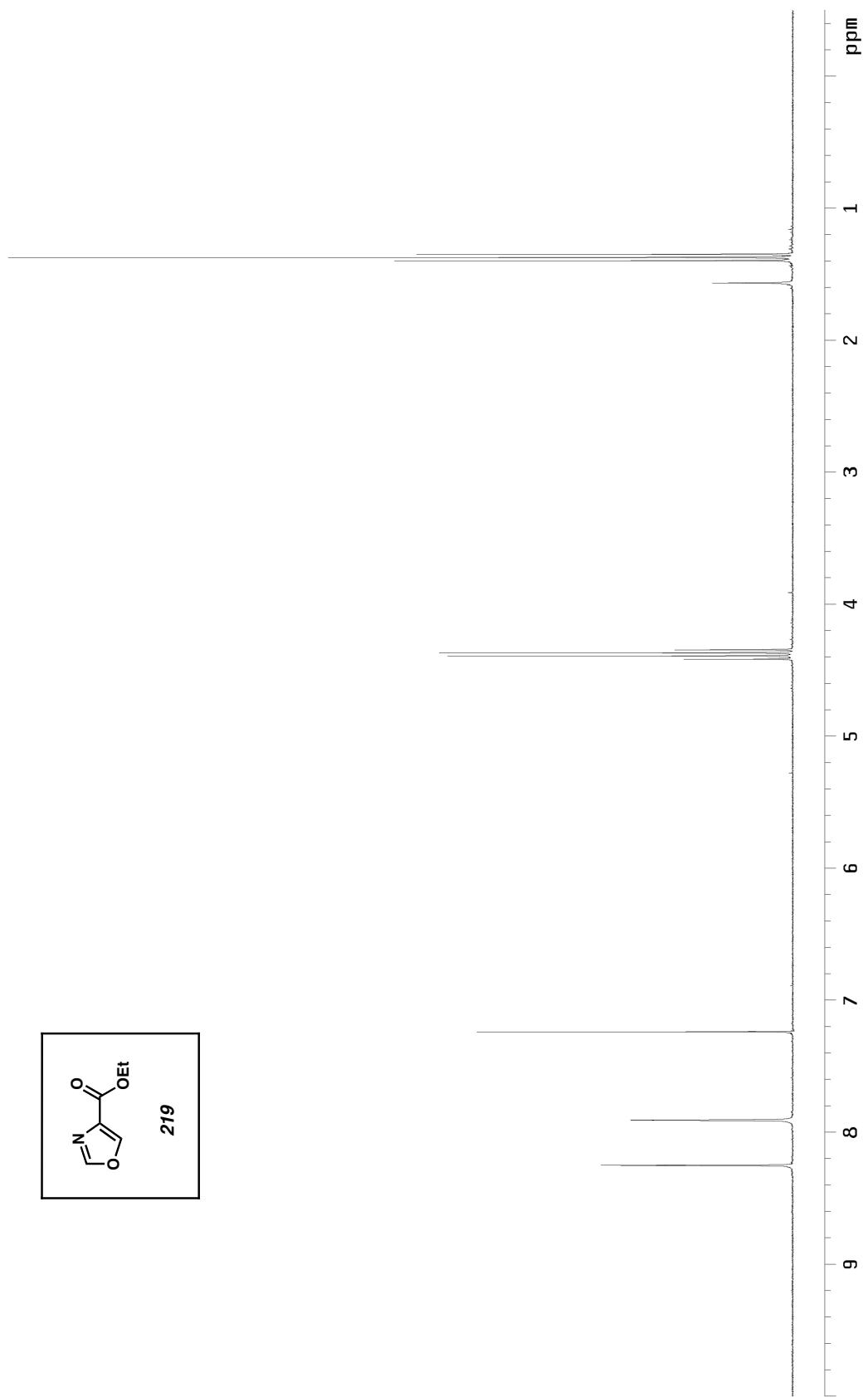


**APPENDIX FOUR**

**Spectra Relevant to Chapter Four:  
Progress Toward The Total Synthesis of Telomestatin**

Figure A4.1  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ ) of compound 219



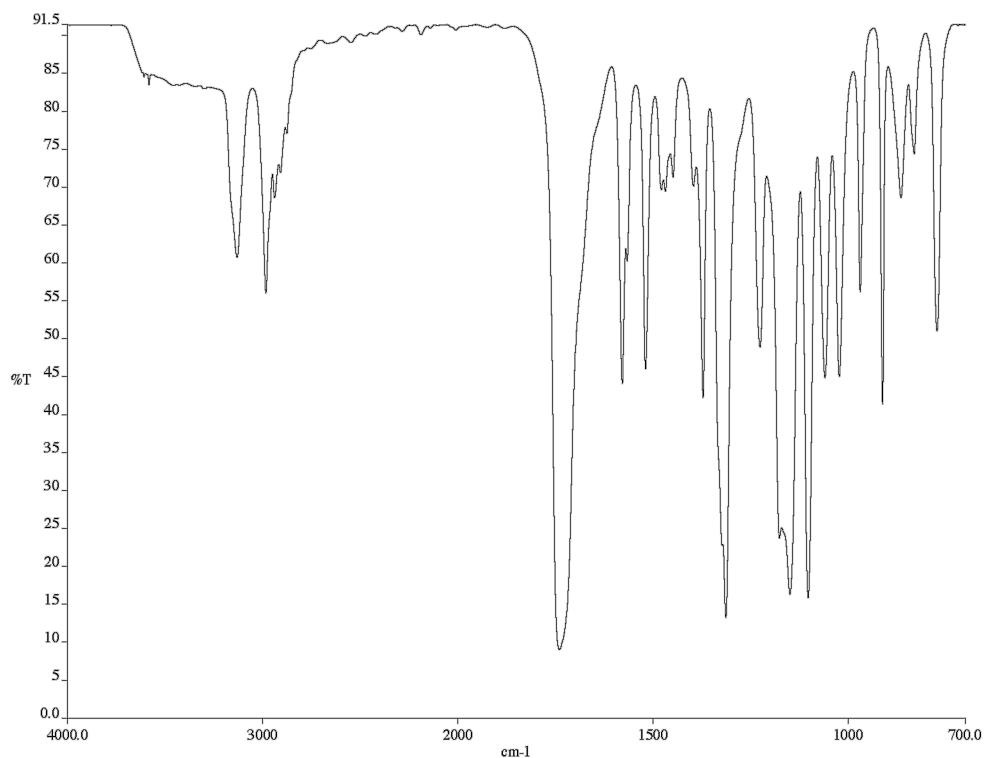


Figure A4.2 Infrared spectrum (thin film/NaCl) of compound **219**

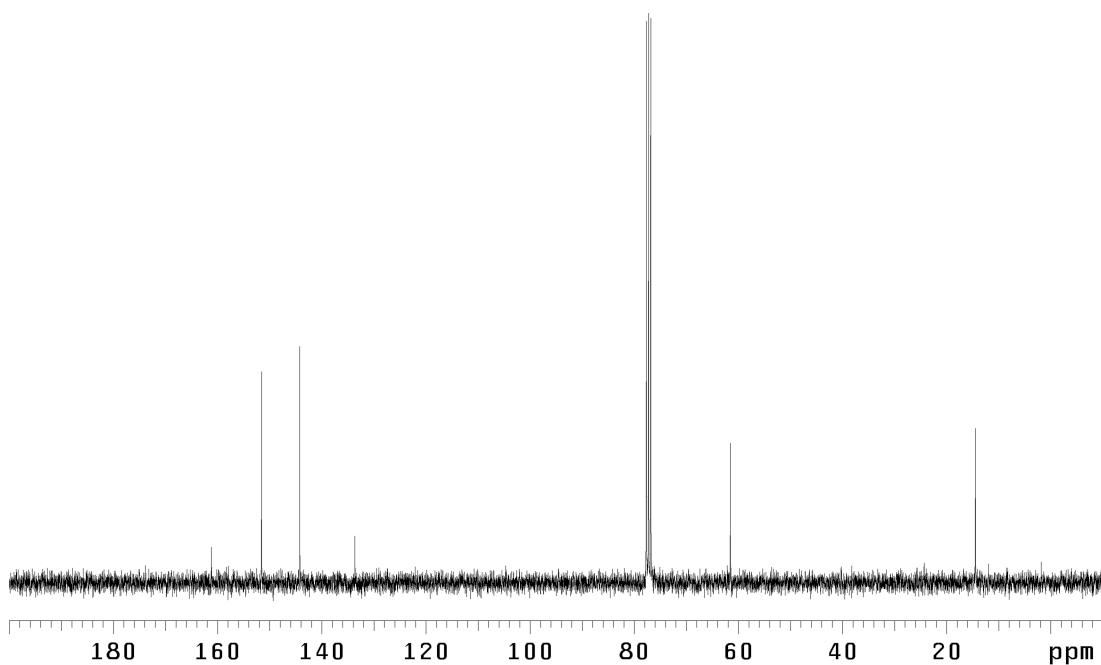
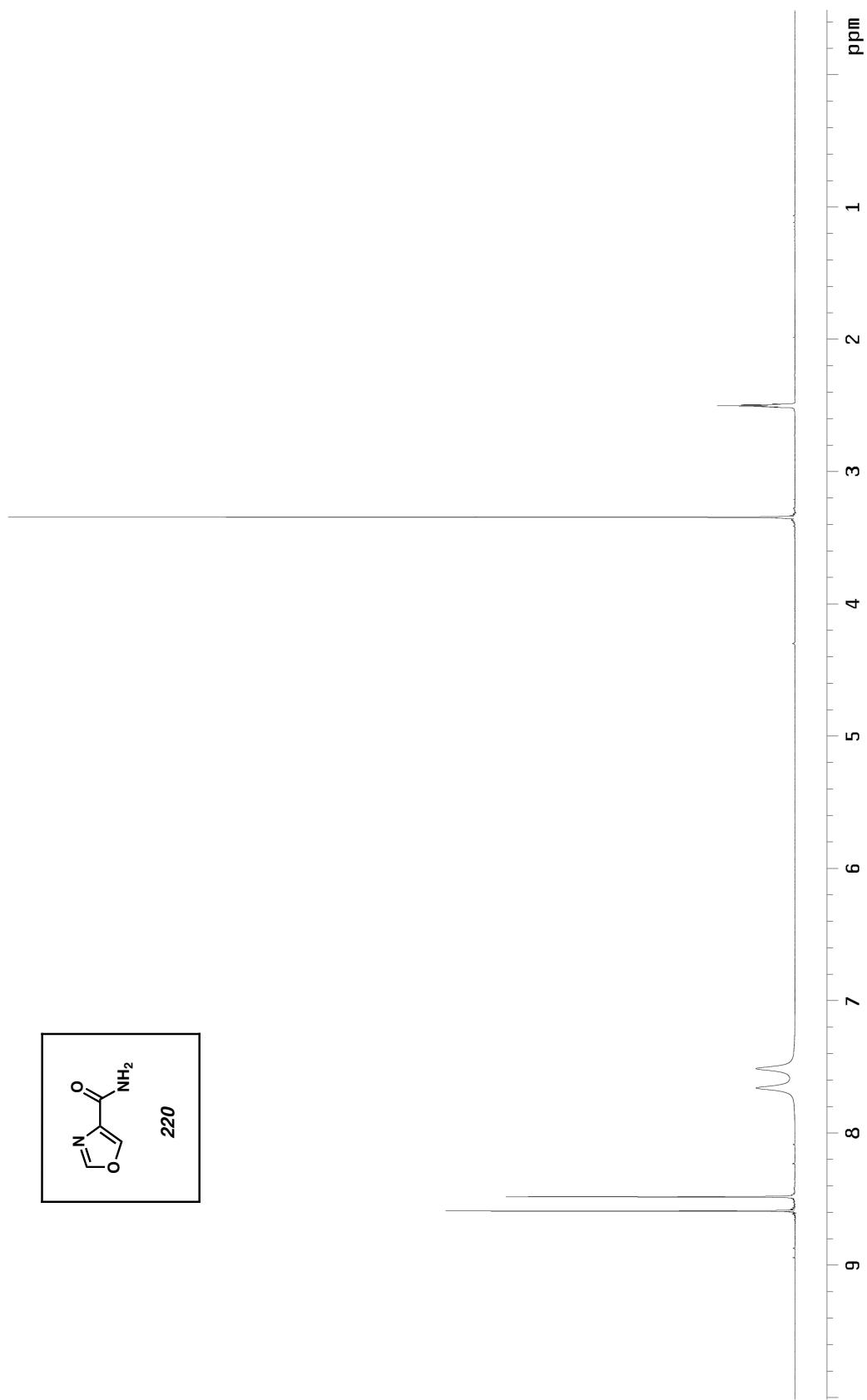


Figure A4.3  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ ) of compound **219**

Figure A4.4  $^1\text{H}$  NMR (300 MHz,  $\text{DMSO}-d_6$ ) of compound 220



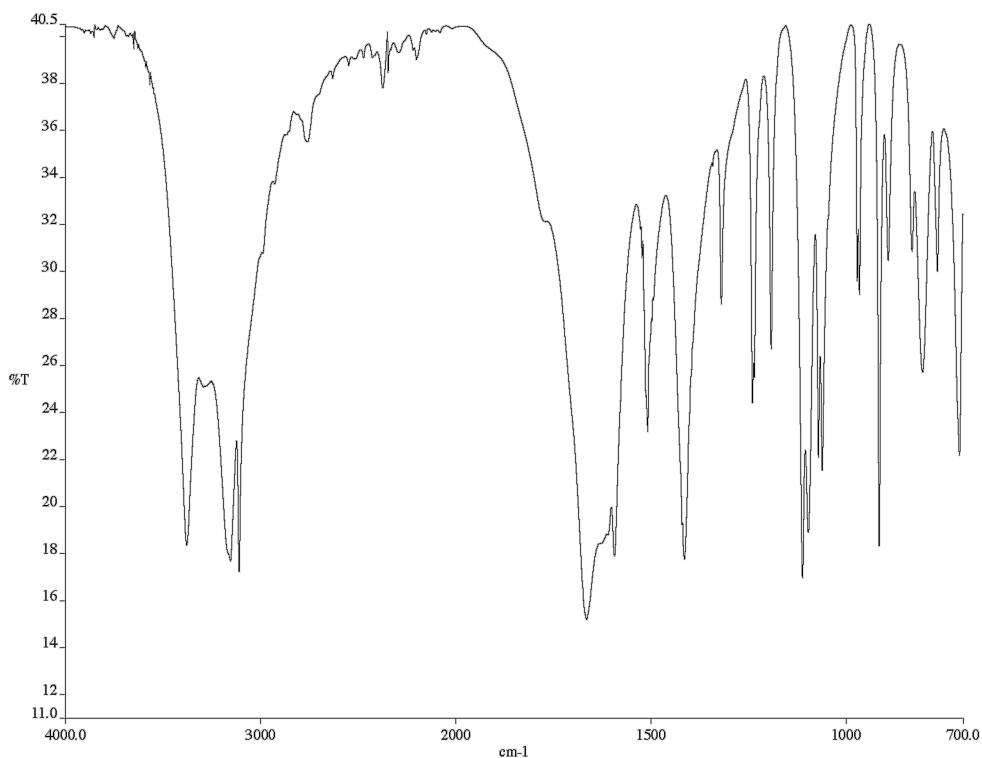


Figure A4.5 Infrared spectrum (KBr pellet) of compound **220**

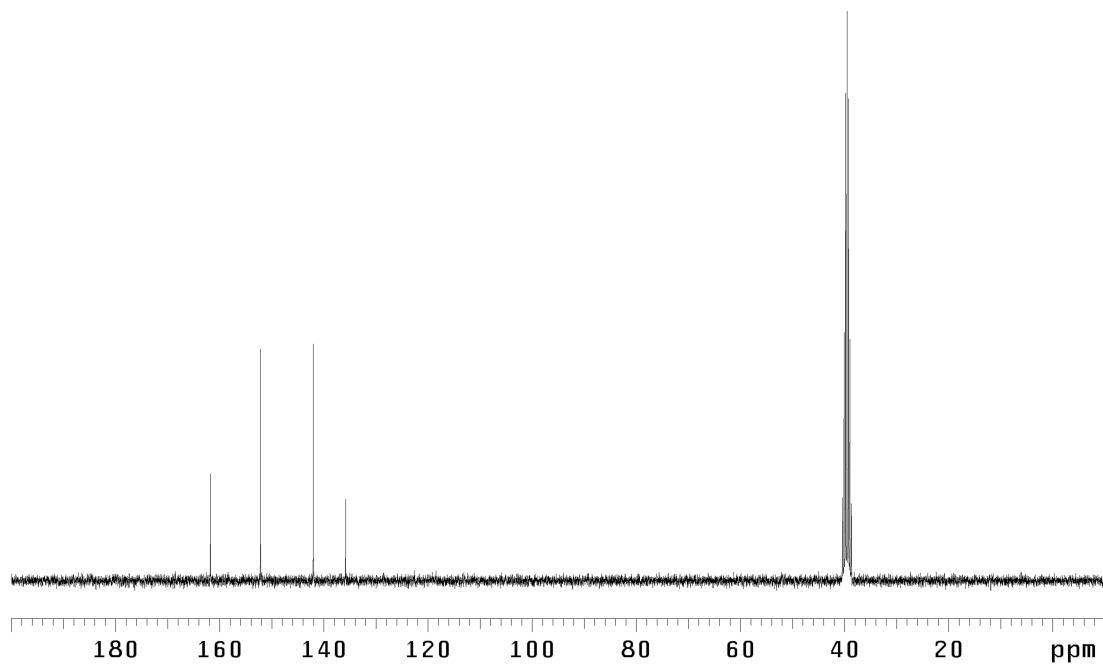


Figure A4.6  $^{13}\text{C}$  NMR (75 MHz,  $\text{DMSO}-d_6$ ) of compound **220**

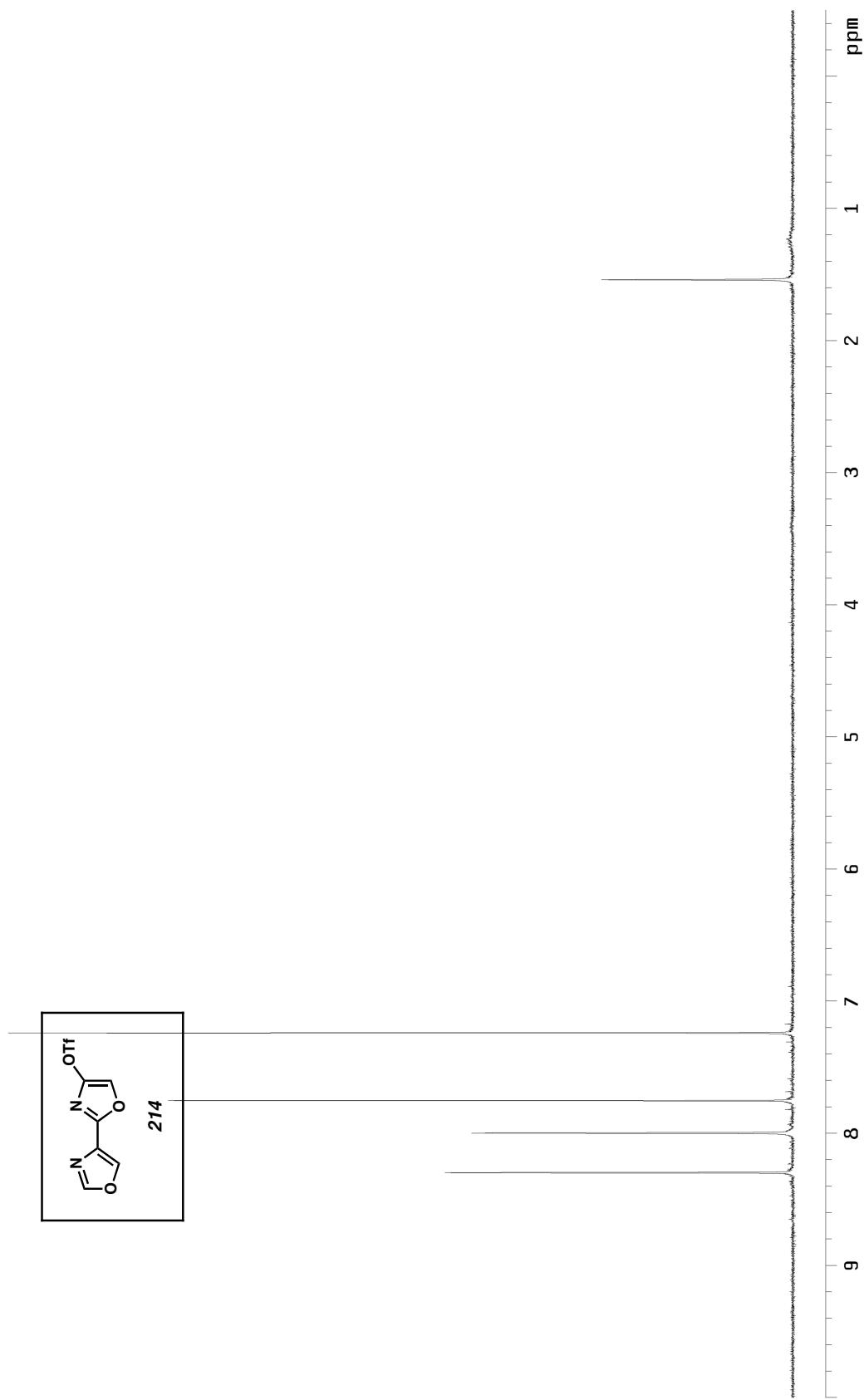


Figure A4.7  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ ) of compound 214

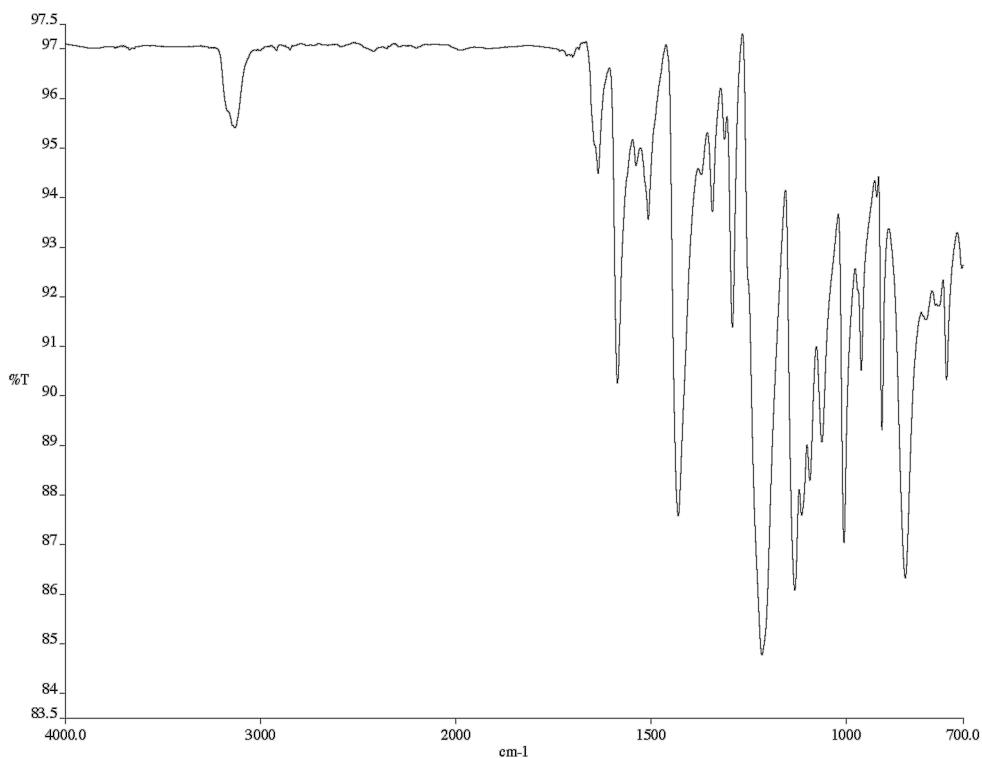


Figure A4.8 Infrared spectrum (thin film/NaCl) of compound **214**

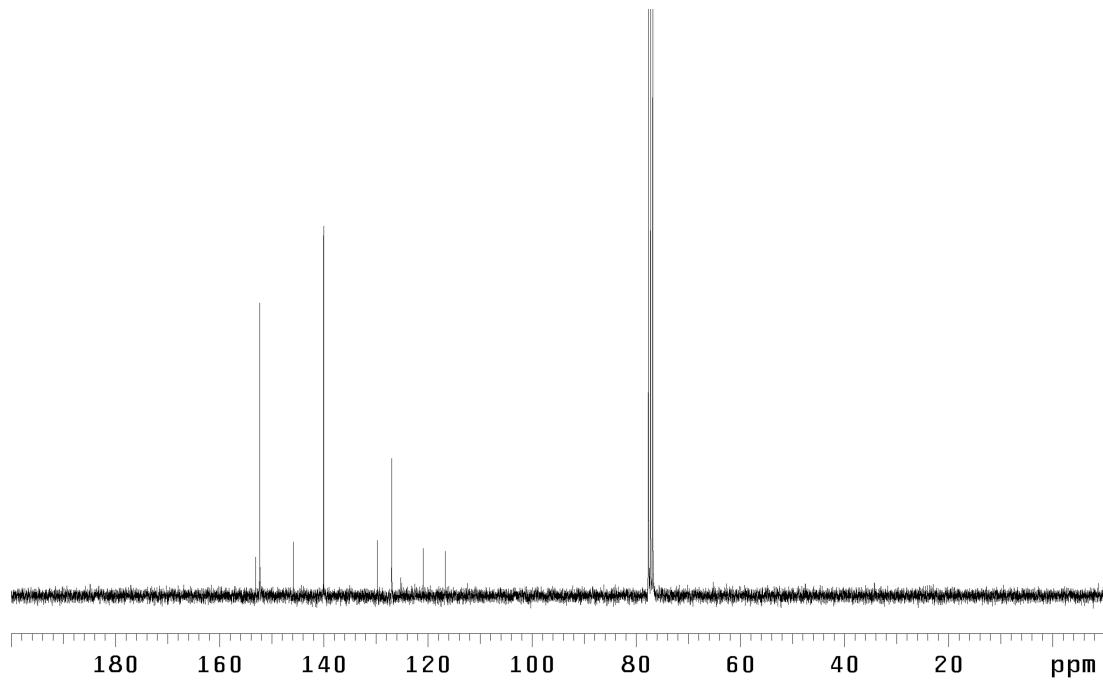


Figure A4.9  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ ) of compound **214**

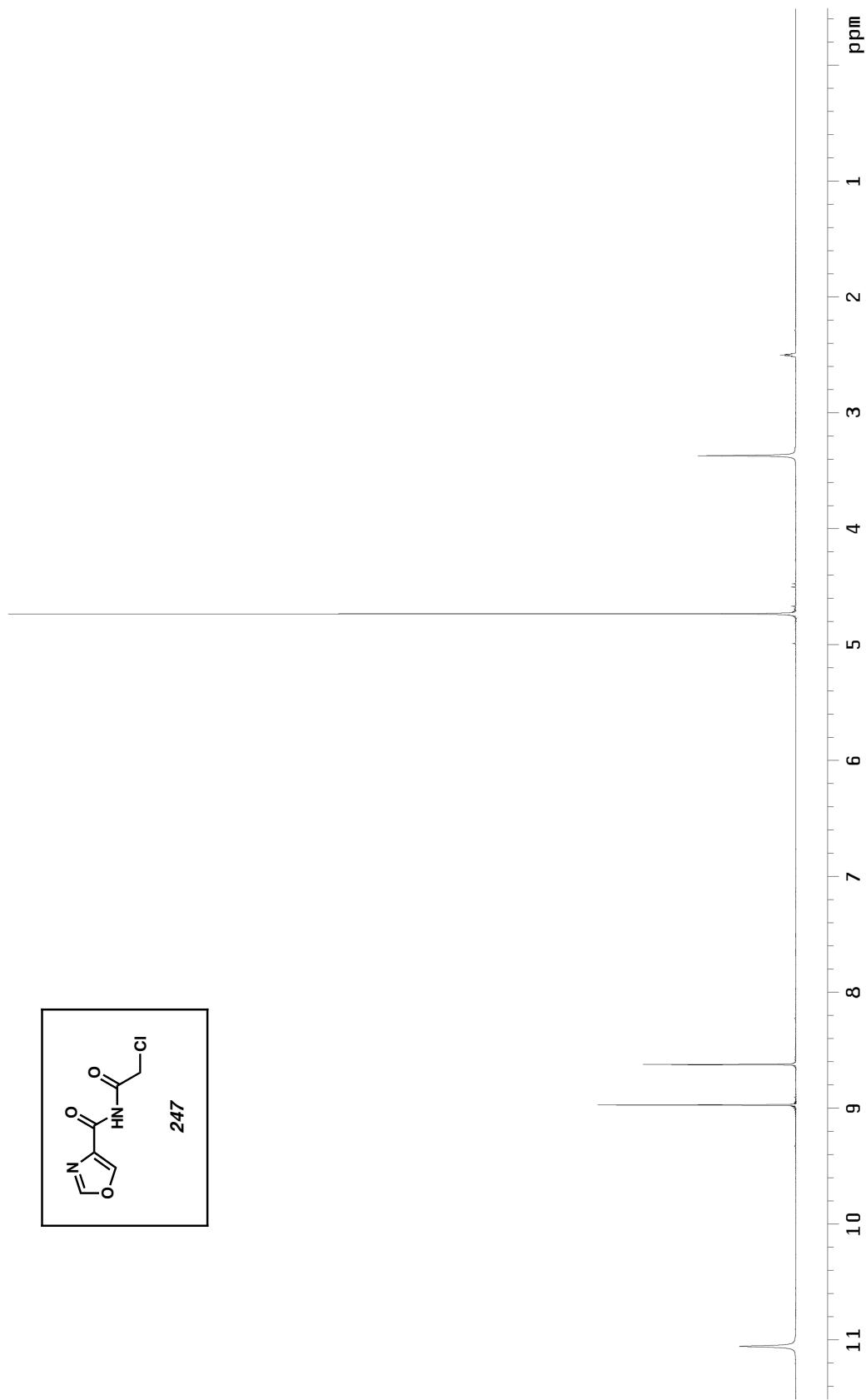


Figure A4.10  $^1\text{H}$  NMR (300 MHz,  $\text{DMSO}-d_6$ ) of compound 247

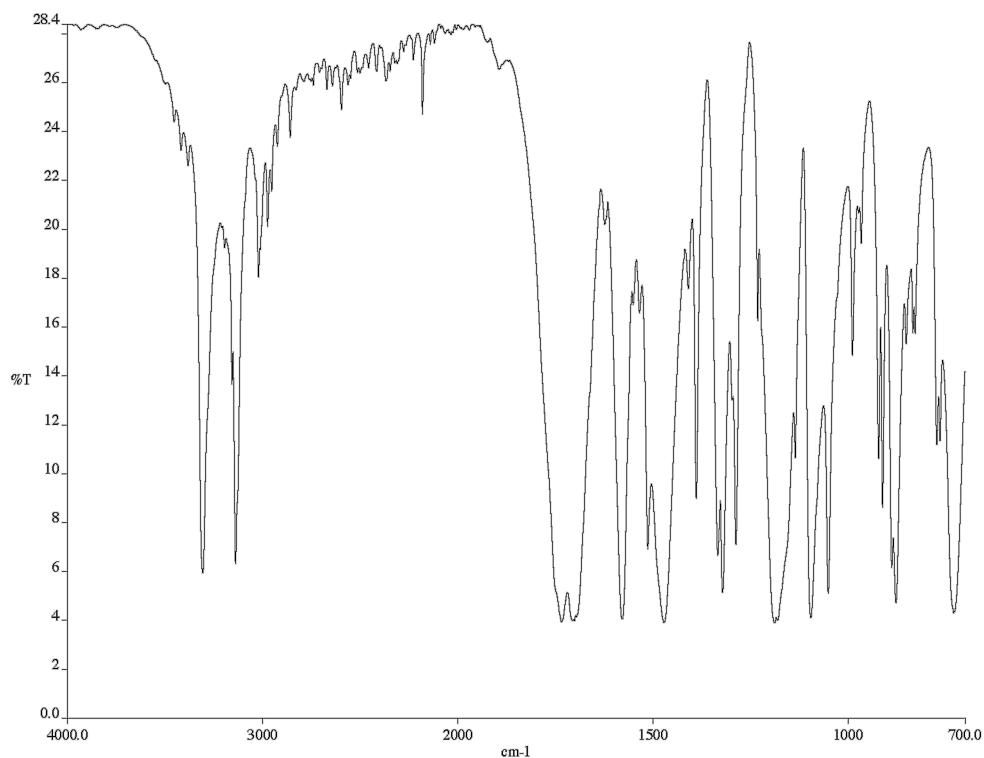


Figure A4.11 Infrared spectrum (KBr pellet) of compound **247**

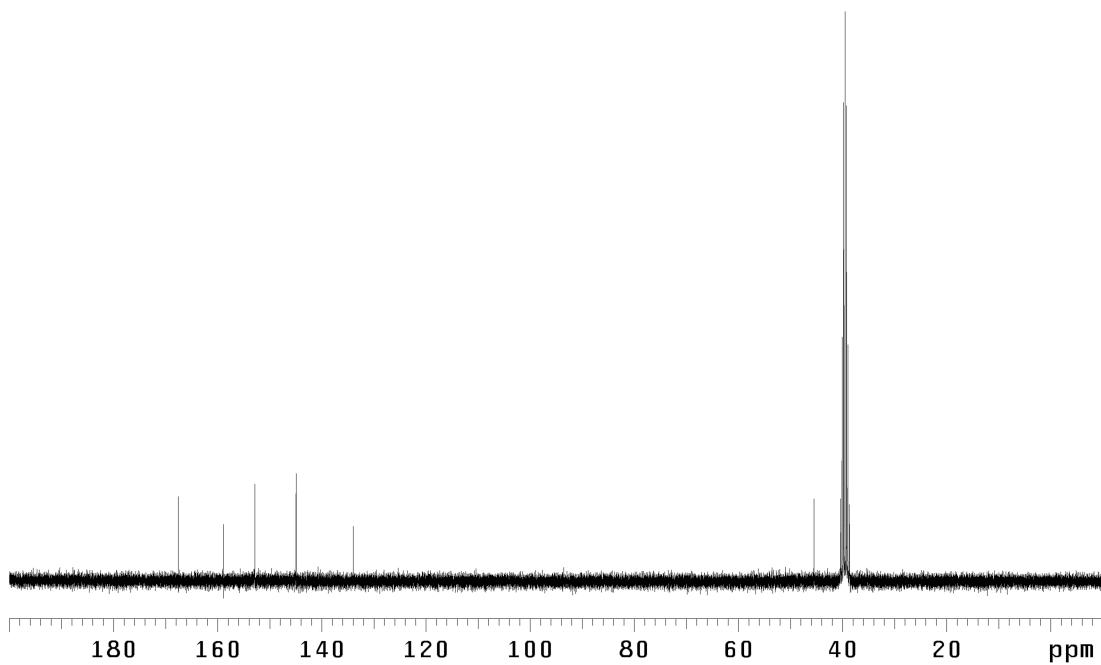
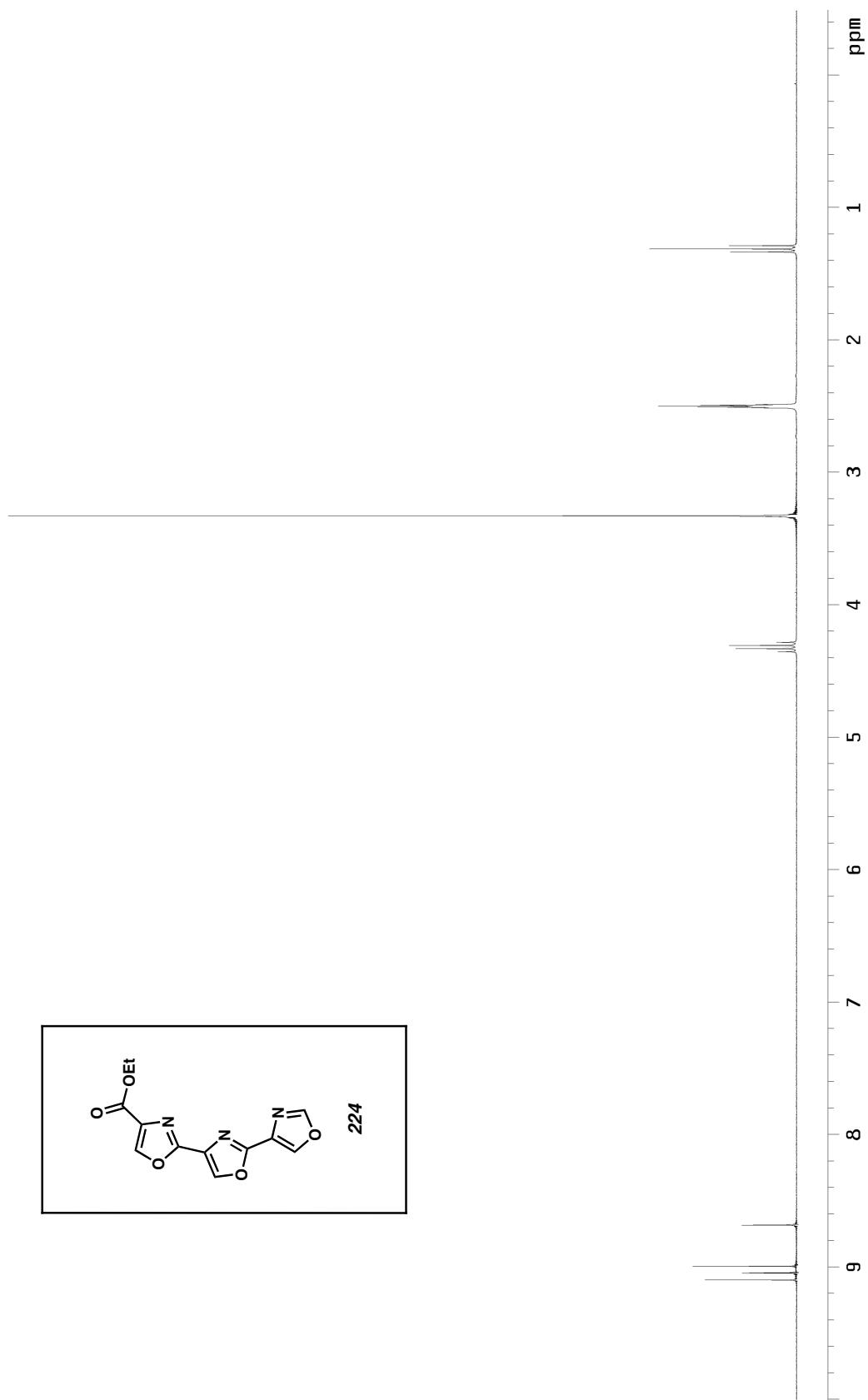


Figure A4.12  $^{13}\text{C}$  NMR (75 MHz,  $\text{DMSO}-d_6$ ) of compound **247**

Figure A4.13  $^1\text{H}$  NMR (300 MHz,  $\text{DMSO}-d_6$ ) of compound 224



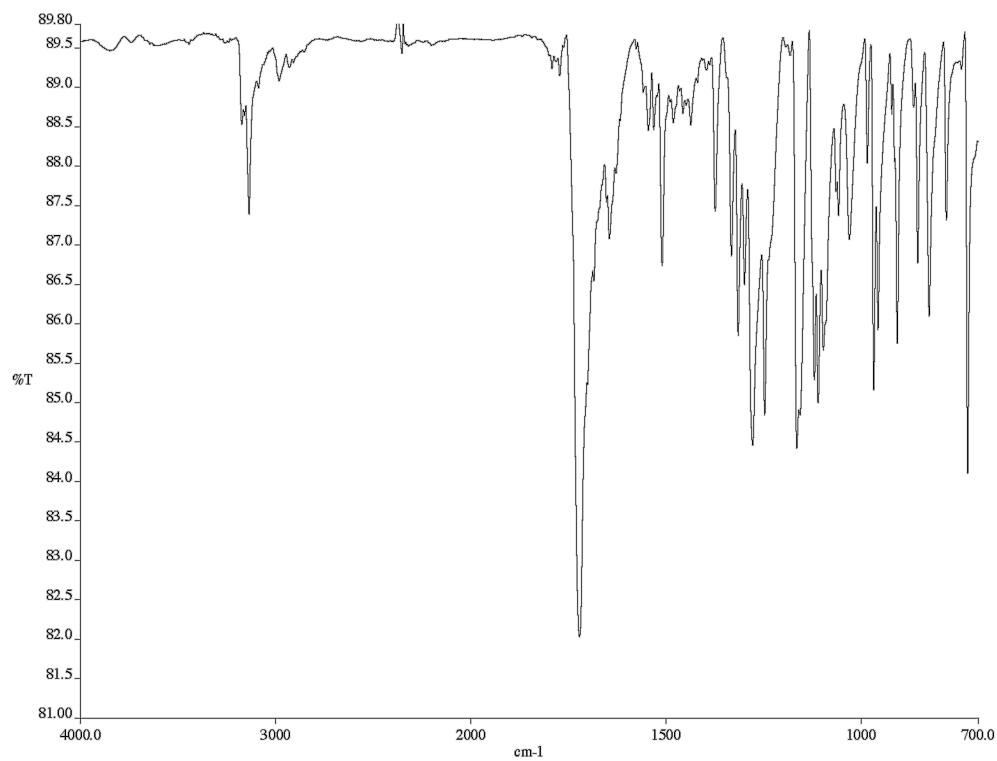


Figure A4.14 Infrared spectrum (thin film/NaCl) of compound 224

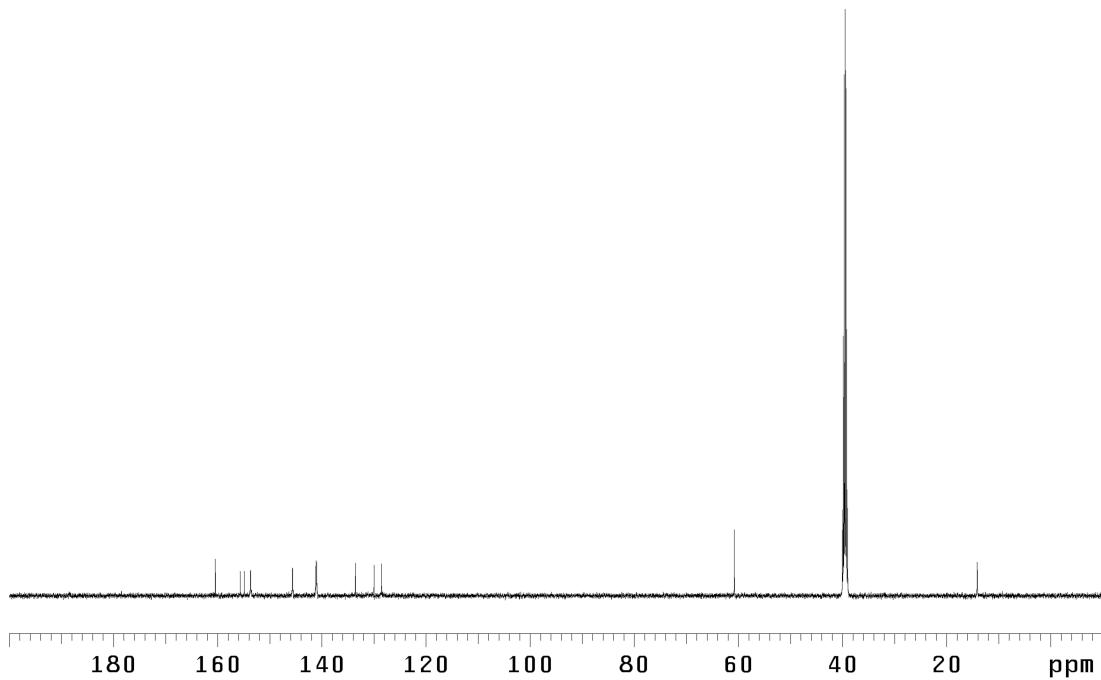
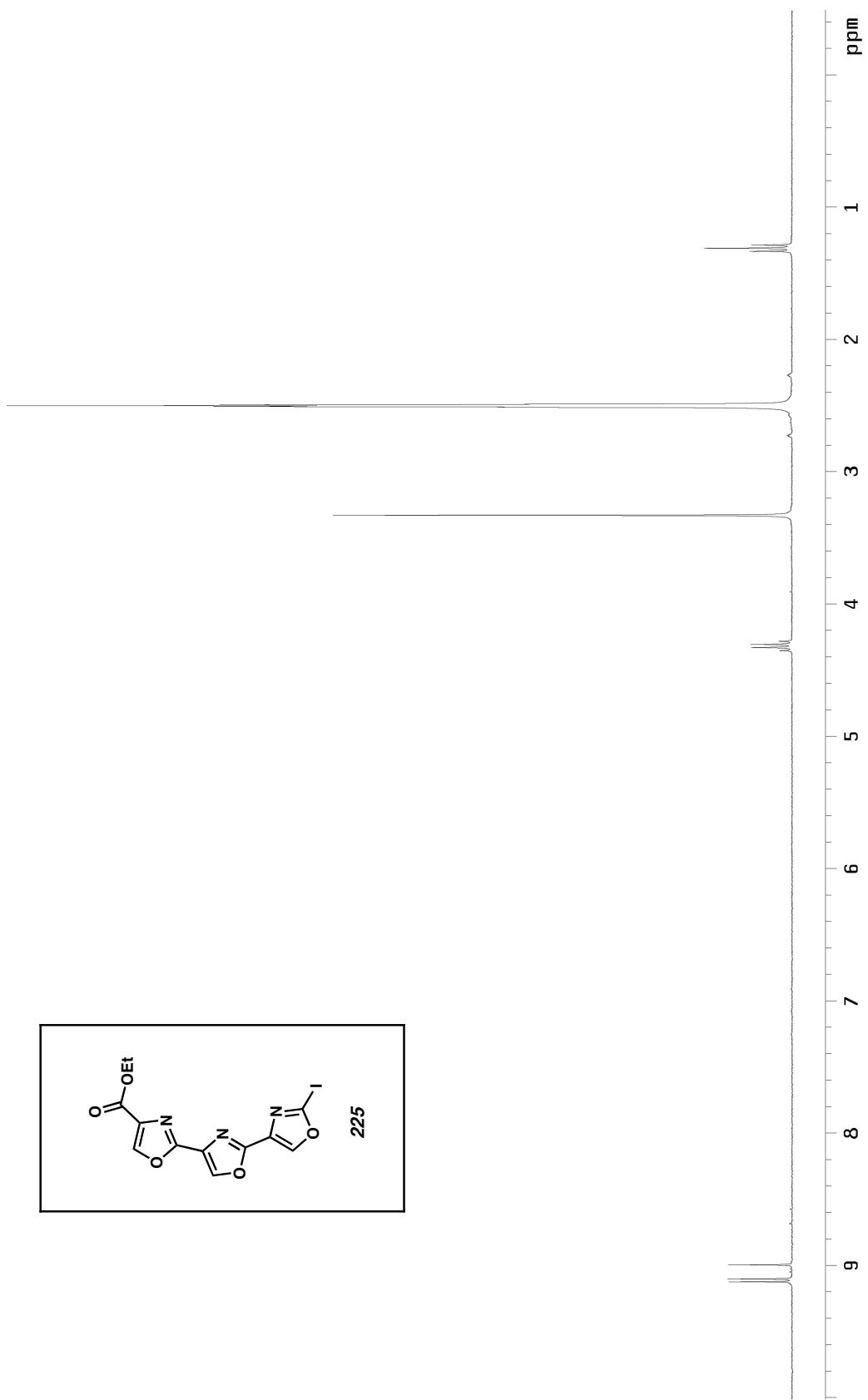


Figure A4.15  $^{13}\text{C}$  NMR (125 MHz,  $\text{DMSO}-d_6$ ) of compound 224

Figure A4.16  $^1\text{H}$  NMR (300 MHz,  $\text{DMSO}-d_6$ ) of compound **225**



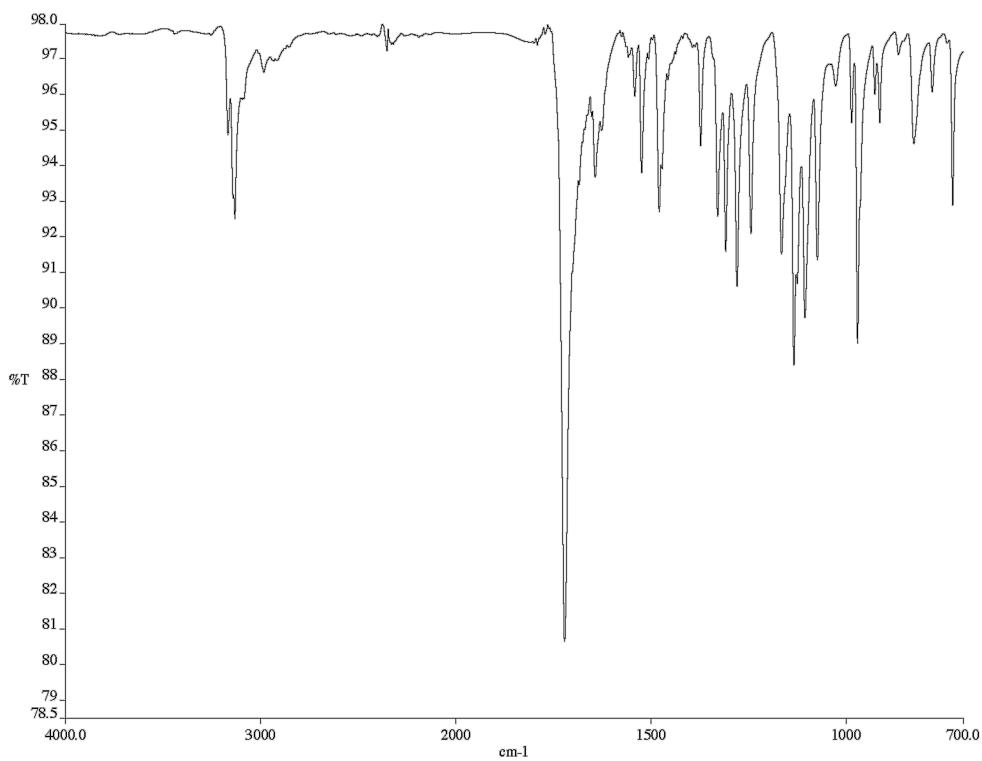


Figure A4.17 Infrared spectrum (thin film/NaCl) of compound **225**

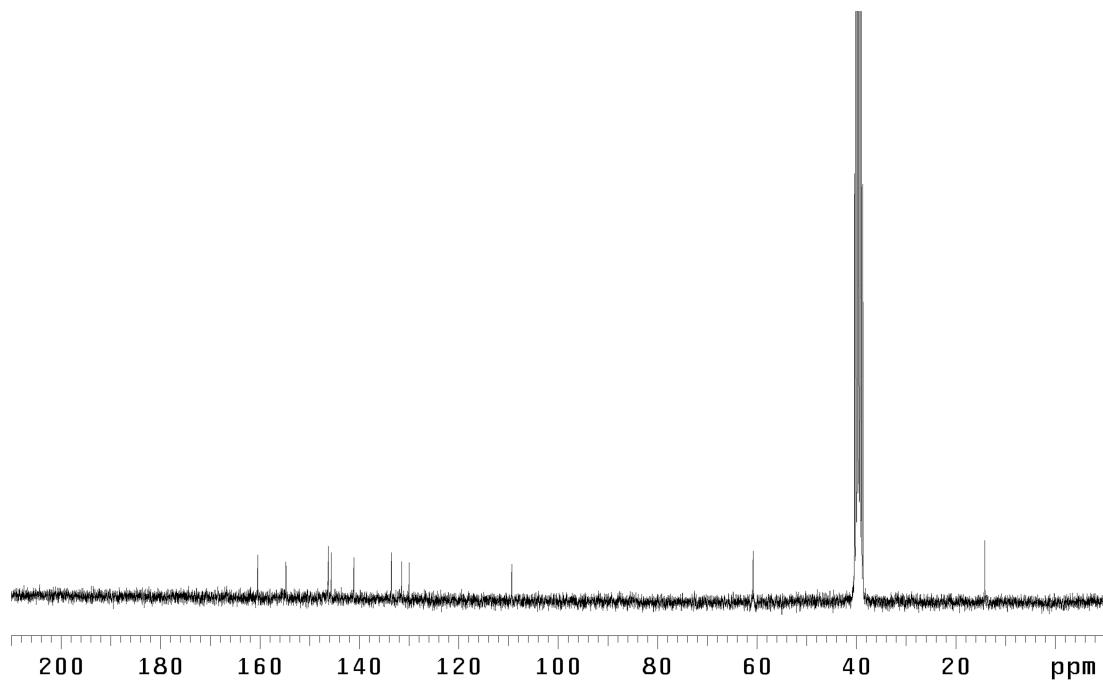


Figure A4.18  $^{13}\text{C}$  NMR (75 MHz,  $\text{DMSO}-d_6$ ) of compound **225**

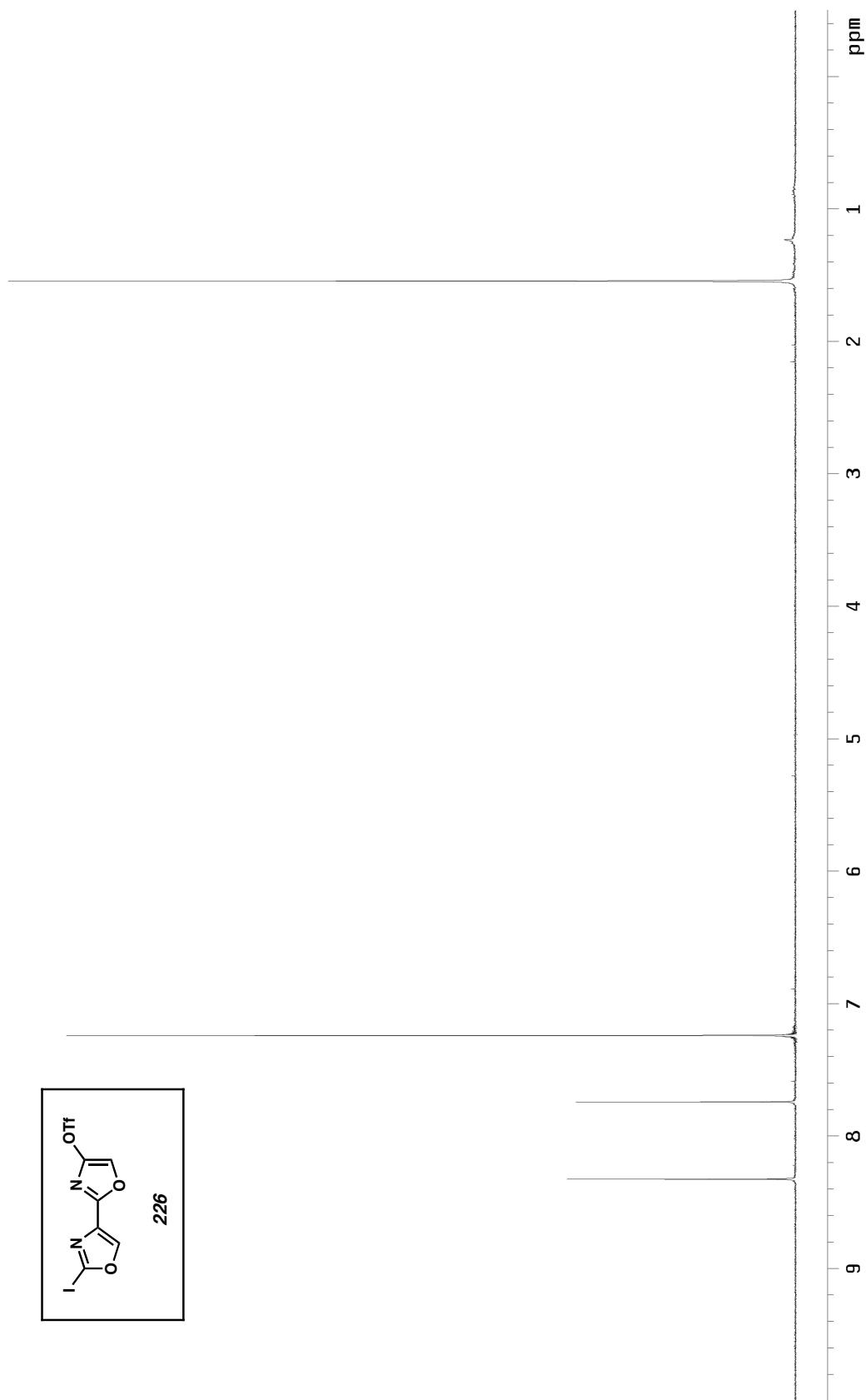


Figure A4.19  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ ) of compound 226

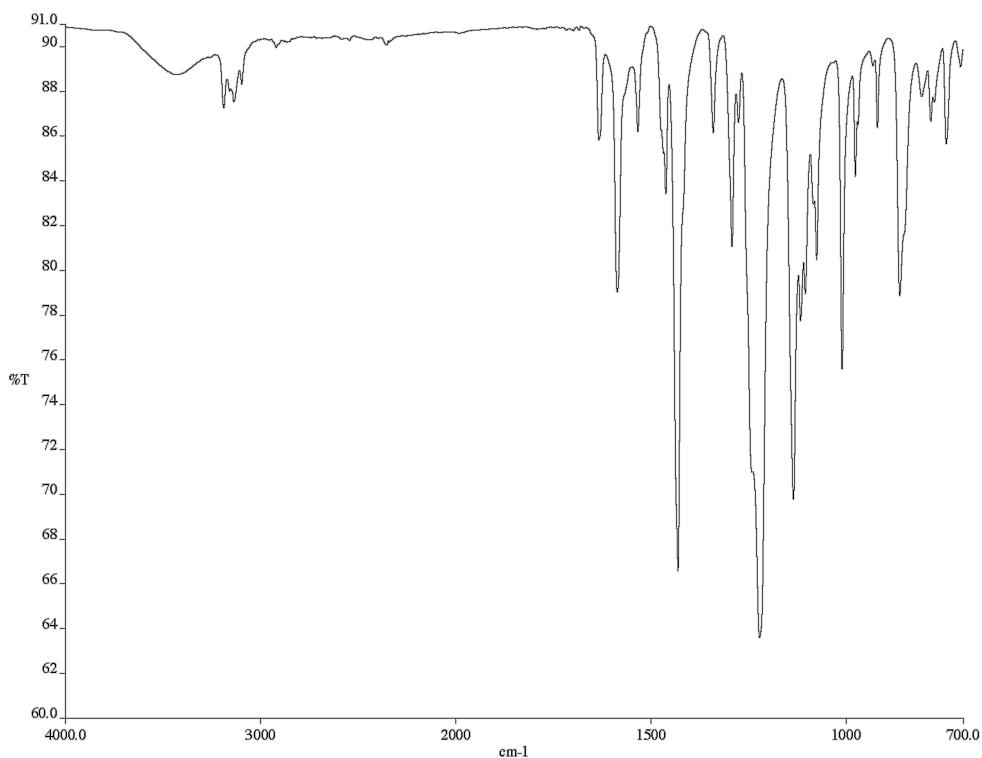


Figure A4.20 Infrared spectrum (thin film/NaCl) of compound **226**

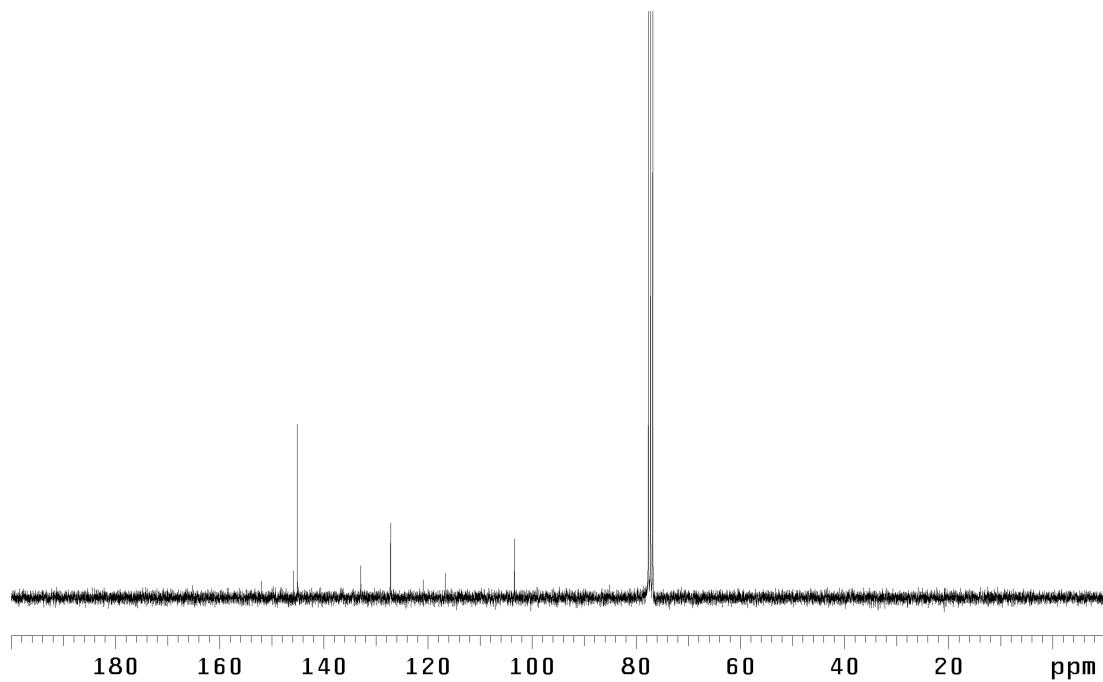


Figure A4.21  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ ) of compound **226**

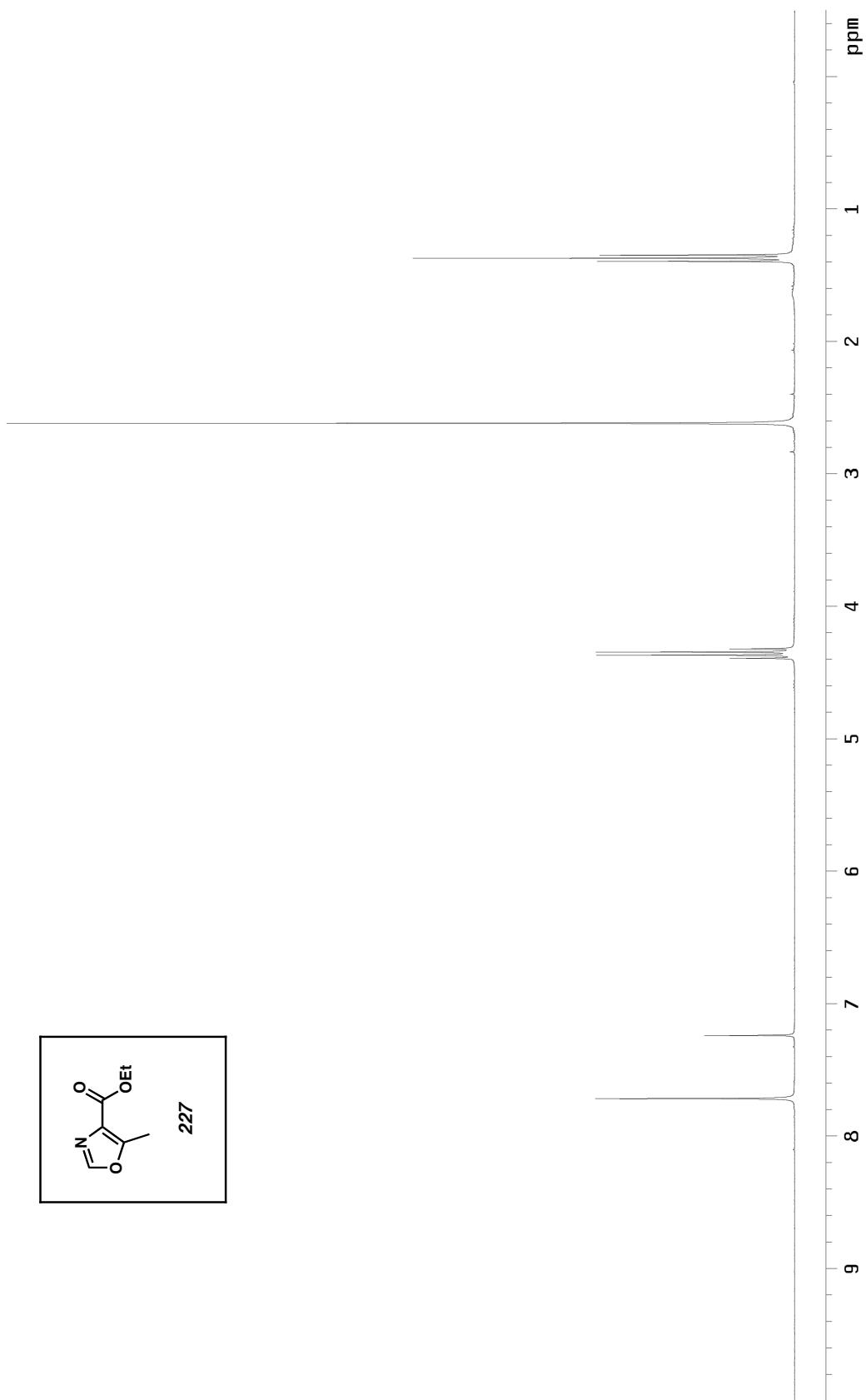


Figure A4.22  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ ) of compound 227

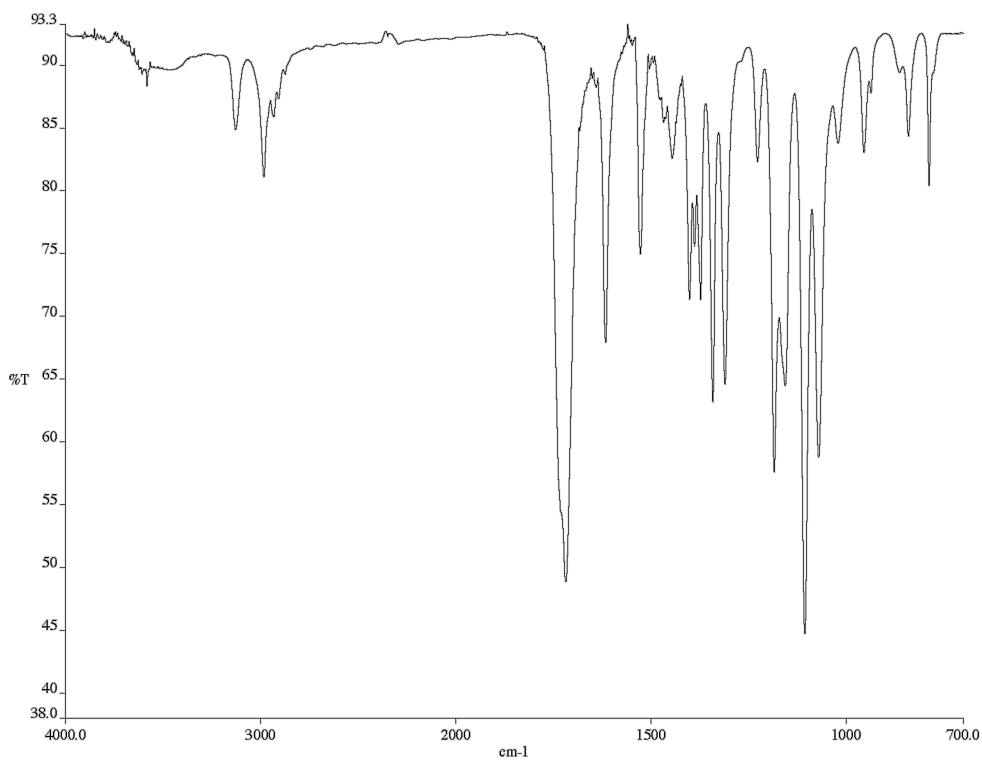


Figure A4.23 Infrared spectrum (thin film/NaCl) of compound 227

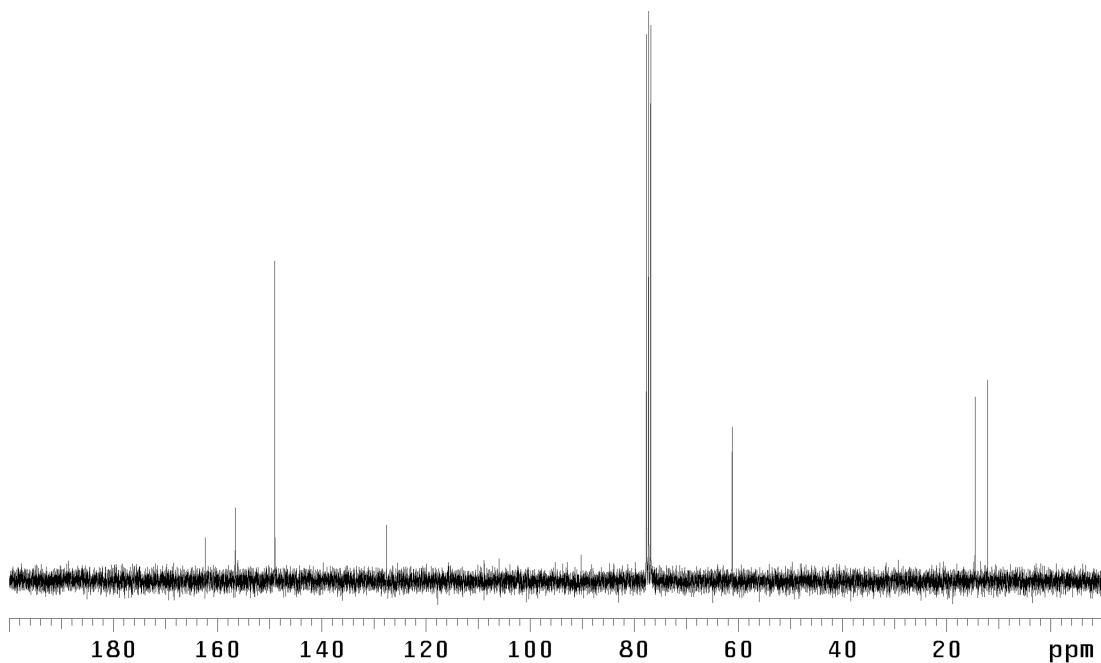
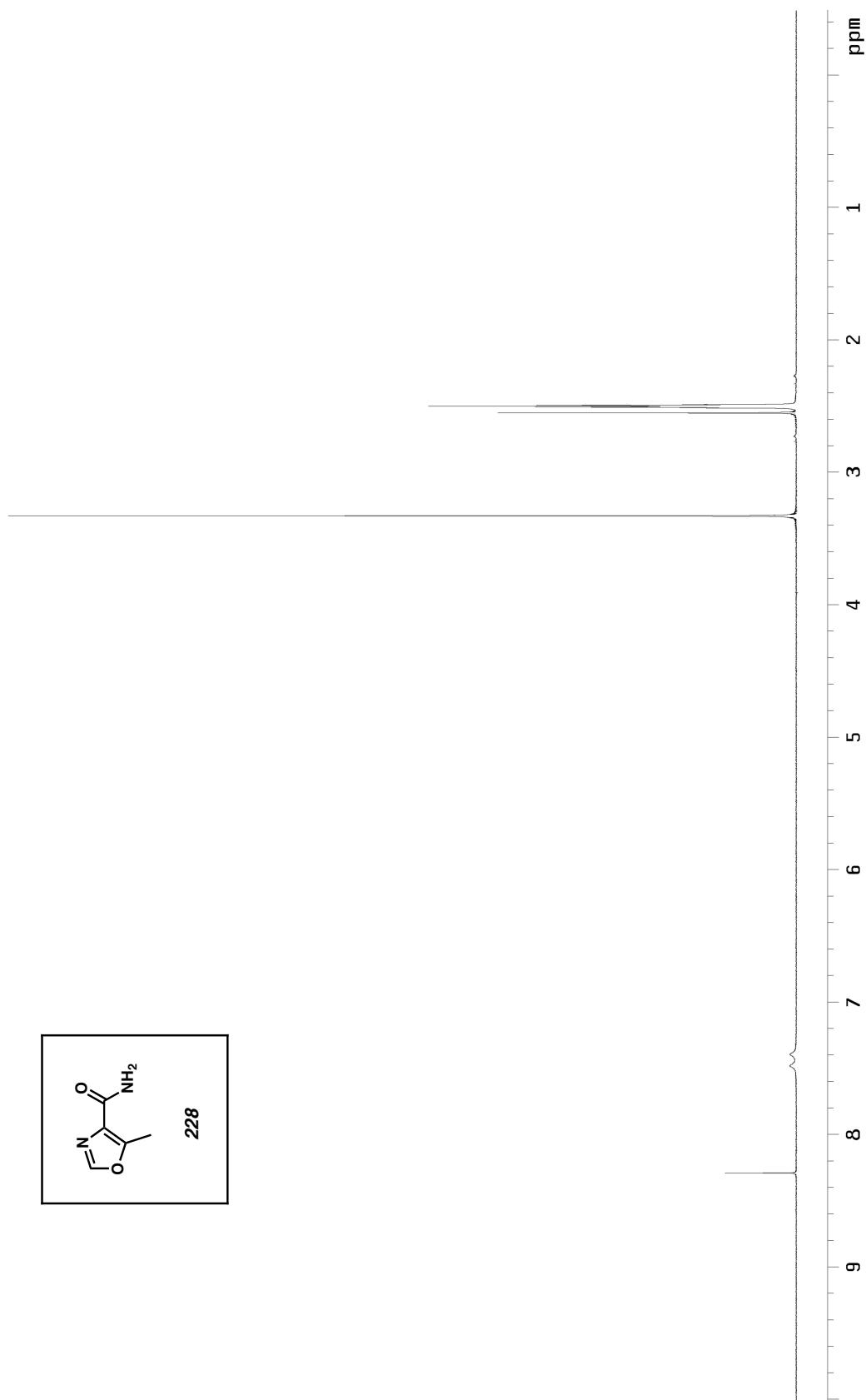


Figure A4.24  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ ) of compound 227

Figure A4.25  $^1\text{H}$  NMR (300 MHz,  $\text{DMSO}-d_6$ ) of compound **228**



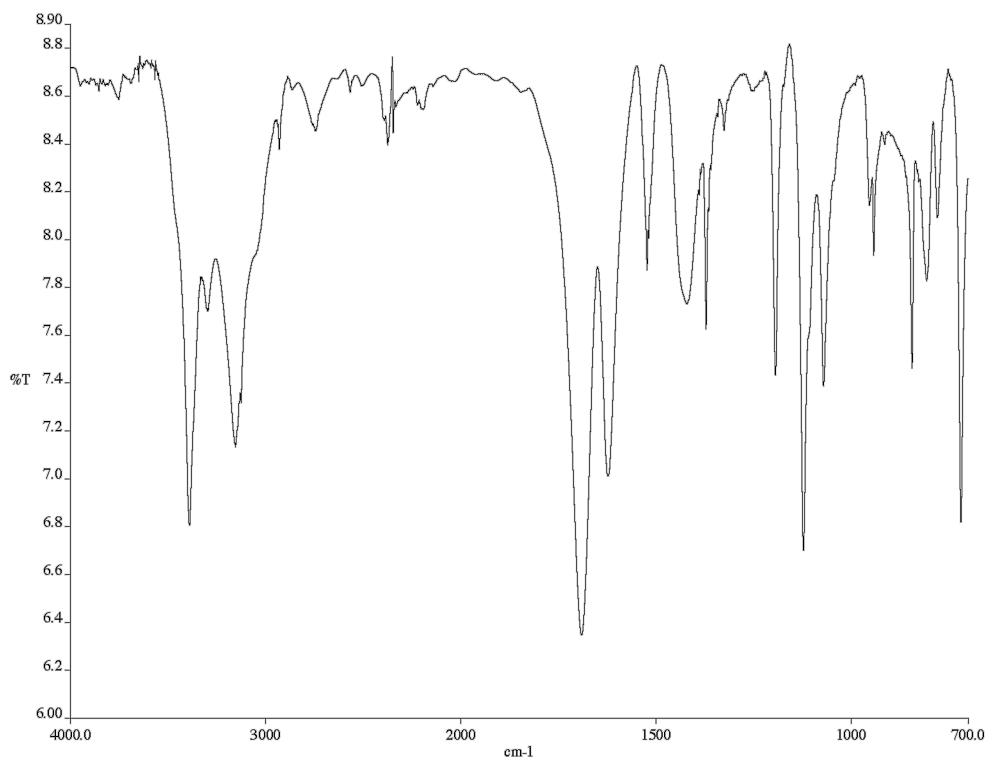


Figure A4.26 Infrared spectrum (KBr pellet) of compound 228

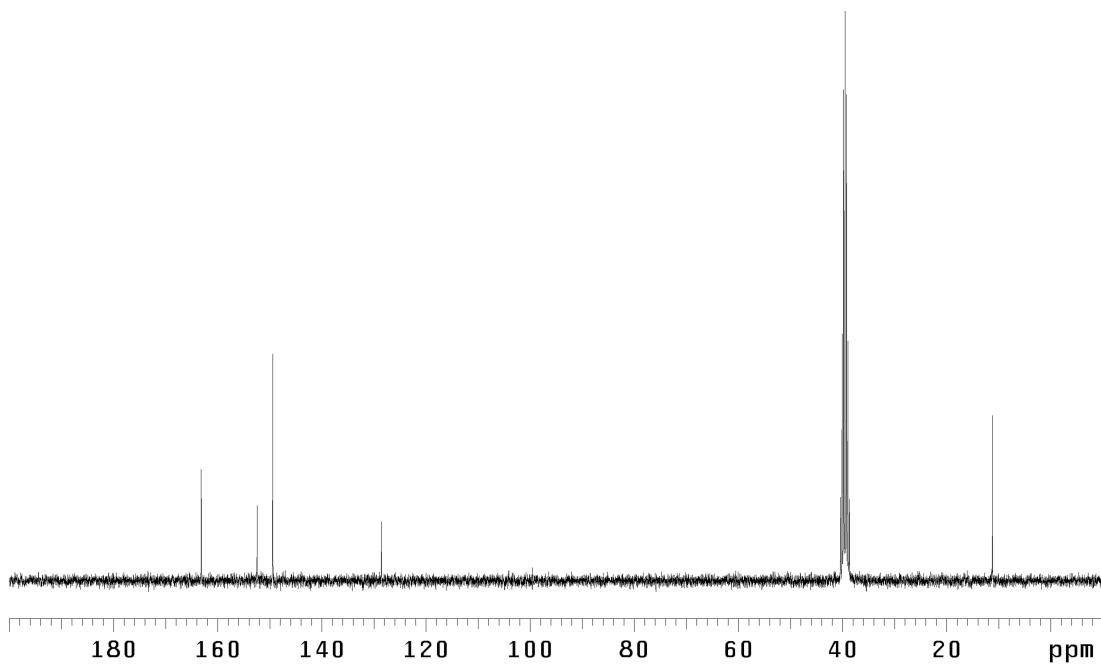


Figure A4.27  $^{13}\text{C}$  NMR (75 MHz,  $\text{DMSO}-d_6$ ) of compound 228

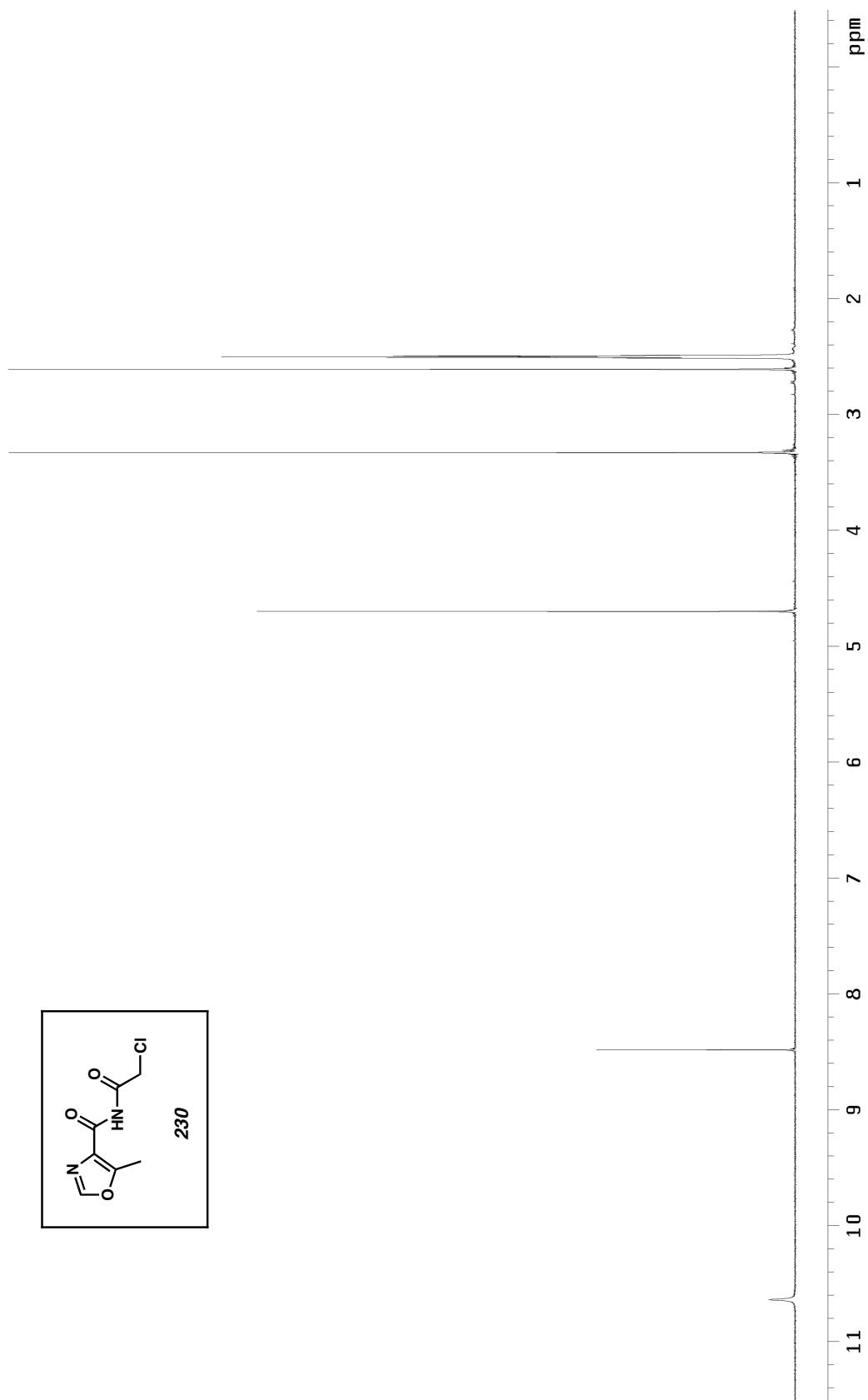


Figure A4.28  $^1\text{H}$  NMR (300 MHz,  $\text{DMSO}-d_6$ ) of compound **230**

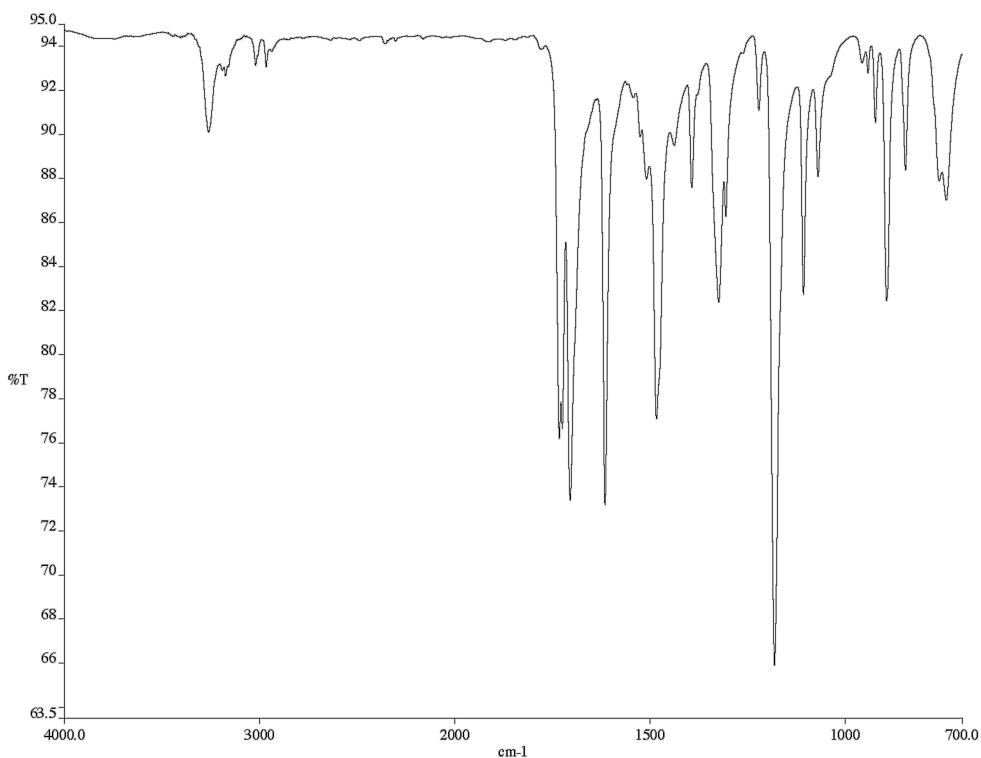


Figure A4.29 Infrared spectrum (thin film/NaCl) of compound **230**

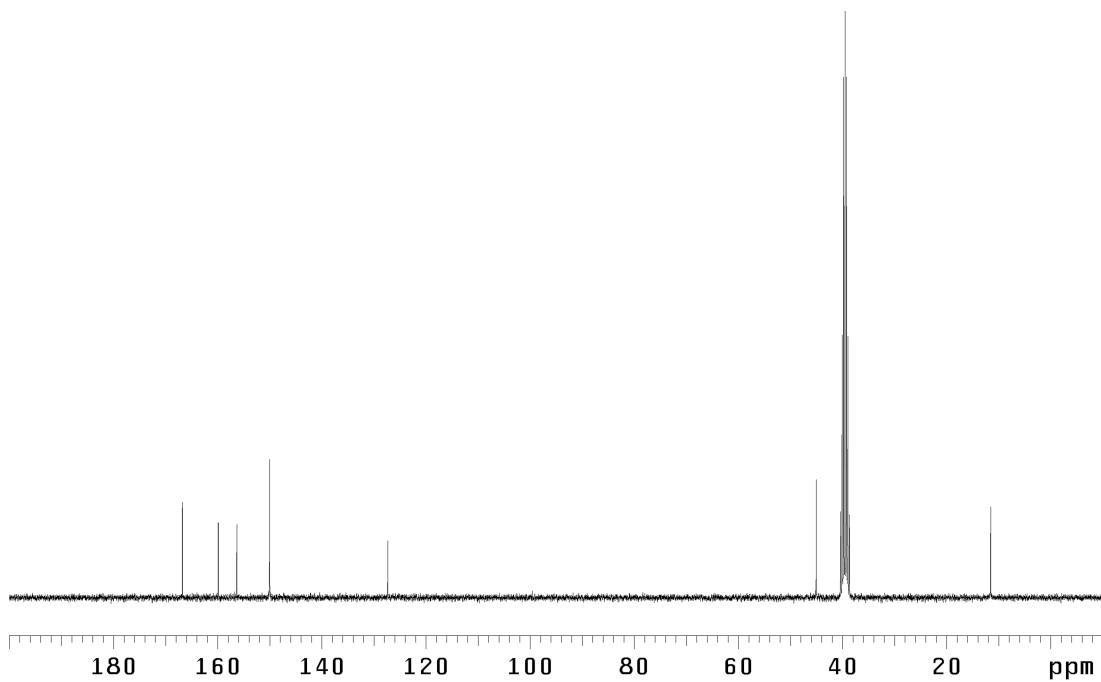


Figure A4.30  $^{13}\text{C}$  NMR (75 MHz,  $\text{DMSO}-d_6$ ) of compound **230**

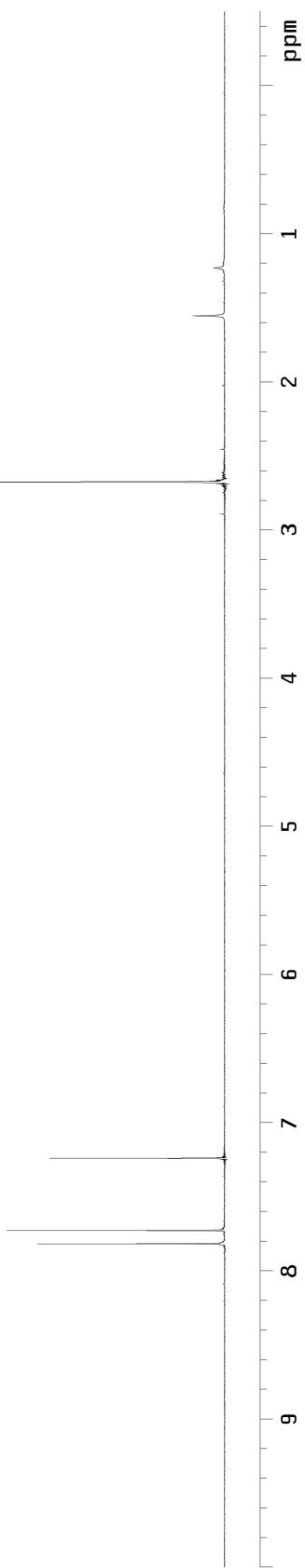
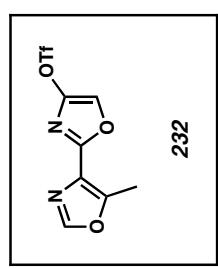


Figure A4.31 <sup>1</sup>H NMR (300 MHz, CDCl<sub>3</sub>) of compound 232

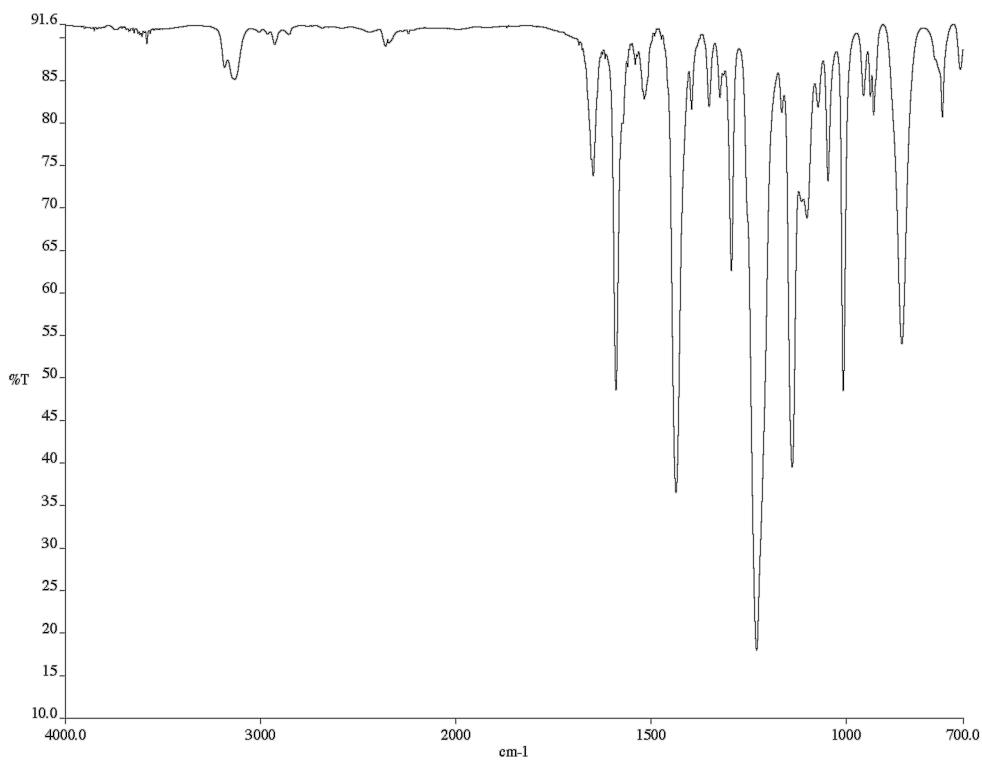


Figure A4.32 Infrared spectrum (thin film/NaCl) of compound **232**

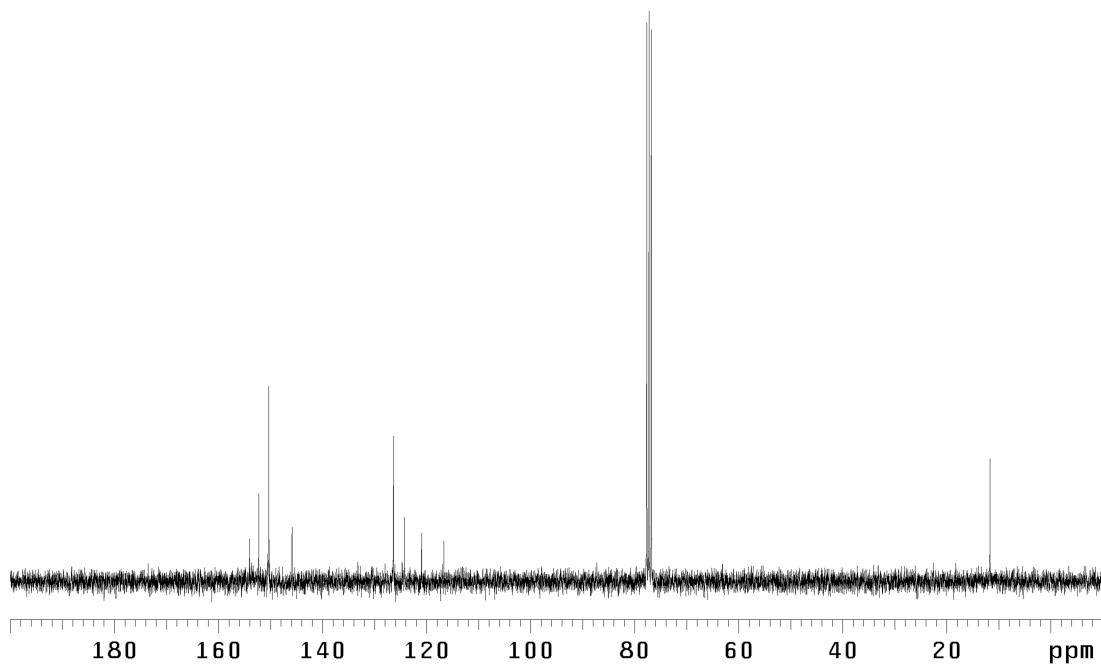


Figure A4.33  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ ) of compound **232**

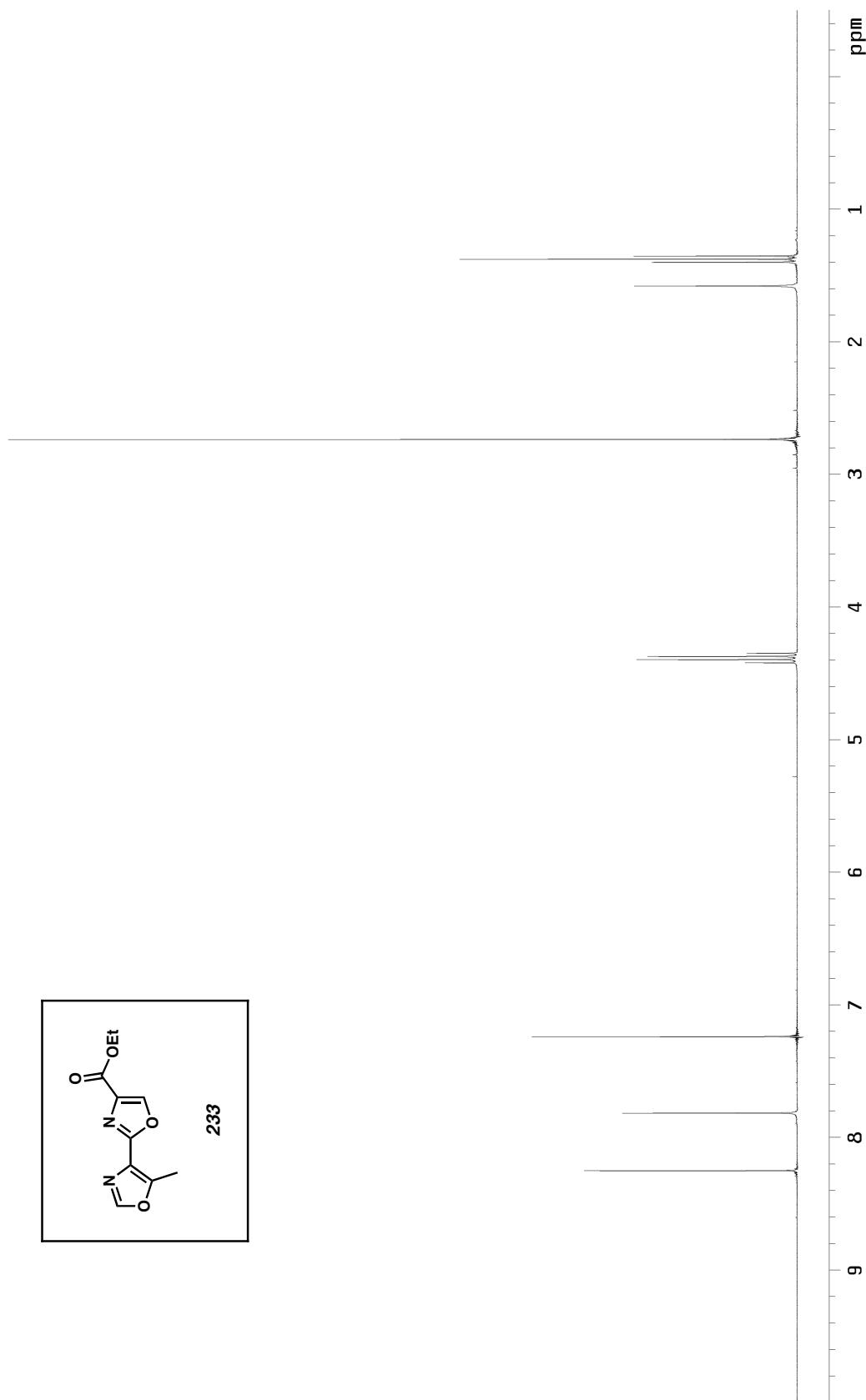


Figure A4.34  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ ) of compound 233

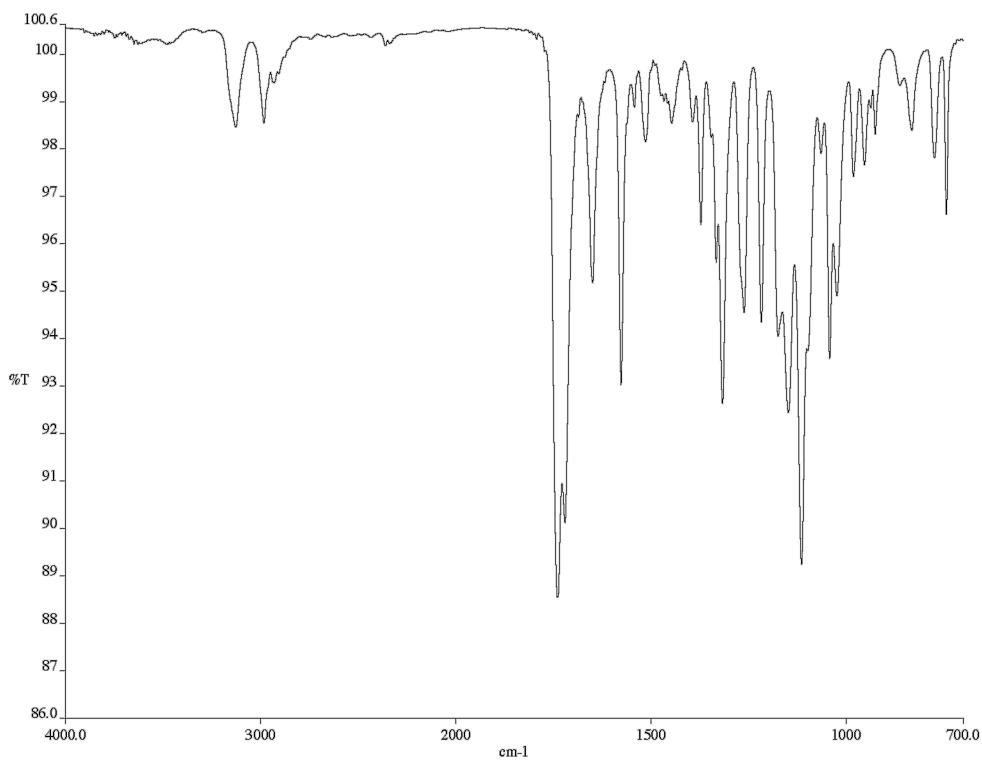


Figure A4.35 Infrared spectrum (thin film/NaCl) of compound **233**

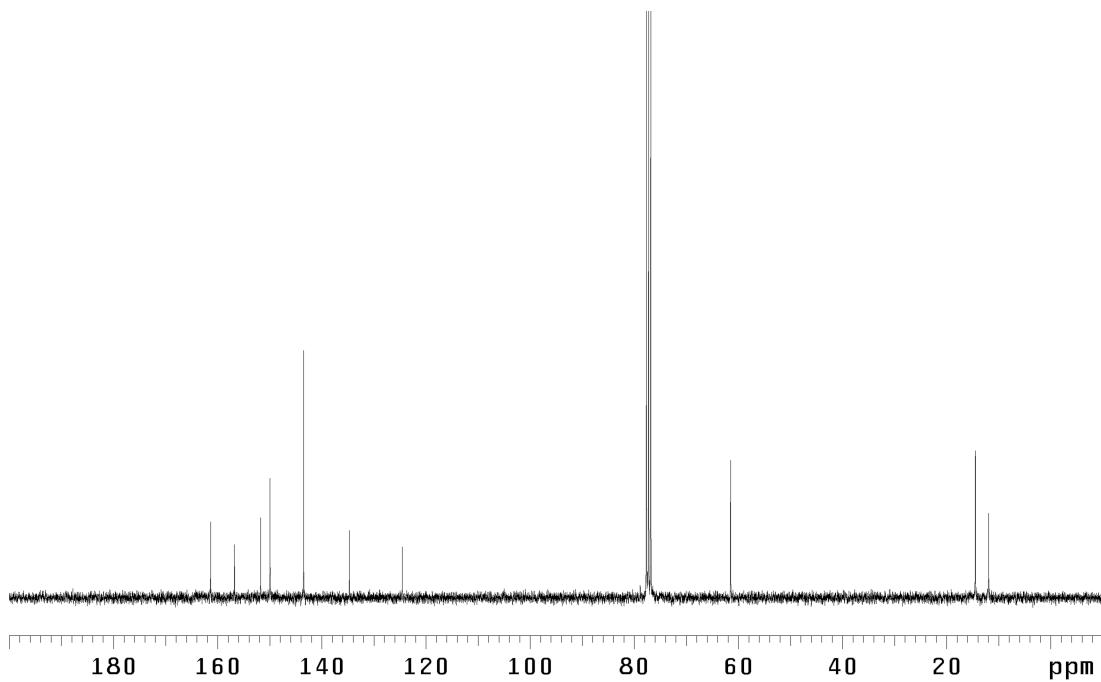


Figure A4.36  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ ) of compound **233**

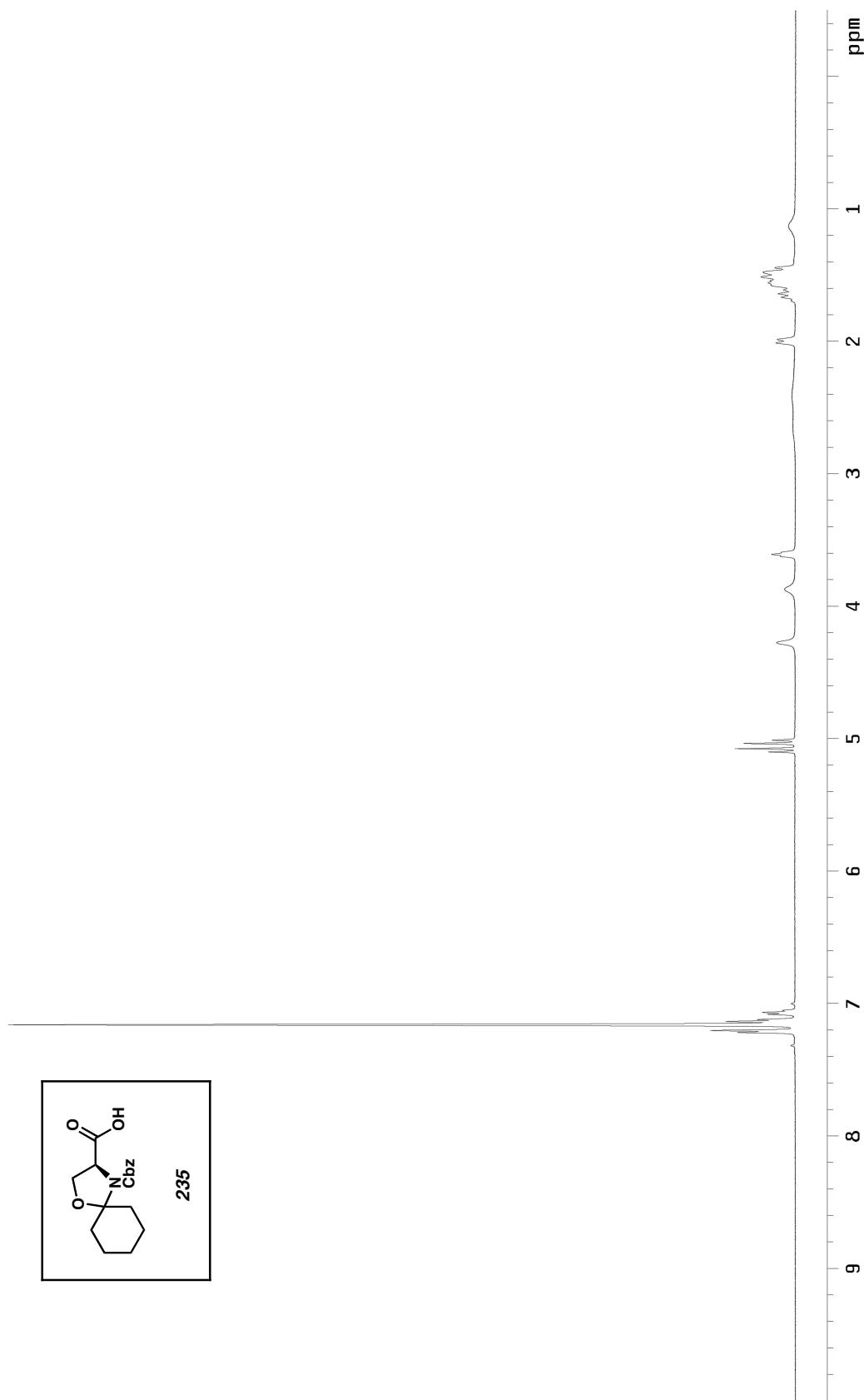


Figure A4.37  $^1\text{H}$  NMR (500 MHz,  $\text{C}_6\text{D}_6$ , 70 °C) of compound 235

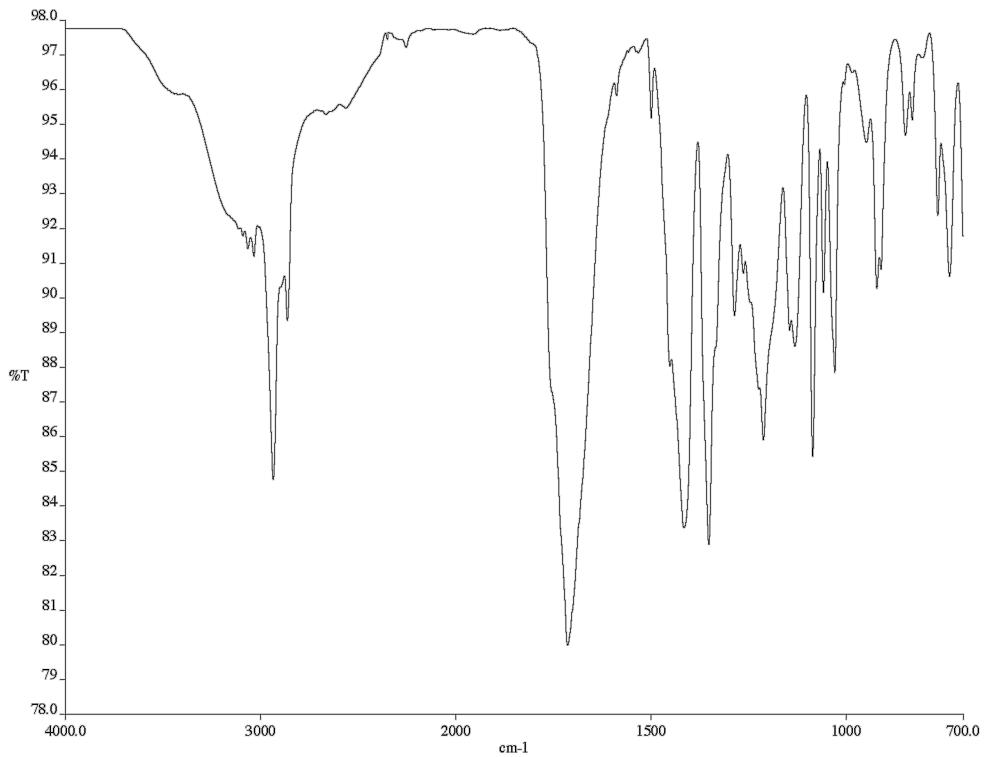


Figure A4.38 Infrared spectrum (thin film/NaCl) of compound **235**

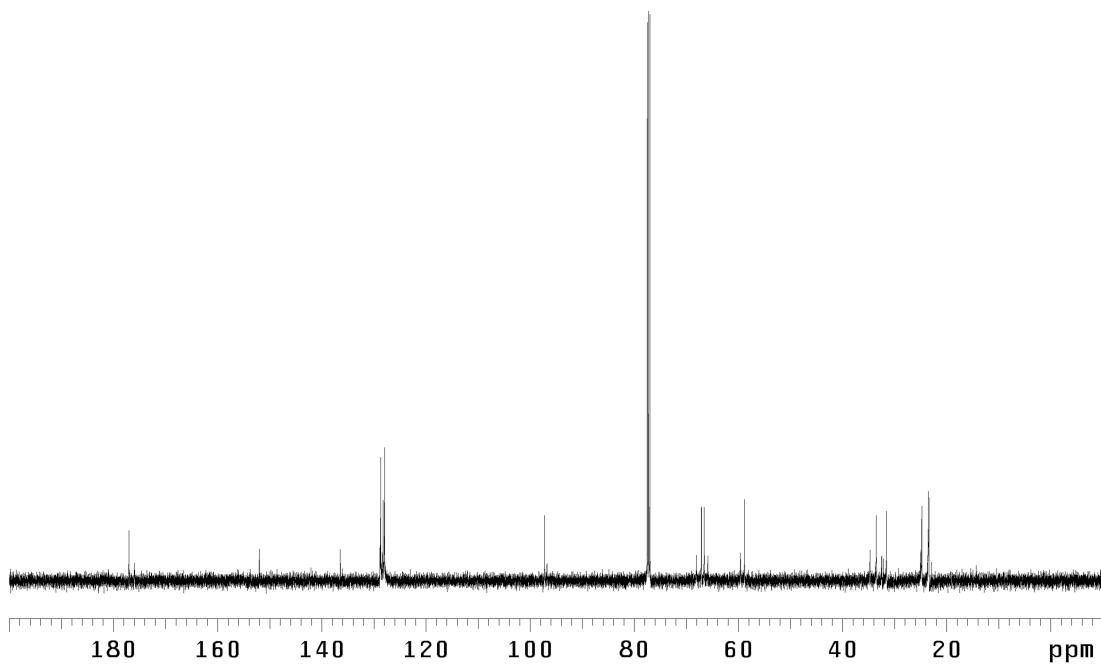


Figure A4.39  $^{13}\text{C}$  NMR (125 MHz,  $\text{CDCl}_3$ ) of compound **235**

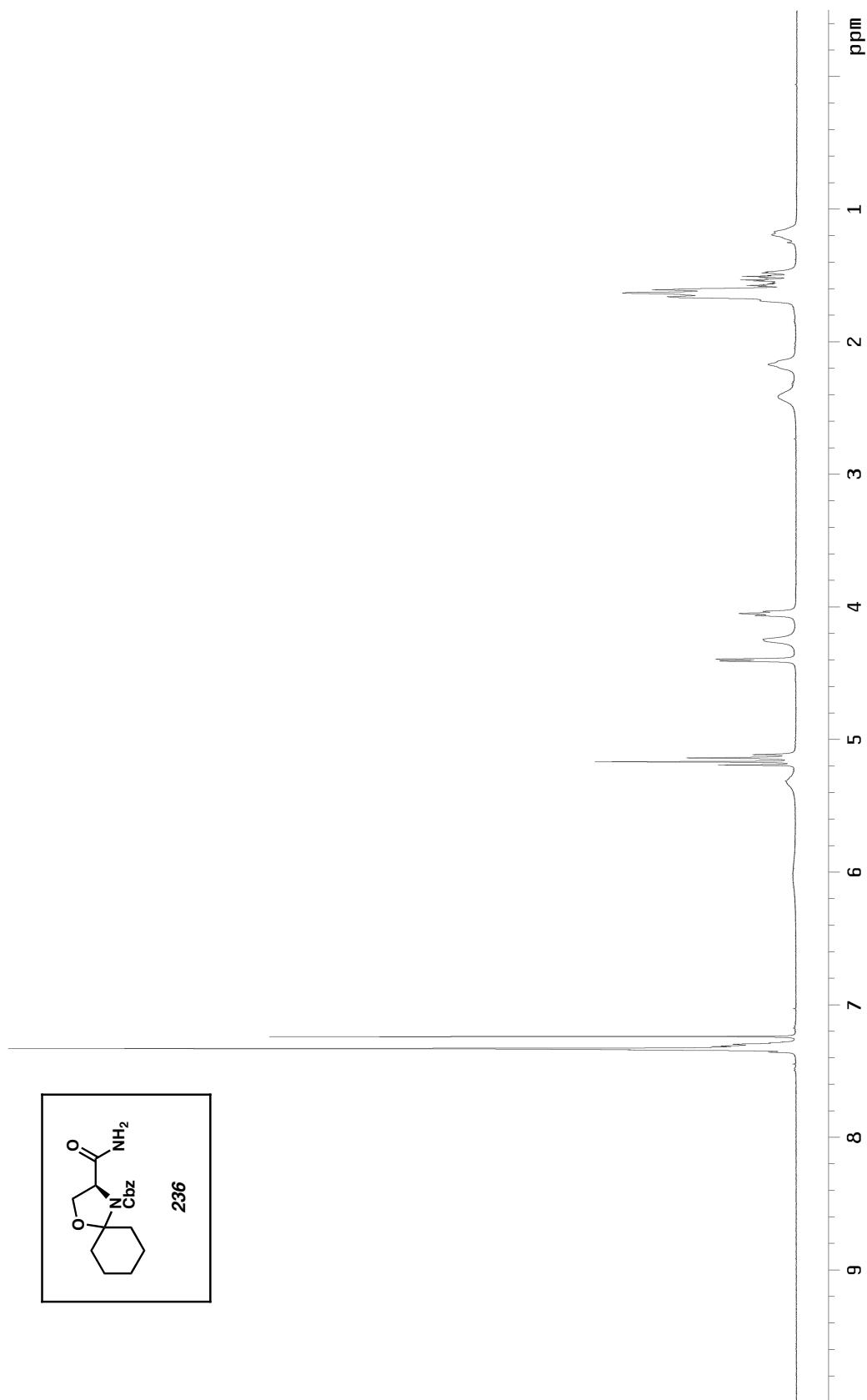


Figure A4.40  $^1\text{H}$  NMR (500 MHz,  $\text{CDCl}_3$ , 50 °C) of compound 236

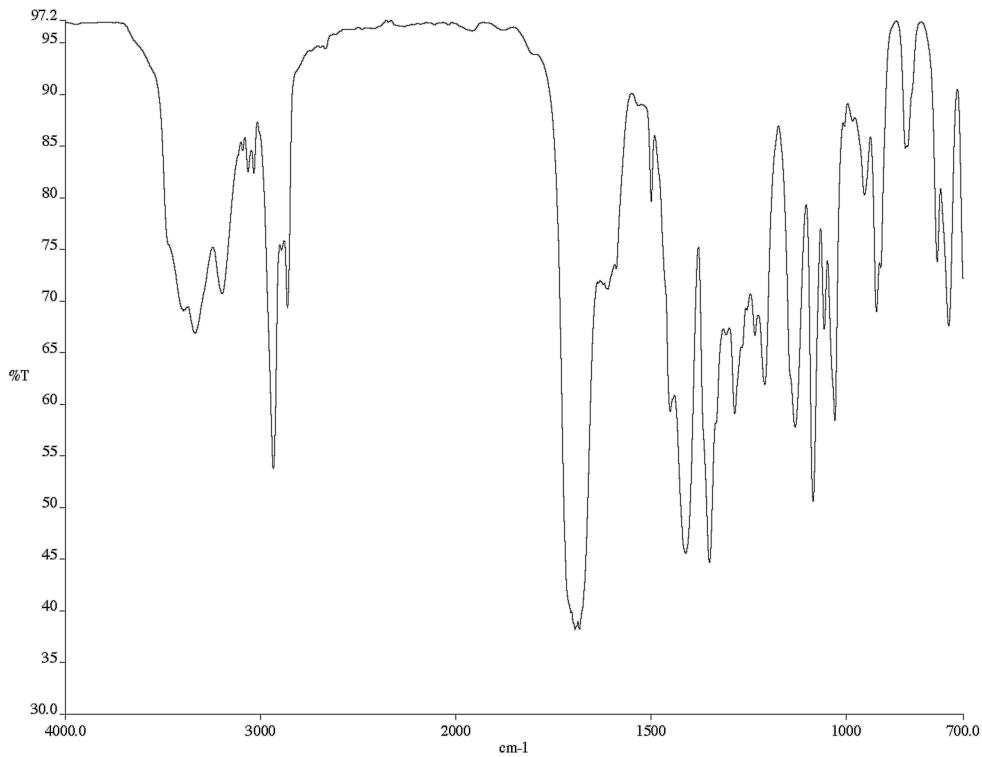


Figure A4.41 Infrared spectrum (thin film/NaCl) of compound **236**

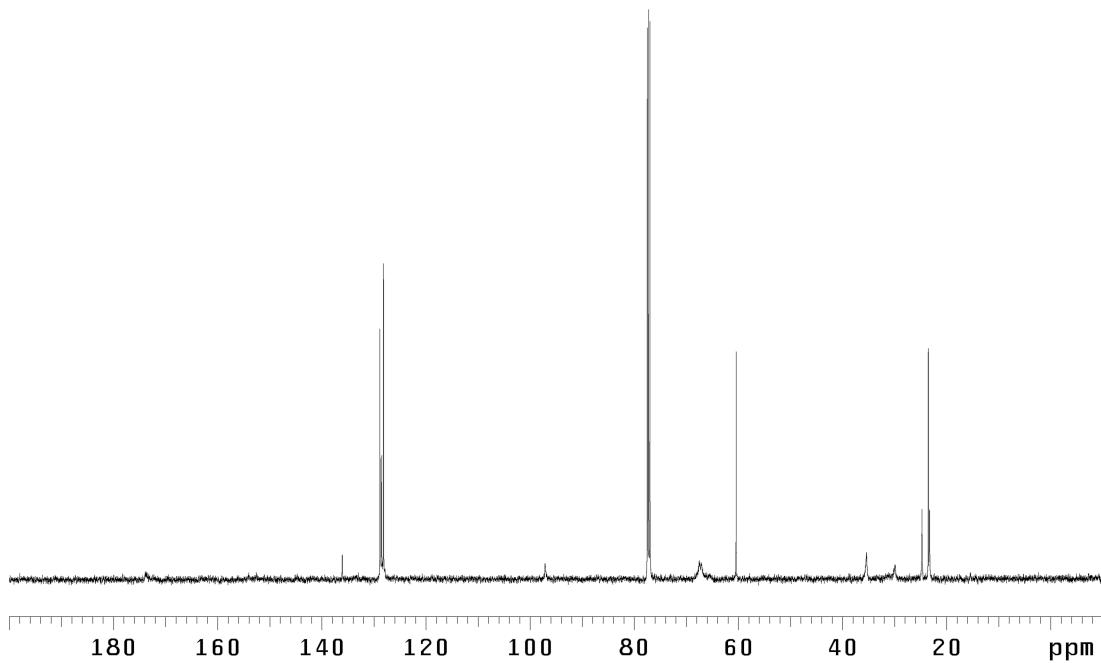


Figure A4.42  $^{13}\text{C}$  NMR (125 MHz,  $\text{CDCl}_3$ ) of compound **236**

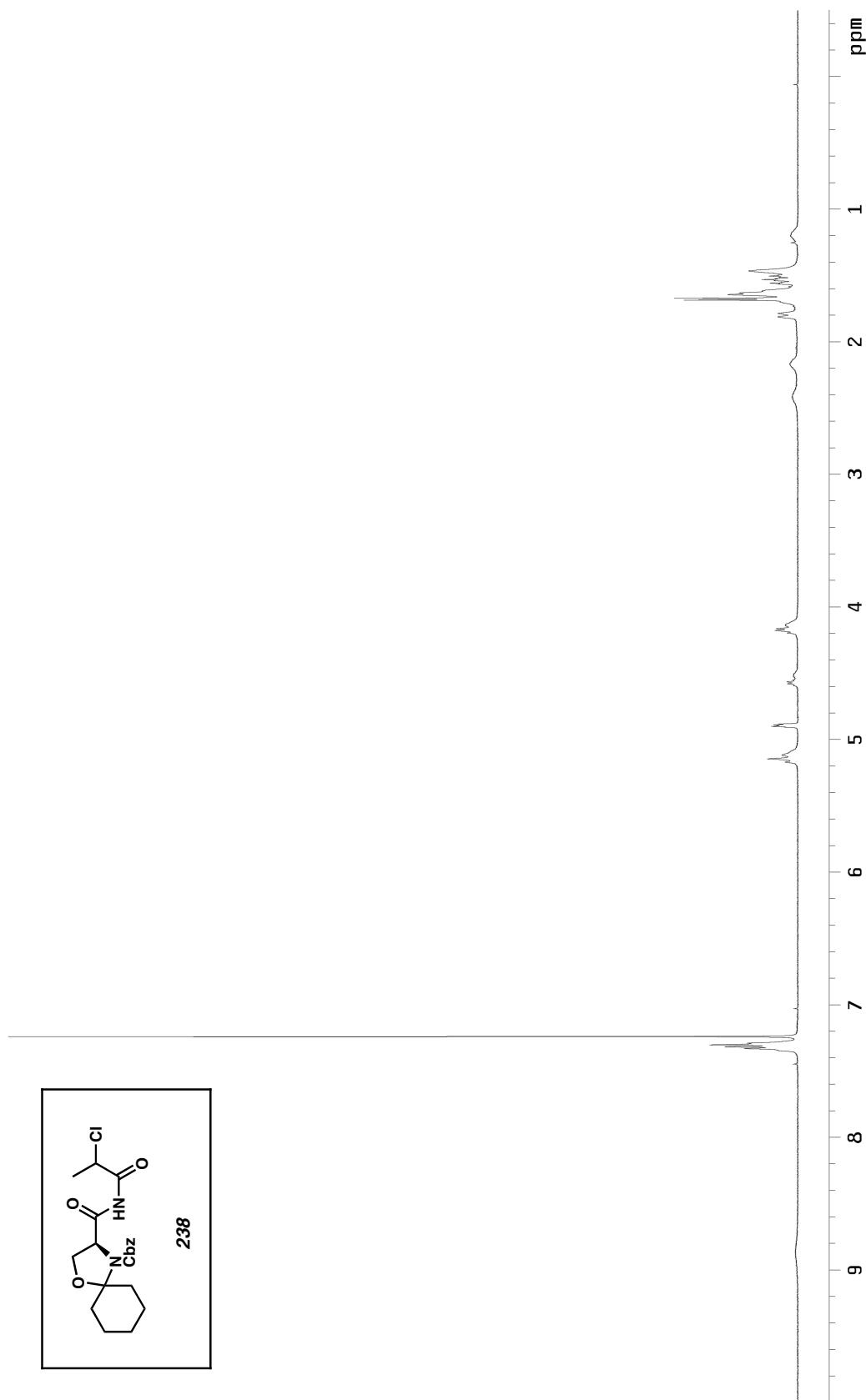


Figure A4.43  $^1\text{H}$  NMR (500 MHz,  $\text{CDCl}_3$ , 50 °C) of compound 238

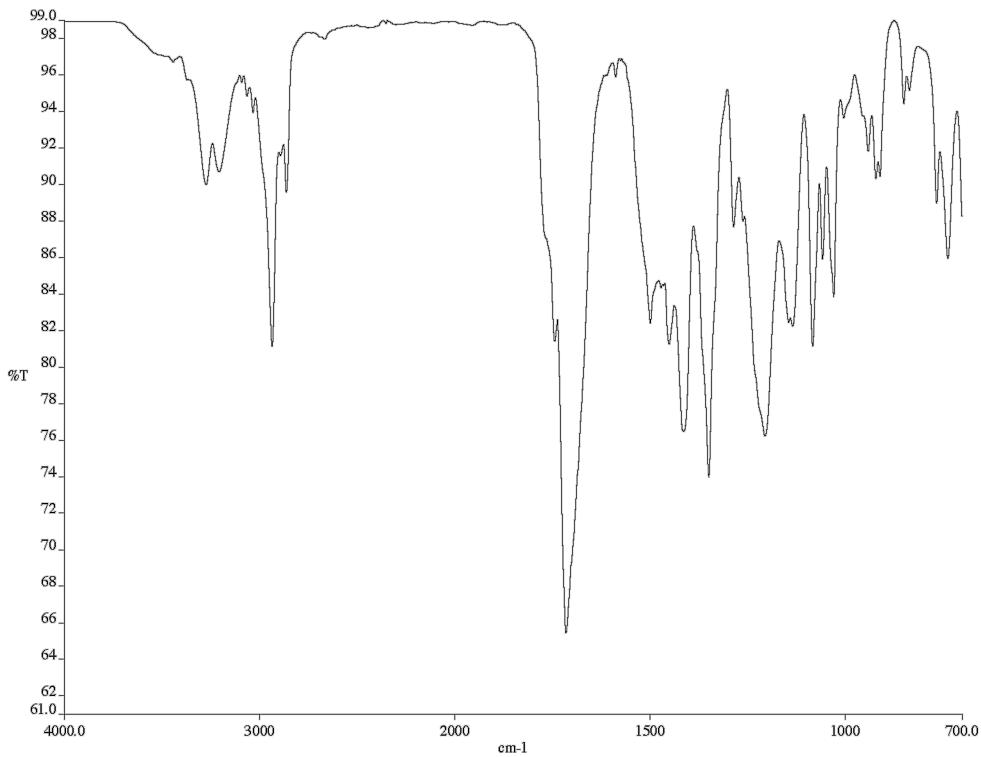


Figure A4.44 Infrared spectrum (thin film/NaCl) of compound **238**

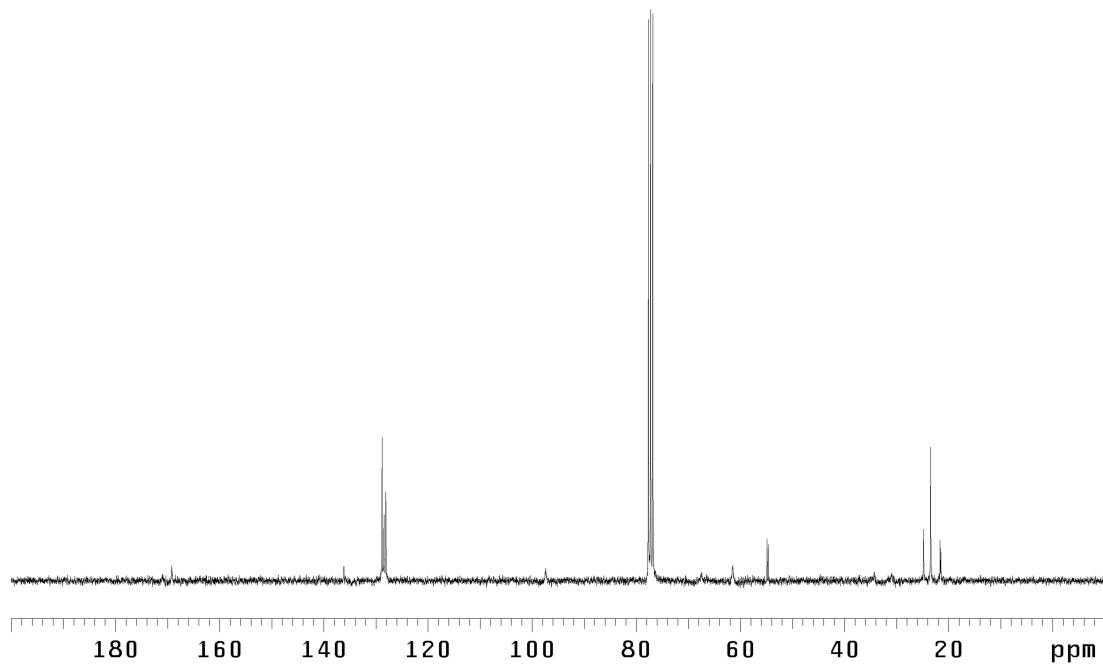


Figure A4.45  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ ) of compound **238**

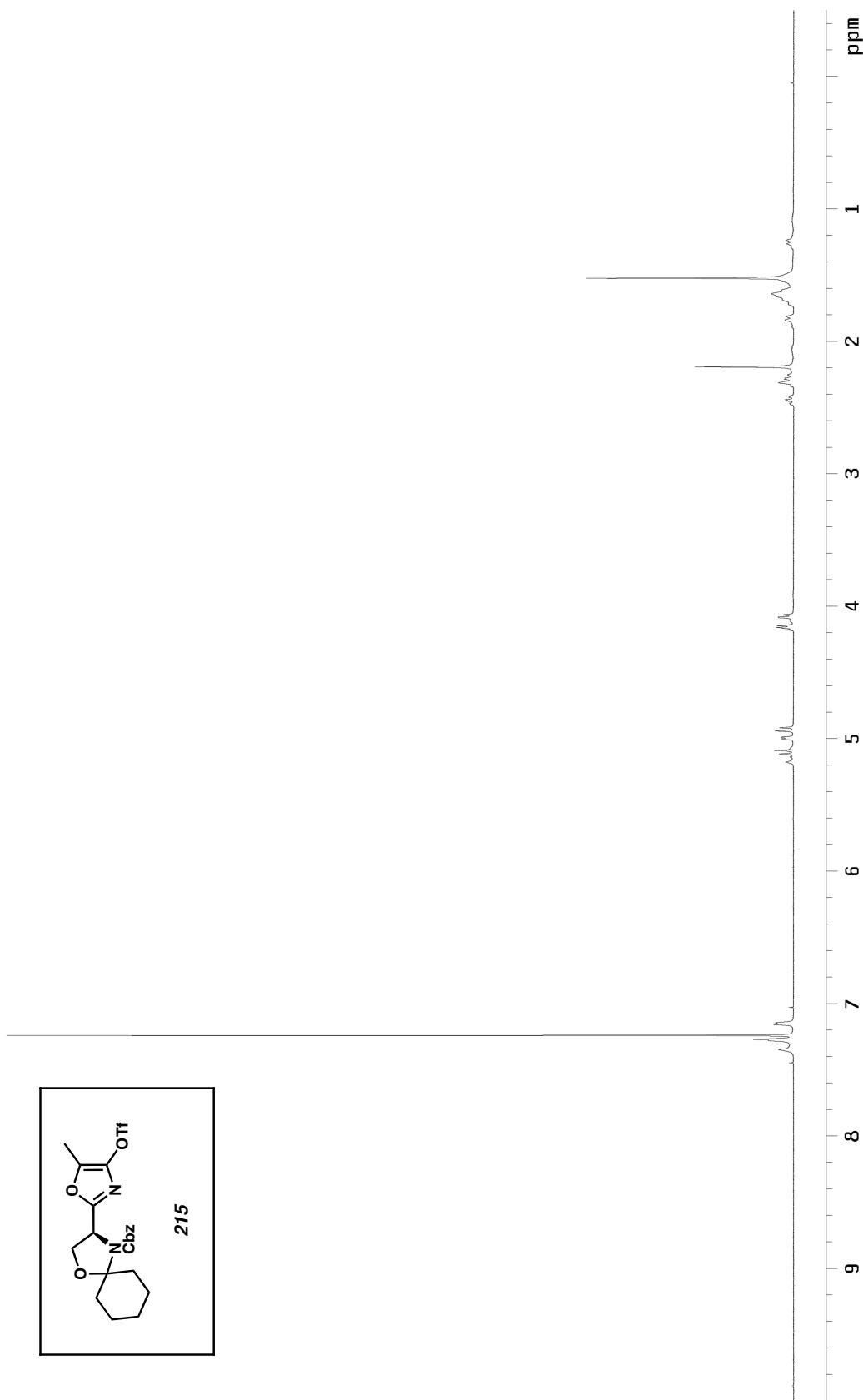


Figure A4.46  $^1\text{H}$  NMR (500 MHz,  $\text{CDCl}_3$ ) of compound 215

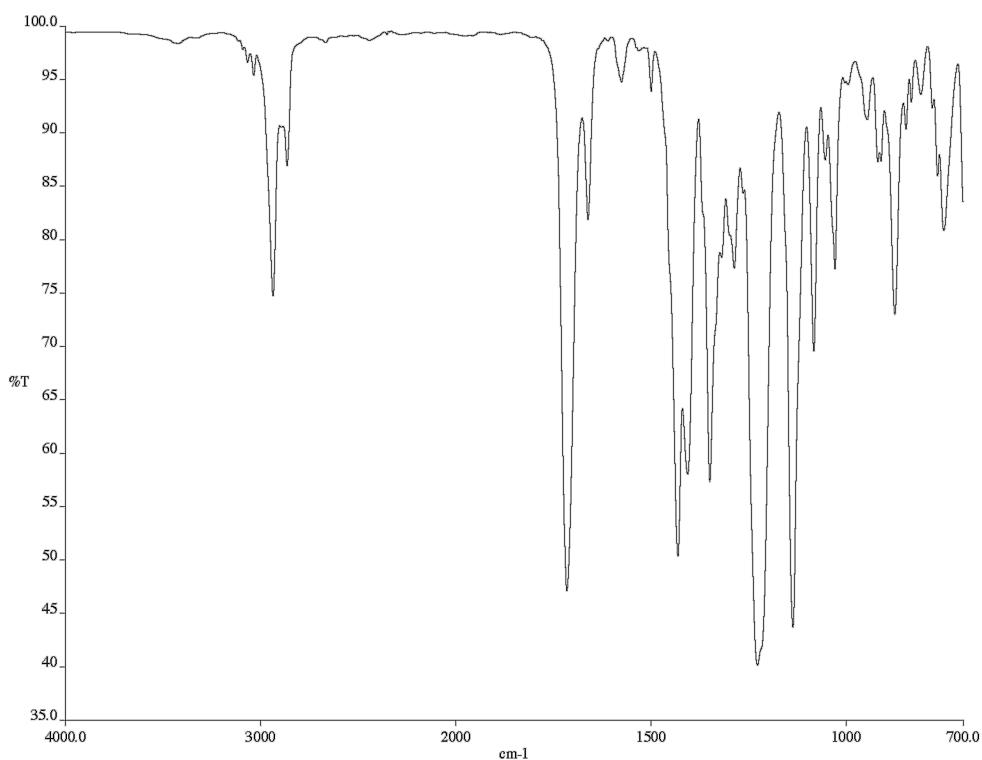


Figure A4.47 Infrared spectrum (thin film/NaCl) of compound **215**

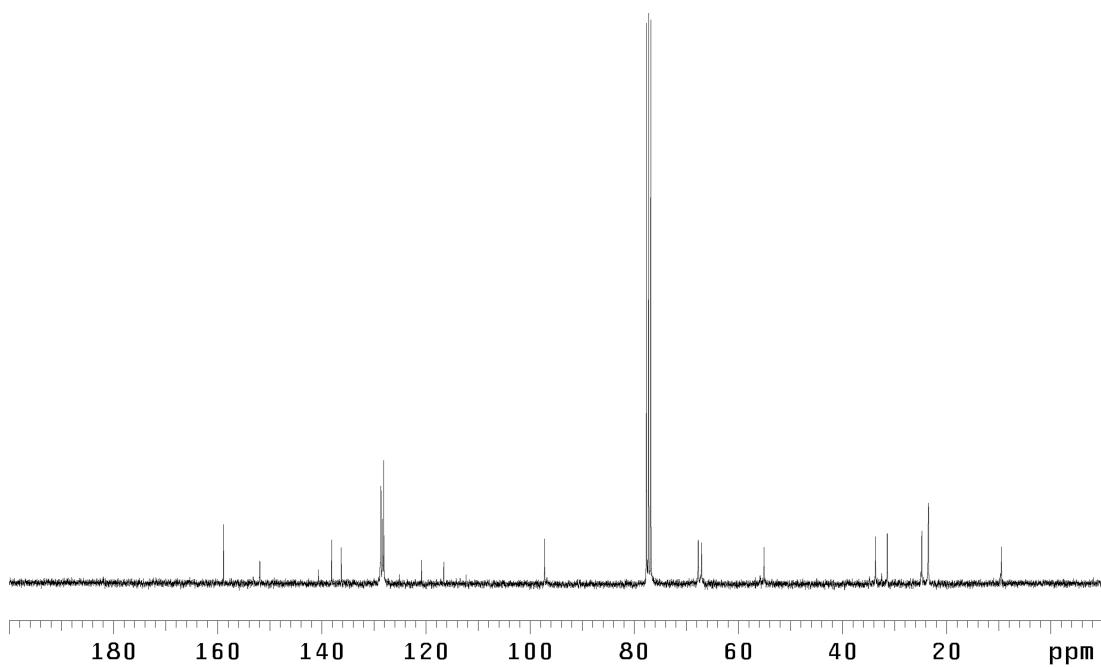


Figure A4.48  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ ) of compound **215**