

Supplementary Information

Synthesis, and biological evaluation of novel asymmetric naphthalene diimide derivative as anticancer agent depending on ROS generation

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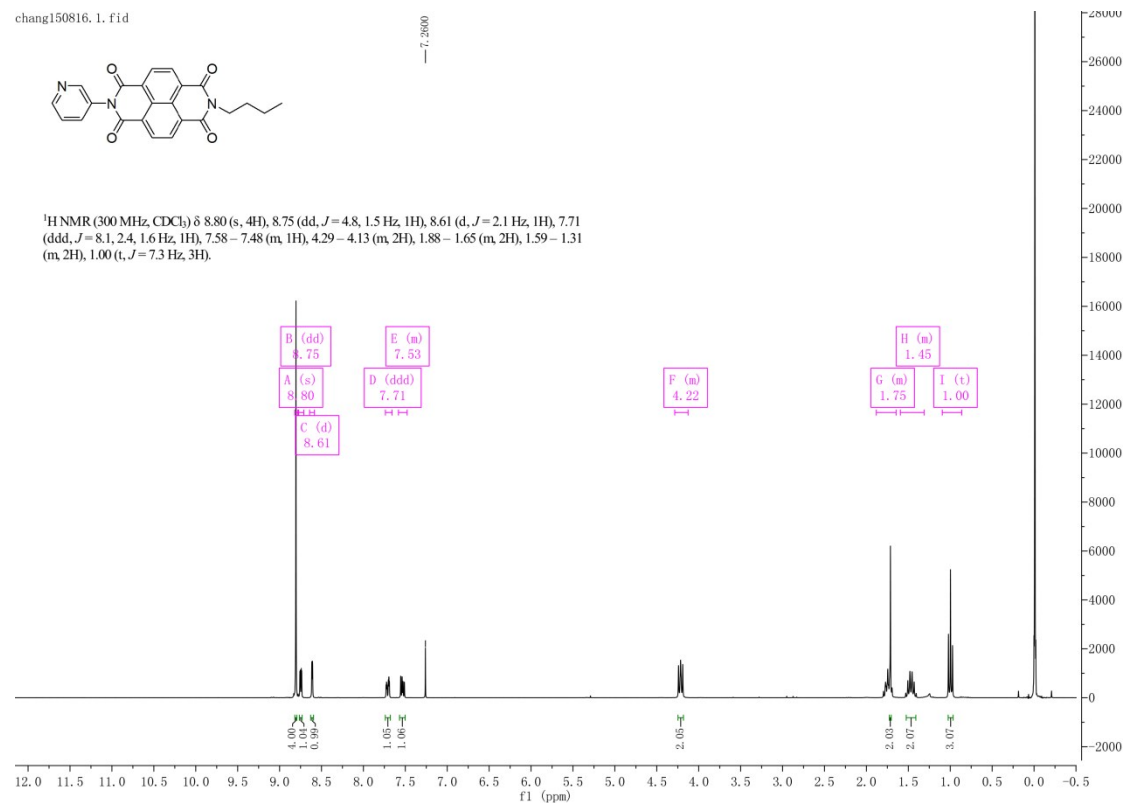
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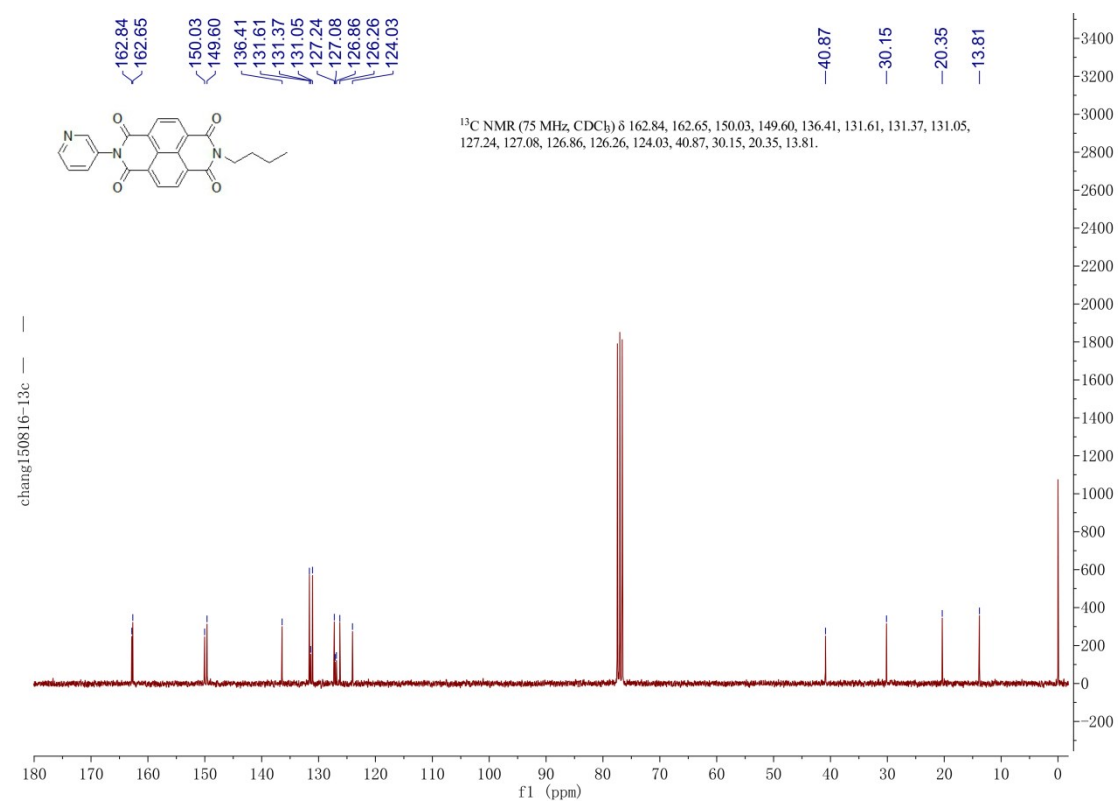
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Figure S1. Structure and Spectra of target compounds.

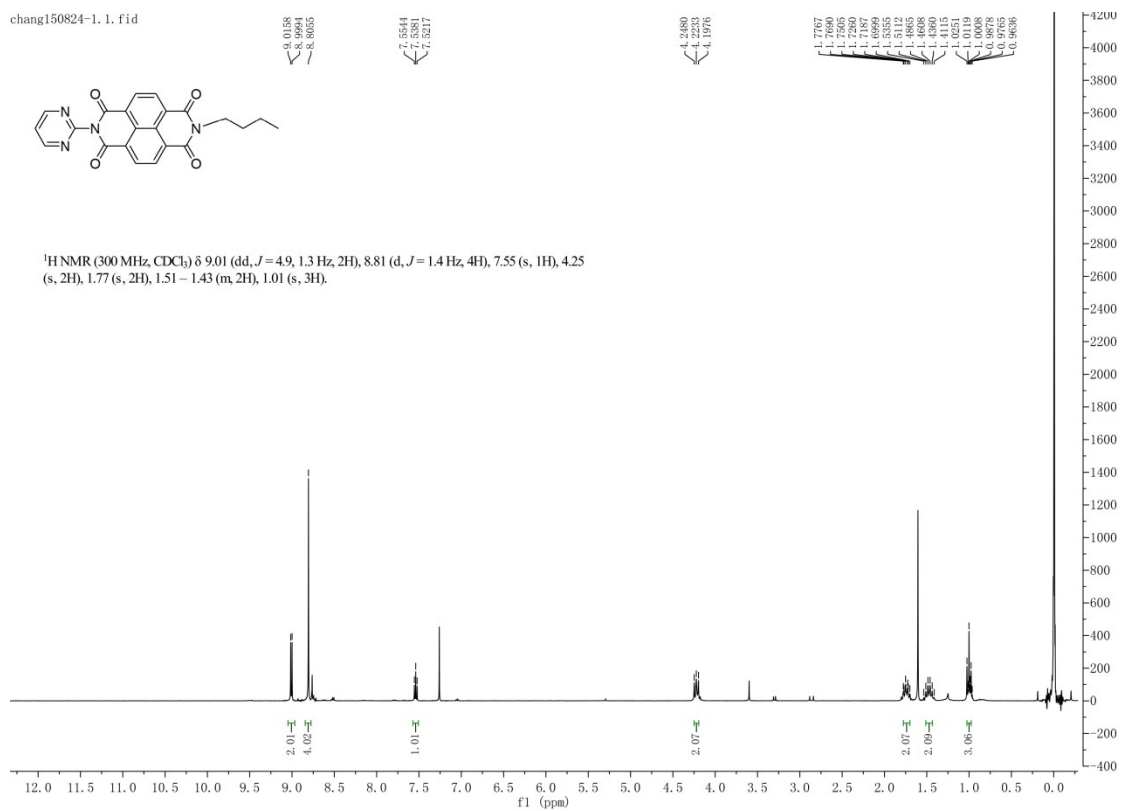
¹H NMR spectra of compound 3a



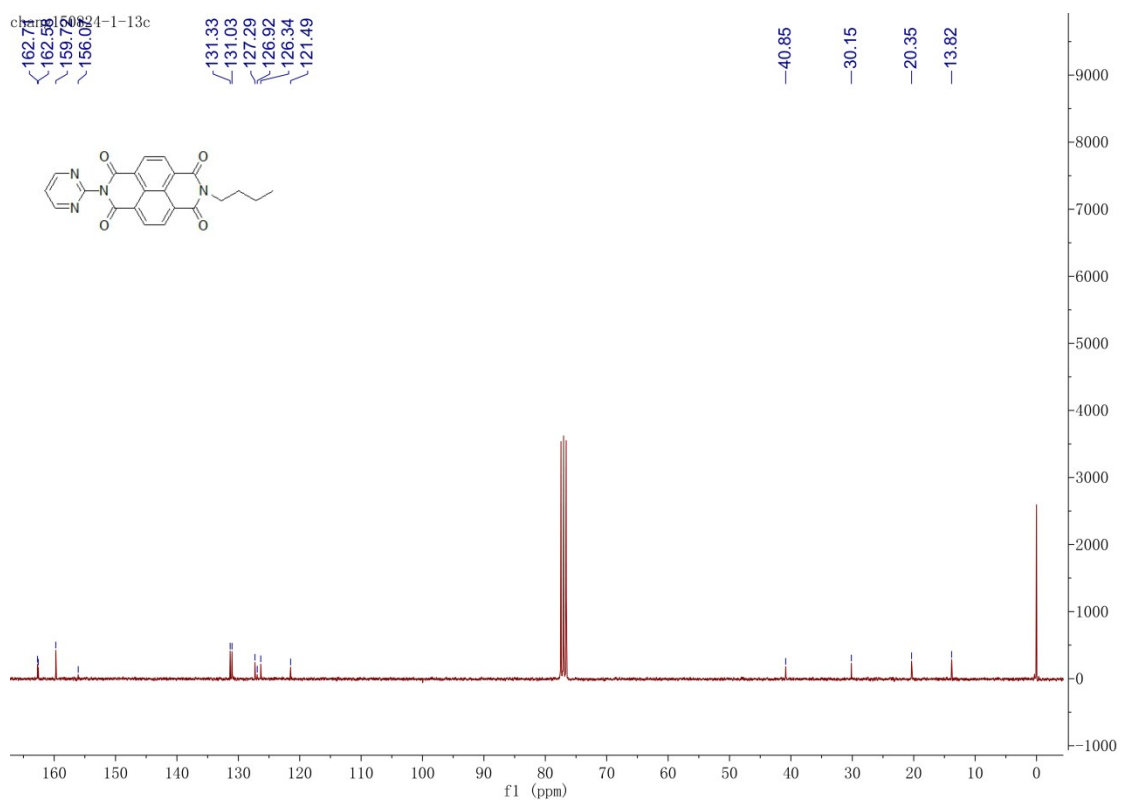
¹³C NMR spectra of compound 3a



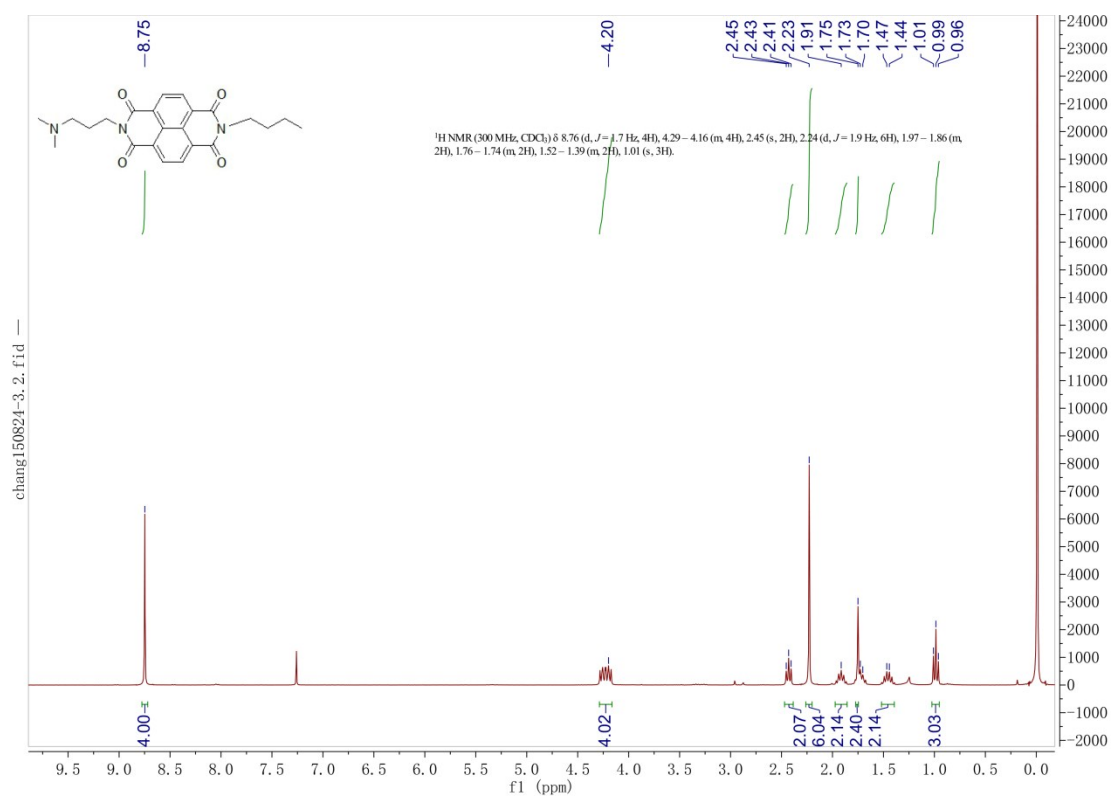
¹H NMR spectra of compound 3b



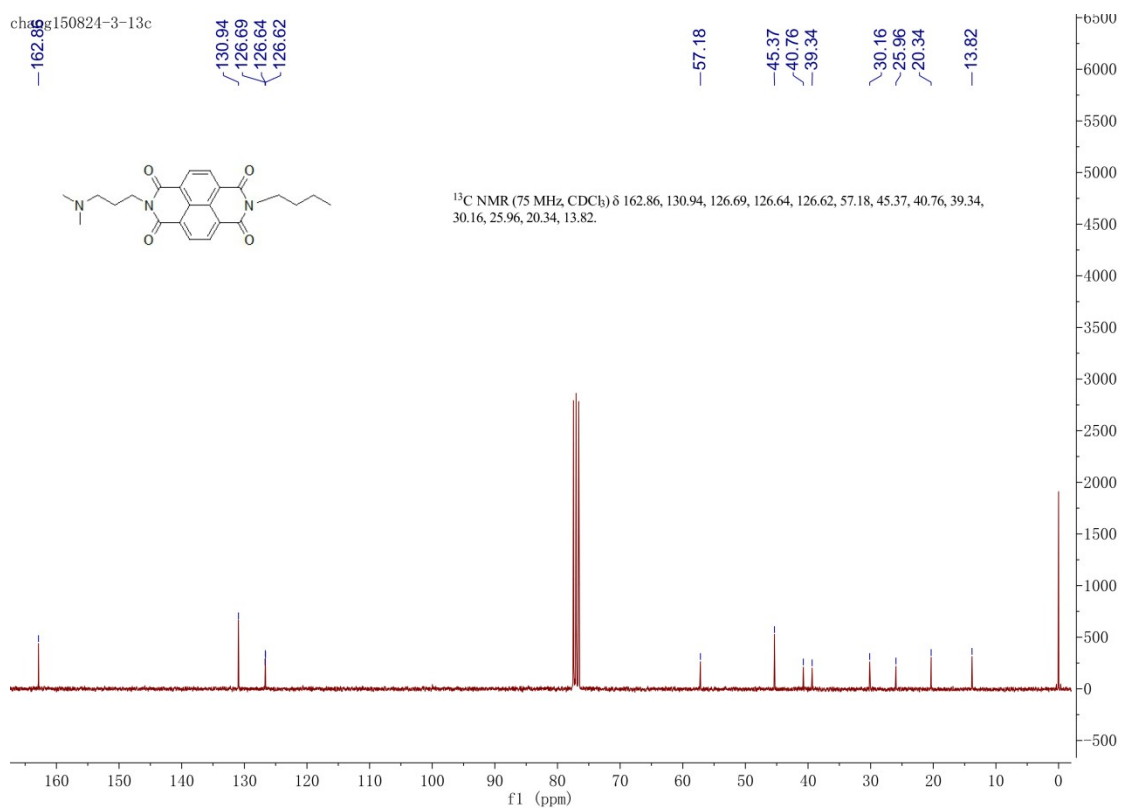
¹³C NMR spectra of compound 3b



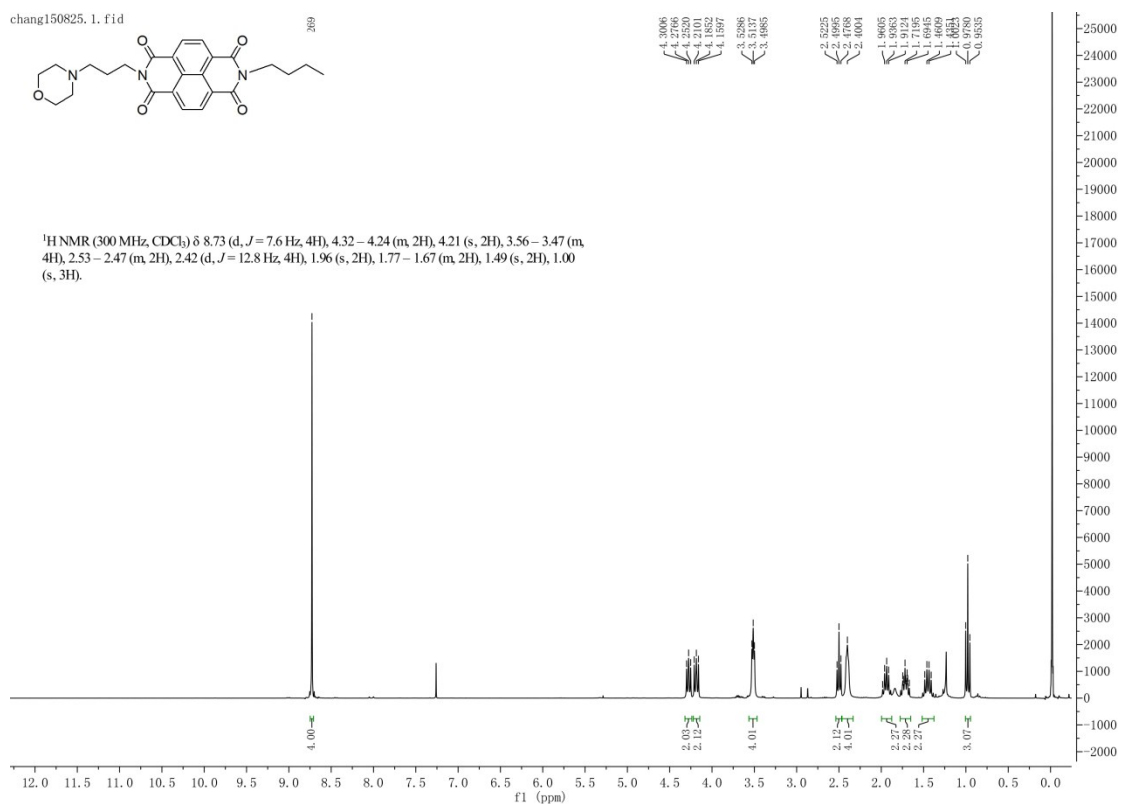
¹H NMR spectra of compound 3c



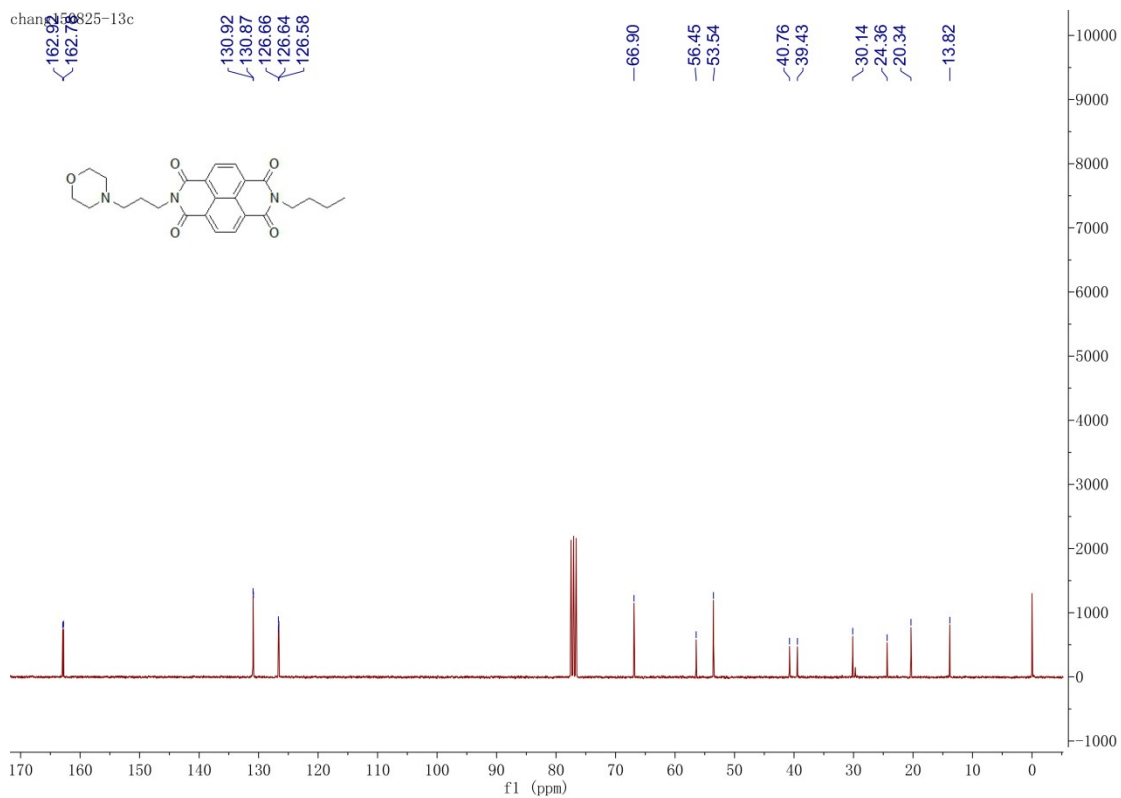
¹³C NMR spectra of compound 3c



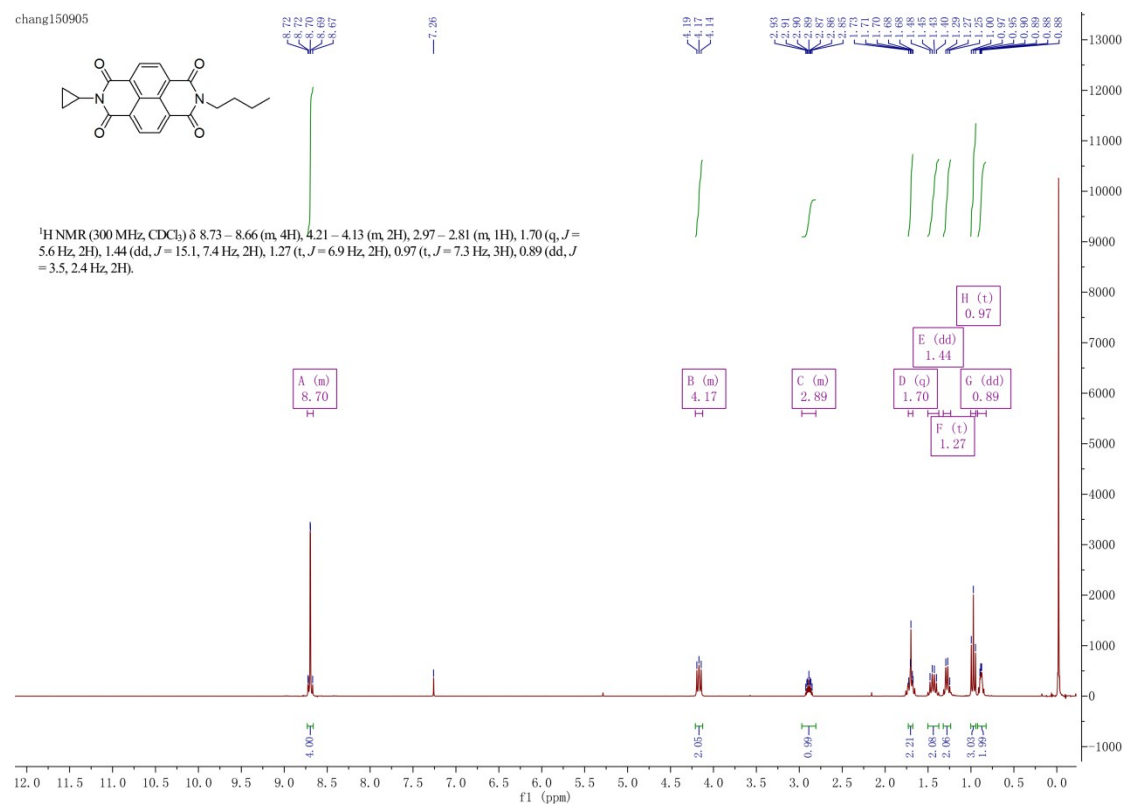
¹H NMR spectra of compound 3d



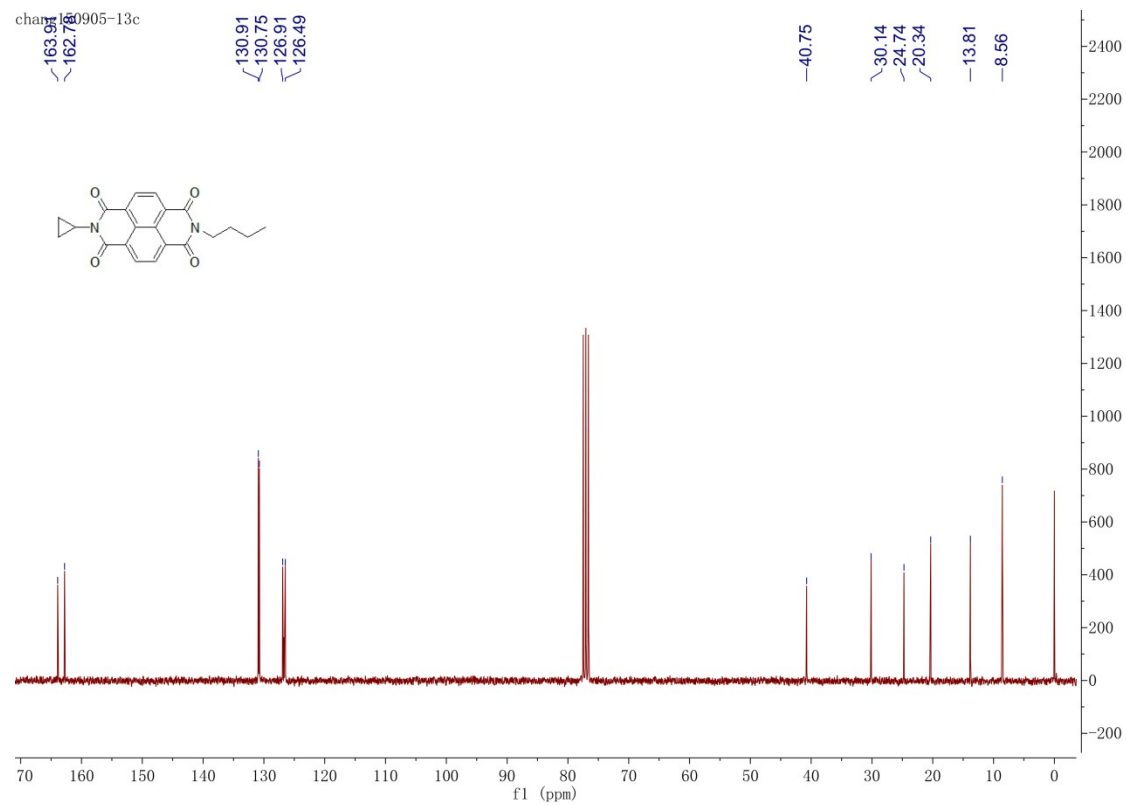
¹³C NMR spectra of compound 3d



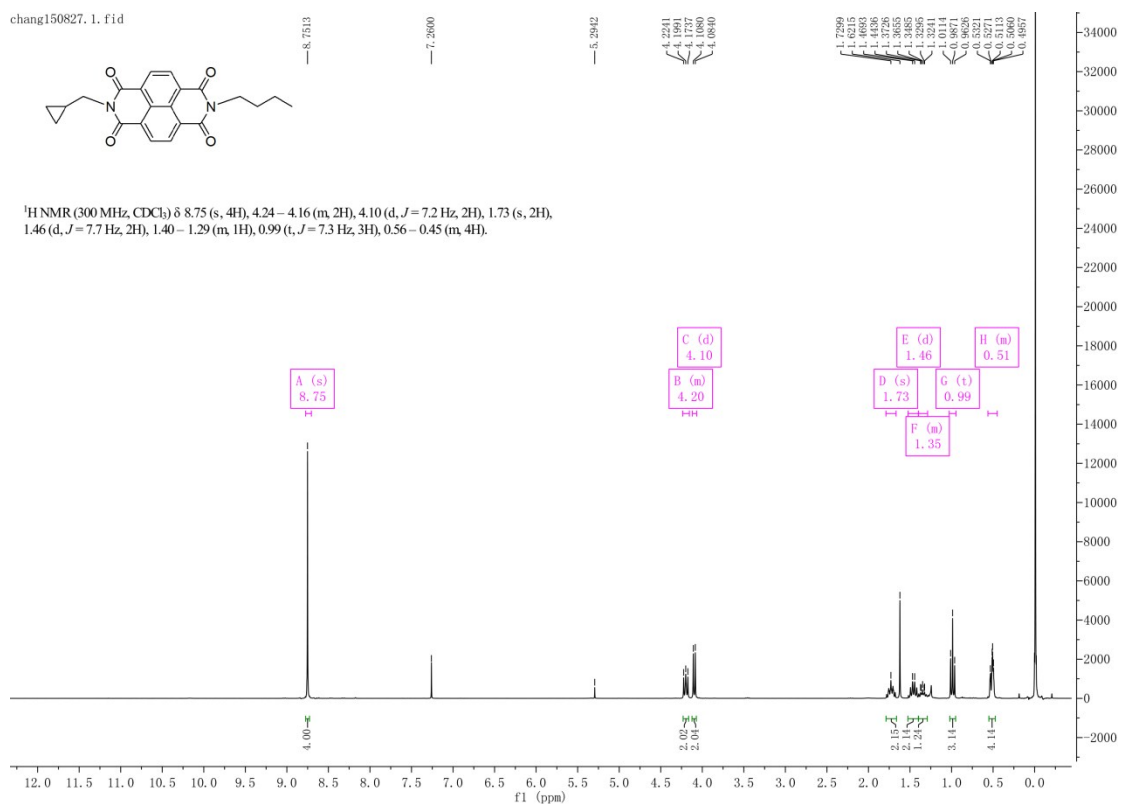
^1H NMR spectra of compound 3e



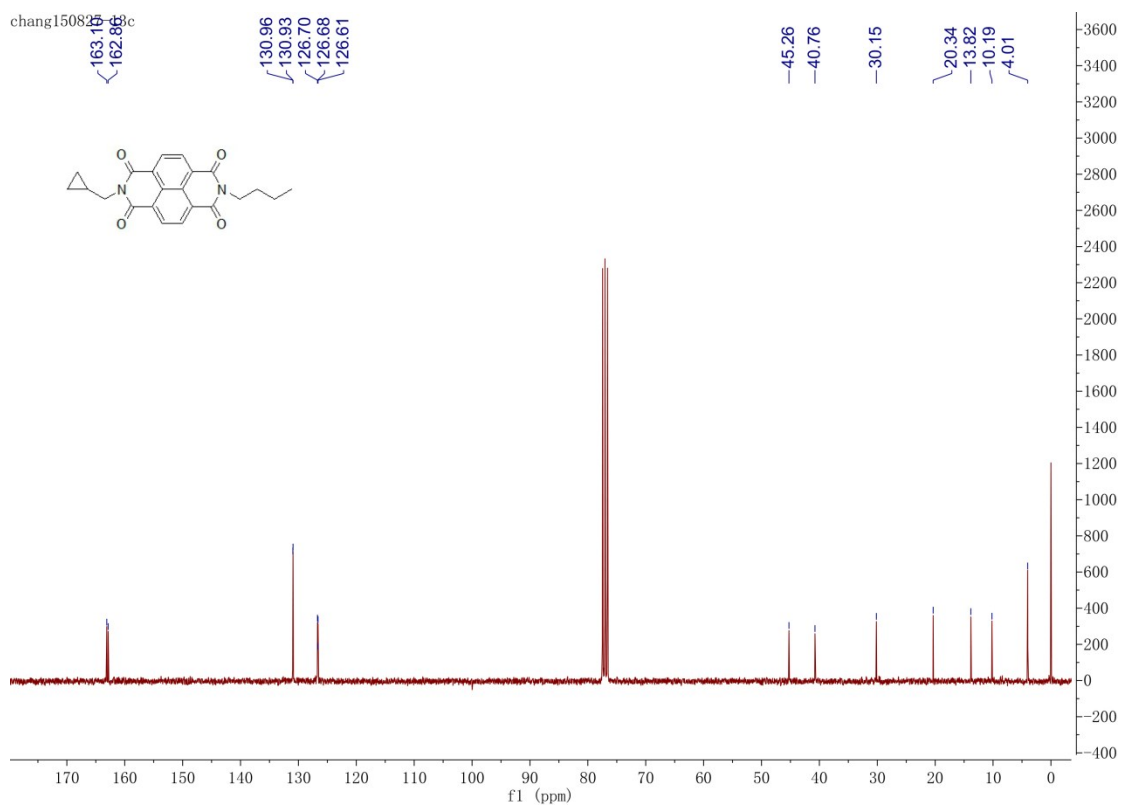
^{13}C NMR spectra of compound 3e



¹H NMR spectra of compound 3f

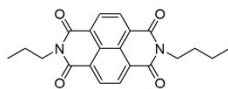


¹³C NMR spectra of compound 3f

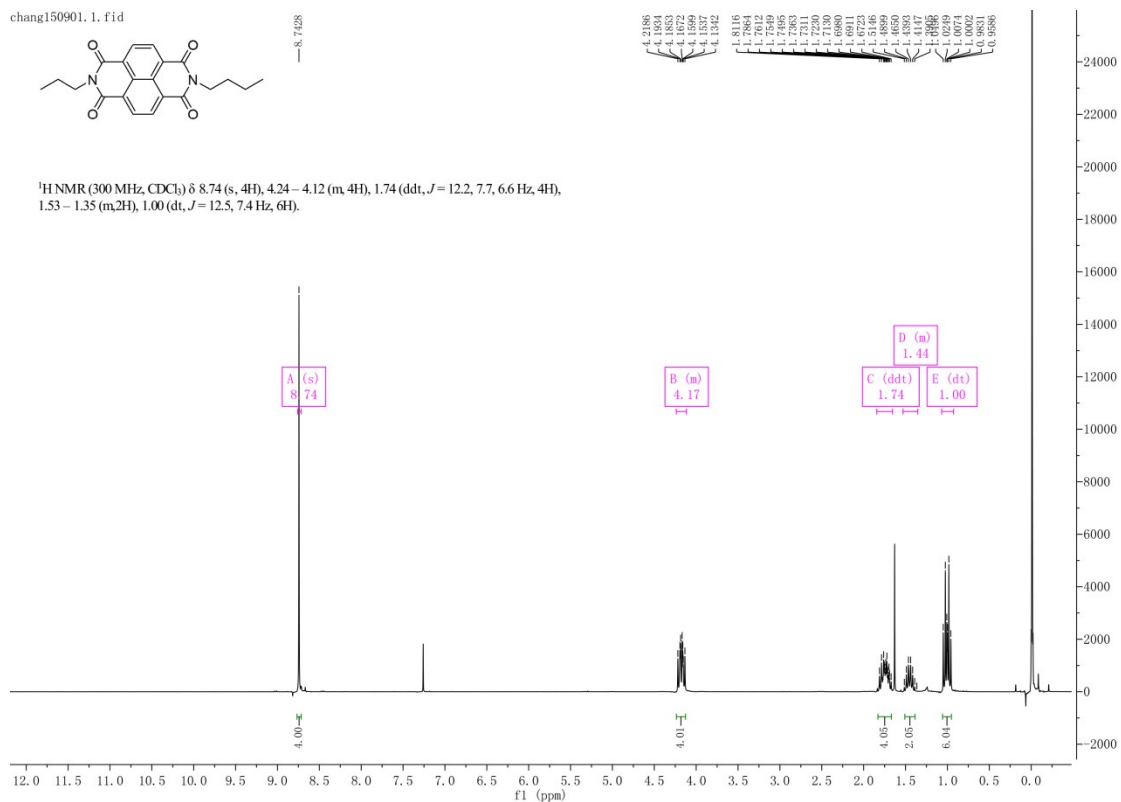


¹H NMR spectra of compound 3g

chang150901.1.fid



¹H NMR (300 MHz, CDCl₃) δ 8.74 (s, 4H), 4.24–4.12 (m, 4H), 1.74 (ddt, *J* = 12.2, 7.7, 6.6 Hz, 4H), 1.53–1.35 (m, 2H), 1.00 (dt, *J* = 12.5, 7.4 Hz, 6H).

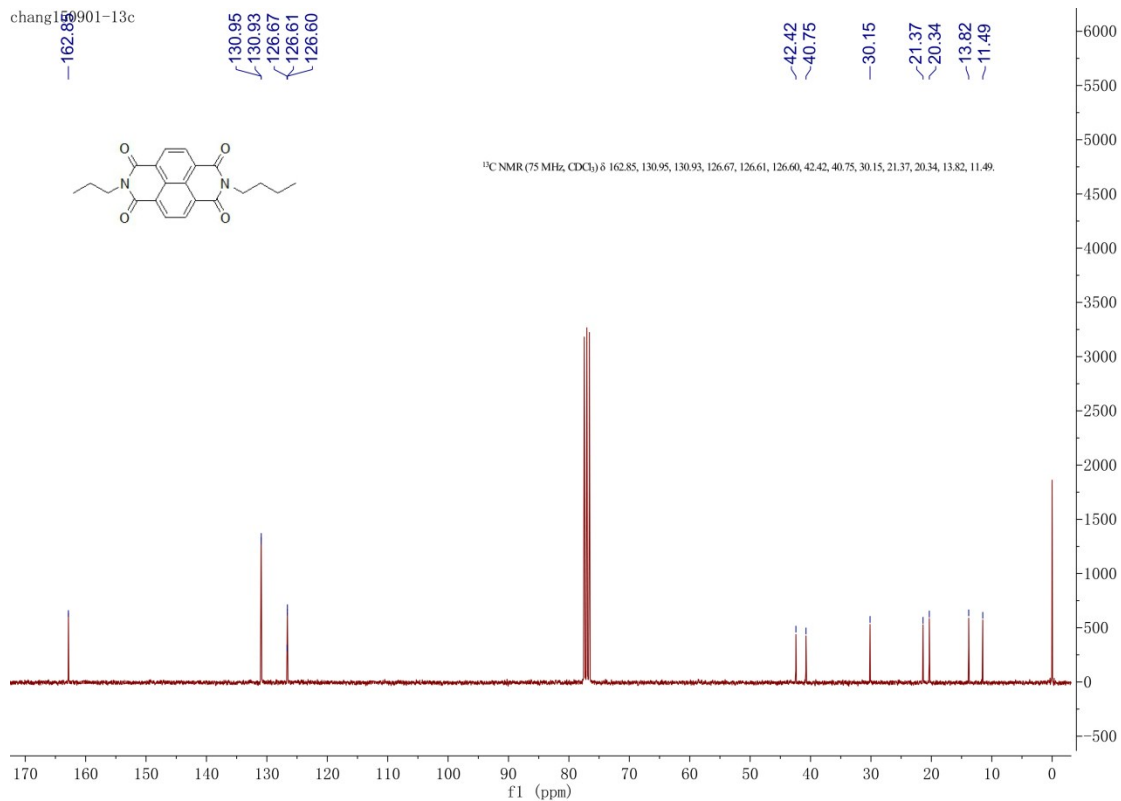


¹³C NMR spectra of compound 3g

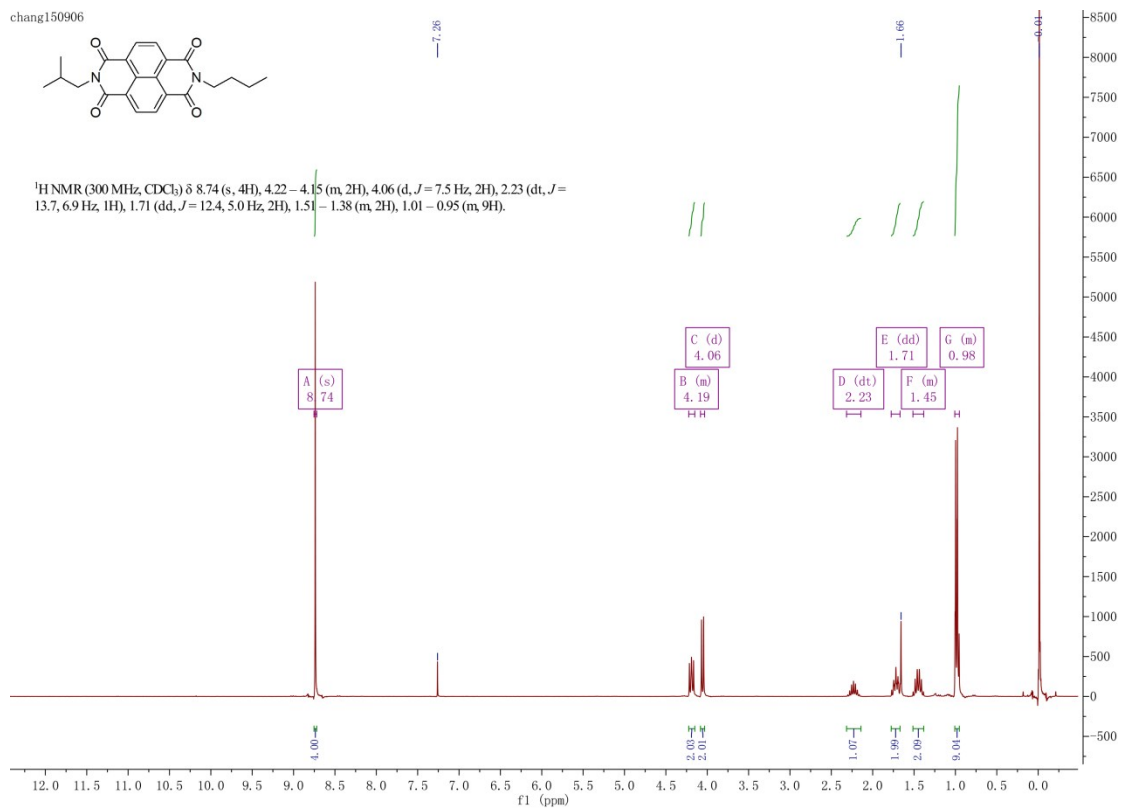
chang150901-13c



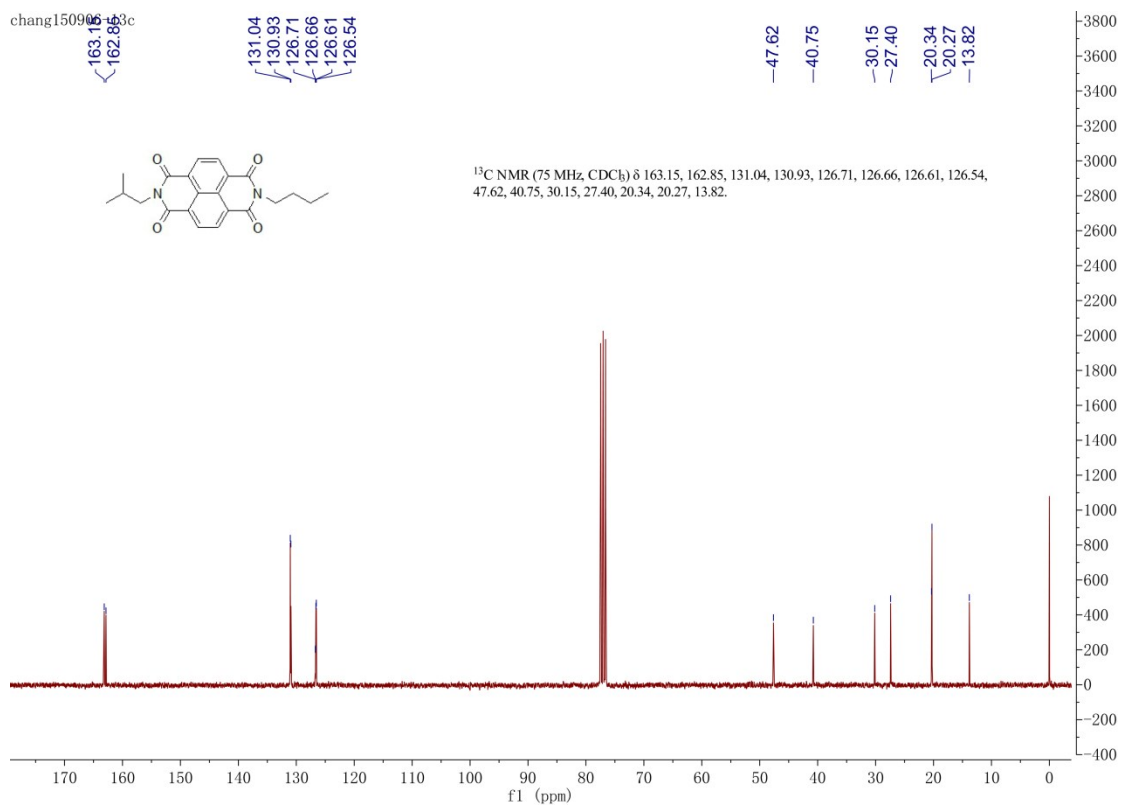
¹³C NMR (75 MHz, CDCl₃) δ 162.85, 130.95, 130.93, 126.67, 126.61, 126.60, 42.42, 40.75, 30.15, 21.37, 20.34, 13.82, 11.49.



¹H NMR spectra of compound 3h

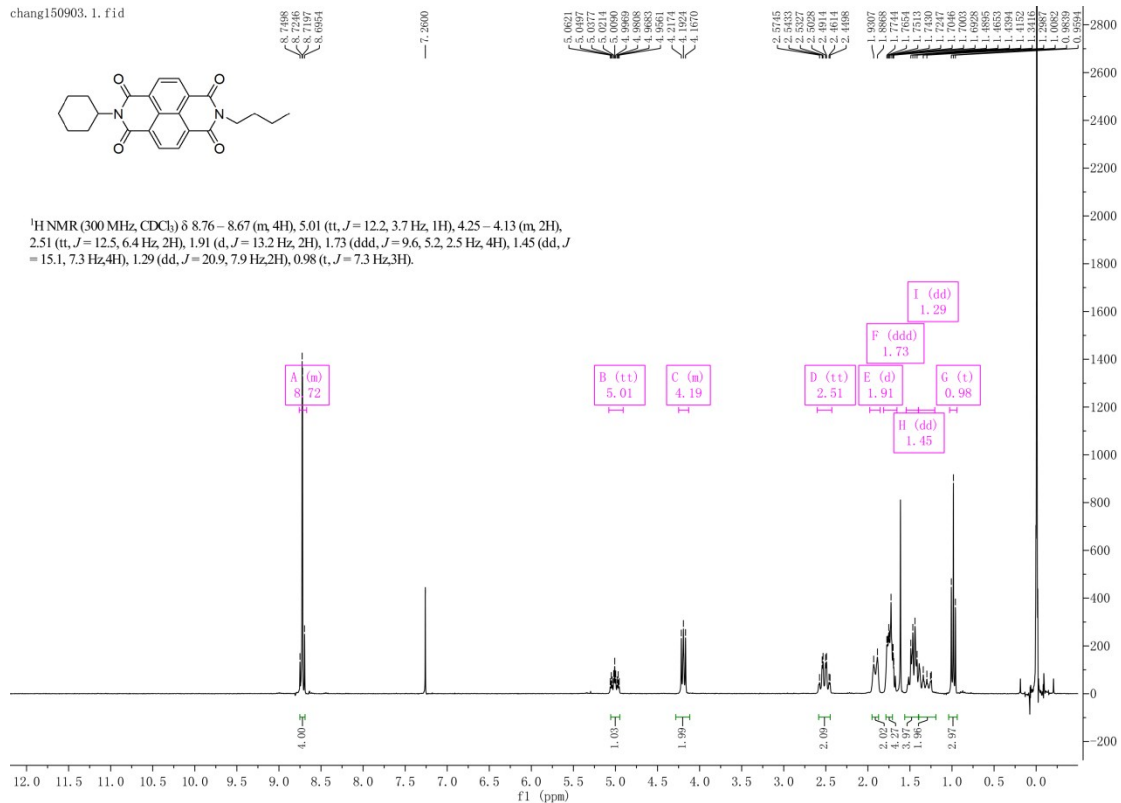


¹³C NMR spectra of compound 3h



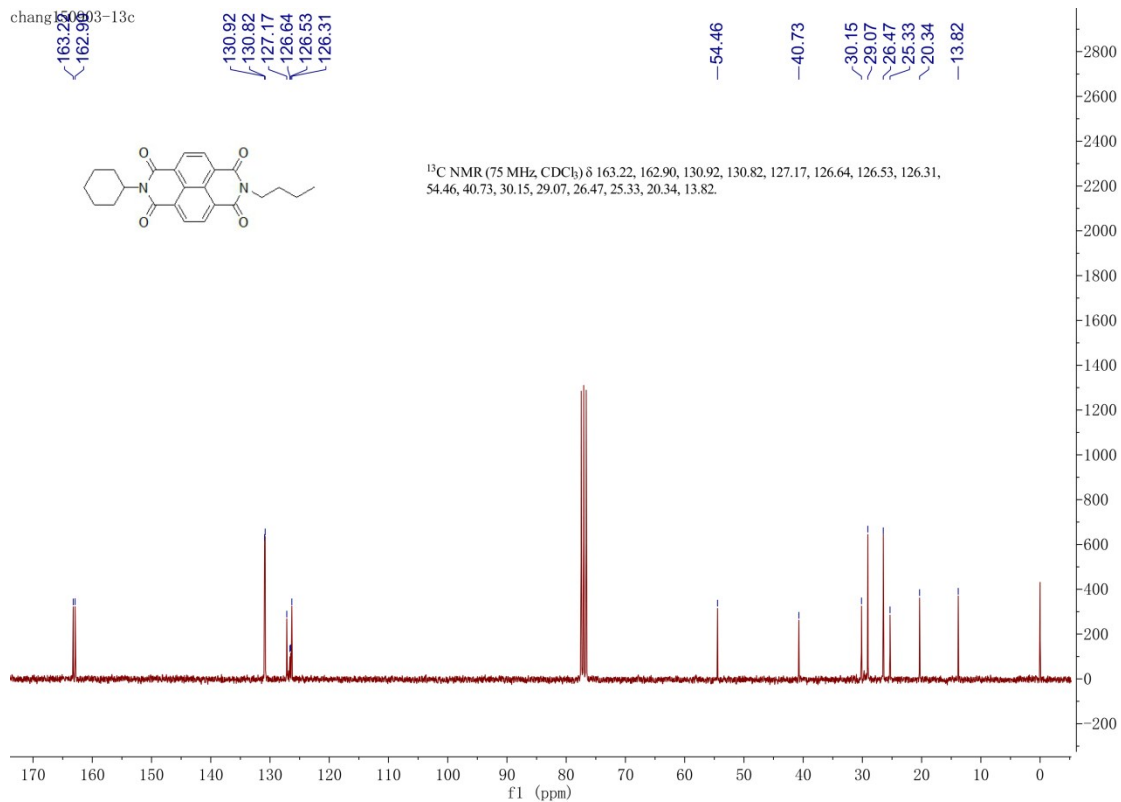
¹H NMR spectra of compound 3i

chang150903.1.fid

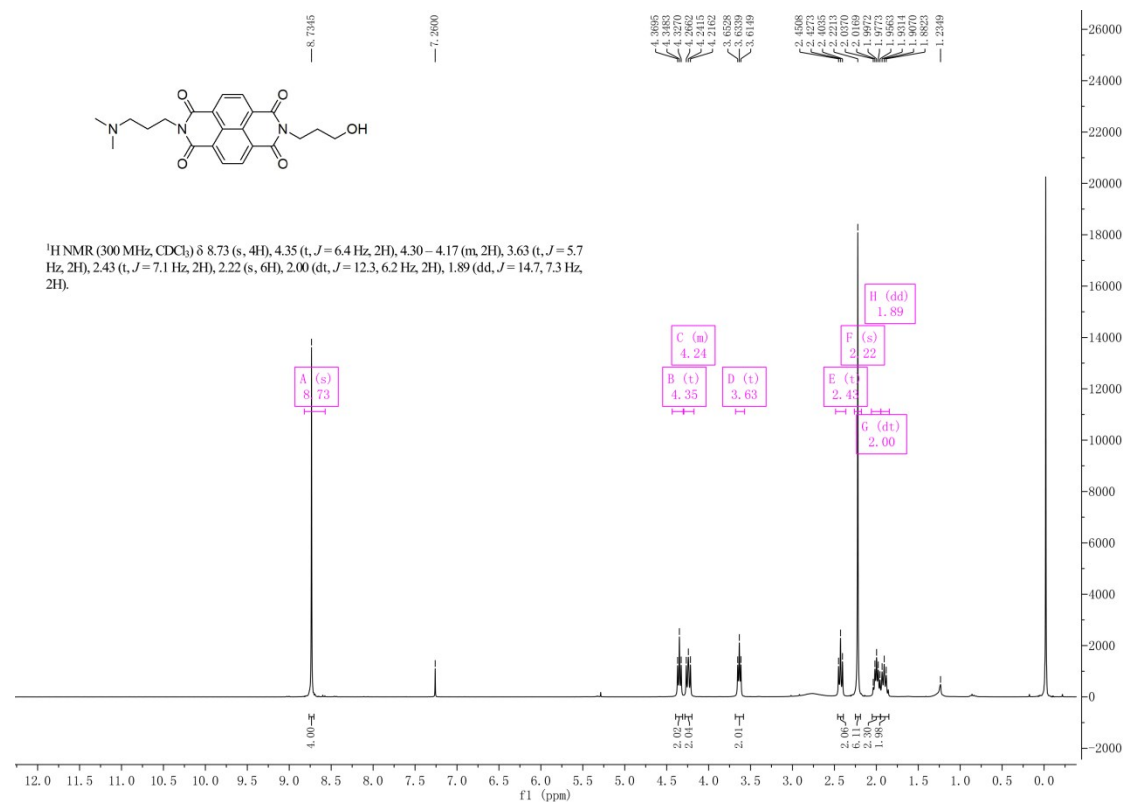


¹³C NMR spectra of compound 3i

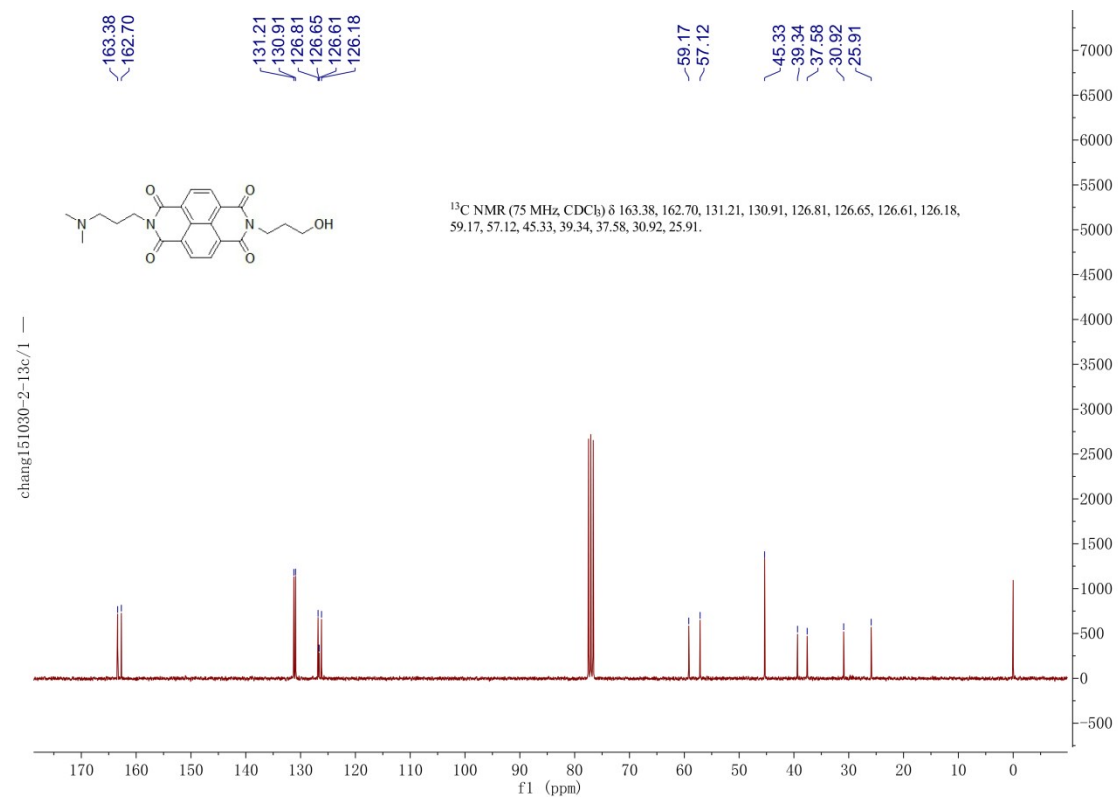
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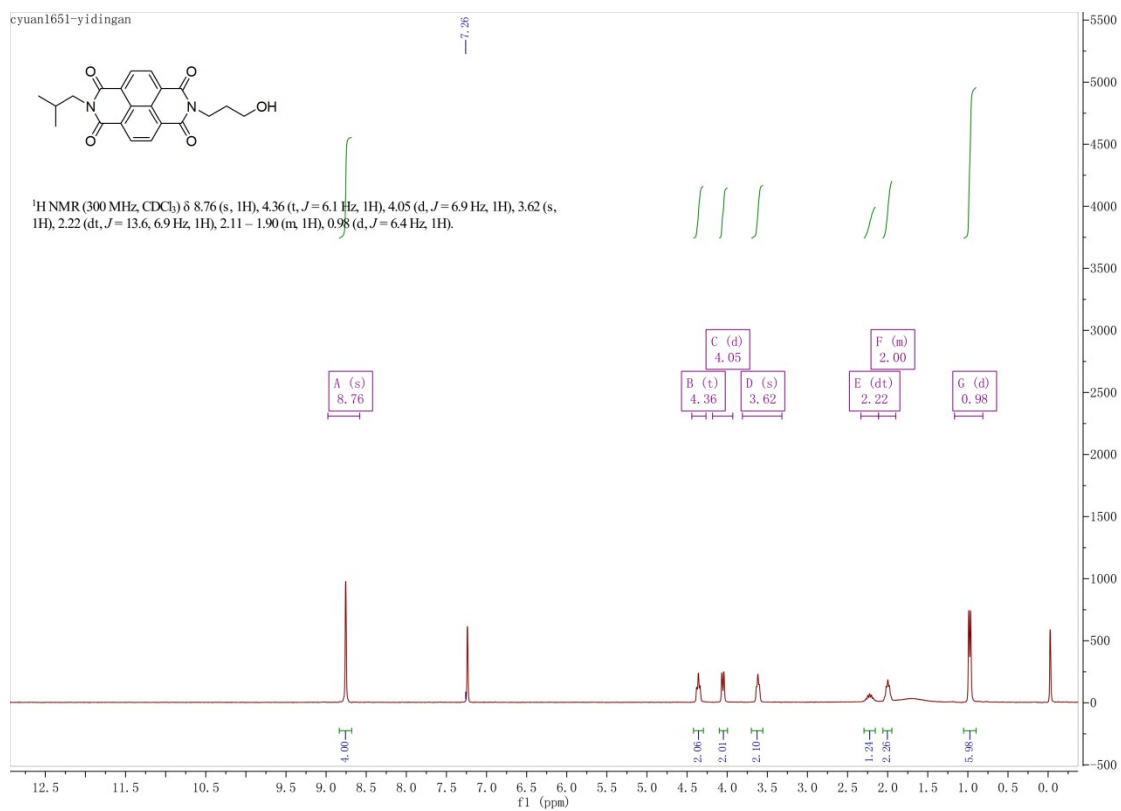
¹H NMR spectra of compound 4a



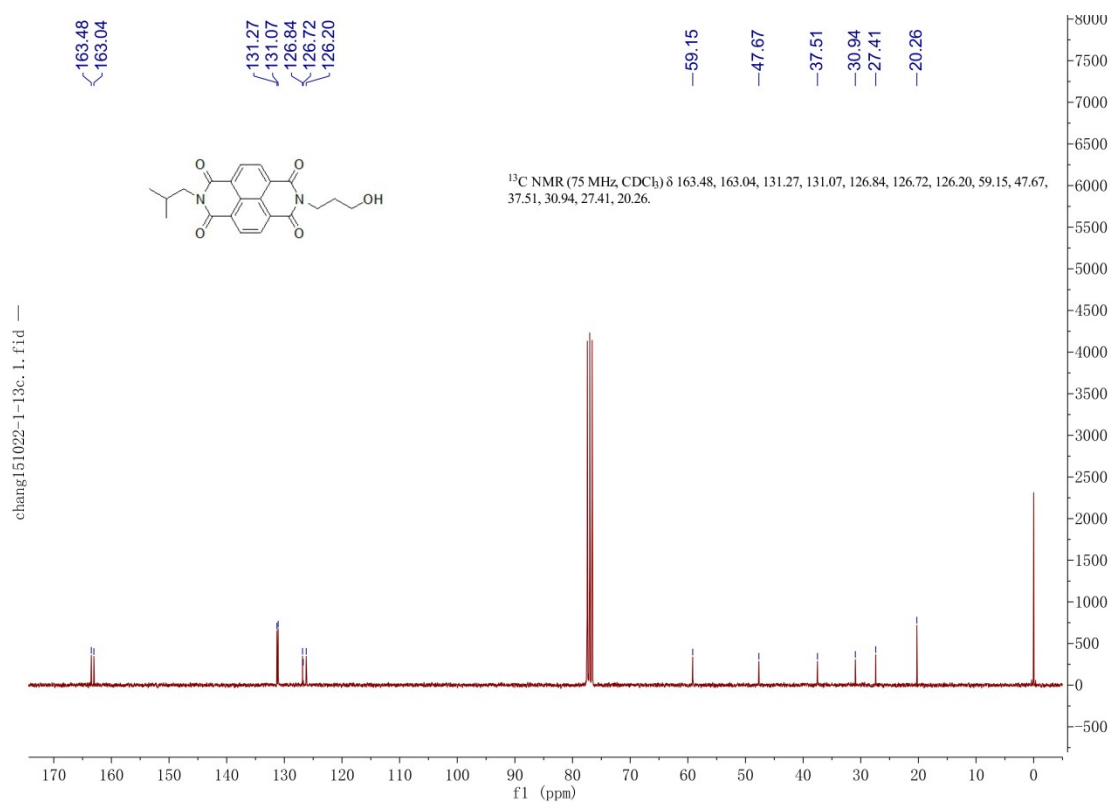
¹³C NMR spectra of compound 4a



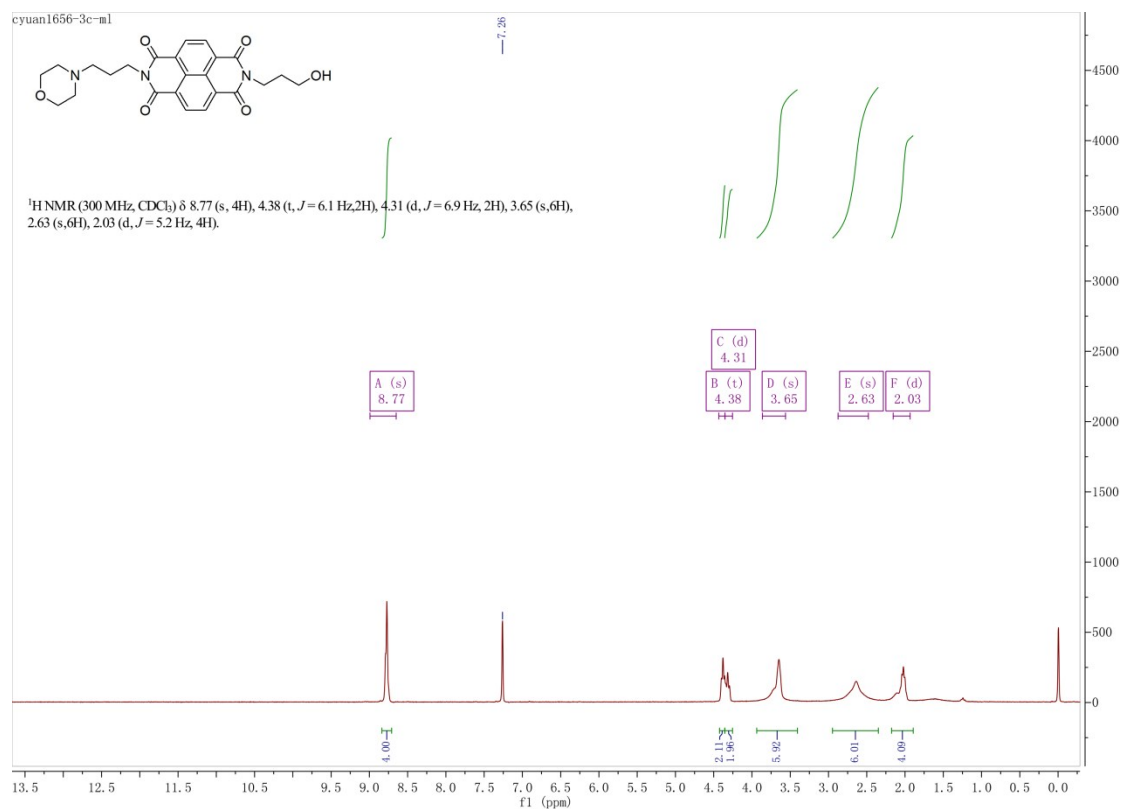
¹H NMR spectra of compound 4b



¹³C NMR spectra of compound 4b



¹H NMR spectra of compound 4c



¹³C NMR spectra of compound 4c

