

## Supporting Information

### Synthesis, photochemical properties, and cytotoxicity of 10-alkylphenazin-2(10H)-ones

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**Figure S1.** Time-resolved emission spectra of **1a** at different times after the pulse, 0–0.5 ns (green) and 10–70 ns (orange) in MeCN ( $c = 1 \times 10^{-4}$  M).

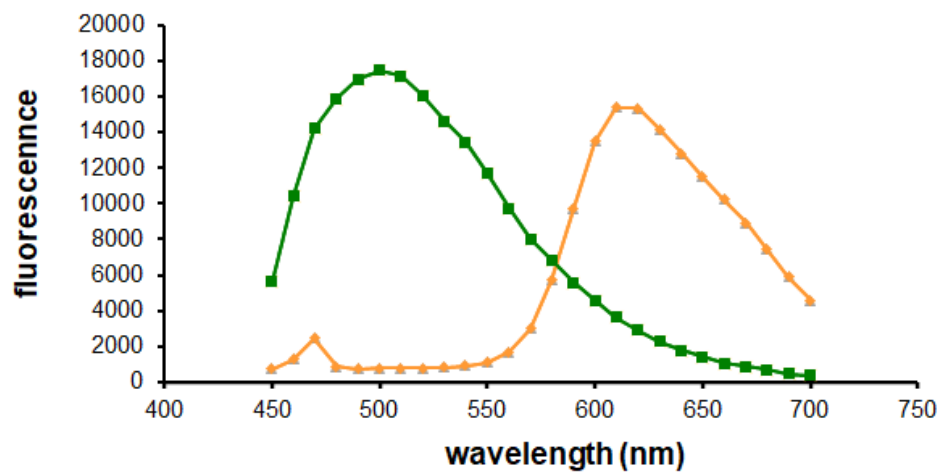


Figure. S2. <sup>1</sup>H NMR spectrum (400 MHz, CDCl<sub>3</sub>) of **6b**.

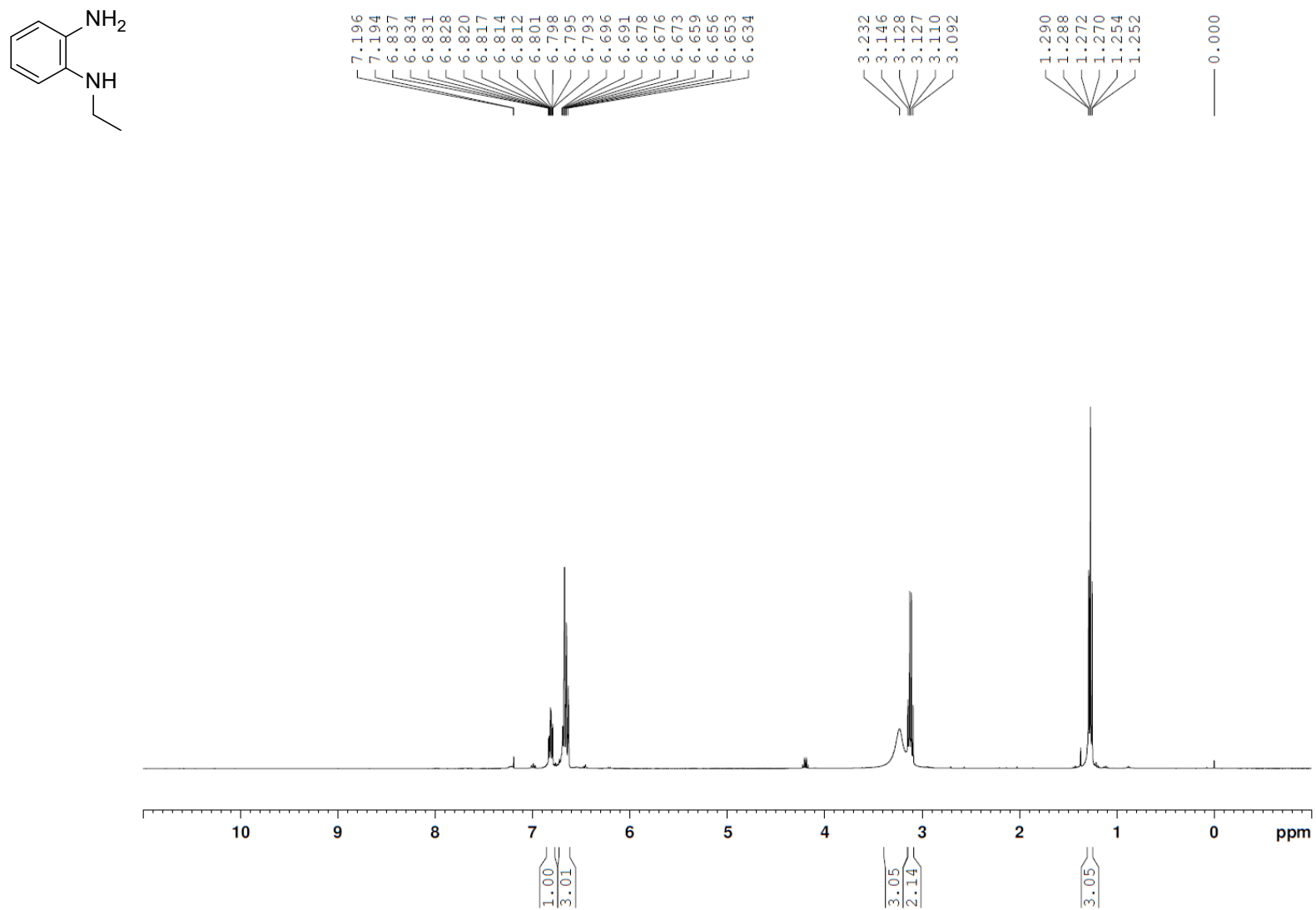


Figure. S3.  $^{13}\text{C}\{^1\text{H}\}$  NMR spectrum (100 MHz,  $\text{CDCl}_3$ ) of **6b**.

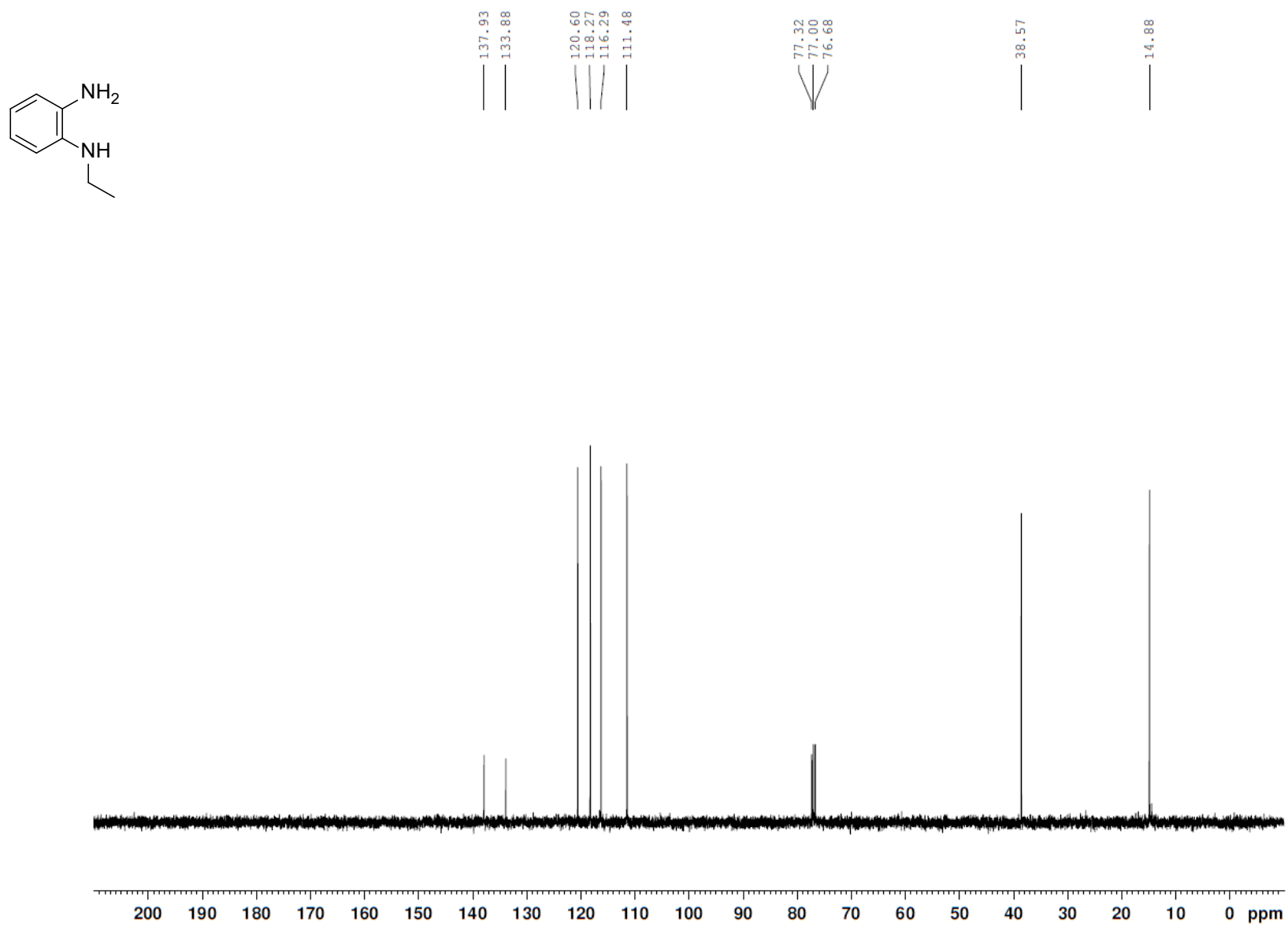


Figure. S4. <sup>1</sup>H NMR spectrum (400 MHz, CDCl<sub>3</sub>) of 6c.

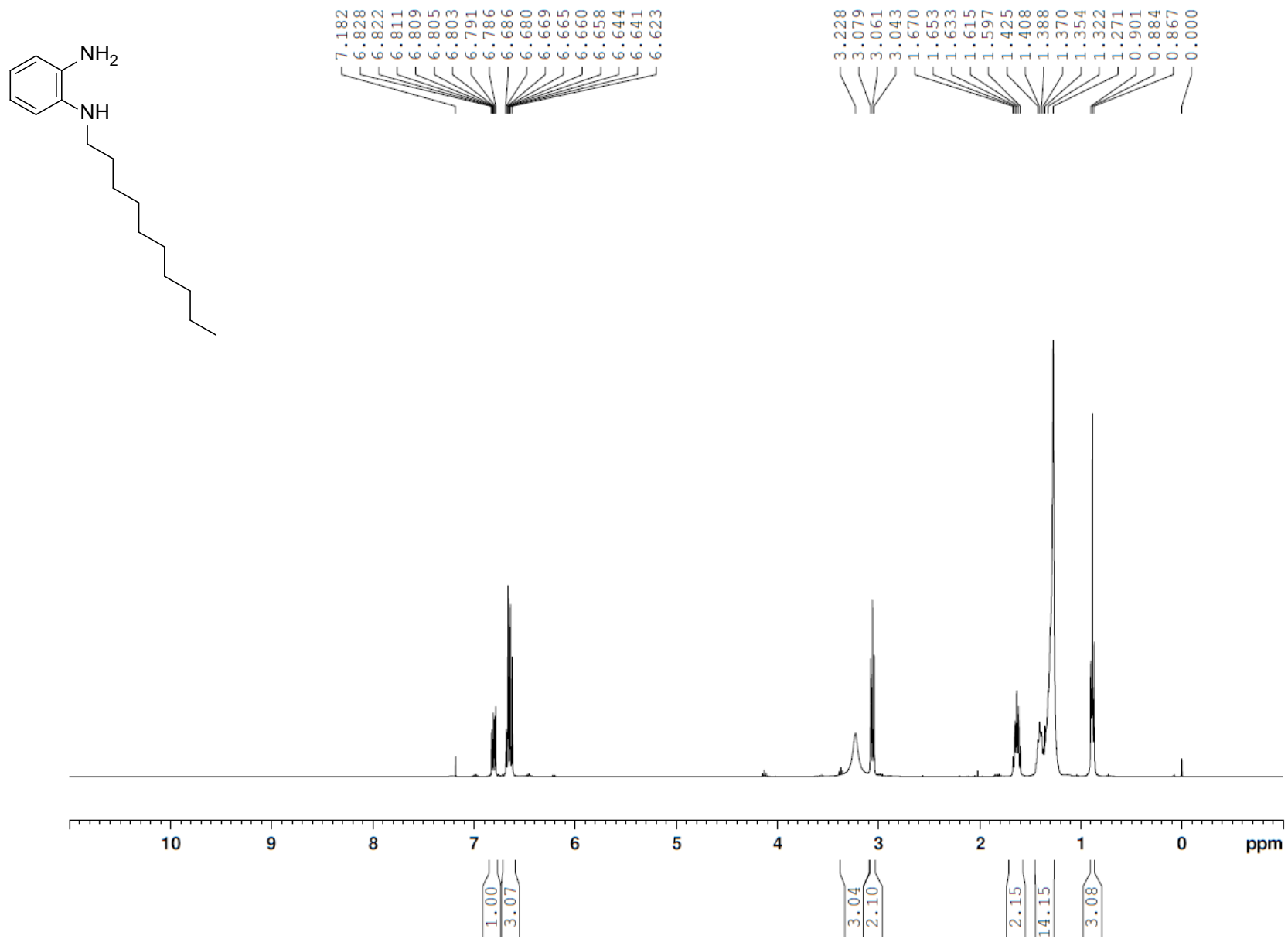


Figure. S5.  $^{13}\text{C}\{^1\text{H}\}$  NMR spectrum (100 MHz,  $\text{CDCl}_3$ ) of **6c**.

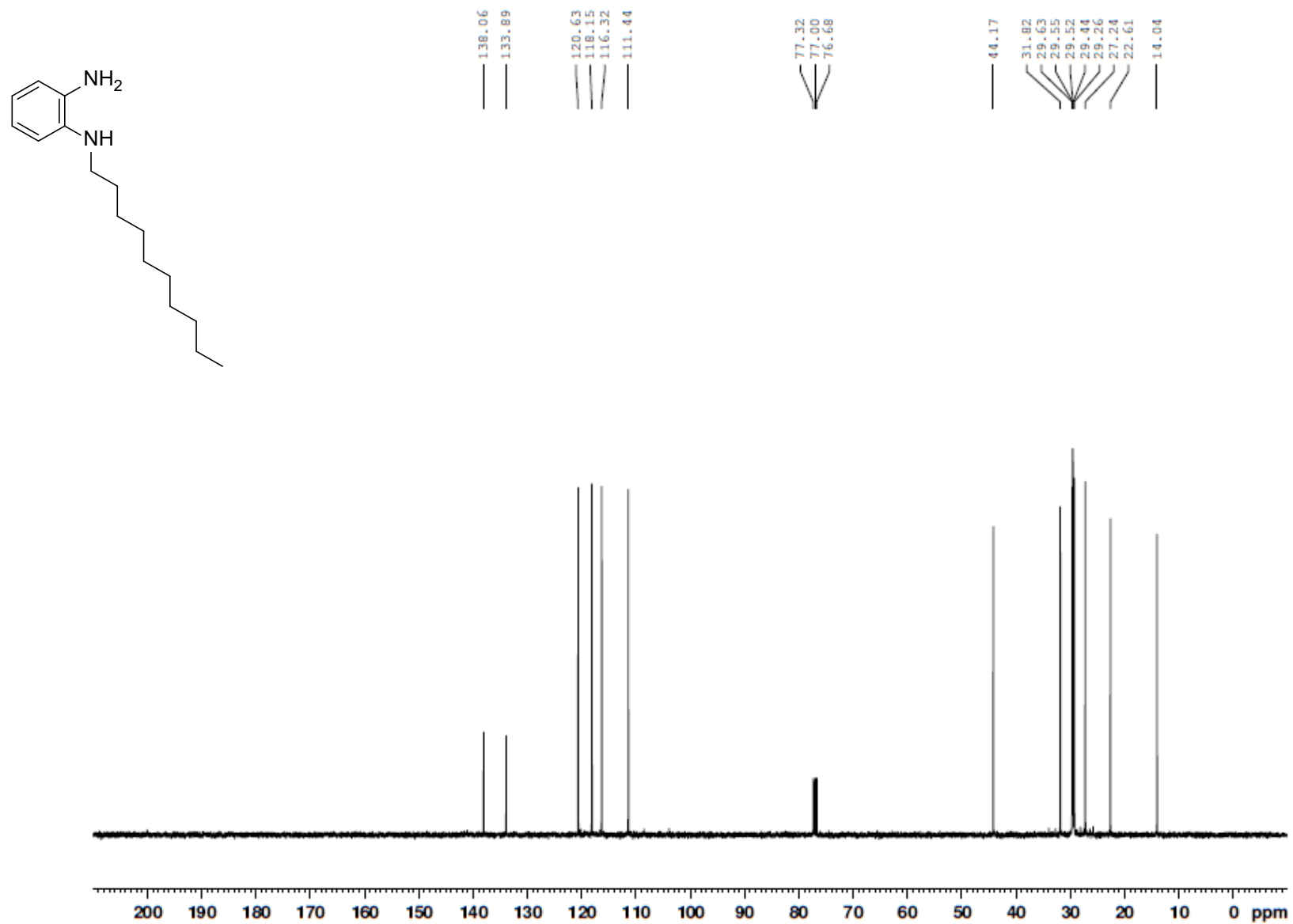


Figure. S6. <sup>1</sup>H NMR spectrum (400 MHz, CDCl<sub>3</sub>) of 6f.

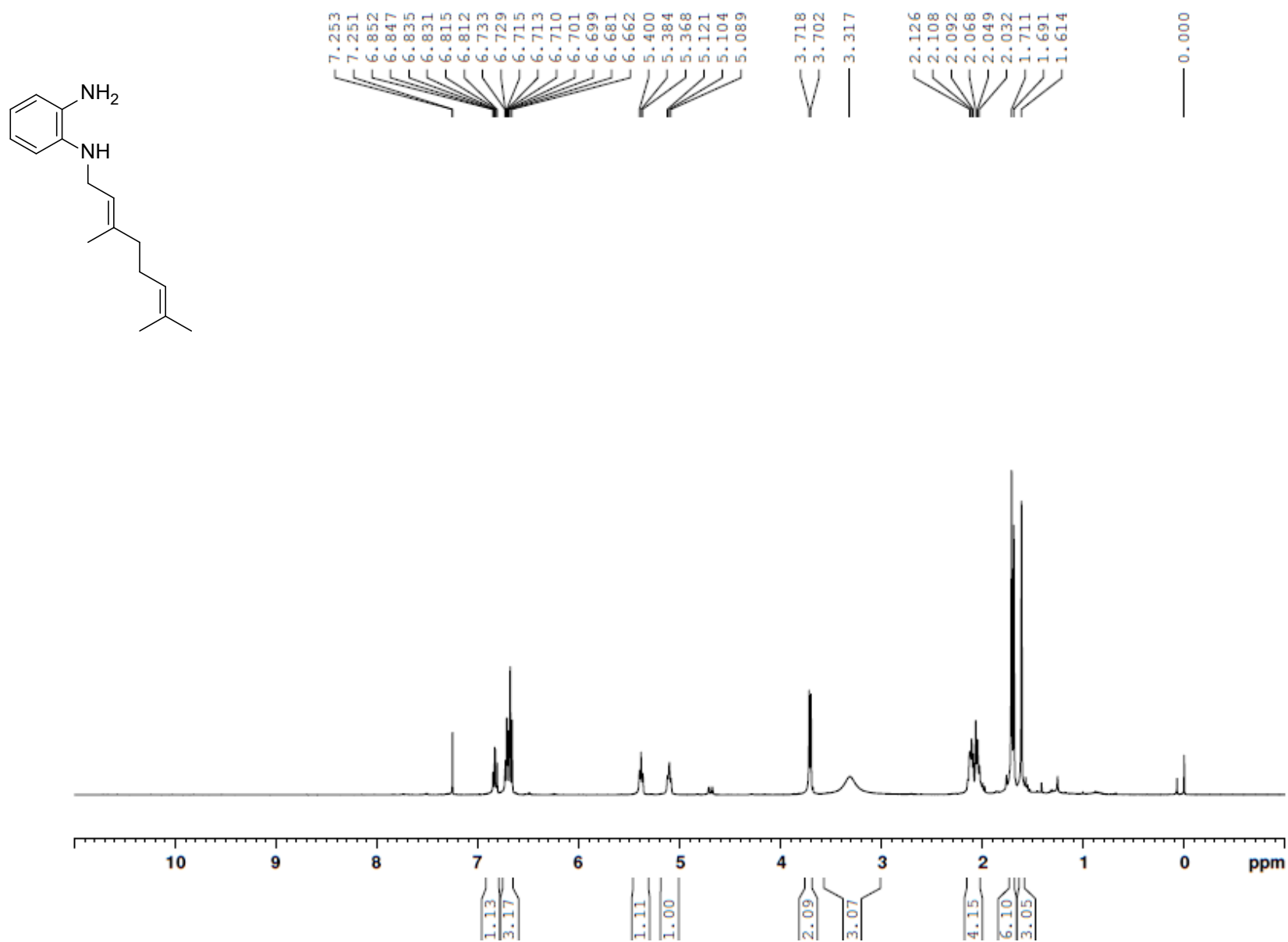


Figure. S7.  $^{13}\text{C}\{^1\text{H}\}$  NMR spectrum (100 MHz,  $\text{CDCl}_3$ ) of **6f**.

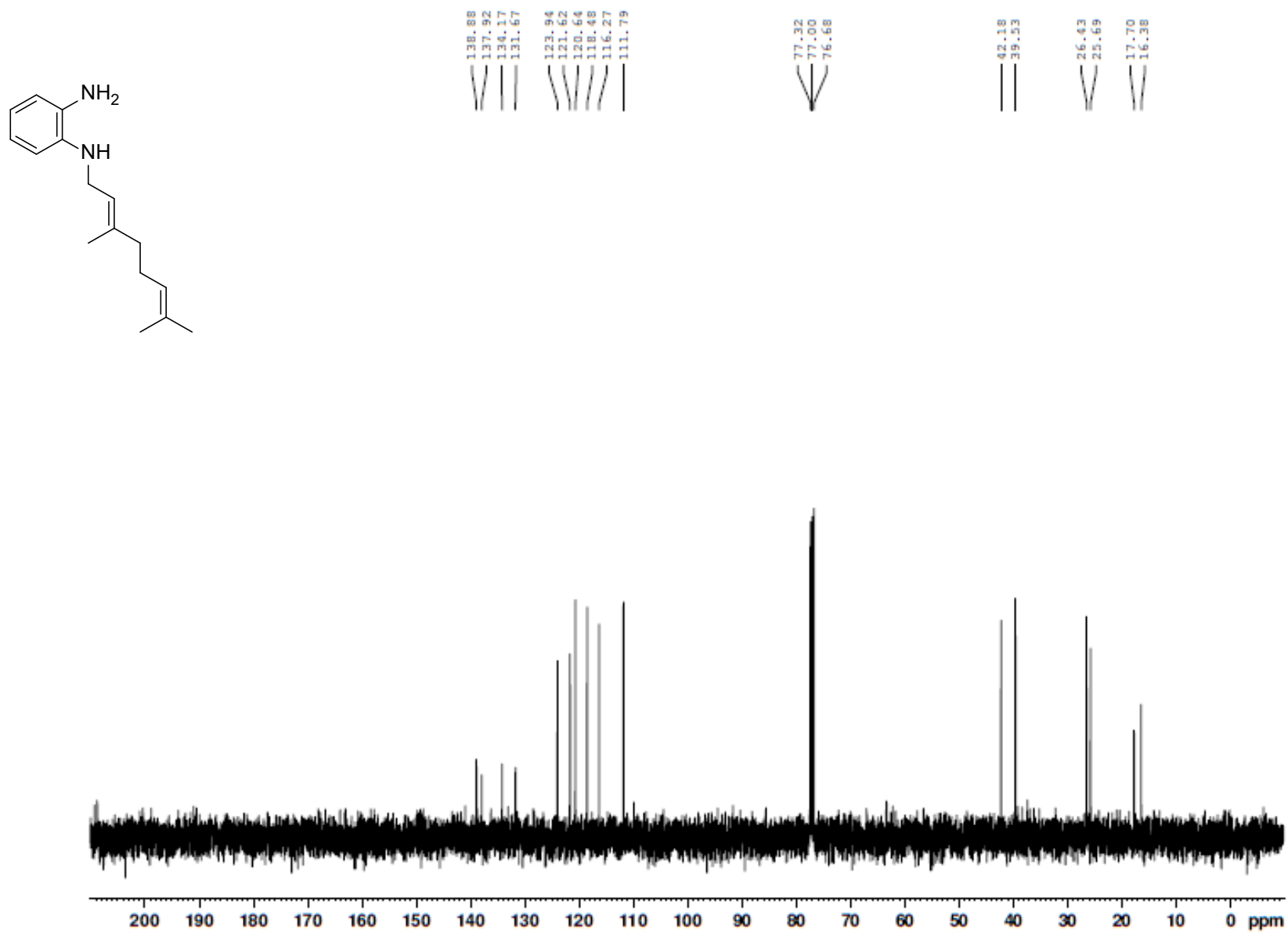




Figure. S8.  $^1\text{H}$  NMR spectrum (400 MHz,  $\text{CDCl}_3$ ) of **3**.

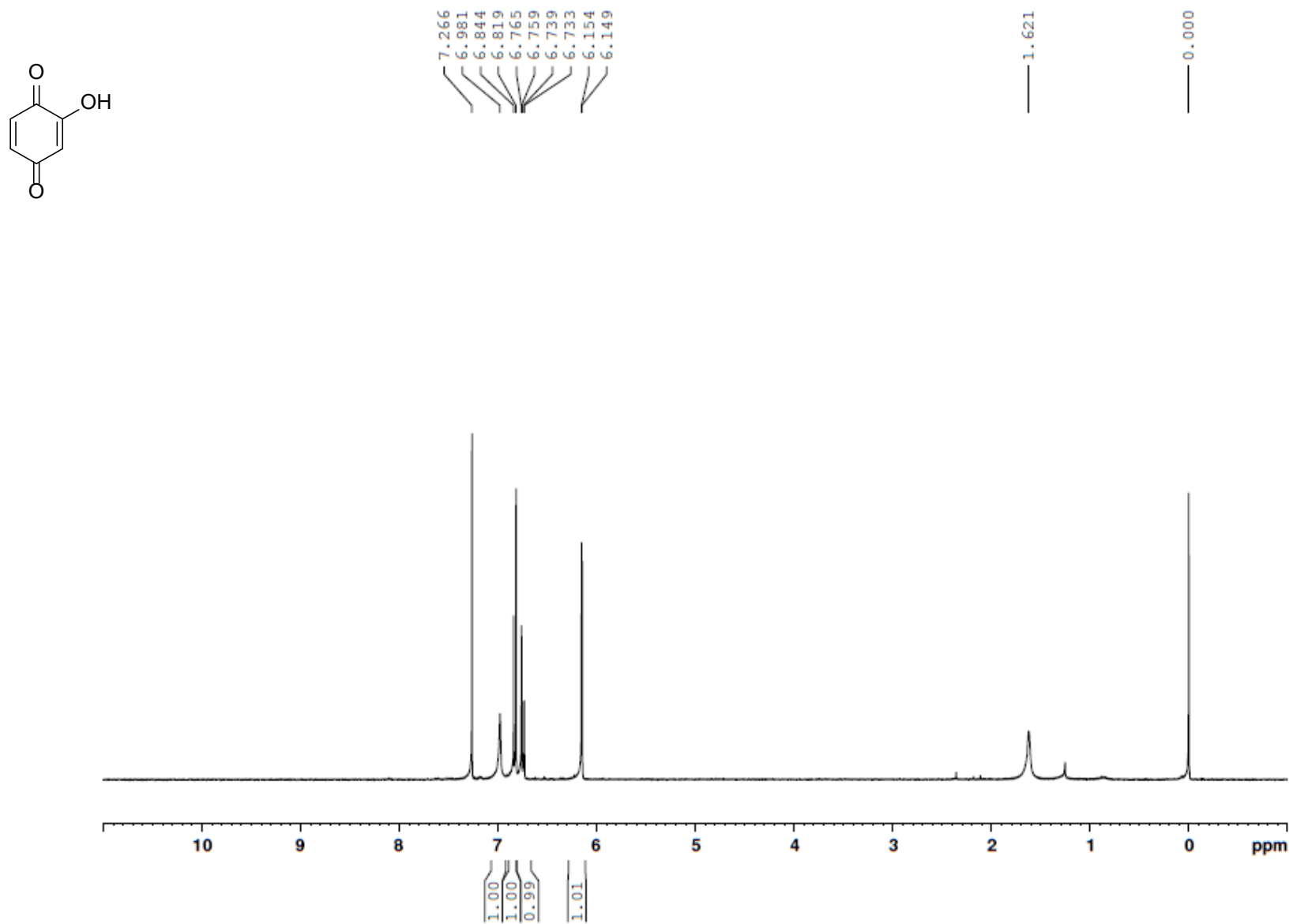


Figure. S9.  $^{13}\text{C}\{^1\text{H}\}$  NMR spectrum (100 MHz,  $\text{CDCl}_3$ ) of **3**.

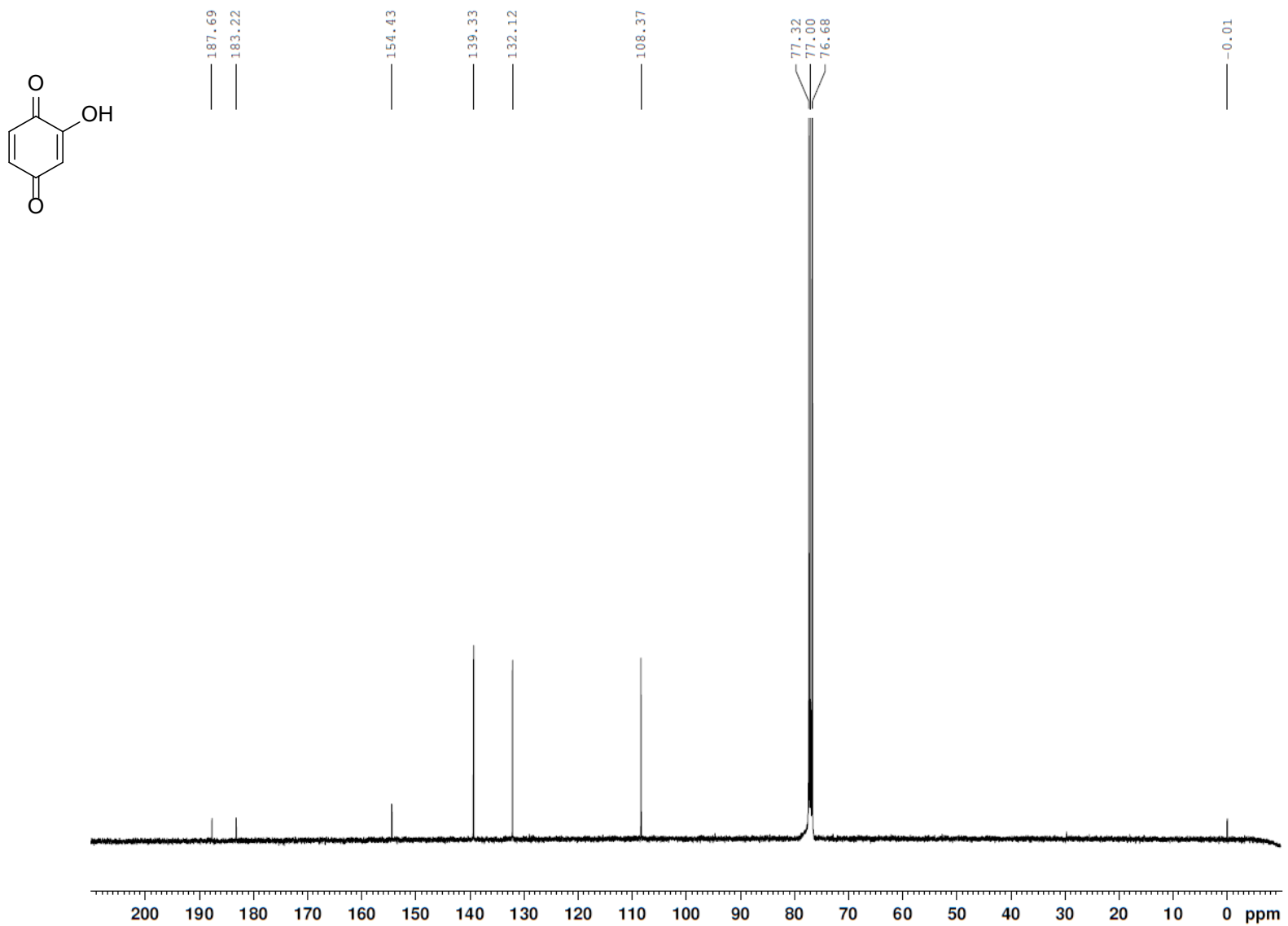


Figure. S10. <sup>1</sup>H NMR spectrum (400 MHz, CDCl<sub>3</sub>) of **1a**.

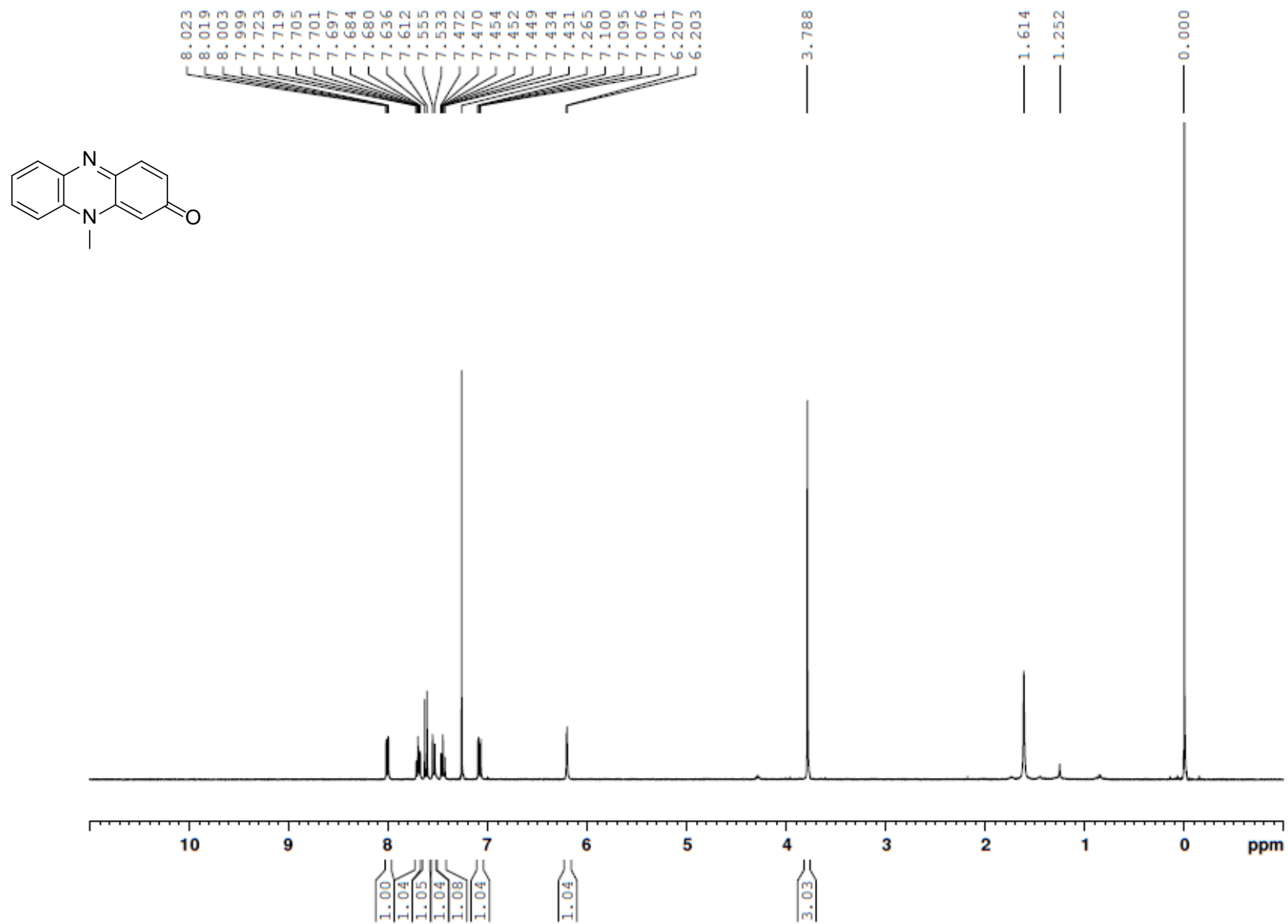


Figure. S11.  $^{13}\text{C}\{^1\text{H}\}$  NMR spectrum (100 MHz,  $\text{CDCl}_3$ ) of **1a**.

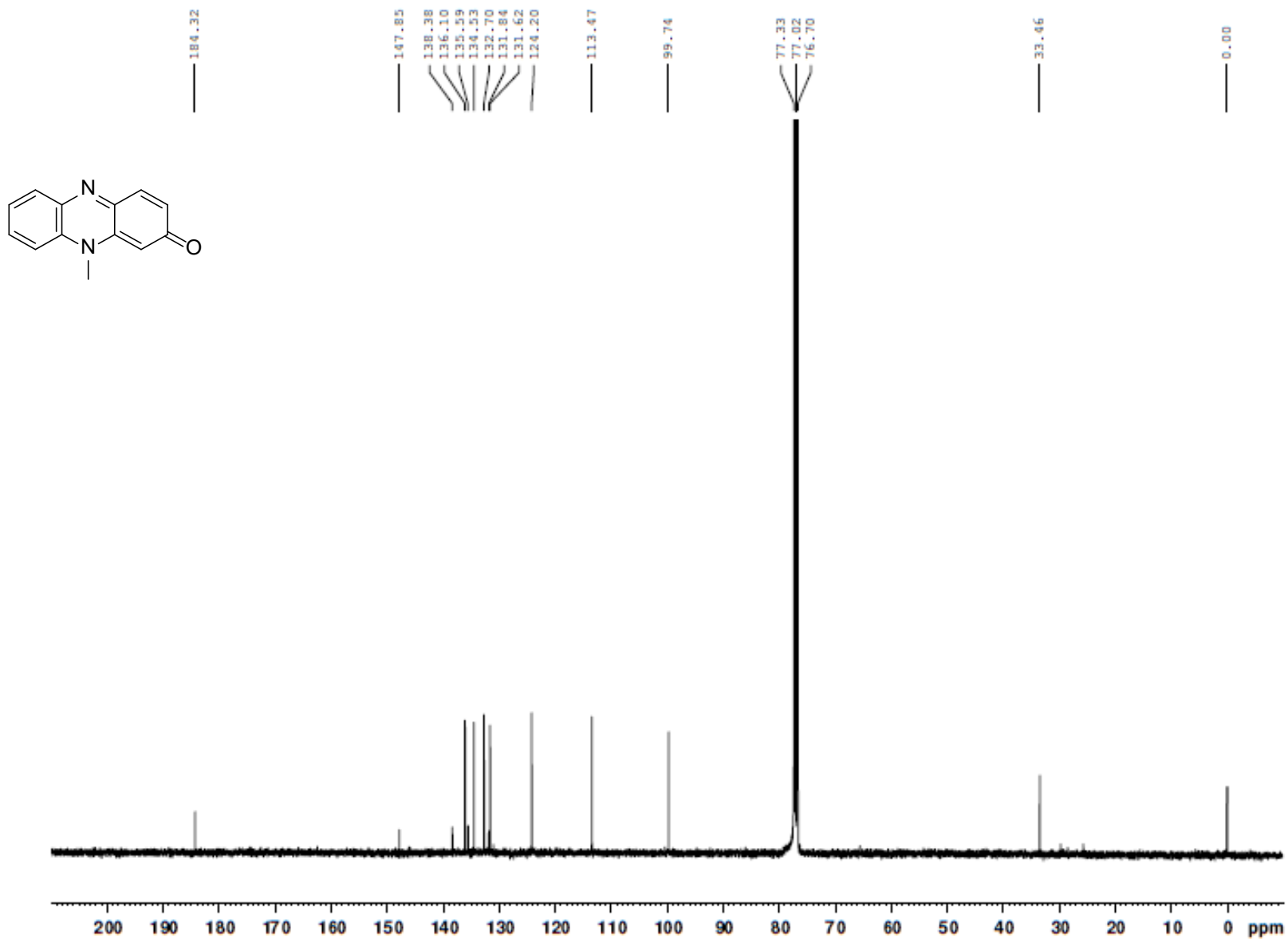


Figure. S12. <sup>1</sup>H NMR spectrum (400 MHz, CDCl<sub>3</sub>) of **1b**.

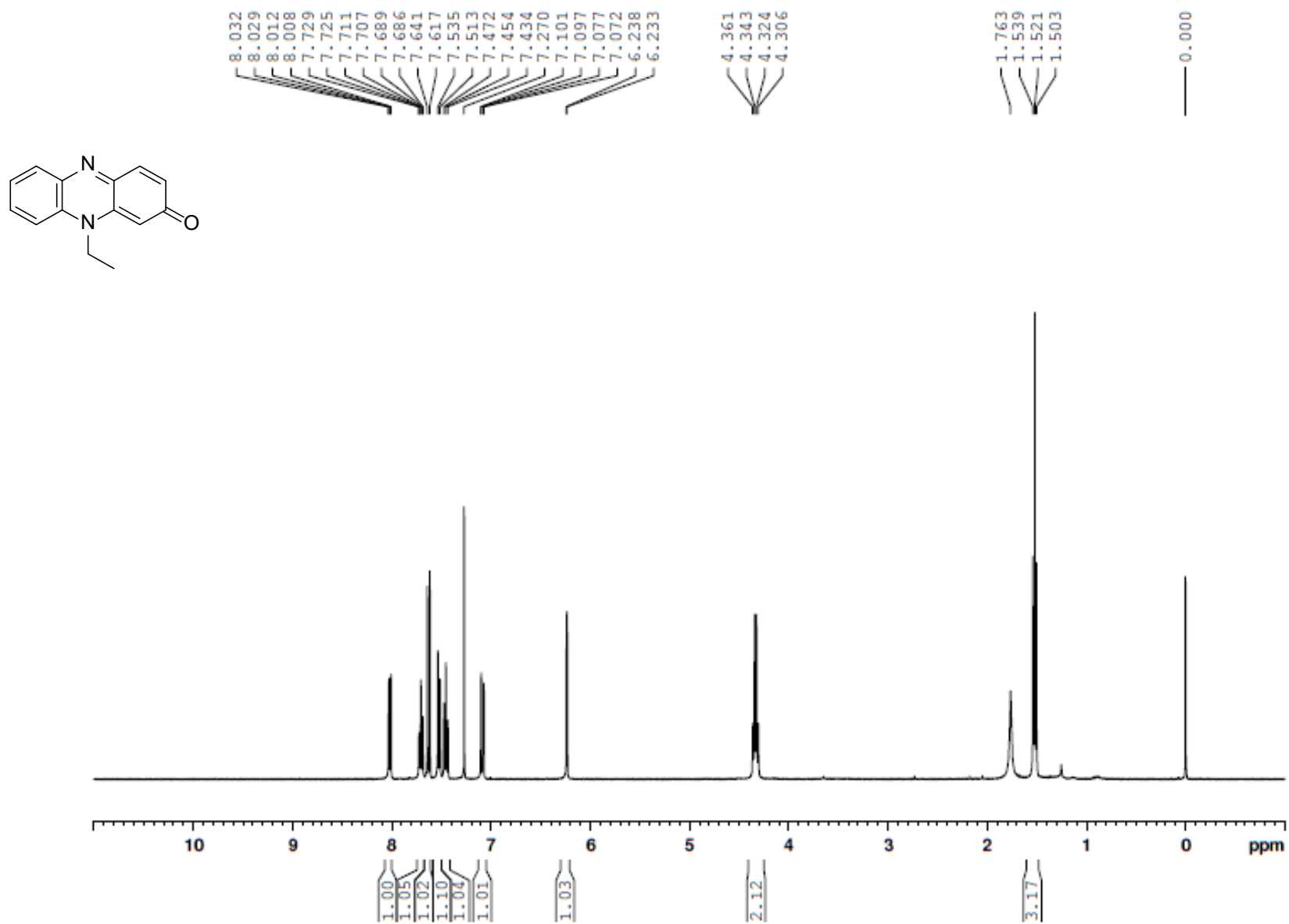


Figure. S13.  $^{13}\text{C}\{^1\text{H}\}$  NMR spectrum (100 MHz,  $\text{CDCl}_3$ ) of **1b**.

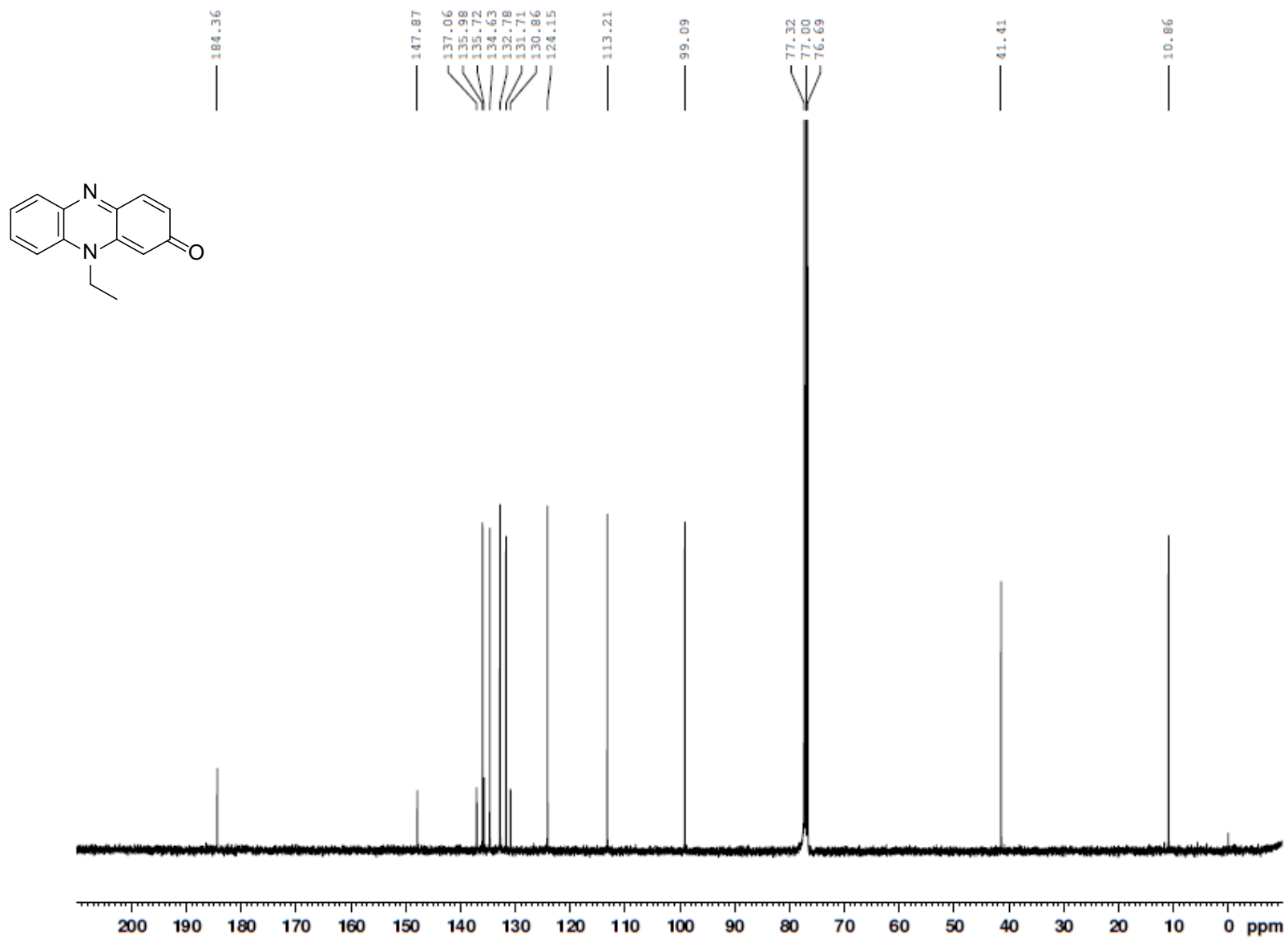


Figure. S14. <sup>1</sup>H NMR spectrum (400 MHz, CDCl<sub>3</sub>) of **1c**.

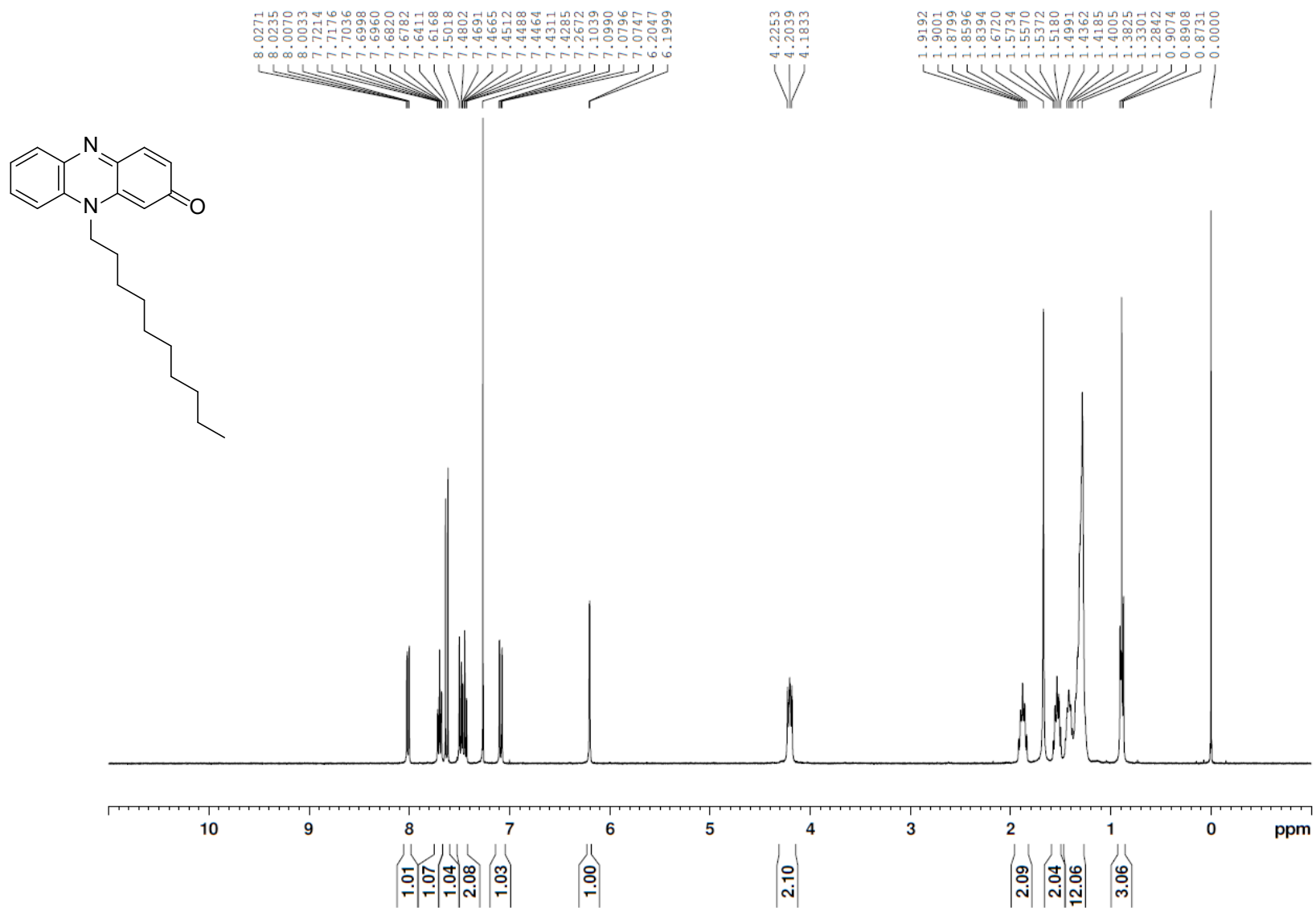


Figure. S15.  $^{13}\text{C}\{^1\text{H}\}$  NMR spectrum (100 MHz,  $\text{CDCl}_3$ ) of **1c**.

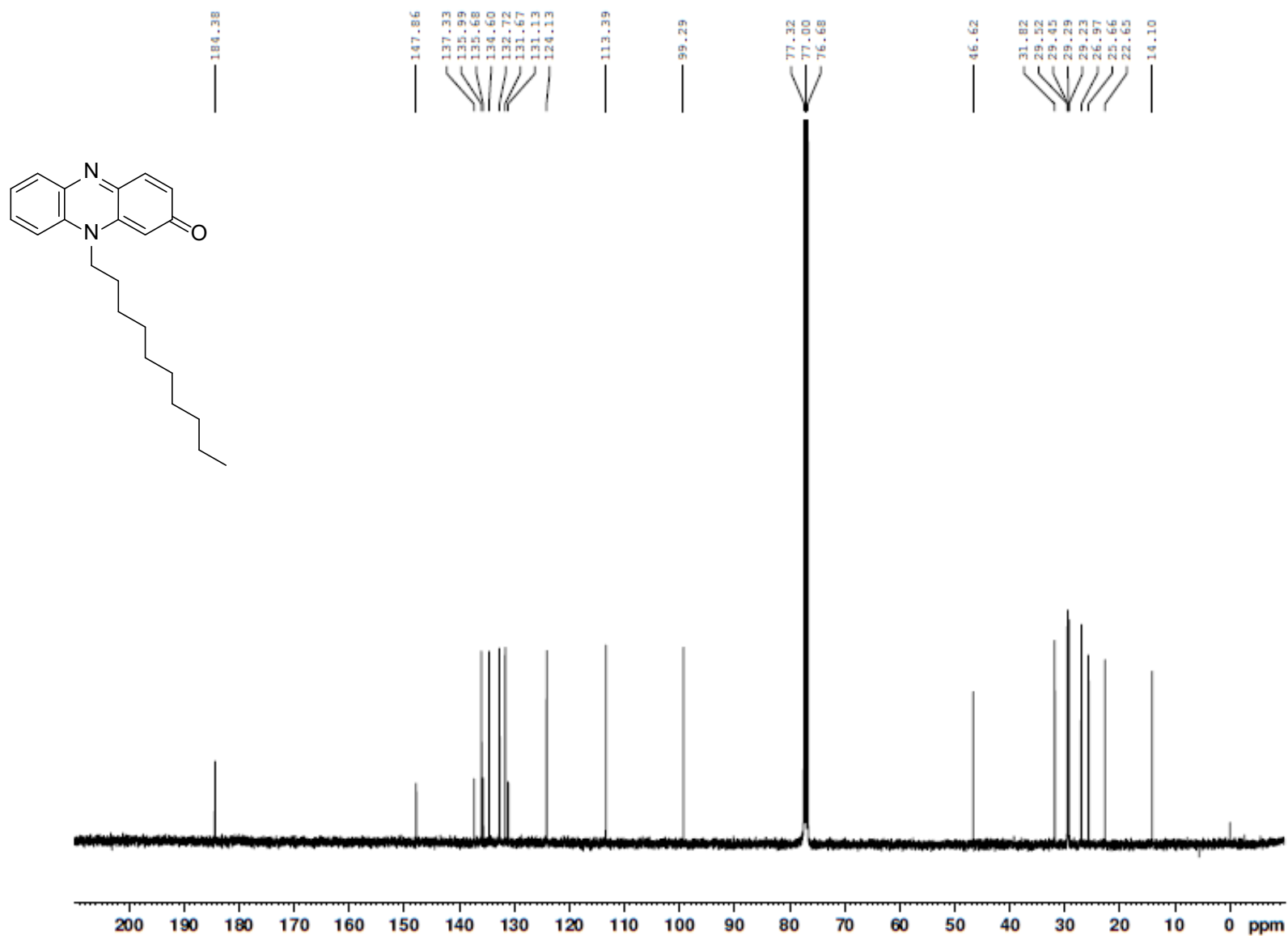




Figure. S16. <sup>1</sup>H NMR spectrum (400 MHz, CDCl<sub>3</sub>) of **1d**.

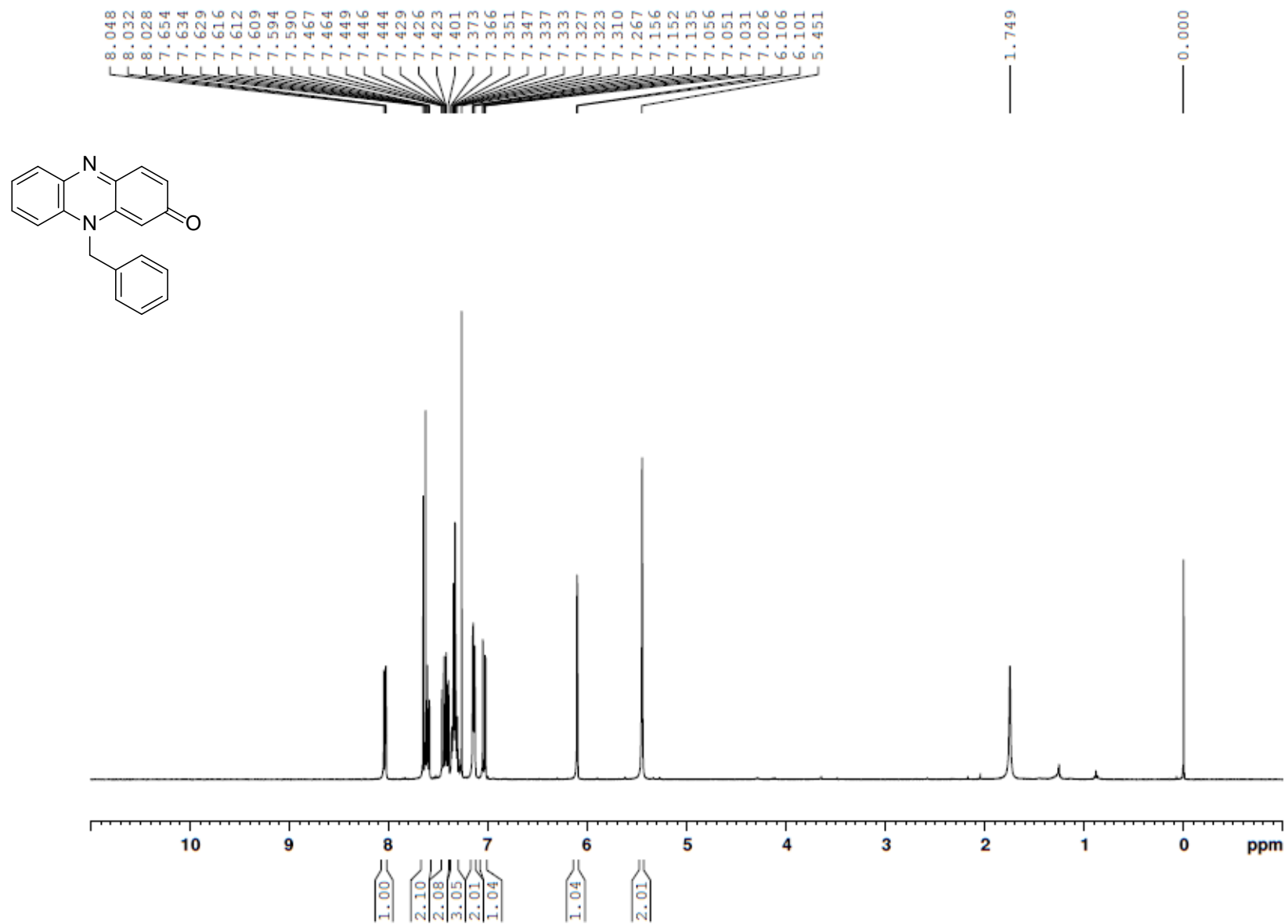


Figure. S17.  $^{13}\text{C}\{^1\text{H}\}$  NMR spectrum (100 MHz,  $\text{CDCl}_3$ ) of **1d**.

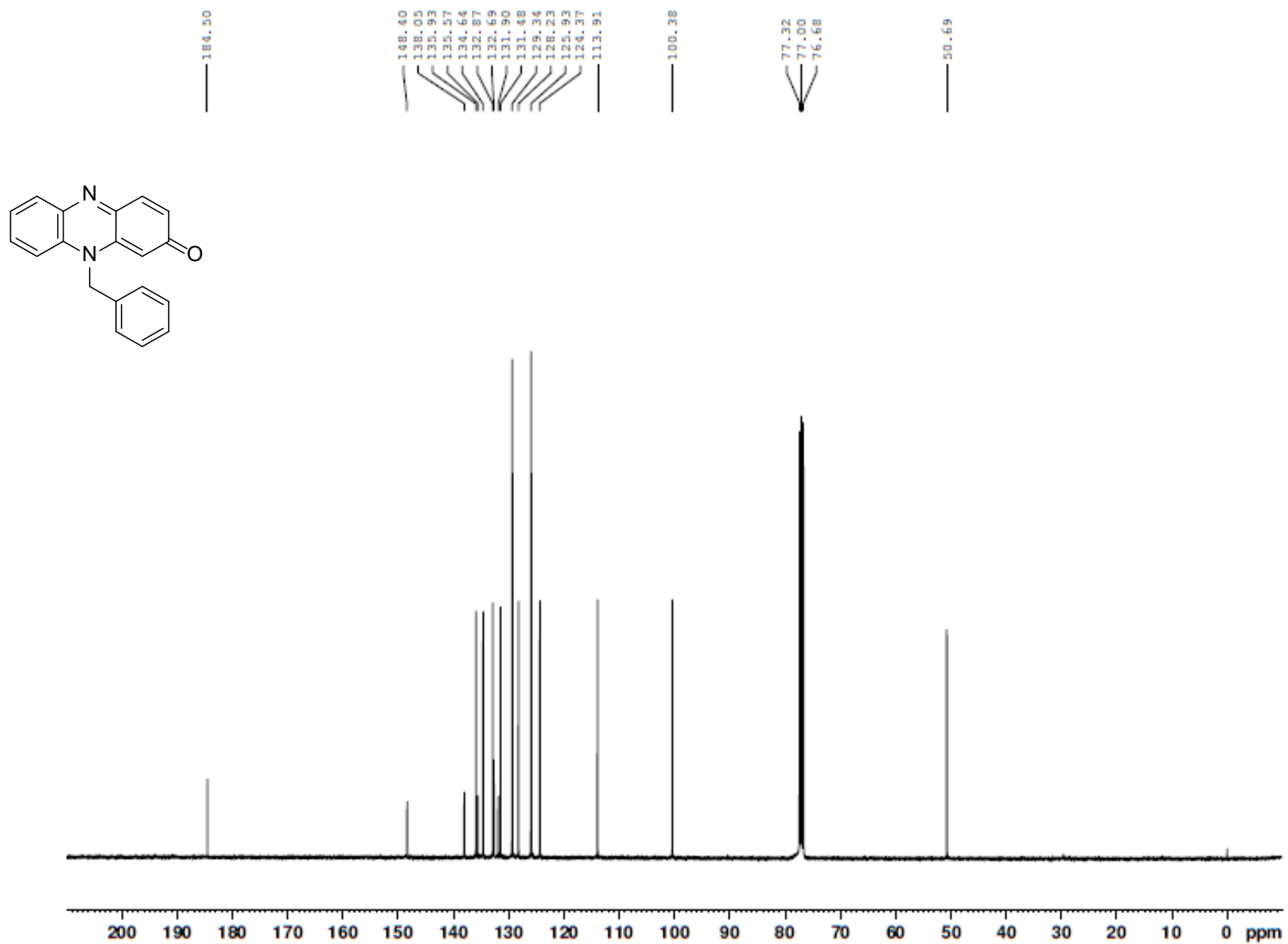


Figure. S18. <sup>1</sup>H NMR spectrum (400 MHz, CDCl<sub>3</sub>) of **1e**.

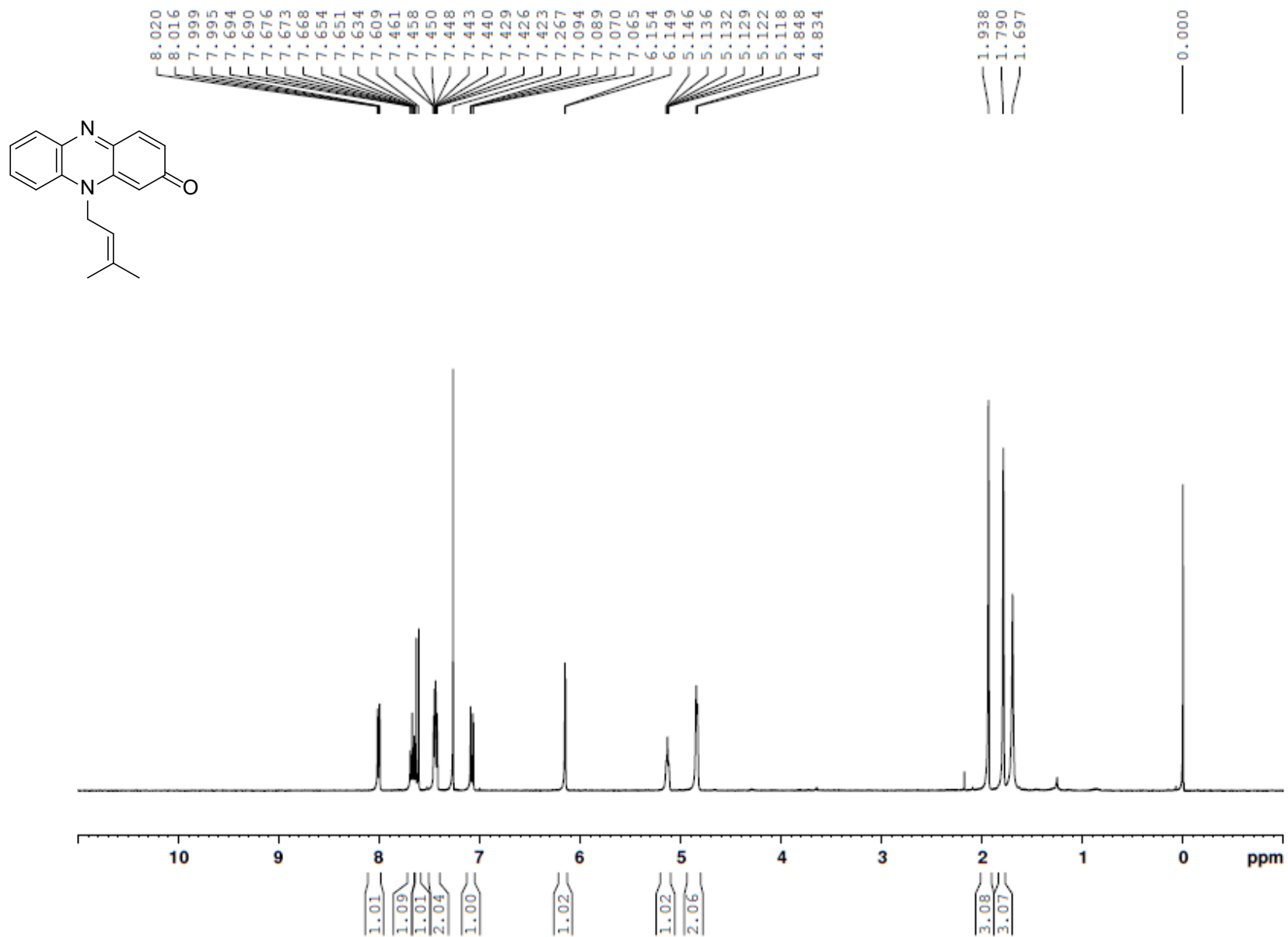


Figure. S19.  $^{13}\text{C}\{^1\text{H}\}$  NMR spectrum (100 MHz,  $\text{CDCl}_3$ ) of **1e**.

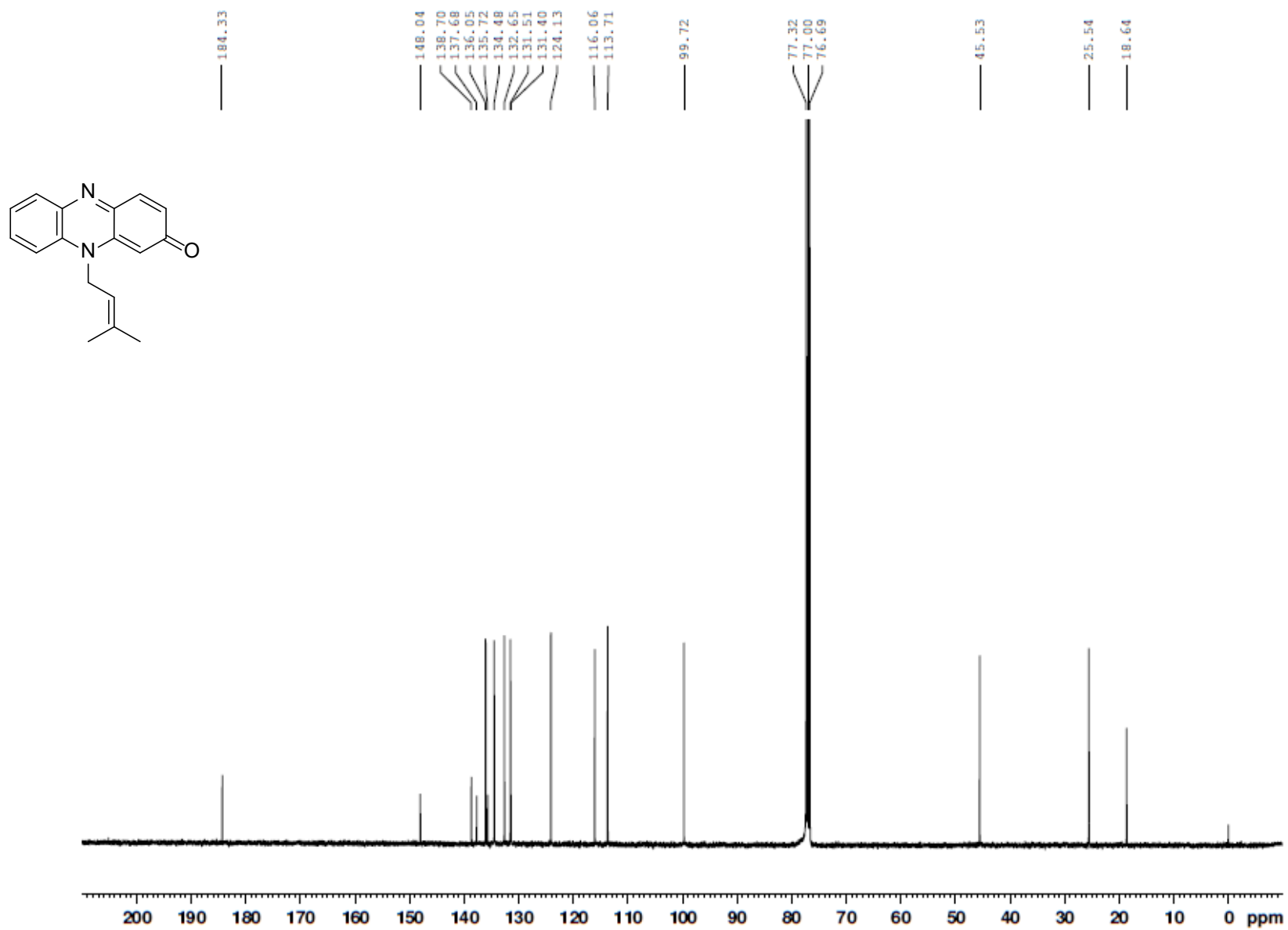


Figure. S20. <sup>1</sup>H NMR spectrum (400 MHz, CDCl<sub>3</sub>) of **1f**.

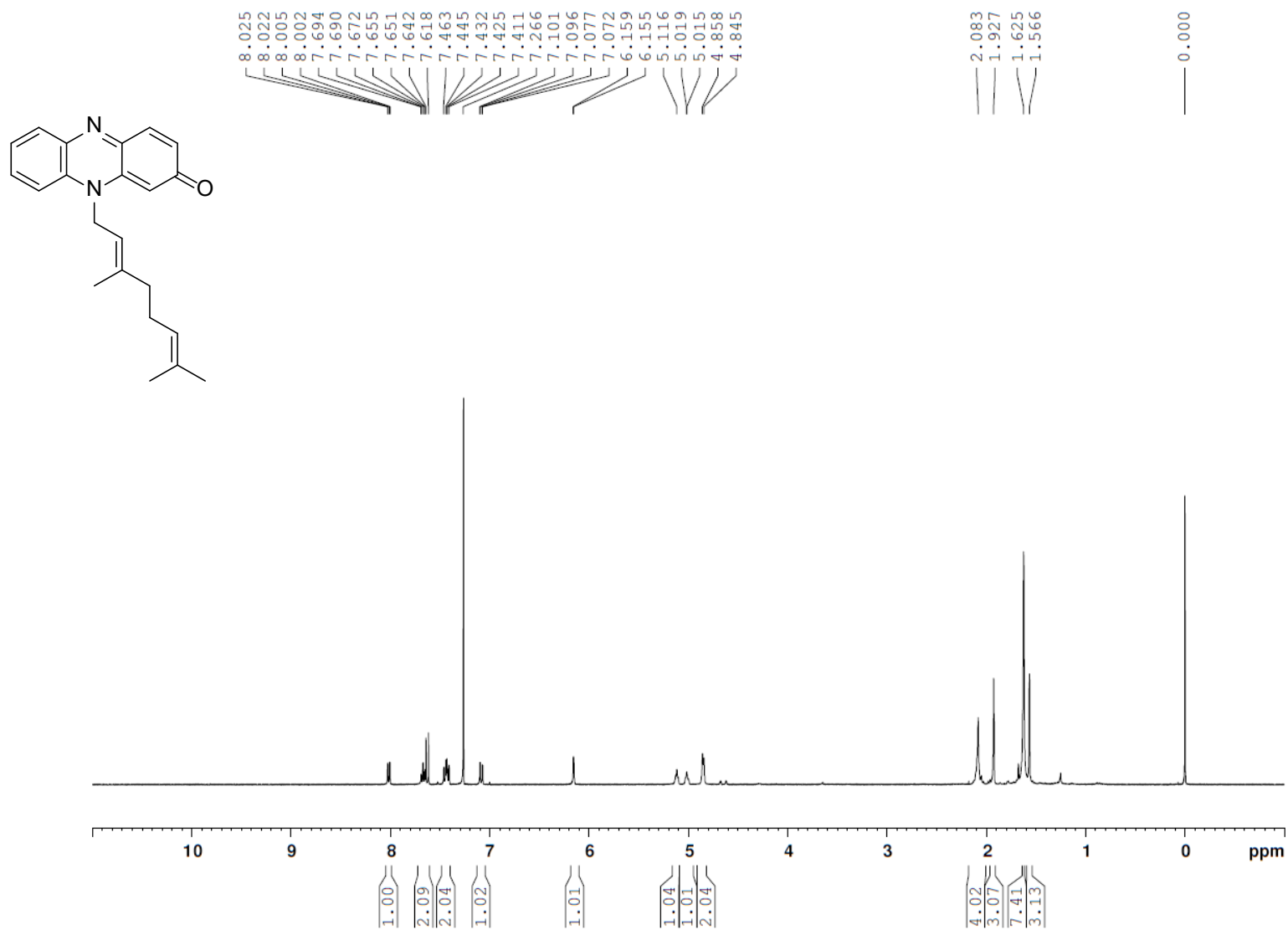


Figure. S21.  $^{13}\text{C}\{^1\text{H}\}$  NMR spectrum (100 MHz,  $\text{CDCl}_3$ ) of **1f**.

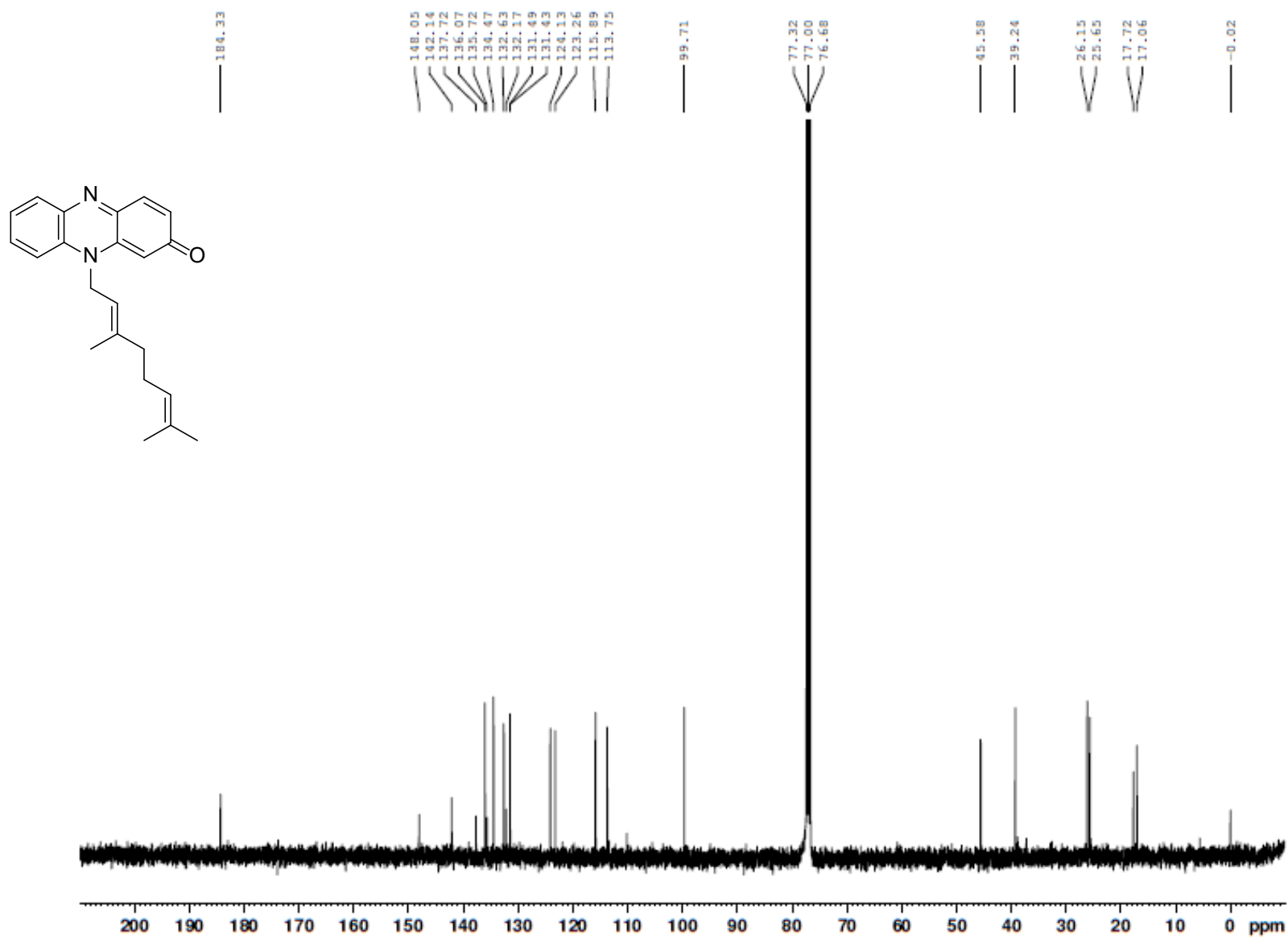
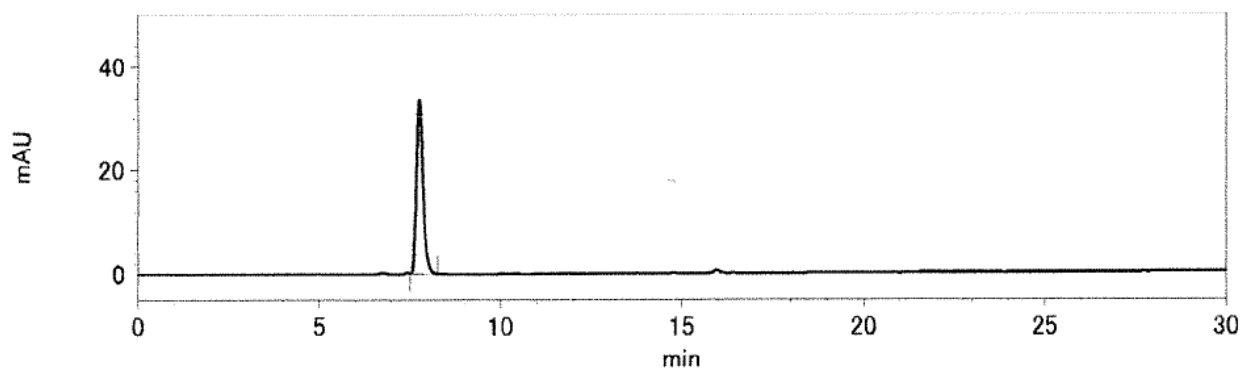


Figure S22. HPLC chromatogram of **1a**.



Peak number	Retention time	Area	Area%
2: 254 nm, 8 nm			
ピーク番号	保持時間	面積	面積%
1	7.749	414688	100.00
Total		414688	100.00

<sup>a</sup>The purity of compounds **1a** was determined to be >99% by analytical HPLC using a TOSOH TSK-gel reversed phase chromatography column (ODS-100Z, 4.6 × 150 mm) column under the following conditions: mobile phase, a gradient solvent system of MeOH : H<sub>2</sub>O (40:60 to 100:0 over 30 min); flow rate, 1 mL/min, temperature, 40 °C; detection at UV 254 nm).