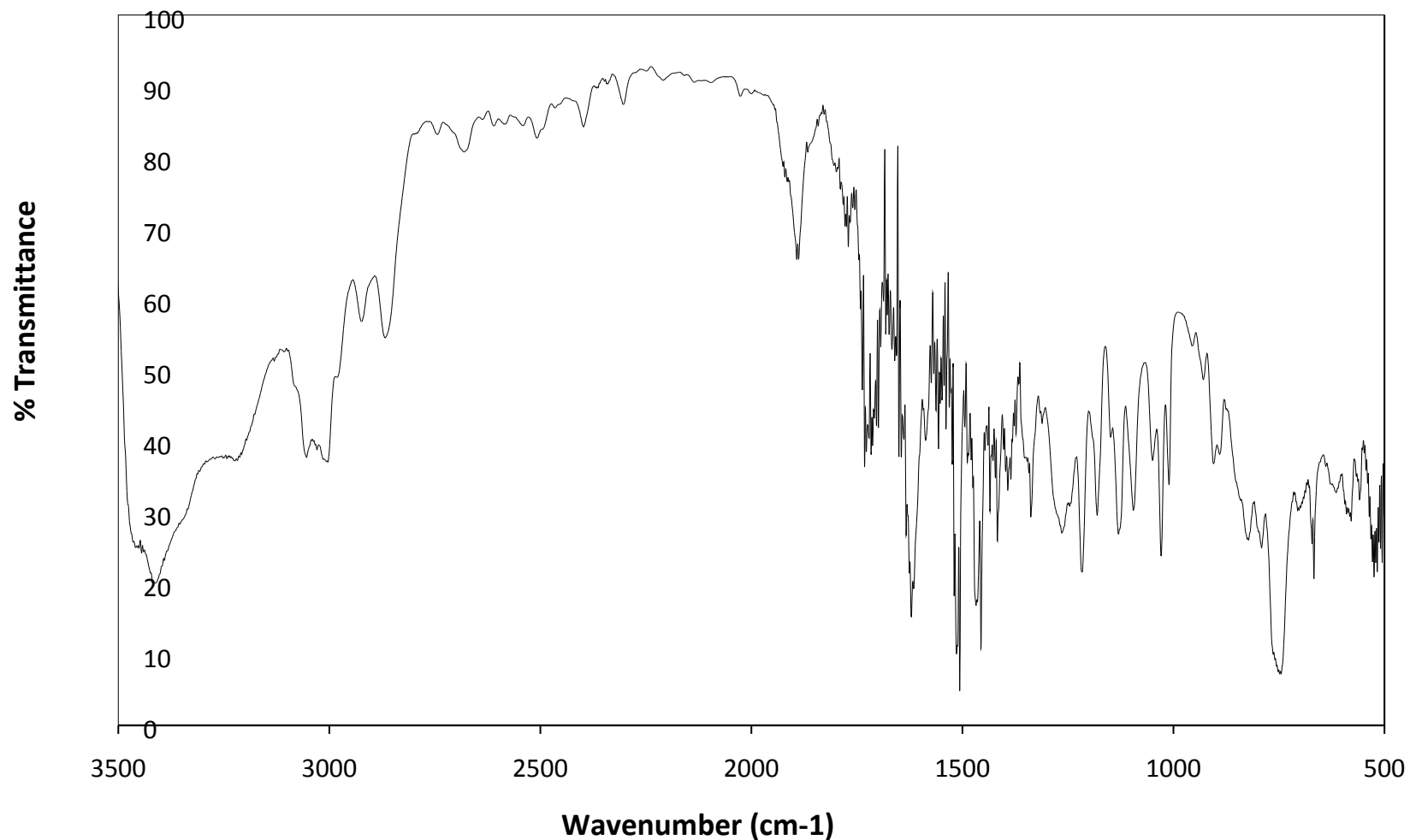


^{13}C NMR (126 MHz, CDCl_3) δ = 144.67, 144.65, 143.63, 143.61, 136.68, 133.53, 131.23, 130.67, 129.69, 123.96, 122.09, 119.85, 119.82, 119.37, 115.16, 111.08, 47.40.

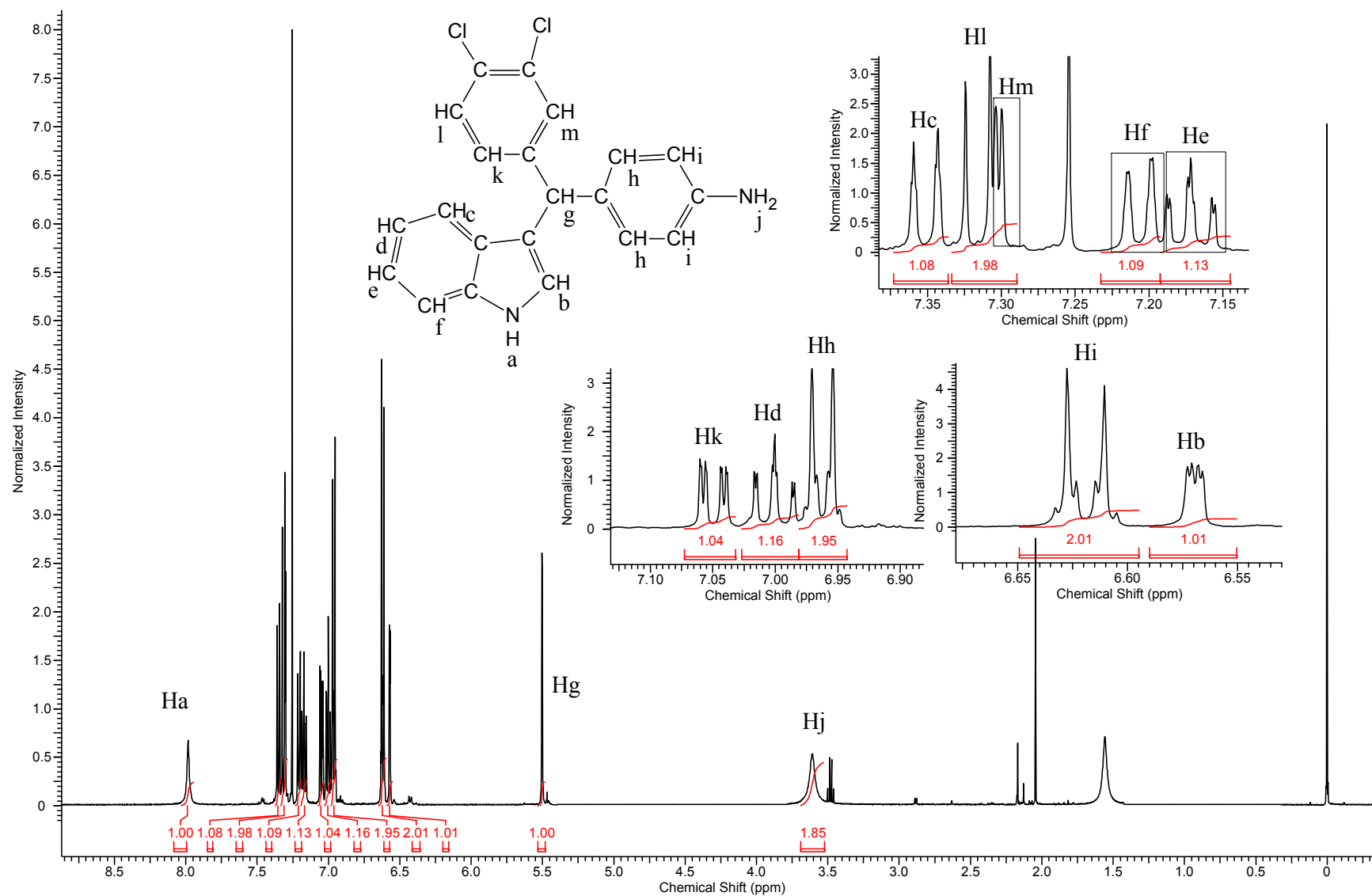


Formula Mass	Daughter number	Parent m/z	Cone Voltage (V)	Daughters	Collision Energy (eV)	Ion Mode
377.28	1	378.04	60	221.13	26	ES+
	2	378.04	60	180.09	38	ES+
	3	378.04	60	204.16	38	ES+
	4	378.04	60	285.84	30	ES+

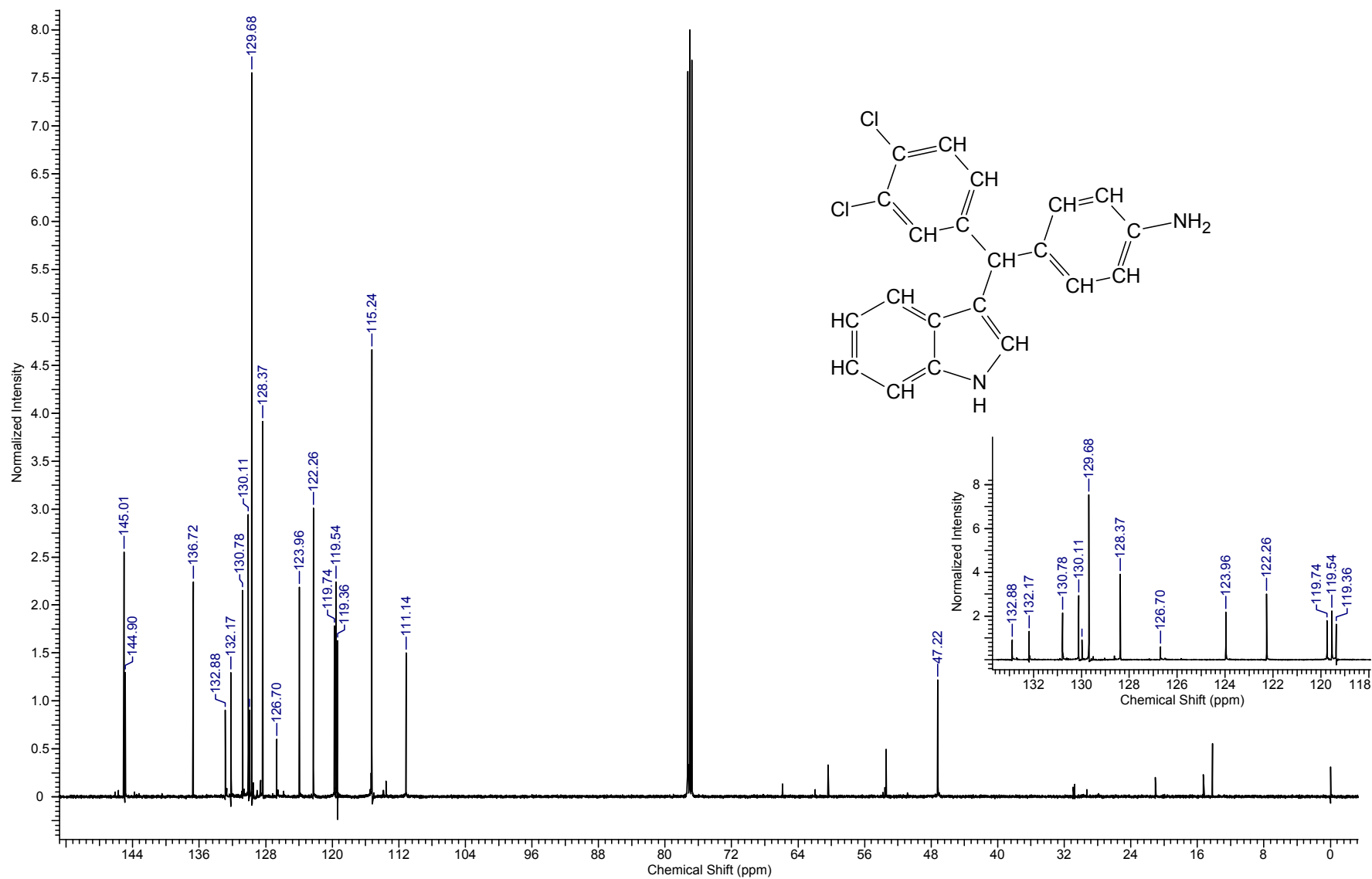
3.8 3,4-dichlorobenzaldehyde (1o) + indole (2a) + aniline (3e): (6hh) 4-[1*H*-indol-3-yl(3,4-dichlorophenyl)methyl]aniline



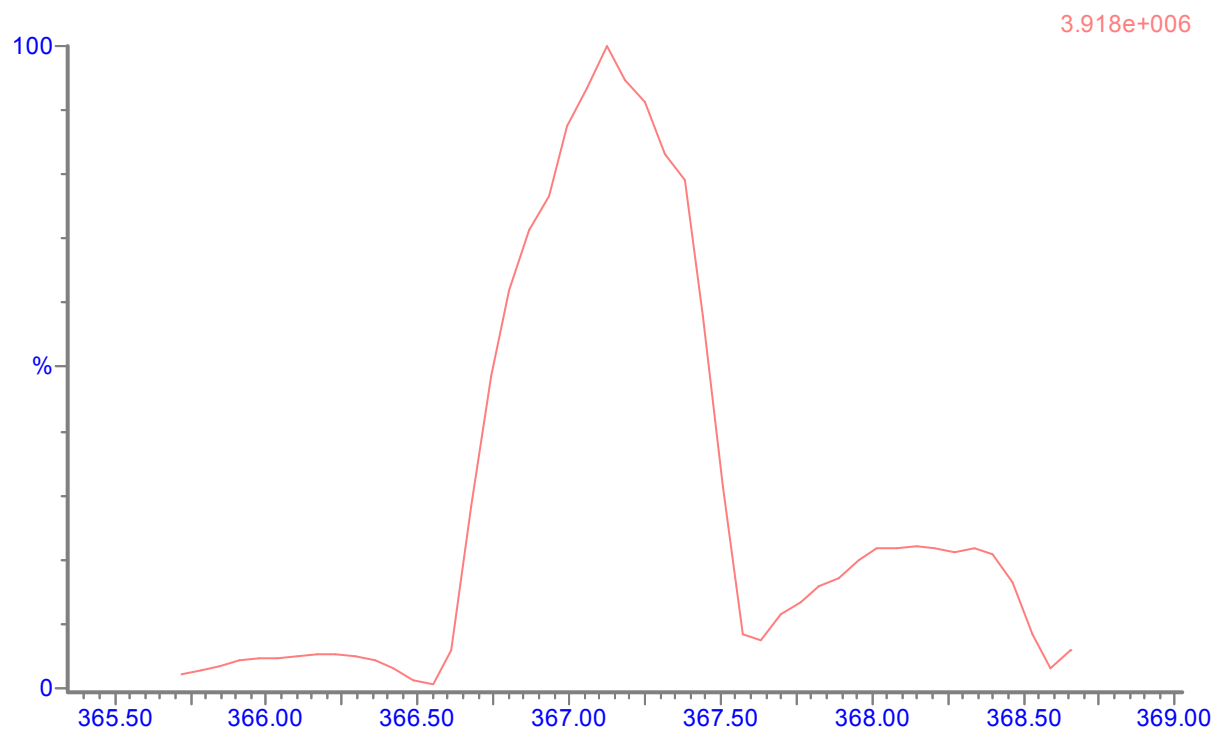
IR (KBr, cm^{-1}): 3444 (m), 3408 (m), 3224 (m), 3053 (m), 3003 (m), 2924 (w), 2866 (w), 1732 (m), 1716 (m), 1620 (m), 1514 (s), 1506 (s), 1467 (s), 1456 (s), 1417 (m), 1392 (m), 1338 (m), 1265 (m), 1219 (m), 1180 (m), 1130 (m), 1049 (m), 1029 (m), 1010 (m), 904 (m), 889 (m), 825 (m), 790 (m), 744 (s), 705 (m), 667 (m).



^1H NMR (500MHz, CDCl_3) $\delta = 7.98$ (br s, 1 H), 7.35 (d, $J = 8.2$ Hz, 1 H), 7.32 (d, $J = 8.5$ Hz, 1 H), 7.30 (d, $J = 2.1$ Hz, 1H) 7.21 (d, $J = 7.9$ Hz, 1 H), 7.17 (ddd, $J = 0.9, 7.1, 7.9$ Hz, 1 H), 7.04 (ddd, $J = 0.6, 2.1, 8.3$ Hz, 1 H), 7.00 (ddd, $J = 1.1, 7.1, 8.2$ Hz, 1 H), 6.96 (d, $J = 8.5$ Hz, 2 H), 6.62 (d, $J = 8.5$ Hz, 2 H), 6.57 (dd, $J = 0.9, 2.4$ Hz, 1 H), 5.50 (s, 1 H), 3.61 (br s, 2 H).

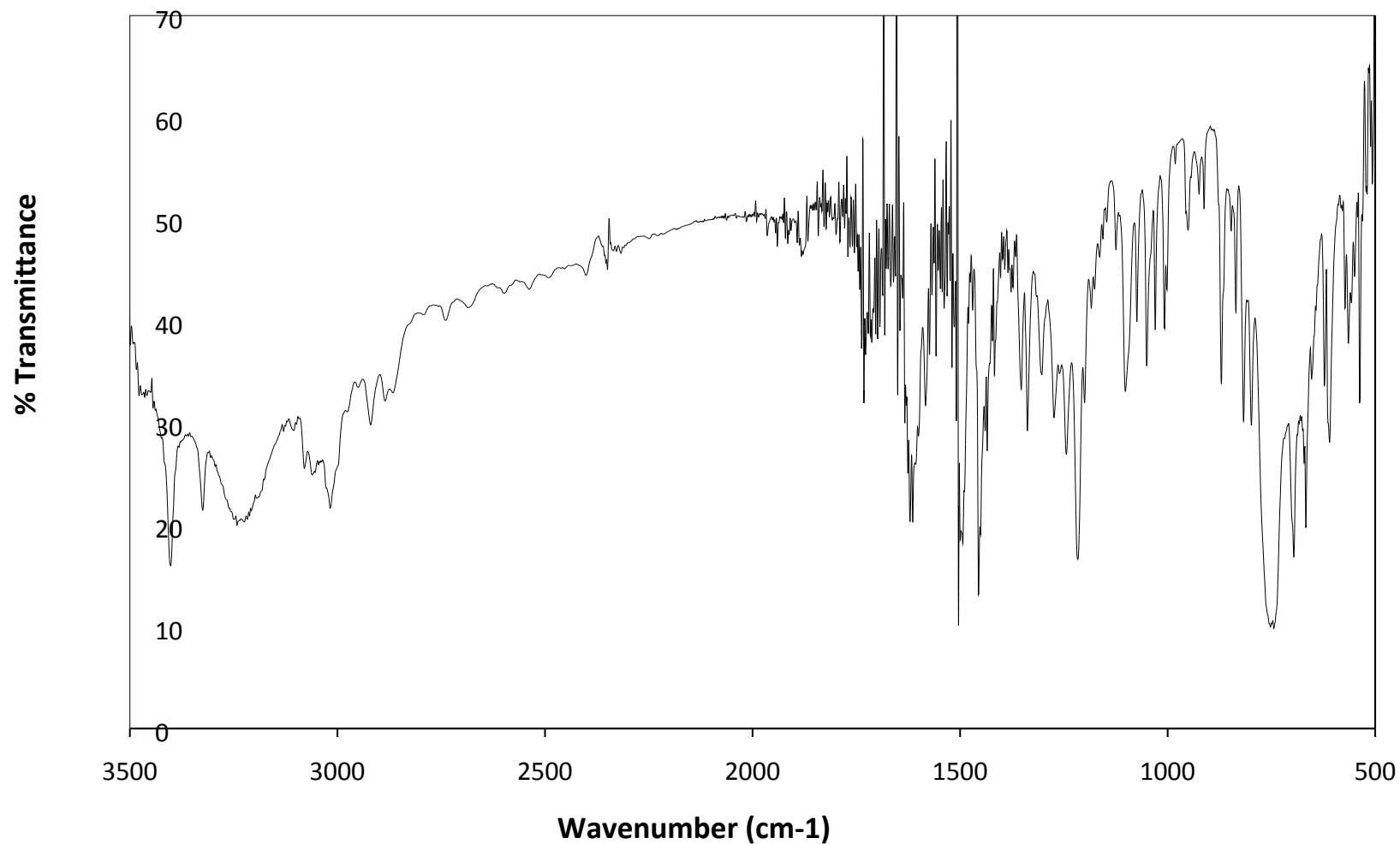


¹³C NMR (126 MHz, CDCl₃) δ = 145.01, 144.90, 136.72, 132.88, 132.17, 130.78, 130.11, 129.96, 129.68, 128.37, 126.70, 123.96, 122.26, 119.74, 119.54, 119.36, 115.24, 111.14, 47.22.

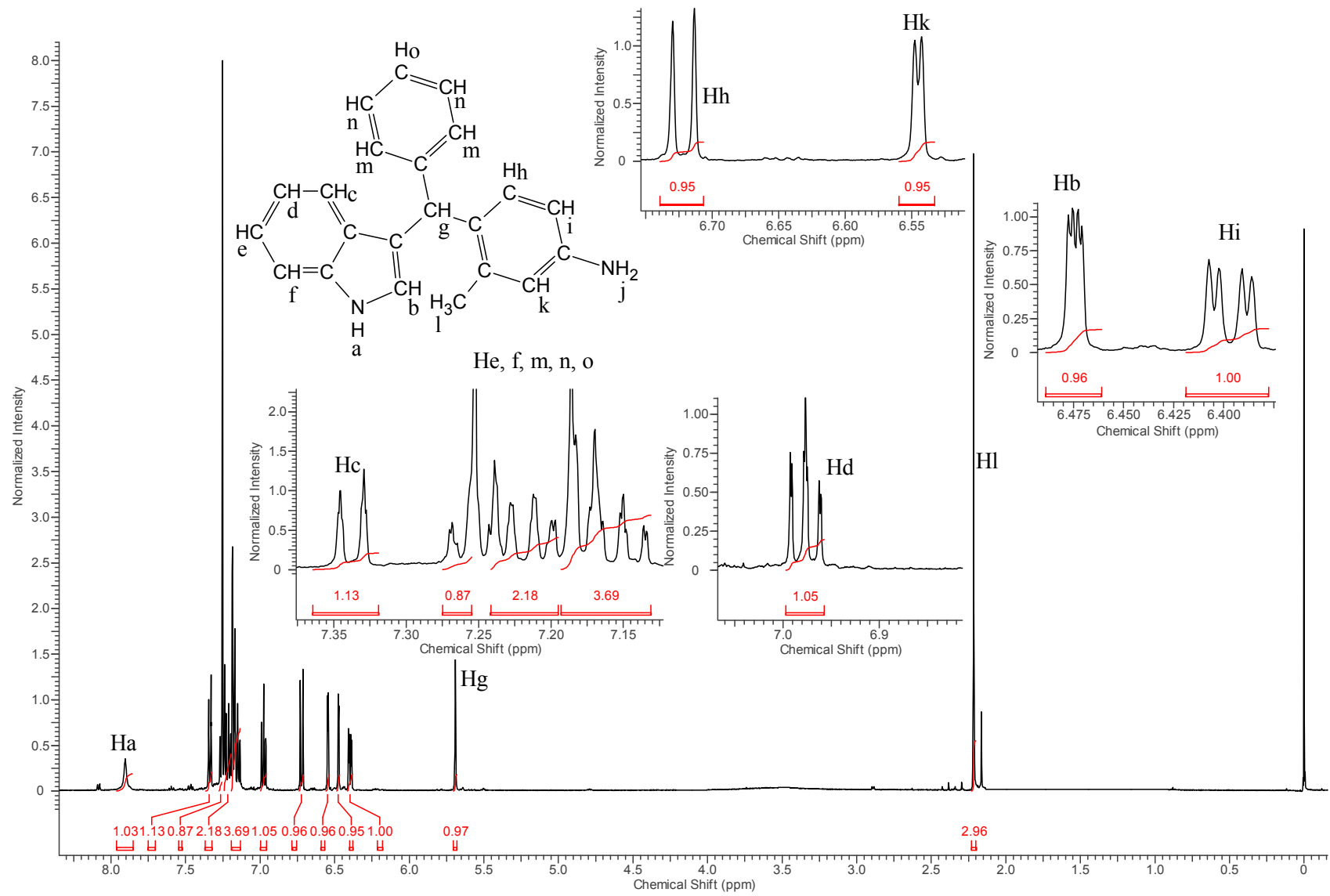


Formula Mass	Daughter number	Parent m/z	Cone Voltage (V)	Daughters	Collision Energy (eV)	Ion Mode
366.20	1	367.10	44	250.06	26	ES+
	2	367.10	44	180.09	38	ES+
	3	367.10	44	274.06	28	ES+
	4	367.10	44	152.05	80	ES+
	5	367.10	44	204.07	60	ES+

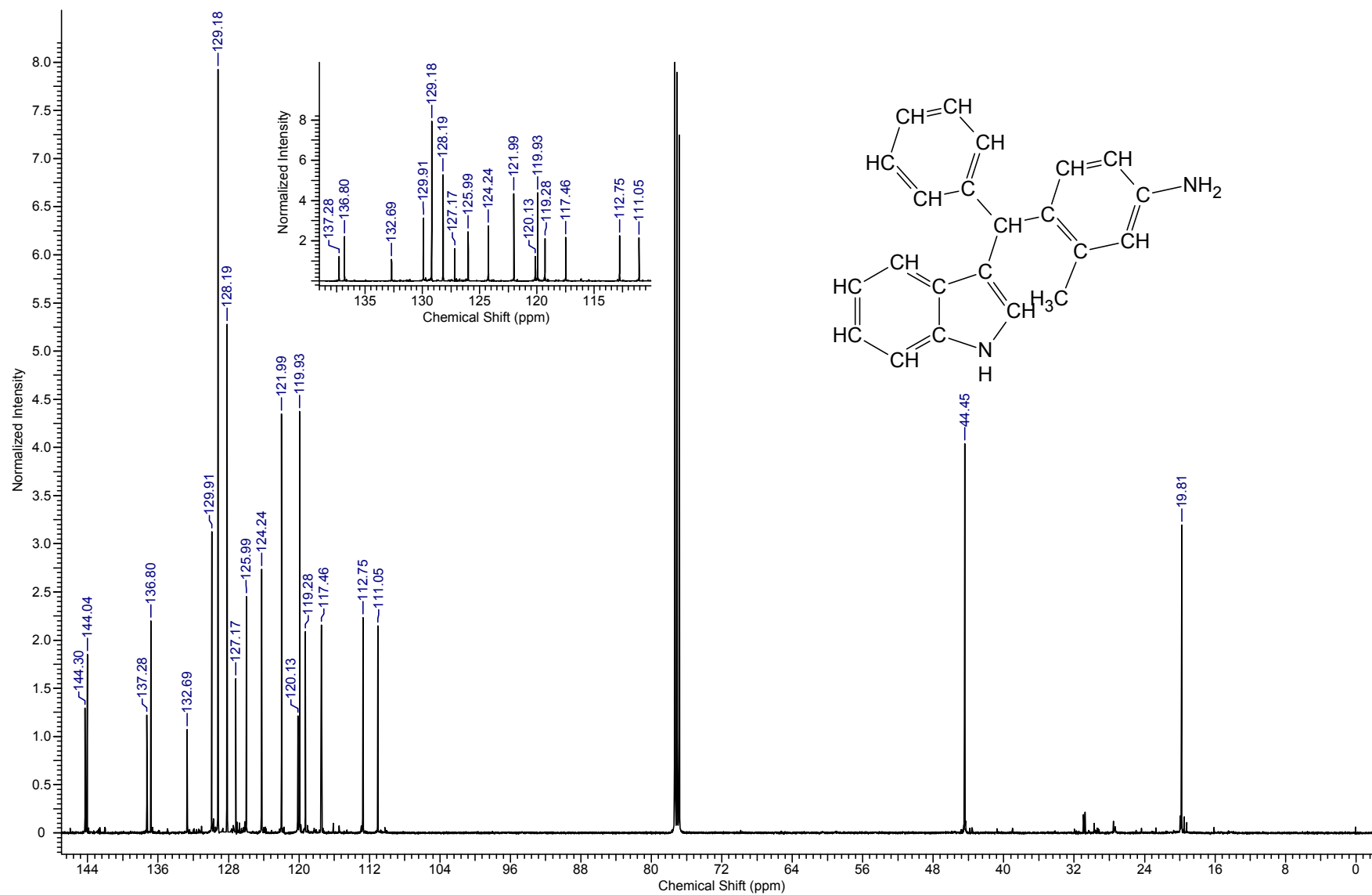
3.9 Benzaldehyde (1a) + indole (2a) + 3-methylaniline (3g): (6l) 4-[1*H*-indol-3-yl(phenyl)methyl]-3-methylaniline



IR (KBr, cm⁻¹): 3402 (s), 3325 (s), 3242 (br, s), 3078 (s), 3057 (s), 3016 (s), 2920 (m), 2887 (m), 1732 (m), 1620 (s), 1614 (s), 1583 (m), 1573 (m), 1519 (m), 1492 (s), 1456 (s), 1435 (m), 1417 (m), 1352 (m), 1338 (m), 1303 (m), 1273 (m), 1244 (m), 1217 (s), 1199 (s), 1184 (w), 1109 (w), 1101 (m), 1074 (m), 1051 (m), 1029 (m), 1006 (m), 952 (w), 923 (w), 912 (w), 869 (m), 835 (m), 817 (m), 798 (m), 752 (s), 696 (s), 667 (s), 653 (m), 623 (m), 609 (m).

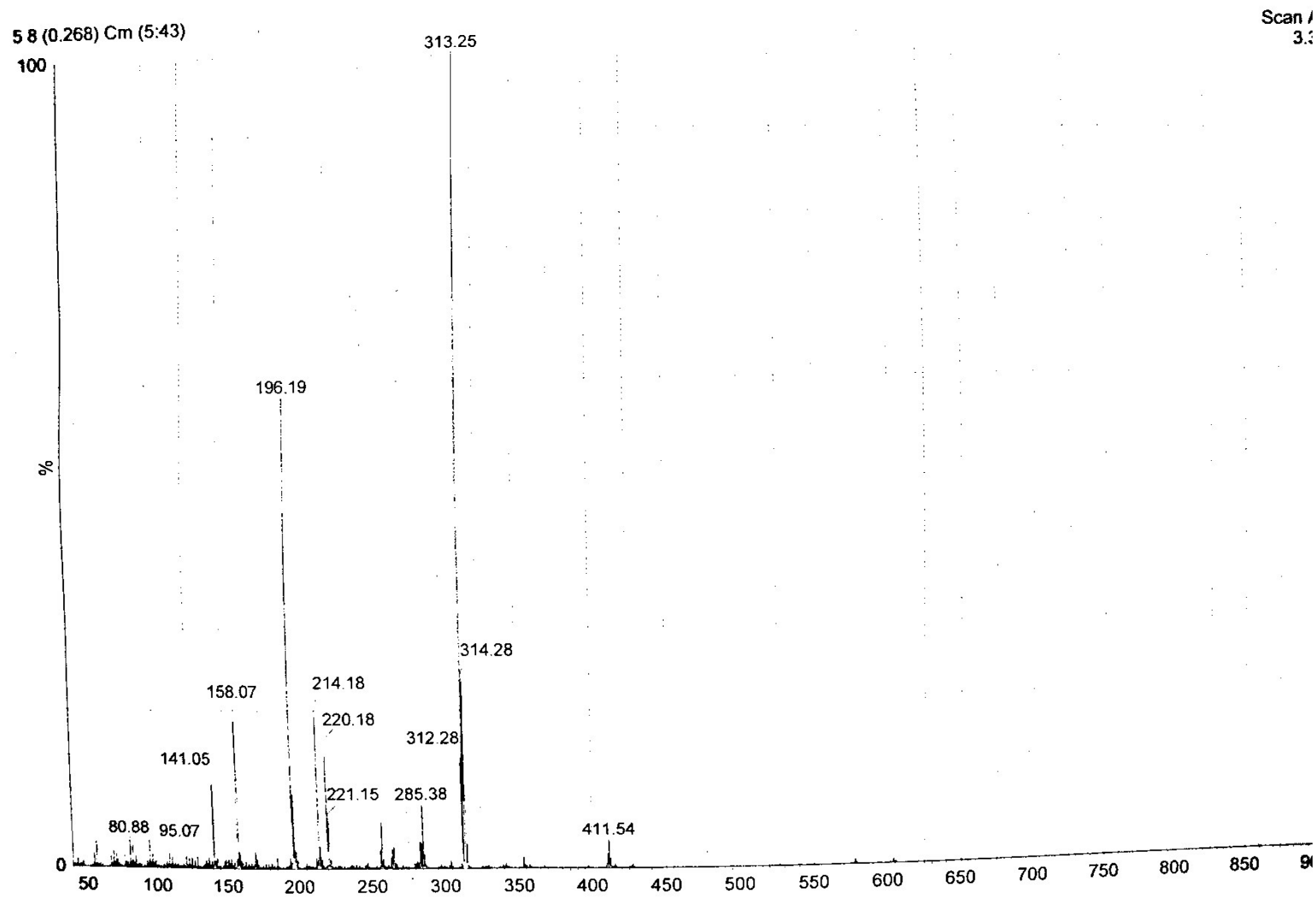


¹H NMR (500MHz, CDCl₃) δ = 7.90 (br s, 1 H), 7.33 (d, *J* = 8.2 Hz, 1 H), 7.27 – 7.13 (m, 7 H), 6.98 (ddd, *J* = 0.9, 7.0, 8.2 Hz, 1 H), 6.72 (d, *J* = 8.2 Hz, 1 H), 6.55 (d, *J* = 2.4 Hz, 1 H), 6.47 (dd, *J* = 0.9, 2.4 Hz, 1 H), 6.40 (dd, *J* = 2.4, 8.2 Hz, 1 H), 5.69 (s, 1 H), 2.22 (s, 3 H).

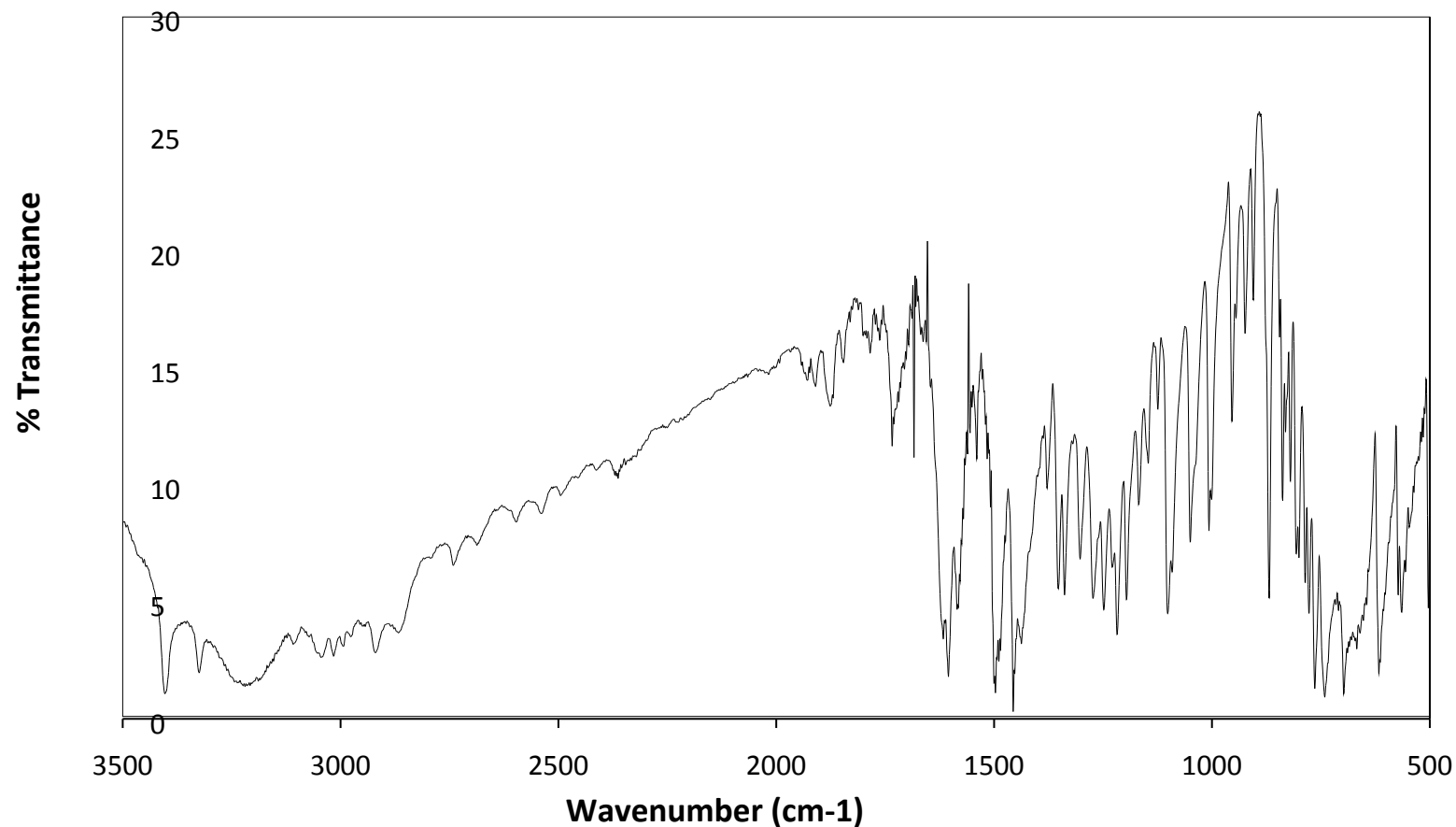


^{13}C NMR (126 MHz, CDCl_3) δ = 144.30, 144.04, 137.28, 136.80, 132.69, 129.91, 129.18, 128.19, 127.17, 125.99, 124.24, 121.99, 120.13, 119.93, 119.28, 117.46, 112.75, 111.05, 44.45, 19.81.

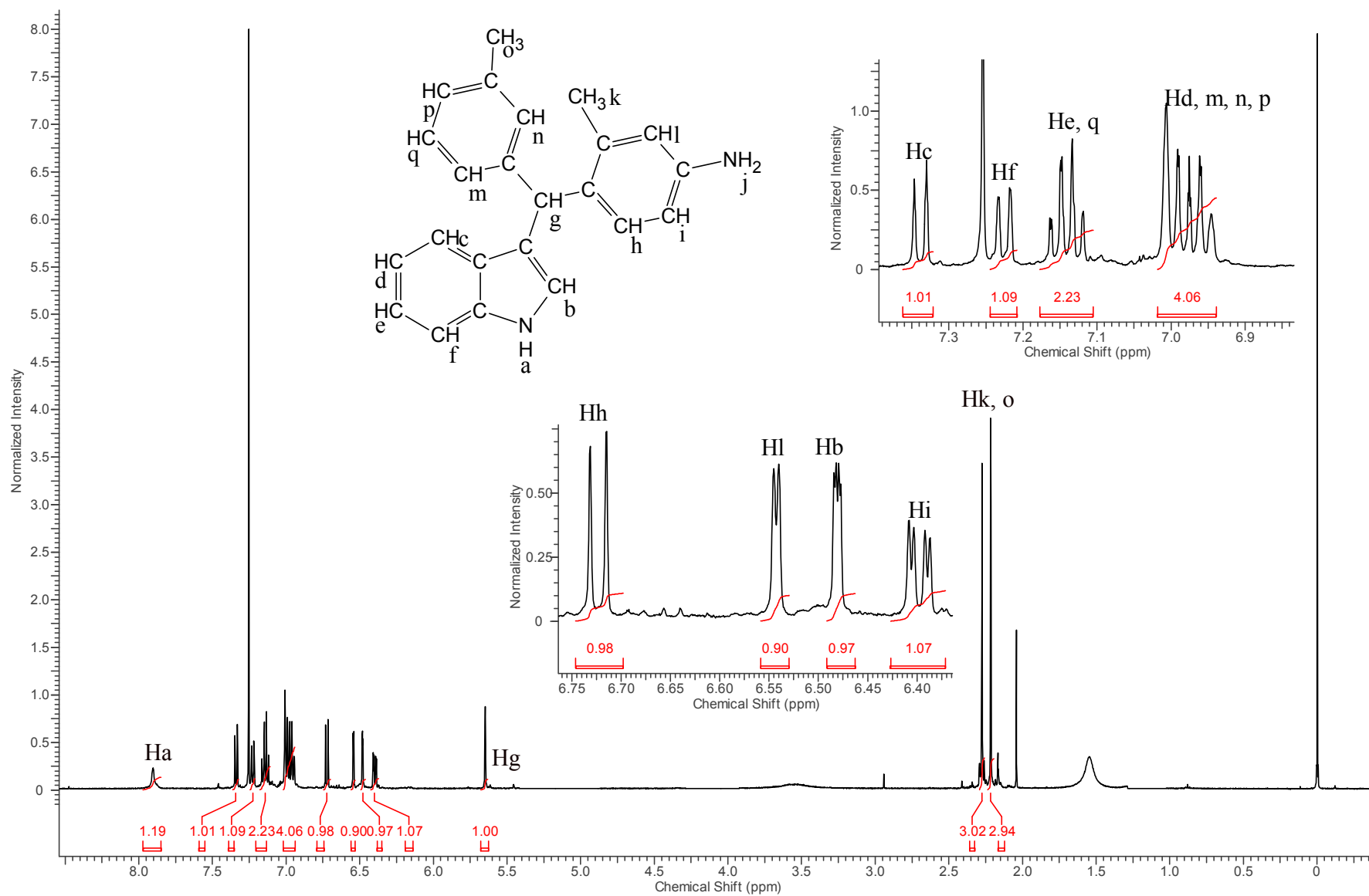
The mass spectrum of this compound was obtained using a direct probe. The following peaks were obtained:



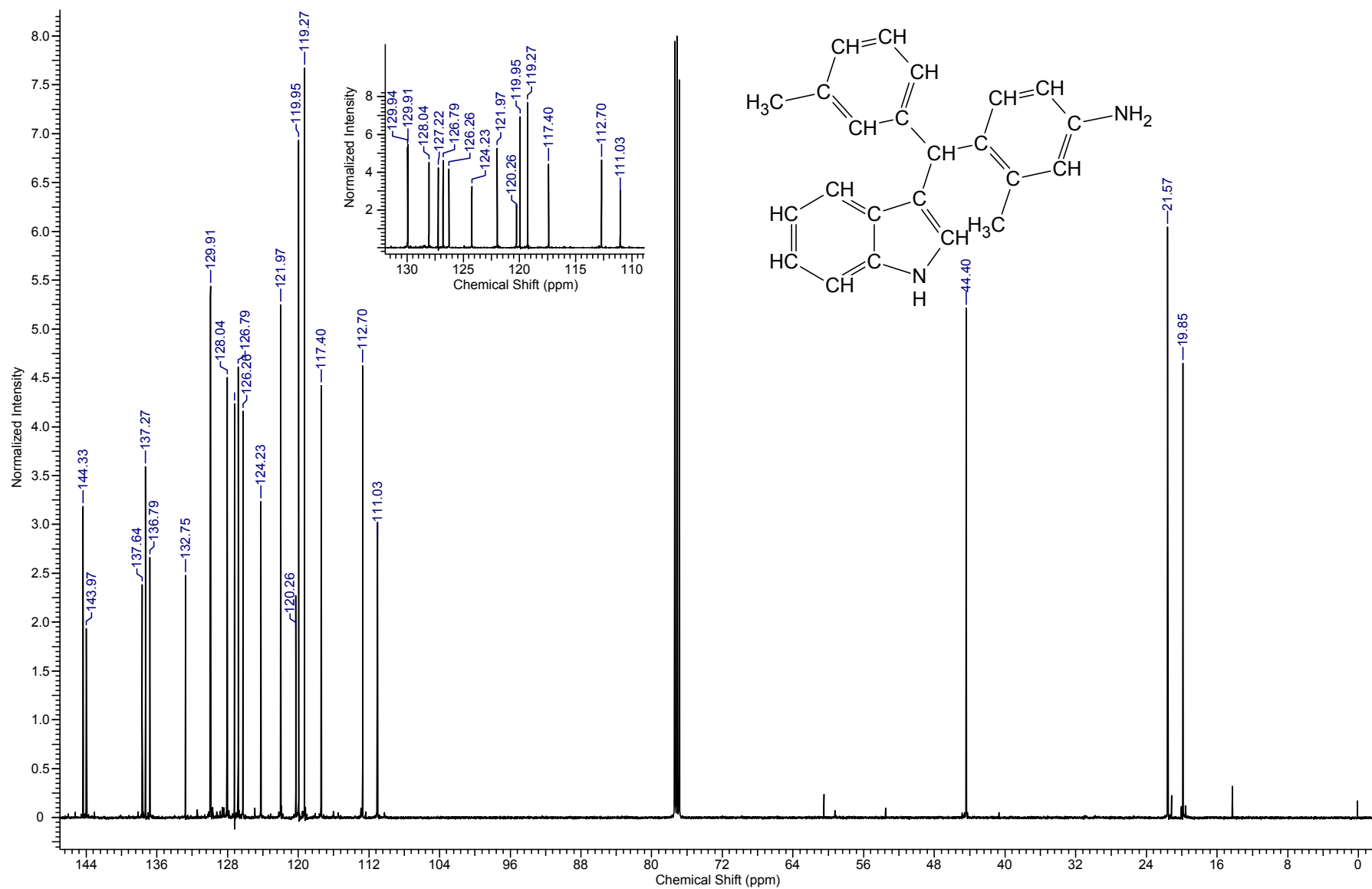
3.10 3-methylbenzaldehyde (1c) + indole (2a) + 3-methylaniline (3g): (6mm) 4-[1*H*-indol-3-yl(3-methylphenyl)methyl]-3-methylaniline



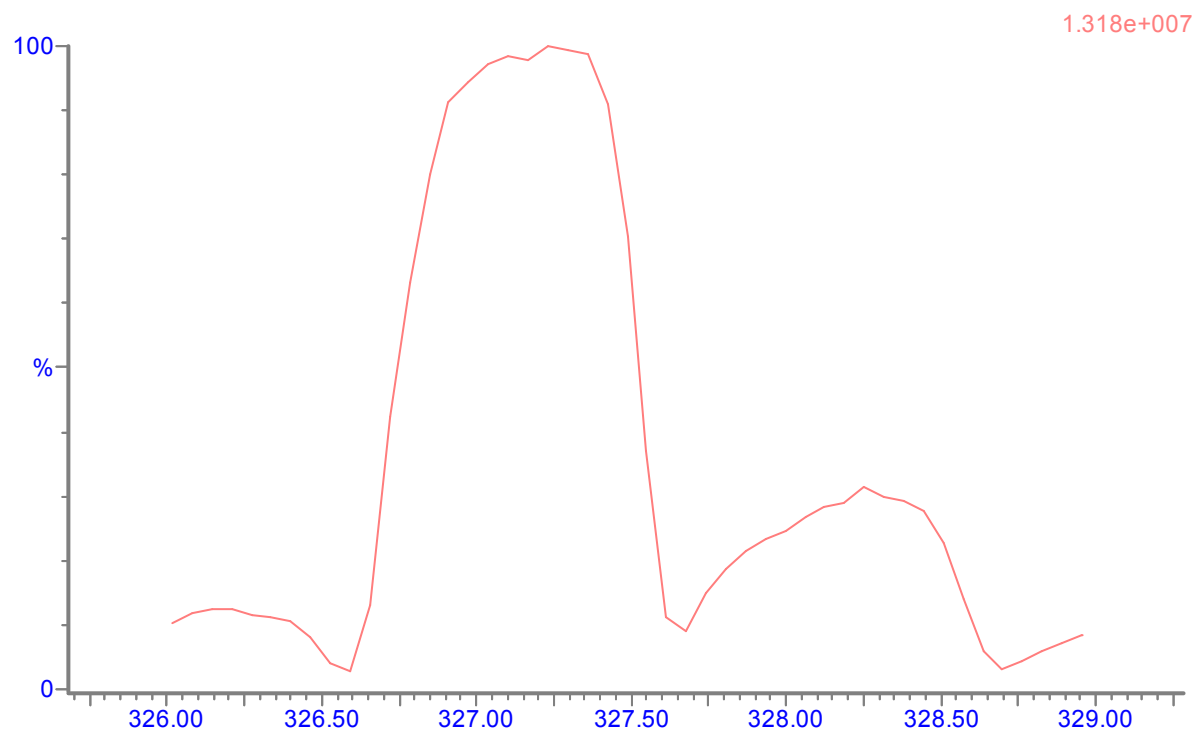
IR (KBr, cm⁻¹): 3402 (s), 3325 (s), 3219 (br, s), 3105 (s), 3043 (s), 3014 (s), 2993 (s), 2920 (s), 2866 (s), 1734 (m), 1683 (m), 1608 (s), 1606 (s), 1581 (s), 1516 (m), 1496 (s), 1456 (s), 1436 (s), 1379 (s), 1352 (m), 1338 (m), 1301 (m), 1273 (m), 1247 (m), 1217 (m), 1195 (m), 1166 (m), 1145 (m), 1124 (m), 1101 (m), 1049 (m), 1006 (m), 954 (m), 923 (w), 904 (w), 867 (m), 837 (m), 819 (m), 800 (m), 763 (s), 740 (s), 698 (s), 667 (s), 617 (s).



¹H NMR (500MHz, CDCl₃) δ = 7.90 (br s, 1 H), 7.34 (d, *J* = 8.2 Hz, 1 H), 7.24 (d, *J* = 7.9 Hz, 1 H), 7.18 - 7.10 (m, 2 H), 7.02 - 6.94 (m, 4 H), 6.72 (d, *J* = 8.2 Hz, 1 H), 6.54 (d, *J* = 2.4 Hz, 1 H), 6.48 (dd, *J* = 1.1, 2.3 Hz, 1 H), 6.40 (dd, *J* = 2.4, 8.2 Hz, 1 H), 6.56 (s, 1 H), 2.27 (s, 3 H), 2.22 (s, 3 H).

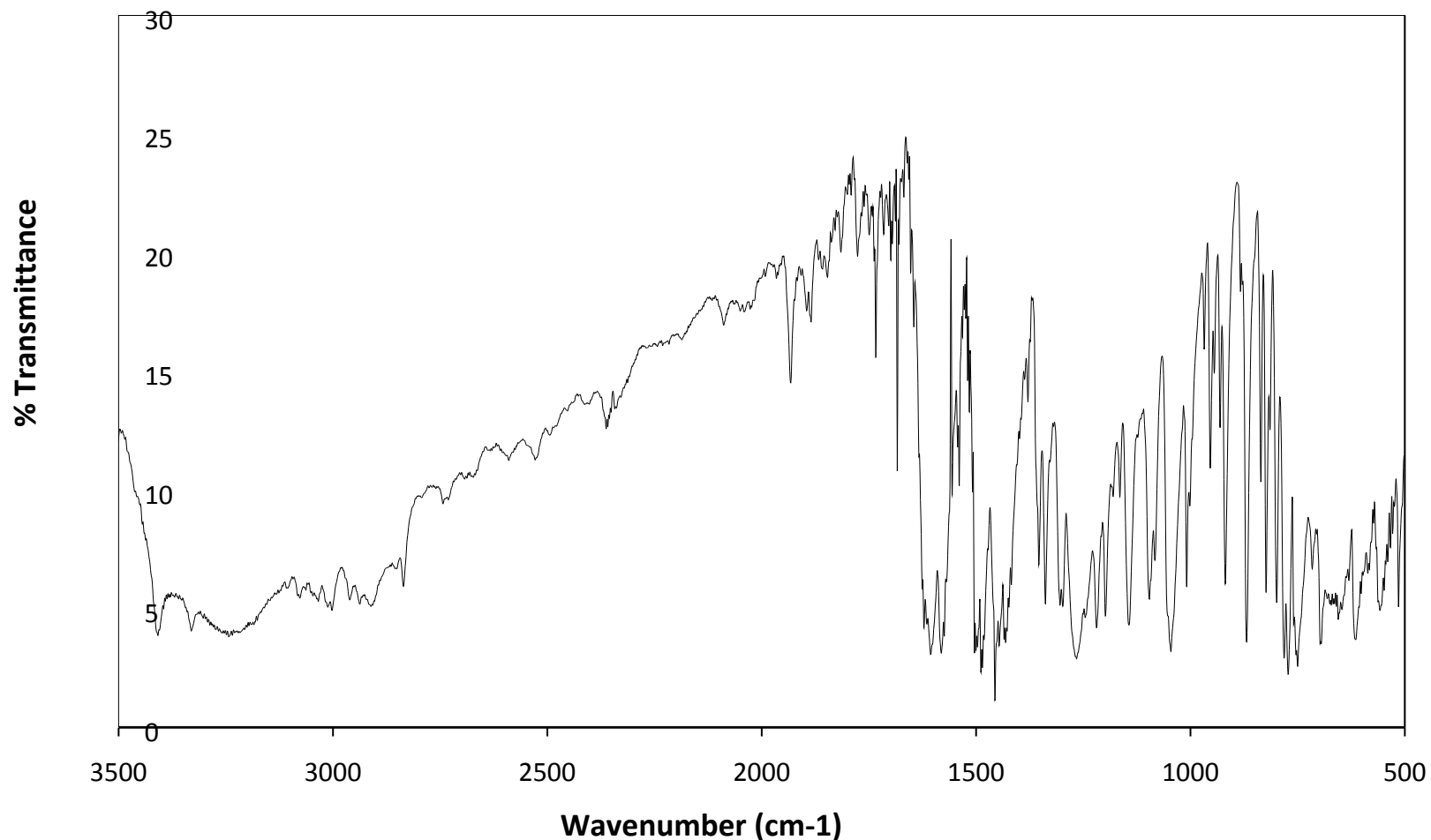


^{13}C NMR (126 MHz, CDCl_3) δ = 144.33, 143.97, 137.64, 137.27, 136.79, 132.75, 129.94, 129.91, 128.04, 127.22, 126.79, 126.26, 124.23, 121.97, 120.26, 119.95, 119.27, 117.40, 112.70, 111.03, 44.40, 21.57, 19.85.

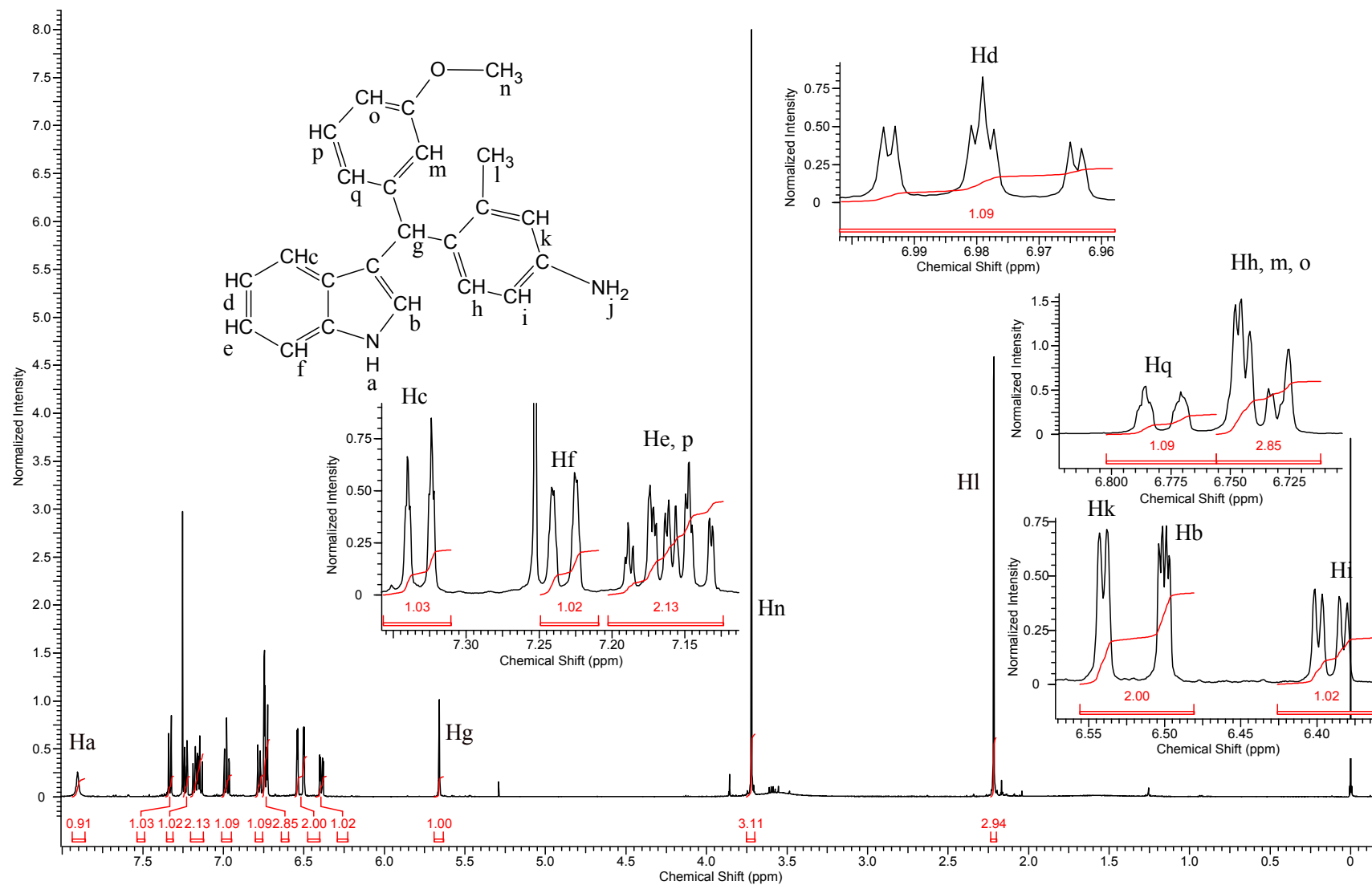


Formula Mass	Daughter number	Parent m/z	Cone Voltage (V)	Daughters	Collision Energy (eV)	Ion Mode
326.43	1	327.15	44	220.88	32	ES+
	2	327.15	44	312.06	22	ES+
	3	327.15	44	210.15	22	ES+
	4	327.15	44	204.03	58	ES+
	5	327.15	44	297.04	32	ES+

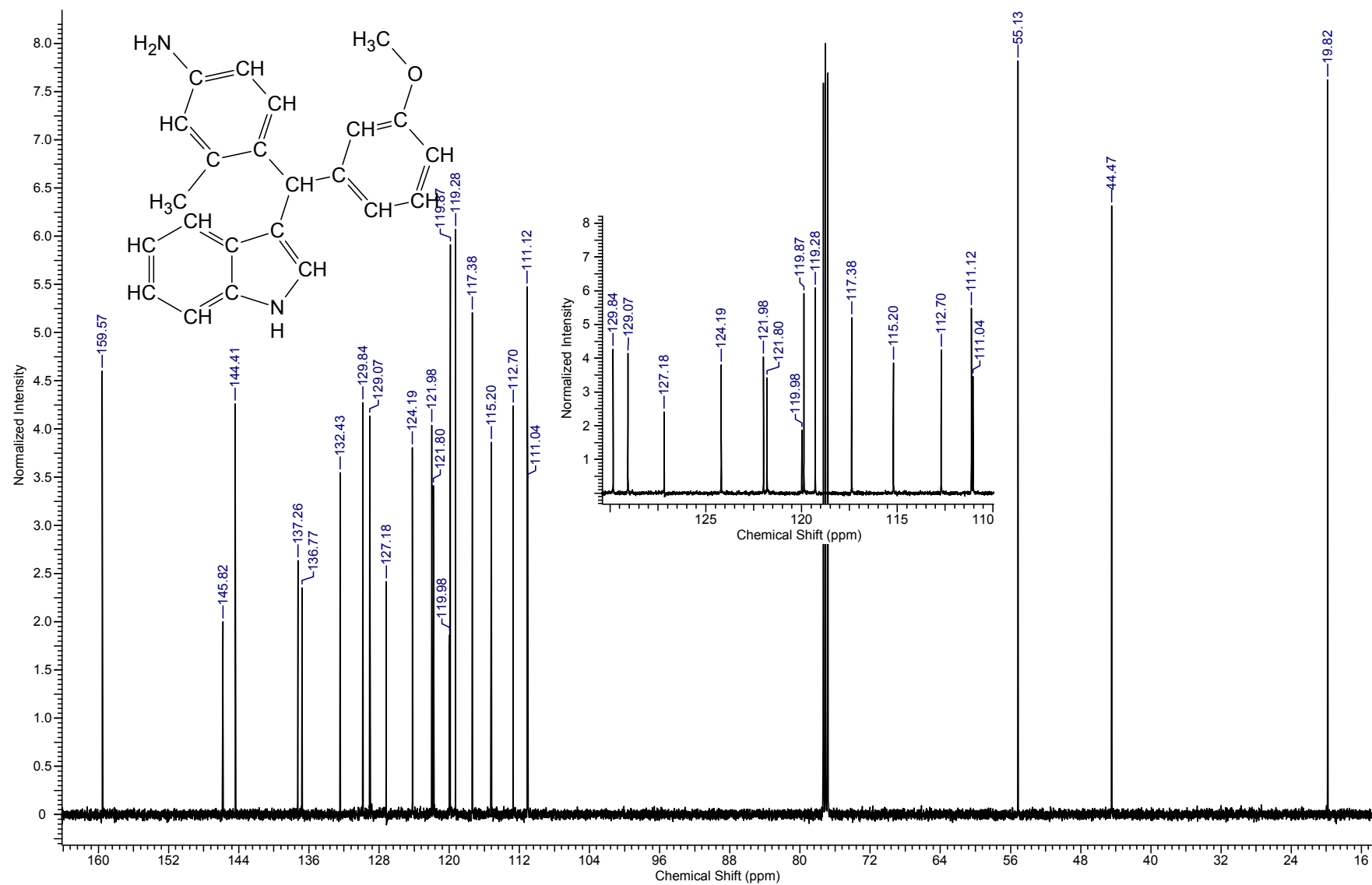
3.11 3-methoxybenzaldehyde (1h) + indole (2a) + 3-methylaniline (3g): (6nn) 4-[1H-indol-3-yl(3-methoxyphenyl)methyl]-3-methylaniline



IR (KBr, cm⁻¹): 3408 (s), 3331 (s), 3242 (br, s), 3078 (s), 3034 (s), 3010 (s), 3003 (s), 2960 (s), 2939 (s), 2910 (s), 2850 (m), 2835 (m), 2744 (m), 2729 (m), 1932 (w), 1886 (w), 1884 (w), 1734 (w), 1683 (m), 1622 (s), 1604 (s), 1581 (s), 1573 (s), 1539 (m), 1500 (s), 1489 (s), 1456 (s), 1431 (s), 1379 (w), 1354 (m), 1338 (m), 1303 (m), 1265 (s), 1219 (m), 1197 (m), 1165 (m), 1143 (m), 1095 (m), 1082 (m), 1045 (s), 1008 (m), 968 (w), 952 (m), 931 (m), 918 (m), 869 (s), 835 (m), 823 (m), 798 (m), 781 (s), 772 (s), 750 (S), 715 (m), 694 (s), 655 (s), 615 (s).

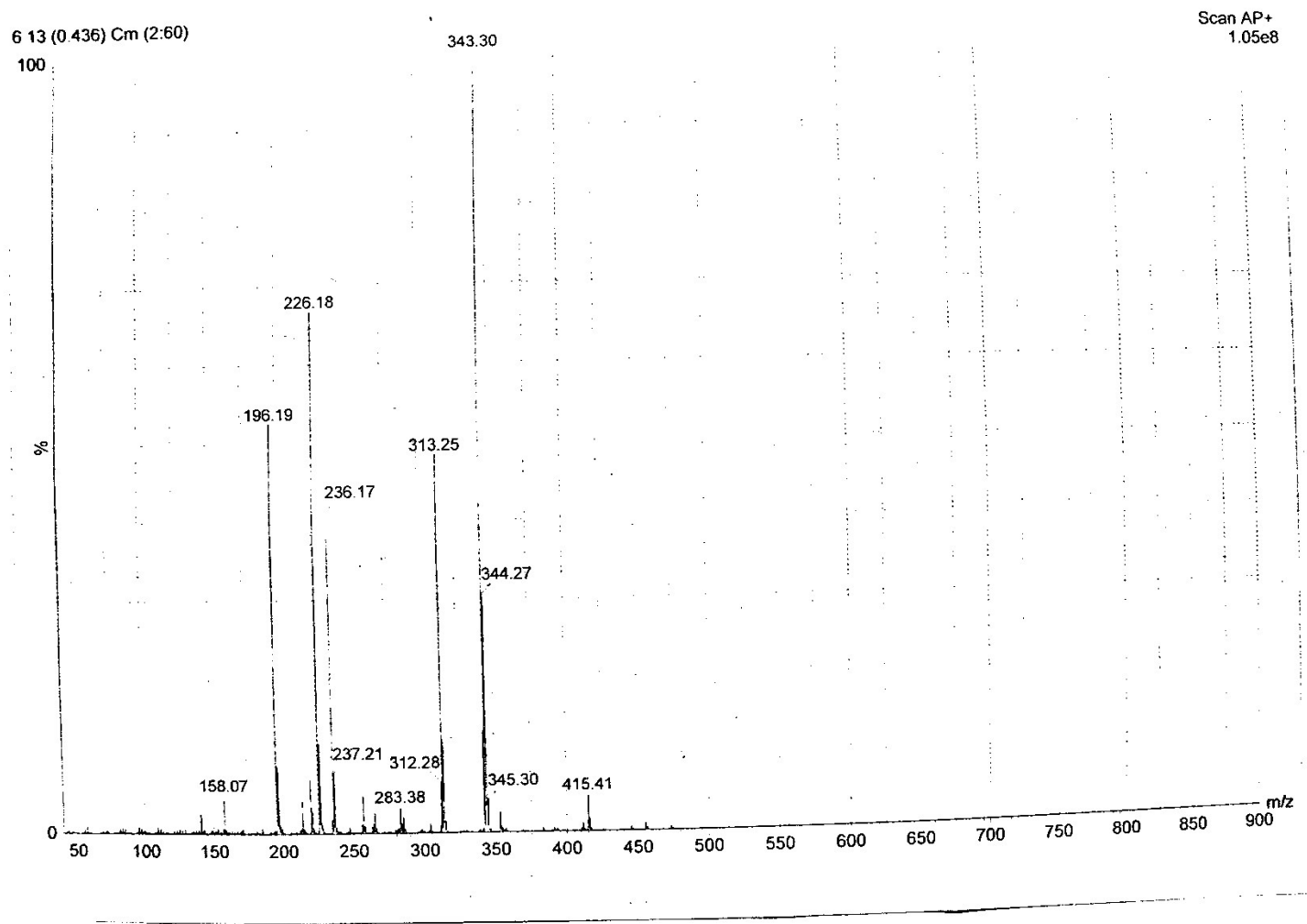


¹H NMR (500MHz, CDCl₃) δ = 7.91 (br s, 1 H), 7.33 (d, *J* = 8.2 Hz, 1 H), 7.23 (d, *J* = 7.9 Hz, 1 H), 7.20 - 7.12 (m, 2 H), 6.98 (ddd, *J* = 0.9, 7.0, 8.2 Hz, 1 H), 6.78 (d, *J* = 7.3 Hz, 1 H), 6.76 - 6.71 (m, 3 H), 6.54 (d, *J* = 2.6 Hz, 1 H), 6.50 (dd, *J* = 1.1, 2.3 Hz, 1 H), 6.39 (dd, *J* = 2.6, 8.1 Hz, 1 H), 5.66 (s, 1 H), 3.72 (s, 3 H).

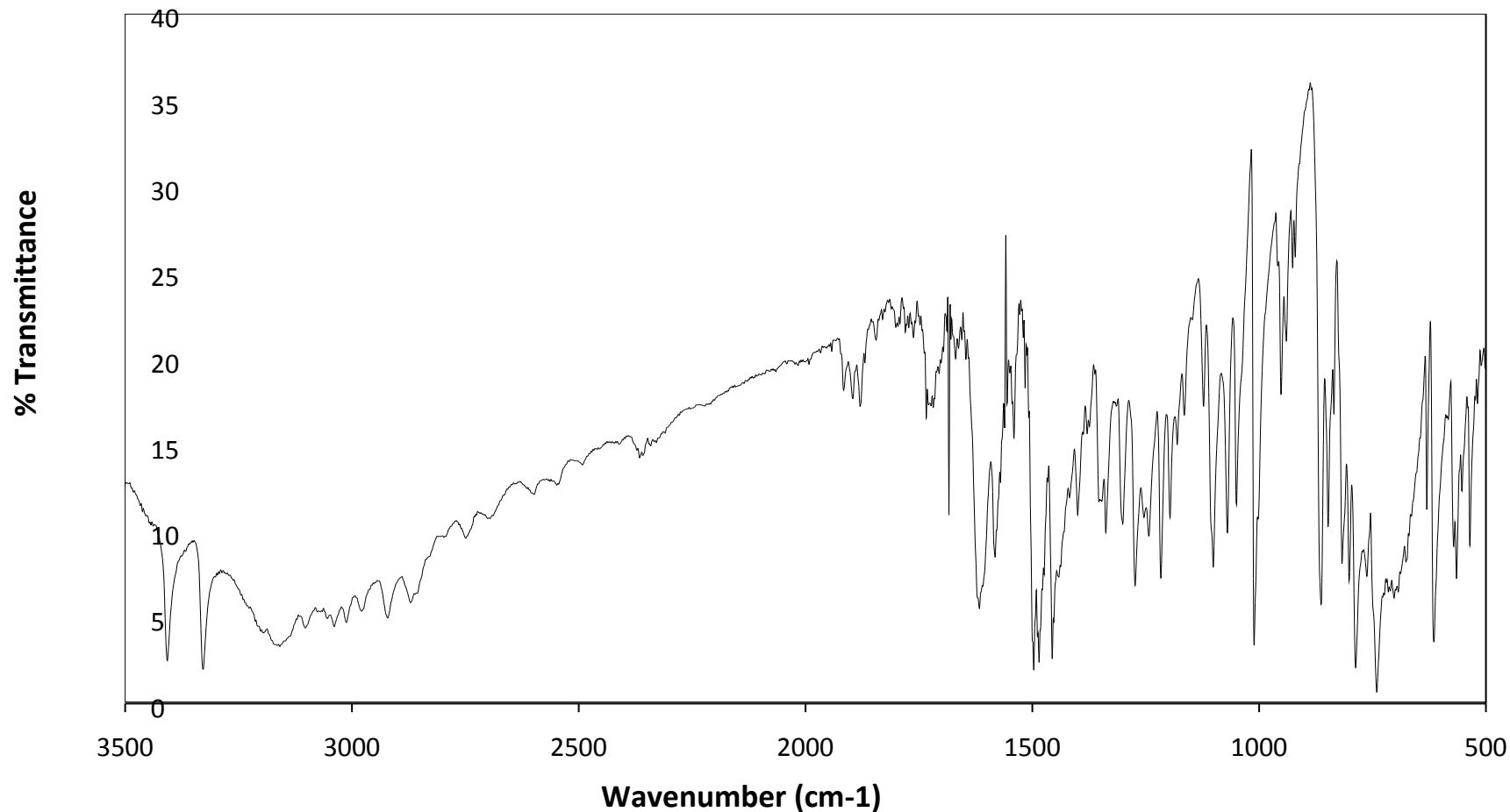


¹³C NMR (126 MHz, CDCl₃) δ = 159.57, 145.82, 144.41, 137.26, 136.77, 132.43, 129.84, 129.07, 127.18, 124.19, 121.98, 121.80, 119.98, 119.87, 119.28, 117.38, 115.20, 112.70, 111.12, 111.04, 55.13, 44.47, 19.82.

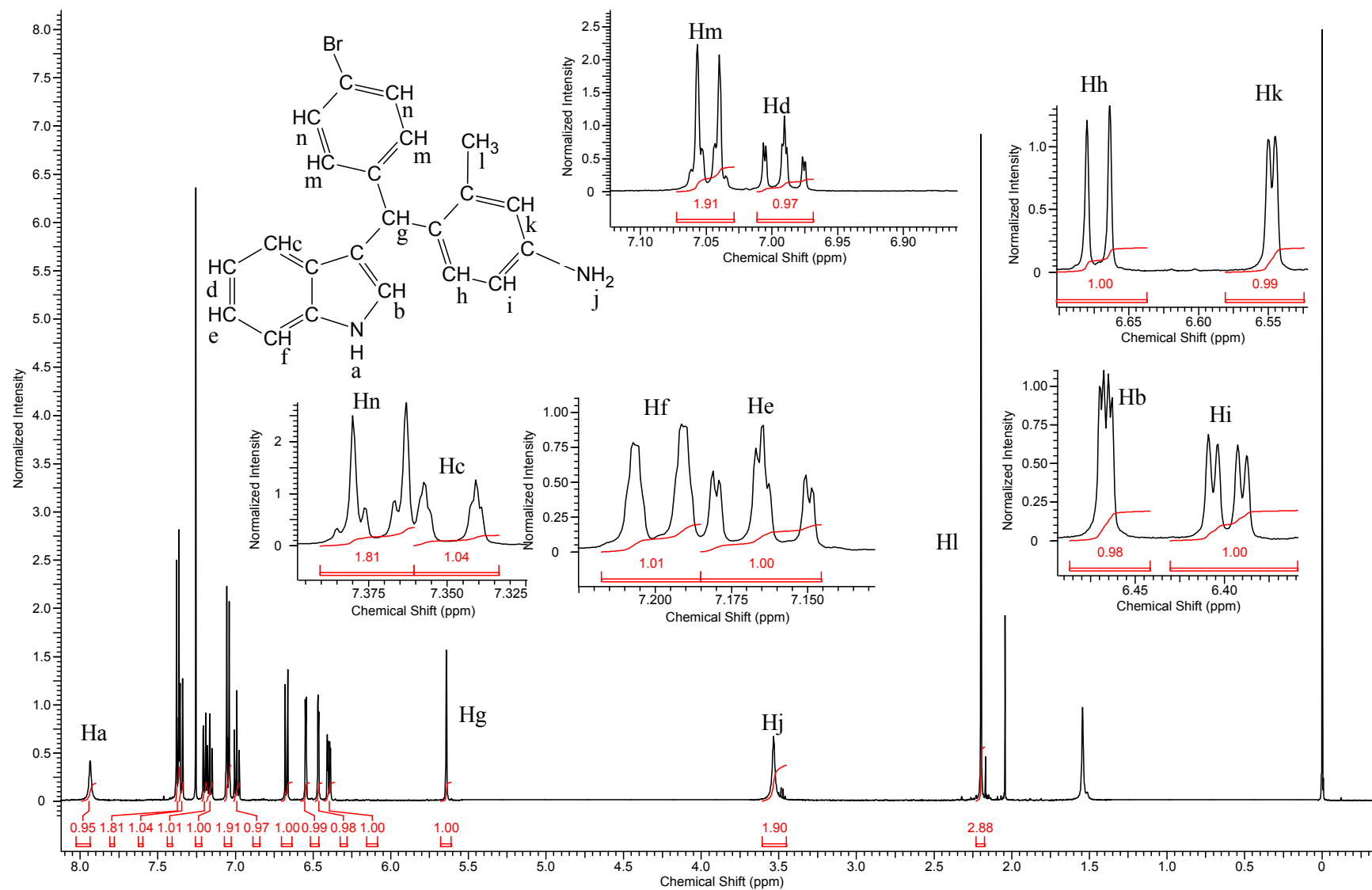
The mass spectrum of this compound was obtained using a direct probe. The following peaks were obtained:



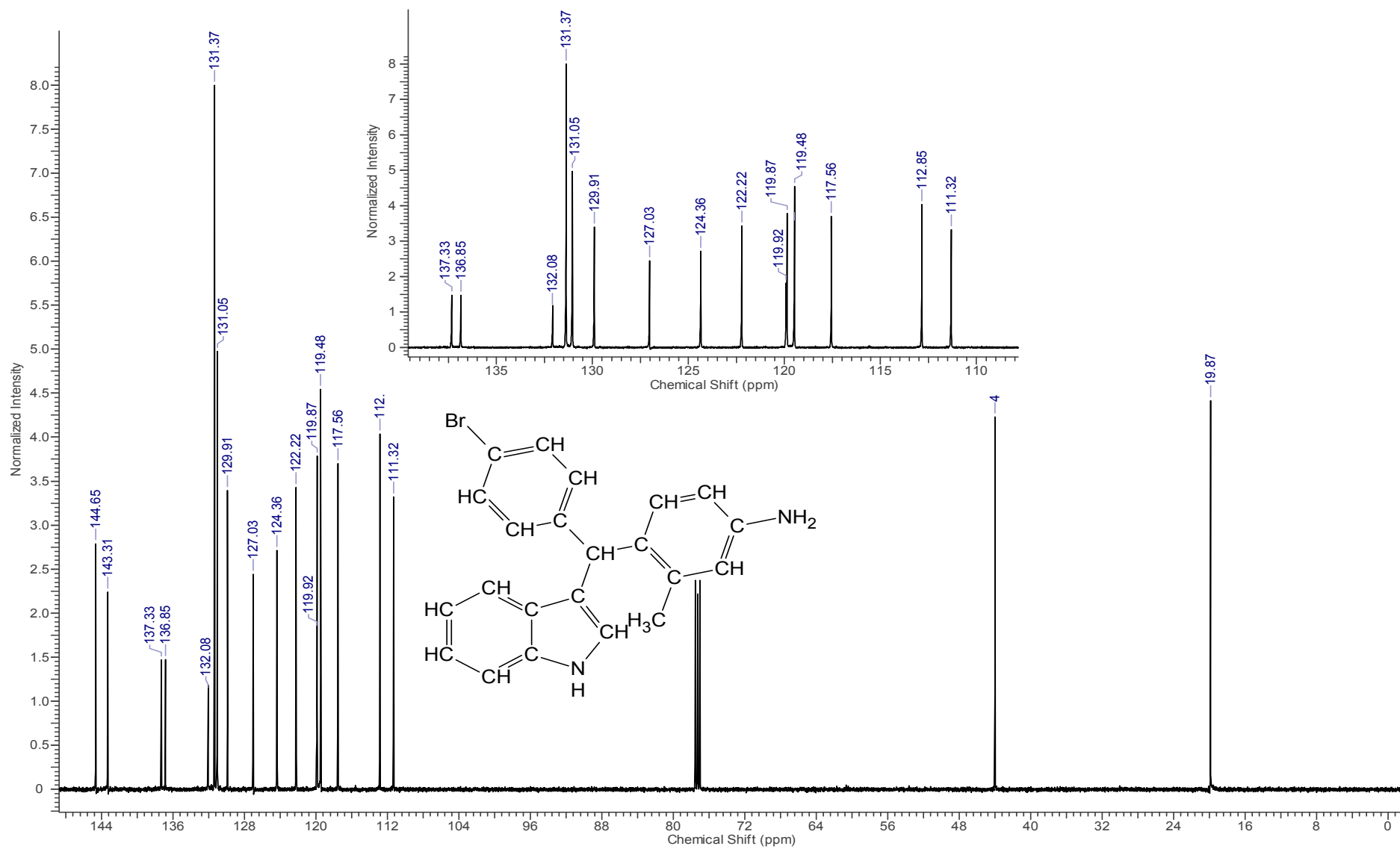
3.12 4-bromobenzaldehyde (1n) + indole (2a) + 3-methylaniline (3g): (600) 4-[1*H*-indol-3-yl(4-bromophenyl)methyl]-3-methylaniline



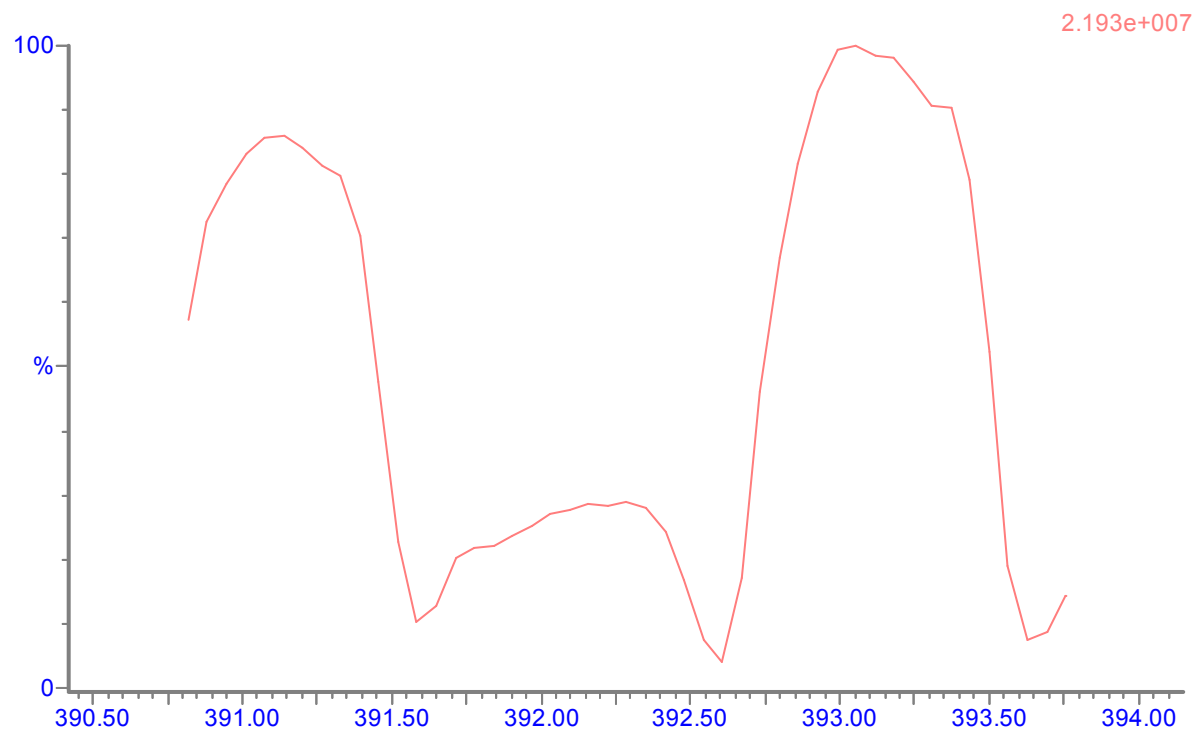
IR (KBr, cm^{-1}): 3406 (s), 3329 (s), 3201 (s), 3159 (s), 3101 (s), 3053 (s), 3037 (s), 3012 (s), 2978 (s), 2922 (s), 2870 (s), 1734 (m), 1718 (m), 1683 (m), 1616 (s), 1581 (m), 1541 (m), 1496 (s), 1485 (s), 1456 (s), 1400 (m), 1346 (m), 1338 (m), 1300 (m), 1273 (m), 1244 (m), 1217 (m), 1195 (m), 1180 (m), 1165 (m), 1122 (m), 1101 (m), 1070 (m), 1049 (m), 1010 (s), 950 (m), 939 (w), 925 (w), 920 (w), 864 (s), 848 (m), 835 (m), 817 (m), 800 (m), 786 (s), 740 (s), 702 (m), 630 (m), 615 (s).



¹H NMR (500 MHz, CDCl₃) δ = 7.95 (br s, 1 H), 7.37 (d, *J* = 8.2 Hz, 2 H), 7.35 (d, *J* = 8.2 Hz, 1 H), 7.20 (d, *J* = 7.9 Hz, 1 H), 7.16 (ddd, *J* = 0.9, 7.1, 7.9 Hz, 1 H), 7.05 (d, *J* = 8.2 Hz, 2 H), 6.99 (ddd, *J* = 0.9, 7.0, 8.2 Hz, 1 H), 6.67 (d, *J* = 8.1 Hz, 1 H), 6.55 (d, *J* = 2.6 Hz, 1 H), 6.47 (dd, *J* = 1.2, 2.4 Hz, 1 H), 6.40 (dd, *J* = 2.6, 8.1 Hz, 1 H), 5.64 (s, 1 H), 3.53 (br s, 2 H), 2.20 (s, 3 H).

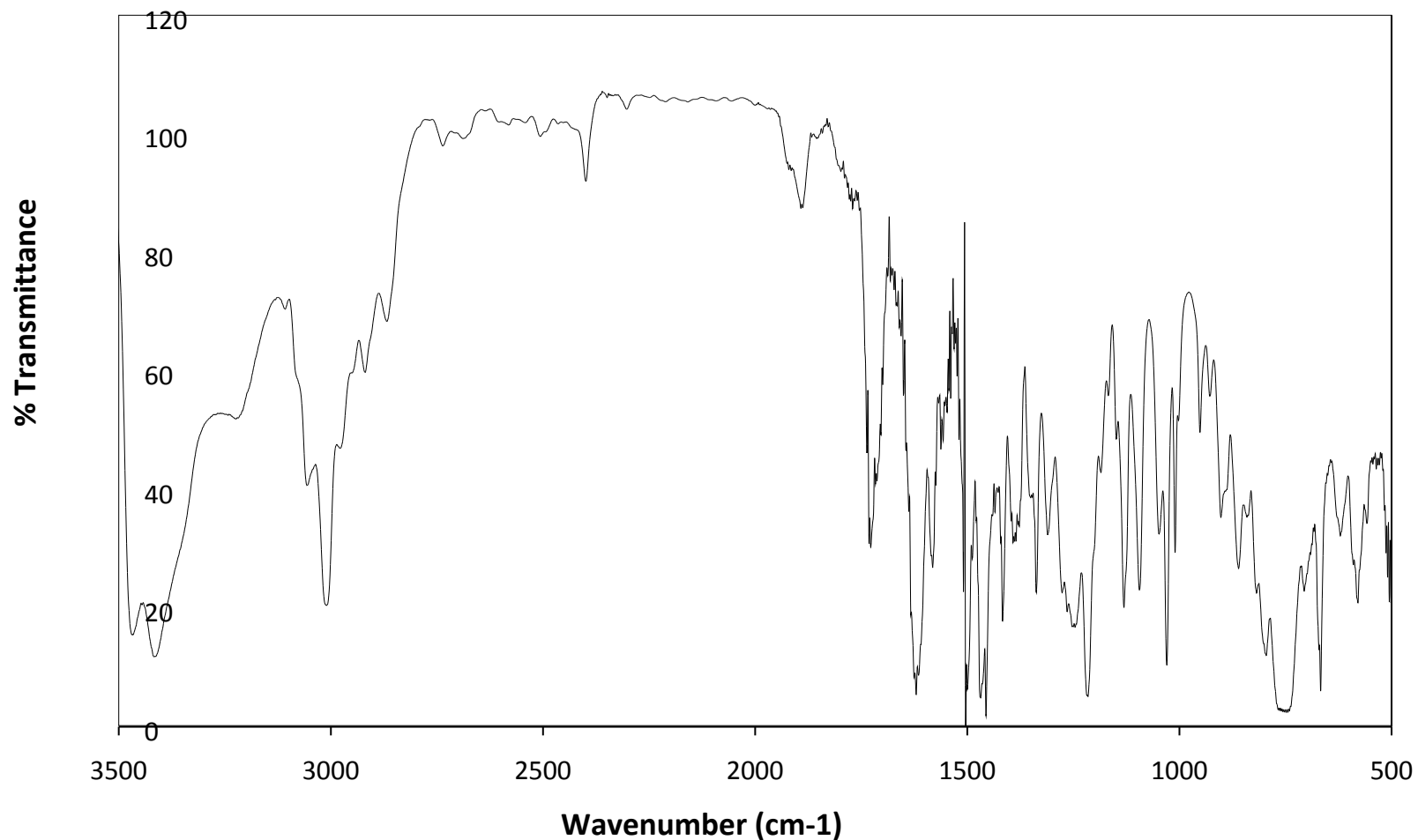


^{13}C NMR (126 MHz, CDCl_3) δ = 144.65, 143.31, 137.33, 136.85, 132.07, 131.37, 131.05, 129.91, 127.03, 124.36, 122.22, 119.92, 119.87, 119.50, 119.48, 117.56, 112.85, 111.32, 44.00, 19.87.

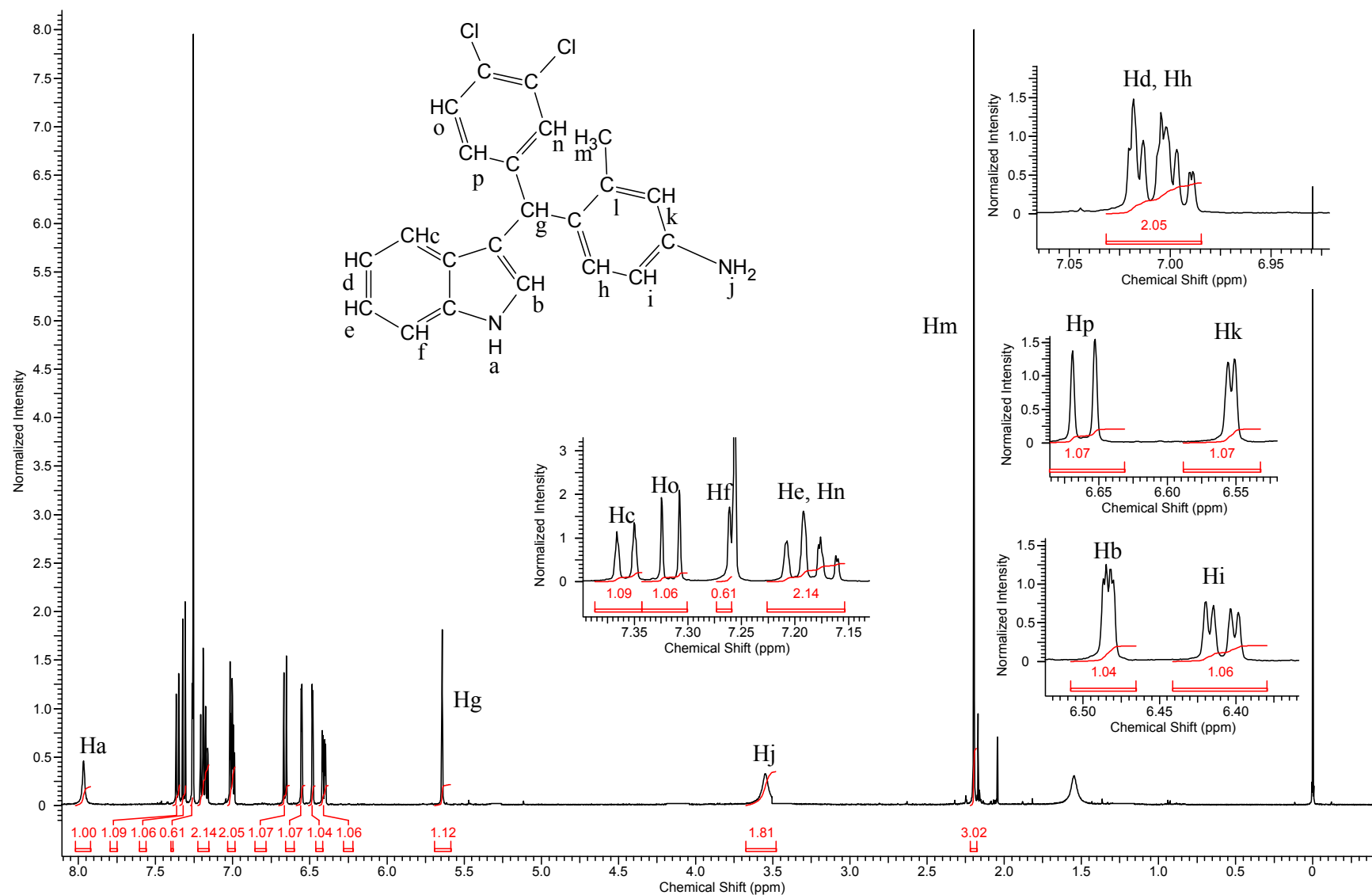


Formula Mass	Daughter number	Parent m/z	Cone Voltage (V)	Daughters	Collision Energy (eV)	Ion Mode
391.31	1	393.10	42	286.08	26	ES+
	2	393.10	42	276.07	26	ES+
	3	393.10	42	194.13	42	ES+
	4	393.10	42	204.20	56	ES+
	5	393.10	42	180.08	40	ES+

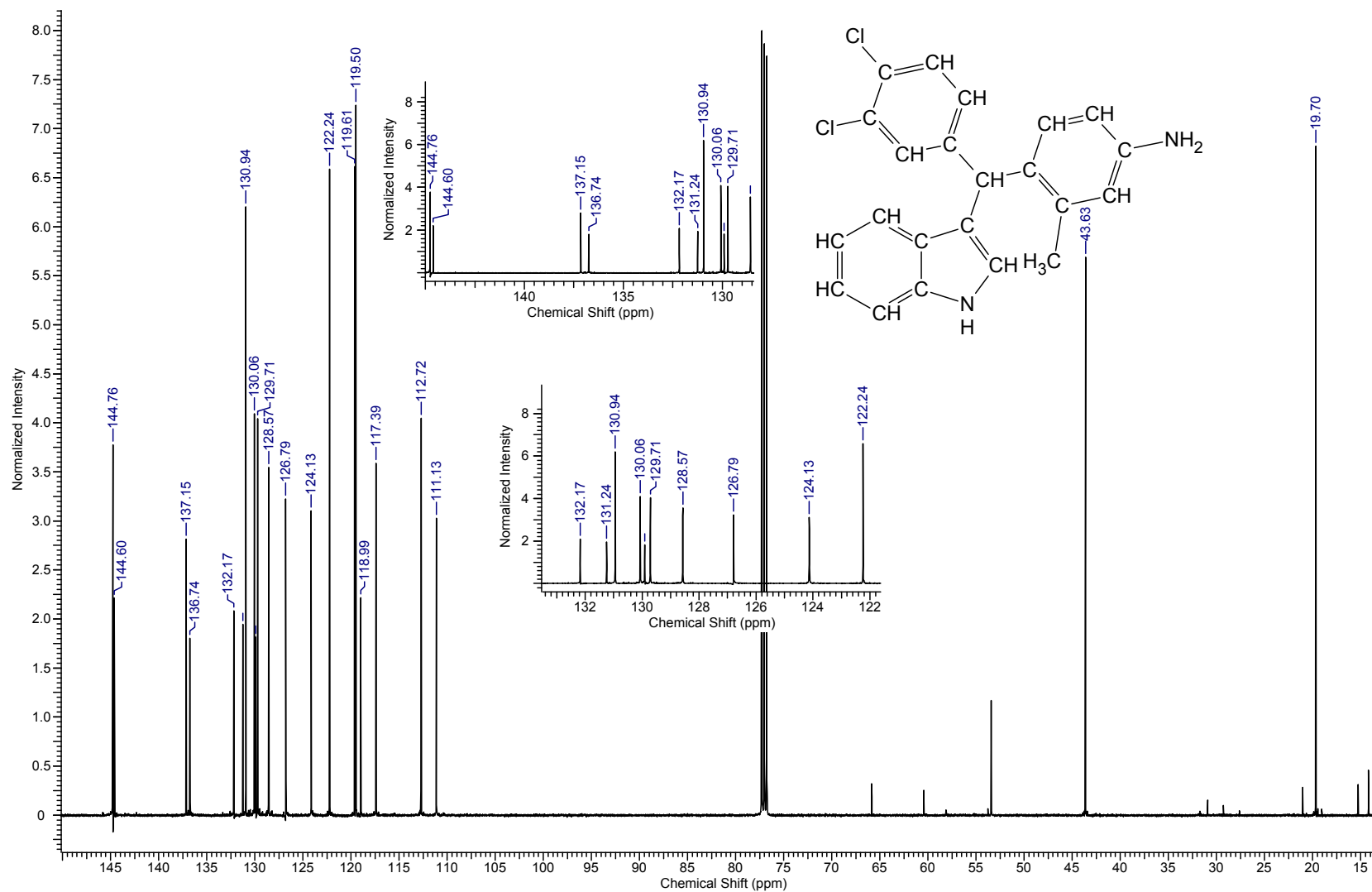
3.13 3,4-dichlorobenzaldehyde (1o) + indole (2a) + 3-methylaniline (3e): (6pp) 4-[1H-indol-3-yl(3,4-dichlorophenyl)methyl]-3-methylaniline



IR (KBr, cm^{-1}): 3466 (s), 3410 (s), 3223 (m), 3057 (m), 3010 (s), 2976 (m), 2918 (m), 2868 (m), 1892 (w), 1728 (m), 1629 (s), 1582 (m), 1562 (m), 1504 (s), 1467 (s), 1456 (s), 1417 (m), 1392 (m), 1336 (m), 1309 (m), 1249 (m), 1215 (s), 1184 (m), 1130 (m), 1093 (m), 1049 (m), 1029 (m), 1010 (m), 950 (w), 927 (w), 902 (m), 860 (m), 794 (s), 748 (br, s), 705 (m), 667 (s), 621 (m).

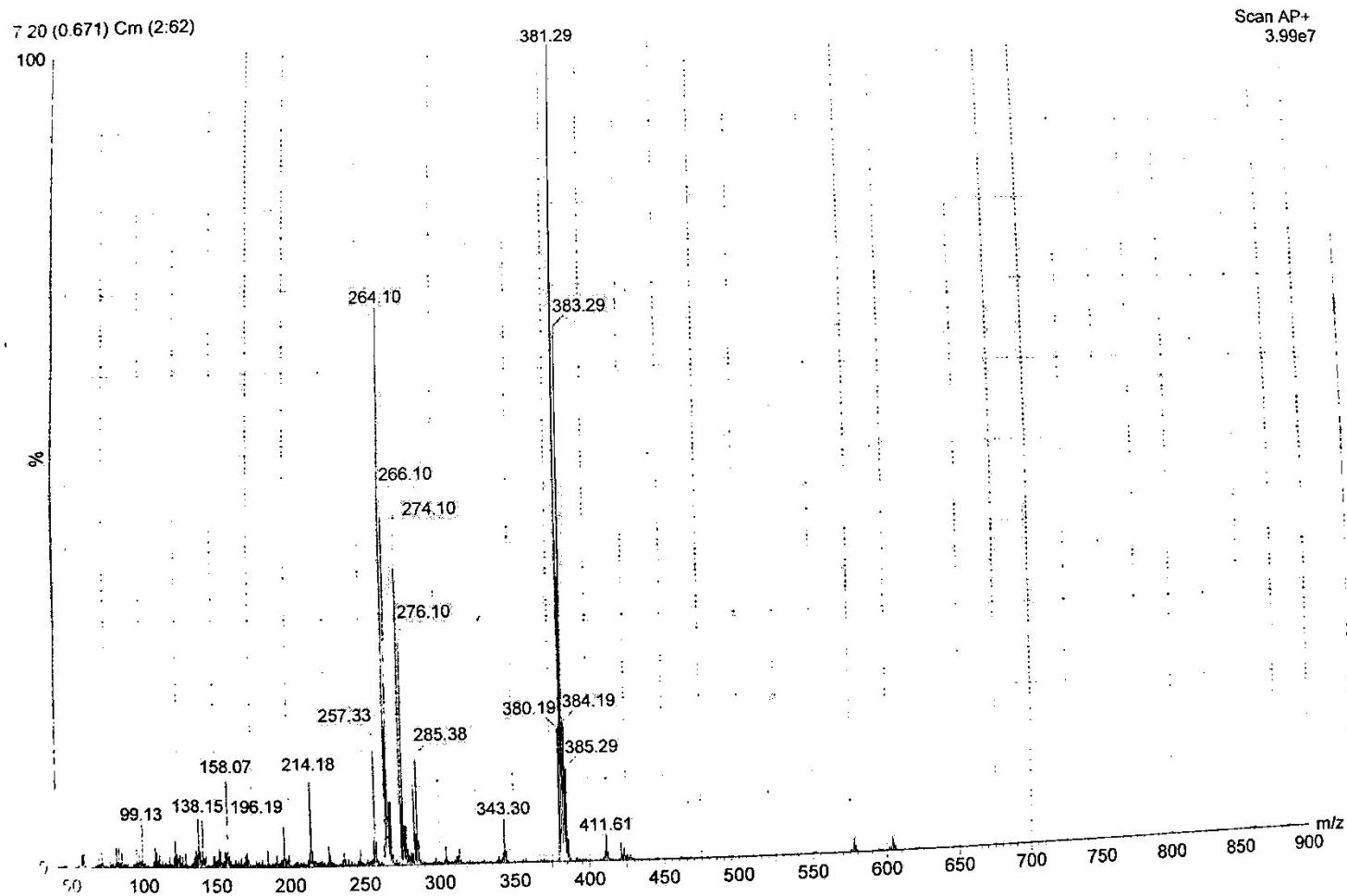


¹H NMR (500MHz, CDCl₃) δ = 7.97 (br s, 1 H), 7.36 (d, *J* = 8.2 Hz, 1 H), 7.32 (d, *J* = 8.2 Hz, 1 H), 7.26 (d, 1 H), 7.23 - 7.15 (m, 2 H), 7.03 – 6.98 (m, 2 H), 6.66 (d, *J* = 8.2 Hz, 1 H), 6.55 (d, *J* = 2.6 Hz, 1 H), 6.48 (dd, *J* = 0.9, 2.6 Hz, 1 H), 6.41 (dd, *J* = 2.6, 8.2 Hz, 1 H), 5.64 (s, 1 H), 3.55 (br s, 2 H), 2.20 (s, 3 H).

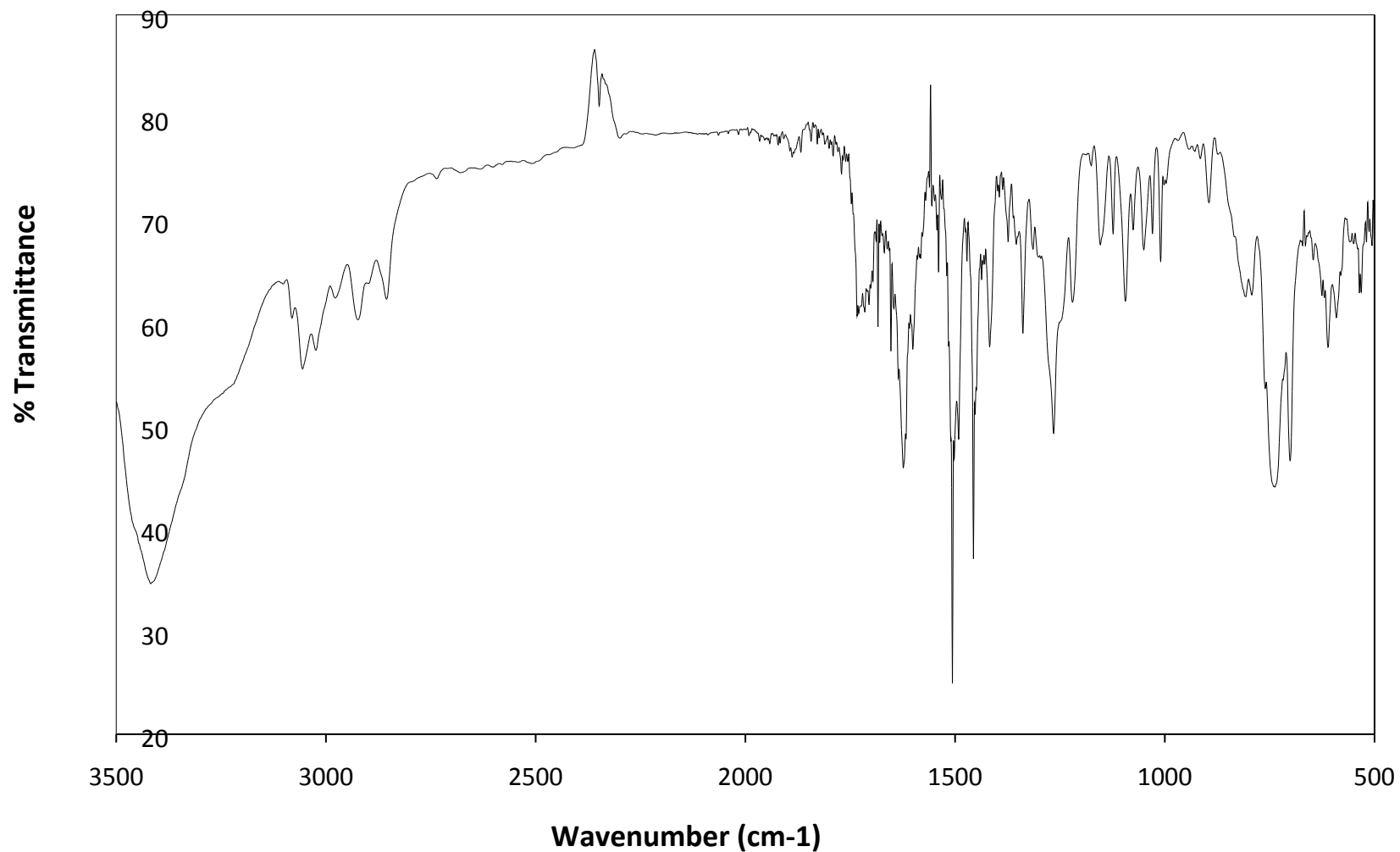


¹³C NMR (126 MHz, CDCl₃) δ = 144.76, 144.60, 137.15, 136.74, 136.73, 132.17, 131.24, 130.94, 130.06, 129.91, 129.71, 128.57, 126.79, 124.13, 122.24, 119.61, 119.50, 118.99, 117.39, 112.72, 111.13, 43.63, 19.70.

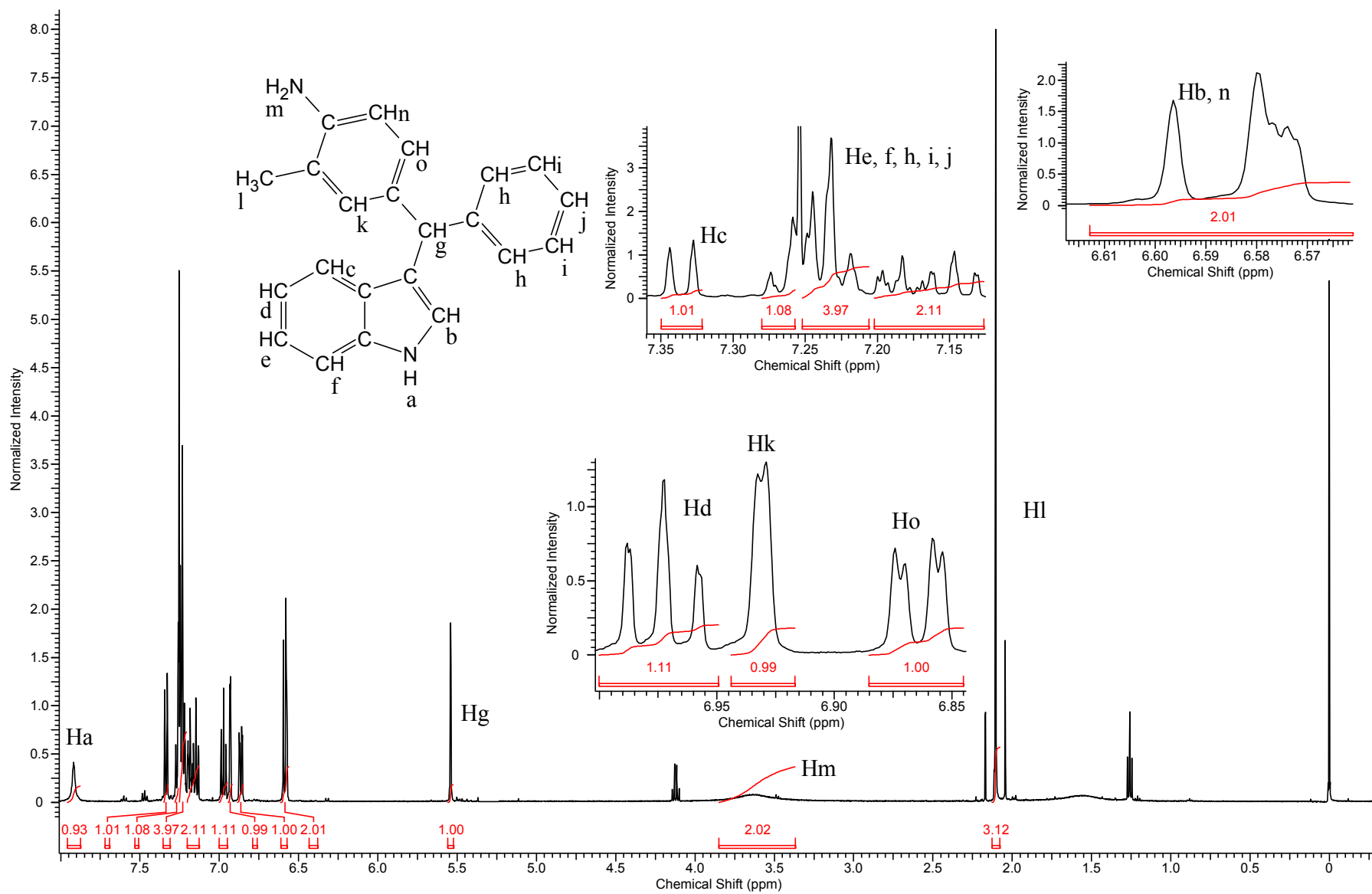
The mass spectrum of this compound was obtained using a direct probe. The following peaks were obtained:



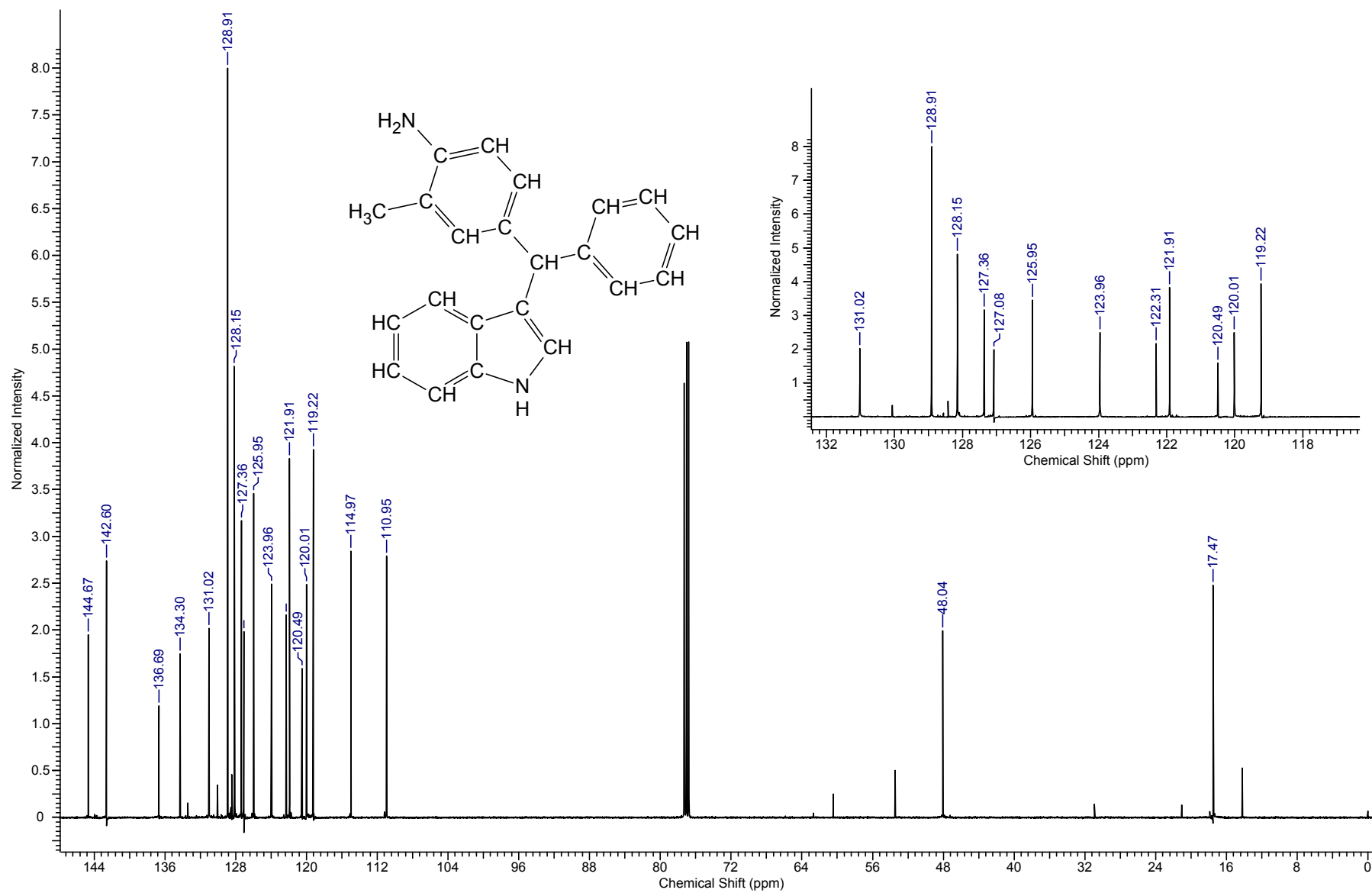
3.14 Benzaldehyde (1a) + indole (2a) + 2-methylaniline (3h): (6qq) 4-[1*H*-indol-3-yl(phenyl)methyl]-2-methylaniline



IR (KBr, cm⁻¹): 3417 (br, s), 3219 (m), 3080 (m), 3055 (m), 3022 (m), 2980 (m), 2922 (m), 2899 (m), 2858 (m), 1734 (m), 1683 (m), 1652 (m), 1624 (m), 1612 (m), 1506 (s), 1490 (m), 1456 (s), 1417 (m), 1373 (w), 1354 (w), 1338 (m), 1265 (m), 1219 (m), 1153 (w), 1122 (w), 1093 (m), 1076 (w), 1049 (w), 1029 (w), 1010 (w), 894 (w), 808 (m), 792 (m), 740 (m), 702 (m), 611 (m).

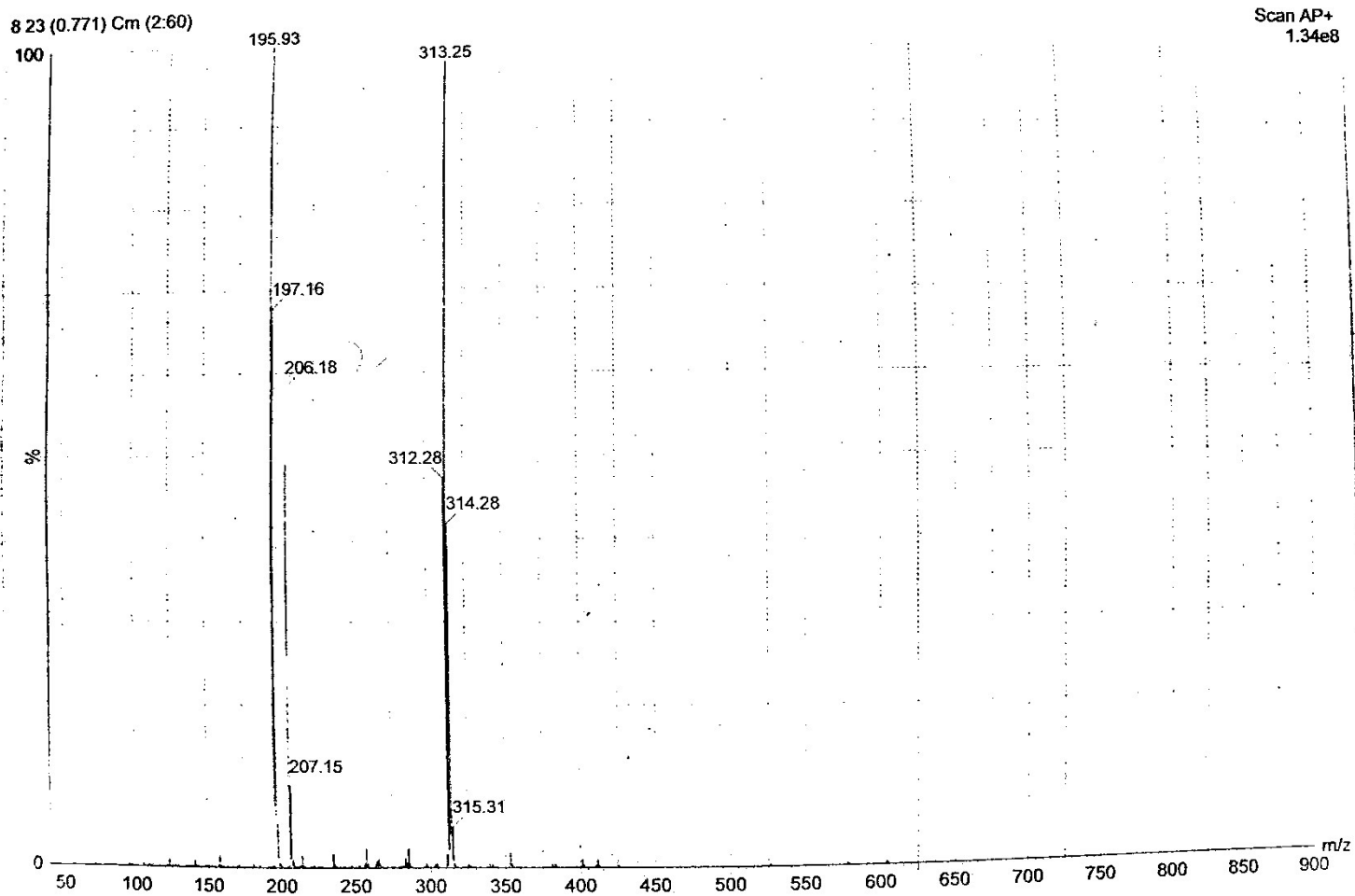


¹H NMR (500MHz, CDCl₃) δ = 7.92 (br s, 1 H), 7.34 (d, *J* = 8.2 Hz, 1 H), 7.28 - 7.26 (m, 1 H), 7.25 - 7.21 (m, 4 H), 7.21 - 7.13 (m, 2 H), 6.97 (t, *J* = 7.6 Hz, 1 H), 6.93 (d, *J* = 1.8 Hz, H), 6.86 (dd, *J* = 2.1, 7.9 Hz, 1 H), 6.61 - 6.56 (m, 2 H), 5.54 (s, 1 H), 2.10 (s, 3 H).

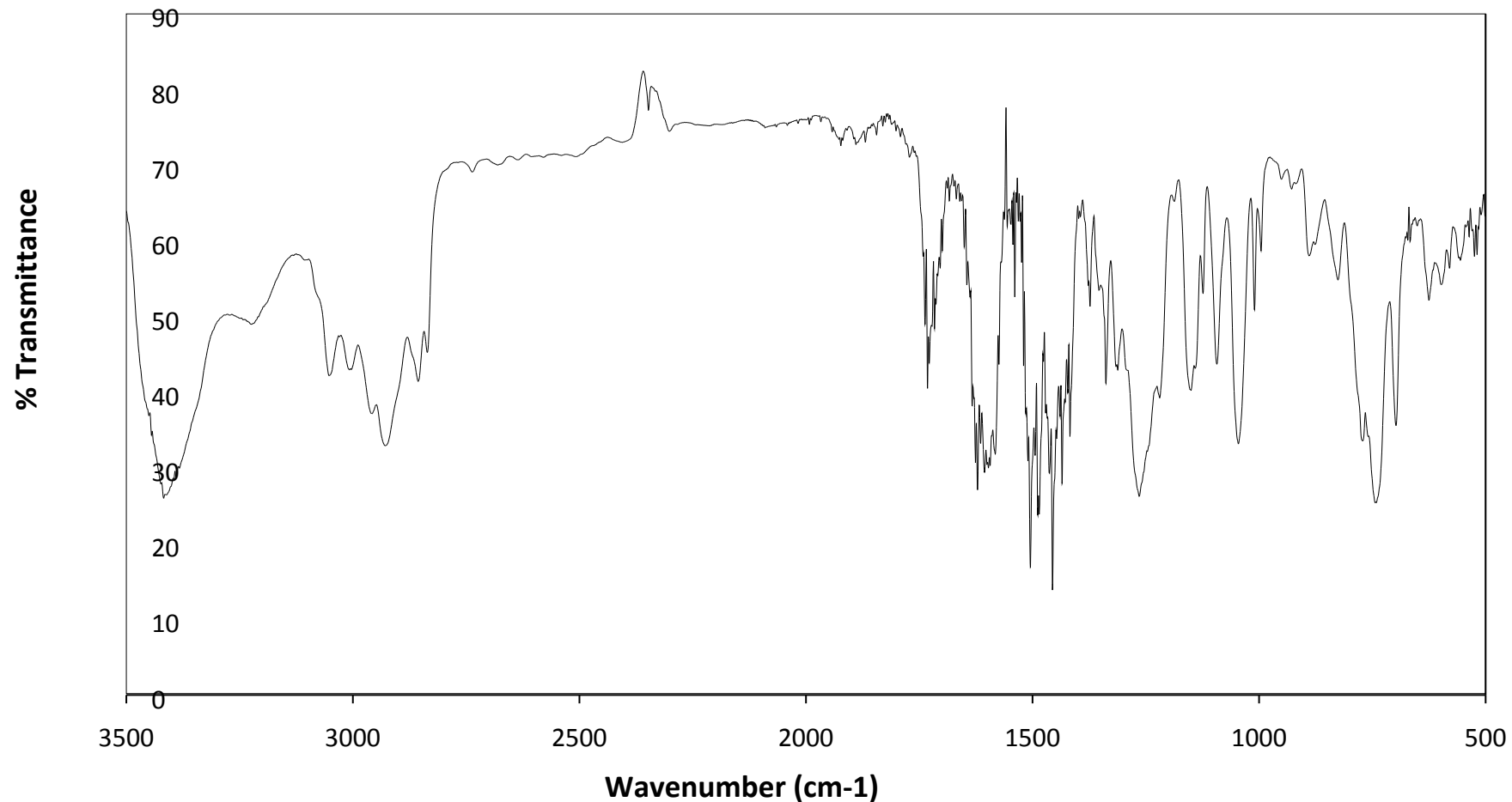


¹³C NMR (126 MHz, CDCl₃) δ = 144.67, 142.60, 136.69, 134.30, 131.02, 128.91, 128.15, 127.36, 127.08, 125.95, 123.96, 122.31, 121.91, 120.49, 120.01, 119.22, 114.97, 110.95, 48.04, 17.47.

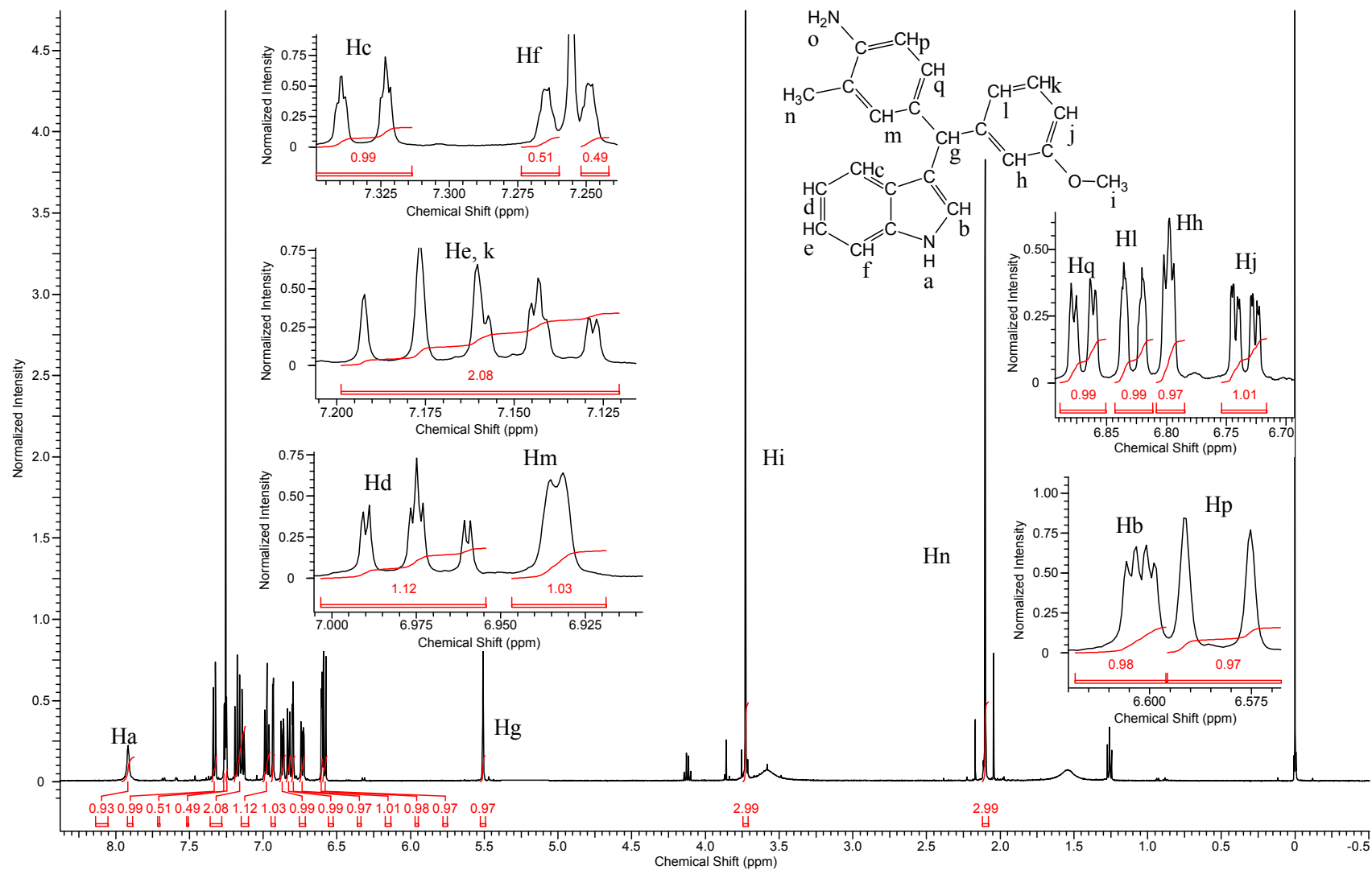
The mass spectrum of the following compound was obtained using a direct probe. The following peaks were obtained:



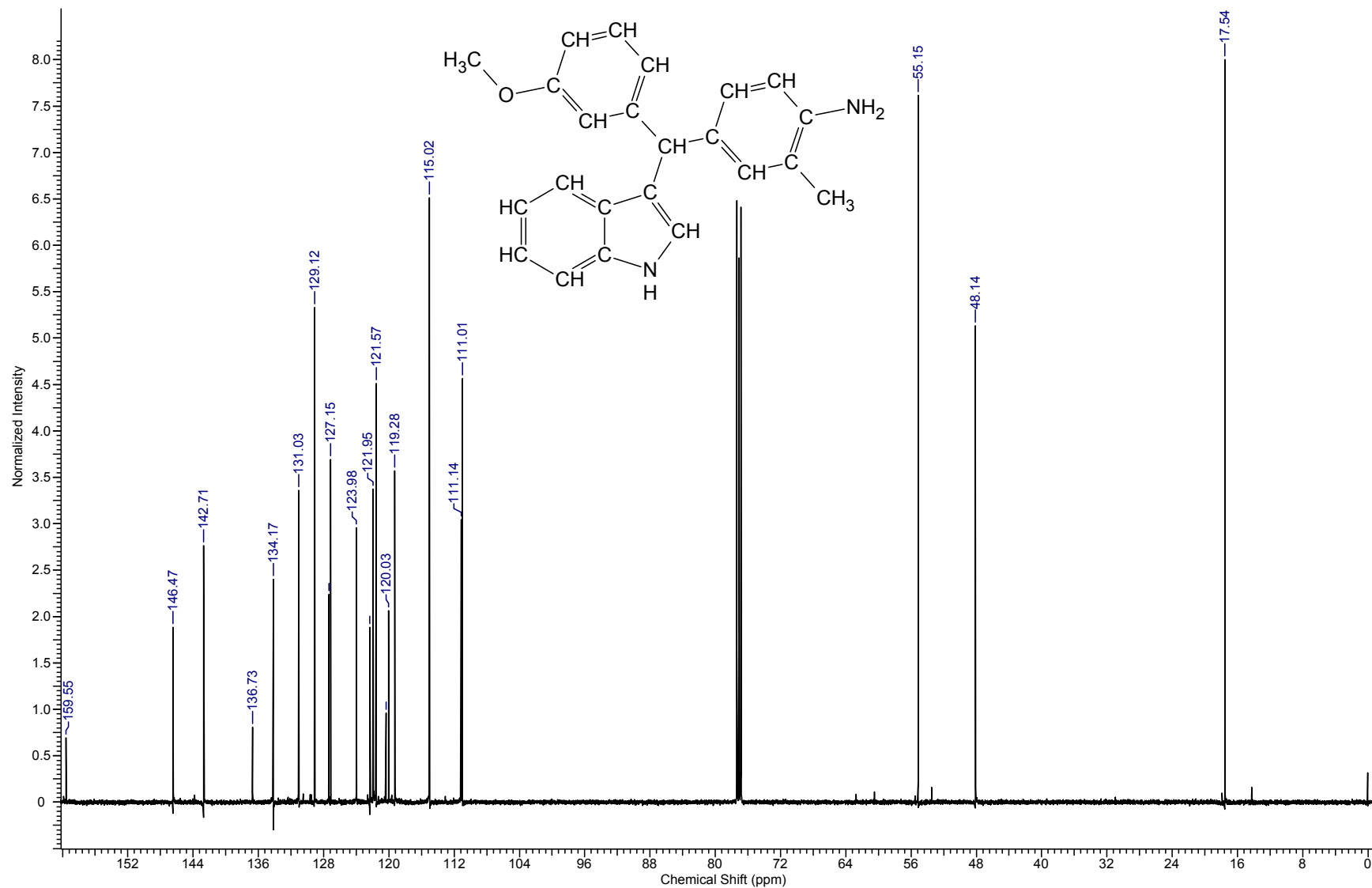
3.15 3-methoxybenzaldehyde (1h) + indole (2a) + 2-methylaniline (3h): (6rr) 4-[1*H*-indol-3-yl(3-methoxyphenyl)methyl]-2-methylaniline



IR (KBr, cm⁻¹): 3417 (s), 3223 (m), 3049 (m), 3003 (m), 2956 (s), 2926 (s), 2856 (m), 2837 (m), 1732 (m), 1622 (s), 1606 (s), 1597 (s), 1581 (s), 1539 (w), 1504 (s), 1485 (s), 1456 (s), 1435 (s), 1417 (s), 1373 (w), 1338 (m), 1311 (m), 1265 (s), 1219 (m), 1149 (m), 1139 (m), 1122 (w), 1093 (m), 1047 (m), 1010 (w), 995 (w), 889 (w), 875 (w), 825 (w), 773 (m), 742 (s), 698 (m), 624 (w).

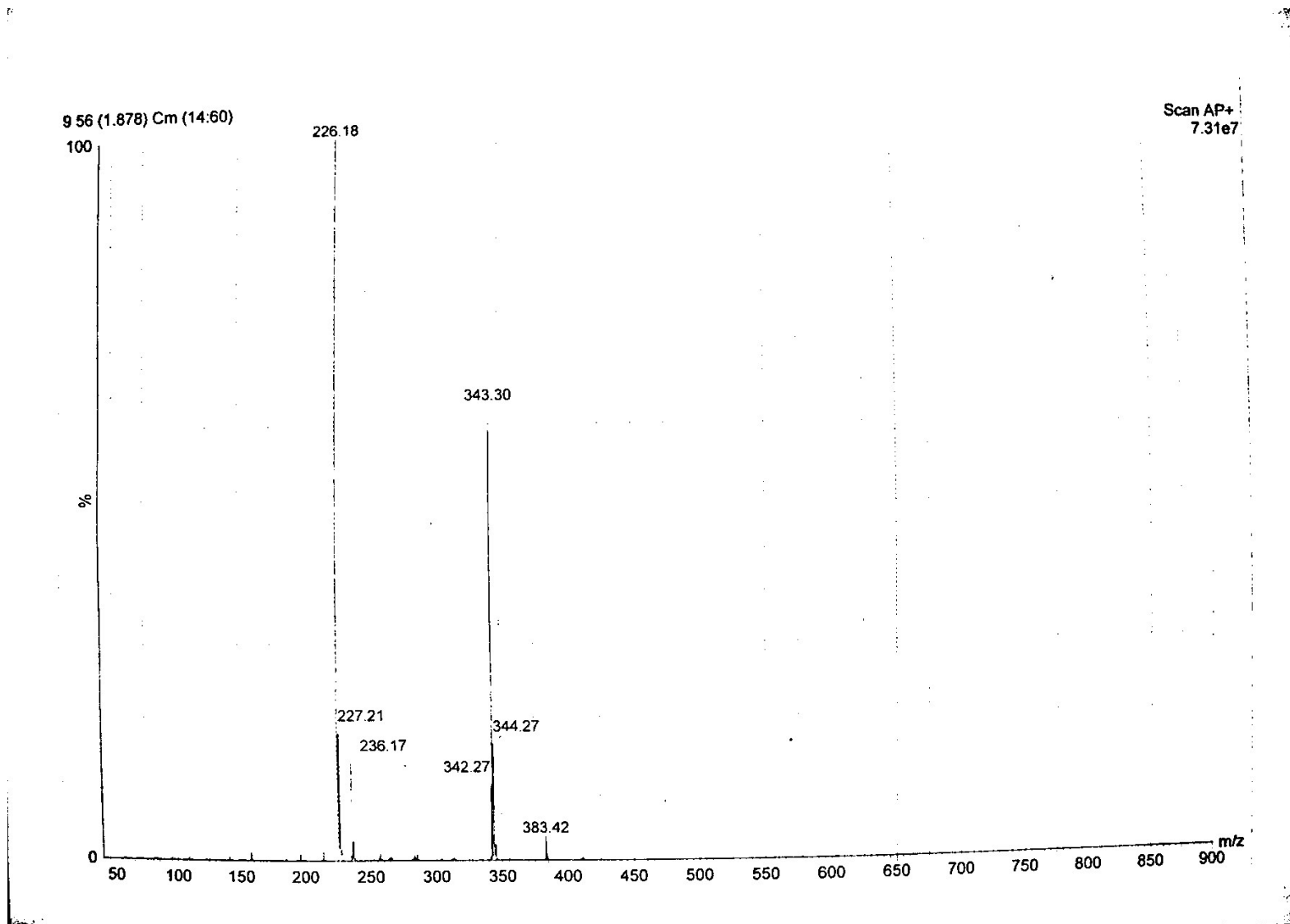


¹H NMR (500 MHz, CDCl₃) δ = 7.92 (br s, 1 H), 7.33 (d, *J* = 7.9 Hz, 1 H), 7.26 (d, *J* = 7.9 Hz, 1 H), 7.20 - 7.12 (m, 2 H), 6.97 (ddd, *J* = 0.9, 7.0, 7.9 Hz, 1 H), 6.93 (d, *J* = 2.0 Hz, 1 H), 6.87 (dd, *J* = 2.0, 8.2 Hz, 1 H), 6.83 (d, *J* = 7.9 Hz, 1 H), 6.80 (t, *J* = 2.4 Hz, 1 H), 6.73 (ddd, *J* = 0.8, 2.6, 8.2 Hz, 1 H), 6.60 (dd, *J* = 1.1, 2.3 Hz, 1 H), 6.58 (d, *J* = 8.2 Hz, 1 H), 5.51 (s, 1 H), 3.73 (s, 3 H), 2.10 (s, 3 H).

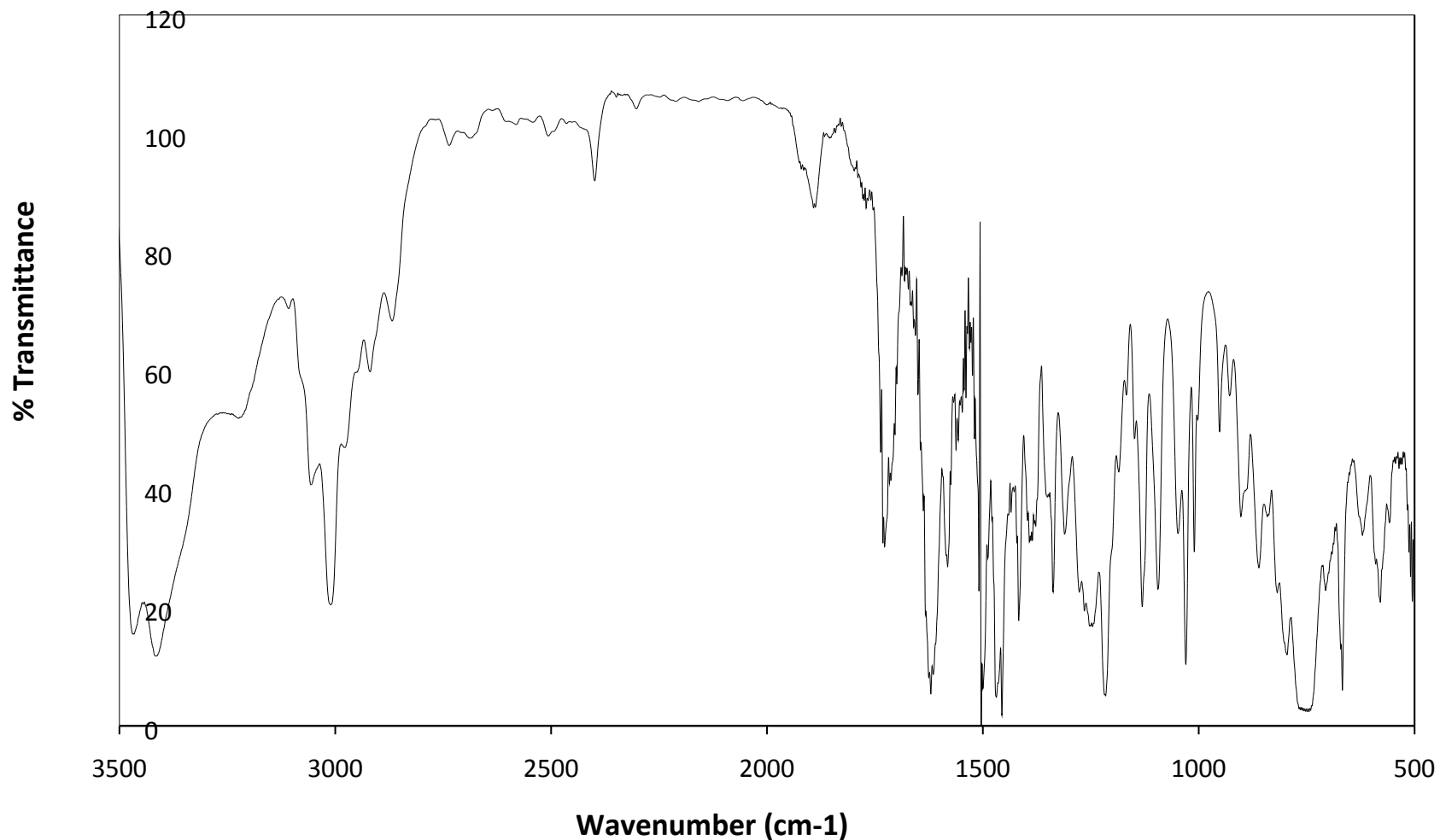


¹³C NMR (126 MHz, CDCl₃) δ = 159.55, 146.47, 142.71, 136.73, 134.17, 131.03, 129.12, 127.37, 127.15, 123.98, 123.97, 122.34, 121.95, 121.57, 120.36, 120.03, 119.28, 115.02, 111.14, 111.01, 55.15, 48.14, 17.54.

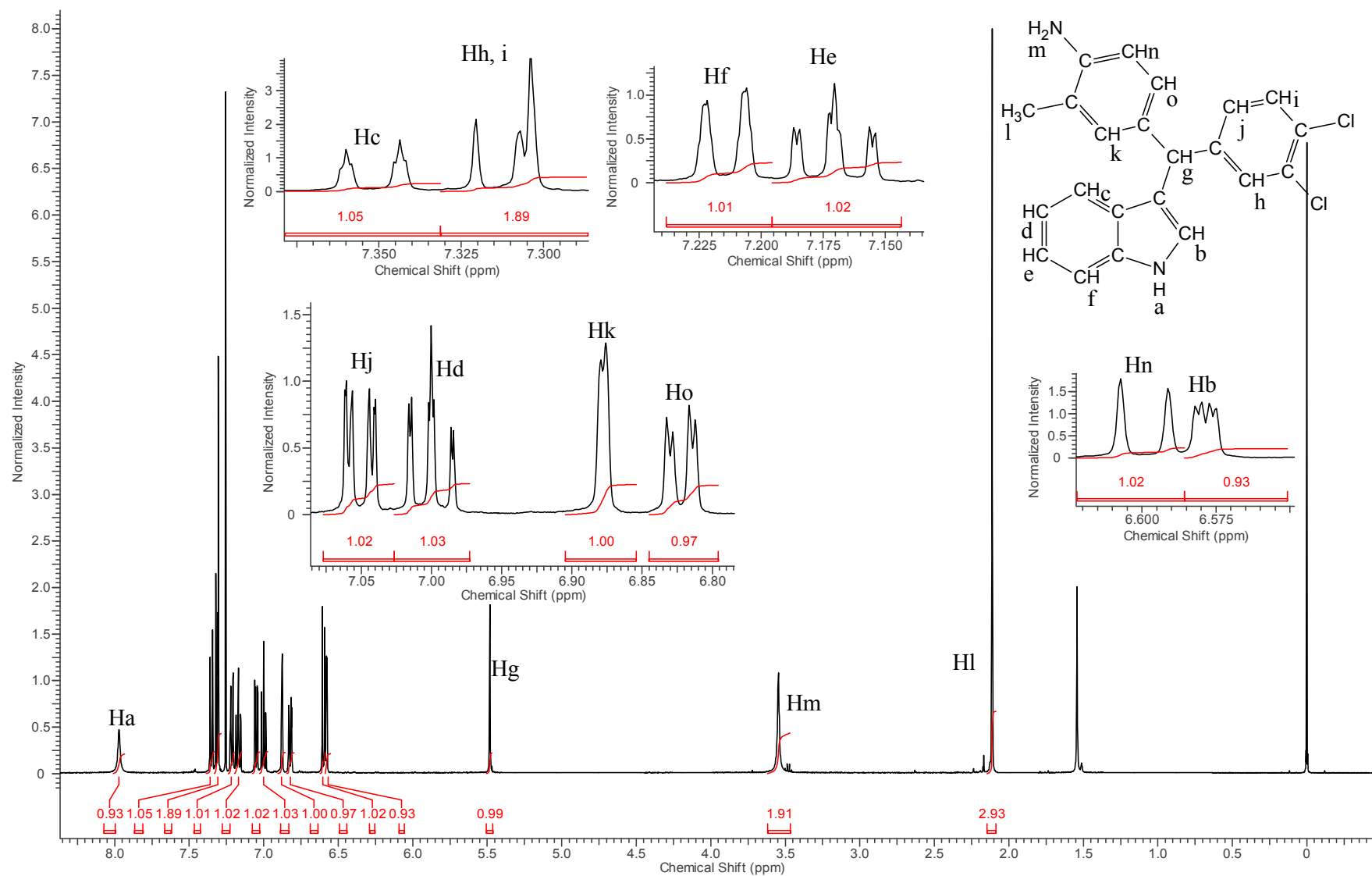
The mass spectrum of this compound was obtained using a direct probe. The following peaks were obtained:



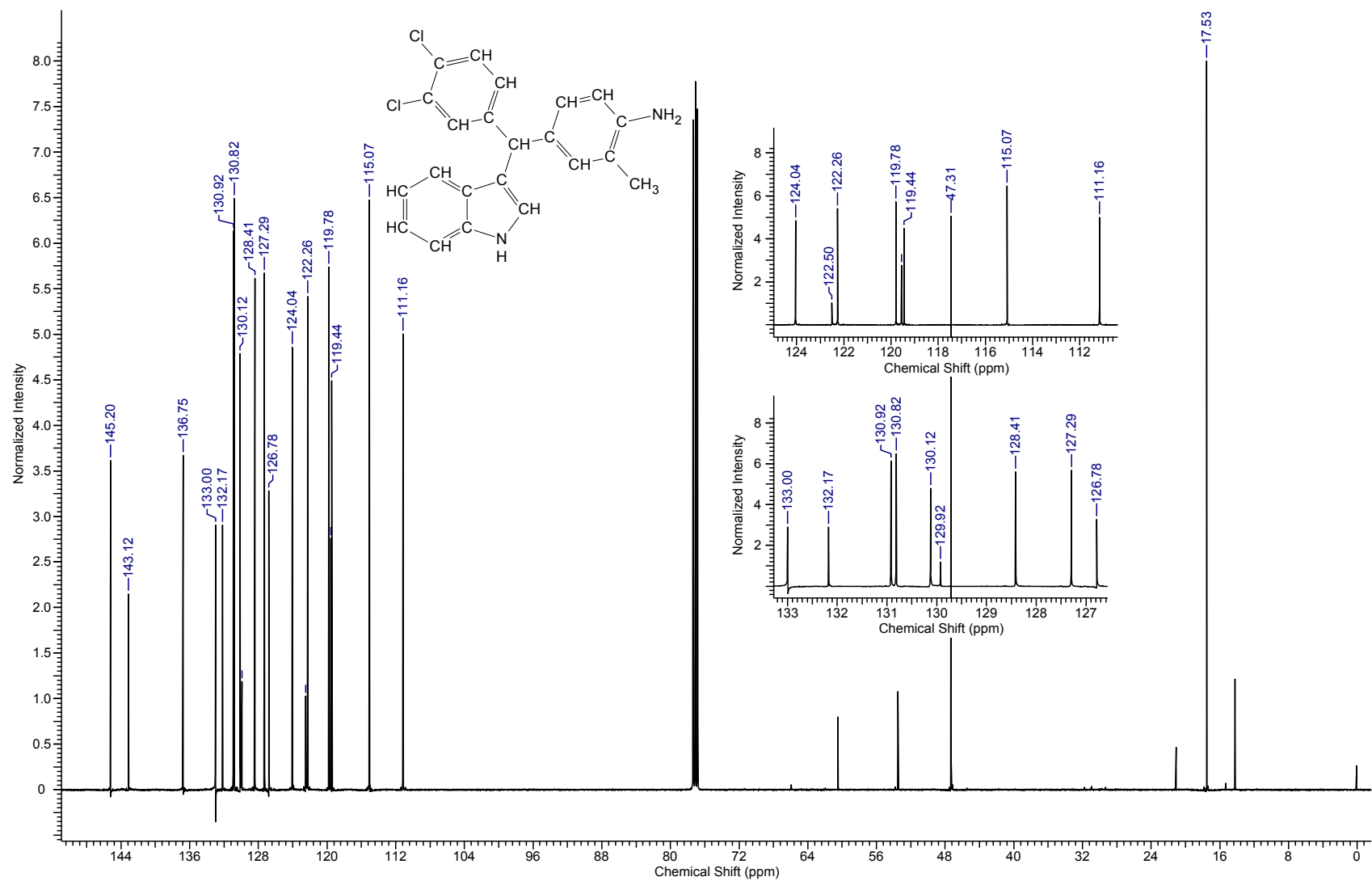
3.16 3,4-dichlorobenzaldehyde (1o) + indole (2a) + 2-methylaniline (3h): (6ss) 4-[1*H*-indol-3-yl(3,4-dichlorophenyl)methyl]-2-methylaniline



IR (KBr, cm⁻¹): 3468 (s), 3415 (s), 3223 (m), 3057 (m), 3010 (s), 2976 (m), 2922 (w), 2868 (m), 1728 (w), 1620 (s), 1581 (m), 1504 (s), 1467 (s), 1456 (s), 1417 (m), 1392 (m), 1336 (s), 1309 (m), 1276 (m), 1265 (m), 1249 (m), 1130 (m), 1093 (m), 1047 (m), 1029 (s), 101 (m), 950 (w), 927 (w), 902 (m), 860 (m), 817 (m), 794 (s), 752 (br, s), 721 (m), 667 (s), 621 (m).

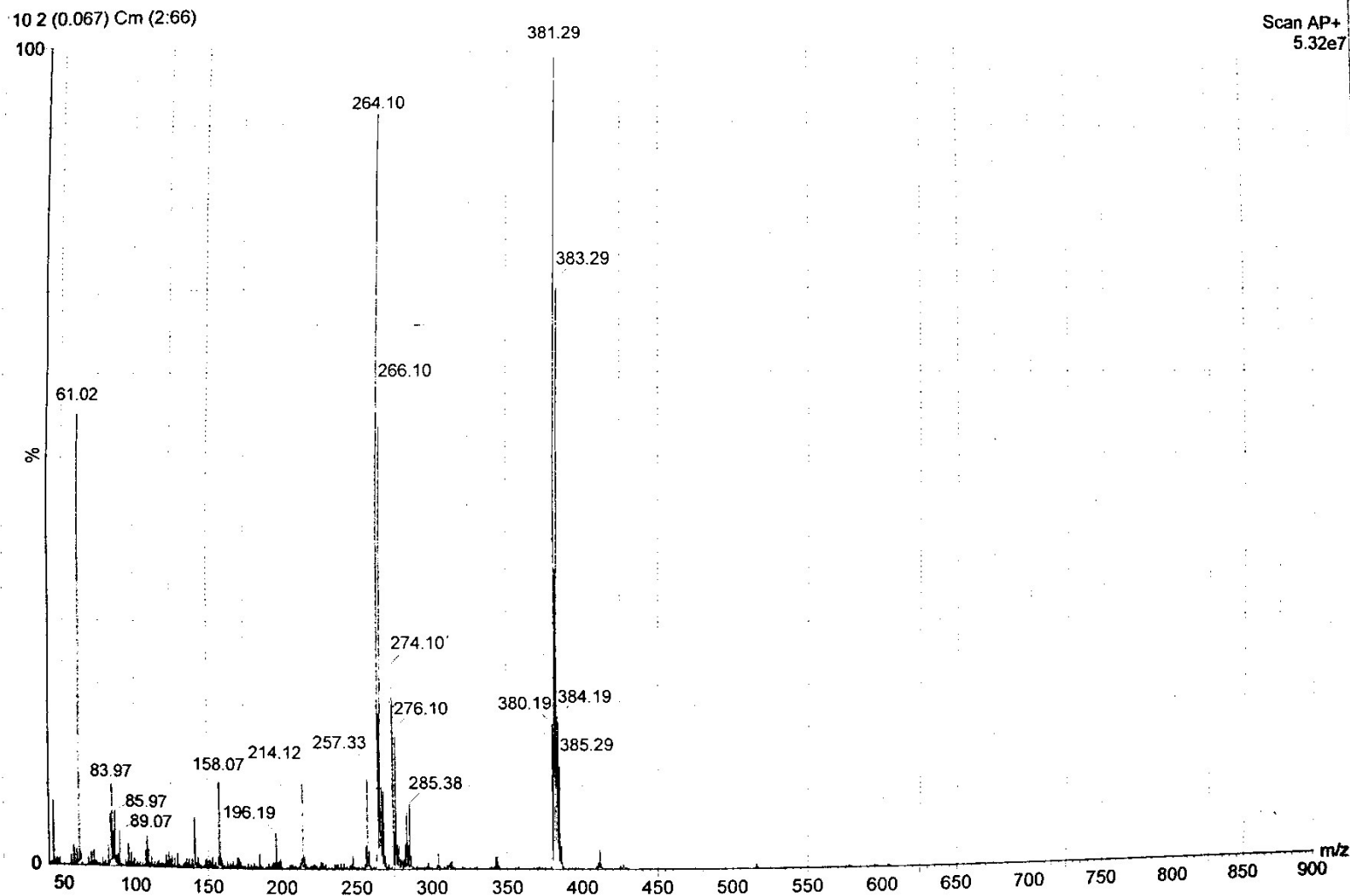


¹H NMR (500MHz, CDCl₃) δ = 7.97 (br s, 1 H), 7.36 (d, J = 8.2 Hz, 1 H), 7.33 - 7.29 (m, 2 H), 7.21 (d, J = 7.9 Hz, 1 H), 7.17 (ddd, J = 1.2, 7.0, 7.7 Hz, 1 H), 7.05 (dd, J = 2.4 Hz, 8.3 Hz, 1 H), 7.00 (ddd, J = 0.9, 7.0, 8.2 Hz, 1 H), 6.88 (d, J = 2.1 Hz, 1 H), 6.82 (dd, J = 2.1, 7.9 Hz, 1 H), 6.60 (d, J = 7.9 Hz, 1 H), 6.58 (dd, J = 1.2, 2.4 Hz, 1 H), 5.48 (s, 1 H), 3.55 (br s, 2 H), 2.11 (s, 3 H).



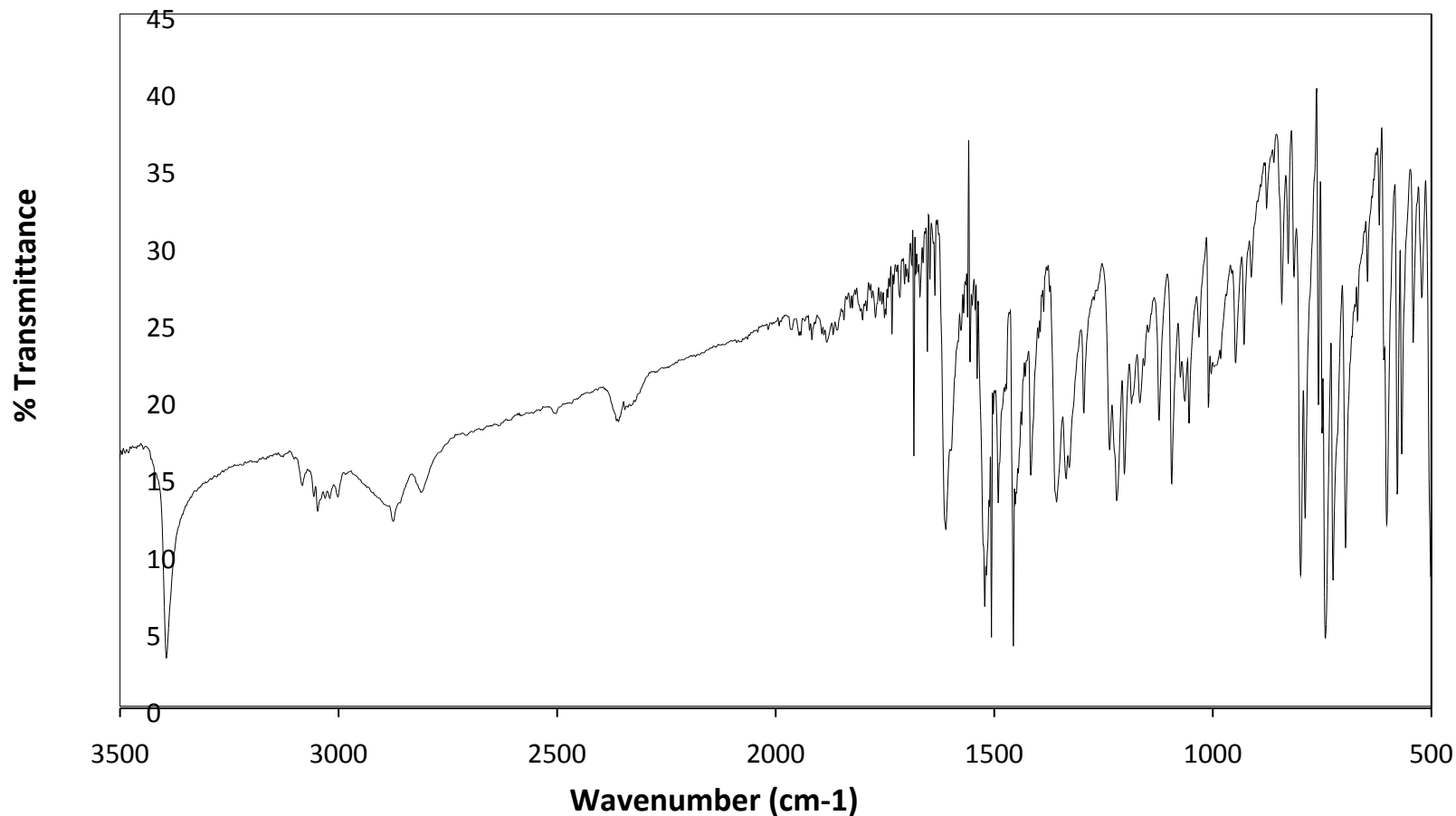
¹³C NMR (126 MHz, CDCl₃) δ = 145.20, 143.12, 136.75, 133.00, 132.17, 130.92, 130.82, 130.12, 129.92, 128.41, 127.29, 126.78, 124.04, 122.50, 122.26, 119.78, 119.55, 119.44, 115.07, 111.16, 47.31, 17.53.

The mass spectrum of this compound was obtained using a direct probe. The following peaks were obtained:

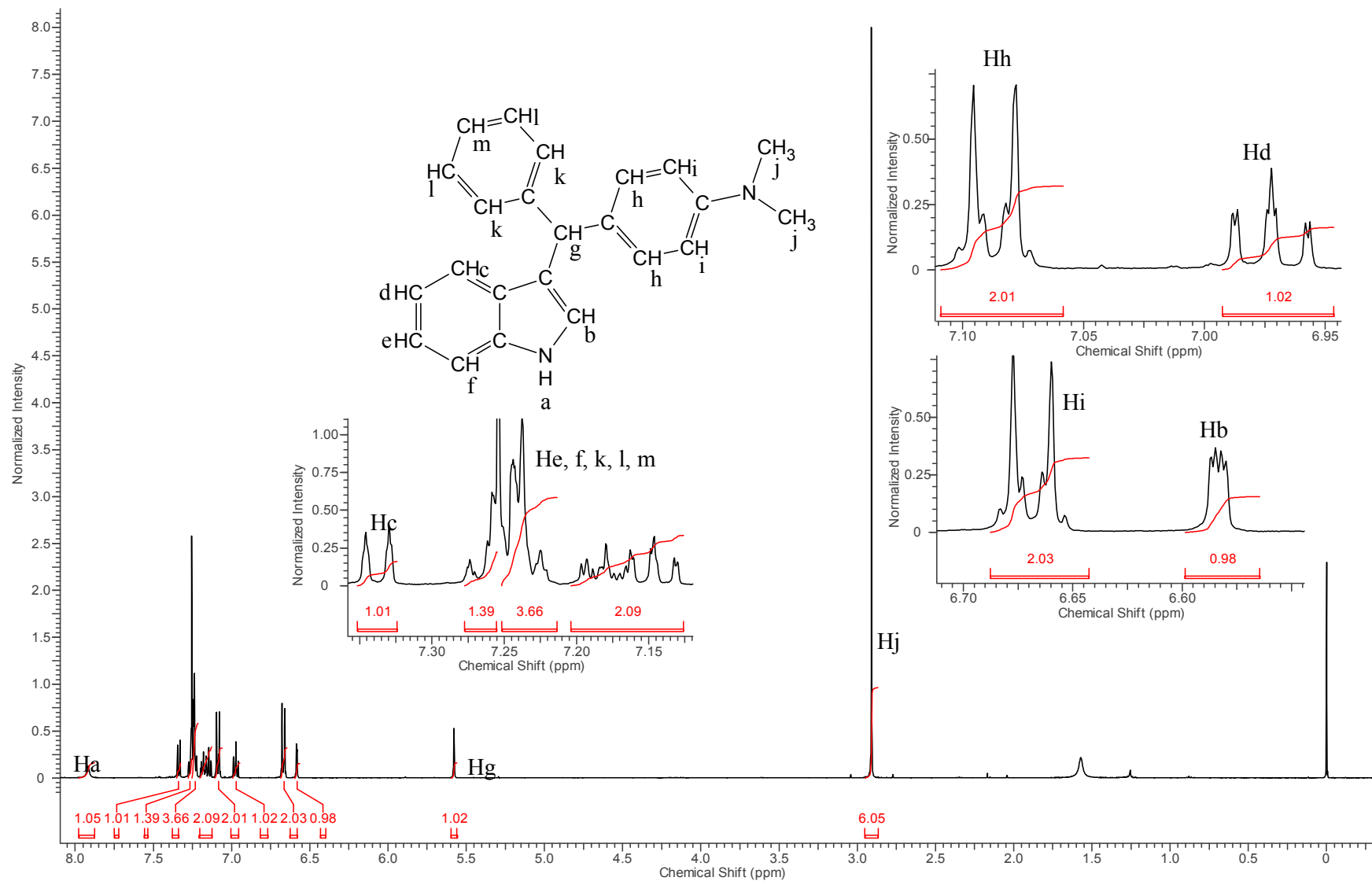


[4] Tertiary Amines

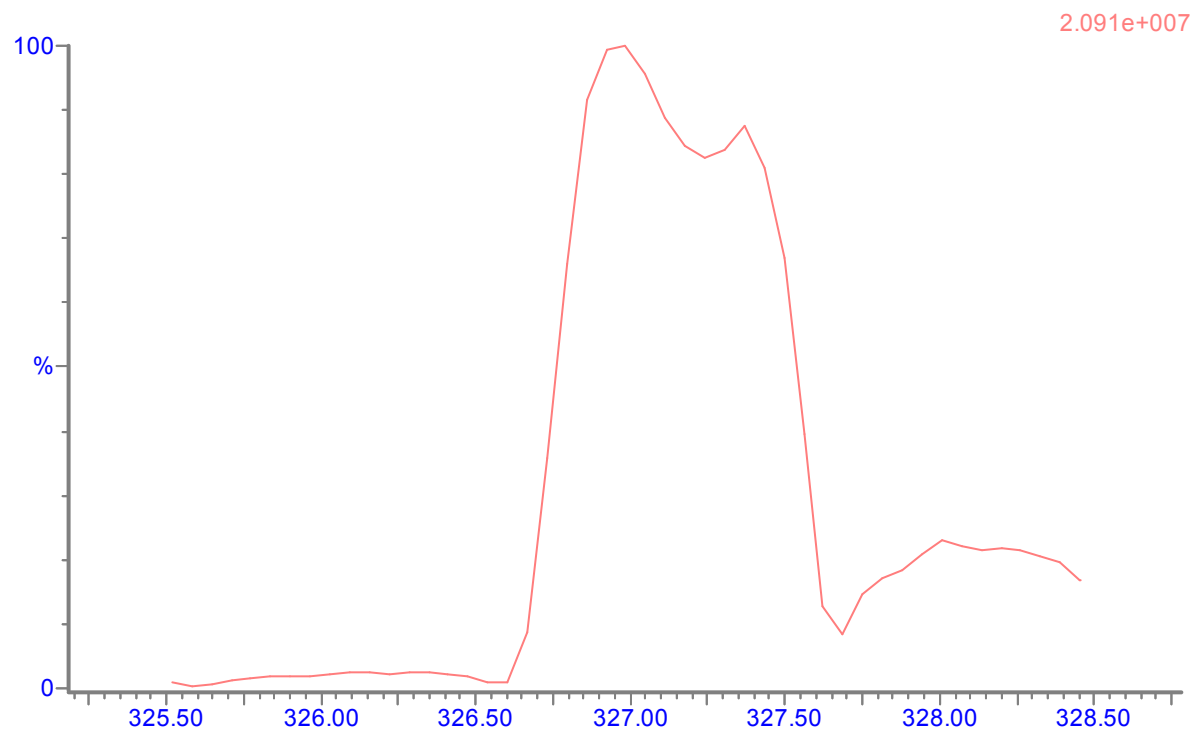
4.1 Benzaldehyde (1a) + indole (2a) + *N,N*-dimethylaniline (5a): (6tt) 4-[1*H*-indol-3-yl(phenyl)methyl]-*N,N*-dimethylaniline



IR (KBr, cm^{-1}): 3394 (s), 3082 (m), 3057 (m), 3047 (m), 3020 (m), 3001 (m), 2873 (m), 2810 (m), 1683 (m), 1610 (m), 1521 (s), 1506 (s), 1510 (m), 1456 (s), 1415 (m), 1357 (m), 1334 (m), 1328 (m), 1294 (w), 1236 (m), 1219 (m), 1201 (m), 1186 (w), 1166 (w), 1122 (w), 1093 (m), 1064 (w), 1055 (w), 1010 (w), 947 (w), 927 (w), 912 (w), 877 (w), 842 (w), 827 (w), 813 (w), 798 (s), 788 (m), 742 (s), 725 (s), 696 (s), 601 (m).

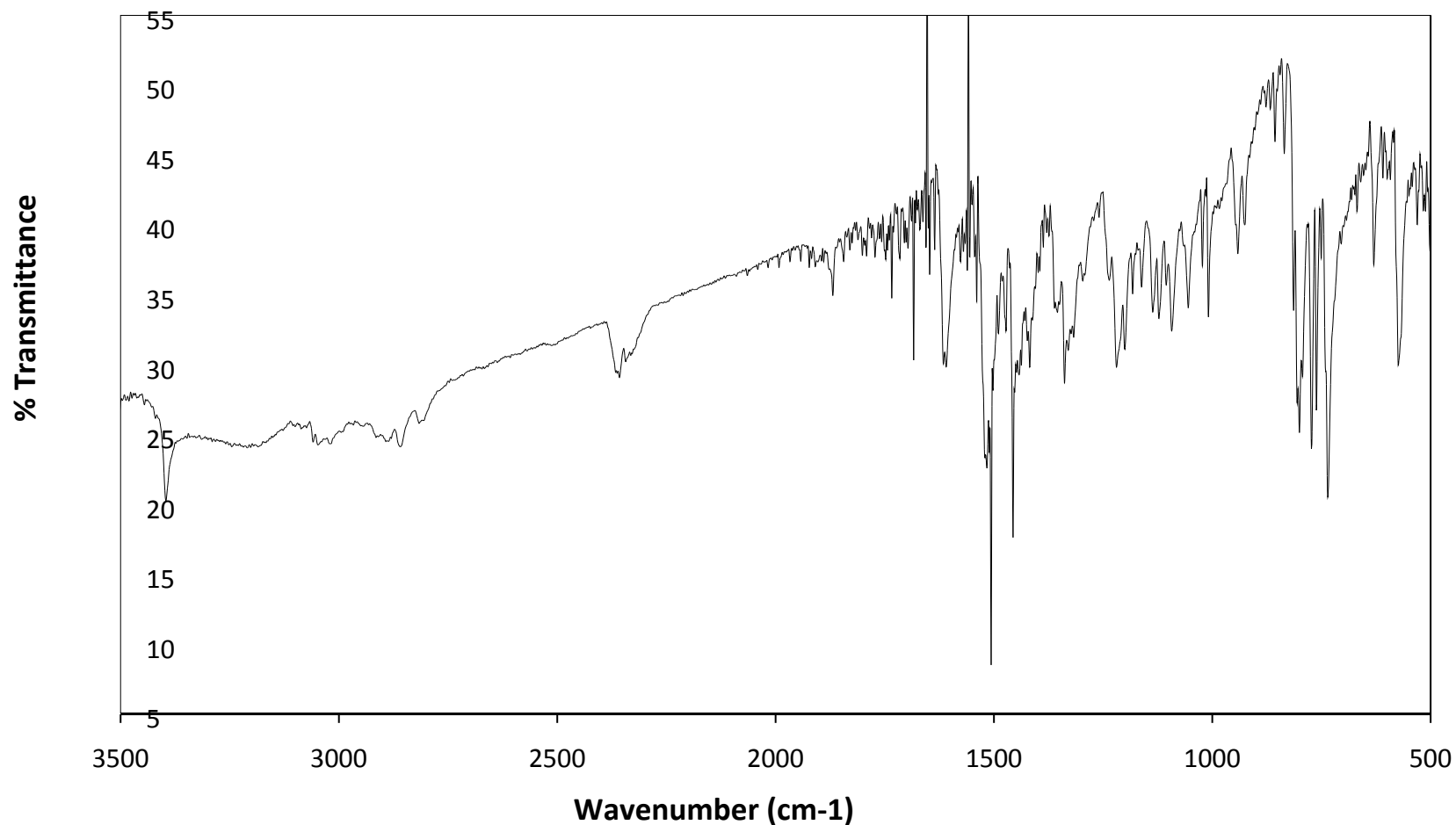


¹H NMR (500MHz, CDCl₃) δ = 7.34 (d, *J* = 7.9 Hz, 1 H), 7.28 - 7.26 (m, 1 H), 7.25 - 7.22 (m, 4 H), 7.21 - 7.12 (m, 2 H), 7.09 (d, *J* = 8.5 Hz, 2 H), 6.97 (ddd, *J* = 0.9, 7.0, 7.9 Hz, 1 H), 6.67 (d, *J* = 8.5 Hz, 2 H), 6.58 (dd, *J* = 1.1, 2.3 Hz, 1 H), 5.58 (s, 1 H), 2.91 (s, 6 H).

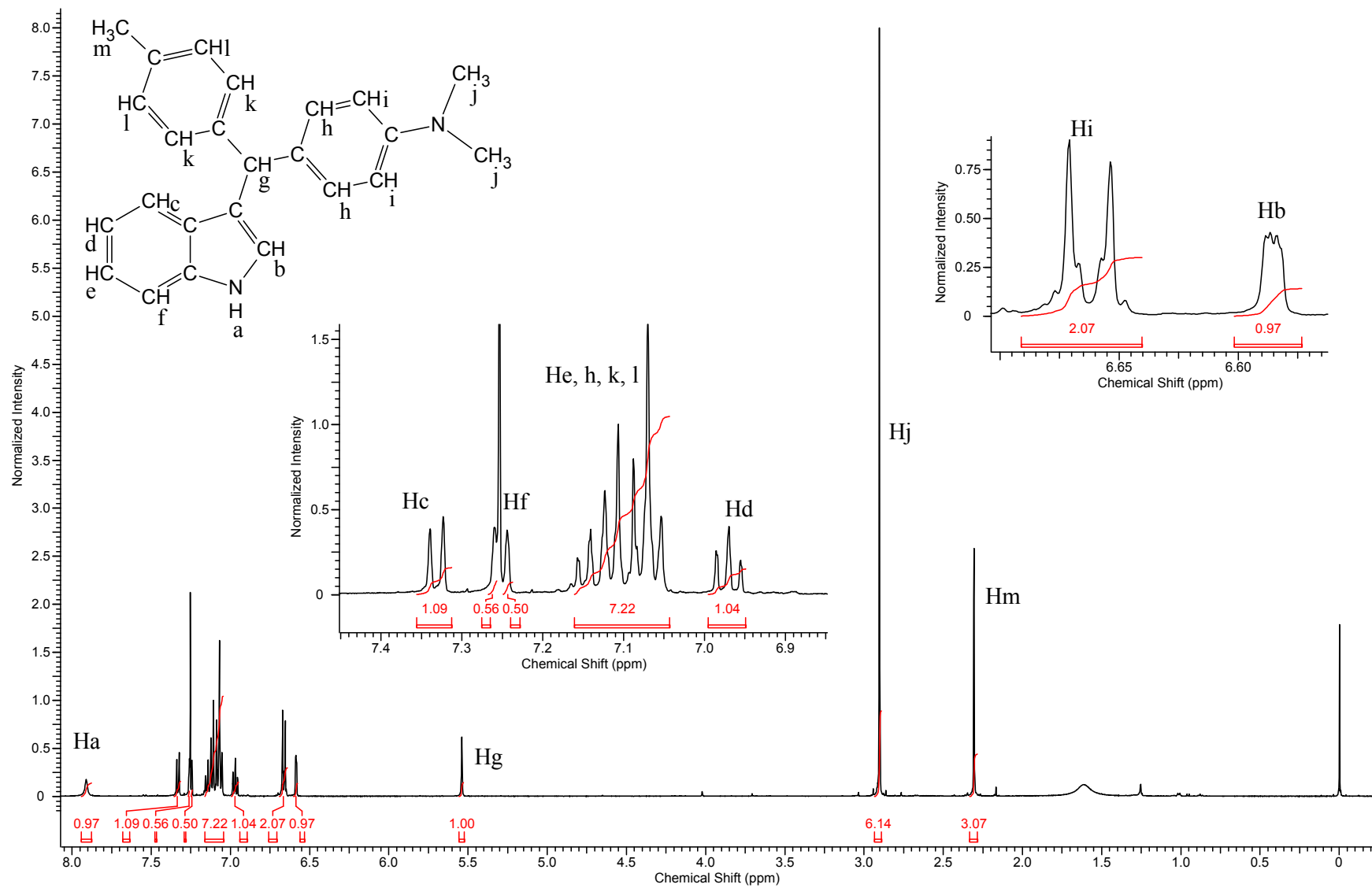


Formula Mass	Daughter number	Parent m/z	Cone Voltage (V)	Daughters	Collision Energy (eV)	Ion Mode
326.43	1	327.10	38	235.13	32	ES+
	2	327.10	38	312.07	24	ES+
	3	327.10	38	204.17	54	ES+
	4	327.10	38	219.79	50	ES+

4.2 4-methylbenzaldehyde (1b) + indole (2a) + *N,N*-dimethylaniline (5a): (6uu) 4-[1*H*-indol-3-yl(4-methylphenyl)methyl]-*N,N*-dimethylaniline

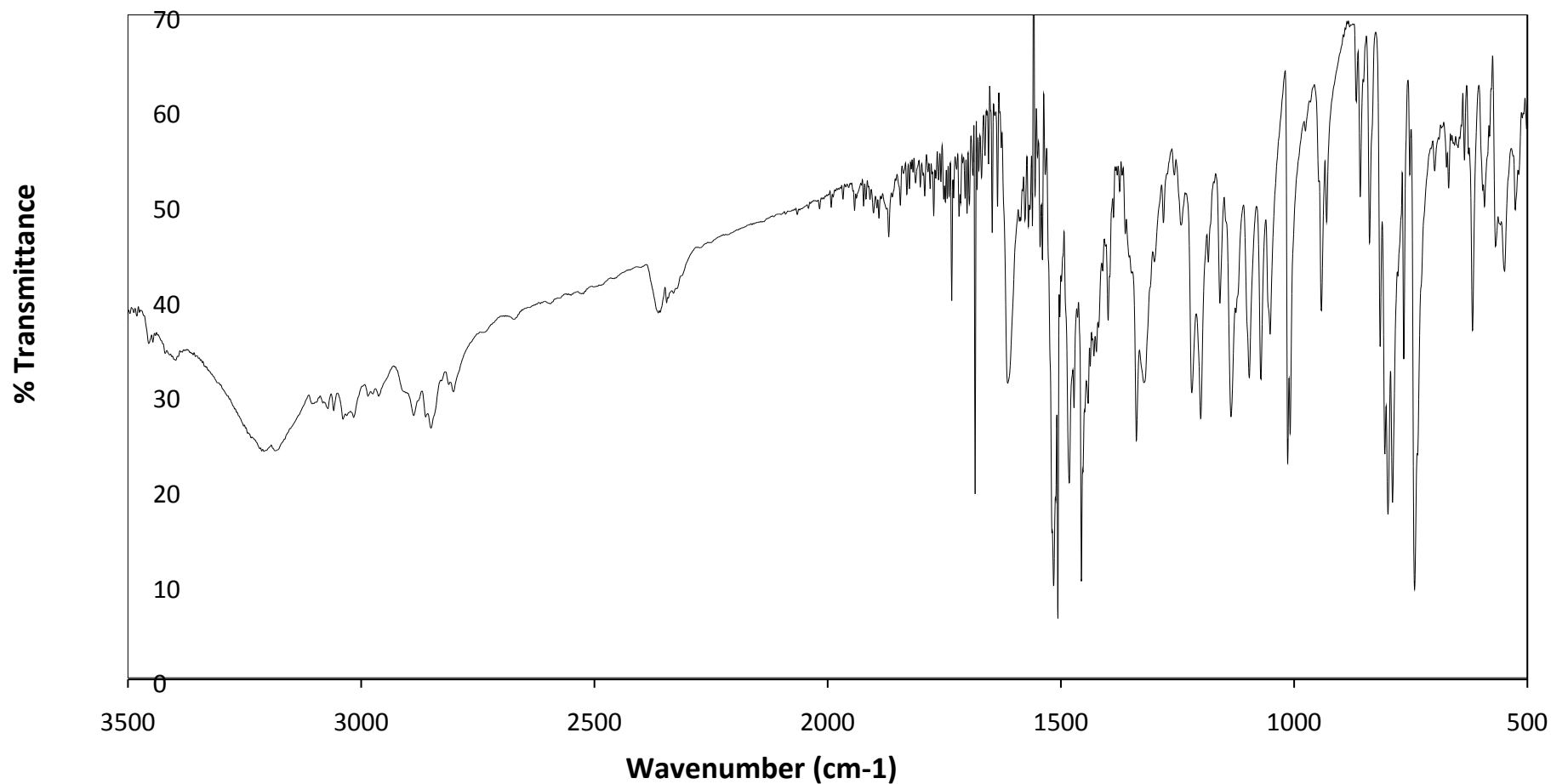


IR (KBr, cm⁻¹): 3396 (m), 3207 (br, m), 3059 (m), 3047 (m), 3018 (m), 2995 (m), 2914 (m), 2891 (m), 2858 (m), 2816 (m), 1683 (m), 1616 (m), 1608 (m), 1516 (m), 1506 (s), 1456 (s), 1417 (m), 1357 (m), 1338 (m), 1317 (m), 1296 (w), 1236 (w), 1219 (m), 1199 (m), 1182 (w), 1161 (w), 1136 (m), 1122 (m), 1093 (m), 1055 (m), 1022 (w), 1008 (m), 941 (w), 925 (w), 856 (m), 835 (m), 800 (m), 773 (m), 761 (m), 734 (m), 630 (w).

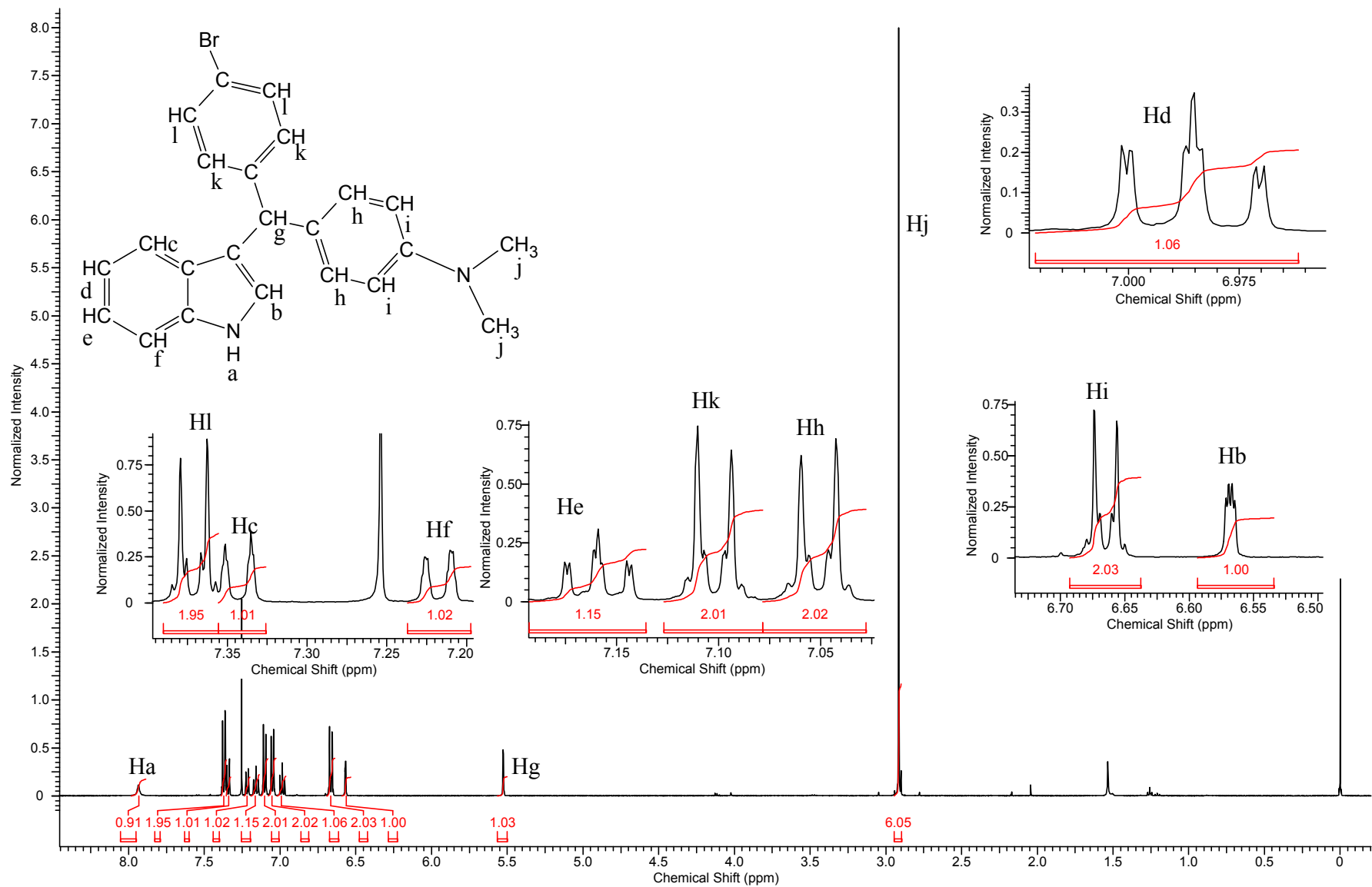


¹H NMR (500MHz, CDCl₃) δ = 7.91 (br s, 1 H), 7.33 (d, *J* = 8.2 Hz, 1 H), 7.26 (d, *J* = 7.9 Hz, 1 H), 7.16 - 7.04 (m, 7 H), 6.97 (t, *J* = 7.5 Hz, 1 H), 6.60 (d, *J* = 8.5 Hz, 1 H), 5.54 (s, 1 H), 2.90 (s, 6 H), 2.31 (s, 3 H).

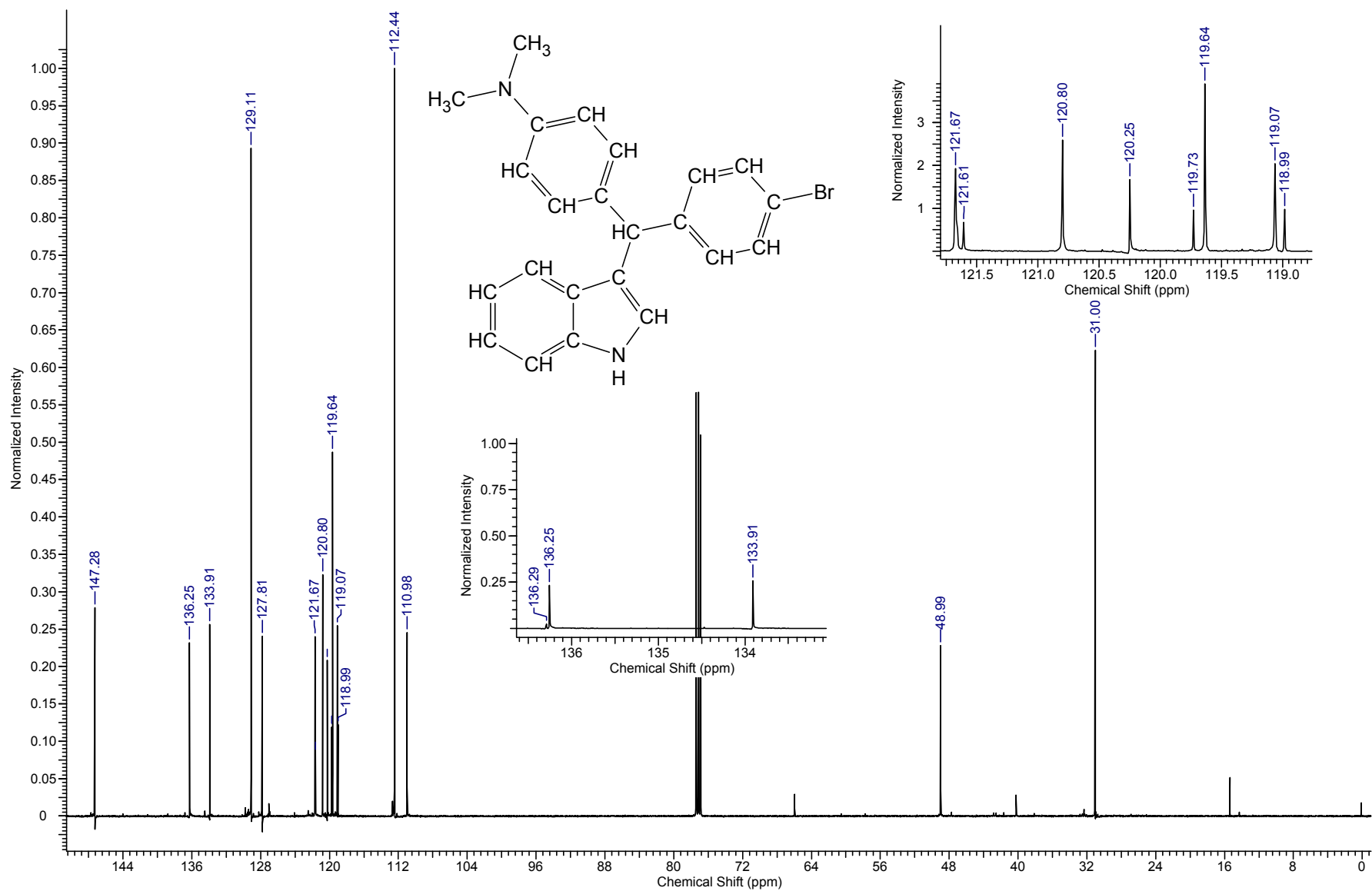
4.3 4-bromobenzaldehyde (1n) + indole (2a) + *N,N*-dimethylaniline (5a): (6vv) 4-[1*H*-indol-3-yl(4-bromophenyl)methyl]-*N,N*-dimethylaniline



IR (KBr, cm^{-1}): 3402 (m), 3213 (m), 3182 (m), 3105 (m), 3070 (m), 3059 (m), 3039 (m), 3014 (m), 2985 (m), 2962 (m), 2887 (m), 2848 (m), 2802 (m), 1734 (w), 1683 (m), 1614 (m), 1516 (s), 1506 (s), 1481 (m), 1471 (m), 1456 (s), 1398 (w), 1338 (m), 1321 (m), 1280 (w), 1242 (w), 1219 (m), 1199 (m), 1184 (w), 1159 (w), 1136 (m), 1095 (m), 1070 (m), 1051 (m), 1014 (m), 1008 (m), 941 (m), 929 (w), 858 (w), 839 (w), 815 (m), 806 (m), 798 (s), 788 (s), 765 (m), 742 (s), 669 (w), 617 (m).

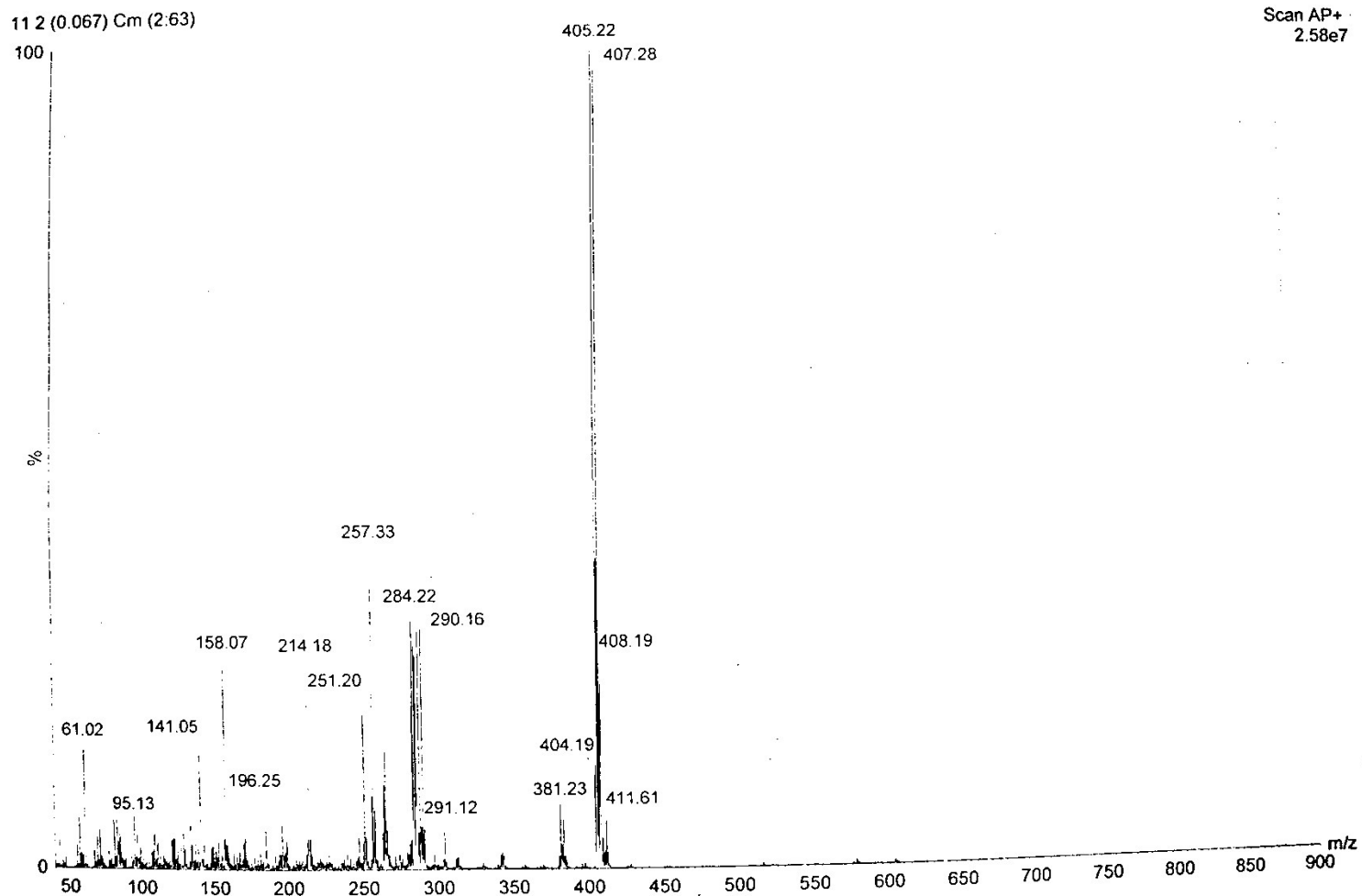


¹H NMR (500 MHz, CDCl₃) δ = 7.93 (br s, 1H), 7.37 (d, J = 8.2 Hz, 2H), 7.34 (d, J = 7.9 Hz, 1H), 7.22 (d, J = 7.9 Hz, 1H), 7.16 (ddd, J = 0.9, 7.2, 7.9 Hz, 1H), 7.10 (d, J = 8.2 Hz, 2H), 7.05 (d, J = 8.5 Hz, 2H), 6.99 (ddd, J = 0.9, 7.2, 8.2 Hz, 1H), 6.67 (d, J = 8.5 Hz, 2H), 6.57 (dd, J = 1.1, 2.3 Hz, 1H), 5.53 (s, 1H), 2.92 (s, 6H).



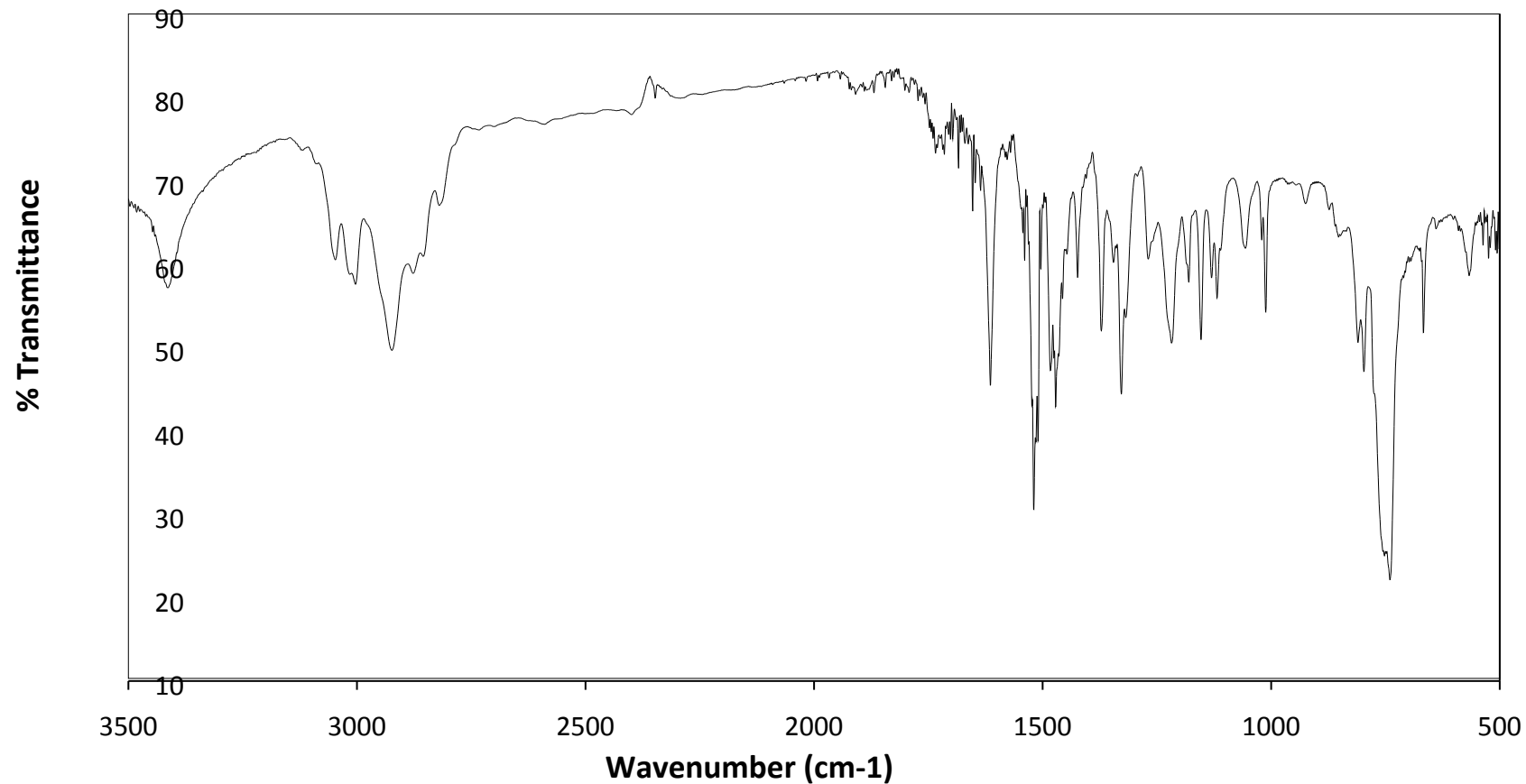
¹³C NMR (126 MHz, CDCl₃) δ = 147.28, 136.29, 136.25(s), 133.91, 129.11, 127.81, 121.67, 121.61, 120.80, 120.25, 119.73, 119.64, 119.07, 118.99, 112.44, 110.98, 48.99, 31.00.

The mass spectrum of this compound was obtained using a direct probe. The following peaks were obtained:

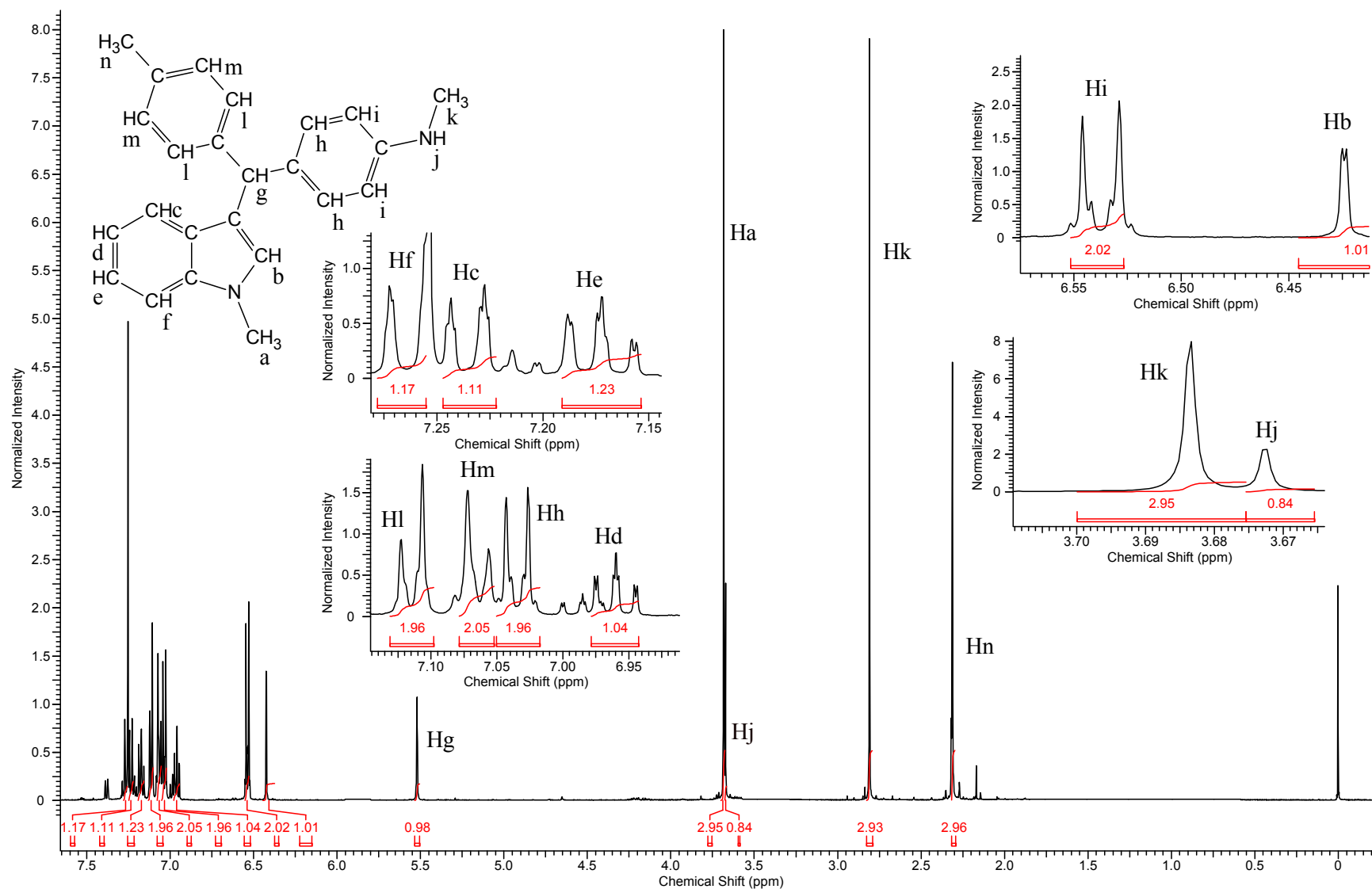


[5] Other nucleophilic species

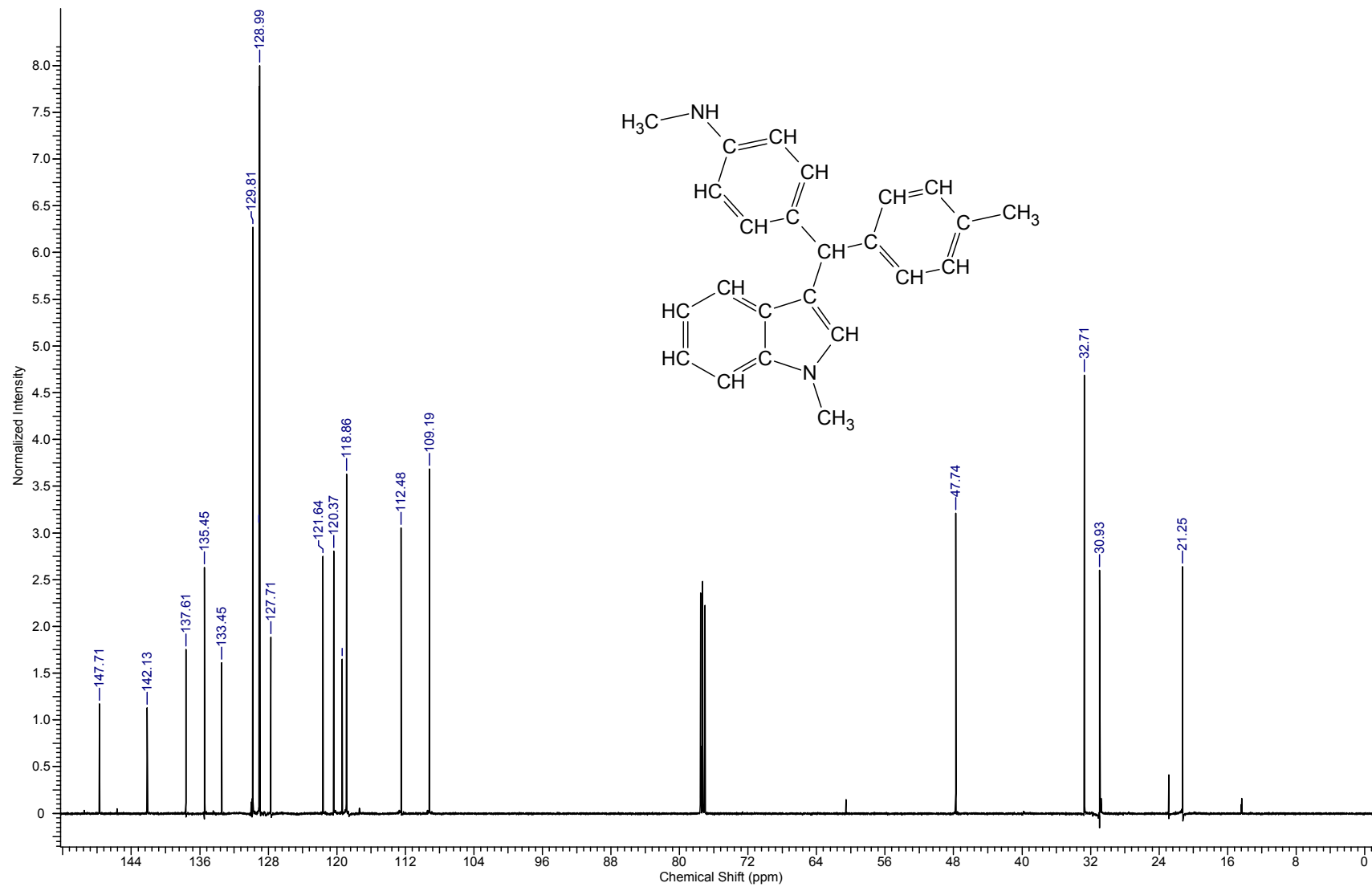
5.1 4-methylbenzaldehyde (1b) + N-methylindole (2b) + N-Methylaniline (3a): (6ww) N,N-dimethyl-4-[(1-methyl-1H-indol-3-yl)(phenyl)methyl]aniline



IR (KBr, cm⁻¹): 3412 (m), 3049 (m), 3003 (m), 2924 (m), 2875 (m), 2854 (m), 2819 (w), 1614 (m), 1549 (w), 1519 (s), 1510 (m), 1483 (m), 1471 (m), 1423 (w), 1371 (m), 1345 (w), 1327 (m), 1323 (m), 1269 (w), 1217 (m), 1180 (w), 1153 (m), 1130 (w), 1118 (w), 1055 (w), 1012 (w), 852 (w), 810 (m), 796 (m), 752 (s), 740 (s), 667 (m).

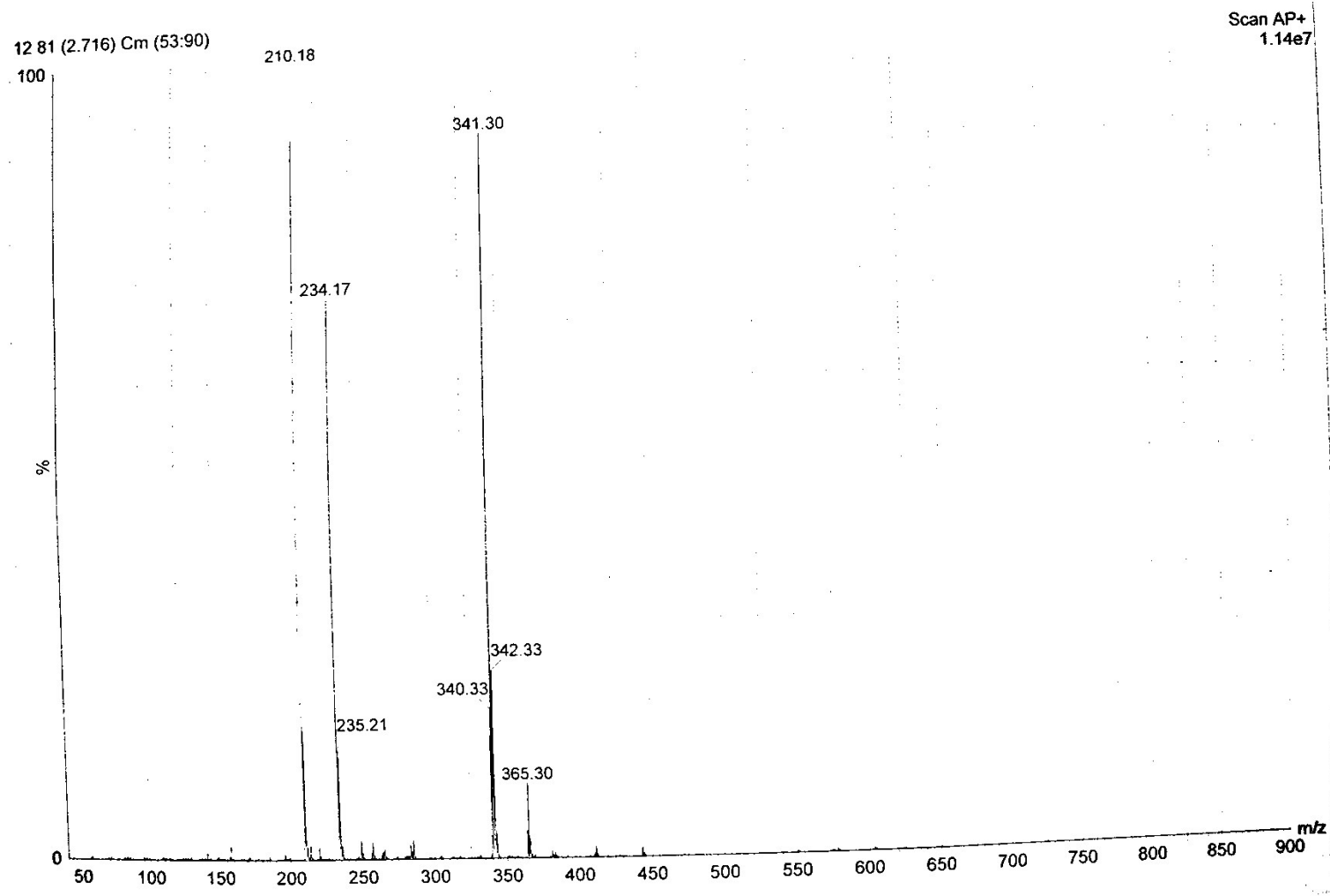


¹H NMR (500MHz, CDCl₃) δ = 7.27 (d, J = 8.2 Hz, 1 H), 7.24 (d, J = 7.9 Hz, 1 H), 7.16 (ddd, J = 0.9, 7.0, 7.6 Hz, 1 H), 7.12 (d, J = 7.9 Hz, 2 H), 7.06 (d, J = 7.9 Hz, 2 H), 7.03 (d, J = 8.5 Hz, 2 H), 6.95 (ddd, J = 0.9, 6.9 Hz, 8.0 Hz, 1 H), 6.54 (d, J = 8.5 Hz, 1 H), 6.42 (d, J = 0.9 Hz, 1 H), 5.52 (s, 1 H), 3.68 (s, 3 H), 3.67 (s, 1 H), 2.81 (s, 3 H), 2.31 (s, 3 H).

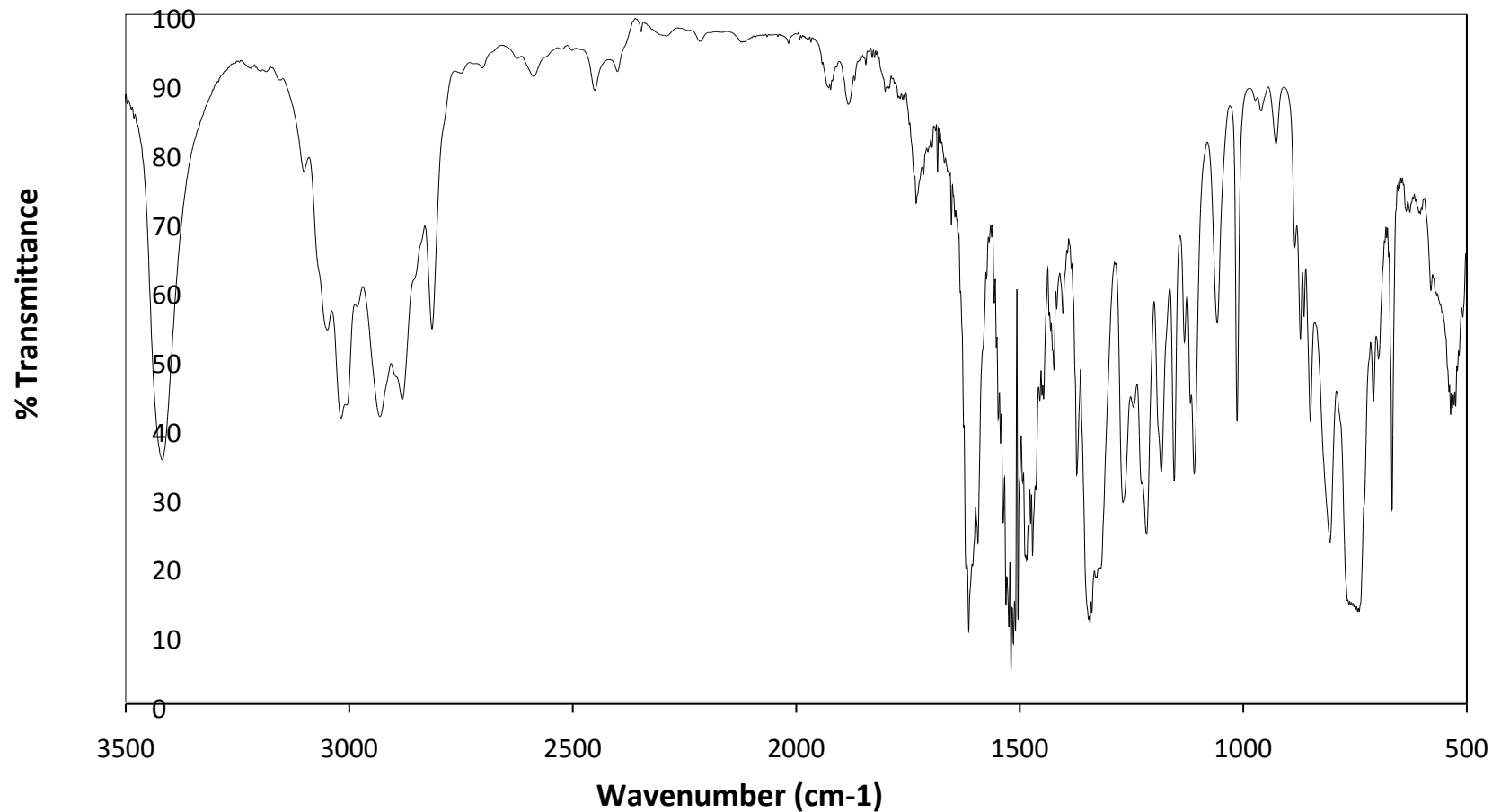


¹³C NMR (126 MHz, CDCl₃) δ = 147.71, 142.13, 137.61, 135.45, 133.45, 129.81, 129.08, 129.05, 128.99, 127.71, 121.64, 120.37, 119.37, 118.86, 112.48, 109.19, 47.74, 32.71, 30.93, 21.25.

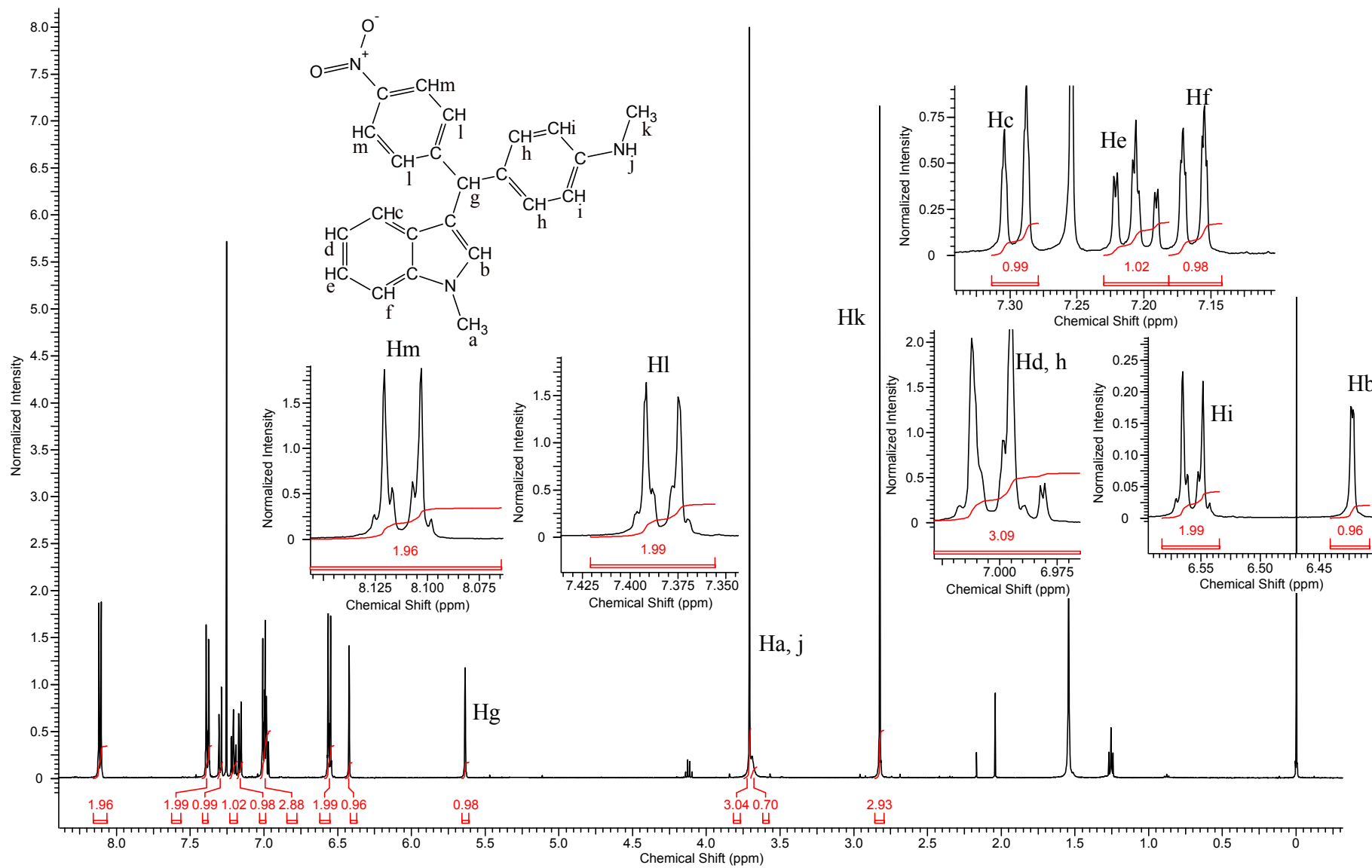
The mass spectrum of this compound was obtained using a direct probe. The following peaks were obtained:



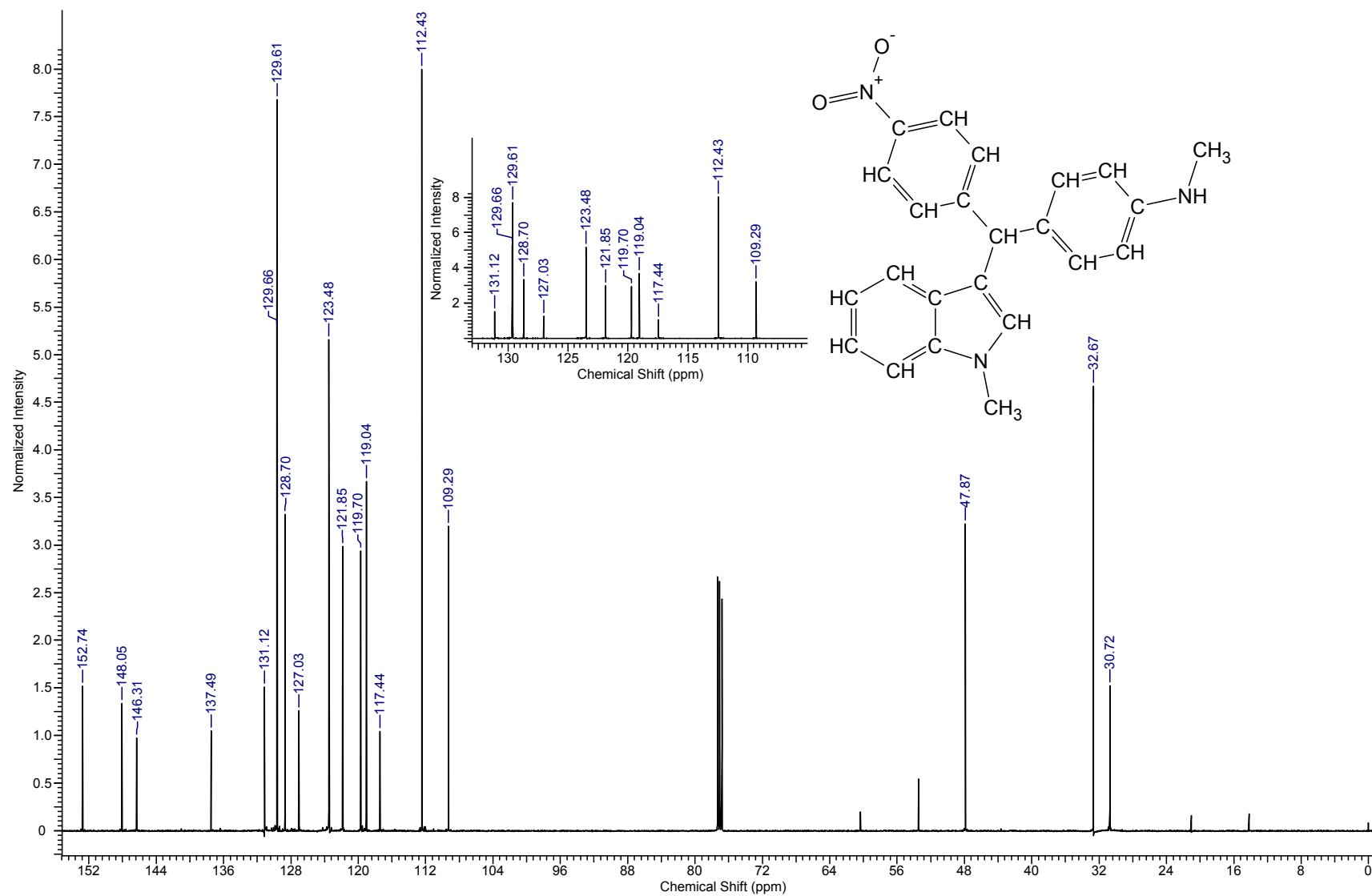
5.2 4-nitrobenzaldehyde (1f) + N-methylindole (2a) + N-methylaniline (3a): (6xx) N,N-dimethyl-4-[(1-methyl-1H-indol-3-yl)(4-nitrophenyl)methyl]aniline



IR (KBr, cm^{-1}): 3419 (m), 3101 (w), 3049 (m), 3018 (s), 2929 (m), 2881 (m), 2814 (m), 1614 (s), 1602 (s), 1519 (s), 1485 (s), 1471 (s), 1423 (m), 1371 (m), 1342 (s), 1269 (m), 1217 (m), 1184 (m), 1155 (m), 1132 (m), 1109 (m), 1058 (m), 1014 (m), 925 (w), 871 (m), 850 (m), 806 (m), 742 (s), 709 (m), 698 (m), 667 (m), 628 (w), 603 (w).

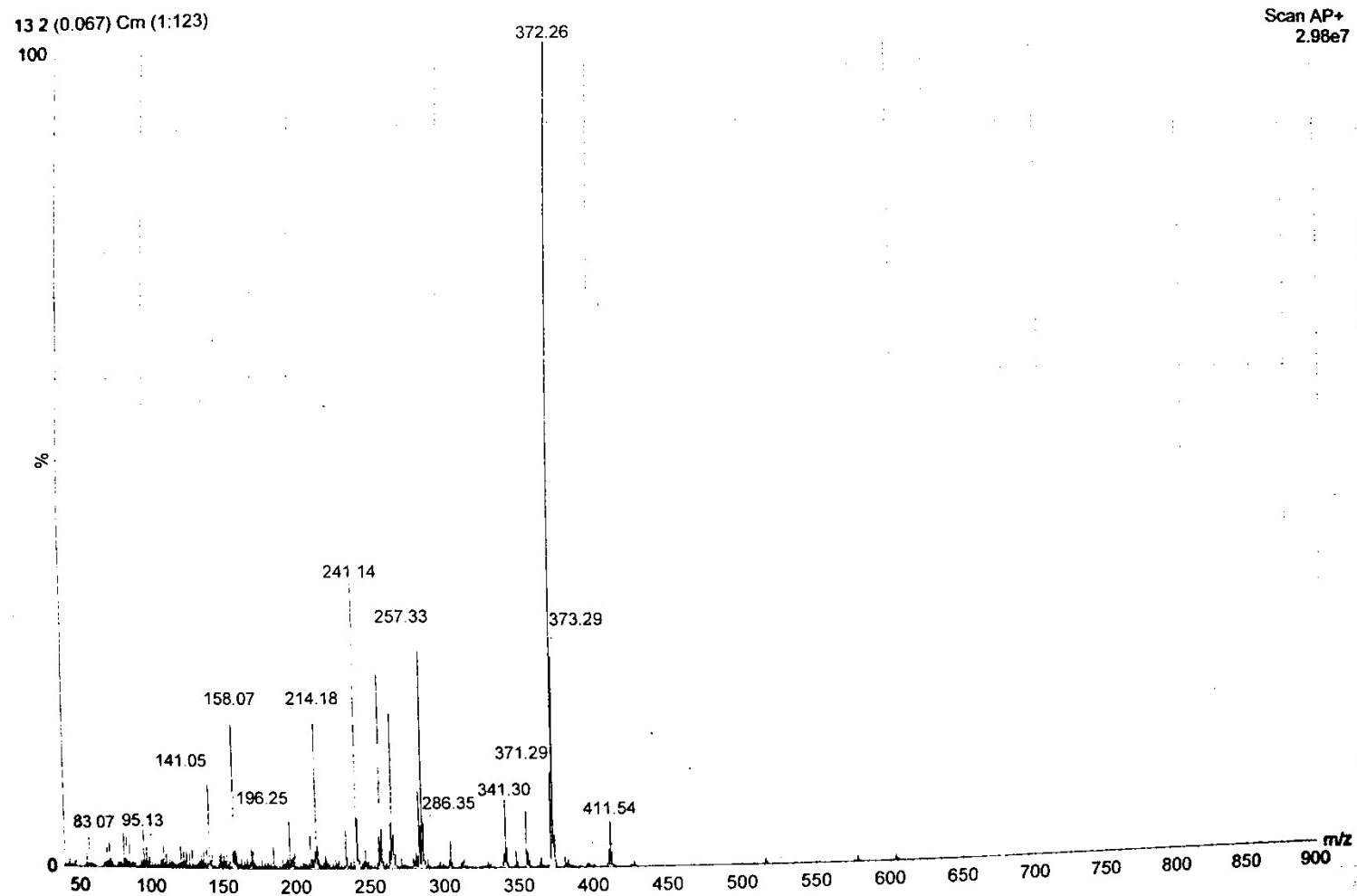


¹H NMR (500 MHz, CDCl₃) δ = 8.11 (d, *J* = 8.9 Hz, 2 H), 7.42 (d, *J* = 8.9 Hz, 2 H), 7.30 (d, *J* = 8.2 Hz, 1 H), 7.21 (ddd, *J* = 1.2, 7.0, 7.9 Hz, 1 H), 7.16 (d, *J* = 7.9 Hz, 1 H), 7.03 - 6.96 (m, 3 H), 6.55 (d, *J* = 8.5 Hz, 2 H), 6.42 (d, *J* = 0.9 Hz, 1 H), 5.64 (s, 1 H), 3.71 (s, 3 H), 3.69 (br s, 1 H), 2.82 (s, 3 H).



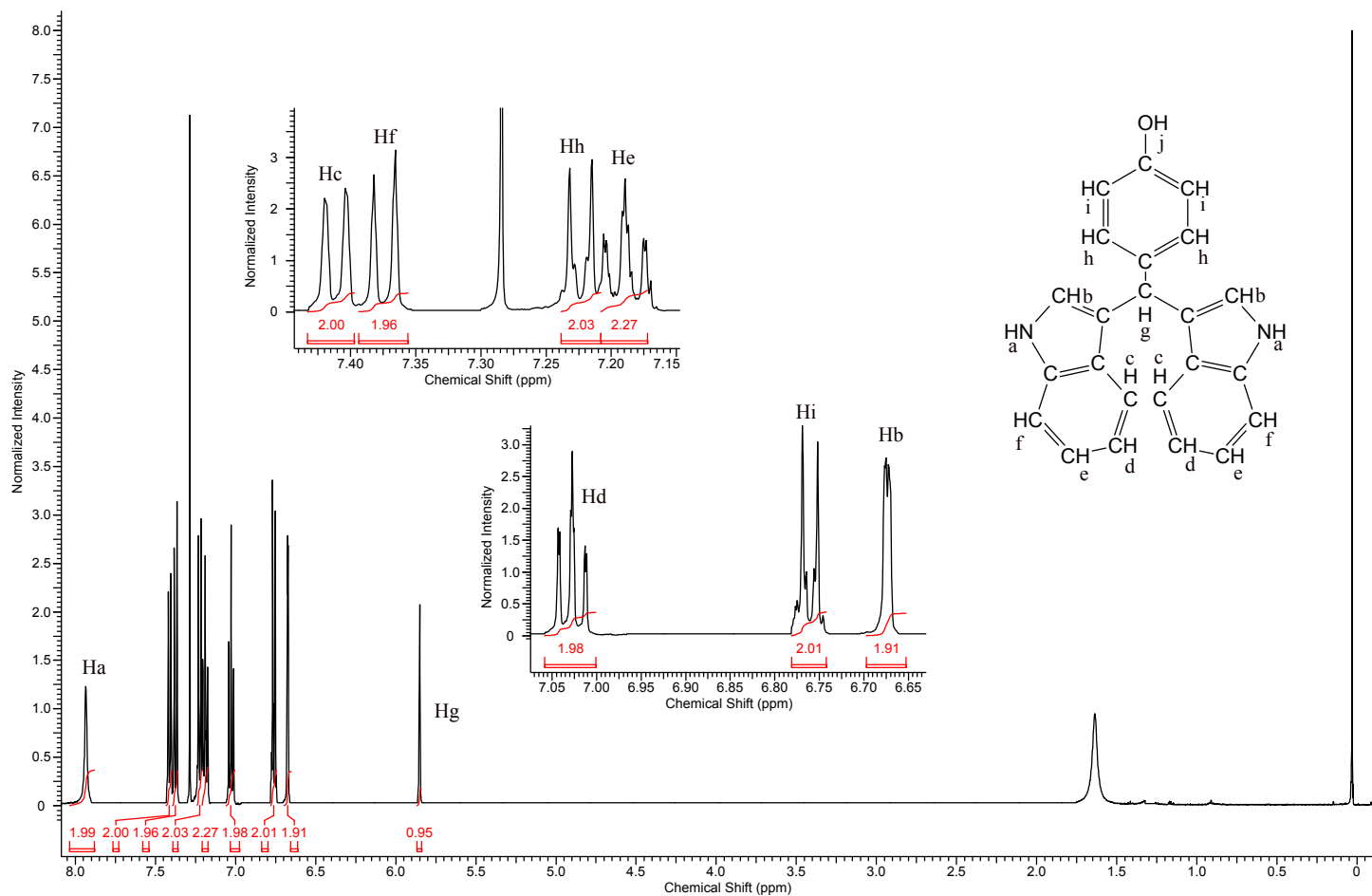
^{13}C NMR (126 MHz, CDCl_3) δ = 152.74, 148.05, 146.31, 137.49, 131.12, 129.66, 129.61, 128.70, 127.03, 123.48, 121.85, 119.70, 119.04, 117.44, 112.43, 109.29, 47.87, 32.67, 30.72.

The mass spectrum of this compound was obtained using a direct probe. The following peaks were obtained:



[6] Side products

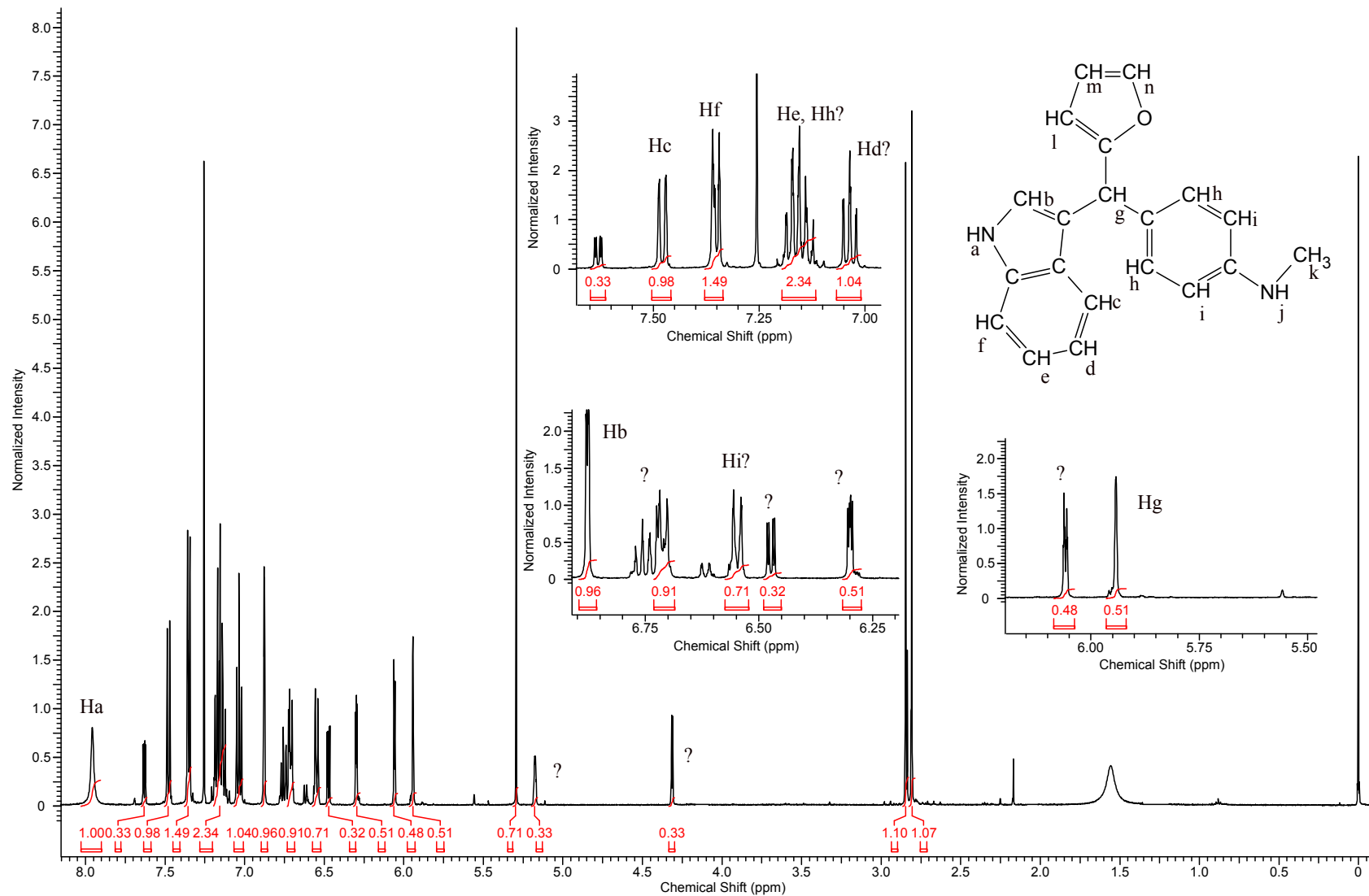
6.1 Side product obtained from the reaction between 4-hydroxybenzaldehyde (1), indole (2a), *N*-methylaniline (3a): an example of a bis(indolyl)methane derivative



¹H NMR (500 MHz, CDCl₃) δ = 7.93 (br s, 2 H), 7.41 (d, J = 8.2 Hz, 2 H), 7.37 (d, J = 7.9 Hz, 2 H), 7.23 (d, J = 8.5 Hz, 2 H), 7.19 (ddd, J = 7.9, 7.0, 0.9 Hz, 2 H), 7.03 (ddd, J = 8.2, 7.0, 0.9 Hz, 2 H), 6.76 (d, J = 8.5 Hz, 2 H), 6.67 (d, J = 1.2 Hz, 2 H), 5.85 (s, 1 H).

[7] Impure products

7.1 Impure product (6t) from reaction between 2-furfural (1t), indole (2a), N-methylaniline (3a)



7.2 Impure product (6zz) from reaction between 4-methylbenzaldehyde (1b), 5-bromoindole (2d), *N*-methylaniline (3a)

