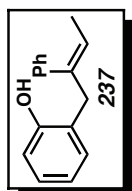
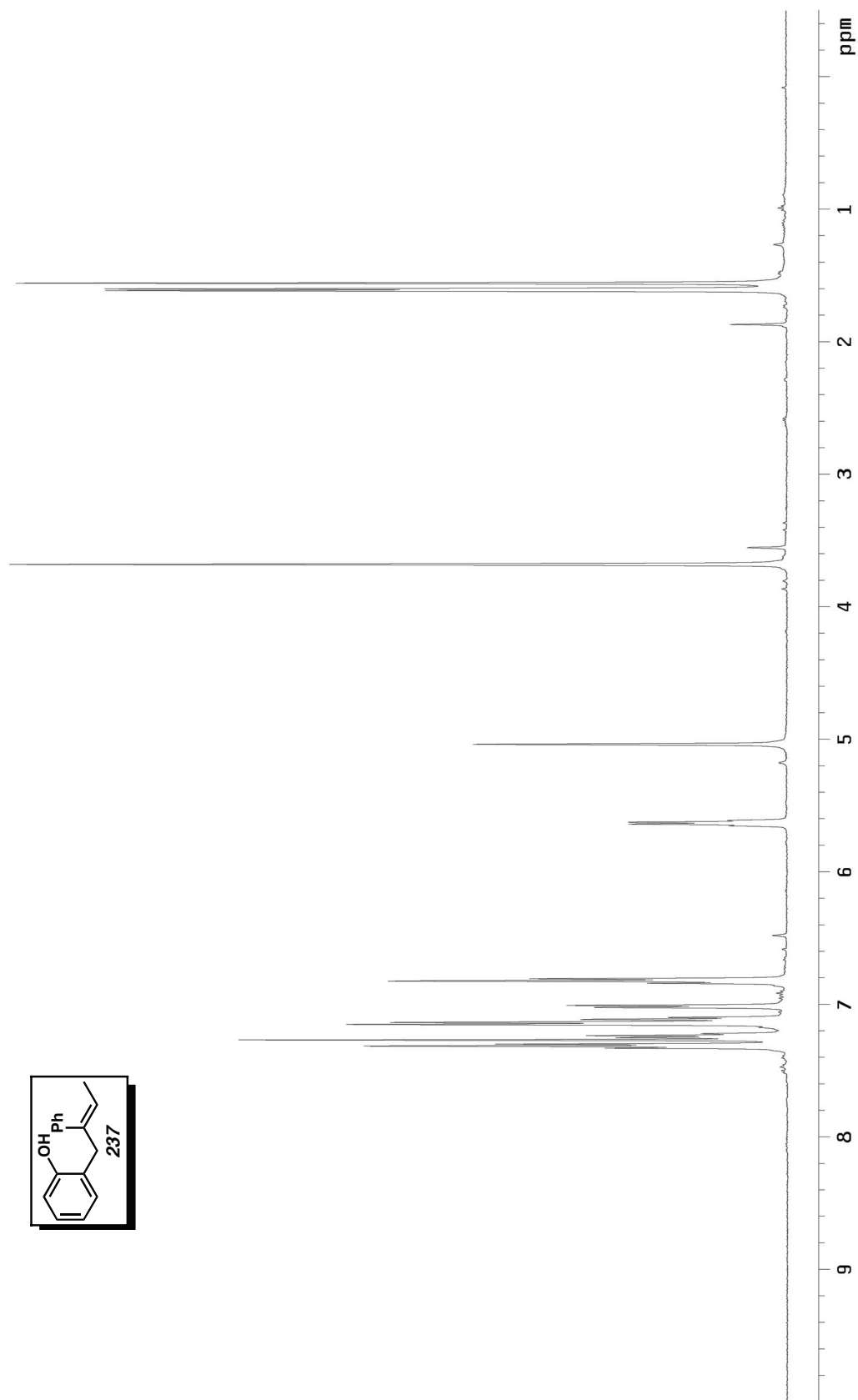


Appendix 3.1

Spectra of Compounds Relevant to Chapter Three

Figure A3.1.1 ^1H NMR (500 MHz, CDCl_3) of compound **237**

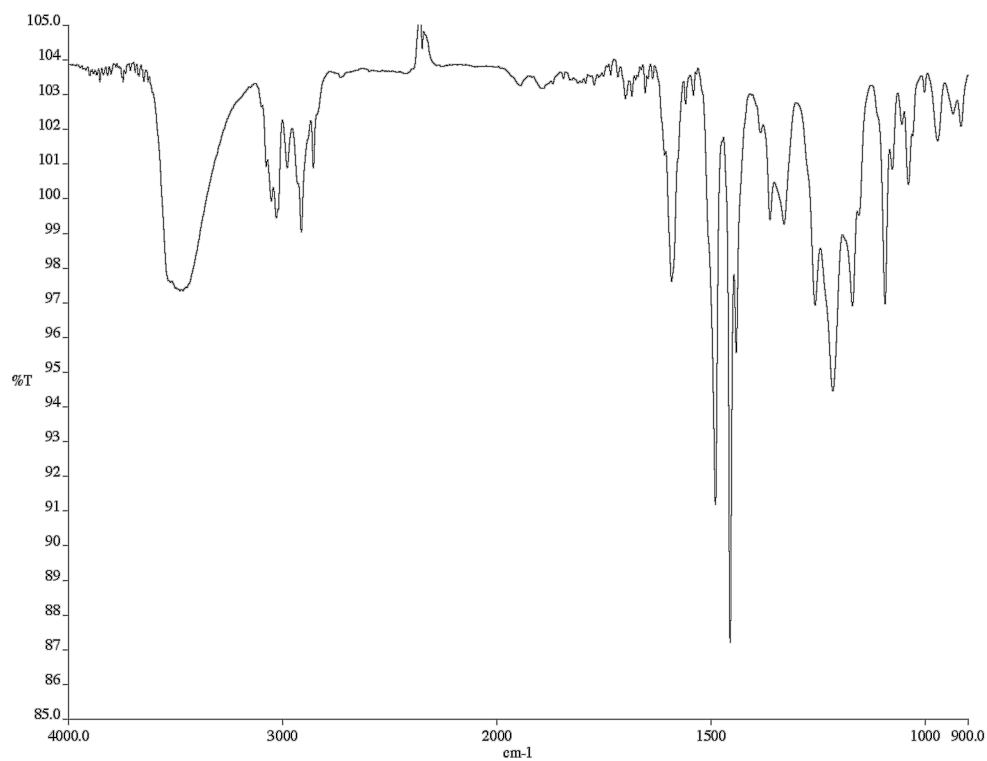


Figure A3.1.2 Infrared spectrum (film/NaCl) of compound **237**

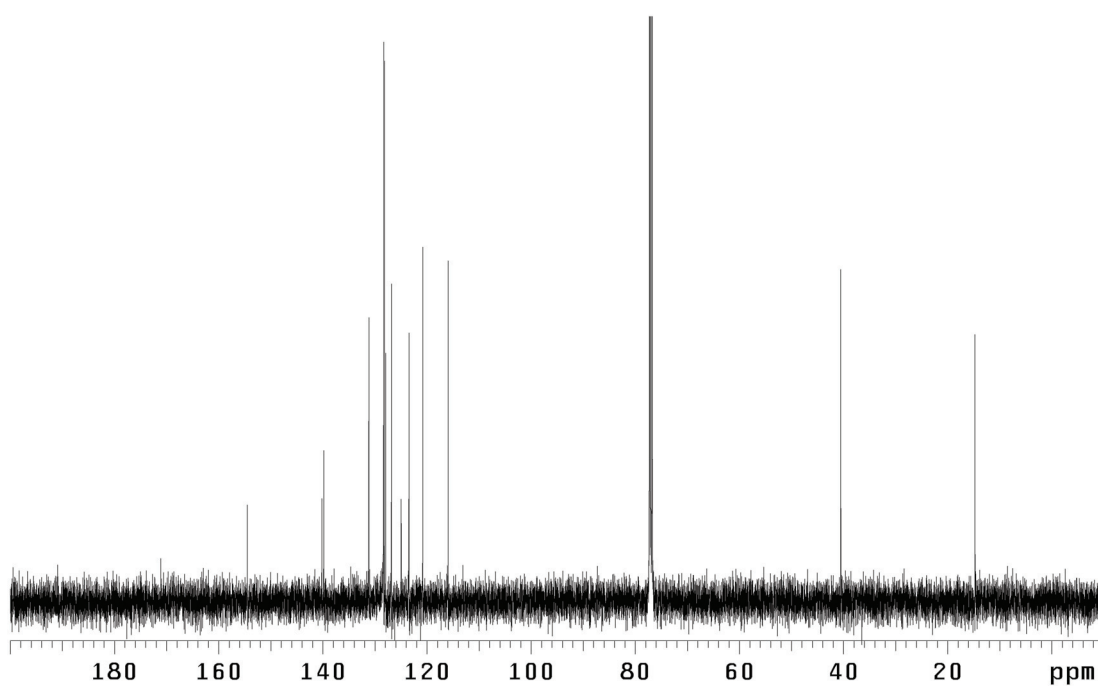
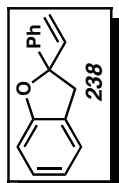
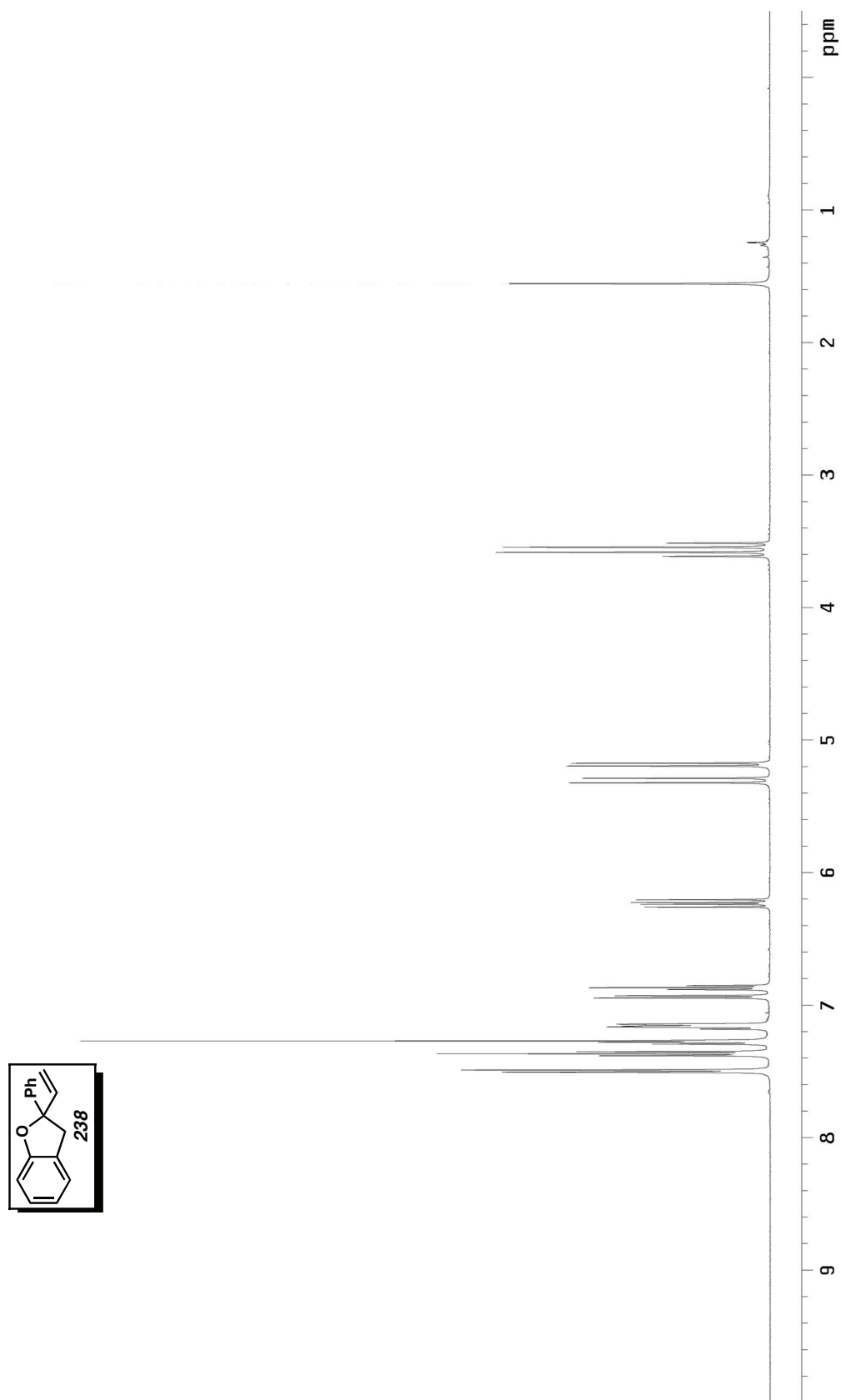


Figure A3.1.3 ¹³C NMR (125 MHz, CDCl₃) of compound **237**



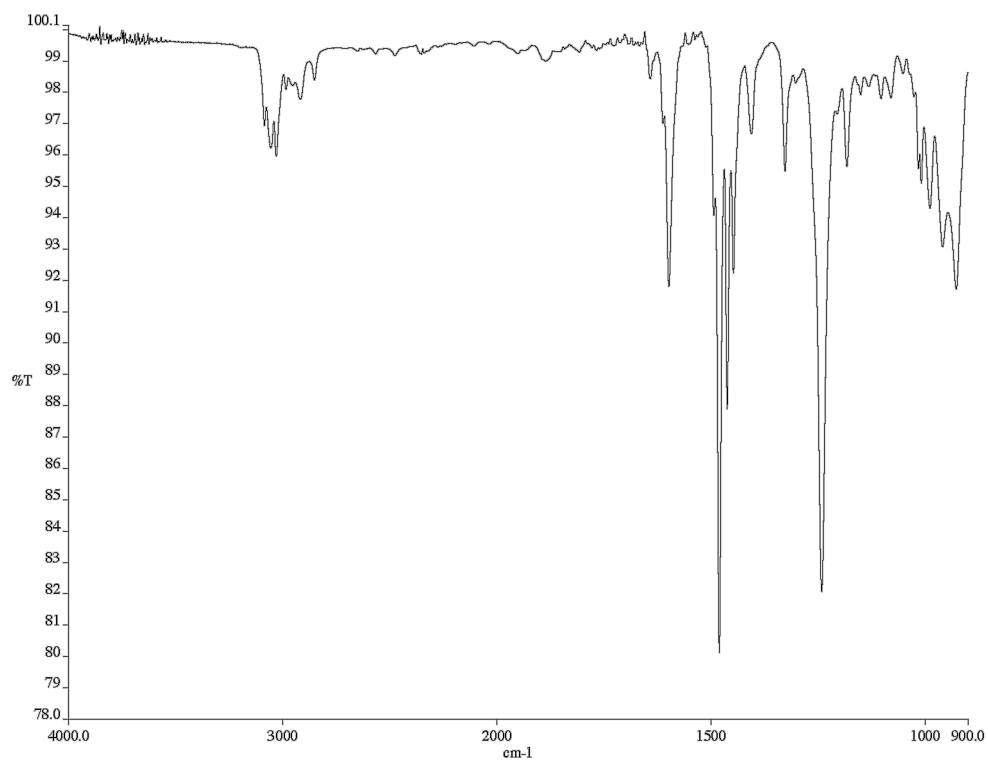


Figure A3.1.5 Infrared spectrum (film/NaCl) of compound **238**

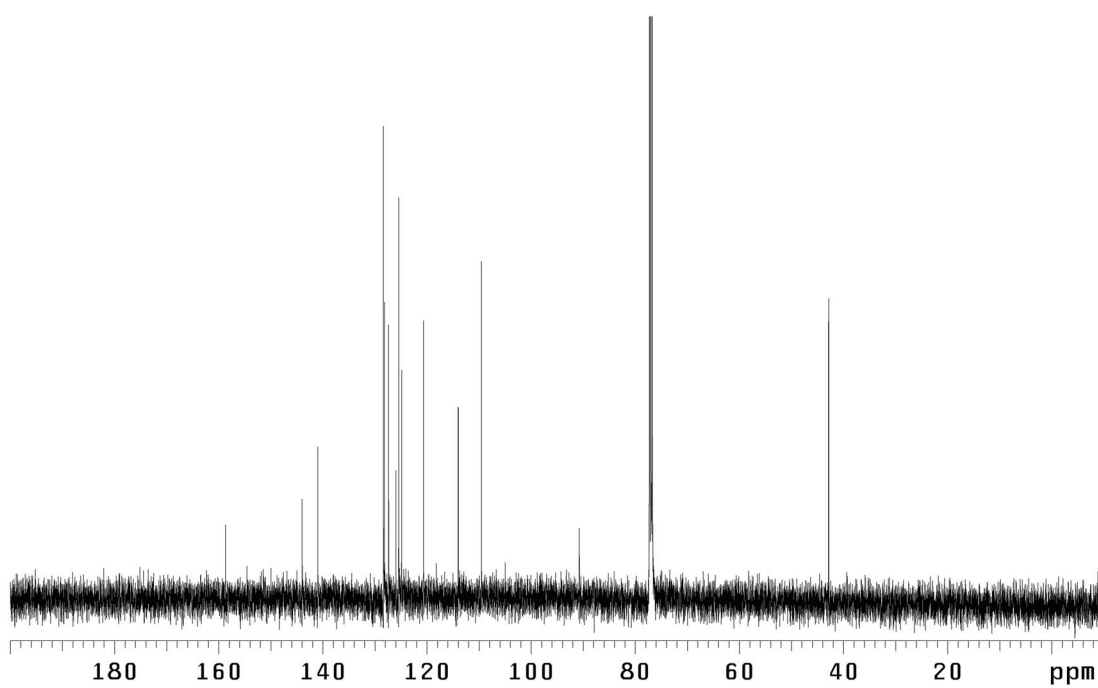
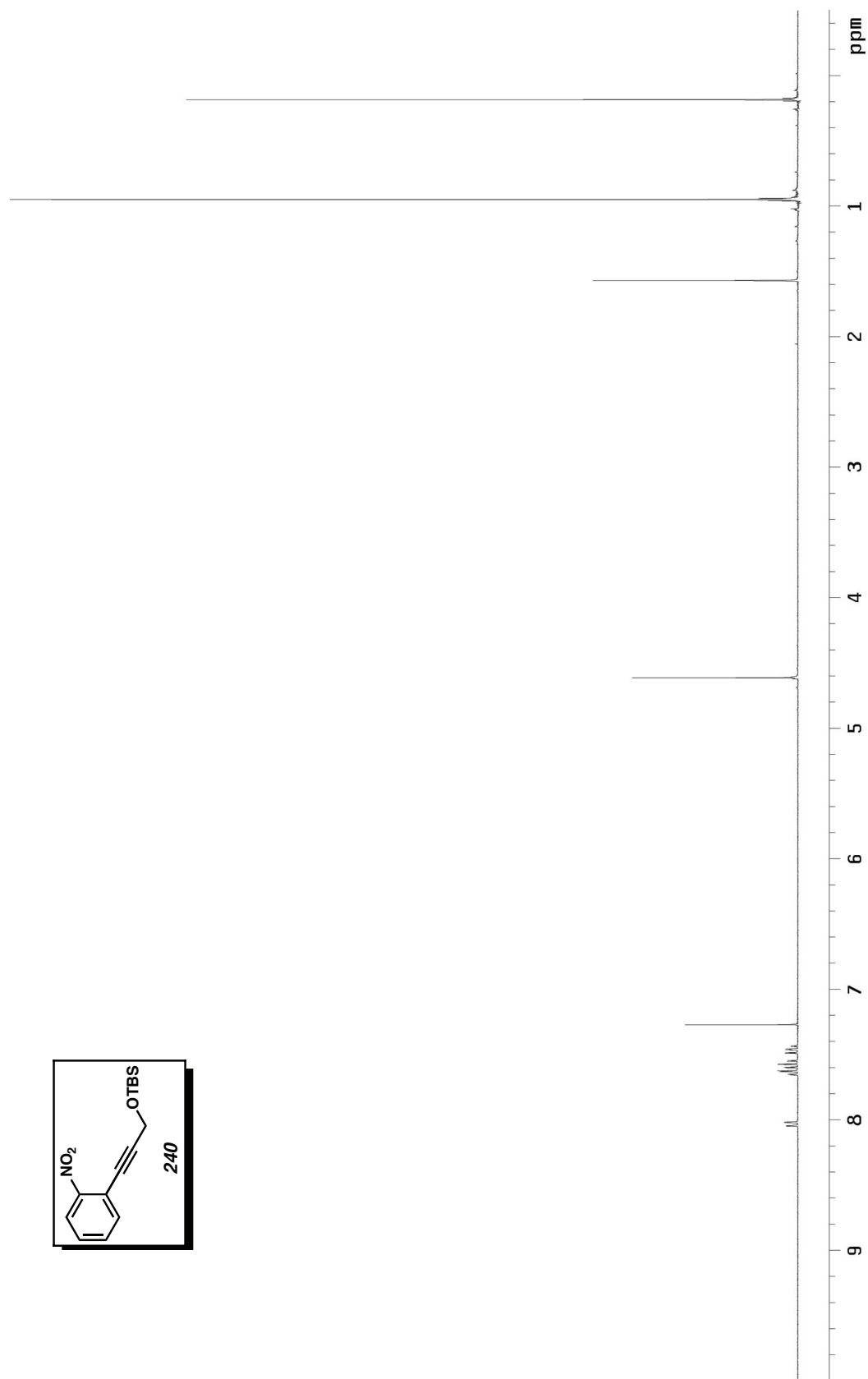
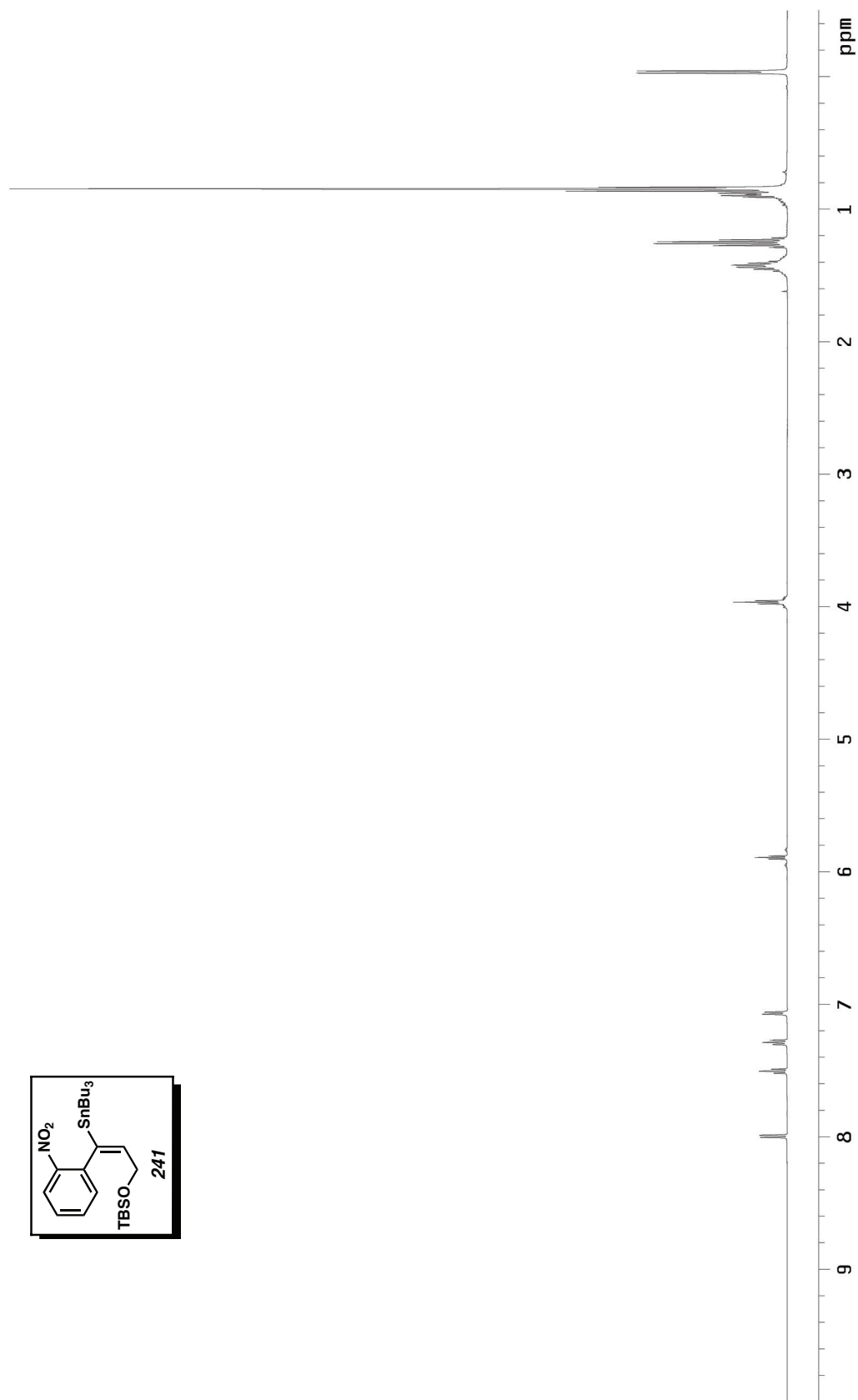


Figure A3.1.6 ¹³C NMR (125 MHz, CDCl₃) of compound **238**

Figure A3.1.7 ^1H NMR (500 MHz, CDCl_3) of compound **240**

Figure A3.1.8 ^1H NMR (500 MHz, CDCl_3) of compound **241**

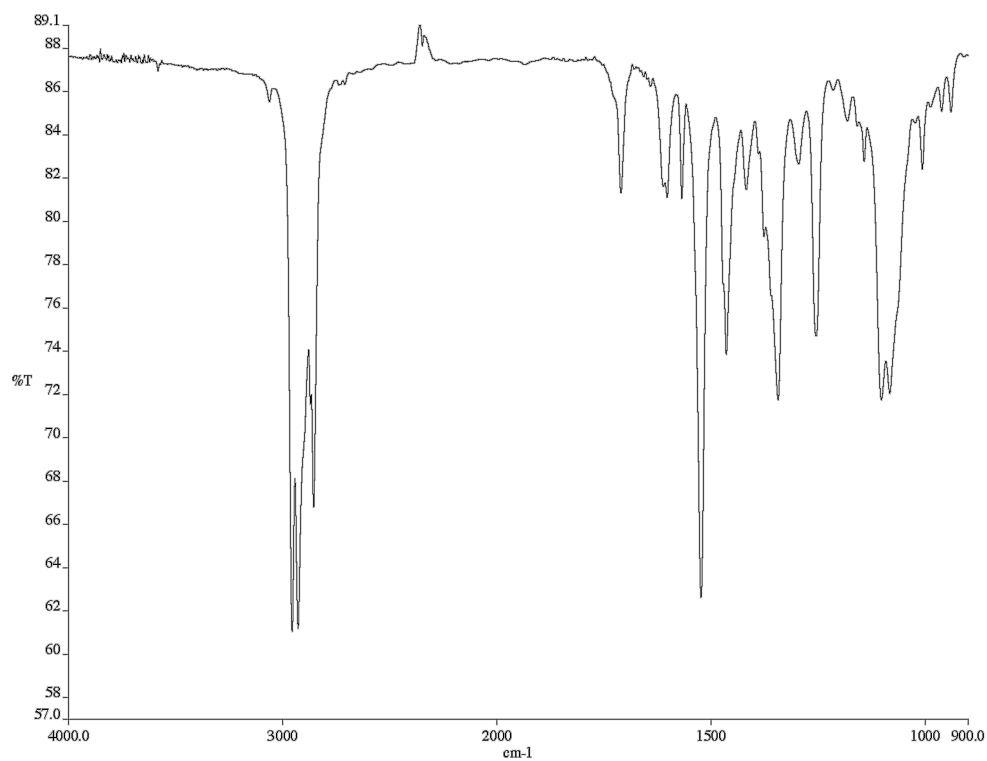


Figure A3.1.9 Infrared spectrum (film/NaCl) of compound **241**

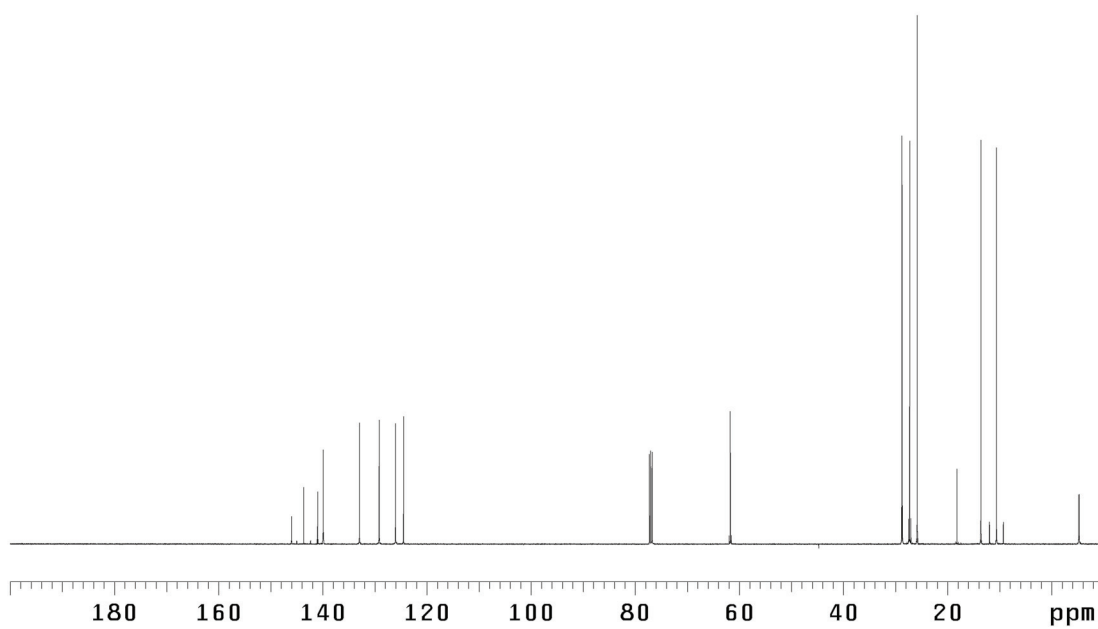
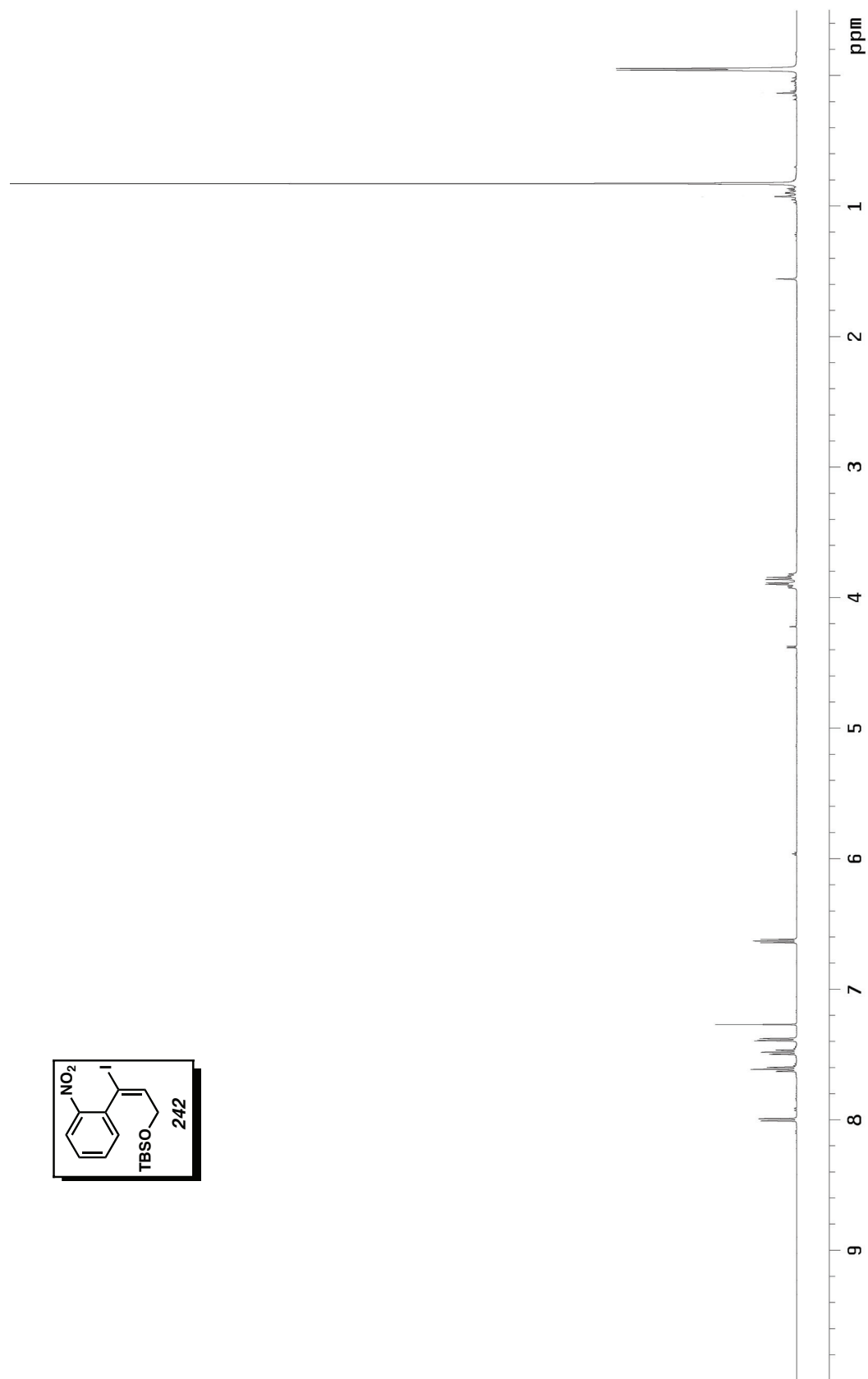


Figure A3.1.10 ¹³C NMR (125 MHz, CDCl₃) of compound **241**

Figure A3.1.1.1 ^1H NMR (500 MHz, CDCl_3) of compound **242**

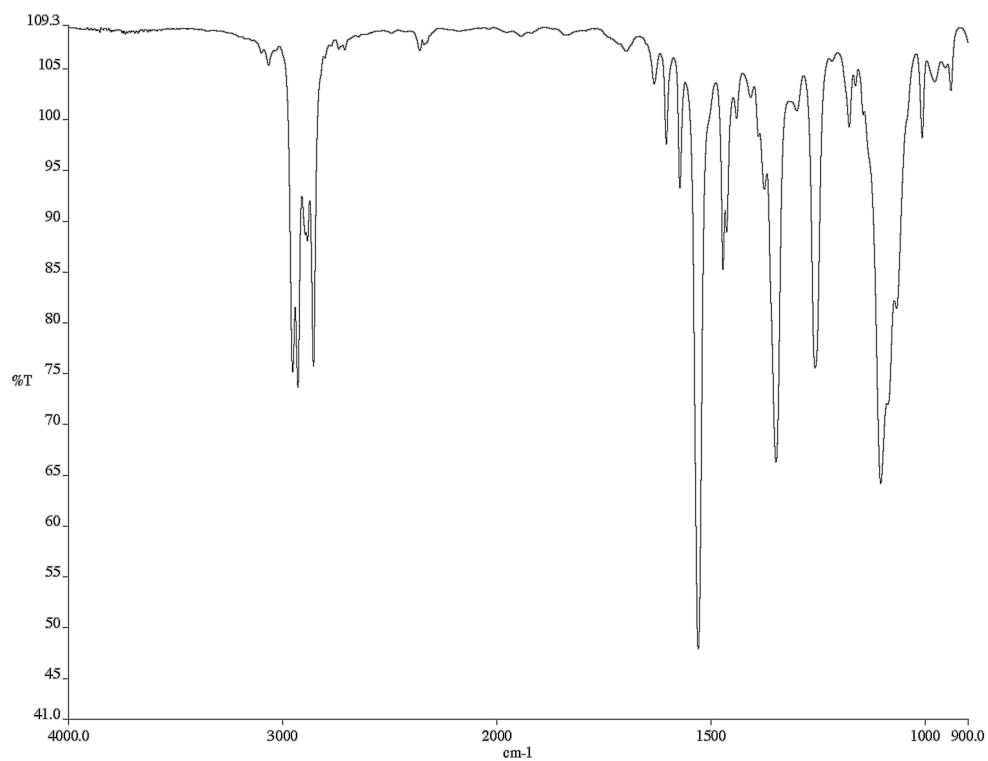


Figure A3.1.12 Infrared spectrum (film/NaCl) of compound **242**

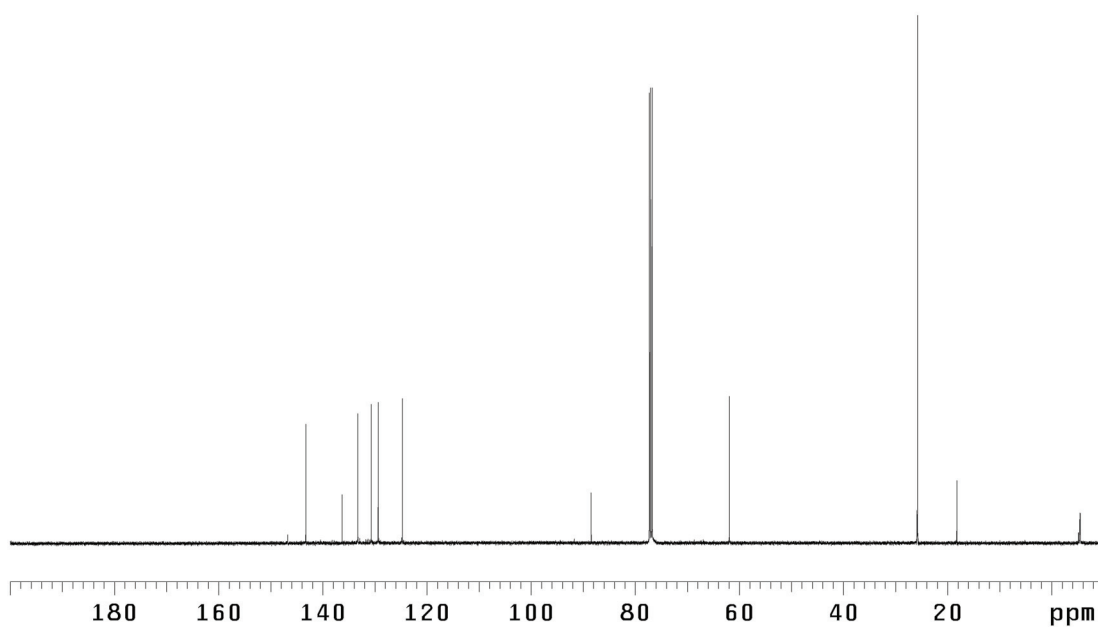
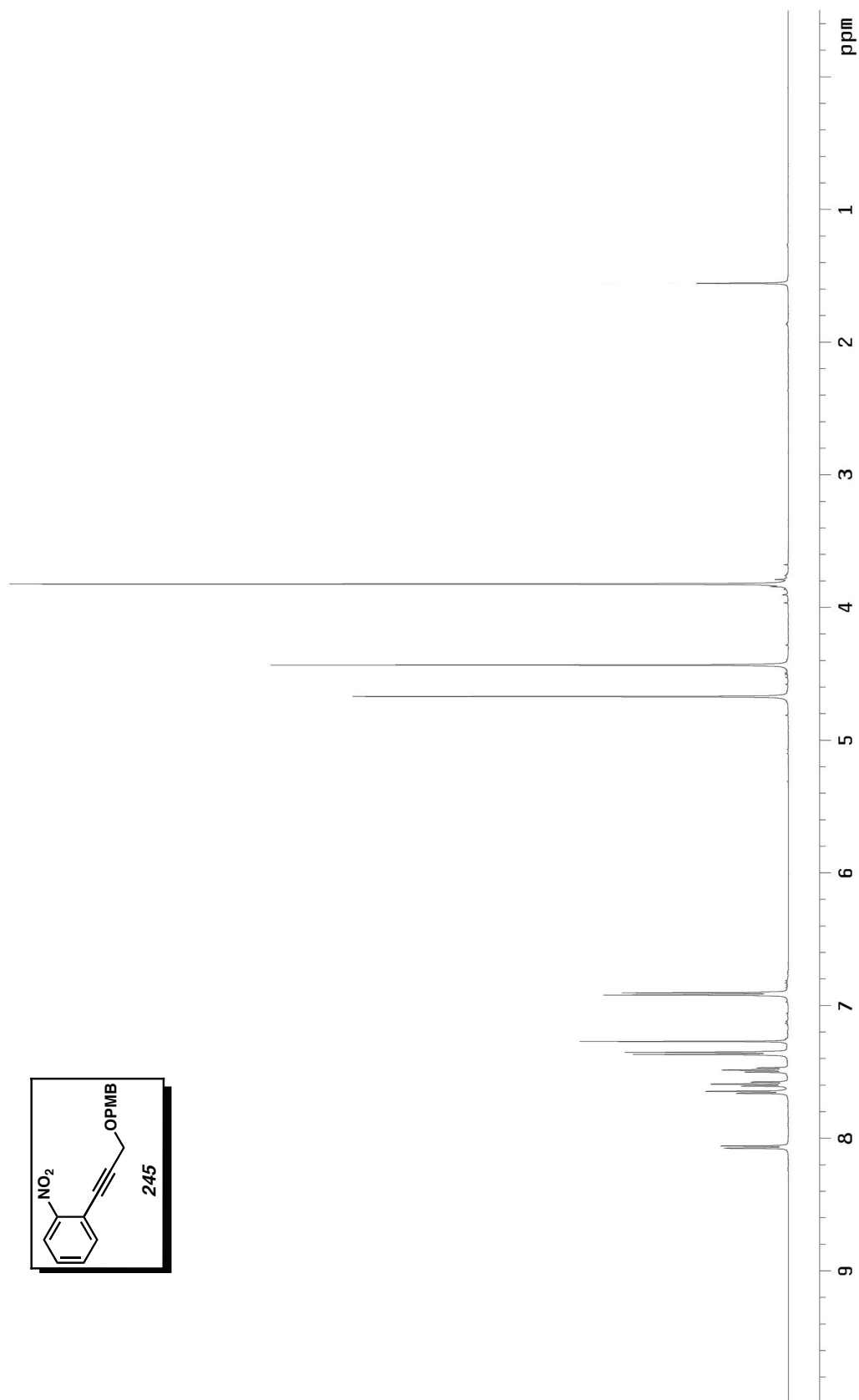


Figure A3.1.13 ¹³C NMR (125 MHz, CDCl₃) of compound **242**

Figure A3.1.14 ¹H NMR (500 MHz, CDCl₃) of compound **245**

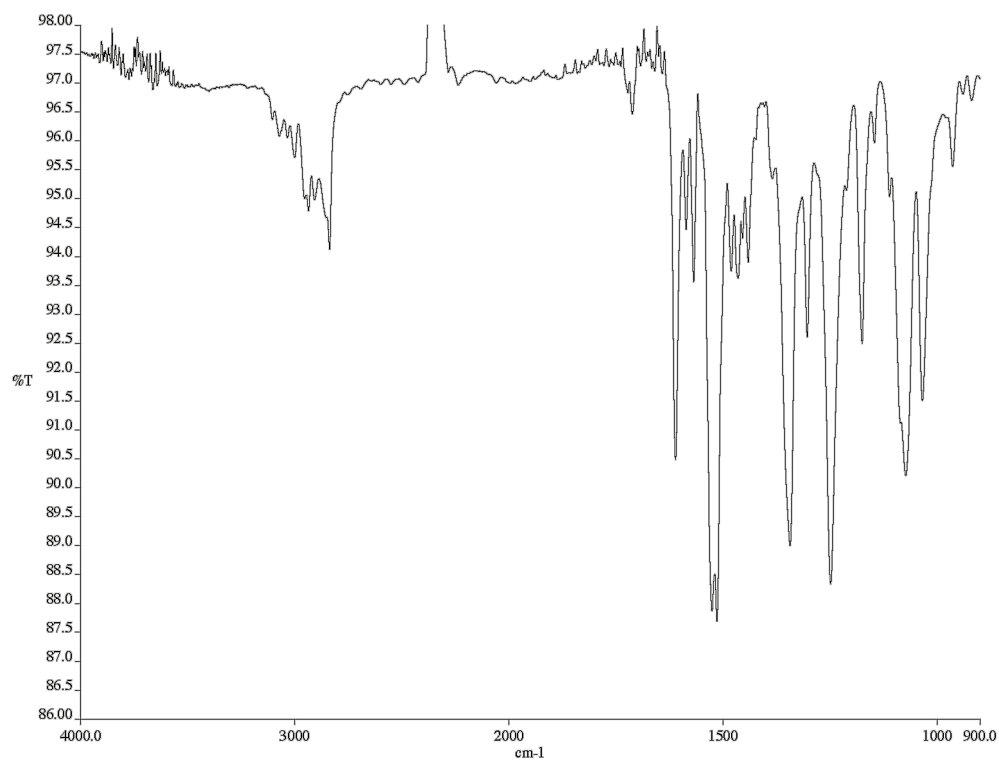


Figure A3.1.15 Infrared spectrum (film/NaCl) of compound **245**

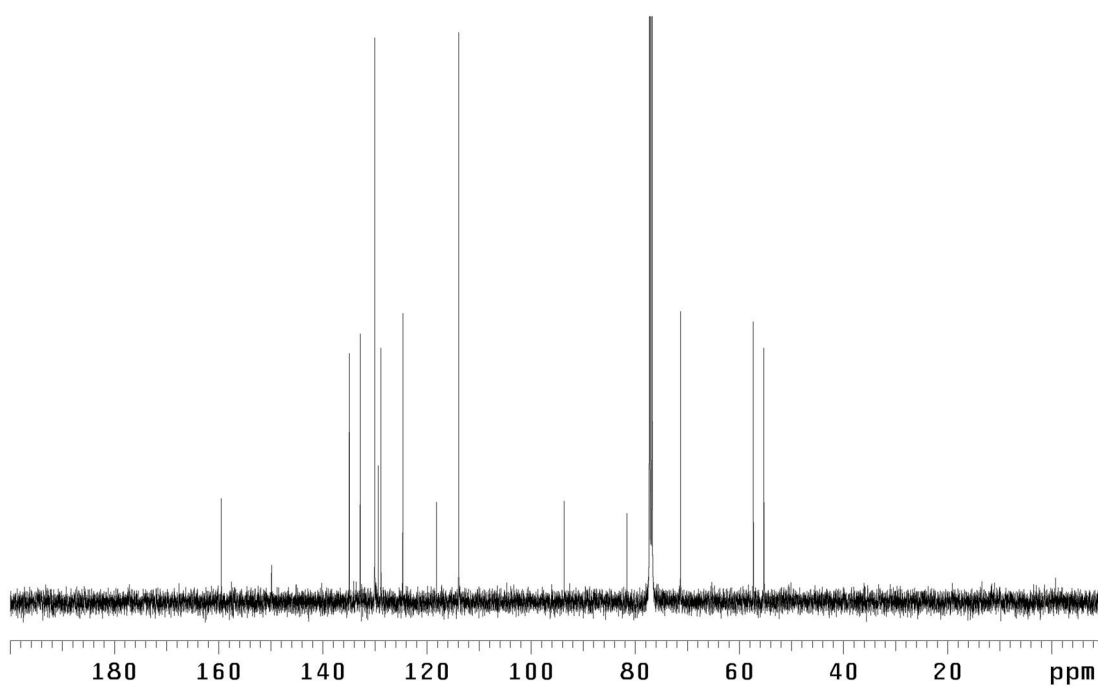
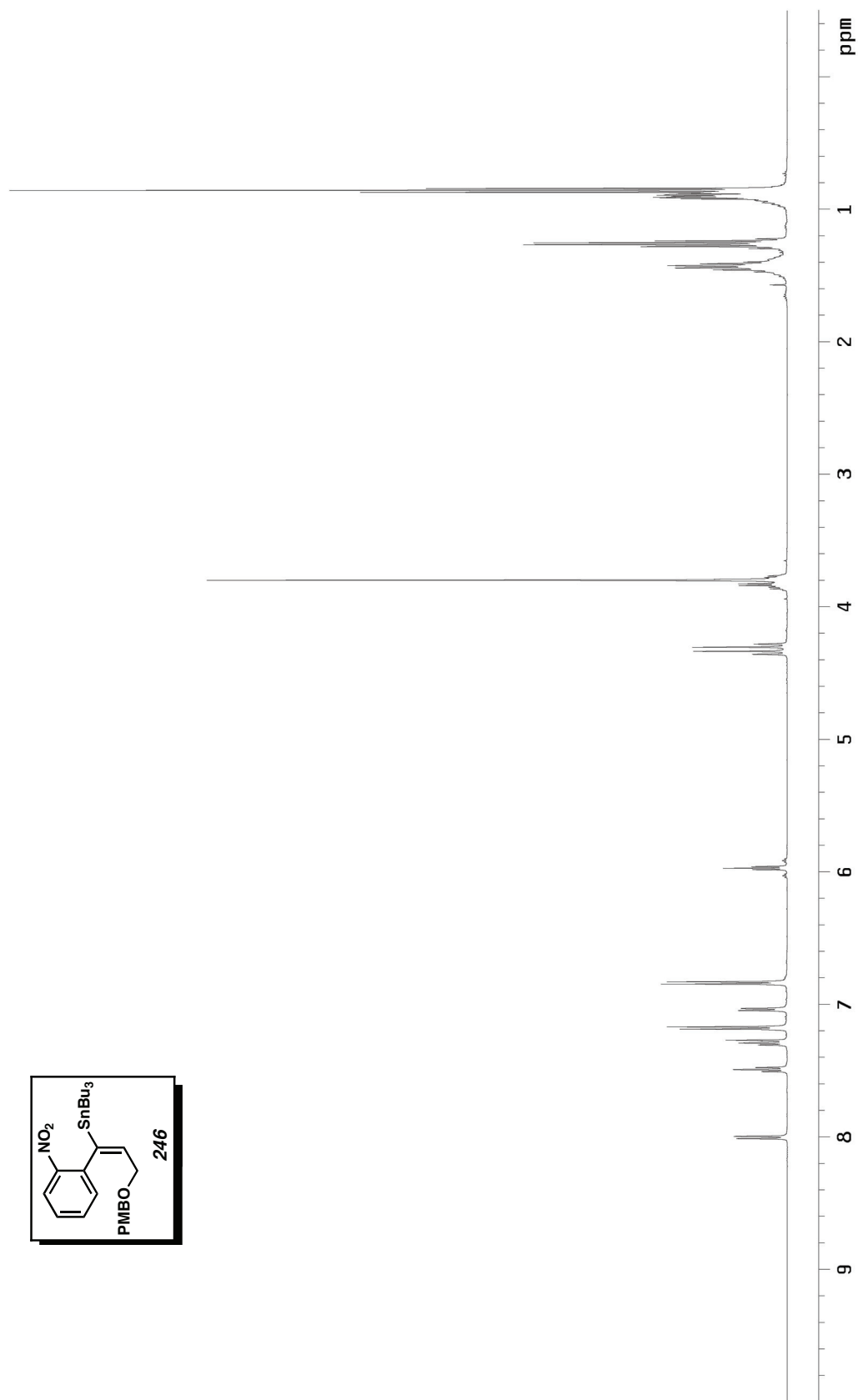


Figure A3.1.16 ¹³C NMR (125 MHz, CDCl₃) of compound **245**

Figure A3.1.17 ^1H NMR (500 MHz, CDCl_3) of compound **246**

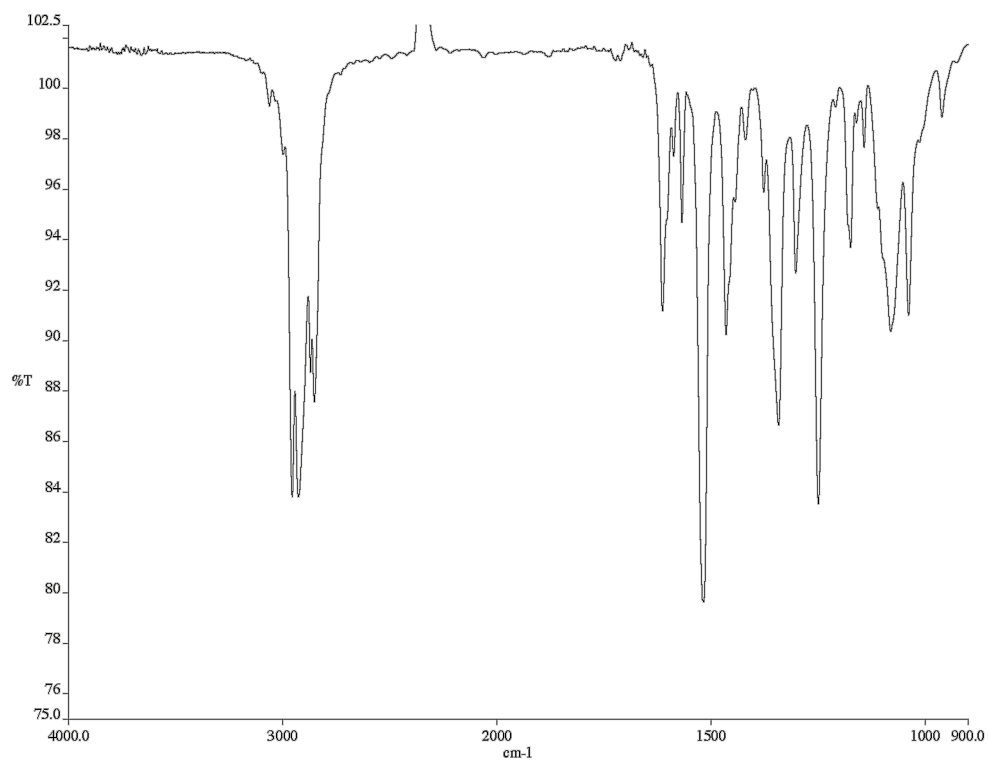


Figure A3.1.18 Infrared spectrum (film/NaCl) of compound **246**

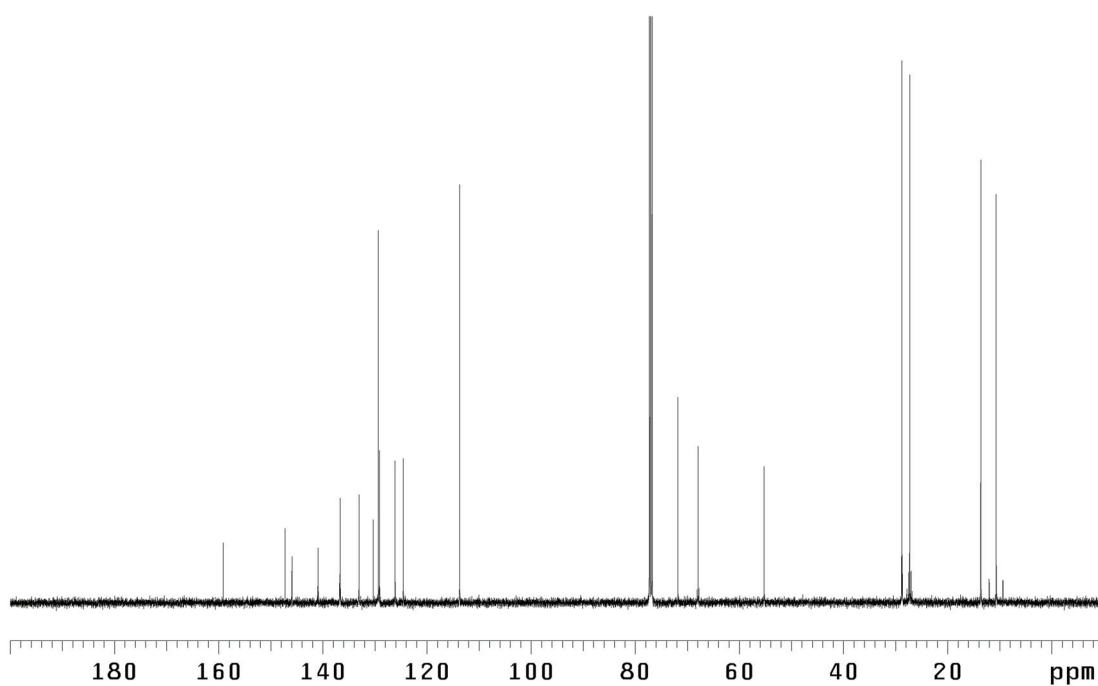
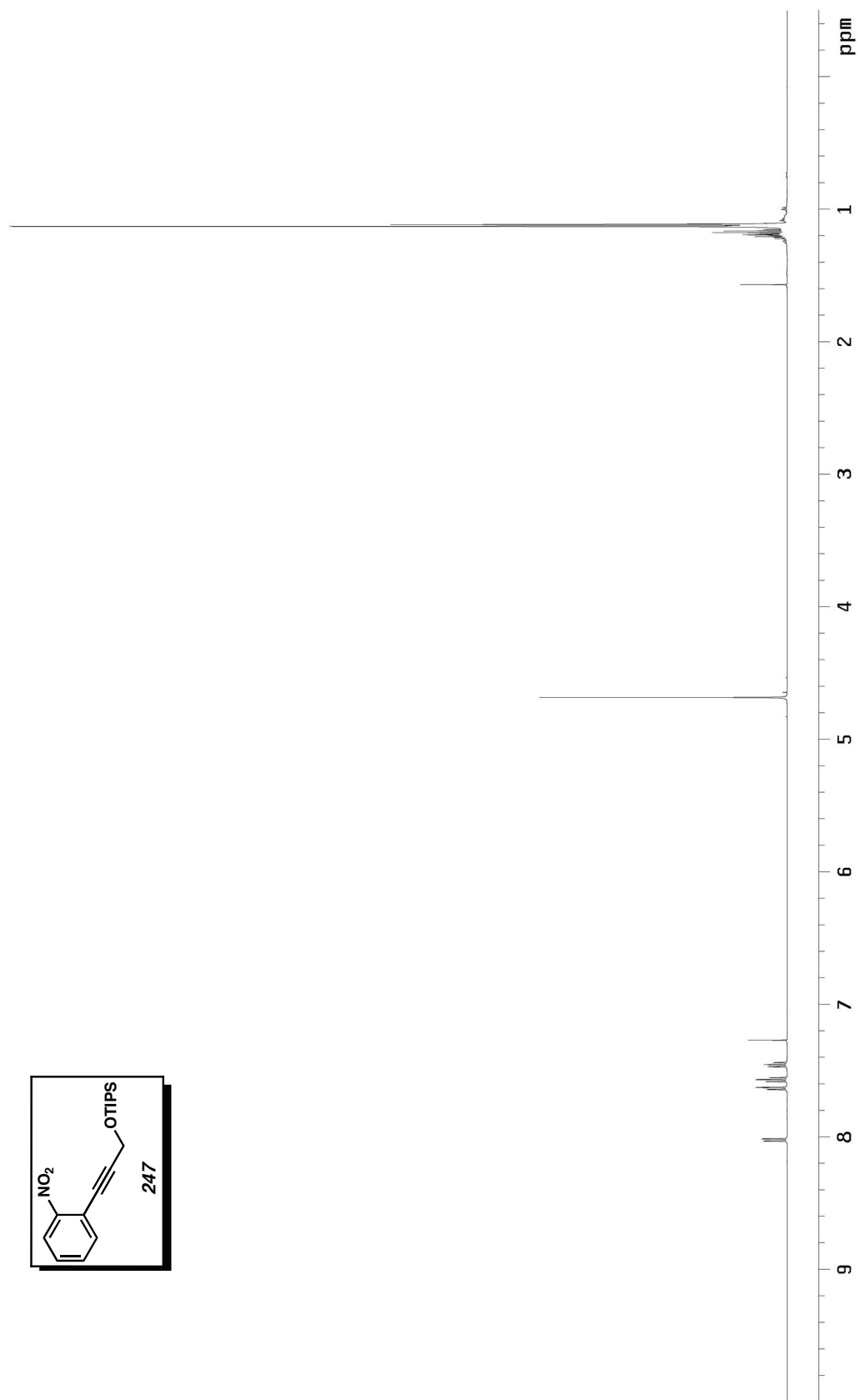


Figure A3.1.19 ¹³C NMR (125 MHz, CDCl₃) of compound **246**

Figure A3.1.20 ^1H NMR (500 MHz, CDCl_3) of compound **247**

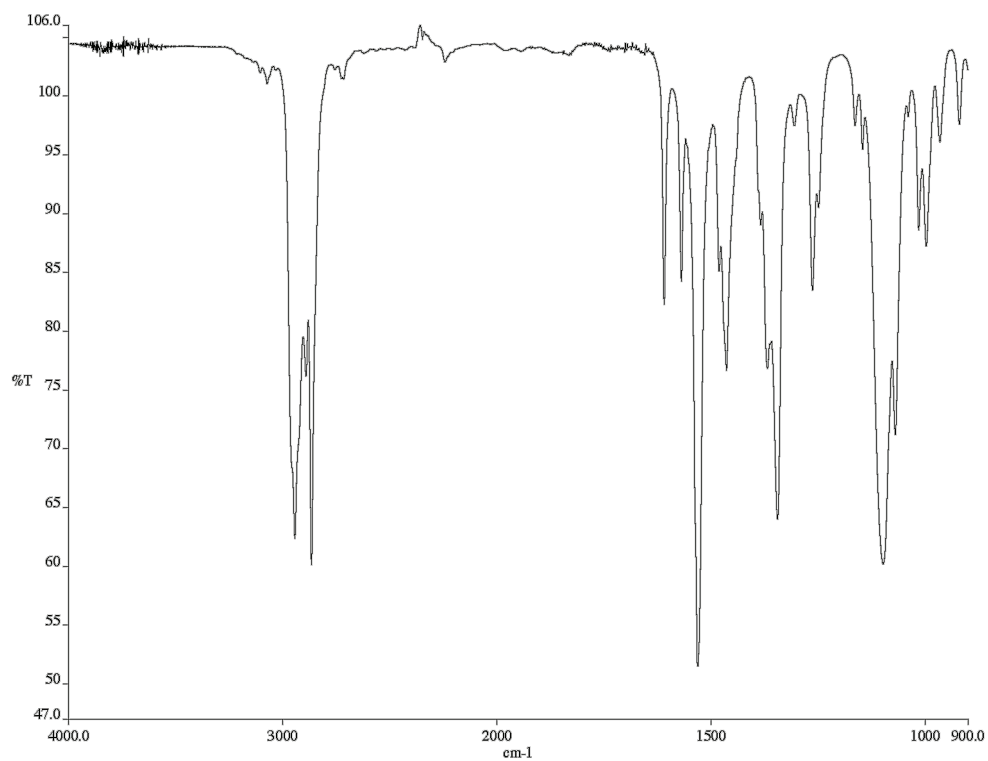


Figure A3.1.21 Infrared spectrum (film/NaCl) of compound **247**

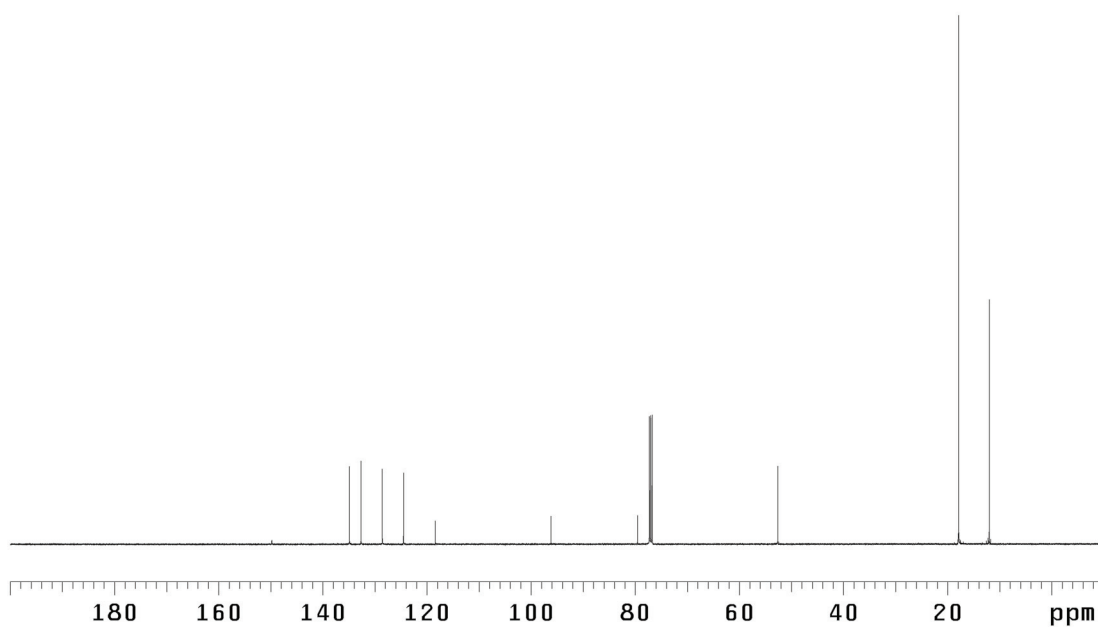
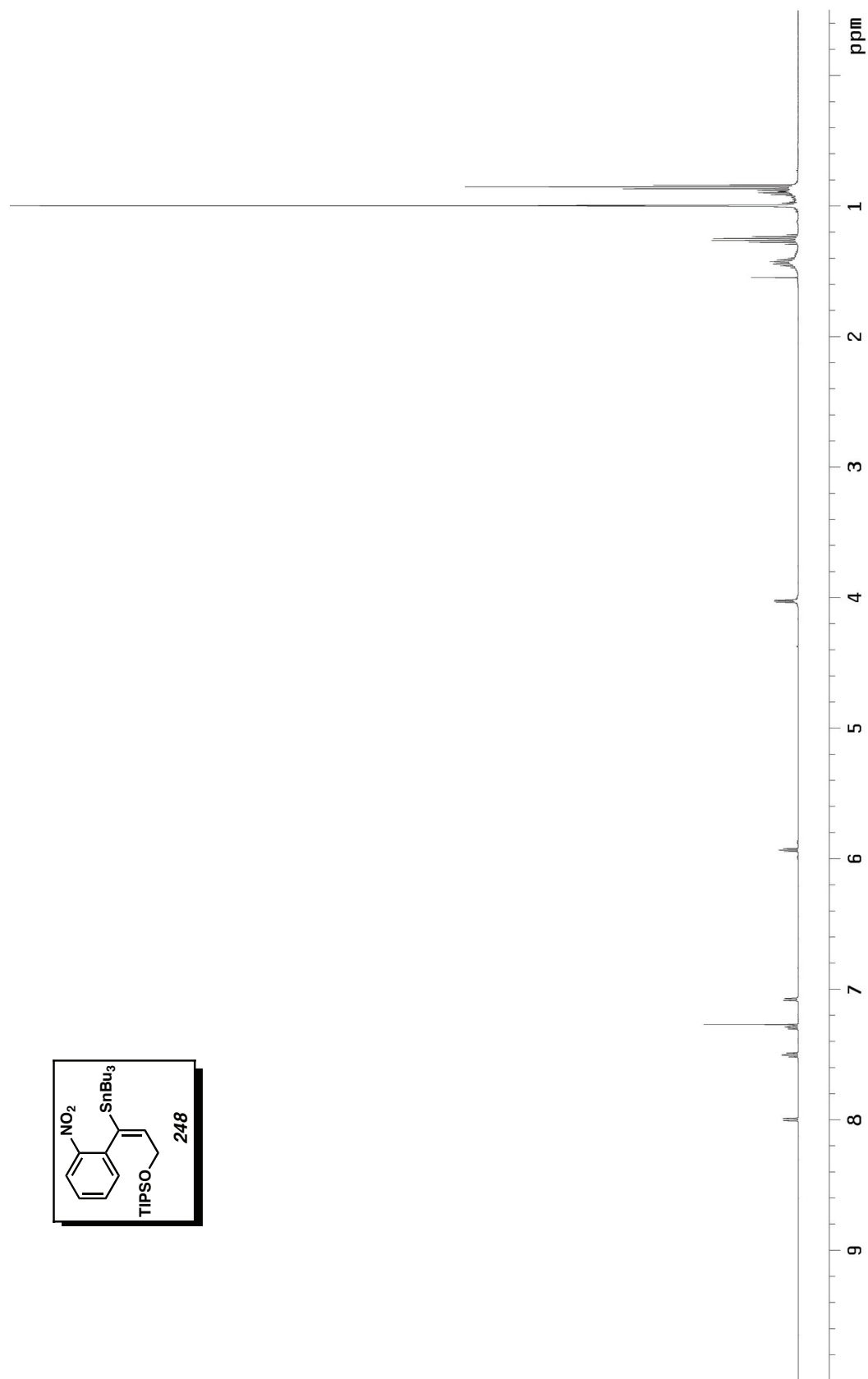


Figure A3.1.22 ¹³C NMR (125 MHz, CDCl₃) of compound **247**

Figure A3.1.23 ^1H NMR (500 MHz, CDCl_3) of compound **248**

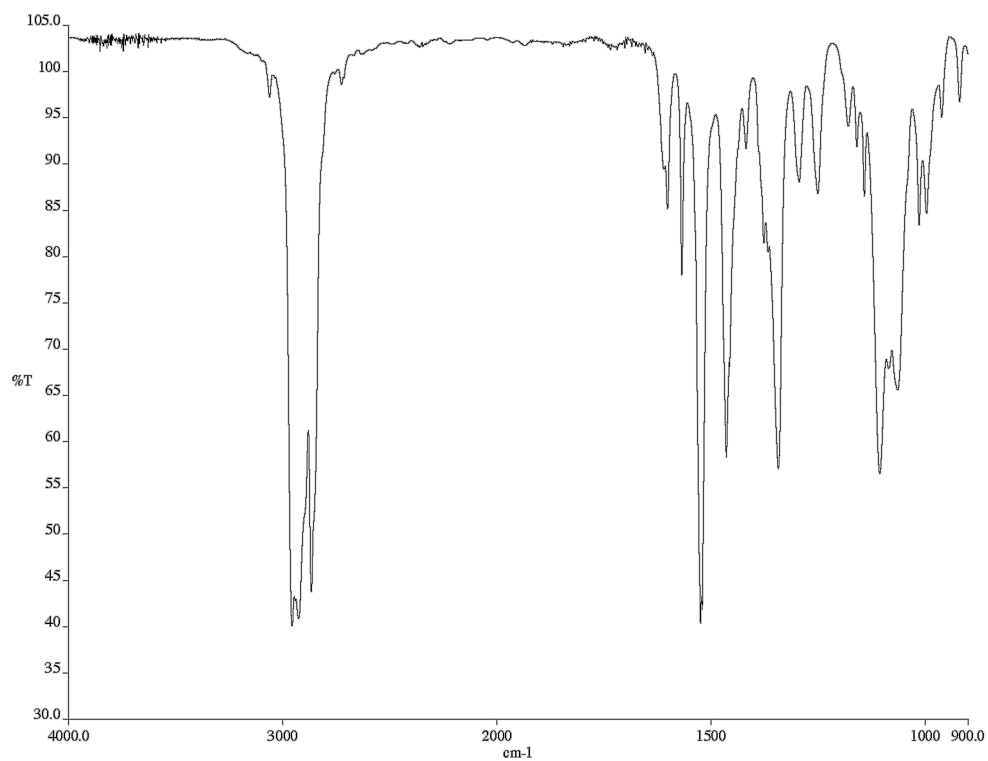


Figure A3.1.24 Infrared spectrum (film/NaCl) of compound **248**

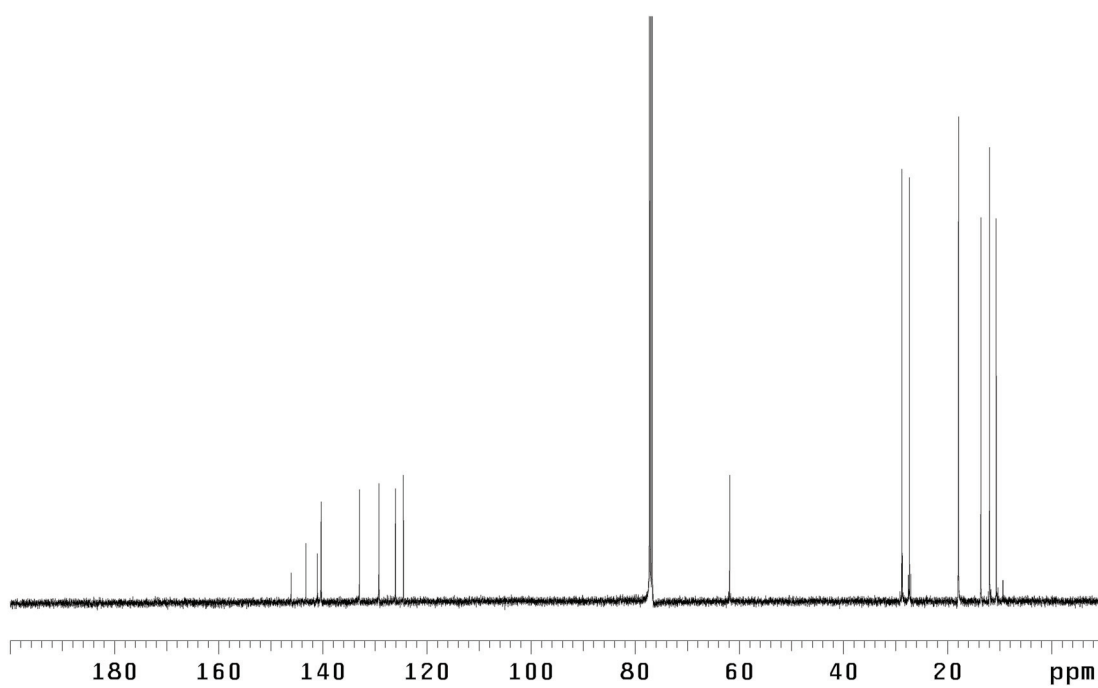
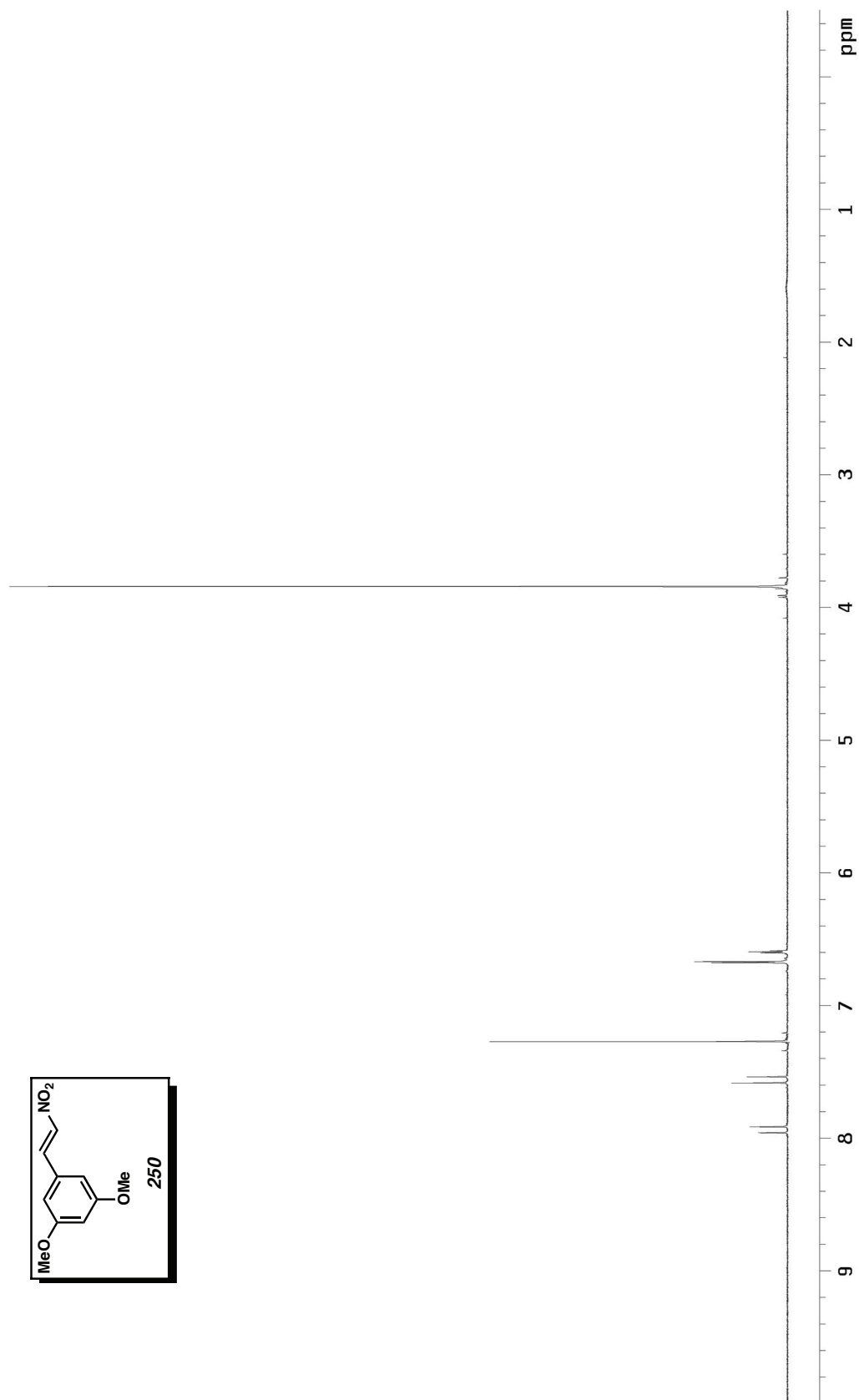
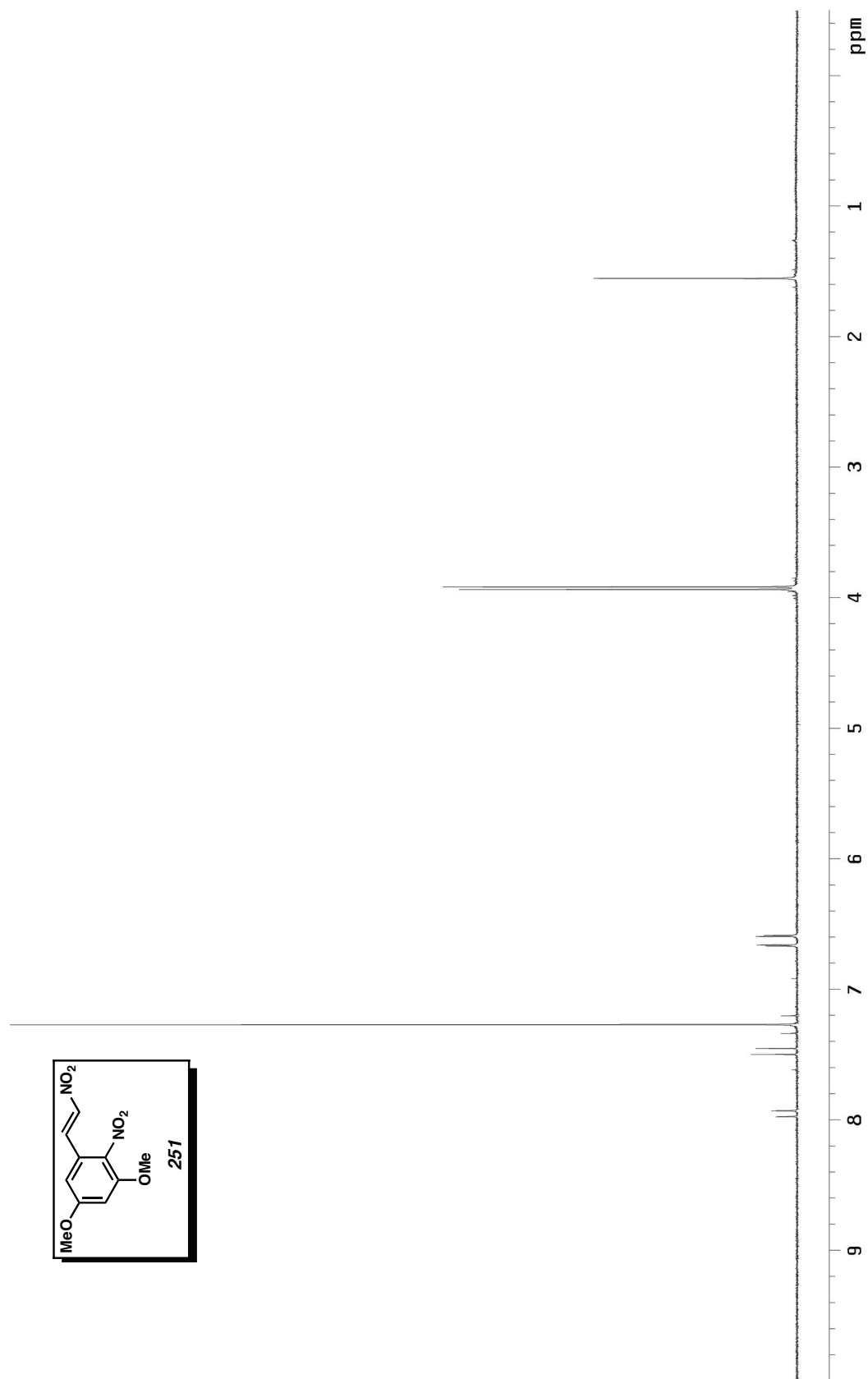
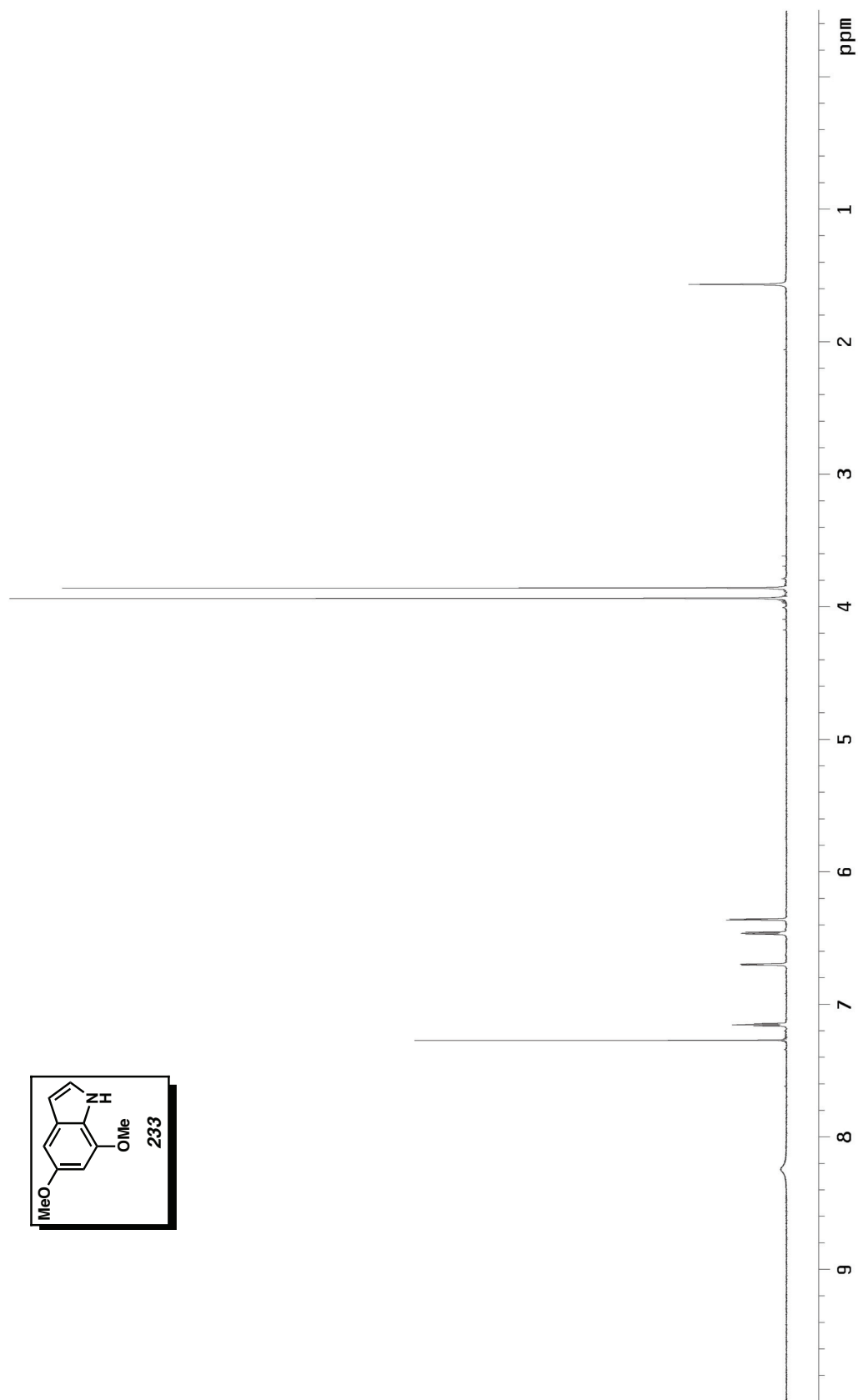
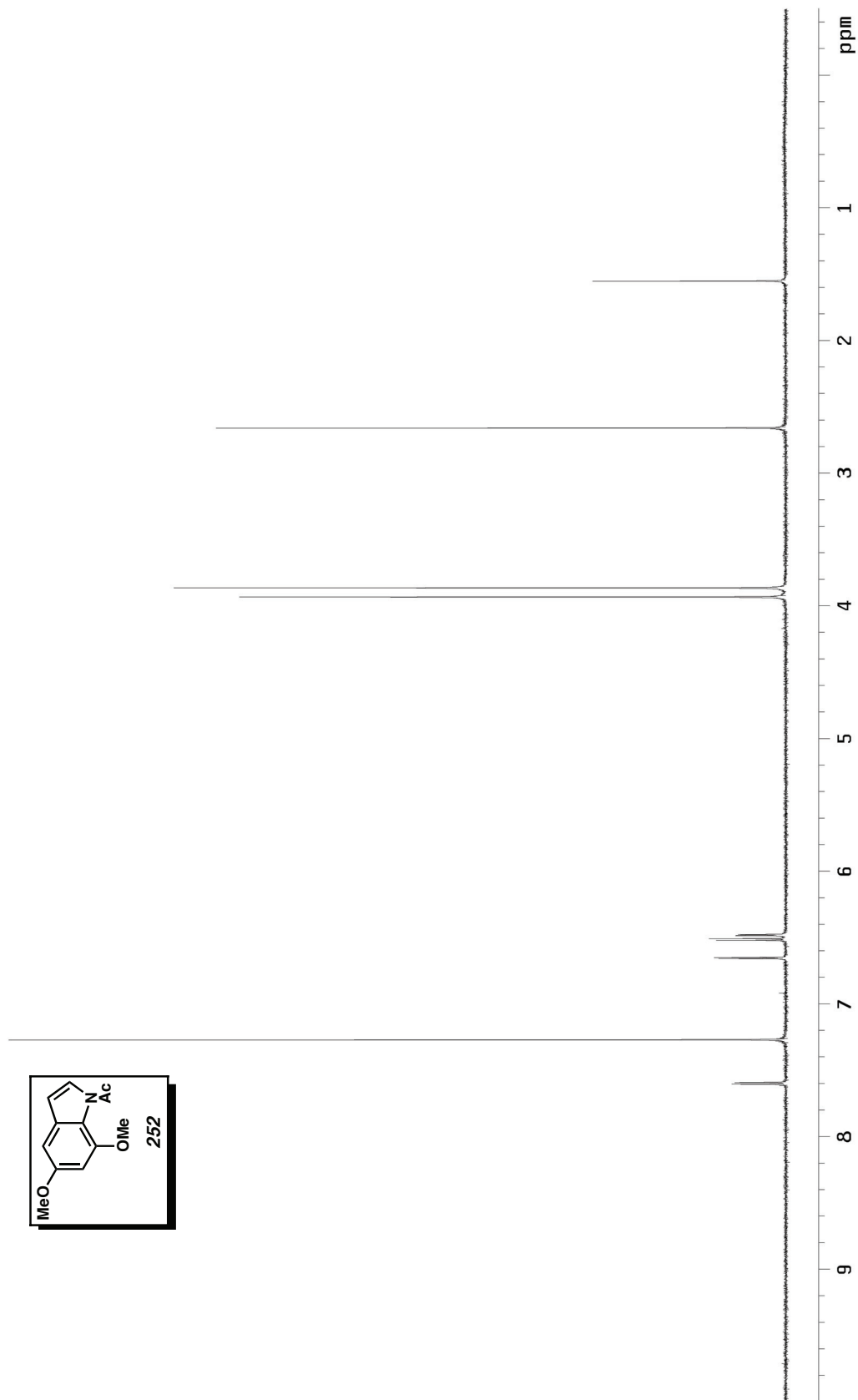


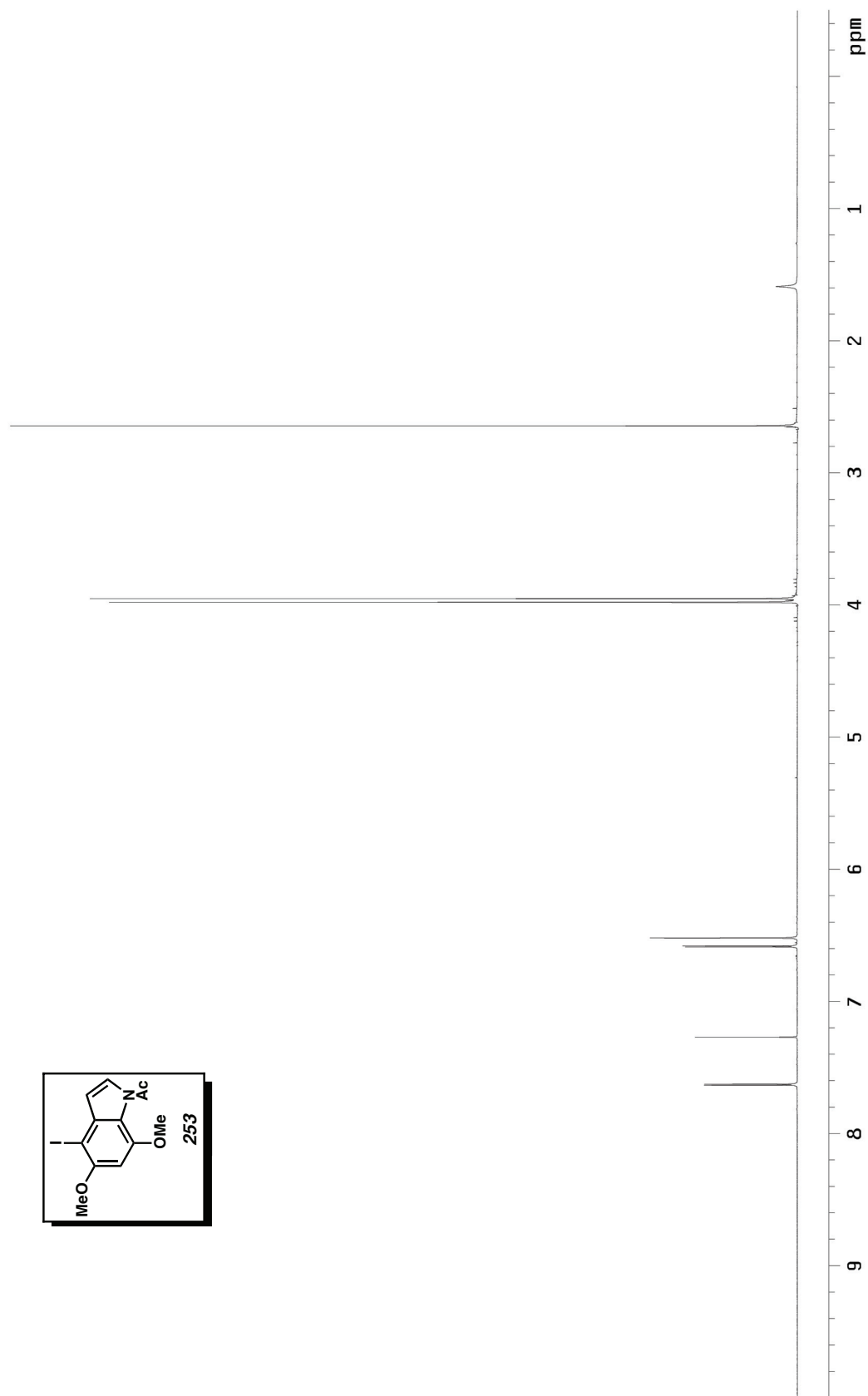
Figure A3.1.25 ¹³C NMR (125 MHz, CDCl₃) of compound **248**

Figure A3.1.26 ¹H NMR (300 MHz, CDCl₃) of compound **250**

Figure A3.1.27 ^1H NMR (300 MHz, CDCl_3) of compound **251**

Figure A3.1.28 ^1H NMR (300 MHz, CDCl_3) of compound 233

Figure A3.1.29 ^1H NMR (300 MHz, CDCl_3) of compound **252**

Figure A3.1.30 ^1H NMR (300 MHz, CDCl_3) of compound **253**

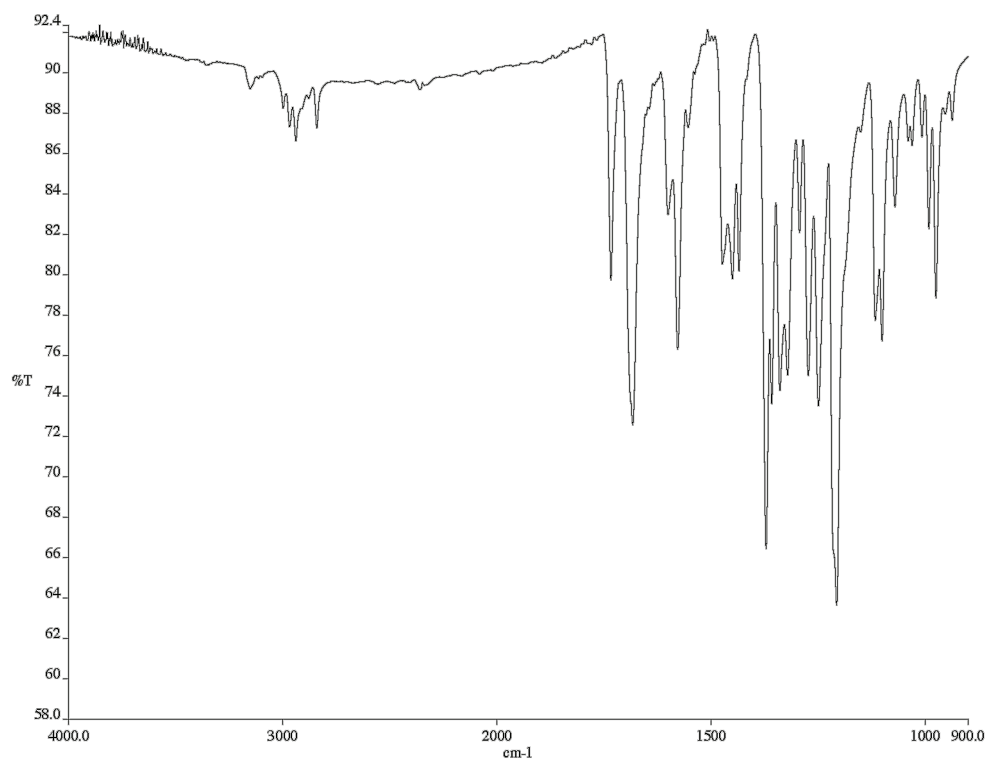


Figure A3.1.31 Infrared spectrum (film/NaCl) of compound **253**

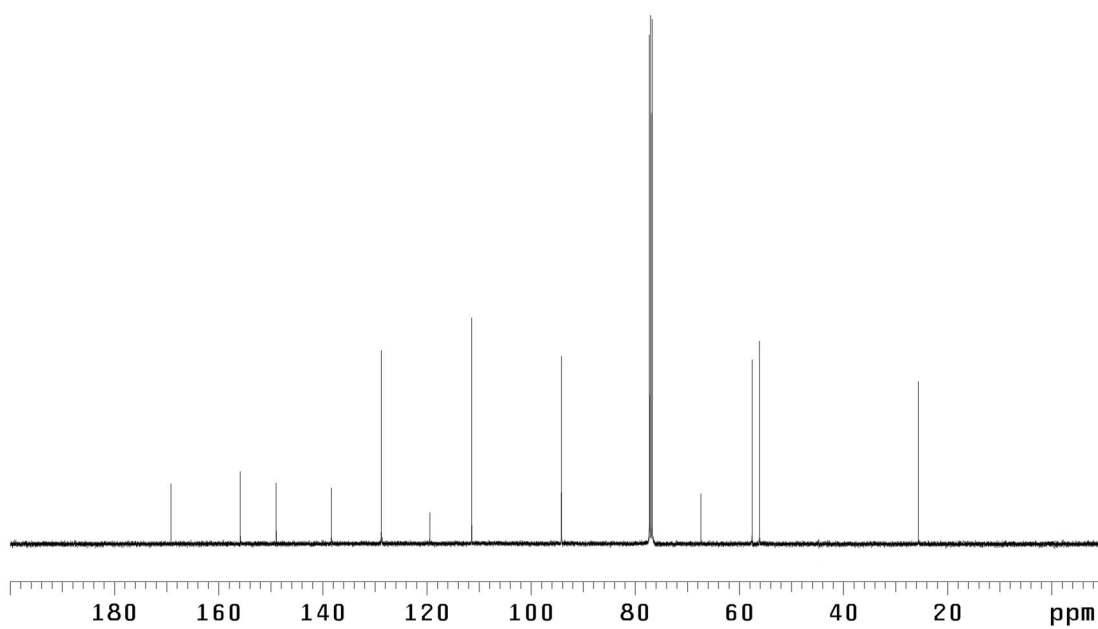
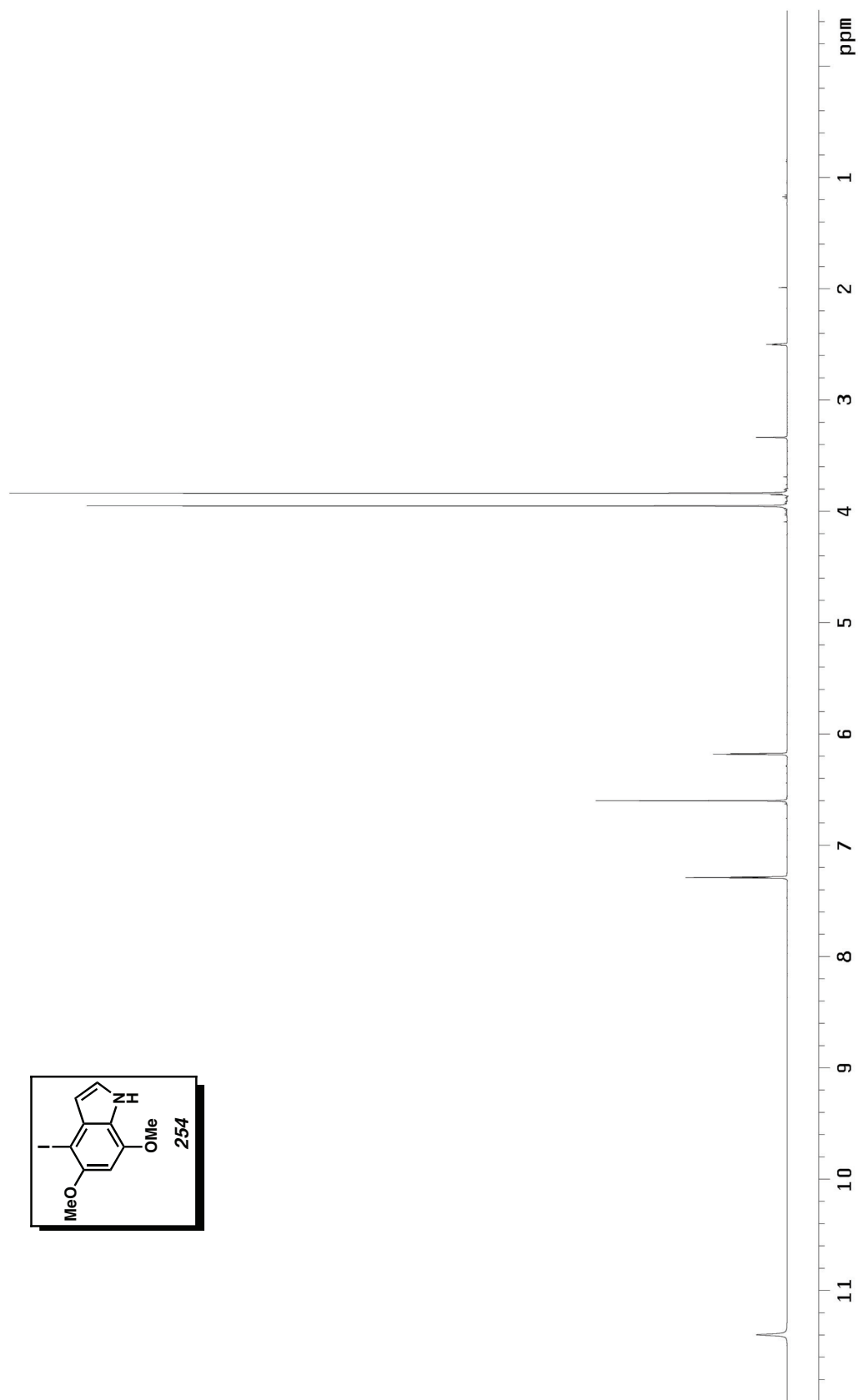


Figure A3.1.32 ¹³C NMR (125 MHz, CDCl₃) of compound **253**

Figure A3.1.33 ^1H NMR (500 MHz, $\text{DMSO}-d_6$) of compound **254**

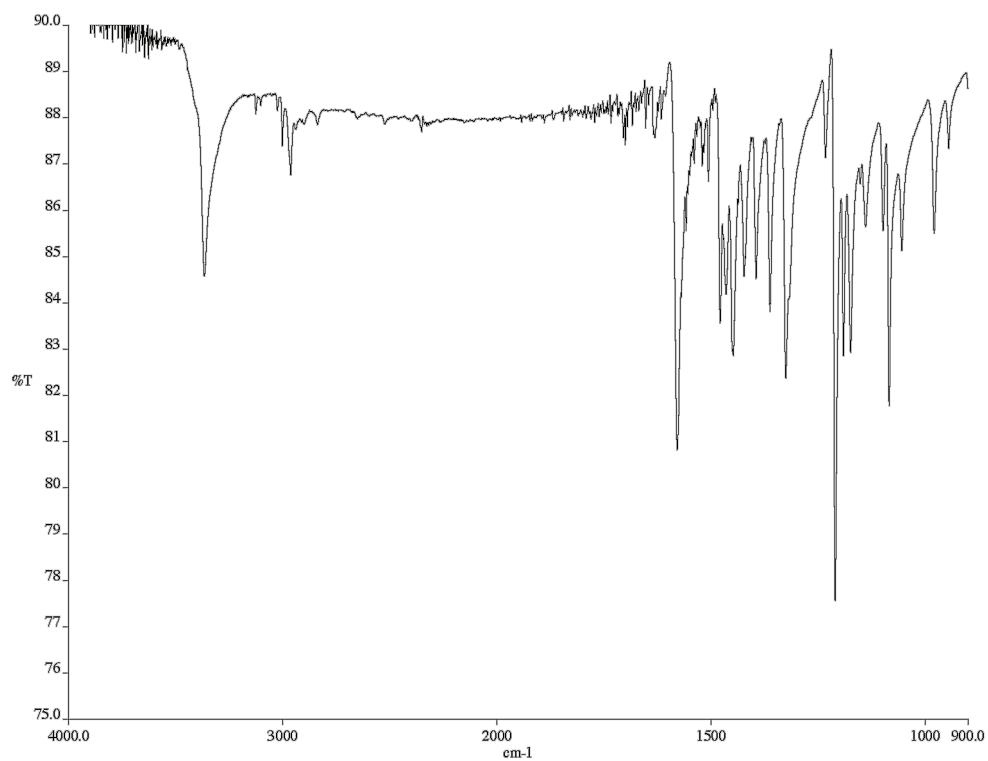


Figure A3.1.34 Infrared spectrum (film/NaCl) of compound **254**

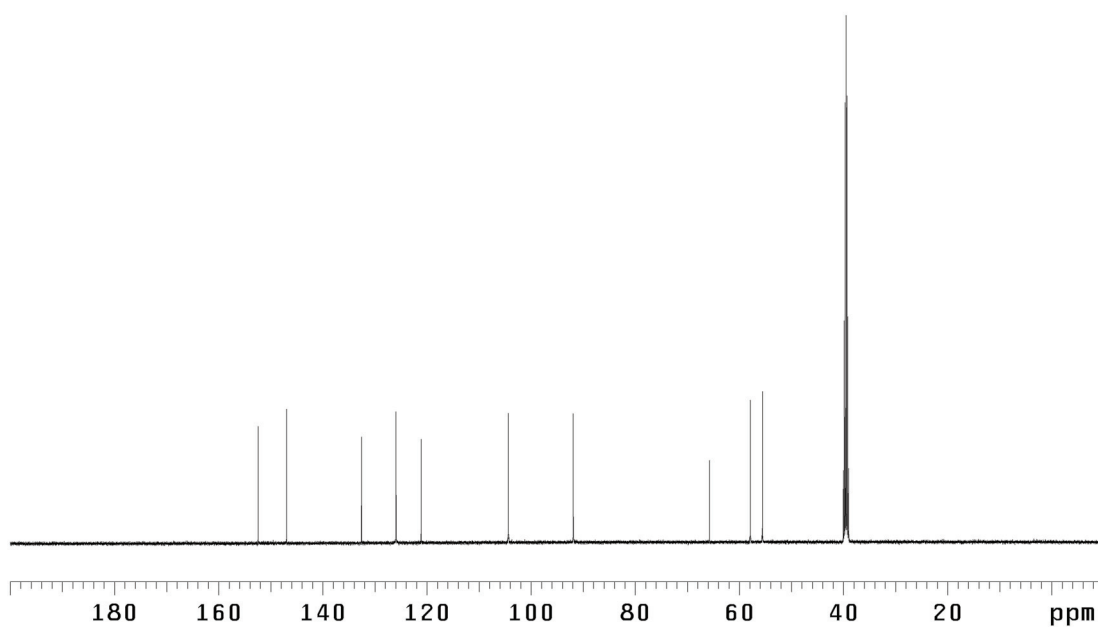
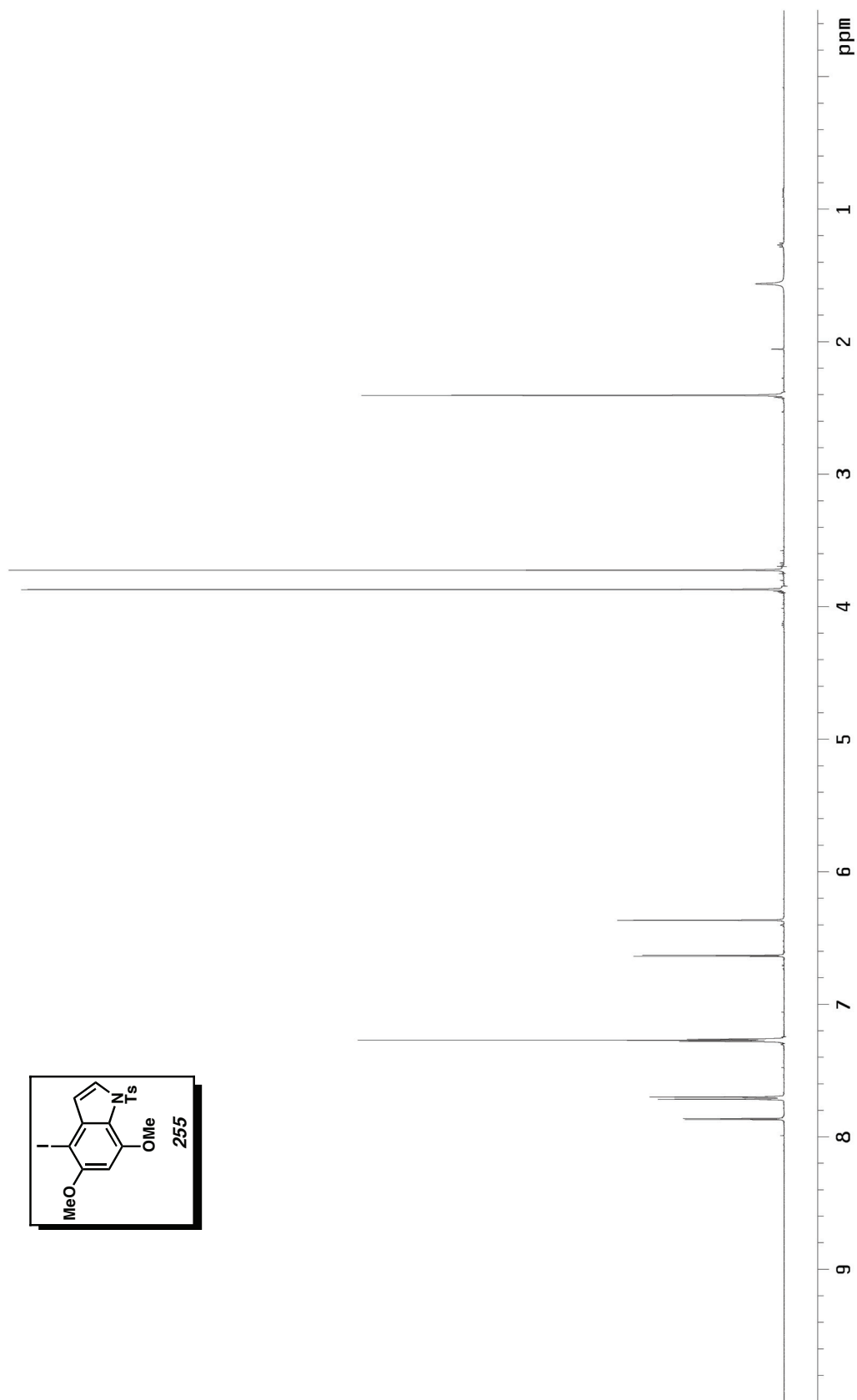


Figure A3.1.35 ¹³C NMR (125 MHz, *d*₆-DMSO) of compound **254**

Figure A3.1.36 ^1H NMR (500 MHz, CDCl_3) of compound **255**

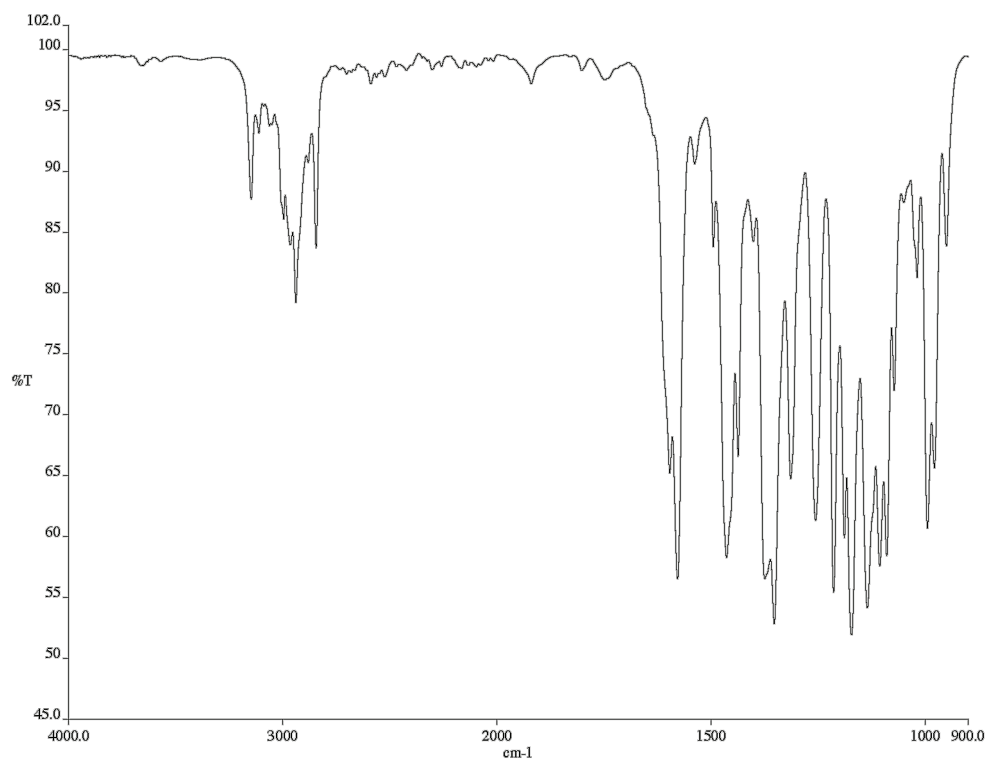


Figure A3.1.37 Infrared spectrum (film/NaCl) of compound **255**

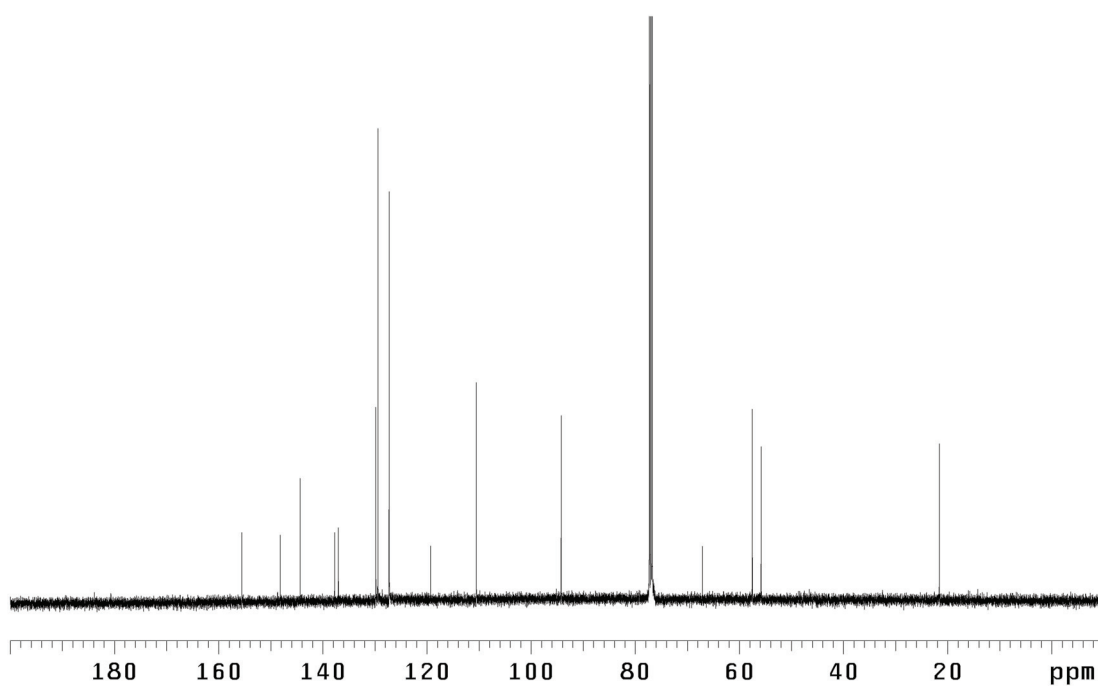
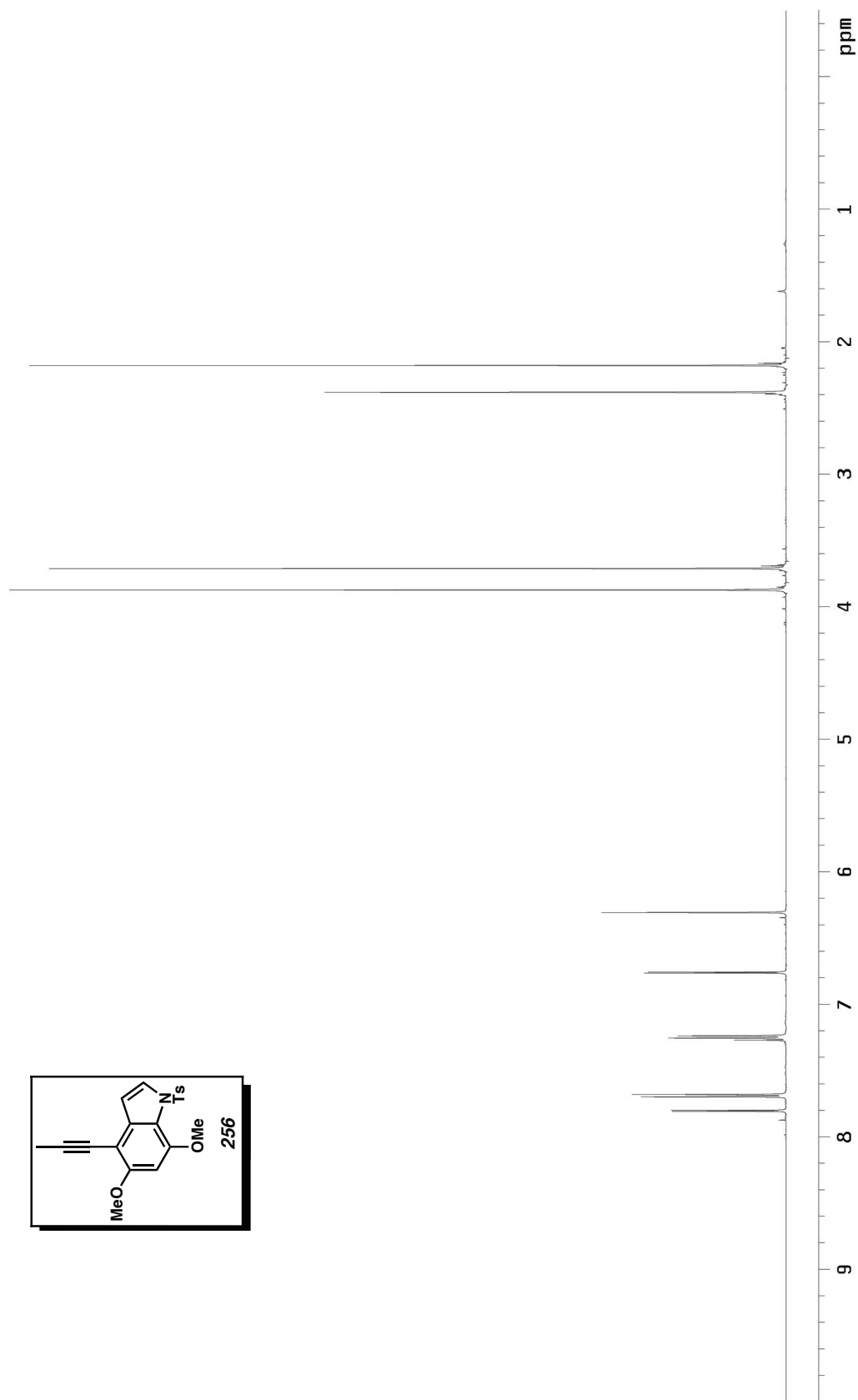


Figure A3.1.38 ¹³C NMR (125 MHz, CDCl₃) of compound **255**

Figure A3.1.39 ^1H NMR (500 MHz, CDCl_3) of compound **256**

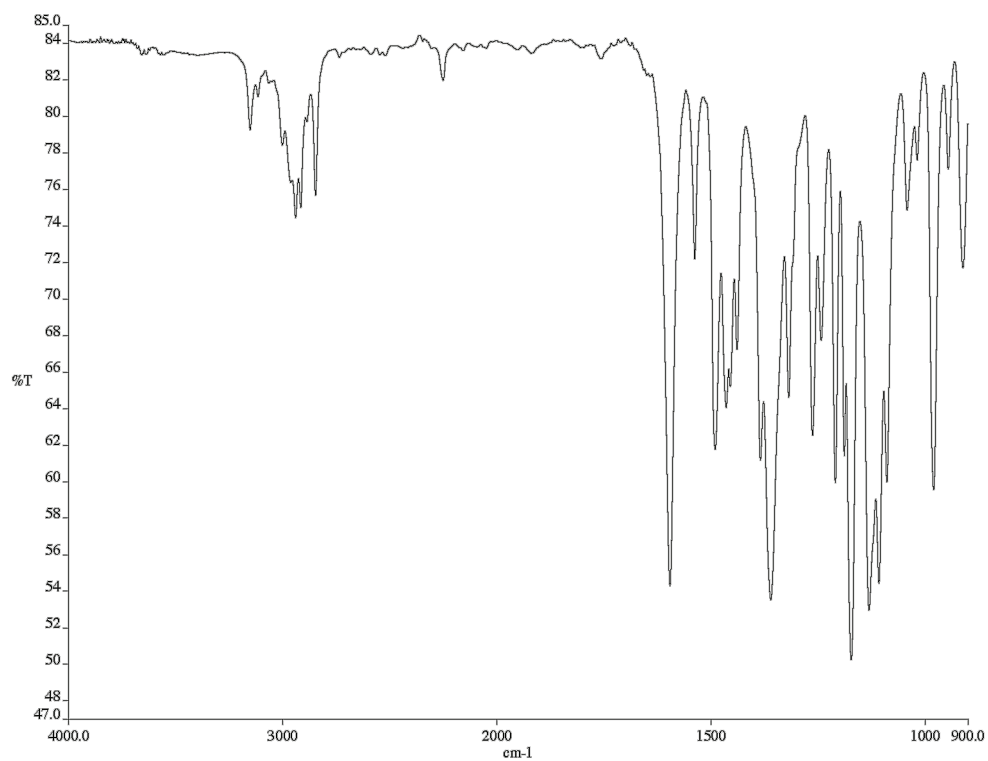


Figure A3.1.40 Infrared spectrum (film/NaCl) of compound **256**

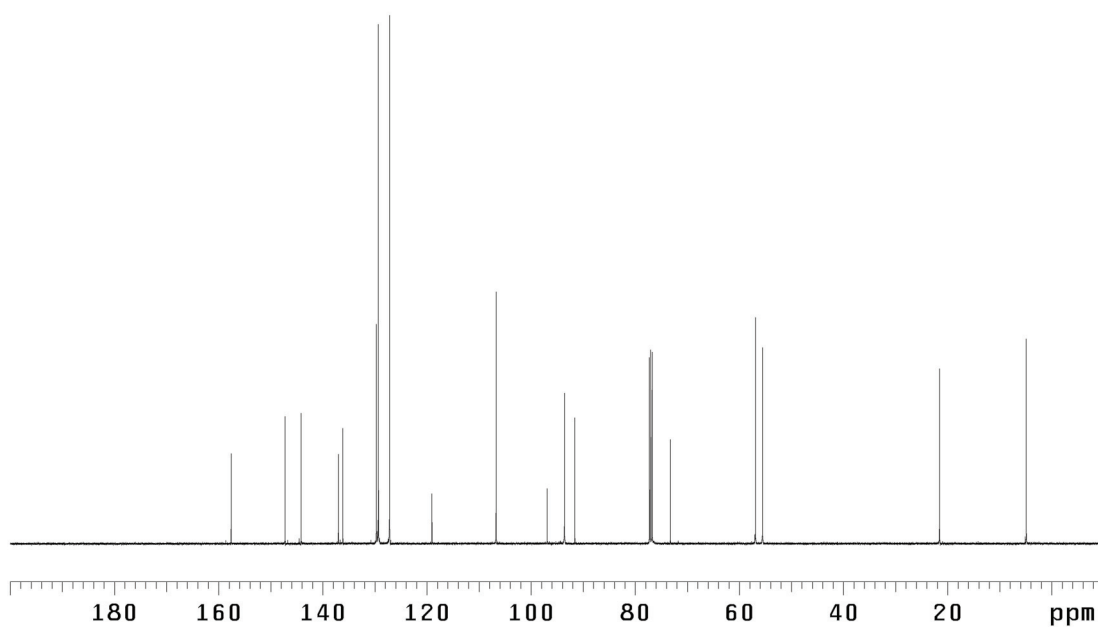
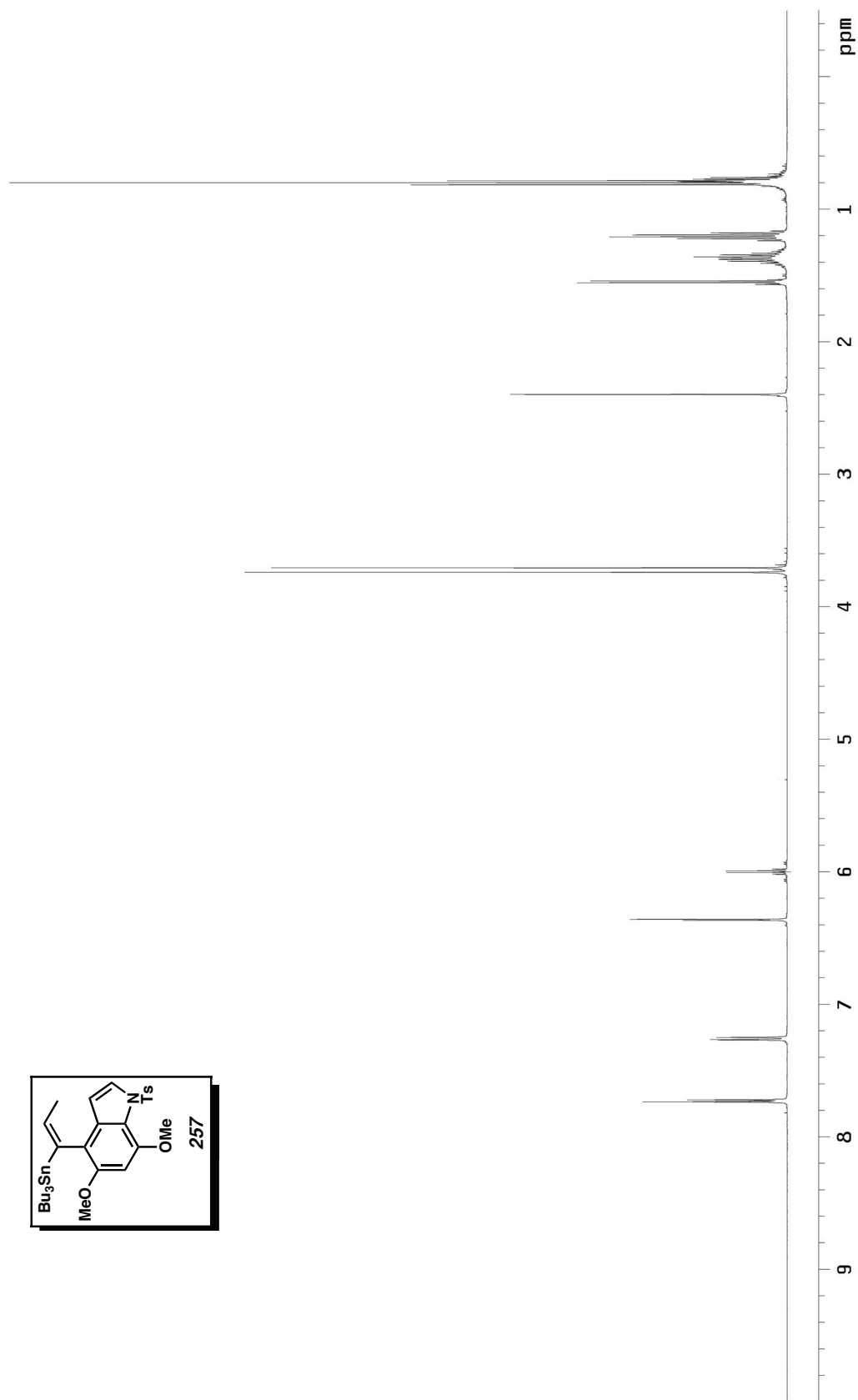


Figure A3.1.41 ¹³C NMR (125 MHz, CDCl₃) of compound **256**

Figure A3.1.42 ^1H NMR (500 MHz, CDCl_3) of compound **257**

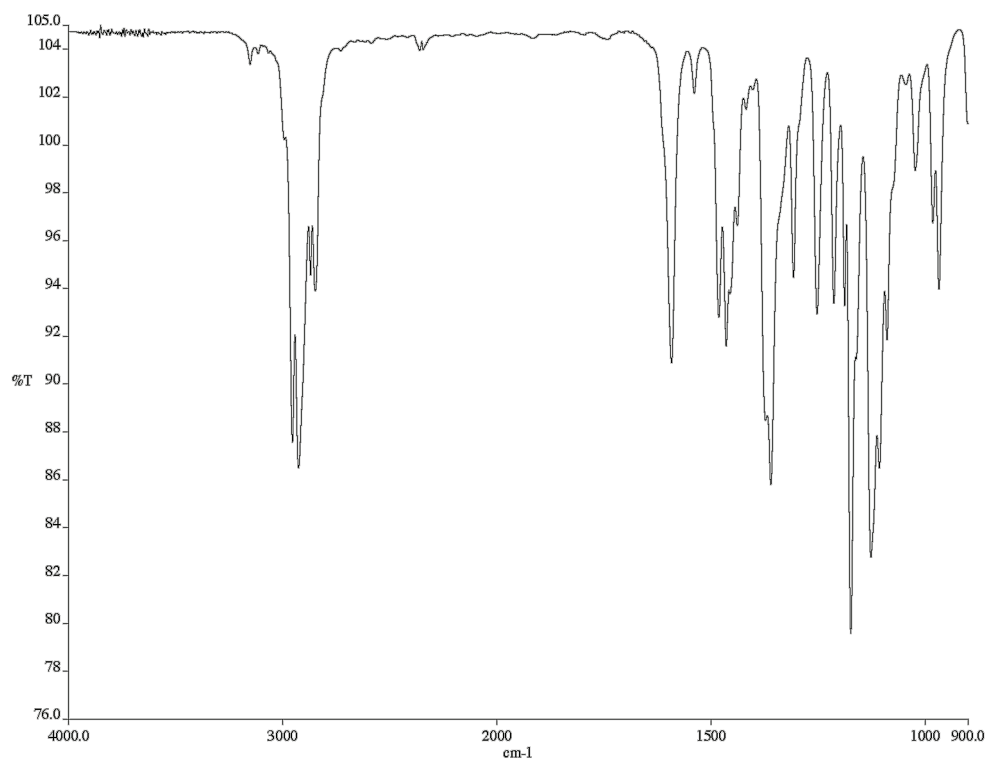


Figure A3.1.43 Infrared spectrum (film/NaCl) of compound **257**

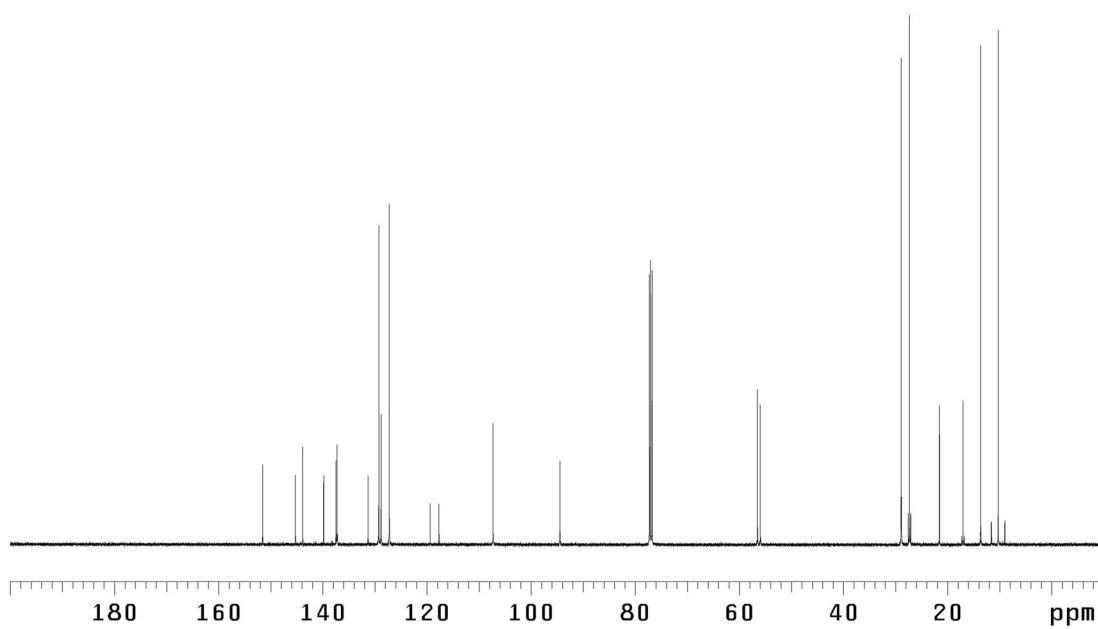
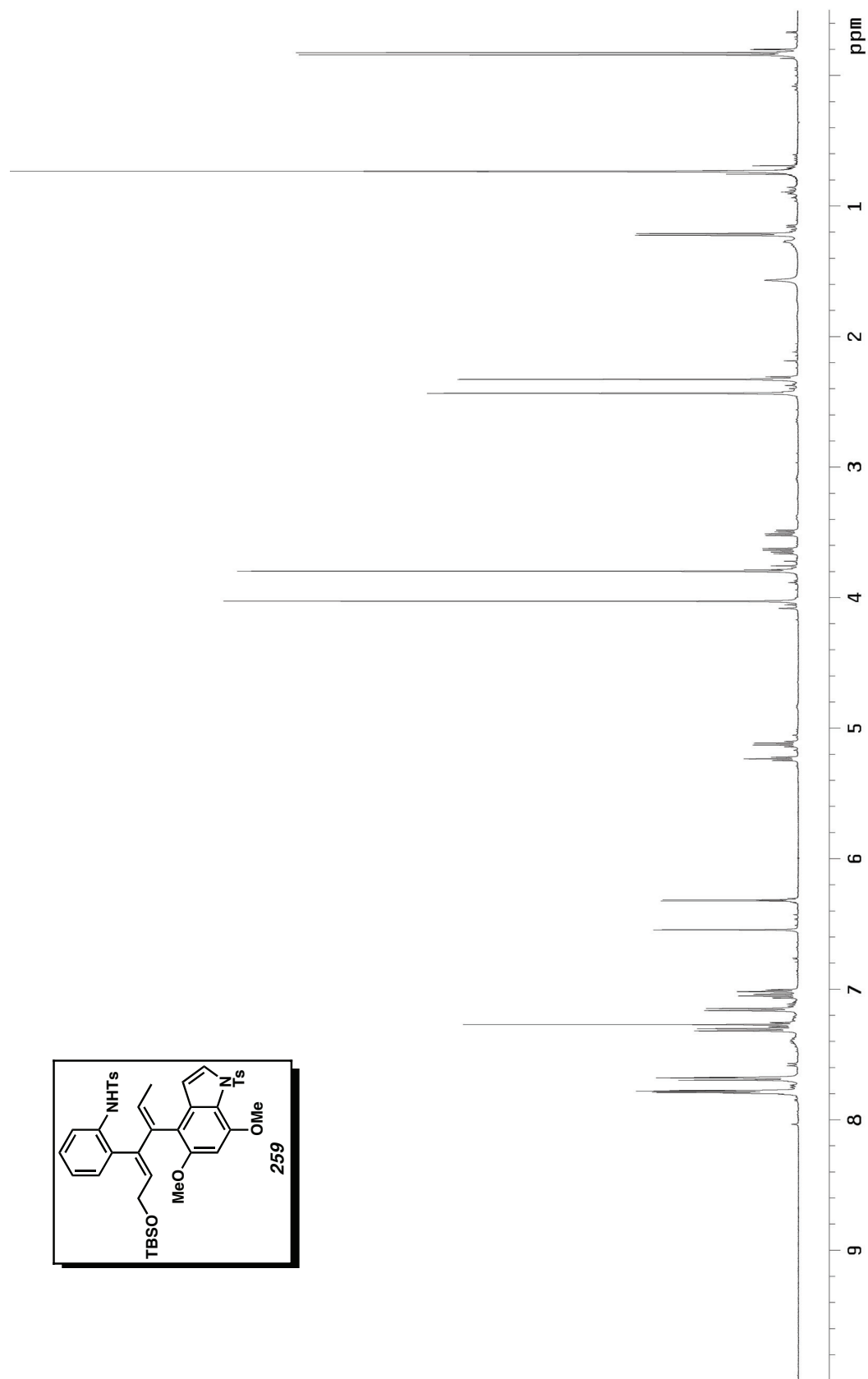
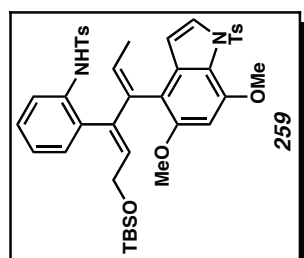


Figure A3.1.44 ¹³C NMR (125 MHz, CDCl₃) of compound **257**

Figure A3.1.45 ¹H NMR (500 MHz, CDCl₃) of compound **259**

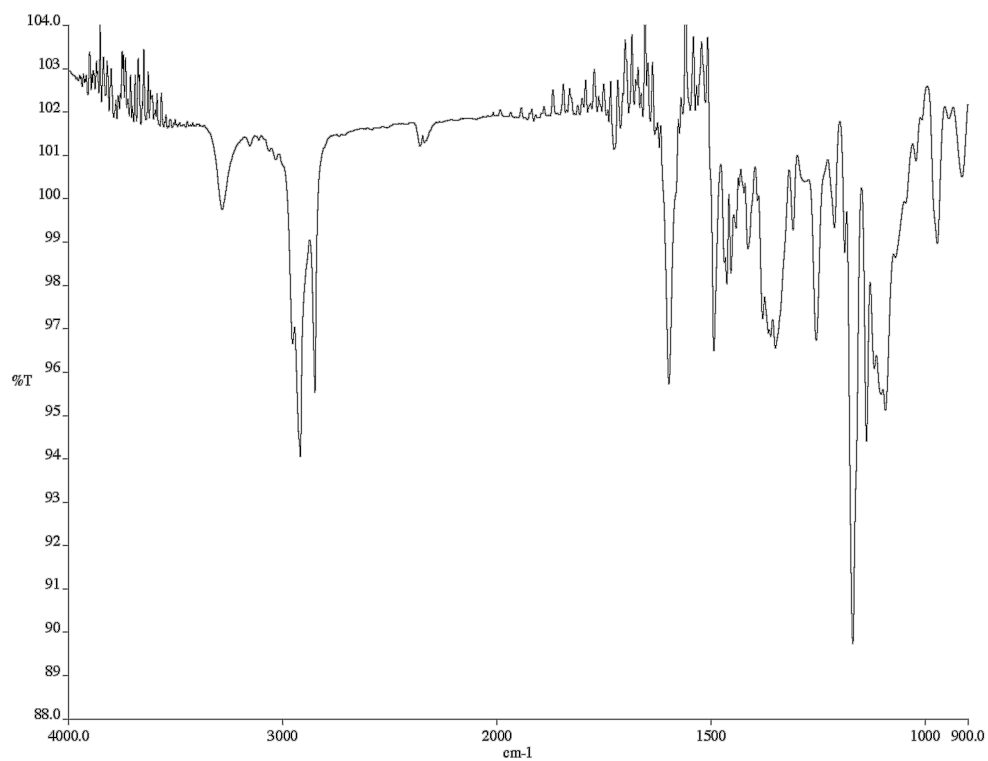


Figure A3.1.46 Infrared spectrum (film/NaCl) of compound **259**

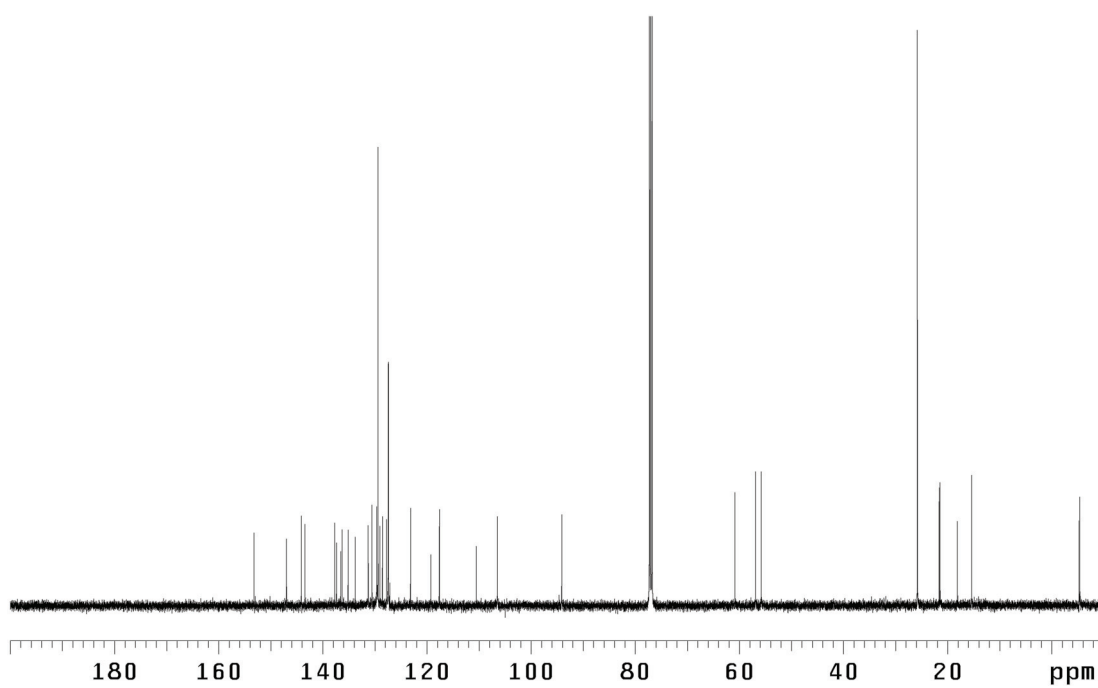
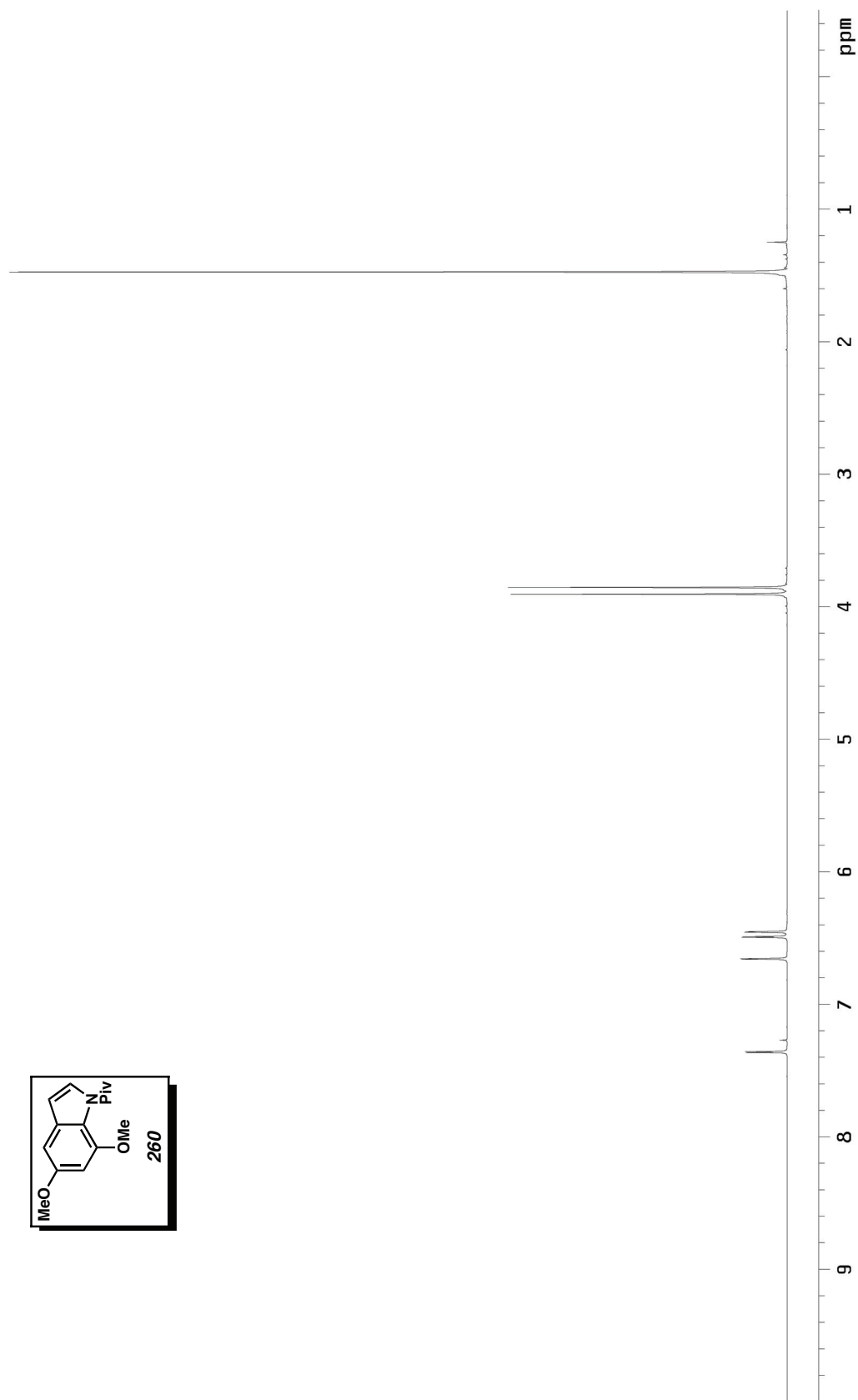


Figure A3.1.47 ¹³C NMR (125 MHz, CDCl₃) of compound **259**

Figure A3.1.48 ¹H NMR (500 MHz, CDCl₃) of compound **260**

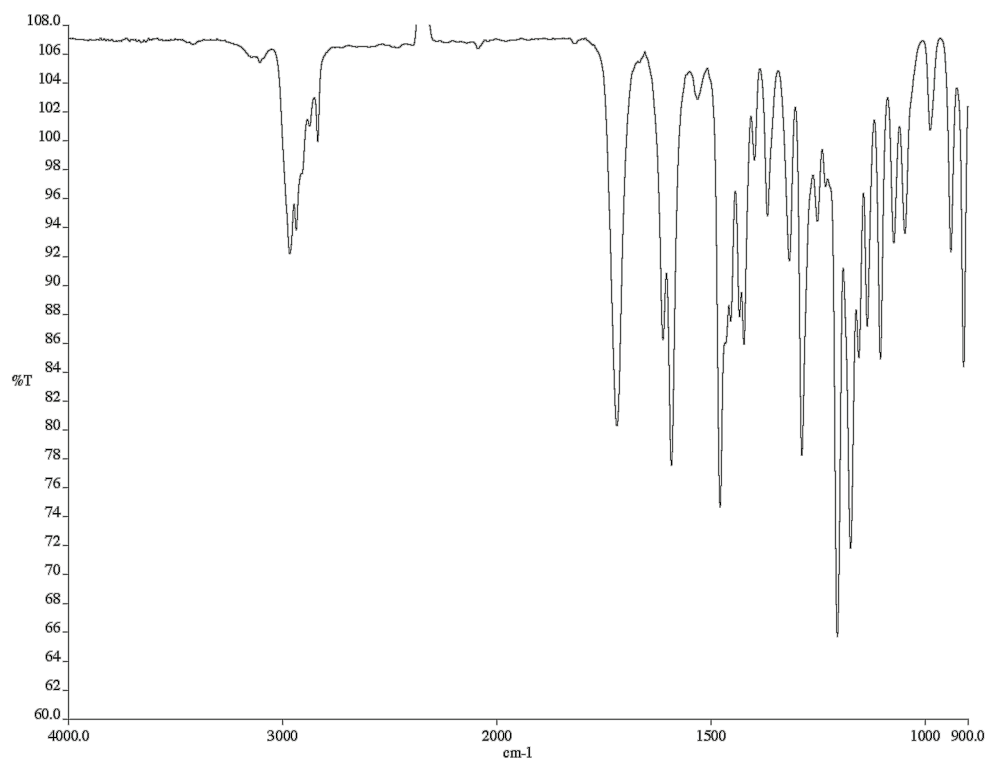


Figure A3.1.49 Infrared spectrum (film/NaCl) of compound **260**

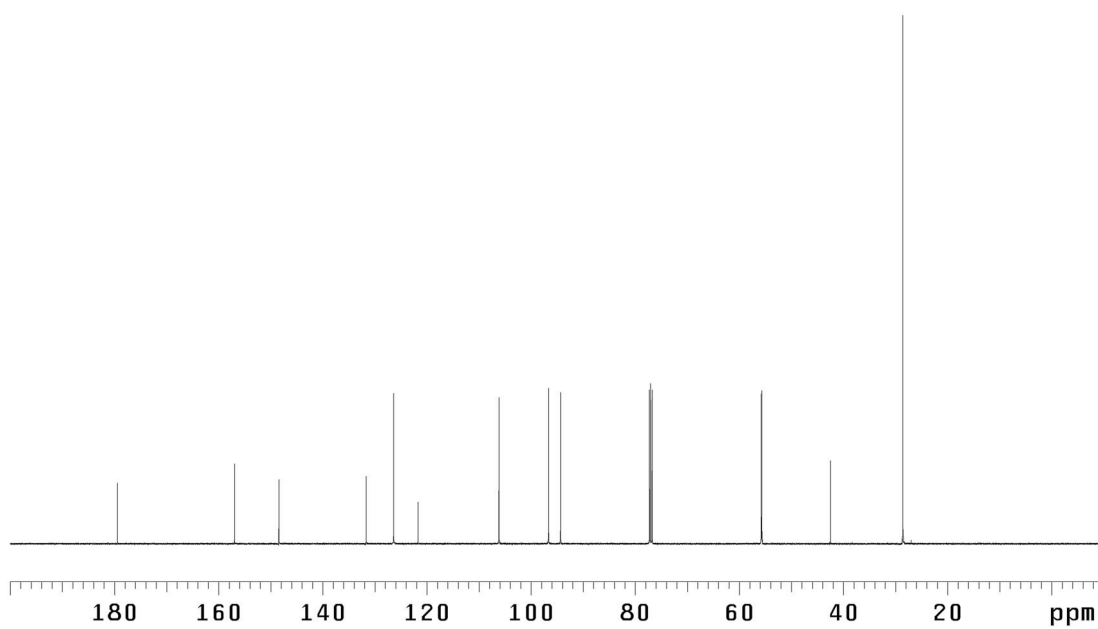
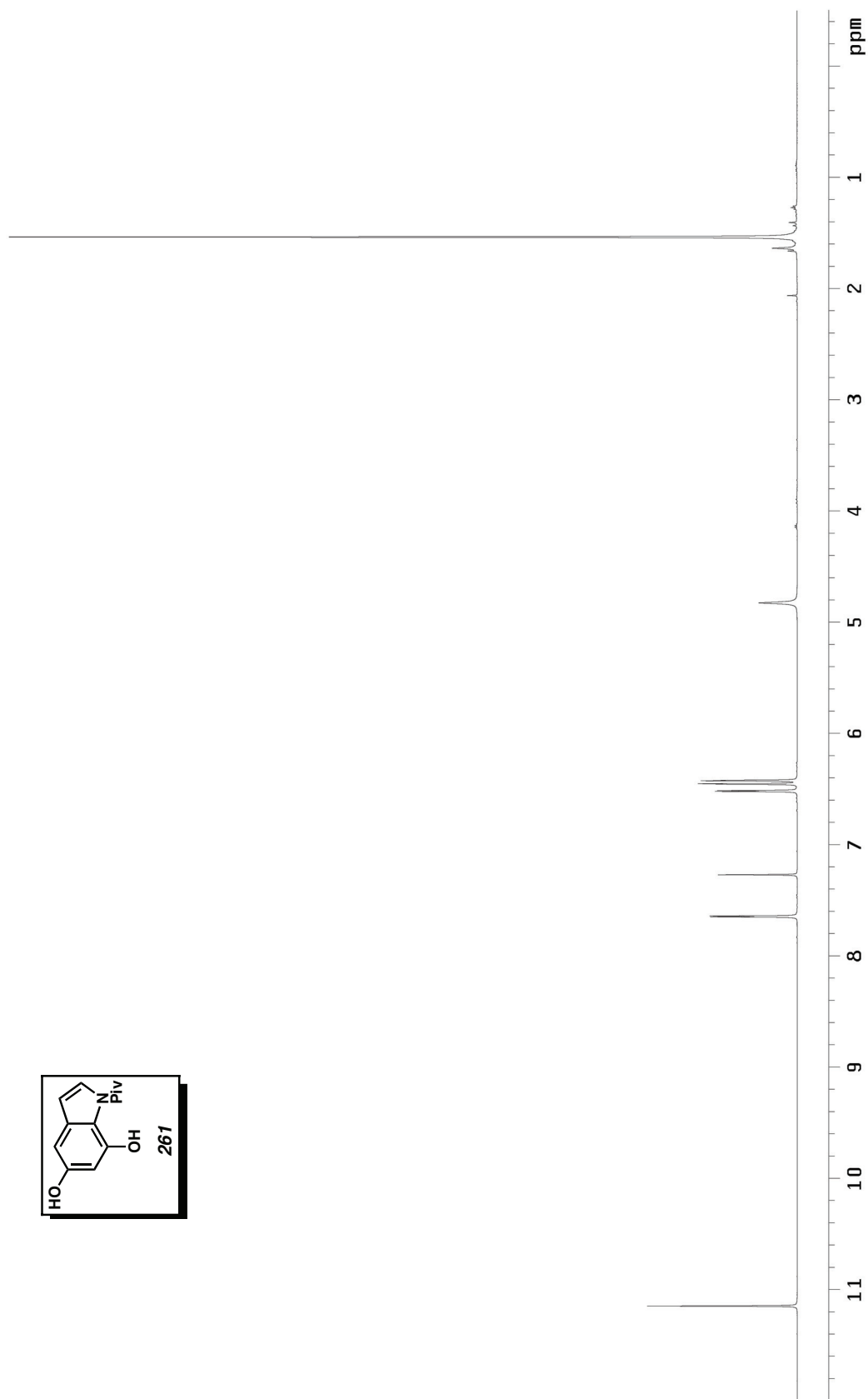


Figure A3.1.50 ¹³C NMR (125 MHz, CDCl₃) of compound **260**

Figure A3.1.51 ^1H NMR (500 MHz, CDCl_3) of compound **261**

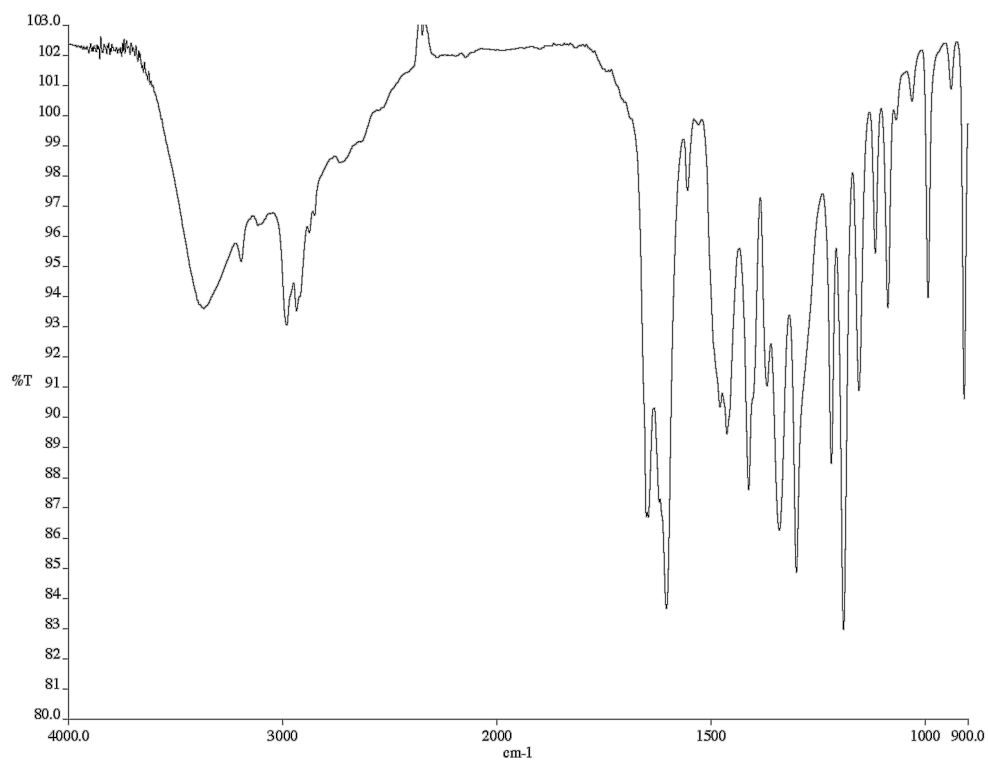


Figure A3.1.52 Infrared spectrum (film/NaCl) of compound **261**

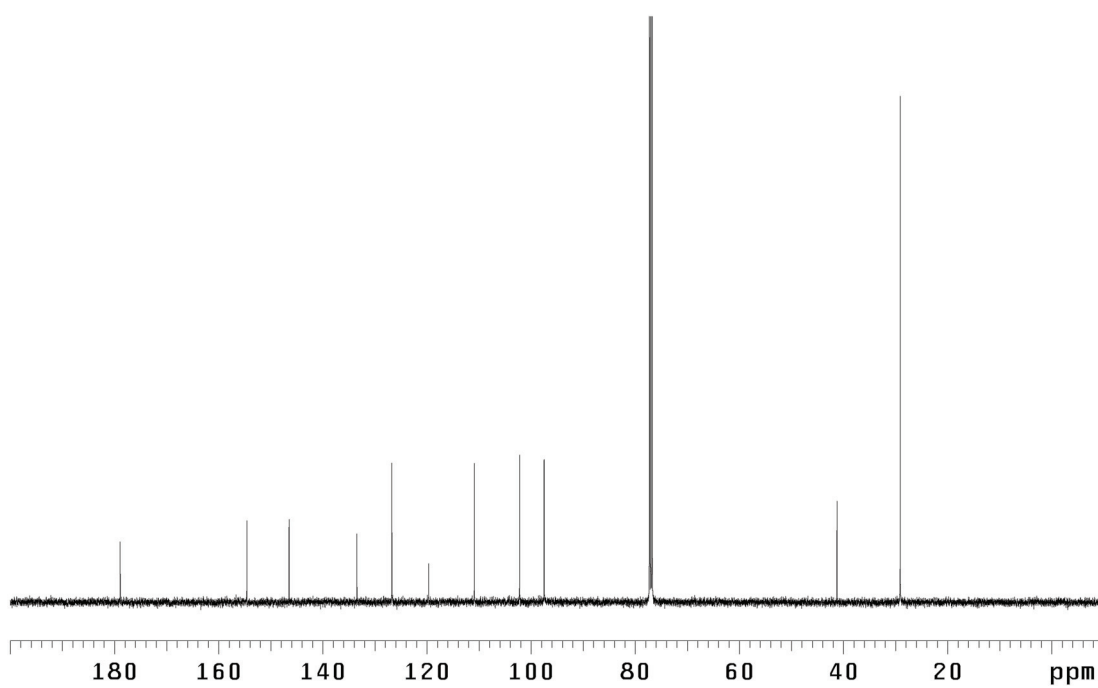
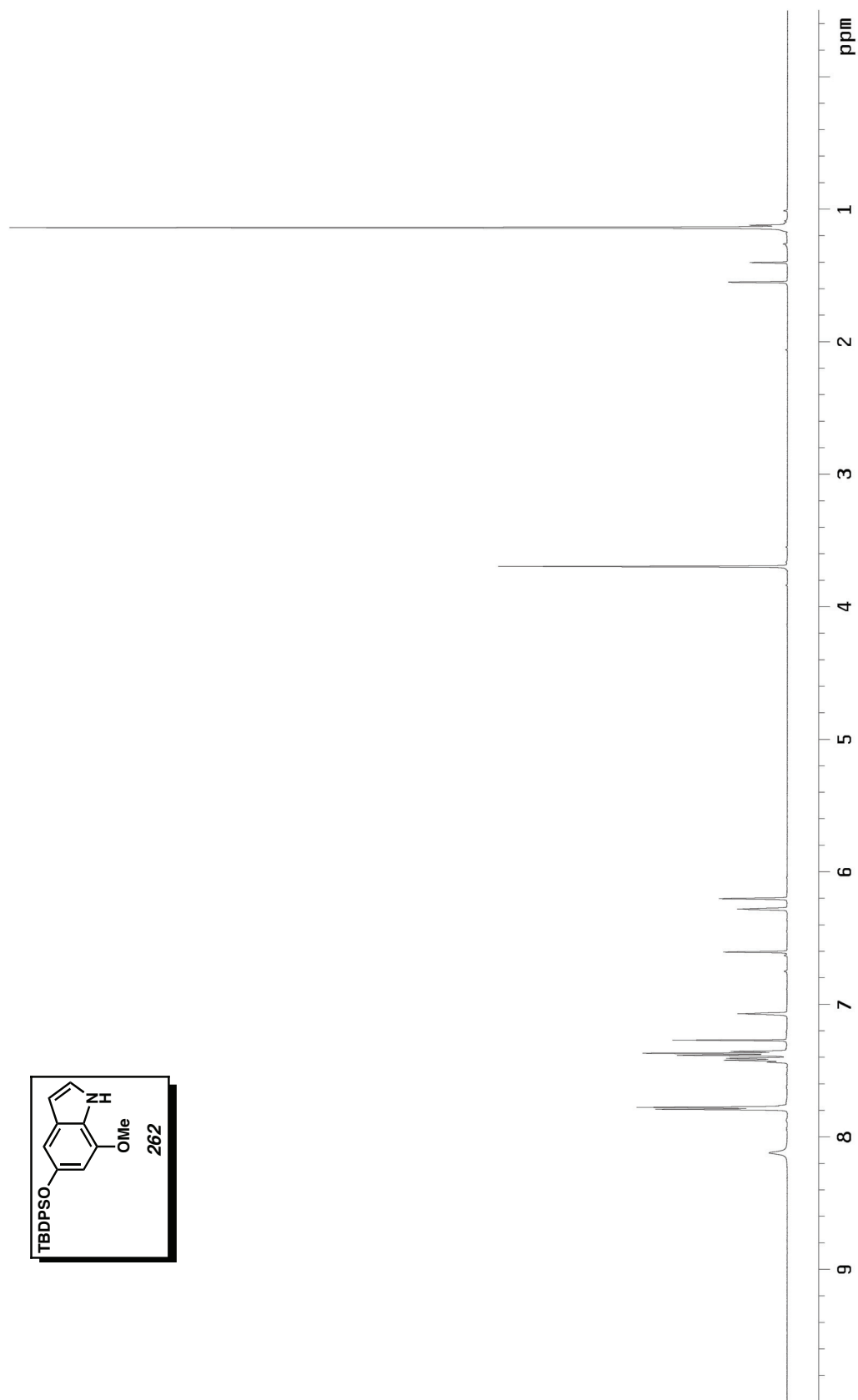


Figure A3.1.53 ¹³C NMR (125 MHz, CDCl₃) of compound **261**

Figure A3.1.54 ^1H NMR (500 MHz, CDCl_3) of compound **262**

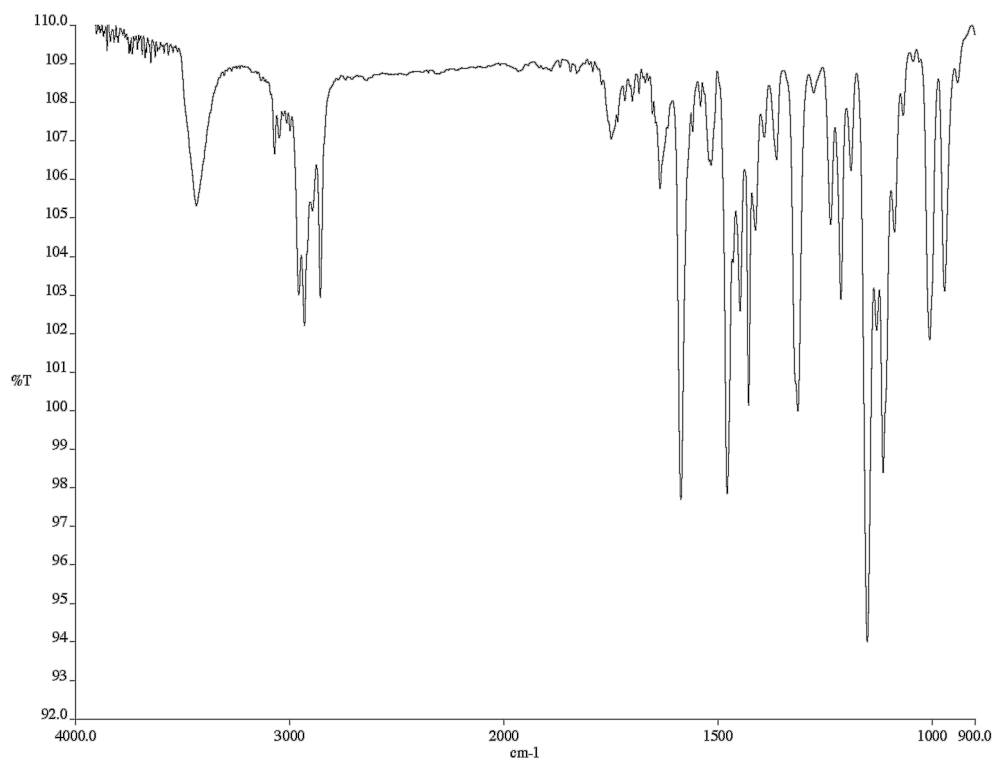


Figure A3.1.55 Infrared spectrum (film/NaCl) of compound **262**

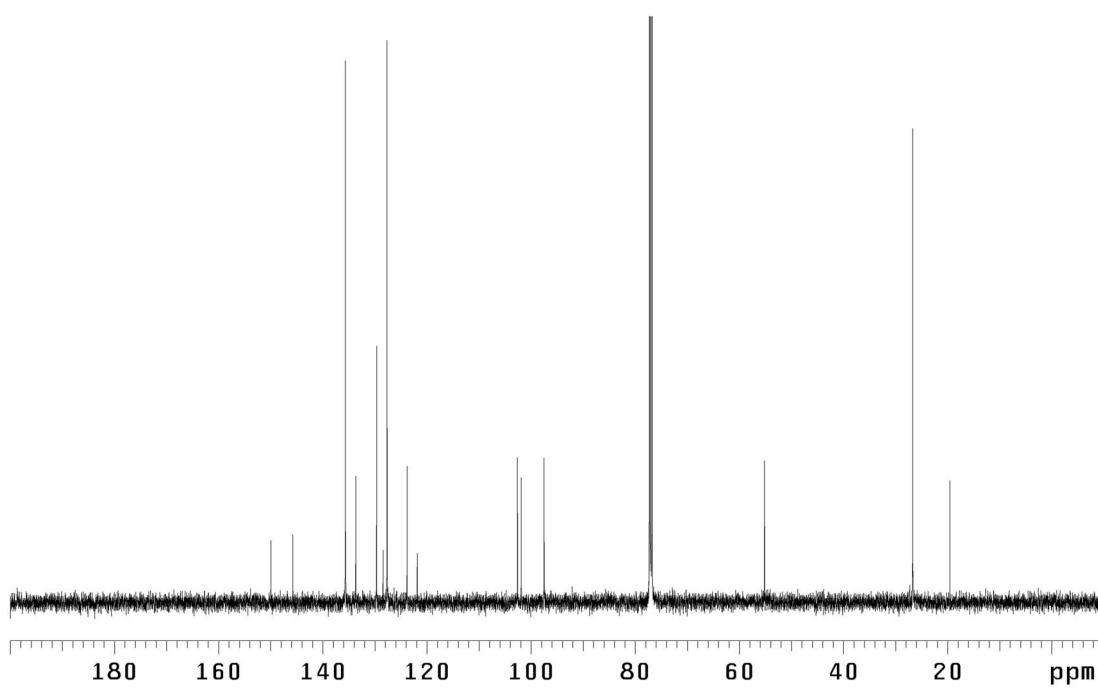
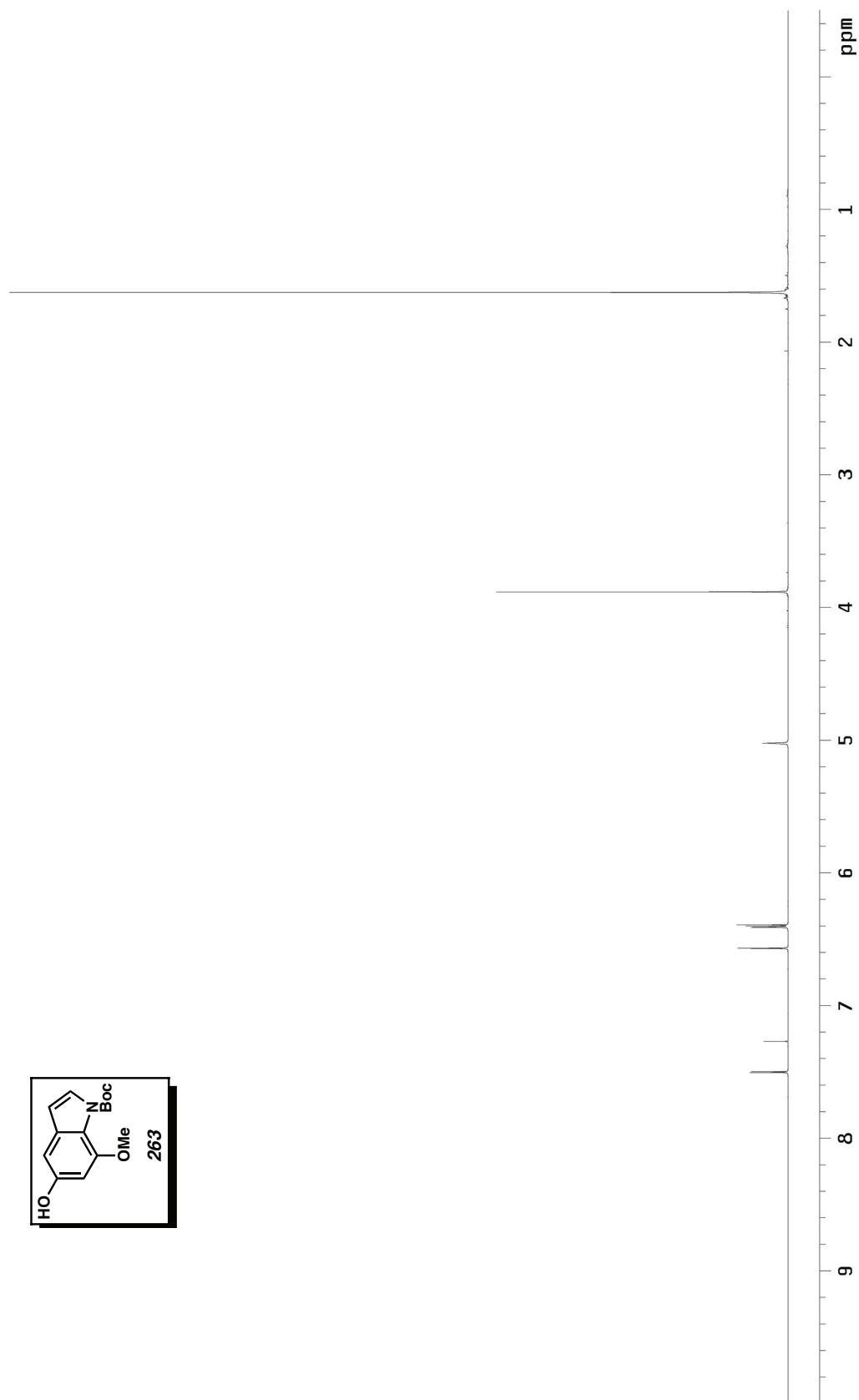


Figure A3.1.56 ¹³C NMR (125 MHz, CDCl₃) of compound **262**

Figure A3.157 ¹H NMR (500 MHz, CDCl₃) of compound **263**

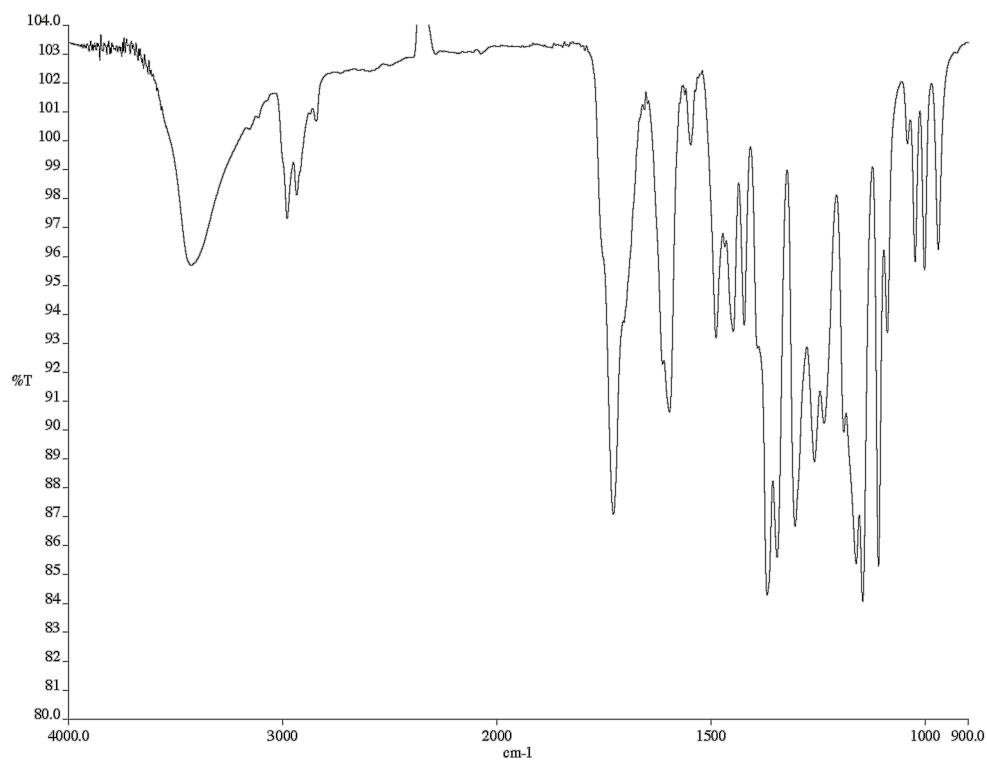


Figure A3.1.58 Infrared spectrum (film/NaCl) of compound **263**

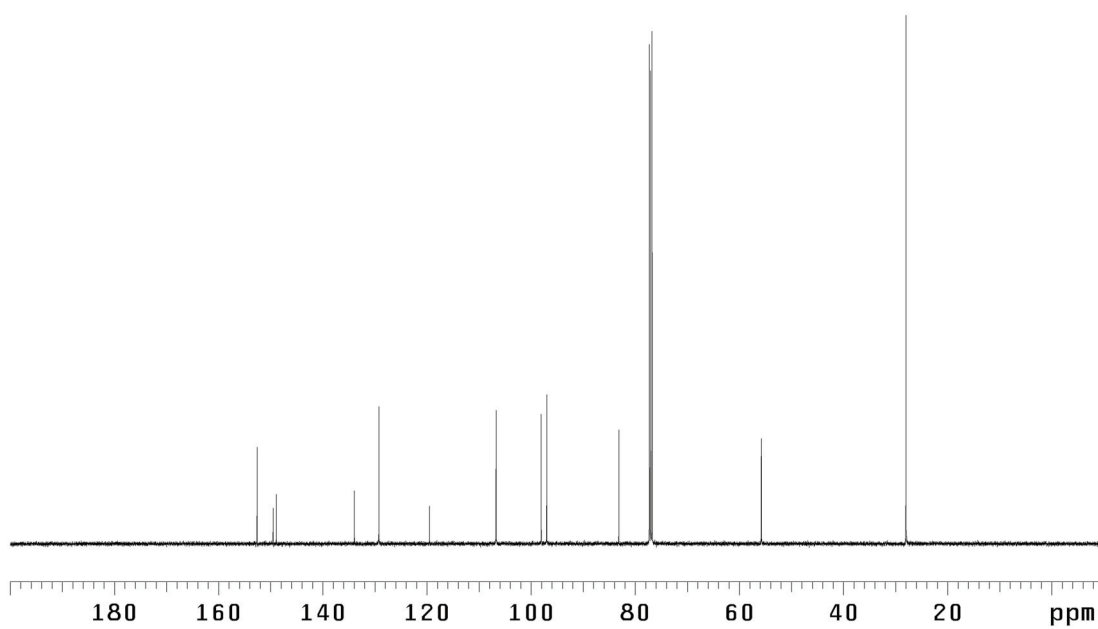
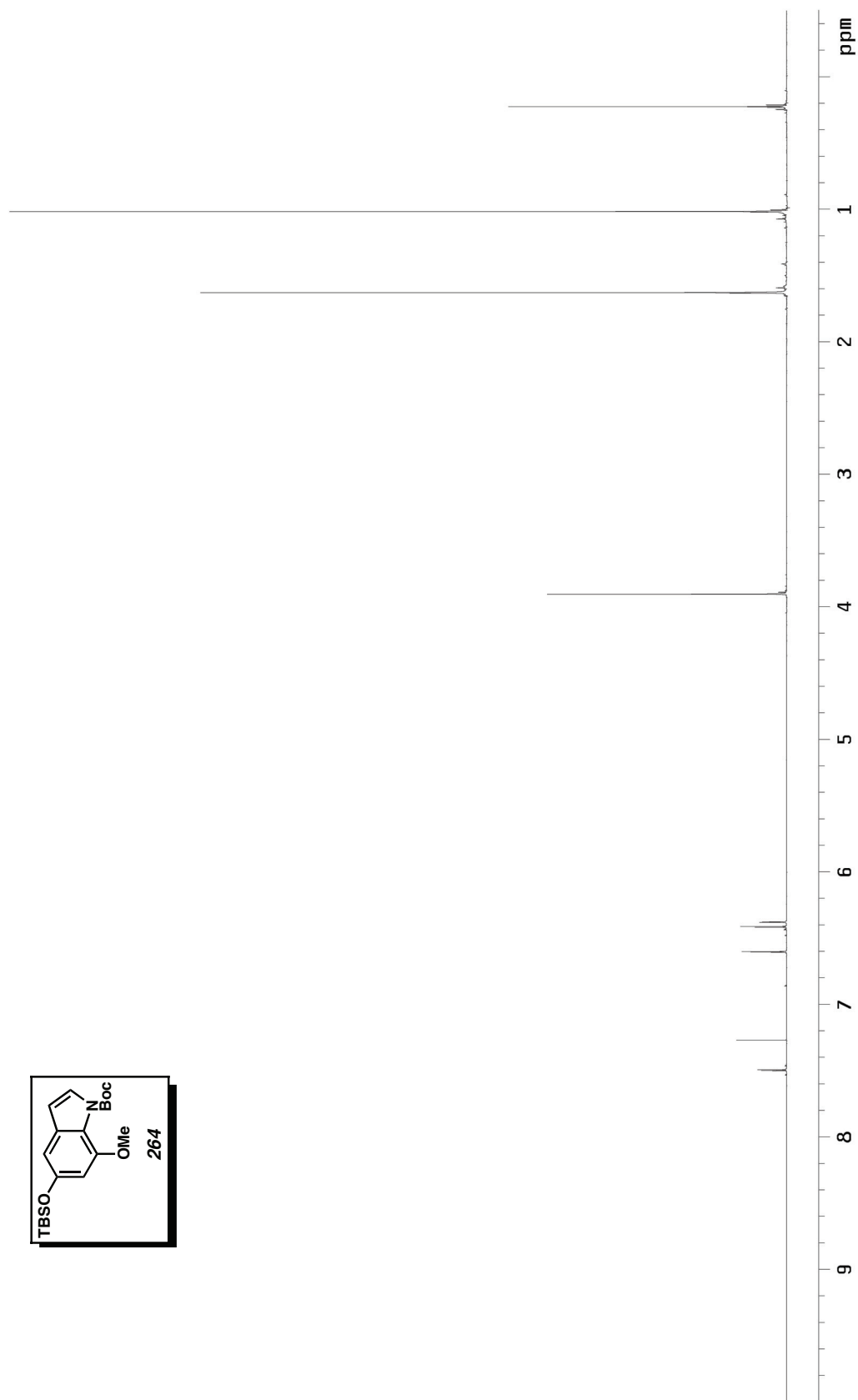


Figure A3.1.59 ¹³C NMR (125 MHz, CDCl₃) of compound **263**

Figure A3.1.60 ^1H NMR (500 MHz, CDCl_3) of compound **264**

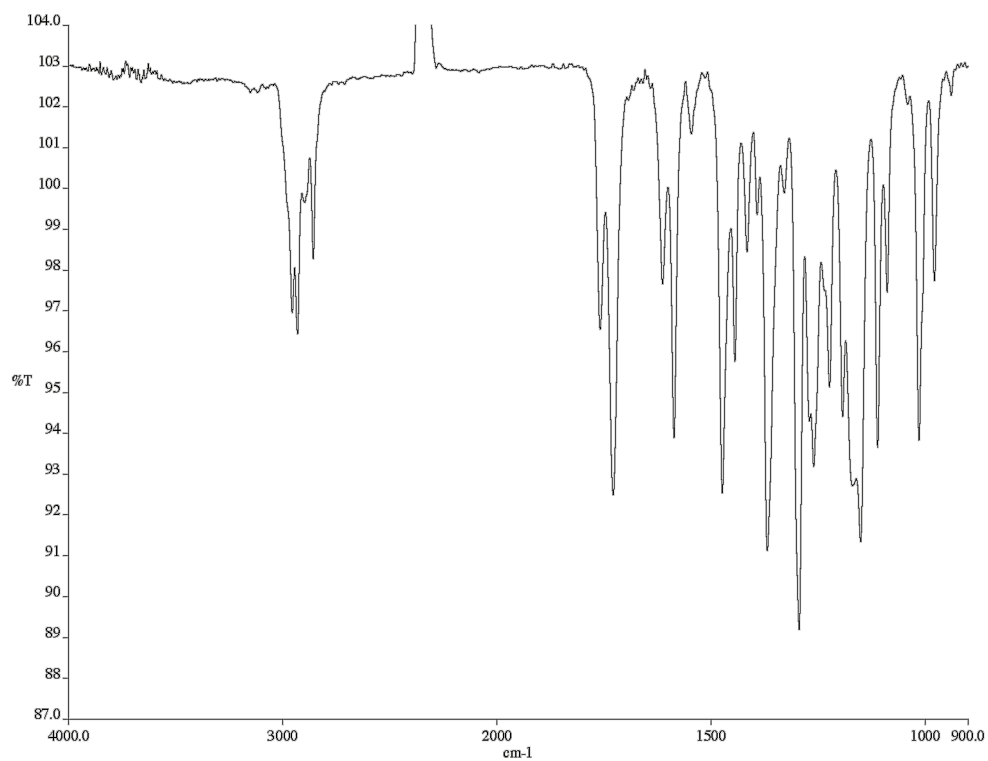


Figure A3.1.61 Infrared spectrum (film/NaCl) of compound **264**

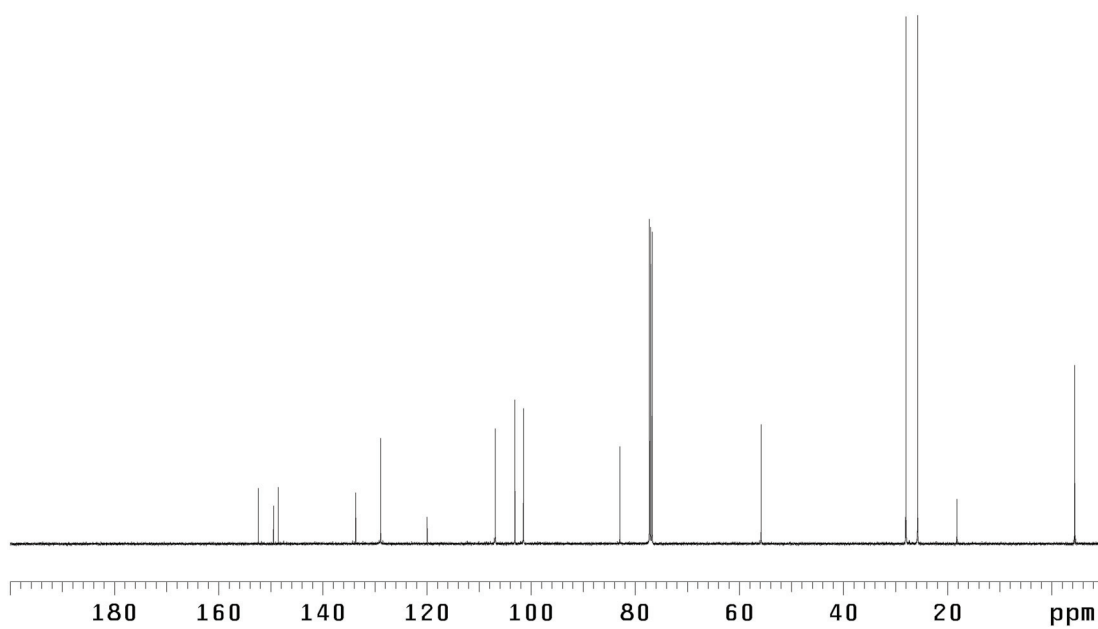
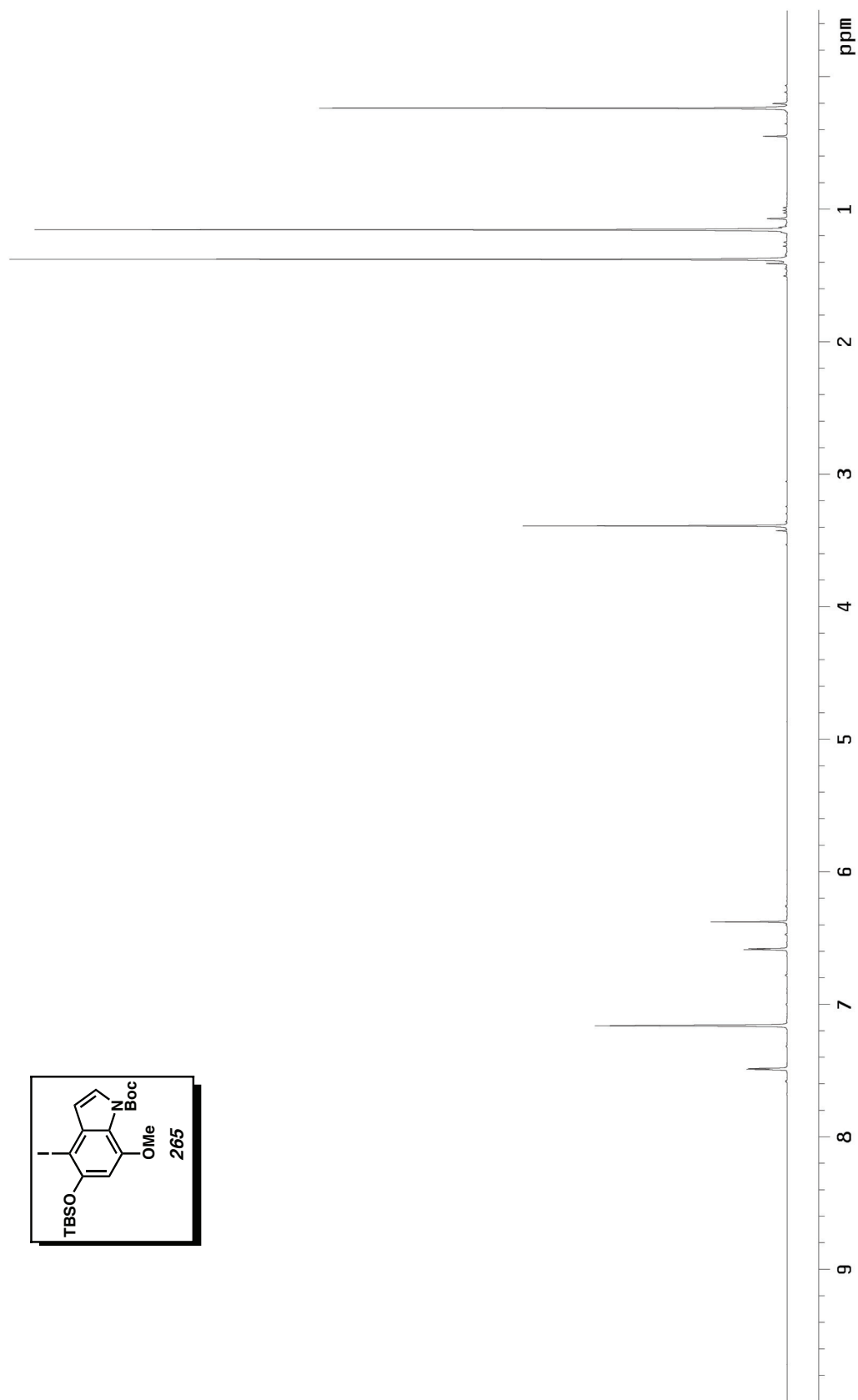


Figure A3.1.62 ¹³C NMR (125 MHz, CDCl₃) of compound **264**

Figure A3.1.63 ^1H NMR (500 MHz, CDCl_3) of compound **265**

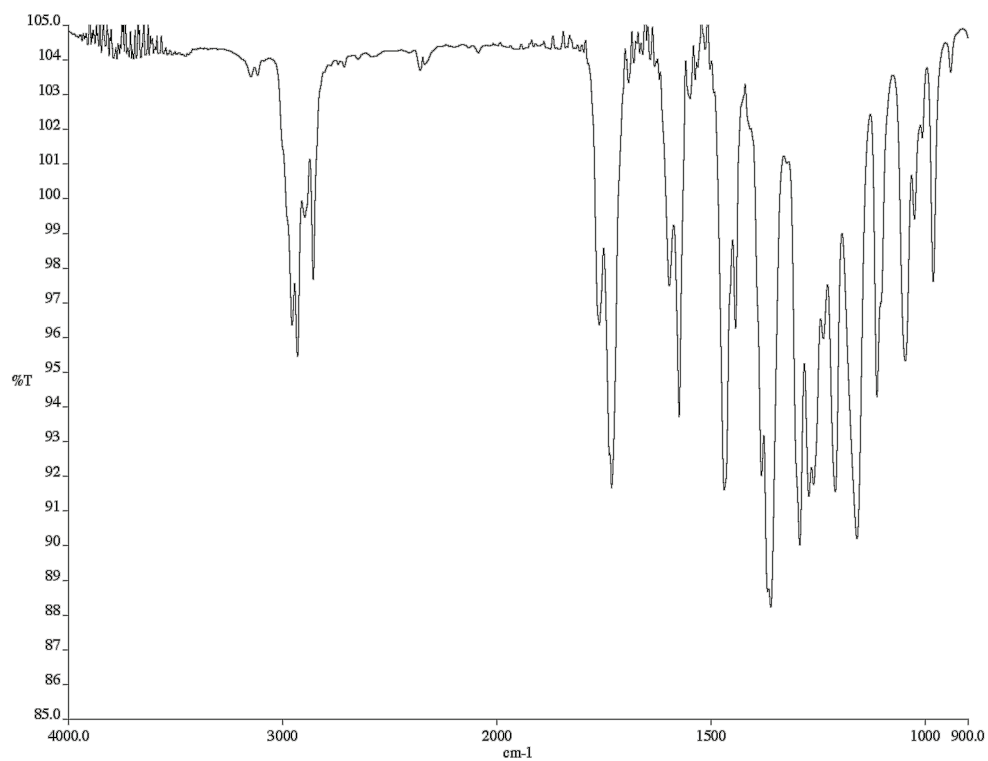


Figure A3.1.64 Infrared spectrum (film/NaCl) of compound **265**

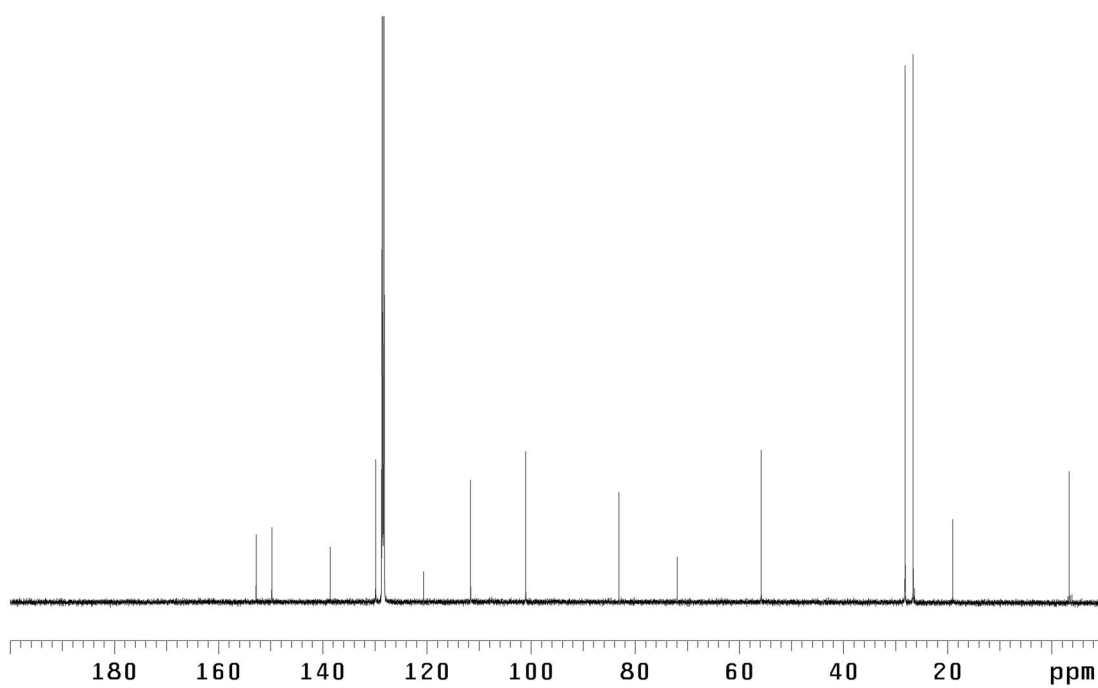


Figure A3.1.65 ¹³C NMR (125 MHz, CDCl₃) of compound **265**