

### Copies of $^1\text{H}$ and $^{13}\text{C}$ NMR spectra

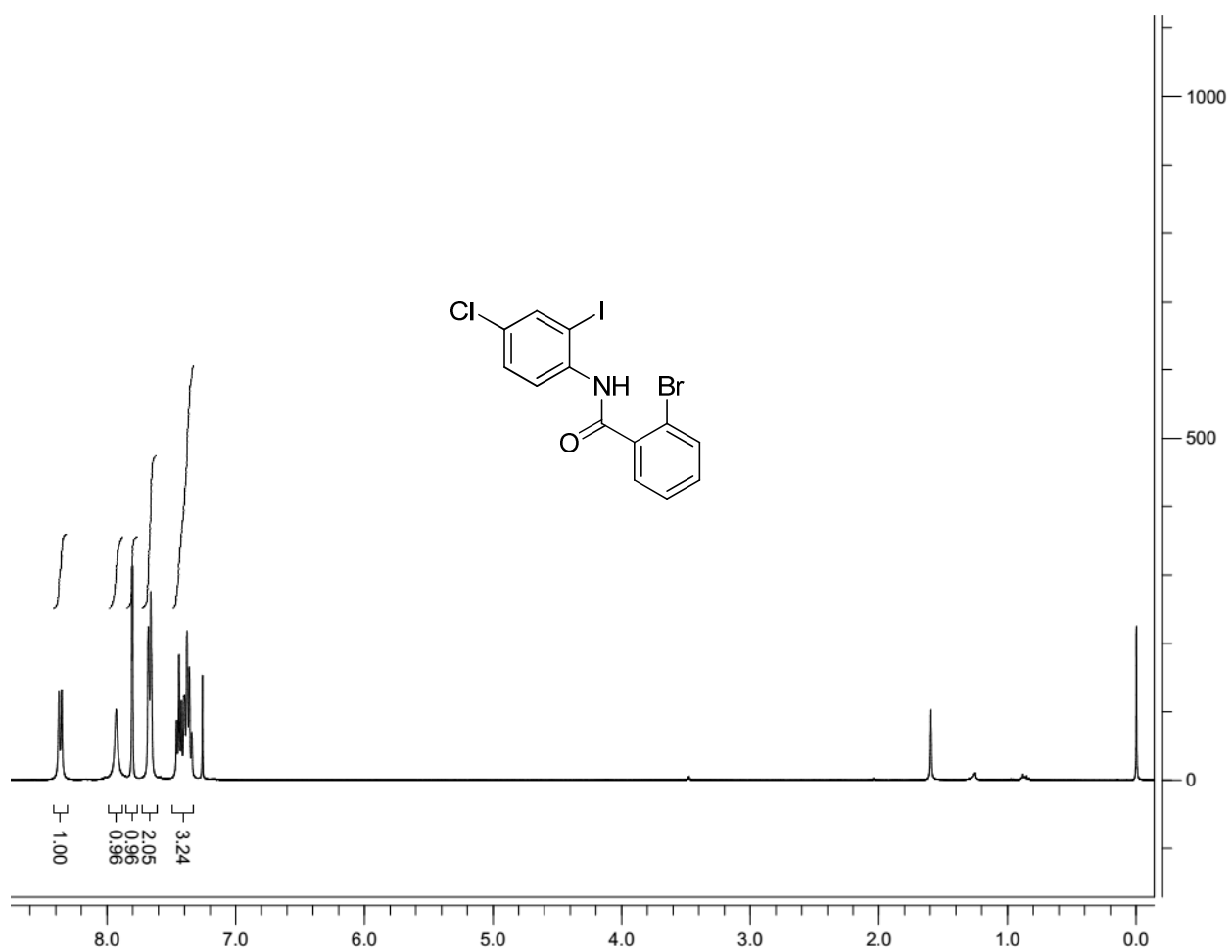


Fig. 1:  $^1\text{H}$  NMR spectra of compound **S-1a** ( $\text{CDCl}_3$ , 400 MHz)

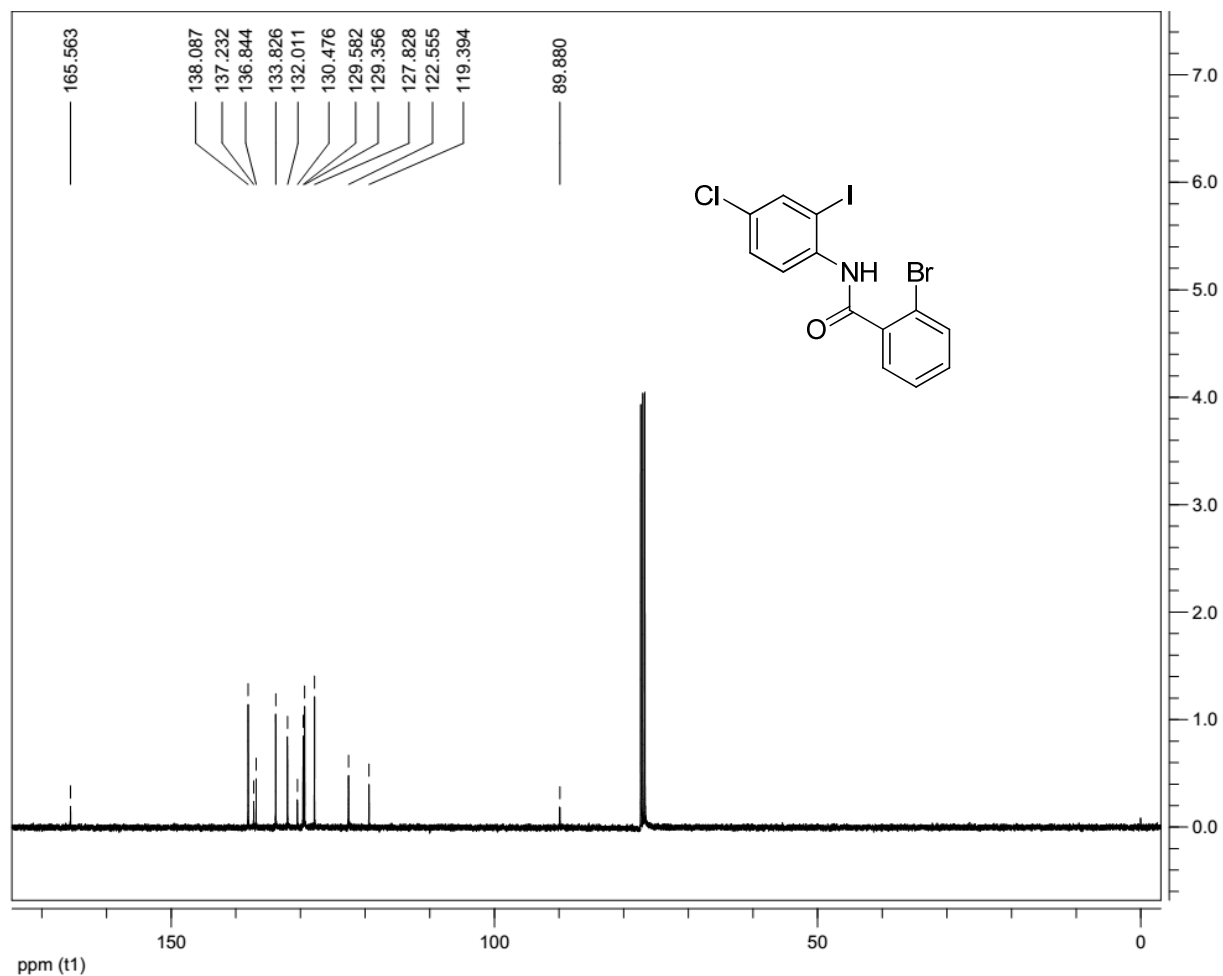


Fig. 2:  $^{13}\text{C}$  NMR spectra of compound **S-1a** ( $\text{CDCl}_3$ , 100 MHz)

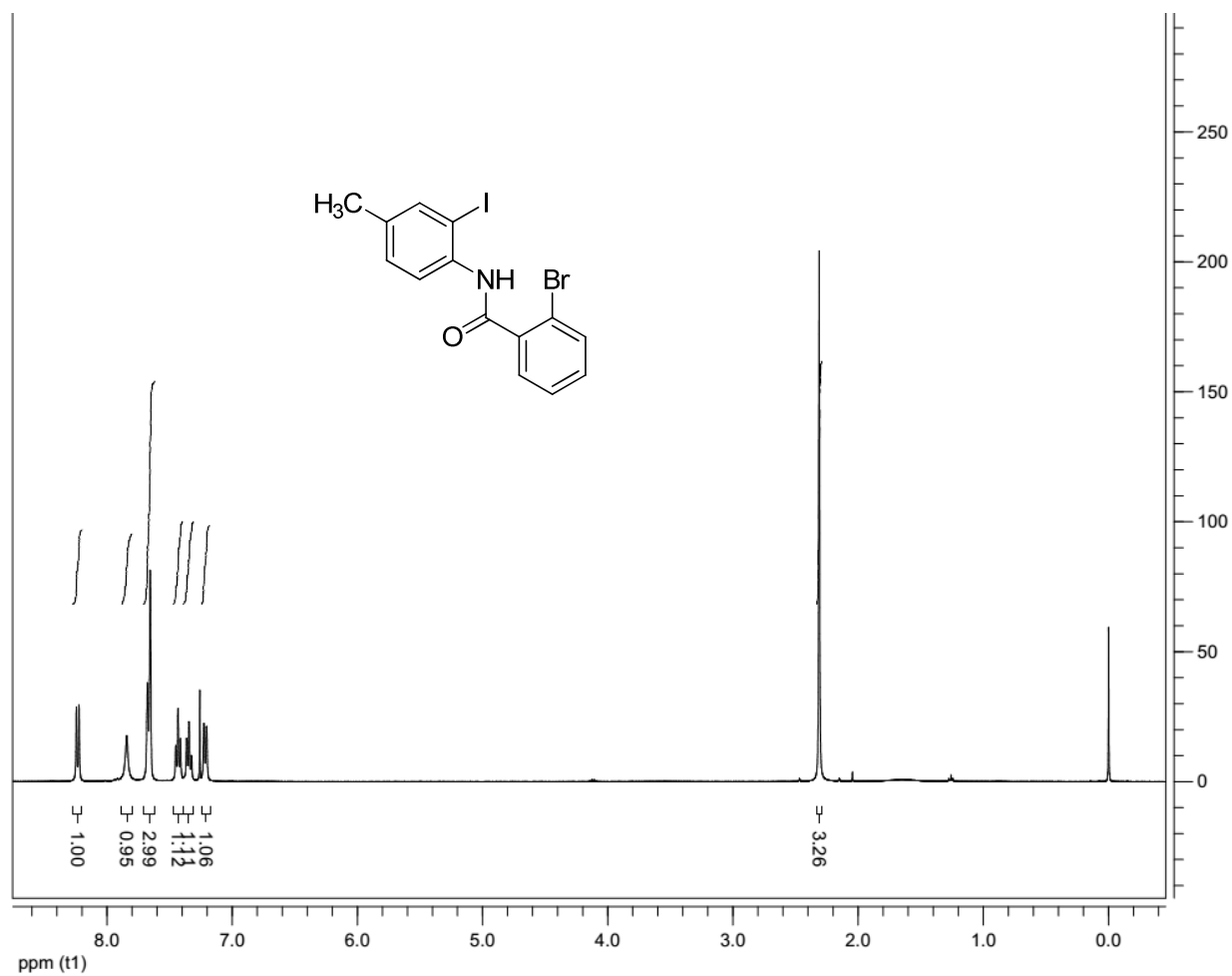


Fig. 3: <sup>1</sup>H NMR spectra of compound **S-1b** (CDCl<sub>3</sub>, 400 MHz)

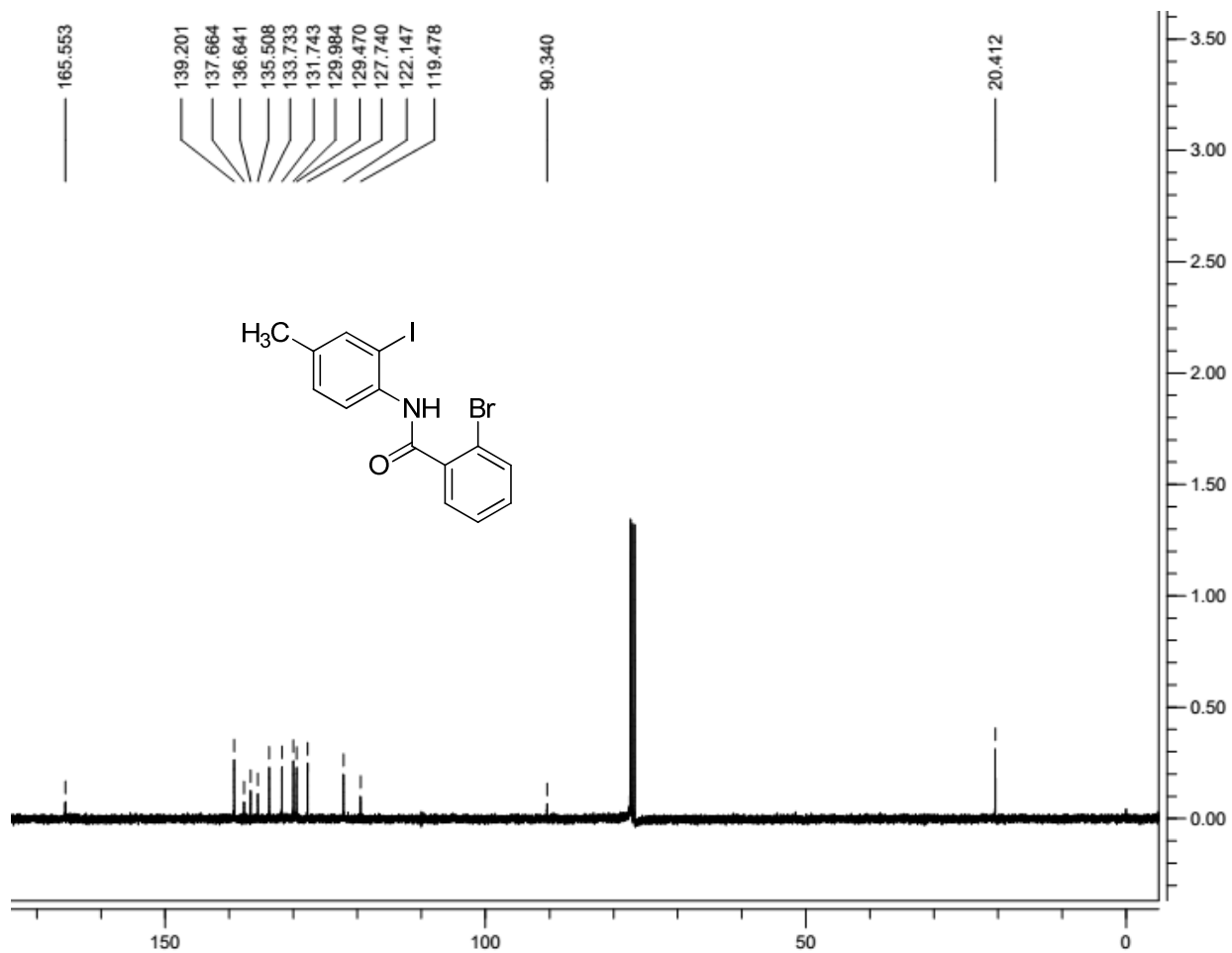


Fig. 4:  $^{13}\text{C}$  NMR spectra of compound **S-1b** ( $\text{CDCl}_3$ , 100 MHz)

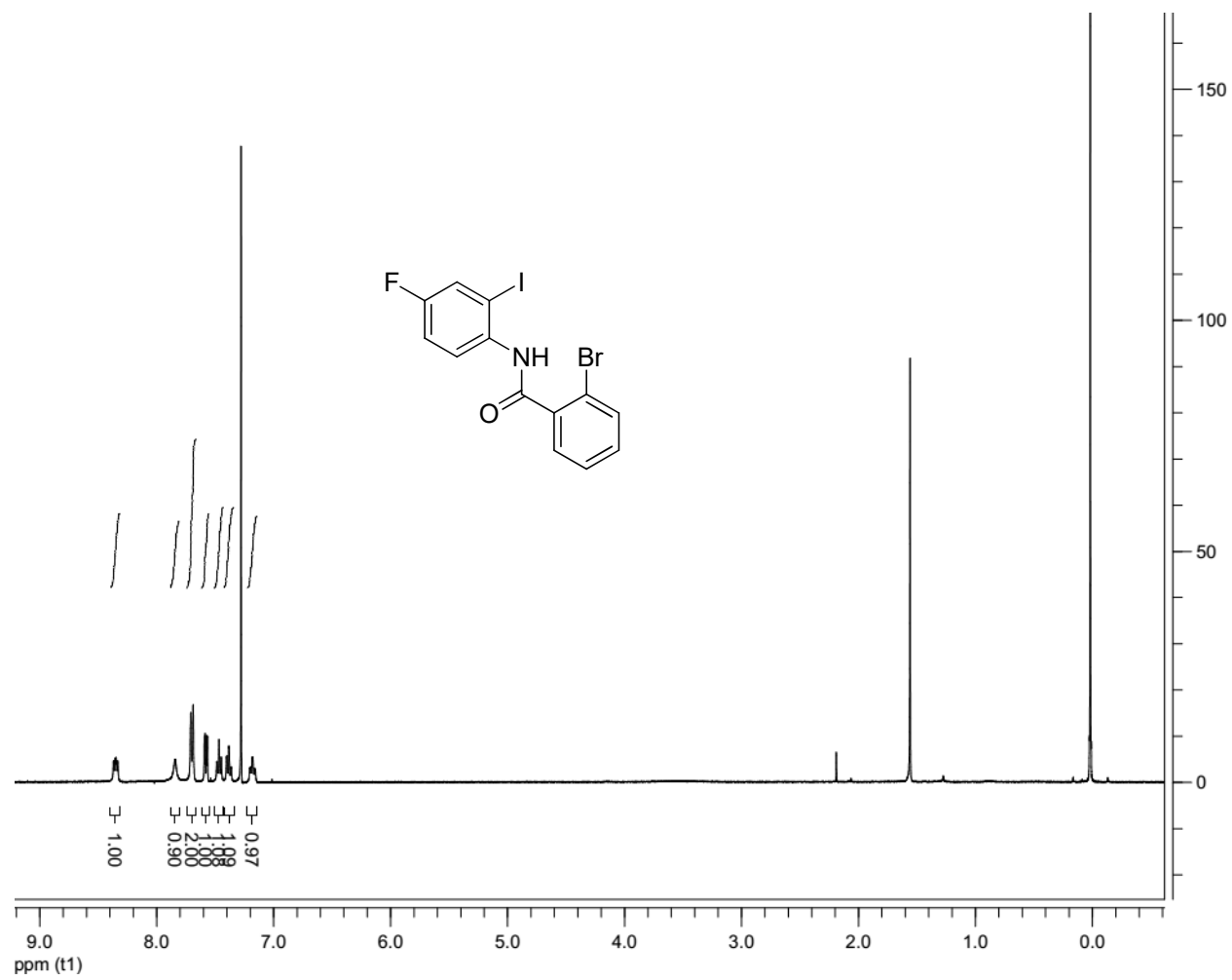


Fig. 5: <sup>1</sup>H NMR spectra of compound **S-1c** (CDCl<sub>3</sub>, 400 MHz)

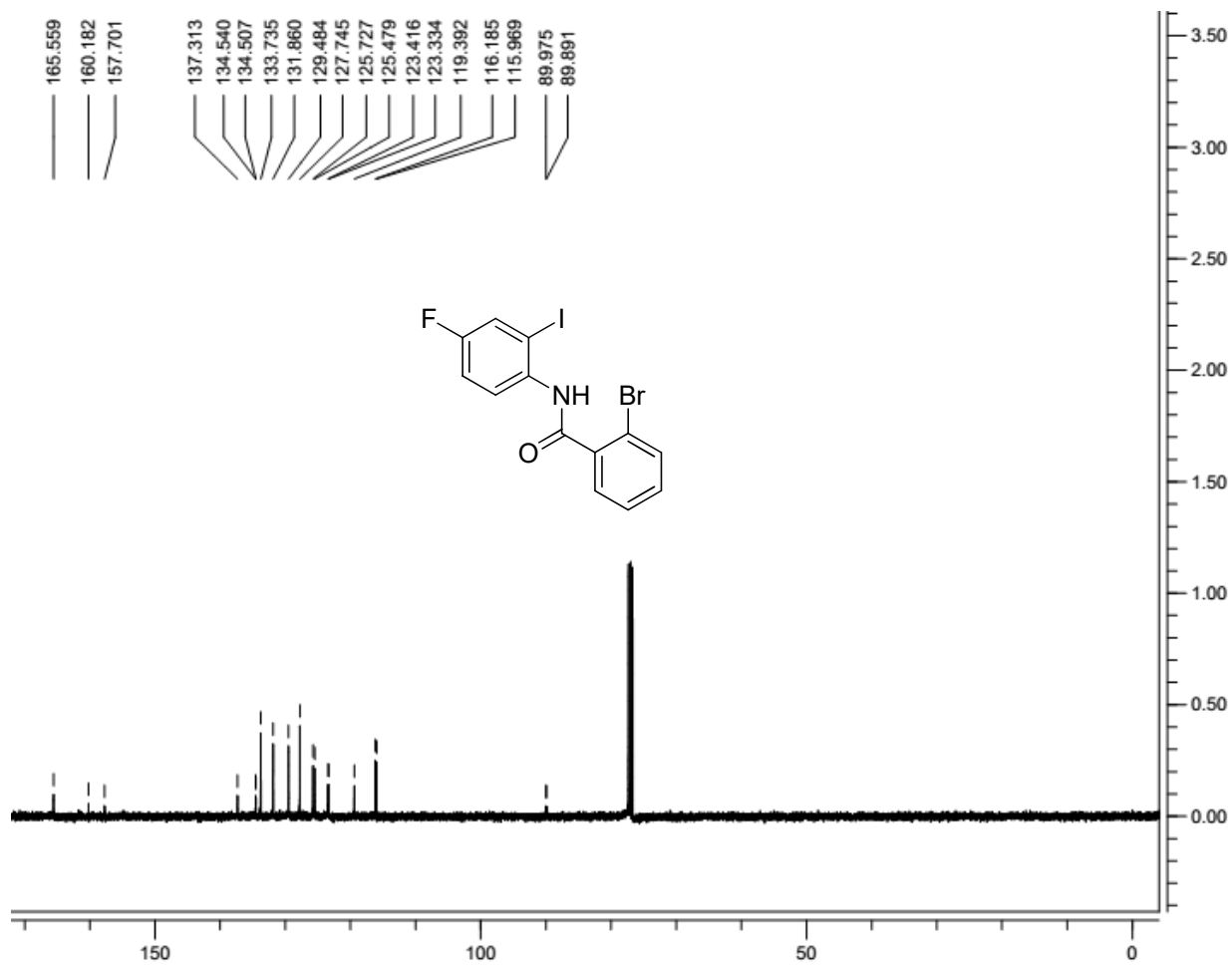


Fig. 6:  $^{13}\text{C}$  NMR spectra of compound **S-1c** ( $\text{CDCl}_3$ , 100 MHz)

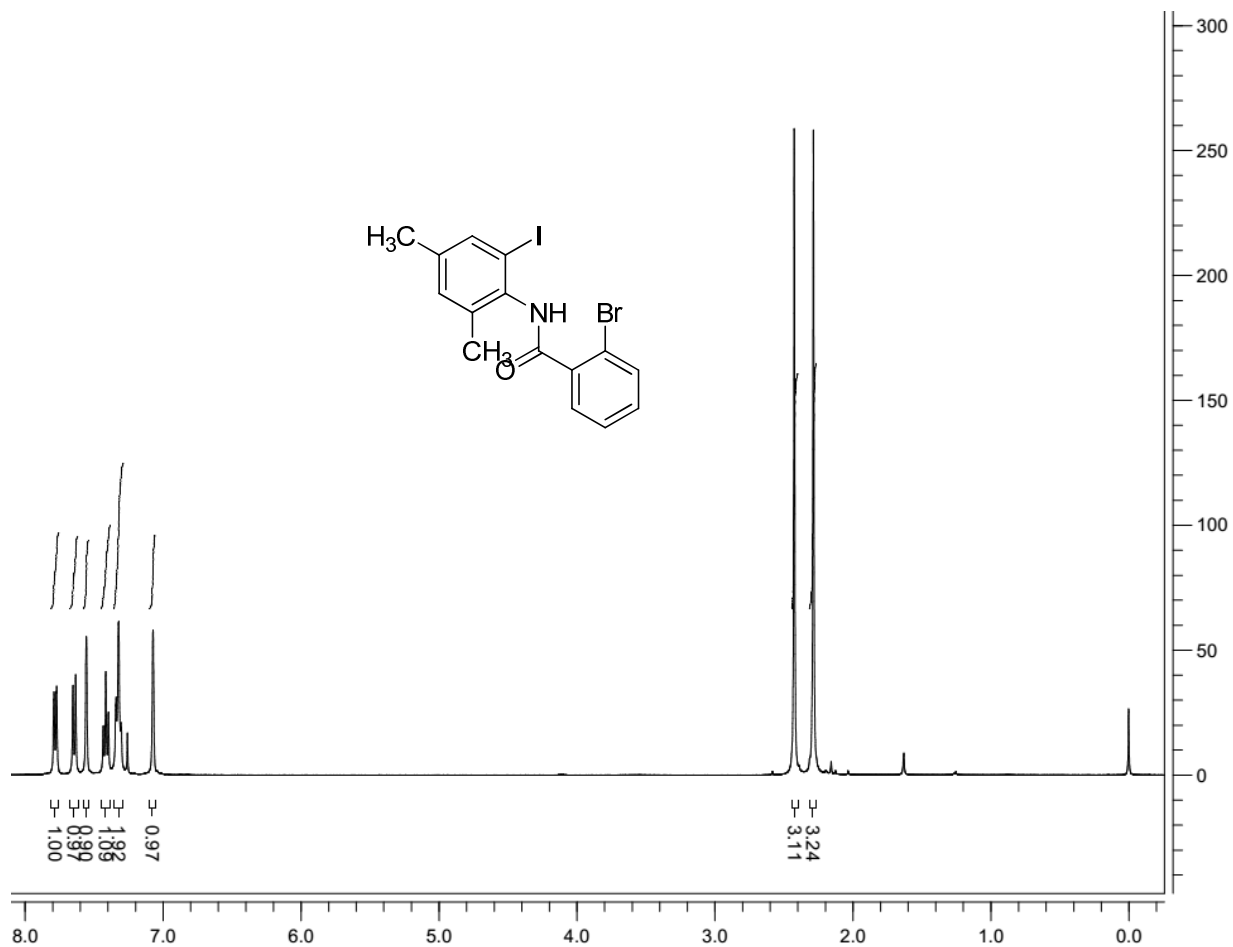


Fig. 7:  $^1\text{H}$  NMR spectra of compound **S-1e** ( $\text{CDCl}_3$ , 400 MHz)

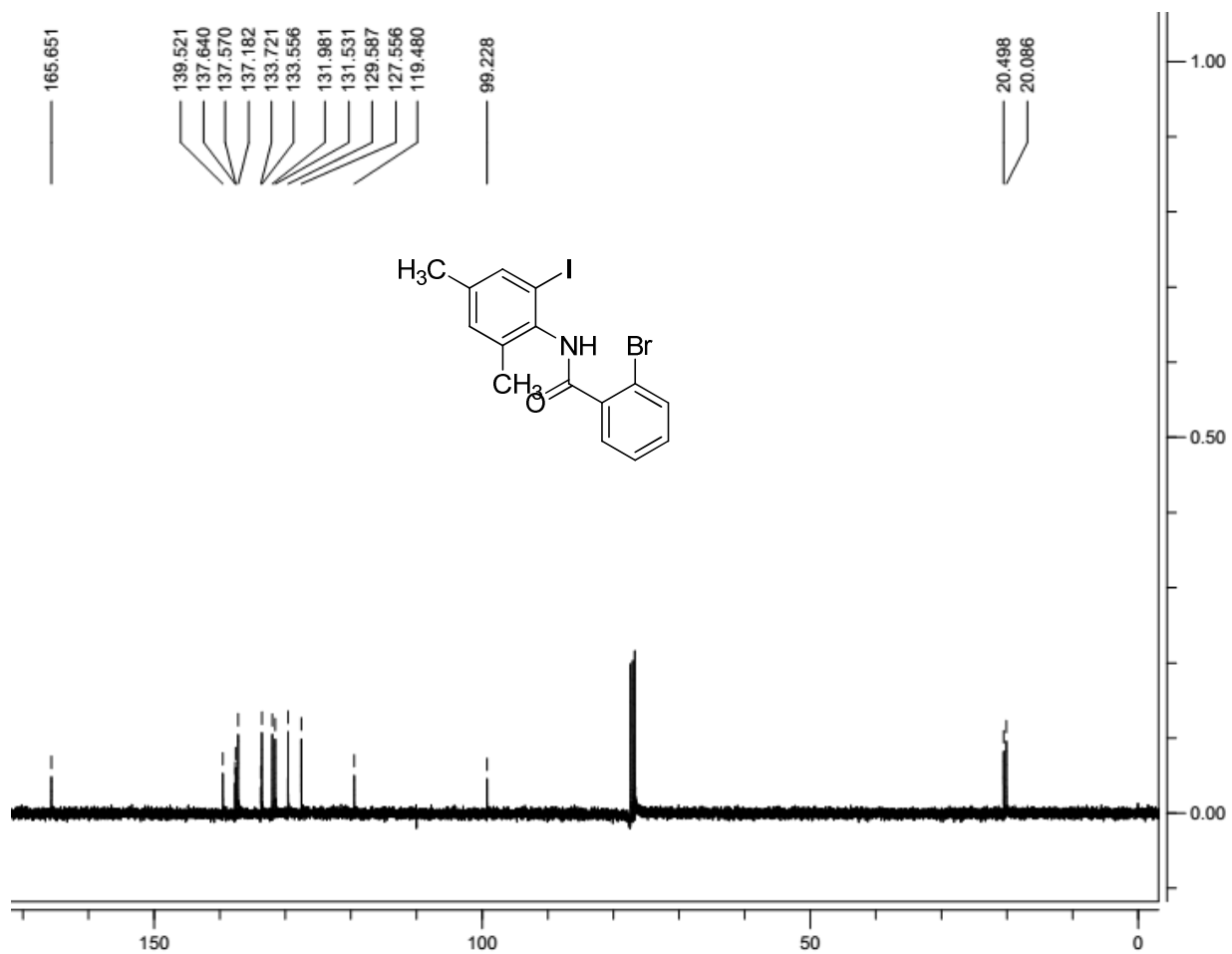


Fig. 8:  $^{13}\text{C}$  NMR spectra of compound **S-1e** ( $\text{CDCl}_3$ , 100 MHz)



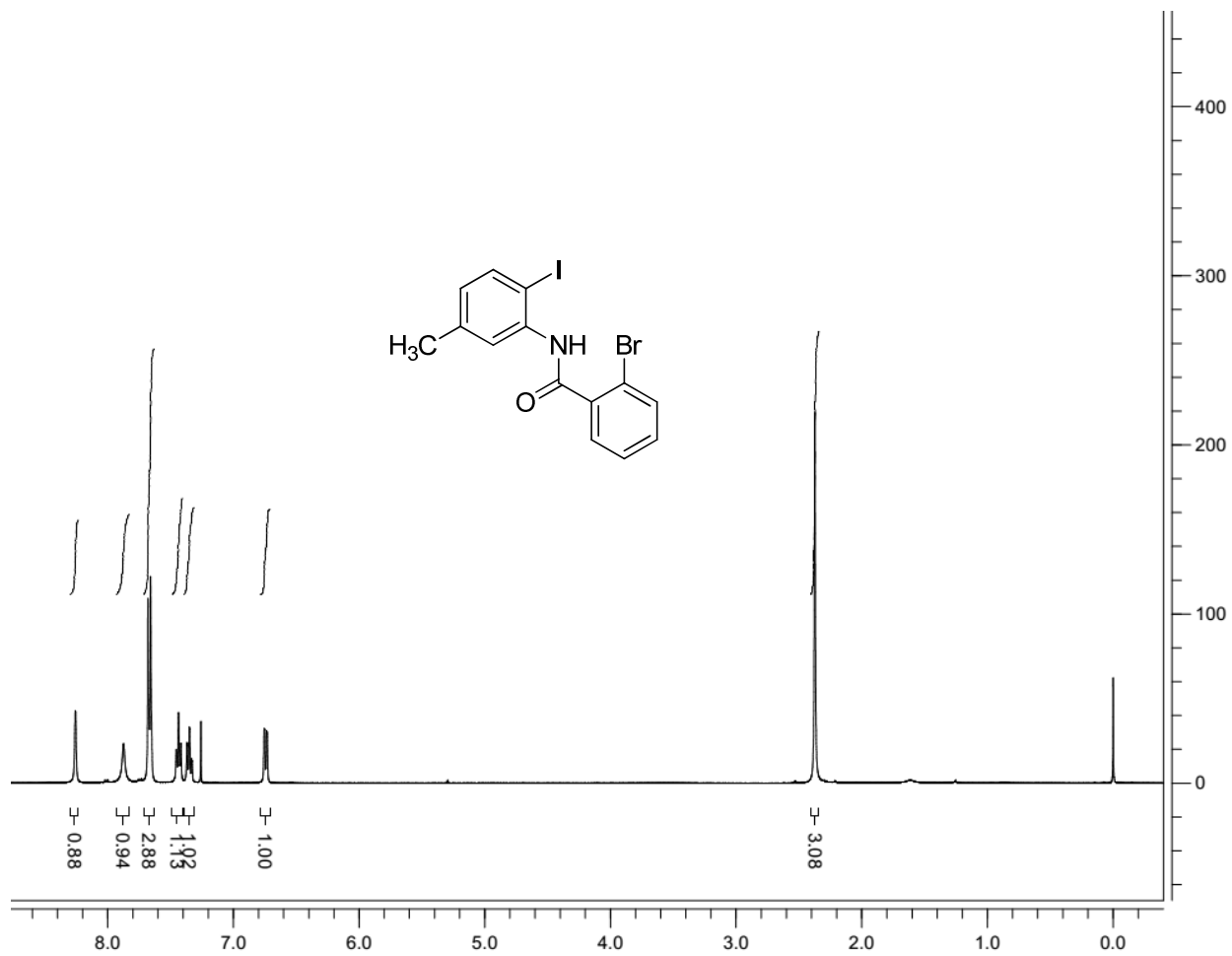


Fig. 9: <sup>1</sup>H NMR spectra of compound **S-1f** (CDCl<sub>3</sub>, 400 MHz)

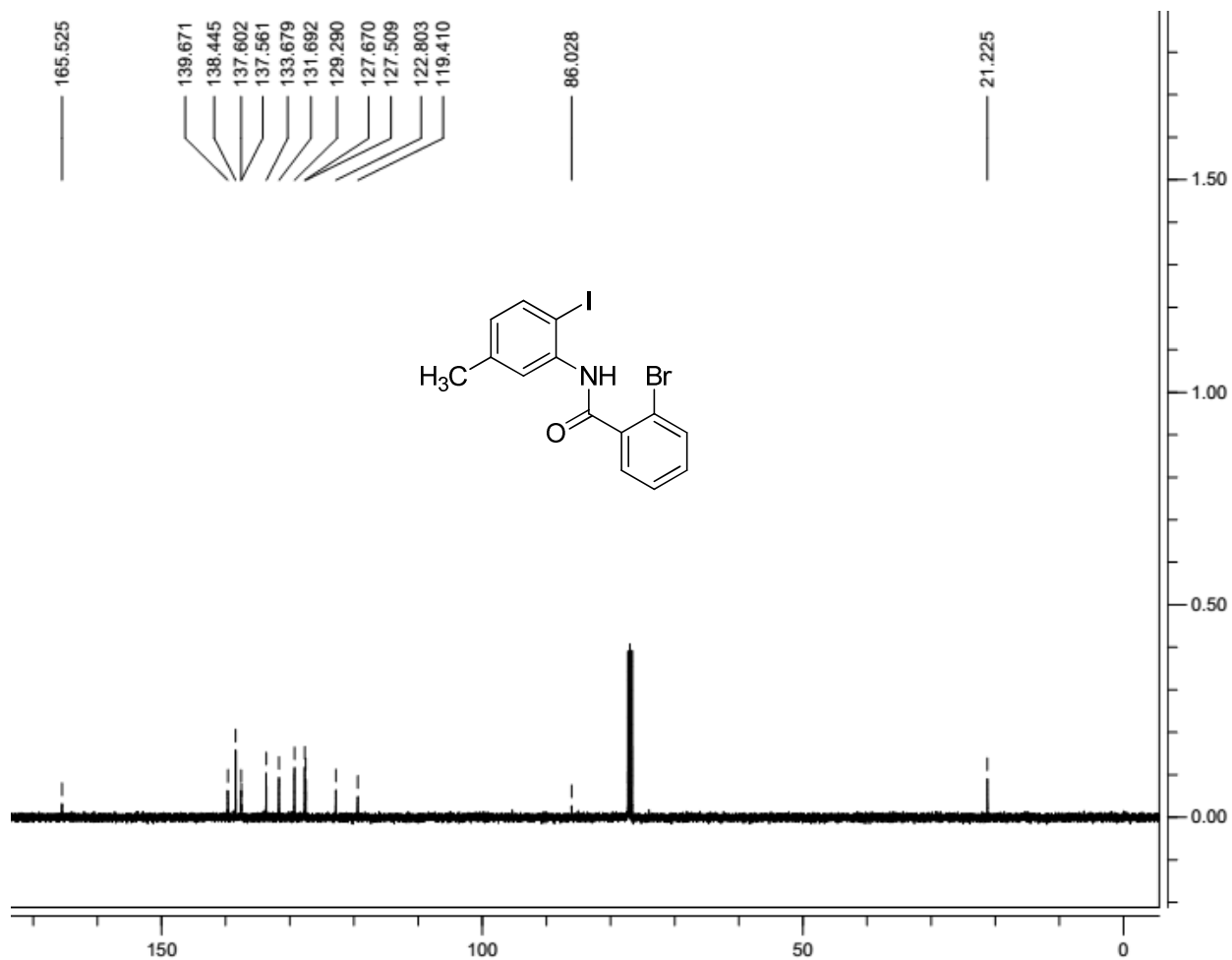


Fig. 10:  $^{13}\text{C}$  NMR spectra of compound **S-1f** ( $\text{CDCl}_3$ , 100 MHz)

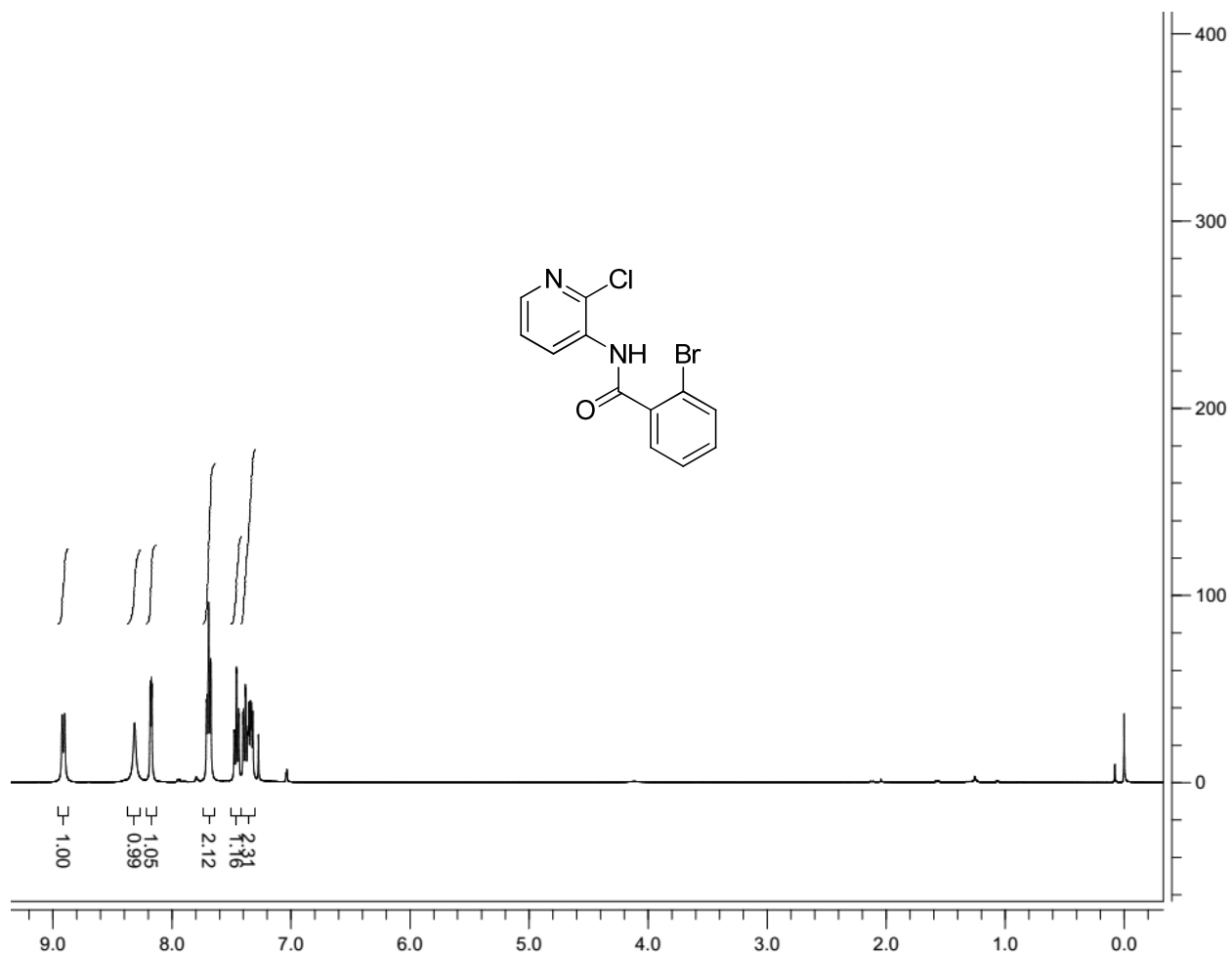


Fig. 11: <sup>1</sup>H NMR spectra of compound **S-1g** (CDCl<sub>3</sub>, 400 MHz)

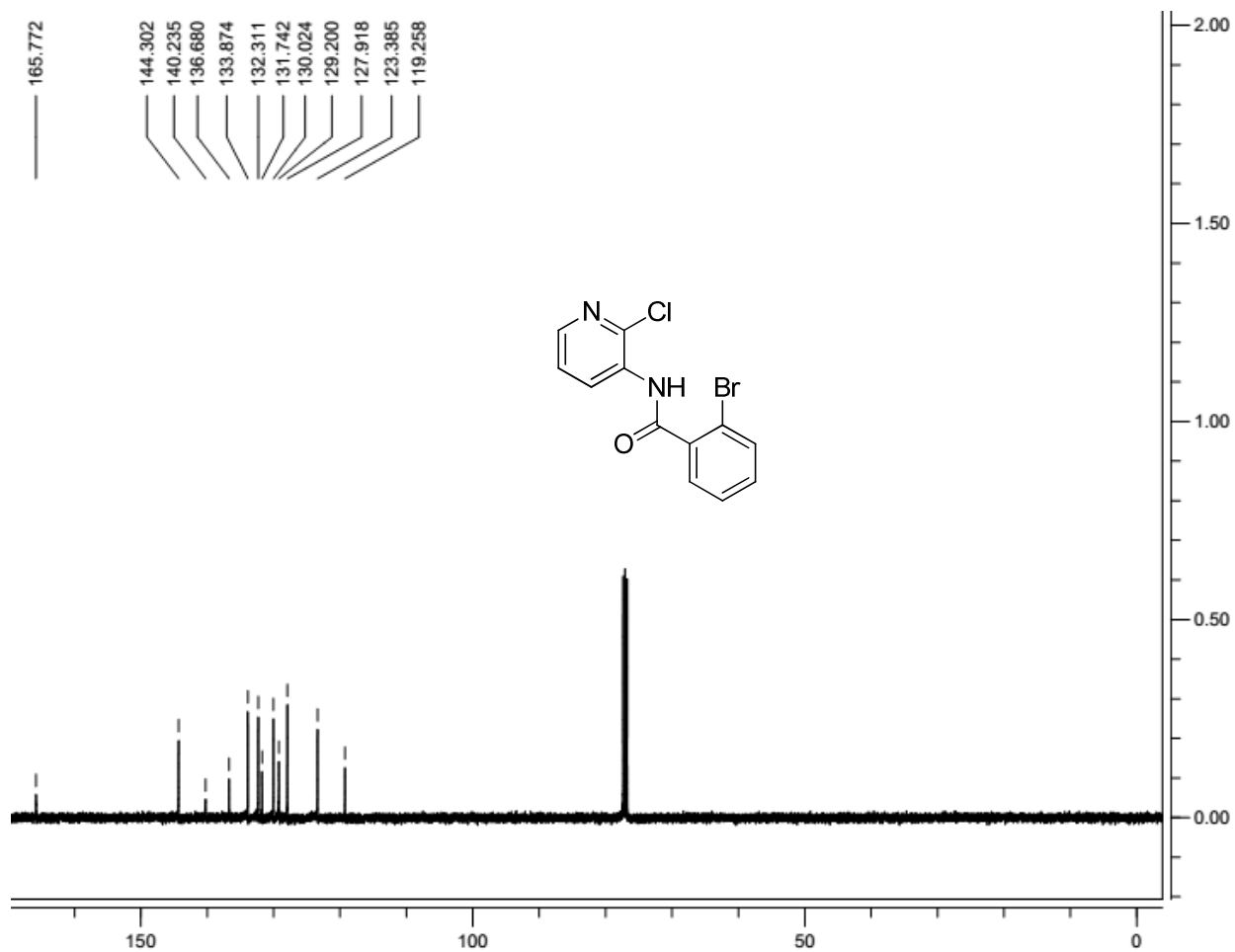


Fig. 12:  $^{13}\text{C}$  NMR spectra of compound **S-1g** ( $\text{CDCl}_3$ , 100 MHz)

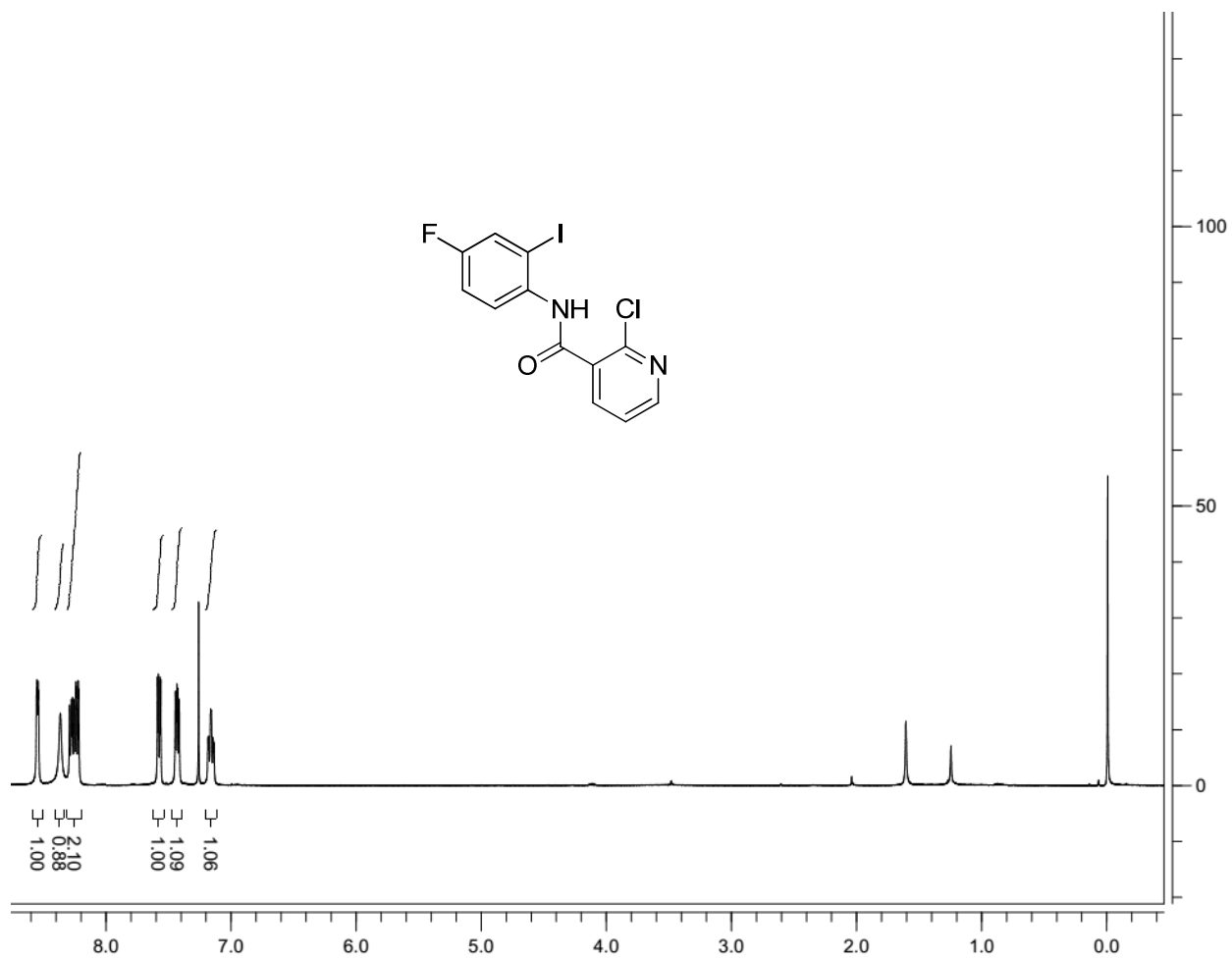


Fig. 13: <sup>1</sup>H NMR spectra of compound **S-1h** (CDCl<sub>3</sub>, 400 MHz)

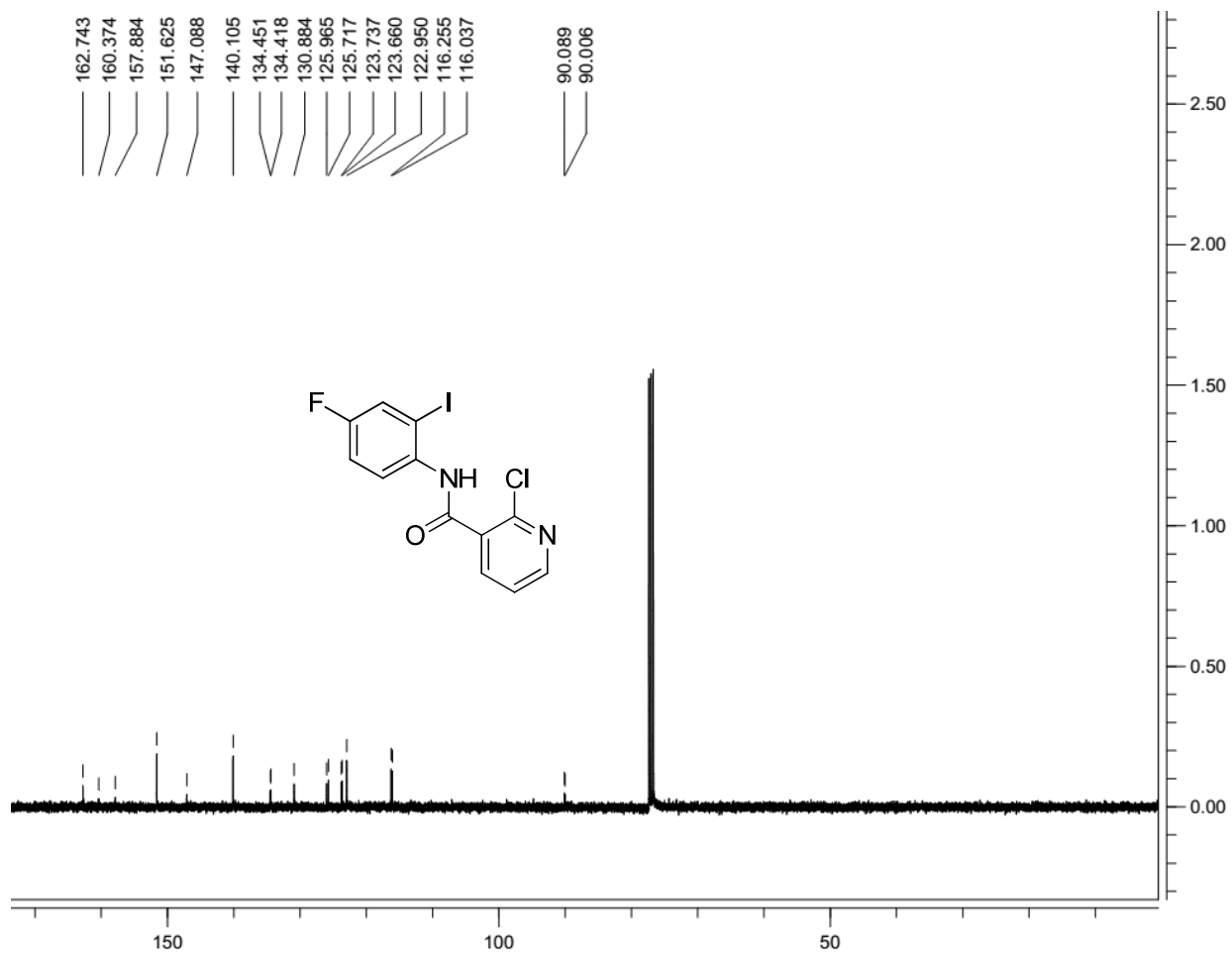


Fig. 14:  $^{13}\text{C}$  NMR spectra of compound **S-1h** ( $\text{CDCl}_3$ , 100 MHz)

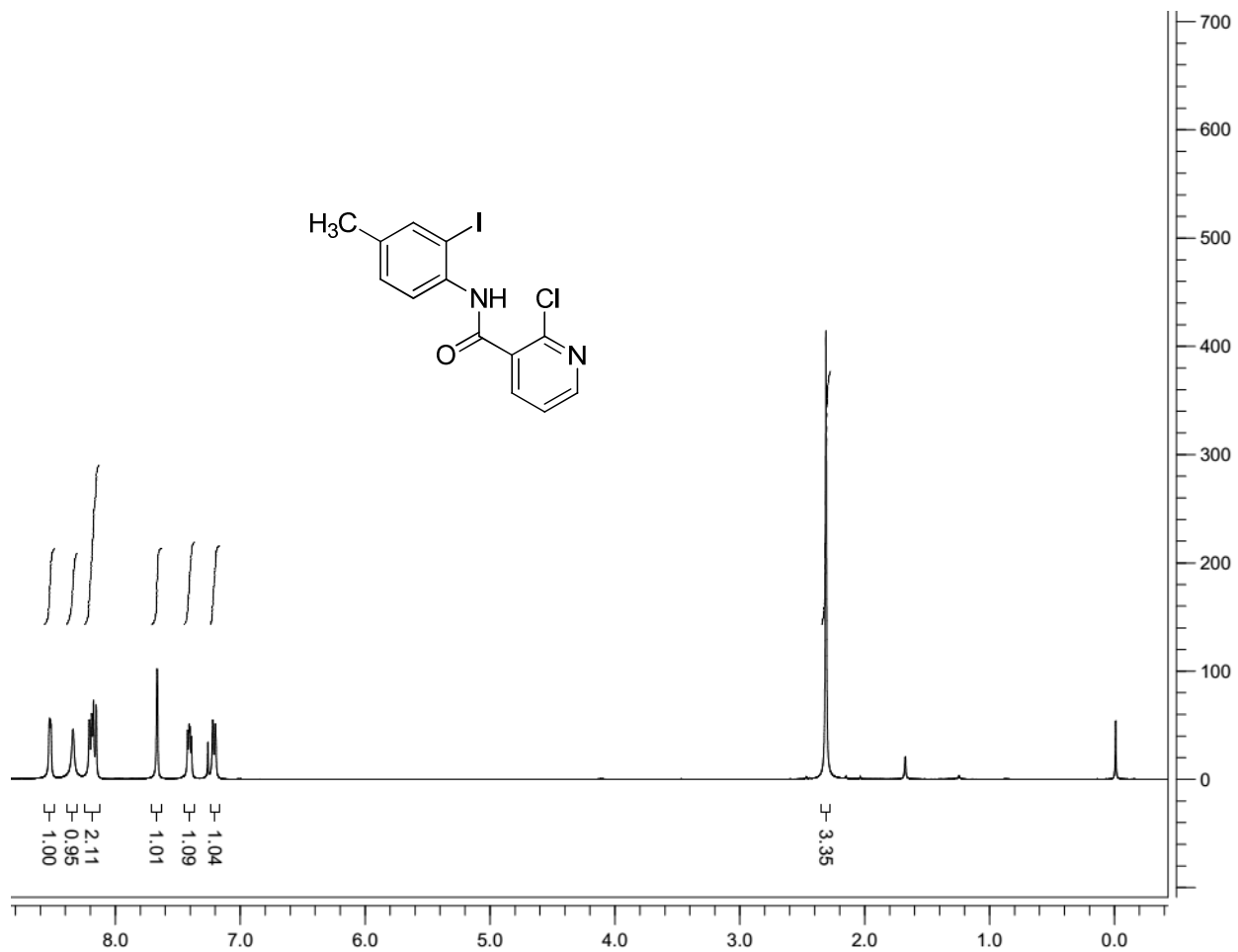


Fig. 15: <sup>1</sup>H NMR spectra of compound **S-1i** (CDCl<sub>3</sub>, 400 MHz)

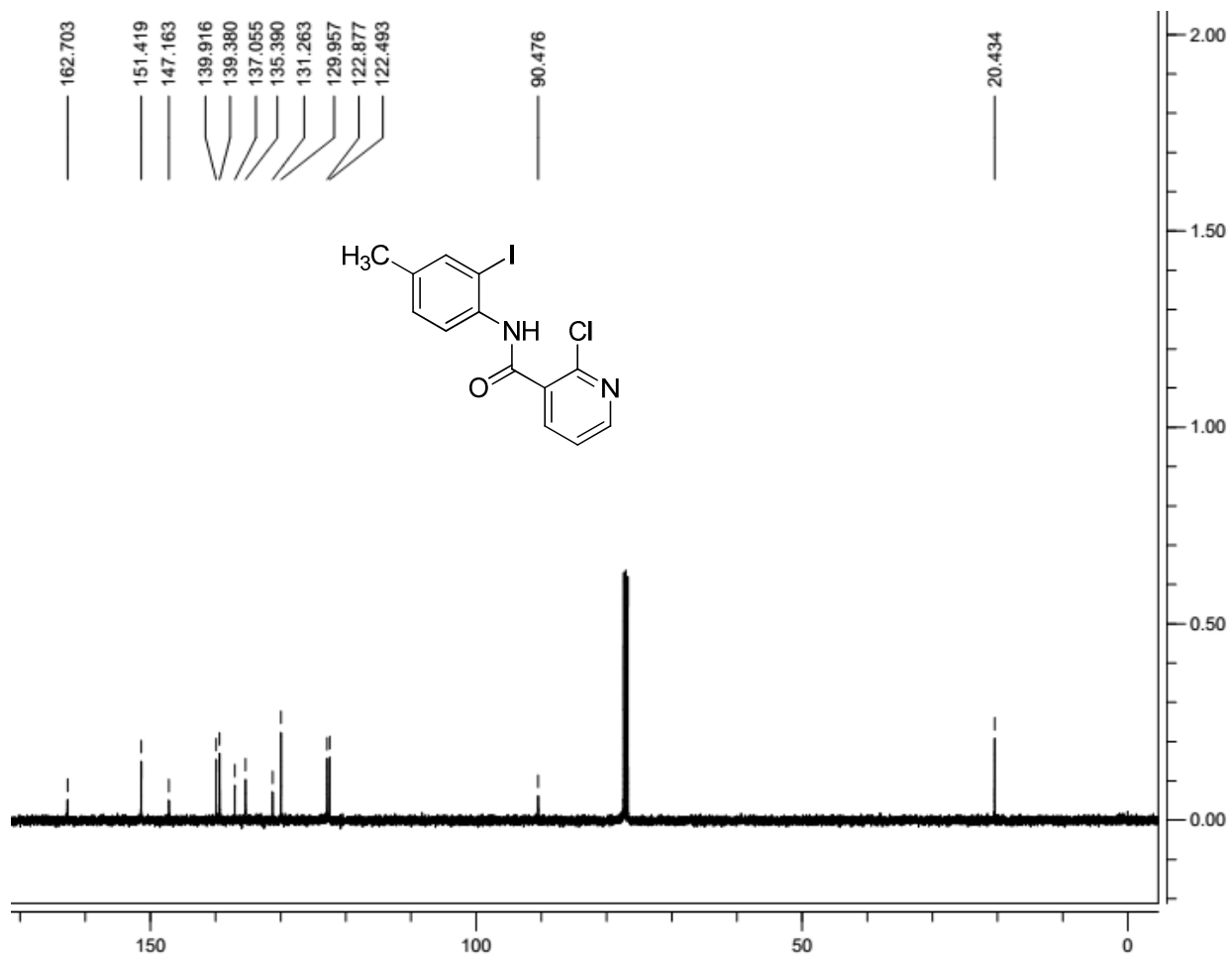


Fig. 16:  $^{13}\text{C}$  NMR spectra of compound **S-1i** ( $\text{CDCl}_3$ , 100 MHz)



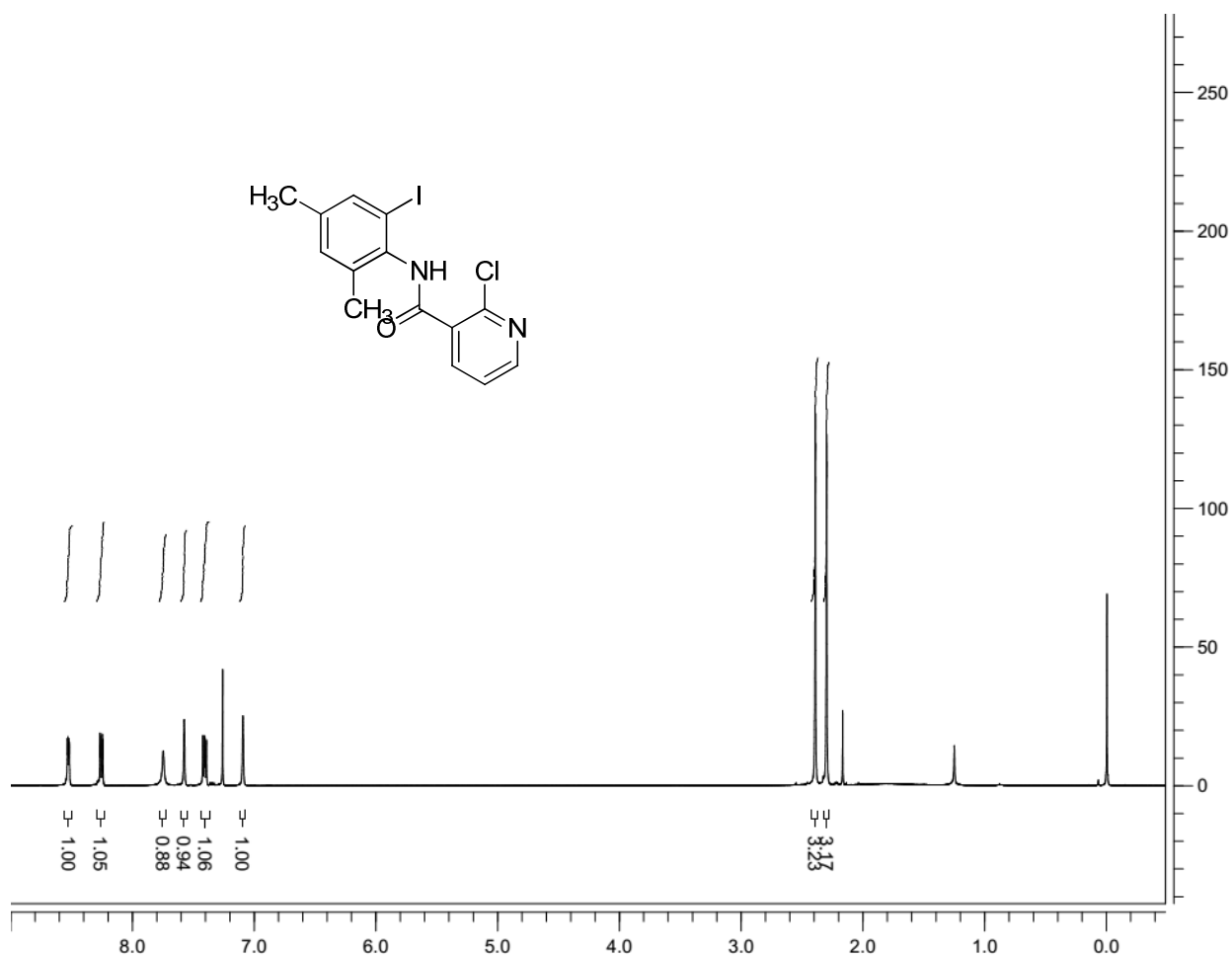


Fig. 17: <sup>1</sup>H NMR spectra of compound **S-1j** (CDCl<sub>3</sub>, 400 MHz)

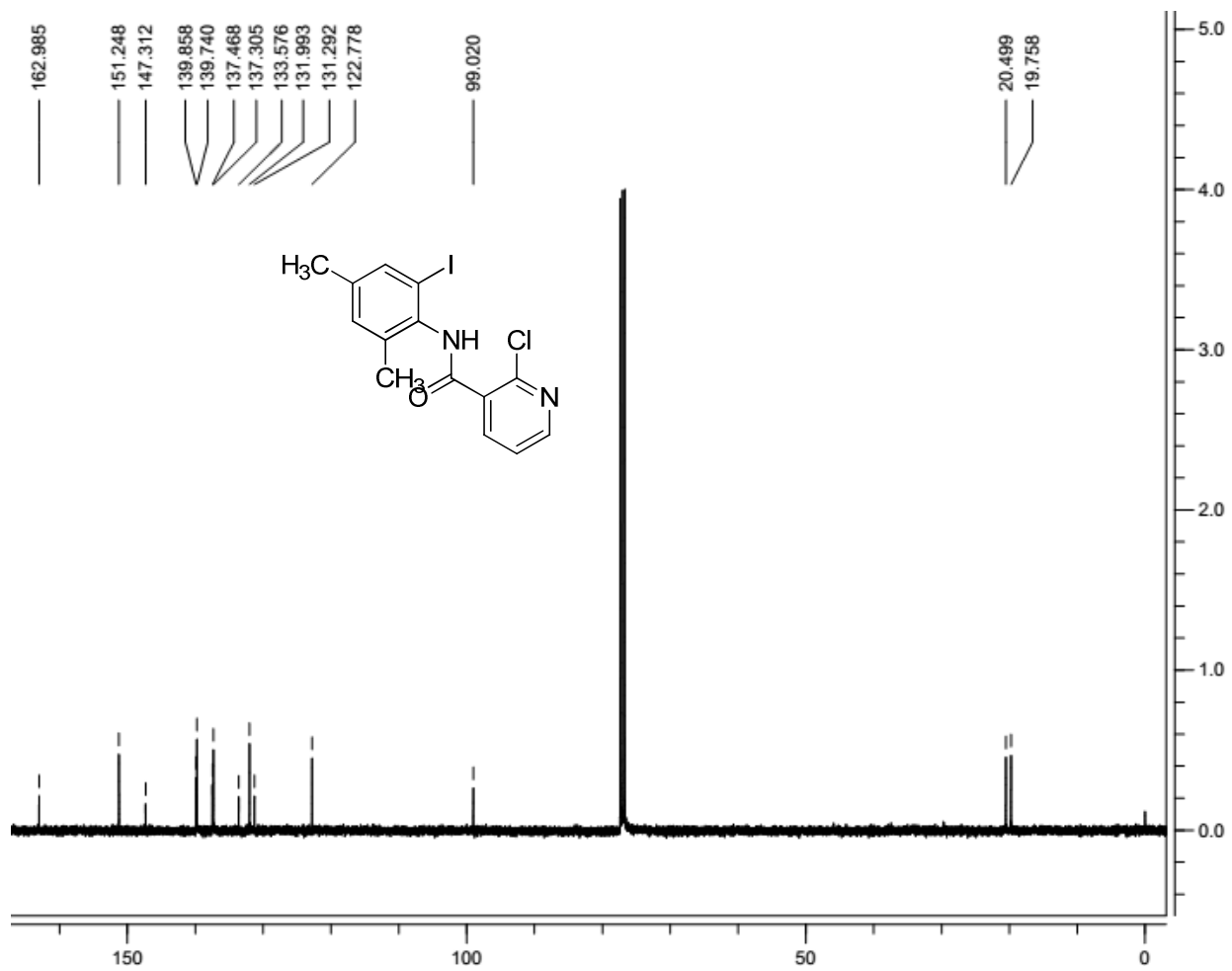


Fig. 18:  $^{13}\text{C}$  NMR spectra of compound **S-1j** ( $\text{CDCl}_3$ , 100 MHz)

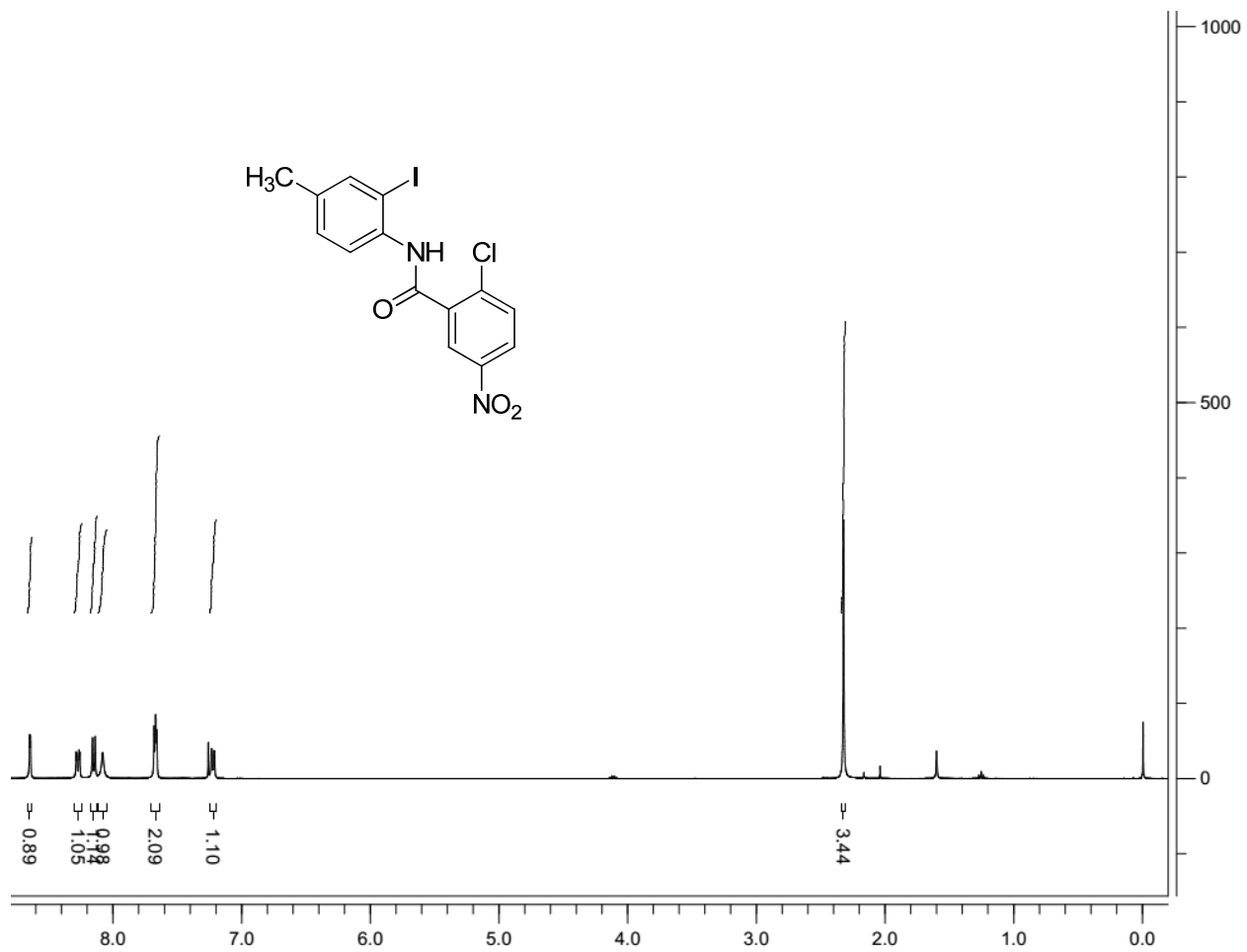


Fig. 19: <sup>1</sup>H NMR spectra of compound **S-1k** (CDCl<sub>3</sub>, 400 MHz)

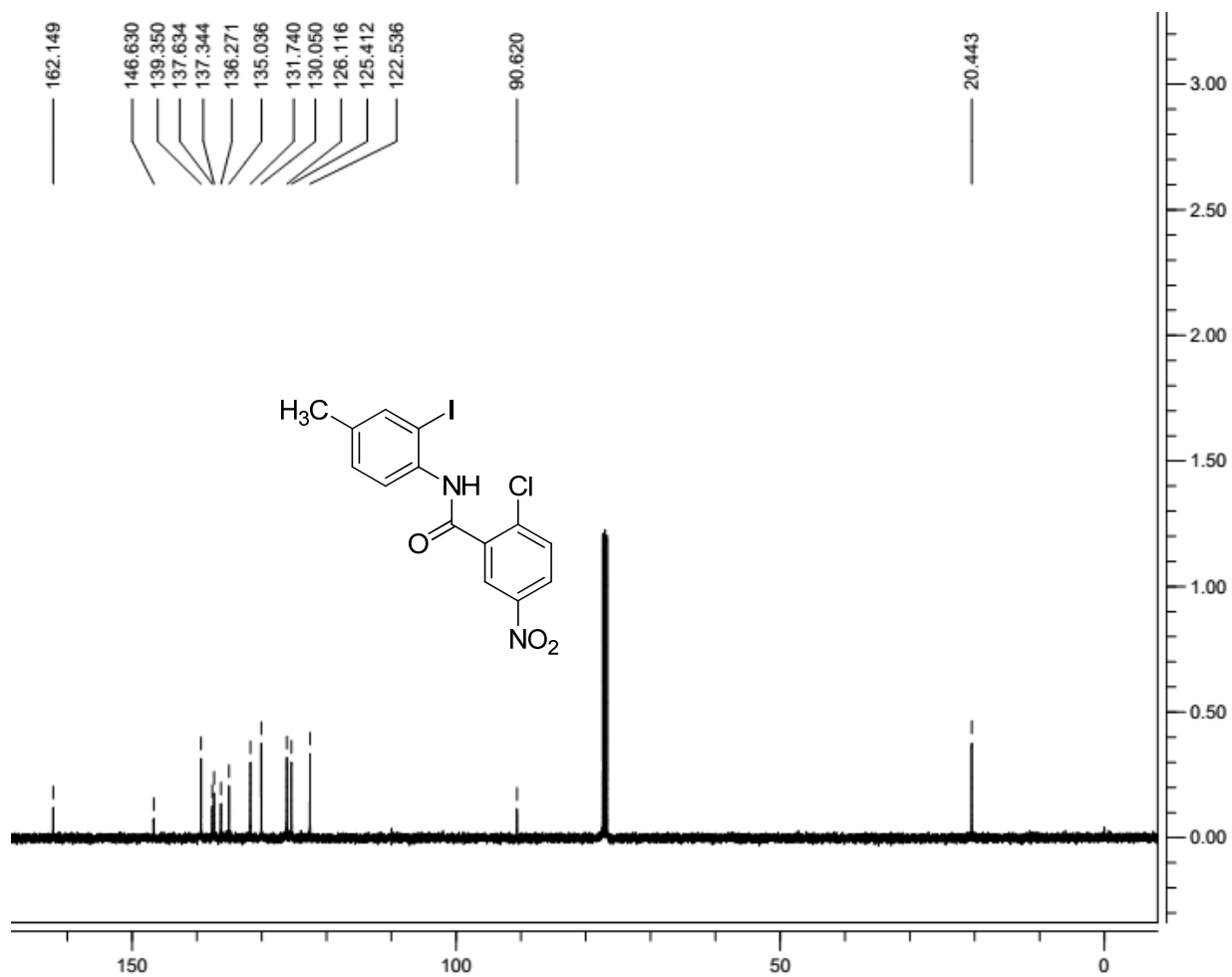


Fig. 20:  $^{13}\text{C}$  NMR spectra of compound S-1k ( $\text{CDCl}_3$ , 100 MHz)

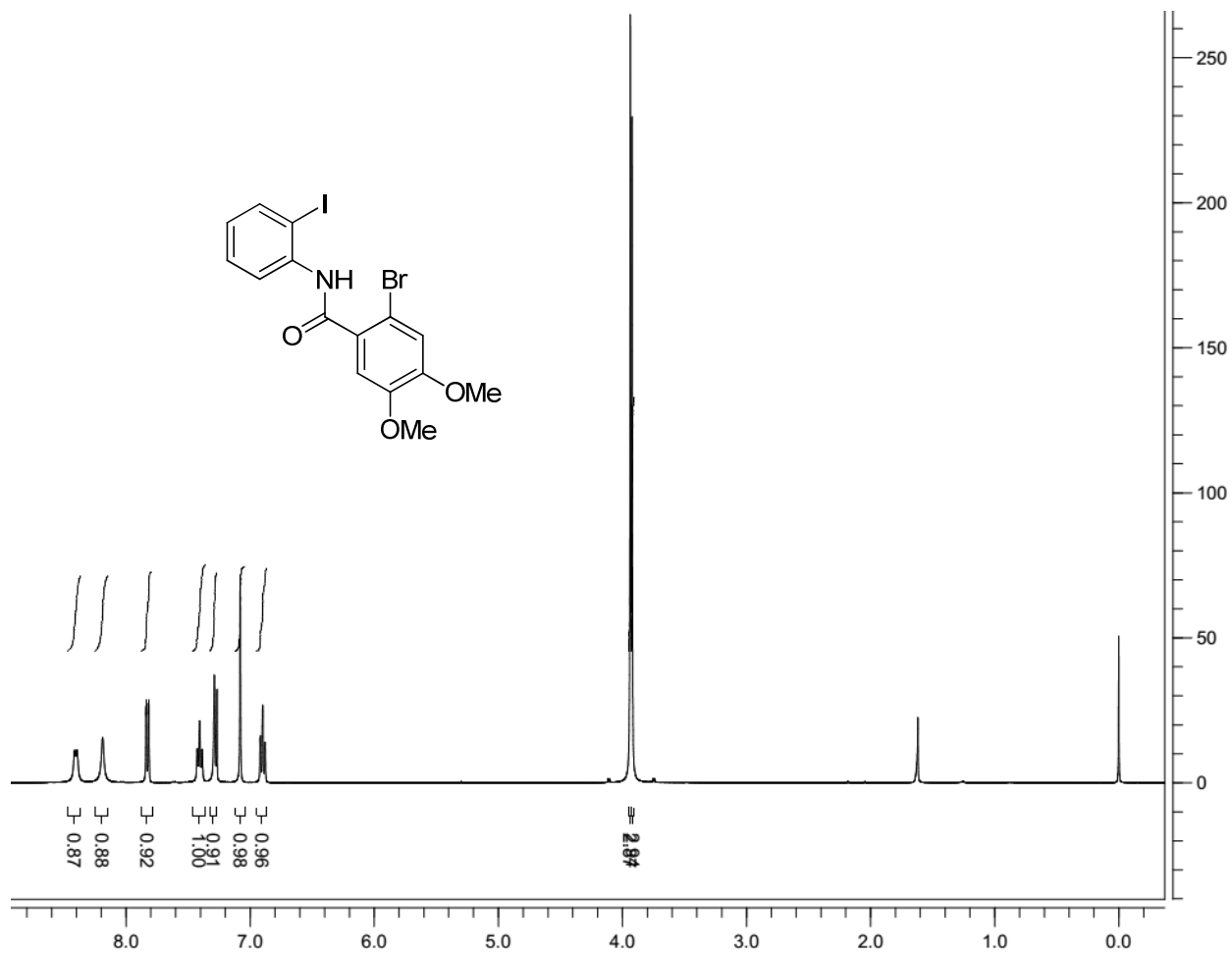


Fig. 21:  $^1\text{H}$  NMR spectra of compound **S-11** (CDCl<sub>3</sub>, 400 MHz)

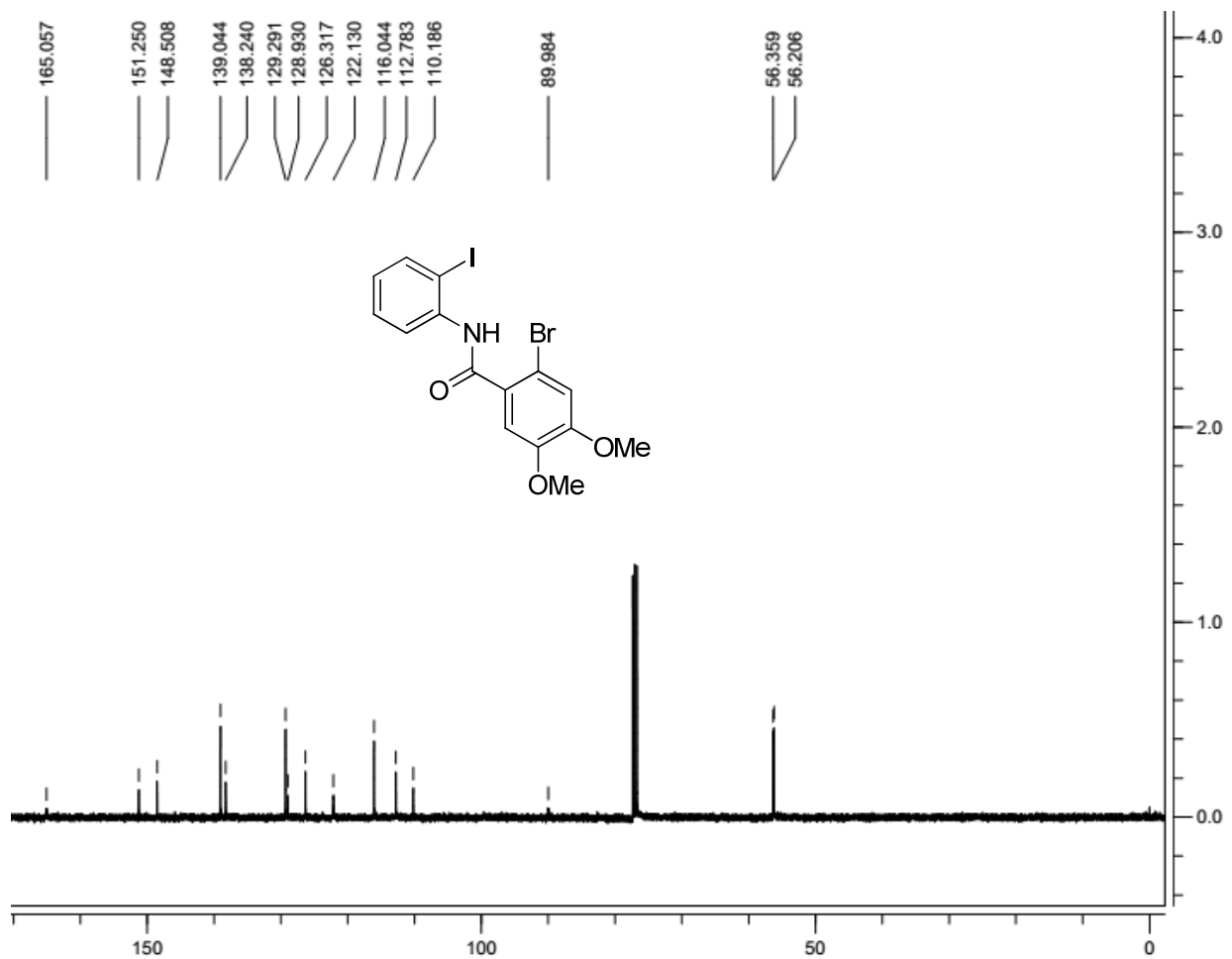


Fig. 22:  $^{13}\text{C}$  NMR spectra of compound **S-11** ( $\text{CDCl}_3$ , 100 MHz)

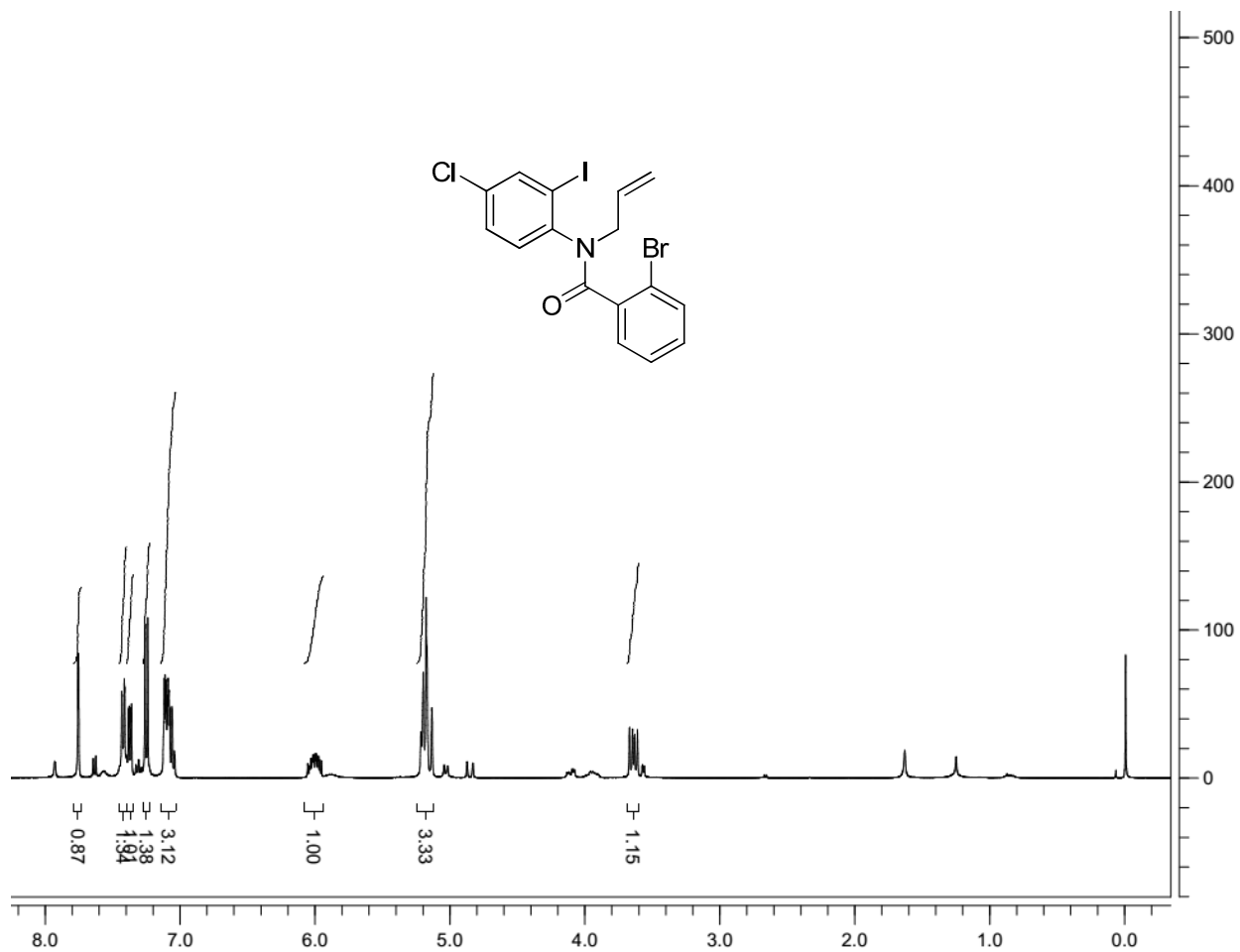


Fig. 23: <sup>1</sup>H NMR spectra of compound **1a** (CDCl<sub>3</sub>, 400 MHz)

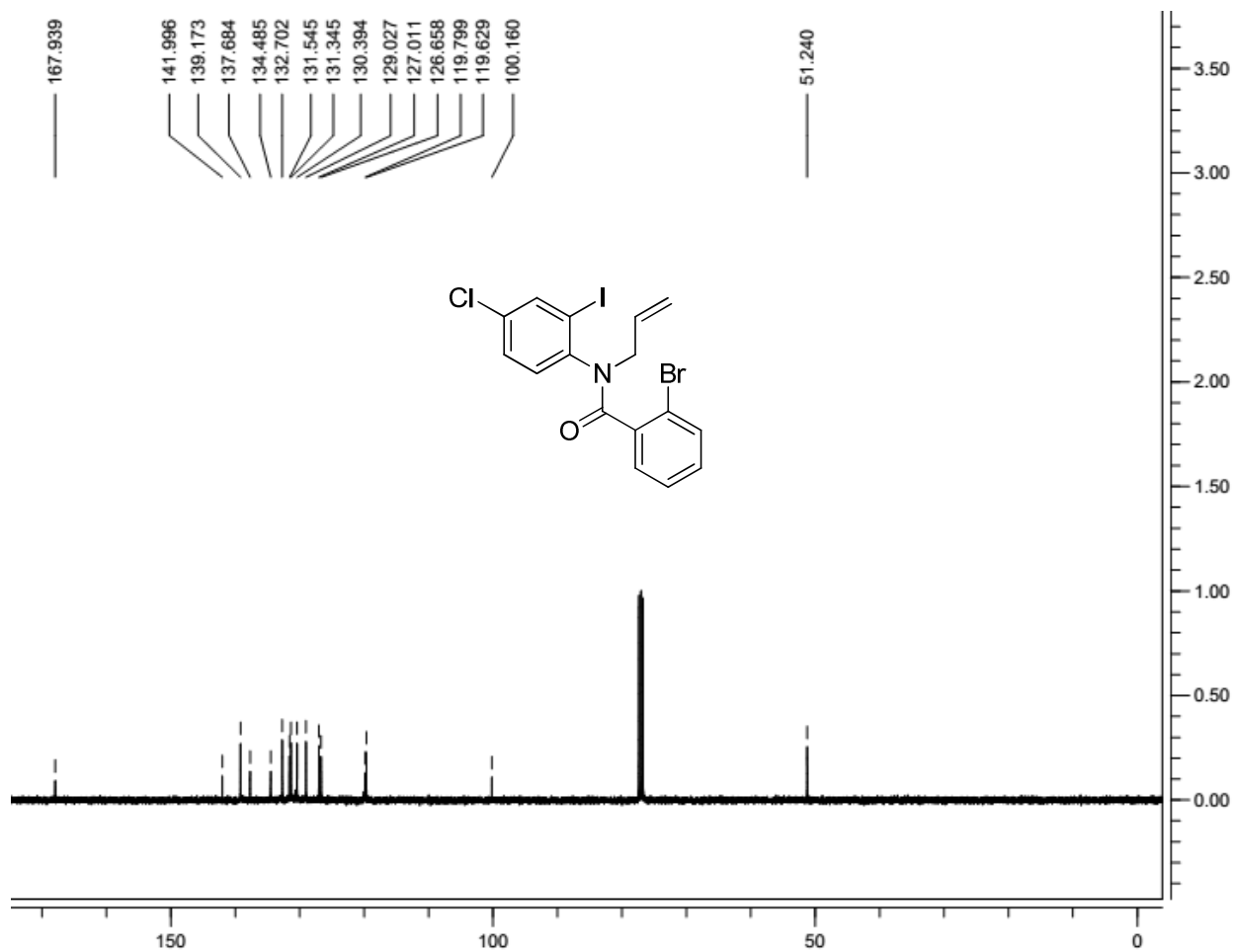


Fig. 24:  $^{13}\text{C}$  NMR spectra of compound **1a** ( $\text{CDCl}_3$ , 100 MHz)



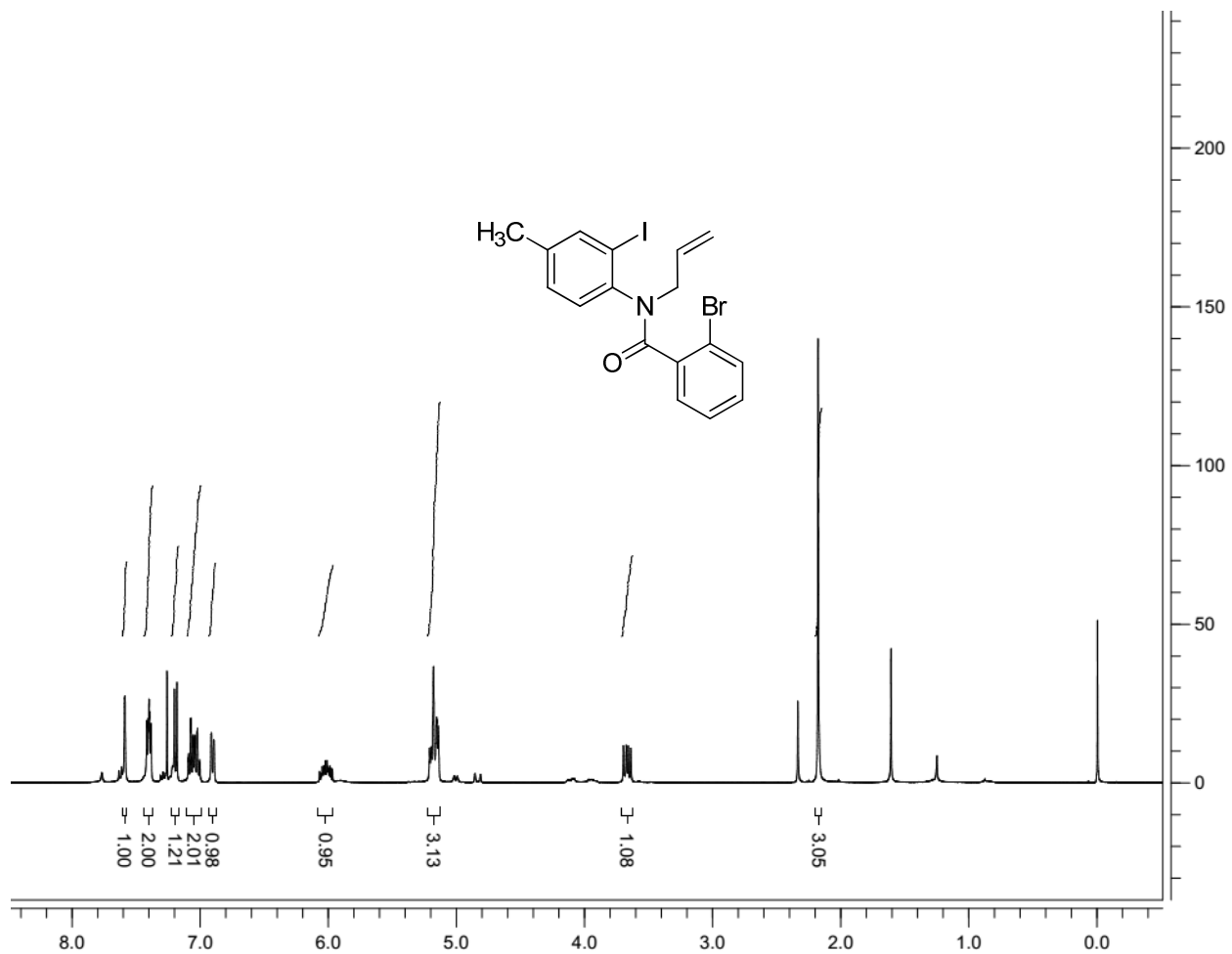


Fig. 25: <sup>1</sup>H NMR spectra of compound **1b** (CDCl<sub>3</sub>, 400 MHz)

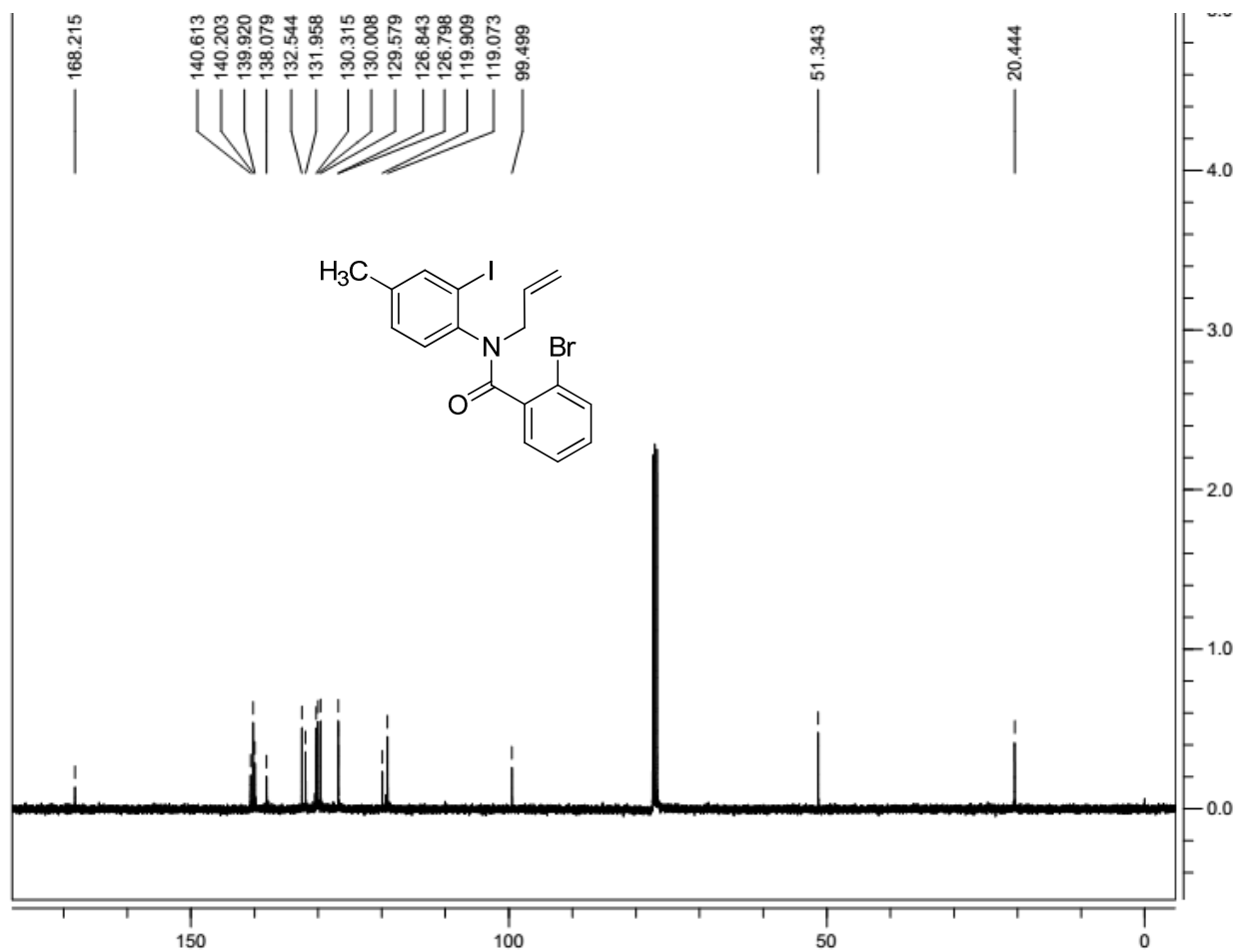


Fig. 26:  $^{13}\text{C}$  NMR spectra of compound **1b** ( $\text{CDCl}_3$ , 100 MHz)

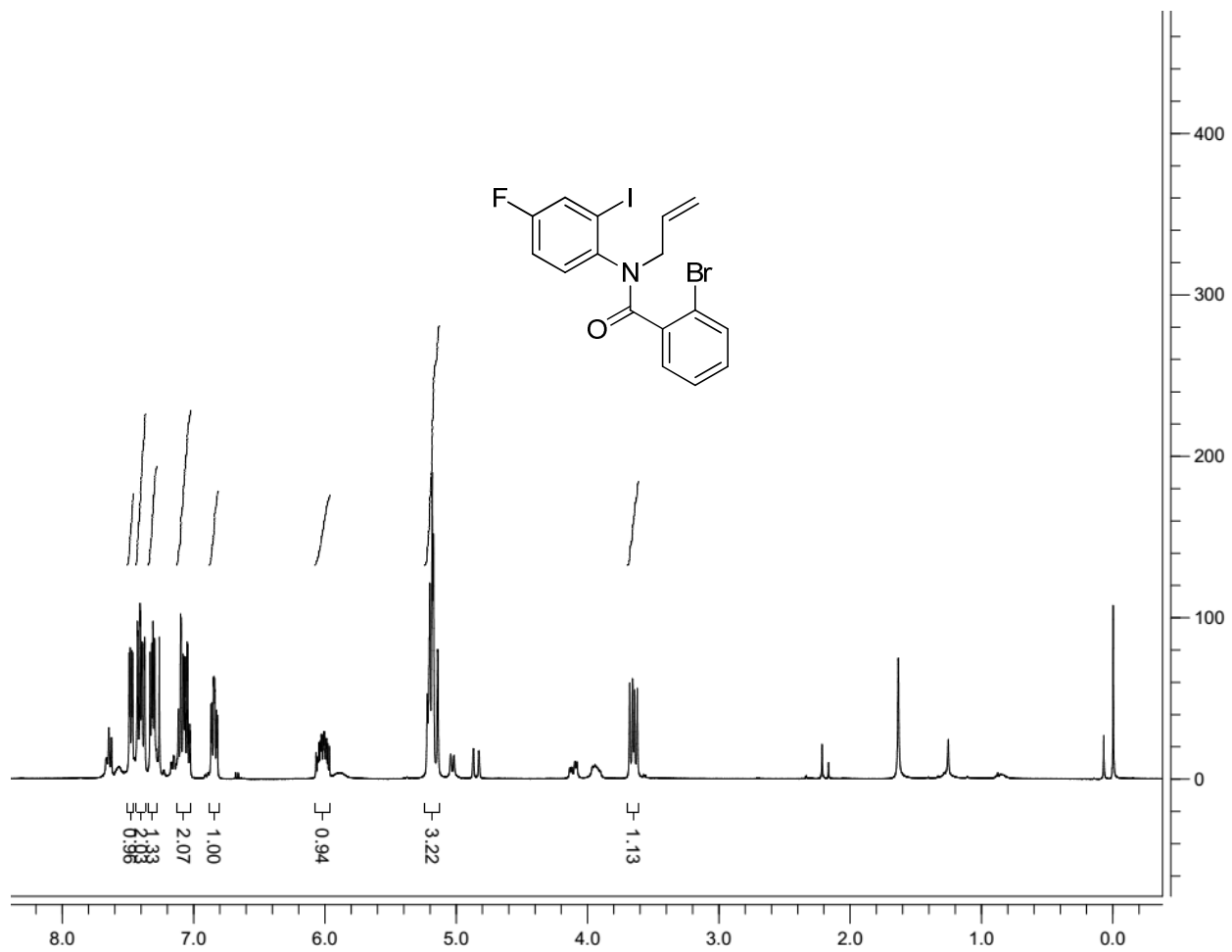


Fig. 27:  $^1\text{H}$  NMR spectra of compound **1c** ( $\text{CDCl}_3$ , 400 MHz)

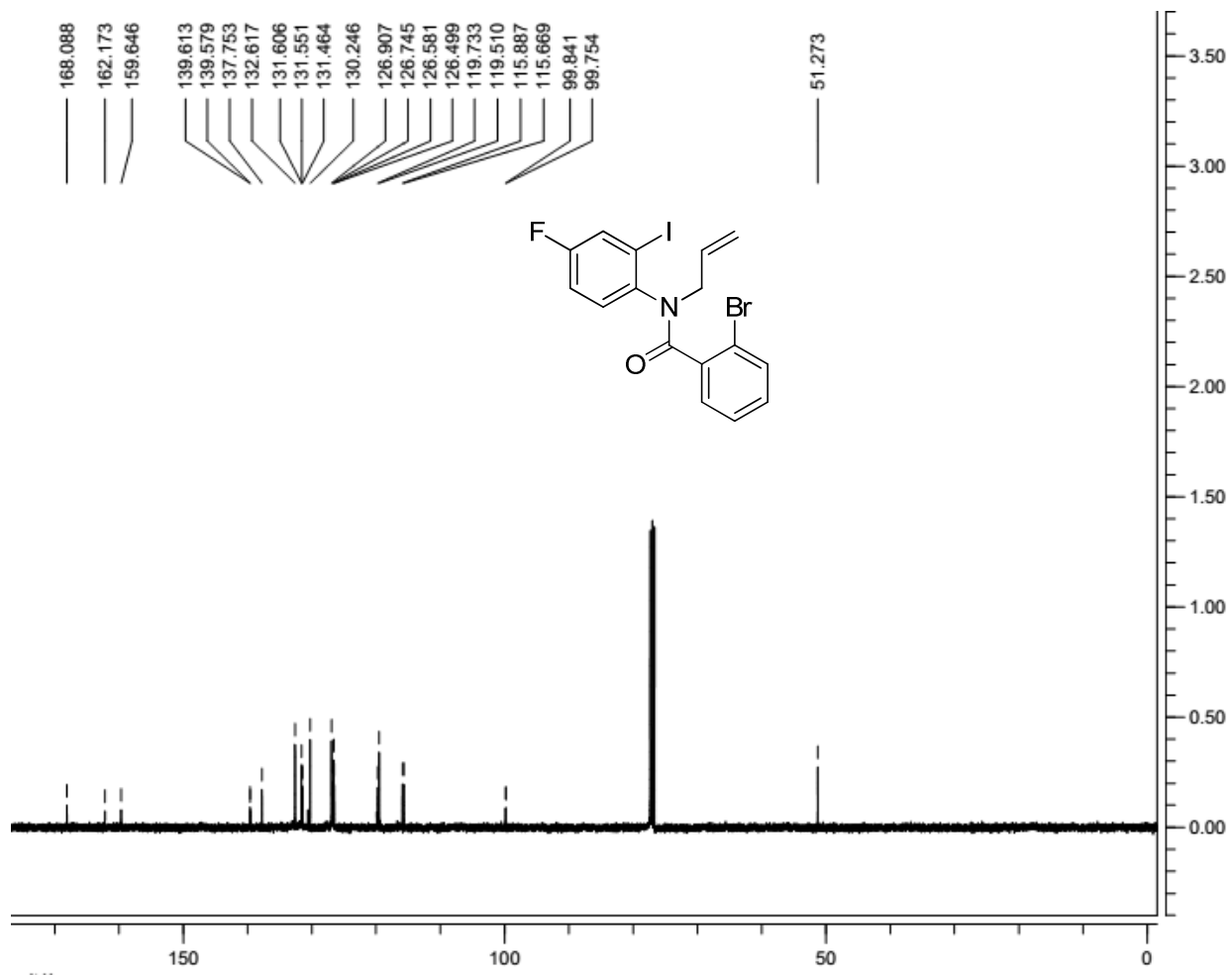


Fig. 28:  $^{13}\text{C}$  NMR spectra of compound **1c** ( $\text{CDCl}_3$ , 100 MHz)

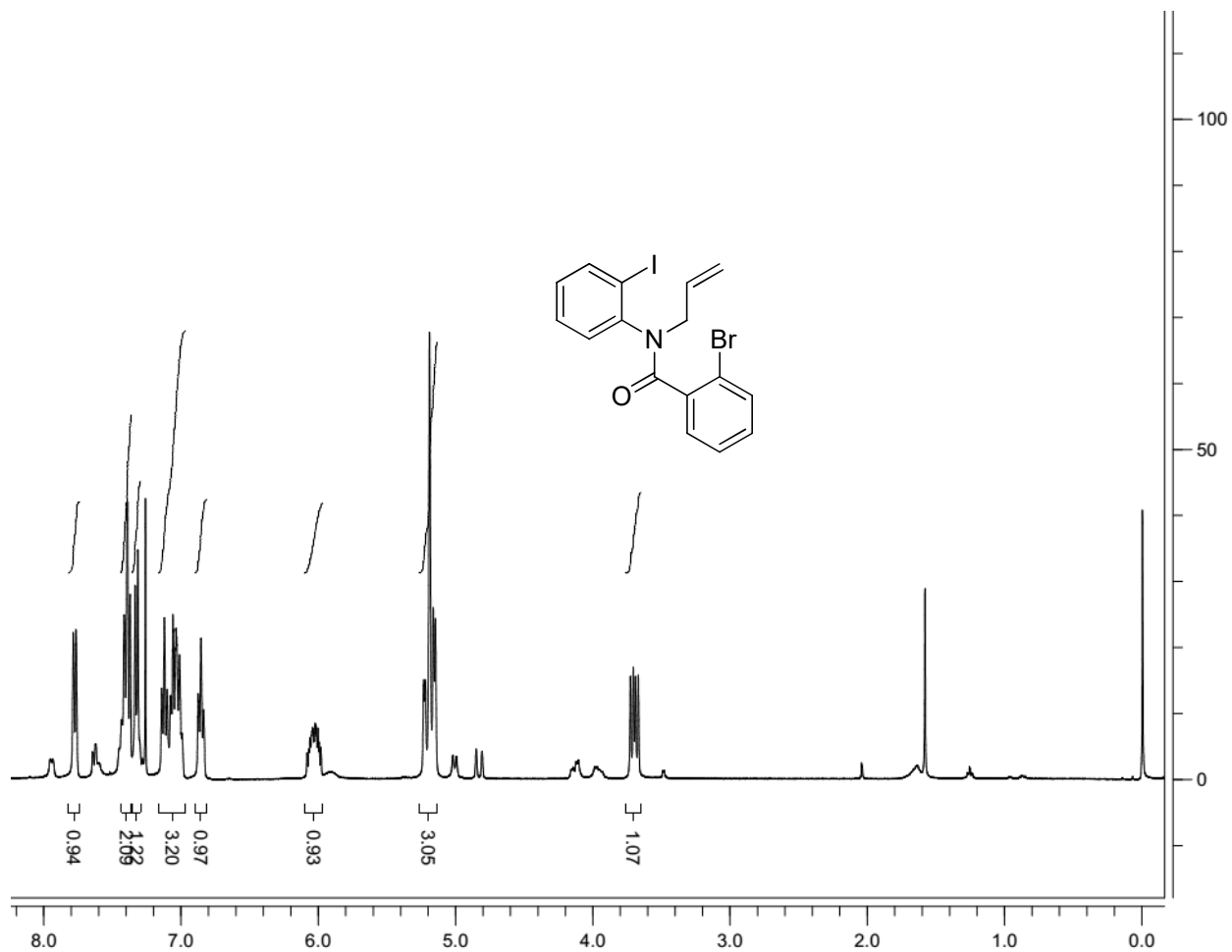


Fig. 29:  $^1\text{H}$  NMR spectra of compound **1d** ( $\text{CDCl}_3$ , 400 MHz)

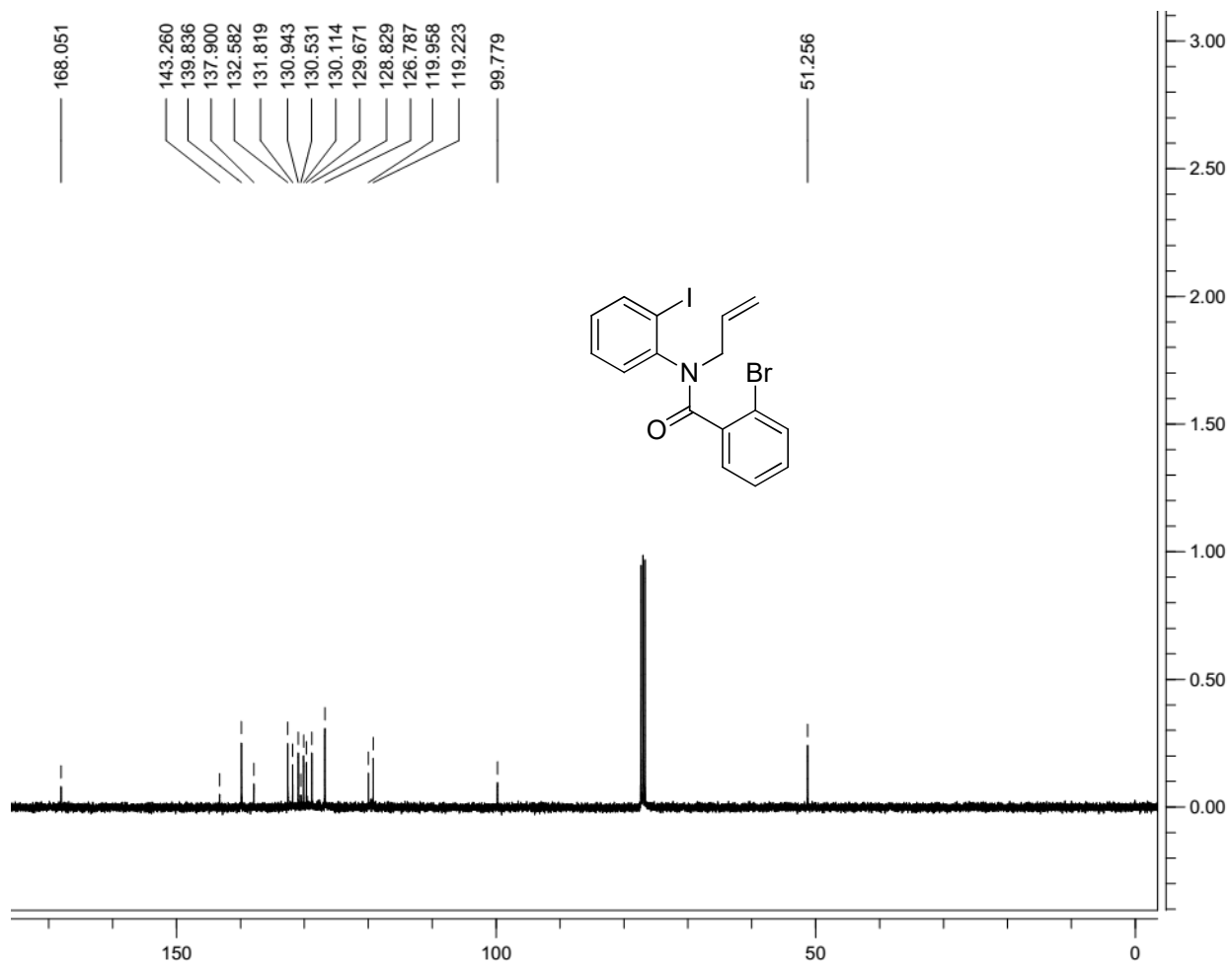


Fig. 30:  $^{13}\text{C}$  NMR spectra of compound **1d** ( $\text{CDCl}_3$ , 100 MHz)

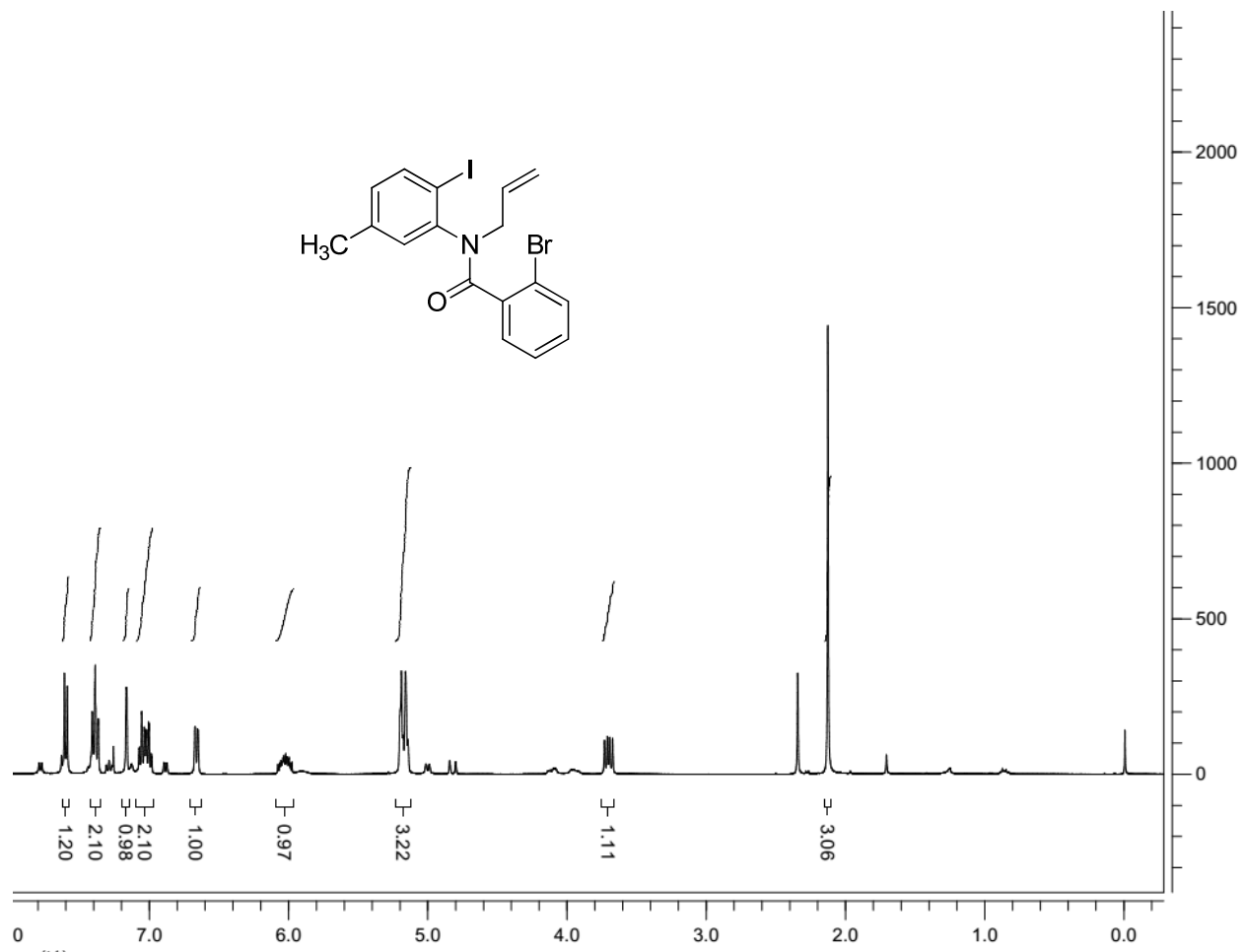


Fig. 31:  $^1\text{H}$  NMR spectra of compound **1f** ( $\text{CDCl}_3$ , 400 MHz)

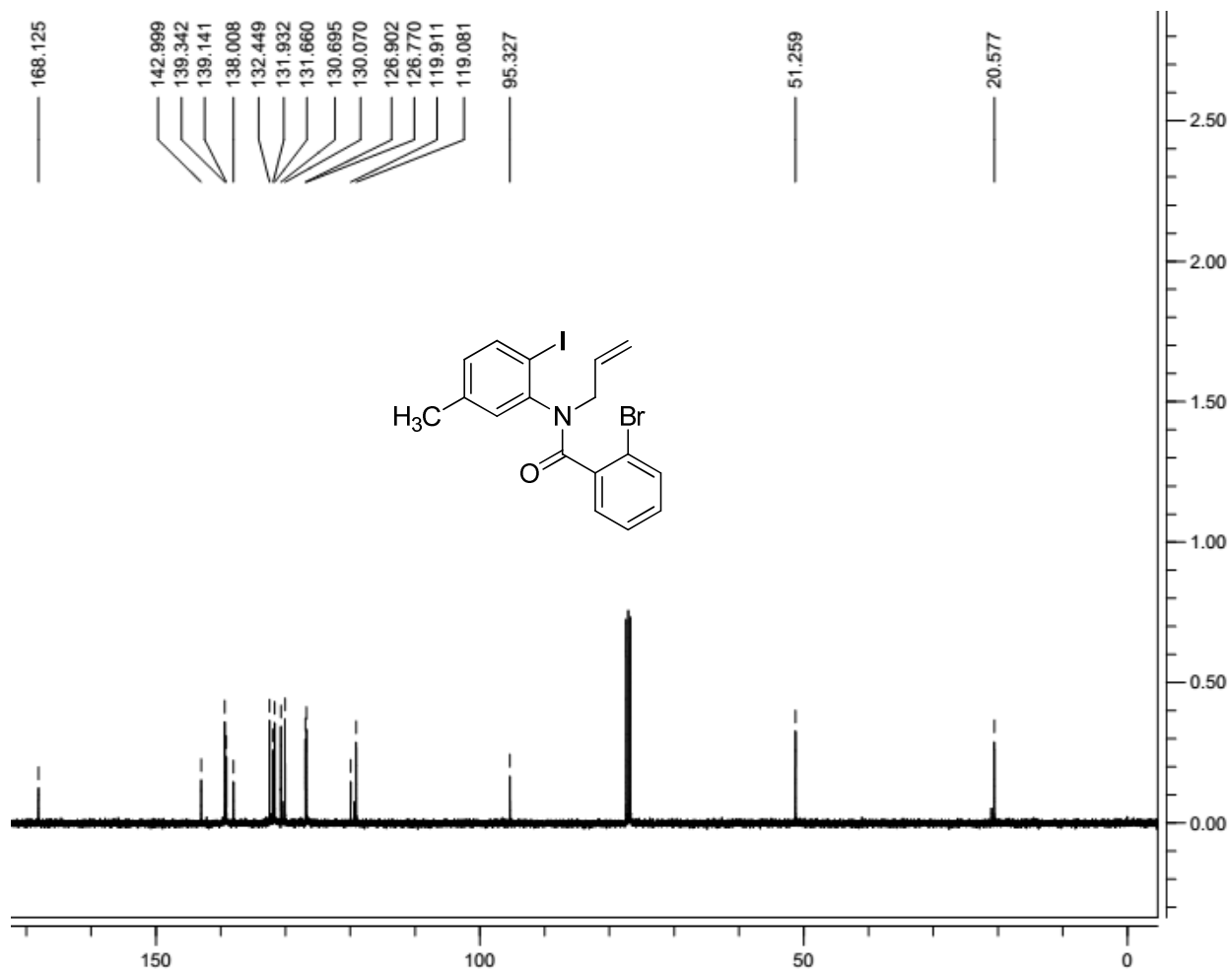


Fig. 32: <sup>13</sup>C NMR spectra of compound **1f** (CDCl<sub>3</sub>, 100 MHz)



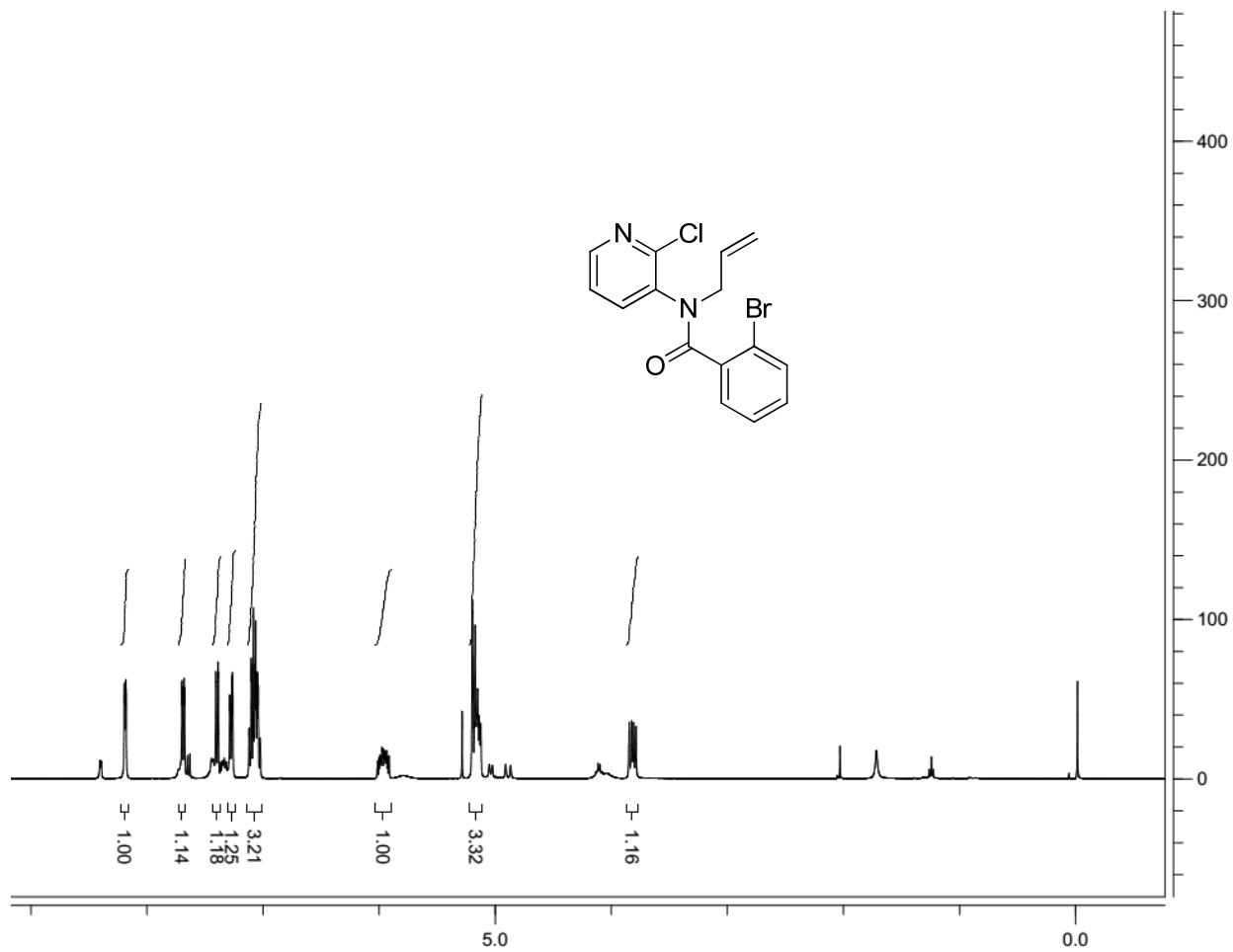


Fig. 33: <sup>1</sup>H NMR spectra of compound **1g** (CDCl<sub>3</sub>, 400 MHz)

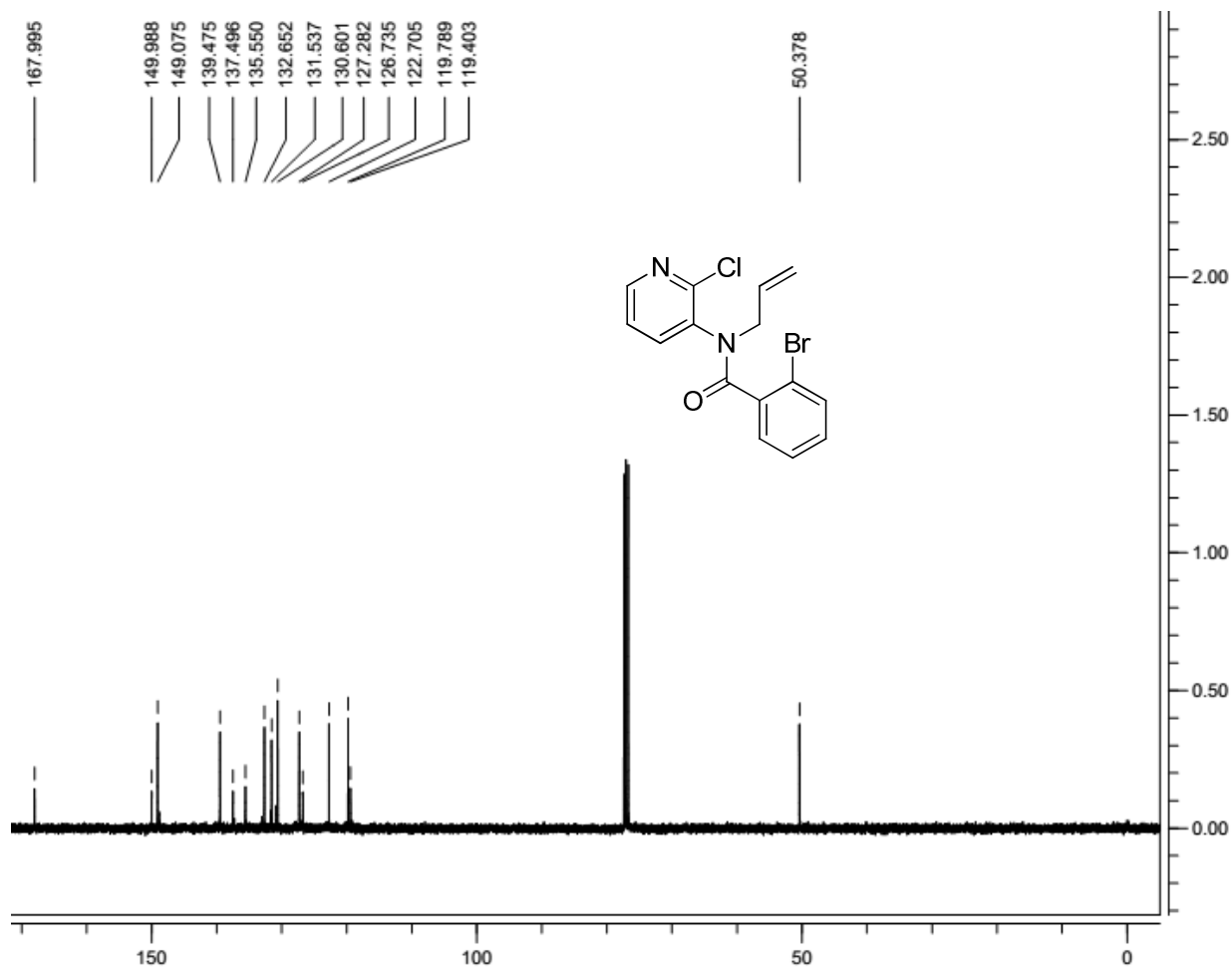


Fig. 34:  $^{13}\text{C}$  NMR spectra of compound **1g** ( $\text{CDCl}_3$ , 100 MHz)

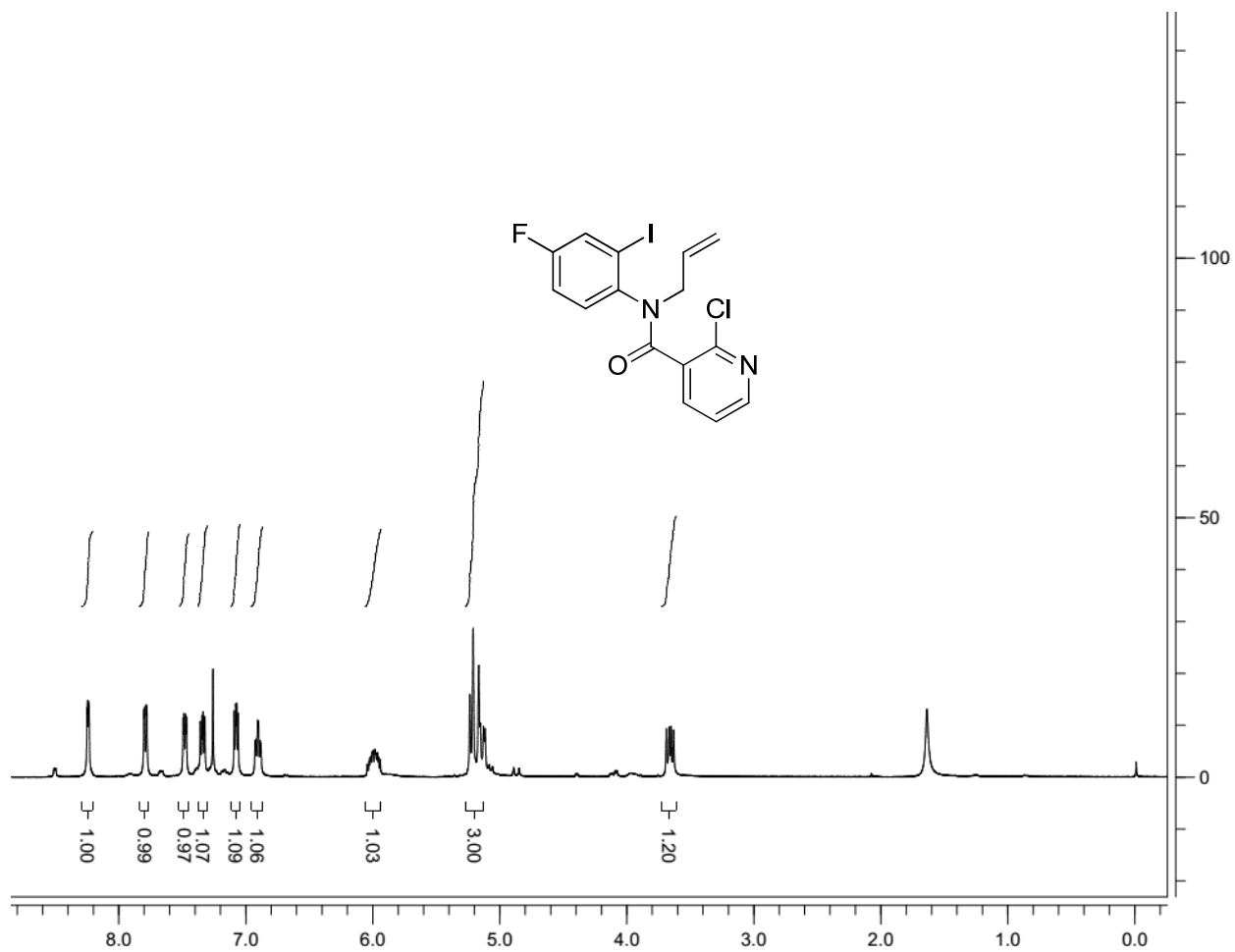


Fig. 35: <sup>1</sup>H NMR spectra of compound **1h** (CDCl<sub>3</sub>, 400 MHz)

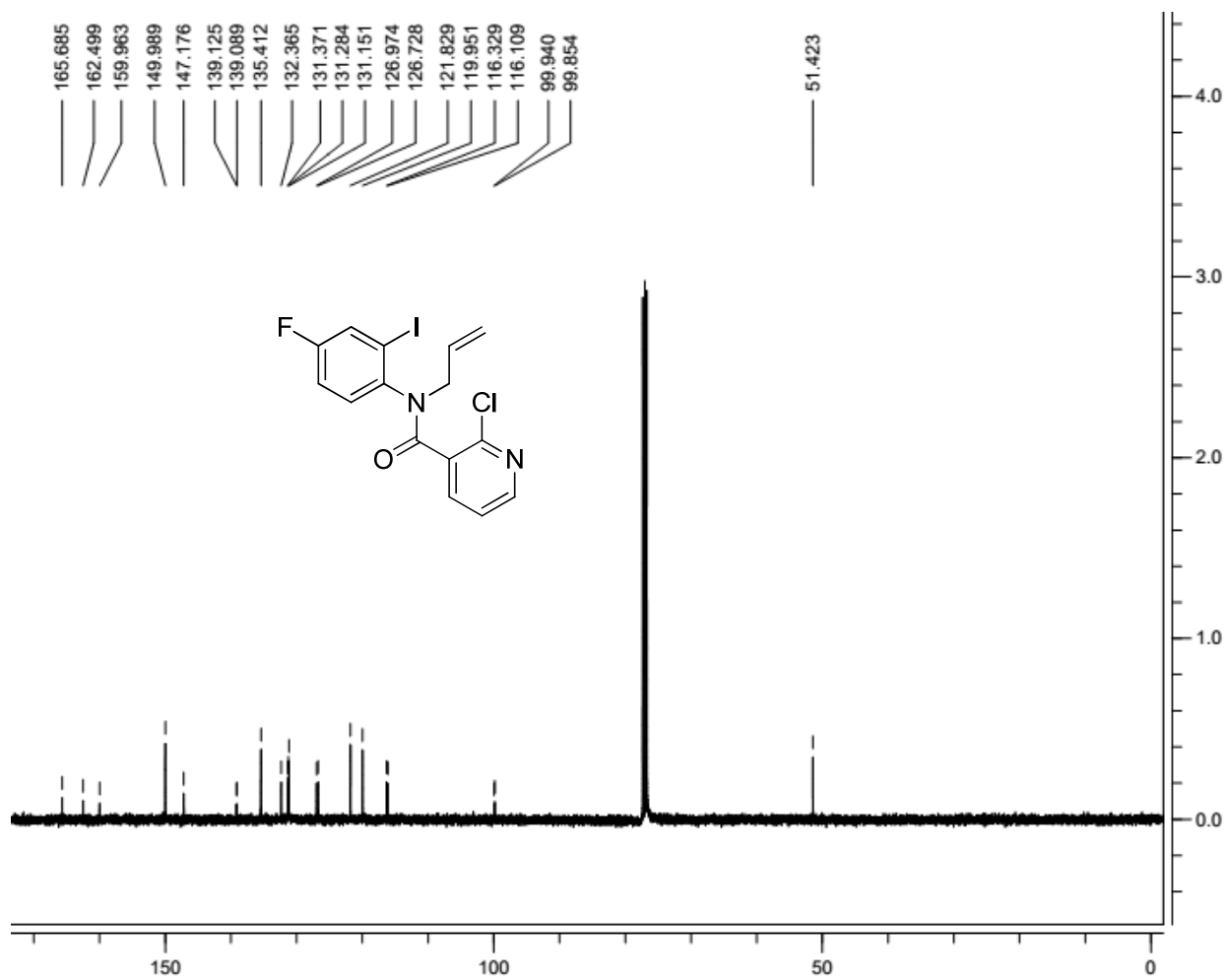


Fig. 36:  $^{13}\text{C}$  NMR spectra of compound **1h** ( $\text{CDCl}_3$ , 100 MHz)

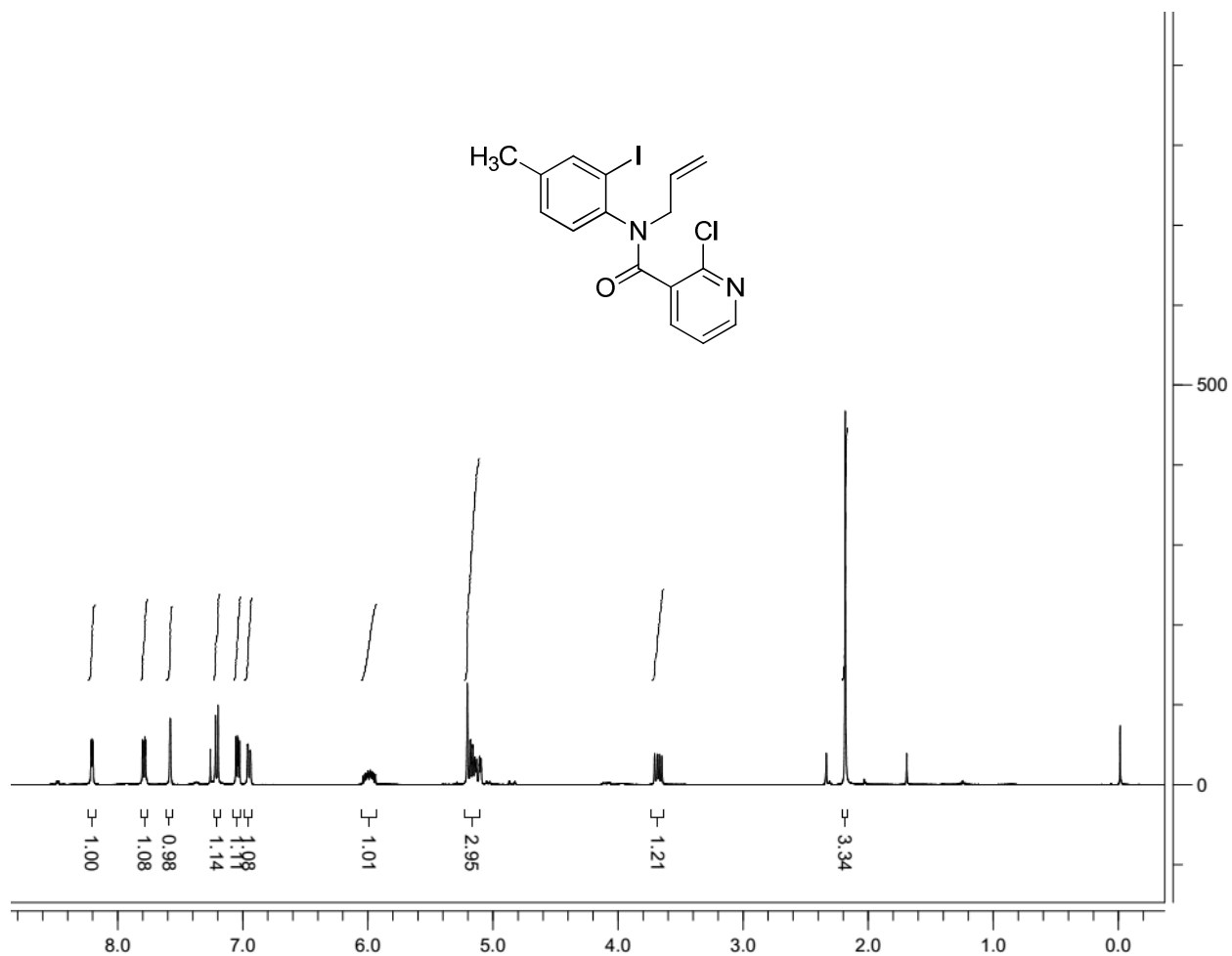


Fig. 37:  $^1\text{H}$  NMR spectra of compound **1i** (CDCl<sub>3</sub>, 400 MHz)

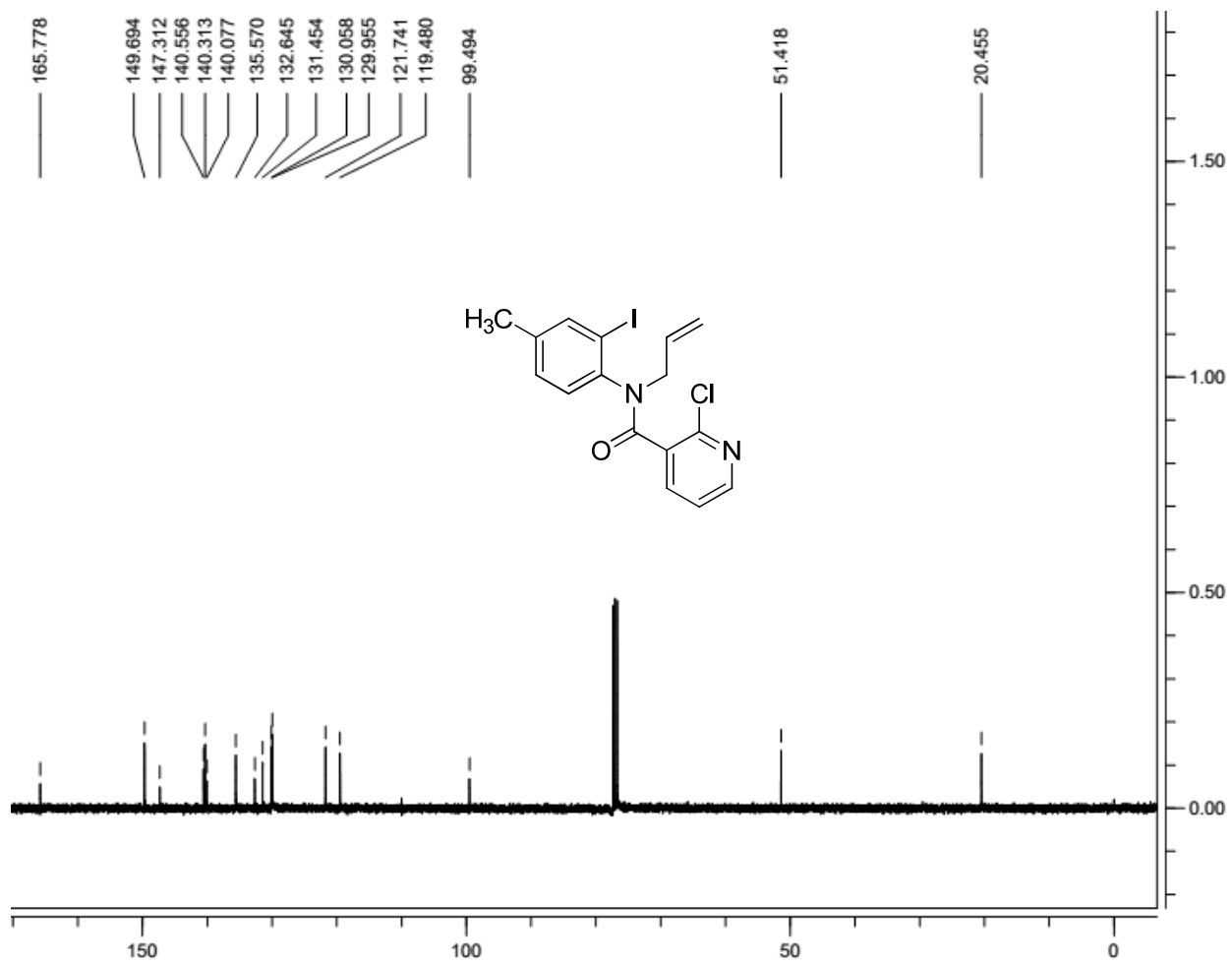


Fig. 38:  $^{13}\text{C}$  NMR spectra of compound **1i** ( $\text{CDCl}_3$ , 100 MHz)

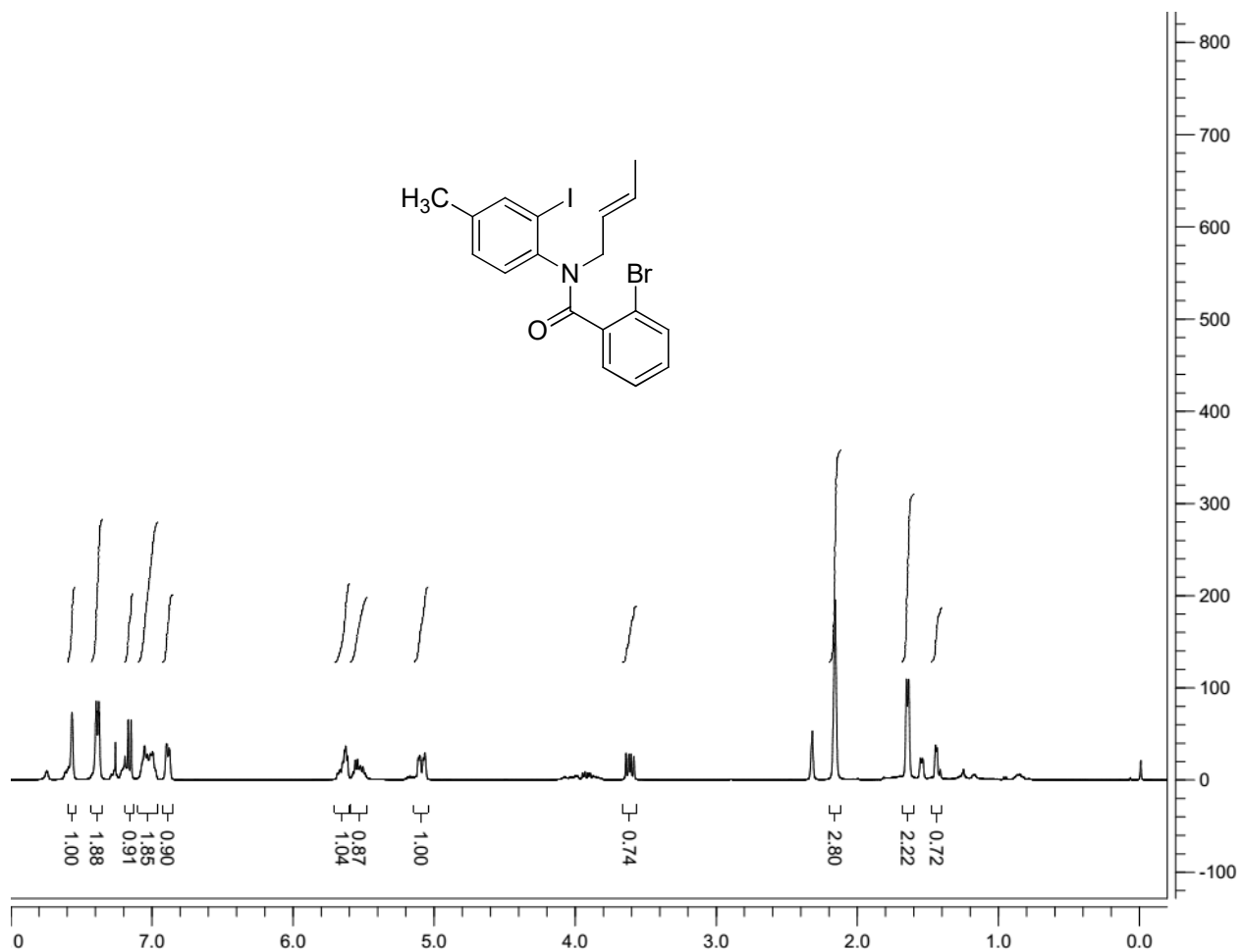


Fig. 39: <sup>1</sup>H NMR spectra of **11** (CDCl<sub>3</sub>, 400 MHz)

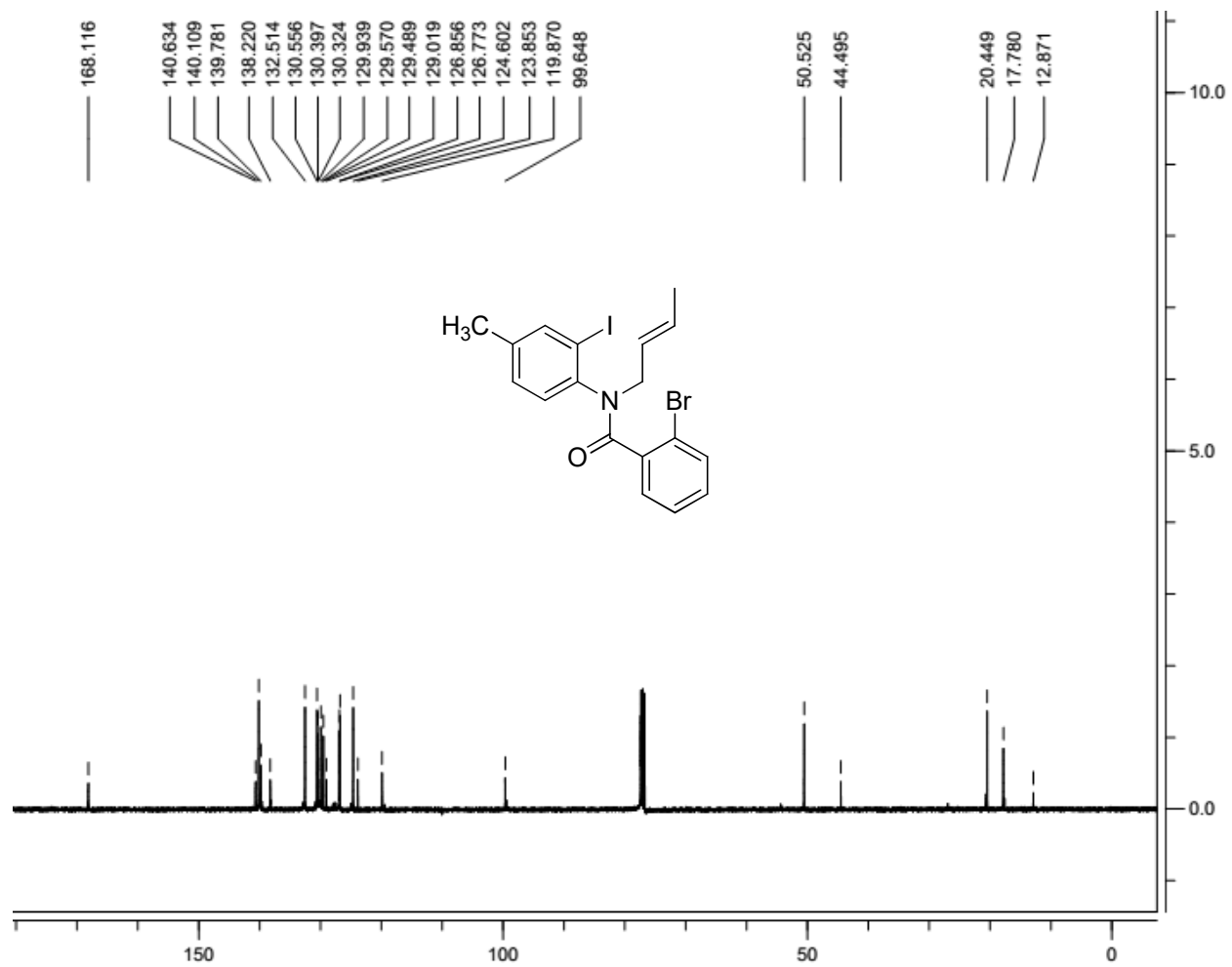


Fig. 40: <sup>13</sup>C NMR spectra of compound **11** (CDCl<sub>3</sub>, 100 MHz)



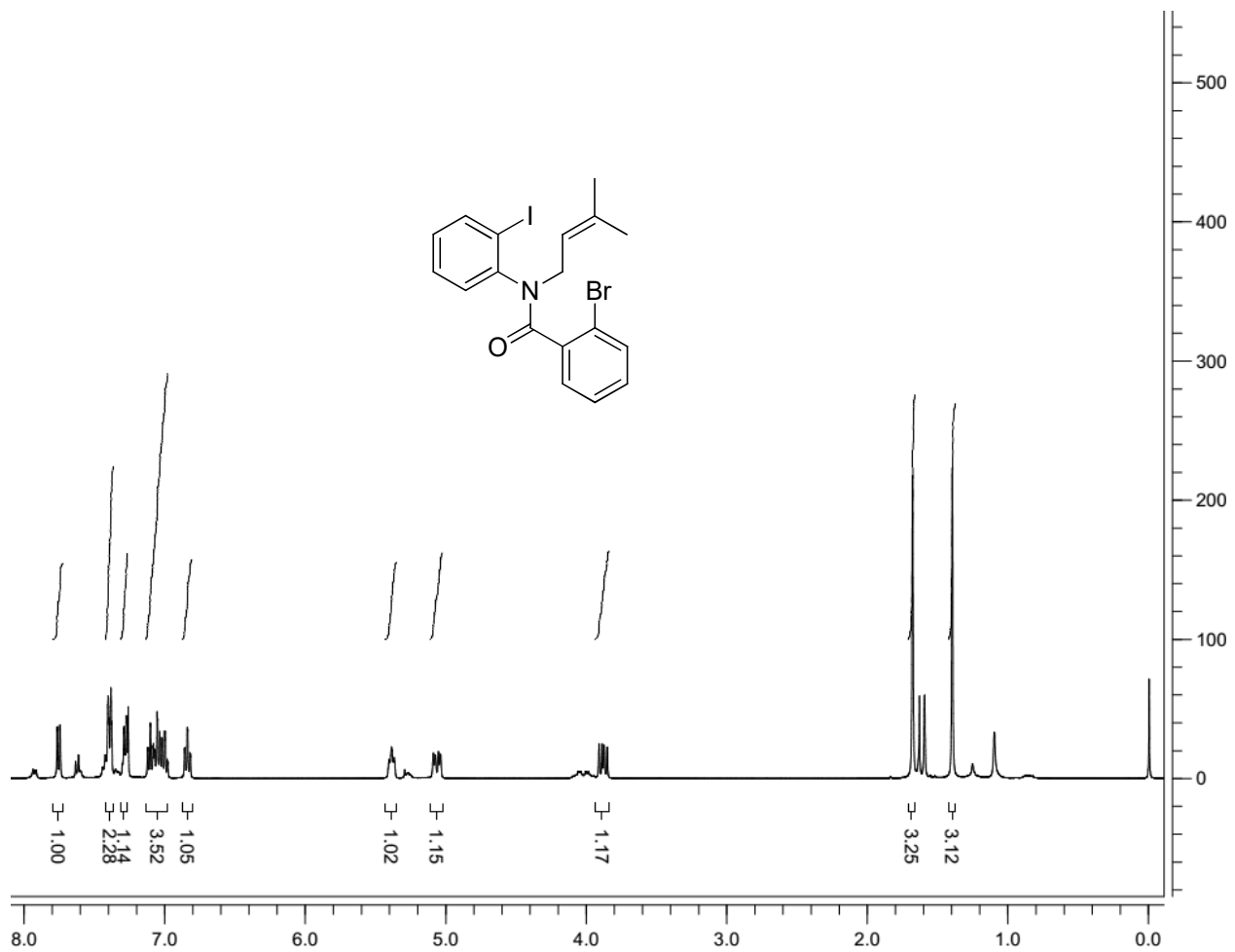


Fig. 41: <sup>1</sup>H NMR spectra of compound **1n** (CDCl<sub>3</sub>, 400 MHz)

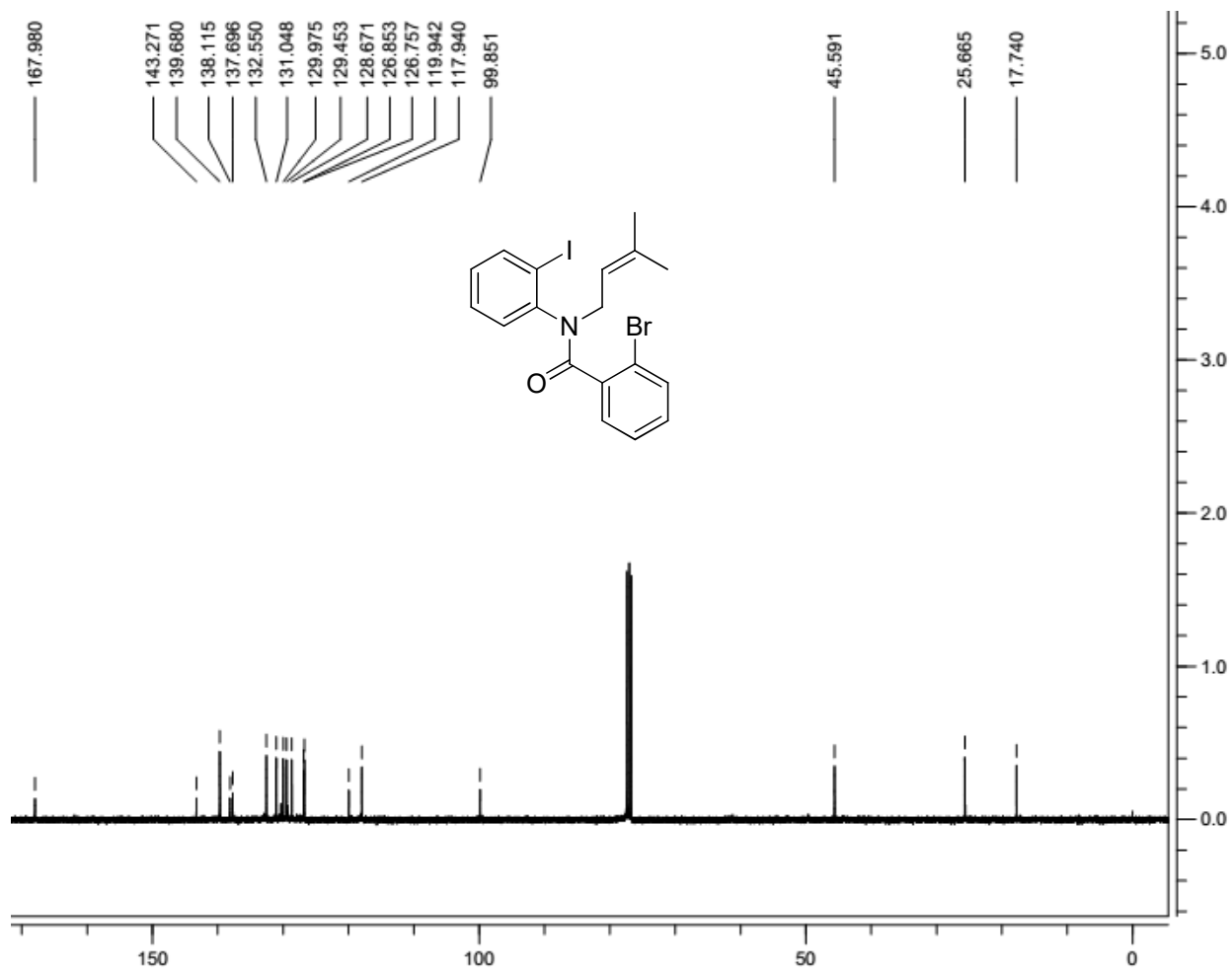


Fig. 42:  $^{13}\text{C}$  NMR spectra of compound **1n** (CDCl<sub>3</sub>, 100 MHz)

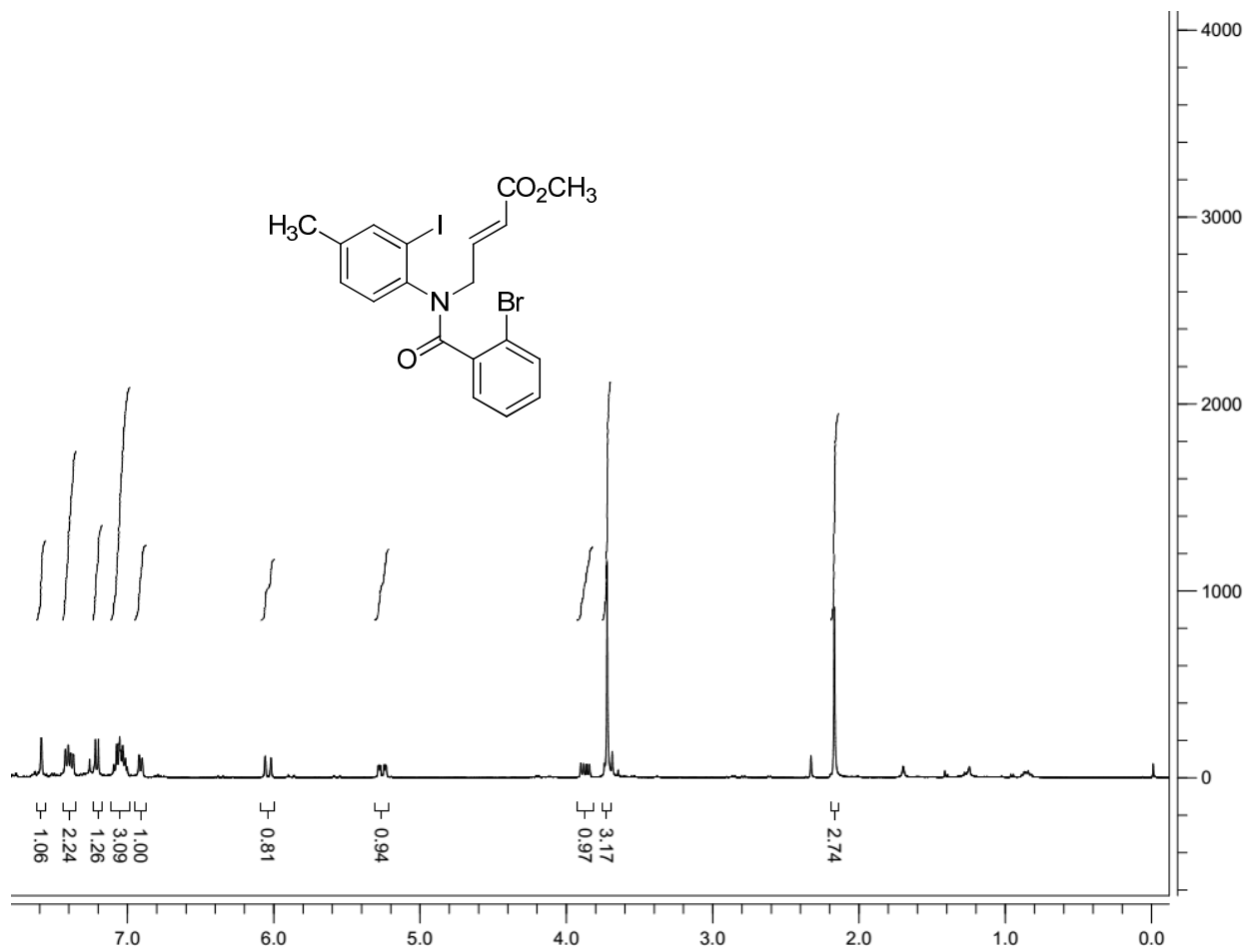


Fig. 43: <sup>1</sup>H NMR spectra of compound **1o** (CDCl<sub>3</sub>, 400 MHz)

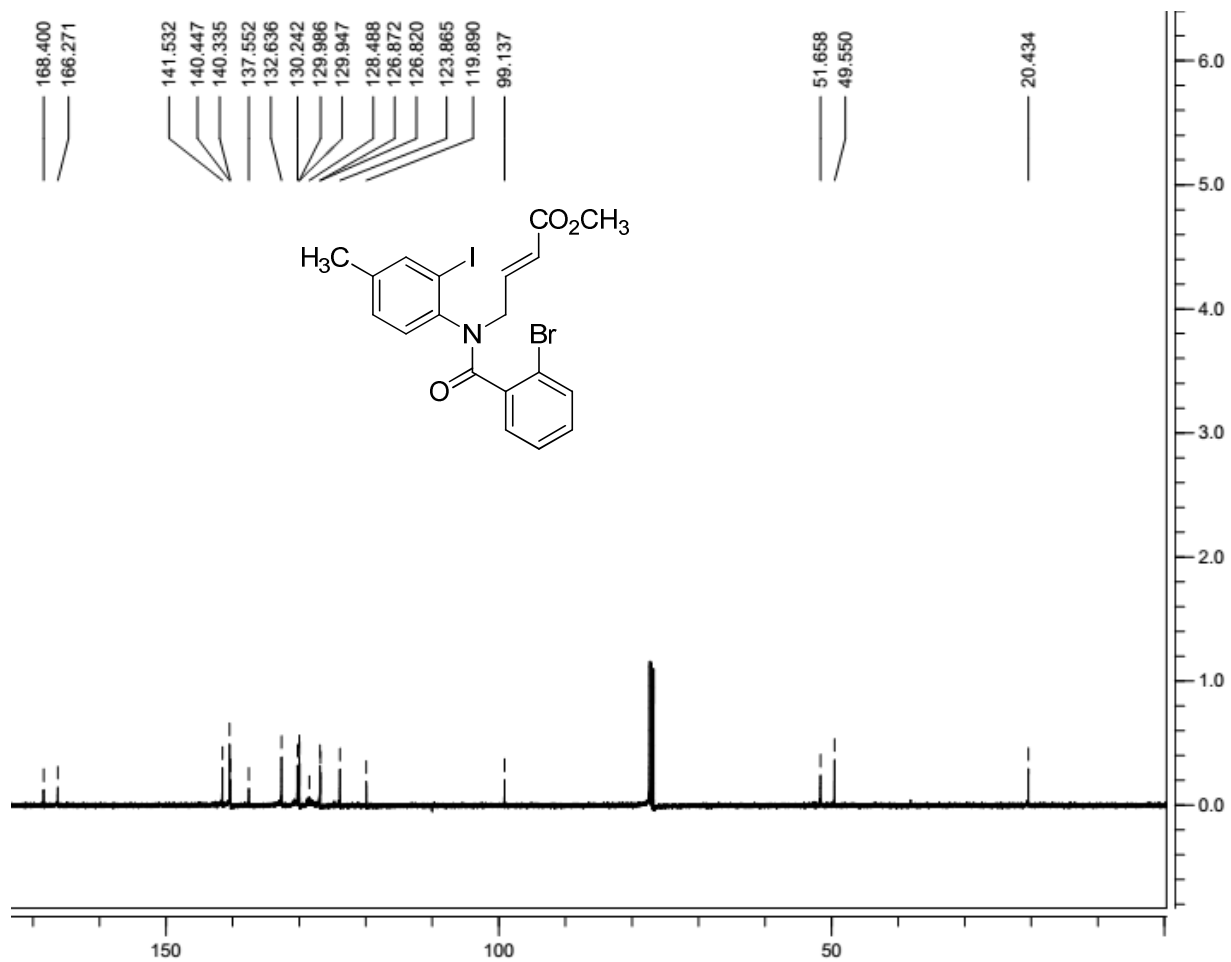


Fig. 44:  $^{13}\text{C}$  NMR spectra of compound **1o** ( $\text{CDCl}_3$ , 100 MHz)

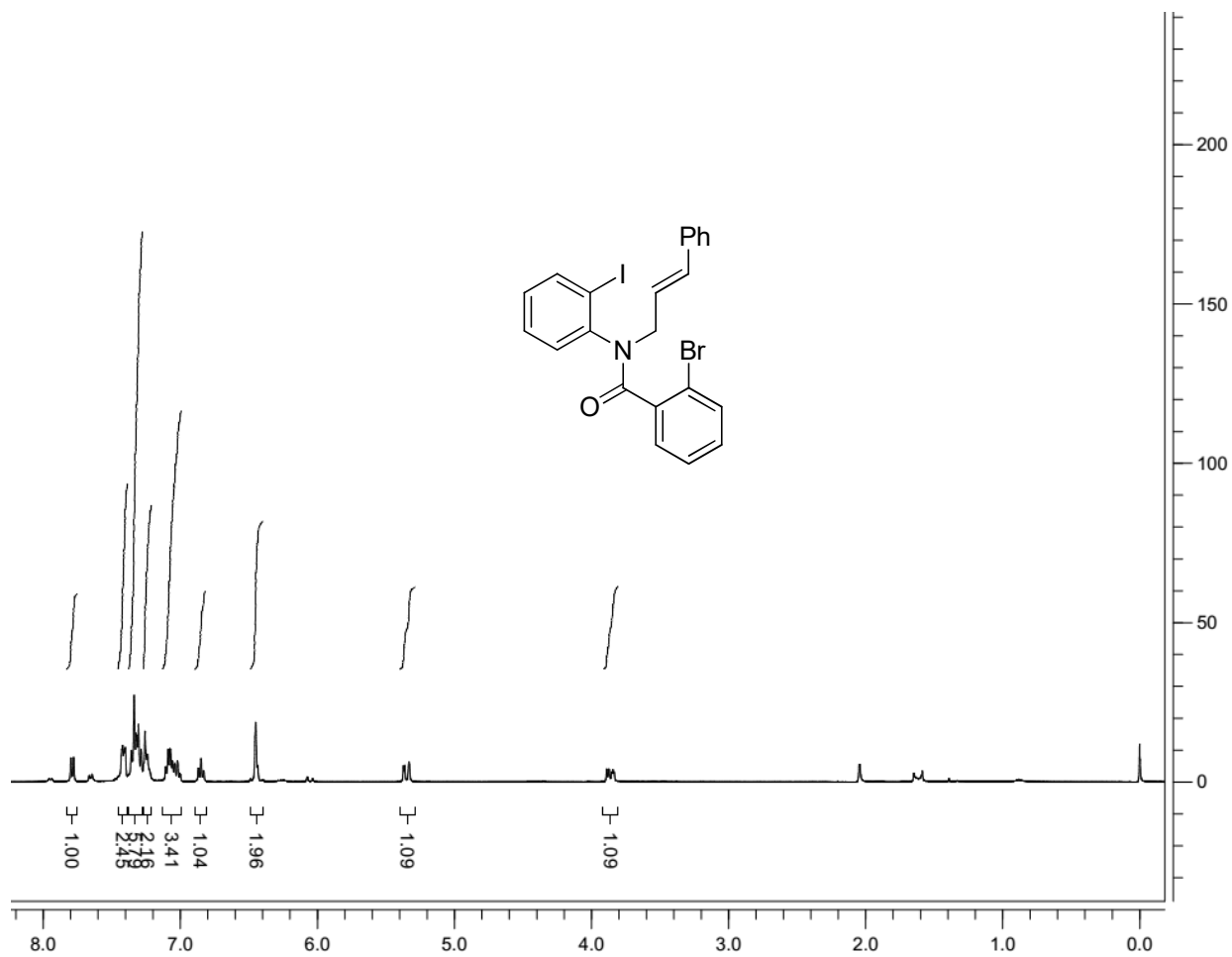


Fig. 45:  $^1\text{H}$  NMR spectra of compound **1q** ( $\text{CDCl}_3$ , 400 MHz)

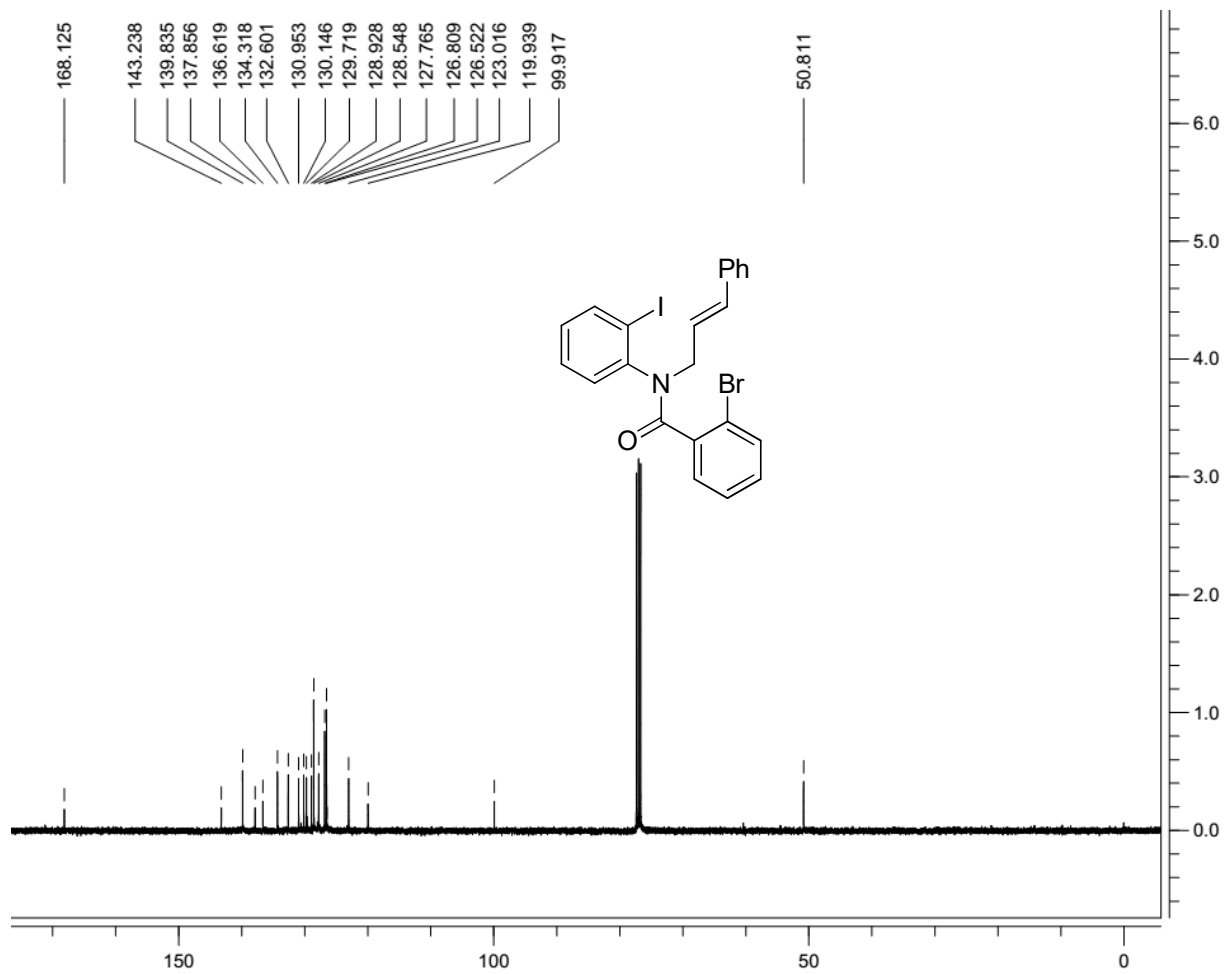


Fig. 46:  $^{13}\text{C}$  NMR spectra of compound **1q** ( $\text{CDCl}_3$ , 100 MHz)

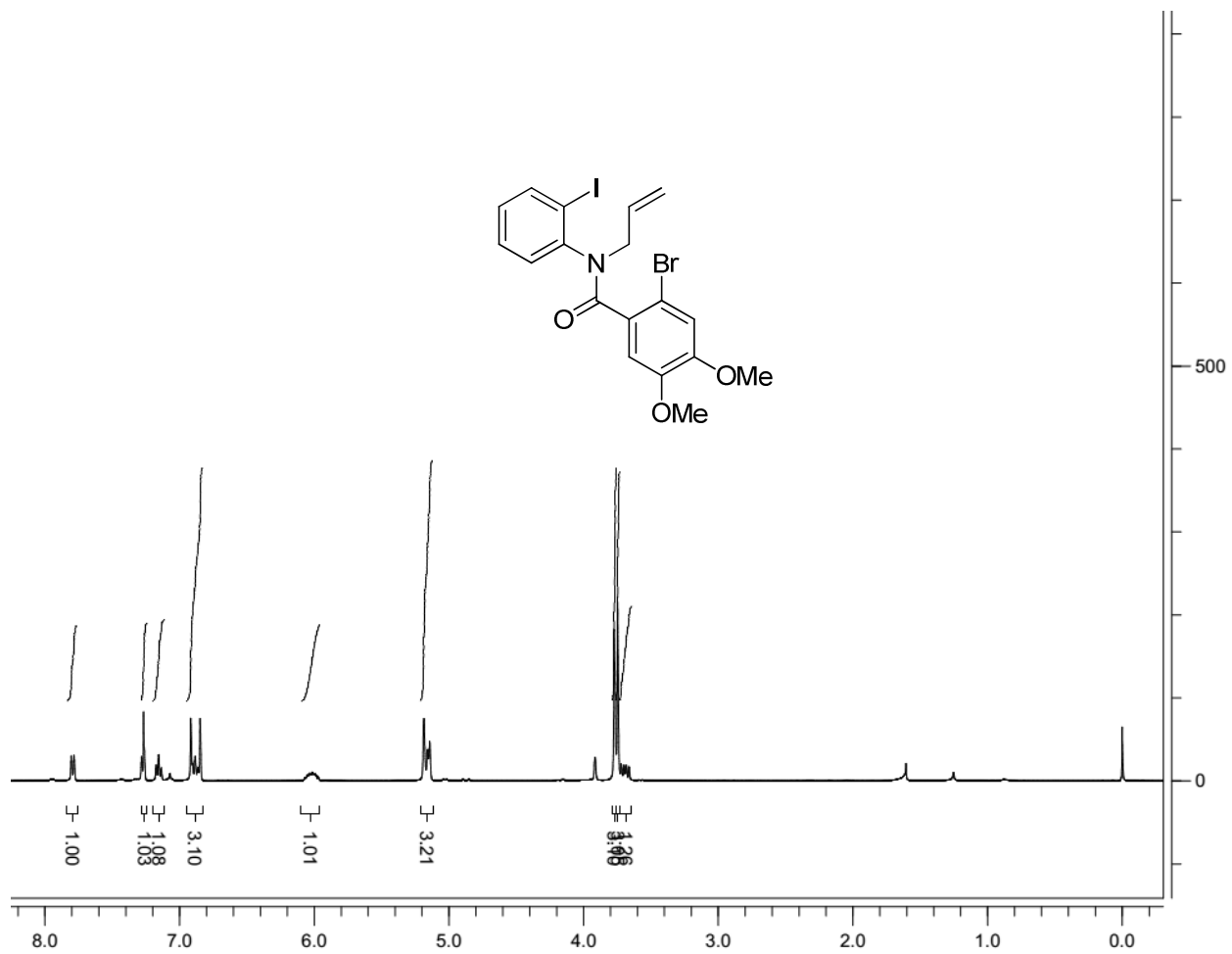


Fig. 47: <sup>1</sup>H NMR spectra of compound **1r** (CDCl<sub>3</sub>, 400 MHz)

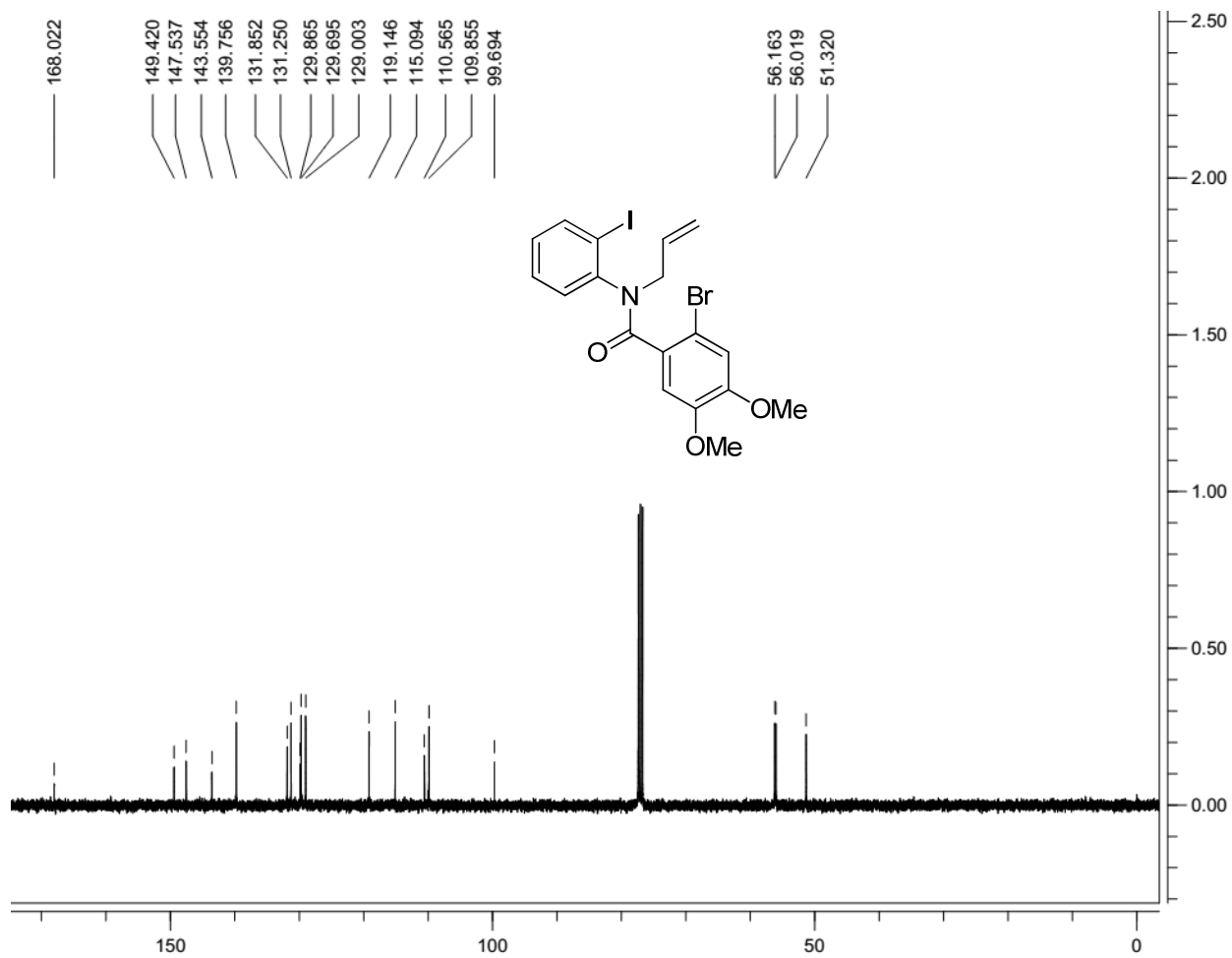


Fig. 48:  $^{13}\text{C}$  NMR spectra of compound **1r** ( $\text{CDCl}_3$ , 100 MHz)



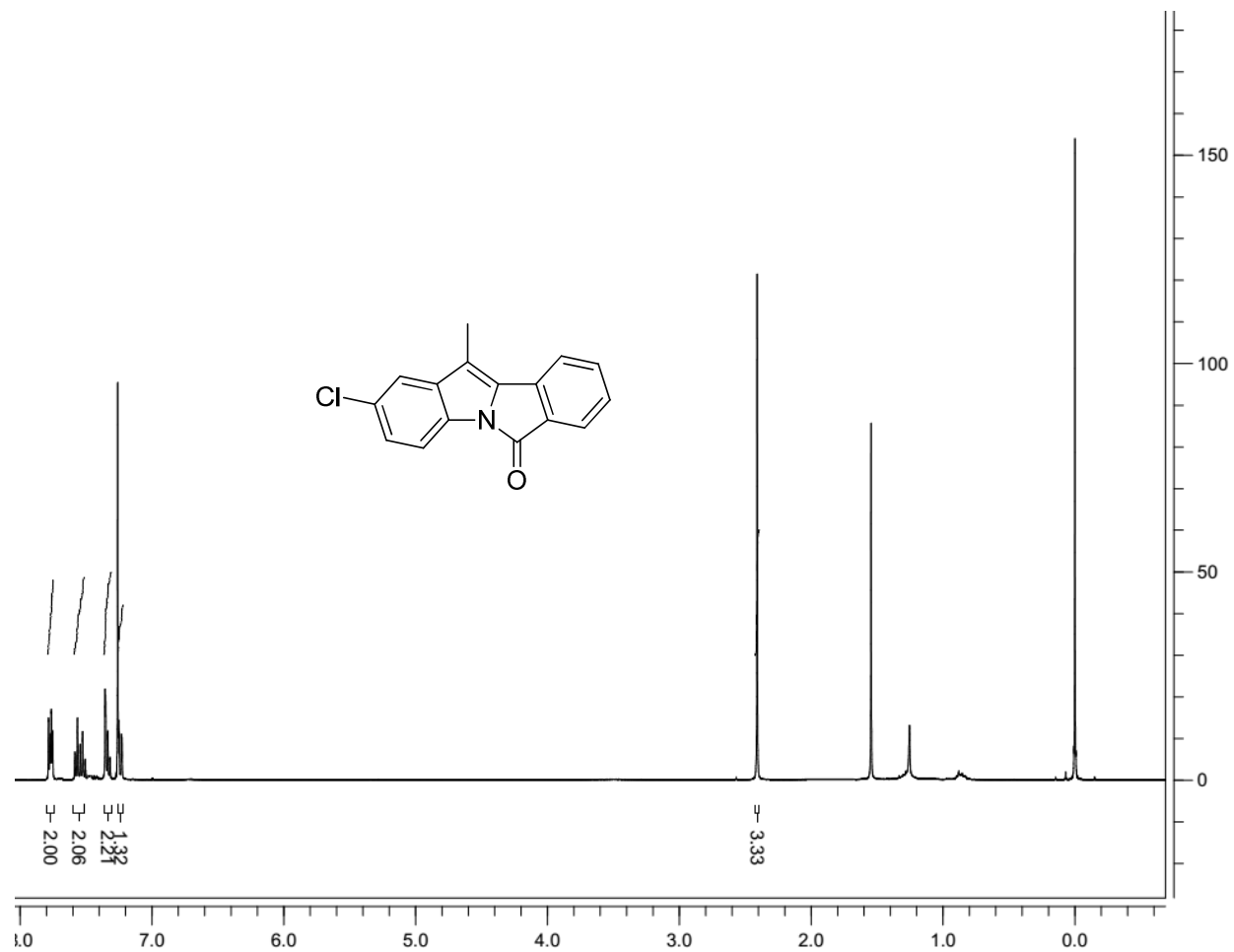


Fig. 49: <sup>1</sup>H NMR spectra of compound **2a** (CDCl<sub>3</sub>, 400 MHz)

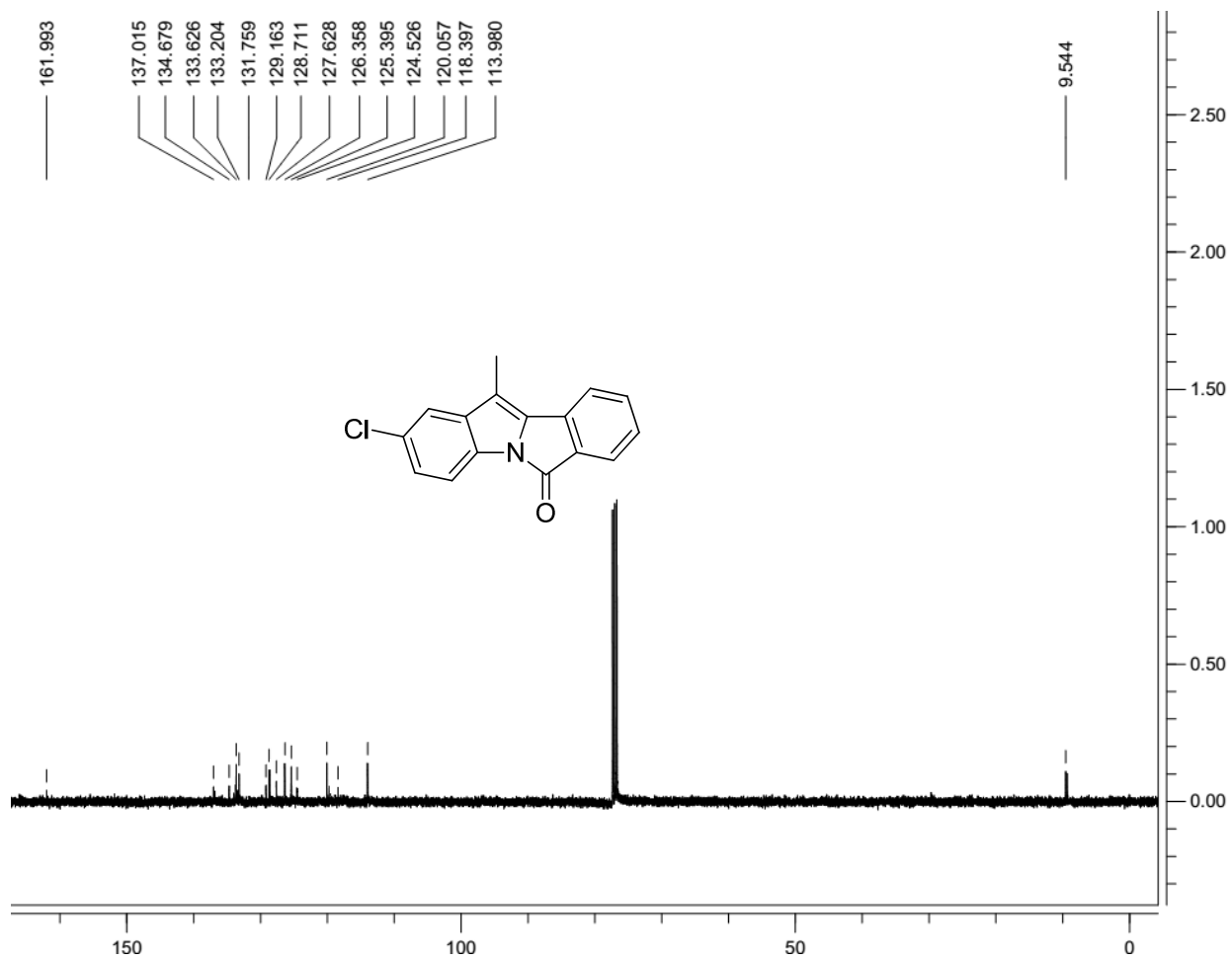


Fig. 50:  $^{13}\text{C}$  NMR spectra of compound **2a** ( $\text{CDCl}_3$ , 100 MHz)

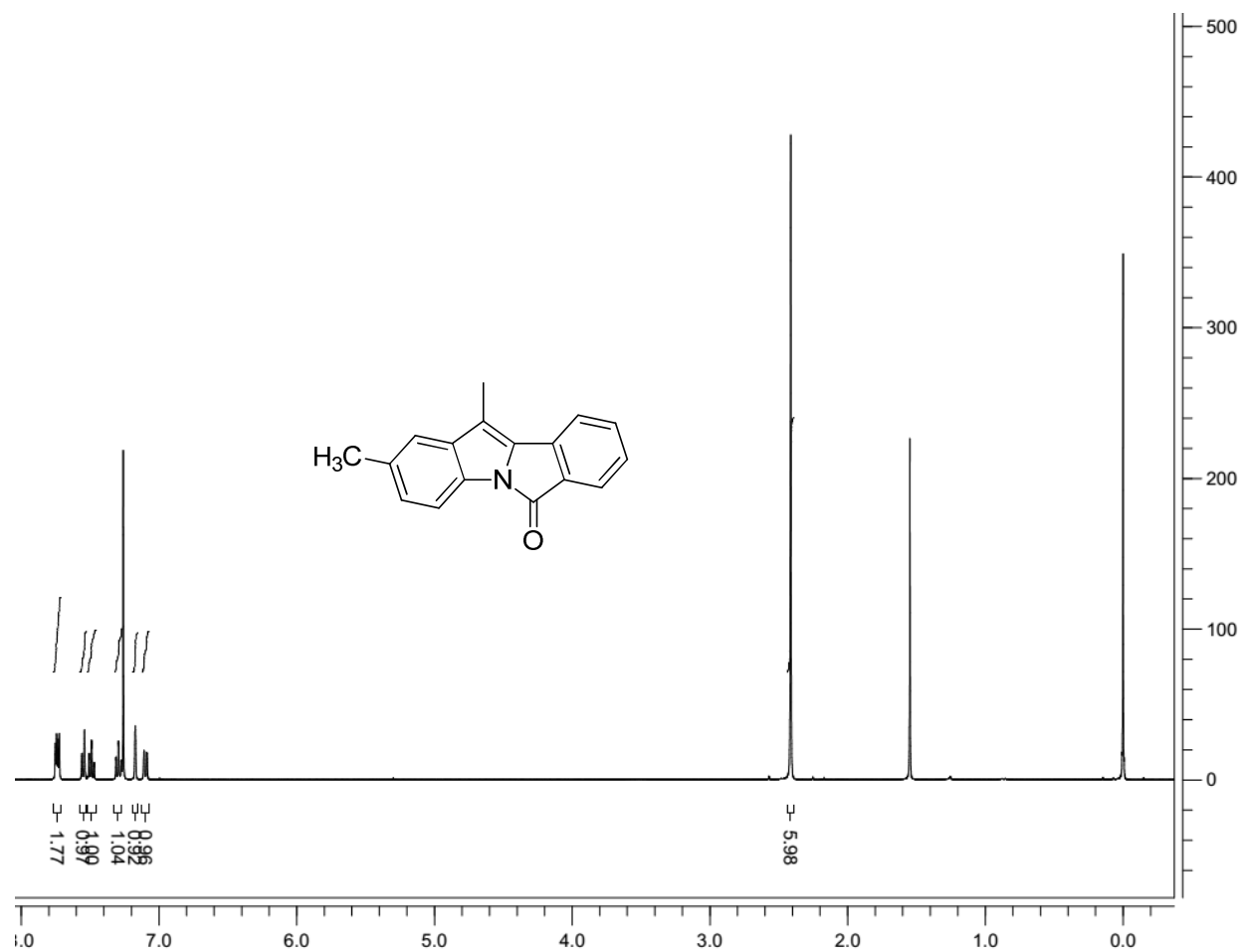


Fig. 51:  $^1\text{H}$  NMR spectra of compound **2b** ( $\text{CDCl}_3$ , 400 MHz)

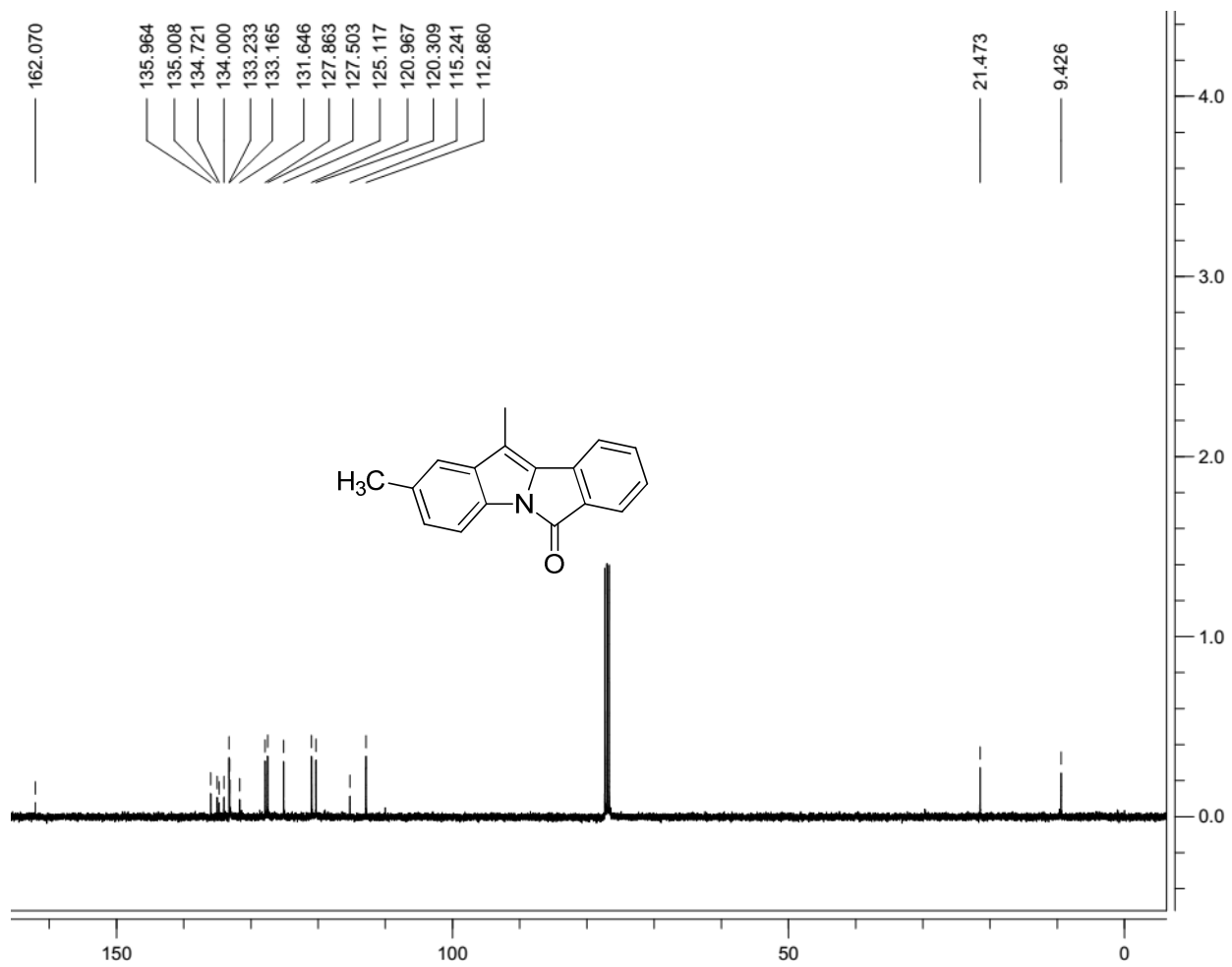


Fig. 52:  $^{13}\text{C}$  NMR spectra of compound **2b** ( $\text{CDCl}_3$ , 100 MHz)

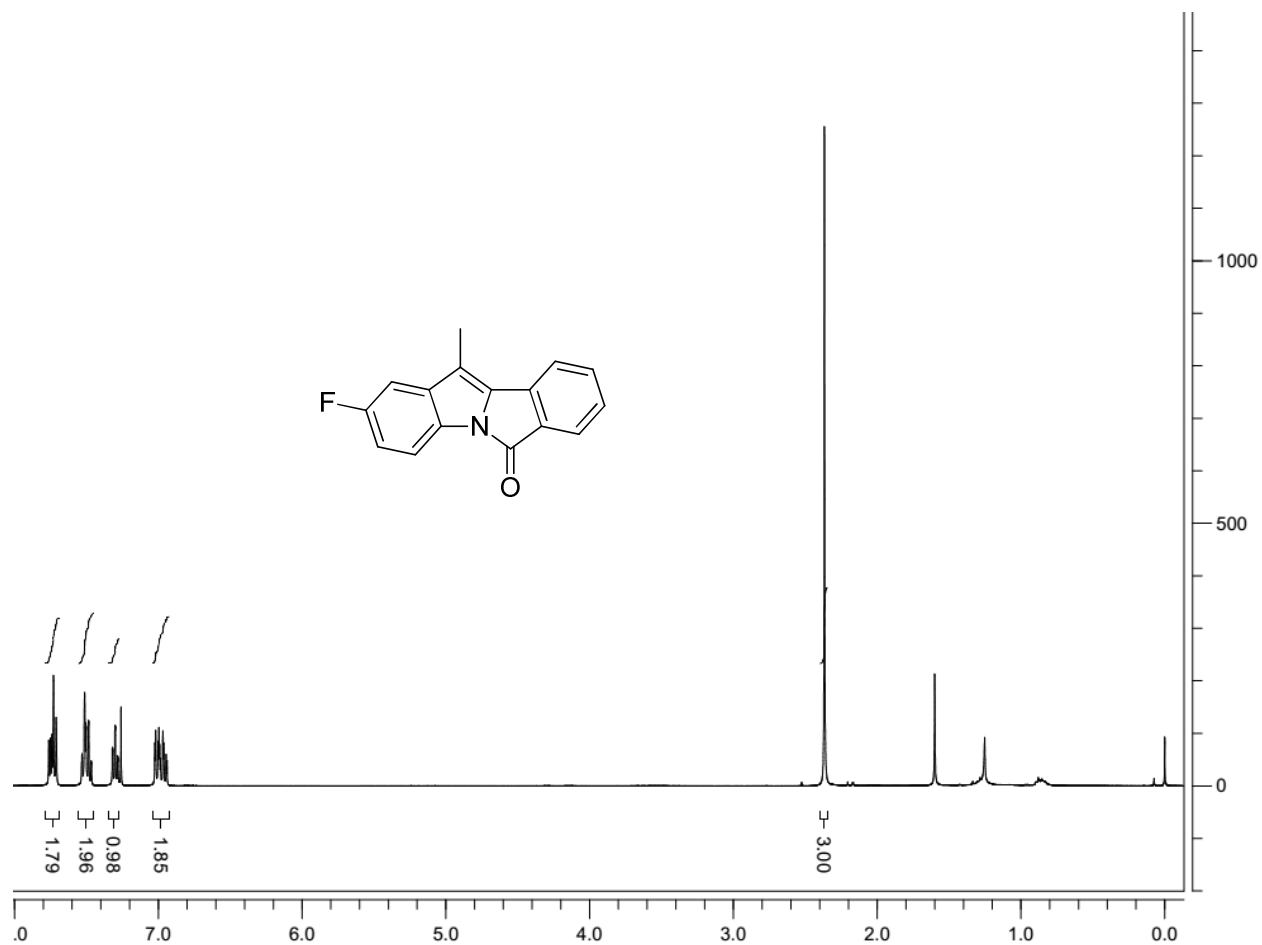


Fig. 53:  $^1\text{H}$  NMR spectra of compound **2c** ( $\text{CDCl}_3$ , 400 MHz)



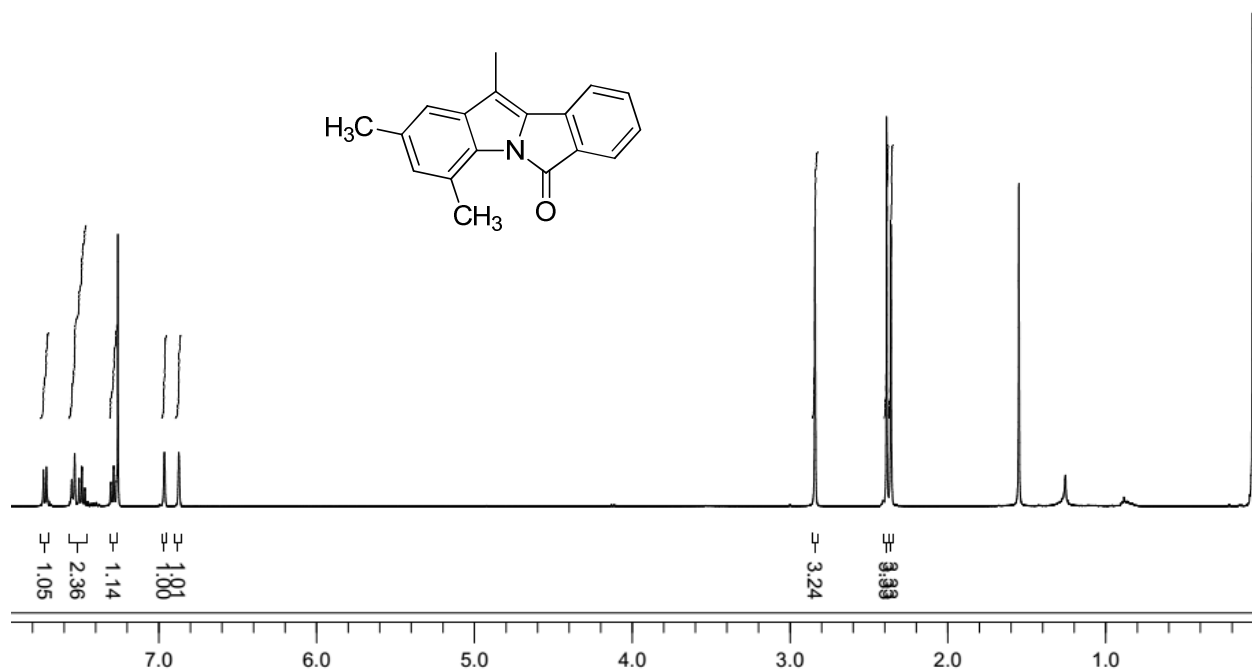


Fig. 55: <sup>1</sup>H NMR spectra of compound **2e** (CDCl<sub>3</sub>, 400 MHz)

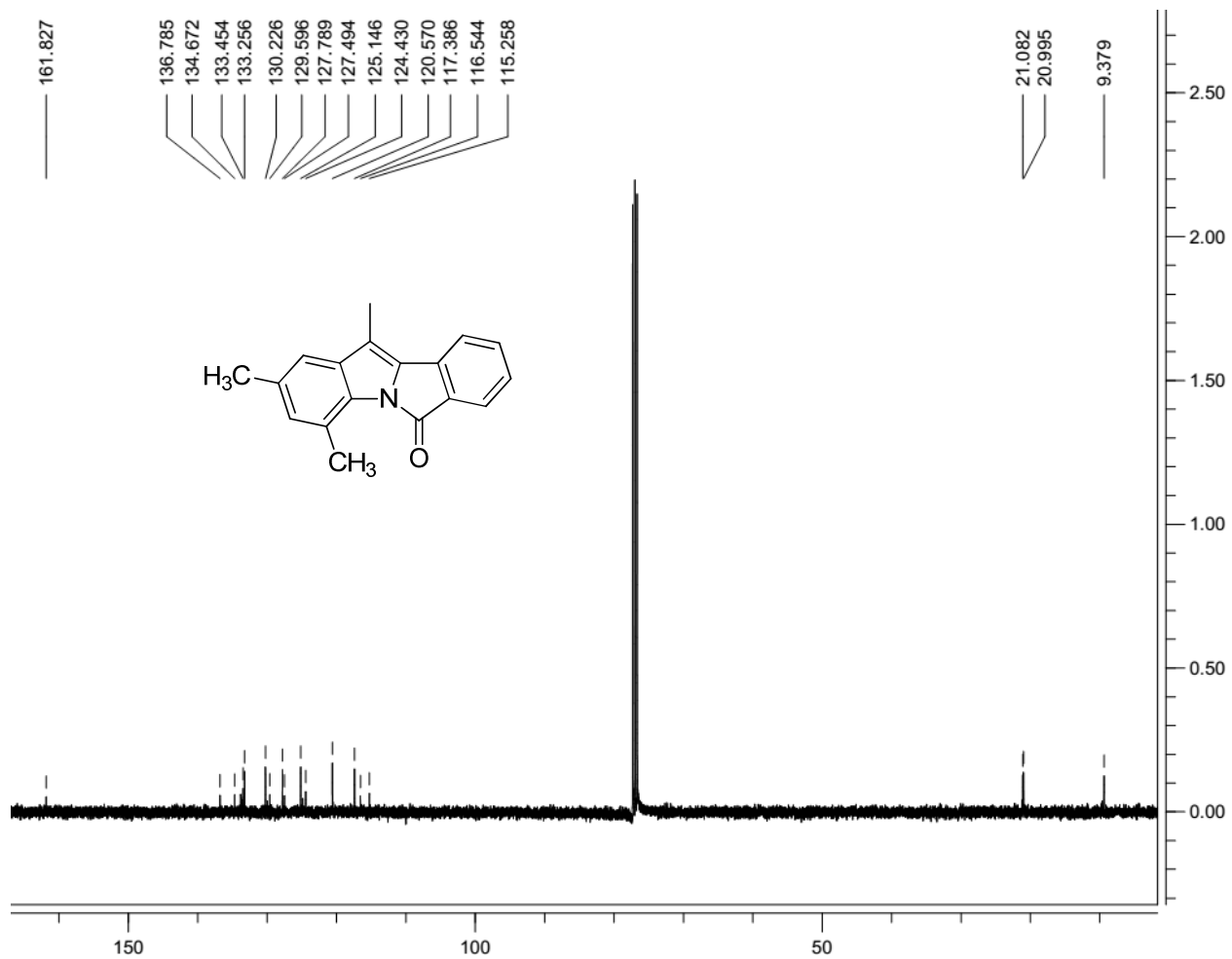


Fig. 56:  $^{13}\text{C}$  NMR spectra of compound **2e** ( $\text{CDCl}_3$ , 100 MHz)



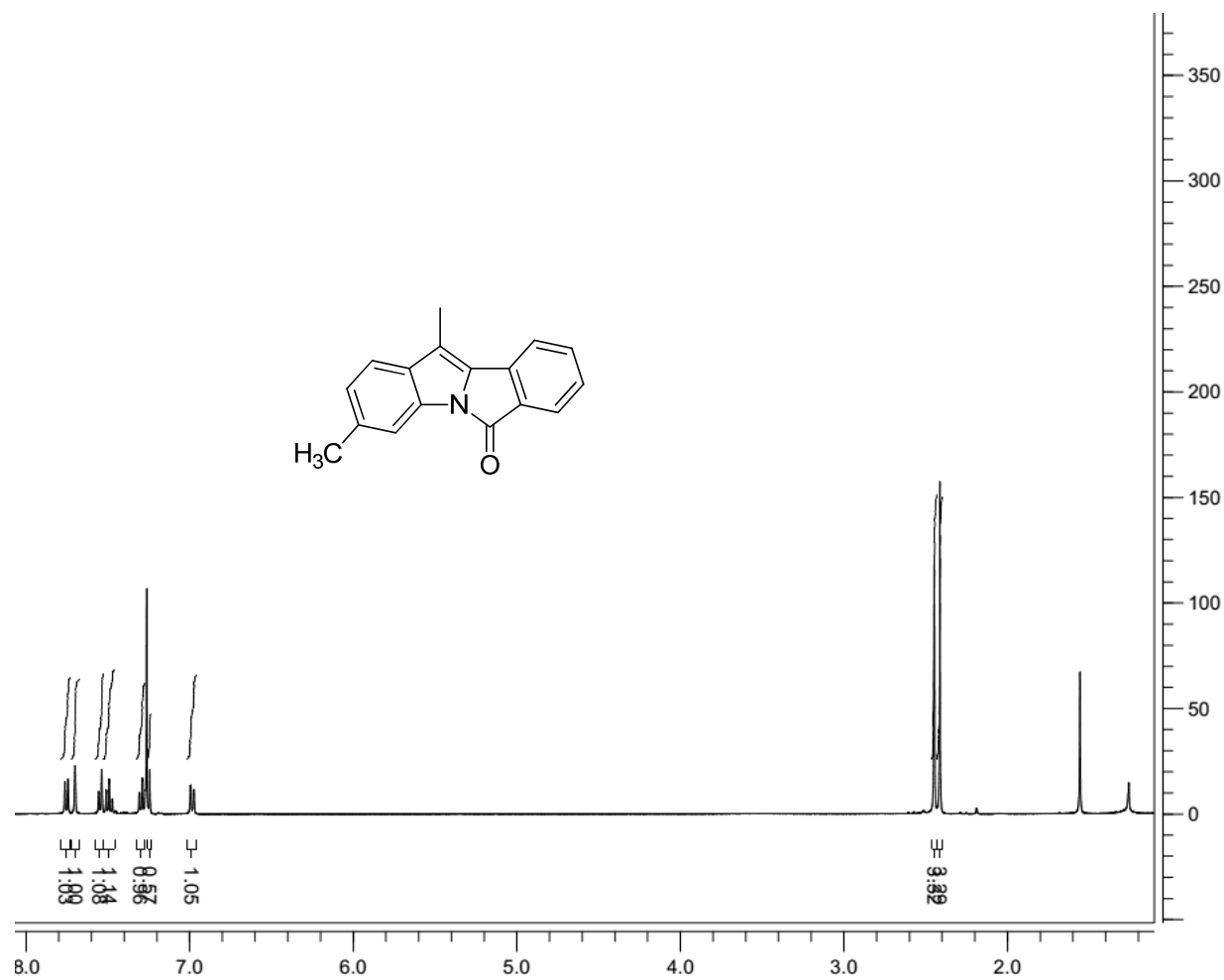


Fig. 57: <sup>1</sup>H NMR spectra of compound **2f** (CDCl<sub>3</sub>, 400 MHz)

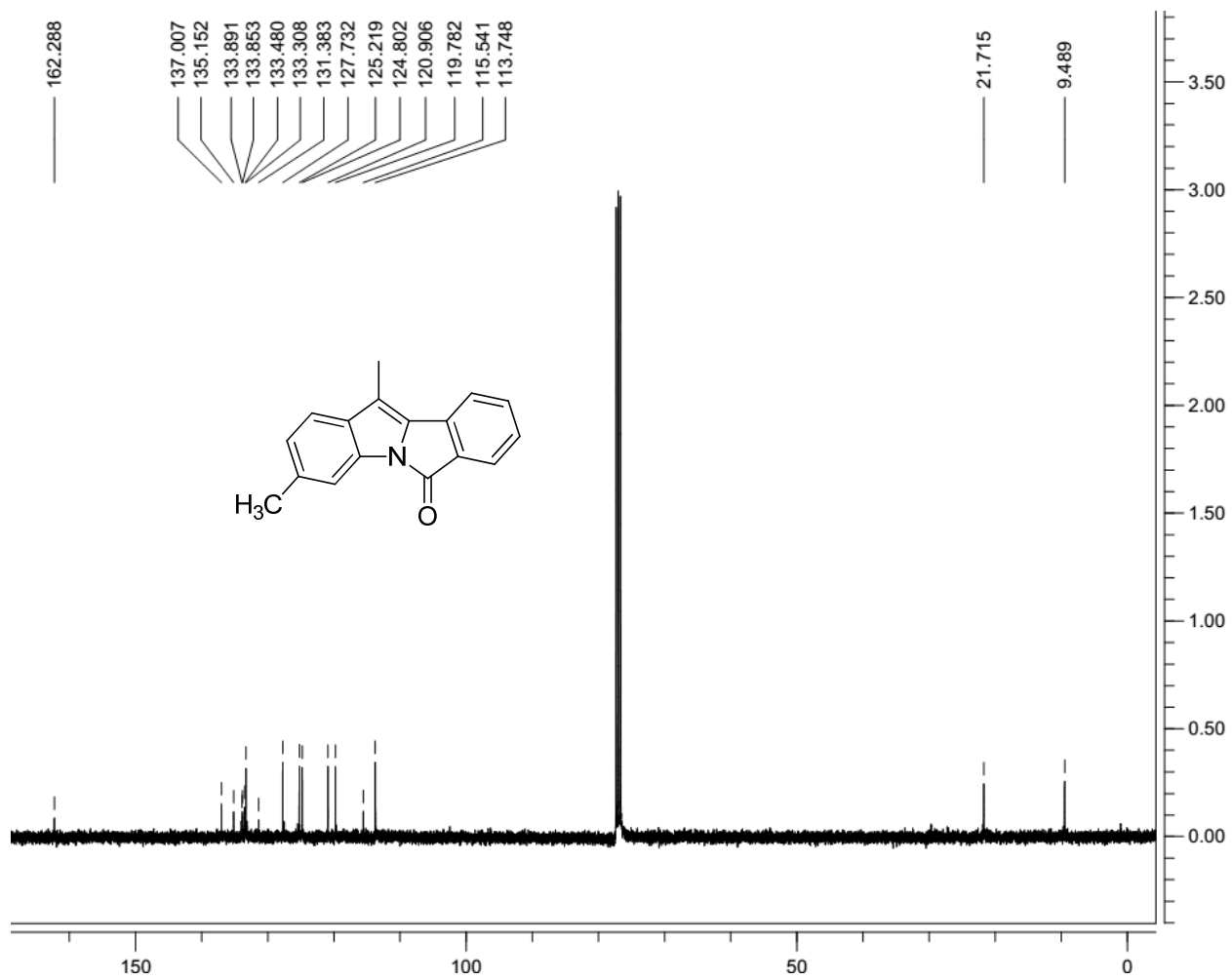


Fig. 58:  $^{13}\text{C}$  NMR spectra of compound **2f** ( $\text{CDCl}_3$ , 100 MHz)

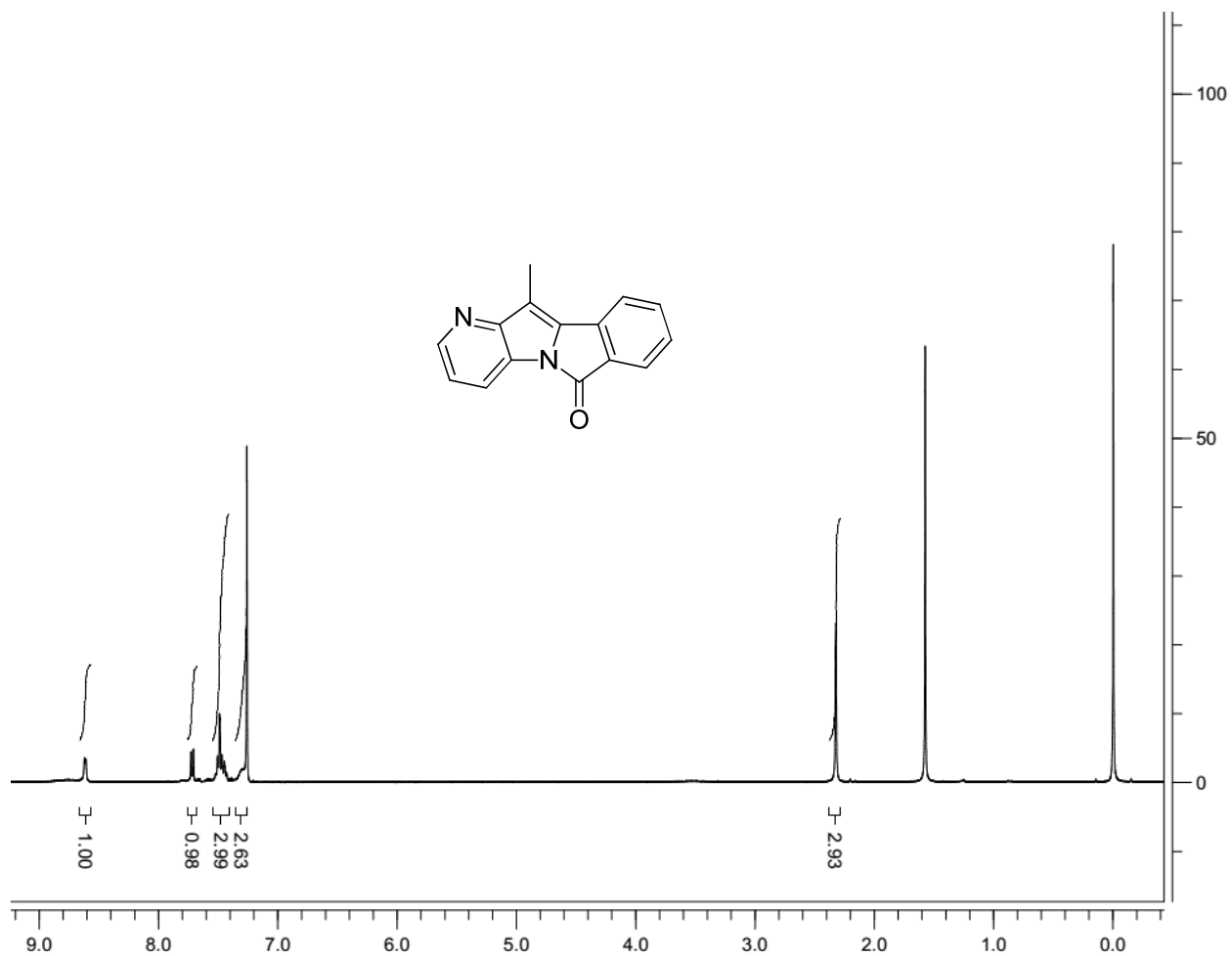


Fig. 59: <sup>1</sup>H NMR spectra of compound **2g** (CDCl<sub>3</sub>, 400 MHz)

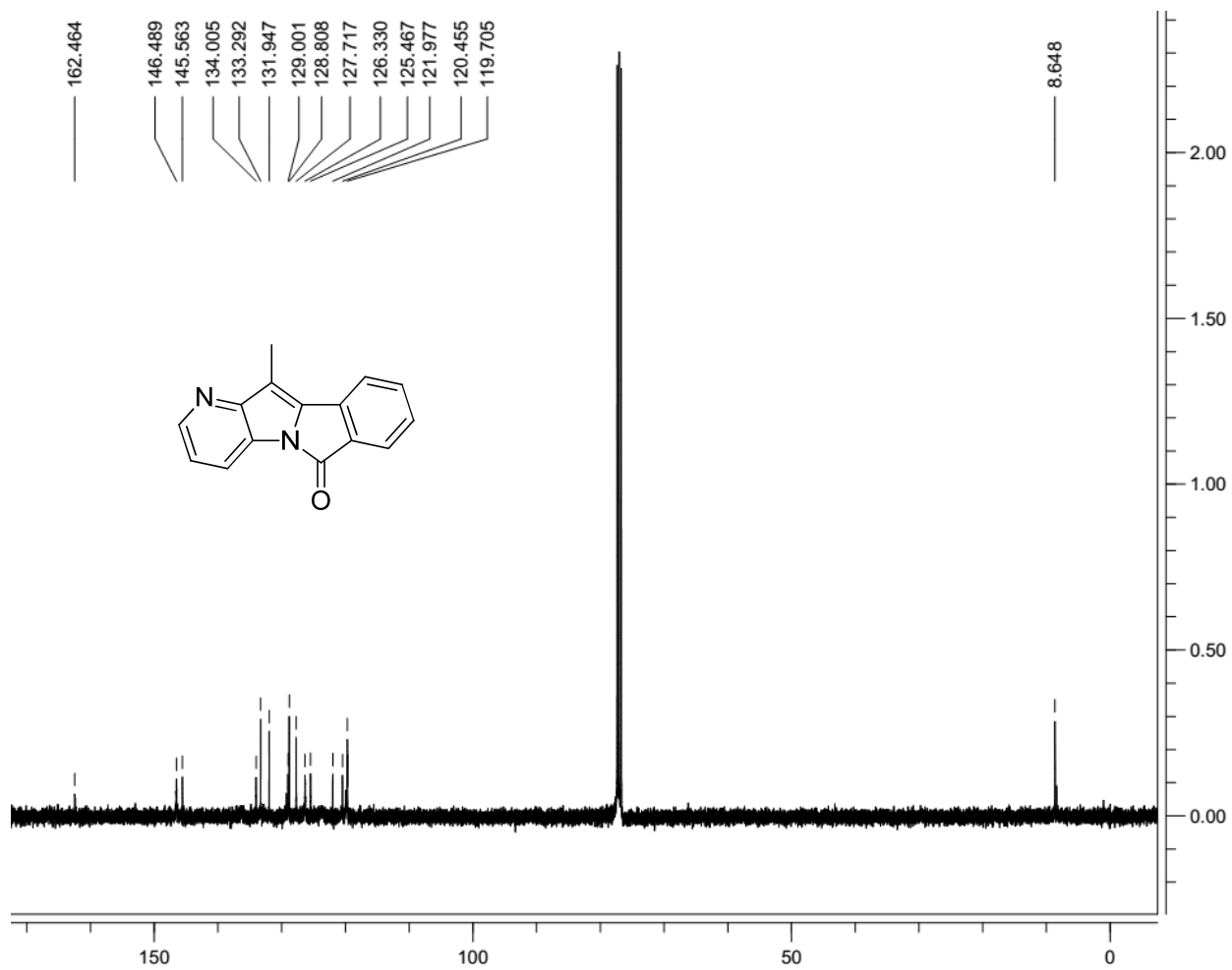


Fig. 60:  $^{13}\text{C}$  NMR spectra of compound **2g** ( $\text{CDCl}_3$ , 100 MHz)

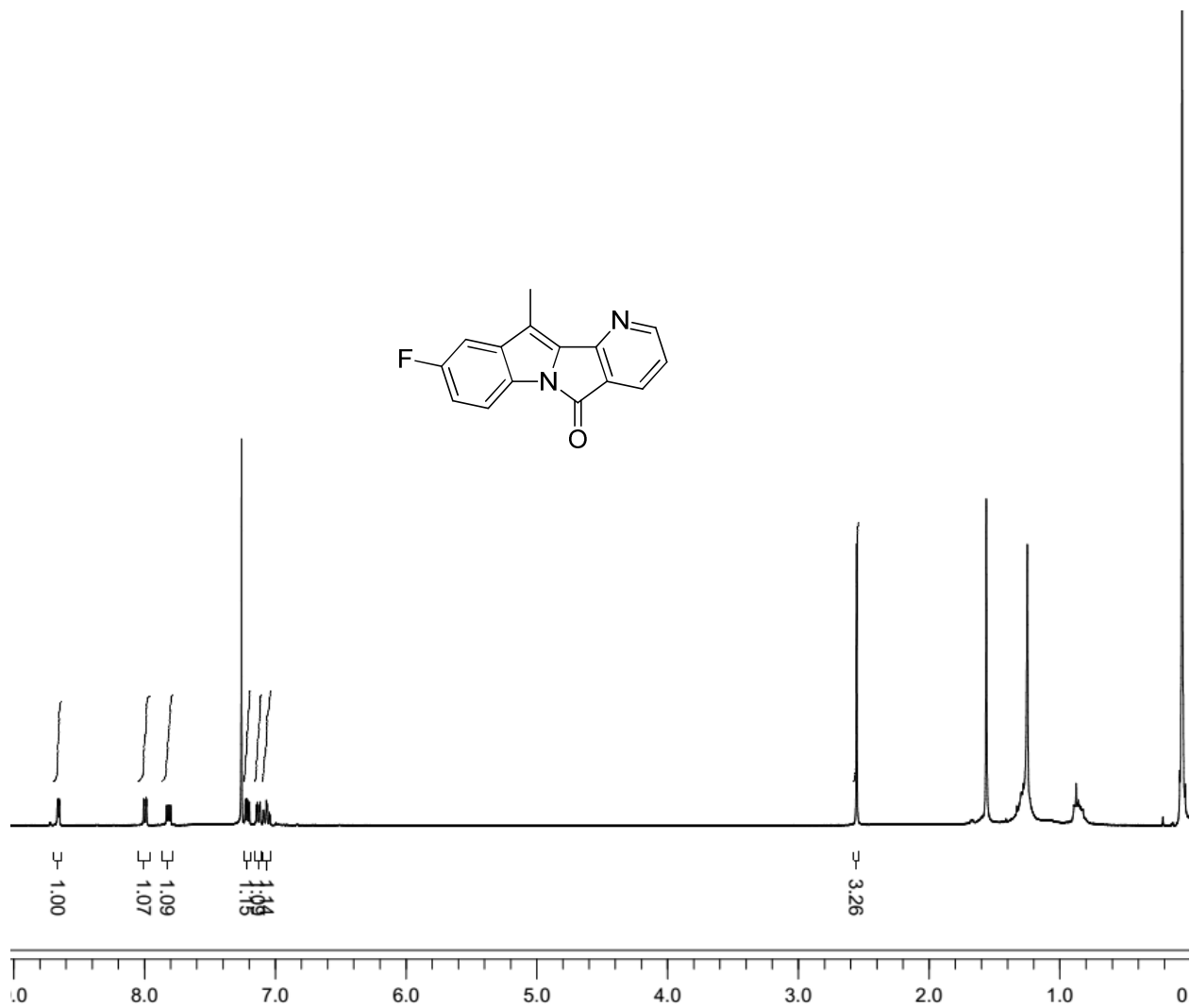


Fig. 61: <sup>1</sup>H NMR spectra of compound **2h** (CDCl<sub>3</sub>, 400 MHz)

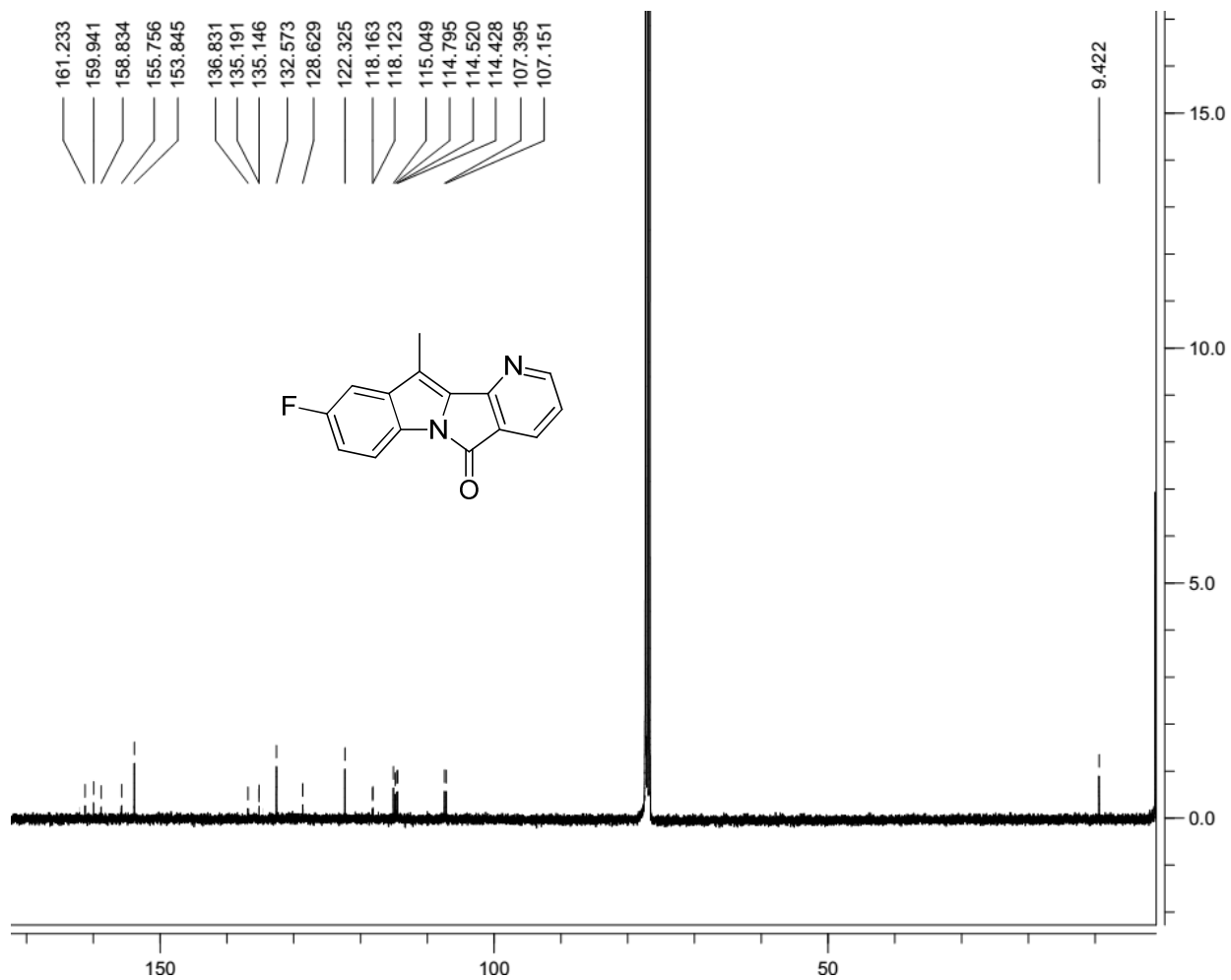


Fig. 62:  $^{13}\text{C}$  NMR spectra of compound **2h** ( $\text{CDCl}_3$ , 100 MHz)

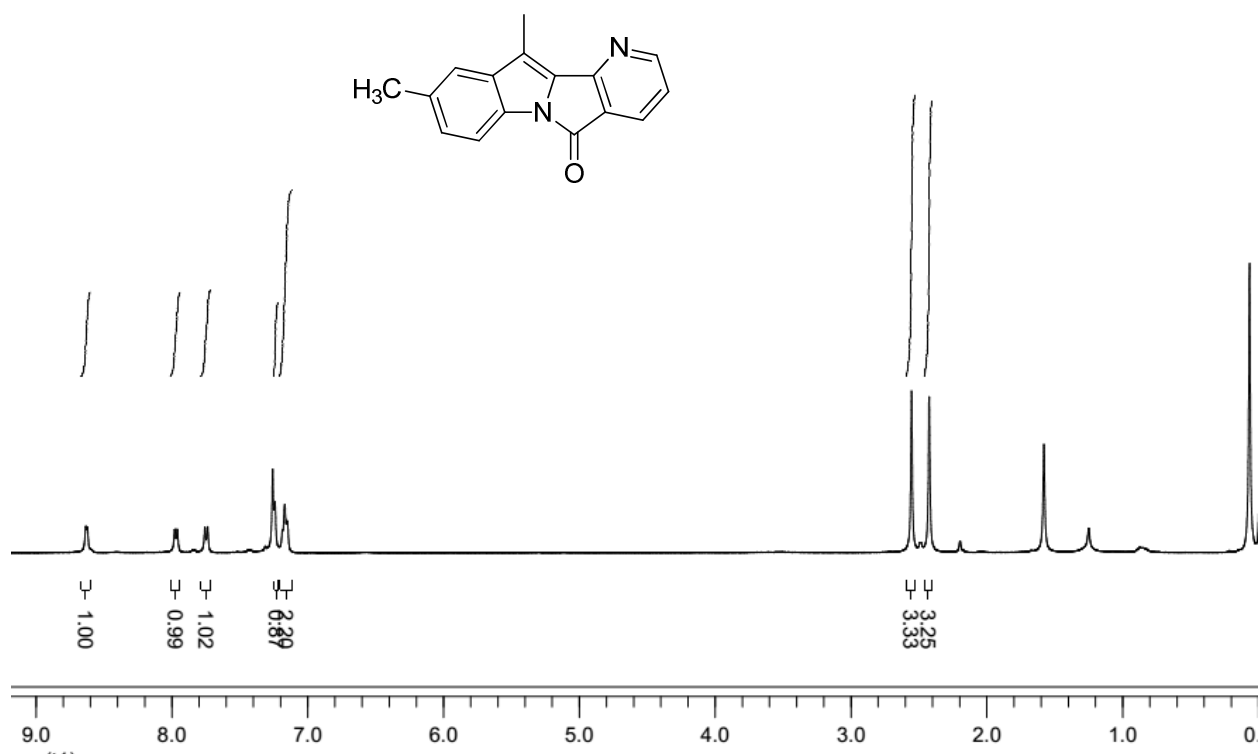


Fig. 63:  $^1\text{H}$  NMR spectra of compound **2i** ( $\text{CDCl}_3$ , 400 MHz)

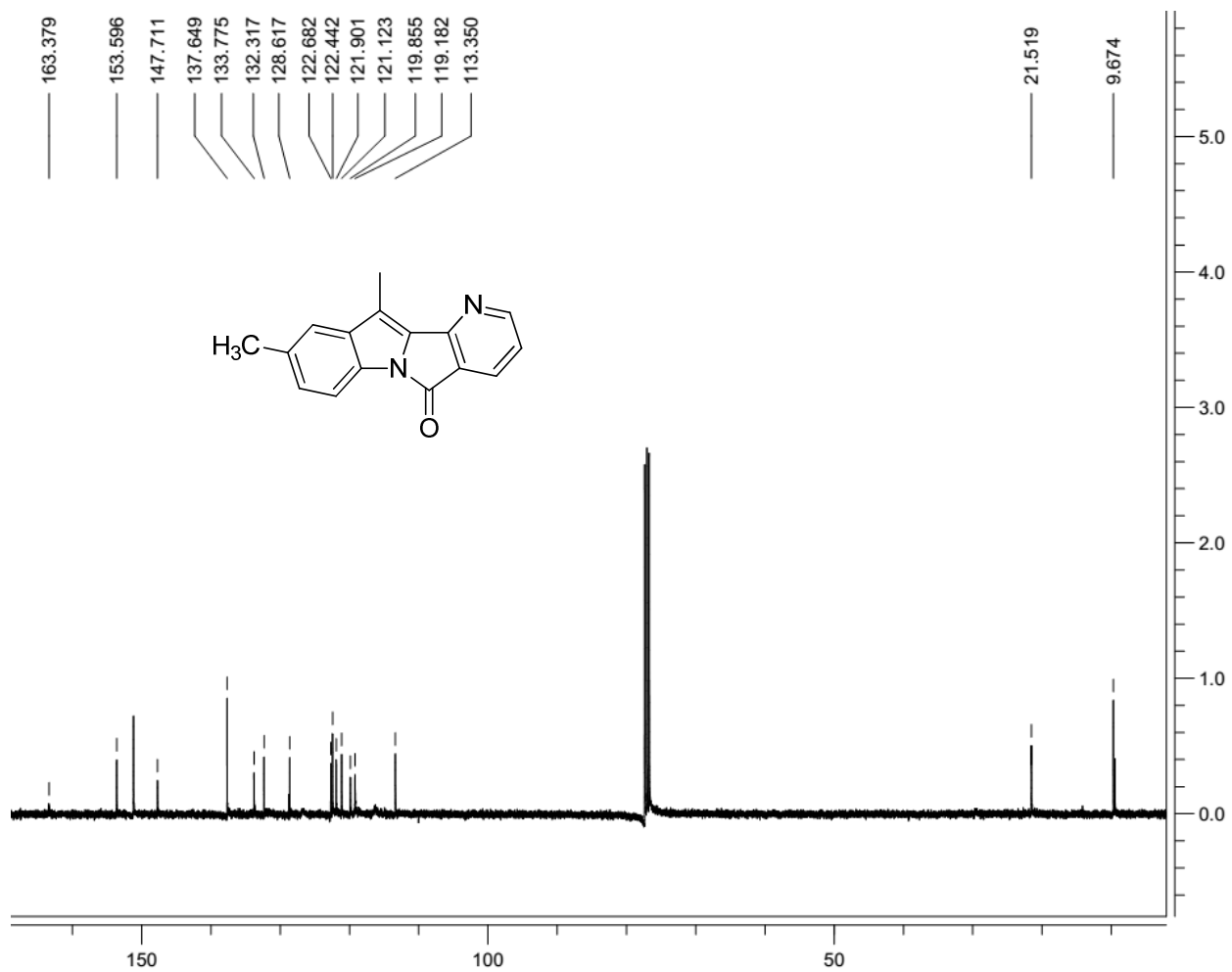


Fig. 64:  $^{13}\text{C}$  NMR spectra of compound **2i** ( $\text{CDCl}_3$ , 100 MHz)



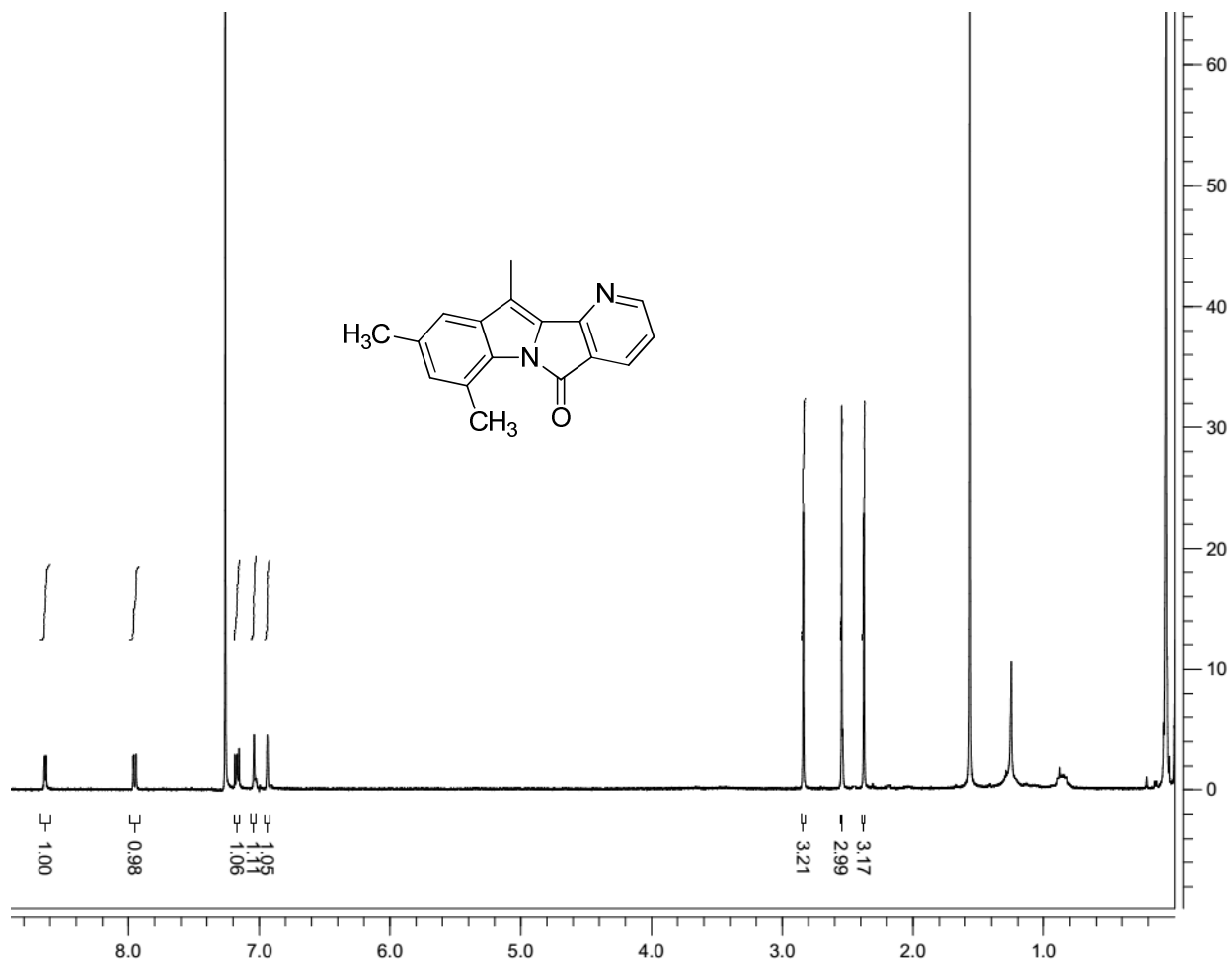


Fig. 65:  $^1\text{H}$  NMR spectra of compound **2j** ( $\text{CDCl}_3$ , 400 MHz)

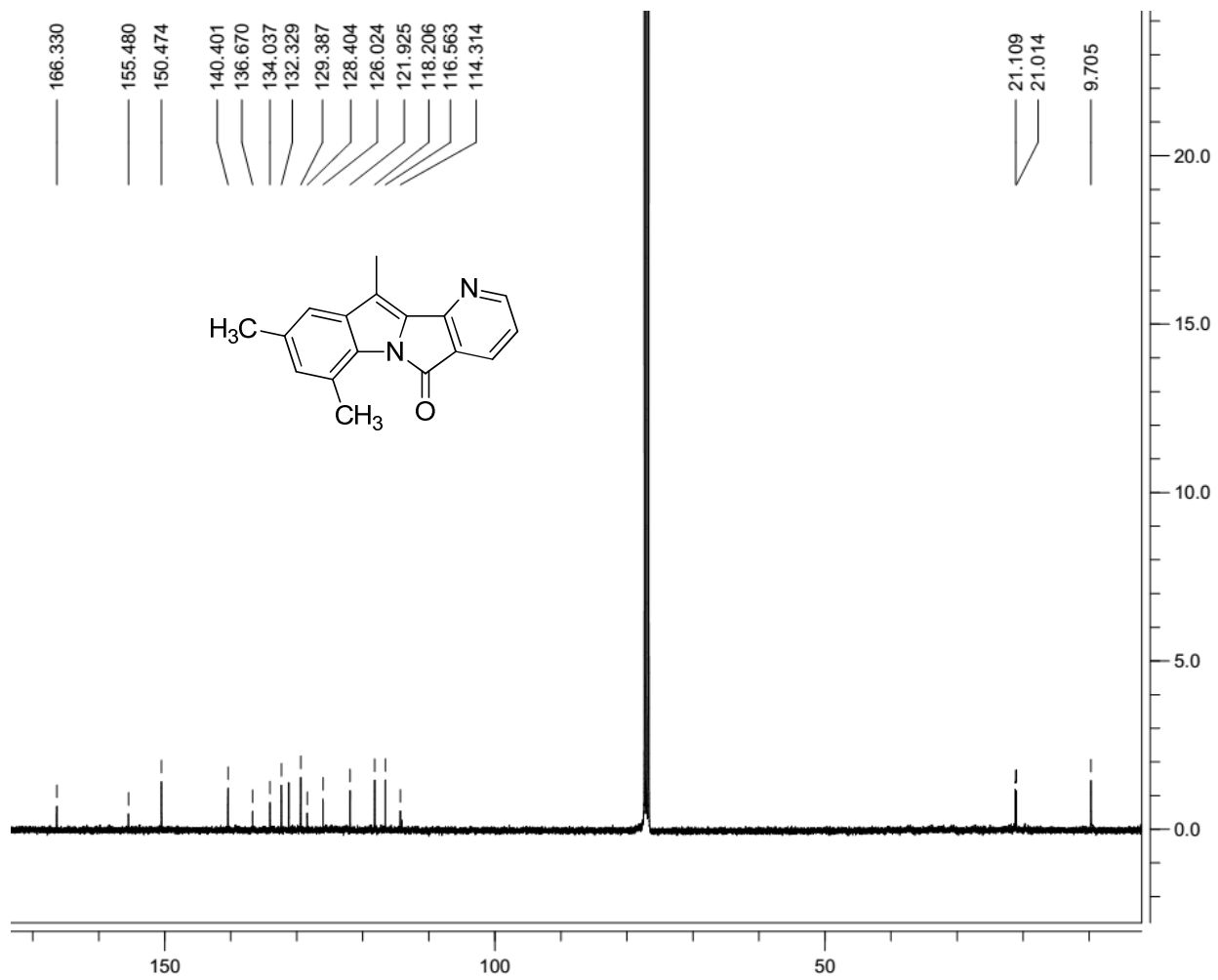


Fig. 66: <sup>13</sup>C NMR spectra of compound **2j** (CDCl<sub>3</sub>, 100 MHz)

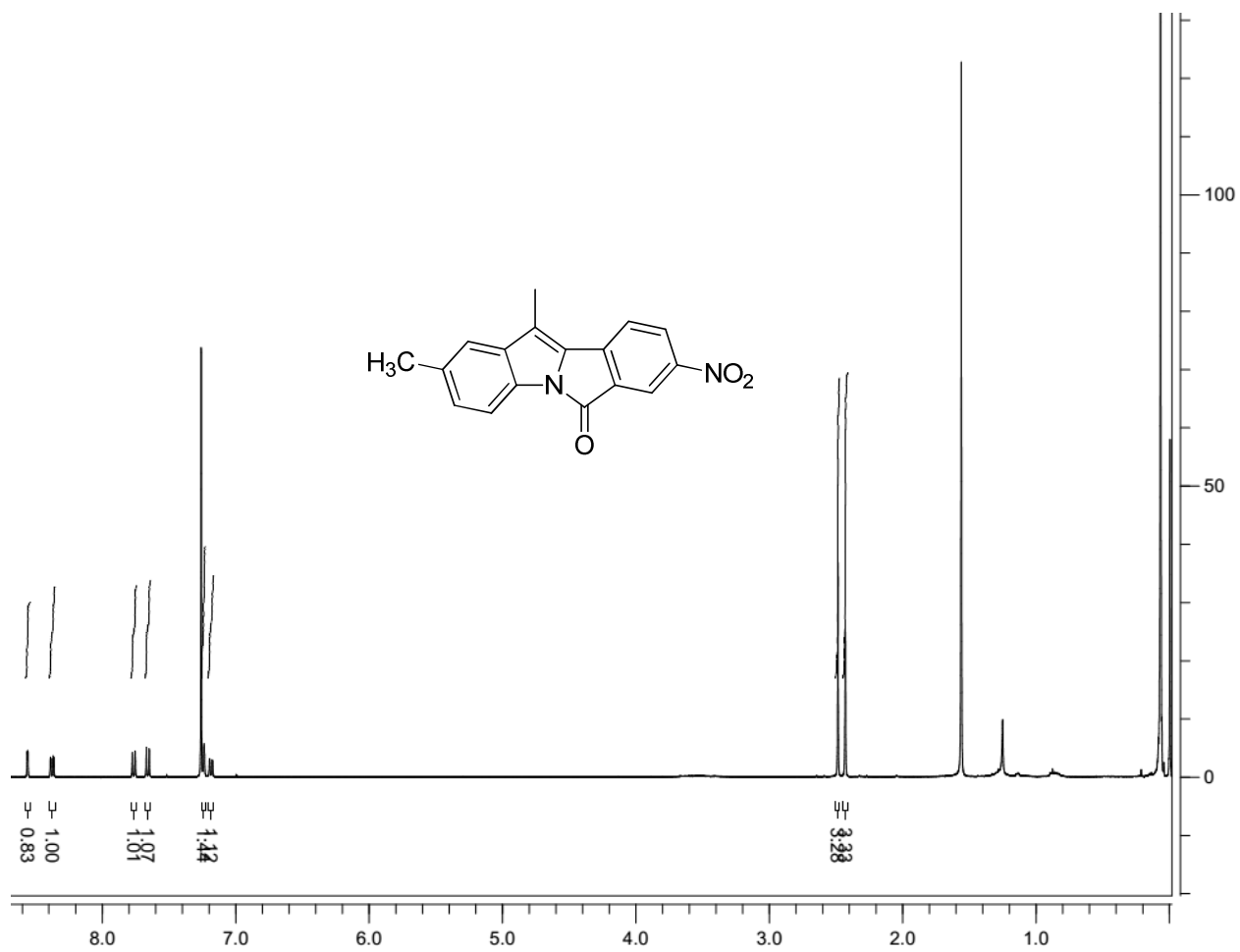


Fig. 67:  $^1\text{H}$  NMR spectra of compound **2k** ( $\text{CDCl}_3$ , 400 MHz)

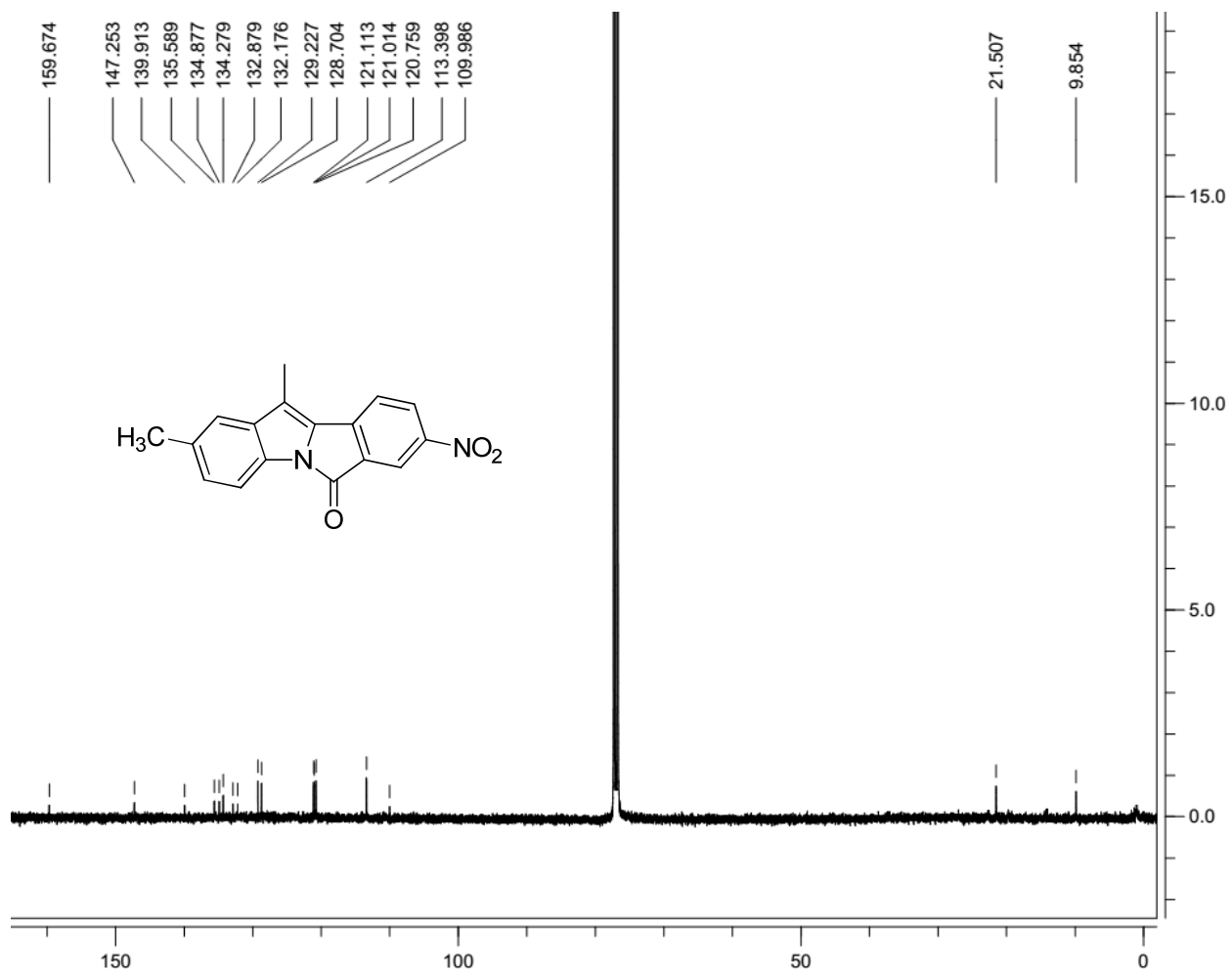


Fig. 68:  $^{13}\text{C}$  NMR spectra of compound **2k** ( $\text{CDCl}_3$ , 100 MHz)

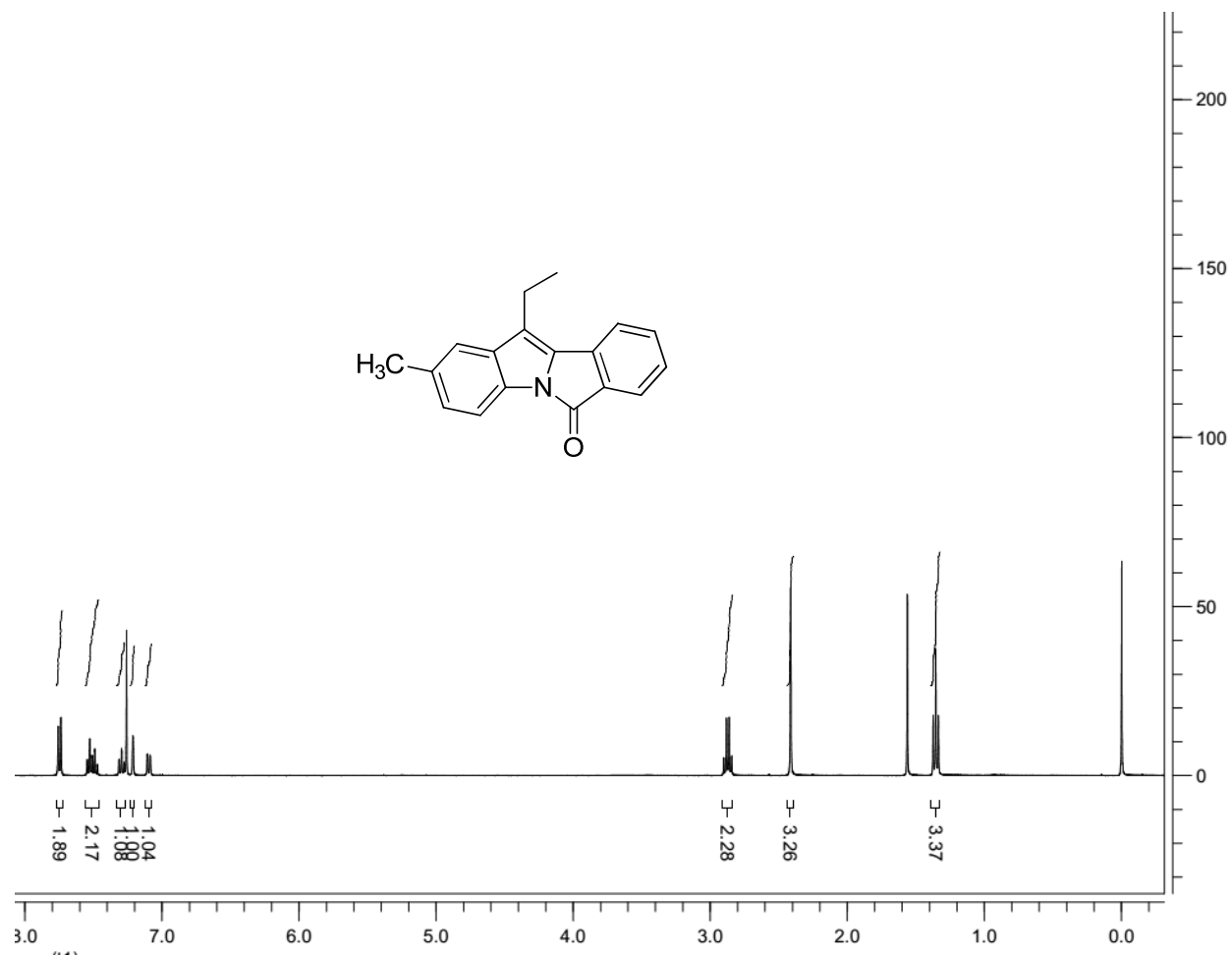


Fig. 69: <sup>1</sup>H NMR spectra of compound **2I** (CDCl<sub>3</sub>, 400 MHz)

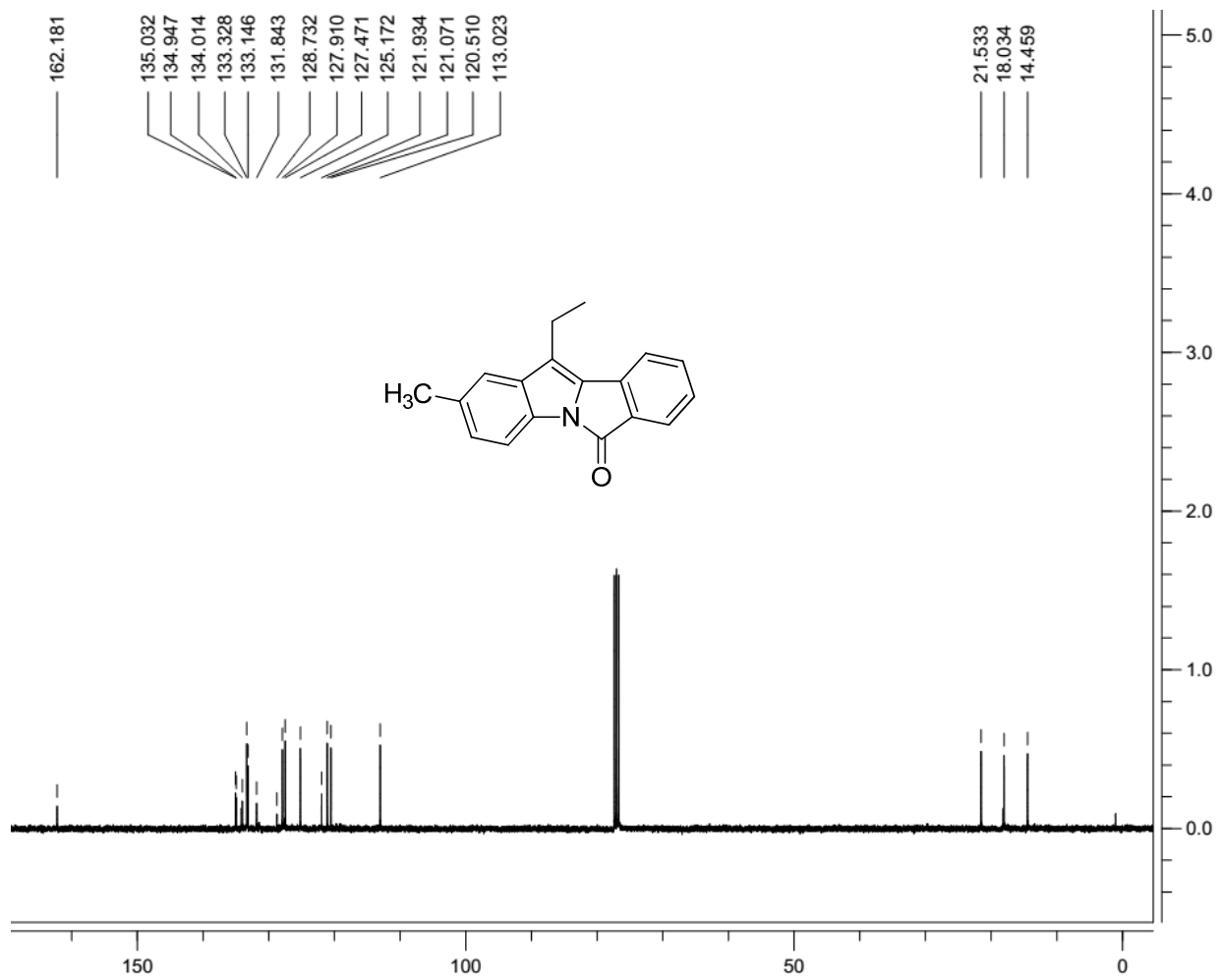


Fig. 70:  $^{13}\text{C}$  NMR spectra of compound **2I** ( $\text{CDCl}_3$ , 100 MHz)

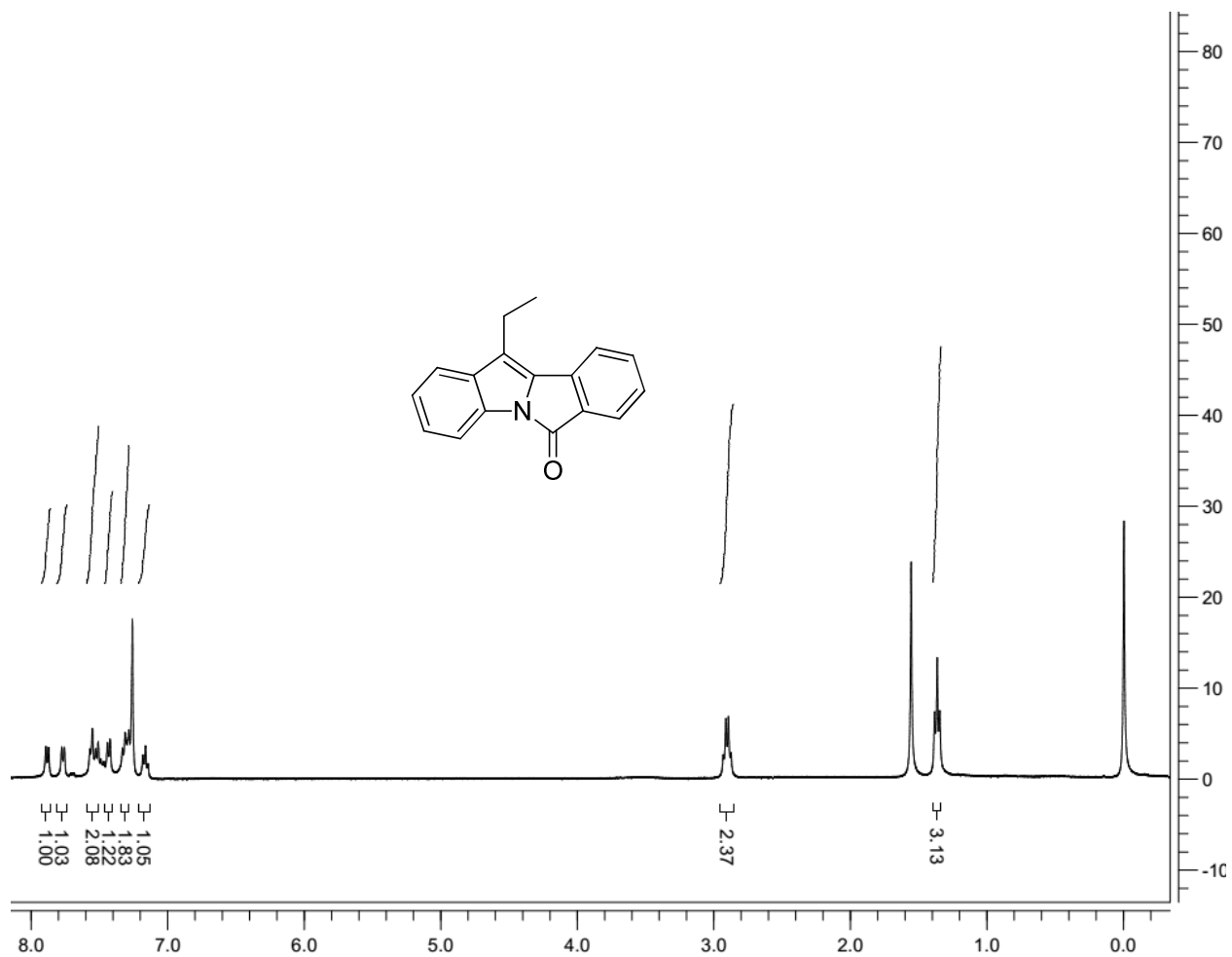


Fig. 71: <sup>1</sup>H NMR spectra of compound **2m** (CDCl<sub>3</sub>, 400 MHz)

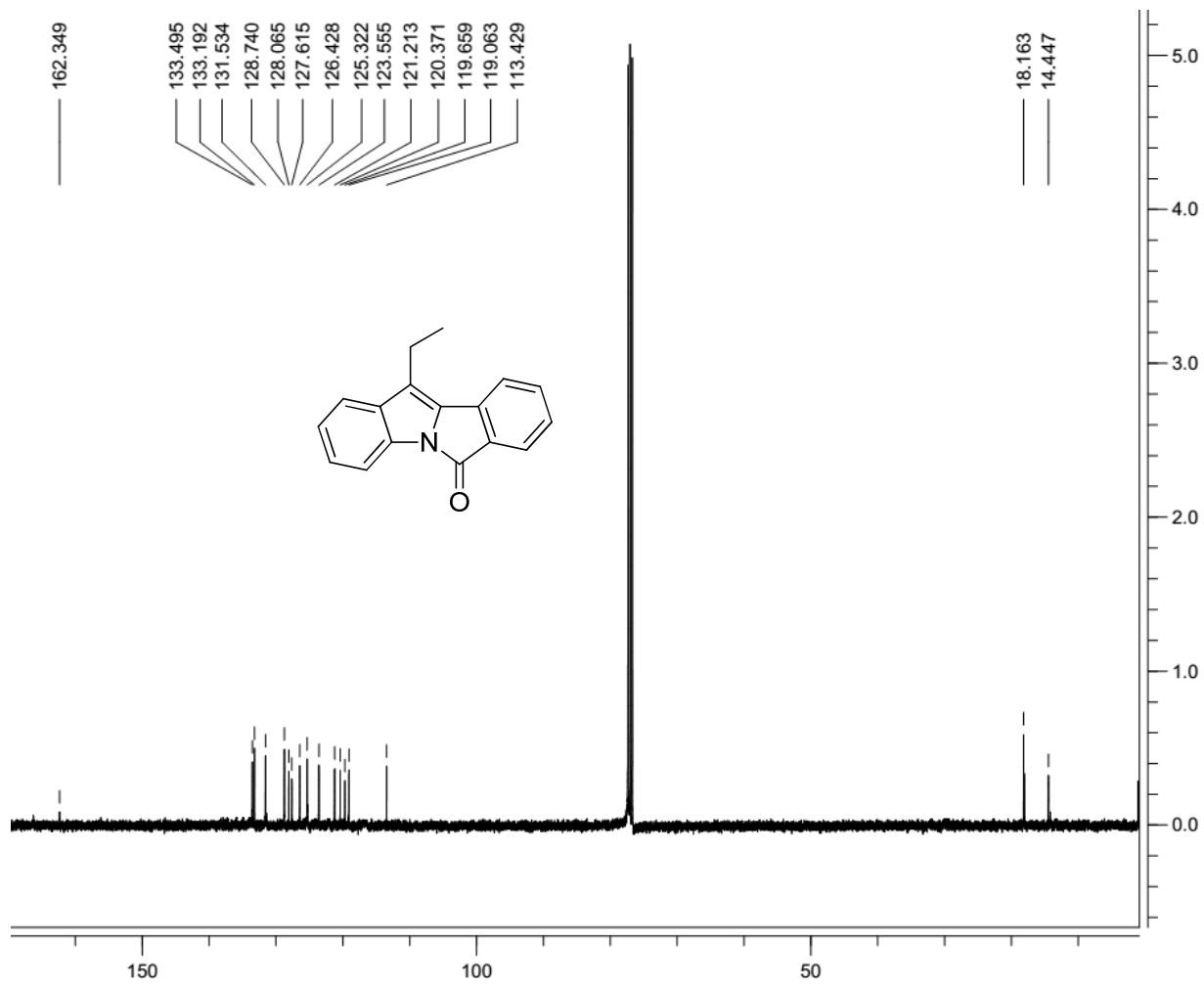


Fig. 72:  $^{13}\text{C}$  NMR spectra of compound **2m** ( $\text{CDCl}_3$ , 100 MHz)



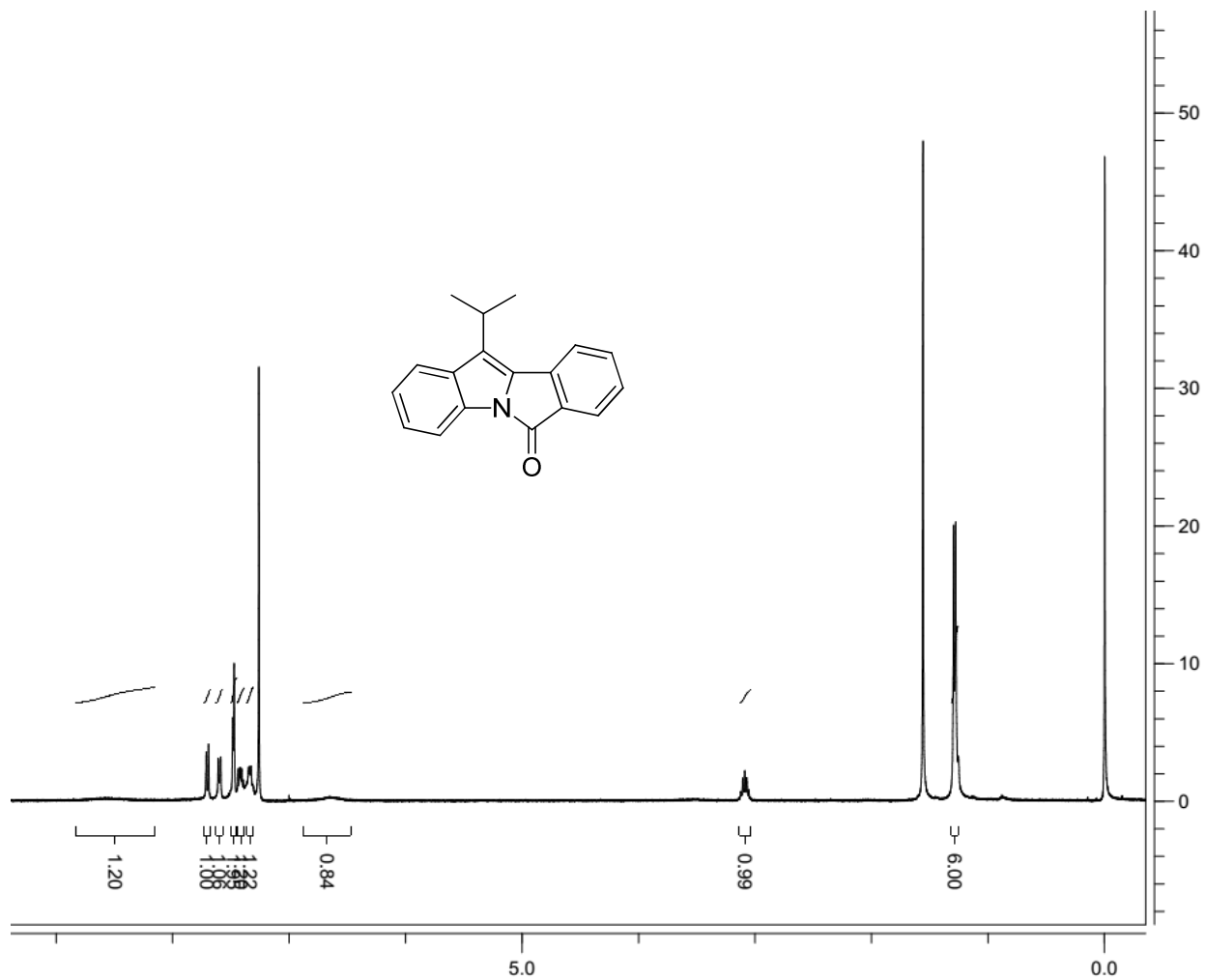


Fig. 73:  $^1\text{H}$  NMR spectra of compound **2n** ( $\text{CDCl}_3$ , 400 MHz)

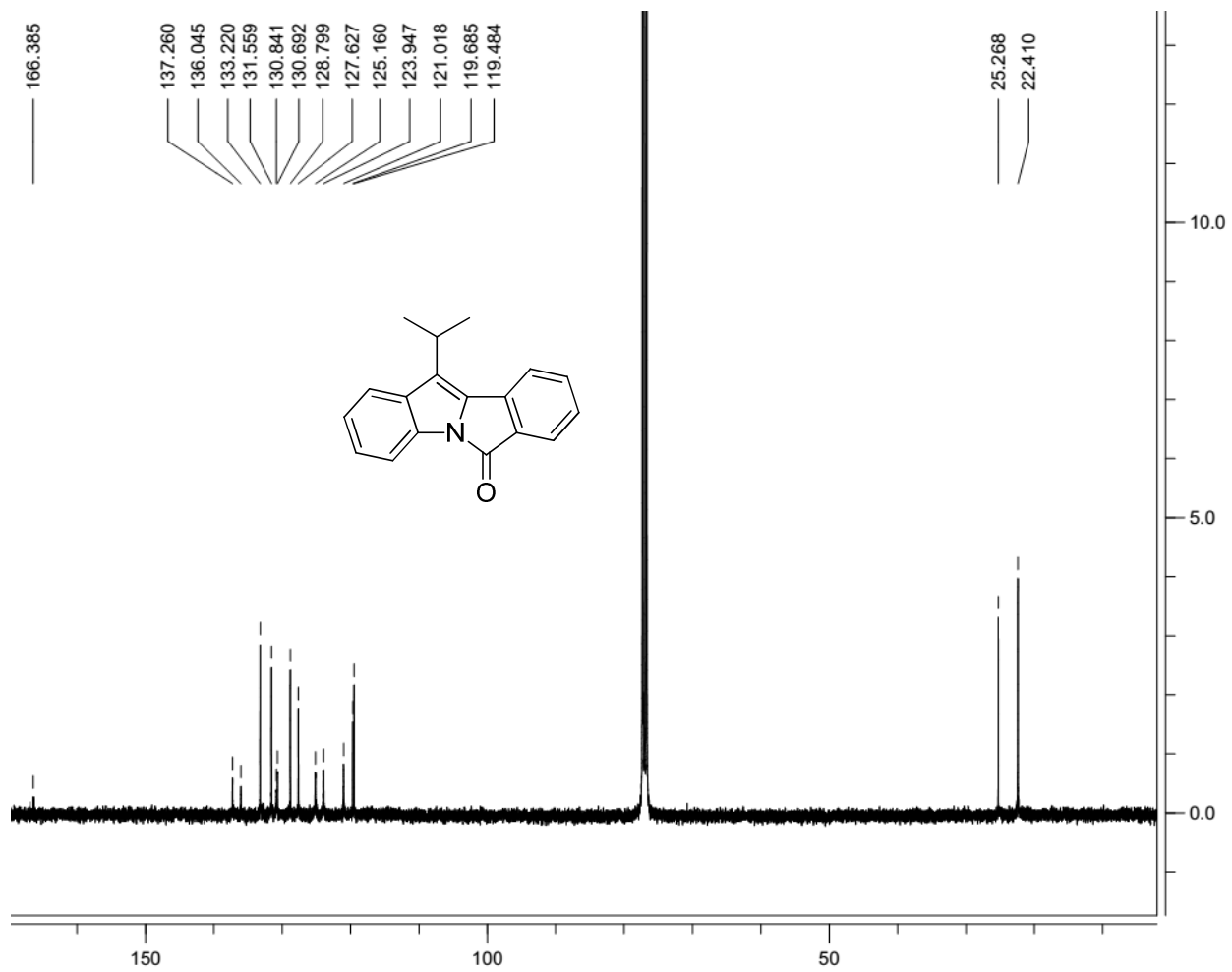


Fig. 74:  $^{13}\text{C}$  NMR spectra of compound **2n** ( $\text{CDCl}_3$ , 100 MHz)

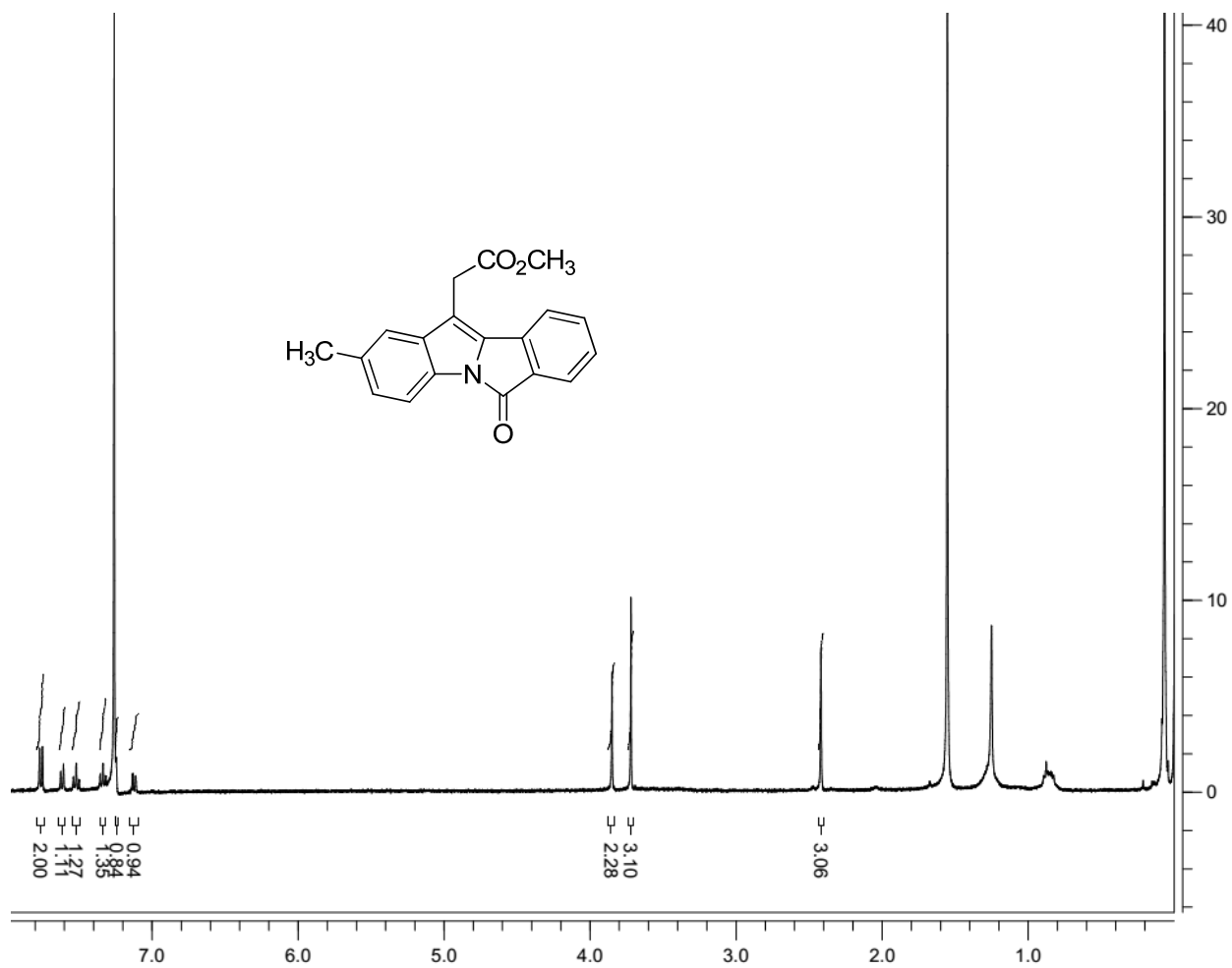


Fig. 75: <sup>1</sup>H NMR spectra of compound **2o** (CDCl<sub>3</sub>, 400 MHz)

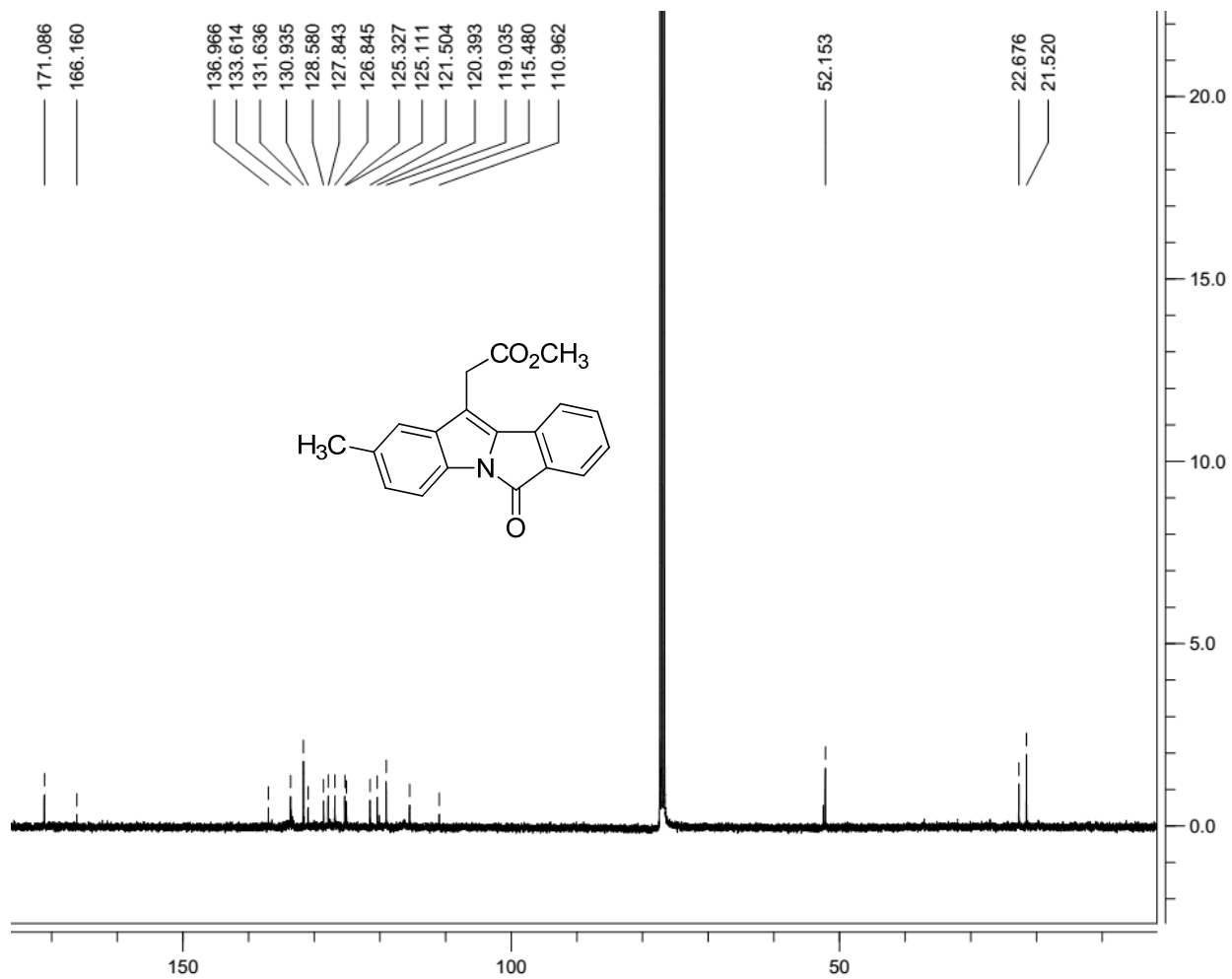


Fig. 76: <sup>13</sup>C NMR spectra of compound **2o** (CDCl<sub>3</sub>, 100 MHz)

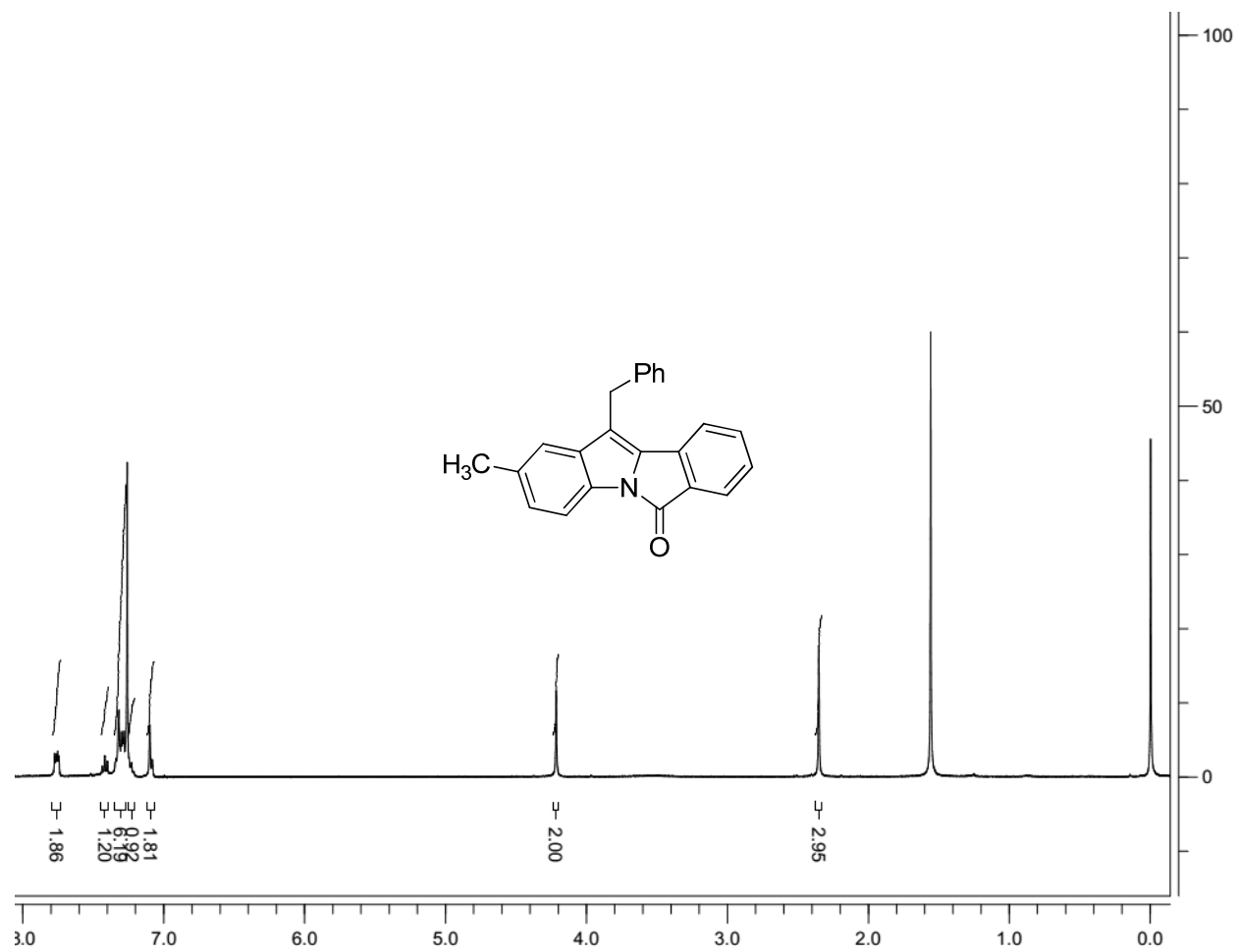


Fig. 77: <sup>1</sup>H NMR spectra of compound **2p** (CDCl<sub>3</sub>, 400 MHz)

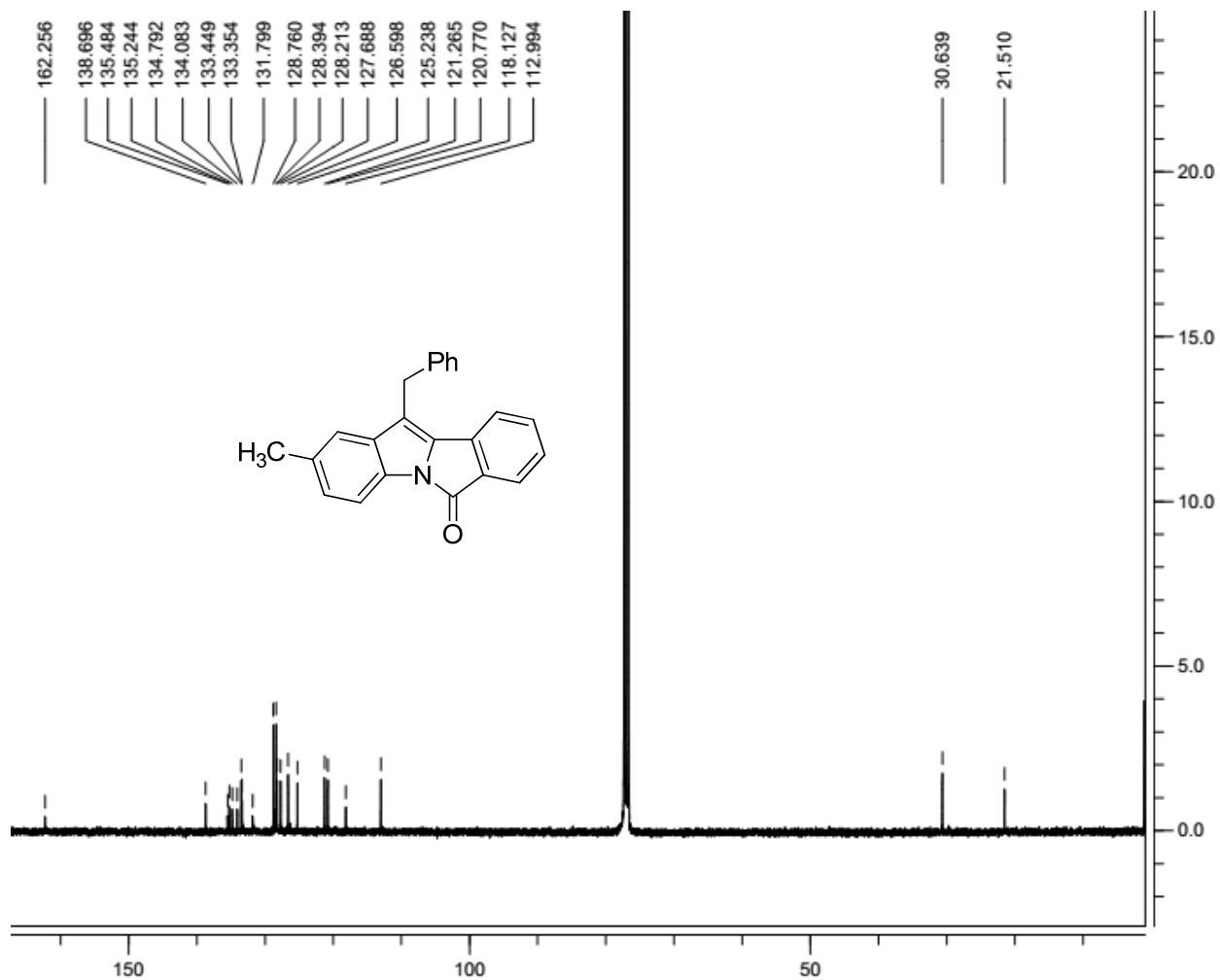


Fig. 78:  $^{13}\text{C}$  NMR spectra of compound **2p** ( $\text{CDCl}_3$ , 100 MHz)

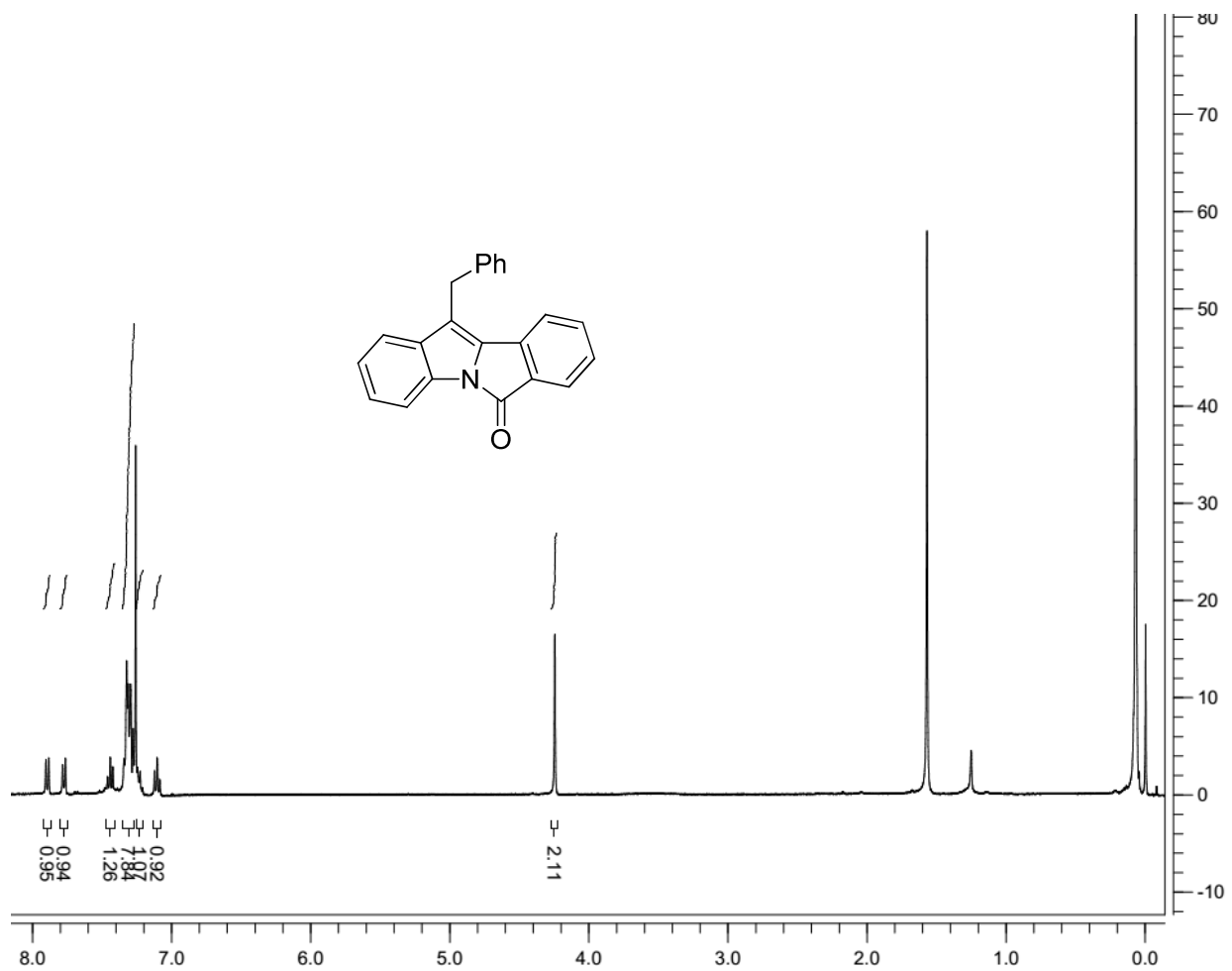


Fig. 79:  $^1\text{H}$  NMR spectra of compound **2q** ( $\text{CDCl}_3$ , 400 MHz)

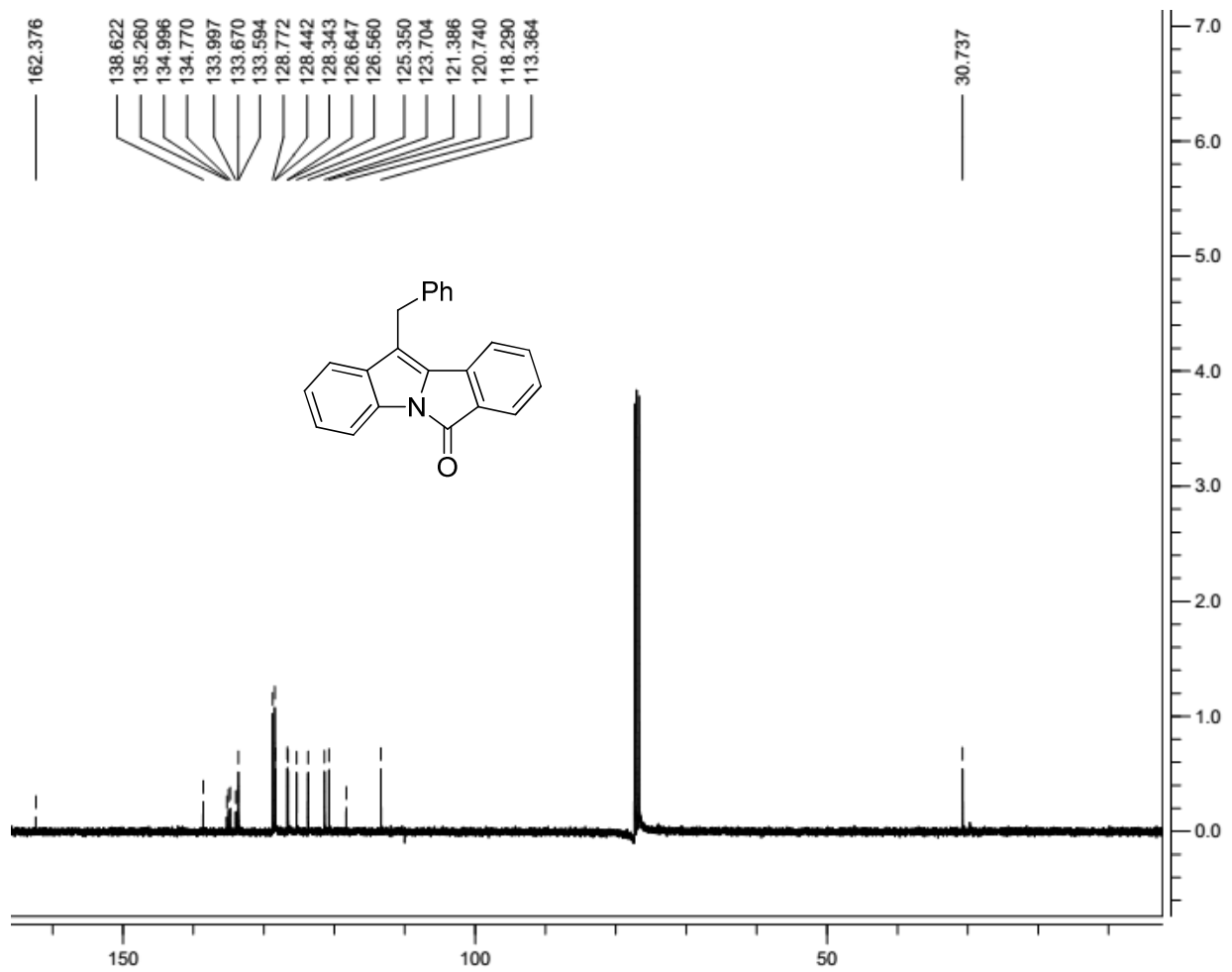


Fig. 80:  $^{13}\text{C}$  NMR spectra of compound **2q** ( $\text{CDCl}_3$ , 100 MHz)



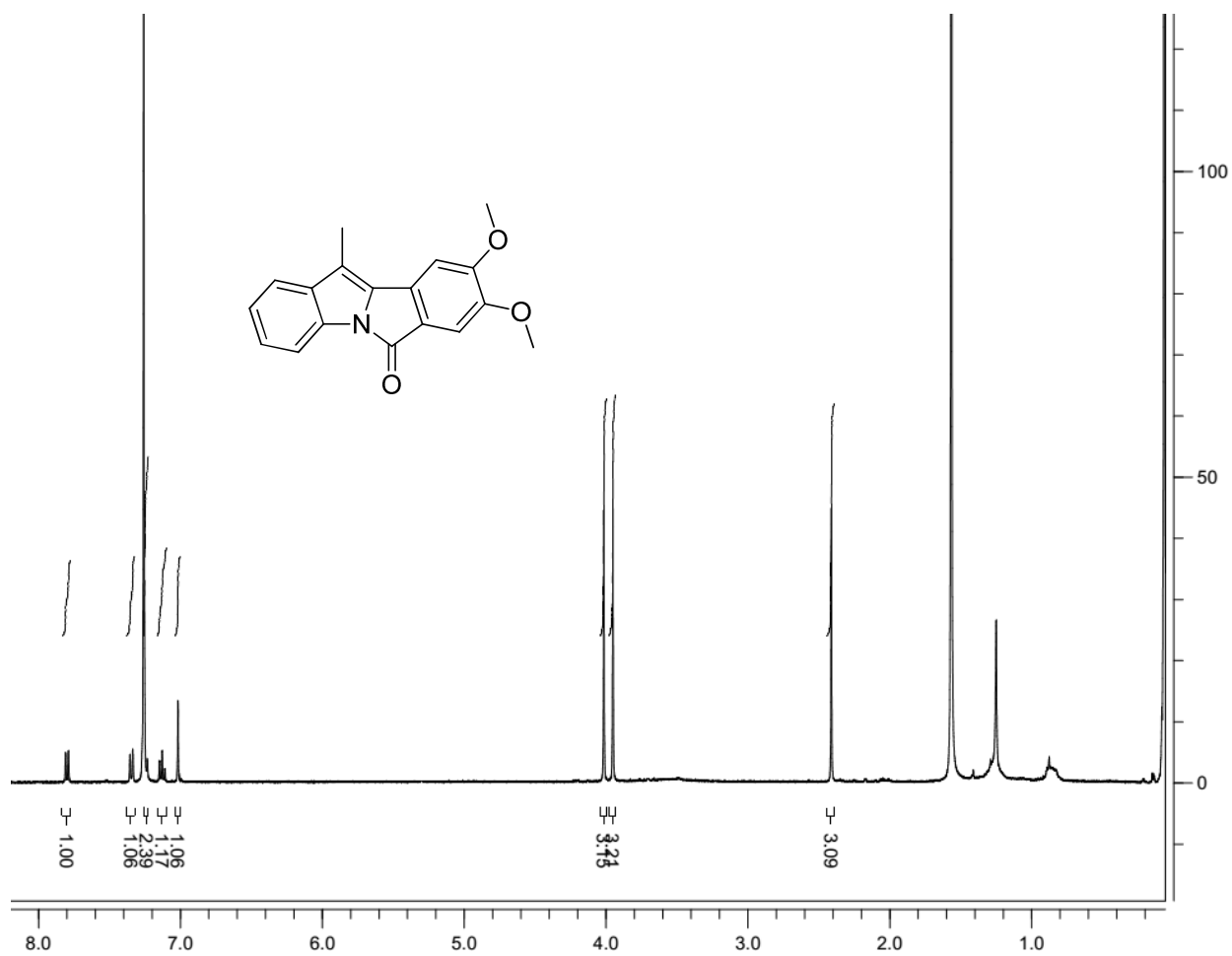


Fig. 81: <sup>1</sup>H NMR spectra of compound **2r** (CDCl<sub>3</sub>, 400 MHz)

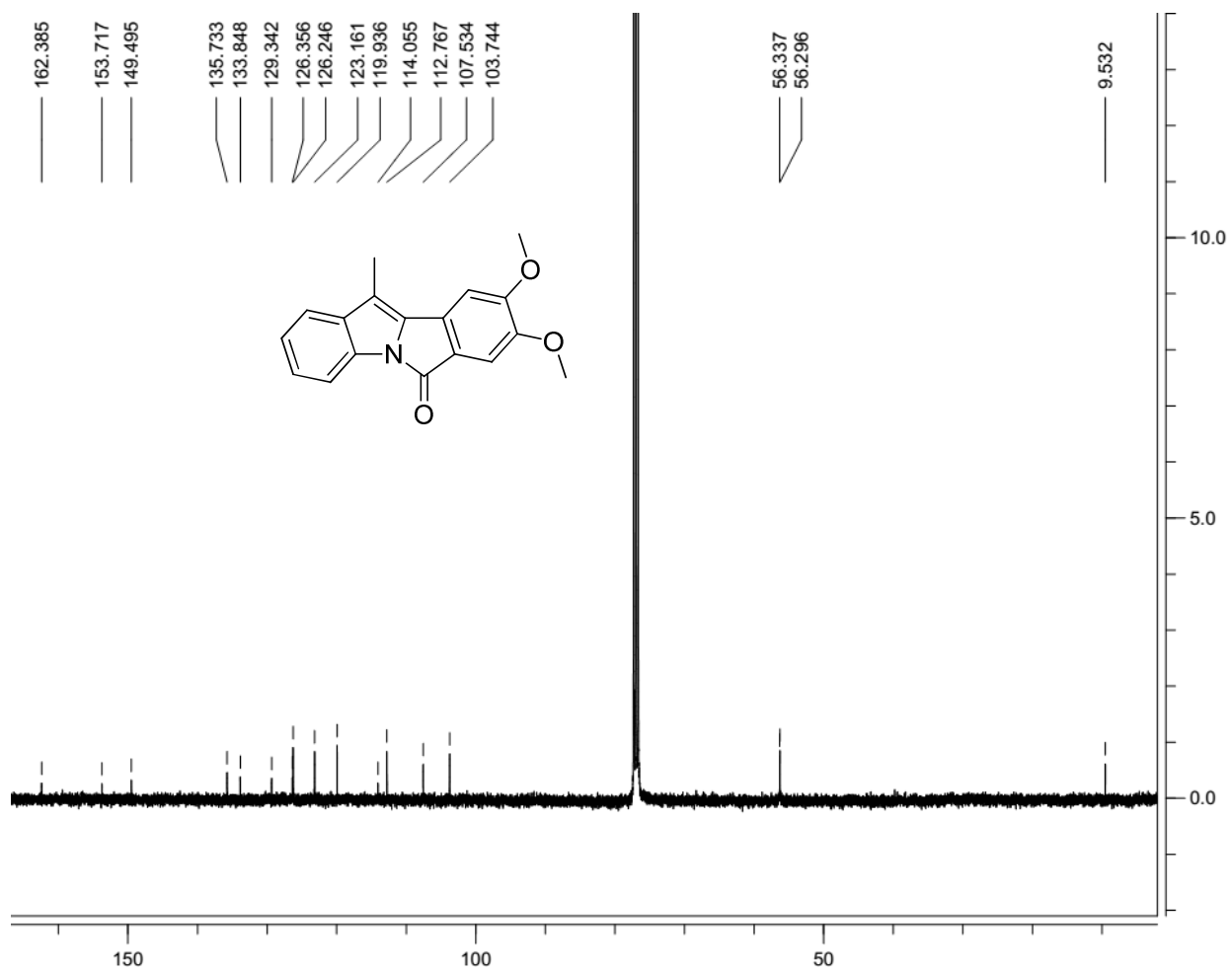


Fig. 82:  $^{13}\text{C}$  NMR spectra of compound **2r** ( $\text{CDCl}_3$ , 100 MHz)

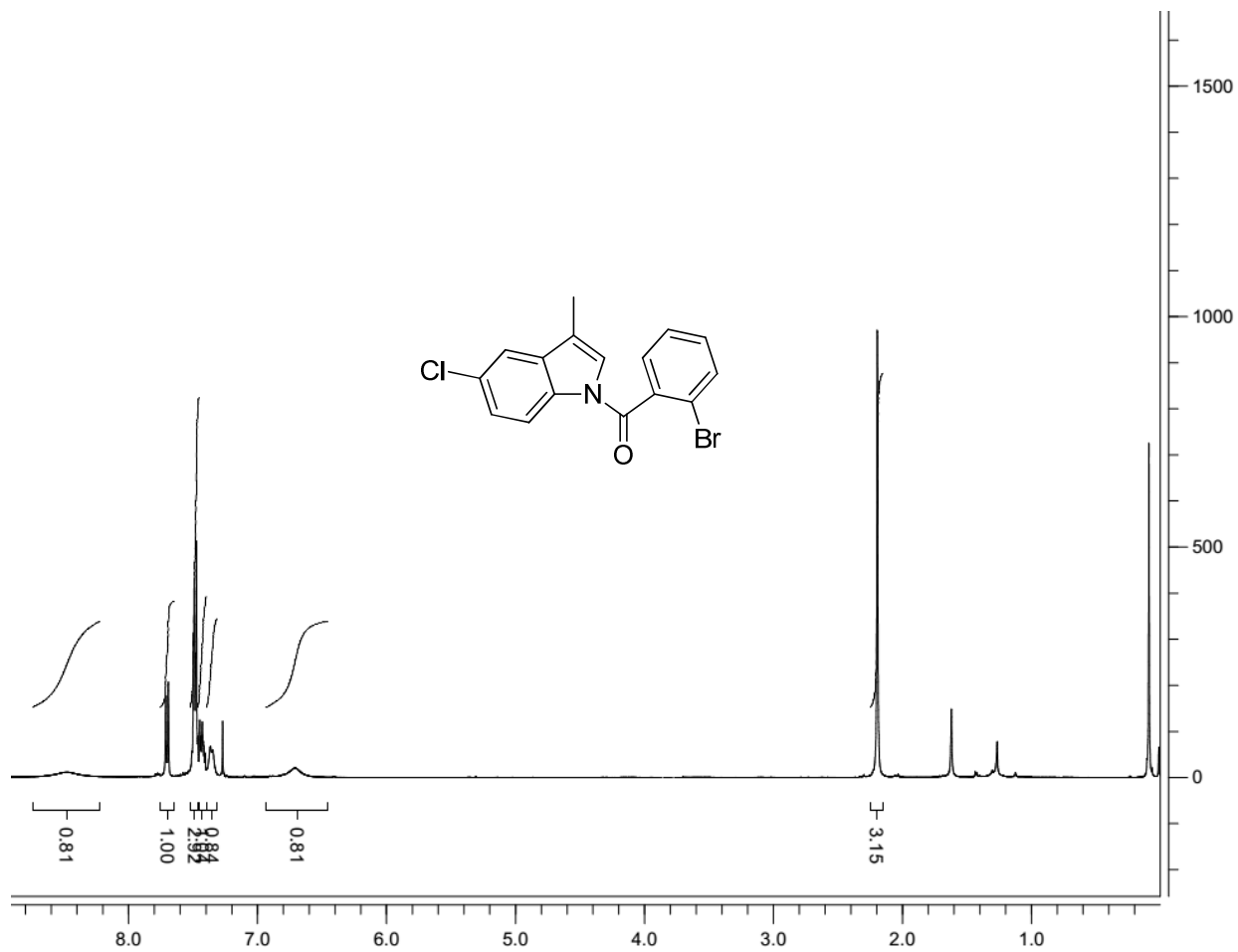


Fig. 83: <sup>1</sup>H NMR spectra of compound **3** (CDCl<sub>3</sub>, 400 MHz)